



Product Name	Tablet PC
Model No	CA10CT
FCC ID.	FKGCA10

Applicant	Twinhead International Corporation
Address	10F, 550 Rueiguang Rd Neihu, Taipei, Taiwan 114, ROC

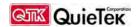
Date of Receipt	Dec. 05, 2012
Issue Date	Jan. 02, 2013
Report No.	12C158R-RFUSP42V01
Report Version	V1.0





The test results relate only to the samples tested.

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# Test Report Certification

Issue Date: Jan. 02, 2013

Report No.: 12C158R-RFUSP42V01



Product Name	Tablet PC		
Applicant	Twinhead International Corporation		
Address	10F, 550 Rueiguang Rd Neihu, Taipei, Taiwan 114, ROC		
Manufacturer	Twinhead International Corporation		
Model No.	CA10CT		
FCC ID.	FKGCA10		
EUT Rated Voltage	AC 100-240V, 50-60Hz		
EUT Test Voltage	AC 120V/60Hz		
Trade Name	DURABOOK		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010		
	ANSI C63.4: 2003, ANSI C63.10: 2009		
Test Result	Complied		

The test results relate only to the samples tested.

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Documented By:

(Adm. Specialist / Joanne Lin)

Tested By :

(Engineer / Jack Hsu)

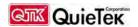
Approved By

( Manager / Vincent Lin )



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Attachment 1: EUT Test Photographs
Attachment 2: EUT Detailed Photographs



## 1. GENERAL INFORMATION

## 1.1. EUT Description

Product Name	Tablet PC			
Trade Name	DURABOOK			
Model No.	CA10CT			
FCC ID.	FKGCA10			
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW			
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7			
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps			
Type of Modulation 802.11b:DSSS (DBPSK, DQPSK, CCK)				
	802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)			
Antenna Type	PIFA Antenna			
Antenna Gain	Refer to the table "Antenna List"			
Channel Control	Auto			
Power Adapter	MFR: FSP, M/N: FSP065-RAB			
	Input: 100-240V~1.5A, 50-60Hz			
Output: DC 19V, 3.42A				
	Cable Out: Non-Shielded, 1.8m, with one ferrite core bonded.			
Contain Module	Intel / 135BNHMW			

## **Antenna List**

No.	Manufacturer	Part No.	Peak Gain
1	Well Green Technology Co., Ltd.	TWU12WIPI02+A (Main)	0.82dBi for 2.4 GHz
		TWU12WIPI01+A (Aux)	

Note: The antenna of EUT is conform to FCC 15.203.



## 802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09.	2452 MHz	Channel 10:	2457 MHz	Channel 11.	2462 MHz		

## 802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz	Channel 06:	2437 MHz
Channel 07:	2442 MHz	Channel 08:	2447 MHz	Channel 09:	2452 MHz		

- 1. The EUT is an ASUS Transformer Pad with a built-in 2.4GHz WLAN and Bluetooth transceiver, this report for WLAN.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \( \cdot 802.11g \) is 6Mbps \( \cdot 802.11n(20M-BW) \) is 7.2Mbps and \( \cdot 802.11n(40M-BW) \) is 15Mbps)
- 4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
- 5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)



## 1.3. Tested System Details

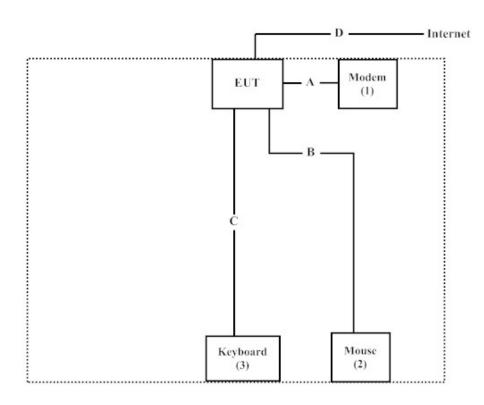
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Modem	ACEEX	DM-1414	0102027533	Non-Shielded, 1.8m
2	Mouse	HITACHI	PC-KM1300	N/A	N/A
3	Keyboard	Logitech	Y-SM46	867404-0121	N/A

Signal Cable Type		Signal cable Description
A	Modem Cable	Shielded, 1.5m
В	Mouse Cable	Shielded, 1m
С	Keyboard Cable	Shielded, 1.8m

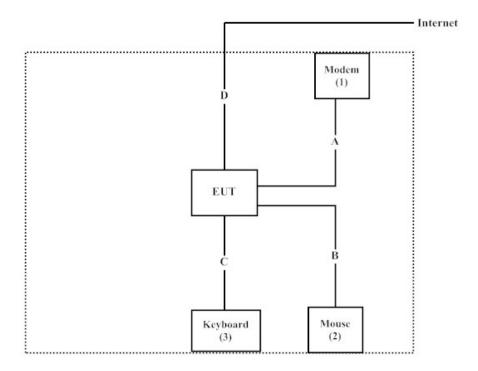
## 1.4. Configuration of Tested System

CE





## RE, RF



## 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute software "Drtu (v1.5.3-0322)" on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press "OK" to start the continuous Transmit.
- (5) Verify that the EUT works properly.



## 1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from

QuieTek Corporation's Web Site: <a href="http://www.quietek.com/tw/ctg/cts/accreditations.htm">http://www.quietek.com/tw/ctg/cts/accreditations.htm</a>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: <a href="http://www.quietek.com/">http://www.quietek.com/</a>

Site Description: File on

Federal Communications Commission

FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046

Registration Number: 92195

Accreditation on NVLAP NVLAP Lab Code: 200533-0

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E-Mail: <a href="mailto:service@quietek.com">service@quietek.com</a>

FCC Accreditation Number: TW1014



## 2. Conducted Emission

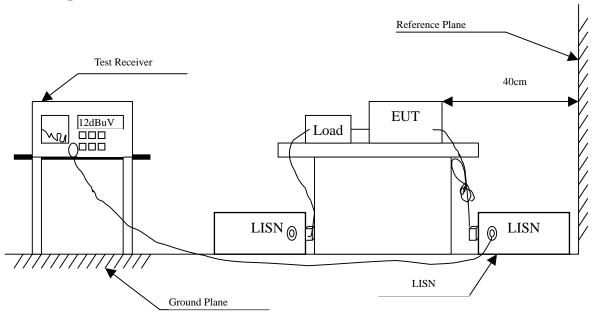
## 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2012	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
	No.1 Shielded Room				

## Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked by "X" are used to measure the final test results.

## 2.2. Test Setup





## 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit									
Frequency	Limits								
MHz	QP	AVG							
0.15 - 0.50	66-56	56-46							
0.50-5.0	56	46							
5.0 - 30	60	50							

## 2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.5. Uncertainty

± 2.26 dB



## 2.6. Test Result of Conducted Emission

Product : Tablet PC

Test Item : Conducted Emission Test

Power Line : Line 1

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
Line 1						
Quasi-Peak						
0.185	9.830	30.860	40.690	-24.310	65.000	
0.306	9.830	21.740	31.570	-29.973	61.543	
0.662	9.830	29.210	39.040	-16.960	56.000	
1.416	9.830	23.140	32.970	-23.030	56.000	
2.255	9.840	20.540	30.380	-25.620	56.000	
23.513	10.110	25.770	35.880	-24.120	60.000	
Average						
0.185	9.830	16.020	25.850	-29.150	55.000	
0.306	9.830	17.750	27.580	-23.963	51.543	
0.662	9.830	19.630	29.460	-16.540	46.000	
1.416	9.830	9.070	18.900	-27.100	46.000	
2.255	9.840	8.470	18.310	-27.690	46.000	
23.513	10.110	20.240	30.350	-19.650	50.000	

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor



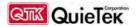
Test Item : Conducted Emission Test

Power Line : Line 2

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.193	9.830	31.430	41.260	-23.511	64.771
0.287	9.832	19.380	29.212	-32.874	62.086
0.517	9.840	21.130	30.970	-25.030	56.000
0.615	9.840	28.110	37.950	-18.050	56.000
0.681	9.840	28.620	38.460	-17.540	56.000
1.080	9.850	23.140	32.990	-23.010	56.000
Average					
0.193	9.830	25.470	35.300	-19.471	54.771
0.287	9.832	9.970	19.802	-32.284	52.086
0.517	9.840	10.390	20.230	-25.770	46.000
0.615	9.840	20.940	30.780	-15.220	46.000
0.681	9.840	21.930	31.770	-14.230	46.000
1.080	9.850	10.660	20.510	-25.490	46.000

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- $3. \quad Measurement\ Level = Reading\ Level + Correct\ Factor$



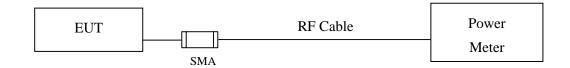
## 3. Peak Power Output

## 3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2012
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012
Note:				

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

## 3.2. Test Setup



## 3.3. Limits

The maximum peak power shall be less 1 Watt.

## 3.4. Test Procedure

The EUT was tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

## 3.5. Uncertainty

± 1.27 dB



## 3.6. Test Result of Peak Power Output

Product : Tablet PC

Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps)

## Chain A

Channel No	Frequency	For d	Average	e Power ata Rate (N	Ibps)	Peak Power	Required	Result
Channel No	(MHz)	1	2	5.5	11	1	Limit	
			Measur					
01	2412	14.58				17.2	<30dBm	Pass
06	2437	15.17	15.11	15.04	14.99	17.43	<30dBm	Pass
11	2462	15.15				17.56	<30dBm	Pass



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)

## Chain A

					Average		Peak					
	Frequency		ŀ	or diffe	erent Da		Power	Required				
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
		Measurement Level (dBm)										
01	2412	12.92	1			1	1		1	20.11	<30dBm	Pass
06	2437	15.08	15.03	14.99	14.93	14.9	14.86	14.84	14.8	22.34	<30dBm	Pass
11	2462	12.89							!	20.46	<30dBm	Pass



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

## Chain A

			Average Power									
	Fraguency		For different Data Rate (Mbps)								Required	
Channel No	Frequency (MHz)	7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2	Limit	Result
			Measurement Level (dBm)									
01	2412	12.27								19.43	<30dBm	Pass
06	2437	15.22	15.17	15.15	15.11	15.08	15.03	14.99	14.96	22.57	<30dBm	Pass
11	2462	12.45							-	19.89	<30dBm	Pass



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

## Chain A

	Frequency		F	Peak Power	Required							
Channel No	(MHz)	15	30	45	60	90	120	135	150	15	Limit	Result
			Measurement Level (dBm)									
03	2422	9.62			I		1		1	17.04	<30dBm	Pass
06	2437	11.92	11.91	11.84	11.83	11.75	11.71	11.69	11.66	19.43	<30dBm	Pass
09	2452	9.71							-	17.31	<30dBm	Pass



## 4. Radiated Emission

## 4.1. Test Equipment

The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
⊠Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2012
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

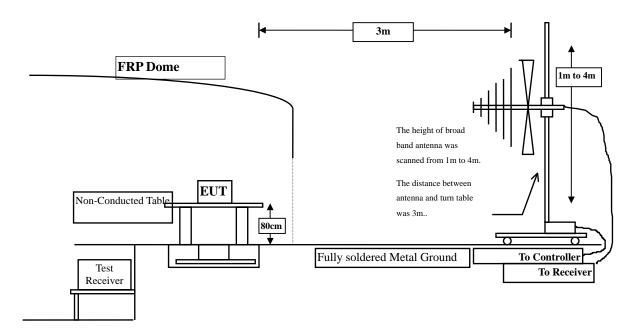
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

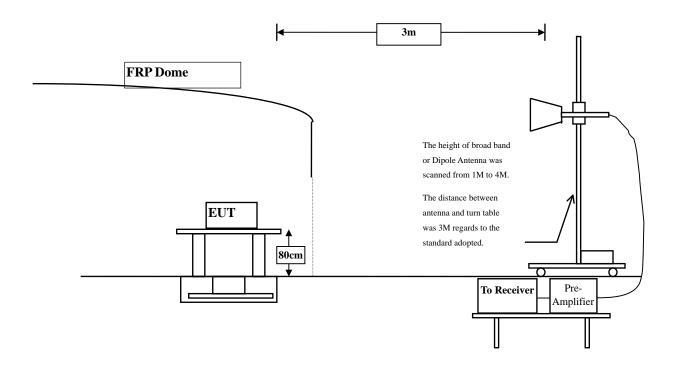


## 4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz





## 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits						
Frequency MHz	uV/m @3m	dBuV/m@3m				
30-88	100	40				
88-216	150	43.5				
216-960	200	46				
Above 960	500	54				

Remarks: E field strength  $(dBuV/m) = 20 \log E$  field strength (uV/m)



#### 4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters 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.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

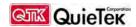
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The frequency range from 30MHz to 10th harminics is checked.

