TEST REPORT

Applicant:	HuiKe Electronics(shenzhen)Co.,Ltd
Address of Applicant:	HuiKe industrial park,minying industrial park,Shuitian country,Shiyan,Ba District,Shenzhen,P.R.China
Manufacturer:	HuiKe Electronics(shenzhen)Co.,Ltd
Address of Manufacturer:	HuiKe industrial park,minying industrial park,Shuitian country,Shiyan,Ba District,Shenzhen,P.R.China
Product name:	Mobile internet device
Model:	See page 2
Rating(s):	AC 100-240V, 50/60Hz (For Adaptor) DC 5V 2A (For main)
Trademark:	HKC, ODYS, ASTONE
FCC register number：	935596
Standards:	FCC Part 15.247 ANSI C63.4 : 2003
FCC ID:	ZFN120701
Data of Receipt:	2012-02-20
Date of Test:	2012-03-01~2012-03-06
Date of Issue:	2012-03-07
Test Result	**Pass***

* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:

Test by:		***Reviewed by:***	
Mar.07.2012	Jumy Qiu Project Engineer	Mar.07.2012	Pauler Li Project Engineer
Date	*Name/Position* *Signature*	*Date*	*Name/Position* *Signature*

Possible test case verdicts:	
test case does not apply to the test object ..:	N/A
test object does meet the requirement .....:	P (Pass)
test object does not meet the requirement ..:	F (Fail)

Testing Laboratory information:

Testing Laboratory Name ..... :	I-Test Laboratory
Address.....:	1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China
Testing location :	Same as above
Tel :	0086-20-32209330
Fax :	0086-20-62824387
E-mail :	itl@i-testlab.com

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Note:

The models P711F, P077A2, P077A, P077N, P071J, P071S, P073A, PH71A, PH72A, PH73K, P716A, M7, M701, M702, M712, XELIO, Atab-H 7.0, P071A, P072A, P074A, P075A, P076A, P078A, P079A, PH73A, PH74A, PH75A, PH76A, P071R, P072R, P073R, PH74R, PH75R, P071K, P072K, P073K, P074K, P075K, PH71K, PH72K, PH74K, PH75K, P072J, P073J, P074J, P075J, P071G, P072G, P073G, P072S, P073S, P074S, P075S, P071B, P072B, P073B, P074B, P075B, P071Y, P072Y，P073Y, P074Y，P075Y, R71, R72, R76, R78, R80, VB70, VB70B_ADCN_B1, VB70W_ADCN_B2, VB70W_ADCN_B3, PXXXXX (Note: XXXXX stands for different color. XXXXX denote any number from 0 to 9,or letter from A to Z .or blank) are identical same except the color, the model name and the trademarks.

Unless otherwise specified, all tests were performed on model P711F.

1 Test Summary

Test	Test Requirement	Test method	Result
Antenna Requirement	FCC PART 15 C section 15.247 (c) and Section 15.203	FCC PART 15 C section 15.247 (c) and Section 15.203	PASS
6 dB Bandwidth	FCC PART 15 C section 15.247 (a)(2)	ANSI C63.10: Clause 6.9 and KDB558074	PASS
Maximum Peak Output Power	FCC PART 15 C section 15.247(b)(3)	ANSI C63.10: Clause 6.10 and KDB558074 (Power Output Option 2-Method #1).	PASS
Peak Power Spectral Density	FCC PART 15 C section 15.247(e)	ANSI C63.10: Clause 6.11 and KDB558074 (PSD Option 1).	PASS
Conducted Spurious Emission (30MHz to 25GHz)	FCC PART 15 C section 15.209 &15.247(d)	ANSI C63.10: Clause 6.7 and KDB558074.	PASS
Radiated Spurious Emission 30 MHz to 25 GHz)	FCC PART 15 C section 15.209 &15.247(d)	ANSI C63.10: Clause 6.4, 6.5 and 6.6 & KDB558074	PASS
Band Edges Measurement	FCC PART 15 C section 15.247 (d) &15.205	ANSI C63.10: Clause 6.9 & KDB558074.	PASS
Conducted Emissions at Mains Terminals	FCC PART 15 C section 15.207	ANSI C63.10: Clause 6.2 & KDB558074.	PASS

2 Contents

3 General Information

3.1 Client Information

Applicant: HuiKe Electronics(shenzhen)Co.,Ltd

Address of Applicant: HuiKe industrial park,minying industrial park,Shuitian country,Shiyan,B District,Shenzhen,P.R.China

3.2 General Description of E.U.T.

Name: Mobile internet device

Model No.: P711F

Trade Mark: HKC

Operating Frequency: 2412MHz to 2462MHz for WIFI b/g

Channels: 11 channels with 5MHz step

channel	Frequency	channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

Type of Modulation: CCK, DQPSK, DBPSK for DSSS
64QAM, 16QAM, QPSK, BPSK for OFDM

Function: /

Antenna Type: PCB antenna

3.3 Details of E.U.T.

EUT Power Supply: AC/DC adapter

Adapter: Input: 100-240V~, 50/60Hz, 0,5A, Class II
Output: 5,0Vdc, 2,0A

Test mode: The program used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel lowest (2412MHz), middle (2437MHz) and highest (2462MHz) are chosen for full testing.

Power cord: Direct AC plug
1.5m x 2 wires unscreened DC cable

3.4 Description of Support Units

The EUT has been tested as an independent unit for fixed frequency by testing lab.

3.5 Test Location

All tests were performed at:

Guangzhou ITL Co., Ltd.

1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China

0086-20-32209330

itl@i-testlab.com

No tests were sub-contracted.

3.6 Deviation from Standards

Biconical and log periodic antennas were used instead of dipole antennas.

3.7 Abnormalities from Standard Conditions

None.

3.8 Other Information Requested by the Customer

None.

3.9 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS(Lab code:L4957)**
- **FCC (Registration No.:935596)**
- **IC (Registration NO.:8368A)**

3.10 Measurement Uncertainty

Parameter	Uncertainty
Radio frequency	±1.06 x 10^{-7}
total RF power, conducted	1.37 dB
RF power density , conducted	2.89 dB
All emissions, radiated	±3.35 dB
Temperature	±0.23 °C
Humidity	±0.3 %
DC and low frequency voltages	±0.3 %

4 Instruments Used during Test

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Due Date
1	Spectrum Analyzer	ADVANTEST	R3182	150900201	2012.04.16
2	EMI Measuring Receiver	Schaffner	SCR3501	235	2012.04.06
3	Low Noise Pre Amplifier	Tsj	MLA-10K01-B01-27	1205323	2012.09.06
4	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2012.04.07
5	Biconilog Antenna	ETS•Lindgren	3142D	00108096	2013.01.28
6	Horn Antenna	EMCO	3115	6124	2012.06.08
7	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2012.09.06
8	EMI Test Receiver	R&S	ESCI	100124	2012.06.07
9	LISN	R&S	ENV216	8-837-4	2012.05.04
10	LISN	Kyoritsu	KNW-407	8-1789-3	2012.04.06
11	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2012.09.06
12	Loop Antenna	ZHINAN	ZN30900A	002489	2013.01.22

5 Test Results

5.1 E.U.T. test conditions

Test Voltage:	Input: AC 120V, 60 Hz
Temperature:	20.0 -25.0 °C
Humidity:	38-50 % RH
Atmospheric Pressure:	1000 -1010 mbar
Requirements:	**15.31(e):** For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery. **15.32:** Power supplies and CPU boards used with personal computers and for which separate authorizations are required to be obtained shall be tested as follows: Testing shall be in accordance with the procedures specified in Section 15.31 of this part.
Test frequencies and frequency range:	According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table: According to the 15.33 (a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:

Number of fundamental frequencies to be tested in EUT transmit band

Frequency range in which	Number of	Location in frequency range
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

Frequency range of radiated emission measurements

Lowest frequency generated	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz,
At or above 10 GHz to below	5th harmonic of highest fundamental frequency or to 100 GHz,
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz,

EUT channels and frequencies list:

Channel	Frequency (MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

Test frequencies are the lowest channel: 1 channel(2412MHz), middle channel: 6 channel(2437 MHz) and highest channel: 11 channel(2462 MHz)

5.2 Antenna equirement

Standard requirement

15.203 requirement:

For intentional device. 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.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz bands that are used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna

The antenna is an External WIFI antenna and no consideration of replacement. The best case gain of the antenna is 0.16dBi.

Test result: The unit does meet the FCC requirements.

5.3 6 dB Bandwidth

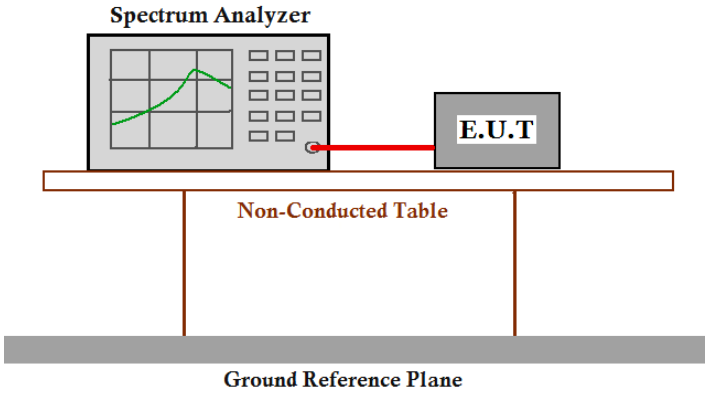
Test Requirement: FCC Part 15 C section 15.247

(a)(2)Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method: ANSI C63.10: Clause 6.9 and KDB558074

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (cable loss =2.0dB) from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW=100KHz. VBW = 100KHz, Sweep = auto; Detector Function = Peak. Trace = Max Hold, Set span to encompass the entire emission bandwidth of the signal.
3. Mark the peak power frequency and -6dB (upper and lower) power frequency.
4. Repeat until all the test status is investigated.
5. Report the worse case.

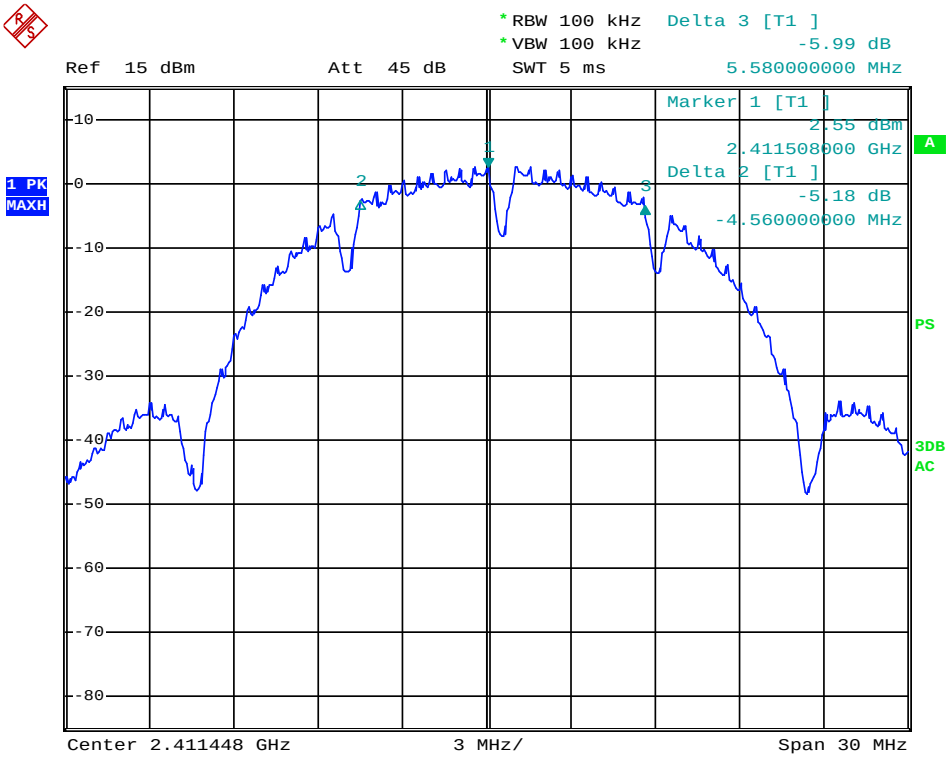
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412	802.11b	1 Mbps	10.14	≥500KHz	Pass
6	2437		1 Mbps	9.72		Pass
11	2462		1 Mbps	9.84		Pass
1	2412	802.11g	6 Mbps	16.82	≥500KHz	Pass
6	2437		6 Mbps	16.69		Pass
11	2462		6 Mbps	16.62		Pass

6dB bandwidth:

Result plot as follows:

802.11b mode with 1Mbps data rate

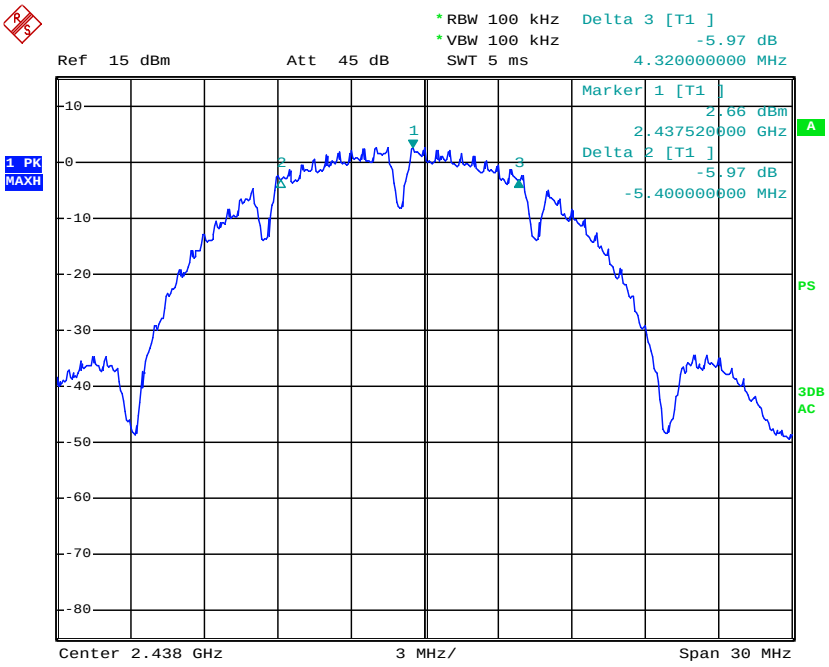
Channel 1:2.412GHz:



Date: 6.MAR.2092 19:45:16

802.11b mode with 1Mbps data rate

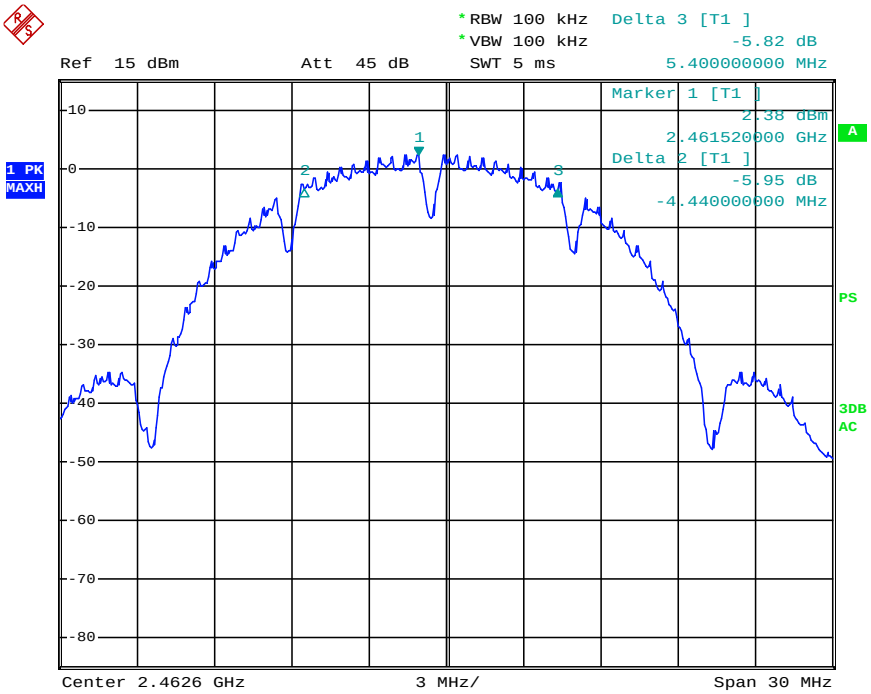
Channel 6:2.437GHz:



Date: 6.MAR.2092 19:41:56

802.11b mode with 1Mbps data rate

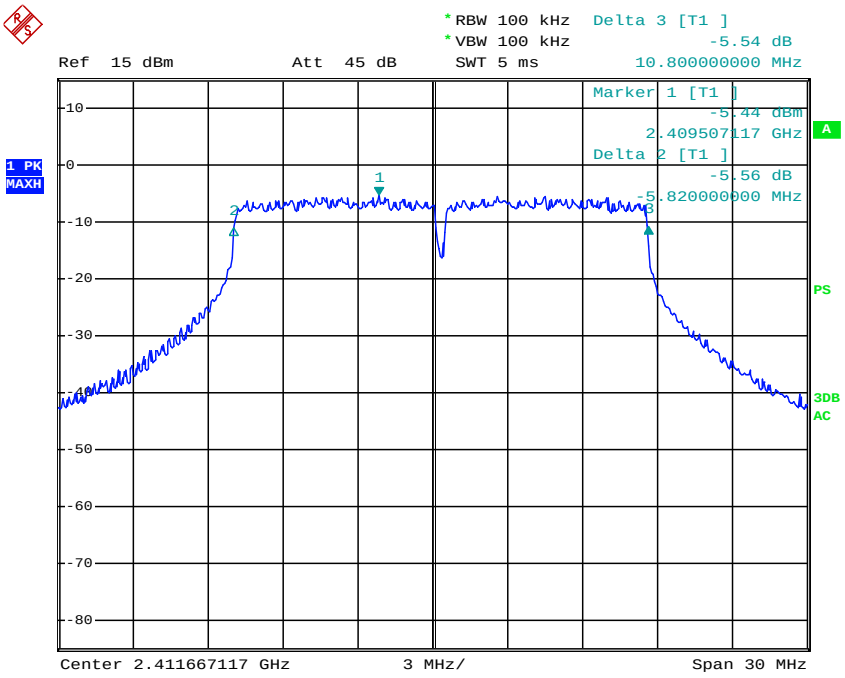
Channel 11:2.462GHz:



Date: 6.MAR.2092 19:48:17

802.11g mode with 6Mbps data rate

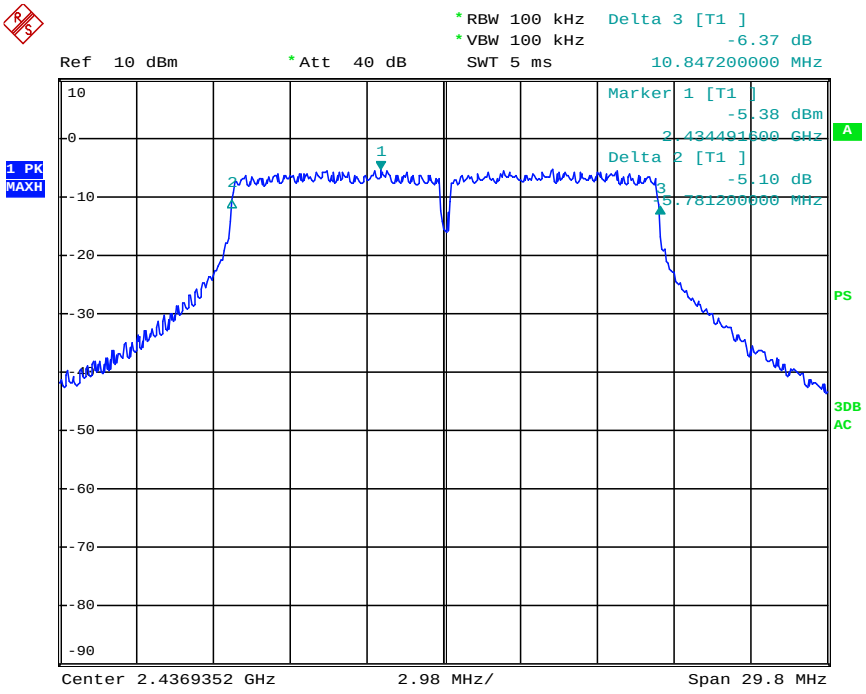
Channel 1:2.412GHz:



Date: 6.MAR.2092 19:54:26

802.11g mode with 6Mbps data rate

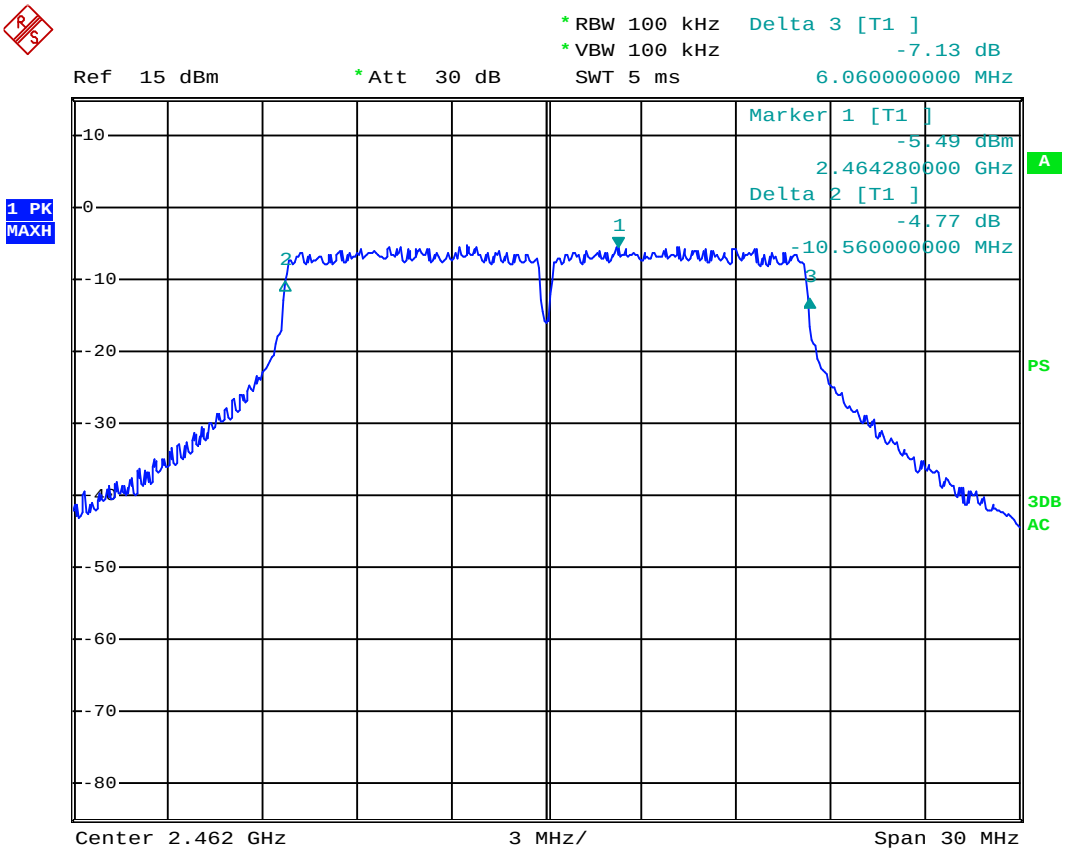
Channel 6:2.437GHz:



Date: 6.MAR.2092 20:01:01

802.11g mode with 6Mbps data rate

Channel 11:2.462GHz:



Date: 6.MAR.2092 20:07:53

5.4 Maximum Peak Output Power

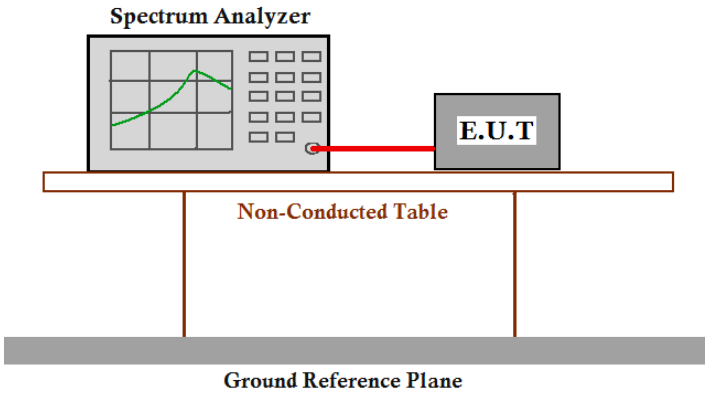
Test Requirement: FCC Part 15 C section 15.247

(b)(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.
Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b) (1), (b) (2), and (b) (3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Method: ANSI C63.10: Clause 6.10 and KDB558074 (Power Output Option 2-Method #1).

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable

(Cable loss =2.0dB) from the antenna port to the spectrum.

2. Set span to encompass the entire emission bandwidth (EBW) of the signal.

3. Set RBW = 1 MHz.

4. Set VBW ≥ 3 MHz.

5. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.

6. 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”.

7. Trace average 100 traces in power averaging mode.

8. 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.

9. Measure the channel power of the test frequency with special test status.

10. Repeat until all the test status is investigated.

11. Report the worse case.

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Channel Power (dBm)	Limit (dBm)	Result
1	2412	802.11b	1 Mbps	11.04	30	Pass
6	2437		1 Mbps	11.12		Pass
11	2462		1 Mbps	11.22		Pass
1	2412	802.11g	6 Mbps	10.54	30	Pass
6	2437		6 Mbps	10.38		Pass
11	2462		6 Mbps	10.70		Pass

Pre-test all possible combinations between available modulations, data rates; find the worst case on 802.11b mode with 1Mbps data rate and 802.11g mode with 6Mbps data rate

The unit does meet the FCC requirements.

5.5 Peak Power Spectral Density

Test Requirement: FCC Part 15 C section 15.247

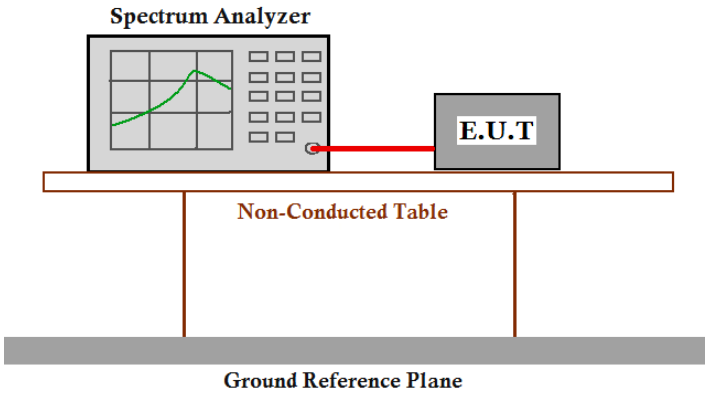
(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Method: ANSI C63.10: Clause 6.11 and KDB558074 (PSD Option 1).

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (cable loss =2.0 dB) from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer:

   a) Set CENTER FREQUENCY = Frequency from Power Spectral Density Test Matrix (see 6.10.2)

   b) Set SPAN = 20 MHz (For devices with a nominal 40 MHz BW, 50 MHz span will be needed)

   c) Set REFERENCE LEVEL = 20 dBm

   d) Set ATTENUATION = 0 dB (add internal attenuation, if necessary)
   e) Set SWEEP TIME = Coupled

   f) Set RBW = 3 kHz

   g) Set VBW = 10 kHz

   h) Set DETECTOR = Peak
   i) Set MKR = Center Frequency

   j) Set TRACE = CLEAR WRITE

   Place the radio in continuous transmit mode. Set the TRACE to MAX HOLD, and after the trace stabilizes, the TRACE to VIEW. Set the marker on the peak of the signal and then adjust the center frequency of the spectrum analyzer to the marker frequency.
   After viewing the EUT waveform on the spectrum analyzer, perform the following spectrum analyzer functions to capture the trace:

   Set SPAN = 300 kHz
   Set SWEEP TIME = 100 s
   Set TRACE = MAX HOLD
   Set MKR = PEAK SEARCH
3. Measure the Power Spectral Density of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

Test result:

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Peak Power Spectral Density (dBm/3KHz)	Limit	Result
1	2412	802.11b	1 Mbps	-22.71	8dBm/3KHz	Pass
6	2437		1 Mbps	-22.44		Pass
11	2462		1 Mbps	-22.41		Pass
1	2412	802.11g	6 Mbps	-18.47		Pass
6	2437		6 Mbps	-18.49		Pass
11	2462		6 Mbps	-18.63		Pass

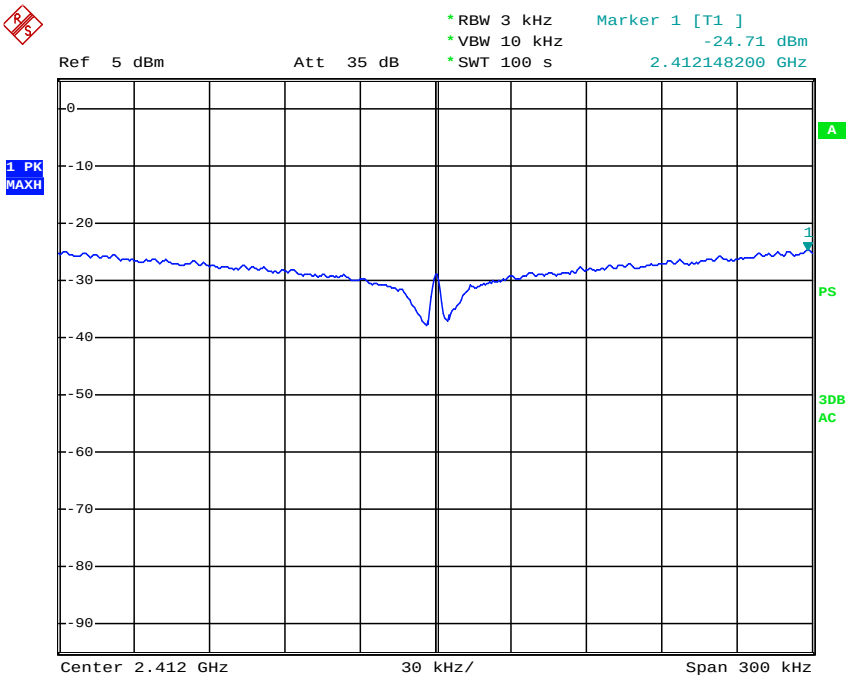
Test result: Level = Read Level + Cable Loss.

The unit does meet the FCC requirements.

