

# FCC TEST REPORT

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# Report No:STS2003164W01

Issued for

MiMOMax Wireless Limited

540 Wairakei Road, Christchurch, 8053 New Zealand

Product Name:	800MHz Tornado Transceiver	
Brand Name:	MiMOMax Wireless	
Model Name:	MWL-TORNADO-*E A/B/C*	
Series Model:	N/A	
FCC ID:	XMK-MMXTRNB005	
Test Standard:	FCC Part 90 Rules	

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Report No.: STS2003164W01



# **TEST RESULT CERTIFICATION**

Applicant's name: Address: Manufacture's Name	540 Wairakei Road, Christchurch, 8053 New Zealand
Address	540 Wairakei Road, Christchurch, 8053 New Zealand
Product description Product Name:	800MHz Tornado Transceiver
Brand Name:	MiMOMax Wireless
Model Name:	MWL-TORNADO-*E A/B/C*
Series Model:	N/A
Test Standards	FCC Part 90 Rules
Test procedure:	C63.26-2015

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test	
Date of performance of tests	30 Aug. 2018 ~12 Sept. 2018
Date of Issue	04 Mar. 2020
Test Result:	Pass

:

Testing Engineer

(Chris chen)

Technical Manager

(Sean she)

Authorized Signatory :

(Vita Li)

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**1. SUMMARY OF TEST RESULTS** 

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# **Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	14 Sept. 2018	STS1809014W01	ALL	Initial Issue
00	04 Mar. 2020	STS2003164W01	ALL	Updated Product Name.



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# **1. SUMMARY OF TEST RESULTS**

Test procedures according to the technical standards:

FCC Part 90					
Standard	Item	Result	Remarks		
FCC Part 90.205	Maximum Transmitter Power	PASS			
FCC Part 90.209	Occupied Bandwidth	PASS			
FCC Part 90.210	Emission Mask	PASS			
FCC Part 90.221	Adjacent channel power	PASS			
FCC Part 90.210	Transmitter Radiated Spurious Emssion	PASS			
FCC Part 90.210	Spurious Emssion on Antenna Port	PASS			
FCC Part 90.213	Frequency Stability Test	PASS			

NOTE:

(1)"N/A" denotes test is not applicable in this Test Report

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#### 1.1 TEST FACILITY

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# **1.2 MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	RF power, conducted	±0.70dB
2	Spurious emissions, conducted	±1.19dB
3	Spurious emissions, radiated((>1G)	±2.83dB
4	Spurious emissions, radiated(<1G)	±3.01dB
5	Temperature	±0.5°C
6	Humidity	±2%



# 2. GENERAL INFORMATION

Product Name:	800MHz Tornado Transceiver
Brand Name:	MiMOMax Wireless
Model Name:	MWL-TORNADO-*E A/B/C*
Series Model:	N/A
Model Difference description:	N/A
Operation Frequency Range	Frequency Range: 806MHz ~ 869MHz
Maximum Transmitter Power:	24.228dBm
Channel Separation:	12.5KHz and 25.0KHz
Modulation type:	QPSK,16QAM,64QAM,256QAM
Emission Designator:	12.5KHz: 10K5W1W 25KHz: 21K2W1W
Power Rating:	Input: DC 24V/1.1A
Temperature Range:	-30℃-70℃
Test frequency list:	See Note 5
Software version number:	R04.03.04
Hardware version number:	IP001

Note:

- 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- Note: The product has the same digital working characters when operating in both two digitized voice/data mode. So only one set of test results for digital modulation modes are provided in this test report.
- 3. Please refer to Appendix B for the photographs of the EUT. For more details, please refer to the User's manual of the EUT.
- 4. Table for Filed Antenna

A	۸nt	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
	1	MiMOMax Wireless	MWL-TOR NADO-*E A/B/C*	External Panel antenna, omni antenna	N/A	External Panel antenna: 10dBi,12dBi and 16dBi omni antenna:5dBi and 8dBi	Antenna

The EUT antenna is External Antenna. No antenna other than that furnished by the responsible party shall be used with the device.

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# 5. Test frequency list

Frequency band (MHz)	Channel Separation	Test Channel	Test Frequency (MHz)
851-854	12.5kHz	CH1	851.00625
806-809	TZ.JKHZ	CH2	806.00625

Frequency band (MHz)	Channel Separation	Test Channel	Test Frequency (MHz)
854-869		CH3	868.9875
809-824	25247	CH4	823.9875
854-869	25kHz	CH5	860.00
809-824		CH6	815.00
Note:			

#### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above listed frequency for testing.

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#### 2.2 EUT OPERATION MODE

The EUT has been tested under typical operating condition and The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

#### 2.3 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Final Test Mode	Modulation	Channel Separation	Frenquency
Model 1	QPSK		851.00625
Model 2	QPSK		806.00625
Model 3	16QAM		851.00625
Model 4	16QAM		806.00625
Model 5	64QAM	12.5kHz	851.00625
Model 6	64QAM		806.00625
Model 7	256QAM		851.00625
Model 8	256QAM		806.00625
Model 9	QPSK		868.9875
Model 10	QPSK		823.9875
Model 11	QPSK		860.00
Model 12	QPSK		815.00
Model 13	16QAM		868.9875
Model 14	16QAM		823.9875
Model 15	16QAM		860.00
Model 16	16QAM	25kHz	815.00
Model 17	64QAM	23KHZ	868.9875
Model 18	64QAM		823.9875
Model 19	64QAM		860.00
Model 20	64QAM		815.00
Model 21	256QAM		868.9875
Model 22	256QAM		823.9875
Model 23	256QAM		860.00
Model 24	256QAM		815.00



The equipment is not with ODCK modulation and 12 FKUT handwidth for transmitter newsred
The equipment is set with QPSK modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V.
Model 2:
The equipment is set with QPSK modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V.
Model 3: The equipment is set with 16QAM modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V.
Model 4:
The equipment is set with 16QAM modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V. Model 5:
The equipment is set with 64QAM modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V.
Model 6: The equipment is set with 64QAM modulation and 12.5KHz bandwidth for transmitter,powered by DC 24V.
Model 7: The equipment is estimith 2500 MM medulation and 40 51/1 la benchuidth for the equition
The equipment is set with 256QAM modulation and 12.5KHz bandwidth for transmitter, powered by DC 24V. Model 8:
The equipment is set with 256QAM modulation and 12.5KHz bandwidth for transmitter, powered by DC 24V. Model 9:
The equipment is set with QPSK modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V. Model 10:
The equipment is set with QPSK modulation and 25.0KHz bandwidth for transmitter, powered
by DC 24V. Model 11:
The equipment is set with QPSK modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.
Model 12:
The equipment is set with QPSK modulation and 25.0KHz bandwidth for transmitter,powered by DC 24V. Model 13:
The equipment is set with 16QAM modulation and 25.0KHz bandwidth for transmitter,powered by DC 24V. Model 14:
The equipment is set with 16QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V. Model 15:
The equipment is set with 16QAM modulation and 25.0KHz bandwidth for transmitter,powered by DC 24V.
Model 16: The equipment is set with 16QAM modulation and 25.0KHz bandwidth for transmitter,powered by DC 24V.
Model 17: The equipment is set with 64QAM modulation and 25.0KHz bandwidth for transmitter,powered
by DC 24V. Model 18: The equipment is est with C1OAM medulation and 25 0KU to bendwidth for transmitter powered.
The equipment is set with 64QAM modulation and 25.0KHz bandwidth for transmitter,powered by DC 24V. Model 19:
The equipment is set with 64QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.
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Model 20:

The equipment is set with 64QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.

Model 21:

The equipment is set with 256QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.

Model 22:

The equipment is set with 256QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.

Model 23:

The equipment is set with 256QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.

Model 24:

The equipment is set with 256QAM modulation and 25.0KHz bandwidth for transmitter, powered by DC 24V.

Note:

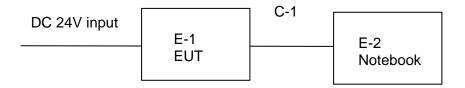
(1) Due to the different configuration and test, in this list only some worse mode. The worst test data of the worse modeis reported by this report.





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# 2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



# 2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-2	Notebook	HP	500-320cx	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	Network line	N/A	120cm	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in  $\[\]$  Length  $\[\]$  column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



# 2.6 TEST EQUIPMENT

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY49100060	2017.10.15	2018.10.14
Signal Generator	Agilent	N5182A	MY46240556	2017.10.15	2018.10.14
Audio Generator	TRONSON	TAG-101	20030212	2017.10.15	2018.10.14
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2018.11.01
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2017.10.27	2018.10.26
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2017.10.15	2018.10.14
Pre-mplifier (0.1M-3GHz)	EM	EM330	60538	2018.03.11	2019.03.10
PreAmplifier (1G-26.5GHz)	Agilent	8449B	60538	2017.10.15	2018.10.14
Attenuator	HP	8494B	DC-18G	2017.10.15	2018.10.14
programmable power supply	Agilent	3642A	STS-S095	N.C.R	N.C.R
AC Power Source	APC	KDF-11010G	F214050035	N.C.R	N.C.R
Audio analyzer	R&S	UPL	100689	2018.03.08	2019.03.07
RF COMMUNICATION TEST SET	HP	N8920A	348A05658	2017.10.15	2018.10.14

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# 3. MAXIMUM TRANSMITTER POWER

#### 3.1 LIMITS

Per FCC Part 2.1046 and Part 90.205: Maximum ERP is dependent upon the station's antenna HAAT and required service area.

The output power shall not exceed by more than 20 percent either the output power shown in the Radio Equipment List [available in accordance with §90.203(a)(1)] for transmitters included in this list or when not so listed, the manufacturer's rated output power for the particular transmitter specifically listed on the authorization.

#### 3.2 TEST PROCEDURE

Measurements shall be made to establish the radio frequency power delivered by the transmitter the standard output termination. The power output shall be monitored and recorded and no adjustment shall be made to the transmitter after the test has begun, except as noted bellow: If the power output is adjustable, measurements shall be made for the highest and lowest power levels. The EUT connect to the Spectrum Analyzer through 30 dB attenuator.

### 3.3 DEVIATION FROM TEST STANDARD

No deviation

#### 3.4 TEST SETUP BLOCK DIAGRAM



# 3.5 TEST RESULT

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Test Results (dBm)	Test Results (W)
		CH1	851.00625	23.971	0.250
Un-modulation	12.5KHz	CH2	806.00625	23.949	0.248
	051/11	CH3	868.9875	24.228	0.265
Un-modulation	25KHz	CH4	823.9875	24.011	0.252
		CH5	860	24.071	0.255
Un-modulation	25KHz	CH6	815	23.920	0.247

Note: The rated power is 0.25W, the power limits is 0.2W~0.3W.



# 4. OCCUPIED BANDWIDTH

#### 4.1 LIMIT

Occupied Bandwidth: The EUT was connected to the spectrum analyzer via the main RF connector, and through an appropriate attenuator. The EUT was controlled to transmit its maximum power. Then the bandwidth of 99% power can be measured by the spectrum analyzer. The maximum authorized bandwidth shall not be more than that normally authorized for digital data mode.

#### 4.2 MEASUREMENT PROCEDURE

- a. The EUT was connected to the spectrum analyzer through sufficent attenuation.
- b. Set EUT as digital data mode.
- C. Set SPA Center Frequency=fundamental frequency, RBW=300Hz, VBW=3KHz, span =15KHz or 30KHz.
- e Set SPA Max hold. Mark peak, Set 99% Occupied Bandwidth.
- 4.3 TEST SETUP BLOCK DIAGRAM

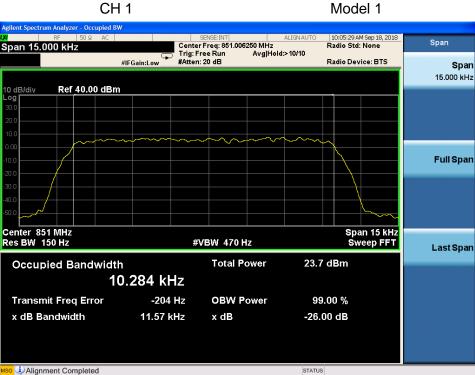
EUT Attenuator	Spectrum Analyzer
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#### 4.4 TEST RESULT

Modulation Type	Channel Sparation	Operation Mode	Test Channel	Test Frequency (MHz)	Occupied Bandwidth (KHz) 99%
0.001/		Mode 1	CH1	851.00625	10.284
QPSK 12.	12.5KHz	Mode 2	CH2	806.00625	10.295
400.004		Mode 3	CH1	851.00625	10.298
16QAM	12.5KHz	Mode 4	CH2	806.00625	10.367
		Mode 5	CH1	851.00625	10.298
64QAM	12.5KHz	Mode 6	CH2	806.00625	10.303
		Mode 7	CH1	851.00625	10.302
256QAM	12.5KHz	Mode 8	CH2	806.00625	10.203

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G 🕹 Alignment Completed

CH 2

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Model 2

Agilent Spectrum Analyzer - Oc						
x	* AC	SENSE:INT Center Freq: 806.0062 Trig: Free Run #Atten: 20 dB	ALIGNAUTO 50 MHz Avg Hold:>10/10	11:10:33 AM Sep 18, 2018 Radio Std: None Radio Device: BTS	Trace/Detector	
	#IFGain:Low	wAtten: 20 dB		Radio Device. D13	ī	
10 dB/div Ref 30.0	00 dBm					
20.0					Clear Wri	te
0.00		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		$\sim$		
-10.0						
-20.0					Averaç	ge
-30.0						
-40.0						
-60.0					Max Ho	ld
Center 806 MHz				Span 15 kHz		
Res BW 150 Hz		#VBW 470 Hz	z	Sweep FFT	Min Ho	ld
Occupied Band	lwidth	Total Po	wer 23.8	dBm		
	10.295 k⊦	lz			Detect	or
Transmit Freq Er			wer 99	.00 %	Average Auto Ma	e► an
x dB Bandwidth	11.49 k			00 dB	<u>7400</u>	
			230			
			074710	Î		
MSG			STATUS			

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CH 1 Model 3 SENSE:INT ALIGNAUTO Center Freq: 851.006250 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 20 dB 10:04:29 AM Sep 18, 2018 Radio Std: None Span Span 15.000 kHz Radio Device: BTS #IFGain:Low Span 15.000 kHz Ref 40.00 dBm 0 dB/div Full Span Center 851 MHz Res BW 150 Hz Span 15 kHz Sweep FFT #VBW 470 Hz Last Span Total Power 23.9 dBm Occupied Bandwidth 10.298 kHz -227 Hz **Transmit Freq Error OBW Power** 99.00 % x dB Bandwidth 11.54 kHz x dB -26.00 dB STATUS

G 🕹 Alignment Completed

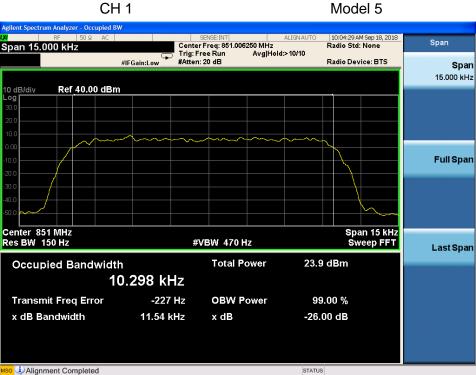
CH 2

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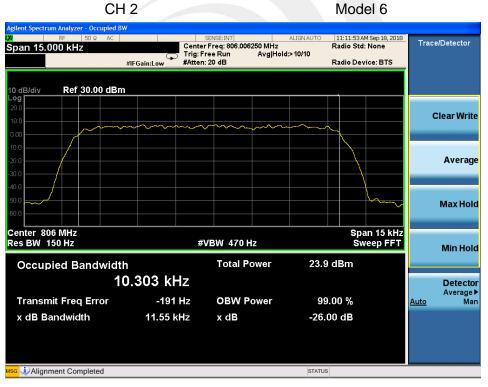
Model 4

Agilent Spectrum Analyzer	r - Occupied BW			-		-		
یں Span 15.000 kHz		Trig:	SENSE:INT er Freq: 806.0062 Free Run n: 20 dB		Radio S 1/10	AM Sep 18, 2018 td: None evice: BTS	Trace	e/Detector
10 dB/div Ref	30.00 dBm							
20.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~	<u> </u>		c	Clear Write
-10.0								Average
-40.0 -50.0 -60.0								Max Hold
Center 806 MHz Res BW 150 Hz		#	¢VBW 470 H;		Ś	pan 15 kHz weep FFT		Min Hold
Occupied Ba		367 kHz	Total Po	wer	23.7 dBm			Detector Average ►
Transmit Freq x dB Bandwidt		-203 Hz 11.54 kHz	OBW Po x dB	wer	99.00 % -26.00 dB		<u>Auto</u>	Man
MSG Alignment Com	npleted				STATUS			





Model 6



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CH 1 Model 7 10:03:56 AM Sep 18, 201 Radio Std: None Span Center Freq: 851.006250 MHz Trig: Free Run Avg|Hold:>10/10 #Atten: 20 dB Span 15.000 kHz Ð Radio Device: BTS #IFGain:Low Span . 15.000 kHz Ref 40.00 dBm Full Span Center 851 MHz Res BW 150 Hz Span 15 kHz Sweep FFT #VBW 470 Hz Last Span **Total Power** 24.0 dBm **Occupied Bandwidth** 10.302 kHz Transmit Freq Error -255 Hz **OBW Power** 99.00 % x dB Bandwidth 11.57 kHz x dB -26.00 dB Alignment Completed CH<sub>2</sub> Model 8 11:12:30 AM Sep 18, 201 Radio Std: None Center Freq: 806.006250 MHz Trig: Free Run Avg|Ho #Atten: 20 dB Trace/Detector Span 15.000 kHz Avg|Hold:>10/10 Radio Device: BTS #IFGain:Low Ref 30.00 dBm 0 dB/div **Clear Write** Average Max Hold Center 806 MHz Res BW 150 Hz Span 15 kHz Sweep FFT #VBW 470 Hz **Min Hold** Total Power Occupied Bandwidth 24.1 dBm 10.203 kHz Detector Average ► Man -175 Hz **OBW Power** 99.00 % **Transmit Freq Error** <u>Auto</u> x dB Bandwidth 11.53 kHz x dB -26.00 dB

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STATUS

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Modulation Type	Channel Sparation	Operation Mode	Test Channel	Test Frequency (MHz)	Occupied Bandwidth (KHz) 99%
		Mode 9	CH3	868.9875	20.804
0001/		Mode 10	CH4	823.9875	20.759
QPSK	25.0KHz	Mode 11	CH5	860.00	20.892
		Mode 12	CH6	815.00	20.859
		Mode 13	CH3	868.9875	20.804
400414		Mode 14	CH4	823.9875	20.863
16QAM	25.0KHz	Mode 15	CH5	860.00	20.852
		Mode 16	CH6	815.00	20.884
		Mode 17	CH3	868.9875	20.849
040404		Mode 18	CH4	823.9875	20.767
64QAM	25.0KHz	Mode 19	CH5	860.00	20.904
		Mode 20	CH6	815.00	20.957
		Mode 21	CH3	868.9875	20.833
		Mode 22	CH4	823.9875	20.997
256QAM	25.0KHz	Mode 23	CH5	860.00	21.025
		Mode 24	CH6	815.00	20.902



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CH 3 Model 9 SENSE:INT ALIGNAUTO Center Freq: 868,987500 MHz Trig: Free Run Avg|Hold>10/10 #Atten: 20 dB 03:57:49 PM Sep 17, 2018 Radio Std: None Trace/Detector Span 30.000 kHz Radio Device: BTS #IFGain:Low Ref 40.00 dBm 0 dB/div **Clear Write** Average Max Hold Center 869 MHz #Res BW 1 kHz Span 30 kHz Sweep 37.07 ms #VBW 3 kHz **Min Hold** Total Power 24.0 dBm **Occupied Bandwidth** 20.804 kHz Detector Average ► Man 82 Hz **Transmit Freq Error OBW Power** 99.00 % <u>Auto</u> x dB Bandwidth 23.82 kHz x dB -26.00 dB

Model 10

STATUS

Agilent Spectrum Analyzer - Occup	pied BW				
021 RF 50 Ω Center Freq 823.9875		SENSE:INT Center Freq: 823.987 Trig: Free Run #Atten: 20 dB	ALIGNAUTO '500 MHz Avg Hold:>10/10	04:29:25PM Sep 17, 2018 Radio Std: None Radio Device: BTS	Frequency
10 dB/div Ref 40.00	dBm				
30.0	~ ~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			Center Freq 823.987500 MHz
0.00					
-20.0					
-40.0					
Center 824 MHz #Res BW 1 kHz		#VBW 3 kHz	2	Span 30 kHz Sweep 37.07 ms	3.000 kHz
Occupied Bandw		Total P	ower 24.	0 dBm	<u>Auto</u> Man
	20.759 k⊦	IZ			Freq Offset
Transmit Freq Erro	r 145	Hz OBW P	ower 9	9.00 %	0 Hz
x dB Bandwidth	23.85 k	Hz xdB	-26	.00 dB	
MSG ()Alignment Completed			STATU	JS	

CH 4

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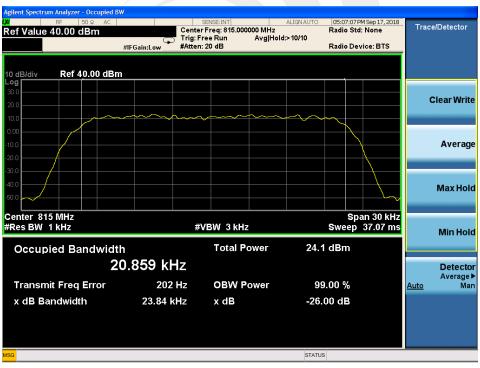


CH 6

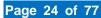
Model 11



Model 12



Shenzhen STS Test Services Co., Ltd.





