SAM Series Spectrum Analyzer Module Programming Manual

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Content

Note:Part 2 of the "Content" was removed because it was not relevant to the programming content.

1. Overview

This chapter provides an overview of remote command programming and introduces the relevant provisions of SCPI commands Mainly includes the following contents:

- Programming Overview
- Introduction to SCPI commands
  - Command format
  - Symbol Description
  - Parameter Type
- Command abbreviation

1.1 Programming Overview

The spectrum analyzer and computer can communicate through the following interfaces: LAN interface and USB interface For the usage of variable communication interfaces, please refer to the product's "User Manual"

When using commands for programming, all command words are sent and recognized in the form of ASCII strings to facilitate user manipulation and secondary development

You can do the following programmatically:

Set up the spectrum analyzer

Take measurements

Obtain data from the spectrum analyzer (instrument working status and measurement data results)

Printout

1.2 Introduction to SCPI commands

SCPI (Standard Commands for Programmable Instrument) is a standard command set for

Programmable instruments based on IEEE 488.2 SCPI commands are divided into two parts: IEEE 488.2 command commands and SCPI instrument specific control commands

Public commands are commands that instruments specified in IEEE 488.2 must support, and

Their syntax and semantics comply with the regulations of IEEE 488.2 Common commands are independent of measurement and are used to control reset, self test, and status operations For an introduction to SCPI public commands, please refer to the introduction in the IEEE 488.2 section

SCPI instrument specific control commands are used for measuring, reading data, switching switches, etc., including all measurement functions and some special function functions

1.2.1 Command format

The SCPI command is a tree like hierarchical structure, including multiple subsystems Each

Subsystem considerations of a root keyword and one or several hierarchical keywords The command line manually starts with a colon ":"; Keywords are separated by a colon ":", and the keywords are followed by optional parameter settings; A question mark "?" is added after the command line to indicate querying this function; Commands and parameters Separate with "space"

For example:

CALCalate: BANDwidth: NDB<rel_ Amp>

CALCalate: BANDwidth: NDB?

CALCalculate is the root keyword of the command, and BANDWidth and NDB are the second level and third level keywords respectively The command line starts with a colon ":" and separates the keywords at each level< Rel_ Amp>represents the settable parameters; The question mark "

Presents the query; Use a "space" between the command: CALCalculate: BANDWidth: NDB and the parameter<rel_ Separate

In some commands with parameters, multiple parameters are commonly separated by commands "," for example:

: SYSTem: DATE<year>,<month>,<day>

1.2.2 Symbol description

The following four symbols are not part of the SCPI command, but are commonly used to assist in explaining the parameters in the command

1.2.2.1 Braces {}

Parameters in curly braces are optional and may not be set, or may set once or multiple times For example:
[:SENSe]:CORRection:CSET<n>:DATA <freq>,<rel_ampl>{,<freq>,<rel_ampl>} command, the frequency and amplitude in {,<freq>,<rel_ampl>} can be omitted , you can also set one or

More pairs of frequency and amplitude parameters

1.2.2.2 Vertical lines|

Vertical bars are used to separate multiple parameter options, one of which must be selected when sending a command For example:

: DISPlay: MENU: STATe OFF | ON | 0 | 1 command, the selectable command parameters are "OFF",

ON, 0, or 1

1.2.2.3 Square brackets

The content in square brackets (command keywords) is optional and will be executed Regardless of which it is committed For example:

[: SENSe]: CORRection: OFFSet [: Magnitude]?

Sending the following three commands has the same effect:

: CORRection: OFFSet?

: Correction: OFFSet: Magnitude?

SENSe: CORRection: OFFSet?

1.2.2.4 Triangle brackets<>

Parameters enclosed in triangle brackets must be replaced with a valid value For Example:

: DISPlay: BRIGTness<integer>

: DISPlay: BRIGTness 10

1.2.3 Parameter type

The parameters contained in the commands introduced in this manual can be divided into the following six types: Boolean, keyword, integer, continuous real, discrete, and ASCII

String

1.2.3.1 Boolean

The parameter value is "OFF", "ON", "0" or "1" For example:

: DISPlay: MENU: STATe OFF | ON | 0 | 1

1.2.3.2 Keywords

The parameter values are the listed values For example:

: DISPlay: AFAction: Position BOTTom | Center | TOP

The parameters are "BOTTOM", "CENTER" or "TOP"

1.2.3.3 Integer type

Unless otherwise stated, parameters can take on any integer value within the valid

Range Note, please do not set the parameter to decimal format at this time, otherwise

An exception will occur For example:

: DISPlay: BRIGTness<integer>

The parameter<integer>can be any integer in the range of 0 to 255

1.2.3.4 Continuous real type

Parameters can be arbitrarily set within the range of valid values according to

Precision requirements (commonly the default precision is six digits of valid values after

The decimal point) For example:

CALCalate: BANDwidth: NDB<rel_ Amp>

The parameter<rel_ Can be a real number between -100 and 100

1.2.3.5 Discrete

Parameters can only take on specified values, and these values are not consecutive For

Example:

:CALCulate:MARKer<n>:MAXimum:MAX
Parameter <n> can only take the value 1, 2, 3 or 4.

1.2.3.6 ASCII string

The parameter value is a combination of ASCII characters For example:

: SYSTem: DATE<year>,<month>,<day>

The parameter is the set date format string

1.2.4 Command abbreviation

All commands are not case sensitive, you can use all uppercase or lowercase

How, if you want to negotiate, you must enter all capital letters in the command

Format, for example:

CALCalate: BANDwidth: NDB? Can be abridged to: CALC: BAND: NDB?

3.1 IEEE488.2 System commands

3.1.1 * IDN?

*IDN?	
Command format	*IDN?
Function description	Query instrument ID string *IDN? Company, MSA830, SN20000101 V1.8.0.1033
Remark	The ID string considerations of four parts Company abbreviation+device type+serial number+version number

3.1.2 * RST

*RST	
Command format	*RST
Function description	Reset the device to its reset settings
Remark	

3.2 Calibration command subsystem

3.2.1 : CALibration

: CALibration [: ALL]	
Command format	: CALibration [: ALL] : CALibration [: ALL]?
Function description	Performance user calibration
Remark	After accessing the user calibration signal, execute: CAL to perform user calibration Note: For MSA810 and MAS820, the calibration signal: the frequency is 30MHz the amplitude is -20dB; For MSA830, the calibration signal: the frequency is 440MHz, the amplitude is -20dB

3.2.2 : CALibration: RESTORE

CALibration: RESTore	
Command format	CALibration: RESTore
Function description	Restore default calibration
Remark	

2.3 Measurement command subsystem

3.3.1: CALCalate: MARKer [n]: FCOunt [: STATe]

: CALCalculate: MARKer [n]: FCOunt [: STATe]	
Command format	: CALCalculate: MARKer [n]: FCOunt [: STATe] ON | OFF | 0 | 1: CALCalculate: MARKer [n]: FCOunt [: STATe]?
Function description	Frequency counting start and stop For example: CALC: MARK1: FCO 1 turns on frequency counting The query returns 1
Remark	Turn on and off the frequency counting function

3.3.2: CALCalculate: MARKer: FCount: RESolution<bw>

CALCalate: MARKer: FCount: RESolution<bw>	
Command format	CALCalate: MARKer: FCount: Resolution CALCalate: MARKer: FCount: RESolution?
Function description	Set frequency count resolution
Remark	Can be 1,101001000

3.3 .3 : CALCalculate: MARKer [n]: FCCount: X?

