

TEST REPORT

Applicant: GAINMAX LIMITED

Address of Applicant: 5/F., Yat Chau Building, 262 Des Voeux Road, Centre, Hong Kong

Manufacturer: GAINMAX LIMITED

Address of Manufacturer: 5/F., Yat Chau Building, 262 Des Voeux Road, Centre, Hong Kong

Equipment Under Test (EUT)

Product Name: FUNTEK 2.4G Radio set

Model No.: See section 5.1

FCC ID: 2AHZK101200

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249

Date of sample receipt: June 22, 2021

Date of Test: June 23, 2021-July 07, 2021

Date of report issued: July 07, 2021

Test Result : PASS *

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

Authorized Signature:



Robinson Luo

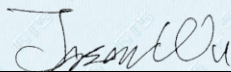
Laboratory Manager

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2 Version

Version No.	Date	Description
00	July 07, 2021	Original

Prepared By:

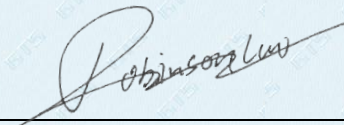


Date:

July 07, 2021

Project Engineer

Check By:



Date:

July 07, 2021

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	N/A
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Remarks:

1. Test according to ANSI C63.10: 2013.
2. Pass: The EUT complies with the essential requirements in the standard.

4.1 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:	FUNTEK 2.4G Radio set
Model No.:	NR4-141601, NR4-081001, NR4-081002, NR4-081003, NR4-081004, NR4-081005, NR4-081006, NR4-081007, NR4-081008, NR4-081009, NR4-081010, NR4-101201, NR4-101202, NR4-101203, NR4-101204, NR4-101205, NR4-101206, NR4-101207, NR4-101208, NR4-101209, NR4-101210, NR4-101211, NR4-101212, NR4-101213, NR4-101214, NR4-101215, NR4-101216, NR4-101217, NR4-101218, NR4-101219, NR4-101220, NR4-121401, NR4-121402, NR4-121403, NR4-121404, NR4-121405, NR4-121406, NR4-121407, NR4-121408, NR4-121409, NR4-121410, NR4-141601, NR4-141602, NR4-141603, NR4-141604, NR4-141605, NR4-141606, NR4-141607, NR4-141608, NR4-141609, NR4-141610, NR4-141611, NR4-141612, NR4-141613, NR4-141614, NR4-141615, NR4-141616, NR4-141617, NR4-141618, NR4-141619, NR4-141620, NR4-161801, NR4-161802, NR4-161803, NR4-161804, NR4-161805, NR4-161806, NR4-161807, NR4-161808, NR4-161809, NR4-161810, NR4-182001, NR4-182002, NR4-182003, NR4-182004, NR4-182005, NR4-182006, NR4-182007, NR4-182008, NR4-182009, NR4-182010
Test Model No:	NR4-141601
Remark:All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are appearance color and model name for commercial purpose.	
Test sample(s) ID:	GTS202106000224-1
Sample(s) Status:	Engineer sample
Serial No.:	20210701
Hardware version:	RX:141601RH TX:141601TH
Software version:	RX:141601RS TX:141601TS
Operation Frequency:	2402MHz~2482MHz
Channel Numbers:	81
Channel Separation:	1MHz
Modulation Type:	GFSK
Antenna Type:	Integral Antenna
Antenna Gain:	2dBi(declare by applicant)
Power Supply:	RX: DC 7.4V, 1500mAh Battery TX: DC 6.0V (4*1.5V Size "AA" Battery)

Note:The report is only for TX device

Operation Frequency each of channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2402	22	2423	43	2444	63	2464
2	2403	23	2424	44	2445	64	2465
3	2404	24	2425	45	2446	65	2466
4	2405	25	2426	46	2447	66	2467
5	2406	26	2427	47	2448	67	2468
6	2407	27	2428	48	2449	68	2469
7	2408	28	2429	49	2450	69	2470
8	2409	29	2430	50	2451	70	2471
9	2410	30	2431	51	2452	71	2472
10	2411	31	2432	52	2453	72	2473
11	2412	32	2433	53	2454	73	2474
12	2413	33	2434	54	2455	74	2475
13	2414	34	2435	55	2456	75	2476
14	2415	35	2436	56	2457	76	2477
15	2416	36	2437	57	2458	77	2478
16	2417	37	2438	58	2459	78	2479
17	2418	38	2439	59	2460	79	2480
18	2419	39	2440	60	2461	80	2481
19	2420	40	2441	61	2462	81	2482
20	2421	41	2442	62	2463		
21	2422	42	2443	43	2444		

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:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2442MHz
The Highest channel	2482MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: New battery is used during all test.	

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	89.26	90.70	88.17

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**

Designation Number: CN5029

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.

- **IC —Registration No.: 9079A**

CAB identifier: CN0091

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

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

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

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. 24 2021	June. 23 2022
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 24 2021	June. 23 2022
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 24 2021	June. 23 2022
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 24 2021	June. 23 2022
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 24 2021	June. 23 2022
9	Coaxial Cable	GTS	N/A	GTS211	June. 24 2021	June. 23 2022
10	Coaxial cable	GTS	N/A	GTS210	June. 24 2021	June. 23 2022
11	Coaxial Cable	GTS	N/A	GTS212	June. 24 2021	June. 23 2022
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 24 2021	June. 23 2022
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 24 2021	June. 23 2022
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 24 2021	June. 23 2022
15	Band filter	Amindeon	82346	GTS219	June. 24 2021	June. 23 2022
16	Power Meter	Anritsu	ML2495A	GTS540	June. 24 2021	June. 23 2022
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 24 2021	June. 23 2022
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 24 2021	June. 23 2022
19	Splitter	Agilent	11636B	GTS237	June. 24 2021	June. 23 2022
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 24 2021	June. 23 2022
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. 24 2021	June. 23 2022

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. 24 2021	June. 23 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 24 2021	June. 23 2022
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 24 2021	June. 23 2022
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 24 2021	June. 23 2022
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 24 2021	June. 23 2022
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 24 2021	June. 23 2022
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 24 2021	June. 23 2022
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 24 2021	June. 23 2022

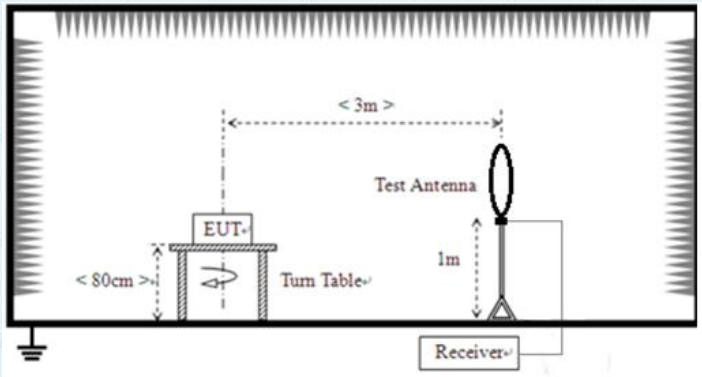
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 24 2021	June. 23 2022
2	Barometer	ChangChun	DYM3	GTS255	June. 24 2021	June. 23 2022

