TEST REPORT

Applicant:	Gicom Enterprises,Inc.
Address of Applicant:	No.5 Street 5,Shangdi,Haidian District,Beijing China
Manufacturer:	Gicom Enterprises,Inc.
Address of Manufacturer:	No.5 Street 5,Shangdi,Haidian District,Beijing China
Product name:	Mobile Computer
Model:	GC300
Rating(s):	Rechargeable battery :3.7V×1 DC Rating:5VDC 1A
Trademark:	GC
FCC register number：	935596
Standards:	FCC Part 15.247 ANSI C63.4 : 2003
FCC ID:	QVW-GC300
Data of Receipt:	2012-09-24
Date of Test:	2012-09-24~2012-10-23
Date of Issue:	2012-10-25
Test Result	**Pass***

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

Authorized for issue by:

Test by:		***Reviewed by:***	
Oct.25.2012	Jumy Qiu Project Engineer	Oct.25.2012	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:

/.

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: Gicom Enterprises,Inc.

Address of Applicant: No.5 Street 5,Shangdi,Haidian District,Beijing China

3.2 General Description of E.U.T.

Name: Mobile Computer

Model No.: GC300

Trade Mark: GC

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: Cable antenna for primary use with 1.6dBi
Ceramic antenna for backup use with 0dBi

3.3 Details of E.U.T.

EUT Power Supply: Usb Port

Adapter: /

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

Power cord: USB 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	$\pm 1.06 \times 10^{-7}$
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	Agilent	N9010A	MY51250936	2013.02.29
2	Pre Amplifier	HP	8447F	3113A05905	2013.09.06
3	Pre Amplifier	Mini-circuits	MLA-0120-A02-34	2648A04738	2013.06.07
4	Biconilog Antenna	ETS•Lindgren	3142D	00108096	2013.01.28
5	Horn Antenna	A-INFOMW	JXTXLB-10180-N	J2031090612133	2012.12.17
6	EMI Test Receiver	R&S	ESCI	100124	2013.06.07
7	LISN	R&S	ENV216	100120	2013.06.07
8	50Ω Coaxial Cable	Mini-circuits	CBL	ITL-115	2013.09.06
9	Semi-Anechoic chamber	ETS•Lindgren	FACT3 2.0	ITL-100	2013.04.10
10	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,

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 primary antenna is a cable antenna and no consideration of replacement. The best case gain of the antenna is 1.6dBi.

The backup antenna is a Ceramics antenna and no consideration of replacement. The best case gain of the antenna is 0dBi.

Test result: The unit does meet the FCC requirements.

5.3 6 dB Bandwidth

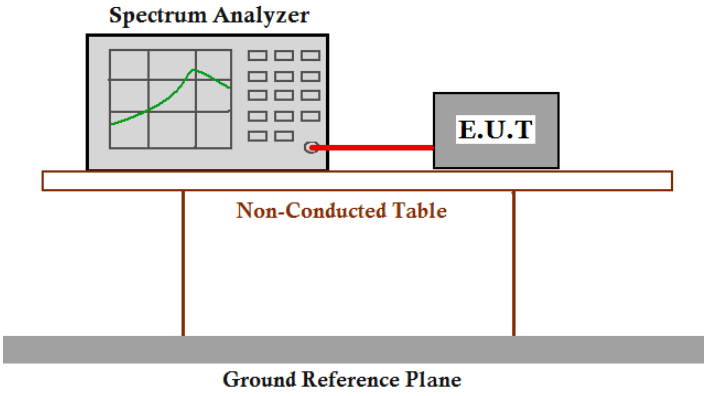
Test Requirement: FCC Part 15 C section 15.247

(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 =1.0dB) 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.

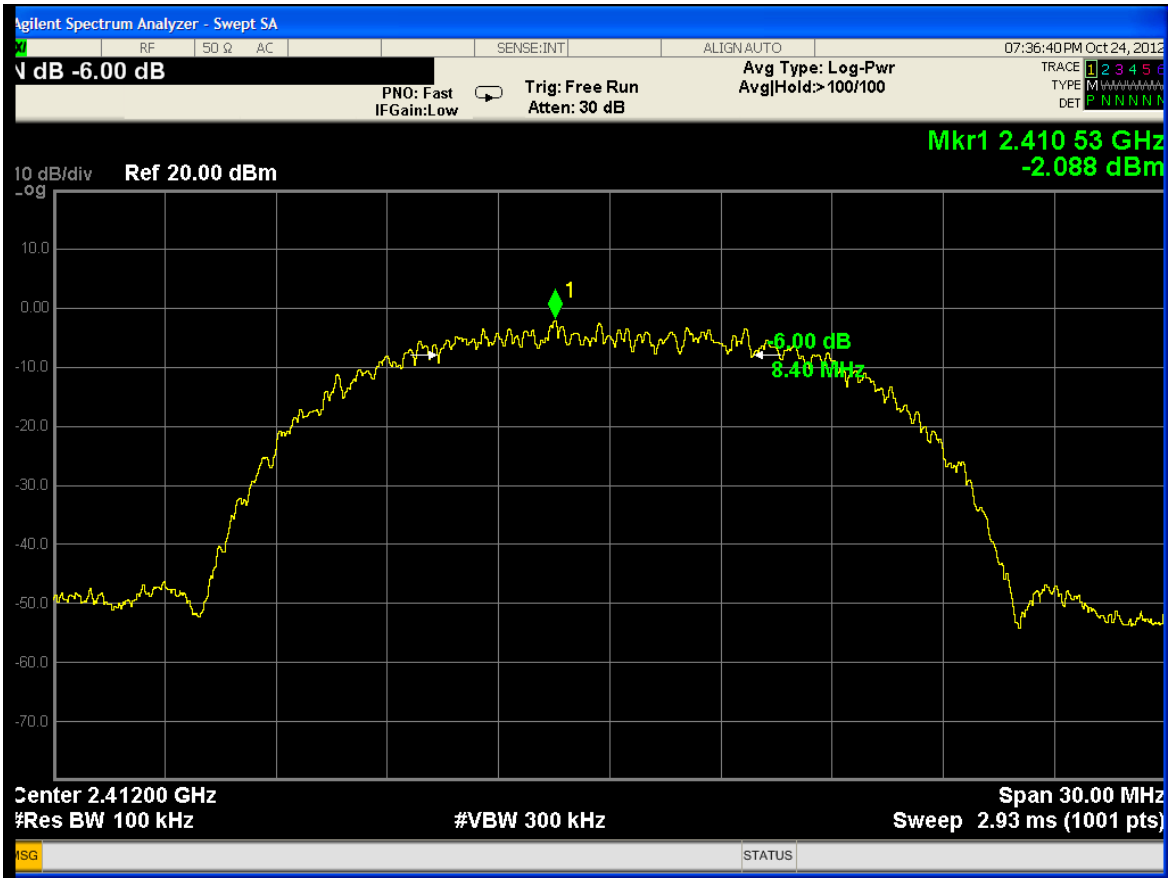
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412	802.11b	1 Mbps	8.40	≥500KHz	Pass
6	2437		1 Mbps	8.40		Pass
11	2462		1 Mbps	8.40		Pass
1	2412	802.11g	6 Mbps	16.56	≥500KHz	Pass
6	2437		6 Mbps	16.56		Pass
11	2462		6 Mbps	16.59		Pass

6dB bandwidth:

Result plot as follows:

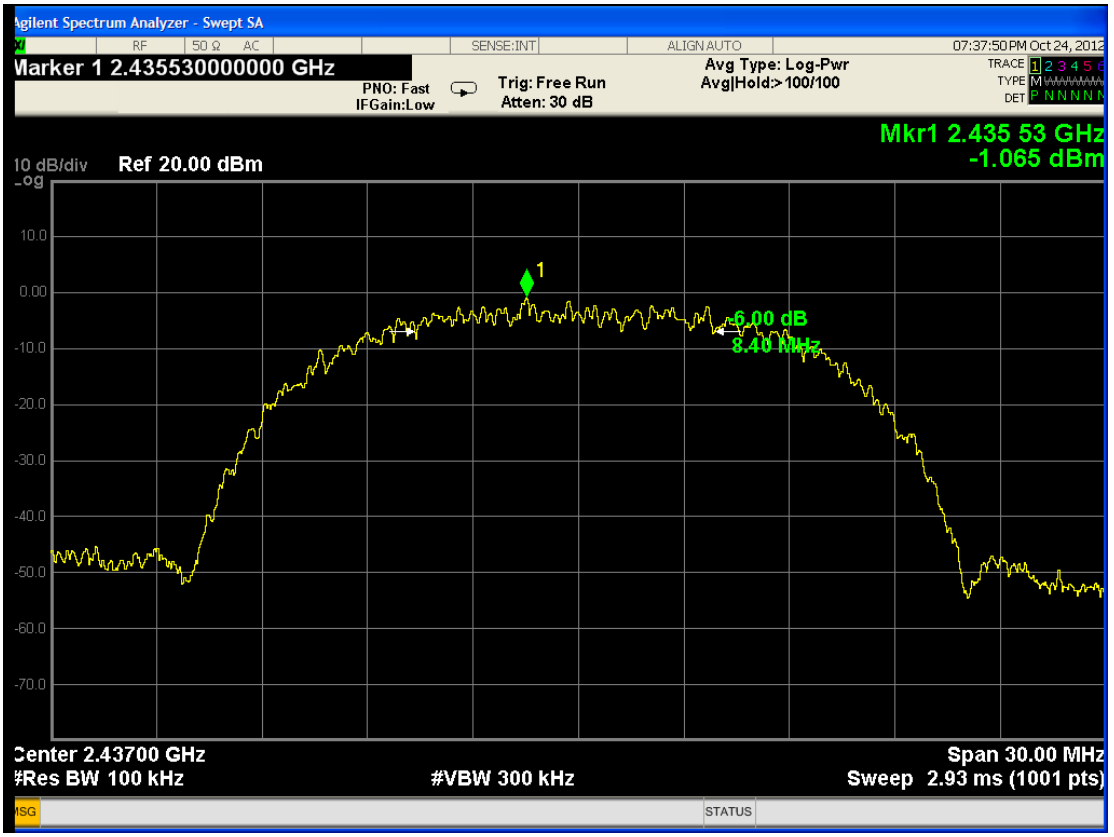
802.11b mode with 1Mbps data rate

Channel 1:2.412GHz:



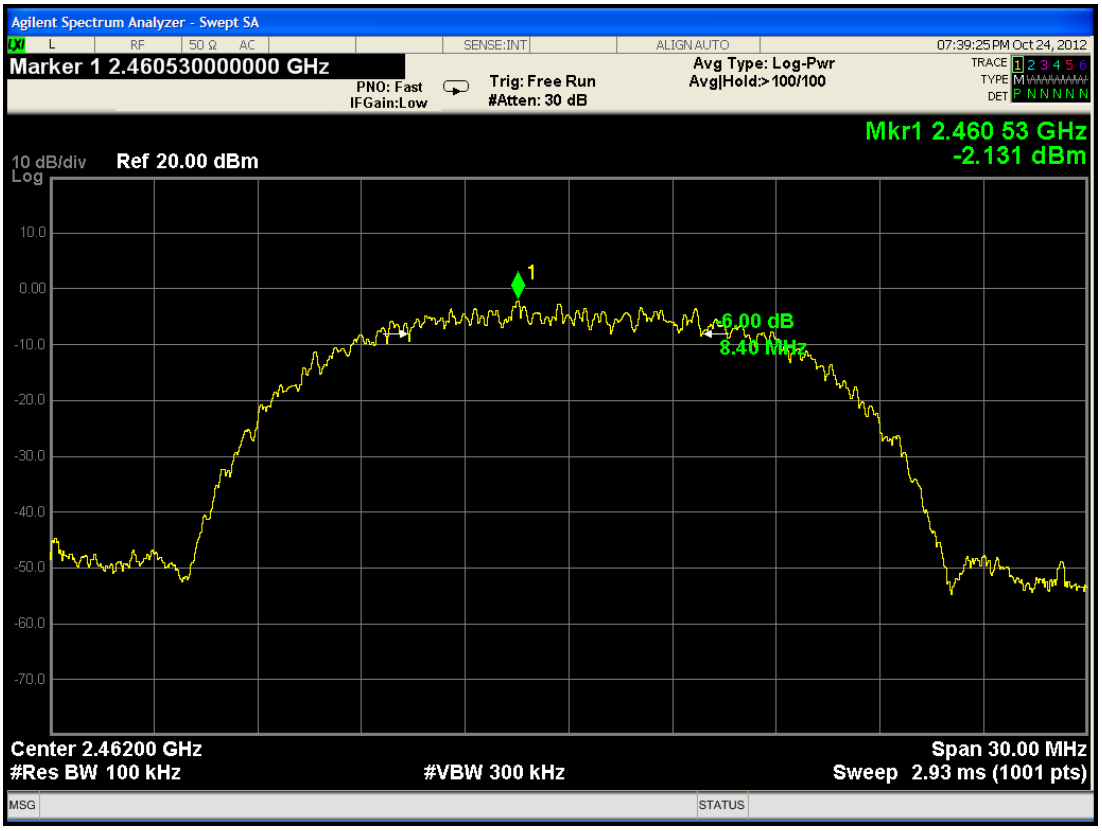
802.11b mode with 1Mbps data rate

Channel 6:2.437GHz:



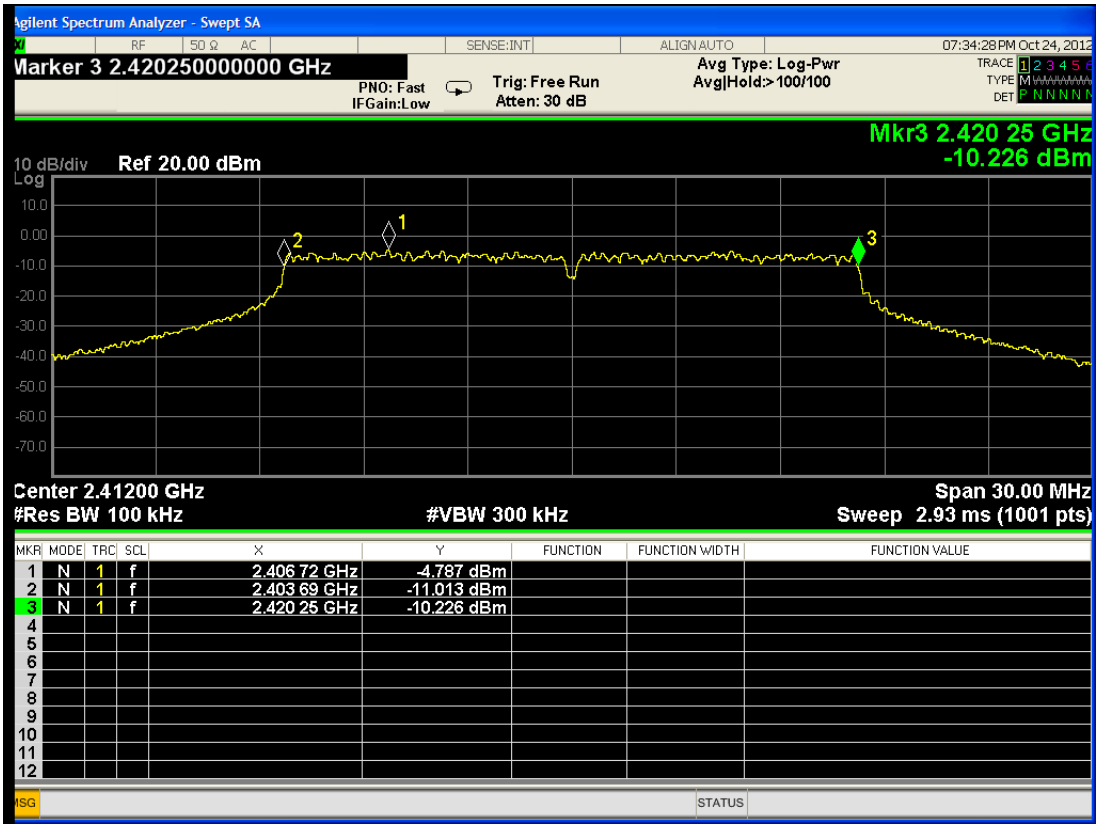
802.11b mode with 1Mbps data rate

Channel 11:2.462GHz:



