

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: Dragon Fish Mobile Station

Model No.: DFMS-1

Trade Mark: AUTEL

FCC ID: 2AGNTDFMS2409A

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

Date of sample receipt: Sep. 10, 2020

Date of Test: Sep. 10 – Nov. 23, 2020

Date of report issued: Nov. 24, 2020

Test Result : PASS *

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

Authorized Signature:



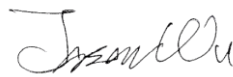
Robinson Luo
Laboratory Manager

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	Nov. 24, 2020	Original

Prepared By:



Project Engineer

Date:

Nov. 24, 2020

Check By:



Reviewer

Date:

Nov. 24, 2020

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 EMISSIONS	11
7.3 CONDUCTED PEAK OUTPUT POWER	14
7.4 CHANNEL BANDWIDTH & 99% OCCUPY BANDWIDTH	15
7.5 POWER SPECTRAL DENSITY	19
7.6 BAND EDGES	22
7.6.1 Conducted Emission Method	22
7.6.2 Radiated Emission Method	24
7.7 SPURIOUS EMISSION	27
7.7.1 Conducted Emission Method	27
7.7.2 Radiated Emission Method	30
8 TEST SETUP PHOTO	41
9 EUT CONSTRUCTIONAL DETAILS	41

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	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	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:	Dragon Fish Mobile Station
Model No.:	DFMS-1
Serial No.:	N/A
Hardware Version:	V202010
Software Version:	V202010
Test sample(s) ID:	GTS202010000052-1
Sample(s) Status	Engineer sample
Operation frequency:	1.4MHz Bandwidth:2403.5MHz~2473.5 MHz 10MHz Bandwidth:2407.5MHz~2471.5 MHz
Channel numbers:	71 for 1.4MHz Bandwidth 65 for 10MHz Bandwidth
Channel separation:	1MHz
Modulation technology:	QPSK for 1.4MHz Bandwidth 16QAM for 10MHz Bandwidth
Antenna Type:	Fibre-glass epoxy antenna
Antenna working mode:	1T2R
Antenna gain:	5dBi
Power supply:	DC 11.55V, 4950mAh rechargeable battery
Adapter Information:	Model:GaN-001 Input: AC100-240V,50/60Hz USB –C1/C2 output: DC 5V, 3A/ DC 9V, 3A/ DC 12V, 3A/ DC 15V, 3A/ DC 20V, 3.25A USB-A output: DC 3.4-5.5V, 5A/ DC 5V, 3A/ DC 9V, 3A/ DC 12V, 3A/ DC 20V, 3A

Operation Frequency each of channel			
1.4MHz Bandwidth			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2403.5	36	2439.5
2	2404.5	.....	.....
3	2405.5	.....	.....
.....			
.....	.....	70	2472.5
35	2438.5	71	2473.5
10MHz Bandwidth			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2407.5	33	2439.5
2	2408.5	.....	.....
3	2409.5	.....	.....
.....			
.....	.....	64	2470.5
32	2438.5	65	2471.5

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:

Test channel	Frequency (MHz)	
	1.4MHz Bandwidth	10MHz Bandwidth
Lowest channel	2403.5MHz	2407.5MHz
Middle channel	2439.5MHz	2439.5MHz
Highest channel	2473.5MHz	2471.5MHz

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

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 25 2020	June. 24 2021
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 25 2020	June. 24 2021
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 25 2020	June. 24 2021
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 25 2020	June. 24 2021
9	ISN	SCHWARZBECK	NTFM 8158	GTD565	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

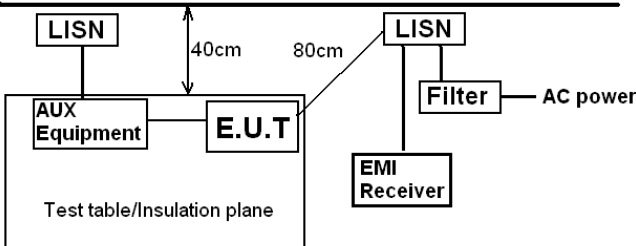
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

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 fibre-glass epoxy antenna, the best case gain of the antenna is 5dBi, reference to the appendix II for details</i>	

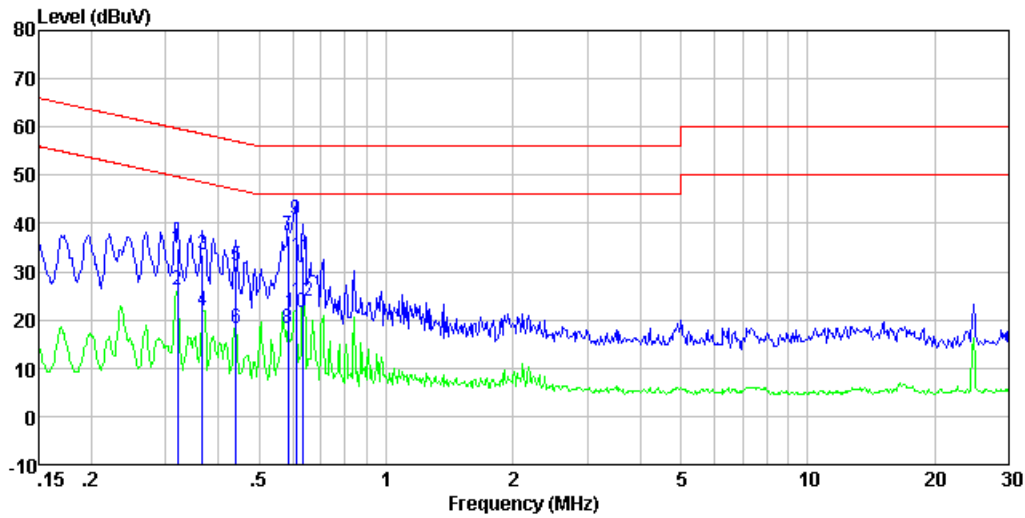
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207						
Test Method:	ANSI C63.10:2013						
Test Frequency Range:	150KHz to 30MHz						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto						
Limit:	Frequency range (MHz)		Limit (dBuV)				
			Quasi-peak		Average		
	0.15-0.5		66 to 56*		56 to 46*		
	0.5-5		56		46		
	5-30		60		50		
* Decreases with the logarithm of the frequency.							
Test setup:	Reference Plane  Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m						
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.						
Test Instruments:	Refer to section 6.0 for details						
Test mode:	Refer to section 5.2 for details						
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar	
Test voltage:	AC 120V, 60Hz						
Test results:	Pass						

Remark: Both high and low voltages have been tested to show only the worst low voltage test data.

