FCC C2PC Test Report

FCC ID	:	**TLZ-NM230NF**
Equipment	:	**IEEE 802.11 b/g/n Wireless LAN and Bluetooth combo M.2 1216 module**
Model No.	:	**AW-NM230NF-H**
Brand Name	:	**AzureWave**
Applicant	:	**AzureWave Technologies, Inc.**
Address	:	**8F, No. 94, Baozhong Rd., Xindian Dist., New Taipei City, Taiwan 231**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Jul. 21, 2017**
Tested Date	:	**Jul. 31 ~ Aug. 09, 2017**

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FR550703-05AD	Rev. 01	Initial issue	Aug. 18, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.458MHz 39.31 (Margin -17.42dB) - QP	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 73.65MHz 35.82 (Margin -4.18dB) - PK	Pass

1 General Description

1.1 Information

This report is prepared for FCC class II change.
This report is issued as a supplementary report to original ICC report no. FR550703AD. The modification is concerned with additional Monopole antennas. In this report, conducted emission and radiated emission tests had been re-tested and only its data was presented in the following sections.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	**Bluetooth Mode**	**Ch. Frequency (MHz)**	**Channel Number**	**Data Rate**
2400-2483.5	BR	2402-2480	0-78 [79]	1 Mbps
2400-2483.5	EDR	2402-2480	0-78 [79]	2 Mbps
2400-2483.5	EDR	2402-2480	0-78 [79]	3 Mbps
Note 1: RF output power specifies that Maximum Peak Conducted Output Power. Note 2: Bluetooth BR uses a GFSK. Note 3: Bluetooth EDR uses a combination of π/4-DQPSK and 8DPSK.				

1.1.2 Antenna Details (New set of antenna was marked in boldface)

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)
1	Walsin	RFMTA340715IMLB301	PIFA	I-PEX	3
2	**JOYMAX**	**IHX-323XRSXX-999**	**Monopole**	**I-Pex**	**2.36**

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	3.3Vdc from host

1.1.4 Accessories

N/A

1.1.5 Channel List

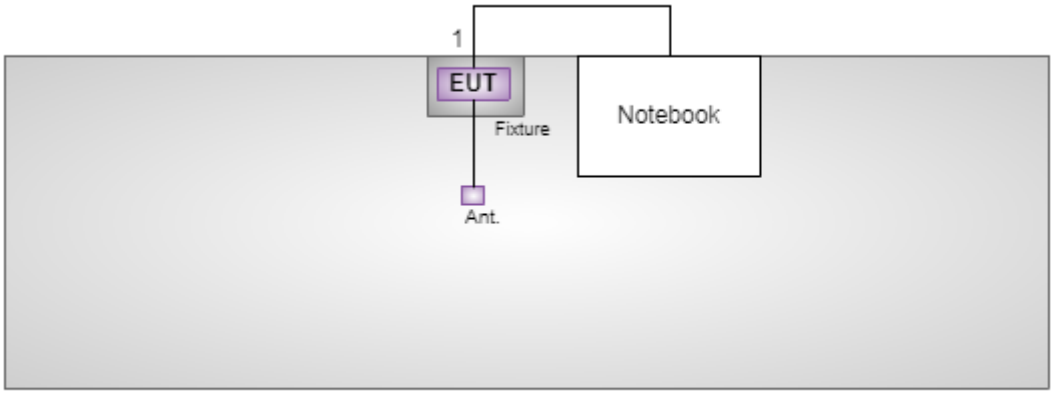
Frequency band (MHz)				2400~2483.5			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	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	---	---

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E5420	DoC	USB, 1m non-shielded.

1.3 Test Setup Chart

Test Setup Diagram



1. USB, 1m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 20, 2016	Dec. 19, 2017
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 25, 2017	Jul. 24, 2018
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Jul. 28, 2017	Jul. 27, 2018
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247
ANSI C63.10-2013

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	20°C / 57%	Alex Tsai
Radiated Emissions	03CH01-WS	23-24°C / 62-64%	Vincent Yeh

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Mode	Test Frequency (MHz)	Data Rate (Mbps)	Test Configuration
Conducted Emissions	GFSK	2402	1Mbps	---
Radiated Emissions ≤ 1GHz	GFSK	2402	1Mbps	---
Radiated Emissions > 1GHz	GFSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480	1Mbps 3Mbps	---

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.

3 Transmitter Test Results

3.1 Conducted Emissions

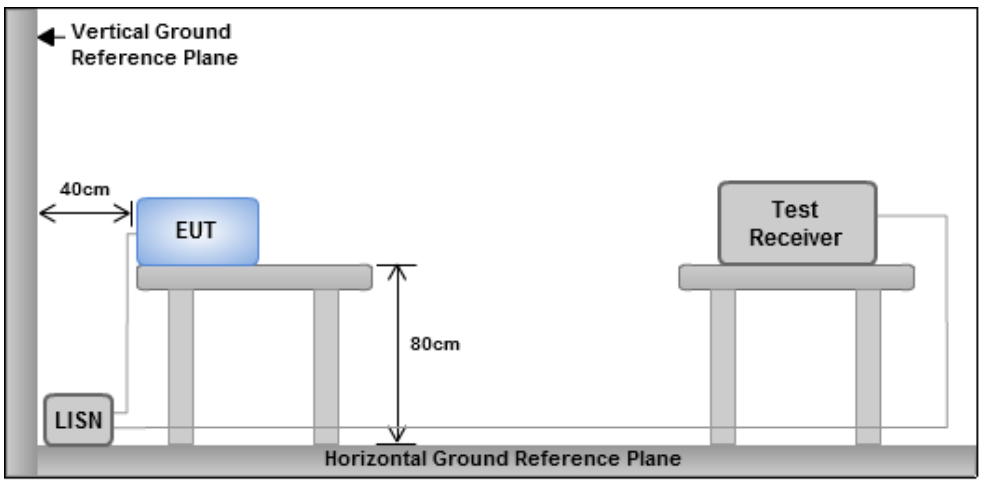
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

