CX300 Series

Digital Radio Test Set

Remote Programming Manual

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1

Introduction

This document provides instructions for using the commands of the VIAVI CX300:

- SCPI command structure 1-3
- Common commands 1-5
- Instrument Selection Commands 1-7

1.1 Connection via the Ethernet interface

The instrument can be controlled and programmed remotely through the Ethernet interface.

The link to the PC can be direct using an Ethernet crossover cable to link the instrument to the PC, or via an network.

Direct connection

1. Connect the instrument directly to the PC with an Ethernet cable using the RJ45 port on each device.
2. Ensure the PC network configuration is set to Dynamic:
   a Click **Start > Control Panel**.
   b Double-click on **Network Connection**.
   c Double-click on **Local Area Connection**.
   d In the dialog box, click on **Properties**.
   e Check that the **Internet Protocol (TCP/IP)** is selected and click once on it (underlined in blue.)
   f Click the **Properties** button.
   g In the **General** tab, check that the **Obtain an IP address automatically** parameter is selected; if not, select it.
   h Click **OK** and close all the dialog boxes open on the PC.
3. On the instrument, go to **System > Network** and select **Static** in the IPv4 box.
4. Note the IP address and wait for about 10 seconds for the connection to be established.

Connection via a local network:

1. On the PC, find the IP address and the mask of the PC's sub-network:
   - For Windows 98 or Millennium: Select **Start > Execute**, then enter `winipcfg` and click **OK.**
   - For Windows NT, 2000, XP, VIsta, 7, or 10: Select **Start > Programs > Accessories > Dos Prompt**, type `ipconfig`, then press **Enter**.
2. Note the IP address and the mask for the PC's sub-network.
3. Plug the RJ45 port or the instrument into a hub or Ethernet switch with a straight-through Ethernet cable.

4. On the instrument:
   a Go to **System > Network**, select **Static** in the IPv4 box, then enter the IP address, IP mask of the PC and IP gateway as previously noted (step 2).
   b b **Go to System > Network**, select **DHCP** in the IPv4 box. In this case, the IP address is automatically displayed but cannot be altered.
5. Wait for about ten seconds while the connection is established.
6. On the PC, make sure that the connection is operational by selecting **Start > Execute…** and typing `ping`.

Connection via USB TMC

The USB & Test Measurement Class (USB TMC) is a standard for programmatic control of USB-based test instruments that defines protocols used to send and receive messages. If you want to use the USB TMC protocol to communicate with the instrument remotely, you can only connect via USB without any additional settings.

Protocol Used

The protocol used is TCP. Only one port may be used as a function of the type of command. You can confirm the port to be used by:

a Accessing TCP 5025 port and query by the command `:PRTM:LIST?`
b Choose the port for CX300-SCPI.

1.2 SCPI command structure

The following sections describe the SCPI command structure.

1.2.1 Format of commands

The commands are of type SCPI. They have a hierarchical structure with a *root* level and one or more sub-levels known as *nodes*. A command is comprised of a concatenation of *nodes*.

Example: `REALtime:FREQuency:SPAN:ZERO`

- `REALtime` is the root
- `FREQuency` is the 2nd level node
- `SPAN` is the 3rd level node
- `ZERO` is the parameter of the 3rd level node

1.2.2 Syntax of commands

The string of commands includes upper-case and/or lower-case letters. Only the upper-case letters are essential; the lower-case letters may be omitted to shorten the commands. Parameters should be fully named without omission.

The successive nodes of a command must be separated by a colon (:).

Example of commands:

- Complete form: `INTERference:TRAce:CLEAr:ALL`
- Shortened form: `INTER:TRA:CLEA:ALL`

1.2.3 Parameters

The following table shows the type and unit of the values used in this programming manual.

Table 1-1 Value types and units

Mark	Valid Unit	Description	Example
<real>	(dBm)	real number	10 dBm, -10.00 dBm
<integer>	-	integer number	1-, -10
<time>	ns, us, ms, s	time (nanosecond, microsecond, millisecond, second)	10 ms, 1 s
<ampl>	dBm	absolute Amplitude value	10 dBm, 0 dBm
<rel_ampl>	dB	relative Amplitude value	10 dB, -10 dB
<freq>	Hz, kHz, MHz, GHz	frequency value	10 Hz, 10 kHz
<bandwidth>	Hz, kHz, MHz, GHz	frequency's bandwidth value	10 Hz
<per>	%	percentage	100 %, 100%
<string>	-	Long string or special letters	"string_12 ()"
<table>	-	A lot of value	10.11,11.12,12.14
<IP Address>	-	IPv4 Address	"127.0.0.1"

1.2.4 Querying

For each command there is a corresponding query. Most queries have no parameter, instead ending with a <<?>>. These queries are not given in the dictionary of commands provided below.

Example:

- `INTERference:TRAce1:INFOrmation:DETector?` Asks for the trace detector information

1.3 Common commands

The common commands described below are valid for the instrument.

1.3.1 *CLS

The Clear Status (CLS) command clears all the event status registers in the device status-reporting mechanism and the error/event queue. This also results in the corresponding summary bits in the Status Byte (STB) to be cleared.

Syntax: *CLS

Parameter/Response: None

1.3.2 *ESE/*ESE?

*ESE is a standard event status enable command or query.

Syntax: * ESE <integer>

Parameter/Response: <integer>

Allowable values: 0-255

1.3.3 *IDN?

*IDN asks for identification of the instrument.

Syntax: *IDN?

Parameter: None

Response: “<Manufacturer>,<Model>,<Serial number>,<Firmware version>”

Data Type: string

1.3.4 *OPC/*OPC?

*OPC is an operation complete command or query. *OPC (Operation Complete) sets bit 0 in the ESR to 1 when all commands received before *OPC or *OPC? have been completed.

Syntax: *OPC/*OPC?

Parameter: None

Query Response: 1

1.3.5 *RST

*RST resets the instrument to its default settings.

Syntax: * RST

Parameter/Response: None

1.3.6 *SRE

*SRE is a service request enable command or query that enables bits in the SRE register. *SRE? query returns the decimal sum of the enabled bits in the SRE register.

Syntax: *SRE <integer>/* SRE?

Parameter/Response: <integer>

1.3.7 *STB?

*STB is a status byte query that reads the value of the instrument status byte.

Syntax: *STB?

Parameter: None

Response: <integer>

1.3.8 *TST?

*TST is a self-test query that initiates the device's internal self-test and returns the number 0 meaning all tests passed.

Syntax: *TST?

Parameter: None

Response: 0

1.3.9 *WAI

*WAI is a wait-to-continue command that stops the execution of any further commands or queries until all operations for pending commands are completed.

Syntax: *WAI

Parameter/Response: None

1.4 Instrument Selection Commands

The Instrument Selection Commands listed below are used to choose the appropriate instruments in the CX300 system.

1.4.1 INSTrument:CATalog

Syntax: INSTrument:CATalog?

Parameter/Return: RFGenerator | RFReceiver | SPEctrumanalyzer | CHANnelanalyzer | AUDioanalyzer | OSCilloscope | TENCoding | TDECoding | AFGenerator | AMODulator | ADEModulator | AINput | AOUTput | P25Modulator | P25Demodulator | DMRModulator | DMRDemodulator | TETRAModulator | TETRADemodulator | RECord | PLAYback | VNA | EXTPOWer

Description: Query only command that returns the list of instruments by name.

Example:

```
INSTrument:CATalog?
```

1.4.2 INSTrument:CATalog:FULL

Syntax: INSTrument:CATalog:FULL?

Parameter/Return: RFGenerator 1 | RFReceiver 2 | SPEctrumanalyzer 3 | CHANnelanalyzer 4 | AUDioanalyzer 5 | OSCilloscope 6 | TENCoding 7 | TDECoding 8 | AFGenerator 9 | AMODulator 10 | ADEModulator 11 | AINput 14 | AOUTput 15 | P25Modulator 16 | P25Demodulator 17 | DMRModulator 18 | DMRDemodulator 19 | TETRAModulator 20 | TETRADemodulator 21 | RECord 22 | PLAYback 23 | VNA 25 | EXTPOWer 26

Description: Query only command that returns the list of instruments by name, and with an associated integer index.

Example:

```
INSTrument:CATalog:FULL?
```

Note: Instrument catalog index numbers 12, 13, and 24 are reserved for future use.

1.4.3 INSTrument:SELect

Syntax: INSTrument:SELect

Parameter/Return: Instrument name. See "Instrument Catalog" on page 1-9

Description: Set or query the selected instrument by name.

Example:

```
INSTrument:SELect RFGenerator
INSTrument:SELect?
```

1.4.4 INSTrument:NSELect

Syntax: INSTrument:NSELect

Parameter/Return: 1 - 24 (See "Instrument Catalog" on page 1-9)

Description: Set or query the selected instrument by index.

Example:

```
INSTrument:NSELect 1
INSTrument:NSELect?
```

1.4.5 Instrument Catalog

The following table lists each instrument name and its corresponding index number for use with either the INSTrument:SELect (instrument) or INSTrument:NSELect (index number).

Table 1-2 CX300 Instrument Catalog

Instrument	Index	See
RFGenerator	1	"RF Generator Commands" on page 3-1
RFReceiver	2	"RF Receiver Commands" on page 4-1
SPEctrumanalyzer	3	"Spectrum Analyzer Commands" on page 5-1
CHANnelanalyzer	4	"Channel Analyzer Commands" on page 6-1
AUDioanalyzer	5	"Audio Analyzer Commands" on page 7-1
OSCilloscope	6	"Oscilloscope Commands" on page 8-1
TENCoding	7	"Tone Encoding Commands" on page 9-1
TDECoding	8	"Tone Decoding Commands" on page 10-1
AFGenerator	9	"AF Generator Commands" on page 11-1
AMODulator	10	"Analog Modulator Commands" on page 12-1
ADEModulator	11	"Analog Demodulator Commands" on page 13-1
Reserved	12	—
Reserved	13	—
AINput	14	"Analog Input Commands" on page 14-1
AOUTput	15	"Analog Output Commands" on page 15-1
P25Modulator	16	"P25 Modulator Commands" on page 16-1
P25Demodulator	17	"P25 Demodulator Commands" on page 17-1
DMRModulator	18	"DMR Modulator Commands" on page 18-1
DMRDemodulator	19	"DMR Demodulator Commands" on page 19-1
TETRAModulator	20	"TETRA Modulator Commands" on page 20-1
TETRADemodulator	21	"TETRA Demodulator Commands" on page 21-1
RECord	22	"Record Commands" on page 22-1
PLAYback	23	"Playback Commands" on page 23-1
Reserved	24	—
VNA	25	"Vector Network Analyzer Commands" on page 24-1
EXTPOWer	26	"External Power Commands" on page 25-1

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2

System Commands

This chapter contains remote commands that are used to configure CX300 system settings. This chapter contains the following commands:

- SYSTem:PASSword 2-2
- SYSTem:REBoot 2-2
- SYSTem:SHUTdown 2-2
- SYSTem:ERRor 2-2
- SYSTem:ERRor:[NEXT] 2-2
- SYSTem:ERRor:COUNt 2-3
- SYSTem:APPLication:RUNNing 2-3
- SYSTem:APPLication:AVAIlable 2-3
- SYSTem:APPLIcation:STARt 2-3
- SYSTem:MODE 2-3
- SYSTem:TAB 2-4
- SYSTem:VERSion 2-4
- SYSTem:SERIal 2-4
- SYSTem:FPGA:SERIal 2-4
- SYSTem:SLICe:TEMPeratures 2-4
- SYSTem:SLICe:TEMBSAB 2-5
- SYSTem:SLICeTEMTermPwr 2-5
- SYSTem:SLICe:TEMRFBXfeed 2-5
- SYSTem:SLICe:TEMFPGA 2-5
- SYSTem:SLICe:SERIal 2-6
- SYSTem:BOX:SERIal 2-6
- SYSTem:SCREen:CAPTure 2-6
- SYSTem:SCREen:READ 2-6
- SYSTem:SCREen:BINary 2-7
- SYSTem:SCREen:MOVe 2-7

2.1 SYSTem:PASSword

Syntax: SYSTem:PASSword
Parameter/Return: String
Description: Specifies the system password.
Example:

```
SYSTem:PASSword Abc123
```

2.2 SYSTem:REBoot

Syntax: SYSTem:REBoot
Parameter/Return: Event
Description: Reboots the system.
Example:

```
SYSTem:REBoot
```

2.3 SYSTem:SHUTdown

Syntax: SYSTem:SHUTdown
Parameter/Return: Event
Description: Shuts down the system.
Example:

```
SYSTem:SHUTdown
```

2.4 SYSTem:ERRor

Syntax: SYSTem:ERRor
Parameter/Return: Query
Description: Queries the system for errors.
Example:

```
SYSTem:ERRor?
```

2.5 SYSTem:ERRor:[NEXT]

Syntax: SYSTem:ERRor:[NEXT]
Parameter/Return: Query
Description: Displays the next system error.
Example:

```
SYSTem:ERRor:[NEXT]?
```

2.6 SYSTem:ERRor:COUNt

Syntax: SYSTem:ERRor:COUNt
Parameter/Return: Query
Description: Displays a count of system errors.
Example:

```
SYSTem:ERRor:COUNt?
```

2.7 SYSTem:APPLication:RUNNing

Syntax: SYSTem:APPLication:RUNNing
Parameter/Return: Query
Description: Displays whether the system application currently running.
Example:

```
SYSTem:APPLication:RUNNing?
```

2.8 SYSTem:APPLication:AVAIlable

Syntax: SYSTem:APPLication:AVAIlable
Parameter/Return: Query
Description: Displays the availability of the system application.
Example:

```
SYStem:APPLication:AVAIlable?
```

2.9 SYSTem:APPLIcation:STARt

Syntax: SYSTem:APPLIcation:STARt
Parameter/Return: Event
Description: Starts the system application.
Example:

```
SYSTem:APPLIcation:STARt
```

2.10 SYSTem:MODE

Syntax: SYSTem:MODE
Parameter/Return: —
Description: Displays the system mode.
Example:

```
SYSTem:MODE
```

2.11 SYSTem:TAB

Syntax: SYSTem:TAB
Parameter/Return: —
Description: —
Example:

```
SYSTem:TAB
```

2.12 SYSTem:VERSion

Syntax: SYSTem:VERSion
Parameter/Return: Query
Description: Displays the system version.
Example:

```
SYSTem:VERSion?
```

2.13 SYSTem:SERIal

Syntax: SYSTem:SERIal
Parameter/Return: Query
Description: —
Example:

```
SYSTem:SERIal?
```

2.14 SYSTem:FPGA:SERIal

Syntax: SYSTwn:FPGA:SERIal
Parameter/Return: Query
Description: —
Example:

```
SYSTem:FPGA:SERIal
```

2.15 SYSTem:SLICe:TEMPeratures

Syntax: SYSTem:SLICe:TEMPeratures
Parameter/Return: Query
Description: Displays the system slice temperatures.
Example:

```
SYSTem:SLICe:TEMPeratures?
```

2.16 SYSTem:SLICe:TEMBSAB

Syntax: SYSTem:SLICe:TEMBSAB

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMBSAB?
```

2.17 SYSTem:SLICeTEMTermPwr

Syntax: SYSTem:SLICeTEMTermPwr

Parameter/Return: Query

Description: Displays the terminal power.

Example:

```
SYSTem:SLICeTEMTermPwr?
```

2.18 SYSTem:SLICe:TEMRFBXfeed

Syntax: SYSTem:SLICe:TEMRFBXfeed

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMRFBXfeed?
```

2.19 SYSTem:SLICe:TEMFPGA

Syntax: SYSTem:SLICe:TEMFPGA

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:TEMFPGA?
```

2.20 SYSTem:SLICe:SERIal

Syntax: SYSTem:SLICe:SERIal

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SLICe:SERIal?
```

2.21 SYSTem:BOX:SERIal

Syntax: SYSTem:BOX:SERIal

Parameter/Return: Query

Description: —

Example:

```
SYSTem:BOX:SERIal?
```

2.22 SYSTem:SCREen:CAPTure

Syntax: SYSTem:SCREen:CAPTure

Parameter/Return: Event

Description: Takes a screenshot of the current screen.

Example:

```
SYSTem:SCREen:CAPTure
```

2.23 SYSTem:SCREen:READ

Syntax: SYSTem:SCREen:READ

Parameter/Return: Query

Description: —

Example:

```
SYSTem:SCREen:READ?
```

2.24 SYSTem:SCREen:BINary

Syntax: SYSTem:SCREen:BINary

Parameter/Return: Query

Description: You can query capturing image binary.

Example:

```
SYSTem:SCREen:BINary?
```

2.25 SYSTem:SCREen:MOVe

Syntax: SYSTem:SCREen:MOVe

Parameter/Return: Event

Description: If you send the same parameter twice, the screen closes.

Example:

```
SYSTem:SCREen:MOVe
```

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3

RF Generator Commands

This chapter describes the following remote commands for configuring RF Generator (RFGenerator) settings:

- SOURce:CABLe:FILE 3-2
- SOURce:CABLe:LOSS? 3-2
- SOURce:ENABle 3-2
- SOURce:ENABle:PTT 3-3
- SOURce:FREQuency 3-3
- SOURce:LEVel:DBM 3-4
- SOURce:LEVel:DBUV 3-4
- SOURce:LEVel:OFFSet 3-5
- SOURce:LEVel:OFFSet:ENABle 3-5
- SOURce:LEVel:UNIT 3-6
- SOURce:LEVel:VOLT 3-6
- SOURce:PORT 3-7
- SOURce:ROSCillator:INPut 3-7
- SOURce:ROSCillator:OUTPut 3-7

3.1 SOURce:CABLe:FILE

Syntax:

SOURce:CABLe:FILE

SOURce:CABLe:FILE?

Parameter/Return: *filename*

Description: Sets/returns the cable-loss file name.

Examples:

```
SOURce:CABLe:FILE CABLOS1
SOURce:CABLe:FILE?
CABLOS1
```

3.2 SOURce:CABLe:LOSS?

Syntax: SOURce:CABLe:LOSS?

Parameter/Return: —

Description: Returns the applied cable loss in dBm.

Example:

```
SOURce:CABLe:LOSS?
```

3.3 SOURce:ENABle

Syntax:

SOURce:ENABle

SOURce:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the cable-loss file name.

Examples:

```
SOURce:ENABle On
SOURce:ENABle On?
On
```

3.4 SOURce:ENABle:PTT

Syntax:

SOURce:ENABle:PTT

SOURce:ENABle:PTT?

Parameter/Return: On | Off | 1 | 2

Note: Default = Off

Description: Sets/returns the state of the generator PPT.

Examples:

```
SOURce:ENABle:PTT On
SOURce:ENABle:PTT?
On
```

3.5 SOURce:FREQuency

Syntax:

SOURce:FREQuency

SOURce:FREQuency?

Parameter/Return: 100000 to 3000000000

Note: Default = 500000000

Description: Sets/returns the generator frequency in Hz.

Examples:

```
SOURce:FREQuency 500000000
SOURce:FREQuency?
500000000
```

3.6 SOURce:LEVel:DBM

Syntax:

SOURce:LEVel:DBM

SOURce:LEVel:DBM?

Parameter/Return:

RF Output Port: -130 to 17

Duplex Port: -160 to -30

Description: Sets/returns the generator level in dBm.

Examples:

```
SOURce:LEVel:DBM -130
SOURce:LEVel:DBM?
-130
```

3.7 SOURce:LEVel:DBUV

Syntax:

SOURce:LEVel:DBUV

SOURce:LEVel:DBUV?

Parameter/Return:

RF Output Port: -23 to 124

Duplex Port: -53 to 77

Description: Sets/returns the generator level in dBuV.

Examples:

```
SOURce:LEVel:DBUV -23
SOURce:LEVel:DBUV
-23
```

3.8 SOURce:LEVel:OFFSet

Syntax:

SOURce:LEVel:OFFSet

SOURce:LEVel:OFFSet

Parameter/Return: -99.0 to 99.0

Description: Sets/returns the generator offset level in dB.

Examples:

```
SOURce:LEVel:OFFSet 5
SOURce:LEVel:OFFSet?
5
```

3.9 SOURce:LEVel:OFFSet:ENABle

Syntax:

SOURce:LEVel:OFFSet

SOURce:LEVel:OFFSet?

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the state of the Cable Level Offset

Examples:

```
SOURce:LEVel:OFFSet:ENABle On
SOURce:LEVel:OFFSet:ENABle?
On
```

3.10 SOURce:LEVel:UNIT

Syntax:

SOURce:LEVel:UNIT

SOURce:LEVel:UNIT?

Parameter/Return: dBm | dBuV | V

Description: Sets/returns the generator level units.

Examples:

```
SOURce:LEVel:UNIT dBm
SOURce:LEVel:UNIT?
dBm
```

3.11 SOURce:LEVel:VOLT

Syntax:

SOURce:LEVel:VOLT

SOURce:LEVel:VOLT?

Parameter/Return:

RF Output Port: 0.071 to 1.583 uV

Duplex Port: 0.0002 uV to 7.071 mV

Description: Sets/returns the level of the generator in Volts.

Examples:

```
SOURce:LEVel:VOLT 1.583
SOURce:LEVel:VOLT?
1.583
```

3.12 SOURce:PORT

Syntax:

SOURce:PORT

SOURce:PORT?

Parameter/Return: Output | Duplex

Description: Sets/returns the generator output port.

Examples:

```
SOURce:PORT Duplex
SOURce:PORT?
```

3.13 SOURce:ROSCillator:INPut

Syntax:

SOURce:ROSCillator:INPut

SOURce:ROSCillator:INPut?

Parameter/Return: Internal | 10_MHz | 13_MHz | 15_MHz | GPS

Description: Sets/returns the reference input configuration.

Examples:

```
SOURce:ROSCillator:INPut 10_MHz
SOURce:ROSCillator:INPut?
```

3.14 SOURce:ROSCillator:OUTPut

Syntax:

SOURce:ROSCillator:OUTPut

SOURce:ROSCillator:OUTPut?

Parameter/Return: Internal | 10_MHz | 13_MHz | 15_MHz | GPS

Description: Sets/returns the reference output configuration.

Examples:

```
SOURce:ROSCillator:OUTPut 10_MHz
SOURce:ROSCillator:OUTPut?
```

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4

RF Receiver Commands

This chapter describes the following remote commands for configuring RF Receiver (RFReceiver) settings:

- SENSe:ATTenuator 4-2
- SENSe:FREQuency 4-2
- SENSe:AGC 4-3
- SENSe:IFBWidth 4-3
- SENSe:LEVelcontrol 4-4
- SENSe:OFFSet:ENABle 4-4
- SENSe:PORT 4-5
- SENSe:PREamp 4-5
- SENSe:RLEVel 4-6
- SENSe:RLEVel:OFFSet 4-6
- SENSe:OFFSet:ENABle 4-7
- SENSe:CABle:FILE 4-7
- SENSe:CABle:LOSS 4-8
- SENSe:GENerator:OFFSet 4-8
- SENSe:GENerator:OFFSet:LOCK:ENAble 4-9
- CALCualte:NORMalize:INITiate:IMMediate 4-9
- CALCulate:NORMalize:MODE 4-9
- CALCulate:NORMalize:CLEar 4-10
- CALCulate:NORMalize:STATus? 4-10

4.1 SENSe:ATTenuator

Syntax:

SENSe:ATTenuator

SENSe:ATTenuator?

Parameter/Return: 0 dB to 40 dB (in 2 dB steps)

Description: Sets/returns the RF Receiver Attenuation. Normally the receiver frontend path is automatically optimized for signal demod quality. When the Auto controls are turned off, the frontend attenuation can be controlled manually.

Examples:

```
SENSe:ATTenuator 20
SENSe:ATTenuator?
20
```

4.2 SENSe:FREQuency

Syntax:

SENSe:FREQuency

SENSe:FREQuency?

Parameter/Return: 100000.0 Hz to 3000000000.0 Hz; Optional 6 GHz Frequency Range

Description: Sets/returns the RF Receiver center frequency.

Examples:

```
SENSe:FREQuency 600000000
SENSe:FREQuency?
600000000
```

4.3 SENSe:AGC

Syntax:

SENSe:AGC

SENSe:AGC?

Parameter/Return: Auto | Manual

Description: Sets/returns ACG mode. In Auto mode, the receiver frontend gain distribution is automatically adjusted for best demod signal. For manual, you can make manual adjustments to gain/attenuation.

Examples:

```
SENSe:AGC Auto
SENSe:AGC?
Auto
```

4.4 SENSe:IFBWidth

Syntax:

SENSe:IFBWidth

SENSe:IFBWidth?

Parameter/Return: IF_3kHz | IF_5kHz | IF_6p25kHz | IF_8p33kHz | IF_10kHz | IF_12p5kHz | IF_25kHz | IF_30kHz | IF_100kHz | IF_230kHz | IF_300kHz

Description: Sets/returns the IF bandwidth.

Examples:

```
SENSe:IFBWidth IF_6p25kHz
SENSe:IFBWidth?
IF_6p25kHz
```

4.5 SENSe:LEVelcontrol

Syntax:

SENSe:LEVelcontrol

SENSe:LEVelcontrol?

Parameter/Return: Auto | Manual

Description: Sets/returns the Level control. The Ref Level can be fixed at a certain sensitivity or the test set can adjust the Ref level for optimal demod conditions.

Examples:

```
SENSe:LEVelcontrol Auto
SENSe:LEVelcontrol?
Auto
```

4.6 SENSe:OFFSet:ENABle

Syntax:

SENSe:OFFSet:ENABle

SENSe:OFFSet:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the offset. When active, the RF rec signal scaling si a sum of the Reference Level and Offset level (can be a cal file or scalar value.)

Examples:

```
SENSe:OFFSet:ENABle On
SENSe:OFFSet:ENABle?
On
```

4.7 SENSe:PORT

Syntax:

SENSe:PORT

SENSe:PORT?

Parameter/Return: Input | Duplex

Description: Sets/returns the receive port.

Examples:

```
SENSe:PORT Input
SENSe:PORT?
Input
```

4.8 SENSe:PREamp

Syntax:

SENSe:PREamp

SENSe:PREamp?

Parameter/Return: 0 (Off) | 1 (On

Description: Sets/returns the state of a Pre-Amp in the RF frontend. There are many gain states where the pre-amp is blocked. Generally Auto AGC manages this control.

Examples:

```
SENSe:PREamp Off
SENSe:PREamp?
```

4.9 SENSe:RLEVel

Syntax:

SENSe:RLEVel

SENSe:RLEVel?

Parameter/Return:

-130 dBm to 30 dBm

RF Duplex: -100 dBm to 60 dBm

Description: Sets/returns the Reference Level. This is normally automatically controlled via AGC Mode - Auto. Auto AGC will adjust the Ref level for best demod capability. The RF port will shift the range of values.

Examples:

```
SENSe:RLEVel -40.2

SENSe:RLEVel?
-40.2
```

4.10 SENSe:RLEVel:OFFSet

Syntax:

SENSe:RLEVel:OFFSet

SENSe:RLEVel:OFFSet?

Parameter/Return: -99.0 dB to 99.0 dB

Description: Sets/returns the Reference Level offset. This provides a scaler adjustment to Ref Level. It's similar idea to Cable Loss except only one value is involved. Cable loss and Level Offset are added together. Common use would be an external 10 dB pad.

Examples:

```
SENSe:RLEVel:OFFSet 10

SENSe:RLEVel:OFFSet?
10
```

4.11 SENSe:OFFSet:ENABle

Syntax:

SENSe:OFFSet:ENABle

SENSe:OFFSet:ENABle?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the offset status.

Examples:

```
SENSe:OFFSet:ENABle On
SENSe:OFFSet:ENABle?
On
```

4.12 SENSe:CABle:FILE

Syntax:

SENSe:CABle:FILE

SENSe:CABle:FILE?

Parameter/Return: None | *Filename*

Description: Sets/returns the active response file. A list of csv files using the file browser and looking the cable directory is displayed. Will use a CSV file of freq,dB value pairs. File needs the csv extension and is located: Internal/cables/example.csv.

Examples:

```
SENSe:CABle:FILE "example-cable.csv"
SENSe:CABle:FILE?
"example-cable.csv"
```

4.13 SENSe:CABle:LOSS

Syntax:

SENSe:CABle:LOSS

SENSe:CABle:LOSS?

Parameter/Return: Loss value in dB

Description: As the operator changes RF Rec freq, the Cable file lookup will occur and the lookup result will show in the Cable Loss field. This SCPI command can overwrite the lookup value.

Examples:

```
SENSe:CABle:LOSS 5.0
SENSe:CABle:LOSS?
5.0
```

4.14 SENSe:GENerator:OFFSet

Syntax:

SENSe:GENerator:OFFSet

SENSe:GENerator:OFFSet?

Parameter/Return: -9990000000.0 Hz to 9990000000.0 Hz

Description: Sets/returns the RF Gen Frequency Value when the RF Rec frequency is changed.

Examples:

```
SENSe:GENerator:OFFSet 1000000
SENSe:GENerator:OFFSet?
1000000
```

4.15 SENSe:GENerator:OFFSet:LOCK:ENAble

Syntax:

SENSe:GENerator:OFFSet:ENAble

SENSe:GENerator:OFFSet:ENAble?

Parameter/Return: Off | On

Description: Sets/returns the RF Gen frequency when the RF Rec frequency is changed.

Examples:

```
SENSe:GENerator:OFFSet:ENAble On
SENSe:GENerator:OFFSet:ENAble?
On
```

4.16 CALCualte:NORMalize:INITiate:IMMediate

Syntax: CALCulate:NORMalize:INITiate:IMMediate

Parameter/Return: —

Description: Initiates the normalization calculation.

Example:

```
CALCulate:NORMalize:INITiate:IMMediate
```

4.17 CALCulate:NORMalize:MODE

Syntax:

CALCulate:NORMalize:MODE

CALCulate:NORMalize:MODE?

Parameter/Return: FullNormalize | SpotNormalize

Description: Sets/returns the normalization mode.

Examples:

```
CALCulate:NORMalize:MODE FullNormalize
CALCulate:NORMalize:MODE?
FullNormalize
```

4.18 CALCulate:NORMalize:CLEar

Syntax: CALCulate:NORMalize:CLEar

Parameter/Return: —

Description: Clears the normalization calculation.

Example:

```
CALCulate:NORMalize:CLEar
```

4.19 CALCulate:NORMalize:STATus?

Syntax: CALCulate:NORMalize:STATus?

Parameter/Return: IdleNotApplied | RunningSpot | RunningFull | IdleApplied | IdleWarmingUp

Description: Returns the Normalization status.

Example:

```
CALCulate:NORMalize:STATus?
```

5

Spectrum Analyzer Commands

This chapter describes the following remote commands for configuring Spectrum Analyzer (SPECtrumanalyzer) settings:

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5.1 CALCulate:MARKer#:DISPlay:FREQuency?

Syntax: CALCulate:MARKer#:DISPlay:FREQuency?

Parameter/Return: # (marker index):1 to 6

Description: Returns the displayed frequency (in Hz) of the specified marker.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency?
```

5.2 CALCulate:MARker#:FREQuency

Description: Sets/returns the frequency of the specified marker.

Syntax:

CALCulate:MARKer#:DISPlay:FREQuency <*frequency*>

CALCulate:MARKer#:DISPlay:FREQuency?

Parameter/Return:

(marker index):1 to 6

frequency: Frequency in Hz

Examples:

```
CALCulate:MARker1:FREQuency 1000
CALCulate:MARker1:FREQuency?
1000
```

5.3 CALCulate:MARker#:TIME

Description: Sets/returns the time of the specified marker.

Syntax:

CALCulate:MARker#:TIME <*time*>

CALCulate:MARker#:TIME?

Parameter/Return:

(marker index):1 to 6

time:

Examples:

```
CALCulate:MARker1:TIME 1
CALCulate:MARker1:TIME?
1
```

5.4 CALCulate:MARker#:TYPE

Description: Sets/returns the type of specified marker.

Syntax:

CALCulate:MARKer#:TYPE <type>

CALCulate:MARKer#:TYPE?

Parameter/Return:

(marker index): 1 to 6

type (marker type): Normal | Delta | Delta Pair

Note: Default = Normal)

Examples:

```
CALCulate:MARker1:Type Delta
CALCulate:MARker1:Type?
Delta
```

5.5 CALCulate:MARker#:X

Description: Sets/returns the frequency of the specified marker.

Syntax: CALCulate:MARKer#:X

Parameter/Return:

(marker index): 1 to 6

Example:

```
CALCulate:MARker1:X
```

5.6 CALCulate:FILTer[:GATE]:WINDow

Description: Sets/returns the window type.

Syntax: CALCulate:FILTer[:GATE]:WINDow

Parameter/Return: Rectangle | Blackman | Flattop | Hamming | Hanning | Kaiser | Triangle

Examples:

```
CALCulate:FILTer[:GATE]:WINDow Rectangle
CALCulate:FILTer[:GATE]:WINDow?
Rectangle
```

5.7 CALCulate:MARKer#:PEAK:ALWays

Description: Sets/returns whether the specified marker (#) always stays at the highest power.

Syntax:

CALCulate:MARKer#:PEAK:ALWays <*state*>

CALCulate:MARKer#:PEAK:ALWays?

Parameter/Return:

(marker index):1 to 6

State: On | Off

Examples:

```
CALCulate:MARKer#:PEAK:ALWays On
CALCulate:MARKer#:PEAK:ALWays?
On
```

5.8 CALCulate:MARKer#:Y?

Description: Returns the power at the specified marker (#).

Syntax: CALCulate:MARKer#:Y?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Example:

```
CALCulate:MARKer1:Y?
```

5.9 CALCulate:MARKer#:DELTa:DISPlay:FREQuency?

Description: Returns the frequency of the delta marker at the specified index (#).

Syntax: CALCulate:MARKer#:DELTa:DISPlay:FREQuency?

Parameter/Return: # (Index):1 to 6

Frequency: —

Example:

```
CALCulate:MARKer#:DELTa:DISPlay:FREQuency?1000
```

5.10 CALCulate:MARKer#:DELTa:x

Syntax: CALCulate:MARKer#:DISPlay:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the frequency of the delta of the specified marker.

Example:

```
CALCulate:MARker01:DELTa:x ?
```

5.11 CALCulate:MARKer#:DELTa:y

Syntax: CALCulate:MARKer#:DELTa:y

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query the power of the delta of the specified marker.

Example:

```
CALCulate:MARker01:DELTa:y
```

5.12 CALCulate:MARKer#:[STATE]

Syntax: CALCulate:MARKer#:[STATE]

Parameter/Return: —

Description: Displays the state of the spectrum analyzer.

Example:

```
CALCulate:MARker1:STATE
```

5.13 CALCulate:MARKer#[:SET]:CENTer

Syntax: CALCulate:MARKer#[:SET]:CENTer

Parameter/Return: —

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer#[:SET]:CENTer?
```

5.14 CALCulate:MARKer#[:SET]:STARt

Syntax: CALCulate:MARKer#[:SET]:STARt

Parameter/Return: None

Description: Moves the start frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer1:SET:STARt?
```

5.15 CALCulate:MARKer#[:SET]:STOP

Syntax: CALCulate:MARKer#[:SET]:STOP

Parameter/Return: None

Description: Moves the stop frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer1:SET:STOP?
```

5.16 CALCulate:MARKer#[:STATe]

Syntax: CALCulate:MARKer#[:STATe]

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the state of the specified marker.

Example:

```
CALCulate:MARKer1:STATe Off
```

5.17 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: None

Description: Turns all markers off.

Example:

```
CALCulate:MARKer:AOFF
```

5.18 CALCulate:MARKer:MAXimum

Syntax: CALCulate:MARKer:MAXimum

Parameter/Return: None

Description: Moves the selected marker to the peak (maximum) power.

Example:

```
CALCulate:MARKer:MAXimum
```

5.19 CALCulate:MARKer:MAXimum:LEFT

Syntax: CALCulate:MARKer:MAXimum:LEFT

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power on the left of the marker.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
```

5.20 CALCulate:MARKer:MAXimum:NEXT

Syntax: CALCulate:MARKer:MAXimum:NEXT

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
```

5.21 CALCulate:MARKer:MAXimum:RIGHt

Syntax: CALCulate:MARKer:MAXimum

Parameter/Return: None

Description: Moves the selected marker to the next peak (maximum) power on the right of the marker.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
```

5.22 CALCulate:MARKer:SELect

Syntax: CALCulate:MARKer:SELect

Parameter/Return: Marker01 | Marker02 | Marker03 | Marker04 | Marker05 | Marker06

Description: Sets/returns the the selected marker.

Example:

```
CALCulate:MARKer:SELect Marker02
```

5.23 CALCulate:MARKer:TABle:[STATe]

Syntax: CALCulate:MARKer:TABle:[STATe]

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker table state.

Example:

```
CALCulate:MARKer:TABLe:STATe
```

5.24 CALCulate:MARKer:[SET]:CENTer

Syntax: CALCulate:MARKer:[SET]:CENTer

Parameter/Return: None

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer:SET:CENTer
```

5.25 CALCulate:NORMalize:INITiate:IMMediate

Syntax: CALCulate:NORMalize:INITiate:IMMediate

Parameter/Return: None

Description: Performs normalize. Deprecated - Moved to RFReceiver**Example:**

```
CALCulate:NORMalize:INITiate:IMMediate
```

5.26 CALCulate:NORMalize:SPOT

Syntax: CALCulate:NORMalize:SPOT

Parameter/Return: On | Off | 1 | 0

Description: Spot normalize. Deprecated - Moved to RFReceiver

Example:

```
CALCulate:NORMalize:SPOT Off
```

5.27 CALCulate:NORMalize:CLEar

Syntax: CALCulate:NORMalize:CLEar

Parameter/Return: None

Description: Clears normalize. Deprecated - Moved to RFReceiver

Example:

```
CALCulate:NORMalize:CLEar
```

5.28 CALCulate:MARKer:[SET]:STARt

Syntax: CALCulate:MARKer:[SET]:STARt

Parameter/Return: Event

Description: —

Example:

```
CALCulate:MARKer:1A:STARt
```

5.29 CALCulate:MARKer:[SET]:STOP

Syntax: CALCulate:MARKer:[SET]:STOP

Parameter/Return: Event

Description: —

Example:

```
CALCulate:MARKer:1A:STOP
```

5.30 CALCulate:MARKer:PEAK:ALWays

Syntax: CALCulate:MARKer:PEAK:ALWays

Parameter/Return: BOOL

Description: —

Example:

```
CALCulate:MARKer:PEAK:ALWays
```

5.31 CALCulate:MARKer#:DELTa:FREQuency

Syntax: CALCulate:MARKer:DELTa:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the delta frequency of the specified marker.

Example:

```
CALCulate:MARKer:DELTa:FREQuency
```

5.32 CALCulate:MARKer#:DELTa:FREQuency:RELative

Syntax: CALCulate:MARKer:DELTa:FREQuency:RELative

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the relative delta frequency of the specified marker.

Example:

```
CALCulate:MARKer:DELTa:FREQuency:RELative
```

5.33 CALCulate:MARKer#:DELTa:TRACe

Syntax: CALCulate:MARKer:DELTa:Trace{1-6}

Parameter/Return: Trace{1-6}

Description: Returns the trace number

Example:

```
CALCulate:MARKer:DELTa:TRACe
```

5.34 CALCulate:MARKer#:DELTa:TIME

Syntax: CALCulate:MARKer:DELTa:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: To set or query the time of the delta of the specified marker.

Example:

```
CALCulate:MARKer:DELTa:FREQuency
```

5.35 CALCulate:MARKer#:SELect

Syntax: CALCulate:MARKer#:SELect

Parameter/Return: Marker01-Marker06

Description: Selects the specified marker.

Example:

```
CALCulate:MARKer02:SELect Marker03
```

5.36 CALCulate:MARKer#:TRACe

Syntax: CALCulate:MARKer#:TRACe

Parameter/Return: Trace01 | Trace02 | to Trace06

Description: Sets/returns which trace marker# is applied to.

Example:

```
CALCulate:MARKer01:TRACe3
```

5.37 CALCulate:FILTer:[GATE]:WINDow

Syntax: CALCulate:MARKer:DELTa:FREQuency

Parameter/Return: Rectangle, Blackman, Flattop, Hamming, Hanning, Kaiser, Triangle

Description: —

Example:

```
CALCulate:FILTer:WINDow:Rectangle
```

5.38 DISPlay:[WINDow]:TRACe:Y:[SCALe]:PDIVision

Syntax: CALCulate:MARKer:DELTa:FREQuency

Parameter/Return: NR1

Description: —

Example:

```
DISPlay:TRACe:Y:100:PDIVision
```

5.39 DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel

Syntax: CALCulate:MARKer:DELTa:FREQuency

Parameter/Return: NR2

Description: —

Example:

```
DISPlay:100:TRACe:Y:100:PDIVision:RLEVel:OFFSet
```

5.40 DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel:OFFSet

Syntax: DISPlay:[WINDow]:TRACe:Y:[SCALe]:RLEVel:OFFset

Parameter/Return: ENABle

Description: —

Example:

```
DISPlay:100:TRACe:Y:100:PDIVision:RLEVel:OFFSet:ENAble
```

5.41 DISPlay:TRACe#:STATe

Syntax: DISPLAY:TRACe#:STATe

Parameter/Return: On | Off | 1 | 0

Description: To set or query the state of the trace with index #.

Example:

```
DISPLAY:TRACe01:STATe
```

5.42 DISPlay:TRACe#:TYPE

Syntax: DISPLAY:TRACe#:STATe

Parameter/Return: Off | ClearWrite | Capture | Average | Max | Min | Load

Description: Sets/returns the type of the trace with index #.

Example:

```
DISPLAY:TRACe01:STATe
```

5.43 DISPlay:TRACe:CLEAr:ALL

Syntax: TRACe:DISPLAY:CLEAr:ALL

Parameter/Return: None

Description: Clears all traces on the screen

Example:

```
DISPlay:TRACe:CLEAr:ALL
```

5.44 DISPlay:TRACe:LENGth

Syntax: DISPlay:TRACe:LENGth

Parameter/Return:

Description: Defines the number of points in the trace

Example:

```
DISPlay:TRACe:LENGth
```

5.45 DISPlay:TRACe:MODE

Syntax: DISPlay:TRACe#:MODE

Parameter/Return: Normal | Reference

Description: Choose if normal or reference trace type

Example:

```
DISPlay:TRACe:MODE
```

5.46 DISPlayTRACe:CAPTure:REFerence

Syntax: TRACe:CAPTure:REFerence

Parameter/Return: None

Description: To Capture the reference trace.

Example:

```
DISPlay:TRACe:CAPTure:REFerence
```

5.47 DISPlay:WINDow:TRACe:SCALe:AUTO

Syntax: TRACe:CAPTure:REFerence

Parameter/Return: None

Description: To Auto scale.

Example:

DISPlay:WINDow:TRACe:SCALe:AUTO

5.48 DISPlay:TRACe:SELect

Syntax: TRACe:SELect Trace{1-6}

Parameter/Return: Trace01 | Trace02 | Trace03 | Trace04 | Trace05 | Trace06

Description: Sets/returns the selected trace.

Example:

```
DISPlay:TRACe:SELect
```

5.49 SENSe:TRACe:SPAN

Syntax: SENSe:TRACe:SPAN

Parameter/Return: CenterSpan | StartStop

Description: Sets/returns if the Center/Span or Start/Stop frequencies are used for the displayed interval.

Example:

```
DISPlay:TRACe:SPAN
```

5.50 DISPlay:WINDow[:SCALe]:Y:BOTTom

Syntax: DISPlay:WINDow[:SCALe]:Y:BOTTom

Parameter/Return: Minimum: -2000; Maximum: 17; Type: Double.

Description: Sets/returns the bottom of the scale.

Example:

```
PECtrumanalyzer:DISPlay:WINDow:SCALe:Y:BOTTom -200
```

5.51 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel

Parameter/Return: Minimum: -130; Maximum: 27; Type: Double.

Description: Sets/returns reference level.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel 0
```

5.52 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet?

Parameter/Return: Minimum: -200; Maximum: 200; Type: Double.

Description: Sets/returns reference level offset.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet 100
```

5.53 DISPlay:WINDow[:SCALe]:Y:TOP

Syntax: DISPlay:WINDow[:SCALe]:Y:TOP

Parameter/Return: Minimum: -130; Maximum: 27; Type: Double.

Description: Sets/returns the top of the scale.

Example:

```
DISPlay:WINDow:SCALe:Y:TOP -200
```

5.54 DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:RLEVel:OFFSet:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the reference level offset enable.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:RLEVel:OFFSet:ENABle Off
```

5.55 DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision

Syntax: DISPlay[:WINDow]:TRACe:Y:[SCALe]:PDIVision

Parameter/Return: Minimum: 1; Maximum: 200; Type: Int.e.

Description: Sets/returns the scale (dB/division) for the y-axis.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe:PDIVision 100
```

5.56 SENSe:HOLD

Syntax: DISPlay:WINDow[:SCALe]:Y:BOTTom

Parameter/Return: On | Off | 1 | 0

Description: Set or query the hold functionality.

Example:

```
SENSe:HOLD On
```

5.57 SENSe:SWEep:MODE

Syntax: SENSe:SWEep:CONTinuous

Parameter/Return: FFT | FilterBank | ZeroSpan | CZT

Description: Sets/returns the sweep mode.

Example:

```
SENSe:SWEep:MODE
```

5.58 SENSe:SWEep:CONTinuous

Syntax: SENSe:SWEep:CONTinuous

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the sweep mode.

Example:

```
SENSe:SWEep:CONTinuous
```

5.59 SENSe:SWEep:POINts

Syntax: SENSe:SWEep:POINts

Parameter/Return: Minimum: 100; Maximum: 16384; Type: Int.

Description: Sets/returns the number of sweep points.

Example:

```
SENSe:SWEep:POINts 22
```

5.60 SENSe:ZSPAN:TIME

Syntax: SENSe:ZSPAN:TIME

Parameter/Return: Minimum: 0.82; Maximum: 100000; Type: Double

Description: Sets/returns zero span time.

Example:

```
SENSe:ZSPAN:TIME 2.5
```

5.61 SOURce:MARKer#:DELTa:DISPlay:FREQuency

Syntax: SOURce:MARKer#:DELTa:DISPlay:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query the frequency the delta of the specified marker is at.

Example:

```
SENSe:ZSPAN:TIME 2.5
```

5.62 SENSe:BANDwidth:CHANnel

Syntax: SENSe:BANDwidth:CHANnel

Parameter Returns: Minimum: 25; Maximum: 5000000; Type: Double.

Description: Sets/returns the ACPower channel bandwidth - bound by current span and channel spacing.

Example:

```
SENSe:BANDwidth:CHANnel
```

5.63 SENSe:BANDwidth:CHANnel:SPACing

Syntax: SENSe:BANDwidth:CHANnel

Parameter/Return: Minimum: 100; Maximum: 6020000000; Type: Double.

Description: You can AC Power channel spacing - bound by current span and channel bandwidth.

Example:

```
SENSe:BANDwidth:CHANnel:SPACing
```

5.64 SOURce:MARKer#:DELTa:FREQuency

Syntax: SOURce:MARKer#:DELTa:FREQuency

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns delta frequency of the specified marker.

Example:

```
SENSe:BANDwidth:CHANnel:SPACing
```

5.65 SOURce:MARKer#:DELTa:FREQuency:RELative

Syntax: SOURce:MARKer#:DELTa:FREQuency:RELative

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns relative delta frequency of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:FREQuency:RELative 100000
```

5.66 SENSe:POWer:ACHannel:MODE

Syntax: SENSe:POWer:ACHannel:MODE

Parameter/Return: Abs | Rel

Description: Sets/returns power measure unit.

Example:

```
SENSe:POWer:ACHannel:MODE Auto
```

5.67 SENSe:FREquency:SPAN:MODE

Syntax: SENSe:FREquency:SPAN:MODE

Parameter/Return: Spectrum|ZeroSpan

Description: Sets/returns Frequency span mode.

Example:

```
SENSe:FREquency:SPAN:MODE Spectrum
```

5.68 SOURce:MARKer#:DELTa:TIME

Syntax: SOURce:MARKer#:DELTa:TIME

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns time of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:TIME 10
```

5.69 SOURce:MARKer#:DELTa:POSItion

Syntax: SOURce:MARKer#:DELTa:POSItion

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns horizontal position of the delta of the specified marker.

Example:

```
SOURce:MARKer#:DELTa:POSItion?
```

5.70 SENSe:AVERage:COUNt

Syntax: SENSe:AVERage:COUNt

Parameter/Return: Minimum: 0; Maximum: 100; Type: Int.

Description: Sets/returns the number of average samples used to display the graph.

Example:

```
SENSe:AVERage:COUNt
```

5.71 SOURce:MARKer#:DELTa:X

Syntax: SOURce:MARKer#:DELTa:Xt

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the frequency of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:X 950
```

5.72 SOURce:MARKer#:DELTa:Y

Syntax: SOURce:MARKer#:DELTa:Xt

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the delta of the specified marker.

Example:

```
SOURce:MARKer1:DELTa:Y 0
```

5.73 SOURce:MARKer#:DISPlay:FREQuency

Syntax: SOURce:MARKer#:DISPlay:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the displayed frequency of the specified marker.

Example:

```
SOURce:MARKer1:DISPlay:FREQuency?
```

5.74 SOURce:MARKer#:FREQuency

Syntax: SOURce:MARKer#:FREQuency

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the specified marker.

Example:

```
SOURce:MARKer1:FREQuency 950
```

5.75 SOURce:MARKer#:PEAK

Syntax: SOURce:MARKer#:PEAK

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns if the marker always stays at the highest power.

Example:

SOURce:MARKer1:PEAK On

5.76 SOURce:MARKer#:NOISe[:STATe]

Syntax: SOURce:MARKer#:NOISe[:STATe]

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the if the noise marker is turned On or Off for the of the specified marker.

Example:

```
SOURce:MARKer1:FREQuency 950
```

5.77 SOURce:MARKer#:TIME

Syntax: SOURce:MARKer#:TIME

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the time of the specified marker.

Example:

```
SOURce:MARKer1:TIME 10
```

5.78 SOURce:MARKer#:POSItion?

Syntax: SOURce:MARKer#:POSItion?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the horizontal position of the specified marker. with index #.

Example:

```
SOURce:MARKer1:POSItion?
```

5.79 SOURce:MARKer#:TYPE

Syntax: SOURce:MARKer#:TYPE

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the type of the specified marker.

Example:

```
SOURce:MARKer1:TYPE Delta
```

5.80 SOURce:MARKer#:X

Syntax: SOURce:MARKer#:X

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the frequency of the specified marker.

Example:

```
SOURce:MARKer1:Y?0
```

5.81 SENSe:BANDwidth:VIDeo

Syntax: SENSe:BANDwidth:VIDeo

Parameter/Return: Minimum: 5; Maximum: 5000000; Type: Double.

Description: Sets/returns the video bandwidth.

Example:

```
SENSe:BANDwidth:VIDeo
```

5.82 SOURce:MARKer#:[STATe]

Syntax: SOURce:MARKer#:[STATe]

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns state of the specified marker.

Example:

```
SOURce:MARKer1:STATe Off
```

5.83 SOURce:MARKer:AOFF

Syntax: SOURce:MARKer:AOFF

Parameter/Return: # - None

Description: Turns all markers off.

Example:

```
SOURce:MARKer:AOFF
```

5.84 SOURce:MARKer#:Y

Syntax: SOURce:MARKer#:Y

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: You can query power at the of the specified marker.

Example:

```
SOURce:MARKer#:Y
```

5.85 SOURce:MARKer:MAXimum

Syntax: SOURce:MARKer:MAXimum

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Moves the selected marker to the peak (maximum) power.

Example:

```
SOURce:MARKer:MAXimum
```

5.86 SENSe:BANDwidth:VIDeo:MODE

Syntax: SENSe:BANDwidth:VIDeo:MODE

Parameter/Return: Auto|Manual

Description: Sets/returns video bandwidth mode.

Example:

```
SENSe:BANDwidth:VIDeo:MODE
```

5.87 SENSe:BANDwidth:VIDeo:MODE

Syntax: SENSe:BANDwidth:VIDeo:MODE

Parameter/Return: Auto|Manual

Description: Sets/returns video bandwidth mode.

Example:

```
SENSe:BANDwidth:VIDeo:MODE
```

5.88 SOURce:MARKer:MAXimum:LEFT

Syntax: SOURce:MARKer:MAXimum:LEFT

Parameter/Return: Minimum: 0.001; Maximum: 1000; Type: Double.

Description: Moves the selected marker to the next peak (maximum) power on the left of the marker.

Example:

```
SOURce:MARKer:MAXimum:LEFT
```

5.89 SOURce:MARKer:MAXimum:RIGHt

Syntax: SOURce:MARKer:MAXimum:RIGHt

Parameter/Return: Minimum: 0.001; Maximum: 1000; Type: Double.

Description: Moves the selected marker to the next peak (maximum) power on the right of the marker.

Example:

```
SOURce:MARKer:MAXimum:RIGHt
```

5.90 SOURce:MARKer:SELect

Syntax: SOURce:MARKer:SELect

Parameter/Return: Marker01 | Marker02 | Marker03 | Marker04 | Marker05 | Marker06

Description: Sets/returns the selected marker.

Example:

```
SOURce:MARKer:MAXimum:RIGHt
```

5.91 SOURce:MARKer:MAXimum:NEXT

Syntax: SOURce:MARKer:MAXimum:NEXT

Parameter/Return: None.

Description: Moves the selected marker to the next peak (maximum) power.

Example:

```
SOURce:MARKer:MAXimum:NEXT
```

5.92 SOURce:MARKer:TABLe[:STATe]

Syntax: SOURce:MARKer:TABLe[:STATe]

Parameter/Return: On | Off | 1 | 0

Description: Sets the marker table state.

Example:

```
SOURce:MARKer:TABLe:STATe On
```

5.93 SOURce:MARKer[:SET]:CENTer

Syntax: Moves the center frequency to the selected marker's frequency.

Parameter/Return: None

Description: Moves the center frequency to the selected marker's frequency.

Example:

```
SOURce:MARKer:SET:CENTer?
```

5.94 SENSe:BANDwidth:[RESolution]:MODE

Syntax: SENSe:BANDwidth:RESolution:MODE

Parameter/Return: Auto|Manual

Description: Sets the bandwidth resolution mode.

Example:

```
SENSe:BANDwidth:RESolution:MODE Auto
```

5.95 SENSe:BANDwidth:[RESolution]

Syntax: SENSe:BANDwidth:RESolution

Parameter/Return: Minimum: 45; Maximum: 5000000; Type: Double.

Description: Sets/returns resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution
```

5.96 SENSe:BANDwidth[:RESolution]:ACTual

Syntax: SENSe:BANDwidth[:RESolution]:ACTual

Parameter/Return: Type: Double.

Description: Sets/returns actual resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution:ACTual
```

5.97 SENSe:BANDwidth:[RESolution]:RATio

Syntax: SENSe:BANDwidth:RESolution:RATio

Parameter/Return: Minimum: 1; Maximum: 1000; Type: Int.

Description: Sets/returns resolution bandwidth ratio.

Example:

```
SENSe:BANDwidth:RESolution:RATio
```

5.98 SENSe:DETector[:FUNCtion]

Syntax: SENSe:DETector:FUNCtion

Parameter/Return: Peak | NegativePeak | Normal | RMS

Description: Detector function.

Example:

```
SENSe:DETector:FUNCtion Normal
```

5.99 SENSe:FREQuency:CENTer

Syntax: SENSe:FREQuency:CENTer

Parameter/Return: Minimum: 9050; Maximum: 6000000000; Type: Double.

Description: Sets/returns center frequency.

Example:

```
SENSe:FREQuency:CENTer
```

5.100 SENSe:FREQuency:SPAN:FULL

Syntax: SENSe:FREQuency:SPAN:FULL

Parameter/Return: None

Description: Sets the span frequency to maximum.

Example:

```
SENSe:FREQuency:SPAN:FULL
```

5.101 SENSe:FREQuency:SPAN

Syntax: SENSe:FREQuency:SPAN

Parameter/Return: Minimum: 100; Maximum: 6004991000; Type: Double.

Description: Sets/returns span frequency.

Example:

```
SENSe:FREQuency:SPAN
```

5.102 SENSe:FREQuency:SPAN:PREVious

Syntax: SENSe:FREQuency:SPAN:PREVious

Parameter/Return: None

Description: Sets the span frequency to the previous value.

Example:

```
SENSe:FREQuency:SPAN:PREVious
```

5.103 SENse:SPAN:ZERO

Syntax: SENSe:FREQuency:SPAN:ZERO

Parameter/Return: None

Description: Activates zero span measurement.

Example:

```
SENSe:FREQuency:SPAN:PREVious
```

5.104 SENSe:FREQuency:STARt

Syntax: SENSe:FREQuency:STARt

Parameter/Return: Minimum: 9000; Maximum: 5999999950; Type: Double.

Description: Sets/returns start frequency.

Example:

```
SENSe:FREQuency:STARt
```

5.105 SENSe:FREQuency:STOP

Syntax: SENSe:FREQuency:STOP

Parameter/Return: Event

Description:

Example:

```
SENSe:FREQuency:STOP
```

5.106 SENSe:OBANDwidth:PERCent

Syntax: SENSe:OBANDwidth:PERCent

Parameter/Return: Minimum: 0.1; Maximum: 99.99; Type: Double.

Description: Sets/returns occupied bandwidth power ratio.

Example:

```
SENSe:OBANDwidth:PERCent
```

5.107 SENSe:OBANDwidth[:STATE]

Syntax: SENSe:OBANDwidth:PERCent

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns occupied bandwidth state.

Example:

```
SENSe:OBANDwidth:STATE
```

5.108 SENSe:PORT

Syntax: SENSe:OBANDwidth:PERCent

Parameter/Return: RF_Duplex|RF_Input

Description: Sets/returns the input source.

Example:

```
SENSe:PORT RF_Duplex
```

5.109 SENSe:POWer[:RF]:ATTenuation

Syntax: SENSe:POWer:RF:ATTenuation

Parameter/Return: Minimum: 0; Maximum: 40; Type: Int.

Description: Sets/returns RF Attenuation value.

Example:

```
SENSe:POWer:ATTenuation
```

5.110 SENSe:POWer[:RF]:ATTenuation:Mode

Syntax: SENSe:POWer[:RF]:ATTenuation:Mode

Parameter/Return: Auto|Manual

Description: Sets/returns RF Attenuation Mode.

Example:

```
SENSe:POWer:RF:ATTenuation:Mode
```

5.111 SENSe:POWer[:RF]:ATTenuation

Syntax: SENSe:POWer[:RF]:ATTenuation

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns RF Attenuation Mode.

Example:

```
SENSe:POWer:RF:GAIN:STATe On
```

5.112 SENSe:POWer[:RF]:GAIN:STATe

Syntax: SENSe:POWer[:RF]:GAIN:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the pre-amp.

Example:

```
SENSe:POWer[:RF]:ATTenuation
```

5.113 SENSe:SWEep:TIME:MANual

Syntax: SENSe:SWEep:TIME:MANual

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns sweep time mode.

Example:

```
SENSe:SWEep:TIME:MANual
```

5.114 SENSe:SWEep:TIME

Syntax:

SENSe:SWEep:TIME

SENSe:SWEep:TIME?

Parameter/Return: 0.000078 to 100000

Description: Sets/returns the sweep time.

Example:

```
SENSe:SWEep:TIME
SENSe:SWEep:TIME?
```

5.115 SENSe:SWEep:[ONCE]

Syntax: SENSe:SWEep:TIME:MANual

Parameter/Return: None

Description: Performs one sweep in Single Sweep Mode.

Example:

```
SENSe:SWEep:ONCE
```

5.116 SENSe:TGENerator:ENABle

Syntax: SENSe:TGENerator:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Enables tracking gen.

Example:

```
SENSe:TGENerator:ENABle
```

5.117 SENSe:TGENerator:LEVel

Syntax: SENSe:TGENerator:LEVel

Parameter/Return: Minimum: -130; Maximum: 30; Type: Double.

Description: Sets/returns tracking gen level.

Example:

```
SENSe:TGENerator:LEVel
```

5.118 SENSe:TGENerator:OFFSet

Syntax: SENSe:TGENerator:OFFSet

Parameter/Return: Minimum: -30; Maximum: 30; Type: Double

Description: Sets/returns tracking gen level offset.

Example:

```
SENSe:TGENerator:OFFSet
```

5.119 SENSe:TGENerator:PORT

Syntax: SENSe:TGENerator:PORT

Parameter/Return: RF_Duplex|RF_output

Description: Sets/returns tracking gen port.

Example:

```
SENSe:TGENerator:PORT RF_output
```

5.120 TRIGger:SLOPe:FALLing

Syntax: TRIGger:SLOPe:FALLing

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns trigger level type.

Example:

```
TRIGger:SLOPe:FALLing On
```

5.121 TRIGger:MODE

Syntax: TRIGger:MODE

Parameter/Return: Immediate|External|Video

Description: Sets/returns the trigger source.

Example:

```
TRIGger:MODE External
```

5.122 TRIGger[:SEQuence]:VIDeo:DELay

Syntax: TRIGger:[SEQuence]:VIDeo:DELay

Parameter/Return: Minimum: 0; Maximum: 15; Type: Double.

Description: Sets/returns the video trigger delay.

Example:

```
TRIGger:VIDeo:DELay
```

5.123 TRIGger[:SEQuence]:VIDeo:LEVel

Syntax: TRIGger[:SEQuence]:VIDeo:LEVel

Parameter/Return: Minimum: 0; Maximum: 100; Type: Double.

Description: Sets/returns the video trigger level.

Example:

```
TRIGger:SEQuence:VIDeo:LEVel
```

5.124 TRIGger:ZSPAN:SLOPe:FALLing

Syntax: TRIGger:ZSPAN:SLOPe:FALLing

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the trigger slope.

Example:

```
TRIGger:ZSPAN:SLOPe:FALLing
```

5.125 TRIGger:ZSPAN:MODE

Syntax: TRIGger:ZSPAN:MODE

Parameter/Return: Immediate | External | Video

Description: Sets/returns the trigger source.

Example:

```
TRIGger:ZSPAN:MODE Video
```

5.126 MEASure:POWer:ACHannel:LOWer?

Description: You can query lower side power.

Syntax: MEASure:POWer:ACHannel:LOWer

Parameter/Return: —

Description: Returns the lower side power.

Example:

```
MEASure:POWer:ACHannel:LOWer?
-45.2
```

5.127 MEASure:POWer:ACHannel:UPPer?

Syntax: MEASure:POWer:ACHannel:UPPer

Parameter/Return: —

Description: Returns the upper side power.

Example:

```
MEASure:POWer:ACHannel:UPPer?
-45.2
```

5.128 MEASure:POWer[:CCHannel]

Syntax: MEASure:POWer:[CCHannel]

Parameter/Return: —

Description: Returns the center channel power.

Example:

```
MEASure:POWer:CCHannel?
10
```

5.129 MEASure:OBANDwidth CENTroid?

Syntax: MEASure:OBANDwidth?

Parameter/Return: —

Description: Returns the center of the occupied channel bandwidth.

Example:

```
MEASure:OBANDwidth:CENTRoid?
500000
```

5.130 MEASure:OBANDwidth?

Syntax: MEASure:OBANDwidth?

Parameter/Return: —

Description: Returns the Occupied Bandwidth frequency span.

Example:

```
MEASure:OBANDwidth?
500000
```

5.131 MEASure:OBANDwidth:POWer?

Syntax: MEASure:OBANDwidth:POWer?

Parameter/Return: —

Description: Returns the Occupied Bandwidth Power.

Example:

```
MEASure:OBANDwidth:POWer?
-8.5
```

5.132 MEASure:TRACe:DATA?

Syntax: MEASure:TRACe:DATA?

Parameter/Return: —

Description: Returns comma-delimited trace data.

Example:

```
MEASure:TRACe:Data?
-100.0,-99.9...,<xx.x>
```

6

Channel Analyzer Commands

This chapter describes the following remote commands for configuring Channel Analyzer (CHANnelanalyzer) settings:

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6.1 DISPlay:TRACe:LENGth

Syntax: DISPlay:TRACe:LENGth

Parameter/Return: 1 to 10000 (default = 347)

Description: Sets/returns the trace length.

Examples:

```
DISPlay:TRACe:LENGth 1000
DISPlay:TRACe:LENGth?
1000
```

6.2 CALCulate:MARKer#:FREQuency

Syntax: CALCulate:MARKer#:FREQuency

Parameter/Return: # (marker index) = 1 to 6

Description: Sets the specified marker frequency in Hz.

Example:

```
CALCulate:MARKer1:FREQuency 500010000
```

6.3 CALCulate:MARKer#:TYPE

Syntax:

CALCulate:MARKer#:TYPE

CALCulate:MARKer#:TYPE?

Parameter/Return: Normal | Delta | Delta Pair

Note: Default = Normal

Description: Sets/returns the marker type.

Example:

```
CALCulate:MARKer2:TYPE Delta
CALCulate:MARKer2:TYPE?
Normal
```

6.4 CALCulate:MARKer#:X

Syntax:

CALCulate:MARKer#:X

CALCulate:MARKer#:X?

Parameter/Return:

(marker index) = 1 to 6

value range = 9000 to 6005000000

Description: Sets/returns the value of the specified marke

Examples:

```
CALCulate:MARKer1:X 500010000
CALCulate:MARKer1:X?
500010000
```

6.5 CALCulate:MARKer#:Y?

Syntax: CALCulate:MARKer#:Y?

Parameter/Return:

(marker index) = 1 to 6

value = Y value

Description: Returns the Y value of the specified marker.

Example:

```
CALCulate:MARKer2:Y?
-50.8
```

6.6 CALCulate:MARKer#[:STATe]

Syntax:

CALCulate:MARKer#[:STATe]

CALCulate:MARKer#[:STATe]?

Parameter/Return:

(marker index) = 1 to 6

state = On | Off

Description: Sets/returns the state of the specified marker.

Examples:

```
CALCulate:MARKer02:STATe On
CALCulate:MARKer02:STATe?
On
```

6.7 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: None

Description: Turns off all markers.

Example:

```
CALCulate:MARKer:AOFF
```

6.8 CALCulate:MARKer:MAXimum

Syntax:

CALCulate:MARKer:MAXimum

CALCulate:MARKer:MAXimum?

Parameter/Return: None

Description: Sets/returns the marker to peak.

Example:

```
CALCulate:MARKer:MAXimum
CALCulate:MARKer:MAXimum?
```

6.9 CALCulate:MARKer:MAXimum:LEFT

Syntax:

CALCulate:MARKer:MAXimum:LEFT

CALCulate:MARKer:MAXimum:LEFT?

Parameter/Return: —

Description: Sets/returns the marker to next peak left.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
CALCulate:MARKer:MAXimum:LEFT?
```

6.10 CALCulate:MARKer:MAXimum:NEXT

Syntax:

CALCulate:MARKer:MAXimum:NEXT

CALCulate:MARKer:MAXimum:NEXT?

