Shenzhen TCT Testing Technology Co.,Ltd

FCC ID TEST REPORT

for

Tablet PC

Model: CHT-1001i

FCC ID: RI4CHT-1001

Prepared for : Chitech shenzhen Technology CO.,Limited
Chitech Industrial Park, NO.48, Xiashijia Road, Gongming Town, Guangming New Dist., Shenzhen, Guangdong Province, China

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Report Number：TCS1212003-1
Date of Test： December 16~21, 2012
Date of Issue： December 21, 2012

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1.0 General Details

1.1 Test Lab Details

Name :	Shenzhen Tongce Testing Lab
Address:	1F, Leinuo Watch Building, Fuyong Town, Baoan District, Shenzhen City, China
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Site Listed with Federal Communication Commission
Registration Number: 572331
For 3m chamber

Site Listed with Industry Canada of Ottawa, Canada
Registration Number IC: 10668A-1
For 3m chamber

1.2 Applicant Details

Applicant:	Chitech shenzhen Technology CO.,Limited
Address:	Chitech Industrial Park, NO.48, Xiashijia Road , Gongming Town, Guangming New Dist., Shenzhen, Guangdong Province, China
Telephone:	0755-23492631
Fax:	0755-23492631

Manufacturer:	Chitech shenzhen Technology CO.,Limited
Address:	Chitech Industrial Park, NO.48, Xiashijia Road , Gongming Town, Guangming New Dist., Shenzhen, Guangdong Province, China
Telephone:	0755-23492631
Fax:	0755-23492631

1.3 Description of EUT

Product:	Tablet PC
Model No.:	CHT-1001i
Additional Model No.:	CT-K1008,CHT-A971C,CT-K801,CT-T718G,CT-K718,CT-A718,CT-M803, CT-A801,CT-V1003, ANL-A1001i
Brand Name:	N/A
Operation Frequency:	2412~2462MHz
Channel number:	11
Channel spacing:	5 MHz
Data speed	IEEE 802.11b: 1Mbps, 2Mbps, 5.5Mbps, 11Mbps. IEEE 802.11g: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps,48Mbps,54 Mbps
Modulation Type:	IEEE 802.11b : DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g : OFDM(64QAM, 16AQM, QPSK, BPSK)
Antenna Designation:	An integral antenna and the maximum gain is 2.0dBi
Power supply:	AC ADAPTER：SFF0530283A1BA INPUT: AC100-240V, 50/60Hz, 0.4A OUTPUT: DC 5.3V, 2.83A
Frequency Selection:	By software

1.4 Statement: All modes above are identical in interior structure, electrical circuits and components, and just model names, shape and colour are different for the marketing requirement.

1.5 Test Duration

2012-12-16 to 2012-12-21

1.6 Test Engineer

The sample tested by 

Printed name: Jack Kang

2.0 Test equipments and Associated Equipment used during the test.

2.1 Test Equipments

Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2012-12-03	2013-12-02
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2012-12-03	2013-12-02
System Controller	CT	SC100	-	2012-02-17	2013-02-16
Spectrum Analyzer	ROHDE&SCHWARZ	FSEM	848597/001	2012-02-17	2013-02-16
Pre-amplifier	Teseq	LAN6900	--	2012-02-17	2013-02-16
Pre-amplifier	Agilent	8447D	83153007374	2012-02-17	2013-02-16
Pre-amplifier	Agilent	8449B	3008A01738	2012-02-17	2013-02-16
Triple-loop antenna	ROHDE&SCHWARZ	HM020	843885/002	2012-02-17	2013-02-16
Horn Antenna	ETS LINDGREN	3117	--	2012-02-17	2013-02-16
Horn Antenna	ETS LINDGREN	3160	--	2012-02-17	2013-02-16

2.2 AE used during the test

Equipment type	Manufacturer	Model
Monitor2	AOC	TFT15W80PS
USB flash disk	Netac	U235

3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications:			
Test Item	CFR 47 Section	Result	Notes
AC Power Line Conducted Emission	15.207(a)	PASS	Complies
Maximum Peak Output Power	15.247(b)(1)	PASS	Complies
6 dB bandwidth	15.247 (a)(2)	PASS	Complies
Maximum Power Density	15.247(e)	PASS	Complies
Band age Measurement	15.247 (d), 15.205 (a), 15.209 (a)	PASS	Complies
Radiated Emission	15.209	PASS	Complies
Antenna Requirement	15.203,15.247(c)	PASS	Complies
RF Exposure	15.247(b), 1.1307(b)	PASS	Complies

Note: N/A=Not Applicable

3.2 Test Standards

FCC Part 15:2011 Subpart C, Paragraph 15.247

4.0 EUT Modification

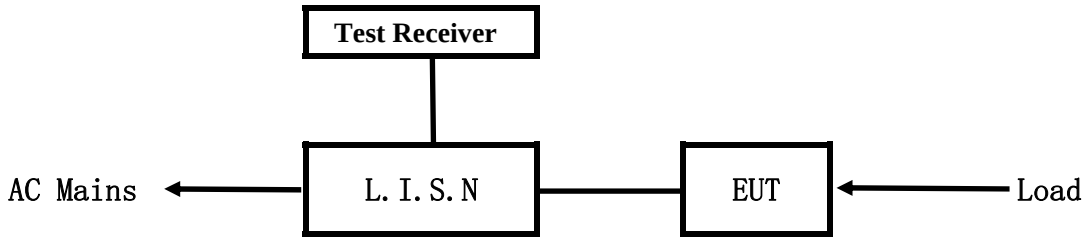
No modification by Shenzhen TCT Testing Technology Co., Ltd.

5.0 Measurement Uncertainty（95% confidence levels, k=2)

No.	Item	MU
1.	Radio Frequency	$\pm 1\times 10^{-9}$
2.	Temperature	±0.1℃
3.	Humidity	±1.0%
4.	RF power, conducted	±0.34dB
5.	RF power density, conducted	±1.45dB
6.	Spurious emissions, conducted	±3.70dB
7.	All emissions, radiated	±4.50dB

6.0 Power Line Conducted Emission Test

6.1 Schematics of the test



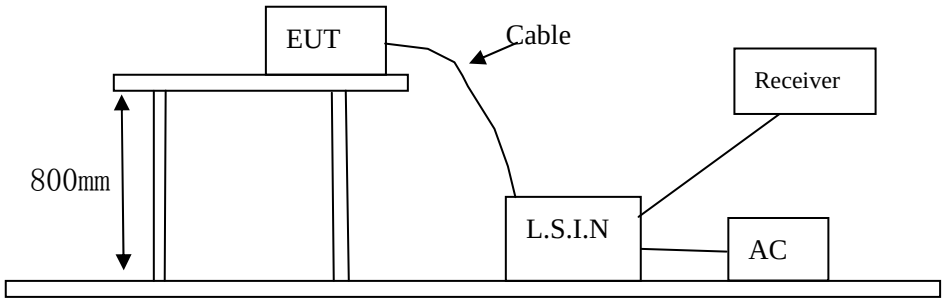
EUT: Equipment Under Test

6.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2009.The Frequency spectrum From 0.15MHz to 30MHz was investigated.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



6.3 EUT Operating Condition

Operating condition is according to ANSI C63.10 -2009

A Setup the EUT and simulators as shown on the following

B Enable AF signal and confirm EUT active to normal condition

6.4 Test Equipment

Please refer to the Section 2

6.5 Conducted Emission Limit

Frequency(MHz)	Class A Limits (dB μ V)		Class B Limits (dB μ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ～ 0.50	79.0	66.0	66.0～56.0*	56.0～46.0*
0.50 ～ 5.00	73.0	60.0	56.0	46.0
5.00 ～ 30.00	73.0	60.0	60.0	50.0

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The tighter limit shall apply at the transition frequencies

6.6 Photo documentation of the test set-up
Please refer to the Section 17

6.7 Test specification:
Environmental conditions: Temperature: 24° C Humidity: 50% Atmospheric pressure: 103kPa

Frequency range: 0.15 MHz – 30 MHz

The test was carried out in the following operation mode(s):

- Full load and run EMC test software
- Keep Wi-Fi working

6.8 Test result

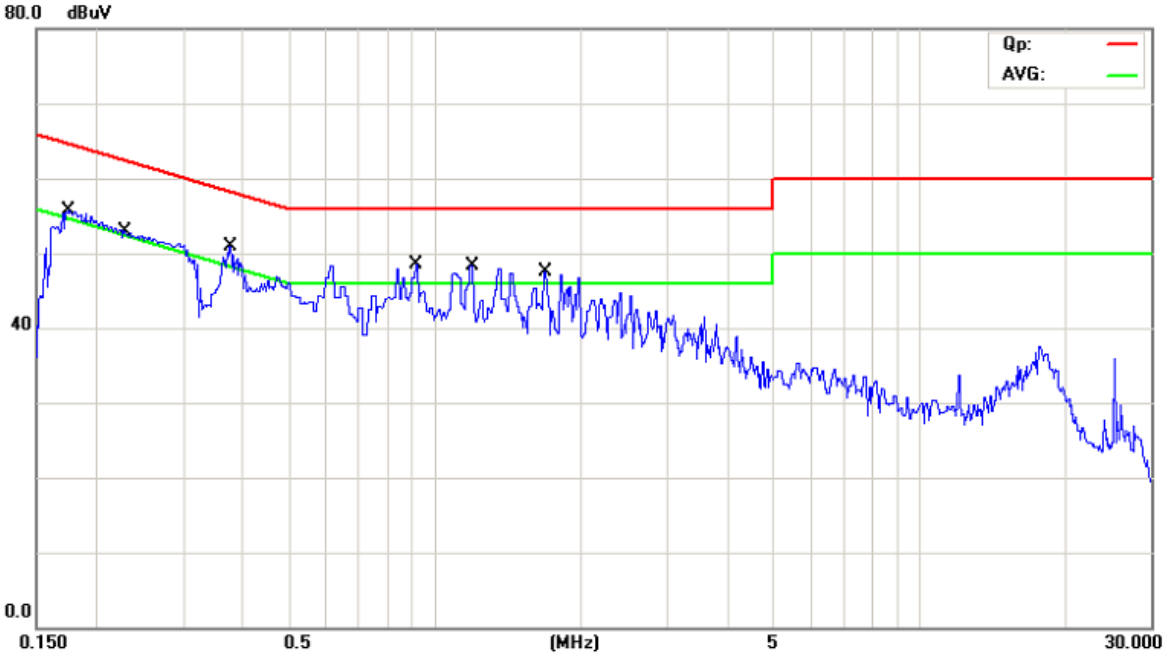
Min. limit margin 5.96 dB at 0.9162 MHz

The requirements are FULFILLED
Remarks: According to FCC part 15.207.

A Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT Description: Tablet PC
Operation Mode: Full load and run EMC test software.
Tested By: Charlle Lai
Test date: 2012-12-18

Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s

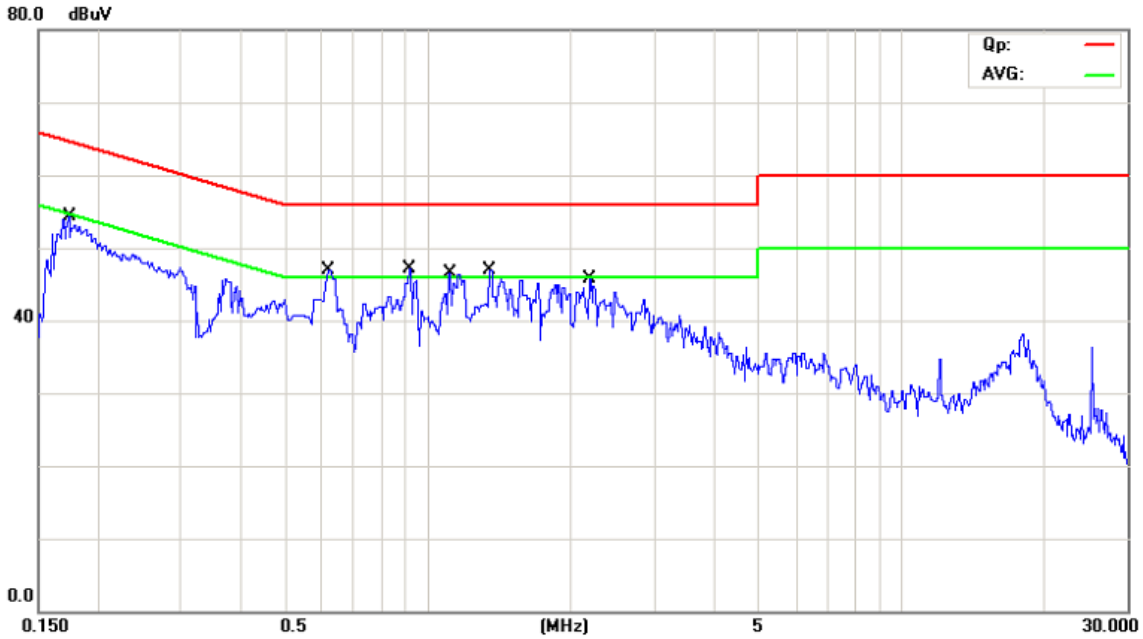


Frequency (MHz)	Reading(dB μ V)				Limit (dB μ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.1753	54.35	45.57	--	--	64.71	54.71
0.2278	51.29	42.91	--	--	62.53	52.53
0.3756	49.89	40.82	--	--	58.38	48.38
0.9162	47.47	40.04	--	--	56.00	46.00
1.1861	47.21	38.09	--	--	56.00	46.00
1.6812	46.33	37.42	--	--	56.00	46.00

B Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT Description: Tablet PC
Operation Mode: Full load and run EMC test software.
Tested By: Charlle Lai
Test Date: 2012-12-18

Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s

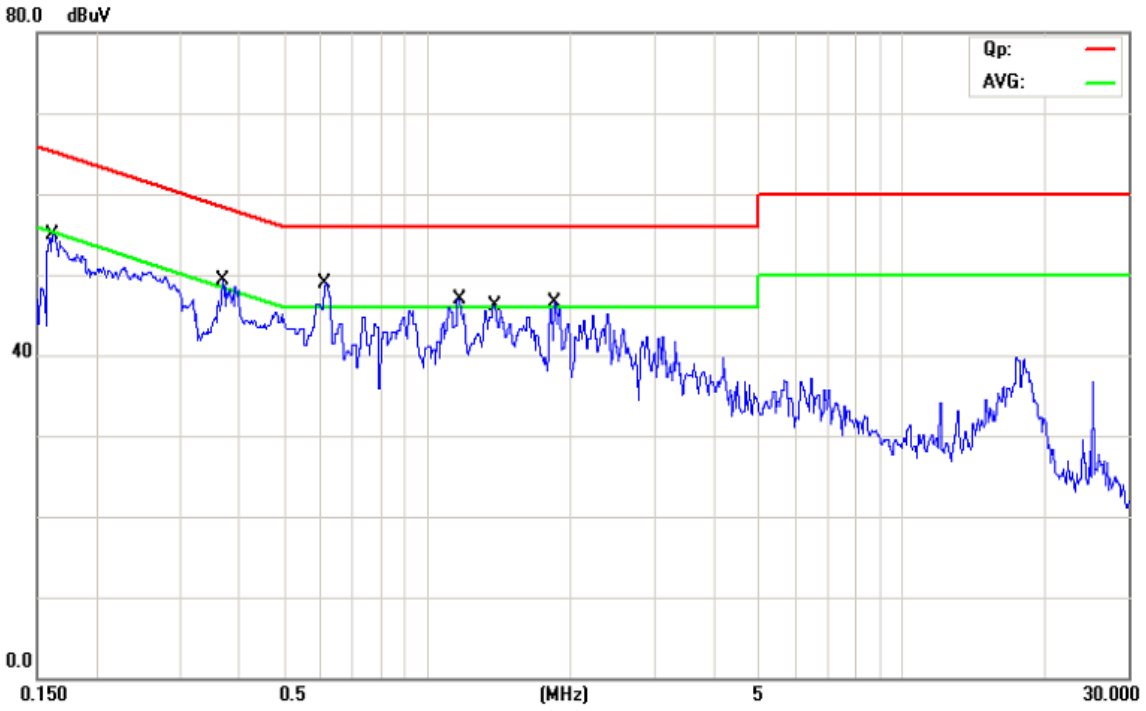


Frequency (MHz)	Reading(dB μ V)				Limit (dB μ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.1736	--	--	53.25	46.39	64.79	54.79
0.6237	--	--	45.99	40.02	56.00	46.00
0.9162	--	--	46.23	38.65	56.00	46.00
1.1072	--	--	46.74	39.46	56.00	46.00
1.3550	--	--	45.97	37.06	56.00	46.00
2.1987	--	--	44.83	38.61	56.00	46.00

C Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT Description: Tablet PC
Operation Mode: Keep Wi-Fi working
Tested By: Charlle Lai
Test date: 2012-12-18

Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s

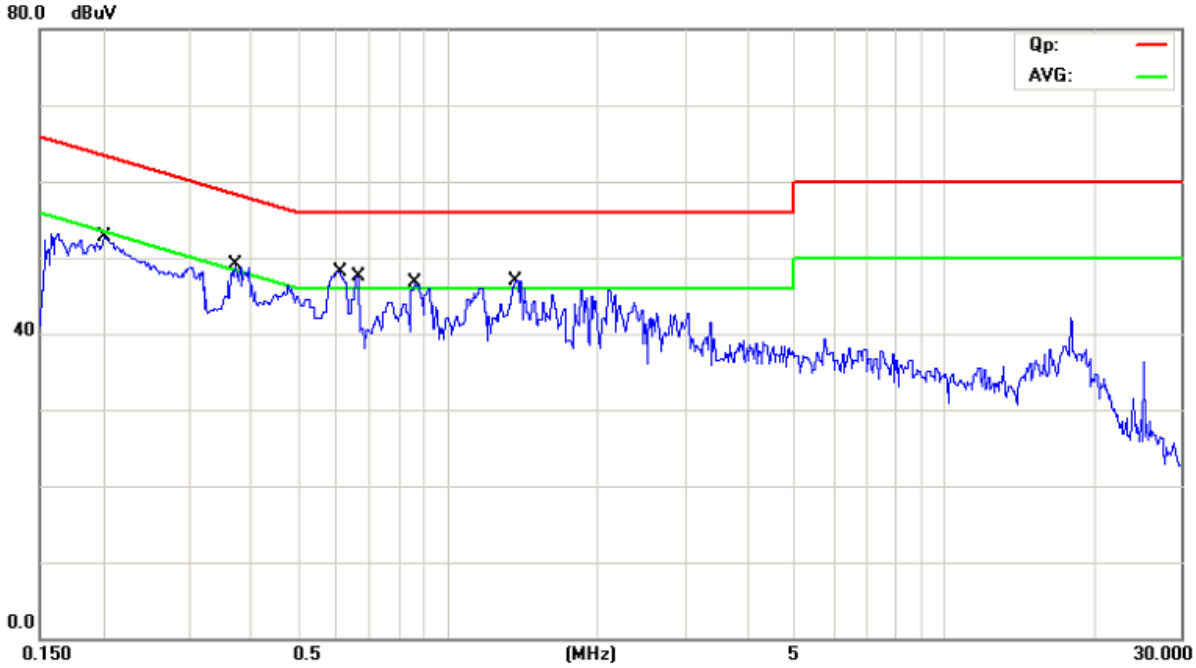


Frequency (MHz)	Reading(dB μ V)				Limit (dB μ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.1621	53.36	44.85	--	--	65.36	55.36
0.3687	47.56	38.79	--	--	58.53	48.53
0.6124	47.81	39.60	--	--	56.00	46.00
1.1635	45.64	36.31	--	--	56.00	46.00
1.3772	46.35	36.81	--	--	56.00	46.00
1.8500	45.02	34.21	--	--	56.00	46.00

D Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT Description: Tablet PC
Operation Mode: Keep Wi-Fi working
Tested By: Charlle Lai
Test Date: 2012-12-18

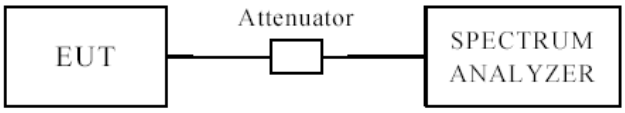
Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s



Frequency (MHz)	Reading(dB μ V)				Limit (dB μ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.2006	--	--	52.64	41.20	63.59	53.59
0.3704	--	---	49.16	39.84	58.49	48.49
0.6011	--	--	48.05	39.26	56.00	46.00
0.6573	--	---	47.54	39.15	56.00	46.00
0.8600	--	--	46.79	38.67	56.00	46.00
1.3662	--	--	46.98	38.26	56.00	46.00

7.0 Maximum Peak Output Power

7.1 Test Setup



7.2 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

7.3 Test Procedure

According to KDB 558074，the transmitter output was connected to the spectrum analyzer through an attenuator. The spectrum analyzer is setting as follows: RBW=1 MHz, VBW=3 MHz, Span=encompass the DTS bandwidth, Detector=peak, Sweep time=auto couple, Trace mode= max hold. Allow trace to fully stabilize. Use the spectrum analyzer's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges.

7.4 Test Result

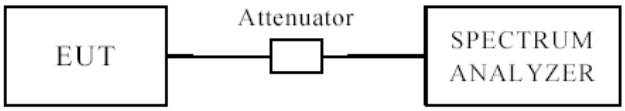
IEEE 802.11b mode			
Test channel	Peak output power (dBm)	Limit (dBm)	Result
Lowest	9.22	30	Pass
Middle	9.37	30	Pass
Highest	9.41	30	Pass
IEEE 802.11g mode			
Test channel	Peak output power (dBm)	Limit (dBm)	Result
Lowest	8.01	30	Pass
Middle	8.12	30	Pass
Highest	8.32	30	Pass

Note: 1) Pre-tests were made in all data rate at lowest channel, which indicates that 1Mbps can be as the worst case for IEEE 802.11b mode, 6Mbps for IEEE 802.11g mode. And the following test items are conducted in the 1Mbps for IEEE 802.11b mode, 6Mbps for IEEE 802.11g mode.

2) Lowest channel: 2412MHz; Middle channel: 2437MHz; Highest channel: 2462MHz.

8.0 6dB Bandwidth Measurement

8.1 Test Setup



8.2 Limits of 6dB Bandwidth Measurement

The minimum of 6 dB Bandwidth is >500 kHz

8.3 Test Procedure

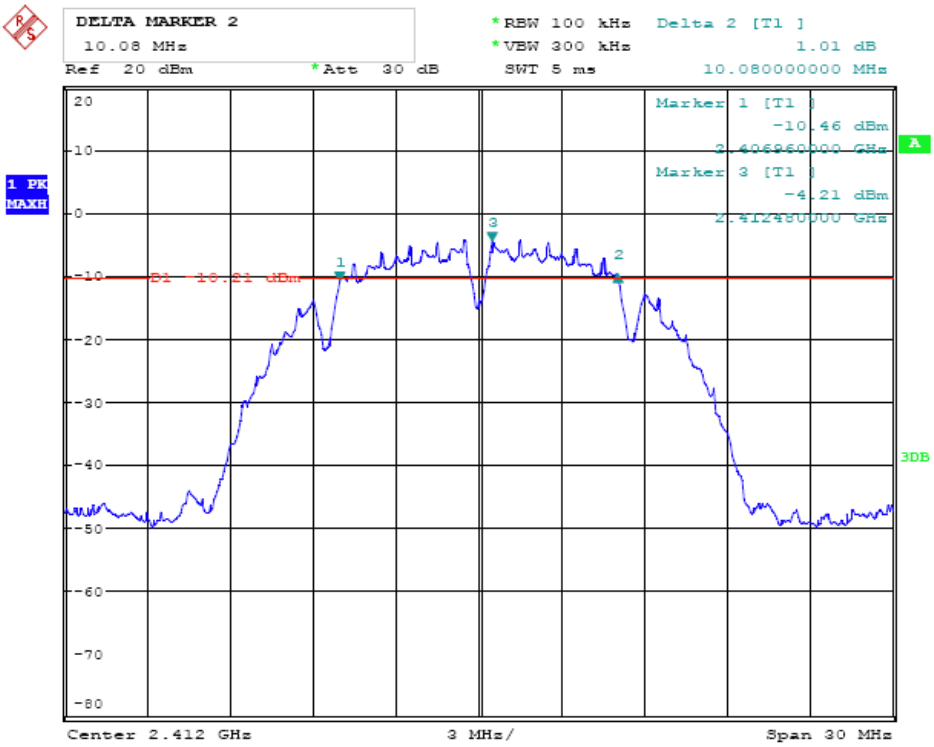
According to KDB 558074，the transmitter output was connected to the spectrum analyzer through an attenuator. The spectrum analyzer is setting as follows: RBW=100 kHz, VBW=300 kHz, Detector=Peak, Trace mode=max hold, Sweep=auto couple. The 6dB bandwidth is defined as the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

8.4 Test Result

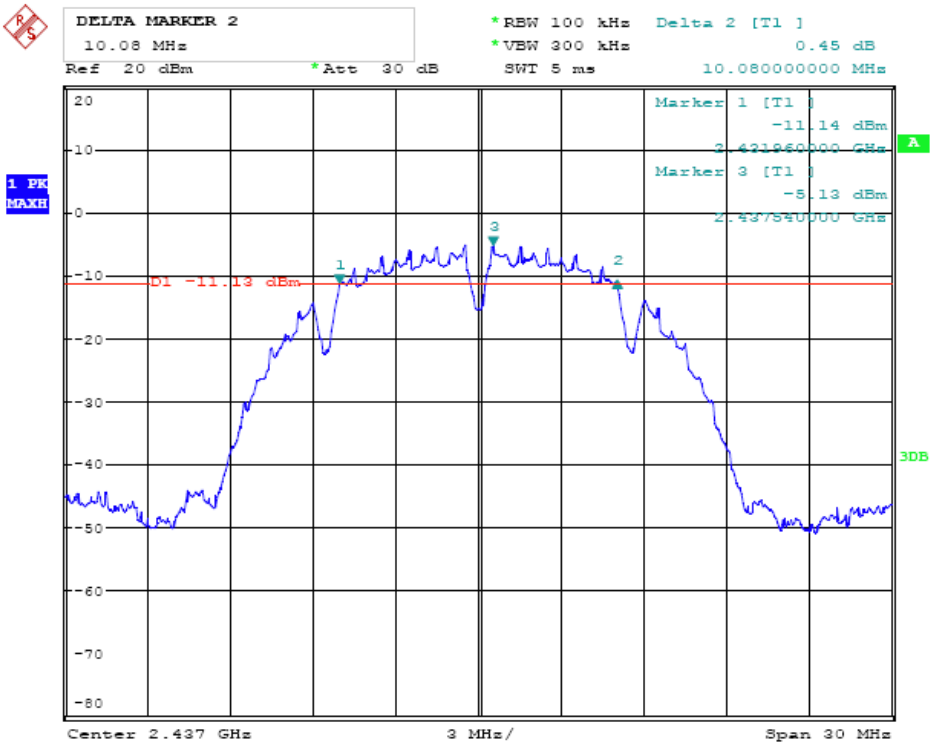
IEEE 802.11b mode			
Test channel	6 dB occupied bandwidth (MHz)	Limit (kHz)	Result
Lowest	10.08	500	Pass
Middle	10.08	500	Pass
Highest	10.14	500	Pass
IEEE 802.11g mode			
Test channel	6 dB occupied bandwidth (MHz)	Limit (kHz)	Result
Lowest	16.62	500	Pass
Middle	16.62	500	Pass
Highest	16.62	500	Pass

Test plots:

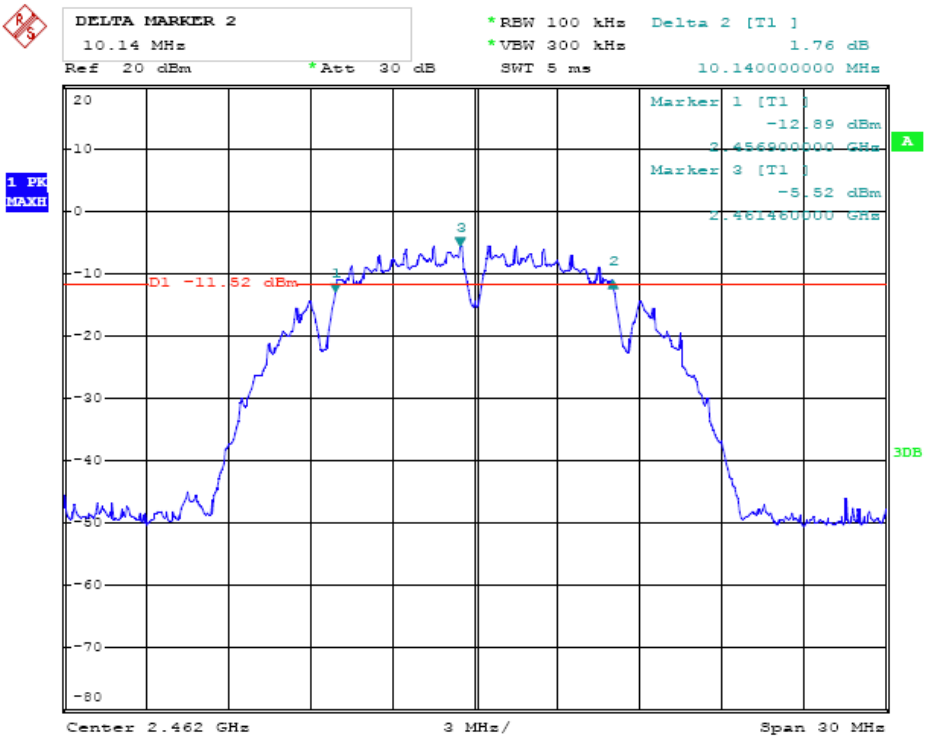
IEEE 802.11b at 1 Mbps: channel 01



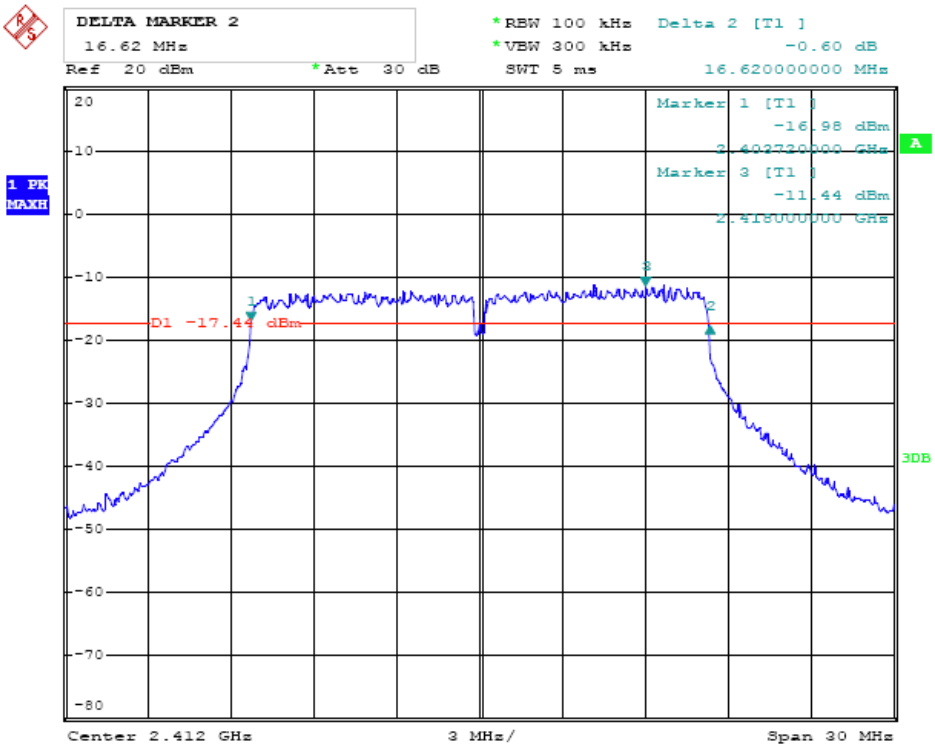
IEEE 802.11b at 1 Mbps: channel 06



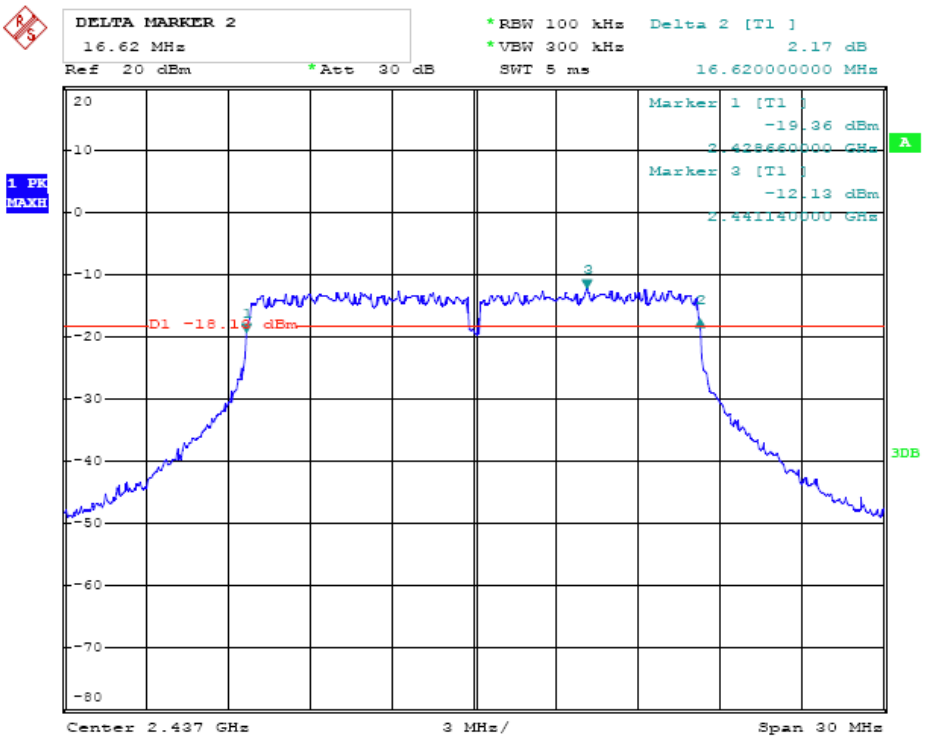
IEEE 802.11b at 1 Mbps: channel 11



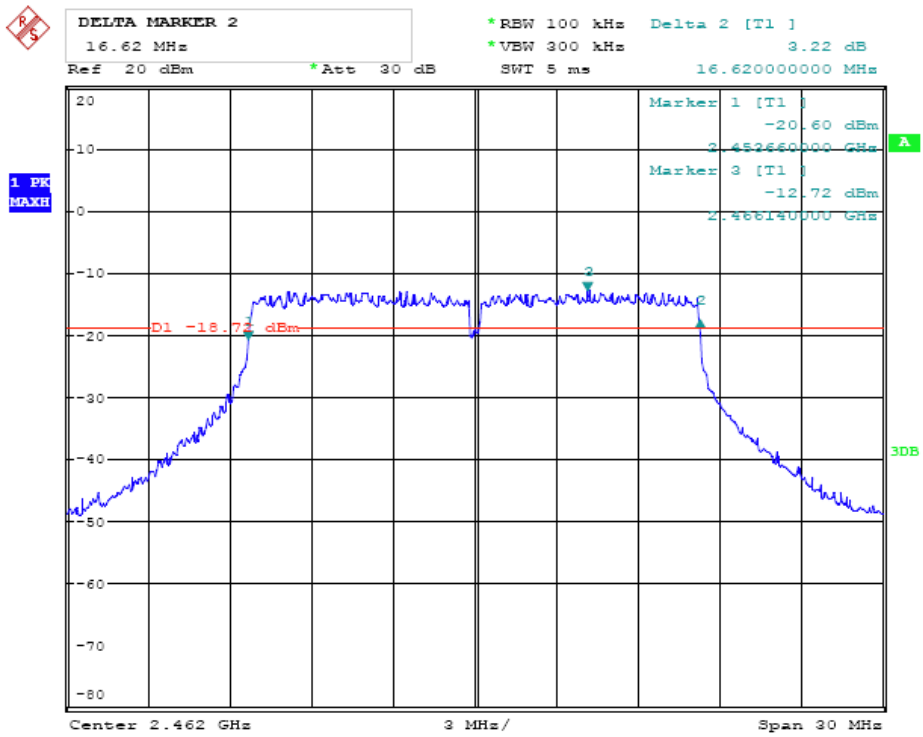
IEEE 802.11g at 6 Mbps: channel 01



IEEE 802.11g at 6 Mbps: channel 06

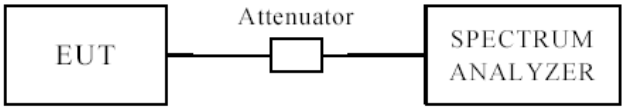


IEEE 802.11g at 6 Mbps: channel 11



9.0 Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density is 8 dBm in any 3 kHz.

9.3 Test Procedure

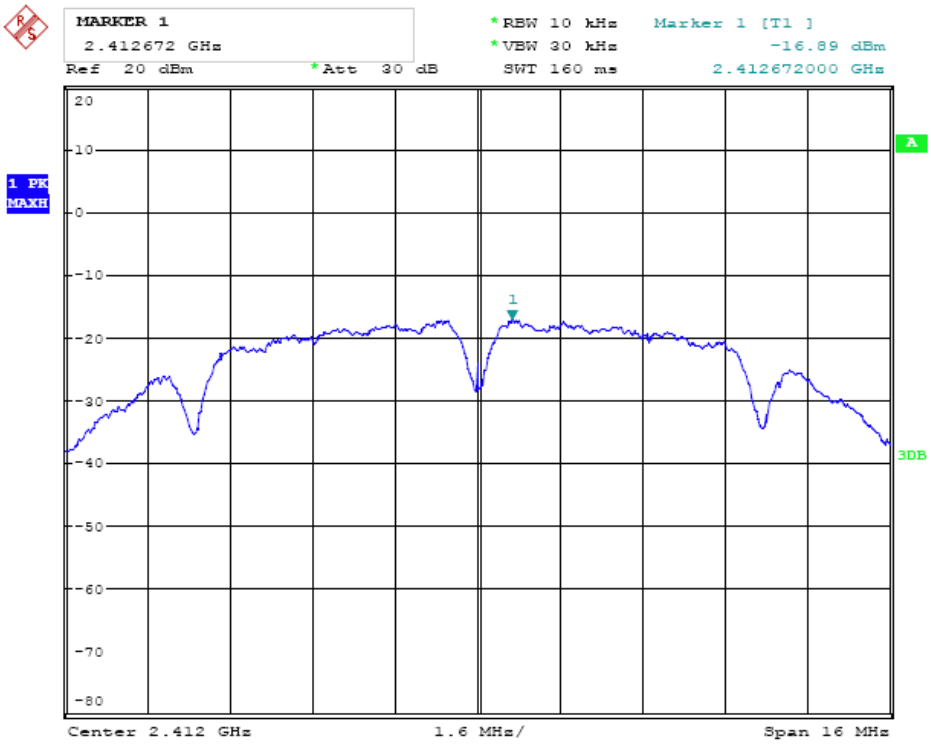
According to KDB 558074，the transmitter output was connected to the spectrum analyzer through an attenuator. The spectrum analyzer is setting as follows:

1) Set analyzer centre frequency to DTS channel centre frequency.
2) Set the span to 1.5 times the DTS channel bandwidth.
3) Set the RBW>=3 kHz.
4) Set the VBW>=3*RBW.
5) Detector=peak.
6) Sweep time=auto couple.
7) Trace mode=max hold.
8) Allow trace to fully stabilize.
9) Use the peak marker function to determine the maximum amplitude level.
10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

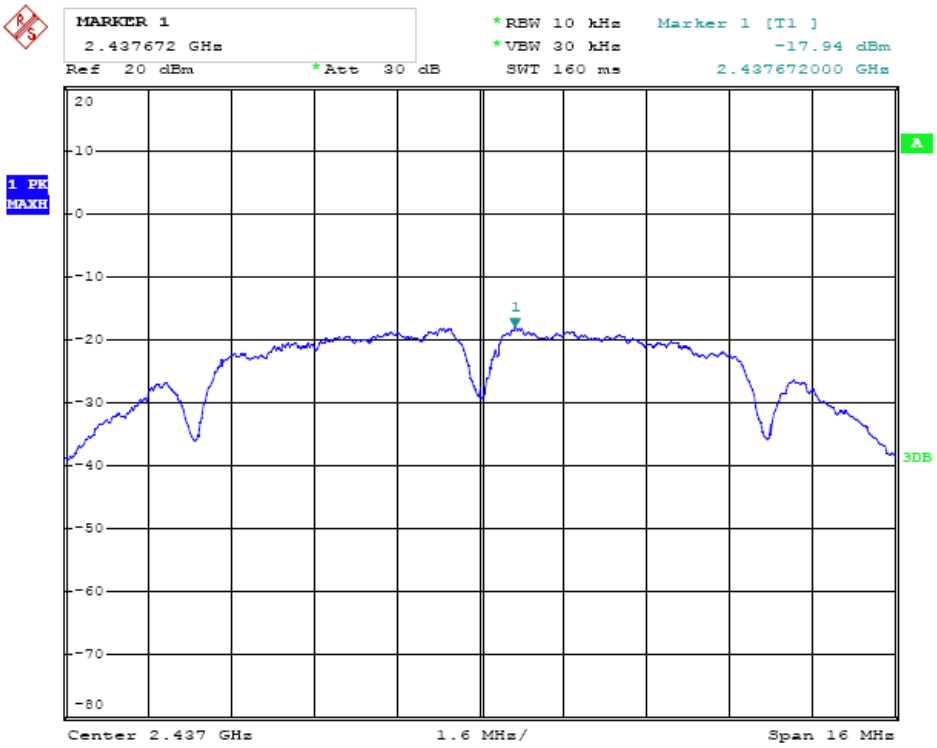
9.4 Test Result

IEEE 802.11b mode			
Test channel	Peak Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-16.89	8	Pass
Middle	-17.94	8	Pass
Highest	-18.25	8	Pass
IEEE 802.11g mode			
Test channel	Peak Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-19.27	8	Pass
Middle	-20.19	8	Pass
Highest	-20.34	8	Pass