3.1.3 Test Setup

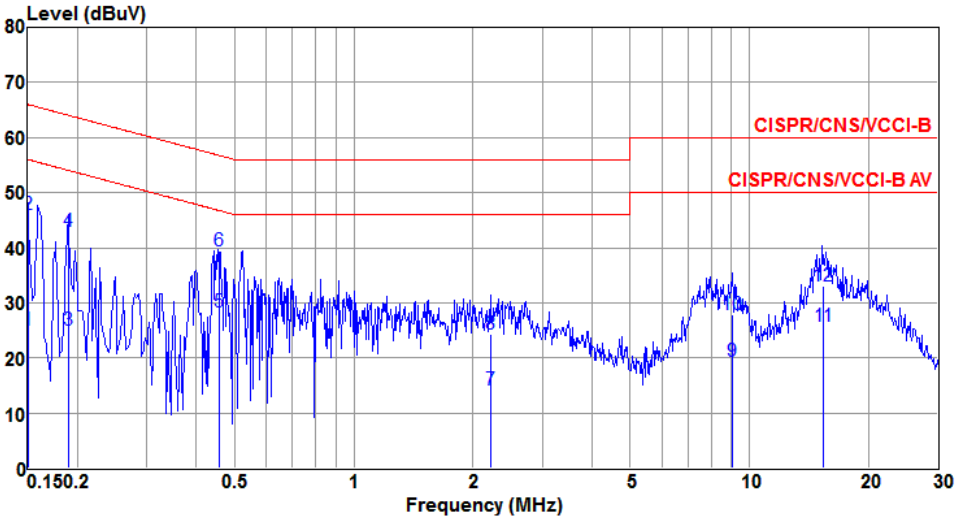


Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

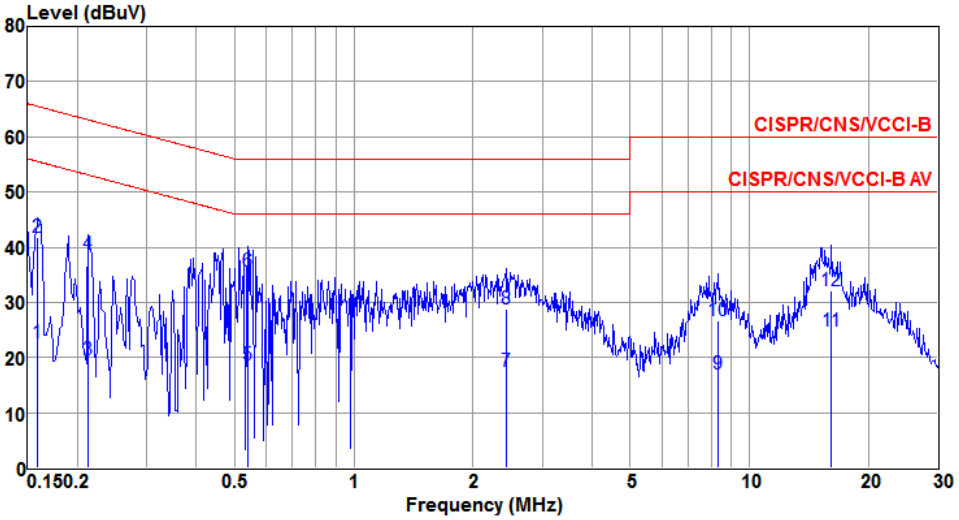
Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.150	25.09	56.00	-30.91	24.98	0.07	0.04	Average
2	0.150	45.92	66.00	-20.08	45.81	0.07	0.04	QP
3	0.189	24.92	54.06	-29.14	24.79	0.09	0.04	Average
4	0.189	42.87	64.06	-21.19	42.74	0.09	0.04	QP
5	0.458	28.26	46.73	-18.47	28.16	0.06	0.04	Average
6@	0.458	39.31	56.73	-17.42	39.21	0.06	0.04	QP
7	2.213	14.25	46.00	-31.75	14.05	0.14	0.06	Average
8	2.213	24.29	56.00	-31.71	24.09	0.14	0.06	QP
9	9.059	19.37	50.00	-30.63	18.96	0.20	0.21	Average
10	9.059	27.76	60.00	-32.24	27.35	0.20	0.21	QP
11	15.401	25.67	50.00	-24.33	25.12	0.32	0.23	Average
12	15.401	32.93	60.00	-27.07	32.38	0.32	0.23	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation Mode	GFSK	Test Freq. (MHz)	2402
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.159	22.66	55.52	-32.86	22.52	0.10	0.04	Average
2	0.159	41.69	65.52	-23.83	41.55	0.10	0.04	QP
3	0.213	19.49	53.10	-33.61	19.36	0.09	0.04	Average
4	0.213	38.78	63.10	-24.32	38.65	0.09	0.04	QP
5	0.538	18.64	46.00	-27.36	18.48	0.12	0.04	Average
6@	0.538	35.69	56.00	-20.31	35.53	0.12	0.04	QP
7	2.422	17.44	46.00	-28.56	17.22	0.15	0.07	Average
8	2.422	28.87	56.00	-27.13	28.65	0.15	0.07	QP
9	8.367	17.00	50.00	-33.00	16.51	0.28	0.21	Average
10	8.367	26.77	60.00	-33.23	26.28	0.28	0.21	QP
11	16.141	24.89	50.00	-25.11	24.27	0.38	0.24	Average
12	16.141	32.07	60.00	-27.93	31.45	0.38	0.24	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Unwanted Emissions into Restricted Frequency Bands

