FCC Report (Bluetooth)

Applicant:	Sorrel Medical Ltd.
Address of Applicant:	29, Yad Haruzim St., P.O.Box 8639, Netanya 4250529, Israel
Manufacturer:	Sorrel Medical Ltd.
Address of Manufacturer:	29, Yad Haruzim St., P.O.Box 8639, Netanya 4250529, Israel

Equipment Under Test (EUT)

Product Name:	Wearable Infusion Pump
Model No.:	15126-000-0002
Trade Mark:	SORREL
FCC ID:	2AR6L-SORRELWIP
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	January 12, 2019
Date of Test:	January 13-18, 2019
Date of report issued:	January 18, 2019
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
00	*January 18, 2019*	*Original*

Prepared By: ***Date:*** *January 18, 2019*

Project Engineer

Check By: ***Date:*** *January 18, 2019*

Reviewer

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4 Test Summary

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

Remarks:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *N/A: Not applicable.*
3. *Test according to ANSI C63.10:2013*

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.54dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 5.34dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 5.34dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Wearable Infusion Pump
Model No.:	15126-000-0002
Test sample(s) ID:	GTS201901000082-1
Sample(s) Status	Engineer sample
Serial No.:	W5001-1123
Hardware version:	V04
Software version:	1.2.0
Operation Frequency:	2402MHz~2480MHz
Channel Numbers:	40
Channel Separation:	2MHz
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	1.5dBi
Power Supply:	DC 3V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	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	2402MHz
The middle channel	2442MHz
The Highest channel	2480MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode

Remark: New battery is used during all test. So the report just shows that condition's data.

5.3 Description of Support Units

None.

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 fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

● **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.

● **NVLAP (LAB CODE:600179-0)**

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

●**CNAS (No. CNAS L5775)**

CNAS has accredited Global United Technology Services Co., Ltd., to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

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

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

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 27 2018	June. 26 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 27 2018	June. 26 2019
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 27 2018	June. 26 2019
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 27 2018	June. 26 2019
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 27 2018	June. 26 2019
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 27 2018	June. 26 2019
8	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
9	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	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 /247(c)

15.203 requirement:

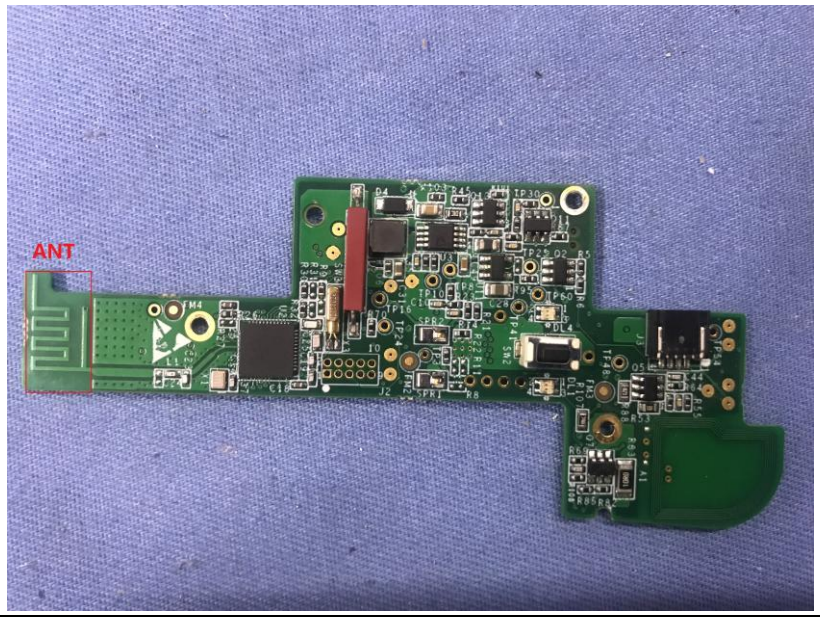
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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:

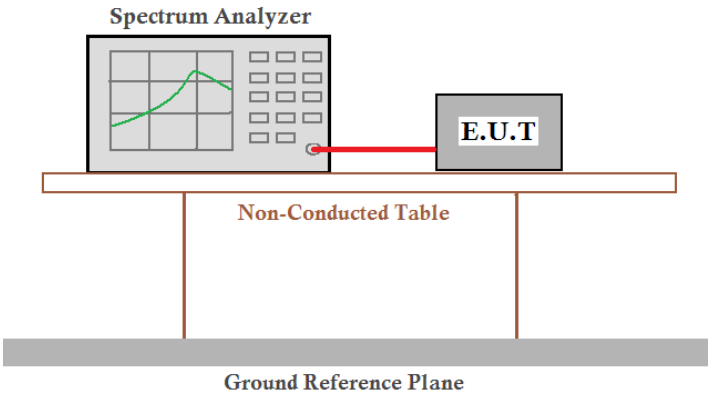
(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The antenna is PCB *antenna, the best case gain of the antenna is 1.5dBi*



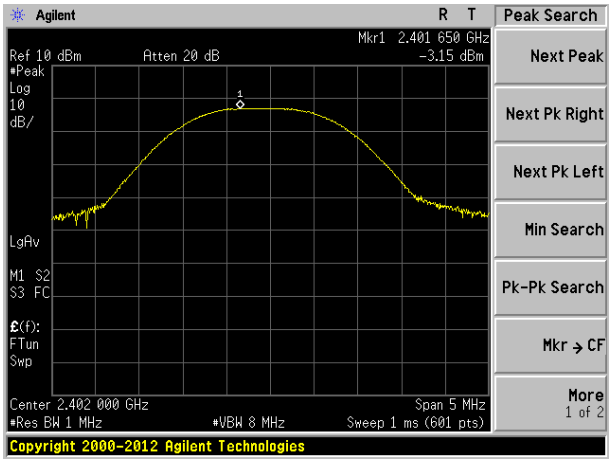
7.2 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05
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

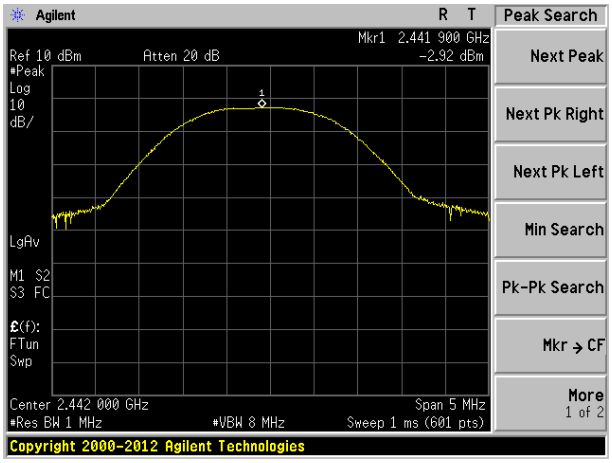
Measurement Data

Test channel	Peak Output Power (dBm)	Limit(dBm)	Result
Lowest	-3.15	30.00	Pass
Middle	-2.92		
Highest	-2.80		

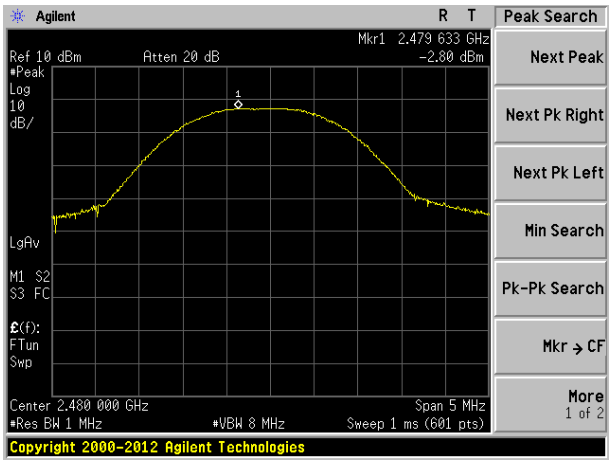
Test plot as follows:



Lowest channel

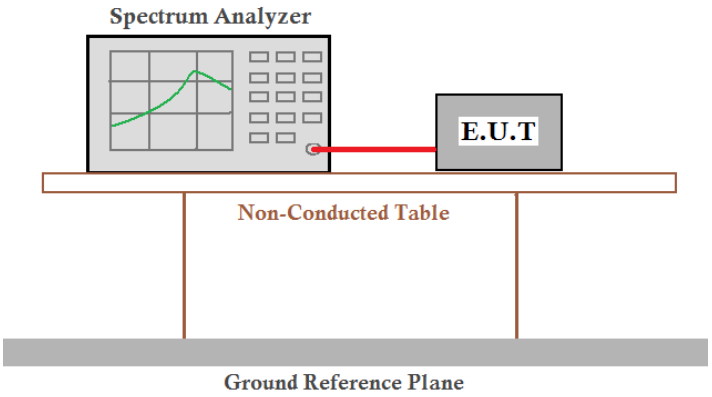


Middle channel



Highest channel

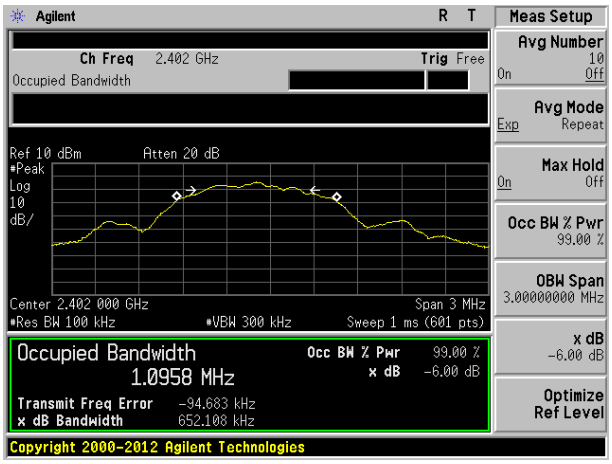
7.3 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05
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

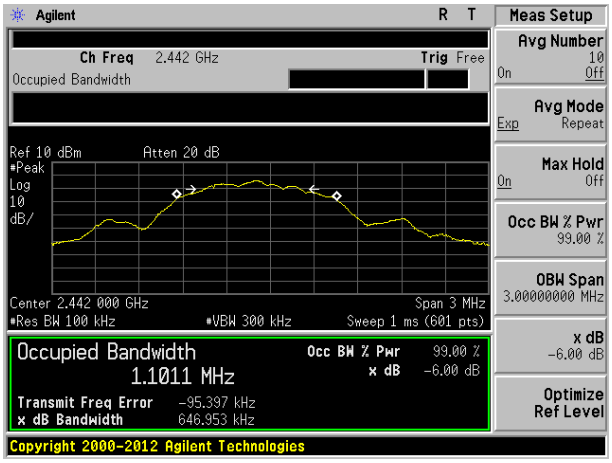
Measurement Data

Test channel	Channel Bandwidth (MHz)	Limit(KHz)	Result
Lowest	0.652	>500	Pass
Middle	0.647		
Highest	0.656		

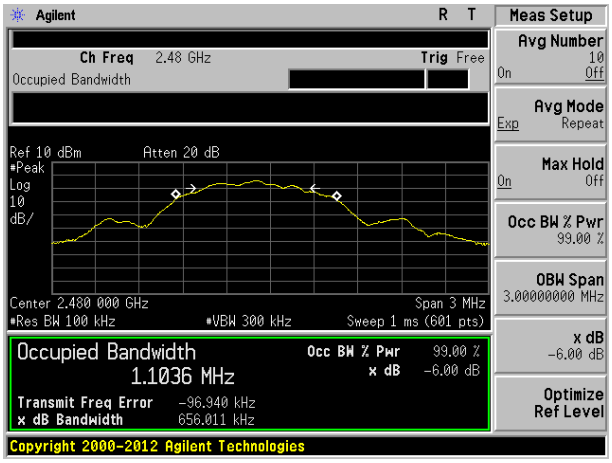
Test plot as follows:



Lowest channel

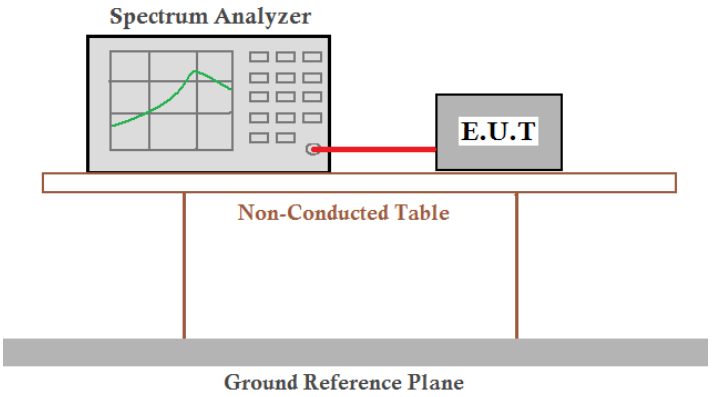


Middle channel



Highest channel

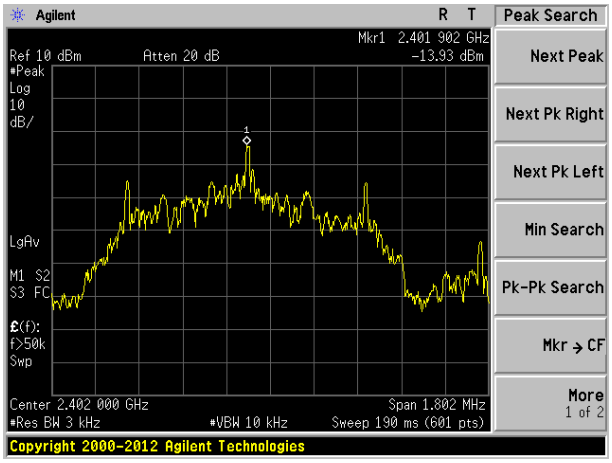
7.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05
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

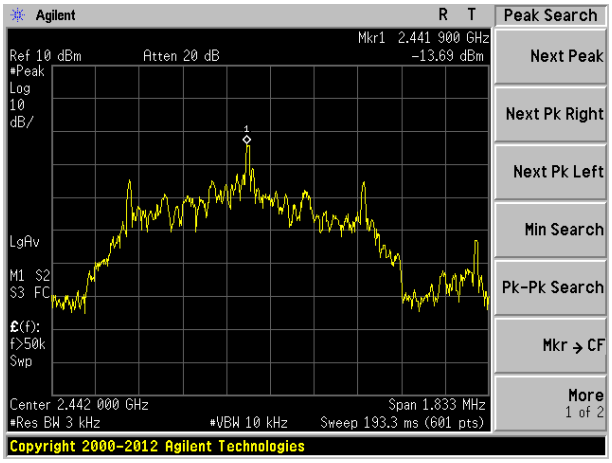
Measurement Data

Test channel	Power Spectral Density (dBm/3kHz)	Limit(dBm/3kHz)	Result
Lowest	-13.93	8.00	Pass
Middle	-13.69		
Highest	-13.45		

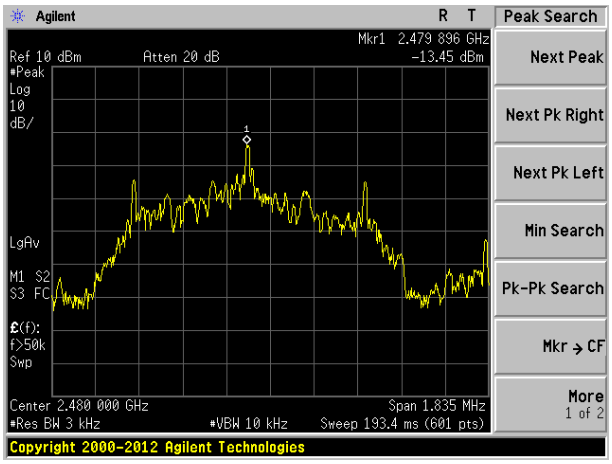
Test plot as follows:



Lowest channel



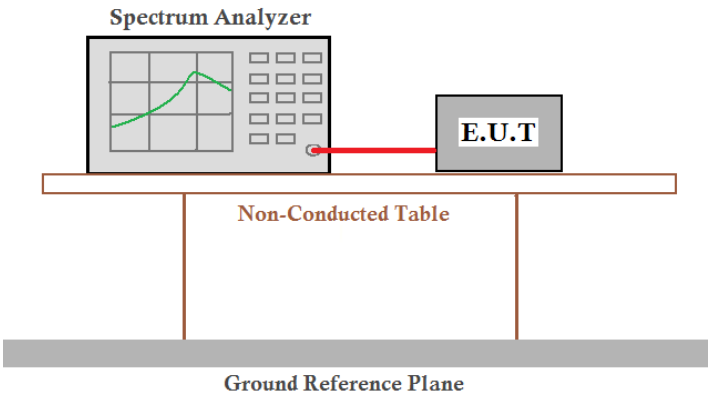
Middle channel



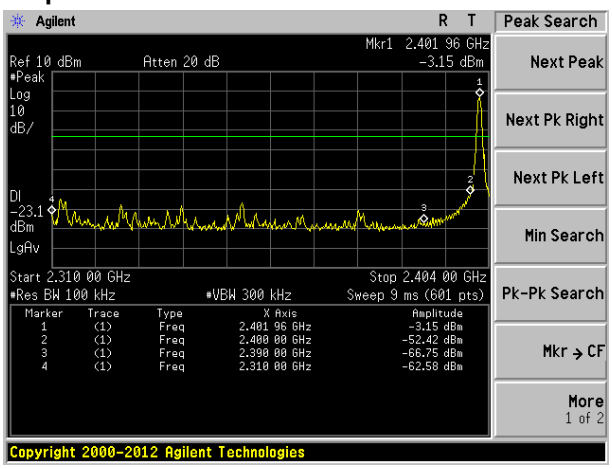
Highest channel

7.5 Band edges

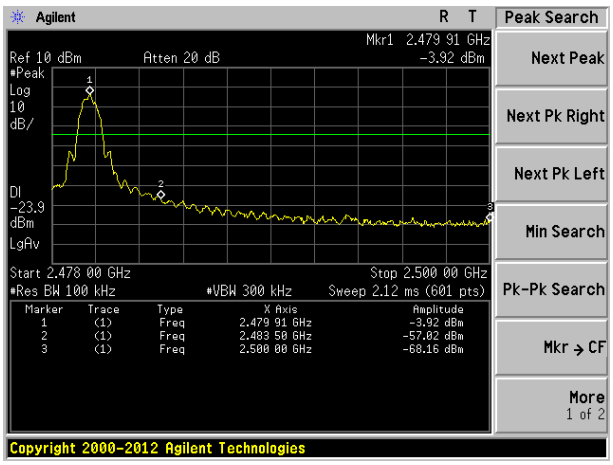
7.5.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05
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:



Lowest channel



Highest channel

7.5.2 Radiated Emission Method

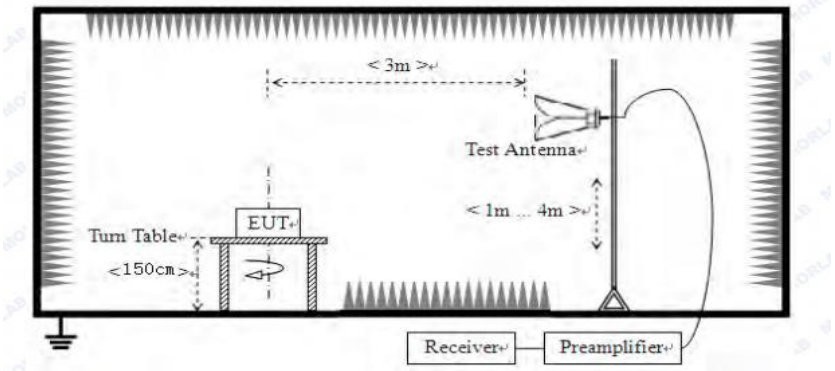
Test Requirement:	FCC Part15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10:2013
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.
Test site:	Measurement Distance: 3m
Receiver setup:	

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

Limit:

Frequency	Limit (dBuV/m @3m)	Value
Above 1GHz	54.00	Average
	74.00	Peak

Test setup:



Test Procedure:

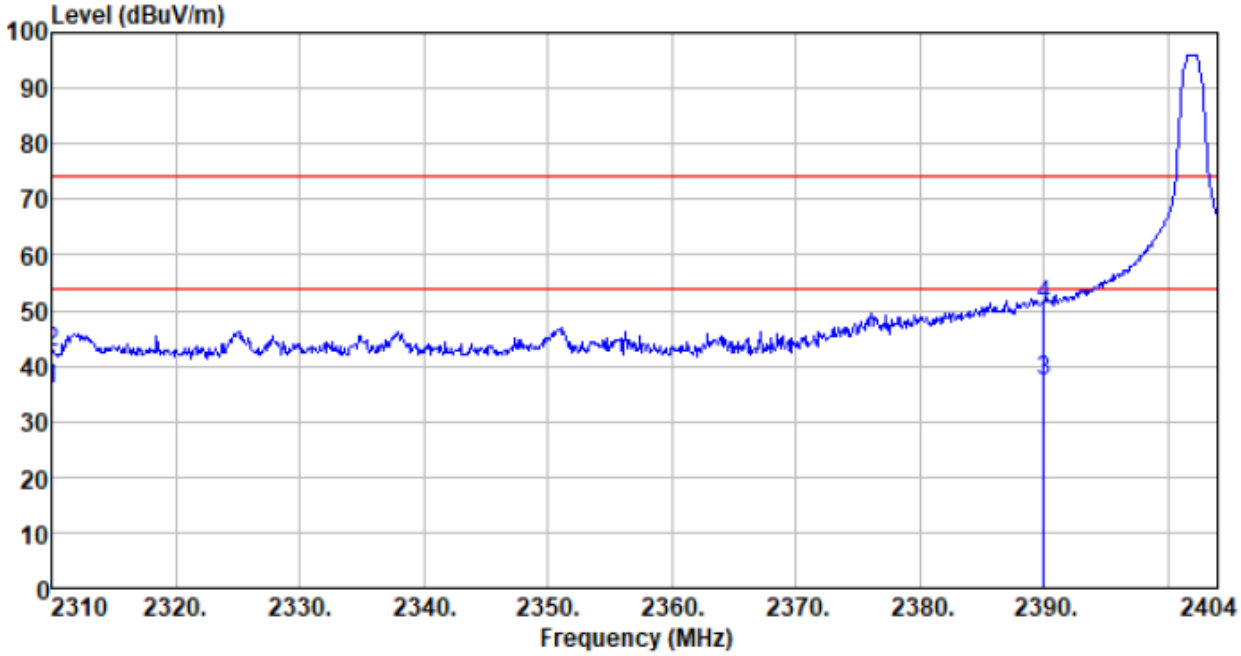
1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height 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 X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

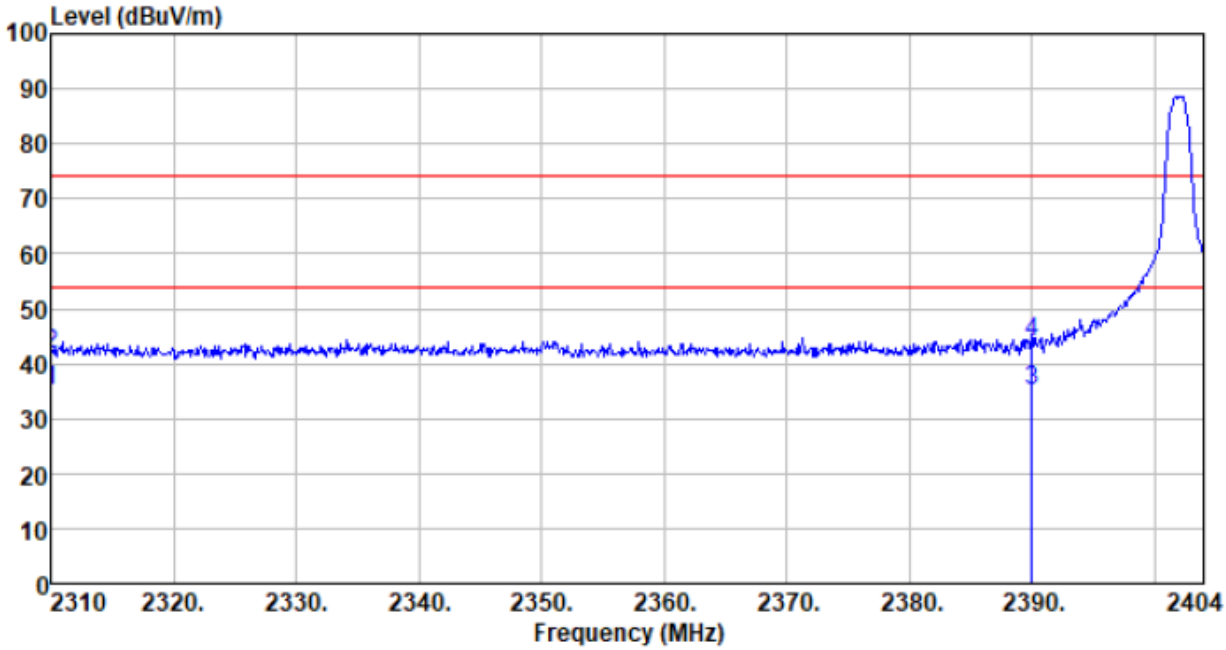
Test channel:	Lowest

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
2310.000	39.49	27.21	6.19	36.95	35.94	54.00	-18.06	Average
2310.000	46.05	27.21	6.19	36.95	42.50	74.00	-31.50	Peak
2390.000	40.51	27.41	6.31	37.01	37.22	54.00	-16.78	Average
2390.000	54.19	27.41	6.31	37.01	50.90	74.00	-23.10	Peak