: CALCalate: MARKer [n]: FCount: X?	
Command format	: CALCalate: MARKer [n]: FCount: X?
Function description	Read the current frequency count value
Remark	

3.3.4 : CALCalculate: TUNE: AUTO

CALCalate: TUNE: AUTO	
Command format	CALCalate: TUNE: AUTO ON | OFF | 0 | 1 CALCalate: TUNE: AUTO?
Function description	Automatic search, not automatic search by default
Remark	ON | 1 starts automatic search OFF | 0 Stop automatic search
Default value	Stop automatic search

3.3.5: CALCalculate: MARKer: AOFF

CALCalate: MARKer: AOFF	
Command format	CALCalate: MARKer: AOFF
Function description	Close all frequency markers
Remark	

3.3.6 : CALCalate: MARKer [n]: STATe

CALCalate: MARKer [n]: STATe	
Command format	CALCalate: MARKer [n]: STATe ON | OFF | 0 | 1 CALCalate: MARKer [n]: STATe?
Function description	Turn on or off the current frequency marker count value
Remark	[n] Available 1-5

3.3.7 :CALCulate:MARKer<n>:TRACe

:CALCulate:MARKer<n>:TRACe	
Command format	CALCalate: MARKer<n>: TRACe<integer> :CALCulate:MARKer<n>:TRACe?
Function description	Set the current frequency marker trace For example: CALC: MARK1: TRACe 1; Set frequency mark 1 on trace 1
Remark	The value range of n is 1-5, and the return value of integer is 1-5

3.3.8 :CALCulate:MARKer<n>:TRACe

:CALCulate:MARKer<n>:TRACe	
Command format	CALCalate: MARKer<n>: TRACe<integer> :CALCulate:MARKer<n>:TRACe?
Function description	Set or query the current frequency marker trace For example: CALC: MARK1: TRACe 1; Set frequency mark 1 on trace 1
Remark	The value range of n is 1-5, and the return value of integer is 1-5

3.3.9: CALCalate: MARKer [n]: MODE

CALCalate: MARKer [n]: MODE	
Command format	CALCalate: MARKer [n]: MODE Position | DELTA: CALCalate: MARKer [n]: MODE?
Function description	Set or query the current frequency mark mode For example: CALCalculate: MARKer1: MODE DELT; The query returns DELTA
Remark	The value range of n is 1-5

3.3.10: CALCalculate: MARKer: TABLE: STATe

CALCalate: MARKer: TABLE: STATe	
Command format	CALCalate: MARKer: TABLE: STATe ON | OFF | 0 | 1 CALCalate: MARKer: TABLE: STATe?
Function description	Open or close the frequency mark list For example: CALCalculate: MARKer: Table: STATe 1; The query returns 1
Remark	0 | OFF 1|ON

3.3.11: CALCalate: MARKer [n]: X

CALCalate: MARKer [n]: X	
Command format	CALCalate: MARKer [n]: X<param> CALCalate: MARKer [n]: X?
Function description	Set or query the abscissa value of the current frequency mark For example: CALCalculate: MARKer1: X 200MHz; Query returns: 200000000

Remark	The value range of n is 1-5

3.3.12: CALCalate: MARKer [n]: Y?

CALCalate: MARKer [n]: Y?	
Command format	CALCalate: MARKer [n]: Y?
Function description	Query the ordinal value of the current frequency mark For example: CALC: MARK1: Y? The query returns: -39.86
Remark	The value range of n is 1-5

3.3.13: CALCalate: MARKer [n]: PHNoise [: STATe]

CALCalate: MARKer [n]: PHNoise [: STATe]	
Command format	: CALCalculate: MARKer [n]: PHNoise [: STATe] ON | OFF | 0 | 1: CALCalculate: MARKer [n]: PHNoise [: STATe]?
Function description	Turn on or off the current frequency mark noise For example: CALCalculate: MARK2: PHNoise 1; Query returns: 1
Remark	0 | OFF 1|ON The value range of n is 1-5

3.3.14: CALCalculate: MARKer: PHNoise: Y?

CALCalate: MARKer: PHNoise: Y?	
Command format	CALCalate: MARKer: PHNoise: Y?
Function description	Query frequency standard noise results For example: CALCalculate: MARKe: PHNoise: Y? The query returns: -130.12
Remark	

3.3.15: CALPlate: MARKer: PHNoise: OFFSet: FREQuency

CALCalate: MARKer: PHNoise: OFFSet: FREQuincy	
Command format	CALCalate: MARKer: PHNoise: OFFSet: FREQuency<freq>: CALCalate: MARKer: PHNoise: OFFSet: FREQuency?

Function description	Set or query the frequency standard noise frequency starting frequency For example: CALCalculate: MARKer: PHNoise: OFFSet: FREQ 100MHz query returns: 100000000
Remark	

3.3.16: CALPlate: MARKer: PHNoise: OFFSet

CALCalate: MARKer: PHNoise: OFFSet	
Command format	CALCalate: MARKer: PHNoise: OFFSet<± bw> CALCalate: MARKer: PHNoise: OFFSet?
Function description	Set the current frequency marker trace For example: CALCalculate: MARKer: PHNoise: OFFSet 2MHz Query returns: 2000000
Remark	

3.3.1 7 : CALPlate: BWIDth | BANDwith [: STATe]

: CALCalculate: BWIDth | BANDwith [: STATe]	
Command format	: CALCalculate: BWIDth | BANDwith [: STATe] ON | OFF | 0 | 1: CALCalculate: BWIDth | BANDwith [: STATe]?
Function description	Turn NdB measurement on or off For example: CALC: BWID 1; The query returns 1
Remark	0 | OFF 1 | ON

3.3.18: CALPlate: BWIDth | BANDWith: NDB

CALCalate: BWIDth | BANDWith: NDB	
Command format	CALCalate: BWIDth | BANDWith: NDB<rel_ Amp> CALCalate: BWIDth | BANDWith: NDB?
Function description	Set or query NdB sample setting For example: CALC: BWID: NDB 3; The query returns 3.00
Remark	

3.3.19: CALCalculate: BWIDth | BANDwith: Result?

CALCalate: BWIDth | BANDwith: Result?	
Command format	CALCalate: BWIDth | BANDwith: Result?
Function description	Query NdB measurement results For example: CALC: BWID: RES?; The query returns 1000300
Remark	

3.3.20: CALPlate: MARKer: FUNCtion: AOFF

CALCalate: MARKer: FUNCtion: AOFF	
Command format	CALCalate: MARKer: FUNCtion: AOFF
Function description	Turn off the frequency mark function
Remark	

3.3.21: CALPlate: MARKer [n] [: SET]: Center

CALCalate: MARKer [n] [: SET]: CENTER	
Command format	CALCalate: MARKer [n] [: SET]: CENTER
Function description	Normal frequency standard → center frequency
Remark	The value range of n is 1-5

3.3.22: CALPlate: MARKer [n] [: SET]: STEP

CALCalate: MARKer [n] [: SET]: STEP	
Command format	CALCalate: MARKer [n] [: SET]: STEP
Function description	Normal frequency scale → frequency step
Remark	The value range of n is 1-5

3.3.23: CALCalculate: MARKer [n] [: SET]: STARt

CALCalate: MARKer [n] [: SET]: STARt	
Command format	CALCalate: MARKer [n] [: SET]: STARt
Function description	Normal frequency standard → center frequency
Remark	The value range of n is 1-5

3.3.24: CALCalculate: MARKer [n] [: SET]: STOP

CALCalate: MARKer [n] [: SET]: STOP	
Command format	CALCalate: MARKer [n] [: SET]: STOP
Function description	Normal frequency standard → center frequency
Remark	The value range of n is 1-5

3.3.25: CALPlate: MARKer [n] [: SET]: RLEV

CALCalate: MARKer [n] [: SET]: RLEVEl	
Command format	CALCalate: MARKer [n] [: SET]: RLEVEl
Function description	Normal frequency standard → reference level
Remark	The value range of n is 1-5