CH 4

Т

Model 13

	n: 20 dB	ld:>10/10	Radio Device: BTS	
n				Clear Write
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
				Average
				Max Hold
			Sweep 37.07	lz 15 Min Hold
<sup>h</sup> 0.804 kHz	Total Power	24.0	dBm	Detector
82 Hz 23.82 kHz	OBW Power x dB			Average <u>Auto</u> Mar
	h 0.804 kHz <sup>82 нz</sup>	0.804 kHz 82 Hz OBW Power	h Total Power 24.0 0.804 kHz 82 Hz OBW Power 99 23.82 kHz x dB -26.1	h Total Power 24.0 dBm 0.804 kHz 82 Hz OBW Power 99.00 %

Model 14

Agilent Spectrum Analyzer - Occupied BW					
Center Freq 823.987500 MH	Z Center l	INSE:INT Freq: 823.987500 MHz	R	04:30:26 PM Sep 17, 2018 adio Std: None	Trace/Detector
	Gain:Low Trig: Fre			adio Device: BTS	
	Sameon				
10 dB/div Ref 40.00 dBm					
Log 30.0					
20.0					Clear Write
10.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
0.00					
-10.0				+	Average
-20.0					
-30.0					
-50.0					Max Hold
Center 824 MHz #Res BW 1 kHz	#V	BW/3 kHz	2	Span 30 kHz weep 37.07 ms	
TRIZ	<i></i>				Min Hold
Occupied Bandwidth		Total Power	23.6 d	Bm	
20.	863 kHz				Detector
Transmit Freq Error	72 Hz	OBW Power	99.0	0 %	Average ► Auto Man
x dB Bandwidth	23.80 kHz	x dB	-26.00	dB	
		× ==			
MSG			STATUS		

Shenzhen STS Test Services Co., Ltd.

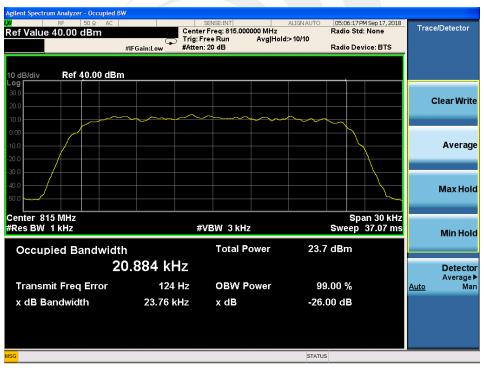


CH 6

Model 15

Agilent Spectrum Analyzer - Occupied BW DM RF 50 Q AC Center Freq 860.0000000 M	Hz Cente	SENSE:INT Ir Freq: 860.000000 MHz Free Run Avg Ho n: 20 dB	ALIGNAUTO	05:52:48 P Radio Std Radio Dev		Trac	e/Detector
10 dB/div Ref 40.00 dBm							
20.0							Clear Write
10.0							Average
-30.0 -40.0 -50.0							Max Hold
Center 860 MHz #Res BW 1 kHz	#	VBW 3 kHz			an 30 kHz 37.07 ms		Min Hold
Occupied Bandwidth		Total Power	23.8	dBm			
20 Transmit Freq Error	). <b>852 kHz</b> <sup>39 нz</sup>	OBW Power	99	.00 %		Auto	Detector Average ► Man
x dB Bandwidth	23.84 kHz	x dB	-26.0	00 dB			
MSG			STATUS				

Model 16



Shenzhen STS Test Services Co., Ltd.





CH 4

Model 17

Agilent Spectrum Analyzer - Occupied BW							
<b>LX</b> RF 50Ω AC		SENSE:INT	ALIGN AUTO		M Sep 17, 2018	Trac	e/Detector
Span 30.000 kHz		Center Freq: 868.98750 Trig: Free Run	00 MHz Avg Hold:>10/10	Radio Sto	l: None	mac	cibelector
#1		Atten: 20 dB	in ginera terte	Radio De	vice: BTS		
10 dB/div Ref 40.00 dBm							
30.0							
20.0							Clear Write
		~ ~~~~	~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
10.0							
0.00				$\vdash$			
-10.0							Average
-20.0					$\lambda$		
-30.0							
-40.0					$\langle \rangle$		
							Max Hold
-50.0							
Center 869 MHz				Sn	an 30 kHz		
#Res BW 1 kHz		#VBW 3 kHz			37.07 ms		
				Unroop			Min Hold
Occupied Bandwidth		Total Por	wer 24.3	3 dBm			
	040 1-11-	_					
20.	.849 kHz	<u>Z</u>					Detector
Transmit Freq Error	64 H	z OBW Po	wer 99	9.00 %		<u>Auto</u>	Average ► Man
x dB Bandwidth	23.80 kH	z xdB	-26	00 dB			
	20.00 KH	<u> </u>	-20.				
MSG			STATU	s			

Model 18

Agilent Spectrum Analyzer - Occupied BW				
Center Freq 823.987500 MHz	SENSE:INT Center Freq: 823.9	ALIGNAUTC 87500 MHz	04:30:56 PM Sep 17, 2018 Radio Std: None	Trace/Detector
	Trig: Free Run	Avg Hold:>10/10		
#IFGain:L	ow #Atten: 20 dB		Radio Device: BTS	-
10 dB/div Ref 40.00 dBm				
30.0				
20.0				Clear Write
10.0	~~~~~~			
0.00				
-10.0				Average
-20.0				Average
-20.0				
-40.0				Max Hold
-50.0				
Center 824 MHz			Span 30 kHz	
#Res BW 1 kHz	#VBW/3kH	lz	Sweep 37.07 ms	
	▼ = 4 = 1	D	0 JD	
Occupied Bandwidth		Power 24	.3 dBm	
20.767	7 kHz			Detector
Tropomit Frog Error	54 Hz OBW	Power 9	99.00 %	Average►
Transmit Freq Error				<u>Auto</u> Man
x dB Bandwidth 23	.81 kHz x dB	-26	6.00 dB	
MSG		STAT	US	

Shenzhen STS Test Services Co., Ltd.



CH 6

Model 19

RF         50.0         AC           Center Freq 860.000000 M	Hz Cente	SENSE:INT r Freq: 860.000000 MHz ree Run Avg Hol I: 20 dB	ALIGN AUTO d:>10/10	05:53:39 P Radio Std Radio Dev		Trace	e/Detector
10 dB/div Ref 40.00 dBm Log 30.0 20.0 10.0						c	Clear Write
0.00 -10.0 -20.0							Average
-40.0 -50.0 Center 860 MHz				Sn	an 30 kHz		Max Hold
#Res BW 1 kHz	#	VBW 3 kHz			37.07 ms		Min Hold
Occupied Bandwidth 20	).904 kHz	Total Power	24.0	) dBm			Detector Average ►
Transmit Freq Error	98 Hz	OBW Power	99	9.00 %		<u>Auto</u>	Man
x dB Bandwidth	23.86 kHz	x dB	-26.	00 dB			

Model 20



Shenzhen STS Test Services Co., Ltd.



CH 4

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Model 21

jilent Spectrum Analyzer - Occupied BW RF 50 Ω AC pan 30.000 kHz		SENSE:INT er Freq: 868.987500 MH Free Run Avgl	ALIGN AUTO Iz Hold:>10/10	03:53:34 PM Sep 17, 2018 Radio Std: None	Span
#		n:20 dB	Hold:>10/10	Radio Device: BTS	Spar
					30.000 kH
0 dB/div Ref 40.00 dBm					
30.0					
20.0					
0.0	$\rightarrow$			~	
0.0					Full Spa
0.0					
0.0					
0.0					
enter 869 MHz				Span 30 kHz	
Res BW 1 kHz	-	#VBW 3 kHz		Sweep 37.07 ms	Last Spa
Occupied Bandwidth		Total Power	24.3	3 dBm	
	.833 kHz				
Transmit Freq Error	60 Hz	OBW Power	99	9.00 %	
x dB Bandwidth	23.83 kHz	x dB	-26.	00 dB	

Model 22

Agilent Spectrum Analyzer									
Center Freq 823.	50 Ω AC 987500 MHz	Ce	SENSE:INT enter Freq: 823.987	500 MHz	ALIGNAUTO	Radio Std	M Sep 17, 2018 : None	Trac	e/Detector
		II	ig: Free Run tten: 20 dB	Avg Hold	l:>10/10	Radio Dev	vice: BTS		
	mir.	Salli.LUW HI				Than be			
	0.00 dBm								
30.0									
20.0								(	Clear Write
10.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			$\sim\sim$	$\sim$			
0.00									
-10.0									Average
-20.0							$\uparrow$		
-30.0									
-40.0									Max Hold
-50.0									
Center 824 MHz							an 30 kHz		
#Res BW 1 kHz			#VBW 3 kHz			Sweep	37.07 ms		Min Hold
Occupied Ba	ndwidth		Total P	ower	23.8	dBm			
		997 kHz							Detector
									Average►
Transmit Freq	Error	75 Hz	OBW P	ower	99	.00 %		<u>Auto</u>	Man
x dB Bandwidt	h	23.90 kHz	x dB		-26.0	00 dB			
					074740				
MSG					STATUS				