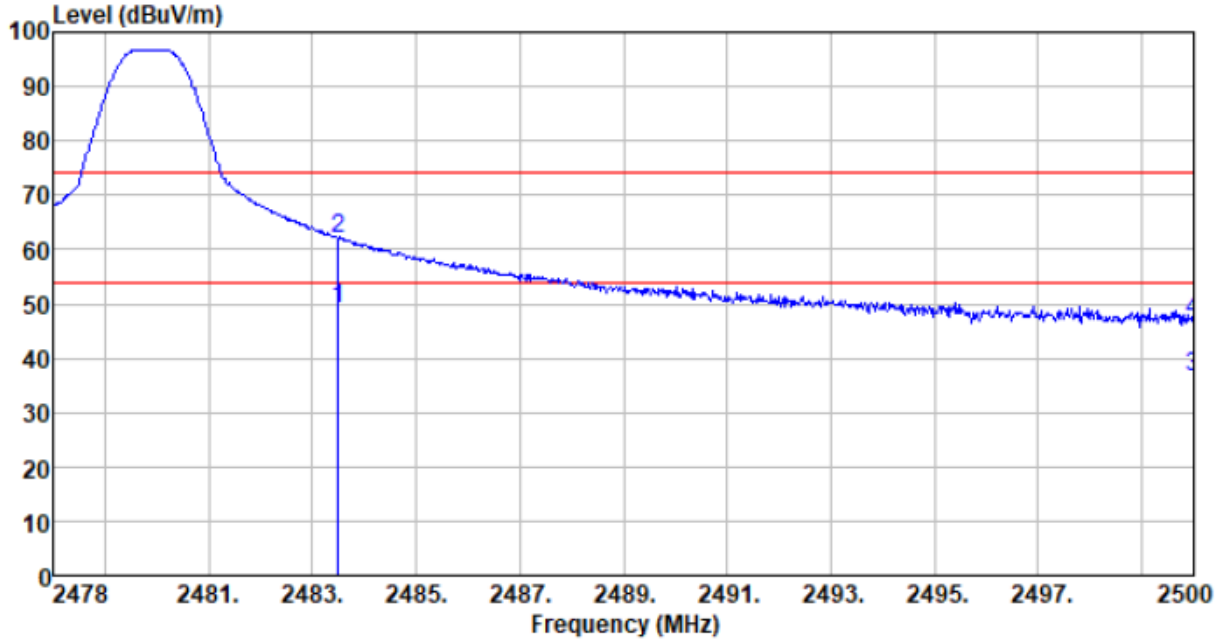
Vertical:



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	38.49	27.21	6.19	36.95	34.94	54.00	-19.06	Average
2310.000	45.39	27.21	6.19	36.95	41.84	74.00	-32.16	Peak
2390.000	38.48	27.41	6.31	37.01	35.19	54.00	-18.81	Average
2390.000	47.04	27.41	6.31	37.01	43.75	74.00	-30.25	Peak

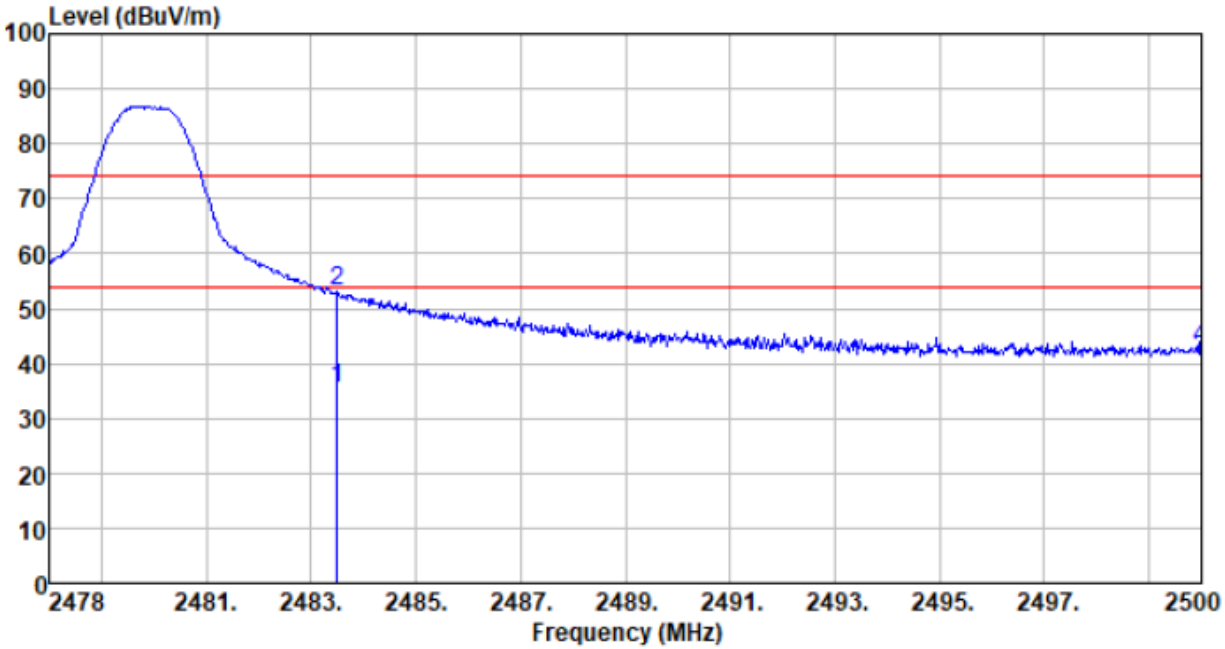
Test channel:	Highest

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	52.08	27.66	6.45	37.07	49.12	54.00	-4.88	Average
2483.500	65.09	27.66	6.45	37.07	62.13	74.00	-11.87	Peak
2500.000	39.36	27.70	6.47	37.09	36.44	54.00	-17.56	Average
2500.000	49.61	27.70	6.47	37.09	46.69	74.00	-27.31	Peak

Vertical:



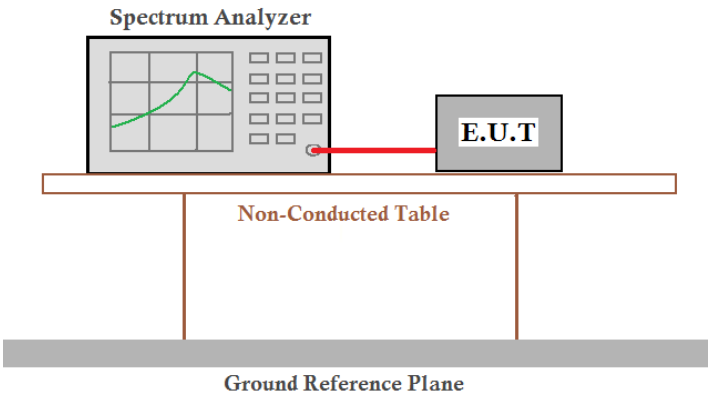
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	38.49	27.66	6.45	37.07	35.53	54.00	-18.47	Average
2483.500	56.05	27.66	6.45	37.07	53.09	74.00	-20.91	Peak
2500.000	43.50	27.70	6.47	37.09	40.58	54.00	-13.42	Average
2500.000	45.90	27.70	6.47	37.09	42.98	74.00	-31.02	Peak

Remarks:

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

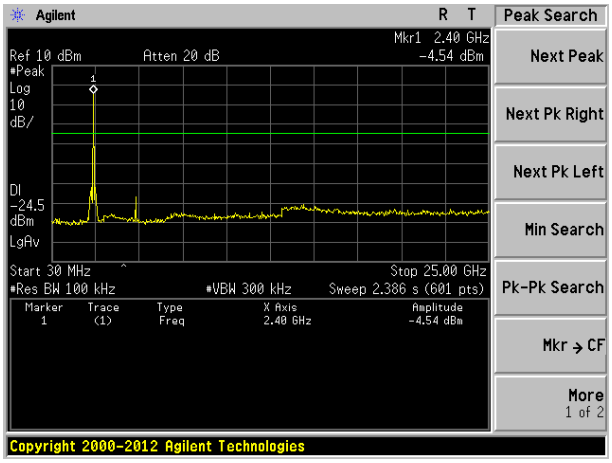
7.6 Spurious Emission

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 V05
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

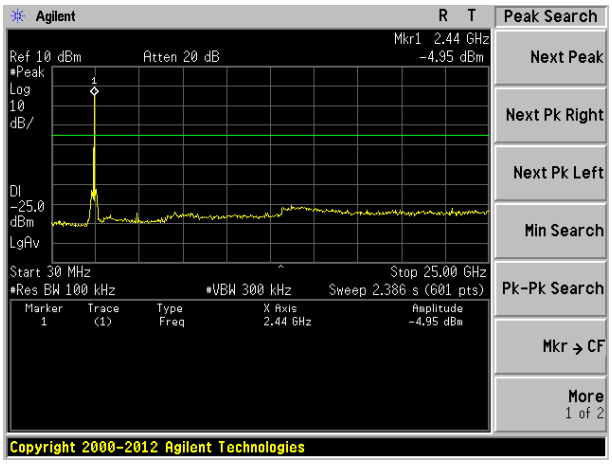
Test plot as follows:

Lowest channel



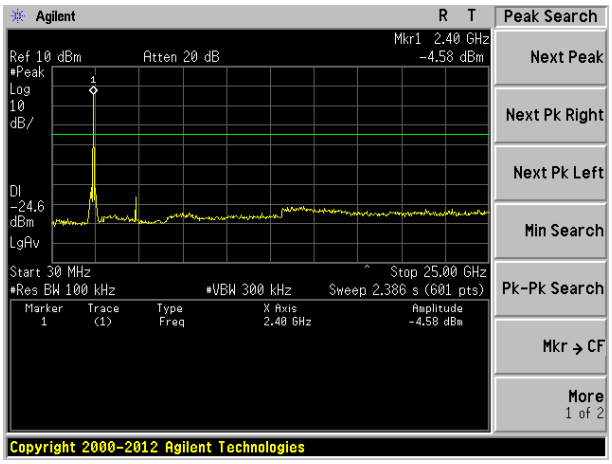
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel



30MHz~25GHz

7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test site:	Measurement Distance: 3m
Receiver setup:	

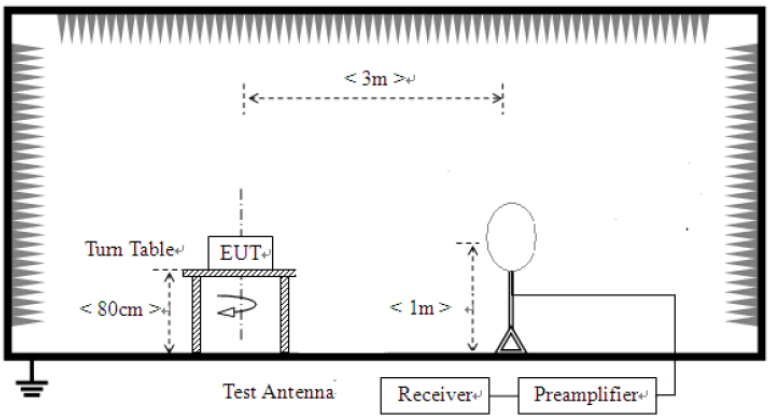
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	PK/AV/QP	200Hz	600Hz	PK/AV/QP
150KHz-30MHz	PK/AV/QP	9KHz	30KHz	PK/AV/QP
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:

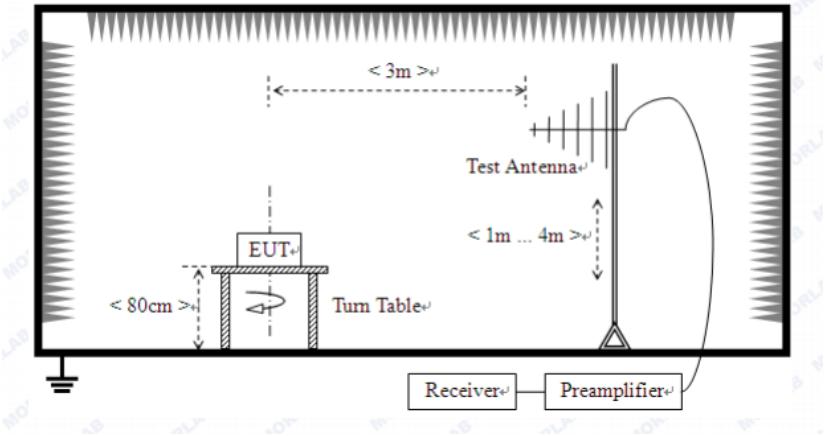
Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	PK/AV/QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	30m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	
Above 1GHz	500	Average	
	5000	Peak	

Test setup:

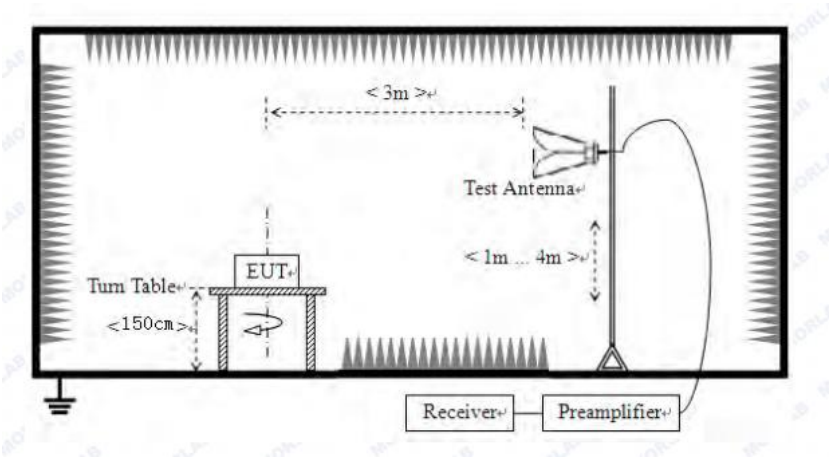
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the

	limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test voltage:	DC 3V
Test results:	Pass

Measurement data:

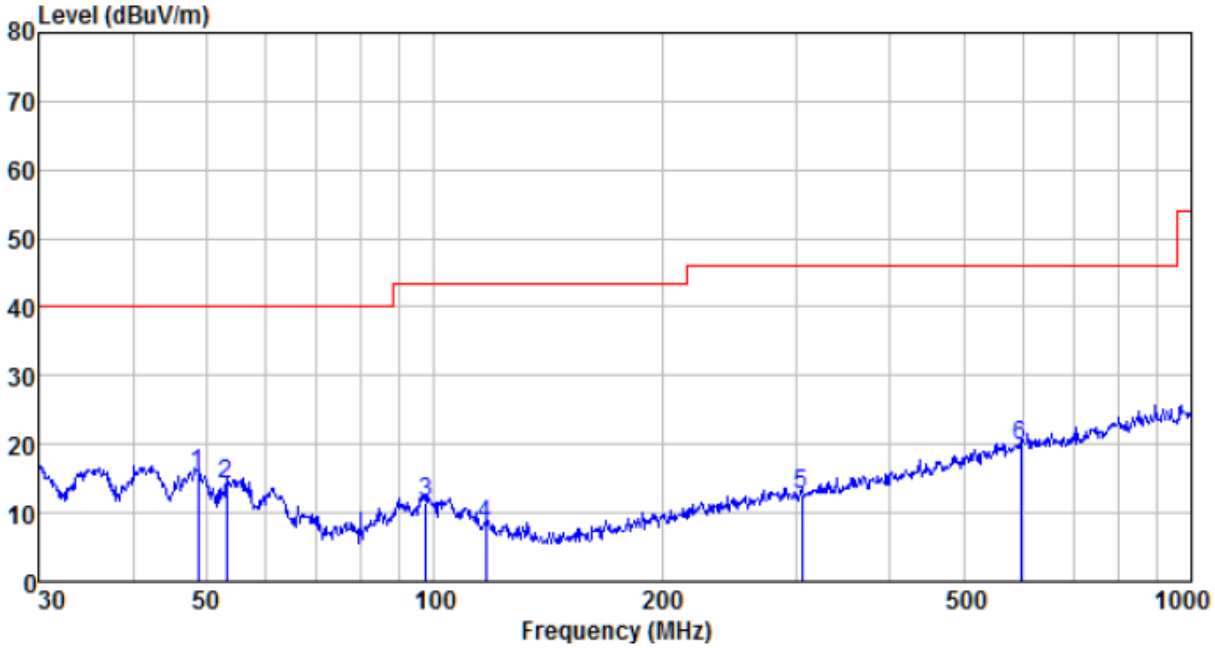
Remark:
Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

