



47 CFR PART 15 SUBPART C

TEST REPORT

of

Plextalk Player

Model Name: PTX1
Brand Name: Plextor
Report No.: SZ08110077E04
FCC ID: WNU-PTX1

prepared for

Shinano Kenshi Co., Ltd.

6-15-26 Chuo, Ueda-Shi, Nagano-Ken, 386-0012 JAPAN

prepared by

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TABLE OF CONTENTS

1.	TEST CERTIFICATION	4
2.	GENERAL INFORMATION	5
2.1	EUT Description	5
2.2	Test Standards and Results	6
2.3	Facilities and Accreditations	7
2.3.1	Facilities	7
2.3.2	Test Environment Conditions	7
3.	47 CFR PART 15C REQUIREMENTS	8
3.1	Peak Output Power	8
3.1.1	Requirement	8
3.1.2	Test Description	8
3.1.3	Test Result	9
3.2	Bandwidth	11
3.2.1	Definition	11
3.2.2	Test Description	11
3.3	Conducted Spurious Emissions	16
3.3.1	Requirement	16
3.3.2	Test Description	16
3.3.3	Test Result	16
3.4	Power spectral density (PSD)	21
3.4.1	Requirement	21
3.4.2	Test Description	21
3.4.3	Test Result	21
3.5	Band Edge	26
3.5.1	Requirement	26
3.5.2	Test Description	26
3.5.3	Test Result	27
3.6	Conducted Emission	31
3.6.1	Requirement	31
3.6.2	Test Description	31

3.6.3	Test Result	32
3.7	Radiated Emission	34
3.7.1	Requirement	34
3.7.2	Test Description	34
3.7.3	Test Result	36

1. TEST CERTIFICATION

Equipment under Test: Plectalk Player

Brand Name: Plector

Model Name: PTX1

FCC ID: WNU-PTX1

Applicant: Shinano Kenshi Co., Ltd.
6-15-26 Chuo, Ueda-Shi, Nagano-Ken, 386-0012 JAPAN

Manufacturer: GROUP SENSE Mobile-Tech Ltd
6th Floor, Building 9, No.5 Science Park West Avenue, Hong Kong
Science Park, Shatin, New Territories, Hong Kong.

Test Standards: 47 CFR Part 15 Subpart C

Test Date(s): December 02, 2008 - December 16, 2008

Test Result: PASS

* We Hereby Certify That:

The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by: Li Yi Dated: 2009. 1. 15

Li Yi

Reviewed by: Wei Yanquan Dated: 2009. 01. 15

Wei Yanquan

Approved by: Shu Luan Dated: 2009. 01. 15

Shu Luan



2. GENERAL INFORMATION

2.1 EUT Description

EUT Type: Plectalk Player
Serial No.....: (n.a, marked #1 by test site)
Hardware Version: PP
Software Version: PP
Modulation Type.....: DSSS, OFDM
Frequency: 2.412GHz - 2.472GHz (at interval of 5MHz)
Power Supply: Battery
Brand Name: Plector
Model No.: PTX1
Serial No.: (n.a. marked #1 by test site)
Capacitance: 1800mAh
Rated Voltage: 7.2V
Manufacturer: HUANYU POWER SOURCE CO., LTD
Manufacturer Address: Huanyu Avenue, Xinxiang, He Nan, China
Ancillary Equipments 1.....: AC Adapter (Charger for Battery)
Brand Name: Plector
Model Name: SQN36W12P-01
Serial No.: (n.a. marked #1 by test site)
Rated Input: ~ 100-240V, 750-400mA, Max 96W, 60Hz
Rated Output: = 12V, 3000mA, Max 36W
Manufacturer: Nagano Japan Radio Co. Ltd.
Manufacturer Address: Nagano Japan Radio Co., Ltd, 1163
Inasato-machi, Nagano-city, 381-2288, Japan
Wire Length: 120cm

Note 1: The EUT is DAISY Book Playback and Wi-Fi Module, with 802.11b/g interface

Note 2: The frequencies allocated is $F(\text{MHz})=2412+5*(n-1)$ ($1 \leq n \leq 13$). The lowest, middle, highest channel numbers of the EUT used and tested in this report are separately 1 (2412MHz), 7 (2442MHz) and 16 (2472MHz).

Note 3: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C (Wi-Fi, 2.4GHz ISM band radiators) for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result	Test date
1	15.247(a)	Number of Hopping Frequency	(n.a)	(n.a)
2	15.247(b)	Peak Output Power	PASS	2008-12-02
3	15.247(a)	Bandwidth	PASS	2008-12-02
4	15.247(a)	Carrier Frequency Separation	(n.a)	(n.a)
5	15.247(a)	Time of Occupancy (Dwell time)	(n.a)	(n.a)
6	15.247(c)	Conducted Spurious Emission	PASS	2008-12-02
7	15.247(c)	Band Edge	PASS	2008-12-04
8	15.207	Conducted Emission	PASS	2008-12-08
9	15.209 15.247(c)	Radiated Emission	PASS	2008-12-09
10	15.247(d)	Power spectral density (PSD)	PASS	2008-12-02

The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.4 2003.

2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	20 - 25
Relative Humidity (%):	40 - 60
Atmospheric Pressure (kPa):	96

3. 47 CFR PART 15C REQUIREMENTS

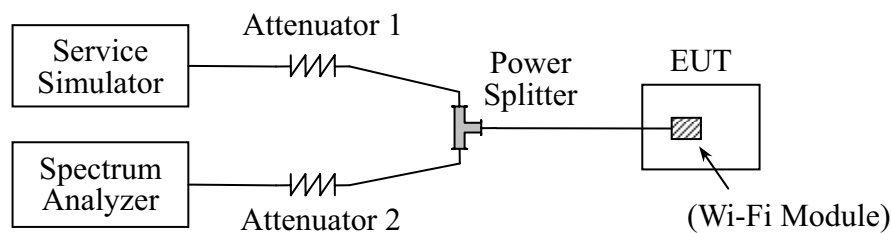
3.1 Peak Output Power

3.1.1 Requirement

According to FCC section 15.247(b)(1), for frequency hopping systems that operates in the 2400MHz to 2483.5MHz band employing at least 75 hopping channels, the maximum peak output power of the intentional radiator shall not exceed 1Watt. For all other frequency hopping systems in the 2400MHz to 2483.5MHz band, it is 0.125Watts.

3.1.2 Test Description

A. Test Setup:



The EUT of the EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the Wi-Fi Service Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. During the measurement, the EUT of the EUT is activated and controlled by the SS, and is set to operate under test mode transmitting 339 bytes DH5 packages at maximum power.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Service Simulator	Agilent	E5515C	GB43130131	2008.06	1year
Spectrum Analyzer	Agilent	E7405A	US44210471	2008.07	1year
Power Splitter	Weinschel	1506A	NW521	(n.a.)	(n.a.)
Attenuator 1	Resnet	20dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 2	Resnet	3dB	(n.a.)	(n.a.)	(n.a.)

3.1.3 Test Result

The EUT operates at hopping-off test mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

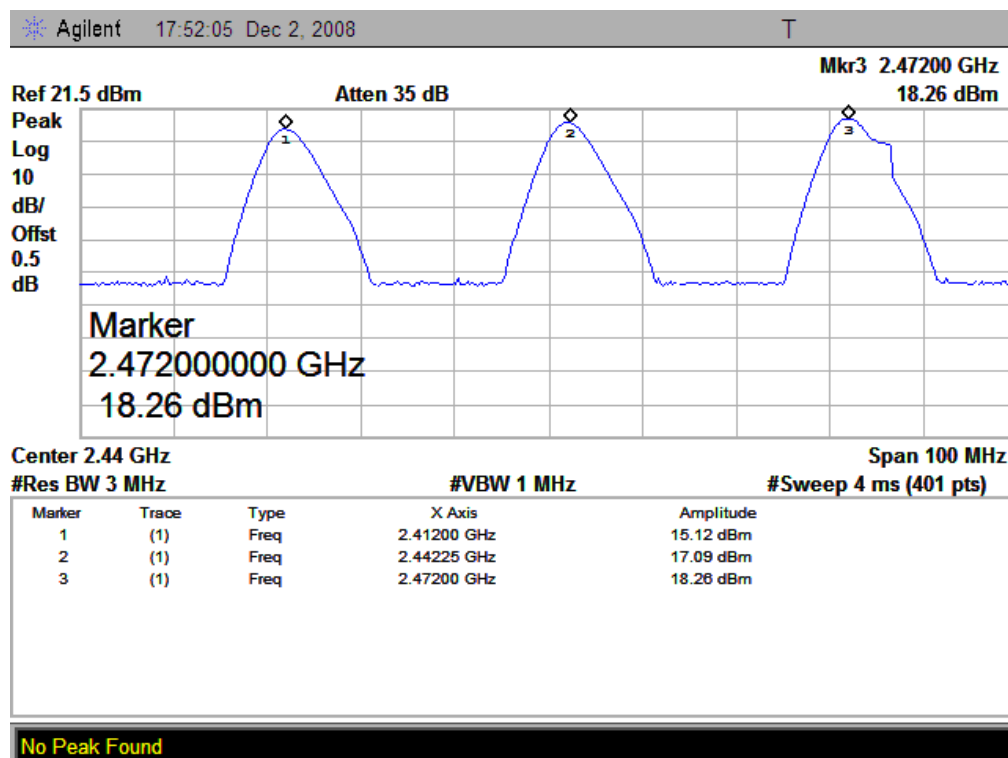
During the measurement, Method #3 of Power Output Option 2 was used to perform this test.

3.1.3.1 8011.b Test mode

A. Test Verdict:

Channel	Frequency (MHz)	Measured Output Peak Power			Limit		Verdict
		dBm	W	Refer to Plot	dBm	W	
1	2412	15.12	0.033	Plot A	21	0.125	PASS
7	2442	17.09	0.051				PASS
16	2472	18.26	0.067				PASS

B. Test Plot:



(Plot A: Channel 1, 7, 13)

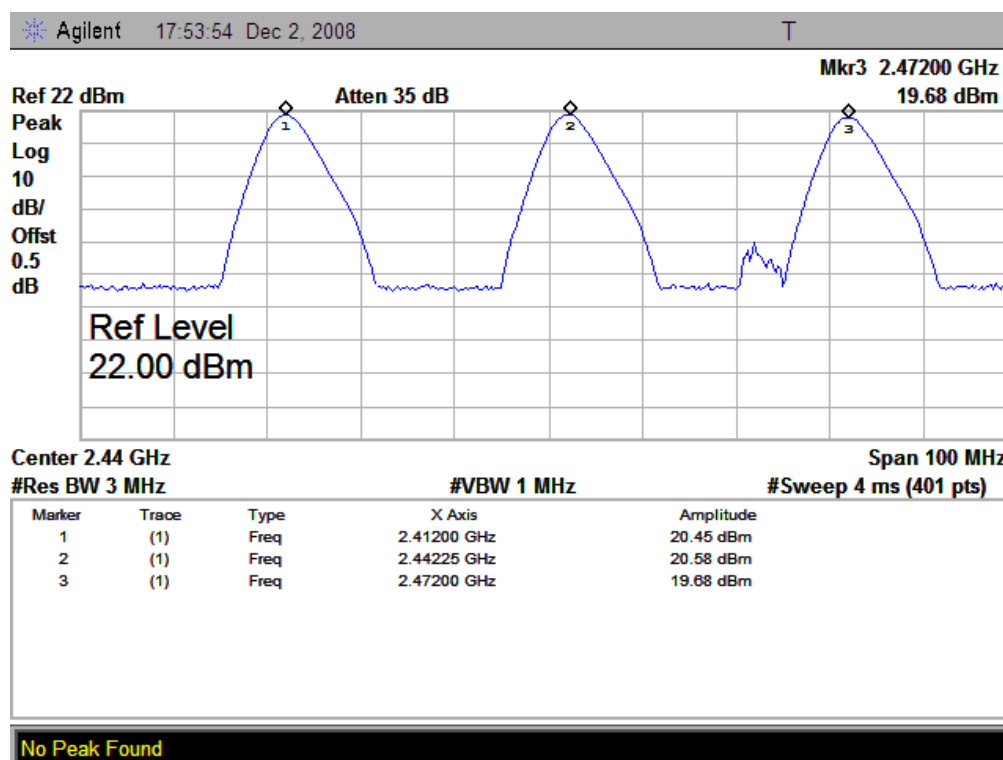
3.1.3.2 8011.g Test mode

C. Test Verdict:

Channel	Frequency (MHz)	Measured Output Peak Power	Limit	Verdict
---------	-----------------	----------------------------	-------	---------

		dBm	W	Refer to Plot	dBm	W	
1	2412	20.45	0.111	Plot A	21	0.125	PASS
7	2442	20.58	0.114				PASS
16	2472	19.68	0.093				PASS

D. Test Plot:



(Plot A: Channel 1, 7, 13)

3.2 Bandwidth

3.2.1 Definition

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.

3.2.2 Test Description

See section 3.1.2 of this report.

3.2.2.1 Test Result

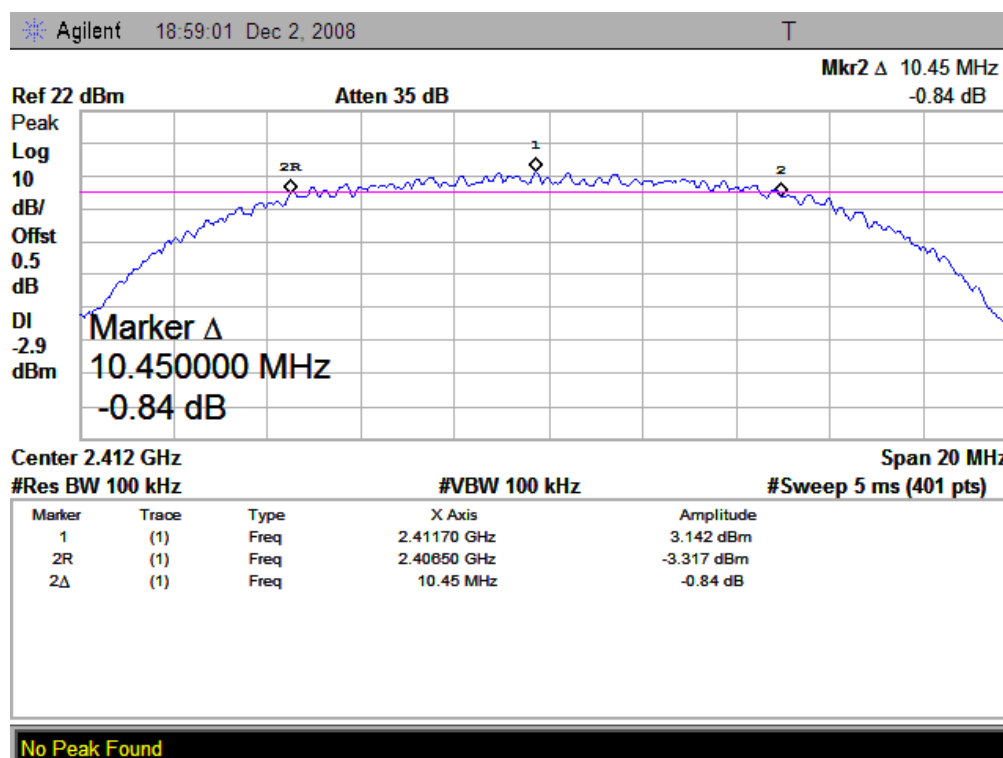
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the Module.

