



**CFR 47 FCC PART 15 SUBPART C  
ISED RSS-247 ISSUE 2**

**TEST REPORT**

*For*

**IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated Bluetooth 2.1+EDR/4.2/5.1**

**MODEL NUMBER: SKI.WB663U.2**

**REPORT NUMBER: 4790553410-RF-2**

**ISSUE DATE: September 15, 2022**

**FCC ID:2AR82-SKIWB663U21**

**IC:24728-SKIWB663U21**

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**The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.**

## Revision History

Rev.	Issue Date	Revisions	Revised By
V0	September 15, 2022	Initial Issue	

Note: This is a C2PC test report. The applicant added three types of antennas and applied for C2PC on December 18, 2021, the antennas information showed in table 1. Now the applicant wants to add one more type of antenna and the antenna information showed in table 2. Spot check had been done for the conducted output power, the power of module remained unchanged, so we retest all radiated band edge and spurious emission and show in this report, for more data and information, please refer to the original report 4790010773.1-2.

Table 1

Antenna	Antenna Model	Frequency (MHz)	Antenna Type	Cable Loss (dB)	Maximum Antenna Gain without Cable (dBi)	Final Antenna Gain (dBi)
1	INNO-EWFDKT-237	2402-2480	Dipole Antenna	1.5	2.44	0.94
2	A100-0062	2402-2480	Dipole Antenna	1.5	3.17	1.67
3	3D0504BK07-001	2402-2480	Dipole Antenna	1.5	2.97	1.47

Table 2

Antenna	Frequency (MHz)	Antenna Type	Maximum Antenna Gain (dBi)
1	2402-2480	FPC	2.47

Note: The antenna information showed in table 1 comes from report 4790176872-2.

## Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
Radiated Band edge and Spurious Emission	ANSI C63.10-2013 Clause 6.3 & 6.5 & 6.6	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	Pass

\*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

\*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART C and ISED RSS-247 ISSUE 2> when <Accuracy Method> decision rule is applied.

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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Guangzhou Shikun Electronics Co., Ltd  
Address: NO.6 Liankun Road, Huangpu District, Guangzhou, China

### Manufacturer Information

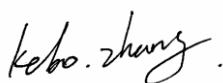
Company Name: Guangzhou Shikun Electronics Co., Ltd  
Address: NO.6 Liankun Road, Huangpu District, Guangzhou, China

### EUT Information

EUT Name: IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated  
Bluetooth 2.1+EDR/4.2/5.1  
Model: SKI.WB663U.2  
Sample Received Date: September 2, 2022  
Sample Status: Normal  
Sample ID: 5303796  
Date of Tested: September 5, 2022 ~ September 14, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	PASS
ISED RSS-247 Issue 2	PASS
ISED RSS-GEN Issue 5	PASS

Prepared By:



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Kebo Zhang  
Senior Project Engineer

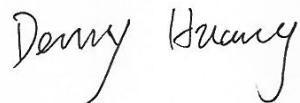
Approved By:



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Stephen Guo  
Laboratory Manager

Checked By:



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Denny Huang  
Senior Project Engineer

## 2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C ISED RSS-247 ISSUE 2, KDB 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED 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>ISED (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 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</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.</p> <p>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>
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### Note1:

All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

### Note2:

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.

### Note3:

For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz 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	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 26 GHz)	5.78 dB (1 GHz ~ 18 GHz) 5.23 dB (18 GHz ~ 26 GHz)

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	IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated Bluetooth 2.1+EDR/4.2/5.1		
Model	SKI.WB663U.2		
Technology	Bluetooth – BR & EDR		
Transmit Frequency Range	2402 MHz ~ 2480 MHz		
Mode	Basic Rate	Enhanced Data Rate	
Modulation	GFSK	$\text{π}/4$ -DQPSK	8DPSK
Packet Type (Maximum Payload):	DH5	2DH5	3DH5
Data Rate	1 Mbps	2 Mbps	3 Mbps
Power Supply	DC 3.3 V		

### 5.2. CHANNEL LIST

Channel	Frequency (MHz)						
00	2402	20	2422	40	2442	60	2462
01	2403	21	2423	41	2443	61	2463
02	2404	22	2424	42	2444	62	2464
03	2405	23	2425	43	2445	63	2465
04	2406	24	2426	44	2446	64	2466
05	2407	25	2427	45	2447	65	2467
06	2408	26	2428	46	2448	66	2468
07	2409	27	2429	47	2449	67	2469
08	2410	28	2430	48	2450	68	2470
09	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461	/	/

### 5.3. MAXIMUM EIRP

Test Mode	Frequency (MHz)	Channel Number	Maximum Peak Output Power (dBm)	Maximum EIRP (dBm)
GFSK	2402 ~ 2480	0-78[79]	6.77	9.24
8DPSK	2402 ~ 2480	0-78[79]	6.58	9.05

## 5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK-DH5	CH 00(Low Channel), CH 39(MID Channel), CH 78(High Channel)	2402 MHz, 2441 MHz, 2480 MHz
8DPSK-3DH5	CH 00(Low Channel), CH 39(MID Channel), CH 78(High Channel)	2402 MHz, 2441 MHz, 2480 MHz
GFSK-DH5	Hopping	
8DPSK-3DH5	Hopping	

## 5.5. PACKET TYPE CONFIGURATION

Test Mode	Packet Type	Setting (Packet Length)
GFSK	DH1	27
	DH3	183
	DH5	339
Π/4-DQPSK	2-DH1	54
	2-DH3	367
	2-DH5	679
8DPSK	3-DH1	83
	3-DH3	552
	3-DH5	1021

## 5.6. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band					
Test Software		WCN_Combo_Tool			
Modulation Type	Transmit Antenna Number	Test Software setting value			
		CH 00	CH 39	CH 78	
GFSK	1	Default	Default	Default	
8DPSK	1	Default	Default	Default	

## 5.7. WORST-CASE CONFIGURATIONS

Bluetooth Mode	Modulation Technology	Modulation Type	Data Rate (Mbps)
BR	FHSS	GFSK	1Mbit/s
EDR	FHSS	8DPSK	3Mbit/s

Note: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

## 5.8. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	Maximum Antenna Gain (dBi)
1	2402-2480	FPC	2.47

Test Mode	Transmit and Receive Mode	Description
GFSK	<input checked="" type="checkbox"/> 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
8DPSK	<input checked="" type="checkbox"/> 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

**Note:**  
1.BT&WLAN 2.4G, BT & WLAN 5G, WLAN 2.4G & WLAN 5G can't transmit simultaneously.  
(Declared by client)

Note: The value of the antenna gain was declared by customer.

## 5.9. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Dell	Vostro 3902	/
2	Laptop	ThinkPad	E480	/
3	Test fixture	/	/	/
4	Switching Adapter	FLYPOWER	PS65IBCAY5000H	Input: AC 100-240 V, 50/60 Hz, 1.5A Output: DC 12.0 V, 5000 mA

### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB	Unshielded	1.0	/

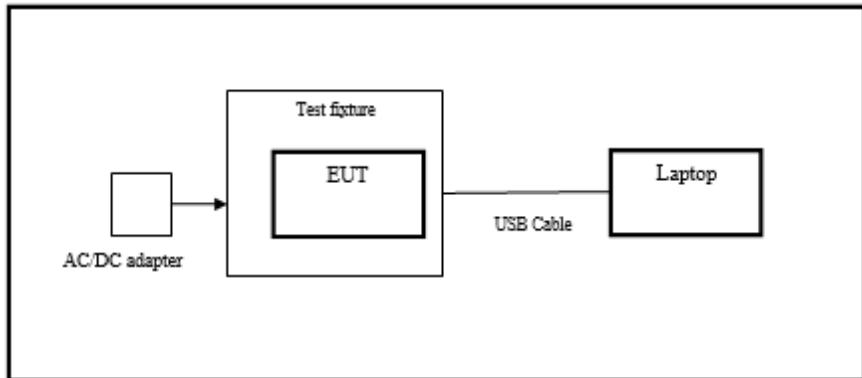
### ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

### TEST SETUP

The EUT can work in engineering mode with a software through a PC.

### SETUP DIAGRAM FOR TESTS



## 6. MEASURING EQUIPMENT AND SOFTWARE USED

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.30, 2021	Oct.29, 2022
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
Preamplifier	HP	8447D	2944A09099	Oct.30, 2021	Oct.29, 2022
EMI Measurement Receiver	R&S	ESR26	101377	Oct.30, 2021	Oct.29, 2022
Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.30, 2021	Oct.29, 2022
Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.31, 2021	Oct.30, 2022
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.31, 2021	Oct.30, 2022
Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.31, 2021	Oct.30, 2022
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Oct.31, 2021	Oct.30, 2022
Software					
Description		Manufacturer		Name	Version
Test Software for Radiated Emissions		Farad		EZ-EMC	Ver. UL-3A1

Other Instrument					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Dual Channel Power Meter	Keysight	N1912A	MY55416024	Oct.30, 2021	Oct.29, 2022
Power Sensor	Keysight	USB Wideband Power Sensor	MY5100022	Oct.30, 2021	Oct.29, 2022

## 7. ANTENNA PORT TEST RESULTS

### 7.1. ON TIME AND DUTY CYCLE

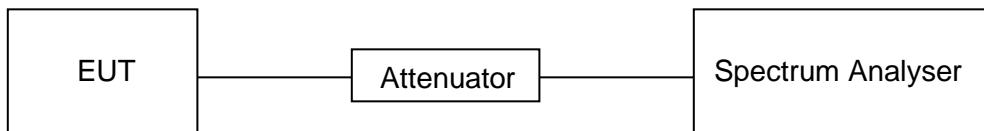
#### LIMITS

None; for reporting purposes only.

#### PROCEDURE

Refer to ANSI C63.10-2013 Zero – Span Spectrum Analyzer method.

#### TEST SETUP



#### TEST RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
DH5	2.87	3.75	0.7653	76.53	1.16	0.35	0.5
3DH5	2.88	3.75	0.7680	76.80	1.15	0.35	0.5

Note:

Duty Cycle Correction Factor=10log (1/x).

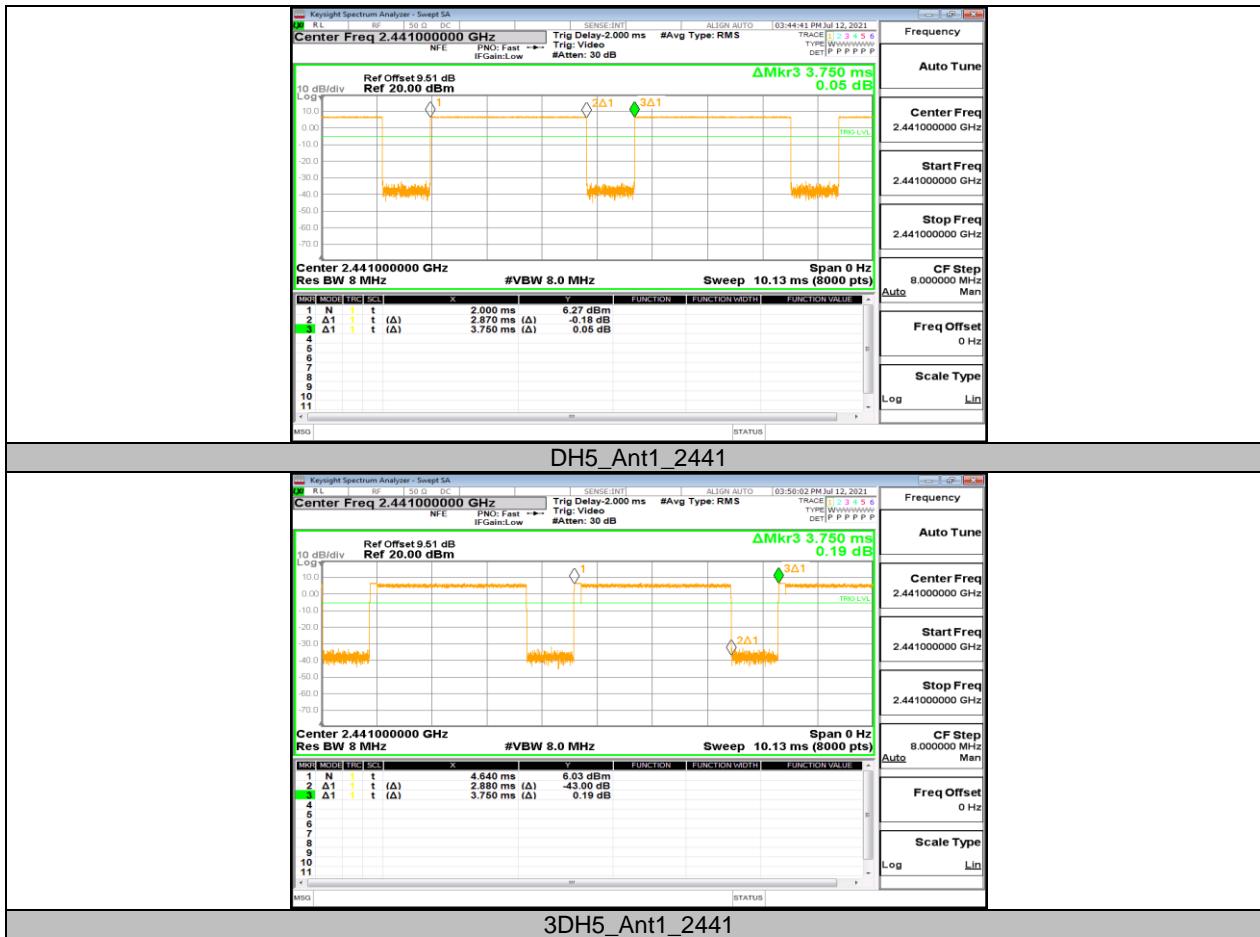
Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used.

Note: All the test result comes from the original test report.

## TEST GRAPHS



Note: All the test result comes from the original test report.

## 7.2. PEAK CONDUCTED OUTPUT POWER

### LIMITS

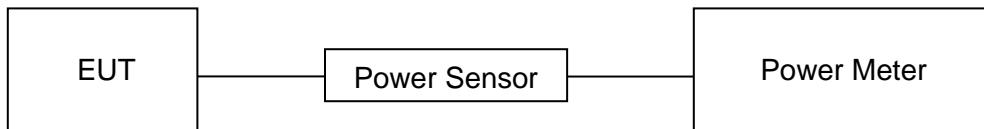
CFR 47 FCC Part15 (15.247), Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247 (b) (1) ISED RSS-247 Clause 5.4 (b)	Peak Conducted Output Power	Hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel: 1 watt or 30 dBm; Hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel: 125 mW or 21 dBm	2400-2483.5

### TEST PROCEDURE

Connect the EUT to a low loss RF cable from the antenna port to the power sensor (video bandwidth is greater than the occupied bandwidth).