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CH 6

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Model 23

gilent Spectrum Analyzer - Occupied BV RF 50 Q AC Center Freq 860.0000000 N	1Hz Cente Trig: F	SENSE:INT Ir Freq: 860.000000 MHz Free Run Avg Hol n: 20 dB	ALIGN AUTO d:>10/10	05:54:16 PM Sep 17, 201 Radio Std: None Radio Device: BTS	Trac	e/Detector
0 dB/div Ref 40.00 dBm						
		~~~~~~				Clear Wri
						Avera
						Max Ho
enter 860 MHz Res BW 1 kHz	#	VBW 3 kHz		Span 30 kH Sweep  37.07 m		Min Ho
Occupied Bandwidth 2'	1.025 kHz	Total Power	24.3	3 dBm		Detect
Transmit Freq Error x dB Bandwidth	122 Hz 23.82 kHz	OBW Power x dB		9.00 % 00 dB	<u>Auto</u>	Averag M
G			STATU	5		

Model 24

Agilent Spectrum Analyzer - Occupied BW	1					
<b>μ</b> RF 50Ω AC	Cont	SENSE:INT ter Freg: 815.000000 MHz	ALIGN AUTO	05:04:45 PM Sep 17, 2018 Radio Std: None	Trace	/Detector
Ref Value 40.00 dBm	Trig:	Free Run Avg Hol	d:>10/10	Radio Sta: None		
	#IFGain:Low #Atte	en: 20 dB		Radio Device: BTS		
10 dB/div Ref 40.00 dBm						
20.0						
20.0					c	lear Write
10.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
0.00				$\sim$		
-10.0						Average
-20.0						
-30.0						
-40.0						
-50.0						Max Hold
Center 815 MHz				Span 30 kHz		
#Res BW 1 kHz		#VBW 3 kHz		Sweep 37.07 ms		Min Hold
Occupied Bandwidth		Total Power	23.9	dBm		
		rotar rowor	20.0	d Bill		
20	).902 kHz					Detector Average ►
Transmit Freq Error	35 Hz	OBW Power	99	.00 %	<u>Auto</u>	Average ₽ Man
x dB Bandwidth	23.90 kHz	x dB	-26.0	00 dB		
MSG			STATUS			

Shenzhen STS Test Services Co., Ltd.



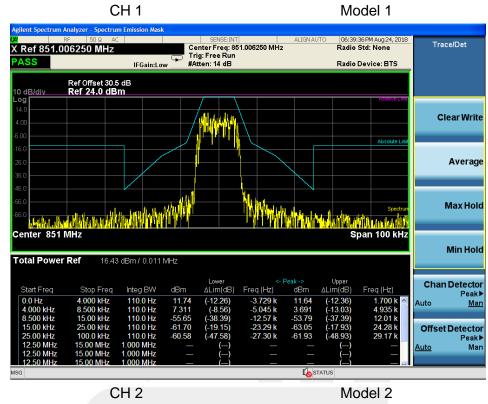
# 5.1 PROVISIONS APPLICABLE

- (h) Emission Mask H. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:
- (1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f<sub>d</sub> in kHz) of 4 kHz or less: Zero dB.
- (2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f<sub>d</sub> in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least 107 log (f<sub>d</sub>/4) dB;
- (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f<sub>d</sub> in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least 40.5 log (f<sub>d</sub>/1.16) dB;
- (4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f<sub>d</sub> in kHz) of more than 15 kHz, but no more than 25 kHz: At least 116 log (f<sub>d</sub>/6.1) dB;
- (5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least 43 + 10 log (P) dB.
- 5.2 MEASUREMENT PROCEDURE
- a. The EUT was connected to the spectrum analyzer through sufficent attenuation.
- b. Set EUT as digital data mode.
- c. Set SPA Center Frequency=fundamental frequency, RBW=1kHz, VBW=3KHz, span =100KHz.
- 5.3 TEST SETUP BLOCK DIAGRAM

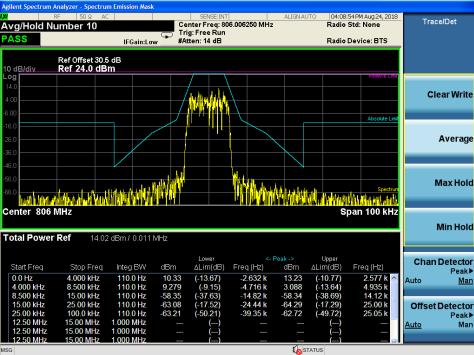
EUT Attenuator	Spectrum Analyzer
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5.4 MEASUREMENT RESULT

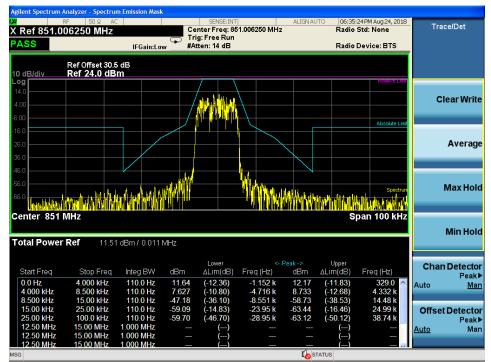


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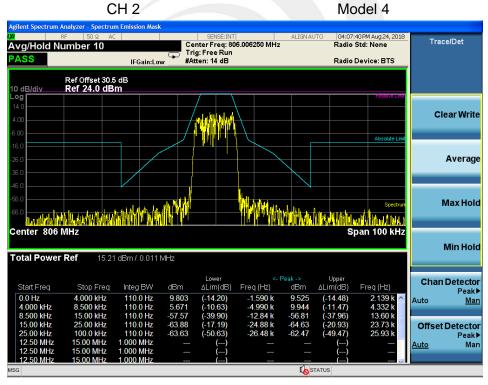




#### Model 3



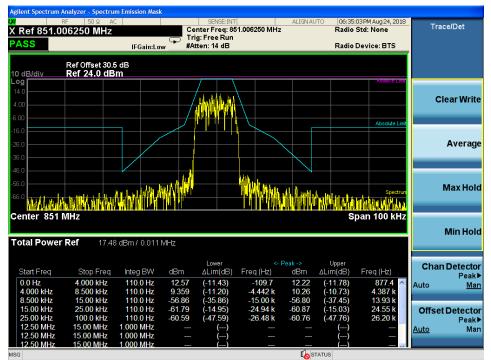
Model 4



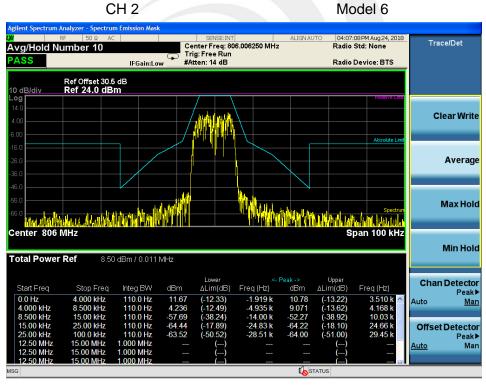
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#### Model 5

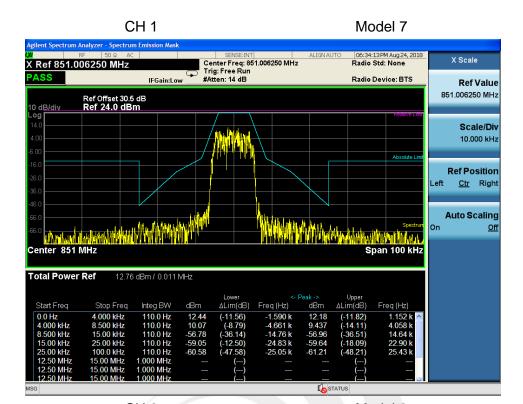


Model 6



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CH<sub>2</sub> Model 8 04:06:46 PM Aug 24, 201 Radio Std: None Trace/Det Center Freq: 806.006250 MHz Trig: Free Run #Atten: 14 dB Avg/Hold Number 10 PASS Radio Device: BTS IFGain:Low Ref Offset 30.5 dB Ref 24.0 dBm 0 dB/div **Clear Write** Average Max Hold nu i dan diku belen bikan misin di dan misin Span 100 kHz Center 806 MHz **Min Hold** Total Power Ref 13.66 dBm / 0.011 MHz Upper ∆Lim(dB) Lower ∆Lim(dB) <- Peak -> dBm **Chan Detector** Start Freq Stop Freq Integ BW Freq (Hz) dBm Freg (Hz) Integ BW 110.0 Hz 110.0 Hz 110.0 Hz 110.0 Hz 110.0 Hz 1.000 MHz 1.000 MHz 4.000 kHz 8.500 kHz 15.00 kHz 25.00 kHz 100.0 kHz 15.00 MHz 15.00 MHz (-12.95) (-12.63) (-34.96) (-19.71) (-49.36) Peak 3.619 k 4.990 k 14.06 k 24.83 k 35.72 k 0.0 Hz 4.000 kHz 8.500 kHz 15.00 kHz 11.91 6.658 -58.58 -62.13 (-12.09) (-9.21) (-39.55) (-18.29) -3.126 k -5.045 k -13.72 k -23.78 k 11.05 3.668 -54.51 -66.26 Man uto **Offset** Detector 25.00 kHz 12.50 MHz -62.98 (-49 98 -33.41 k 62 36 Peak Man (--<u>Auto</u> 0 MHz **STATUS** 

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# 6. ADJACENT CHANNEL POWER

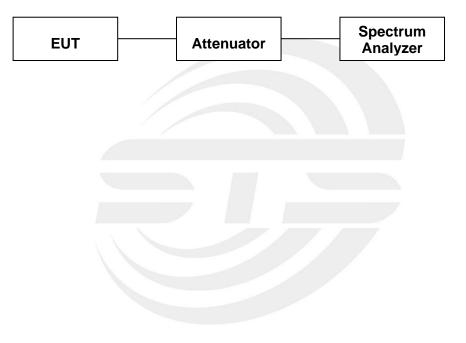
#### 6.1 PROVISIONS APPLICABLE

a. §90.221

<u> </u>		
Frequency offset	Maximum ACP (dBc) for devices less than 15	Maximum ACP (dBc) for devices 15 watts and
offset	watts	above
25 kHz	-55 dBc	-55 dBc
50 kHz	-65 dBc	-65 dBc
75 kHz	-65 dBc	-70 dBc

b. In any case, no requirement in excess of -36 dBm shall apply.

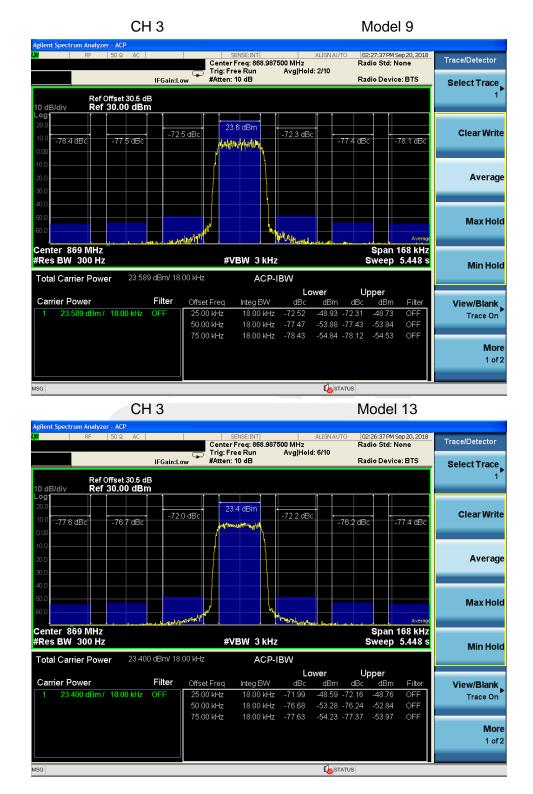
- **6.2 MEASUREMENT PROCEDURE**
- a. The EUT was connected to the spectrum analyzer through sufficent attenuation.
- b. Set EUT as digital data mode.
- c. Set SPA Center Frequency=fundamental frequency, RBW=300Hz, VBW=1KHz, span =180KHz.
- 6.3 TEST SETUP BLOCK DIAGRAM



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CH 3

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## Model 17

Agilent Spectrum Analyzer - ACP						
<b>LXI</b> RF 50Ω AC		SENSE:INT Center Freq: 868.987	ALIGN AUTO	02:25:21 PM Radio Std: 1		Trace/Detector
	IFGain:Low	Trig: Free Run #Atten: 10 dB	Avg Hold: 4/10	Radio Devid	ce: BTS	Select Trace
10 dB/div Ref 30.00 dl	3m					
20.0 10.0 -77.8 dBc -76.8 dE	-71.9 dBc	• 23.6 dBm	-72.1 dBc -7	6.7 dBc	-77.6 dBc	Clear Write
-10.0						Average
-40.0 -50.0 -60.0			Marchi marchine and		Average	Max Hold
Center 869 MĤz #Res BW 300 Hz		#VBW 3 kHz			168 kHz 5.448 s	Min Hold
Total Carrier Power 23.	620 dBm/ 18.00 kH	Z ACP-I				
Carrier Power	Filter Offe	- Turner Justice DVA	Lower	Upper	T ibe a	
1 23.620 dBm / 18.00 kH	z OFF 25. 50.	et Freq Integ BW 00 kHz 18.00 kHz 00 kHz 18.00 kHz 00 kHz 18.00 kHz		76.69 -53.07	Filter OFF OFF OFF	View/Blank Trace On
		00 KHZ 10.00 KHZ		-34.03		More 1 of 2
MSG			I STA	TUS		

## Model 21

Agilent Spectrum Analyzer - ACP								
Center Freq 868.987500	MHz	Center Trig: F	SENSE:INT r Freq: 868.9879 ree Run		: 3/10	02:23:35 PM Radio Std: I	None	Frequency
	IFGain:Lo		: 10 dB			Radio Devi	ce: BTS	
Ref Offset 30.5 10 dB/div Ref 30.00 dB Logn 1								
20.0			3.8 dBm -					Center Freq
	-72.	4 dBc		-71.8 dBc		<u> </u>	77.7.10	868.987500 MHz
<sup>10.0</sup> -78.0 dBc -76.6 dBc		hand a	en provident and		-76.5 c	BC	-77.7 dBc	808.987500 WITZ
-10.0								
-20.0								
-30.0								
-40.0								
-50.0								
-60.0		<b>/</b>	<b>\</b>	to				
in the second	MARA MININ	MAN YAN		Wand make de	And a summer of		Average	
Center 869 MHz							168 kHz	CF Step
#Res BW 300 Hz		#	VBW 3 kHz			Sweep	5.448 s	16.800 kHz
Total Carrier Power 23.7	81 dBm/ 18.	.00 kHz	ACP-I	BW				<u>Auto</u> Man
				Lov	wer	Upper		
Carrier Power	Filter	Offset Freq	Integ BW	dBc	dBm dB		Filter	Freq Offset
1 23.781 dBm / 18.00 kHz	OFF	25.00 kHz	18.00 kHz	-72.42	-48.64 -71.8	5 -48.07	OFF	0 Hz
		50.00 kHz	18.00 kHz	-76.59	-52.80 -76.4	7 -52.69	OFF	
		75.00 kHz	18.00 kHz	-78.01	-54.23 -77.7	5 -53.97	OFF	
MSG					<b>STATUS</b>			
					<u> </u>			

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CH 4

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## Model 10

Agilent Spectrum Analyzer - ACP								
Center Freq 823.98750		Center	ENSE:INT Freq: 823.9875	00 MHz		12:39:02 PM Radio Std: I		Trace/Detector
Ref Offset 30.5 10 dB/div Ref 30.00 dl	IFGain:Low	Trig: Fre #Atten: *		Avg Hold:		Radio Devid	e: BTS	Select Trace
Log 20.0 10.0 -79.2 dBc -77.4 dE		Bc	7 dBm •	-70.8 dBc	-76.8	dBc	-78.7 dBc	Clear Write
-10.0 -20.0 -30.0 -40.0								Average
-50.0		white a start wh		halman	linita de atenta		Average	Max Hold
Center 824 MHz #Res BW 300 Hz Total Carrier Power 23.	651 dBm/ 18.00		BW 3 kHz ACP-I	BW			168 kHz 5.448 s	Min Hold
				Lov	/er	Upper		
Carrier Power 1 23.651 dBm / 18.00 kH	z OFF	Dffset Freq 25.00 kHz 50.00 kHz 75.00 kHz	Integ BW 18.00 kHz 18.00 kHz 18.00 kHz	dBc -71.14 -77.35	dBm dE -47.49 -70.8 -53.70 -76.8 -55.52 -78.7	Bc dBm 1 -47.16 1 -53.16	Filter OFF OFF OFF	View/Blank Trace On
								More 1 of 2
MSG					<b>STATUS</b>			

Model 14

Agilent Spectrum Analyzer - ACP			
<b>ΙΧΙ</b> RF 50 Ω AC	SENSE:INT	ALIGNAUTO 12:38:20 PM	
Center Freq 823.987500 MHz	Center Freq: 823.987500 MH	lz Radio Std: Ν Hold: 10/10	None
IEGain:Lo		Radio Devic	e: BTS Delect Trees
in Sumes			Select Trace
Ref Offset 30.5 dB			1
10 dB/div Ref 30.00 dBm			
Log			
20.0	23.6 dBm + 70.4		Clear Write
10.0 -78.2 dBc -76.6 dBc -70.5	5 dBc -70.4	dBc + + +	78.0 dBc
0.00		10.0 0.00	10.0 450
-10.0			
-20.0			Average
-30.0			
-40.0			
-50.0			Max Hold
-60.0			
and the second second second	Martin Martine	Westernament	Average
Center 824 MHz		Span	168 kHz
#Res BW 300 Hz	#VBW 3 kHz	Sweep	5.448 s Min Hold
			Min Hold
Total Carrier Power 23.620 dBm/ 18.0	00 kHz ACP-IBW		
		Lower Upper	
Carrier Power Filter	Offset Freq Integ BW d	Bc dBm dBc dBm	Filter View/Blank
1 23.620 dBm / 18.00 kHz OFF	25.00 kHz 18.00 kHz -70.1	53 -46.91 -70.45 -46.83	OFF Trace On
	50.00 kHz 18.00 kHz -76.5		OFF
	75.00 kHz 18.00 kHz -78.		OFF
	10.00 NH2 10.00 NH2 10.		More
			1 of 2
MSG			
mod		Nora 103	

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CH 4

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## Model 18

Agilent Spectrum Analyz ( <mark>X) RF Center Freq 82</mark>	50 Ω AC	Tr	SENSE:INT enter Freq: 823.987 ig: Free Run		: 7/10	12:36:49 PM Radio Std: I	None	Trace/Detector
10 dB/div Rei	IFGai Offset 30.5 dB 5 <b>30.00 dBm</b>	n:Low #A	tten: 10 dB			Radio Devid	e: BTS	Select Trace
20.0 10.0 0.00	-76.6 dBc	70.5 dBc	23.7 dBm	-70.4 dBc	-76.4	dBc	-77.9 dBc	Clear Write
-10.0 -20.0 -30.0								Average
-40.0		aligner and the second second					Average	Max Hold
Center 824 MHz #Res BW 300 H Total Carrier Pow	Z		#VBW 3 kHz		~		168 kHz 5.448 s	Min Hold
Total Camer Pow	er 25.750 dbm/	10.00 KHZ	ACP-I		wer	Upper		
Carrier Power	Filte	r Offset Fr	eq Integ BW	dBc	dBm dE		Filter	View/Blank
1 23.738 dBm	/ 18.00 kHz OFF	25.00 kł 50.00 kł 75.00 kł	Hz 18.00 kHz	-70.51 -76.61 -78.15	-46.77 -70.3 -52.88 -76.3 -54.41 -77.8	9 -52.65	OFF OFF OFF	Trace On
			10.00 N IZ					More 1 of 2
MSG					<b>I</b> STATUS			

## Model 22

Agilent Spectrum Analyzer - ACP				
Center Freq 823.987500 MHz	SENSE:INT Center Freq: 823.987 Trig: Free Run #Atten: 10 dB	500 MHz F Avg Hold: 9/10	12:35:37 PM Sep 20, 2018 Radio Std: None Radio Device: BTS	Frequency
Ref Offset 30.5 dB 10 dB/div Ref 30.00 dBm				
20.0	4 dBc	-70.7 dBc -76.4 d	Bc -78.2 dBc	Center Freq 823.987500 MHz
-10.0				
-30.0				
Center 824 MHz	Margania and	March and party law at	Average Span 168 kHz	
#Res BW 300 Hz	#VBW 3 kHz		Sweep 5.448 s	CF Step 16.800 kHz Auto Man
Total Carrier Power 23.796 dBm/ 18.	00 kHz ACP-I			<u>Adto</u> Mari
Carrier Power Filter	Offset Freg Integ BW	Lower dBc dBm dBc	Upper dBm Filter	Freq Offset
1 23.796 dBm / 18.00 kHz OFF	25.00 kHz 18.00 kHz			0 Hz
	50.00 kHz 18.00 kHz	-76.34 -52.55 -76.42	2 -52.62 OFF	0112
	75.00 kHz 18.00 kHz	-78.28 -54.48 -78.19	) -54.39 OFF	
MSG				

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CH 5

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## Model 11

Agilent Spectrum Analyzer - ACP								
Center Freq 860.000000	MHz	Center Fr	ISE:INT eq: 860.000		ALIGNAUTO	11:21:22 AM Radio Std:	Sep 20, 2018 None	Trace/Detector
	↔ IFGain:Low	, Trig: Free #Atten: 20		Avg Hold	: 4/10	Radio Devi	ce: BTS	Select Trace
Ref Offset 30.5 c 10 dB/div Ref 30.00 dB								1
20.0 10.0 -77.9 dBc -76.9 dBc	-70.1 dBc	23.7	dBm	-69.8 dBc	-76.6	dBc	-77.9 dBc	Clear Write
-10.0								Average
-30.0								
-50.0	e and see ( the property of the	Nord I		Worker Walky	ena la ha la		Average	Max Hold
Center 860 MHz #Res BW 300 Hz	)3 dBm/ 18.00 kH		W 3 kHz				168 kHz 5.448 s	Min Hold
Total Carrier Power 23.66	ор и рити то ор кл	12	ACP-I		wer	Upper		
Carrier Power 1 23.663 dBm / 18.00 kHz	OFF 25 50	set Freq .00 kHz .00 kHz .00 kHz .00 kHz	Integ BW 18.00 kHz 18.00 kHz 18.00 kHz	dBc -70.11 -76.92		Bc dBm 79 -46.13 65 -52.98	OFF OFF	View/Blank Trace On
								More 1 of 2
MSG					<b>I</b> STATUS			

## Model 15

Agilent Spectrum Analyzer - ACP						
Center Freq 860.000000 MHz	SENSE:INT Center Freg: 860.000	ALIGN AUTO	11:20:19 AM 9		Frequency	
	Trig: Free Run Avg Hold: 4/10					
IFGain:L	ow#Atten: 20 dB		Radio Devic	e: BTS		
Ref Offset 30.5 dB						
10 dB/div Ref 30.00 dBm						
20.0	23.8 dBm				Center Freq	
-70	2 dBc	-70.1 dBc		77.4.10	860.000000 MHz	
10.0 -77.5 dBc -76.8 dBc	and a stand and	-/6.1	dBc -	77.4 dBc	800.000000 WIFI2	
-10.0						
-20.0						
-30.0						
-40.0						
-50.0						
-60.0	u Hotel	Manharana Maria Mar				
Center 860 MHz		and a state of the	mt terreter	Average		
#Res BW 300 Hz	#VBW 3 kHz			168 kHz 5.448 s	CF Step	
			oncep	0.440 3	16.800 kHz Auto Man	
Total Carrier Power 23.774 dBm/ 18	.00 kHz ACP-I	IBW			<u>Auto</u> Man	
		Lower	Upper			
Carrier Power Filter	Offset Freq Integ BW		IBc dBm	Filter	Freq Offset	
1 23.774 dBm / 18.00 kHz OFF	25.00 kHz 18.00 kHz 50.00 kHz 18.00 kHz	-70.24 -46.47 -70 -76.30 -52.52 -76		OFF OFF	0 Hz	
	50.00 kHz 18.00 kHz 75.00 kHz 18.00 kHz		.07 -52.29 .44 -53.67	OFF		
	75.00 KFIZ 10.00 KFIZ	-11.49 -35.11 -11	.44 -55.07	OFF		
MSG						

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CH 5

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## Model 19

Agilent Spectrum Analyzer - ACP							
Ref Value 30.00 dBm		SENSE:INT Center Freq: 860.	000000 MHz	Ra	.:23:09 AM Sep 20 dio Std: None	,2018 Trace	Detector
Ref Offset 30.5 o	IFGain:Low	► Trig: Free Run #Atten: 20 dB	Avg Hold: 3		dio Device: B1	s Sele	ct Trace 1►
10 dB/div Ref 30.00 dB							
20.0 10.0 -77.5 dBc 0.00	-70.2 dB	c 23.7 dBm	-70.5 dBc	-76.1 dBc	-77.2		lear Write
-10.0							Average
-40.0 -60.0 -60.0	and the second start and the second start in the second start in the second start in the second start in the second start is the second start in the second start is the second start in the second start is t	w	han and the second			Average	Max Hold
Center 860 MHz #Res BW 300 Hz		#VBW 31		ę	Span 168 Sweep 5.4		Min Hold
Total Carrier Power 23.71	10 dBm/ 18.00 kl	Hz AC	P-IBW				
Carrier Power	Filter of	fset Freg Integ B\	Lowe V dBc	er U <sub>l</sub> dBm dBc	p <b>per</b> dBm Fi	lter Vie	w/Blank
1 23.710 dBm / 18.00 kHz	OFF 25	5.00 kHz 18.00 k 0.00 kHz 18.00 k	Hz -70.22 Hz -75.87	46.51 -70.47 52.16 -76.12		F	Trace On
		0.00 M 12 10.00 P	an <u>z -</u> 771,400	<del>55.77 •</del> 11.24			More 1 of 2
MSG				STATUS			

## Model 23

Agilent Spectrum Analyzer - ACP				
RF 50 Q AC Ref Value 30.00 dBm	SENSE:INT Center Freg: 860.0000	ALIGN AUTO	11:24:01 AM Sep 20, 2018 Radio Std: None	Trace/Detector
	🛶 Trig: Free Run	Avg Hold: 3/10		
IFGain:Lo	w #Atten: 20 dB		Radio Device: BTS	Select Trace
Ref Offset 30.5 dB				1
10 dB/div Ref 30.00 dBm			• •	
20.0	• 24.0 dBm •			
10.0 -77.8 dBc -76.3 dBc -70.5	5 dBc	-70.9 dBc -76.0	dBc -77.5 dBc	Clear Write
-77.6 dBC -70.5 dBC	and an and an and a second	-70.0		
-10.0				
-20.0				Average
				Average
-30.0				
-40.0				
-50.0				Max Hold
-60.0		Multh aka	Averag	
Center 860 MHz		Martin Ballantines	Span 168 kHz	
#Res BW 300 Hz	#VBW 3 kHz		Sweep 5.448 s	
				Min Hold
Total Carrier Power 23.993 dBm/ 18.	00 kHz ACP-I			
Carrier Power Filter		Lower	Upper	
	Offset Freq Integ BW 25.00 kHz 18.00 kHz	dBc dBm dE -70.52 -46.53 -70.8		View/Blank ▶
1 23.993 dBm / 18.00 kHz OFF	25.00 kHz 18.00 kHz 50.00 kHz 18.00 kHz	-70.52 -46.53 -70.8 -76.26 -52.27 -75.9		Trace On
	50.00 kHz 18.00 kHz 75.00 kHz 18.00 kHz			
	70.00 KHZ 10.00 KHZ	-11.10 -35.10 -11.	94 -33.33 OFF	More
				1 of 2
				1012
		_		
MSG				

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## Model 12

Agilent Spectrum Analyzer - ACP		1						
RF 50 Ω AC Center Freq 815.00000		Cente	SENSE:INT r Freq: 815.000		ALIGNAUTO	12:09:31 PM Radio Std:		Trace/Detector