3.2.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.2.2 Test Procedures

1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

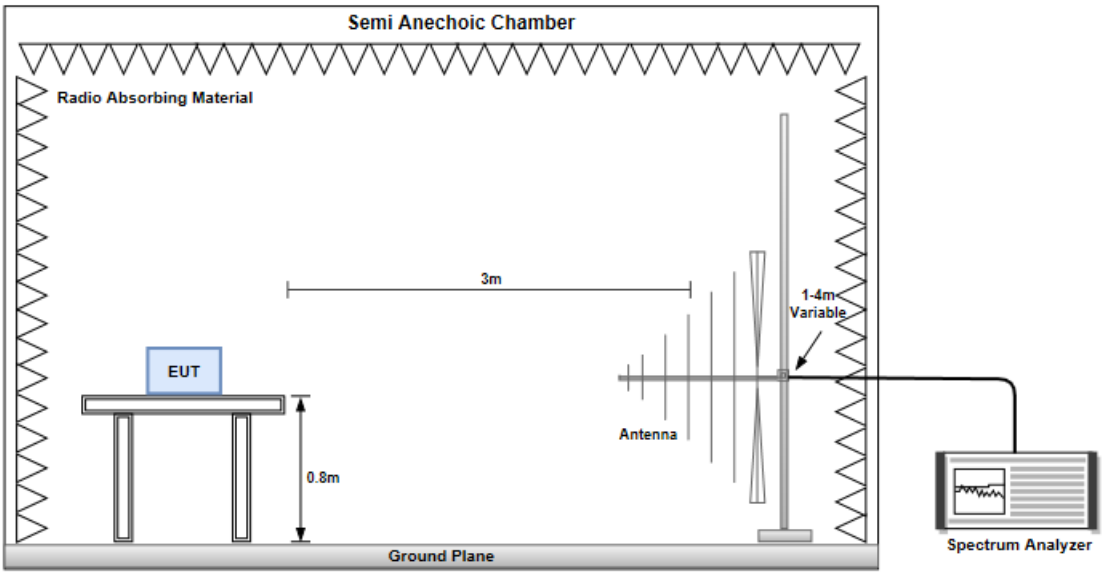
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. Radiated emission above 1GHz / Peak value
   RBW=1MHz, VBW=3MHz and Peak detector
3. Radiated emission above 1GHz / Average value for harmonics
   The average value is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula for DH5 packet type which has worst duty factor:

$$20\log(\text{Duty cycle}) = 20\log\frac{1\text{s} / 1600 * 5}{100\text{ ms}} = -30.1\text{dB}$$

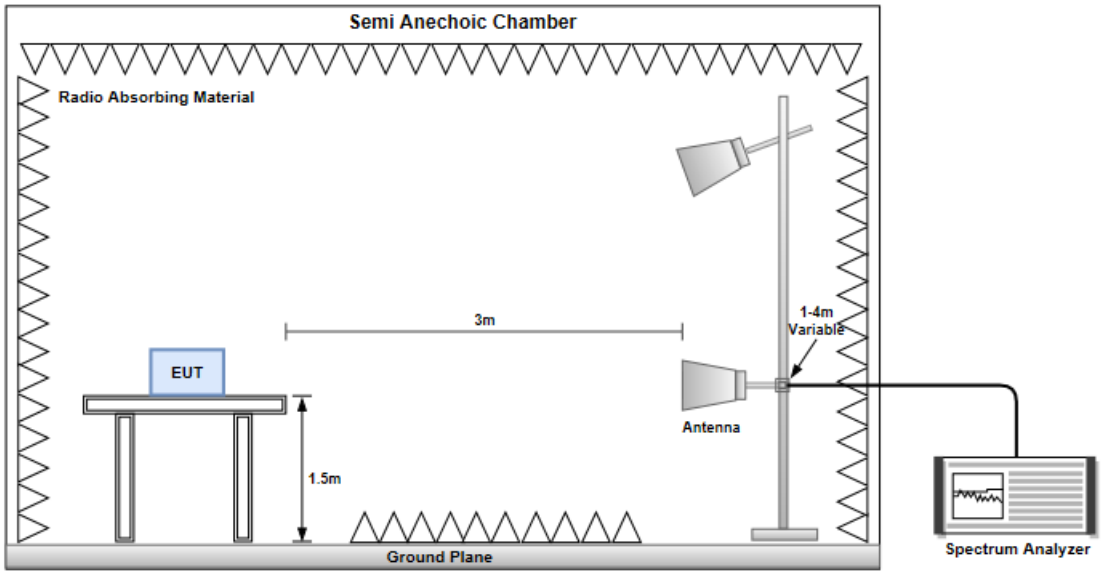
4. Radiated emission above 1GHz / Average value for other emissions
   RBW=1MHz, VBW=1/T and Peak detector

