TEST REPORT (Bluetooth)

Applicant:	CoreTigo Ltd
Address of Applicant:	Giborey Israel 5, Poleg, Natanya, Israel 4250405
Manufacturer:	CoreTigo Ltd
Address of Manufacturer:	Giborey Israel 5, Poleg, Natanya, Israel 4250405
Equipment Under Test (EUT)	
Product Name:	TigoAirLP
Model No.:	CT210-0322-10
Trade Mark:	TigoAir 2 SOM
FCC ID:	2ATSM-TAIR2
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	November 18, 2020
Date of Test:	November 19-26, 2020
Date of report issued:	November 27, 2020
Test Result :	PASS *

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

Authorized Signature:

Robinson Luo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*November 27, 2020*	*Original*

Prepared By:	Tiger. Chen	***Date:***	*November 27, 2020*
	Project Engineer		
Check By:	Robinson Lin	***Date:***	*November 27, 2020*
	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	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	TigoAirLP
Model No.:	CT210-0322-10
Test sample(s) ID:	GTS202011000199-1
Sample(s) Status:	Engineer sample
Serial No.:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	2401MHz~2480MHz
Channel Numbers:	80
Channel Separation:	1MHz
Modulation Type:	GFSK
Antenna Type:	Integral Antenna
Antenna Gain:	2.15dBi(declare by applicant)
Power Supply:	DC 1.8V~3.6V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2401 MHz	21	2421 MHz	41	2441 MHz	61	2461 MHz
2	2402 MHz	22	2422 MHz	42	2442 MHz	62	2462 MHz
3	2403 MHz	23	2423 MHz	43	2443 MHz	63	2463 MHz
4	2404 MHz	24	2424 MHz	44	2444 MHz	64	2464 MHz
5	2405 MHz	25	2425 MHz	45	2445 MHz	65	2465 MHz
6	2406 MHz	26	2426 MHz	46	2446 MHz	66	2466 MHz
7	2407 MHz	27	2427 MHz	47	2447 MHz	67	2467 MHz
8	2408 MHz	28	2428 MHz	48	2448 MHz	68	2468 MHz
9	2409 MHz	29	2427 MHz	49	2449 MHz	69	2469 MHz
10	2410 MHz	30	2430 MHz	50	2450 MHz	70	2470 MHz
11	2411 MHz	31	2431 MHz	51	2451 MHz	71	2471 MHz
12	2412 MHz	32	2432 MHz	52	2452 MHz	72	2472 MHz
13	2413 MHz	33	2431 MHz	53	2453 MHz	73	2473 MHz
14	2414 MHz	34	2434 MHz	54	2454 MHz	74	2474 MHz
15	2415 MHz	35	2435 MHz	55	2455 MHz	75	2475 MHz
16	2416 MHz	36	2436 MHz	56	2456 MHz	76	2476 MHz
17	2417 MHz	37	2437 MHz	57	2457 MHz	77	2477 MHz
18	2418 MHz	38	2438 MHz	58	2458 MHz	78	2478 MHz
19	2419 MHz	39	2439 MHz	59	2459 MHz	79	2479 MHz
20	2420 MHz	40	2440 MHz	60	2460 MHz	80	2480 MHz

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	2401MHz
The middle channel	2440MHz
The Highest channel	2480MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode

5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number
Lenovo	Notebook PC	E40-80	N/A

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

● **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

● **NVLAP (LAB CODE:600179-0)**

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

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

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

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 25 2020	June. 24 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021

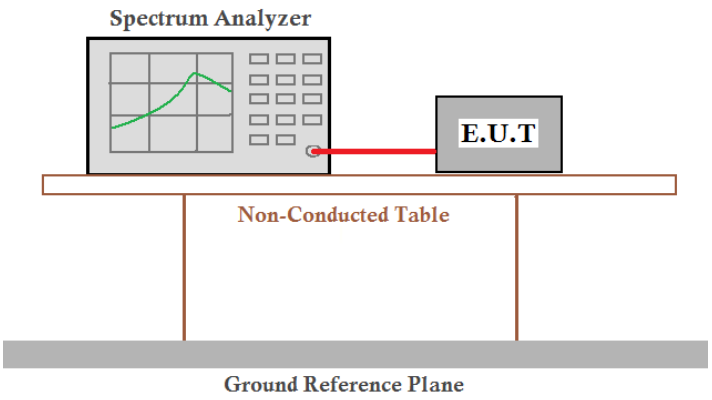
General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
E.U.T Antenna:	
The antenna is integral antenna, the best case gain of the antenna is 2.15dBi, reference to the appendix II for details .	

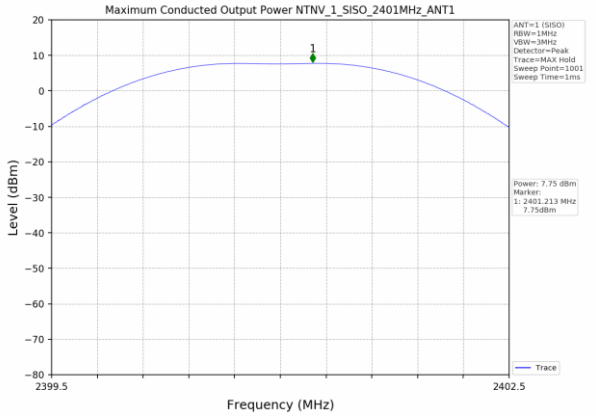
7.2 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance V05r02
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

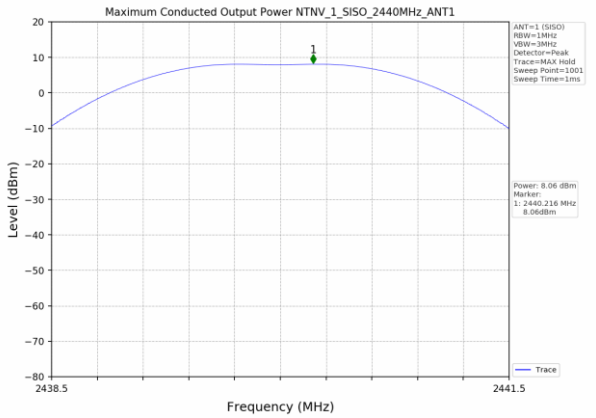
Measurement Data

Test channel	Peak Output Power (dBm)	Limit(dBm)	Result
Lowest	7.75	30.00	Pass
Middle	8.06		
Highest	8.52		

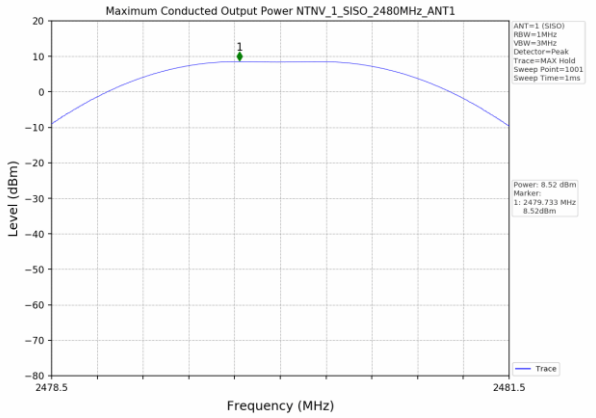
Test plot as follows:



Lowest channel

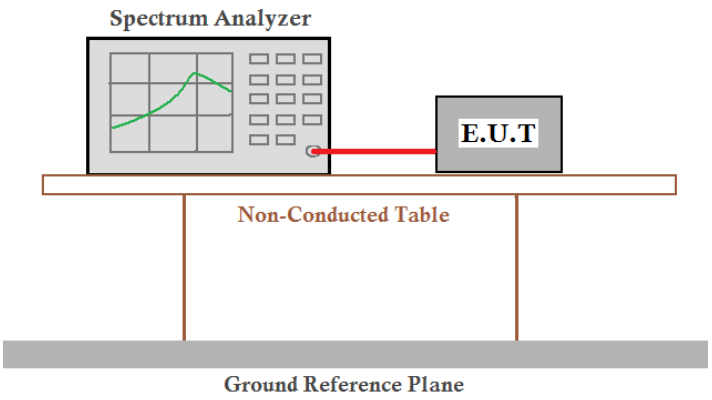


Middle channel



Highest channel

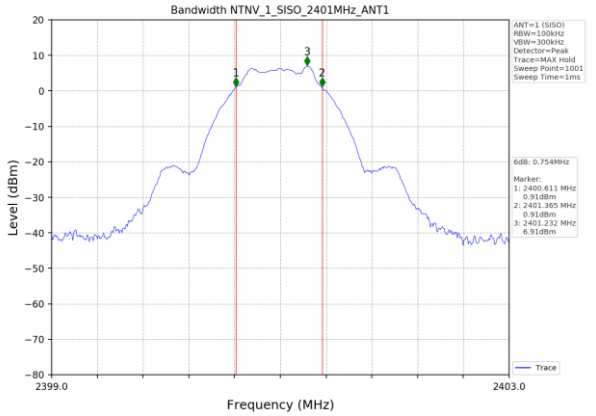
7.3 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance V05r02
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

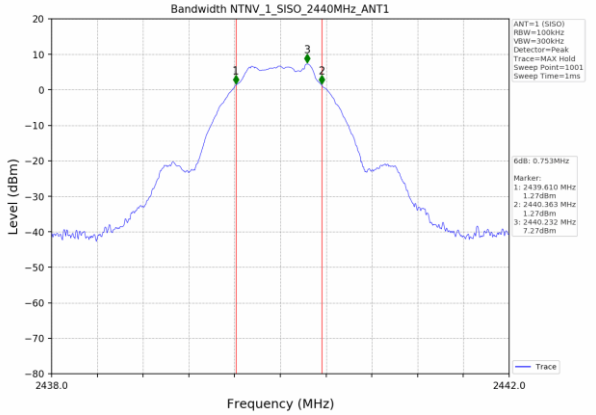
Measurement Data

Test channel	Channel Bandwidth (MHz)	Limit(KHz)	Result
Lowest	0.754	>500	Pass
Middle	0.753		
Highest	0.745		

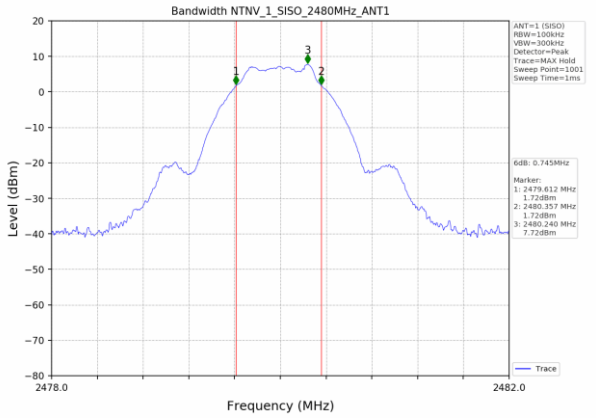
Test plot as follows:



Lowest channel

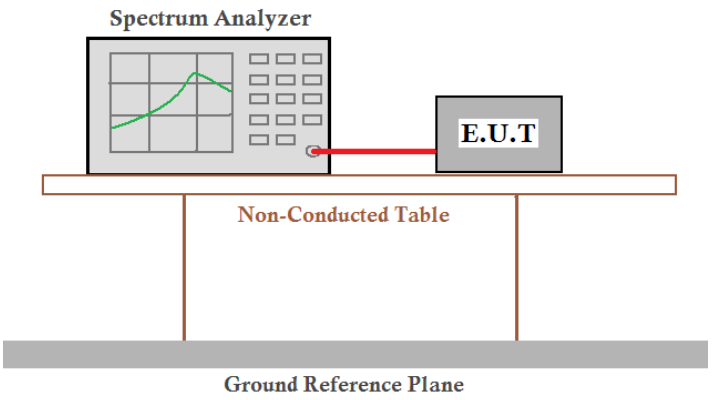


Middle channel



Highest channel

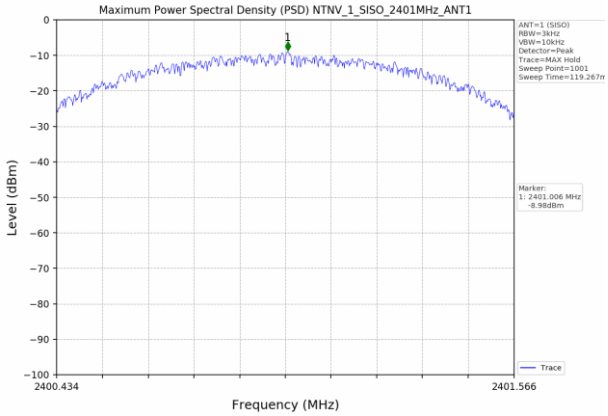
7.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance V05r02
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

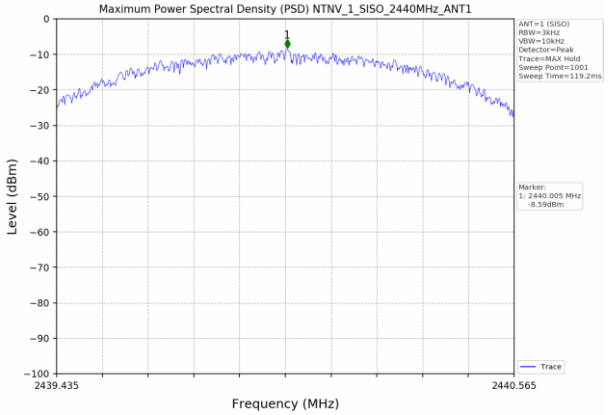
Measurement Data

Test channel	Power Spectral Density (dBm/3kHz)	Limit(dBm/3kHz)	Result
Lowest	-8.98	8.00	Pass
Middle	-8.59		
Highest	-8.09		

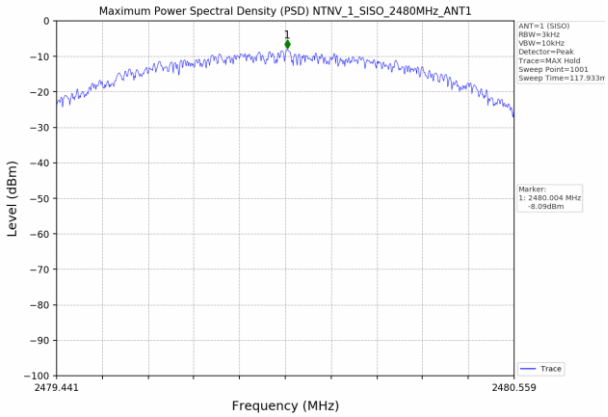
Test plot as follows:



Lowest channel



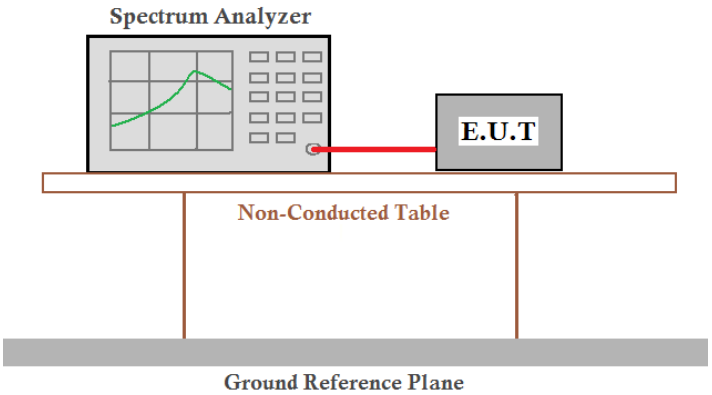
Middle channel



Highest channel

7.5 Spurious Emission in Non-restricted & restricted Bands

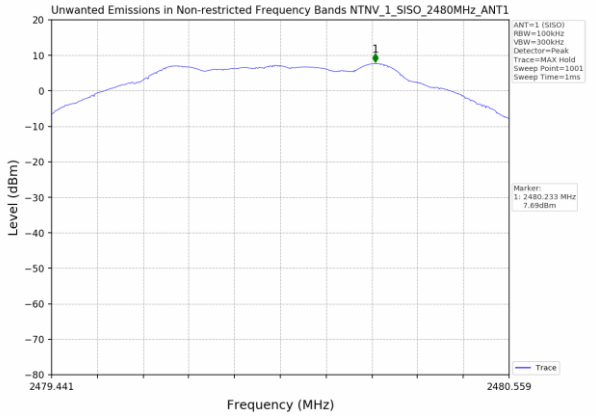
7.5.1 Conducted Emission Method

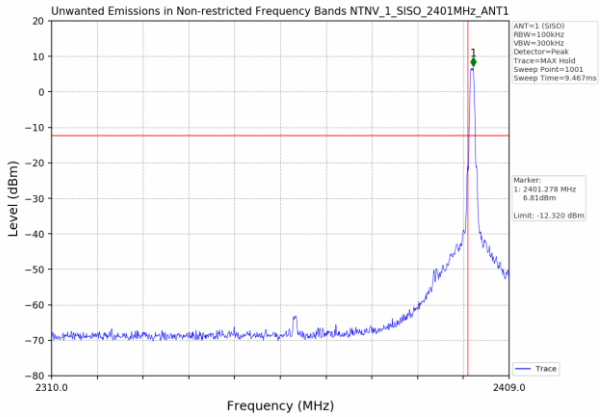
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

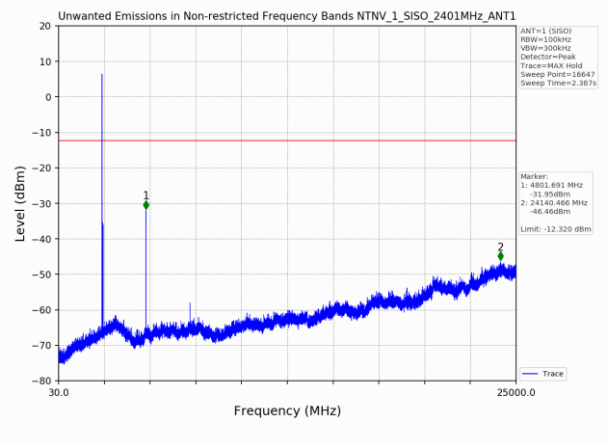
Measurement Data

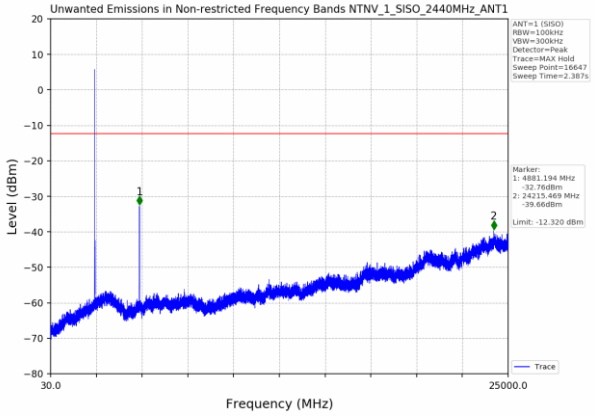
Test channel	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
Lowest	Refer to test graph	-17.25	PASS
Middle	Refer to test graph	-17.25	PASS
Highest	Refer to test graph	-17.25	PASS

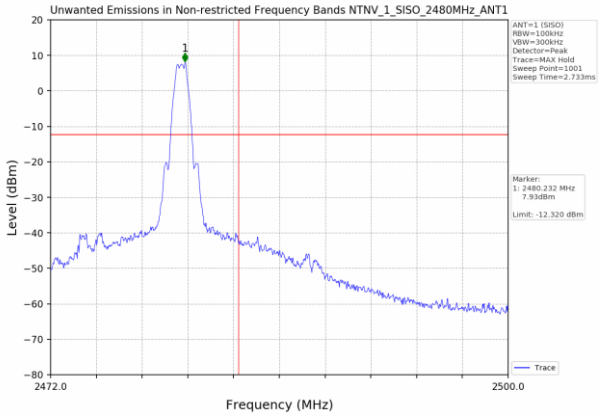
Test plot as follows:

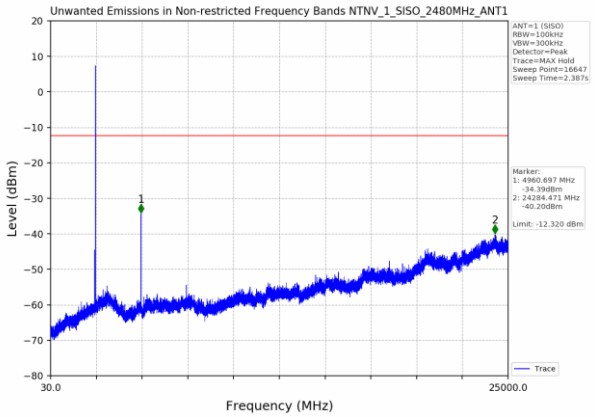

Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=1ms
Marker:
1: 2480.233 MHz
7.69dBm
Trace
Level (dBm)
Frequency (MHz)
2479.441
2480.559


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2401MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=9.467ms
Marker:
1: 2401.278 MHz
6.81dBm
Limit: -12.320 dBm
Trace
Level (dBm)
Frequency (MHz)
2310.0
2409.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2401MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=16647
Sweep Time=2.387s
Marker:
1: 4801.691 MHz
-31.95dBm
2: 24140.466 MHz
-46.46dBm
Limit: -12.320 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2440MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=16647
Sweep Time=2.387s
Marker:
1: 4881.194 MHz
-32.76dBm
2: 24215.469 MHz
-39.66dBm
Limit: -12.320 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=1001
Sweep Time=2.733ms
Marker:
1: 2480.232 MHz
7.93dBm
Limit: -12.320 dBm
Trace
Level (dBm)
Frequency (MHz)
2472.0
2500.0


Unwanted Emissions in Non-restricted Frequency Bands NTNV_1_SISO_2480MHz_ANT1
ANT=1 (SISO)
RBW=100kHz
VBW=300kHz
Detector=Peak
Trace=MAX Hold
Sweep Point=16647
Sweep Time=2.387s
Marker:
1: 4960.697 MHz
-34.39dBm
2: 24284.471 MHz
-40.20dBm
Limit: -12.320 dBm
Trace
Level (dBm)
Frequency (MHz)
30.0
25000.0

7.5.2 Radiated Emission Method

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

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

FCC Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

IC Limit:

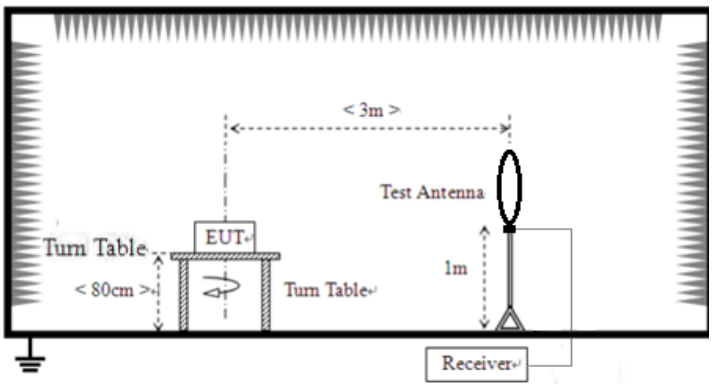
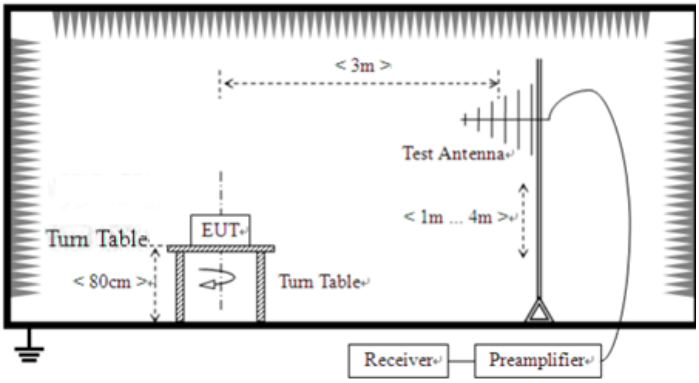
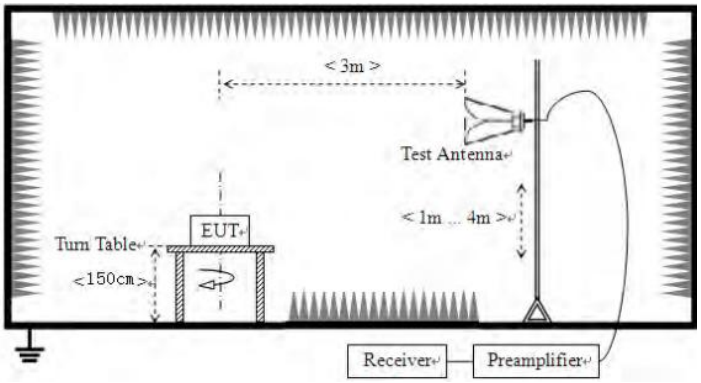
Table 5 – General field strength limits at frequencies above 30 MHz

Frequency (MHz)	Field strength (µV/m at 3 m)
30 – 88	100
88 – 216	150
216 – 960	200
Above 960	500

Table 6 – General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength (H-Field) (µA/m)	Measurement distance (m)
9 - 490 kHz [1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

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 environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
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.

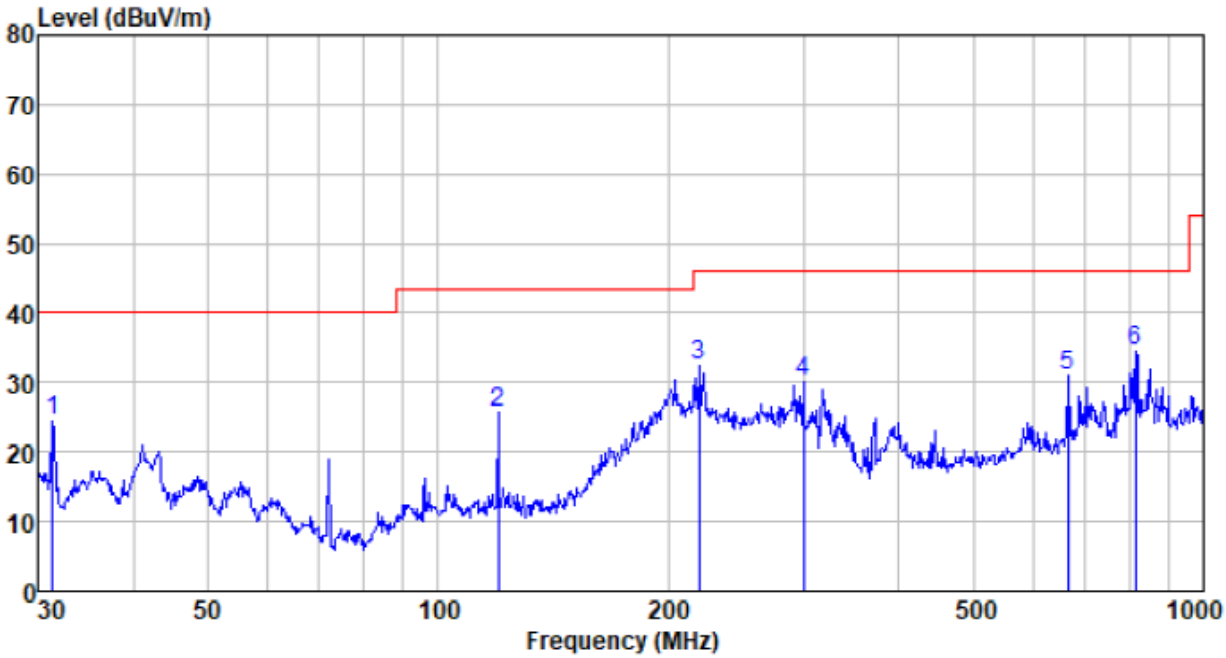
■ **9kHz~30MHz**

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.

■ **Below 1GHz**

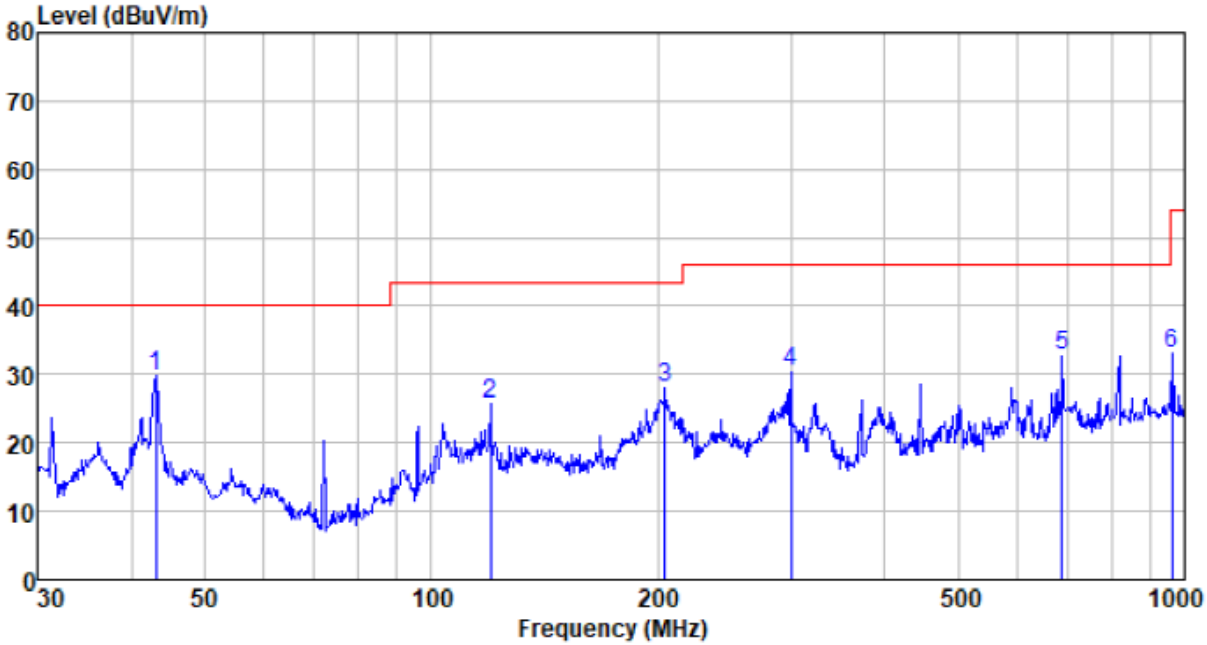
Pre-scan all test modes, found worst case at 2440MHz, and so only show the test result of 2440MHz

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
31.399	47.75	11.23	0.57	35.11	24.44	40.00	-15.56	QP
119.856	51.82	9.50	1.36	36.88	25.80	43.50	-17.70	QP
219.075	56.63	11.13	1.95	37.35	32.36	46.00	-13.64	QP
300.367	51.55	13.60	2.36	37.42	30.09	46.00	-15.91	QP
665.804	44.96	19.57	3.97	37.60	30.90	46.00	-15.10	QP
815.968	46.00	21.54	4.52	37.62	34.44	46.00	-11.56	QP

Vertical:

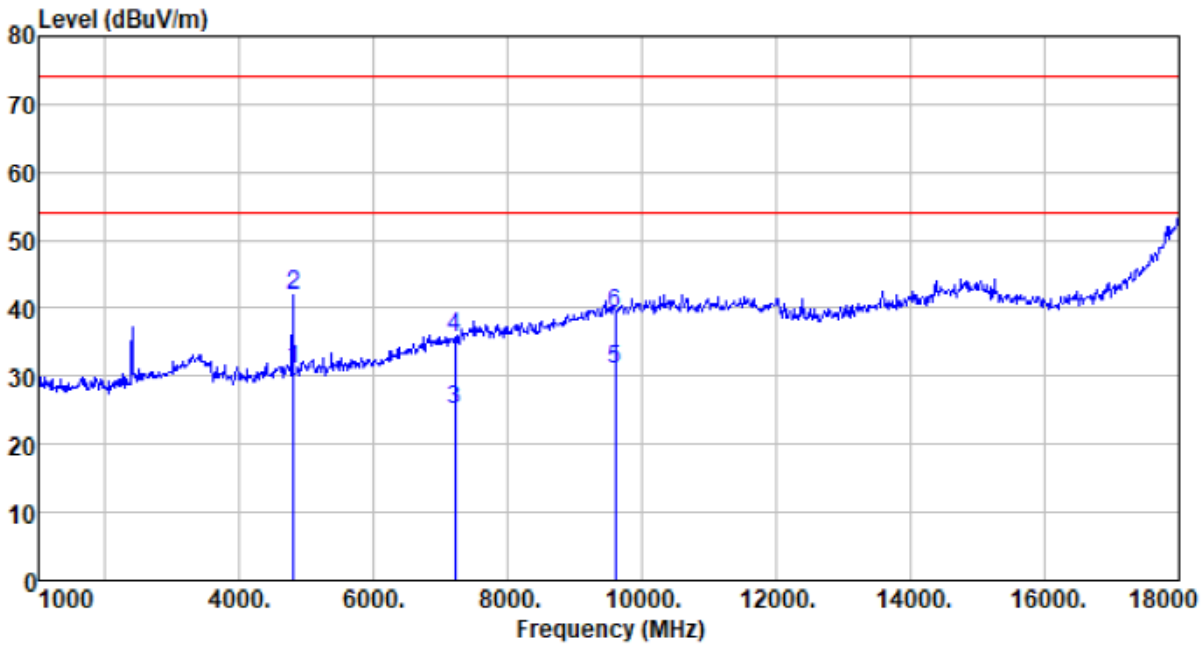


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
43.050	52.78	12.23	0.70	35.83	29.88	40.00	-10.12	QP
119.856	51.84	9.50	1.36	36.88	25.82	43.50	-17.68	QP
204.238	53.01	10.58	1.86	37.33	28.12	43.50	-15.38	QP
300.367	51.76	13.60	2.36	37.42	30.30	46.00	-15.70	QP
687.151	46.65	19.59	4.05	37.62	32.67	46.00	-13.33	QP
962.162	43.01	22.55	5.09	37.54	33.11	54.00	-20.89	QP

- **Above 1GHz**
- **Unwanted Emissions in Restricted Frequency Bands**

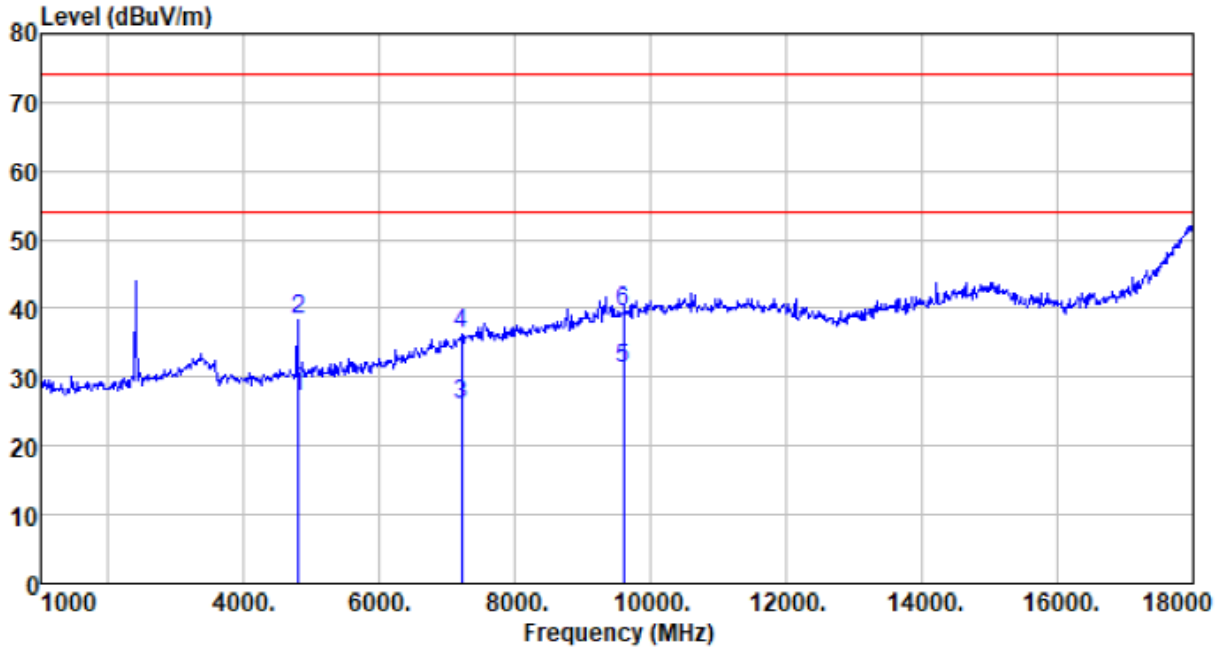
Test channel:	Lowest channel

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4802.000	32.23	31.86	4.61	37.73	30.97	54.00	-23.03	Average
4802.000	43.19	31.86	4.61	37.73	41.93	74.00	-32.07	Peak
7203.000	18.48	35.77	6.48	35.63	25.10	54.00	-28.90	Average
7203.000	28.96	35.77	6.48	35.63	35.58	74.00	-38.42	Peak
9604.000	19.73	38.24	7.97	34.94	31.00	54.00	-23.00	Average
9604.000	27.99	38.24	7.97	34.94	39.26	74.00	-34.74	Peak

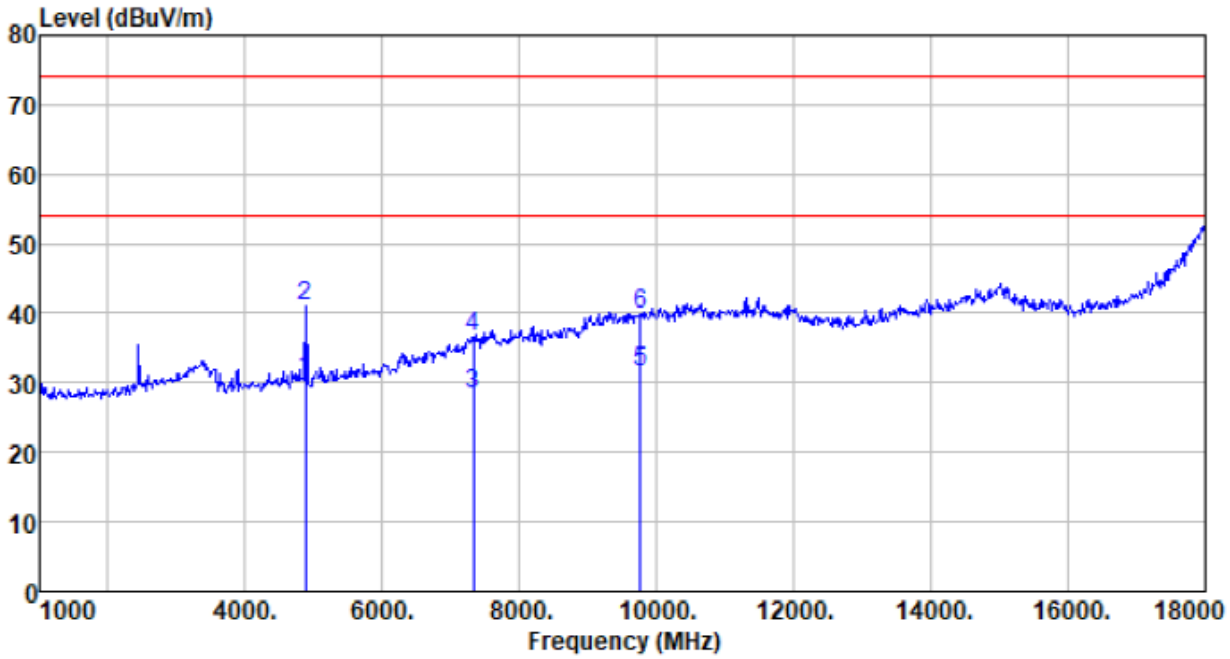
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4802.000	28.33	31.86	4.61	37.73	27.07	54.00	-26.93	Average
4802.000	39.55	31.86	4.61	37.73	38.29	74.00	-35.71	Peak
7203.000	19.44	35.77	6.48	35.63	26.06	54.00	-27.94	Average
7203.000	29.61	35.77	6.48	35.63	36.23	74.00	-37.77	Peak
9604.000	19.91	38.24	7.97	34.94	31.18	54.00	-22.82	Average
9604.000	28.19	38.24	7.97	34.94	39.46	74.00	-34.54	Peak