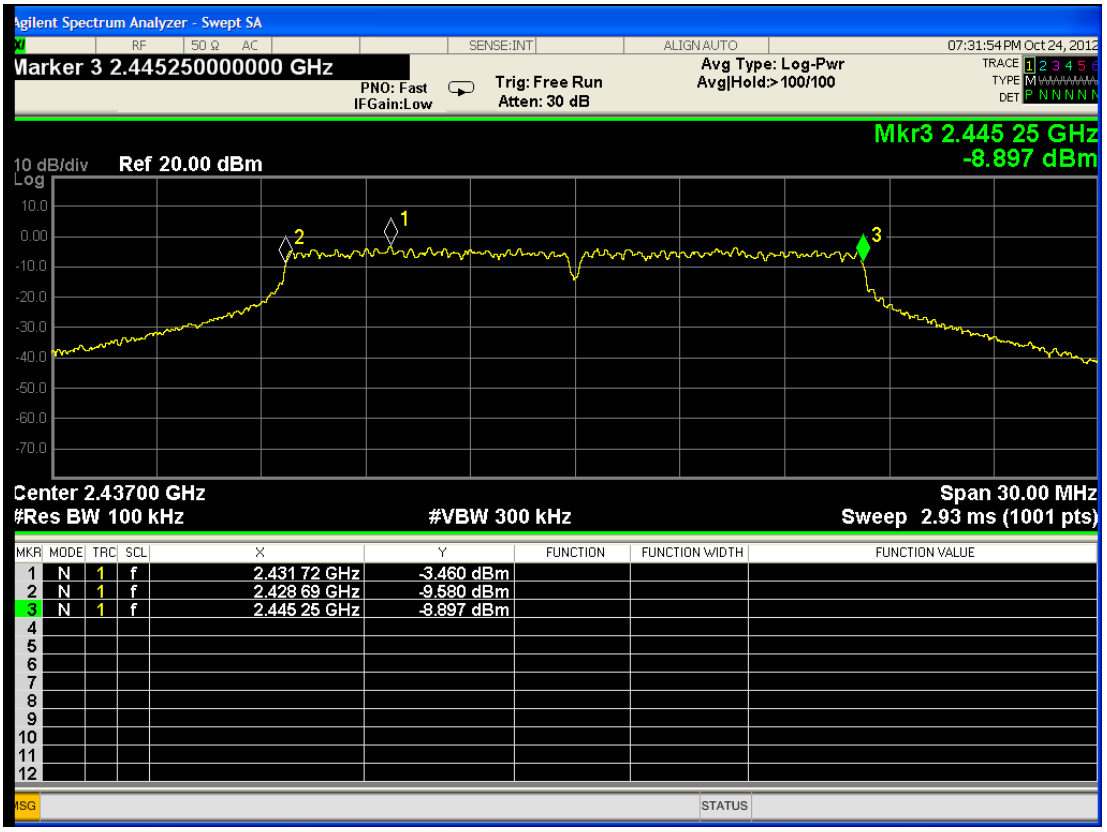
802.11g mode with 6Mbps data rate

Channel 1:2.412GHz:



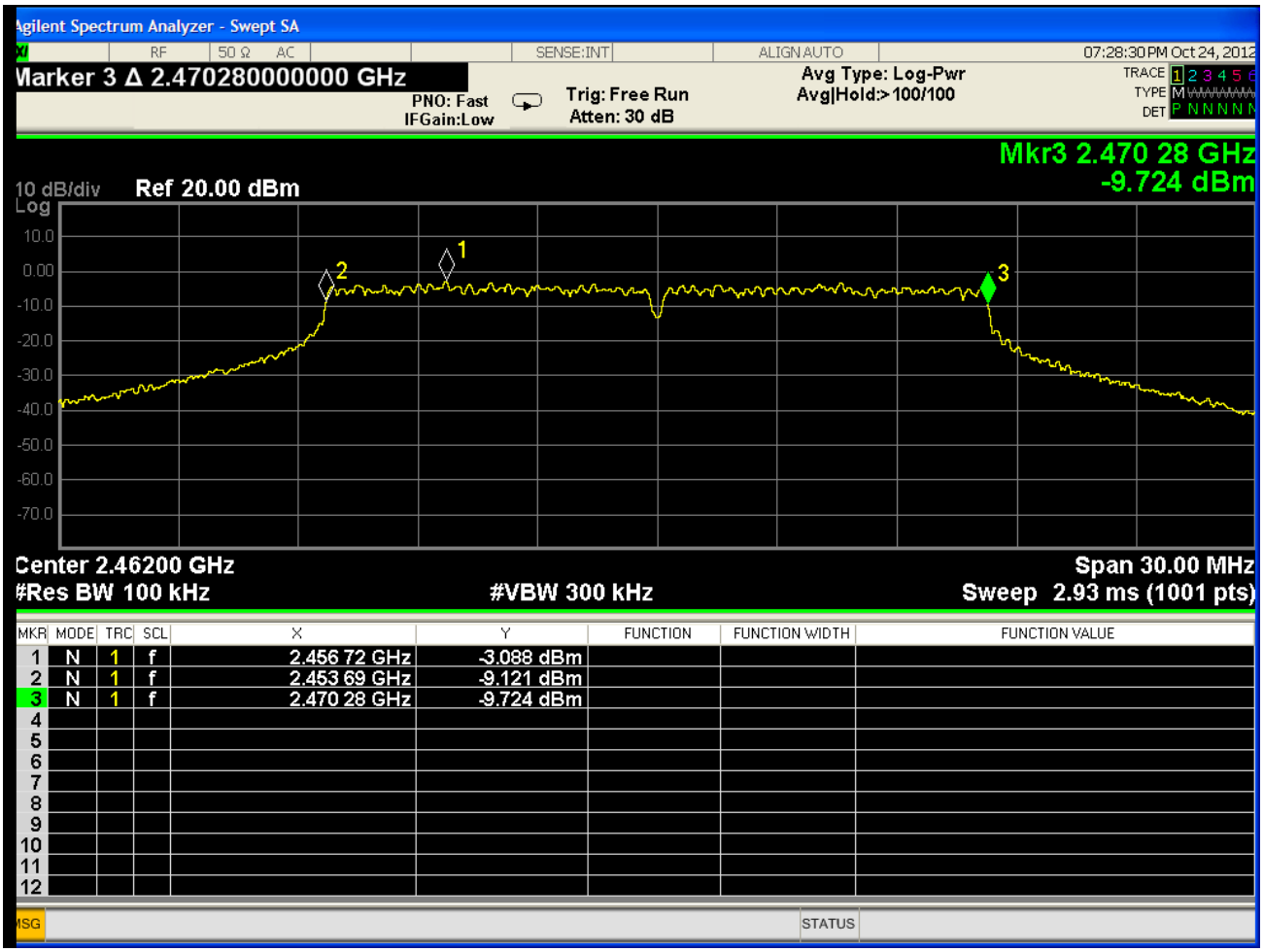
802.11g mode with 6Mbps data rate

Channel 6:2.437GHz:



802.11g mode with 6Mbps data rate

Channel 11:2.462GHz:



5.4 Maximum Peak Output Power

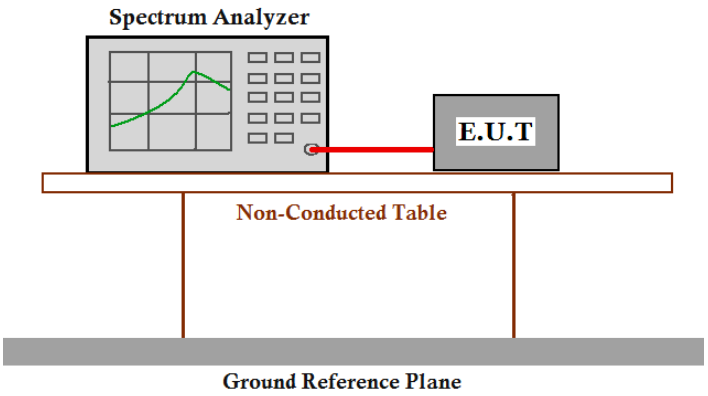
Test Requirement: FCC Part 15 C section 15.247

(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 =1.0dB) 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	6.83	30	Pass
6	2437		1 Mbps	7.71		Pass
11	2462		1 Mbps	7.91		Pass
1	2412	802.11g	6 Mbps	8.13	30	Pass
6	2437		6 Mbps	8.42		Pass
11	2462		6 Mbps	8.79		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

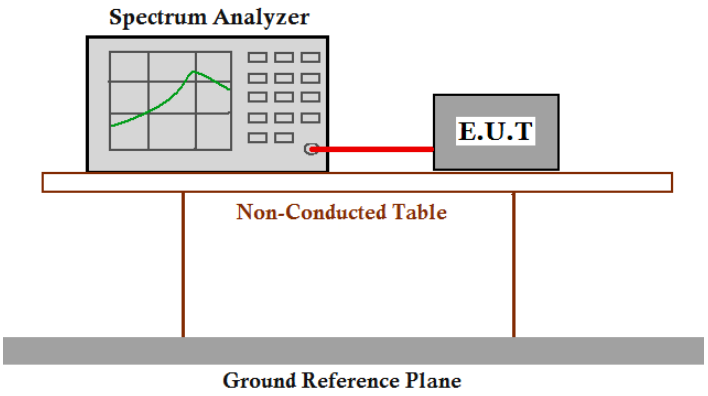
(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

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 =1.0 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	-18.364	8dBm/3KHz	Pass
6	2437		1 Mbps	-17.365		Pass
11	2462		1 Mbps	-17.230		Pass
1	2412	802.11g	6 Mbps	-17.930		Pass
6	2437		6 Mbps	-17.086		Pass
11	2462		6 Mbps	-17.422		Pass

Test result: Level = Read Level + Cable Loss.

The unit does meet the FCC requirements.

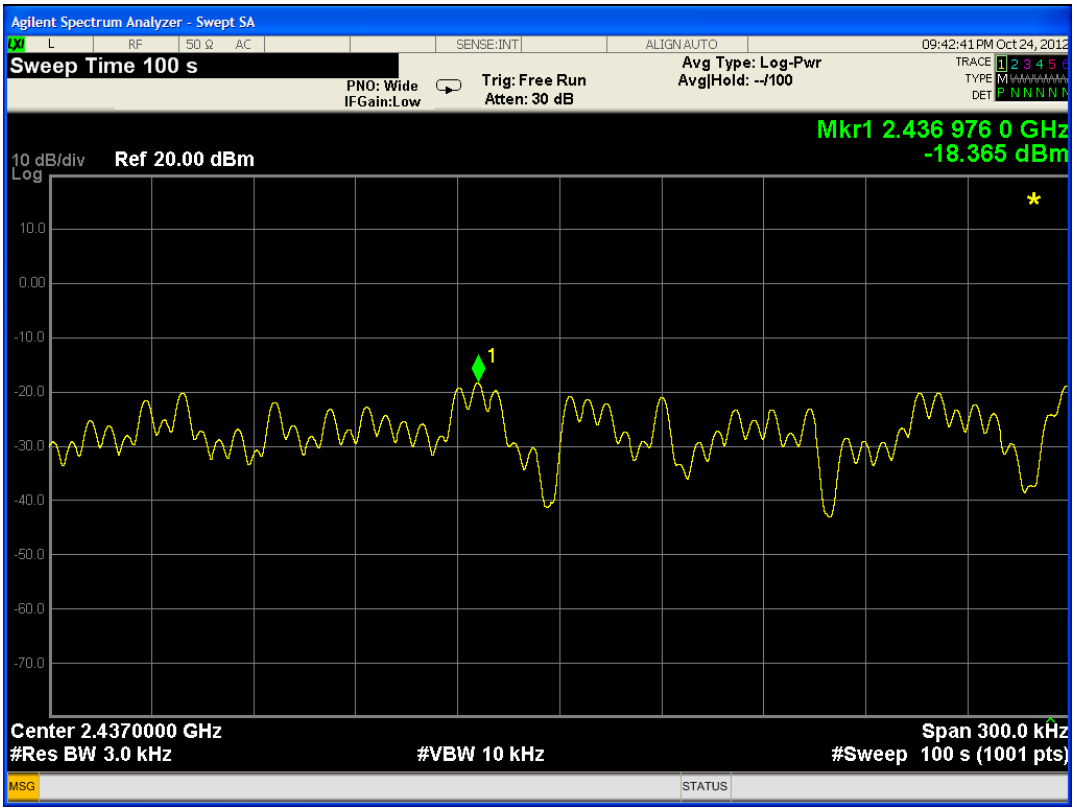
Result plot as follows:

802.11b mode with 1Mbps data rate

Channel 1:2.412 GHz:

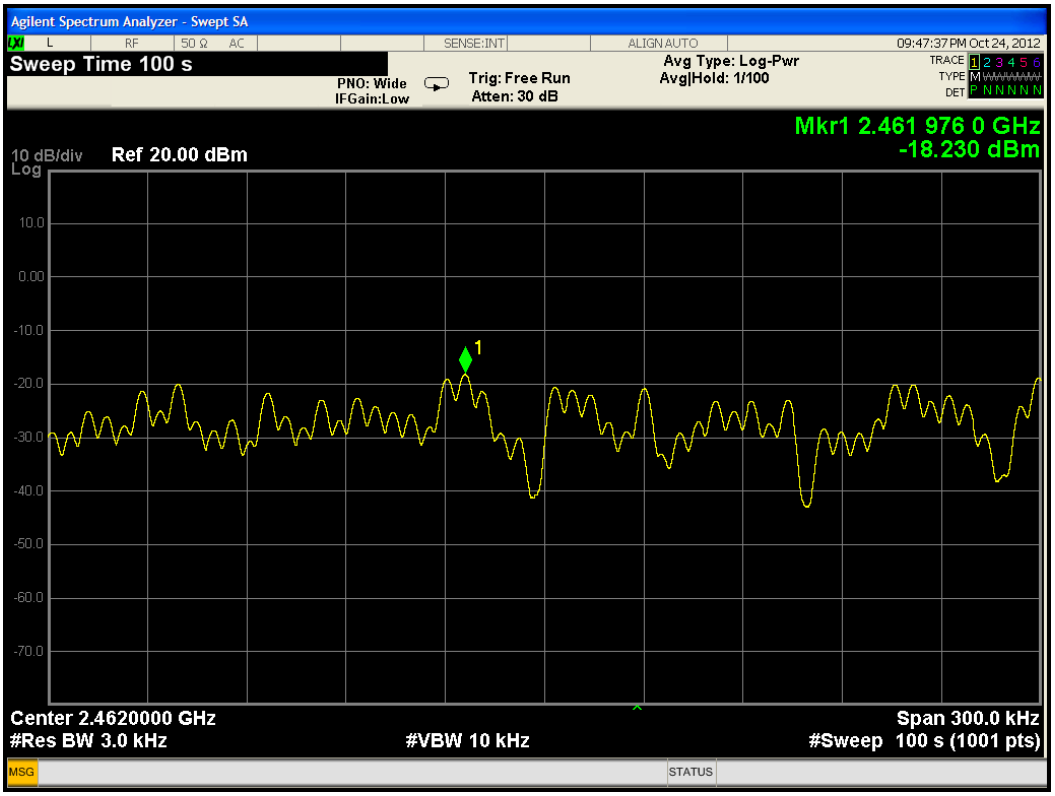
802.11b mode with 1Mbps data rate

Channel 6:2.437 GHz:



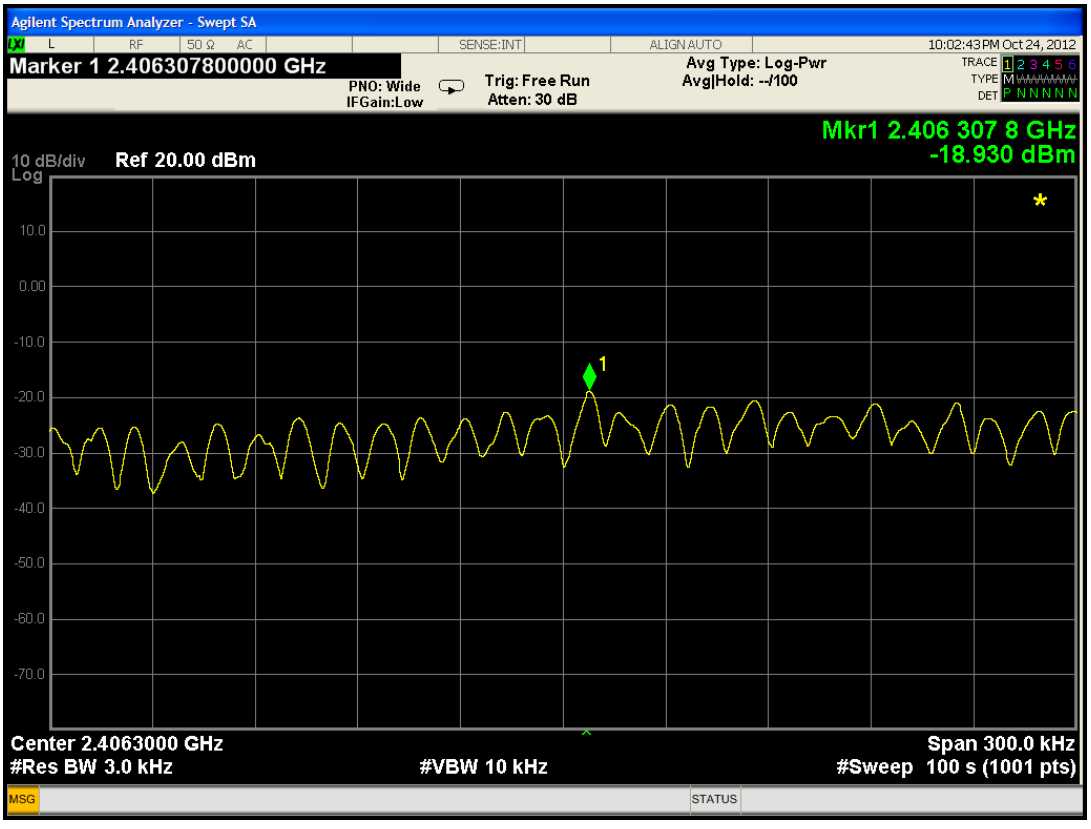
802.11b mode with 1Mbps data rate

Channel 11:2.437 GHz:



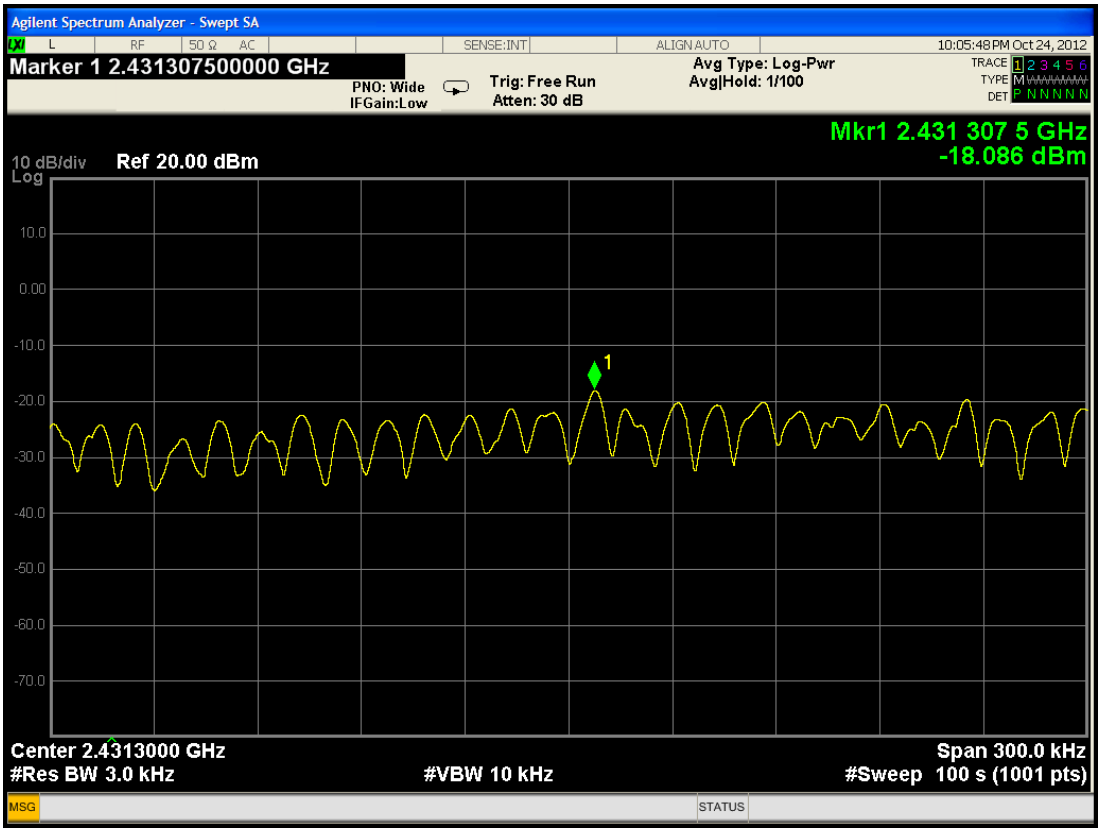
802.11g mode with 6Mbps data rate

Channel 1:2.412 GHz:



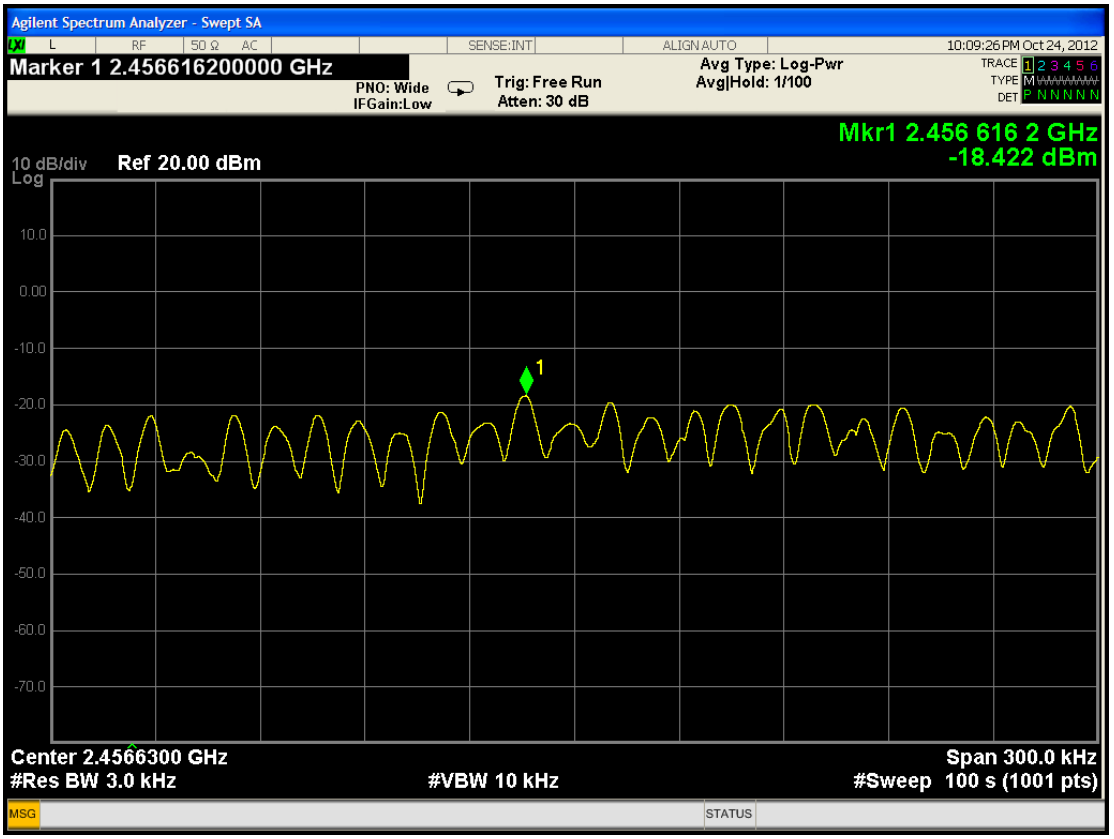
802.11g mode with 6Mbps data rate

Channel 6:2.437 GHz:



802.11g mode with 6Mbps data rate

Channel 11:2.462 GHz:



5.6 Conducted Spurious Emissions

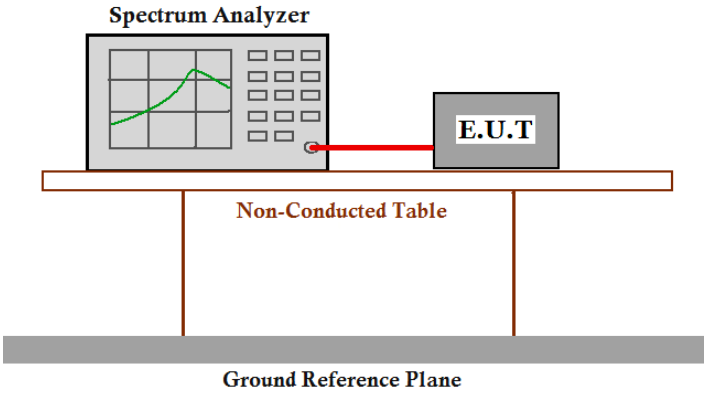
Test Requirement: FCC Part 15 C section 15.247

(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:



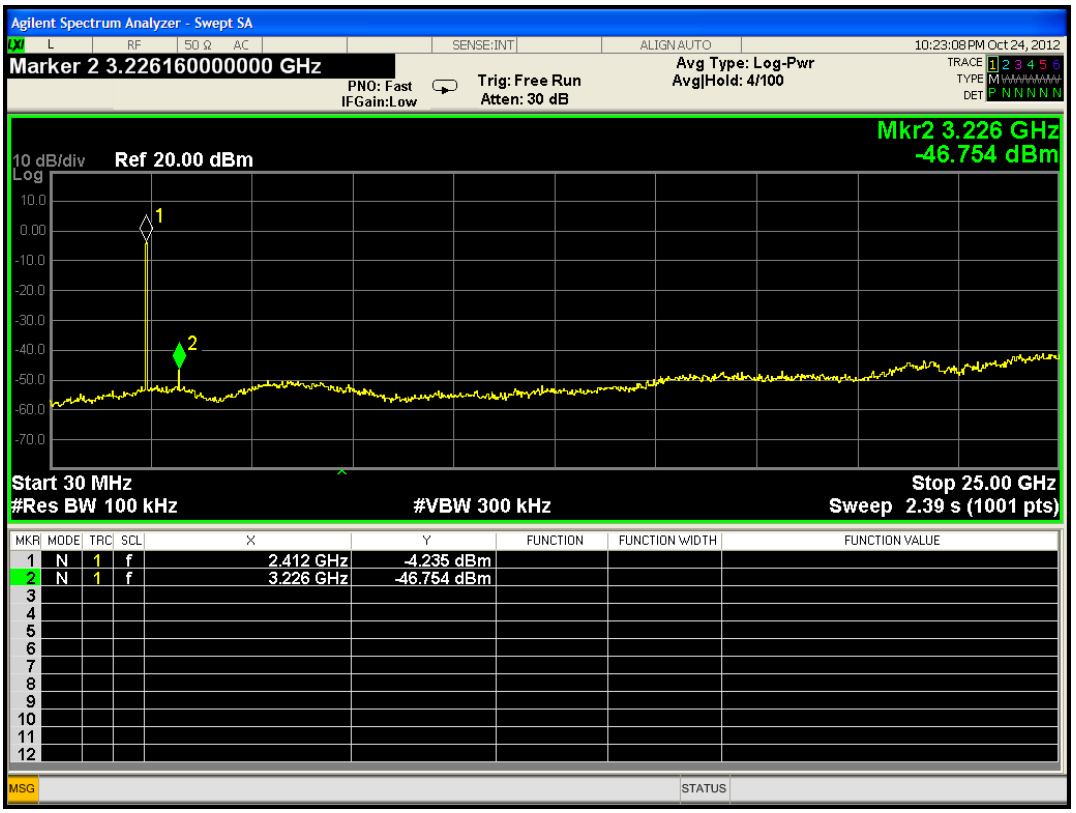
Test Procedure:

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:

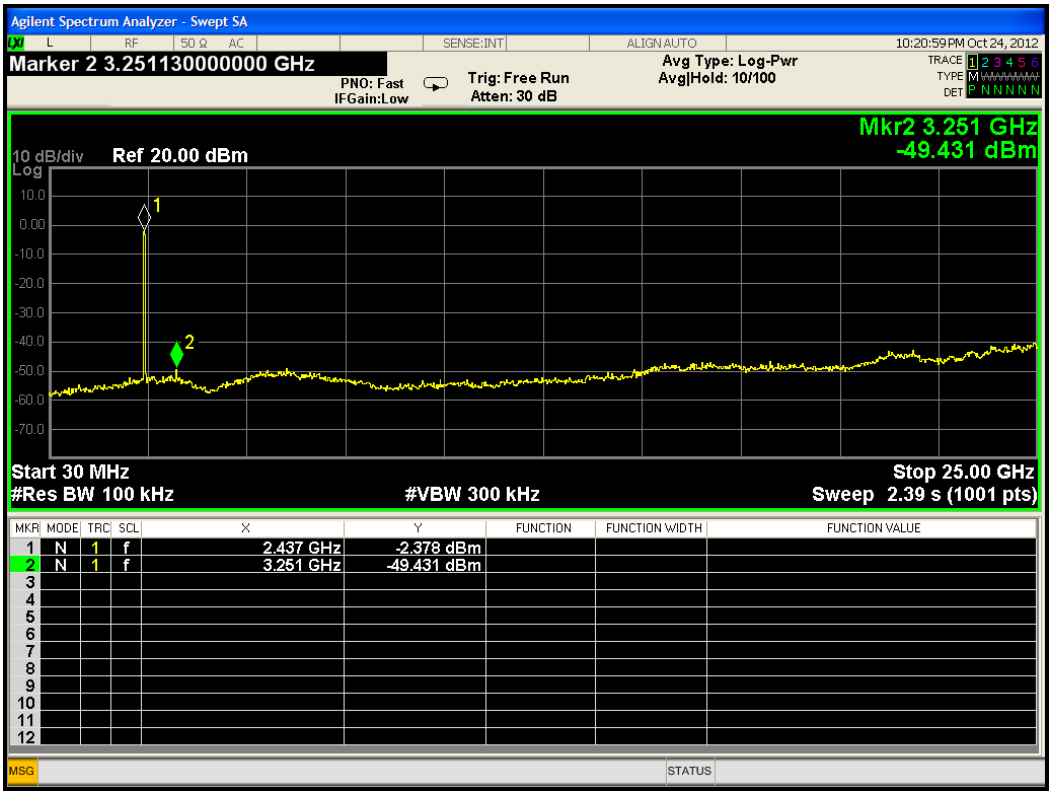
802.11b mode with 1Mbps data rate

Channel 1: 2.412 GHz



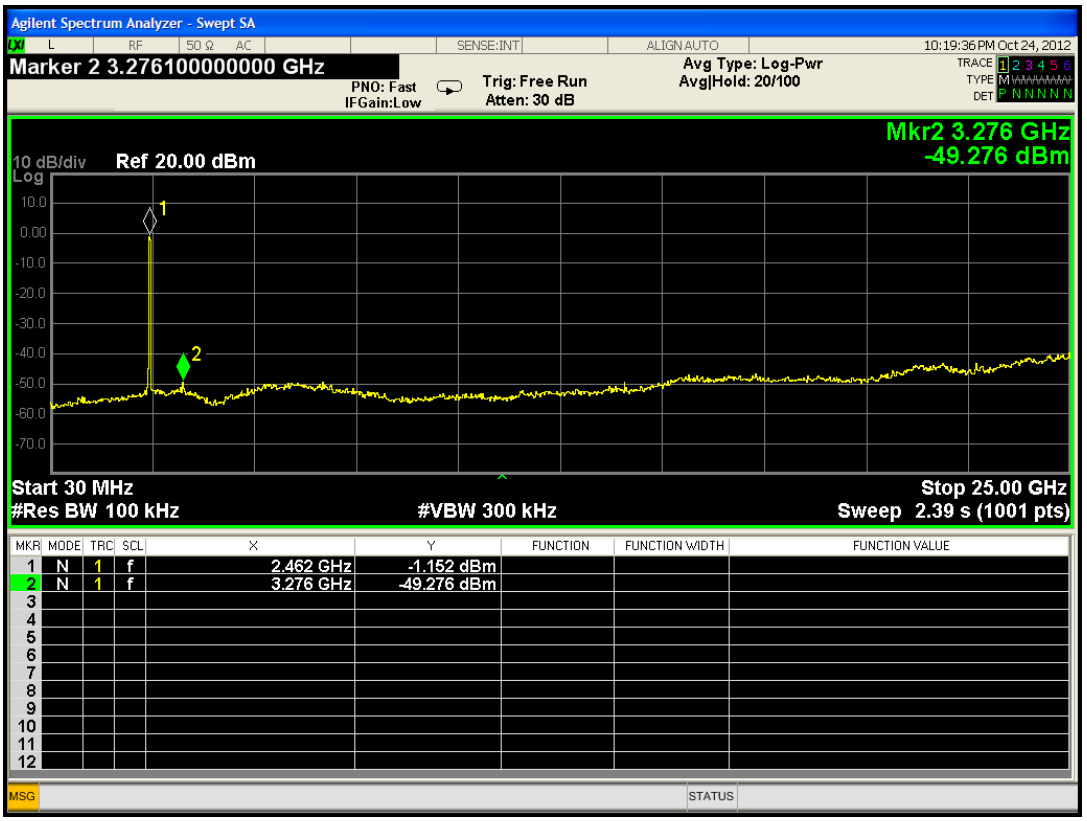
802.11b mode with 1Mbps data rate

Channel 6: 2.437 GHz



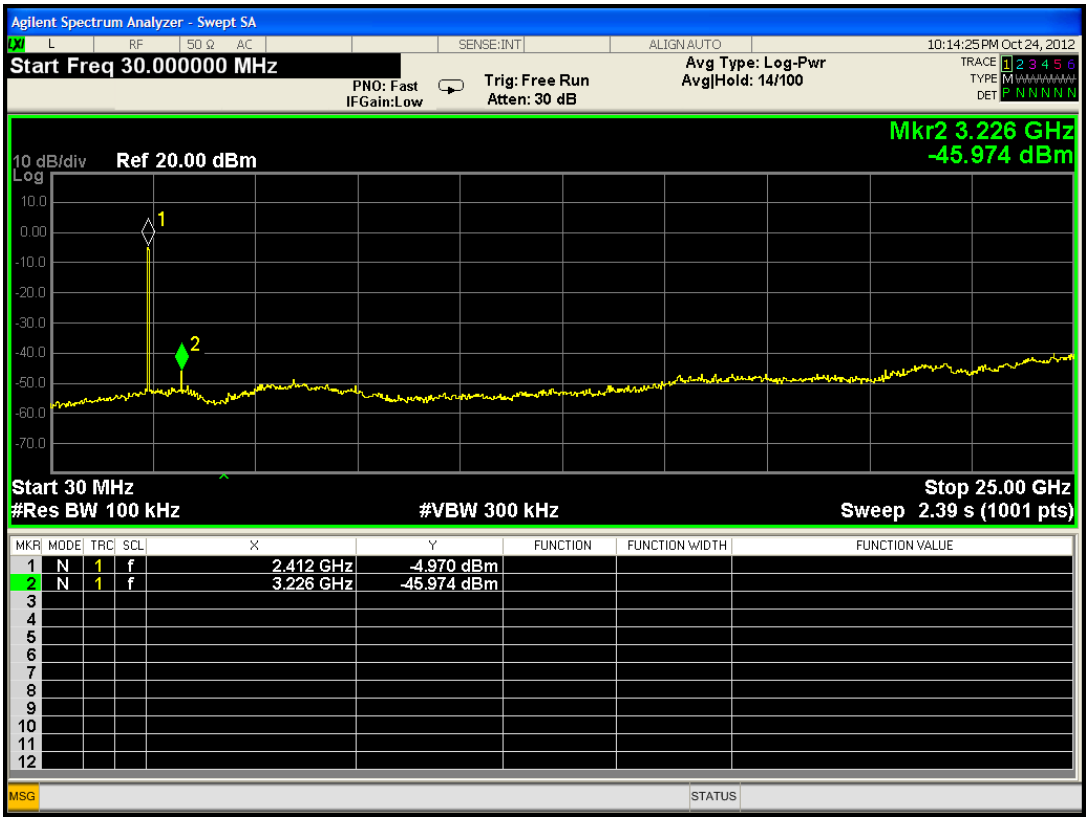
802.11b mode with 1Mbps data rate

Channel 11: 2.462 GHz



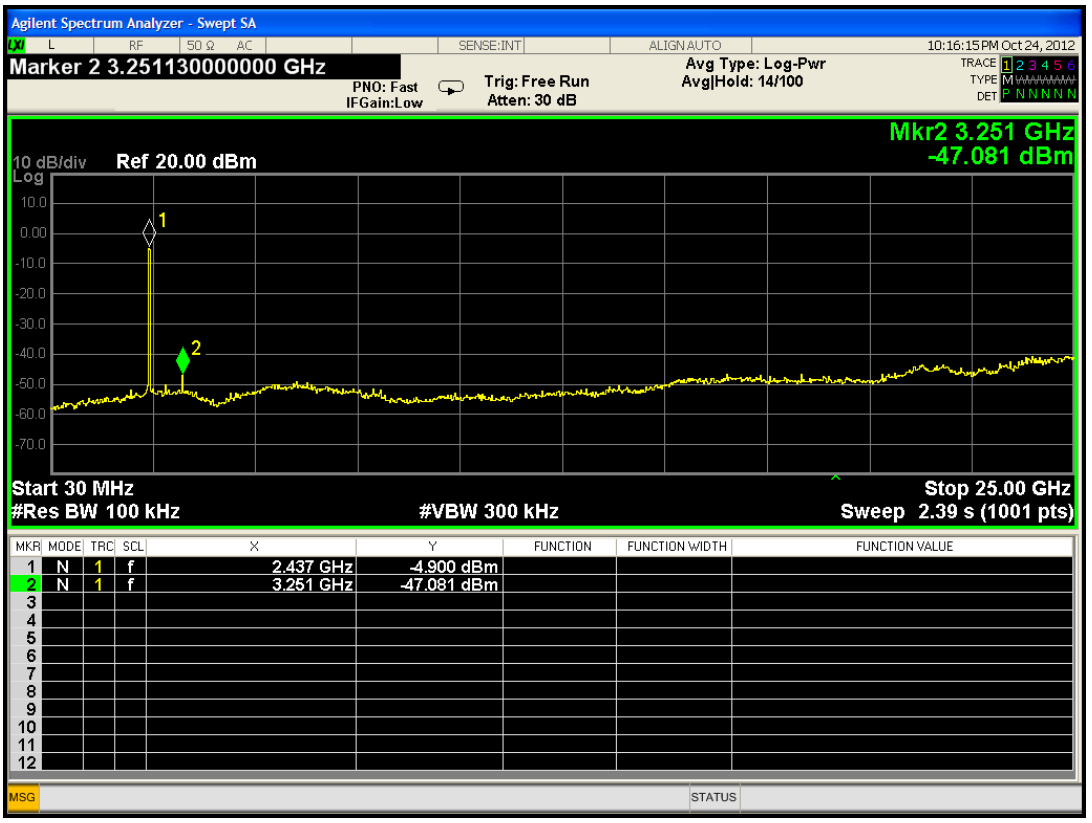
802.11g mode with 6Mbps data rate

Channel 1: 2.412 GHz



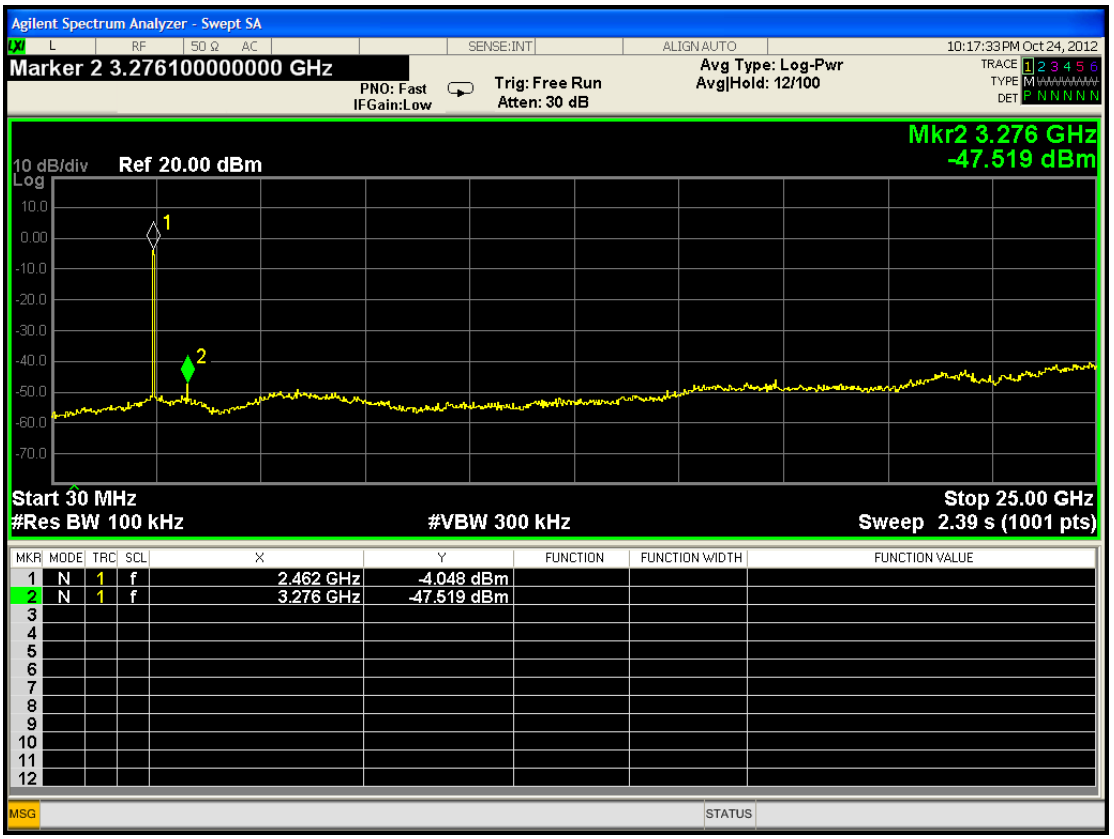
802.11g mode with 6Mbps data rate

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

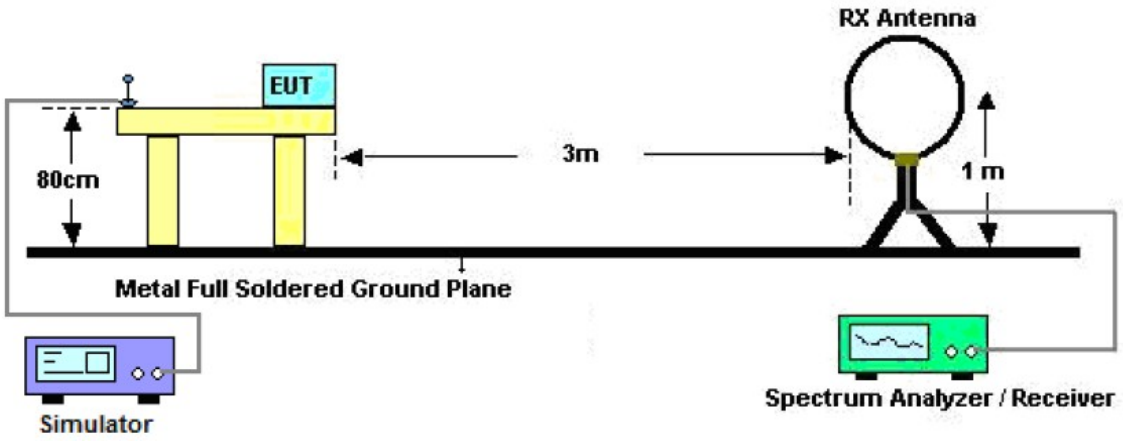
43.5 dBµV/m between 88MHz & 216MHz

46.0 dBµV/m between 216MHz & 960MHz

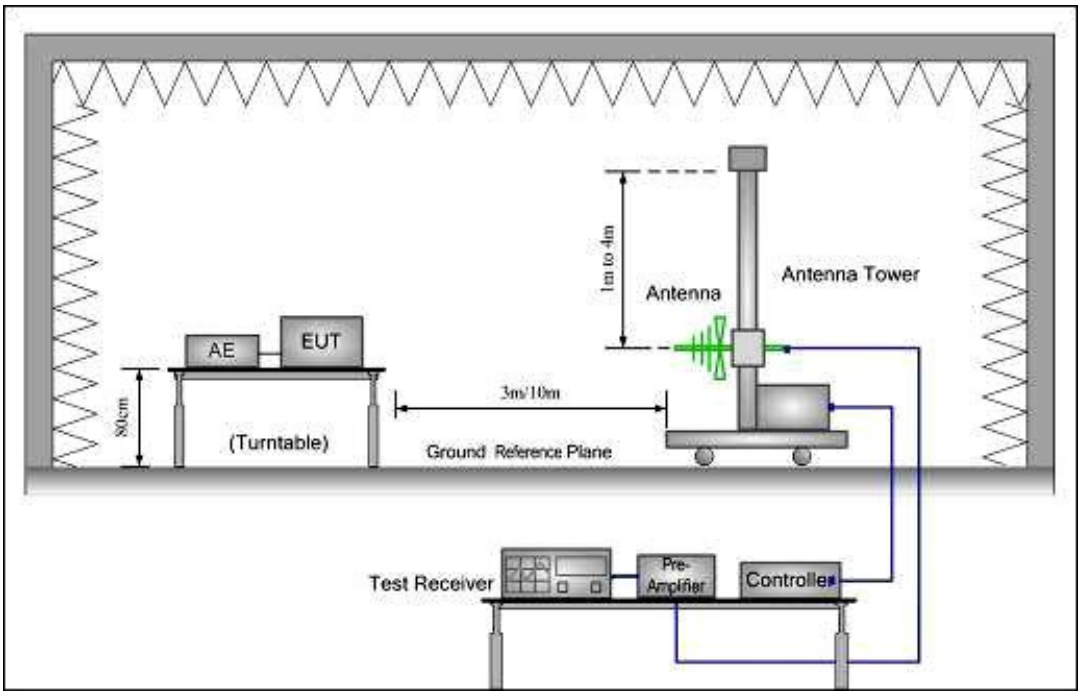
54.0 dBµV/m above 960MHz

Test Configuration:

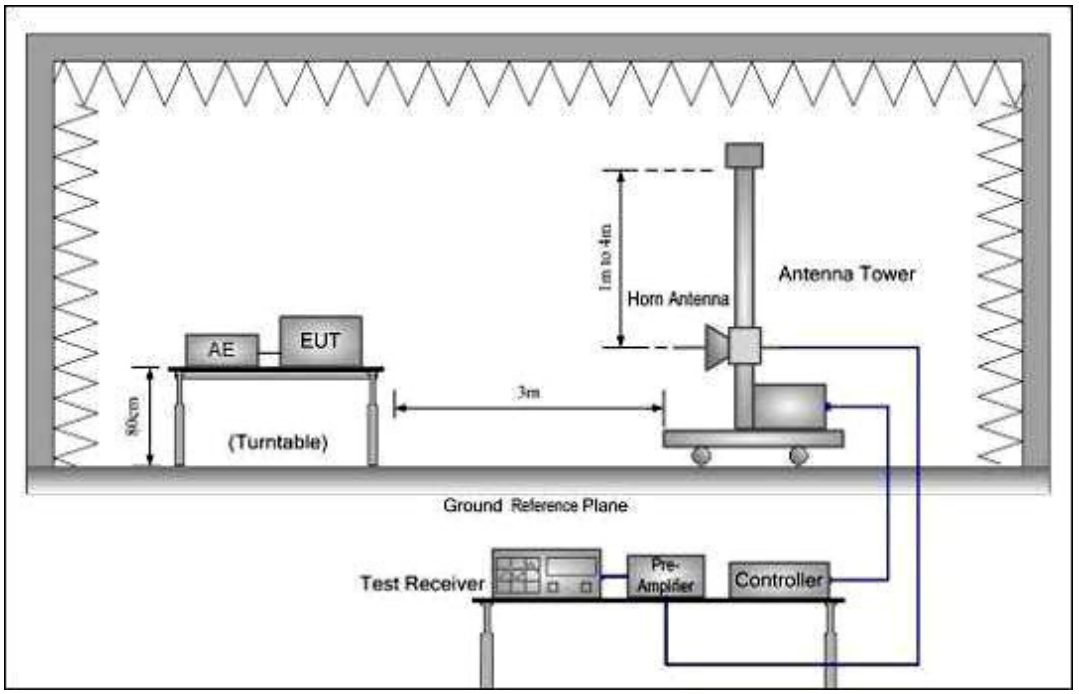
1) 9kHz to 30MHz emissions:



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

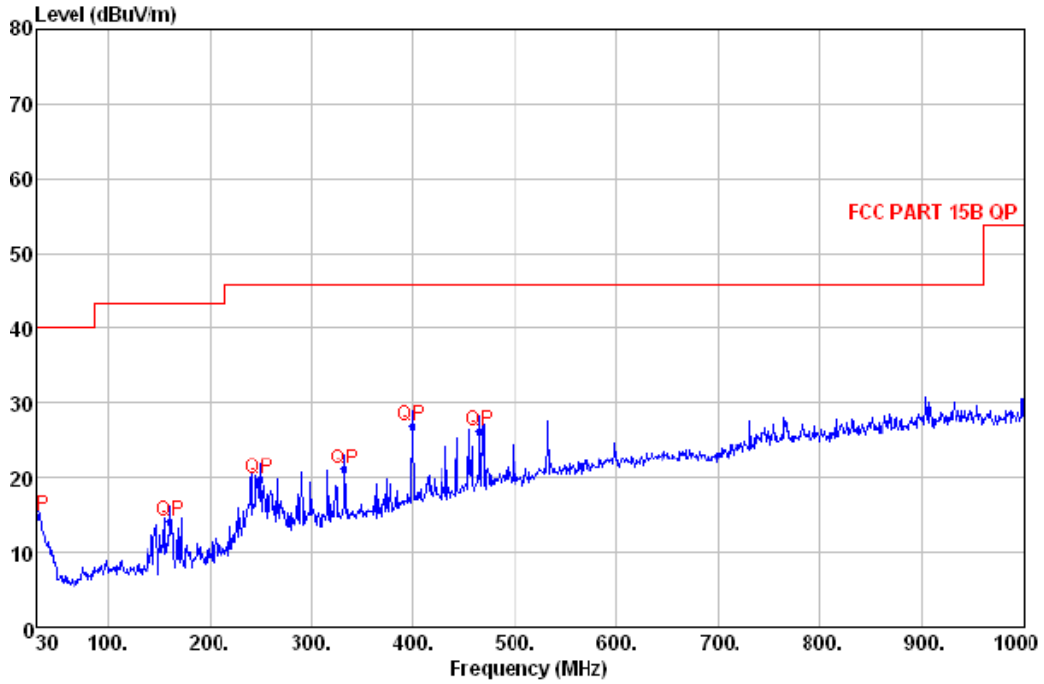
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

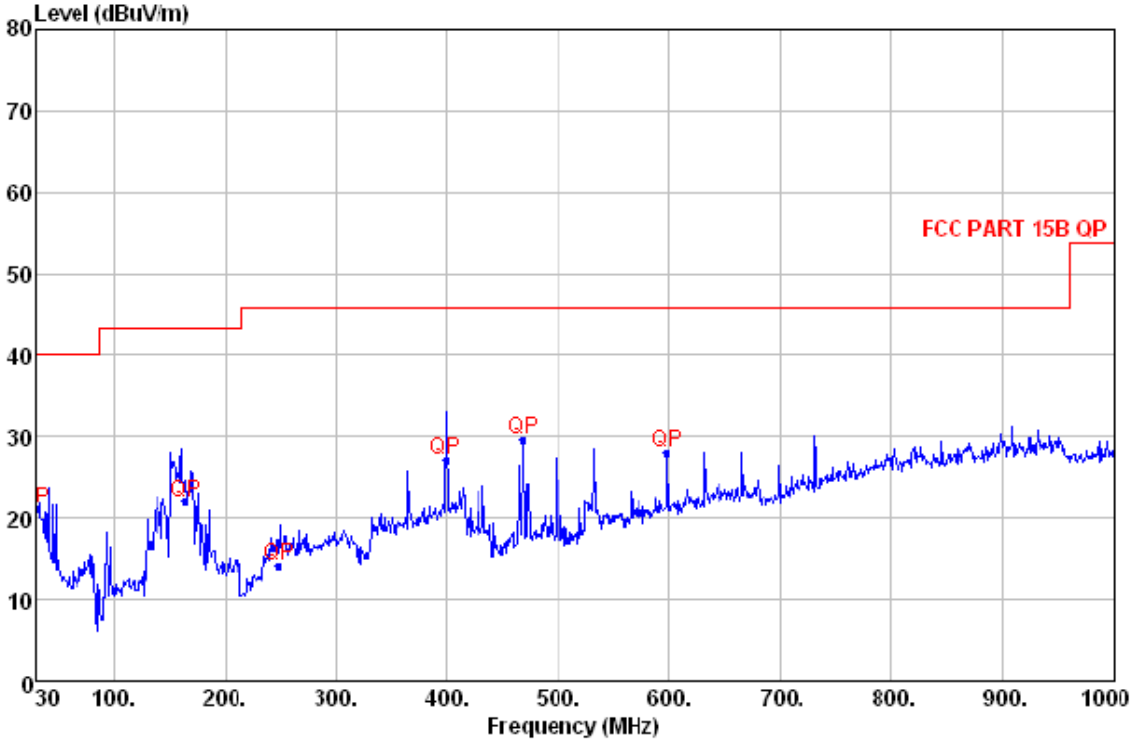
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	30.000	14.88	QP	17.90	0.63	40.00	-25.12	100	300
2	161.920	14.31	QP	7.68	1.52	43.50	-29.19	100	38
3	249.220	19.79	QP	11.71	1.93	46.00	-26.21	100	72
4	332.640	21.07	QP	13.92	2.23	46.00	-24.93	200	294
5	398.600	26.95	QP	15.94	2.44	46.00	-19.05	200	187
6	465.530	26.40	QP	17.69	2.67	46.00	-19.60	200	123

Level=Read Level + Antenna Factor + Cable Loss

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	30.000	21.14	QP	17.90	0.63	40.00	-18.86	100	223
2	165.300	22.09	QP	7.55	1.54	43.50	-21.41	100	197
3	249.000	14.21	QP	11.68	1.93	46.00	-31.79	100	81
4	398.600	27.23	QP	15.94	2.44	46.00	-18.77	200	246
5	468.440	29.56	QP	17.89	2.68	46.00	-16.44	200	168
6	598.420	28.11	QP	19.86	3.05	46.00	-17.89	100	256

Level=Read Level + Antenna Factor + Cable Loss

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

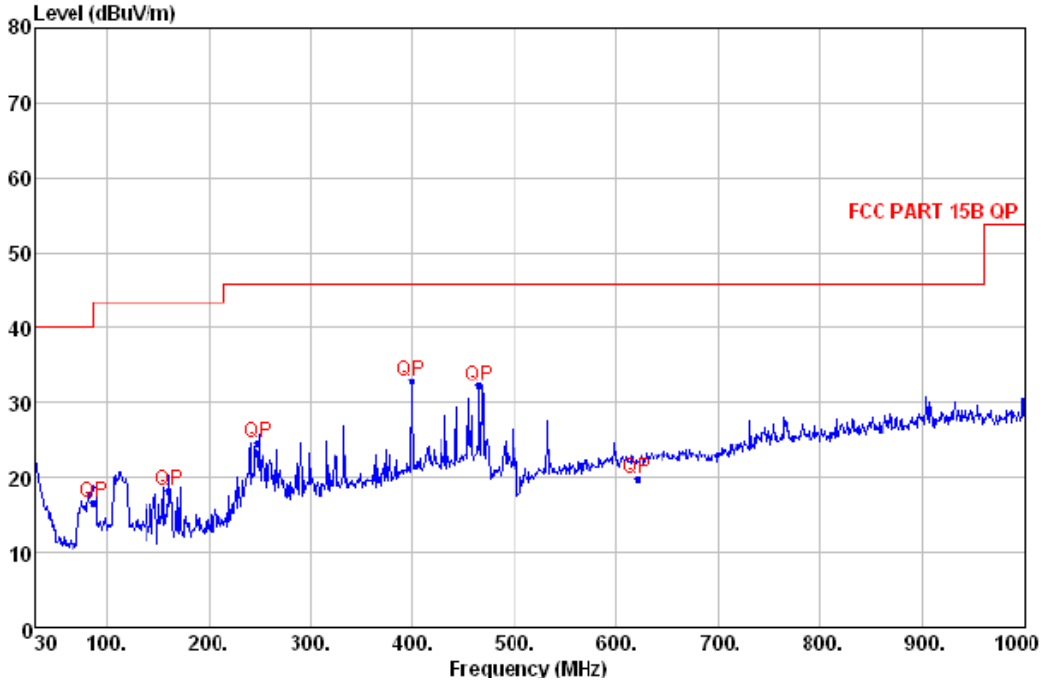
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

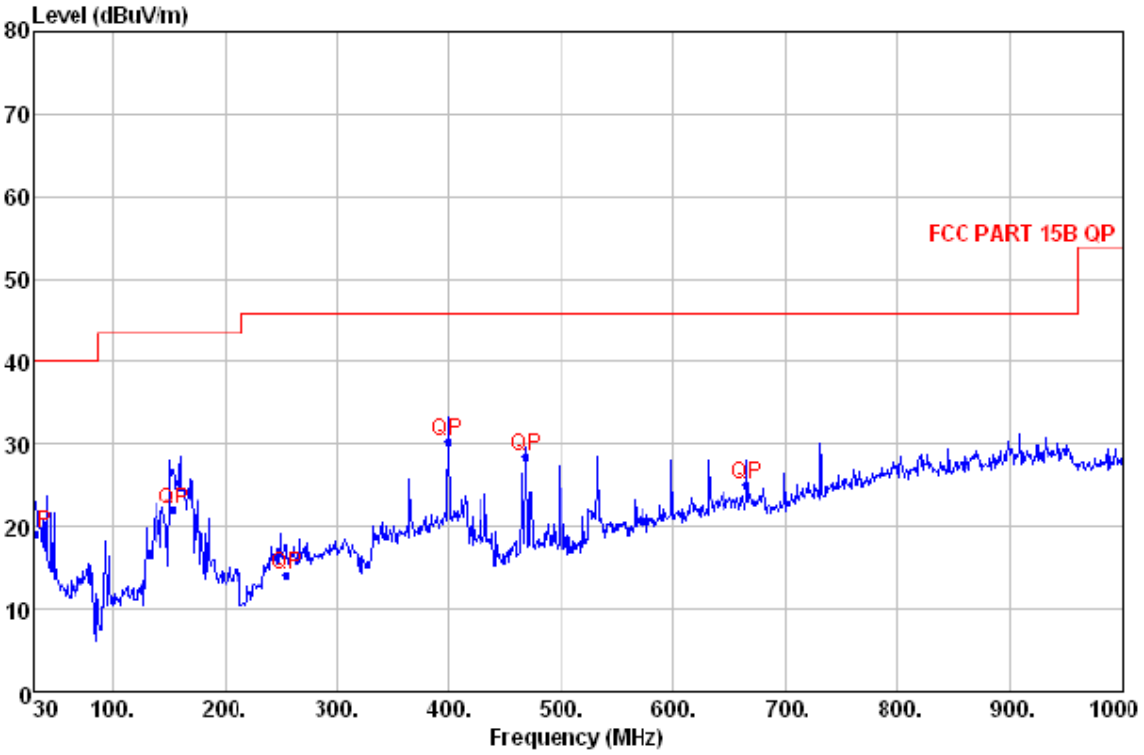
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	88.200	16.81	QP	8.02	1.10	43.50	-26.69	200	216
2	161.920	18.31	QP	7.68	1.52	43.50	-25.19	100	306
3	248.300	24.79	QP	11.60	1.92	46.00	-21.21	100	219
4	398.600	32.95	QP	15.94	2.44	46.00	-13.05	200	109
5	465.530	32.40	QP	17.69	2.67	46.00	-13.60	200	112
6	620.300	19.88	QP	20.01	3.12	46.00	-26.12	100	201

Level=Read Level + Antenna Factor + Cable Loss

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	32.300	19.14	QP	16.62	0.65	40.00	-20.86	100	223
2	155.300	22.09	QP	7.61	1.49	43.50	-21.41	100	197
3	255.300	14.21	QP	12.03	1.95	46.00	-31.79	100	81
4	398.600	30.23	QP	15.94	2.44	46.00	-15.77	200	246
5	468.440	28.56	QP	17.89	2.68	46.00	-17.44	200	168
6	665.350	25.11	QP	20.81	3.24	46.00	-20.89	100	256

Level=Read Level + Antenna Factor + Cable Loss

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

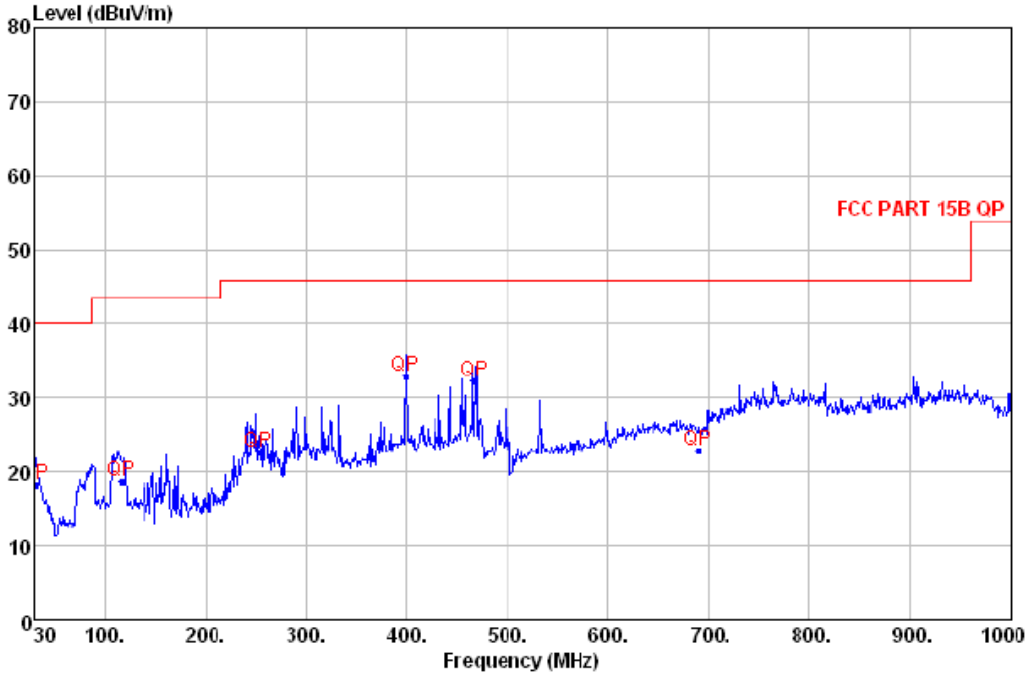
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

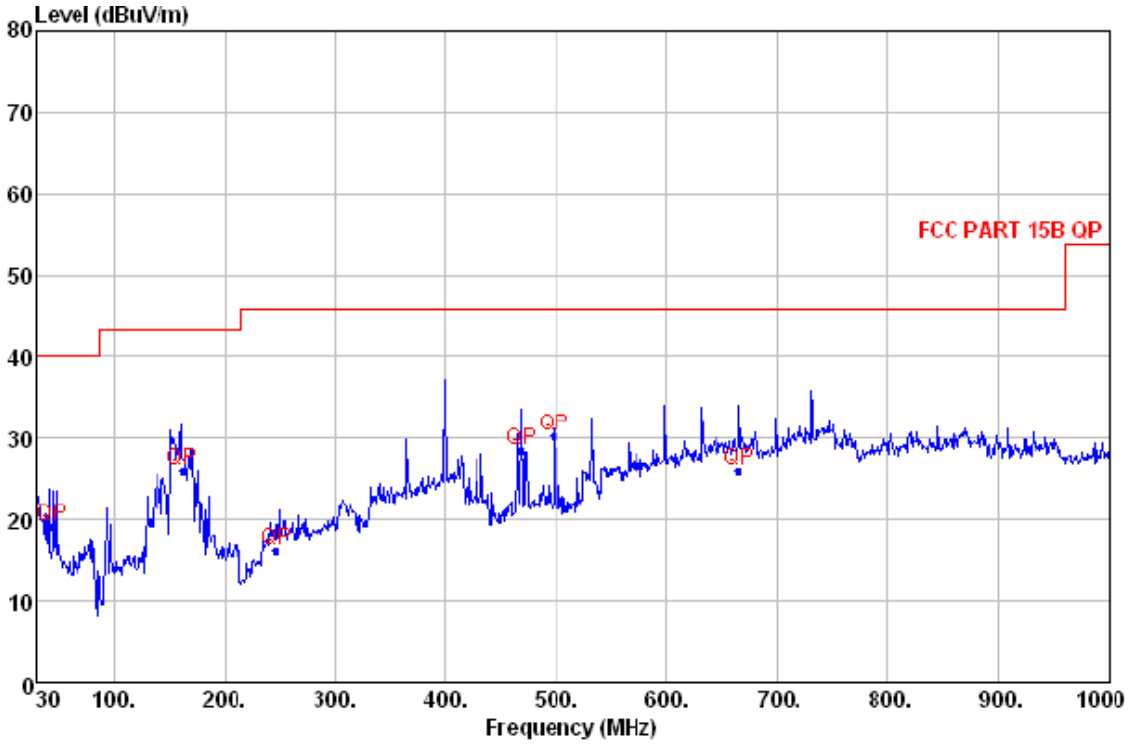
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	30.900	18.31	QP	17.40	0.64	40.00	-21.69	100	306
2	116.200	18.81	QP	8.08	1.27	43.50	-24.69	200	206
3	253.100	22.79	QP	11.92	1.94	46.00	-23.21	100	185
4	398.600	32.95	QP	15.94	2.44	46.00	-13.05	200	109
5	466.900	32.40	QP	17.78	2.68	46.00	-13.60	200	112
6	689.300	22.88	QP	20.43	3.30	46.00	-23.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