Result plot as follows:

802.11b mode with 1Mbps data rate

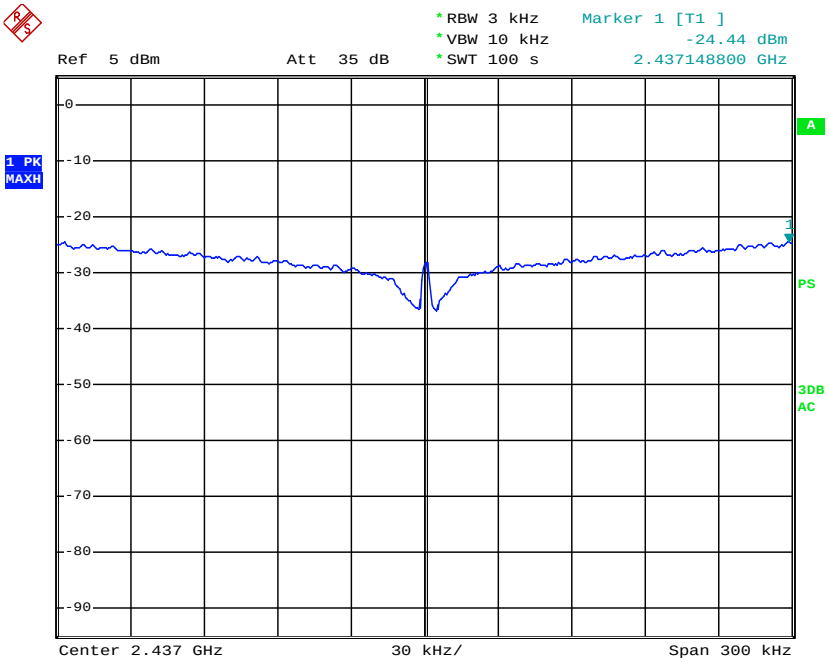
Channel 1:2.412 GHz:



Date: 6.MAR.2092 20:48:23

802.11b mode with 1Mbps data rate

Channel 6:2.437 GHz:



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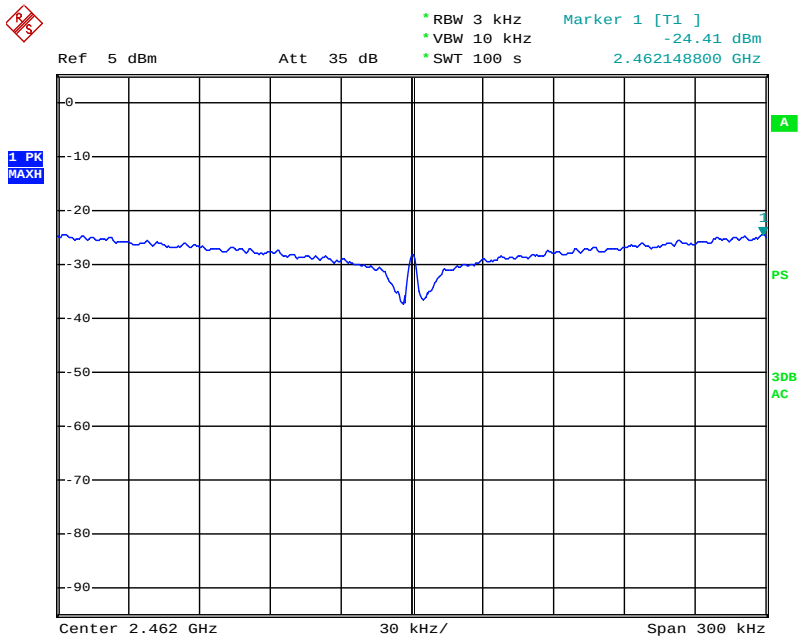
802.11b mode with 1Mbps data rate

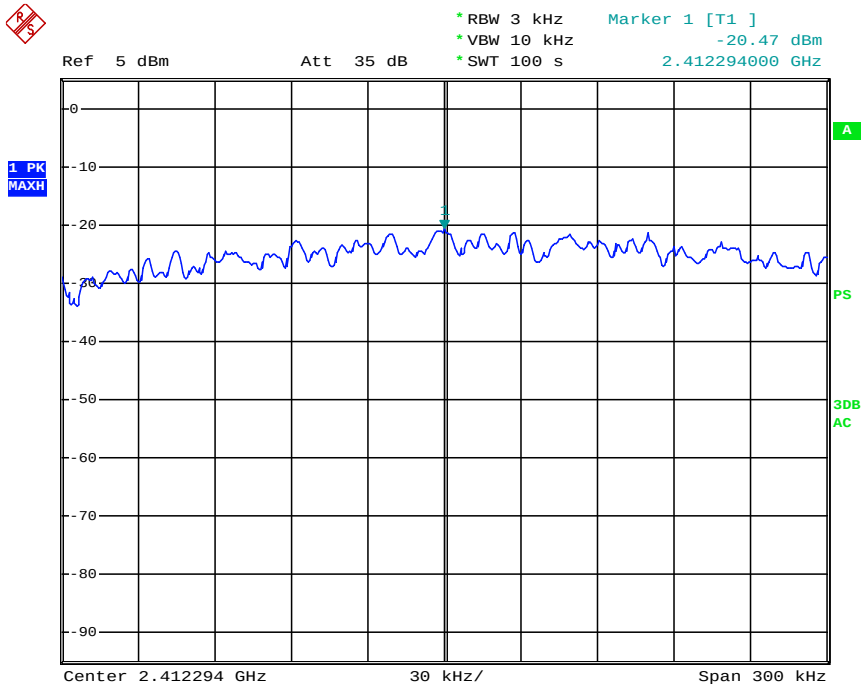
Channel 11:2.437 GHz:



Date: 6.MAR.2092 20:55:21

802.11g mode with 6Mbps data rate

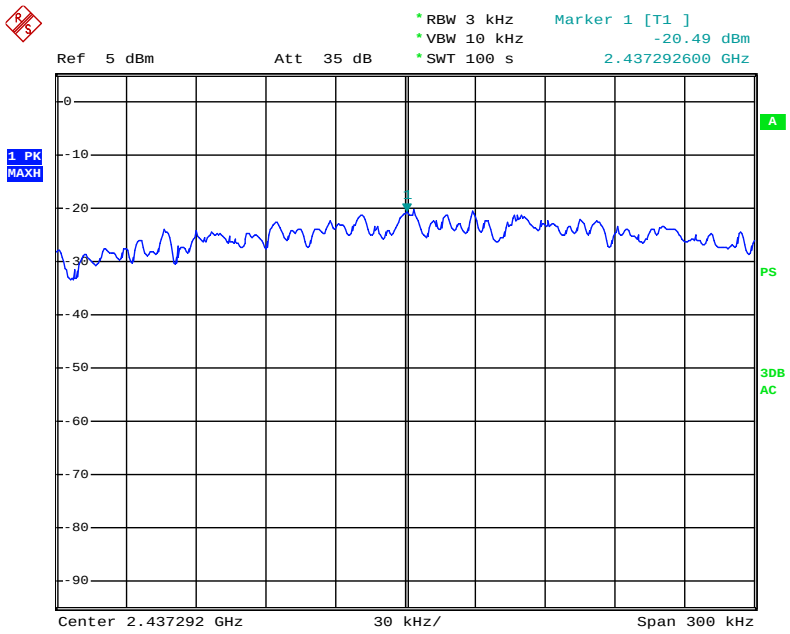
Channel 1:2.412 GHz:



Date: 6.MAR.2092 20:40:49

802.11g mode with 6Mbps data rate

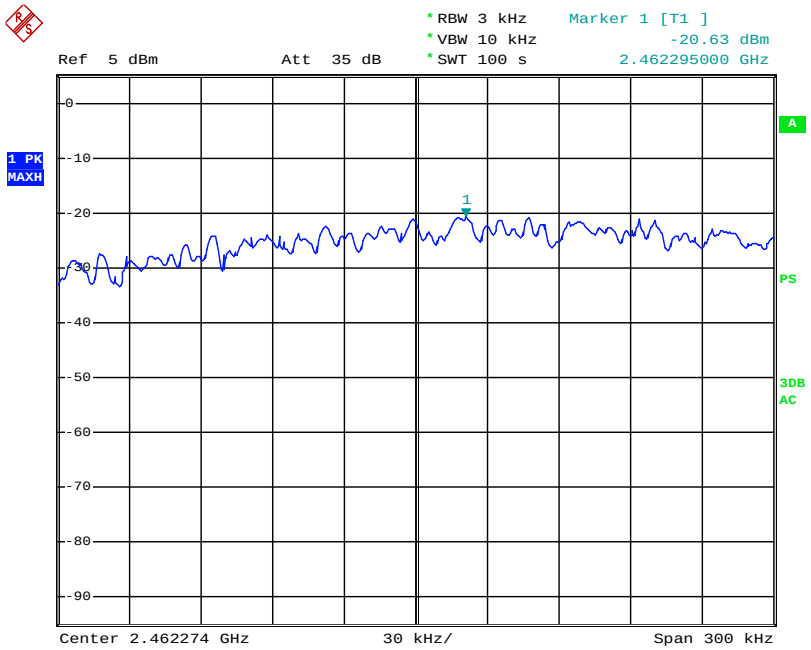
Channel 6:2.437 GHz:



Date: 6.MAR.2092 20:35:25

802.11g mode with 6Mbps data rate

Channel 11:2.462 GHz:



Date: 6.MAR.2092 20:28:11

5.6 Conducted Spurious Emissions

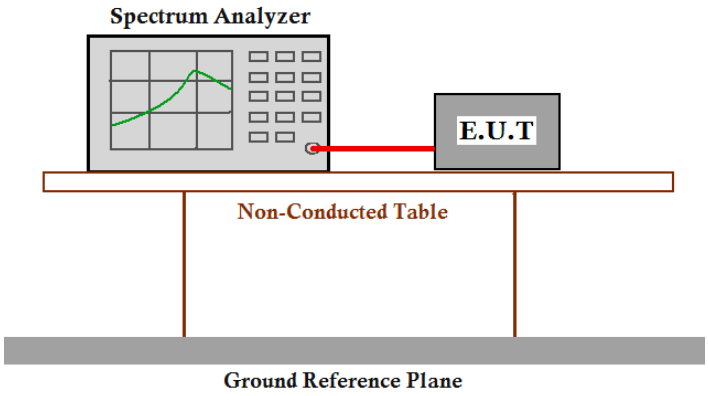
Test Requirement: FCC Part 15 C section 15.247

(d) 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.

Test Method: ANSI C63.10: Clause 6.7 and KDB558074.

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



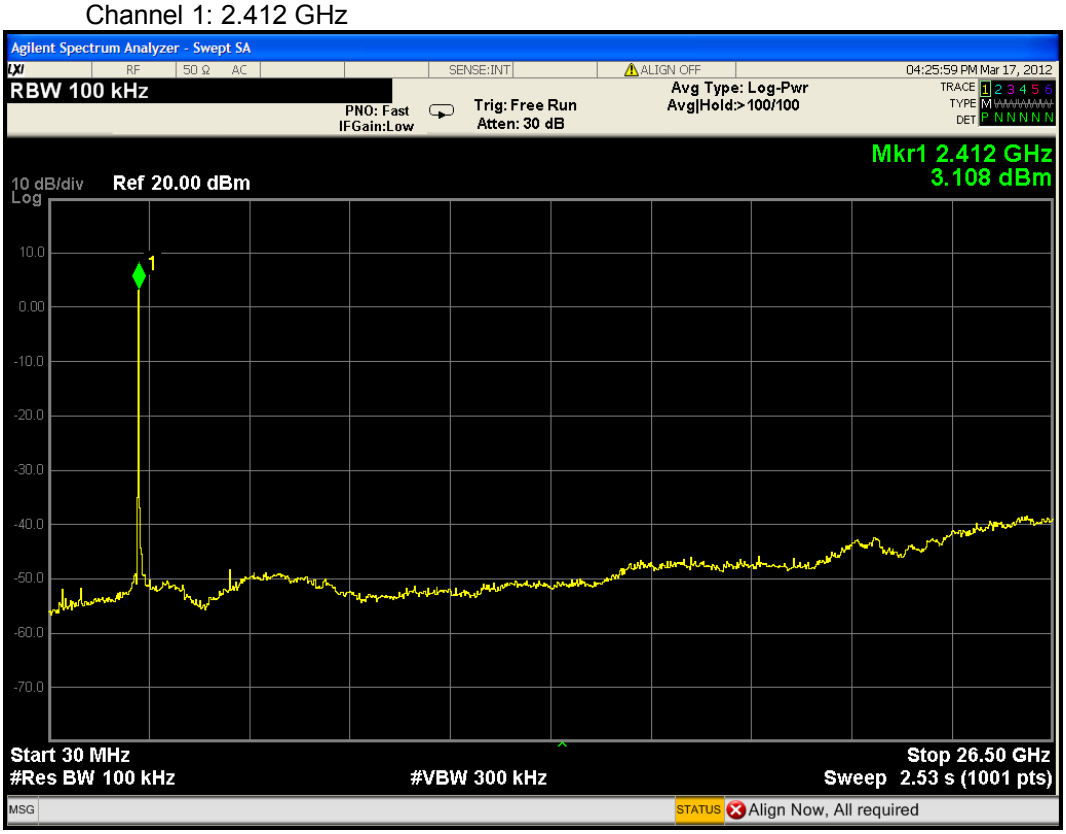
Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=100 KHz, VBW = 300KHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Scan up through 10th harmonic.
3. Measure the Conducted Spurious Emissions of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

Result plot as follows:

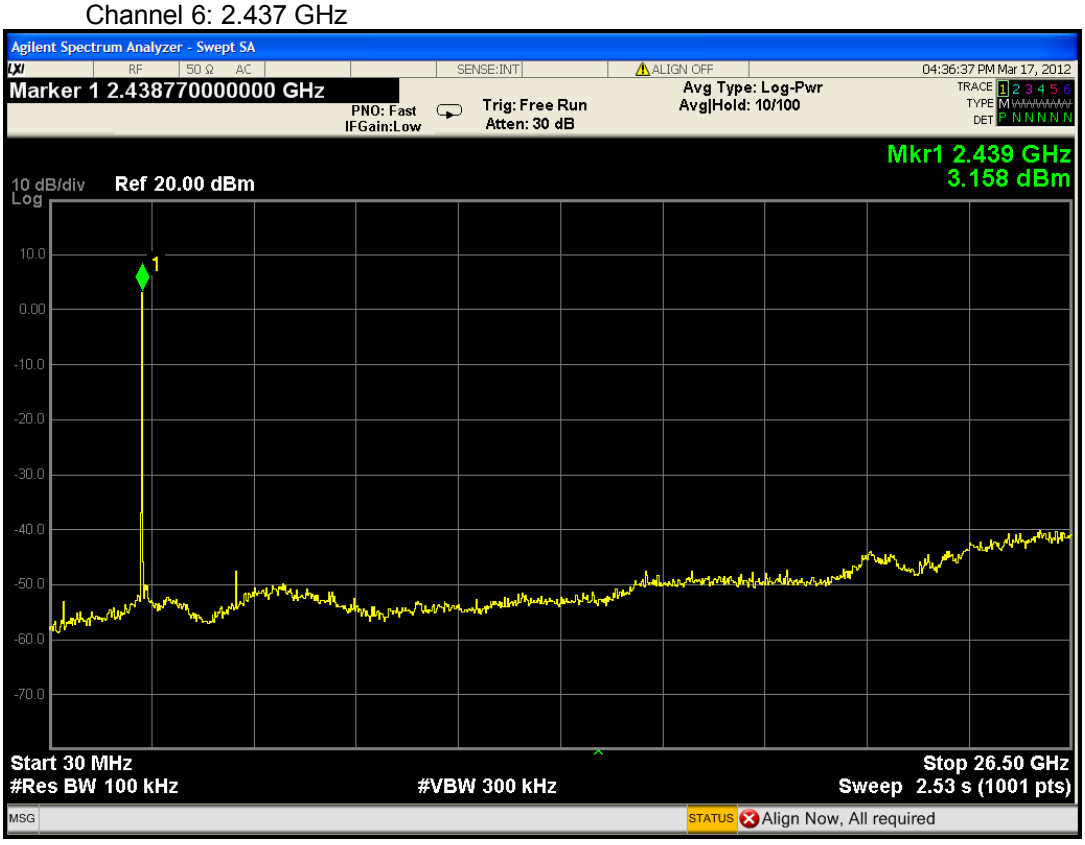
802.11b mode with 1Mbps data rate

Channel 1: 2.412 GHz



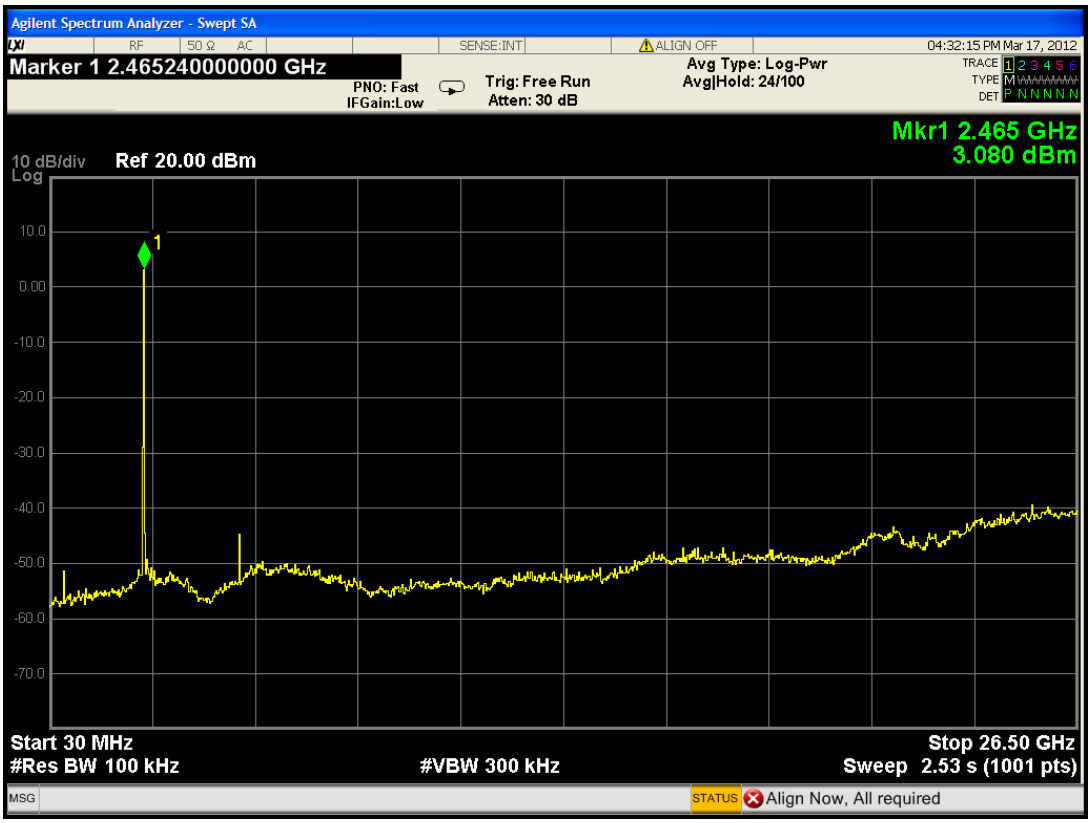
802.11b mode with 1Mbps data rate

Channel 6: 2.437 GHz



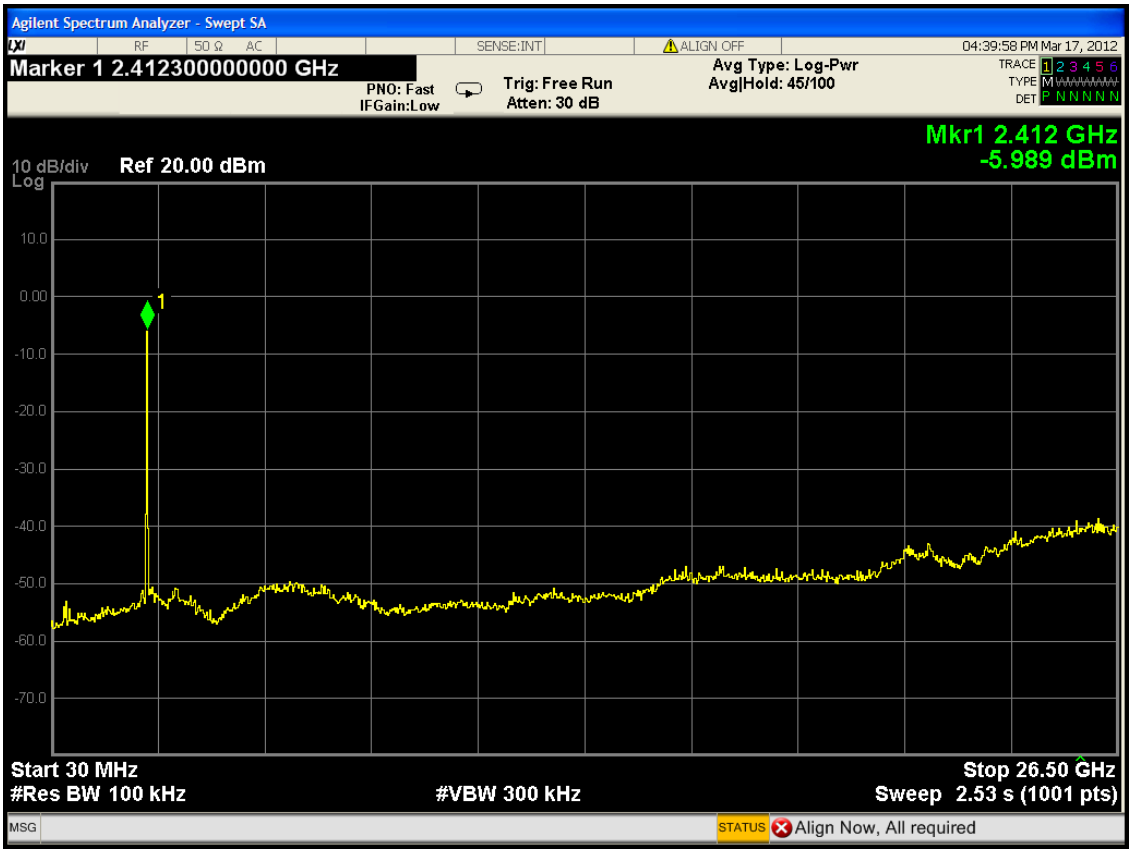
802.11b mode with 1Mbps data rate

Channel 11: 2.462 GHz



802.11g mode with 6Mbps data rate

Channel 1: 2.412 GHz

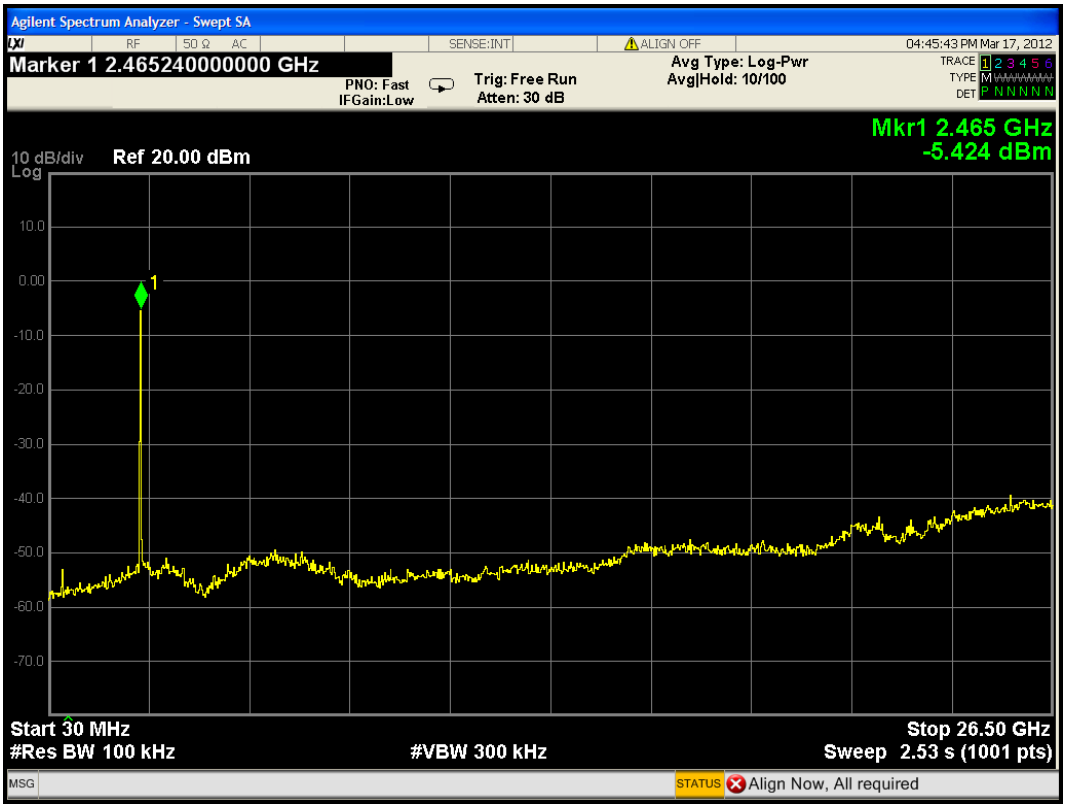


802.11g mode with 6Mbps data rate

Channel 6: 2.437 GHz

802.11g mode with 6Mbps data rate

Channel 11: 2.462 GHz



5.7 Radiated Spurious Emissions

Test Requirement: FCC Part 15 C section 15.247

(d) 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, and provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Method: ANSI C63.10: Clause 6.4, 6.5 and 6.6 & KDB558074

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Detector: For PK value:

RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For AV value:

RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz, 9kHz for <30MHz

VBW =10Hz

Sweep = auto

Detector function = peak

Trace = max hold

15.209 Limit: 40.0 dBμV/m between 30MHz & 88MHz

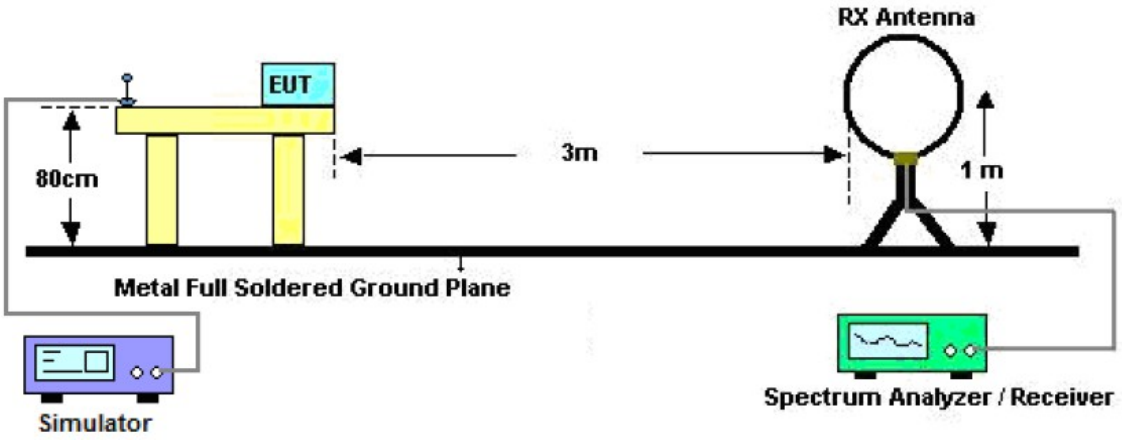
43.5 dBμV/m between 88MHz & 216MHz

46.0 dBμV/m between 216MHz & 960MHz

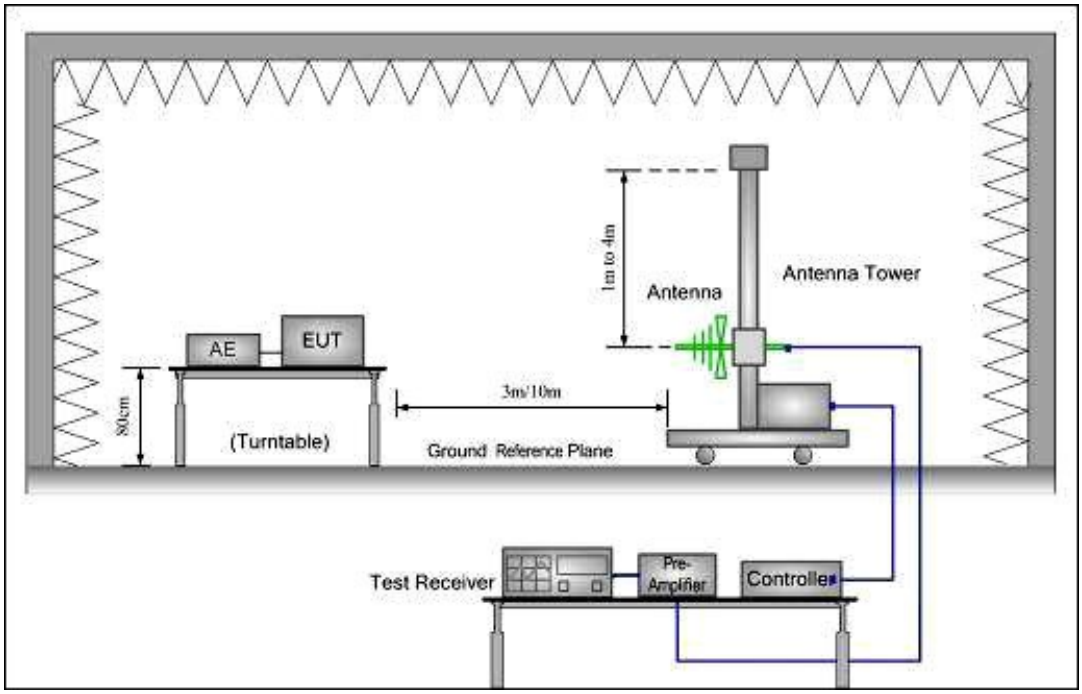
54.0 dBμV/m above 960MHz

Test Configuration:

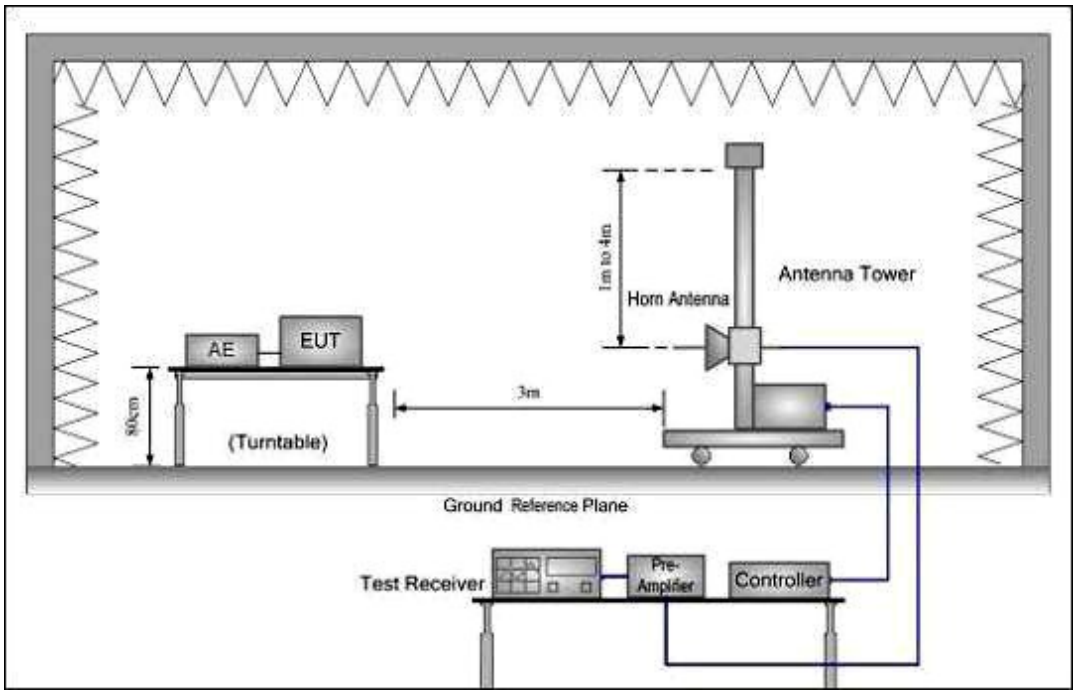
1) 9kHz to 30MHz emissions:



2) 30 MHz to 1 GHz emissions:



3) 1 GHz to 40 GHz emissions:



Test Procedure:

The receiver was scanned from 30MHz to 25GHz.When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

From 30MHz to 1GHz, read the Quasi-Peak field strength of the emissions with receiver QP detector RBW=120KHz.

Above 1GHz, read the Peak field strength and Average field strength.

Read the Peak field strength through RBW=1MHz,VBW=3MHz in spectrum analyzer setting; Read the Average field strength through RBW=1MHz,VBW=10Hz in spectrum analyzer setting; While maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the average field strength reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit.