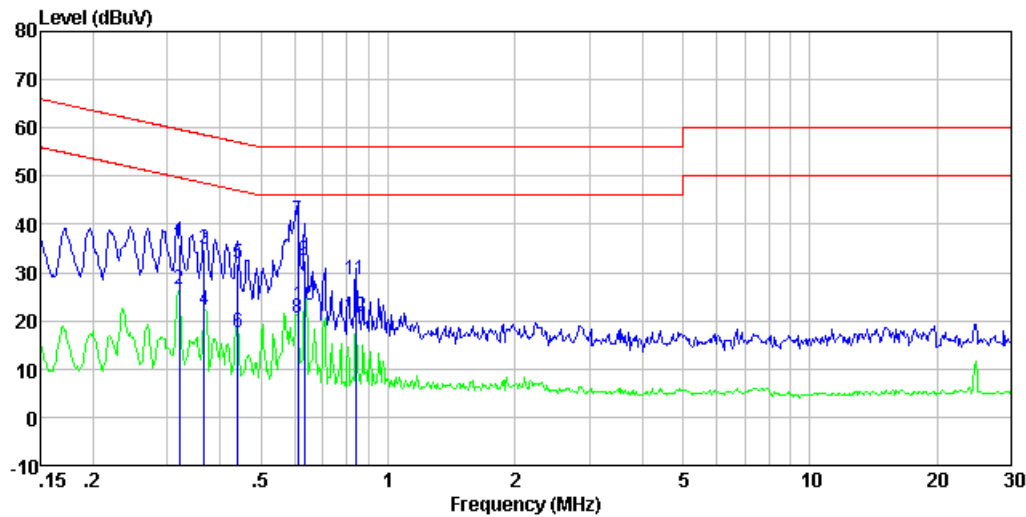
Measurement data

Line:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.32	14.26	20.39	0.10	34.75	59.71	-24.96	QP
0.32	5.65	20.39	0.10	26.14	49.71	-23.57	Average
0.37	12.97	20.37	0.10	33.44	58.56	-25.12	QP
0.37	1.32	20.37	0.10	21.79	48.56	-26.77	Average
0.44	10.60	20.34	0.11	31.05	57.07	-26.02	QP
0.44	-2.33	20.34	0.11	18.12	47.07	-28.95	Average
0.59	17.00	20.29	0.12	37.41	56.00	-18.59	QP
0.59	-2.20	20.29	0.12	18.21	46.00	-27.79	Average
0.61	20.48	20.28	0.12	40.88	56.00	-15.12	QP
0.61	1.21	20.28	0.12	21.61	46.00	-24.39	Average
0.63	12.87	20.28	0.12	33.27	56.00	-22.73	QP
0.63	3.34	20.28	0.12	23.74	46.00	-22.26	Average

Neutral:



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.32	15.23	20.39	0.10	35.72	59.71	-23.99	QP
0.32	5.89	20.39	0.10	26.38	49.71	-23.33	Average
0.37	14.42	20.37	0.10	34.89	58.56	-23.67	QP
0.37	1.60	20.37	0.10	22.07	48.56	-26.49	Average
0.44	11.25	20.34	0.11	31.70	57.07	-25.37	QP
0.44	-2.77	20.34	0.11	17.68	47.07	-29.39	Average
0.61	20.33	20.28	0.12	40.73	56.00	-15.27	QP
0.61	0.29	20.28	0.12	20.69	46.00	-25.31	Average
0.63	12.18	20.28	0.12	32.58	56.00	-23.42	QP
0.63	2.81	20.28	0.12	23.21	46.00	-22.79	Average
0.84	8.18	20.23	0.14	28.55	56.00	-27.45	QP
0.84	0.65	20.23	0.14	21.02	46.00	-24.98	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

7.3 Conducted Peak Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Power Meter and an E.U.T. are connected by a red cable and 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

Test CH	Peak Output Power (dBm)		Limit(dBm)	Result
	1.4MHz Bandwidth	10MHz Bandwidth		
Lowest	25.33	24.20	30.00	Pass
Middle	25.26	24.33		
Highest	25.44	24.72		

7.4 Channel Bandwidth & 99% Occupancy Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	>500KHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer, showing a frequency spectrum on its screen, is connected to an Equipment Under Test (E.U.T.) by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a Non-Conducted Table. This table is supported by a Ground Reference Plane, which is represented by a thick grey bar at the bottom of the setup.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test CH	Channel Bandwidth (MHz)		Limit(KHz)	Result
	1.4MHz Bandwidth	10MHz Bandwidth		
Lowest	1.098	9.028	>500	Pass
Middle	1.133	8.998		
Highest	1.113	9.023		

Test CH	99% Occupy Bandwidth (MHz)		Result
	1.4MHz Bandwidth	10MHz Bandwidth	
Lowest	1.2661	8.9474	Pass
Middle	1.2595	8.9493	
Highest	1.2674	8.9509	

Test plot as follows:

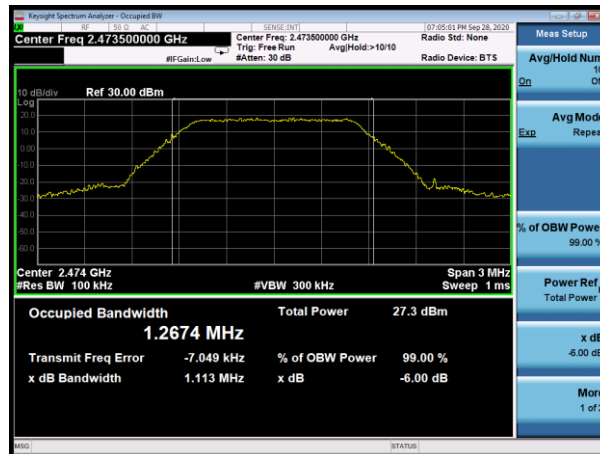
1.4MHz Bandwidth



Lowest channel

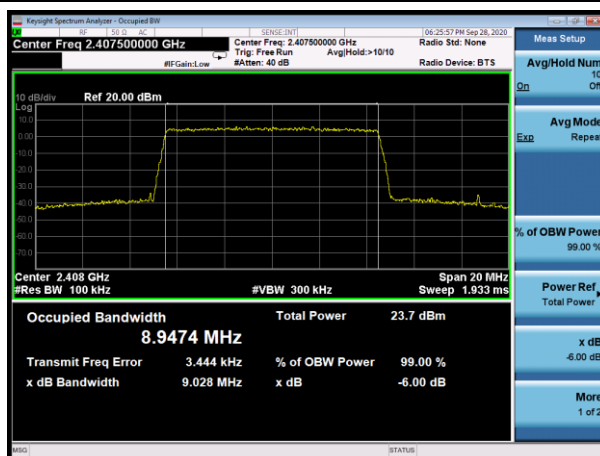


Middle channel

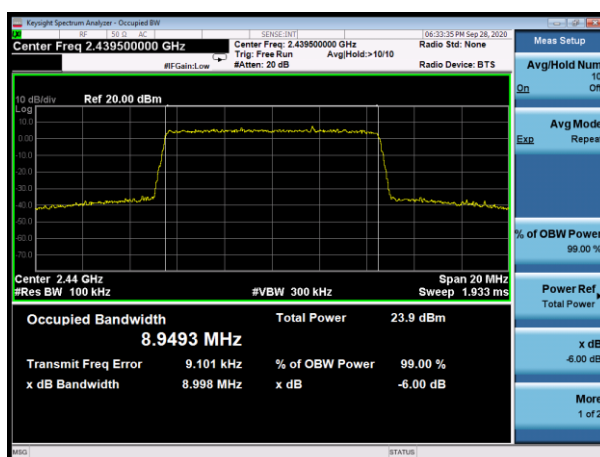


Highest channel

10MHz Bandwidth



Lowest channel

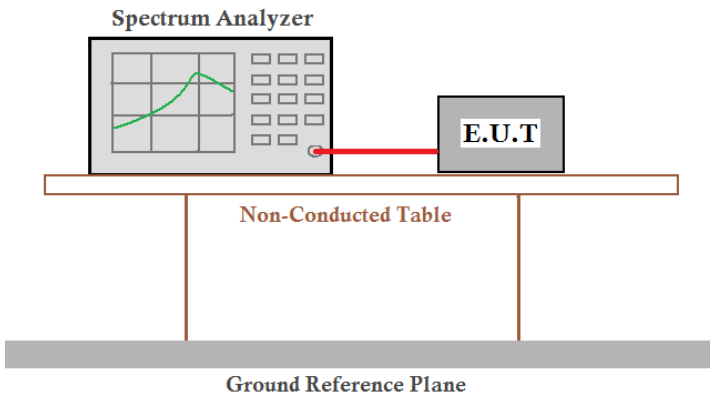


Middle channel



Highest channel

7.5 Power Spectral Density

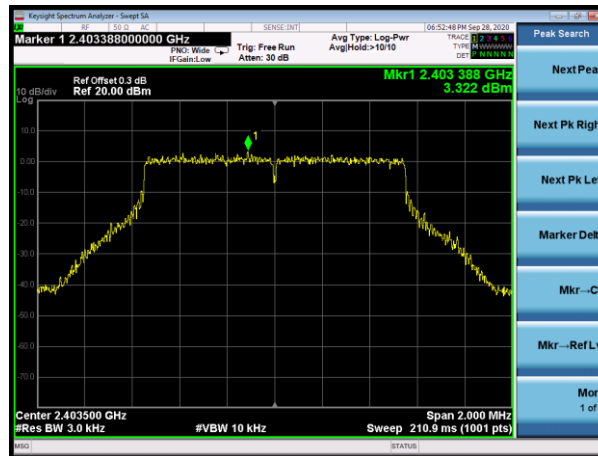
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	8dBm/3kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. 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

Measurement Data

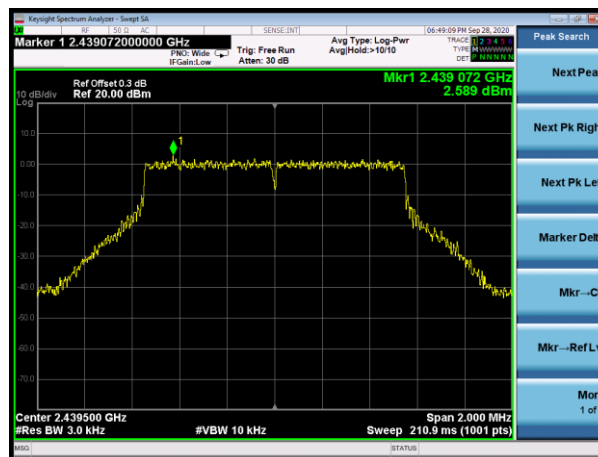
Test CH	Power Spectral Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
	1.4MHz Bandwidth	10MHz Bandwidth		
Lowest	3.322	-9.239	8.00	Pass
Middle	2.589	-9.543		
Highest	2.746	-8.275		

Test plot as follows:

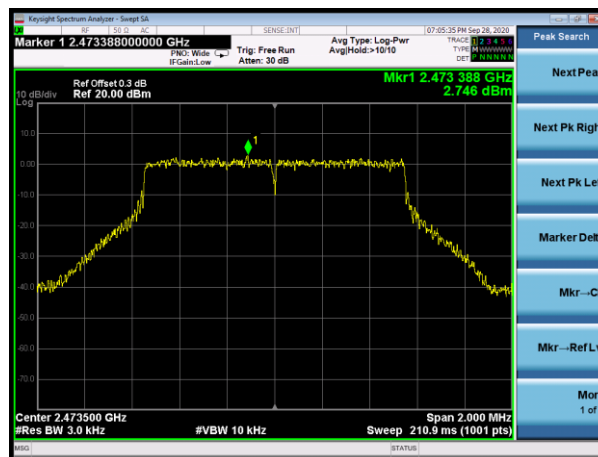
1.4MHz Bandwidth



Lowest channel

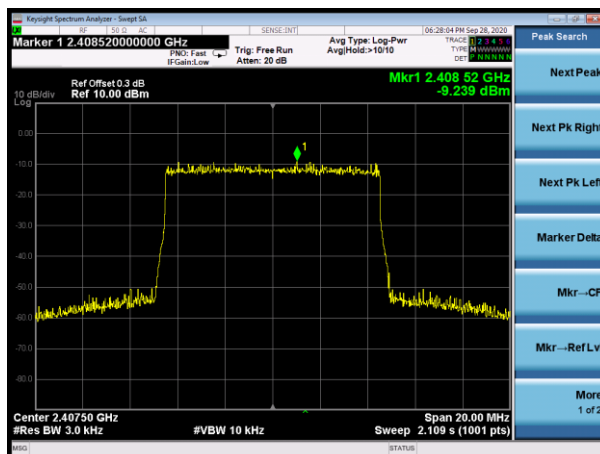


Middle channel

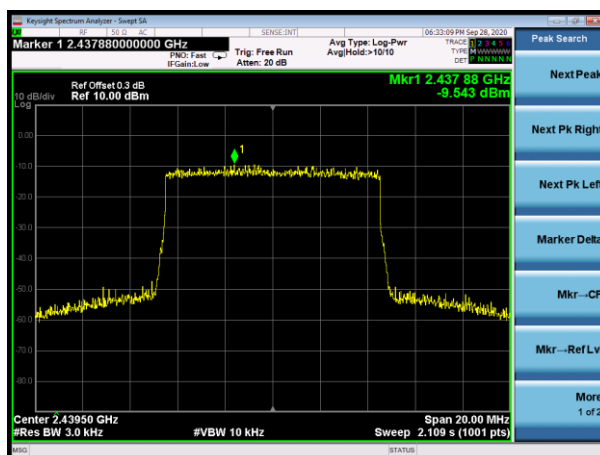


Highest channel

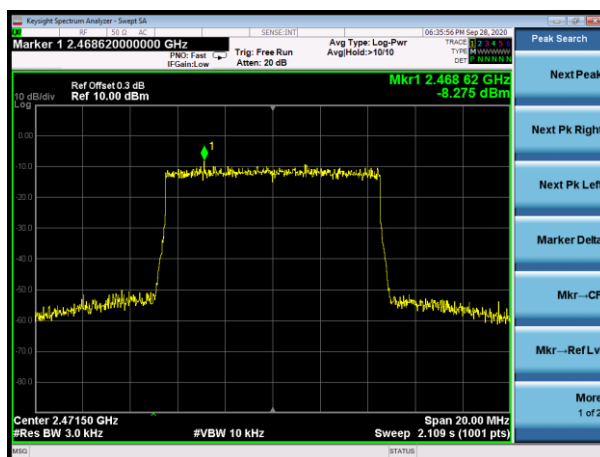
10MHz Bandwidth



Lowest channel



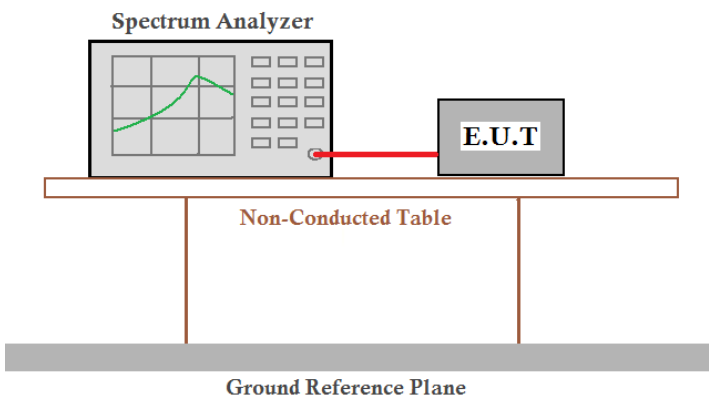
Middle channel



Highest channel

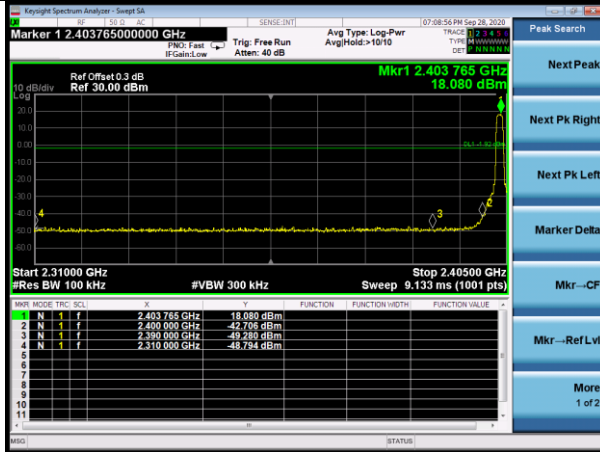
7.6 Band edges

7.6.1 Conducted Emission Method

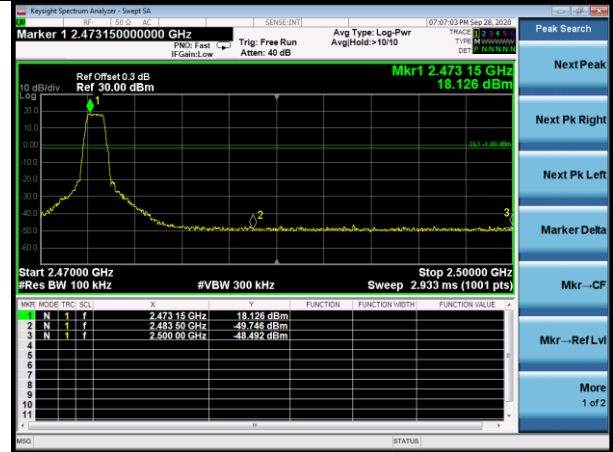
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall 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 is supported by two vertical legs. Below the table is a Ground Reference Plane, represented by a thick grey bar.
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:

Test mode: 1.4MHz Bandwidth

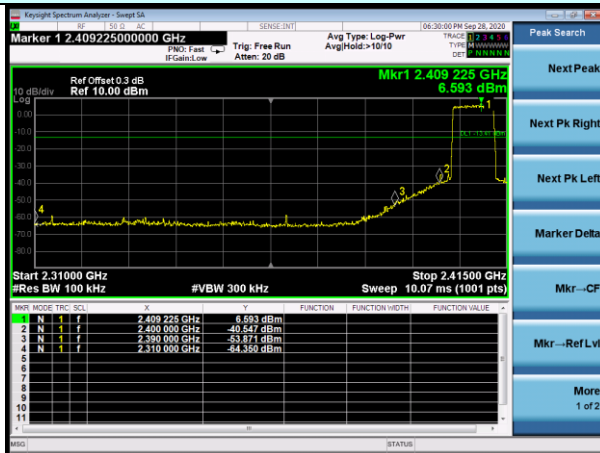


Lowest channel

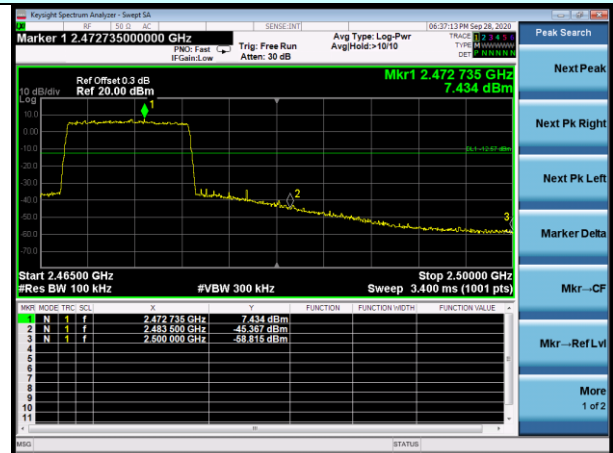


Highest channel

Test mode: 10MHz Bandwidth

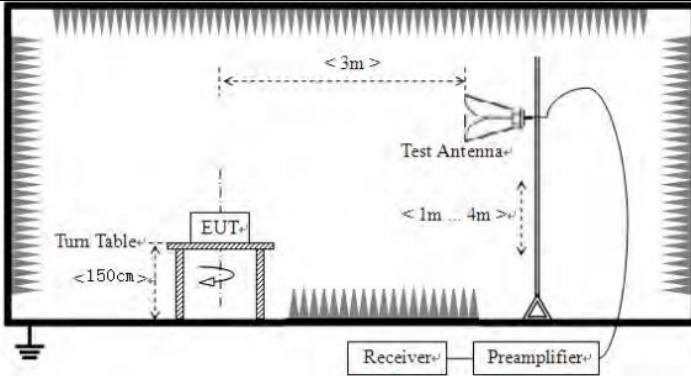


Lowest channel



Highest channel

7.6.2 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:

Test mode:	1.4MHz 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	52.41	27.59	5.38	34.01	51.37	74.00	-22.63	Horizontal
2400.00	61.42	27.58	5.39	34.01	60.38	74.00	-13.62	Horizontal
2390.00	54.17	27.59	5.38	34.01	53.13	74.00	-20.87	Vertical
2400.00	63.38	27.58	5.39	34.01	62.34	74.00	-11.66	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	39.05	27.59	5.38	34.01	38.01	54.00	-15.99	Horizontal
2400.00	47.42	27.58	5.39	34.01	46.38	54.00	-7.62	Horizontal
2390.00	40.79	27.59	5.38	34.01	39.75	54.00	-14.25	Vertical
2400.00	48.59	27.58	5.39	34.01	47.55	54.00	-6.45	Vertical