	IFGain:Lo		ree Run :10 dB	Avg Hold	: 1/10	Radio Devi	ce: BTS	Select Trace
Ref Offset 30.5 0 dB/div Ref 30.00 dB								1
• g 20.0 10.0 -79.6 dBc -77.5 dB	-71.:	8 dBc	3.8 dBm	-72.0 dBc	-77.6	dBc	-79.0 dBc	Clear Writ
0.0								Averaç
0.0		where		Will Montel			Average	Max Ho
enter 815 MHz Res BW 300 Hz Fotal Carrier Power 23.	327 dBm/ 18.	#	VBW 3 kHz				168 kHz 5.448 s	Min Ho
	527 dbm/ 10.	00 KI 12	ACF-		wer	Upper		
Carrier Power 1 23.827 dBm / 18.00 kH	Filter z OFF	Offset Freq 25.00 kHz 50.00 kHz 75.00 kHz	Integ BW 18.00 kHz 18.00 kHz 18.00 kHz	dBc -71.81 -77.47		Bc dBm 04 -48.22 59 -53.77	Filter OFF OFF OFF	View/Blank Trace On
		10.00 1112	10.00 10 12					<b>Mo</b> 1 of
SG					STATUS			

Model 16

M         RF         50 Ω         AC         SENSE:INT         ALIC           Center Freq 815.000000 MHz         Center Freq: 815.000000 MHz         Center Freq: 815.000000 MHz         Center Freq: 815.000000 MHz	NAUTO 12:07:20 PM Sep 20, 2018
Cepter Fred 845 00000 MHz	Dedia Std. Name Trace/Detector
Schitch Free Bus Augustation of the State Stat	Radio Std. Norie
IFGain:Low #Atten: 10 dB	B II B I BTO
	Radio Device: BTS Select Trace
Ref Offset 30.5 dB	1
10 dB/div Ref 30.00 dBm	
Log	
20.0 23.7 dBm	
10.0 -77.9 dBc -76.9 dBc -71.7 dBc -71.2 dBc	-76.7 dBc -77.9 dBc Clear Write
0.00 -77.9 dBc -76.9 dBc -	-70.1 dbc
-10.0	
-20.0	Average
-30.0	
-40.0	
-50.0	Max Hold
-60.0	
Wellmark and the perpendicular and the second	Average
Center 815 MHz	Span 168 kHz
#Res BW 300 Hz #VBW 3 kHz	Sween 5448 c
	Sweep 3.448 S Min Hold
Total Carrier Power 23.664 dBm/ 18.00 kHz ACP-IBW	
Lower	Upper
	Bm dBc dBm Filter View/Blank
	.07 -71.21 -47.55 OFF Trace On
	.25 -76.70 -53.04 OFF
	.19 -77.90 -54.23 OFF
75.00 KHZ 16.00 KHZ -77.00 -54	
	More
	1 of 2
	STATUS
MSG	STATUS

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## Model 20

Agilent Spectrum Analyzer - ACP								
XI RF 50 Ω AC Center Freq 815.00000			Freq: 815.000	000 MHz	ALIGNAUTO	12:04:59 PM Radio Std:		Trace/Detector
Ref Offset 30.5	IFGain:Lo		ree Run 10 dB	Avg Hold		Radio Devi	ce: BTS	Select Trace
10 dB/div Ref 30.00 dl Log 20.0 10.0 -77.9 dBc -76.5 dE	-70.9	dBc	.9 dBm	-71.7 dBc	-76.9 c	iBc	-77.9 dBc	Clear Write
20.0								Average
		Mound look	<b>_</b> \	₩~Palu.	drivence alle and		Average	Max Hold
Center 815 MHz #Res BW 300 Hz	893 dBm/ 18.0	#\	/BW 3 kHz ACP-I				168 kHz 5.448 s	Min Hole
				Lo	wer	Upper		
Carrier Power 1 23.893 dBm / 18.00 kH	Filter z OFF	Offset Freq 25.00 kHz 50.00 kHz 75.00 kHz	Integ BW 18.00 kHz 18.00 kHz 18.00 kHz	dBc -70.93 -76.47	dBm dB -47.03 -71.6	c dBm 9 -47.79 5 -53.05	Filter OFF OFF OFF	View/Blank Trace On
		73.00 K 12	10.00 N 12	-77.00		-04.00		More 1 of 2
ISG					<b>I</b> STATUS			

## Model 24

Agilent Spectrum Analyzer - ACP							
Center Freq 815.000000 MHz	Center Trig: Fr			: 5/10	2:03:55 PM : adio Std: N adio Devic		Frequency
Ref Offset 30.5 dB 10 dB/div Ref 30.00 dBm				H + 1			
20.0	) dBc	.8 dBm +	-71.0 dBc	-76.6 dE	sc -	78.1 dBc	Center Freq 815.000000 MHz
-10.0							
-40.0							
Center 815 MHz	wheth		Maylend age you go you	Marine and and	Snan	Average 168 kHz	
#Res BW 300 Hz	#V	'BW 3 kHz				5.448 s	CF Step 16.800 kHz
Total Carrier Power 23.763 dBm/ 18.	00 kHz	ACP-I					<u>Auto</u> Man
Carrier Power Filter	o# .E				Jpper		
1 23.763 dBm / 18.00 kHz OFF	Offset Freq 25.00 kHz	Integ BW 18.00 kHz	dBc	dBm dBc	dBm -47.25	Filter OFF	Freq Offset
1 23.703 dBitty 10.00 kHz OFT	50.00 kHz	18.00 kHz		-52.98 -76.62		OFF	0 Hz
	75.00 kHz	18.00 kHz		-54.32 -78.10		OFF	
MSG							

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# 7. TRANSMITTER RADIATED SPURIOUS EMSSION

## 7.1 PROVISIONS APPLICABLE

According to the TIA/EIA 603 test method, and according to Section 90.210, the power of each unwanted emission shall be less than Transmitted Power as specified below for transmitters designed to operate with 12.5 KHz channel bandwidth:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of 4 kHz or less: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least 107 log ( $f_d$ /4) dB; (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least 40.5 log ( $f_d$ /1.16) dB; (4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 15 kHz, but no more than 25 kHz: At least 106 log ( $f_d$ /6.1) dB; (5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least 43 + 10 log (P) dB.

For transmitters designed to transmit with 25 KHz channel separation and equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as following:

(1) On any frequency removed from the assigned frequency by more than 75 kHz, the attenuation of any emission must be at least  $43 + 10 \log (P_{watts}) dB$ .

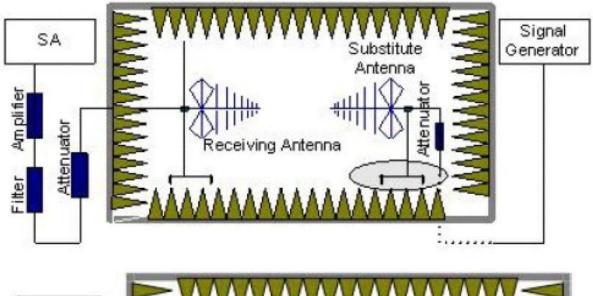
## 7.2 TEST PROCEDURE

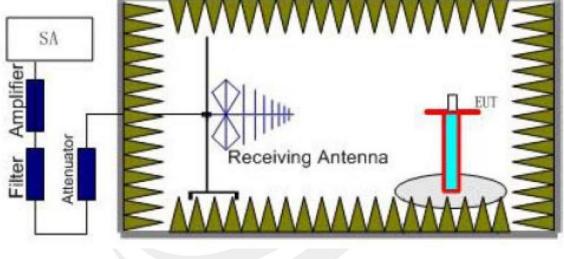
- a. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. for emission measurements. The height of receiving antenna is 1.50 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in six channels were measured with peak detector.
- b. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- c. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz for above 1GHz and RBW=100KHz,VBW=300KHz for 30MHz to 1GHz, And the maximum value of the receiver should be recorded as (P<sub>r</sub>).
- d. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- e. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (P<sub>cl</sub>) ,the Substitution Antenna Gain (G<sub>a</sub>) and the Amplifier Gain (P<sub>Ag</sub>) should be recorded after test. The measurement results are obtained as described below: Amplifier for substituation test; The measurement results are amend as described below: Power(EIRP)=P<sub>Mea</sub>- P<sub>cl</sub>+ G<sub>a</sub>



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7.3 TEST CONFIGURATION





Shenzhen STS Test Services Co., Ltd.



		CH 1				Ма	odel 1	
			Resu	ult				
Frequency	P <sub>meas</sub>	Cable	Antenna	P۸	leas	Polarization	Limit (dBm)	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.F	P(dBm)	Of Max. EIRP	(ubiii)	
1702.0125	-55.35	3.17	9.8	-48	3.72	Horizontal	-13.00	Pass
2553.01875	-53.14	3.47	10.7	-45	5.91	Horizontal	-13.00	Pass
3404.025	-53.28	3.93	12.3	-44	l.91	Horizontal	-13.00	Pass
1702.0125	-52.85	3.17	9.8	-46	6.22	Vertical	-13.00	Pass
2553.01875	-52.17	3.47	10.7	-44	.94	Vertical	-13.00	Pass
3404.025	-51.94	3.93	12.3	-43	8.57	Vertical	-13.00	Pass

	(	CH 2			Мс	odel 2	
			Resu	ult		1.1	
Frequency	P <sub>meas</sub>	Cable	Antenna	P <sub>Meas</sub>	Polarization	Limit	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.P(dBm)	Of Max. EIRP	(dBm)	
1612.0125	-52.73	2.85	9.4	-46.18	Horizontal	-13.00	Pass
2418.01875	-55.56	3.47	10.5	-48.53	Horizontal	-13.00	Pass
3224.025	-52.08	4.17	11.8	-44.45	Horizontal	-13.00	Pass
1612.0125	-55.17	2.85	9.4	-48.62	Vertical	-13.00	Pass
2418.01875	-52.25	3.47	10.5	-45.22	Vertical	-13.00	Pass
3224.025	-55.49	4.17	11.8	-47.86	Vertical	-13.00	Pass

		СН 3			Мс	odel 9	
			Resu	ult			
Frequency	P <sub>meas</sub>	Cable	Antenna	P <sub>Meas</sub>	Polarization	Limit (dBm)	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.P(dBm)	Of Max. EIRP	(dbiii)	
1737.975	-54.62	3.17	9.8	-47.99	Horizontal	-13.00	Pass
2606.9625	-54.17	3.47	10.7	-46.94	Horizontal	-13.00	Pass
3475.95	-53.88	3.93	12.3	-45.51	Horizontal	-13.00	Pass
1737.975	-55.71	3.17	9.8	-49.08	Vertical	-13.00	Pass
2606.9625	-53.94	3.47	10.7	-46.71	Vertical	-13.00	Pass
3475.95	-52.87	3.93	12.3	-44.50	Vertical	-13.00	Pass

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		CH 4				Мо	del 10	
			Resu	ult				
Frequency	P <sub>meas</sub>	Cable	Antenna	Рме	eas	Polarization	Limit (dBm)	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.P	(dBm)	Of Max. EIRP	(dDill)	
1647.975	-55.10	2.85	9.4	-48.	55	Horizontal	-13.00	Pass
2471.9625	-55.37	3.47	10.5	-48.	.34	Horizontal	-13.00	Pass
3295.95	-51.09	4.17	11.8	-43.	46	Horizontal	-13.00	Pass
1647.975	-56.47	2.85	9.4	-49.	92	Vertical	-13.00	Pass
2471.9625	-54.26	3.47	10.5	-47.	23	Vertical	-13.00	Pass
3295.95	-53.79	4.17	11.8	-46.	16	Vertical	-13.00	Pass

		CH 5			Мо	del 11	
			Res	ult			
Frequency	Pmeas	Cable	Antenna	PMeas	Polarization	Limit	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.P(dBm)	) Of Max. EIRP	(dBm)	
1720	-54.11	3.17	9.8	-47.48	Horizontal	-13.00	Pass
2580	-53.48	3.47	10.7	-46.25	Horizontal	-13.00	Pass
3440	-52.63	3.93	12.3	-44.26	Horizontal	-13.00	Pass
1720	-55.18	3.17	9.8	-48.55	Vertical	-13.00	Pass
2580	-53.64	3.47	10.7	-46.41	Vertical	-13.00	Pass
3440	-54.17	3.93	12.3	-45.80	Vertical	-13.00	Pass

		CH 6			Мо	del 12	
			Resu	ult			
Frequency	Pmeas	Cable	Antenna	PMeas	Polarization	Limit (dBm)	Conclusion
	(dBm)	loss	Gain(dBi)	E.I.R.P(dBm)	Of Max. EIRP	(ubiii)	
1630	-54.24	2.85	9.4	-47.69	Horizontal	-13.00	Pass
2445	-54.73	3.47	10.5	-47.70	Horizontal	-13.00	Pass
3260	-51.29	4.17	11.8	-43.66	Horizontal	-13.00	Pass
1630	-55.47	2.85	9.4	-48.92	Vertical	-13.00	Pass
2445	-54.26	3.47	10.5	-47.23	Vertical	-13.00	Pass
3260	-54.55	4.17	11.8	-46.92	Vertical	-13.00	Pass

Note: EIRP=P<sub>Mea</sub>(dBm)-P<sub>cl</sub>(dB) +G<sub>a</sub>(dBi)

We were not recorded other points as values lower than limits



# 8. SPURIOUS EMSSION ON ANTENNA PORT

## 8.1 PROVISIONS APPLICABLE

According to the TIA/EIA 603 test method, and according to Section 90.210, the power of each unwanted emission shall be less than Transmitted Power as specified below for transmitters designed to operate with 12.5 KHz channel bandwidth:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of 4 kHz or less: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least 107 log ( $f_d$ /4) dB; (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least 40.5 log ( $f_d$ /1.16) dB; (4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 15 kHz, but no more than 25 kHz: At least 40.5 log ( $f_d$ /6.1) dB; (5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least 43 + 10 log (P) dB.

For transmitters designed to transmit with 25 KHz channel separation and equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as following:

(1) On any frequency removed from the assigned frequency by more than 75 kHz, the attenuation of any emission must be at least  $43 + 10 \log (P_{watts}) dB$ .

## 8.2 MEASUREMENT PROCEDURE

- a. The EUT was connected to the spectrum analyzer through sufficent attenuation.
- b. Sufficient scans were taken to show any out of band emission up to 10th. Harmonic for the lower and the highest frequency range.
- c. Set EUT as digital data mode.
- Set RBW 100kHz, VBW 300 kHz in the frequency band 30MHz to 1GHz, while set RBW=1MHz.
- VBW=3MHz from the 1GHz to 10th Harmonic.
- 8.3 TEST SETUP BLOCK DIAGRAM





	lel 1	Mode						CH 1			
Marker	AM Sep 11, 2018 ACE 1 2 3 4 5 6 YPE M WWWWWW DET P N N N N N	TRAC	ALIGN AUTO e: Log-Pwr >100/100				Z NO: Fast C Gain:Low	2 AC 10000 MH P	F 50 S		RL
Select Marker 2	.30 MHz 333 dBm		MI				Sumeow	4 dB	ef Offset 2 ef 40.00		0 dE
Norma		1									- <b>og</b> 30.0 20.0
Delta	-13:00 dBm										10.00
Fixed	- her her have her her her her her her her her her he	lecie (neregelped	2	eetenen farantarata	longerte-al-p-stage	لو-دېروونوروندورو	Latenavikan	len marchel Make	ورجعالها فالمعاصور	بها مورود العر	30.0 40.0
Of	.0000 GHz (1001 pts)	2.73 ms (	<u> </u>			/ 300 kH;	#VBI		) kHz	30.0 MH BW 100	Stari Res
Properties	ION VALUE	FUNCTIO	NCTION WIDTH	UNCTION FU	iBm	28.054 c -36.333 d	2 MHz 0 MHz			DDE TRC SCI N 1 f N 1 f	1 2 3 4 5 6
<b>Mor</b> 1 of 2											7 8 9 10 11
			STATUS			Ш					sg
Peak Search	AM Sep 11, 2018	11:04:48 AN	ALIGNAUTO e: Log-Pwr	Ανα Τγρ	SE:PULSE	SEN		2 AC	F 50 S	Spectrum Ar	RL
NextPeal	ACE 123456 YPE MWWWWW DET PNNNN 120 GHz 415 dBm	₀ /lkr2 6.1	>100/100			Trig: Fre #Atten: 3	⊓Z NO: Fast ⊂ Gain:Low	ı⊧ 4 dB	of Offset 24	Ref	0 dB
Next Pk Righ										-	.og 30.0
Next Pk Lei											20.0 10.0 -
Marker Delta											0.00
Mkr→Cł	-13.00 dBm	northinner of the state	- Las Martine	22	www.ines.lfelve	ap-ap-theta-ind	philtreenedrow	all gal when	undenstatute	water	20.0
Mkr→RefLv											40.0 -
											50.0
<b>More</b> 1 of 2	9.000 GHz	Stop 9							Hz	1.000 GI	start

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District,Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

Shenzhen STS Test Services Co., Ltd.

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CH 2

Model 2

	4 Sep 11, 2018	12:08:57 P	ALIGN AUTO	SENSE:PULSE		um Analyzer - Sv RF 50 s	
Marker	CE 1 2 3 4 5 6 PE M WWWWWW ET P N N N N N	TRA	Avg Type: Log-Pwr Avg Hold:>100/100	Tring		706.09000	
Select Marke				#Atten: 30 dB	IFGain:Low		
	09 MHz 28 dBm		M			Ref Offset 2	
		<u></u> ∆1				Ref 40.00	dB/div
Norn		Y					
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Fixe							) <mark>Alexiend</mark>
	0000 GHz		Sweep 9	300 kHz	#VBV	MHZ 100 kHz	urt 30.0 es BW
	IN VALUE		CTION FUNCTION WIDTH		×		MODE TH
				28.763 dBm -37.128 dBm	806.00 MHz 706.09 MHz	f f	N 1 N 1
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1 0	<b>&gt;</b>	5	STATU	111			
1 0						um Analyzer - Sv	
	4Sep 11, 2018 E 1 2 3 4 5 6	12:11:32 P	ALIGNAUTO Avg Type: Log-Pwr	SENSE:PULSE	AC 0000 GHz	um Analyzer - Sv RF 50 9 7.0480000	RL
Peak Search	4Sep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P N N N N N	12:11:32 PI TRA TY D	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trin Frank Barr	AC	RF 50 9	RL
Peak Search	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	rker 1
Peak Search	4Sep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P N N N N N	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000	RL
Peak Search Next Pe	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	rker 1
Peak Search Next Pe	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	rker 1
Peak Search Next Pe	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	rker 1
Peak Search Next Pe Next Pk Rig	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	IB/div
Peak Search Next Pe Next Pk Rig	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L	45ep 11, 2018 Et 12 3 4 5 6 MWWWW et P NNNN 48 GHz 87 dBm	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L	45ep 11, 2018 2 1 2 3 4 5 6 25 M WWWWW et P N N N N 48 GHz	12:11:32P TRA TY D VIkr1 7.0	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	Trig: Free Run	AC DOOD GHZ PNO: Fast G IFGain:Low	RF 50 9 7.0480000 Ref Offset 2	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref Offset 2 Ref 40.00	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC DOOD GHZ PNO: Fast G IFGain:Low	Ref Offset 2 Ref 40.00	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	45ep 11, 2018 Et 12 3 4 5 6 MWWWW et P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref Offset 2 Ref 40.00	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref 40.00	IB/div
1 c Peak Search Next Pe Next Pk Rig Next Pk L Marker De Mkr→Ref I	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref 40.00	IB/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De Mkr→Ref I	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32Pi TRA TRA D Mkr1 7.( -23.2	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref 40.00	
Peak Search Next Pe Next Pk Rig Next Pk L Marker De Mkr-+Ref I	45ep 11, 2018 E 12 3 4 5 6 M WWWW et P NNNN 48 GHz 87 dBm	12:11:32P	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC 0000 GHz PNO: Fast G IFGain:Low BB Bm	Ref Offset 2 Ref Offset 2 Ref 40.00	
Peak Search Next Pe Next Pk Rig Next Pk L Marker De Mkr→Ref I	4Sep 11,2018 Ef 12 3 4 5 6 MWWWWW FT P NNNN 48 GHz 87 dBm	12:11:32P	ALIGNAUTO Avg Type: Log-Pwr Avg Hoid>100/100	Trig: Free Run #Atten: 30 dB	AC DODO GHZ PNO: Fast C IFGain:Low IB BM Annie Annie An	Ref Offset 2 Ref Offset 2 Ref 40.00	IB/div iB/div

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30.

20.1

0.0

20.0 30.0 40.0

50.0

30. 20.1

0.00

20.0

30. 40.

50.0

202

Start 1.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