## 4.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz



## 4.6. Test Result of Radiated Emission

Product : Tablet PC

Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	40.280	43.541	-30.459	74.000
7236.000	10.650	43.890	54.540	-19.460	74.000
9648.000	13.337	36.510	49.846	-24.154	74.000
<b>Average Detector:</b>					
7236.000	10.650	37.500	48.150	-5.850	54.000
Vertical					
Peak Detector:					
4824.000	3.261	43.110	46.371	-27.629	74.000
7236.000	10.650	40.160	50.810	-23.190	74.000
9648.000	13.807	36.320	50.126	-23.874	74.000

## **Average Detector:**

--

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10~Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
<b>Peak Detector:</b>					
4874.000	3.038	38.570	41.607	-32.393	74.000
7311.000	11.795	41.140	52.934	-21.066	74.000
9748.000	12.635	37.090	49.725	-24.275	74.000
<b>Average Detector:</b>					
Vertical					
<b>Peak Detector:</b>					
4874.000	5.812	39.650	45.461	-28.539	74.000
7311.000	12.630	39.320	51.949	-22.051	74.000
9748.000	13.126	37.200	50.326	-23.674	74.000
_					

## **Average Detector:**

--

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	39.710	42.567	-31.433	74.000
7386.000	13.254	38.330	51.584	-22.416	74.000
9848.000	13.367	37.070	50.437	-23.563	74.000
<b>Average Detector:</b>					
Vertical					
Peak Detector:					
4924.000	5.521	39.810	45.330	-28.670	74.000
7386.000	13.254	37.020	50.274	-23.726	74.000
9848.000	13.367	36.980	50.347	-23.653	74.000
A D 4 4					

## Average Detector:

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4824.000	3.261	39.300	42.561	-31.439	74.000
7236.000	10.650	40.410	51.060	-22.940	74.000
9648.000	13.337	36.580	49.916	-24.084	74.000
Average Detector:					
Vertical					
Peak Detector:					
4824.000	6.421	38.630	45.051	-28.949	74.000
7236.000	11.495	40.940	52.435	-21.565	74.000
9648.000	13.807	36.100	49.906	-24.094	74.000

## **Average Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	38.200	41.237	-32.763	74.000
7311.000	11.795	44.620	56.414	-17.586	74.000
9748.000	12.635	37.520	50.155	-23.845	74.000
<b>Average Detector:</b>					
7311.000	11.795	29.550	41.344	-12.656	54.000
<b>Peak Detector:</b>					
4874.000	5.812	39.890	45.701	-28.299	74.000
7311.000	12.630	42.860	55.489	-18.511	74.000
9748.000	13.126	37.170	50.296	-23.704	74.000
<b>Average Detector:</b>					
7311.000	12.630	26.800	39.429	-14.571	54.000
Average Detector:					

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	39.140	41.997	-32.003	74.000
7386.000	12.127	38.260	50.388	-23.612	74.000
9848.000	12.852	37.380	50.233	-23.767	74.000
Average Detector:					
Vertical					
<b>Peak Detector:</b>					
4924.000	5.521	40.300	45.820	-28.180	74.000
7386.000	13.254	37.680	50.934	-23.066	74.000
9848.000	13.367	37.520	50.887	-23.113	74.000

# Average Detector:

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4824.000	3.261	39.910	43.171	-30.829	74.000
7236.000	10.650	40.590	51.240	-22.760	74.000
9648.000	13.337	36.810	50.146	-23.854	74.000
<b>Average Detector:</b>					
Vertical					
<b>Peak Detector:</b>					
4824.000	6.421	42.620	49.041	-24.959	74.000
7236.000	11.495	39.790	51.285	-22.715	74.000
9648.000	13.807	36.640	50.446	-23.554	74.000
<b>Average Detector:</b>					

#### 0

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



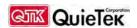
Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	39.600	42.637	-31.363	74.000
7311.000	11.795	47.430	59.224	-14.776	74.000
9748.000	12.635	36.550	49.185	-24.815	74.000
<b>Average Detector:</b>					
7311.000	11.795	29.870	41.664	-12.336	54.000
Vertical					
<b>Peak Detector:</b>					
4874.000	5.812	40.310	46.121	-27.879	74.000
7311.000	12.630	44.460	57.089	-16.911	74.000
9748.000	13.126	37.470	50.596	-23.404	74.000
<b>Average Detector:</b>					
7311.000	12.630	27.300	39.929	-14.071	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode: Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	38.990	41.847	-32.153	74.000
7386.000	12.127	37.980	50.108	-23.892	74.000
9848.000	12.852	36.980	49.833	-24.167	74.000
Average Detector:					
Vertical					
Peak Detector:					
4924.000	5.521	39.980	45.500	-28.500	74.000
7386.000	13.254	37.750	51.004	-22.996	74.000
9848.000	13.367	36.880	50.247	-23.753	74.000

## **Average Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode: Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2422MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4844.000	3.171	37.860	41.031	-32.969	74.000
7266.000	11.162	36.890	48.052	-25.948	74.000
9688.000	12.964	36.740	49.705	-24.295	74.000
Average Detector:					
Vertical					
Peak Detector:					
4844.000	6.178	38.160	44.338	-29.662	74.000
7266.000	11.982	36.440	48.422	-25.578	74.000
9688.000	13.507	36.860	50.368	-23.632	74.000

## **Average Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
Peak Detector:					
4874.000	3.038	37.480	40.517	-33.483	74.000
7311.000	11.795	36.240	48.034	-25.966	74.000
9748.000	12.635	36.700	49.335	-24.665	74.000
Average Detector:					
Vertical					
Peak Detector:					
4874.000	5.812	39.840	45.651	-28.349	74.000
7311.000	12.630	35.720	48.349	-25.651	74.000
9748.000	13.126	36.860	49.986	-24.014	74.000
<b>Average Detector:</b>					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2452 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4874.000	3.038	37.750	40.787	-33.213	74.000
7296.000	11.644	36.080	47.725	-26.275	74.000
9718.000	12.771	36.860	49.631	-24.369	74.000
<b>Average Detector:</b>					
Vertical					
<b>Peak Detector:</b>					
4874.000	5.812	40.620	46.431	-27.569	74.000
7296.000	12.452	35.740	48.192	-25.808	74.000
9718.000	13.310	36.810	50.119	-23.881	74.000
A D-44					

## **Average Detector:**

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
216.240	-10.707	43.965	33.258	-12.742	43.500
309.360	-3.740	36.099	32.359	-13.641	43.500
408.300	-2.866	34.163	31.297	-14.703	46.000
551.860	2.714	28.738	31.452	-14.548	46.000
612.000	3.819	25.788	29.607	-16.393	46.000
792.420	5.209	24.625	29.834	-16.166	46.000
Vertical					
159.980	-6.185	34.297	28.112	-15.388	43.500
408.300	-6.606	34.941	28.335	-17.665	46.000
456.800	-4.697	33.745	29.048	-16.952	46.000
536.340	-0.305	24.168	23.863	-22.137	46.000
687.660	2.444	22.431	24.875	-21.125	46.000
821.520	3.381	21.524	24.905	-21.095	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
359.800	-1.680	33.455	31.775	-14.225	46.000
408.300	-2.866	38.047	35.181	-10.819	46.000
528.580	1.848	35.331	37.179	-8.821	46.000
644.980	1.552	27.653	29.205	-16.795	46.000
792.420	5.209	31.467	36.676	-9.324	46.000
961.200	6.450	26.763	33.213	-20.787	54.000
Vertical					
216.240	-8.317	39.623	31.306	-14.694	46.000
307.420	-6.821	36.014	29.193	-16.807	46.000
383.080	-2.184	35.437	33.253	-12.747	46.000
528.580	-0.462	40.163	39.701	-6.299	46.000
697.360	1.311	26.658	27.969	-18.031	46.000
792.420	2.889	26.690	29.579	-16.421	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
288.020	-4.579	38.928	34.349	-11.651	46.000
408.300	-2.866	35.879	33.013	-12.987	46.000
528.580	1.848	35.095	36.943	-9.057	46.000
613.940	3.543	26.395	29.938	-16.062	46.000
703.180	2.649	26.513	29.161	-16.839	46.000
792.420	5.209	32.008	37.217	-8.783	46.000
Vertical					
305.480	-6.809	31.495	24.686	-21.314	46.000
456.800	-4.697	35.765	31.068	-14.932	46.000
528.580	-0.462	38.199	37.737	-8.263	46.000
691.540	2.421	25.086	27.507	-18.493	46.000
755.560	3.281	22.743	26.024	-19.976	46.000
961.200	7.260	23.239	30.499	-23.501	54.000

#### Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2437 MHz)

Frequency	Correct	Reading	ding Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
158.040	-11.121	38.155	27.034	-16.466	43.500
288.020	-4.579	40.304	35.725	-10.275	46.000
408.300	-2.866	37.402	34.536	-11.464	46.000
528.580	1.848	34.562	36.410	-9.590	46.000
792.420	5.209	31.639	36.848	-9.152	46.000
961.200	6.450	27.261	33.711	-20.289	54.000
Vertical					
138.640	-5.795	39.210	33.415	-10.085	43.500
216.240	-8.317	45.415	37.098	-8.902	46.000
383.080	-2.184	35.307	33.123	-12.877	46.000
503.360	-0.852	40.427	39.575	-6.425	46.000
648.860	-4.832	31.607	26.775	-19.225	46.000
792.420	2.889	29.028	31.917	-14.083	46.000

#### Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



#### 5. RF antenna conducted test

### **5.1.** Test Equipment

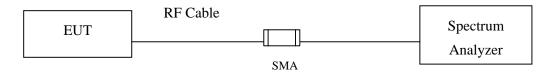
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

# 5.2. Test Setup

#### RF antenna Conducted Measurement:



### 5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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)).

#### **5.4.** Test Procedure

The EUT was tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.