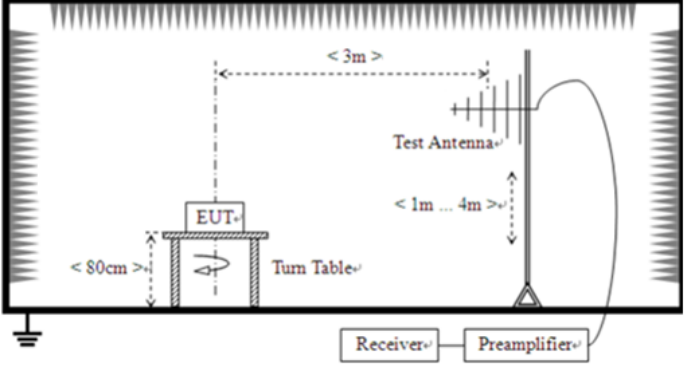
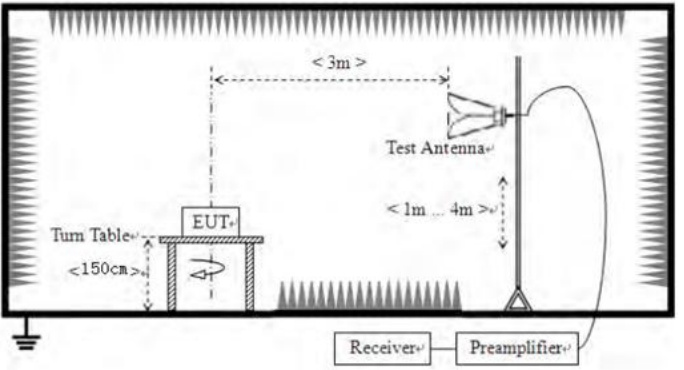
7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203
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 antenna is integral antenna, the best case gain of the are antennas 2dBi, reference to the appendix II for details</i>	

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	Remark
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit: (Field strength of the fundamental signal)	Frequency		Limit (dBuV/m @3m)		Remark
	2400MHz-2483.5MHz		94.00		Average Value
			114.00		Peak Value
Limit: (Spurious Emissions)	Frequency		Limit (uV/m)		Remark
	0.009MHz-0.490MHz		2400/F(kHz) @300m		Quasi-peak Value
	0.490MHz-1.705MHz		24000/F(kHz) @30m		Quasi-peak Value
	1.705MHz-30.0MHz		30 @30m		Quasi-peak Value
	30MHz-88MHz		100 @3m		Quasi-peak Value
	88MHz-216MHz		150 @3m		Quasi-peak Value
	216MHz-960MHz		200 @3m		Quasi-peak Value
	960MHz-1GHz		500 @3m		Quasi-peak Value
	Above 1GHz		500 @3m		Average Value
5000 @3m			Peak Value		
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
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 1GHz and 1.5 meters for above 1GHz) 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 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:

7.2.1 Field Strength of The Fundamental Signal

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
2402.00	91.57	27.58	5.39	34.01	90.53	114.00	-23.47	Vertical
2402.00	86.09	27.58	5.39	34.01	85.05	114.00	-28.95	Horizontal
2442.00	91.75	27.48	5.43	33.96	90.70	114.00	-23.30	Vertical
2442.00	85.76	27.48	5.43	33.96	84.71	114.00	-29.29	Horizontal
2482.00	90.56	27.52	5.47	33.92	89.63	114.00	-24.37	Vertical
2482.00	84.73	27.52	5.47	33.92	83.80	114.00	-30.20	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
2402.00	81.64	27.58	5.39	34.01	80.60	94.00	-13.40	Vertical
2402.00	76.50	27.58	5.39	34.01	75.46	94.00	-18.54	Horizontal
2442.00	81.88	27.48	5.43	33.96	80.83	94.00	-13.17	Vertical
2442.00	75.20	27.48	5.43	33.96	74.15	94.00	-19.85	Horizontal
2482.00	80.95	27.52	5.47	33.92	80.02	94.00	-13.98	Vertical
2482.00	75.43	27.52	5.47	33.92	74.50	94.00	-19.50	Horizontal

Note: RBW>20dB BW, VBW> RBW, PK detector is for PK value, AV detector is for AV value .

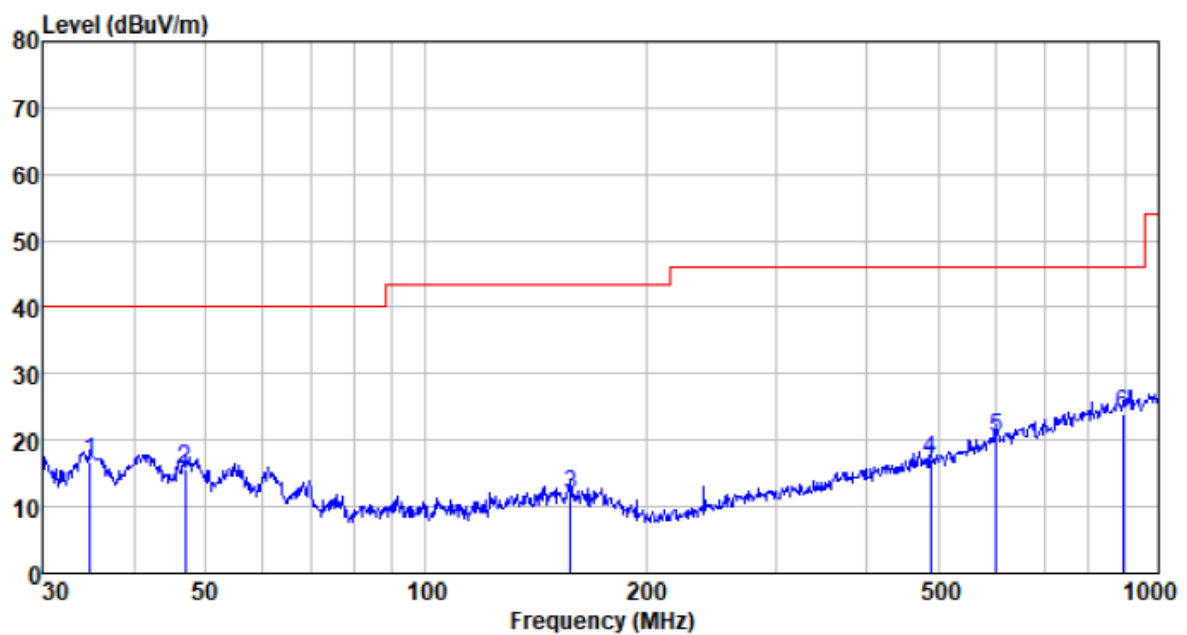
7.2.2 Spurious emissions

■ Below 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), the test result no need to reported.