Parameter/Return: —

Description: Sets/returns the marker to next peak.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
CALCulate:MARKer:MAXimum:NEXT?
```

6.11 CALCulate:MARKer:MAXimum:RIGHt

Syntax:

CALCulate:MARKer:MAXimu:RIGHt

CALCulate:MARKer:MAXimu:RIGHt?

Parameter/Return: None

Description: Sets/returns the Marker to next peak right.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
CALCulate:MARKer:MAXimum:RIGHt?
```

6.12 CALCulate:MARKer:MINimum

Syntax:

CALCulate:MARKer:MINimum

CALCulate:MARKer:MINimum?

Parameter/Return: —

Description: Sets marker to minimum.

Example:

```
CALCulate:MARKer:MINimum
CALCulate:MARKer:MINimum?
```

6.13 CALCulate:MARKer:TABLe[:STATe]

Syntax:

CALCulate:MARKer:TABLE:STATE

CALCulate:MARKer:TABLE:STATE?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the marker table.

Example:

```
CALCulate:MARKer:TABLE:STATE On
CALCulate:MARKer:TABLE:STATE?
On
```

6.14 CALCulate:MARKer[:SET]:STARt

Syntax:

CALCulate:MARKer:SET:STARt

CALCulate:MARKer:SET:STARt?

Parameter/Return: 9000 to 6005000000

Description: Move start frequency to the selected markers frequency.

Examples:

```
CALCulate:MARKer:SET:STARt 10000
CALCulate:MARKer:SET:STARt?
10000
```

6.15 CALCulate:MARKer[:SET]:STOP

Syntax:

CALCulate:MARKer:SET:STOP

CALCulate:MARKer:SET:STOP?

Parameter/Return: —

Description: Move center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer:SET:STOP
CALCulate:MARKer:SET:STOP?
```

6.16 CALCulate:MARKer[:SET]:CENTer

Syntax:

CALCulate:MARKer:SET:CENTer

CALCulate:MARKer:SET:CENTer?

Parameter/Return: —

Description: Move center frequency to the selected marker's frequency.

Example:

```
CALCulate:MARKer02:SET:CENTer
CALCulate:MARKer02:SET:CENTer?
```

6.17 CALCulate:MARKer#:PEAK:ALWays

Syntax:

CALCulate:MARKer#:PEAK:ALWays

CALCulate:MARKer#:PEAK:ALWays?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker # track peak state.

Example:

```
CALCulate:MARKer02:PEAK:ALWays On
CALCulate:MARKer02:PEAK:ALWays?
On
```

6.18 CALCulate:MARKer#:TRACe

Syntax:

CHANnelanalyzerCALCulate:MARKer#:TRACe

CHANnelanalyzerCALCulate:MARKer#:TRACe?

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Sets/returns the trace for marker #.

Example:

```
CALCulate:MARKer1:TRACe On
CALCulate:MARKer1:TRACe?
On
```

6.19 CALCulate:MARKer#:DELTa:FREQuency

Syntax: CALCulate:MARKer#:DELTa:FREQuency

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the delta marker frequency in Channel Analyzer.

Example:

```
CALCulate:MARKer02:DELTa:FREQuency 5000100000
CALCulate:MARKer02:DELTa:FREQuency?
```

6.20 CALCulate:MARKer#:DELTa:FREQuency:RELative

Syntax: CALCulate:MARKer#:DELTa:FREQuency:RELative

Parameter/Return: Minimum: 9000; Maximum: 6005000000; Type: Double.

Description: Sets/returns the Marker# (1-6) delta relative frequency

Example:

```
CALCulate:MARKer1:DELTa:FREQuency:RELative 0
CALCulate:MARKer1:DELTa:FREQuency:RELative?
```

6.21 CALCulate:MARKer#:DELTa:POWer:DEP

Syntax: CALCulate:MARKer#:DELTa:POWer:DEP

Parameter/Return: # - Index of marker. Minimum: 1; Maximum: 6; Type: Int.

Description: Returns the delta marker power reading.

Example:

```
CALCulate:CALCulate:MARKer#:DELTa:POWer:DEP?
```

6.22 CALCulate:MARKer#:

Syntax: CALCulate:MARKer#:

Parameter/Return: Trace{01-06}

Description: Calculates the frequency of marker in Channel Analyzer.

Example:

```
CALCulate:MARKer#
```

6.23 CALCulate:MARKer#:DELTa:TRACe

Syntax: CALCulate:MARKer#:DELTa:TRACe

Parameter/Return: Trace {01-06}

Description: Sets/returns the delta marker trace.

Example:

```
CALCulate:MARKer02:DELTa:TRACe Trace01
CALCulate:MARKer02:DELTa:TRACe?
```

6.24 DISPlay:TRACe#:STATe

Syntax: DISPlay:TRACe#:STATe

Parameter/Return: Off | On

Description: Sets/returns the Set Trance # state.

Example:

```
DISPlay:TRACe#:STATe On
DISPlay:TRACe#:STATe?
```

6.25 DISPlay:TRACe#:TYPE

Syntax: DISPlay:TRACe#:TYPE

Parameter/Return: ClearWrite | Capture | Max | Min | Load

Description: Sets/returns the trace type for Trace#.

Example:

```
DISPlay:TRACe02:TYPE Max
DISPlay:TRACe02:TYPE?
```

6.26 CALCulate:MARKer#:DISPlay:DELTa:FREQuency

Syntax: CALCulate:MARKer#:DISPlay:DELTa:FREQuency

Parameter/Return: None

Description: Returns the Marker # delta frequency.

Example:

```
CALCulate:MARKer#:DISPlay:DELTa:FREQuency?
```

6.27 CALCulate:MARKer#:DISPlay:DELTa:FREQuency

Syntax: CALCulate:MARKer#:DISPlay:DELTa:FREQuency

Parameter/Return: None

Description: Returns the delta marker power.

Example:

```
CALCulate:MARKer#:DISPlay:DELTa:FREQuency?
```

6.28 CALCulate:MARKer#:DISPlay:FREQuency

Syntax: CALCulate:MARKer#:DISPlay:FREQuency

Parameter/Return: None

Description: Returns the marker # frequency.

Example:

```
CALCulate:MARKer#:DISPlay:FREQuency?
```

6.29 CALCulate:MARKer#:DISPlay:FREQuency:OFFSet

Syntax: CALCulate:MARKer#:DISPlay:FREQuency:OFFSet

Parameter/Return: None

Description: Returns the marker # delta frequency.

Example:

```
CALCulate:MARKer#:DISPlay:FREQuency:OFFSet?
```

6.30 CALCulate:MARKer#:DISPlay:POWer

Syntax: CALCulate:MARKer#:DISPlay:POWer

Parameter/Return: None

Description: Returns the marker # power.

Example:

```
CALCulate:MARKer#:DISPlay:POWer?
```

6.31 DISPlay:TRACe:OPERation

Syntax: DISPlay:TRACe:OPERation

Parameter/Return: Live | Minhold | Maxhold

Description: Sets/returns the trace mode.

Example:

```
DISPlay:TRACe:OPERation Live
DISPlay:TRACe:OPERation?
```

6.32 DISPlay:TRACe:SELect

Syntax: DISPlay:TRACe:SELect

Parameter/Return: Trace01 to Trace06

Description: Sets/returns the trace.

Example:

```
DISPlay:TRACe:SELect Trace01
DISPlay:TRACe:SELect?
```

6.33 CALCulate:MARKer:SELect

Syntax: CALCulate:MARKer:SELect

Parameter/Return: Marker {01-06}

Description: Sets/returns select or query the marker.

Example:

```
CALCulate:MARKer:SELect marker01
CALCulate:MARKer:SELect?
```

6.34 SENse:HOLD

Syntax: SENse:HOLD

Parameter/Return: Off | On

Description: Sets/returns hold mode on or off in Channel Analyzer.

Example:

```
SENse:HOLD On
SENse:HOLD?
```

6.35 SENse:TRACe:SPAN

Syntax: SENse:TRACe:SPAN

Parameter/Return: CenterSpan | StartStop

Description: Sets/returns the span mode.

Example:

```
SENse:TRACe:SPAN StartStop
SENse:TRACe:SPAN?
```

6.36 SENse:BANDwidth[:RESolution]:ACTual

Syntax: SENse:BANDwidth[:RESolution]:ACTual?

Parameter/Return: None

Description: Returns actual resolution bandwidth when in Auto mode.

Example:

```
SENse:BANDwidth:RESolution:ACTual?
```

6.37 SENSe:FREQuency:CENTer

Syntax: SENSe:FREQuency:CENTer

Parameter/Return: 9000 to 6000000000; Type: Double.

Description: Center Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:CENTer 2000000000
SENSe:FREQuency:CENTer?
```

6.38 SENSe:DETector[:FUNCtion]

Syntax: SENSe:DETector[:FUNCtion]

Parameter/Return: Normal | PositivePeak | NegativePeak | Mean

Description: Sets/returns the detector type.

Example:

```
SENSe:DETector[:FUNCtion] PositivePeak
SENSe:DETector[:FUNCtion]?
```

6.39 DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax: DISPlay[:WINDow]:TRACe:Y[SCALe]:TOP

Parameter/Return: -130 to 30

Description: Sets/returns the top of vertical scale.

Example:

```
DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP 10
DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP?
```

6.40 DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE

Parameter/Return: Auto | Manual

Description: Sets/returns the Top of Scale mode.

Example:

```
DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE Auto
DISPlay[:WINDow]:TRACe:Y[:SCALe]:MODE?
```

6.41 DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Parameter/Return: 1 to 200 dB

Description: Sets/returns the vertical scale per division in 1 dB steps.

Example:

```
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision 100
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision?
```

6.42 SENSe:FREQuency:SPAN

Syntax: SENSe:FREQuency:SPAN

Parameter/Return: 2000 - 6000000000

Description: Sets/returns the Channel Analyzer span.

Example:

```
SENSe:FREQuency:SPAN 20000
SENSe:FREQuency:SPAN?
```

6.43 SENSe:FREQuency:STARt

Syntax: SENSe:FREQuency:STARt

Parameter/Return: 9000 - 6000000000; Type: Double

Description: Start Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:STARt 10000000
SENSe:FREQuency:STARt?
```

6.44 SENSe:FREQuency:STOP

Syntax: SENSe:FREQuency:STOP

Parameter/Return: 9000 - 6000000000; Type: Double

Description: Stop Frequency limited to 5MHz bandwidth around the programmed receiver frequency.

Example:

```
SENSe:FREQuency:STARt 10000000
SENSe:FREQuency:STARt?
```

6.45 CALCulate:FILTer[:GATE]:WINDow

Syntax: CALCulate:FILTer[:GATE]:WINDow

Parameter/Return: Rectangle | Blackman | Flattop | Hamming | Hanning | Triangle

Description: Sets/returns the filter window type.

Example:

```
CALCulate:FILTer[:GATE]:WINDow Flattop
CALCulate:FILTer[:GATE]:WINDow?
```

6.46 SENSe:BANDwidth[:RESolution]

Syntax: SENSe:BANDwidth[:RESolution]

Parameter/Return: 1, 2, 5, sequence in form: RBW_Auto | RBW_1Hz | RBW_2Hz | ... RBW_500Hz | RBW_1kHz | ... | RBW_50kHz

Description: Sets/returns the resolution bandwidth.

Example:

```
SENSe:BANDwidth:RESolution RBW_10Hz
SENSe:BANDwidth:RESolution?
```

6.47 SENSE:AVERage:COUNt

Syntax: SENSe:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns Channel Analyzer averaging.

Example:

```
SENSe:AVERage:COUNt 1
SENSe:AVERage:COUNt?
```

6.48 MEASure:TRACe:DATA

Syntax: MEASure:TRACe:DATA?

Parameter/Return: None

Description: Returns trace data

Example:

```
MEASure:TRACe:DATA?
```

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7

Audio Analyzer Commands

This chapter describes the following remote commands for configuring Audio Analyzer (AUDioanalyser) settings:

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7.1 CALCulate:MARKer#:TYPE

Syntax: CALCulate:MARKer#:TYPE

Parameter/Return: Init | On | Off | 0 | 1

Description: Sets/returns the state of the specified marker.

Example:

```
CALCulate:MARKer01:TYPE On
CALCulate:MARKer01:TYPE?
On
```

7.2 CALCulate:MARKer#[:STATe]

Syntax: CALCulate:MARKer#:[STATe]

Parameter/Return: —

Description: Calculates the state of the Marker.

Example:

```
CALCulate:MARKer1:[STATe]
```

7.3 CALCulate:MARKer:AOFF

Syntax: CALCulate:MARKer:AOFF

Parameter/Return: —

Description: Turns off all markers.

Example:

```
CALCulate:MARKer:AOFF
```

7.4 CALCulate:MARKer:MAXimum

Syntax: CALCulate:MARKer:MAXimum

Parameter/Return: —

Description: Sets/returns the Marker to peak.

Example:

```
CALCulate:MARKer:MAXimum
CALCulate:MARKer:MAXimum?
```

7.5 CALCulate:MARKer:MAXimum:LEFT

Syntax: CALCulate:MARKer:MAXimum:LEFT

Parameter/Return: —

Description: Sets/returns the marker to next peak left.

Example:

```
CALCulate:MARKer:MAXimum:LEFT
CALCulate:MARKer:MAXimum:LEFT?
```

7.6 CALCulate:MARKer:MAXimum:NEXT

Syntax: CALCulate:MARKer:MAXimum:NEXT

Parameter/Return: —

Description: Sets/returns the marker to next peak.

Example:

```
CALCulate:MARKer:MAXimum:NEXT
CALCulate:MARKer:MAXimum:NEXT?
```

7.7 CALCulate:MARKer:MAXimum:RIGHt

Syntax: CALCulate:MARKer:MAXimum:RIGHt

Parameter/Return: —

Description: Sets/returns the marker to next peak right.

Example:

```
CALCulate:MARKer:MAXimum:RIGHt
CALCulate:MARKer:MAXimum:RIGHt?
```

7.8 CALCulate:MARKer:MINimum

Syntax: CALCulate:MARKer:MINimum

Parameter/Return: —

Description: Sets/returns the marker to the minimum.

Example:

```
CALCulate:MARKer:MINimum
CALCulate:MARKer:MINimum?
```

7.9 CALCulate:MARKer:TABLe[:STATe]

Syntax: CALCulate:MARKer:TABLe[:STATe]

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker table state.

Example:

```
CALCulate:MARKer:TABLe:STATe On
CALCulate:MARKer:TABLe:STATe?
On
```

7.10 CALCulate:MARKer[:SET]:CENTer

Syntax: CALCulate:MARKer[:SET]:CENTer

Parameter/Return: —

Description: Moves center frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer[:SET]:CENTer
CALCulate:MARKer[:SET]:CENTer?
```

7.11 CALCulate:MARKer[:SET]:STARt

Syntax: CALCulate:MARKer[:SET]:STARt

Parameter/Return: None

Description: Moves the start frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer[:SET]:STARt
```

7.12 CALCulate:MARKer[:SET]:STOP

Syntax: CALCulate:CALCulate:MARKer[:SET]:STOP

Parameter/Return: None

Description: Moves center frequency to the frequency of the marker.

Example:

```
CALCulate:MARKer[:SET]:STOP
```

7.13 CALCulate:MARKer#:PEAK:ALWAys

Syntax: CALCulate:MARKer#:PEAK:ALWAys

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the marker # Always Peak.

Example:

```
CALCulate:MARKer#:PEAK:ALWAys On
CALCulate:MARKer#:PEAK:ALWAys?
On
```

7.14 CALCulate:MARKer#:TRACe

Syntax: CALCulate:MARKer#:TRACe

Parameter/Return: Trace {01-06}

Description: Sets/returns what trace the specified marker is on.

Example:

```
CALCulate:MARKer3:TRACe Trace01
CALCulate:MARKer3:TRACe?
Trace01
```

7.15 CALCulate:MARKer#:DELTa:TRACe

Syntax: CALCulate:MARKer#:DELTa:TRACe

Parameter/Return: Trace {01-06}

Description: Sets/returns what the specified marker is on.

Example:

```
CALCulate:MARKer#:DELTa:TRACe Trace01
CALCulate:MARKer#:DELTa:TRACe?
Trace01
```

7.16 DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Parameter/Return: 50 to -100 dBm

Description: Sets/returns the top of scale.

Example:

```
DISPlay:WINDow:TRACe:Y:SCALe]:TOP -10
DISPlay:WINDow:TRACe:Y:SCALe]:TOP?
-10
```

7.17 DISPlay[:WINDow][:SCALe]:TYPE

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:TOP

Parameter/Return: Linear | Logarithmic

Description: Sets/returns the scale type.

Example:

```
DISPlay[:WINDow][:SCALe]:TYPE Linear
DISPlay[:WINDow][:SCALe]:TYPE?
Linear
```

7.18 DISPlay:RBANDwidth:MODE

Syntax: DISPlay:RBANDwidth:MODE

Parameter/Return: Auto

Description: Sets/returns limit R bandwidth.

Example:

```
DISPlay:RBANDwidth:MODE
```

7.19 CALCulate:SELect:MARKer

Syntax: CALCulate:SELect:MARKer

Parameter/Return: # (marker index) = 1 to 6

Description: Sets/returns what marker is selected.

Example:

```
CALCulate:SELect:MARKer marker1
CALCulate:SELect:MARKer?
marker1
```

7.20 DISPlay:SELect:TRACe

Syntax: DISPlay:SELect:TRACe

Parameter/Return: Trace{01-06}

Description: —

Example:

```
DISPlay:SELect:TRACe
```

7.21 SENSe:SOURce

Syntax: SENSe:SOURce

Parameter/Return: Demod | AudioIn

Description: Returns the audio source.

Example:

```
SENSe:SOURce?
```

7.22 DISPlay:REFerence:LEVel

Syntax: DISPlay:REFerence:LEVel

Parameter/Return: -130 to 50

Description: Sets/returns the top of scale.

Example:

```
DISPlay:REFerence:LEVel -10
DISPlay:REFerence:LEVel?
```

7.23 DISPlay:SPAN

Syntax: DISPlay:SPAN

Parameter/Return: —

Description: Sets/returns the span frequency.

Example:

```
DISPlay:SPAN
```

7.24 CALCulate:FILTer[:GATE]:WINDow

Syntax: CALCulate:FILTer[:GATE]:WINDow

Parameter/Return: Blackman

Description: —

Example:

```
CALCulate:FILTer:GATE:WINDow Blackman
CALCulate:FILTer:GATE:WINDow?
Blackman
```

7.25 DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax: DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Parameter/Return: 1 to 200

Description: Sets/returns the Vertical scale per division.

Example:

```
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision 5
DISPlay[:WINDow]:TRACe:Y[:SCALe]:PDIVision
5?
```

7.26 DISPlay[:WINDow]:SCALe:TYPE

Syntax: DISPlay[:WINDow]:SCALe:TYPE

Parameter/Return: Logarithmic|Linear

Description: —

Example:

```
DISPlay:WINDow:SCALe:TYPE
```

7.27 DISPlay:HOLD

Syntax: DISPlay:HOLD

Parameter/Return: On | Off | 1 | 0

Description: Setd hold mode on or off.

Example:

```
DISPlay:HOLD On
```

7.28 SENSe:AVERage:COUNt

Syntax: SENSe:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the average count.

Example:

```
SENSe:AVERage:COUNt 2
SENSe:AVERage:COUNt?
2
```

7.29 SENSe:DETector[:FUNCtion]

Syntax: SENSe:DETector[:FUNCtion]

Parameter/Return: Normal | Peak | Average | NegativePeak | Sample

Description: Sets/returns the detector type.

Example:

```
SENSe:DETector:FUNCtion Peak
SENSe:DETector:FUNCtion?
Peak
```

7.30 SENSe:FREQuency:CENTer

Syntax: SENSe:FREQuency:CENTer

Parameter/Return: Minimum: 1; Maximum: 100000

Description: Sets/returns the center frequency (limited to 100 kHz)

Example:

```
SENSe:FREQuency:CENTer 8000
SENSe:FREQuency:CENTer?
8000
```

7.31 SENSe:FREQuency:STARt

Syntax: SENSe:FREQuency:STARt

Parameter/Return: 1 to 100000

Description: Sets/returns frequency range start.

Example:

```
SENSe:FREQuency:STARt
SENSe:FREQuency:STARt?
```

7.32 SENSe:FREQuency:STOP

Syntax: SENSe:FREQuency:STOP

Parameter/Return: 1 to 100000

Description: Sets/returns frequency range stop.

Example:

```
SENSe:FREQuency:STOP 24000
SENSe:FREQuency:STOP?
24000
```

7.33 SENSe:PEAKHold

Syntax: SENSe:PEAKHold

Parameter/Return: True | False

Description: Sets/returns the peakhold state.

Example:

```
SENSe:PEAKHold False
SENSe:PEAKHold?
False
```

7.34 SENSe:PLOTMode

Syntax: SENSe:PLOTMode

Parameter/Return: Live

Description: Sets/returns the plot mode.

Example:

```
SENSe:PLOTMode Live
SENSe:PLOTMode?
```

7.35 SENSe:TRACe:SPAN

Syntax: SENSe:TRACe:SPAN

Parameter/Return: CenterSpan | StartStop

Description: —

Example:

```
SENSe:TRACe:SPAN
```

7.36 DISPlay:TRACe#[:STATe]

Syntax: DISPlay:TRACe#[:STATe]

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the trace.

Example:

```
DISPlay:TRACe1:STATe On
DISPlay:TRACe1:STATe?
```

7.37 DISPlay:TRACe#:TYPE

Syntax: DISPlay:TRACe#:TYPE

Parameter/Return: ClearWrite | Capture | Max | Min | Load

Description: Sets/returns the trace type.

Example:

```
DISPlay:TRACe#:TYPE Max
DISPlay:TRACe#:TYPE?
```

7.38 DISPlay:TRACe#:CLEAr:ALL

Syntax: DISPlay:TRACe#:CLEAr:ALL

Parameter/Return: Event

Description: Clears all traces.

Example:

```
DISPlay:TRACe#:CLEAr:ALL
```

7.39 DISPlay[:WINDow]:TRACe:LENGth

Syntax: DISPlay[:WINDow]:TRACe:LENGth

Parameter/Return: None

Description: Returns the trace length.

Example:

```
DISPlay:WINDow:TRACe:LENGth?
```

7.40 MEASure:TRACe[:DATA]?

Syntax: MEASure:TRACe[:DATA]?

Parameter/Return: —

Description: Returns the trace data.

Example:

```
MEASure:TRACe:DATA?
```

7.41 CALCulate:MARKer#:FREQuency:OFFSet?

Syntax: CALCulate:MARKer#:FREQuency:OFFSet?

Parameter/Return: None

Description: You can query the marker # frequency offset.

Example:

```
CALCulate:MARKer01:FREQuency:OFFSet?
```

7.42 CALCulate:MARKer#:DELTa:FREQuency

Syntax: CALCulate:MARKer#:DELTa:FREQuency

Parameter/Return: Frequency in Hz

Description: Sets/returns the marker frequency delta.

Example:

```
CALCulate:MARKer02:DELTa:FREQuency 50000000
CALCulate:MARKer02:DELTa:FREQuency?
```

7.43 CALCulate:MARKer#:DELTa:FREQuency

Syntax: CALCulate:MARKer#:DELTa:FREQuency

Parameter/Return: Frequency in Hz

Description: Sets/returns the marker frequency delta.

Example:

```
CALCulate:MARKer02:DELTa:FREQuency 50000000
CALCulate:MARKer02:DELTa:FREQuency?
```

7.44 CALCulate:MARKer#:FREQuency

Syntax: CALCulate:MARKer#:FREQuency

Parameter/Return: Marker # 1 to 6

Description: You can calculate the frequency of marker.

Example:

```
CALCulate:MARKer1:FREQuency 500000000
CALCulate:MARKer1:FREQuency?
```

7.45 CALCulate:MARKer#:DELTa:FREQuency:RELative

Syntax: CALCulate:MARKer#:DELTa:FREQuency:RELative

Parameter/Return: None

Description: You can calculate the frequency of marker.

Example:

```
CALCulate:MARKer02:FREQuency?
```

7.46 CALCulate:MARKer#:DELTa:POWer

Syntax: CALCulate:MARKer#:DELTa:POWer

Parameter/Return: Marker# 1 to 6

Description: Sets/returns the delta marker power.

Example:

```
CALCulate:MARKer02:DELTa:POWer -10.5
CALCulate:MARKer02:DELTa:POWer?
```

7.47 CALCulate:MARKer#:POWer

Syntax: CALCulate:MARKer#:POWer?

Parameter/Return: marker # 1 to 6

Description: You can calculate the marker power.

Example:

```
CALCulate:MARKer#:POWer?
```

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8

Oscilloscope Commands

This chapter describes the following remote commands for configuring Oscilloscope (OSCilloscope) settings:

- CALCulate:MARKer#:PEAK:ALWays 8-3
- DISPlay[:WINDow]:TRACe#:SCALe:AM 8-3
- DISPlay[:WINDow]:TRACe#:SCALe:VOLT 8-3
- DISPlay[:WINDow]:TRACe:LENGth? 8-3
- DISPlay[:WINDow]:TRACe#:SCALe:FM 8-4
- DISPlay[:WINDow]:TRACe#:SCALe:PM 8-4
- SENSe:AVERage:COUNt 8-4
- CALCulate:MARKer#:DELTa:TRACe 8-4
- CALCulate:MARKer#:TRACe 8-5
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- CALCulate:MARKer:SELect 8-5
- DISPlay:TRACe 8-5
- SENSe:SWEep 8-6
- CALCulate:MARKer#:DELTa:TIME 8-6
- CALCulate:MARKer#:DELTa:TIME:RELative 8-6
- CALCulate:MARKer#:TIME 8-6
- MEASure:TRACE#[:DATA] 8-7
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- CALCulate:MARKer#:TYPE 8-10
- CALCulate:MARKer#:VIEW 8-10
- TRIGger:ARM 8-11
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8.1 CALCulate:MARKer#:PEAK:ALWays

Syntax: CALCulate:MARKer#:PEAK:ALWays

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Marker # Peak Always.

Example:

```
CALCulate:MARKer#:PEAK:ALWays on
CALCulate:MARKer#:PEAK:ALWays?
```

8.2 DISPlay[:WINDow]:TRACe#:SCALe:AM

Syntax: DISPlay[:WINDow]:TRACe#:SCALe:AM

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale AM.

Example:

```
DISPlay[:WINDow]:TRACe#:SCALe:AM VSCALE_5PERC
DISPlay[:WINDow]:TRACe#:SCALe:AM? VSCALE_5PERC
```

8.3 DISPlay[:WINDow]:TRACe#:SCALe:VOLT

Syntax: DISPlay[:WINDow]:TRACe#:SCALe:VOLT

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale Volts.

Example:

```
DISPlay[:WINDow]:TRACe#:SCALe:VOLT VSCALE_100mV
DISPlay[:WINDow]:TRACe#:SCALe:VOLT?
```

8.4 DISPlay[:WINDow]:TRACe:LENGth?

Syntax: DISPlay[:WINDow]:TRACe:LENGth?

Parameter/Return: None

Description: You can query Trace Length.

Example:

```
DISPlay[:WINDow]:TRACe:LENGth? 5000
```

8.5 DISPlay[:WINDow]:TRACe#:SCALe:FM

Syntax: DISPlay[:WINDow]:TRACe#:SCALe:FM

Parameter/Return: Trace # 1-2

Description: Sets/returns Vertical Scale FM.

Example:

```
DISPlay[:WINDow]:TRACe#:SCALe:FM VSCALE_500Hz
DISPlay[:WINDow]:TRACe#:SCALe:FM?
```

8.6 DISPlay[:WINDow]:TRACe#:SCALe:PM

Syntax: DISPlay[:WINDow]:TRACe#:SCALe:PM

Parameter/Return: DISPlay[:WINDow]:TRACe#:SCALe:PM

Description: Sets/returns Vertical Scale Radians.

Example:

```
DISPlay[:WINDow]:TRACe#:SCALe:PM VSCALE_1rad
DISPlay[:WINDow]:TRACe#:SCALe:PM?
```

8.7 SENSe:AVERage:COUNt

Syntax: SENSe:AVERage:COUNt

Parameter/Return: Minimum: 0; Maximum: 100

Description: Sets/returns he number of average samples used to display the graph.

Example:

```
SENSe:AVERage:COUNt 100
SENSe:AVERage:COUNt?
```

8.8 CALCulate:MARKer#:DELTa:TRACe

Syntax: CALCulate:MARKer#:DELTa:TRACe

Parameter/Return: Marker # 1-6

Description: Sets/returns the Delta Marker # Trace.

Example:

```
CALCulate:MARKer#:DELTa:TRACe Trace01
CALCulate:MARKer#:DELTa:TRACe?
```

8.9 CALCulate:MARKer#:TRACe

Syntax: CALCulate:MARKer#:TRACe

Parameter/Return: Marker # 1-6

Description: Marker # Trace Select.

Example:

```
CALCulate:MARKer1:TRACe Trace01
CALCulate:MARKer1:TRACe?
```

8.10 CALCulate:MARKer#:DELTa:POWer

Syntax: CALCulate:MARKer#:DELTa:POWer

Parameter/Return: NR2

Description: Sets/returns Delta Marker Power in Oscilloscope.

Example:

```
CALCulate:MARKer#:DELTa:POWer -10.5
CALCulate:MARKer#:DELTa:POWer?
```

8.11 CALCulate:MARKer:SELect

Syntax: CALCulate:MARKer:SELect

Parameter/Return: Marker01-Marker06

Description: Sets/returns Marker Select.

Example:

```
CALCulate:MARKer:SELect Marker01
CALCulate:MARKer:SELect?
```

8.12 DISPlay:TRACe

Syntax: DISPlay:TRACe

Parameter/Return: Trace01-Trace06

Description: Sets/returns the cope Trace Selected - not used

Example:

```
DISPlay:TRACe Trace01
DISPlay:TRACe?
```

8.13 SENSe:SWEep

Syntax: SENSe:SWEep

Parameter/Return: SWEEP_10uS|20uS|50uS|100uS|200uS|500uS|1mS|2mS|5mS|10mS|20mS|50mS|100mS|200mS|500mS|1S

Description: You can query Sweep.

Example:

```
SENSe:SWEep?SWEEP_10mS?
```

8.14 CALCulate:MARKer#:DELTa:TIME

Syntax: CALCulate:MARKer#:DELTa:TIME

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Delta Time.

Example:

```
CALCulate:MARKer#:DELTa:TIME 500
CALCulate:MARKer#:DELTa:TIME?
```

8.15 CALCulate:MARKer#:DELTa:TIME:RELative

Syntax: CALCulate:MARKer#:DELTa:TIME:RELative

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Relative Delta Time.

Example:

```
CALCulate:MARKer#:DELTa:TIME:RELative 250
CALCulate:MARKer#:DELTa:TIME:RELative?
```

8.16 CALCulate:MARKer#:TIME

Syntax: CALCulate:MARKer#:TIME

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # Time.

Example:

```
CALCulate:MARKer#:TIME 120
CALCulate:MARKer#:TIME?
```

8.17 MEASure:TRACE#[:DATA]

Syntax: MEASure:TRACE#[:DATA]

Parameter/Return: None

Description: You can query Trace Data.

Example:

```
MEASure:TRACE#:DATA?
```

8.18 CALCulate:MARKer#:DISPlay:LEVel

Syntax: CALCulate:MARKer#:DISPlay:LEVel

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Level.

Example:

```
CALCulate:MARKer#:DISPlay:LEVel?
```

8.19 CALCulate:MARKer#:DELTa:DISPlay:LEVel

Syntax: CALCulate:MARKer#:DELTa:DISPlay:LEVel

Parameter/Return: Query: Delta Marker # Level

Description: You can query the Delta Marker # Level.

Example:

```
CALCulate:MARKer#:DELTa:DISPlay:LEVel?
```

8.20 CALCulate:MARKer#:DISPlay:TIME:RELative

Syntax: CALCulate:MARKer#:DISPlay:TIME:RELative

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Time.

Example:

```
CALCulate:MARKer#:DISPlay:TIME:RELative?
```

8.21 CALCulate:MARKer#:DISPlay:DELTa:TIME

Syntax: CALCulate:MARKer#:DISPlay:DELTa:TIME

Parameter/Return: Marker # 1-6

Description: You can query the Marker # Delta Time.

Example:

```
CALCulate:MARKer#:DISPlay:DELTa:TIME?
```

8.22 CALCulate:MARKer#:DISPlay:TIME

Syntax: CALCulate:MARKer#:DISPlay:TIME

Parameter/Return: Marker # 1-6

Description: You can query the Query: Marker # Time - duplicate.

Example:

```
CALCulate:MARKer#:DISPlay:TIME?
```

8.23 MEASure:TRACe#:DISPlay:DATA

Syntax: MEASure:TRACe#:DISPlay:DATA

Parameter/Return: Trace # 1-6

Description: You can query Trace # Plot Data.

Example:

```
MEASure:TRACe#:DISPlay:DATA?
```

8.24 SENSe:TRACe#:PROBe

Syntax: SENSe:TRACe#:PROBe

Parameter/Return: Trace # 1-6

Description: Sets/returns Probe Type.

Example:

```
SENSe:TRACe#:PROBe 1x
SENSe:TRACe#:PROBe?
```

8.25 SENSe:TRACe#:SOURce

Syntax: SENSe:TRACe#:SOURce

Parameter/Return: Trace # 1-6

Description: Sets/returns Trace Source.

Example:

```
SENSe:TRACe#:SOURce Demod
SENSe:TRACe#:SOURce?
```

8.26 TRIGger:EDGE

Syntax: TRIGger:EDGE

Parameter/Return: Rising | Falling

Description: To set or query Trigger Edge.

Example:

```
TRIGger:EDGE Rising
TRIGger:EDGE?
```

8.27 TRIGger:LEVel

Syntax: TRIGger:LEVel

Parameter/Return:

Description: To set or query Trigger Level - changes based on demod type.

Example:

```
TRIGger:LEVel 5000
TRIGger:LEVel?
```

8.28 TRIGger:SOURce

Syntax: TRIGger:SOURce

Parameter/Return: CH1 | EXT

Description: To set or query Trigger Source.

Example:

```
TRIGger:SOURce CH1
TRIGger:SOURce?
```

8.29 TRIGger:TYPE#

Syntax: TRIGger:TYPE#

Parameter/Return: Auto | Normal | Single | FreeRun

Description: To set or query Trigger Type.

Example:

```
TRIGger:TYPE#
```

8.30 CALCulate:MARKer#:TYPE

Syntax: CALCulate:MARKer#:TYPE

Parameter/Return: Marker# 1-6

Description: Sets/returns Marker # Type.

Example:

```
CALCulate:MARKer#:TYPE Auto
CALCulate:MARKer#:TYPE?
```

8.31 CALCulate:MARKer#:VIEW

Syntax: CALCulate:MARKer#:VIEW

Parameter/Return: Marker # 1-6

Description: Sets/returns Marker # State.

Example:

```
CALCulate:MARKer#:VIEW 1
CALCulate:MARKer#:VIEW?
```

8.32 TRIGger:ARM

Syntax: TRIGger:ARM

Parameter/Return: None

Description: To Arm Trigger.

Example:

```
TRIGger:ARM
```

8.33 TRIGger:FORCe

Syntax: TRIGger:FORCe

Parameter/Return: –

Description: To Force Trigger.

Example:

```
TRIGger:FORCe
```

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9

Tone Encoding Commands

This chapter describes the following remote commands for configuring Tone Encoding (TENCoding) settings:

- SOURce:AUDio:TYPE 9-4
- SOURce:MODulator:CTCSs:AM:LEVel 9-4
- SOURce:AUDio:CTCSs:ENABle 9-4
- SOURce:AUDio:CTCSs:LEVel 9-4
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- SOURce:AUDio:DCS:CODE 9-5
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- SOURce:AUDio:DTMF:PAUSe 9-6
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- SOURce:AUDio:DTMF:HTONe:LEVel 9-7
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- SOURce:AUDio:REMote:TONE1:FREQuency 9-9
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- SOURce:AUDio:REMote:TONE1:LEVel 9-10
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- SOURce:AUDio:REMote:TONE2:DURation 9-11
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- SOURce:MODulator:DTMF:HTONe:AM:LEVel 9-21
- SOURce:MODulator:DTMF:LTONE:AM:LEVel 9-21
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- SOURce:MODulator:DTMF:LTONE:FM:LEVel 9-22
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- SOURce:MODulator:DTMF:HTONe:AM:OFFSet 9-23

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- SOURce:MODulator:DTMF:HTONe:FM:OFFSet 9-23
- SOURce:MODulator:DTMF:LTONE:FM:OFFSet. 9-24
- SOURce:MODulator:DTMF:HTONe:PM:OFFSet 9-24
- SOURce:MODulator:DTMF:LTONE:PM:OFFSet 9-24
- SOURce:MODulator:DTMF:MODE 9-24
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- SOURce:MODulator:REMote:AM:LEVel 9-26
- SOURce:MODulator:REMote:FM:LEVel 9-26
- SOURce:MODulator:REMote:PM:LEVel 9-26
- SOURce:MODulator:REMote:TONE1:LEVel. 9-26
- SOURce:MODulator:REMote:TONE1:FREQuency. 9-27
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- SOURce:MODulator:REMote:TONE2:FREQuency. 9-28
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- SOURce:MODulator:SEQuential:PM:LEVel 9-32
- SOURce:MODulator:TTONe:AM:LEVel. 9-32
- SOURce:MODulator:TTONe:FM:LEVel. 9-32
- SOURce:MODulator:TTONe:PM:LEVel. 9-33
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- SOURce:MODulator:TTONe:SPACe:DURation 9-34
- SOURce:MODulator:TYPE 9-34
- SOURce:MODulator:GTONE:STARt. 9-35

9.1 SOURce:AUDio:TYPE

Syntax: SOURce:AUDio:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | REMote | SEQuential | TwotoneSEQuential

Description: Sets/returns the Tone Encoding type.

Example:

```
SOURce:AUDio:TYPE CTCSS
SOURce:AUDio:TYPE?
```

9.2 SOURce:MODulator:CTCSs:AM:LEVel

Syntax: SOURce:MODulator:CTCSs:AM:LEVel

Parameter/Return: 0 to 100%

Description: Sets/returns the Tone Encoding type.

Example:

```
SOURce:MODulator:CTCSs:AM:LEVel 30
SOURce:MODulator:CTCSs:AM:LEVel?
```

9.3 SOURce:AUDio:CTCSs:ENABle

Syntax: SOURce:AUDio:CTCSs:ENABle

Parameter/Return: On | Off | 1 | 0

Description: —

Example:

```
SOURce:AUDio:CTCSs:ENABle
```

9.4 SOURce:AUDio:CTCSs:LEVel

Syntax: SOURce:AUDio:CTCSs:LEVel

Parameter/Return: 0.0 to 5.7 V

Description: Sets/returns the CTCSS level.

Example:

```
SOURce:AUDio:CTCSs:LEVel 1.0
SOURce:AUDio:CTCSs:LEVel?
```

9.5 SOURce:AUDio:CTCSs:TONE

Syntax: SOURce:AUDio:CTCSs:TONE

Parameter/Return: 1 to 50

Description: Sets/returns the DCS code. A 3 digit octal code, not all numbers are valid DCS codes. An invalid code will create a system error (-200,Execution error)

Example:

```
SOURce:AUDio:CTCSs:TONE
SOURce:AUDio:CTCSs:TONE?
```

9.6 SOURce:AUDio:DCS:CODE

Syntax: SOURce:AUDio:DCS:CODE

Parameter/Return: NR1

Description: —

Example:

```
SOURce:AUDio:DCS:CODE
```

9.7 SOURce:AUDio:DCS:LEVel

Syntax: SOURce:AUDio:DCS:LEVel

Parameter/Return: 0.0 to 5.7 V

Description: Sets/returns the DCS Level in volts

Example:

```
SOURce:AUDio:DCS:LEVel 1.0
SOURce:AUDio:DCS:LEVel?
```

9.8 SOURce:AUDio:DCS:STATe

Syntax: SOURce:AUDio:DCS:STATe

Parameter/Return: OFF | Normal | Inverted

Description: Sets/returns the DCS state.

Example:

```
SOURce:AUDio:DCS:STATe Inverted
SOURce:AUDio:DCS:STATe?
```

9.9 SOURce:AUDio:DTMF:MARK

Syntax: SOURce:AUDio:DTMF:MARK

Parameter/Return: 10 mS to 5000mS

Description: Sets/returns the DTMF Mark Duration. When sending a DTMF tone, there is a tone time (Mark) and a space time.

Example:

```
SOURce:AUDio:DTMF:MARK 1000
SOURce:AUDio:DTMF:MARK?
```

9.10 SOURce:AUDio:DTMF:PAUSe

Syntax: SOURce:AUDio:DTMF:PAUSe

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:DTMF:PAUSe
SOURce:AUDio:DTMF:PAUSe?
```

9.11 SOURce:AUDio:DTMF:SPACe

Syntax: SOURce:AUDio:DTMF:SPACe

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the DTMF Space Duration. When sending a DTMF tone, there is a Tone time and a Space time.

Example:

```
SOURce:AUDio:DTMF:SPACe
SOURce:AUDio:DTMF:SPACe?
```

9.12 SOURce:AUDio:DTMF:HTONe:LEVel

Syntax: SOURce:AUDio:DTMF:HTONe:LEVel

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF High Tone level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component.

Example:

```
SOURce:AUDio:DTMF:HTONe:LEVel 1.5
SOURce:AUDio:DTMF:HTONe:LEVel?
```

9.13 SOURce:AUDio:DTMF:LTONe:LEVel

Syntax: SOURce:AUDio:DTMF:LTONe:LEVel

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF Low Tone level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component.

Example:

```
SOURce:AUDio:DTMF:LTONe:LEVel 1.5
SOURce:AUDio:DTMF:LTONe:LEVel?
```

9.14 SOURce:AUDio:DTMF:TWISt:TONE:LEVel

Syntax: SOURce:AUDio:DTMF:TWISt:TONE:LEVel

Parameter/Return: 0.0 to 5.7

Description: Sets/returns the DTMF Twist Tine Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:AUDio:DTMF:TWISt:TONE:LEVel
```

9.15 SOURce:AUDio:DTMF:MODE

Syntax: SOURce:AUDio:DTMF:MODE

Parameter/Return: Normal | Twist

Description: Sets/returns the DTMF Twist Mode. Twist is when low frequency power is greater than high frequency. Normal is the reverse condition. Twist conditions are caused by a non-uniform frequency response.

Example:

```
SOURce:AUDio:DTMF:MODE Twist
SOURce:AUDio:DTMF:MODE?
```

9.16 SOURce:AUDio:DTMF:SEQuence

Syntax: SOURce:AUDio:DTMF:SEQuence

Parameter/Return: 0-9, A-D, *#

Description: Sets/returns the FTMF String to send. Letters have to be upper case. String length of 30 char is allowed.

Example:

```
SOURce:AUDio:DTMF:SEQuence 123456
SOURce:AUDio:DTMF:SEQuence?
```

9.17 SOURce:AUDio:DTMF:STATe

Syntax: SOURce:AUDio:DTMF:STATe

Parameter/Return: OFF|CONTinuous|BURSt|LIVE

Description: Start/Stop DTMF operation. Burst will require the Start interface to trigger. Continous will repeatedly send the sequence string. Live will issue the DTMF symbol as it's entered on the keypad or as the sequence command is called.

Example:

```
SOURce:AUDio:DTMF:STATe Burst
SOURce:AUDio:DTMF:STATe?
```

9.18 SOURce:AUDio:DTMF:TWISt:LEVel

Syntax: SOURce:AUDio:DTMF:TWISt:LEVel

Parameter/Return: -100 to 100 dB

Description: Sets/returns the High Twist level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist high-frequency group level.

Example:

```
SOURce:AUDio:DTMF:TWISt:LEVel 0.0
SOURce:AUDio:DTMF:TWISt:LEVel?
```

9.19 SOURce:AUDio:REMote:TONE1:DURation

Syntax: SOURce:AUDio:REMote:TONE1:DURation

Parameter/Return: 20 to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:AUDio:REMote:TONE1:DURation 500
SOURce:AUDio:REMote:TONE1:DURation?
```

9.20 SOURce:AUDio:REMote:TONE1:FREQuency

Syntax: SOURce:AUDio:REMote:TONE1:FREQuency

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:AUDio:REMote:TONE1:FREQuency 3000
SOURce:AUDio:REMote:TONE1:FREQuency?
```

9.21 SOURce:AUDio:REMote:LEVel

Syntax: SOURce:AUDio:REMote:LEVel

Parameter/Return: 0.0 to 5.657 Volts

Description: Sets/returns the bias level for Tone 1, 2, 3 level offsets.

Example:

```
SOURce:AUDio:REMote:LEVel
SOURce:AUDio:REMote:LEVel?
```

9.22 SOURce:AUDio:REMote:TONE1:LEVel

Syntax: SOURce:AUDio:REMote:TONE1:LEVel

Parameter/Return: -20 to 20 dB

Description: Sets/returns the level of Tone #1. The 0 dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE1:LEVel
```

9.23 SOURce:AUDio:REMote:TONE1:FREQuency

Syntax: SOURce:AUDio:REMote:TONE1:FREQuency

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:REMote:ONE1:FREQuency
```

9.24 SOURce:AUDio:REMote:TONE1:DURation

Syntax: SOURce:AUDio:REMote:TONE1:DURation

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:REMote:TONE1:DURation
```

9.25 SOURce:AUDio:REMote:TONE2:LEVel

Syntax: SOURce:AUDio:REMote:TONE2:LEVel

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:REMote:TONE2:LEVel
SOURce:AUDio:REMote:TONE2:LEVel?
```

9.26 SOURce:AUDio:REMote:TONE2:FREQuency

Syntax: SOURce:AUDio:REMote:TONE2:FREQuency

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of Tone #2.

Example: —

```
SOURce:AUDio:REMote:TONE2:FREQuency 1000
SOURce:AUDio:REMote:TONE2:FREQuency?
```

9.27 SOURce:AUDio:REMote:TONE2:DURation

Syntax: SOURce:AUDio:REMote:TONE2:DURation

Parameter/Return: 20 to 500 ms

Description: Sets/returns the length of time (mS0 that Tone #2 is active.

Example:

```
SOURce:AUDio:REMote:TONE2:DURation 500
SOURce:AUDio:REMote:TONE2:DURation?
```

9.28 SOURce:AUDio:REMote:TONE2:LEVel

Syntax: SOURce:AUDio:REMote:TONE2:LEVel

Parameter/Return: 20 to 500 ms

Description: Sets/returns the Level of Tone#2. The 0 dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE2:LEVel
SOURce:AUDio:REMote:TONE2:LEVel?
```

9.29 SOURce:AUDio:REMote:TONE3:LEVel

Syntax: SOURce:AUDio:REMote:TONE3:LEVel

Parameter/Return: -20 to 20 dB

Description: Sets/returns the Level of Tone #3. The o dB point is Tone Remote Level.

Example:

```
SOURce:AUDio:REMote:TONE3:LEVel 10
SOURce:AUDio:REMote:TONE3:LEVel?
```

9.30 SOURce:AUDio:REMote:TONE3:FREQuency

Syntax: SOURce:AUDio:REMote:TONE3:FREQuency

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of Tone #3.

Example:

```
SOURce:AUDio:REMote:TONE3:FREQuency 1000
SOURce:AUDio:REMote:TONE3:FREQuency?
```

9.31 SOURce:AUDio:REMote:TONE3:DURation

Syntax: SOURce:AUDio:REMote:TONE3:DURation

Parameter/Return: 20 to 500 ms

Description: Sets/returns the length of time (mS0 that Tone #3 is active.

Example:

```
SOURce:AUDio:REMote:TONE3:DURation 100
SOURce:AUDio:REMote:TONE3:DURation?
```

9.32 SOURce:AUDio:SEQuential:ENABle

Syntax: SOURce:AUDio:SEQuential:ENABle

Parameter/Return: On |Off | 1 | 0

Description: Sets/returns the tone sequence.

Example:

```
SOURce:AUDio:SEQuential:ENABle On
SOURce:AUDio:SEQuential:ENABle?
```

9.33 SOURce:AUDio:SEQuential:PROTocol

Syntax: SOURce:AUDio:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Five/Six/Seven Tone frequency definition for each symbol.

Example:

```
SOURce:AUDio:SEQuential:PROTocol PZVEI
SOURce:AUDio:SEQuential:PROTocol?
```

9.34 SOURce:AUDio:SEQuential:FSHIFt

Syntax: SOURce:AUDio:SEQuential:FSHIFt

Parameter/Return: -10 to 10%

Description: Sets/returns the Tone Sequential Frequency Shift. The tone frequencies used for each symbol may be tweaked by some percentage. This will change all tone values.

Example:

```
SOURce:AUDio:SEQuential:FSHIFt 1.5
SOURce:AUDio:SEQuential:FSHIFt?
```

9.35 SOURce:AUDio:SEQuential:SEQuence

Syntax: SOURce:AUDio:SEQuential:SEQuence

Parameter/Return: 8 Digits, 0-9, A-F, '-'

Description: Sets/returns the Tine Sequential Symbol Sequence. The tone sequence code which is made of 1 to 8 characters. The '-' is the Pause symbol, and requires quotes around the argument.

Example:

```
SOURce:AUDio:SEQuential:SEQuence 12345
SOURce:AUDio:SEQuential:SEQuence?
```

9.36 SOURce:AUDio:SEQuential:DELay

Syntax: SOURce:AUDio:SEQuential:DELay

Parameter/Return: 0 to 9999 mS

Description: Sets/returns the Tone Sequential Call Delay. The first symbol transmitted may be lengthened some additional time in addition to the symbol time.

Example:

```
SOURce:AUDio:SEQuential:DELay 500
SOURce:AUDio:SEQuential:DELay?
```

9.37 SOURce:AUDio:SEQuential:PAUSe

Syntax: SOURce:AUDio:SEQuential:PAUSe

Parameter/Return: 0 to 9999 mS

Description: Sets/returns the length for the '-' symbol, which is called Pause.

Example:

```
SOURce:AUDio:SEQuential:PAUSe 100
SOURce:AUDio:SEQuential:PAUSe?
```

9.38 SOURce:AUDio:SEQuential:SHIFt

Syntax: SOURce:AUDio:SEQuential:SHIFt

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:TYPE
```

9.39 SOURce:AUDio:SEQuential:LEVel

Syntax: SOURce:AUDio:SEQuential:LEVel

Parameter/Return: 0.0 to 5.7 Volts

Description: Sets/returns the Tone Sequential Level. This is the 0 dB point for data level.

Example:

```
SOURce:AUDio:SEQuential:LEVel
```

9.40 SOURce:AUDio:TTONe:ENABle

Syntax: SOURce:AUDio:TTONe:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the two tone sequence.

Example:

```
SOURce:AUDio:TTONe:ENABle On
SOURce:AUDio:TTONe:ENABle?
```

9.41 SOURce:AUDio:TTONe:LEVel

Syntax: SOURce:AUDio:TTONe:LEVel

Parameter/Return: 0.0 to 5.7 Volts

Description: Sets/returns the level for two tone modulation.

Example:

```
SOURce:AUDio:TTONe:LEVel 1.5
SOURce:AUDio:TTONe:LEVel?
```

9.42 SOURce:AUDio:TTONe:TONE1:FREQuency

Syntax: SOURce:AUDio:TTONe:TONE1:FREQuency

Parameter/Return: 0 to 5000 Hz.

Description: Sets/returns the frequency of the first tone.

Example:

```
SOURce:AUDio:TTONe:TONE1:FREQuency 1000
SOURce:AUDio:TTONe:TONE1:FREQuency?
```

9.43 SOURce:AUDio:TTONe:TONE1:DURation

Syntax: SOURce:AUDio:TTONe:TONE1:DURation

Parameter/Return: 100 to 10000 mS

Description: Sets/returns the duratino tine of the first tone.

Example:

```
SOURce:AUDio:TTONe:TONE1:DURation 1000
SOURce:AUDio:TTONe:TONE1:DURation?
```

9.44 SOURce:AUDio:TTONe:TONE2:FREQuency

Syntax: SOURce:AUDio:TTONe:TONE2:FREQuency

Parameter/Return: 0 to 5000 Hz

Description: Sets/returns the frequency of the second tone.

Example:

```
SOURce:AUDio:TTONe:TONE2:FREQuency 1200
SOURce:AUDio:TTONe:TONE2:FREQuency?
```

9.45 SOURce:AUDio:TTONe:TONE2:DURation

Syntax: SOURce:AUDio:TTONe:TONE2:DURation

Parameter/Return: 100 to 10000 mS

Description: Sets/returns the duration time of the second tone.

Example:

```
SOURce:AUDio:TTONe:TONE2:DURation 350
SOURce:AUDio:TTONe:TONE2:DURation?
```

9.46 SOURce:AUDio:TTONe:SPACe:DURation

Syntax: SOURce:AUDio:TTONe:SPACe:DURation

Parameter/Return: NR2

Description: —

Example:

```
SOURce:AUDio:TTONe:SPACe:DURation
```

9.47 SOURce:AUDio:GTONE:STARt

Syntax: SOURce:AUDio:GTONE:STARt

Parameter/Return: Enabled | Disabled

Description: Sets/returns the DTMF Burst trigger. An argument is required and needs to alternate states on consecutive calls. This command is used in DTMF Burst, Tone Remote, Tone Sequential, Two Tone Sequential

Example:

```
SOURce:AUDio:GTONE:STARt Enabled
SOURce:AUDio:GTONE:STARt?
```

9.48 SOURce:MODulator:TYPE

Syntax: SOURce:MODulator:TYPE

Parameter/Return:
OFF|DTMF|DCS|CTCSS|TONEREMOTE|TONESEQ|TWOTONESEQ

Description: —

Example:

```
SOURce:MODulator:TYPE
```

9.49 SOURce:MODulator:CTCSs:ENABle

Syntax: SOURce:MODulator:CTCSs:ENABle

Parameter/Return: Boolean

Description: —

Example:

```
SOURce:MODulator:CTCSs:ENABle
```

9.50 SOURce:MODulator:CTCSs:AM:LEVel

Syntax: SOURce:MODulator:CTCSs:AM:LEVel

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:CTCSs:AM:LEVel
```

9.51 SOURce:MODulator:CTCSs:FM:LEVel

Syntax: SOURce:MODulator:CTCSs:FM:LEVel

Parameter/Return: 1 Hz to 1000000 Hz

Description: Sets/returns modulation level of the CTCSS tone for FM modulation. When CTCSS Encode is active, it disables the M2 modulation source. Switching RF Gen Mod type will disable CTCSS encode type.

Example:

```
SOURce:MODulator:CTCSs:FM:LEVel 1500
SOURce:MODulator:CTCSs:FM:LEVel?
```

9.52 SOURce:MODulator:CTCSs:PM:LEVel

Syntax: SOURce:MODulator:CTCSs:PM:LEVel

Parameter/Return: 0 Rad to 10 Rad

Description: Sets/returns the modulation level of the CTCSS tone for PM modulation.

Example:

```
SOURce:MODulator:CTCSs:PM:LEVel 3.3
SOURce:MODulator:CTCSs:PM:LEVel?
```

9.53 SOURce:MODulator:CTCSs:TONE

Syntax: SOURce:MODulator:CTCSs:TONE

Parameter/Return: NS Code, 1 to 50

Description: Sets/returns the CTCS Set Tone. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones. The GUI provides a table of all codes.

Example:

```
SOURce:MODulator:CTCSs:TONE 22
```

9.54 SOURce:MODulator:DCS:CODE

Syntax: SOURce:MODulator:DCS:CODE

Parameter/Return: Octal: 000 to 777

Description: Sets/returns the DCS Set Code; a 3 digit octal code, not all numbers are valid DCS codes. An invalid code will create a system error (-200,Execution error)

Example:

```
SOURce:MODulator:DCS:CODE 23
SOURce:MODulator:DCS:CODE?
```

9.55 SOURce:MODulator:DCS:AM:LEVel

Syntax: SOURce:MODulator:DCS:AMLEVel

Parameter/Return: 0 to 100%

Description: Sets/returns the modulation level of the DCS tone for AM modulation.

Example:

```
SOURce:MODulator:DCS:AMLEVel 20
SOURce:MODulator:DCS:AMLEVel?
```

9.56 SOURce:MODulator:DCS:FM:LEVel

Syntax: SOURce:MODulator:DCS:FM:LEVel

Parameter/Return: 0 Hz to 100000 Hz

Description: Sets/returns them odulation level of teh DCS tone for FM modulation.

Example:

```
SOURce:MODulator:DCS:FM:LEVel 12000
SOURce:MODulator:DCS:FM:LEVel?
```

9.57 SOURce:MODulator:DCS:PM:LEVel

Syntax: SOURce:MODulator:DCS:PM:LEVel

Parameter/Return: 0 Rad to 10 Rad

Description: Sets/returns the modulation level of the DCS tone for PM modulation.

Example:

```
SOURce:MODulator:DCS:PM:LEVel 2.5
SOURce:MODulator:DCS:PM:LEVel?
```

9.58 SOURce:MODulator:DCS:STATe

Syntax: SOURce:MODulator:DCS:STATe

Parameter/Return: OFF | NORMAL | INVERTED

Description: Sets/returns the Tone Encode state.

Example:

```
SOURce:MODulator:DCS:STATe NORMAL
SOURce:MODulator:DCS:STATe?
```

9.59 SOURce:MODulator:DTMF:MARK

Syntax: SOURce:MODulator:DTMF:MARK

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the DTMF Mark Duration. When sending a DTMF tone, there is a tone time (Mark) and a space time.

Example:

```
SOURce:MODulator:DTMF:MARK 250
SOURce:MODulator:DTMF:MARK?
```

9.60 SOURce:MODulator:DTMF:PAUSe

Syntax: SOURce:MODulator:DTMF:PAUSe

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the Pause Duration. After sending a sequence of Mark/Space, then the Pause time elapses before restarting the DTMF sequence.

Example:

```
SOURce:MODulator:DTMF:PAUSe 1200
SOURce:MODulator:DTMF:PAUSe?
```

9.61 SOURce:MODulator:DTMF:SPACe

Syntax: SOURce:MODulator:DTMF:SPACe

Parameter/Return: 10 mS to 5000 mS

Description: Sets/returns the space duration. When sending a DTMF tone, there is a tone time and a space time.

Example:

```
SOURce:MODulator:DTMF:SPACe 100
SOURce:MODulator:DTMF:SPACe?
```

9.62 SOURce:MODulator:DTMF:HTONe:AM:LEVel

Syntax: SOURce:MODulator:DTMF:HTONe:AM:LEVel

Parameter/Return: 0 to 100%

Description: Sets/returns level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:AM:LEVel 35
SOURce:MODulator:DTMF:HTONe:AM:LEVel?
```

9.63 SOURce:MODulator:DTMF:LTONE:AM:LEVel

Syntax: SOURce:MODulator:DTMF:LTONE:AM:LEVel

Parameter/Return: 0.0 % to 100.0 %

Description: Sets/returns the AM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:AM:LEVel
```

9.64 SOURce:MODulator:DTMF:HTONe:FM:LEVel

Syntax: SOURce:MODulator:DTMF:HTONe:FM:LEVel

Parameter/Return: 0.0 Hz to 100000 Hz

Description: Sets/returns the FM High Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:FM:LEVel 3000
SOURce:MODulator:DTMF:HTONe:FM:LEVel?
```

9.65 SOURce:MODulator:DTMF:LTONE:FM:LEVel

Syntax: SOURce:MODulator:DTMF:LTONE:FM:LEVel

Parameter/Return: float: 0.0 Hz to 100000 Hz

Description: Sets/returns the FM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:FM:LEVel 4000
SOURce:MODulator:DTMF:LTONE:FM:LEVel?
```

9.66 SOURce:MODulator:DTMF:HTONe:PM:LEVel

Syntax: SOURce:MODulator:DTMF:HTONe:PM:LEVel

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM High Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:HTONe:PM:LEVel 2.1
SOURce:MODulator:DTMF:HTONe:PM:LEVel?
```

9.67 SOURce:MODulator:DTMF:LTONE:PM:LEVel

Syntax: SOURce:MODulator:DTMF:LTONE:PM:LEVel

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Low Tone Level. The level of the higher frequency component of the signal shall be between 1 dB and 4 dB greater than the level of the lower frequency component. This is used from DTMF Normal.

Example:

```
SOURce:MODulator:DTMF:LTONE:PM:LEVel 2.1
SOURce:MODulator:DTMF:LTONE:PM:LEVel?
```

9.68 SOURce:MODulator:DTMF:HTONe:AM:OFFSet

Syntax: SOURce:MODulator:DTMF:HTONe:AM:OFFSet

Parameter/Return: 0.0 to 100.0%

Description: Sets/returns the AM Twist Tone level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:AM:OFFSet 30
SOURce:MODulator:DTMF:HTONe:AM:OFFSet?
```

9.69 SOURce:MODulator:DTMF:LTONE:AM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:AM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:AM:OFFSet
```

9.70 SOURce:MODulator:DTMF:HTONe:FM:OFFSet

Syntax: SOURce:MODulator:DTMF:HTONe:FM:OFFSet

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the FM Twist Tone Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:FM:OFFSet 20
SOURce:MODulator:DTMF:HTONe:FM:OFFSet?
```

9.71 SOURce:MODulator:DTMF:LTONE:FM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:FM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:FM:OFFSet
```

9.72 SOURce:MODulator:DTMF:HTONe:PM:OFFSet

Syntax: SOURce:MODulator:DTMF:HTONe:PM:OFFSet

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Twist Tone Level. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist low-frequency group level.

Example:

```
SOURce:MODulator:DTMF:HTONe:PM:OFFSet
```

9.73 SOURce:MODulator:DTMF:LTONE:PM:OFFSet

Syntax: SOURce:MODulator:DTMF:LTONE:PM:OFFSet

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:DTMF:LTONE:PM:OFFSet
```

9.74 SOURce:MODulator:DTMF:MODE

Syntax: SOURce:MODulator:DTMF:MODE

Parameter/Return: NORMAL | TWIST

Description: Sets/returns the Twist mode. TWIST is when low frequency power is greater than high frequency. NORMAL is the reverse condition. Twist conditions are caused by a non-uniform frequency response.

Example:

```
SOURce:MODulator:DTMF:MODE TWIST
SOURce:MODulator:DTMF:MODE?
```

9.75 SOURce:MODulator:DTMF:SEQuence

Syntax: SOURce:MODulator:DTMF:SEQuence

Parameter/Return: string: 0-9, A-D, *#

Description: Sets/returns the String to Send. Letters have to be upper case. String length of 30 characters is allowed.

Example:

```
SOURce:MODulator:DTMF:SEQuence 123abc
SOURce:MODulator:DTMF:SEQuence?
```

9.76 SOURce:MODulator:DTMF:STATe

Syntax: SOURce:MODulator:DTMF:STATe

Parameter/Return: OFF | CONT | BURST | LIVE

Description: Sets/returns the operation state. Start/Stop DTMF operation. Burst will require the Start interface to trigger. Continuous will repeatedly send the sequence string. Live will issue the DTMF symbol as it's entered on the keypad or as the sequence command is called.

Example:

```
SOURce:MODulator:DTMF:STATe BURST
SOURce:MODulator:DTMF:STATe?
```

9.77 SOURce:MODulator:DTMF:TWISt:LEVel

Syntax: SOURce:MODulator:DTMF:TWISt:LEVel

Parameter/Return: OFF | CONT | BURST | LIVE

Description: Sets/returns the twist value. High-frequency group tones are always transmitted at a level greater than low-frequency group tones. This sets the twist high-frequency group level.

Example:

```
SOURce:MODulator:DTMF:TWISt:LEVel
```

9.78 SOURce:MODulator:REMote:AM:LEVel

Syntax: SOURce:MODulator:REMote:AM:LEVel

Parameter/Return: 0% to 100%

Description: You can set or quert the bias AM mod level for Tone 1, 2, 3 level offsets.

Example:

```
SOURce:MODulator:REMote:AM:LEVel 30
SOURce:MODulator:REMote:AM:LEVel?
```

9.79 SOURce:MODulator:REMote:FM:LEVel

Syntax: SOURce:MODulator:REMote:FM:LEVel

Parameter/Return: 0 Hz to 10000 Hz

Description: —

Example:

```
SOURce:MODulator:REMote:FM:LEVel 3500
SOURce:MODulator:REMote:FM:LEVel?
```

9.80 SOURce:MODulator:REMote:PM:LEVel

Syntax: SOURce:MODulator:REMote:PM:LEVel

Parameter/Return: -20.0 dB to 20 dB

Description: Sets/returns the bias PM mod level for Tone 1,2,3 level offsets.

Example:

```
SOURce:MODulator:REMote:PM:LEVel 3
SOURce:MODulator:REMote:PM:LEVel? 2.2
```

9.81 SOURce:MODulator:REMote:TONE1:LEVel

Syntax: SOURce:MODulator:REMote:TONE1:LEVel

Parameter/Return: NR2

Description: Sets/returns the Level of Tone #1, the 0 dB point is Tone Remote Level. Uses Gen Mod #2.

Example:

```
SOURce:MODulator:REMote:TONE1:LEVel
SOURce:MODulator:REMote:TONE1:LEVel?
```

9.82 SOURce:MODulator:REMote:TONE1:FREQuency

Syntax: SOURce:MODulator:REMote:TONE1:FREQuency

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #1 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE1:FREQuency 3100
SOURce:MODulator:REMote:TONE1:FREQuency?
```

9.83 SOURce:MODulator:REMote:TONE1:DURation

Syntax: SOURce:MODulator:REMote:TONE1:DURation

Parameter/Return: 20.0 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:MODulator:REMote:TONE1:DURation 200
SOURce:MODulator:REMote:TONE1:DURation?
```

9.84 SOURce:MODulator:REMote:TONE2:LEVel

Syntax: SOURce:MODulator:REMote:TONE2:LEVel

Parameter/Return: -20.0 dB to 20 dB

Description: The frequency of Tone #1 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE2:LEVel 0.5
SOURce:MODulator:REMote:TONE2:LEVel?
```

9.85 SOURce:MODulator:REMote:TONE2:FREQuency

Syntax: SOURce:MODulator:REMote:TONE2:FREQuency

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #2 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE2:FREQuency 3400
SOURce:MODulator:REMote:TONE2:FREQuency?
```

9.86 SOURce:MODulator:REMote:TONE2:DURation

Syntax: SOURce:MODulator:REMote:TONE2:DURation

Parameter/Return: 20 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #1 is active.

Example:

```
SOURce:MODulator:REMote:TONE2:DURation 300
SOURce:MODulator:REMote:TONE2:DURation?
```

9.87 SOURce:MODulator:REMote:TONE3:LEVel

Syntax: SOURce:MODulator:REMote:TONE3:LEVel

Parameter/Return: -20.0 dB to 20 dB

Description: The level of Tone #3, the 0 dB point is Tone Remote Level. Uses Gen Mod #2.