Test mode:	1.4MHz 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	53.11	27.53	5.47	33.92	52.19	74.00	-21.81	Horizontal
2500.00	48.94	27.55	5.49	29.93	52.05	74.00	-21.95	Horizontal
2483.50	55.46	27.53	5.47	33.92	54.54	74.00	-19.46	Vertical
2500.00	51.56	27.55	5.49	29.93	54.67	74.00	-19.33	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	39.42	27.53	5.47	33.92	38.50	54.00	-15.50	Horizontal
2500.00	35.50	27.55	5.49	29.93	38.61	54.00	-15.39	Horizontal
2483.50	41.50	27.53	5.47	33.92	40.58	54.00	-13.42	Vertical
2500.00	37.32	27.55	5.49	29.93	40.43	54.00	-13.57	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	50.94	27.59	5.38	34.01	49.90	74.00	-24.10	Horizontal
2400.00	59.73	27.58	5.39	34.01	58.69	74.00	-15.31	Horizontal
2390.00	52.79	27.59	5.38	34.01	51.75	74.00	-22.25	Vertical
2400.00	61.50	27.58	5.39	34.01	60.46	74.00	-13.54	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	38.20	27.59	5.38	34.01	37.16	54.00	-16.84	Horizontal
2400.00	46.57	27.58	5.39	34.01	45.53	54.00	-8.47	Horizontal
2390.00	39.82	27.59	5.38	34.01	38.78	54.00	-15.22	Vertical
2400.00	47.20	27.58	5.39	34.01	46.16	54.00	-7.84	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	51.09	27.53	5.47	33.92	50.17	74.00	-23.83	Horizontal
2500.00	47.38	27.55	5.49	29.93	50.49	74.00	-23.51	Horizontal
2483.50	53.15	27.53	5.47	33.92	52.23	74.00	-21.77	Vertical
2500.00	49.74	27.55	5.49	29.93	52.85	74.00	-21.15	Vertical

Average value:

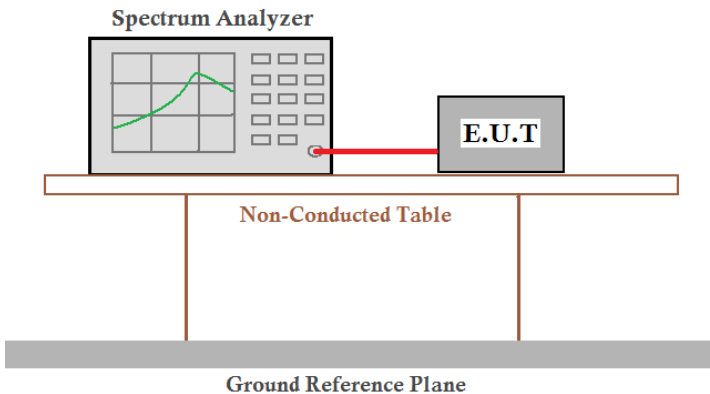
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	38.21	27.53	5.47	33.92	37.29	54.00	-16.71	Horizontal
2500.00	34.57	27.55	5.49	29.93	37.68	54.00	-16.32	Horizontal
2483.50	40.17	27.53	5.47	33.92	39.25	54.00	-14.75	Vertical
2500.00	36.33	27.55	5.49	29.93	39.44	54.00	-14.56	Vertical

Remarks:

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

7.7 Spurious Emission

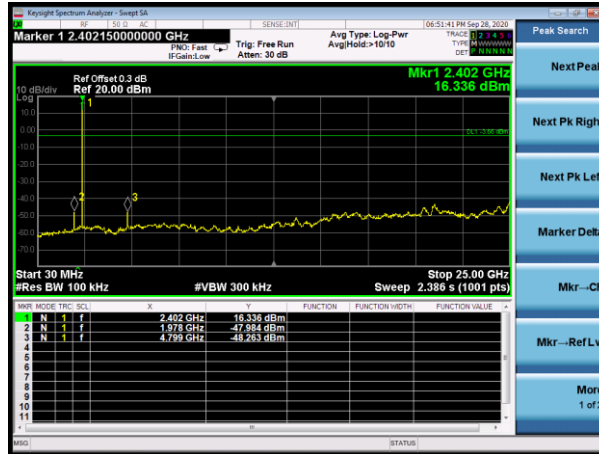
7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02
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 is supported by two vertical legs. Below the table is a Ground Reference Plane, represented by a thick grey bar.
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:

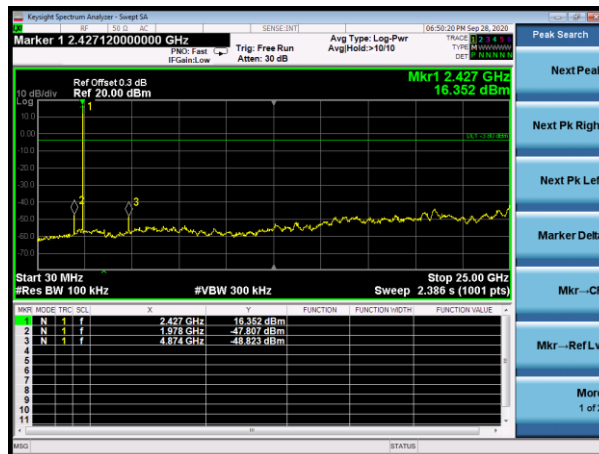
1.4MHz Bandwidth

Lowest channel



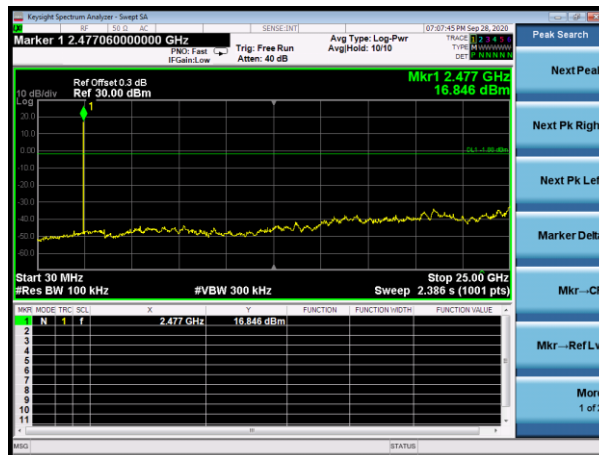
30MHz~25GHz

Middle channel



30MHz~25GHz

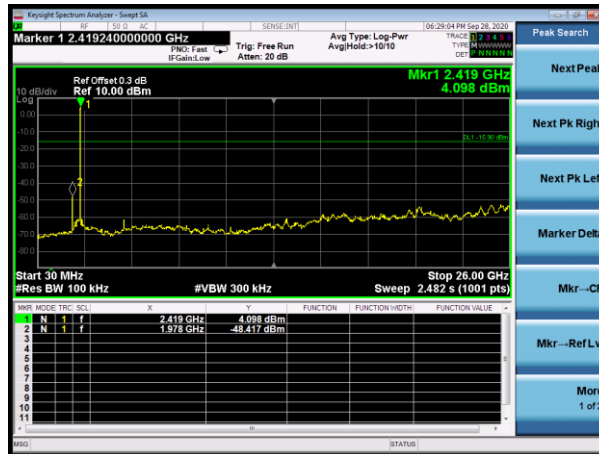
Highest channel



30MHz~25GHz

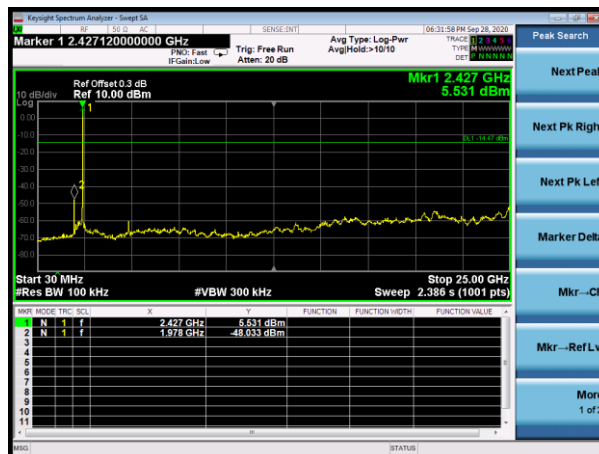
10MHz Bandwidth

Lowest channel



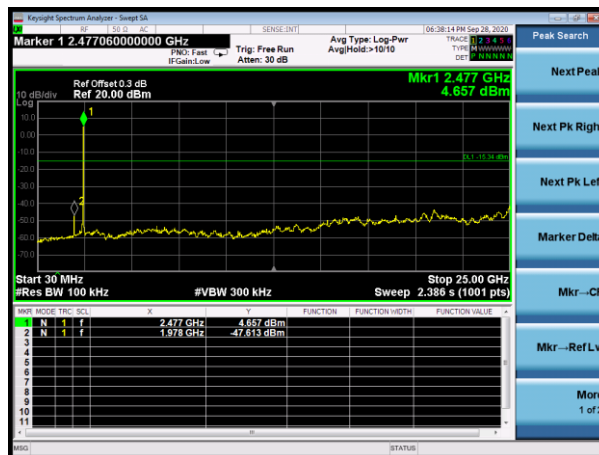
30MHz~25GHz

Middle channel



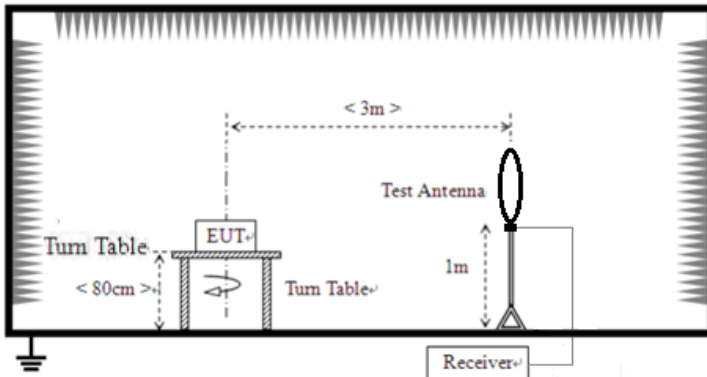
30MHz~25GHz

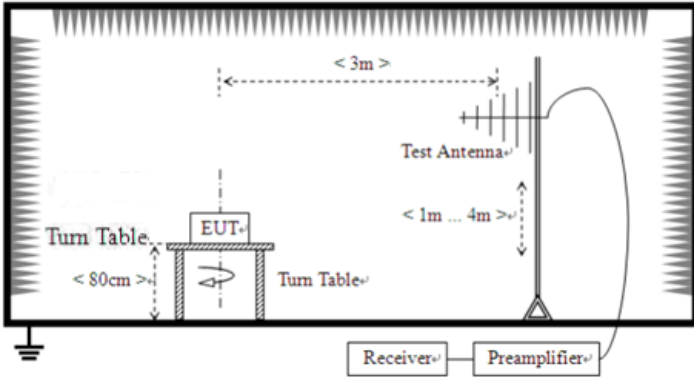
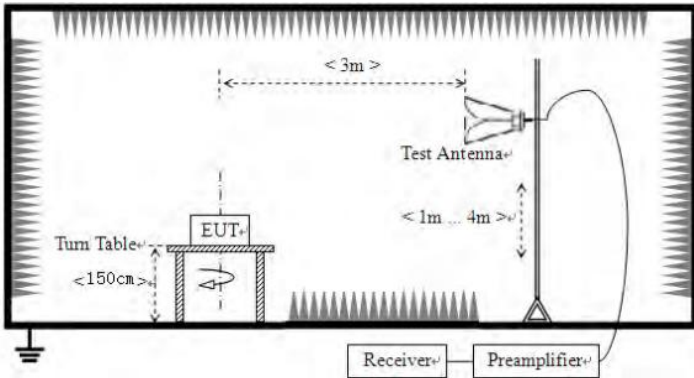
Highest channel



30MHz~25GHz

7.7.2 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	120KHz	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 to 1GHz				

	 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. Only the worst case Main Antenna test data.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