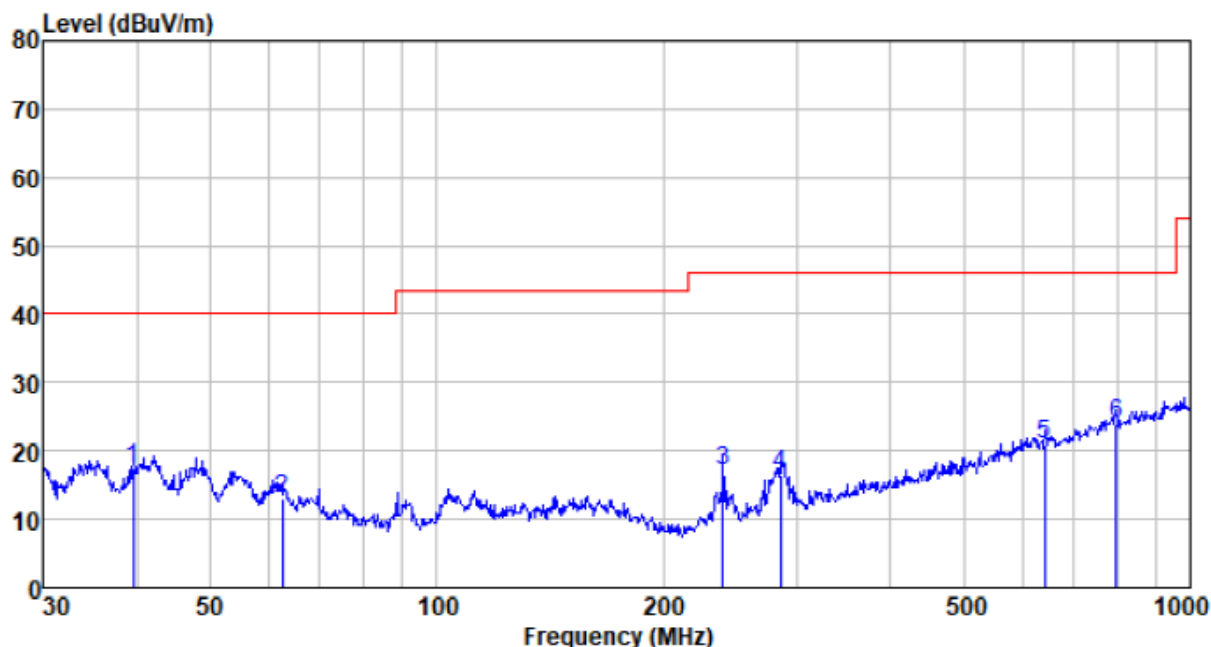
■ Below 1GHz

Test channel:	Lowest	Polarization:	Horizontal
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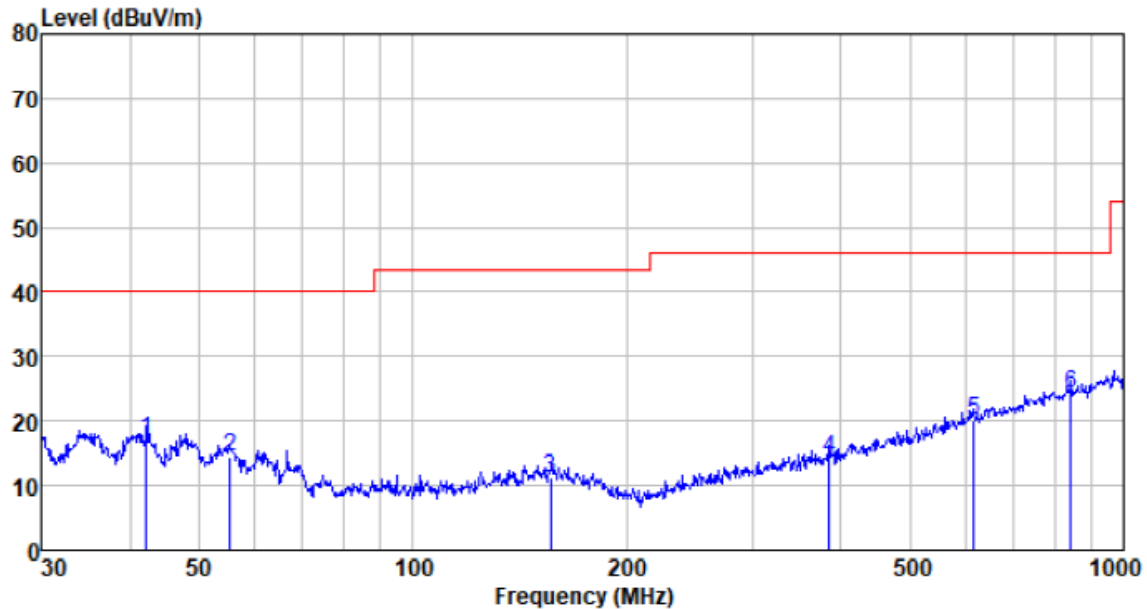
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
34.882	38.96	12.49	0.61	35.35	16.71	40.00	-23.29	QP
46.995	37.92	12.99	0.74	36.04	15.61	40.00	-24.39	QP
157.559	34.62	12.77	1.62	37.12	11.89	43.50	-31.61	QP
489.027	34.84	16.48	3.26	37.51	17.07	46.00	-28.93	QP
601.427	35.06	19.26	3.73	37.54	20.51	46.00	-25.49	QP
893.857	33.78	22.91	4.83	37.60	23.92	46.00	-22.08	QP

Test channel:	Lowest	Polarization:	Vertical
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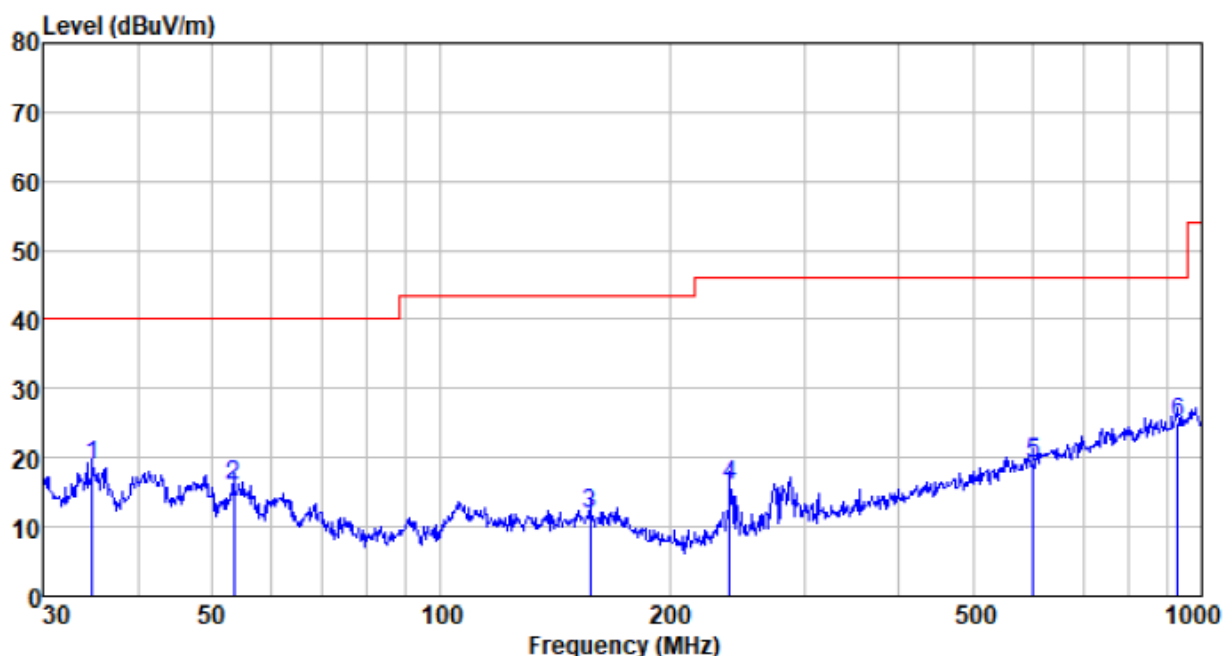
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
39.576	39.07	13.20	0.66	35.64	17.29	40.00	-22.71	QP
62.431	36.51	11.89	0.88	36.35	12.93	40.00	-27.07	QP
239.987	41.96	10.45	2.07	37.37	17.11	46.00	-28.89	QP
285.978	39.67	12.00	2.29	37.41	16.55	46.00	-29.45	QP
640.611	34.85	19.85	3.87	37.58	20.99	46.00	-25.01	QP
796.183	34.91	22.19	4.45	37.62	23.93	46.00	-22.07	QP