Example:

```
SOURce:MODulator:REMote:TONE3:LEVel 10
SOURce:MODulator:REMote:TONE3:LEVel?
```

9.88 SOURce:MODulator:REMote:TONE3:FREQuency

Syntax: SOURce:MODulator:REMote:TONE3:FREQuency

Parameter/Return: 0.0 Hz to 5000.0 Hz

Description: The frequency of Tone #3 is active. Uses Gen Mod #2 - Ensure sine wave active.

Example:

```
SOURce:MODulator:REMote:TONE3:FREQuency 3500
SOURce:MODulator:REMote:TONE3:FREQuency?
```

9.89 SOURce:MODulator:REMote:TONE3:DURation

Syntax: SOURce:MODulator:REMote:TONE3:DURation

Parameter/Return: 20.0 mS to 500 mS

Description: Sets/returns the length of time (mS) that Tone #3 is active.

Example: —

```
SOURce:MODulator:REMote:TONE3:DURation 330
SOURce:MODulator:REMote:TONE3:DURation?
```

9.90 SOURce:MODulator:SEQuential:PROTocol

Syntax: SOURce:MODulator:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Five/Six/Seven Tone frequency definition for each symbol.

Example:

```
SOURce:MODulator:SEQuential:PROTocol ZVEI3
SOURce:MODulator:SEQuential:PROTocol?
```

9.91 SOURce:MODulator:SEQuential:SEQuence

Syntax: SOURce:MODulator:SEQuential:SEQuence

Parameter/Return: 8 Digits, 0-9, A-F, '-'

Description: This is the tone sequence code which is made of 1 to 8 characters. The '-' is the Pause symbol. The '-' will require quotes around the argument.

Example:

```
SOURce:MODulator:SEQuential:SEQuence 2AC8-C3F
SOURce:MODulator:SEQuential:SEQuence?
```

9.92 SOURce:MODulator:SEQuential:DELay

Syntax: SOURce:MODulator:SEQuential:DELay

Parameter/Return: 0.0 to 999.0 mS

Description: Sets/returns the call delay. The first symbol transmitted may be lengthened some additional time (In addition to the symbol time).

Example:

```
SOURce:MODulator:SEQuential:DELay 150
SOURce:MODulator:SEQuential:DELay?
```

9.93 SOURce:MODulator:SEQuential:PAUSe

Syntax: SOURce:MODulator:SEQuential:PAUSe

Parameter/Return: 0.0 to 9999.0 mS

Description: Sets/returns the length for the '-' symbol, which is called Pause.

Example:

```
SOURce:MODulator:SEQuential:PAUSe 300
SOURce:MODulator:SEQuential:PAUSe?
```

9.94 SOURce:MODulator:SEQuential:FSHIFt

Syntax: SOURce:MODulator:SEQuential:FSHIFt

Parameter/Return: -10% to 10%

Description: Sets/returns the Frequency Shift. The tone frequencies used for each symbol may be tweaked by some percentage. This will change all tone values.

Example:

```
SOURce:MODulator:SEQuential:FSHIFt 3
SOURce:MODulator:SEQuential:FSHIFt?
```

9.95 SOURce:MODulator:SEQuential:AM:LEVel

Syntax: SOURce:MODulator:SEQuential:AM:LEVel

Parameter/Return: 0.0 to 100.0 %

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example: —

```
SOURce:MODulator:SEQuential:AM:LEVel 62
SOURce:MODulator:SEQuential:AM:LEVel?
```

9.96 SOURce:MODulator:SEQuential:FM:LEVel

Syntax: SOURce:MODulator:SEQuential:FM:LEVel

Parameter/Return: 0.0 to 100000.0 Hz

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example:

```
SOURce:MODulator:SEQuential:FM:LEVel 3000
SOURce:MODulator:SEQuential:FM:LEVel?
```

9.97 SOURce:MODulator:SEQuential:PM:LEVel

Syntax: SOURce:MODulator:SEQuential:PM:LEVel

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: This is the 0 dB point for data level. Will RF gen Modulator #2, ensure waveform is set to Sine.

Example:

```
SOURce:MODulator:SEQuential:PM:LEVel 3
SOURce:MODulator:SEQuential:PM:LEVel?
```

9.98 SOURce:MODulator:TTONe:AM:LEVel

Syntax: SOURce:MODulator:TTONe:AM:LEVel

Parameter/Return: 0.0 to 100.0%

Description: Sets/returns the AM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:AM:LEVel 35
SOURce:MODulator:TTONe:AM:LEVel?
```

9.99 SOURce:MODulator:TTONe:FM:LEVel

Syntax: SOURce:MODulator:TTONe:FM:LEVel

Parameter/Return: 0.0 to 100000.0 Hz

Description: Sets/returns the FM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:FM:LEVel
SOURce:MODulator:TTONe:FM:LEVel 5000
```

9.100 SOURce:MODulator:TTONe:PM:LEVel

Syntax: SOURce:MODulator:TTONe:PM:LEVel

Parameter/Return: 0.0 to 10.0 Rad

Description: You can the PM mod level for two tone modulation. Used Mod Gen #2, ensure waveform is SINE.

Example:

```
SOURce:MODulator:TTONe:PM:LEVel 3.1
SOURce:MODulator:TTONe:PM:LEVel?
```

9.101 SOURce:MODulator:TTONe:TONE1:FREQuency

Syntax: SOURce:MODulator:TTONe:TONE1:FREQuency

Parameter/Return: 0.0 to 5000 Hz

Description: Sets/returns the frequency of the first tone.

Example:

```
SOURce:MODulator:TTONe:TONE1:FREQuency 500
SOURce:MODulator:TTONe:TONE1:FREQuency?
```

9.102 SOURce:MODulator:TTONe:TONE1:DURation

Syntax: SOURce:MODulator:TTONe:TONE1:DURation

Parameter/Return: 0.0 to 10000.0 mS

Description: Sets/returns the duration time of the first tone.

Example:

```
SOURce:MODulator:TTONe:TONE1:DURation
```

9.103 SOURce:MODulator:TTONe:TONE2:FREQuency

Syntax: SOURce:MODulator:TTONe:TONE2:FREQuency

Parameter/Return: NR2

Description: —

Example:

```
SOURce:MODulator:TTONe:TONE2:FREQuency
```

9.104 SOURce:MODulator:TTONe:TONE2:DURation

Syntax: SOURce:MODulator:TTONe:TONE2:DURation

Parameter/Return: 0.0 to 10000.0 mS

Description: Sets/returns the duration time of the second tone.

Example:

```
SOURce:MODulator:TTONe:TONE2:DURation 150
SOURce:MODulator:TTONe:TONE2:DURation?
```

9.105 SOURce:MODulator:TTONe:SPACe:DURation

Syntax: SOURce:MODulator:TTONe:SPACe:DURation

Parameter/Return: 0.0 to 5000.0 mS

Description: Sets/returns the gap time between the two tones.

Example:

```
SOURce:MODulator:TTONe:SPACe:DURation 500
SOURce:MODulator:TTONe:SPACe:DURation?
```

9.106 SOURce:MODulator:TYPE

Syntax: SOURce:MODulator:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns tone encode type. When switching RF Gen mod types, this will set the encode type back to OFF. Sometimes an encode type will 'hijack' one or two analog mod gens.

Example:

```
SOURce:MODulator:TYPE DCS
SOURce:MODulator:TYPE?
```

9.107 SOURce:MODulator:GTONE:STARt

Syntax: SOURce:MODulator:GTONE:STARt

Parameter/Return: Enabled | Disabled

Description: Sets/returns the DTMF Burst Trigger. An argument is required and needs to alternate states on consecutive calls. This command (***) is used in DTMF Burst, Tone Remote, Tone Sequential, Two Tone Sequential

Example:

```
SOURce:MODulator:GTONE:STARt Enabled
SOURce:MODulator:GTONE:STARt?
```

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10

Tone Decoding Commands

This chapter describes the following remote commands for configuring Tone Decoding (TDECoding) settings:

- MEASure:AM:CTCSs:FREQuency 10-3
- MEASure:AM:CTCSs:NS? 10-3
- MEASure:AM:CTCSs:TONE:FREQuency? 10-3
- MEASure:AM:DCS? 10-3
- MEASure:AM:DTMF? 10-4
- MEASure:AM:TONE:SEQ? 10-4
- MEASure:CTCSs:FREQuency? 10-4
- MEASure:CTCSs:PLVALue? 10-4
- MEASure:CTCSs:TONE:FREQuency? 10-5
- MEASure:CTCSs:VALue? 10-5
- MEASure:DCS? 10-5
- MEASure:DTMF? 10-5
- MEASure:FM:CTCSs:FREQuency? 10-6
- MEASure:FM:CTCSs:NS? 10-6
- MEASure:FM:CTCSs:NS? 10-6
- MEASure:FM:CTCSs:TONE:FREQuency? 10-6
- MEASure:FM:DCS? 10-7
- MEASure:FM:DCS? 10-7
- MEASure:FM:TONE:SEQ? 10-7
- MEASure:PM:CTCSs:FREQuency? 10-7
- MEASure:PM:CTCSs:NS? 10-8
- MEASure:PM:CTCSs:PLVALue? 10-8
- MEASure:PM:CTCSs:TONE:FREQuency? 10-8
- MEASure:PM:DCS? 10-8
- MEASure:PM:TONE:SEQ? 10-9
- MEASure:SSB:CTCSs:FREQuency? 10-9

- MEASure:MEASure:SSB:CTCSs:NS? 10-9
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- SENSe:FM:SEQuential:PROTocol 10-14
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- SENSe:PM:SEQuential:PROTocol 10-16
- SENSe:PM:SEQuential:PROTocol 10-16
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- SENSe:SSB:DCS:MODE 10-17
- SENSe:SSB:SEQuential:PROTocol 10-17
- SENSe:SSB:TYPE 10-18

10.1 MEASure:AM:CTCSs:FREQuency

Syntax: MEASure:AM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:AM:CTCSs:FREQuency?
```

10.2 MEASure:AM:CTCSs:NS?

Syntax: MEASure:AM:CTCSs:NS?

Parameter/Return: None

Description: Returns the numerical codes. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:AM:CTCSs:NS?
```

10.3 MEASure:AM:CTCSs:TONE:FREQuency?

Syntax: MEASure:AM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:AM:CTCSs:TONE:FREQuency?
```

10.4 MEASure:AM:DCS?

Syntax: MEASure:AM:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:AM:DCS?
```

10.5 MEASure:AM:DTMF?

Syntax: MEASure:AM:DTMF?

Parameter/Return: None

Description: Returns the DTMF string. If there is no DTMF string return value, returns "-200, Execution Error."

Example:

```
MEASure:AM:DTMF?
```

10.6 MEASure:AM:TONE:SEQ?

Syntax: MEASure:AM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:AM:TONE:SEQ?
```

10.7 MEASure:CTCSs:FREQuency?

Syntax: MEASure:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:CTCSs:FREQuency?
```

10.8 MEASure:CTCSs:PLVALue?

Syntax: MEASure:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the CTCSS Decode PL Value.

Example:

```
MEASure:CTCSs:PLVALue?
```

10.9 MEASure:CTCSs:TONE:FREQuency?

Syntax: MEASure:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the CTCSS Decode tone frequency.

Example:

```
MEASure:CTCSs:TONE:FREQuency?
```

10.10 MEASure:CTCSs:VALue?

Syntax: MEASure:CTCSs:VALue?

Parameter/Return: None

Description: Returns the CTCSS Decode value

Example:

```
MEASure:CTCSs:VALue?
```

10.11 MEASure:DCS?

Syntax: MEASure:DCS?

Parameter/Return: None

Description: Returns the DCS Decode value.

Example:

```
MEASure:DCS?
```

10.12 MEASure:DTMF?

Syntax: MEASure:DTMF?

Parameter/Return: None

Description: Returns the DTMF Decode value.

Example:

```
MEASure:DTMF?
```

10.13 MEASure:FM:CTCSs:FREQuency?

Syntax: MEASure:FM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns actual CTCSS frequency in Hz.

Example:

```
MEASure:FM:CTCSs:FREQuency?
```

10.14 MEASure:FM:CTCSs:NS?

Syntax: MEASure:FM:CTCSs:NS?

Parameter/Return: None

Description: Returns CTCSS non-standard code. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:FM:CTCSs:NS?
```

10.15 MEASure:FM:CTCSs:NS?

Syntax:TDE MEASure:FM:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the PL code.

Example:

```
MEASure:FM:CTCSs:NS?
```

10.16 MEASure:FM:CTCSs:TONE:FREQuency?

Syntax: MEASure:MEASure:FM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:FM:CTCSs:TONE:FREQuency?
```

10.17 MEASure:FM:DCS?

Syntax: MEASure:MEASure:FM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:FM:CTCSs:TONE:FREQuency?
```

10.18 MEASure:FM:DCS?

Syntax: MEASure:FM:DCS?

Parameter/Return: None

Description: Returns the DTMF string. If no DTMF string then system:error? is returned stating “-200,Execution error”.

Example:

```
MEASure:FM:CTCSs:TONE:FREQuency?
```

10.19 MEASure:FM:TONE:SEQ?

Syntax: MEASure:FM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:FM:TONE:SEQ?
```

10.20 MEASure:PM:CTCSs:FREQuency?

Syntax: MEASure:PM:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:PM:CTCSs:FREQuency?
```

10.21 MEASure:PM:CTCSs:NS?

Syntax: MEASure:PM:CTCSs:NS?

Parameter/Return: None

Description: Returns the CTCSS non-standard code. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:PM:CTCSs:NS?
```

10.22 MEASure:PM:CTCSs:PLVALue?

Syntax: MEASure:PM:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the PL code.

Example:

```
MEASure:PM:CTCSs:PLVALue?
```

10.23 MEASure:PM:CTCSs:TONE:FREQuency?

Syntax: MEASure:PM:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:PM:CTCSs:TONE:FREQuency?
```

10.24 MEASure:PM:DCS?

Syntax: MEASure:PM:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:PM:DCS?
```

10.25 MEASure:PM:TONE:SEQ?

Syntax: MEASure:PM:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence

Example:

```
MEASure:PM:TONE:SEQ?
```

10.26 MEASure:SSB:CTCSs:FREQuency?

Syntax: MEASure:SSB:CTCSs:FREQuency?

Parameter/Return: None

Description: Returns the actual CTCSS frequency in Hz.

Example:

```
MEASure:SSB:CTCSs:FREQuency?
```

10.27 MEASure:MEASure:SSB:CTCSs:NS?

Syntax: MEASure:SSB:CTCSs:NS?

Parameter/Return: None

Description: Returns non-standard CTCSS codes. Many radios use a matching set of numerical codes (non-standard) to represent corresponding tones.

Example:

```
MEASure:SSB:CTCSs:NS?
```

10.28 MEASure:SSB:CTCSs:PLVALue?

Syntax: MEASure:SSB:CTCSs:PLVALue?

Parameter/Return: None

Description: Returns the PL code.

Example:

```
MEASure:SSB:CTCSs:PLVALue?
```

10.29 MEASure:SSB:CTCSs:TONE:FREQuency?

Syntax: MEASure:SSB:CTCSs:TONE:FREQuency?

Parameter/Return: None

Description: Returns the target CTCSS frequency in Hz.

Example:

```
MEASure:SSB:CTCSs:TONE:FREQuency?
```

10.30 MEASure:SSB:DCS?

Syntax: MEASure:SSB:DCS?

Parameter/Return: None

Description: Returns the DCS code detected or -1 for no code detected.

Example:

```
MEASure:SSB:DCS?
```

10.31 MEASure:SSB:DTMF?

Syntax: MEASure:SSB:DTMF?

Parameter/Return: None

Description: Returns the DTMF string. If no DTMF string then a system:error? is returned stating “-200,Execution error”

Example:

```
MEASure:SSB:DTMF?
```

10.32 MEASure:SSB:TONE:SEQ?

Syntax: MEASure:SSB:TONE:SEQ?

Parameter/Return: None

Description: Returns the received tone sequence.

Example:

```
MEASure:SSB:TONE:SEQ?
```

10.33 MEASure:TONE:SEQuential?

Syntax: MEASure:TONE:SEQuential?

Parameter/Return: None

Description: Returns the Tone Sequential Value.

Example:

```
MEASure:TONE:SEQuential?
```

10.34 SENSe:AM:CLEar

Syntax: SENSe:AM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:AM:CLEar
```

10.35 SENSe:AM:DCS:MODE

Syntax: SENSe:AM:DCS:MODE

Parameter/Return: Normal | Inverted

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AM:DCS:MODE INVERTED
SENSe:AM:DCS:MODE?
```

10.36 SENSe:AM:SEQuential:PROTocol

Syntax: SENSe:AM:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations..

Example:

```
SENSe:AM:SEQuential:PROTocol DZVEI
SENSe:AM:SEQuential:PROTocol?
```

10.37 SENSe:AM:TYPE

Syntax: SENSe:AM:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the squelch type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:AM:SEQuential:PROTocol DTMF
SENSe:AM:SEQuential:PROTocol?
```

10.38 SENSe:AUDio:CLEar

Syntax: SENSe:AM:TYPE

Parameter/Return: none

Description: Clears the Tone Decode readings.

Example:

```
SENSe:AUDio:CLEar
```

10.39 SENSe:AUDio:DCS:MODE

Syntax: SENSe:AUDio:DCS:MODE

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AUDio:DCS:MODE
SENSe:AUDio:DCS:MODE?
```

10.40 SENSe:AUDio:SEQuential:PROTocol

Syntax: SENSe:AUDio:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AUDio:SEQuential:PROTocol PDZVI
SENSe:AUDio:SEQuential:PROTocol?
```

10.41 SENSe:AUDio:SEQuential:PROTocol

Syntax: SENSe:AUDio:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:AUDio:SEQuential:PROTocol PDZVI
SENSe:AUDio:SEQuential:PROTocol?
```

10.42 SENSe:AUDio:TYPE

Syntax: SENSe:AUDio:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch Type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:AUDio:TYPE DTMF
SENSe:AUDio:TYPE?
```

10.43 SENSe:FM:CLEar

Syntax: SENSe:FM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:FM:CLEar
```

10.44 SENSe:FM:DCS:MODE

Syntax: SENSe:FM:DCS:MODE

Parameter/Return: Normal | Inverted

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:FM:DCS:MODE Inverted
SENSe:FM:DCS:MODE?
```

10.45 SENSe:FM:SEQuential:PROTocol

Syntax: SENSe:FM:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:FM:SEQuential:PROTocol PZVEI
SENSe:FM:SEQuential:PROTocol?
```

10.46 SENSe:FM:TYPE

Syntax: SENSe:FM:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:FM:TYPE DCS
SENSe:FM:TYPE?
```

10.47 SENSe:PM:CLEar

Syntax: SENSe:PM:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:PM:CLEar
```

10.48 SENSe:PM:DCS:MODE

Syntax: SENSe:PM:DCS:MODE

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:PM:DCS:MODE INVERTED
SENSe:PM:DCS:MODE?
```

10.49 SENSe:PM:SEQuential:PROTocol

Syntax: SENSe:PM:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations..

Example:

```
SENSe:PM:SEQuential:PROTocol DZVEI
SENSe:PM:SEQuential:PROTocol?
```

10.50 SENSe:PM:SEQuential:PROTocol

Syntax: SENSe:PM:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations..

Example:

```
SENSe:PM:SEQuential:PROTocol DZVEI
SENSe:PM:SEQuential:PROTocol?
```

10.51 SENSe:PM:TYPE

Syntax: SENSe:PM:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: Sets/returns the Squelch Type. Used in shared RF channels to separate users into functional groups.

Example:

```
SENSe:PM:SEQuential:PROTocol DTMF
SENSe:PM:SEQuential:PROTocol?
```

10.52 SENSe:SSB:CLEar

Syntax: SENSe:SSB:CLEar

Parameter/Return: None

Description: Clears the decoded tone symbols.

Example:

```
SENSe:SSB:CLEar
```

10.53 SENSe:SSB:DCS:MODE

Syntax: SENSe:SSB:DCS:MODE

Parameter/Return: NORMAL | INVERTED

Description: Sets/returns the Digital Code Squelch 23-bit word.

Example:

```
SENSe:SSB:DCS:MODE INVERTED
SENSe:SSB:DCS:MODE?
```

10.54 SENSe:SSB:SEQuential:PROTocol

Syntax: SENSe:SSB:SEQuential:PROTocol

Parameter/Return: ZVEI1 | ZVEI2 | ZVEI3 | PZVEI | DZVEI | PDZVI | CCIR1 | CCIR2 | PCCIR | EEA | EUROSIG | NATEL | EIA | MODAT | USER1 | USER2

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:SSB:SEQuential:PROTocol PZVEI
SENSe:SSB:SEQuential:PROTocol?
```

10.55 SENSe:SSB:TYPE

Syntax: SENSe:SSB:TYPE

Parameter/Return: OFF | DTMF | DCS | CTCSS | TONEREMOTE | TONESEQ | TWOTONESEQ

Description: ZVEI is a family of selcall, CCIR Selcall are 5-tone selcall, EEA is a 5-tone selcall mode, MODAT is a 7-tone system, USER are user defined tones and durations.

Example:

```
SENSe:SSB:TYPE TONESEQ
SENSe:SSB:TYPE?
```

11

AF Generator Commands

This chapter describes the following remote commands for configuring AF Generator (AFGenerator) settings:

- AFGenerator:SOURce:GEN:UNIT 11-2
- AFGenerator:SOURce:GEN1:ENABle. 11-2
- AFGenerator:SOURce:GEN1:FREQuency 11-2
- AFGenerator:SOURce:GEN1:LEVel:VOLT 11-2
- AFGenerator:SOURce:GEN1:LEVel:DBM. 11-3
- AFGenerator:SOURce:GEN1:SHAPe 11-3
- AFGenerator:SOURce:GEN2:ENABle. 11-3
- AFGenerator:SOURce:GEN2:FREQuency 11-3
- AFGenerator:SOURce:GEN2:LEVel:VOLT 11-4
- AFGenerator:SOURce:GEN2:LEVel:DBM. 11-4
- AFGenerator:SOURce:GEN2:SHAPe 11-4
- AFGenerator:SOURce:GEN3:ENABle. 11-4
- AFGenerator:SOURce:GEN3:FREQuency 11-5
- AFGenerator:SOURce:GEN3:LEVel:VOLT 11-5
- AFGenerator:SOURce:GEN3:LEVel:DBM. 11-5
- AFGenerator:SOURce:GEN3:SHAPe 11-5
- AFGenerator:SOURce:GEN:IMPedance 11-6

11.1 AFGenerator:SOURce:GEN:UNIT

Syntax: AFGenerator:SOURce:GEN:UNIT

Parameter/Return: dBm | V

Description: GEN

Example: Sets/returns generator unit in AF generator.

```
AFGenerator:SOURce:GEN:UNIT
```

11.2 AFGenerator:SOURce:GEN1:ENABle

Syntax: AFGenerator:SOURce:GEN1:ENABle

Parameter/Return: On | Off | 1 | 0

Description: You can enable AF generator 1.

Example:

```
AFGenerator:SOURce:GEN1:ENABle
```

11.3 AFGenerator:SOURce:GEN1:FREQuency

Syntax: AFGenerator:SOURce:GEN1:FREQuency

Parameter/Return: 1 Hz to 100000 Hz

Description: Sets/returns frequency in AF generator 1.

Example:

```
AFGenerator:SOURce:GEN1:FREQuency 300
```

11.4 AFGenerator:SOURce:GEN1:LEVel:VOLT

Syntax: AFGenerator:SOURce:GEN1:LEVel:VOLT

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 1.

Example:

```
AFGenerator:SOURce:GEN1:LEVel:VOLT 1.0
AFGenerator:SOURce:GEN1:LEVel:VOLT?
```

11.5 AFGenerator:SOURce:GEN1:LEVel:DBM

Syntax: AFGenerator:SOURce:GEN1:LEVel:DBM

Parameter/Return: -100 to 28.1 dBm

Description: Sets/returns dBm level in AF generator 1.

Example:

```
AFGenerator:SOURce:GEN1:LEVel:DBM 10
AFGenerator:SOURce:GEN1:LEVel:DBM?
```

11.6 AFGenerator:SOURce:GEN1:SHAPe

Syntax: AFGenerator:SOURce:GEN1:SHAPe

Parameter/Return: Sine | Triangle | Ramp | Square | DcPlus | DcMinus

Description: Sets/returns the AF Generator 1 shape.

Example:

```
AFGenerator:SOURce:GEN1:SHAPe Sine
AFGenerator:SOURce:GEN1:SHAPe?
```

11.7 AFGenerator:SOURce:GEN2:ENABle

Syntax: AFGenerator:SOURce:GEN2:ENABle

Parameter/Return: None

Description: You can enable AF generator 2 from the list.

Example:

```
AFGenerator:SOURce:GEN2:ENABle
```

11.8 AFGenerator:SOURce:GEN2:FREQuency

Syntax: AFGenerator:SOURce:GEN2:FREQuency

Parameter/Return: 1 to 100000 Hz

Description: Sets/returns frequency in AF generator 2.

Example:

```
AFGenerator:SOURce:GEN2:FREQuency 300
AFGenerator:SOURce:GEN2:FREQuency?
```

11.9 AFGenerator:SOURce:GEN2:LEVel:VOLT

Syntax: AFGenerator:SOURce:GEN2:LEVel:VOLT

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 2.

Example:

```
AFGenerator:SOURce:GEN2:LEVel:VOLT
```

11.10 AFGenerator:SOURce:GEN2:LEVel:DBM

Syntax: AFGenerator:SOURce:GEN2:LEVel:DBM

Parameter/Return: NR2

Description: Sets/returns DBM level in AF generator 2.

Example:

```
AFGenerator:SOURce:GEN2:LEVel:DBM
```

11.11 AFGenerator:SOURce:GEN2:SHAPe

Syntax: AFGenerator:SOURce:GEN2:SHAPe

Parameter/Return: Sine | Triangle | Ramp | Square | DcPlus | DcMinus

Description: Sets/returns the AF Generator 2 shape.

Example:

```
AFGenerator:SOURce:GEN2:SHAPe SINE
AFGenerator:SOURce:GEN2:SHAPe?
```

11.12 AFGenerator:SOURce:GEN3:ENABle

Syntax: AFGenerator:SOURce:GEN3:ENABle

Parameter/Return: On | Off | 1 | 0

Description: You can enable AF generator 3 from the list.

Example:

```
AFGenerator:SOURce:GEN3:ENABle On
AFGenerator:SOURce:GEN3:ENABle?
```

11.13 AFGenerator:SOURce:GEN3:FREQuency

Syntax: AFGenerator:SOURce:GEN3:FREQuency

Parameter/Return: 1 to 100000 Hz

Description: Sets/returns frequency in AF generator 3.

Example:

```
AFGenerator:SOURce:GEN3:FREQuency 300
AFGenerator:SOURce:GEN3:FREQuency?
```

11.14 AFGenerator:SOURce:GEN3:LEVel:VOLT

Syntax: AFGenerator:SOURce:GEN3:LEVel:VOLT

Parameter/Return: 0 - 5.657 Volts

Description: Sets/returns Volt level in AF generator 3.

Example:

```
AFGenerator:SOURce:GEN3:LEVel:VOLT 1.0
AFGenerator:SOURce:GEN3:LEVel:VOLT?
```

11.15 AFGenerator:SOURce:GEN3:LEVel:DBM

Syntax: AFGenerator:SOURce:GEN3:LEVel:DBM

Parameter/Return: -100 to -28.1 Volts

Description: Sets/returns DBM level in AF generator 3.

Example:

```
AFGenerator:SOURce:GEN3:LEVel:DBM 1.0
AFGenerator:SOURce:GEN3:LEVel:DBM?
```

11.16 AFGenerator:SOURce:GEN3:SHAPe

Syntax: AFGenerator:SOURce:GEN3:SHAPe

Parameter/Return: Sine | Triangle | Ramp | Square| DcPlus | DcMinus

Description: Sets/returns the AF Gen 3 shape.

Example:

```
AFGenerator:SOURce:GEN3:SHAPe SINE
AFGenerator:SOURce:GEN3:SHAPe?
```

11.17 AFGenerator:SOURce:GEN:IMPedance

Syntax: AFGenerator:SOURce:GEN:IMPedance

Parameter/Return: 1 ohm to 10000 ohm

Description: Used in the dBm calculation for AF Gen output level.

Example:

```
AFGenerator:SOURce:GEN:IMPedance 75
AFGenerator:SOURce:GEN:IMPedance?
```

12

Analog Modulator Commands

This chapter describes the following remote commands for configuring Analog Modulator (AMODulator) settings:

- SOURce:MOD1:ENABle 12-2
- SOURce:MOD2:ENABle 12-2
- SOURce:MOD3:ENABle 12-2
- SOURce:MOD1:FREQuency 12-2
- SOURce:MOD2:FREQuency 12-3
- SOURce:MOD3:FREQuency 12-3
- SOURce:MOD3:FREQuency 12-3
- SOURce:MOD1:SHAPe 12-3
- SOURce:MOD2:SHAPe 12-4
- SOURce:MOD3:SHAPe 12-4
- SOURce:MOD1:AM:LEVel 12-4
- SOURce:MOD1:FM:LEVel 12-4
- SOURce:MOD1:PM:LEVel 12-5
- SOURce:MOD2:AM:LEVel 12-5
- SOURce:MOD2:FM:LEVel 12-5
- SOURce:MOD2:PM:LEVel 12-5
- SOURce:MOD3:AM:LEVel 12-6
- SOURce:MOD3:FM:LEVel 12-6
- SOURce:MOD1:ENABle 12-6
- SOURce:EXTernal:ENABle 12-6
- SOURce:EXTernal:AM:LEVel 12-7
- SOURce:EXTernal:FM:LEVel 12-7
- SOURce:EXTernal:PM:LEVel 12-7
- SOURce:EXTernal:SOURce 12-8
- SOURce:TYPE 12-8

12.1 SOURce:MOD1:ENABle

Syntax: SOURce:MOD1:ENABle

Parameter/Return: On | Off | 1 | 0

Description: —

Example:

```
SOURce:MOD1:ENABle
```

12.2 SOURce:MOD2:ENABle

Syntax: SOURce:MOD2:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of analog modulator 2.

Example:

```
SOURce:MOD2:ENABle On
SOURce:MOD2:ENABle?
```

12.3 SOURce:MOD3:ENABle

Syntax: SOURce:MOD3:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the control state of analog modulator 3.

Example:

```
SOURce:MOD3:ENABle On
SOURce:MOD3:ENABle?
```

12.4 SOURce:MOD1:FREQuency

Syntax: SOURce:MOD1:FREQuency

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the mod gen 1 rate.

Example:

```
SOURce:MOD1:FREQuency 2000
SOURce:MOD1:FREQuency?
```

12.5 SOURce:MOD2:FREQuency

Syntax: SOURce:MOD2:FREQuency

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the mod gen 2 rate.

Example:

```
SOURce:MOD2:FREQuency 500
SOURce:MOD2:FREQuency?
```

12.6 SOURce:MOD3:FREQuency

Syntax: SOURce:MOD3:FREQuency

Parameter/Return: float: 0.0 Hz to 100000.0 Hz

Description: Sets/returns Control mod gen 3 rate.

Example:

```
SOURce:MOD3:FREQuency 1000
SOURce:MOD3:FREQuency?
```

12.7 SOURce:MOD3:FREQuency

Syntax: SOURce:MOD3:FREQuency

Parameter/Return: float: 0.0 Rad to 10.0 Rad

Description: Sets/returns RF gen PM modulation level, modulator #3.

Example:

```
SOURce:MOD3:FREQuency 1000
SOURce:MOD3:FREQuency?
```

12.8 SOURce:MOD1:SHAPe

Syntax: SOURce:MOD1:SHAPe

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape of modulator #1.

Example:

```
SOURce:MOD1:SHAPe square
SOURce:MOD1:SHAPe?
```

12.9 SOURce:MOD2:SHAPe

Syntax: SOURce:MOD2:SHAPe

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape, modulator #2

Example:

```
SOURce:MOD2:SHAPe SQUARE
SOURce:MOD2:SHAPe?
```

12.10 SOURce:MOD3:SHAPe

Syntax: SOURce:MOD3:SHAPe

Parameter/Return: Sine | Square | Triangle | Ramp | Pulse

Description: Sets/returns the RF gen modulation wave shape, modulator #3

Example:

```
SOURce:MOD3:SHAPe Square
SOURce:MOD3:SHAPe?
```

12.11 SOURce:MOD1:AM:LEVel

Syntax: SOURce:MOD1:AM:LEVel

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the RF gen AM modulation level, modulator #1.

Example:

```
SOURce:MOD1:AM:LEVel 35.1
SOURce:MOD1:AM:LEVel?
```

12.12 SOURce:MOD1:FM:LEVel

Syntax: SOURce:MOD1:FM:LEVel

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the RF gen FM modulation level for modulator #1

Example:

```
SOURce:MOD1:FM:LEVel 3000
SOURce:MOD1:FM:LEVel?
```

12.13 SOURce:MOD1:PM:LEVel

Syntax: SOURce:MOD1:PM:LEVel

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the RF gen PM modulation level, modulator #1

Example:

```
SOURce:MOD1:PM:LEVel 3.2
SOURce:MOD1:PM:LEVel?
```

12.14 SOURce:MOD2:AM:LEVel

Syntax: SOURce:MOD2:AM:LEVel

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the RF gen AM modulation level of modulator #2

Example:

```
SOURce:MOD2:AM:LEVel 37
SOURce:MOD2:AM:LEVel?
```

12.15 SOURce:MOD2:FM:LEVel

Syntax: SOURce:MOD2:FM:LEVel

Parameter/Return: 0.0 Hz to 100000.0 Hz

Description: Sets/returns the RF gen FM modulation level, modulator #2

Example:

```
SOURce:MOD2:FM:LEVel 4000
SOURce:MOD2:FM:LEVel?
```

12.16 SOURce:MOD2:PM:LEVel

Syntax: SOURce:MOD2:PM:LEVel

Parameter/Return: float: 0.0 Rad to 10.0 Rad

Description: Sets/returns the RF Gen PM Modulation Level for modulator 2.

Example:

```
SOURce:MOD2:PM:LEVel 4.0
SOURce:MOD2:PM:LEVel?
```

12.17 SOURce:MOD3:AM:LEVel

Syntax: SOURce:MOD3:AM:LEVel

Parameter/Return: float: 0.0 % to 100.0 %

Description: Sets/returns the RF gen AM modulation level, modulator #3

Example:

```
SOURce:MOD3:AM:LEVel 99.9
SOURce:MOD3:AM:LEVel?
```

12.18 SOURce:MOD3:FM:LEVel

Syntax: SOURce:MOD3:FM:LEVel

Parameter/Return: float: 0.0 Hz to 100000.0 Hz

Description: You can query or set the RF gen FM modulation level, modulator #3

Example:

```
SOURce:MOD3:FM:LEVel
SOURce:MOD3:FM:LEVel?
```

12.19 SOURce:MOD1:ENABle

Syntax: SOURce:MOD1:ENABle

Parameter/Return: NR2

Description: Sets/returns the control state of analog modulator 1.

Example:

```
SOURce:MOD1:ENABle On
SOURce:MOD1:ENABle?
```

12.20 SOURce:EXTernal:ENABle

Syntax: SOURce:EXTernal:ENABle

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the external source modulator 2 state.

Example:

```
SOURce:EXTernal:ENABle On
SOURce:EXTernal:ENABle?
```

12.21 SOURce:EXTernal:AM:LEVel

Syntax: SOURce:EXTernal:AM:LEVel

Parameter/Return: 0.0 % to 100.0 %

Description: The user can supply an external signal to Audio Input for AM modulation. This controls the scaling of that signal in percent per Vrms.

Example:

```
SOURce:EXTernal:AM:LEVel 50
SOURce:EXTernal:AM:LEVel?
```

12.22 SOURce:EXTernal:FM:LEVel

Syntax: SOURce:EXTernal:FM:LEVel

Parameter/Return: 0.0 to 100000.0 Hz/Vrms

Description: The user can supply an external signal to Audio Input for FM modulation. This controls the scaling of that signal in Hz per Vrms.

Example:

```
SOURce:EXTernal:FM:LEVel 7000
SOURce:EXTernal:FM:LEVel?
```

12.23 SOURce:EXTernal:PM:LEVel

Syntax: SOURce:EXTernal:PM:LEVel

Parameter/Return: 0.0 to 10.0 Rad/Vrms

Description: The user can supply an external signal to Audio Input for AM modulation. This controls the scaling of that signal in Rad per Vrms.

Example:

```
SOURce:EXTernal:PM:LEVel 9.3
SOURce:EXTernal:PM:LEVel?
```

12.24 SOURce:EXTernal:SOURce

Syntax: SOURce:EXTernal:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the RF Gen external modulation signal source.

Example:

```
SOURce:EXTernal:SOURce Acc
SOURce:EXTernal:SOURce?
```

12.25 SOURce:TYPE

Syntax: SOURce:TYPE

Parameter/Return: AM | FM | PM | FM50us| FM75us| FM750us| AM_USB | AM_LSB

Description: Sets/returns the RF generator modulation type.

Example:

```
SOURce:TYPE PM
SOURce:TYPE?
```

13

Analog Demodulator Commands

This chapter describes the following remote commands for configuring Analog Demodulator (ADEModulator) settings:

- SENSe:READing:TYPE 13-11
- SENSe:MEASure:TYPE 13-11
- SENSe:PFILTer 13-11
- SENSe:PM:AFCOUNter:AVERage:COUNt 13-12
- SENSe:PM:AFCOUNter:READing:TYPE 13-12
- SENSe:PM:AFCOUNter:SCALe 13-12
- SENSe:PM:AFCOUNter:RESet 13-13
- SENSe:HFILTer 13-13
- SENSe:LFILTer 13-13
- SENSe:FM:SCALe 13-13
- SENSe:FM:SINad:AVERage:COUNt 13-14
- SENSe:FM:SINad:NOISe:TYPE 13-14
- SENSe:AM:SCALe 13-14
- SENSe:AM:SINad:NOISe:TYPE 13-15
- SENSe:FM:SINad:NOTCh:BANDwidth 13-15
- SENSe:FM:SINad:NOTCh:FREQuency 13-15
- SENSe:AM:SINad:NOTCh:BANDwidth 13-15
- SENSe:FM:SINad:READing:TYPE 13-16
- SENSe:FM:SINad:REFerence:LEVel 13-16
- SENSe:FM:SINad:RESet 13-16
- SENSe:AM:SINad:READing:TYPE 13-16
- SENSe:AM:SINad:REFerence:LEVel 13-17
- SENSe:FM:SINad:SCALe 13-17
- SENSe:FM:SINad:SREFerence 13-17
- SENSe:FM:SINad:UNIT 13-17
- SENSe:FM:SNR:AVERage:COUNt 13-18

- SENSe:FM:SNR:DELay 13-18
- SENSe:FM:SNR:NOTCh:BANDwidth 13-18
- SENSe:FM:SNR:NOTCh:FREQuency 13-19
- SENSe:FM:SNR:NOTCh:STATe 13-19
- SENSe:FM:SNR:READing:TYPE 13-19
- SENSe:FM:SNR:RESet 13-19
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13.1 SENSe:READing:TYPE

Syntax: SENSe:READing:TYPE

Parameter/Return: LIVE | AVERAGE | MIN | MAX

Description: You can configure or query the receive demodulator for desired type. Interacts with Mod Type.

Examples:

```
SENSe:READing:TYPE MIN
SENSe:READing:TYPE?
```

13.2 SENSe:MEASure:TYPE

Syntax: SENSe:MEASure:TYPE

Parameter/Return: PKPK2 | PKPOS | PKNEG | RMS

Description: Sets/returns the receive demodulator for Measurement type.

Examples:

```
SENSe:MEASure:TYPE RMS
SENSe:MEASure:TYPE?
```

13.3 SENSe:PFILTer

Syntax: SENSe:PFILTer

Parameter/Return: CMSG | CCITT

Description: You can select or query the Psophometric filter.

Examples:

```
SENSe:PFILTer CMSG
SENSe:PFILTer?
```

13.4 SENSe:PM:AFCOUNter:AVERage:COUNt

Syntax: SENSe:PM:AFCOUNter:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:PM:AFCOUNter:AVERage:COUNt 10
SENSe:PM:AFCOUNter:AVERage:COUNt?
```

13.5 SENSe:PM:AFCOUNter:READing:TYPE

Syntax: SENSe:PM:AFCOUNter:READing:TYPE

Parameter/Return: LIVE |AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:AFCOUNter:READing:TYPE AVG
SENSe:PM:AFCOUNter:READing:TYPE?
```

13.6 SENSe:PM:AFCOUNter:SCALe

Syntax: SENSe:PM:AFCOUNter:SCALe

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: You can change or query the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:PM:AFCOUNter:SCALe '20kHz'
SENSe:PM:AFCOUNter:SCALe?
```

13.7 SENSe:PM:AFCOUNter:RESet

Syntax: SENSe:PM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use demod source.

Example:

```
SENSe:PM:AFCOUNter:RESet
```

13.8 SENSe:HFILTer

Syntax: SENSe:HFILTer

Parameter/Return: NONE | HP20HZ | HP50HZ | HP300HZ

Description: Sets/returns the Demod audio path high pass filter cutoff frequency.

Examples:

```
SENSe:HFILTer HP50HZ
SENSe:HFILTer?
```

13.9 SENSe:LFILTer

Syntax: SENSe:LFILTer

Parameter/Return: NONE | LP300HZ | LP3KHZ | LP3P4KHZ | LP5KHZ | LP15KHZ | LP20KHZ | LP40KHZ

Description: Sets/returns the demod audio path low pass filter cutoff frequency.

Example:

```
SENSe:LFILTer
```

13.10 SENSe:FM:SCALe

Syntax: SENSe:FM:SCALe

Parameter/Return: Auto | 1Hz | 2Hz | 5Hz | 10Hz | 20Hz | 50Hz | 100Hz | 200Hz | 500Hz | 1kHz | 2kHz | 5kHz | 10kHz | 20kHz | 50kHz | 100kHz

Description: Set the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:FM:SCALe 20000
SENSe:FM:SCALe?
```

13.11 SENSe:FM:SINad:AVERage:COUNt

Syntax: SENSe:FM:SINad:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Control or query the number of reading values used to compute the average reading. Need Reading Average active to see the Input dialog..

Examples:

```
SENSe:FM:SINad:AVERage:COUNt 20
SENSe:FM:SINad:AVERage:COUNt?
```

13.12 SENSe:FM:SINad:NOISe:TYPE

Syntax: SENSe:FM:SINad:NOISe:TYPE

Parameter/Return: sinad | distortion | humNoise

Description: Control or query the number of reading values used to compute the average reading. Need Reading Average active to see the Input dialog..

Examples:

```
SENSe:FM:SINad:NOISe:TYPE snr
SENSe:FM:SINad:NOISe:TYPE?
```

13.13 SENSe:AM:SCALe

Syntax: SENSe:AM:SCALe

Parameter/Return: Auto |1% | 2% | 5% | 10% | 20% | 50% |100%

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Example:

```
SENSe:AM:SCALe
```

13.14 SENSe:AM:SINad:NOISe:TYPE

Syntax: SENSe:AM:SINad:NOISe:TYPE

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns which style noise measurement is active and displayed.

Examples:

```
SENSe:AM:SINad:NOISe:TYPE distortion
SENSe:AM:SINad:NOISe:TYPE?
```

13.15 SENSe:FM:SINad:NOTCh:BANDwidth

Syntax: SENSe:FM:SINad:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:FM:SINad:NOTCh:BANDwidth 100
SENSe:FM:SINad:NOTCh:BANDwidth?
```

13.16 SENSe:FM:SINad:NOTCh:FREQuency

Syntax: SENSe:FM:SINad:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:FM:SINad:NOTCh:FREQuency 1500
SENSe:FM:SINad:NOTCh:FREQuency?
```

13.17 SENSe:AM:SINad:NOTCh:BANDwidth

Syntax: SENSe:AM:SINad:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:AM:SINad:NOTCh:BANDwidth 100
SENSe:AM:SINad:NOTCh:BANDwidth?
```

13.18 SENSe:FM:SINad:READing:TYPE

Syntax: SENSe:FM:SINad:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for noise selects between Demod/Audio In.

Examples:

```
SENSe:FM:SINad:READing:TYPE AVG
SENSe:FM:SINad:READing:TYPE?
```

13.19 SENSe:FM:SINad:REFerence:LEVel

Syntax: SENSe:FM:SINad:REFerence:LEVel

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill in this value.

Example:

```
SENSe:FM:SINad:REFerence:LEVel
```

13.20 SENSe:FM:SINad:RESet

Syntax: SENSe:FM:SINad:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:Fm:SINad:RESet
```

13.21 SENSe:AM:SINad:READing:TYPE

Syntax: SENSe:AM:SINad:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for noise selects between Demod/Audio In.

Examples:

```
SENSe:AM:SINad:READing:TYPE AVG
SENSe:AM:SINad:READing:TYPE?
```

13.22 SENSe:AM:SINad:REFerence:LEVel

Syntax: SENSe:AM:SINad:REFerence:LEVel

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill in this value.

Example:

```
SENSe:AM:SINad:REFerence:LEVel?
```

13.23 SENSe:FM:SINad:SCALe

Syntax: SENSe:FM:SINad:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:FM:SINad:SCALe "30 dB"
SENSe:Fm:SINad:SCALe?
```

13.24 SENSe:FM:SINad:SREFerence

Syntax: SENSe:FM:SINad:SREFerence

Parameter/Return: dB | dBr

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:FM:SINad:SREFerence dBr
```

13.25 SENSe:FM:SINad:UNIT

Syntax: SENSe:FM:SINad:UNIT

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:FM:SINad:UNIT dBr
SENSe:FM:SINad:UNIT?
```

13.26 SENSe:FM:SNR:AVERage:COUNt

Syntax: SENSe:FM:SNR:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples.

Examples:

```
SENSe:FM:SNR:AVERage:COUNt 10
SENSe:FM:SNR:AVERage:COUNt?
```

13.27 SENSe:FM:SNR:DELay

Syntax: SENSe:FM:SNR:DELay

Parameter/Return: 1.0 to 10.0 Sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type -> Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:FM:SNR:DELay 2
SENSe:FM:SNR:DELay?
```

13.28 SENSe:FM:SNR:NOTCh:BANDwidth

Syntax: SENSe:FM:SNR:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples.

Examples:

```
SENSe:FM:SNR:NOTCh:BANDwidth 100
SENSe:FM:SNR:NOTCh:BANDwidth?
```

13.29 SENSe:FM:SNR:NOTCh:FREQuency

Syntax: SENSe:FM:SNR:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the notch frequency in Hz.

Examples:

```
SENSe:FM:SNR:NOTCh:FREQuency 300
SENSe:FM:SNR:NOTCh:FREQuency?
```

13.30 SENSe:FM:SNR:NOTCh:STATe

Syntax: SENSe:FM:SNR:NOTCh:STATe

Parameter/Return: Off | On | 1 |0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:FM:SNR:NOTCh:STATe On
SENSe:FM:SNR:NOTCh:STATe?
```

13.31 SENSe:FM:SNR:READing:TYPE

Syntax: SENSe:FM:SNR:READing:TYPE

Parameter/Return: LIVE |AVG | MAX |MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:SNR:READing:TYPE AVG
SENSe:FM:SNR:READing:TYPE?
```

13.32 SENSe:FM:SNR:RESet

Syntax: SENSe:FM:SNR:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion and SNR for the demod input.

Example:

```
SENSe:FM:SNR:RESet
```

13.33 SENSe:FM:SNR:SCALe

Syntax: SENSe:FM:SNR:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Example:

```
SENSe:FM:SNR:SCALe 40
```

13.34 SENSe:FM:SNR:SNR:TYPE

Syntax: SENSe:FM:SNR:SNR:TYPE

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you have to operate the generator manually.

Examples:

```
SENSe:FM:SNR:SNR:TYPE NORMAL
SENSe:FM:SNR:SNR:TYPE?
```

13.35 SENSe:FM:SNR:SREFerence

Syntax: SENSe:FM:SNR:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:FM:SNR:SREFerence
```

13.36 SENSe:AM:SINad:RESet

Syntax: SENSe:AM:SINad:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:SINad:RESet
```

13.37 SENSe:AM:SINad:SCALe

Syntax: SENSe:AM:SINad:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:AM:SINad:SCALe AVG
SENSe:AM:SINad:SCALe?
```

13.38 SENSe:AM:SINad:UNIT

Syntax: SENSe:AM:SINad:UNIT

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:AM:SINad:UNIT dBr
SENSe:AM:SINad:UNIT?
```

13.39 SENSe:AM:SNR:AVERage:COUNt

Syntax: SENSe:AM:SNR:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the samples dialog.

Examples:

```
SENSe:AM:SNR:AVERage:COUNt 10
SENSe:AM:SNR:AVERage:COUNt?
```

13.40 SENSe:AM:SNR:DELay

Syntax: SENSe:AM:SNR:DELay

Parameter/Return: 1.0 sec to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen) required for some receivers with large latency. Set Hum and Noise type to Normal. For the Speaker icon, Noise setting for Mod Gen: select Audio In. For AF Gen, select Demod.

Examples:

```
SENSe:AM:SNR:DELay 2
SENSe:AM:SNR:DELay?
```

13.41 SENSe:AM:SNR:NOTCh:BANDwidth

Syntax: SENSe:AM:SNR:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the Notch bandwidth in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:AM:SNR:NOTCh:BANDwidth 100
SENSe:AM:SNR:NOTCh:BANDwidth?
```

13.42 SENSe:AM:SNR:NOTCh:FREQuency

Syntax: SENSe:AM:SNR:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the Notch frequency in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:AM:SNR:NOTCh:FREQuency 1000
SENSe:AM:SNR:NOTCh:FREQuency?
```

13.43 SENSe:AM:SNR:NOTCh:STATe

Syntax: SENSe:AM:SNR:NOTCh:STATe

Parameter/Return: On | Off | 1 |0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS..

Examples:

```
SENSe:AM:SNR:NOTCh:STATe On
SENSe:AM:SNR:NOTCh:STATe?
```

13.44 SENSe:AM:SNR:READing:TYPE

Syntax: SENSe:AM:SNR:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:SNR:READing:TYPE AVG
SENSe:AM:SNR:READing:TYPE?
```

13.45 SENSe:AM:SNR:RESet

Syntax: SENSe:AM:SNR:RESet

Parameter/Return: None

Description: This action will apply to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:SNR:RESet
```

13.46 SENSe:AM:SNR:SCALe

Syntax: SENSe:AM:SNR:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB... -80 dB | -90 dB | -100 dB

Description: You can change or query the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:AM:SNR:SCALe
SENSe:AM:SNR:SCALe?
```

13.47 SENSe:AM:SNR:SNR:TYPE

Syntax: SENSe:AM:SNR:SNR:TYPE

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two ways: Auto(Normal) and Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point. You have to operate the generator manually.

Examples:

```
SENSe:AM:SNR:SNR:TYPE HUMNOISE
SENSe:AM:SNR:SNR:TYPE?
```

13.48 SENSe:AM:SNR:SREFerence

Syntax: SENSe:AM:SNR:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Examples:

```
SENSe:AM:SNR:SREFerence
SENSe:AM:SNR:SREFerence?
```

13.49 SENSe:AM:SINad:SREFerence

Syntax: SENSe:AM:SINad:SREFerence

Parameter/Return: None

Description: This control copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:AM:SINad:SREFerence AVG
```

13.50 SENSe:PM:SCALe

Syntax: SENSe:PM:SCALe

Parameter/Return: Auto | 0.01 | 0.02 | 0.05 | 0.1 | 0.2 | 0.5 | 1 | 2 | 5 | 10 Rad

Description: Set the meter scale, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:PM:SCALe 0.5
```

13.51 SENSe:PM:SINad:AVERage:COUNt

Syntax: SENSe:PM:SINad:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:SINad:AVERage:COUNt 20
SENSe:PM:SINad:AVERage:COUNt?
```

13.52 SENSe:PM:SINad:NOISe:TYPE

Syntax: SENSe:PM:SINad:NOISe:TYPE

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns which style noise measurement is active and displayed.

Examples:

```
SENSe:PM:SINad:NOISe:TYPE snr
SENSe:PM:SINad:NOISe:TYPE?
```

13.53 SENSe:PM:SINad:NOTCh:BANDwidth

Syntax: SENSe:PM:SINad:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: You can adjust or query the distortion notch filter bandwidth.

Examples:

```
SENSe:PM:SINad:NOTCh:BANDwidth 100
SENSe:PM:SINad:NOTCh:BANDwidth?
```

13.54 SENSe:PM:SINad:NOTCh:FREQuency

Syntax: SENSe:PM:SINad:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: You can adjust or query the distortion notch filter frequency.

Examples:

```
SENSe:PM:SINad:NOTCh:FREQuency 1500
SENSe:PM:SINad:NOTCh:FREQuency?
```

13.55 SENSe:PM:SINad:READing:TYPE

Syntax: SENSe:PM:SINad:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:SINad:READing:TYPE
SENSe:PM:SINad:READing:TYPE
```

13.56 SENSe:PM:SINad:REFerence:LEVel

Syntax: SENSe:PM:SINad:REFerence:LEVel

Parameter/Return: None

Description: Sets the 0dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:PM:SINad:REFerence:LEVel?
```

13.57 SENSe:PM:SINad:RESet

Syntax: SENSe:PM:SINad:RESet

Parameter/Return: None

Description: Clears the Noise Meter Plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:SINad:RESet
```

13.58 SENSe:PM:SINad:SCALe

Syntax: SENSe:PM:SINad:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: You can set the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:PM:SINad:SCALe 30 dB
SENSe:PM:SINad:SCALe?
```

13.59 SENSe:PM:SINad:SREFerence

Syntax: SENSe:PM:SINad:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:PM:SINad:SREFerence
```

13.60 SENSe:PM:SINad:UNIT

Syntax: SENSe:PM:SINad:UNIT

Parameter/Return: dB|dBr

Description: Sets or queries the meter units.

Examples:

```
SENSe:PM:SINad:UNIT dBr
SENSe:PM:SINad:UNIT?
```

13.61 SENSe:PM:SNR:AVERage:COUNt

Syntax: SENSe:PM:SNR:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets or queries the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Examples:

```
SENSe:PM:SNR:AVERage:COUNt 10
SENSe:PM:SNR:AVERage:COUNt?
```

13.62 SENSe:PM:SNR:DELay

Syntax: SENSe:PM:SNR:DELay

Parameter/Return: 1 to 100

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type is set to Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:PM:SNR:DELay 10
SENSe:PM:SNR:DELay?
```

13.63 SENSe:FM:AVERage:COUNt

Syntax: SENSe:FM:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:FM:AVERage:COUNt 10
SENSe:FM:AVERage:COUNt?
```

13.64 SENSe:FM:AVERage:COUNt

Syntax: SENSe:FM:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:FM:AVERage:COUNt 10
SENSe:FM:AVERage:COUNt?
```

13.65 SENSe:PM:SNR:NOTCh:BANDwidth

Syntax: SENSe:PM:SNR:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch bandwidth in Hz.

Examples:

```
SENSe:PM:SNR:NOTCh:BANDwidth 10
SENSe:PM:SNR:NOTCh:BANDwidth?
```

13.66 SENSe:FM:DISTortion:NOTCh:FREQuency

Syntax: SENSe:FM:DISTortion:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Adjust the distortion notch filter frequency. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:NOTCh:FREQuency 1500
SENSe:FM:DISTortion:NOTCh:FREQuency?
```

13.67 SENSe:PM:SNR:NOTCh:STATe

Syntax: SENSe:PM:SNR:NOTCh:STATe

Parameter/Return: On | Off | 1 | 0

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:PM:SNR:NOTCh:STATe On
SENSe:PM:SNR:NOTCh:STATe?
```

13.68 SENSe:PM:SNR:READing:TYPE

Syntax: SENSe:PM:SNR:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:PM:SNR:READing:TYPE AVG
SENSe:PM:SNR:READing:TYPE?
```

13.69 SENSe:PM:SNR:RESet

Syntax: SENSe:PM:SNR:RESet

Parameter/Return: None

Description: Clears the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:SNR:RESet
```

13.70 SENSe:PM:SNR:SCALe

Syntax: SENSe:PM:SNR:SCALe

Parameter/Return: Auto, 60 dB, 50 dB, 40 dB, ..., -80 dB, -90 dB, -100 dB

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Examples:

```
SENSe:PM:SNR:SCALe 40
SENSe:PM:SNR:SCALe?
```

13.71 SENSe:PM:SNR:SNR:TYPE

Syntax: SENSe:PM:SNR:SNR:TYPE

Parameter/Return: NORMAL | HUMNOISE

Description: Change or query the Hum and Noise control. H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you'have to operate the generator manually.

Examples:

```
SENSe:PM:SNR:SNR:TYPE HUMNOISE
SENSe:PM:SNR:SNR:TYPE?
```

13.72 SENSe:PM:SNR:SREFerence

Syntax: SENSe:PM:SNR:SREFerence

Parameter/Return: None

Description: This control will copy the live reading into the Reference Value. Need to set Noise Units to dBr to see this control.

Example:

```
SENSe:PM:SNR:SREFerence
```

13.73 SENSe:FM:DISTortion:READing:TYPE

Syntax: SENSe:FM:DISTortion:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:DISTortion:READing:TYPE AVG
SENSe:FM:DISTortion:READing:TYPE?
```

13.74 SENSe:FM:DISTortion:NOTCh:BANDwidth

Syntax: SENSe:FM:DISTortion:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Adjust the distortion notch filter bandwidth. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:NOTCh:BANDwidth 100
SENSe:FM:DISTortion:NOTCh:BANDwidth?
```

13.75 SENSe:FM:DISTortion:RESet

Syntax: SENSe:FM:DISTortion:RESet

Parameter/Return: None.

Description: This action will apply to SINAD, Distortion and SNR for the demod input.

Example:

```
SENSe:FM:DISTortion:RESet
```

13.76 SENSe:FM:DISTortion:SCALe

Syntax: SENSe:FM:DISTortion:SCALe

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Set the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:FM:DISTortion:SCALe 100
SENSe:FM:DISTortion:SCALe?
```

13.77 SENSe:AM:AVERage:COUNt

Syntax: SENSe:AM:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compuite the average reading for AM, FM, and PM. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:AM:AVERage:COUNt 10
SENSe:AM:AVERage:COUNt?
```

13.78 SENSe:PM:AVERage:COUNt

Syntax: SENSe:PM:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:AVERage:COUNt 10
SENSe:PM:AVERage:COUNt?
```

13.79 SENSe:PM:DISTortion:NOTCh:BANDwidth

Syntax: SENSe:PM:DISTortion:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Control the number of reading values used to compute the average reading for AM, FM & PM. Need Reading Average active to see input dialog.

Examples:

```
SENSe:PM:DISTortion:NOTCh:BANDwidth 100
SENSe:PM:DISTortion:NOTCh:BANDwidth?
```

13.80 SENSe:PM:DISTortion:NOTCh:FREQuency

Syntax: SENSe:PM:DISTortion:NOTCh:FREQuency

Parameter/Return: 10 to 200 Hz

Description: Adjust the distortion notch filter frequency. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:PM:DISTortion:NOTCh:FREQuency 100
SENSe:PM:DISTortion:NOTCh:FREQuency?
```

13.81 SENSe:PM:DISTortion:READing:TYPE

Syntax: SENSe:PM:DISTortion:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:PM:DISTortion:READing:TYPE AVG
SENSe:PM:DISTortion:READing:TYPE?
```

13.82 SENSe:PM:DISTortion:RESet

Syntax: SENSe:PM:DISTortion:RESet

Parameter/Return: None

Description: Clears the Noise Meter Plot. This action will apply to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:PM:DISTortion:RESet
```

13.83 SENSe:PM:DISTortion:SCALe

Syntax: SENSe:PM:DISTortion:SCALe

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Set the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:PM:DISTortion:SCALe
SENSe:PM:DISTortion:SCALe
```

13.84 SENSe:AM:DISTortion:AVERage:COUNt

Syntax: SENSe:AM:DISTortion:AVERage:COUNt

Parameter/Return: 1 to 100

Description: You can control or query the number of reading values used to compute the average reading. Need Reading Average active to see input dialog. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:AVERage:COUNt 10
SENSe:AM:DISTortion:AVERage:COUNt?
```

13.85 SENSe:AM:DISTortion:NOTCh:BANDwidth

Syntax: SENSe:AM:DISTortion:NOTCh:BANDwidth

Parameter/Return: 10 Hz to 200 Hz

Description: You can control or query the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:NOTCh:BANDwidth 100
SENSe:AM:DISTortion:NOTCh:BANDwidth?
```

13.86 SENSe:AM:DISTortion:READing:TYPE

Syntax: SENSe:AM:DISTortion:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can control or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:DISTortion:READing:TYPE AVG
SENSe:AM:DISTortion:READing:TYPE?
```

13.87 SENSe:AM:DISTortion:RESet

Syntax: SENSe:AM:DISTortion:RESet

Parameter/Return: None

Description: This action applies to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:AM:DISTortion:RESet
```

13.88 SENSe:AM:DISTortion:SCALe

Syntax: SENSe:AM:DISTortion:SCALe

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:AM:DISTortion:SCALe "20%"
SENSe:AM:DISTortion:SCALe?
```

13.89 SENSe:AM:PEPOWer:SREFerence

Syntax: SENSe:AM:PEPOWer:SREFerence

Parameter/Return: None

Description: Updates the Reference level value from the current live reading.

Example:

```
SENSe:AM:PEPOWer:SREFerence
```

13.90 SENSe:AM:PEPOWer:SREFerence

Syntax: SENSe:AM:PEPOWer:SREFerence

Parameter/Return: None

Description: Updates the Reference level value from the current live reading.

Examples:

```
SENSe:AM:PEPOWer:SREFerence
SENSe:AM:PEPOWer:SREFerence?
```

13.91 CALCulate:AM:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:AM:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the AM AF Counter Meter Pass/Fail Status

Example:

```
CALCulate:AM:AFCOUNter:LIMit:FAIL?
```

13.92 CALCulate:AM:LIMit:LOWer:STATe

Syntax: CALCulate:AM:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: You can set or query the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:LIMit:LOWer:STATe Off
CALCulate:AM:LIMit:LOWer:STATe ?
```

13.93 CALCulate:AM:LIMit:LOWer:STATe

Syntax: CALCulate:AM:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: You can set or query the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:LIMit:LOWer:STATe Off
CALCulate:AM:LIMit:LOWer:STATe ?
```

13.94 CALCulate:AM:LIMIt:FAIL?

Syntax: CALCulate:AM:LIMIt:LOWer?

Parameter/Return: 0-Off|1-Pass|2- Fail High|3-Fail Low

Description: You can query the AM AD Counter F/F Status.

Example:

```
CALCulate:AM:LIMIt:FAIL?
```

13.95 CALCulate:AM:LIMIt:LOWer

Syntax: CALCulate:AM:LIMIt:LOWer

Parameter/Return:

Description: Sets/returns the AF Counter Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:LIMIt:LOWer 900
CALCulate:AM:LIMIt:LOWer?
```

13.96 CALCulate:AM:LIMIt:LOWer:STATe

Syntax: CALCulate:AM:LIMIt:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the lower limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:LIMIt:LOWer:STATe Off
CALCulate:AM:LIMIt:LOWer:STATe?
```

13.97 CALCulate:AM:DBR:LIMit:LOWer

Syntax: CALCulate:AM:DBR:LIMit:LOWer

Parameter/Return: -100 to 100 dB

Description: Sets/returns the AM dBR lower limit

Example:

```
CALCulate:AM:DBR:LIMit:LOWer 10
```

13.98 CALCulate:AM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:AM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: You can query the AM Distortion Meter Pass/Fail Status

Example:

```
CALCulate:AM:DISTortion:LIMit:FAIL?
```

13.99 CALCulate:AM:DISTortion:LIMit:LOWer

Syntax: CALCulate:AM:DISTortion:LIMit:LOWer

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: You can query the AM Distortion Meter Pass/Fail Status

Examples:

```
CALCulate:AM:DISTortion:LIMit:LOWer 10
CALCulate:AM:DISTortion:LIMit:LOWer?
```

13.100 CALCulate:AM:DISTortion:LIMit:LOWer:STATe

Syntax: CALCulate:AM:DISTortion:LIMit:LOWer:STATe

Parameter/Return: 0-Off|1-Pass|2Fail High|3- Fail Low

Description: Sets/returns the Lower Limit

Examples:

```
CALCulate:AM:DISTortion:LIMit:LOWer 10
CALCulate:AM:DISTortion:LIMit:LOWer ?
```

13.101 CALCulate:AM:DISTortion:LIMit:UPPer

Syntax: CALCulate:AM:DISTortion:LIMit:UPPer

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Meter upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:AM:DISTortion:LIMit:UPPer 20
CALCulate:AM:DISTortion:LIMit:UPPer ?
```

13.102 CALCulate:AM:LIMit:UPPer:STATe

Syntax: CALCulate:AM:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:LIMit:UPPer:STATe On
CALCulate:AM:LIMit:UPPer:STATe ?
```

13.103 CALCulate:AM:PEPOWer:LIMit:FAIL

Syntax: CALCulate:AM:PEPOWer:LIMit:FAIL

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the meter Pass/Fail status.

Examples:

```
CALCulate:AM:LIMit:UPPer:STATe On
CALCulate:AM:LIMit:UPPer:STATe ?
```

13.104 CALCulate:AM:LIMit:UPPer

Syntax: CALCulate:AM:LIMit:UPPer

Parameter/Return: 0.0% to 100%

Description: Sets/returns the AM Mod Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:LIMit:UPPer 40
CALCulate:AM:LIMit:UPPer
```

13.105 CALCulate:AM:DBR:LIMit:UPPer

Syntax: CALCulate:AM:DBR:LIMit:UPPer

Parameter/Return: 0 Hz to 400000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:DBR:LIMit:UPPer 2000
CALCulate:AM:DBR:LIMit:UPPer ?
```

13.106 CALCulate:AM:AFCOUNter:LIMit:UPPer

Syntax: CALCulate:AM:AFCOUNter:LIMit:UPPer

Parameter/Return: 0 Hz ti 40000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:AFCounter:LIMit:Upper 2000
CALCulate:AM:AFCounter:LIMit:Upper ?
```

13.107 CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the AF Counter upper limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:AFCounter:LIMit:Upper:STATe On
CALCulate:AM:AFCounter:LIMit:Upper:STATe ?
```

13.108 CALCulate:AM:AFCOUNter:LIMit:LOWer

Syntax: CALCulate:AM:AFCOUNter:LIMit:LOWer

Parameter/Return: 0 Hz ti 40000 Hz

Description: Sets/returns the AF Counter lower limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:AFCounter:LIMit:LOWer 2000
CALCulate:AM:AFCounter:LIMit:LOWer ?
```

13.109 CALCulate:AM:AFCOUNter:LIMit:LOWer:STATe

Syntax: CALCulate:AM:AFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the AF Counter upper limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:AM:AFCounter:LIMit:LOWer:STATe On
CALCulate:AM:AFCounter:LIMit:LOWer:STATe ?
```

13.110 SENSe:AM:RLEVel?

Syntax: SENSe:AM:RLEVel?