■ **9kHz~30MHz**

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.
No emission found for above 18GHz

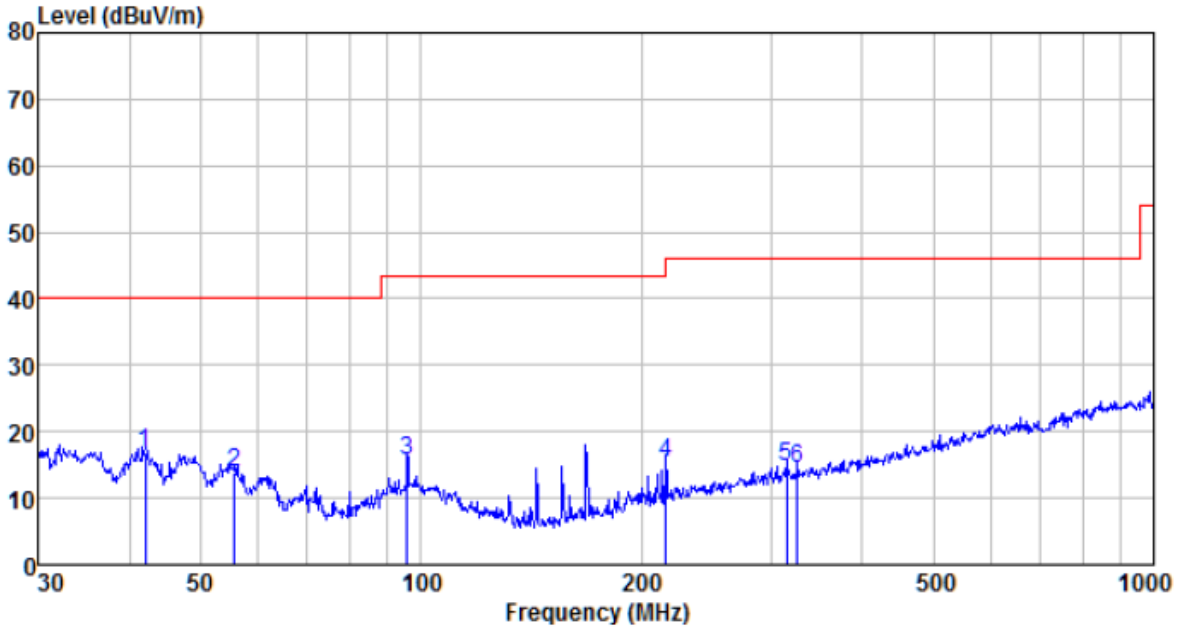
■ **Below 1GHz**

Mode:	**Transmitting mode**	**Polarization:**	**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
48.672	38.57	12.29	0.76	36.12	15.50	40.00	-24.50	QP
53.131	37.64	11.98	0.80	36.23	14.19	40.00	-25.81	QP
97.456	35.05	11.86	1.17	36.70	11.38	43.50	-32.12	QP
116.950	33.63	10.01	1.34	36.86	8.12	43.50	-35.38	QP
305.680	34.11	13.71	2.39	37.43	12.78	46.00	-33.22	QP
595.133	34.22	19.39	3.70	37.54	19.77	46.00	-26.23	QP

Mode:	Transmitting mode	Polarziation:	Vertical

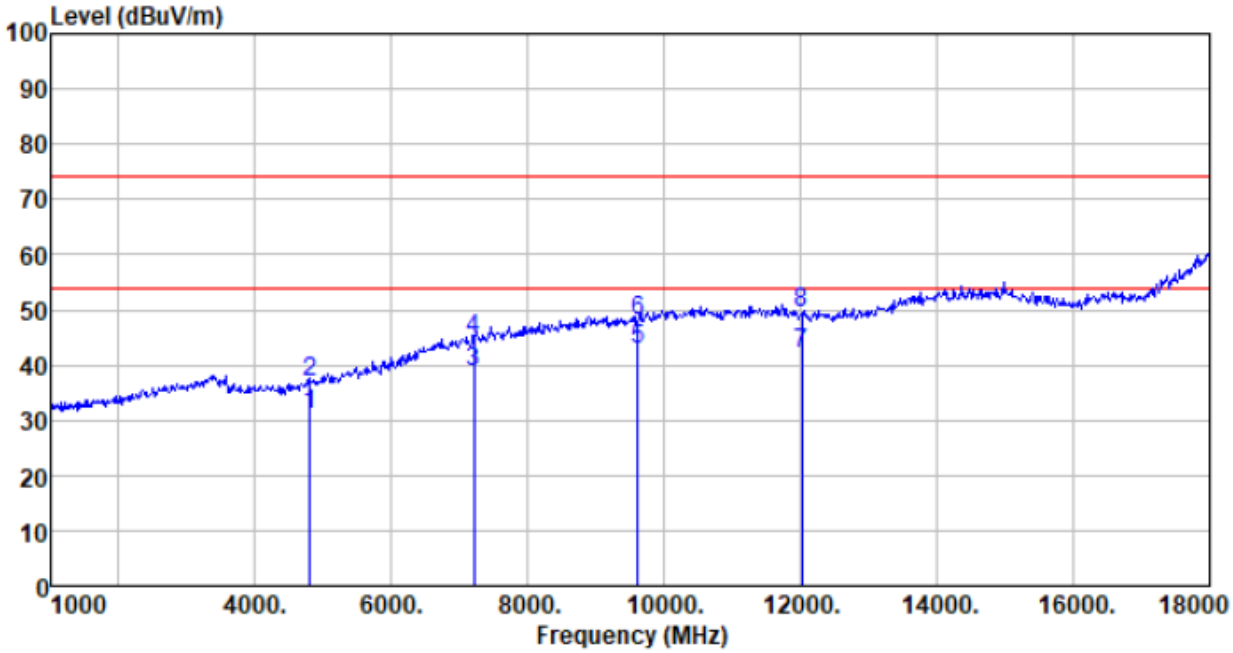


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
42.007	39.72	12.22	0.69	35.78	16.85	40.00	-23.15	QP
55.609	37.59	11.73	0.82	36.26	13.88	40.00	-26.12	QP
95.762	39.70	11.59	1.16	36.69	15.76	43.50	-27.74	QP
216.024	39.88	11.02	1.93	37.35	15.48	46.00	-30.52	QP
315.481	35.72	13.90	2.44	37.44	14.62	46.00	-31.38	QP
326.740	35.40	14.12	2.50	37.45	14.57	46.00	-31.43	QP