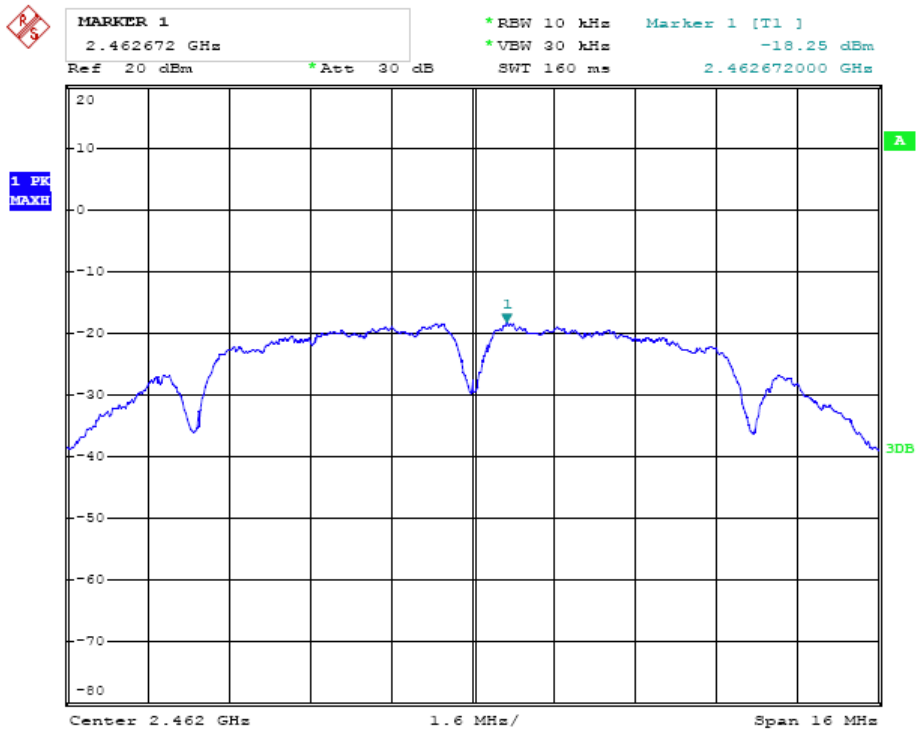
IEEE 802.11b at 1 Mbps: channel 01



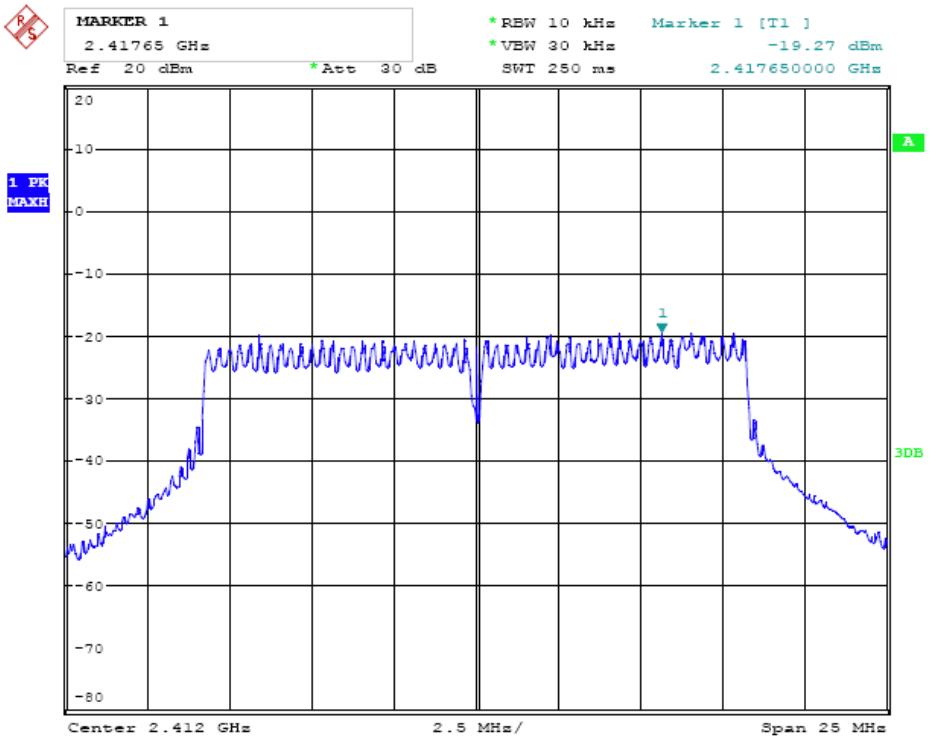
IEEE 802.11b at 1 Mbps: channel 06



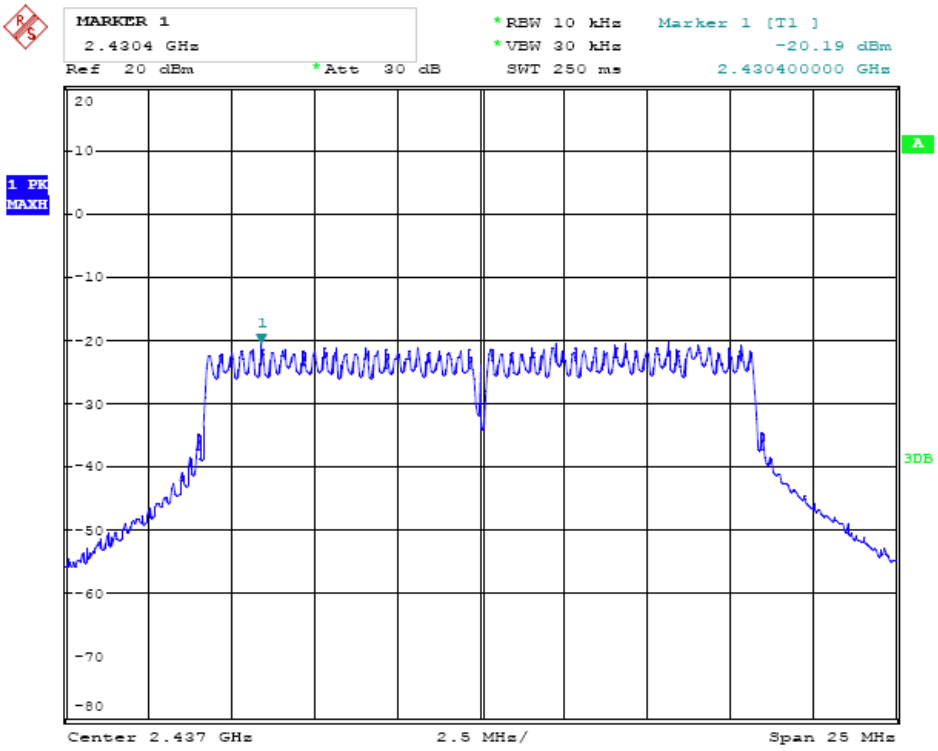
IEEE 802.11b at 1 Mbps: channel 11



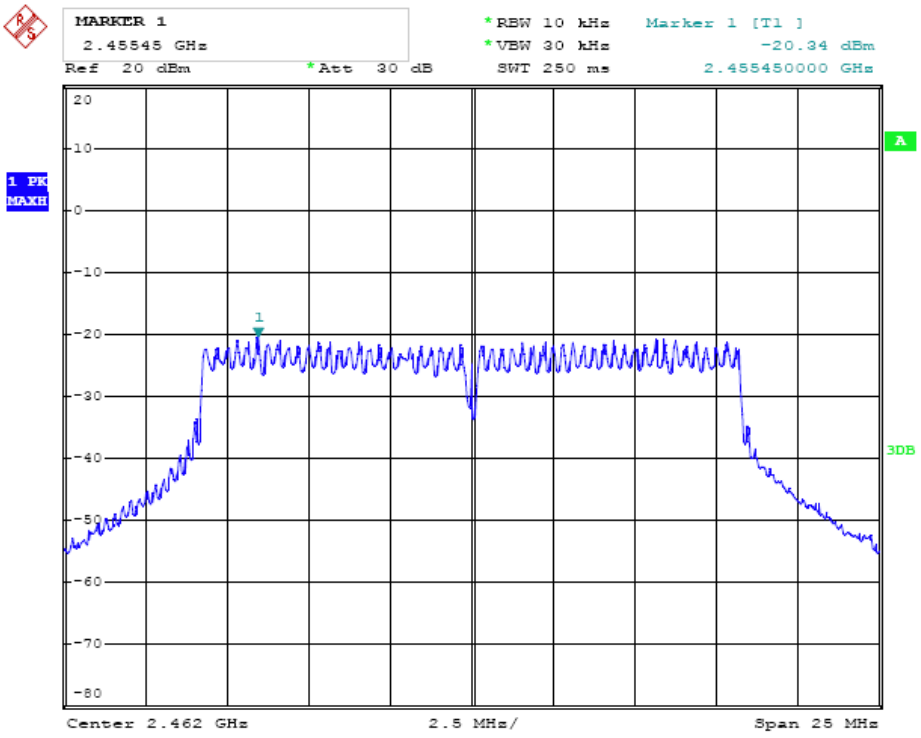
IEEE 802.11g at 6 Mbps: channel 01



IEEE 802.11g at 6 Mbps: channel 06



IEEE 802.11g at 6 Mbps: channel 11



10.0 Band age Measurement

10.1 Test Equipment

Please refer to the Section 2

10.2 Test specification:

Environmental conditions: Temperature 23° C Humidity: 51% Atmospheric pressure: 103kPa

10.3 Limit:

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 15.209(a)

10.4 Test Procedure

The EUT was setup according to ANSI C63.10:2009 and tested according to ANSI 63.10:2009 for compliance to FCC 47 CFR 15.247 requirements. The EUT is placed on a turn table which is 0.8 m above ground. The turn table is rotated 360 degrees to determine to the position of the maximum emission level. The EUT was positioned such That the distance from antenna to the EUT was 3 metres. The antenna is scanned from 1 metre to 4 metres to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2009 on radiated measurement.

Spectrum analyzer parameters setting as shown below:

1): Peak: RBW=1MHz, VBW=1MHz, Sweep=Auto

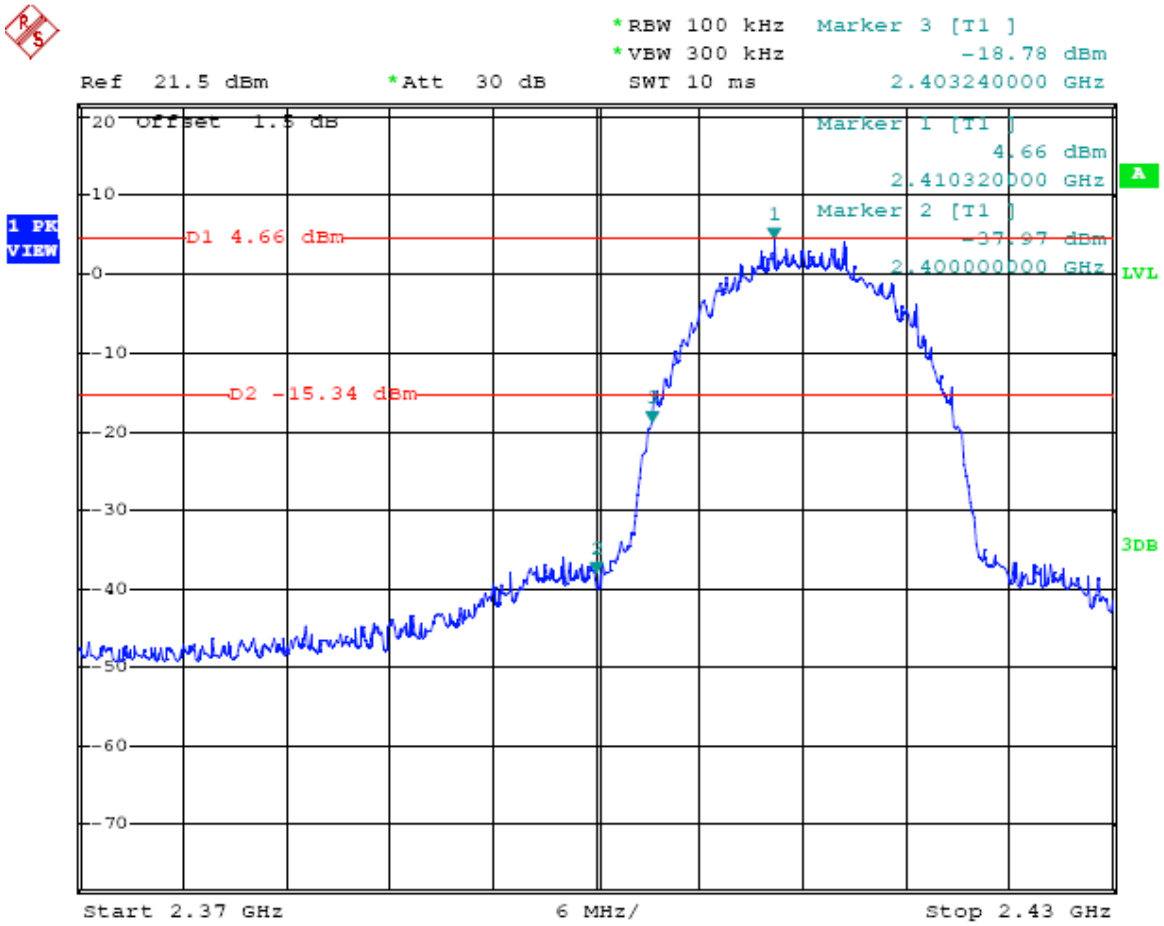
2): Average: RBW=1MHz, VBW=10Hz, Sweep=Auto

10.5 Test Result:

Test plots please refer to the next pages.