Parameter/Return: None

Description: Returns the reference level.

Example:

```
SENSe:AM:RLEVel?
```

13.111 SENSe:AM:SREFerence

Syntax: SENSe:AM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:AM:SREFerence
```

13.112 CALCulate:FM:LIMit:LOWer:STATE

Syntax: CALCulate:FM:LIMit:LOWer:STATE

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:LIMit:LOWer:STATE On
CALCulate:FM:LIMit:LOWer:STATE?
```

13.113 CALCulate:FM:DBR:LIMit:LOWer

Syntax: CALCulate:FM:DBR:LIMit:LOWer

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the FM Mod Level Meter dBr Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:DBR:LIMit:LOWer 10
CALCulate:FM:DBR:LIMit:LOWer?
```

13.114 CALCulate:FM:KHZ:LIMit:LOWer

Syntax: CALCulate:FM:KHZ:LIMit:LOWer

Parameter/Return: 0.0 Hz to 100000 Hz

Description: Sets/returns the FMDeviation Meter kHz Lower Limit.

Examples:

```
CALCulate:FM:KHZ:LIMit:LOWer 3000
CALCulate:FM:KHZ:LIMit:LOWer?
```

13.115 CALCulate:FM:LIMit:UPPer:STATe

Syntax: CALCulate:FM:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Level state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:LIMit:UPPer:STATe On
CALCulate:FM:LIMit:UPPer:STATe?
```

13.116 CALCulate:FM:SINad:DBR:LIMit:LOWer

Syntax: CALCulate:FM:SINad:DBR:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: You can query or set the Lower Level state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SINad:DBR:LIMit:LOWer 10
CALCulate:FM:SINad:DBR:LIMit:LOWer?
```

13.117 CALCulate:FM:SINad:DBR:LIMit:LOWer

Syntax: CALCulate:FM:SINad:DBR:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: You can query or set the Lower Level state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SINad:DBR:LIMit:LOWer 10
CALCulate:FM:SINad:DBR:LIMit:LOWer?
```

13.118 CALCulate:FM:LIMit:UPPer

Syntax: CALCulate:FM:LIMit:UPPer

Parameter/Return: 0.0 Hz to 100000 Hz

Description: You can query or set the FM Deviation Meter Upper Limit.

Examples:

```
CALCulate:FM:LIMit:UPPer 75000
CALCulate:FM:LIMit:UPPer?
```

13.119 CALCulate:FM:SINad:DBR:LIMit:UPPer

Syntax: CALCulate:FM:SINad:DBR:LIMit:UPPer

Parameter/Return: -100 dBr to 100 dBr

Description: You can query or set the FM Deviation Meter dBr Upper Limit.

Examples:

```
CALCulate:FM:SINad:DBR:LIMit:UPPer 30
CALCulate:FM:SINad:DBR:LIMit:UPPer?
```

13.120 CALCulate:FM:SINad:LIMit:FAIL?

Syntax: CALCulate:FM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail Low|3-Fail High

Description: You can query the FM Deviation Meter dBr Upper Limit.

Example:

```
CALCulate:FM:SINad:LIMit:FAIL?
```

13.121 CALCulate:FM:SINad:LIMit:LOWer

Syntax: CALCulate:FM:SINad:LIMit:LOWer

Parameter/Return: -100 dBr to 100 dBr

Description: You can query or set the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SINad:LIMit:LOWer 30
CALCulate:FM:SINad:LIMit:LOWer?
```

13.122 CALCulate:FM:SINad:LIMit:LOWer:STATe

Syntax: CALCulate:FM:SINad:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: You can query or set the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:SINad:LIMit:LOWer:STATe On
CALCulate:FM:SINad:LIMit:LOWer:STATe?
```

13.123 CALCulate:FM:SINad:LIMit:LOWer:STATe

Syntax: CALCulate:FM:SINad:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: You can query or set the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SINad:LIMit:UPPer 20
CALCulate:FM:SINad:LIMit:UPPer?
```

13.124 CALCulate:FM:SINad:LIMit:UPPer:STATe

Syntax: CALCulate:FM:SINad:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SINad:LIMit:UPPer:STATe On
CALCulate:FM:SINad:LIMit:UPPer:STATe?
```

13.125 CALCulate:FM:SNR:LIMit:FAIL?

Syntax: CALCulate:FM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM Distortion Meter Pass Fail Status.

Example:

```
CALCulate:FM:SNR:LIMit:FAIL?
```

13.126 CALCulate:FM:SNR:LIMit:LOWer

Syntax: CALCulate:FM:SNR:LIMit:LOWer

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Hum and Noise Meter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:FM:SNR:LIMit:LOWer 20
CALCulate:FM:SNR:LIMit:LOWer?
```

13.127 CALCulate:FM:SNR:LIMit:LOWer

Syntax: CALCulate:FM:SNR:LIMit:LOWer

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:SNR:LIMit:LOWer On
CALCulate:FM:SNR:LIMit:LOWer?
```

13.128 CALCulate:FM:SNR:LIMit:UPPer

Syntax: CALCulate:FM:SNR:LIMit:UPPer

Parameter/Return: -100.0 dBr to 100.0 dBr

Description: Sets/returns the Hum and Noise Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:FM:SNR:LIMit:UPPer On
CALCulate:FM:SNR:LIMit:UPPer?
```

13.129 CALCulate:FM:SNR:LIMit:UPPer:STATe

Syntax: CALCulate:FM:SNR:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:FM:SNR:LIMit:UPPer:STATe On
CALCulate:FM:SNR:LIMit:UPPer:STATe?
```

13.130 CALCulate:PM:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:PM:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM AF Counter Meter Pass/Fail Status.

Example:

```
CALCulate:PM:AFCOUNter:LIMit:FAIL?
```

13.131 CALCulate:PM:AFCOUNter:LIMit:LOWer

Syntax: CALCulate:PM:AFCOUNter:LIMit:LOWer

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass\Fail Indicators.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:LOWer 900
CALCulate:PM:AFCOUNter:LIMit:LOWer?
```

13.132 CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe

Syntax: CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit State. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:LOWer:STATe On
CALCulate:PM:AFCOUNter:LIMit:LOWer:STATE?
```

13.133 CALCulate:PM:AFCOUNter:LIMit:UPPer

Syntax: CALCulate:PM:AFCOUNter:LIMit:UPPer

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:UPPer 2000
CALCulate:PM:AFCOUNter:LIMit:UPPer?
```

13.134 CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe On
CALCulate:PM:AFCOUNter:LIMit:UPPer:STATe?
```

13.135 CALCulate:FM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:FM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM Distortion Meter Pass Fail Status.

Example:

```
CALCulate:FM:DISTortion:LIMit:FAIL?
```

13.136 CALCulate:FM:DISTortion:LIMit:LOWer

Syntax: CALCulate:FM:DISTortion:LIMit:LOWer

Parameter/Return: 0.0% to 100.0%

Description: You can query the FM Distortion Meter Pass Fail Status.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer
CALCulate:FM:DISTortion:LIMit:LOWer?
```

13.137 CALCulate:FM:DISTortion:LIMit:LOWer:STATe

Syntax: CALCulate:FM:DISTortion:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer:STATe
CALCulate:FM:DISTortion:LIMit:LOWer:STATe?
```

13.138 CALCulate:FM:DISTortion:LIMit:UPPer

Syntax: CALCulate:FM:DISTortion:LIMit:UPPer

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:FM:DISTortion:LIMit:LOWer:STATe 25
CALCulate:FM:DISTortion:LIMit:LOWer:STATe?
```

13.139 CALCulate:FM:DISTortion:LIMit:UPPer:STATe

Syntax: CALCulate:FM:DISTortion:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit State. Turn this feature on before setting the upper limit value.

Examples:

```
CALCulate:FM:DISTortion:LIMit:UPPer:STATe On
CALCulate:FM:DISTortion:LIMit:UPPer:STATe?
```

13.140 CALCulate:FM:KHZ:LIMit:UPPer

Syntax: CALCulate:FM:KHZ:LIMit:UPPer

Parameter/Return: 0.0 Hz to 100000 Hz

Description: You can query or set the FM Deviation Meter hHz Upper Limit.

Examples:

```
CALCulate:FM:KHZ:LIMit:UPPer 5000
CALCulate:FM:KHZ:LIMit:UPPer?
```

13.141 CALCulate:FM:LIMit:FAIL?

Syntax: CALCulate:FM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail Low|3-Fail High

Description: You can query the FM Deviation Meter Pass\Fail status.

Example:

```
CALCulate:FM:LIMit:FAIL?
```

13.142 SENSe:FM:RLEVel?

Syntax: SENSe:FM:RLEVel?

Parameter/Return: None

Description: Queries the reference level

Example:

```
SENSe:FM:RLEVel?
2500
```

13.143 SENSe:FM:SREFerence

Syntax: SENSe:FM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:FM:SREFerence
```

13.144 CALCulate:PM:LIMit:LOWer:STATe

Syntax: CALCulate:PM:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:PM:LIMit:LOWer:STATe On
CALCulate:PM:LIMit:LOWer:STATe?
```

13.145 CALCulate:PM:LIMit:LOWer

Syntax: CALCulate:PM:LIMit:LOWer

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: –

Examples:

```
CALCulate:PM:LIMit:LOWer 3.0
CALCulate:PM:LIMit:LOWer?
```

13.146 CALCulate:FM:LIMit:UPPer

Syntax: CALCulate:FM:LIMit:UPPer

Parameter/Return: -100.0 dBr to 100 dBr

Description: You can query or set the FM Mod Meter upper dBr limit for meter Pass/Fail.

Example:

```
CALCulate:FM:LIMit:UPPer 10
```

13.147 CALCulate:PM:DBR:LIMit:LOWer

Syntax: CALCulate:PM:DBR:LIMit:LOWer

Parameter/Return: -100.0 dBr to 100 dBr

Description: Sets/returns the PM Mod Level dBr Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:DBR:LIMit:LOWer 10
CALCulate:PM:DBR:LIMit:LOWer?
```

13.148 CALCulate:PM:DISTortion:LIMit:FAIL?

Syntax: CALCulate:PM:DISTortion:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM Distortion Meter Pass/Fail status.

Example:

```
CALCulate:PM:DISTortion:LIMit:FAIL?
1
```

13.149 CALCulate:PM:DISTortion:LIMit:LOWer

Syntax: CALCulate:PM:DISTortion:LIMit:LOWer

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Example:

```
CALCulate:PM:DISTortion:LIMit:LOWer
```

13.150 CALCulate:PM:DISTortion:LIMit:LOWer:STATe

Syntax: CALCulate:PM:DISTortion:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:DISTortion:LIMit:LOWer:STATe On
CALCulate:PM:DISTortion:LIMit:LOWer:STATe?
```

13.151 CALCulate:PM:DISTortion:LIMit:UPPer

Syntax: CALCulate:PM:DISTortion:LIMit:UPPer

Parameter/Return: 0.0% to 100%

Description: Sets/returns the Distortion Meter upper limit for meter Pass/Fail. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:PM:DISTortion:LIMit:UPPer 20
CALCulate:PM:DISTortion:LIMit:UPPer?
```

13.152 CALCulate:PM:DISTortion:LIMit:UPPer:STATe

Syntax: CALCulate:PM:DISTortion:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:DISTortion:LIMit:Upper:STATe On
CALCulate:PM:DISTortion:LIMit:Upper:STATe
```

13.153 CALCulate:PM:LIMit:FAIL?

Syntax: CALCulate:PM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You query the PM Deviation Meter Pass/Fail Status.

Example:

```
CALCulate:PM:LIMit:FAIL?
```

13.154 CALCulate:PM:LIMit:UPPer:STATe

Syntax: CALCulate:PM:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:LIMit:UPPer:STATe On
CALCulate:PM:LIMit:UPPer:STATe?
```

13.155 CALCulate:PM:LIMit:UPPer

Syntax: CALCulate:PM:LIMit:UPPer

Parameter/Return: 0.0 Rad to 10.0 Rad

Description: Sets/returns the PM Mod Meter upper limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:LIMit:UPPer 2
CALCulate:PM:LIMit:UPPer?
```

13.156 CALCulate:PM:SINad:DBR:LIMit:LOWer

Syntax: CALCulate:PM:SINad:DBR:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:DBR:LIMit:LOWer 20
CALCulate:PM:SINad:DBR:LIMit:LOWer?
```

13.157 CALCulate:PM:SINad:DBR:LIMit:UPPer

Syntax: CALCulate:PM:SINad:DBR:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:DBR:LIMit:UPPer 20
CALCulate:PM:SINad:DBR:LIMit:UPPer?
```

13.158 CALCulate:PM:SINad:LIMit:FAIL?

Syntax: CALCulate:PM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the PM SINAD Meter Pass/Fail status.

Example:

```
CALCulate:PM:SINad:LIMit:FAIL?
```

13.159 CALCulate:PM:SINad:LIMit:LOWer

Syntax: CALCulate:PM:SINad:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SINad:LIMit:LOWer 10
CALCulate:PM:SINad:LIMit:LOWer?
```

13.160 CALCulate:PM:SINad:LIMit:LOWer:STATe

Syntax: CALCulate:PM:SINad:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|2

Description: Sets/returns the SINAD Meter (dB) Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:SINad:LIMit:LOWer:STATe 10
CALCulate:PM:SINad:LIMit:LOWer:STATe?
```

13.161 CALCulate:PM:SINad:LIMit:UPPer

Syntax: CALCulate:PM:SINad:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit.

Examples:

```
CALCulate:PM:SINad:LIMit:UPPer 20
CALCulate:PM:SINad:LIMit:UPPer:STATe?
```

13.162 CALCulate:PM:SINad:LIMit:UPPer:STATe

Syntax: CALCulate:PM:SINad:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dB) Lower Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:SINad:LIMit:UPPer:STATe On
CALCulate:PM:SINad:LIMit:UPPer:STATe?
```

13.163 CALCulate:PM:SNR:LIMit:FAIL

Syntax: CALCulate:PM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail high|3-Fail Low

Description: You can query the PM Hum and Noise Meter Pass/Fail status.

Example:

```
CALCulate:PM:SNR:LIMit:FAIL?
```

13.164 CALCulate:PM:SNR:LIMit:LOWer

Syntax: CALCulate:PM:SNR:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Lower limit for Pass/Fail indicators.

Examples:

```
CALCulate:PM:SNR:LIMit:LOWer 30
CALCulate:PM:SNR:LIMit:LOWer?
```

13.165 CALCulate:PM:SNR:LIMit:LOWer:STATe

Syntax: CALCulate:PM:SNR:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|2

Description: Sets/returns the OM Hum and Noise Meter Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:PM:SNR:LIMit:LOWer:STATe On
CALCulate:PM:SNR:LIMit:LOWer:STATe?
```

13.166 CALCulate:PM:SNR:LIMit:UPPer

Syntax: CALCulate:PM:SNR:LIMit:UPPer

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the Hum and Noise Meter Upper Limit for meter Pass/Fail.

Examples:

```
CALCulate:PM:SNR:LIMit:UPPer 20
CALCulate:PM:SNR:LIMit:UPPer?
```

13.167 CALCulate:PM:SNR:LIMit:UPPer:STATe

Syntax: CALCulate:PM:SNR:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:PM:SNR:LIMit:UPPer:STATe 10
CALCulate:PM:SNR:LIMit:UPPer:STATe?
```

13.168 CALCulate:RFCOUNter:LIMit:FAIL?

Syntax: CALCulate:RFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter Pass/Fail status.

Example:

```
CALCulate:RFCOUNter:LIMit:FAIL?
```

13.169 CALCulate:RFCOUNter:LIMit:LOWer

Syntax: CALCulate:RFCOUNter:LIMit:LOWer

Parameter/Return: Float bounded by the Rec Freq and the IF bandwidth.

Description: Sets/returns the value of the RF Counter lower limit. Meter type set to counter and limit enabled.

Examples:

```
CALCulate:RFCOUNter:LIMit:LOWer 500000000
CALCulate:RFCOUNter:LIMit:LOWer?
```

13.170 CALCulate:PM:SNR:LIMit:LOWer:STATe

Syntax: CALCulate:PM:SNR:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|2

Description: Sets/returns the State of the RF Counter lower limit.

Examples:

```
CALCulate:RFCOUNter:LIMit:LOWer:STATe On
CALCulate:RFCOUNter:LIMit:LOWer:STATe?
```

13.171 CALCulate:RFCOUNter:LIMit:UPPer

Syntax: CALCulate:RFCOUNter:LIMit:UPPer

Parameter/Return: Float bounded by the rec freq and IF BW.

Description: Sets/returns the RF Counter Upper Limit for meter Pass/Fail. Meter type set to counter and limit enabled.

Examples:

```
CALCulate:RFCOUNter:LIMit:UPPer 500000000
CALCulate:RFCOUNter:LIMit:UPPer?
```

13.172 CALCulate:RFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:RFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:RFCOUNter:LIMit:UPPer:STATe On
CALCulate:PM:SNR:LIMit:UPPer:STATe?
```

13.173 CALCulate:RFERRor:LIMit:FAIL?

Syntax: CALCulate:RFERRor:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter (Hz) Pass/Fail status.

Example:

```
CALCulate:RFERRor:LIMit:FAIL?
```

13.174 SENSe:PM:RLEVel?

Syntax: SENSe:PM:RLEVel?

Parameter/Return: None

Description: You can query the reference level.

Example:

```
SENSe:PM:RLEVel?
```

13.175 SENSe:PM:SREFerence

Syntax: SENSe:PM:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:PM:SREFerence
```

13.176 CALCulate:SSB:LIMit:LOWer:STATE

Syntax: CALCulate:SSB:LIMit:LOWer

Parameter/Return: On|Off|1|0

Description: Sets/returns the SSB Lower Limit state.

Examples:

```
CALCulate:SSB:LIMit:LOWer On
CALCulate:SSB:LIMit:LOWer?
```

13.177 CALCulate:SSB:LIMit:LOWer

Syntax: ADEModulatorCALCulate:SSB:LIMit:LOWer

Parameter/Return: Float: 0% to 100%

Description: Sets/returns the Lower Level for SSB.

Examples:

```
CALCulate:SSB:LIMit:LOWer 80
CALCulate:SSB:LIMit:LOWer?
```

13.178 CALCulate:SSB:AFCOUNter:LIMit:FAIL?

Syntax: CALCulate:SSB:AFCOUNter:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:AFCOUNter:LIMit:FAIL?
```

13.179 CALCulate:SSB:AFCOUNter:LIMit:LOWer

Syntax: CALCulate:SSB:AFCOUNter:LIMit:LOWer

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer 900
CALCulate:SSB:AFCOUNter:LIMit:LOWer?
```

13.180 CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe

Syntax: CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATer

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe On
CALCulate:SSB:AFCOUNter:LIMit:LOWer:STATe?
```

13.181 CALCulate:SSB:AFCOUNter:LIMit:UPPer

Syntax: CALCulate:SSB:AFCOUNter:LIMit:Upper

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:Upper 2000
CALCulate:SSB:AFCOUNter:LIMit:UPPer?
```

13.182 CALCulate:SSB:AFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:SSB:AFCOUNter:LIMit:UPPer:STATer

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:AFCOUNter:LIMit:Upper:STATe On
CALCulate:SSB:AFCOUNter:LIMit:Upper:STATe?
```

13.183 CALCulate:SSB:DBR:LIMit:LOWer

Syntax: CALCulate:SSB:DBR:LIMit:LOWer

Parameter/Return: Float: -100.0 dBr to 100 dBr

Description: Sets/returns the SSB Mod Level Meter dBr Loer Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:DBR:LIMit:LOWer 10
CALCulate:SSB:DBR:LIMit:LOWer?
```

13.184 CALCulate:SSB:LIMit:UPPer:STATe

Syntax: CALCulate:SSB:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|2

Description: Sets/returns the SSB Upper Limit state.

Examples:

```
CALCulate:SSB:LIMit:UPPer:STATe On
CALCulate:SSB:LIMit:UPPer:STATe?
```

13.185 CALCulate:SSB:SINad:DBR:LIMit:LOWer

Syntax: CALCulate:SSB:SINad:DBR:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:DBR:LIMit:LOWer 10
CALCulate:SSB:SINad:DBR:LIMit:LOWer?
```

13.186 CALCulate:SSB:SINad:DBR:LIMit:UPPer

Syntax: CALCulate:SSB:SINad:DBR:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:DBR:LIMit:UPPer 10
CALCulate:SSB:SINad:DBR:LIMit:UPPer?
```

13.187 CALCulate:SSB:SINad:LIMit:FAIL?

Syntax: CALCulate:SSB:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:SINad:LIMit:FAIL?
```

13.188 CALCulate:SSB:SINad:LIMit:LOWer

Syntax: CALCulate:SSB:SINad:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer 10
CALCulate:SSB:SINad:LIMit:LOWer?
```

13.189 CALCulate:SSB:SINad:LIMit:LOWer:STATe

Syntax: CALCulate:SSB:SINad:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer On
CALCulate:SSB:SINad:LIMit:LOWer?
```

13.190 CALCulate:SSB:SINad:LIMit:UPPer

Syntax: CALCulate:SSB:SINad:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:UPPer 60
CALCulate:SSB:SINad:LIMit:UPPer?
```

13.191 CALCulate:SSB:SINad:LIMit:Upper:STATe

Syntax: CALCulate:SSB:SINad:LIMit:UPPER:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SINad:LIMit:UPPer:STATe On
CALCulate:SSB:SINad:LIMit:UPPer:STATe?
```

13.192 CALCulate:SSB:SNR:LIMit:FAIL?

Syntax: CALCulate:SSB:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB AF Counter Meter Pass/Fail status.

Example:

```
CALCulate:SSB:SNR:LIMit:FAIL?
```

13.193 CALCulate:SSB:SINad:LIMit:LOWer

Syntax: CALCulate:SSB:SINad:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SINad:LIMit:LOWer 30
CALCulate:SSB:SINad:LIMit:LOWer?
```

13.194 CALCulate:SSB:SNR:LIMit:LOWer:STATe

Syntax: CALCulate:SSB:SNR:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SNR:LIMit:LOWer:STATe On
CALCulate:SSB:SNR:LIMit:LOWer:STATe?
```

13.195 CALCulate:SSB:SNR:LIMit:UPPer

Syntax: CALCulate:SSB:SNR:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the Hum and Noise Meter Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:SSB:SNR:LIMit:UPPer 60
CALCulate:SSB:SNR:LIMit:UPPer?
```

13.196 CALCulate:SSB:SNR:LIMit:UPPer:STATe

Syntax: CALCulate:SSB:SNR:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:SSB:SNR:LIMit:UPPer:STATe On
CALCulate:SSB:SNR:LIMit:UPPer:STATe?
```

13.197 MEASure:AM:AFCOUNter:DATA?

Syntax: MEASure:AM:AFCOUNter:DATA?

Parameter/Return: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:AM:AFCOUNter:DATA?
```

13.198 MEASure:AM:AFCOUNter:LIVE?

Syntax: MEASure:AM:AFCOUNter:LIVE?

Parameter/Return: None

Description: You can query the live reading. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:AM:AFCOUNter:LIVE?
```

13.199 MEASure:AM:AVERage?

Syntax: MEASure:AM:AVERage?

Parameter/Return: None

Description: You can query the averaged value based on the number of averages.

Example:

```
MEASure:AM:AVERage?
```

13.200 MEASure:AM:DATA?

Syntax: MEASure:AM:DATA?

Parameter/Return: None

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:DATA?
```

13.201 MEASure:AM:DISTortion:LIVE?

Syntax: MEASure:AM:DISTortion:LIVE?

Description: You can query the live distortion reading.

Example:

```
MEASure:AM:DISTortion:LIVE?
```

13.202 MEASure:AM:LIVE?

Syntax: MEASure:AM:LIVE?

Description: You can query the live AM Mod reading

Example:

```
MEASure:AM:LIVE?
```

13.203 MEASure:AM:PEPOWer:AVERage?

Syntax: MEASure:AM:PEPOWer:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:AM:PEPOWer:AVERage?
```

13.204 MEASure:AM:PEPOWer:AVERage?

Syntax: MEASure:AM:PEPOWer:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:PEPOWer:DATA?
```

13.205 MEASure:AM:PEPOWer:LIVE?

Syntax: MEASure:AM:PEPOWer:LIVE?

Description: You can query the live AM PEP Meter reading.

Example:

```
MEASure:AM:PEPOWer:LIVE?
```

13.206 MEASure:AM:SINad:AVERage?

Syntax: MEASure:AM:SINad:AVERage?

Description: You can query the averaged value using the number of averages. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:AM:SINad:AVERage?
```

13.207 MEASure:AM:SINad:DATA?

Syntax: MEASure:AM:SINad:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:AM:SINad:DATA?
```

13.208 MEASure:AM:SINad:LIVE?

Syntax: MEASure:AM:SINad:LIVE?

Description: You can query the live SINAD Meter reading.The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:AM:SINad:LIVE?
```

13.209 MEASure:AM:SNR:AVERage?

Syntax: MEASure:AM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:AM:SNR:AVERage?
```

13.210 MEASure:AM:SNR:DATA?

Syntax: MEASure:AM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select

source between Demod/Audio In. This is a slow capture - takes approx 6.5 min to complete a trace.

Example:

```
MEASure:AM:SNR:DATA?
```

13.211 MEASure:AM:SNR:LIVE?

Syntax: MEASure:AM:SNR:LIVE?

Description: You can query the live Hum and Noise meter readings.

Example:

```
MEASure:AM:SNR:LIVE?
```

13.212 MEASure:FM:AFCOUNter:AVERage?

Syntax: MEASure:FM:AFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages. The 'Speaker' routing for Noise will select source between Demod/Audio In

Example:

```
MEASure:FM:AFCOUNter:AVERage?
```

13.213 MEASure:FM:AFCOUNter:DATA?

Syntax: MEASure:FM:AFCOUNter:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:AFCOUNter:DATA?
```

13.214 MEASure:FM:AFCOUNter:LIVE?

Syntax: MEASure:FM:AFCOUNter:LIVE?

Description: You can query the lthe live reading. The 'Speaker' routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:FM:AFCOUNter:LIVE?
```

13.215 MEASure:FM:AVERage?

Syntax: MEASure:FM:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:AVERage?
```

13.216 MEASure:FM:DATA?

Syntax: MEASure:FM:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:DATA?
```

13.217 MEASure:FM:DISTortion:AVERage?

Syntax: MEASure:FM:DISTortion:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:DISTortion:AVERage?
```

13.218 MEASure:FM:DISTortion:DATA?

Syntax: MEASure:FM:DISTortion:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:DISTortion:DATA?
```

13.219 MEASure:FM:DISTortion:LIVE?

Syntax: MEASure:FM:DISTortion:LIVE?

Description: You can query the live distortion reading.

Example:

```
MEASure:FM:DISTortion:LIVE?
```

13.220 MEASure:FM:LIVE?

Syntax: MEASure:FM:LIVE?

Description: You can query the live FM Mod reading.

Example:

```
MEASure:FM:LIVE?
```

13.221 MEASure:FM:SINad:AVERage?

Syntax: MEASure:FM:SINad:AVERage?

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:FM:SINad:AVERage?
```

13.222 MEASure:FM:SINad:DATA?

Syntax: MEASure:FM:SINad:DATA?

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:FM:SINad:DATA?
```

13.223 MEASure:FM:SINad:LIVE?

Syntax: MEASure:FM:SINad:LIVE?

Description: the live SINAD reading. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:FM:SINad:LIVE?
```

13.224 MEASure:FM:SNR:AVERage?

Syntax: MEASure:FM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:FM:SNR:AVERage?
```

13.225 MEASure:FM:SNR:DATA?

Syntax: MEASure:FM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:FM:SNR:DATA?
```

13.226 MEASure:FM:SNR:LIVE?

Syntax: MEASure:FM:SNR:LIVE?

Description: You can query the live reading.

Example:

```
MEASure:FM:SNR:LIVE?
```

13.227 MEASure:PM:AFCOUNter:AVERage?

Syntax: MEASure:PM:AFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:PM:AFCOUNter:AVERage?
```

13.228 MEASure:PM:AFCOUNter:DATA?

Syntax: MEASure:PM:AFCOUNter:DATA?

Description: Returns 100 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:AFCOUNter:DATA?
```

13.229 MEASure:PM:AVERage?

Syntax: MEASure:PM:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:AVERage?
```

13.230 MEASure:PM:DATA?

Syntax: MEASure:PM:DATA?

Description: Query returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:DATA?
```

13.231 MEASure:PM:DISTortion:AVERage?

Syntax: MEASure:PM:DISTortion:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:DISTortion:AVERage?
```

13.232 MEASure:PM:DISTortion:DATA?

Syntax: MEASure:PM:DATA?

Description: Query returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:DISTortion:DATA?
```

13.233 MEASure:PM:DISTortion:LIVE?

Syntax: MEASure:PM:DISTortion:LIVE?

Description: You can query the live PM Mod reading.

Example:

```
MEASure:PM:DISTortion:LIVE?
```

13.234 MEASure:MEASure:PM:LIVE?

Syntax: MEASure:PM:LIVE?

Description: You can query the live PM Mod reading.

Example:

```
MEASure:PM:LIVE?
```

13.235 MEASure:PM:SINad:DATA?

Syntax: MEASure:PM:SINad:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:PM:SINad:DATA?
```

13.236 MEASure:PM:SINad:LIVE?

Syntax: MEASure:PM:SINad:LIVE?

Description: You can query the live SINAD reading. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:PM:SINad:LIVE?
```

13.237 MEASure:PM:SNR:AVERage?

Syntax: MEASure:PM:SNR:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:PM:SNR:AVERage?
```

13.238 MEASure:PM:SNR:DATA?

Syntax: MEASure:PM:SNR:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:PM:SNR:DATA?
```

13.239 MEASure:PM:SNR:LIVE?

Syntax: MEASure:PM:SNR:LIVE?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace.

Example:

```
MEASure:PM:SNR:LIVE?
```

13.240 MEASure:RFCOUNter:AVERage?

Syntax: MEASure:RFCOUNter:AVERage?

Description: You can query the averaged value using the number of averages.

Example:

```
MEASure:RFCOUNter:AVERage?
```

13.241 MEASure:RFCOUNter:DATA?

Syntax: MEASure:RFCOUNter:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFCOUNter:DATA?
```

13.242 MEASure:RFCOUNter:LIVE?

Syntax: MEASure:RFCOUNter:LIVE?

Description: You can query the live reading.

Example:

```
MEASure:RFCOUNter:LIVE?
```

13.243 MEASure:RFERRor:AVERage?

Syntax: MEASure:RFERRor:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFERRor:AVERage?
```

13.244 MEASure:RFERRor:DATA?

Syntax: MEASure:RFERRor:DATA?

Description: Returns 199 CSV float values, X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFERRor:DATA?
```

13.245 MEASure:RFERRor:PPM:AVERage?

Syntax: MEASure:RFERRor:PPM:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFERRor:PPM:AVERage?
```

13.246 MEASure:RFERRor:LIVE?

Syntax: MEASure:RFERRor:LIVE?

Description: Return the live reading in Hz.

Example:

```
MEASure:RFERRor:LIVE?
```

13.247 MEASure:RFERRor:PPM:DATA?

Syntax: MEASure:RFERRor:PPM:DATA?

Description: Returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFERRor:PPM:DATA?
```

13.248 MEASure:RFERRor:PPM:LIVE?

Syntax: MEASure:RFERRor:PPM:LIVE?

Description: Return the live reading in ppm.

Example:

```
MEASure:RFERRor:PPM:LIVE?
```

13.249 MEASure:RFPOWer:AVERage?

Syntax: MEASure:RFPOWer:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:RFPOWer:AVERage?
```

13.250 MEASure:RFPOWer:DATA?

Syntax: MEASure:RFPOWer:DATA?

Description: Returns 199 CSV float values. X axis is a time plot of all incoming readings.

Example:

```
MEASure:RFPOWer:DATA?
```

13.251 MEASure:RFPOWer:LIVE?

Syntax: MEASure:RFPOWer:LIVE?

Description: Return the live RF Power reading.

Example:

```
MEASure:RFPOWer:LIVE?
```

13.252 MEASure:SQUelch?

Syntax: MEASure:SQUelch?

Description: Returns true/false value for squelch status.

Example:

```
MEASure:SQUelch?
```

13.253 MEASure:SSB:AFCOUNter:AVERage?

Syntax: MEASure:SSB:AFCOUNter:AVERage?

Description: Read the averaged value using the number of averages. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:SSB:AFCOUNter:AVERage?
```

13.254 MEASure:SSB:AFCOUNter:DATA?

Syntax: MEASure:SSB:AFCOUNter:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incomng readings.

Example:

```
MEASure:SSB:AFCOUNter:DATA?
```

13.255 MEASure:SSB:AFCOUNter:LIVE?

Syntax: MEASure:SSB:AFCOUNter:LIVE?

Description: Return the live AF Counter reading. The “Speaker” routing for Noise will select source between Demod/Audio In.

Example:

```
MEASure:SSB:AFCOUNter:LIVE?
```

13.256 MEASure:SSB:DISTortion:AVERage?

Syntax: MEASure:SSB:DISTortion:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:SSB:DISTortion:AVERage?
```

13.257 MEASure:SSB:DISTortion:DATA?

Syntax: MEASure:SSB:DISTortion:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings.

Example:

```
MEASure:SSB:DISTortion:DATA?
```

13.258 MEASure:SSB:DISTortion:LIVE?

Syntax: MEASure:SSB:DISTortion:LIVE?

Description: Return the live distortion reading.

Example:

```
MEASure:SSB:DISTortion:LIVE?
```

13.259 MEASure:SSB:SINad:AVERage?

Syntax: MEASure:SSB:SINad:AVERage?

Description: Read the averaged value using the number of averages. The “Speaker” routing for Noise to select Demod.

Example:

```
MEASure:SSB:SINad:AVERage?
```

13.260 MEASure:SSB:SINad:DATA?

Syntax: MEASure:SSB:SINad:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings.

Example:

```
MEASure:SSB:SINad:DATA?
```

13.261 MEASure:SSB:SINad:LIVE?

Syntax: MEASure:SSB:SINad:LIVE?

Description: Read the live SINAD reading. The 'Speaker' routing for Noise to select Demod.

Example:

```
MEASure:SSB:SINad:LIVE?
```

13.262 MEASure:SSB:SNR:AVERage?

Syntax: MEASure:SSB:SNR:AVERage?

Description: Read the averaged value using the number of averages.

Example:

```
MEASure:SSB:SNR:AVERage?
```

13.263 MEASure:SSB:SNR:DATA?

Syntax: MEASure:SSB:SNR:DATA?

Description: Returns 199 CSV float values. The X axis is a time plot of all incoming readings. The 'Speaker' routing for Noise will select source between Demod/Audio In. This is a slow capture that takes approx 6.5 min to complete a trace

Example:

```
MEASure:SSB:SNR:DATA?
```

13.264 MEASure:SSB:SNR:LIVE?

Syntax: MEASure:SSB:SNR:LIVE?

Description: Return the live reading.

Example:

```
MEASure:SSB:SNR:LIVE?
```

13.265 CALCulate:SSB:DBR:LIMit:UPPer

Syntax: CALCulate:SSB:DBR:LIMit:UPPer

Parameter/Return: float: -100.0 dBr to 100 dBr

Description: Sets/returns the SSB Mod Meter upper dBr limit for meter Pass/Fail.

Example:

```
CALCulate:SSB:DBR:LIMit:UPPer 10
CALCulate:SSB:DBR:LIMit:UPPer?
10
```

13.266 CALCulate:SSB:DISTortion:LIMit:FAIL?

Syntax: CALCulate:SSB:DISTortion:LIMit:FAIL

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB Distortion Meter Pass/Fail status.

Example:

```
CALCulate:SSB:DISTortion:LIMit:FAIL?
```

13.267 CALCulate:SSB:DISTortion:LIMit:LOWer

Syntax: CALCulate:SSB:DISTortion:LIMit:LOWer

Parameter/Return:0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:LOWer 10
CALCulate:SSB:DISTortion:LIMit:LOWer?
```

13.268 CALCulate:SSB:DISTortion:LIMit:LOWer:STATe

Syntax: CALCulate:SSB:DISTortion:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:LOWer:STATe On
CALCulate:SSB:DISTortion:LIMit:LOWer:STATe?
```

13.269 CALCulate:SSB:DISTortion:LIMit:UPPer

Syntax: CALCulate:SSB:DISTortion:LIMit:UPPer

Parameter/Return:0.0% to 100.0%

Description: Sets/returns the Distortion Upper Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:UPPer 10
CALCulate:SSB:DISTortion:LIMit:UPPer?
```

13.270 CALCulate:SSB:DISTortion:LIMit:UPper:STATe

Syntax: CALCulate:SSB:DISTortion:LIMit:Upper:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Examples:

```
CALCulate:SSB:DISTortion:LIMit:UPPer:STATe On
CALCulate:SSB:DISTortion:LIMit:UPPer:STATe?
```

13.271 CALCulate:SSB:LIMit:FAIL

Syntax: CALCulate:SSB:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the SSB Deviatino Meter Pass/Fail Status.

Example:

```
CALCulate:SSB:LIMit:FAIL?
```

13.272 SENSe:AM:AFCOUNter:AVERage:COUNt

Syntax: SENSe:AM:AFCOUNter:AVERage:COUNt

Parameter/Return: 1 - 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:AM:AFCOUNter:AVERage:COUNt 10
SENSe:AM:AFCOUNter:AVERage:COUNt?
```

13.273 SENSe:AM:AFCOUNter:READing:TYPE

Syntax: SENSe:AM:AFCOUNter:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:AM:AFCOUNter:READing:TYPE AVG
SENSe:AM:AFCOUNter:READing:TYPE?
```

13.274 SENSe:AM:AFCOUNter:RESet

Syntax: SENSe:AM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use demod source.

Example:

```
SENSe:AM:AFCOUNter:RESet
```

13.275 SENSe:AM:AFCOUNter:SCALe

Syntax: SENSe:AM:AFCOUNter:SCALe

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Examples:

```
SENSe:AM:AFCOUNter:SCALe '20 kHz'
SENSe:AM:AFCOUNter:SCALe?
```

13.276 SENSe:SSB:RLEVel

Syntax: SENSe:SSB:RLEVel

Parameter/Return: None

Description: Returns the reference level.

Example:

```
SENSe:SSB:RLEVel
```

13.277 SENSe:SSB:SCALe:ADEModulator

Syntax: SENSe:SSB:SCALe:ADEModulator

Parameter/Return: Auto, 1%, 2%, 5%, 10%, 20%, 50%, 100% | -100 dB to 60 dB in dBr mode

Description: Sets/returns the meter scale. Auto will change the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:SCALe:ADEModulator ‘10%”
SENSe:SSB:SCALe:ADEModulator?
```

13.278 SENSe:SSB:SINad:AVERage:COUNt

Syntax: SENSe:SSB:SINad:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:SSB:SINad:AVERage:COUNt 10
SENSe:SSB:SINad:AVERage:COUNt?
```

13.279 SENSe:SSB:SINad:NOISe:TYPE

Syntax: SENSe:SSB:SINad:NOISe:TYPE

Parameter/Return: sinad | distortion | humNoise

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Examples:

```
SENSe:SSB:SINad:NOISe:TYPE snr
SENSe:SSB:SINad:NOISe:TYPE?
```

13.280 SENSe:SSB:SINad:NOTCh:BANDwidth

Syntax: SENSe:SSB:SINad:NOTCh:BANDwidth

Parameter/Return: 10 Hz to 200 Hz

Description: Sets/returns the distortion notch filter bandwidth.

Examples:

```
SENSe:SSB:SINad:NOTCh:BANDwidth 100
SENSe:SSB:SINad:NOTCh:BANDwidth?
```

13.281 SENSe:SSB:SINad:NOTCh:FREQuency

Syntax: SENSe:SSB:SINad:NOTCh:FREQuency

Parameter/Return: 50 Hz ti 40000 Hz

Description: Sets/returns the distortion notch filter frequency.

Examples:

```
SENSe:SSB:SINad:NOTCh:FREQuency 100
SENSe:SSB:SINad:NOTCh:FREQuency?
```

13.282 SENSe:SSB:SINad:READing:TYPE

Syntax: SENSe:SSB:SINad:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:SINad:READing:TYPE AVG
SENSe:SSB:SINad:READing:TYPE?
```

13.283 SENSe:SSB:SINad:REFerence:LEVel?

Syntax: SENSe:SSB:SINad:REFerence:LEVel?

Parameter/Return: None

Description: Sets the 0 dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:SSB:SINad:REFerence:LEVel?
```

13.284 SENSe:SSB:SINad:RESet

Syntax: SENSe:SSB:SINad:RESet

Parameter/Return: None

Description: Resets the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the demod input.

Example:

```
SENSe:SSB:SINad:RESet
```

13.285 SENSe:SSB:SINad:SCALe

Syntax: SENSe:SSB:SINad:SCALe

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:SSB:SINad:SCALe "30 dB"
SENSe:SSB:SINad:SCALe?
```

13.286 SENSe:SSB:SINad:SREFerence

Syntax: SENSe:SSB:SINad:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:SSB:SINad:SREFerence
```

13.287 SENSe:SSB:SINad:UNIT

Syntax: SENSe:SSB:SINad:UNIT

Parameter/Return: dB | dBr

Description: Sets/returns the meter units.

Examples:

```
SENSe:SSB:SINad:UNIT dBr
SENSe:SSB:SINad:UNIT?
```

13.288 SENSe:SSB:SNR:AVERage:COUNt

Syntax: SENSe:SSB:SNR:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Examples:

```
SENSe:SSB:SNR:AVERage:COUNt 10
SENSe:SSB:SNR:AVERage:COUNt?
```

13.289 SENSe:SSB:SNR:DELay

Syntax: SENSe:SSB:SNR:AVERage:COUNt

Parameter/Return: 1.0 to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type to Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Examples:

```
SENSe:SSB:SNR:DELay 2
SENSe:SSB:SNR:DELay?
```

13.290 SENSe:SSB:SNR:NOTCh:BANDwidth

Syntax: SENSe:SSB:SNR:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch bandwidth in Hz.

Examples:

```
SENSe:SSB:SNR:NOTCh:BANDwidth 100
SENSe:SSB:SNR:NOTCh:BANDwidth?
```

13.291 SENSe:SSB:SNR:NOTCh:FREQuency

Syntax: SENSe:SSB:SNR:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS. Set the Notch frequency in Hz.

Examples:

```
SENSe:SSB:SNR:NOTCh:FREQuency 300
SENSe:SSB:SNR:NOTCh:FREQuency?
```

13.292 SENSe:SSB:SNR:NOTCh:STATe

Syntax: SENSe:SSB:SNR:NOTCh:STATe?

Parameter/Return: 50 Hz to 40000 Hz

Description: Used to 'notch out' an interfering signal such as DCS or CTCSS.

Examples:

```
SENSe:SSB:SNR:NOTCh:STATe 50
SENSe:SSB:SNR:NOTCh:STATe?
50
```

13.293 SENSe:SSB:SNR:READing:TYPE

Syntax: SENSe:SSB:SNR:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The “Speaker” routing for Noise selects between Demod/Audio In.

Examples:

```
SENSe:SSB:SNR:READing:TYPE avg
SENSe:SSB:SNR:READing:TYPE?
```

13.294 SENSe:SSB:SNR:RESet

Syntax: SENSe:SSB:SNR:RESet

Parameter/Return: None

Description: Resets the Noise Meter plot. This action applies to SINAD, Distortion, and SNR.

Example:

```
SENSe:SSB:SNR:RESet
```

13.295 SENSe:SSB:SNR:SCALe

Syntax: SENSe:SSB:SNR:SCALe

Parameter/Return: None

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:SNR:SCALe 40
SENSe:SSB:SNR:SCALe?
```

13.296 SENSe:SSB:SNR:SNR:TYPE

Syntax: SENSe:SSB:SNR:SNR:TYPE

Parameter/Return: NORMAL |HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point. Operate the generator manually.

Examples:

```
SENSe:SSB:SNR:SNR:TYPE NORMAL
SENSe:SSB:SNR:SNR:TYPE?
```

13.297 SENSe:SSB:SNR:SREFerence

Syntax: SENSe:SSB:SNR:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value. Set Noise Units to dBr to see this control.

Example:

```
SENSe:SSB:SNR:SREFerence
```

13.298 SENSe:SSB:SREFerence

Syntax: SENSe:SSB:SREFerence

Parameter/Return: None

Description: Sets the reference in dBr mode.

Example:

```
SENSe:SSB:SREFerence
```

13.299 SENSe:FM:RESet

Syntax: SENSe:FM:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:FM:RESet
```

13.300 SENSe:AM:RESet

Syntax: SENSe:AM:RESet

Parameter/Return: None

Description: Clears the Mod Meter plot.

Example:

```
SENSe:AM:RESet
```

13.301 SENSe:PM:RESet

Syntax: SENSe:PM:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:PM:RESet
```

13.302 SENSe:SSB:RESet

Syntax: SENSe:SSB:RESet

Parameter/Return: None

Description: Clears the Mod Meter Plot.

Example:

```
SENSe:SSB:RESet
```

13.303 SENSe:SQUelch:LEVel

Syntax: SENSe:SQUelch:LEVel

Parameter/Return: -150 dBm to 50 dBm

Description: Sets/returns the squelch level.

Examples:

```
SENSe:SQUelch:LEVel
SENSe:SQUelch:LEVel
```

13.304 SENSe:SSB:AFCOUNter:AVERage:COUNt

Syntax: SENSe:SSB:AFCOUNter:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:SSB:AFCOUNter:AVERage:COUNt 10
SENSe:SSB:AFCOUNter:AVERage:COUNt?
```

13.305 SENSe:SSB:AFCOUNter:READing:TYPE

Syntax: SENSe:SSB:AFCOUNter:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:AFCOUNter:READing:TYPE AVG
SENSe:SSB:AFCOUNter:READing:TYPE?
```

13.306 SENSe:SSB:AFCOUNter:RESet

Syntax: SENSe:SSB:AFCOUNter:READing:TYPE

Parameter/Return: None

Description: Restarts the AF Counter trace data capture. Need to use Demod source.

Examples:

```
SENSe:SSB:AFCOUNter:RESet AVG
SENSe:SSB:AFCOUNter:RESet?
```

13.307 SENSe:SSB:AFCOUNter:SCALe

Syntax: SENSe:SSB:AFCOUNter:SCALe

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:SSB:AFCOUNter:SCALe AVG
SENSe:SSB:AFCOUNter:SCALe?
```

13.308 SENSe:SSB:AVERage:COUNt

Syntax: SENSe:SSB:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Control the number of reading values used to compute the average reading. Need Reading Average active to see input dialog. Ensure that 'Speaker' routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:AVERage:COUNt 10
SENSe:SSB:AVERage:COUNt?
```

13.309 SENSe:SSB:DISTortion:NOTCh:BANDwidth

Syntax: SENSe:SSB:DISTortion:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:DISTortion:NOTCh:BANDwidth 10
SENSe:SSB:DISTortion:NOTCh:BANDwidth?
```

13.310 SENSe:SSB:DISTortion:NOTCh:FREQuency

Syntax: SENSe:SSB:DISTortion:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the distortion notch filter frequenct. Ensure that “Speaker” routing for Noise is set to Demod.

Examples:

```
SENSe:SSB:DISTortion:NOTCh:FREQuency 1500
SENSe:SSB:DISTortion:NOTCh:FREQuency?
```

13.311 SENSe:SSB:DISTortion:READing:TYPE

Syntax: SENSe:SSB:DISTortion:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:SSB:DISTortion:READing:TYPE AVG
SENSe:SSB:DISTortion:READing:TYPE?
```

13.312 SENSe:SSB:DISTortion:RESet

Syntax: SENSe:SSB:DISTortion:RESet

Parameter/Return: None

Description: Clears the Noise Meter plot. This action applies to SINAD, Distortion, and SNR for the Demod input.

Example:

```
SENSe:SSB:DISTortion:RESet
```

13.313 SENSe:SSB:DISTortion:SCALe

Syntax: SENSe:SSB:DISTortion:SCALe

Parameter/Return: Auto | 100 | 50 | 20 | 10

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Demod

Examples:

```
SENSe:SSB:DISTortion:SCALe
SENSe:SSB:DISTortion:SCALe
```

13.314 SENSe:AM:UNIT

Syntax: SENSe:AM:UNIT

Parameter/Return: % | dBr

Description: You can query or set the AM units.

Examples:

```
SENSe:AM:UNIT dbr
SENSe:AM:UNIT?
```

13.315 SENSe:FM:AFCOUNter:AVERage:COUNt

Syntax: SENSe:FM:AFCOUNter:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:FM:AFCOUNter:AVERage:COUNt 10
SENSe:FM:AFCOUNter:AVERage:COUNt?
```

13.316 SENSe:FM:AFCOUNter:READing:TYPE

Syntax: SENSe:FM:AFCOUNter:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics. The “Speaker” routing for Noise will select between Demod/Audio In.

Examples:

```
SENSe:FM:AFCOUNter:READing:TYPE AVG
SENSe:FM:AFCOUNter:READing:TYPE?
```

13.317 SENSe:FM:AFCOUNter:SCALe

Syntax: SENSe:FM:AFCOUNter:SCALe

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: You can change or query the Meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:FM:AFCOUNter:SCALe "20 kHz"
SENSe:FM:AFCOUNter:SCALe?
```

13.318 SENSe:FM:AFCOUNter:RESet

Syntax: SENSe:FM:AFCOUNter:RESet

Parameter/Return: None

Description: Restart the AF Counter trace data capture. Need to use Demod source.

Example:

```
SENSe:FM:AFCOUNter:RESet
```

13.319 SENSe:PM:UNIT

Syntax: SENSe:PM:UNIT

Parameter/Return: rad | dBr

Description: Sets/returns the PM units.

Examples:

```
SENSe:PM:UNIT rad
SENSe:PM:UNIT?
```

13.320 SENSe:SSB:UNIT

Syntax: SENSe:SSB:UNIT

Parameter/Return: % | Br

Description: Sets/returns the SSB units.

Examples:

```
SENSe:SSB:UNIT %
SENSe:SSB:UNIT?
```

13.321 SENSe:TYPE

Syntax: SENSe:TYPE

Parameter/Return: AM | FM | PM | FM50us | FM75us | FM750us | SSB

Description: Sets/returns the receive demodulator for the desired type. Interacts with Mod Level Type.

Examples:

```
SENSe:TYPE AM
SENSe:TYPE?
```

13.322 SENSe:RFERRor:UNIT

Syntax: SENSe:RFERRor:UNIT

Parameter/Return: ppm | Hz

Description: Sets/returns the RF Error Meter units. For the RF Error meter, allow Hz or ppm units. ppm is based on the RF Receiver frequency in use.

Examples:

```
SENSe:RFERRor:UNIT ppm
SENSe:RFERRor:UNIT?
```

13.323 SENSe:RFPOWer:AVERage:COUNt

Syntax: SENSe:RFPOWer:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see input dialog..

Examples:

```
SENSe:RFPOWer:AVERage:COUNt 10
SENSe:RFPOWer:AVERage:COUNt?
```

13.324 SENSe:RFERRor:SCALe

Syntax: SENSe:RFERRor:SCALe

Parameter/Return: Auto | 10 kHz | 20 kHz | 50 kHz | 100 kHz | 200 kHz | 500 kHz | 1 MHz | 2 MHz | 5 MHz

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFERRor:SCALe Auto
SENSe:RFERRor:SCALe?
```

13.325 SENSe:RFERRor:SCALe:PPM

Syntax: SENSe:RFERRor:SCALe:PPM

Parameter/Return: Auto | 1 ppm | 2 ppm | 5 ppm | 10 ppm | 20 ppm | 50 ppm | 100 ppm

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFERRor:SCALe:PPM
```

13.326 SENSe:RFERRor:AVERage:COUNt

Syntax: SENSe:RFERRor:AVERage:COUNt

Parameter/Return: 1 to 100

Description: You can set or configure the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Examples:

```
SENSe:RFERRor:AVERage:COUNt 10
SENSe:RFERRor:AVERage:COUNt?
```

13.327 CALCulate:RFERRor:LIMit:LOWer

Syntax: CALCulate:RFERRor:LIMit:LOWer

Parameter/Return: Float 0 Hz to 150000 Hz

Description: RF Error Meter Lower Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:LIMit:LOWer 10000
CALCulate:RFERRor:LIMit:LOWer?
```

13.328 CALCulate:RFERRor:LIMit:LOWer:STATe

Syntax: CALCulate:RFERRor:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:RFERRor:LIMit:LOWer:STATe On
CALCulate:RFERRor:LIMit:LOWer:STATe?
```

13.329 CALCulate:RFERRor:LIMit:UPPer:STATe

Syntax: CALCulate:RFERRor:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value.

Example:

```
CALCulate:RFERRor:LIMit:UPPer:STATe
```

13.330 CALCulate:RFERRor:LIMit:UPPer

Syntax: CALCulate:RFERRor:LIMit:UPPer

Parameter/Return: Float 0 Hz to 150000 Hz

Description: RF Error Meter upper limit for meter Pass/Fail. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:LIMit:UPPer 10000
CALCulate:RFERRor:LIMit:UPPer?
```

13.331 CALCulate:RFERRor:LIMit:UPPer:STATe

Syntax: CALCulate:RFERRor:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn this feature on before

Examples:

```
CALCulate:RFERRor:LIMit:UPPer:STATe On
CALCulate:RFERRor:LIMit:UPPer:STATe?
```

13.332 CALCulate:RFERRor:PPM:LIMit:FAIL

Syntax: CALCulate:RFERRor:PPM:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Error Meter (ppm) Pass/Fail Status

Example:

```
CALCulate:RFERRor:PPM:LIMit:FAIL?
```

13.333 CALCulate:RFERRor:PPM:LIMit:LOWer

Syntax: CALCulate:RFERRor:PPM:LIMit:LOWer

Parameter/Return: -141.5 to 141.5

Description: Sets/returns the RF Error Meter Lower Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:PPM:LIMit:LOWer 12
CALCulate:RFERRor:PPM:LIMit:LOWer?
```

13.334 CALCulate:RFERRor:PPM:LIMit:UPPer

Syntax: CALCulate:RFERRor:PPM:LIMit:UPPer

Parameter/Return: -141.5 to 141.5

Description: Sets/returns the RF Error Meter Upper Limit for Pass/Fail indicators. Use this command for Absolute Freq Counter.

Examples:

```
CALCulate:RFERRor:PPM:LIMit:UPPer 12
CALCulate:RFERRor:PPM:LIMit:UPPer?
```

13.335 SENSe:RFERRor:ERRor:TYPE

Syntax: SENSe:RFERRor:ERRor:TYPE

Parameter/Return: Error | Counter

Description: You can change or query the meter from relative to absolute.

Examples:

```
SENSe:RFERRor:ERRor:TYPE Error
SENSe:RFERRor:ERRor:TYPE?
```

13.336 SENSe:RFERRor:READing:TYPE

Syntax: SENSe:RFERRor:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: You can change or query the reading detector characteristics.

Example:

```
SENSe:RFERRor:READing:TYPE
```

13.337 SENSe:RFERRor:RESet

Syntax: SENSe:RFERRor:RESet

Parameter/Return: None

Description: Restart the RF Error trace data capture.

Example:

```
SENSe:RFERRor:RESet
```

13.338 SENSe:RFERRor:SREFerence

Syntax: SENSe:RFERRor:SREFerence

Parameter/Return: None

Description: Copies the live reading into the Reference Value.

Example:

```
SENSe:RFERRor:SREFerence
```

13.339 SENSe:RFCOUNter:SCALe

Syntax: SENSe:RFCOUNter:SCALe

Parameter/Return: string: Auto | 5000 MHz to 5 kHz in 5, 2, 1 sequence

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFCOUNter:SCALe Auto
SENSe:RFCOUNter:SCALe?
```

13.340 SENSe:RFCOUNter:RESet

Syntax: SENSe:RFCOUNter:RESet

Parameter/Return: None

Description: Restart the RF Error trace data capture.

Example:

```
SENSe:RFCOUNter:RESet
```

13.341 CALCulate:AM:PEPOWer:LIMit:LOWer:STATE

Syntax: CALCulate:AM:PEPOWer:LIMit:LOWer:STATE

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value. RF Power set to PEP. Receiver demod needs to be set to AM. RF power set to PEP.

Examples:

```
CALCulate:AM:PEPOWer:LIMit:LOWer:STATE On
CALCulate:AM:PEPOWer:LIMit:LOWer:STATe ?
```

13.342 CALCulate:AM:PEPOWer:LIMit:LOWer

Syntax: CALCulate:AM:PEPOWer:LIMit:LOWer

Parameter/Return: float: -120 dBm to 60 dBm

Description: Sets/returns Lower limit for Pass/Fail indicators. Value depends on unit selection and scale. Receiver demod needs to be set to AM. RF power set to PEP.

Example:

```
CALCulate:AM:PEPOWer:LIMit:LOWer
```

13.343 CALCulate:AM:PEPOWer:LIMit:UPPer:STATe

Syntax: CALCulate:AM:PEPOWer:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the upper limit for Pass/Fail indicators. Values depend on unit selection and scale. AM PEP upper limit for meter Pass/Fail. Receiver demod needs to be set to AM. RF Power set to PEP.

Example:

```
CALCulate:AM:PEPOWer:LIMit:UPPer:STATe
```

13.344 CALCulate:AM:SINad:DBR:LIMit:LOWer

Syntax: CALCulate:AM:SINad:DBR:LIMit:LOWer

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dBr) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:DBR:LIMit:LOWer On
CALCulate:AM:SINad:DBR:LIMit:LOWer ?
```

13.345 CALCulate:AM:SINad:DBR:LIMit:UPPer

Syntax: CALCulate:AM:SINad:DBR:LIMit:UPPer

Parameter/Return: On|Off|1|0

Description: Sets/returns the SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:DBR:LIMit:UPPer On
CALCulate:AM:SINad:DBR:LIMit:UPPer?
```

13.346 CALCulate:AM:SINad:LIMit:FAIL

Syntax: CALCulate:AM:SINad:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the AM SINAD meter Pass/Fail status.

Example:

```
CALCulate:AM:SINad:LIMit:FAIL?
```

13.347 CALCulate:AM:SINad:LIMit:LOWer

Syntax: CALCulate:AM:SINad:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:LIMit:LOWer 10
CALCulate:AM:SINad:LIMit:LOWer?
```

13.348 CALCulate:AM:SINad:LIMit:LOWer

Syntax: CALCulate:AM:SINad:LIMit:LOWer

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting the lower limit value.

Examples:

```
CALCulate:AM:SINad:LIMit:LOWer On
CALCulate:AM:SINad:LIMit:LOWer?
```

13.349 CALCulate:AM:SINad:LIMit:UPPer

Syntax: CALCulate:AM:SINad:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Examples:

```
CALCulate:AM:SINad:LIMit:UPPer 60
CALCulate:AM:SINad:LIMit:UPPer?
```

13.350 CALCulate:AM:SINad:LIMit:UPPer:STATe

Syntax: CALCulate:AM:SINad:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Upper Limit state. Turn on this feature before setting upper limit value.

Examples:

```
CALCulate:AM:SINad:LIMit:UPPer:STATe On
CALCulate:AM:SINad:LIMit:UPPer:STATe?
```

13.351 CALCulate:AM:SNR:LIMit:FAIL

Syntax: CALCulate:AM:SNR:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3- Fail Low

Description: You can query the AM Hum and Noise Meter Pass/Fail status.

Examples:

```
CALCulate:AM:SINad:LIMit:UPPer:STATe On
CALCulate:AM:SINad:LIMit:UPPer:STATe?
```

13.352 CALCulate:AM:SNR:LIMit:LOWer

Syntax: CALCulate:AM:SNR:LIMit:LOWer

Parameter/Return: -100.0 dB to 100.0 dB

Description: You can query the AM Hum and Noise Meter Pass/Fail status.

Examples:

```
CALCulate:AM:SNR:LIMit:LOWer 30
CALCulate:AM:SNR:LIMit:LOWer?
```

13.353 CALCulate:AM:SNR:LIMit:LOWer:STATe

Syntax: CALCulate:AM:SNR:LIMit:LOWer:STATe

Parameter/Return: Off|On|1|0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:AM:SNR:LIMit:LOWer:STATe On
CALCulate:AM:SNR:LIMit:LOWer:STATe?
```

13.354 CALCulate:AM:SNR:LIMit:UPPer

Syntax: CALCulate:AM:SNR:LIMit:UPPer

Parameter/Return: -100 dBr to 100 dBr

Description: Sets/returns the Hum and Noise upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:SNR:LIMit:UPPer 30
CALCulate:AM:SNR:LIMit:UPPer?
```

13.355 CALCulate:AM:SNR:LIMit:UPPer:STATe

Syntax: CALCulate:AM:SNR:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Hum and Noise upper limit for meter Pass/Fail.

Examples:

```
CALCulate:AM:SNR:LIMit:UPPer:STATe On
CALCulate:AM:SNR:LIMit:UPPer:STATe?
```

13.356 SENSe:AM:PEPOWer:UNIT

Syntax: SENSe:AM:PEPOWer:UNIT

Parameter/Return: dBm | W | dBW | dBr | V | dBuV

Description: Sets/returns the Upper Limit state. Turn this feature on before setting upper limit value. Receiver demod needs to be set to AM. RF power is set to PEP.

Example:

```
SENSe:AM:PEPOWer:UNIT
```

13.357 CALCulate:AM:dBr:LIMit:UPPer

Syntax: CALCulate:AM:dBr:LIMit:UPPer

Parameter/Return: -100 to 100 dB

Description: Sets/returns the AM dBr upper limit.

Examples:

```
CALCulate:AM:dBr:LIMit:UPPer
CALCulate:AM:dBr:LIMit:UPPer?
```

13.358 CALCulate:FM:AFCOUNter:LIMit:FAIL

Syntax: CALCulate:FM:AFCOUNter:LIMit:FAIL

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the FM AF Counter Meter Pass/Fail Status.

Example:

```
CALCulate:FM:AFCOUNter:LIMit:FAIL?
```

13.359 CALCulate:FM:AFCOUNter:LIMit:LOWer

Syntax: CALCulate:FM:AFCOUNter:LIMit:LOWer

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the FM AF Counter Meter Lower Limit.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:LOWer 900
CALCulate:FM:AFCOUNter:LIMit:LOWer?
```

13.360 CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe

Syntax: CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: You can query or set the Lower Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe On
CALCulate:FM:AFCOUNter:LIMit:LOWer:STATe?
```

13.361 CALCulate:FM:AFCOUNter:LIMit:UPPer

Syntax: CALCulate:FM:AFCOUNter:LIMit:UPPer

Parameter/Return: 0 Hz to 40000 Hz

Description: Sets/returns the FM AF Counter Meter Lower Limit.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:Upper 9000
CALCulate:FM:AFCOUNter:LIMit:UPPer?
```

13.362 CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On|Off|1|0

Description: You can query or set the Upper Limit state. Turn this feature on before setting lower limit value.

Examples:

```
CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe On
CALCulate:FM:AFCOUNter:LIMit:UPPer:STATe?
```

13.363 SENSe:RFPOWer:UNIT

Syntax: SENSe:RFPOWer:UNIT

Parameter/Return: dBm | W | dBW | dBr | V | dBuV

Description: Sets/returns the meter units.

Examples:

```
SENSe:RFPOWer:UNIT dBm
SENSe:RFPOWer:UNIT?
```

13.364 SENSe:RFPOWer:SCALe

Syntax: SENSe:RFPOWer:SCALe

Parameter/Return: Auto | 60 dBm | 50 dBm | 40 dBm ... -80 dBm | -90 dBm | -100 dBm

Description: Sets/returns the meter scale to center readings. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe "40 dBm"
SENSe:RFPOWer:SCALe?
```

13.365 SENSe:RFPOWer:SCALe:WATT

Syntax: SENSe:RFPOWer:SCALe:WATT

Parameter/Return: Auto|1 pW - 200 W in 1,2,5 sequence

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFPOWer:SCALe:WATT
```

13.366 SENSe:RFPOWer:SCALe:DBW

Syntax: SENSe:RFPOWer:SCALe:DBW

Parameter/Return: Auto|-90 dBw to 60 dBw in 10 dB steps

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBW "50 dBw"
SENSe:RFPOWer:SCALe:DBW?
```

13.367 SENSe:RFPOWer:SCALe:VOLTs

Syntax: SENSe:RFPOWer:SCALe:VOLTs

Parameter/Return: Auto | 200 V | 100 V | 50 V ... 5 pV | 2 pV | 1 pV

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:VOLTs "50 V"
SENSe:RFPOWer:SCALe:VOLTs?
```

13.368 SENSe:RFPOWer:SCALe:WATTs

Syntax: SENSe:RFPOWer:SCALe:WATTs

Parameter/Return: Auto | 200 W | 100 W | 50 W ... 5 pW | 2 pW | 1 pW

Description: Sets/returns the meter scale. Auto changes the scale to keep the measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:WATTs "50 V"
SENSe:RFPOWer:SCALe:WATTs?
```

13.369 SENSe:RFPOWer:SCALe:DBR

Syntax: SENSe:RFPOWer:SCALe:DBR

Parameter/Return: Auto | 200 dBr | 100 dBr | 50 dBr ... -80 dBr | -90 dBr | -100 dBr

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBR "50 dBr"
SENSe:RFPOWer:SCALe:DBR?
```

13.370 SENSe:RFPOWer:SCALe:DBUV

Syntax: SENSe:RFPOWer:SCALe:DBUV

Parameter/Return: Auto | 150 dBuV | 140 dBuV | 130 dBuV ... -80 dBuV | -90 dBuV | -100 dBuV

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Examples:

```
SENSe:RFPOWer:SCALe:DBUV "130 dBuV"
SENSe:RFPOWer:SCALe:DBUV?
```

13.371 SENSe:RFPOWer:SCALe:VOLT

Syntax: SENSe:RFPOWer:SCALe:VOLT

Parameter/Return: Auto|1 pV to 200 V in 1,2,5 sequence

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:RFPOWer:SCALe:VOLT
```

13.372 CALCulate:RFPOWer:LIMit:LOWer:STATe

Syntax: CALCulate:RFPOWer:LIMit:LOWer:STATe

Parameter/Return: On|Off|1|0

Description: Sets/returns the Lower Limit State. Turn this feature on before setting the Lower Limit value.

Examples:

```
CALCulate:RFPOWer:LIMit:LOWer:STATe On
CALCulate:RFPOWer:LIMit:LOWer:STATe?
```

13.373 CALCulate:RFPOWer:LIMit:LOWer

Syntax: CALCulate:RFPOWer:LIMit:LOWer

Parameter/Return: Float: -130 dBm to 60 dBm

Description: You can set the Rec dBm Power Reading Lower Limit for Pass/Fail indocators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:LIMit:LOWer -30
CALCulate:RFPOWer:LIMit:LOWer?
```

13.374 CALCulate:RFPOWer:DBW:LIMit:LOWer

Syntax: CALCulate:RFPOWer:DBW:LIMit:LOWer

Parameter/Return: -160 dBW to 30dBW

Description: Sets/returns the Rec dBW Power Reading Lower Limit for Pass/Fail indicators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBW:LIMit:LOWer -30
CALCulate:RFPOWer:DBW:LIMit:LOWer?
```

13.375 CALCulate:RFPOWer:DBR:LIMit:LOWer

Syntax: CALCulate:RFPOWer:DBR:LIMit:LOWer

Parameter/Return: float: -100 dB to 100 dB

Description: Rec dBr power reading Lower Limit for Pass/Fail indicators. Turn on the Lower Limit State to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBR:LIMit:LOWer 10
CALCulate:RFPOWer:DBR:LIMit:LOWer?
```

13.376 CALCulate:RFPOWer:DBUV:LIMit:LOWer

Syntax: CALCulate:RFPOWer:DBUV:LIMit:LOWer

Parameter/Return: Float: -23 dBuV to 1676 dBuV

Description: Rec dBuV power reading Lower Limit for Pass/Fail indicators. Need to have the lower limit state turned on to view this parameter.