CH 1 Model 3 ALIGN AUTO Avg Type: Log-Pwr Avg|Hold: 62/100 11:02:49 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 Marker Marker 2 557.680000000 MHz TYPE MWWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Select Marker Mkr2 557.68 MHz -39.581 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log  $\langle \rangle$ Norma Delta **Fixed** Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL FUNCTION WIDTH 29.943 dBm -39.581 dBm 850.62 MHz 557.68 MHz f Properties More 1 of 2 STATUS 11:05:23 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 ALIGN AUTO Avg Type: Log-Pwr Avg|Hold>100/100 Peak Search Marker 2 5.488000000000 GHz TYPE MWWWWW DET P N N N N PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Mkr2 5.488 GHz -22.200 dBm Next Peak Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Next Pk Right Next Pk Left Marker Delta <mark>\$</mark>2 Mkr→CF Mkr→RefLv

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Stop 9.000 GHz

Sweep 13.33 ms (1001 pts)

STATUS

More 1 of 2

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CH 2

Aglient Spectrum RF 50 9 AC Marker 2 668.260000000 MHz PNO: Fast IFGain:Low ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 12:09:17 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Trace/Detector TYPE MWWWW DET P N N N N Trig: Free Run #Atten: 30 dB Select Trace Mkr2 668.26 MHz -37.826 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log  $\langle \rangle$ 30 **Clear Write** 20.1 10. Trace Average 9.00 20.0 30.0 ¢² 40.0 Max Hold 50.0 Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Min Hold MKR MODE TRC SCL UNCTION FUNCTION WIDTH UNCTION VALUE 1 3 4 5 6 7 8 9 10 N N f f 806.00 MHz 668.26 MHz 28.838 dBm -37.826 dBm View Blank Trace On More 1 of 3 STATUS Agence 27 ON RL RF 50 Ω AC | Marker 1 3.176000000000 GHz PN0: Fast G IFGain:Low 12:11:13 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Avg Type: Log-Pwr Avg|Hold: 85/100 Trig: Free Run #Atten: 30 dB TYPE MWWWWW DET P N N N N Next Peak Mkr1 3.176 GHz -22.315 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Next Pk Right 30 20. Next Pk Left 0.00 Marker Delta 10 ۵ 20.0 Mkr→CF an. Mkr→RefLvl 50.1 More 1 of 2 Start 1.000 GHz Stop 9.000 GHz Sweep 13.33 ms (1001 pts) #Res BW 1.0 MHz #VBW 3.0 MHz STATUS

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CH 1

Agilent Spectr						
IVI RI	um Analyzer - Swe	pt SA				
	RF 50 Ω	AC	SENSE:PULSE	ALIGN AUTO	11:02:31 AM Sep 11, 2018	Frequency
Start Fre	q 30.00000		Tria: Erec Dur	Avg Type: Log-Pwr Avg/Hold:>100/100	TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
		PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold>100/100	DET P N N N N N	
				MI	(r2 443.22 MHz	Auto Tune
	Ref Offset 24			111	-38.878 dBm	
10 dB/div Log	Ref 40.00 d	BM				
30.0					$\uparrow$ 1	Center Freq
20.0						515.000000 MHz
						515.000000 WHZ
10.0						
0.00						Start Freq
-10.0					-13.00 dBm	30.000000 MHz
-20.0						30.000000 WHZ
-30.0			<sup>2</sup>			Stop Freq
-40.0 📥 🖛 🛶	nteridandanay (Starburdareshi)	alabert hat the second and	phile the second second second second	and all and the state of the below and the best	henre haller in hele all and and an	1.000000000 GHz
-50.0						1.00000000 GH2
Start 30.0					Stop 1.0000 GHz	CF Step
#Res BW	100 kHz	#VI	300 kHz	Sweep 9	2.73 ms (1001 pts)	97.000000 MHz
MKR MODE T	RCI SCLI	×	Y F	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
1 N 1	f	850.62 MHz	29.919 dBm			
2 N 1	f	443.22 MHz	-38.878 dBm			Erog Offect
3 4						Freq Offset
5					Ξ.	0 Hz
6 7						
8						
9						
10 11					~	
<					>	
MSG				STATUS	;	
	um Analyzer - Swej					
(X) RL Markar 2	RF 50 Ω	AC				
			SENSE:PULSE	ALIGNAUTO Ava Type: Log-Pwr	11:05:43 AM Sep 11, 2018 TRACE 1 2 3 4 5 6	Peak Search
	0.20400000	0000 GHz	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	11:05:43 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWWW	Peak Search
	0.20400000			Avg Type: Log-Pwr Avg Hold>100/100	TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	
		0000 GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		
10 dB/div	Ref Offset 24 c Ref 40.00 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	
10 dB/div	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		
10 dB/div Log	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
10 dB/div Log 30.0 ←	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
Log 1	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
Log 30.0 ←	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
Log 1	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
20.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
Log 30.0 ←	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
Log 30.0 20.0 10.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak
20.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak Next Pk Right Next Pk Left
Log 30.0 20.0 10.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak Next Pk Right Next Pk Left
Log 30.0 20.0 10.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	7746 12 34 5 6 7746 MWMMMWD Pet P.NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left
Log 30.0 20.0 10.0 0.00	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100		Next Peak Next Pk Right Next Pk Left
Log 30.0 20.0 10.0 -10.0	Ref Offset 24 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run	Avg Type: Log-Pwr Avg Hold>100/100	7746 12 34 5 6 7746 MWMMMWD Pet P.NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak
Log 1 30.0 20.0 10.0 -20.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak
Log 1 30.0 20.0 10.0 -20.0	Ref Offset 24 o Ref 40.00 d	OOOO GHz PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	7746 12 34 5 6 7746 MWMMMWD Pet P.NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak
Log 30.0 20.0 10.0 -10.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak
Log 1 20.0 10.0 -10.0 -20.0 -30.0 4.44~~44	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF
Log 1 30.0 20.0 10.0 -20.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF
Log 1 20.0 10.0 -10.0 -20.0 -30.0 4.44~~44	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF
Log 1 20.0 10.0 -10.0 -20.0 -30.0 4.44~~44	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF
Log 30.0 20.0 10.0 -10.0 -20.0 -30.0 -40.0 -40.0 -10	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 12 3 4 5 6 TYPE MWMMMWD DET NNNN Akr2 6.264 GHz -23.709 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF
Log 1 30.0 20.0 10.0 -10.0 -20.0 -30.0 -40.0 -50.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low BBM	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 11 24 5 6 TYPE MANAMANA DET NNNN Akr2 6.264 GHz -23.709 dBm -13.00 dBm -13.00 dBm	Next Peak Next Pk Right Next Pk Left Marker Detta Mkr→CF Mkr→Ref Lvl
Log 1 30.0 20.0 10.0 -10.0 -20.0 -30.0 4///****** -40.0 -50.0 Start 1.00	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low dB Bm	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	TRACE 12 34 5 6 TYPE MWMMMM DET MMMMMM Akr2 6.264 GHz -23.709 dBm -3.709 dBm -3.300 dBm -3.300 dBm -3.300 dBm -3.300 dBm -3.300 dBm	Next Peak Next Pk Right Next Pk Left Marker Detta Mkr→CF Mkr→Ref Lvl
Log 30.0 20.0 1 20.0 -10.0 -10.0 -20.0 -30.0 -40.0 -50.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low dB Bm	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE 11 24 5 6 TYPE MANAMANA DET NNNN Akr2 6.264 GHz -23.709 dBm -13.00 dBm -13.00 dBm	Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF Mkr→Ref Lvl More 1 of 2
Log         1           30.0	Ref Offset 24 o Ref 40.00 d	0000 GHz PN0: Fast IFGain:Low dB Bm	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold>100/100	IRACE         III 34 5 6           TYPE         MWMMMMM           Akr2 6.264 GHz         -23.709 dBm          13.00 dBm	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr→CF Mkr→Ref Lvl

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CH 2

12:09:42 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Marker Marker 2 626.550000000 MHz TYPE MWWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Select Marker Mkr2 626.55 MHz -38.652 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log 0 30. Norma 20.1 0.0 Delta 20.0 30.0 Ø 40.0 **Fixed** 50.0 Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL UNCTION FUNCTION WIDTH 806.00 MHz 626.55 MHz 1 N 3 4 5 6 7 8 9 10 11 29.585 dBm -38.652 dBm f Properties) More 1 of 2 STATUS ALIGNAUTO Avg Type: Log-Pwr Avg|Hold: 93/100 12:10:58 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Marker 1 7.504000000000 GHz TYPE MWWWWW DET P N N N N PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 7.504 GHz -23.237 dBm Next Peak Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Next Pk Right 20.1 Next Pk Left 0.00 Marker Delta 10.0 **\** 20.0 Mkr→CF Mkr→RefLv 50.0 More 1 of 2 Stop 9.000 GHz Sweep 13.33 ms (1001 pts) Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz STATUS

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	el 7	Mode						CH 1		
Marker	M Sep 11, 2018	11:02:06 AN	ALIGNAUTO pe: Log-Pwr	Ava T	NSE:PULSE	SEr	2	Swept SA 0 Ω AC   DOOOOO MH		RL
	PE MWWWWWWW ET P N N N N N	TYP	d:>100/100		ree Run	Trig: Fr #Atten:	NO: Fast 🕞	F	515.000	arker z
Select Marker 2	00 MHz	r2 515.	MI		: 30 88	#Atten:	Gain:Low	24 dB	Ref Offse	
	59 aBm	0						0 dBm	Ref 40.0	dB/div
Norma										0.0
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Den	-13.00 dDm									D.O
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Fixed	the market and	manutan	han an a	a manager and the second		-2-20,00,000	Andrew commence	and the second second	-	0.0 <b>Herrituliu</b>
										0.0
		Stop 1.0								Lart 30.0
O			Sweep 9		Ηz	V 300 KH	#VBW		100 kHz	
			UNCTION WIDTH	UNCTION	FL	Y		×	RC SCL	KR MODE TR
						30.351 -37.559	52 MHz 00 MHz		f	1 N 1 2 N 1
Properties						01.000		010.0		3
•	=									5
										7
Mor										8 9
<b>Mor</b> 1 of										в
	►									8 9 0 1
	×		STATUS			111				8 9 0 1
1 of	M Sep 11, 2018	11:05:59 AP			NSE:PULSE	iii I ser			um Analyzer	B 9 0 1 3 ilent Spectr
	M Sep 11, 2018	11:05:59 AM TRAC	ALIGN AUTO pe: Log-Pwr		INSE:PULSE			0Ω AC	RF 5	B 9 0 1 3 ilent Spectr R L
1 of Peak Search	M Sep 11, 2018 CE 123456 PE M WWWWW ET P N N N N N	TRAC TYP DE	ALIGN AUTO pe: Log-Pwr ld: 63/100		ree Run		Hz NO: Fast Gain:Low	οΩ AC D000000 G F	RF 5	B 9 0 1 3 ilent Spectr R L
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1 of Peak Search	M Sep 11, 2018 CE 1 2 3 4 5 6 PE MWWWWW ET P NNNN 396 GHZ	TRAC TYP DE	ALIGN AUTO pe: Log-Pwr ld: 63/100		ree Run	Trig: Fr	NO: Fast 🕞	ο Ω Ας 0000000 G F IF 24 dB	RF 5.89600	B 9 0 1 3 ilent Spectr R L
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1 of Peak Search Next Pea	MSep 11,2018 EE 12 3 4 5 6 EM WWWW ET P NNNN 396 GHz 26 dBm	TRAC TYP DE	ALIGN AUTO pe: Log-Pwr ld: 63/100		ree Run	Trig: Fr	NO: Fast 🕞	ο Ω Ας 0000000 G F IF 24 dB	RF 5.89600 Ref Offset	8 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 of Peak Search Next Pea Next Pk Righ	M Sep 11, 2018 CE 1 2 3 4 5 6 PE MWWWWW ET P NNNN 396 GHZ	TRAC TYP DE	ALIGN AUTO pe: Log-Pwr ld: 63/100		ree Run	Trig: Fr	NO: Fast 🕞	ο Ω Ας 0000000 G F IF 24 dB	RF 5.89600 Ref Offset	dB/div
1 of Peak Search Next Pea Next Pk Righ Next Pk Le	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 396 GHz 26 dBm	1842 5.8 1872 5.8 -23.1	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	24 dB 0 dBm	Ref Offse Ref 40.0	8 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 of Peak Search Next Pea Next Pk Righ	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 396 GHz 26 dBm	1842 5.8 1872 5.8 -23.1	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	ο Ω Ας 0000000 G F IF 24 dB	Ref Offse Ref 40.0	8       9       0       1       a       ilent Spectr       RL       arker 2       0       1       0.0       0.0       0.0       0.0
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1 of Peak Search Next Pea Next Pk Righ Next Pk Le	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 396 GHz 26 dBm	1842 5.8 1872 5.8 -23.1	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	24 dB 0 dBm	Ref Offse Ref 40.0	8 9 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 of Peak Search Next Pea Next Pk Righ Next Pk Le Marker Delt	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 396 GHz 26 dBm	1842 5.8 1872 5.8 -23.1	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	24 dB 0 dBm	Ref Offse Ref 40.0	8 9 9 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 of Peak Search Next Pea Next Pk Righ Next Pk Le Marker Deff Mkr→C Mkr→Ref Ly	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 396 GHz 26 dBm	IPPer         IPRACE         [] 23           100         TYPE [] 23         TYPE [] 23           Mkr2 515.00 M         -37.559 dl           37.559 dl         -39.000 C           Stop 1.00000 C         -39.000 c           92.73 ms (1001           -39.000 c           VIDIH         FUNCTION VALUE           Status         -39.000 c           Mkr2 5.896 C         -23.126 dl           -23.126 dl         -39.000 c           -23.126 dl         -39.000 c           -39.00         -39.000 c	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	24 dB 0 dBm	Ref Offse Ref 40.0	8 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 of Peak Search Next Pea Next Pk Righ Next Pk Le Marker Deft Mkr→C	MSep 11, 2018 EE 12 3 4 5 6 MMSep 11, 2018 EI P NNNN 396 GHz 26 dBm -13.00 dBm -13.00 dBm	Ikr2 5.8 -23.1;	ALIGNAUTO pe: Log-Pwr d: 63/100	Avg H	ree Run : 30 dB	Trig: Fr #Atten:	NO: Fast Gain:Low	24 dB 0 dBm	Ref Offse Ref 40.0	8     9       9     0       1     1       RL     1       arker 2       9     1       1     <

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

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CH 2

Model 8 Aglient Spectrum RF 50 9 AC Marker 2 706.090000000 MHz PNO: Fast IFGain:Low 12:10:07 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 Marker RACE 1 2 3 4 5 TYPE MWWWW DET P N N N N Trig: Free Run #Atten: 30 dB Select Marker Mkr2 706.09 MHz -36.956 dBm 2 Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Δ 30 Norma 20.1 Delta 20.0 30.0 40.0 Fixed 50.0 Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL INCTION FUNCTION WIDTH UNCTION VALUE 1 3 4 5 6 7 8 9 10 N N f f 806.00 MHz 706.09 MHz 28.812 dBm -36.956 dBm **Properties** More 1 of 2 STATUS Agence 27 ON RL RF 50 Ω AC | Marker 1 5.552000000000 GHz IFGain:Low 12:10:40 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Avg Type: Log-Pwr Avg|Hold>100/100 Trig: Free Run #Atten: 30 dB TYPE MWWWWW DET P N N N N Next Peak Mkr1 5.552 GHz Ref Offset 24 dB Ref 40.00 dBm -23.119 dBm 10 dB/div Next Pk Right 30 20. Next Pk Left 0.00 Marker Delta 10 <u>ہ</u> 20.0 Mkr→CF an. Mkr→RefLvl 50.1 More 1 of 2 Stop 9.000 GHz Sweep 13.33 ms (1001 pts) Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz STATUS

> A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

Shenzhen STS Test Services Co., Ltd.

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0.0

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Start 1.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

CH 3 Model 9 02:54:28 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 SENSE:PULSE ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Peak Search Marker 2 658.560000000 MHz TYPE M WWWWW DET P N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Next Peak Mkr2 658.56 MHz -37.103 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Next Pk Right Next Pk Left  $\diamond^2$ Marker Delta Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Mkr→CF MKR MODE TRC SCL FUNCTION WIDTH 869.05 MHz 658.56 MHz 30.440 dBm -37.103 dBm 1 N 3 4 5 6 7 8 9 10 11 f Mkr→RefLvi More 1 of 2 STATUS ALIGN AUTO Avg Type: Log-Pwr Avg|Hold: 69/100 06 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Marker 1 5.432000000000 GHz TYPE NNNN DET PNNNN PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Next Peak Mkr1 5.432 GHz Ref Offset 24 dB Ref 40.00 dBm -22.229 dBm 10 dB/div Log Next Pk Right Next Pk Left Marker Delta <mark>≬</mark>1 Mkr→CF Mkr→RefLv More