Measure peak emission level, the indicated level is the peak output power, after any corrections for external attenuators and cables.

### TEST SETUP



### TEST ENVIRONMENT

Temperature	24.3 °C	Relative Humidity	54.2 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.3 V

### RESULTS

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	5.15	<=30	PASS
		2441	6.65	<=30	PASS
		2480	5.29	<=30	PASS
3DH5	Ant1	2402	4.92	<=30	PASS
		2441	6.39	<=30	PASS
		2480	5.08	<=30	PASS

Note: All the test result comes from the original test report.

**SPOT CHECK TEST RESULTS**

Test Mode	Antenna	Frequency (MHz)	Result[dBm]	Original Report Test Result [dBm]	Deviation [dB]
DH5	Ant1	2441	6.77	6.65	0.12
3DH5	Ant1	2441	6.58	6.39	0.19

## 8. RADIATED TEST RESULTS

### LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz-1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz			
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

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
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

ISED General field strength limits at frequencies below 30 MHz

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

Frequency	Magnetic field strength (H-Field) ( $\mu$ A/m)	Measurement distance (m)
9 - 490 kHz <sup>Note 1</sup>	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.

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

Table 7 – Restricted frequency bands <sup>Note 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
5.877 - 5.883	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 38.6
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	7260 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138		

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 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 refer to FCC §15.205 (a):

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 PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.
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, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m 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 1 GHz, 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 and average 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 and average detector and reported.
7. Although these tests were performed other than open field 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 site based on KDB 414788.
8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of  $377\Omega$ . For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to  $Y - 51.5 = Z$  dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
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 80 cm 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 1 GHz, 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.

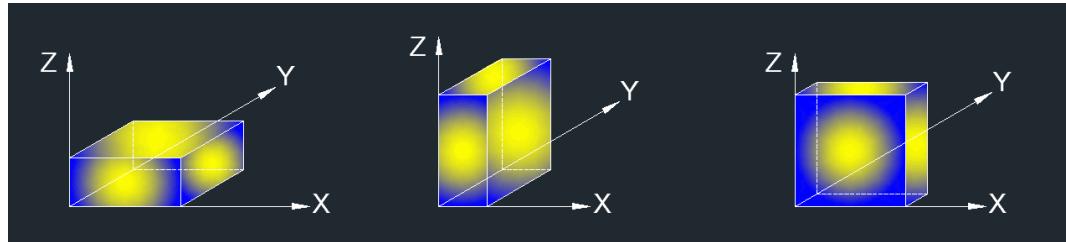
## Above 1 GHz

## The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.
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 1.5 m 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 1 GHz, 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. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.7.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note: 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.

For Restricted Bandedge:

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: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
7. Both horizontal and vertical have been tested, only the worst data was recorded in the report.
8. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission (9 kHz ~ 30 MHz):

Note:

1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious Emission (30 MHz ~ 1 GHz):

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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious Emission (1 GHz ~ 3 GHz):

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:  $VBW=1/Ton$ , where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious Emission (3 GHz ~ 18 GHz):

Note:

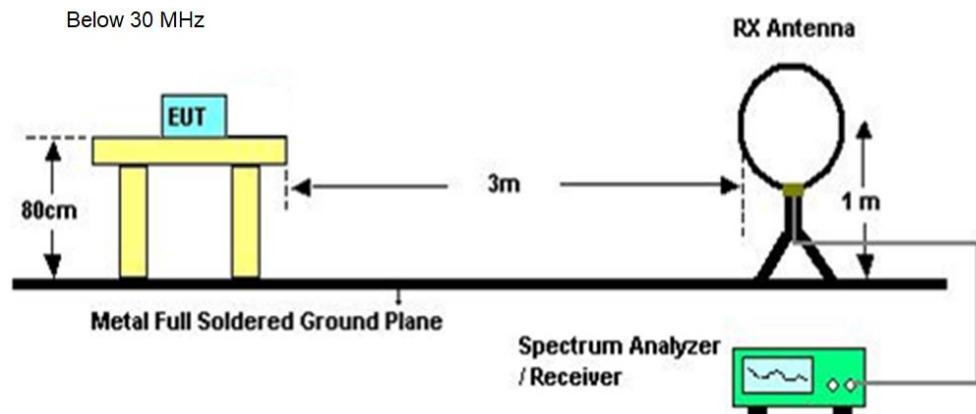
1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG:  $VBW=1/Ton$ , where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

For Radiate Spurious emission (18 GHz ~ 26 GHz):

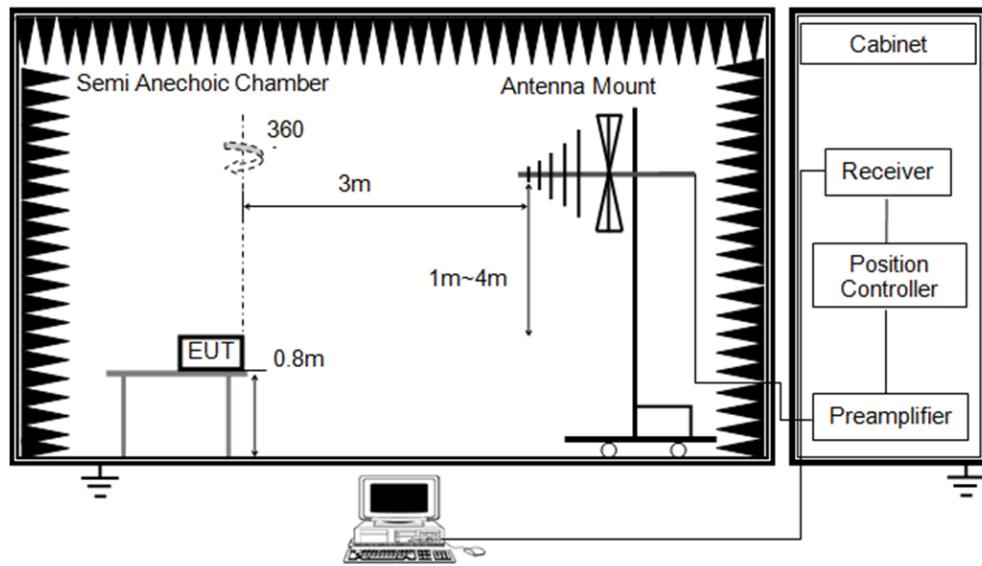
Note:

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. All modes, channels and antennas have been tested, only the worst data was recorded in the report.

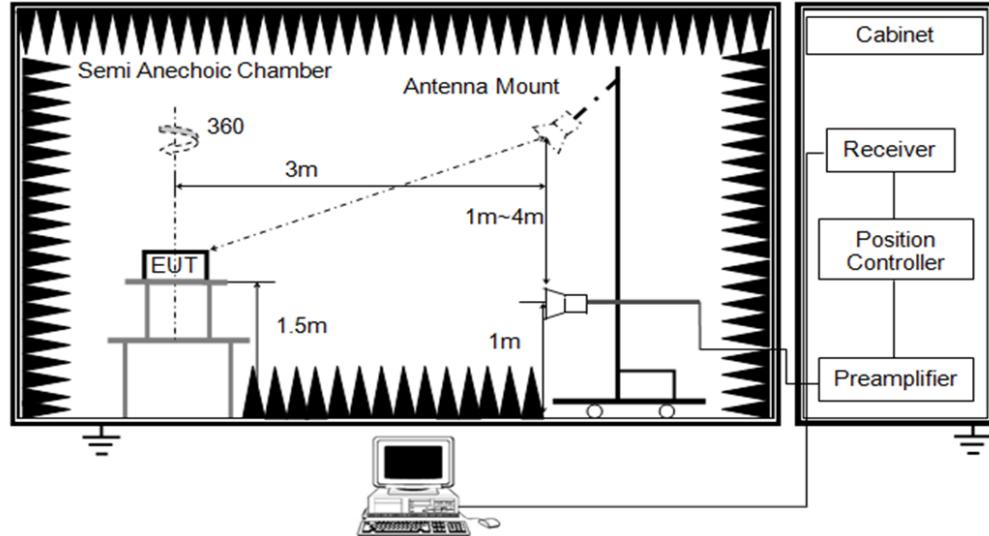
## TEST SETUP



Below 1 GHz and above 30 MHz



Above 1 GHz



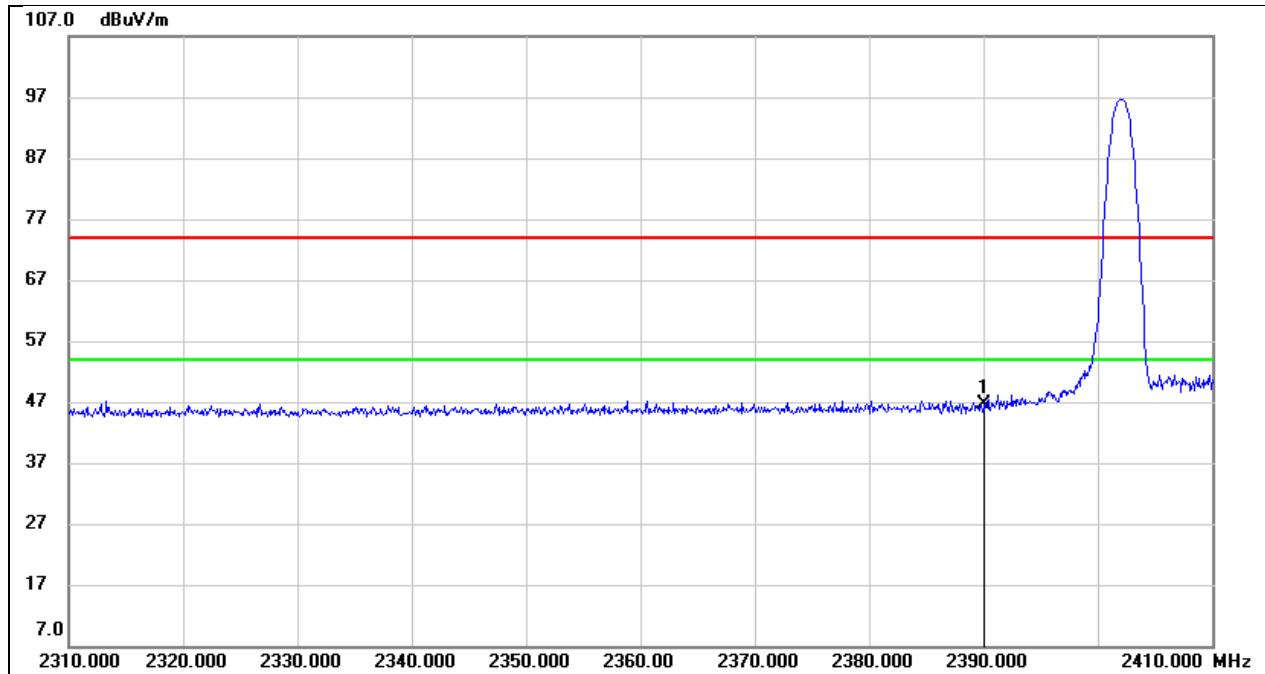
**TEST ENVIRONMENT**

Temperature	25.3 °C	Relative Humidity	65%
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.3 V

**TEST RESULTS**

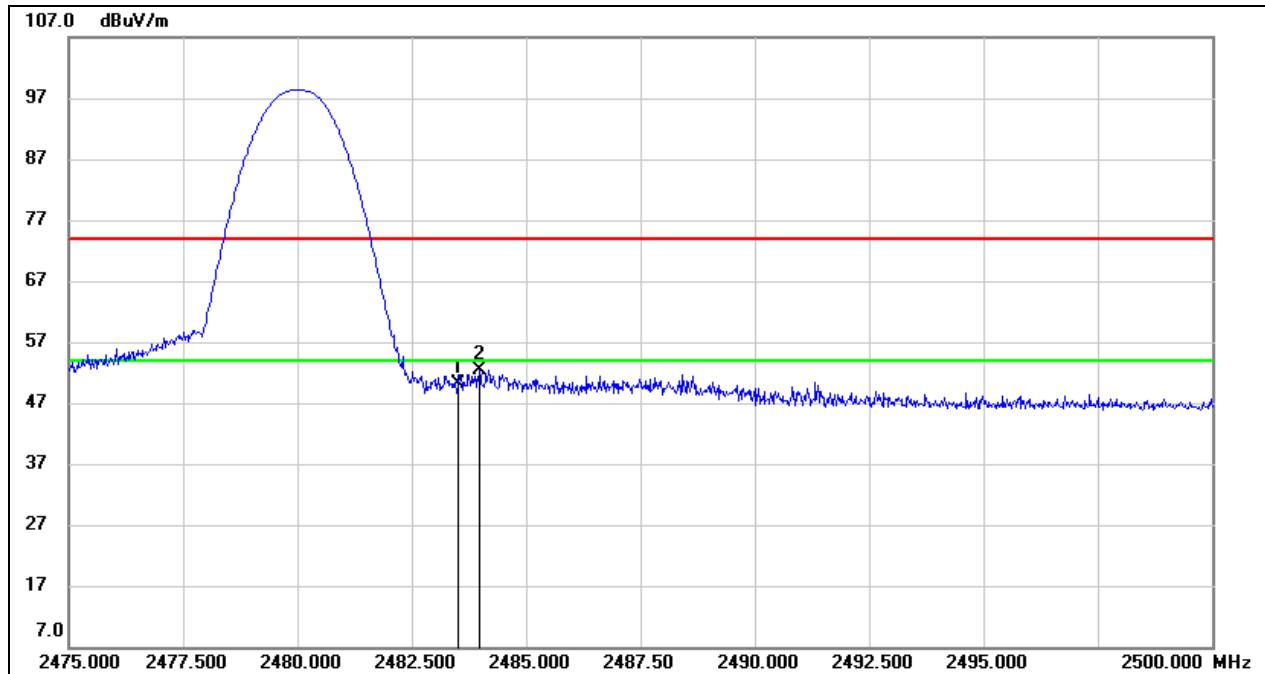
## 8.1. RESTRICTED BANDEDGE

Test Mode:	GFSK Peak	Channel:	2402 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



