FCC PART 15.247

EMI MEASUREMENT AND TEST REPORT

For

SHENZHEN FUHONGXING TECHNOLOGY CO.,LTD.

No.2 Building, Peace Industry Park, North Of Longguan Road,
Sanlian Country, Longhua Street, Baoan District, Shenzhen, China

FCC ID: XCKXX-21BG

Oct.27, 2009

This Report Concerns: Original Report	Equipment Type： Laptop computer
Test Engineer:	Jack Liu
Report No.:	BST09105211528R-3
Receive EUT Date/Test Date:	Oct.27,2009/ Oct.21-27,2009
Reviewed By:	Christina
Prepared By:	**Shenzhen BST Technology Co.,Ltd.** 3F,Weames Technology Building, No. 10 Kefa Road,Science Park, Nanshan District,Shenzhen,Guangdong,China Tel: 0755-26747751～3 Fax: 0755-26747751～3 ext.826

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1. GENERAL INFORMATION

1.1. Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -
The test site used to collect the radiated data is located on the address of Solid Industrial Co.,Ltd. (FCC Registered Test Site Number: 759397) on
333 Bulong Highway Buji Longgang Shenzhen Guangdong China
The Test Site is constructed and calibrated to meet the FCC requirements.

1.2. Measurement Uncertainty

Available upon request.

2. PRODUCT DESCRIPTION

2.1. EUT Description

Applicant	:	SHENZHEN FUHONGXING TECHNOLOGY CO.,LTD.
Address	:	No.2 Building, Peace Industry Park, North Of Longguan Road, Sanlian Country, Longhua Street, Baoan District, Shenzhen, China
Manufacturer	:	SHENZHEN FUHONGXING TECHNOLOGY CO.,LTD.
Address	:	No.2 Building, Peace Industry Park, North Of Longguan Road, Sanlian Country, Longhua Street, Baoan District, Shenzhen, China
EUT Description	:	Laptop computer
Modulation	:	GFSK
Model Number	:	XX-21BG,WS-21BG,LA-21BG
Antenna connected	:	Soldered
Antenna gain	:	0dBi(2.4GHz)
Antenna Manufacturer		Shuang ying electronics.,LTD.

2.2. Block Diagram of EUT Configuration

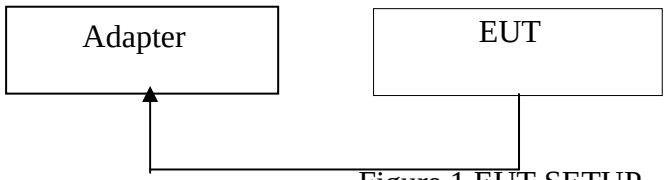


Figure 1 EUT SETUP

2.3. Support Equipment List

Table 2 Ancillary Equipment

Name	Model No	S/N	Manufacturer	Used "√"
POWER ADAPTOR	DJ-U48S1922	/	SHENZHEN FUHONGXING TECHNOLOGY CO.,LTD.	√

2.4. Test Conditions

Temperature: 23~25℃
Relative Humidity: 55~63 %

3. FCC ID LABEL

FCC ID: XCKXX-21BG

This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received,including interference that may cause undesired operation.

Label Location on EUT

EUT Bottom View/ FCC ID Label Location

4. TEST RESULTS SUMMARY

FCC 15 Subpart C,Paragraph 15.247

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b)(1)	Maximum Permissible Exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	Conducted Emissions	Compliant
§15.205, §15.209, §15.109, §15.247(d)	Radiated Emissions	Compliant
§15.247 (a)(1)	20 dB Bandwidth	Compliant
§15.247(a)(1)	Channel Separation Test	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
§15.247(b)(1)	Peak Output Power Measurement	Compliant
§15.247(d)	Band edges	Compliant

Modifications

No modification was made.

5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model #	Serial no.	Date of Cal.	Cal. Interval
Cable	Resenberger	N/A	NO.1	Mar 10，2009	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10，2009	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10，2009	1 Year
LISN	Rohde＆Schwarz	ESH3-Z5	100305	Mar 10，2009	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10, 2009	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESP13	100180	Oct.18,2009	1 Year
Spectrum Analyzer	Rohde＆Schwarz	FSP40	100273	Sep.10,2009	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9m×6m×6m	N/A	Feb.20,2009	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2009	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2009	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2009	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2009	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2009	1 Year
Ultra Broadband Antenna	Rohde＆Schwarz	HL-562	100110	June.15,2009	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100196	Oct.11,2009	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100197	Oct.11,2009	1 Year
Pulse Limiter	Rohde＆Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde＆Schwarz	NRVD	100041	Feb.20,2009	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESCS30	100003	Feb.20,2009	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2009	1 Year
Radio Communication Test Set	Rohde＆Schwarz	CMS 54	846621/024	Feb.20,2009	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2009	1 Year
Absorbing clamp	Rohde＆Schwarz	MDS-21	N/A	Oct.29,2008	1 Year

6. §15.247 (I) AND §1.1307 (B) (1) - MaximuM Permissible exposure (MPE)

6.1. Standard Applicable

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3–3.0	614	1.63	*(100)	30
3.0–30	824/f	2.19/f	*(180/f2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

6.2. Test Data

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG/4\pi R^2$
S: Power density, in mW/cm^2
P: Power input to the antenna, in mW
G: numeric gain of the antenna
R: distance to the center of the antenna, in cm

Maximum peak output power at antenna input terminal (dBm):	-0.88
Maximum peak output power at antenna input terminal (mW):	0.82
Prediction distance (cm):	20
Prediction frequency (MHz):	2402
Antenna Gain, typical (dBi):	0
Maximum Antenna Gain (numeric):	1
Power density at predication frequency and distance (mW/cm^2):	0.0002
MPE limit for Occupational exposure at predication frequency (mW/cm^2):	1.0

6.3. Test Result

The device is compliant with the requirement MPE limit of General Population/Uncontrolled Exposure at predication frequency 1.0 mW/cm^2 .And the precaution is outlined in the user's manual to prevent to high level of RF energy.

7. §15.203 - ANTENNA REQUIREMENT

7.1. Standard Applicable

According to § 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.2. Antenna Connector Construction

The EUT uses a unique coupling antenna. The Antenna gain is 0dBi.please refer to the EUT internal photos.

8. §15.207 - CONDUCTED EMISSIONS

8.1. Applicable Standard

The specification used was with the FCC Part 15.207 limits.