Shenzhen STS Test Services Co., Ltd.

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Stop 9.000 GHz

Sweep 13.33 ms (1001 pts)

STATUS

1 of 2

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CH 4

Model 10

Peak Search	4 Sep 11, 2018	01:59:17 PM	ALIGN AUTO		ENSE:PULSE			50 Ω AC		L	R
i can ocaron	CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	TYP	: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	000000 M	672.140	ker 2	lar
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Next Pk L	-13:00 dBm				_						0.0
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Marker D											0.0
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Mkr→Ref					i dBm dBm		1.43 MHz 2.14 MHz	672	f	N 1 N 1	1 3 4 5 6
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1		6	STATUS								G
1	M Sep 11. 2018	02:03:02 PM	ALIGNAUTO		ENSE:PULSE			50 Ω AC		L	G iler R
	M Sep 11, 2018 TE 1 2 3 4 5 6 PE M WWWWWWW	02:03:02 PM TRAC TYP		Avg Ty Avg[Ho	ree Run		PNO: Fast		RF	L	G iler R
1	4 Sep 11, 2018 ℃ 1 2 3 4 5 6	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho				50 Ω AC	RF	L	iler R ar
۲ ، Peak Search Next Pe	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	G Iler R ar
1 - Peak Search	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	ar dl g
۲ ، Peak Search Next Pe	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	iler R ar
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۲ ، Peak Search Next Pe	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	g iler R ar
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Peak Search Next Pe Next Pk Rig	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	ar R ar
Peak Search Next Pe Next Pk Rig Next Pk L	MSep 11, 2018 E 1 2 3 4 5 6 FE M WWWWW ET P NNNN 648 GHz	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	G G R C C C C C C C C C C C C C C C C C
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	MSep 11, 2018 Et 12 3 4 5 6 MW-WW-WW- FT P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TYF DE <b>/ kr1 2.6</b>	ALIGN AUTO :: Log-Pwr >100/100	Avg Ty Avg Ho	ree Run		PNO: Fast	50 Ω AC	RF 2.64800 Ref Offse	ker 1	<b>iler ar a a a a a a a a a a</b>
Peak Search Next Pe Next Pk Rig Next Pk L	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TW MKr1 2.6 -23.5	ALIGNAUTO :: Log-Pwr >100/100		iree Run x: 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	Ref Offse Ref 40.	3/div	<b>iler</b> <b>R</b> <b>ar</b> 0.0 0.0 0.0
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	MSep 11, 2018 Et 12 3 4 5 6 MW-WW-WW- FT P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TW MKr1 2.6 -23.5	ALIGN AUTO :: Log-Pwr >100/100		ree Run		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	RF 2.64800 Ref Offse	3/div	<b>iler</b> <b>R</b> <b>ar</b> 0.0 0.0 0.0
1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TW MKr1 2.6 -23.5	ALIGNAUTO :: Log-Pwr >100/100		iree Run x: 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	Ref Offse Ref 40.	3/div	iler R ar 0.0 0.0 0.0
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TW MKr1 2.6 -23.5	ALIGNAUTO :: Log-Pwr >100/100		iree Run x: 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	Ref Offse Ref 40.	3/div	iler R ar 0.0 0.0 0.0
1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TW MKr1 2.6 -23.5	ALIGNAUTO :: Log-Pwr >100/100		iree Run x: 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	Ref Offse Ref 40.	3/div	<b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b>
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Dd Mkr→Ref	MSep 11, 2018 Et 12 3 4 5 6 MW-WW-WW- FT P N N N N 48 GHz 68 dBm	02:03:02 PM TRAC TYN 7 M 7 M 7 M 7 M 7 M 7 M 7 M 7 M 7 M 7 M	ALIGNAUTO :: Log-Pwr >100/100		iree Run x: 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 4 et 24 dB 00 dBm	Ref Offse Ref 40.	3/div	<b>iler</b> <b>R</b> <b>ar</b> 0.0 0.0 0.0
Peak Search Next Pe Next Pk Rig Next Pk L Marker De Mkr→Ref	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNN 48 GHz 68 dBm	02:03:02 PM TRAC TYN Mkr1 2.6 -23.5	ALIGN AUTO : Log-Pwr >100/100		ree Run : 30 dB		PN0: Fast C IFGain:Low	50 2 AC 00000000 0 et 24 dB 00 dBm	Ref Offse Ref 40.	لله العالي المالية الم	<b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b> <b>a</b>



Model 11

Peak Search	M SEP 11, 2018	10:02:35 AM	ALIGN AUTO	A	SENSE:PULSE	_		Ω AC	nalyzer - Sv F 50 9		
	2E 1 2 3 4 5 6 PE M WWWWWW ET P N N N N N	TYP	e: Log-Pwr I:>100/100	Avg T Avg Ho	Free Run en: 30 dB	► Trig	PNO: Fast C		2.67000	2 62	ker
NextPo	67 MHz 84 dBm	(r2 622.)	M		en. 30 ab	#Aut	IFGain:Low	4 dB	of Offset 2 ef 40.00		B/di
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Next Pk Ri											
											⊢
Next Pk L											⊢
HOATTAL	-13.00 dBm										E
	<b>[</b>			<sup>2</sup>							$\vdash$
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T Peak Search	MSep 11, 2018 E 1 2 3 4 5 6	10:07:26 AN TRAC			Free Run	Trig	PNO: Fast C	Ω AC DOOOOO C	F 50 9		L
	4 Sep 11, 2018 ≆ 12 3 4 5 6	10:07:26 AN TRAC TYP DE <b>/1kr1 5.9</b>	ALIGN AUTO e: Log-Pwr I: 84/100			Trig		Ω AC DOOOOOO C I 4 dB	F 50 9	1 5.5 R	L
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Peak Search Next Pe Next Pk Ri Next Pk L	MSep 11, 2018 E 1 2 3 4 5 6 ET P NNNN 068 GHz	10:07:26 AN TRAC TYP DE <b>/1kr1 5.9</b>	ALIGN AUTO e: Log-Pwr I: 84/100		Free Run	Trig	PNO: Fast C	Ω AC DOOOOOO C I 4 dB	F 50 9	1 5.5 R	B/div
Peak Search Next Po Next Pk Ri	MSep 11, 2018 EI 12 3 4 5 6 MW-WW-WH FT P N N N N 168 GHz 46 dBm	10:07:26 AN TRAC TYP DE <b>/1kr1 5.9</b>	ALIGN AUTO e: Log-Pwr I: 84/100		Free Run	Trig	PNO: Fast C	Ω AC DOOOOOO C I 4 dB	F 50 9	1 5.5 R	B/div
Peak Search Next Pe Next Pk Ri Next Pk L	MSep 11, 2018 E 1 2 3 4 5 6 ET P NNNN 068 GHz	10:07:26 AN TRAC TYP DE <b>/1kr1 5.9</b>	ALIGN AUTO e: Log-Pwr I: 84/100		Free Run	Trig	PNO: Fast C	Ω AC DOOOOOO C I 4 dB	F 50 9	1 5.5 R	B/div
Peak Search Next Pe Next Pk Ri Next Pk L	MSep 11, 2018 E1 12 3 4 5 6 MWWWWW FT P NNNN 168 GHz 46 dBm	10:07:26 AN TRAC TV DE <b>71:15.9</b> -22.24	ALIGN AUTO e: Log-Pwr : 84/100	Avgj Ho	Free Run 20 dB	Trig.     #Atta	PN0: Fast C IFGain:Low	2 AC   000000 C   4 dB dBm   	F 50 f 680000 f Offset 2 f 40.00	1 5 R R	
Peak Search Next Pd Next Pk Ri Next Pk L Marker D	MSep 11, 2018 EI 12 3 4 5 6 MW-WW-WH FT P N N N N 168 GHz 46 dBm	10:07:26 AN TRAC TV DE <b>71:15.9</b> -22.24	ALIGN AUTO e: Log-Pwr : 84/100	Avgj Ho	Free Run	Trig.     #Atta	PNO: Fast C	2 AC   000000 C   4 dB dBm   	F 50 9	1 5 R R	
Peak Search Next Pd Next Pk Ri Next Pk L Marker D	MSep 11, 2018 E1 12 3 4 5 6 MWWWWW FT P NNNN 168 GHz 46 dBm	10:07:26 AN TRAC TV DE <b>71:15.9</b> -22.24	ALIGN AUTO e: Log-Pwr : 84/100	Avgj Ho	Free Run 20 dB	Trig.     #Atta	PN0: Fast C IFGain:Low	2 AC   000000 C   4 dB dBm   	F 50 f 680000 f Offset 2 f 40.00	1 5 R R	
Peak Search Next Pc Next Pk Ri Next Pk L Marker D Mkr-	MSep 11, 2018 E1 12 3 4 5 6 MWWWWW FT P NNNN 168 GHz 46 dBm	10:07:26 AN TRAC TV DE <b>71:15.9</b> -22.24	ALIGN AUTO e: Log-Pwr : 84/100	Avgj Ho	Free Run 20 dB	Trig.     #Atta	PN0: Fast C IFGain:Low	2 AC   000000 C   4 dB dBm   	F 50 f 680000 f Offset 2 f 40.00	1 5 R R	
Peak Search Next Pk Ri Next Pk Ri Marker D Mkr	MSep 11, 2018 E1 12 3 4 5 6 MWWWWW FT P NNNN 168 GHz 46 dBm	10:07:26 AN TRAC TV DE <b>71:15.9</b> -22.24	ALIGN AUTO e: Log-Pwr : 84/100	Avgj Ho	Free Run 20 dB	Trig.     #Atta	PN0: Fast C IFGain:Low	2 AC   000000 C   4 dB dBm   	F 50 f 680000 f Offset 2 f 40.00	1 5 R R	
Peak Search Next Pk Next Pk Ri Next Pk L Marker D Mkr→Ref	MSep 11, 2018 E1 12 3 4 5 6 MWWWWW FT P NNNN 168 GHz 46 dBm	10:07:26 AN TRAC TYN 20 7 1kr1 5.9 -22.24	ALIGNAUTO	Avgj Ho	Free Run n: 30 dB	Trig.     #Atta	PNO: Fast C FFGain:Low	2 AC   000000 C   4 dB dBm   	F 50 f 680000 f Offset 2 f 40.00	1 5.: R R	B/div

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District,Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

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CH 6

Model 12

Deek Seerek	4 Sep 11, 2018	11:30:39 AM	ALIGN AUTO		ENSE:PULSE			50 Ω AC	rum Analyzer RF	
Peak Search	E 1 2 3 4 5 6 E M WWWWW	TRAC TYP	e: Log-Pwr  >100/100	Avg T Avg H	Free Run		AHz PNO: Fast	0000000 N	2721.610	arker 2
NextPe	ET P NNNNN				n: 30 dB	- #	IFGain:Low			
	61 MHZ 43 dBm	.kr2 721 -36.7	IVI					et 24 dB .00 dBm	Ref Offse Ref 40	dB/div
		<b>∆</b> 1							1(1) 40.	<sup>g</sup>
Next Pk Rig		Y								0.0 <b></b>
										0.0
										00
Next Pk L	-13.00 dDm									0.0
			<b>♦</b> <sup>2</sup>							.0
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	0000 GHz									art 30.0
Mkr→		2.73 ms (	-			BW 30	#VE		100 kHz	
	DN VALUE	FUNCTIO	NCTION WIDTH	UNCTION	1 dBm	2	4.73 MHz	× 81	RC SCL	R MODE T
					3 dBm	-3	1.61 MHz	72	1 f	N 1
Mkr→Refl										i I
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Мо										3
1 c										)
		5	STATU							à
	M Sep 11, 2018	11:04:45:00	ALIGN AUTO		ENSE:PULSE				rum Analyzer RF	
Peak Search	E 1 2 2 4 E 6	TRAC	e: Log-Pwr : 97/100		Free Run			00000000		
NextDe					n: 30 dB		PNO: Fast IFGain:Low			
NextPe	′44 GHz 46 dBm	Vkr1 5.7	I						Ref Offse	
								.00 dBm	Ref 40.	dB/div g
		-22.8								
Next Pk Rig		-22.8								
Next Pk Rig		-22.84								.0
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		-22.8								.0
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Next Pk L Marker De	-13.00 dBm			1						
Next Pk L	-13.00 dBm	-22.8		1 1 n.ker/hrap.er				A A A A A A A A A A A A A A A A A A A	ubrow to a	
Next Pk L Marker De	-13.00 dBm			1 					ubry, a lawarity	
Next Pk L Marker De	-13.00 dBm			1 1 1 1 1 1 1 1 1 1 1 1 1 1	Particular Parts			Negative Providence Pr	shore to see the	
Next Pk L Marker De Mkr→4	-13.00 dBm		- cygodiseriejskaly				And a stranger	han	ubra antin	
Next Pk L Marker De Mkr→t Mkr→Ref L	-13.00 dBm								eba, everin	.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .
Next Pk L Marker De Mkr→4	-13.00 dBm	Al free reaction and a second	e construction of the second sec	1 1 1	24(m <sup>2</sup> 4~3m <sup>2</sup> /m <sup>2</sup> /					
Next Pk L Marker De Mkr→f Mkr→Ref L	-13.00 dBm	Stop 9								0

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CH 3

Model 13

Marker	M Sep 11, 2018 CE 1 2 3 4 5 6	02:55:03 PM TRAC	ALIGNAUTO e: Log-Pwr	Avg Ty	SENSE:PULSE		AC 0000 MH	nalyzer - Sv F 50 S 8 19000		
Select Mari	PE MWWWWWW ET P N N N N N	TYP	: 90/100	Avg Ho	g: Free Run tten: 30 dB	Fast 🖵 n:Low	Р	0.10000	2 00	inco
Selectividin	19 MHz 53 dBm		M				1 dB	ef Offset 2		
		-36.1					dBm	ef 40.00		dB/di
Nor				_						
										0 <b> </b>
	-13:00 dDm									
				<u>^2</u>						
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-										0
	0000 GHz								).0 M	
		-	Sweep 9			#VBW		) kHz		
	DN VALUE	FUNCTIC	NCTION WIDTH	JNCTION	361 dBm		× 869.0		TRC 1	N
Propert					153 dBm	IHZ	638.1	,		N
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	~									
	>		STATUS		TH I					
		02-56-51 0						nalyzer - Sv		ent Sp
	M Sep 11, 2018 2E 1 2 3 4 5 6	TRAC	ALIGNAUTO e: Log-Pwr		SENSE:PULSE	East	AC 00000 GI	RF 50 Ω		ent Sp R L
1 Peak Searc	M Sep 11, 2018 E 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		SENSE:PULSE	Fast 😱 :Low	AC 00000 GI PI	RF 50 Ω		ent Sp R L
1	M Sep 11, 2018 2E 1 2 3 4 5 6	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	RF 50 Ω	17. R	ent Sp R L
1 Peak Searc	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	ent Sp R L Irkei
1 Peak Searc	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	ent Sp R L Irkei
Peak Searc	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	dB/di
Peak Searc Next P Next Pk R	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	ent Sp R L rkei
Peak Searc	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	dB/di
Peak Searc Next P Next Pk R	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	dB/di
Peak Searc Next P Next Pk R	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	dB/di
Peak Searc Next P Next Pk R	MSep 11, 2018 2 1 2 3 4 5 6 PM WWWWWW ET P N N N N 64 GHz	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run		AC 00000 GI PI IFC	F 50 S	17. R	dB/di
Peak Searc Next P Next Pk R Next Pk Marker D	MSep 11, 2018 Et 12 3 4 5 6 FMMWWWFF FMMWWWFF 64 GHz 30 dBm	TRAC TYF DE	ALIGN AUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	F 50 5 640000	R	ent Sp RL rkei
Peak Searc Next P Next Pk R	MSep 11, 2018 Et 12 3 4 5 6 MWWWW FT P NNNN I64 GHz 30 dBm	1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	F 50 5 640000	R	ent Sp RL rkei
Peak Searc Next P Next Pk R Next Pk Marker D	MSep 11, 2018 Et 12 3 4 5 6 FMMWWWFF MMFT MARK 64 GHz 30 dBm	1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC 00000 GI PI IFC	F 50 5 640000	R	ent Sp RL rkei
Peak Searc Next P Next Pk R Next Pk Marker D	MSep 11, 2018 Et 12 3 4 5 6 MWWWW FT P NNNN I64 GHz 30 dBm	1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	F 055 640000	R	ent Sp RL rkei
1 Peak Searc Next P Next Pk R Next Pk Marker E Marker	MSep 11, 2018 Et 12 3 4 5 6 MWWWW FT P NNNN I64 GHz 30 dBm	1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	F 055 640000	R	dB/di
1 Peak Searc Next P Next Pk Next Pk Marker E Mkr-Re	MSep 11, 2018 Et 12 3 4 5 6 MWWWW FT P NNNN I64 GHz 30 dBm	1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	F 055 640000	R	dB/di
1 Peak Searc Next P Next Pk R Next Pk Marker E Marker	MSep 11, 2018 Et 12 3 4 5 6 MWWWW FT P NNNN I64 GHz 30 dBm	1 1 1 1 1 1 1 1 1 1 1 1 1 1	ALIGNAUTO e: Log-Pwr : 46/100		g: Free Run tten: 30 dB	:Low	AC   P  P  IF4 dB dBm	E 50 5 640000 f Offset 24 2f 40.00	R	dB/di

Shenzhen STS Test Services Co., Ltd.

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CH 4

Model 14

1								
	4 Sep 11, 2018	01:59:49 PM	ALIGN AUTO		SENSE:PU		n <mark>alyzer - Swept S</mark> F 50 Ω A0	
Marker	2 1 2 3 4 5 6 M WWWWWW		be: Log-Pwr d:>100/100	Avg		MHz	0.66000000	
Select Marke		DE	0.21007100	Avgir	#Atten: 30 d	PNO: Fast C IFGain:Low		
		(r2 590.)	М				f Offset 24 dB	R
	90 dBm	-37.85					ef 40.00 dBr	3/div R
Norm		Q'						
Norr								
	<b> </b>							
_								
De	-19.00 dDm							
				$\diamond^2$				
Fixe			Webstern Manufactures	"Orders House Christian	and the first of the state of the first	yadariybardi <sup>yan</sup> yabaji mwaniki	g tadarlandya adar Malkella	Applications of
	000 GHz							t 30.0 M
	1001 pts)	2.73 ms ('	Sweep 9		V 300 kHz	#VB	kHz	s BW 10
	IN VALUE	FUNCTIO	UNCTION WIDTH	FUNCTION	27.990 dBm	824.43 MHz	L	iode tro s N 1
	ľ				-37.890 dBm	590.66 MHz		N 1
Propertie								
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10	4 Sep 11, 2018	02:02:31 PM	ALIGNAUTO		III SENSE:PU		nalyzer - Swept S F 50 Ω A(	
	1Sep 11, 2018 E 1 2 3 4 5 6 E M WWWWW	02:02:31 PM TRAC TYP		Avg		0 GHz		
1 e	1Sep 11, 2018 E 1 2 3 4 5 6 MWWWWW TP NNNN	02:02:31 PM TRAC TYP DE	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg			F 50 Ω A0	
10	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e	1Sep 11, 2018 E 1 2 3 4 5 6 MWWWWW TP NNNN	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg	Trig: Free R	0 GHz PNO: Fast	F 50 Ω AG 560000000	(er 1 7.0 R
1 e Peak Search Next Pe	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e Peak Search Next Pe	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avg	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e Peak Search Next Pe Next Pk Rig	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgi	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e Peak Search Next Pe	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgi	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
1 e Peak Search Next Pe Next Pk Rig	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgi	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
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1 e Peak Search Next Pe Next Pk Rig	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgl	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
