

TEST REPORT

Applicant: Autel Robotics Co.,Ltd.

Address of Applicant: 9th Floor, Bldg.B1, Zhiyuan, 1001 Xueyuan Rd.,Xili, Nanshan, Shenzhen, China

Manufacturer/Factory: Autel Robotics Co.,Ltd.

Address of Manufacturer/Factory: 9th Floor, Bldg.B1, Zhiyuan, 1001 Xueyuan Rd.,Xili, Nanshan, Shenzhen, China

Equipment Under Test (EUT)

Product Name: EVO II

Model No.: MDCA

Trade Mark: AUTEL

FCC ID: 2AGNTMCA2458A

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: Sep. 17, 2020

Date of Test: Sep. 17, 2020 – Jan. 18, 2021

Date of report issued: Jan. 18, 2021

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular blue ink stamp from GTS (Global United Technology Services Co., Ltd.) is visible. The stamp contains the text "GTS", "GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD.", and "LABORATORY". Overlaid on the stamp is a handwritten signature in blue ink.

Robinson Luo

Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	Jan. 18, 2021	Original

Prepared By:



Date:

Jan. 18, 2021

Project Engineer

Check By:



Date:

Jan. 18, 2021

Reviewer

3 Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 CONTENTS	3
4 TEST SUMMARY	4
5 GENERAL INFORMATION	5
5.1 GENERAL DESCRIPTION OF EUT	5
5.2 TEST MODE	7
5.3 DESCRIPTION OF SUPPORT UNITS	7
5.4 DEVIATION FROM STANDARDS	7
5.5 ABNORMALITIES FROM STANDARD CONDITIONS	7
5.6 TEST FACILITY	7
5.7 TEST LOCATION	7
5.8 ADDITIONAL INSTRUCTIONS	7
6 TEST INSTRUMENTS LIST	8
7 TEST RESULTS AND MEASUREMENT DATA	10
7.1 ANTENNA REQUIREMENT	10
7.2 CONDUCTED PEAK OUTPUT POWER	11
7.3 CHANNEL BANDWIDTH	13
7.4 POWER SPECTRAL DENSITY	20
7.5 BAND EDGES	27
7.5.1 Conducted Emission Method	27
7.5.2 Radiated Emission Method	30
7.6 SPURIOUS EMISSION	37
7.6.1 Conducted Emission Method	37
7.6.2 Radiated Emission Method	43
8 TEST SETUP PHOTO	66
9 EUT CONSTRUCTIONAL DETAILS	66

4 Test Summary

Test Item	Section	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	N/A
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Remark: Test according to ANSI C63.10:2013 and RSS-Gen

Pass: The EUT complies with the essential requirements in the standard.

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

5 General Information

5.1 General Description of EUT

Product Name:	EVO II	
Model No.:	MDCA	
Serial No.:	N/A	
Hardware version	V202012	
Software version	V202012	
Test sample(s) ID:	GTSL202012000140-1	
Sample(s) Status:	Engineer sample	
Operation Frequency:	1.25MHz Bandwidth	2405.00MHz~2475.00MHz
	10MHz Bandwidth	2406.00MHz~2466.00MHz
	20MHz Bandwidth	2412.00MHz~2460.00MHz
Support Bandwidth:	1.25MHz Bandwidth 10MHz Bandwidth 20MHz Bandwidth	
Channel Numbers:	1.25MHz Bandwidth	71
	10MHz Bandwidth	61
	20MHz Bandwidth	49
Channel Separation:	1MHz	
Modulation Type:	1.25MHz Bandwidth	QPSK
	10MHz Bandwidth	16QAM
	20MHz Bandwidth	16QAM
Antenna Type:	Integral antenna	
Antenna working mode:	1.25MHz Bandwidth	1T2R(Only Antenna 1 transmit signal)
	10MHz Bandwidth	2T2R(Support MIMO)
	20MHz Bandwidth	2T2R(Support MIMO)
Antenna Gain(Original):	Antenna 1:1.8dBi Antenna 2:1.3dBi	
Antenna Gain(Optional):	Antenna 1:1.7dBi Antenna 2:2.7dBi	
Power supply:	DC 11.55V rechargeable battery	

*Directional gain of MIMO mode (Original Antenna)= $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / NANT]$ dBi=4.564dBi

*Directional gain of MIMO mode (Optional Antenna)= $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / NANT]$ dBi=5.225dBi

Operation Frequency each of channel			
1.25MHz Bandwidth			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2405	36	2441
2	2406	.....	.....
3	2407	.....	.....
.....			
.....	.....	70	2474
35	2440	71	2475

Operation Frequency each of channel			
10MHz Bandwidth			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2406	31	2436
2	2407	.....	.....
3	2408	.....	.....
.....			
.....	.....	60	2465
30	2435	61	2466

Operation Frequency each of channel			
20MHz Bandwidth			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	25	2436
2	2413	.....	.....
3	2414	.....	.....
.....			
.....	.....	48	2459
24	2435	49	2460

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, and the selected channel see below:

Bandwidth	Frequency(MHz)		
	Lowest channel	Middle channel	Highest channel
1.25MHz	2405.00	2441.00	2475.00
10MHz	2406.00	2436.00	2466.00
20MHz	2412.00	2436.00	2460.00

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
<i>Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

- **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

RF Conducted Test:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 25 2020	June. 24 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021

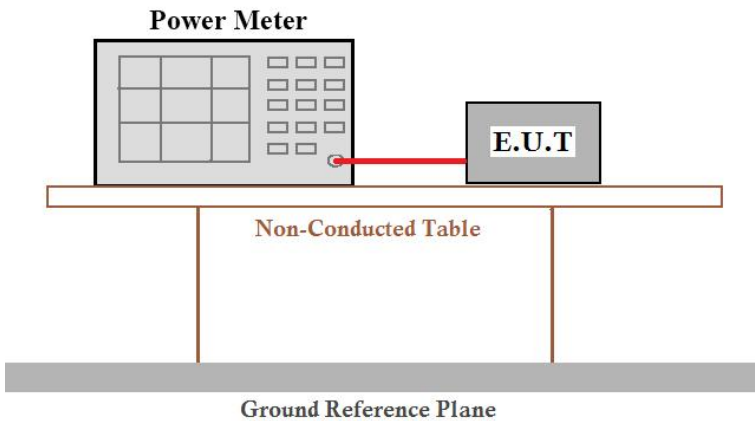
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
<i>The antennas are integral antenna, the best case gain of the original antenna 1 is 1.8dBi, original antenna 2 is 1.3dBi, the optional antenna 1 is 1.7dBi, optional antenna 2 is 2.7dBi reference to the appendix II for details</i>	

7.2 Conducted Peak Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	KDB558074 D01 DTS Meas Guidance v05or02 KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Power Meter is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by two vertical legs. Below the table is a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Antenna 1:

Type	Test Channel	Peak Output Power (dBm)	Limit(dBm)	Result
1.25MHz Bandwidth	Lowest	22.667	30.00	Pass
	Middle	22.551		
	Highest	22.635		
10MHz Bandwidth	Lowest	21.35	30.00	Pass
	Middle	21.15		
	Highest	21.17		
20MHz Bandwidth	Lowest	20.80	30.00	Pass
	Middle	20.92		
	Highest	20.50		

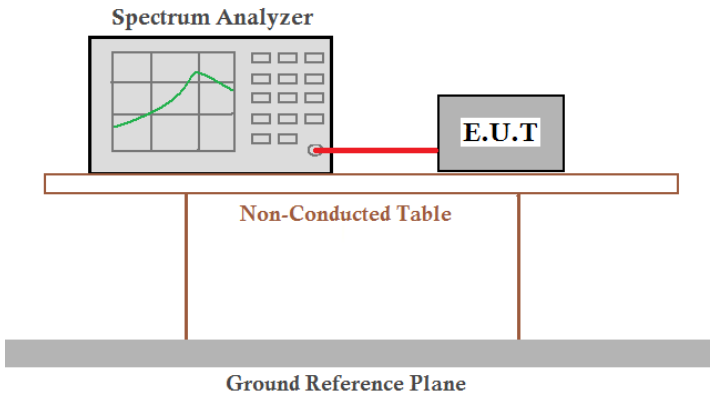
Antenna 2:

Type	Test Channel	Peak Output Power (dBm)	Limit(dBm)	Result
10MHz Bandwidth	Lowest	21.27	30.00	Pass
	Middle	20.93		
	Highest	21.09		
20MHz Bandwidth	Lowest	20.11	30.00	Pass
	Middle	20.18		
	Highest	20.00		

MIMO:

Type	Test Channel	Peak Output Power (dBm)			Limit(dBm)	Result
		Antenna 1	Antenna 2	Total		
10MHz Bandwidth	Lowest	21.35	21.27	24.32	30.00	Pass
	Middle	21.15	20.93	24.05		
	Highest	21.17	21.09	24.14		
20MHz Bandwidth	Lowest	20.80	20.11	23.48	30.00	Pass
	Middle	20.92	20.18	23.58		
	Highest	20.50	20.00	23.27		

7.3 Channel Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	KDB558074 D01 DTS Meas Guidance v05or02 KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	>500KHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs. Below the table is a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Antenna 1:

Type	Test CH	Channel Bandwidth (MHz)	Limit(KHz)	Result
1.25MHz Bandwidth	Lowest	1.168	>500	Pass
	Middle	1.159		
	Highest	1.169		
10MHz Bandwidth	Lowest	8.727	>500	Pass
	Middle	8.607		
	Highest	8.977		
20MHz Bandwidth	Lowest	17.36	>500	Pass
	Middle	17.77		
	Highest	17.87		

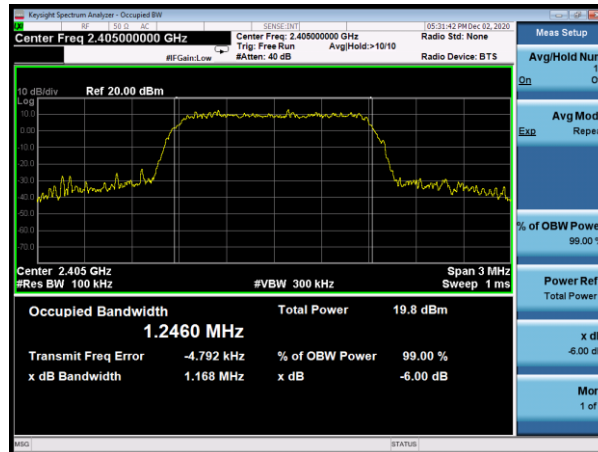
Antenna 2:

Type	Test CH	Channel Bandwidth (MHz)	Limit(KHz)	Result
10MHz Bandwidth	Lowest	8.711	>500	Pass
	Middle	8.833		
	Highest	8.893		
20MHz Bandwidth	Lowest	17.76	>500	Pass
	Middle	17.59		
	Highest	17.65		

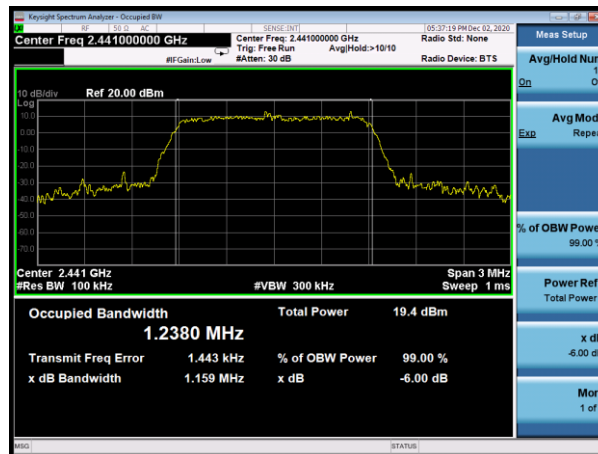
Test plot as follows:

Antenna 1:

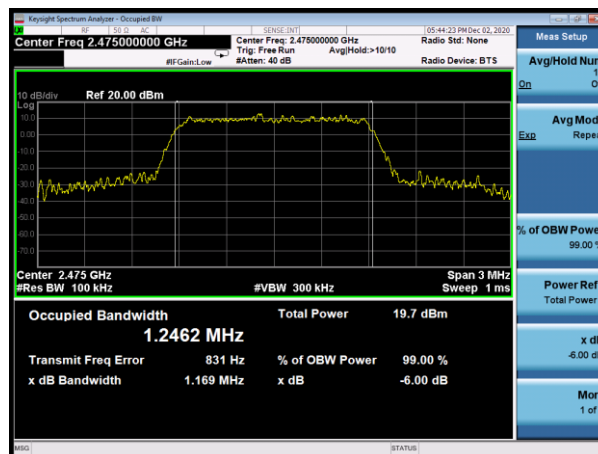
1.25MHz Bandwidth



Lowest channel



Middle channel

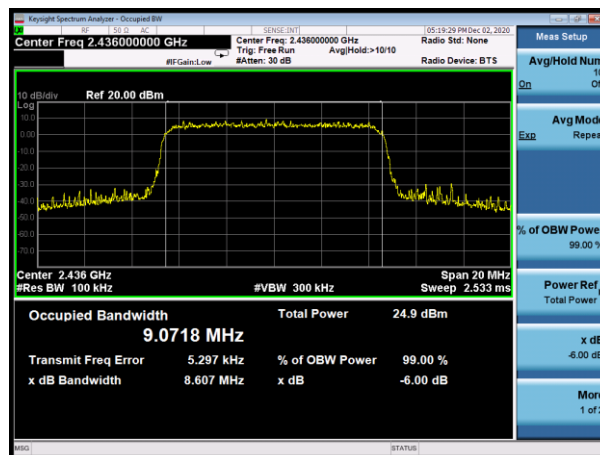


Highest channel

10MHz Bandwidth



Lowest channel

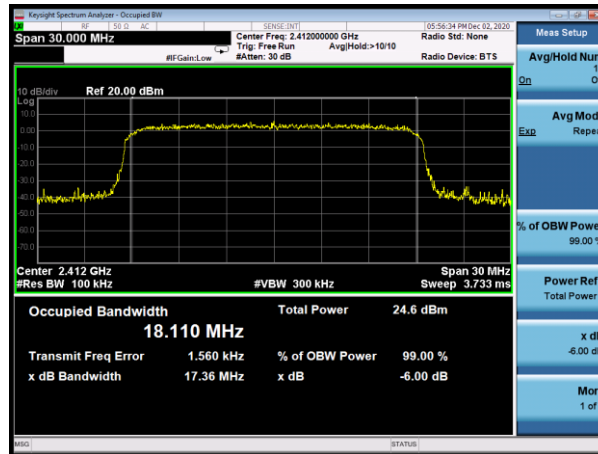


Middle channel

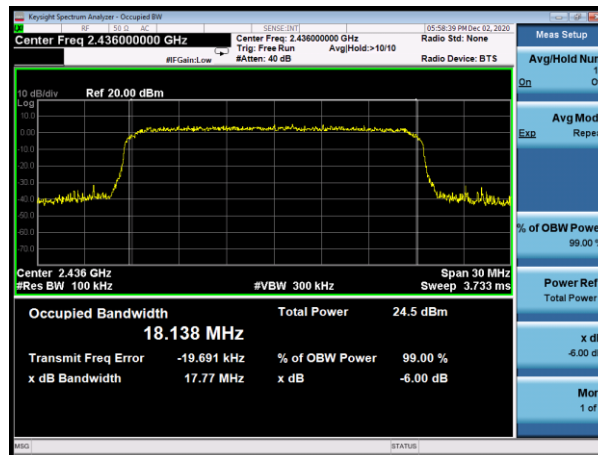


Highest channel

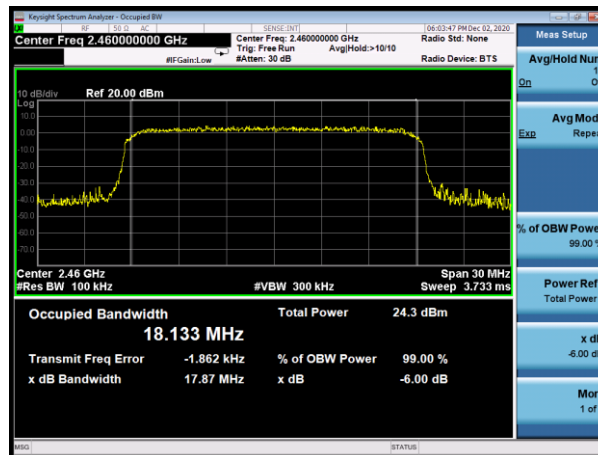
20MHz Bandwidth



Lowest channel



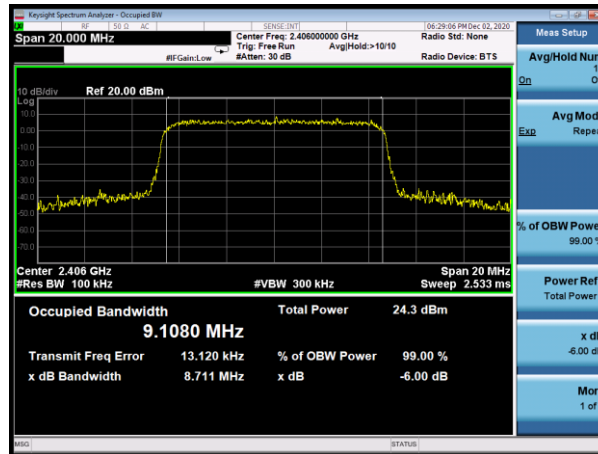
Middle channel



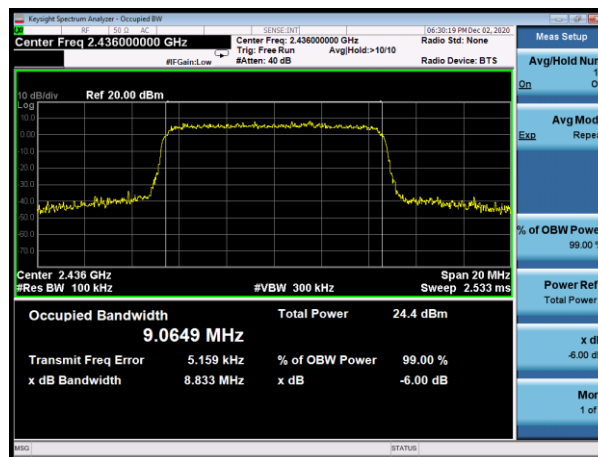
Highest channel

Antenna 2:

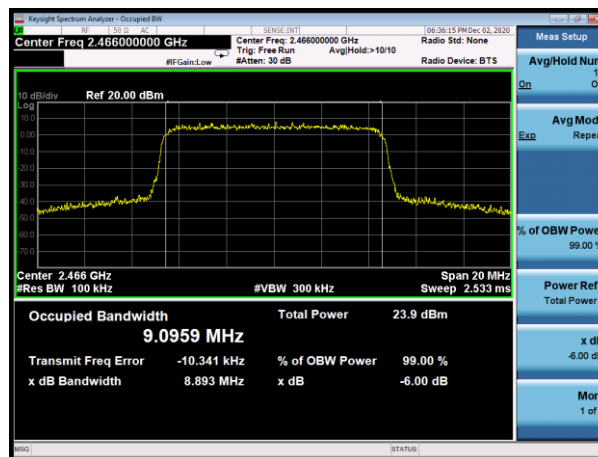
10MHz Bandwidth



Lowest channel

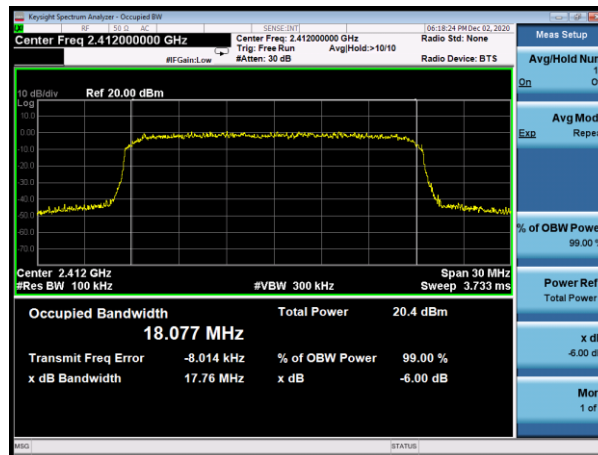


Middle channel

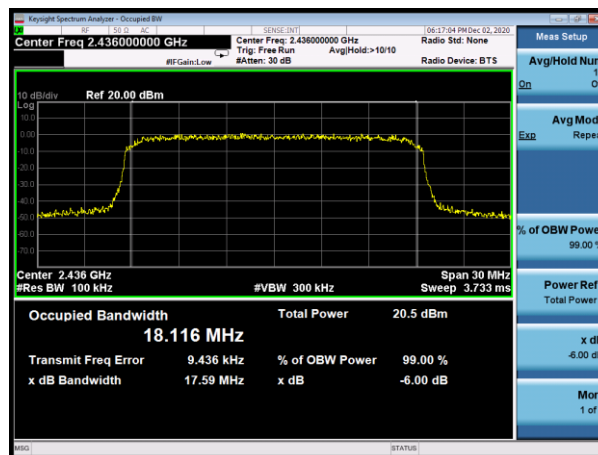


Highest channel

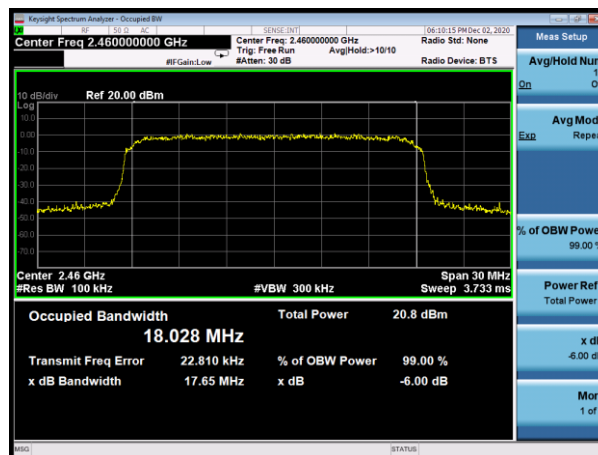
20MHz Bandwidth



Lowest channel

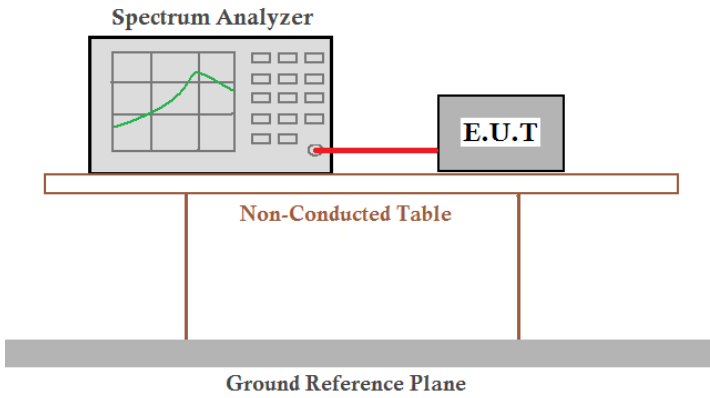


Middle channel



Highest channel

7.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D01 DTS Meas Guidance v05or02 KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	8dBm/3kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Antenna 1:

Type	Test CH	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
1.25MHz Bandwidth	Lowest	-4.920	8.00	Pass
	Middle	-5.039		
	Highest	-4.728		
10MHz Bandwidth	Lowest	-10.894	8.00	Pass
	Middle	-7.258		
	Highest	-8.987		
20MHz Bandwidth	Lowest	-4.116	8.00	Pass
	Middle	-4.270		
	Highest	-4.757		

Antenna 2:

Type	Test CH	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
10MHz Bandwidth	Lowest	-8.318	8.00	Pass
	Middle	-6.954		
	Highest	-8.431		
20MHz Bandwidth	Lowest	-11.229	8.00	Pass
	Middle	-10.593		
	Highest	-11.847		

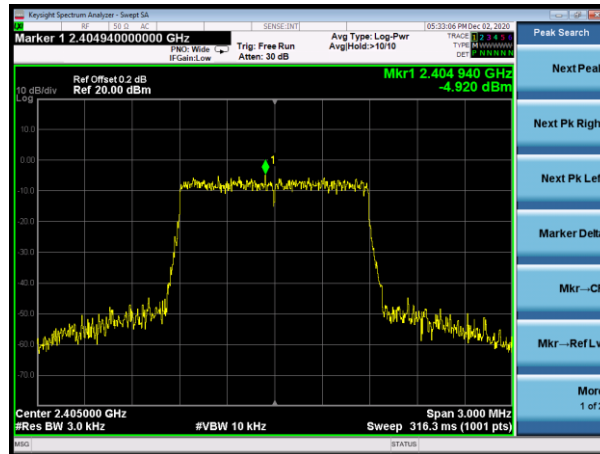
MIMO:

Type	Test Channel	Power Spectral Density (dBm/3kHz)			Limit (dBm/3kHz)	Result
		Antenna 1	Antenna 2	Total		
10MHz Bandwidth	Lowest	-10.894	-8.318	-6.407	8.00	Pass
	Middle	-7.258	-6.954	-4.093		
	Highest	-8.987	-8.431	-5.690		
20MHz Bandwidth	Lowest	-4.116	-11.229	-3.344	8.00	Pass
	Middle	-4.270	-10.593	-3.360		
	Highest	-4.757	-11.847	-3.982		

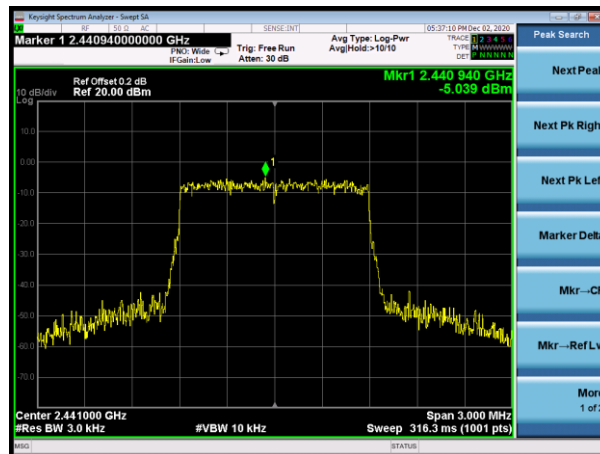
Test plot as follows:

Antenna 1:

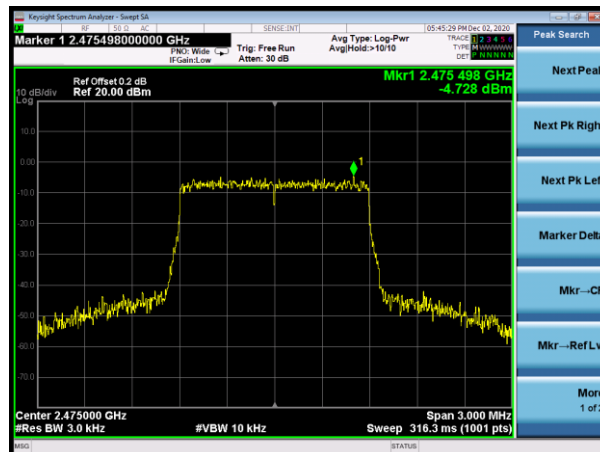
1.25MHz Bandwidth



Lowest channel

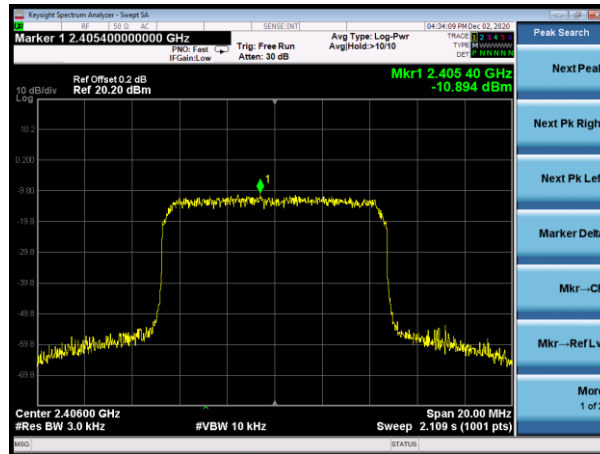


Middle channel

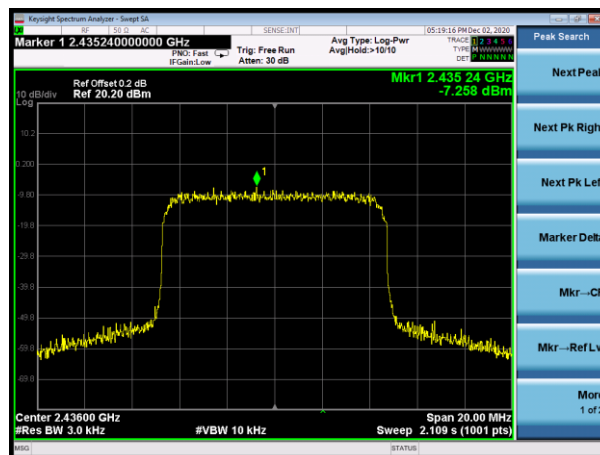


Highest channel

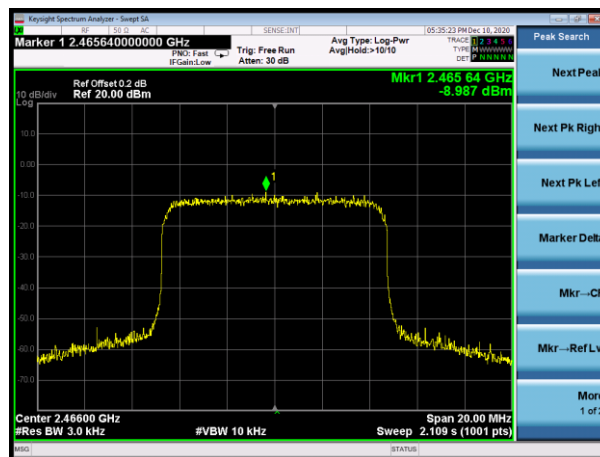
10MHz Bandwidth



Lowest channel

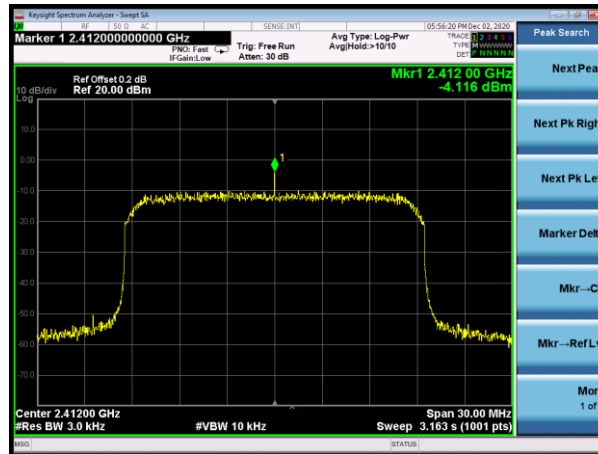


Middle channel

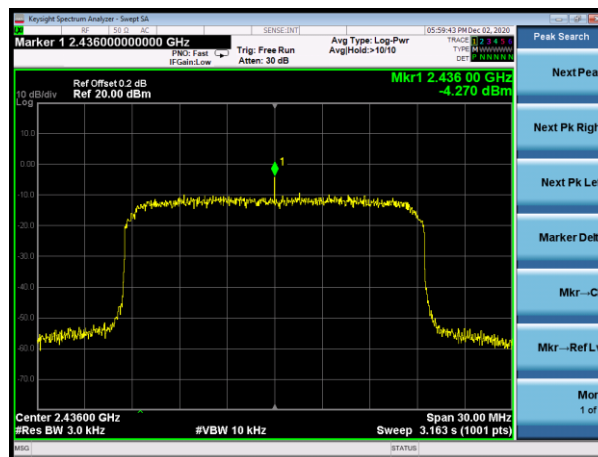


Highest channel

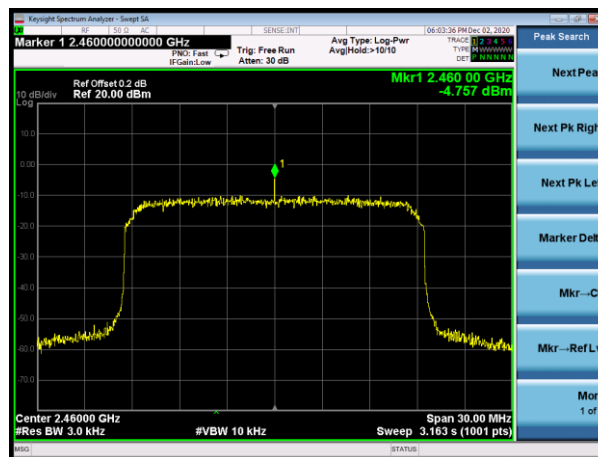
20MHz Bandwidth



Lowest channel



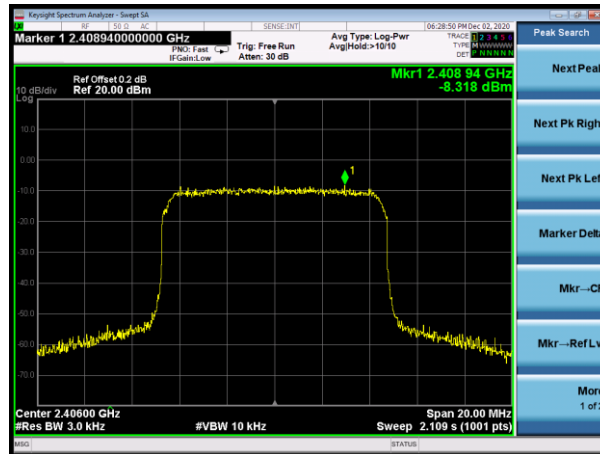
Middle channel



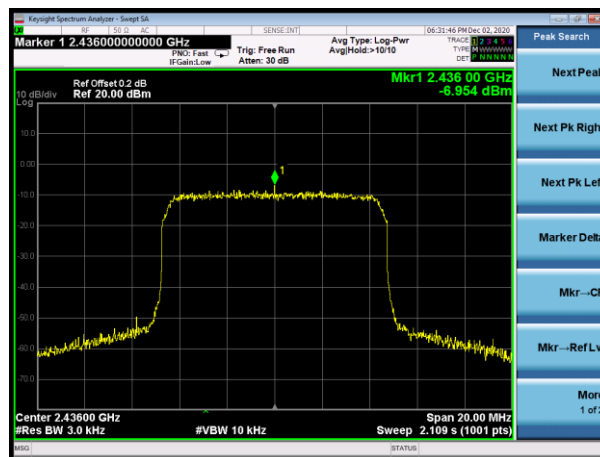
Highest channel

Antenna 2:

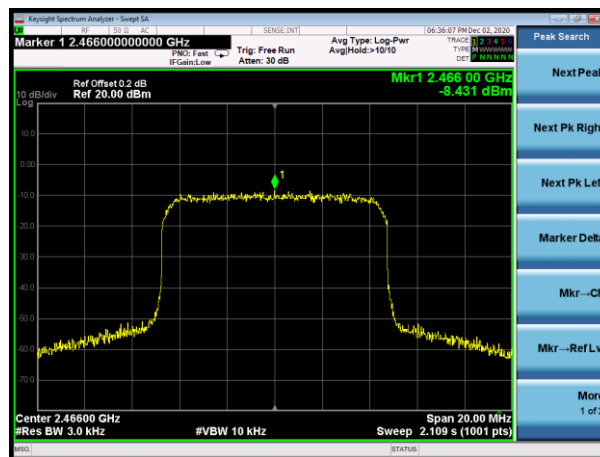
10MHz Bandwidth



Lowest channel

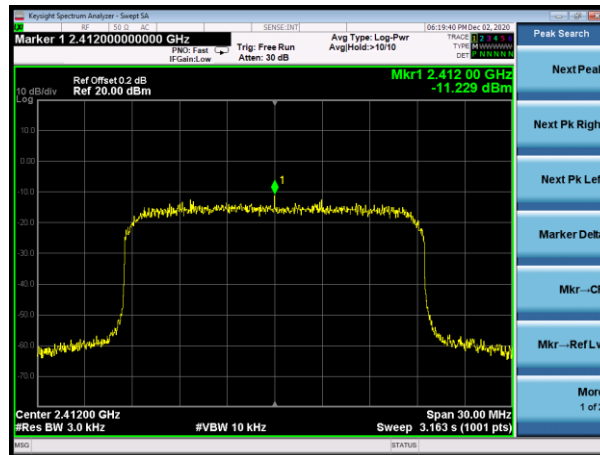


Middle channel

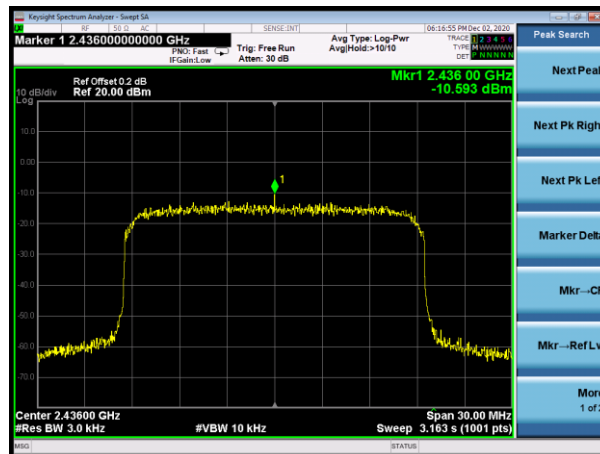


Highest channel

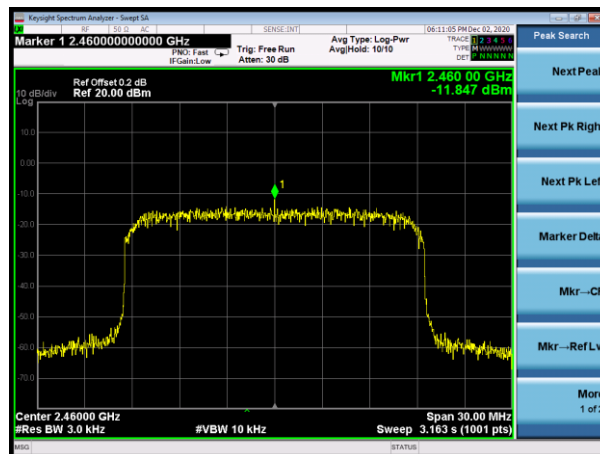
20MHz Bandwidth



Lowest channel



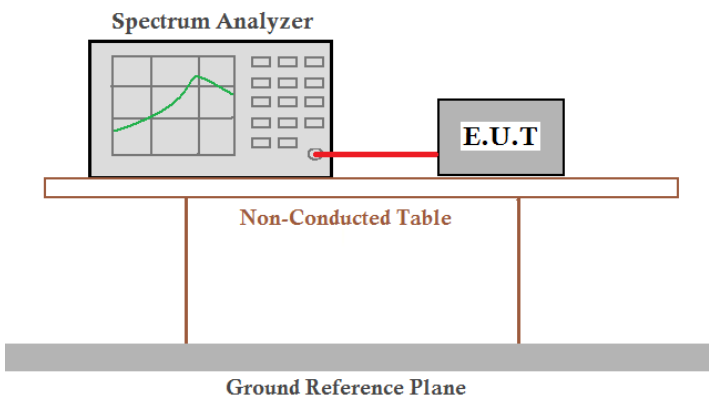
Middle channel



Highest channel

7.5 Band edges

7.5.1 Conducted Emission Method

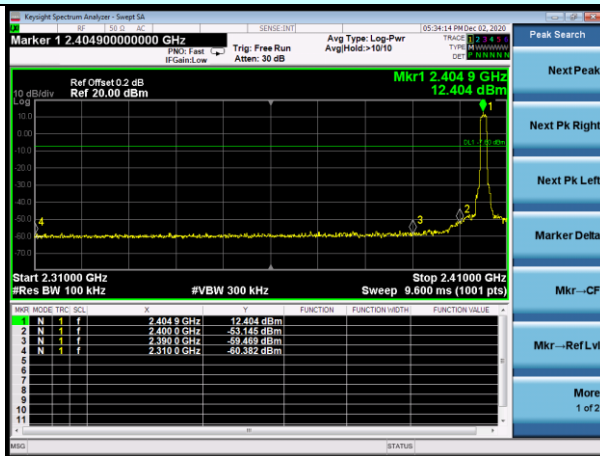
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 DTS Meas Guidance v05or02 KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 The diagram illustrates the test setup for conducted emission measurement. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table, which sits on a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:

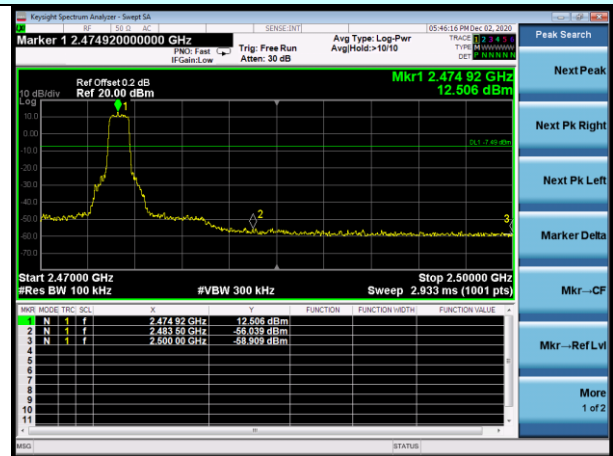
Antenna 1:

Test mode:

1.25MHz Bandwidth



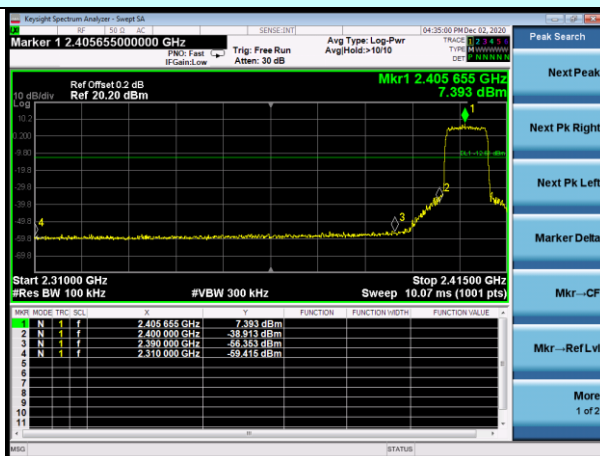
Lowest channel



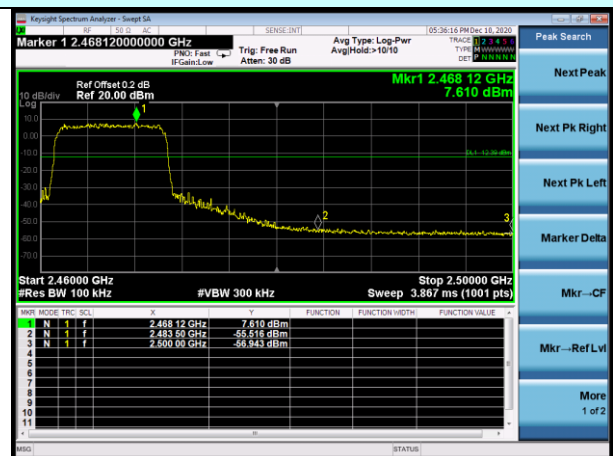
Highest channel

Test mode:

10MHz Bandwidth



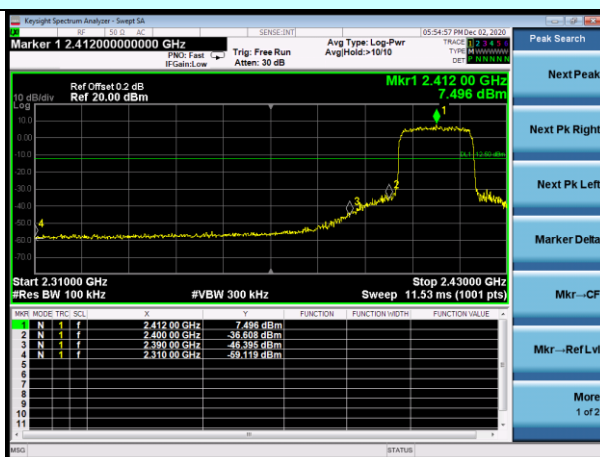
Lowest channel



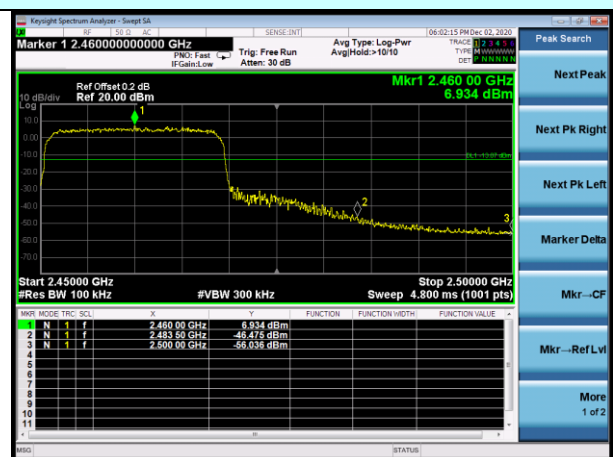
Highest channel

Test mode:

20MHz Bandwidth



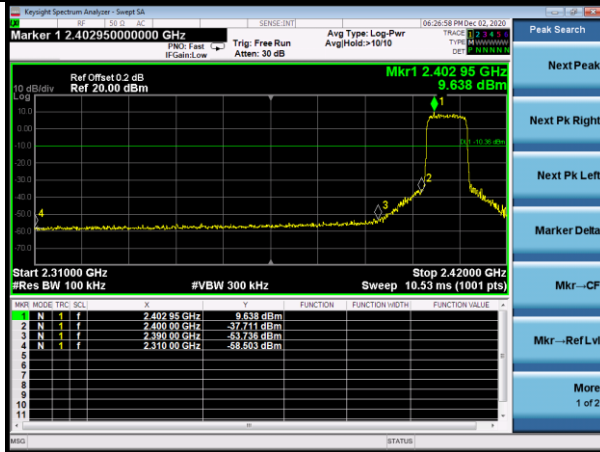
Lowest channel



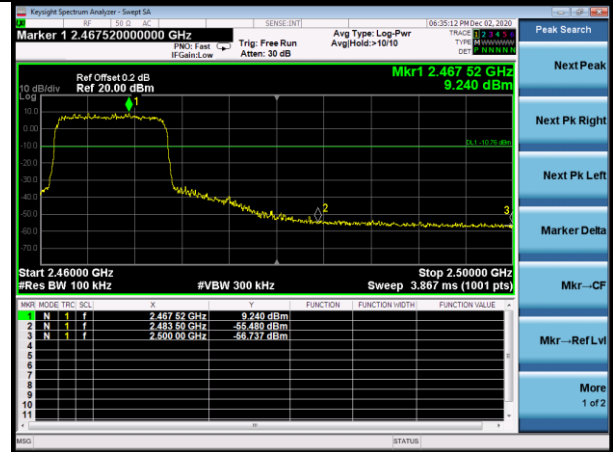
Highest channel

Antenna 2:

Test mode: 10MHz Bandwidth

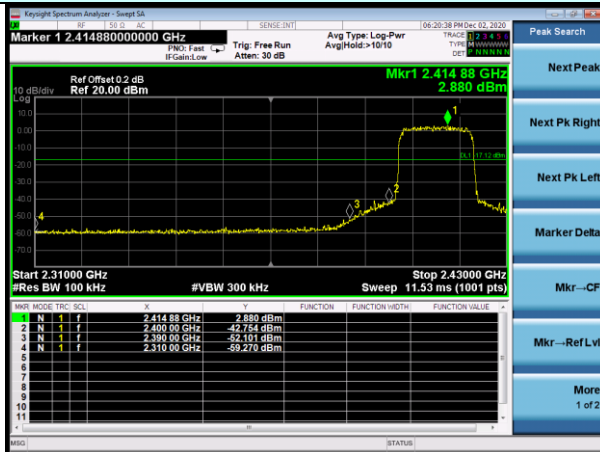


Lowest channel

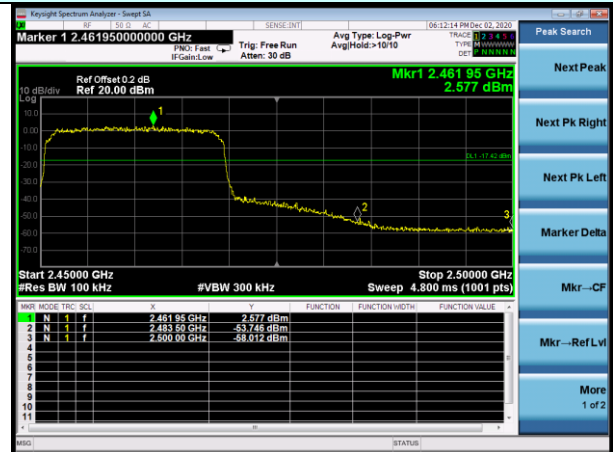


Highest channel

Test mode: 20MHz Bandwidth

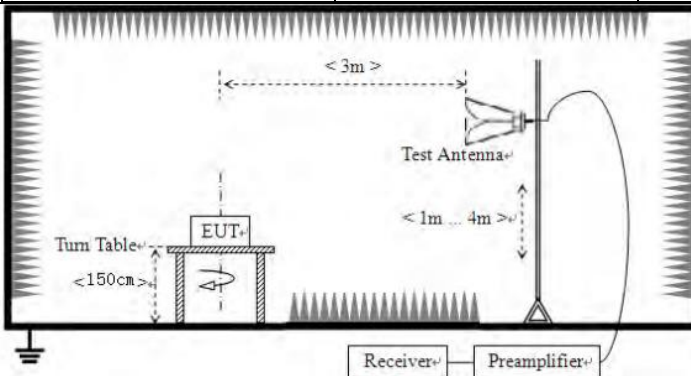


Lowest channel



Highest channel

7.5.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Average	1MHz	3MHz	Average
Limit:	Frequency		Limit (dBuV/m @3m)		Value
	Above 1GHz		54.00		Average
			74.00		Peak
Test setup:					
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

Measurement data:

Both original antennas have test, only the worst case original ANT 1 report.

Test mode:	1.25MHz Bandwidth	Test channel:	Lowest
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	52.71	27.59	5.38	34.01	51.67	74.00	-22.33	Horizontal
2400.00	61.58	27.58	5.39	34.01	60.54	74.00	-13.46	Horizontal
2390.00	54.53	27.59	5.38	34.01	53.49	74.00	-20.51	Vertical
2400.00	63.58	27.58	5.39	34.01	62.54	74.00	-11.46	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	39.37	27.59	5.38	34.01	38.33	54.00	-15.67	Horizontal
2400.00	47.76	27.58	5.39	34.01	46.72	54.00	-7.28	Horizontal
2390.00	40.99	27.59	5.38	34.01	39.95	54.00	-14.05	Vertical
2400.00	48.95	27.58	5.39	34.01	47.91	54.00	-6.09	Vertical

Test mode:	1.25MHz Bandwidth	Test channel:	Highest
------------	-------------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	53.27	27.53	5.47	33.92	52.35	74.00	-21.65	Horizontal
2500.00	49.24	27.55	5.49	29.93	52.35	74.00	-21.65	Horizontal
2483.50	55.62	27.53	5.47	33.92	54.70	74.00	-19.30	Vertical
2500.00	51.88	27.55	5.49	29.93	54.99	74.00	-19.01	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	39.66	27.53	5.47	33.92	38.74	54.00	-15.26	Horizontal
2500.00	35.82	27.55	5.49	29.93	38.93	54.00	-15.07	Horizontal
2483.50	41.84	27.53	5.47	33.92	40.92	54.00	-13.08	Vertical
2500.00	37.56	27.55	5.49	29.93	40.67	54.00	-13.33	Vertical

Test mode:	10MHz Bandwidth	Test channel:	Lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	51.14	27.59	5.38	34.01	50.10	74.00	-23.90	Horizontal
2400.00	60.03	27.58	5.39	34.01	58.99	74.00	-15.01	Horizontal
2390.00	53.19	27.59	5.38	34.01	52.15	74.00	-21.85	Vertical
2400.00	61.98	27.58	5.39	34.01	60.94	74.00	-13.06	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	38.57	27.59	5.38	34.01	37.53	54.00	-16.47	Horizontal
2400.00	47.10	27.58	5.39	34.01	46.06	54.00	-7.94	Horizontal
2390.00	40.11	27.59	5.38	34.01	39.07	54.00	-14.94	Vertical
2400.00	47.40	27.58	5.39	34.01	46.36	54.00	-7.64	Vertical

Test mode:	10MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	51.23	27.53	5.47	33.92	50.31	74.00	-23.69	Horizontal
2500.00	47.64	27.55	5.49	29.93	50.75	74.00	-23.25	Horizontal
2483.50	53.29	27.53	5.47	33.92	52.37	74.00	-21.63	Vertical
2500.00	50.03	27.55	5.49	29.93	53.14	74.00	-20.87	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	38.43	27.53	5.47	33.92	37.51	54.00	-16.49	Horizontal
2500.00	34.84	27.55	5.49	29.93	37.95	54.00	-16.05	Horizontal
2483.50	40.47	27.53	5.47	33.92	39.55	54.00	-14.45	Vertical
2500.00	36.53	27.55	5.49	29.93	39.64	54.00	-14.36	Vertical

Test mode:	20MHz Bandwidth	Test channel:	Lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	50.97	27.59	5.38	34.01	49.93	74.00	-24.07	Horizontal
2400.00	59.79	27.58	5.39	34.01	58.75	74.00	-15.25	Horizontal
2390.00	52.92	27.59	5.38	34.01	51.88	74.00	-22.12	Vertical
2400.00	61.62	27.58	5.39	34.01	60.58	74.00	-13.42	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	38.33	27.59	5.38	34.01	37.29	54.00	-16.71	Horizontal
2400.00	46.77	27.58	5.39	34.01	45.73	54.00	-8.27	Horizontal
2390.00	39.91	27.59	5.38	34.01	38.87	54.00	-15.13	Vertical
2400.00	47.24	27.58	5.39	34.01	46.20	54.00	-7.80	Vertical

Test mode:	20MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	51.04	27.53	5.47	33.92	50.12	74.00	-23.88	Horizontal
2500.00	47.44	27.55	5.49	29.93	50.55	74.00	-23.45	Horizontal
2483.50	53.09	27.53	5.47	33.92	52.17	74.00	-21.83	Vertical
2500.00	49.79	27.55	5.49	29.93	52.90	74.00	-21.10	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	38.26	27.53	5.47	33.92	37.34	54.00	-16.66	Horizontal
2500.00	34.66	27.55	5.49	29.93	37.77	54.00	-16.23	Horizontal
2483.50	40.25	27.53	5.47	33.92	39.33	54.00	-14.67	Vertical
2500.00	36.38	27.55	5.49	29.93	39.49	54.00	-14.51	Vertical

Remarks:

1. The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Additional test of both optional antennas, only the worst case optional ANT 1 report.