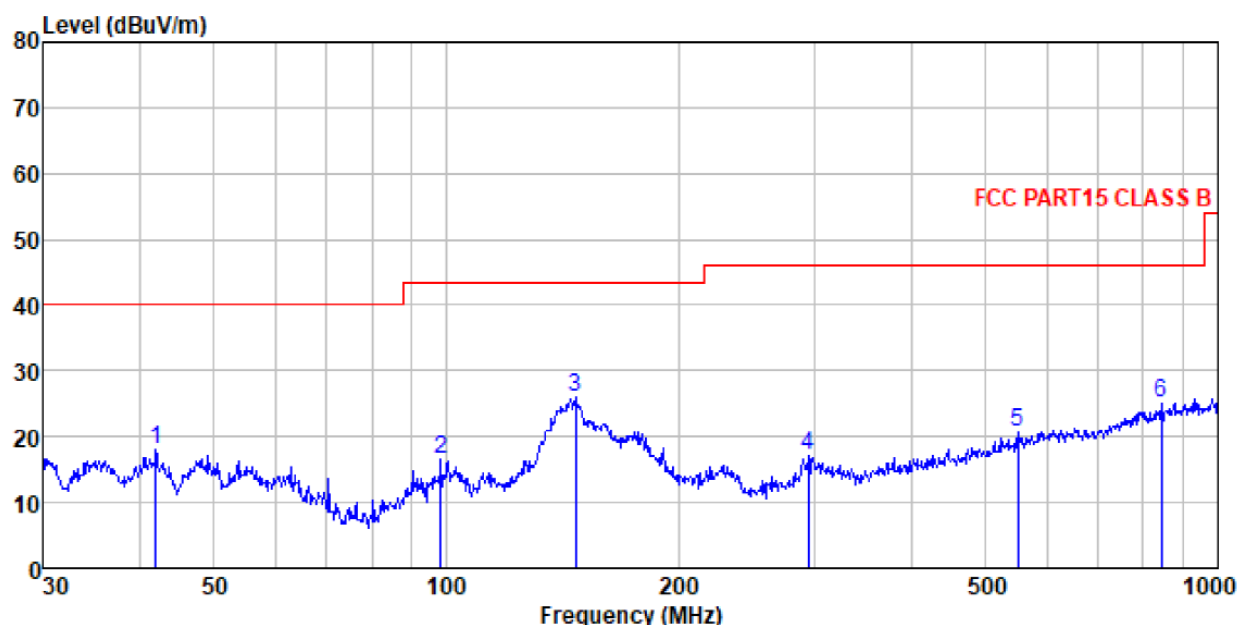
■ **9kHz~30MHz**

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

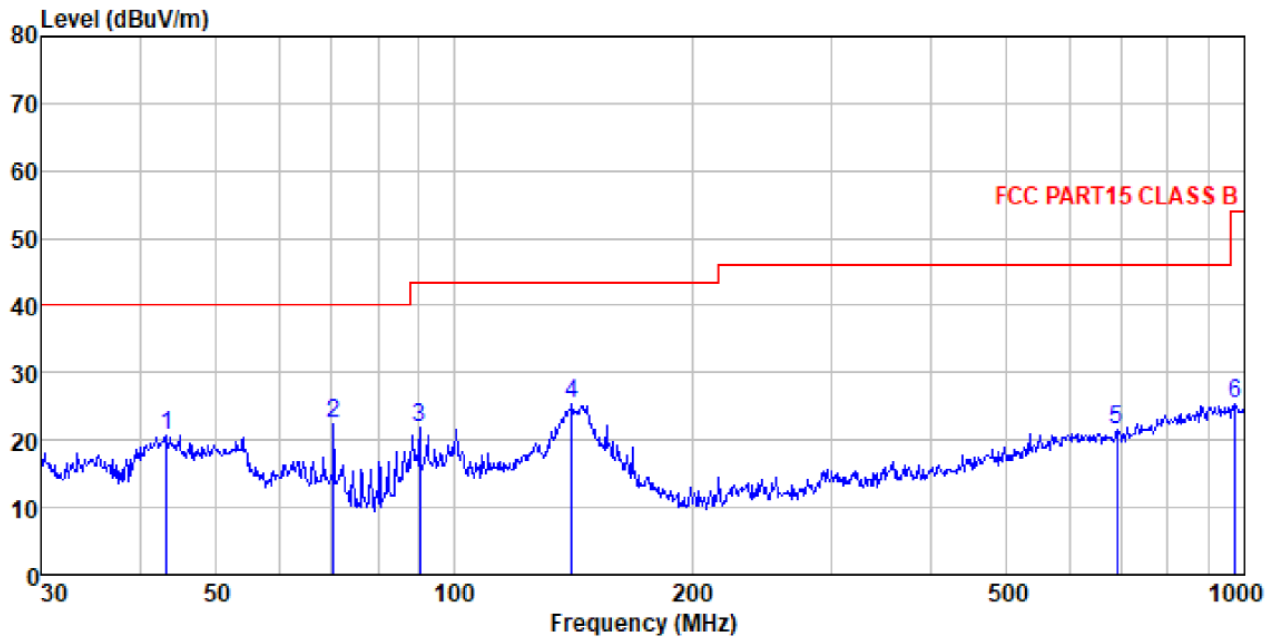
Pre-scan all test modes, found worst case at 1.4MHz bandwidth of 2473.5MHz, and so only show the test result 1.4MHz bandwidth of 2473.5MHz.

Horizontal:



	Freq	ReadAntenna	Preamp	Cable	Level	Limit	Over	
	MHz	Level	Factor	Loss	dBuV/m	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	42.007	40.98	12.22	35.78	0.69	18.11	40.00	-21.89 QP
2	98.487	39.94	12.00	36.71	1.18	16.41	43.50	-27.09 QP
3	146.888	53.91	7.54	37.06	1.55	25.94	43.50	-17.56 QP
4	294.114	38.69	13.45	37.42	2.33	17.05	46.00	-28.95 QP
5	550.948	36.32	18.45	37.53	3.53	20.77	46.00	-25.23 QP
6	845.088	36.38	21.82	37.61	4.63	25.22	46.00	-20.78 QP

Vertical:



	Read	Antenna	Preamp	Cable		Limit	Over	
Freq	Level	Factor	Factor	Loss	Level	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	43.202	43.52	12.23	35.84	0.70	20.61	40.00	-19.39 QP
2	70.337	50.35	7.50	36.45	0.94	22.34	40.00	-17.66 QP
3	90.537	46.49	10.77	36.64	1.11	21.73	43.50	-21.77 QP
4	140.835	53.47	7.41	37.02	1.51	25.37	43.50	-18.13 QP
5	689.565	35.51	19.59	37.62	4.05	21.53	46.00	-24.47 QP
6	972.337	35.19	22.59	37.53	5.12	25.37	54.00	-28.63 QP