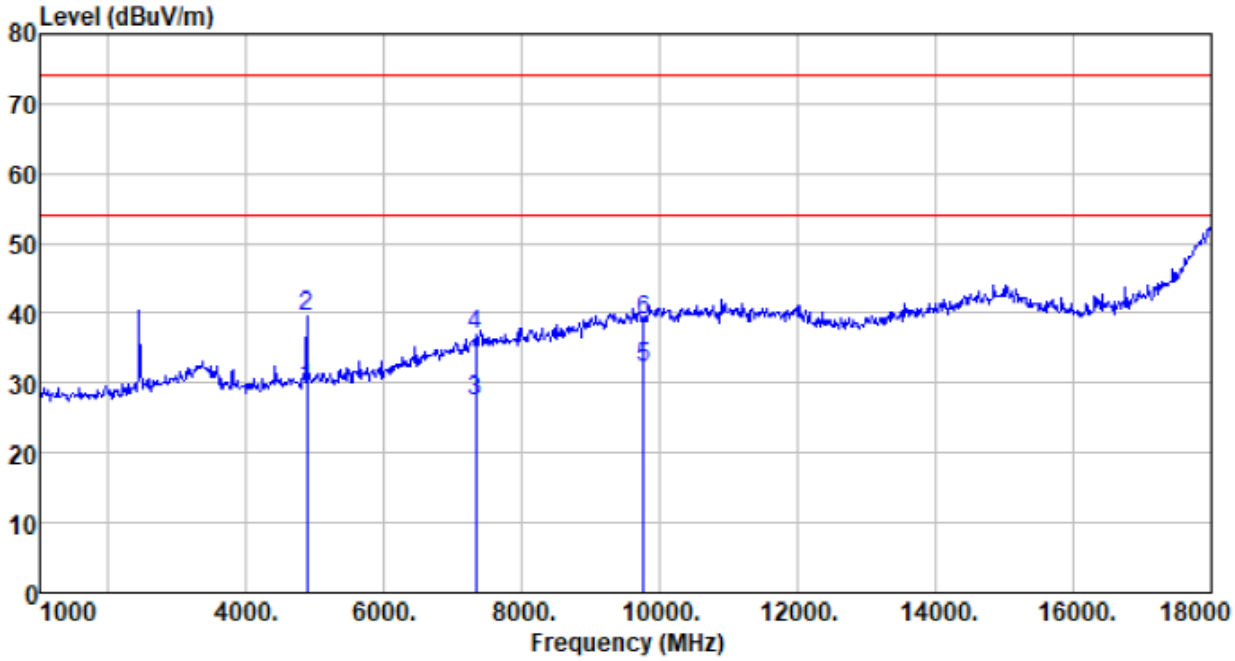
Test channel:	Middle channel

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4880.000	31.49	32.04	4.69	37.75	30.47	54.00	-23.53	Average
4880.000	42.04	32.04	4.69	37.75	41.02	74.00	-32.98	Peak
7320.000	21.12	36.10	6.63	35.60	28.25	54.00	-25.75	Average
7320.000	29.33	36.10	6.63	35.60	36.46	74.00	-37.54	Peak
9760.000	20.43	38.30	8.03	35.03	31.73	54.00	-22.27	Average
9760.000	28.51	38.30	8.03	35.03	39.81	74.00	-34.19	Peak

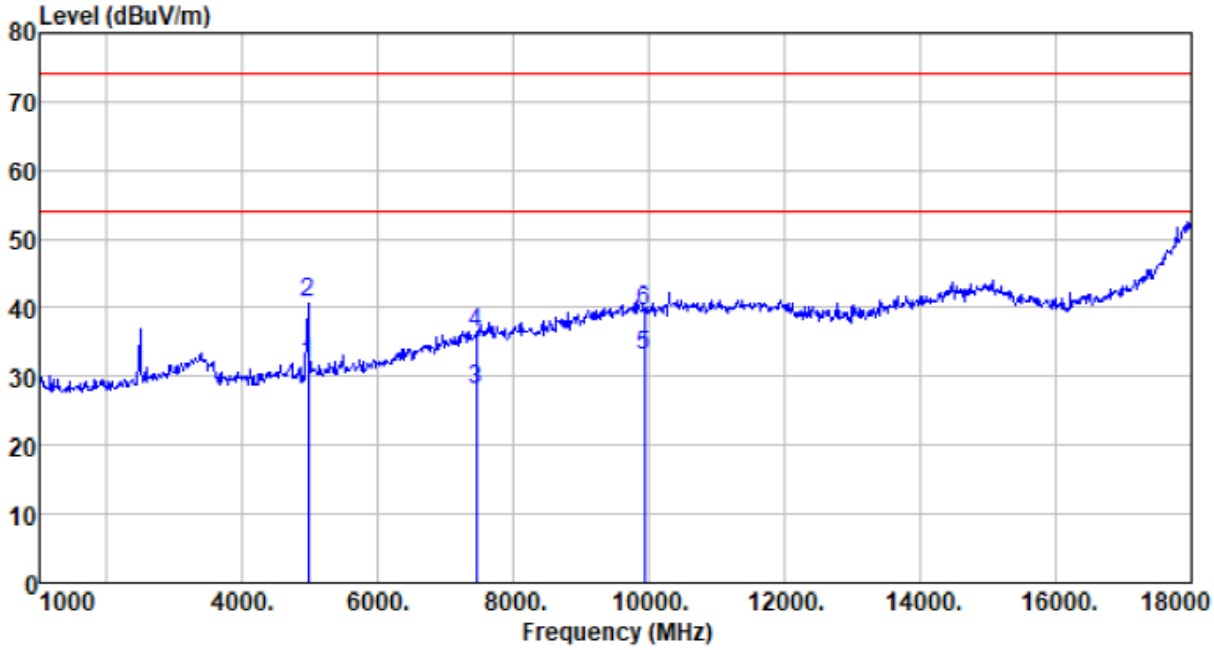
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4880.000	30.28	32.04	4.69	37.75	29.26	54.00	-24.74	Average
4880.000	40.46	32.04	4.69	37.75	39.44	74.00	-34.56	Peak
7320.000	20.40	36.10	6.63	35.60	27.53	54.00	-26.47	Average
7320.000	29.65	36.10	6.63	35.60	36.78	74.00	-37.22	Peak
9760.000	20.91	38.30	8.03	35.03	32.21	54.00	-21.79	Average
9760.000	27.72	38.30	8.03	35.03	39.02	74.00	-34.98	Peak