3.3.26: CALPlate: MARKer [n] [: SET]: SPAN

CALCalate: MARKer [n] [: SET]: SPAN	
Command format	CALCalate: MARKer [n] [: SET]: SPAN
Function description	Difference frequency scale → span
Remark	The value range of n is 1-5

3.3.27: CALPlate: MARKer [n] [: SET]: Center

CALCalate: MARKer [n] [: SET]: CENTER	
Command format	CALCalate: MARKer [n] [: SET]: CENTER
Function description	Difference frequency scale → center frequency
Remark	The value range of n is 1-5

3.3.28: CALCalate: MARKer [n]: Maximum

CALCalate: MARKer [n]: Maximum	
Command format	CALCalate: MARKer [n]: Maximum
Function description	Maximum search
Remark	The value range of n is 1-5

3.3.29: CALCalate: MARKer [n]: Maximum: Left

CALCalate: MARKer [n]: Maximum: Left	
Command format	CALCalate: MARKer [n]: Left
Function description	Left peak
Remark	The value range of n is 1-5

3.3.30: CALCalate: MARKer [n]: Maximum: Right

CALCalate: MARKer [n]: Maximum: Right	
Command format	CALCalate: MARKer [n]: RIGHT
Function description	Right peak
Remark	The value range of n is 1-5

3.3.31: CALCalculate: MARKer [n]: Maximum: NEXT

: CALCalculate: MARKer [n]: Maximum: NEXT	
Command format	CALCalate: MARKer [n]: NEXT
Function description	Next peak
Remark	The value range of n is 1-5

3.3.32: CALCalate: MARKer [n]: MINimum

CALCalate: MARKer [n]: MINimum	
Command format	CALCalate: MARKer [n]: MINimum
Function description	Minimum value search
Remark	The value range of n is 1-5

3.3.33: CALCalate: MARKer [n]: CPEak [: STATe]

CALCalate: MARKer [n]: CPEak [: STATe]	
Command format	: CALCalculate: MARKer [n]: CPEak [: STATe] ON | OFF | 0 | 1: CALCalculate: MARKer [n]: CPEak [: STATe]?
Function description	Set or query the continuous peak search status
Remark	0 | OFF 1 | ON The value range of n is 1-5

3.3.34: CALCalculate: NETMeasure [: STATe]

: CALCalculate: NETMeasure [: STATe]	
Command format	CALCalate: NETMeasure [: STATe] ON | OFF | 0 | 1 CALCalate: NETMeasure [: STATe]?
Function description	Set the network measurement switch
Remark	0 | OFF 1 | ON

3.3.35: CALCalate: NETMeasure: RLEV

CALCalate: NETMeasure: RLEV	
Command format	CALCalate: NETMeasure: RLEV CALCalate: NETMeasure: RLEV?
Function description	Set network measurement reference level
Remark	Value range -80dB~+30dB

3.3.36: CALCalculate: NETMeasure: POWer

CALCalate: NETMeasure: POWer	
Command format	CALCalate: NETMeasure: POWer<ampt> CALCalate: NETMeasure: POWer?
Function description	Set up network measurement output power
Remark	Value range -30dB~0dB

3.3.37: CALCalculate: NETMeasure: NORRealize

CALCalate: NETMeasure: NORRealize	
Command format	CALCalate: NETMeasure: NORRealize
Function description	Network measurement normalization
Remark	

3.4 Measurement function subsystem

3.4.1: CONFigure: ACPower

: CONFigure: ACPower	
Command format	: CONFigure: ACPower
Function description	Set advertising channel power measurement mode
Remark	

3.4.2: CONFigure: CHPower

: CONFigure: CHPower	
Command format	: CONFigure: ACPower
Function description	Set channel power measurement mode
Remark	

3.4.3: CONFigure: OBWidth

: CONFigure: OBWidth	
Command format	: CONFigure: OBWidth
Function description	Set Occupied bandwidth measurement mode
Remark	

3.4.4: CONFigure: SANalyzer

: CONFigure: SANalyzer	
Command format	: CONFigure: SANalyzer
Function description	Set spectrum analysis measurement mode
Remark	

3.4.5 : CONFigure: SATime

: CONFigure: SATime	
Command format	: CONFigure: SATime
Function description	Set time spectrum measurement mode
Remark	

3.4.6: CONFigure?

CONFigure?	
Command format	CONFigure?
Function description	Measurement mode query
Remark	

3.5 Display function subsystem

3.5.1: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEV

: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl	
Command format	: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl<amp> : DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl?
Function description	Set the reference level When the scale type is logarithmic, the default unit is dBm When the scale type is linear, the default unit is mV. For example: : DISP: WIN: TRAC: Y: RLEV -10 Query returns -10
Remark	Value range -80dBm~+30dBm When the reference level unit changes or the scale type changes, the value range also changes according
Default value	0dBm

3.5.2: DISPlay: WINdow: TRACe: X [: SCALe]: OFFSet

: DISPlay: WINdow: TRACe: X [: SCALe]: OFFSet	
Command format	: DISPlay: WINdow: TRACe: X [: SCALe]: OFFSet<freq> : DISPlay: WINdow: TRACe: X [: SCALe]: OFFSet?
Function description	Set the frequency offset, for example: : DISP: WIN: TRAC: X: OFFS 10MHz; The query returns 10000000
Remark	<freq>Value range MAXFREQ~+- MAXFREQ
Default value	0Hz

3.5.3: DISPlay: WINdow: TRACe: Y [: SCALe]: PDIVison

: DISPlay: WINdow: TRACe: Y [: SCALe]: PDIVison	
Command format	: DISPlay: WINdow: TRACe: Y [: SCALe]: PDIVison<rel_ Example: DISPlay: WINdow: TRACe: Y [: SCALe]: PDIVison?

Function description	Set the scale for example: : DISP: WIN: TRAC: Y: PDIV 5.0; The query returns 5.00
Remark	<rel Value range 1~255
Default value	ten

3.5.4: DISPlay: WINdow: TRACe: Y [: SCALe]: SPACing

: DISPlay: WINdow: TRACe: Y [: SCALe]: SPACing	
Command format	: DISPlay: WINdow: TRACe: Y [: SCALe]: SPACing LINear | LOGarithmic: DISPlay: WINdow: TRACe: Y [: SCALe]: SPACing?
Function description	Set the scale for example: : DISP: WIN: TRAC: Y: SPAC
Remark	LINEAR Linear LOGarithmic Logarithm
Default value	LOGarithmic Logarithm

3.5.5: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl: OFFSet

: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl: OFFSet	
Command format	: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl: OFFSet<rel_Amp>: DISPlay: WINdow: TRACe: Y [: SCALe]: RLEVEl: OFFSet?
Function description	Set the reference offset in dBm For example: : DISP: WIN: TRAC: Y: RLEV: OFFS 20 The query returns 20.00
Remark	<rel Value range 0~120
Default value	0dBm

3.5.6: DISPlay: ENABLE

Command format	: DISPlay: ENABLE ON | OFF | 0 | 1 : DISPlay: ENABLE?
Function description	Set or query screen refresh enable
Remark	0|OFF OFF 1|ON ON

3.5.7 : DISPlay: MENU: STATe

: DISPlay: MENU: STATe	
Command format	: DISPlay: MENU: STATe ON | OFF | 0 | 1 : DISPlay: MENU: STATe?
Function description	Set or query full screen display
Remark	

3.5.8: DISPlay: Format: Zoom

: DISPlay: Format: Zoom	
Command format	: DISPlay: Format: Zoom ON | OFF | 0 | 1 : DISPlay: Format: Zoom?
Function description	Set or query window scaling
Remark	0|OFF OFF 1|ON ON

3.5.9: DISPlay: WINdow: TRACe: Y: DLINE

: DISPlay: WINdow: TRACe: Y: DLINE	
Command format	: DISPlay: WINdow: TRACe: Y: DLINE : DISPlay: WINdow: TRACe: Y: DLINE?
Function description	Set the display line power. The default unit is dBm when the scale type is logarithmic, and mV when the scale type is linear. For example: : DISP: WIN: TRAC: Y: DLIN -20
Remark	Query return -20
Default value	-25dBm

3.5.10: DISPlay: WINdow: TRACe: Y: DLINE: STATe

: DISPlay: WINdow: TRACe: Y: DLINE: STATe	
Command format	: DISPlay: WINdow: TRACe: Y: DLINE: STATe ON | OFF | 0 | 1 : DISPlay: WINdow: TRACe: Y: DLINE: STATe?