Test channel:	Middle	Polarization:	Horizontal
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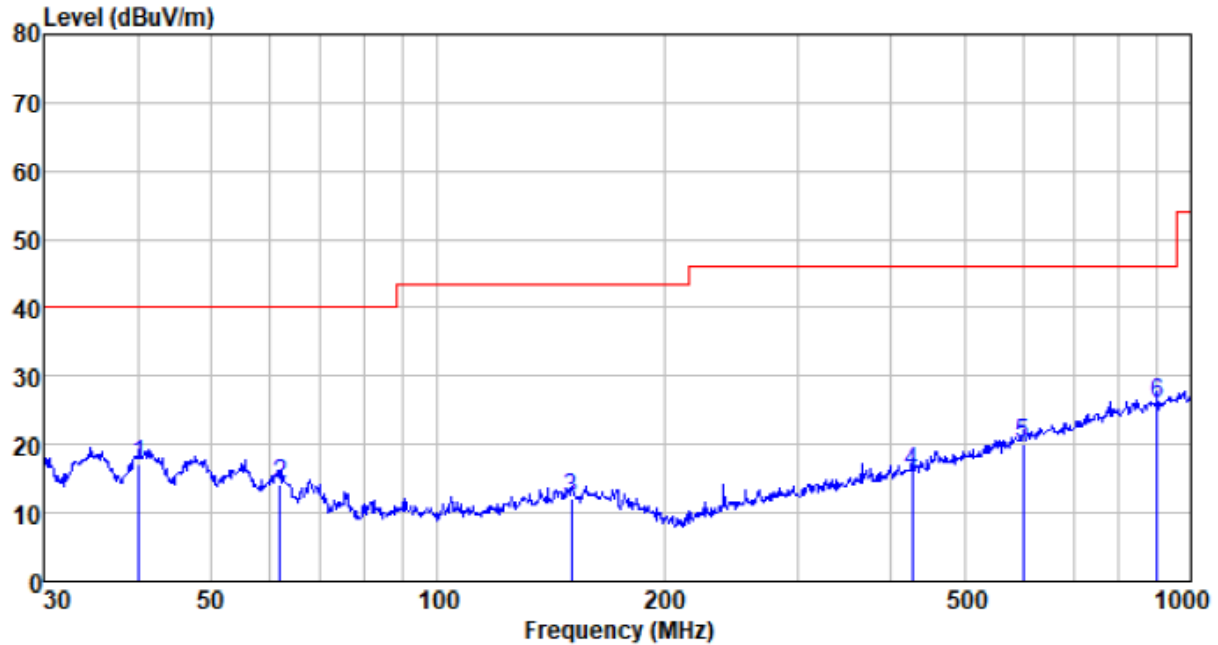
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
42.154	39.04	13.13	0.69	35.79	17.07	40.00	-22.93	QP
55.221	37.27	12.54	0.82	36.26	14.37	40.00	-25.63	QP
156.458	33.87	12.78	1.61	37.11	11.15	43.50	-32.35	QP
385.281	34.45	14.40	2.79	37.51	14.13	46.00	-31.87	QP
616.372	34.22	19.54	3.79	37.56	19.99	46.00	-26.01	QP
842.130	34.65	22.53	4.63	37.61	24.20	46.00	-21.80	QP

Test channel:	Middle	Polarization:	Vertical
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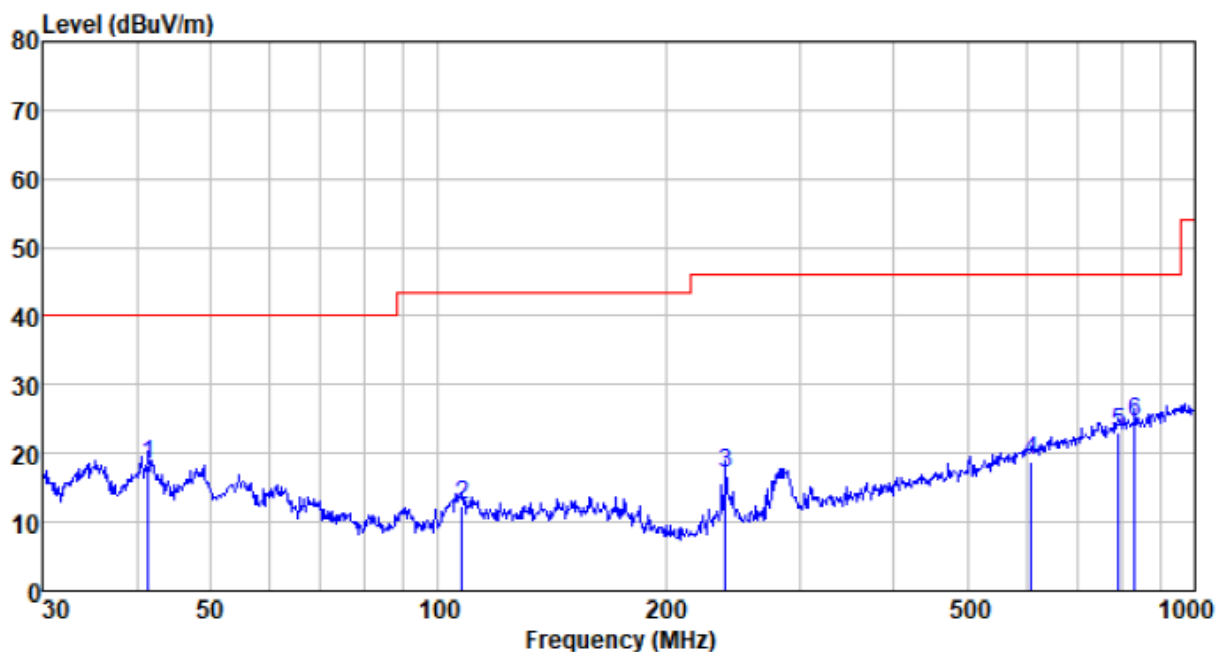
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
34.882	41.05	12.49	0.61	35.35	18.80	40.00	-21.20	QP
53.505	38.54	12.70	0.80	36.23	15.81	40.00	-24.19	QP
157.007	34.51	12.77	1.61	37.12	11.77	43.50	-31.73	QP
239.987	40.79	10.45	2.07	37.37	15.94	46.00	-30.06	QP
601.427	33.87	19.26	3.73	37.54	19.32	46.00	-26.68	QP
929.008	34.24	23.55	4.96	37.57	25.18	46.00	-20.82	QP

Test channel:	Highest	Polarization:	Horizontal
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
40.135	38.88	13.25	0.66	35.67	17.12	40.00	-22.88	QP
61.778	37.71	12.01	0.87	36.34	14.25	40.00	-25.75	QP
150.538	34.68	12.81	1.57	37.08	11.98	43.50	-31.52	QP
426.521	35.06	15.38	2.98	37.52	15.90	46.00	-30.10	QP
599.321	34.64	19.21	3.72	37.54	20.03	46.00	-25.97	QP
903.309	35.56	23.02	4.87	37.60	25.85	46.00	-20.15	QP

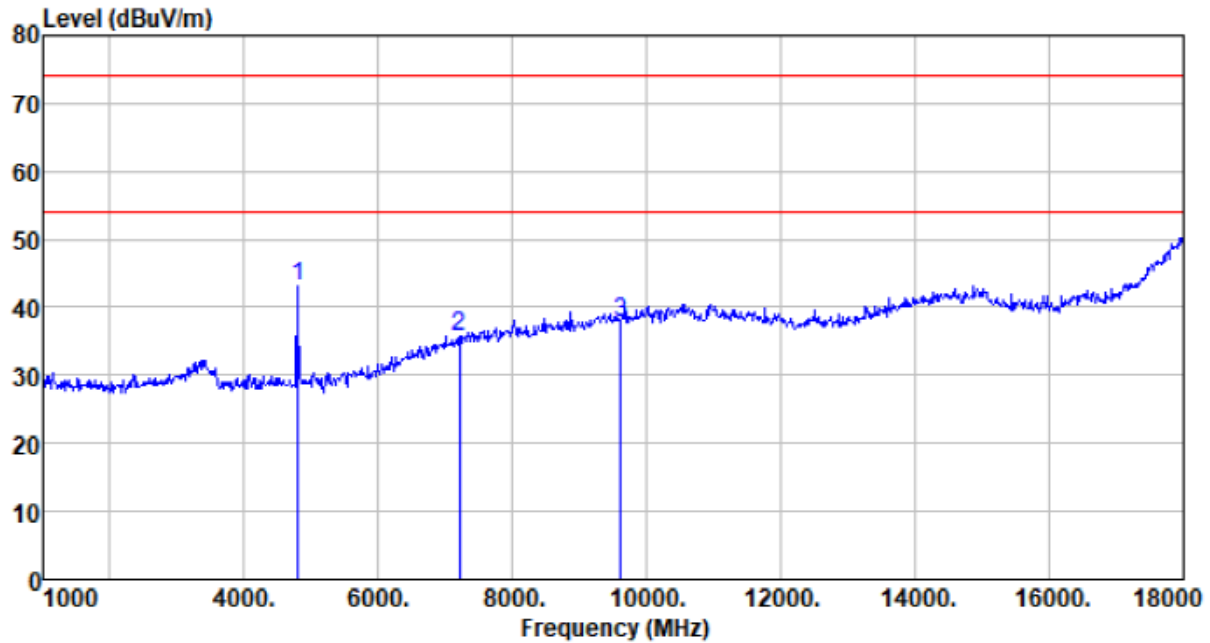
Test channel:	Highest	Polarization:	Vertical
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
41.422	40.32	13.17	0.68	35.75	18.42	40.00	-21.58	QP
107.510	38.11	9.76	1.26	36.78	12.35	43.50	-31.15	QP
239.987	41.85	10.45	2.07	37.37	17.00	46.00	-29.00	QP
607.787	33.41	19.38	3.75	37.55	18.99	46.00	-27.01	QP
793.396	34.12	22.15	4.43	37.62	23.08	46.00	-22.92	QP
833.317	35.16	22.47	4.58	37.61	24.60	46.00	-21.40	QP