8.2. Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

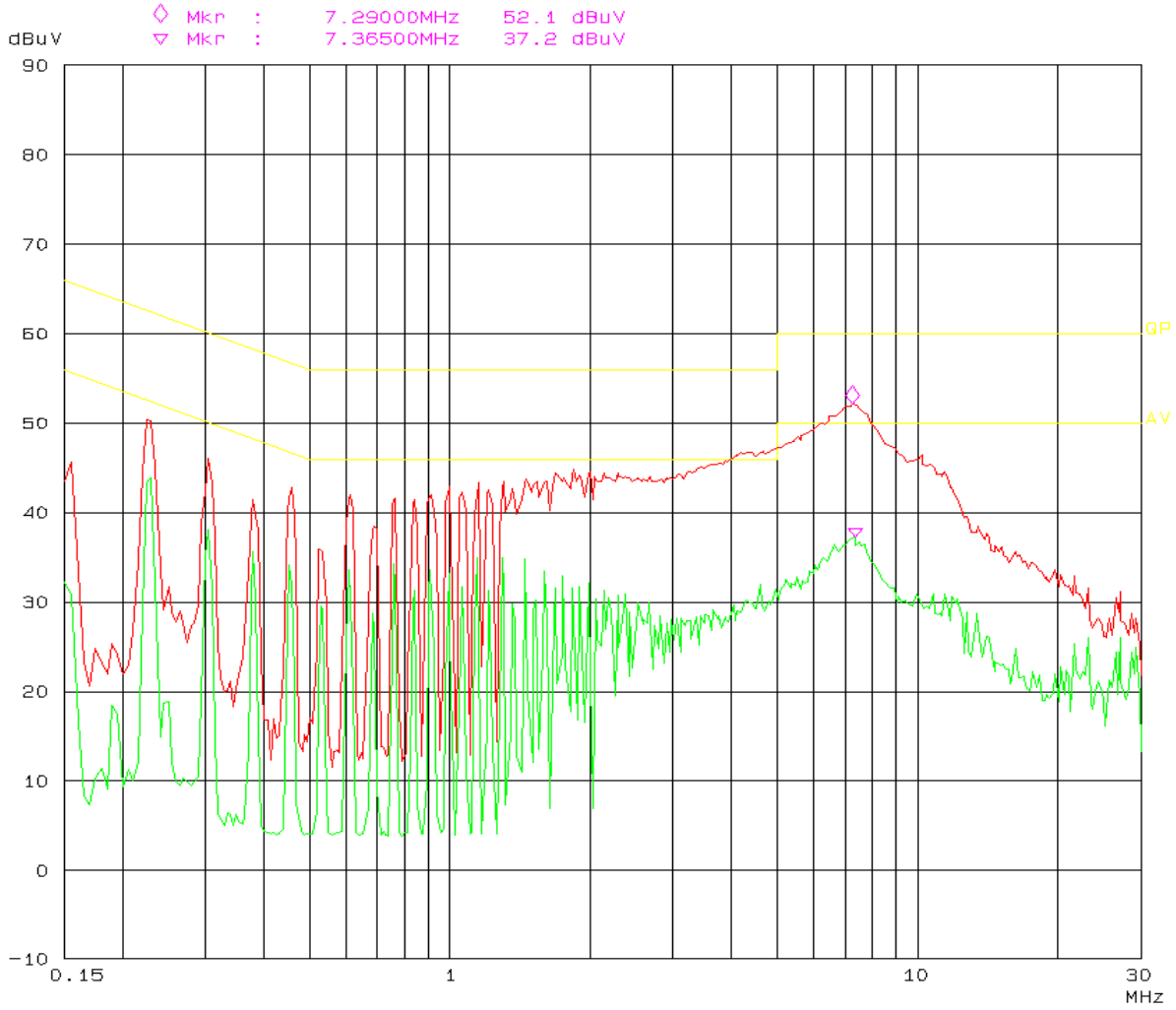
Test Result

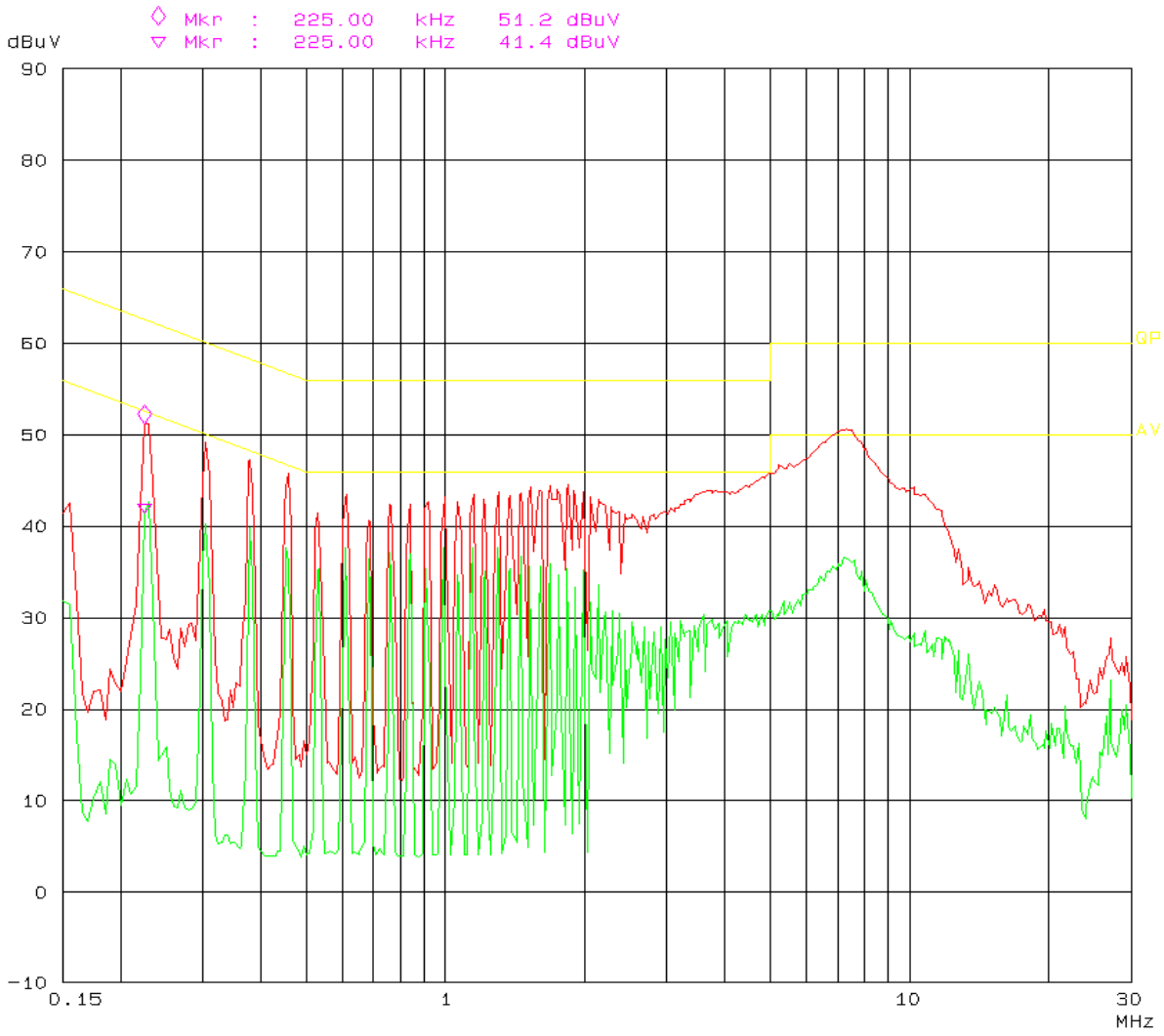
Test Mode: Transmitting (worse case mode)

Line Conducted Emissions				FCC Part 15.207	
Frequency (MHz)	**Amplitude (dBμV)**	**Detector (QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBμV)**	**Margin (dB)**
7.2900	52.10	QP	Line	60.00	7.90
0.6150	37.70	AV	Neutral	46.00	8.30
0.2300	44.00	AV	Line	52.45	8.45
0.3800	39.80	AV	Neutral	48.28	8.48
0.4550	37.70	AV	Neutral	46.78	9.08
7.2700	50.50	QP	Neutral	60.00	9.50
0.3050	40.30	AV	Neutral	50.11	9.81
0.4600	45.90	QP	Neutral	56.69	10.79
0.3050	49.30	QP	Neutral	60.11	10.81
0.3800	47.20	QP	Neutral	58.28	11.08
1.1450	34.90	AV	Line	46.00	11.10
1.4450	34.80	AV	Line	46.00	11.20
0.2250	51.20	QP	Neutral	62.63	11.43
0.2250	41.40	AV	Neutral	52.63	11.23
0.3050	38.10	AV	Line	50.11	12.01
0.2300	50.30	QP	Line	62.45	12.15
1.4550	43.80	QP	Line	56.00	12.20
0.6150	33.70	AV	Line	46.00	12.30
0.6150	43.40	QP	Neutral	56.00	12.60
1.1500	43.20	QP	Line	56.00	12.80
7.3650	37.20	AV	Line	50.00	12.80
7.2050	36.60	AV	Neutral	50.00	13.40
0.6150	42.00	QP	Line	56.00	14.00
0.3050	46.10	QP	Line	60.11	14.01

8.3. Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.