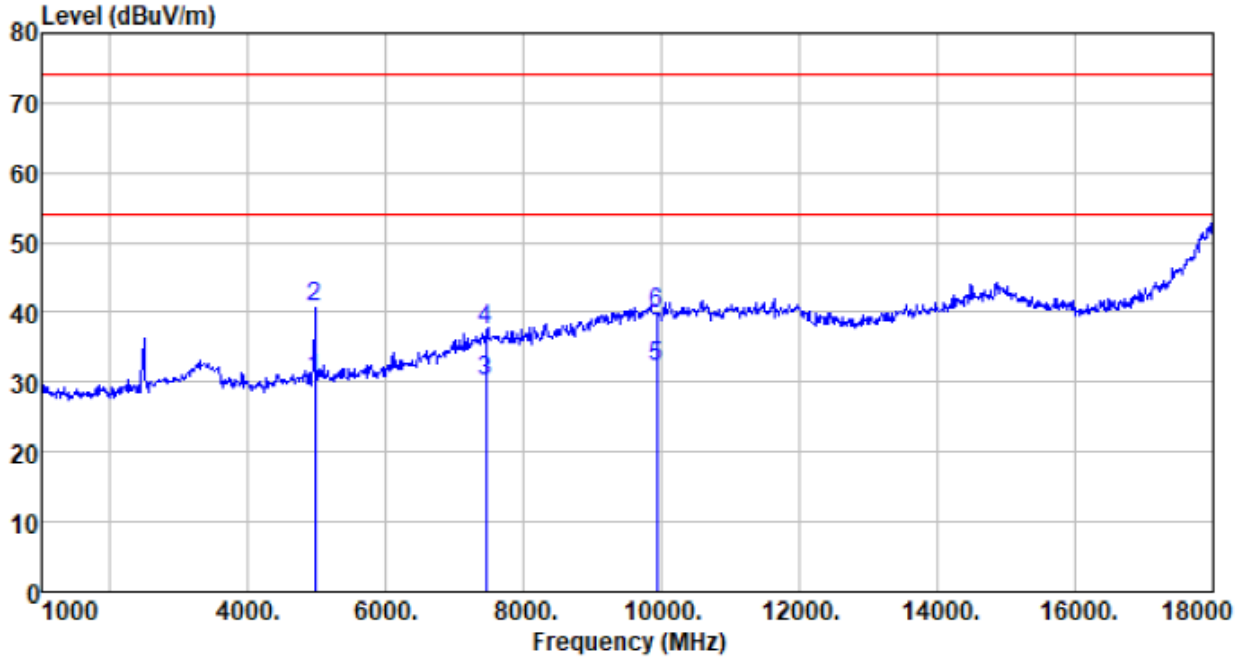
Test channel:	Highest channel

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4960.000	32.59	32.21	4.79	37.78	31.81	54.00	-22.19	Average
4960.000	41.41	32.21	4.79	37.78	40.63	74.00	-33.37	Peak
7440.000	20.35	36.43	6.77	35.56	27.99	54.00	-26.01	Average
7440.000	28.76	36.43	6.77	35.56	36.40	74.00	-37.60	Peak
9920.000	21.80	38.37	8.09	35.14	33.12	54.00	-20.88	Average
9920.000	28.28	38.37	8.09	35.14	39.60	74.00	-34.40	Peak

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4960.000	31.10	32.21	4.79	37.78	30.32	54.00	-23.68	Average
4960.000	41.66	32.21	4.79	37.78	40.88	74.00	-33.12	Peak
7440.000	22.49	36.43	6.77	35.56	30.13	54.00	-23.87	Average
7440.000	29.73	36.43	6.77	35.56	37.37	74.00	-36.63	Peak
9920.000	20.83	38.37	8.09	35.14	32.15	54.00	-21.85	Average
9920.000	28.55	38.37	8.09	35.14	39.87	74.00	-34.13	Peak

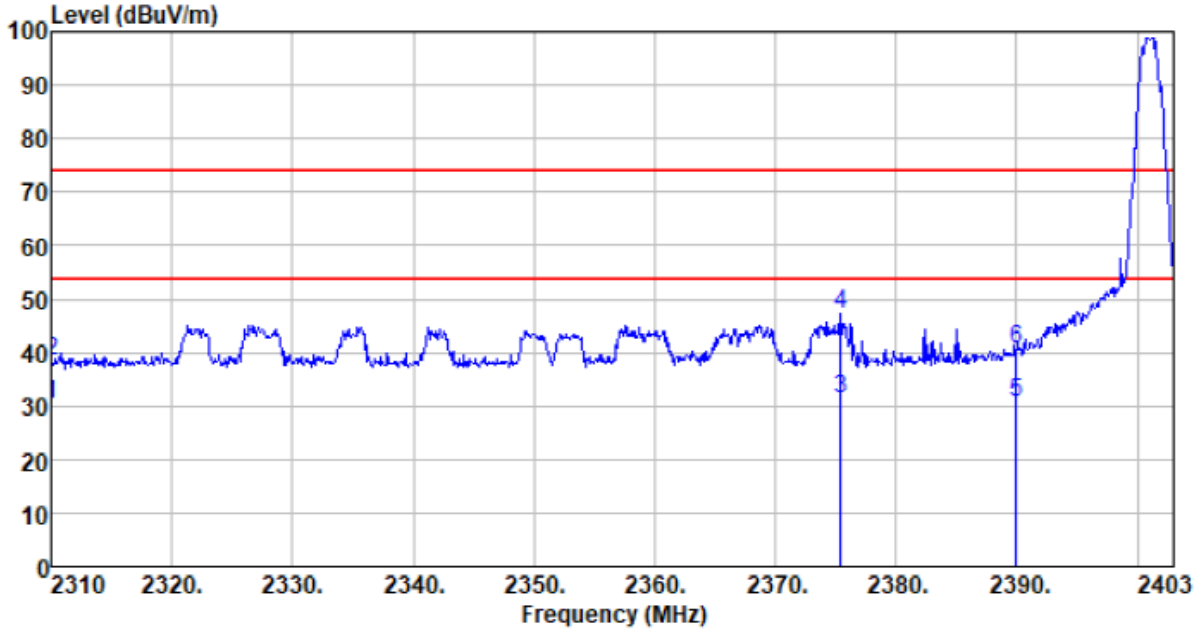
Remarks:

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.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

