



**CFR 47 FCC PART 15 SUBPART C  
ISED RSS-210 ISSUE 9**

**TEST REPORT**

*For*

**TOY Transmitter**

**MODEL NUMBER: GF31T2RR**

**FCC ID: G6DGF31T2RR**

**IC: 9650A-GF31T2RR**

**REPORT NUMBER: 4788913559.1-3**

**ISSUE DATE: May 9, 2019**

*Prepared for*

**NEW BRIGHT INDUSTRIAL CO., LTD  
9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD, KOWLOON BAY,  
KOWLOON, HONG KONG.**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch  
Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake  
Hi-Tech Development Zone Dongguan, People's Republic of China**

**Tel: +86 769 22038881**

**Fax: +86 769 33244054**

**Website: [www.ul.com](http://www.ul.com)**



Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	05/09/2019	Initial Issue	



Summary of Test Results			
Clause	Test Items	IC Rules	Test Results
1	20dB Bandwidth and 99% Occupied Bandwidth	CFR 47 FCC 15.249(d) ISED RSS-Gen Clause 6.7	Pass
2	Radiated emission	CFR 47 FCC §15.249 (a)(d)(e) ISED RSS-210 Clause Annex B B.10 CFR 47 FCC §15.205 and §15.209 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	Pass
3	Antenna Requirement	FCC Part 15.203 ISED RSS-Gen Clause 8.3	Pass



## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>5</b>
<b>2. TEST METHODOLOGY .....</b>	<b>6</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>6</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>7</b>
4.1. <i>MEASURING INSTRUMENT CALIBRATION .....</i>	<i>7</i>
4.2. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>7</i>
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>8</b>
5.1. <i>DESCRIPTION OF EUT .....</i>	<i>8</i>
5.2. <i>MAXIMUM OUTPUT POWER.....</i>	<i>8</i>
5.3. <i>CHANNEL LIST.....</i>	<i>8</i>
5.4. <i>DESCRIPTION OF AVAILABLE ANTENNAS .....</i>	<i>9</i>
5.5. <i>TEST CHANNEL CONFIGURATION.....</i>	<i>9</i>
5.6. <i>THE WORSE CASE POWER SETTING PARAMETER.....</i>	<i>9</i>
5.7. <i>TEST ENVIRONMENT .....</i>	<i>9</i>
5.8. <i>DESCRIPTION OF TEST SETUP.....</i>	<i>10</i>
5.9. <i>MEASURING INSTRUMENT AND SOFTWARE USED.....</i>	<i>11</i>
<b>6. ANTENNA PORT TEST RESULTS .....</b>	<b>12</b>
6.1. <i>ON TIME AND DUTY CYCLE.....</i>	<i>12</i>
6.2. <i>20 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH .....</i>	<i>14</i>
<b>7. RADIATED TEST RESULTS.....</b>	<b>18</b>
7.1. <i>LIMITS AND PROCEDURE.....</i>	<i>18</i>
7.2. <i>RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS</i> <i>25</i>	
7.3. <i>SPURIOUS EMISSIONS (1~3GHz).....</i>	<i>31</i>
7.4. <i>SPURIOUS EMISSIONS (3~18GHz).....</i>	<i>37</i>
7.5. <i>SPURIOUS EMISSIONS (18~26GHz).....</i>	<i>43</i>
7.6. <i>SPURIOUS EMISSIONS BELOW 30M.....</i>	<i>45</i>
7.7. <i>SPURIOUS EMISSIONS BELOW 1 GHz.....</i>	<i>51</i>
<b>8. ANTENNA REQUIREMENTS.....</b>	<b>53</b>



# 1. ATTESTATION OF TEST RESULTS

## Applicant Information

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD  
Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,  
KOWLOON BAY, KOWLOON, HONG KONG.

## Manufacturer Information

Company Name: NEW BRIGHT INDUSTRIAL CO., LTD  
Address: 9/F., NEW BRIGHT BUILDING, 11 SHEUNG YUET ROAD,  
KOWLOON BAY, KOWLOON, HONG KONG.

## EUT Description

EUT Name: TOY Transmitter  
Model: GF31T2RR  
Brand Name: /  
Sample Status: Normal  
Sample ID: 2124423  
Sample Received Date: March 6, 2019  
Date of Tested: March 11, 2019 ~ May 9, 2019

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	PASS
ISED RSS-210 Issue 9	PASS
ISED RSS-GEN Issue 5	PASS

Prepared By:

Checked By:

Denny Huang  
Engineer Project Associate  
Approved By:

Shawn Wen  
Laboratory Leader

Stephen Guo  
Laboratory Manager



## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2014, ISED RSS-210 Issue 9 and RSS-GEN Issue 5.

## 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>IC(Company No.: 21320)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
---------------------------	---

Note:

1. All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China
2. The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.
3. For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62dB
Radiation Emission test(include Fundamental emission) (9KHz-30MHz)	2.2dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.00dB
Radiation Emission test (1GHz to 26GHz)( include Fundamental emission)	5.78dB (1GHz-18Gz)
	5.23dB (18GHz-26Gz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

EUT Name	TOY Transmitter		
EUT Description	The EUT is a wireless remote controller.		
Model	GF31T2RR		
Product Description	Operation Frequency	2410 MHz ~ 2475 MHz	
	Modulation Type	GFSK	
Battery	DC 3V		

### 5.2. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Number of Transmit Chains (NTX)	Frequency (MHz)	Channel Number	Max Power (dB $\mu$ V/m)
2410 ~ 2475	1	2443	34[66]	95.10

### 5.3. CHANNEL LIST

Channel	Frequency (MHz)						
1	2410	18	2427	35	2444	52	2461
2	2411	19	2428	36	2445	53	2462
3	2412	20	2429	37	2446	54	2463
4	2413	21	2430	38	2447	55	2464
5	2414	22	2431	39	2448	56	2465
6	2415	23	2432	40	2449	57	2466
7	2416	24	2433	41	2450	58	2467
8	2417	25	2434	42	2451	59	2468
9	2418	26	2435	43	2452	60	2469
10	2419	27	2436	44	2453	61	2470
11	2420	28	2437	45	2454	62	2471
12	2421	29	2438	46	2455	63	2472
13	2422	30	2439	47	2456	64	2473
14	2423	31	2440	48	2457	65	2474
15	2424	32	2441	49	2458	66	2475
16	2425	33	2442	50	2459	/	/
17	2426	34	2443	51	2460	/	/



### 5.4. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2410 ~ 2475	Wire Antenna	0

Test Mode	Transmit and Receive Mode	Description
GFSK	<input checked="" type="checkbox"/> 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

### 5.5. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK	CH 1, CH 34, CH 66	2410MHz, 2443MHz, 2475MHz

### 5.6. THE WORSE CASE POWER SETTING PARAMETER

The Worst Case Power Setting Parameter under 2410 ~ 2475MHz Band				
Test Software		/		
Modulation Type	Transmit Antenna Number	Test Channel		
		CH 1	CH 34	CH 66
GFSK	1	Default	Default	Default

### 5.7. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests	
Relative Humidity	55 ~ 65%	
Atmospheric Pressure:	1025Pa	
Temperature	TN	22 ~ 28°C
Voltage :	VL	N/A
	VN	DC 3V
	VH	N/A

Note: VL= Lower Extreme Test Voltage  
VN= Nominal Voltage  
VH= Upper Extreme Test Voltage  
TN= Normal Temperature



## 5.8. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	/	/	/	/

### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	/	/	/	/	/

### ACCESSORY

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
1	/	/	/	/	/

### TEST SETUP

The EUT have the engineer mode inside.

### SETUP DIAGRAM FOR TEST



Note: New battery was used during all tests.



### 5.9. MEASURING INSTRUMENT AND SOFTWARE USED

Radiated Emissions						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Sep.17,2018	Sep.17,2021
<input checked="" type="checkbox"/>	Preamplifier	HP	8447D	2944A09099	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	EMI Measurement Receiver	R&S	ESR26	101377	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	Horn Antenna	TDK	HRN-0118	130939	Sep.17,2018	Sep.17,2021
<input checked="" type="checkbox"/>	High Gain Horn Antenna	Schwarzbeck	BBHA-9170	691	Aug.18,2018	Aug.18,2021
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-0118	TRS-305-00066	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Software						
Used	Description	Manufacturer	Name	Version		
<input checked="" type="checkbox"/>	Test Software for Radiated disturbance	Farad	EZ-EMC	Ver. UL-3A1		
Other instruments						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	Spectrum Analyzer	Keysight	N9030A	MY55410512	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Dec.10,2018	Dec.10,2019
<input checked="" type="checkbox"/>	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Dec.10,2018	Dec.10,2019



## 6. ANTENNA PORT TEST RESULTS

### 6.1. ON TIME AND DUTY CYCLE

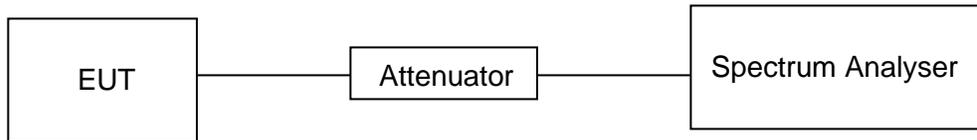
#### LIMITS

None; for reporting purposes only

#### PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

#### TEST SETUP



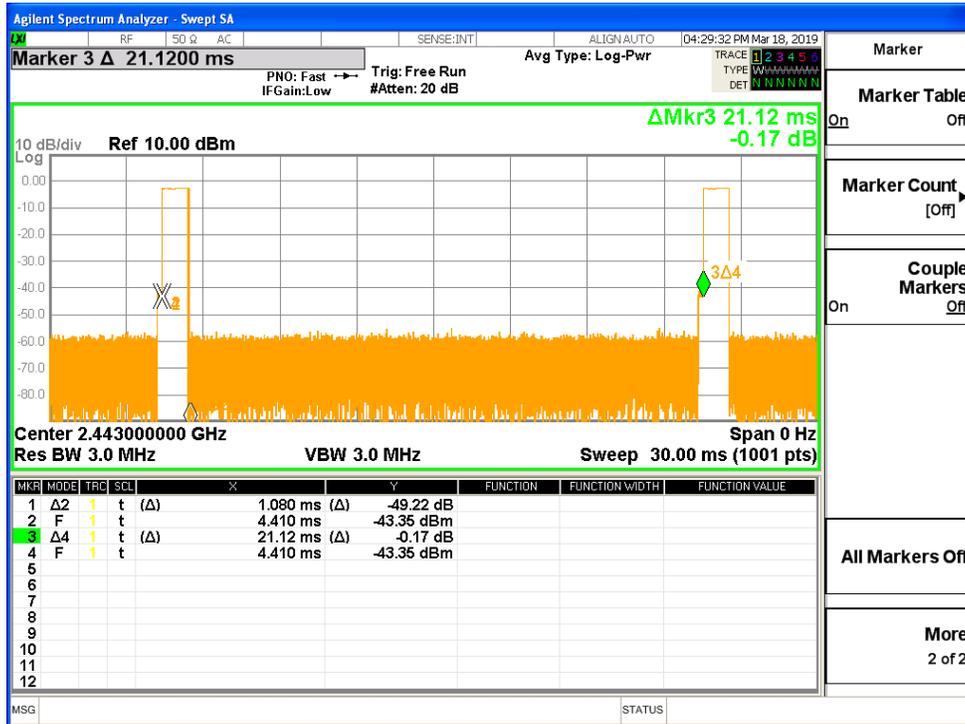
#### RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)
GFSK	1.080	21.12	0.051	5.11	-25.85

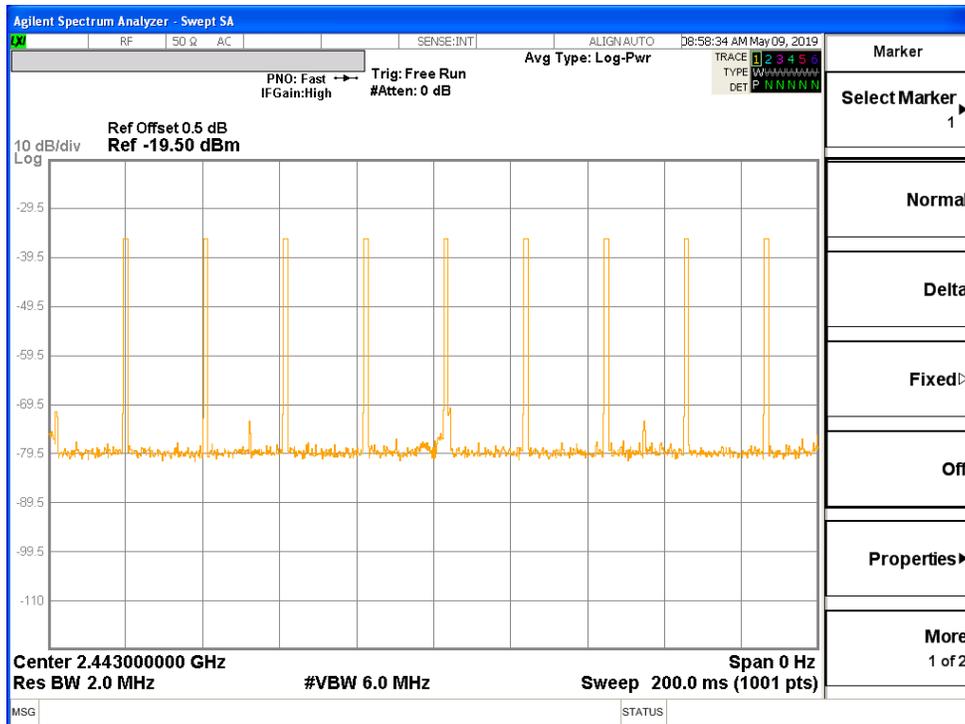
Note: Duty Cycle Correction Factor=20log(x).  
Where: x is Duty Cycle



### ON TIME AND DUTY CYCLE MID CH PLOT



### ON TIME AND DUTY CYCLE MID CH PLOT-2



Note: All the mode had been tested, but only the worst duty cycle recorded in the report.