3.2.3.1 8011.b Test mode

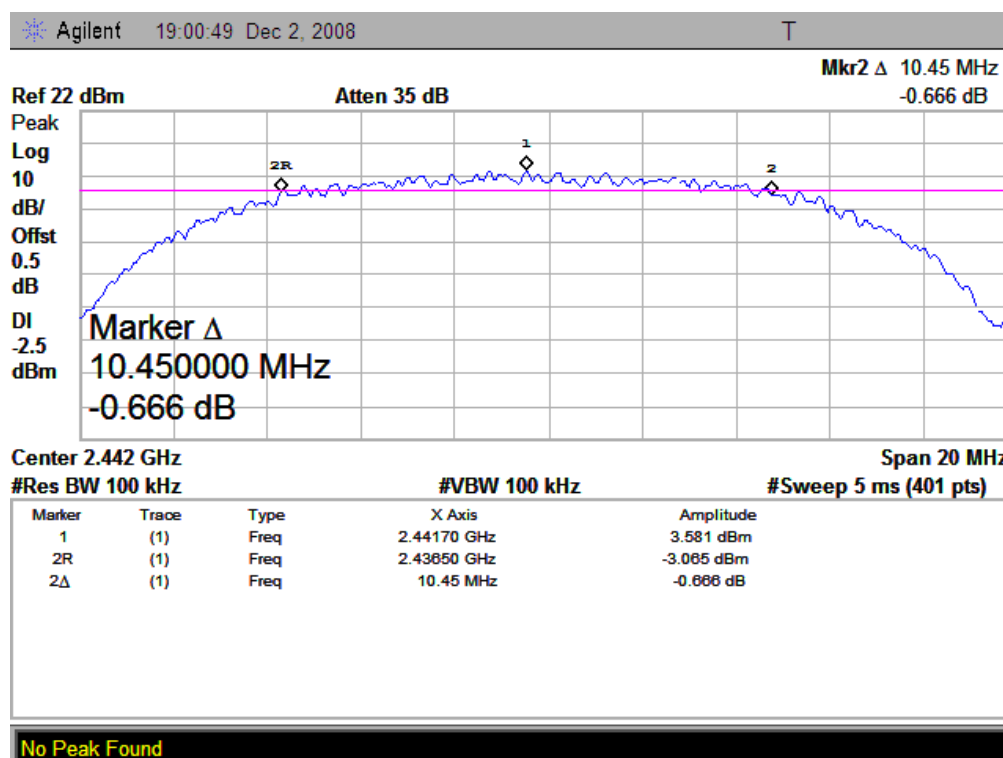
A. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Refer to Plot	Limits (kHz)	Result
1	2412	10.45	Plot A	≥ 500	PASS
7	2442	10.45	Plot B	≥ 500	PASS
13	2472	10.35	Plot C	≥ 500	PASS

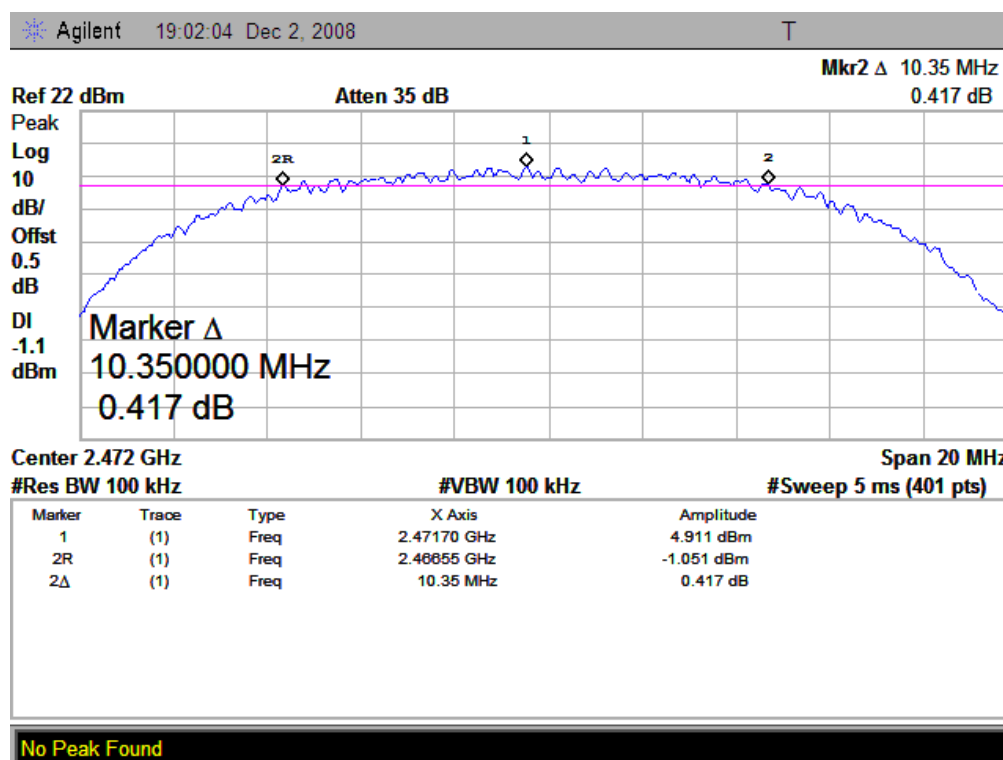
B. Test Plot:



(Plot A: Channel 1: 2412MHz)



(Plot B: Channel 7: 2442 MHz)



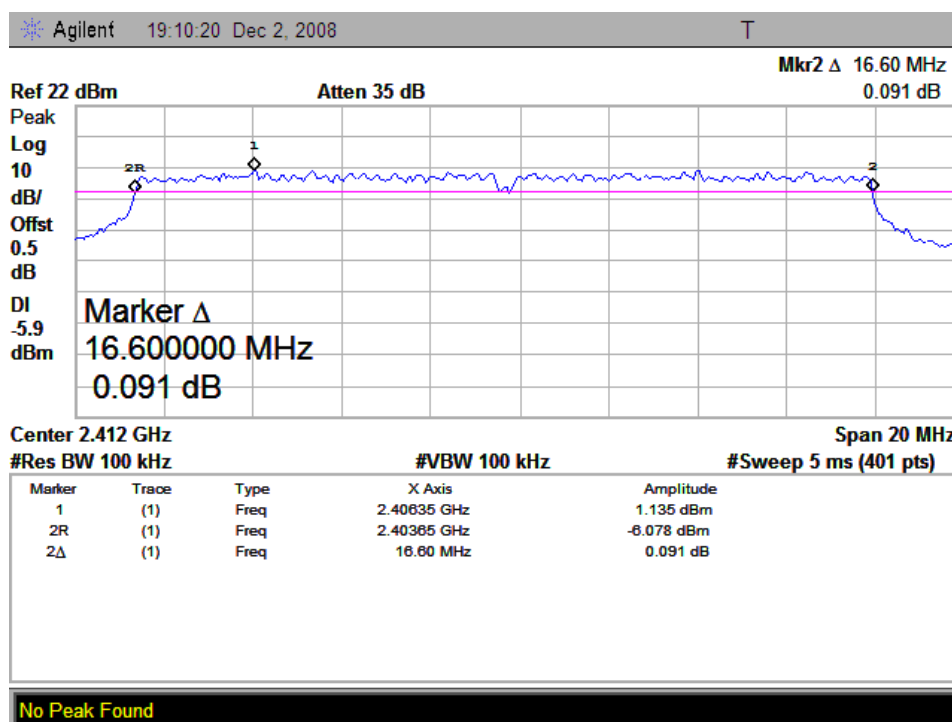
(Plot C: Channel 13: 2472MHz)

3.2.3.2 8011.g Test mode

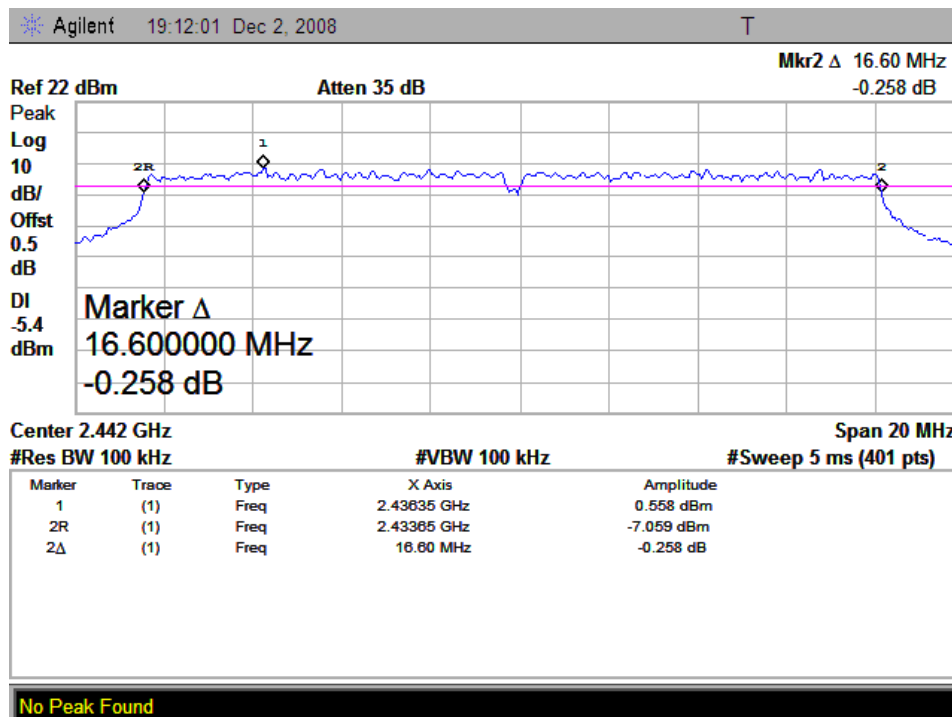
C. Test Verdict:

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Refer to Plot	Limits (kHz)	Result
1	2412	16.60	Plot D	≥ 500	PASS
7	2442	16.60	Plot E	≥ 500	PASS
13	2472	16.60	Plot F	≥ 500	PASS

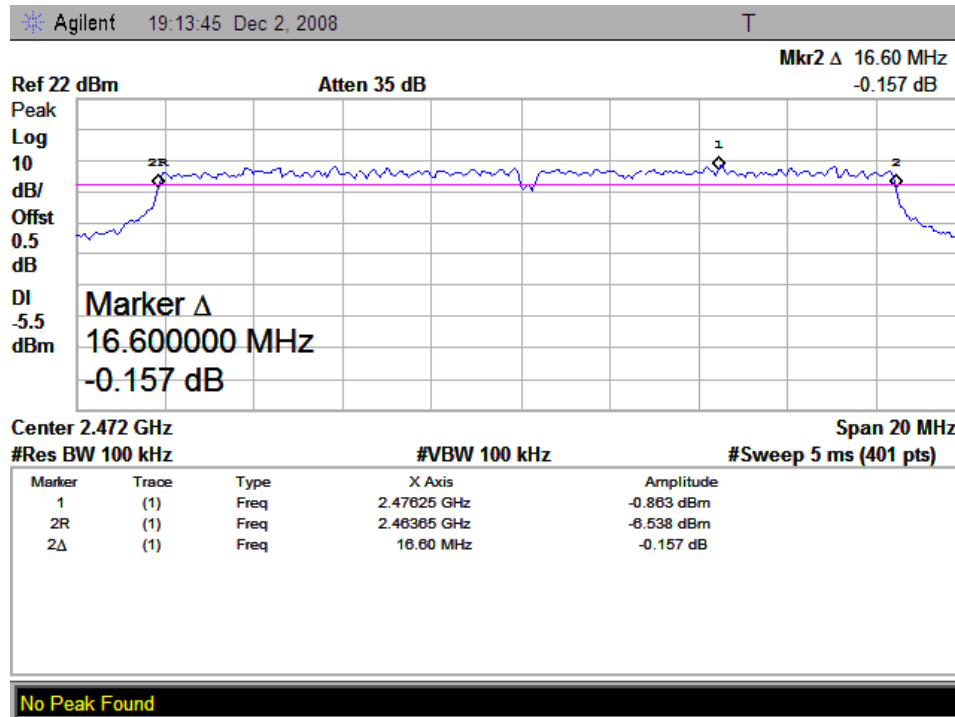
D. Test Plot:



(Plot A: Channel 1: 2412MHz)



(Plot B: Channel 7: 2442MHz)



(Plot C: Channel 13: 2472MHz)

3.3 Conducted Spurious Emissions

3.3.1 Requirement

According to FCC section 15.247(c), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.3.2 Test Description

See section 3.1.2 of this report.

3.3.3 Test Result

The EUT operates at hopping-off test mode. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions.