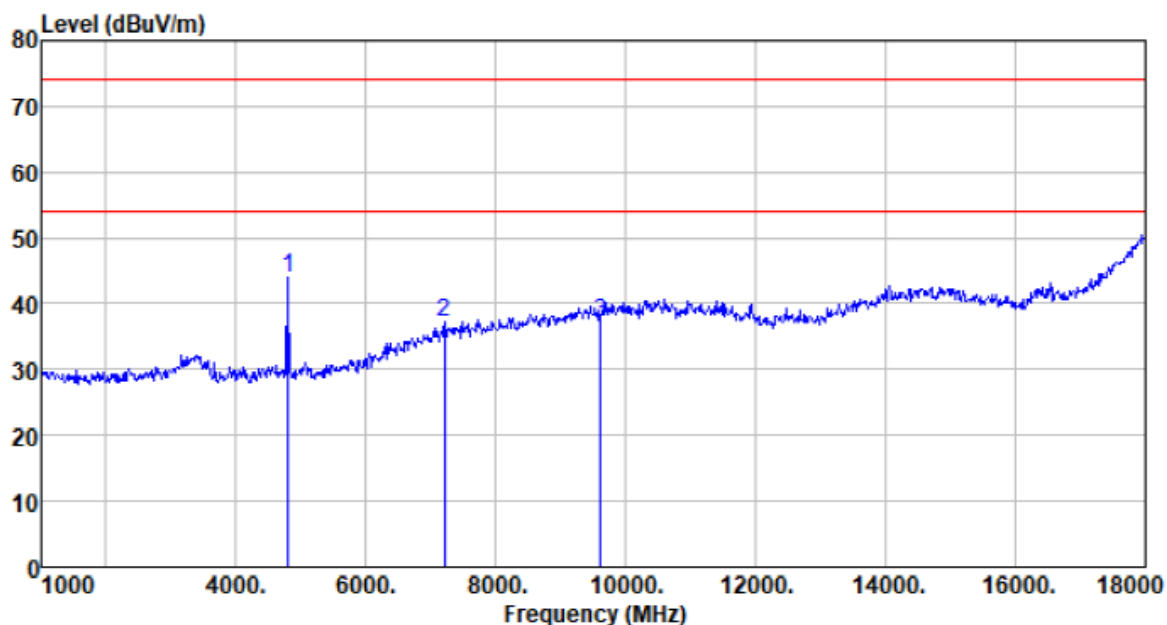
■ Above 1GHz

Test channel:	Lowest	Polarization:	Horizontal
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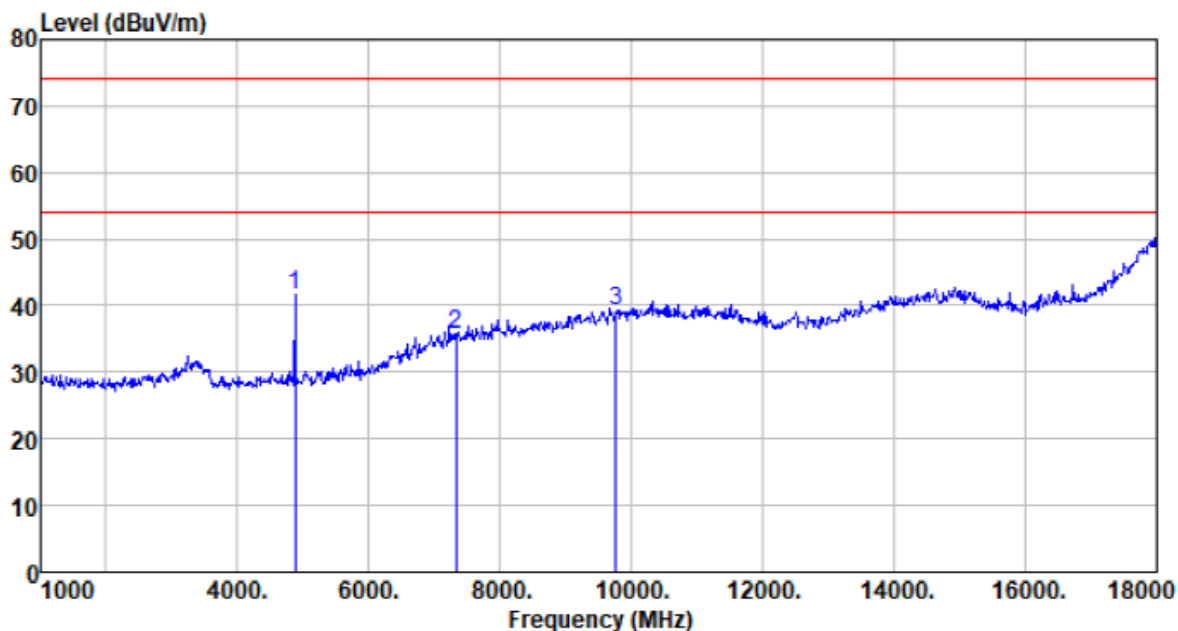
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4804.000	44.95	31.20	4.61	37.73	43.03	74.00	-30.97	Peak
7206.000	28.71	36.16	6.48	35.63	35.72	74.00	-38.28	Peak
9608.000	26.74	37.93	7.97	34.94	37.70	74.00	-36.30	Peak

Test channel:	Lowest	Polarization:	Vertical
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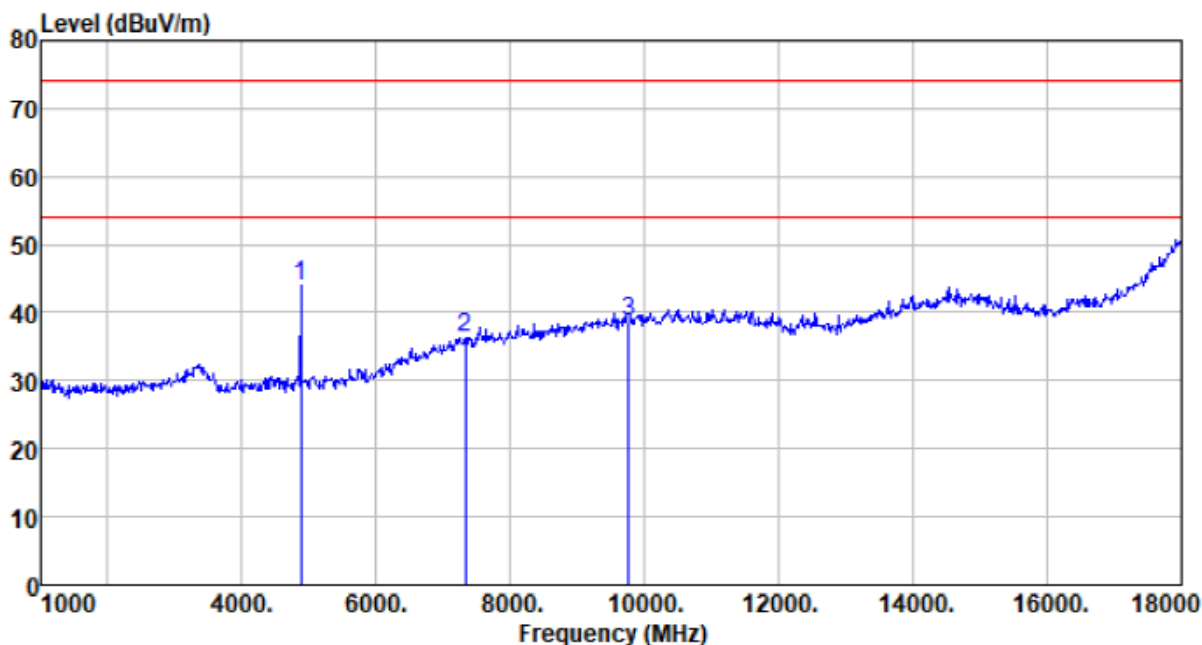
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4804.000	46.02	31.20	4.61	37.73	44.10	74.00	-29.90	Peak
7206.000	30.10	36.16	6.48	35.63	37.11	74.00	-36.89	Peak
9608.000	26.37	37.93	7.97	34.94	37.33	74.00	-36.67	Peak