Examples:

```
CALCulate:RFPOWer:DBUV:LIMit:LOWer -30
CALCulate:RFPOWer:DBUV:LIMit:LOWer?
```

13.377 CALCulate:RFPOWer:LIMit:FAIL

Syntax: CALCulate:RFPOWer:LIMit:FAIL?

Parameter/Return: 0-Off|1-Pass|2-Fail High|3-Fail Low

Description: You can query the RF Power Meter Pass/Fail Status.

Example:

```
CALCulate:RFPOWer:LIMit:FAIL?
```

13.378 CALCulate:RFPOWer:VOLT:LIMit:LOWer

Syntax: CALCulate:RFPOWer:VOLT:LIMit:LOWer

Parameter/Return: Float: 0 V to 223.6 V

Description: Sets/returns the Rec Volt power reading Lower Limit for Pass/Fail indocators. Need to have the lower limit state turned on to view this paramter.

Examples:

```
CALCulate:RFPOWer:VOLT:LIMit:LOWer 30
CALCulate:RFPOWer:VOLT:LIMit:LOWer?
```

13.379 CALCulate:RFPOWer:LIMit:UPPer:STATe

Syntax: CALCulate:RFPOWer:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Upper Limit state. Turn this feature on before setting the upper limit value.

Examples:

```
CALCulate:RFPOWer:LIMit:UPPer:STATe On
CALCulate:RFPOWer:LIMit:UPPer:STATe?
```

13.380 CALCulate:RFPOWer:LIMit:UPPer

Syntax: CALCulate:RFPOWer:LIMit:UPPer

Parameter/Return: Float: -130 dBm to 60 dBm

Description: Sets/returns the RF Power Meter upper limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:LIMit:UPPer
```

13.381 CALCulate:RFPOWer:DBW:LIMit:UPPer

Syntax: CALCulate:RFPOWer:DBW:LIMit:UPPer

Parameter/Return: Float: -160 dBuW to 30 dBuW

Description: Sets/returns the RF Power Meter dBW upper limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:DBW:LIMit:UPPer
```

13.382 CALCulate:RFPOWer:DBR:LIMit:UPPer

Syntax: CALCulate:RFPOWer:DBR:LIMit:UPPer

Parameter/Return: Float -100 dB to 100 dB

Description: Sets/returns the RF Power Meter dBr Upper Limit for meter Pass/Fail.

Example:

```
CALCulate:RFPOWer:DBR:LIMit:UPPer 30
```

13.383 CALCulate:RFPOWer:DBUV:LIMit:UPPer

Syntax: CALCulate:RFPOWer:DBUV:LIMit:UPPer

Parameter/Return: Float: -23 dBuV to 167 dBuV

Description: Sets/returns the RF Power Meter dBuV upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:DBUV:LIMit:UPPer 30
CALCulate:RFPOWer:DBUV:LIMit:UPPer?
```

13.384 CALCulate:RFPOWer:WATTs:LIMit:LOWer

Syntax: CALCulate:RFPOWer:WATTs:LIMit:LOWer

Parameter/Return: Float: 1e-16 W to 1000 W

Description: Sets/returns the RF Power Meter dBuV lower limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:WATTs:LIMit:LOWer 0.001
CALCulate:RFPOWer:WATTs:LIMit:LOWer?
```

13.385 CALCulate:RFPOWer:WATTs:LIMit:UPPer

Syntax: CALCulate:RFPOWer:WATTs:LIMit:UPPer

Parameter/Return: Float: 1e-16 W to 1000 W

Description: Sets/returns the RF Power Meter dBuV upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:WATTs:LIMit:UPPer 30
CALCulate:RFPOWer:WATTs:LIMit:UPPer?
```

13.386 CALCulate:RFPOWer:VOLT:LIMit:UPPer

Syntax: CALCulate:RFPOWer:VOLT:LIMit:UPPer

Parameter/Return: Float 0 V to 223.6 V

Description: You can query or set the RF Power Meter Volt upper limit for meter Pass/Fail.

Examples:

```
CALCulate:RFPOWer:VOLT:LIMit:UPPer 30
CALCulate:RFPOWer:VOLT:LIMit:UPPer?
```

13.387 SENSe:RFPOWer:REFerence:LEVel?

Syntax: SENSe:RFPOWer:REFerence:LEVel?

Parameter/Return: None

Description: When using dBr units, this is the 0 dB point. This value can be set manually. Typically the Set Reference button will use the current live reading for a reference value.

Example:

```
SENSe:RFPOWer:REFerence:LEVel?
```

13.388 SENSe:RFPOWer:READing:TYPE

Syntax: SENSe:RFPOWer:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics.

Examples:

```
SENSe:RFPOWer:READing:TYPE AVG
SENSe:RFPOWer:READing:TYPE?
```

13.389 SENSe:RFPOWer:MODE

Syntax: SENSe:RFPOWer:MODE

Parameter/Return: Rssi | PEP

Description: Sets/returns the reading mode.

Examples:

```
SENSe:RFPOWer:MODE PEP
SENSe:RFPOWer:MODE?
```

13.390 SENSe:RFPOWer:RESet

Syntax: SENSe:RFPOWer:RESet

Parameter/Return: None

Description: Restart the RF Power trace data capture.

Example:

```
SENSe:RFPOWer:RESet
```

13.391 SENSe:RFPOWer:SREFerence

Syntax: SENSe:RFPOWer:SREFerence

Parameter/Return: None

Description: Sets the power meter reference level.

Example:

```
SENSe:RFPOWer:SREFerence
```

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14

Analog Input Commands

This chapter describes the following remote commands for configuring Analog Input (AINput) settings:

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14.1 ROUTe:SOURce

Syntax: ROUTe:SOURce

Parameter/Return: AudioIn1|AudioIn2|Acc|AudioInBalanced|Fgen

Description: Sets/returns Select the input signal hardware configuration. Fgen is an internal path to the function generator

Example:

```
ROUTe:SOURce AudioIn1
```

14.2 ROUTe:ANDX:SOURce

Syntax: ROUTe:ANDX:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: You can select or query the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:ANDX:SOURce AudioIn1
ROUTe:ANDX:SOURce?
```

14.3 ROUTe:ANTX:SOURce

Syntax: ROUTe:ANTX:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: You can select or query the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:ANTX:SOURce AudioIn1
ROUTe:ANTX:SOURce?
```

14.4 ROUTe:ANRX:SOURce

Syntax: ROUTe:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:SOURce AudioIn1
ROUTe:SOURce?
```

14.5 ROUTe:P25DX:SOURce

Syntax: ROUTe:P25DX:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25DX:SOURce AudioIn1
ROUTe:P25DX:SOURce?
```

14.6 ROUTe:P25TX:SOURce

Syntax: ROUTe:P25TX:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25TX:SOURce AudioIn1
ROUTe:P25TX:SOURce?
```

14.7 ROUTe:P25RX:SOURce

Syntax: ROUTe:P25RX:SOURce

Parameter/Return: AudioIn1 | AudioIn2 | AudioInBalanced | Acc | Fgen

Description: Sets/returns the input signal hardware configuration. Fgen is an internal path to the function generator.

Example:

```
ROUTe:P25RX:SOURce Fgen
ROUTe:P25RX:SOURce?
```

14.8 ROUTe:PFILTer

Syntax: ROUTe:PFILTer

Parameter/Return: None | CMSG | CCITT

Description: Audio input signal conditioning using a weighted filter. When active, will disable the HPF and LPF operations

Example:

```
ROUTe:PFILTer CMSG
ROUTe:PFILTer?
```

14.9 ROUTe:HFILTer

Syntax: ROUTe:HFILTer

Parameter/Return: NONE|HP20HZ|HP50HZ|HP300HZ

Description: —

Example:

```
ROUTe:HFILTer HP20HZ
```

14.10 ROUTe:LFILTer

Syntax: ROUTe:LFILTer

Parameter/Return: NONE | LP300HZ | LP3KHZ | LP3P4KHZ | LP5KHZ | LP15KHZ | LP20KHZ | LP40KHZ

Description: Sets/returns the audio in signal low-pass filter characteristics.

Example:

```
ROUTe:LFILTer LP40KHZ
```

14.11 ROUTe:RANGe

Syntax: ROUTe:RANGe

Parameter/Return: Volt_2 | Volt_20 | Volt_200

Description: Sets/returns the Audio input signal scaling.

Example:

```
ROUTe:RANGe Volt_200
ROUTe:RANGe?
```

14.12 ROUTe:AUD1:IMPedance

Syntax: ROUTe:AUD1:IMPedance

Parameter/Return: KOhm100 | Ohm600 | Ohm300

Description: Sets/returns built-in resistive loads on the signal input path.

Example:

```
ROUTe:AUD1:IMPedance Ohm300
ROUTe:AUD1:IMPedance?
```

14.13 ROUTe:AUD2:IMPedance

Syntax: ROUTe:AUD2:IMPedance

Parameter/Return: KOhm100 | Ohm600 | Ohm300

Description: Sets/returns built-in resistive loads on the signal input path.

Example:

```
ROUTe:AUD1:IMPedance Ohm300
ROUTe:AUD1:IMPedance?
```

14.14 ROUTe:ACCessory:IMPedance

Syntax: ROUTe:ACCessory:IMPedance

Parameter/Return: Ohm300|Ohm600|KOhm100

Description: —

Example:

```
ROUTe:ACCessory:IMPedance Ohm300
```

14.15 ROUTe:BALanced:IMPedance

Syntax: ROUTe:BALanced:IMPedance

Parameter/Return: KOhm100 | Ohm600 | Ohm300

Description: You can configure or query built-in resistive loads on the signal input path.

Example:

```
ROUTe:BALanced:IMPedance Ohm600
ROUTe:BALanced:IMPedance?
```

14.16 ROUTe:COUPling

Syntax: ROUTe:COUPling

Parameter/Return: Ac | Dc

Description: The input signal coupling is used in concert with the speaker icon to route signals to baseband meters.

Example:

```
ROUTe:COUPling Ac
ROUTe:COUPling?
```

14.17 ROUTe:EXTernal:TRIGger:IN:POLarity

Syntax: ROUTe:EXTernal:TRIGger:IN:POLarity

Parameter/Return: NONE | HP20HZ | HP50HZ | HP300HZ

Description: Sets/returns the audio in signal high-pass filter characteristics.

Example:

```
ROUTe:EXTernal:TRIGger:IN:POLarity 5HP50HZ
ROUTe:EXTernal:TRIGger:IN:POLarity?
```

14.18 SENSe:AFCOUNter:AVERage:COUNt

Syntax: SENSe:AFCOUNter:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Example:

```
SENSe:AFCOUNter:AVERage:COUNt 15
SENSe:AFCOUNter:AVERage:COUNt?
```

14.19 SENSe:AFCOUNter:READing:TYPE

Syntax: SENSe:AFCOUNter:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns tthe reading detector characteristics. The 'Speaker' routing for AF Counter should be set to Audio In.

Example:

```
SENSe:AFCOUNter:READing:TYPE AVG
SENSe:AFCOUNter:READing:TYPE?
```

14.20 SENSe:AFCOUNter:RESet

Syntax: SENSe:AFCOUNter:RESet

Parameter/Return: None

Description: Reset the AF counter.

Example:

```
SENSe:AFCOUNter:RESet
```

14.21 SENSe:AFCOUNter:READing:TYPE

Syntax: SENSe:AFCOUNter:READing:TYPE

Parameter/Return: Auto | 100 Hz | 200 Hz | 500 Hz | 1 kHz | 2 kHz | 5 kHz | 10 kHz | 20 kHz | 50 kHz

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. The 'Speaker' routing for AF Counter should.

Example:

```
SENSe:AFCOUNter:READing:TYPE Auto
SENSe:AFCOUNter:READing:TYPE?
```

14.22 SENSe:AFLEVel:AVERage:COUNt

Syntax: SENSe:AFLEVel:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see input dialog.

Example:

```
SENSe:AFLEVel:AVERage:COUNt 20
SENSe:AFLEVel:AVERage:COUNt?
```

14.23 SENSe:AFLEVel:READing:TYPE

Syntax: SENSe:AFLEVel:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for AF Level will select the various Audio In selections.

Example:

```
SENSe:AFLEVel:READing:TYPE AVG
SENSe:AFLEVel:READing:TYPE?
```

14.24 SENSe:AFLEVel:RESet

Syntax: SENSe:AFLEVel:RESet

Parameter/Return: None

Description: Resets the AF Level meter.

Example:

```
SENSe:AFLEVel:READing:TYPE
```

14.25 SENSe:AFLEVel:RLEVel

Syntax: SENSe:AFLEVel:RLEVel?

Parameter/Return: None

Description: Set the 0 dB power used in dBr readings. Normally use Set Reference button to automatically set this value.

Example:

```
SENSe:AFLEVel:RLEVel?
```

14.26 SENSe:AFLEVel:SCALe:DBM

Syntax: SENSe:AFLEVel:SCALe:DBM

Parameter/Return: Auto | 60 dB | 50 dB ... -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Can use the external load control.

Example:

```
SENSe:AFLEVel:SCALe:DBM "-30 dB"
SENSe:AFLEVel:SCALe:DBM?
```

14.27 SENSe:AFLEVel:SCALe:DBR

Syntax: SENSe:AFLEVel:SCALe:DBR

Parameter/Return: Auto | 60 dB | 50 dB ... -90 dB | -100 dB

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered. Will use the Set Reference button to establish 0 dB.

Example:

```
SENSe:AFLEVel:SCALe:DBR "40 dB"
SENSe:AFLEVel:SCALe:DBR?
```

14.28 SENSe:AFLEVel:SCALe:VOLT

Syntax: SENSe:AFLEVel:SCALe:VOLT

Parameter/Return: Auto | 1 V | 3 V | 10 V | 30 V

Description: Sets/returns the meter scale. Auto will change the scale to keep measurement centered.

Example:

```
SENSe:AFLEVel:SCALe:VOLT "40 dB"
SENSe:AFLEVel:SCALe:VOLT?
```

14.29 SENSe:AFLEVel:SREFerence

Syntax: SENSe:AFLEVel:SREFerence

Parameter/Return: none

Description: Sets the AF Level meter Reference level.

Example:

```
SENSe:AFLEVel:SREFerence
```

14.30 SENSe:AFLEVel:UNIT

Syntax: SENSe:AFLEVel:UNIT

Parameter/Return: V | dBm | dBV | dBr

Description: Sets/returns the reading/limit units for meter. Some AF level features only exist under certain units - dBr & dBm are notable.

Example:

```
SENSe:AFLEVel:UNIT dBm
SENSe:AFLEVel:UNIT?
```

14.31 SENSe:DISTortion:NOISe:TYPE

Syntax: SENSe:DISTortion:NOISe:TYPE

Parameter/Return: 1 to 100

Description: Sets/returns the noise measurement type. The humnoise argument is SNR.

Example:

```
SENSe:DISTortion:NOISe:TYPE humnoise
SENSe:DISTortion:NOISe:TYPE?
```

14.32 SENSe:DISTortion:NOISe:TYPE

Syntax: SENSe:DISTortion:NOISe:TYPE

Parameter/Return: 1 to 100

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Audio.

Example:

```
SENSe:DISTortion:NOTCh:BANDwidth 90
SENSe:DISTortion:NOTCh:BANDwidth?
```

14.33 SENSe:DISTortion:NOTCh:FREQuency

Syntax: SENSe:DISTortion:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Audio.

Example:

```
SENSe:DISTortion:NOTCh:FREQuency 1200
SENSe:DISTortion:NOTCh:FREQuency?
```

14.34 SENSe:DISTortion:READing:TYPE

Syntax: SENSe:DISTortion:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the distortion notch filter bandwidth. Ensure that “Speaker” routing for Noise is set to Audio.

Example:

```
SENSe:DISTortion:READing:TYPE AVG
SENSe:DISTortion:READing:TYPE?
```

14.35 SENSe:DISTortion:SCALe

Syntax: SENSe:DISTortion:SCALe

Parameter/Return: Auto | 100% | 50% | 20% | 10%

Description: Sets/returns the meter scale, Auto will change the scale to keep measurement centered. Ensure that 'Speaker' routing for Noise is set to Audio In.

Example:

```
SENSe:DISTortion:SCALe "20%"
SENSe:DISTortion:SCALe?
```

14.36 SENSe:DISTortion:RESet

Syntax: SENSe:DISTortion:RESet

Parameter/Return: None

Description: Reset the Distortion Meter.

Example:

```
SENSe:DISTortion:RESet
```

14.37 SENSe:DVM:AVERage:COUNt

Syntax: SENSe:DVM:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see the input dialog.

Example:

```
SENSe:DVM:AVERage:COUNt 10
SENSe:DVM:AVERage:COUNt?
```

14.38 SENSe:DVM:MODE

Syntax: SENSe:DVM:MODE

Parameter/Return: PositivePeak | NegativePeak | RMS | Mean

Description: Sets/returns the AC measurement mode. This control only applies to AV volts measurements. When in DC, it is not used.

Example:

```
SENSe:DVM:MODE Mean
SENSe:DVM:MODE?
```

14.39 SENSe:DVM:READing:TYPE

Syntax: SENSe:DVM:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. This is an AC responding meter even if the input is DC coupled.

Example:

```
SENSe:DVM:READing:TYPE AVG
SENSe:DVM:READing:TYPE?
```

14.40 SENSe:DVM:RESet

Syntax: SENSe:DVM:RESet

Parameter/Return: None

Description: Reset the DVM Meter.

Example:

```
SENSe:DVM:RESet
```

14.41 SENSe:DVM:SCALe

Syntax: SENSe:DVM:SCALe

Parameter/Return: Auto | 1 V | 2 V | 5 V | 10 V | 20 V | 50 V

Description: Sets/returns the meter scale. Auto changes the scale to keep measurement centered.

Example:

```
SENSe:DVM:SCALe "5 V"
SENSe:DVM:SCALe?
```

14.42 SENSe:SINad:AVERage:COUNt

Syntax: SENSe:SINad:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Activate Reading Average to see input dialog.

Example:

```
SENSe:SINad:AVERage:COUNt 10
SENSe:SINad:AVERage:COUNt?
```

14.43 SENSe:SINad:NOISe:TYPE

Syntax: SENSe:SINad:NOISe:TYPE

Parameter/Return: sinad | distortion | humnoise

Description: Sets/returns the noise measurement type. The 'humnoise' arg is SNR.

Example:

```
SENSe:SINad:NOISe:TYPE humnoise
SENSe:SINad:NOISe:TYPE?
```

14.44 SENSe:SINad:NOTCh:BANDwidth

Syntax: SENSe:SINad:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the SINAD notch filter bandwidth..

Example:

```
SENSe:SINad:NOTCh:BANDwidth 100
SENSe:SINad:NOTCh:BANDwidth?
```

14.45 SENSe:SINad:NOTCh:FREQuency

Syntax: SENSe:SINad:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the SINAD notch filter frequency.

Example:

```
SENSe:SINad:NOTCh:FREQuency AVG
SENSe:SINad:NOTCh:FREQuency?
```

14.46 SENSe:SINad:READing:TYPE

Syntax: SENSe:SINad:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Change the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Example:

```
SENSe:SINad:READing:TYPE AVG
SENSe:SINad:READing:TYPE?
```

14.47 SENSe:SINad:REFerence:LEVel

Syntax: SENSe:SINad:REFerence:LEVel

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Change the 0 dB point for dBr readings. Normally use the Set Reference control to fill-in this value.

Example:

```
SENSe:SINad:REFerence:LEVel "30 dB"
SENSe:SINad:REFerence:LEVel?
```

14.48 SENSe:SINad:SCALe:DBR

Syntax: SENSe:SINad:SCALe:DBR

Parameter/Return: Auto | 60 dB | 50 dB | 40 dB ... -80 dB | -90 dB | -100 dB

Description: Sets/returns the meter scale for dBr, Auto will change the scale to keep measurement centered.

Example:

```
SENSe:SINad:SCALe:DBR "50 dB"
SENSe:SINad:SCALe:DBR?
```

14.49 SENSe:SINad:SREFerence

Syntax: SENSe:SINad:SREFerence

Parameter/Return: None

Description: Sets the reference level in dBr mode.

Example:

```
SENSe:SINad:SREFerence
```

14.50 SENSe:SINad:UNIT

Syntax: SENSe:SINad:UNIT

Parameter/Return: dB | dBr

Description: Sets/returns the meter units. dBr is dB relative with the reference value taken from a live reading or user input. dBr will expose the 'set reference' and Reference level widgets.

Example:

```
SENSe:SINad:UNIT dBr
SENSe:SINad:UNIT?
```

14.51 SENSe:SNR:AVERage:COUNt

Syntax: SENSe:SNR:AVERage:COUNt

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Example:

```
SENSe:SNR:AVERage:COUNt 15
SENSe:SNR:AVERage:COUNt?
```

14.52 SENSe:SNR:DELay

Syntax: SENSe:SNR:DELay

Parameter/Return: 1.0 to 10.0 sec

Description: Sets/returns the toggle rate for AF Gen (or Mod Gen), required for some receivers (digital) with large latency. Set Hum & Noise Type -> Normal. The Speaker icon, Noise setting, Mod Gen: select Audio In, AF Gen: select Demod.

Example:

```
SENSe:SNR:DELay 2
SENSe:SNR:DELay?
```

14.53 SENSe:SNR:NOISe:TYPE

Syntax: SENSe:SNR:NOISe:TYPE

Parameter/Return: sinad | distortion | humnoise

Description: Sets/returns the noise measurement type. The 'humnoise' arg is SNR.

Example:

```
SENSe:SNR:NOISe:TYPE humnoise
SENSe:SNR:NOISe:TYPE?
```

14.54 SENSe:SNR:NOTCh:BANDwidth

Syntax: SENSe:SNR:NOTCh:BANDwidth

Parameter/Return: 10 to 200 Hz

Description: Sets/returns the Notch bandwidth in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:BANDwidth 102
SENSe:SNR:NOTCh:BANDwidth?
```

14.55 SENSe:SNR:NOTCh:ENABle

Syntax: SENSe:SNR:NOTCh:ENABle

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Notch state. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:ENABle On
SENSe:SNR:NOTCh:ENABle?
```

14.56 SENSe:SNR:NOTCh:FREQuency

Syntax: SENSe:SNR:NOTCh:FREQuency

Parameter/Return: 50 Hz to 40000 Hz

Description: Sets/returns the Notch frequency in Hz. Used to “notch out” an interfering signal such as DCS or CTCSS.

Example:

```
SENSe:SNR:NOTCh:FREQuency 100
SENSe:SNR:NOTCh:FREQuency?
```

14.57 SENSe:SNR:READing:TYPE

Syntax: SENSe:SENSe:SNR:READing:TYPE

Parameter/Return: LIVE | AVG | MAX | MIN

Description: Sets/returns the reading detector characteristics. The 'Speaker' routing for Noise will select between Demod/Audio In.

Example:

```
SENSe:SNR:READing:TYPE AVG
SENSe:SNR:READing:TYPE?
```

14.58 SENSe:SNR:SINad:AVERage

Syntax: SENSe:SNR:SINad:AVERage

Parameter/Return: 1 to 100

Description: Sets/returns the number of reading values used to compute the average reading. Need Reading Average active to see the samples dialog.

Example:

```
SENSe:SNR:SINad:AVERage 15
SENSe:SNR:SINad:AVERage?
```

14.59 SENSe:SNR:SREFerence

Syntax: SENSe:SNR:SREFerence

Parameter/Return: None

Description: HUM & Noise meter set reference.

Example:

```
SENSe:SNR:SREFerence
```

14.60 SENSe:SNR:TYPE

Syntax: SENSe:SNR:TYPE

Parameter/Return: NORMAL | HUMNOISE

Description: H&N measurement can be performed two way: Auto(Normal), Manual(Hum&Noise). Auto will use the defined delay and switch the generator on-off. Manual will require using the 'Set Reference' to set the dB point - you have to operate the generator manually.

Example:

```
SENSe:SNR:TYPE
```

14.61 SENSe:SNR:RESet

Syntax: SENSe:SNR:RESet

Parameter/Return: None

Description: Resets the Hum and Noise meter.

Example:

```
SENSe:SNR:RESet
```

14.62 MEASure:AFCOUNter:AVERage

Syntax: MEASure:AFCOUNter:AVERage?

Parameter/Return: None

Description: Returns the AF Coutner average reading.

Example:

```
MEASure:AFCOUNter:AVERage?
```

14.63 CALCulate:AFCOUNter:LIMit:FAIL

Syntax: CALCulate:AFCOUNter:LIMit:FAIL?

Parameter/Return: None

Description: Returns the AF Counter limit status.

Example:

```
CALCulate:AFCOUNter:LIMit:FAIL?
```

14.64 CALCulate:AFCOUNter:LIMit:LOWer

Syntax: CALCulate:AFCOUNter:LIMit:LOWer

Parameter/Return: 0 to 40000 Hz

Description: Sets/returns the AF Counter Lower Limit for Pass/Fail indicators.

Example:

```
CALCulate:AFCOUNter:LIMit:LOWer 900
CALCulate:AFCOUNter:LIMit:LOWer?
```

14.65 CALCulate:AFCOUNter:LIMit:LOWer:STATe

Syntax: CALCulate:AFCOUNter:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Counter Lower Limit state.

Example:

```
CALCulate:AFCOUNter:LIMit:LOWer:STATe On
CALCulate:AFCOUNter:LIMit:LOWer:STATe?
```

14.66 CALCulate:AFCOUNter:LIMit:UPPer

Syntax: CALCulate:AFCOUNter:LIMit:Upper

Parameter/Return: 0 to 40000 Hz

Description: Sets/returns the AF Counter Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:AFCOUNter:LIMit:UPPer 2000
CALCulate:AFCOUNter:LIMit:Upper?
```

14.67 CALCulate:AFCOUNter:LIMit:UPPer:STATe

Syntax: CALCulate:AFCOUNter:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Counter Upper Limit state.

Example:

```
CALCulate:AFCOUNter:LIMit:UPPer:STATe On
CALCulate:AFCOUNter:LIMit:UPPer:STATe?
```

14.68 CALCulate:AFLEVel:DBM:LIMit:UPPer

Syntax: CALCulate:AFLEVel:DBM:LIMit:UPPer

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF Counter Upper Limit state.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:UPPer 40.2
CALCulate:AFLEVel:DBM:LIMit:UPPer?
```

14.69 CALCulate:AFLEVel:DBM:LIMit:LOWer

Syntax: CALCulate:AFLEVel:DBM:LIMit:LOWer

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level meter Lower Limit value for Pass/Fail indicators. This is used for the dB relative units.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:LOWer -51
CALCulate:AFLEVel:DBM:LIMit:UPPer?
```

14.70 CALCulate:AFLEVel:DBR:LIMit:UPPer

Syntax: CALCulate:AFLEVel:DBR:LIMit:UPPer

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level meter Upper Limit value for Pass/Fail indicators. This is used for the dB relative units.

Example:

```
CALCulate:AFLEVel:DBR:LIMit:UPPer -51
CALCulate:AFLEVel:DBR:LIMit:UPPer?
```

14.71 CALCulate:AFLEVel:DBV:LIMit:LOWer

Syntax: CALCulate:AFLEVel:DBR:LIMit:UPPer

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the AF level Meter Lower Limit Value for Pass/Fail indicators. This is used for the dBV Units.

Example:

```
CALCulate:AFLEVel:DBV:LIMit:LOWer -10
CALCulate:AFLEVel:DBV:LIMit:LOWer?
```

14.72 CALCulate:AFLEVel:DBV:LIMit:UPPer

Syntax: CALCulate:AFLEVel:DBV:LIMit:UPPer

Parameter/Return: float -100 dB to 100 dB

Description: Sets/returns the Upper limit value for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:DBV:LIMit:UPPer -10
CALCulate:AFLEVel:DBV:LIMit:UPPer?
```

14.73 CALCulate:CALCulate:AFLEVel:DBM:LIMit:LOWer

Syntax: CALCulate:CALCulate:AFLEVel:DBM:LIMit:LOWer

Parameter/Return: float: -100 dB to 100 dB

Description: Sets/returns the AF level meter Lower Limit value for Pass/Fail indiators. This is used for the dBm units.

Example:

```
CALCulate:AFLEVel:DBM:LIMit:LOWer -85
CALCulate:AFLEVel:DBM:LIMit:LOWer?
```

14.74 MEASure:AFLEVel:AVERage

Syntax: MEASure:AFLEVel:AVERage?

Parameter/Return: None

Description: Returns the AF Level average reading.

Example:

```
MEASure:AFLEVel:AVERage?
```

14.75 MEASure:AFLEVel:LIVE

Syntax: MEASure:AFLEVel:LIVE?

Parameter/Return: None

Description: Returns the AF Level Live meter average reading.

Example:

```
MEASure:AFLEVel:LIVE?
```

14.76 MEASure:AFLEVel:DATA

Syntax: MEASure:AFLEVel:DATA?

Parameter/Return: None

Description: Returns the AF level meter array data.

Example:

```
MEASure:AFLEVel:DATA?
```

14.77 CALCulate:AFLEVel:LIMit:FAIL?

Syntax: CALCulate:AFLEVel:LIMit:FAIL?

Parameter/Return: None

Description: Returns the AF Level limit status

Example:

```
CALCulate:AFLEVel:LIMit:FAIL?
```

14.78 CALCulate:AFLEVel:LIMit:LOWer:STATe

Syntax: CALCulate:AFLEVel:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Level Meter Lower Limit State for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:LIMit:LOWer:STATe On
CALCulate:AFLEVel:LIMit:LOWer:STATe?
```

14.79 CALCulate:AFLEVel:LIMit:UPPer:STATe

Syntax: CALCulate:AFLEVel:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the AF Level Meter Lower Limit State for Pass/Fail indicators.

Example:

```
CALCulate:AFLEVel:LIMit:UPPer:STATe On
CALCulate:AFLEVel:LIMit:UPPer:STATe?
```

14.80 CALCulate:AFLEVel:VOLT:LIMit:LOWer

Syntax: CALCulate:AFLEVel:VOLT:LIMit:LOWer

Parameter/Return: float: 0.0 to 30.0 Volts

Description: Sets/returns the AF level Meter Lower Limit Value for Pass/Fail indicators. This is used for the Volt Units.

Example:

```
CALCulate:AFLEVel:VOLT:LIMit:LOWer 0.1
CALCulate:AFLEVel:VOLT:LIMit:LOWer?
```

14.81 CALCulate:AFLEVel:VOLT:LIMit:UPPer

Syntax: CALCulate:AFLEVel:VOLT:LIMit:UPper

Parameter/Return: float: 0.0 to 30.0 Volts

Description: Sets/returns the AF level Meter Upper Limit Value for Pass/Fail indicators. This is used for the Volt Units.

Example:

```
CALCulate:AFLEVel:VOLT:LIMit:UPPer 12
CALCulate:AFLEVel:VOLT:LIMit:UPPer?
```

14.82 MEASure:CTCSs:PLVALue

Syntax: MEASure:CTCSs:PLVALue

Parameter/Return: String (Query only)

Description: —

Example:

```
MEASure:CTCSs:PLVALue
```

14.83 MEASure:DISTortion:AVERage

Syntax: MEASure:DISTortion:AVERage?

Parameter/Return: None

Description: Returns the Distortion meter average reading

Example:

```
MEASure:DISTortion:AVERage?
```

14.84 MEASure:DISTortion:DATA

Syntax: MEASure:DISTortion:DATA?

Parameter/Return: None

Description: Returns the Distortion meter array data.

Example:

```
MEASure:DISTortion:DATA?
```

14.85 CALCulate:DISTortion:LIMit:FAIL?

Syntax: CALCulate:DISTortion:LIMit:FAIL?

Parameter/Return: None

Description: Returns the Distortion Limit status.

Example:

```
CALCulate:DISTortion:LIMit:FAIL?
```

14.86 CALCulate:DISTortion:LIMit:LOWer

Syntax: CALCulate:DISTortion:LIMit:LOWer

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Audio In.

Example:

```
CALCulate:DISTortion:LIMit:LOWer 13
CALCulate:DISTortion:LIMit:LOWer?
```

14.87 CALCulate:DISTortion:LIMit:LOWer:STATe

Syntax: CALCulate:DISTortion:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:DISTortion:LIMit:LOWer:STATe On
CALCulate:DISTortion:LIMit:LOWer:STATe?
```

14.88 CALCulate:DISTortion:LIMit:UPPer

Syntax: CALCulate:DISTortion:LIMit:UPPer

Parameter/Return: 0.0% to 100.0%

Description: Sets/returns the Distortion Lower Limit for Pass/Fail indicators. Ensure that “Speaker” routing for Noise is set to Audio In.

Example:

```
CALCulate:DISTortion:LIMit:UPPer 25
CALCulate:DISTortion:LIMit:UPPer?
```

14.89 CALCulate:DISTortion:LIMit:UPPer:STATe

Syntax: CALCulate:DISTortion:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:DISTortion:LIMit:UPPer:STATe On
CALCulate:DISTortion:LIMit:UPPer:STATe?
```

14.90 MEASure:DVM:AVERage

Syntax: MEASure:DVM:AVERage?

Parameter/Return: None

Description: Returns the DVM average reading.

Example:

```
MEASure:DVM:AVERage?
```

14.91 MEASure:DVM:LIVE

Syntax: MEASure:DVM:LIVE?

Parameter/Return: None

Description: Returns the DVM live reading.

Example:

```
MEASure:DVM:LIVE?
```

14.92 MEASure:DVM:DATA

Syntax: MEASure:DVM:DATA?

Parameter/Return: None

Description: Returns the DVM array data.

Example:

```
MEASure:DVM:DATA?
```

14.93 CALCulate:DVM:LIMit:FAIL?

Syntax: CALCulate:DVM:LIMit:FAIL?

Parameter/Return: None

Description: Returns the DVM Limit Status.

Example:

```
CALCulate:DVM:LIMit:FAIL?
```

14.94 CALCulate:DVM:LIMit:LOWer

Syntax: CALCulate:DVM:LIMit:LOWer

Parameter/Return: 0.0 V to 20.0 V

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:LOWer 5.1
CALCulate:DVM:LIMit:LOWer?
```

14.95 CALCulate:DVM:LIMit:LOWer:STATe

Syntax: CALCulate:DVM:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:LOWer:STATe On
CALCulate:DVM:LIMit:LOWer:STATe?
```

14.96 CALCulate:DVM:LIMit:UPPer

Syntax: CALCulate:DVM:LIMit:UPPer

Parameter/Return: 0.0 V to 30.0 V

Description: Sets/returns the DVM Upper Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:UPPer 21
CALCulate:DVM:LIMit:UPPer?
```

14.97 CALCulate:DVM:LIMit:UPPer:STATe

Syntax: CALCulate:DVM:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the DVM Lower Limit value for Pass/Fail indicators.

Example:

```
CALCulate:DVM:LIMit:UPPer:STATe On
CALCulate:DVM:LIMit:UPPer:STATe?
```

14.98 CALCulate:SINad:DB:LIMit:LOWer

Syntax: CALCulate:SINad:DB:LIMit:LOWer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Lower Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DB:LIMit:LOWer 10
CALCulate:SINad:DB:LIMit:LOWer?
```

14.99 CALCulate:SINad:DB:LIMit:UPPer

Syntax: CALCulate:SINad:DB:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns the SINAD Meter (dB) Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DB:LIMit:UPPer 21
CALCulate:SINad:DB:LIMit:UPPer?
```

14.100 CALCulate:SINad:DBR:LIMit:UPPer

Syntax: CALCulate:SINad:DBR:LIMit:UPPer

Parameter/Return: -100 dB to 100 dB

Description: Sets/returns SINAD Meter (dBr) Upper Limit for Pass/Fail indicators.

Example:

```
CALCulate:SINad:DBR:LIMit:UPPer 40
CALCulate:SINad:DBR:LIMit:UPPer?
```

14.101 CALCulate:SINad:LIMit:UPPer:STATe

Syntax: CALCulate:SINad:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the LOWer Limit state.

Example:

```
CALCulate:SINad:LIMit:UPPer:STATe On
CALCulate:SINad:LIMit:UPPer:STATe?
```

14.102 CALCulate:SINad:LIMit:LOWer:STATe

Syntax: CALCulate:SINad:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Lower Limit state.

Example:

```
CALCulate:SINad:LIMit:LOWer:STATe On
CALCulate:SINad:LIMit:LOWer:STATe?
```

14.103 CALCulate:SNR:LIMit:LOWer

Syntax: CALCulate:SNR:LIMit:LOWer

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Lower Limit state.

Example:

```
CALCulate:SNR:LIMit:LOWer 25
CALCulate:SNR:LIMit:LOWer?
```

14.104 CALCulate:SNR:LIMit:UPPer

Syntax: CALCulate:SNR:LIMit:UPPer

Parameter/Return: -100.0 dB to 100.0 dB

Description: Sets/returns the Hum & Noise Meter upper limit for meter Pass/Fail..

Example:

```
CALCulate:SNR:LIMit:UPPer 55.1
CALCulate:SNR:LIMit:UPPer?
```

14.105 CALCulate:SNR:LIMit:LOWer:STATe

Syntax: CALCulate:SNR:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Lower Limit state. Turn this feature on before setting lower limit value.

Example:

```
CALCulate:SNR:LIMit:LOWer:STATe On
CALCulate:SNR:LIMit:LOWer:STATe?
```

14.106 CALCulate:SNR:LIMit:UPPer:STATe

Syntax: CALCulate:SNR:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 2

Description: Sets/returns the Upper Limit state.

Example:

```
CALCulate:SNR:LIMit:UPPer:STATe On
CALCulate:SNR:LIMit:UPPer:STATe?
```

14.107 MEASure:SNR:AVERage

Syntax: MEASure:SNR:AVERage?

Parameter/Return: None

Description: Returns the SNR meter average reading.

Example:

```
MEASure:SNR:AVERage?
```

14.108 MEASure:SNR:LIVE

Syntax: MEASure:SNR:LIVE?

Parameter/Return: None

Description: Returns the SNR meter live reading.

Example:

```
MEASure:SNR:LIVE?
```

14.109 MEASure:SNR:DATA

Syntax: MEASure:SNR:DATA?

Parameter/Return: None

Description: Returns the SNR meter array data.

Example:

```
MEASure:SNR:DATA?
```

14.110 CALCulate:SNR:LIMit:FAIL?

Syntax: CALCulate:SNR:LIMit:FAIL?

Parameter/Return: None

Description: Returns the SNR limit status.

Example:

```
CALCulate:SNR:LIMit:FAIL?
```

14.111 MEASure:SINad:AVERage

Syntax: MEASure:SINad:AVERage?

Parameter/Return: None

Description: Returns the SINAD meter average reading.

Example:

```
MEASure:SINad:AVERage?
```

14.112 MEASure:SINad:LIVE

Syntax: MEASure:SINad:LIVE?

Parameter/Return: None

Description: Returns the SINAD meter live reading.

Example:

```
MEASure:SINad:LIVE?
```

14.113 CALCulate:SINad:LIMit:FAIL?

Syntax: CALCulate:SINad:LIMit:FAIL?

Parameter/Return: None

Description: Returns the SINAD Limit status.

Example:

```
CALCulate:SINad:LIMit:FAIL?
```

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15

Analog Output Commands

This chapter describes the following remote commands for configuring Analog Output (AOUTput) settings:

- ROUTe:DESTination 15-2
- ROUTe:SOURce 15-2
- ROUTe:COUPling 15-2
- ROUTe:SPEaker:SOURce 15-2
- ROUTe:VOLume:LEVel 15-3
- ROUTe:EXTernal:TRIGger:OUT:SOURce 15-3
- ROUTe:EXTernal:TRIGger:IN:POLarity 15-3

15.1 ROUTe:DESTination

Syntax: ROUTe:DESTination

Parameter/Return: FGen | ACC

Description: Sets/returns the Audio Output destination port

Example:

```
ROUTe:DESTination ACC
ROUTe:DESTination?
```

15.2 ROUTe:SOURce

Syntax: ROUTe:SOURce

Parameter/Return: FGen | Demod

Description: Will route demod or fgen to the AF output connector.

Example:

```
ROUTe:SOURce Demod
ROUTe:SOURce?
```

15.3 ROUTe:COUPling

Syntax: ROUTe:COUPling

Parameter/Return: Ac | Dc

Description: Sets/returns the control coupling of the AF output connector.

Example:

```
ROUTe:COUPling Ac
ROUTe:COUPling?
```

15.4 ROUTe:SPEaker:SOURce

Syntax: ROUTe:SPEaker:SOURce

Parameter/Return: Audio_Input | Demod | AFGen

Description: Sets/returns the speaker output source.

Example:

```
ROUTe:SPEaker:SOURce AFGen
ROUTe:SPEaker:SOURce?
```

15.5 ROUTe:VOLume:LEVel

Syntax: ROUTe:VOLume:LEVel

Parameter/Return: 0 - 100%

Description: Sets/returns the volume.

Example:

```
ROUTe:VOLume:LEVel 50
ROUTe:VOLume:LEVel?
```

15.6 ROUTe:EXTernal:TRIGger:OUT:SOURce

Syntax: ROUTe:EXTernal:TRIGger:OUT:SOURce

Parameter/Return: None | Tin

Description: Sets/returns the trigger out source.

Example:

```
ROUTe:EXTernal:TRIGger:OUT:SOURce Tin
ROUTe:EXTernal:TRIGger:OUT:SOURce?
```

15.7 ROUTe:EXTernal:TRIGger:IN:POLarity

Syntax: ROUTe:EXTernal:TRIGger:IN:POLarity

Parameter/Return: Normal|Inverted

Description: —

Example:

```
ROUTe:EXTernal:TRIGger:IN:POLarity Inverted
```

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16

P25 Modulator Commands

This chapter describes the following remote commands for configuring P25 Modulator (P25Modulator) settings:

- SOURce:ALGID 16-2
- SOURce:ALGID 16-2
- SOURce:BER:PATTern 16-2
- SOURce:EMERgency 16-3
- SOURce:HCPM:MODE 16-3
- SOURce:HCPM:PATTern 16-3
- SOURce:HCPM:SLOT 16-3
- SOURce:HDQPsk:PATTern 16-4
- SOURce:LCO 16-4
- SOURce:MFID 16-4
- SOURce:NAC 16-4
- SOURce:PRIority 16-5
- SOURce:SERvice:OPTion 16-5
- SOURce:SOURce:ID 16-5
- SOURce:STATus 16-5
- SOURce:TGID 16-6
- SOURce:TYPE 16-6

16.1 SOURce:ALGID

Syntax: SOURce:ALGID

Parameter/Return: 0 to 0xFF

Description: Sets/returns the ALGID.

Example:

```
SOURce:ALGID 80
SOURce:ALGID?
```

16.2 SOURce:ALGID

Syntax: SOURce:ALGID

Parameter/Return: 0 to 0xFF

Description: Sets/returns the ALGID.

Example:

```
SOURce:ALGID 80
SOURce:ALGID?
```

16.3 SOURce:BER:PATTern

Syntax: SOURce:BER:PATTern

Parameter/Return: STD 511 | STD 1011 | STD Cal | STD Silence | STD AFC | STD Busy | STD Idle | STD Interferer | STD LDU1 | STD LDU2 | STD SymbolRate | 1011 | Silence | Stored Speech

Description: Sets/returns the BER Pattern.

Example:

```
SOURce:BER:PATTern STD LDU2
SOURce:BER:PATTern?
```

16.4 SOURce:EMERgency

Syntax: SOURce:EMERgency

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns Emergency.

Example:

```
SOURce:EMERgency On
SOURce:EMERgency?
```

16.5 SOURce:HCPM:MODE

Syntax: SOURce:HCPM:MODE

Parameter/Return: 0 to 0xFF

Description: Sets/returns the HCPM Mode.

Example:

```
SOURce:HCPM:MODE Sync
SOURce:HCPM:MODE?
```

16.6 SOURce:HCPM:PATTern

Syntax: SOURce:HCPM:PATTern

Parameter/Return: IB STD 1031 | IB STD Cal | IB STD Silence

Description: Sets/returns the HCPM pattern.

Example:

```
SOURce:HCPM:PATTern IB STD Cal
SOURce:HCPM:PATTern?
```

16.7 SOURce:HCPM:SLOT

Syntax: SOURce:HCPM:SLOT

Parameter/Return: Slot 0 | Slot 1

Description: Sets/returns the HCPM slot.

Example:

```
SOURce:HCPM:SLOT Slot 0
SOURce:HCPM:SLOT?
```

16.8 SOURce:HDQPsk:PATTern

Syntax: SOURce:HDQPsk:PATTern

Parameter/Return: OB STD 1031 | OB STD Cal | OB STD Silence

Description: Sets/returns the ALGID.

Example:

```
SOURce:HDQPsk:PATTern OB STD 1031
SOURce:HDQPsk:PATTern?
```

16.9 SOURce:LCO

Syntax: SOURce:LCO

Parameter/Return: None

Description: You can query the ALGID.

Example:

```
SOURce:ALGID?
```

16.10 SOURce:MFID

Syntax: SOURce:MFID

Parameter/Return: 0 to 0xFF

Description: Sets/returns the ALGID.

Example:

```
SOURce:MFID 0
SOURce:MFID?
```

16.11 SOURce:NAC

Syntax: SOURce:NAC

Parameter/Return: 0 to 0xFF

Description: Sets/returns NAC.

Example:

```
SOURce:ALGID 0
SOURce:ALGID?
```

16.12 SOURce:PRIority

Syntax: SOURce:ALGID

Parameter/Return: 0 to 7

Description: Sets/returns the Priority.

Example:

```
SOURce:PRIority 0
SOURce:PRIority?
```

16.13 SOURce:SERvice:OPTion

Syntax: SOURce:SERvice:OPTion

Parameter/Return: 0 to 0xFF

Description: Sets/returns the Service Option.

Example:

```
SOURce:SERvice:OPTion
SOURce:SERvice:OPTion?
```

16.14 SOURce:SOURce:ID

Syntax: SOURce:SOURce:ID

Parameter/Return: 0 to 0xFFFFFF

Description: Sets/returns the Source ID.

Example:

```
SOURce:SOURce:ID 0
SOURce:SOURce:ID?
```

16.15 SOURce:STATus

Syntax: SOURce:ALGID

Parameter/Return: 0 to 3

Description: Sets/returns the Status.

Example:

```
SOURce:STATus 0
SOURce:STATus?
```

16.16 SOURce:TGID

Syntax: SOURce:TGID

Parameter/Return: 0 to 0xFFFF

Description: Sets/returns the TGID.

Example:

```
SOURce:TGID 0
SOURce:TGID?
```

16.17 SOURce:TYPE

Syntax: SOURce:TYPE

Parameter/Return: C4FM | LSM | CQPSK | HCPM | HDQPSK | FM

Description: Sets/returns the TYPE.

Example:

```
SOURce:TYPE HCPM
SOURce:TYPE?
```

17

P25 Demodulator Commands

This chapter describes the following remote commands for configuring P25 Demodulator (P25Demodulator) settings:

- CALCulate:BER:LIMit:FAIL 17-5
- CALCulate:BER:LIMit:LOWer 17-5
- CALCulate:BER:LIMit:LOWer:STATe 17-5
- CALCulate:BER:LIMit:UPPer 17-5
- CALCulate:BER:LIMit:UPPer:STATe 17-6
- CALCulate:MFIDelity:LIMit:FAIL? 17-6
- CALCulate:MFIDelity:LIMit:LOWer 17-6
- CALCulate:MFIDelity:LIMit:LOWer:STATe 17-6
- CALCulate:MFIDelity:LIMit:UPPer 17-7
- CALCulate:MFIDelity:LIMit:UPPer:STATe 17-7
- CALCulate:RFERRor:LIMit:FAIL 17-7
- CALCulate:RFERRor:LIMit:LOWer 17-7
- CALCulate:RFERRor:LIMit:LOWer:STATe 17-8
- CALCulate:RFERRor:LIMit:UPPer 17-8
- CALCulate:RFERRor:LIMit:UPPer:STATe 17-8
- CALCulate:RFERRor:PPM:LIMit:FAIL 17-8
- CALCulate:SCLOCk:HZ:LIMit:LOWer 17-9
- CALCulate:SCLOCk:HZ:LIMit:UPPer 17-9
- CALCulate:SCLOCk:LIMit:FAIL 17-9
- CALCulate:SCLOCk:LIMit:LOWer:STATe 17-9
- CALCulate:SCLOCk:LIMit:UPPer:STATe 17-10
- CALCulate:SCLOCk:PPM:LIMit:LOWer 17-10
- CALCulate:SCLOCk:PPM:LIMit:UPPer 17-10
- CALCulate:SDEViation:LIMit:FAIL 17-10
- CALCulate:SDEViation:LIMit:LOWer 17-11
- CALCulate:SDEViation:LIMit:LOWer:STATe 17-11

- CALCulate:SDEViation:LIMit:UPPer 17-11
- CALCulate:SDEViation:LIMit:UPPer:STATe 17-11
- CALCulate:SPOWer:DBM:LIMit:LOWer. 17-12
- CALCulate:SPOWer:DBM:LIMit:UPPer 17-12
- CALCulate:SPOWer:DBR:LIMit:LOWer 17-12
- CALCulate:SPOWer:DBR:LIMit:UPPer 17-12
- CALCulate:SPOWer:LIMit:FAIL 17-13
- CALCulate:SPOWer:LIMit:LOWer:STATe 17-13
- CALCulate:SPOWer:LIMit:UPPer:STATe 17-13
- CALCulate:SPOWer:WATT:LIMit:LOWer 17-13
- CALCulate:SPOWer:WATT:LIMit:UPPer 17-14
- DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision. 17-14
- DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP 17-14
- MEASure:ALGID 17-14
- MEASure:BER 17-15
- MEASure:BER:AVERage. 17-15
- MEASure:BER:MAXimum 17-15
- MEASure:BER:MINimum 17-15
- MEASure:DATA:SIGNal. 17-16
- MEASure:EMERgency. 17-16
- MEASure:KEYID 17-16
- MEASure:LCONTrol. 17-16
- MEASure:MFID 17-17
- MEASure:MFIDelity 17-17
- MEASure:MFIDelity:AVERage. 17-17
- MEASure:MFIDelity:MAXimum 17-17
- MEASure:MFIDelity:MINimum 17-18
- MEASure:NAC 17-18
- MEASure:RFERRor 17-18
- MEASure:RFERRor:AVERage. 17-18
- MEASure:RFERRor:MAXimum 17-19
- MEASure:RFERRor:PPM. 17-19
- MEASure:RFERRor:PPM:AVERage 17-19
- MEASure:RFERRor:PPM:MAXimum. 17-19
- MEASure:RFERRor:PPM:MINimum 17-20
- MEASure:SCLOCk. 17-20
- MEASure:SCLOCk:AVERage 17-20
- MEASure:SCLOCk:MAXimum 17-20
- MEASure:SCLOCk:MINimum 17-21
- MEASure:SDEViation. 17-21
- MEASure:SDEViation:AVERage 17-21
- MEASure:SDEViation:MAXimum 17-21

- MEASure:SDEViation:MINimum 17-22
- MEASure:SPOWer 17-22
- MEASure:SPOWer:AVERage 17-22
- MEASure:SPOWer:MAXimum 17-22
- MEASure:SPOWer:MINimum 17-23
- MEASure:STATion:ID 17-23
- MEASure:TGID 17-23
- SENSe:AUDio:FILTer 17-23
- SENSe:BER:AVERage:COUNt 17-24
- SENSe:BER:NAC 17-24
- SENSe:BER:PATTern 17-24
- SENSe:BER:SCALe 17-25
- SENSe:BER:TYPE 17-25
- SENSe:HOLD 17-25
- SENSe:MFIDelity:AVERage:COUNt 17-25
- SENSe:MFIDelity:SCALe 17-26
- SENSe:MFIDelity:TYPE 17-26
- SENSe:PHASe2:BER:PATTern 17-26
- SENSe:PPROFile:AVERage:COUNt 17-26
- SENSe:PPROFile:MODE 17-27
- SENSe:PPROFile:PERSistence 17-27
- SENSe:PPROFile:SLOT 17-27
- SENSe:RESet 17-27
- SENSe:RFErr:AVERage:COUNt 17-28
- SENSe:RFErr:SCALe 17-28
- SENSe:RFErr:TYPE 17-28
- SENSe:SCLOCk:AVERage:COUNt 17-29
- SENSe:SCLOCk:DECimal:PRECision 17-29
- SENSe:SCLOCk:HZ:SCALe 17-29
- SENSe:SCLOCk:PPM:SCALe 17-29
- SENSe:SCLOCk:TYPE 17-30
- SENSe:SCLOCk:UNIT 17-30
- SENSe:SDEViation:AVERage:COUNt 17-30
- SENSe:SDEViation:DECimal:PRECision 17-30
- SENSe:SDEViation:SCALe 17-31
- SENSe:SDEViation:TYPE 17-31
- SENSe:SPOWer:AVERage:COUNt 17-31
- SENSe:SPOWer:DBM:SCALe 17-31
- SENSe:SPOWer:DBR:SCALe 17-32
- SENSe:SPOWer:DECimal:PRECision 17-32
- SENSe:SPOWer:RLEVel 17-32
- SENSe:SPOWer:SREFerence 17-32

- SENSe:SPOWer:TYPE 17-33
- SENSe:SPOWer:UNIT 17-33
- SENSe:SPOWer:WATT:SCALe 17-33
- SENSe:TYPE 17-33
- SOURce:ALGID 17-34
- SOURce:BER:PATTern 17-34
- SOURce:EMERgency 17-34
- SOURce:HCPM:MODE 17-35
- SOURce:HCPM:PATTern 17-35
- SOURce:HCPM:SLOT 17-35
- SOURce:HDQPsk:PATTern 17-35
- SOURce:LCO 17-36
- SOURce:MFID 17-36
- SOURce:NAC 17-36
- SOURce:PRIority 17-36
- SOURce:SERvice:OPTion 17-37
- SOURce:SOURce:ID 17-37
- SOURce:STATus 17-37
- SOURce:TGID 17-37
- SOURce:TYPE 17-38

17.1 CALCulate:BER:LIMit:FAIL

Syntax: CALCulate:BER:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query BER Limit Status.

Example:

```
CALCulate:BER:LIMit:FAIL?
```

17.2 CALCulate:BER:LIMit:LOWer

Syntax: CALCulate:BER:LIMit:LOWer

Parameter/Return: 0-99.9

Description: Sets/returns Lower Limit Value.

Example:

```
CALCulate:BER:LIMit:LOWer 10.5
CALCulate:BER:LIMit:LOWer?
```

17.3 CALCulate:BER:LIMit:LOWer:STATe

Syntax: CALCulate:BER:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:BER:LIMit:LOWer:STATe On
CALCulate:BER:LIMit:LOWer:STATe?
```

17.4 CALCulate:BER:LIMit:UPPer

Syntax: CALCulate:BER:LIMit:UPPer

Parameter/Return: 0-99.9

Description: Sets/returns Upper Limit Value.

Example:

```
CALCulate:BER:LIMit:UPPer 10.6
CALCulate:BER:LIMit:UPPer?
```

17.5 CALCulate:BER:LIMit:UPPer:STATe

Syntax: CALCulate:BER:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:BER:LIMit:UPPer:STATe On
CALCulate:BER:LIMit:UPPer:STATe?
```

17.6 CALCulate:MFIDelity:LIMit:FAIL?

Syntax: CALCulate:MFIDelity:LIMit:FAIL?

Parameter/Return: None

Description: You can query Limit Status.

Example:

```
CALCulate:MFIDelity:LIMit:FAIL?
```

17.7 CALCulate:MFIDelity:LIMit:LOWer

Syntax: CALCulate:MFIDelity:LIMit:LOWer

Parameter/Return: 0-99.9

Description: Sets/returns Lower Limit.

Example:

```
CALCulate:MFIDelity:LIMit:LOWer 0.0
CALCulate:MFIDelity:LIMit:LOWer?
```

17.8 CALCulate:MFIDelity:LIMit:LOWer:STATe

Syntax: CALCulate:MFIDelity:LIMit:LOWer:STATe

Parameter/Return: Off | On

Description: Sets/returns Lower Limit State

Example:

```
CALCulate:MFIDelity:LIMit:LOWer:STATe On
CALCulate:MFIDelity:LIMit:LOWer:STATe?
```

17.9 CALCulate:MFIDelity:LIMit:UPPer

Syntax: CALCulate:MFIDelity:LIMit:UPPer

Parameter/Return: 0-99.9

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer 10.0
CALCulate:MFIDelity:LIMit:UPPer?
```

17.10 CALCulate:MFIDelity:LIMit:UPPer:STATe

Syntax: CALCulate:MFIDelity:LIMit:UPPer:STATe

Parameter/Return: Off | On

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer:STATe On
CALCulate:MFIDelity:LIMit:UPPer:STATe?
```

17.11 CALCulate:RFERRor:LIMit:FAIL

Syntax: CALCulate:RFERRor:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Freq Error Limit status.

Example:

```
CALCulate:RFERRor:LIMit:FAIL?
```

17.12 CALCulate:RFERRor:LIMit:LOWer

Syntax: CALCulate:RFERRor:LIMit:LOWer

Parameter/Return: -999 to 999

Description: Sets/returns Lower Limit

Example:

```
CALCulate:RFERRor:LIMit:LOWer 200
CALCulate:RFERRor:LIMit:LOWer?
```

17.13 CALCulate:RFERRor:LIMit:LOWer:STATe

Syntax: CALCulate:RFERRor:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:RFERRor:LIMit:LOWer:STATe On
CALCulate:RFERRor:LIMit:LOWer:STATe?
```

17.14 CALCulate:RFERRor:LIMit:UPPer

Syntax: CALCulate:RFERRor:LIMit:UPPer

Parameter/Return: -999 to 999

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:RFERRor:LIMit:UPPer 200
CALCulate:RFERRor:LIMit:UPPer?
```

17.15 CALCulate:RFERRor:LIMit:UPPer:STATe

Syntax: CALCulate:RFERRor:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State.

Example:

```
CALCulate:RFERRor:LIMit:UPPer:STATe On
CALCulate:RFERRor:LIMit:UPPer:STATe?
```

17.16 CALCulate:RFERRor:PPM:LIMit:FAIL

Syntax: CALCulate:RFERRor:PPM:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Freq Error PPM Limit Status.

Example:

```
CALCulate:RFERRor:PPM:LIMit:FAIL?
```

17.17 CALCulate:SCLOCk:HZ:LIMit:LOWer

Syntax: CALCulate:SCLOCk:HZ:LIMit:LOWer

Parameter/Return: 0-1000

Description: Sets/returns Lower Limit Hz.

Example:

```
CALCulate:SCLOCk:HZ:LIMit:LOWer 10
CALCulate:SCLOCk:HZ:LIMit:LOWer?
```

17.18 CALCulate:SCLOCk:HZ:LIMit:UPPer

Syntax: CALCulate:SCLOCk:HZ:LIMit:UPPer

Parameter/Return: 0-1000

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:SCLOCk:HZ:LIMit:UPPer 10
CALCulate:SCLOCk:HZ:LIMit:UPPer?
```

17.19 CALCulate:SCLOCk:LIMit:FAIL

Syntax: CALCulate:SCLOCk:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Symbol Clock Error Limit Status.

Example:

```
CALCulate:SCLOCk:LIMit:FAIL?
```

17.20 CALCulate:SCLOCk:LIMit:LOWer:STATe

Syntax: CALCulate:SCLOCk:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer:STATe On
CALCulate:SCLOCk:LIMit:LOWer:STATe?
```

17.21 CALCulate:SCLOCk:LIMit:UPPer:STATe

Syntax: CALCulate:SCLOCk:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit State

Example:

```
CALCulate:SCLOCk:LIMit:UPPer:STATe On
CALCulate:SCLOCk:LIMit:UPPer:STATe?
```

17.22 CALCulate:SCLOCk:PPM:LIMit:LOWer

Syntax: CALCulate:SCLOCk:PPM:LIMit:LOWer

Parameter/Return: 0-999

Description: Sets/returns Lower Limit Value.

Example:

```
CALCulate:SCLOCk:PPM:LIMit:LOWer 10
CALCulate:SCLOCk:PPM:LIMit:LOWer?
```

17.23 CALCulate:SCLOCk:PPM:LIMit:UPPer

Syntax: CALCulate:SCLOCk:PPM:LIMit:UPPer

Parameter/Return: 0-999

Description: Sets/returns Upper Limit

Example:

```
CALCulate:SCLOCk:PPM:LIMit:UPPer 10
CALCulate:SCLOCk:PPM:LIMit:UPPer?
```

17.24 CALCulate:SDEViation:LIMit:FAIL

Syntax: CALCulate:SDEViation:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Limit Status.

Example:

```
CALCulate:SDEViation:LIMit:FAIL?
```

17.25 CALCulate:SDEViation:LIMit:LOWer

Syntax: CALCulate:SDEViation:LIMit:LOWer

Parameter/Return: 0-9999

Description: Sets/returns Lower Limit

Example:

```
CALCulate:SDEViation:LIMit:LOWer 5
CALCulate:SDEViation:LIMit:LOWer?
```

17.26 CALCulate:SDEViation:LIMit:LOWer:STATe

Syntax: CALCulate:SDEViation:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit Enable

Example:

```
CALCulate:SDEViation:LIMit:LOWer:STATe On
CALCulate:SDEViation:LIMit:LOWer:STATe?
```

17.27 CALCulate:SDEViation:LIMit:UPPer

Syntax: CALCulate:SDEViation:LIMit:UPPer

Parameter/Return: 0-9999

Description: Sets/returns Upper Limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer 67
CALCulate:SDEViation:LIMit:UPPer?
```

17.28 CALCulate:SDEViation:LIMit:UPPer:STATe

Syntax: CALCulate:SDEViation:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit Enable

Example:

```
CALCulate:SDEViation:LIMit:UPPer:STATe On
CALCulate:SDEViation:LIMit:UPPer:STATe?
```

17.29 CALCulate:SPOWer:DBM:LIMit:LOWer

Syntax: CALCulate:SPOWer:DBM:LIMit:LOWer

Parameter/Return: -100 to 50

Description: Sets/returns Lower Limit dBm

Example:

```
CALCulate:SPOWer:DBM:LIMit:LOWer 10
CALCulate:SPOWer:DBM:LIMit:LOWer?
```

17.30 CALCulate:SPOWer:DBM:LIMit:UPPer

Syntax: CALCulate:SPOWer:DBM:LIMit:UPPer

Parameter/Return: -100 to 50

Description: Sets/returns Upper Limit dBm.

Example:

```
CALCulate:SPOWer:DBM:LIMit:UPPer 10
CALCulate:SPOWer:DBM:LIMit:UPPer?
```

17.31 CALCulate:SPOWer:DBR:LIMit:LOWer

Syntax: CALCulate:SPOWer:DBR:LIMit:LOWer

Parameter/Return: -100 to 50

Description: Sets/returns Lower Limit dBr

Example:

```
CALCulate:SPOWer:DBR:LIMit:LOWer 10
CALCulate:SPOWer:DBR:LIMit:LOWer?
```

17.32 CALCulate:SPOWer:DBR:LIMit:UPPer

Syntax: CALCulate:SPOWer:DBR:LIMit:UPPer

Parameter/Return: -100 to 50

Description: Sets/returns Upper Limit dBr

Example:

```
CALCulate:SPOWer:DBR:LIMit:UPPer 10
CALCulate:SPOWer:DBR:LIMit:UPPer?
```

17.33 CALCulate:SPOWer:LIMit:FAIL

Syntax: CALCulate:SPOWer:LIMit:FAIL

Parameter/Return: 0-Off, 1-Pass, 2-Fail High, 3-Fail Low

Description: You can query Signal Power Limit Status.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
```

17.34 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax: CALCulate:SPOWer:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Lower Limit Enable.

Example:

```
CALCulate:SPOWer:LIMit:LOWer:STATe On
CALCulate:SPOWer:LIMit:LOWer:STATe?
```

17.35 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax: CALCulate:SPOWer:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Upper Limit Enable.

Example:

```
CALCulate:SPOWer:LIMit:UPPer:STATe On
CALCulate:SPOWer:LIMit:UPPer:STATe?
```

17.36 CALCulate:SPOWer:WATT:LIMit:LOWer

Syntax: CALCulate:SPOWer:WATT:LIMit:LOWer

Parameter/Return: 0-100

Description: Sets/returns Lower Limit Watts.

Example:

```
CALCulate:SPOWer:WATT:LIMit:LOWer 10
CALCulate:SPOWer:WATT:LIMit:LOWer?
```

17.37 CALCulate:SPOWer:WATT:LIMit:UPPer

Syntax: CALCulate:SPOWer:WATT:LIMit:UPPer

Parameter/Return: 0-100

Description: Sets/returns Upper Limit Watts.

Example:

```
CALCulate:SPOWer:WATT:LIMit:UPPer 50
CALCulate:SPOWer:WATT:LIMit:UPPer?
```

17.38 DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

Syntax: DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

Parameter/Return: VSCALE_1dB | VSCALE_2dB | VSCALE_5dB | VSCALE_10dB | VSCALE_15dB | VSCALE_20dB

Description: Sets/returns vertical scale per division.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision
VSCALE_10dB
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision?
```

17.39 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax: DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP

Parameter/Return: -130 to 30

Description: Sets/returns Top of vertical scale.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:TOP 10
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:TOP?
```

17.40 MEASure:ALGID

Syntax: MEASure:ALGID

Parameter/Return: None

Description: You can query ALGID Reading.

Example:

```
MEASure:ALGID?
```

17.41 MEASure:BER

Syntax: MEASure:BER

Parameter/Return: None

Description: You can query BER Live Reading.

Example:

```
MEASure:BER? 5.0
```

17.42 MEASure:BER:AVERage

Syntax: MEASure:BER:AVERage

Parameter/Return: None

Description: Sets/returns BER Average Reading

Example:

```
MEASure:BER:AVERage? 5.0
```

17.43 MEASure:BER:MAXimum

Syntax: MEASure:BER:MAXimum?

Parameter/Return: None

Description: You can query BER Maximum Reading.