# 5.5. Uncertainty

The measurement uncertainty

Conducted is defined as  $\pm$  1.27dB



# 5.6. Test Result of RF antenna conducted test

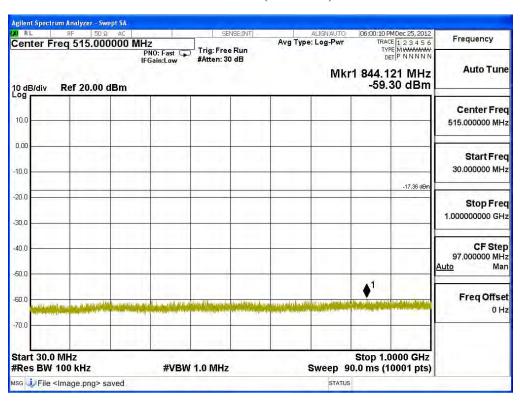
Product : Tablet PC

Test Item : RF antenna conducted test

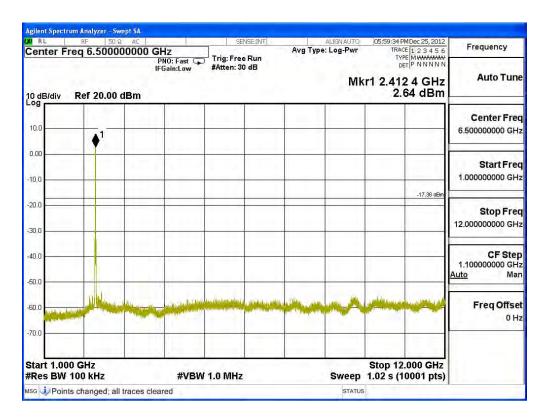
Test Site : No.3 OATS

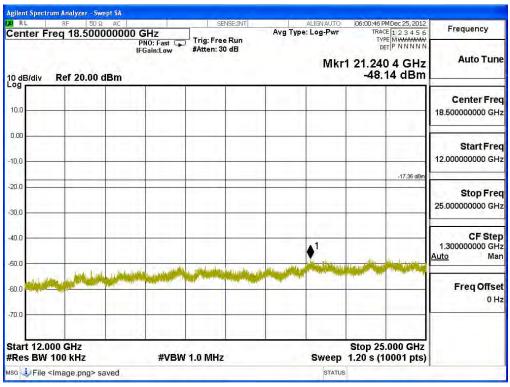
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

### **Channel 01 (2412MHz)**



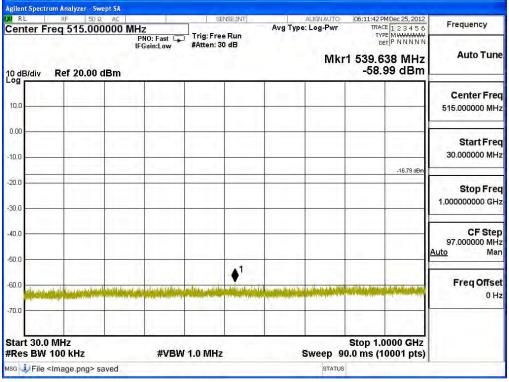


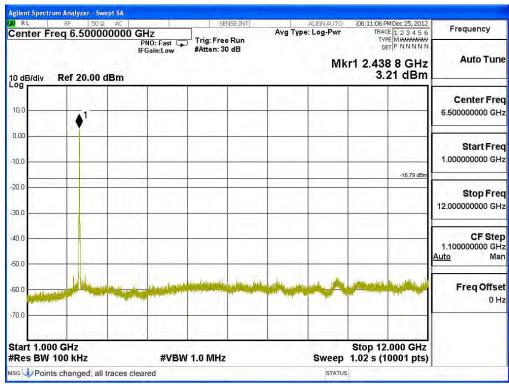




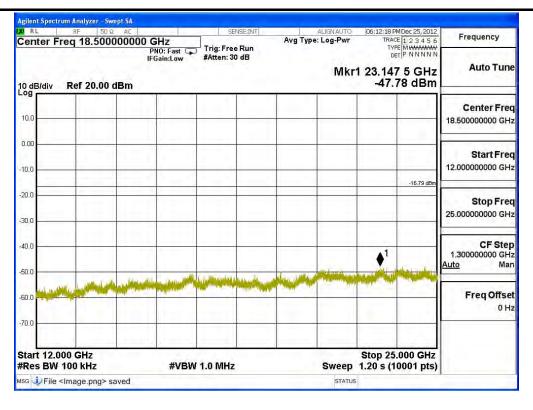


# **Channel 06 (2437MHz)**



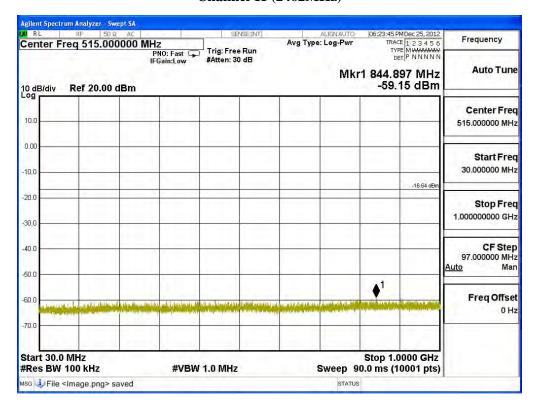


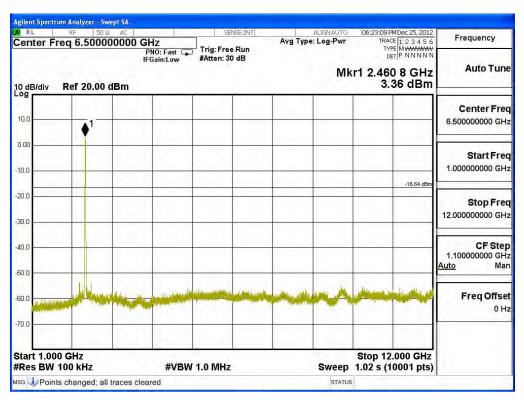




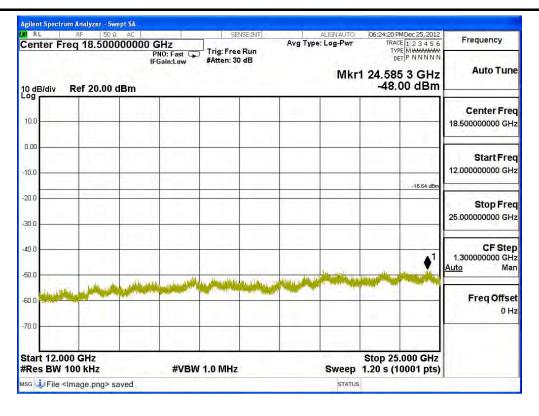


# **Channel 11 (2462MHz)**









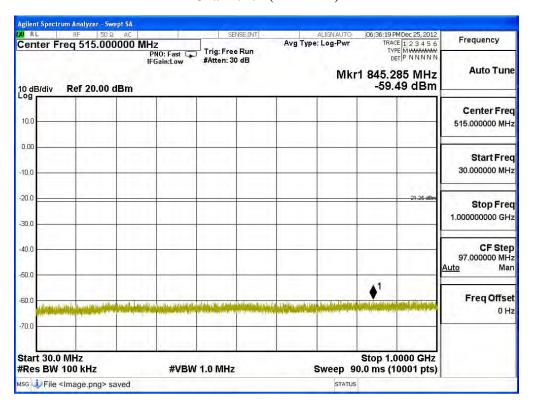


Test Item : RF Antenna Conducted Spurious

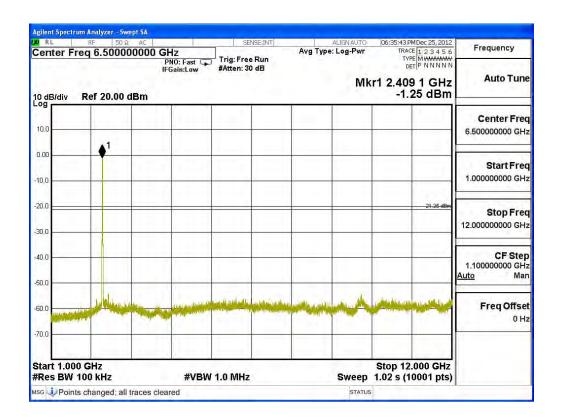
Test Site : No.3 OATS

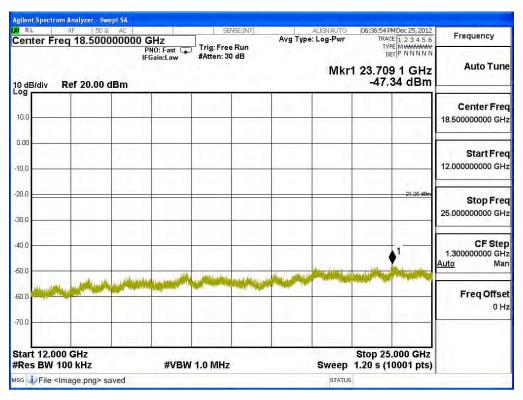
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

