FCC REPORT

Applicant:	SALUS North America, Inc.
Address of Applicant:	850 Main Street, Redwood City,California 94063, United States
Manufacturer:	SALUS North America, Inc.
Address of Manufacturer:	850 Main Street, Redwood City,California 94063, United States
Factory 1:	Computime Electronics (shenzhen) Company Limited
Address of Factory 1:	Yuekenguangyu Industrial Park,Kangqiao Road 88#, Danzhutou Community, Nanwan Street Office,Longgang District, Shenzhen 518114
Factory 2:	Asia Electronic Dongguan
Address of Factory 2:	Zhen'an Science and Technology Industrial Park, Chang'an Dongguan Guangdong, PRC
Equipment Under Test (EUT)	
Product Name:	Wireless Fan Coil Controller with LCD
Model No.:	SAU62C1, SC102ZB
Trade Mark:	SALUS
FCC ID:	2AG86-SC102ZB
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2017
Date of sample receipt:	January 08, 2018
Date of Test:	January 09-11, 2018
Date of report issued:	January 12, 2018
Test Result :	PASS *

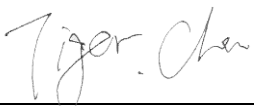
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

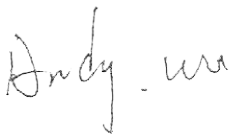
Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*January 12, 2018*	*Original*

Prepared By:  ***Date:*** *January 12, 2018*

Project Engineer

Check By:  ***Date:*** *January 12, 2018*

Reviewer

3 Contents

4 Test Summary

Test Item	Section in CFR 47	Tested Samples ID	Result
Antenna requirement	15.203/15.247 (c)	GTS201801000023-1	Pass
AC Power Line Conducted Emission	15.207	GTS201801000023-1	Pass
Conducted Peak Output Power	15.247 (b)(3)	GTS201801000023-1	Pass
Channel Bandwidth	15.247 (a)(2)	GTS201801000023-1	Pass
Power Spectral Density	15.247 (e)	GTS201801000023-1	Pass
Band Edge	15.247(d)	GTS201801000023-1	Pass
Spurious Emission	15.205/15.209	GTS201801000023-1	Pass

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

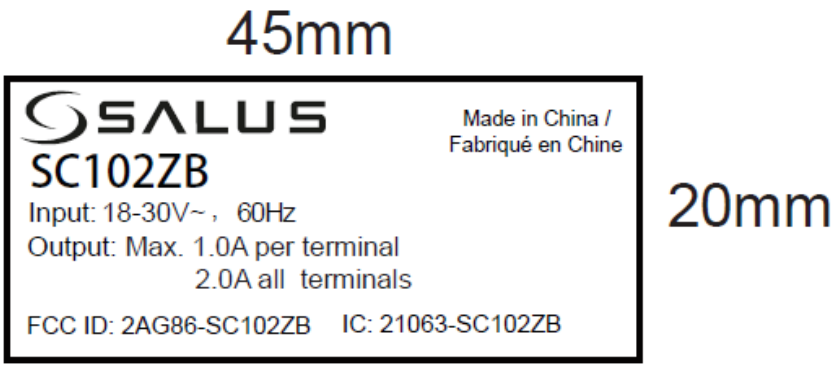
Remark： Test according to ANSI C63.10:2013

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 Fan Coil Controller with LCD
Model No.:	SAU62C1, SC102ZB
Test model	SAU62C1
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits The only difference is the model name for commercial purpose.	
Serial No.:	001E5E09023C0DE3
Test sample(s) ID:	GTS201801000023-1
Sample(s) Status	Engineer sample
Hardware:	V_X0_1211
Software:	ZB: V0.9, MCU: V1.3
Operation Frequency:	2405MHz~2480MHz
Channel numbers:	16
Channel separation:	5MHz
Modulation type:	O-QPSK
Antenna Type:	Integrated antenna
Antenna gain:	Internal Antenna 0dBi (declare by Applicant) External Antenna 2.15dBi(declare by Applicant)
Maximum output power:	Internal Antenna 18.10dBm External Antenna 17.78dBm
Power supply:	AC 18-30V, 60Hz
Labeling:	

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
11	2405MHz	15	2425MHz	19	2445MHz	23	2465MHz
12	2410MHz	16	2430MHz	20	2450MHz	24	2470MHz
13	2415MHz	17	2435MHz	21	2455MHz	25	2475MHz
14	2420MHz	18	2440MHz	22	2460MHz	26	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	2405MHz
The middle channel	2440MHz
The Highest channel	2475MHz and 2480MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
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.	

5.3 Description of Support Units

N/A

5.4 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 fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, Jan 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
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Additional instructions

Software (Used for test) from client

Mode	Built-in by manufacturer

Channel	Power level
11	-4
18	-4
25	-8
26	-24

Test software set s

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	Spectrum Analyzer	Agilent	E4440A	GTS533	June 28 2017	June 27 2018
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 28 2017	June 27 2018
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June 28 2017	June 27 2018
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 28 2017	June 27 2018
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 28 2017	June 27 2018
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	June 28 2017	June 27 2018
10	Coaxial Cable	GTS	N/A	GTS211	June 28 2017	June 27 2018
11	Coaxial cable	GTS	N/A	GTS210	June 28 2017	June 27 2018
12	Coaxial Cable	GTS	N/A	GTS212	June 28 2017	June 27 2018
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 28 2017	June 27 2018
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 28 2017	June 27 2018
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2017	June 27 2018
16	Band filter	Amindeon	82346	GTS219	June 28 2017	June 27 2018

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 28 2017	June 27 2018
3	Pulse Limiter	R&S	ESH3-Z2	GTS224	June 28 2017	June 27 2018
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 28 2017	June 27 2018
5	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June 28 2017	June 27 2018
6	Coaxial Cable	GTS	N/A	GTS227	June 28 2017	June 27 2018
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Thermo meter	KTJ	TA328	GTS233	June 28 2017	June 27 2018

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	June 28 2017	June 27 2018

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

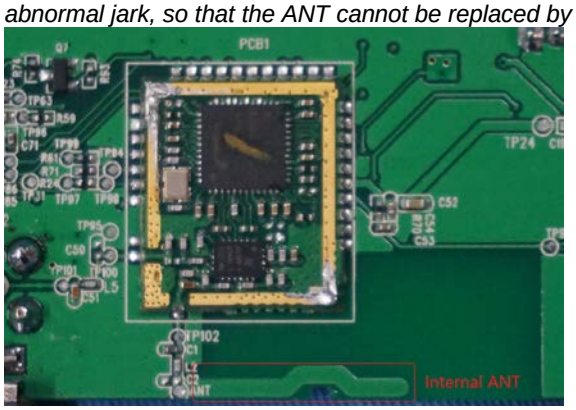
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

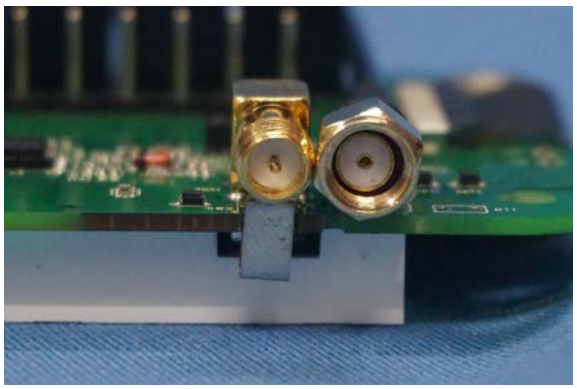
15.247(c) (1)(i) requirement:

(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.

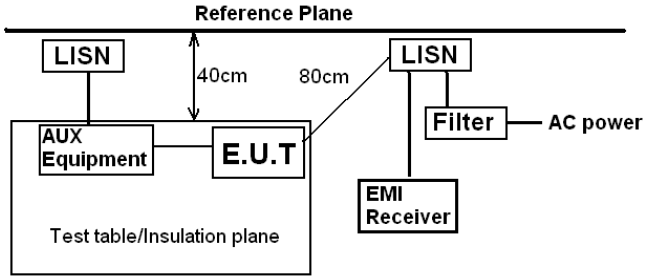
EUT Antenna:

Both internal and external antenna are integral Antenna, the best case gain of the internal antenna is 0 dBi, The best case gain of the external antenna is 2.15dBi. The manufacturer design the external ANT using an abnormal jark, so that the ANT cannot be replaced by user.



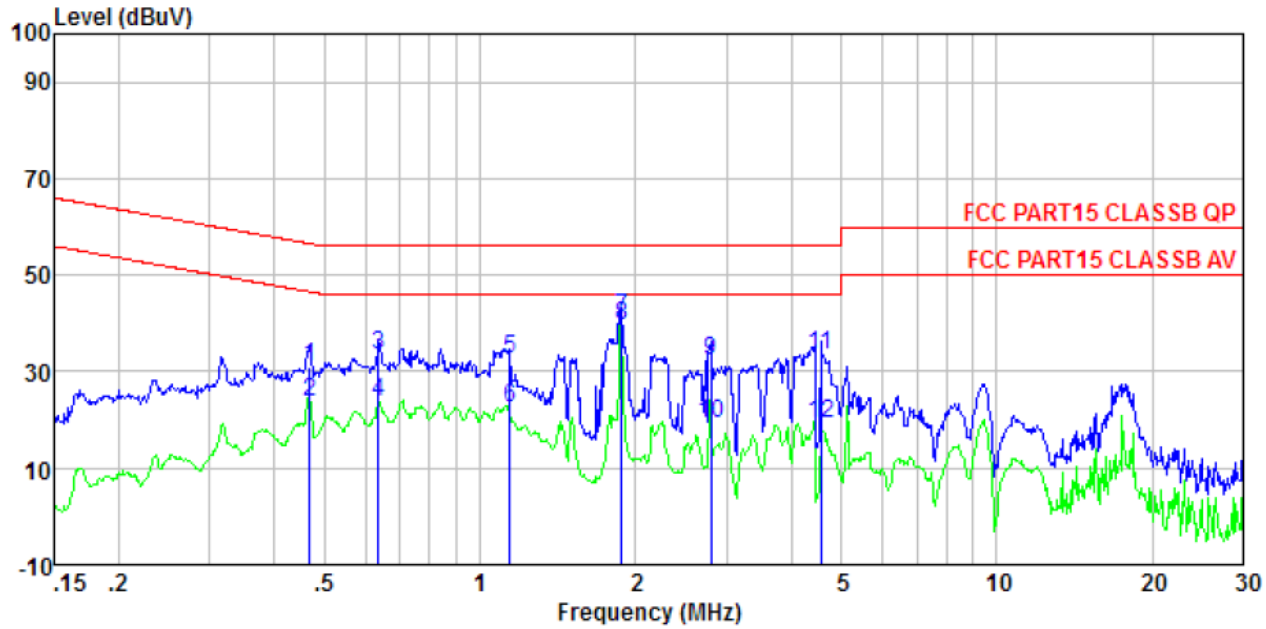


7.2 Conducted Emissions

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:	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:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence 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 results:	Pass

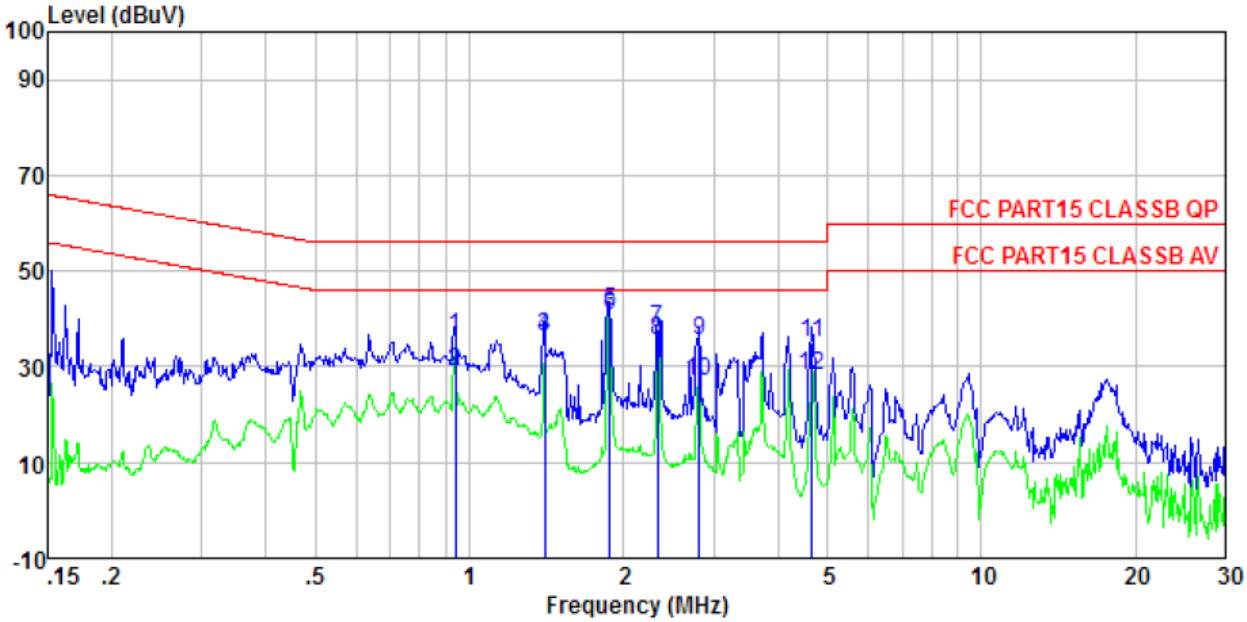
Measurement data

Line:



Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.469	30.60	0.33	0.11	31.04	56.54	-25.50	QP
0.469	23.28	0.33	0.11	23.72	46.54	-22.82	Average
0.637	33.01	0.28	0.12	33.41	56.00	-22.59	QP
0.637	23.19	0.28	0.12	23.59	46.00	-22.41	Average
1.141	32.42	0.20	0.15	32.77	56.00	-23.23	QP
1.141	22.18	0.20	0.15	22.53	46.00	-23.47	Average
1.878	40.68	0.20	0.17	41.05	56.00	-14.95	QP
1.878	39.05	0.20	0.17	39.42	46.00	-6.58	Average
2.794	31.96	0.20	0.19	32.35	56.00	-23.65	QP
2.794	18.69	0.20	0.19	19.08	46.00	-26.92	Average
4.574	33.07	0.20	0.17	33.44	56.00	-22.56	QP
4.574	18.87	0.20	0.17	19.24	46.00	-26.76	Average

Neutral:

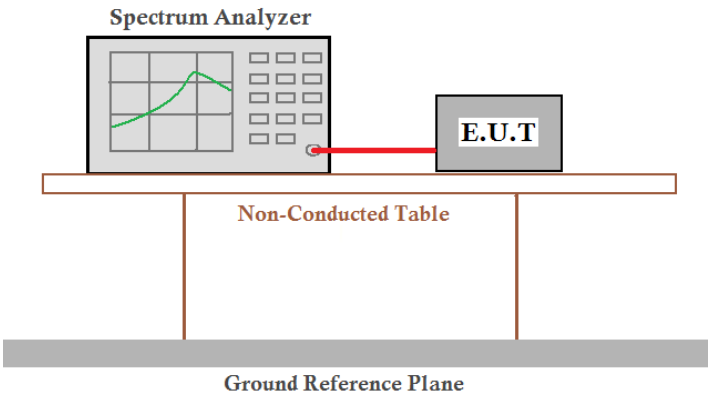


Freq	Reading level	lISN/ISN factor	Cable loss	level	Limit level	Over limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.938	35.95	0.21	0.15	36.31	56.00	-19.69	QP
0.938	28.52	0.21	0.15	28.88	46.00	-17.12	Average
1.403	35.88	0.20	0.16	36.24	56.00	-19.76	QP
1.403	35.96	0.20	0.16	36.32	46.00	-9.68	Average
1.878	41.29	0.20	0.17	41.66	56.00	-14.34	QP
1.878	40.56	0.20	0.17	40.93	46.00	-5.07	Average
2.334	37.48	0.20	0.18	37.86	56.00	-18.14	QP
2.334	34.94	0.20	0.18	35.32	46.00	-10.68	Average
2.809	35.03	0.20	0.19	35.42	56.00	-20.58	QP
2.809	26.39	0.20	0.19	26.78	46.00	-19.22	Average
4.672	34.84	0.20	0.17	35.21	56.00	-20.79	QP
4.672	27.88	0.20	0.17	28.25	46.00	-17.75	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:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V03
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Internal Antenna:

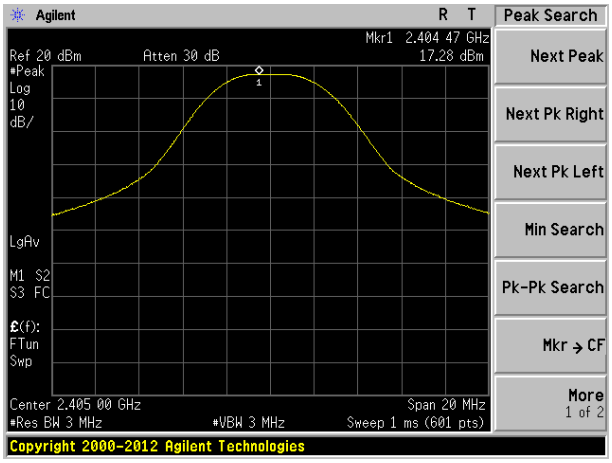
Frequency (MHz)	Peak Output Power (dBm)	Limit(dBm)	Result
2405	17.28	30	PASS
2440	18.10		
2475	7.89		
2480	-4.53		

External Antenna:

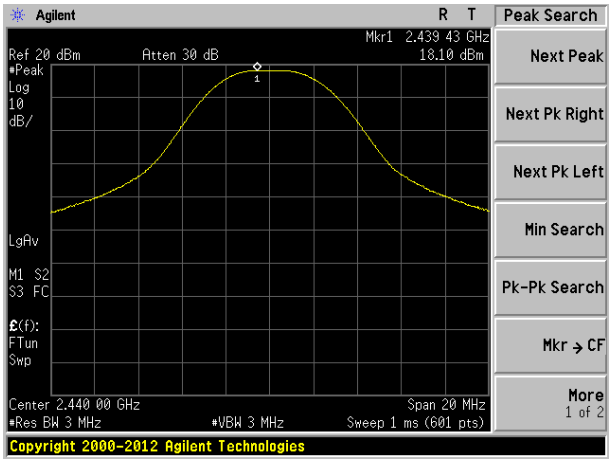
Frequency (MHz)	Peak Output Power (dBm)	Limit(dBm)	Result
2405	17.78	30	PASS
2440	16.84		
2475	11.76		
2480	-6.09		

Test plot as follows:

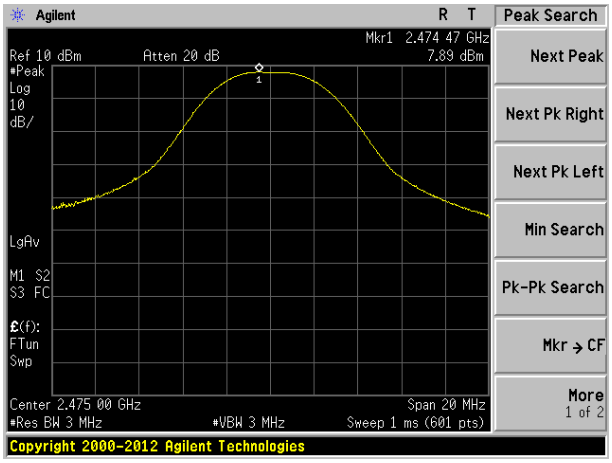
Internal Antenna:



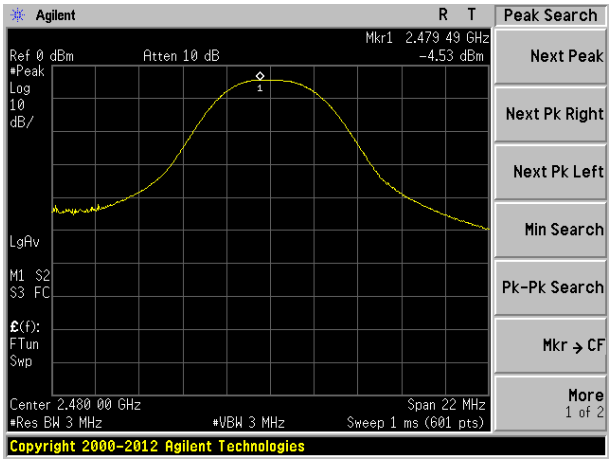
2405MHz



2440MHz

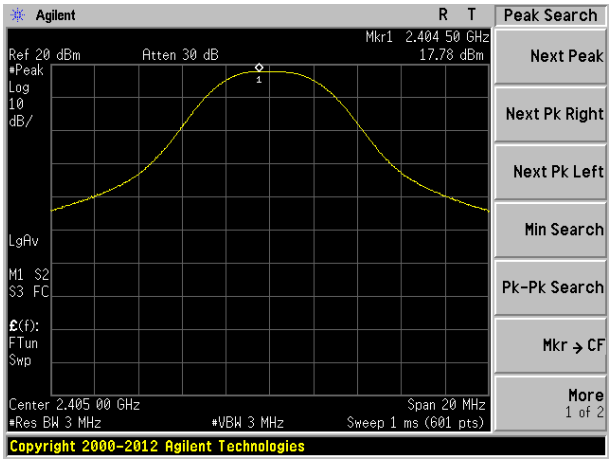


2475MHz

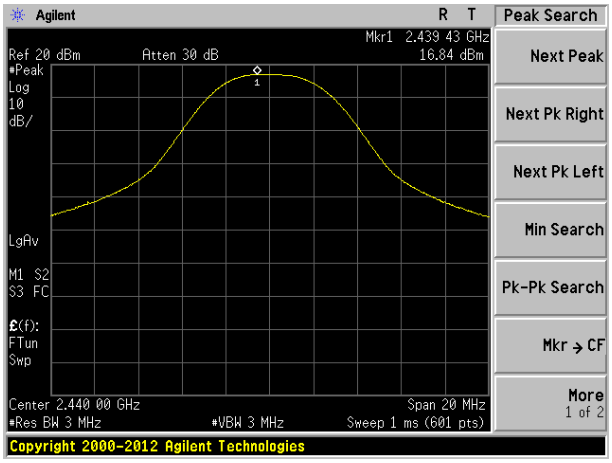


2480MHz

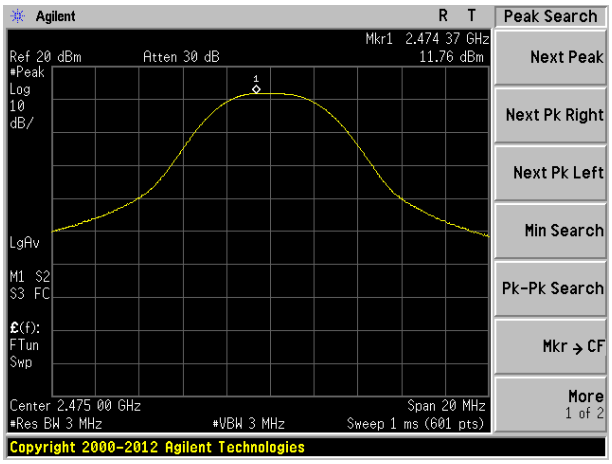
External Antenna



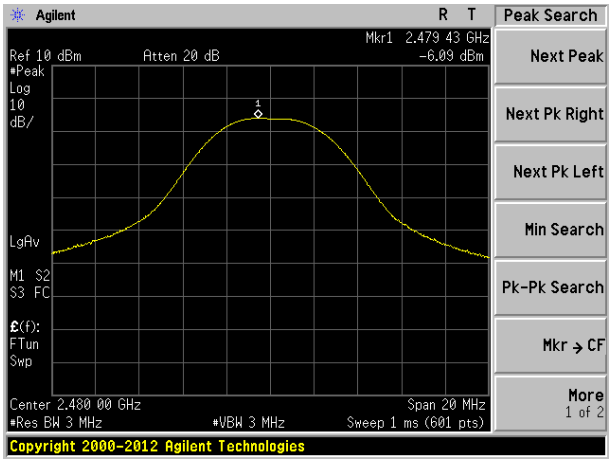
2405MHz



2440MHz

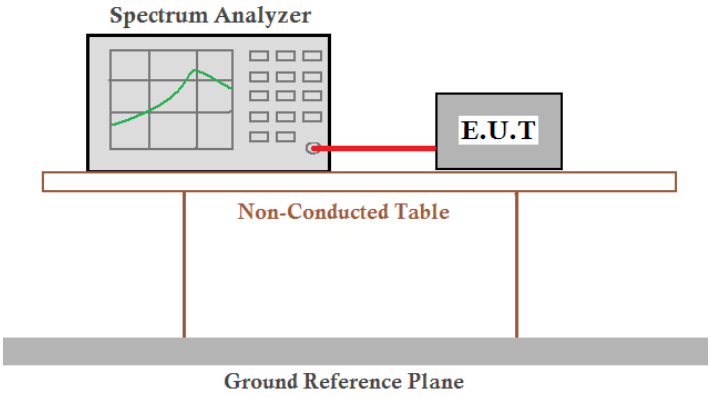


2475MHz



2480MHz

7.4 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V03
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Internal Antenna:

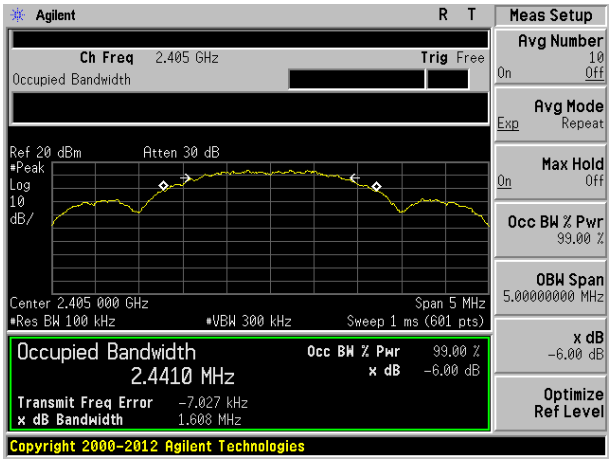
Frequency (MHz)	Channel Bandwidth (MHz)	Limit(KHz)	Result
2405	1.608	>500	Pass
2440	1.598		
2475	1.604		
2480	1.601		

External Antenna:

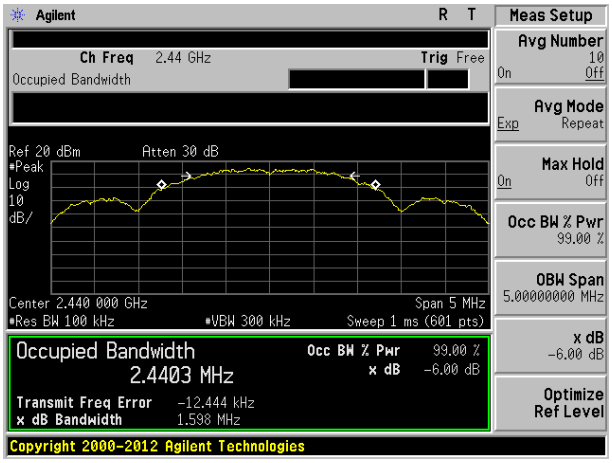
Frequency (MHz)	Channel Bandwidth (MHz)	Limit(KHz)	Result
2405	1.564	>500	Pass
2440	1.612		
2475	1.567		
2480	1.627		

Test plot as follows:

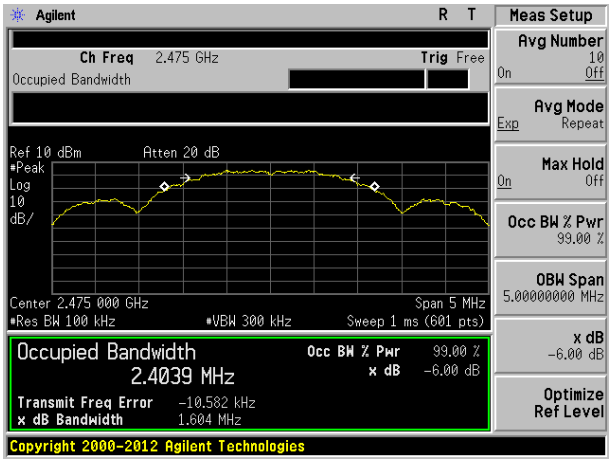
Internal Antenna:



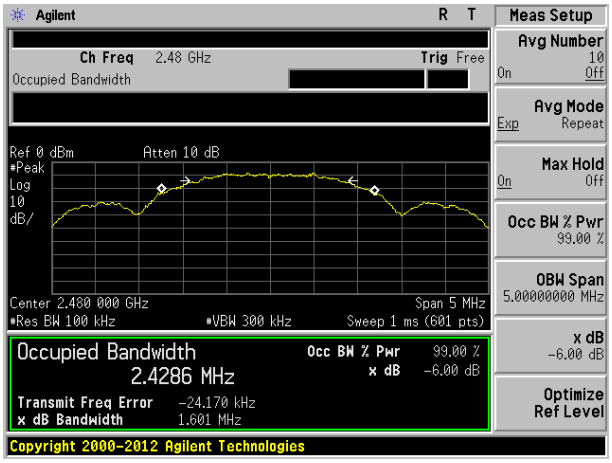
2405MHz



2440MHz

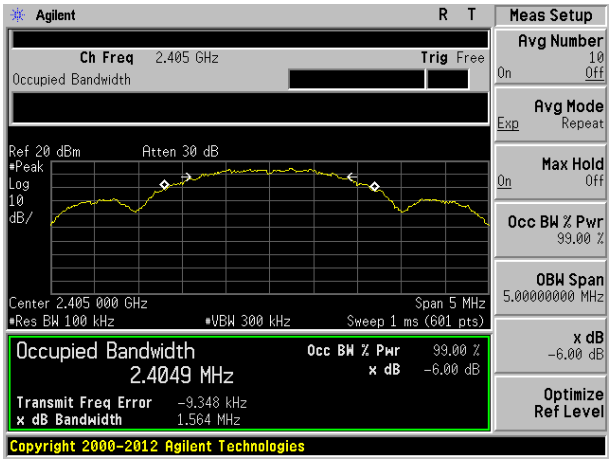


2475MHz

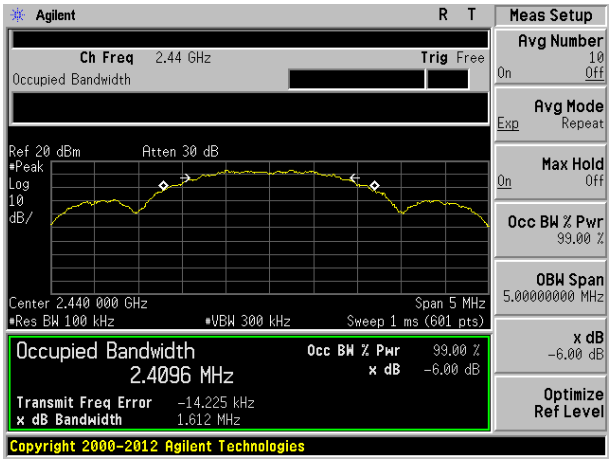


2480MHz

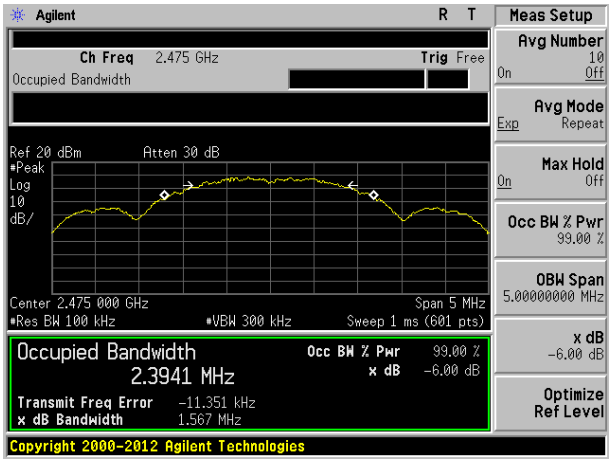
External Antenna:



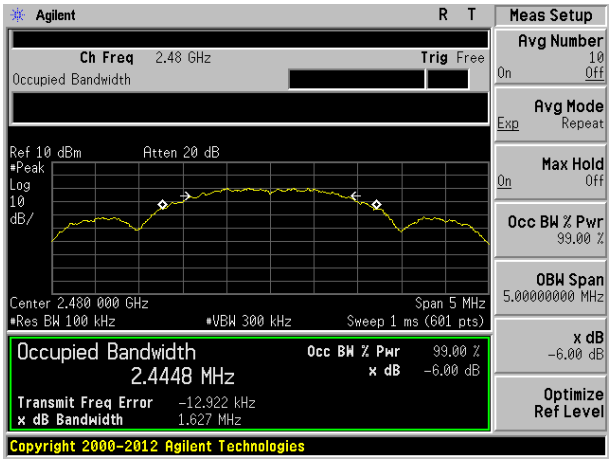
2405MHz



2440MHz

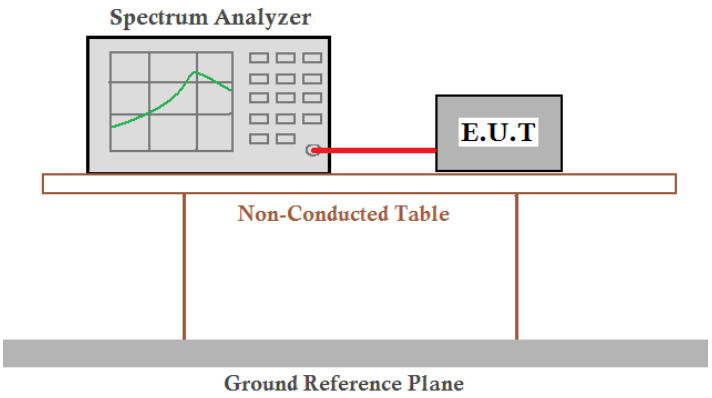


2475MHz



2480MHz

7.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V03
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Internal Antenna:

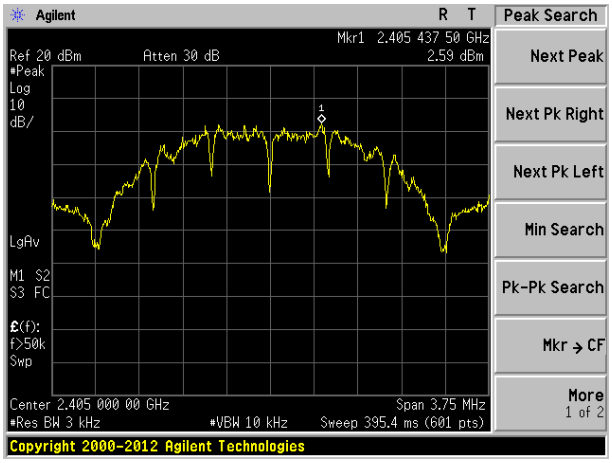
Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Result
2405	2.59	8.00	Pass
2440	3.13		
2475	-8.16		
2480	-20.64		

External Antenna:

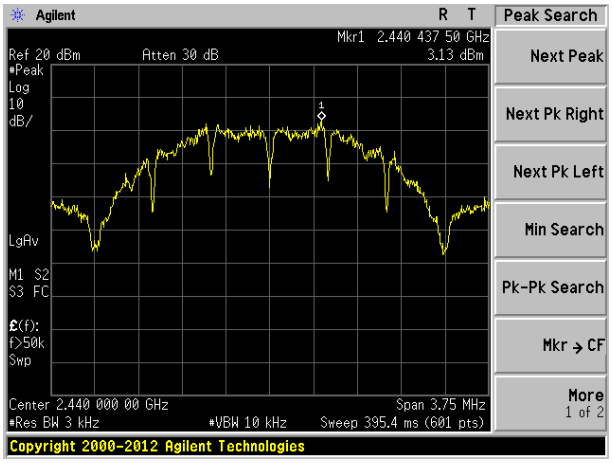
Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Result
2405	1.53	8.00	Pass
2440	1.83		
2475	-4.12		
2480	-21.96		

Test plot as follows:

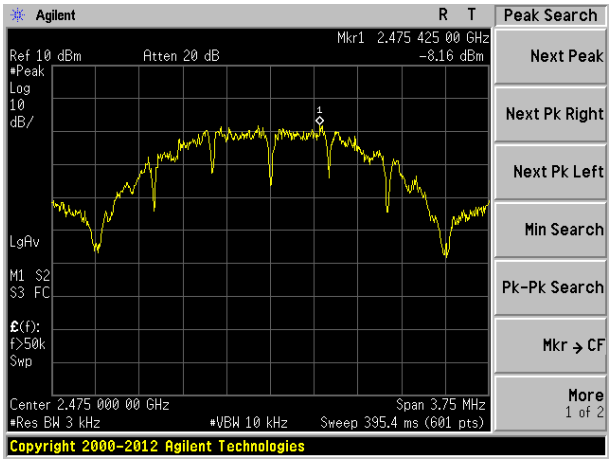
Internal Antenna:



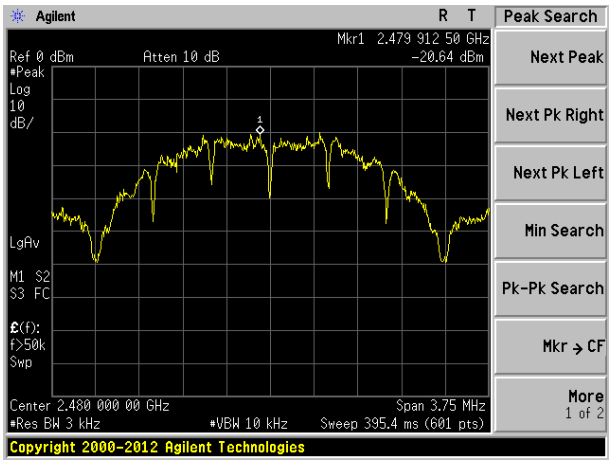
2405MHz



2440MHz

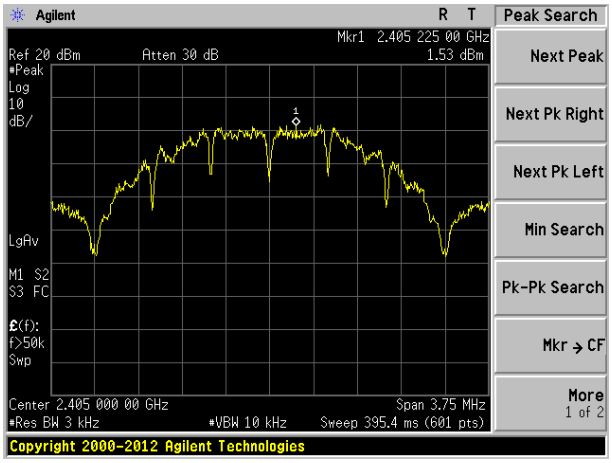


2475MHz

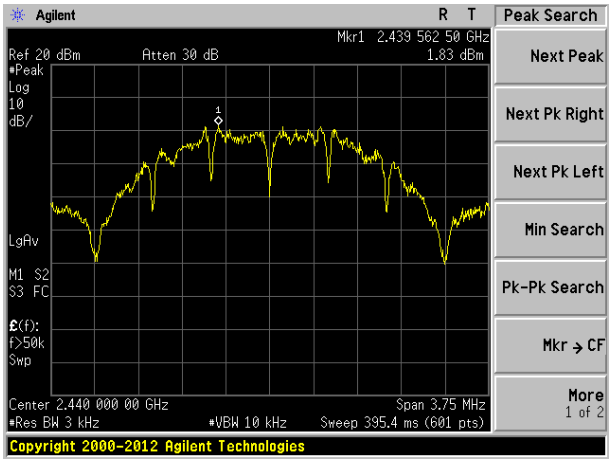


2480MHz

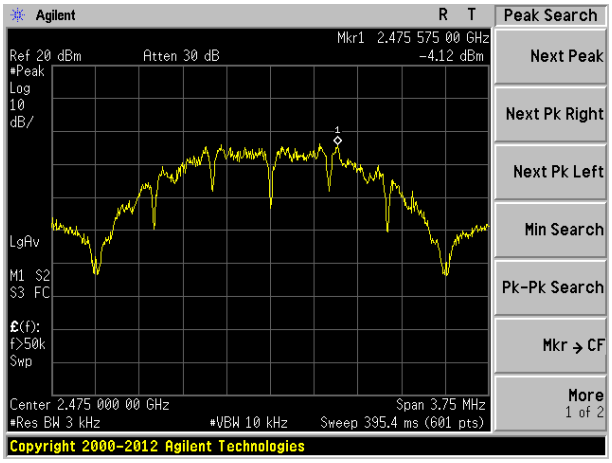
External Antenna:



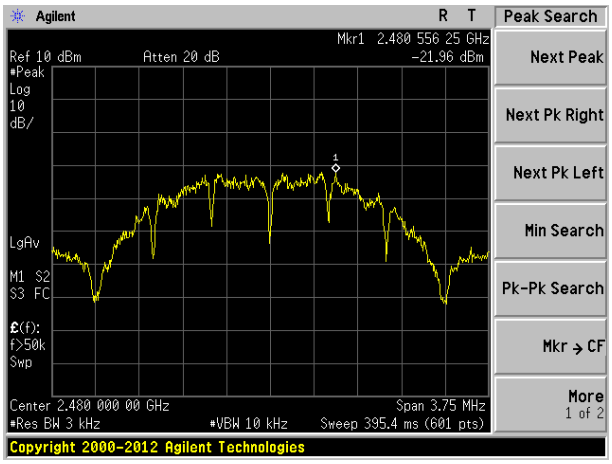
2405MHz



2440MHz



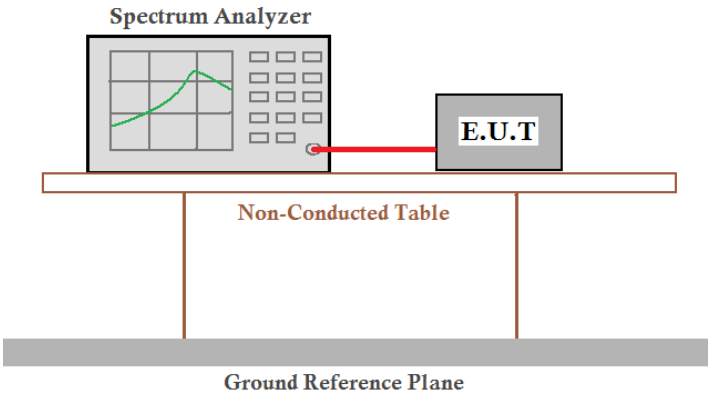
2475MHz



2480MHz

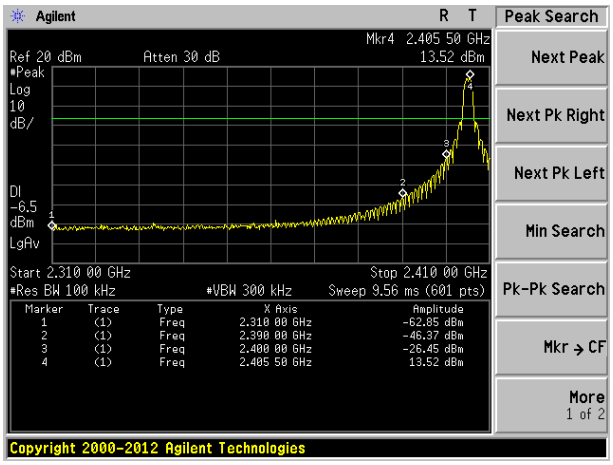
7.6 Band edges

7.6.1 Conducted Emission Method

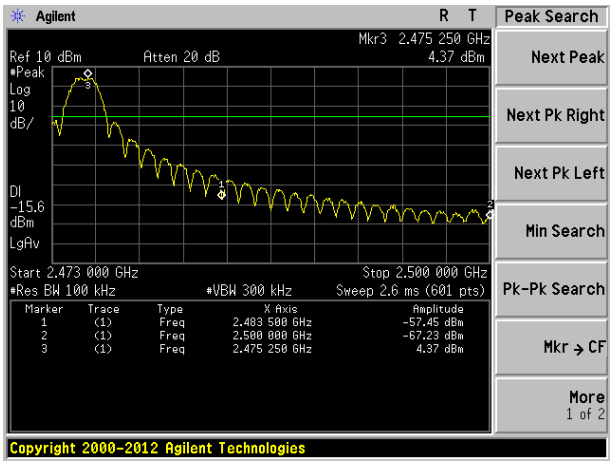
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V03
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional 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:	
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:

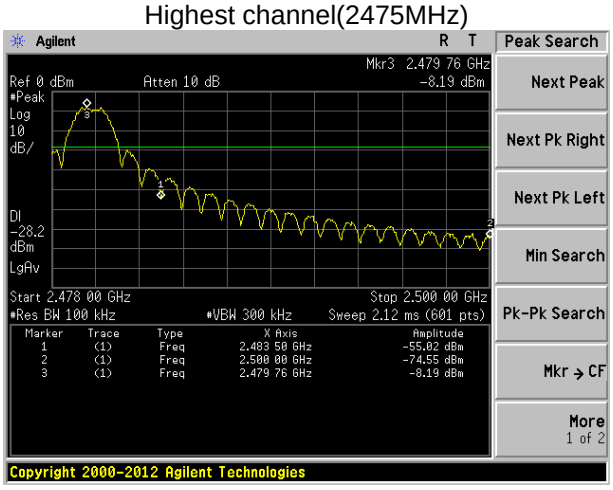
Internal Antenna:



Lowest channel

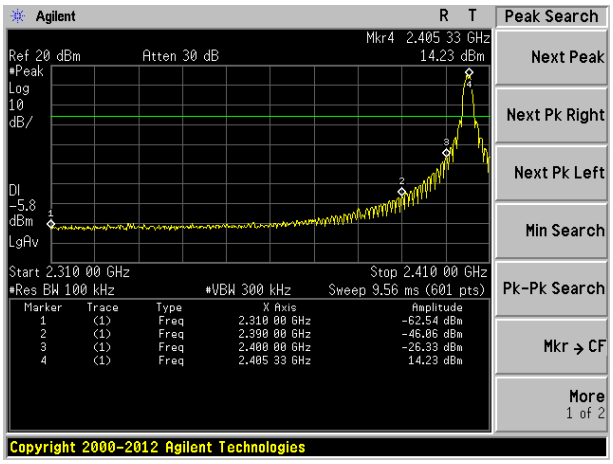


Highest channel(2475MHz)

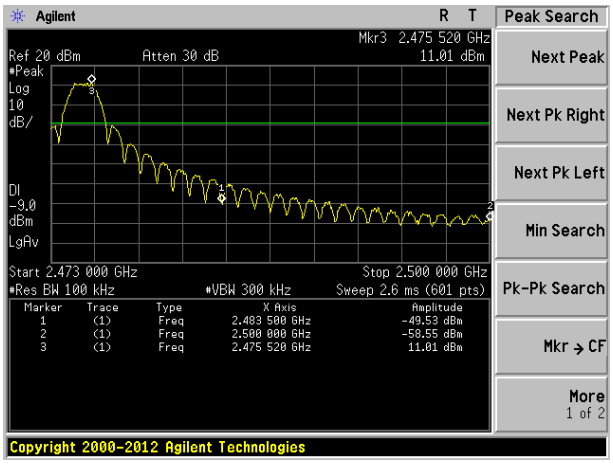


Highest channel(2480MHz)

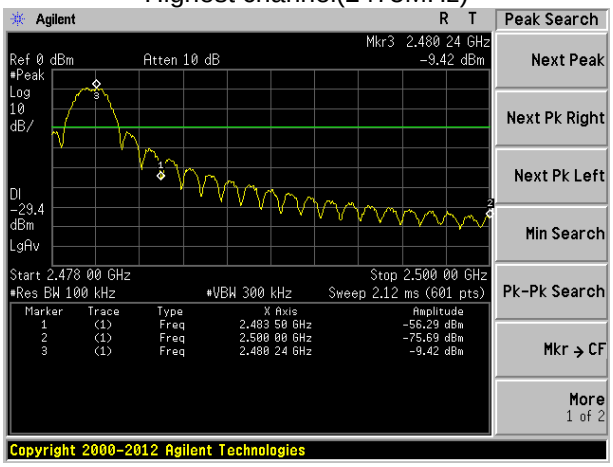
External Antenna:



Lowest channel



Highest channel(2475MHz)



Highest channel(2480MHz)

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

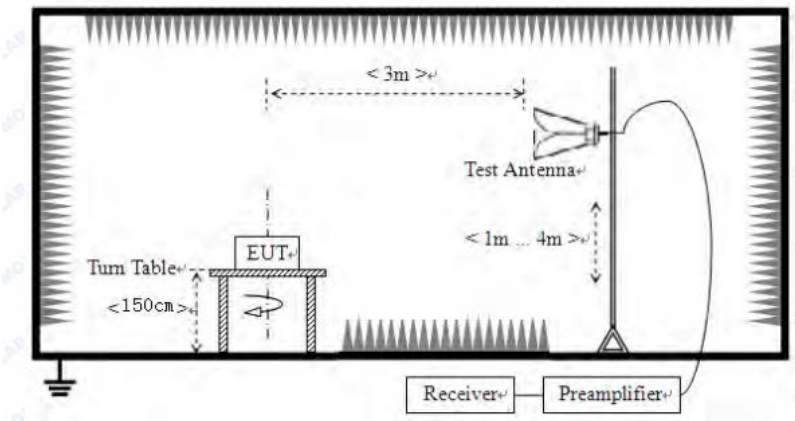
Receiver setup:

Frequency	Detector	RBW	VBW	Value
Above 1GHz	Peak	1MHz	3MHz	Peak
	RMS	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

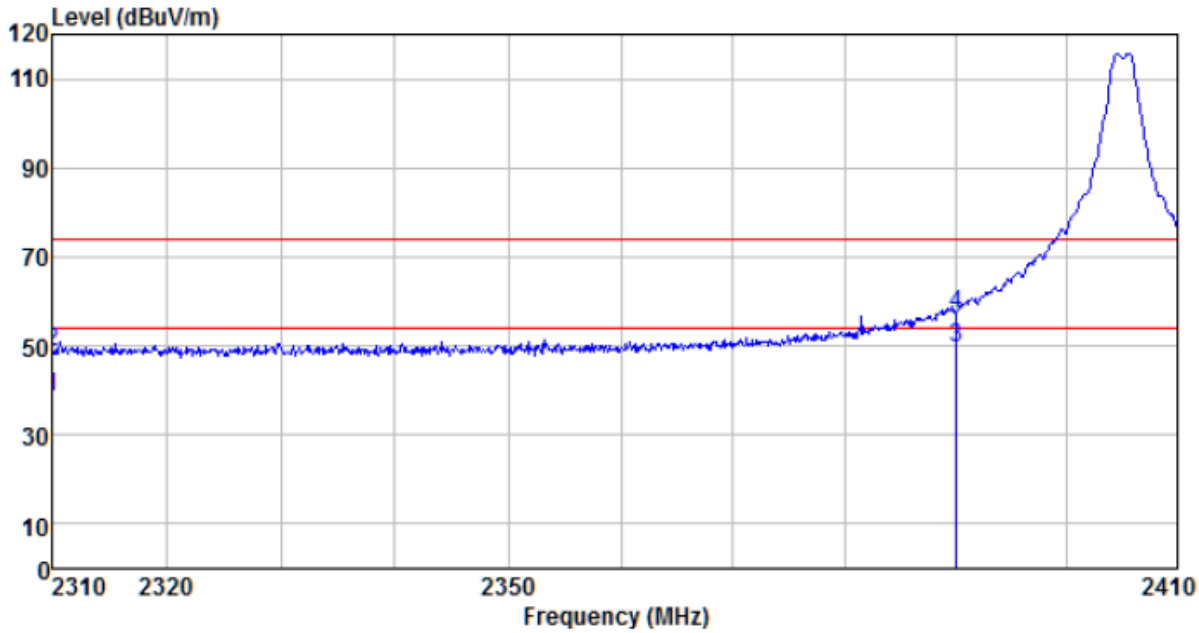
Measurement data:

Remark: The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.

Internal Antenna:

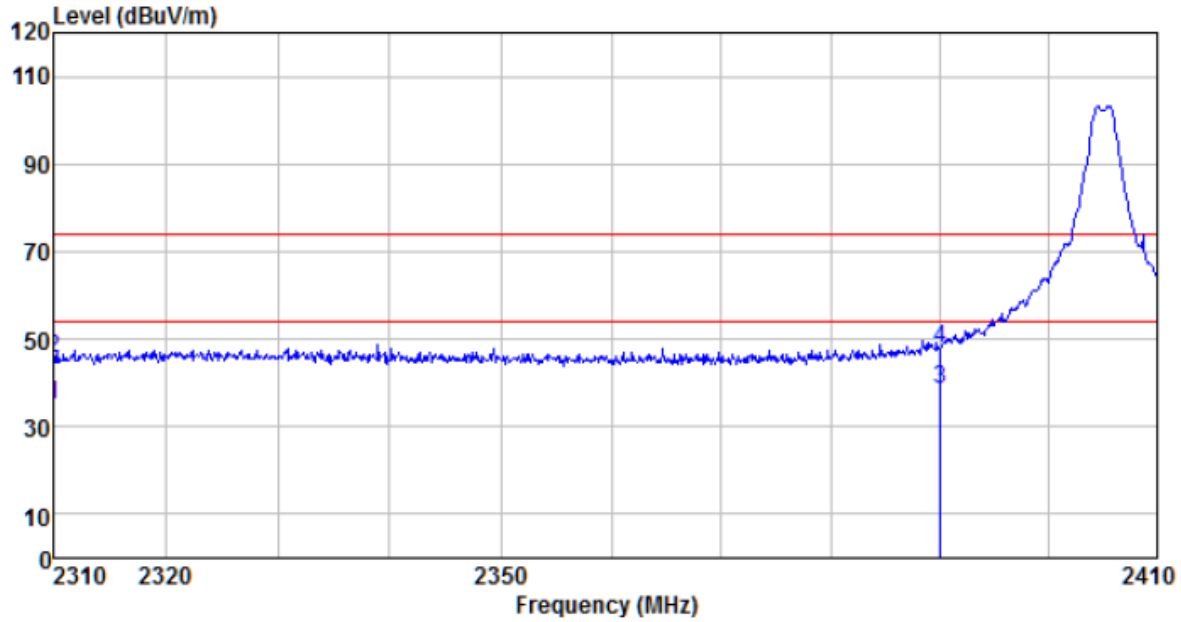
Test channel:	2405MHz

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	29.97	27.91	5.30	24.64	38.54	54.00	-15.46	Average
2310.000	40.35	27.91	5.30	24.64	48.92	74.00	-25.08	Peak
2390.000	41.34	27.59	5.38	24.71	49.60	54.00	-4.40	Average
2390.000	48.84	27.59	5.38	24.71	57.10	74.00	-16.90	Peak

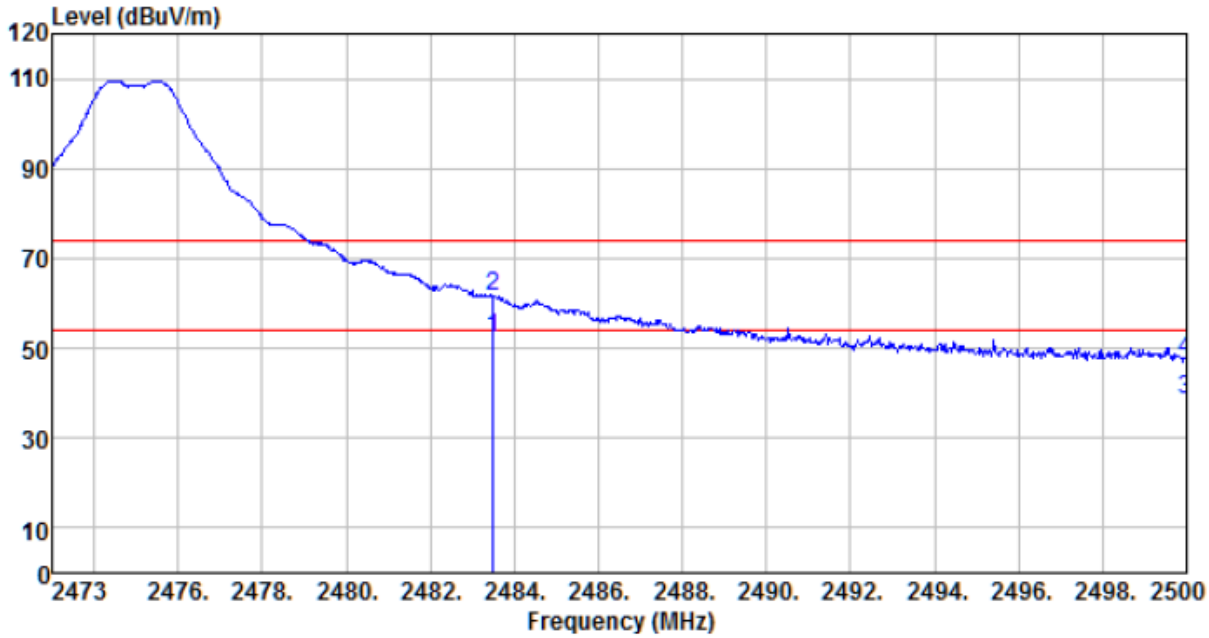
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	26.53	27.91	5.30	24.64	35.10	54.00	-18.90	Average
2310.000	37.25	27.91	5.30	24.64	45.82	74.00	-28.18	Peak
2390.000	30.31	27.59	5.38	24.71	38.57	54.00	-15.43	Average
2390.000	39.66	27.59	5.38	24.71	47.92	74.00	-26.08	Peak

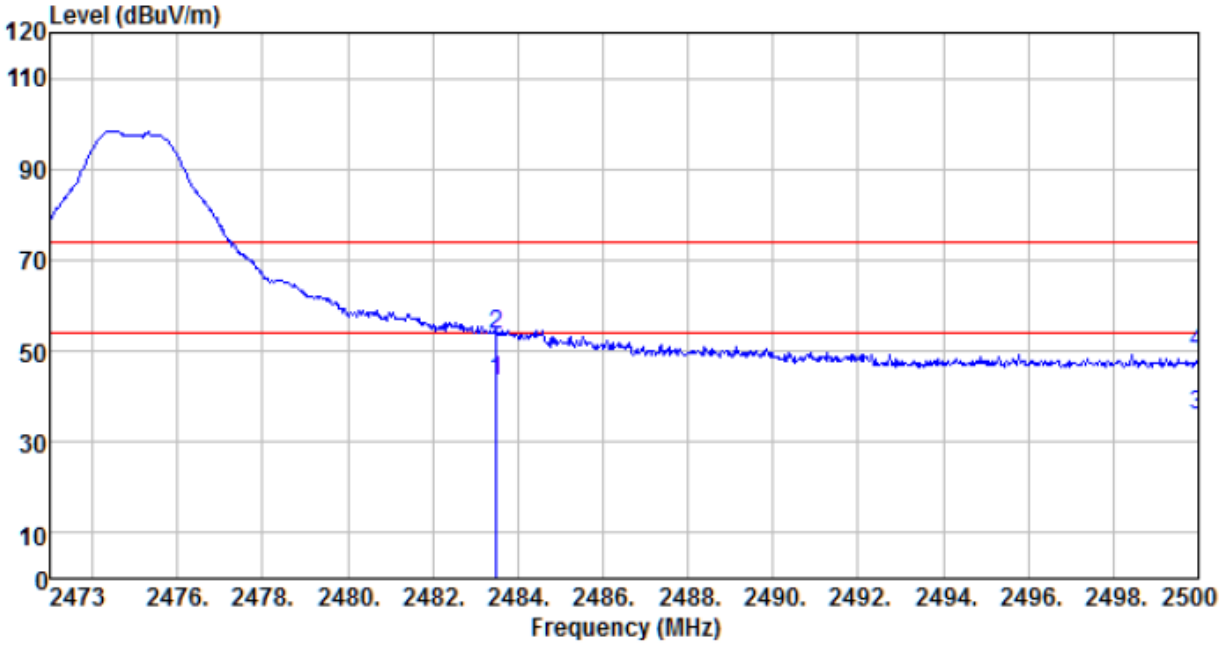
Test channel:	2475MHz

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	43.89	27.53	5.47	24.80	52.09	54.00	-1.91	Average
2483.500	53.35	27.53	5.47	24.80	61.55	74.00	-12.45	Peak
2500.000	30.15	27.55	5.49	24.86	38.33	54.00	-15.67	Average
2500.000	39.41	27.55	5.49	24.86	47.59	74.00	-26.41	Peak

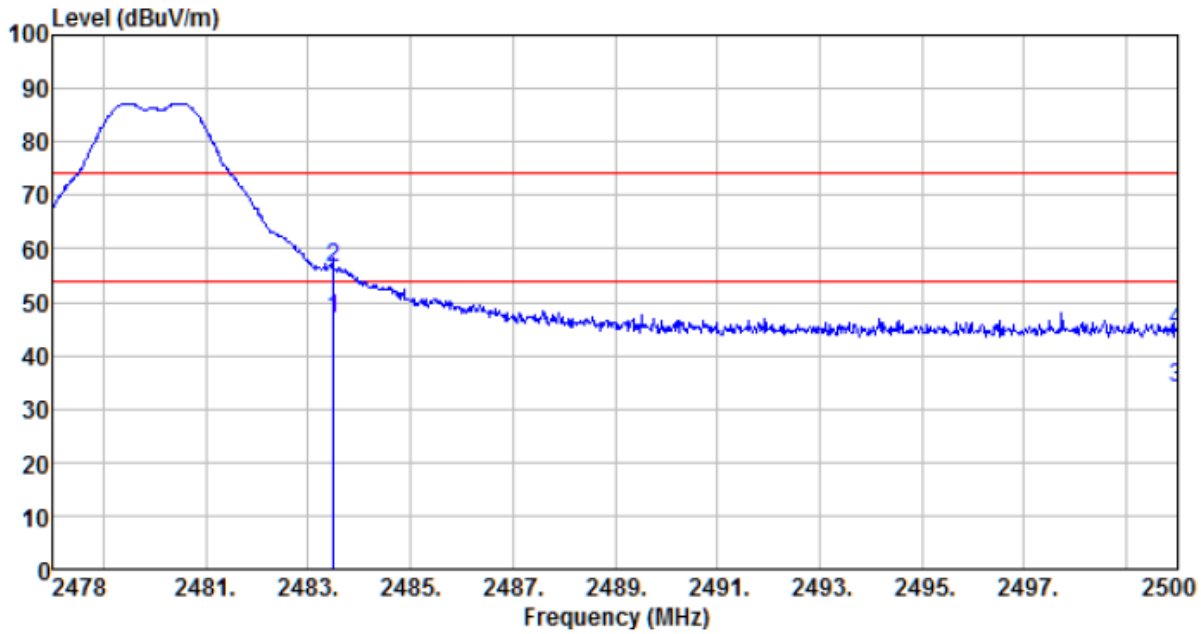
Vertical:



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	35.25	27.53	5.47	24.80	43.45	54.00	-10.55	Average
2483.500	45.53	27.53	5.47	24.80	53.73	74.00	-20.27	Peak
2500.000	27.56	27.55	5.49	24.86	35.74	54.00	-18.26	Average
2500.000	41.33	27.55	5.49	24.86	49.51	74.00	-24.49	Peak

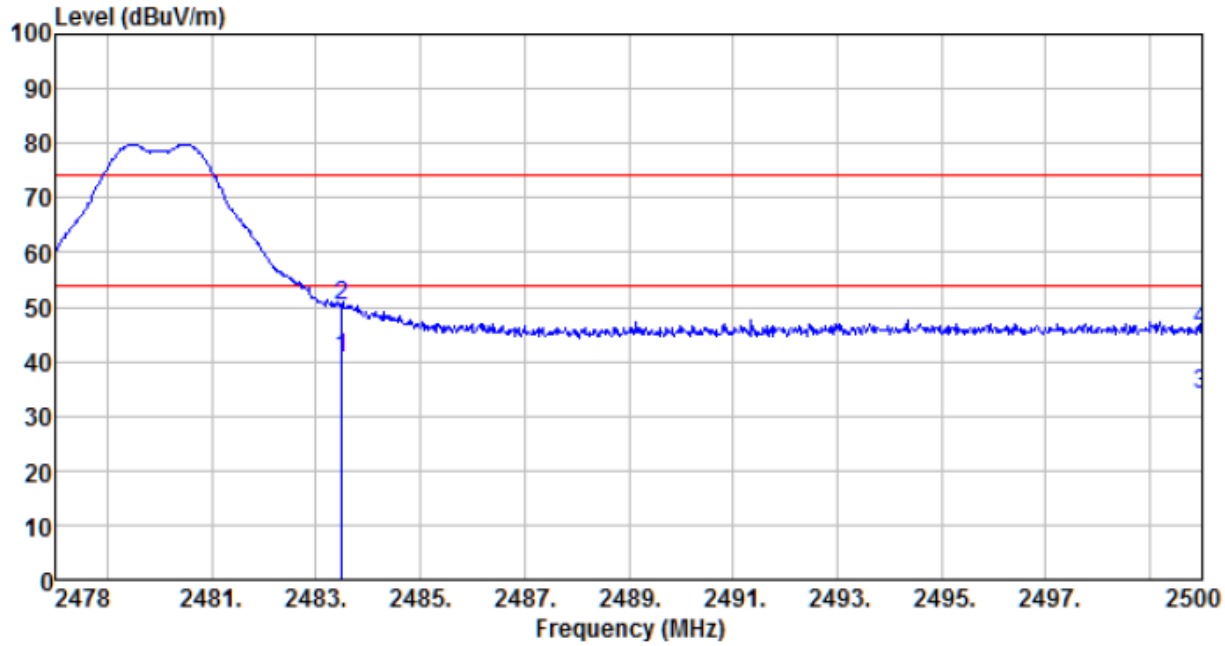
Test channel:	2480MHz

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	38.80	27.53	5.47	24.80	47.00	54.00	-7.00	Average
2483.500	48.21	27.53	5.47	24.80	56.41	74.00	-17.59	Peak
2500.000	25.89	27.55	5.49	24.86	34.07	54.00	-19.93	Average
2500.000	36.29	27.55	5.49	24.86	44.47	74.00	-29.53	Peak

Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	32.50	27.53	5.47	24.80	40.70	54.00	-13.30	Average
2483.500	41.86	27.53	5.47	24.80	50.06	74.00	-23.94	Peak
2500.000	25.73	27.55	5.49	24.86	33.91	54.00	-20.09	Average
2500.000	37.53	27.55	5.49	24.86	45.71	74.00	-28.29	Peak

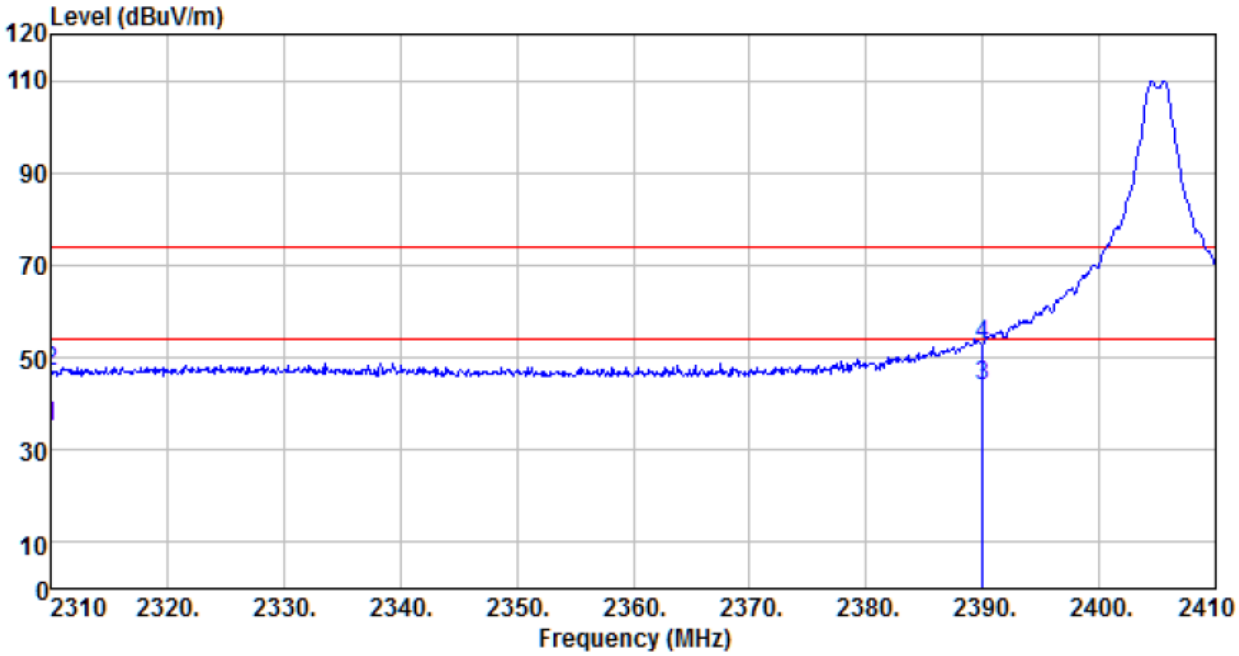
Remark:

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.*

External Antenna:

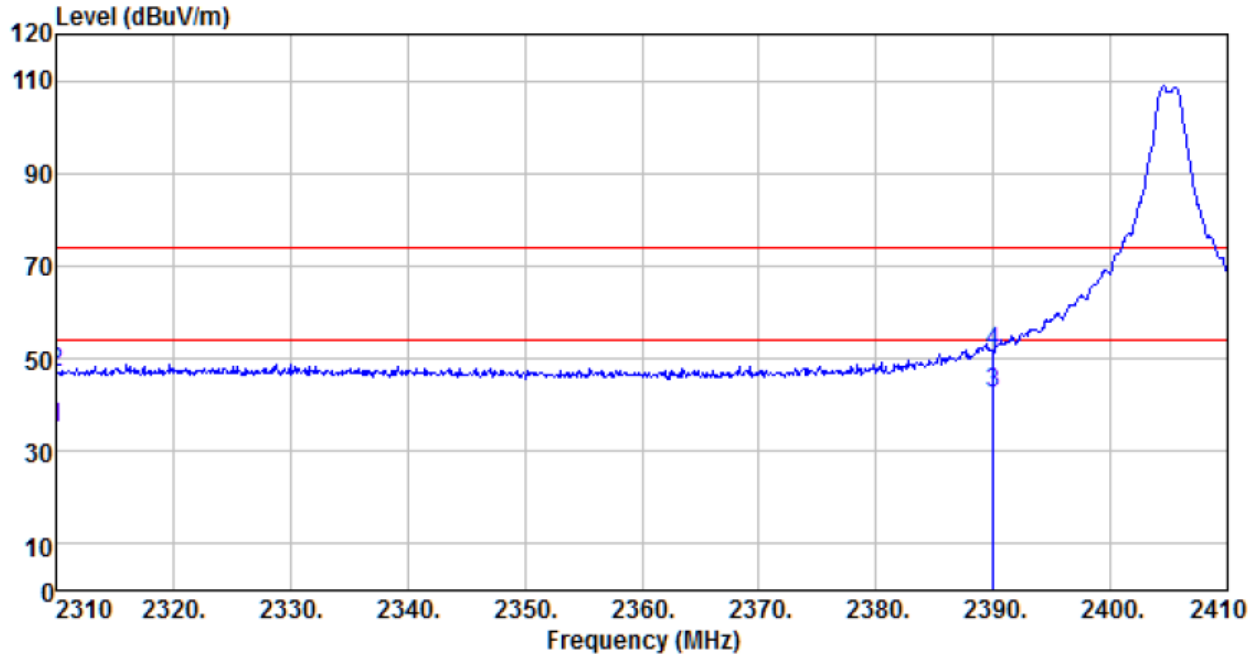
Test channel:	2405MHz

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	26.39	27.91	5.30	24.64	34.96	54.00	-19.04	Average
2310.000	38.39	27.91	5.30	24.64	46.96	74.00	-27.04	Peak
2390.000	35.70	27.59	5.38	24.71	43.96	54.00	-10.04	Average
2390.000	44.63	27.59	5.38	24.71	52.89	74.00	-21.11	Peak

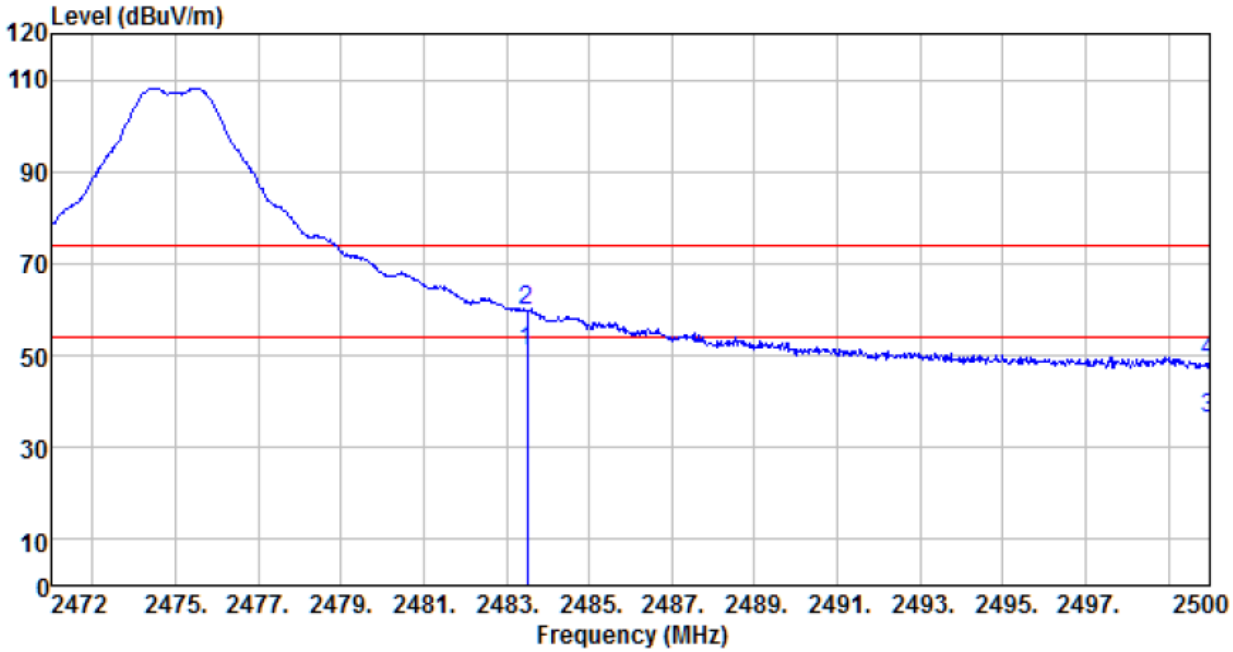
Vertical:



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	26.53	27.91	5.30	24.64	35.10	54.00	-18.90	Average
2310.000	38.23	27.91	5.30	24.64	46.80	74.00	-27.20	Peak
2390.000	34.10	27.59	5.38	24.71	42.36	54.00	-11.64	Average
2390.000	43.11	27.59	5.38	24.71	51.37	74.00	-22.63	Peak

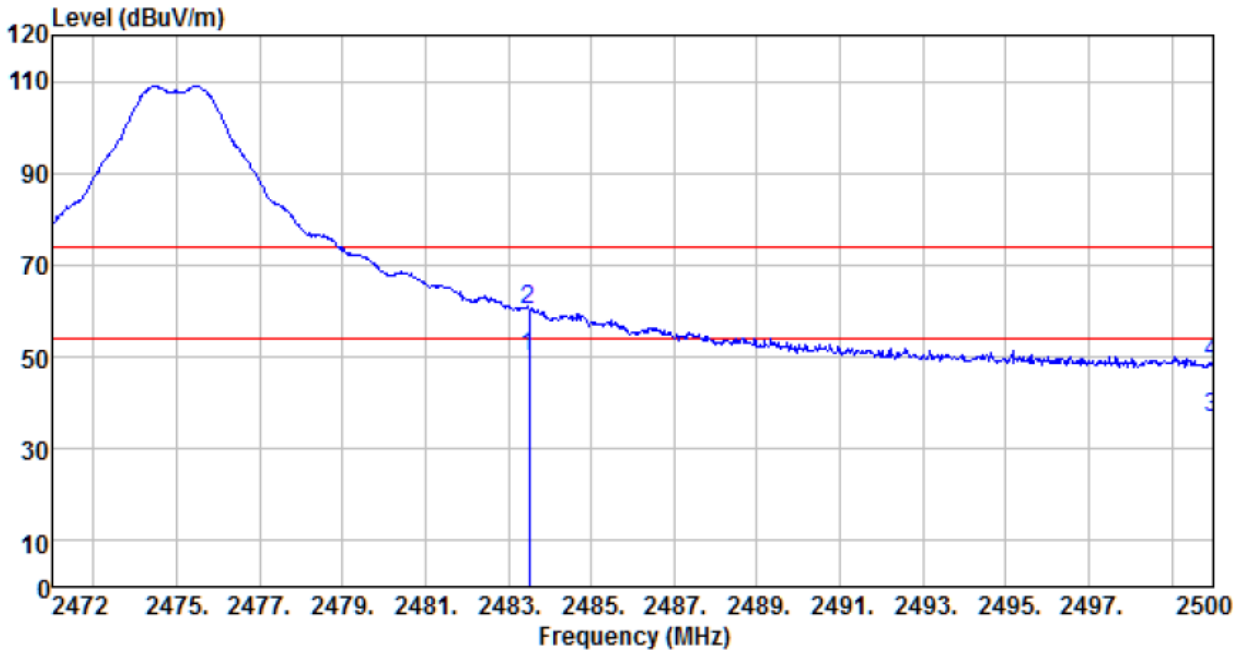
Test channel:	2475MHz

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	42.72	27.53	5.47	24.80	50.92	54.00	-3.08	Average
2483.500	51.55	27.53	5.47	24.80	59.75	74.00	-14.25	Peak
2500.000	28.29	27.55	5.49	24.86	36.47	54.00	-17.53	Average
2500.000	40.39	27.55	5.49	24.86	48.57	74.00	-25.43	Peak

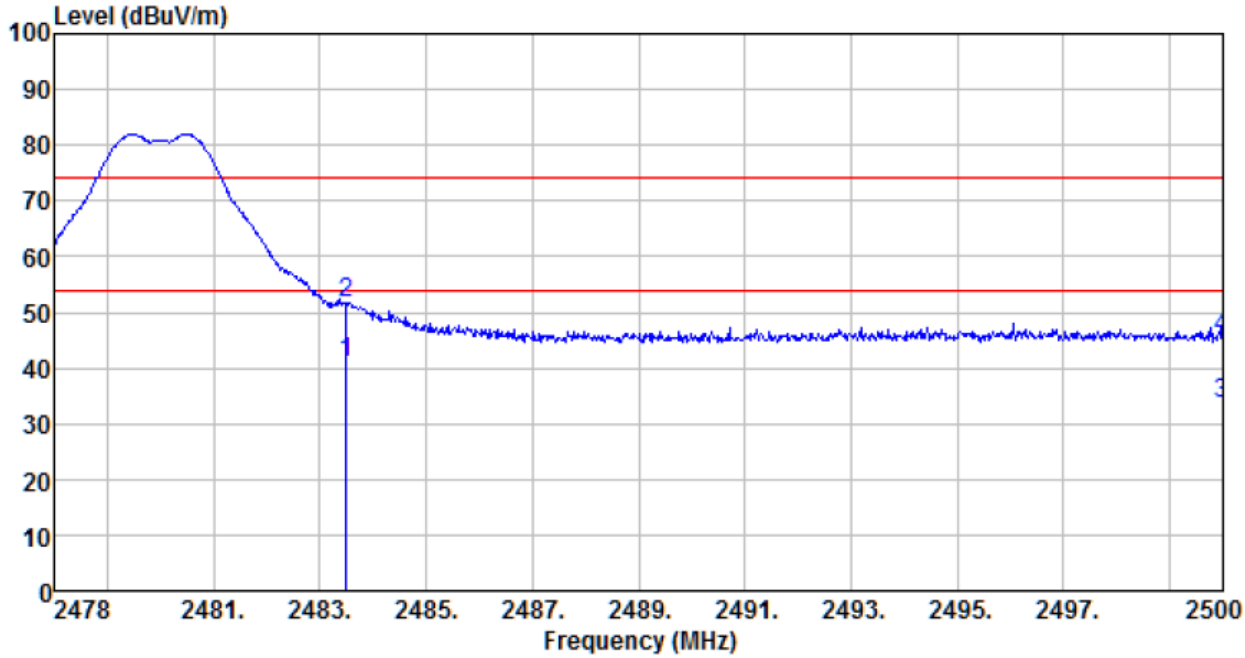
Vertical:



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	41.85	27.53	5.47	24.80	50.05	54.00	-3.95	Average
2483.500	52.03	27.53	5.47	24.80	60.23	74.00	-13.77	Peak
2500.000	28.37	27.55	5.49	24.86	36.55	54.00	-17.45	Average
2500.000	40.54	27.55	5.49	24.86	48.72	74.00	-25.28	Peak

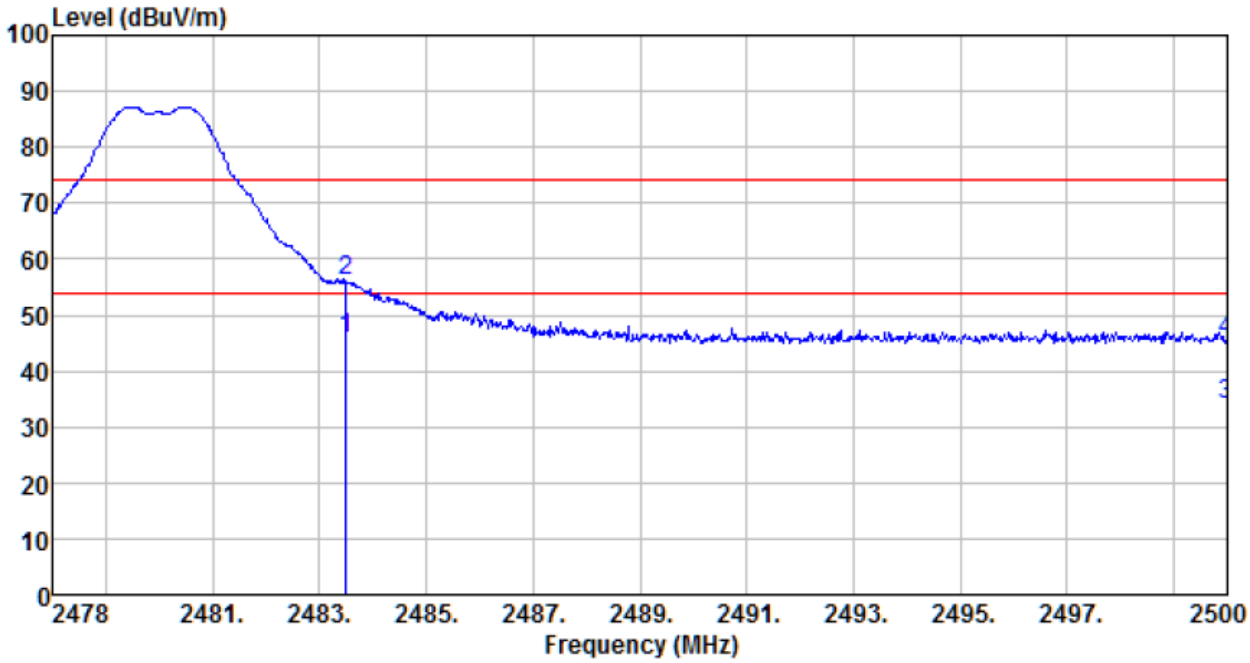
Test channel:	2480MHz

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	32.85	27.53	5.47	24.80	41.05	54.00	-12.95	Average
2483.500	43.40	27.53	5.47	24.80	51.60	74.00	-22.40	Peak
2500.000	25.56	27.55	5.49	24.86	33.74	54.00	-20.26	Average
2500.000	37.14	27.55	5.49	24.86	45.32	74.00	-28.68	Peak

Vertical:



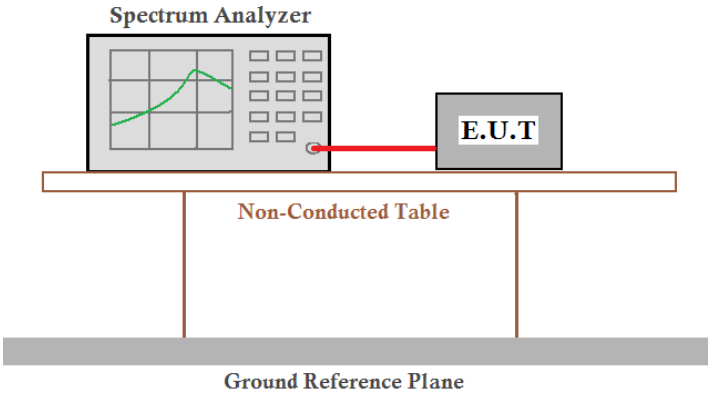
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	37.53	27.53	5.47	24.80	45.73	54.00	-8.27	Average
2483.500	47.90	27.53	5.47	24.80	56.10	74.00	-17.90	Peak
2500.000	25.69	27.55	5.49	24.86	33.87	54.00	-20.13	Average
2500.000	37.30	27.55	5.49	24.86	45.48	74.00	-28.52	Peak

Remark:

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.*

7.7 Spurious Emission

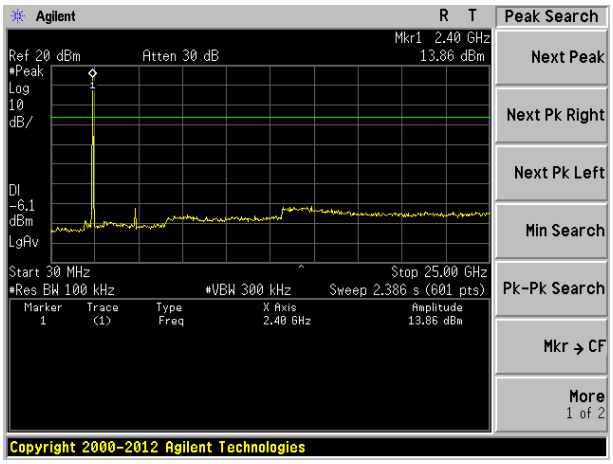
7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V03
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:	
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:

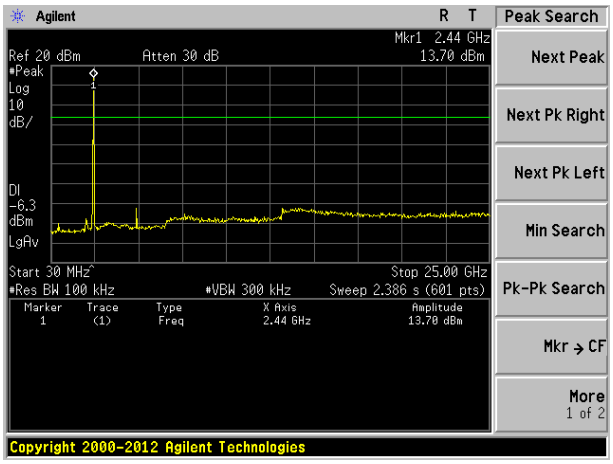
Internal Antenna:

Lowest channel



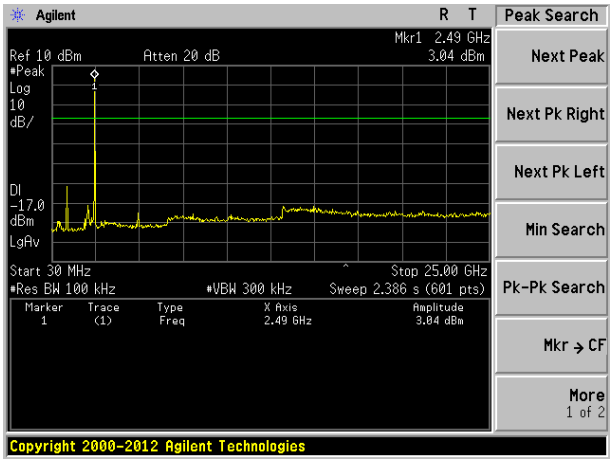
30MHz~25GHz

Middle channel



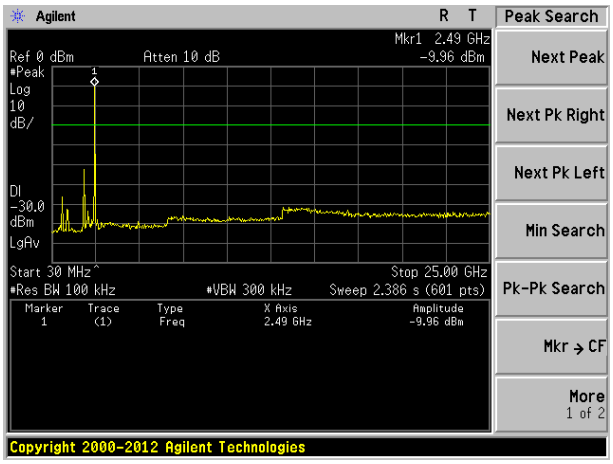
30MHz~25GHz

Highest channel (2475MHz)



30MHz~25GHz

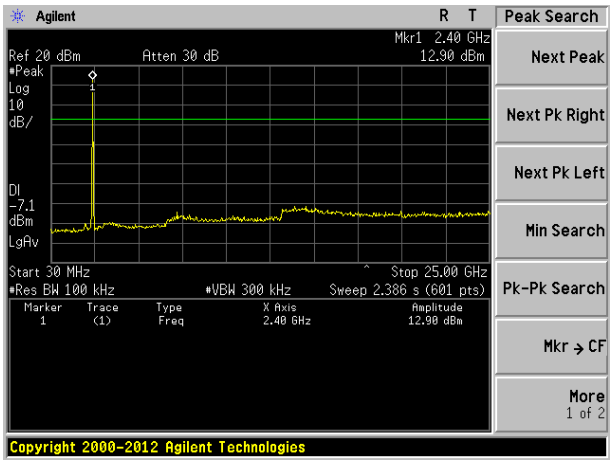
Highest channel (2480MHz)



30MHz~25GHz

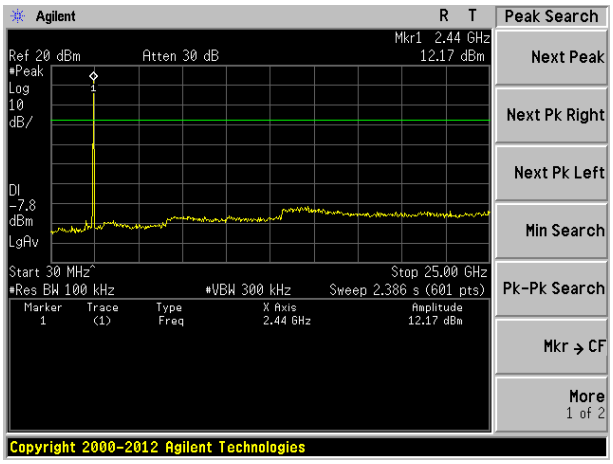
External Antenna:

Lowest channel



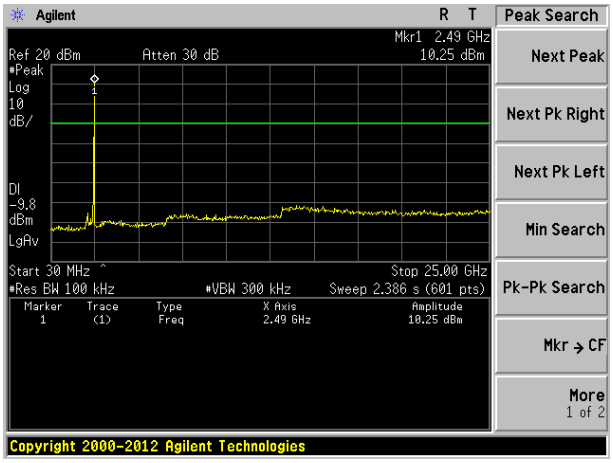
30MHz~25GHz

Middle channel



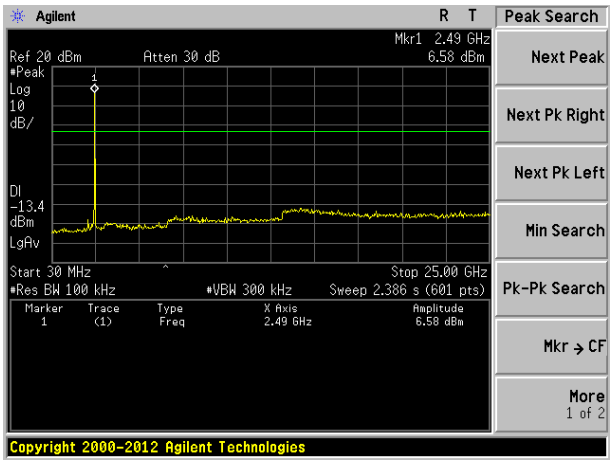
30MHz~25GHz

Highest channel (2475MHz)



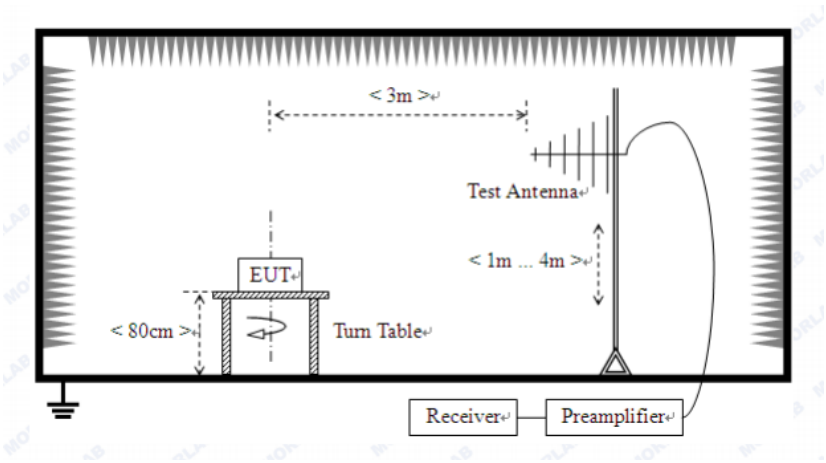
30MHz~25GHz

Highest channel (2480MHz)

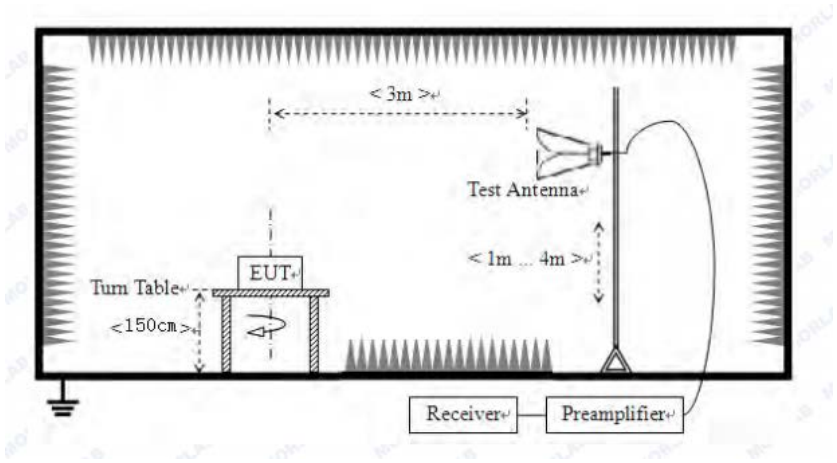


30MHz~25GHz

7.7.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Value</td></tr>
<tr><td>30MHz-88MHz</td><td>40.00</td><td>Quasi-peak</td></tr>
<tr><td>88MHz-216MHz</td><td>43.50</td><td>Quasi-peak</td></tr>
<tr><td>216MHz-960MHz</td><td>46.00</td><td>Quasi-peak</td></tr>
<tr><td>960MHz-1GHz</td><td>54.00</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average</td></tr>
<tr><td>74.00</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>Below 1GHz
 

Above 1GHz</td></tr>
</table>

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8 meters 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. 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

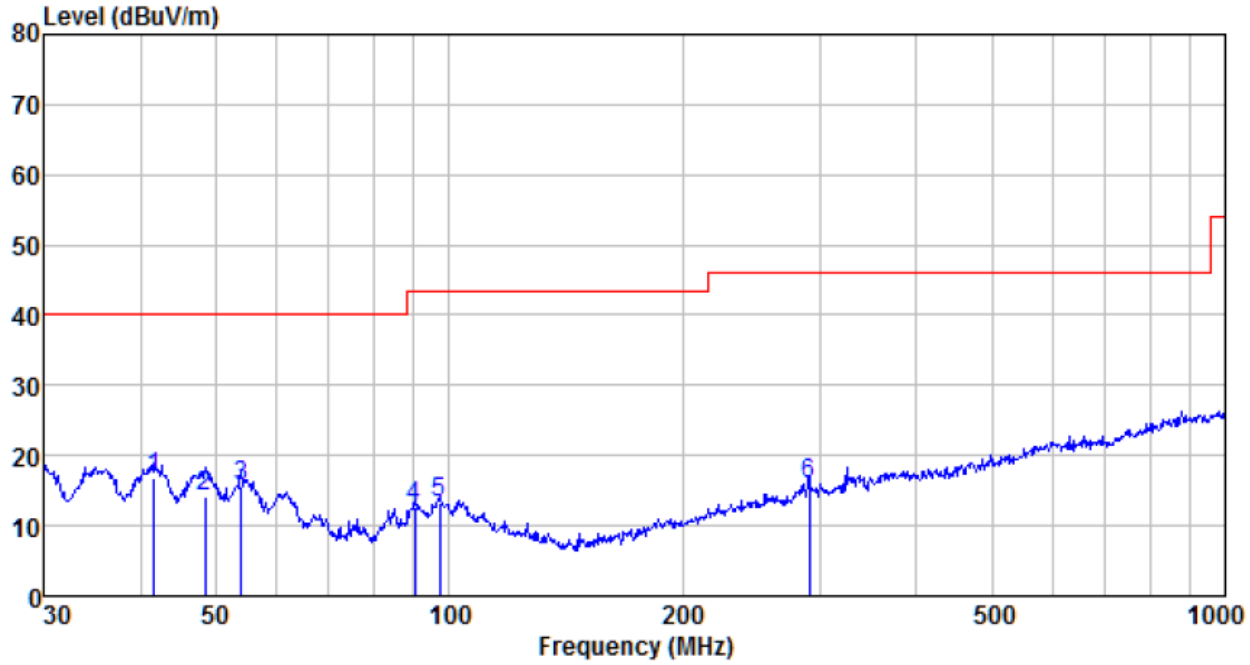
Remark:

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

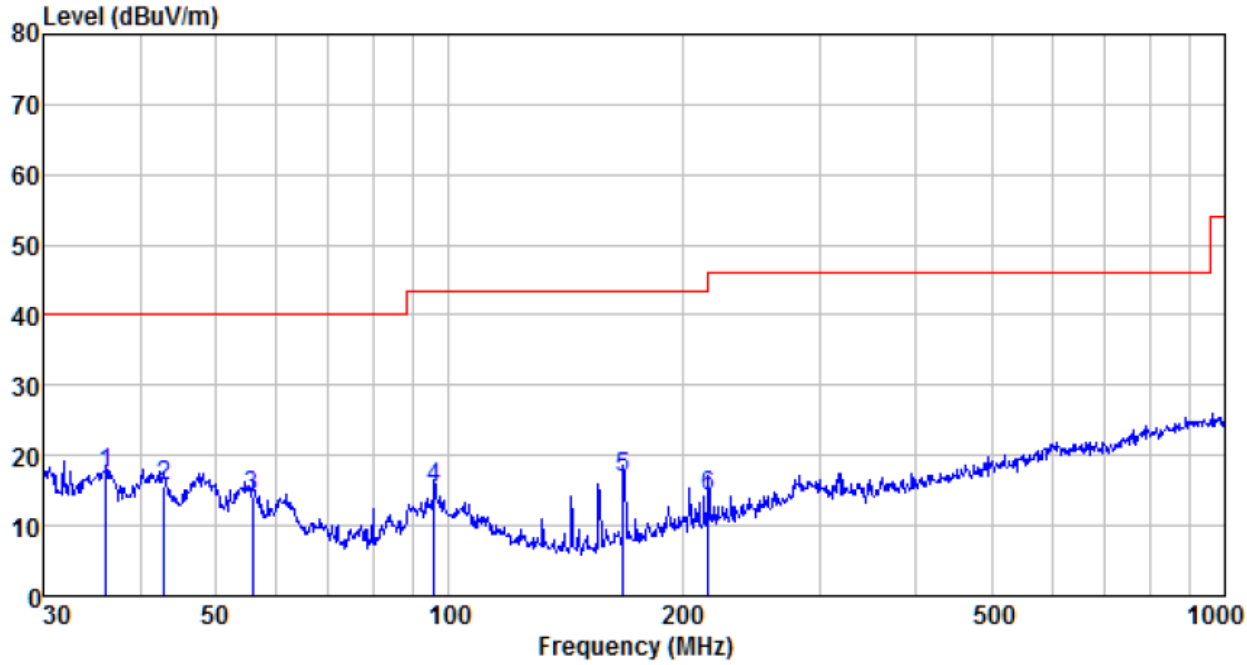
■ **Below 1GHz**

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
41.713	39.70	12.22	0.68	35.76	16.84	40.00	-23.16	QP
48.502	37.24	12.29	0.76	36.11	14.18	40.00	-25.82	QP
53.882	39.16	11.90	0.81	36.24	15.63	40.00	-24.37	QP
90.220	37.48	10.70	1.11	36.64	12.65	43.50	-30.85	QP
97.115	37.04	11.79	1.17	36.70	13.30	43.50	-30.20	QP
291.036	37.72	13.35	2.32	37.41	15.98	46.00	-30.02	QP

Vertical:



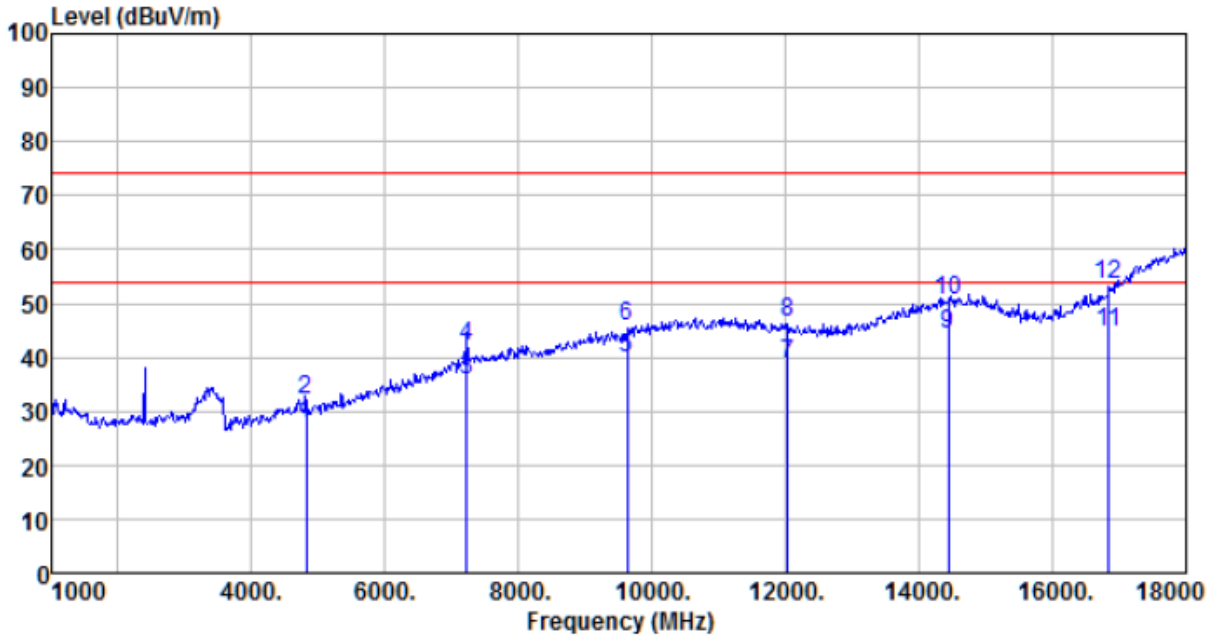
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
36.127	40.84	11.52	0.62	35.43	17.55	40.00	-22.45	QP
42.900	38.62	12.23	0.69	35.83	15.71	40.00	-24.29	QP
55.805	37.95	11.70	0.82	36.27	14.20	40.00	-25.80	QP
95.762	39.37	11.59	1.16	36.69	15.43	43.50	-28.07	QP
167.824	43.80	8.46	1.67	37.18	16.75	43.50	-26.75	QP
216.024	38.50	11.02	1.93	37.35	14.10	46.00	-31.90	QP

Internal Antenna:

■ **Above 1GHz**

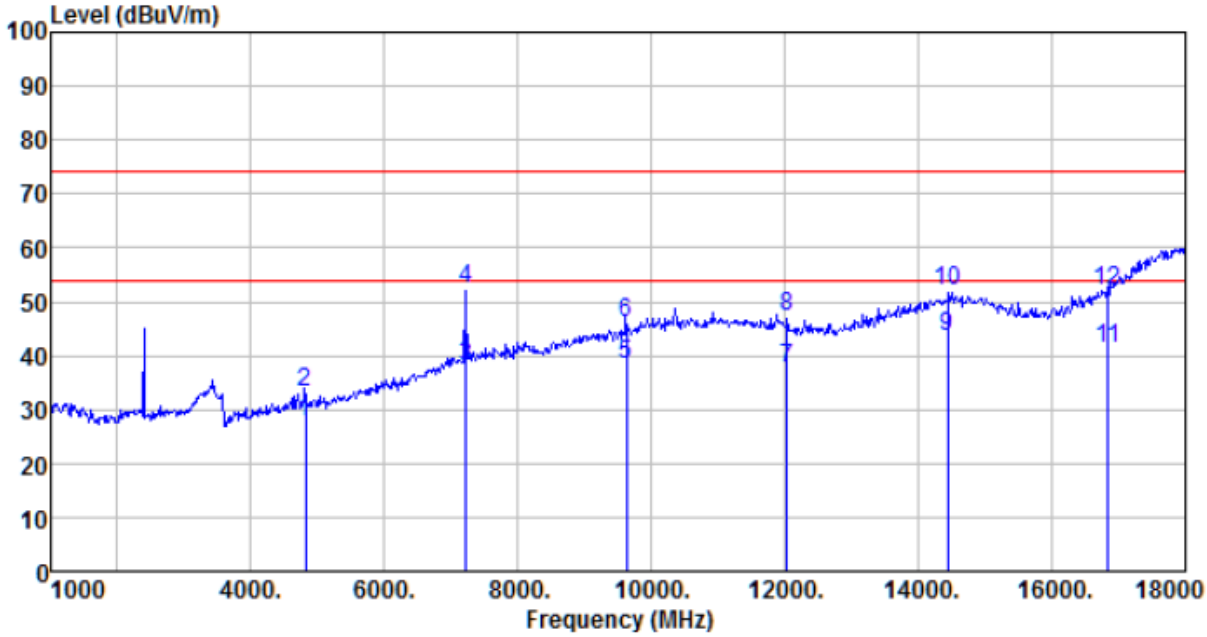
Test channel:	Lowest

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
4810.000	24.81	31.78	8.60	37.66	27.53	54.00	-26.47	Average
4810.000	29.44	31.78	8.60	37.73	32.09	74.00	-41.91	Peak
7215.000	23.75	36.15	11.66	35.69	35.87	54.00	-18.13	Average
7215.000	29.94	36.15	11.66	35.63	42.12	74.00	-31.88	Peak
9620.000	22.66	38.01	14.14	34.91	39.90	54.00	-14.10	Average
9620.000	28.52	38.01	14.14	34.94	45.73	74.00	-28.27	Peak
12025.000	20.81	39.08	15.03	36.13	38.79	54.00	-15.21	Average
12025.000	28.69	39.08	15.03	36.20	46.60	74.00	-27.40	Peak
14430.000	20.56	42.46	17.17	36.01	44.18	54.00	-9.82	Average
14430.000	26.92	42.46	17.17	36.06	50.49	74.00	-23.51	Peak
16835.000	19.65	42.13	18.82	36.08	44.52	54.00	-9.48	Average
16835.000	28.70	42.13	18.82	36.17	53.48	74.00	-20.52	Peak

Vertical:



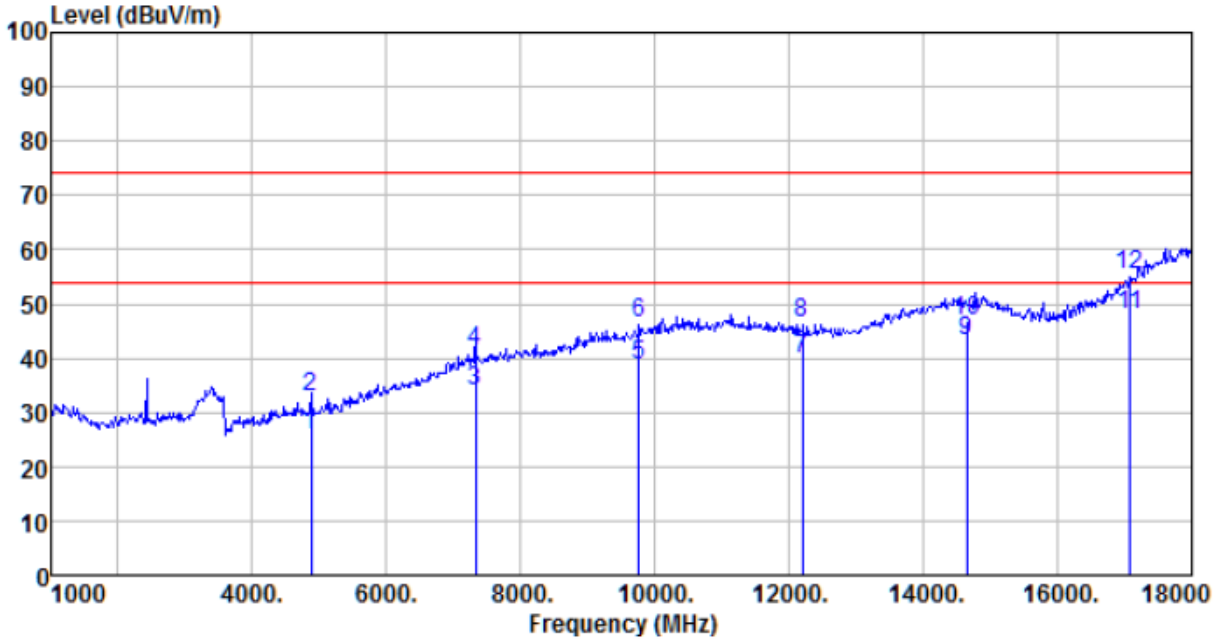
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4810.000	25.10	31.78	8.60	37.66	27.82	54.00	-26.18	Average
4810.000	30.73	31.78	8.60	37.73	33.38	74.00	-40.62	Peak
7215.000	25.91	36.15	11.66	35.69	38.03	54.00	-15.97	Average
7215.000	40.11	36.15	11.66	35.63	52.29	74.00	-21.71	Peak
9620.000	21.16	38.01	14.14	34.91	38.40	54.00	-15.60	Average
9620.000	29.02	38.01	14.14	34.94	46.23	74.00	-27.77	Peak
12025.000	19.61	39.08	15.03	36.13	37.59	54.00	-16.41	Average
12025.000	29.49	39.08	15.03	36.20	47.40	74.00	-26.60	Peak
14430.000	20.01	42.46	17.17	36.01	43.63	54.00	-10.37	Average
14430.000	28.38	42.46	17.17	36.06	51.95	74.00	-22.05	Peak
16835.000	16.35	42.13	18.82	36.08	41.22	54.00	-12.78	Average
16835.000	27.40	42.13	18.82	36.17	52.18	74.00	-21.82	Peak