Function description	Turn the display line on or off For example: DISP: WIN: TRAC: Y: DLIN: STATe ON Query return 1
Remark	0|OFF OFF 1|ON ON

3.5.11: DISPlay: WINdow: TRACe: Y [: SCALe]: GAUge

: DISPlay: WINdow: TRACe: Y [: SCALe]: GAUge	
Command format	: DISPlay: WINdow: TRACe: Y [: SCALe]: GAUge ON | OFF | 0 | 1 : DISPlay: WINdow: TRACe: Y [: SCALe]: GAUge?
Function description	Turn the reference scale on or off For example: DISPlay: WINdow: TRACe: Y [: SCALe]: GAUge ON Query return 1
Remark	0|OFF OFF 1|ON ON

3.5.12: DISPlay: BRIGHTNESS

: DISPlay: BRIGHTNESS	
Command format	: DISPlay: BRIGHTNESS<integer> : DISPlay: BRIGHTNESS?
Function description	Set screen backlight For example: DISPlay: BRIG 50 Query returns 50
Remark	The integer range is 1-100

3.5.13: DISPlay: ANNotion: CLOCK [: STATe]

: DISPlay: ANNotion: CLOCK [: STATe]	
Command format	: DISPlay: ANNotion: CLOCK [: STATe] ON | OFF | 0 | 1 : DISPlay: ANNotion: CLOCK [: STATe]?
Function description	Turn on or off time and date display For example: DISPlay: ANNotion: CLOC ON Query return 1
Remark	0|OFF OFF 1|ON ON

3.5.14: DISPlay: ANNotion: CLOCK: DATE: FORMat

: DISPlay: ANNotion: CLOCK: DATE: FORMat	
Command format	: DISPlay: ANNotion: CLOCK: DATE: FORMat YMD | HMS : DISPlay: ANNotion: CLOCK: DATE: FORMat?

Function description	Set time and date display format For example: DISPlay: ANNotion: CLOC: DATE: FORM YMD Query returns YMDhms
Remark	YMD Year Month Day Hour Minute Second HMS hour, minute, second, year, day

3.6 Query instruction subsystem

3.6.1: FETCH: ACPower: Main?

: FETCH: ACPower: Main?	
Command format	: FETCH: ACPower: Main?
Function description	Main channel power query
Remark	

3.6.2: FETCh: ACPower?

: FETCh: ACPower?	
Command format	: FETCh: ACPower?
Function description	Adjacent channel power list query
Remark	

3.6.3: FETCh: ACPower: Lower?

FETCH: ACPower: LOWER?	
Command format	FETCH: ACPower: LOWER?
Function description	Next channel power query
Remark	

3.6.4: FETCH: ACPower: UPPer?

: FETCH: ACPower: UPPer?	
Command format	: FETCH: ACPower: UPPer?
Function description	Adjacent channel power query

Remark	

3.6.5: FETCh: CHPower: POWer?

: FETCH: CHPower: POWer?	
Command format	: FETCH: CHPower: POWer?
Function description	Channel Power Query
Remark	

3.6.6: FETCH: OBWidth: BANDwidth?

: FETCH: OBWidth: BANDwidth?	
Command format	: FETCH: OBWidth: BANDwidth?
Function description	Bandwidth occupied query
Remark	

3.7 Set command subsystem

3.7.1: HCOPy: IMAge: COLor [: STATe]

HCOPy: IMAge: COLor [: STATe]	
Command format	HCOPy: IMAge: COLor [: STATe] ON | OFF | 0 | 1 HCOPy: IMAge: COLor [: STATe]?
Function description	Set printer type
Remark	ON|1 color OFF | 0 black and white

3.7.2: HCOPy: PAGE: ORIENTATION

HCOPy: PAGE: ORIENTATION	
Command format	HCOPy: PAGE: ORIENTATION LANDScape | PORTrait HCOPy: PAGE: ORIENTATION?
Function description	Set printing paper direction
Remark	LANDScape Landscape Portrait Vertical

3.7.3 : HCOPy: PAGE: SIZE

HCOPy: PAGE: SIZE	
Command format	HCOPy: PAGE: SIZE Letter | A4 | A5 | A6 | B5 HCOPy: PAGE: SIZE?
Function description	Set print paper size
Remark	

3.7.4: HCOPy: PAGE: PRINts

HCOPy: PAGE: PRINts	
Command format	HCOPy: PAGE: PRINts<integer> HCOPy: PAGE: PRINts?
Function description	Set the number of printed copies
Remark	Integer range 1-5

3.7.5: HCOPy: SCReen

HCOPy: SCReen	
Command format	HCOPy: SCReen
Function description	Print Screen
Remark	

3.7.6 : HCOPy: TRACe

HCOPy: TRACe	
Command format	HCOPy: TRACe
Function description	Print Curve
Remark	

3.8 Scan command subsystem

3.8.1 [: INItiate]: Continuous

[: INItiate]: Continuous

Command format	[: INItiate]: Continuous OFF | ON | 0 | 1 [: INItiate]: Continuous?
Function description	Set the scanning method, where 0 and OFF are single scans, 1 and ON are continuous scans, for example: INIT: CONT 0 Query returned 0
Remark	There are two scanning methods: single scan and continuous scan ON | 1 continuous scanning OFF | 0 Single Scan
Default value	ON | 1, continuous scanning

3.9 Storage instruction subsystem

3.9.1: MMEMemory: CATalog?

: MMEMemory: CATalog?	
Command format	: MMEMemory: CATalog?
Function description	Query file directory
Remark	Return the stored file directory
Default value	

3.9.2: MMEMemory: STORe: STATe

: MMEMemory: STORe: STATe	
Command format	: MMEMemory: STORe: STATe
Function description	Save User Status
Remark	
Default value	

3.9.3: MMEMemory: DISK: INFormation?

: MMEMemory: DISK: INFormation?	
Command format	: MMEMemory: DISK: INFormation?
Function description	Viewing Hard Drive Information
Remark	

3.9.4: MMEMemory: STORe: TRACe

: MMEMemory: STORe: TRACe	
Command format	: MMEMemory: STORe: TRACe
Function description	Save the curve, file named after time, and save as*. csv
Remark	

3.9.5: MMEMemory: STORe: SCReen

: MMEMemory: STORe: SCReen	
Command format	: MMEMemory: STORe: SCReen
Function description	Save screen, file named with time, save type as*. png
Remark	

3.9.6: MMEMemory: LOAD: STATe

: MMEMemory: LOAD: STATe	
Command format	: MMEMemory: LOAD: STATe<file_ Name>
Function description	Load to save user state
Remark	User status must have been saved before loading

3.9.7: MMEMemory: LOAD: TRACe

: MMEMemory: LOAD: TRACe	
Command format	**: MMEMemory: LOAD: TRACe<file_ Name>**
Function description	Loading to save trace data
Remark	Ensure to save trace data before loading

3.9.8: MMEMemory: LOAD: SCReen

: MMEMemory: LOAD: SCReen	
Command format	: MMEMemory: LOAD: SCReen<file_ Name>
Function description	Screen images loaded for saving
Remark	Make sure to save the screen image before loading