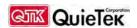
### **Channel 01 (2412MHz)**



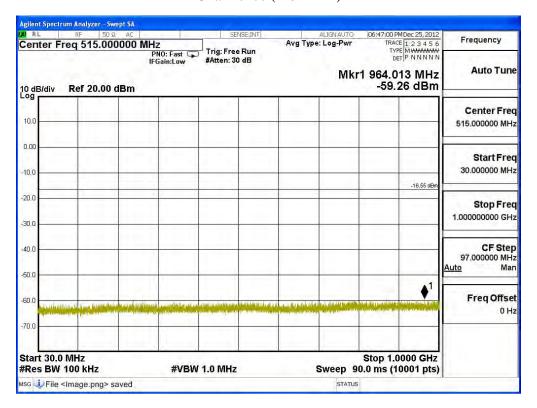


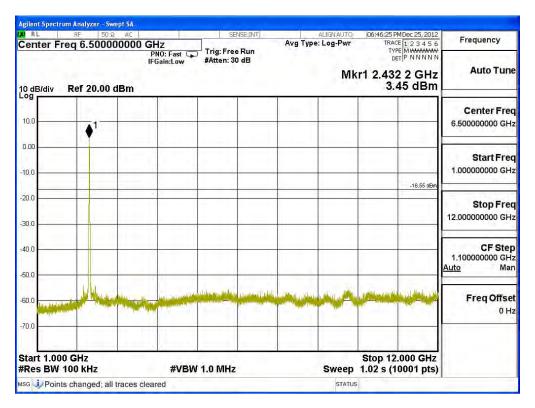




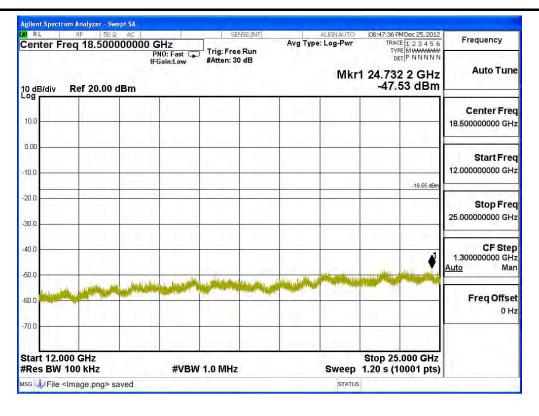


### **Channel 06 (2437MHz)**



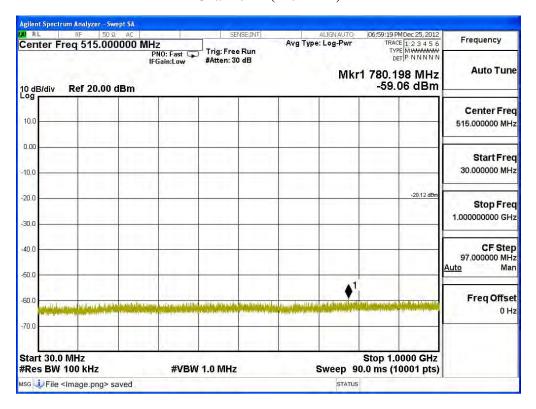


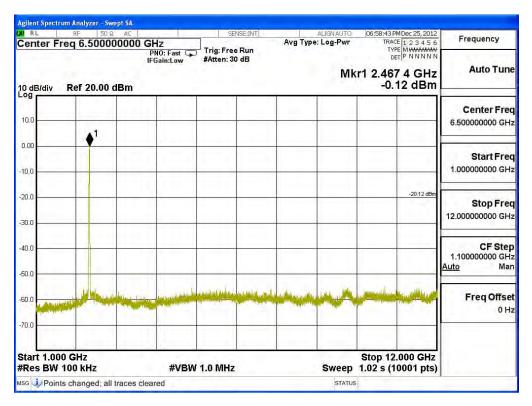




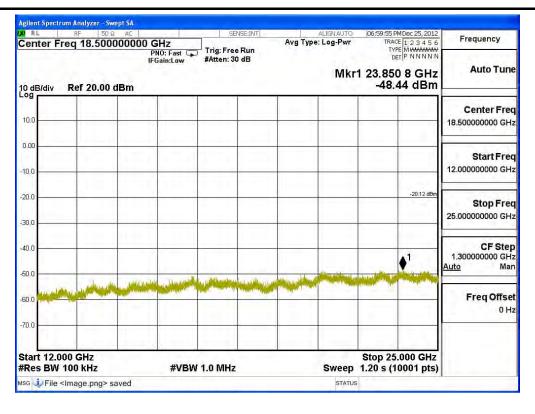


### **Channel 11 (2462MHz)**









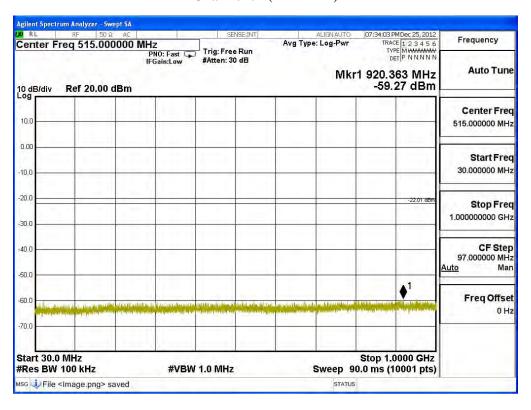


Test Item : RF Antenna Conducted Spurious

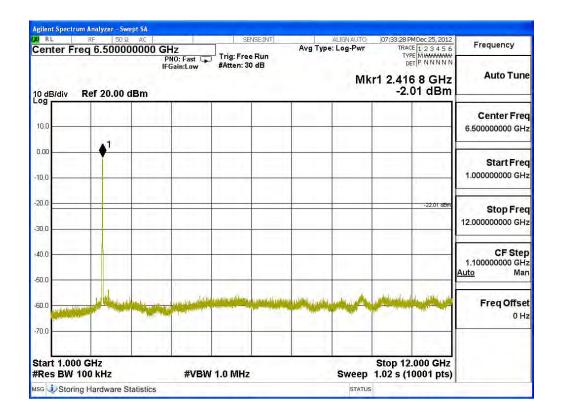
Test Site : No.3 OATS

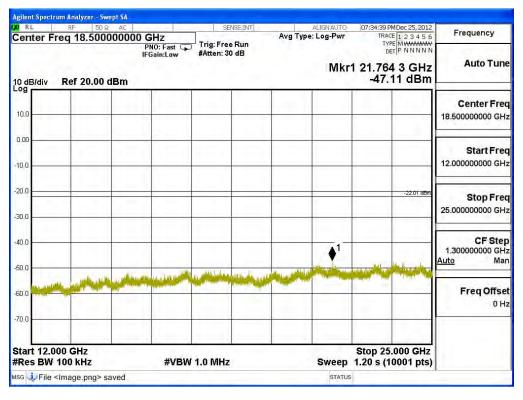
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

### **Channel 01 (2412MHz)**



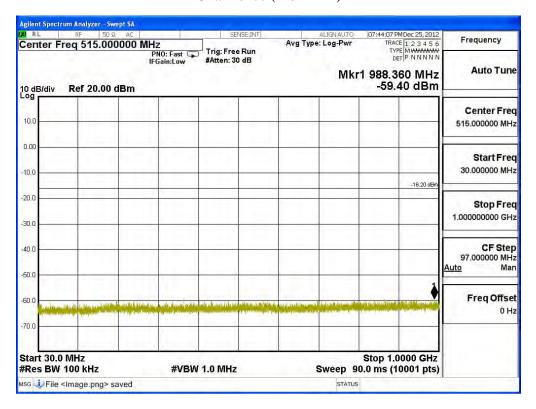


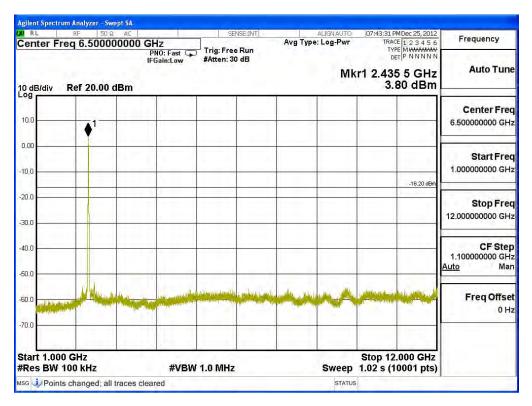




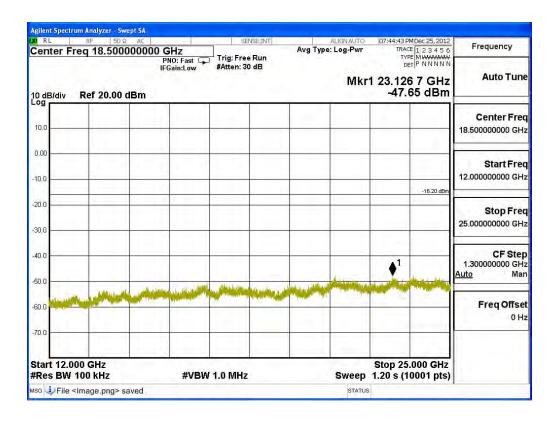


### **Channel 06 (2437MHz)**



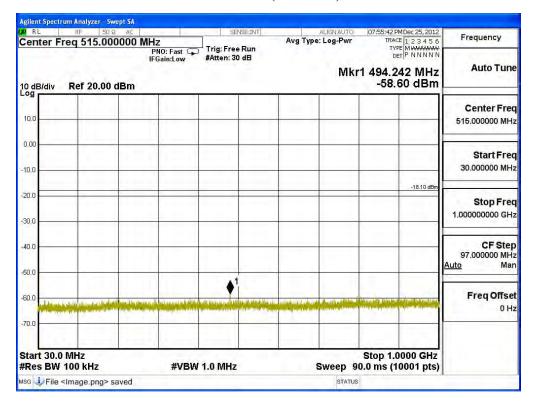


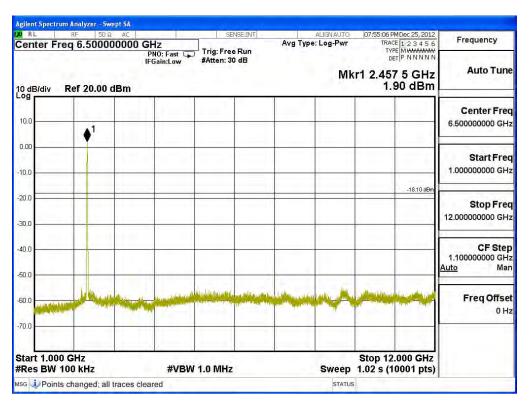




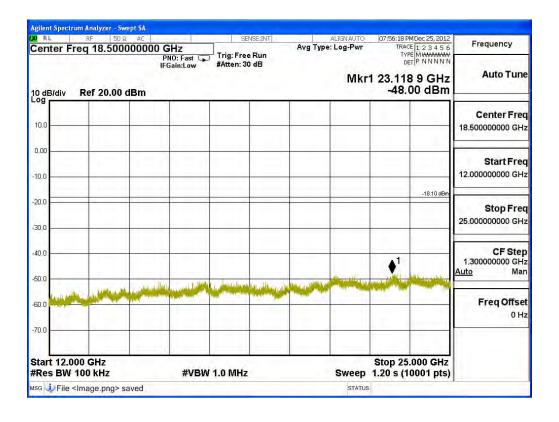


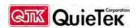
### **Channel 11 (2462MHz)**









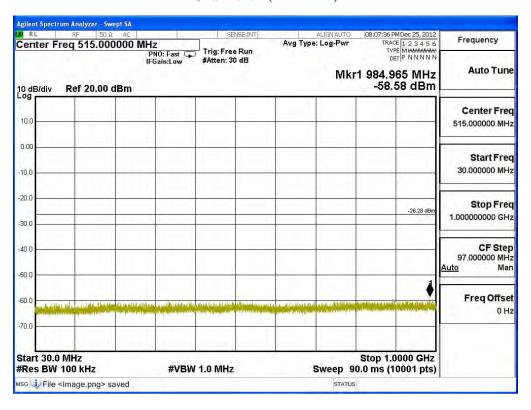


Test Item : RF Antenna Conducted Spurious

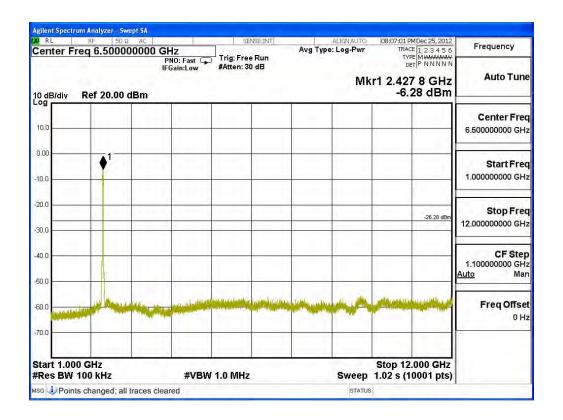
Test Site : No.3 OATS

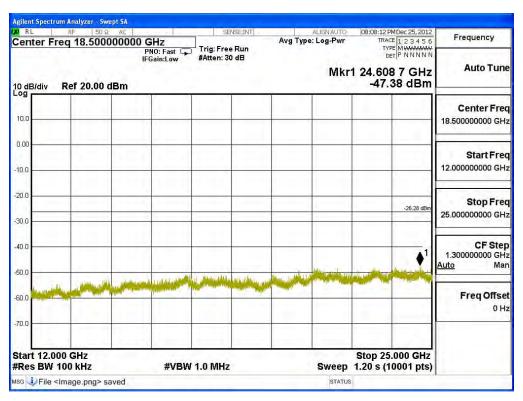
Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