Example:

```
MEASure:BER:MAXimum? 5.0
```

17.44 MEASure:BER:MINimum

Syntax: MEASure:BER:MINimum

Parameter/Return: None

Description: You can query BER Minimum Reading.

Example:

```
MEASure:BER:MINimum?
```

17.45 MEASure:DATA:SIGNal

Syntax: MEASure:DATA:SIGNal

Parameter/Return: None

Description: Sets/returns Data Signal.

Example:

```
MEASure:DATA:SIGNal?
```

17.46 MEASure:EMERgency

Syntax: MEASure:EMERgency

Parameter/Return: None

Description: You can query Emergency

Example:

```
MEASure:EMERgency?
```

17.47 MEASure:KEYID

Syntax: MEASure:KEYID

Parameter/Return: None

Description: You can query Key ID.

Example:

```
MEASure:KEYID?
```

17.48 MEASure:LCONTrol

Syntax: MEASure:LCONTrol

Parameter/Return: None

Description: You can query Link Control.

Example:

```
MEASure:LCONTrol?
```

17.49 MEASure:MFID

Syntax: MEASure:MFID

Parameter/Return: None

Description: You can query to measure MFID.

Example:

```
MEASure:MFID?
```

17.50 MEASure:MFIDelity

Syntax: MEASure:MFIDelity

Parameter/Return: None

Description: You can query Live Reading.

Example:

```
MEASure:MFIDelity?
```

17.51 MEASure:MFIDelity:AVERage

Syntax: MEASure:MFIDelity:AVERage

Parameter/Return: None

Description: Sets/returns Average Reading

Example:

```
MEASure:MFIDelity:AVERage?
```

17.52 MEASure:MFIDelity:MAXimum

Syntax: MEASure:MFIDelity:MAXimum

Parameter/Return: None

Description: You can query Maximum Reading.

Example:

```
MEASure:MFIDelity:MAXimum?
```

17.53 MEASure:MFIDelity:MINimum

Syntax: MEASure:MFIDelity:MINimum

Parameter/Return: None

Description: You can query Minimum Reading.

Example:

```
MEASure:MFIDelity:MINimum?
```

17.54 MEASure:NAC

Syntax: MEASure:NAC

Parameter/Return: None

Description: You can query NAC Reading.

Example:

```
MEASure:NAC?
```

17.55 MEASure:RFERRor

Syntax: MEASure:RFERRor

Parameter/Return: None

Description: You can query Live Freq Error Meter Reading.

Example:

```
MEASure:RFERRor?
```

17.56 MEASure:RFERRor:AVERage

Syntax: MEASure:RFERRor:AVERage

Parameter/Return: None

Description: You can query Average Freq Error Meter Reading.

Example:

```
MEASure:RFERRor:AVERage?
```

17.57 MEASure:RFERRor:MAXimum

Syntax: MEASure:RFERRor:MAXimum

Parameter/Return: None

Description: You can query Minimum Freq Error Meter Reading

Example:

```
MEASure:RFERRor:MINimum
```

17.58 MEASure:RFERRor:PPM

Syntax: MEASure:RFERRor:PPM

Parameter/Return: None

Description: You can query Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM
```

17.59 MEASure:RFERRor:PPM:AVERage

Syntax: MEASure:RFERRor:PPM:AVERage

Parameter/Return: None

Description: You can query Average Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:AVERage?
```

17.60 MEASure:RFERRor:PPM:MAXimum

Syntax: MEASure:RFERRor:PPM:MAXimum

Parameter/Return: None

Description: You can query Maximum Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:MAXimum?
```

17.61 MEASure:RFERRor:PPM:MINimum

Syntax: MEASure:RFERRor:PPM:MINimum

Parameter/Return: None

Description: You can query Minimum Freq Error Meter PPM Reading.

Example:

```
MEASure:RFERRor:PPM:MINimum?
```

17.62 MEASure:SCLOCk

Syntax: MEASure:SCLOCk

Parameter/Return: None

Description: You can query Live Symbol Clock Error.

Example:

```
MEASure:SCLOCk?
```

17.63 MEASure:SCLOCk:AVERage

Syntax: MEASure:SCLOCk:AVERage

Parameter/Return: None

Description: You can query Symbol Clock Error Average.

Example:

```
MEASure:SCLOCk:AVERage?
```

17.64 MEASure:SCLOCk:MAXimum

Syntax: MEASure:SCLOCk:MAXimum

Parameter/Return: None

Description: You can query Maximum Symbol Clock Error.

Example:

```
MEASure:SCLOCk:MAXimum?
```

17.65 MEASure:SCLOCk:MINimum

Syntax: MEASure:SCLOCk:MINimum

Parameter/Return: None

Description: Sets/returns Minimum Symbol Clock Error.

Example:

```
MEASure:SCLOCk:MINimum?
```

17.66 MEASure:SDEViation

Syntax: MEASure:SDEViation

Parameter/Return: None

Description: You can query Live Symbol Deviation.

Example:

```
MEASure:SDEViation?
```

17.67 MEASure:SDEViation:AVERage

Syntax: MEASure:SDEViation:AVERage

Parameter/Return: None

Description: You can query Symbol Deviation Average.

Example:

```
MEASure:SDEViation:AVERage?
```

17.68 MEASure:SDEViation:MAXimum

Syntax: MEASure:SDEViation:MAXimum

Parameter/Return: None

Description: You can query Maximum Symbol Deviation.

Example:

```
MEASure:SDEViation:MAXimum?
```

17.69 MEASure:SDEViation:MINimum

Syntax: MEASure:SDEViation:MINimum

Parameter/Return: None

Description: You can query Minimum Symbol Deviation.

Example:

MEASure:SDEViation:MINimum?

17.70 MEASure:SPOWer

Syntax: MEASure:SPOWer

Parameter/Return: None

Description: You can query Live Signal Power.

Example:

```
MEASure:SPOWer?
```

17.71 MEASure:SPOWer:AVERage

Syntax: MEASure:SPOWer:AVERage

Parameter/Return: None

Description: You can query Signal Power Average.

Example:

```
MEASure:SPOWer:AVERage?
```

17.72 MEASure:SPOWer:MAXimum

Syntax: MEASure:SPOWer:MAXimum

Parameter/Return: None

Description: You can query Signal Power Maximum.

Example:

MEASure:SPOWer:MAXimum?

17.73 MEASure:SPOWer:MINimum

Syntax: MEASure:SPOWer:MINimum

Parameter/Return: None

Description: You can query Signal Power Minimum

Example:

```
MEASure:SPOWer:MINimum?
```

17.74 MEASure:STATion:ID

Syntax: MEASure:STATion:ID

Parameter/Return: None

Description: You can query Station ID.

Example:

```
MEASure:STATion:ID?
```

17.75 MEASure:TGID

Syntax: MEASure:TGID

Parameter/Return: None

Description: You can query to measure TGID.

Example:

```
MEASure:TGID?
```

17.76 SENSe:AUDio:FILTer

Syntax: SENSe:AUDio:FILTer

Parameter/Return: None

Description: Sets/returns Filter Selection.

Example:

```
SENSe:AUDio:FILTer None
SENSe:AUDio:FILTer?
```

17.77 SENSe:BER:AVERage:COUNt

Syntax: SENSe:BER:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:BER:AVERage:COUNt 1
SENSe:BER:AVERage:COUNt?
```

17.78 SENSe:BER:NAC

Syntax: SENSe:BER:NAC

Parameter/Return: 0-0x7FFFFFFF but must be entered in the decimal equivalent of 0-2147483647

Description: Sets/returns NAC.

Example:

```
SENSe:BER:NAC 293
SENSe:BER:NAC?
```

17.79 SENSe:BER:PATTern

Syntax: SENSe:BER:PATTern

Parameter/Return: STD 1011 | STD Cal | STD 511 | STD Interferer | STD Busy | STD AFC | STD Idle | Framesync

Description: Sets/returns Ber Pattern.

Example:

```
SENSe:BER:PATTern STD 1011
SENSe:BER:PATTern?
```

17.80 SENSe:BER:SCALe

Syntax: SENSe:BER:SCALe

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Scale.

Example:

```
SENSe:BER:SCALe 50%
SENSe:BER:SCALe?
```

17.81 SENSe:BER:TYPE

Syntax: SENSe:BER:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:BER:TYPE Live
SENSe:BER:TYPE?
```

17.82 SENSe:HOLD

Syntax: SENSe:HOLD

Parameter/Return: Off | On

Description: Sets/returns Hold.

Example:

```
SENSe:HOLD On
SENSe:HOLD?
```

17.83 SENSe:MFIDelity:AVERage:COUNt

Syntax: SENSe:MFIDelity:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:MFIDelity:AVERage:COUNt 1
SENSe:MFIDelity:AVERage:COUNt?
```

17.84 SENSe:MFIDelity:SCALe

Syntax: SENSe:MFIDelity:SCALe

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Scale.

Example:

```
SENSe:MFIDelity:SCALe 100%
SENSe:MFIDelity:SCALe?
```

17.85 SENSe:MFIDelity:TYPE

Syntax: SENSe:MFIDelity:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:MFIDelity:TYPE Live
SENSe:MFIDelity:TYPE?
```

17.86 SENSe:PHASe2:BER:PATTern

Syntax: SENSe:PHASe2:BER:PATTern

Parameter/Return: STD 1031 | STD Cal | STD Silence

Description: Sets/returns Phase II Ber Pattern.

Example:

```
SENSe:PHASe2:BER:PATTern STD 1031
SENSe:PHASe2:BER:PATTern?
```

17.87 SENSe:PPROFile:AVERage:COUNt

Syntax: SENSe:PPROFile:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns SENSe:PPROFile:AVERage:COUNt 1

Example:

```
SENSe:PPROFile:AVERage:COUNt 1
SENSe:PPROFile:AVERage:COUNt?
```

17.88 SENSe:PPROFile:MODE

Syntax: SENSe:PPROFile:MODE

Parameter/Return: FULL | RAMPS

Description: Sets/returns the Mode.

Example:

```
SENSe:PPROFile:MODE FULL
SENSe:PPROFile:MODE?
```

17.89 SENSe:PPROFile:PERSistence

Syntax: SENSe:PPROFile:PERSistence

Parameter/Return: 1-10

Description: Sets/returns Persistence.

Example:

```
SENSe:PPROFile:PERSistence 1
SENSe:PPROFile:PERSistence?
```

17.90 SENSe:PPROFile:SLOT

Syntax: SENSe:PPROFile:SLOT

Parameter/Return: SlotA | SlotB

Description: Sets/returns Slot.

Example:

```
SENSe:PPROFile:SLOT SlotA
SENSe:PPROFile:SLOT?
```

17.91 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: None

Description: You can Reset Acquisition.

Example:

```
SENSe:RESet
```

17.92 SENSe:RFErr:AVERage:COUNt

Syntax: SENSe:RFErr:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:RFErr:AVERage:COUNt 1
SENSe:RFErr:AVERage:COUNt?
```

17.93 SENSe:RFErr:SCALe

Syntax: SENSe:RFErr:SCALe

Parameter/Return: Auto| 5 MHz | 2 MHz | 1 MHz | 500 kHz | 200 kHz | 100 kHz | 50 kHz | 20 kHz | 10 kHz | 5 kHz | 2 kHz | 1 kHz | 500 Hz | 200

Hz | 100 Hz

Description: Sets/returns Scale.

Example:

```
SENSe:RFErr:SCALe Auto
SENSe:RFErr:SCALe?
```

17.94 SENSe:RFErr:TYPE

Syntax: SENSe:RFErr:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type

Example:

```
SENSe:RFErr:TYPE Live
SENSe:RFErr:TYPE?
```

17.95 SENSe:SCLOCk:AVERage:COUNt

Syntax: SENSe:SCLOCk:AVERage:COUNt

Parameter/Return:

Description: Sets/returns the Average Clock Count.

Example:

```
SENSe:SCLOCk:AVERage:COUNt 1
SENSe:SCLOCk:AVERage:COUNt?
```

17.96 SENSe:SCLOCk:DECimal:PRECision

Syntax: SENSe:SCLOCk:DECimal:PRECision

Parameter/Return: 0-9

Description: Sets/returns the Decimal Precision.

Example:

```
SENSe:SCLOCk:DECimal:PRECision 1
SENSe:SCLOCk:DECimal:PRECision?
```

17.97 SENSe:SCLOCk:HZ:SCALe

Syntax: SENSe:SCLOCk:HZ:SCALe

Parameter/Return: Auto | 1000 mHz | 500 mHz | 200 mHz | 100 mHz | 50 mHz | 20 mHz | 10 mHz | 5 mHz | 2 mHz | 1 mHz

Description: Sets/returns the Hz Scale.

Example:

```
SENSe:SCLOCk:HZ:SCALe Auto
SENSe:SCLOCk:HZ:SCALe?
```

17.98 SENSe:SCLOCk:PPM:SCALe

Syntax: SENSe:SCLOCk:PPM:SCALe

Parameter/Return: Auto | 100 ppm | 50 ppm | 20 ppm | 10 ppm | 5 ppm | 2 ppm | 1 ppm

Description: Sets/returns the PPM Scale.

Example:

```
SENSe:SCLOCk:PPM:SCALe Auto
SENSe:SCLOCk:PPM:SCALe?
```

17.99 SENSe:SCLOCk:TYPE

Syntax: SENSe:SCLOCk:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Reading Type.

Example:

```
SENSe:SCLOCk:TYPE Live
SENSe:SCLOCk:TYPE?
```

17.100 SENSe:SCLOCk:UNIT

Syntax: SENSe:SCLOCk:UNIT

Parameter/Return: ppm | mHz

Description: Sets/returns the clock Unit.

Example:

```
SENSe:SCLOCk:UNIT ppm
SENSe:SCLOCk:UNIT?
```

17.101 SENSe:SDEViation:AVERage:COUNt

Syntax: SENSe:SDEViation:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns Average Count.

Example:

```
SENSe:SDEViation:AVERage:COUNt 2
SENSe:SDEViation:AVERage:COUNt?
```

17.102 SENSe:SDEViation:DECimal:PRECision

Syntax: SENSe:SDEViation:DECimal:PRECision

Parameter/Return: 0-9

Description: Sets/returns Decimal Precision.

Example:

```
SENSe:SDEViation:DECimal:PRECision 2
SENSe:SDEViation:DECimal:PRECision?
```

17.103 SENSe:SDEViation:SCALe

Syntax: SENSe:SDEViation:SCALe

Parameter/Return: Auto | 10 kHz - 1 Hz in 1, 2, 5 sequence

Description: Sets/returns the Deviation Scale.

Example:

```
SENSe:SDEViation:SCALe Auto
SENSe:SDEViation:SCALe?
```

17.104 SENSe:SDEViation:TYPE

Syntax: SENSe:SDEViation:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns the Reading Type.

Example:

```
SENSe:SDEViation:TYPE Live
SENSe:SDEViation:TYPE?
```

17.105 SENSe:SPOWer:AVERage:COUNt

Syntax: SENSe:SPOWer:AVERage:COUNt

Parameter/Return: 1-99

Description: Sets/returns the Average Signal Power Count.

Example:

```
SENSe:SPOWer:AVERage:COUNt 5
SENSe:SPOWer:AVERage:COUNt?
```

17.106 SENSe:SPOWer:DBM:SCALe

Syntax: SENSe:SPOWer:DBM:SCALe

Parameter/Return: Auto | 60 dBm to -100 dBm in 10 dB steps

Description: Sets/returns the dBm Scale.

Example:

```
SENSe:SPOWer:DBM:SCALe Auto
SENSe:SPOWer:DBM:SCALe?
```

17.107 SENSe:SPOWer:DBR:SCALe

Syntax: SENSe:SPOWer:DBR:SCALe

Parameter/Return: Auto | 60 dBm to -100 dBm in 10 dB steps

Description: Sets/returns the dBr Scale.

Example:

```
SENSe:SPOWer:DBR:SCALe Auto
SENSe:SPOWer:DBR:SCALe?
```

17.108 SENSe:SPOWer:DECimal:PRECision

Syntax: SENSe:SPOWer:DECimal:PRECision

Parameter/Return: 0-9

Description: Sets/returns the Signal Power Decimal Precision.

Example:

```
SENSe:SPOWer:DECimal:PRECision 1
SENSe:SPOWer:DECimal:PRECision?
```

17.109 SENSe:SPOWer:RLEVel

Syntax: SENSe:SPOWer:RLEVel

Parameter/Return: None

Description: You can query the Reference Level of Signal Power.

Example:

```
SENSe:SPOWer:RLEVel?
```

17.110 SENSe:SPOWer:SREFerence

Syntax: SENSe:SPOWer:SREFerence

Parameter/Return: None

Description: You can set the RSSI Reference Level.

Example:

```
SENSe:SPOWer:SREFerence?
```

17.111 SENSe:SPOWer:TYPE

Syntax: SENSe:SPOWer:TYPE

Parameter/Return: Live | Min | Max | Avg

Description: Sets/returns Signal Power Reading Type.

Example:

```
SENSe:SPOWer:TYPE Live
SENSe:SPOWer:TYPE?
```

17.112 SENSe:SPOWer:UNIT

Syntax: SENSe:SPOWer:UNIT

Parameter/Return: dBm | dBr | W

Description: Sets/returns the Signal Power Unit.

Example:

```
SENSe:SPOWer:UNIT dBm
SENSe:SPOWer:UNIT?
```

17.113 SENSe:SPOWer:WATT:SCALe

Syntax: SENSe:SPOWer:WATT:SCALe

Parameter/Return: Auto | 1 pW - 200 W in 1,2,5 sequence

Description: Sets/returns Signal Power Scale Watts.

Example:

```
SENSe:SPOWer:WATT:SCALe 5 w
SENSe:SPOWer:WATT:SCALe?
```

17.114 SENSe:TYPE

Syntax: SENSe:TYPE

Parameter/Return: C4FM | HCPM | HDQPSK | FM

Description: Sets/returns Demod Type.

Example:

```
SENSe:TYPE C4FM
SENSe:TYPE?
```

17.115 SOURce:ALGID

Syntax: SOURce:ALGID

Parameter/Return: 0-0xFF

Description: Sets/returns ALGID.

Example:

```
SOURce:ALGID 80
SOURce:ALGID?
```

17.116 SOURce:BER:PATTern

Syntax: SOURce:BER:PATTern

Parameter/Return: STD 511 | STD 1011 | STD Cal | STD Silence | STD AFC | STD Busy | STD Idle | STD Interferer | STD LDU1 | STD LDU2 | STD SymbolRate | 1011 | Silence | Stored Speech

Description: Sets/returns Pattern.

Example:

```
SOURce:BER:PATTern 1011
SOURce:BER:PATTern?
```

17.117 SOURce:EMERgency

Syntax: SOURce:EMERgency

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns Emergency.

Example:

```
SOURce:EMERgency Off
SOURce:EMERgency?
```

17.118 SOURce:HCPM:MODE

Syntax: SOURce:HCPM:MODE

Parameter/Return: Sync | Free Run

Description: Sets/returns the HCPM Mode.

Example:

```
SOURce:HCPM:MODE Sync
SOURce:HCPM:MODE?
```

17.119 SOURce:HCPM:PATTern

Syntax: SOURce:HCPM:PATTern

Parameter/Return: IB STD 1031 | IB STD Cal | IB STD Silence

Description: Sets/returns the HCPM Pattern.

Example:

```
SOURce:HCPM:PATTern IB STD Cal
SOURce:HCPM:PATTern?
```

17.120 SOURce:HCPM:SLOT

Syntax: SOURce:HCPM:SLOT

Parameter/Return: Slot 0 | Slot 1

Description: Sets/returns the HCPM Slot.

Example:

```
SOURce:HCPM:SLOT Slot 0
SOURce:HCPM:SLOT Slot?
```

17.121 SOURce:HDQPsk:PATTern

Syntax: SOURce:HDQPsk:PATTern

Parameter/Return: OB STD 1031 | OB STD Cal | OB STD Silence

Description: Sets/returns HDQPsk Pattern.

Example:

```
SOURce:HDQPsk:PATTern OB STD Cal
SOURce:HDQPsk:PATTern?
```

17.122 SOURce:LCO

Syntax: SOURce:LCO

Parameter/Return: 0-0x3F

Description: Sets/returns LCO.

Example:

```
SOURce:LCO 0
SOURce:LCO?
```

17.123 SOURce:MFID

Syntax: SOURce:MFID

Parameter/Return: 0-0xFF

Description: Sets/returns MFID.

Example:

```
SOURce:MFID 0
SOURce:MFID?
```

17.124 SOURce:NAC

Syntax: SOURce:NAC

Parameter/Return: 0-0xFFF

Description: You can set or the query NAC.

Example:

```
SOURce:NAC 0
SOURce:NAC?
```

17.125 SOURce:PRIority

Syntax: SOURce:PRIority

Parameter/Return: 0-7

Description: Sets/returns the Priority.

Example:

```
SOURce:PRIority 0
SOURce:PRIority?
```

17.126 SOURce:SERvice:OPTion

Syntax: SOURce:SERvice:OPTion

Parameter/Return: 0-0xFF

Description: Sets/returns the Service Option.

Example:

```
SOURce:SERvice:OPTion 0
SOURce:SERvice:OPTion?
```

17.127 SOURce:SOURce:ID

Syntax: SOURce:SOURce:ID

Parameter/Return: 0-0xFFFFFF

Description: Sets/returns Source ID

Example:

```
SOURce:SOURce:ID 0
SOURce:SOURce:ID?
```

17.128 SOURce:STATus

Syntax: SOURce:STATus

Parameter/Return: 0-3

Description: Sets/returns the Source Status.

Example:

```
SOURce:STATus 0
SOURce:STATus?
```

17.129 SOURce:TGID

Syntax: SOURce:TGID

Parameter/Return: 0-0xFFFF

Description: Sets/returns TGID.

Example:

```
SOURce:TGID 0
SOURce:TGID?
```

17.130 SOURce:TYPE

Syntax: SOURce:TYPE

Parameter/Return: C4FM | LSM | CQPSK | HCPM | HDQPSK | FM

Description: Sets/returns the Source Type.

Example:

```
SOURce:TYPE C4FM
SOURce:TYPE?
```

18

DMR Modulator Commands

This chapter describes the following remote commands for configuring DMR Modulator (DMRModulator) settings:

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- SOURce:BER:COLor:CODE 18-2
- SOURce:BER:PATTern 18-3
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- SOURce:TYPE 18-10

18.1 SOURce:BER:CALLid

Syntax:

SOURce:BER:CALLid

SOURce:BER:CALLid?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BER call ID.

Examples:

```
SOURce:BER:CALLid 1
SOURce:BER:CALLid?
1
```

18.2 SOURce:BER:COLor:CODE

Syntax:

SOURce:BER:COLor:CODE

SOURce:BER:COLor:CODE?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BER color code.

Examples:

```
SOURce:BER:COLor:CODE 1
SOURce:BER:COLor:CODE?
1
```

18.3 SOURce:BER:PATTern

Syntax:

SOURce:BER:PATTern

SOURce:BER:PATTern?

Parameter/Return: IB STD 1031 | IB STD 0.153 | IB STD Calibration | IB STD Silence | IB STD Voice Sync | IB STD Data Sync | OB Tsync | IB 1031 |IB 0.153| IB Calibration | IB Silence | Stored Speech

Note: Default = IB STD 1031

Description: Sets/returns the BER pattern.

Examples:

```
SOURce:BER:PATTern IB STD 1031
SOURce:BER:PATTern?
IB STD 1031
```

18.4 SOURce:BER:PRIority

Syntax:

SOURce:BER:PRIority

SOURce:BER:PRIority?

Parameter/Return: 0 to 7

Note: Default = 0

Description: Sets/returns the BER priority.

Examples:

```
SOURce:BER:PRIority 1
SOURce:BER:PRIority?
1
```

18.5 SOURce:BER:RADioid

Syntax:

SOURce:BER:RADioid

SOURce:BER:RADioid?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the BER radio ID.

Examples:

```
SOURce:BER:RADioid 1
SOURce:BER:RADioid?
1
```

18.6 SOURce:BER:SLOT

Syntax:

SOURce:BER:SLOT

SOURce:BER:SLOT?

Parameter/Return: 0 to 1

Note: Default = 0

Description: Sets/returns the BER slot.

Examples:

```
SOURce:BER:SLOT 1
SOURce:BER:SLOT?
1
```

18.7 SOURce:CURRent?

Syntax: SOURce:CURRent?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the DMR status.

Examples:

```
SOURce:BER:RADioid On
SOURce:BER:RADioid?
On
```

18.8 SOURce:FM1:FREQuency

Syntax:

SOURce:FM1:FREQuency

SOURce:FM1:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 0

Description: Sets/returns the MOD1 frequency (Hz).

Examples:

```
SOURce:FM1:FREQuency 1000
SOURce:FM1:FREQuency?
1000
```

18.9 SOURce:FM1:LEVel

Syntax:

SOURce:FM1:LEVel

SOURce:FM1:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD1 level (Hz).

Examples:

```
SOURce:FM1:LEVel 10000
SOURce:FM1:LEVel?
10000
```

18.10 SOURce:FM1:STATe

Syntax:

SOURce:FM1:STATe

SOURce:FM1:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD1 status.

Examples:

```
SOURce:FM1:STATe On
SOURce:FM1:STATe?
On
```

18.11 SOURce:FM2:FREQuency

Syntax:

SOURce:FM2:FREQuency

SOURce:FM2:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 20000

Description: Sets/returns the MOD2 frequency (Hz).

Examples:

```
SOURce:FM2:FREQuency 1000
SOURce:FM2:FREQuency?
1000
```

18.12 SOURce:FM2:LEVel

Syntax:

SOURce:FM2:LEVel

SOURce:FM2:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD2 level (Hz).

Examples:

```
SOURce:FM2:LEVel 10000
SOURce:FM2:LEVel?
10000
```

18.13 SOURce:FM2:STATe

Syntax:

SOURce:FM2:STATe

SOURce:FM2:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD2 status.

Examples:

```
SOURce:FM2:STATe On
SOURce:FM2:STATe?
On
```

18.14 SOURce:FM3:FREQuency

Syntax:

SOURce:FM3:FREQuency

SOURce:FM3:FREQuency?

Parameter/Return: 0 to 20000

Note: Default = 0

Description: Sets/returns the MOD3 frequency (Hz).

Examples:

```
SOURce:FM3:FREQuency 10000
SOURce:FM3:FREQuency?
10000
```

18.15 SOURce:FM3:LEVel

Syntax:

SOURce:FM3:LEVel

SOURce:FM3:LEVel?

Parameter/Return: 0 to 100000

Note: Default = 0

Description: Sets/returns the MOD3 level (Hz).

Examples:

```
SOURce:FM3:LEVel 1000
SOURce:FM3:LEVel?
1000
```

18.16 SOURce:FM3:STATe

Syntax:

SOURce:FM3:STATe

SOURce:FM3:STATe?

Parameter/Return: Off | On | 0 | 1

Note: Default = Off

Description: Sets/returns the MOD3 status.

Examples:

```
SOURce:FM3:STATe On
SOURce:FM3:STATe?
On
```

18.17 SOURce:MODE

Syntax:

SOURce:MODE

SOURce:MODE?

Parameter/Return: Sync | Direct

Note: Default = Sync

Description: Sets/returns the DMR mode.

Examples:

```
SOURce:MODE Direct
SOURce:MODE?
Direct
```

18.18 SOURce:TYPE

Syntax:

SOURce:TYPE

SOURce:TYPE?

Parameter/Return: FM | DMR

Note: Default = DMR

Description: Sets/returns the modulation type.

Examples:

```
SOURce:FM3:STATe FM
SOURce:FM3:STATe?
FM
```

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DMR Demodulator Commands

This chapter describes the following remote commands for configuring DMR Demodulator (DMRDemodulator) settings:

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19.1 CALCulate:BER:LIMit:FAIL

Syntax: CALCulate:BER:LIMit:FAIL

Parameter/Return: None

Description: You can query the BER Limit Status.1- Pass | 2- Fail High | 3- Fail Low

Example:

```
CALCulate:BER:LIMit:FAIL?
```

19.2 CALCulate:BER:LIMit:LOWer

Syntax: CALCulate:BER:LIMit:LOWer

Parameter/Return: On | Off

Description: Sets/returns the BER Lower limit.

Example:

```
CALCulate:BER:LIMit:LOWer On
CALCulate:BER:LIMit:LOWer?
```

19.3 CALCulate:BER:LIMit:UPPer

Syntax: CALCulate:BER:LIMit:UPPer

Parameter/Return: 0.0 to 90.0%

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:BER:LIMit:UPPer 20
CALCulate:BER:LIMit:UPPer?
```

19.4 CALCulate:BER:LIMit:UPPer:STATe

Syntax: CALCulate:BER:LIMit:UPPer:STATe

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:BER:LIMit:UPPer:STATe On
CALCulate:BER:LIMit:UPPer:STATe?
```

19.5 CALCulate:FERRor:LIMit:FAIL

Syntax: CALCulate:FERRor:LIMit:FAIL

Parameter/Return: None

Description: Queries the Frequency Error Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:FERRor:LIMit:FAIL?
```

19.6 CALCulate:FERRor:LIMit:LOWer

Syntax: CALCulate:FERRor:LIMit:LOWer

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer
CALCulate:FERRor:LIMit:LOWer?
```

19.7 CALCulate:FERRor:LIMit:LOWer:STATe

Syntax: CALCulate:FERRor:LIMit:LOWer:STATe

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns the Frequency Error Lower Limit State.

Example:

```
CALCulate:FERRor:LIMit:LOWer:STATe On
CALCulate:FERRor:LIMit:LOWer:STATe?
```

19.8 CALCulate:FERRor:LIMit:UPPer:STATe

Syntax: CALCulate:FERRor:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Frequency Error Upper Limit State.

Example:

```
CALCulate:FERRor:LIMit:UPPer:STATe On
CALCulate:FERRor:LIMit:UPPer:STATe?
```

19.9 CALCulate:MERRor:LIMit:FAIL

Syntax: DMRDemodulatorCALCulate:MERRor:LIMit:FAIL?

Parameter/Return: None

Description: Queries the Magnitude Error Limit Status. Returns 0 if off, 1 if Pass, 2 if Fail high, three if Fail Low.

Example:

```
CALCulate:MERRor:LIMit:FAIL?
```

19.10 CALCulate:MERRor:LIMit:LOWer:STATe

Syntax: CALCulate:MERRor:LIMit:LOWer:STATe

Parameter/Return: Off | On | 1 | 0

Description: Sets/returns the Magnitude Error Lower Limit State

Example:

```
CALCulate:MERRor:LIMit:LOWer:STATe On
CALCulate:MERRor:LIMit:LOWer:STATe?
```

19.11 CALCulate:MERRor:LIMit:UPPer

Syntax: CALCulate:MERRor:LIMit:UPPer

Parameter/Return: 0.0 to 99.0

Description: Sets/returns the Magnitude Error Lower Limit.

Example:

```
CALCulate:MERRor:LIMit:UPPer 20.0
CALCulate:MERRor:LIMit:UPPer?
```

19.12 CALCulate:MERRor:LIMit:UPPer:STATe

Syntax: CALCulate:MERRor:LIMit:UPPer:STATe

Parameter/Return: On | Off

Description: Sets/returns the Magnitude Error Upper Limit State.

Example:

```
CALCulate:MERRor:LIMit:UPPer:STATe On
CALCulate:MERRor:LIMit:UPPer:STATe?
```

19.13 CALCulate:MFIDelity:LIMit:FAIL

Syntax: CALCulate:MFIDelity:LIMit:FAIL

Parameter/Return: None

Description: You can query the Mod Fidelity Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:MFIDelity:LIMit:FAIL?
```

19.14 CALCulate:MFIDelity:LIMit:LOWer

Syntax: CALCulate:MFIDelity:LIMit:LOWer

Parameter/Return: 0.0 to 99.0%

Description: Sets/returns the Mod Fidelity Lower Limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer 10.0
CALCulate:FERRor:LIMit:LOWer?
```

19.15 CALCulate:MFIDelity:LIMit:LOWer:STATe

Syntax: CALCulate:MFIDelity:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns Mod Fidelity Limit Lower State.

Example:

```
CALCulate:MFIDelity:LIMit:LOWer:STATe On
CALCulate:MFIDelity:LIMit:LOWer:STATe?
```

19.16 CALCulate:MFIDelity:LIMit:UPPer

Syntax: CALCulate:MFIDelity:LIMit:UPPer

Parameter/Return: 0.0 to 99.0%

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer 10.0
CALCulate:MFIDelity:LIMit:UPPer?
```

19.17 CALCulate:MFIDelity:LIMit:UPPer:STATe

Syntax: CALCulate:MFIDelity:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:MFIDelity:LIMit:UPPer:STATe On
CALCulate:MFIDelity:LIMit:UPPer:STATe?
```

19.18 CALCulate:SCLOCk:LIMit:FAIL

Syntax: CALCulate:SCLOCk:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Symbol Clock Error Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:FERRor:LIMit:LOWer?
```

19.19 CALCulate:SCLOCk:LIMit:LOWer

Syntax: CALCulate:SCLOCk:LIMit:LOWer

Parameter/Return: 0-1000mHz | 0-208.3ppm

Description: Sets/returns the Symbol Clock Error Lower Limit.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer 10.0
CALCulate:SCLOCk:LIMit:LOWer?
```

19.20 CALCulate:SCLOCk:LIMit:LOWer:STATe

Syntax: CALCulate:SCLOCk:LIMit:LOWer:STATe

Parameter/Return: On | Off

Description: Sets/returns the Symbol Clock Error Lower Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:LOWer:STATe On
CALCulate:SCLOCk:LIMit:LOWer:STATe?
```

19.21 CALCulate:SCLOCk:LIMit:UPPer

Syntax: CALCulate:SCLOCk:LIMit:UPPer

Parameter/Return: 0-1000mHz | 0-208.3ppm

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SCLOCk:LIMit:UPPer
CALCulate:SCLOCk:LIMit:UPPer?
```

19.22 CALCulate:SCLOCk:LIMit:UPPer:STATe

Syntax: CALCulate:SCLOCk:LIMit:UPPer:STATe

Parameter/Return: On | Off

Description: Sets/returns the Symbol Clock Error Upper Limit State.

Example:

```
CALCulate:SCLOCk:LIMit:UPPer:STATe On
CALCulate:SCLOCk:LIMit:UPPer:STATe?
```

19.23 CALCulate:SDEViation:LIMit:FAIL

Syntax: CALCulate:SDEViation:LIMit:FAIL

Parameter/Return: None

Description: You can query the Symbol Deviation Limit Status: Return 0 if Off, 1 if Pass, 2 if Fail high, 3 if Fail low

Example:

```
CALCulate:SDEViation:LIMit:FAIL?
```

19.24 CALCulate:SDEViation:LIMit:LOWer

Syntax: CALCulate:SDEViation:LIMit:LOWer

Parameter/Return: 0-9.999 kHz

Description: Sets/returns the Symbol Deviation Lower Limit.

Example:

```
CALCulate:SDEViation:LIMit:LOWer 1.0
CALCulate:SDEViation:LIMit:LOWer?
```

19.25 CALCulate:SDEViation:LIMit:LOWer:STATe

Syntax: CALCulate:SDEViation:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Symbol Deviation Lower Limit State

Example:

```
CALCulate:SDEViation:LIMit:LOWer:STATe On
CALCulate:SDEViation:LIMit:LOWer:STATe?
```

19.26 CALCulate:SDEViation:LIMit:UPPer

Syntax: CALCulate:SDEViation:LIMit:UPPer

Parameter/Return: 0-9.999 kHz

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer 2.0
CALCulate:SDEViation:LIMit:UPPer?
```

19.27 CALCulate:SDEViation:LIMit:UPPer:STATe

Syntax: CALCulate:SDEViation:LIMit:UPPer:STATe

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SDEViation:LIMit:UPPer:STATe On
CALCulate:SDEViation:LIMit:UPPer:STATe?
```

19.28 CALCulate:SLOT:POWer:LIMit:FAIL

Syntax: CALCulate:SLOT:POWer:LIMit:FAIL

Parameter/Return: On | Off

Description: You can query the Slot Power Limit Status: Return 0 if off, 1 if pass, 2 if fail high, 3 if fail low.

Example:

```
CALCulate:SLOT:POWer:LIMit:FAIL
CALCulate:FERRor:LIMit:LOWer?
```

19.29 CALCulate:SLOT:POWer:LIMit:LOWer

Syntax: CALCulate:FERRor:LIMit:LOWer

Parameter/Return: -130 dBm to 60 dBm | -130 dBW to 60 dBW |-130 W to 60 W | -130 V to 60 V | -130 dBuV to 60 dBuV

Description: Sets/returns the Slot Power Lower Limit.

Example:

```
CALCulate:SLOT:POWer:LIMit:LOWer 10.0
CALCulate:SLOT:POWer:LIMit:LOWer?
```

19.30 CALCulate:SLOT:POWer:LIMit:LOWer:STATe

Syntax: CALCulate:SLOT:POWer:LIMit:LOWer:STATe

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the Slot Power Lower Limit State

Example:

```
CALCulate:SLOT:POWer:LIMit:LOWer:STATe On
CALCulate:SLOT:POWer:LIMit:LOWer:STATe?
```

19.31 CALCulate:SLOT:POWer:LIMit:UPPer

Syntax: CALCulate:SLOT:POWer:LIMit:UPPer

Parameter/Return: -130 dBm to 60 dBm | -130 dBW to 60 dBW |-130 W to 60 W | -130 V to 60 V | -130 dBuV to 60 dBuV

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SLOT:POWer:LIMit:UPPer 10.0
CALCulate:SLOT:POWer:LIMit:UPPer?
```

19.32 CALCulate:SLOT:POWer:LIMit:UPPer:STATe

Syntax: CALCulate:SLOT:POWer:LIMit:UPPer:STATe

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the Slot Power Limit Upper State.

Example:

```
CALCulate:SLOT:POWer:LIMit:UPPer:STATe On
CALCulate:SLOT:POWer:LIMit:UPPer:STATe?
```

19.33 CALCulate:SLOT:POWer:RATio:LIMit:Fail

Syntax: CALCulate:SLOT:POWer:RATio:LIMit:Fail?

Parameter/Return: On | Off

Description: Sets/returns the Slot Power Ratio Limit Status. Returns 0 if off, 1 if pass, 2 if fail high, 3 if fail low.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:Fail?
```

19.34 CALCulate:SLOT:POWer:RATio:LIMit:LOWer

Syntax: CALCulate:SLOT:POWer:RATio:LIMit:LOWer

Parameter/Return: 0.0 to 99.0 dB

Description: Sets/returns the Slot Power Ratio Lower Limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:LOWer 10
CALCulate:SLOT:POWer:RATio:LIMit:LOWer?
```

19.35 CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe

Syntax: CALCulate:CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe

Parameter/Return: On | Off | 0 | 1

Description: Sets/returns the Slot Power Ratio Lower Limit State

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe On
CALCulate:SLOT:POWer:RATio:LIMit:LOWer:STATe?
```

19.36 CALCulate:FERRor:LIMit:LOWer

Syntax: CALCulate:FERRor:LIMit:LOWer

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:FERRor:LIMit:LOWer
CALCulate:FERRor:LIMit:LOWer?
```

19.37 CALCulate:SLOT:POWer:RATio:LIMit:UPPer

Syntax: CALCulate:SLOT:POWer:RATio:LIMit:UPPer

Parameter/Return: 0.0 to 99.0 dB

Description: Sets/returns the Slot Power Ratio Upper limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:UPPer 20
CALCulate:SLOT:POWer:RATio:LIMit:UPPer?
```

19.38 CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe

Syntax: CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the BER Upper limit.

Example:

```
CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe On
CALCulate:SLOT:POWer:RATio:LIMit:UPPer:STATe?
```

19.39 CALCulate:SPOWer:LIMit:FAIL

Syntax: CALCulate:SPOWer:LIMit:FAIL?

Parameter/Return: None

Description: You can query the Signal Power Limit Status. Returns 0 if Off, 1 if Pass, 2 if Fail High, 3 if Fail Low.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
```

19.40 CALCulate:SPOWer:LIMit:LOWer

Syntax: CALCulate:SPOWer:LIMit:LOWer

Parameter/Return: -130 to 60 dBm|-100 to 60 dBW|-130 to 60 W|-130 to 60 V|-130 to 60 dBuV

Description: Sets/returns the Signal Power Lower limit.

Example:

```
CALCulate:SPOWer:LIMit:LOWer 10.0
CALCulate:SPOWer:LIMit:LOWer?
```

19.41 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax: CALCulate:SPOWer:LIMit:LOWer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Signal Power Lower Limit State.

Example:

```
CALCulate:SPOWer:LIMit:LOWer:STATe On
CALCulate:SPOWer:LIMit:LOWer:STATe?
```

19.42 CALCulate:SPOWer:LIMit:UPPer

Syntax: CALCulate:SPOWer:LIMit:UPPer

Parameter/Return: -130 to 60 dBm|-100 to 60 dBW|-130 to 60 W|-130 to 60 V|-130 to 60 dBuV

Description: Sets/returns the Signal Power Upper limit.

Example:

```
CALCulate:SPOWer:LIMit:UPPer 10.0
CALCulate:SPOWer:LIMit:UPPer?
```

19.43 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax: CALCulate:SPOWer:LIMit:UPPer:STATe

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the Signal Power Upper limit State.

Example:

```
CALCulate:SPOWer:LIMit:UPPer:STATe On
CALCulate:SPOWer:LIMit:UPPer:STATe?
```

19.44 DISPlay:DMR:HOLD

Syntax: DISPlay:DMR:HOLD

Parameter/Return: On | Off

Description: Sets/returns the DMR Hold Screen.

Example:

```
DISPlay:DMR:HOLD On
DISPlay:DMR:HOLD?
```

19.45 DISPlay:HOLD

Syntax: DISPlay:HOLD

Parameter/Return: On | Off

Description: Sets/returns the Hold screen.

Example:

```
DISPlay:HOLD On
DISPlay:HOLD?
```

19.46 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Syntax: DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:PDIVision

Parameter/Return: VSCALE_1dB|VSCALE_2dB|VSCALE_5dB|VSCALE_10dB|VSCALE_15dB|VSCALE_20dB

Description: Sets/returns the BER Upper limit.

Example:

```
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision VSCALE_10dB
DISPlay:PPROFile:WINDow:TRACe:Y:SCALe:PDIVision?
```

19.47 DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP

Syntax: CALCulate:FERRor:LIMit:LOWer

Parameter/Return: None

Description: Sets/returns the Power Profile Top of Scale.

Example:

```
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP 10
DISPlay:PPROFile[:WINDow]:TRACe:Y[:SCALe]:TOP?
```

19.48 MEASure:BER?

Syntax: MEASure:BER?

Parameter/Return: None

Description: You can query the BER live reading.

Example:

```
MEASure:BER?
```

19.49 MEASure:BER:AVERage?

Syntax: MEASure:BER:AVERage?

Parameter/Return: On | Off

Description: You can query the BER Average Reading.

Example:

```
MEASure:BER:AVERage?
```

19.50 MEASure:BER:MAXimum?

Syntax: MEASure:BER:MAXimum?

Parameter/Return: None

Description: You can query the BER Maximum Reading.

Example:

```
MEASure:BER:MAXimum?
```

```
MEASure:BER:MAXimum?
```

19.51 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: None

Description: You can query the BER Minimum Reading.

Example:

```
MEASure:BER:MINimum?
```

19.52 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: None

Description: You can query the BER Minimum.

Example:

```
MEASure:BER:MINimum?
```

19.53 MEASure:CLEar:STATion:ID?

Syntax: MEASure:CLEar:STATion:ID?

Parameter/Return: None

Description: You can query the Clear Station ID.

Example:

```
MEASure:CLEar:STATion:ID?
```

19.54 MEASure:COLor?

Syntax: MEASure:COLor?

Parameter/Return: On | Off

Description: You can query the DMR color.

Example:

```
MEASure:COLor?
```

19.55 MEASure:EMERgency?

Syntax: MEASure:EMERgency?

Parameter/Return: On | Off

Description: You can query DMR Emergency.

Example:

```
MEASure:EMERgency?
```

19.56 MEASure:FERRor?

Syntax: MEASure:FERRor?

Parameter/Return: Non

Description: You can query the Frequency Error Live Reading.

Example:

```
MEASure:FERRor?
```

19.57 MEASure:FERRor:AVERage?

Syntax: MEASure:FERRor:AVERage?

Parameter/Return: None

Description: You can query the Frequency Error Average Reading

Example:

```
MEASure:FERRor:AVERage?
```

19.58 MEASure:FERRor:MAXimum?

Syntax: MEASure:FERRor:MAXimum?

Parameter/Return: None

Description: You can query the Frequency Error Maximum.

Example:

```
MEASure:FERRor:MAXimum?
```

19.59 MEASure:FERRor:MINimum?

Syntax: MEASure:FERRor:MINimum?

Parameter/Return: None

Description: You can query the Frequency Error Maximum.

Example:

```
MEASure:FERRor:MINimum?
```

19.60 MEASure:LCONTrol?

Syntax: MEASure:LCONTrol?

Parameter/Return: None

Description: You can query the Link Control.

Example:

```
MEASure:LCONTrol?
```

19.61 MEASure:MERRor?

Syntax: MEASure:MERRor?

Parameter/Return: None

Description: You can query the Magnitude Error Live Reading.

Example:

```
MEASure:MERRor?
```

19.62 MEASure:MERRor:AVERage?

Syntax: MEASure:MERRor:AVERage?

Parameter/Return: None

Description: Sets/returns the BER Upper limit.

Example:

```
MEASure:MERRor:AVERage?
```

19.63 MEASure:MERRor:MAXimum?

Syntax: MEASure:MERRor:MAXimum?

Parameter/Return: None

Description: You can query the Magnitude Error Maximum Reading

Example:

```
MEASure:MERRor:MAXimum?
```

19.64 MEASure:MERRor:MINimum?

Syntax: MEASure:MERRor:MINimum?

Parameter/Return: None

Description: You can query the Magnitude Error Minimum Reading.

Example:

```
MEASure:MERRor:MINimum?
```

19.65 MEASure:MFID?

Syntax: MEASure:MFID?

Parameter/Return: Query

Description: You can query the MFID.

Example:

```
MEASure:MFID?
```

19.66 MEASure:MFIDelity?

Syntax: MEASure:MFIDelity?

Parameter/Return: Query

Description: You can query the Mod Fidelity Live Reading.

Example:

```
MEASure:MFIDelity?
```

19.67 MEASure:MFIDelity:AVERage?

Syntax: MEASure:MFIDelity:AVERage?

Parameter/Return: None

Description: You can query the Mod Fidelity Average Reading

Example:

```
MEASure:MFIDelity:AVERage?
```

19.68 MEASure:MFIDelity:MAXimum?

Syntax: MEASure:MFIDelity:MAXimum?

Parameter/Return: None

Description: You can query the Mod Fidelity Maximum Reading.

Example:

```
MEASure:MFIDelity:MAXimum?
```

19.69 MEASure:MFIDelity:MINimum?

Syntax: MEASure:MFIDelity:MINimum?

Parameter/Return: None

Description: You can query the Mod Fidelity Minimum Reading.

Example:

```
MEASure:MFIDelity:MINimum?
```

19.70 MEASure:PRIVacy?

Syntax: MEASure:PRIVacy?

Parameter/Return: On | Off

Description: You can query privacy.

Example:

```
MEASure:PRIVacy?
```

19.71 MEASure:RADio:ID?

Syntax: MEASure:RADio:ID?

Parameter/Return: On | Off

Description: Sets/returns the BER Upper limit.

Example:

```
MEASure:RADio:ID?
```

19.72 MEASure:SCLOCk?

Syntax: MEASure:SCLOCk?

Parameter/Return: None

Description: You can query the Symbol Clock Live Reading.

Example:

```
MEASure:SCLOCk?
```

19.73 MEASure:SCLOCk:AVERage?

Syntax: MEASure:SCLOCk:AVERage?

Parameter/Return: None

Description: You can query the Symbol Clock Average Reading.

Example:

```
MEASure:SCLOCk:AVERage?
```

19.74 MEASure:SCLOCk:MAXimum?

Syntax: MEASure:SCLOCk:MAXimum?

Parameter/Return: None

Description: You can query the Symbol Clock Average Reading.

Example:

```
MEASure:SCLOCk:MAXimum?
```

19.75 MEASure:SCLOCk:MINimum?

Syntax: MEASure:SCLOCk:MINimum?

Parameter/Return: None

Description: You can query the Symbol Clock Minimum Reading.

Example:

```
MEASure:SCLOCk:MINimum?
```

19.76 MEASure:SDEViation?

Syntax: MEASure:SDEViation?

Parameter/Return: None

Description: Returns the Symbol Deviation Live reading.

Example:

```
MEASure:SDEViation?
```

19.77 MEASure:SDEViation:AVERage?

Syntax: MEASure:SDEViation:AVERage?

Parameter/Return: None

Description: Returns the Symbol Deviation Average reading.

Example:

```
MEASure:SCLOCk?
```

19.78 MEASure:SDEViation:MAXimum?

Syntax: DMRDemodulatorMEASure:SDEViation:MAXimum?

Parameter/Return: None

Description: Returns the Symbol Deviation Maximum reading.

Example:

```
MEASure:SDEViation:MAXimum?
```

19.79 MEASure:SDEViation:MINimum?

Syntax: MEASure:SDEViation:MINimum?

Parameter/Return: None

Description: Returns the Symbol Deviation Minimum reading.

Example:

```
MEASure:SDEViation:MINimum?
```

19.80 MEASure:SERVice:OPTion?

Syntax: MEASure:SERVice:OPTion?

Parameter/Return: None

Description: Returns the Service Option.

Example:

```
MEASure:SERVice:OPTion?
```

19.81 MEASure:SLOT?

Syntax: MEASure:SLOT?

Parameter/Return: None

Description: Returns the slot.

Example:

```
MEASure:SLOT?
```

19.82 MEASure:SLOT:POWer?

Syntax: MEASure:SLOT:POWer?

Parameter/Return: None

Description: Returns the Slot Power live reading.

Example:

```
MEASure:SLOT:POWer?
```

19.83 MEASure:SLOT:POWer:AVERage?

Syntax: MEASure:SLOT:POWer:AVERage?

Parameter/Return: None

Description: Returns the Slot Power average reading.

Example:

```
MEASure:SLOT:POWer:AVERage?
```

19.84 MEASure:SLOT:POWer:MAXimum?

Syntax: MEASure:SLOT:POWer:MAXimum?

Parameter/Return: None

Description: Returns the Slot Power Maximum reading.

Example:

```
MEASure:SLOT:POWer:MAXimum?
```

19.85 MEASure:SLOT:POWer:MINimum?

Syntax: MEASure:SLOT:POWer:MINimum?

Parameter/Return: None

Description: Returns the Slot Power Minimum reading.

Example:

```
MEASure:SLOT:POWer:MINimum?
```

19.86 MEASure:SLOT:POWer:RATio?

Syntax: MEASure:SLOT:POWer:RATio?

Parameter/Return: None

Description: Returns the Slot Power Ratio live reading.

Example:

```
MEASure:SLOT:POWer:RATio?
```

19.87 MEASure:SLOT:POWer:RATio:AVERage?

Syntax: MEASure:SLOT:POWer:RATio:AVERage?

Parameter/Return: None

Description: Returns the Slot Power Ratio average reading.

Example:

```
MEASure:SLOT:POWer:RATio:AVERage?
```

19.88 MEASure:SLOT:POWer:RATio:MAXimum?

Syntax: MEASure:SLOT:POWer:RATio:MAXimum?

Parameter/Return: None

Description: Returns the Slot Power Ratio maximum reading.

Example:

```
MEASure:SLOT:POWer:RATio:MAXimum?
```

19.89 MEASure:SLOT:POWer:RATio:MINimum?

Syntax: MEASure:SLOT:POWer:RATio:MINimum?

Parameter/Return: None

Description: Returns the Slot Power Ratio minimum reading.

Example:

```
MEASure:SLOT:POWer:RATio:MINimum?
```

19.90 MEASure:SPOWer?

Syntax: MEASure:SPOWer?

Parameter/Return: None

Description: Returns the Signal Power live reading.

Example:

```
MEASure:SPOWer?
```

19.91 MEASure:SPOWer:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: None

Description: Returns the Signal Power average reading.

Example:

```
MEASure:SPOWer:AVERage?
```

19.92 MEASure:SPOWer:MAXimum?

Syntax: MEASure:SPOWer:MAXimum?

Parameter/Return: None

Description: Returns the Signal Power maximum reading.

Example:

```
MEASure:SPOWer:MAXimum?
```

19.93 MEASure:SPOWer:MINimum?

Syntax: MEASure:SPOWer:MINimum?

Parameter/Return: None

Description: Returns the Signal Power minimum reading.

Example:

```
MEASure:SPOWer:MINimum?
```

19.94 MEASure:STATion:ID?

Syntax: MEASure:STATion:ID?

Parameter/Return: None

Description: Returns the Station ID.

Example:

```
MEASure:STATion:ID?
```

19.95 MEASure:TRACe:DISTribution?

Syntax: MEASure:TRACe:DISTribution?

Parameter/Return: None

Description: Returns the Trace Distribution.

Example:

```
MEASure:TRACe:DISTribution?
```

19.96 MEASure:TRACe:EYE:DIAGram?

Syntax: MEASure:TRACe:EYE:DIAGram?

Parameter/Return: None

Description: Returns the Eye Diagram.

Example:

```
MEASure:TRACe:EYE:DIAGram?
```

19.97 MEASure:TRACe:IQTRAJectory?

Syntax: MEASure:TRACe:IQTRAJectory?

Parameter/Return: None

Description: Returns the IQ Trajectory.

Example:

```
MEASure:TRACe:IQTRAJectory?
```

19.98 MEASure:TRAJectory:TRACe:DATA:X?

Syntax: MEASure:TRAJectory:TRACe:DATA:X?

Parameter/Return: None

Description: Returns IQ Trajectory X.

Example:

```
MEASure:TRAJectory:TRACe:DATA:X?
```

19.99 MEASure:TRACe:PPROFile?

Syntax: MEASure:TRACe:PPROFile?

Parameter/Return: None

Description: Returns the Power Profile trace.

Example:

```
MEASure:TRACe:PPROFile?
```

19.100 MEASure:TRAJectory:TRACe:DATA:Y?

Syntax: MEASure:TRAJectory:TRACe:DATA:Y?

Parameter/Return: None

Description: Returns IQ Trajectory Y.

Example:

```
MEASure:TRAJectory:TRACe:DATA:Y?
```

19.101 SENSe:BER:AVERage:COUNt

Syntax: SENSe:BER:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the BER average count.

Example:

```
SENSe:BER:AVERage:COUNt 2
SENSe:BER:AVERage:COUNt?
```

19.102 SENSe:BER:DECimal:PRECision

Syntax: SENSe:BER:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns the BER Decimal Precision.

Example:

```
SENSe:BER:DECimal:PRECision 2
SENSe:BER:DECimal:PRECision?
```

19.103 SENSe:BER:PATTern

Syntax: SENSe:BER:PATTern

Parameter/Return: IB STD 1031 | IB STD 0.153 | IB STD Calibration | IB STD Silence | IB STD Voice Sync | IB STD Data Sync| OB Tsync| IB 1031 | IB

0.153|IB Calibration|IB Silence|Stored Speech

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:PATTern "IB STD 1031"
SENSe:BER:PATTern?
```

19.104 SENSe:BER:SCALe

Syntax: SENSe:BER:SCALe

Parameter/Return: Auto |100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:SCALe Auto
SENSe:BER:SCALe?
```

19.105 SENSe:BER:TYPE

Syntax: SENSe:BER:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the BER Upper limit.

Example:

```
SENSe:BER:TYPE Avg
SENSe:BER:TYPE?
```

19.106 SENSe:CURRent?

Syntax: SENSe:CURRent?

Parameter/Return: None

Description: Returns whether DMR is the current system.

Example:

```
SENSe:CURRent?
```

19.107 SENSe:FERRor:AVERage:COUNt

Syntax: SENSe:FERRor:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns Frequency Error average count.

Example:

```
SENSe:FERRor:AVERage:COUNt 3
SENSe:FERRor:AVERage:COUNt?
```

19.108 SENSe:FERRor:DECimal:PRECision

Syntax: SENSe:FERRor:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns the Frequency Error decimal position.

Example:

```
SENSe:FERRor:DECimal:PRECision 1
SENSe:FERRor:DECimal:PRECision?
```

19.109 SENSe:FERRor:SCALe

Syntax: SENSe:FERRor:SCALe

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Description: Sets/returns the Frequency Error scale.

Example:

```
SENSe:FERRor:SCALe 100Hz
SENSe:FERRor:SCALe?
```

19.110 SENSe:FERRor:TYPE

Syntax: SENSe:FERRor:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Frequency Error Reading type.

Example:

```
SENSe:FERRor:TYPE Avg
SENSe:FERRor:TYPE?
```

19.111 SENSe:HFILTer

Syntax: SENSe:HFILTer

Parameter/Return: None | 20Hz | 50Hz | 300Hz

Description: Sets/returns the High Pass Filter.

Example:

```
SENSe:HFILTer 20Hz
SENSe:HFILTer?
```

19.112 SENSe:IF:BANDwidth

Syntax: SENSe:IF:BANDwidth

Parameter/Return: 30 kHz | 5kHz | 6.25kHz | 8.33kHz | 10kHz | 12.5kHz | 25kHz | 30kHz | 100kHz | 230kHz | 300kHz | 1MHz | 3MHz

Description: Sets/returns IF Bandwidth.

Example:

```
SENSe:IF:BANDwidth 10kHz
SENSe:IF:BANDwidth?
```

19.113 SENSe:LFILTer

Syntax: SENSe:LFILTer

Parameter/Return: None | 300Hz | 3kHz | 3.4kHz | 5kHz | 15kHz | 20kHz | 40kHz

Description: Sets/returns the Low Pass filter.

Example:

```
SENSe:LFILTer None
SENSe:LFILTer?
```

19.114 SENSe:MERRor:AVERage:COUNt

Syntax: SENSe:MERRor:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns Magnitude Error average count.

Example:

```
SENSe:MERRor:AVERage:COUNt 4
SENSe:MERRor:AVERage:COUNt?
```

19.115 SENSe:MERRor:DECimal:PRECision

Syntax: SENSe:MERRor:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:DECimal:PRECision 1
SENSe:MERRor:DECimal:PRECision?
```

19.116 SENSe:MERRor:SCALe

Syntax: SENSe:MERRor:SCALe

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Magnitude Error scale.

Example:

```
SENSe:MERRor:SCALe Auto
SENSe:MERRor:SCALe?
```

19.117 SENSe:MERRor:TYPE

Syntax: SENSe:MERRor:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:TYPE Live
SENSe:MERRor:TYPE?
```

19.118 SENSe:MERRor:DECimal:PRECision

Syntax: SENSe:MERRor:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:MERRor:DECimal:PRECision 1
SENSe:MERRor:DECimal:PRECision?
```

19.119 SENSe:MFIDelity:AVERage:COUNt

Syntax: SENSe:MFIDelity:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the Mod Fidelity Average Count.

Example:

```
SENSe:MFIDelity:AVERage:COUNt 1
SENSe:MFIDelity:AVERage:COUNt?
```

19.120 SENSe:MFIDelity:DECimal:PRECision

Syntax: SENSe:MFIDelity:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns Magnitude Fidelity decimal precision.

Example:

```
SENSe:MFIDelity:DECimal:PRECision 1
SENSe:MFIDelity:DECimal:PRECision?
```

19.121 SENSe:MFIDelity:SCALe

Syntax: SENSe:MFIDelity:SCALe

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Description: Sets/returns Mod Fidelity scale.

Example:

```
SENSe:MFIDelity:SCALe Auto
SENSe:MFIDelity:SCALe?
```

19.122 SENSe:MFIDelity:TYPE

Syntax: SENSe:MFIDelity:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Mod Fidelity Reading Type.

Example:

```
SENSe:MFIDelity:TYPE Avg
SENSe:MFIDelity:TYPE?
```

19.123 SENSe:PFILTer

Syntax: SENSe:PFILTer

Parameter/Return: None | CMSG | CCITT

Description: Sets/returns the Psophometric Filter.

Example:

```
SENSe:PFILTer CMSG
SENSe:PFILTer?
```

19.124 SENSe:PPROFile:MODE

Syntax: SENSe:PPROFile:MODE

Parameter/Return: RAMP | FULL

Description: Sets/returns the Power Profile mode.

Example:

```
SENSe:PPROFile:MODE FULL
SENSe:PPROFile:MODE?
```

19.125 SENSe:PPROFile:PERSistence

Syntax: SENSe:PPROFile:PERSistence

Parameter/Return: 1 to 10

Description: Sets/returns Magnitude Error decimal precision.

Example:

```
SENSe:PPROFile:PERSistence 2
SENSe:PPROFile:PERSistence?
```

19.126 SENSe:PPROFile:SLOT

Syntax: SENSe:PPROFile:SLOT

Parameter/Return: 1 | 2

Description: Sets/returns the Power Profile slot.

Example:

```
SENSe:MERRor:DECimal:PRECision 1
SENSe:MERRor:DECimal:PRECision?
```

19.127 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: None

Description: Resets acquisition.

Example:

```
SENSe:RESet
```

19.128 SENSe:SCLOCk:AVERage:COUNt

Syntax: SENSe:SCLOCk:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the Symbol Clock Error average count.

Example:

```
SENSe:SCLOCk:AVERage:COUNt 2
SENSe:SCLOCk:AVERage:COUNt?
```

19.129 SENSe:SCLOCk:DECimal:PRECision

Syntax: SENSe:SCLOCk:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:MERRor:DECimal:PRECision 1
SENSe:MERRor:DECimal:PRECision?
```

19.130 SENSe:SCLOCk:SCALe:HZ

Syntax: SENSe:SCLOCk:SCALe:HZ

Parameter/Return: Auto | 1000mHz | 500mHz | 200mHz | 100mHz | 50mHz | 20mHz | 10mHz | 5mHz | 2mHz | 1mHz

Description: Sets/returns Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:HZ 100mHz
SENSe:SCLOCk:SCALe:HZ?
```

19.131 SENSe:SCLOCk:SCALe:HZ

Syntax: SENSe:SCLOCk:SCALe:HZ

Parameter/Return: Auto | 1000mHz | 500mHz | 200mHz | 100mHz | 50mHz | 20mHz | 10mHz | 5mHz | 2mHz | 1mHz

Description: Sets/returns the Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:HZ 100mHz
SENSe:SCLOCk:SCALe:HZ?
```

19.132 SENSe:SCLOCk:SCALe:PPM

Syntax: SENSe:SCLOCk:SCALe:PPM

Parameter/Return: Auto | 100ppm | 50ppm | 20ppm | 10ppm | 5ppm | 2ppm | 1ppm

Description: Sets/returns the Symbol Clock Error scale.

Example:

```
SENSe:SCLOCk:SCALe:PPM 10ppm
SENSe:SCLOCk:SCALe:PPM?
```

19.133 SENSe:SCLOCk:TYPE

Syntax: SENSe:SCLOCk:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Symbol Clock Error Reading type.

Example:

```
SENSe:SCLOCk:TYPE Avg
SENSe:SCLOCk:TYPE?
```

19.134 SENSe:SCLOCk:UNIT

Syntax: SENSe:SCLOCk:UNIT

Parameter/Return: ppm | mHz

Description: Sets/returns the Symbol Clock Error Reading unit.

Example:

```
SENSe:SCLOCk:UNIT Avg
SENSe:SCLOCk:UNIT?
```

19.135 SENSe:SDEViation:AVERage:COUNt

Syntax: SENSe:SDEViation:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SDEViation:AVERage:COUNt 3
SENSe:SDEViation:AVERage:COUNt?
```

19.136 SENSe:SDEViation:DECimal:PRECision

Syntax: SENSe:SDEViation:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Deviation decimal precision.

Example:

```
SENSe:SDEViation:DECimal:PRECision 2
SENSe:SDEViation:DECimal:PRECision?
```

19.137 SENSe:SDEViation:SCALe

Syntax: SENSe:SENSe:SDEViation:SCALe

Parameter/Return: Auto | 1000Hz | 500Hz | 200Hz | 100Hz |50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Description: Sets/returns the Symbol Deviation scale.

Example:

```
SENSe:SDEViation:SCALe 10Hz
SENSe:SDEViation:SCALe?
```

19.138 SENSe:SDEViation:TYPE

Syntax: SENSe:SDEViation:TYPE

Parameter/Return: 0 to 9

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SDEViation:TYPE
SENSe:SDEViation:TYPE?
```

19.139 SENSe:SLOT:POWer:AVERage:COUN

Syntax: SENSe:SLOT:POWer:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns Symbol Clock Error decimal precision.

Example:

```
SENSe:SLOT:POWer:AVERage:COUNt 10
SENSe:SLOT:POWer:AVERage:COUNt?
```

19.140 SENSe:SLOT:POWer:DECimal:PRECision

Syntax: SENSe:SLOT:POWer:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power Decimal Precision.

Example:

```
SENSe:SLOT:POWer:DECimal:PRECision 2
SENSe:SLOT:POWer:DECimal:PRECision?
```

19.141 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax: SENSe:SLOT:POWer:RATio:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the Slot Power Ratio Average Count.

Example:

```
SENSe:SLOT:POWer:RATio:AVERage:COUNt 5
SENSe:SLOT:POWer:RATio:AVERage:COUNt?
```

19.142 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax: SENSe:SLOT:POWer:RATio:AVERage:COUNt

Parameter/Return: 1 to 99

Description: Sets/returns the Slot Power Ratio Average Count.

Example:

```
SENSe:SLOT:POWer:RATio:AVERage:COUNt 5
SENSe:SLOT:POWer:RATio:AVERage:COUNt?
```

19.143 SENSe:SLOT:POWer:RATio:DECimal:PRECision

Syntax: SENSe:SLOT:POWer:RATio:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power Ratio Decimal Precision.

Example:

```
SENSe:SLOT:POWer:RATio:DECimal:PRECision 5
SENSe:SLOT:POWer:RATio:DECimal:PRECision?
```

19.144 SENSe:SLOT:POWer:RATio:AVERage:COUNt

Syntax: SENSe:SLOT:POWer:RATio:AVERage:COUNt

Parameter/Return: Auto | 1 dBr to 100 dBr in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio scale

Example:

```
SENSe:SLOT:POWer:RATio:SCALe Auto
SENSe:SLOT:POWer:RATio:SCALe?
```

19.145 SENSe:SLOT:POWer:RATio:TYPE

Syntax: SENSe:SLOT:POWer:RATio:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:RATio:TYPE Avg
SENSe:SLOT:POWer:RATio:TYPE?
```

19.146 SENSe:SLOT:POWer:SCALe:VOLT

Syntax: SENSe:SLOT:POWer:SCALe:VOLT

Parameter/Return: Auto | 1 uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:SCALe:VOLT Auto
SENSe:SLOT:POWer:SCALe:VOLT?
```

19.147 SENSe:SLOT:POWer:SCALe:WATT

Syntax: SENSe:SLOT:POWer:SCALe:WATT

Parameter/Return: Auto | 1 pW to 200 W in 1,2,5 sequence

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:SCALe:WATT Auto
SENSe:SLOT:POWer:SCALe:WATT?
```

19.148 SENSe:SLOT:POWer:SCALe:dBW

Syntax: SENSe:SLOT:POWer:SCALe:dBW

Parameter/Return: Auto | -100 dBW to 60 dBW in 10 dBW steps

Description: Sets/returns the Slot Power Scale dBw.