## 6.2. 20 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

### LIMITS

CFR 47 FCC Part15 (15.249) , Subpart C RSS-Gen Issue 5			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.249(d)	20dB Bandwidth	for reporting purposes only	2400-2483.5
ISED RSS-Gen Clause 6.7 Issue 5	99% Occupied Bandwidth	For reporting purposes only.	2400-2483.5

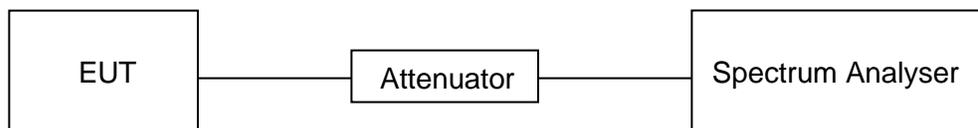
### TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the occupied bandwidth
VBW	approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

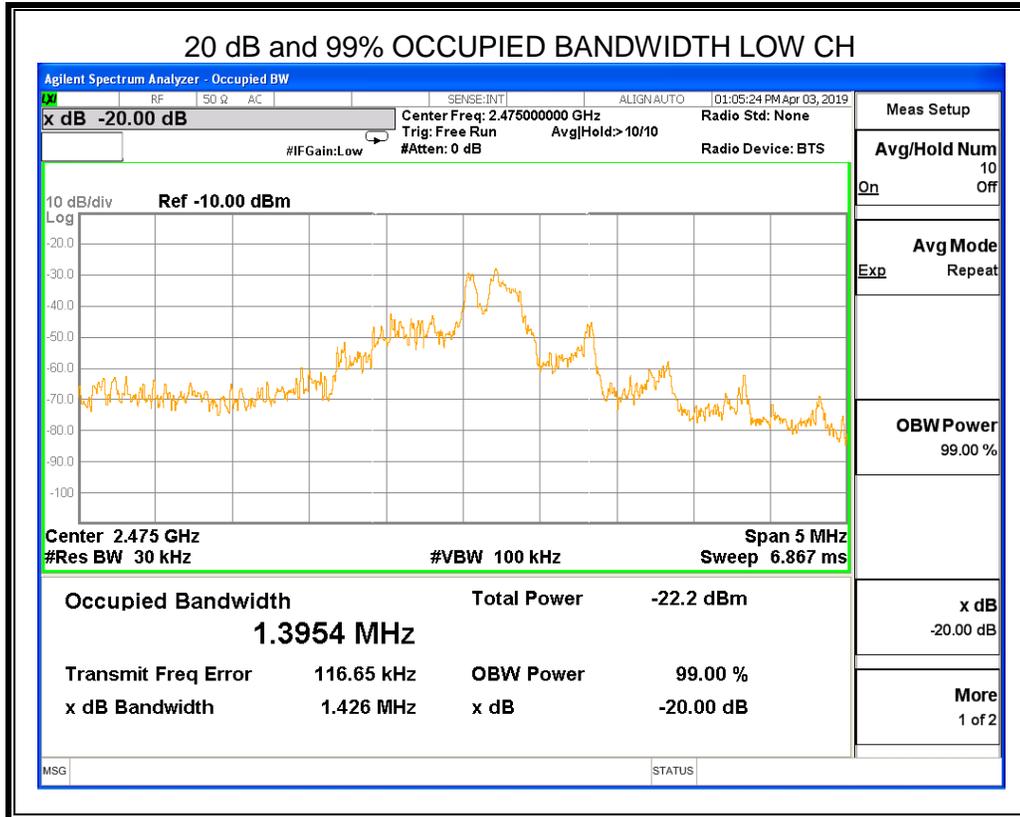
### TEST SETUP





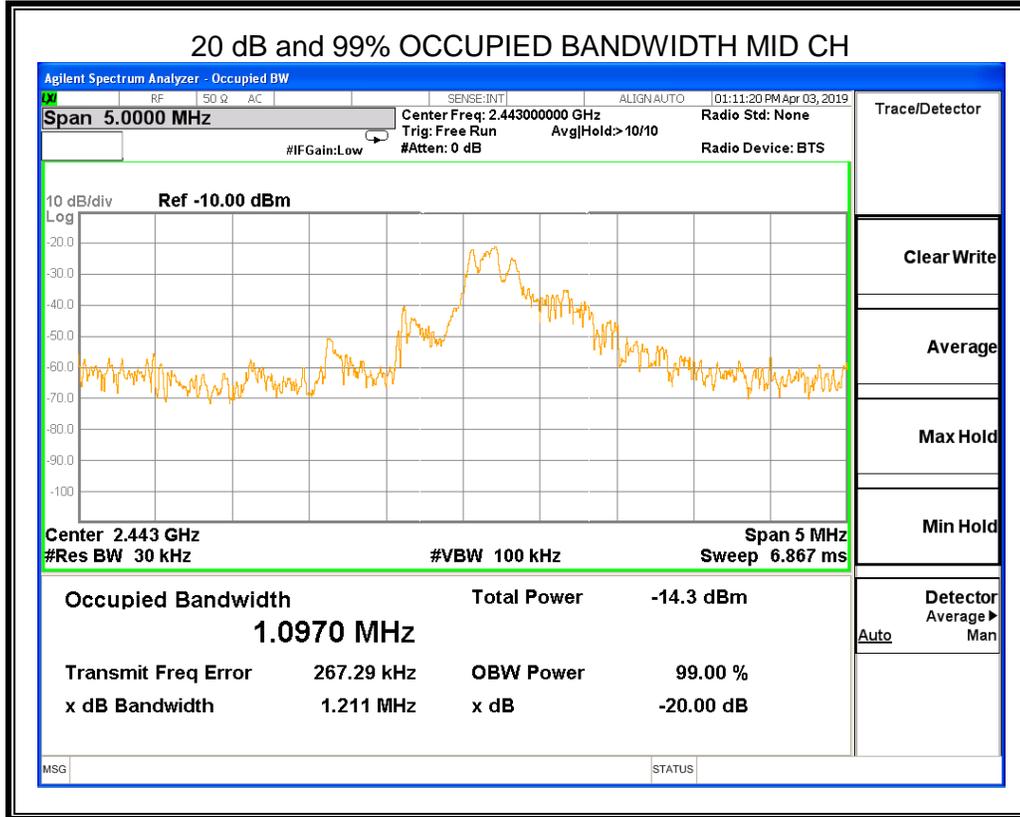
**RESULTS**

Frequency (MHz)	20dB bandwidth (MHz)	99% bandwidth (MHz)	Result
2410	1.426	1.3954	PASS



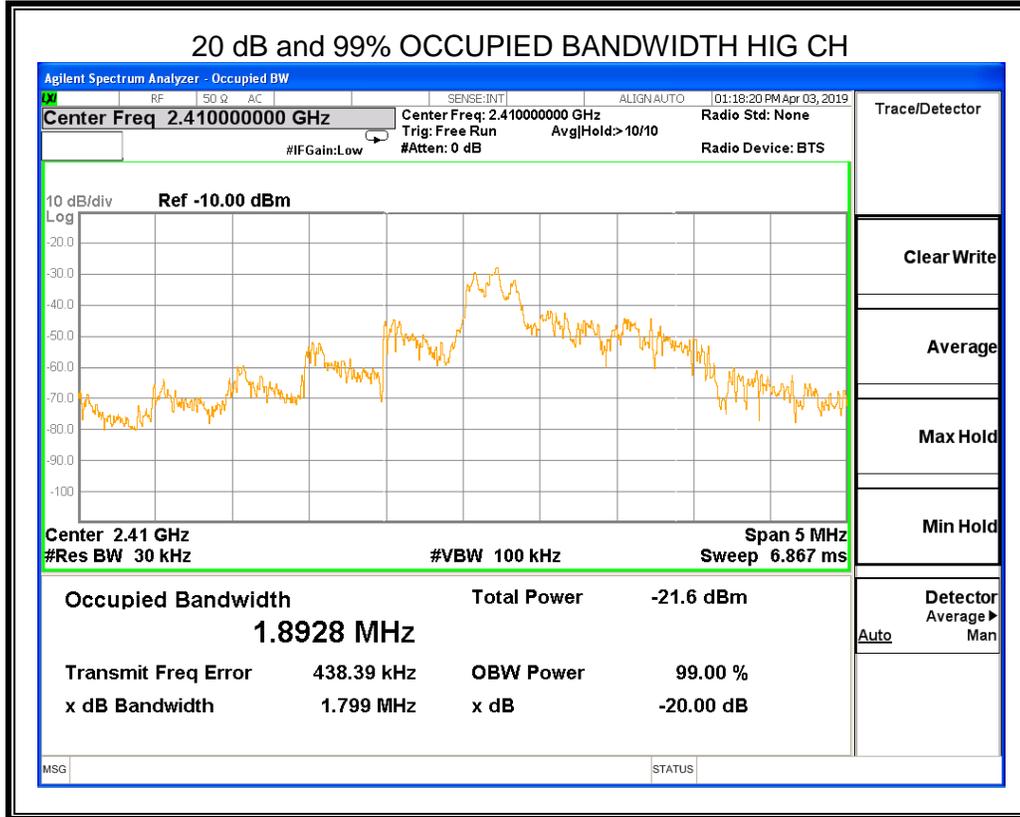


Frequency (MHz)	20dB bandwidth (MHz)	99% bandwidth (MHz)	Result
2443	1.211	1.0970	PASS





Frequency (MHz)	20dB bandwidth (MHz)	99% bandwidth (MHz)	Result
2475	1.799	1.8928	PASS





## 7. RADIATED TEST RESULTS

### 7.1. LIMITS AND PROCEDURE

#### LIMITS

CFR 47 FCC §15.205 and §15.209

CFR 47 FCC §15.249 (a)(d)(e)

ISED RSS-210 Issue 9 Clause Annex B B.10

The field strength of emissions from intentional radiators operated within these frequency bands			
Frequency (MHz)	Field strength of Fundamental	Field strength of Harmonics	Distance (m)
902 - 928	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
2400 – 2483.5	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
5725 – 5875	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3

Emissions radiated outside of the specified frequency bands above 30MHz			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

Emissions radiated outside of the specified frequency bands below 30MHz		
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

IC Restricted bands please refer to ISED RSS-GEN Clause 8.10



Table 7 – Restricted frequency bands <sup>1</sup>		
MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 36.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138		

**Note 1:** Certain frequency bands listed in table 7 and in bands above 36.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.



FCC Restricted bands of operation:

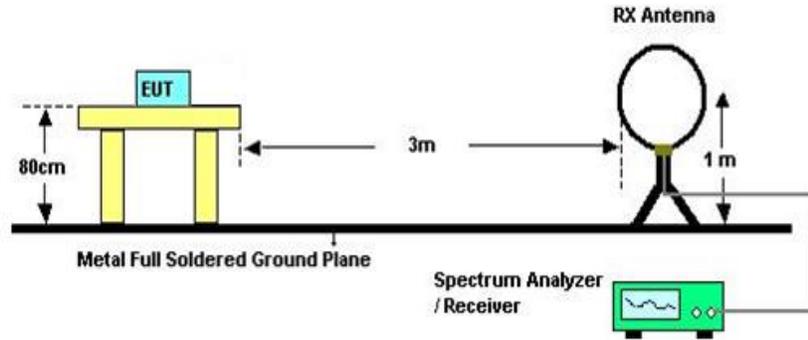
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup>Above 38.6c

**TEST SETUP AND PROCEDURE**

Below 30MHz

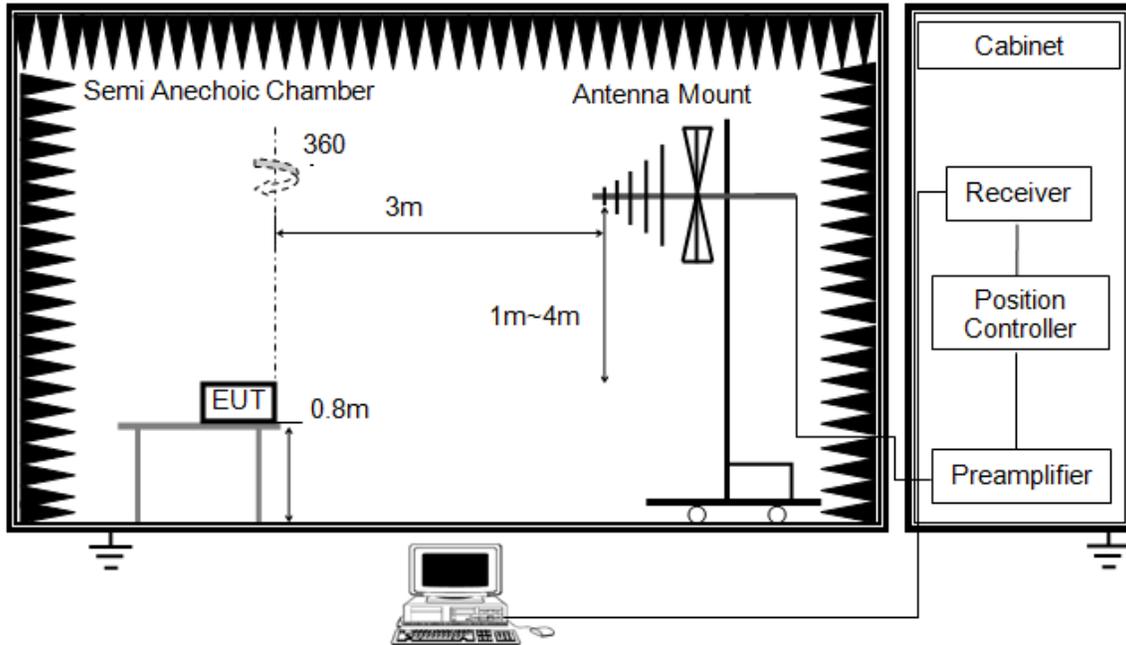


The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80cm meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. The radiated emission limits 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.
6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Below 1G

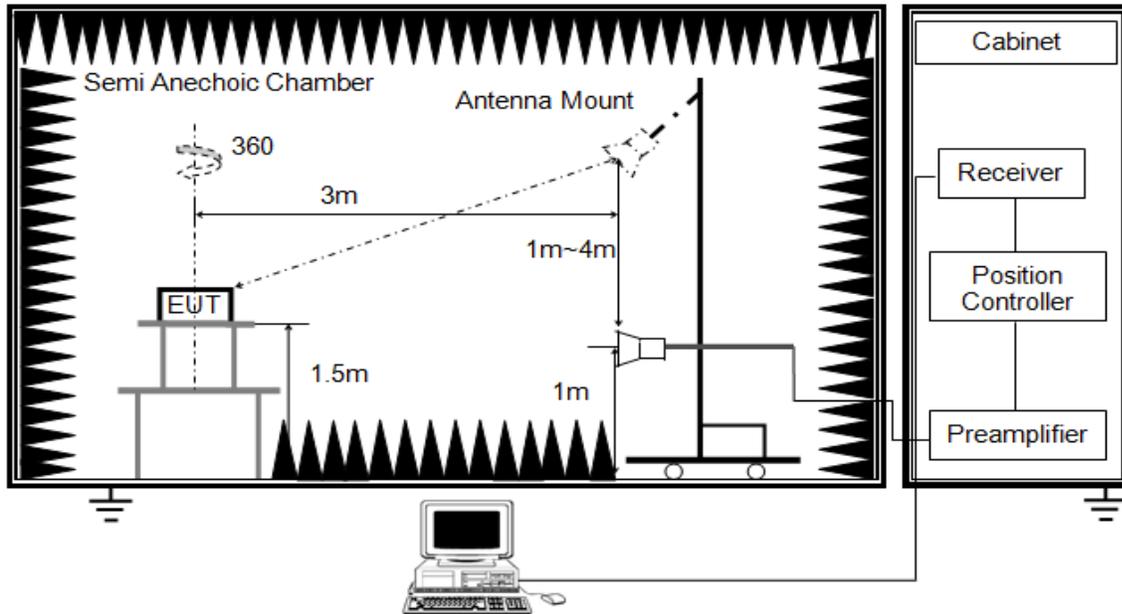


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1G



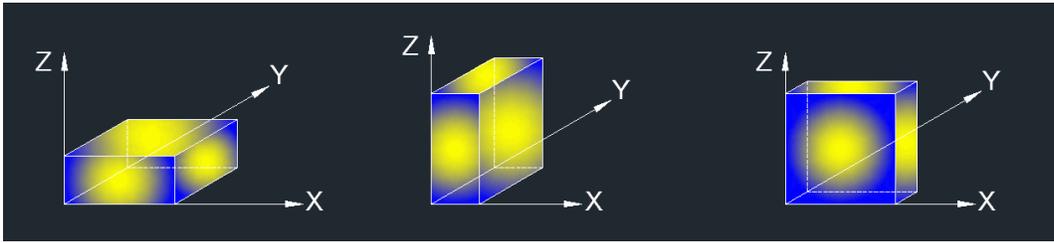
The setting of the spectrum analyser

RBW	1M
VBW	PEAK: 3M AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. Average Value=Peak Value + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 6.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:

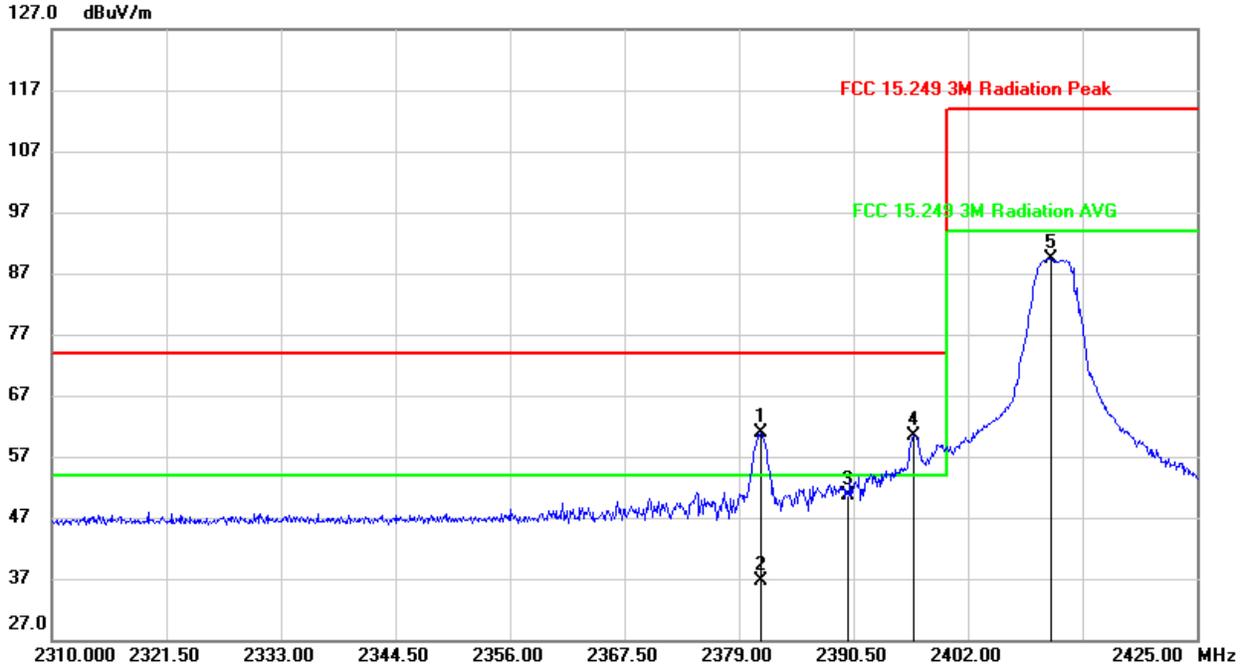


Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.



## 7.2. RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS

### RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (LOW CHANNEL, HORIZONTAL)

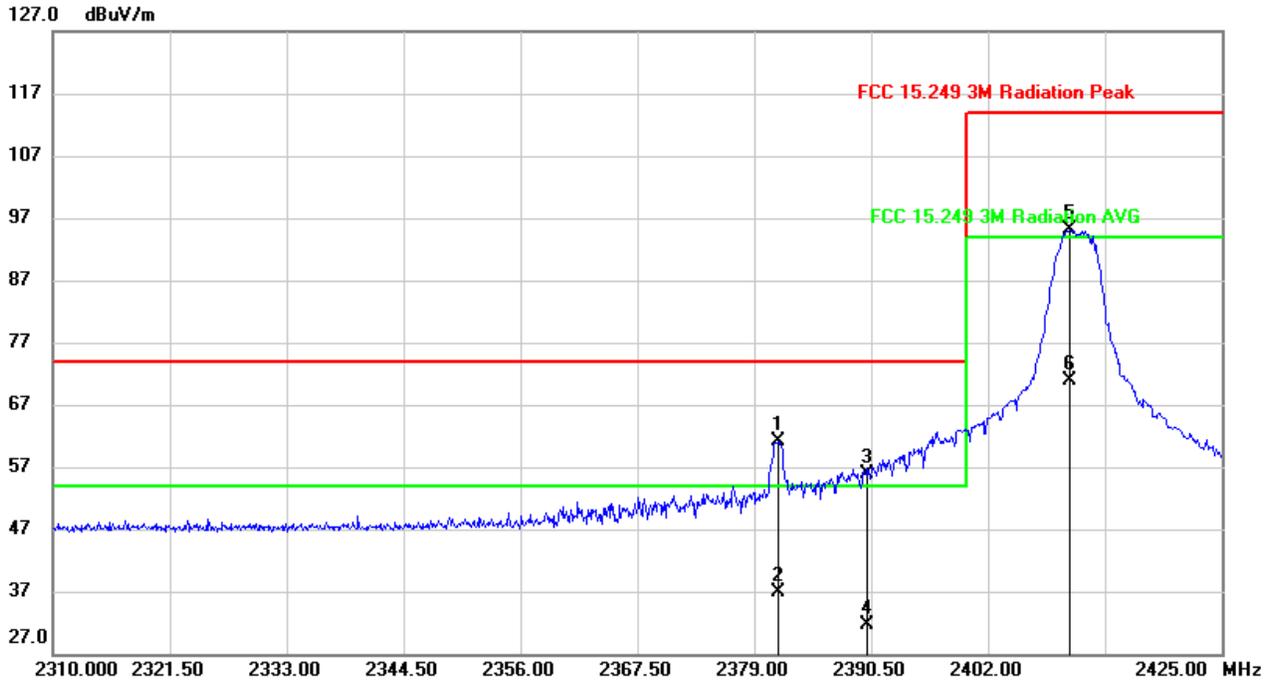


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2381.185	28.04	32.92	60.96	74.00	-13.04	peak
2	2381.185	/	/	35.11	54.00	-18.89	AVG
3	2390.000	17.79	32.94	50.73	74.00	-23.27	peak
4	2396.480	27.47	32.96	60.43	74.00	-13.57	peak
4	2396.480	/	/	34.58	54.00	-19.42	AVG
5	2410.280	56.27	33.06	89.33	114.00	-24.67	peak

Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**RESTRICTED BANDEGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (LOW CHANNEL, VERTICAL)**

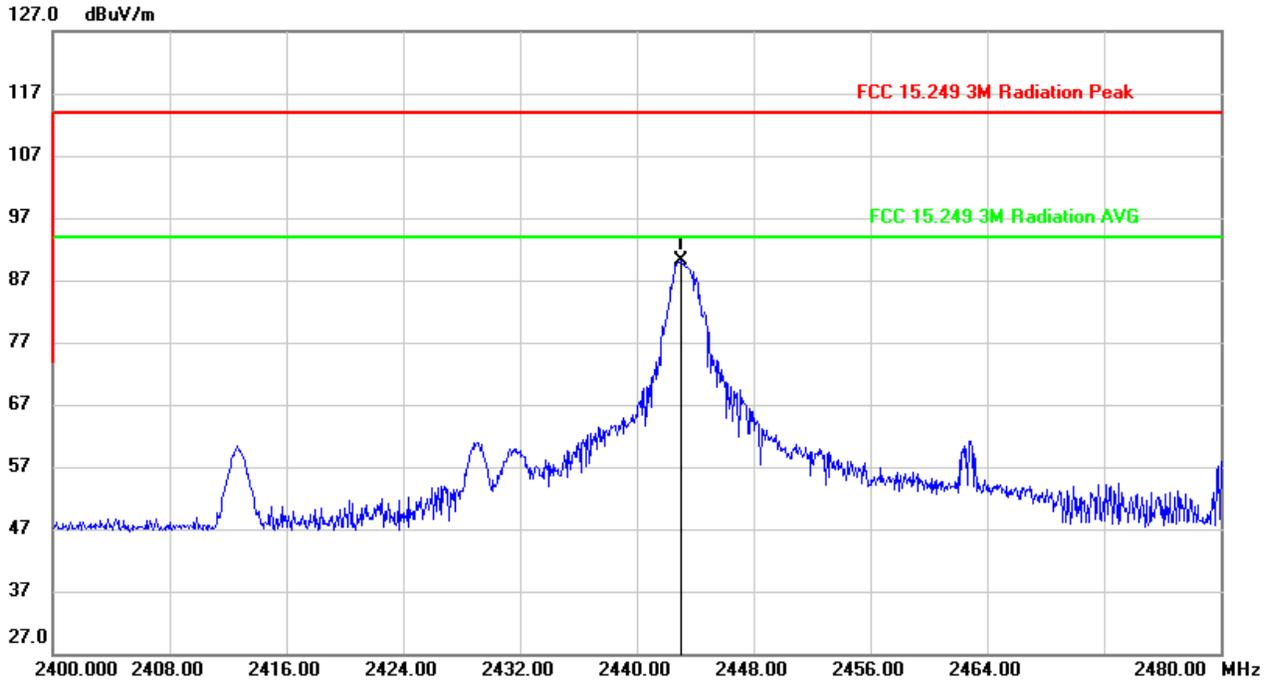


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2381.415	28.22	32.92	61.14	74.00	-12.86	peak
2	2381.415	/	/	35.29	54.00	-18.71	AVG
3	2390.000	23.03	32.94	55.97	74.00	-18.03	peak
4	2390.000	/	/	30.12	54.00	-23.88	AVG
5	2410.050	62.05	33.05	95.10	114.00	-18.90	peak
6	2410.050	/	/	69.25	94.00	-24.75	AVG

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**FIELD STRENGTH OF INTENTIONAL EMISSIONS (MIDDLE CHANNEL, HORIZONTAL)**

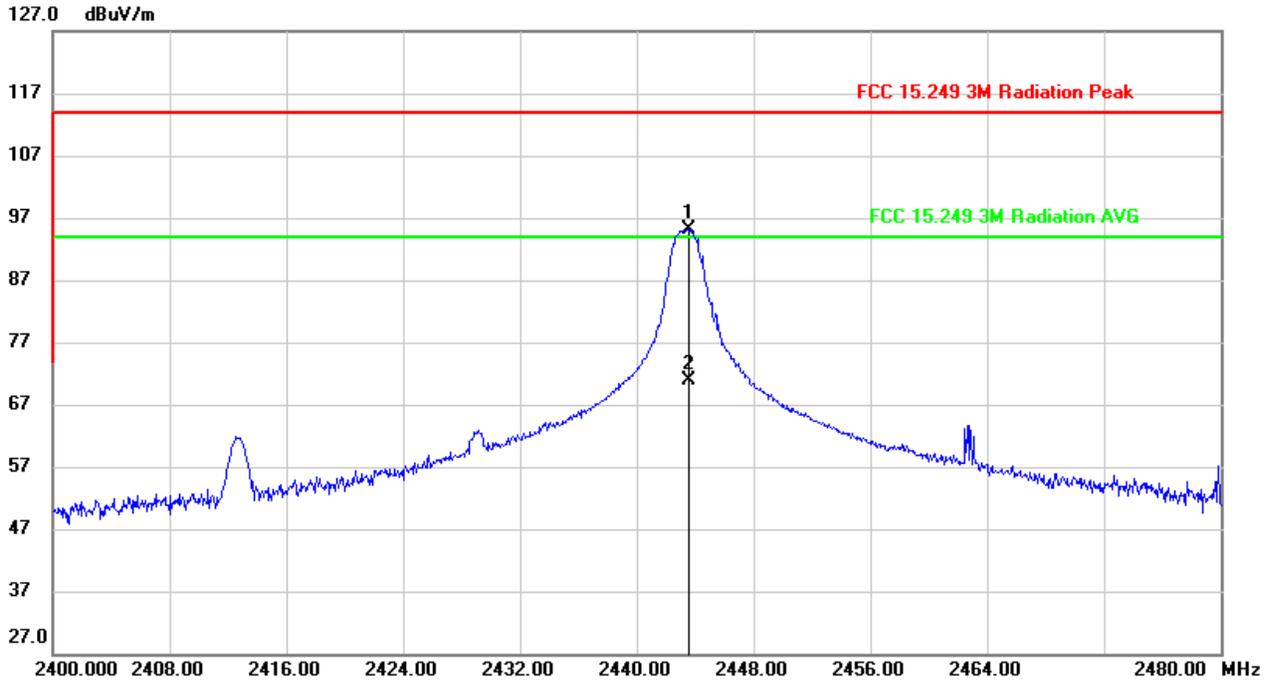


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2443.040	56.72	33.29	90.01	114.00	-23.99	peak

- Note:
1. Peak Result = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. Peak: Peak detector.
  4. The Band Reject filter loss factor already add into the correct factor.
  5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**FIELD STRENGTH OF INTENTIONAL EMISSIONS (MIDDLE CHANNEL, VERTICAL)**

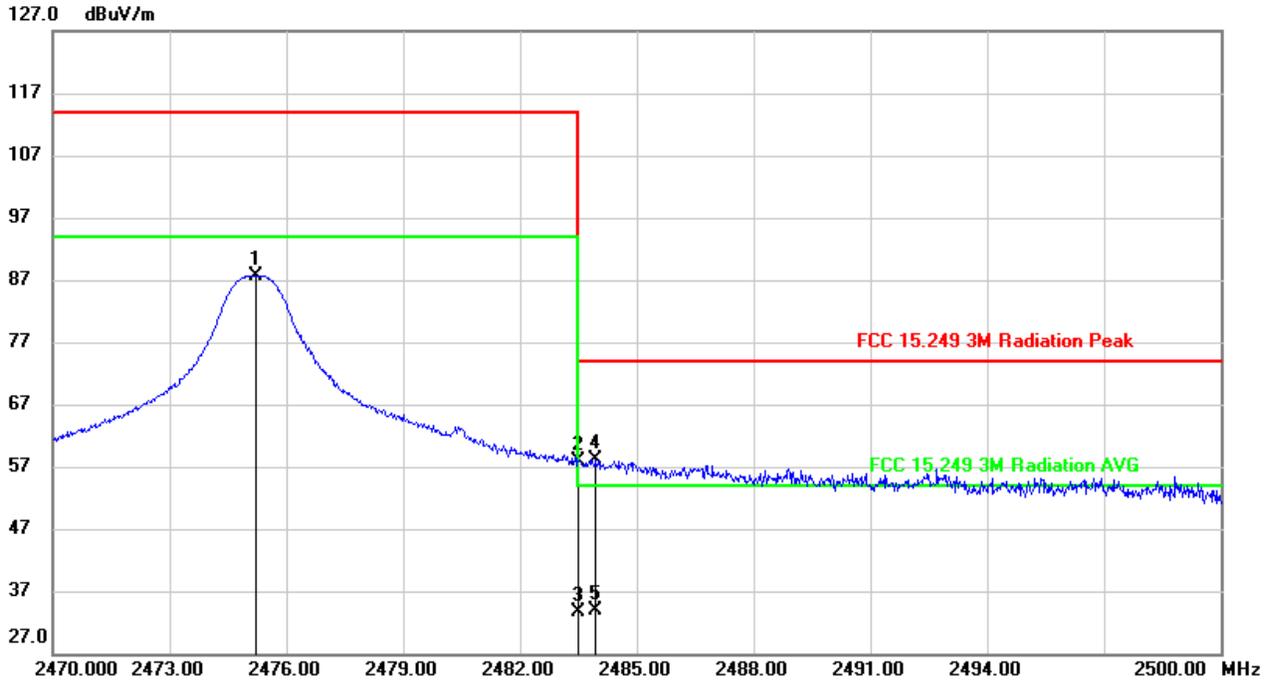


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2443.600	61.90	33.30	95.20	114.00	-18.80	peak
2	2443.600	/	/	69.35	94.00	-24.65	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. Peak: Peak detector.
  4. AVG Result=Peak Result + Duty Correction Factor.
  5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
  6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