Test plots:

IEEE 802.11b at 1 MHz: lowest channel

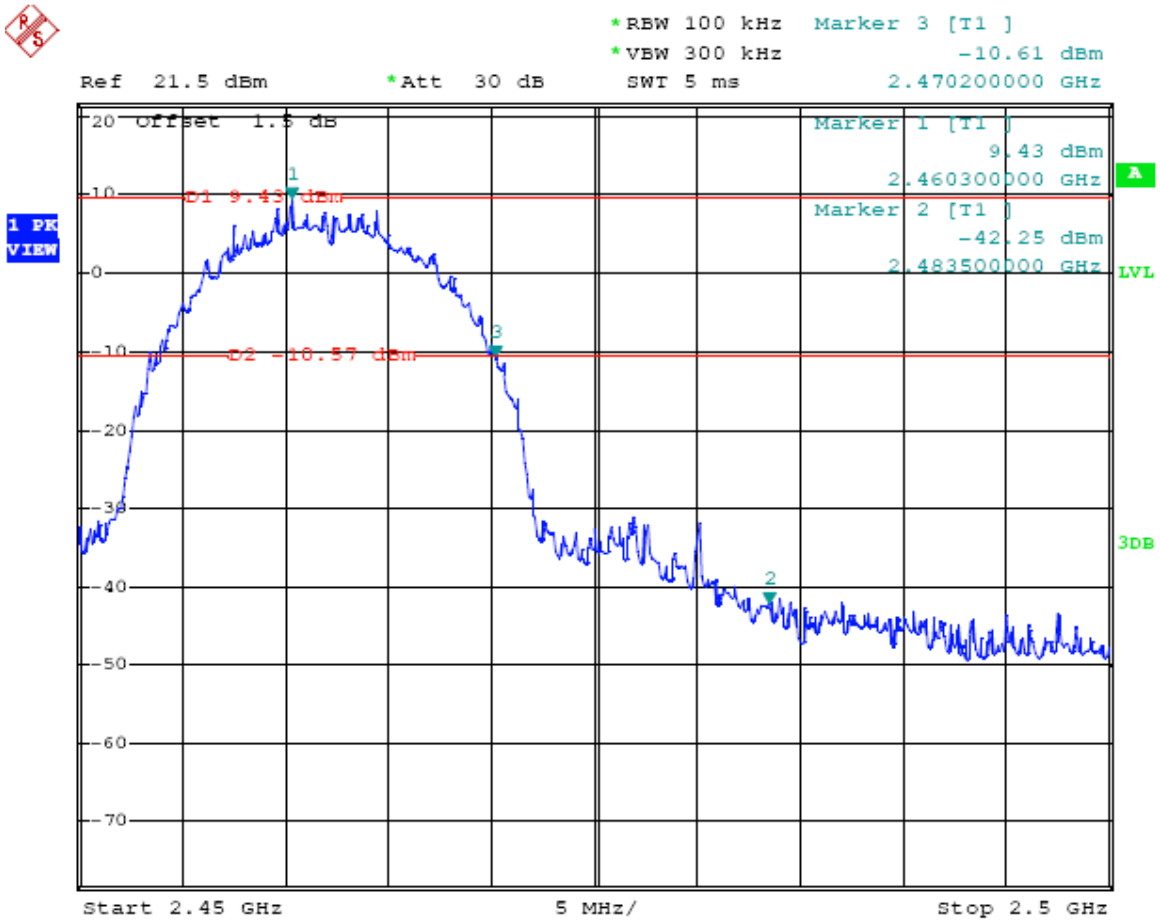


Remark: 1) The radiated measurement was made in horizontal and vertical polarity;

2) The maximum emission was 53.11dBuv at 2396.7 MHz, which is less than the Average limit.

3) Radiated emissions which fall in the restricted band, as defined in 15.205(a), comply with the radiated emission limits specified in 15.209(a).

IEEE 802.11b at 1 MHz: highest channel

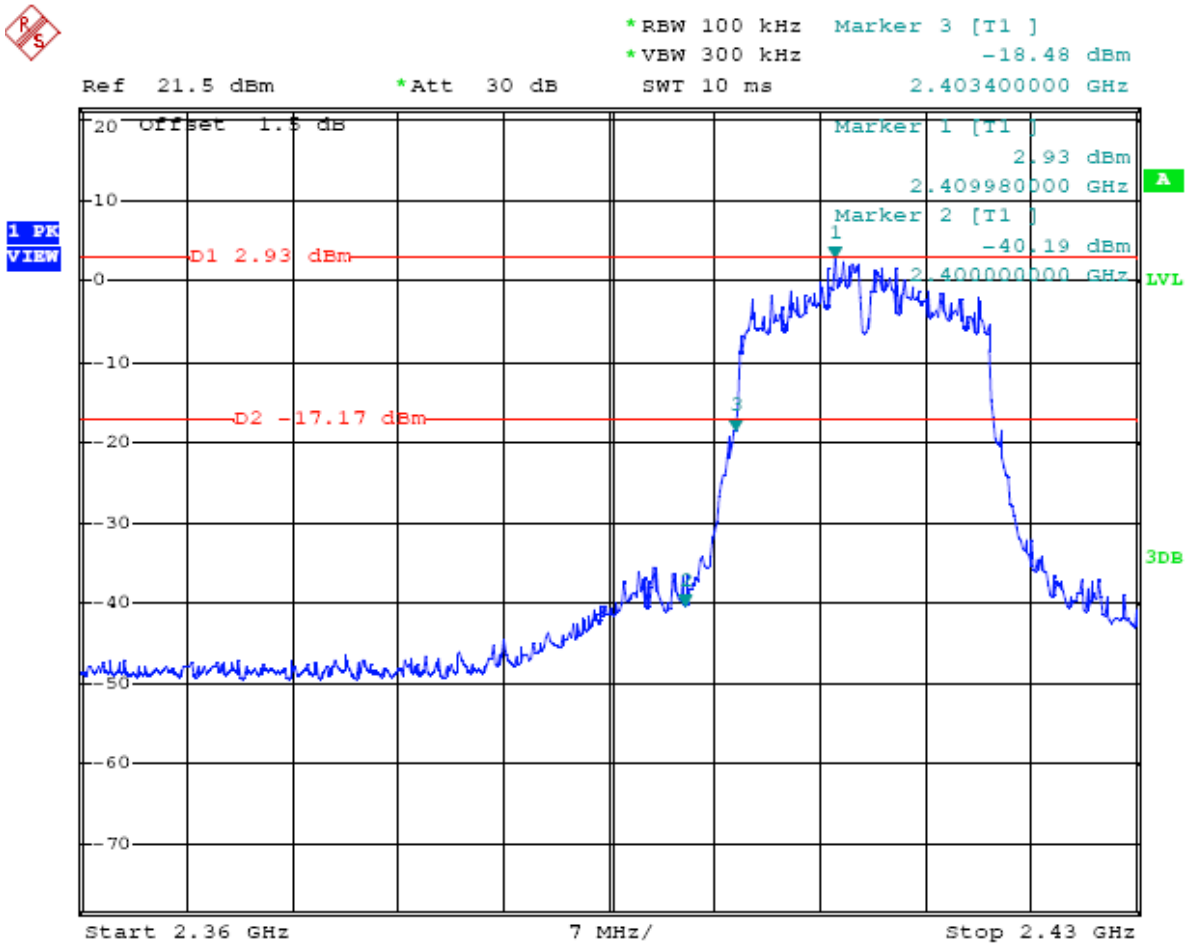


Remark: 1) The radiated measurement was made in horizontal and vertical polarity;

2) The maximum emission was 52.71dBuv at 2483.5 MHz, which is less than the Average limit.

3) Radiated emissions which fall in the restricted band, as defined in 15.205(a), comply with the radiated emission limits specified in 15.209(a).

IEEE 802.11g at 6 MHz: lowest channel

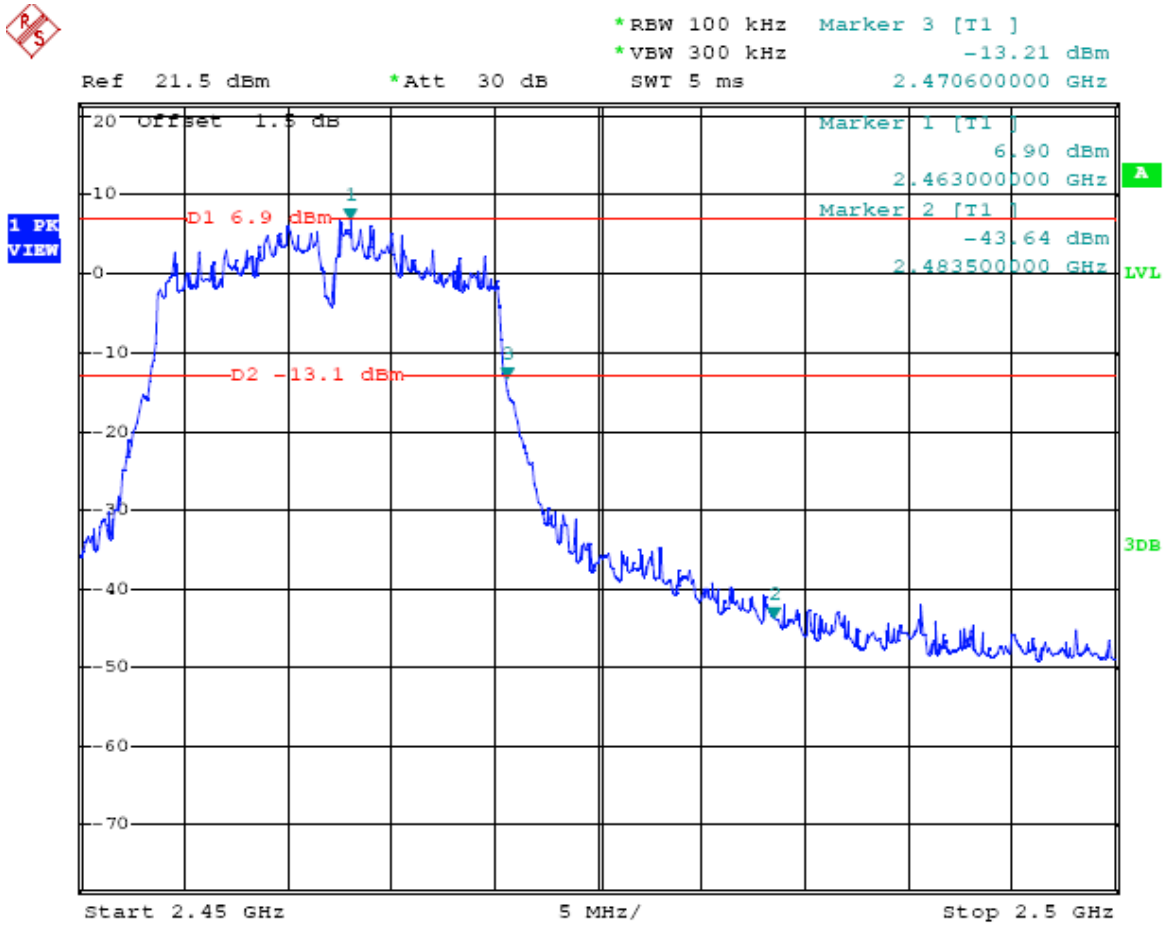


Remark: 1) The radiated measurement was made in horizontal and vertical polarity;

2) The maximum emission was 51.04dBuv at 2398.1 MHz, which is less than the Average limit.

3) Radiated emissions which fall in the restricted band, as defined in 15.205(a), comply with the radiated emission limits specified in 15.209(a).

IEEE 802.11g at 6 MHz: highest channel



Remark: 1) The radiated measurement was made in horizontal and vertical polarity;

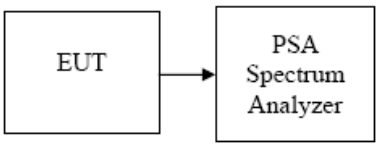
2) The maximum emission was 53.89.0dBuv at 2483.5 MHz, which is less than the Average limit.

3) Radiated emissions which fall in the restricted band, as defined in 15.205(a), comply with the radiated emission limits specified in 15.209(a).

11.0 Spurious Emission Test

11.1 Conducted Measurement

11.1.1 Test configuration



11.1.2 Limit:

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. Attenuation below the general limits specified in Section 15.209(a) is not required. 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)).

11.1.3 Test procedure:

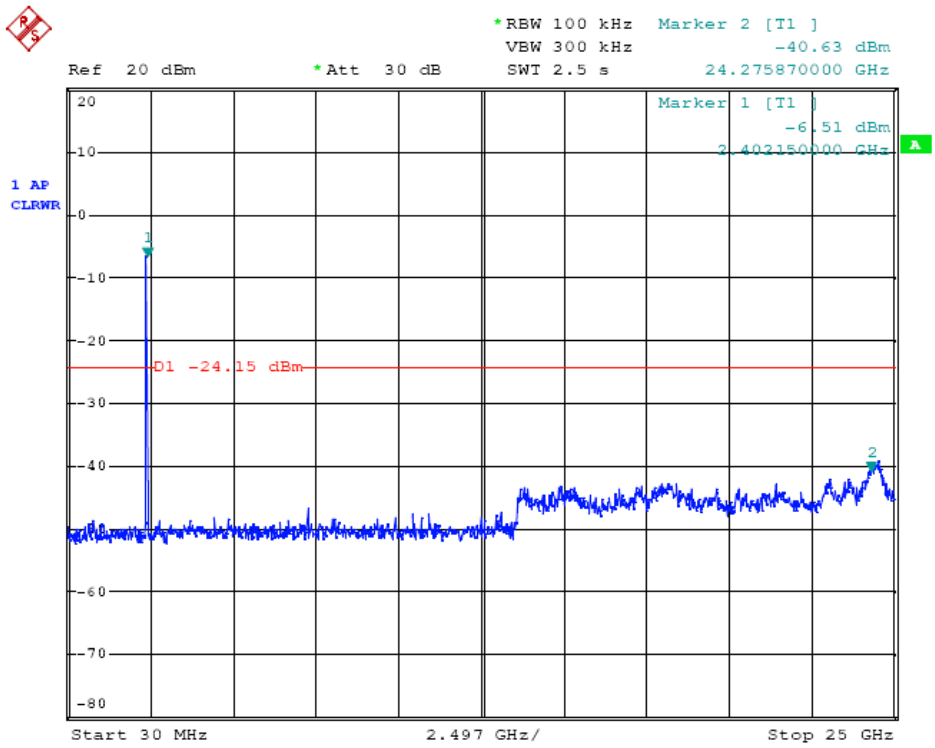
Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site. The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz. Measurements are made over the 30MHz to 26GHzrange with the transmitter set to the lowest, middle, and highest channels.