Test channel:	Middle	Polarization:	Horizontal
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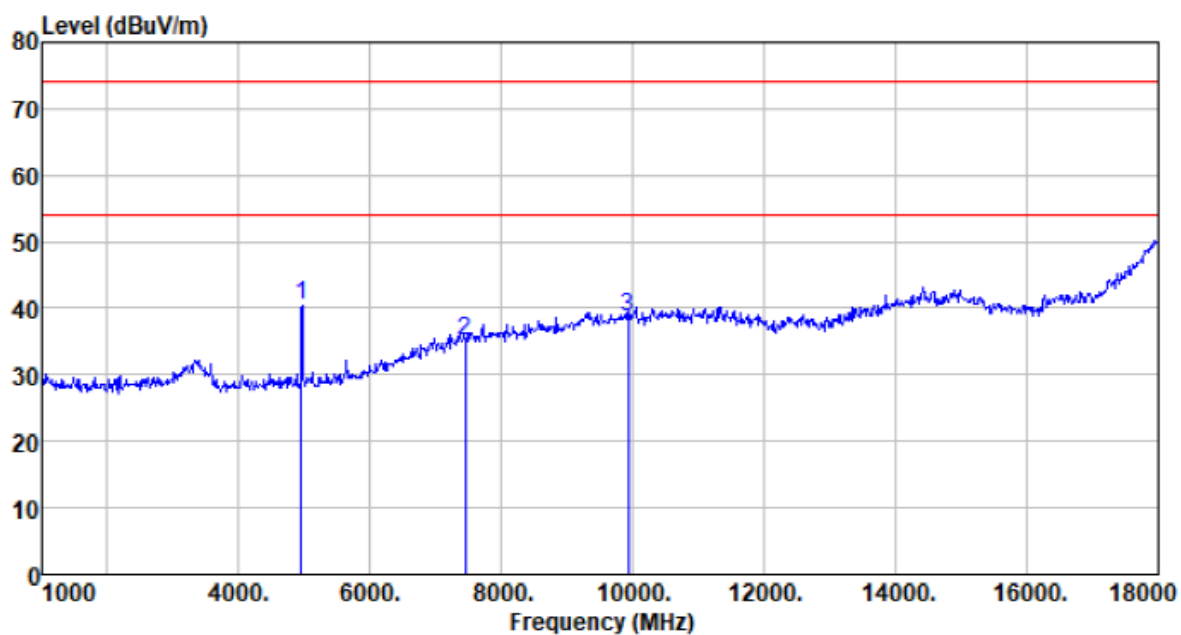
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4884.000	43.39	31.33	4.69	37.76	41.65	74.00	-32.35	Peak
7326.000	28.19	36.43	6.63	35.60	35.65	74.00	-38.35	Peak
9768.000	28.30	38.13	8.03	35.05	39.41	74.00	-34.59	Peak

Test channel:	Middle	Polarization:	Vertical
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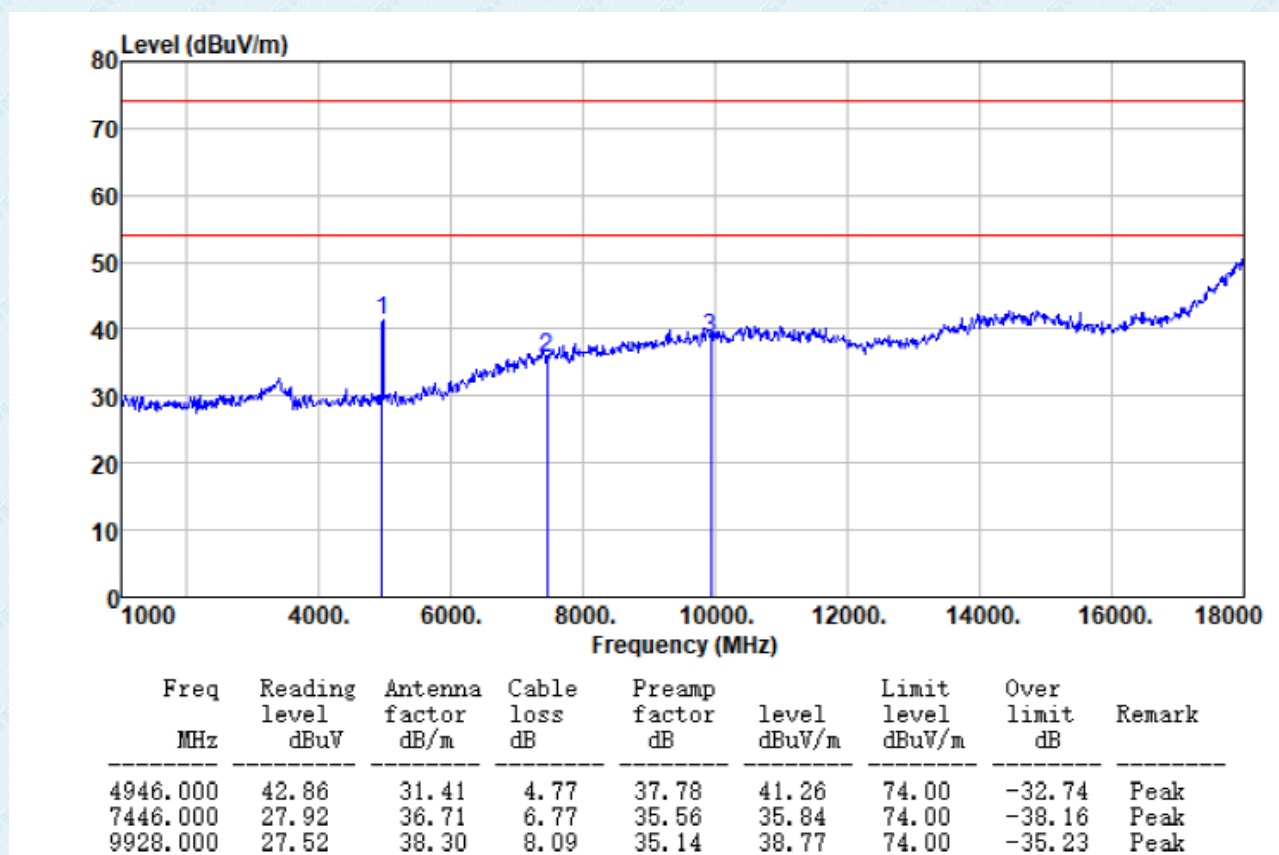
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4884.000	45.65	31.33	4.69	37.76	43.91	74.00	-30.09	Peak
7326.000	28.78	36.43	6.63	35.60	36.24	74.00	-37.76	Peak
9768.000	27.61	38.13	8.03	35.05	38.72	74.00	-35.28	Peak

Test channel:	Highest	Polarization:	Horizontal
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4946.000	42.04	31.41	4.77	37.78	40.44	74.00	-33.56	Peak
7446.000	27.10	36.71	6.77	35.56	35.02	74.00	-38.98	Peak
9928.000	27.39	38.30	8.09	35.14	38.64	74.00	-35.36	Peak