Mkr : 225.00 kHz 51.2 dBuV
Mkr : 225.00 kHz 41.4 dBuV
dBuV
90
80
70
60
50
40
30
20
10
0
-10
0.15
1
10
30
MHz
QP
AV

9. §15.209, §15.205, §15.247(D) - RADIATED EMISSIONS

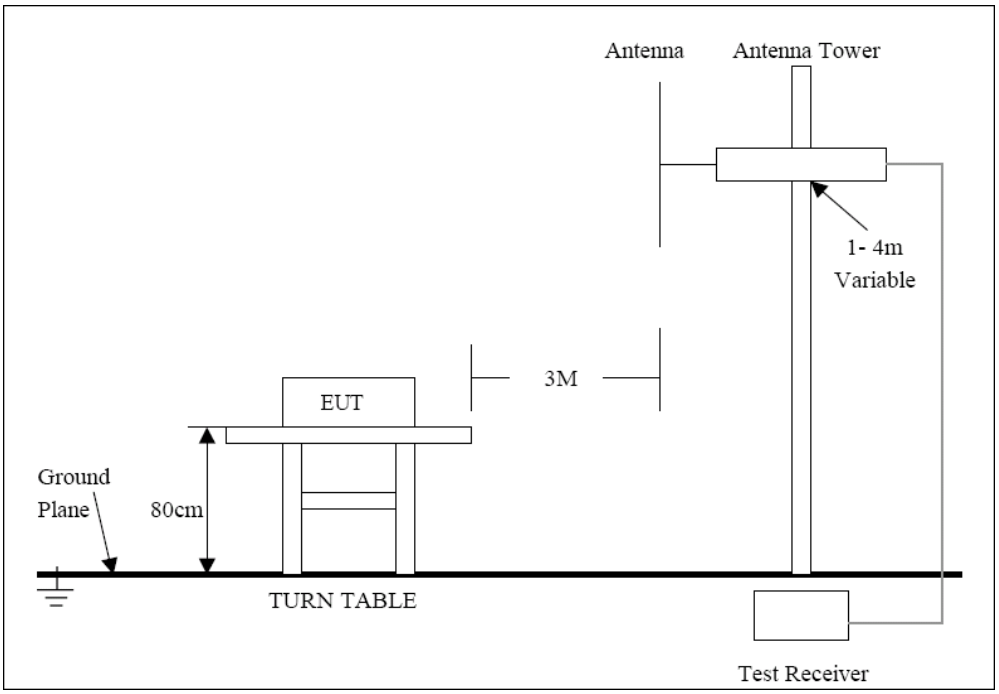
9.1. Test Equipment

Please refer to section 4 this report.

9.2. Test Procedure

The out of band emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits.

9.3. Radiated Test Setup



For the accrual test configuration,pleas refer to the related items-photos of Testing.

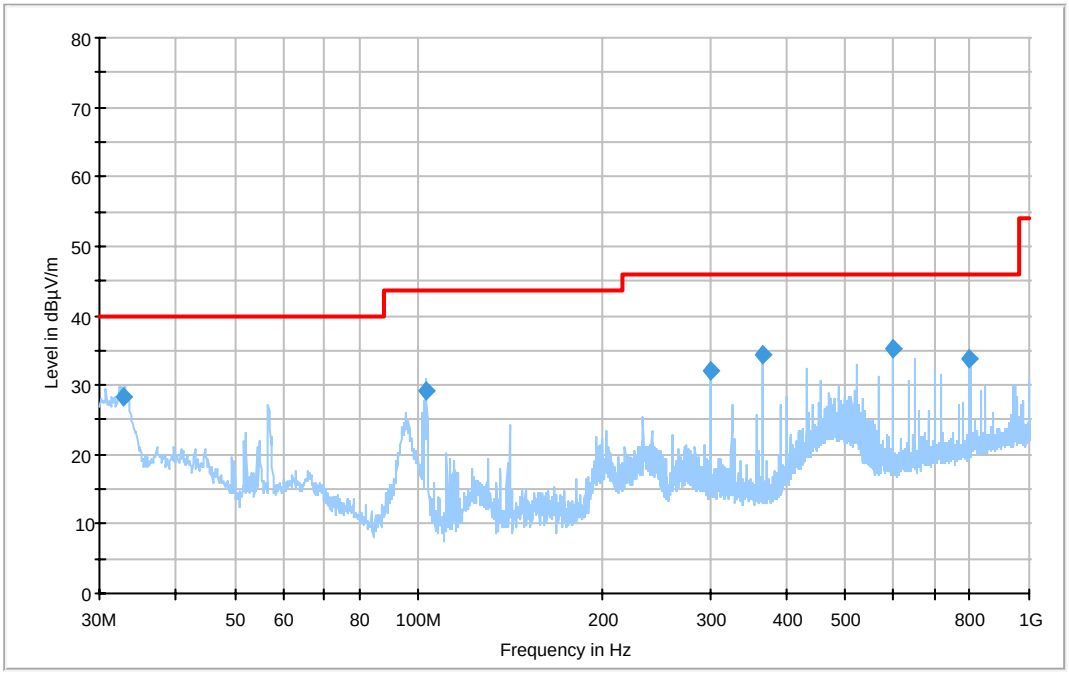
9.4. Radiated Emission Limit

CARRIER FREQUENCY WILL NOT EXCEEDS 48.0 dBuV/m AT 3M. OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

Frequency (MHz)	Distance (m)	Field Strength (dBuV/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
ABOVE 960	3	54.0

9.5. Radiated Emission Test Result

Test Mode: Transmitting (worse case mode)



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
600.092375	35.2	105.0	V	3.0	-8.7	46.0	10.8
366.714625	34.4	171.0	V	0.0	-12.9	46.0	11.6
32.817875	28.3	334.0	H	284.0	-10.5	40.0	11.7
800.124350	33.7	129.0	V	179.0	-5.4	46.0	12.3
300.023750	32.0	110.0	H	334.0	-3.5	46.0	14.0
102.871250	29.1	142.0	H	0.0	-3.9	43.5	14.4

Above 1GHz:

Freq. (MHz)	Reading (dBµV)	Detector PK/QP/AV	Direction Degree	Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Corr. Amp. (dBuV/m)	FCC Part 15.247/209		
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBuV/m)	Margin (dB)	Remarks
Low Channel (2402 MHz)												
4804	40.25	PK	240	1.02	H	31.6	4.64	33.4	43.09	74	30.91	Harmonic
4804	28.94	AV	240	1.02	H	31.6	4.64	33.4	31.78	54	22.22	Harmonic
1385.8	48.79	PK	225	1.40	H	25.8	5.37	34.6	45.36	74	28.64	Spurious
1385.8	35.96	AV	225	1.40	H	25.8	5.37	34.6	32.53	54	21.47	Spurious
4804	41.85	PK	180	1.05	V	31.4	4.64	33.4	44.49	74	29.51	Harmonic
4804	29.00	AV	180	1.05	V	31.4	4.64	33.4	31.64	54	22.36	Harmonic
1385.8	45.96	PK	155	1.55	V	25.8	5.37	34.6	42.53	74	31.47	Spurious
1385.8	34.12	AV	154	1.55	V	25.8	5.37	34.6	30.69	54	23.31	Spurious
Middle Channel (2441 MHz)												
4882	43.08	PK	250	1.00	H	31.4	4.64	33.4	45.72	74	28.28	Harmonic
4882	29.35	AV	250	1.00	H	31.4	4.64	33.4	31.99	54	22.01	Harmonic
1133.84	55.84	PK	175	1.37	H	24.3	4.88	34.9	50.12	74	23.88	Spurious
1133.84	42.93	AV	175	1.37	H	24.3	4.88	34.9	37.21	54	16.79	Spurious
4882	42.56	PK	178	1.03	V	31.6	4.64	33.4	45.40	74	28.60	Harmonic
4882	29.43	AV	178	1.03	V	31.6	4.64	33.4	32.27	54	21.73	Harmonic
1385.8	48.92	PK	130	1.07	V	25.8	5.37	34.6	45.49	74	28.51	Spurious
1385.8	36.29	AV	130	1.07	V	25.8	5.37	34.6	32.86	54	21.14	Spurious
High Channel (2480 MHz)												
4960	42.62	PK	35	1.10	H	31.6	4.55	33.4	45.37	74	28.63	Harmonic
4960	28.93	AV	35	1.10	H	31.6	4.55	33.4	31.68	54	22.32	Harmonic
1449.62	47.39	PK	150	1.15	H	26.0	5.47	34.5	44.36	74	29.64	Spurious
1449.62	34.76	AV	150	115	H	26.0	5.47	34.5	31.73	54	22.27	Spurious
4960	43.11	PK	355	1.10	V	31.4	4.55	33.4	45.66	74	28.34	Harmonic
4960	28.97	AV	355	1.10	V	31.4	4.55	33.4	31.52	54	22.48	Harmonic
1133.84	55.61	PK	280	1.20	PK	24.3	4.88	34.9	49.89	74	24.11	Spurious
1133.84	40.54	AV	280	1.20	AV	24.3	4.88	34.9	34.82	54	19.18	Spurious