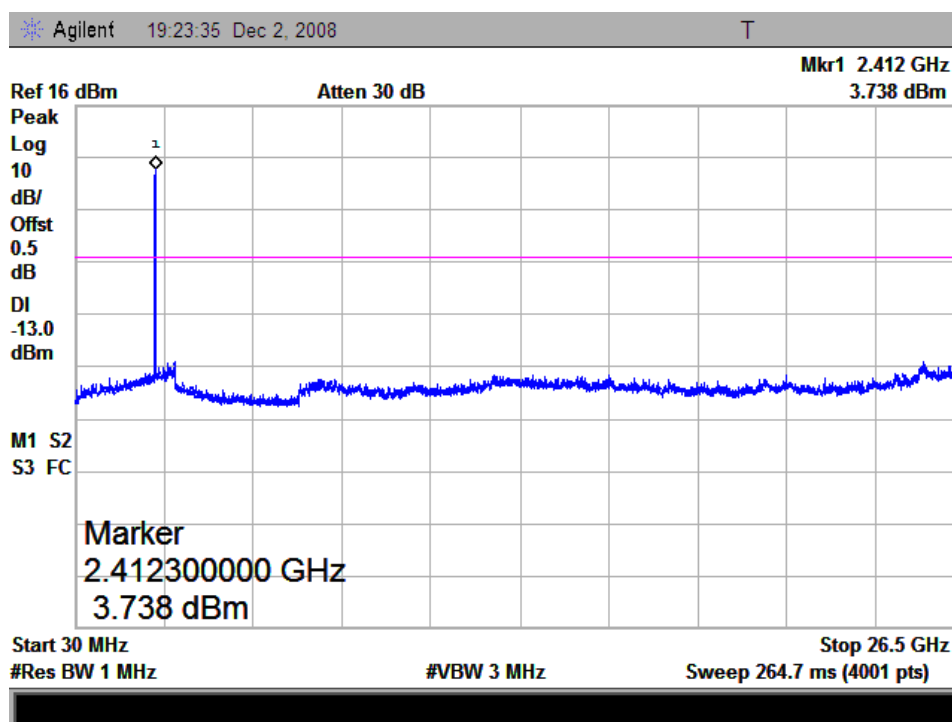
3.3.3.1 8011.b Test mode

A. Test Verdict:

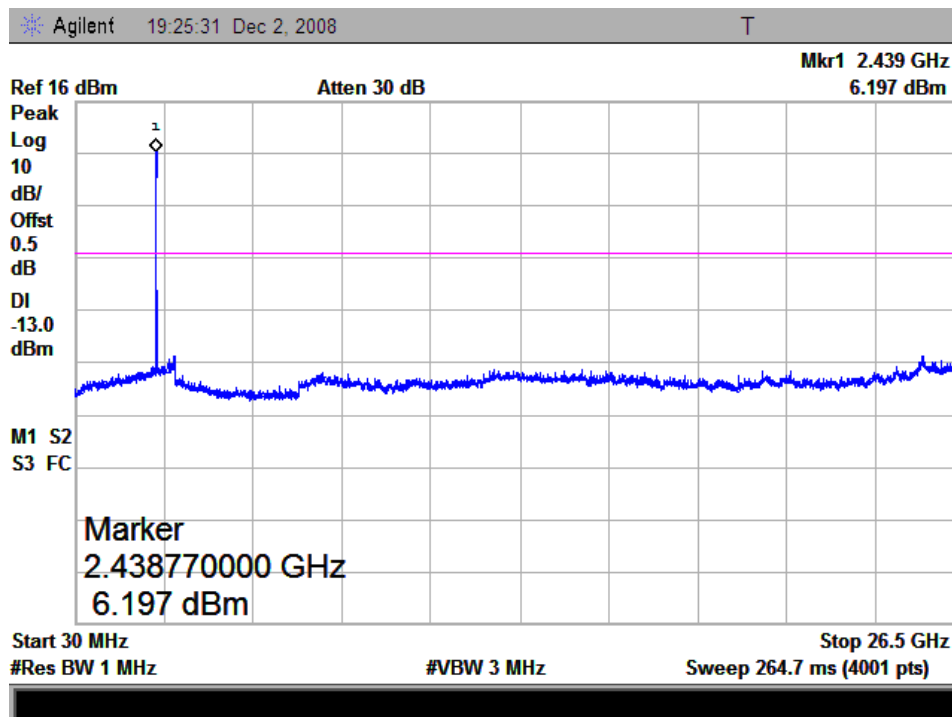
Channel	Frequency (MHz)	Measured Out of Band Emission (dBm)	Max. Band	Refer to Plot	Limit (dBm)		Verdict
					Carrier Level	Calculated -20dBc Limit	
1	2412	<-13		Plot A.1/A.2	8.122	-11.78	PASS
7	2442	<-13		Plot B.1/B.2	9.555	-10.45	PASS
13	2472	<-13		Plot C.1/C.2	10.03	-10	PASS

B. Test Plot:

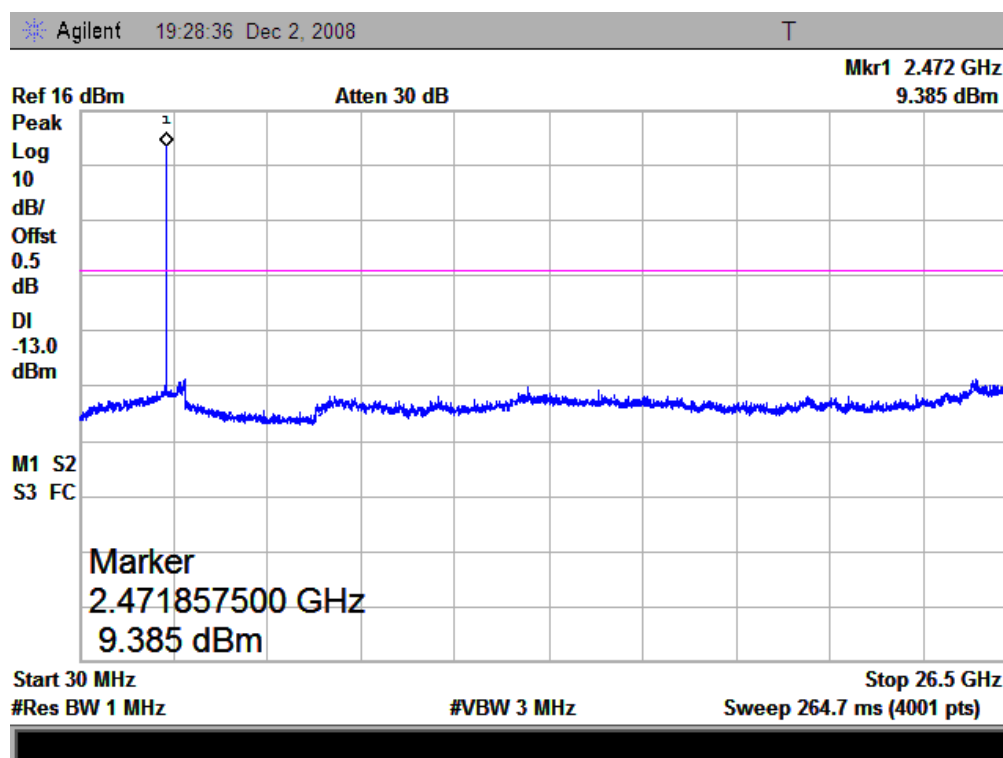
Note: the power of the Module transmitting frequency should be ignored.



(Plot A.1: Channel = 1, 30MHz to 25GHz)



(Plot B.1: Channel = 7, 30MHz to 25GHz)



(Plot C.1: Channel = 13, 30MHz to 3GHz)

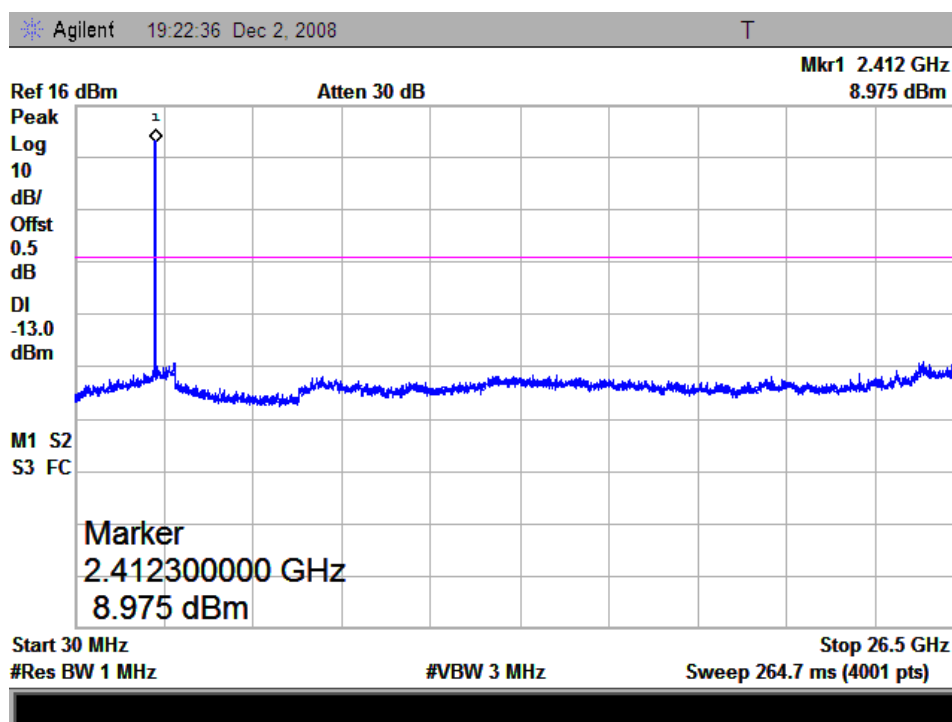
3.3.3.2 8011.g Test mode

C. Test Verdict:

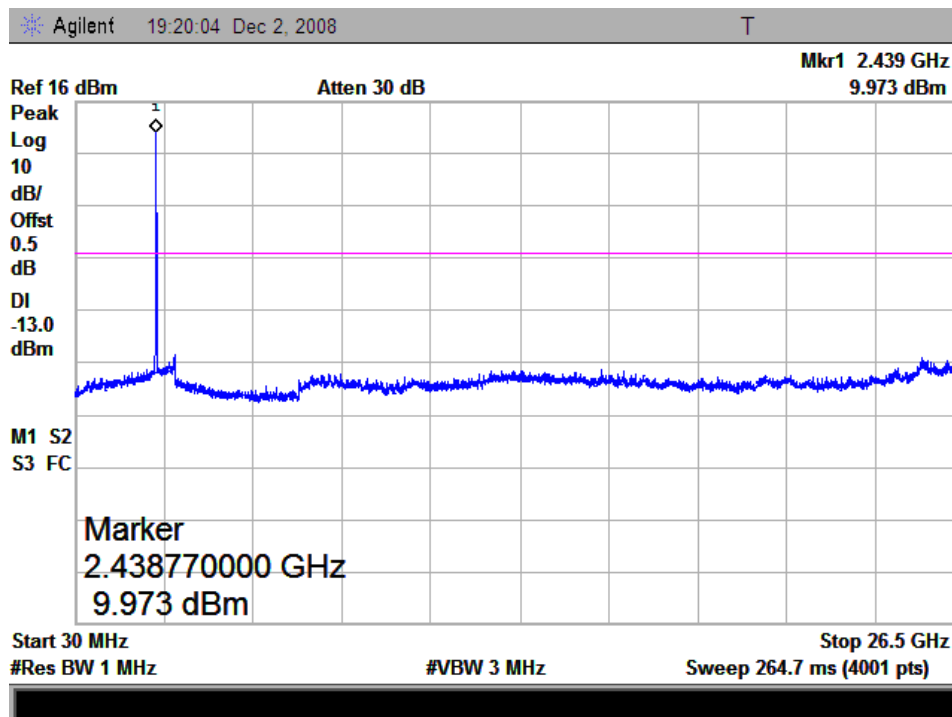
Channel	Frequency (MHz)	Measured Out of Band Emission (dBm)	Max. Band	Refer to Plot	Limit (dBm)		Verdict
					Carrier Level	Calculated -20dBc Limit	
1	2412	---		Plot D.1/D.2	3.101	-16.9	PASS
7	2442	---		Plot E.1/E.2	0.664	-19.4	PASS
13	2472	---		Plot F.1/F.2	1.716	-18.3	PASS

D. Test Plot:

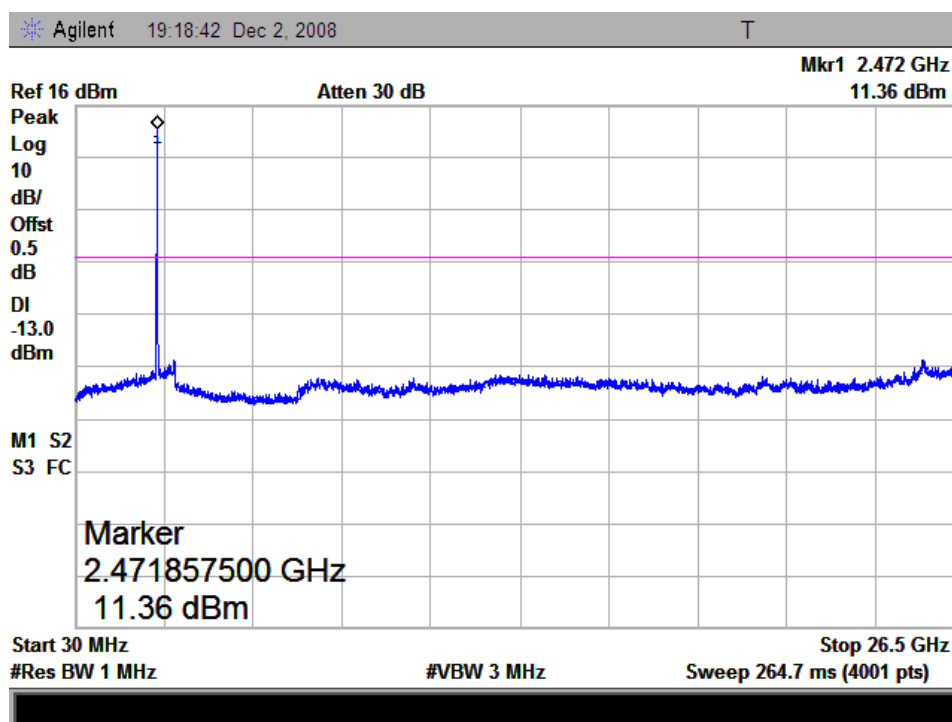
Note: the power of the Module transmitting frequency should be ignored.



(Plot D.1: Channel = 1, 30MHz to 25GHz)



(Plot E.1: Channel = 7, 30MHz to 25GHz)



(Plot F.1: Channel = 16, 30MHz to 25Gz)

3.4 Power spectral density (PSD)

3.4.1 Requirement

According to FCC section 15.247(d), the same method of determining the conducted output power shall be used to determine the power spectral density. If a peak output power is measured, then a peak power spectral density measurement is required. If an average output power is measured, then an average power spectral density measurement should be used.

3.4.2 Test Description

See section 3.1.2 of this report.

3.4.3 Test Result

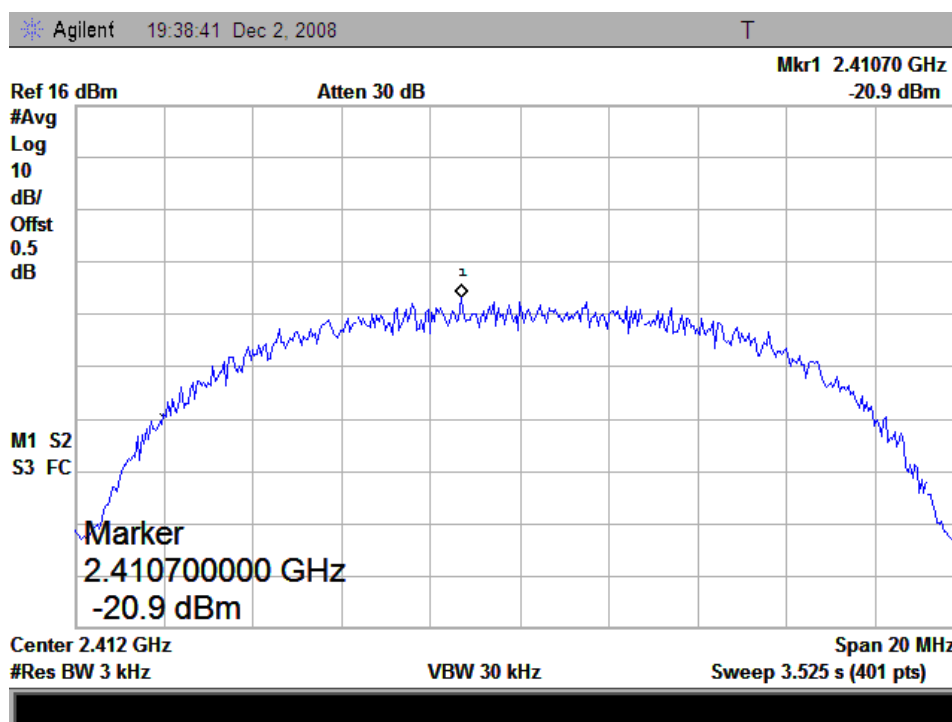
The lowest, middle and highest channels are tested to verify the band edge emissions.