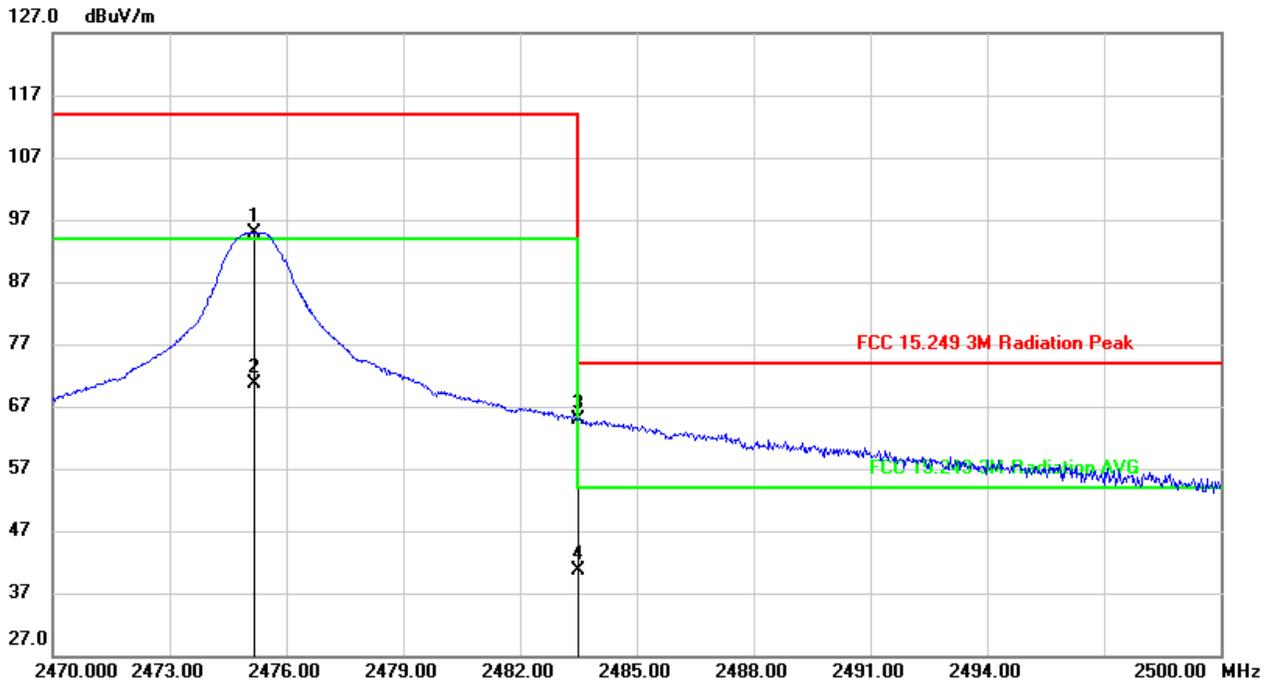


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2475.220	54.16	33.53	87.69	114.00	-26.31	peak
2	2483.500	24.20	33.58	57.78	74.00	-16.22	peak
3	2483.500	/	/	31.93	54.00	-22.07	AVG
4	2483.950	24.56	33.58	58.14	74.00	-15.86	peak
5	2483.950	/	/	32.29	54.00	-21.71	AVG

Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**RESTRICTED BANDEDGE AND FIELD STRENGTH OF INTENTIONAL EMISSIONS (HIGH CHANNEL, VERTICAL)**



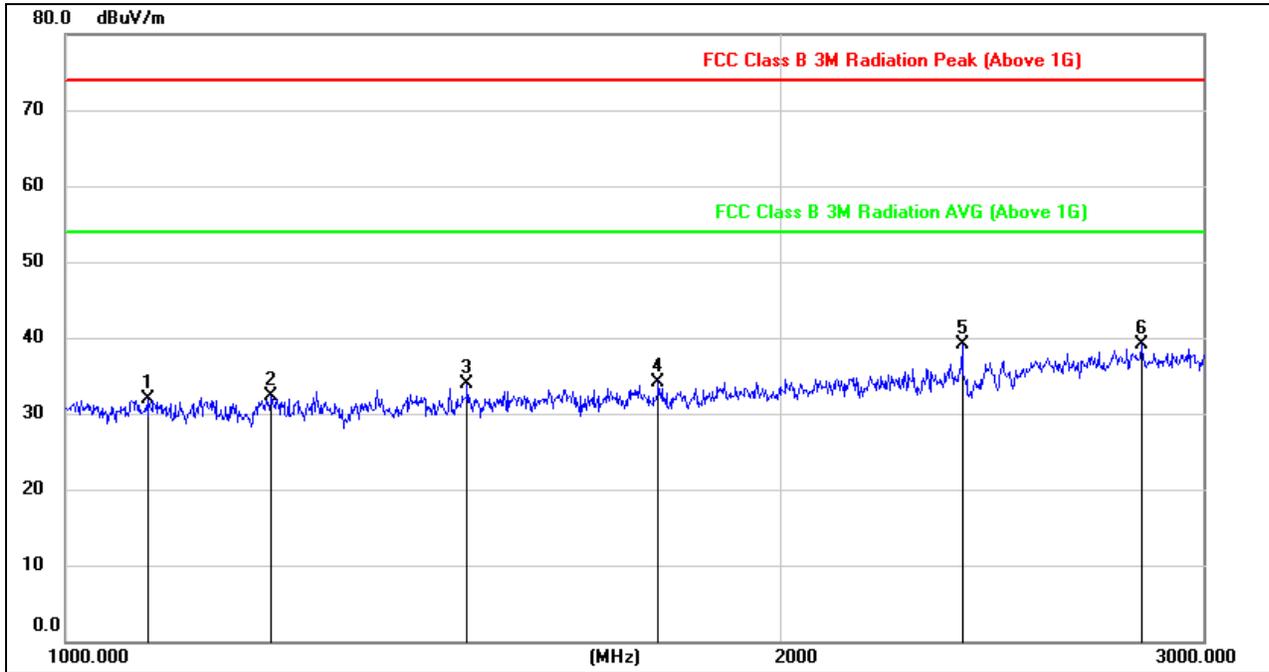
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2475.190	61.40	33.53	94.93	114.00	-19.07	peak
2	2475.190	/	/	69.08	94.00	-24.92	AVG
3	2483.500	31.40	33.58	64.98	74.00	-9.02	peak
4	2483.500	/	/	39.13	54.00	-14.87	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. Peak: Peak detector.
  4. AVG Result=Peak Result + Duty Correction Factor.
  5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
  6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



### 7.3. SPURIOUS EMISSIONS (1~3GHz)

#### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

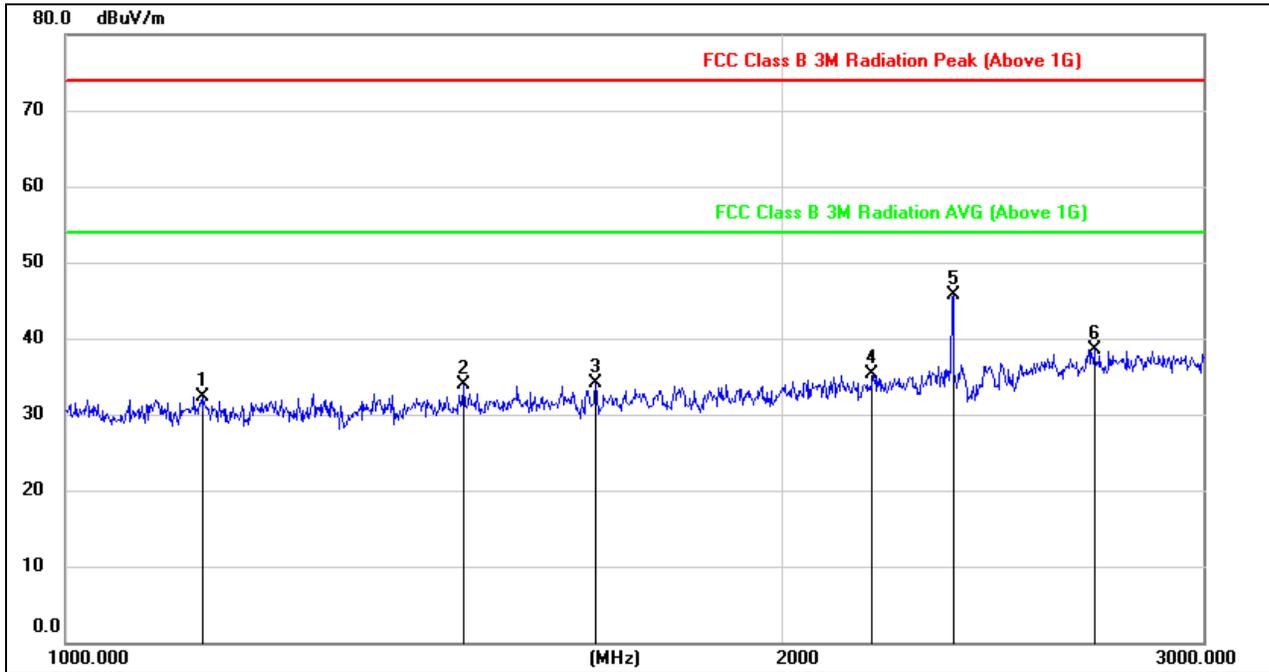


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1083.502	44.64	-12.69	31.95	74.00	-42.05	peak
2	1219.998	44.51	-12.19	32.32	74.00	-41.68	peak
3	1473.750	45.68	-11.69	33.99	74.00	-40.01	peak
4	1772.475	43.91	-9.77	34.14	74.00	-39.86	peak
5	2379.297	46.27	-7.19	39.08	74.00	-34.92	peak
6	2827.201	44.24	-5.18	39.06	74.00	-34.94	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

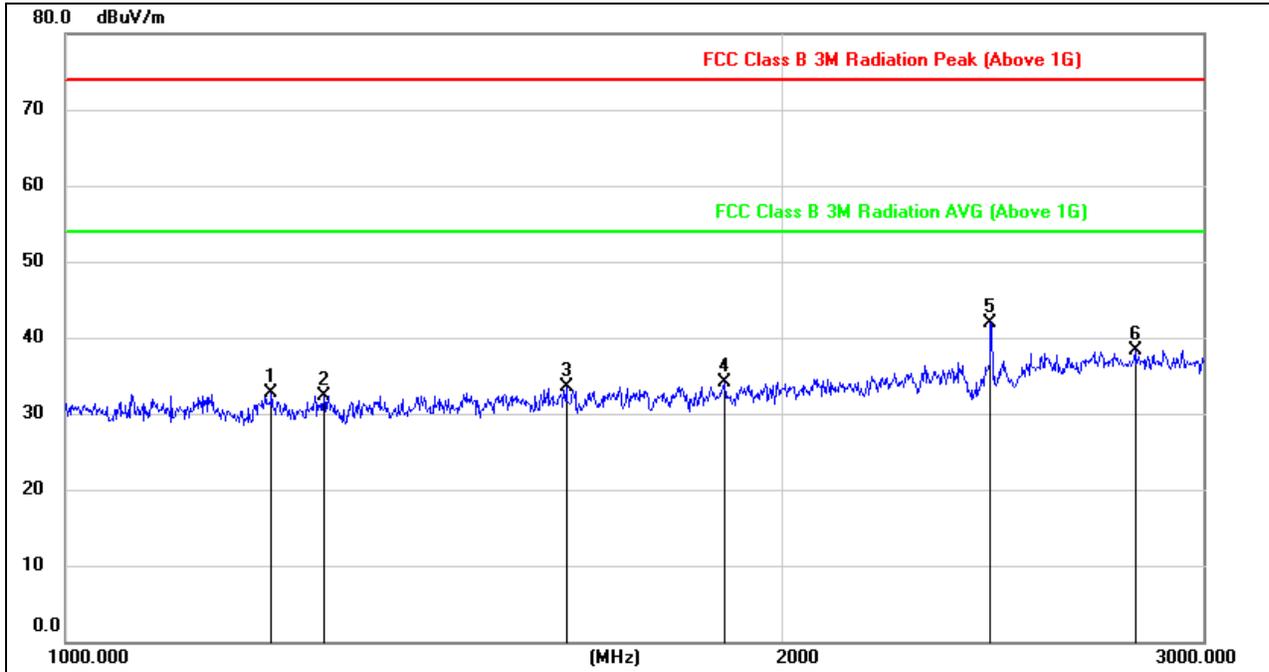


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1140.918	44.86	-12.53	32.33	74.00	-41.67	peak
2	1468.901	45.57	-11.71	33.86	74.00	-40.14	peak
3	1668.547	44.78	-10.68	34.10	74.00	-39.90	peak
4	2181.504	43.69	-8.42	35.27	74.00	-38.73	peak
5	2358.477	53.03	-7.26	45.77	74.00	-28.23	peak
6	2699.713	45.98	-7.42	38.56	74.00	-35.44	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)**

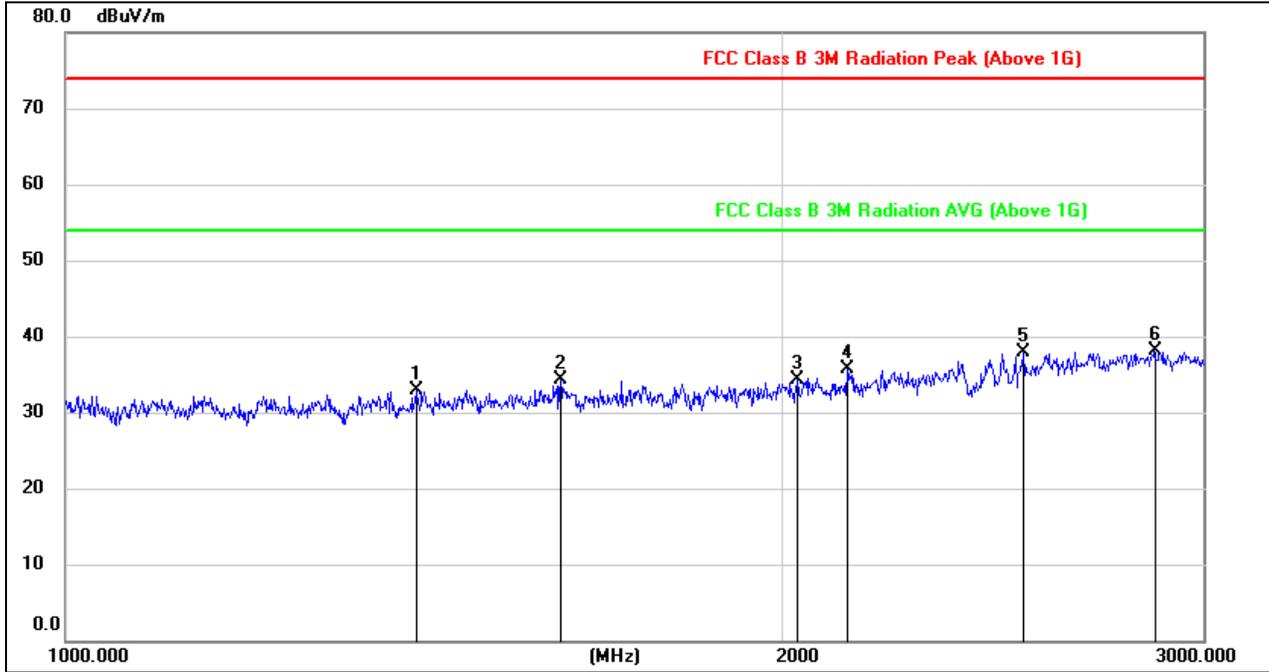


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1219.998	44.88	-12.19	32.69	74.00	-41.31	peak
2	1283.236	43.82	-11.42	32.40	74.00	-41.60	peak
3	1621.561	44.12	-10.63	33.49	74.00	-40.51	peak
4	1889.092	43.38	-9.31	34.07	74.00	-39.93	peak
5	2442.866	48.70	-6.78	41.92	74.00	-32.08	peak
6	2808.626	43.46	-5.19	38.27	74.00	-35.73	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)**