3.9.9: MMEMemory: DELette: TRACe

: MMEMemory: DELette: TRACe	
Command format	: MMEMemory: DELette: TRACe<file_ Name>
Function description	Delete specified trace data
Remark	Ensure to save trace data before deleting

3.9.10 : MMEMemory: DELette: SCReen

: MMEMemory: DELette: SCReen	
Command format	: MMEMemory: DELette: SCReen<file_ Name>
Function description	Delete the screen image of the command
Remark	Screen images must have been saved before deletion

3.9.11 : MMEMemory: DELette: TRACe: ALL

: MMEMemory: DELette: TRACe: ALL	
Command format	**: MMEMemory: DELette: TRACe: ALL**
Function description	Delete all saved trace data
Remark	Ensure to save trace data before deleting

3.9.12: MMEMemory: DELette: SCReen: ALL

: MMEMemory: DELette: SCReen: ALL	
Command format	: MMEMemory: DELette: SCReen: ALL
Function description	Delete all saved screen images
Remark	Make sure to save the screen image before deleting it

3.9.13 : MMEMemory: DELette: ALL

: MMEMemory: DELette: ALL	
Command format	: MMEMemory: DELette: ALL
Function description	Delete all saved images and data
Remark	Before deleting, it is necessary to ensure that the images and data have been saved

3.9.14: MMEMemory: COPY: ALL

: MMEMemory: COPY: ALL	
Command format	: MMEMemory: COPY: ALL
Function description	Copy all images and trace data
Remark	Ensure to save trace data before copying

3.9.15: MMEMemory: COPY: STATe: ALL

: MMEMemory: COPY: STATe: ALL	
Command format	: MMEMemory: COPY: STATe: ALL
Function description	Copy all trace data
Remark	Trace data must have been saved before saving

3.9.16: MMEMemory: COPY: STATe

: MMEMemory: COPY: STATe	
Command format	: MMEMemory: COPY: STATe<file_ Name>
Function description	Copy specified saved trace data
Remark	Ensure to save trace data before copying

3.9.17: MMEMemory: COPY: SCReen: ALL

: MMEMemory: COPY: SCReen: ALL	
Command format	: MMEMemory: COPY: SCReen: ALL
Function description	Copy all saved screen images
Remark	Make sure to save the screen image before copying

3.9.18: MMEMemory: COPY: SCReen

: MMEMemory: COPY: SCReen	
Command format	: MMEMemory: COPY: SCReen<file_ Name>
Function description	Copy the specified saved image

Remark	Ensure that the image has been saved before copying

3.10 Configuration instruction subsystem

3.10.1 [: SENSe]: FREQuincy: CENTER

[: SENSe]: FREQuincy: Center	
Command format	[: SENSe]: FREQuincy: Center<freq> [: SENSe]: FREQuincy: Center?
Function description	Set the center frequency in GHz, MHz, KHz, Hz; The default unit is Hz, for example: FREQ: CENT 200000000 or FREQ: CENT 200000000Hz
	Query returned200000000
Remark	
Default value	4000005050Hz
Panel operation	Center frequency Center Freq

3.10.2 [: SENSe]: FREQuincy: STARt

[: SENSe]: FREQuincy: STARt	
Command format	[: SENSe]: FREQuincy: STARt<freq> [: SENSe]: FREQuincy: STARt?
Function description	Set the starting frequencyinGHz, MHz, KHz, Hz; The default unit isHz, for example: FREQ: STAR1000000 orFREQ: STAR 1MHz Query returned1000000
Remark	
Default value	100Hz
Panel operation	Starting frequency Start Freq

3.10.3 [: SENSe]: FREQuency: STOP

[: SENSe]: FREQuincy: STOP	
Command format	[: SENSe]: FREQuincy: STOP<freq> [: SENSe]: FREQuincy: STOP?
Function description	Set the termination frequency in GHz, MHz, KHz, Hz; The default unit is Hz, for example: FREQ: STOP 100000000 or FREQ: STOP 1GHz Query returned 1000000000
Remark	
Default value	eight billion and ten thousand

Panel operation	Termination frequency Stop Freq

3.10.4 [: SENSe]: FREQuincy: Center: STEP

[: SENSe]: FREQuincy: Center: STEP	
Command format	[: SENSe]: FREQuincy: Center: STEP<freq> [: SENSe]: FREQuincy: Center: STEP?
Function description	Set frequency step, unit: GHz, MHz, KHz, Hz; The default unit is Hz, for example: FREQ: CENT: STEP 1000 or FREQ: CENT: STEP 1KHz
	Query returned 1000
Remark	
Default value	0.1 * SPAN
Panel operation	Frequency step Freq Step

3.10.5 [: SENSe]: FREQuincy: Center: STEP: AUTO

[: SENSe]: FREQuincy: Center: STEP: AUTO	
Command format	[: SENSe]: FREQuincy: Center: STEP: AUTO ON | OFF | 0 | 1 [: SENSe]: FREQuincy: Center: STEP: AUTO?
Function description	Set frequency step automatic/manual mode, default automatic coupling mode, for example: FREQ: CENT: STEP: AUTO ON Query return1
Remark	represents automatic coupling represents manual input
Default value	Automatic coupling method
Panel operation	stepping(automatic and manual) Freq Step

3.10.6 [: SENSe]: FREQuincy: REFerence Internal | EXTernal

[: SENSe]: FREQuincy: REFerence Internal | EXTernal	
Command format	[: SENSe]: FREQuincy: REFerence Internal | EXTernal [: SENSe]: FREQuincy: REFerence?
Function description	Set internal and external references, default to internal references, for example: : FREQ: REF INT Return: Internal
Remark	Internal: Internal reference EXTernal: External reference

Default value	Internal

3.10.7 [: SENSe]: FREQuincy: SPAN

[: SENSe]: FREQuincy: SPAN	
Command format	[: SENSe]: FREQuincy: SPAN<freq> [: SENSe]: FREQuincy: SPAN?
Function description	Set sweep width in GHz, MHz, KHz, Hz; The default unit is Hz, for example: FREQ: SPAN 1000000 or FREQ: SPAN 1MHz
	Query returned1000000
Remark	When the sweep width is 0, the horizontal axis changes from frequency to time
Default value	Full sweep width
Panel operation	Sweep width Span

3.10.8 [: SENSe]: FREQuincy: SPAN: FULL

[: SENSe]: FREQuincy: SPAN: FULL	
Command format	[: SENSe]: FREQuincy: SPAN: FULL
Function description	Set Full Sweep Width
Remark	Full sweep width
Default value	
Panel operation	Full sweep width Full Span

3.10.9 [: SENSe]: FREQuincy: SPAN: ZERO

[: SENSe]: FREQuincy: SPAN: ZERO	
Command format	[: SENSe]: FREQuincy: SPAN: ZERO
Function description	Set Zero Sweep Width
Remark	Zero sweep width, which means the sweep width is zero and the horizontal axis changes from frequency to time
Default value	
Panel operation	Zero sweep width Zero Span

3.10.1 0 [: SENSe]: FREQuincy: SPAN: PREVIous

[: SENSe]: FREQuincy: SPAN: PREVIous

Command format	[: SENSe]: FREQuincy: SPAN: PREVIous
Function description	Set Previous Sweep Width
Remark	Restore the last set sweep width
Default value	
Panel operation	Previous scan width Last Span

3.10.11 [: SENSe]: BANDwidth | BWIDth [: Resolution]