3.4.3.1 8011.b Test mode

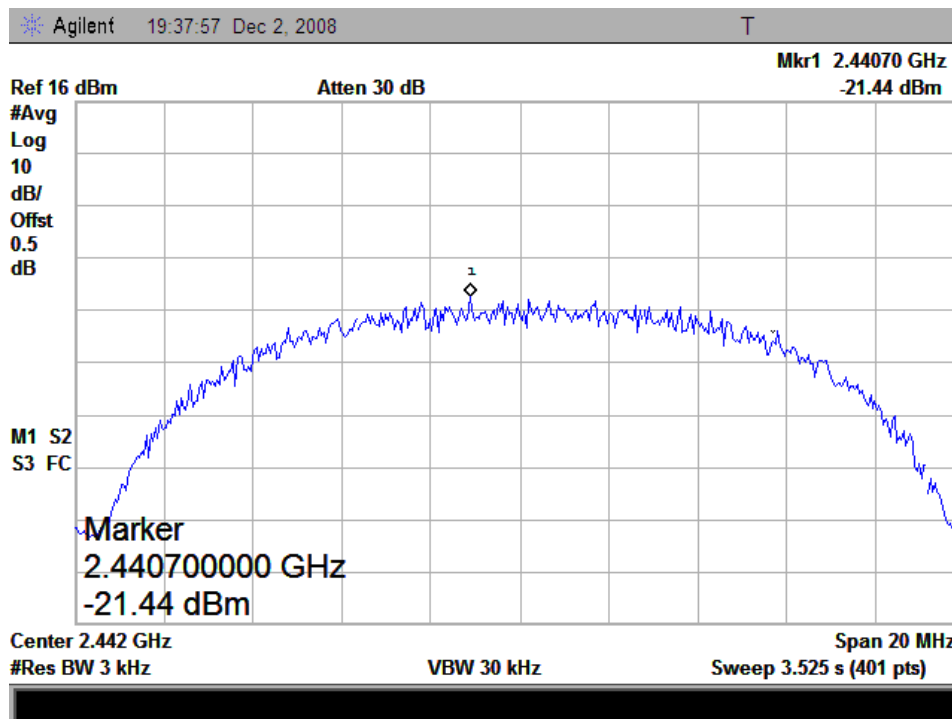
A. Test Verdict:

Spectral power density (dBm)					
Channel: 1 Frequency, 2412MHz		Channel: 7 Frequency, 2442MHz		Channel: 13 Frequency, 2472MHz	
Test Result	Test plot	Test Result	Test plot	Test Result	Test plot
-20.9	Plot A	-21.44	Plot B	-19.29	Plot C
Measurement uncertainty: $\pm 1.3\text{dB}$					

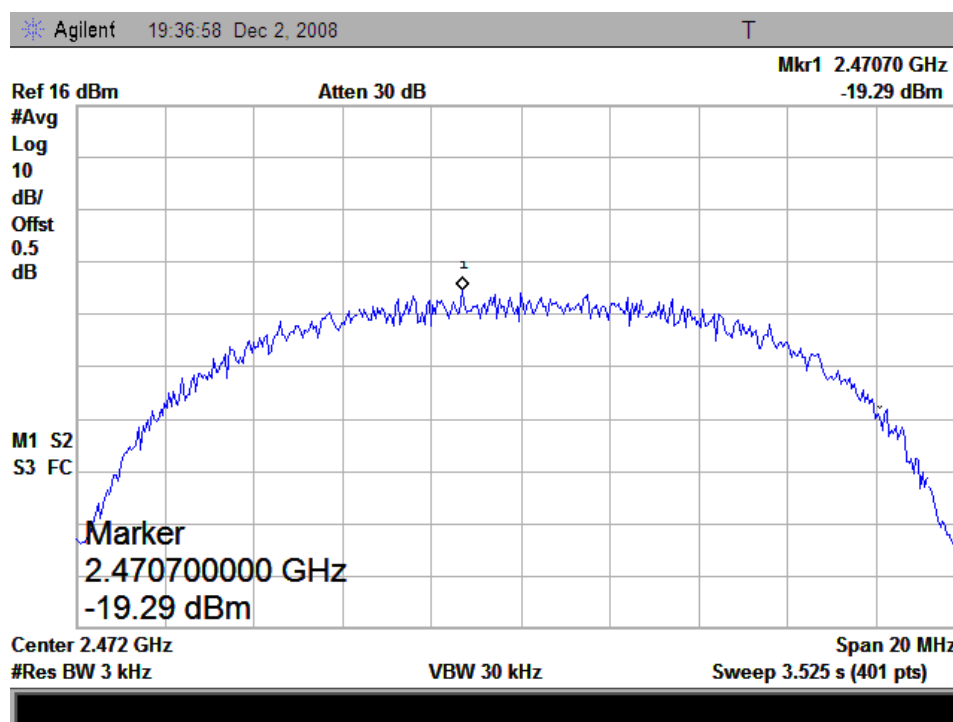
Test Plot:



(Plot A: Channel = 1)



(Plot B: Channel = 7)



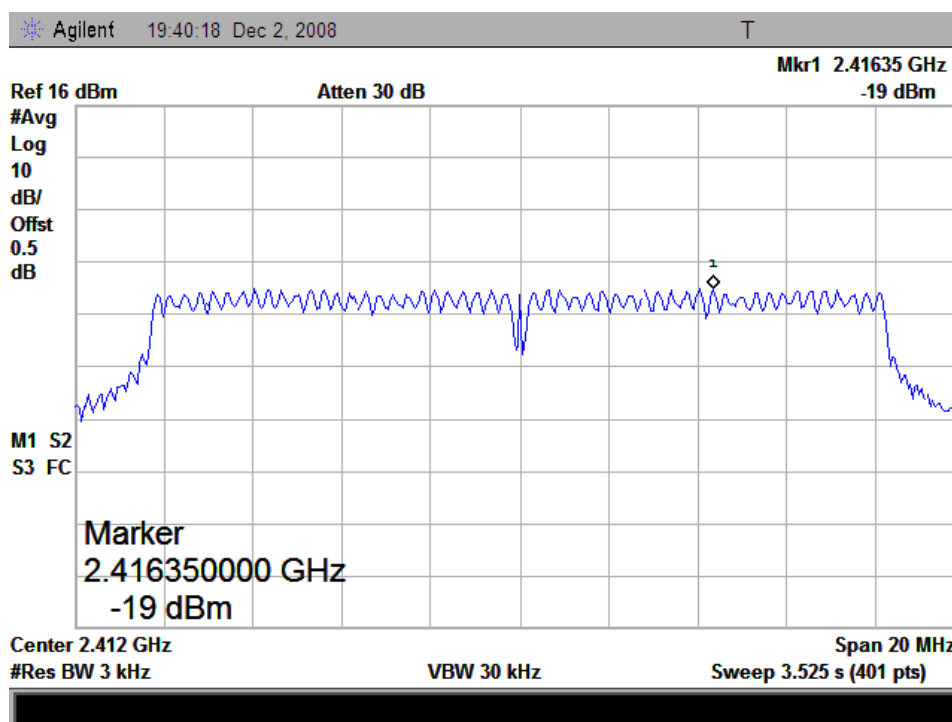
(Plot C: Channel = 13)

3.4.3.2 8011.g Test mode

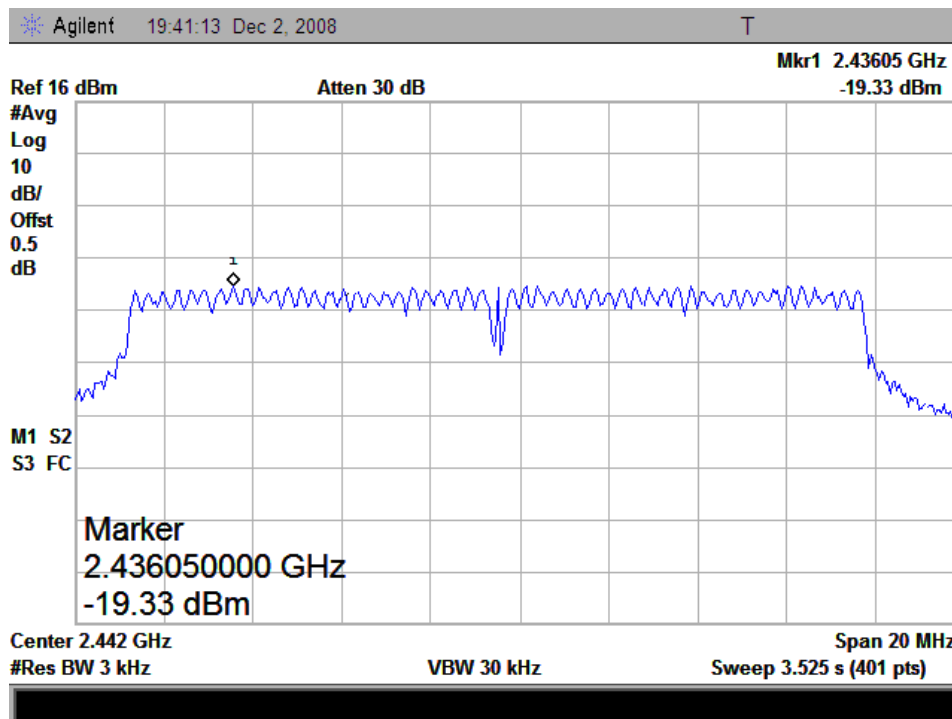
B. Test Verdict:

Spectral power density (dBm)					
Channel: 1		Channel: 7		Channel: 13	
Frequency, 2412MHz		Frequency, 2442MHz		Frequency, 2472MHz	
Test Result	Test plot	Test Result	Test plot	Test Result	Test plot
-19.0	Plot D	-19.33	Plot E	-18.97	Plot F
Measurement uncertainty: ± 1.3 dB					

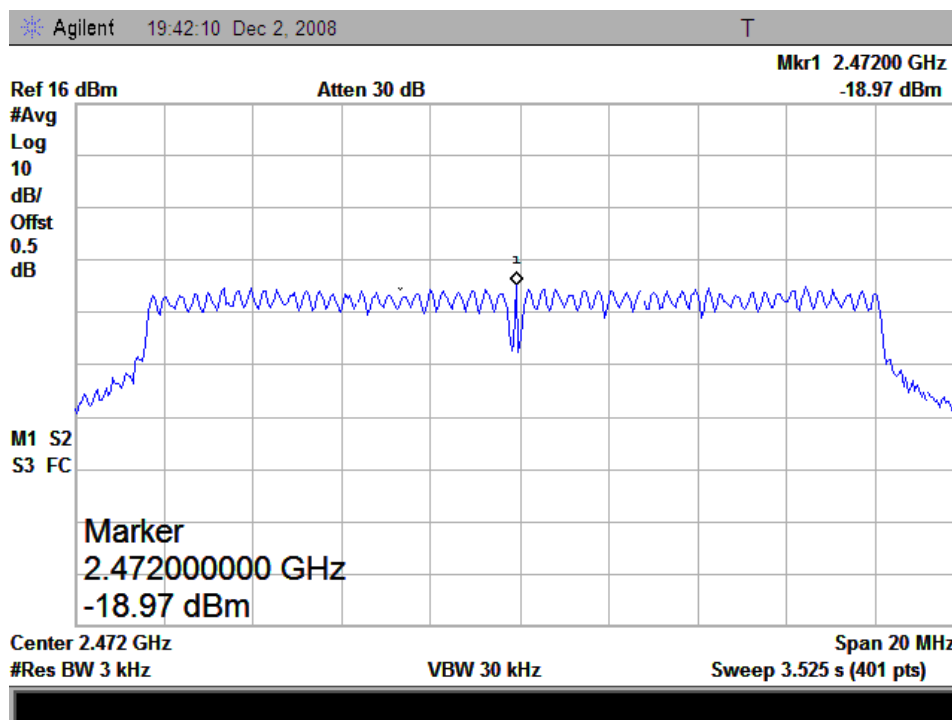
Test Plot:



(Plot D: Channel = 1)



(Plot E: Channel = 7)



(Plot F: Channel = 13)

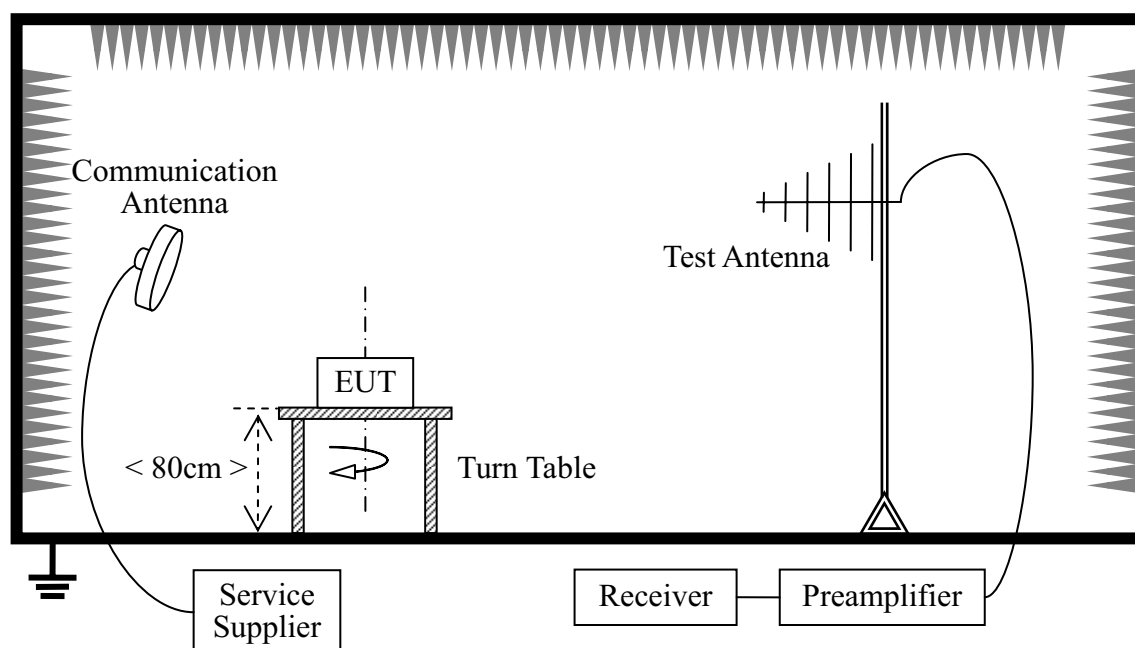
3.5 Band Edge

3.5.1 Requirement

According to FCC section 15.247(c), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.5.2 Test Description

A. Test Setup



The Module of the EUT is powered by the Battery charged with the AC Adapter. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength..

C. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
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Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	R&S	CMU200	100448	2008.9	1year
Receiver	Agilent	E7405A	US44210471	2008.9	1year
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2008.8	2year
Test Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2008.8	1year

3.5.3 Test Result

The EUT operates at hopping-off test mode. The lowest and highest channels are tested to verify the band edge emissions.