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.*

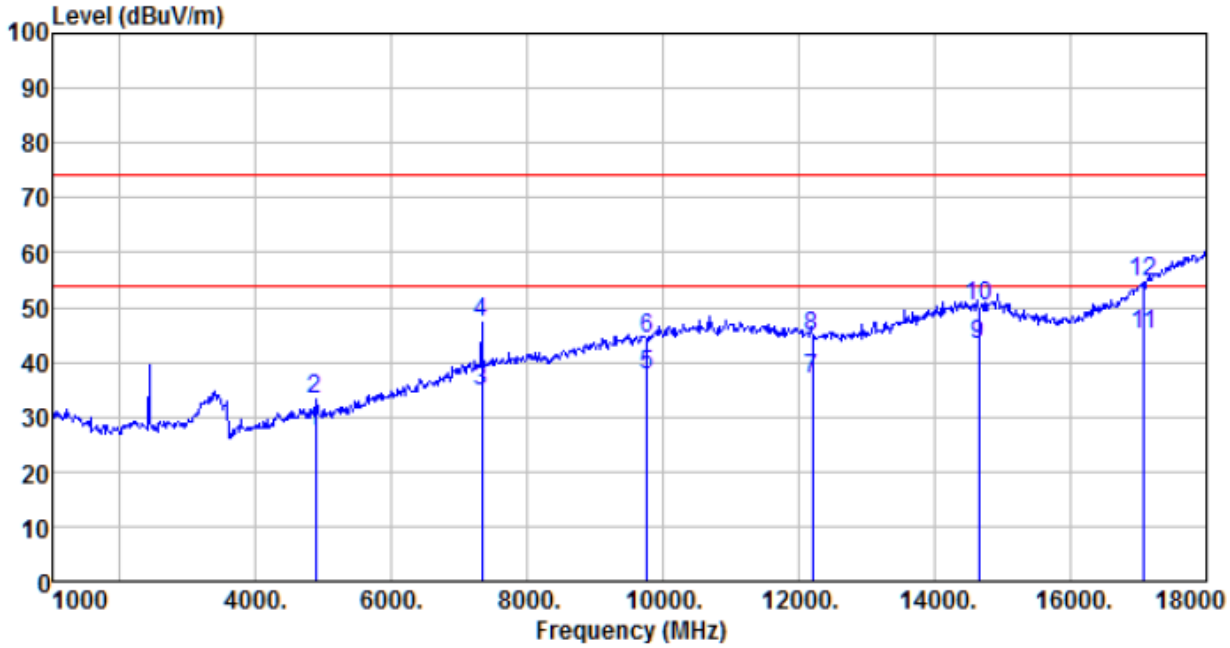
Test channel:	Middle

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4880.000	23.10	31.85	8.66	37.68	25.93	54.00	-28.07	Average
4880.000	29.90	31.85	8.66	37.75	32.66	74.00	-41.34	Peak
7320.000	21.57	36.37	11.72	35.64	34.02	54.00	-19.98	Average
7320.000	28.76	36.37	11.72	35.60	41.25	74.00	-32.75	Peak
9760.000	21.17	38.35	14.25	34.98	38.79	54.00	-15.21	Average
9760.000	29.01	38.35	14.25	35.03	46.58	74.00	-27.42	Peak
12200.000	22.06	38.92	15.14	36.26	39.86	54.00	-14.14	Average
12200.000	28.60	38.92	15.14	36.31	46.35	74.00	-27.65	Peak
14640.000	19.31	42.21	17.28	35.72	43.08	54.00	-10.92	Average
14640.000	23.03	42.21	17.28	35.77	46.75	74.00	-27.25	Peak
17080.000	20.77	44.30	18.99	36.19	47.87	54.00	-6.13	Average
17080.000	28.47	44.30	18.99	36.29	55.47	74.00	-18.53	Peak

Vertical:



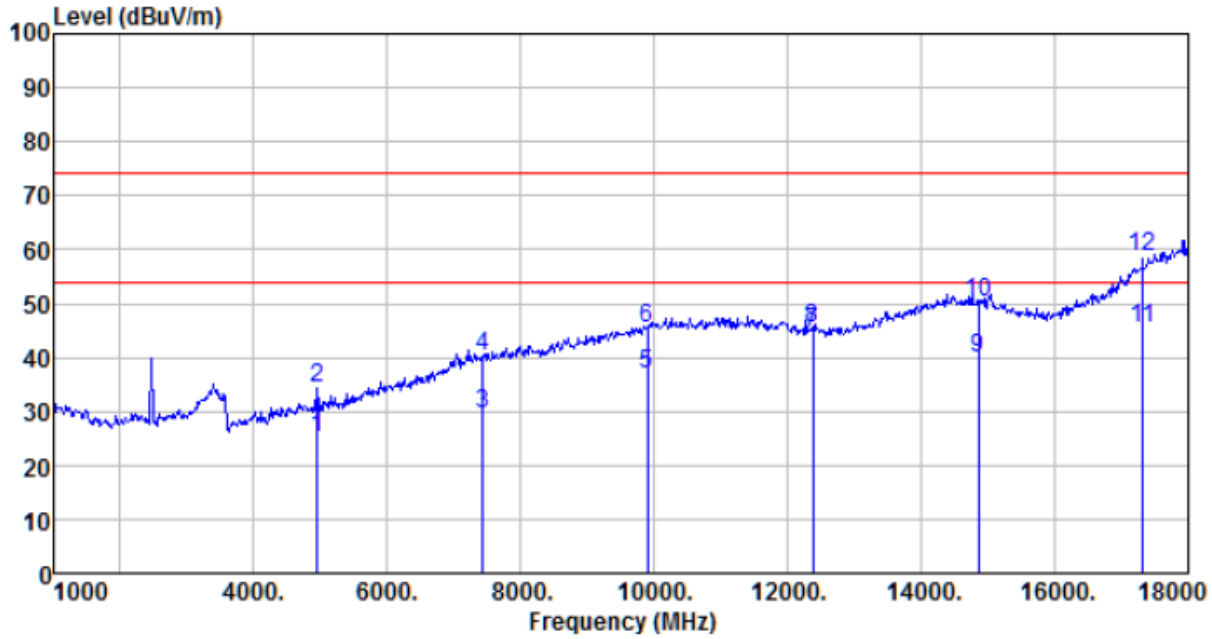
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4880.000	24.61	31.85	8.66	37.68	27.44	54.00	-26.56	Average
4880.000	30.55	31.85	8.66	37.75	33.31	74.00	-40.69	Peak
7320.000	22.21	36.37	11.72	35.64	34.66	54.00	-19.34	Average
7320.000	34.78	36.37	11.72	35.60	47.27	74.00	-26.73	Peak
9760.000	20.11	38.35	14.25	34.98	37.73	54.00	-16.27	Average
9760.000	26.81	38.35	14.25	35.03	44.38	74.00	-29.62	Peak
12200.000	19.13	38.92	15.14	36.26	36.93	54.00	-17.07	Average
12200.000	26.91	38.92	15.14	36.31	44.66	74.00	-29.34	Peak
14640.000	19.56	42.21	17.28	35.72	43.33	54.00	-10.67	Average
14640.000	26.46	42.21	17.28	35.77	50.18	74.00	-23.82	Peak
17080.000	18.05	44.30	18.99	36.19	45.15	54.00	-8.85	Average
17080.000	27.60	44.30	18.99	36.29	54.60	74.00	-19.40	Peak

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.*

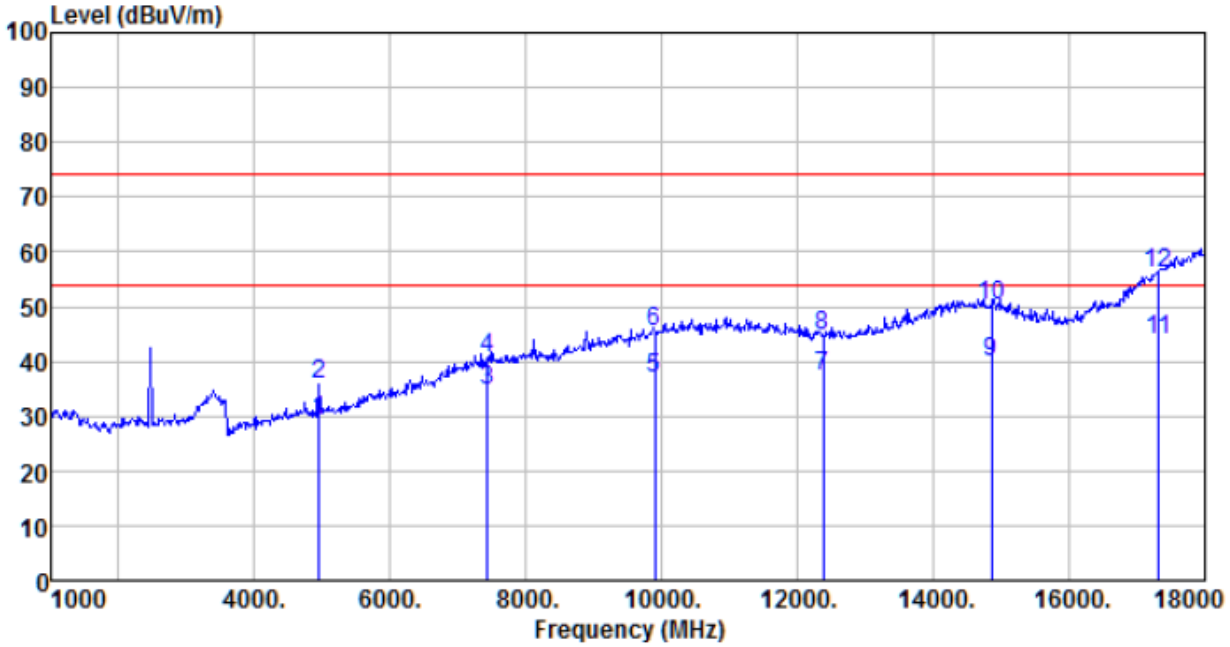
Test channel:	Highest(2475MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4950.000	22.12	31.91	8.71	37.69	25.05	54.00	-28.95	Average
4950.000	31.62	31.91	8.71	37.78	34.46	74.00	-39.54	Peak
7425.000	16.77	36.56	11.79	35.59	29.53	54.00	-24.47	Average
7425.000	27.27	36.56	11.79	35.56	40.06	74.00	-33.94	Peak
9900.000	18.90	38.81	14.35	35.06	37.00	54.00	-17.00	Average
9900.000	27.49	38.81	14.35	35.12	45.53	74.00	-28.47	Peak
12375.000	26.99	38.78	15.25	36.40	44.62	54.00	-9.38	Average
12375.000	27.90	38.78	15.25	36.42	45.51	74.00	-28.49	Peak
14850.000	16.29	41.52	17.37	35.41	39.77	54.00	-14.23	Average
14850.000	26.82	41.52	17.37	35.53	50.18	74.00	-23.82	Peak
17325.000	16.54	46.19	18.98	36.17	45.54	54.00	-8.46	Average
17325.000	29.64	46.19	18.98	36.26	58.55	74.00	-15.45	Peak

Vertical:



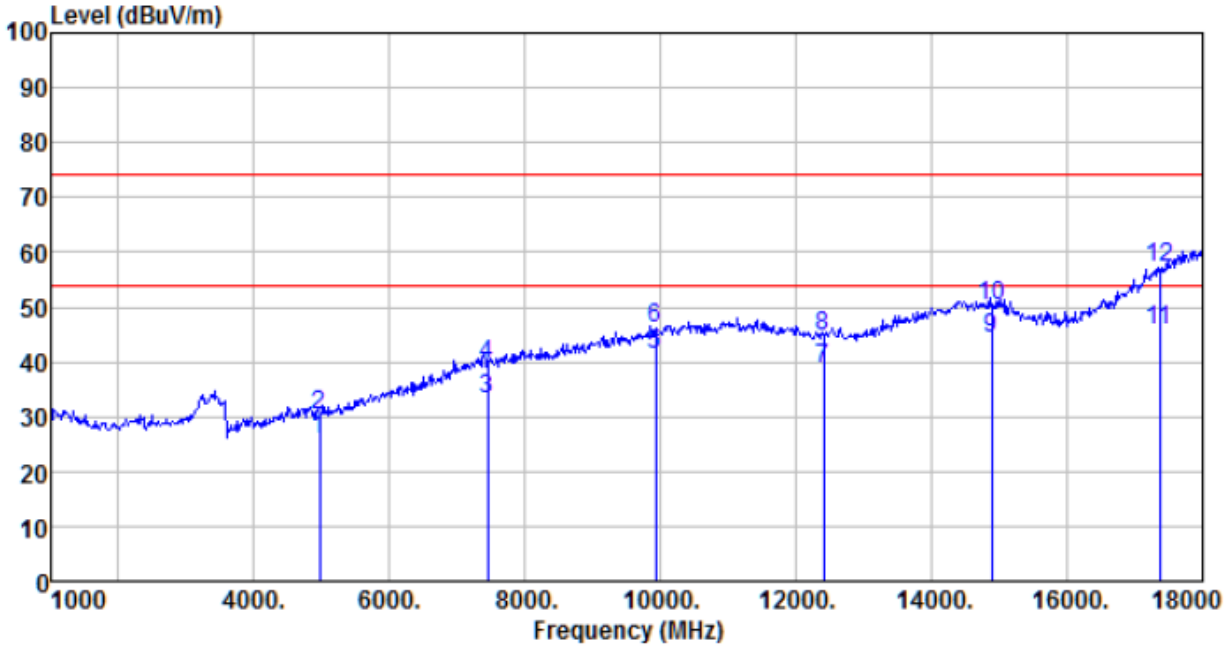
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4950.000	26.35	31.91	8.71	37.69	29.28	54.00	-24.72	Average
4950.000	33.04	31.91	8.71	37.78	35.88	74.00	-38.12	Peak
7425.000	21.94	36.56	11.79	35.59	34.70	54.00	-19.30	Average
7425.000	27.68	36.56	11.79	35.56	40.47	74.00	-33.53	Peak
9900.000	18.63	38.81	14.35	35.06	36.73	54.00	-17.27	Average
9900.000	27.24	38.81	14.35	35.12	45.28	74.00	-28.72	Peak
12375.000	19.73	38.78	15.25	36.40	37.36	54.00	-16.64	Average
12375.000	27.17	38.78	15.25	36.42	44.78	74.00	-29.22	Peak
14850.000	16.49	41.52	17.37	35.41	39.97	54.00	-14.03	Average
14850.000	26.74	41.52	17.37	35.53	50.10	74.00	-23.90	Peak
17325.000	14.87	46.19	18.98	36.17	43.87	54.00	-10.13	Average
17325.000	27.18	46.19	18.98	36.26	56.09	74.00	-17.91	Peak

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.*

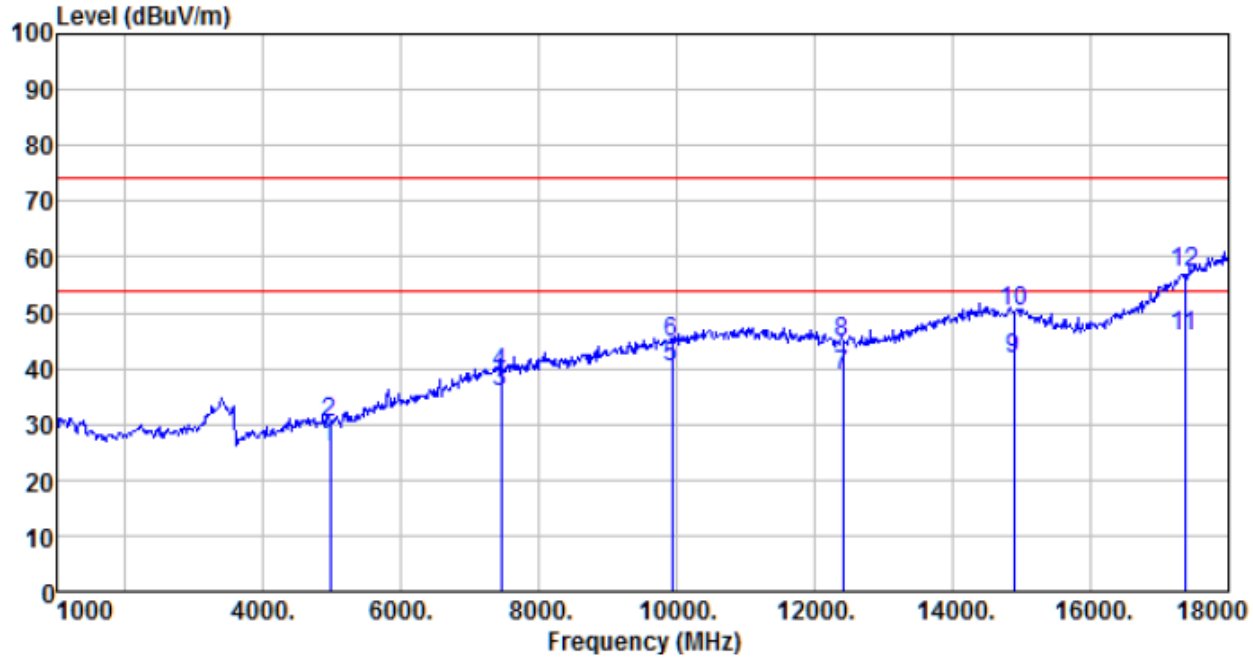
Test channel:	Highest(2480MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4960.000	22.77	31.93	8.73	37.78	25.65	54.00	-28.35	Average
4960.000	27.27	31.93	8.73	37.78	30.15	74.00	-43.85	Peak
7440.000	20.23	36.59	11.79	35.56	33.05	54.00	-20.95	Average
7440.000	26.82	36.59	11.79	35.56	39.64	74.00	-34.36	Peak
9920.000	23.38	38.81	14.38	35.14	41.43	54.00	-12.57	Average
9920.000	28.13	38.81	14.38	35.14	46.18	74.00	-27.82	Peak
12400.000	21.01	38.76	15.27	36.44	38.60	54.00	-15.40	Average
12400.000	26.90	38.76	15.27	36.44	44.49	74.00	-29.51	Peak
14880.000	20.89	41.52	17.39	35.47	44.33	54.00	-9.67	Average
14880.000	26.68	41.52	17.39	35.47	50.12	74.00	-23.88	Peak
17360.000	17.00	46.19	18.98	36.26	45.91	54.00	-8.09	Average
17360.000	28.19	46.19	18.98	36.26	57.10	74.00	-16.90	Peak

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
4960.000	23.00	31.93	8.73	37.78	25.88	54.00	-28.12	Average
4960.000	27.29	31.93	8.73	37.78	30.17	74.00	-43.83	Peak
7440.000	23.07	36.59	11.79	35.56	35.89	54.00	-18.11	Average
7440.000	26.45	36.59	11.79	35.56	39.27	74.00	-34.73	Peak
9920.000	22.35	38.81	14.38	35.14	40.40	54.00	-13.60	Average
9920.000	26.63	38.81	14.38	35.14	44.68	74.00	-29.32	Peak
12400.000	21.21	38.76	15.27	36.44	38.80	54.00	-15.20	Average
12400.000	27.01	38.76	15.27	36.44	44.60	74.00	-29.40	Peak
14880.000	18.16	41.52	17.39	35.47	41.60	54.00	-12.40	Average
14880.000	26.71	41.52	17.39	35.47	50.15	74.00	-23.85	Peak
17360.000	16.92	46.19	18.98	36.26	45.83	54.00	-8.17	Average
17360.000	28.28	46.19	18.98	36.26	57.19	74.00	-16.81	Peak

Remark:

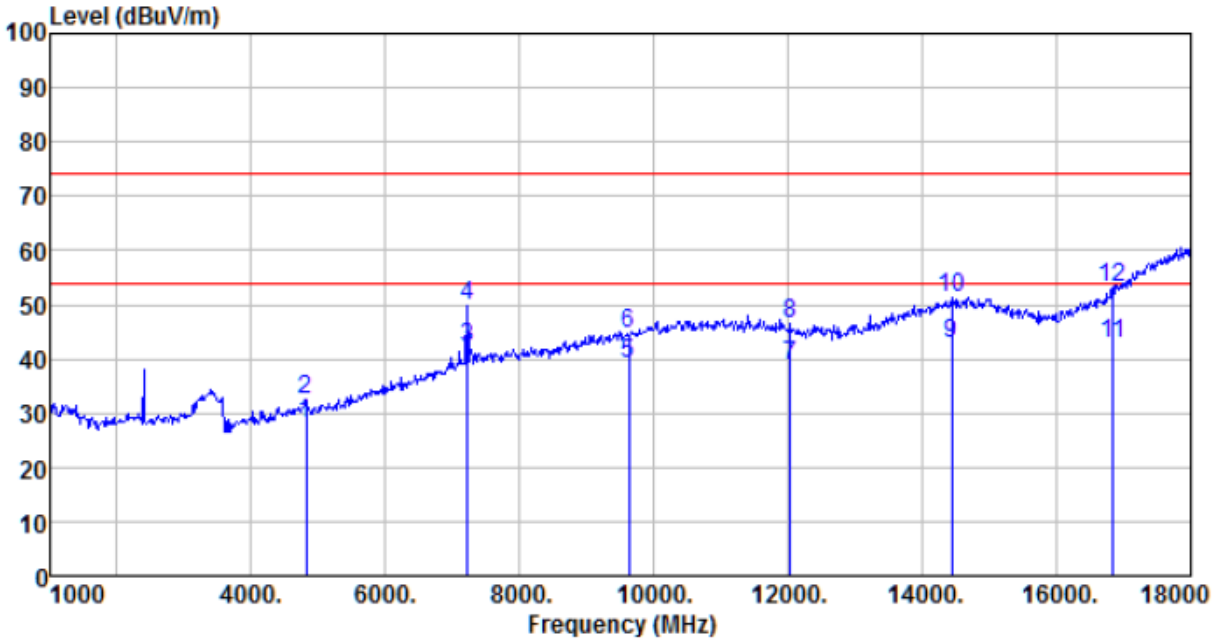
1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*

External Antenna:

■ **Above 1GHz**

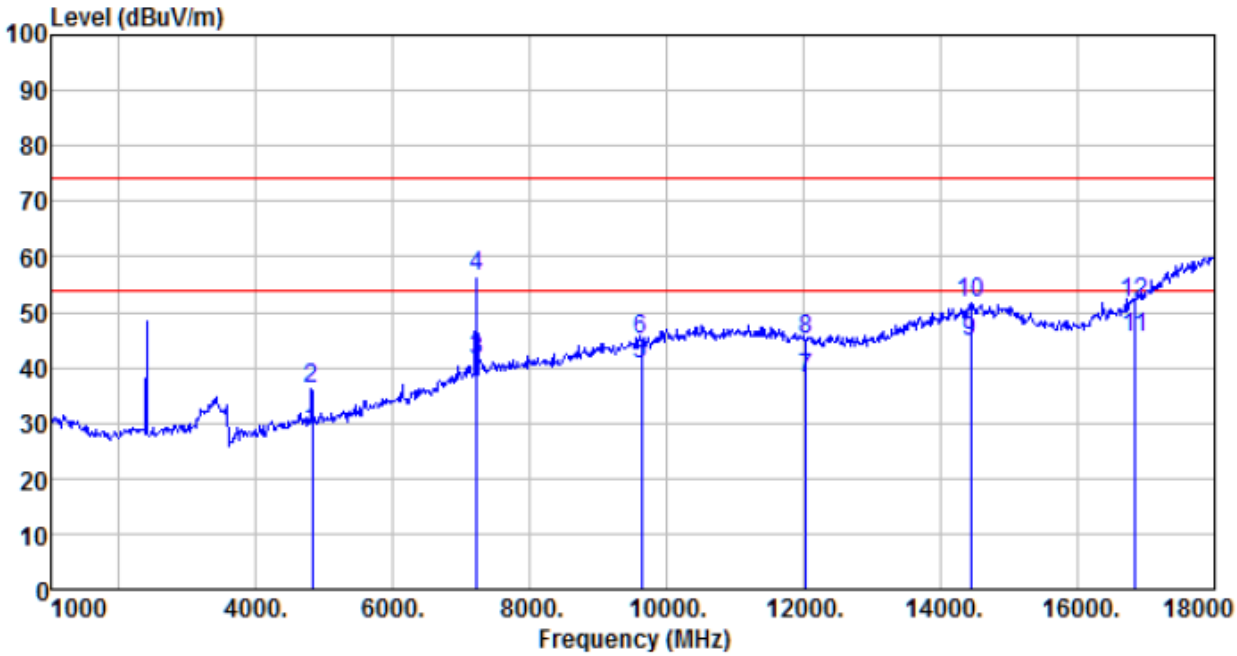
Test channel:	Lowest

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4810.000	25.44	31.78	8.60	37.73	28.09	54.00	-25.91	Average
4810.000	29.77	31.78	8.60	37.73	32.42	74.00	-41.58	Peak
7215.000	29.96	36.15	11.66	35.63	42.14	54.00	-11.86	Average
7215.000	37.50	36.15	11.66	35.63	49.68	74.00	-24.32	Peak
9620.000	21.99	38.01	14.14	34.94	39.20	54.00	-14.80	Average
9620.000	27.49	38.01	14.14	34.94	44.70	74.00	-29.30	Peak
12025.000	21.02	39.08	15.03	36.20	38.93	54.00	-15.07	Average
12025.000	28.44	39.08	15.03	36.20	46.35	74.00	-27.65	Peak
14430.000	19.20	42.46	17.17	36.06	42.77	54.00	-11.23	Average
14430.000	27.82	42.46	17.17	36.06	51.39	74.00	-22.61	Peak
16835.000	18.17	42.13	18.82	36.17	42.95	54.00	-11.05	Average
16835.000	28.22	42.13	18.82	36.17	53.00	74.00	-21.00	Peak