■ **Above 1GHz**

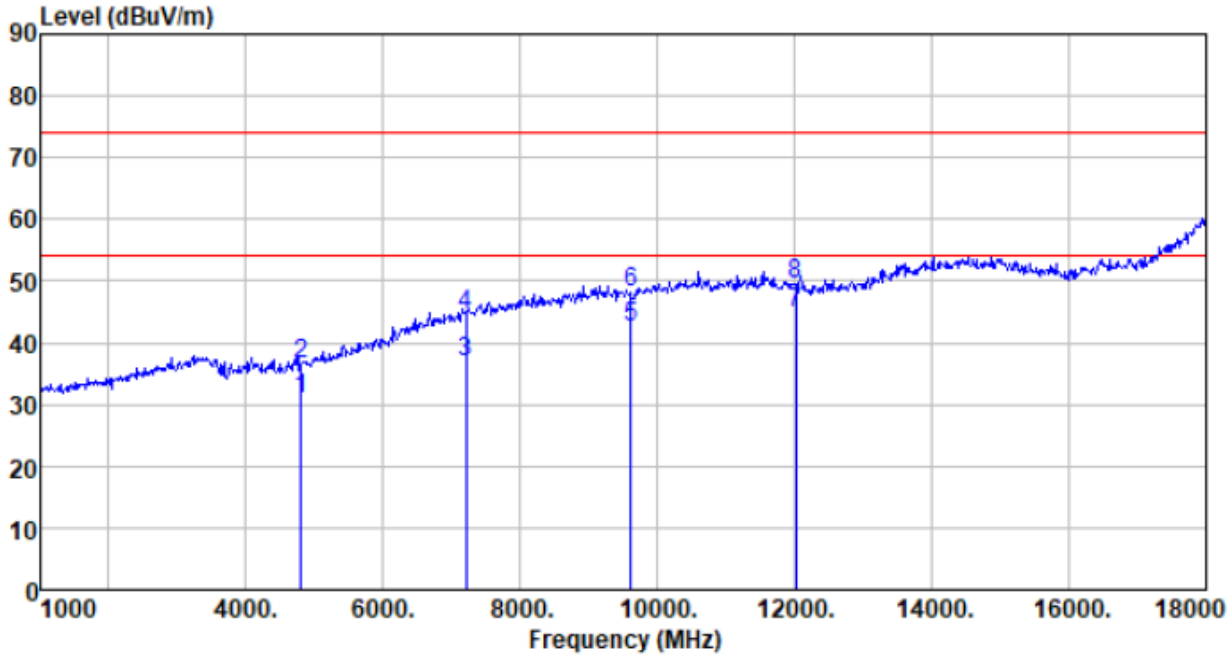
Test channel:	Lowest

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
4804.000	27.88	31.35	9.36	37.58	31.01	54.00	-22.99	Average
4804.000	33.72	31.35	9.36	37.58	36.85	74.00	-37.15	Peak
7206.000	27.25	35.89	11.21	35.44	38.91	54.00	-15.09	Average
7206.000	33.16	35.89	11.21	35.44	44.82	74.00	-29.18	Peak
9608.000	26.97	37.74	12.91	34.96	42.66	54.00	-11.34	Average
9608.000	32.39	37.74	12.91	34.96	48.08	74.00	-25.92	Peak
12010.000	25.09	38.70	14.54	36.40	41.93	54.00	-12.07	Average
12010.000	32.51	38.70	14.54	36.40	49.35	74.00	-24.65	Peak

Vertical:



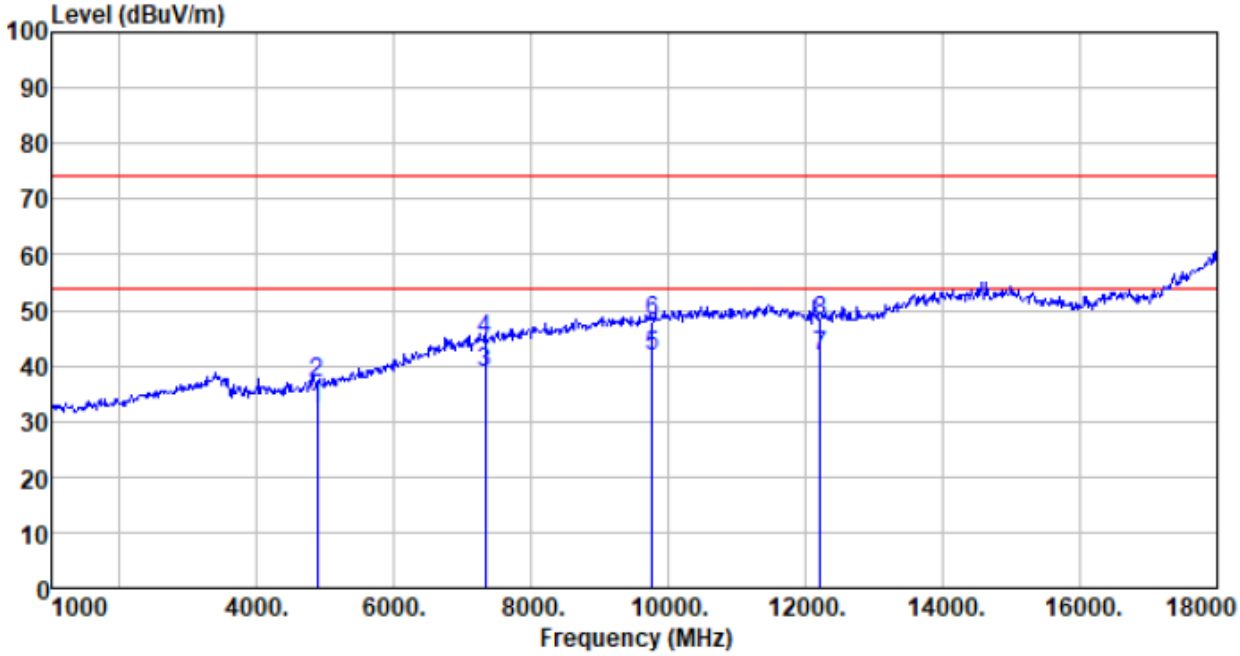
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4804.000	27.79	31.35	9.36	37.58	30.92	54.00	-23.08	Average
4804.000	33.47	31.35	9.36	37.58	36.60	74.00	-37.40	Peak
7206.000	25.15	35.89	11.21	35.44	36.81	54.00	-17.19	Average
7206.000	32.96	35.89	11.21	35.44	44.62	74.00	-29.38	Peak
9608.000	26.75	37.74	12.91	34.96	42.44	54.00	-11.56	Average
9608.000	32.36	37.74	12.91	34.96	48.05	74.00	-25.95	Peak
12010.000	27.90	38.70	14.54	36.40	44.74	54.00	-9.26	Average
12010.000	32.49	38.70	14.54	36.40	49.33	74.00	-24.67	Peak

Remarks:

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

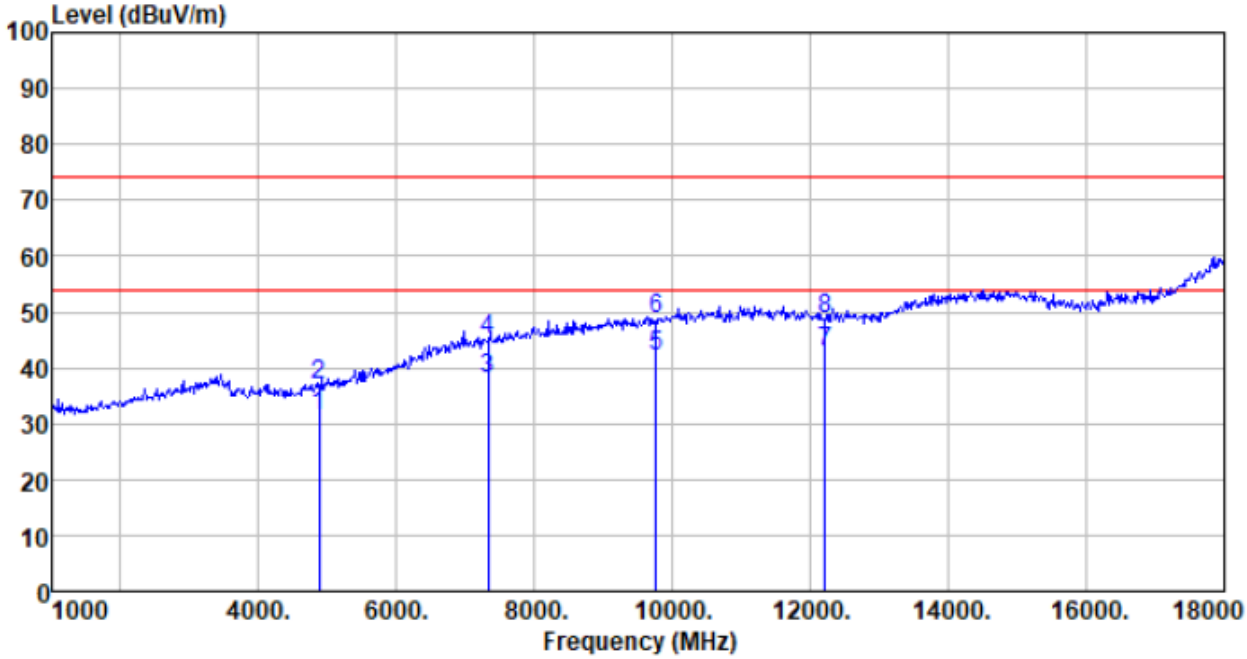
Test channel:	Middle

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
4884.000	28.73	31.49	9.42	37.59	32.05	54.00	-21.95	Average
4884.000	33.43	31.49	9.42	37.59	36.75	74.00	-37.25	Peak
7326.000	26.90	36.18	11.30	35.47	38.91	54.00	-15.09	Average
7326.000	32.46	36.18	11.30	35.47	44.47	74.00	-29.53	Peak
9768.000	25.64	38.09	13.02	35.10	41.65	54.00	-12.35	Average
9768.000	31.88	38.09	13.02	35.10	47.89	74.00	-26.11	Peak
12210.000	24.70	38.62	14.68	36.44	41.56	54.00	-12.44	Average
12210.000	30.97	38.62	14.68	36.44	47.83	74.00	-26.17	Peak