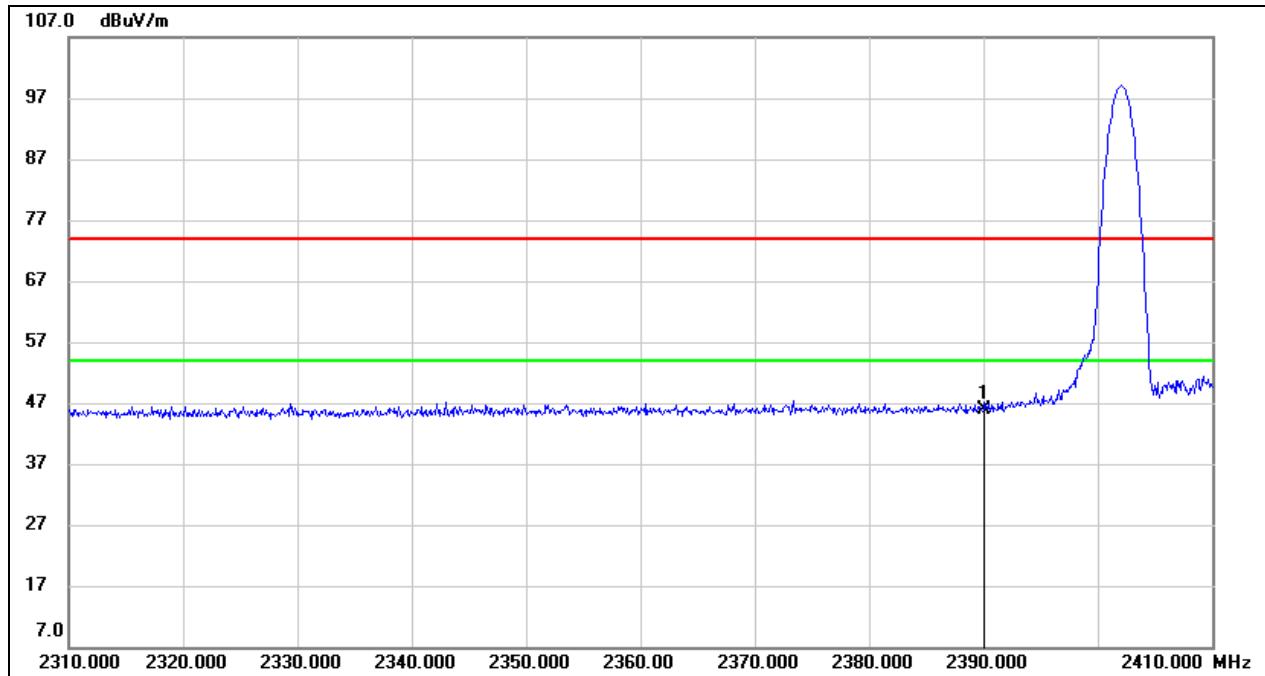
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	14.43	32.16	46.59	74.00	-27.41	peak

Test Mode:	GFSK Peak	Channel:	2480 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



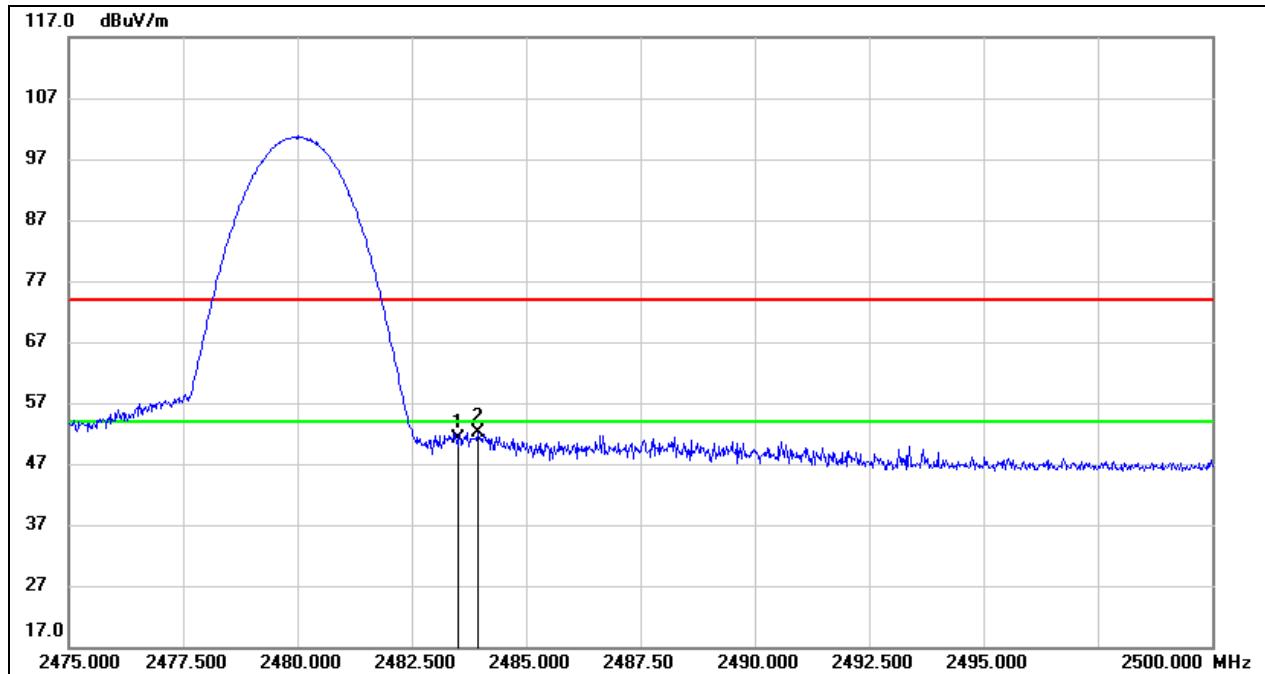
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	17.63	32.44	50.07	74.00	-23.93	peak
2	2483.975	19.92	32.44	52.36	74.00	-21.64	peak

Test Mode:	8DPSK Peak	Channel:	2402 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dB <sub>UV</sub> )	Correct (dB/m)	Result (dB <sub>UV</sub> /m)	Limit (dB <sub>UV</sub> /m)	Margin (dB)	Remark
1	2390.000	13.60	32.16	45.76	74.00	-28.24	peak

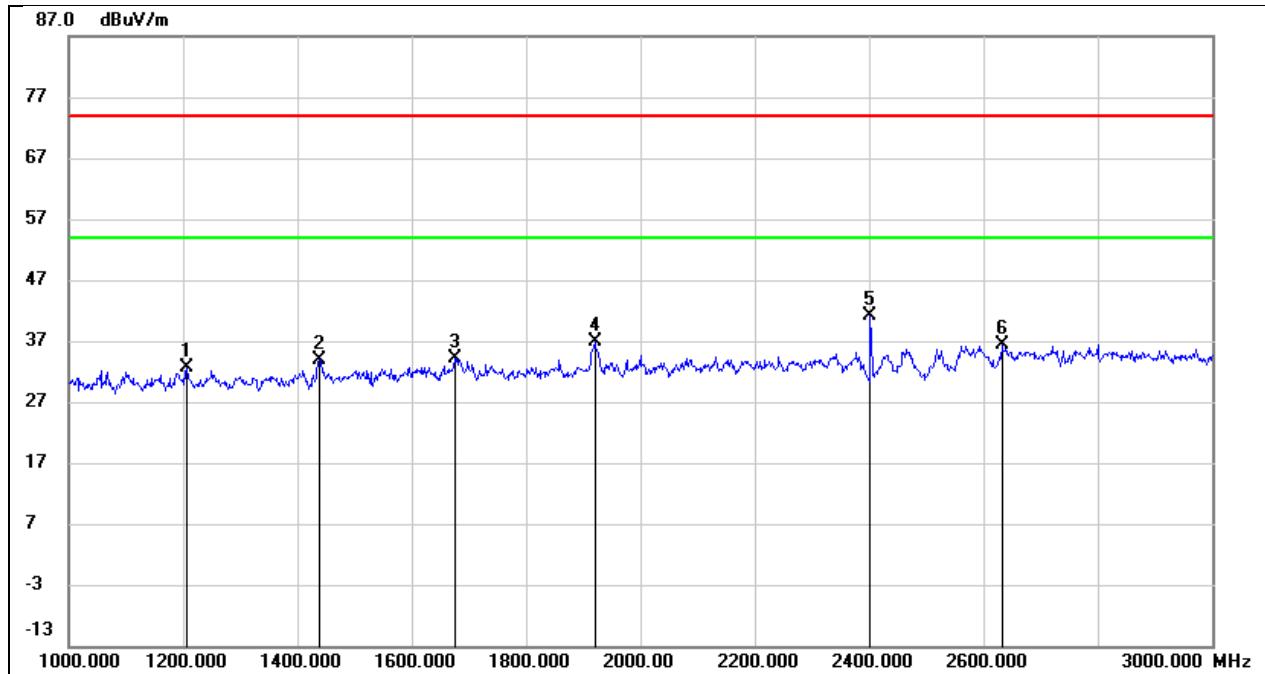
Test Mode:	8DPSK Peak	Channel:	2480 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	18.62	32.44	51.06	74.00	-22.94	peak
2	2483.950	19.68	32.44	52.12	74.00	-21.88	peak

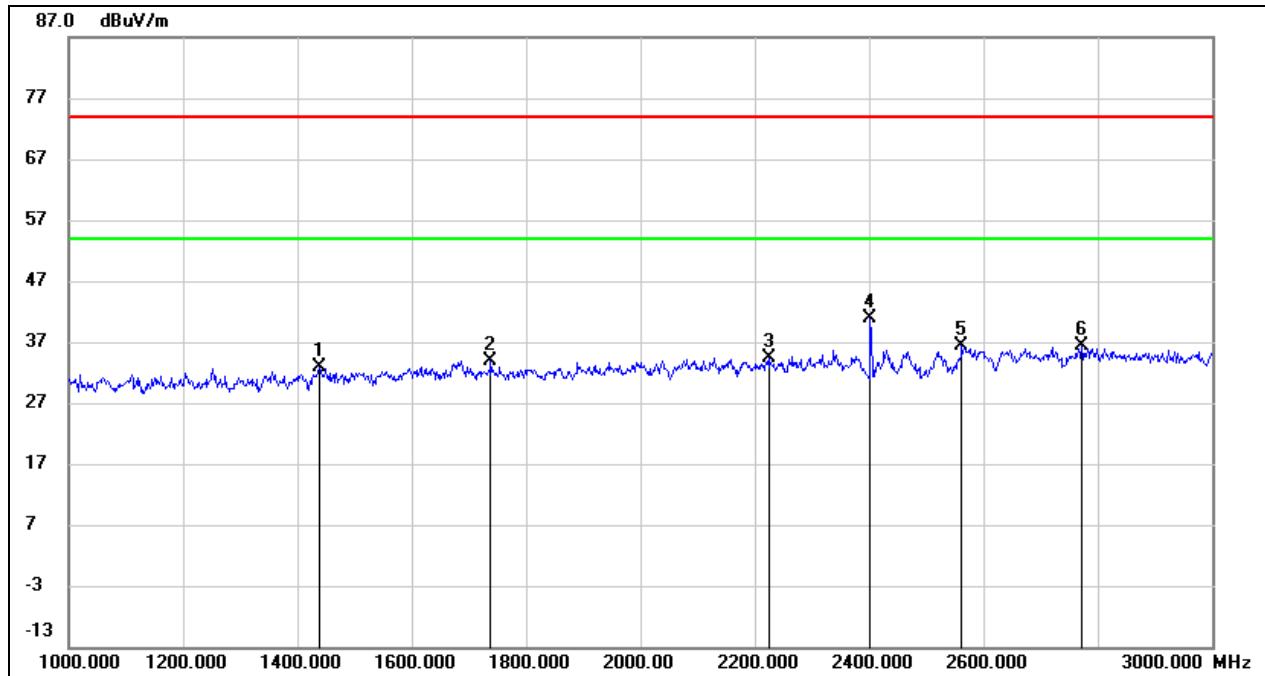
## 8.2. SPURIOUS EMISSIONS (1 GHZ ~ 3 GHZ)

Test Mode:	GFSK	Channel:	2402 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



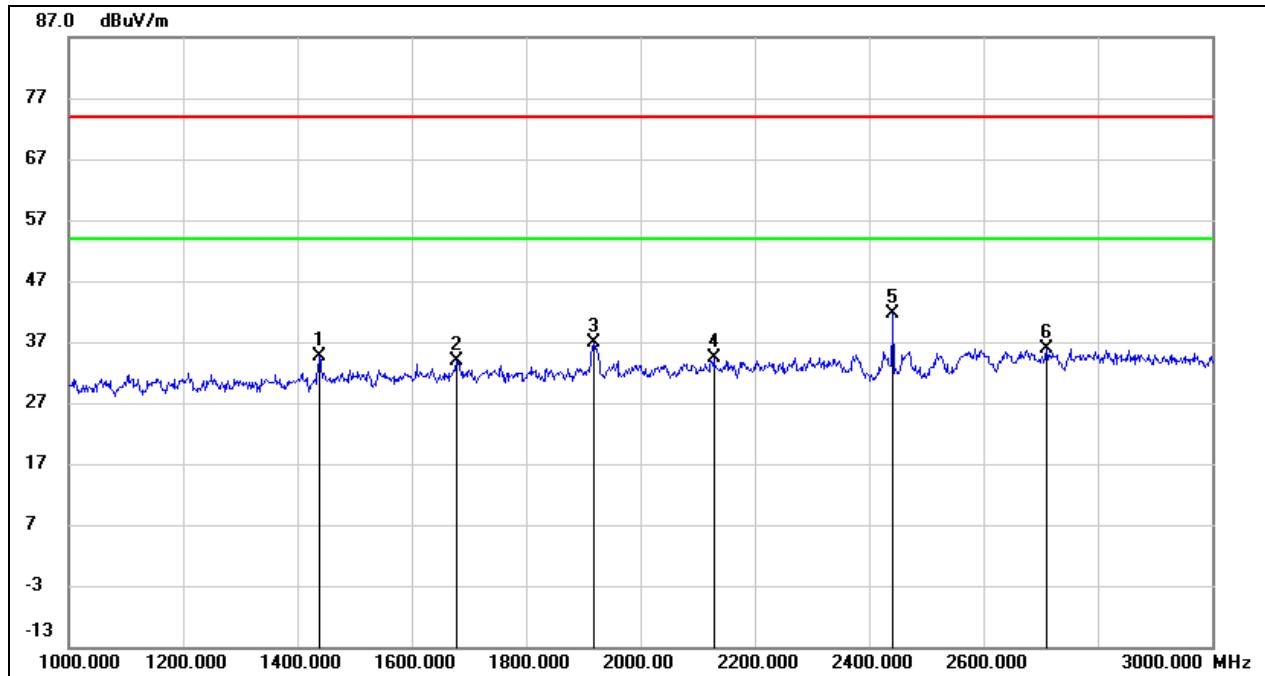
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1206.000	46.62	-14.07	32.55	74.00	-41.45	peak
2	1438.000	46.88	-13.00	33.88	74.00	-40.12	peak
3	1676.000	46.35	-12.13	34.22	74.00	-39.78	peak
4	1920.000	48.26	-11.32	36.94	74.00	-37.06	peak
5	2402.000	50.16	-8.99	41.17	/	/	Fundamental
6	2632.000	44.48	-8.09	36.39	74.00	-37.61	peak

Test Mode:	GFSK	Channel:	2402 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