[: SENSe]: BANDwidth | BWIDth [: RESolution]	
Command format	[: SENSe]: BANDwidth [: Resolution]<freq> Or [: SENSe]: BWIDth [: Resolution]<freq> [: SENSe]: BANDwidth [: Resolution]? Or[: SENSe]: BWIDth [: Resolution]?
Function description	Set resolution bandwidth in GHz, MHz, KHz, Hz; The default unit is Hz, for example: SENSe: BAND: RES 1000 or SENSe: BAND: RES 1KHz Or: BANDwidth 1KHz or: BWIDth 1KHz Query returned 1000
Remark	28 sets of resolution bandwidth 5 MHz, 3MHz, 2 MHz, 1MHz, 500kHz, 300 kHz, 200 kHz, 100 kHz, 50 kHz, 30 kHz, 20 kHz, 10 kHz, 5 kHz, 3 kHz, 2 kHz, 1 kHz, 500 Hz, 300 Hz, 200 Hz, 100 Hz, 50 Hz, 30 Hz, 20 Hz, 10 Hz, 5 Hz, 3 Hz, 2 Hz, 1 Hz
Default value	5MHz
Panel operation	Resolution bandwidth RBW

3.10.12 [: SENSe]: BANDwidth | BWIDth [: Resolution]: AUTO

[: SENSe]: BANDwidth | BWIDth [: RESolution]: AUTO	
Command format	[: SENSe]: BANDwidth [: Resolution]: AUTO OFF | ON |0 | 1 or[: SENSe]: BWIDth [: Resolution]: AUTO OFF |ON | 0 | 1 [: SENSe]: BANDwidth [: Resolution]: AUTO?Or [: SENSe]: BWIDth [: Resolution]: AUTO?
Function description	Automatic manual setting of resolution bandwidth, default to automatic, for example: SENSe: BAND: RES: AUTO OFF Query returned0
Remark	represents automatic coupling represents manual input
Default value	Automatic coupling
Panel operation	Bandwidth resolution (automatic and manual) RBW

3.10.13 [: SENSe]: BANDwidth | BWIDth [: Resolution]: STEP: MODE

[: SENSe]: BANDwidth | BWIDth [: Resolution]: STEP: MODE	
Command format	[: SENSe]: BANDwidth [: Resolution]: STEP: 0|1 MODE or [: SENSe]: BWIDth [: Resolution]: 0|1 STEP: MODE
	[: SENSe]: BANDwidth [: Resolution]: STEP: MODE? Or[: SENSe]: BWIDth [: Resolution]: STEP: MODE?
Function description	Set the default and continuous resolution bandwidth steps to the default state, for example: SENSe: BAND: STEP: MODE 0 Query returnsDEFault
Remark	represents continuous, and the steps are continuous, that is, Continuous represents default, with steps of 1, 3, and 5, i.e. DEFault
Default value	Default Step
Panel operation	Resolution Bandwidth Step (default/continuous) RBW Step

3.10.14 [: SENSe]: BANDwidth | BWIDth: VIDeo

[: SENSe]: BANDwidth | BWIDth: VIDeo	
Command format	[: SENSe]: BANDwidth: <freq> VIDeo or [: SENSe]: <freq> BWIDth: VIDeo [: SENSe]: BANDwidth: VIDeo? Or[: SENSe]: BWIDth: VIDeo?
Function description	Set video bandwidth in GHz, MHz, KHz, Hz; The default unit is Hz, for example: SENSe: BAND: VID 1000000 or SENSe: BAND: VID 1MHz Query returned1000000
Remark	28 sets of video bandwidth in total 5 MHz, 3MHz, 2 MHz, 1MHz, 500kHz, 300 kHz, 200 kHz, 100 kHz, 50 kHz, 30 kHz, 20 kHz, 10 kHz, 5 kHz, 3 kHz, 2 kHz, 1 kHz, 500 Hz, 300 Hz, 200 Hz, 100 Hz, 50 Hz, 30 Hz, 20 Hz, 10 Hz, 5 Hz, 3 Hz, 2 Hz, 1 Hz
Default value	5MHz
Panel operation	Bandwidth ← Video bandwidth 👌 ⌖Δ VBW

3.10.15 [: SENSe]: BANDwidth | BWIDth: VIDeo: AUTO

[: SENSe]: BANDwidth | BWIDth: VIDeo: AUTO

Command format	SENSe: BANDwidth: VIDeo: AUTO OFF | ON | 0 | 1 Or [: SENSe]: BWIDth: VIDeo: OFF | ON | 0 | 1 AUTO: SENSe: BANDwidth: VIDeo: AUTO? Or [: SENSe]: BWIDth: VIDeo: AUTO?
Function description	Set the automatic and manual video bandwidth, default to automatic, for example: SENSe: BAND: VID: AUTO OFF Query returned0
Remark	represents automatic coupling
	represents manual input
Default value	Automatic coupling
Panel operation	Video bandwidth (automatic and manual) VBW

3.10.16 [: SENSe]: BANDwidth | BWIDth: EMC

[: SENSe]: BANDwidth | BWIDth: EMC	
Command format	: SENSe: BANDwidth: <freq> EMC or [: SENSe]: <freq> BWIDth: EMC: SENSe: BANDwidth: EMC? Or[: SENSe]: BWIDth: EMC?
Function description	Set EMC bandwidth inGHz, MHz, KHz, Hz;Provide 5 MHz, 3MHz, 2 MHz, 1MHz, 500kHz, 300 kHz, 200 kHz, 100 kHz, 50 kHz, 30 kHz, 20 kHz, 10 kHz, 5 kHz, 3 kHz, 2 kHz, 1 kHz, 500 Hz, 300 Hz, 200 Hz, 100 Hz, 50 Hz, 30 Hz, 20 Hz, 10 Hz, 5 Hz, 3 Hz, 2 Hz, 1 Hz Example: SENSe: BAND: EMC 120000 or SENSe: BAND: EMC 120kHz Query returns 120kHz
Remark	
Default value	5MHz
Panel operation	EMC EMC

3.10.17 [: SENSe]: BANDwidth | BWIDth: EMC: STATe

[: SENSe]: BANDwidth | BWIDth: EMC: STATe	
Command format	[: SENSe]: BANDwidth: EMC: STAT ON | OFF | 1 | 0 Or [: SENSe]: BWIDth: EMC: STAT ON | OFF | 1 | 0 [: SENSe]: BANDwidth: EMCSTAT? Or[: SENSe]: BWIDth: EMC: STAT?
Function description	Enable EMC bandwidth, default to off. for example BAND: EMC: STAT OFF Return to 0
Remark	

Default value	close
Panel operation	EMC EMC

3.10.18 [: SENSe]: AVERAge: COUNT

[: SENSe]: AVERAge: COUNT	
Command format	[: SENSe]: AVERAge: COUNT<integer> [: SENSe]: AVERAge: COUNT?
Function description	Set the trace average to 44 by default.for example : AVER: COUNT 50 Query returns50
Remark	After setting the trace average value, it is necessary to turn on the trace average state
Default value	sixty-four
Panel operation	Trace average AVERAge

3.10.19 [: SENSe]: AVERAge [: STATe]

[: SENSe]: AVERAge [: STATe]	
Command format	[: SENSe]: AVERAge [: STATe] OFF | ON | 0 | 1 [: SENSe]: AVERAge [: STATe]?
Function description	Enable trace averaging, default to off. for example : AVER 1 Return to 1
Remark	
Default value	0
Panel operation	Trace average AVERAge

3.10.20 [: SENSe]: POWer [: RF]: ATTenation

[: SENSe]: POWer [: RF]: ATTenation	
Command format	[: SENSe]: POWer [: RF]: ATTenation<att> [: SENSe]: POWer [: RF]: ATTenation?
Function description	Set attenuator, unit:dBm,dBmV,dBuV,mW,mV; The default unit is dBm, for example: : POW: ATT 10.0 or: POW: ATT 10.0dB Query returned 10.0
Remark	The variation range of<att>is0-30dB
Default value	10dB