5.7.1 Harmonic and other spurious emissions

802.11b mode with 1Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

9kHz~30MHz Test result

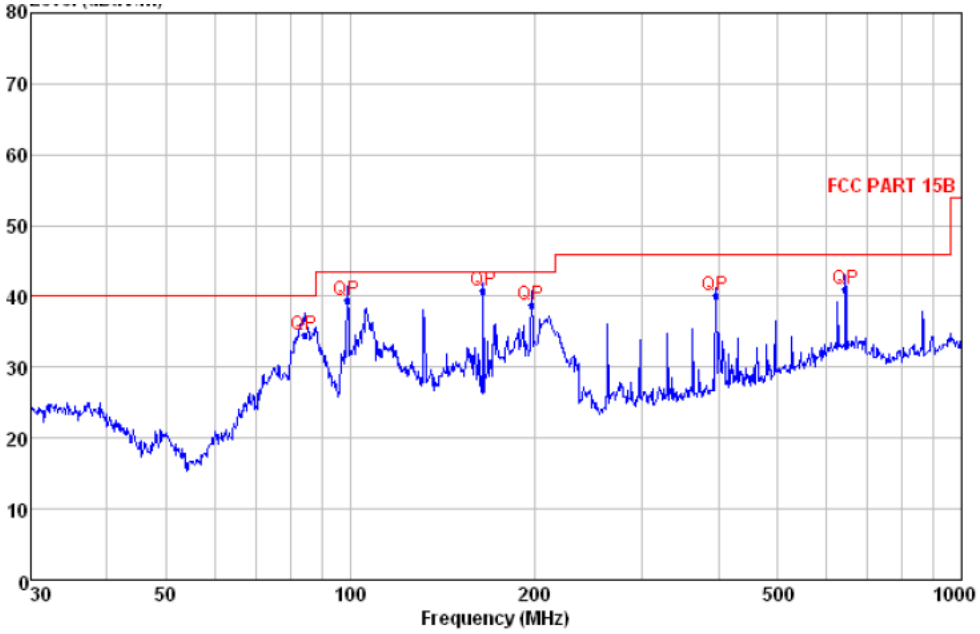
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



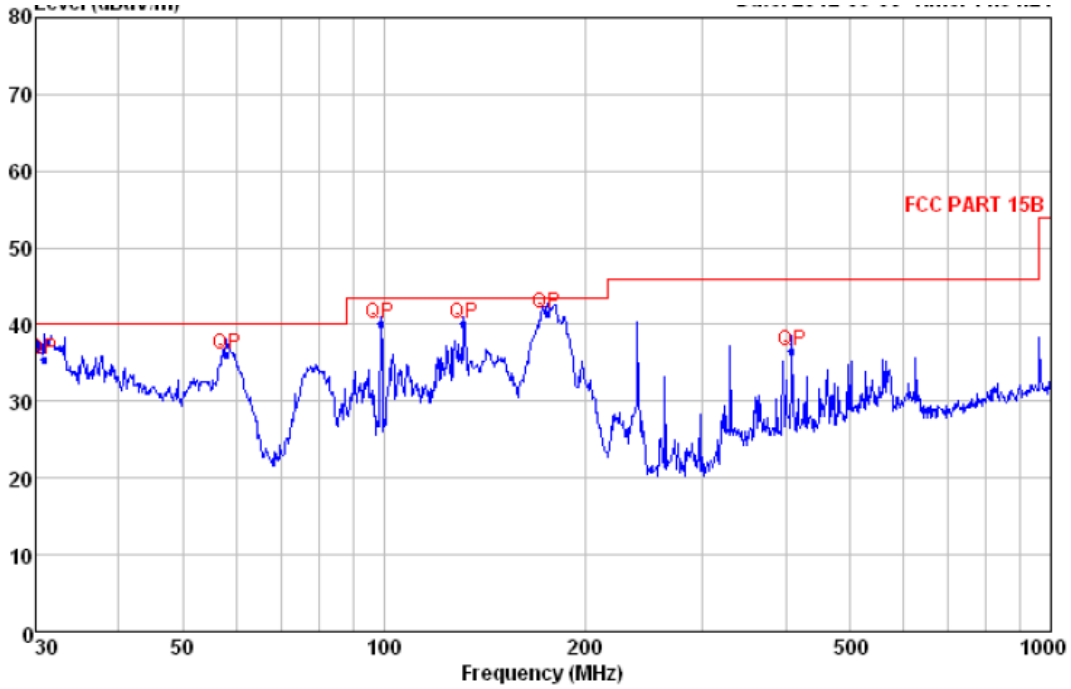
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	84.110	34.58	QP	7.71	2.07	40.00	-5.42	150	106
2	98.833	39.47	QP	8.65	2.14	43.50	-4.03	200	72
3	164.908	40.83	QP	8.59	2.38	43.50	-2.67	200	85
4	197.893	38.72	QP	9.93	2.46	43.50	-4.78	100	96
5	396.242	40.21	QP	15.25	2.78	46.00	-5.79	100	95
6	645.120	40.93	QP	20.58	3.00	46.00	-5.07	150	85

Vertical:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	30.853	35.48	QP	17.34	1.61	40.00	-4.52	100	321
2	57.999	36.12	QP	6.83	1.90	40.00	-3.88	150	302
3	98.833	40.05	QP	8.66	2.14	43.50	-3.45	100	312
4	131.758	40.02	QP	7.34	2.28	43.50	-3.48	100	333
5	175.652	41.50	QP	9.24	2.41	43.50	-2.00	100	306
6	408.946	36.60	QP	15.56	2.79	46.00	-9.40	150	325

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4824.000	31.54	8.81	34.30	45.41	51.46	74	V
7236.000	36.48	12.32	34.30	47.68	62.18	74	V
4824.000	31.54	8.81	34.30	47.52	53.57	74	H
7236.000	36.48	12.32	34.30	46.06	60.56	74	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4824.000	31.54	8.81	34.30	28.01	34.06	54	V
7236.000	36.48	12.32	34.30	28.70	43.20	54	V
4824.000	31.54	8.81	34.30	27.20	33.25	54	H
7236.000	36.48	12.32	34.30	28.05	42.55	54	H

Test at Channel6 (2.437 GHz) in transmitting status

9kHz~30MHz Test result

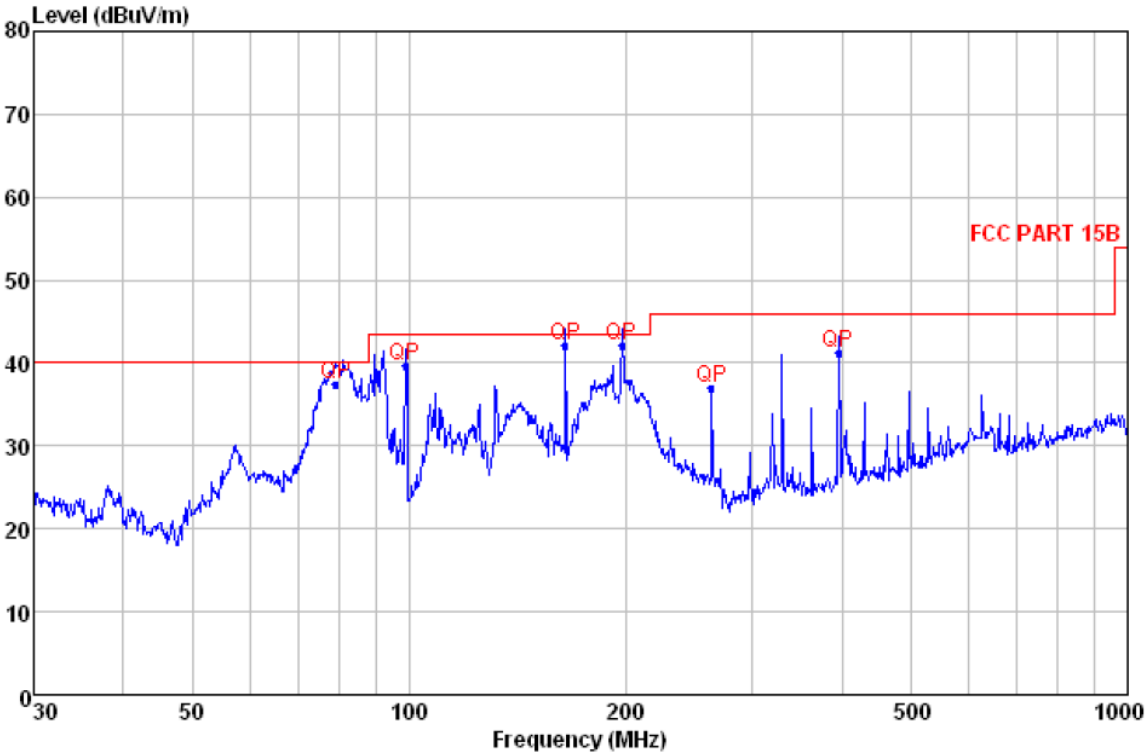
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



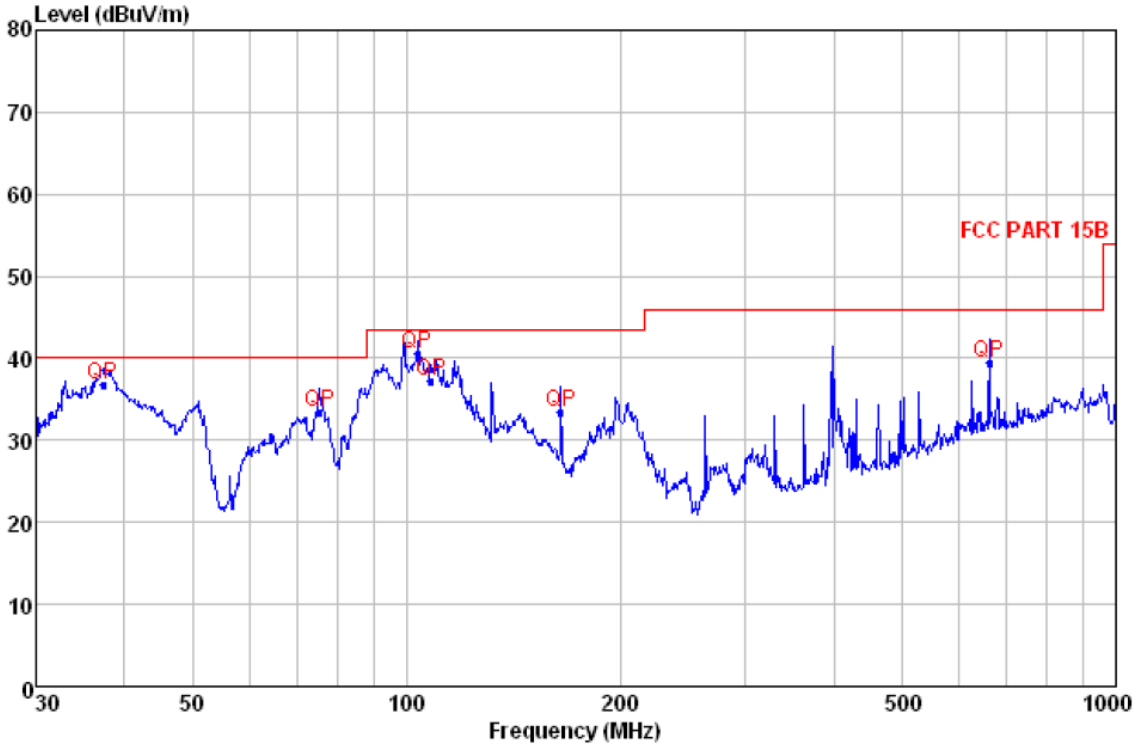
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	78.927	37.38	QP	7.24	2.04	40.00	-2.62	200	229
2	98.833	39.71	QP	8.65	2.14	43.50	-3.79	200	246
3	164.908	42.16	QP	8.59	2.38	43.50	-1.34	200	252
4	197.893	42.03	QP	9.93	2.46	43.50	-1.47	100	254
5	263.820	36.91	QP	12.59	2.59	46.00	-9.09	150	235
6	396.242	41.28	QP	15.25	2.78	46.00	-4.72	100	246

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	37.285	36.67	QP	13.59	1.70	40.00	-3.33	150	305
2	75.446	33.32	QP	7.04	2.02	40.00	-6.68	100	329
3	103.442	40.61	QP	8.59	2.16	43.50	-2.89	100	319
4	108.360	37.16	QP	8.45	2.19	43.50	-6.34	100	325
5	164.908	33.53	QP	8.60	2.38	43.50	-9.97	150	332
6	663.370	39.55	QP	20.55	3.01	46.00	-6.45	150	333

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4874.00	31.57	8.63	34.30	44.10	50.00	74.00	V
7311.00	36.50	12.23	34.30	46.63	61.06	74.00	V
4874.00	31.57	8.63	34.30	45.89	51.79	74.00	H
7311.00	36.50	12.23	34.30	47.62	62.05	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4874.00	31.57	8.63	34.30	25.77	31.67	54.00	V
7311.00	36.50	12.23	34.30	25.97	40.40	54.00	V
4874.00	31.57	8.63	34.30	31.03	36.93	54.00	H
7311.00	36.50	12.23	34.30	28.13	42.56	54.00	H

Test at Channel11 (2.462 GHz) in transmitting status

9kHz~30MHz Test result

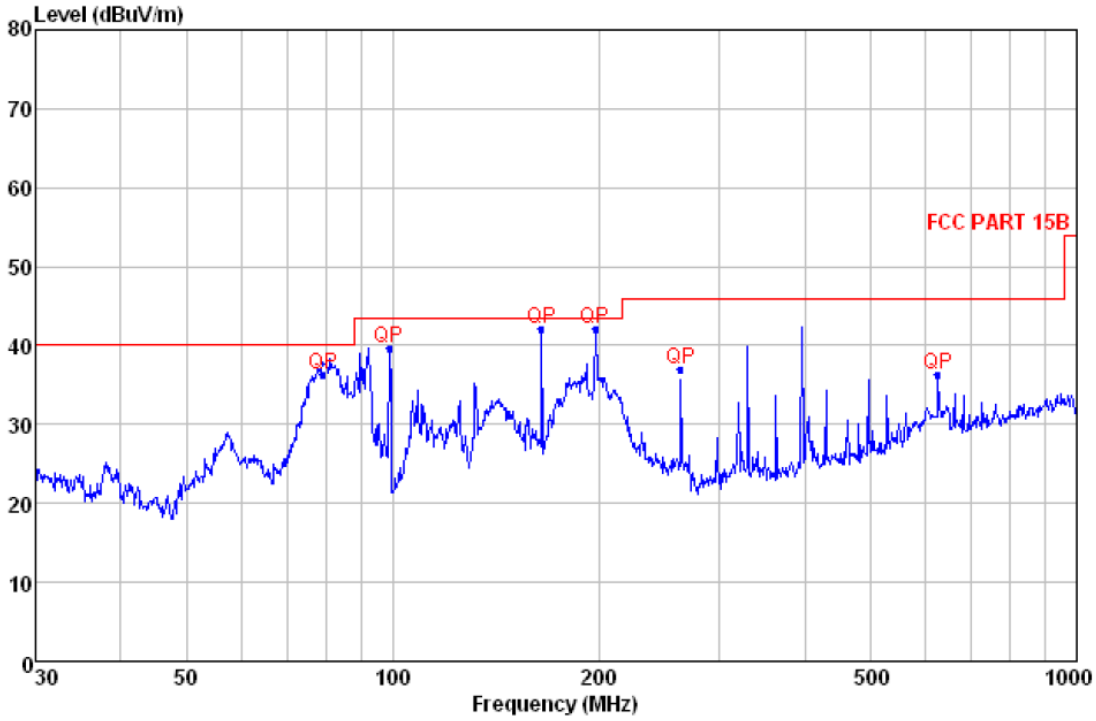
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



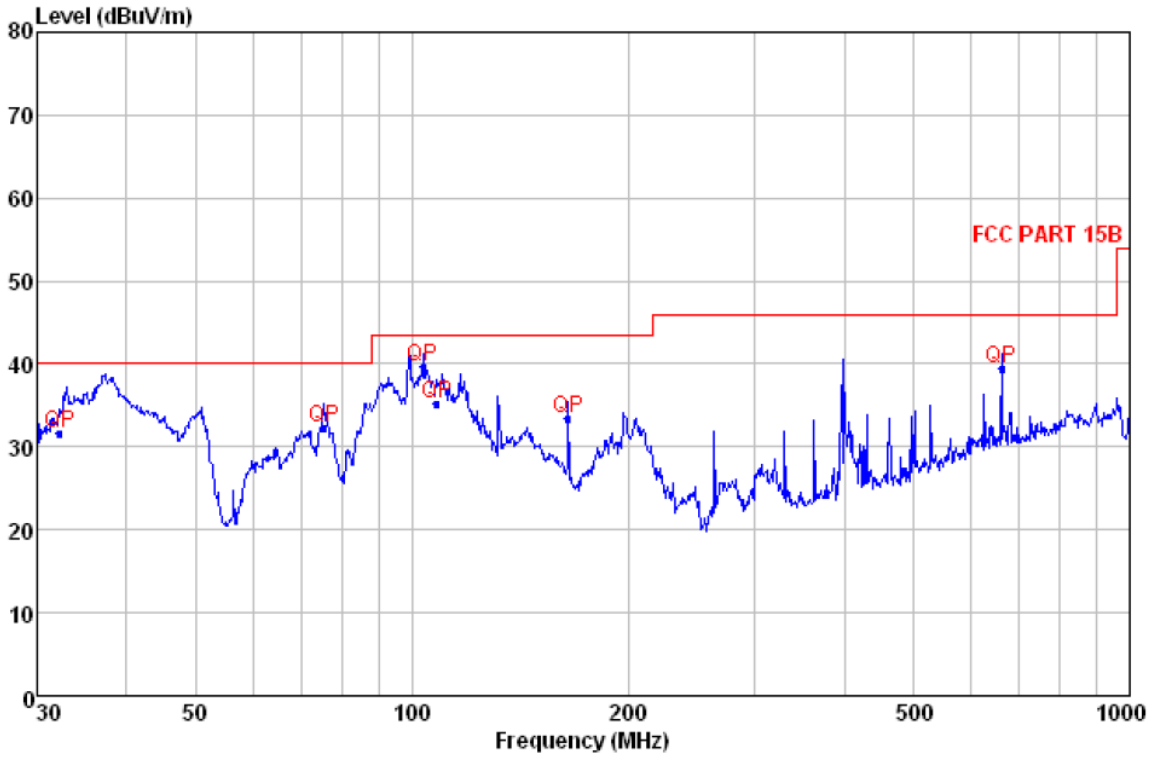
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	78.927	36.38	QP	7.24	2.04	40.00	-3.62	200	229
2	98.833	39.71	QP	8.65	2.14	43.50	-3.79	200	246
3	164.908	42.16	QP	8.59	2.38	43.50	-1.34	200	252
4	197.893	42.03	QP	9.93	2.46	43.50	-1.47	100	254
5	263.820	36.91	QP	12.59	2.59	46.00	-9.09	150	235
6	627.000	36.28	QP	20.51	2.99	46.00	-9.72	100	246