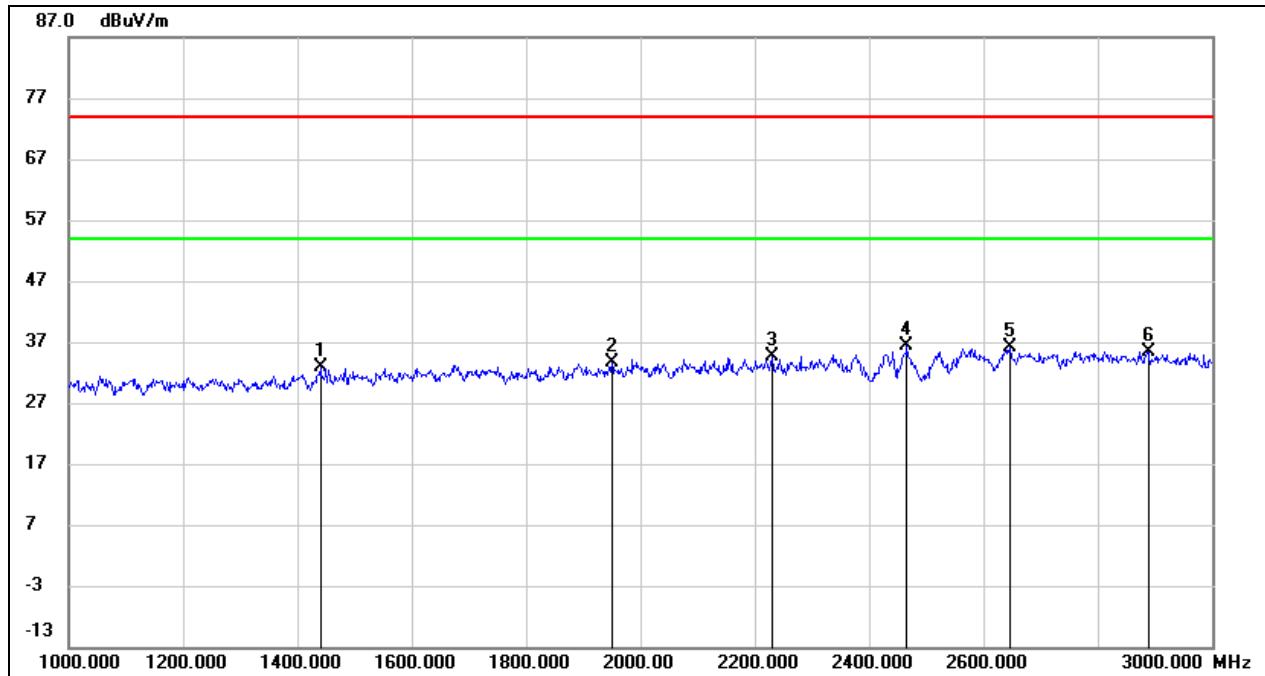
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	45.77	-13.00	32.77	74.00	-41.23	peak
2	1738.000	45.82	-11.93	33.89	74.00	-40.11	peak
3	2224.000	44.24	-9.91	34.33	74.00	-39.67	peak
4	2402.000	49.89	-8.99	40.90	/	/	Fundamental
5	2562.000	44.79	-8.31	36.48	74.00	-37.52	peak
6	2772.000	44.00	-7.67	36.33	74.00	-37.67	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



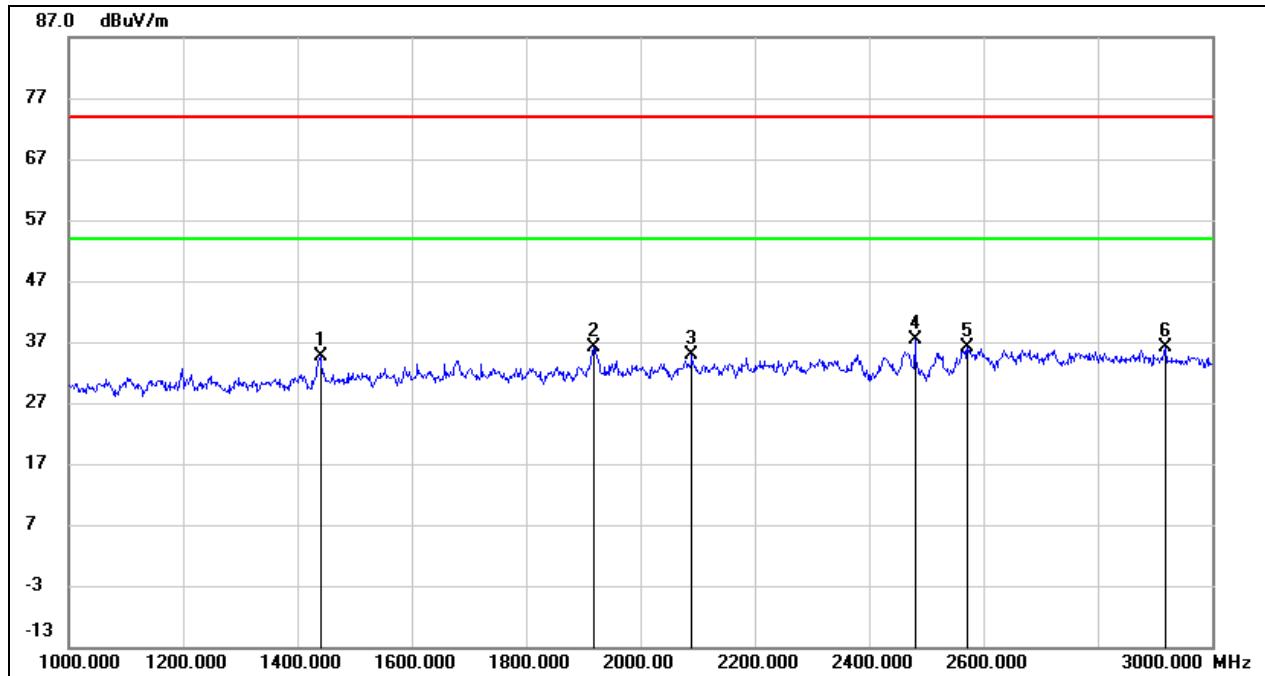
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1438.000	47.58	-13.00	34.58	74.00	-39.42	peak
2	1678.000	45.88	-12.12	33.76	74.00	-40.24	peak
3	1918.000	48.20	-11.33	36.87	74.00	-37.13	peak
4	2128.000	44.85	-10.40	34.45	74.00	-39.55	peak
5	2441.000	50.38	-8.79	41.59	/	/	Fundamental
6	2710.000	43.75	-7.85	35.90	74.00	-38.10	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



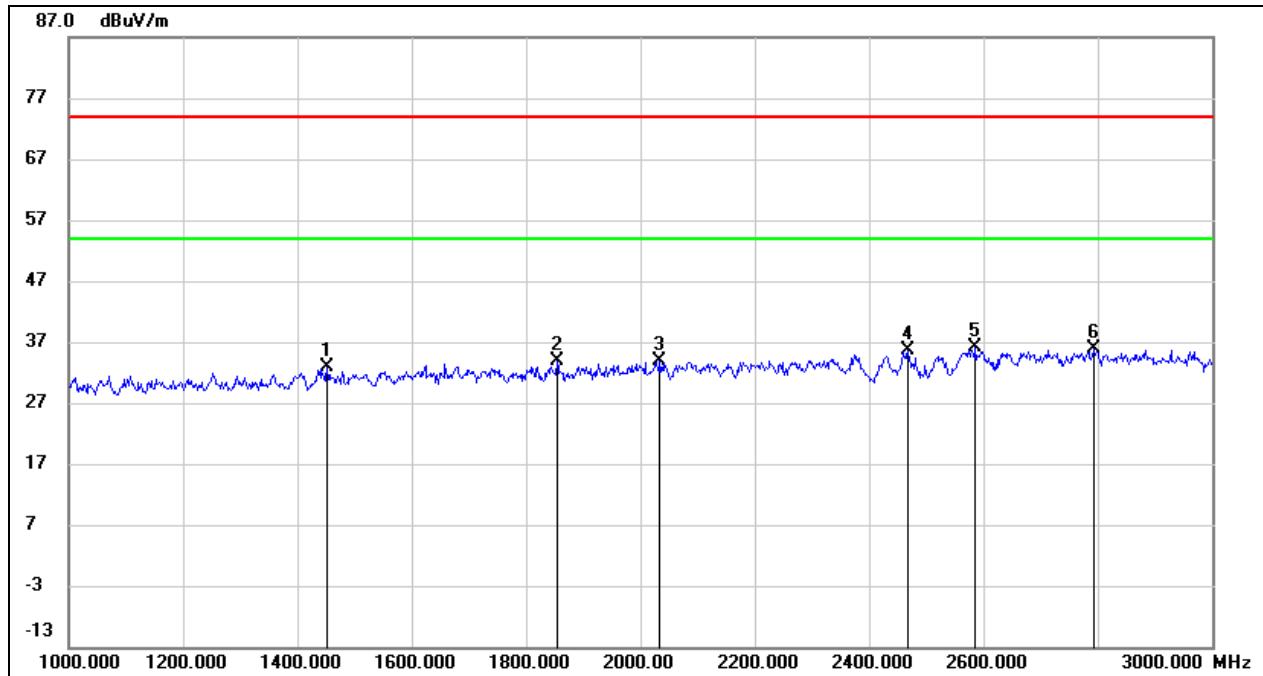
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1440.000	45.90	-12.98	32.92	74.00	-41.08	peak
2	1950.000	44.80	-11.22	33.58	74.00	-40.42	peak
3	2230.000	44.56	-9.88	34.68	74.00	-39.32	peak
4	2466.000	44.99	-8.66	36.33	74.00	-37.67	peak
5	2646.000	44.08	-8.05	36.03	74.00	-37.97	peak
6	2888.000	42.76	-7.32	35.44	74.00	-38.56	peak

Test Mode:	GFSK	Channel:	2480 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1440.000	47.60	-12.98	34.62	74.00	-39.38	peak
2	1918.000	47.45	-11.33	36.12	74.00	-37.88	peak
3	2090.000	45.53	-10.60	34.93	74.00	-39.07	peak
4	2480.000	46.00	-8.59	37.41	/	/	Fundamental
5	2572.000	44.35	-8.27	36.08	74.00	-37.92	peak
6	2918.000	43.31	-7.23	36.08	74.00	-37.92	peak

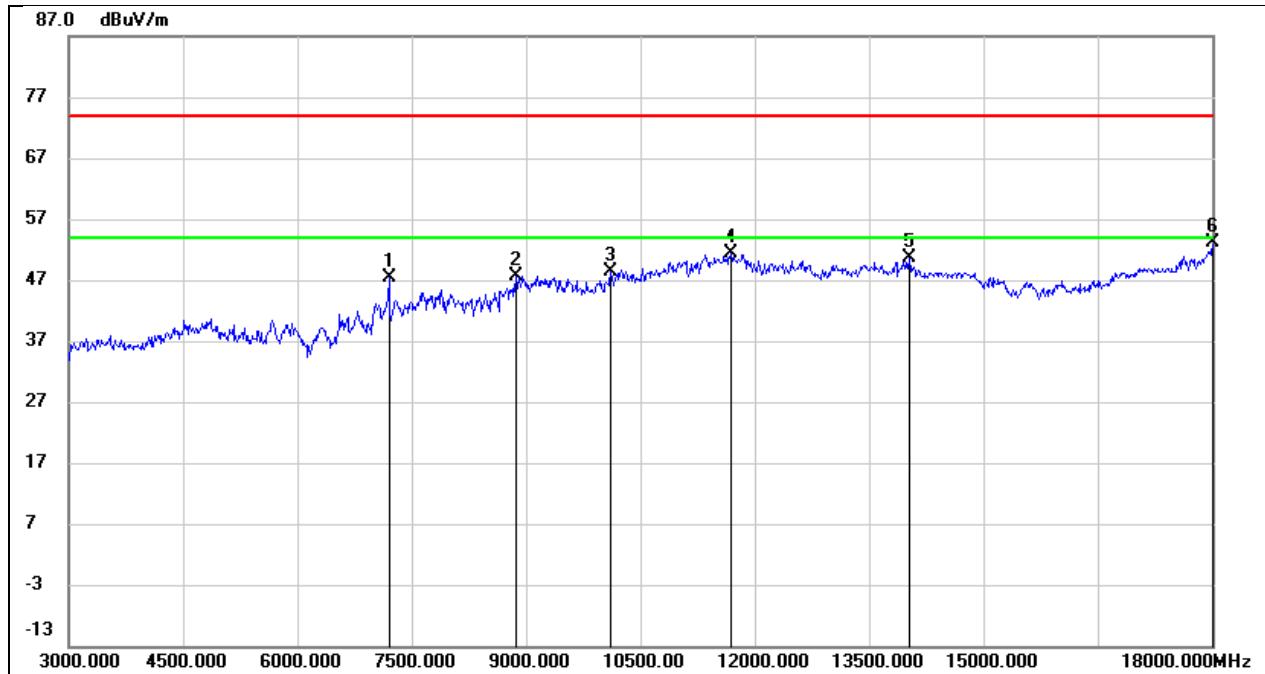
Test Mode:	GFSK	Channel:	2480 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1452.000	45.74	-12.93	32.81	74.00	-41.19	peak
2	1854.000	45.38	-11.54	33.84	74.00	-40.16	peak
3	2034.000	44.80	-10.89	33.91	74.00	-40.09	peak
4	2468.000	44.28	-8.65	35.63	74.00	-38.37	peak
5	2586.000	44.33	-8.24	36.09	74.00	-37.91	peak
6	2794.000	43.57	-7.60	35.97	74.00	-38.03	peak