### **Channel 01 (2422MHz)**



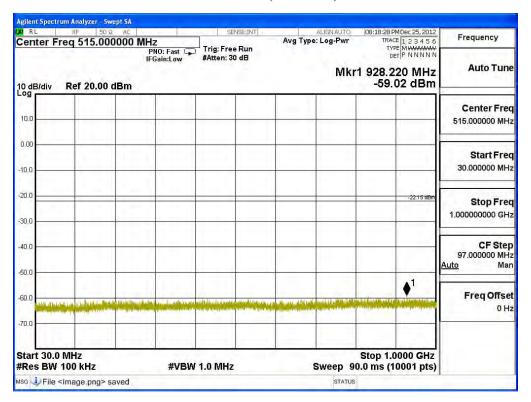


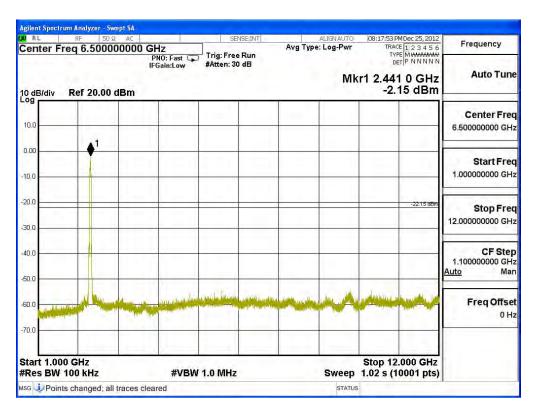




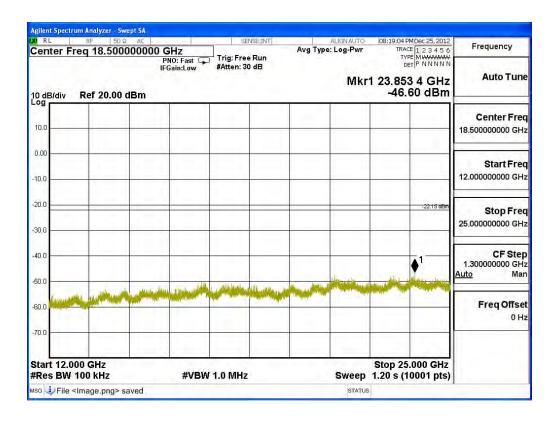


### **Channel 04 (2437MHz)**



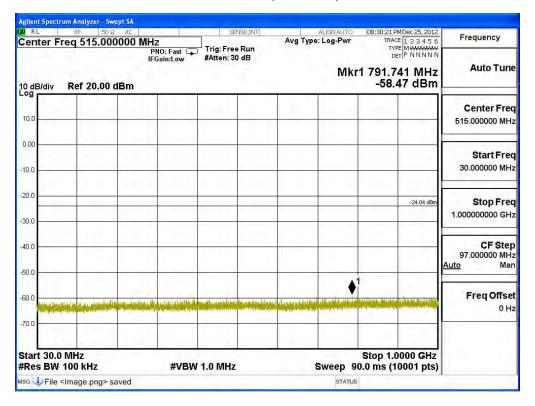


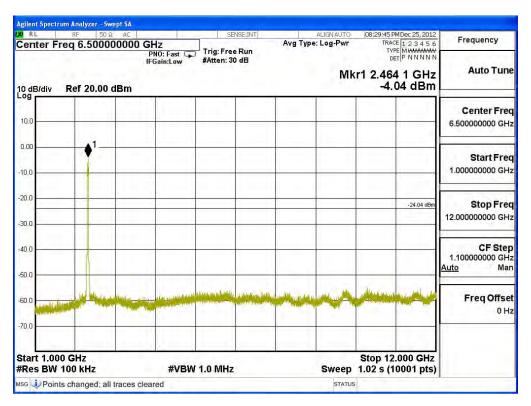


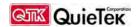


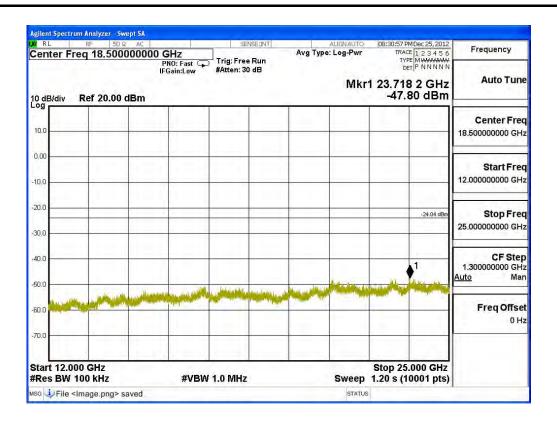


### **Channel 07 (2452MHz)**











# 6. Band Edge

# **6.1.** Test Equipment

### **RF Conducted Measurement**

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

#### Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

#### **RF Radiated Measurement:**

The following test equipments are used during the band edge tests:

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
⊠Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2012
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

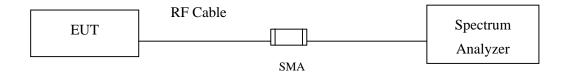
Note:

- 1. All instruments are calibrated every one year.
- 2. The test instruments marked by "X" are used to measure the final test results.

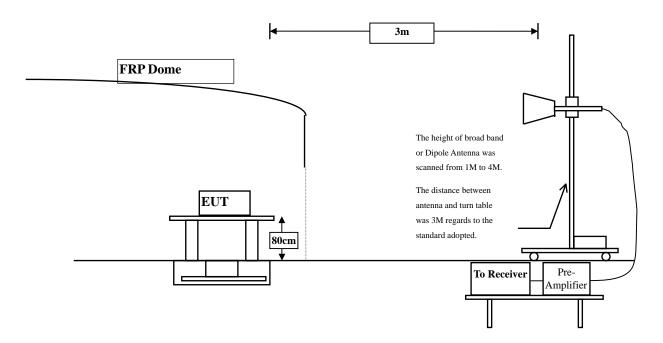


# 6.2. Test Setup

#### **RF Conducted Measurement**



#### **RF Radiated Measurement:**



# 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.



#### **6.4.** Test Procedure

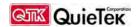
The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters 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.

# 6.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz



# 6.6. Test Result of Band Edge

Product : Tablet PC

Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps)

# Fundamental Filed Strength

Antenna	Frequency	<b>Correction Factor</b>	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	31.639	69.26	100.898	Peak
Horizontal	2412	31.639	64.88	96.518	Average
Vertical	2412	30.95	71.67	102.619	Peak
Vertical	2412	30.95	66.82	97.769	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2389.9	100.898	51.89	49.008	74.000	Peak
Horizontal	2390	96.518	59.71	36.808	54.000	Average
Vertical	2389.9	102.619	51.89	50.729	74.000	Peak
Vertical	2390	97.769	59.71	38.059	54.000	Average

#### Note:

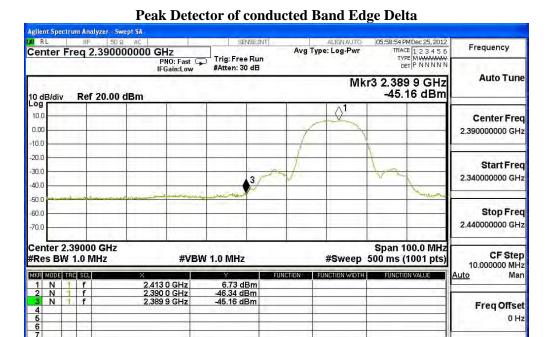
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

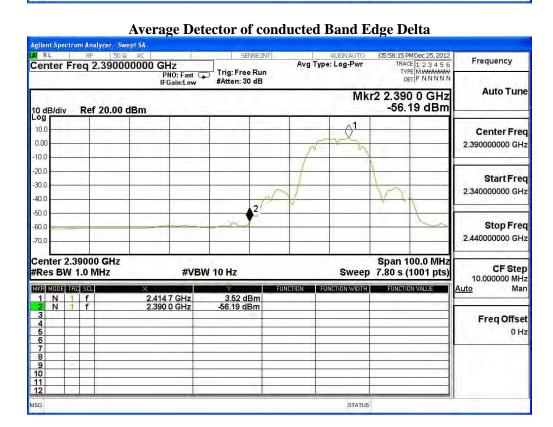
F = Fundamental field Strength (Peak or Average)

 $\Delta$  = Conducted Band Edge Delta (Peak or Average)





STATUS





Test Item : Band Edge Data Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps)

# Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2462	32.019	70.97	102.989	Peak
Horizontal	2462	32.019	66.47	98.489	Average
Vertical	2462	31.29	71.62	102.91	Peak
Vertical	2462	31.29	66.93	98.22	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	A (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2484.3	102.989	50.15	52.839	74.000	Peak
Horizontal	2484.2	98.489	56.38	42.109	54.000	Average
Vertical	2484.3	102.91	50.15	52.76	74.000	Peak
Vertical	2484.2	98.22	56.38	41.84	54.000	Average

#### Note:

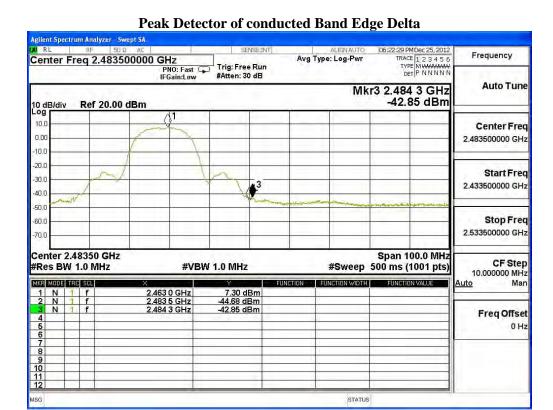
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

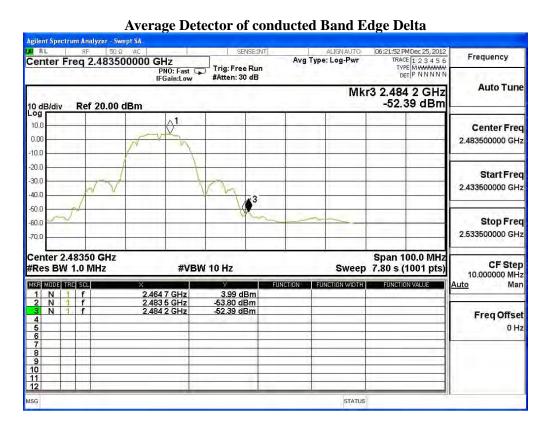
Band Edge field Strength =  $F - \Delta$ 

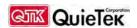
F = Fundamental field Strength (Peak or Average)

 $\Delta$  = Conducted Band Edge Delta (Peak or Average)









Test Item : Band Edge Data Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)

### Fundamental Filed Strength

Antenna	Frequency	<b>Correction Factor</b>	Reading Level	<b>Emission Level</b>	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	31.639	71.96	103.598	Peak
Horizontal	2412	31.639	61.38	93.018	Average
Vertical	2412	30.95	73.12	104.069	Peak
Vertical	2412	30.95	62.32	93.269	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta (dB)$	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2390	103.598	42.68	60.918	74.000	Peak
Horizontal	2390	93.018	51.16	41.858	54.000	Average
Vertical	2390	104.069	42.68	61.389	74.000	Peak
Vertical	2390	93.269	51.16	42.109	54.000	Average

