

FCC REPORT

Applicant: Superior Electronics Corporation
Address of Applicant: No. 10 Lane 31, Chongde St., Sinyi District, Taipei City, Taiwan
Manufacturer/Factory: Superior Electronics Corporation
Address of Manufacturer/Factory: No. 10 Lane 31, Chongde St., Sinyi District, Taipei City, Taiwan
Equipment Under Test (EUT)
Product Name: Wireless video doorphone
Model No: DP-266-CQ
FCC ID: K4E266CQ
Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249
Date of sample receipt: June 20, 2018
Date of Test: June 28-29, 2018
Date of report issued: July 03, 2018
Test Result : PASS *

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

Authorized Signature:

Robinson Lo

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
0.0	July 03, 2018	Original

Prepared By:

Bill. Yuan

Date:

July 03, 2018

Project Engineer

Check By:

Andy. wa

Date:

July 03, 2018

Reviewer

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS	3
4 TEST SUMMARY	4
4.1 MEASUREMENT UNCERTAINTY	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 TEST FACILITY.....	7
5.5 TEST LOCATION	7
5.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER	7
5.7 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 RADIATED EMISSION METHOD	14
7.3.1 <i>Field Strength of The Fundamental Signal</i>	16
7.3.2 <i>Spurious emissions</i>	18
7.3.3 <i>Bandedge emissions</i>	23
7.4 20dB OCCUPY BANDWIDTH	27
8 TEST SETUP PHOTO	29
9 EUT CONSTRUCTIONAL DETAILS	31

4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
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

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

Remark: Test according to ANSI C63.10: 2013.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(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:	Wireless video doorphone
Model No.:	DP-266-CQ
Test sample(s) ID:	GTS201806000203-1
Sample(s) Status	Engineer sample
Hardware:	TP35-70-Out-Ver:1.1
Software:	ENFORCER-S V2.2.3
Operation Frequency:	2406MHz~2480MHz
Channel numbers:	16
Modulation type:	GFSK
Antenna Type:	Integral Antenna
Antenna gain:	0dBi(Max)
Power supply:	AC/DC Adapter Model: BSG-0501000 Input: AC 100V-240V, 50/60Hz Output: DC 5V,1A 3.7 Vdc (Li-ON battery)

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2406MHz	05	2420MHz	09	2445MHz	13	2466MHz
02	2410MHz	06	2428MHz	10	2452MHz	14	2470MHz
03	2412MHz	07	2435MHz	11	2456MHz	15	2476MHz
04	2415MHz	08	2440MHz	12	2459MHz	16	2480MHz

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	2406MHz
The middle channel	2440MHz
The Highest channel	2480MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.		
<i>Remark: During the test, 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>			
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. only worse case is reported:			
Axis	X	Y	Z
Field Strength(dBuV/m)	97.65	98.93	97.81

5.3 Description of Support Units

None.

5.4 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● 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, January 08, 2018. ● Industry Canada (IC) —Registration No.: 9079A-2 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-2, August 15, 2016

5.5 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

5.7 Additional instructions

Power level setup in software			
Test Software Name	KDB302A		
Test Software Version	ENFORCER-V1.1.0		
Support Units (Software installation media)	Description	Manufacturer	Model
	Notebook PC	Lenovo	E40-80
Mode	Channel	Frequency (MHz)	Soft Set
GFSK	CH01	2406	TX level: Default
	CH08	2440	
	CH16	2480	

6 Test Instruments list

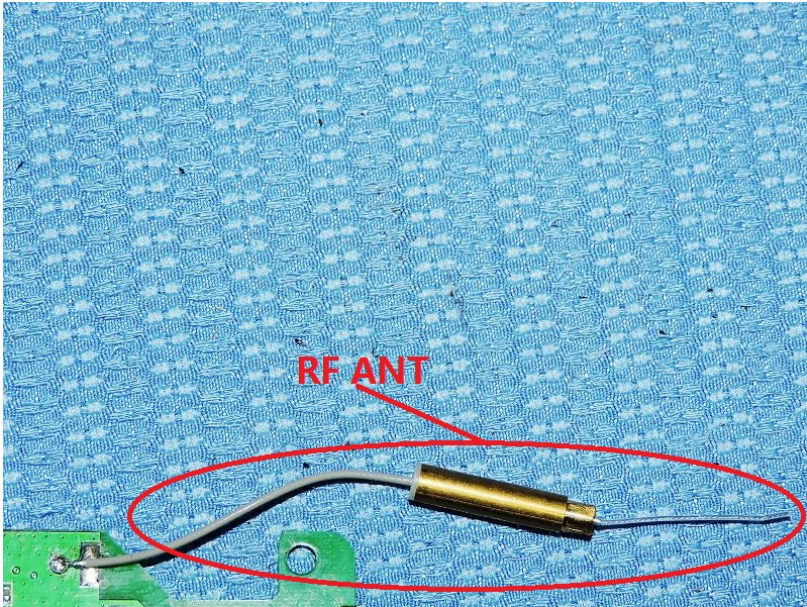
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 27 2018	June. 26 2019
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 27 2018	June. 26 2019
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 27 2018	June. 26 2019
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 27 2018	June. 26 2019
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 27 2018	June. 26 2019
9	Coaxial Cable	GTS	N/A	GTS211	June. 27 2018	June. 26 2019
10	Coaxial cable	GTS	N/A	GTS210	June. 27 2018	June. 26 2019
11	Coaxial Cable	GTS	N/A	GTS212	June. 27 2018	June. 26 2019
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 27 2018	June. 26 2019
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 27 2018	June. 26 2019
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 27 2018	June. 26 2019
15	Band filter	Amindeon	82346	GTS219	June. 27 2018	June. 26 2019
16	Power Meter	Anritsu	ML2495A	GTS540	June. 27 2018	June. 26 2019
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 27 2018	June. 26 2019
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 27 2018	June. 26 2019
19	Splitter	Agilent	11636B	GTS237	June. 27 2018	June. 26 2019
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 27 2018	June. 26 2019