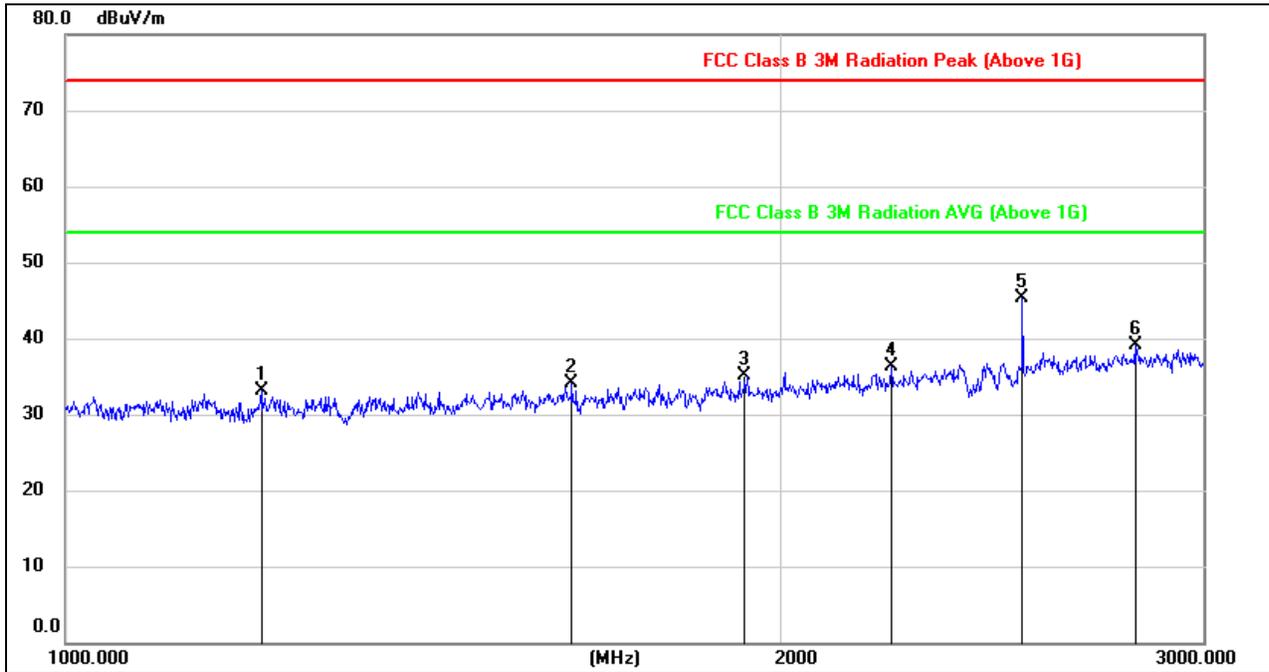


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1402.663	44.91	-11.92	32.99	74.00	-41.01	peak
2	1612.678	44.89	-10.62	34.27	74.00	-39.73	peak
3	2026.698	43.66	-9.39	34.27	74.00	-39.73	peak
4	2127.073	44.14	-8.35	35.79	74.00	-38.21	peak
5	2521.948	44.41	-6.44	37.97	74.00	-36.03	peak
6	2864.720	43.22	-5.17	38.05	74.00	-35.95	peak

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

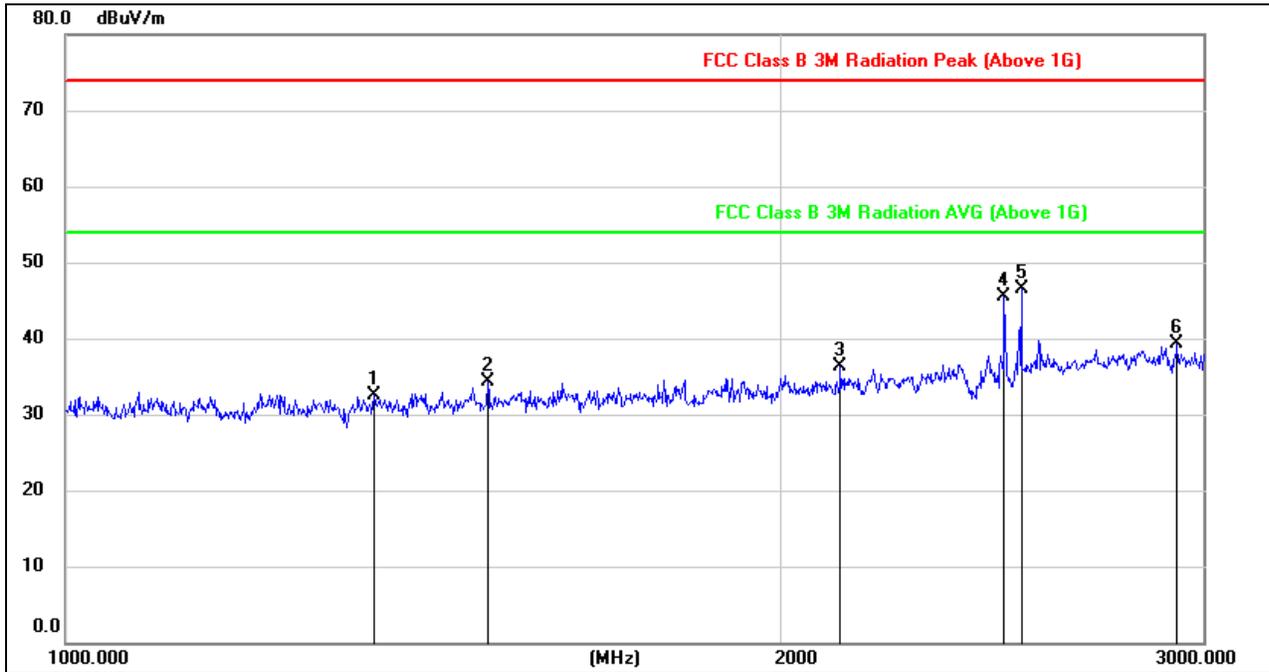


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1207.994	45.55	-12.35	33.20	74.00	-40.80	peak
2	1630.493	44.80	-10.63	34.17	74.00	-39.83	peak
3	1931.059	44.46	-9.44	35.02	74.00	-38.98	peak
4	2220.189	44.55	-8.25	36.30	74.00	-37.70	peak
5	2519.179	51.78	-6.42	45.36	74.00	-28.64	peak
6	2808.626	44.31	-5.19	39.12	74.00	-34.88	peak

Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**



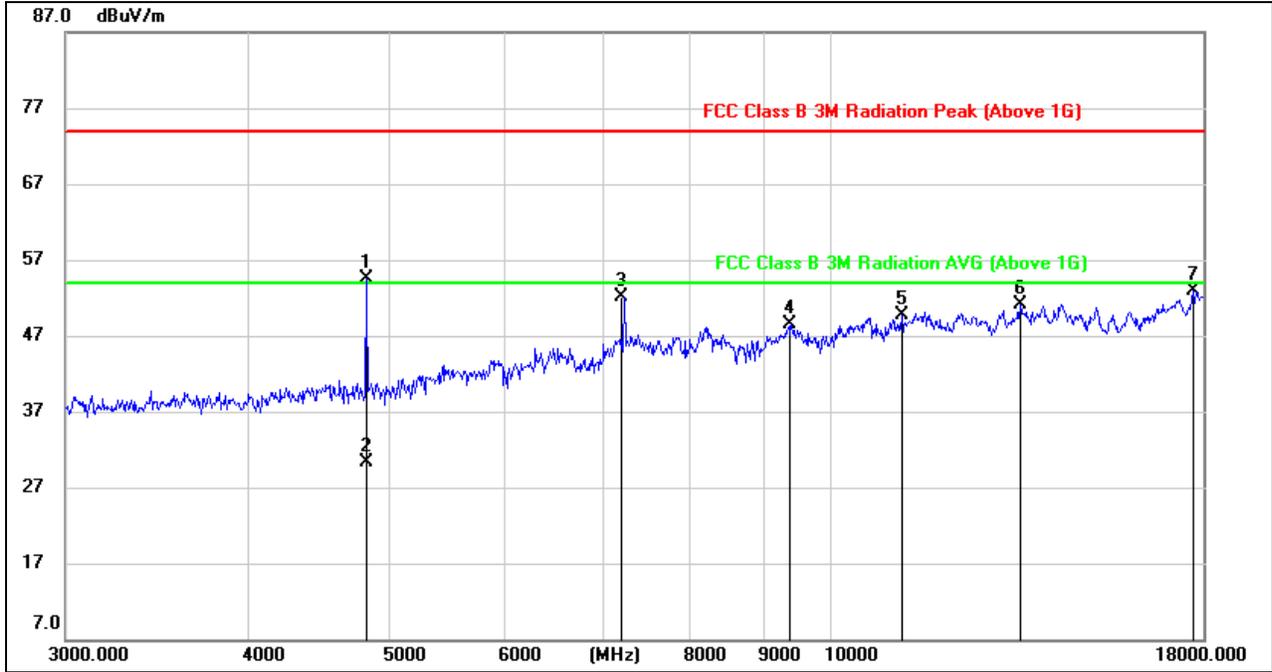
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1346.790	44.02	-11.54	32.48	74.00	-41.52	peak
2	1503.183	45.84	-11.57	34.27	74.00	-39.73	peak
3	2113.098	44.63	-8.34	36.29	74.00	-37.71	peak
4	2475.284	51.97	-6.52	45.45	74.00	-28.55	peak
5	2516.413	52.88	-6.41	46.47	74.00	-27.53	peak
6	2925.146	44.27	-5.00	39.27	74.00	-34.73	peak

Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in then spurious frequency bands and the authorized band was not corrected for BRF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



## 7.4. SPURIOUS EMISSIONS (3~18GHz)

### HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

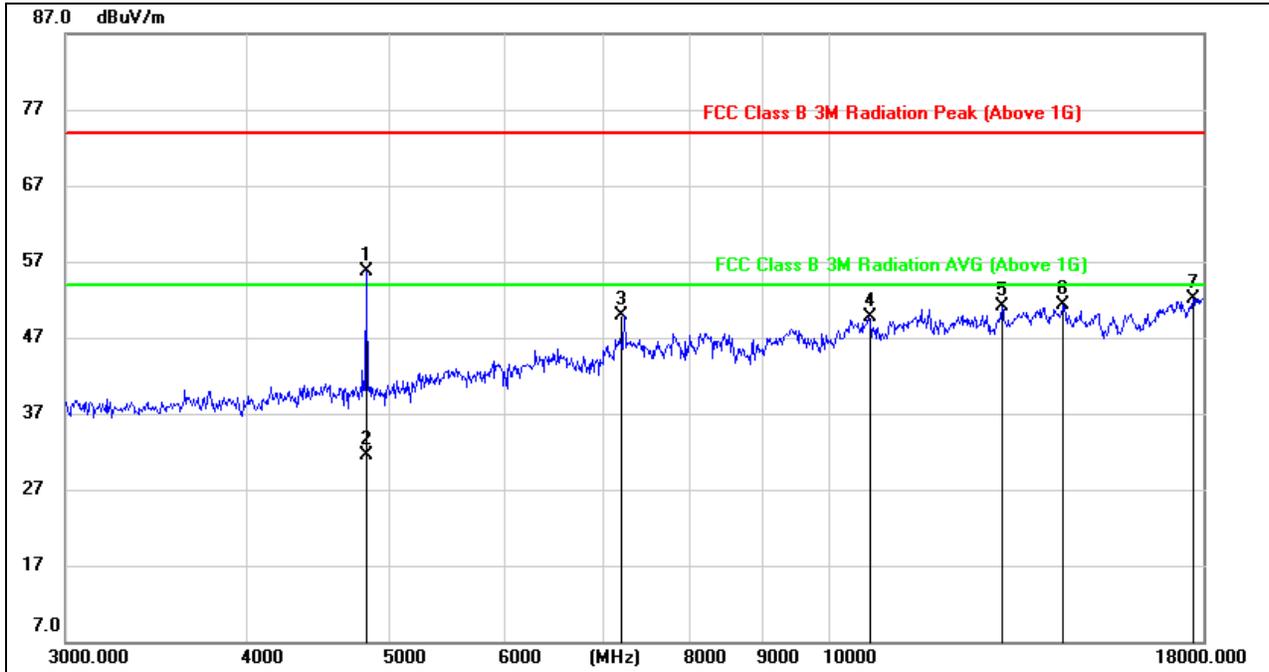


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4820.000	54.72	-0.21	54.51	74.00	-19.49	peak
2	4820.000	/	/	28.66	54.00	-25.34	AVG
3	7230.919	45.08	6.96	52.04	74.00	-21.96	peak
4	9409.829	38.14	10.32	48.46	74.00	-25.54	peak
5	11216.066	36.67	13.05	49.72	74.00	-24.28	peak
6	13513.514	35.35	15.71	51.06	74.00	-22.94	peak
7	17712.063	30.55	22.36	52.91	74.00	-21.09	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6. The Band Reject filter loss factor already add into the correct factor.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