### Note:

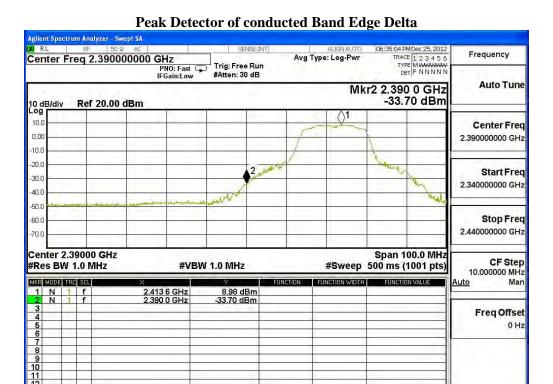
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

 $\Delta$  = Conducted Band Edge Delta (Peak or Average)





#### Average Detector of conducted Band Edge Delta Agilent Spectrum Analyzer - Sv 06:34:25 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N Frequency Center Freq 2.390000000 GHz Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB PNO: Fast 🖵 **Auto Tune** Mkr2 2.390 0 GHz -52.17 dBm Ref 20.00 dBm 10.0 Center Freq 2.390000000 GHz 10.0 20.0 Start Freq 30.0 2.340000000 GHz 40.0 -50 C Stop Freq -60.0 2.440000000 GHz Center 2.39000 GHz Span 100.0 MHz CF Step **#VBW 10 Hz** #Res BW 1.0 MHz Sweep 7.80 s (1001 pts) 10.000000 MHz MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE 1 N 1 f 2 N 1 f 2.416 0 GHz 2.390 0 GHz -1.01 dBm -52.17 dBm Freq Offset 0 Hz



Test Item : Band Edge Data Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)

# Fundamental Filed Strength

Antenna	Frequency	<b>Correction Factor</b>	Reading Level	<b>Emission Level</b>	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2462	32.019	72.04	104.059	Peak
Horizontal	2462	32.019	61.41	93.429	Average
Vertical	2462	31.29	72.68	103.97	Peak
Vertical	2462	31.29	62.3	93.59	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta (dB)$	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2483.5	104.059	40.34	63.719	74.000	Peak
Horizontal	2483.5	93.429	49.1	44.329	54.000	Average
Vertical	2483.5	103.97	40.34	63.63	74.000	Peak
Vertical	2483.5	93.59	49.1	44.49	54.000	Average

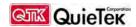
### Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

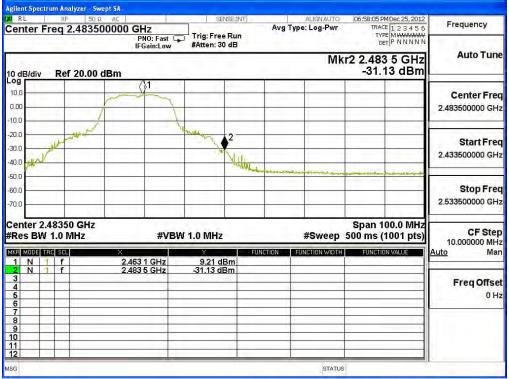
Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

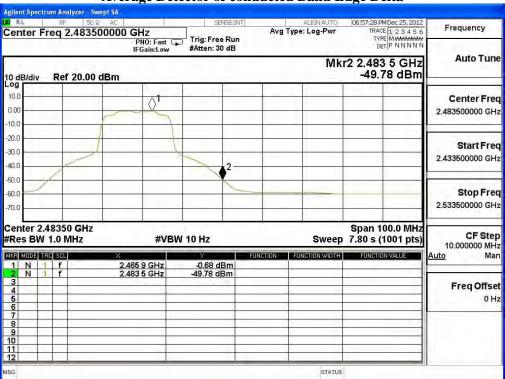
 $\Delta$  = Conducted Band Edge Delta (Peak or Average)



Peak Detector of conducted Band Edge Delta



**Average Detector of conducted Band Edge Delta** 





Test Item : Band Edge Data Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

### Fundamental Filed Strength

Antenna	Frequency	Correction Factor Reading Level		<b>Emission Level</b>	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	31.639	72.72	104.358	Peak
Horizontal	2412	31.639	61.96	93.598	Average
Vertical	2412	30.95	72.37	103.319	Peak
Vertical	2412	30.95	61.53	92.479	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta (dB)$	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2390	104.358	37.36	66.998	74.000	Peak
Horizontal	2390	93.598	48.77	44.828	54.000	Average
Vertical	2390	103.319	37.36	65.959	74.000	Peak
Vertical	2390	92.479	48.77	43.709	54.000	Average

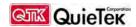
# Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

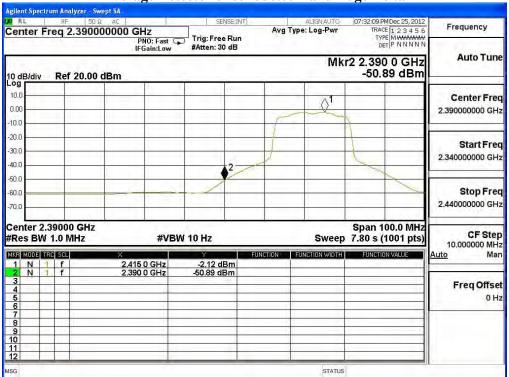
 $\Delta$  = Conducted Band Edge Delta (Peak or Average)







### **Average Detector of conducted Band Edge Delta**





Test Item : Band Edge Data Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

# Fundamental Filed Strength

Antenna	Frequency	<b>Correction Factor</b>	Reading Level	<b>Emission Level</b>	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2462	32.019	72.25	104.269	Peak
Horizontal	2462	32.019	61.45	93.469	Average
Vertical	2462	31.29	72.13	103.42	Peak
Vertical	2462	31.29	61.19	92.48	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2484.9	104.269	38.15	66.119	74.000	Peak
Horizontal	2483.5	93.469	46.99	46.479	54.000	Average
Vertical	2484.9	103.42	38.15	65.27	74.000	Peak
Vertical	2483.5	92.48	46.99	45.49	54.000	Average

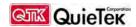
### Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

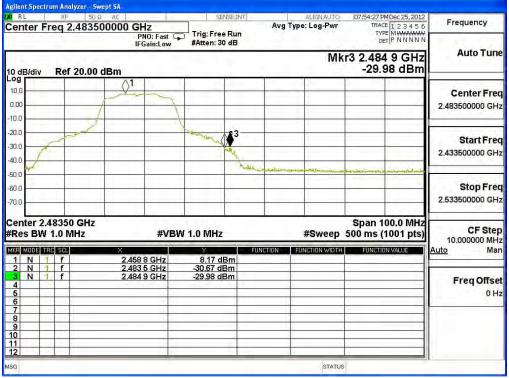
Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

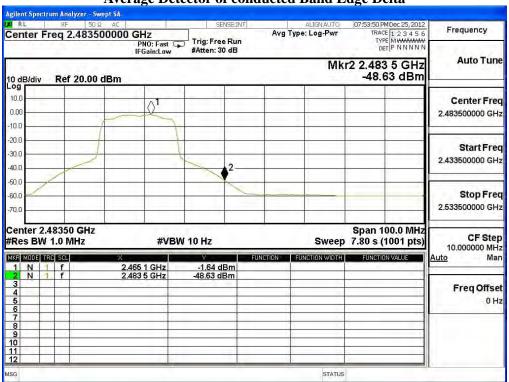
 $\Delta$  = Conducted Band Edge Delta (Peak or Average)



Peak Detector of conducted Band Edge Delta



**Average Detector of conducted Band Edge Delta** 





Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

# Fundamental Filed Strength

Antenna	Frequency	<b>Correction Factor</b>	Reading Level	<b>Emission Level</b>	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2422	31.715	66.07	97.785	Peak
Horizontal	2422	31.715	55.12	86.835	Average
Vertical	2422	31.017	66.42	97.437	Peak
Vertical	2422	31.017	55.71	86.727	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

# Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta (dB)$	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2389	97.785	33.7	64.085	74.000	Peak
Horizontal	2390	86.835	40.8	46.035	54.000	Average
Vertical	2389	97.437	33.7	63.737	74.000	Peak
Vertical	2390	86.727	40.8	45.927	54.000	Average

### Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

 $\Delta$  = Conducted Band Edge Delta (Peak or Average)



10.0

0.00

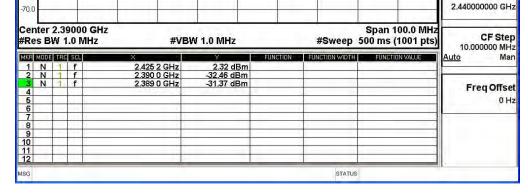
10.0

30.0

40.0 -50.0

-60.0

Peak Detector of conducted Band Edge Delta Agilent Spectrum Analyzer - Swept SA 08:06:22 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWWW DET P N N N N N Frequency Center Freq 2.390000000 GHz Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB PNO: Fast (1)
IFGain:Low **Auto Tune** Mkr3 2.389 0 GHz -31.37 dBm 10 dB/div Ref 20.00 dBm Center Freq 2.390000000 GHz Start Freq 2.340000000 GHz Stop Freq



**Average Detector of conducted Band Edge Delta** Agilent Spectrum Analyzer - Swept SA 08:05:42 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 Frequency Center Freq 2.390000000 GHz Avg Type: Log-Pwr PNO: Fast SIFGain:Low Trig: Free Run #Atten: 30 dB DET P N N N N **Auto Tune** Mkr2 2.390 0 GHz -49.13 dBm Ref 20.00 dBm 10.0 Center Freq 0.00 2.390000000 GHz 10.0 20.0 Start Freq 30.0 2.340000000 GHz 40.0 -50.0 Stop Freq -60.0 2.440000000 GHz 70.0 Center 2.39000 GHz Span 100.0 MHz CF Step Sweep 7.80 s (1001 pts) #Res BW 1.0 MHz **#VBW 10 Hz** 10.000000 MHz Man MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE Auto -8.33 dBm -49.13 dBm 2.434 3 GHz 2.390 0 GHz Freq Offset 0 Hz STATUS



Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

# Fundamental Filed Strength

Antenna	Frequency	Correction Factor Reading Level		Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2452	31.944	66.24	98.184	Peak
Horizontal	2452	31.944	55.53	87.474	Average
Vertical	2452	31.222	66.4	97.622	Peak
Vertical	2452	31.222	55.61	86.832	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz Average detector: RBW=1MHz, VBW=10Hz

# Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Limit (dBuV/m)	Detector
Horizontal	2487.9	98.184	36.56	61.624	74.000	Peak
Horizontal	2483.5	87.474	40.66	46.814	54.000	Average
Vertical	2487.9	97.622	36.56	61.062	74.000	Peak
Vertical	2483.5	86.832	40.66	46.172	54.000	Average

### Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

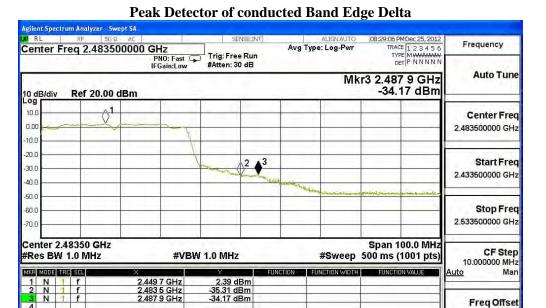
Band Edge field Strength =  $F - \Delta$ 