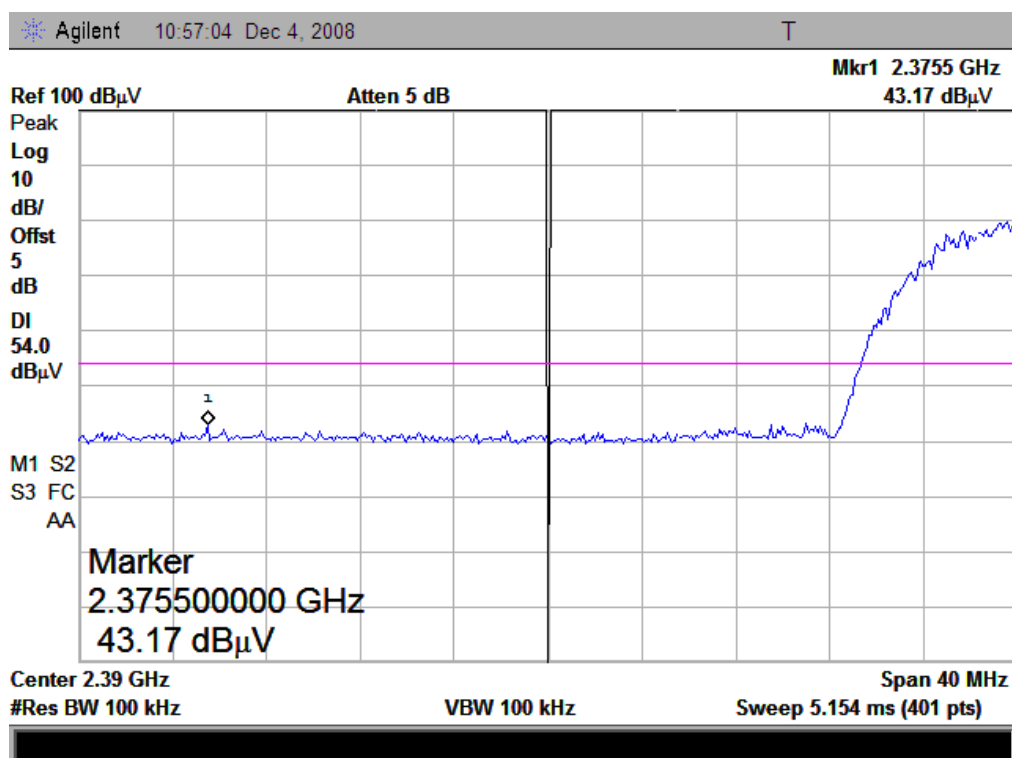
3.5.3.1 8011.b Test mode

The lowest and highest channels are tested to verify the band edge emissions.

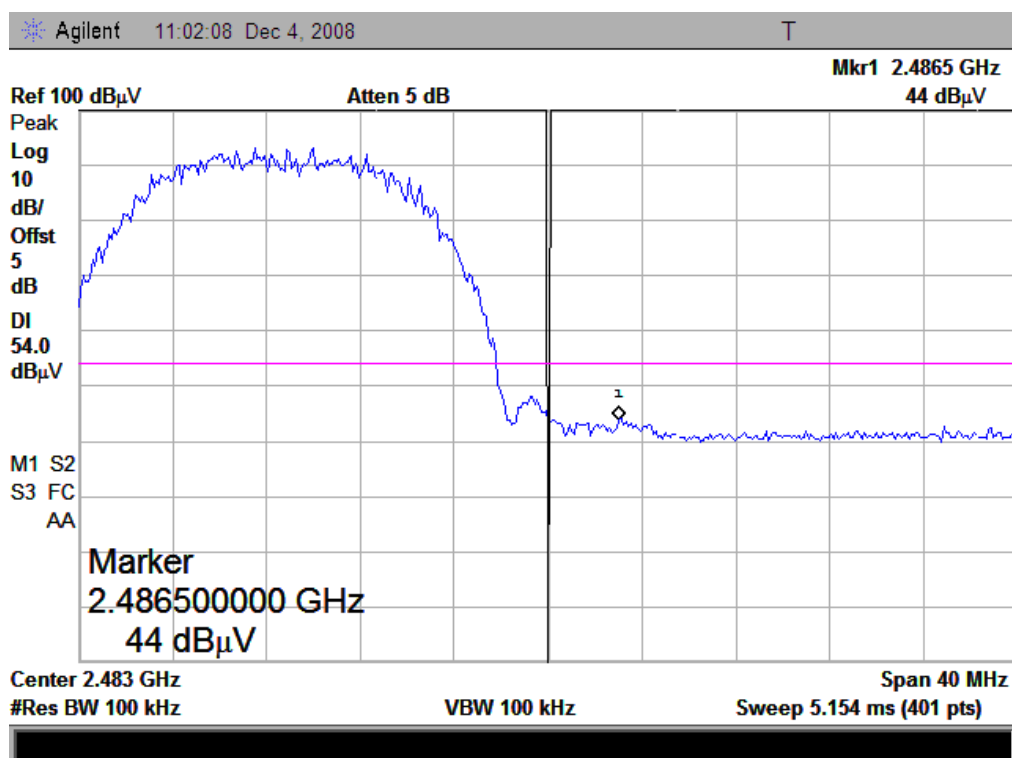
A. Test Verdict:.

Channel	Frequency (MHz)	Max. Emission in the Restricted Bands (dB μ V/m)		Limit (dB μ V/m)		Verdict
		PK	AV	PK	AV	
1	2402	43.17	--	74	54	PASS
13	2480	44.00	--	74	54	PASS

B. Test Plot:



(Plot A1: Channel = 1 PEAK)



(Plot A2: Channel = 2 PEAK)

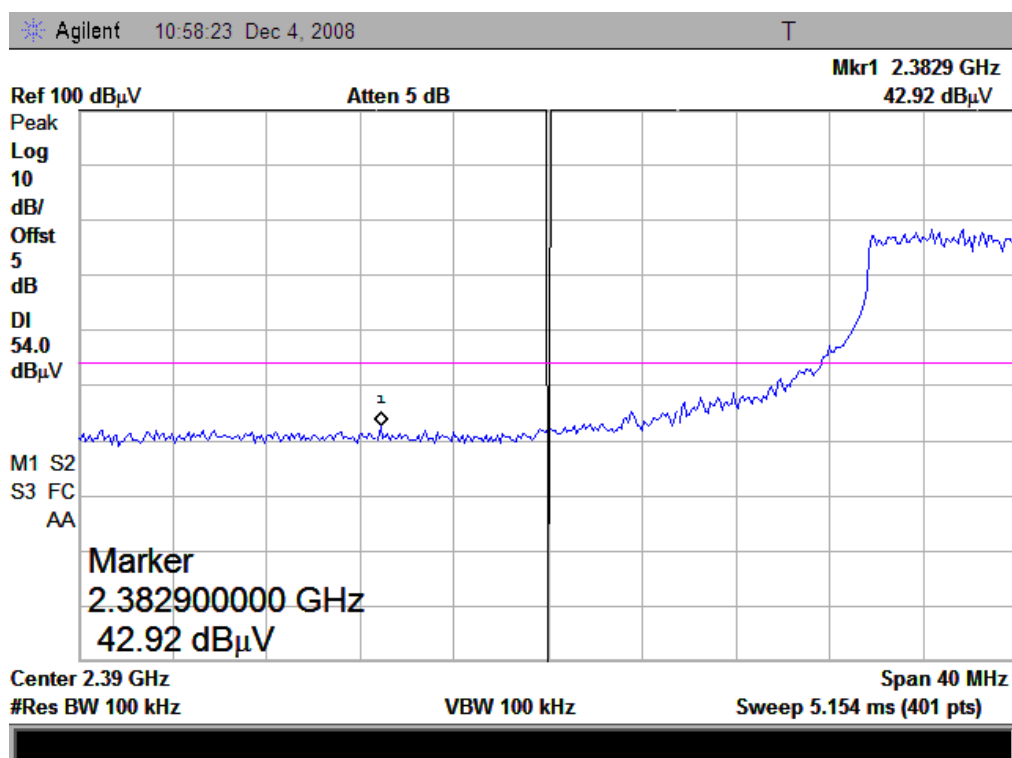
3.5.3.2 8011.g Test mode

The lowest and highest channels are tested to verify the band edge emissions.

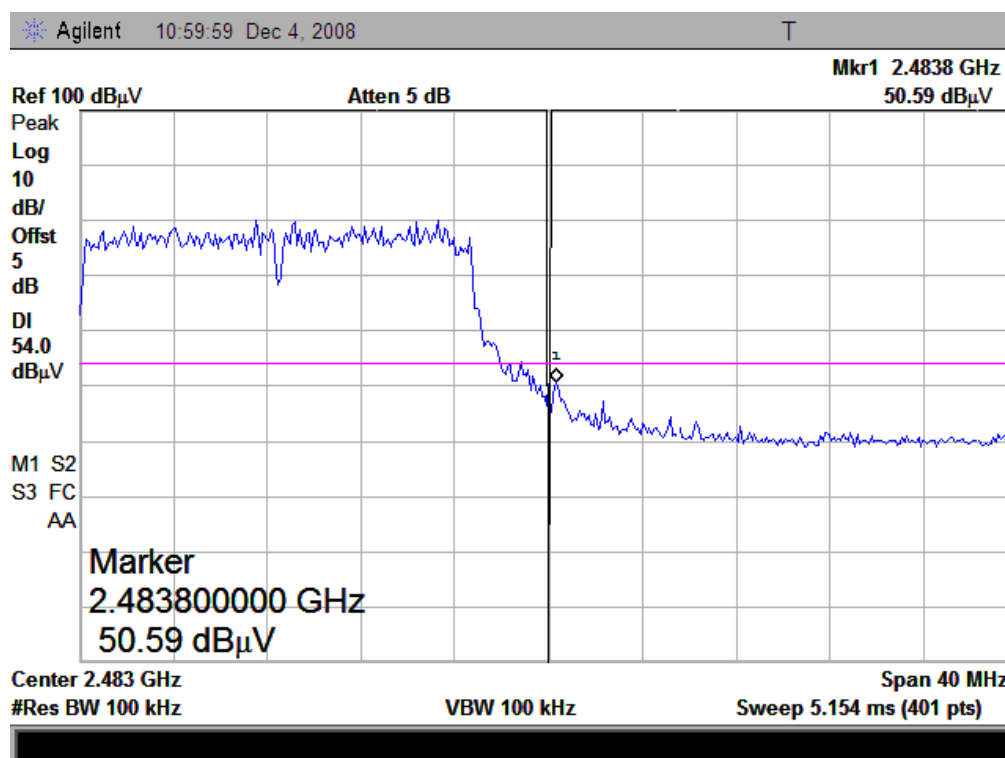
C. Test Verdict:.

Channel	Frequency (MHz)	Max. Emission in the Restricted Bands (dB μ V/m)		Limit (dB μ V/m)		Verdict
		PK	AV	PK	AV	
11	2402	42.92	--	74	54	PASS
26	2480	50.59	--	74	54	PASS

D. Test Plot:



(Plot A1: Channel = 1 PEAK)



(Plot A2: Channel = 2 PEAK)

3.6 Conducted Emission

3.6.1 Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

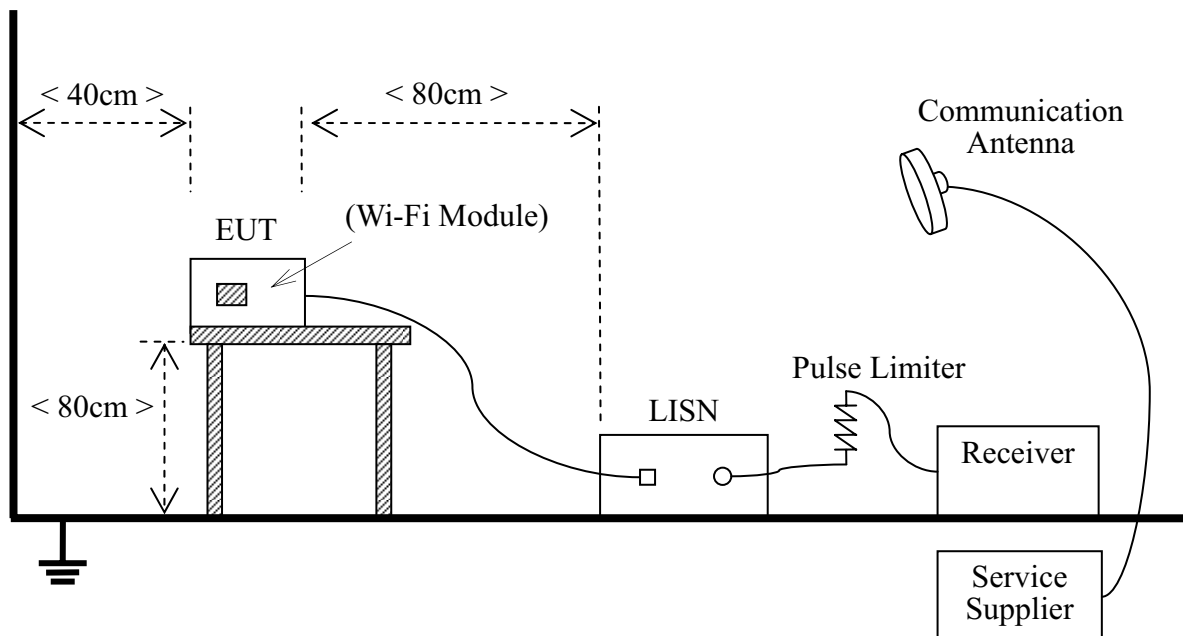
Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.6.2 Test Description

A. Test Setup:



The EUT of the EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The factors of the site are calibrated to correct the reading. During the measurement, the EUT is activated and controlled by the Wi-Fi Service Supplier (SS) via a Common

Antenna, and is set to operate under hopping-on test mode transmitting 339 bytes DH5 packages at maximum power.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2008.07	1year
LISN	Schwarzbeck	NSLK 8127	812744	2008.08	1year
Service Supplier	R&S	CMU200	100448	2007.10	1year
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)