Example:

```
SENSe:SLOT:POWer:SCALe:dBW
SENSe:SLOT:POWer:SCALe:dBW?
```

19.149 SENSe:SLOT:POWer:SCALe:dBm

Syntax: SENSe:SLOT:POWer:SCALe:dBm

Parameter/Return: Auto | -100 dBm to 60 dBm in 10dBm steps

Description: Sets/returns the Slot Power Scale dBm.

Example:

```
SENSe:SLOT:POWer:SCALe:dBm Auto
SENSe:SLOT:POWer:SCALe:dBm?
```

19.150 SENSe:SLOT:POWer:SCALe:dBuV

Syntax: SENSe:SLOT:POWer:SCALe:dBuV

Parameter/Return: Auto | -100 dBuW to 60 dBuW in 10 dBuW steps

Description: Sets/returns the Slot Power Scale dBuV.

Example:

```
SENSe:SLOT:POWer:SCALe:VOLT Auto
SENSe:SLOT:POWer:SCALe:VOLT?
```

19.151 SENSe:SLOT:POWer:TYPE

Syntax: SENSe:SLOT:POWer:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Slot Power Reading Type.

Example:

```
SENSe:SLOT:POWer:TYPE Max
SENSe:SLOT:POWer:TYPE?
```

19.152 SENSe:SLOT:POWer:UNIT

Syntax: SENSe:SLOT:POWer:UNIT

Parameter/Return: dBm | dBW | W | V | dBuV

Description: Sets/returns the Slot Power Ratio Reading Type.

Example:

```
SENSe:SLOT:POWer:UNIT dBW
SENSe:SLOT:POWer:UNIT?
```

19.153 SENSe:SPOWer:DECimal:PRECision

Syntax: SENSe:SPOWer:DECimal:PRECision

Parameter/Return: 0 to 9

Description: Sets/returns the Slot Power decimal precision.

Example:

```
SENSe:SPOWer:DECimal:PRECision 2
SENSe:SPOWer:DECimal:PRECision?
```

19.154 SENSe:SPOWer:SCALe:VOLT

Syntax: SENSe:SPOWer:SCALe:VOLT

Parameter/Return: Auto | 1uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power scale in Volts.

Example:

```
SENSe:SPOWer:SCALe:VOLT Auto
SENSe:SPOWer:SCALe:VOLT?
```

19.155 SENSe:SPOWer:SCALe:WATT

Syntax: SENSe:SPOWer:SCALe:WATT

Parameter/Return: Auto | 1uV to 200 V in 1,2,5 sequence

Description: Sets/returns the Slot Power scale in Watts.

Example:

```
SENSe:SPOWer:SCALe:WATT Auto
SENSe:SPOWer:SCALe:WATT?
```

19.156 SENSe:SPOWer:SCALe:dBW

Syntax: SENSe:SPOWer:SCALe:dBW

Parameter/Return: Auto | -100 dBW to 60 dBW in 10 dBW steps

Description: Sets/returns the Slot Power scale in dBW.

Example:

```
SENSe:SPOWer:SCALe:dBW
SENSe:SPOWer:SCALe:dBW?
```

19.157 SENSe:SPOWer:SCALe:dBm

Syntax: SENSe:SPOWer:SCALe:dBm

Parameter/Return: Auto | -100 dBm to 60 dBm in 10dBm steps

Description: Sets/returns the Slot Power scale in dBm.

Example:

```
SENSe:SPOWer:SCALe:dBm
SENSe:SPOWer:SCALe:dBm?
```

19.158 SENSe:SPOWer:SCALe:dBuV

Syntax: SENSe:SPOWer:SCALe:dBuV

Parameter/Return: Auto | -100 dBuW to 60 dBuW in 10 dBuW steps

Description: Sets/returns the Slot Power scale in dBuV.

Example:

```
SENSe:SPOWer:SCALe:dBuV
SENSe:SPOWer:SCALe:dBuV?
```

19.159 SENSe:SPOWer:TYPE

Syntax: SENSe:SPOWer:TYPE

Parameter/Return: Live | Max | Min | Avg

Description: Sets/returns the Signal Power type.

Example:

```
SENSe:SPOWer:TYPE Max
SENSe:SPOWer:TYPE?
```

19.160 SENSe:SPOWer:UNIT

Syntax: SENSe:SPOWer:UNIT

Parameter/Return: dBm | dBW | W | V | dBuV

Description: Sets/returns the Signal Power units.

Example:

```
SENSe:SPOWer:UNIT W
SENSe:SPOWer:UNIT?
```

19.161 SENSe:TYPE

Syntax: SENSe:TYPE

Parameter/Return: FM | DMR

Description: Sets/returns the Demodulation type.

Example:

```
SENSe:TYPE DMR
SENSe:TYPE?
```

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20

TETRA Modulator Commands

This chapter describes the following remote commands for configuring TETRA Modulator (TETRAModulator) settings:

- SOURce:AUTO:SYNC:OFFSet 20-2
- SOURce:BCC 20-2
- SOURce:CURRent? 20-2
- SOURce:MCC 20-3
- SOURce:MNC 20-3
- SOURce:MOD:TYPE 20-4
- SOURce:MODE 20-4
- SOURce:MST1:CHANnel 20-4
- SOURce:PARameter:MODE 20-5
- SOURce:PATTern 20-5
- SOURce:PULSe:SYNC:EDGE 20-6
- SOURce:PULSe:SYNC:OFFSET 20-6
- SOURce:SYNC:MODE 20-7

20.1 SOURce:AUTO:SYNC:OFFSet

Syntax:

SOURce:AUTO:SYNC:OFFSet

SOURce:AUTO:SYNC:OFFSet?

Parameter/Return: 0 to 9999.99

Note: Default = 0

Description: Sets/returns the auto-sync offset.

Examples:

```
SOURce:AUTO:SYNC:OFFSet 100.00
SOURce:AUTO:SYNC:OFFSet?
100.00
```

20.2 SOURce:BCC

Syntax:

SOURce:BCC

SOURce:BCC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the BCC value.

Examples:

```
SOURce:BCC 1
SOURce:BCC?
1
```

20.3 SOURce:CURRent?

Syntax: SOURce:CURRent?

Parameter/Return: Yes (On) | No (off)

Note: Default = No

Description: Returns the on/off state of the Tetra system.

Example:

```
SOURCe:CURRent?
No
```

20.4 SOURce:MCC

Syntax:

SOURce:MCC

SOURce:MCC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the Tetra MCC value.

Examples:

```
SOURce:MCC 1
SOURce:MCC?
1
```

20.5 SOURce:MNC

Syntax:

SOURce:MNC

SOURce:MNC?

Parameter/Return: 0 to 15

Note: Default = 0

Description: Sets/returns the Tetra MNC value.

Examples:

```
SOURce:MNC 1
SOURce:MNC?
1
```

20.6 SOURce:MOD:TYPE

Syntax:

SOURce:MOD:TYPE

SOURce:MOD:TYPE?

Parameter/Return: TCH/7.2

Description: Sets/returns the Tetra mod type.

Examples:

```
SOURce:MOD:TYPE TCH/7.2
SOURce:MOD:TYPE?
TCH/7.2
```

20.7 SOURce:MODE

Syntax:

SOURce:MODE

SOURce:MODE?

Parameter/Return: Auto | Manual

Description: Sets/returns the mode.

Examples:

```
SOURce:MODE Auto
SOURce:MODE?
Auto
```

20.8 SOURce:MST1:CHANnel

Syntax:

SOURce:MST1:CHANnel

SOURce:MST1:CHANnel?

Parameter/Return: Normal | Control

Description: Sets/returns the MST1 channel.

Examples:

```
SOURce:MST1:CHANnel Normal
SOURce:MST1:CHANnel?
Normal
```

20.9 SOURce:PARameter:MODE

Syntax:

SOURce:PARameter:MODE

SOURce:PARameter:MODE?

Parameter/Return: Auto | Manual

Description: Sets/returns the parameter mode.

Examples:

```
SOURce:PARameter:MODE Manual
SOURce:PARameter:MODE?
Manual
```

20.10 SOURce:PATTern

Syntax:

SOURce:PATTern

SOURce:PATTern?

Parameter/Return: BST1 | MST1

Note: Default = BST1

Description: Sets/returns the pattern.

Examples:

```
SOURce:PATTern MST1
SOURce:PATTern?
MST1
```

20.11 SOURce:PULSe:SYNC:EDGE

Syntax:

SOURce:PULSe:SYNC:EDGE

SOURce:PULSe:SYNC:EDGE?

Parameter/Return: Falling | Rising

Description: Sets/returns the BST1 pulse sync edge.

Examples:

```
SOURce:PULSe:SYNC:EDGE Rising
SOURce:PULSe:SYNC:EDGE?
Rising
```

20.12 SOURce:PULSe:SYNC:OFFSET

Syntax:

SOURce:PULSe:SYNC:OFFSET

SOURce:PULSe:SYNC:OFFSET?

Parameter/Return: 0 to 1020

Note: Default = 0

Description: Sets/returns the pulse sync offset.

Examples:

```
SOURce:PULSe:SYNC:OFFSET 100.00
SOURce:PULSe:SYNC:EDGE?
100.00
```

20.13 SOURce:SYNC:MODE

Syntax:

SOURce:SYNC:MODE

SOURce:SYNC:MODE?

Parameter/Return: FreeRun | Auto| Pulse

Note: Default = Auto

Description: Sets/returns the BST1 sync mode.

Examples:

```
SOURce:SYNC:MODE Auto
SOURce:SYNC:MODE?
Auto
```

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TETRA Demodulator Commands

This chapter describes the following remote commands for configuring TETRA Demodulator (TETRADemodulator) settings:

- CALCulate:BER:LIMit:FAIL? 21-6
- CALCulate:BER:LIMit:LOWer 21-6
- CALCulate:BER:LIMit:LOWer:STATe 21-6
- CALCulate:BER:LIMit:UPPer 21-7
- CALCulate:BER:LIMit:UPPer:STATe 21-7
- CALCulate:CARRier:FEED:LIMit:FAIL? 21-7
- CALCulate:CARRier:FEED:LIMit:LOWer 21-8
- CALCulate:CARRier:FEED:LIMit:LOWer:STATe 21-8
- CALCulate:CARRier:FEED:LIMit:UPPer 21-8
- CALCulate:CARRier:FEED:LIMit:UPPer:STATe 21-9
- CALCulate:FERRor:LIMit:FAIL? 21-9
- CALCulate:FERRor:LIMit:LOWer 21-9
- CALCulate:FERRor:LIMit:LOWer:STATe 21-10
- CALCulate:CARRier:FEED:LIMit:UPPer 21-10
- CALCulate:FERRor:LIMit:UPPer:STATe 21-11
- CALCulate:FOFFSet:LIMit:FAIL? 21-11
- CALCulate:FOFFSet:LIMit:LOWer 21-11
- CALCulate:FOFFSet:LIMit:LOWer:STATe 21-12
- CALCulate:FOFFSet:LIMit:UPPer 21-12
- CALCulate:FOFFSet:LIMit:UPPer:STATe 21-12
- CALCulate:OBANDwidth:LIMit:FAIL? 21-13
- CALCulate:OBANDwidth:LIMit:LOWer 21-13
- CALCulate:OBANDwidth:LIMit:LOWer:STATe 21-13
- CALCulate:OBANDwidth:LIMit:UPPer 21-14
- CALCulate:OBANDwidth:LIMit:UPPer:STATe 21-14
- CALCulate:PEAK:EVM:LIMit:FAIL? 21-14

- CALCulate:PEAK:EVM:LIMit:LOWer 21-15
- CALCulate:PEAK:EVM:LIMit:LOWer:STATe 21-15
- CALCulate:PEAK:EVM:LIMit:UPPer 21-15
- CALCulate:PEAK:EVM:LIMit:UPPer:STATe 21-16
- CALCulate:RESidual:CARRier:LIMit:FAIL? 21-16
- CALCulate:RESidual:CARRier:LIMit:LOWer 21-16
- CALCulate:RESidual:CARRier:LIMit:LOWer:STATe 21-17
- CALCulate:RESidual:CARRier:LIMit:UPPer 21-17
- CALCulate:RESidual:CARRier:LIMit:UPPer:STATe 21-17
- CALCulate:RMS:EVM:LIMit:FAIL? 21-18
- CALCulate:RMS:EVM:LIMit:LOWer 21-18
- CALCulate:RMS:EVM:LIMit:LOWer:STATe 21-18
- CALCulate:RMS:EVM:LIMit:UPPer 21-19
- CALCulate:RMS:EVM:LIMit:UPPer:STATe 21-19
- CALCulate:SPOWer:LIMit:FAIL? 21-19
- CALCulate:SPOWer:LIMit:LOWer 21-20
- CALCulate:SPOWer:LIMit:LOWer:STATe 21-20
- CALCulate:SPOWer:LIMit:UPPer 21-20
- CALCulate:SPOWer:LIMit:UPPer:STATe 21-21
- CALCulate:SRATE:LIMit:FAIL? 21-21
- CALCulate:SRATE:LIMit:LOWer 21-21
- CALCulate:SRATE:LIMit:LOWer:STATe 21-22
- CALCulate:SRATE:LIMit:UPPer. 21-22
- CALCulate:SRATE:LIMit:UPPer:STATe 21-22
- DISPlay:HOLD? 21-23
- DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision 21-23
- DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision 21-23
- MEASure:BCC? 21-24
- MEASure:BER? 21-24
- MEASure:BER:AVERage? 21-24
- MEASure:BER:MAXimum? 21-24
- MEASure:BER:MINimum? 21-25
- MEASure:CARRier:FEED? 21-25
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21.1 CALCulate:BER:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the BER limit.

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

21.2 CALCulate:BER:LIMit:LOWer

Syntax:

CALCulate:BER:LIMit:LOWer

CALCulate:BER:LIMit:LOWer?

Parameter/Return: 0 to 99%

Note: Default = 0.0

Description: Sets/returns the BER lower limit.

Examples:

```
CALCulate:BER:LIMit:LOWer 10.0
CALCulate:BER:LIMit:LOWer?
10.0
```

21.3 CALCulate:BER:LIMit:LOWer:STATe

Syntax:

CALCulate:BER:LIMit:LOWer:STATe

CALCulate:BER:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the BER lower limit.

Examples:

```
CALCulate:BER:LIMit:LOWer:STATe On
CALCulate:BER:LIMit:LOWer:STATe?
On
```

21.4 CALCulate:BER:LIMit:UPPer

Syntax:

CALCulate:BER:LIMit:UPPer

CALCulate:BER:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the BER upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer 10.0
CALCulate:BER:LIMit:UPPer?
10.0
```

21.5 CALCulate:BER:LIMit:UPPer:STATe

Syntax:

CALCulate:BER:LIMit:UPPer:STATe

CALCulate:BER:LIMit:Upper:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the BER upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer:STATe On
CALCulate:BER:LIMit:UPPer:STATe?
On
```

21.6 CALCulate:CARRier:FEED:LIMit:FAIL?

Syntax:

CALCulate:CARRier:FEED:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the carrier feed limit status.

Example:

```
CALCulate:CARRier:FEED:LIMit:FAIL?
```

21.7 CALCulate:CARRier:FEED:LIMit:LOWer

Syntax:

CALCulate:CARRier:FEED:LIMit:LOWer

CALCulate:CARRier:FEED:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the carrier feed lower limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:LOWer 10.0
CALCulate:CARRier:FEED:LIMit:LOWer?
10.0
```

21.8 CALCulate:CARRier:FEED:LIMit:LOWer:STATe

Syntax:

CALCulate:CARRier:FEED:LIMit:LOWer:STATe

CALCulate:CARRier:FEED:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the carrier feed lower limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:LOWer:STATe On
CALCulate:CARRier:FEED:LIMit:LOWer:STATe?
On
```

21.9 CALCulate:CARRier:FEED:LIMit:UPPer

Syntax:

CALCulate:CARRier:FEED:LIMit:UPPer

CALCulate:CARRier:FEED:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the carrier feed upper limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:UPPer 10.0
CALCulate:CARRier:FEED:LIMit:UPPer?
10.0
```

21.10 CALCulate:CARRier:FEED:LIMit:UPPer:STATe

Syntax:

CALCulate:CARRier:FEED:LIMit:UPPer:STATe

CALCulate:CARRier:FEED:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the carrier feed upper limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:UPPer:STATe On
CALCulate:CARRier:FEED:LIMit:UPPer:STATe?
On
```

21.11 CALCulate:FERRor:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the frequency error limit.

Example:

```
CALCulate:FERRor:LIMit:FAIL?
0
```

21.12 CALCulate:FERRor:LIMit:LOWer

Syntax:

CALCulate:FERRor:LIMit:LOWer

CALCulate:FERRor:LIMit:LOWer?

Parameter/Return: 0 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency error lower limit.

Examples:

```
CALCulate:CARRier:FEED:LIMit:LOWer 10.0
CALCulate:CARRier:FEED:LIMit:LOWer?
10.0
```

21.13 CALCulate:FERRor:LIMit:LOWer:STATe

Syntax:

CALCulate:FERRor:LIMit:LOWer:STATe

CALCulate:FERRor:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency error lower limit.

Examples:

```
CALCulate:FERRor:LIMit:LOWer:STATe On
CALCulate:FERRor:LIMit:LOWer:STATe?
On
```

21.14 CALCulate:CARRier:FEED:LIMit:UPPer

Syntax:

CALCulate:FERRor:LIMit:UPPer

CALCulate:FERRor:LIMit:UPPer?

Parameter/Return: 0 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency error upper limit.

Examples:

```
CALCulate:FERRor:LIMit:UPPer 10.0
CALCulate:FERRor:LIMit:UPPer?
10.0
```

21.15 CALCulate:FERRor:LIMit:UPPer:STATe

Syntax:

CALCulate:FERRor:LIMit:UPPer:STATe

CALCulate:FERRor:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency error upper limit.

Examples:

```
CALCulate:FERRor:LIMit:UPPer:STATe On
CALCulate:FERRor:LIMit:UPPer:STATe?
On
```

21.16 CALCulate:FOFFSet:LIMit:FAIL?

Syntax: CALCulate:BER:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the frequency offset limit.

Example:

```
CALCulate:BER:LIMit:FAIL?
0
```

21.17 CALCulate:FOFFSet:LIMit:LOWer

Syntax:

CALCulate:FOFFSet:LIMit:LOWer

CALCulate:FOFFSet:LIMit:LOWer?

Parameter/Return: -99 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency offset lower limit.

Examples:

```
CALCulate:FOFFSet:LIMit:LOWer 10.0
CALCulate:FOFFSet:LIMit:LOWer?
10.0
```

21.18 CALCulate:FOFFSet:LIMit:LOWer:STATe

Syntax:

CALCulate:FOFFSet:LIMit:LOWer:STATe

CALCulate:FOFFSet:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency offset lower limit.

Examples:

```
CALCulate:FOFFSet:LIMit:LOWer:STATe On
CALCulate:FOFFSet:LIMit:LOWer:STATe?
On
```

21.19 CALCulate:FOFFSet:LIMit:UPPer

Syntax:

CALCulate:FOFFSet:LIMit:UPPer

CALCulate:FOFFSet:LIMit:UPPer?

Parameter/Return: -99 to 99 kHz (default = 0.0)

Description: Sets/returns the frequency offset upper limit.

Examples:

```
CALCulate:BER:LIMit:UPPer 10.0
CALCulate:BER:LIMit:UPPer?
10.0
```

21.20 CALCulate:FOFFSet:LIMit:UPPer:STATe

Syntax:

CALCulate:FOFFSet:LIMit:UPPer:STATe

CALCulate:FOFFSet:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the frequency offset upper limit.

Examples:

```
CALCulate:FOFFSet:LIMit:UPPer:STATe On
CALCulate:FOFFSet:LIMit:UPPer:STATe?
On
```

21.21 CALCulate:OBANDwidth:LIMit:FAIL?

Syntax: CALCulate:OBANDwidth:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the occupied bandwidth meter limit.

Example:

```
CALCulate:OBANDwidth:LIMit:FAIL?
0
```

21.22 CALCulate:OBANDwidth:LIMit:LOWer

Syntax:

CALCulate:OBANDwidth:LIMit:LOWer

CALCulate:OBANDwidth:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the occupied bandwidth lower limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:LOWer 10.0
CALCulate:OBANDwidth:LIMit:LOWer?
10.0
```

21.23 CALCulate:OBANDwidth:LIMit:LOWer:STATe

Syntax:

CALCulate:OBANDwidth:LIMit:LOWer:STATe

CALCulate:OBANDwidth:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the occupied bandwidth lower limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:LOWer:STATe On
CALCulate:OBANDwidth:LIMit:LOWer:STATe?
On
```

21.24 CALCulate:OBANDwidth:LIMit:UPPer

Syntax:

CALCulate:OBANDwidth:LIMit:UPPer

CALCulate:OBANDwidth:LIMit:UPPer?

Parameter/Return: 0 to 99 % (default = 0.0)

Description: Sets/returns the occupied bandwidth upper limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:UPPer 10.0
CALCulate:OBANDwidth:LIMit:UPPer?
10.0
```

21.25 CALCulate:OBANDwidth:LIMit:UPPer:STATe

Syntax:

CALCulate:OBANDwidth:LIMit:UPPer:STATe

CALCulate:OBANDwidth:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the occupied bandwidth upper limit.

Examples:

```
CALCulate:OBANDwidth:LIMit:UPPer:STATe On
CALCulate:OBANDwidth:LIMit:UPPer:STATe?
On
```

21.26 CALCulate:PEAK:EVM:LIMit:FAIL?

Syntax: CALCulate:PEAK:EVM:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the peak EVM limit.

Example:

```
CALCulate:PEAK:EVM:LIMit:FAIL?
0
```

21.27 CALCulate:PEAK:EVM:LIMit:LOWer

Syntax:

CALCulate:PEAK:EVM:LIMit:LOWer

CALCulate:PEAK:EVM:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the peak EVM lower limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:LOWer 10.0
CALCulate:PEAK:EVM:LIMit:LOWer?
10.0
```

21.28 CALCulate:PEAK:EVM:LIMit:LOWer:STATe

Syntax:

CALCulate:PEAK:EVM:LIMit:LOWer:STATe

CALCulate:PEAK:EVM:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the peak EVM lower limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:LOWer:STATe On
CALCulate:PEAK:EVM:LIMit:LOWer:STATe?
On
```

21.29 CALCulate:PEAK:EVM:LIMit:UPPer

Syntax:

CALCulate:PEAK:EVM:LIMit:UPPer

CALCulate:PEAK:EVM:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the peak EVM upper limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:UPPer 10.0
CALCulate:PEAK:EVM:LIMit:UPPer?
10.0
```

21.30 CALCulate:PEAK:EVM:LIMit:UPPer:STATe

Syntax:

CALCulate:PEAK:EVM:LIMit:UPPer:STATe

CALCulate:PEAK:EVM:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the peak EVM upper limit.

Examples:

```
CALCulate:PEAK:EVM:LIMit:UPPer:STATe On
CALCulate:PEAK:EVM:LIMit:UPPer:STATe?
On
```

21.31 CALCulate:RESidual:CARRier:LIMit:FAIL?

Syntax: CALCulate:RESidual:CARRier:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the residual carrier limit.

Example:

```
CALCulate:RESidual:CARRier:LIMit:FAIL?
0
```

21.32 CALCulate:RESidual:CARRier:LIMit:LOWer

Syntax:

CALCulate:RESidual:CARRier:LIMit:LOWer

CALCulate:RESidual:CARRier:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the residual carrier lower limit.

Examples:

```
CALCulate:RESidual:CARRier:LIMit:LOWer 10.0
CALCulate:RESidual:CARRier:LIMit:LOWer?
10.0
```

21.33 CALCulate:RESidual:CARRier:LIMit:LOWer:STATe

Syntax:

CALCulate:RESidual:CARRier:LIMit:LOWer:STATe

CALCulate:RESidual:CARRier:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the residual carrier lower limit.

Examples:

```
CALCulate:RESidual:CARRier:LIMit:LOWer:STATe On
CALCulate:RESidual:CARRier:LIMit:LOWer:STATe?
On
```

21.34 CALCulate:RESidual:CARRier:LIMit:UPPer

Syntax:

CALCulate:RESidual:CARRier:LIMit:UPPer

CALCulate:RESidual:CARRier:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the residual carrier upper limit.

Examples:

```
CALCulate:RESidual:CARRier:LIMit:UPPer 10.0
CALCulate:RESidual:CARRier:LIMit:UPPer?
10.0
```

21.35 CALCulate:RESidual:CARRier:LIMit:UPPer:STATe

Syntax:

CALCulate:RESidual:CARRier:LIMit:UPPer:STATe

CALCulate:RESidual:CARRier:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the residual carrier upper limit.

Examples:

```
CALCulate:RESidual:CARRier:LIMit:UPPer:STATe On
CALCulate:RESidual:CARRier:LIMit:UPPer:STATe?
On
```

21.36 CALCulate:RMS:EVM:LIMit:FAIL?

Syntax: CALCulate:RMS:EVM:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the RMS EVM limit.

Example:

```
CALCulate:RMS:EVM:LIMit:FAIL?
0
```

21.37 CALCulate:RMS:EVM:LIMit:LOWer

Syntax:

CALCulate:RMS:EVM:LIMit:LOWer

CALCulate:RMS:EVM:LIMit:LOWer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the RMS EVM lower limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:LOWer 10.0
CALCulate:RMS:EVM:LIMit:LOWer?
10.0
```

21.38 CALCulate:RMS:EVM:LIMit:LOWer:STATe

Syntax:

CALCulate:RMS:EVM:LIMit:LOWer:STATe

CALCulate:RMS:EVM:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the RMS EVM lower limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:LOWer:STATe On
CALCulate:RMS:EVM:LIMit:LOWer:STATe?
On
```

21.39 CALCulate:RMS:EVM:LIMit:UPPer

Syntax:

CALCulate:RMS:EVM:LIMit:UPPer

CALCulate:RMS:EVM:LIMit:UPPer?

Parameter/Return: 0 to 99% (default = 0.0)

Description: Sets/returns the RMS EVM upper limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:UPPer 10.0
CALCulate:RMS:EVM:LIMit:UPPer?
10.0
```

21.40 CALCulate:RMS:EVM:LIMit:UPPer:STATe

Syntax:

CALCulate:RMS:EVM:LIMit:UPPer:STATe

CALCulate:RMS:EVM:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the RMS EVMupper limit.

Examples:

```
CALCulate:RMS:EVM:LIMit:UPPer:STATe On
CALCulate:RMS:EVM:LIMit:UPPer:STATe?
On
```

21.41 CALCulate:SPOWer:LIMit:FAIL?

Syntax: CALCulate:SPOWer:LIMit:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the signal power limit.

Example:

```
CALCulate:SPOWer:LIMit:FAIL?
0
```

21.42 CALCulate:SPOWer:LIMit:LOWer

Syntax:

CALCulate:SPOWer:LIMit:LOWer

CALCulate:SPOWer:LIMit:LOWer?

Parameter/Return: -130 to 60 dBm | -100 to 60 dBW | -130 to 60 W | -130 to 60 V |-130 to 60 dBuV

Description: Sets/returns the signal power lower limit.

Examples:

```
CALCulate:SPOWer:LIMit:LOWer 10.0
CALCulate:SPOWer:LIMit:LOWer?
10.0
```

21.43 CALCulate:SPOWer:LIMit:LOWer:STATe

Syntax:

CALCulate:SPOWer:LIMit:LOWer:STATe

CALCulate:SPOWer:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the signal power lower limit.

Examples:

```
CALCulate:SPOWer:LIMit:LOWer:STATe On
CALCulate:SPOWer:LIMit:LOWer:STATe?
On
```

21.44 CALCulate:SPOWer:LIMit:UPPer

Syntax:

CALCulate:SPOWer:LIMit:UPPer

CALCulate:SPOWer:LIMit:UPPer?

Parameter/Return: -130 to 60 dBm | -100 to 60 dBW | -130 to 60 W | -130 to 60 V |-130 to 60 dBuV

Description: Sets/returns the signal power upper limit.

Examples:

```
CALCulate:SPOWer:LIMit:UPPer 10.0
CALCulate:SPOWer:LIMit:UPPer?
10.0
```

21.45 CALCulate:SPOWer:LIMit:UPPer:STATe

Syntax:

CALCulate:SPOWer:LIMit:UPPer:STATe

CALCulate:SPOWer:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the signal power upper limit.

Examples:

```
CALCulate:SPOWer:LIMit:UPPer:STATe On
CALCulate:SPOWer:LIMit:UPPer:STATe?
On
```

21.46 CALCulate:SRATE:LIMit:FAIL?

Syntax: CALCulate:SRATE:LIMit:FAIL?

Parameter/Return: 0 (off) | 1 (pass) | 2 (fail high) | 3 (fail low)

Description: Returns the status of the symbol rate limit.

Example:

```
CALCulate:SRATE:LIMit:FAIL?
0
```

21.47 CALCulate:SRATE:LIMit:LOWer

Syntax:

CALCulate:SRATE:LIMit:LOWer

CALCulate:SRATE:LIMit:LOWer?

Parameter/Return: 0 to 99%

Description: Sets/returns the symbol rate lower limit.

Examples:

```
CALCulate:SRATE:LIMit:LOWer 10.0
CALCulate:SRATE:LIMit:LOWer?
10.0
```

21.48 CALCulate:SRATE:LIMit:LOWer:STATe

Syntax:

CALCulate:SRATE:LIMit:LOWer:STATe

CALCulate:SRATE:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the symbol rate lower limit.

Examples:

```
CALCulate:SRATE:LIMit:LOWer:STATe On
CALCulate:SRATE:LIMit:LOWer:STATe?
On
```

21.49 CALCulate:SRATE:LIMit:UPPer

Syntax:

CALCulate:SRATE:LIMit:UPPer

CALCulate:SRATE:LIMit:UPPer?

Parameter/Return: 0 to 99%

Description: Sets/returns the symbol rate upper limit.

Examples:

```
CALCulate:SRATE:LIMit:UPPer 10.0
CALCulate:SRATE:LIMit:UPPer?
10.0
```

21.50 CALCulate:SRATE:LIMit:UPPer:STATe

Syntax:

CALCulate:SRATE:LIMit:UPPer:STATe

CALCulate:SRATE:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the symbol rate upper limit.

Examples:

```
CALCulate:SRATE:LIMit:UPPer:STATe On
CALCulate:SRATE:LIMit:UPPer:STATe?
On
```

21.51 DISPlay:HOLD?

Syntax: DISPlay:HOLD?

Parameter/Return: On | Off

Description: Returns the state of the display hold.

Example:

```
DISPlay:HOLD?
On
```

21.52 DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision

Syntax:

DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision

DISPlay:PPROFile[:WINDow]:TRACe:X:SCALe:PDIVision?

Parameter/Return: —

Description: Sets/returns the power profile horizontal scale.

Examples:

```
DISPlay:PPROFile:WINDow:TRACe:X:SCALe:PDIVision
TIMESCALE_200us
DISPlay:PPROFile:WINDow:TRACe:X:SCALe:PDIVision?
TIMESCALE_200us
```

21.53 DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

Syntax:

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision

DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision?

Parameter/Return: VSCALE_1dB | VSCALE_2dB | VSCALE_5dB | VSCLAE_10dB | VSCALE_15dB | VSCALE_20dB

Description: Sets/returns the power profile vertical scale.

Examples:

```
DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision
VSCALE_5dB
DISPlay:PPROFile[:WINDow]:TRACe:Y:SCALe:PDIVision?
VSCALE_5dB
```

21.54 MEASure:BCC?

Syntax: MEASure:BCC?

Parameter/Return: —

Description: Returns the live BS BCC reading.

Example:

```
MEASure:BCC?
10.0
```

21.55 MEASure:BER?

Syntax: MEASure:BER?

Parameter/Return: —

Description: Returns the live BER reading.

Example:

```
MEASure:BER?
10.0
```

21.56 MEASure:BER:AVERage?

Syntax: MEASure:BER:AVERage?

Parameter/Return: —

Description: Returns the average BER reading.

Example:

```
MEASure:BER:AVERage?
10.0
```

21.57 MEASure:BER:MAXimum?

Syntax: MEASure:BER:MAXimum?

Parameter/Return: —

Description: Returns the maximum BER reading.

Example:

```
MEASure:BER:MAXimum?
10.0
```

21.58 MEASure:BER:MINimum?

Syntax: MEASure:BER:MINimum?

Parameter/Return: —

Description: Returns the minimum BER reading.

Example:

```
MEASure:BER:MINimum?
10.0
```

21.59 MEASure:CARRier:FEED?

Syntax: MEASure:CARRier:FEED?

Parameter/Return: —

Description: Returns the live carrier-feed reading.

Example:

```
MEASure:CARRier:FEED?
10.0
```

21.60 MEASure:CARRier:FEED:AVERage?

Syntax: MEASure:CARRier:FEED?

Parameter/Return: —

Description: Returns the average carrier-feed reading.

Example:

```
MEASure:CARRier:FEED:AVERage?
10.0
```

21.61 MEASure:CARRier:FEED:MAXimum?

Syntax: MEASure:CARRier:FEED:MAXimum?

Parameter/Return: —

Description: Returns the maximum-carrier feed reading.

Example:

```
MEASure:CARRier:FEED:MAXimum?
10.0
```

21.62 MEASure:CARRier:FEED:MINimum?

Syntax: MEASure:CARRier:FEED:MINimum?

Parameter/Return: —

Description: Returns the minimum carrier-feed reading (%).

Example:

```
MEASure:CARRier:FEED:MINimum?
10.0
```

21.63 MEASure:FERRor?

Syntax: MEASure:FERRor?

Parameter/Return: —

Description: Returns the frequency-error live reading.

Example:

```
MEASure:FERRor?
10.0
```

21.64 MEASure:FERRor:MAXimum?

Syntax: MEASure:FERRor:MAXimum?

Parameter/Return: —

Description: Returns the maximum frequency-error reading.

Example:

```
MEASure:FERRor:MAXimum?
10
```

21.65 MEASure:FERRor:MINimum

Syntax: MEASure:FERRor:MINimum?

Parameter/Return: —

Description: Returns the minimum frequency-error reading.

Example:

```
MEASure:FERRor:MINimum?
10
```

21.66 MEASure:FOFFSet?

Syntax: MEASure:FOFFSet?

Parameter/Return: —

Description: Returns the live frequency-offset reading.

Example:

```
MEASure:FOFFSet?
10.0
```

21.67 MEASure:FOFFSet:AVERage?

Syntax MEASure:FOFFSet:AVERage?

Parameter/Return: —

Description: Returns the average frequency offset reading.

Example:

```
MEASure:FOFFSet:AVERage?
10
```

21.68 MEASure:FOFFSet:MAXimum?

Syntax: MEASure:FOFFSet:MAXimum?

Parameter/Return: —

Description: Returns the maximum frequency-offset reading.

Example:

```
MEASure:FOFFSet:MAXimum?
10
```

21.69 MEASure:FOFFSet:MINimum?

Syntax: MEASure:FOFFSet:MINimum?

Parameter/Return: —

Description: Returns the minimum frequency-offset reading.

Example:

```
MEASure:FOFFSet:MINimum?
1
```

21.70 MEASure:MCC?

Syntax: MEASure:MCC?

Parameter/Return: —

Description: Returns the live MCC reading.

Example:

```
MEASure:MCC?
10
```

21.71 MEASure:MNC?

Syntax: MEASure:MCC?

Parameter/Return: —

Description: Returns the live MNC reading.

Example:

```
MEASure:MNC?
10
```

21.72 MEASure:OBANDwidth?

Syntax: MEASure:OBANDwidth?

Parameter/Return: —

Description: Returns the live occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth?
10
```

21.73 MEASure:OBANDwidth:AVERage?

Syntax: MEASure:OBANDwidth:AVERage?

Parameter/Return: —

Description: Returns the average occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:AVERage?
10
```

21.74 MEASure:OBANDwidth:MAXimum?

Syntax: MEASure:OBANDwidth:MAXimum?

Parameter/Return: —

Description: Returns the maximum occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:MAXimum?
10
```

21.75 MEASure:OBANDwidth:MINimum?

Syntax: MEASure:OBANDwidth:MINimum?

Parameter/Return: —

Description: Returns the minimum occupied bandwidth reading.

Example:

```
MEASure:OBANDwidth:MINimum?
10
```

21.76 MEASure:PEAK:EVM?

Syntax: MEASure:PEAK:EVM?

Parameter/Return: —

Description: Returns the live peak EVM reading.

Example:

```
MEASure:PEAK:EVM?
10
```

21.77 MEASure:PEAK:EVM:AVERage?

Syntax: MEASure:PEAK:EVM:AVERage?

Parameter/Return: —

Description: Returns the average peak EVM reading.

Example:

```
MEASure:PEAK:EVM:AVERage?
10
```

21.78 MEASure:PEAK:EVM:MAXimum?

Syntax: MEASure:PEAK:EVM:MAXimum?

Parameter/Return: —

Description: Returns the maximum peak EVM reading.

Example:

```
MEASure:PEAK:EVM:MAXimum?
10
```

21.79 MEASure:PEAK:EVM:MINimum?

Syntax: MEASure:PEAK:EVM:MINimum?

Parameter/Return: —

Description: Returns the minimum peak EVM reading.

Example:

```
MEASure:PEAK:EVM:MINimum?
10
```

21.80 MEASure:RESidual:CARRier?

Syntax: MEASure:RESidual:CARRier?

Parameter/Return: —

Description: Returns the live residual carrier reading.

Example:

```
MEASure:RESidual:CARRier?
10
```

21.81 MEASure:RESidual:CARRier:AVERage?

Syntax: MEASure:RESidual:CARRier:AVERage?

Parameter/Return: —

Description: Returns the average residual carrier reading.

Example:

```
MEASure:RESidual:CARRier:AVERage?
10
```

21.82 MEASure:RESidual:CARRier:MAXimum?

Syntax: MEASure:RESidual:CARRier:MAXimum?

Parameter/Return: —

Description: Returns the maximum residual carrier reading.

Example:

```
MEASure:RESidual:CARRier:MAXimum?
10
```

21.83 MEASure:RESidual:CARRier:MINimum?

Syntax: MEASure:RESidual:CARRier:MINimum?

Parameter/Return: —

Description: Returns the minimum residual carrier reading.

Example:

```
MEASure:RESidual:CARRier:MINimum?
10
```

21.84 MEASure:RMS:EVM?

Syntax: MEASure:RMS:EVM?

Parameter/Return: —

Description: Returns the live RMS EVM reading.

Example:

```
MEASure:RMS:EVM?
10
```

21.85 MEASure:RMS:EVM:AVERage?

Syntax: MEASure:RMS:EVM:AVERage?

Parameter/Return: —

Description: Returns the average RMS EVM reading.

Example:

```
MEASure:RMS:EVM:AVERage?
10
```

21.86 MEASure:RMS:EVM:MAXimum?

Syntax: MEASure:RMS:EVM:MAXimum?

Parameter/Return: —

Description: Returns the maximum RMS EVM reading.

Example:

```
MEASure:PEAK:RMS:MAXimum?
10
```

21.87 MEASure:RMS:EVM:MINimum?

Syntax: MEASure:RMS:EVM:MINimum?

Parameter/Return: —

Description: Returns the minimum RMS EVM reading.

Example:

```
MEASure:RMS:EVM:MINimum?
10
```

21.88 MEASure:SPOWer?

Syntax: MEASure:SPOWer?

Parameter/Return: —

Description: Returns the live signal power reading.

Example:

```
MEASure:SPOWer?
10
```

21.89 MEASure:SPOWer:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: —

Description: Returns the average signal power reading.

Example:

```
MEASure:SPOWer:AVERage?
10
```

21.90 MEASure:SPOWer:MAXimum?

Syntax: MEASure:SPOWer:MAXimum?

Parameter/Return: —

Description: Returns the maximum signal power reading.

Example:

```
MEASure:SPOWer:MAXimum?
10
```

21.91 MEASure:SPOWer:MINimum?

Syntax: MEASure:SPOWer:MINimum?

Parameter/Return: —

Description: Returns the minimum signal power reading.

Example:

```
MEASure:SPOWer:MINimum?
10
```

21.92 MEASure:SRATE?

Syntax: MEASure:SRATE?

Parameter/Return: —

Description: Returns the live symbol rate error reading.

Example:

```
MEASure:SRATE?
10
```

21.93 MEASure:SRATE:AVERage?

Syntax: MEASure:SPOWer:AVERage?

Parameter/Return: —

Description: Returns the average symbol rate error reading.

Example:

```
MEASure:SRATE:AVERage?
10
```

21.94 MEASure:SRATE:MAXimum?

Syntax: MEASure:SRATE:MAXimum?

Parameter/Return: —

Description: Returns the maximum symbol rate error reading.

Example:

```
MEASure:SRATE:MAXimum?
10
```

21.95 MEASure:SRATE:MINimum?

Syntax: MEASure:SRATE:MINimum?

Parameter/Return: —

Description: Returns the minimum symbol rate error reading.

Example:

```
MEASure:SRATE:MINimum?
10
```

21.96 MEASure:TRACe:CONSTellation?

Syntax: MEASure:TRACe:CONSTellation?

Parameter/Return: —

Description: Returns the constellation trace.

Example:

```
MEASure:TRACe:CONSTellation?
10
```

21.97 MEASure:TRACe:EYE:DIAGram?

Syntax: MEASure:TRACe:EYE:DIAGram?

Parameter/Return: —

Description: Returns the eye-diagram trace.

Example:

```
MEASure:TRACe:EYE:DIAGram?
10
```

21.98 MEASure:TRACe:PPROFile?

Syntax: MEASure:TRACe:PPROFile?

Parameter/Return: —

Description: Returns the power profile trace.

Example:

```
MEASure:TRACe:PPROFile?
10
```

21.99 MEASure:TRACe:TRAJectory?

Syntax: MEASure:TRACe:TRAJectory?

Parameter/Return: —

Description: Returns the trajectory trace.

Example:

```
MEASure:TRACe:TRAJectory?
10
```

21.100 SENSe:BER:AVERage:COUNt

Syntax:

SENSe:BER:AVERage:COUNt

SENSe:BER:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the BER average count.

Examples:

```
SENSe:BER:AVERage:COUNt 2
SENSe:BER:AVERage:COUNt?
2
```

21.101 SENSe:BER:DECimal:PRECision

Syntax:

SENSe:BER:DECimal:PRECision

SENSe:BER:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Set/returns the BER decimal precision.

Examples:

```
SENSe:BER:DECimal:PRECision 3
SENSe:BER:DECimal:PRECision
3
```

21.102 SENSe:BER:READing:TYPE

Syntax:

SENSe:BER:READing:TYPE

SENSe:BER:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the BER reading type.

Examples:

```
SENSe:BER:READing:TYPE MAX
SENSe:BER:READing:TYPE?
MAX
```

21.103 SENSe:BER:RESet

Syntax: SENSe:BER:RESet

Parameter/Return: —

Description: Resets the BER acquisition.

Example:

```
SENSe:BER:RESet
```

21.104 SENSe:BER:SCALe

Syntax:

SENSe:BER:SCALe

SENSe:BER:SCALe?

Parameter/Return: Auto | 100% | 50% | 20% | 10% | 5% | 2% | 1%

Note: Default = Auto

Description: Sets/returns the BER scale.

Examples:

```
SENSe:BER:SCALe 10%
SENSe:BER:SCALe?
10%
```

21.105 SENSe:CARRier:FEED:AVERage:COUNt

Syntax:

SENSe:CARRier:FEED:AVERage:COUNt

SENSe:CARRier:FEED:AVERage:COUNt?

Parameter/Return: 1 to 99

Default = 1

Description: Sets/returns the carrier-feed count.

Examples:

```
SENSe:CARRier:FEED:AVERage:COUNt 5
SENSe:CARRier:FEED:AVERage:COUNt?
5
```

21.106 SENSe:CARRier:FEED:DECimal:PRECision

Syntax:

SENSe:CARRier:FEED:DECimal:PRECision

SENSe:CARRier:FEED:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the carrier-feed decimal precision.

Examples:

```
SENSe:CARRier:FEED:DECimal:PRECision 3
SENSe:CARRier:FEED:DECimal:PRECision?
3
```

21.107 SENSe:CARRier:FEED:READing:TYPE

Syntax:

SENSe:CARRier:FEED:READing:TYPE

SENSe:CARRier:FEED:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the carrier-feed reading type.

Examples:

```
SENSe:CARRier:FEED:READing:TYPE
SENSe:CARRier:FEED:READing:TYPE?
AVG
```

21.108 SENSe:CARRier:FEED:RESet

Syntax: SENSe:CARRier:FEED:RESet

Parameter/Return: —

Description: Resets the carrier-feed acquisition.

Example:

```
SENSe:CARRier:FEED:RESet
```

21.109 SENSe:CARRier:FEED:SCALe

Syntax:

SENSe:CARRier:FEED:SCALe

SENSe:CARRier:FEED:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the carrier-feed scale.

Examples:

```
SENSe:CARRier:FEED:SCALe 20Hz
SENSe:CARRier:FEED:SCALe?
20Hz
```

21.110 SENSe:CURRent?

Syntax: SENSe:CURRent?

Parameter/Return: Yes (On) | No (off)

Note: Default = No

Description: Returns the on/off state of the Tetra system.

Example:

```
SENSe:CURRent?
No
```

21.111 SENSe:EVM:TYPE

Syntax:

SENSe:EVM:TYPE

SENSe:EVM:TYPE?

Parameter/Return: RMS | PEAK

Note: Default = RMS

Description: Sets/returns the EVM type.

Examples:

```
SENSe:EVM:TYPE PEAK
SENSe:EVM:TYPE?
PEAK
```

21.112 SENSe:FERRor:AVERage:COUNt

Syntax:

SENSe:FERRor:AVERage:COUNt

SENSe:FERRor:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average frequency-error count.

Examples:

```
SENSe:FERRor:AVERage:COUNt 2
SENSe:FERRor:AVERage:COUNt?
2
```

21.113 SENSe:FERRor:READing:TYPE

Syntax:

SENSe:FERRor:READing:TYPE

SENSe:FERRor:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note" Default = LIVE

Description: Sets/returns the frequency-error reading type.

Examples:

```
SENSe:FERRor:READing:TYPE AVG
SENSe:FERRor:READing:TYPE?
AVG
```

21.114 SENSe:FERRor:RESet

Syntax: SENSe:FERRor:RESet

Parameter/Return: —

Description: Resets the frequency-error acquisition.

Example:

```
SENSe:FERRor:RESet
```

21.115 SENSe:FERRor:SCALe

Syntax:

SENSe:FERRor:SCALe

SENSe:FERRor:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz| 1Hz

Note: Default = Auto

Description: Sets/returns the frequency error scale.

Examples:

```
SENSe:FERRor:SCALe 20Hz
SENSe:FERRor:SCALe?
20Hz
```

21.116 SENSe:FOFFSet:AVERage:COUNt

Syntax:

SENSe:FOFFSet:AVERage:COUNt

SENSe:FOFFSet:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average frequency-offset count.

Examples:

```
SENSe:FOFFSet:AVERage:COUNt 2
SENSe:FOFFSet:AVERage:COUNt?
2
```

21.117 SENSe:FOFFSet:DECimal:PRECision

Syntax:

SENSe:FOFFSet:DECimal:PRECision

SENSe:FOFFSet:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns frequency-offset decimal precision.

Examples:

```
SENSe:FOFFSet:DECimal:PRECision 2
SENSe:FOFFSet:DECimal:PRECision?
2
```

21.118 SENSe:FOFFSet:READing:TYPE

Syntax:

SENSe:FOFFSet:READing:TYPE

SENSe:FOFFSet:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the frequency-offset reading type.

Examples:

```
SENSe:FOFFSet:READing:TYPE AVG
SENSe:FOFFSet:READing:TYPE?
AVG
```

21.119 SENSe:FOFFSet:RESet

Syntax: SENSe:FOFFSet:RESet

Parameter/Return: —

Description: Resets the frequency-offset acquisition.

Example:

```
SENSe:FOFFSet:RESet
```

21.120 SENSe:FOFFSet:SCALe

Syntax:

SENSe:FOFFSet:SCALe

SENSe:FOFFSet:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the frequency-offset scale.

Examples:

```
SENSe:FOFFSet:SCALe 20Hz
SENSe:FOFFSet:SCALe?
20Hz
```

21.121 SENSe:OBANDwidth:AVERage:COUNt

Syntax:

SENSe:OBANDwidth:AVERage:COUNt

SENSe:OBANDwidth:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average occupied-bandwidth count.

Examples:

```
SENSe:OBANDwidth:AVERage:COUNt 2
SENSe:OBANDwidth:AVERage:COUNt?
2
```

21.122 SENSe:OBANDwidth:DECimal:PRECision

Syntax:

SENSe:OBANDwidth:DECimal:PRECision

SENSe:OBANDwidth:DECimal:PRECision?

Parameter/Return: 0 to 9

Default = 1

Description: Sets/returns the occupied-bandwidth decimal precision.

Examples:

```
SENSe:OBANDwidth:DECimal:PRECision 3
SENSe:OBANDwidth:DECimal:PRECision?
3
```

21.123 SENSe:OBANDwidth:READing:TYPE

Syntax:

SENSe:OBANDwidth:READing:TYPE

SENSe:OBANDwidth:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the occupied-bandwidth reading type.

Examples:

```
SENSe:OBANDwidth:READing:TYPE AVG
SENSe:OBANDwidth:READing:TYPE?
AVG
```

21.124 SENSe:OBANDwidth:RESet

Syntax: SENSe:OBANDwidth:RESet

Parameter/Return: —

Description: Resets the occupied-bandwidth acquisition.

Example:

```
SENSe:OBANDwidth:RESet
```

21.125 SENSe:OBANDwidth:SCALe

Syntax:

SENSe:OBANDwidth:SCALe

SENSe:OBANDwidth:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the occupied-bandwidth scale.

Examples:

```
SENSe:OBANDwidth:SCALe AVG

SENSe:OBANDwidth:SCALe?
AVG
```

21.126 SENSe:PATTern

Syntax:

SENSe:PATTern

SENSe:PATTern?

Parameter/Return: BST1 | MST1 | DM

Description: Sets/returns the Tetra pattern.

Examples:

```
SENSe:PATTern BST1

SENSe:PATTern?
BST1
```

21.127 SENSe:PEAK:EVM:AVERage:COUNt

Syntax:

SENSe:PEAK:EVM:AVERage:COUNt

SENSe:PEAK:EVM:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the peak EVM average count.

Examples:

```
SENSe:PEAK:EVM:AVERage:COUNt 2
SENSe:PEAK:EVM:AVERage:COUNt?
2
```

21.128 SENSe:PEAK:EVM:DECimal:PRECision

Syntax:

SENSe:PEAK:EVM:DECimal:PRECision

SENSe:PEAK:EVM:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the peak EVM decimal precision.

Examples:

```
SENSe:PEAK:EVM:DECimal:PRECision 3
SENSe:PEAK:EVM:DECimal:PRECision?
3
```

21.129 SENSe:PEAK:EVM:READing:TYPE

Syntax:

SENSe:PEAK:EVM:READing:TYPE

SENSe:PEAK:EVM:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = AVG

Description: Sets/returns the peak EVM reading type.

Examples:

```
SENSe:PEAK:EVM:READing:TYPE AVG
SENSe:PEAK:EVM:READing:TYPE?
AVG
```

21.130 SENSe:PEAK:EVM:RESet

Syntax: SENSe:PEAK:EVM:RESet

Parameter/Return: —

Description: Resets the peak EVM acquisition.

Example:

```
SENSe:PEAK:EVM:RESet
```

21.131 SENSe:PEAK:EVM:SCALe

Syntax:

SENSe:PEAK:EVM:SCALe

SENSe:PEAK:EVM:SCALe?

Parameter/Return: Auto

Description: Sets/returns the peak EVM scale.

Examples:

```
SENSe:PEAK:EVM:SCALe Auto
SENSe:PEAK:EVM:SCALe?
Auto
```

21.132 SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer

Syntax:

SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer

SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer?

Parameter/Return: —

Description: Sets/returns the left-ramp center frequency.

Examples:

```
SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer 100000000
SENSe:PPROFile:LEFT:RAMP:FREQuency:CENTer?
100000000
```

21.133 SENSe:PPROFile:MODE

Syntax:

SENSe:PPROFile:MODE

SENSe:PPROFile:MODE?

Parameter/Return: FULL | RAMPS

Description: Sets/returns the power profile mode.

Examples:

```
SENSe:PPROFile:MODE FULL
SENSe:PPROFile:MODE?
FULL
```

21.134 SENSe:PPROFile:PERSistence

Syntax:

SENSe:PPROFile:PERSistence

SENSe:PPROFile:PERSistence?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the power profile persistence.

Examples:

```
SENSe:PPROFile:PERSistence 2
SENSe:PPROFile:PERSistence?
2
```

21.135 SENSe:PPROFile:RAMPs:LENGth

Syntax:

SENSe:PPROFile:RAMPs:LENGth

SENSe:PPROFile:RAMPs:LENGth?

Parameter/Return: —

Description: Sets/returns the power profile ramps length.

Examples:

```
SENSe:PPROFile:RAMPs:LENGth 1000.0
SENSe:PPROFile:RAMPs:LENGth?
1000.0
```

21.136 SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer

Syntax:

SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer

SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer?

Parameter/Return: —

Description: Sets/returns the right ramp center frequency.

Examples:

```
SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer 100000000
SENSe:PPROFile:RIGHt:RAMP:FREQuency:CENTer?
100000000
```

21.137 SENSe:PPROFile:SLOT

Syntax:

SENSe:PPROFile:SLOT

SENSe:PPROFile:SLOT?

Parameter/Return: Slot A | Slot B

Note: Default = Slot A

Description: Sets/returns the power profile slot.

Examples:

```
SENSe:PPROFile:SLOT Slot B
SENSe:PPROFile:SLOT?
Slot B
```

21.138 SENSe:RESet

Syntax: SENSe:RESet

Parameter/Return: —

Description: Resets the acquisition.

Example:

```
SENSe:RESet
```

21.139 SENSe:RESidual:CARRier:AVERage:COUNt

Syntax:

SENSe:RESidual:CARRier:AVERage:COUNt

SENSe:RESidual:CARRier:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 2

Description: Sets/returns the average residual carrier count.

Examples:

```
SENSe:RESidual:CARRier:AVERage:COUNt 2
SENSe:RESidual:CARRier:AVERage:COUNt?
2
```

21.140 SENSe:RESidual:CARRier:READing:TYPE

Syntax:

SENSe:RESidual:CARRier:READing:TYPE

SENSe:RESidual:CARRier:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the right ramp center frequency.

Examples:

```
SENSe:RESidual:CARRier:READing:TYPE AVG
SENSe:RESidual:CARRier:READing:TYPE?
AVG
```

21.141 SENSe:RESidual:CARRier:RESet

Syntax: SENSe:RESidual:CARRier:RESet

Parameter/Return: —

Description: Resets the residual carrier acquisition.

Examples:

```
SENSe:RESidual:CARRier:RESet
```

21.142 SENSe:RESidual:CARRier:SCALe

Syntax:

SENSe:RESidual:CARRier:SCALe

SENSe:RESidual:CARRier:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz | 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the residual carrier scale.

Examples:

```
SENSe:RESidual:CARRier:SCALe 20Hz
SENSe:RESidual:CARRier:SCALe?
20Hz
```

21.143 SENSe:RMS:EVM:AVERage:COUNt

Syntax:

SENSe:RMS:EVM:AVERage:COUNt

SENSe:RMS:EVM:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average RMS EVM count.

Examples:

```
SENSe:RMS:EVM:AVERage:COUNt 2
SENSe:RMS:EVM:AVERage:COUNt?
2
```

21.144 SENSe:RMS:EVM:DECimal:PRECision

Syntax:

SENSe:RMS:EVM:DECimal:PRECision

SENSe:RMS:EVM:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the RMS EVM decimal precision.

Examples:

```
SENSe:RMS:EVM:DECimal:PRECision 3
SENSe:RMS:EVM:DECimal:PRECision?
3
```

21.145 SENSe:RMS:EVM:READing:TYPE

Syntax:

SENSe:RMS:EVM:READing:TYPE

SENSe:RMS:EVM:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the RMS EVM reading type.

Examples:

```
SENSe:RMS:EVM:READing:TYPE AVG
SENSe:RMS:EVM:READing:TYPE?
AVG
```

21.146 SENSe:RMS:EVM:RESet

Syntax: SENSe:RMS:EVM:RESet

Parameter/Return: —

Description: Resets the RMS EVM acquisition.

Example:

```
SENSe:RMS:EVM:RESet
```

21.147 SENSe:RMS:EVM:SCALe

Syntax:

SENSe:RMS:EVM:SCALe

SENSe:RMS:EVM:SCALe?

Parameter/Return: Auto

Description: Sets/returns the RMS EVM scale.

Examples:

```
SENSe:RMS:EVM:SCALe Auto
SENSe:RMS:EVM:SCALe?
Auto
```

21.148 SENSe:SPOWer:AVERage:COUNt

Syntax:

SENSe:SPOWer:AVERage:COUNt

SENSe:SPOWer:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average signal power count.

Examples:

```
SENSe:SPOWer:AVERage:COUNt 2
SENSe:SPOWer:AVERage:COUNt?
2
```

21.149 SENSe:SPOWer:DECimal:PRECision

Syntax:

SENSe:SPOWer:DECimal:PRECision

SENSe:SPOWer:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the signal power decimal precision.

Examples:

```
SENSe:SPOWer:DECimal:PRECision 3
SENSe:SPOWer:DECimal:PRECision?
3
```

21.150 SENSe:SPOWer:READing:TYPE

Syntax:

SENSe:SPOWer:READing:TYPE

SENSe:SPOWer:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the signal power reading type.

Examples:

```
SENSe:SPOWer:READing:TYPE AVG
SENSe:SPOWer:READing:TYPE?
AVG
```

21.151 SENSe:SPOWer:RESet

Syntax: SENSe:SPOWer:RESet

Parameter/Return: —

Description: Resets the signal power acquisition.

Example:

```
SENSe:SPOWER:RESet
```

21.152 SENSe:SPOWer:SCALe:DBM

Syntax:

SENSe:SPOWer:SCALe:DBM

SENSe:SPOWer:SCALe:DBM?

Parameter/Return: Auto | -100 dBm to 60 dBm in 10-dBm steps

Note: Default = Auto

Description: Sets/returns the signal power DBM scale.

Examples:

```
SENSe:SPOWer:SCALe:DBM 10
SENSe:SPOWer:SCALe:DBM?
10
```

21.153 SENSe:SPOWer:SCALe:DBUV

Syntax:

SENSe:SPOWer:SCALe:DBUV

SENSe:SPOWer:SCALe:DBUV?

Parameter/Return: Auto | -100 dBuV to 60 dBuV in 10-dBuV steps

Note: Default = Auto

Description: Sets/returns the signal power DBuV scale.

Examples:

```
SENSe:SPOWer:SCALe:DBUV 10
SENSe:SPOWer:SCALe:DBUV?
10
```

21.154 SENSe:SPOWer:SCALe:DBW

Syntax:

SENSe:SPOWer:SCALe:DBW

SENSe:SPOWer:SCALe:DBW?

Parameter/Return: Auto | -100 dBW to 60 dBW in 10-dBW steps

Note: Default = Auto

Description: Sets/returns the signal power DBW scale.

Examples:

```
SENSe:SPOWer:SCALe:DBW 10
SENSe:SPOWer:SCALe:DBW?
10
```

21.155 SENSe:SPOWer:SCALe:VOLT

Syntax:

SENSe:SPOWer:SCALe:VOLT

SENSe:SPOWer:SCALe:VOLT?

Parameter/Return: Auto | 1 uV to 200 uV in 1, 2, 5, sequence.

Note: Default = Auto

Description: Sets/returns the signal power volts scale.

Examples:

```
SENSe:SPOWer:SCALe:VOLT Auto
SENSe:SPOWer:SCALe:VOLT?
Auto
```

21.156 SENSe:SPOWer:SCALe:WATT

Syntax:

SENSe:SPOWer:SCALe:WATT

SENSe:SPOWer:SCALe:WATT?

Parameter/Return: Auto | 1 pW to 200 pW in 1, 2, 5, sequence.

Note: Default = Auto

Description: Sets/returns the signal power watts scale.

Examples:

```
SENSe:SPOWer:SCALe:WATT Auto
SENSe:SPOWer:SCALe:WATT?
Auto
```

21.157 SENSe:SPOWer:UNIT

Syntax:

SENSe:SPOWer:UNIT

SENSe:SPOWer:UNIT?

Parameter/Return: dBm | dBW | W | V | dBuV.

Note: Default = dBm

Description: Sets/returns the signal power units.

Examples:

```
SENSe:SPOWer:UNIT dBW
SENSe:SPOWer:SCALe:WATT?
dBW
```

21.158 SENSe:SRATE:AVERage:COUNt

Syntax:

SENSe:SRATE:AVERage:COUNt

SENSe:SRATE:AVERage:COUNt?

Parameter/Return: 1 to 99

Note: Default = 1

Description: Sets/returns the average symbol rate count.

Examples:

```
SENSe:SRATE:AVERage:COUNt 2
SENSe:SRATE:AVERage:COUNt?
2
```

21.159 SENSe:SRATE:DECimal:PRECision

Syntax:

SENSe:SRATE:DECimal:PRECision

SENSe:SRATE:DECimal:PRECision?

Parameter/Return: 0 to 9

Note: Default = 1

Description: Sets/returns the symbol rate decimal precision.

Examples:

```
SENSe:SRATE:DECimal:PRECision 3
SENSe:SRATE:DECimal:PRECision?
3
```

21.160 SENSe:SRATE:READing:TYPE

Syntax:

SENSe:SRATE:READing:TYPE

SENSe:SRATE:READing:TYPE?

Parameter/Return: LIVE | MAX | MIN | AVG

Note: Default = LIVE

Description: Sets/returns the symbol rate reading type.

Examples:

```
SENSe:SRATE:READing:TYPE AVG
SENSe:SRATE:READing:TYPE?
AVG
```

21.161 SENSe:SRATE:RESet

Syntax: SENSe:SRATE:RESet

Parameter/Return: —

Description: Resets the symbol rate acquisition.

Example:

```
SENSe:SRATE:RESet
```

21.162 SENSe:SRATE:SCALe

Syntax:

SENSe:SRATE:SCALe

SENSe:SRATE:SCALe?

Parameter/Return: Auto | 100000Hz | 50000Hz | 20000Hz | 10000Hz | 5000Hz | 2000Hz | 1000Hz | 500Hz | 200Hz | 100Hz | 50Hz | 20Hz| 10Hz | 5Hz | 2Hz | 1Hz

Note: Default = Auto

Description: Sets/returns the symbol rate scale.

Examples:

```
SENSe:SRATE:SCALe 10Hz
SENSe:SRATE:SCALe?
10Hz
```

22

Record Commands

This chapter describes the following remote commands for configuring Record settings:

- SENSe:FILE? 22-2
- SENSe:TIME. 22-2
- SENSe:INITiate. 22-2
- SENSe:SRATE 22-2
- SENSe:STATus? 22-3

22.1 SENSe:FILE?

Syntax: SENSe:FILE?

Parameter/Return: None

Description: Returns the file path.

Example:

```
SENSe:FILE?
```

22.2 SENSe:TIME

Syntax: SENSe:TIME

Parameter/Return: 0.0 to 1000 s

Description: Sets/returns the record time.

Example:

```
SENSe:TIME 20.0
SENse:TIME?
```

22.3 SENSe:INITiate

Syntax: SENSe:INITiate

Parameter/Return: None

Description: Begins recording.

Example:

```
SENSe:INITiate
```

22.4 SENSe:SRATE

Syntax: SENSe:SRATE

Parameter/Return: None

Description: Sets/returns the Displayed sample rate.

Example:

```
SENSe:SRATE 1.024MHz
```

22.5 SENSe:STATus?

Syntax: SENSe:STATus?

Parameter/Return: None

Description: Returns the recording status: Status Idle | Playing | Recording

Example:

```
SENSe:STATus?
```

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23

Playback Commands

This chapter describes the following remote commands for configuring Playback settings:

- SOURce:FILE 23-2
- SOURce:DATE 23-2
- SOURce:REPeat:STATe 23-2
- SOURce:SRATE 23-2
- SOURce:STATus? 23-3

23.1 SOURce:FILE

Syntax: SOURce:DATE?

Parameter/Return: None

Description: You set or query the file path.

Example:

```
 SOURce:FILE
/user/CX300/internal/iqFiles/TOI_Signal.dat
 SOURce:FILE?
```

23.2 SOURce:DATE

Syntax: SOURce:DATE

Parameter/Return: None

Description: You can query the date in file.

Example:

```
 SOURce:DATE?
```

23.3 SOURce:REPeat:STATe

Syntax: SOURce:REPeat:STATe

Parameter/Return: Off | On | 0 | 1

Description: Sets/returns the Repeat State.

Example:

```
 SOURce:REPeat:STATe On
 SOURce:REPeat:STATe?
```

23.4 SOURce:SRATE

Syntax: SOURce:SRATE

Parameter/Return: None

Description: Returns the displayed sample rate.

Example:

```
 SOURce:SRATE?
```

23.5 SOURce:STATus?

Syntax: SOURce:STATus?