11.1.4 Test Result:

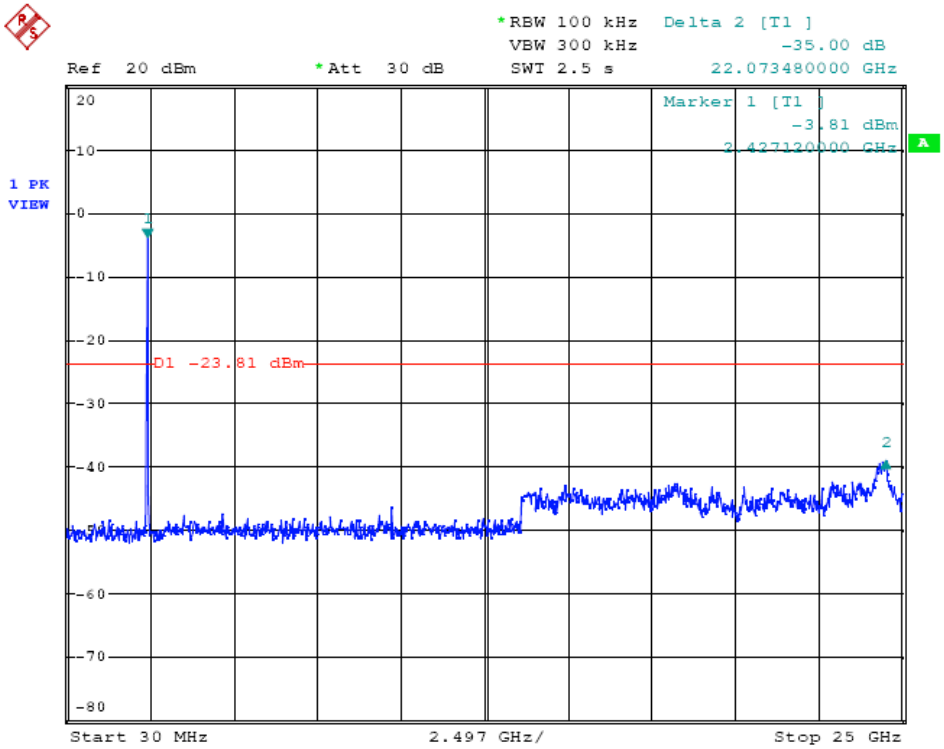
Test plots please refer to next pages.

Test Plots:

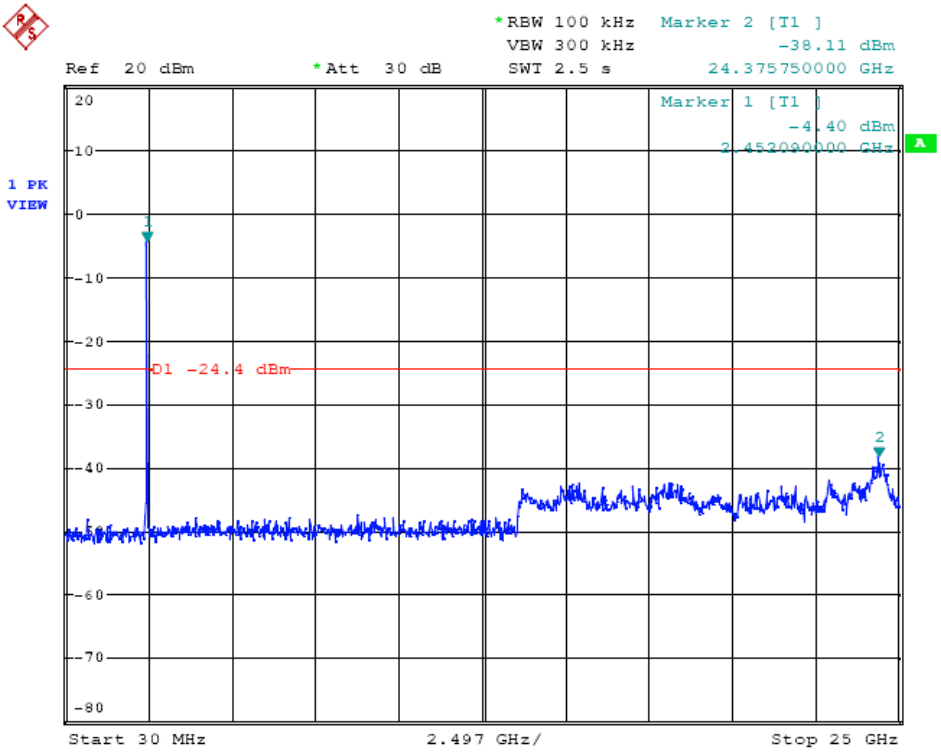
IEEE 802.11b at 1 Mbps: channel 01



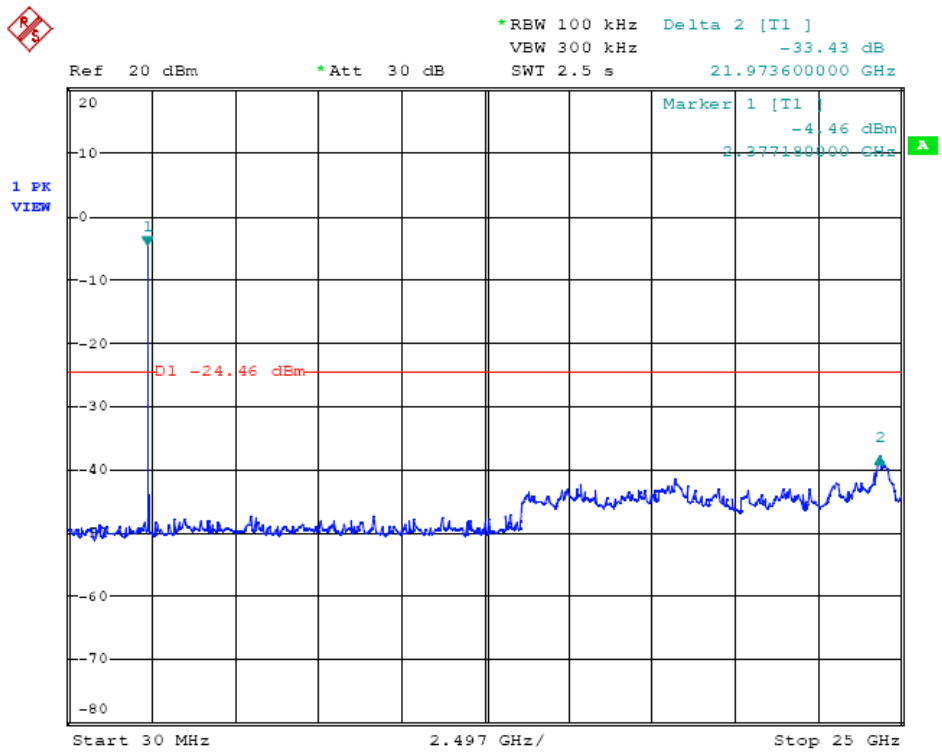
IEEE 802.11b at 1 Mbps: channel 06



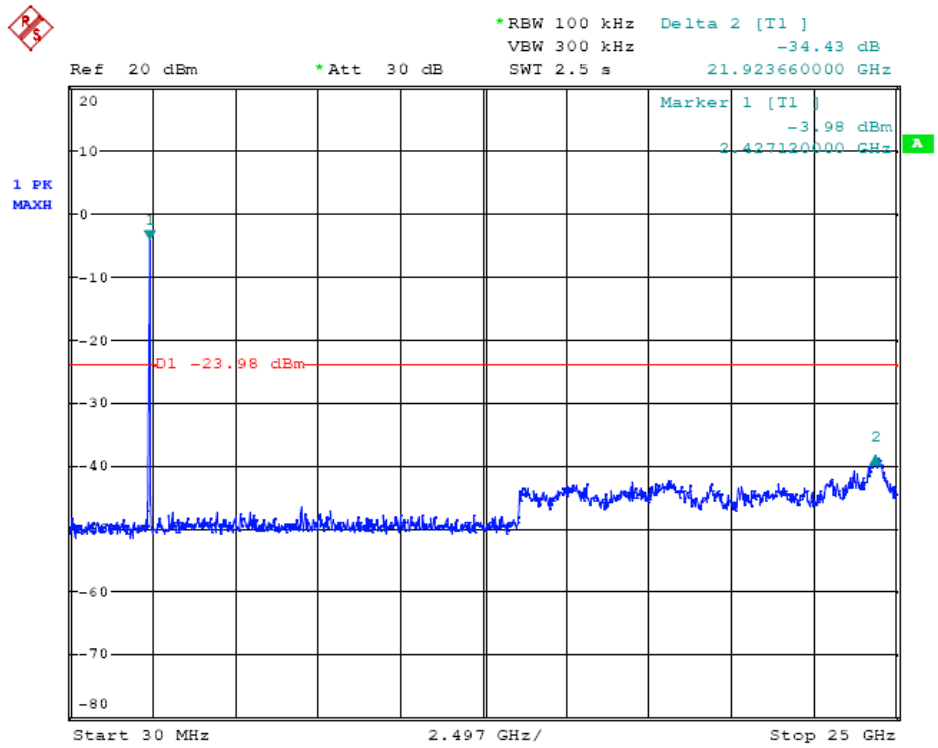
IEEE 802.11b at 1 Mbps: channel 11



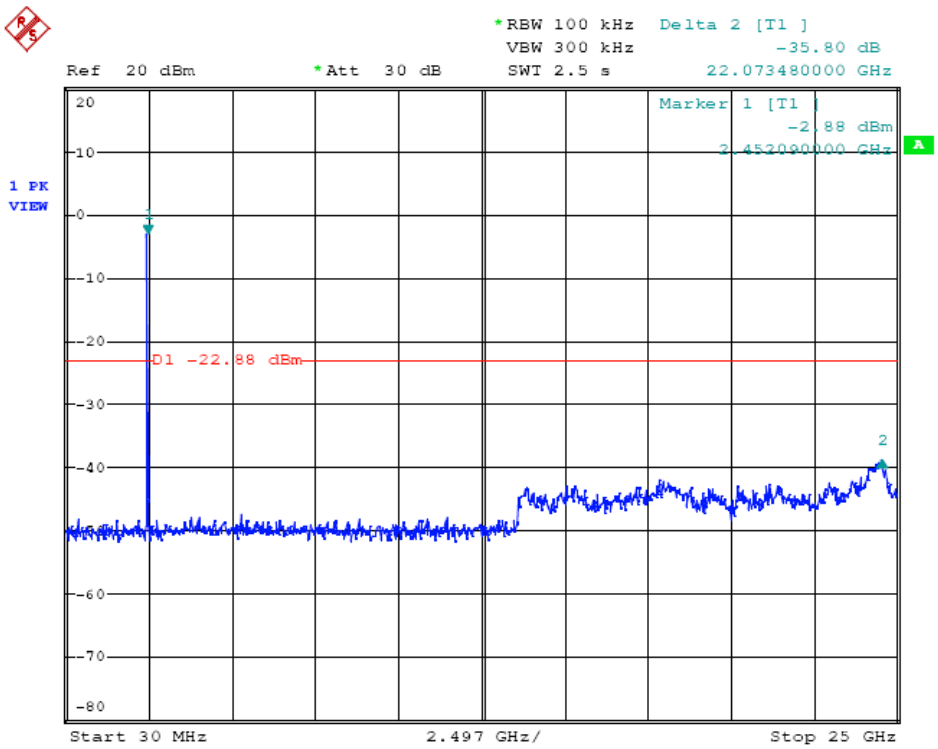
IEEE 802.11g at 6 Mbps: channel 01



IEEE 802.11g at 6 Mbps: channel 06



IEEE 802.11g at 6 Mbps: channel 11

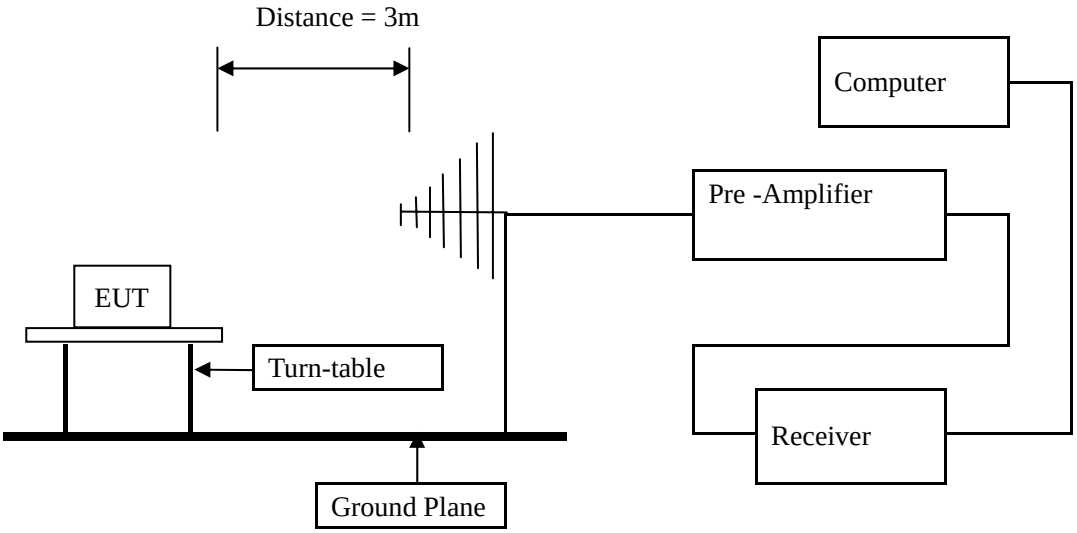


11.2 Radiated emissions

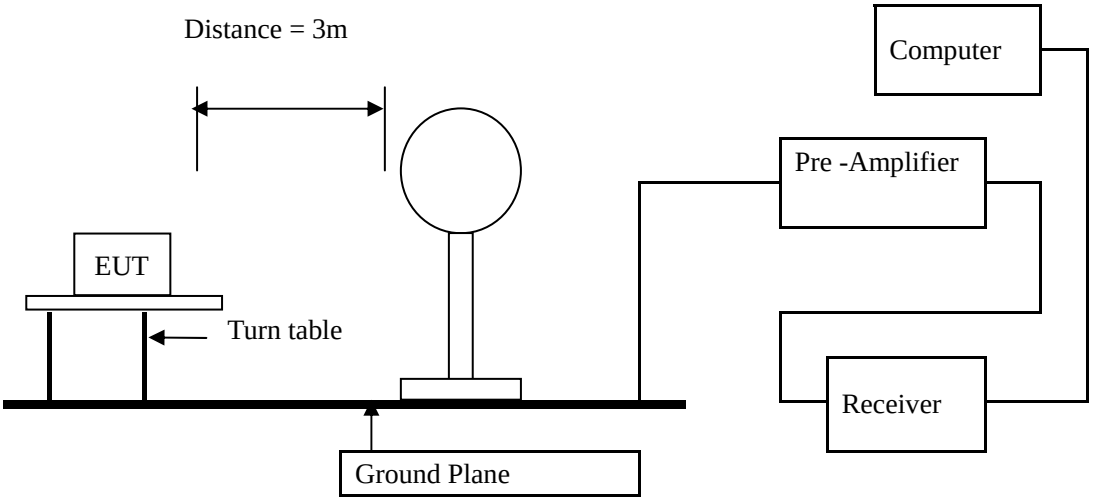
11.2.1 Test Method and test Procedure:

1) The EUT was tested according to ANSI C63.10 –2009.
2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2009.
3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.
4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
5) The antenna polarization: Vertical polarization and Horizontal polarization.

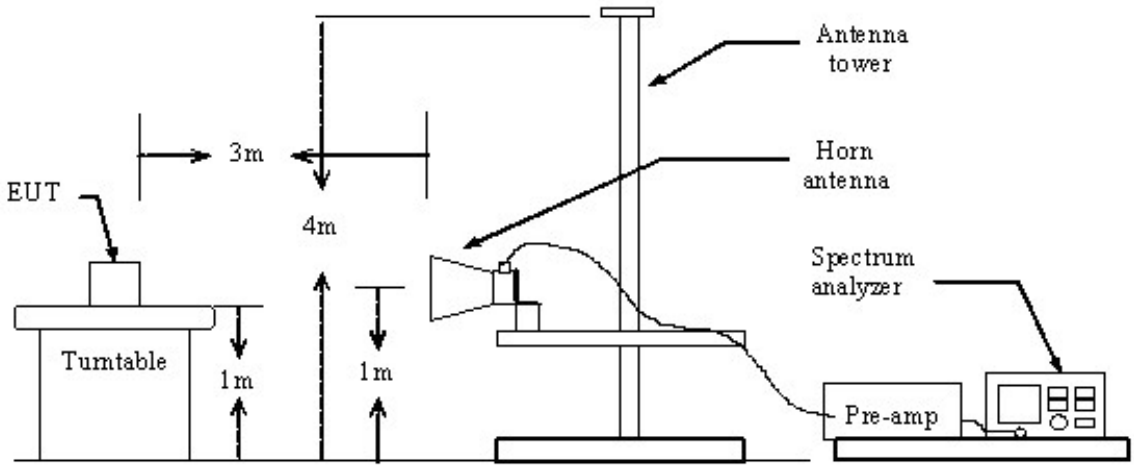
Block diagram of Test setup



Block diagram of Test setup for frequency below 30MHz



Block diagram of Test setup for frequency above 1GHz



11.2.2 EUT Operating Condition

Operating condition is according to ANSI C63.10 -2009

11.2.3 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.490	3	20log 2400/F (kHz) + 80
0.490-1.705	3	20log 24000/F (kHz) + 40
1.705-30	3	20log 30 + 40
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1) RF Voltage (dBuV) = 20 log RF Voltage (uV)

2) In the Above Table, the tighter limit applies at the band edges.

3) Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4) This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

5) All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK and AV detector.

6) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula Ld1 = Ld2 * (d2/d1)

11.2.4 Photo documentation of the test set-up

Please refer to the Section 16

11.2.5 Test Equipment:

Please refer to the Section 2

11.2.6 Test specification:

Environmental conditions: Temperature 24° C Humidity: 49% Atmospheric pressure: 103kPa

11.2.7 Test result

A Radiated Emission (9 kHz----30 MHz)

Note: 1) Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor
2) The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement

Result: Pass

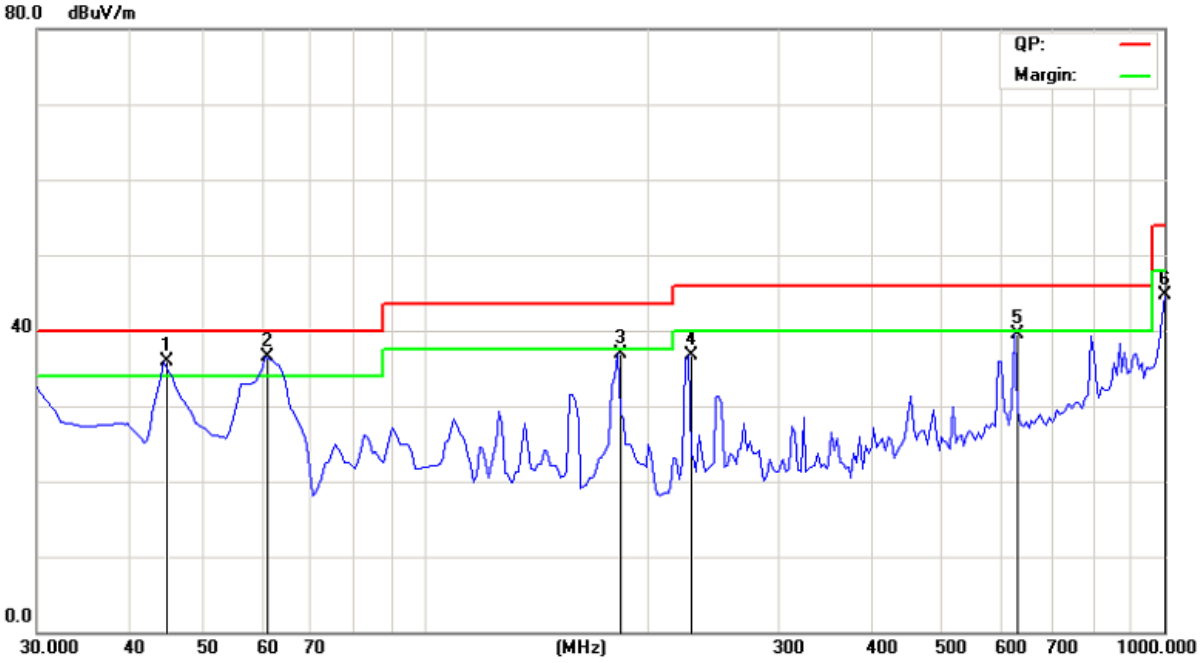
Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
--	--	V	--
--	--	H	--
--	--	V	--
--	--	H	--

B General Radiated Emissions Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT Operation mode: Full load and run EMC test software.

Please refer to following diagram for individual

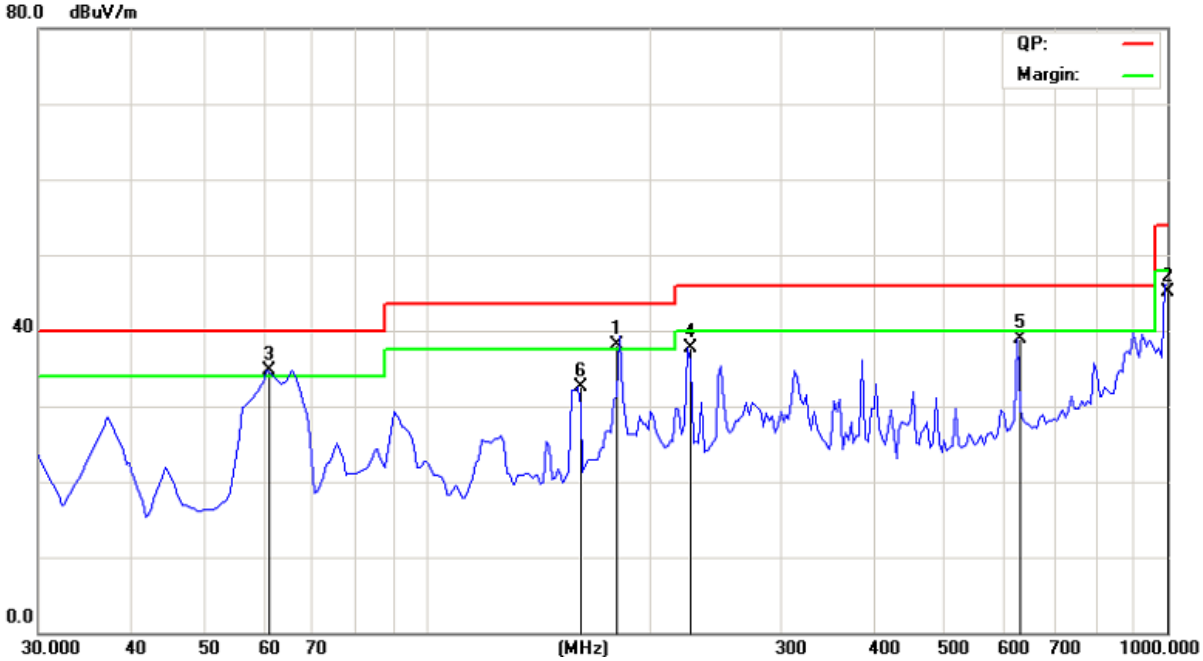


Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
44.550	35.81	H	40.00
61.525	36.52	H	40.00
182.775	36.89	H	43.50
228.850	36.77	H	46.00
631.400	39.54	H	46.00
1000.000	44.80	H	54.00

Radiated Emission In Vertical (30MHz----1000MHz)

EUT Operation mode: Full load and run EMC test software.

Please refer to following diagram for individual

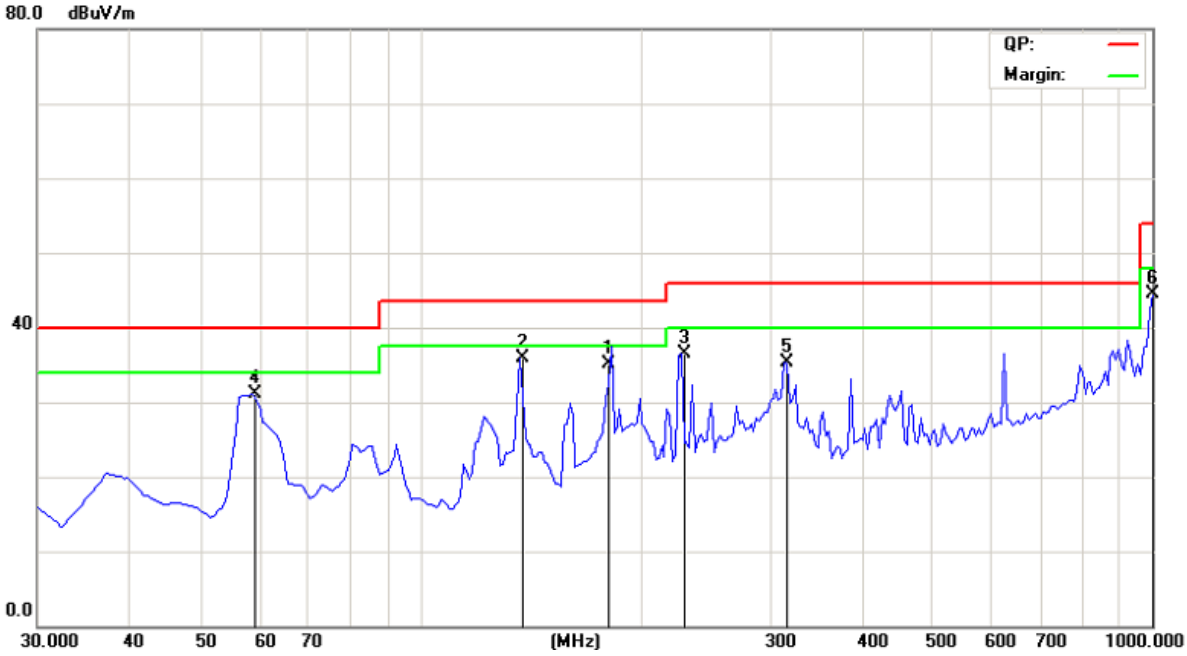


Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
61.525	34.72	V	40.00
160.95	32.49	V	43.50
179.906	38.03	V	43.50
226.425	37.72	V	46.00
633.825	38.97	V	46.00
997.575	45.19	V	54.00

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT Operation mode: Keep Wi-Fi working