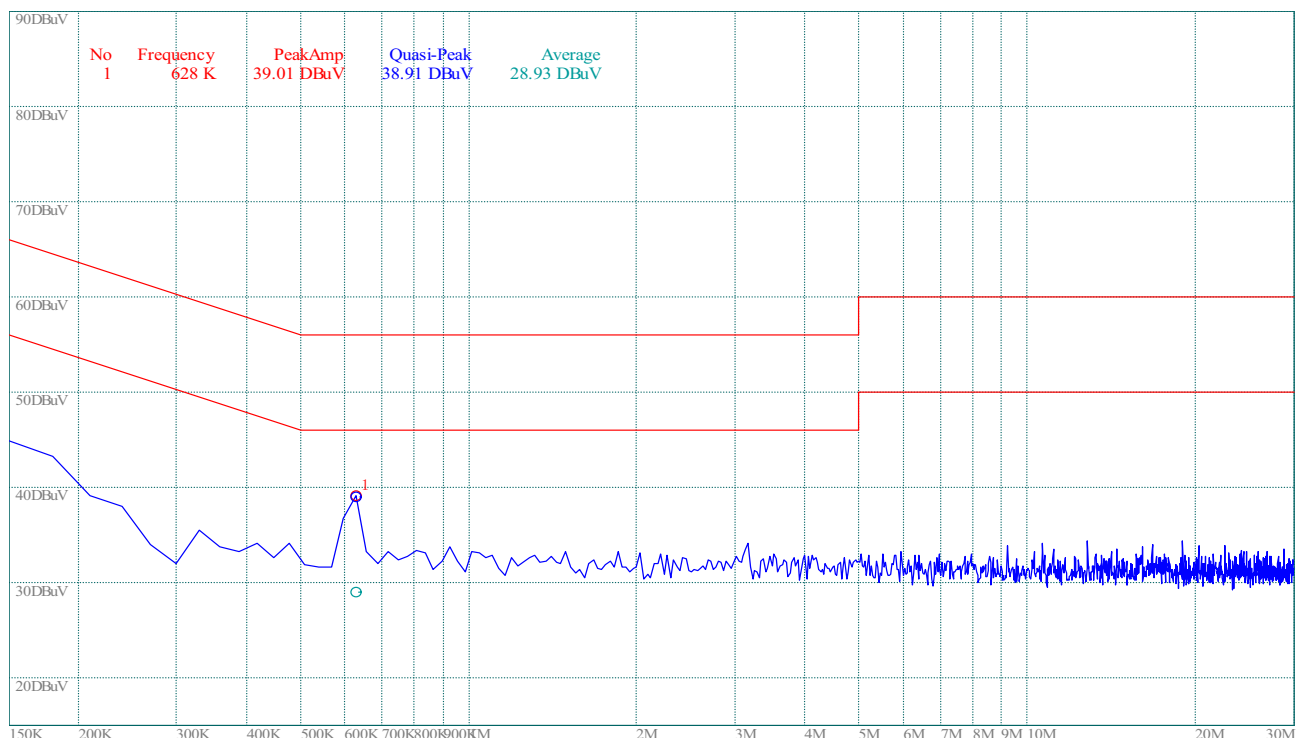
3.6.3 Test Result

The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

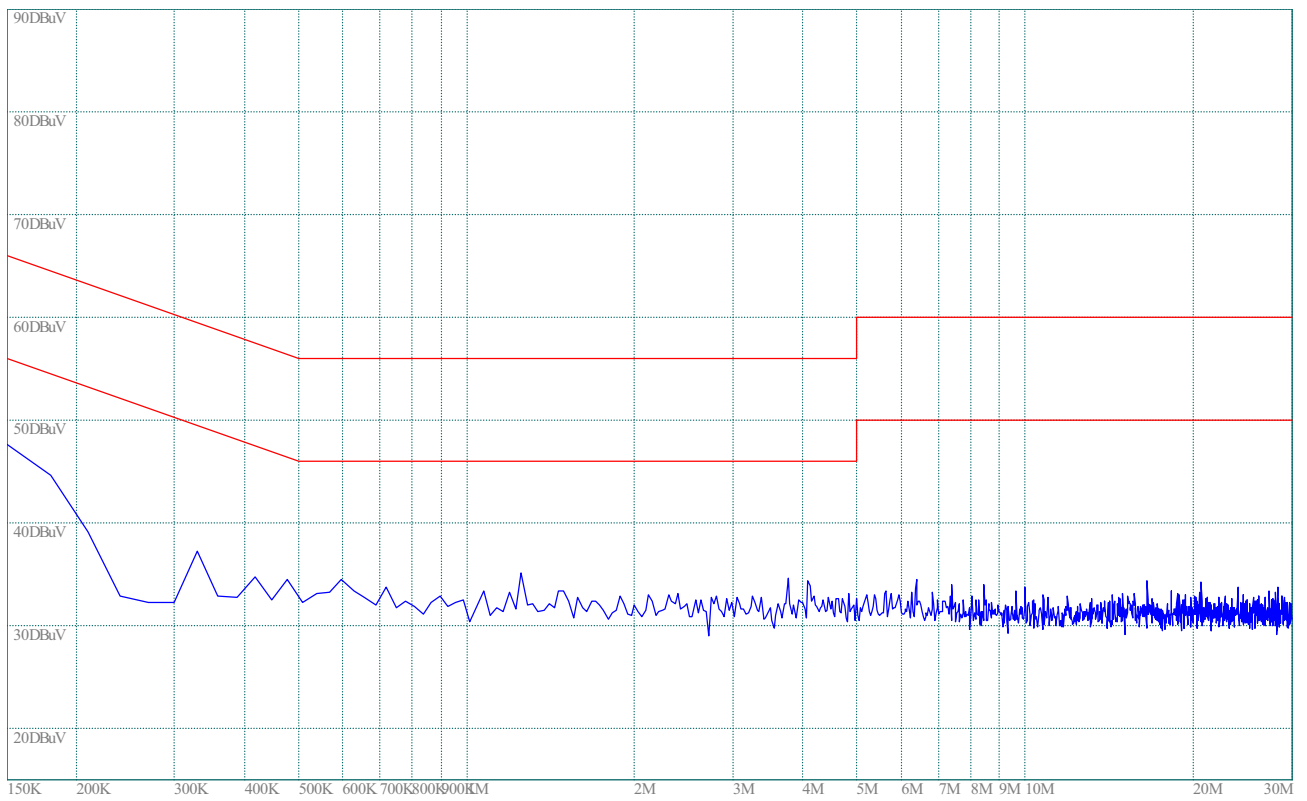
3.6.3.1 Test mode (WI-FI)

A. Test setup: The EUT configuration of the emission tests is EUT + SD Card + Charger + Wireless Router.

B. Test Plot:



(Plot A: L Phase)



(Plot B: N Phase)

3.7 Radiated Emission

3.7.1 Requirement

According to FCC section 15.247(c), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

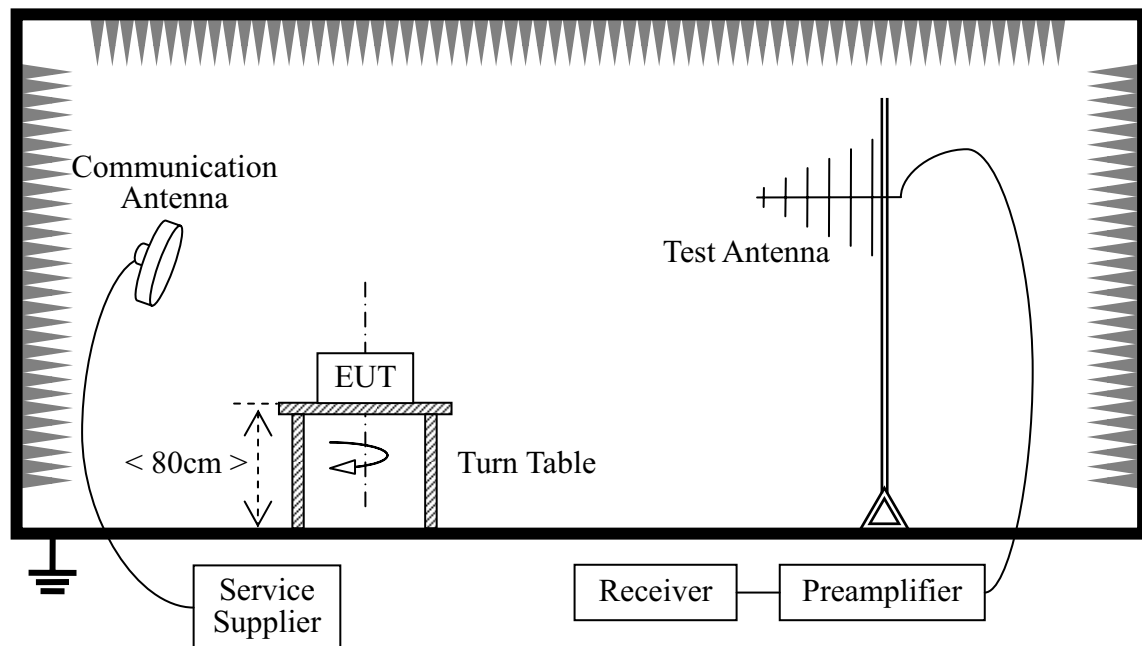
According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

3.7.2 Test Description

A. Test Setup:



The EUT of the EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading. During the measurement, the EUT is activated and controlled by the Wireless Router via a Common Antenna, and is set to operate under hopping-on test mode.

For the Test Antenna:

- In the frequency range of 9kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	R&S	CMU200	100448	2008.10	1year
Receiver	Agilent	E7405A	US44210471	2008.07	1year
Semi-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2008.08	2year
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2008.07	1year
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2008.07	1year

3.7.3 Test Result

3.7.3.1 8011.b Test mode

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors.

A. Test Verdict for Harmonics:

The Fundamental Emissions

The field strength of {Fundamental Emission} listed below is recorded, and used in the next table.

Channel	Frequency (MHz)	Fundamental Emission (dB μ V/m)		Antenna Polarization	Refer to Plot
		PK	AV		
1	2412	91.6	84.7	Horizontal	Plot A.3
		88.9	84.3	Vertical	Plot A.5
7	2442	89.0	82.5	Horizontal	Plot B.3
		93.1	85.5	Vertical	Plot B.5
13	2472	82.3	74.8	Horizontal	Plot C.3
		89.4	81.9	Vertical	Plot C.5

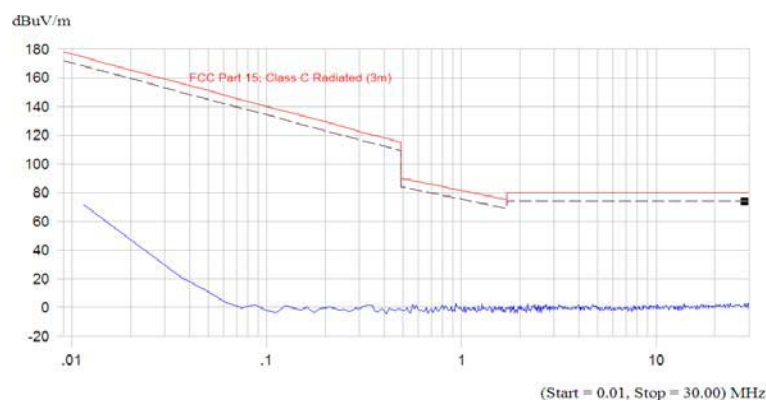
The Radiated Emissions Fall in the Restricted Bands

Channel	Frequency (MHz)	Antenna Polarization	Max. Emission in the Restricted Bands (dB μ V/m)		Limit (dB μ V/m)		Verdict
			PK	AV	PK	AV	
1	2412	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS
7	2442	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS
13	2472	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS

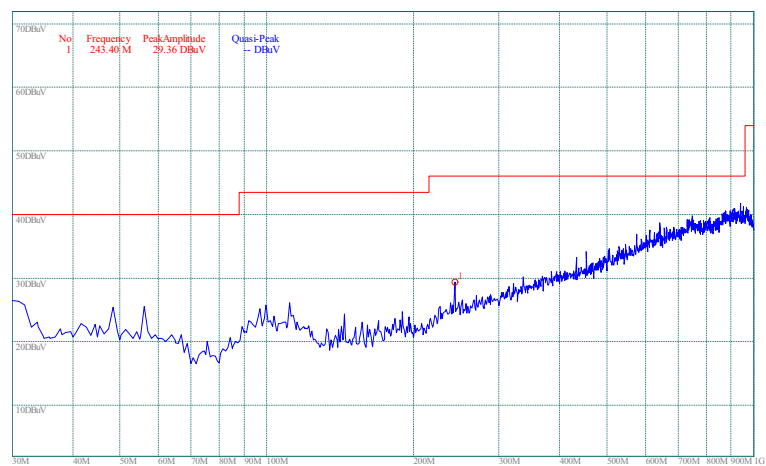
Also refer to following plots for the emissions falling in the restricted bands.

B. Test Plot for the Whole Measurement Frequency Range:

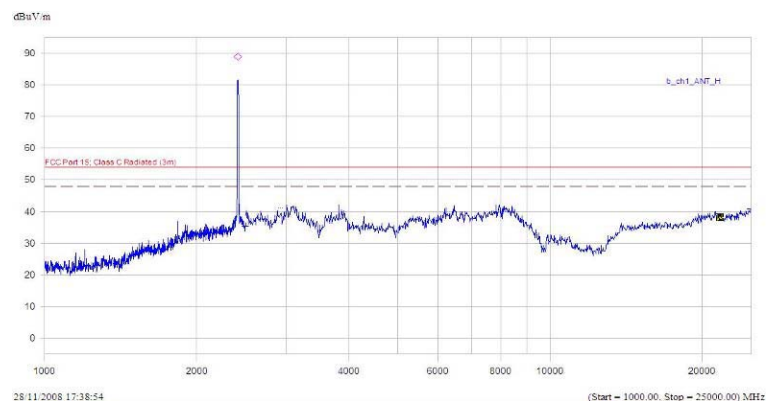
Plots for Channel = 1



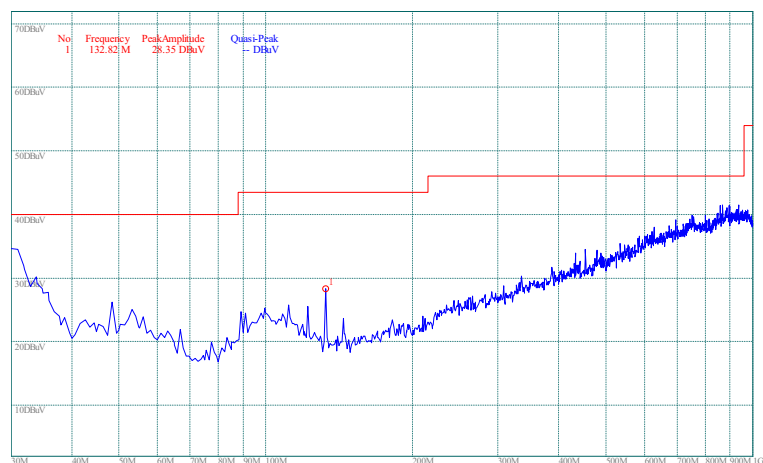
(Plot A.1: 9kHz to 30MHz)



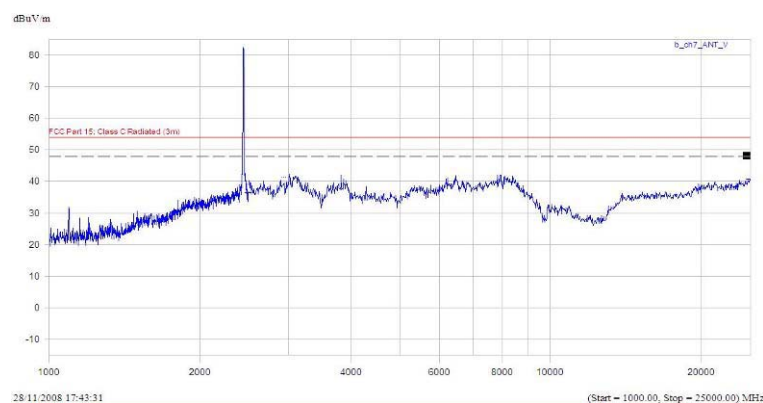
(Plot A.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot A.3: Antenna Horizontal, 1GHz to 25GHz)