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.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 27 2018	June. 26 2019
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 27 2018	June. 26 2019
5	Coaxial Cable	GTS	N/A	GTS227	June. 27 2018	June. 26 2019
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 27 2018	June. 26 2019

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. 27 2018	June. 26 2019
2	Barometer	ChangChun	DYM3	GTS255	June. 27 2018	June. 26 2019

7 Test results and Measurement Data

7.1 Antenna requirement

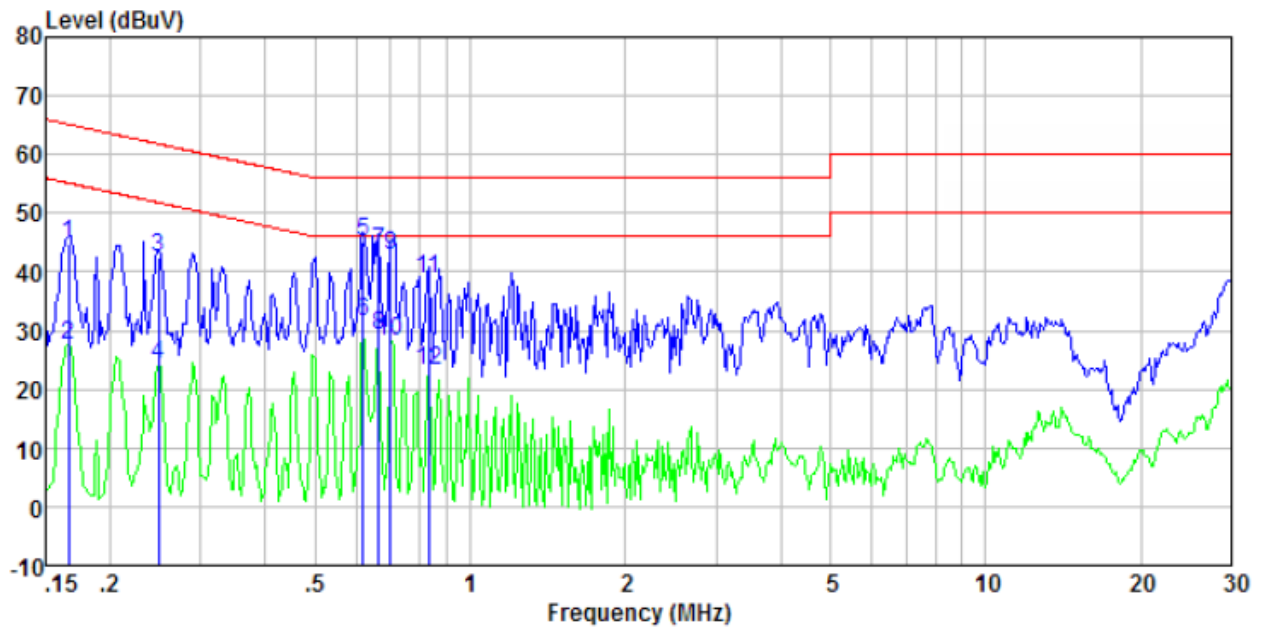
Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling 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.	
EUT Antenna:	
<p><i>The antenna is integral antenna, the best case gain of the antenna is 0dBi.</i></p> 	

7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Test Frequency Range:	150KHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table> <p>* Decreases with the logarithm of the frequency.</p>	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
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													
Test setup:	<p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test procedure:	<ol style="list-style-type: none"> 1. The EUT 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 results:	Pass														

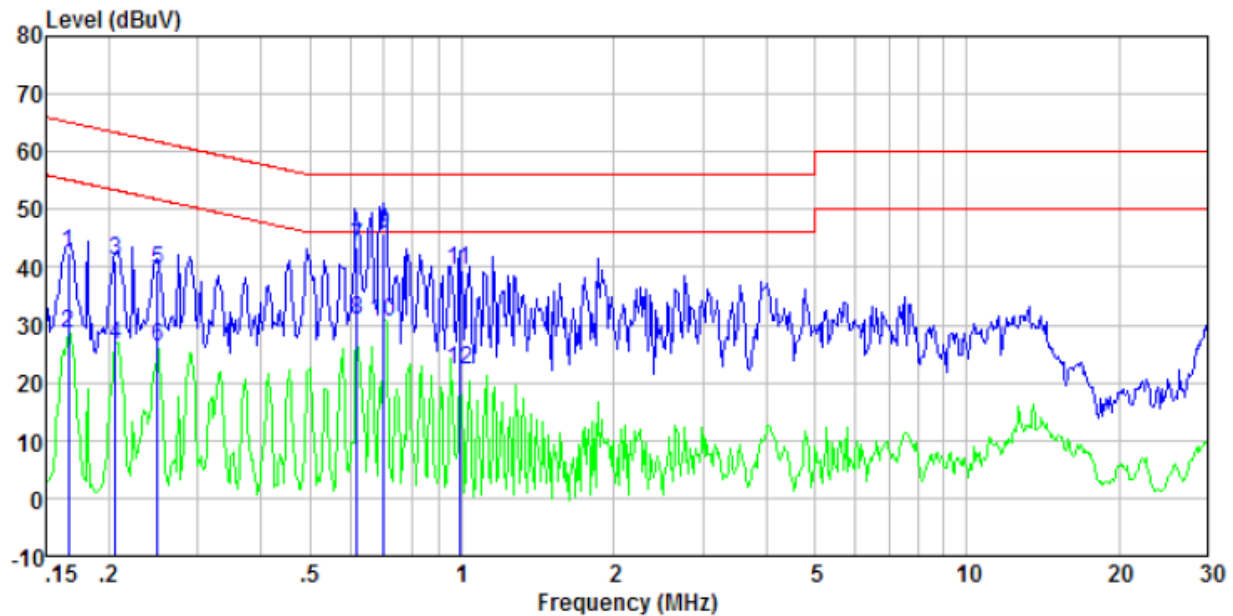
Measurement data

Line:



Freq MHz	Reading level dBUV	LISN/ISN factor dB/m	Cable loss dB	Level dBUV	Limit level dBUV	Over limit dB	Remark
0.17	44.27	0.40	0.08	44.75	65.16	-20.41	QP
0.17	27.10	0.40	0.08	27.58	55.16	-27.58	Average
0.25	41.97	0.40	0.10	42.47	61.82	-19.35	QP
0.25	23.84	0.40	0.10	24.34	51.82	-27.48	Average
0.62	44.84	0.28	0.12	45.24	56.00	-10.76	QP
0.62	31.14	0.28	0.12	31.54	46.00	-14.46	Average
0.66	42.98	0.27	0.13	43.38	56.00	-12.62	QP
0.66	28.63	0.27	0.13	29.03	46.00	-16.97	Average
0.70	42.57	0.26	0.13	42.96	56.00	-13.04	QP
0.70	27.95	0.26	0.13	28.34	46.00	-17.66	Average
0.83	38.45	0.23	0.14	38.82	56.00	-17.18	QP
0.83	22.74	0.23	0.14	23.11	46.00	-22.89	Average

Neutral:



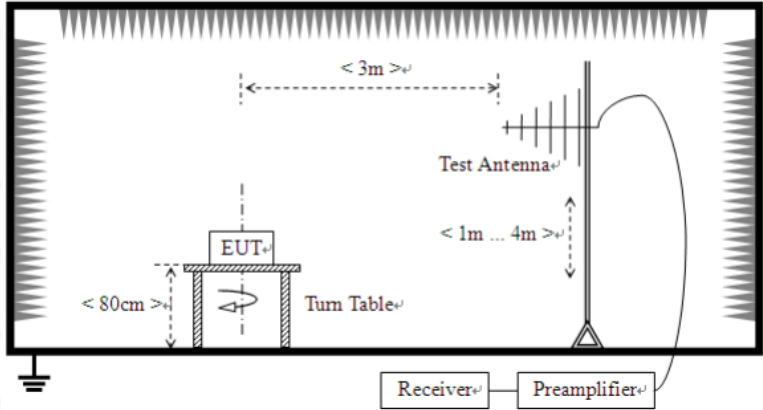
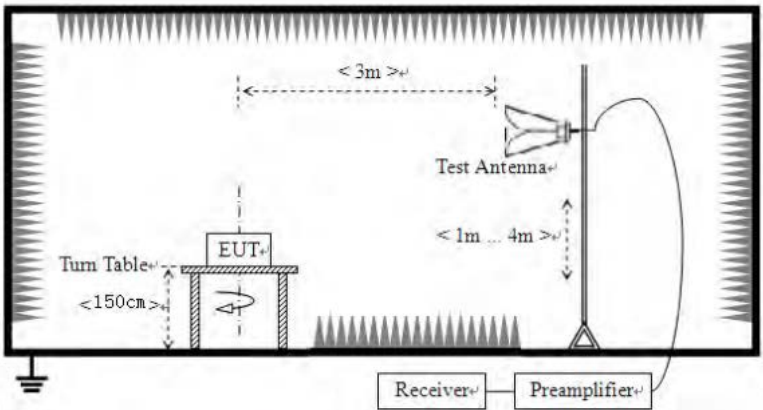
Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.17	42.14	0.40	0.08	42.62	65.16	-22.54	QP
0.17	28.07	0.40	0.08	28.55	55.16	-26.61	Average
0.21	40.57	0.40	0.11	41.08	63.36	-22.28	QP
0.21	25.89	0.40	0.11	26.40	53.36	-26.96	Average
0.25	39.01	0.40	0.10	39.51	61.78	-22.27	QP
0.25	25.64	0.40	0.10	26.14	51.78	-25.64	Average
0.62	43.12	0.28	0.12	43.52	56.00	-12.48	QP
0.62	30.29	0.28	0.12	30.69	46.00	-15.31	Average
0.70	45.25	0.26	0.13	45.64	56.00	-10.36	QP
0.70	30.13	0.26	0.13	30.52	46.00	-15.48	Average
0.99	39.05	0.20	0.15	39.40	56.00	-16.60	QP
0.99	21.96	0.20	0.15	22.31	46.00	-23.69	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 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	PK/AV/QP	200Hz	600Hz	PK/AV/QP
	150KHz-30MHz	PK/AV/QP	9KHz	30KHz	PK/AV/QP
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
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)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	PK/AV/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		
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:	<p>Below 30MHz</p>				

	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 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 results:	Pass

Measurement data:

7.3.1 Field Strength of The Fundamental Signal

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
2406.00	88.87	27.58	5.39	30.18	91.66	114.00	-22.34	Vertical
2406.00	96.14	27.58	5.39	30.18	98.93	114.00	-15.07	Horizontal
2440.00	88.20	27.55	5.43	30.06	91.12	114.00	-22.88	Vertical
2440.00	94.10	27.55	5.43	30.06	97.02	114.00	-16.98	Horizontal
2480.00	88.12	27.52	5.47	29.93	91.18	114.00	-22.82	Vertical
2480.00	94.19	27.52	5.47	29.93	97.25	114.00	-16.75	Horizontal

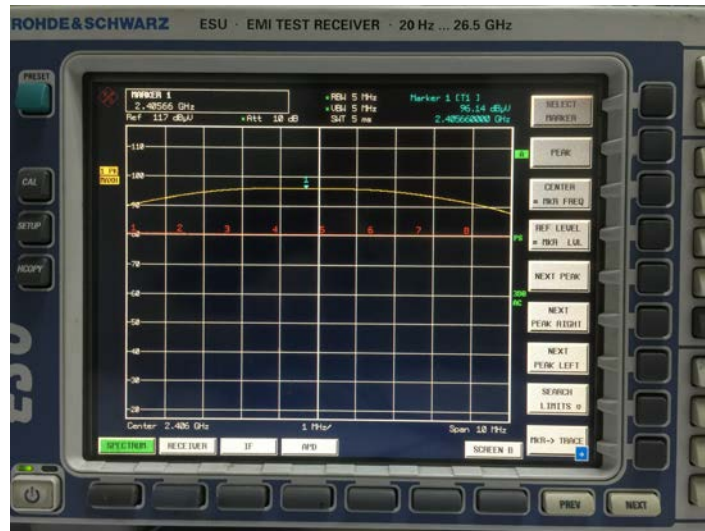
Average value:

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
2406.00	77.33	27.58	5.39	30.18	80.12	94.00	-13.88	Vertical
2406.00	82.34	27.58	5.39	30.18	85.13	94.00	-8.87	Horizontal
2440.00	76.64	27.55	5.43	30.06	79.56	94.00	-14.44	Vertical
2440.00	81.49	27.55	5.43	30.06	84.41	94.00	-9.59	Horizontal
2480.00	76.89	27.52	5.47	29.93	79.95	94.00	-14.05	Vertical
2480.00	81.22	27.52	5.47	29.93	84.28	94.00	-9.72	Horizontal

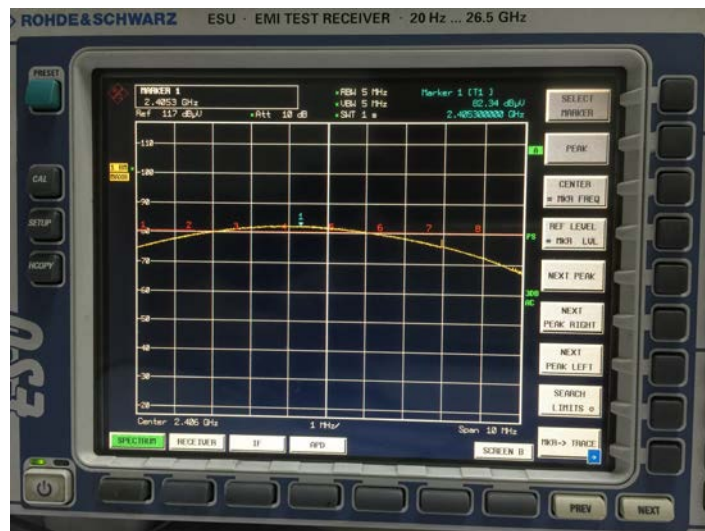
Note: For fundamental frequency ,RBW 5MHz VBW 5MHz ,Peak detector is for PK value , RMS detector is for AV value

Test Read plot of worse case as follows:

Worse case 2406MHz (Horizontal) :