Spurious emission in restricted band

Freq. (MHz)	Reading (dBµV)	Detector PK/QP/AV	Direction Degree	Antenna			Cable Loss (dB)	Pre-Amp. Gain (dB)	Corr. Amp. (dBuV/m)	FCC Part 15.247/209	
				Height (m)	Polar (H/V)	Factor (dB/m)				Limit (dBuV/m)	Margin (dB)
Out of left side band (2310 – 2390 MHz)											
2379.0	46.38	PK	352	1.50	V	30.6	3.61	34	46.59	74	27.41
2368.0	46.11	PK	355	1.30	H	30.6	3.61	34	46.32	74	27.68
2389.0	47.00	PK	353	1.00	V	30.6	3.61	34	47.21	74	26.79
Out of left side band (2483.5 – 2500 MHz)											
2483.6	51.05	PK	225	1.50	V	30.6	3.61	34	51.26	74	22.74
2483.6	49.36	PK	275	1.30	H	30.6	3.61	34	49.57	74	24.43

10. §15.247(A) (1) – CHANNEL SEPARATION TEST

10.1. Test Equipment

Please refer to Section 4 this report.

10.2.Test Procedure

1. Set the EUT in transmitting mode, spectrum Bandwidth was set at 100 kHz, maxhold the channel.
2. Set the adjacent channel of the EUT maxhold another truce
3. Measure the channel separation.

10.3.Applicable Standard

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

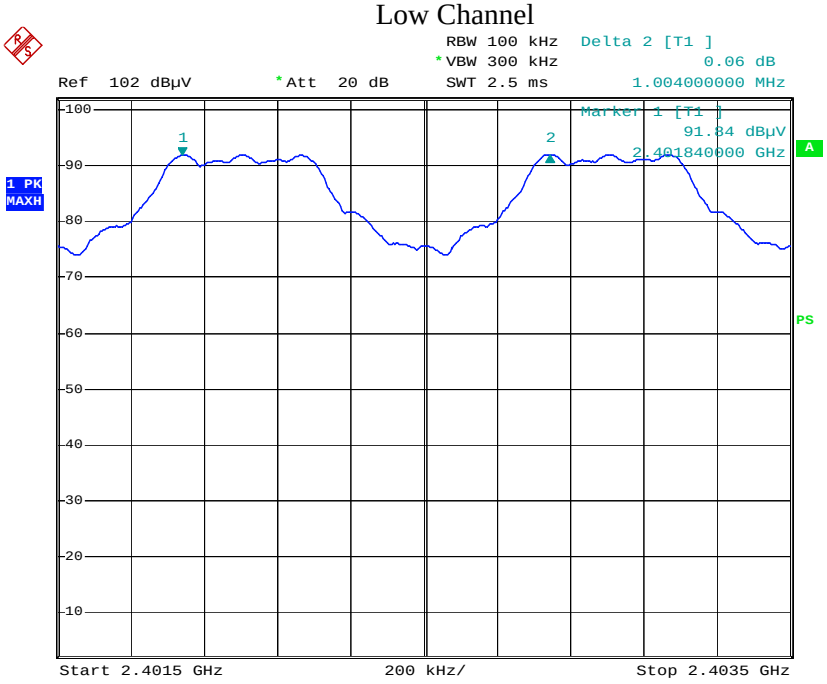
10.3. Test Result:Pass.

Test Mode: Transmitting

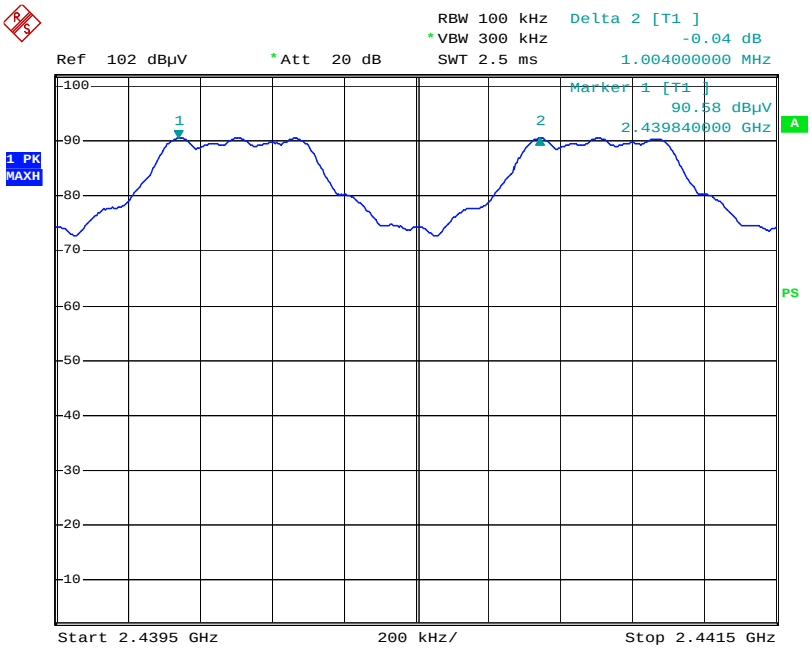
Channel	Channel Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)	Result
Low Channel	2402	1.004	0.512	Pass
Adjacent Channel	2403			
Mid Channel	2441	1.004	0.512	Pass
Adjacent Channel	2442			
High Channel	2480	1.004	0.488	Pass
Adjacent Channel	2479			

Please refer to the following plots.

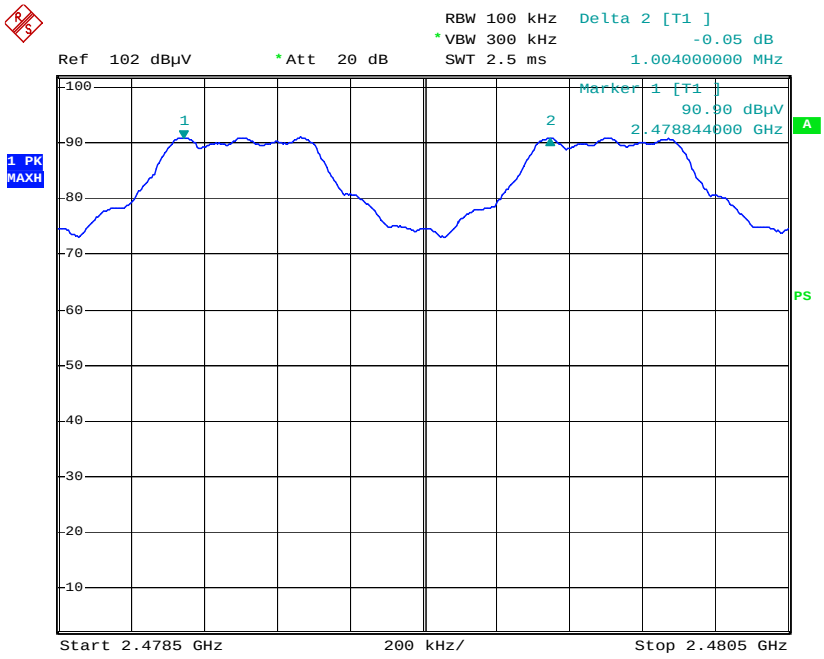
Low Channel



Middle Channel



High Channel



11. §15.247(A) (1) –20DB BANWIDTH TESTING

11.1. Test Equipment

Please refer to Section 4 this report.