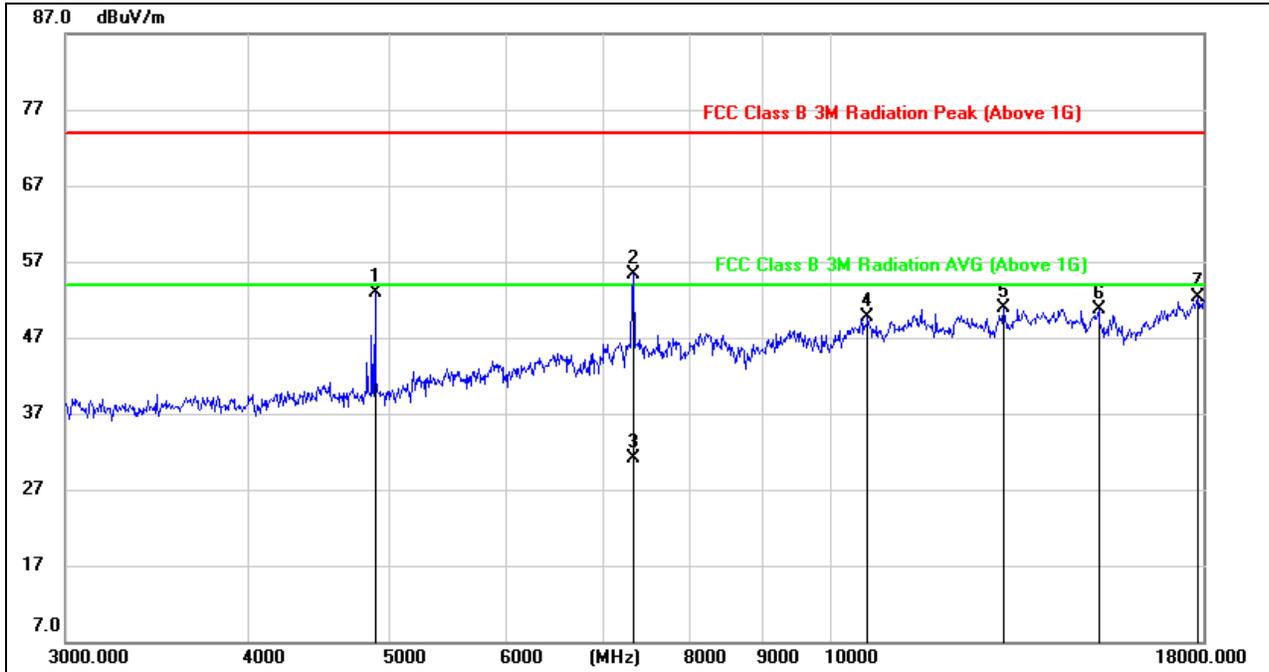


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4820.000	55.89	-0.21	55.68	74.00	-18.32	peak
2	4820.000	/	/	29.83	54.00	-24.17	AVG
3	7230.919	43.01	6.96	49.97	74.00	-24.03	peak
4	10648.151	37.11	12.51	49.62	74.00	-24.38	peak
5	13108.100	36.17	14.99	51.16	74.00	-22.84	peak
6	14439.758	34.88	16.39	51.27	74.00	-22.73	peak
7	17712.063	29.83	22.36	52.19	74.00	-21.81	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. Peak: Peak detector.
  4. AVG Result=Peak Result + Duty Correction Factor.
  5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
  6. The Band Reject filter loss factor already add into the correct factor.
  7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)**

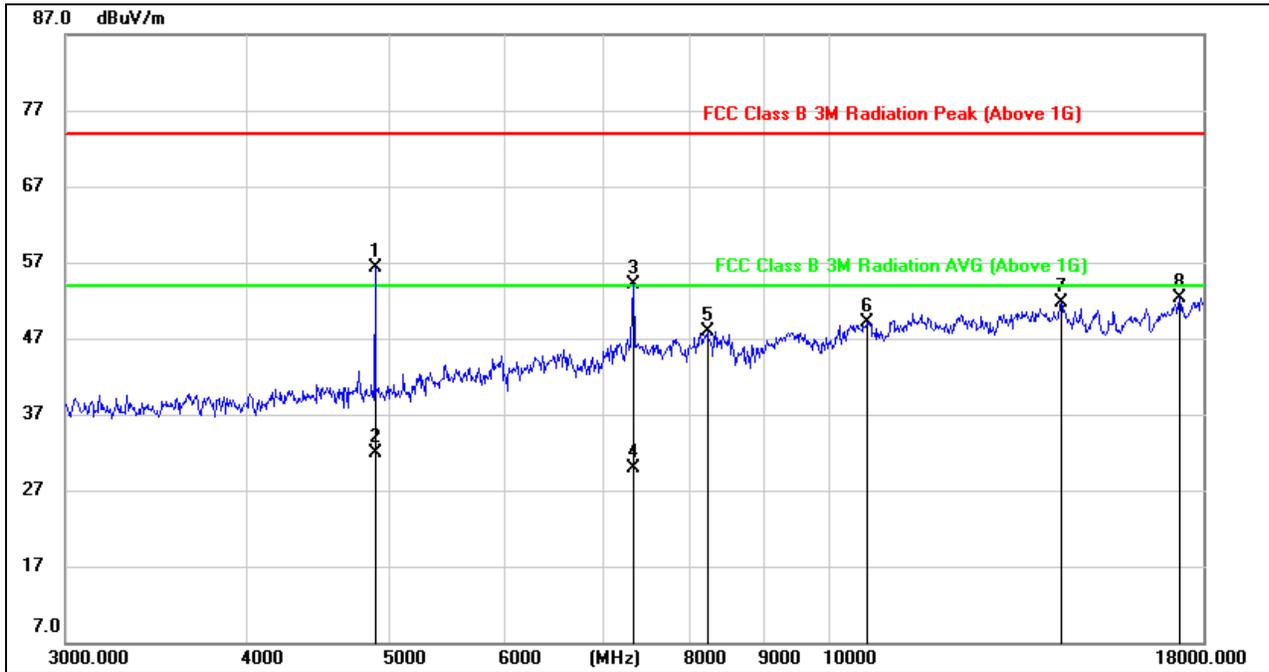


No.	Frequency (MHz)	Reading (dBUV)	Correct (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark
1	4884.031	53.01	-0.12	52.89	74.00	-21.11	peak
2	7329.000	48.15	7.25	55.4	74.00	-18.60	peak
3	7329.000	/	/	29.55	54.00	-24.45	AVG
4	10610.061	36.93	12.74	49.67	74.00	-24.33	peak
5	13131.607	35.83	14.99	50.82	74.00	-23.18	peak
6	15264.500	35.12	15.55	50.67	74.00	-23.33	peak
7	17839.462	29.17	23.21	52.38	74.00	-21.62	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6.The Band Reject filter loss factor already add into the correct factor.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)**

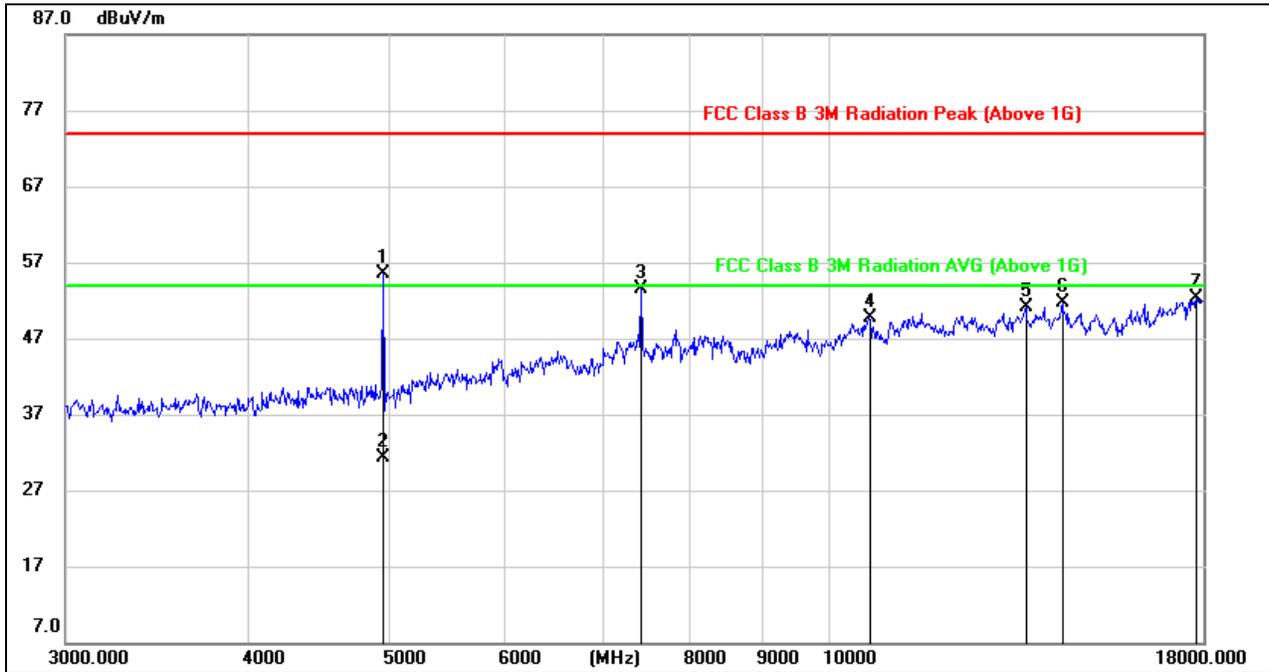


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4886.000	56.37	-0.11	56.26	74.00	-17.74	peak
2	4886.000	/	/	30.41	54.00	-23.59	AVG
3	7329.000	46.91	7.25	54.16	74.00	-19.84	peak
4	7329.000	/	/	28.31	54.00	-25.69	AVG
5	8241.354	38.81	9.16	47.97	74.00	-26.03	peak
6	10610.061	36.42	12.74	49.16	74.00	-24.84	peak
7	14388.105	35.22	16.42	51.64	74.00	-22.36	peak
8	17335.299	30.64	21.75	52.39	74.00	-21.61	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6. The Band Reject filter loss factor already add into the correct factor.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

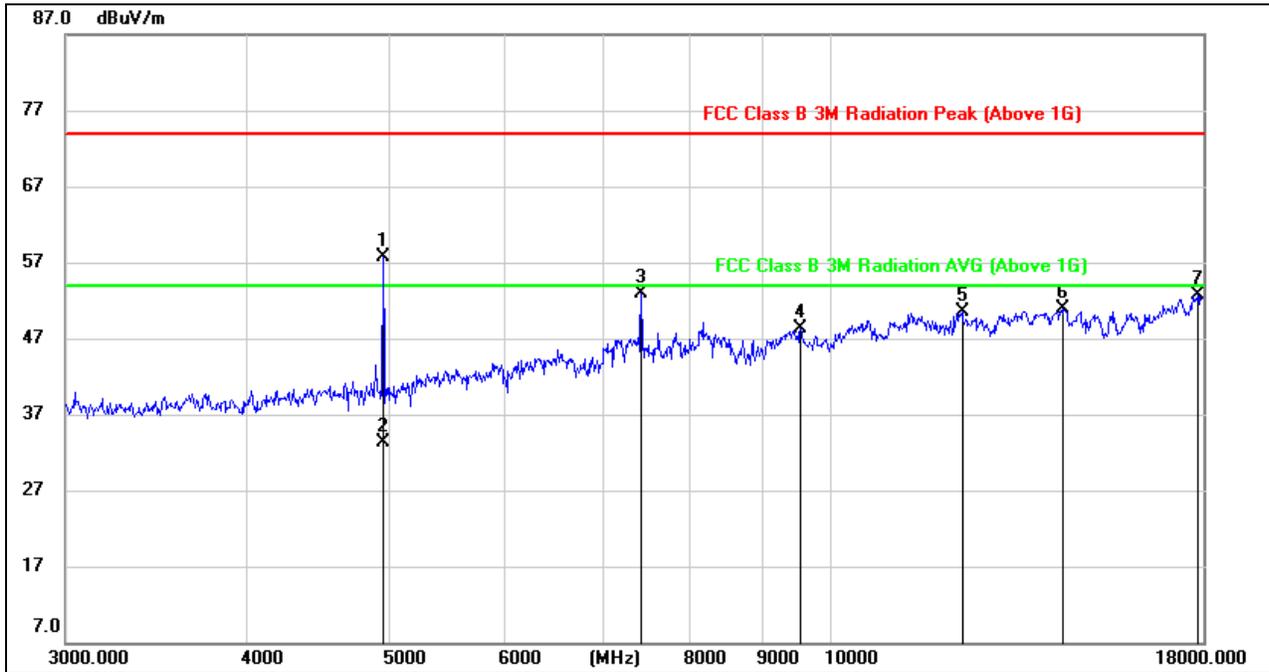


No.	Frequency (MHz)	Reading (dBUV)	Correct (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark
1	4950.000	55.30	0.19	55.49	74.00	-18.51	peak
2	4950.000	/	/	29.64	54.00	-24.36	AVG
3	7427.896	46.03	7.43	53.46	74.00	-20.54	peak
4	10648.151	37.16	12.51	49.67	74.00	-24.33	peak
5	13610.714	34.99	16.06	51.05	74.00	-22.95	peak
6	14413.908	35.35	16.41	51.76	74.00	-22.24	peak
7	17807.526	29.00	23.21	52.21	74.00	-21.79	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG Result=Peak Result + Duty Correction Factor.  
 5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.  
 6.The Band Reject filter loss factor already add into the correct factor.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)**



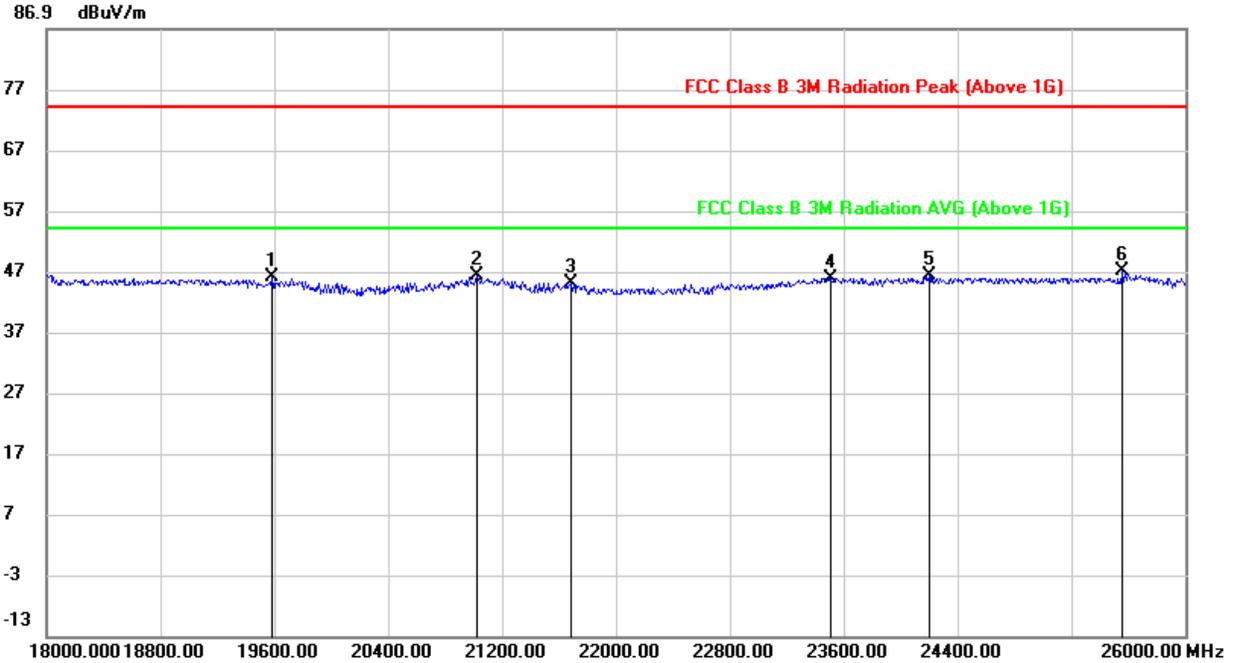
No.	Frequency (MHz)	Reading (dBUV)	Correct (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark
1	4950.000	57.48	0.19	57.67	74.00	-16.33	peak
2	4950.000	/	/	31.82	54.00	-22.18	AVG
3	7427.896	45.53	7.43	52.96	74.00	-21.04	peak
4	9545.682	37.97	10.25	48.22	74.00	-25.78	peak
5	12311.315	36.13	14.39	50.52	74.00	-23.48	peak
6	14439.758	34.52	16.39	50.91	74.00	-23.09	peak
7	17839.462	29.46	23.21	52.67	74.00	-21.33	peak