■ **Unwanted Emissions in Non-restricted Frequency Bands**

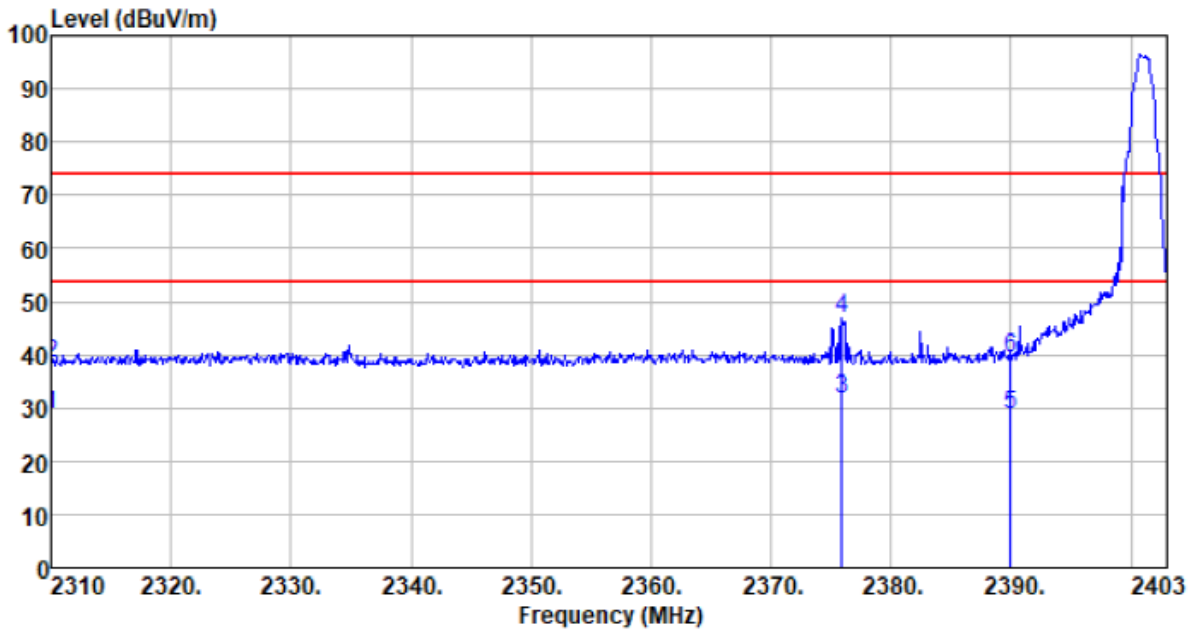
Test channel:	Lowest channel

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	35.41	26.81	2.81	34.94	30.09	54.00	-23.91	Average
2310.000	43.81	26.81	2.81	34.94	38.49	74.00	-35.51	Peak
2375.379	36.21	26.98	2.89	34.81	31.27	54.00	-22.73	Average
2375.379	52.08	26.98	2.89	34.81	47.14	74.00	-26.86	Peak
2390.000	35.39	27.01	2.91	34.78	30.53	54.00	-23.47	Average
2390.000	45.27	27.01	2.91	34.78	40.41	74.00	-33.59	Peak

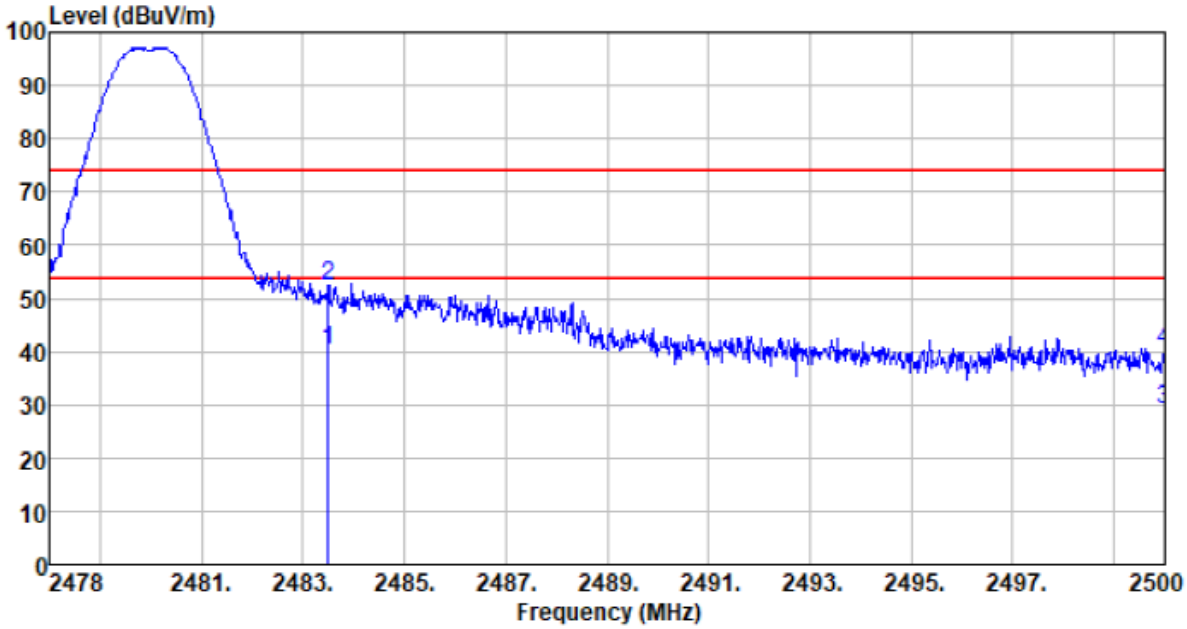
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	33.93	26.81	2.81	34.94	28.61	54.00	-25.39	Average
2310.000	43.76	26.81	2.81	34.94	38.44	74.00	-35.56	Peak
2375.937	36.66	26.98	2.89	34.81	31.72	54.00	-22.28	Average
2375.937	51.78	26.98	2.89	34.81	46.84	74.00	-27.16	Peak
2390.000	33.59	27.01	2.91	34.78	28.73	54.00	-25.27	Average
2390.000	44.52	27.01	2.91	34.78	39.66	74.00	-34.34	Peak

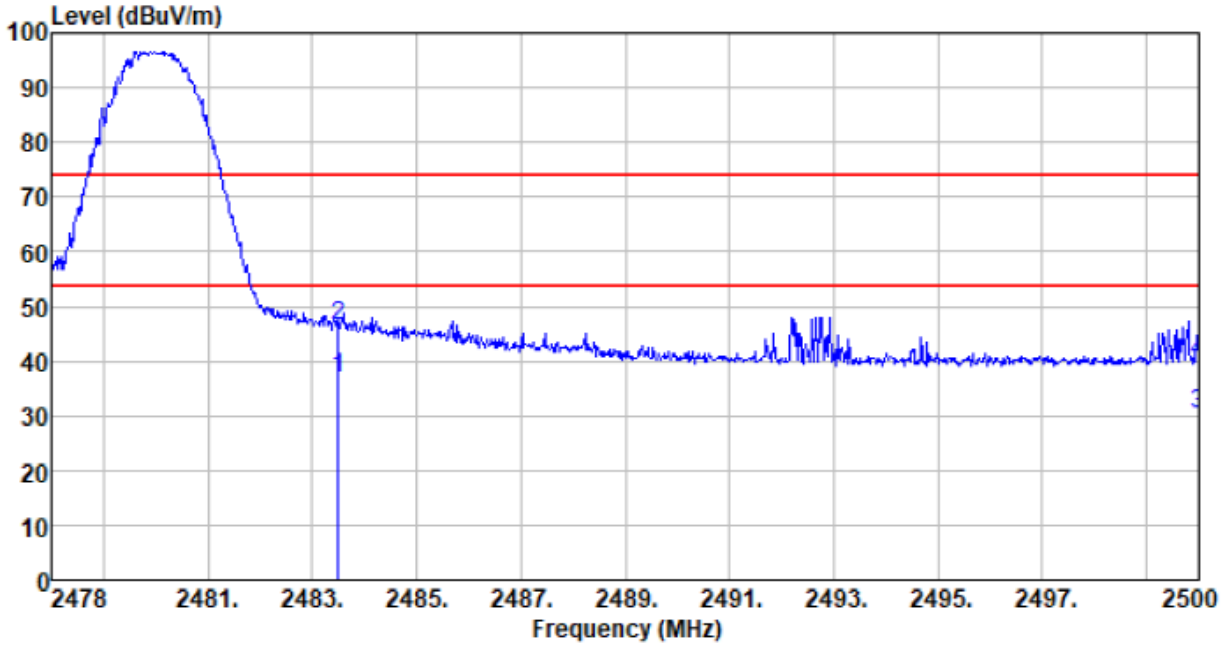
Test channel:	Highest channel

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2483.500	44.61	27.26	2.99	34.60	40.26	54.00	-13.74	Average
2483.500	56.76	27.26	2.99	34.60	52.41	74.00	-21.59	Peak
2500.000	33.24	27.30	3.01	34.57	28.98	54.00	-25.02	Average
2500.000	44.47	27.30	3.01	34.57	40.21	74.00	-33.79	Peak

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2483.500	41.20	27.26	2.99	34.60	36.85	54.00	-17.15	Average
2483.500	50.87	27.26	2.99	34.60	46.52	74.00	-27.48	Peak
2500.000	34.63	27.30	3.01	34.57	30.37	54.00	-23.63	Average
2500.000	44.05	27.30	3.01	34.57	39.79	74.00	-34.21	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.*
3. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*

8 Test Setup Photo

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

9 EUT Constructional Details

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

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