Test channel:	Highest	Polarization:	Vertical
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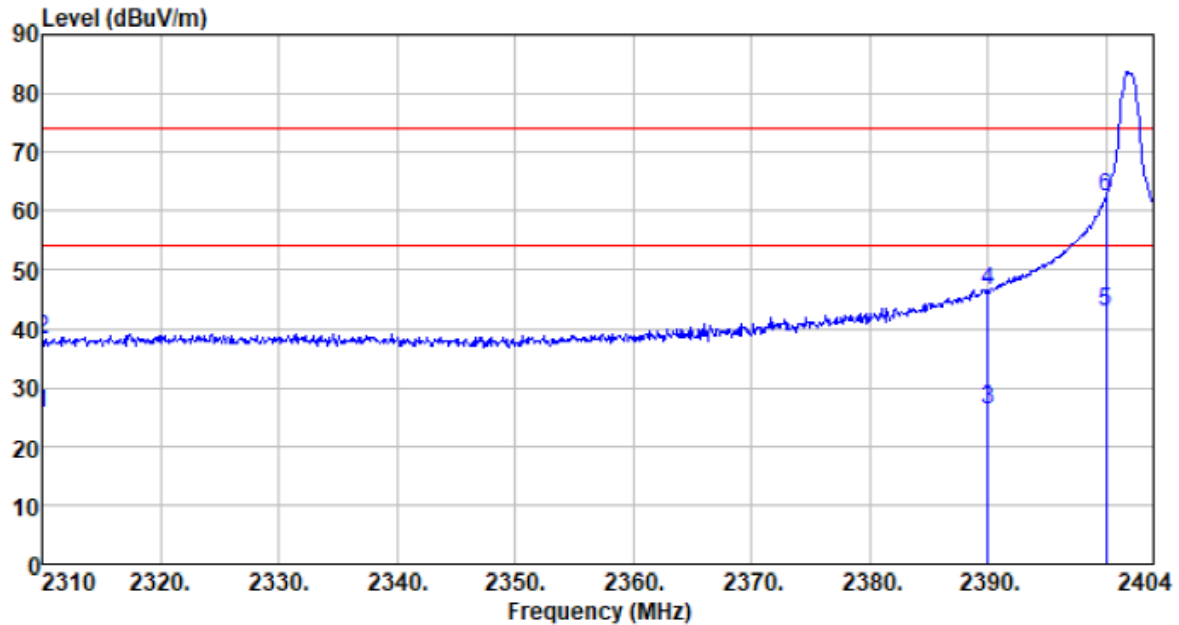
Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

7.2.3 Bandedge emissions

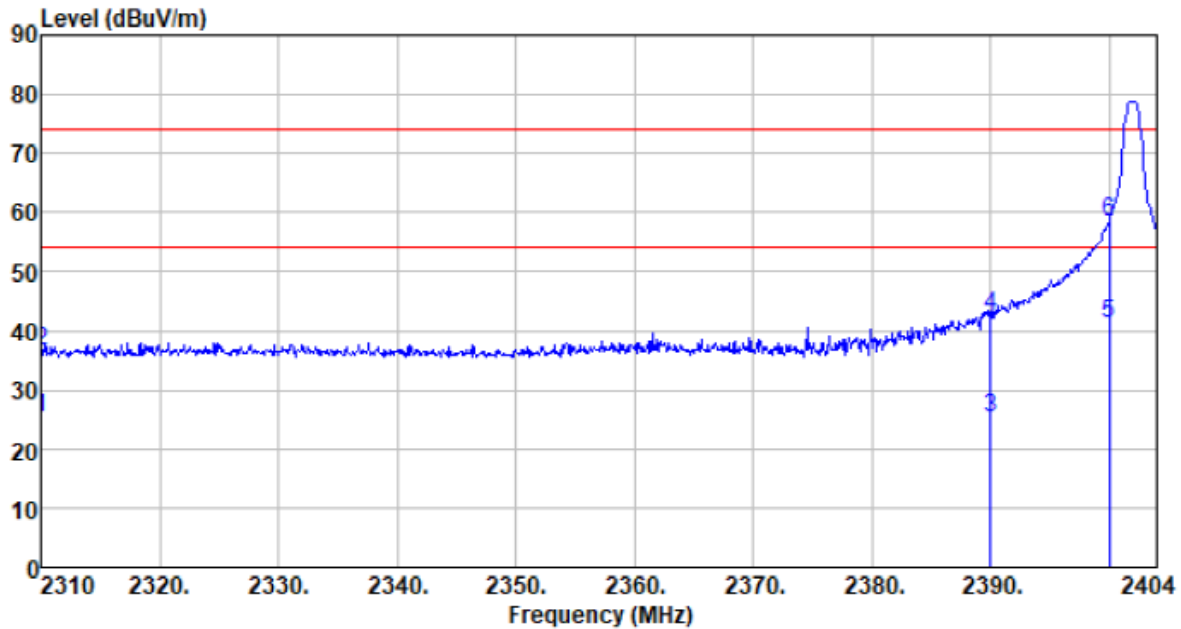
All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channel:	Lowest	Polarization:	Horizontal
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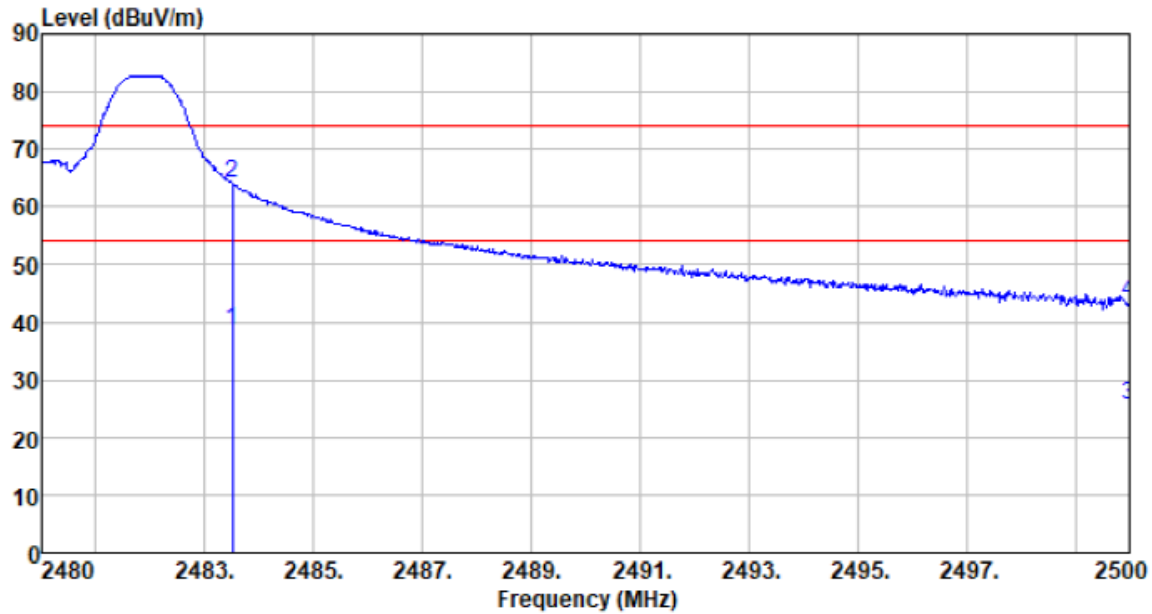
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV/m	Limit level dBUV/m	Over limit dB	Remark
2310.000	32.56	27.14	2.81	36.79	25.72	54.00	-28.28	Average
2310.000	44.98	27.14	2.81	36.79	38.14	74.00	-35.86	Peak
2390.000	32.78	27.37	2.91	36.85	26.21	54.00	-27.79	Average
2390.000	52.90	27.37	2.91	36.85	46.33	74.00	-27.67	Peak
2400.000	49.49	27.41	2.91	36.86	42.95	54.00	-11.05	Average
2400.000	69.04	27.41	2.91	36.86	62.50	74.00	-11.50	Peak