Read level for peak value



Read level for average value

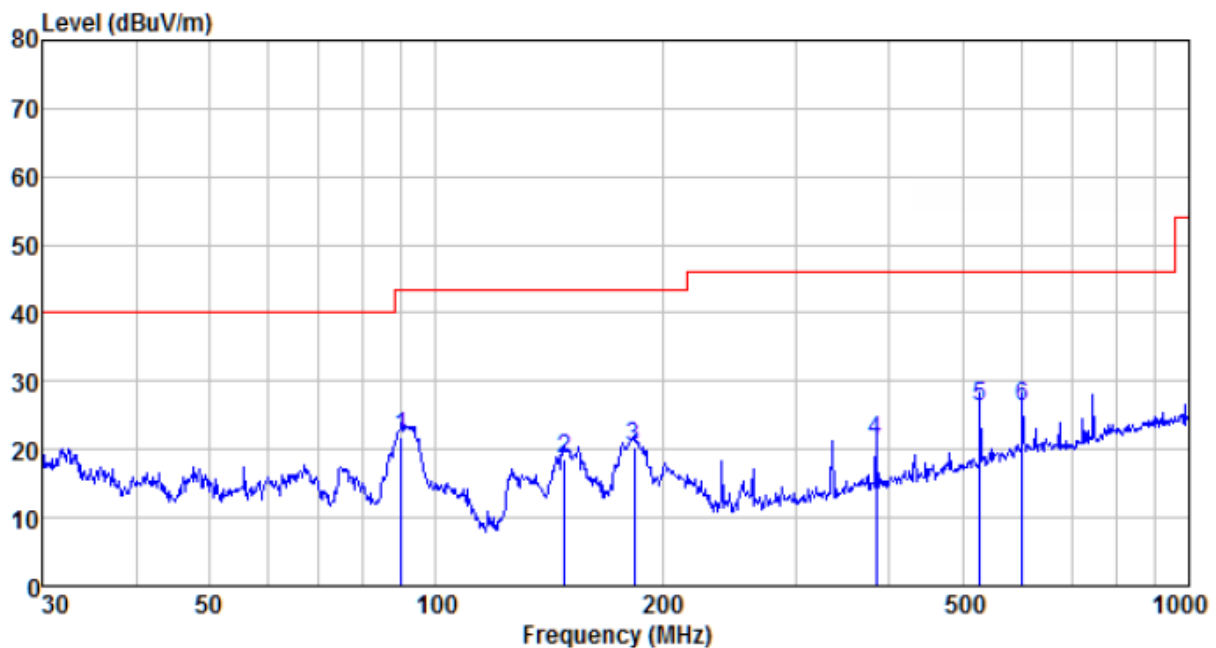
7.3.2 Spurious emissions

■ 9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

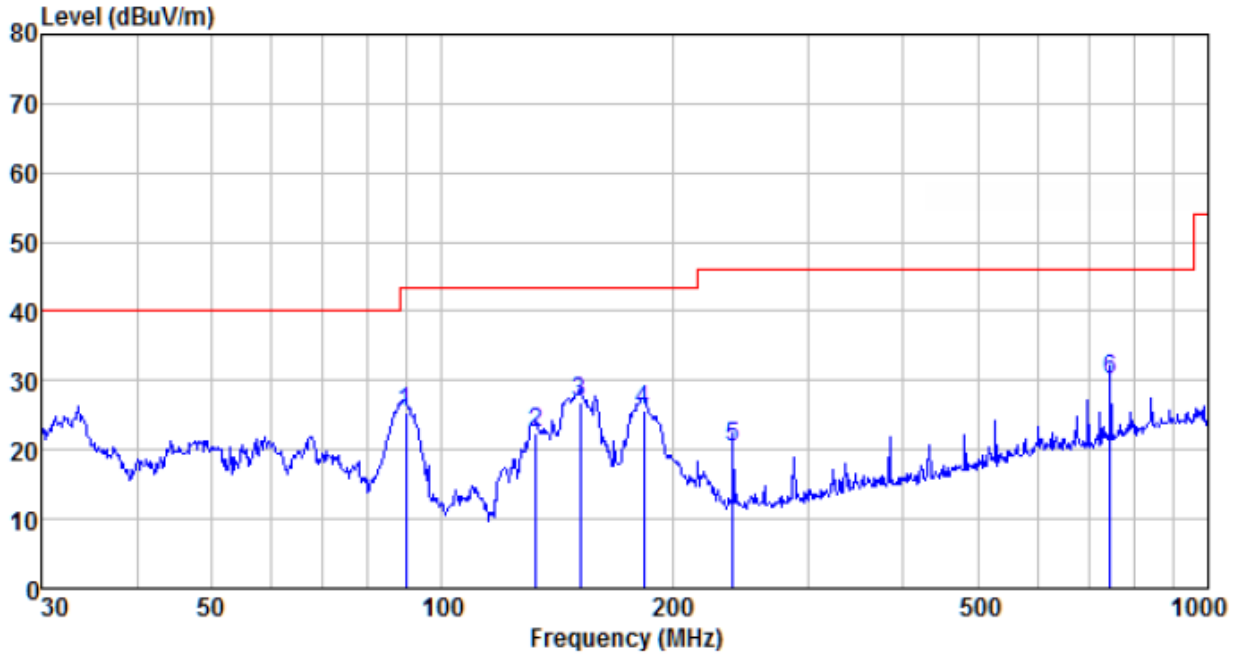
■ Below 1GHz

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
89.905	46.87	10.57	1.11	36.64	21.91	43.50	-21.59	QP
148.441	46.68	7.57	1.56	37.07	18.74	43.50	-24.76	QP
183.201	46.51	9.23	1.75	37.25	20.24	43.50	-23.26	QP
383.932	40.88	15.08	2.78	37.51	21.23	46.00	-24.77	QP
528.246	42.43	17.96	3.43	37.52	26.30	46.00	-19.70	QP
601.427	40.71	19.50	3.73	37.54	26.40	46.00	-19.60	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
89.590	50.39	10.57	1.11	36.63	25.44	43.50	-18.06	QP
132.685	49.98	7.96	1.45	36.97	22.42	43.50	-21.08	QP
151.597	54.68	7.75	1.58	37.09	26.92	43.50	-16.58	QP
183.201	51.85	9.23	1.75	37.25	25.58	43.50	-17.92	QP
239.987	43.95	11.85	2.07	37.37	20.50	46.00	-25.50	QP
744.866	43.19	20.41	4.26	37.63	30.23	46.00	-15.77	QP

■ Above 1GHz

Test channel:	Lowest channel
---------------	----------------

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	63.61	31.22	4.61	37.73	61.71	74.00	-12.29	Vertical
7218.00	52.03	36.20	6.50	35.63	59.10	74.00	-14.90	Vertical
9624.00	45.65	37.93	7.98	34.94	56.62	74.00	-17.38	Vertical
12030.00	*					74.00		Vertical
14436.00	*					74.00		Vertical
4812.00	65.96	31.22	4.61	37.73	64.06	74.00	-9.94	Horizontal
7218.00	52.82	36.20	6.50	35.63	59.89	74.00	-14.11	Horizontal
9624.00	46.10	37.93	7.98	34.94	57.07	74.00	-16.93	Horizontal
12030.00	*					74.00		Horizontal
14436.00	*					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	42.37	31.22	4.61	37.73	40.47	54.00	-13.53	Vertical
7218.00	27.69	36.20	6.50	35.63	34.76	54.00	-19.24	Vertical
9624.00	21.74	37.93	7.98	34.94	32.71	54.00	-21.29	Vertical
12030.00	*					54.00		Vertical
14436.00	*					54.00		Vertical
4812.00	43.63	31.22	4.61	37.73	41.73	54.00	-12.27	Horizontal
7218.00	28.88	36.20	6.50	35.63	35.95	54.00	-18.05	Horizontal
9624.00	23.50	37.93	7.98	34.94	34.47	54.00	-19.53	Horizontal
12030.00	*					54.00		Horizontal
14436.00	*					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 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
4880.00	63.76	31.31	4.69	37.75	62.01	74.00	-11.99	Vertical
7320.00	52.13	36.43	6.63	35.60	59.59	74.00	-14.41	Vertical
9760.00	45.74	38.10	8.03	35.03	56.84	74.00	-17.16	Vertical
12200.00	*					74.00		Vertical
14640.00	*					74.00		Vertical
4880.00	66.14	31.31	4.69	37.75	64.39	74.00	-9.61	Horizontal
7320.00	52.93	36.43	6.63	35.60	60.39	74.00	-13.61	Horizontal
9760.00	46.21	38.10	8.03	35.03	57.31	74.00	-16.69	Horizontal
12200.00	*					74.00		Horizontal
14640.00	*					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
4880.00	42.51	31.31	4.69	37.75	40.76	54.00	-13.24	Vertical
7320.00	27.78	36.43	6.63	35.60	35.24	54.00	-18.76	Vertical
9760.00	21.83	38.10	8.03	35.03	32.93	54.00	-21.07	Vertical
12200.00	*					54.00		Vertical
14640.00	*					54.00		Vertical
4880.00	43.79	31.31	4.69	37.75	42.04	54.00	-11.96	Horizontal
7320.00	28.98	36.43	6.63	35.60	36.44	54.00	-17.56	Horizontal
9760.00	23.60	38.10	8.03	35.03	34.70	54.00	-19.30	Horizontal
12200.00	*					54.00		Horizontal
14640.00	*					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 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
4960.00	63.42	31.44	4.79	37.78	61.87	74.00	-12.13	Vertical
7440.00	51.91	36.66	6.77	35.56	59.78	74.00	-14.22	Vertical
9920.00	45.54	38.30	8.09	35.14	56.79	74.00	-17.21	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	65.73	31.44	4.79	37.78	64.18	74.00	-9.82	Horizontal
7440.00	52.67	36.66	6.77	35.56	60.54	74.00	-13.46	Horizontal
9920.00	45.97	38.30	8.09	35.14	57.22	74.00	-16.78	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					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
4960.00	42.30	31.44	4.79	37.78	40.75	54.00	-13.25	Vertical
7440.00	27.64	36.66	6.77	35.56	35.51	54.00	-18.49	Vertical
9920.00	21.71	38.30	8.09	35.14	32.96	54.00	-21.04	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	43.56	31.44	4.79	37.78	42.01	54.00	-11.99	Horizontal
7440.00	28.83	36.66	6.77	35.56	36.70	54.00	-17.30	Horizontal
9920.00	23.45	38.30	8.09	35.14	34.70	54.00	-19.30	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