F = Fundamental field Strength (Peak or Average)

 $\Delta$  = Conducted Band Edge Delta (Peak or Average)

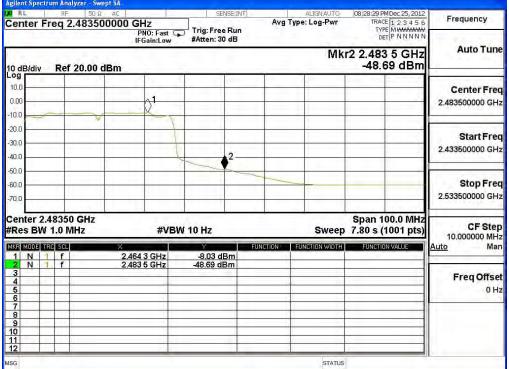


MSG



### **Average Detector of conducted Band Edge Delta** Agilent Spectrum Analyzer - Swept SA Avg Type: Log-Pwr

STATUS





# 7. Occupied Bandwidth

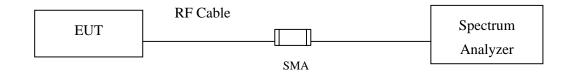
# 7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A/MY48030495	Apr., 2012

### Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

# 7.2. Test Setup



### 7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

### 7.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009; tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the emission bandwidth, VBW≥3\*RBW

# 7.5. Uncertainty

 $\pm$  150Hz



# 7.6. Test Result of Occupied Bandwidth

Product : Tablet PC

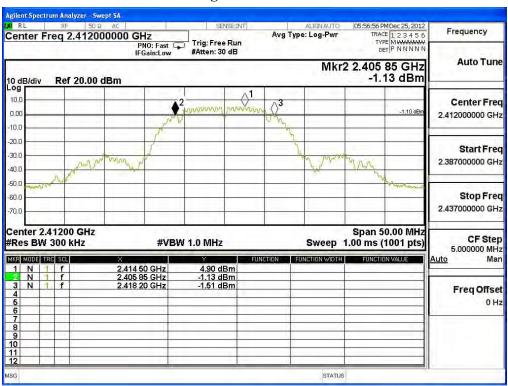
Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	12350	>500	Pass

### **Figure Channel 1:**





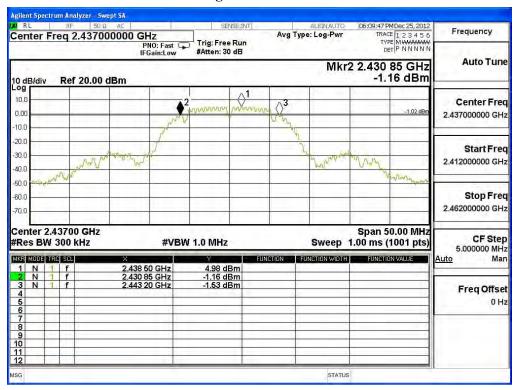
Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	12350	>500	Pass

# Figure Channel 6:





Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	12350	>500	Pass

#### **Figure Channel 11:** Agilent Spectrum Analyzer - Swept SA RL RF 50Ω AL PNO: Fast PNO: Fast FGain:Low 06:20:35 PMDec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N Frequency Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB **Auto Tune** Mkr2 2.455 85 GHz -1.07 dBm Ref 20.00 dBm Center Freq 0.00 2.462000000 GHz -10.0 Start Freq 30.0 2.437000000 GHz 40.0 -50.0 Stop Freq -60.0 2.487000000 GHz Center 2.46200 GHz Span 50.00 MHz CF Step 5.000000 MHz Man #Res BW 300 kHz **#VBW 1.0 MHz** Sweep 1.00 ms (1001 pts) MKR MODE TRC SCL Auto 5.07 dBm -1.07 dBm -1.41 dBm 2.464 50 GHz 2.455 85 GHz 2.468 20 GHz Freq Offset

STATUS

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**Auto Tune** 

Start Freq



40.0

Tablet PC Product

Test Item Occupied Bandwidth Data

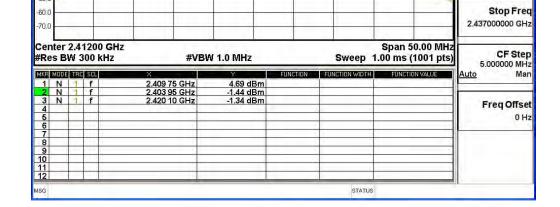
Test Site No.3 OATS

Test Mode Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	16150	>500	Pass

Figure Channel 1:

#### Agilent Spectrum Analyzer - Swept SA REL RF 50 Ω AC | Center Freq 2.412000000 GHz PNO: Fast FGain:Low 06:33:05 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWWW DET P N N N N N ALIGNAUTO Avg Type: Log-Pwr Frequency Trig: Free Run #Atten: 30 dB Mkr2 2.403 95 GHz -1.44 dBm Ref 20.00 dBm 10.0 Center Freq 0.00 2.412000000 GHz 10.0 -30.0 2.387000000 GHz





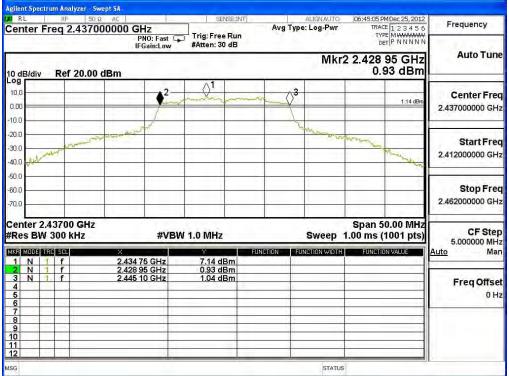
Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	16150	>500	Pass







Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	16150	>500	Pass

#### **Figure Channel 11:** Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC | Center Freq 2.462000000 GHz PNO: Fast □ IFGain:Low 06:56:10 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N Frequency Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB **Auto Tune** Mkr2 2.453 95 GHz -0.95 dBm Ref 20.00 dBm Center Freq 0.00 2.462000000 GHz -10.0 Start Freq -30.0 2.437000000 GHz 40.0 -50.0 Stop Freq -60.0 2.487000000 GHz Center 2.46200 GHz Span 50.00 MHz CF Step 5.000000 MHz Man #Res BW 300 kHz **#VBW 1.0 MHz** Sweep 1.00 ms (1001 pts) MKR MODE TRC SCL Auto 5.14 dBm -0.95 dBm -1.19 dBm 2.459 75 GHz 2.453 95 GHz 2.470 10 GHz Freq Offset

STATUS

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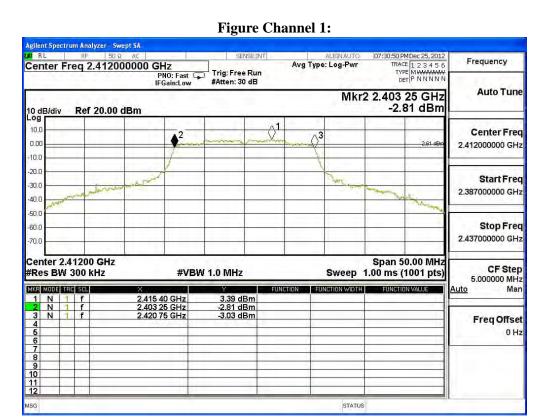


Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17500	>500	Pass



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Frequency

**Auto Tune** 



Tablet PC Product

Occupied Bandwidth Data Test Item

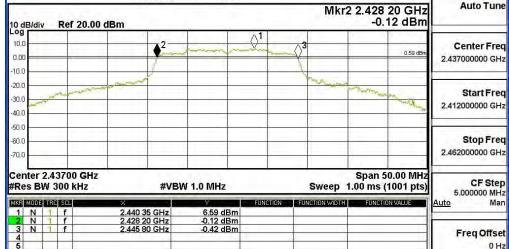
Test Site No.3 OATS

Test Mode Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	17600	>500	Pass

Figure Channel 6:







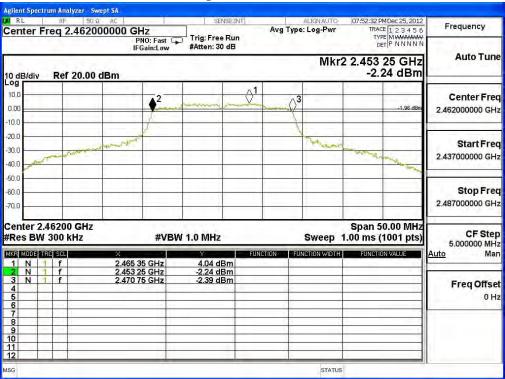
Test Item : Occupied Bandwidth Data

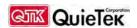
Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	17500	>500	Pass

# **Figure Channel 11:**



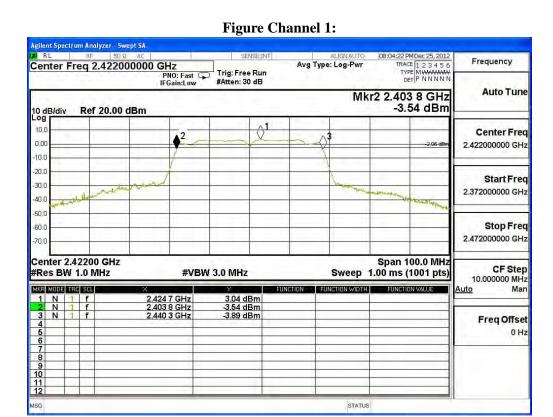


Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	36500	>500	Pass



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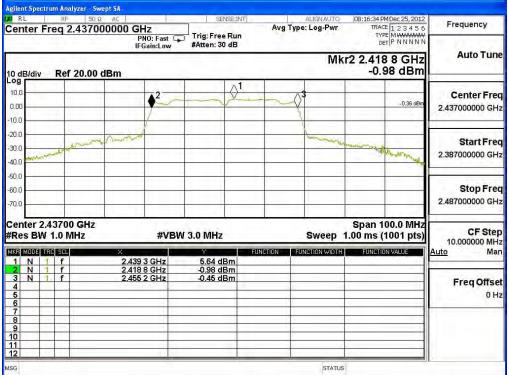
Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result	
6	2437	36400	>500	Pass	







Test Item : Occupied Bandwidth Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

Channel No. Frequency (MHz)		Measurement Level (kHz)	Required Limit (kHz)	Result
9	2452	36400	>500	Pass

#### Figure Channel 7: Agilent Spectrum Analyzer - Swept SA 08:27:11 PM Dec 25, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N Center Freq 2.452000000 GHz Frequency Avg Type: Log-Pwr Trig: Free Run #Atten: 30 dB PNO: Fast 🖵 **Auto Tune** Mkr2 2.433 8 GHz -3.27 dBm Ref 20.00 dBm Center Freq 0.00 2.452000000 GHz -10.0 30.0 2.402000000 GHz 40.0 -50.0 Stop Freq -60.0 2.502000000 GHz Center 2.45200 GHz Span 100.0 MHz CF Step 10.000000 MHz 0 Man #Res BW 1.0 MHz **#VBW 3.0 MHz** Sweep 1.00 ms (1001 pts) MKR MODE TRC SCL 3.34 dBm -3.27 dBm -2.74 dBm 2.454 7 GHz 2.433 8 GHz 2.470 2 GHz Freq Offset

STATUS

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# 8. Power Density

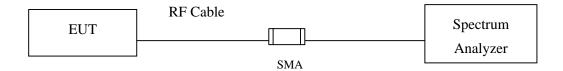
# 8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A/MY48030495	Apr., 2012

### Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

# 8.2. Test Setup



### 8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

### **8.4.** Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 100 kHz, VBW\ge 300KHz, SPAN to 5-30 % greater than the EBW,

Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF =  $10\log(3 \text{ kHz}/100 \text{ kHz} = -15.2 \text{ dB})$ .