Test mode:	1.25MHz Bandwidth	Test channel:	Lowest
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	51.95	27.59	5.38	34.01	50.91	74.00	-23.09	Horizontal
2400.00	61.18	27.58	5.39	34.01	60.14	74.00	-13.86	Horizontal
2390.00	53.63	27.59	5.38	34.01	52.59	74.00	-21.41	Vertical
2400.00	63.08	27.58	5.39	34.01	62.04	74.00	-11.96	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	38.57	27.59	5.38	34.01	37.53	54.00	-16.47	Horizontal
2400.00	46.90	27.58	5.39	34.01	45.86	54.00	-8.14	Horizontal
2390.00	40.49	27.59	5.38	34.01	39.45	54.00	-14.55	Vertical
2400.00	48.05	27.58	5.39	34.01	47.01	54.00	-6.99	Vertical

Test mode:	1.25MHz Bandwidth	Test channel:	Highest
------------	-------------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	52.87	27.53	5.47	33.92	51.95	74.00	-22.05	Horizontal
2500.00	48.48	27.55	5.49	29.93	51.59	74.00	-22.41	Horizontal
2483.50	55.22	27.53	5.47	33.92	54.30	74.00	-19.70	Vertical
2500.00	51.06	27.55	5.49	29.93	54.17	74.00	-19.84	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	39.03	27.53	5.47	33.92	38.11	54.00	-15.89	Horizontal
2500.00	35.02	27.55	5.49	29.93	38.13	54.00	-15.87	Horizontal
2483.50	40.98	27.53	5.47	33.92	40.06	54.00	-13.94	Vertical
2500.00	36.96	27.55	5.49	29.93	40.07	54.00	-13.93	Vertical

Test mode:	10MHz Bandwidth	Test channel:	Lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	50.80	27.59	5.38	34.01	49.76	74.00	-24.24	Horizontal
2400.00	59.54	27.58	5.39	34.01	58.50	74.00	-15.50	Horizontal
2390.00	52.53	27.59	5.38	34.01	51.49	74.00	-22.51	Vertical
2400.00	61.19	27.58	5.39	34.01	60.15	74.00	-13.85	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.95	27.59	5.38	34.01	36.91	54.00	-17.09	Horizontal
2400.00	46.23	27.58	5.39	34.01	45.19	54.00	-8.81	Horizontal
2390.00	39.63	27.59	5.38	34.01	38.59	54.00	-15.41	Vertical
2400.00	47.08	27.58	5.39	34.01	46.04	54.00	-7.96	Vertical

Test mode:	10MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	51.00	27.53	5.47	33.92	50.08	74.00	-23.92	Horizontal
2500.00	47.21	27.55	5.49	29.93	50.32	74.00	-23.68	Horizontal
2483.50	53.06	27.53	5.47	33.92	52.14	74.00	-21.86	Vertical
2500.00	49.55	27.55	5.49	29.93	52.66	74.00	-21.34	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	38.07	27.53	5.47	33.92	37.15	54.00	-16.85	Horizontal
2500.00	34.39	27.55	5.49	29.93	37.50	54.00	-16.50	Horizontal
2483.50	39.98	27.53	5.47	33.92	39.06	54.00	-14.94	Vertical
2500.00	36.19	27.55	5.49	29.93	39.30	54.00	-14.70	Vertical

Test mode:	20MHz Bandwidth	Test channel:	Lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	50.54	27.59	5.38	34.01	49.50	74.00	-24.50	Horizontal
2400.00	59.17	27.58	5.39	34.01	58.13	74.00	-15.87	Horizontal
2390.00	52.08	27.59	5.38	34.01	51.04	74.00	-22.96	Vertical
2400.00	60.62	27.58	5.39	34.01	59.58	74.00	-14.42	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.54	27.59	5.38	34.01	36.50	54.00	-17.50	Horizontal
2400.00	45.67	27.58	5.39	34.01	44.63	54.00	-9.37	Horizontal
2390.00	39.31	27.59	5.38	34.01	38.27	54.00	-15.73	Vertical
2400.00	46.83	27.58	5.39	34.01	45.79	54.00	-8.21	Vertical

Test mode:	20MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	50.76	27.53	5.47	33.92	49.84	74.00	-24.16	Horizontal
2500.00	46.89	27.55	5.49	29.93	50.00	74.00	-24.00	Horizontal
2483.50	52.81	27.53	5.47	33.92	51.89	74.00	-22.11	Vertical
2500.00	49.19	27.55	5.49	29.93	52.30	74.00	-21.70	Vertical

Average value:

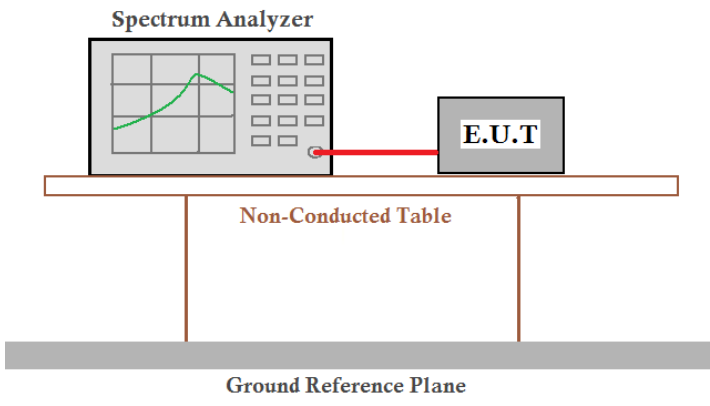
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.80	27.53	5.47	33.92	36.88	54.00	-17.12	Horizontal
2500.00	34.08	27.55	5.49	29.93	37.19	54.00	-16.81	Horizontal
2483.50	39.63	27.53	5.47	33.92	38.71	54.00	-15.29	Vertical
2500.00	35.95	27.55	5.49	29.93	39.06	54.00	-14.94	Vertical

Remarks:

1. The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
2. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

7.6 Spurious Emission

7.6.1 Conducted Emission Method

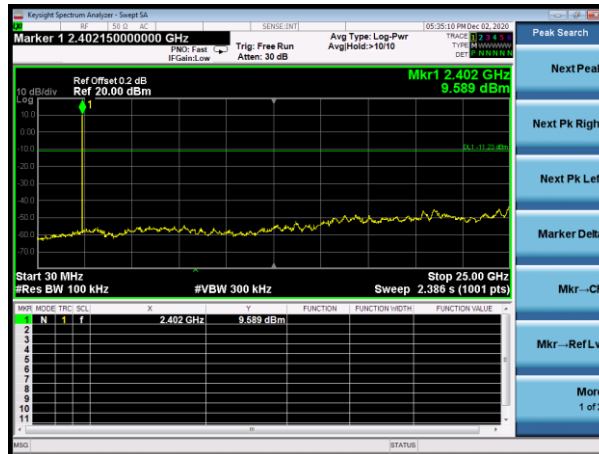
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 DTS Meas Guidance v05or02 KDB 662911 D01 Multiple Transmitter Output v02r01
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:

Antenna 1:

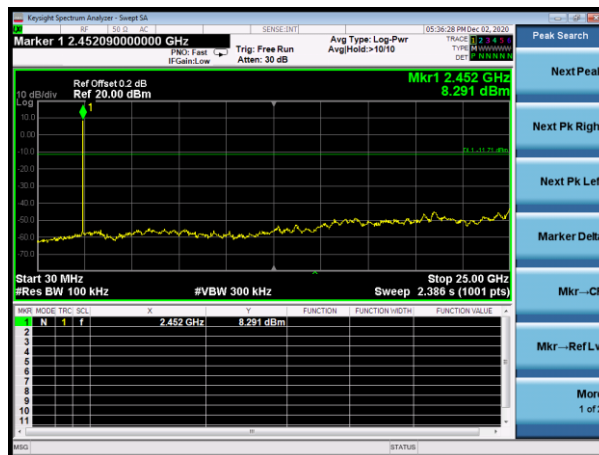
1.25MHz Bandwidth

Lowest channel



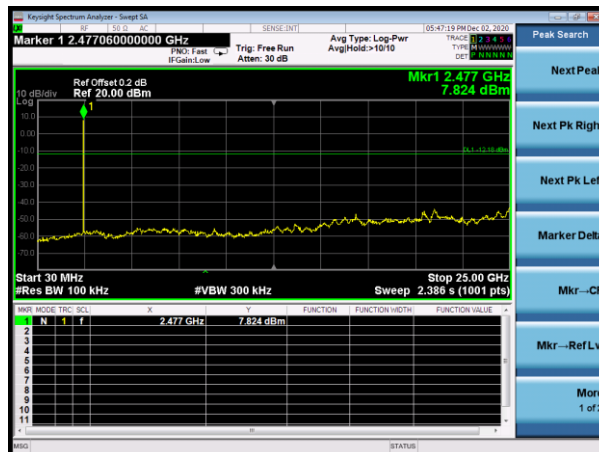
30MHz~25GHz

Middle channel



30MHz~25GHz

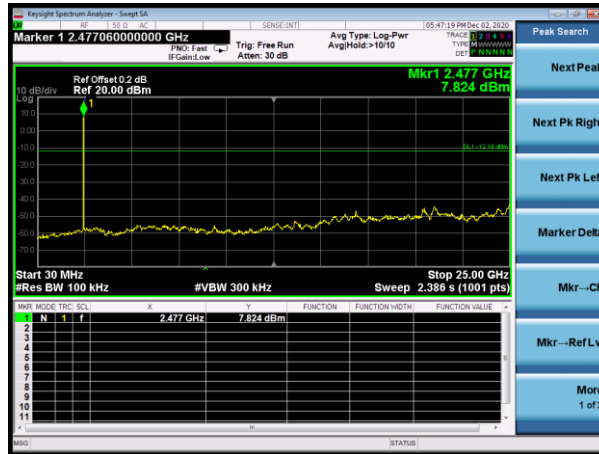
Highest channel



30MHz~25GHz

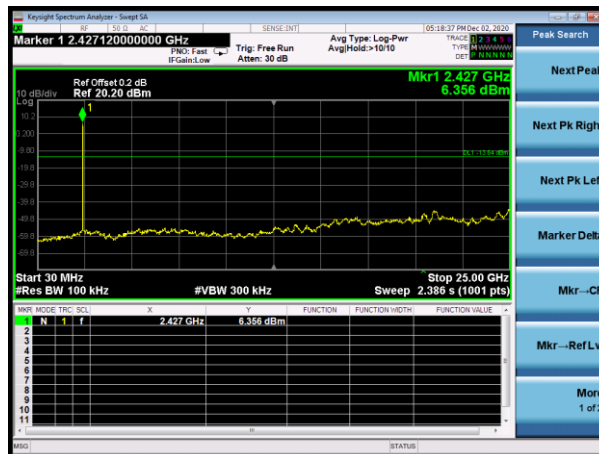
10MHz Bandwidth

Lowest channel



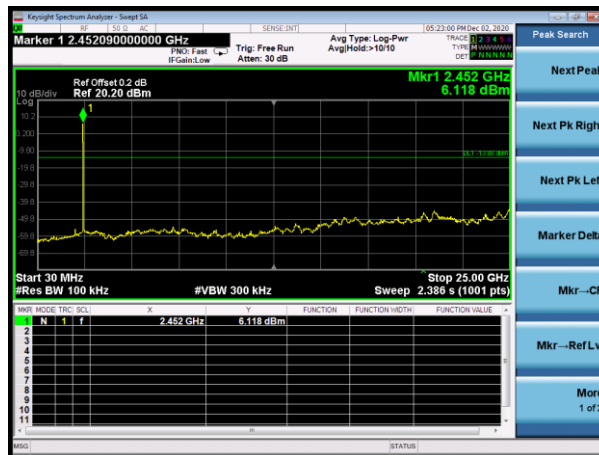
30MHz~25GHz

Middle channel



30MHz~25GHz

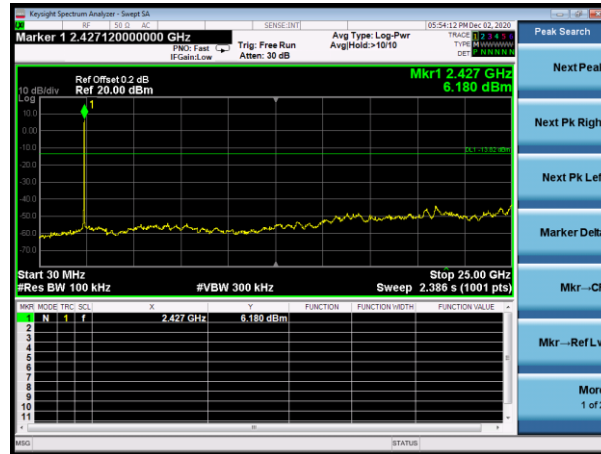
Highest channel



30MHz~25GHz

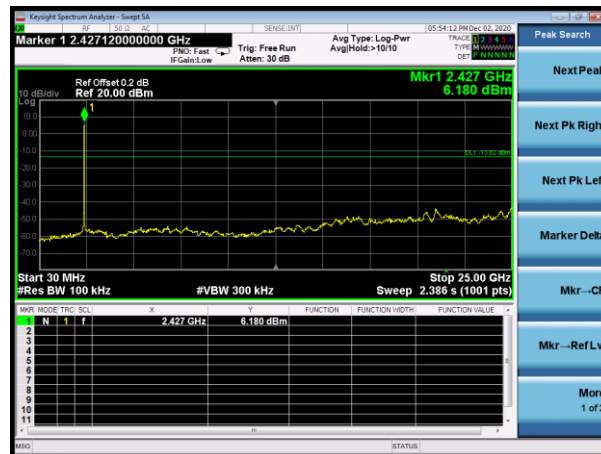
20MHz Bandwidth

Lowest channel



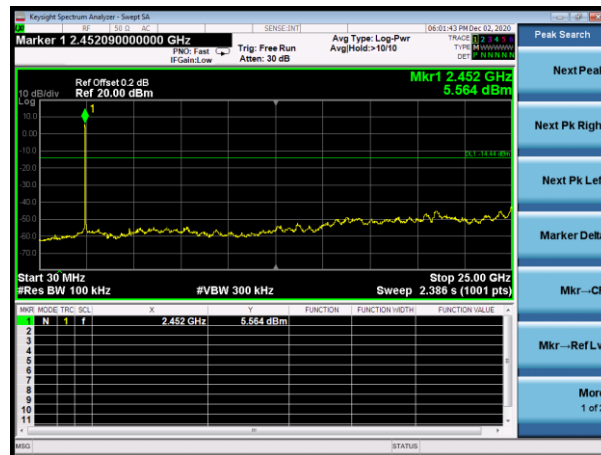
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel

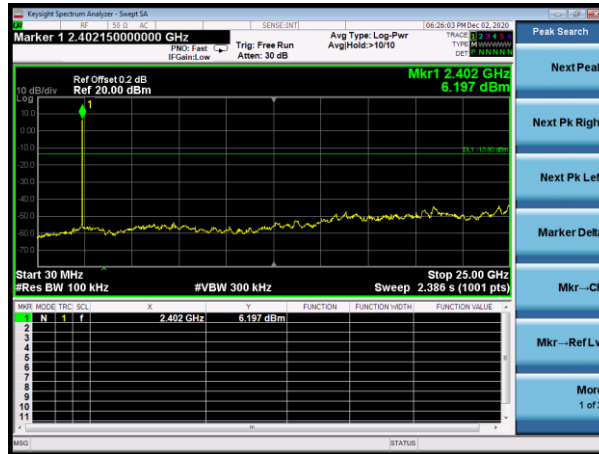


30MHz~25GHz

Antenna 2:

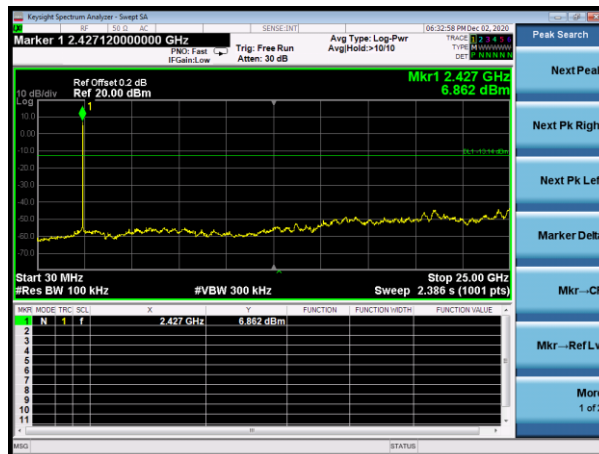
10MHz Bandwidth

Lowest channel



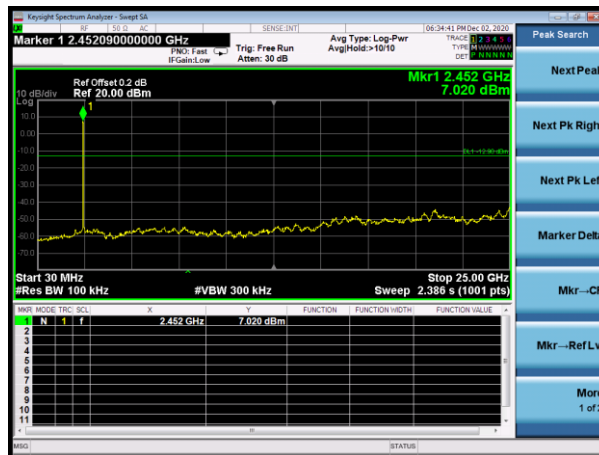
30MHz~25GHz

Middle channel



30MHz~25GHz

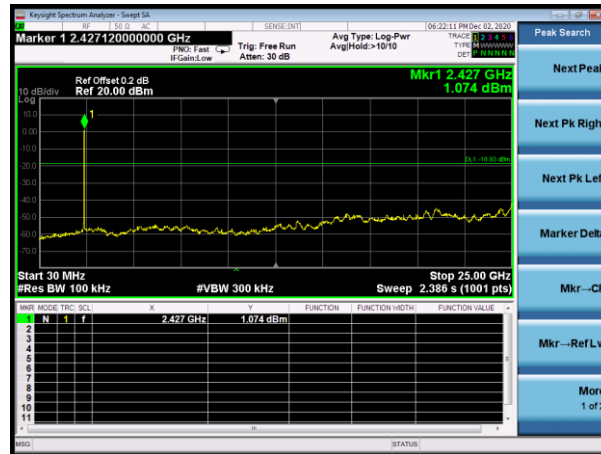
Highest channel



30MHz~25GHz

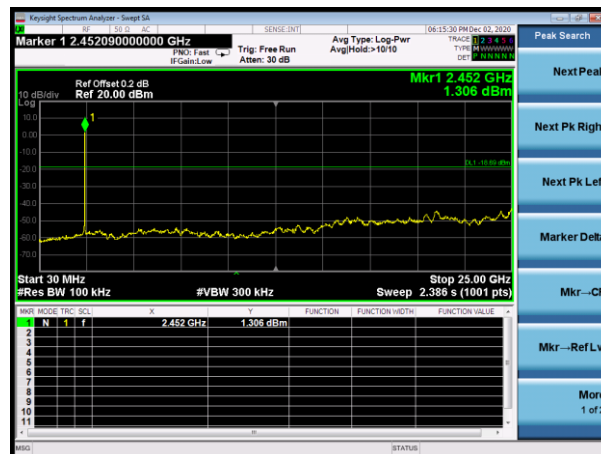
20MHz Bandwidth

Lowest channel



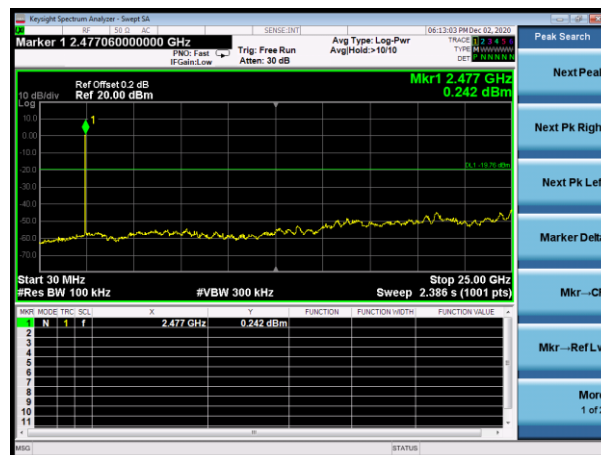
30MHz~25GHz

Middle channel



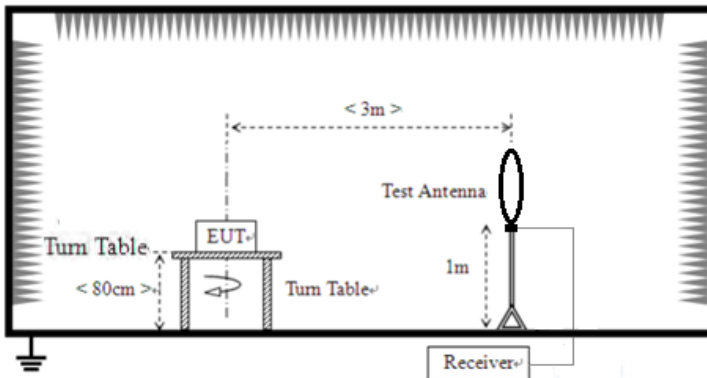
30MHz~25GHz

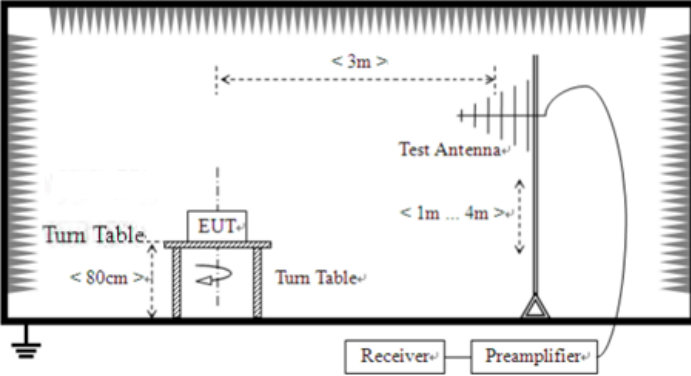
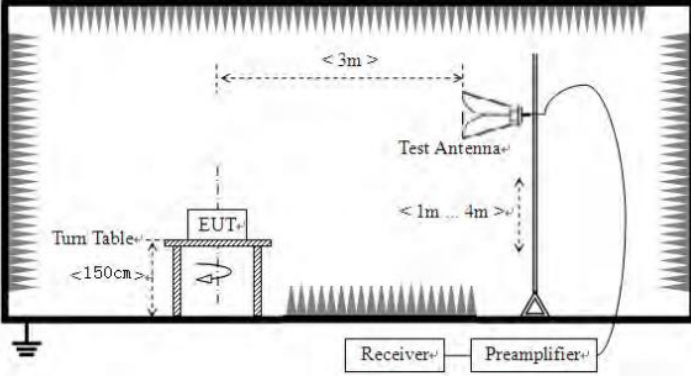
Highest channel



30MHz~25GHz

7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Limit (uV/m)		Value	Measurement Distance
	0.009MHz-0.490MHz	2400/F(KHz)		QP	300m
	0.490MHz-1.705MHz	24000/F(KHz)		QP	300m
	1.705MHz-30MHz	30		QP	30m
	30MHz-88MHz	100		QP	3m
	88MHz-216MHz	150		QP	
	216MHz-960MHz	200		QP	
	960MHz-1GHz	500		QP	
	Above 1GHz	500		Average	
		5000		Peak	
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
For radiated emissions from 30MHz to1GHz					

	 For radiated emissions above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details

Test mode:	Refer to section 5.2 for details					
Test voltage:	AC120V 60Hz					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.
2. This product have different configurations include with and without RTK, and mounted three types of cameras. They are EVO II, EVO II Pro and EVO II Dual. Only show the worst case with RTK and configuration EVO II Dual camera on the report.

Measurement data:

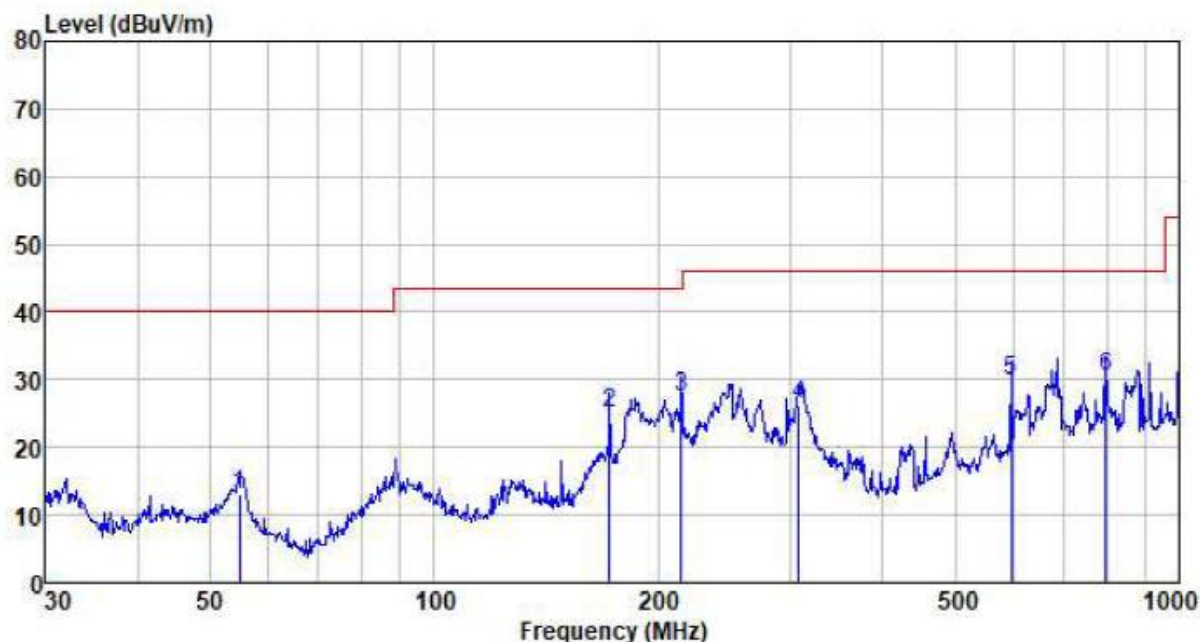
■ **9kHz~30MHz**

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

■ Below 1GHz

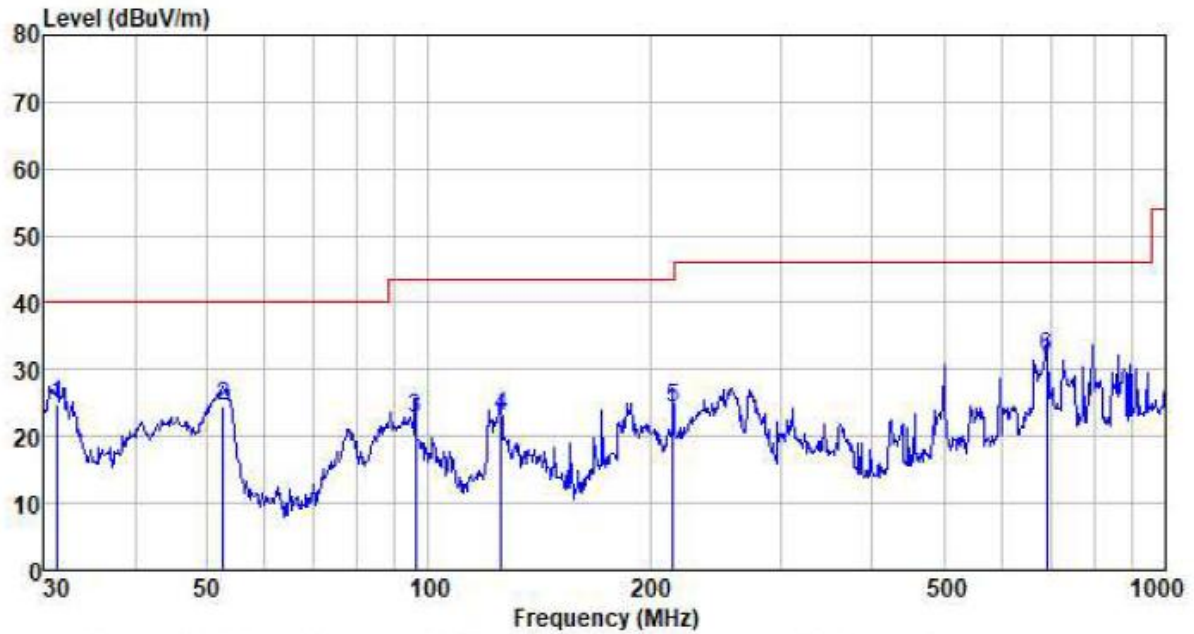
Pre-scan all test modes, found worst case at original antenna 1 of 2405MHz 1.25MHz Bandwidth, and so only show the test result original antenna 1 of 2405MHz 1.25MHz Bandwidth.