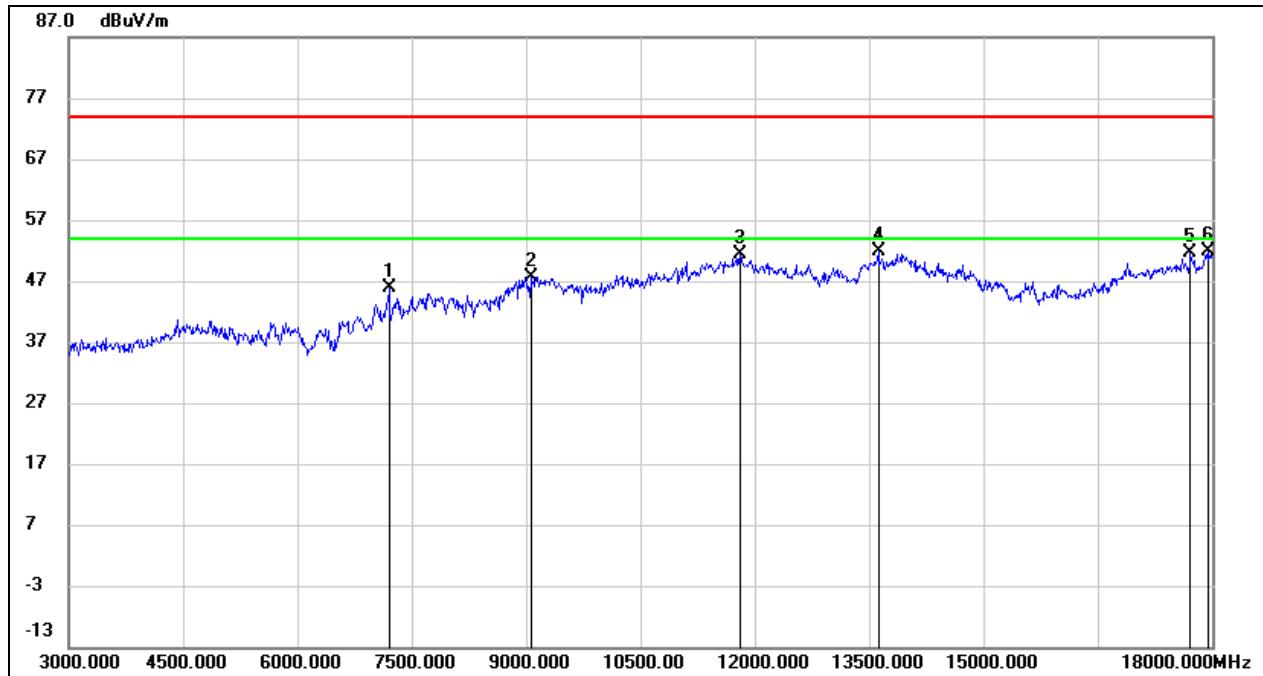
### 8.3. SPURIOUS EMISSIONS (3 GHZ ~ 18 GHZ)

Test Mode:	GFSK	Channel:	2402 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



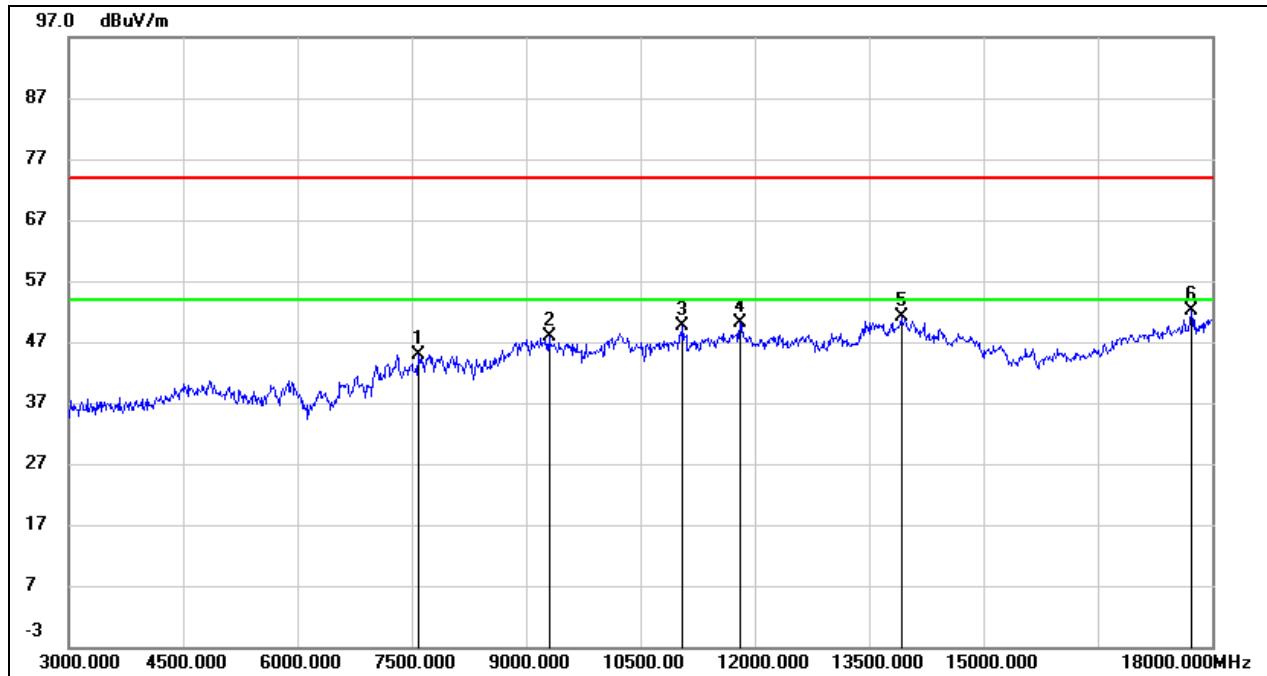
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7200.000	40.78	6.55	47.33	74.00	-26.67	peak
2	8865.000	38.15	9.50	47.65	74.00	-26.35	peak
3	10110.000	36.17	12.22	48.39	74.00	-25.61	peak
4	11685.000	34.36	17.10	51.46	74.00	-22.54	peak
5	14025.000	28.69	21.86	50.55	74.00	-23.45	peak
6	18000.000	27.39	25.69	53.08	74.00	-20.92	peak

Test Mode:	GFSK	Channel:	2402 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



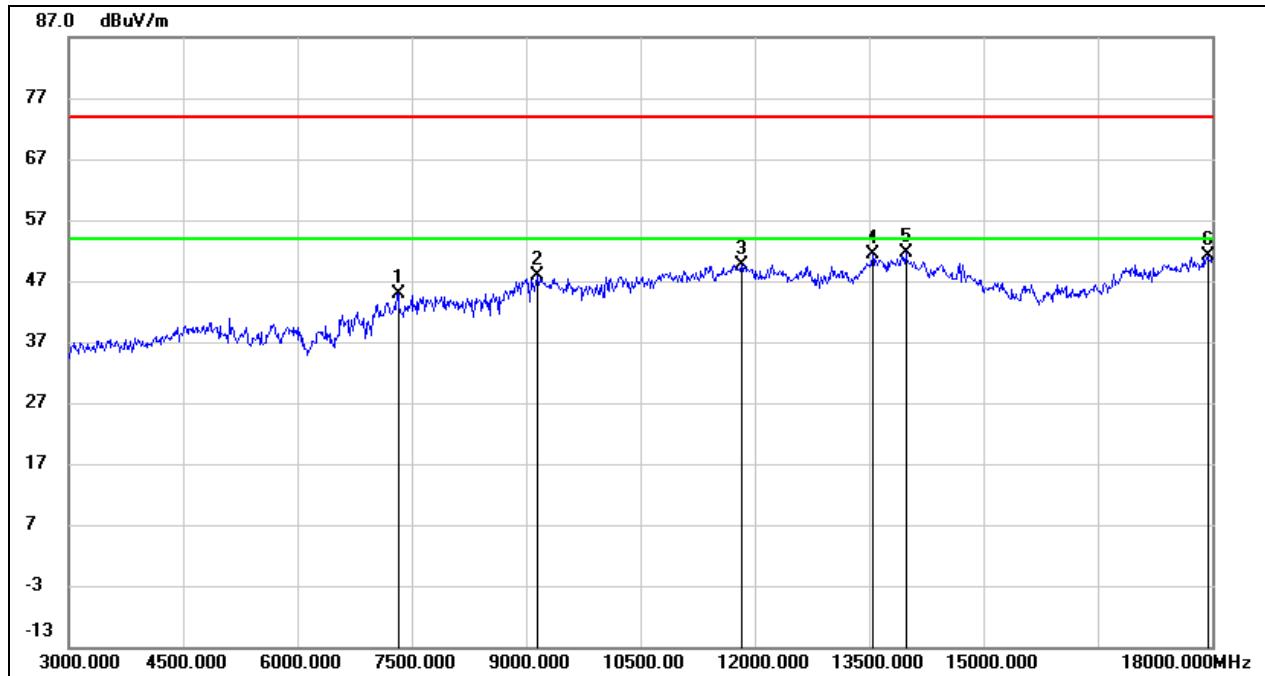
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7200.000	39.33	6.55	45.88	74.00	-28.12	peak
2	9060.000	37.18	10.51	47.69	74.00	-26.31	peak
3	11805.000	34.07	17.43	51.50	74.00	-22.50	peak
4	13620.000	30.68	21.15	51.83	74.00	-22.17	peak
5	17715.000	27.62	24.00	51.62	74.00	-22.38	peak
6	17955.000	26.44	25.42	51.86	74.00	-22.14	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



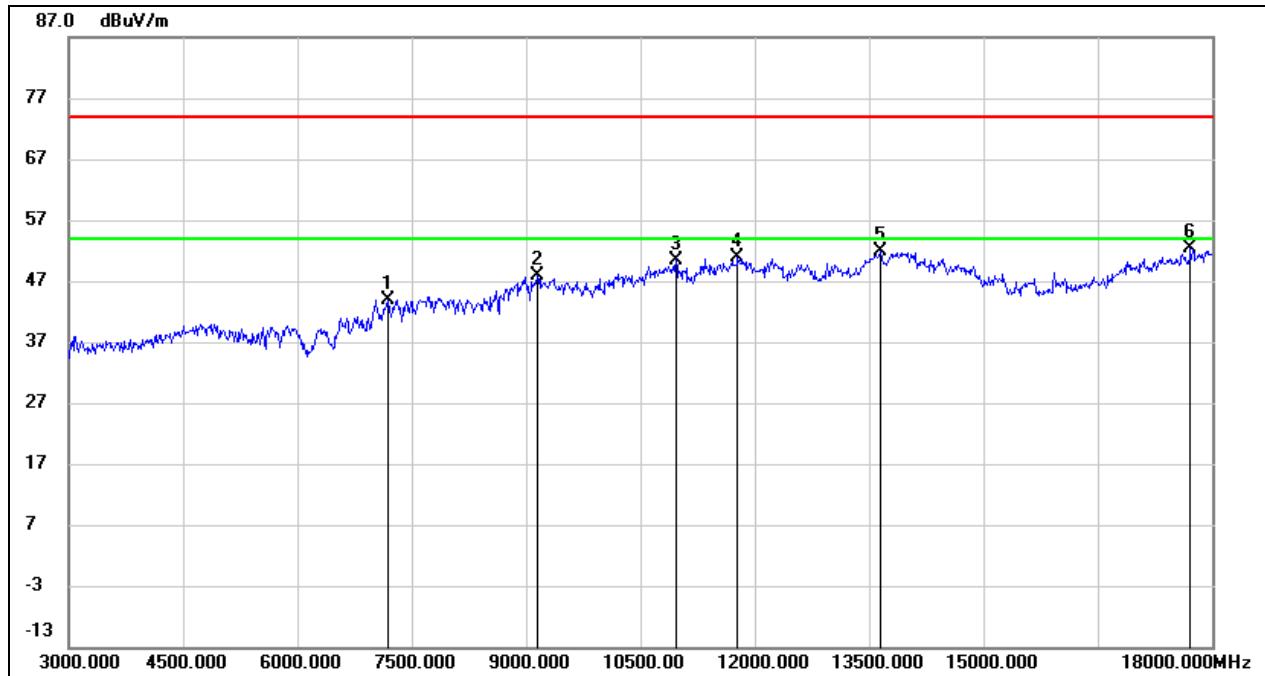
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7590.000	38.59	6.32	44.91	74.00	-29.09	peak
2	9300.000	37.22	10.61	47.83	74.00	-26.17	peak
3	11055.000	34.63	14.96	49.59	74.00	-24.41	peak
4	11805.000	32.66	17.43	50.09	74.00	-23.91	peak
5	13920.000	29.45	21.79	51.24	74.00	-22.76	peak
6	17730.000	27.96	24.09	52.05	74.00	-21.95	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



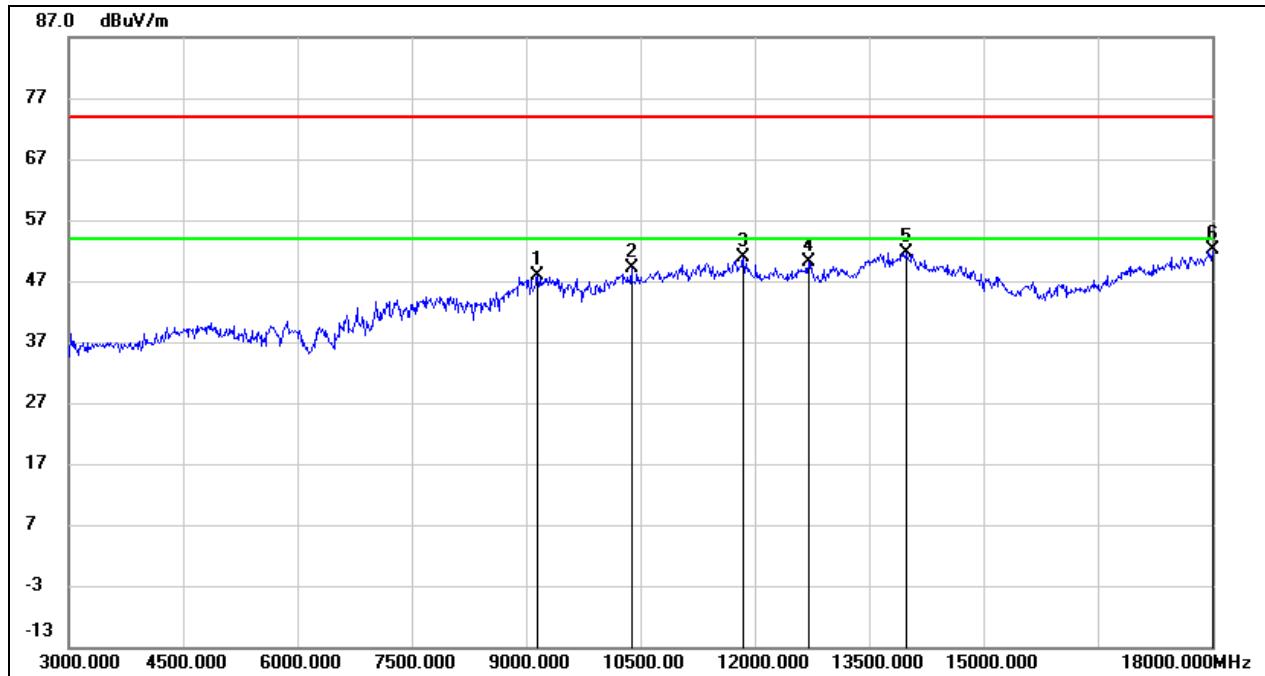
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7320.000	38.45	6.46	44.91	74.00	-29.09	peak
2	9150.000	37.32	10.54	47.86	74.00	-26.14	peak
3	11820.000	32.18	17.47	49.65	74.00	-24.35	peak
4	13545.000	30.29	20.99	51.28	74.00	-22.72	peak
5	13980.000	29.74	21.92	51.66	74.00	-22.34	peak
6	17940.000	25.69	25.34	51.03	74.00	-22.97	peak