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	43.200	19.14	QP	10.98	0.75	40.00	-20.86	100	267
2	162.400	26.09	QP	7.65	1.52	43.50	-17.41	200	245
3	246.900	16.21	QP	11.43	1.92	46.00	-29.79	100	263
4	468.440	28.56	QP	17.89	2.68	46.00	-17.44	200	241
5	498.510	30.23	QP	18.30	2.77	46.00	-15.77	200	235
6	665.350	26.11	QP	20.81	3.24	46.00	-19.89	100	296

Level=Read Level + Antenna Factor + Cable Loss

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

Test at Receiving status

9kHz~30MHz Test result

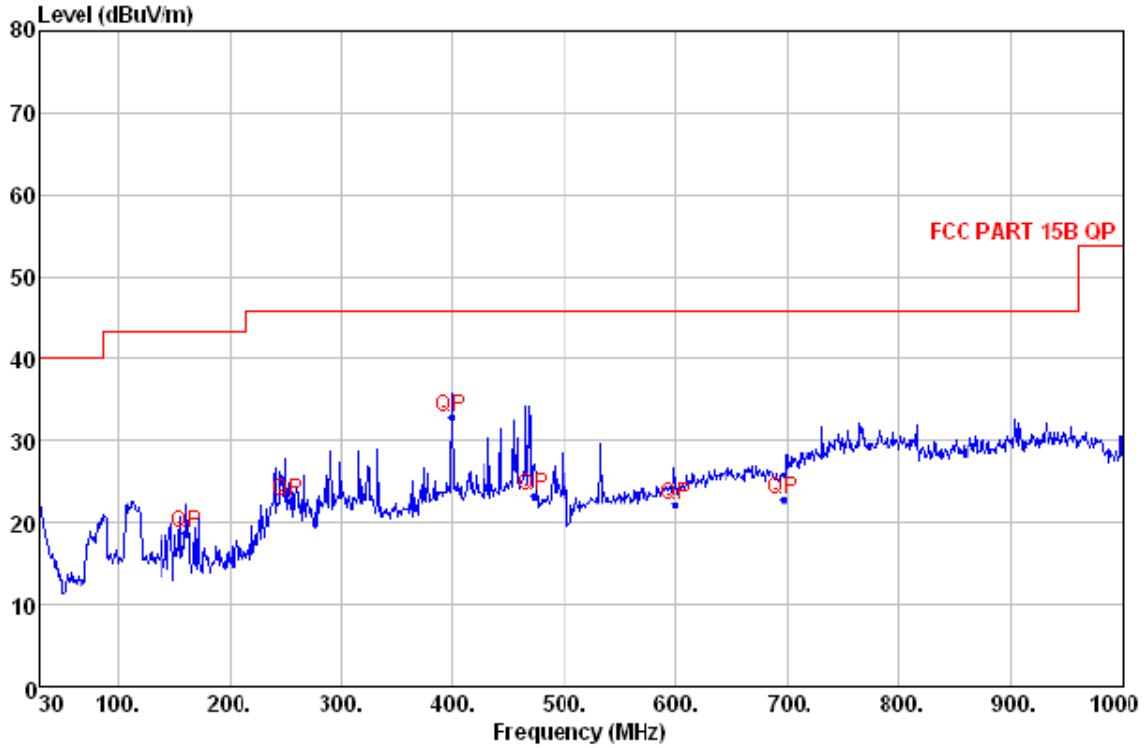
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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	161.920	18.81	QP	7.68	1.52	43.50	-24.69	200	186
2	253.100	22.79	QP	11.92	1.94	46.00	-23.21	100	185
3	398.600	32.95	QP	15.94	2.44	46.00	-13.05	200	109
4	472.600	23.40	QP	18.00	2.69	46.00	-22.60	200	112
5	599.800	22.31	QP	19.81	3.06	46.00	-23.69	100	306
6	696.300	22.88	QP	20.65	3.32	46.00	-23.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

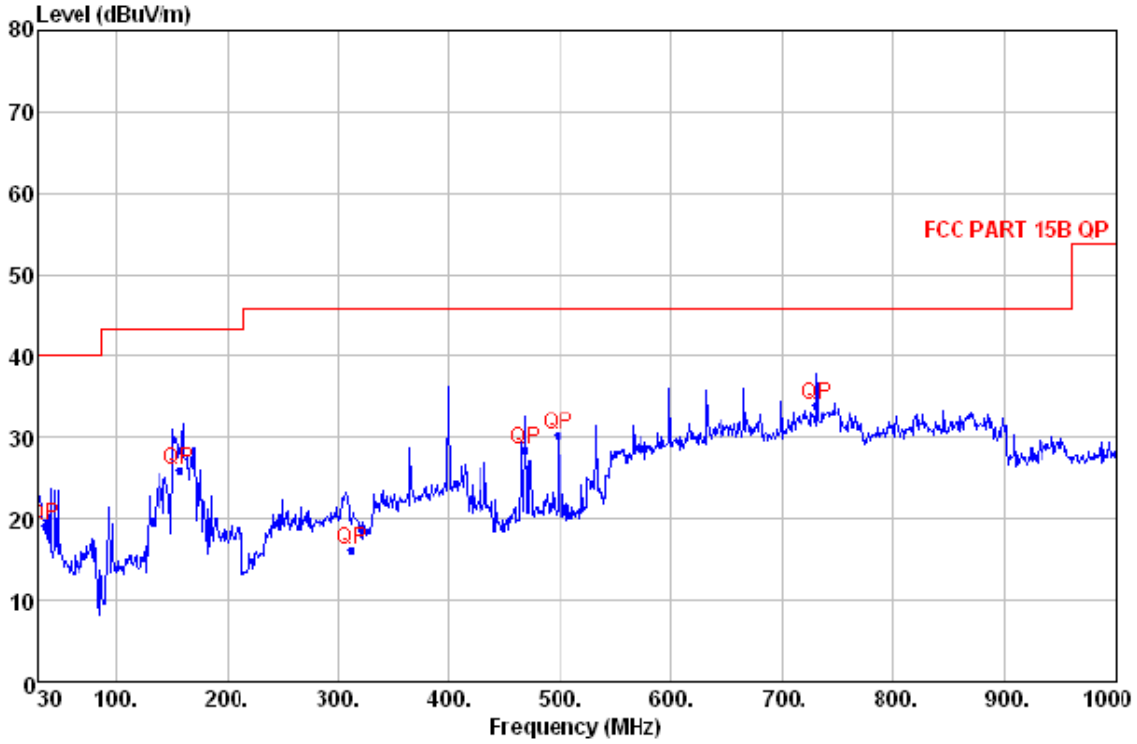
Test at Receiving status

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

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	36.300	19.14	QP	14.22	0.69	40.00	-20.86	100	222
2	157.900	26.09	QP	7.72	1.50	43.50	-17.41	200	265
3	312.500	16.21	QP	13.70	2.17	46.00	-29.79	100	263
4	468.440	28.56	QP	17.89	2.68	46.00	-17.44	200	241
5	498.510	30.23	QP	18.30	2.77	46.00	-15.77	200	235
6	731.310	34.11	QP	21.12	3.40	46.00	-11.89	100	296

Level=Read Level + Antenna Factor + Cable Loss

Test at Receiving status

Above 1 GHz Spurious Emissions Measurement

No emissions above 1GHz were found.

802.11g mode with 6Mbps data rate

Test at Channel 1 (2.412 GHz) in transmitting status

9kHz~30MHz Test result

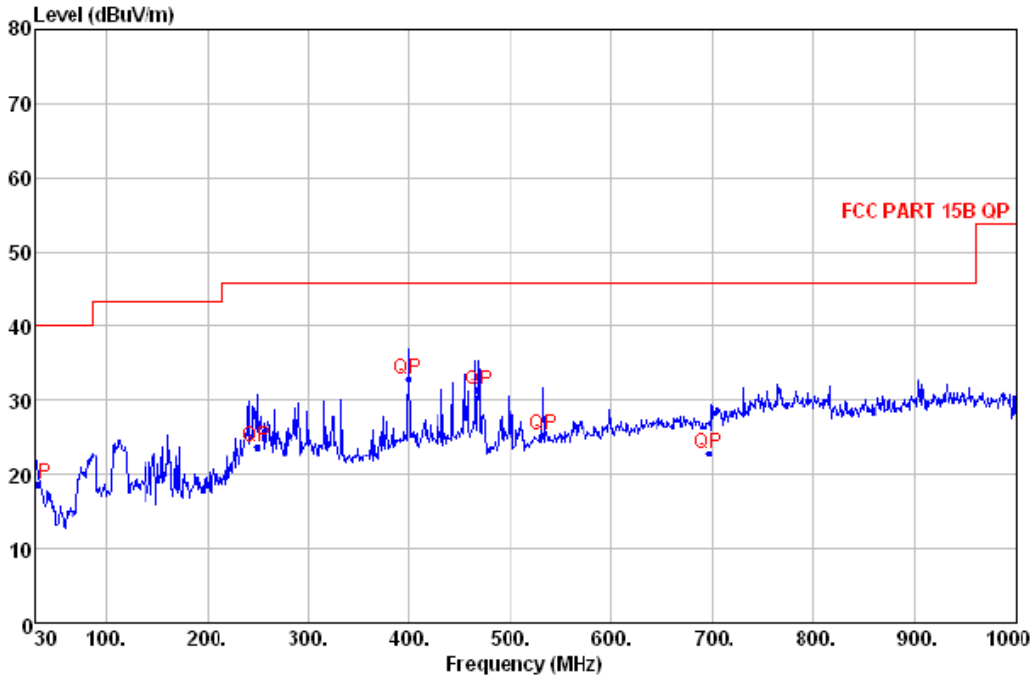
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

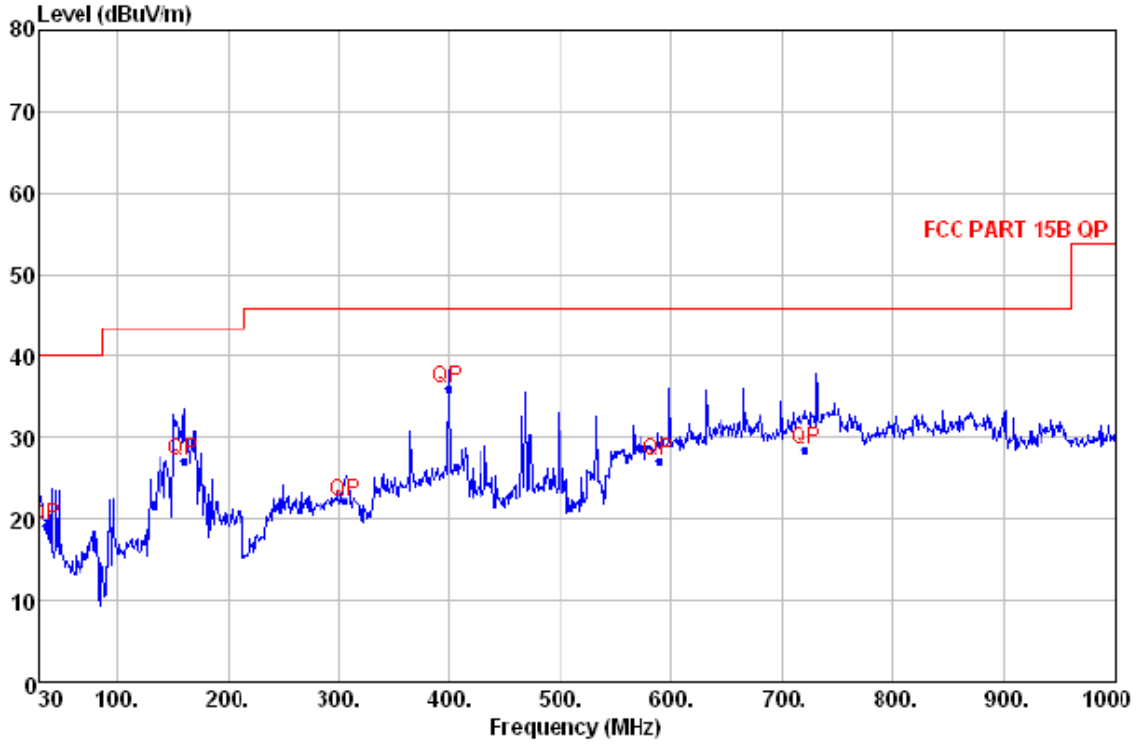
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	32.900	18.81	QP	16.25	0.66	40.00	-21.19	200	216
2	249.300	23.79	QP	11.72	1.93	46.00	-22.21	100	185
3	398.600	32.95	QP	15.94	2.44	46.00	-13.05	200	22
4	468.300	31.40	QP	17.88	2.68	46.00	-14.60	200	112
5	532.460	25.31	QP	19.53	2.87	46.00	-20.69	100	33
6	696.300	22.88	QP	20.65	3.32	46.00	-23.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

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	36.300	19.14	QP	14.22	0.69	40.00	-20.86	100	222
2	161.240	27.09	QP	7.72	1.52	43.50	-16.41	150	149
3	306.300	22.21	QP	13.67	2.15	46.00	-23.79	150	222
4	398.600	36.11	QP	15.94	2.44	46.00	-9.89	100	296
5	589.000	27.23	QP	20.16	3.03	46.00	-18.77	200	235
6	721.300	28.56	QP	21.17	3.38	46.00	-17.44	200	249

Level=Read Level + Antenna Factor + Cable Loss

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

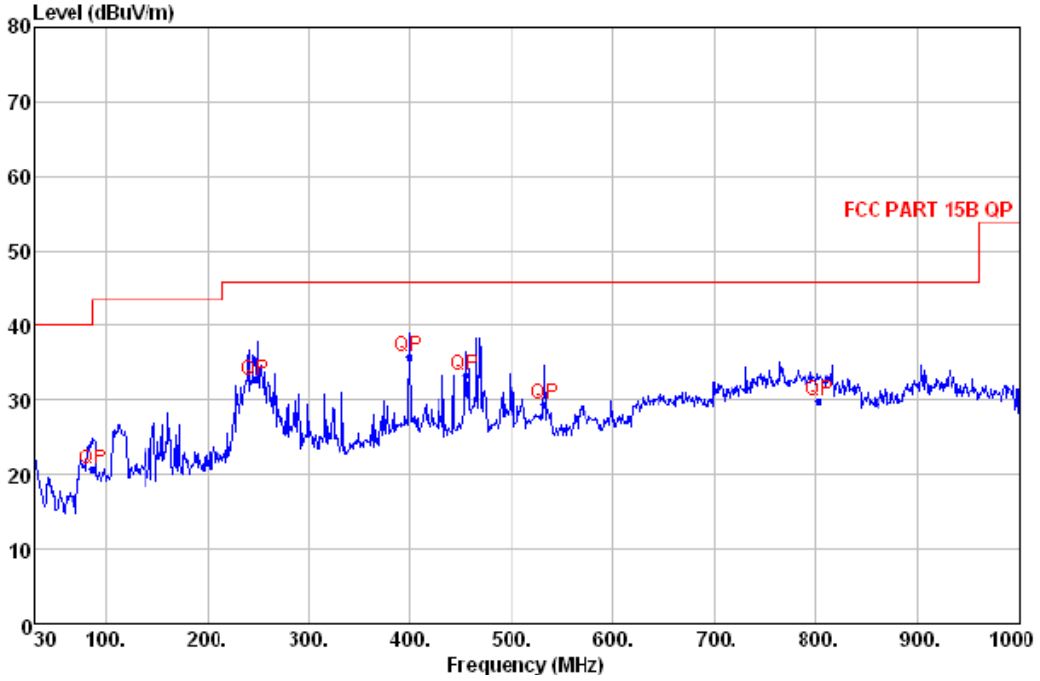
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