Vertical:



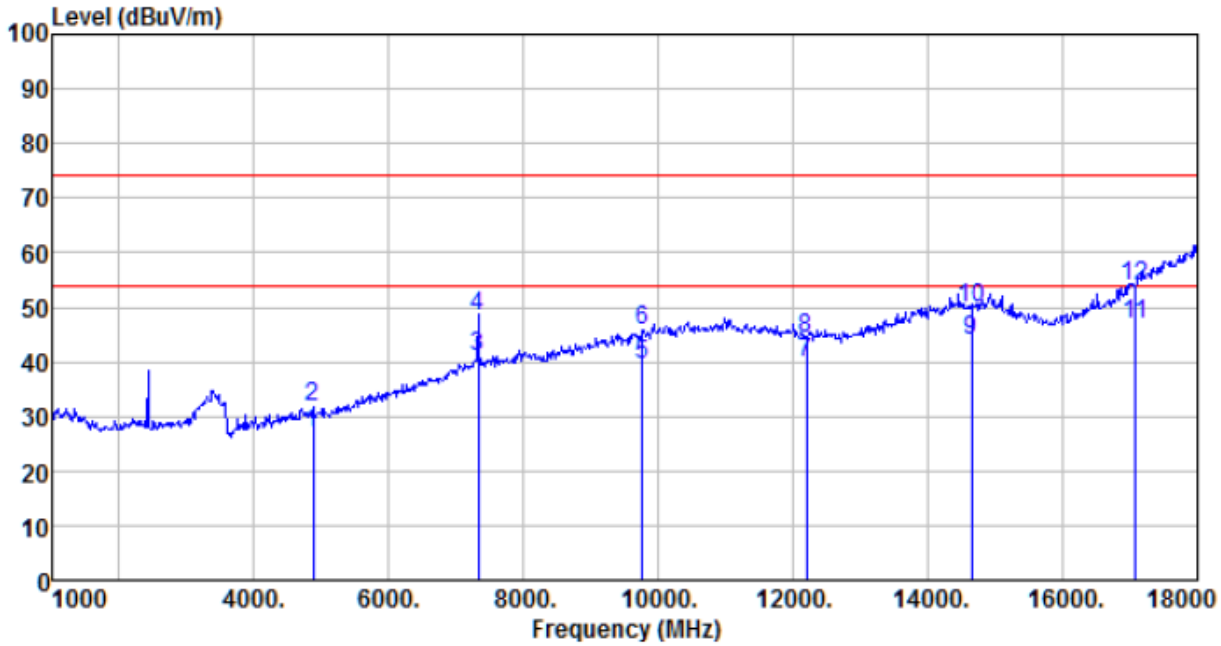
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4810.000	25.72	31.78	8.60	37.66	28.44	54.00	-25.56	Average
4810.000	33.55	31.78	8.60	37.66	36.27	74.00	-37.73	Peak
7222.000	29.11	36.19	11.66	35.69	41.27	54.00	-12.73	Average
7222.000	44.22	36.19	11.66	35.69	56.38	74.00	-17.62	Peak
9620.000	23.32	38.01	14.14	34.91	40.56	54.00	-13.44	Average
9620.000	27.93	38.01	14.14	34.91	45.17	74.00	-28.83	Peak
12025.000	19.85	39.08	15.03	36.13	37.83	54.00	-16.17	Average
12025.000	27.19	39.08	15.03	36.13	45.17	74.00	-28.83	Peak
14430.000	20.99	42.46	17.17	36.01	44.61	54.00	-9.39	Average
14430.000	27.87	42.46	17.17	36.01	51.49	74.00	-22.51	Peak
16835.000	20.54	42.13	18.82	36.08	45.41	54.00	-8.59	Average
16835.000	26.97	42.13	18.82	36.08	51.84	74.00	-22.16	Peak

Remark:

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

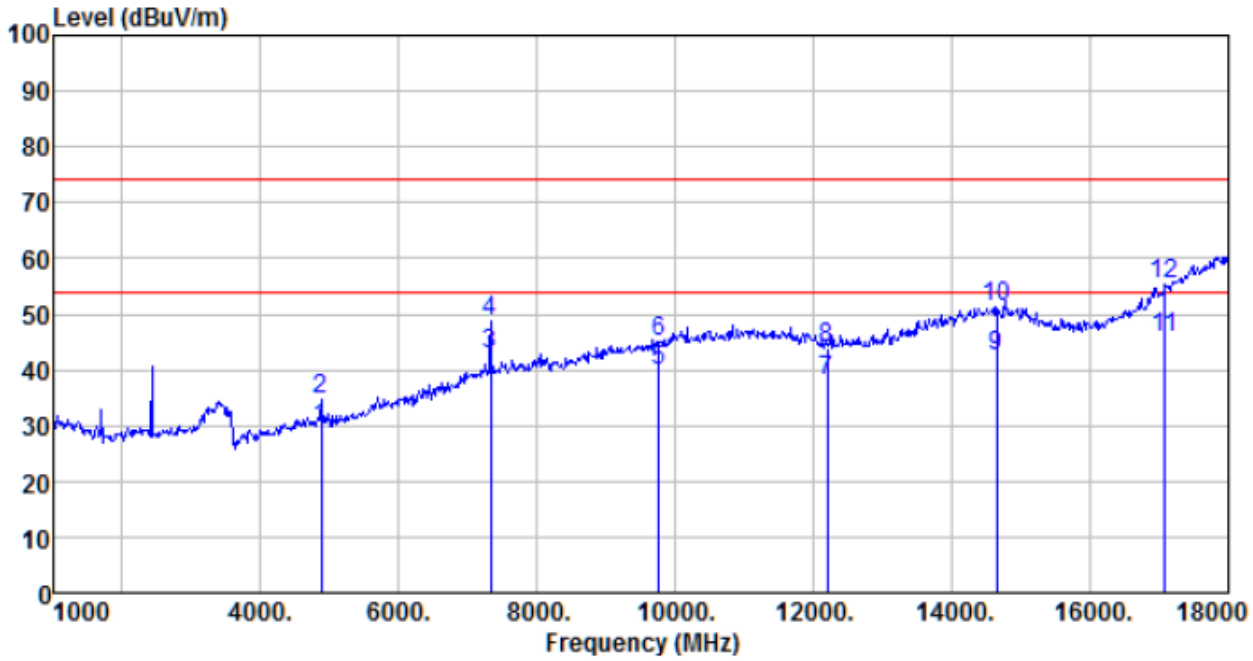
Test channel:	Middle

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
4880.000	24.28	31.85	8.66	37.68	27.11	54.00	-26.89	Average
4880.000	29.03	31.85	8.66	37.68	31.86	74.00	-42.14	Peak
7320.000	28.37	36.37	11.72	35.64	40.82	54.00	-13.18	Average
7320.000	36.04	36.37	11.72	35.64	48.49	74.00	-25.51	Peak
9760.000	21.79	38.35	14.25	34.98	39.41	54.00	-14.59	Average
9760.000	27.97	38.35	14.25	34.98	45.59	74.00	-28.41	Peak
12200.000	22.22	38.92	15.14	36.26	40.02	54.00	-13.98	Average
12200.000	26.33	38.92	15.14	36.26	44.13	74.00	-29.87	Peak
14640.000	20.11	42.21	17.28	35.72	43.88	54.00	-10.12	Average
14640.000	26.01	42.21	17.28	35.72	49.78	74.00	-24.22	Peak
17080.000	19.92	44.30	18.99	36.19	47.02	54.00	-6.98	Average
17080.000	26.89	44.30	18.99	36.19	53.99	74.00	-20.01	Peak

Vertical:



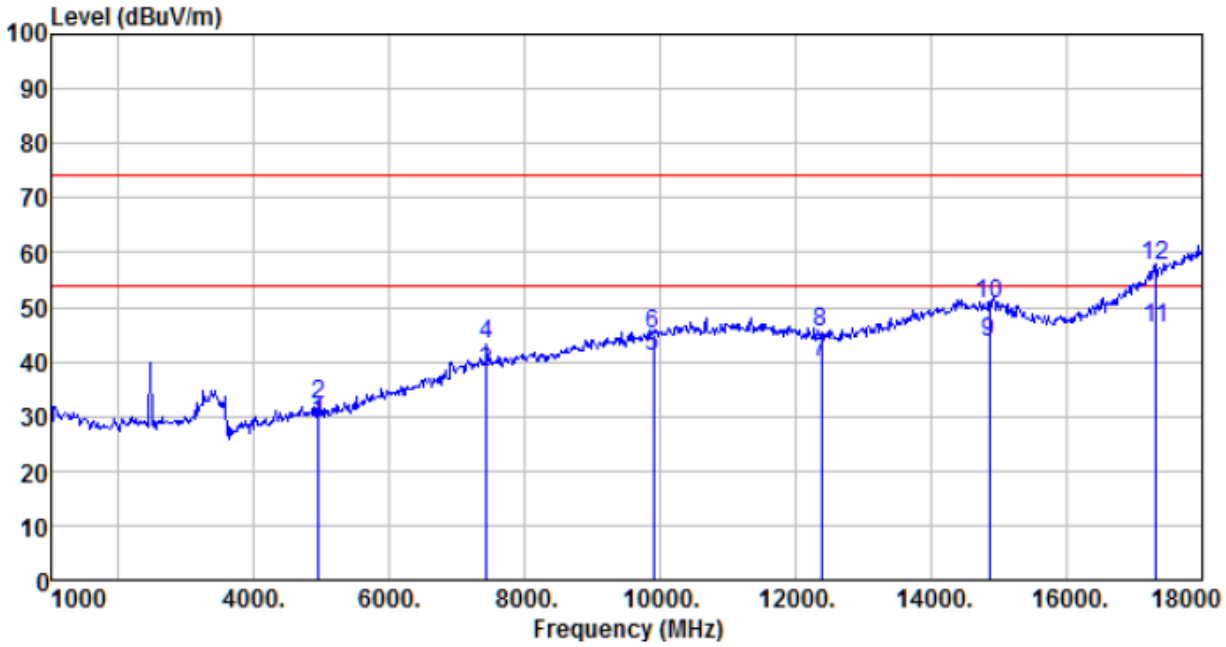
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4880.000	26.63	31.85	8.66	37.75	29.39	54.00	-24.61	Average
4880.000	31.76	31.85	8.66	37.75	34.52	74.00	-39.48	Peak
7320.000	30.43	36.37	11.72	35.60	42.92	54.00	-11.08	Average
7320.000	36.25	36.37	11.72	35.60	48.74	74.00	-25.26	Peak
9760.000	22.19	38.35	14.25	35.03	39.76	54.00	-14.24	Average
9760.000	27.31	38.35	14.25	35.03	44.88	74.00	-29.12	Peak
12200.000	20.28	38.92	15.14	36.31	38.03	54.00	-15.97	Average
12200.000	26.32	38.92	15.14	36.31	44.07	74.00	-29.93	Peak
14640.000	18.79	42.21	17.28	35.77	42.51	54.00	-11.49	Average
14640.000	27.48	42.21	17.28	35.77	51.20	74.00	-22.80	Peak
17080.000	18.76	44.30	18.99	36.29	45.76	54.00	-8.24	Average
17080.000	28.17	44.30	18.99	36.29	55.17	74.00	-18.83	Peak

Remark:

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

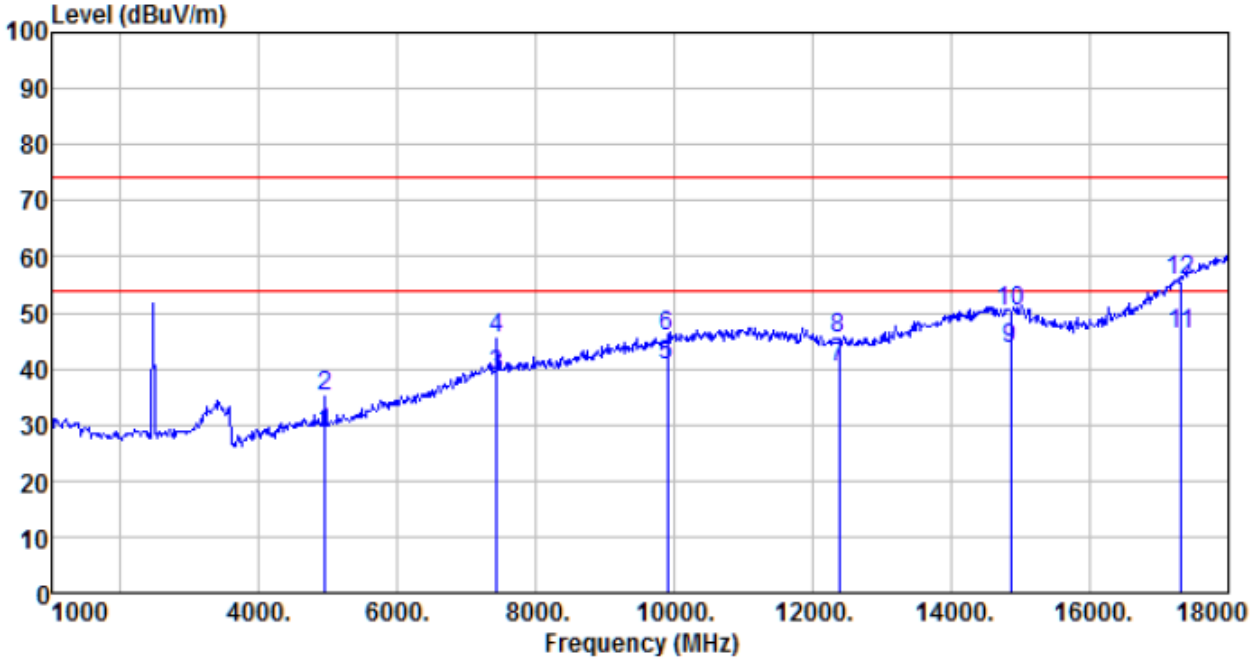
Test channel:	Highest(2475MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4950.000	25.76	31.91	8.71	37.78	28.60	54.00	-25.40	Average
4950.000	29.38	31.91	8.71	37.78	32.22	74.00	-41.78	Peak
7425.000	25.19	36.56	11.79	35.56	37.98	54.00	-16.02	Average
7425.000	30.41	36.56	11.79	35.56	43.20	74.00	-30.80	Peak
9900.000	22.95	38.81	14.35	35.12	40.99	54.00	-13.01	Average
9900.000	27.10	38.81	14.35	35.12	45.14	74.00	-28.86	Peak
12375.000	22.15	38.78	15.25	36.42	39.76	54.00	-14.24	Average
12375.000	27.91	38.78	15.25	36.42	45.52	74.00	-28.48	Peak
14850.000	20.20	41.52	17.37	35.53	43.56	54.00	-10.44	Average
14850.000	27.36	41.52	17.37	35.53	50.72	74.00	-23.28	Peak
17325.000	17.14	46.19	18.98	36.26	46.05	54.00	-7.95	Average
17325.000	28.81	46.19	18.98	36.26	57.72	74.00	-16.28	Peak

Vertical:



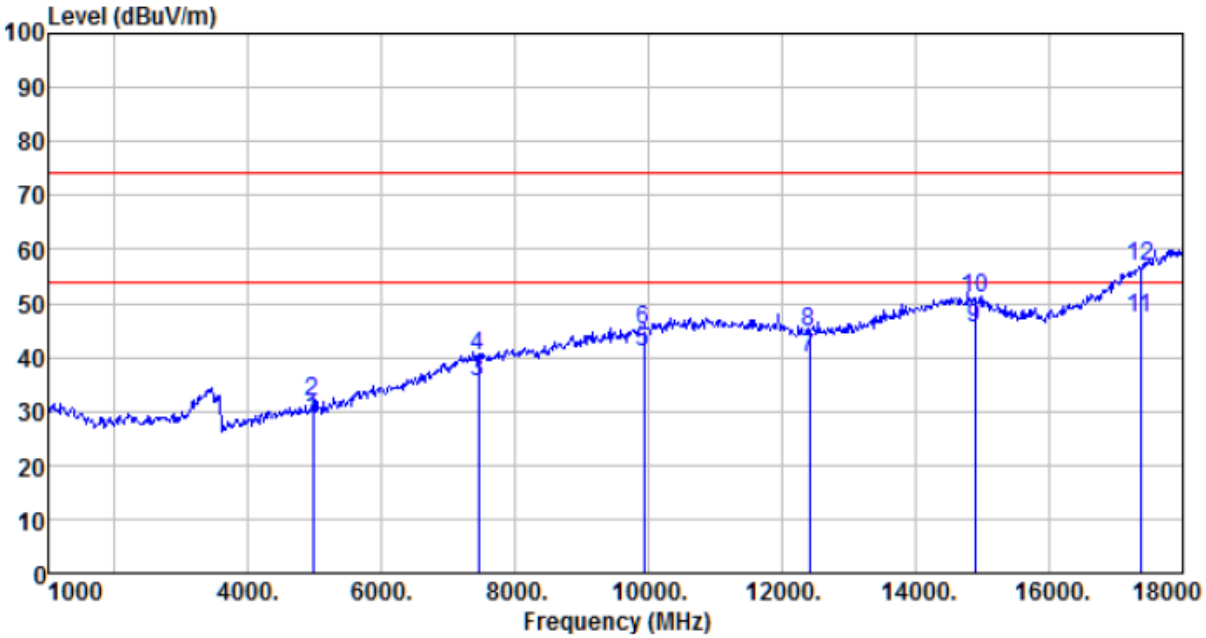
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4950.000	25.65	31.91	8.71	37.78	28.49	54.00	-25.51	Average
4950.000	32.17	31.91	8.71	37.78	35.01	74.00	-38.99	Peak
7425.000	25.77	36.56	11.79	35.56	38.56	54.00	-15.44	Average
7425.000	32.57	36.56	11.79	35.56	45.36	74.00	-28.64	Peak
9900.000	22.69	38.81	14.35	35.12	40.73	54.00	-13.27	Average
9900.000	27.87	38.81	14.35	35.12	45.91	74.00	-28.09	Peak
12375.000	22.49	38.78	15.25	36.42	40.10	54.00	-13.90	Average
12375.000	27.75	38.78	15.25	36.42	45.36	74.00	-28.64	Peak
14850.000	20.10	41.52	17.37	35.53	43.46	54.00	-10.54	Average
14850.000	26.72	41.52	17.37	35.53	50.08	74.00	-23.92	Peak
17325.000	17.27	46.19	18.98	36.26	46.18	54.00	-7.82	Average
17325.000	26.96	46.19	18.98	36.26	55.87	74.00	-18.13	Peak

Remark:

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

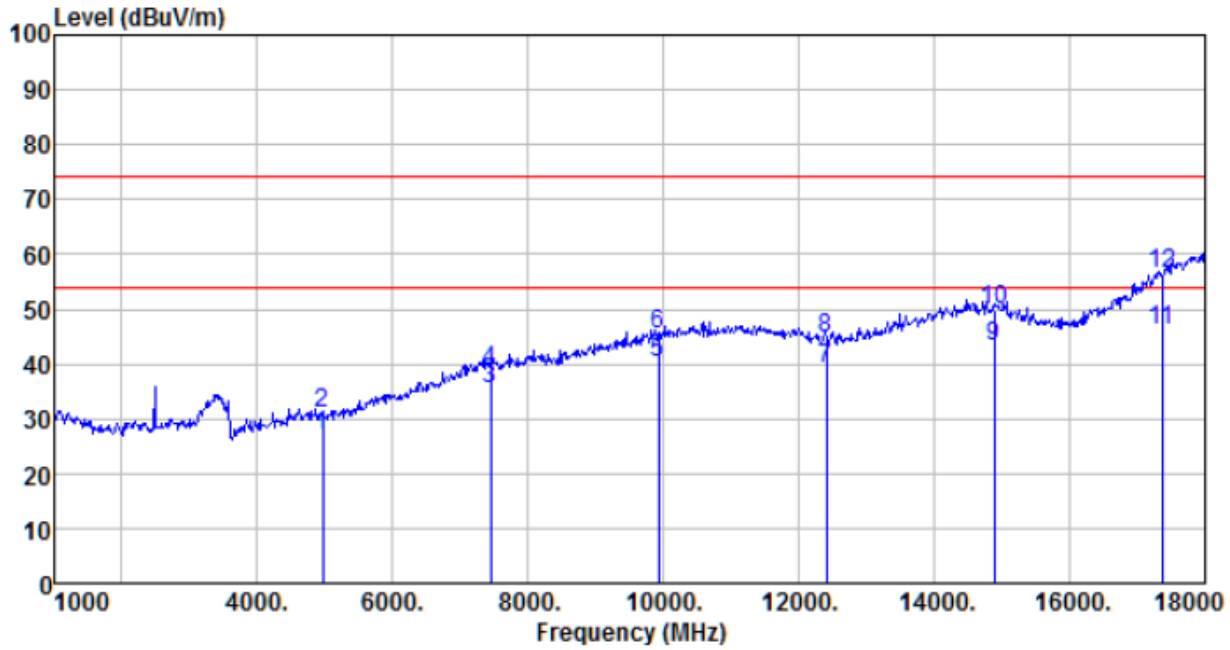
Test channel:	Highest(2480MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4960.000	25.37	31.93	8.73	37.78	28.25	54.00	-25.75	Average
4960.000	29.02	31.93	8.73	37.78	31.90	74.00	-42.10	Peak
7440.000	22.58	36.59	11.79	35.56	35.40	54.00	-18.60	Average
7440.000	27.42	36.59	11.79	35.56	40.24	74.00	-33.76	Peak
9920.000	22.85	38.81	14.38	35.14	40.90	54.00	-13.10	Average
9920.000	27.08	38.81	14.38	35.14	45.13	74.00	-28.87	Peak
12400.000	22.42	38.76	15.27	36.44	40.01	54.00	-13.99	Average
12400.000	27.14	38.76	15.27	36.44	44.73	74.00	-29.27	Peak
14880.000	21.98	41.52	17.39	35.47	45.42	54.00	-8.58	Average
14880.000	27.39	41.52	17.39	35.47	50.83	74.00	-23.17	Peak
17360.000	18.46	46.19	18.98	36.26	47.37	54.00	-6.63	Average
17360.000	27.74	46.19	18.98	36.26	56.65	74.00	-17.35	Peak