### 8.5. Uncertainty

 $\pm$  1.27 dB



# 8.6. Test Result of Power Density

Product : Tablet PC

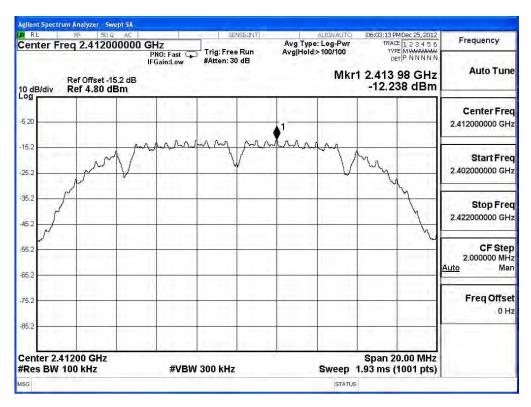
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-12.238	< 8dBm	Pass

# **Figure Channel 1:**





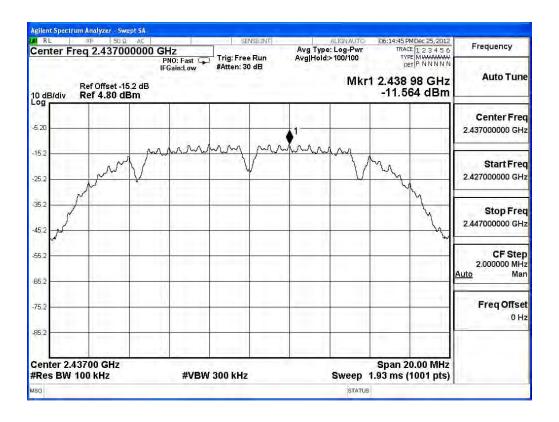
Test Item : Power Density Data

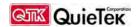
Test Site : No.3OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-11.564	< 8dBm	Pass

# **Figure Channel 6:**





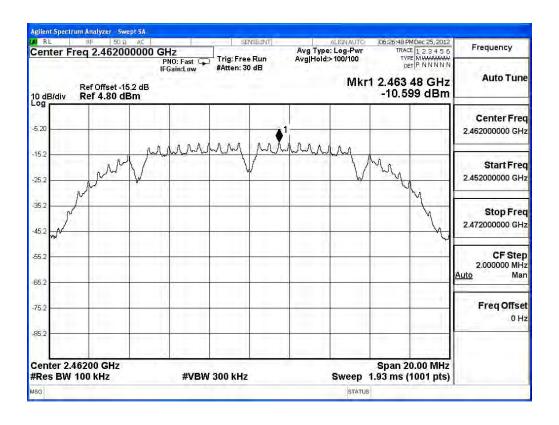
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-10.599	< 8dBm	Pass

# **Figure Channel 11:**





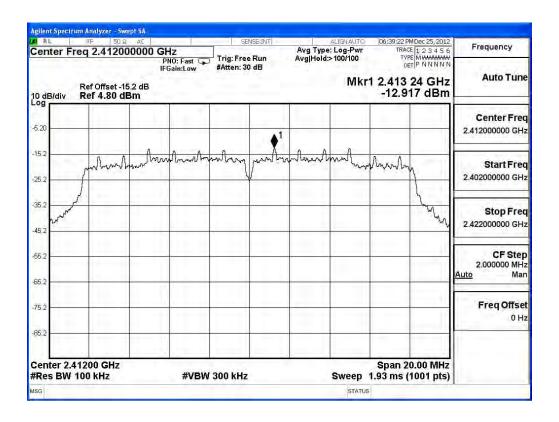
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-12.917	< 8dBm	Pass

# **Figure Channel 1:**





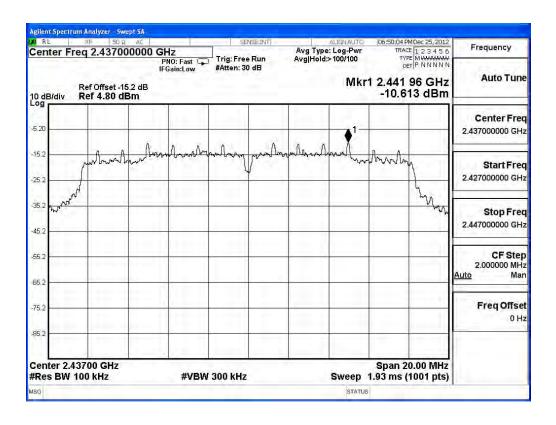
Test Item : Power Density Data

Test Site : No.3OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-10.613	< 8dBm	Pass

# **Figure Channel 6:**





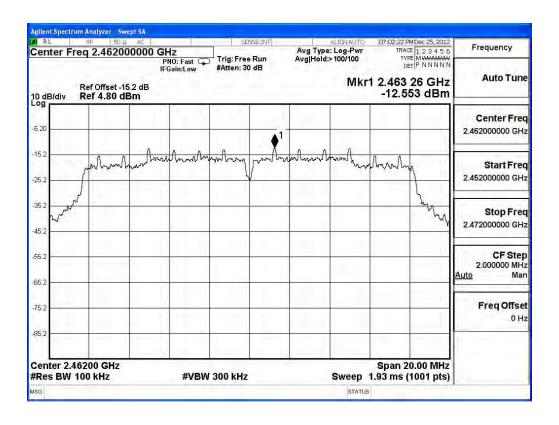
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-12.553	< 8dBm	Pass

# **Figure Channel 11:**





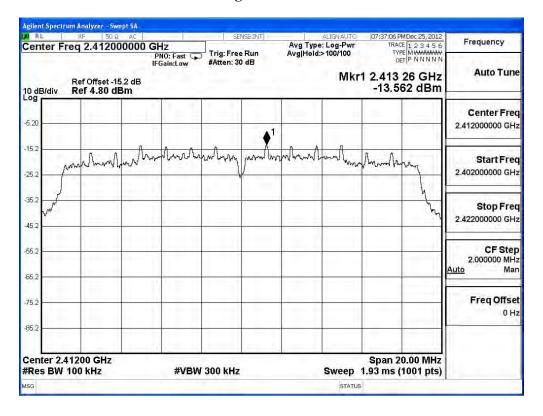
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-13.562	< 8dBm	Pass

# **Figure Channel 1:**





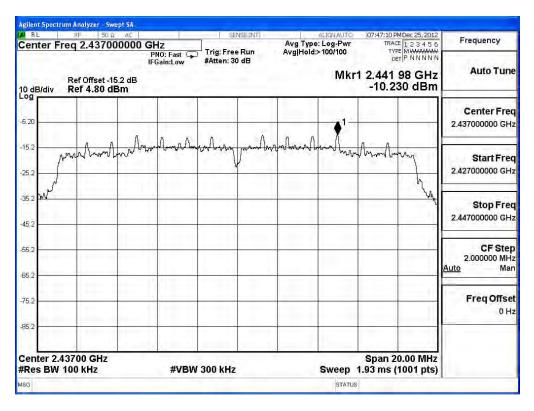
Test Item : Power Density Data

Test Site : No.3OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-10.230	< 8dBm	Pass

# **Figure Channel 6:**





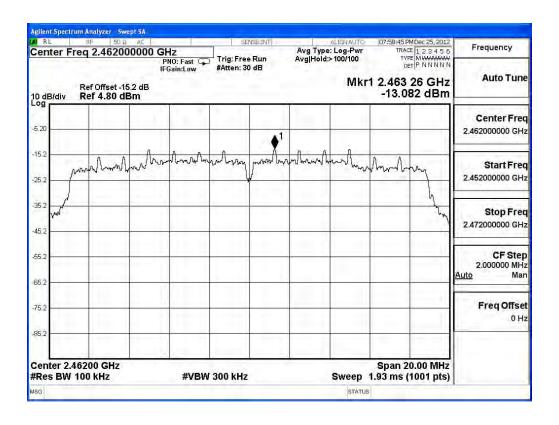
Test Item : Power Density Data

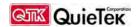
Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-13.082	< 8dBm	Pass

# **Figure Channel 11:**





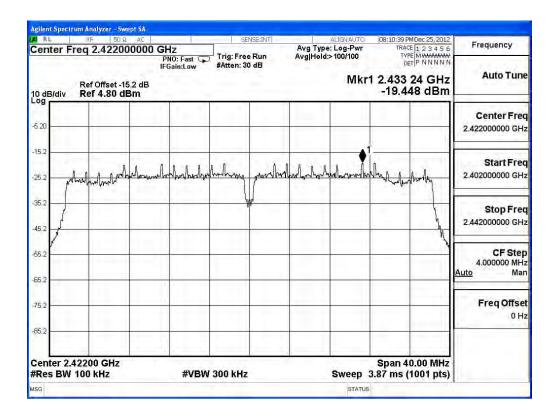
Test Item : Power Density Data

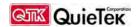
Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	-19.448	< 8dBm	Pass

# **Figure Channel 1:**





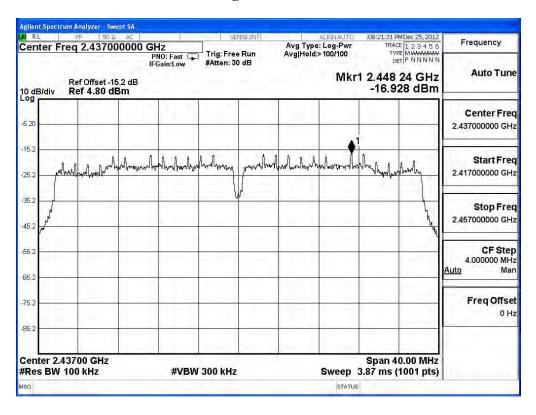
Test Item : Power Density Data

Test Site : No.3OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-16.928	< 8dBm	Pass

# **Figure Channel 4:**





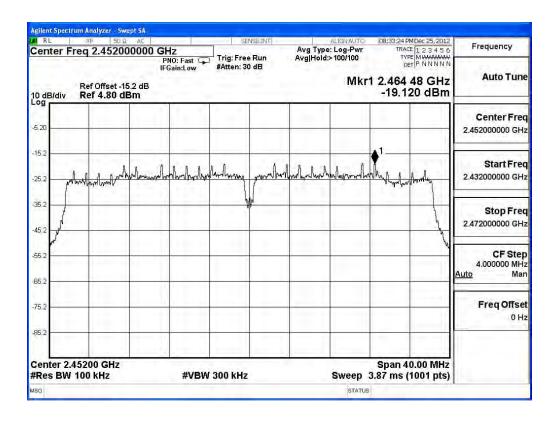
Test Item : Power Density Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
9	2452	-19.120	< 8dBm	Pass

# **Figure Channel 7:**





# 9. EMI Reduction Method During Compliance Testing

No modification was made during testing.