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. Peak: Peak detector.
  4. AVG Result=Peak Result + Duty Correction Factor.
  5. For the Duty Cycle and Correction Factor, please refer to clause 6.1.
  - 6.The Band Reject filter loss factor already add into the correct factor.
  7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



### 7.5. SPURIOUS EMISSIONS (18~26GHz)

#### HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

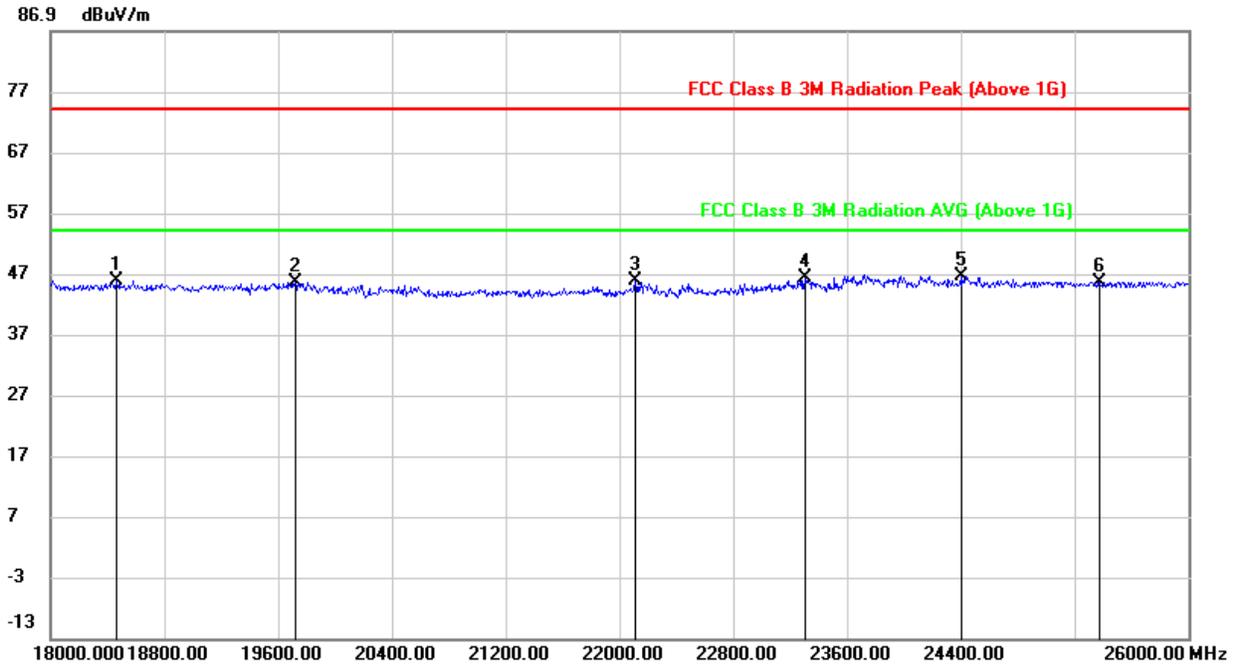


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19584.000	50.67	-4.64	46.03	74.00	-27.97	peak
2	21024.000	51.62	-5.30	46.32	74.00	-27.68	peak
3	21680.000	50.74	-5.76	44.98	74.00	-29.02	peak
4	23512.000	50.64	-4.76	45.88	74.00	-28.12	peak
5	24200.000	50.06	-3.67	46.39	74.00	-27.61	peak
6	25560.000	48.77	-1.70	47.07	74.00	-26.93	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.



**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18464.000	50.20	-4.39	45.81	74.00	-28.19	peak
2	19720.000	50.00	-4.39	45.61	74.00	-28.39	peak
3	22112.000	51.97	-6.17	45.80	74.00	-28.20	peak
4	23304.000	51.37	-5.16	46.21	74.00	-27.79	peak
5	24400.000	49.64	-2.99	46.65	74.00	-27.35	peak
6	25376.000	47.14	-1.50	45.64	74.00	-28.36	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.

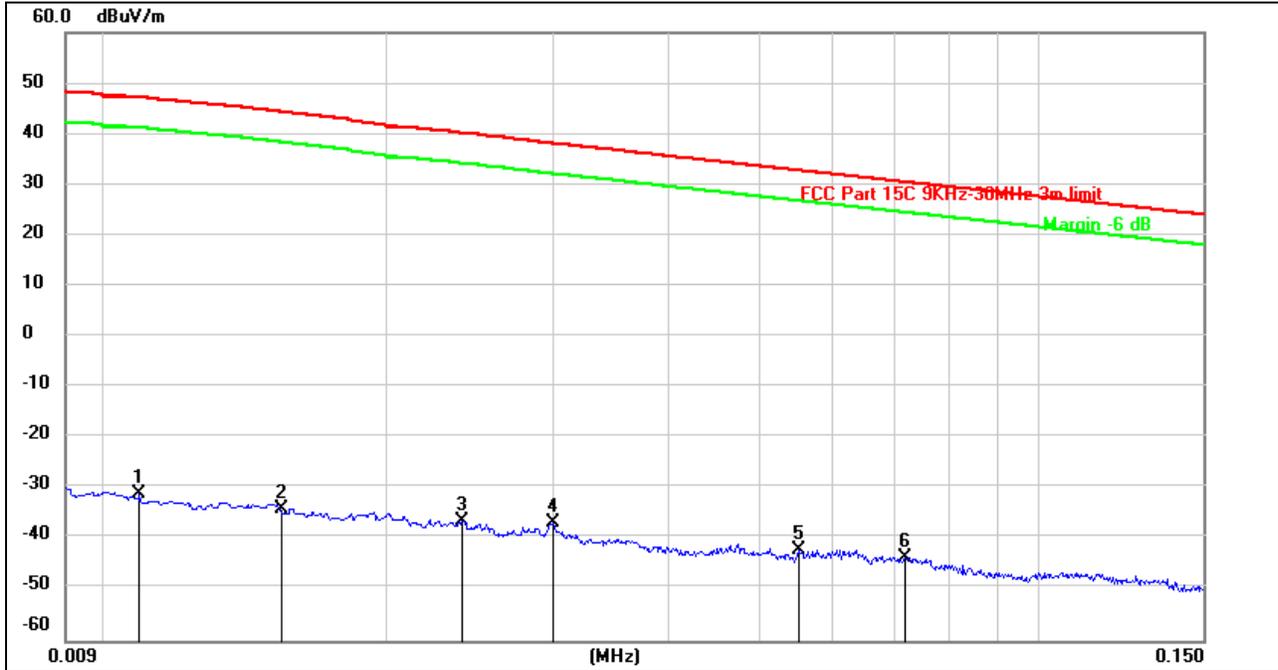
Note: All test mode has been tested, only the worst data record in the report.



## 7.6. SPURIOUS EMISSIONS BELOW 30M

### SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

#### 9kHz~ 150kHz

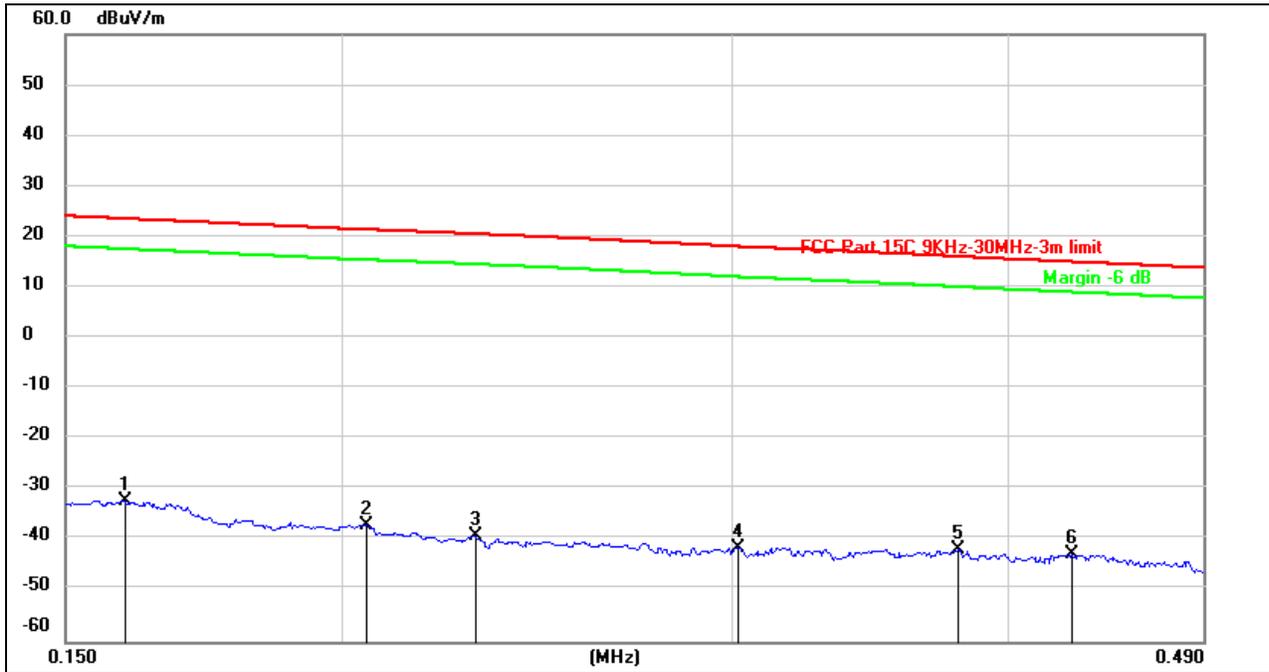


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0108	70.28	-101.39	-31.11	47.12	-78.23	peak
2	0.0154	67.44	-101.37	-33.93	44.35	-78.28	peak
3	0.0240	64.82	-101.36	-36.54	40.17	-76.71	peak
4	0.0300	64.68	-101.39	-36.71	38.06	-74.77	peak
5	0.0551	59.45	-101.50	-42.05	32.81	-74.86	peak
6	0.0719	57.84	-101.58	-43.74	30.48	-74.22	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



**150kHz ~ 490kHz**

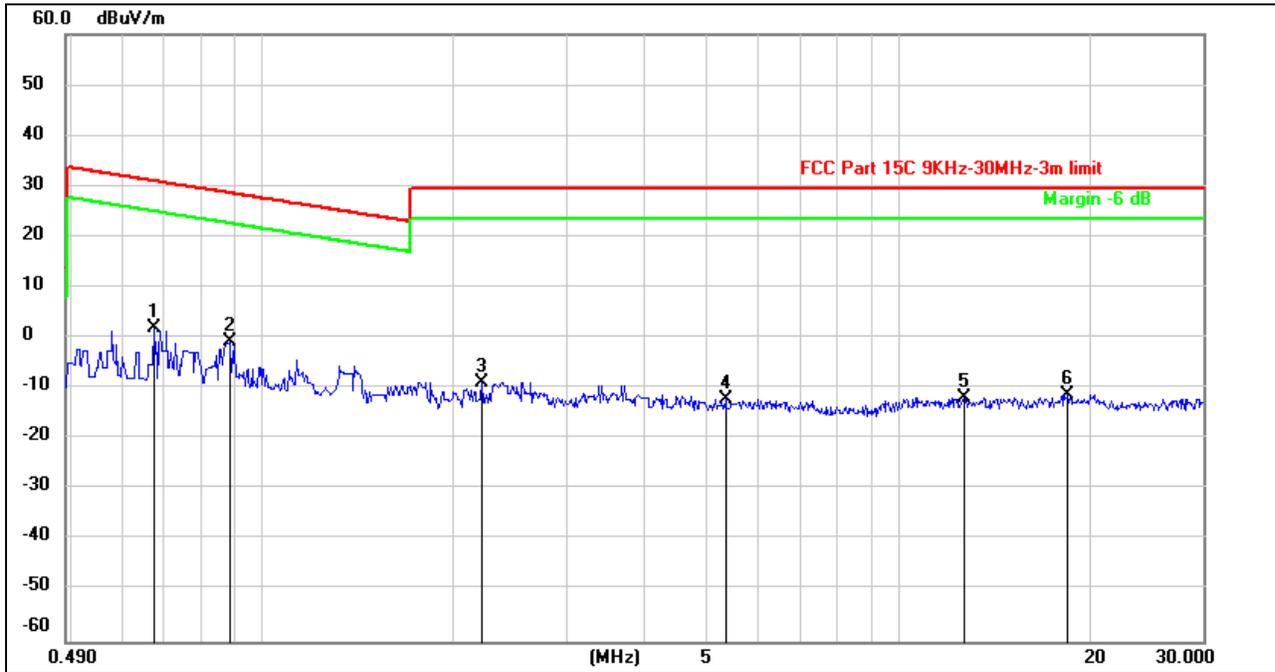


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1595	69.36	-101.65	-32.29	23.55	-55.84	peak
2	0.2051	64.81	-101.73	-36.92	21.40	-58.32	peak
3	0.2298	62.55	-101.77	-39.22	20.53	-59.75	peak
4	0.3019	60.43	-101.85	-41.42	18.01	-59.43	peak
5	0.3800	60.02	-101.94	-41.92	16.06	-57.98	peak
6	0.4269	59.34	-101.99	-42.65	15.03	-57.68	peak

Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



**490kHz ~ 30MHz**



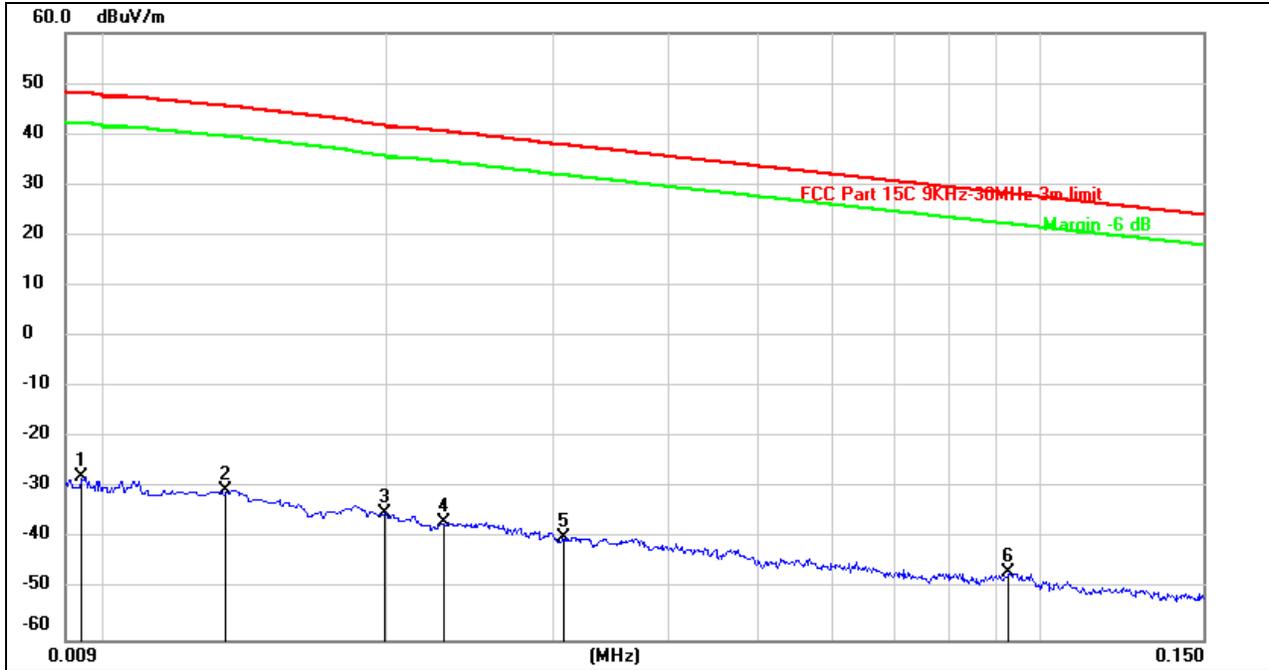
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.6753	63.97	-62.10	1.87	31.03	-29.16	peak
2	0.8898	61.45	-62.20	-0.75	28.62	-29.37	peak
3	2.2090	52.94	-61.78	-8.84	29.54	-38.38	peak
4	5.3296	49.24	-61.44	-12.20	29.54	-41.74	peak
5	12.6775	48.96	-60.92	-11.96	29.54	-41.50	peak
6	18.4314	49.79	-60.89	-11.10	29.54	-40.64	peak