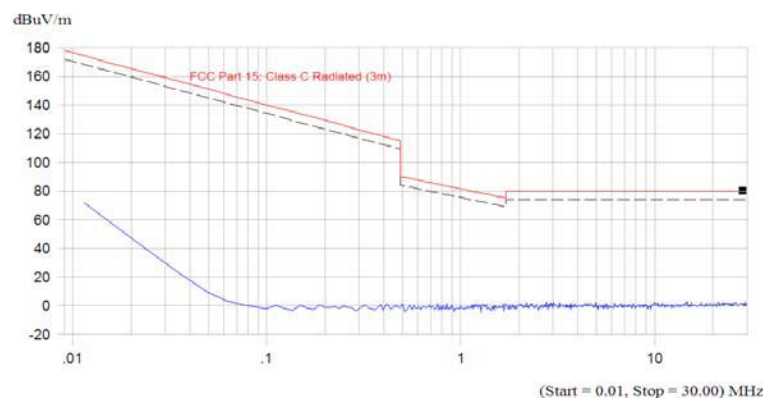


(Plot A.4: Antenna Vertical, 30MHz to 1GHz)

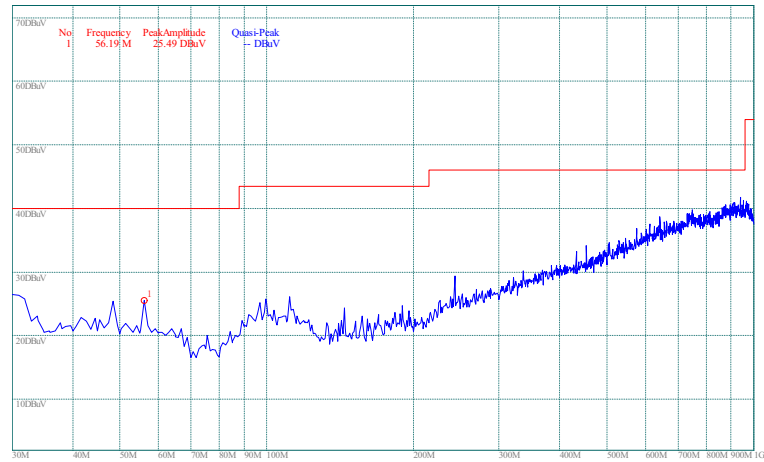


(Plot A.5: Antenna Vertical, 1GHz to 25GHz)

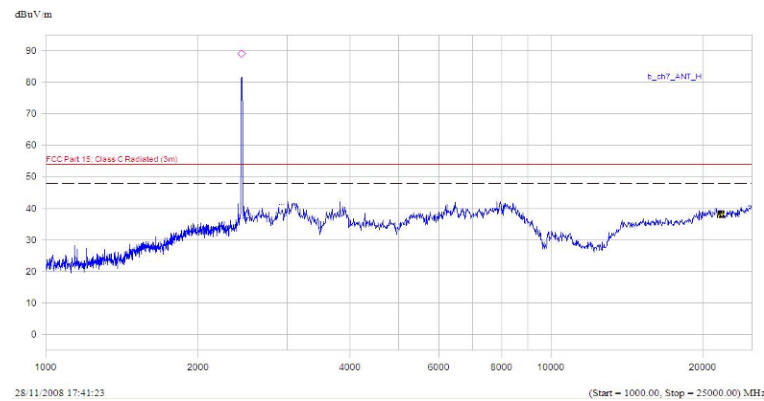
Plot for Channel = 7



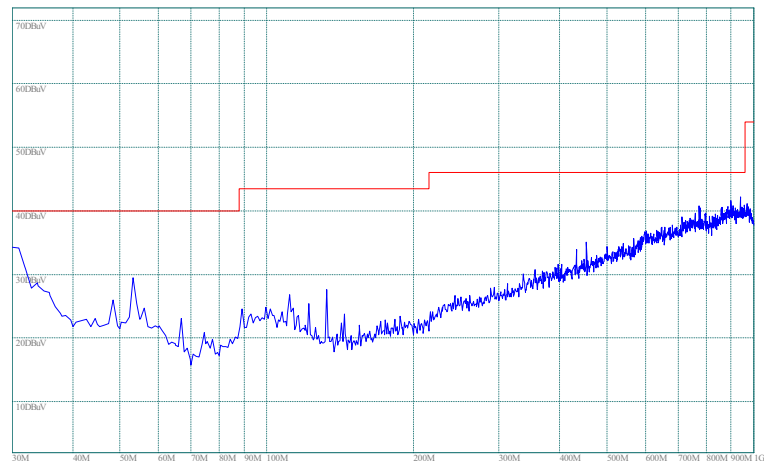
(Plot B.1: 9kHz to 30MHz)



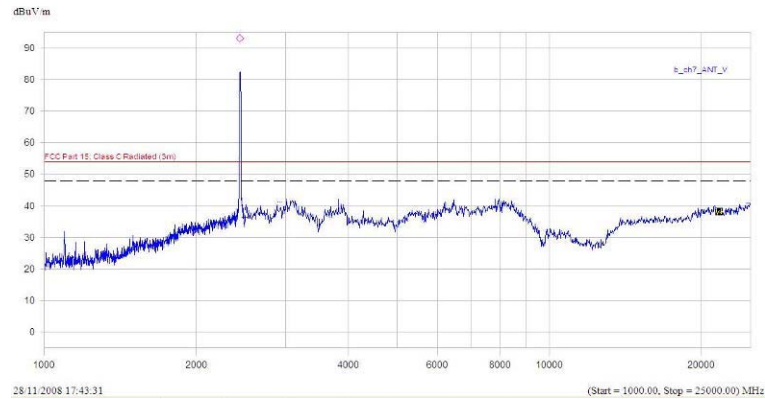
(Plot B.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot B.3: Antenna Horizontal, 1GHz to 25GHz)

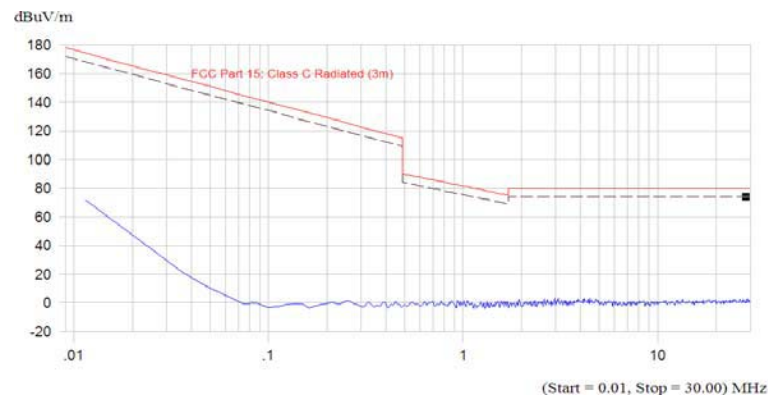


(Plot B.4: Antenna Vertical, 30MHz to 1GHz)

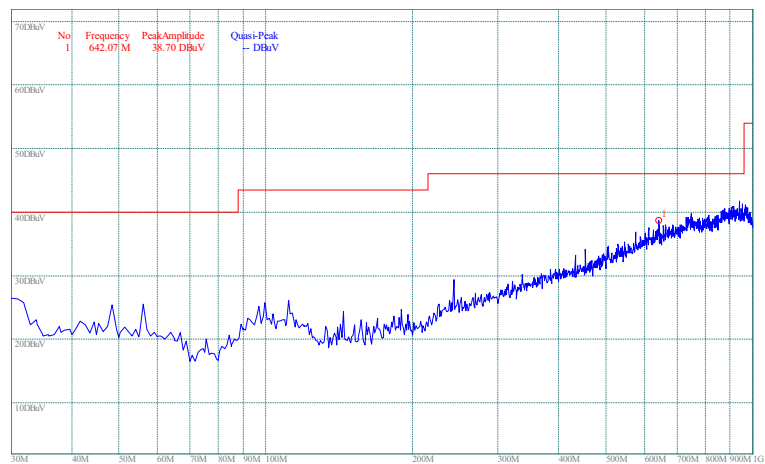


(Plot B.5: Antenna Vertical, 1GHz to 25GHz)

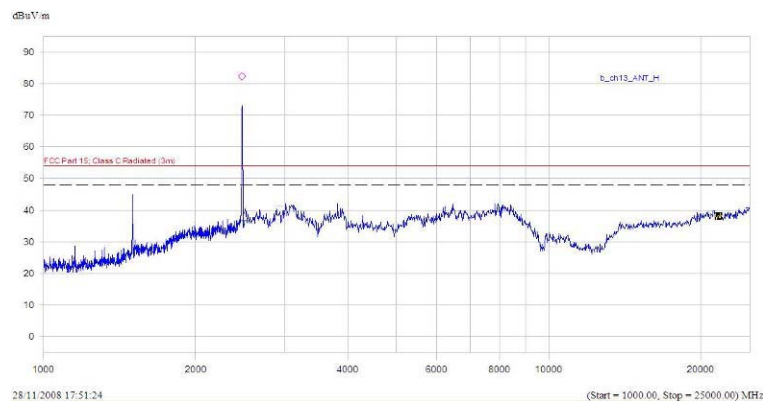
Plot for Channel = 13



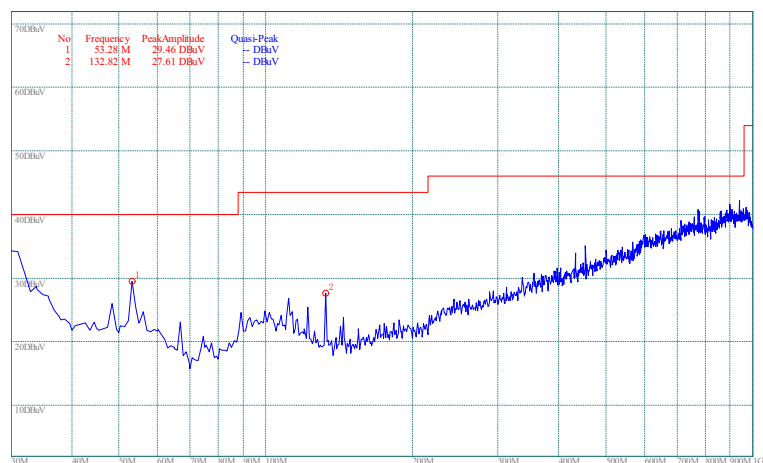
(Plot C.1: 9kHz to 30MHz)



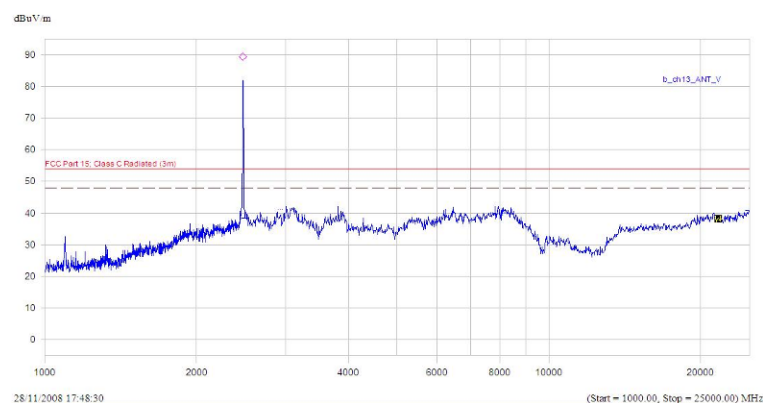
(Plot C.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot C.3: Antenna Horizontal, 1GHz to 25GHz)



(Plot C.6: Antenna Vertical, 30MHz to 1GHz)



(Plot C.7: Antenna Vertical, 1GHz to 25GHz)

3.7.3.2 8011.g Test mode

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors.

C. Test Verdict for Harmonics:

The Fundamental Emissions

The field strength of {Fundamental Emission} listed below is recorded, and used in the next table.

Channel	Frequency (MHz)	Fundamental Emission (dB μ V/m)		Antenna Polarization	Refer to Plot
		PK	AV		
1	2412	86.3	76.2	Horizontal	Plot A.3
		89.8	79.6	Vertical	Plot A.5
7	2442	90.4	80.7	Horizontal	Plot B.3
		92.1	83.0	Vertical	Plot B.5
16	2472	90.9	79.5	Horizontal	Plot C.3
		89.9	79.9	Vertical	Plot C.5

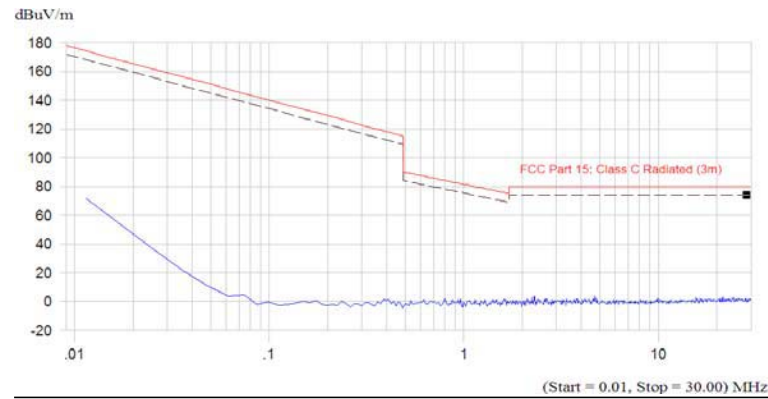
The Radiated Emissions Fall in the Restricted Bands

Channel	Frequency (MHz)	Antenna Polarization	Max. Emission in the Restricted Bands (dB μ V/m)		Limit (dB μ V/m)		Verdict
			PK	AV	PK	AV	
1	2412	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS
7	2442	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS
16	2472	Vertical	---	---	74	54	PASS
		Horizontal	---	---	74	54	PASS

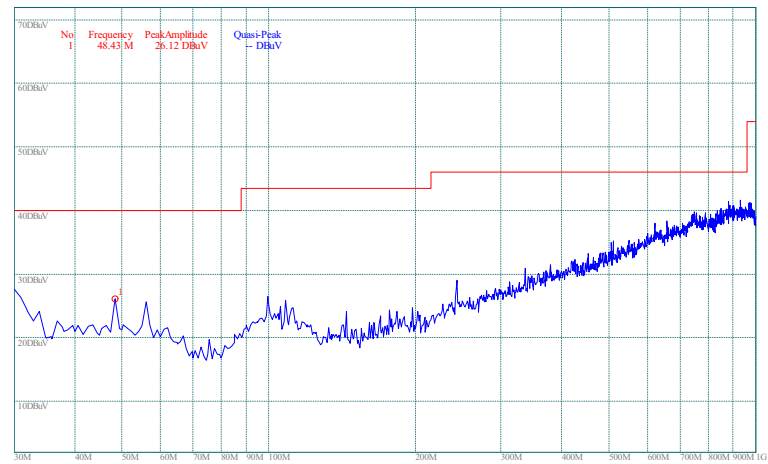
Also refer to following plots for the emissions falling in the restricted bands.