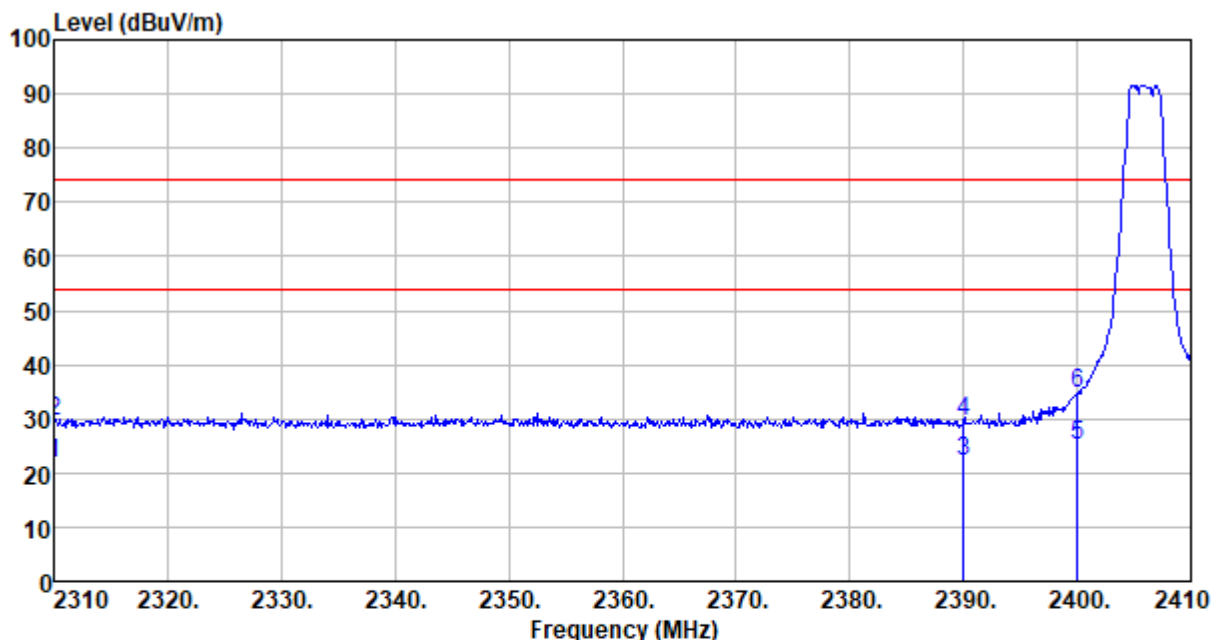
Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor*
2. *“*”*, means this data is the too weak instrument of signal is unable to test.
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

7.3.3 Bandedge emissions

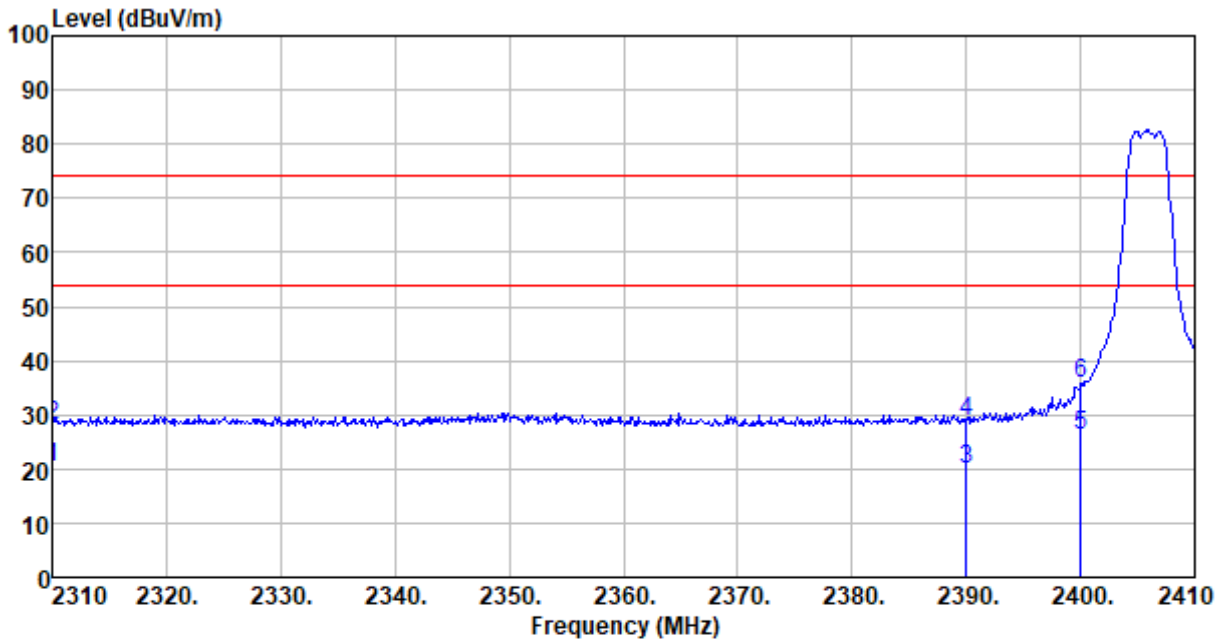
All of the restriction bands were tested, and only the data of worst case was exhibited.