Peak Search Next Pe Next Pk Rig Next Pk L	15ep 11, 2018 E 1 2 3 4 5 6 M WWWWWW ET P N N N N N 56 GHz	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgl	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	45ep 11, 2018 EI <u>12 3 4 5 6</u> MWWWWW et P NNNNN 56 GHz 99 dBm	02:02:31 PM TRAC TYP DE <b>/kr1 7.0</b>	ALIGN AUTO De: Log-Pwr d>100/100	Avg Avgl	Trig: Free R	0 GHz PNO: Fast	F 50 Ω A( 560000000 f Offset 24 dB	(er 1 7.0 R
Peak Search Next Pe Next Pk Rig Next Pk L	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100	Avg Avgl	Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	45ep 11, 2018 EI <u>12 3 4 5 6</u> MWWWWW et P NNNNN 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
1 d Peak Search Next Pk Rig Next Pk L Marker Dd	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
1 d Peak Search Next Pk Rig Next Pk L Marker Dd	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Dd Mkr→Ref	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31 PM TRAC TVF DE AKr1 7.0 -23.5	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB if 40.00 dBn	ker 1 7.( R
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Do Mkr→Ref	ASep 11, 2018 EI 12 3 4 5 6 MWWWWW TP NNNN 56 GHz 99 dBm	02:02:31 PM TRAC TRAC TV VV DE AKr1 7.0 -23.5:	ALIGNAUTO se: Log-Pwr d>100/100		Trig: Free R #Atten: 30 d	0 GHz PNO: Fast C IFGain:Low	F 50 Ω A4 560000000 f Offset 24 dB f 40.00 dBn 	ser 1 7.0 Vdiv R
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Dd Mkr→Ref	ASep 11, 2018 IE 12 3 4 5 6 TP N N N N 56 GHz 99 dBm	02:02:31PM TRAC TRAC DE AKr1 7.0 -23.50	ALIGNAUTO		Trig: Free R #Atten: 30 d	O GHz PNO: Fast C IFGain:Low	F 50 2 Ad 560000000 f Offset 24 dB if 40.00 dBn 	ker 1 7.( R

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

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CH 5

Model 15

Trace/Detecto	4 Sep 11, 2018		ALIGN AUTO		SEN			um Analyzer RF 5	(L
	CE 1 2 3 4 5 6 PE M WWWWWW ET P N N N N N	TYI	'ype: Log-Pwr old:>100/100		Trig: Fr #Atten:	PNO: Fast	0000000 N	604.240	rker 2
Select Trac	24 MHz		M		#Atten.	IFGain:Low		B / 07	
	63 dBm	-38.1					.00 dBm	Ref Offse Ref 40.0	B/div
		()1							<u> </u>
ClearW									
Trace Avera	-13.00 dBm								
									) <u> </u>
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	M Sep 11, 2018 E 1 2 3 4 5 6 PE M WWWWWW	10:07:09 AF TRAC TYI	ALIGN AUTO	E:PULSE]			r - Swept SA 50 Ω AC 000000000	RF 5	(L
1 Peak Search	M Sep 11, 2018 E 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	10:07:09 AF TRAC TYI DI	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run		) GHz PNO: Fast C IFGain:Low	50 Ω AC	RF 5	(L
1	M Sep 11, 2018 E 1 2 3 4 5 6 PE M WWWWWW	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	rker 1
1 Peak Search	MSep 11, 2018 # 1 2 3 4 5 6 EM WWWWWW ET P N N N N N 00 GHz	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000	RF 5.40000	(L
1 Peak Search	MSep 11, 2018 # 1 2 3 4 5 6 EM WWWWWW ET P N N N N N 00 GHz	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	r <b>ker 1</b>
1 Peak Search Next Pe	MSep 11, 2018 # 1 2 3 4 5 6 EM WWWWWW ET P N N N N N 00 GHz	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	IB/div
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1 Peak Search Next Pc Next Pk Rig	MSep 11, 2018 # 1 2 3 4 5 6 EM WWWWWW ET P N N N N N 00 GHz	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	B/div
Peak Search Next Pe	MSep 11, 2018 E 12 3 4 5 6 MMMMMM FT P NNNN 00 GHz 13 dBm	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	B/div
1 Peak Search Next Pc Next Pk Rig	MSep 11, 2018 # 1 2 3 4 5 6 EM WWWWWW ET P N N N N N 00 GHz	10:07:09 AF TRAC TYI DI Alkr1 5.4	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run	Trig: Fr	PNO: Fast	50 Ω AC 000000000 et 24 dB	RF 5.40000	B/div
1 Peak Search Next Pc Next Pk Rig	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TEA TY AKr1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset	B/div
1 Peak Search Next Pc Next Pk Ri Next Pk L Marker D	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TEA TY AKr1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old:>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast	50 Ω AC 00000000 et 24 dB 00 dBm	RF 5.40000	B/div
1 Peak Search Next Pk Rig Next Pk L Marker D	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TEA TY AKr1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset	B/div
1 Peak Search Next Pc Next Pk Ri Next Pk L Marker D	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TEA TY AKr1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset	B/div
1 Peak Search Next Pk Rig Next Pk L Marker D	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TY MAKI1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset	B/div
1 Peak Search Next Pk Rig Next Pk L Marker D	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 A/ TEA TY MAKI1 5.4 -22.2	ALIGN AUTO ype: Log-Pwr old>100/100	e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset	B/div
1 Peak Search Next Pc Next Pk Ri Next Pk L Marker D Mkr→Ref	MSep 11, 2018 E 12 3 4 5 6 MW-MW-FT P N N N N OO GHz 13 dBm	10:07:09 AI TEA TY D Akr1 5.4 -22.2		e Run o dB	Trig: Fr #Atten:	PNO: Fast C IFGain:Low	50 Ω AC 00000000 et 24 dB 00 dBm	Ref Offset Ref Offset Ref 40.0	B/div

Shenzhen STS Test Services Co., Ltd.

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CH 6

Model 16

Agilent Spectrum Analyzer - S CRL RF 50	Swept SA DΩ AC	SENSE:PULSE	ALIGN AUTO	11:31:17 AM Sep 11, 2018	1
larker 2 642.0700	00000 MHz		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE M WWWWWW	Marker
	PNO: Fast ( IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold>100/100	DET P N N N N N	Select Mark
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0 dB/div Ref 40.00				-37.814 dBm	
°g 30.0				() <sup>1</sup>	
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tart 30.0 MHz				Stop 1.0000 GHz	
Res BW 100 kHz	#VB	W 300 kHz	Sweep 9	2.73 ms (1001 pts)	
KR MODE TRC SCL	X		UNCTION FUNCTION WIDTH	FUNCTION VALUE	
1 N 1 f 2 N 1 f	814.73 MHz 642.07 MHz	27.855 dBm -37.814 dBm			
3 4					Properti
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11	Suppl CA	in .	STATUS	1	1
G jlent Spectrum Analyzer - S		SENSE:PULSE	ALIGNAUTO	1	
1 ig gjient Spectrum Analyzer - S R L RF 50	0000000 GHz		ALIGN AUTO Avg Type: Log-Pwr	11:34:25 AM Sep 11, 2018	Peak Search
1 ig gjient Spectrum Analyzer - S R L RF 50	DΩ AC		ALIGN AUTO	11:34:25 AM Sep 11, 2018	Peak Search
1 ilent Spectrum Analyzer - S RL RF 50 arker 1 5.040000	0000000 GHz PNO: Fast ( IFGain:Low	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search
1 ilent Spectrum Analyzer . S RL RF 50 arker 1 5.040000 Ref Offset 2 0 dB/div Ref 40.00	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	S 11:34:25 AM Sep 11, 2018 TRACE 12 3 4 5 6 TYPE MWWWWW DET  P N N N N	Peak Search
1 ilent Spectrum Analyzer . S RL RF 50 arker 1 5.040000 Ref Offset 2 0 dB/div Ref 40.00	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search
1 ilent Spectrum Analyzer _ S RL   RF   50 arker 1 5.040000 Ref Offset 2 dB/div Ref 40.00	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search
1 ilent Spectrum Analyzer _ S RL   RF   50 arker 1 5.040000 Ref Offset 2 dB/div Ref 40.00	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search
1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search
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1 ilont Spectrum Analyzer - S RL RF 50 arker 1 5.040000 Ref Offset 2 0 dB/div Ref 40.00 0 0	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search Next Po Next Pk Ri
1 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search Next Po Next Pk Ri
1 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search Next Po Next Pk Ri
1	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search Next Po Next Pk Ri
1	22 AC PNO: Fast IFGain:Low 24 dB	Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	11:34:25 AM Sep 11, 2018 TRACE 12 2 3 4 5 6 TYPE M WWWWW DET P N NN N VKr1 5.040 GHz	Peak Search Next Po Next Pk Ri
1  ilent Spectrum Analyzer _ S  ilent Spectrum Analyzer _ 50 arker 1 5.040000  Ref Offset 2  O dB/div Ref 40.00  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22 AC 00000 GHz PN0: Fast 0 IFGain:Low 24 dB 0 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	s 11:34:25 AM Sep 11, 2018 TRACE [1 2 3 4 5 6 TYPE MANNAWA DET P NNNN Mkr1 5.040 GHz -22.880 dBm	Peak Search Next Po Next Pk Ri Next Pk I Marker D
1  ilent Spectrum Analyzer _ S  ilent Spectrum Analyzer _ 50 arker 1 5.040000  Ref Offset 2  O dB/div Ref 40.00  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22 AC 00000 GHz PN0: Fast 0 IFGain:Low 24 dB 0 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	s 11:34:25 AM Sep 11, 2018 TRACE [1 2 3 4 5 6 TYPE MANNAWA DET P NNNN Mkr1 5.040 GHz -22.880 dBm	Peak Search Next Pd Next Pk Ri Next Pk L
1  ilent Spectrum Analyzer _ S  ilent Spectrum Analyzer _ S  arker 1 5.040000  Ref Offset 2  O dB/div Ref 40.00  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22 AC 00000 GHz PN0: Fast 0 IFGain:Low 24 dB 0 dBm	Trig: Free Run #Atten: 30 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold>100/100	s 11:34:25 AM Sep 11, 2018 TRACE [1 2 3 4 5 6 TYPE MANNAWA DET P NNNN Mkr1 5.040 GHz -22.880 dBm	Peak Search Next Pd Next Pk Ri Next Pk L
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A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

Shenzhen STS Test Services Co., Ltd.



Model 17

		02:55:25	ALIGNAUTO		SENSE:PULSE	S		50 Ω AC	ctrum Analyzer -	
Peak Search	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	TF	e: Log-Pwr i:>100/100		Free Run		PNO: Fast C		2 671.170	arker 2
NextPe	671.17 MHz		M		n: 30 dB	#Atter	IFGain:Low			
	37.719 dBm							t 24 dB 00 dBm	Ref Offset Ref 40.0	dB/div
	$\langle \gamma \rangle$									
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	FUNCTION VALUE	FUNC	INCTION WIDTH	JNCTION	3 dBm	Y 31.08:	.05 MHz	× 869		r mode t 1 N
					9 dBm	-37.719	.17 MHz		1 f 1 f	1 N 2 N 3
Mkr→Ref	=									4
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1	:56:34 PM Sep 11, 2018	02:56:34	ALIGNAUTO		SENSE:PULSE	ш S			ctrum Analyzer - RF 5	9 D 1 3 Ient Spect
	56:34 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWWW	02:56:34 TF		Avg T Avg H	Free Run	Trig: I	PNO: Fast	50Ω AC 00000000		9 D 1 I Ient Spect R L
1	56:34 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	02:56:34 TF	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T Avg H		Trig: I		50 Ω AC	RF 5	9 D 1 I Ient Spect R L
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1 - Peak Search	56:34 PM Sep 11, 2018 TRACE 12 3 4 5 6 TYPE M WWWW DET P N N N N 1 5.672 GHZ	02:56:34 TF Vkr1 5	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T AvgIH	Free Run	Trig: I	PNO: Fast	50 Ω AC 00000000 ( t 24 dB	RF 5 1 5.672000	alent Spect RL   arker 1
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۲ ، Peak Search Next Pe	56:34 PM Sep 11, 2018 TRACE 12 3 4 5 6 TYPE M WWWW DET P N N N N 1 5.672 GHZ	02:56:34 TF Vkr1 5	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T Avg H	Free Run	Trig: I	PNO: Fast	50 Ω AC 00000000 ( t 24 dB	RF 5 1 5.672000	dB/div
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۲ ، Peak Search Next Pe	56:34 PM Sep 11, 2018 TRACE 12 3 4 5 6 TYPE M WWWW DET P N N N N 1 5.672 GHZ	02:56:34 TF Vkr1 5	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T Avg J Avg JH	Free Run	Trig: I	PNO: Fast	50 Ω AC 00000000 ( t 24 dB	RF 5 1 5.672000	ent Spect RL arker 1
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Peak Search Next Pe Next Pk Rig Next Pk L	56:34PM Sep 11, 2018 Тялос 12 3 4 5 6 Тутее Миликини рет / N N N N 1 5.672 GHz 23.453 dBm	02:56:34 TF Vkr1 5	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T AvgIH	Free Run	Trig: I	PNO: Fast	50 Ω AC 00000000 ( t 24 dB	RF 5 1 5.672000	dB/div
Peak Search Next Pe Next Pk Rig Next Pk L	56:34 PM Sep 11, 2018 TRACE 12 3 4 5 6 TYPE M WWWW DET P N N N N 1 5.672 GHZ	02:56:34 TF Vkr1 5	ALIGN AUTO e: Log-Pwr i: 48/100	Avg T AvgIH	Free Run	Trig: I	PNO: Fast	50 Ω AC 00000000 ( t 24 dB	RF 5 1 5.672000	dB/div g 0.0
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1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	-13.00 dbm	Mkr1 5. -23.	ALIGN AUTO e: L-og-Pwr i: 48/100	Avg H	Free Run n: 30 dB	Trig: 1 #Atter	FGain:Low	50 Q AC 00000000 ( t 24 dB 00 dBm	Ref Offset Ref 0ffset	dB/div g a dB/div g a a a dB/div g a a a a a a a a a a a a a
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1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	-13.00 dbm	Mkr1 5. -23.	ALIGN AUTO e: L-og-Pwr i: 48/100	Avg H	Free Run n: 30 dB	Trig: 1 #Atter	FGain:Low	50 Q AC 00000000 ( t 24 dB 00 dBm	Ref Offset Ref 0ffset	dB/div g a dB/div g a a a dB/div g a a a a a a a a a a a a a
1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	-13.00 dbm	Mkr1 5. -23.	ALIGN AUTO e: L-og-Pwr i: 48/100	Avg H	Free Run n: 30 dB	Trig: 1 #Atter	FGain:Low	50 Q AC 00000000 ( t 24 dB 00 dBm	Ref Offset Ref 0ffset	a           Iont Spect           RL           a           dB/div           g           0.0           0.0           0.0           0.0           0.0           0.0           0.0           0.0           0.0           0.0           0.0
1 / Peak Search Next Pc Next Pk Rig Next Pk L Marker Do Mkr→Ref	-13.00 dbm	02:56:34 TF Wkr1 5. -23.	ALIGN AUTO e: L-og-Pwr i: 48/100	Avg H	Free Run n: 30 dB	Trig: 1 #Atter	FGain:Low	50 Q AC 00000000 ( t 24 dB 00 dBm	Ref Offset Ref 0ffset	a         Image: Spect RL         Image: Spect RL

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CH 4

Model 18

Marker	4 Sep 11, 2018	02:00:26 PM TRAC	ALIGNAUTO e: Log-Pwr		SENSE:PULS		50 Ω AC		L kor 2
Rolant Mark	E 123456 MWWWWWW ET P NNNNN	TYF	1:> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low		040.320	
Select Marke		kr2 646.	М				et 24 dB	Ref Offs	
	95 dBm	-38.1					.00 dBm	Ref 40.	B/div
Norr		Y.							$\vdash$
De	-13.00 dBm								
				•2-					
Fixe	militupe	antonenserve	Jone and an your states	and the second second	nerentere to manufacture	age and a start and a start	eret and a second strend strends	ي. 19- 19- 19- 10 مار 19- 19- 19- 19-	al freedoor
									<u> </u>
	0000 GHz	Stop 1.0						) MHz	
			Sweep 9		300 kHz	#VB		100 kHz	
	DN VALUE	FUNCTIO	INCTION WIDTH	FUNCTION	29.773 dBm -38.195 dBm	4.43 MHz 6.92 MHz		f f	MODE T N N
Propertie					-36.195 GBM	0.92 MITZ	0	1	N
	=								
B.4	ľ								
<b>M</b> (	<b></b>								
	<b>•</b>	5	STATUS		11				
1	4 Sep 11, 2018	02:02:10 PN	ALIGNAUTO		SENSE:PULS		<mark>r - Swept SA</mark> 50 Ω AC	r <mark>um Analyze</mark> r RF	nt Specti
	4Sep 11, 2018 2 1 2 3 4 5 6	02:02:10 PM TRAC			Trig: Free Run	PNO: Fast		RF	L
1	4Sep 11, 2018 E 1 2 3 4 5 6 E M WWWWW eT P N N N N N	02:02:10 PM TRAC TYP DE	ALIGN AUTO e: Log-Pwr d:>100/100			GHz PNO: Fast IFGain:Low	50 Ω AC	RF 6.88800	L
1 Peak Search	4Sep 11, 2018 2 1 2 3 4 5 6	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC	RF 6.88800	L
۲ ، Peak Search Next Pe	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
1 - Peak Search	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
۲ ، Peak Search Next Pe	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
۲ ، Peak Search Next Pe	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
Peak Search Next Pe Next Pk Rig	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
Peak Search Next Pe Next Pk Rig Next Pk L	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
Peak Search Next Pe Next Pk Rig	45ep 11, 2018 EX 12 3 4 5 6 MWWWWW et P NNNNN 888 GHz 55 dBm	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
Peak Search Next Pe Next Pk Rig Next Pk L	15ep 11, 2018 1 2 3 4 5 6 M WWWWW ET P NNNN 888 GHz	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGN AUTO e: Log-Pwr d:>100/100		Trig: Free Run	PNO: Fast	50 Ω AC 000000000000000000000000000000000	RF 6.88800	ker 1
Peak Search Next Pe Next Pk Rig Next Pk L	45ep 11, 2018 EX 12 3 4 5 6 MWWWWW et P NNNNN 888 GHz 55 dBm	02:02:10 PM TRAC TYF DE <b>/ kr1 6.8</b>	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	45ep 11, 2018 EX 12 3 4 5 6 MWWWWW et P NNNNN 888 GHz 55 dBm	02:02:10PM TRAC TYN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div