11.2.Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2.Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3.Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

10.3.Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

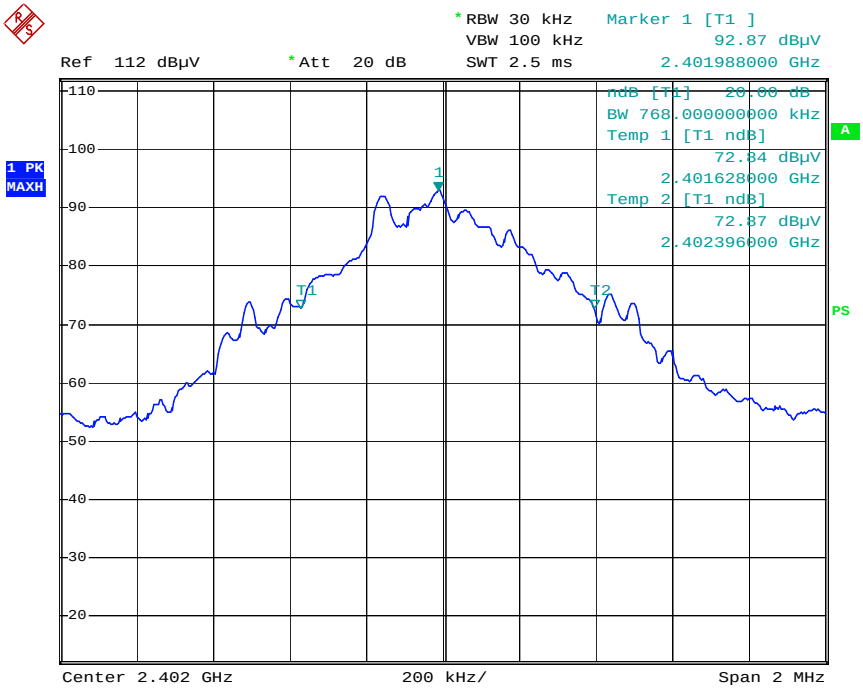
11.3. Test Result:Pass.

Test Mode: Transmitting

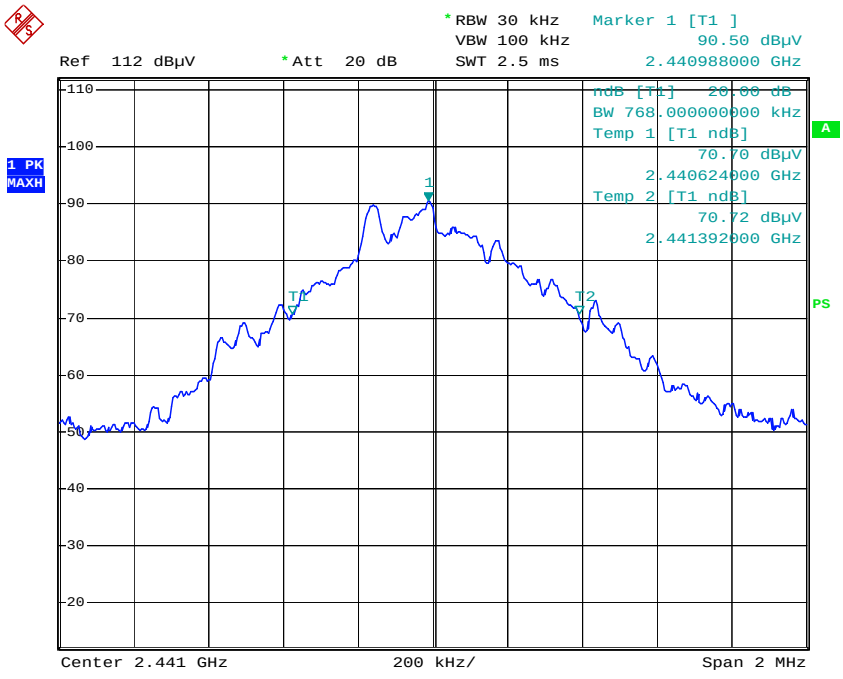
Channel	Frequency (MHz)	20dB Bandwidth (MHz)
Low	2402	0.768
Middle	2441	0.768
High	2480	0.732

Please refer to the following plots.

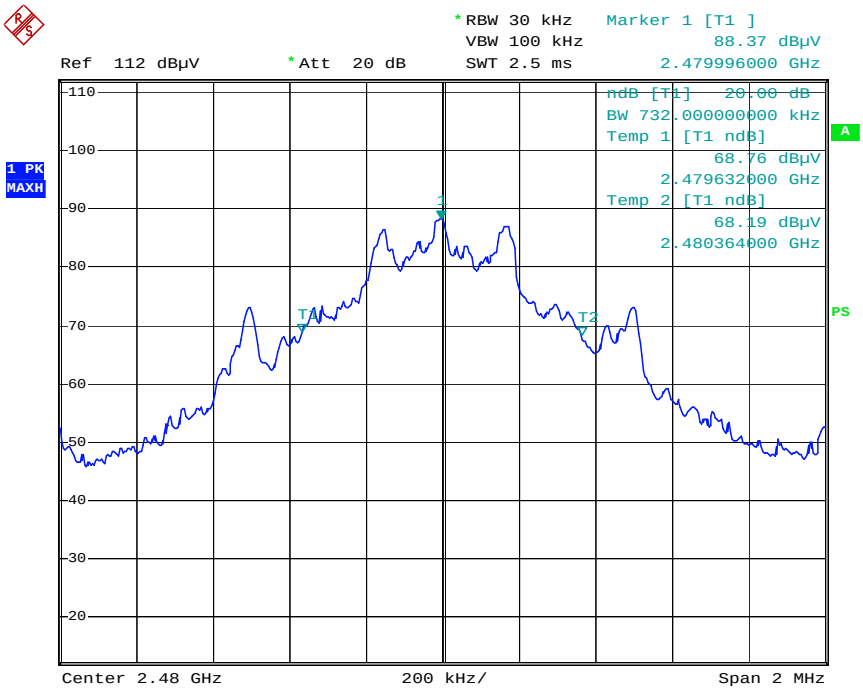
Low Channel



Middle Channel



High Channel



12. §15.247(A) (1) (III)- QUANTITY OF HOPPING CHANNEL TEST

12.1. Test Equipment

Please refer to Section 4 this report.

12.2.Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Set the EUT in hopping mode from first channel to last.
3. By using the Max-Hold function record the Quantity of the channel.

10.3.Applicable Standard

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

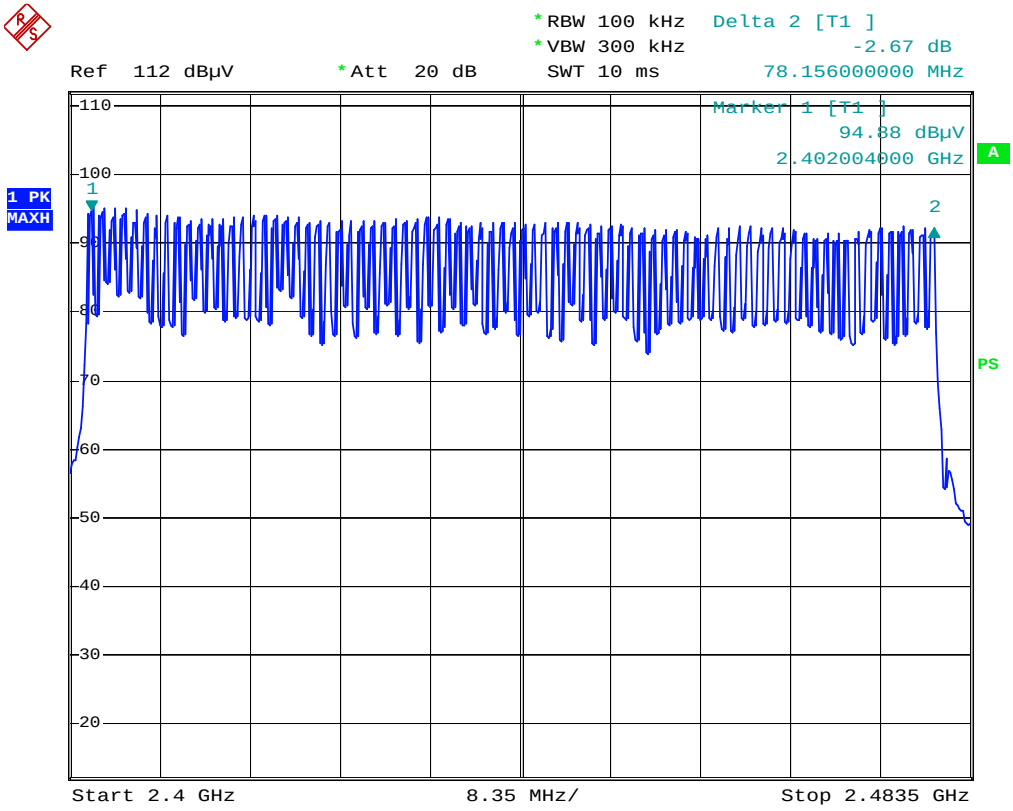
12.3. Test Result:Pass.