Mode:	Transmitting mode	Test channel:	Lowest channel
Temp./Hum.(%RH):	25°C/56%RH	Polarity:	Horizontal



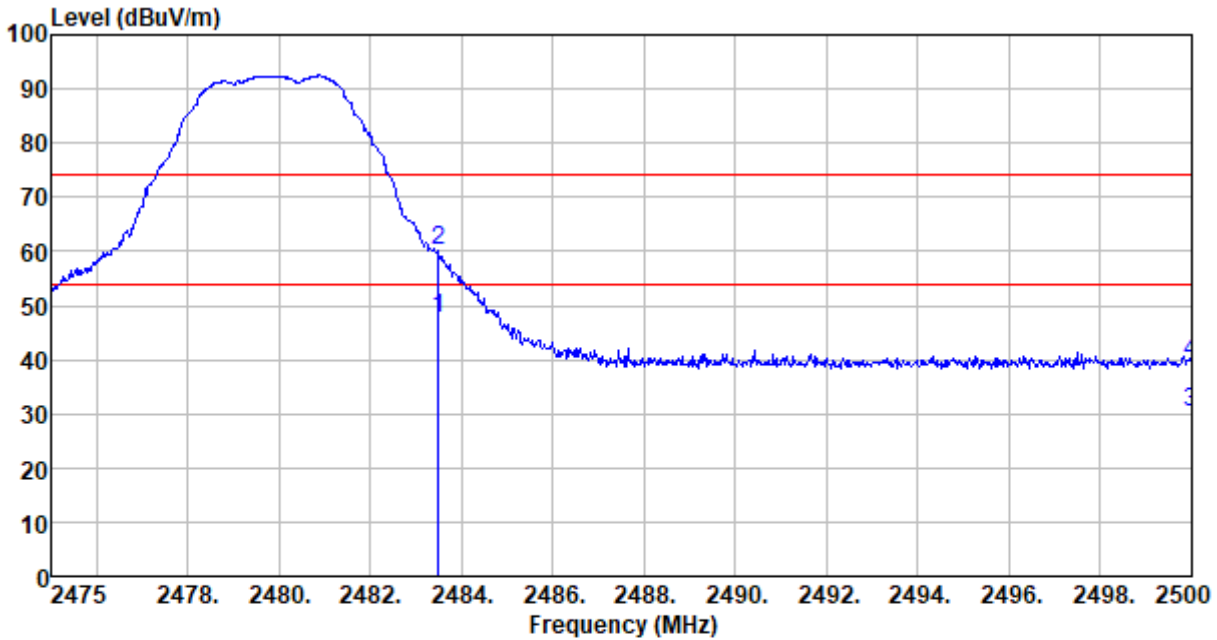
Freq MHz	Reading level dBUV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBUV	Limit level dBUV/m	Over limit dB	Remark
2310.000	28.69	27.14	2.81	36.79	21.85	54.00	-32.15	Average
2310.000	36.53	27.14	2.81	36.79	29.69	74.00	-44.31	Peak
2390.000	28.57	27.37	2.91	36.85	22.00	54.00	-32.00	Average
2390.000	36.14	27.37	2.91	36.85	29.57	74.00	-44.43	Peak
2400.000	31.64	27.41	2.91	36.86	25.10	54.00	-28.90	Average
2400.000	41.18	27.41	2.91	36.86	34.64	74.00	-39.36	Peak

Mode:	Transmitting mode	Test channel:	Lowest channel
Temp./Hum.(%RH):	25°C/56%RH	Polarity:	Vertical



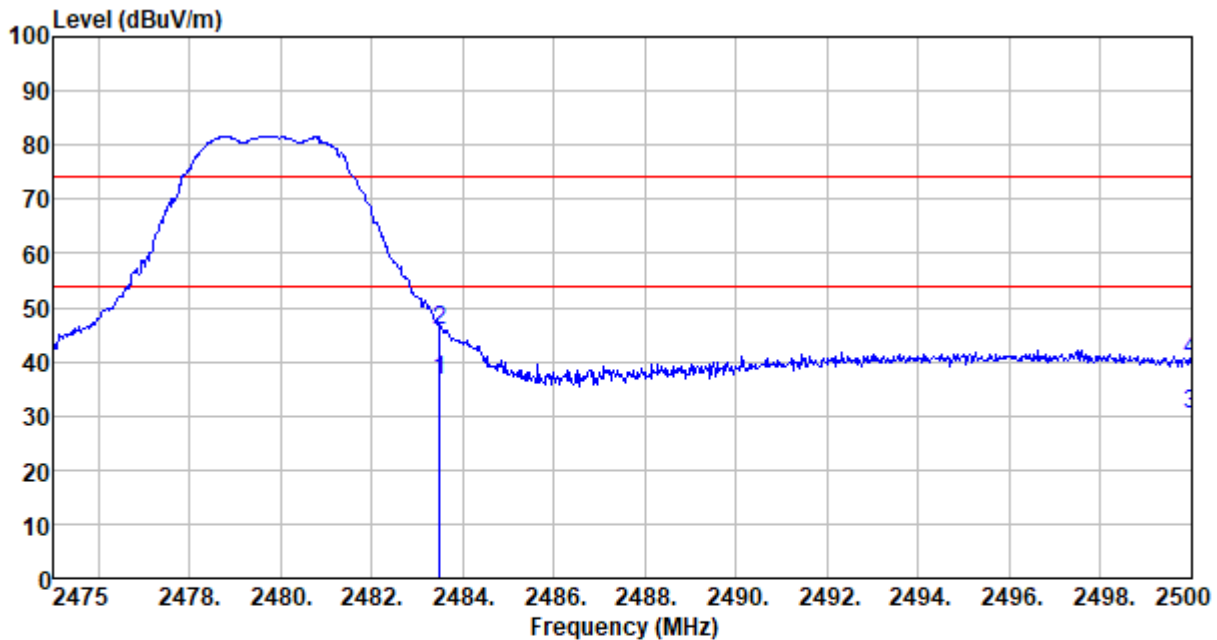
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	27.16	27.14	2.81	36.79	20.32	54.00	-33.68	Average
2310.000	34.99	27.14	2.81	36.79	28.15	74.00	-45.85	Peak
2390.000	26.63	27.37	2.91	36.85	20.06	54.00	-33.94	Average
2390.000	35.21	27.37	2.91	36.85	28.64	74.00	-45.36	Peak
2400.000	32.79	27.41	2.91	36.86	26.25	54.00	-27.75	Average
2400.000	42.33	27.41	2.91	36.86	35.79	74.00	-38.21	Peak