1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	45ep 11, 2018 E 12 3 4 5 6 MWWWWW TP N N N N 888 GHz 55 dBm	02:02:10PM TRAC TYN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	RF 6.88800	B/div
Peak Search Next Pe Next Pk Rig Next Pk L Marker De	45ep 11, 2018 E 12 3 4 5 6 MWWWWW TP N N N N 888 GHz 55 dBm	02:02:10PM TRAC TYN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div
1 Peak Search Next Pc Next Pk Rig Next Pk L Marker Do	45ep 11, 2018 E 12 3 4 5 6 MWWWWW TP N N N N 888 GHz 55 dBm	02:02:10PM TRAC TYN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Dd Mkr→Ref	45ep 11, 2018 E 12 3 4 5 6 MWWWWW TP N N N N 888 GHz 55 dBm	02:02:10PM TRAC TYN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div
1 d Peak Search Next Pk Next Pk Rig Next Pk L Marker Dd Mkr→Ref	45ep 11, 2018 E 12 3 4 5 6 MWWWWW TP N N N N 888 GHz 55 dBm	02:02:10 PM TRAC 178A 178A 1787 1787 1787 1787 1787 1787	ALIGNAUTO e: Log-Pwr i> 100/100		Trig: Free Run #Atten: 30 dB	PNO: Fast C IFGain:Low	50 2 AC 00000000 et 24 dB .00 dBm	Ref Offss Ref Offss Ref 40.	B/div

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CH 5

Model 19

										ctrum Ana	
Peak Search	M Sep 11, 2018 CE 1 2 3 4 5 6 PE M WWWWWW ET P N N N N N	TRAC TYP	10:0	ALIGNAUTO e: Log-Pwr d>100/100	Avg 1 Avg H	SENSE: PULSE	÷	PNO: Fast	50 Ω AC 00000000 I	2 774.	rker 2
NextPe	96 MHz 60 dBm	774.9		M		en: 30 dB	,	IFGain:Low	set 24 dB 1.00 dBm		dB/div
Next Pk Ri		()1									
											0
Next Pk L	-13.00 dBm										o
Marker D	าประกิจารายการร	hum	ala an	normality and the second	hannondon de	hlandson and an inde	نيون مسرمان.	ميواريد بيني مارور العوم	antestad annaghte	ana na sa	0 <b></b>
Mkr⊸	0000 GHz 1001 pts)			Sweep 9		<hz< td=""><td>BW 3</td><td>#VI</td><td>2</td><td>).0 MHz W 100 I</td><td>art 30.</td></hz<>	BW 3	#VI	2	).0 MHz W 100 I	art 30.
	DN VALUE	FUNCTIO	F	INCTION WIDTH	UNCTION	23 dBm 50 dBm	5	0.32 MHz 4.96 MHz	× 80	TRC SCL 1 f 1 f	MODE N N
Mkr→Ref						o ubm		4.30 MHZ	,		
м											
1											
1	×		3	STATU							
1			5	STATUS					r - Swept SA	ctrum Ana	
1 Peak Search	M Sep 11, 2018 CE 1 2 3 4 5 6 PE M WWWWWW	TRAC TYP		ALIGN AUTO e: Log-Pwr d> 100/100	Avg T Avg H	SENSE:PULSE			r - Swept SA 50 Ω AC 00000000	RF	RL
Peak Search	M Sep 11, 2018 CE 1 2 3 4 5 6	TRAC TYP DE	10:0	ALIGN AUTO e: Log-Pwr d>100/100	Avg 1 Avg H			GHz PNO: Fast IFGain:Low	50 Ω AC	R⊧ 1 5.53 Ref 0	rker '
	M Sep 11, 2018 CE 1 2 3 4 5 6 PE MWWWWW ET P NNNN 536 GHz	TRAC TYP DE	10:0	ALIGN AUTO e: Log-Pwr d>100/100	Avg Avg H	Free Run		PNO: Fast	50 Ω AC 000000000	R⊧ 1 5.53 Ref 0	rter 1
Peak Search Next Pe	M Sep 11, 2018 CE 1 2 3 4 5 6 PE MWWWWW ET P NNNN 536 GHz	TRAC TYP DE	10:0	ALIGN AUTO e: Log-Pwr d>100/100	Avg Avg H	Free Run		PNO: Fast	50 Ω AC 000000000	R⊧ 1 5.53 Ref 0	dB/div
Peak Search Next Pe Next Pk Rig	M Sep 11, 2018 CE 1 2 3 4 5 6 PE M WWWWW ET P N N N N 536 GHz	TRAC TYP DE	10:0	ALIGN AUTO e: Log-Pwr d>100/100	Avg T Avg H	Free Run		PNO: Fast	50 Ω AC 000000000	R⊧ 1 5.53 Ref 0	dB/div
Peak Search Next Pe Next Pk Rig	MSep11,2018 ct 12 3 4 5 6 FMWWWW et P NNNN 336 GHz 74 dBm	TRAC TYP DE	10:0	ALIGN AUTO e: Log-Pwr d>100/100	Avg Avg	Free Run		PNO: Fast	50 Ω AC 000000000	R⊧ 1 5.53 Ref 0	dB/div
Peak Search Next Pe Next Pk Ri Next Pk L	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 536 GHz 74 dBm	TRACA TYPP DE 1 5.5 22.2	10:C	ALIGN AUTO e: Log-Pwr i> 100/100		Free Run n: 30 dB		PNO: Fast IFGain:Low	50 Ω AC 000000000 eet 24 dB .00 dBm	Ref (	
Peak Search Next Pe Next Pk Ri Next Pk L Marker D	MSep11,2018 ct 12 3 4 5 6 FMWWWW et P NNNN 336 GHz 74 dBm	TRACA TYPP DE 1 5.5 22.2	10:C	ALIGN AUTO e: Log-Pwr i> 100/100	Avgli	Free Run n: 30 dB		PNO: Fast IFGain:Low	50 Ω AC 000000000 eet 24 dB .00 dBm	R⊧ 1 5.53 Ref 0	
Peak Search Next Pe Next Pk Ri Next Pk L Marker D	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 536 GHz 74 dBm	TRACA TYPP DE 1 5.5 22.2	10:C	ALIGN AUTO e: Log-Pwr i> 100/100	Avgli	Free Run n: 30 dB		PNO: Fast IFGain:Low	50 Ω AC 000000000 eet 24 dB .00 dBm	Ref (	
Peak Search Next Pc Next Pk Ri Next Pk L Marker D	MSep 11, 2018 EE 12 3 4 5 6 EM WWWWW ET P NNNNN 536 GHz 74 dBm	ттаса тур ре 1 5.5 22.2	10:0	ALIGN AUTO e: Log-Pwr i> 100/100	Avgli	Free Run n: 30 dB		PNO: Fast IFGain:Low	50 Ω AC 000000000 eet 24 dB .00 dBm	Ref (	

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CH 6

11:31:57 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 SENSE:PULSE ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Marker Marker 2 671.170000000 MHz TYPE MWWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Select Marker Mkr2 671.17 MHz -38.111 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log 30. Norma 20.1 0.0 Delta 20.0 30.0 Ø 40.0 **Fixed** 50.0 Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL FUNCTION WIDTH 814.73 MHz 671.17 MHz 30.342 dBm -38.111 dBm 1 N 3 4 5 6 7 8 9 10 11 f Properties) More 1 of 2 STATUS 11:34:02 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 Avg Type: Log-Pwr Avg|Hold>100/100 Peak Search Marker 1 5.736000000000 GHz TYPE MWWWWW DET P N N N N PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Next Peak Mkr1 5.736 GHz Ref Offset 24 dB Ref 40.00 dBm -22.059 dBm 10 dB/div Log Next Pk Right 30. 20.1 Next Pk Left 0.00 Marker Delta 10.0 -13.00 d 20.0 Mkr→CF J.L. 30. 40 Mkr→RefLv 50.0 More 1 of 2 Stop 9.000 GHz Sweep 13.33 ms (1001 pts) Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz STATUS

Next Pk Left

Marker Delta

Mkr→CF

Mkr→RefLv

More 1 of 2

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10 dB/div Log 30.

20.1

0.0

20.0 30.0 40.0

50.0

10 dB/div Log

30. 20.1

0.00

20.0

30. 40.

50.0

202

Start 1.000 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

f

CH 3 Model 21 02:55:48 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 SENSE:PULSE ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Marker Marker 2 702.210000000 MHz TYPE MWWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Select Marker Mkr2 702.21 MHz -37.055 dBm Ref Offset 24 dB Ref 40.00 dBm Norma Delta **Fixed** Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL FUNCTION WIDTH 869.05 MHz 702.21 MHz 31.491 dBm -37.055 dBm Properties) More 1 of 2 STATUS 23 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Avg Type: Log-Pwr Avg|Hold>100/100 Marker 1 5.832000000000 GHz TYPE NNNN DET PNNNN PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Next Peak Mkr1 5.832 GHz Ref Offset 24 dB Ref 40.00 dBm -22.420 dBm Next Pk Right

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Stop 9.000 GHz

Sweep 13.33 ms (1001 pts)

STATUS

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30

20.1 10.

20.0 30.0

40.0

50.0

30 20.

0.00

10

20.0

an.

40. 50.1

CH 4 Model 22 Agtion: Spectrum wave A RL RF SO Q AC Marker 2 636.250000000 MHz PN0: Fast IFGain:Low 02:00:59 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 Marker TYPE MWWWW DET P N N N N Trig: Free Run #Atten: 30 dB Select Marker Mkr2 636.25 MHz -37.881 dBm 2 Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Δ Norma Delta ¢ **Fixed** Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL UNCTION FUNCTION WIDTH UNCTION VALUE 824.43 MHz 636.25 MHz N N f f 27.571 dBm -37.881 dBm **Properties** More 1 of 2 STATUS Agence 27 ON RL RF 50 Ω AC | Marker 1 6.264000000000 GHz PN0: Fast G IFGain:Low 48 PM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Avg Type: Log-Pwr Avg|Hold>100/100 Trig: Free Run #Atten: 30 dB TYPE MWWWWW DET P N N N N Next Peak Mkr1 6.264 GHz Ref Offset 24 dB Ref 40.00 dBm -23.258 dBm 10 dB/div Next Pk Right Next Pk Left Marker Delta **♦**<sup>1</sup> Mkr→CF ا ملل LIG-LL Mkr→RefLvl More 1 of 2 Stop 9.000 GHz Sweep 13.33 ms (1001 pts) Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz

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STATUS

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30.

30. 20.1

20.1

30. 40.

50.0

202

CH 5

Model 23 10:04:33 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 SENSE:PULSE ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Trace/Detector Marker 2 676.020000000 MHz Trig: Free Run #Atten: 30 dB TYPE MWWWWWW DET P N N N N PNO: Fast 😱 IFGain:Low Select Trace Mkr2 676.02 MHz -37.494 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log <∕∖1 **Clear Write** 20.1 0.0 Trace Average 20.0 30.0 0 40.0 Max Hold 50.0 Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Min Hold MKR MODE TRC SCL FUNCTION WIDTH 31.795 dBm -37.494 dBm 1 N 3 4 5 6 7 8 9 10 11 860.32 MHz 676.02 MHz f View Blank Trace On More 1 of 3 STATUS 10:06:10 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 Peak Search Avg Type: Log-Pwr Avg|Hold>100/100 Marker 1 5.560000000000 GHz TYPE MWWWWW DET P N N N N PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Next Peak Mkr1 5.560 GHz Ref Offset 24 dB Ref 40.00 dBm -22.656 dBm 10 dB/div Log Next Pk Right Next Pk Left 0.00 Marker Delta ♦¹ Mkr→CF Mkr→RefLv More 1 of 2 Start 1.000 GHz Stop 9.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 13.33 ms (1001 pts) STATUS

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30.

20.1

0.0

20.0

30.0 40.0

50.0

30. 20.1

0.00

10.0 20.0

30. 40

50.0

CH 6 Model 24 11:32:37 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 SENSE:PULSE ALIGN A Avg Type: Log-Pwr Avg|Hold>100/100 Marker Marker 2 472.320000000 MHz TYPE MWWWWW DET P N N N N Trig: Free Run #Atten: 30 dB PNO: Fast 😱 IFGain:Low Select Marker Mkr2 472.32 MHz -36.701 dBm Ref Offset 24 dB Ref 40.00 dBm 10 dB/div Log Norma Delta  $\diamond^2$ **Fixed** Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Off MKR MODE TRC SCL FUNCTION WIDTH 814.73 MHz 472.32 MHz 28.614 dBm -36.701 dBm 1 N 3 4 5 6 7 8 9 10 11 f Properties More 1 of 2 STATUS 11:33:28 AM Sep 11, 2018 TRACE 1 2 3 4 5 6 Avg Type: Log-Pwr Avg|Hold>100/100 Peak Search Marker 1 5.752000000000 GHz TYPE NNNN DET PNNNN PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Next Peak Mkr1 5.752 GHz Ref Offset 24 dB Ref 40.00 dBm -22.544 dBm 10 dB/div Log Next Pk Right Next Pk Left Marker Delta Mkr→CF Mkr→RefLv More 1 of 2 Start 1.000 GHz Stop 9.000 GHz Sweep 13.33 ms (1001 pts) #Res BW 1.0 MHz #VBW 3.0 MHz STATUS

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# 9. FREQUENCY STABILITY

- 9.1 PROVISIONS APPLICABLE
  - 1) According to FCC Part 2 Section 2.1055 (a)(1), the frequency stability shall be measured with variation of ambient temperature from -30°C to +70°C centigrade.
  - 2) According to FCC Part 2 Section 2.1055 (a) (2), for battery powered equipment, the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacture.
  - 3) Vary primary supply voltage from 85 to 115 percent of the nominal value.
  - 4)

		Mobile stations	
Frequency range (MHz)	Fixed and base stations	Over 2 watts output power	2 watts or less output power
Below 25	<sup>1 2 3</sup> 100	100	200
25-50	20		50
72-76	5		50
150-174	<sup>5 11</sup> 5	<sup>6</sup> 5	<sup>46</sup> 50
216-220	1.0		1.0
220-222 <sup>12</sup>	0.1	1.5	1.5
421-512	<sup>7 11 14</sup> 2.5	<sup>8</sup> 5	<sup>8</sup> 5
806-809	<sup>14</sup> 1.0		1.5
809-824	<sup>14</sup> 1.5		2.5
851-854	1.0		1.5
854-869	1.5	2.5	2.5
896-901	<sup>14</sup> 0.1	1.5	1.5
902-928	2.5	2.5	2.5
902-928 <sup>13</sup>	2.5	2.5	2.5
929-930	1.5		
935-940	0.1	1.5	1.5
1427-1435	<sup>9</sup> 300	300	300
Above 2450 <sup>10</sup>			

9.2 MEASUREMENT PROCEDURE

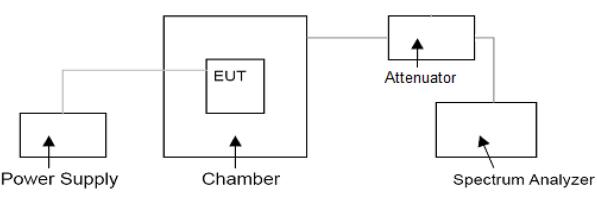
a. The EUT was connected to the spectrum analyzer through sufficent attenuation.

b. The EUT was set in the climate chamber and connected to an external DC power supply

c. After temperature stabilization (approx. 20 min for each stage), the frequency for the lower, the middle and the highest frequency range was recorded.

d For Frequency stability Vs. Voltage the EUT was connected to a DC power supply and the voltage was adjusted in the required ranges. The result was recorded.

9.3 TEST SETUP BLOCK DIAGRAM





Mode 1



CH 1

Temperature	Voltage	Nominal	Measured			
(°C)	(V)	Frequency	Frequency	ppm	Limit	Result
(0)	( )	(MHz)	(MHz)			
-30		851.00625	851.0067	0.529		
-20		851.00625	851.0065	0.294		
-10		851.00625	851.0065	0.294		
0		851.00625	851.0067	0.529		
10		851.00625	851.0065	0.294		
20	Normal Voltage	851.00625	851.0067	0.529		
30		851.00625	851.0063	0.059	1.0 ppm	PASS
40		851.00625	851.0065	0.294		
50		851.00625	851.0067	0.529		
60		851.00625	851.0065	0.294		
70		851.00625	851.0066	0.411		
25	Maximum Voltage	851.00625	851.0065	0.294		
25	BEP	851.00625	851.0067	0.529		

# CH 2

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Mode 2

Temperature (°C)	Voltage (V)	Nominal Frequency (MHz)	Measured Frequency (MHz)	ppm	Limit	Result
-30	Normal Voltage	806.00625	806.0067	0.558	1.0 ppm	PASS
-20		806.00625	806.0066	0.434		
-10		806.00625	806.0065	0.310		
0		806.00625	806.0065	0.310		
10		806.00625	806.0067	0.558		
20		806.00625	806.0067	0.558		
30		806.00625	806.0063	0.062		
40		806.00625	806.0066	0.434		
50		806.00625	806.0067	0.558		
60		806.00625	806.0065	0.310		
70		806.00625	806.0063	0.062		
25	Maximum Voltage	806.00625	806.0067	0.558		
	BEP	806.00625	806.0065	0.310		

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CH 3
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Mode 9

Temperature (°C)	Voltage (V)	Nominal Frequency (MHz)	Measured Frequency (MHz)	ppm	Limit	Result
-30		868.98750	868.9880	0.575		
-20	Normal Voltage	868.98750	868.9880	0.575	1.5 ppm	PASS
-10		868.98750	868.9879	0.460		
0		868.98750	868.9881	0.690		
10		868.98750	868.9881	0.690		
20		868.98750	868.9881	0.690		
30		868.98750	868.9881	0.690		
40		868.98750	868.9878	0.345		
50		868.98750	868.9879	0.460		
60		868.98750	868.9875	0.000		
70		868.98750	868.9878	0.345		
25	Maximum Voltage	868.98750	868.9880	0.575		
25	BEP	868.98750	868.9877	0.230		

CH 4

Mode 10

Temperature (°C)	Voltage (V)	Nominal Frequency (MHz)	Measured Frequency (MHz)	ppm	Limit	Result
-30	Normal Voltage	823.98750	823.9880	0.607	1.5 ppm	PASS
-20		823.98750	823.9878	0.364		
-10		823.98750	823.9881	0.728		
0		823.98750	823.9881	0.728		
10		823.98750	823.9881	0.728		
20		823.98750	823.9879	0.485		
30		823.98750	823.9880	0.607		
40		823.98750	823.9880	0.607		
50		823.98750	823.9881	0.728		
60		823.98750	823.9877	0.243		
70		823.98750	823.9879	0.485		
25	Maximum Voltage	823.98750	823.9880	0.607		
	BEP	823.98750	823.9878	0.364		

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Mode 11

Tomporatura	Voltago	Nominal	Measured			
Temperature (°C)	Voltage (V)	Frequency	Frequency	ppm	Limit	Result
	(•)	(MHz)	(MHz)			
-30	Normal Voltage	860.00000	860.0005	0.581	1.5 ppm	PASS
-20		860.00000	860.0006	0.698		
-10		860.00000	860.0006	0.698		
0		860.00000	860.0004	0.465		
10		860.00000	860.0006	0.698		
20		860.00000	860.0003	0.349		
30		860.00000	860.0005	0.581		
40		860.00000	860.0002	0.233		
50		860.00000	860.0006	0.698		
60		860.00000	860.0005	0.581		
70		860.00000	860.0006	0.698		
25	Maximum Voltage	860.00000	860.0000	0.000		
	BEP	860.00000	860.0002	0.233		

# CH 6

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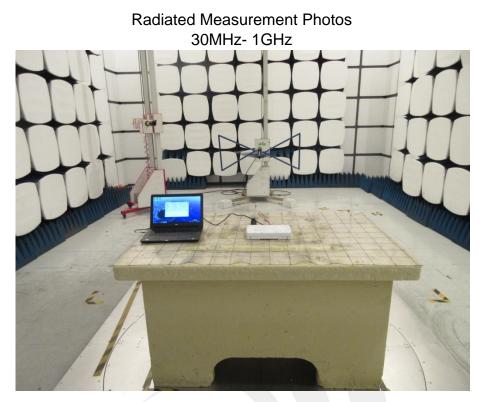
Mode 12

Temperature	Voltage	Nominal Frequency	Measured Frequency	ppm	Limit	Result
(°C)	(V)	(MHz)	(MHz)	PPIII	Linit	Roodit
-30	Normal Voltage	815.00000	815.0005	0.613	1.5 ppm	PASS
-20		815.00000	815.0006	0.736		
-10		815.00000	815.0004	0.491		
0		815.00000	815.0004	0.491		
10		815.00000	815.0006	0.736		
20		815.00000	815.0006	0.736		
30		815.00000	815.0006	0.736		
40		815.00000	815.0005	0.613		
50		815.00000	815.0006	0.736		
60		815.00000	815.0005	0.613		
70		815.00000	815.0002	0.245		
25	Maximum Voltage	815.00000	815.0005	0.613		
	BEP	815.00000	815.0005	0.613		

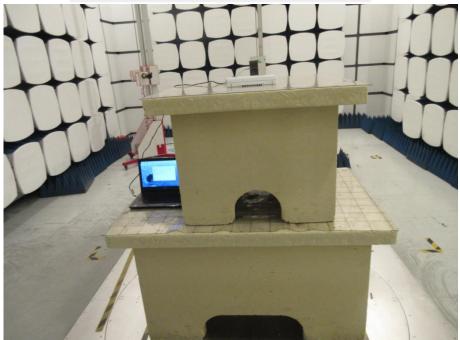


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# **10. PHOTOS OF TEST SETUP**



Above 1GHz



Shenzhen STS Test Services Co., Ltd.