Test Mode:	GFSK	Channel:	2480 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



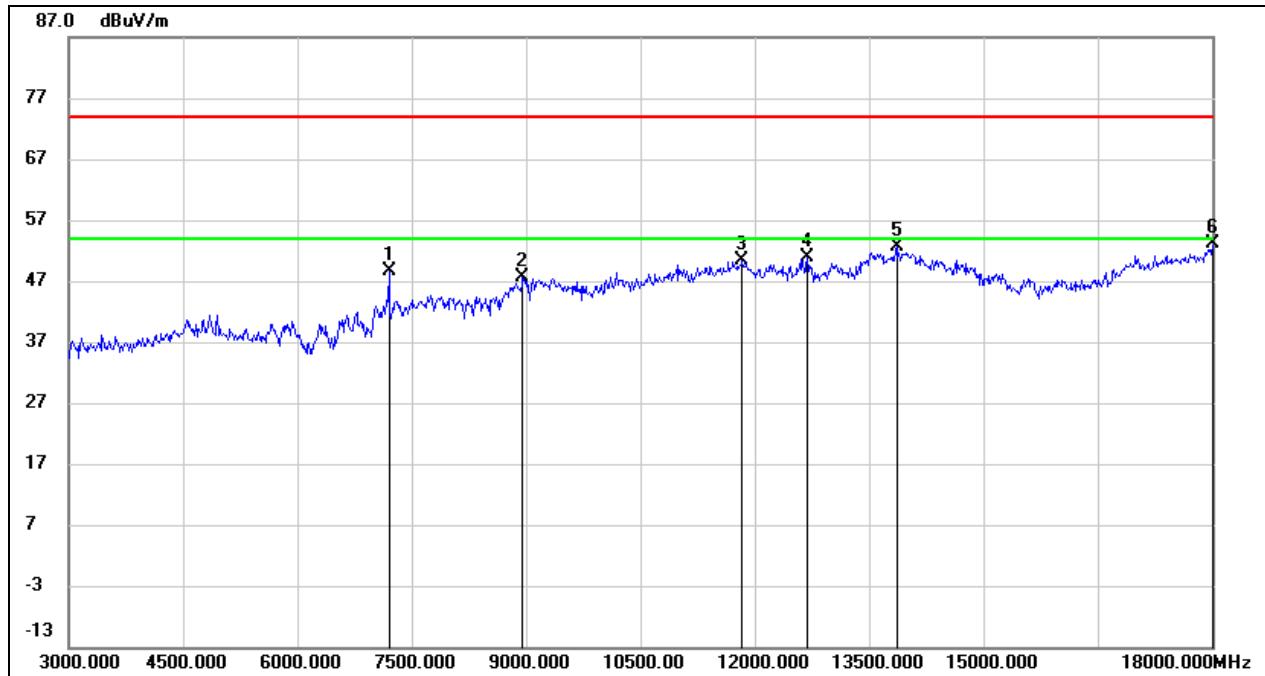
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7185.000	37.37	6.55	43.92	74.00	-30.08	peak
2	9150.000	37.41	10.54	47.95	74.00	-26.05	peak
3	10965.000	35.86	14.64	50.50	74.00	-23.50	peak
4	11775.000	33.54	17.35	50.89	74.00	-23.11	peak
5	13650.000	30.62	21.21	51.83	74.00	-22.17	peak
6	17715.000	28.30	24.00	52.30	74.00	-21.70	peak

Test Mode:	GFSK	Channel:	2480 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



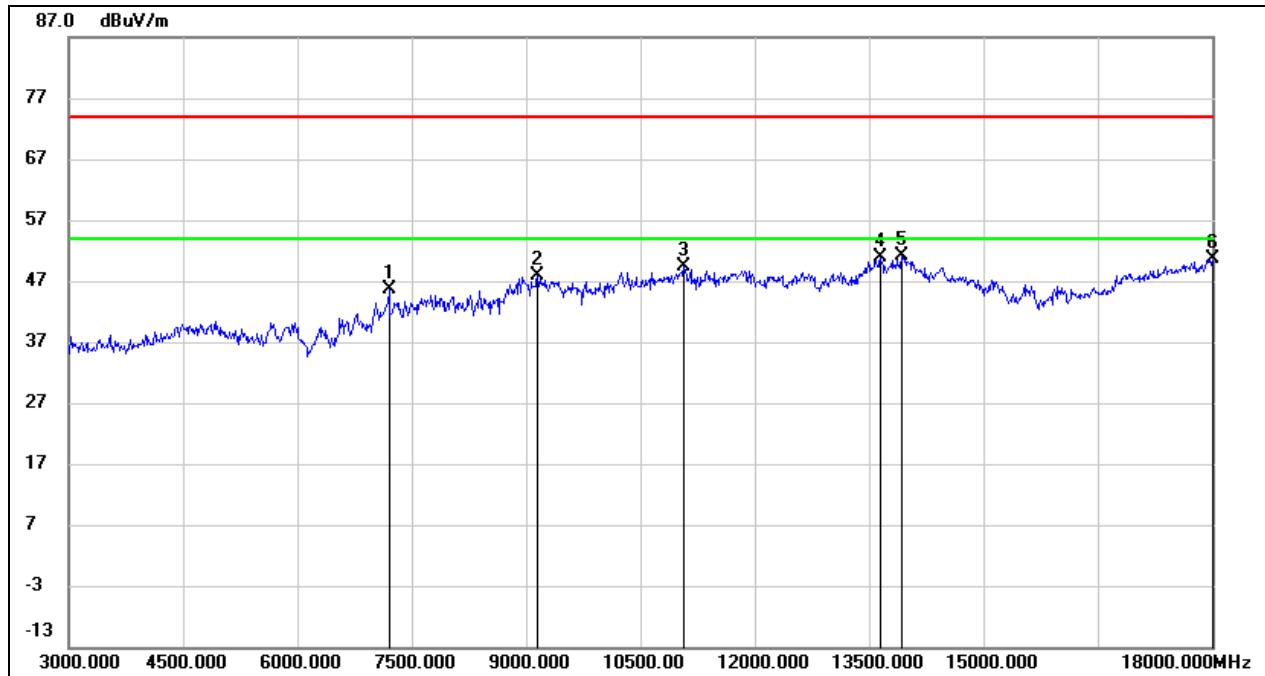
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	9150.000	37.44	10.54	47.98	74.00	-26.02	peak
2	10380.000	36.37	12.75	49.12	74.00	-24.88	peak
3	11850.000	33.43	17.56	50.99	74.00	-23.01	peak
4	12705.000	32.17	18.06	50.23	74.00	-23.77	peak
5	13980.000	29.65	21.92	51.57	74.00	-22.43	peak
6	18000.000	26.35	25.69	52.04	74.00	-21.96	peak

Test Mode:	8DPSK	Channel:	2402 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



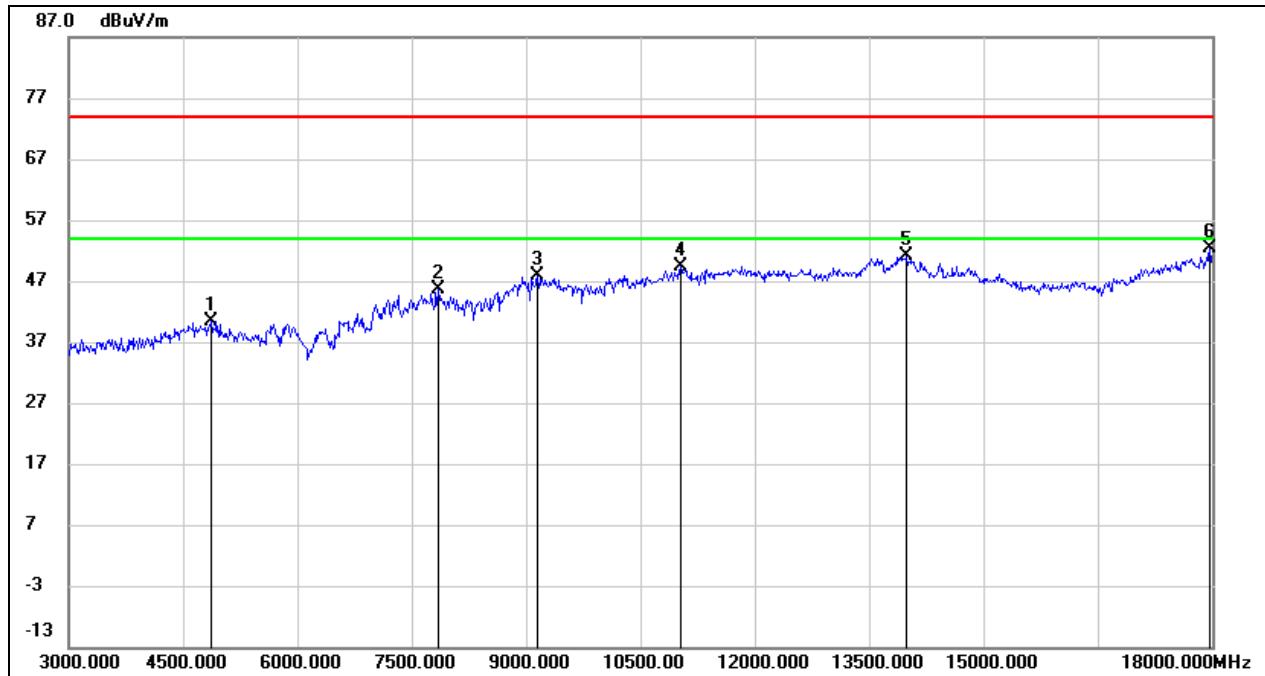
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7200.000	42.16	6.55	48.71	74.00	-25.29	peak
2	8955.000	37.51	10.16	47.67	74.00	-26.33	peak
3	11835.000	32.83	17.51	50.34	74.00	-23.66	peak
4	12690.000	32.96	18.02	50.98	74.00	-23.02	peak
5	13860.000	30.93	21.67	52.60	74.00	-21.40	peak
6	18000.000	27.32	25.69	53.01	74.00	-20.99	peak

Test Mode:	8DPSK	Channel:	2402 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



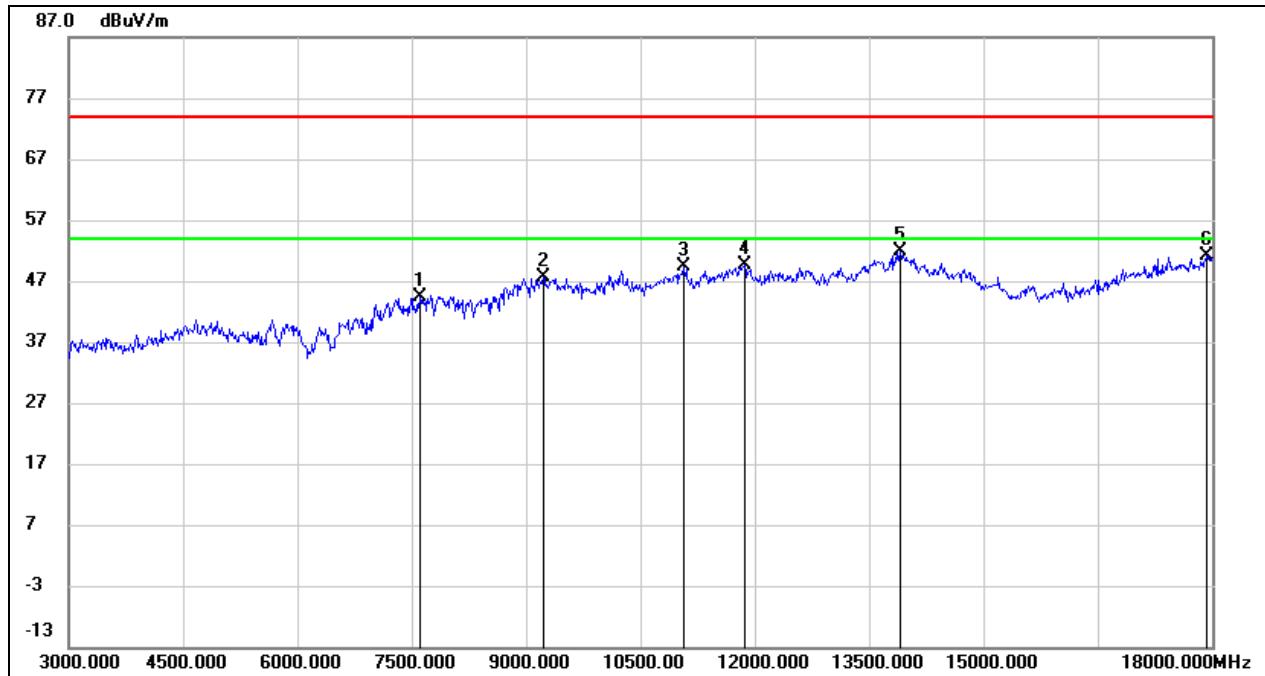
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7200.000	39.00	6.55	45.55	74.00	-28.45	peak
2	9150.000	37.26	10.54	47.80	74.00	-26.20	peak
3	11070.000	34.35	15.03	49.38	74.00	-24.62	peak
4	13650.000	29.76	21.21	50.97	74.00	-23.03	peak
5	13920.000	29.46	21.79	51.25	74.00	-22.75	peak
6	18000.000	25.03	25.69	50.72	74.00	-23.28	peak

Test Mode:	8DPSK	Channel:	2441 v
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