Please refer to following diagram for individual

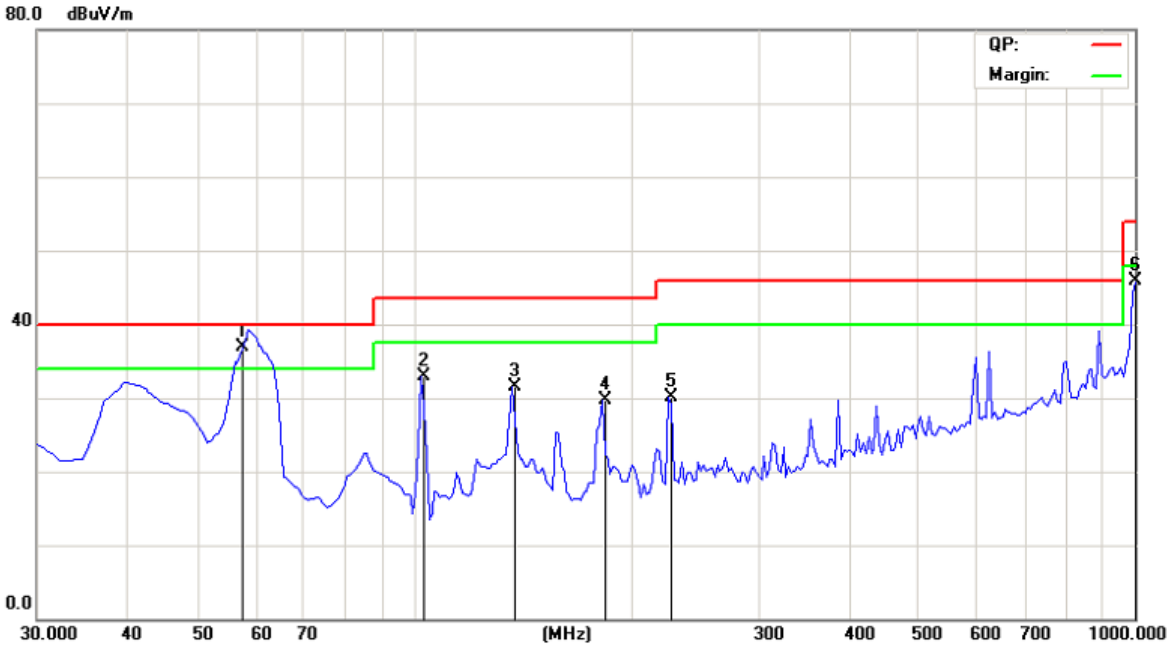


Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
179.860	35.02	H	43.50
136.700	35.94	H	43.50
228.85	36.49	H	46.00
59.100	31.11	H	40.00
316.150	35.37	H	46.00
1000.000	44.52	H	54.00

Radiated Emission In Vertical (30MHz----1000MHz)

EUT Operation mode: Keep Wi-Fi working

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
57.780	36.89	V	40.00
102.750	32.96	V	43.50
136.700	31.50	V	43.50
182.775	29.70	V	43.50
226.425	30.07	V	46.00
1000.000	46.00	V	54.00

C Fundamental & Harmonics Radiated Emission Data (1000MHz-25000MHz)

IEEE 802.11b mode: Low channel: 2412 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	51.38	---	-4.20	47.18	---	74.00	54.00	-6.82
4824.00	H	54.25	---	-3.94	50.31	---	74.00	54.00	-3.69
5600.00	H	52.17	---	-2.83	49.34	---	74.00	54.00	-4.66
7236.00	H	49.64	---	0.52	50.16	---	74.00	54.00	-3.84
16884.00	H	44.19	---	6.73	50.92	---	74.00	54.00	-3.08
24120.00	H	42.19	---	8.11	50.30	---	74.00	54.00	-3.70
1310.01	V	52.18	---	-4.25	47.93	---	74.00	54.00	-6.07
4824.00	V	56.93	---	-3.94	52.99	---	74.00	54.00	-1.01
5600.00	V	53.19	---	-2.87	50.32	---	74.00	54.00	-3.68
7236.00	V	49.70	---	0.52	50.22	---	74.00	54.00	-3.78
16884.00	V	41.15	---	6.73	47.88	---	74.00	54.00	-6.12
24120.00	V	41.92	---	8.11	50.03	---	74.00	54.00	-3.97

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

IEEE 802.11b mode: Middle channel: 2437 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	52.10	---	-4.20	47.90	---	74.00	54.00	-6.10
4874.00	H	54.54	---	-3.98	50.56	---	74.00	54.00	-3.44
5600.00	H	53.18	---	-2.83	50.35	---	74.00	54.00	-3.65
7311.00	H	49.30	---	0.57	49.87	---	74.00	54.00	-4.13
17059.00	H	44.62	---	6.79	51.41	---	74.00	54.00	-2.59
24370.00	H	42.13	---	8.16	50.29	---	74.00	54.00	-3.71
1310.01	V	53.85	---	-4.25	49.60	---	74.00	54.00	-4.40
4874.00	V	56.35	---	-3.98	52.37	---	74.00	54.00	-1.63
5600.00	V	53.42	---	-2.87	50.55	---	74.00	54.00	-3.45
7311.00	V	49.36	---	0.57	49.93	---	74.00	54.00	-4.07
17059.00	V	41.35	---	6.79	48.14	---	74.00	54.00	-5.86
24370.00	V	42.94	---	8.16	51.10	---	74.00	54.00	-2.90

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

IEEE 802.11b mode: High channel: 2462 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	51.79	---	-4.20	47.59	---	74.00	54.00	-6.41
4924.00	H	54.28	---	-3.98	50.30	---	74.00	54.00	-3.70
5600.00	H	53.42	---	-2.83	50.59	---	74.00	54.00	-3.41
7386.00	H	49.48	---	0.57	50.05	---	74.00	54.00	-3.95
17234.00	H	44.78	---	6.79	51.57	---	74.00	54.00	-2.43
24620.00	H	42.04	---	8.16	50.20	---	74.00	54.00	-3.80
1310.01	V	53.74	---	-4.25	49.49	---	74.00	54.00	-4.51
4924.00	V	56.57	---	-3.98	52.59	---	74.00	54.00	-1.41
5600.00	V	53.21	---	-2.87	50.34	---	74.00	54.00	-3.66
7386.00	V	49.28	---	0.57	49.85	---	74.00	54.00	-4.15
17234.00	V	41.56	---	6.79	48.35	---	74.00	54.00	-5.65
24620.00	V	42.73	---	8.16	50.89	---	74.00	54.00	-3.11

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

IEEE 802.11g mode: Low channel: 2412 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	52.11	---	-4.20	47.91	---	74.00	54.00	-6.09
4824.00	H	51.94	---	-3.94	48.00	---	74.00	54.00	-6.00
5600.00	H	53.47	---	-2.83	50.64	---	74.00	54.00	-3.36
7236.00	H	47.36	---	0.52	47.88	---	74.00	54.00	-6.12
16884.00	H	43.87	---	6.73	50.60	---	74.00	54.00	-3.40
24120.00	H	42.35	---	8.11	50.46	---	74.00	54.00	-3.54
1310.01	V	53.74	---	-4.25	44.98	---	74.00	54.00	-9.02
4824.00	V	53.25	---	-3.94	45.31	---	74.00	54.00	-8.69
5600.00	V	54.28	---	-2.87	46.73	---	74.00	54.00	-7.27
7236.00	V	44.23	---	0.52	46.22	---	74.00	54.00	-7.78
16884.00	V	40.74	---	6.73	46.28	---	74.00	54.00	-7.72
24120.00	V	41.69	---	8.11	48.82	---	74.00	54.00	-5.18

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

IEEE 802.11g mode: Middle channel: 2437 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	51.85	---	-4.20	45.58	---	74.00	54.00	-8.42
4874.00	H	52.10	---	-3.98	45.71	---	74.00	54.00	-8.29
5600.00	H	54.04	---	-2.83	47.43	---	74.00	54.00	-6.57
7311.00	H	47.25	---	0.57	47.63	---	74.00	54.00	-6.37
17059.00	H	43.54	---	6.79	48.28	---	74.00	54.00	-5.72
24370.00	H	42.38	---	8.16	49.15	---	74.00	54.00	-4.85
1310.01	V	52.85	---	-4.25	45.31	---	74.00	54.00	-8.69
4874.00	V	52.48	---	-3.98	45.69	---	74.00	54.00	-8.31
5600.00	V	53.58	---	-2.87	47.41	---	74.00	54.00	-6.59
7311.00	V	43.78	---	0.57	47.75	---	74.00	54.00	-6.25
17059.00	V	40.53	---	6.79	46.88	---	74.00	54.00	-7.12
24370.00	V	41.21	---	8.16	47.60	---	74.00	54.00	-6.40

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

IEEE 802.11g mode: High channel: 2462 MHz									
Freq. (MHz)	Ant. Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor (dB)	Emission Level		Peak limit (dBuV/m)	AV limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1299.89	H	52.36	---	-4.20	45.58	---	74.00	54.00	-8.42
4924.00	H	52.53	---	-3.98	45.71	---	74.00	54.00	-8.29
5600.00	H	54.26	---	-2.83	47.43	---	74.00	54.00	-6.57
7386.00	H	47.77	---	0.57	47.63	---	74.00	54.00	-6.37
17234.00	H	43.89	---	6.79	48.28	---	74.00	54.00	-5.72
24620.00	H	42.70	---	8.16	49.15	---	74.00	54.00	-4.85
1310.01	V	52.71	---	-4.25	45.31	---	74.00	54.00	-8.69
4924.00	V	52.36	---	-3.98	45.69	---	74.00	54.00	-8.31
5600.00	V	53.64	---	-2.87	47.41	---	74.00	54.00	-6.59
7386.00	V	43.37	---	0.57	47.75	---	74.00	54.00	-6.25
17234.00	V	40.66	---	6.79	46.88	---	74.00	54.00	-7.12
24620.00	V	41.24	---	8.16	47.60	---	74.00	54.00	-6.40

Notes: 1) Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

2) Radiated emissions measured in frequencies above 1GHz were made with peak detector and Average (AV) detector.

3) Average test would be performed if the peak readings were greater than the average limit.

4) Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5) Emission Level=Peak (AV) Reading + Correction Factor;

Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

6) Margin (dB) = Emission Level (Peak) (dBuV/m)-Average limit (dBuV/m)

12.0 Antenna Requirement

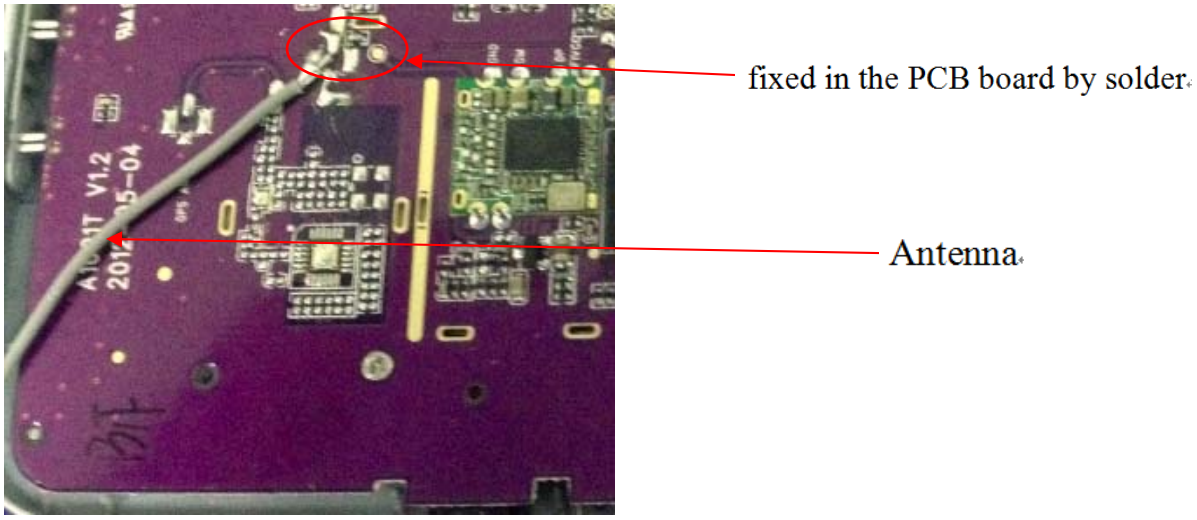
12.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

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

12.2 Antenna Specification

According to the manufacturer declared, the EUT has an integral antenna; the directional gain of antenna is 2.0 dBi, and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.



13.0 Maximum Permissible Exposure

According to § 15.247(e)(i)and § 1.1307(b)(1),systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to KDB 447498D01

Frequency Range		Centre frequency (MHz)	SAR Limitation (mW)
Low Frequency (MHz)	High Frequency (MHz)		
2412	2462	2437	10

Maximum measured transmitter power: 802.11b

AVG Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)
7.41	2	9.41	8.73

Maximum measured transmitter power: 802.11g

AVG Output Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)
6.32	2	8.32	6.79

Threshold at which no SAR required is 10 mw.
Maximum Tx power is 8.73mW EIRP.
Conclusion: No SAR is required.

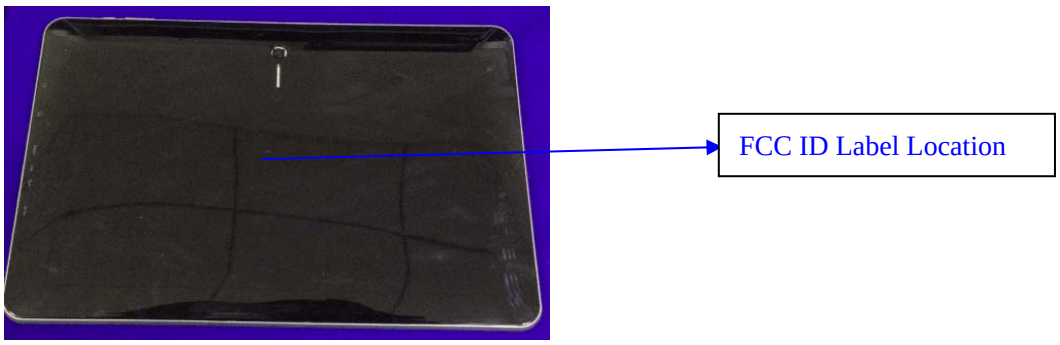
14.0 FCC ID Label

FCC ID: RI4CHT-1001

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

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



15.0 Photos of testing

15.1 Conducted test View

15.2 Radiated emission test view

16.0 Photos for the EUT

--End of the report--