■ Above 1GHz

Test mode:	1.4MHz 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
4807.00	41.09	31.78	8.60	32.09	49.38	74.00	-24.62	Vertical
7210.50	34.79	36.15	11.65	32.00	50.59	74.00	-23.41	Vertical
9614.00	33.33	37.95	14.14	31.62	53.80	74.00	-20.20	Vertical
12017.50	*					74.00		Vertical
14421.00	*					74.00		Vertical
16824.50	*					74.00		Vertical
4807.00	39.66	31.78	8.60	32.09	47.95	74.00	-26.05	Horizontal
7210.50	34.64	36.15	11.65	32.00	50.44	74.00	-23.56	Horizontal
9614.00	32.62	37.95	14.14	31.62	53.09	74.00	-20.91	Horizontal
12017.50	*					74.00		Horizontal
14421.00	*					74.00		Horizontal
16824.50	*					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
4807.00	30.14	31.78	8.60	32.09	38.43	54.00	-15.57	Vertical
7210.50	23.65	36.15	11.65	32.00	39.45	54.00	-14.55	Vertical
9614.00	23.67	37.95	14.14	31.62	44.14	54.00	-9.86	Vertical
12017.50	*					54.00		Vertical
14421.00	*					54.00		Vertical
16824.50	*					54.00		Vertical
4807.00	29.17	31.78	8.60	32.09	37.46	54.00	-16.54	Horizontal
7210.50	23.21	36.15	11.65	32.00	39.01	54.00	-14.99	Horizontal
9614.00	22.36	37.95	14.14	31.62	42.83	54.00	-11.17	Horizontal
12017.50	*					54.00		Horizontal
14421.00	*					54.00		Horizontal
16824.50	*					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:	1.4MHz 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
4879.00	40.07	31.85	8.67	32.12	48.47	74.00	-25.53	Vertical
7318.50	34.82	36.37	11.72	31.89	51.02	74.00	-22.98	Vertical
9758.00	34.31	38.35	14.25	31.62	55.29	74.00	-18.71	Vertical
12197.50	*					74.00		Vertical
14637.00	*					74.00		Vertical
17076.50	*					74.00		Vertical
4879.00	40.46	31.85	8.67	32.12	48.86	74.00	-25.14	Horizontal
7318.50	33.56	36.37	11.72	31.89	49.76	74.00	-24.24	Horizontal
9758.00	33.92	38.35	14.25	31.62	54.90	74.00	-19.10	Horizontal
12197.50	*					74.00		Horizontal
14637.00	*					74.00		Horizontal
17076.50	*					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
4879.00	30.89	31.85	8.67	32.12	39.29	54.00	-14.71	Vertical
7318.50	23.12	36.37	11.72	31.89	39.32	54.00	-14.68	Vertical
9758.00	23.56	38.35	14.25	31.62	44.54	54.00	-9.46	Vertical
12197.50	*					54.00		Vertical
14637.00	*					54.00		Vertical
17076.50	*					54.00		Vertical
4879.00	30.56	31.85	8.67	32.12	38.96	54.00	-15.04	Horizontal
7318.50	22.64	36.37	11.72	31.89	38.84	54.00	-15.16	Horizontal
9758.00	23.63	38.35	14.25	31.62	44.61	54.00	-9.39	Horizontal
12197.50	*					54.00		Horizontal
14637.00	*					54.00		Horizontal
17076.50	*					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:	1.4MHz 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
4947.00	45.86	31.93	8.73	32.16	54.36	74.00	-19.64	Vertical
7420.50	35.66	36.59	11.79	31.78	52.26	74.00	-21.74	Vertical
9894.00	37.73	38.81	14.38	31.88	59.04	74.00	-14.96	Vertical
12367.50	*					74.00		Vertical
14841.00	*					74.00		Vertical
17314.50	*					74.00		Vertical
4947.00	45.04	31.93	8.73	32.16	53.54	74.00	-20.46	Horizontal
7420.50	34.64	36.59	11.79	31.78	51.24	74.00	-22.76	Horizontal
9894.00	33.61	38.81	14.38	31.88	54.92	74.00	-19.08	Horizontal
12367.50	*					74.00		Horizontal
14841.00	*					74.00		Horizontal
17314.50	*					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
4947.00	36.72	31.93	8.73	32.16	45.22	54.00	-8.78	Vertical
7420.50	25.56	36.59	11.79	31.78	42.16	54.00	-11.84	Vertical
9894.00	26.22	38.81	14.38	31.88	47.53	54.00	-6.47	Vertical
12367.50	*					54.00		Vertical
14841.00	*					54.00		Vertical
17314.50	*					54.00		Vertical
4947.00	35.37	31.93	8.73	32.16	43.87	54.00	-10.13	Horizontal
7420.50	24.02	36.59	11.79	31.78	40.62	54.00	-13.38	Horizontal
9894.00	22.86	38.81	14.38	31.88	44.17	54.00	-9.83	Horizontal
12367.50	*					54.00		Horizontal
14841.00	*					54.00		Horizontal
17314.50	*					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
4815.00	40.97	31.78	8.60	32.09	49.26	74.00	-24.74	Vertical
7222.50	34.77	36.15	11.65	32.00	50.57	74.00	-23.43	Vertical
9630.00	33.46	37.95	14.14	31.62	53.93	74.00	-20.07	Vertical
12037.50	*					74.00		Vertical
14445.00	*					74.00		Vertical
16852.50	*					74.00		Vertical
4815.00	39.58	31.78	8.60	32.09	47.87	74.00	-26.13	Horizontal
7222.50	34.74	36.15	11.65	32.00	50.54	74.00	-23.47	Horizontal
9630.00	32.58	37.95	14.14	31.62	53.05	74.00	-20.95	Horizontal
12037.50	*					74.00		Horizontal
14445.00	*					74.00		Horizontal
16852.50	*					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
4815.00	30.05	31.78	8.60	32.09	38.34	54.00	-15.66	Vertical
7222.50	23.64	36.15	11.65	32.00	39.44	54.00	-14.56	Vertical
9630.00	23.81	37.95	14.14	31.62	44.28	54.00	-9.72	Vertical
12037.50	*					54.00		Vertical
14445.00	*					54.00		Vertical
16852.50	*					54.00		Vertical
4815.00	29.11	31.78	8.60	32.09	37.40	54.00	-16.60	Horizontal
7222.50	23.32	36.15	11.65	32.00	39.12	54.00	-14.89	Horizontal
9630.00	22.33	37.95	14.14	31.62	42.80	54.00	-11.20	Horizontal
12037.50	*					54.00		Horizontal
14445.00	*					54.00		Horizontal
16852.50	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. “*”, means this data is 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
4879.00	40.01	31.85	8.67	32.12	48.41	74.00	-25.59	Vertical
7318.50	34.83	36.37	11.72	31.89	51.03	74.00	-22.97	Vertical
9758.00	34.48	38.35	14.25	31.62	55.46	74.00	-18.54	Vertical
12197.50	*					74.00		Vertical
14637.00	*					74.00		Vertical
17076.50	*					74.00		Vertical
4879.00	40.43	31.85	8.67	32.12	48.83	74.00	-25.17	Horizontal
7318.50	33.70	36.37	11.72	31.89	49.90	74.00	-24.11	Horizontal
9758.00	33.90	38.35	14.25	31.62	54.88	74.00	-19.12	Horizontal
12197.50	*					74.00		Horizontal
14637.00	*					74.00		Horizontal
17076.50	*					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
4879.00	30.86	31.85	8.67	32.12	39.26	54.00	-14.74	Vertical
7318.50	23.15	36.37	11.72	31.89	39.35	54.00	-14.65	Vertical
9758.00	23.73	38.35	14.25	31.62	44.71	54.00	-9.29	Vertical
12197.50	*					54.00		Vertical
14637.00	*					54.00		Vertical
17076.50	*					54.00		Vertical
4879.00	30.54	31.85	8.67	32.12	38.94	54.00	-15.06	Horizontal
7318.50	22.79	36.37	11.72	31.89	38.99	54.00	-15.02	Horizontal
9758.00	23.62	38.35	14.25	31.62	44.60	54.00	-9.40	Horizontal
12197.50	*					54.00		Horizontal
14637.00	*					54.00		Horizontal
17076.50	*					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
4943.00	45.58	31.93	8.73	32.16	54.08	74.00	-19.92	Vertical
7414.50	35.53	36.59	11.79	31.78	52.13	74.00	-21.87	Vertical
9886.00	37.79	38.81	14.38	31.88	59.10	74.00	-14.90	Vertical
12357.50	*					74.00		Vertical
14829.00	*					74.00		Vertical
17300.50	*					74.00		Vertical
4943.00	44.82	31.93	8.73	32.16	53.32	74.00	-20.68	Horizontal
7414.50	34.66	36.59	11.79	31.78	51.26	74.00	-22.75	Horizontal
9886.00	33.50	38.81	14.38	31.88	54.81	74.00	-19.19	Horizontal
12357.50	*					74.00		Horizontal
14829.00	*					74.00		Horizontal
17300.50	*					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
4943.00	36.49	31.93	8.73	32.16	44.99	54.00	-9.01	Vertical
7414.50	25.45	36.59	11.79	31.78	42.05	54.00	-11.95	Vertical
9886.00	26.29	38.81	14.38	31.88	47.60	54.00	-6.40	Vertical
12357.50	*					54.00		Vertical
14829.00	*					54.00		Vertical
17300.50	*					54.00		Vertical
4943.00	35.18	31.93	8.73	32.16	43.68	54.00	-10.32	Horizontal
7414.50	24.04	36.59	11.79	31.78	40.64	54.00	-13.37	Horizontal
9886.00	22.76	38.81	14.38	31.88	44.07	54.00	-9.93	Horizontal
12357.50	*					54.00		Horizontal
14829.00	*					54.00		Horizontal
17300.50	*					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-----