D. Test Plot for the Whole Measurement Frequency Range:

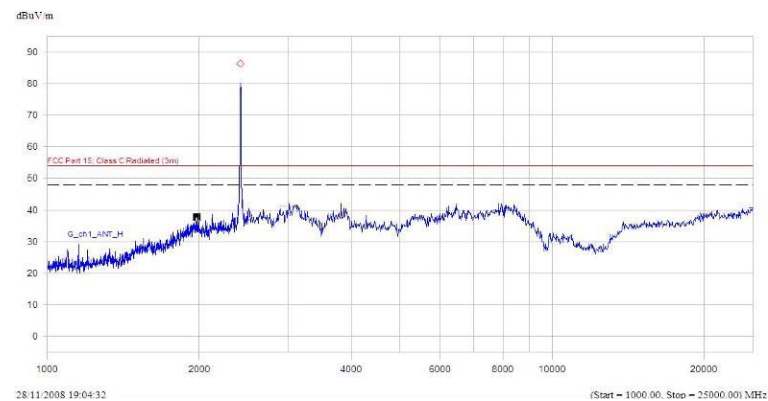
Plots for Channel = 1



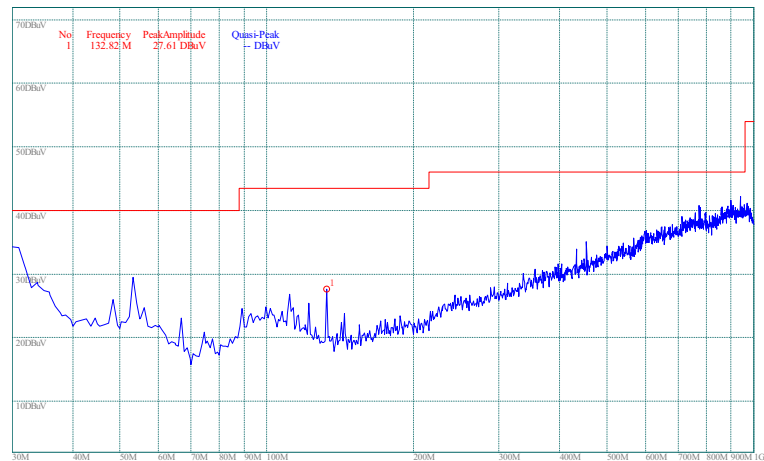
(Plot A.1: 9kHz to 30MHz)



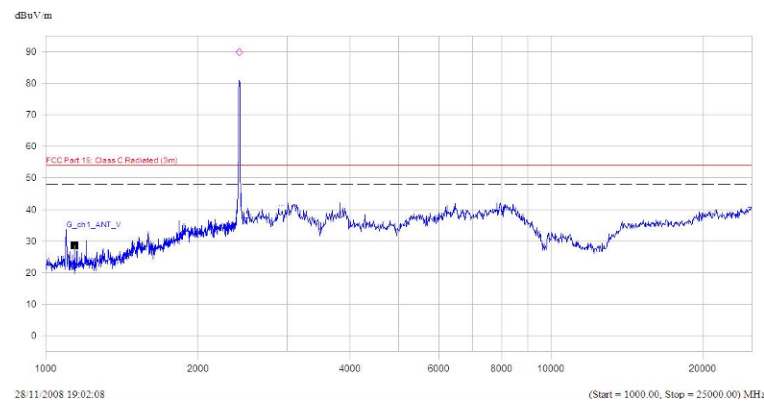
(Plot A.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot A.3: Antenna Horizontal, 1GHz to 25GHz)

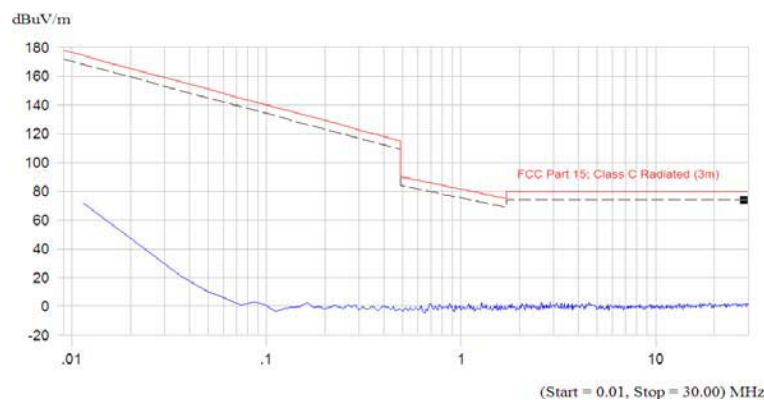


(Plot A.4: Antenna Vertical, 30MHz to 1GHz)

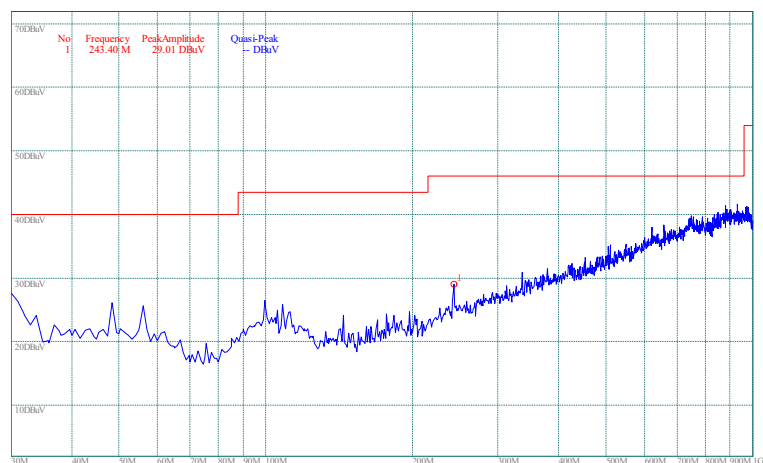


(Plot A.5: Antenna Vertical, 1GHz to 25GHz)

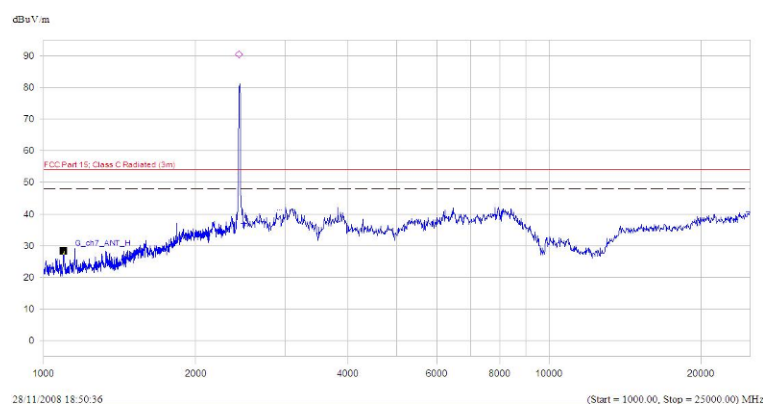
Plot for Channel = 7



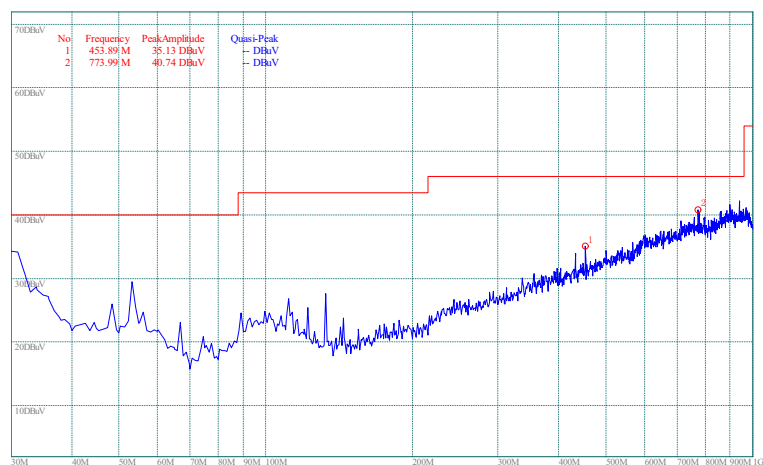
(Plot B.1: 9kHz to 30MHz)



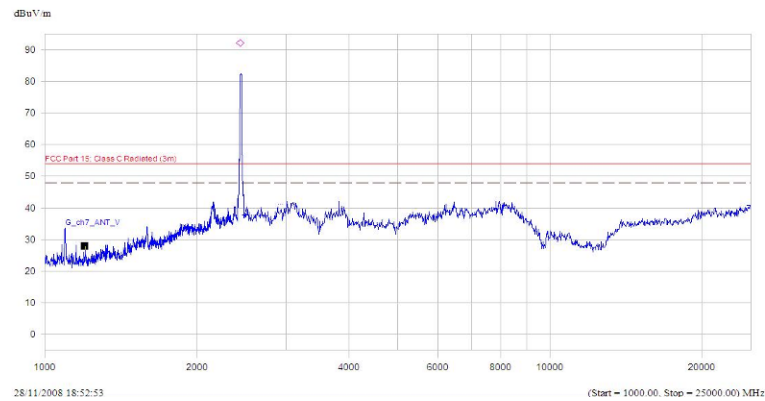
(Plot B.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot B.3: Antenna Horizontal, 1GHz to 25GHz)

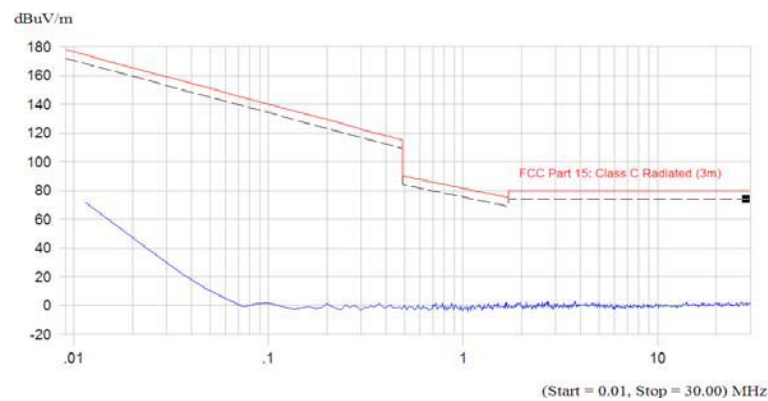


(Plot B.4: Antenna Vertical, 30MHz to 1GHz)

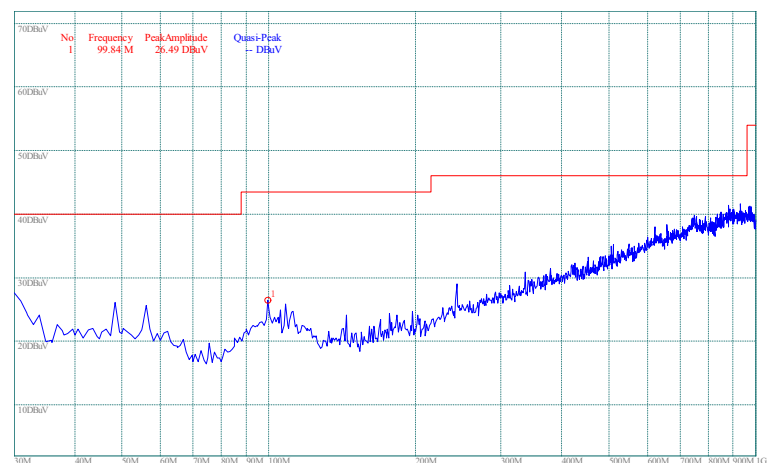


(Plot B.5: Antenna Vertical, 1GHz to 25GHz)

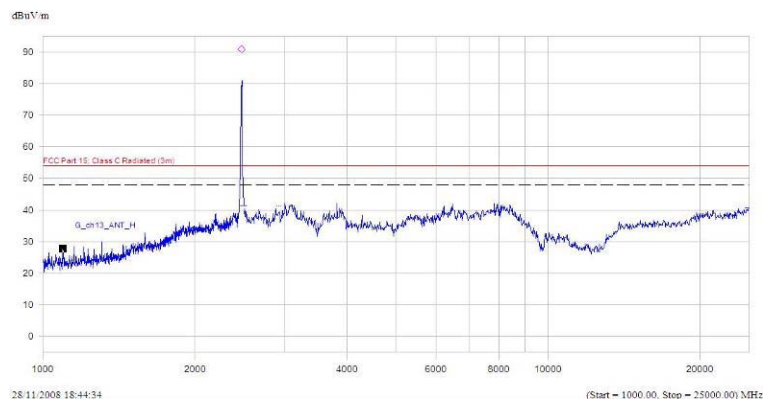
Plot for Channel = 13



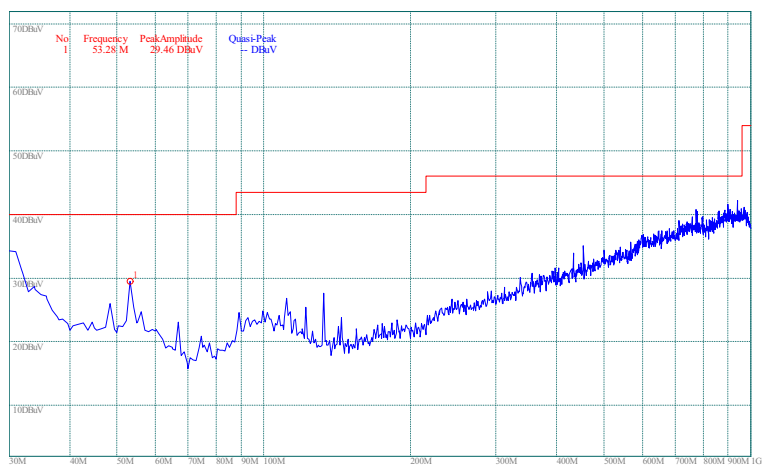
(Plot C.1: 9kHz to 30MHz)



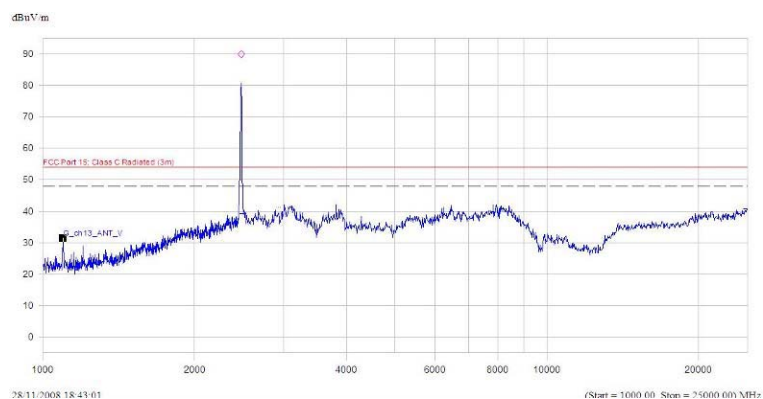
(Plot C.2: Antenna Horizontal, 30MHz to 1GHz)



(Plot C.3: Antenna Horizontal, 1GHz to 25GHz)



(Plot C.6: Antenna Vertical, 30MHz to 1GHz)



(Plot C.7: Antenna Vertical, 1GHz to 25GHz)

**** END OF REPORT ****