Vertical:



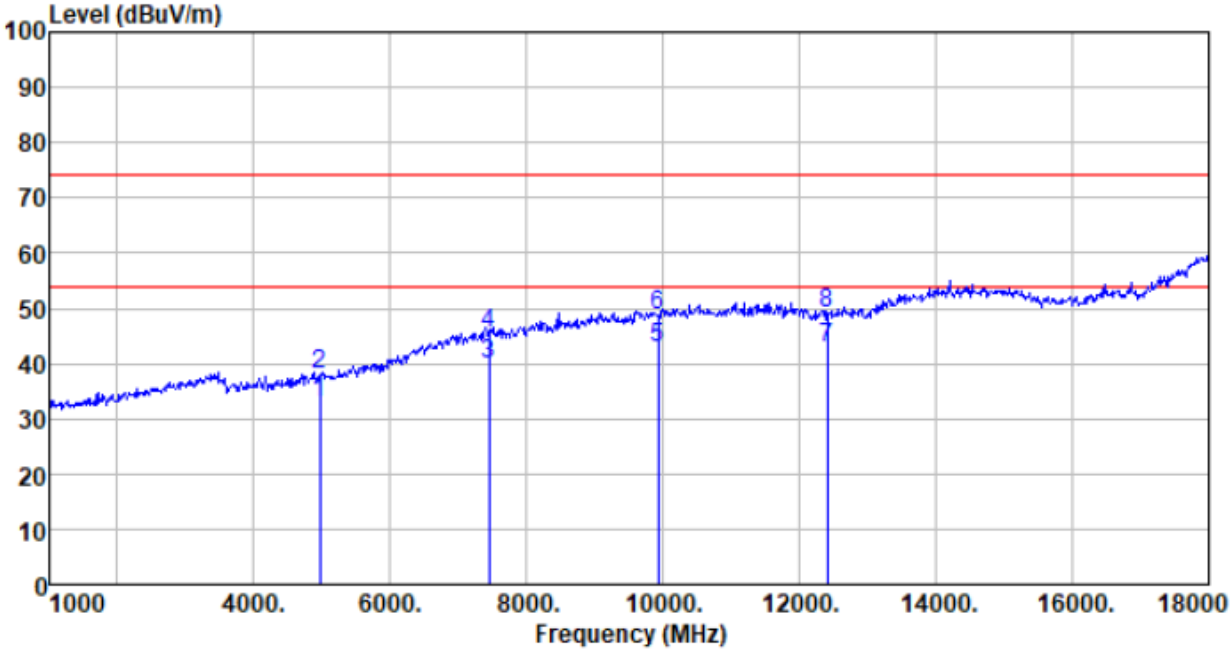
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4884.000	28.13	31.49	9.42	37.59	31.45	54.00	-22.55	Average
4884.000	33.70	31.49	9.42	37.59	37.02	74.00	-36.98	Peak
7326.000	25.84	36.18	11.30	35.47	37.85	54.00	-16.15	Average
7326.000	32.86	36.18	11.30	35.47	44.87	74.00	-29.13	Peak
9768.000	26.13	38.09	13.02	35.10	42.14	54.00	-11.86	Average
9768.000	32.84	38.09	13.02	35.10	48.85	74.00	-25.15	Peak
12210.000	25.79	38.62	14.68	36.44	42.65	54.00	-11.35	Average
12210.000	31.93	38.62	14.68	36.44	48.79	74.00	-25.21	Peak

Remarks:

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

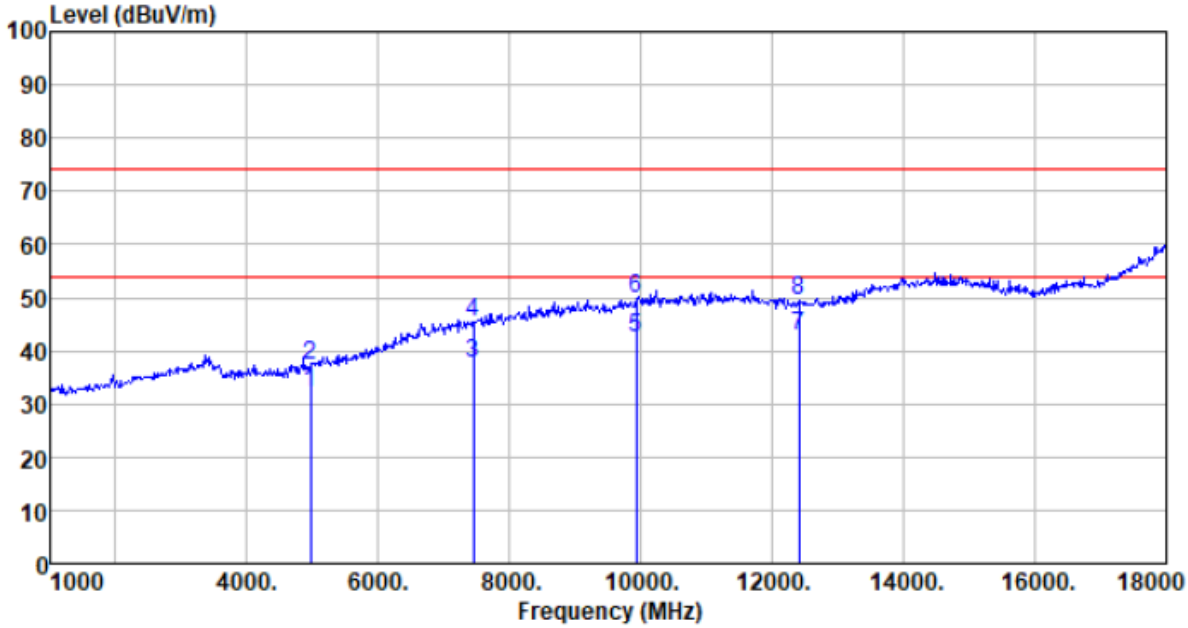
Test channel:	Highest

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
4960.000	29.41	31.63	9.48	37.60	32.92	54.00	-21.08	Average
4960.000	34.43	31.63	9.48	37.60	37.94	74.00	-36.06	Peak
7440.000	27.52	36.46	11.39	35.49	39.88	54.00	-14.12	Average
7440.000	33.09	36.46	11.39	35.49	45.45	74.00	-28.55	Peak
9920.000	26.64	38.42	13.13	35.23	42.96	54.00	-11.04	Average
9920.000	32.33	38.42	13.13	35.23	48.65	74.00	-25.35	Peak
12400.000	26.12	38.54	14.80	36.48	42.98	54.00	-11.02	Average
12400.000	32.04	38.54	14.80	36.48	48.90	74.00	-25.10	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	28.59	31.63	9.48	37.60	32.10	54.00	-21.90	Average
4960.000	33.67	31.63	9.48	37.60	37.18	74.00	-36.82	Peak
7440.000	25.34	36.46	11.39	35.49	37.70	54.00	-16.30	Average
7440.000	32.91	36.46	11.39	35.49	45.27	74.00	-28.73	Peak
9920.000	26.30	38.42	13.13	35.23	42.62	54.00	-11.38	Average
9920.000	33.42	38.42	13.13	35.23	49.74	74.00	-24.26	Peak
12400.000	25.80	38.54	14.80	36.48	42.66	54.00	-11.34	Average
12400.000	32.67	38.54	14.80	36.48	49.53	74.00	-24.47	Peak

Remarks:

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

8 Test Setup Photo

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

9 EUT Constructional Details

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

------End------