Vertical:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	32.285	31.67	QP	16.45	1.63	40.00	-8.33	150	305
2	75.446	32.32	QP	7.04	2.02	40.00	-7.68	100	329
3	103.442	39.61	QP	8.59	2.16	43.50	-3.89	100	319
4	108.360	35.16	QP	8.45	2.19	43.50	-8.34	100	325
5	164.908	33.53	QP	8.60	2.38	43.50	-9.97	150	332
6	663.370	39.55	QP	20.55	3.01	46.00	-6.45	150	333

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4924.00	31.62	8.45	34.30	44.31	50.08	74.00	V
7386.00	36.53	12.19	34.30	46.78	61.20	74.00	V
4924.00	31.62	8.45	34.30	46.57	52.34	74.00	H
7386.00	36.53	12.19	34.30	45.47	59.89	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4924.00	31.62	8.45	34.30	26.05	31.82	54.00	V
7386.00	36.53	12.19	34.30	24.04	38.46	54.00	V
4924.00	31.62	8.45	34.30	26.23	32.00	54.00	H
7386.00	36.53	12.19	34.30	25.13	39.55	54.00	H

802.11g mode with 6Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

9kHz~30MHz Test result

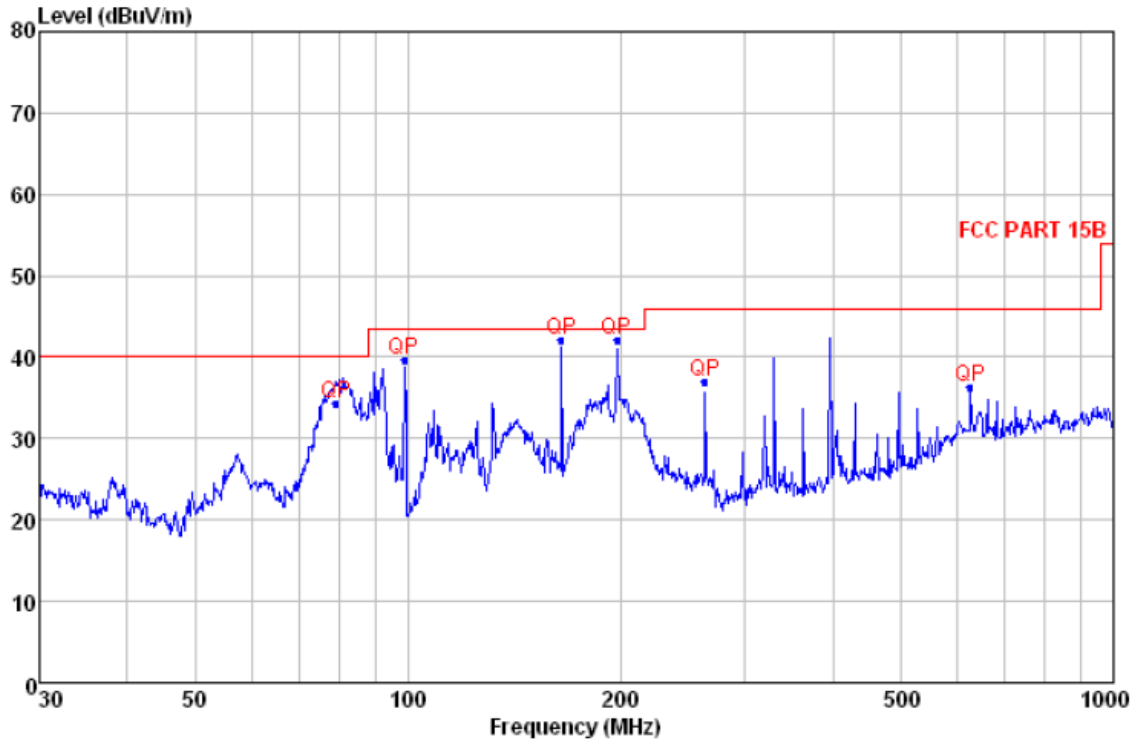
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



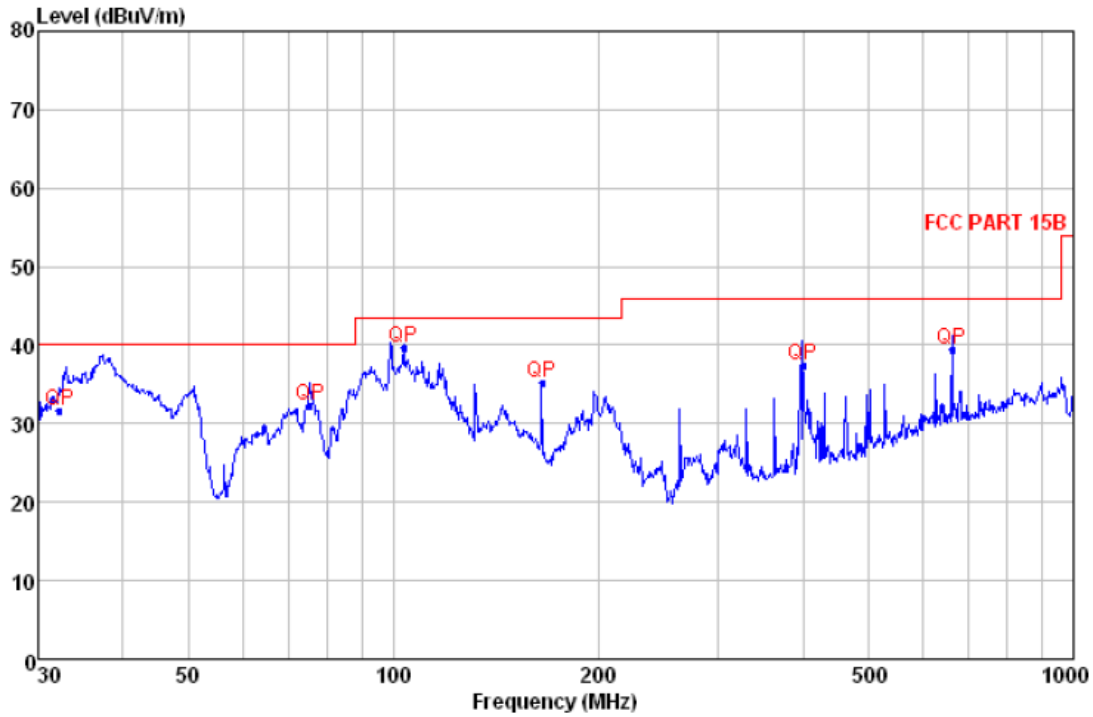
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	78.927	34.38	QP	7.24	2.04	40.00	-5.62	200	229
2	98.833	39.71	QP	8.65	2.14	43.50	-3.79	200	246
3	164.908	42.16	QP	8.59	2.38	43.50	-1.34	200	252
4	197.893	42.03	QP	9.93	2.46	43.50	-1.47	100	254
5	263.820	36.91	QP	12.59	2.59	46.00	-9.09	150	235
6	627.000	36.28	QP	20.51	2.99	46.00	-9.72	100	246

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	32.285	31.67	QP	16.45	1.63	40.00	-8.33	150	305
2	75.446	32.32	QP	7.04	2.02	40.00	-7.68	100	329
3	103.442	39.61	QP	8.59	2.16	43.50	-3.89	100	319
4	165.360	35.16	QP	8.63	2.38	43.50	-8.34	100	325
5	400.000	37.53	QP	15.30	2.78	46.00	-8.47	150	332
6	663.370	39.55	QP	20.55	3.01	46.00	-6.45	150	333

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4824.00	31.54	8.81	34.30	45.46	51.51	74.00	V
7236.00	36.48	12.32	34.30	44.97	59.74	74.00	V
4824.00	31.54	8.81	34.30	44.87	50.92	74.00	H
7326.00	36.48	12.32	34.30	45.57	60.07	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4824.00	31.54	8.81	34.30	25.90	31.95	54.00	V
7236.00	36.48	12.32	34.30	24.21	38.71	54.00	V
4824.00	31.54	8.81	34.30	25.99	32.04	54.00	H
7326.00	36.48	12.32	34.30	25.32	39.82	54.00	H

Test at Channel 6 (2.437 GHz) in transmitting status

9kHz~30MHz Test result

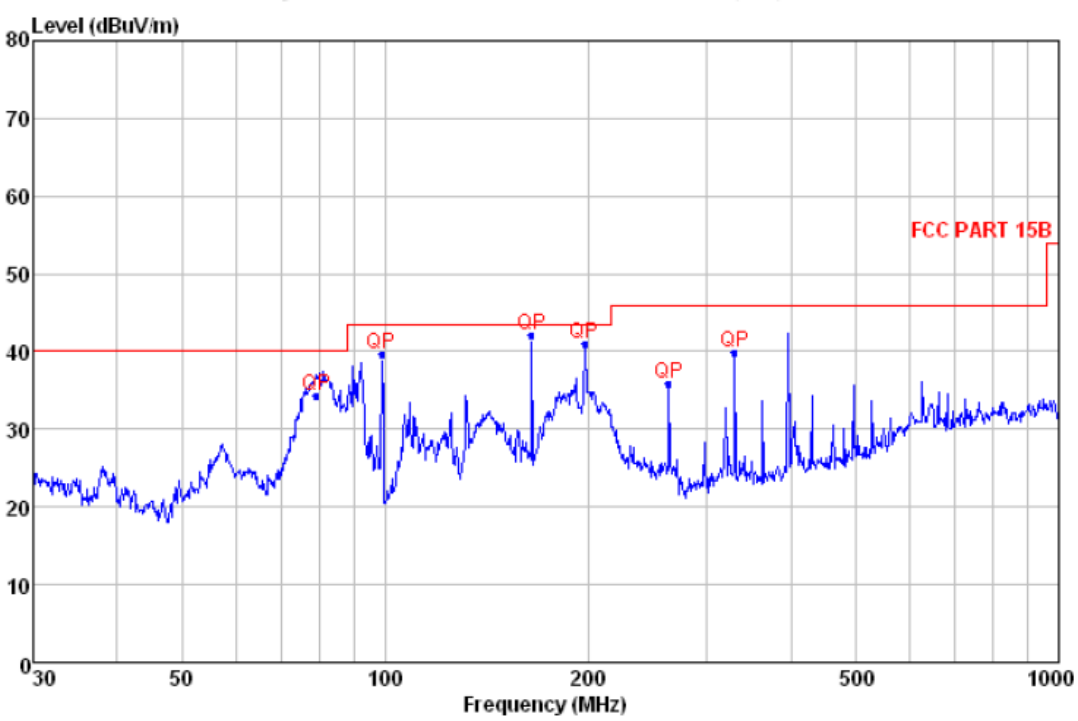
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



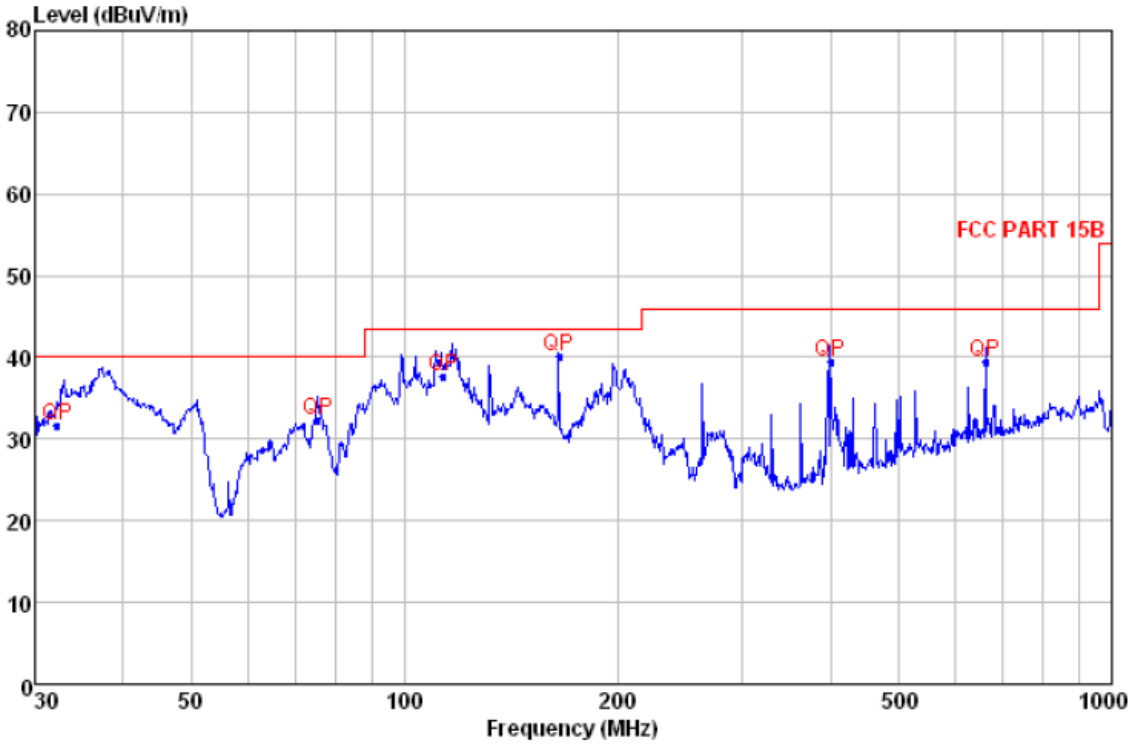
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	78.927	34.38	QP	7.24	2.04	40.00	-5.62	200	229
2	98.833	39.71	QP	8.65	2.14	43.50	-3.79	200	246
3	164.908	42.16	QP	8.59	2.38	43.50	-1.34	200	252
4	197.893	41.03	QP	9.93	2.46	43.50	-2.47	100	254
5	263.820	35.91	QP	12.59	2.59	46.00	-10.09	150	235
6	330.195	39.91	QP	14.16	2.69	46.00	-6.09	200	243

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	32.285	31.67	QP	16.45	1.63	40.00	-8.33	150	305
2	75.446	32.32	QP	7.04	2.02	40.00	-7.68	100	329
3	113.442	37.61	QP	8.15	2.21	43.50	-5.89	100	319
4	165.360	40.16	QP	8.63	2.38	43.50	-3.34	100	325
5	400.000	39.53	QP	15.30	2.78	46.00	-6.47	150	332
6	663.370	39.55	QP	20.55	3.01	46.00	-6.45	150	333

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4874.00	31.57	8.63	34.30	44.69	50.59	74.00	V
7311.00	36.50	12.23	34.30	45.99	60.42	74.00	V
4874.00	31.57	8.63	34.30	45.80	51.70	74.00	H
7311.00	36.50	12.23	34.30	45.16	59.59	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4874.00	31.57	8.63	34.30	26.80	32.70	54.00	V
7311.00	36.50	12.23	34.30	27.03	41.46	54.00	V
4874.00	31.57	8.63	34.30	25.90	31.80	54.00	H
7311.00	36.50	12.23	34.30	25.80	40.23	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