3.2.3 Test Setup

Radiated Emissions below 1 GHz

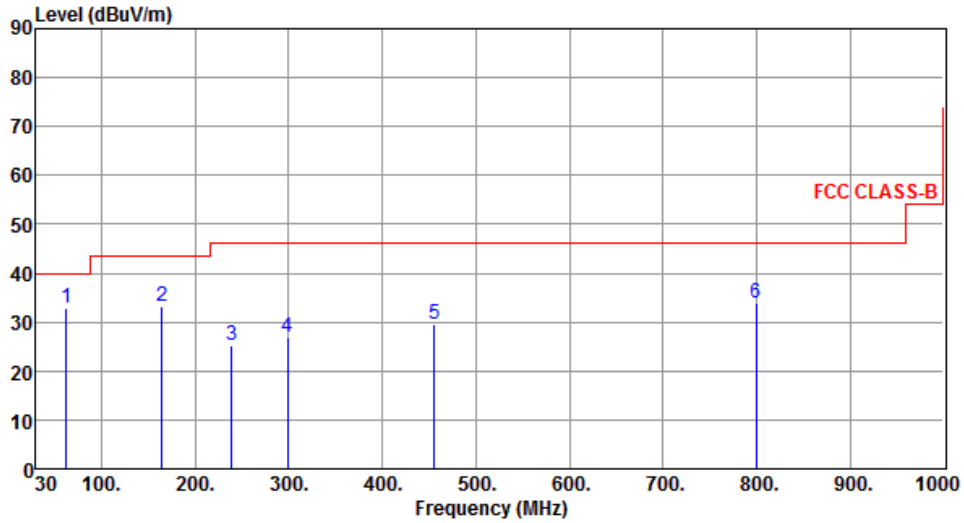


Radiated Emissions above 1 GHz



3.2.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

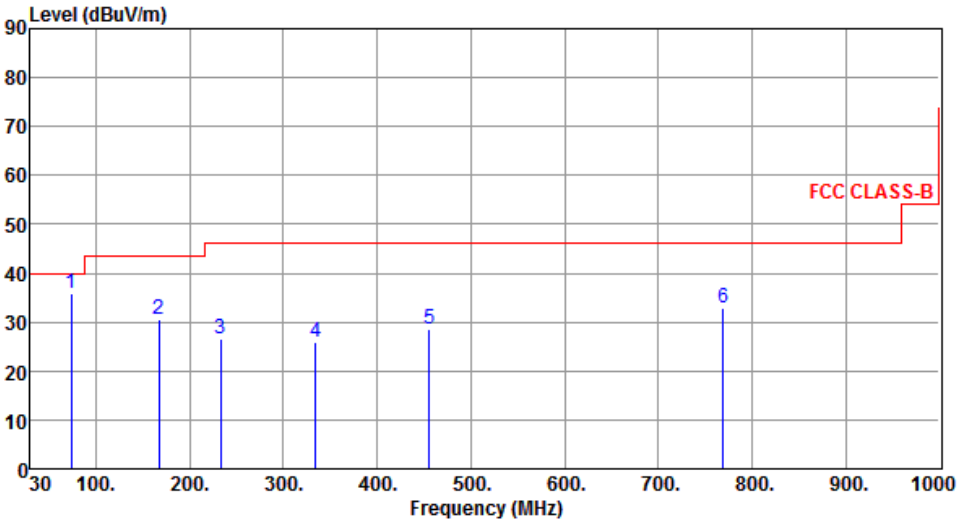
Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	62.01	32.77	40.00	-7.23	41.83	-9.06	Peak	---	---
2	164.83	33.17	43.50	-10.33	41.46	-8.29	Peak	---	---
3	239.52	25.37	46.00	-20.63	34.89	-9.52	Peak	---	---
4	298.69	26.89	46.00	-19.11	34.61	-7.72	Peak	---	---
5	455.83	29.46	46.00	-16.54	33.22	-3.76	Peak	---	---
6	799.21	33.92	46.00	-12.08	31.76	2.16	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical		

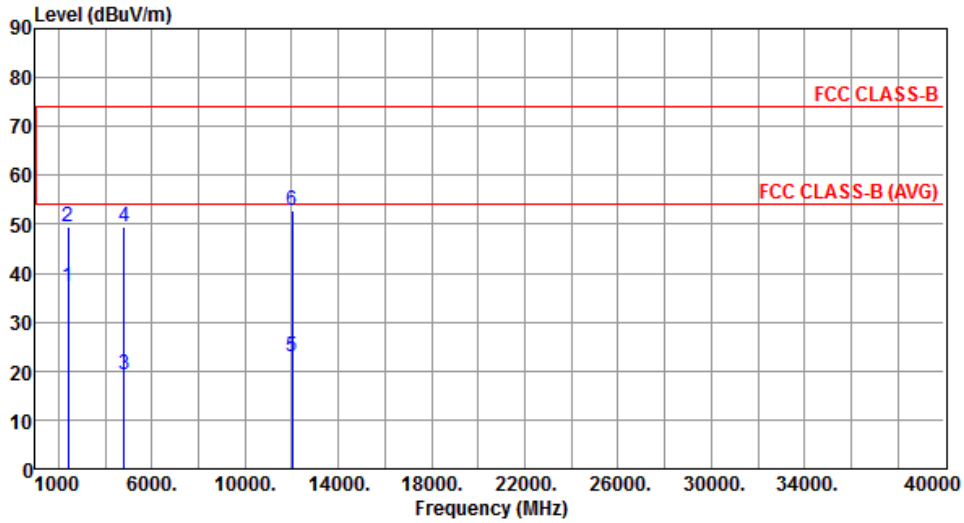


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	73.65	35.82	40.00	-4.18	47.19	-11.37	Peak	---	---
2	166.77	30.46	43.50	-13.04	38.81	-8.35	Peak	---	---
3	232.73	26.73	46.00	-19.27	36.75	-10.02	Peak	---	---
4	334.58	25.79	46.00	-20.21	32.69	-6.90	Peak	---	---
5	455.83	28.61	46.00	-17.39	32.37	-3.76	Peak	---	---
6	769.14	32.76	46.00	-13.24	30.92	1.84	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.2.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for GFSK

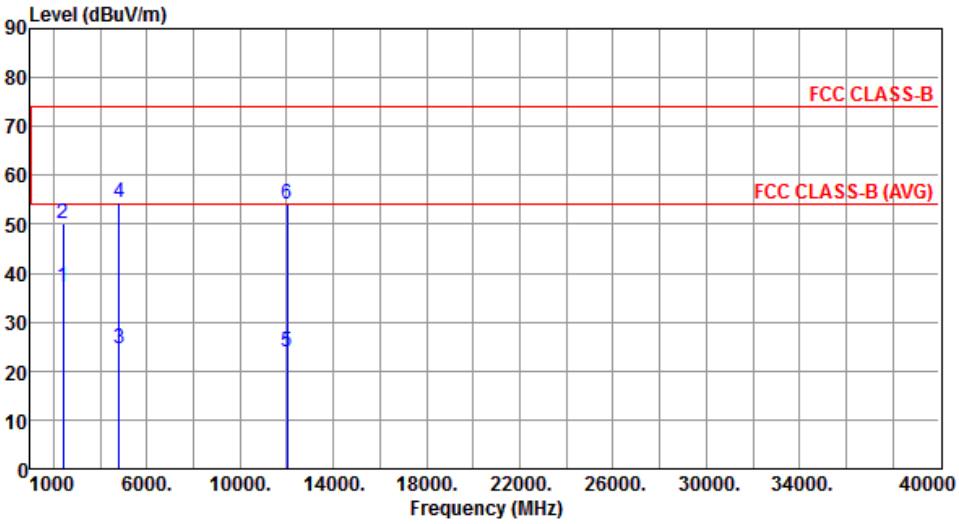
Modulation	GFSK	**Test Freq. (MHz)**	2402
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.13	54.00	-16.87	40.31	-3.18	Average	100	127
2	2390.00	49.42	74.00	-24.58	52.60	-3.18	Peak	100	127
3	4804.00	19.27	54.00	-34.73	15.53	3.74	Average	124	61
4	4804.00	49.37	74.00	-24.63	45.63	3.74	Peak	124	61
5	12010.00	22.85	54.00	-31.15	9.30	13.55	Average	100	248
6	12010.00	52.95	74.00	-21.05	39.40	13.55	Peak	100	248