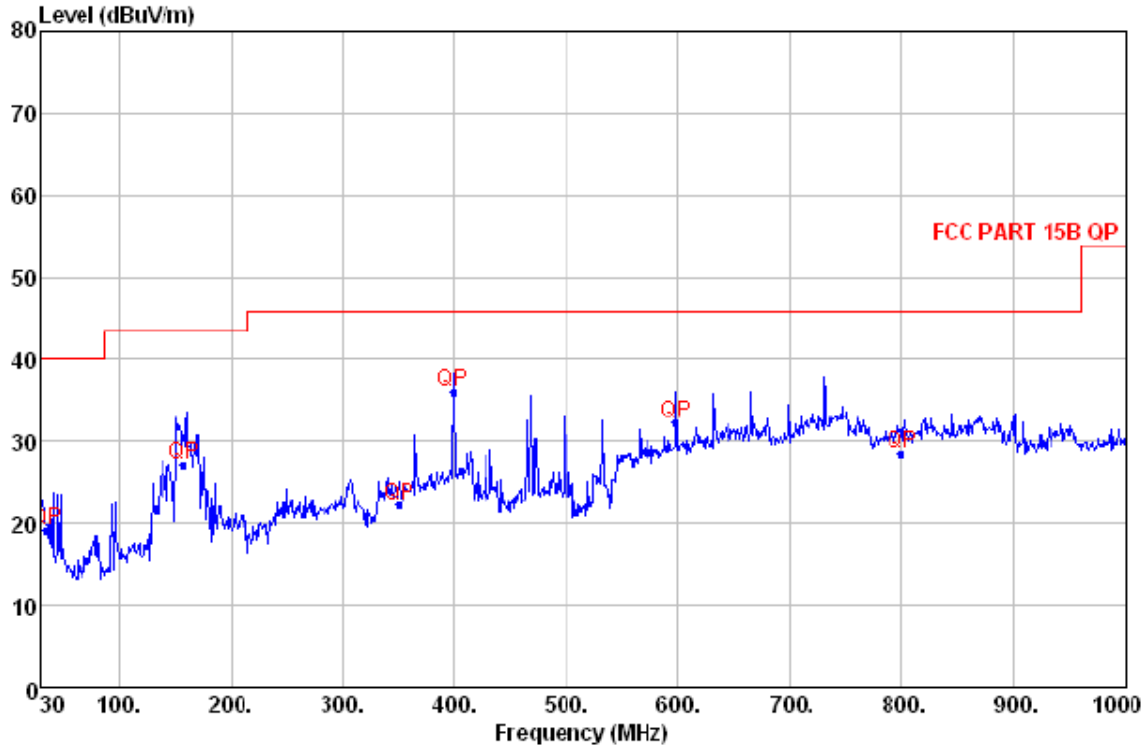
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	88.200	20.81	QP	8.02	1.10	43.50	-22.69	200	109
2	247.900	32.79	QP	11.55	1.92	46.00	-13.21	100	209
3	398.600	35.95	QP	15.94	2.44	46.00	-10.05	200	215
4	454.860	33.40	QP	17.04	2.64	46.00	-12.60	200	205
5	532.460	29.31	QP	19.53	2.87	46.00	-16.69	100	33
6	803.200	29.88	QP	22.57	3.57	46.00	-16.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

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	35.200	19.14	QP	14.87	0.68	40.00	-20.86	100	254
2	158.320	27.09	QP	7.73	1.50	43.50	-16.41	200	187
3	350.300	22.21	QP	13.92	2.28	46.00	-23.79	200	254
4	398.600	36.11	QP	15.94	2.44	46.00	-9.89	100	296
5	598.420	32.23	QP	19.86	3.05	46.00	-13.77	200	235
6	800.200	28.56	QP	22.60	3.57	46.00	-17.44	200	243

Level=Read Level + Antenna Factor + Cable Loss

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

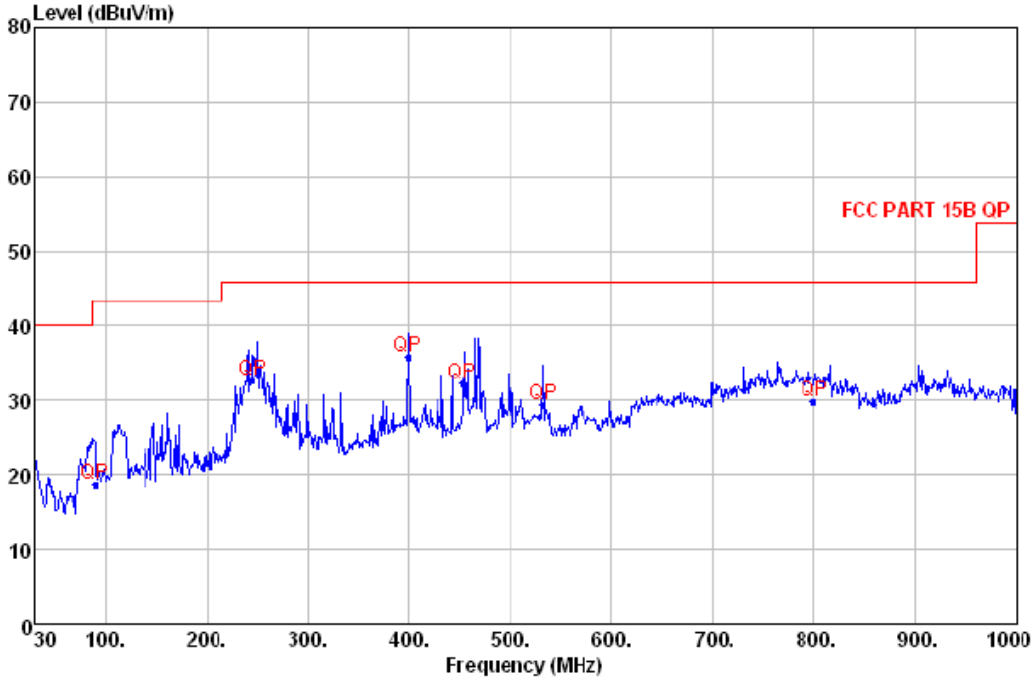
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

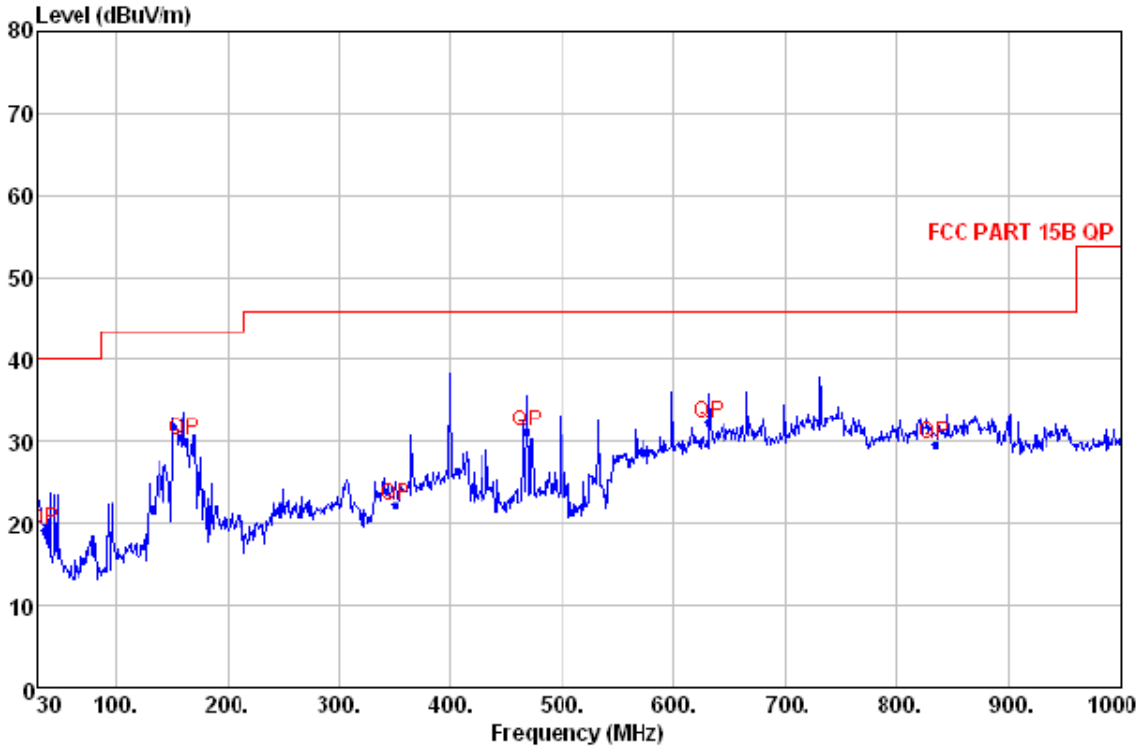
No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	90.500	18.81	QP	8.22	1.11	43.50	-24.69	200	109
2	245.600	32.79	QP	11.27	1.91	46.00	-13.21	100	209
3	398.600	35.95	QP	15.94	2.44	46.00	-10.05	200	215
4	453.200	32.40	QP	16.96	2.63	46.00	-13.60	200	215
5	532.460	29.31	QP	19.53	2.87	46.00	-16.69	100	33
6	800.200	29.88	QP	22.60	3.57	46.00	-16.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

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	36.510	19.14	QP	14.09	0.69	40.00	-20.86	100	254
2	162.300	30.09	QP	7.66	1.52	43.50	-13.41	200	187
3	350.300	22.21	QP	13.92	2.28	46.00	-23.79	200	254
4	468.440	31.11	QP	17.89	2.68	46.00	-14.89	100	296
5	631.400	32.23	QP	20.24	3.15	46.00	-13.77	200	24
6	834.200	29.56	QP	22.96	3.65	46.00	-16.44	200	214

Level=Read Level + Antenna Factor + Cable Loss

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.

Test at Receiving status

9kHz~30MHz Test result

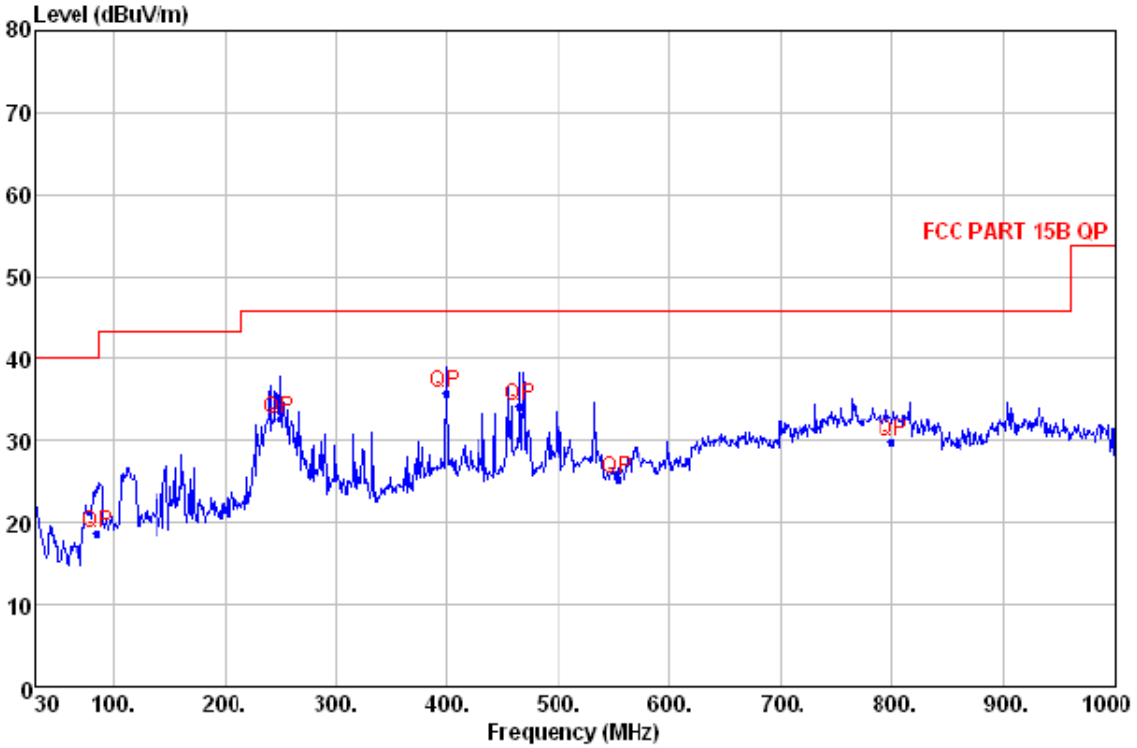
The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report

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	86.400	18.81	QP	7.84	1.08	40.00	-21.19	200	222
2	249.200	32.79	QP	11.70	1.93	46.00	-13.21	100	209
3	398.600	35.95	QP	15.94	2.44	46.00	-10.05	200	215
4	465.530	34.40	QP	17.69	2.67	46.00	-11.60	200	236
5	553.200	25.31	QP	19.64	2.93	46.00	-20.69	100	36
6	800.200	29.88	QP	22.60	3.57	46.00	-16.12	100	226

Level=Read Level + Antenna Factor + Cable Loss

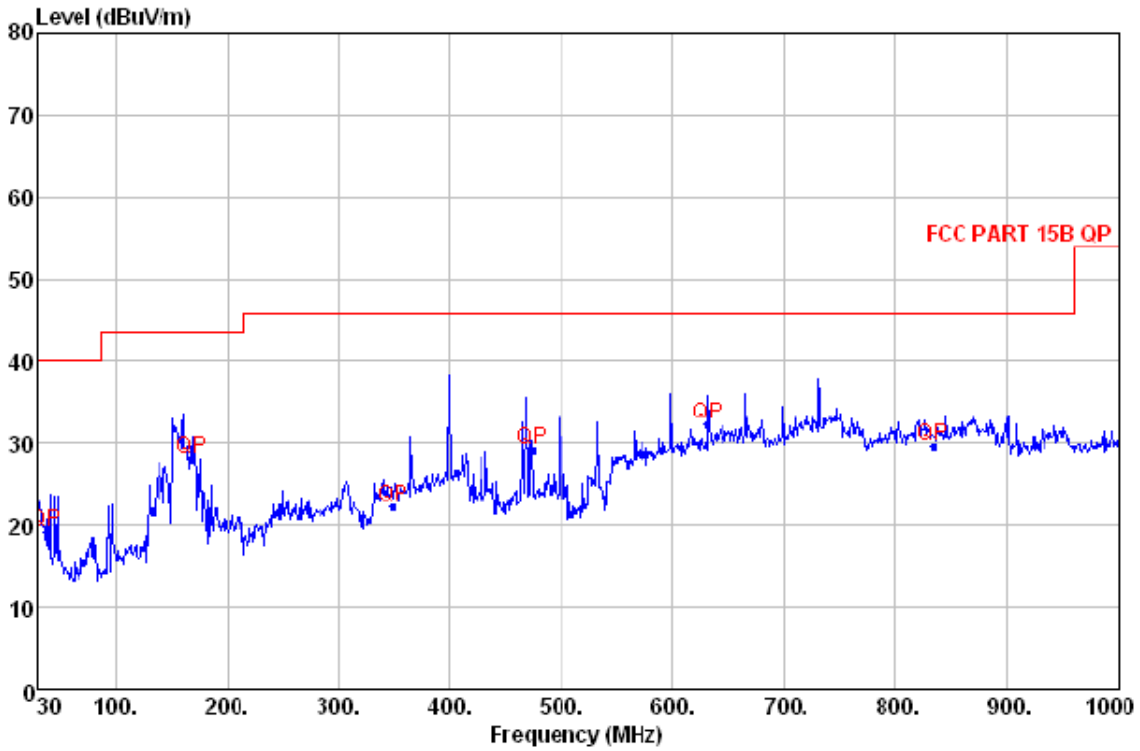
Test at Receiving status

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

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	37.600	19.14	QP	13.43	0.70	40.00	-20.86	100	85
2	168.000	28.09	QP	8.04	1.55	43.50	-15.41	200	55
3	348.600	22.21	QP	13.87	2.28	46.00	-23.79	200	22
4	474.200	29.11	QP	18.00	2.70	46.00	-16.89	100	305
5	631.400	32.23	QP	20.24	3.15	46.00	-13.77	200	24
6	834.200	29.56	QP	22.96	3.65	46.00	-16.44	200	214

Level=Read Level + Antenna Factor + Cable Loss

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

No emission is found in the 1-25GHz

Remark:

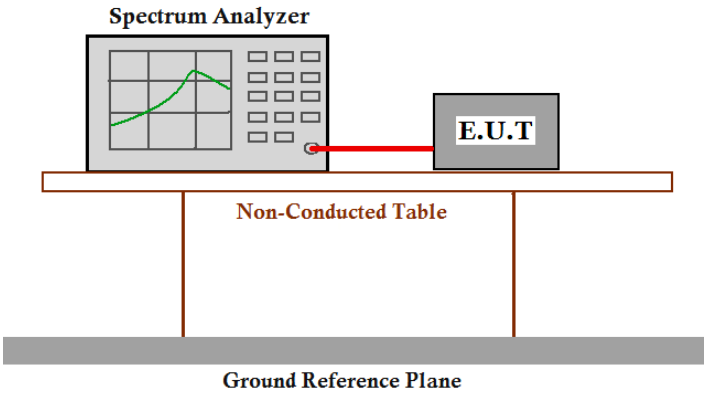
1) .For this intentional radiator operates below 25 GHz. The spectrum shall be investigated to the tenth harmonics of the highest fundamental frequency. And above the third harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 3rd harmonic.
2). As shown 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 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:

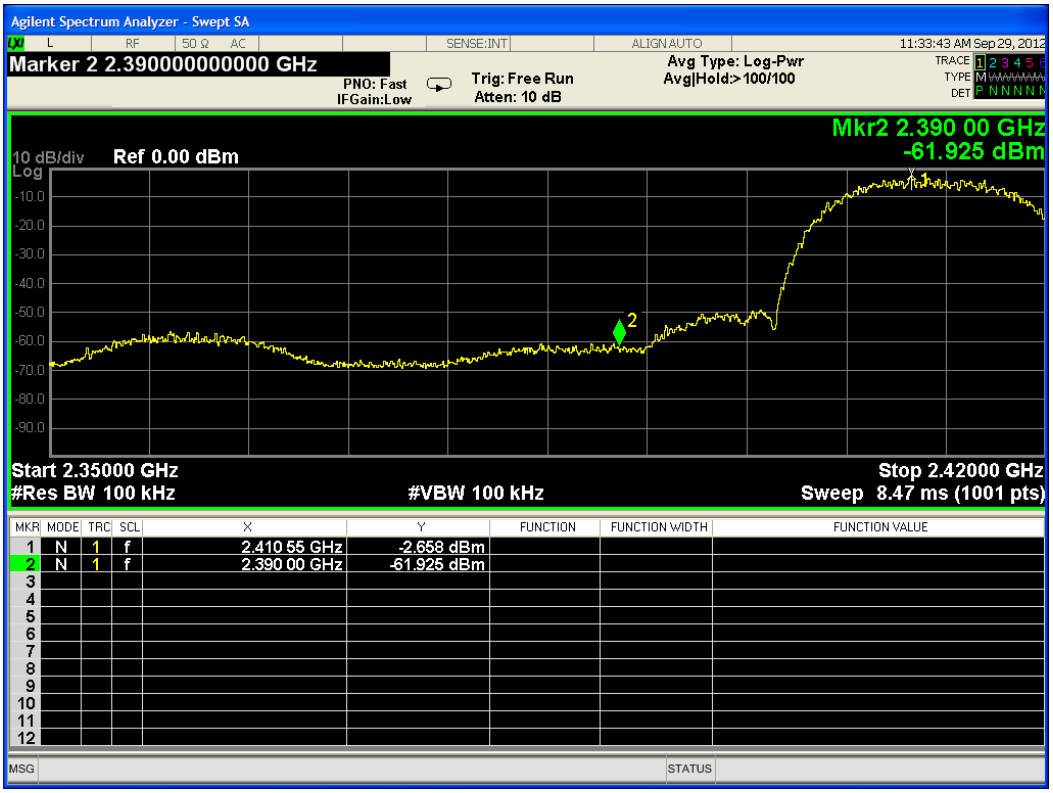
The Lower Edges attenuated more than 20dB.

The Upper Edges attenuated more than 20dB.

Result plot as follows:

802.11b mode with 1 Mbps data rate

Channel1: 2.412 GHz



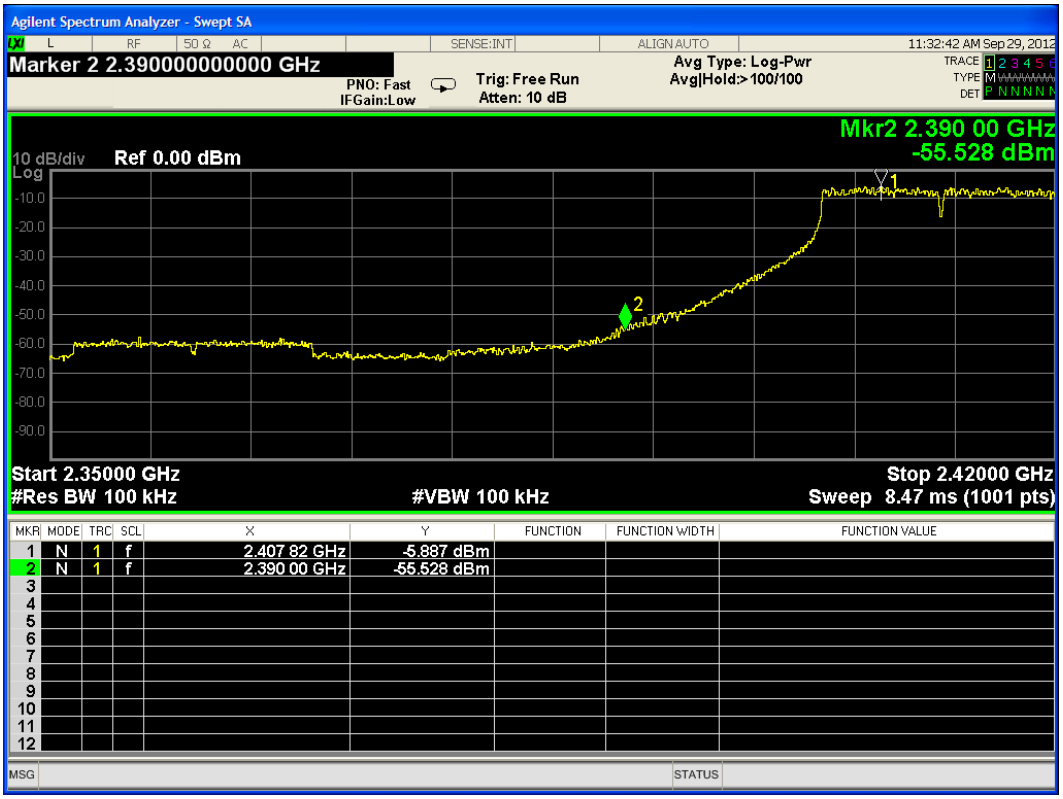
802.11b mode with 1 Mbps data rate

Channel11: 2.462 GHz

Result plot as follows:

802.11g mode with 6 Mbps data rate

Channel1: 2.412 GHz



802.11g mode with 1 Mbps data rate

Channel11: 2.462 GHz


Agilent Spectrum Analyzer - Swept SA
Marker 2 2.483500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 10 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
11:31:02 AM Sep 29, 2012
Mkr2 2.483 500 GHz
-55.057 dBm
10 dB/div
Log
Ref 0.00 dBm
Start 2.46200 GHz
#Res BW 100 kHz
#VBW 100 kHz
Stop 2.49700 GHz
Sweep 4.27 ms (1001 pts)
1 N 1 f 2.466 620 GHz -4.860 dBm
2 N 1 f 2.483 500 GHz -55.057 dBm

5.9 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)

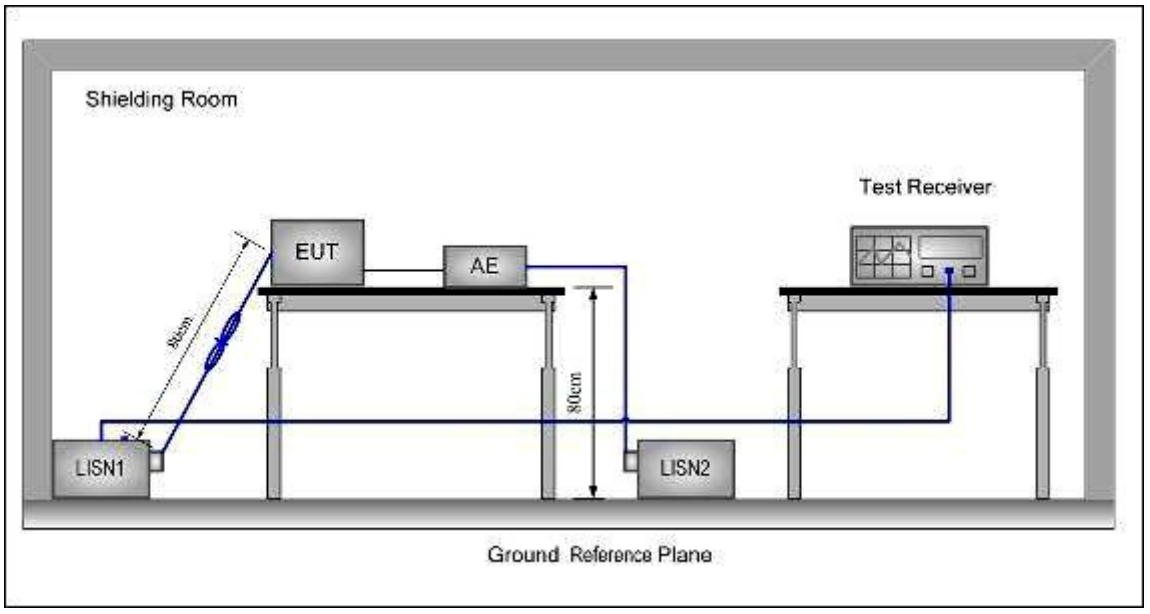
Test Limit

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.

5.9.1 Measurement Data

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

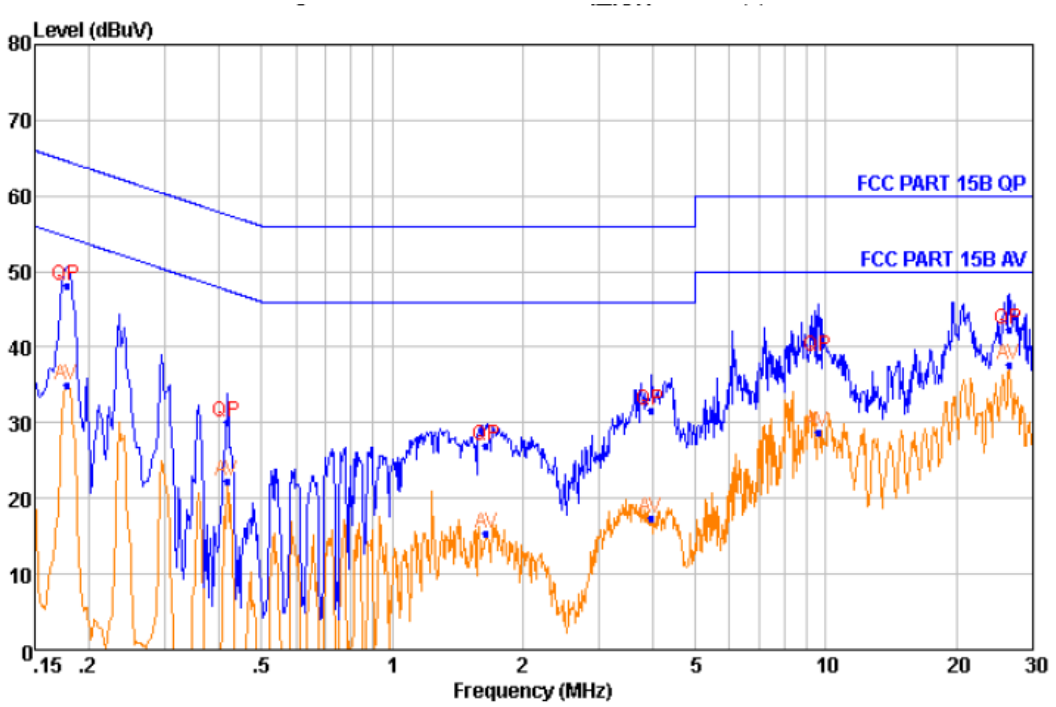
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected. For EUT the communicating was worst case mode.

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

Live Line:

Peak Scan:

Level (dBμV)



Quasi-peak and Average measurement

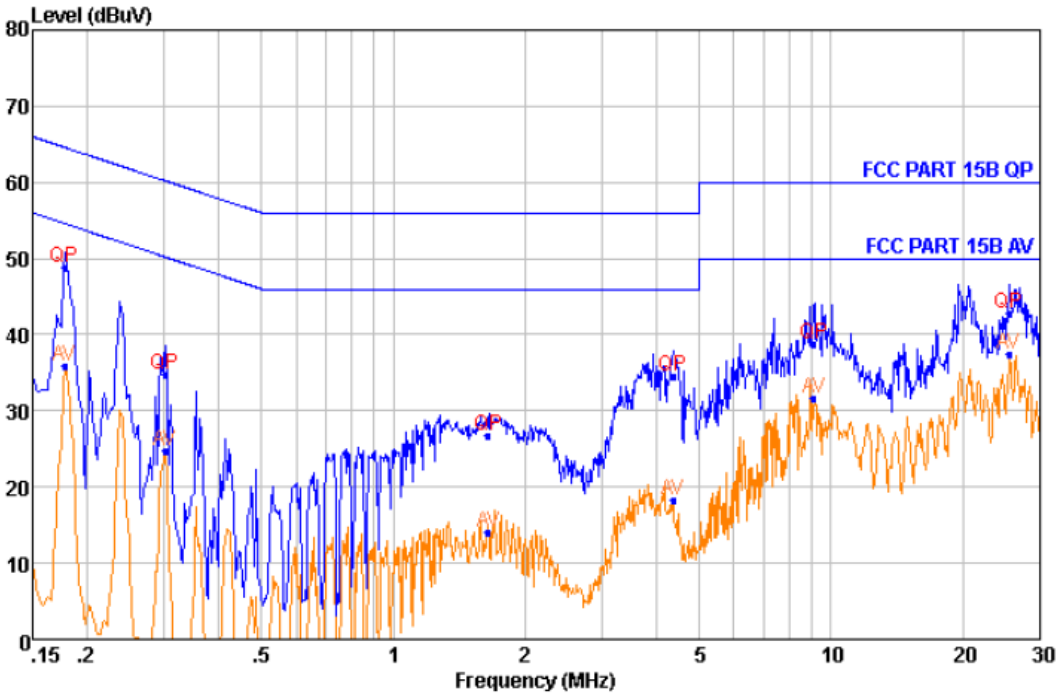
NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Margin dB
1	0.178	48.11	QP	9.69	0.21	64.59	-16.48
2	0.178	35.08	Average	9.69	0.21	54.59	-19.51
3	0.416	30.16	QP	9.66	0.26	57.52	-27.36
4	0.416	22.20	Average	9.66	0.26	47.52	-25.32
5	1.650	26.98	QP	9.66	0.34	56.00	-29.02
6	1.650	15.42	Average	9.66	0.34	46.00	-30.58
7	3.955	31.56	QP	9.61	0.39	56.00	-24.44
8	3.955	17.37	Average	9.61	0.39	46.00	-28.63
9	9.581	38.87	QP	9.66	0.44	60.00	-21.13
10	9.581	28.80	Average	9.66	0.44	50.00	-21.20
11	26.353	42.39	QP	9.66	0.49	60.00	-17.61
12	26.353	37.10	Average	9.66	0.49	50.00	-12.30

Level=Read Level + Lisn Factor + Cable Loss

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	0.178	48.89	QP	9.66	0.21	64.59	-15.70
2	0.178	35.82	Average	9.66	0.21	54.59	-18.77
3	0.301	34.66	QP	9.65	0.24	60.21	-25.55
4	0.301	24.71	Average	9.65	0.24	50.21	-25.50
5	1.650	26.82	QP	9.62	0.34	56.00	-29.18
6	1.650	14.11	Average	9.62	0.34	46.00	-31.89
7	4.350	34.55	QP	9.62	0.39	56.00	-21.45
8	4.350	18.18	Average	9.62	0.39	46.00	-27.82
9	9.139	38.85	QP	9.62	0.43	60.00	-21.15
10	9.139	31.55	Average	9.62	0.43	50.00	-18.45
11	25.526	42.74	QP	9.63	0.49	60.00	-17.26
12	25.526	37.38	Average	9.63	0.49	50.00	-12.62

Level=Read Level + Lisn Factor + Cable Loss

-- End of test report --