Panel operation	Attenuator Attention

3.10.21 [: SENSe]: POWer [: RF]: ATTenuation: AUTO

[: SENSe]: POWer [: RF]: ATTenuation: AUTO	
Command format	[: SENSe]: POWer [: RF]: ATTenation: AUTO ON | OFF |1 | 0 [: SENSe]: POWer [: RF]: ATTenation: AUTO?
Function description	Attenuator automatic/manual control, default to automatic coupling. for example : POW: ATT: AUTO OFF Return to 0
Remark	ON | 1 automatic coupling OFF | 0 manual coupling
Default value	Automatic coupling relationship
Panel operation	Attenuator (automatic/manual) Attention

3.10.22 [: SENSe]: POWer [: RF]: GAIN [: STATe]: AUTO

[: SENSe]: POWer [: RF]: GAIN [: STATe]: AUTO	
Command format	[: SENSe]: POWer [: RF]: GAIN [: STATe]: AUTO ON | OFF | 1 | 0 [: SENSe]: POWer [: RF]: GAIN [: STATe]: AUTO?
Function description	Pre amplifier on/off control, default is to turn off the pre amplifier. For example: POWer: GAIN: AUTO OFF Return to 0
Remark	ON | 1 Turn on the preamplifier OFF | 0 Turn off the preamplifier
Default value	Turn off the preamplifier
Panel operation	Pre amplifier (automatic/manual) Prepamplifiler

3.10.23 [: SENSe]: SWEep: TIME

[: SENSe]: SWEep: TIME	
Command format	[: SENSe]: SWEep: TIME<time> [: SENSe]: SWEep: TIME?
Function description	Set the scanning time in seconds, milliseconds, microseconds, and nanoseconds. The default unit is ms (milliseconds), for example: : SWE: TIME 100 or: SWE: TIME 100ms Query returned100.000

Remark	The range of values is determined based on the following conditions: the scanning time range is5ms~6000s the scanning time range is 20us~6000s
Default value	
Panel operation	Bandwidth← Scantime SWEEP ← Sweep Time

3.10.24 [: SENSe]: SWEep: TIME: AUTO

[: SENSe]: SWEep: TIME: AUTO	
Command format	[: SENSe]: SWEep: TIME: AUTO OFF | ON | 0 | 1 [: SENSe]: SWEep: TIME: AUTO?
Function description	Set the scanning time coupling mode to the automatic coupling state by default, for example: : SWE: TIME: AUTO OFF Query returned 0
Remark	represents automatic coupling represents manual input
Default value	Automatic coupling
Panel operation	Bandwidth ← Scan time SWEEP ← Sweep Time

3.10.25 [: SENSe]: SWEep: POINts

[: SENSe]: SWEep: POINts	
Command format	[: SENSe]: SWEep: POINts<number> [: SENSe]: SWEep: POINts?
Function description	Set the number of scanning points, for example: : SWE: POIN 501 Query returned501
Remark	

3.10.26 [: SENSe]: ACPower: BANDwidth: Integration

[: SENSe]: ACPower: BANDwidth: Integration	
Command format	[: SENSe]: ACPower: BANDwidth: Integration<freq> [: SENSe]: ACPower: BANDwidth: Integration?
Function description	Main channel bandwidth settings ACP: BAND: INT 1MHz; Query returned1000000
Remark	Adjacent channel power must be turned on before setting the

	main channel bandwidth

3.10.27 [: SENSe]: ACPower: BANDwidth: ACHannel: COUNT

[: SENSe]: ACPower: BANDwidth: ACHannel: COUNT	
Command format	[: SENSe]: ACPower: BANDwidth: ACHannel: COUNT<integer> [: SENSe]: ACPower: BANDwidth: ACHannel: COUNT?
Function description	Setting the number of adjacent channels ACP: BAND: ACH: COUNT 3; Query Return 3
Remark	Before setting adjacent channel bandwidth, adjacent channel power must be turned on The number of adjacent channels can be set to: 1,2,3

3.10.28 [: SENSe]: ACPower: CSPacing

[: SENSe]: ACPower: CSPacing	
Command format	[: SENSe]: ACPower: CSPacing<freq> [: SENSe]: ACPower: CSPacing?
Function description	Channel interval setting ACP: CSP 200kHz; Query returns 200000
Remark	Adjacent channel power must be turned on before setting

3.10.29 [: SENSe]: OBWidth: FREQuincy: SPAN

[: SENSe]: OBWidth: FREQuincy: SPAN	
Command format	[: SENSe]: OBWidth: FREQuincy: SPAN<freq> [: SENSe]: OBWidth: FREQuincy: SPAN?
Function description	OBW bandwidth usage settings OBW: FREQ: SPAN 1MHz; Query returned 100000
Remark	Bandwidth usage must be turned on b efore s etting

3.10.30 [: SENSe]: OBWidth: PERCent

[: SENSe]: OBWidth: PERCent	
Command format	[: SENSe]: OBWidth: PERCENT<real> [: SENSe]: OBWidth: PERCent?
Function description	OBW occupancy percentage setting : OBW: PERC 98; Query returned 98
Remark	Bandwidth usage must be turned on b efore s etting

3.10.31 [: SENSe]: CHPower: FREQuincy: SPAN

[: SENSe]: CHPower: FREQuincy: SPAN	
Command format	[: SENSe]: CHPower: FREQuincy: SPAN<freq> [: SENSe]: CHPower: FREQuincy: SPAN?
Function description	Channel sweep width setting CHP: FREQ: SPAN 1MHz; Query returned 100000
Remark	Channel power must be turned on before setting

3.10.32 [: SENSe]: DEMode: STATe

[: SENSe]: DEMode: STATe	
Command format	[: SENSe]: DEMode: STATe ON | OFF | 0 | 1 [: SENSe]: DEMode: STATe?
Function description	Turn audio demodulation on or off DEM: STAT 1; Query return 1
Remark	

3.11 System setting subsystem

3.11.1: SYSTem: DATE

: SYSTem: DATE	
Command format	: SYSTem: DATE<year>,<month>,<day> : SYSTem: DATE?
Function description	Set the date, for example: : SYSTEM: DATE 2011,7,1 Query returned onJuly 1st, 2011
Remark	<year>Year,integer between2000 and 2037 Month, an integer between1 and 12 Day,integer between1 and 31

3.11.2: SYSTem: TIME

: SYSTem: TIME	
Command format	: SYSTem: TIME<hour>,<minute>,<second> : SYSTem: TIME?
Function description	Set the time, for example: : SYSTEM: TIME 12,00,00 Query returns12,00,00
Remark	An integer between 0 and 23 when<hour> <minute>minutes,integers between0 and 59 <second>seconds, an integer between0 and 59

3.11.3: SYSTem: PRESet: TYPE

: SYSTem: PRESet: TYPE	
Command format	: SYSTem: PRESet: TYPE FACTORY | USER : SYSTem: PRESet: TYPE?
Function description	Set the reset status, for example: : SYSTEM: PRES: TYPE FACT Query returnsFACT
Remark	FACT, factory status USER, user status
Panel operation	Reset Settings Preset Set

3.11.4: SYSTem: PON: TYPE

: SYSTem: PON: TYPE	
Command format	: SYSTem: PON: TYPE FACTORY | USER : SYSTem: PON: TYPE?
Function description	Set startup parameters, such as: : SYSTEM: PON: TYPE FACT Query returnsFACT
Remark	FACT, factory status USER, user status
Panel operation	Boot Settings PONSet

3.11.5: SYSTem: PRESet [: USER]: SAVE

: SYSTem: PRESet: SAVE	
Command format	: SYSTem: PRESet [: USER]: SAVE;
Function description	Save user parameters with a file name ofuser.dat and a path to the directory where the executable file is located For example: SYSTEM: PRES: SAVE;
Remark	

3.11.6: SYSTem: COMMunicate: LAN: IP: ADDress

: SYSTem: COMMunicate: LAN: IP: ADDress	
Command format	: SYSTem: COMMunicate: LAN: IP: ADDress<ip> : SYSTem: COMMunicate: LAN: IP: ADDress?
Function description	Set the IP address of the machine. for example : SYSTEM: COMM: LAN: IP: ADDR 192.168.1.10 Query returned192.168.1.10
Remark	IP address to be set