9kHz~30MHz Test result

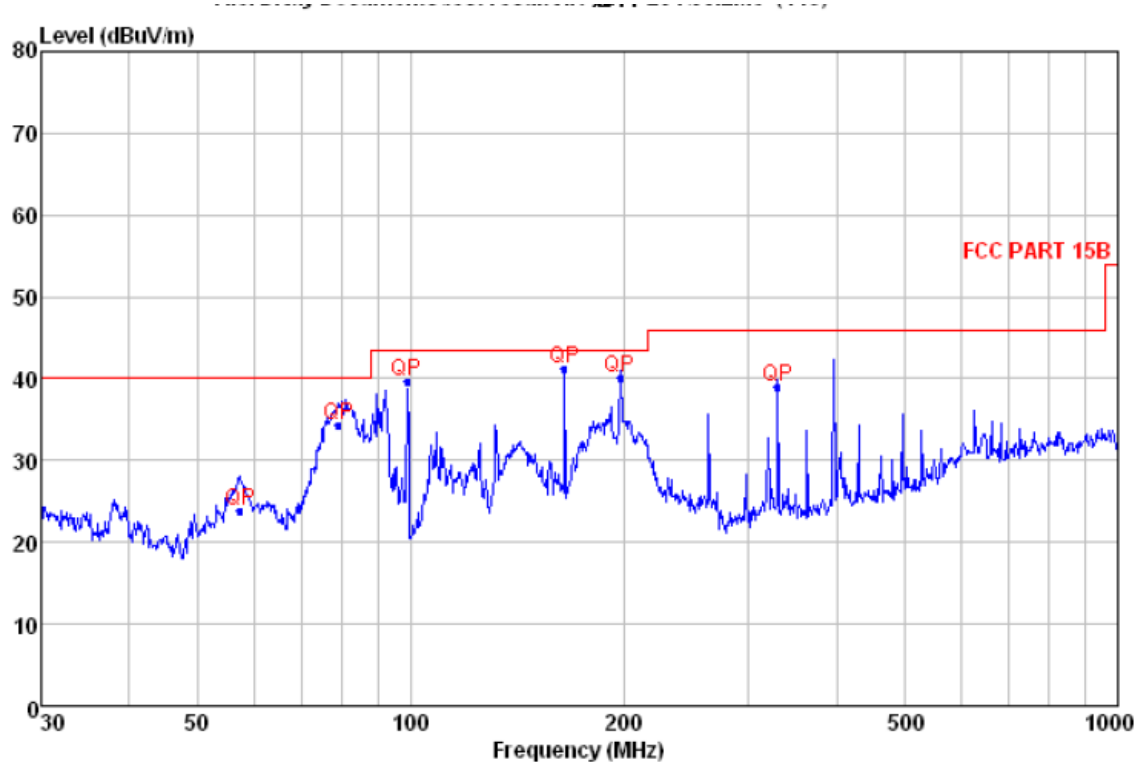
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement

Horizontal:

Peak scan

Level (dBμV/m)



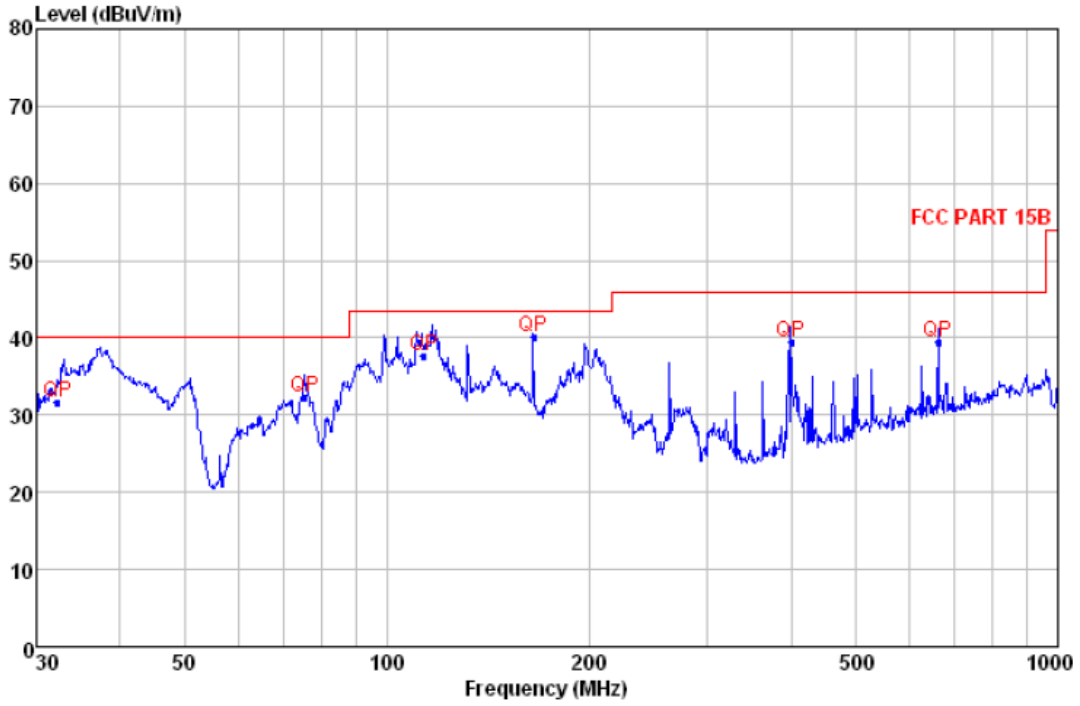
Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	57.320	23.91	QP	6.98	1.90	40.00	-16.09	150	235
2	78.927	34.38	QP	7.24	2.04	40.00	-5.62	200	229
3	98.833	39.71	QP	8.65	2.14	43.50	-3.79	200	246
4	164.908	41.16	QP	8.59	2.38	43.50	-2.34	200	252
5	197.893	40.03	QP	9.93	2.46	43.50	-3.47	100	254
6	330.195	38.91	QP	14.16	2.69	46.00	-7.09	200	243

Vertical:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	32.285	31.67	QP	16.45	1.63	40.00	-8.33	150	305
2	75.446	32.32	QP	7.04	2.02	40.00	-7.68	100	329
3	113.442	37.61	QP	8.15	2.21	43.50	-5.89	100	319
4	165.360	40.16	QP	8.63	2.38	43.50	-3.34	100	325
5	400.000	39.53	QP	15.30	2.78	46.00	-6.47	150	332
6	663.370	39.55	QP	20.55	3.01	46.00	-6.45	150	333

1~25 GHz Harmonics & Spurious Emissions. Peak & Average Measurement

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4924.00	31.62	8.45	34.30	46.40	52.17	74.00	V
7386.00	36.53	12.19	34.30	46.01	60.43	74.00	V
4924.00	31.62	8.45	34.30	45.53	51.30	74.00	H
7386.00	36.53	12.19	34.30	46.34	60.76	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
4924.00	31.62	8.45	34.30	26.96	32.73	54.00	V
7386.00	36.53	12.19	34.30	29.01	43.43	54.00	V
4924.00	31.62	8.45	34.30	25.23	31.00	54.00	H
7386.00	36.53	12.19	34.30	26.86	41.28	54.00	H

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor –Preamplifier Factor.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.

Hence there no other emissions have been reported.

Remark:

1) .For this intentional radiator operates below 25 GHz. The spectrum shall be investigated to the tenth harmonics of the highest fundamental frequency. And above the third harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 3rd harmonic.
2). As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.
3). The test only perform the EUT in transmitting status since the test frequencies were over 1GHz only required transmitting status.

Test result: The unit does meet the FCC requirements.

5.8 Radiated Emissions which fall in the restricted bands

Test Requirement:	FCC Part 15 C section 15.247 (d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method:	ANSI C63.10: Clause 6.4, 6.5 and 6.6 & KDB558074
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Limit:	40.0 dBμV/m between 30MHz & 88MHz; 43.5 dBμV/m between 88MHz & 216MHz; 46.0 dBμV/m between 216MHz & 960MHz; 54.0 dBμV/m above 960MHz.
Detector:	For PK value: RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz VBW ≥ RBW Sweep = auto Detector function = peak Trace = max hold For AV value: RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz VBW =10Hz Sweep = auto Detector function = peak Trace = max hold

Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section. only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	
13.36 - 13.41	322 - 335.4		

Test Result:

802.11b mode with 1Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	46.32	45.13	74.00	Vertical
2390.000	27.61	6.14	35.05	47.43	46.13	74.00	V
2483.500	27.55	6.30	34.99	48.10	46.96	74.00	V
2500.000	27.55	6.30	34.98	47.98	46.85	74.00	V
2310.000	27.93	5.98	35.10	47.32	46.13	74.00	Horizontal
2390.000	27.61	6.14	35.05	47.72	46.42	74.00	H
2483.500	27.55	6.30	34.99	48.05	46.91	74.00	H
2500.000	27.55	6.30	34.98	47.28	46.15	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	26.12	24.93	54.00	Vertical
2390.000	27.61	6.14	35.05	27.00	25.70	54.00	V
2483.500	27.55	6.30	34.99	29.86	28.72	54.00	V
2500.000	27.55	6.30	34.98	30.29	29.16	54.00	V
2310.000	27.93	5.98	35.10	26.99	25.80	54.00	Horizontal
2390.000	27.61	6.14	35.05	28.80	27.50	54.00	H
2483.500	27.55	6.30	34.99	29.30	28.16	54.00	H
2500.000	27.55	6.30	34.98	29.07	27.94	54.00	H

Test at Channel 6 (2.437 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	46.92	45.73	74.00	Vertical
2390.000	27.61	6.14	35.05	47.68	46.38	74.00	V
2483.500	27.55	6.30	34.99	46.29	45.15	74.00	V
2500.000	27.55	6.30	34.98	48.39	47.26	74.00	V
2310.000	27.93	5.98	35.10	46.69	45.50	74.00	Horizontal
2390.000	27.61	6.14	35.05	49.71	48.41	74.00	H
2483.500	27.55	6.30	34.99	47.29	46.15	74.00	H
2500.000	27.55	6.30	34.98	46.99	45.86	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	30.31	29.12	54.00	Vertical
2390.000	27.61	6.14	35.05	30.90	29.60	54.00	V
2483.500	27.55	6.30	34.99	30.20	29.06	54.00	V
2500.000	27.55	6.30	34.98	29.37	28.24	54.00	V
2310.000	27.93	5.98	35.10	25.70	24.51	54.00	Horizontal
2390.000	27.61	6.14	35.05	27.30	26.00	54.00	H
2483.500	27.55	6.30	34.99	26.34	25.20	54.00	H
2500.000	27.55	6.30	34.98	24.52	23.39	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	46.04	44.85	74.00	Vertical
2390.000	27.61	6.14	35.05	46.13	44.83	74.00	V
2483.500	27.55	6.30	34.99	46.50	45.36	74.00	V
2500.000	27.55	6.30	34.98	46.27	45.14	74.00	V
2310.000	27.93	5.98	35.10	46.45	45.26	74.00	Horizontal
2390.000	27.61	6.14	35.05	47.00	45.70	74.00	H
2483.500	27.55	6.30	34.99	47.89	46.75	74.00	H
2500.000	27.55	6.30	34.98	47.88	46.75	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	26.44	25.25	54.00	Vertical
2390.000	27.61	6.14	35.05	26.46	25.16	54.00	V
2483.500	27.55	6.30	34.99	26.20	25.06	54.00	V
2500.000	27.55	6.30	34.98	26.94	25.81	54.00	V
2310.000	27.93	5.98	35.10	29.15	27.96	54.00	Horizontal
2390.000	27.61	6.14	35.05	27.43	26.13	54.00	H
2483.500	27.55	6.30	34.99	27.25	26.11	54.00	H
2500.000	27.55	6.30	34.98	27.38	26.25	54.00	H

802.11g mode with 6Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	47.63	46.44	74.00	Vertical
2390.000	27.61	6.14	35.05	47.31	46.01	74.00	V
2483.500	27.55	6.30	34.99	46.75	45.61	74.00	V
2500.000	27.55	6.30	34.98	49.17	48.04	74.00	V
2310.000	27.93	5.98	35.10	46.97	45.78	74.00	Horizontal
2390.000	27.61	6.14	35.05	46.12	44.82	74.00	H
2483.500	27.55	6.30	34.99	46.50	45.36	74.00	H
2500.000	27.55	6.30	34.98	46.61	45.48	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	27.27	26.08	54.00	Vertical
2390.000	27.61	6.14	35.05	27.11	25.81	54.00	V
2483.500	27.55	6.30	34.99	26.46	25.32	54.00	V
2500.000	27.55	6.30	34.98	28.70	27.57	54.00	V
2310.000	27.93	5.98	35.10	27.54	26.35	54.00	Horizontal
2390.000	27.61	6.14	35.05	26.41	25.11	54.00	H
2483.500	27.55	6.30	34.99	26.98	25.84	54.00	H
2500.000	27.55	6.30	34.98	26.80	25.67	54.00	H

Test at Channel 6 (2.437 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	46.03	44.84	74.00	Vertical
2390.000	27.61	6.14	35.05	46.17	44.87	74.00	V
2483.500	27.55	6.30	34.99	46.88	45.74	74.00	V
2500.000	27.55	6.30	34.98	47.41	46.28	74.00	V
2310.000	27.93	5.98	35.10	47.05	45.86	74.00	Horizontal
2390.000	27.61	6.14	35.05	47.00	45.70	74.00	H
2483.500	27.55	6.30	34.99	46.68	45.54	74.00	H
2500.000	27.55	6.30	34.98	47.77	46.64	74.00	H

Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	26.98	25.79	54.00	Vertical
2390.000	27.61	6.14	35.05	26.72	25.42	54.00	V
2483.500	27.55	6.30	34.99	26.36	25.22	54.00	V
2500.000	27.55	6.30	34.98	26.59	25.46	54.00	V
2310.000	27.93	5.98	35.10	27.90	26.71	54.00	Horizontal
2390.000	27.61	6.14	35.05	27.70	26.40	54.00	H
2483.500	27.55	6.30	34.99	26.46	25.32	54.00	H
2500.000	27.55	6.30	34.98	26.44	25.31	54.00	H

Test at Channel 11 (2.462 GHz) in transmitting status

Peak Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	47.02	45.83	74.00	Vertical
2390.000	27.61	6.14	35.05	47.13	45.83	74.00	V
2483.500	27.55	6.30	34.99	47.80	46.66	74.00	V
2500.000	27.55	6.30	34.98	47.17	46.04	74.00	V
2310.000	27.93	5.98	35.10	47.27	46.08	74.00	Horizontal
2390.000	27.61	6.14	35.05	48.10	46.80	74.00	H
2483.500	27.55	6.30	34.99	49.16	48.02	74.00	H
2500.000	27.55	6.30	34.98	48.24	47.11	74.00	H

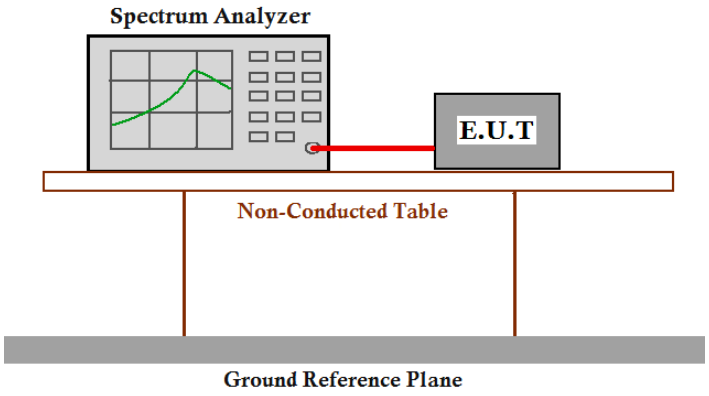
Average Measurement:

Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2310.000	27.93	5.98	35.10	27.24	26.05	54.00	Vertical
2390.000	27.61	6.14	35.05	27.53	26.23	54.00	V
2483.500	27.55	6.30	34.99	27.70	26.56	54.00	V
2500.000	27.55	6.30	34.98	27.04	25.91	54.00	V
2310.000	27.93	5.98	35.10	27.15	25.96	54.00	Horizontal
2390.000	27.61	6.14	35.05	26.20	24.90	54.00	H
2483.500	27.55	6.30	34.99	27.54	26.40	54.00	H
2500.000	27.55	6.30	34.98	27.36	26.23	54.00	H

5.9 Band Edges Requirement

Test Requirement:	FCC Part 15 C section 15.247 (d) 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.
Frequency Band:	2400 MHz to 2483.5 MHz
Test Method:	ANSI C63.10: Clause 6.9 & KDB558074.
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set RBW=100 kHz , VBW=100KHz ,suitable frequency span including 100 kHz bandwidth from band edge..
3. Measure the Conducted Spurious Emissions and Radiated Emissions of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse.