Vertical::



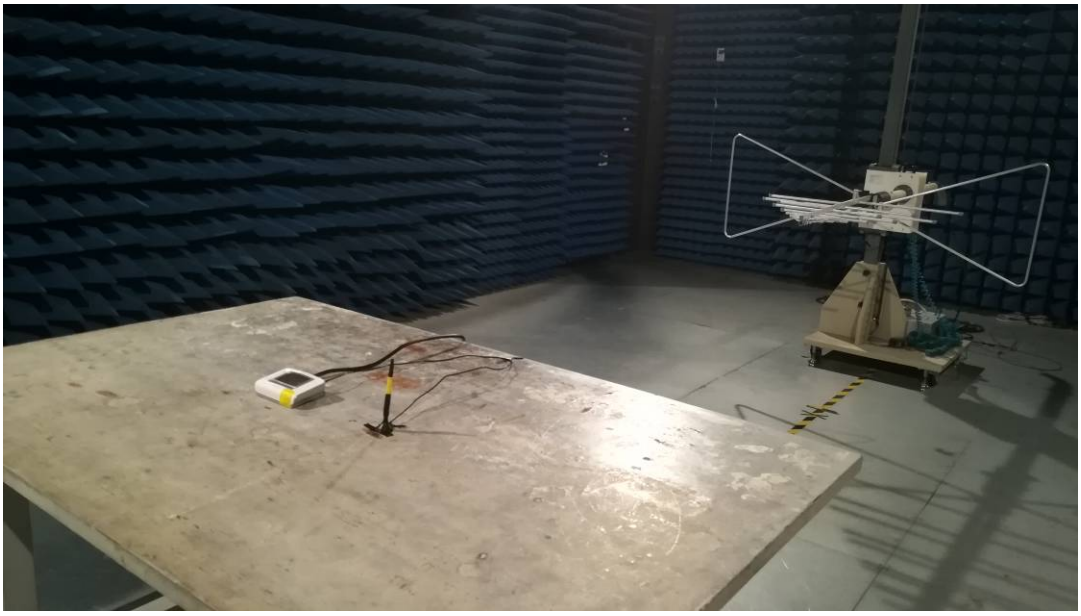
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4960.000	23.88	31.93	8.73	37.78	26.76	54.00	-27.24	Average
4960.000	27.98	31.93	8.73	37.78	30.86	74.00	-43.14	Peak
7440.000	22.70	36.59	11.79	35.56	35.52	54.00	-18.48	Average
7440.000	26.07	36.59	11.79	35.56	38.89	74.00	-35.11	Peak
9920.000	22.03	38.81	14.38	35.14	40.08	54.00	-13.92	Average
9920.000	27.50	38.81	14.38	35.14	45.55	74.00	-28.45	Peak
12400.000	21.46	38.76	15.27	36.44	39.05	54.00	-14.95	Average
12400.000	26.96	38.76	15.27	36.44	44.55	74.00	-29.45	Peak
14880.000	19.82	41.52	17.39	35.47	43.26	54.00	-10.74	Average
14880.000	26.37	41.52	17.39	35.47	49.81	74.00	-24.19	Peak
17360.000	17.04	46.19	18.98	36.26	45.95	54.00	-8.05	Average
17360.000	27.49	46.19	18.98	36.26	56.40	74.00	-17.60	Peak

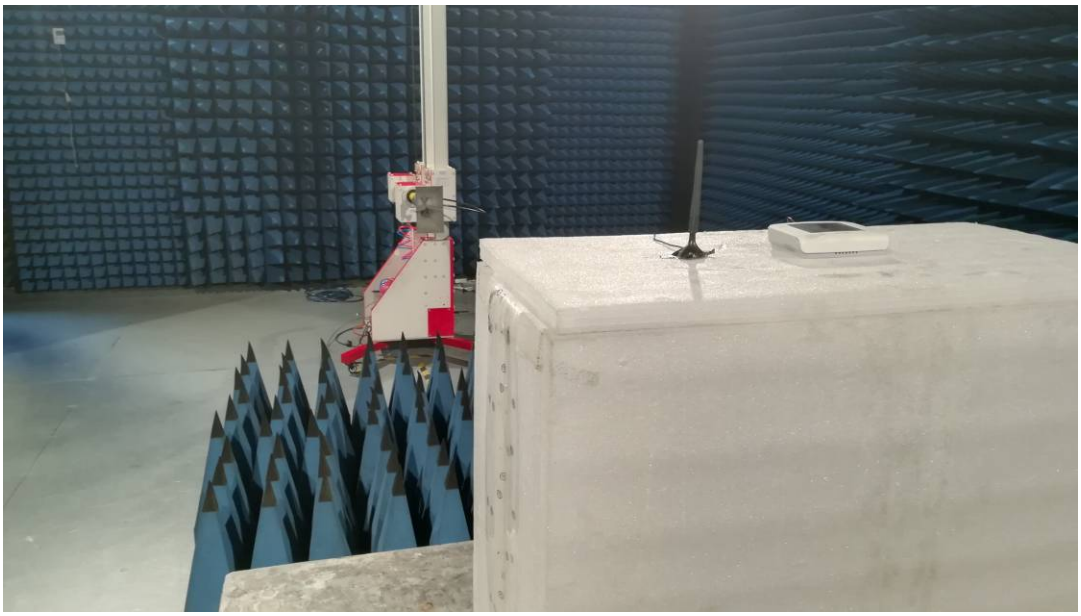
Remark:

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

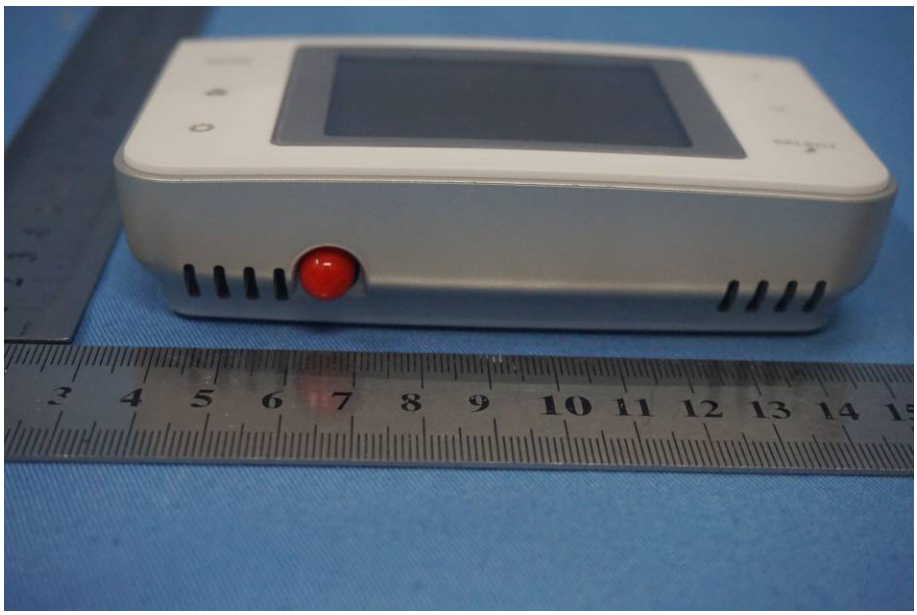
Radiated Emission





Conducted Emission

9 EUT Constructional Details

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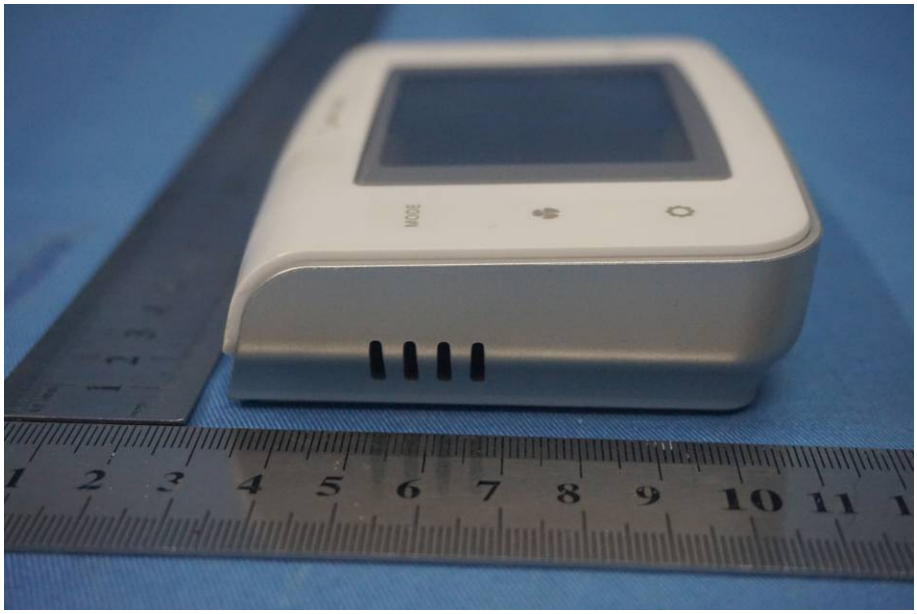
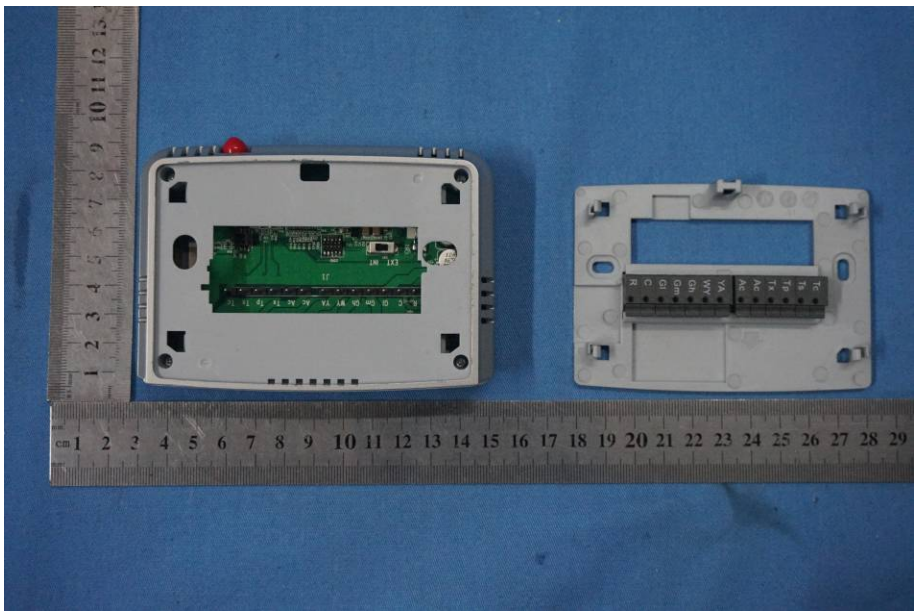
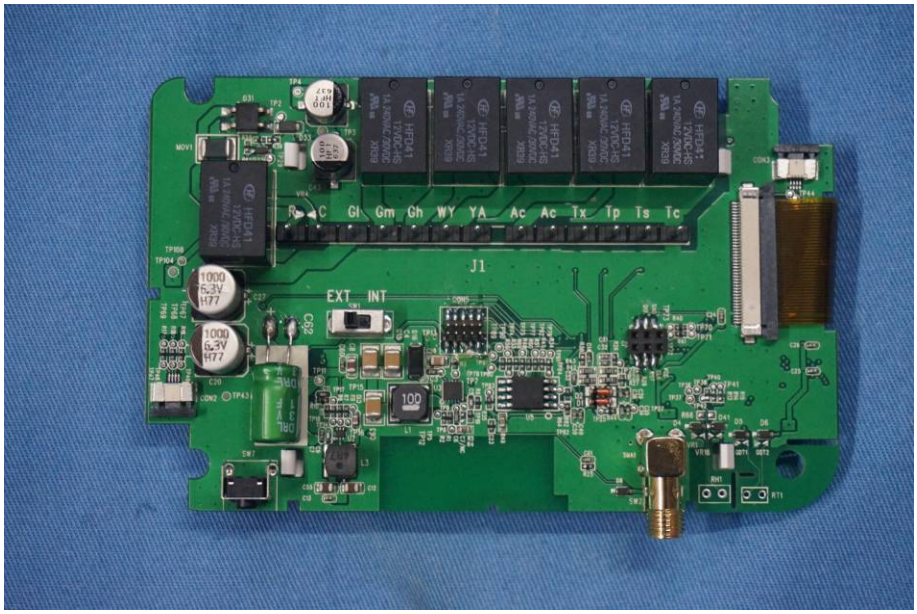
1 2 3 4 5 6 7 8 9 10 11 12


SALUS
4 5 6 7 8 9 10 11 12 13 14



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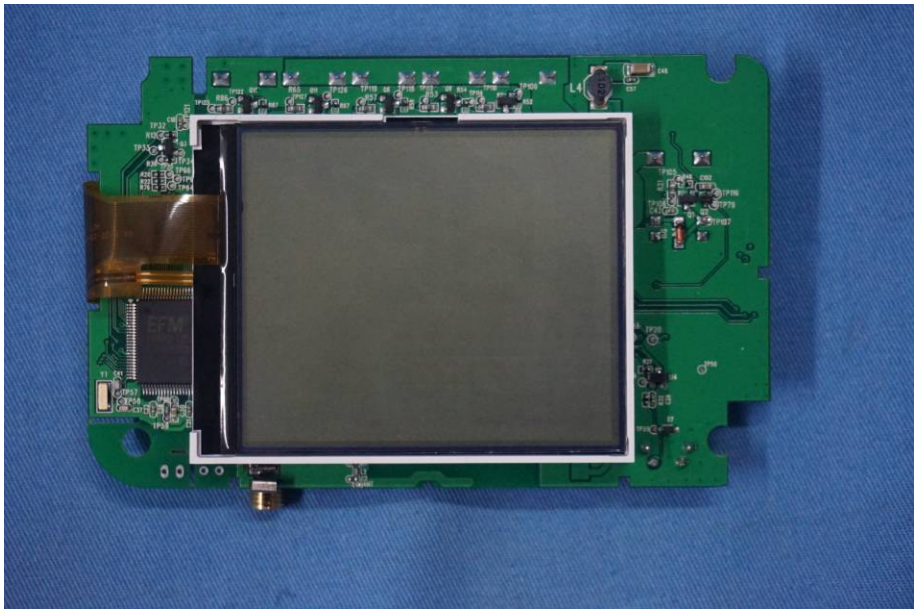
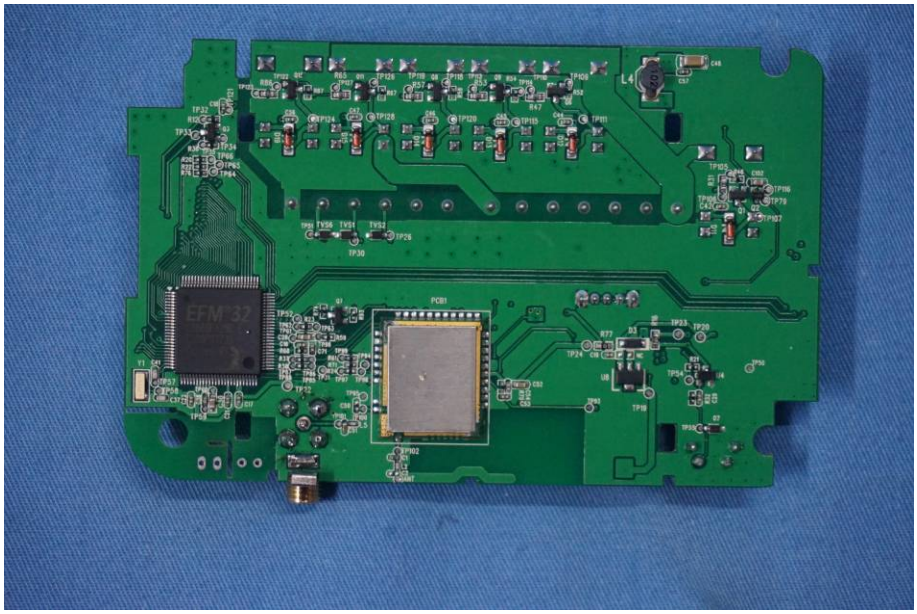
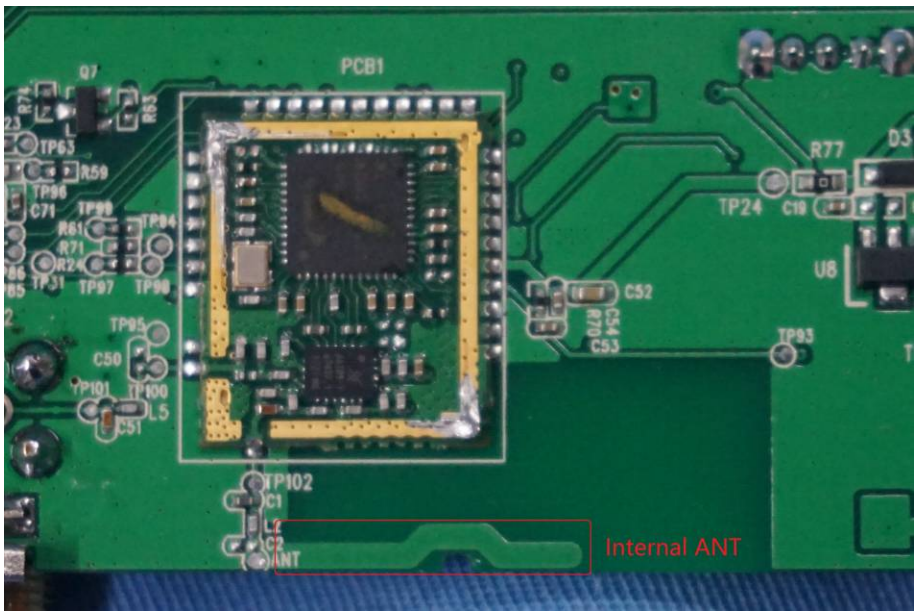
EXT INT






PCB1
R77
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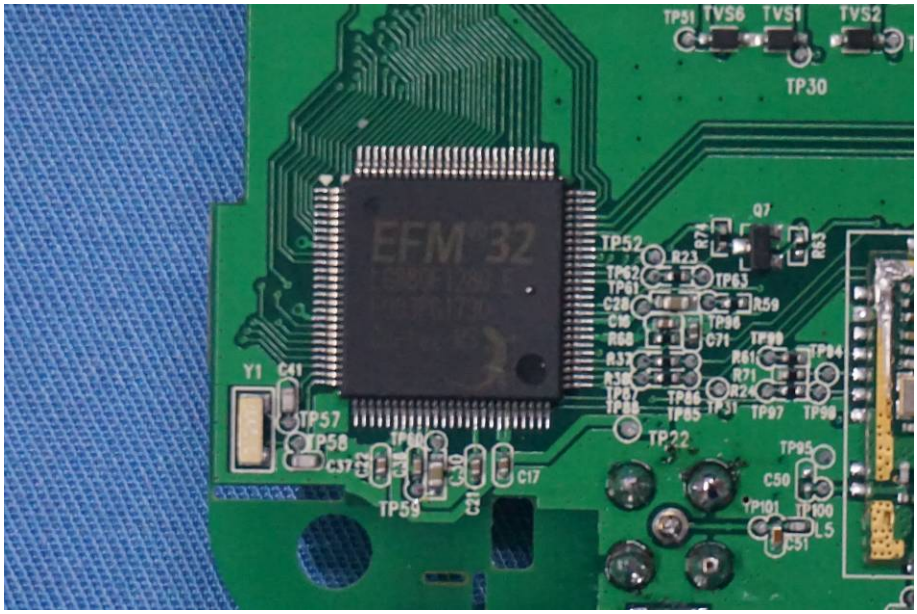
TP24
C19
U8
C52
C54
C53
TP93
TP102
C1
C2
ANT
Internal ANT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TVS1
TV52
TP30
EFM32
Q7
TP52
TP62
TP61
TP63
R59
C28
C10
R68
C71
TP99
TP94
R61
R71
R31
TP87
TP86
TP85
TP97
TP98
TP22
TP95
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Y1
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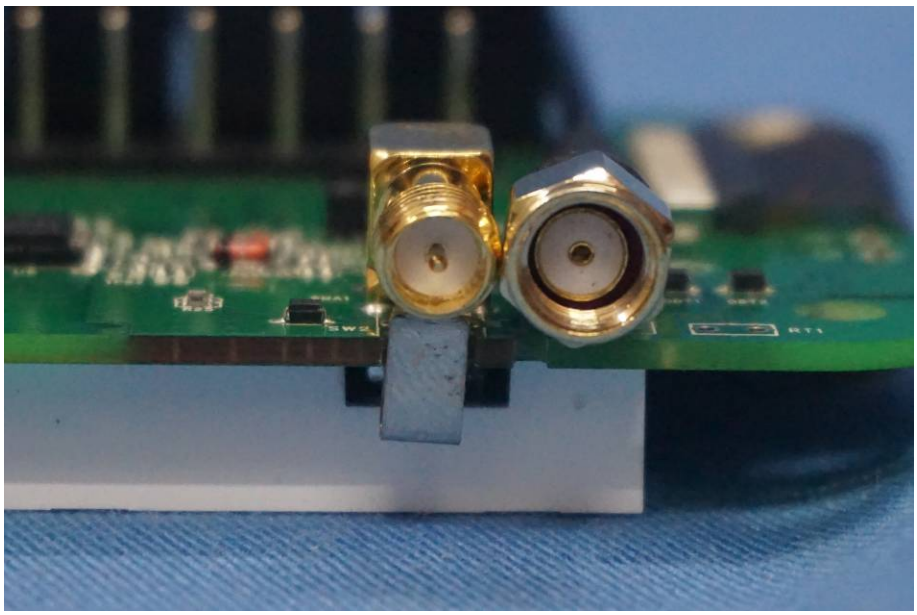
TP57
TP58
C37
TP60
TP59
C21
C17



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