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

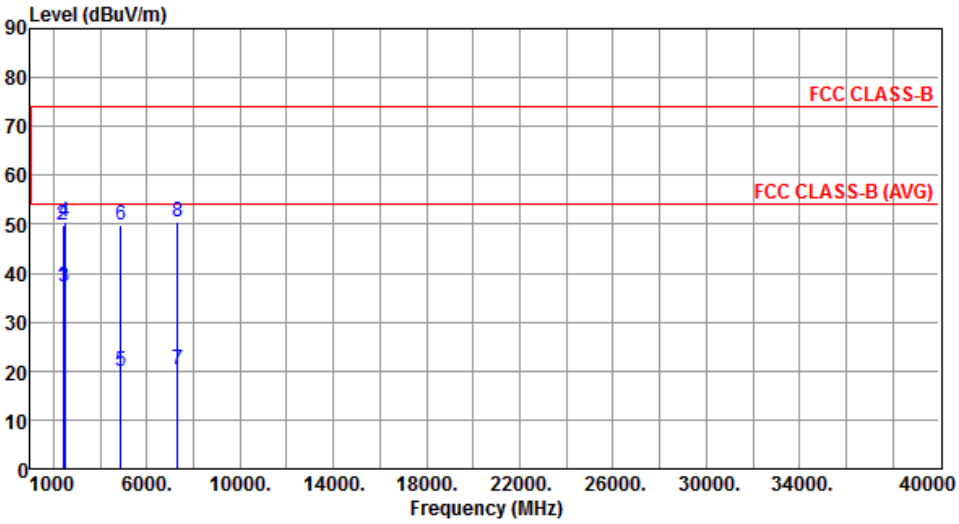
Modulation	GFSK	**Test Freq. (MHz)**	2402
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.33	54.00	-16.67	40.51	-3.18	Average	113	323
2	2390.00	50.23	74.00	-23.77	53.41	-3.18	Peak	113	323
3	4804.00	24.51	54.00	-29.49	20.77	3.74	Average	385	229
4	4804.00	54.61	74.00	-19.39	50.87	3.74	Peak	385	229
5	12010.00	23.97	54.00	-30.03	10.42	13.55	Average	100	146
6	12010.00	54.07	74.00	-19.93	40.52	13.55	Peak	100	146

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

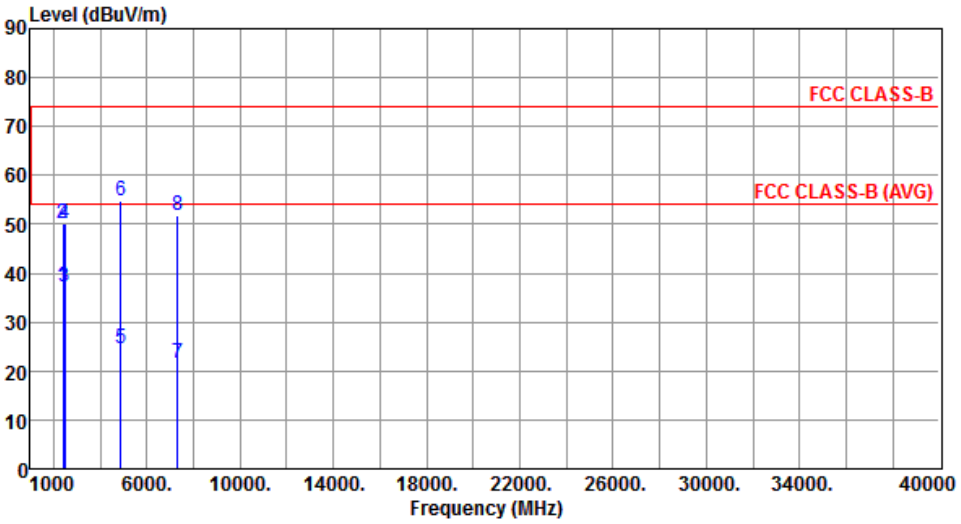
Modulation	GFSK	Test Freq. (MHz)	2441
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.07	54.00	-16.93	40.25	-3.18	Average	100	142
2	2390.00	49.66	74.00	-24.34	52.84	-3.18	Peak	100	142
3	2483.50	37.10	54.00	-16.90	39.90	-2.80	Average	100	142
4	2483.50	50.51	74.00	-23.49	53.31	-2.80	Peak	100	142
5	4882.00	19.80	54.00	-34.20	15.84	3.96	Average	127	66
6	4882.00	49.90	74.00	-24.10	45.94	3.96	Peak	127	66
7	7323.00	20.42	54.00	-33.58	12.00	8.42	Average	120	290
8	7323.00	50.52	74.00	-23.48	42.10	8.42	Peak	120	290