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
54.835	30.28	11.93	0.82	29.96	13.07	40.00	-26.93	QP
171.995	44.27	8.50	1.70	29.31	25.16	43.50	-18.34	QP
214.514	44.24	10.69	1.93	29.35	27.51	43.50	-15.99	QP
308.913	40.18	13.68	2.41	29.95	26.32	46.00	-19.68	QP
595.133	36.22	19.19	3.70	29.30	29.81	46.00	-16.19	QP
796.183	33.92	21.25	4.45	29.20	30.42	46.00	-15.58	QP

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
31.399	43.01	11.30	0.57	30.09	24.79	40.00	-15.21	QP
52.575	41.64	11.93	0.79	29.98	24.38	40.00	-15.62	QP
96.099	40.02	11.35	1.16	29.72	22.81	43.50	-20.69	QP
125.446	42.53	8.75	1.40	29.54	23.14	43.50	-20.36	QP
214.514	40.84	10.69	1.93	29.35	24.11	43.50	-19.39	QP
689.565	37.23	19.74	4.05	29.21	31.81	46.00	-14.19	QP

■ Above 1GHz

All antennas have test, only the worst case ANT 1 report.

Test mode:	1.25MHz Bandwidth	Test channel:	lowest
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	41.45	31.78	8.60	32.09	49.74	74.00	-24.26	Vertical
7215.00	35.09	36.15	11.65	32.00	50.89	74.00	-23.11	Vertical
9620.00	33.75	37.95	14.14	31.62	54.22	74.00	-19.78	Vertical
12025.00	*					74.00		Vertical
14430.00	*					74.00		Vertical
16835.00	*					74.00		Vertical
4810.00	39.99	31.78	8.60	32.09	48.28	74.00	-25.72	Horizontal
7215.00	35.08	36.15	11.65	32.00	50.88	74.00	-23.12	Horizontal
9620.00	32.78	37.95	14.14	31.62	53.25	74.00	-20.75	Horizontal
12025.00	*					74.00		Horizontal
14430.00	*					74.00		Horizontal
16835.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	30.50	31.78	8.60	32.09	38.79	54.00	-15.21	Vertical
7215.00	23.95	36.15	11.65	32.00	39.75	54.00	-14.25	Vertical
9620.00	24.09	37.95	14.14	31.62	44.56	54.00	-9.44	Vertical
12025.00	*					54.00		Vertical
14430.00	*					54.00		Vertical
16835.00	*					54.00		Vertical
4810.00	29.50	31.78	8.60	32.09	37.79	54.00	-16.21	Horizontal
7215.00	23.65	36.15	11.65	32.00	39.45	54.00	-14.55	Horizontal
9620.00	22.52	37.95	14.14	31.62	42.99	54.00	-11.01	Horizontal
12025.00	*					54.00		Horizontal
14430.00	*					54.00		Horizontal
16835.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is too weak instrument of signal is unable to test.

Test mode:	1.25MHz Bandwidth	Test channel:	Middle
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	40.43	31.85	8.67	32.12	48.83	74.00	-25.17	Vertical
7323.00	35.12	36.37	11.72	31.89	51.32	74.00	-22.68	Vertical
9764.00	34.73	38.35	14.25	31.62	55.71	74.00	-18.29	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
17087.00	*					74.00		Vertical
4882.00	40.79	31.85	8.67	32.12	49.19	74.00	-24.81	Horizontal
7323.00	34.00	36.37	11.72	31.89	50.20	74.00	-23.80	Horizontal
9764.00	34.08	38.35	14.25	31.62	55.06	74.00	-18.94	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal
17087.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	31.25	31.85	8.67	32.12	39.65	54.00	-14.35	Vertical
7323.00	23.42	36.37	11.72	31.89	39.62	54.00	-14.38	Vertical
9764.00	23.98	38.35	14.25	31.62	44.96	54.00	-9.04	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
17087.00	*					54.00		Vertical
4882.00	30.89	31.85	8.67	32.12	39.29	54.00	-14.71	Horizontal
7323.00	23.08	36.37	11.72	31.89	39.28	54.00	-14.72	Horizontal
9764.00	23.79	38.35	14.25	31.62	44.77	54.00	-9.23	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal
17087.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	1.25MHz Bandwidth	Test channel:	Highest
------------	-------------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4950.00	46.22	31.93	8.73	32.16	54.72	74.00	-19.28	Vertical
7425.00	35.96	36.59	11.79	31.78	52.56	74.00	-21.44	Vertical
9900.00	38.15	38.81	14.38	31.88	59.46	74.00	-14.54	Vertical
12375.00	*					74.00		Vertical
14850.00	*					74.00		Vertical
17325.00	*					74.00		Vertical
4950.00	45.37	31.93	8.73	32.16	53.87	74.00	-20.13	Horizontal
7425.00	35.08	36.59	11.79	31.78	51.68	74.00	-22.32	Horizontal
9900.00	33.77	38.81	14.38	31.88	55.08	74.00	-18.92	Horizontal
12375.00	*					74.00		Horizontal
14850.00	*					74.00		Horizontal
17325.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4950.00	37.08	31.93	8.73	32.16	45.58	54.00	-8.42	Vertical
7425.00	25.86	36.59	11.79	31.78	42.46	54.00	-11.54	Vertical
9900.00	26.64	38.81	14.38	31.88	47.95	54.00	-6.05	Vertical
12375.00	*					54.00		Vertical
14850.00	*					54.00		Vertical
17325.00	*					54.00		Vertical
4950.00	35.70	31.93	8.73	32.16	44.20	54.00	-9.80	Horizontal
7425.00	24.46	36.59	11.79	31.78	41.06	54.00	-12.94	Horizontal
9900.00	23.02	38.81	14.38	31.88	44.33	54.00	-9.67	Horizontal
12375.00	*					54.00		Horizontal
14850.00	*					54.00		Horizontal
17325.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4812.00	41.39	31.78	8.60	32.09	49.68	74.00	-24.32	Vertical
7218.00	35.12	36.15	11.65	32.00	50.92	74.00	-23.08	Vertical
9624.00	33.95	37.95	14.14	31.62	54.42	74.00	-19.58	Vertical
12030.00	*					74.00		Vertical
14436.00	*					74.00		Vertical
16842.00	*					74.00		Vertical
4812.00	39.96	31.78	8.60	32.09	48.25	74.00	-25.75	Horizontal
7218.00	35.24	36.15	11.65	32.00	51.04	74.00	-22.96	Horizontal
9624.00	32.76	37.95	14.14	31.62	53.23	74.00	-20.77	Horizontal
12030.00	*					74.00		Horizontal
14436.00	*					74.00		Horizontal
16842.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4812.00	30.47	31.78	8.60	32.09	38.76	54.00	-15.24	Vertical
7218.00	23.99	36.15	11.65	32.00	39.79	54.00	-14.21	Vertical
9624.00	24.30	37.95	14.14	31.62	44.77	54.00	-9.23	Vertical
12030.00	*					54.00		Vertical
14436.00	*					54.00		Vertical
16842.00	*					54.00		Vertical
4812.00	29.49	31.78	8.60	32.09	37.78	54.00	-16.22	Horizontal
7218.00	23.82	36.15	11.65	32.00	39.62	54.00	-14.38	Horizontal
9624.00	22.51	37.95	14.14	31.62	42.98	54.00	-11.02	Horizontal
12030.00	*					54.00		Horizontal
14436.00	*					54.00		Horizontal
16842.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	Middle
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	40.43	31.85	8.67	32.12	48.83	74.00	-25.17	Vertical
7308.00	35.18	36.37	11.72	31.89	51.38	74.00	-22.62	Vertical
9744.00	34.97	38.35	14.25	31.62	55.95	74.00	-18.05	Vertical
12180.00	*					74.00		Vertical
14616.00	*					74.00		Vertical
17052.00	*					74.00		Vertical
4872.00	40.81	31.85	8.67	32.12	49.21	74.00	-24.79	Horizontal
7308.00	34.20	36.37	11.72	31.89	50.40	74.00	-23.60	Horizontal
9744.00	34.08	38.35	14.25	31.62	55.06	74.00	-18.94	Horizontal
12180.00	*					74.00		Horizontal
14616.00	*					74.00		Horizontal
17052.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	31.28	31.85	8.67	32.12	39.68	54.00	-14.32	Vertical
7308.00	23.50	36.37	11.72	31.89	39.70	54.00	-14.30	Vertical
9744.00	24.22	38.35	14.25	31.62	45.20	54.00	-8.80	Vertical
12180.00	*					54.00		Vertical
14616.00	*					54.00		Vertical
17052.00	*					54.00		Vertical
4872.00	30.92	31.85	8.67	32.12	39.32	54.00	-14.68	Horizontal
7308.00	23.29	36.37	11.72	31.89	39.49	54.00	-14.51	Horizontal
9744.00	23.80	38.35	14.25	31.62	44.78	54.00	-9.22	Horizontal
12180.00	*					54.00		Horizontal
14616.00	*					54.00		Horizontal
17052.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	46.00	31.93	8.73	32.16	54.50	74.00	-19.50	Vertical
7398.00	35.88	36.59	11.79	31.78	52.48	74.00	-21.52	Vertical
9864.00	38.28	38.81	14.38	31.88	59.59	74.00	-14.41	Vertical
12330.00	*					74.00		Vertical
14796.00	*					74.00		Vertical
17262.00	*					74.00		Vertical
4932.00	45.20	31.93	8.73	32.16	53.70	74.00	-20.30	Horizontal
7398.00	35.16	36.59	11.79	31.78	51.76	74.00	-22.24	Horizontal
9864.00	33.68	38.81	14.38	31.88	54.99	74.00	-19.01	Horizontal
12330.00	*					74.00		Horizontal
14796.00	*					74.00		Horizontal
17262.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	36.91	31.93	8.73	32.16	45.41	54.00	-8.59	Vertical
7398.00	25.80	36.59	11.79	31.78	42.40	54.00	-11.60	Vertical
9864.00	26.78	38.81	14.38	31.88	48.09	54.00	-5.91	Vertical
12330.00	*					54.00		Vertical
14796.00	*					54.00		Vertical
17262.00	*					54.00		Vertical
4932.00	35.56	31.93	8.73	32.16	44.06	54.00	-9.94	Horizontal
7398.00	24.54	36.59	11.79	31.78	41.14	54.00	-12.86	Horizontal
9864.00	22.94	38.81	14.38	31.88	44.25	54.00	-9.75	Horizontal
12330.00	*					54.00		Horizontal
14796.00	*					54.00		Horizontal
17262.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	40.63	31.78	8.60	32.09	48.92	74.00	-25.08	Vertical
7236.00	34.52	36.15	11.65	32.00	50.32	74.00	-23.68	Vertical
9648.00	33.19	37.95	14.14	31.62	53.66	74.00	-20.34	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	39.27	31.78	8.60	32.09	47.56	74.00	-26.44	Horizontal
7236.00	34.44	36.15	11.65	32.00	50.24	74.00	-23.76	Horizontal
9648.00	32.44	37.95	14.14	31.62	52.91	74.00	-21.09	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	29.72	31.78	8.60	32.09	38.01	54.00	-15.99	Vertical
7236.00	23.39	36.15	11.65	32.00	39.19	54.00	-14.81	Vertical
9648.00	23.54	37.95	14.14	31.62	44.01	54.00	-9.99	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	28.82	31.78	8.60	32.09	37.11	54.00	-16.89	Horizontal
7236.00	23.02	36.15	11.65	32.00	38.82	54.00	-15.18	Horizontal
9648.00	22.19	37.95	14.14	31.62	42.66	54.00	-11.34	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	Middle
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	39.70	31.85	8.67	32.12	48.10	74.00	-25.90	Vertical
7308.00	34.61	36.37	11.72	31.89	50.81	74.00	-23.19	Vertical
9744.00	34.21	38.35	14.25	31.62	55.19	74.00	-18.81	Vertical
12180.00	*					74.00		Vertical
14616.00	*					74.00		Vertical
17052.00	*					74.00		Vertical
4872.00	40.16	31.85	8.67	32.12	48.56	74.00	-25.44	Horizontal
7308.00	33.41	36.37	11.72	31.89	49.61	74.00	-24.39	Horizontal
9744.00	33.78	38.35	14.25	31.62	54.76	74.00	-19.24	Horizontal
12180.00	*					74.00		Horizontal
14616.00	*					74.00		Horizontal
17052.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	30.56	31.85	8.67	32.12	38.96	54.00	-15.04	Vertical
7308.00	22.92	36.37	11.72	31.89	39.12	54.00	-14.88	Vertical
9744.00	23.47	38.35	14.25	31.62	44.45	54.00	-9.55	Vertical
12180.00	*					54.00		Vertical
14616.00	*					54.00		Vertical
17052.00	*					54.00		Vertical
4872.00	30.27	31.85	8.67	32.12	38.67	54.00	-15.33	Horizontal
7308.00	22.50	36.37	11.72	31.89	38.70	54.00	-15.30	Horizontal
9744.00	23.49	38.35	14.25	31.62	44.47	54.00	-9.53	Horizontal
12180.00	*					54.00		Horizontal
14616.00	*					54.00		Horizontal
17052.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	45.17	31.93	8.73	32.16	53.67	74.00	-20.33	Vertical
7380.00	35.24	36.59	11.79	31.78	51.84	74.00	-22.16	Vertical
9840.00	37.48	38.81	14.38	31.88	58.79	74.00	-15.21	Vertical
12300.00	*					74.00		Vertical
14760.00	*					74.00		Vertical
17220.00	*					74.00		Vertical
4920.00	44.46	31.93	8.73	32.16	52.96	74.00	-21.04	Horizontal
7380.00	34.31	36.59	11.79	31.78	50.91	74.00	-23.09	Horizontal
9840.00	33.33	38.81	14.38	31.88	54.64	74.00	-19.36	Horizontal
12300.00	*					74.00		Horizontal
14760.00	*					74.00		Horizontal
17220.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	36.10	31.93	8.73	32.16	44.60	54.00	-9.40	Vertical
7380.00	25.16	36.59	11.79	31.78	41.76	54.00	-12.24	Vertical
9840.00	25.99	38.81	14.38	31.88	47.30	54.00	-6.70	Vertical
12300.00	*					54.00		Vertical
14760.00	*					54.00		Vertical
17220.00	*					54.00		Vertical
4920.00	34.83	31.93	8.73	32.16	43.33	54.00	-10.67	Horizontal
7380.00	23.71	36.59	11.79	31.78	40.31	54.00	-13.69	Horizontal
9840.00	22.59	38.81	14.38	31.88	43.90	54.00	-10.10	Horizontal
12300.00	*					54.00		Horizontal
14760.00	*					54.00		Horizontal
17220.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Additional test of both optional antennas, only the worst case optional ANT 1 report.