Parameter/Return: None

Description: Returns the Playback status: Status Idle | Playing | Recording

Example:

```
SOURce:STATus?
```

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24

Vector Network Analyzer Commands

This chapter describes the remote commands for configuring Vector Network Analyzer (VNA) settings:

- CALCulate:CABLe:FILE 24-3
- CALCulate:CABLe:FILE:TYPE 24-3
- CALCulate:CABLe:LOSS 24-4
- CALCulate:CABLe:VELocity 24-4
- CALCulate:MARKer#:DELTa:TRACe:DTF 24-5
- CALCulate:MARKer#:DELTa:TRACe:VSWR 24-5
- CALCulate:MARKer#:DELTa:X:DTF 24-6
- CALCulate:MARKer#:DELTa:X:RELative:DTF 24-6
- CALCulate:MARKer#:DELTa:X:RELative:VSWR 24-7
- CALCulate:MARKer#:DELTa:X:VSWR 24-7
- CALCulate:MARKer#:DISPlay:DISTance:DTF? 24-8
- CALCulate:MARKer#:DISPlay:FREQuency:VSWR? 24-8
- CALCulate:MARKer#:DISTance:DTF 24-9
- CALCulate:MARKer#:FREQuency:VSWR 24-9
- CALCulate:MARKer#:PEAK:ALWAys:DTF 24-10
- CALCulate:MARKer#:PEAK:ALWAys:VSWR 24-10
- CALCulate:MARKer#:TRACE:DTF 24-11
- CALCulate:MARKer#:TRACE:VSWR 24-11
- CALCulate:MARKer#:TYPE:DTF 24-12
- CALCulate:MARKer#:TYPE:VSWR 24-12
- CALCulate:MARKer#:VALue:DTF? 24-13
- CALCulate:MARKer#:VALue:VSWR? 24-13
- CALCulate:MARKer#[:STATe]:DTF 24-14
- CALCulate:MARKer#[:STATe]:VSWR 24-14
- CALCulate:MARKer:CENTer 24-15
- CALCulate:MARKer:MINimum 24-15

- CALCulate:MARKer:PEAK:LEFT 24-15
- CALCulate:MARKer:PEAK:NEXT 24-15
- CALCulate:MARKer:PEAK:RIGHt 24-16
- CALCulate:MARKer:PEAK:SEARch 24-16
- CALCulate:MARKer:SELect:DTF 24-17
- CALCulate:MARKer:SELect:VSWR 24-17
- CALCulate:MARKer:STARt 24-18
- CALCulate:MARKer:STOP 24-18
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- DISPlay:HOLD:VSWR 24-19
- DISPlay:TRACe#:DTF:TYPE 24-20
- DISPlay:TRACe#:VSWR:STATe 24-20
- DISPlay:TRACe#:VSWR:TYPE 24-21
- DISPlay:TRACe:CLEar:DTF:ALL 24-21
- DISPlay:TRACe:CLEar:VSWR:ALL 24-22
- DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision 24-22
- DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP 24-23
- DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision 24-23
- DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP 24-24
- MEASure:TRACe:DTF:DATA? 24-24
- MEASure:TRACe:DTF:ENABle 24-24
- MEASure:TRACe:VSWR:DATA? 24-25
- MEASure:TRACe:VSWR:ENABle 24-25
- SENSe:DISTance:STARt:FEET 24-26
- SENSe:DISTance:STARt:METer 24-26
- SENSe:DISTance:STOP:FEET 24-27
- SENSe:DISTance:STOP:METer 24-27
- SENSe:DTF:TYPE 24-28
- SENSe:FREQuency:CENTer 24-28
- SENSe:FREQuency:SPAN:VSWR 24-29
- SENSe:FREQuency:SPAN:VSWR:FULL 24-29
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- SENSe:FREQuency:STOP 24-30
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- SENSe:SWEep:VSWR:POINts 24-32
- SENSe:VSWR:MEASure:TYPE 24-32
- SENSe:VSWR:TRACe:SPAN 24-33

24.1 CALCulate:CABLe:FILE

Syntax:

CALCulate:CABLe:FILE

CALCulate:CABLe:FILE?

Parameter/Return: —

Description: Sets/returns the name of the cable file in use.

Examples:

```
CALCulate:CABLe:FILE CableFile.ext
CALCulate:CABLe:FILE?
CableFile.ext
```

24.2 CALCulate:CABLe:FILE:TYPE

Syntax:

CALCulate:CABLe:FILE:TYPE

CALCulate:CABLe:FILE:TYPE?

Parameter/Return: Standard | User

Note: Default = Standard

Description: Sets/returns the type of cable file in use.

Examples:

```
CALCulate:CABLe:FILE:TYPE User
CALCulate:CABLe:FILE?
User
```

24.3 CALCulate:CABLe:LOSS

Syntax:

CALCulate:CABLe:LOSS

CALCulate:CABLe:LOSS?

Parameter/Return: —

Note: Default = 4.9

Description: Sets/returns the attenuation factor of the cable in use, in dB/100ft unit.

Examples:

```
CALCulate:CABLe:LOSS 9.22
CALCulate:CABLe:LOSS?
9.22
```

24.4 CALCulate:CABLe:VELocity

Syntax:

CALCulate:CABLe:VELocity

CALCulate:CABLe:VELocity?

Parameter/Return: —

Note: Default = 0.66

Description: Sets/returns the velocity factor of the cable in use.

Examples:

```
CALCulate:CABLe:VELocity 0.7
CALCulate:CABLe:VELocity?
0.7
```

24.5 CALCulate:MARKer#:DELTa:TRACe:DTF

Syntax:

CALCulate:MARKer#:DELTa:TRACe:DTF

CALCulate:MARKer#:DELTa:TRACe:DTF?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF trace for the delta marker.

Examples:

```
CALCulate:MARKer1:DELTa:TRACe:DTF Trace02
CALCulate:MARKer1:DELTa:TRACe:DTF?
Trace02
```

24.6 CALCulate:MARKer#:DELTa:TRACe:VSWR

Syntax:

CALCulate:MARKer#:DELTa:TRACe:VSWR

CALCulate:MARKer#:DELTa:TRACe:VSWR?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR trace for the delta marker.

Examples:

```
CALCulate:MARKer1:DELTa:TRACe:VSWR
CALCulate:MARKer1:DELTa:TRACe:VSWR?
```

24.7 CALCulate:MARKer#:DELTa:X:DTF

Syntax:

CALCulate:MARKer#:DELTa:X:DTF

CALCulate:MARKer#:DELTa:X:DTF?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta distance for the DTF marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:DTF 50
CALCulate:MARKer1:DELTa:X:DTF?
50
```

24.8 CALCulate:MARKer#:DELTa:X:RELative:DTF

Syntax:

CALCulate:MARKer#:DELTa:X:RELative:DTF

CALCulate:MARKer#:DELTa:X:RELative:DTF?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative distance for the DTF marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:RELative:DTF 0
CALCulate:MARKer1:DELTa:X:RELative:DTF?
0
```

24.9 CALCulate:MARKer#:DELTa:X:RELative:VSWR

Syntax:

CALCulate:MARKer#:DELTa:X:RELative:VSWR

CALCulate:MARKer#:DELTa:X:RELative:VSWR?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative frequency for the VSWR marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:RELative:VSWR 0
CALCulate:MARKer1:DELTa:X:RELative:VSWR?
0
```

24.10 CALCulate:MARKer#:DELTa:X:VSWR

Syntax:

CALCulate:MARKer#:DELTa:X:VSWR

CALCulate:MARKer#:DELTa:X:VSWR?

Parameter/Return: —

Note:

Default = 0

Marker Index (#) = 1 to 6

Description: Sets/returns the delta relative frequency for the VSWR marker.

Examples:

```
CALCulate:MARKer1:DELTa:X:VSWR 0
CALCulate:MARKer1:DELTa:X:VSWR?
0
```

24.11 CALCulate:MARKer#:DISPlay:DISTance:DTF?

Syntax: CALCulate:MARKer#:DISPlay:DISTance:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the distance of the DTF marker.

Example:

```
CALCulate:MARKer1:DISPlay:DISTance:DTF?
100
```

24.12 CALCulate:MARKer#:DISPlay:FREQuency:VSWR?

Syntax: CALCulate:MARKer#:DISPlay:FREQuency:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the frequency of the VSWR marker.

Example:

```
CALCulate:MARKer1:DISPlay:FREQuency:VSWR?
1000000000
```

24.13 CALCulate:MARKer#:DISTance:DTF

Syntax:

CALCulate:MARKer#:DISTance:DTF

CALCulate:MARKer#:DISTance:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Sets/returns the distance of the DTF marker.

Examples:

```
CALCulate:MARKer1:DISTance:DTF 100
CALCulate:MARKer1:DISTance:DTF?
100
```

24.14 CALCulate:MARKer#:FREQuency:VSWR

Syntax:

CALCulate:MARKer#:FREQuency:VSWR

CALCulate:MARKer#:FREQuency:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Sets/returns the frequency of the VSWR marker.

Examples:

```
CALCulate:MARKer1:FREQuency:VSWR 1500000000
CALCulate:MARKer1:FREQuency:VSWR?
1500000000
```

24.15 CALCulate:MARKer#:PEAK:ALWAys:DTF

Syntax:

CALCulate:MARKer#:PEAK:ALWAys:DTF

CALCulate:MARKer#:PEAK:ALWAys:DTF?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the track peak state of the DTF marker.

Examples:

```
CALCulate:Marker1:PEAK:ALWAys:DTF On
CALCulate:Marker1:PEAK:ALWAys:DTF?
On
```

24.16 CALCulate:MARKer#:PEAK:ALWAys:VSWR

Syntax:

CALCulate:MARKer#:PEAK:ALWAys:VSWR

CALCulate:MARKer#:PEAK:ALWAys:VSWR?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the track peak state of the VSWR marker.

Examples:

```
CALCulate:Marker1:PEAK:ALWAys:VSWR On
CALCulate:Marker1:PEAK:ALWAys:VSWR?
On
```

24.17 CALCulate:MARKer#:TRACE:DTF

Syntax:

CALCulate:MARKer#:TRACE:DTF

CALCulate:MARKer#:TRACE:DTF?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF trace for the marker.

Examples:

```
CALCulate:Marker1:TRACE:DTF Trace02
CALCulate:Marker1:TRACE:DTF?
Trace02
```

24.18 CALCulate:MARKer#:TRACE:VSWR

Syntax:

CALCulate:MARKer#:TRACE:VSWR

CALCulate:MARKer#:TRACE:VSWR?

Parameter/Return: Trace01 to Trace 06

Note:

Default = Trace01

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR trace for the marker.

Examples:

```
CALCulate:Marker1:TRACE:VSWR Trace02
CALCulate:Marker1:TRACE:VSWR?
Trace02
```

24.19 CALCulate:MARKer#:TYPE:DTF

Syntax:

CALCulate:MARKer#:TYPE:DTF

CALCulate:MARKer#:TYPE:DTF?

Parameter/Return: Normal | Delta | DeltaPair

Note:

Default = Normal

Marker Index (#) = 1 to 6

Description: Sets/returns the DTF marker type.

Examples:

```
CALCulate:Marker1:TYPE:DTF DeltaPair
CALCulate:Marker1:TYPE:DTF?
DeltaPair
```

24.20 CALCulate:MARKer#:TYPE:VSWR

Syntax:

CALCulate:MARKer#:TYPE:VSWR

CALCulate:MARKer#:TYPE:VSWR?

Parameter/Return: Normal | Delta | DeltaPair

Note:

Default = Normal

Marker Index (#) = 1 to 6

Description: Sets/returns the VSWR marker type.

Examples:

```
CALCulate:Marker1:TYPE:VSWR DeltaPair
CALCulate:Marker1:TYPE:VSWR?
DeltaPair
```

24.21 CALCulate:MARKer#:VALue:DTF?

Syntax: CALCulate:MARKer#:VALue:DTF?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the level of the DTF marker.

Example:

```
CALCulate:MARKer1:VALue:DTF?
0
```

24.22 CALCulate:MARKer#:VALue:VSWR?

Syntax: CALCulate:MARKer#:VALue:VSWR?

Parameter/Return: —

Note: Marker Index (#) = 1 to 6

Description: Returns the level of the VSWR marker.

Example:

```
CALCulate:MARKer1:VALue:VSWR?
10
```

24.23 CALCulate:MARKer#[:STATe]:DTF

Syntax:

CALCulate:MARKer#[:STATe]:DTF

CALCulate:MARKer#[:STATe]:DTF?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the state of the DTF marker.

Examples:

```
CALCulate:MARKer1:STATe:DTF On
CALCulate:MARKer1:STATe:DTF?
On
```

24.24 CALCulate:MARKer#[:STATe]:VSWR

Syntax:

CALCulate:MARKer#[:STATe]:VSWR

CALCulate:MARKer#[:STATe]:VSWR?

Parameter/Return: On | Off | 1 | 0

Note:

Default = Off

Marker Index (#) = 1 to 6

Description: Sets/returns the state of the VSWR marker.

Examples:

```
CALCulate:MARKer1:STATe:VSWR On
CALCulate:MARKer1:STATe:VSWR?
On
```

24.25 CALCulate:MARKer:CENTer

Syntax: CALCulate:MARKer:CENTer

Parameter/Return: —

Description: Sets the center frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:CENTer
```

24.26 CALCulate:MARKer:MINimum

Syntax: CALCulate:MARKer:MINimum

Parameter/Return: —

Description: Sets the active marker to the minimum.

Example:

```
CALCulate:MARKer:MINimum
```

24.27 CALCulate:MARKer:PEAK:LEFT

Syntax: CALCulate:MARKer:PEAK:LEFT

Parameter/Return: —

Description: Sets the active marker to the next peak left.

Example:

```
CALCulate:MARKer:PEAK:LEFT
```

24.28 CALCulate:MARKer:PEAK:NEXT

Syntax: CALCulate:MARKer:PEAK:NEXT

Parameter/Return: —

Description: Sets the active marker to the next peak.

Example:

```
CALCulate:MARKer:PEAK:NEXT
```

24.29 CALCulate:MARKer:PEAK:RIGHt

Syntax: CALCulate:MARKer:PEAK:RIGHt

Parameter/Return: —

Description: Sets the active marker to the next peak right.

Example:

```
CALCulate:MARKer:PEAK:RIGHt
```

24.30 CALCulate:MARKer:PEAK:SEARch

Syntax: CALCulate:MARKer:PEAK:SEARch

Parameter/Return: —

Description: Sets the active marker to the peak.

Example:

```
CALCulate:MARKer:PEAK:SEARch
```

24.31 CALCulate:MARKer:SELect:DTF

Syntax:

CALCulate:MARKer:SELect:DTF

CALCulate:MARKer:SELect:DTF?

Parameter/Return: Marker01 to Marker06

Note: Default = Marker01

Description: Sets/returns the DTF marker.

Examples:

```
CALCulate:MARKer:SELect:DTF Marker02
CALCulate:MARKer:SELect:DTF?
Marker02
```

24.32 CALCulate:MARKer:SELect:VSWR

Syntax:

CALCulate:MARKer:SELect:VSWR

CALCulate:MARKer:SELect:VSWR?

Parameter/Return: Marker01 to Marker06

Note: Default = Marker01

Description: Sets/returns the VSWR marker.

Examples:

```
CALCulate:MARKer:SELect:VSWR Marker02
CALCulate:MARKer:SELect:VSWR?
Marker02
```

24.33 CALCulate:MARKer:STARt

Syntax: CALCulate:MARKer:STARt

Parameter/Return: —

Description: Sets the start frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:STARt
```

24.34 CALCulate:MARKer:STOP

Syntax: CALCulate:MARKer:STOP

Parameter/Return: —

Description: Sets the stop frequency to the frequency of the active marker.

Example:

```
CALCulate:MARKer:STOP
```

24.35 CALCulate:TRACe:X:UNITs

Syntax:

CALCulate:TRACe:X:UNITs

CALCulate:TRACe:X:UNITs?

Parameter/Return: m | ft

Note: Default = m

Description: Sets/returns the DTF units.

Examples:

```
CALCulate:TRACe:X:UNITs ft
CALCulate:TRACe:X:UNITs?
ft
```

24.36 DISPlay:HOLD:DTF

Syntax:

DISPlay:HOLD:DTF

DISPlay:HOLD:DTF?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the DTF hold setting.

Examples:

```
DISPlay:HOLD:DTF On
DISPlay:HOLD:DTF?
On
```

24.37 DISPlay:HOLD:VSWR

Syntax:

DISPlay:HOLD:VSWR

DISPlay:HOLD:VSWR?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the VSWR hold setting.

Examples:

```
DISPlay:HOLD:VSWR On
DISPlay:HOLD:VSWR?
On
```

24.38 DISPlay:TRACe#:DTF:TYPE

Syntax:

DISPlay:TRACe#:DTF:TYPE

DISPlay:TRACe#:DTF:TYPE?

Parameter/Return: Off | ClearWrite | Capture | Load

Note:

Default = ClearWrite

Trace Index (#) = 01 to 06

Description: Sets/returns the type of the DTF trace.

Examples:

```
DISPlay:TRACe01:DTF:TYPE Capture
DISPlay:TRACe01:DTF:TYPE?
Capture
```

24.39 DISPlay:TRACe#:VSWR:STATe

Syntax:

DISPlay:TRACe#:VSWR:STATe

DISPlay:TRACe#:VSWR:STATe?

Parameter/Return: On | Off

Note:

Default = On

Trace Index (#) = 01 to 06

Description: Sets/returns the state of the VSWR trace.

Examples:

```
DISPlay:TRACe01:VSWR:STATe Off
DISPlay:TRACe01:VSWR:STATe?
Off
```

24.40 DISPlay:TRACe#:VSWR:TYPE

Syntax:

DISPlay:TRACe#:VSWR:TYPE

DISPlay:TRACe#:VSWR:TYPE?

Parameter/Return: Off | ClearWrite | Capture | Load

Note:

Default = ClearWrite

Trace Index (#) = 01 to 06

Description: Sets/returns the type of the DTF trace.

Examples:

```
DISPlay:TRACe01:VSWR:TYPE Capture
DISPlay:TRACe01:VSWR:TYPE?
Capture
```

24.41 DISPlay:TRACe:CLEar:DTF:ALL

Syntax:

DISPlay:TRACe:CLEar:DTF:ALL

DISPlay:TRACe:CLEar:DTF:ALL?

Parameter/Return: —

Description: Clears all DTF traces.

Examples:

```
DISPlay:TRACe:CLEar:DTF:ALL
DISPlay:TRACe:CLEar:DTF:ALL?
```

24.42 DISPlay:TRACe:CLEar:VSWR:ALL

Syntax:

DISPlay:TRACe:CLEar:VSWR:ALL

DISPlay:TRACe:CLEar:VSWR:ALL?

Parameter/Return: —

Description: Clears all VSWR traces,

Examples:

```
DISPlay:TRACe:CLEar:VSWR:ALL
DISPlay:TRACe:CLEar:VSWR:ALL?
```

24.43 DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision

Syntax:

DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision

DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the DTF vertical scale per division.

Examples:

```
DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision 12
DISPlay:WINDow:TRACe:Y:DTF:SCALe:PDIVision?
12
```

24.44 DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP

Syntax:

DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP

DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the DTF top of scale.

Examples:

```
DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP 8
DISPlay:WINDow:TRACe:Y:DTF:SCALe:TOP?
8
```

24.45 DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision

Syntax:

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the VSWR vertical scale per division.

Examples:

```
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision 12
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:PDIVision?
12
```

24.46 DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP

Syntax:

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP

DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP?

Parameter/Return: —

Note: Default = 10

Description: Sets/returns the VSWR top of scale.

Examples:

```
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP 8
DISPlay:WINDow:TRACe:Y:VSWR:SCALe:TOP
8
```

24.47 MEASure:TRACe:DTF:DATA?

Syntax: MEASure:TRACe:DTF:DATA?

Parameter/Return: —

Description: Returns the distance-to-fault (DTF) measurement (in dB).

Example:

```
MEASure:TRACe:DTF:DATA?
10
```

24.48 MEASure:TRACe:DTF:ENABle

Syntax:

MEASure:TRACe:DTF:ENABle

MEASure:TRACe:DTF:ENABle?

Parameter/Return: On | Off

Description: Sets/returns the state of DTF trace measurement.

Examples:

```
MEASure:TRACe:DTF:ENABle On
MEASure:TRACe:DTF:ENABle?
On
```

24.49 MEASure:TRACe:VSWR:DATA?

Syntax: MEASure:TRACe:VSWR:DATA?

Parameter/Return: —

Description: Returns the Voltage Standing Wave Ratio (VSWR) measurement.

Example:

```
MEASure:TRACe:VSWR:DATA? 10
10
```

24.50 MEASure:TRACe:VSWR:ENABle

Syntax:

MEASure:TRACe:VSWR:ENABle

MEASure:TRACe:VSWR:ENABle?

Parameter/Return: On | Off

Description: Sets/returns the state of VSWR trace measurement.

Examples:

```
MEASure:TRACe:DTF:ENABle On
MEASure:TRACe:DTF:ENABle?
On
```

24.51 SENSe:DISTance:STARt:FEET

Syntax:

SENSe:DISTance:STARt:FEET

SENSe:DISTance:STARt:FEET?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the DTF distance start in feet.

Examples:

```
SENSe:DISTance:STARt:FEET 1.0
SENSe:DISTance:STARt:FEET?
1.0
```

24.52 SENSe:DISTance:STARt:METer

Syntax:

SENSe:DISTance:STARt:METer

SENSe:DISTance:STARt:METer?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the DTF distance start in meters.

Examples:

```
SENSe:DISTance:STARt:METer 1.0
SENSe:DISTance:STARt:METer?
1.0
```

24.53 SENSe:DISTance:STOP:FEET

Syntax:

SENSe:DISTance:STOP:FEET

SENSe:DISTance:STOPt:FEET?

Parameter/Return: —

Note: Default = 328.1

Description: Sets/returns the DTF distance stop in feet.

Examples:

```
SENSe:DISTance:STOP:FEET 30.1
SENSe:DISTance:STOP:FEET?
30.1
```

24.54 SENSe:DISTance:STOP:METer

Syntax:

SENSe:DISTance:STOP:METer

SENSe:DISTance:STOPt:METer?

Parameter/Return: —

Note: Default = 100

Description: Sets/returns the DTF distance stop in meters.

Examples:

```
SENSe:DISTance:STOP:METer 10.5
SENSe:DISTance:STOP:METer?
10.5
```

24.55 SENSe:DTF:TYPE

Syntax:

SENSe:DTF:TYPE

SENSe:DTF:TYPE?

Parameter/Return: MeasDtfReturnLoss | MeasDtfVswr

Note: Default = MeasDtfVswr

Description: Sets/returns the DTF measurement type.

Examples:

```
SENSe:DTF:TYPE MeasDtfReturnLoss
SENSe:DTF:TYPE?
MeasDtfReturnLoss
```

24.56 SENSe:FREQuency:CENTer

Syntax:

SENSe:FREQuency:CENTer

SENSe:FREQuency:CENTer?

Parameter/Return: 9025 Hz to 5.5GHz

Note: Default = 1.5GHz

Description: Sets/returns the center frequency.

Examples:

```
SENSe:FREQuency:CENTer 1500000000
SENSe:FREQuency:CENTer?
1500000000
```

24.57 SENSe:FREQuency:SPAN:VSWR

Syntax:

SENSe:FREQuency:SPAN:VSWR

SENSe:FREQuency:SPAN:VSWR?

Parameter/Return: —

Note: Default = 1 GHz

Description: Sets/returns the frequency span.

Examples:

```
SENSe:FREQuency:SPAN:VSWR 500000000
SENSe:FREQuency:SPAN:VSWR?
500000000
```

24.58 SENSe:FREQuency:SPAN:VSWR:FULL

Syntax: SENSe:FREQuency:SPAN:VSWR:FULL

Parameter/Return: —

Description: Sets the frequency full span mode.

Example:

```
SENSe:FREQuency:SPAN:VSWR:FULL
```

24.59 SENSe:FREQuency:STARt

Syntax:

SENSe:FREQuency:STARt

SENSe:FREQuency:STARt?

Parameter/Return: —

Note: Default = 1 GHz

Description: Sets/returns the frequency start.

Examples:

```
SENSe:FREQuency:STARt 500000000
SENSe:FREQuency:STARt?
500000000
```

24.60 SENSe:FREQuency:STOP

Syntax:

SENSe:FREQuency:STOP

SENSe:FREQuency:STOP?

Parameter/Return: —

Note: Default = 2 GHz

Description: Sets/returns the frequency stop.

Examples:

```
SENSe:FREQuency:STOP 300000000
SENSe:FREQuency:STOP?
300000000
```

24.61 SENSe:MEASurement:MODE

Syntax:

SENSe:MEASurement:MODE

SENSe:MEASurement:MODE?

Parameter/Return: VSWR | measureOff | DTF

Note: Default = VSWR

Description: Sets/returns the measurement mode.

Examples:

```
SENSe:MEASurement:MODE DTF
SENSe:MEASurement:MODE?
DTF
```

24.62 SENSe:SWEep:DTF:POINts

Syntax:

SENSe:SWEep:DTF:POINts

SENSe:SWEep:DTF:POINts?

Parameter/Return: —

Note: Default = 101

Description: Sets/returns the number of DTF sweep points.

Examples:

```
SENSe:SWEep:DTF:POINts 102
SENSe:SWEep:DTF:POINts?
102
```

24.63 SENSe:SWEep:VSWR:POINts

Syntax:

SENSe:SWEep:VSWR:POINts

SENSe:SWEep:VSWR:POINts?

Parameter/Return: —

Note: Default = 101

Description: Sets/returns the number of VSWR sweep points.

Examples:

```
SENSe:SWEep:VSWR:POINts 102
SENSe:SWEep:VSWR:POINts?
102
```

24.64 SENSe:VSWR:MEASure:TYPE

Syntax:

SENSe:VSWR:MEASure:TYPE

SENSe:VSWR:MEASure:TYPE?

Parameter/Return: MeasReturnLoss | MeasVswr

Note: Default = MeasVswr

Description: Sets/returns the VSWT measurement type.

Examples:

```
SENSe:VSWR:MEASure:TYPE MeasReturnLoss
SENSe:VSWR:MEASure:TYPE?
MeasReturnLoss
```

24.65 SENSe:VSWR:TRACe:SPAN

Syntax:

SENSe:VSWR:TRACe:SPAN

SENSe:VSWR:TRACe:SPAN?

Parameter/Return: CenterSpan | StartStop

Note: Default = CenterSpan

Description: Sets/returns the VSWR trace span type.

Examples:

```
SENSe:VSWR:TRACe:SPAN StartStop
SENSe:VSWR:TRACe:SPAN?
StartStop
```

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25

External Power Commands

This chapter describes the following remote commands for configuring External Power (EXTPower) settings:

- CALCulate:CCDF:LIMit:FAIL? 25-5
- CALCulate:CCDF:LIMit:LOWer 25-5
- CALCulate:CCDF:LIMit:LOWer:STATe 25-5
- CALCulate:CCDF:LIMit:UPPer 25-6
- CALCulate:CCDF:LIMit:UPPer:STATe 25-6
- CALCulate:CRESt:DB:LIMit:LOWer 25-7
- CALCulate:CRESt:DB:LIMit:UPPer 25-7
- CALCulate:CRESt:LIMit:FAIL? 25-7
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- CALCulate:CRESt:LIMit:LOWer:STATe 25-8
- CALCulate:CRESt:LIMit:UPPer 25-9
- CALCulate:CRESt:LIMit:UPPer:STATe 25-9
- CALCulate:DUTYCYCLe:LIMit:FAIL? 25-9
- CALCulate:DUTYCYCLe:LIMit:LOWer 25-10
- CALCulate:DUTYCYCLe:LIMit:LOWer:STATe 25-10
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- CALCulate:FORWard:LIMit:UPPer:STATe 25-13
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- CALCulate:VSWR:LIMit:LOWer 25-23
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- CALCulate:VSWR:LIMit:UPPer 25-24
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- MEASure:CCDF:MINimum 25-27
- MEASure:CCDF:PRECision? 25-27
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25.1 CALCulate:CCDF:LIMit:FAIL?

Syntax: CALCulate:CCDF:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the CCDF Meter pass-fail status.

Example:

```
CALCulate:CCDF:LIMit:FAIL?
0
```

25.2 CALCulate:CCDF:LIMit:LOWer

Syntax:

CALCulate:CCDF:LIMit:LOWer

CALCulate:CCDF:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0%

Description: Sets/returns the CCDF Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CCDF:LIMit:LOWer 0
CALCulate:CCDF:LIMit:LOWer?
0
```

25.3 CALCulate:CCDF:LIMit:LOWer:STATe

Syntax:

CALCulate:CCDF:LIMit:LOWer:STATe

CALCulate:CCDF:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the CCDF Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CCDF:LIMit:LOWer:STATe On
CALCulate:CCDF:LIMit:LOWer:STATe?
On
```

25.4 CALCulate:CCDF:LIMit:UPPer

Syntax:

CALCulate:CCDF:LIMit:UPPer

CALCulate:CCDF:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100%

Description: Sets/returns the CCDF Meter upper limit for Pass/Fail

Examples:

```
CALCulate:CCDF:LIMit:UPPer 50
CALCulate:CCDF:LIMit:UPPer?
50
```

25.5 CALCulate:CCDF:LIMit:UPPer:STATe

Syntax:

CALCulate:CCDF:LIMit:UPPer:STATe

CALCulate:CCDF:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the CCDF Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CCDF:LIMit:UPPer:STATe On
CALCulate:CCDF:LIMit:UPPer:STATe?
On
```

25.6 CALCulate:CRESt:DB:LIMit:LOWer

Syntax:

CALCulate:CRESt:DB:LIMit:LOWer

CALCulate:CRESt:DB:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the Crest Factor Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:DB:LIMit:LOWer 10
CALCulate:CRESt:DB:LIMit:LOWer?
10
```

25.7 CALCulate:CRESt:DB:LIMit:UPPer

Syntax:

CALCulate:CRESt:DB:LIMit:UPPer

CALCulate:CRESt:DB:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Crest Factor Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:DB:LIMit:UPPer 50
CALCulate:CRESt:DB:LIMit:UPPer?
50
```

25.8 CALCulate:CRESt:LIMit:FAIL?

Syntax: CALCulate:CRESt:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Crest Factor meter pass-fail status.

Example:

```
CALCulate:CRESt:LIMit:FAIL?
1
```

25.9 CALCulate:CRESt:LIMit:LOWer

Syntax:

CALCulate:CRESt:LIMit:LOWer

CALCulate:CRESt:LIMit:LOWer?

Parameter/Return:—

Note: Default = 1 dB

Description: Sets/returns the Crest Factor Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:LIMit:LOWer 1
CALCulate:CRESt:LIMit:LOWer?
1
```

25.10 CALCulate:CRESt:LIMit:LOWer:STATe

Syntax:

CALCulate:CRESt:LIMit:LOWer:STATe

CALCulate:CRESt:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Crest Factor Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CRESt:LIMit:LOWer:STATe On
CALCulate:CRESt:LIMit:LOWer:STATe?
On
```

25.11 CALCulate:CRESt:LIMit:UPPer

Syntax:

CALCulate:CRESt:LIMit:UPPer

CALCulate:CRESt:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Crest Factor Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:CRESt:LIMit:UPPer 66
CALCulate:CRESt:LIMit:UPPer?
66
```

25.12 CALCulate:CRESt:LIMit:UPPer:STATe

Syntax:

CALCulate:CRESt:LIMit:UPPer:STATe

CALCulate:CRESt:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Description: Sets/returns the state of the Crest Factor upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:CRESt:LIMit:UPPer:STATe Off
CALCulate:CRESt:LIMit:UPPer:STATe?
Off
```

25.13 CALCulate:DUTYCYCLe:LIMit:FAIL?

Syntax: CALCulate:DUTYCYCLe:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Duty Cycle meter pass-fail status.

Example:

```
CALCulate:DUTYCYCLe:LIMit:FAIL?
1
```

25.14 CALCulate:DUTYCYCLe:LIMit:LOWer

Syntax:

CALCulate:DUTYCYCLe:LIMit:LOWer

CALCulate:DUTYCYCLe:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0%

Description: Sets/returns the Duty Cycle Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:LOWer 0
CALCulate:DUTYCYCLe:LIMit:LOWer?
0
```

25.15 CALCulate:DUTYCYCLe:LIMit:LOWer:STATe

Syntax:

CALCulate:DUTYCYCLe:LIMit:LOWer:STATe

CALCulate:DUTYCYCLe:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Duty Cycle Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:LOWer:STATe On
CALCulate:DUTYCYCLe:LIMit:LOWer:STATe?
On
```

25.16 CALCulate:DUTYCYCLe:LIMit:UPPer

Syntax:

CALCulate:DUTYCYCLe:LIMit:UPPer

CALCulate:DUTYCYCLe:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100%

Description: Sets/returns the Duty Cycle Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:UPPer 75
CALCulate:DUTYCYCLe:LIMit:UPPer?
75
```

25.17 CALCulate:DUTYCYCLe:LIMit:UPPer:STATe

Syntax:

CALCulate:DUTYCYCLe:LIMit:UPPer:STATe

CALCulate:DUTYCYCLe:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Duty Cycle Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:DUTYCYCLe:LIMit:UPPer:STATe On
CALCulate:DUTYCYCLe:LIMit:UPPer:STATe?
On
```

25.18 CALCulate:FORWard:DBM:LIMit:LOWer

Syntax:

CALCulate:FORWard:DBM:LIMit:LOWer

CALCulate:FORWard:DBM:LIMit:LOWer?

Parameter/Return: —

Note: Default = -100 dBm

Description: Sets/returns the Forward Power (dBm) Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:FORWard:DBM:LIMit:LOWer -50
CALCulate:FORWard:DBM:LIMit:LOWer?
-50
```

25.19 CALCulate:FORWard:DBM:LIMit:UPPer

Syntax:

CALCulate:FORWard:DBM:LIMit:UPPer

CALCulate:FORWard:DBM:LIMit:UPPer?

Parameter/Return: —

Note: Default = 56 dBm

Description: Sets/returns the Forward Power (dBm) Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:FORWard:DBM:LIMit:UPPer 57
CALCulate:FORWard:DBM:LIMit:UPPer?
57
```

25.20 CALCulate:FORWard:LIMit:FAIL?

Syntax: CALCulate:FORWard:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Forward Power (dBm) Meter pass-fail status.

Example:

```
CALCulate:FORWard:LIMit:FAIL?
1
```

25.21 CALCulate:FORWard:LIMit:LOWer:STATe

Syntax:

CALCulate:FORWard:LIMit:LOWer:STATe

CALCulate:FORWard:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Forward Power (dBm) Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:FORWard:LIMit:LOWer:STATe On
CALCulate:FORWard:LIMit:LOWer:STATe?
On
```

25.22 CALCulate:FORWard:LIMit:UPPer:STATe

Syntax:

CALCulate:FORWard:LIMit:UPPer:STATe

CALCulate:FORWard:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Forward Power (dBm) Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:FORWard:LIMit:UPPer:STATe On
CALCulate:FORWard:LIMit:UPPer:STATe?
On
```

25.23 CALCulate:FORWard:WATT:LIMit:LOWer

Syntax:

CALCulate:FORWard:WATT:LIMit:LOWer

CALCulate:FORWard:WATT:LIMit:LOWer?

Parameter/Return: —

Note: Default = 1e-13 W

Description: Sets/returns the Forward Power (Watt) Meter lower limit.

Examples:

```
CALCulate:FORWard:WATT:LIMit:LOWer 1e-13
CALCulate:FORWard:WATT:LIMit:LOWer?
1e-13
```

25.24 CALCulate:FORWard:WATT:LIMit:UPPer

Syntax:

CALCulate:FORWard:WATT:LIMit:UPPer

CALCulate:FORWard:WATT:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 W

Description: Sets/returns the Forward Power (Watt) Meter upper limit.

Examples:

```
CALCulate:FORWard:WATT:LIMit:UPPer 100
CALCulate:FORWard:WATT:LIMit:UPPer?
100
```

25.25 CALCulate:REFLection:DBM:LIMit:LOWer

Syntax:

CALCulate:REFLection:DBM:LIMit:LOWer

CALCulate:REFLection:DBM:LIMit:LOWer?

Parameter/Return: —

Note: Default = -100 dBm

Description: Sets/returns the Reflected Power (dBm) Meter lower limit for pass-fail.

Examples:

```
CALCulate:REFLection:DBM:LIMit:LOWer 10
CALCulate:REFLection:DBM:LIMit:LOWer?
10
```

25.26 CALCulate:REFLection:DBM:LIMit:UPPer

Syntax:

CALCulate:REFLection:DBM:LIMit:UPPer

CALCulate:REFLection:DBM:LIMit:UPPer?

Parameter/Return: —

Note: Default = 56 dBm

Description: Sets/returns the Reflected Power (dBm) Meter upper limit for pass-fail.

Examples:

```
CALCulate:REFLection:DBM:LIMit:UPPer 50
CALCulate:REFLection:DBM:LIMit:UPPer?
50
```

25.27 CALCulate:REFLection:LIMit:FAIL?

Syntax: CALCulate:REFLection:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Reflected Power (dBm) Meter pass-fail status.

Example:

```
CALCulate:REFLection:LIMit:FAIL?
1
```

25.28 CALCulate:REFLection:LIMit:LOWer:STATe

Syntax:

CALCulate:REFLection:LIMit:LOWer:STATe

CALCulate:REFLection:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Reflected Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:REFLection:LIMit:LOWer:STATe On
CALCulate:REFLection:LIMit:LOWer:STATe?
On
```

25.29 CALCulate:REFLection:LIMit:UPPer:STATe

Syntax:

CALCulate:REFLection:LIMit:UPPer:STATe

CALCulate:REFLection:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Reflected Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:REFLection:LIMit:UPPer:STATe On
CALCulate:REFLection:LIMit:UPPer:STATe?
On
```

25.30 CALCulate:REFLection:WATT:LIMit:LOWer

Syntax:

CALCulate:REFLection:WATT:LIMit:LOWer

CALCulate:REFLection:WATT:LIMit:LOWer?

Parameter/Return: —

Note: Default = 1e-13

Description: Sets/returns the Reflected Power Meter (Watt) lower limit for Pass/Fail.

Examples:

```
CALCulate:REFLection:WATT:LIMit:LOWer 1e-13
CALCulate:REFLection:WATT:LIMit:LOWer?
1e-13
```

25.31 CALCulate:REFLection:WATT:LIMit:UPPer

Syntax:

CALCulate:REFLection:WATT:LIMit:UPPer

CALCulate:REFLection:WATT:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100

Description: Sets/returns the Reflected Power Meter (Watt) upper limit for Pass/Fail.

Examples:

```
CALCulate:REFLection:WATT:LIMit:UPPer 99
CALCulate:REFLection:WATT:LIMit:UPPer?
99
```

25.32 CALCulate:RHO:LIMit:FAIL?

Syntax: CALCulate:RHO:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the RHO Meter pass-fail status.

Example:

```
CALCulate:RHO:LIMit:FAIL?
1
```

25.33 CALCulate:RHO:LIMit:LOWer

Syntax:

CALCulate:RHO:LIMit:LOWer

CALCulate:RHO:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the RHO Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:RHO:LIMit:LOWer 0
CALCulate:RHO:LIMit:LOWer?
0
```

25.34 CALCulate:RHO:LIMit:LOWer:STATe

Syntax:

CALCulate:RHO:LIMit:LOWer:STATe

CALCulate:RHO:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the RHO Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RHO:LIMit:LOWer:STATe On
CALCulate:RHO:LIMit:LOWer:STATe?
On
```

25.35 CALCulate:RHO:LIMit:UPPer

Syntax:

CALCulate:RHO:LIMit:UPPer

CALCulate:RHO:LIMit:UPPer?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the RHO Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:RHO:LIMit:UPPer 5
CALCulate:RHO:LIMit:UPPer?
5
```

25.36 CALCulate:RHO:LIMit:UPPer:STATe

Syntax:

CALCulate:RHO:LIMit:UPPer:STATe

CALCulate:RHO:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the RHO Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RHO:LIMit:UPPer:STATe On
CALCulate:RHO:LIMit:UPPer:STATe?
On
```

25.37 CALCulate:RL:LIMit:FAIL?

Syntax: CALCulate:RL:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the Return Loss Meter pass-fail status.

Example:

```
CALCulate:RL:LIMit:FAIL?
1
```

25.38 CALCulate:RL:LIMit:LOWer

Syntax:

CALCulate:RL:LIMit:LOWer

CALCulate:RL:LIMit:LOWer?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the Return Loss Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:RL:LIMit:LOWer 1
CALCulate:RL:LIMit:LOWer?
1
```

25.39 CALCulate:RL:LIMit:LOWer:STATe

Syntax:

CALCulate:RL:LIMit:LOWer:STATe

CALCulate:RL:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Return Loss Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RL:LIMit:LOWer:STATe On
CALCulate:RL:LIMit:LOWer:STATe?
On
```

25.40 CALCulate:RL:LIMit:UPPer

Syntax:

CALCulate:RL:LIMit:UPPer

CALCulate:RL:LIMit:UPPer?

Parameter/Return: —

Note: Default = 100 dB

Description: Sets/returns the Return Loss Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:RL:LIMit:UPPer 80
CALCulate:RL:LIMit:UPPer?
80
```

25.41 CALCulate:RL:LIMit:UPPer:STATe

Syntax:

CALCulate:RL:LIMit:UPPer:STATe

CALCulate:RL:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the Return Loss Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:RL:LIMit:UPPer:STATe On
CALCulate:RL:LIMit:UPPer:STATe?
On
```

25.42 CALCulate:VSWR:LIMit:FAIL?

Syntax: CALCulate:VSWR:LIMit:FAIL?

Parameter/Return: 0 = Off | 1 = Pass | 2 = Fail high | 3 = Fail low | 4 = Invalid

Note: Default = 0

Description: Returns the VSWR Meter pass-fail status.

Example:

```
CALCulate:VSWR:LIMit:FAIL?
1
```

25.43 CALCulate:VSWR:LIMit:LOWer

Syntax:

CALCulate:VSWR:LIMit:LOWer

CALCulate:VSWR:LIMit:LOWer?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the VSWR Meter lower limit for Pass/Fail.

Examples:

```
CALCulate:VSWR:LIMit:LOWer 2
CALCulate:VSWR:LIMit:LOWer?
2
```

25.44 CALCulate:VSWR:LIMit:LOWer:STATe

Syntax:

CALCulate:VSWR:LIMit:LOWer:STATe

CALCulate:VSWR:LIMit:LOWer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the VSWR Meter lower limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:VSWR:LIMit:LOWer:STATe On
CALCulate:VSWR:LIMit:LOWer:STATe?
On
```

25.45 CALCulate:VSWR:LIMit:UPPer

Syntax:

CALCulate:VSWR:LIMit:UPPer

CALCulate:VSWR:LIMit:UPPer?

Parameter/Return: —

Note: Default = 50

Description: Sets/returns the VSWR Meter upper limit for Pass/Fail.

Examples:

```
CALCulate:VSWR:LIMit:UPPer 50
CALCulate:VSWR:LIMit:UPPer?
50
```

25.46 CALCulate:VSWR:LIMit:UPPer:STATe

Syntax:

CALCulate:VSWR:LIMit:UPPer:STATe

CALCulate:VSWR:LIMit:UPPer:STATe?

Parameter/Return: On | Off | 1 | 0

Note: Default = Off

Description: Sets/returns the state of the VSWR Meter upper limit.

Note: Ensure that the state is set to On before setting the limit value.

Examples:

```
CALCulate:VSWR:LIMit:UPPer:STATe On
CALCulate:VSWR:LIMit:UPPer:STATe?
On
```

25.47 DISPlay:HOLD

Syntax:

DISPlay:HOLD

DISPlay:HOLD?

Parameter/Return: On | Off

Note: Default = Off

Description: Sets/returns the hold state.

Examples:

```
DISPlay:HOLD On
DISPlay:HOLD?
On
```

25.48 MEASure:CCDF?

Syntax: MEASure:CCDF?

Parameter/Return: —

Note: Default = 0%

Description: Returns the live CCDF Meter reading.

Example:

```
MEASure:CCDF?
98.8544
```

25.49 MEASure:CCDF:MAXimum

Syntax:

MEASure:CCDF:MAXimum

MEASure:CCDF:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the CCDF Curved Meter maximum.

Examples:

```
MEASure:CCDF:MAXimum 10000
MEASure:CCDF:MAXimum?
10000
```

25.50 MEASure:CCDF:MINimum

Syntax:

MEASure:CCDF:MINimum

MEASure:CCDF:MINimum?

Parameter/Return:

Note: Default = 0

Description: Sets/returns the CCDF Curved Meter minimum.

Examples:

```
MEASure:CCDF:MINimum 0
MEASure:CCDF:MINimum?
0
```

25.51 MEASure:CCDF:PRECision?

Syntax: MEASure:CCDF:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current CCDF readings.

Example:

```
MEASure:CCDF:PRECision?
2
```

25.52 MEASure:CCDF:READing:AVERage?

Syntax: MEASure:CCDF:READing:AVERage?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter average reading.

Example:

```
MEASure:CCDF:READing:AVERage?
98.8544
```

25.53 MEASure:CCDF:READing:MAXimum?

Syntax: MEASure:CCDF:READing:MAXimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter maximum reading.

Example:

```
MEASure:CCDF:READing:MAXimum?
98.8544
```

25.54 MEASure:CCDF:READing:MINimum?

Syntax: MEASure:CCDF:READing:MINimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the CCDF Meter minimum reading.

Example:

```
MEASure:CCDF:READing:MINimum?
98.8544
```

25.55 MEASure:CRESt?

Syntax: MEASure:CRESt?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter live reading.

Example:

```
MEASure:CRESt?
497.674
```

25.56 MEASure:CRESt:MAXimum

Syntax:

MEASure:CRESt:MAXimum

MEASure:CRESt:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Crest Factor Curved Meter maximum.

Examples:

```
MEASure:CRESt:MAXimum 10000
MEASure:CRESt:MAXimum?
10000
```

25.57 MEASure:CRESt:MINimum

Syntax:

MEASure:CRESt:MINimum

MEASure:CRESt:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Crest Factor Curved Meter minimum.

Examples:

```
MEASure:CRESt:MINimum 0
MEASure:CRESt:MINimum?
0
```

25.58 MEASure:CRESt:PRECision?

Syntax: MEASure:CRESt:PRECision?

Parameter/Return: —

Note: Default = 0

Description: Returns the precision of the current Crest Factor readings.

Example:

```
MEASure:CRESt:PRECision?
2
```

25.59 MEASure:CRESt:READing:AVERage?

Syntax: MEASure:CRESt:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter average reading.

Example:

```
MEASure:CRESt:READing:AVERage?
497.674
```

25.60 MEASure:CRESt:READing:MAXimum?

Syntax: MEASure:CRESt:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter maximum reading.

Example:

```
MEASure:CRESt:READing:MAXimum?
497.674
```

25.61 MEASure:CRESt:READing:MINimum?

Syntax: MEASure:CRESt:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Crest Factor Meter minimum reading.

Example:

```
MEASure:CRESt:READing:MINimum?
497.674
```

25.62 MEASure:CRESt:UNITs

Syntax:

MEASure:CRESt:UNITs

MEASure:CRESt:UNITs?

Parameter/Return: dB| Ratio

Note: Default = dB

Description: Sets/returns the units of the Crest Factor Meter.

Examples:

```
MEASure:CRESt:UNITs Ratio
```

```
MEASure:CRESt:UNITs?
Ratio
```

25.63 MEASure:DUTYCYCLe?

Syntax: MEASure:DUTYCYCLe?

Parameter/Return: —

Note: Default = 0%

Description: Returns the live Duty Cycle Meter reading.

Example:

```
MEASure:DUTYCYCLe?
99.8142
```

25.64 MEASure:DUTYCYCLe:MAXimum

Syntax:

MEASure:DUTYCYCLe:MAXimum

MEASure:DUTYCYCLe:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Duty Cycle Curved Meter maximum.

Examples:

```
MEASure:DUTYCYCLe:MAXimum 10000
MEASure:DUTYCYCLe:MAXimum?
10000
```

25.65 MEASure:DUTYCYCLe:MINimum

Syntax:

MEASure:DUTYCYCLe:MINimum

MEASure:DUTYCYCLe:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Duty Cycle Curved Meter minimum.

Examples:

```
MEASure:DUTYCYCLe:MINimum 0
MEASure:DUTYCYCLe:MINimum?
0
```

25.66 MEASure:DUTYCYCLe:PRECision?

Syntax: MEASure:DUTYCYCLe:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Duty Cycle readings.

Example:

```
MEASure:DUTYCYCLe:PRECision?
2
```

25.67 MEASure:DUTYCYCLe:READing:AVERage?

Syntax: MEASure:DUTYCYCLe:READing:AVERage?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter average reading.

Example:

```
MEASure:DUTYCYCLe:READing:AVERage?
99.8142
```

25.68 MEASure:DUTYCYCLe:READing:MAXimum?

Syntax: MEASure:DUTYCYCLe:READing:MAXimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter maximum reading.

Example:

```
MEASure:DUTYCYCLe:READing:MAXimum?
99.8142
```

25.69 MEASure:DUTYCYCLe:READing:MINimum?

Syntax: MEASure:DUTYCYCLe:READing:MINimum?

Parameter/Return: —

Note: Default = 0%

Description: Returns the Duty Cycle Meter minimum reading.

Example:

```
MEASure:DUTYCYCLe:READing:MINimum?
0
```

25.70 MEASure:FL:UNITs

Syntax:

MEASure:FL:UNITs

MEASure:FL:UNITs?

Parameter/Return: dBm | W

Note: Default = dBm

Description: Sets/returns the Reflected Power Meter units.

Examples:

```
MEASure:FL:UNITs W
MEASure:FL:UNITs?
W
```

25.71 MEASure:FORWard?

Syntax: MEASure:FORWard?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Forward Power Meter reading.

Example:

```
MEASure:FORWard?
29.520704399009304
```

25.72 MEASure:FORWard:MAXimum

Syntax:

MEASure:FORWard:MAXimum

MEASure:FORWard:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Forward Power Curved Meter maximum.

Examples:

```
MEASure:FORWard:MAXimum 10000
MEASure:FORWard:MAXimum?
10000
```

25.73 MEASure:FORWard:MINimum

Syntax:

MEASure:FORWard:MINimum

MEASure:FORWard:MINimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Forward Power Curved Meter minimum.

Examples:

```
MEASure:FORWard:MINimum 10000
MEASure:FORWard:MINimum?
10000
```

25.74 MEASure:FORWard:PRECision?

Syntax: MEASure:FORWard:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Forward Power readings.

Example:

```
MEASure:FORWard:PRECision?
2
```

25.75 MEASure:FORWard:READing:AVERage?

Syntax: MEASure:FORWard:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power average reading.

Example:

```
MEASure:FORWard:READing:AVERage?
29.520704399009304
```

25.76 MEASure:FORWard:READing:MAXimum?

Syntax: MEASure:FORWard:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power maximum reading.

Example:

```
MEASure:FORWard:READing:MAXimum?
29.520704399009304
```

25.77 MEASure:FORWard:READing:MINimum?

Syntax: MEASure:FORWard:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Forward Power minimum reading.

Example:

```
MEASure:FORWard:READing:MINimum?
29.5207043990093O4
```

25.78 MEASure:FORWard:UNITs

Syntax:

MEASure:FORWard:UNITs

MEASure:FORWard:UNITs?

Parameter/Return: dBm | W

Note: Default = dBm

Description: Sets/returns the Forward Power Meter units.

Examples:

```
MEASure:FORWard:UNITs W
MEASure:FORWard:UNITs?
W
```

25.79 MEASure:REFLection?

Syntax: MEASure:REFLection?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Reflected Power Meter reading.

Example:

```
MEASure:REFLection?
20.831154522213332
```

25.80 MEASure:REFLection:MAXimum

Syntax:

MEASure:REFLection:MAXimum

MEASure:REFLection:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Reflected Power Curved Meter maximum.

Examples:

```
MEASure:REFLection:MAXimum 10000
MEASure:REFLection:MAXimum?
10000
```

25.81 MEASure:REFLection:MINimum

Syntax:

MEASure:REFLection:MINimum

MEASure:REFLection:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Reflected Power Curved Meter minimum.

Examples:

```
MEASure:REFLection:MINimum 0
MEASure:REFLection:MINimum?
0
```

25.82 MEASure:REFLection:PRECision?

Syntax: MEASure:REFLection:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Reflected Power readings.

Example:

```
MEASure:REFLection:PRECision?
2
```

25.83 MEASure:REFLection:READing:AVERage?

Syntax: MEASure:REFLection:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power average reading.

Example:

```
MEASure:REFLection:READing:AVERage?
20.831154522213332
```

25.84 MEASure:REFLection:READing:MAXimum?

Syntax: MEASure:REFLection:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power maximum reading.

Example:

```
MEASure:REFLection:READing:MAXimum?
20.831154522213332
```

25.85 MEASure:REFLection:READing:MINimum?

Syntax: MEASure:REFLection:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Reflected Power minimum reading.

Example:

```
MEASure:REFLection:READing:MINimum?
20.831154522213332
```

25.86 MEASure:RHO?

Syntax: MEASure:RHO?

Parameter/Return: —

Note: Default = 0

Description: Returns the live Rho (Reflection Coefficient) Meter reading.

Example:

```
MEASure:RHO?
0.367591478243911
```

25.87 MEASure:RHO:MAXimum

Syntax:

MEASure:RHO:MAXimum

MEASure:RHO:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Rho (Reflection Coefficient) Curved Meter maximum.

Examples:

```
MEASure:RHO:MAXimum 10000
MEASure:RHO:MAXimum?
10000
```

25.88 MEASure:RHO:MINimum

Syntax:

MEASure:RHO:MINimum

MEASure:RHO:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Rho (Reflection Coefficient) Curved Meter minimum.

Examples:

```
MEASure:RHO:MINimum 0
MEASure:RHO:MINimum?
0
```

25.89 MEASure:RHO:PRECision?

Syntax: MEASure:RHO:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Rho (Reflection Coefficient) readings.

Example:

```
MEASure:RHO:PRECision?
2
```

25.90 MEASure:RHO:READing:AVERage?

Syntax: MEASure:RHO:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) average reading.

Example:

```
MEASure:RHO:READing:AVERage?
```

25.91 MEASure:RHO:READing:MAXimum?

Syntax: MEASure:RHO:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) maximum reading.

Example:

```
MEASure:RHO:READing:MAXimum?
0.367591478243911
```

25.92 MEASure:RHO:READing:MINimum?

Syntax: MEASure:RHO:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the Rho (Reflection Coefficient) minimum reading.

Example:

```
MEASure:RHO:READing:MINimum?
0.3675914782439l1
```

25.93 MEASure:RL?

Syntax: MEASure:RL?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the live Return Loss Meter reading.

Example:

```
MEASure:RL?
8.579841704673017
```

25.94 MEASure:RL:MAXimum

Syntax:

MEASure:RL:MAXimum

MEASure:RL:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the Return Loss Curved Meter maximum.

Examples:

```
MEASure:RL:MAXimum 10000
MEASure:RL:MAXimum?
10000
```

25.95 MEASure:RL:MINimum

Syntax:

MEASure:RL:MINimum

MEASure:RL:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the Return Loss Curved Meter minimum.

Examples:

```
MEASure:RL:MINimum 0
MEASure:RL:MINimum?
0
```

25.96 MEASure:RL:PRECision?

Syntax: MEASure:RL:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current Return Loss Meter readings.

Example:

```
MEASure:RL:PRECision?
2
```

25.97 MEASure:RL:READing:AVERage?

Syntax: MEASure:RL:READing:AVERage?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss average reading.

Example:

```
MEASure:RL:READing:AVERage?
8.579841704673017
```

25.98 MEASure:RL:READing:MAXimum?

Syntax: MEASure:RL:READing:MAXimum?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss maximum reading.

Example:

```
MEASure:RL:READing:MAXimum?
8.579841704673017
```

25.99 MEASure:RL:READing:MINimum?

Syntax: MEASure:RL:READing:MINimum?

Parameter/Return: —

Note: Default = 0 dB

Description: Returns the Return Loss minimum reading.

Example:

```
MEASure:RL:READing:MINimum?
8.579841704673017
```

25.100 MEASure:VSWR?

Syntax: MEASure:VSWR?

Parameter/Return: —

Note: Default = 0

Description: Returns the live VSWR Meter reading.

Example:

```
MEASure:VSWR?
2.159517486289233
```

25.101 MEASure:VSWR:MAXimum

Syntax:

MEASure:VSWR:MAXimum

MEASure:VSWR:MAXimum?

Parameter/Return: —

Note: Default = 10000

Description: Sets/returns the VSWR Curved Meter maximum.

Examples:

```
MEASure:VSWR:MAXimum 10000
MEASure:VSWR:MAXimum?
10000
```

25.102 MEASure:VSWR:MINimum

Syntax:

MEASure:VSWR:MINimum

MEASure:VSWR:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Sets/returns the VSWR Curved Meter minimum.

Examples:

```
MEASure:VSWR:MINimum 0
MEASure:VSWR:MINimum?
0
```

25.103 MEASure:VSWR:PRECision?

Syntax: MEASure:VSWR:PRECision?

Parameter/Return: —

Note: Default = 2

Description: Returns the precision of the current VSWR Meter readings.

Example:

```
MEASure:VSWR:PRECision?
2
```

25.104 MEASure:VSWR:READing:AVERage?

Syntax: MEASure:VSWR:READing:AVERage?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter average reading.

Example:

```
MEASure:VSWR:READing:AVERage?
```

25.105 MEASure:VSWR:READing:MAXimum?

Syntax: MEASure:VSWR:READing:MAXimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter maximum reading.

Example:

```
MEASure:VSWR:READing:MAXimum?
2.159517486289233
```

25.106 MEASure:VSWR:READing:MINimum?

Syntax: MEASure:VSWR:READing:MINimum?

Parameter/Return: —

Note: Default = 0

Description: Returns the VSWR Meter minimum reading.

Example:

```
MEASure:VSWR:READing:MINimum?
2.159517486289233
```

25.107 SENSe:CCDF:AVERage:COUNt

Syntax:

SENSe:CCDF:AVERage:COUNt

SENSe:CCDF:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number of samples to be used for the CCDF Average Meter.

Examples:

```
SENSe:CCDF:AVERage:COUNt 2
```

```
SENSe:CCDF:AVERage:COUNt?
2
```

25.108 SENSe:CCDF:LIMit

Syntax:

SENSe:CCDF:LIMit

SENSe:CCDF:LIMit?

Parameter/Return: 125 W

Note: Default = 125 W

Description: Sets/returns the External Power Sensor with given CCDF limit.

Examples:

```
SENSe:CCDF:LIMit 125
SENSe:CCDF:LIMit?
125
```

25.109 SENSe:CCDF:MEASure:TYPE

Syntax:

SENSe:CCDF:MEASure:TYPE

SENSe:CCDF:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type for the CCDF Meter.

Examples:

```
SENSe:CCDF:MEASure:TYPE Avg
SENSe:CCDF:MEASure:TYPE?
Avg
```

25.110 SENSe:CCDF:MODE

Syntax:

SENSe:CCDF:MODE

SENSe:CCDF:MODE?

Parameter/Return: Auto | Custom | 1% to 100% in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the CCDF Curved Meter.

Examples:

```
SENSe:CCDF:MODE Custom
SENSe:CCDF:MODE?
Custom
```

25.111 SENSe:CRESt:AVERage:COUNt

Syntax:

SENSe:CRESt:AVERage:COUNt

SENSe:CRESt:AVERage:COUNt?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the number of average samples to be used for the Crest Factor Average Meter.

Examples:

```
SENSe:CRESt:AVERage:COUNt 1
SENSe:CRESt:AVERage:COUNt?
2
```

25.112 SENSe:CRESt:DB:MODE

Syntax:

SENSe:CRESt:DB:MODE

SENSe:CRESt:DB:MODE?

Parameter/Return: Auto | Custom | 1 dB to 50 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Crest Factor Curved Meter.

Examples:

```
SENSe:CRESt:DB:MODE Custom
SENSe:CRESt:DB:MODE?
Custom
```

25.113 SENSe:CRESt:MEASure:TYPE

Syntax:

SENSe:CRESt:MEASure:TYPE

SENSe:CRESt:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type for the Crest Factor Meter.

Examples:

```
SENSe:CRESt:MEASure:TYPE Avg
SENSe:CRESt:MEASure:TYPE?
Avg
```

25.114 SENSe:CRESt:MODE

Syntax:

SENSe:CRESt:MODE

SENSe:CRESt:MODE?

Parameter/Return: Auto | Custom | 2 to 10000 in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Crest Factor Curved Meter.

Examples:

```
SENSe:CRESt:MODE Custom
SENSe:CRESt:MODE?
Custom
```

25.115 SENSe:DUTYCYCLe:MODE

Syntax:

SENSe:DUTYCYCLe:MODE

SENSe:DUTYCYCLe:MODE?

Parameter/Return: Auto | Custom | 1% to 100% in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Duty Cycle Curved Meter.

Examples:

```
SENSe:DUTYCYCLe:MODE Custom
SENSe:DUTYCYCLe:MODE?
Custom
```

25.116 SENSe:FILTer

Syntax:

SENSe:FILTer

SENSe:FILTer?

Parameter/Return: 4.5 kHz | 400 kHz

Note: Default = 4.5 kHz

Description: Sets/returns the External Power Sensor with the given Video Filter.

Examples:

```
SENSe:FILTer 400 kHz

SENSe:FILTer?
400 kHz
```

25.117 SENSe:FORWard:AVERage:COUNt

Syntax:

SENSe:FORWard:AVERage:COUNt

SENSe:FORWard:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number samples to be used for the Forward Power Average Meter.

Examples:

```
SENSe:FORWard:AVERage:COUNt 1

SENSe:FORWard:AVERage:COUNt?
2
```

25.118 SENSe:FORWard:MEASure:TYPE

Syntax:

SENSe:FORWard:MEASure:TYPE

SENSe:FORWard:MEASure:TYPE?

Parameter/Return: Live | Avg | Peak | Burst

Note: Default = Live

Description: Sets/returns the reading type to be used for the Forward Power Meter.

Examples:

```
SENSe:FORWard:MEASure:TYPE Avg
SENSe:FORWard:MEASure:TYPE?
Avg
```

25.119 SENSe:FORWard:WATT:MODE

Syntax:

SENSe:FORWard:WATT:MODE

SENSe:FORWard:WATT:MODE?

Parameter/Return: Auto | Custom | 1 uW to 200 W in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Forward Power (W) Curved Meter.

Examples:

```
SENSe:FORWard:WATT:MODE Custom
SENSe:FORWard:WATT:MODE?
Custom
```

25.120 SENSe:MEASure:TYPE

Syntax:

SENSe:MEASure:TYPE

SENSe:MEASure:TYPE?

Parameter/Return: Forward | Reflected | MatchRho | MatchVswr | MatchRl | Crest | CCDF | DutyCycle

Note: Default = Forward

Description: Sets/returns the External Power Sensor with the given Measure Type.

Examples:

```
SENSe:MEASure:TYPE Reflected
SENSe:MEASure:TYPE?
Reflected
```

25.121 SENSe:REFLection:AVERage:COUNt

Syntax:

SENSe:REFLection:AVERage:COUNt

SENSe:REFLection:AVERage:COUNt?

Parameter/Return:—

Note: Default = 1

Description: Sets/returns the average number samples to be used for the Reflected Power Average Meter.

Examples:

```
SENSe:REFLection:AVERage:COUNt 2
SENSe:REFLection:AVERage:COUNt?
2
```

25.122 SENSe:REFLection:DBM:MODE

Syntax:

SENSe:REFLection:DBM:MODE

SENSe:REFLection:DBM:MODE?

Parameter/Return: Auto | Custom | 60 dBm to -100 dBm in 10-dB steps

Note: Default = Auto

Description: Sets/returns the scaling mode for the Reflected Power (dBm) Curved Meter.

Examples:

```
SENSe:REFLection:DBM:MODE Custom
SENSe:REFLection:DBM:MODE?
Custom
```

25.123 SENSe:REFLection:MEASure:TYPE

Syntax:

SENSe:REFLection:MEASure:TYPE

SENSe:REFLection:MEASure:TYPE?

Parameter/Return: Live | Avg

Note: Default = Live

Description: Sets/returns the reading type to be used for the Reflected Power Meter.

Examples:

```
SENSe:REFLection:MEASure:TYPE Avg
SENSe:REFLection:MEASure:TYPE?
Avg
```

25.124 SENSe:REFLection:WATT:MODE

Syntax:

SENSe:REFLection:WATT:MODE

SENSe:REFLection:WATT:MODE?

Parameter/Return: Auto | Custom | 1 uW to 200 W in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Reflected Power (W) Curved Meter.

Examples:

```
SENSe:REFLection:WATT:MODE Custom
SENSe:REFLection:WATT:MODE?
Custom
```

25.125 SENSe:RHO:AVERage:COUNt

Syntax:

SENSe:RHO:AVERage:COUNt

SENSe:RHO:AVERage:COUNt?

Parameter/Return: —

Note: Default = 1

Description: Sets/returns the average number of sample to be used for the Rho Average Meter.

Examples:

```
SENSe:RHO:AVERage:COUNt 2
SENSe:RHO:AVERage:COUNt?
2
```

25.126 SENSe:RHO:MEASure:TYPE

Syntax:

SENSe:RHO:MEASure:TYPE

SENSe:RHO:MEASure:TYPE?

Parameter/Return: Live | Avg | Peak

Note: Default = Live

Description: Sets/returns the reading type to be used for the Rho (Reflection Coefficient) Meter.

Examples:

```
SENSe:RHO:MEASure:TYPE Avg
SENSe:RHO:MEASure:TYPE?
Avg
```

25.127 SENSe:RHO:MODE

Syntax:

SENSe:RHO:MODE

SENSe:RHO:MODE?

Parameter/Return: Auto | Custom | 0.01 to 1.0 in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Rho (Reflection Coeffecient) Curved Meter.

Examples:

```
SENSe:RHO:MODE Custom
SENSe:RHO:MODE?
Custom
```

25.128 SENSe:RL:MODE

Syntax:

SENSe:RL:MODE

SENSe:RL:MODE?

Parameter/Return: Auto | Custom | 1 dB to 50 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the Return Loss Curved Meter.

Examples:

```
SENSe:RL:MODE Custom

SENSe:RL:MODE?
Custom
```

25.129 SENSe:VSWR:MODE

Syntax:

SENSe:VSWR:MODE

SENSe:VSWR:MODE?

Parameter/Return: Auto | Custom | 1 dB to 100 dB in 1,2,5 sequence

Note: Default = Auto

Description: Sets/returns the scaling mode for the VSWR Curved Meter.

Examples:

```
SENSe:VSWR:MODE Custom

SENSe:VSWR:MODE?
Custom
```

25.130 SENSe:ZERO:STATe

Syntax:

SENSe:ZERO:STATe

SENSe:ZERO:STATe?

Parameter/Return: Idle = Not running | Waiting = Waiting for confirmation | Running = Currently zeroing

Note: Default = Idle

Description: Sets/returns the status of Zeroing operation.

Examples:

```
SENSe:ZERO:STATe Waiting
SENSe:ZERO:STATe?
Waiting
```

25.131 SENSe:ZERO:STATus?

Syntax: SENSe:ZERO:STATus?

Parameter/Return: Pass | Fail | Timeout | Rejected | NotRan

Note: Default = NotRan

Description: Returns zeroing results.

Examples:

```
SENSe:ZERO:STATus?
Pass
```

25.132 SOURce:LEVel:OFFSet

Syntax:

SOURce:LEVel:OFFSet

SOURce:LEVel:OFFSet?

Parameter/Return: —

Note: Default = 0 dB

Description: Sets/returns the offset to be used in the calculation for the Forward Power Meter.

Examples:

```
SOURce:LEVel:OFFSet 0
SOURce:LEVel:OFFSet?
0
```

25.133 SOURce:SELect

Syntax:

SOURce:SELect

SOURce:SELect?

Parameter/Return: Internal | External

Note: Default = Internal

Description: Sets/returns the source to be used for the RF Power Meter.

Examples:

```
SOURce:SELect External
SOURce:SELect?
External
```

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