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

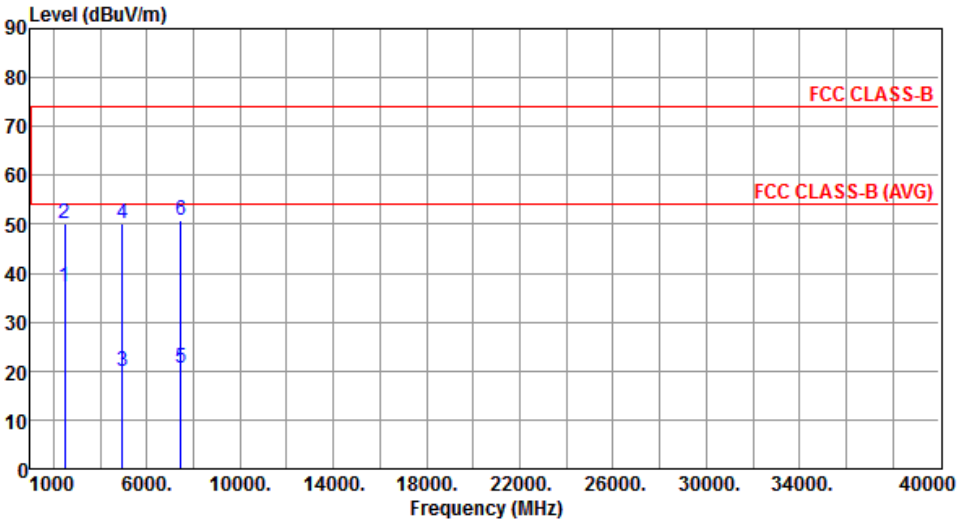
Modulation	GFSK	Test Freq. (MHz)	2441
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.04	54.00	-16.96	40.22	-3.18	Average	106	319
2	2390.00	50.20	74.00	-23.80	53.38	-3.18	Peak	106	319
3	2483.50	37.25	54.00	-16.75	40.05	-2.80	Average	106	319
4	2483.50	50.26	74.00	-23.74	53.06	-2.80	Peak	106	319
5	4882.00	24.62	54.00	-29.38	20.66	3.96	Average	371	230
6	4882.00	54.72	74.00	-19.28	50.76	3.96	Peak	371	230
7	7323.00	21.69	54.00	-32.31	13.27	8.42	Average	372	38
8	7323.00	51.79	74.00	-22.21	43.37	8.42	Peak	372	38

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

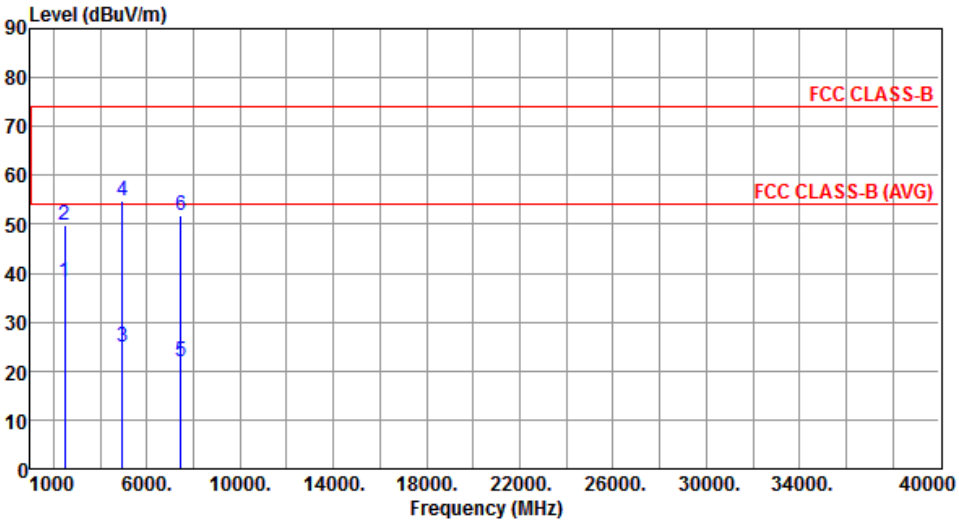
Modulation	GFSK	Test Freq. (MHz)	2480
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	37.29	54.00	-16.71	40.09	-2.80	Average	100	138
2	2483.50	50.22	74.00	-23.78	53.02	-2.80	Peak	100	138
3	4960.00	20.03	54.00	-33.97	15.82	4.21	Average	130	65
4	4960.00	50.13	74.00	-23.87	45.92	4.21	Peak	130	65
5	7440.00	20.57	54.00	-33.43	12.04	8.53	Average	124	62
6	7440.00	50.67	74.00	-23.33	42.14	8.53	Peak	124	62

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	GFSK	Test Freq. (MHz)	2480
Polarization	Vertical		

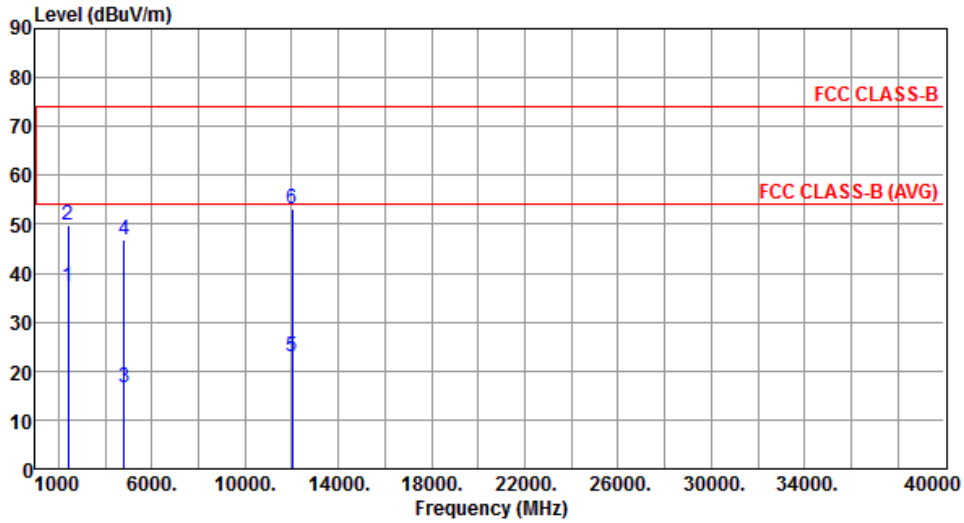


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.35	54.00	-15.65	41.15	-2.80	Average	100	323
2	2483.50	49.95	74.00	-24.05	52.75	-2.80	Peak	100	323
3	4960.00	24.81	54.00	-29.19	20.60	4.21	Average	375	226
4	4960.00	54.91	74.00	-19.09	50.70	4.21	Peak	375	226
5	7440.00	21.76	54.00	-32.24	13.23	8.53	Average	372	45
6	7440.00	51.86	74.00	-22.14	43.33	8.53	Peak	372	45

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.2.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 8DPSK