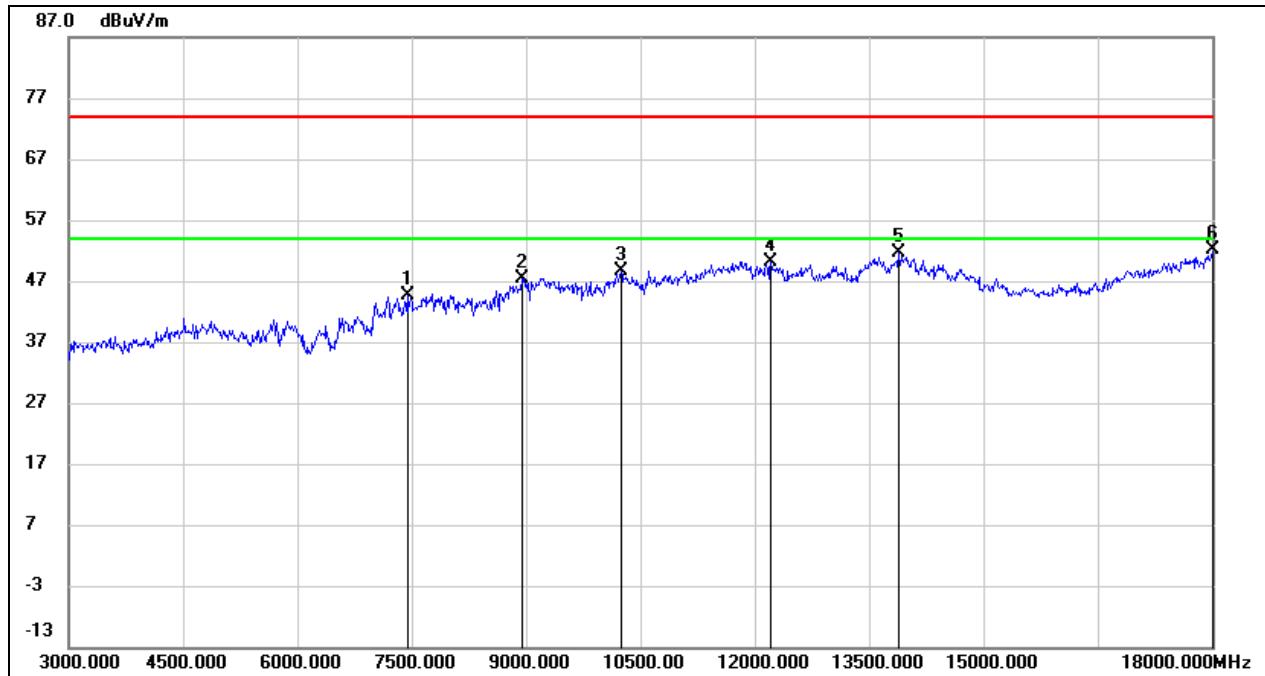
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	40.32	-0.03	40.29	74.00	-33.71	peak
2	7845.000	39.42	6.32	45.74	74.00	-28.26	peak
3	9150.000	37.31	10.54	47.85	74.00	-26.15	peak
4	11025.000	34.64	14.85	49.49	74.00	-24.51	peak
5	13995.000	29.16	21.95	51.11	74.00	-22.89	peak
6	17970.000	26.85	25.51	52.36	74.00	-21.64	peak

Test Mode:	8DPSK	Channel:	2441 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



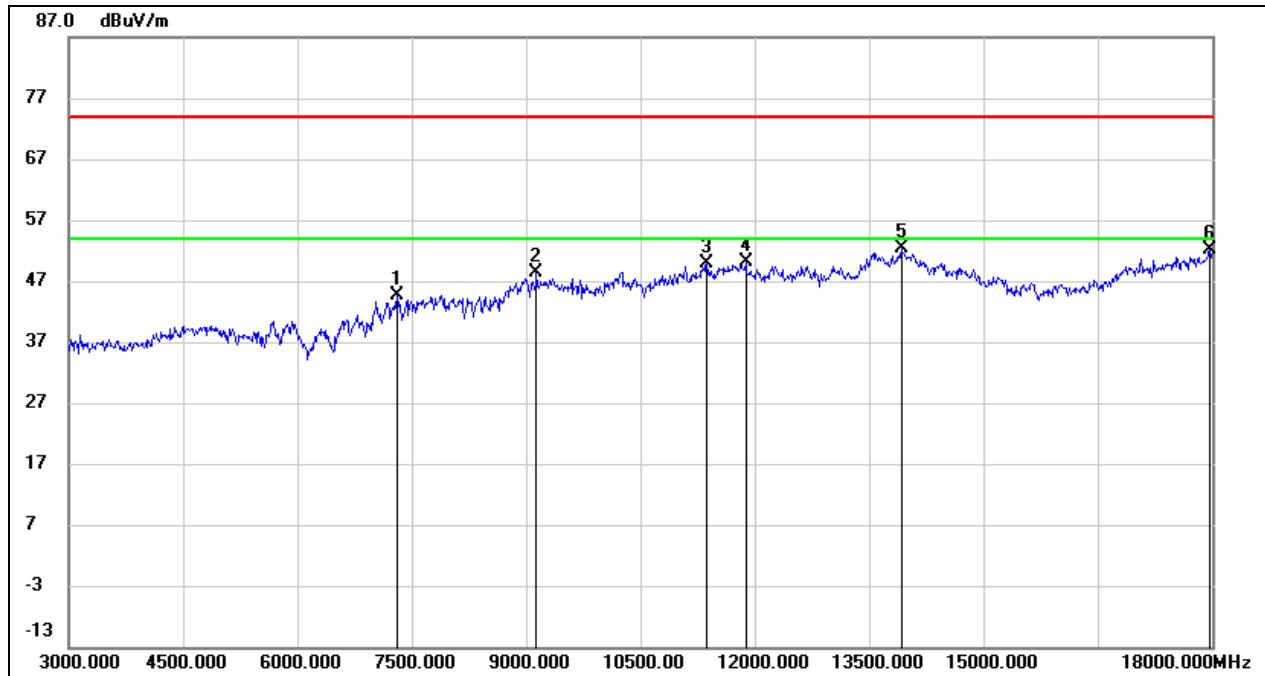
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7605.000	38.12	6.32	44.44	74.00	-29.56	peak
2	9225.000	37.13	10.58	47.71	74.00	-26.29	peak
3	11070.000	34.43	15.03	49.46	74.00	-24.54	peak
4	11865.000	31.93	17.59	49.52	74.00	-24.48	peak
5	13905.000	30.19	21.76	51.95	74.00	-22.05	peak
6	17925.000	25.94	25.25	51.19	74.00	-22.81	peak

Test Mode:	8DPSK	Channel:	2480 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7440.000	38.15	6.38	44.53	74.00	-29.47	peak
2	8940.000	37.37	10.04	47.41	74.00	-26.59	peak
3	10245.000	36.04	12.48	48.52	74.00	-25.48	peak
4	12210.000	32.29	17.81	50.10	74.00	-23.90	peak
5	13890.000	29.93	21.72	51.65	74.00	-22.35	peak
6	18000.000	26.40	25.69	52.09	74.00	-21.91	peak

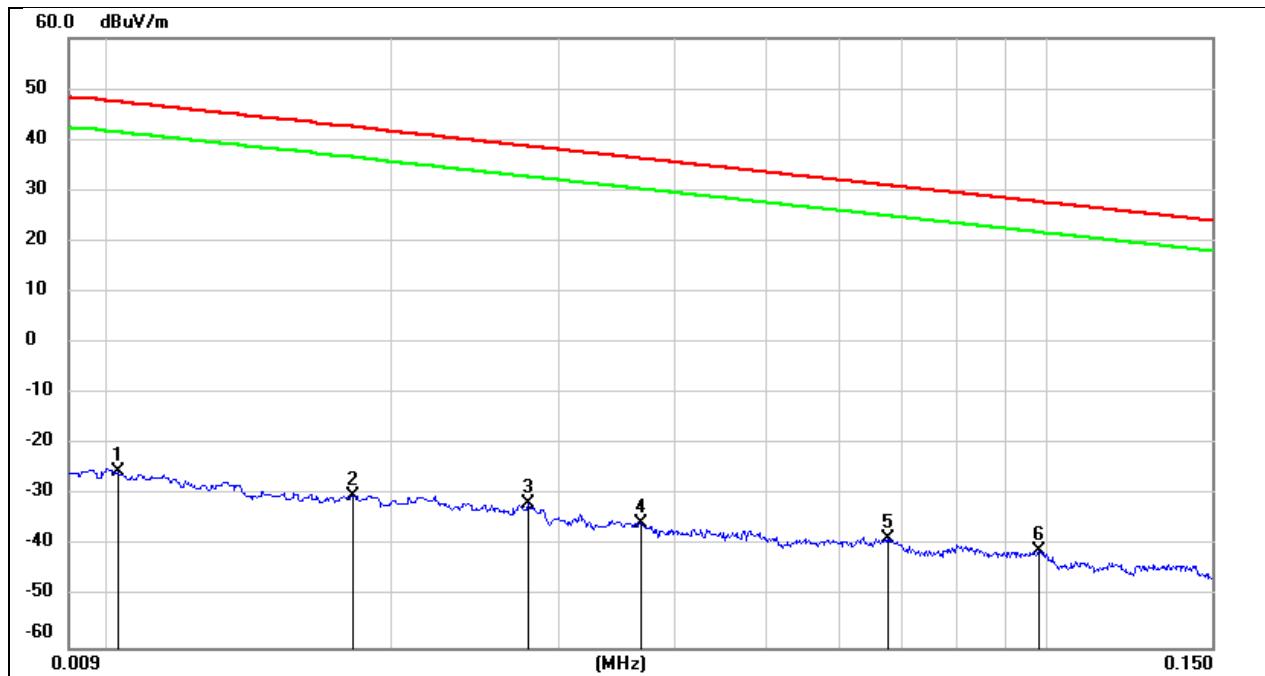
Test Mode:	8DPSK	Channel:	2480 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7305.000	38.25	6.47	44.72	74.00	-29.28	peak
2	9135.000	37.85	10.55	48.40	74.00	-25.60	peak
3	11370.000	33.71	16.12	49.83	74.00	-24.17	peak
4	11880.000	32.46	17.63	50.09	74.00	-23.91	peak
5	13920.000	30.66	21.79	52.45	74.00	-21.55	peak
6	17970.000	26.71	25.51	52.22	74.00	-21.78	peak

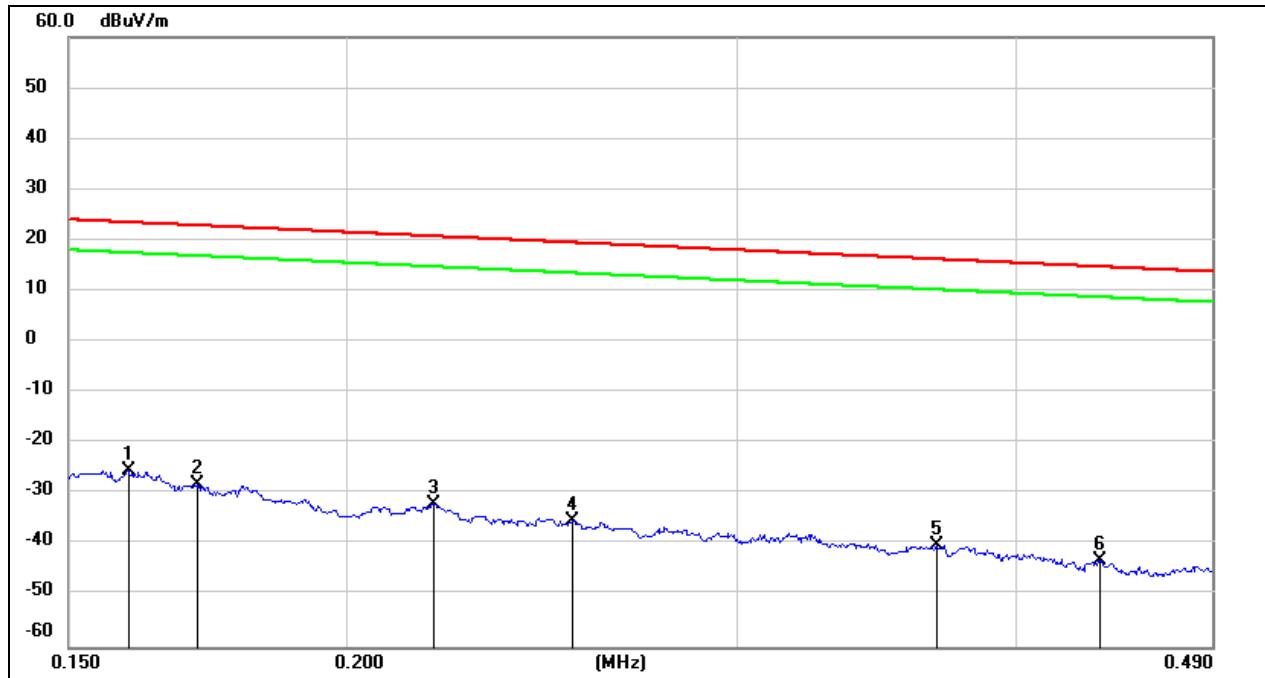
#### 8.4. SPURIOUS EMISSIONS (9 KHZ ~ 30 MHZ)

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 3.3 V



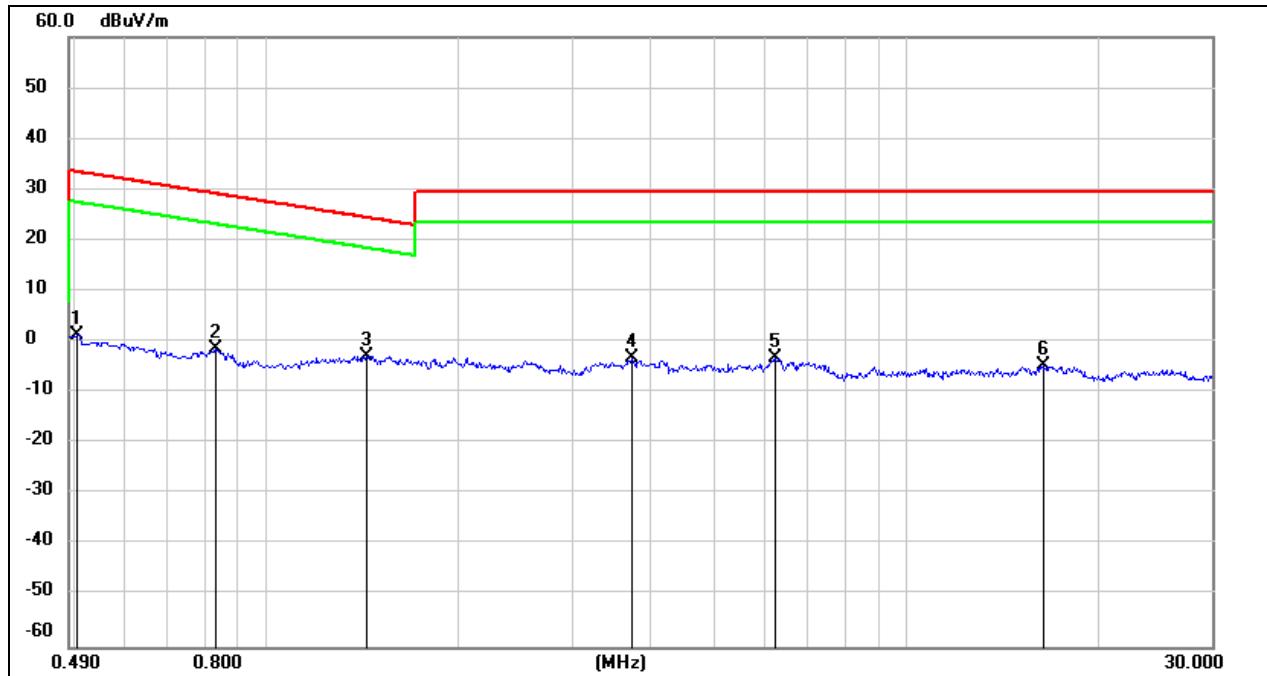
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0102	76.05	-101.40	-25.35	47.43	-72.78	peak
2	0.0181	71.35	-101.36	-30.01	42.45	-72.46	peak
3	0.0279	69.67	-101.38	-31.71	38.69	-70.40	peak
4	0.0367	65.75	-101.42	-35.67	36.31	-71.98	peak
5	0.0675	63.14	-101.56	-38.42	31.02	-69.44	peak
6	0.0981	60.77	-101.78	-41.01	27.77	-68.78	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1595	76.36	-101.65	-25.29	23.55	-48.84	peak
2	0.1715	73.61	-101.67	-28.06	22.92	-50.98	peak
3	0.2190	69.77	-101.75	-31.98	20.79	-52.77	peak
4	0.2530	66.64	-101.80	-35.16	19.54	-54.70	peak
5	0.3684	61.98	-101.93	-39.95	16.27	-56.22	peak
6	0.4364	58.86	-101.99	-43.13	14.80	-57.93	peak