Test mode:	1.25MHz Bandwidth	Test channel:	lowest
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	41.00	31.78	8.60	32.09	49.29	74.00	-24.71	Vertical
7215.00	34.71	36.15	11.65	32.00	50.51	74.00	-23.49	Vertical
9620.00	33.22	37.95	14.14	31.62	53.69	74.00	-20.31	Vertical
12025.00	*					74.00		Vertical
14430.00	*					74.00		Vertical
16835.00	*					74.00		Vertical
4810.00	39.57	31.78	8.60	32.09	47.86	74.00	-26.14	Horizontal
7215.00	34.53	36.15	11.65	32.00	50.33	74.00	-23.67	Horizontal
9620.00	32.58	37.95	14.14	31.62	53.05	74.00	-20.95	Horizontal
12025.00	*					74.00		Horizontal
14430.00	*					74.00		Horizontal
16835.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	30.05	31.78	8.60	32.09	38.34	54.00	-15.66	Vertical
7215.00	23.57	36.15	11.65	32.00	39.37	54.00	-14.63	Vertical
9620.00	23.56	37.95	14.14	31.62	44.03	54.00	-9.97	Vertical
12025.00	*					54.00		Vertical
14430.00	*					54.00		Vertical
16835.00	*					54.00		Vertical
4810.00	29.08	31.78	8.60	32.09	37.37	54.00	-16.63	Horizontal
7215.00	23.10	36.15	11.65	32.00	38.90	54.00	-15.10	Horizontal
9620.00	22.32	37.95	14.14	31.62	42.79	54.00	-11.21	Horizontal
12025.00	*					54.00		Horizontal
14430.00	*					54.00		Horizontal
16835.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	1.25MHz Bandwidth	Test channel:	Middle
------------	-------------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	39.98	31.85	8.67	32.12	48.38	74.00	-25.62	Vertical
7323.00	34.74	36.37	11.72	31.89	50.94	74.00	-23.06	Vertical
9764.00	34.20	38.35	14.25	31.62	55.18	74.00	-18.82	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
17087.00	*					74.00		Vertical
4882.00	40.37	31.85	8.67	32.12	48.77	74.00	-25.23	Horizontal
7323.00	33.45	36.37	11.72	31.89	49.65	74.00	-24.35	Horizontal
9764.00	33.88	38.35	14.25	31.62	54.86	74.00	-19.14	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal
17087.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	30.80	31.85	8.67	32.12	39.20	54.00	-14.80	Vertical
7323.00	23.04	36.37	11.72	31.89	39.24	54.00	-14.76	Vertical
9764.00	23.45	38.35	14.25	31.62	44.43	54.00	-9.57	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
17087.00	*					54.00		Vertical
4882.00	30.47	31.85	8.67	32.12	38.87	54.00	-15.13	Horizontal
7323.00	22.53	36.37	11.72	31.89	38.73	54.00	-15.27	Horizontal
9764.00	23.59	38.35	14.25	31.62	44.57	54.00	-9.43	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal
17087.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	1.25MHz Bandwidth	Test channel:	Highest
------------	-------------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4950.00	45.77	31.93	8.73	32.16	54.27	74.00	-19.73	Vertical
7425.00	35.58	36.59	11.79	31.78	52.18	74.00	-21.82	Vertical
9900.00	37.62	38.81	14.38	31.88	58.93	74.00	-15.07	Vertical
12375.00	*					74.00		Vertical
14850.00	*					74.00		Vertical
17325.00	*					74.00		Vertical
4950.00	44.95	31.93	8.73	32.16	53.45	74.00	-20.55	Horizontal
7425.00	34.53	36.59	11.79	31.78	51.13	74.00	-22.87	Horizontal
9900.00	33.57	38.81	14.38	31.88	54.88	74.00	-19.12	Horizontal
12375.00	*					74.00		Horizontal
14850.00	*					74.00		Horizontal
17325.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4950.00	36.63	31.93	8.73	32.16	45.13	54.00	-8.87	Vertical
7425.00	25.48	36.59	11.79	31.78	42.08	54.00	-11.92	Vertical
9900.00	26.11	38.81	14.38	31.88	47.42	54.00	-6.58	Vertical
12375.00	*					54.00		Vertical
14850.00	*					54.00		Vertical
17325.00	*					54.00		Vertical
4950.00	35.28	31.93	8.73	32.16	43.78	54.00	-10.22	Horizontal
7425.00	23.91	36.59	11.79	31.78	40.51	54.00	-13.49	Horizontal
9900.00	22.82	38.81	14.38	31.88	44.13	54.00	-9.87	Horizontal
12375.00	*					54.00		Horizontal
14850.00	*					54.00		Horizontal
17325.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4812.00	40.84	31.78	8.60	32.09	49.13	74.00	-24.87	Vertical
7218.00	34.65	36.15	11.65	32.00	50.45	74.00	-23.55	Vertical
9624.00	33.30	37.95	14.14	31.62	53.77	74.00	-20.23	Vertical
12030.00	*					74.00		Vertical
14436.00	*					74.00		Vertical
16842.00	*					74.00		Vertical
4812.00	39.46	31.78	8.60	32.09	47.75	74.00	-26.25	Horizontal
7218.00	34.57	36.15	11.65	32.00	50.37	74.00	-23.63	Horizontal
9624.00	32.52	37.95	14.14	31.62	52.99	74.00	-21.01	Horizontal
12030.00	*					74.00		Horizontal
14436.00	*					74.00		Horizontal
16842.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4812.00	29.92	31.78	8.60	32.09	38.21	54.00	-15.79	Vertical
7218.00	23.52	36.15	11.65	32.00	39.32	54.00	-14.68	Vertical
9624.00	23.65	37.95	14.14	31.62	44.12	54.00	-9.88	Vertical
12030.00	*					54.00		Vertical
14436.00	*					54.00		Vertical
16842.00	*					54.00		Vertical
4812.00	28.99	31.78	8.60	32.09	37.28	54.00	-16.72	Horizontal
7218.00	23.15	36.15	11.65	32.00	38.95	54.00	-15.05	Horizontal
9624.00	22.27	37.95	14.14	31.62	42.74	54.00	-11.26	Horizontal
12030.00	*					54.00		Horizontal
14436.00	*					54.00		Horizontal
16842.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	Middle
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	39.88	31.85	8.67	32.12	48.28	74.00	-25.72	Vertical
7308.00	34.71	36.37	11.72	31.89	50.91	74.00	-23.09	Vertical
9744.00	34.32	38.35	14.25	31.62	55.30	74.00	-18.70	Vertical
12180.00	*					74.00		Vertical
14616.00	*					74.00		Vertical
17052.00	*					74.00		Vertical
4872.00	40.31	31.85	8.67	32.12	48.71	74.00	-25.29	Horizontal
7308.00	33.53	36.37	11.72	31.89	49.73	74.00	-24.27	Horizontal
9744.00	33.84	38.35	14.25	31.62	54.82	74.00	-19.18	Horizontal
12180.00	*					74.00		Horizontal
14616.00	*					74.00		Horizontal
17052.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	30.73	31.85	8.67	32.12	39.13	54.00	-14.87	Vertical
7308.00	23.03	36.37	11.72	31.89	39.23	54.00	-14.77	Vertical
9744.00	23.57	38.35	14.25	31.62	44.55	54.00	-9.45	Vertical
12180.00	*					54.00		Vertical
14616.00	*					54.00		Vertical
17052.00	*					54.00		Vertical
4872.00	30.42	31.85	8.67	32.12	38.82	54.00	-15.18	Horizontal
7308.00	22.62	36.37	11.72	31.89	38.82	54.00	-15.18	Horizontal
9744.00	23.56	38.35	14.25	31.62	44.54	54.00	-9.46	Horizontal
12180.00	*					54.00		Horizontal
14616.00	*					54.00		Horizontal
17052.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	10MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	45.45	31.93	8.73	32.16	53.95	74.00	-20.05	Vertical
7398.00	35.41	36.59	11.79	31.78	52.01	74.00	-21.99	Vertical
9864.00	37.63	38.81	14.38	31.88	58.94	74.00	-15.06	Vertical
12330.00	*					74.00		Vertical
14796.00	*					74.00		Vertical
17262.00	*					74.00		Vertical
4932.00	44.70	31.93	8.73	32.16	53.20	74.00	-20.80	Horizontal
7398.00	34.49	36.59	11.79	31.78	51.09	74.00	-22.91	Horizontal
9864.00	33.44	38.81	14.38	31.88	54.75	74.00	-19.25	Horizontal
12330.00	*					74.00		Horizontal
14796.00	*					74.00		Horizontal
17262.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4932.00	36.36	31.93	8.73	32.16	44.86	54.00	-9.14	Vertical
7398.00	25.33	36.59	11.79	31.78	41.93	54.00	-12.07	Vertical
9864.00	26.13	38.81	14.38	31.88	47.44	54.00	-6.56	Vertical
12330.00	*					54.00		Vertical
14796.00	*					54.00		Vertical
17262.00	*					54.00		Vertical
4932.00	35.06	31.93	8.73	32.16	43.56	54.00	-10.44	Horizontal
7398.00	23.87	36.59	11.79	31.78	40.47	54.00	-13.53	Horizontal
9864.00	22.70	38.81	14.38	31.88	44.01	54.00	-9.99	Horizontal
12330.00	*					54.00		Horizontal
14796.00	*					54.00		Horizontal
17262.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	lowest
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	40.47	31.78	8.60	32.09	48.76	74.00	-25.24	Vertical
7236.00	34.38	36.15	11.65	32.00	50.18	74.00	-23.82	Vertical
9648.00	32.99	37.95	14.14	31.62	53.46	74.00	-20.54	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	39.12	31.78	8.60	32.09	47.41	74.00	-26.59	Horizontal
7236.00	34.24	36.15	11.65	32.00	50.04	74.00	-23.96	Horizontal
9648.00	32.37	37.95	14.14	31.62	52.84	74.00	-21.16	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	29.56	31.78	8.60	32.09	37.85	54.00	-16.15	Vertical
7236.00	23.25	36.15	11.65	32.00	39.05	54.00	-14.95	Vertical
9648.00	23.34	37.95	14.14	31.62	43.81	54.00	-10.19	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	28.67	31.78	8.60	32.09	36.96	54.00	-17.04	Horizontal
7236.00	22.82	36.15	11.65	32.00	38.62	54.00	-15.38	Horizontal
9648.00	22.12	37.95	14.14	31.62	42.59	54.00	-11.41	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	Middle
------------	-----------------	---------------	--------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	39.54	31.85	8.67	32.12	47.94	74.00	-26.06	Vertical
7308.00	34.47	36.37	11.72	31.89	50.67	74.00	-23.33	Vertical
9744.00	34.01	38.35	14.25	31.62	54.99	74.00	-19.01	Vertical
12180.00	*					74.00		Vertical
14616.00	*					74.00		Vertical
17052.00	*					74.00		Vertical
4872.00	40.01	31.85	8.67	32.12	48.41	74.00	-25.59	Horizontal
7308.00	33.21	36.37	11.72	31.89	49.41	74.00	-24.59	Horizontal
9744.00	33.71	38.35	14.25	31.62	54.69	74.00	-19.31	Horizontal
12180.00	*					74.00		Horizontal
14616.00	*					74.00		Horizontal
17052.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4872.00	30.40	31.85	8.67	32.12	38.80	54.00	-15.20	Vertical
7308.00	22.78	36.37	11.72	31.89	38.98	54.00	-15.02	Vertical
9744.00	23.27	38.35	14.25	31.62	44.25	54.00	-9.75	Vertical
12180.00	*					54.00		Vertical
14616.00	*					54.00		Vertical
17052.00	*					54.00		Vertical
4872.00	30.12	31.85	8.67	32.12	38.52	54.00	-15.48	Horizontal
7308.00	22.30	36.37	11.72	31.89	38.50	54.00	-15.50	Horizontal
9744.00	23.42	38.35	14.25	31.62	44.40	54.00	-9.60	Horizontal
12180.00	*					54.00		Horizontal
14616.00	*					54.00		Horizontal
17052.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

Test mode:	20MHz Bandwidth	Test channel:	Highest
------------	-----------------	---------------	---------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	45.01	31.93	8.73	32.16	53.51	74.00	-20.49	Vertical
7380.00	35.10	36.59	11.79	31.78	51.70	74.00	-22.30	Vertical
9840.00	37.28	38.81	14.38	31.88	58.59	74.00	-15.41	Vertical
12300.00	*					74.00		Vertical
14760.00	*					74.00		Vertical
17220.00	*					74.00		Vertical
4920.00	44.31	31.93	8.73	32.16	52.81	74.00	-21.19	Horizontal
7380.00	34.11	36.59	11.79	31.78	50.71	74.00	-23.29	Horizontal
9840.00	33.26	38.81	14.38	31.88	54.57	74.00	-19.43	Horizontal
12300.00	*					74.00		Horizontal
14760.00	*					74.00		Horizontal
17220.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	35.94	31.93	8.73	32.16	44.44	54.00	-9.56	Vertical
7380.00	25.02	36.59	11.79	31.78	41.62	54.00	-12.38	Vertical
9840.00	25.79	38.81	14.38	31.88	47.10	54.00	-6.90	Vertical
12300.00	*					54.00		Vertical
14760.00	*					54.00		Vertical
17220.00	*					54.00		Vertical
4920.00	34.68	31.93	8.73	32.16	43.18	54.00	-10.82	Horizontal
7380.00	23.51	36.59	11.79	31.78	40.11	54.00	-13.89	Horizontal
9840.00	22.52	38.81	14.38	31.88	43.83	54.00	-10.17	Horizontal
12300.00	*					54.00		Horizontal
14760.00	*					54.00		Horizontal
17220.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----