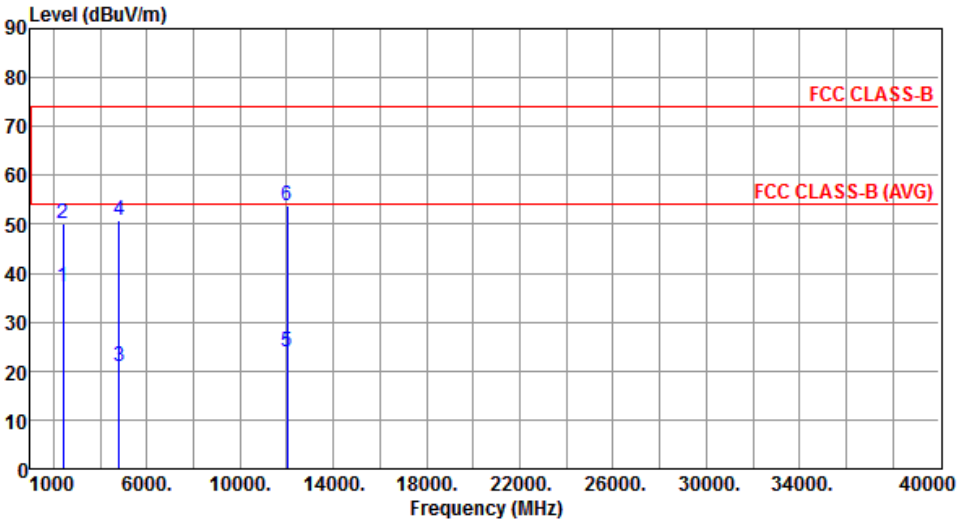
Modulation	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.23	54.00	-16.77	40.41	-3.18	Average	100	128
2	2390.00	49.75	74.00	-24.25	52.93	-3.18	Peak	100	128
3	4804.00	16.61	54.00	-37.39	12.87	3.74	Average	126	75
4	4804.00	46.71	74.00	-27.29	42.97	3.74	Peak	126	75
5	12010.00	22.97	54.00	-31.03	9.42	13.55	Average	100	225
6	12010.00	53.07	74.00	-20.93	39.52	13.55	Peak	100	225

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

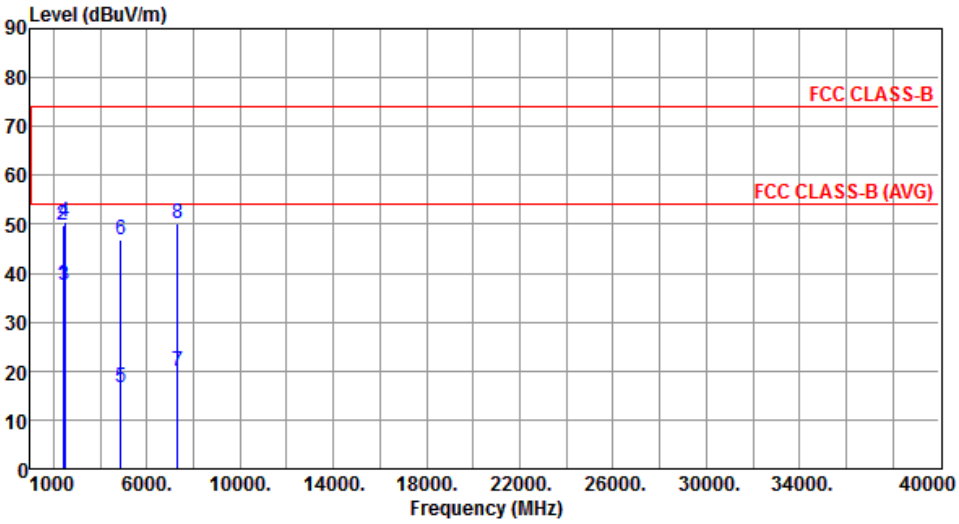
Modulation	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.26	54.00	-16.74	40.44	-3.18	Average	114	322
2	2390.00	50.26	74.00	-23.74	53.44	-3.18	Peak	114	322
3	4804.00	20.79	54.00	-33.21	17.05	3.74	Average	332	142
4	4804.00	50.89	74.00	-23.11	47.15	3.74	Peak	332	142
5	12010.00	23.84	54.00	-30.16	10.29	13.55	Average	100	152
6	12010.00	53.94	74.00	-20.06	40.39	13.55	Peak	100	152

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

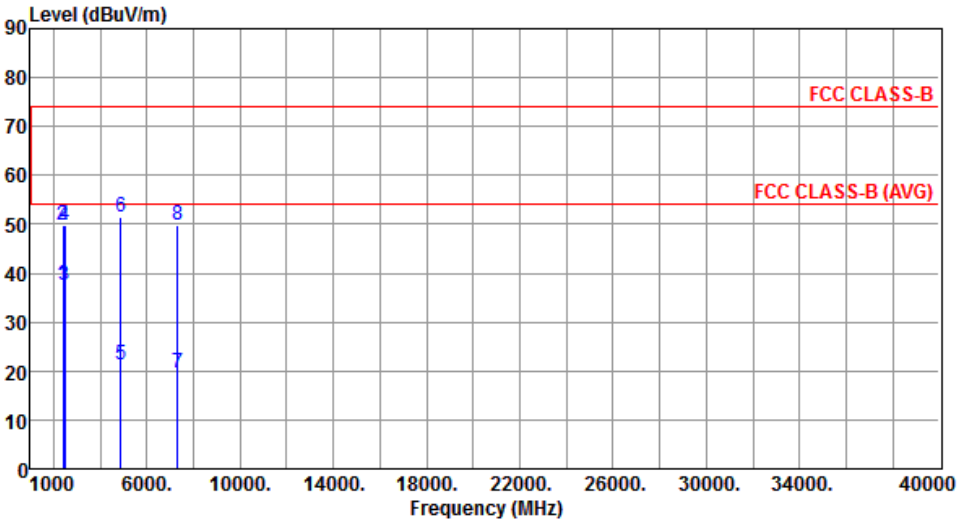
Modulation	8DPSK	Test Freq. (MHz)	2441
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.53	54.00	-16.47	40.71	-3.18	Average	103	141
2	2390.00	49.76	74.00	-24.24	52.94	-3.18	Peak	103	141
3	2483.50	37.49	54.00	-16.51	40.29	-2.80	Average	103	141
4	2483.50	50.41	74.00	-23.59	53.21	-2.80	Peak	103	141
5	4882.00	16.74	54.00	-37.26	12.78	3.96	Average	130	66
6	4882.00	46.84	74.00	-27.16	42.88	3.96	Peak	130	66
7	7323.00	20.03	54.00	-33.97	11.61	8.42	Average	124	293
8	7323.00	50.13	74.00	-23.87	41.71	8.42	Peak	124	293