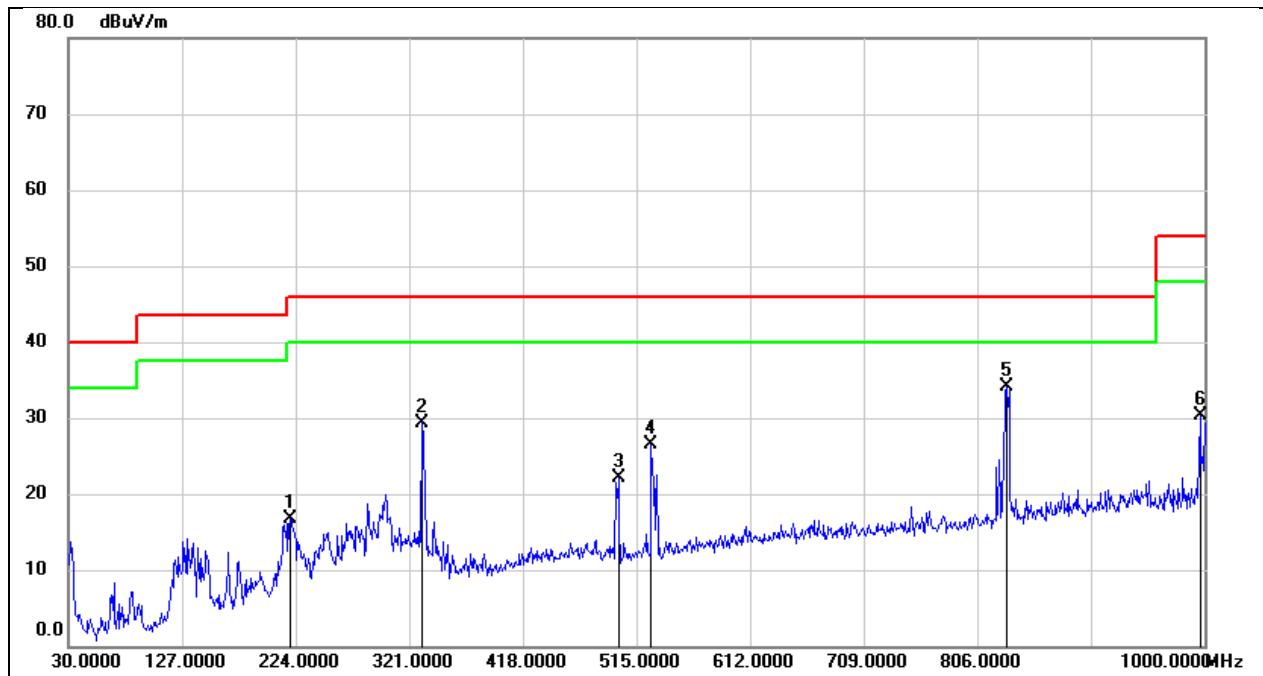
Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5039	63.43	-62.07	1.36	33.56	-32.20	peak
2	0.8296	60.94	-62.17	-1.23	29.23	-30.46	peak
3	1.4274	59.38	-62.08	-2.70	24.51	-27.21	peak
4	3.7100	58.20	-61.41	-3.21	29.54	-32.75	peak
5	6.2445	58.13	-61.32	-3.19	29.54	-32.73	peak
6	16.3959	56.17	-60.96	-4.79	29.54	-34.33	peak

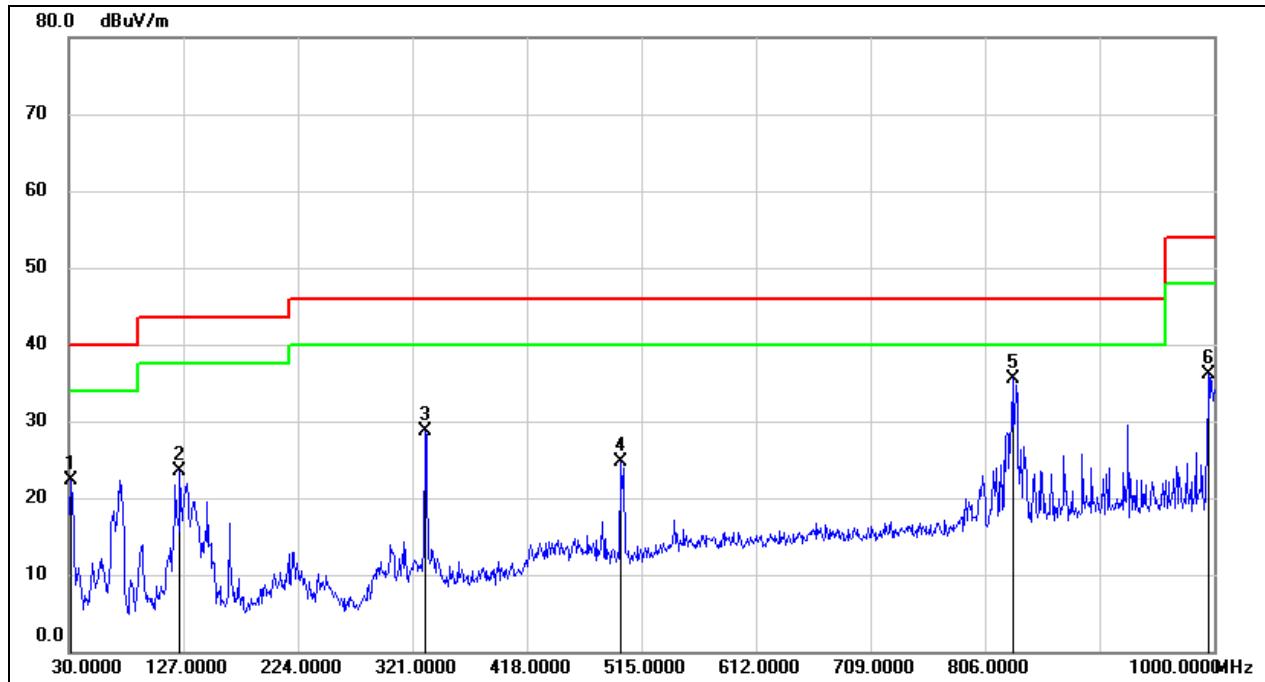
## 8.5. SPURIOUS EMISSIONS (30 MHZ ~ 1 GHZ)

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	219.1500	34.83	-18.10	16.73	46.00	-29.27	QP
2	331.6700	44.04	-14.64	29.40	46.00	-16.60	QP
3	499.4800	33.66	-11.48	22.18	46.00	-23.82	QP
4	527.6100	37.32	-10.88	26.44	46.00	-19.56	QP
5	831.2199	40.76	-6.66	34.10	46.00	-11.90	QP
6	996.1200	34.55	-4.20	30.35	54.00	-23.65	QP

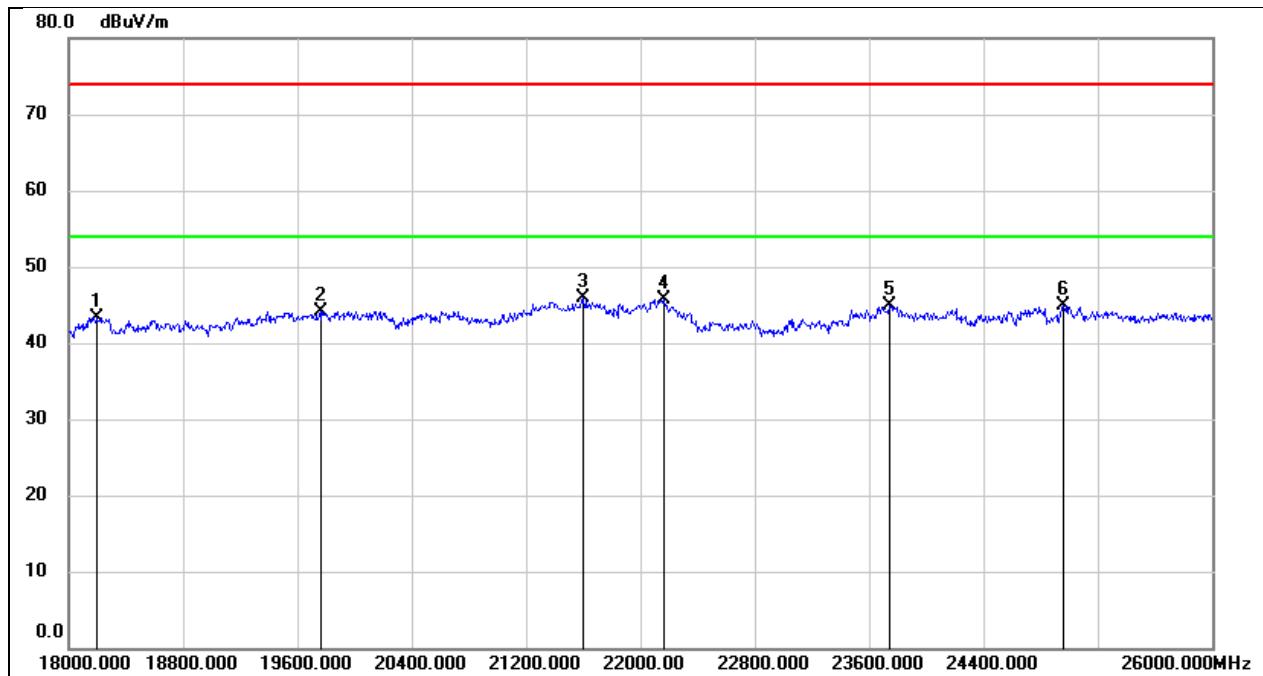
Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.9400	41.43	-19.13	22.30	40.00	-17.70	QP
2	124.0900	43.12	-19.65	23.47	43.50	-20.03	QP
3	331.6700	43.34	-14.64	28.70	46.00	-17.30	QP
4	497.5400	36.31	-11.52	24.79	46.00	-21.21	QP
5	829.2800	42.17	-6.69	35.48	46.00	-10.52	QP
6	995.1500	40.34	-4.20	36.14	54.00	-17.86	QP

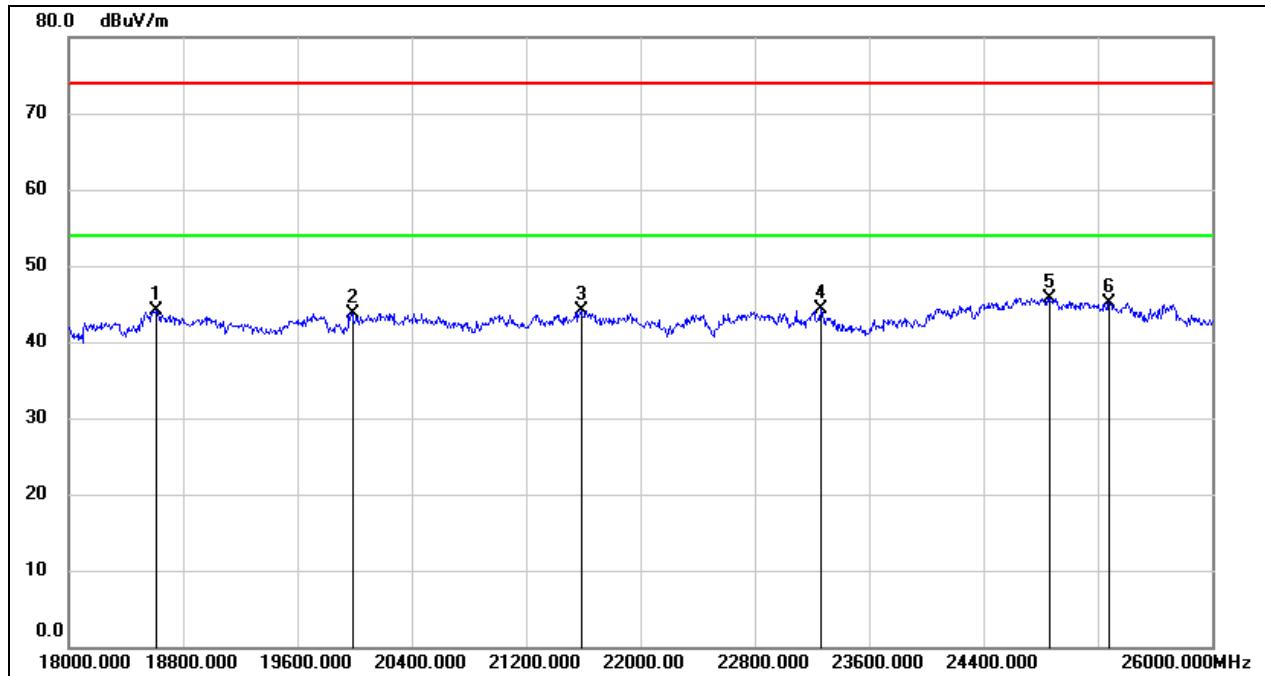
## 8.6. SPURIOUS EMISSIONS (18 GHZ ~ 26 GHZ)

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Horizontal	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18200.000	48.79	-5.52	43.27	74.00	-30.73	peak
2	19760.000	49.36	-5.26	44.10	74.00	-29.90	peak
3	21600.000	50.52	-4.54	45.98	74.00	-28.02	peak
4	22160.000	50.08	-4.31	45.77	74.00	-28.23	peak
5	23744.000	48.15	-3.20	44.95	74.00	-29.05	peak
6	24960.000	47.14	-2.14	45.00	74.00	-29.00	peak

Test Mode:	GFSK	Channel:	2441 MHz
Polarity:	Vertical	Test Voltage:	DC 3.3 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18616.000	49.39	-5.34	44.05	74.00	-29.95	peak
2	19984.000	49.21	-5.44	43.77	74.00	-30.23	peak
3	21584.000	48.60	-4.56	44.04	74.00	-29.96	peak
4	23264.000	47.76	-3.36	44.40	74.00	-29.60	peak
5	24864.000	48.03	-2.23	45.80	74.00	-28.20	peak
6	25280.000	46.80	-1.68	45.12	74.00	-28.88	peak

## 9. 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

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## END OF REPORT