Mode:	Transmitting mode	Test channel:	Highest channel
Temp./Hum.(%H):	25°C/56%RH	Polarity:	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
2483.500	53.98	27.66	2.99	36.93	47.70	54.00	-6.30	Average
2483.500	66.26	27.66	2.99	36.93	59.98	74.00	-14.02	Peak
2500.000	36.40	27.70	3.01	36.94	30.17	54.00	-23.83	Average
2500.000	45.63	27.70	3.01	36.94	39.40	74.00	-34.60	Peak

Mode:	Transmitting mode	Test channel:	Highest channel
Temp./Hum.(%H):	25°C/56%RH	Polarity:	Vertical

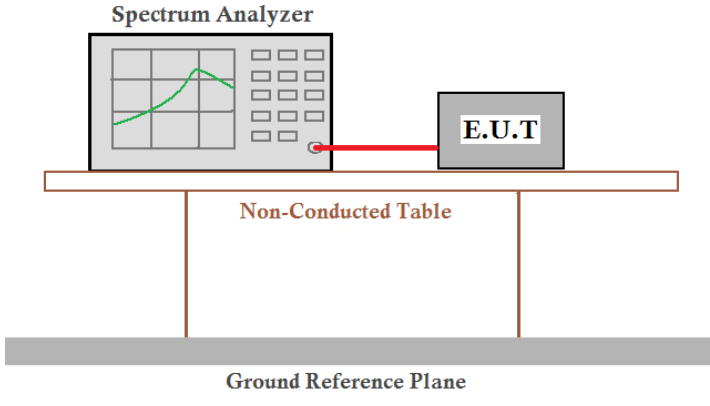


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	42.80	27.66	2.99	36.93	36.52	54.00	-17.48	Average
2483.500	52.08	27.66	2.99	36.93	45.80	74.00	-28.20	Peak
2500.000	36.38	27.70	3.01	36.94	30.15	54.00	-23.85	Average
2500.000	46.61	27.70	3.01	36.94	40.38	74.00	-33.62	Peak

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor*

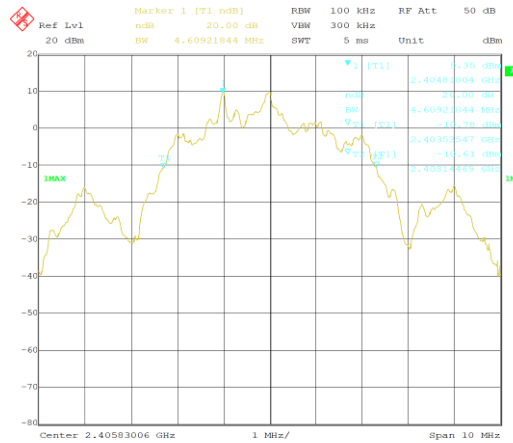
7.4 20dB Occupy Bandwidth

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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer 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 a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

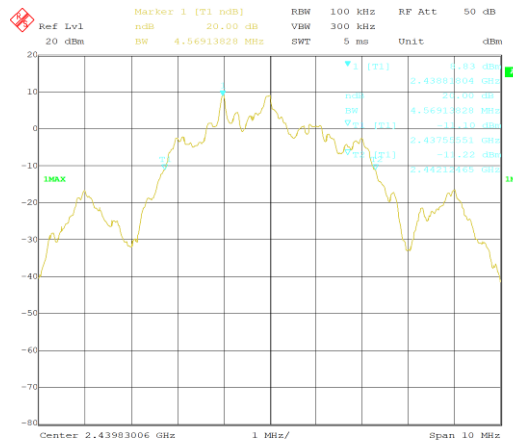
Measurement Data

Test channel	20dB bandwidth(MHz)	Result
Lowest	4.609	Pass
Middle	4.569	Pass
Highest	4.609	Pass

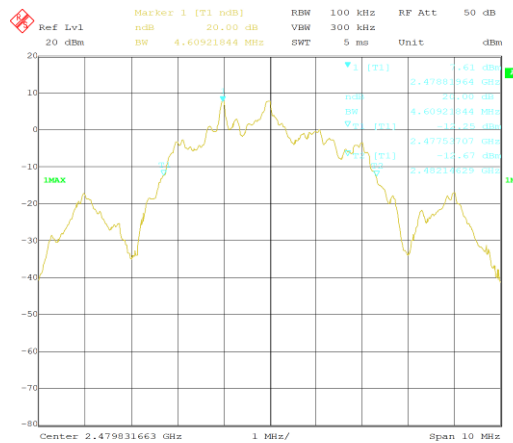
Test plot as follows:



Lowest channel



Middle channel



Highest channel