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

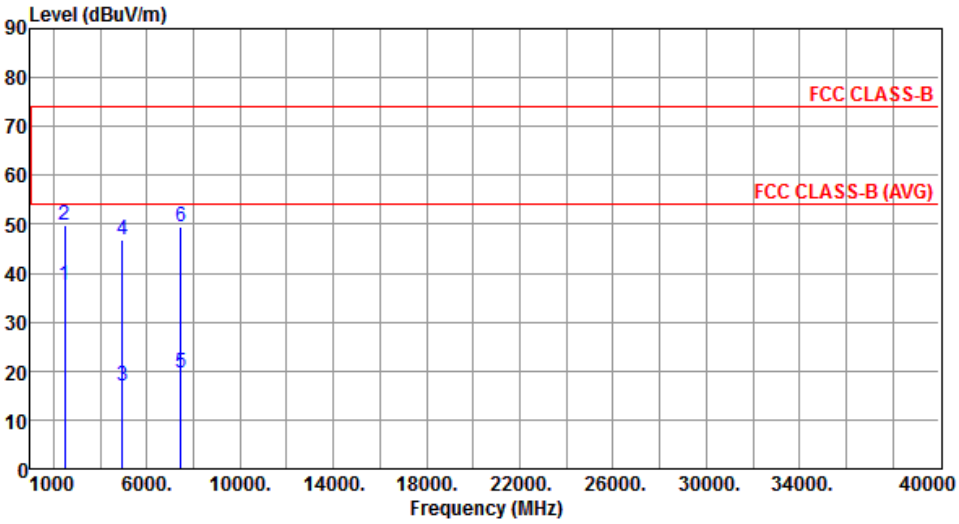
Modulation	8DPSK	**Test Freq. (MHz)**	2441
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.48	54.00	-16.52	40.66	-3.18	Average	106	322
2	2390.00	49.66	74.00	-24.34	52.84	-3.18	Peak	106	322
3	2483.50	37.62	54.00	-16.38	40.42	-2.80	Average	106	322
4	2483.50	49.95	74.00	-24.05	52.75	-2.80	Peak	106	322
5	4882.00	21.29	54.00	-32.71	17.33	3.96	Average	338	146
6	4882.00	51.39	74.00	-22.61	47.43	3.96	Peak	338	146
7	7323.00	19.56	54.00	-34.44	11.14	8.42	Average	322	172
8	7323.00	49.66	74.00	-24.34	41.24	8.42	Peak	322	172

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

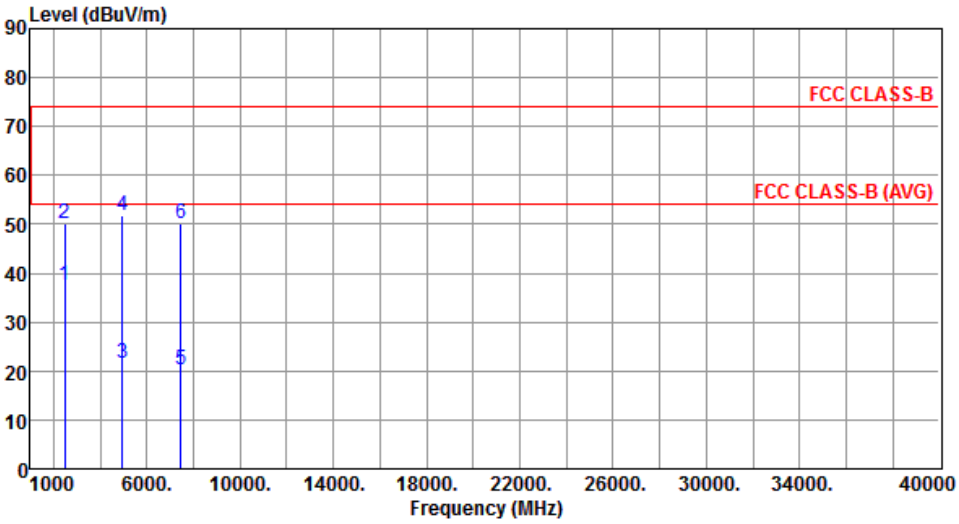
Modulation	8DPSK	Test Freq. (MHz)	2480
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	37.38	54.00	-16.62	40.18	-2.80	Average	100	226
2	2483.50	49.80	74.00	-24.20	52.60	-2.80	Peak	100	226
3	4960.00	16.80	54.00	-37.20	12.59	4.21	Average	127	69
4	4960.00	46.90	74.00	-27.10	42.69	4.21	Peak	127	69
5	7440.00	19.50	54.00	-34.50	10.97	8.53	Average	100	73
6	7440.00	49.60	74.00	-24.40	41.07	8.53	Peak	100	73

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	8DPSK	**Test Freq. (MHz)**	2480
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	37.41	54.00	-16.59	40.21	-2.80	Average	100	321
2	2483.50	50.04	74.00	-23.96	52.84	-2.80	Peak	100	321
3	4960.00	21.61	54.00	-32.39	17.40	4.21	Average	381	235
4	4960.00	51.71	74.00	-22.29	47.50	4.21	Peak	381	235
5	7440.00	20.11	54.00	-33.89	11.58	8.53	Average	376	55
6	7440.00	50.21	74.00	-23.79	41.68	8.53	Peak	376	55

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

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