Please refer to following tables and plots

Test Mode: Transmitting

Frequency Range (MHz)	Number of Hopping Channel	Limit
2402-2480	79	>15

Number of Hopping Channels



13. §15.247(A) (1) (III)- TIME OF OCCUPANCY (DWELL TIME)

13.1. Test Equipment

Please refer to Section 4 this report.

13.2.Test Procedure

The EUT was worked in channel hopping; Spectrum SPAN was set as 0. Sweep was set as 0.4 X channel no. (s), the quantity of pulse was get from single sweep. In addition, the time of single pulses was tested.
Dwell Time= time slot length * hope rate/ number of hopping channels * 31.6s
Hop rate=1600/s

10.3.Applicable Standard

Frequency hopping systems in the 2400-2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

13.3. Test Result:Pass.

Please refer to following tables and plots

Test Mode: Transmitting

DH 1 Mode:

Channel	Pulse Width (ms)	Dwell Time (Sec)	Limit (Sec)	Result
Low	0.400	0.1280	0.4	Pass
Middle	0.390	0.1248	0.4	Pass
High	0.400	0.1280	0.4	Pass

Note: Dwell time=Pulse width (ms) × (1600 ÷ 2 ÷ 79) ×31.6 Second

DH 3 Mode:

Channel	Pulse Width (ms)	Dwell Time (Sec)	Limit (Sec)	Result
Low	1.68	0.2688	0.4	Pass
Middle	1.67	0.2672	0.4	Pass
High	1.67	0.2672	0.4	Pass

Note: Dwell time=Pulse width (ms) × (1600 ÷ 4 ÷ 79) ×31.6 Second

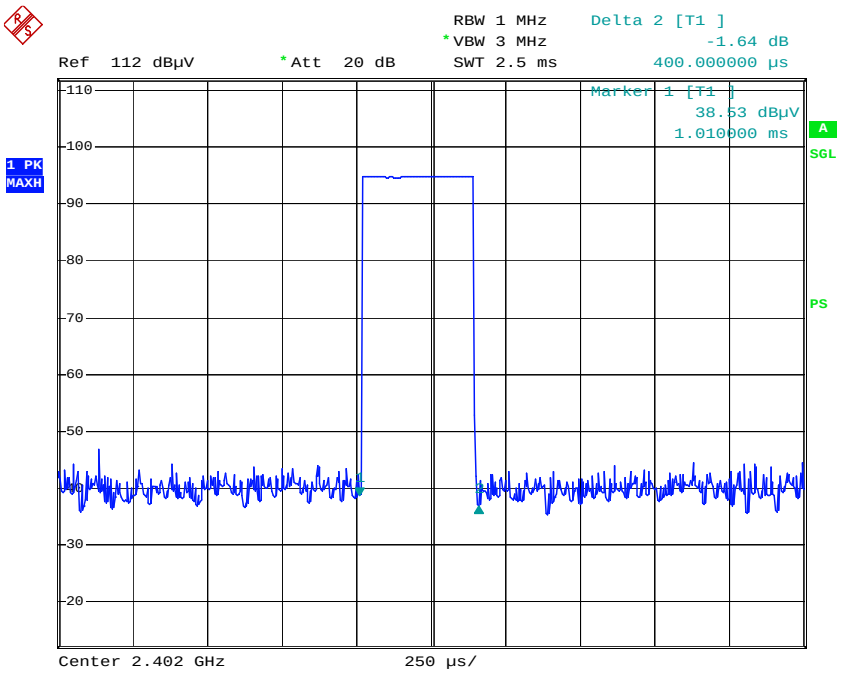
DH 5 Mode:

Channel	Pulse Width (ms)	Dwell Time (Sec)	Limit (Sec)	Result
Low	2.96	0.3157	0.4	Pass
Middle	2.94	0.3136	0.4	Pass
High	2.96	0.3157	0.4	Pass

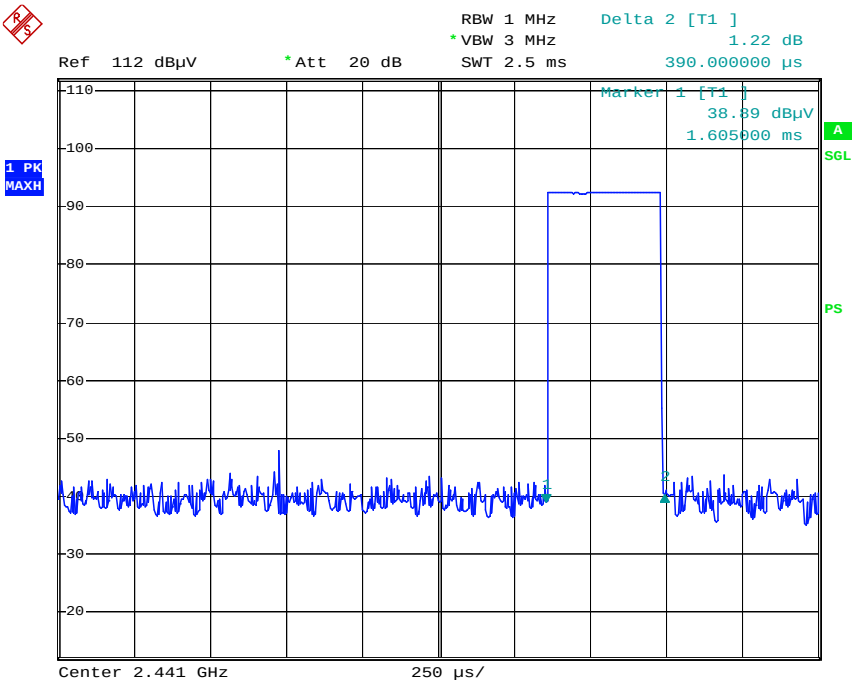
Note: Dwell time=Pulse width (ms) × (1600 ÷ 6 ÷ 79) ×31.6 Second

Please refer to the following plots.