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**

**9kHz~ 150kHz**

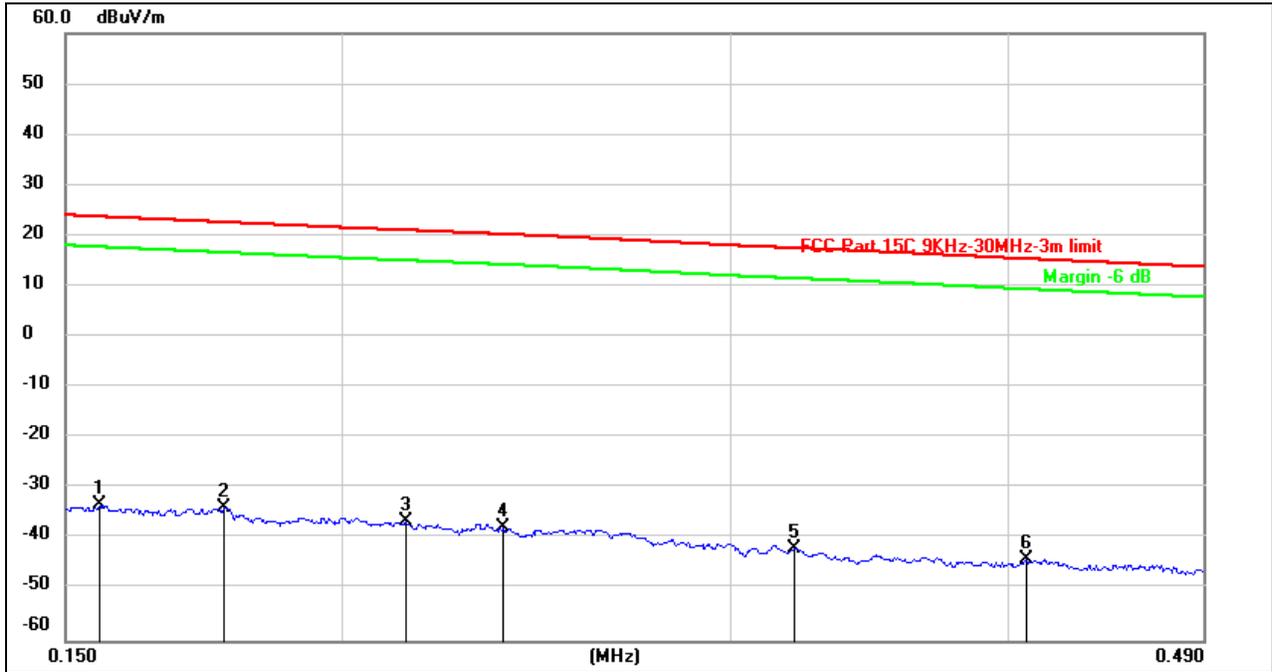


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0094	73.64	-101.35	-27.71	48.06	-75.77	peak
2	0.0134	70.80	-101.39	-30.59	45.55	-76.14	peak
3	0.0198	66.31	-101.34	-35.03	41.70	-76.73	peak
4	0.0229	64.53	-101.36	-36.83	40.56	-77.39	peak
5	0.0309	61.72	-101.39	-39.67	37.84	-77.51	peak
6	0.0926	55.07	-101.74	-46.67	28.28	-74.95	peak

Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



**150kHz ~ 490kHz**

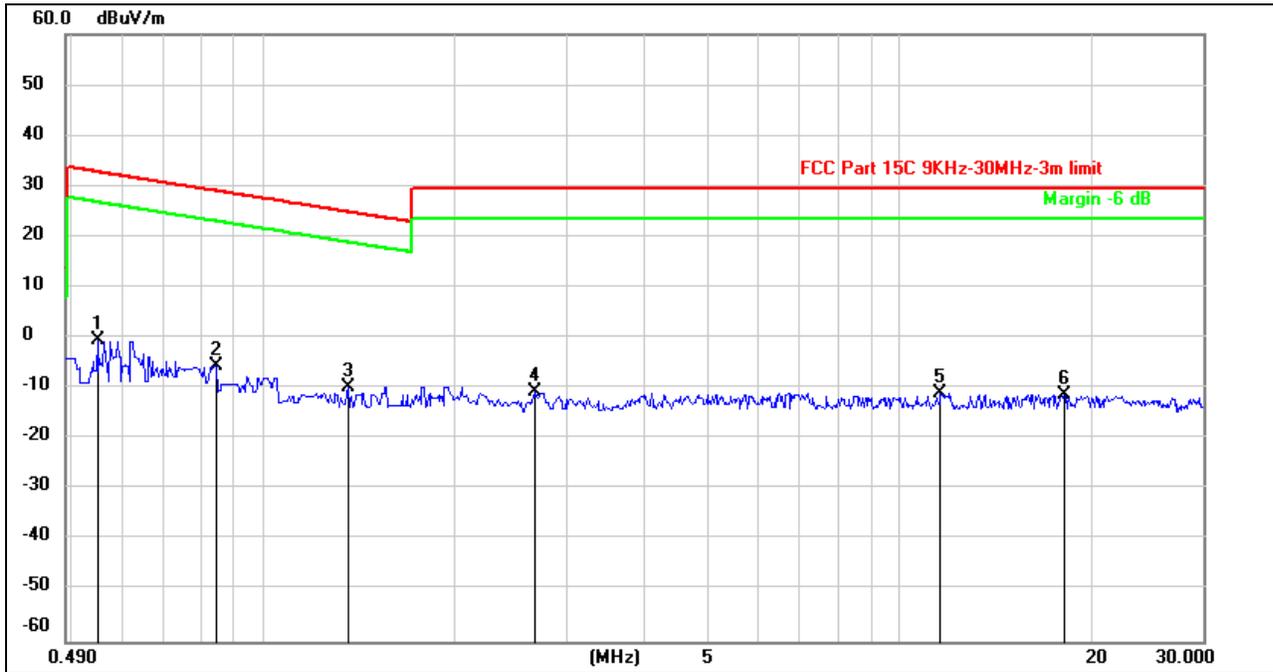


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1556	68.52	-101.65	-33.13	23.77	-56.90	peak
2	0.1768	68.05	-101.68	-33.63	22.66	-56.29	peak
3	0.2139	65.18	-101.74	-36.56	21.09	-57.65	peak
4	0.2366	64.11	-101.78	-37.67	20.29	-57.96	peak
5	0.3205	59.94	-101.88	-41.94	17.55	-59.49	peak
6	0.4077	57.94	-101.97	-44.03	15.41	-59.44	peak

Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.



**490kHz ~ 30MHz**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5493	61.54	-62.08	-0.54	32.85	-33.39	peak
2	0.8467	56.60	-62.18	-5.58	29.06	-34.64	peak
3	1.3649	52.34	-62.10	-9.76	24.91	-34.67	peak
4	2.6804	50.91	-61.65	-10.74	29.54	-40.28	peak
5	11.6150	49.97	-60.87	-10.90	29.54	-40.44	peak
6	18.2255	49.57	-60.90	-11.33	29.54	-40.87	peak

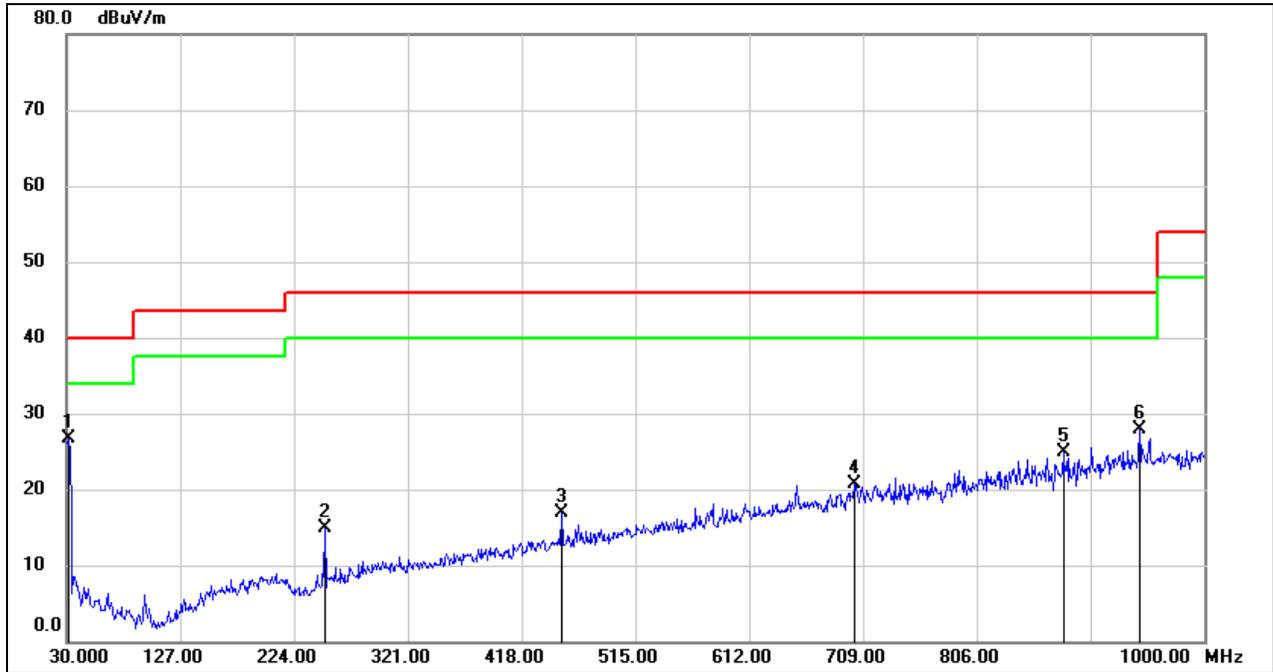
Note: 1. Measurement = Reading Level + Correct Factor.  
 2. All the modes had been tested, but only the worst data were recorded in the report.  
 3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

Note: All test mode has been tested, only the worst data record in the report.



## 7.7. SPURIOUS EMISSIONS BELOW 1 GHz

### SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)

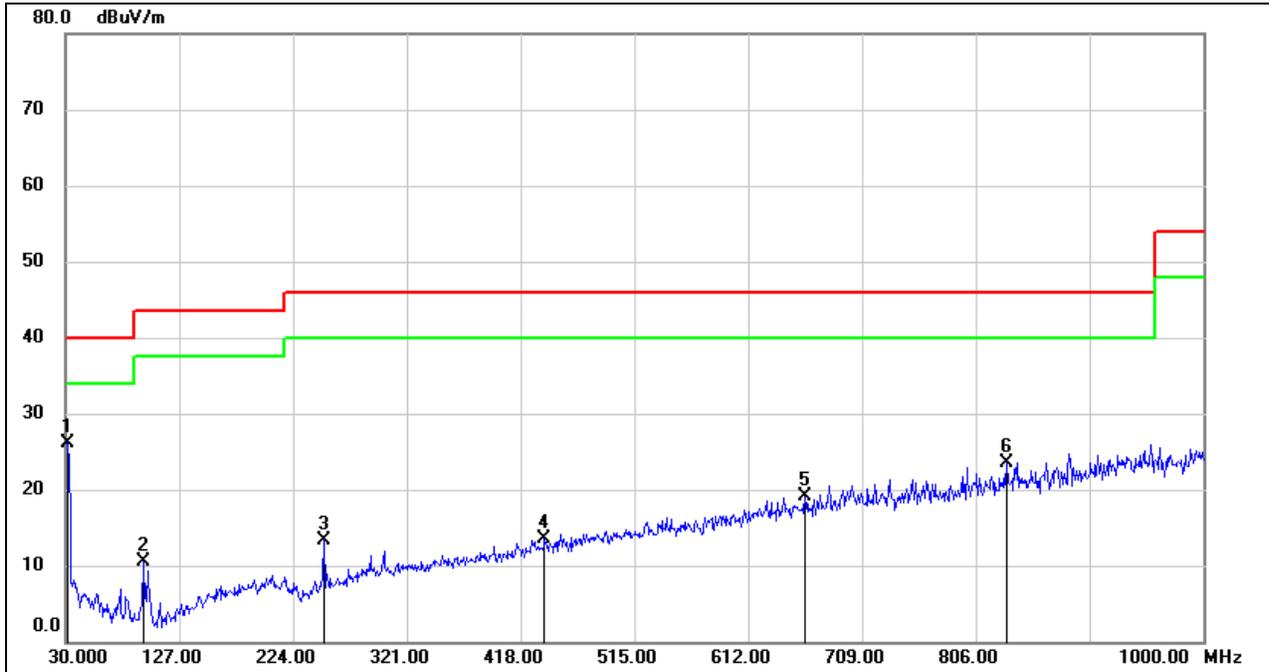


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.9400	43.75	-17.09	26.66	40.00	-13.34	QP
2	250.1900	30.62	-15.76	14.86	46.00	-31.14	QP
3	451.9500	27.95	-11.05	16.90	46.00	-29.10	QP
4	701.2400	26.84	-6.16	20.68	46.00	-25.32	QP
5	879.7200	28.75	-3.88	24.87	46.00	-21.13	QP
6	944.7100	30.95	-3.14	27.81	46.00	-18.19	QP

- Note: 1. Result Level = Read Level + Correct Factor.  
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.  
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.9400	43.26	-17.09	26.17	40.00	-13.83	QP
2	95.9600	31.80	-21.31	10.49	43.50	-33.01	QP
3	250.1900	29.03	-15.76	13.27	46.00	-32.73	QP
4	438.3700	24.84	-11.26	13.58	46.00	-32.42	QP
5	660.5000	26.03	-6.95	19.08	46.00	-26.92	QP
6	832.1900	28.06	-4.47	23.59	46.00	-22.41	QP

- Note: 1. Result Level = Read Level + Correct Factor.  
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.  
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Note: All test mode has been tested, only the worst data record in the report.



## 8. ANTENNA REQUIREMENTS

### APPLICABLE REQUIREMENTS

Please refer to FCC §15.203

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 shall be considered sufficient to comply with the provisions of this section. 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.

Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### RESULTS

Complies

**END OF REPORT**