3.11.7: SYSTem: COMMunicate: LAN: MASK

: SYSTem: COMMunicate: LAN: MASK	
Command format	: SYSTem: COMMunicate: LAN: MASK<mask> : SYSTem: COMMunicate: LAN: MASK?
Function description	Set the subnet mask address of the machine, for example : SYSTEM: COMM: LAN: MASK 255.255.255.0 Query returned255.255.255.0
Remark	

3.11.8: SYSTem: COMMunicate: LAN: GATE

: SYSTem: COMMunicate: LAN: GATE	
Command format	: SYSTem: COMMunicate: LAN: GATE<gate> : SYSTem: COMMunicate: LAN: GATE?
Function description	Set the gateway address of the machine, for example : SYSTEM: COMM: LAN: GATE 192.168.1.1 Query returned192.168.1.1
Remark	

3.11.9 : SYSTem: SPEaker: VOLume

: SYSTem: SPEaker: VOLume	
Command format	: SYSTem: SPEaker: VOLume<integer> : SYSTem: SPEaker: VOLume?
Function description	Set the audio demodulation volume, such as : SYSTem: SPEaker: VOLume 50 Query returns50
Remark	Turn on the audio demodulation switch before setting or querying

3.11.10: SYSTem: CONFigure: INFomation?

: SYSTem: CONFigure: INFomation?	
Command format	: SYSTem: CONFigure: INFomation?
Function description	Query system information
Remark	

3.11.11 : SYSTem: CONFigure: MESPage?

: SYSTem: CONFigure: MESPage?	
Command format	: SYSTem: CONFigure: MESPage?
Function description	Query system logs
Remark	

3.11.12: SYSTem: TEMP?

: SYSTem: TEMP?	
Command format	: SYSTem: TEMP?
Function description	Query system temperature
Remark	

3.12 Trace setting subsystem

3.12.1: TRACe [: DATA]

: TRACe [: DATA]	
Command format	: TRACe [: DATA]? TRACE1 | TRACE2 | TRACE3 | TRACE4 | TRACE5
Function description	Query returns data for the specified trace, for example: TRAC? TRACE1 Query returned64.7301, -68.163,..., -36.185, -57.931
Remark	The instrument has 5 traces, TRACE1, TRACE2, TRACE3, TRACE4, and TRACE5. The returned value data is separated by commas, and each data length is fixed to 7 digits. The effective number of data pointsis 501
Default value	TRACE1 defaults to the refresh state, whileTRACE2, TRACE3, TRACE4, andTRACE5 default to the clear state

3.12.2: TRACe: SOCKData?

TRACe: SOCKData?	
Command format	TRACe: SOCKData? TRACE1 | TRACE2 | TRACE3 | TRACE4 | TRACE5
Function description	Query returns data(binary) for the specified trace, for example: TRACe: SOCKData? TRACE1 Query returned c3 09 8e ab c3 09 e5 e1 c3 10 45 ec c3 13 cb 82 c3 0c 0e 5a c3 09 8e ab c3 08e ab c3 0d 81 d0 c3 08 c2 86 c3
Remark	The instrument has a total of 5 traces, withTRACE1, TRACE2, TRACE3, TRACE4, and TRACE5 returning binary values of the corresponding trace data. The valid data is2004 traces
Default value	TRACE1 defaults to the refresh state, whileTRACE2, TRACE3, TRACE4, andTRACE5 default to the clear state

3.12.3 :TRACE<n> :MODE

:TRACE<n> :MODE	
Command format	:TRACE<n>:MODE WRITe|MAXHold|MINHold|VIEW| BLANk :TRACE<n>:MODE?
Function description	Set the type of trace, for example: TRACE1: MODE MAXH Query returnsMAXH
Remark	The instrument provides 5 traces, TRACE1 | TRACE2 | TRACE3 | TRACE4 | TRACE5 The instrument provides 5 trace functions, refresh | maximum hold | minimum hold | view | clear
Default value	TRACE1 defaults to the refresh state, whileTRACE2, TRACE3, TRACE4, andTRACE5 default to the clear state
Panel operation	Refresh| Max Hold | Min Hold| View| Clear Clear Write | Max Hold | Min Hold | View | Blank

3.13 Tracking source setting subsystem

3.13.1: OUTPut: TRACk

: OUTPut: TRACe	
Command format	: OUTPut: TRACk: [STATe] ON | 1 | OFF | 1 : OUTPut: TRACk: [STATe]?
Function description	Turn on the tracking source, for example: : OUT: TRAC 1; Query return 1
Remark	ON | 1 Enable Tracking Source OFF | 0 Turn off tracking source
Default value	Turn off tracking source

3.13.2: OUTPut [: STATe]

: OUTPut [: STATe]	
Command format	: OUTPut ON | 1 | OFF | 1 : OUTPut?
Function description	Turn on the tracking source, for example: : OUTP 1; Query return 1
Remark	ON | 1 Turn on signal source OFF | 0 Turn off signal source
Default value	Turn off signal source

3.13.3: OUTPut: FREQuency

: OUTPut: FREQuincy	
Command format	: OUTPut: FREQuency<freq> : OUTPut: FREQuincy?
Function description	Set the signal source frequency, for example: : OUT: FREQ 500MHz; Query returned 500000000
Remark	<freq>Range: 55MHz~8GHz
Default value	1GHz

3.13.4: OUTPut: POWer

: OUTPut: POWer	
Command format	: OUTPut: POWer<pow> : OUTPut: POWer?
Function description	Set the output power of the signal source, for example: : OUT: POWer 10; Query returns10dbm
Remark	
Default value	

3.13.5: Source: POWer: TRACe: [POWer]

: Source: POWer: TRACe: POWer	
Command format	: Source: POWer: TRACe: [POWer]<pow> : Source: POWer: TRACe: [POWer]?
Function description	Set the tracking source power, with a default unit of - dBm. For example: : Source: POWer: TRACe: [POWer] -20; Query return -20
Remark	The range is-30 dBm~0dBm
Default value	-10dBm

3.13.6: Source: OUTPut: POWer

: Source: OUTPut: POWer	
Command format	: Source: OUTPut: POWer<pow> : Source: OUTPut: POWer?
Function description	Set the signal source power, with a default unit of - dBm. For example: : Source: OUTPut: POWer -20; Query return-20
Remark	The range is-30 dBm~0dBm
Default value	-10dBm

3.13.7: Source: OUTPut: Signal

: Source: OUTPut: Signal

Command format	: Source: OUTOut: Signal ON | 1 | OFF | 1 : Source: OUTPut: Signal?
Function description	Set the signal source status, for example: SOURCE: OUTPUT: Signal 1; Query return 1
Remark	ON | 1 Turn on signal source OFF | 0 Turn off signal source
Default value	Turn off signal source

3.13.8 : Source: FREQuency

: Source: FREQuincy	
Command format	: Source: FREQuency<freq> : Source: FREQuincy?
Function description	Set the signal source frequency, for example: : Source: FREQ 500MHz; Query returned500000000
Remark	<freq>Range: 55MHz~8GHz
Default value	1GHz

3.13.9: Source: OUTPut: TRACk

: Source: OUTPut: TRACk	
Command format	: Source: OUTPut: TRACk ON | 1 | OFF | 1 : Source: OUTPut: TRACk?
Function description	Turn on the tracking source, for example: 1; : Source: OUTPut: TRACk Query return1
Remark	ON | 1 Turn on signal source OFF | 0 Turn off signal source
Default value	Turn off signal source

Note: Due to the translation error of Chinese and English documents, if you have any incomprehension, please contact our technical engineers via email: **sales@salukitec.com.** Thank you for your understanding!