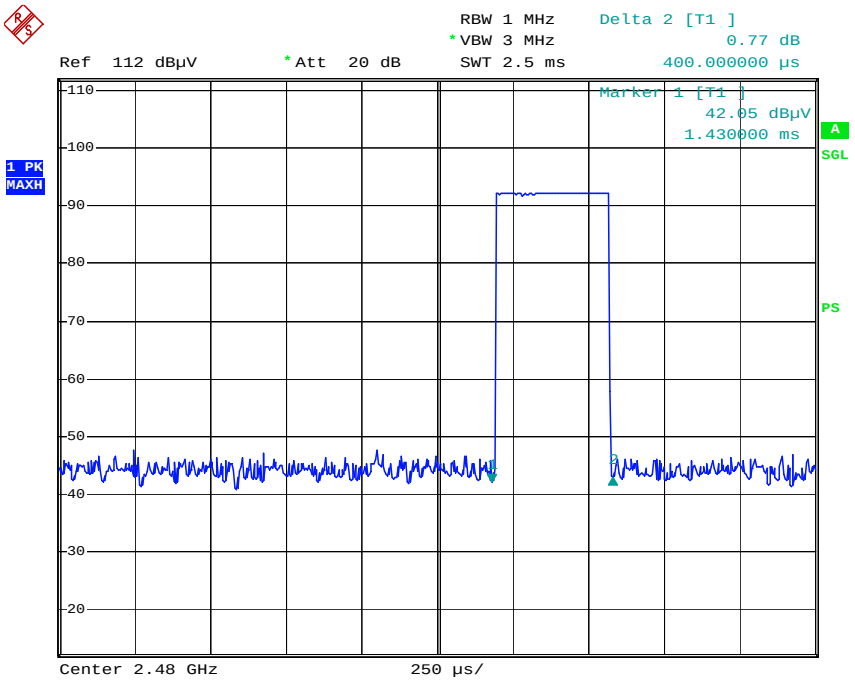
Low Channel for DH1



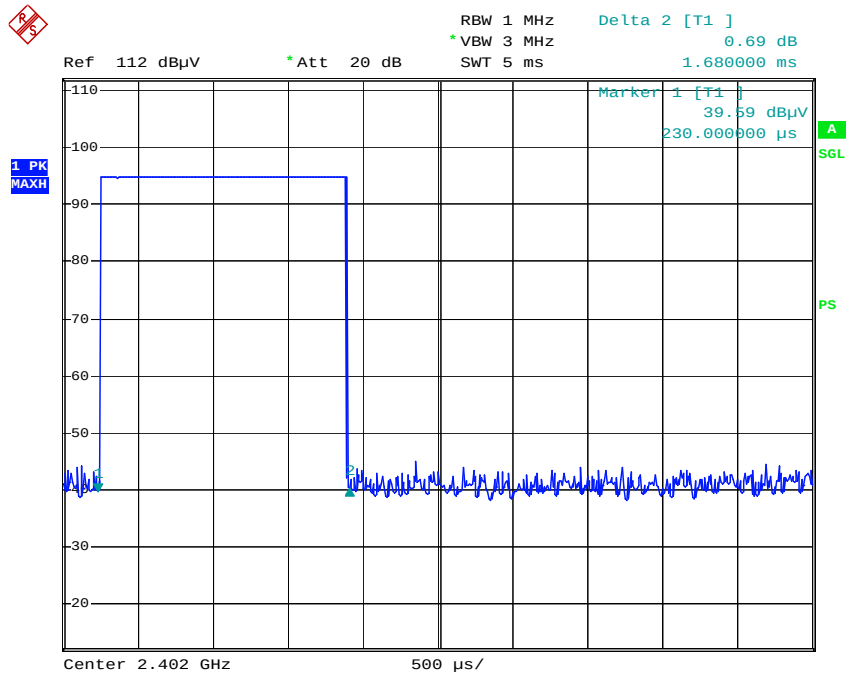
Middle Channel for DH1



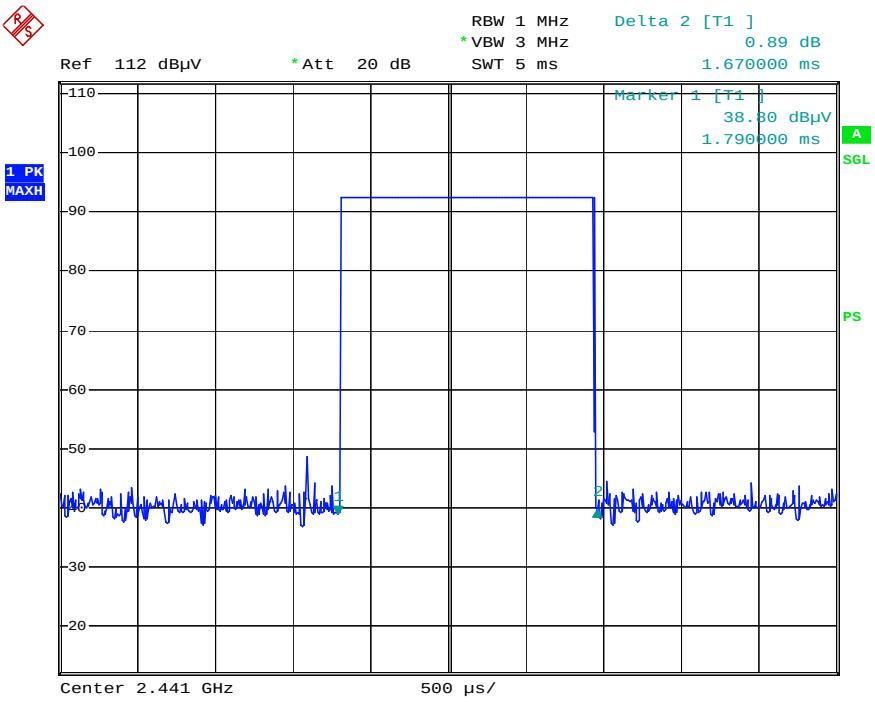
High Channel for DH1



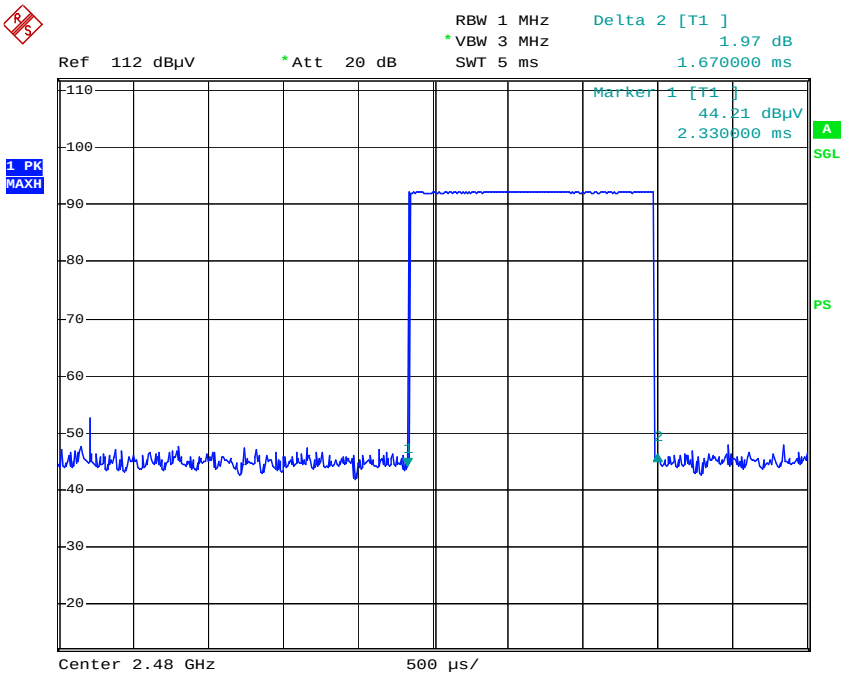
Low Channel for DH3



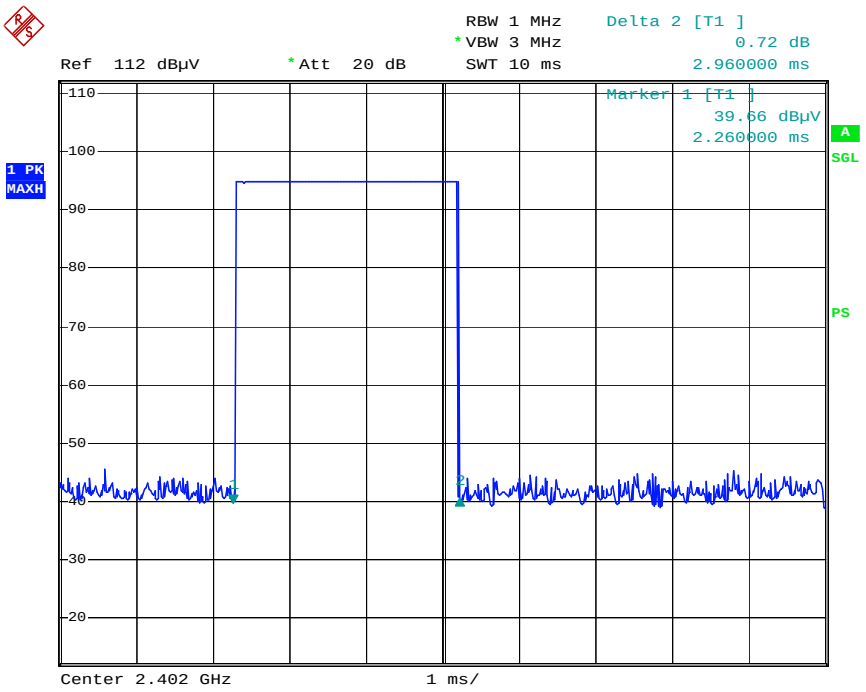
Middle Channel for DH3



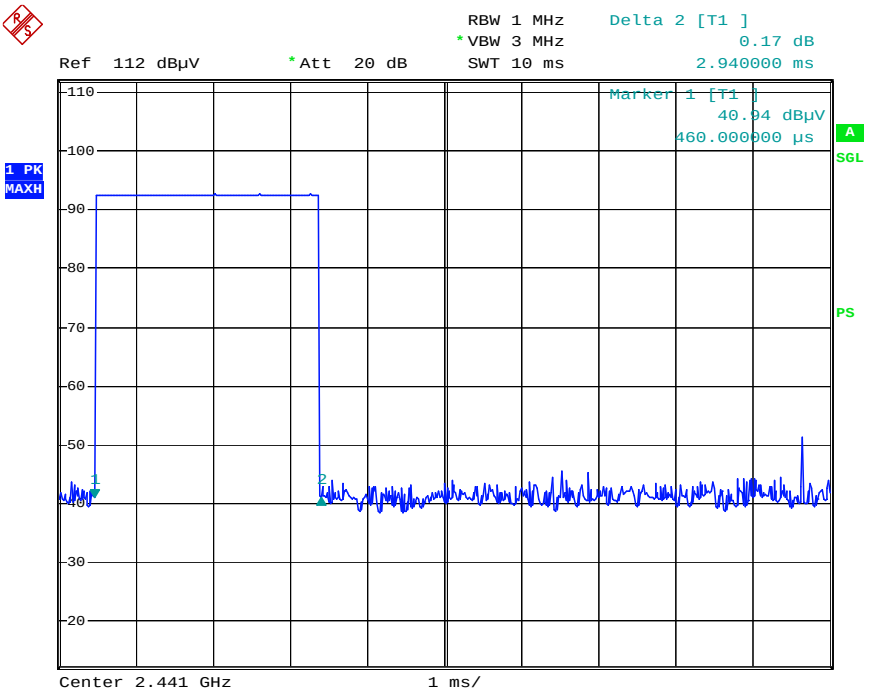
High Channel for DH3



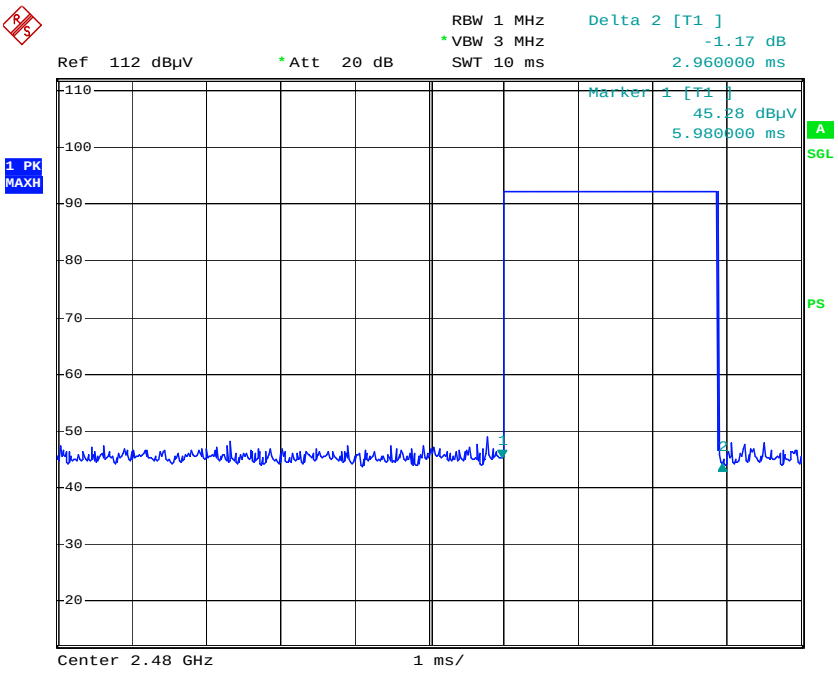
Low Channel for DH5



Middle Channel for DH5



High Channel for DH5



14. §15.247(B) (1) - Maximum Peak Output Power

14.1. Test Equipment

Please refer to Section 4 this report.

14.2.Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz.
3. Set VBW ≥ 3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

14.3.Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

14.4. Test Result

Pass

Test Mode: Transmitting

channel	Channel frequency (MHz)	Reading power (dBm)	Power output (mw)	Limit (mw)
Low channel	2402	-0.88	0.82	1000