Test result with plots as follows:

The band edges was measured and recorded Result:

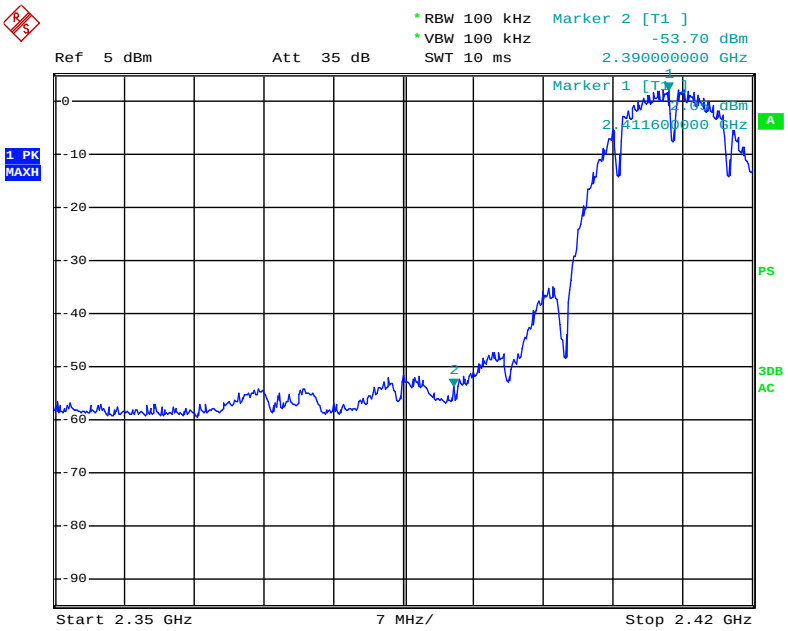
The Lower Edges attenuated more than 20dB.

The Upper Edges attenuated more than 20dB.

Result plot as follows:

802.11b mode with 1 Mbps data rate

Channel1: 2.412 GHz



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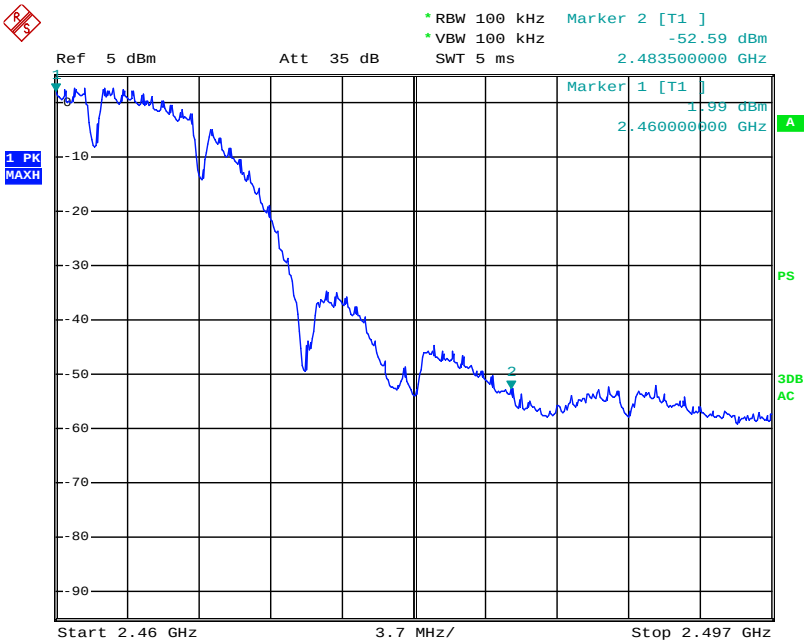
802.11b mode with 1 Mbps data rate

Channel11: 2.462 GHz

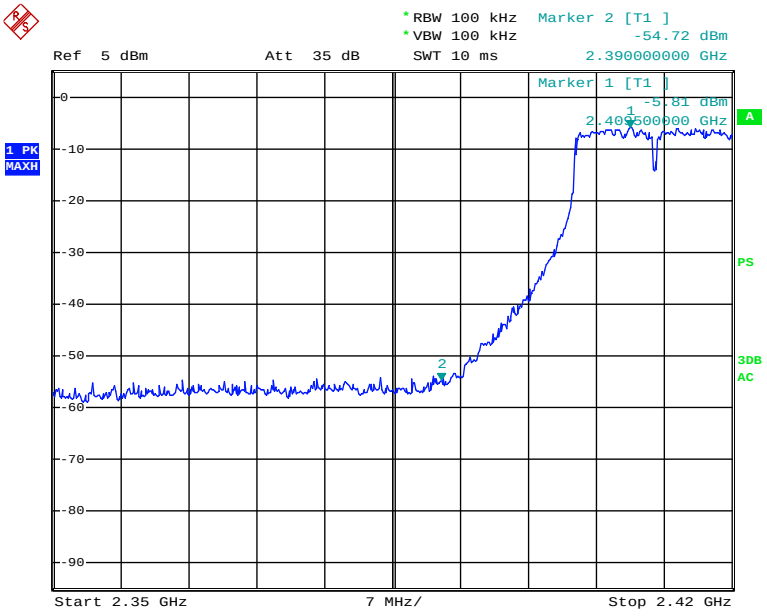


Date: 6.MAR.2092 21:14:29

Result plot as follows:

802.11g mode with 6 Mbps data rate

Channel1: 2.412 GHz



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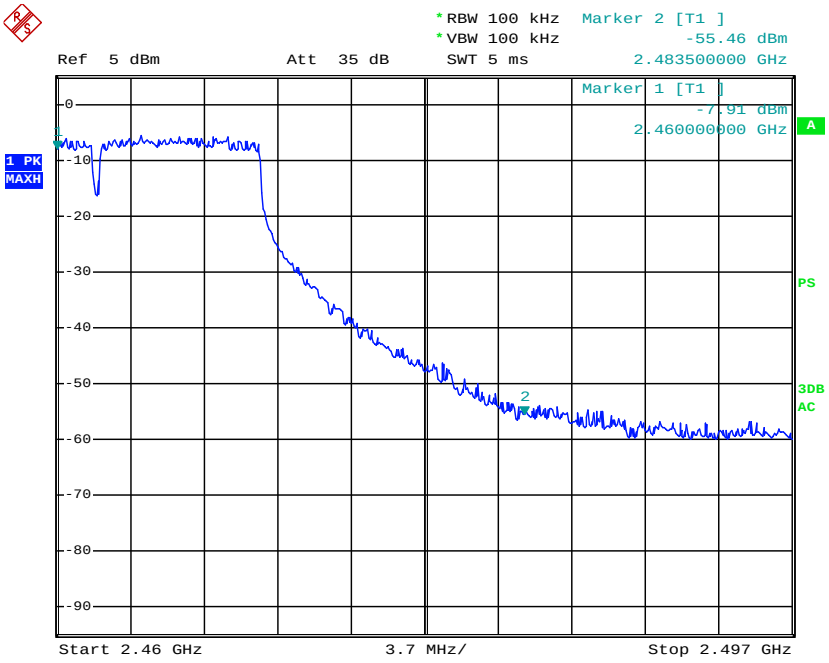
802.11g mode with 1 Mbps data rate

Channel11: 2.462 GHz



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5.10 Conducted Emissions at Mains Terminals 150 kHz to 30MHz

Test Requirement: FCC Part 15 C section 15.207

Test Method: ANSI C63.10: Clause 6.2 & KDB558074.

Frequency Range: 150 kHz to 30 MHz

Detector: Peak for pre-scan (9kHz Resolution Bandwidth)

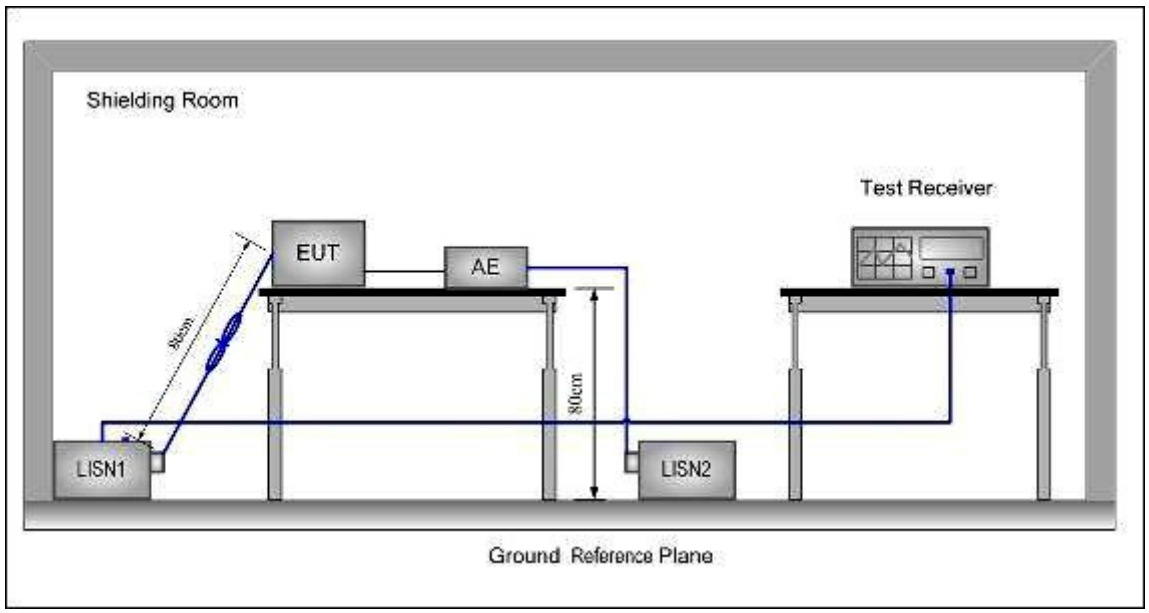
Test Limit

Limits for conducted disturbance at the mains ports of class B

Frequency Range	Class B Limit (dBuV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.		

EUT Operation: Test in normal operating mode. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.
Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Test Configuration:



Test procedure:

1. The mains terminal disturbance voltage test was conducted in a shielded room.

2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.

4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

5.10.1 Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

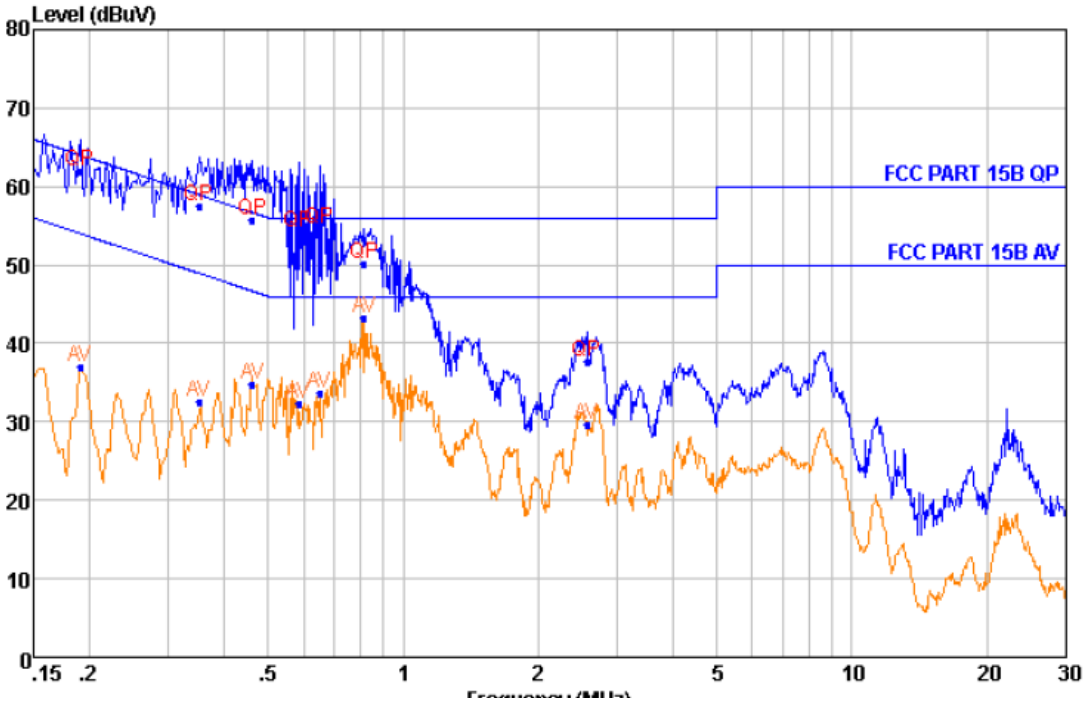
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected. For EUT the communicating was worst case mode.

The following Quasi-Peak and Average measurements were performed on the EUT:

Live Line:

Peak Scan:

Level (dBµV)



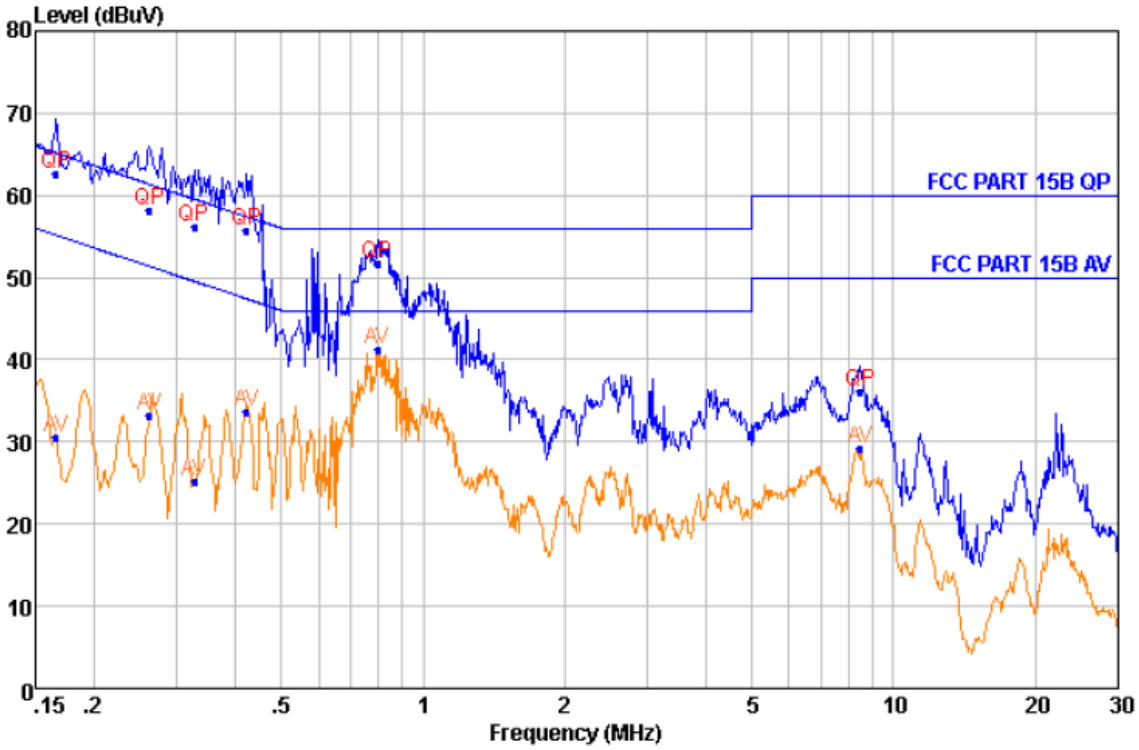
Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.190	61.92	QP	9.68	0.21	64.02	-2.10
2	0.190	36.92	Average	9.68	0.21	54.02	-17.10
3	0.350	57.54	QP	9.66	0.25	58.96	-1.42
4	0.350	32.54	Average	9.66	0.25	48.96	-16.42
5	0.461	55.81	QP	9.65	0.26	56.67	-0.86
6	0.461	34.81	Average	9.65	0.26	46.67	-11.86
7	0.585	54.26	QP	9.68	0.28	56.00	-1.74
8	0.585	32.26	Average	9.68	0.28	46.00	-13.74
9	0.651	54.68	QP	9.70	0.28	56.00	-1.32
10	0.651	33.68	Average	9.70	0.28	46.00	-12.32
11	0.817	50.17	QP	9.69	0.30	56.00	-5.83
12	0.817	43.17	Average	9.69	0.30	46.00	-2.83
13	2.567	37.56	QP	9.64	0.36	56.00	-18.44
14	2.567	29.56	Average	9.64	0.36	46.00	-16.44

Neutral Line:

Peak Scan:

Level (dBμ V)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.166	62.59	QP	9.68	0.21	65.16	-2.57
2	0.166	30.59	Average	9.68	0.21	55.16	-24.57
3	0.262	58.11	QP	9.64	0.23	61.38	-3.27
4	0.262	33.11	Average	9.64	0.23	51.38	-18.27
5	0.327	56.11	QP	9.65	0.24	59.53	-3.42
6	0.327	25.11	Average	9.65	0.24	49.53	-24.42
7	0.421	55.72	QP	9.66	0.26	57.42	-1.70
8	0.421	33.72	Average	9.66	0.26	47.42	-13.70
9	0.800	51.61	QP	9.62	0.29	56.00	-4.39
10	0.800	41.29	Average	9.62	0.29	46.00	-4.71
11	8.501	36.18	QP	9.62	0.43	60.00	-23.82
12	8.501	29.18	Average	9.62	0.43	50.00	-20.82

-- End of test report --