Test channel:	Lowest	Polarization:	Vertical
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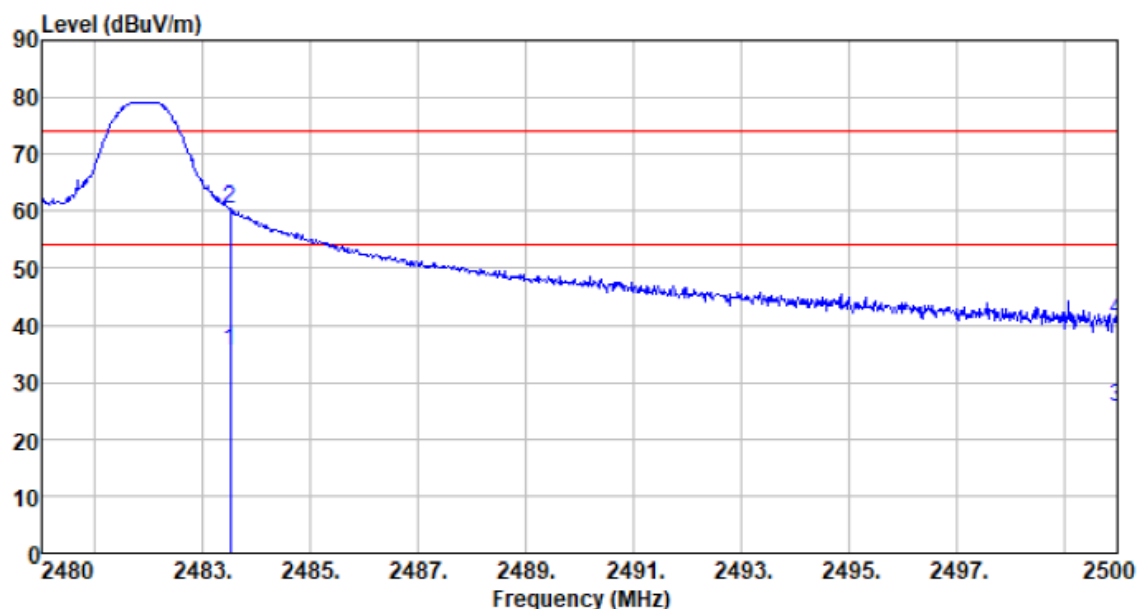
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	31.93	27.14	2.81	36.79	25.09	54.00	-28.91	Average
2310.000	43.51	27.14	2.81	36.79	36.67	74.00	-37.33	Peak
2390.000	31.91	27.37	2.91	36.85	25.34	54.00	-28.66	Average
2390.000	49.06	27.37	2.91	36.85	42.49	74.00	-31.51	Peak
2400.000	47.58	27.41	2.91	36.86	41.04	54.00	-12.96	Average
2400.000	65.08	27.41	2.91	36.86	58.54	74.00	-15.46	Peak

Test channel:	Highest	Polarization:	Horizontal
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Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2483.500	44.96	27.66	2.99	36.93	38.68	54.00	-15.32	Average
2483.500	70.27	27.66	2.99	36.93	63.99	74.00	-10.01	Peak
2500.000	31.96	27.70	3.01	36.94	25.73	54.00	-28.27	Average
2500.000	49.73	27.70	3.01	36.94	43.50	74.00	-30.50	Peak

Test channel:	Highest	Polarization:	Vertical
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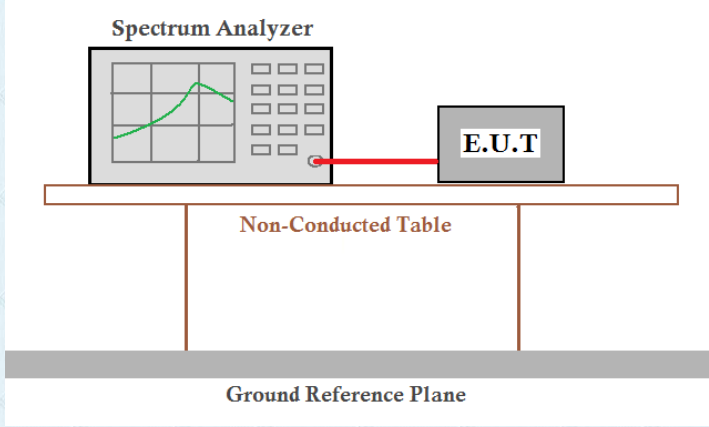


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2483.500	41.79	27.66	2.99	36.93	35.51	54.00	-18.49	Average
2483.500	66.78	27.66	2.99	36.93	60.50	74.00	-13.50	Peak
2500.000	31.94	27.70	3.01	36.94	25.71	54.00	-28.29	Average
2500.000	46.96	27.70	3.01	36.94	40.73	74.00	-33.27	Peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

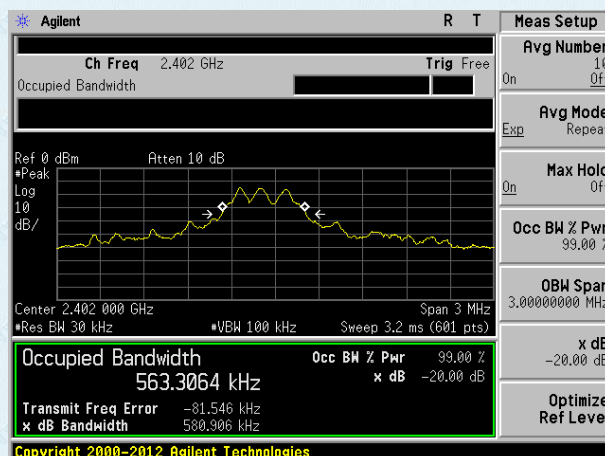
7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 2400MHz~2483.5MHz
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

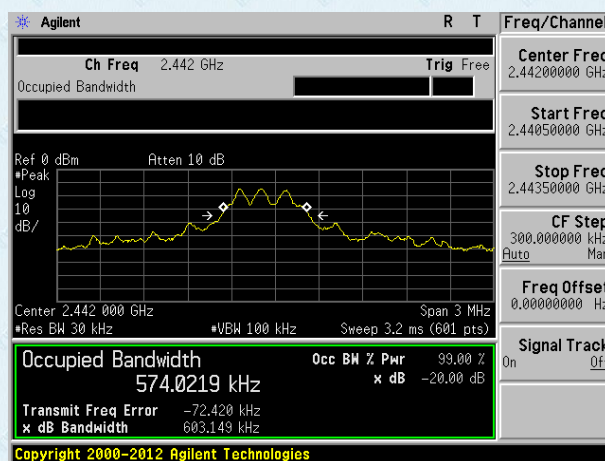
Measurement Data

Test channel	20dB bandwidth(kHz)	Result
Lowest	580.906	Pass
Middle	603.149	Pass
Highest	620.489	Pass

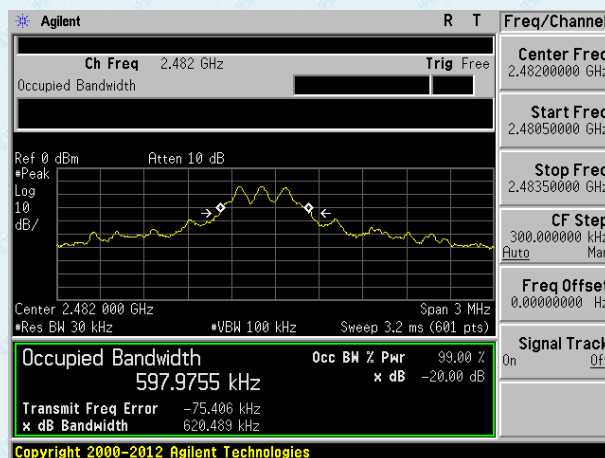
Test plot as follows:



Lowest channel



Middle channel



Highest channel

8 Test Setup Photo

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

9 EUT Constructional Details

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

-----End-----