Middle channel	2441	-2.07	0.62	1000
High channel	2480	-3.25	0.47	1000

15. §15.247(D) –Band Edge

15.1.Test Equipment

Please refer to Section 4 this report.

15.2.Test Procedure

1, Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2, Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.

3,Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

Note: For Rdstricted Band

RBW=1MHz

VBW=1 MHz

4, Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

5,Repeat above procedures until all measured frequencies were complete.

15.3.Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

15.4.Test Result

PASS

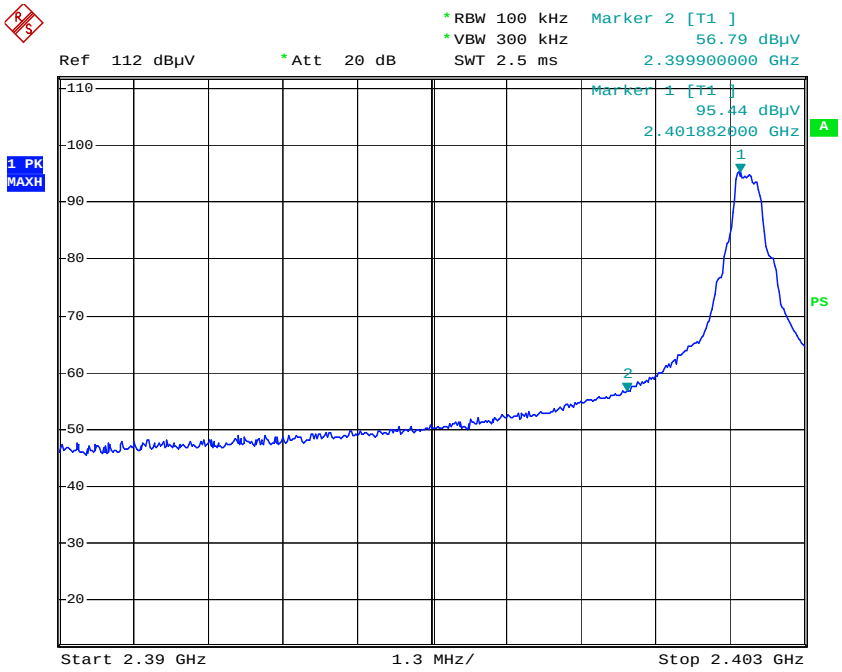
Please refer to the following table and plots.

Test Mode: Transmitting

Frequency (MHz)	Delta Peak to Band Emission (dBc)	Limit (dBc)
2399.900	38.65	20
2483.600	44.04	20

Note: The point fall into the stricted band was in FCC 15.209, please refer to the restrict band testing.

Band Edge: Left Side



Band Edge: Right Side