Test Report

Product Name	IPC
Model No.	AR-V5403FLxxxx (x=0~9,A~Z or Space)
FCC ID.	DoC

Applicant	Acrosser Technology Co., Ltd
Address	10F., No.12, Lane 609, Sec. 5, Chongsin Rd., Sanchong District, New Taipei City 241, Taiwan, R.O.C.

Date of Receipt	May 10, 2011
Issued Date	May 16, 2011
Report No.	115211R-RFUSP24V02
Report Version	V1.0

Test Report Certification

Issued Date: May 16, 2011
Report No.: 115211R-RFUSP24V02

Product Name	IPC
Applicant	Acrosser Technology Co., Ltd
Address	10F., No.12, Lane 609, Sec. 5, Chongsin Rd., Sanchong District, New Taipei City 241, Taiwan, R.O.C.
Manufacturer	Acrosser Technology Co., Ltd
Model No.	AR-V5403FLxxxx (x=0~9,A~Z or Space)
FCC ID.	DoC
EUT Rated Voltage	AC 100-240 V, 50-60 Hz
EUT Test Voltage	AC 120V/ 60Hz
Trade Name	Acrosser
Applicable Standard	FCC CFR Title 47 Part 15 Subpart B: 2010 ANSI C63.4: 2009
Test Result	Complied

NVLAP Lab Code: 200533-0

The Test Results relate only to the samples tested.
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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Rita Huang
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Approved By :
(Manager / Vincent Lin)

Testing Laboratory
0914

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	IPC
Trade Name	Acrosser
Model No.	AR-V5403FLxxxx (x=0~9,A~Z or Space)
FCC ID.	DoC
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW BT: 2402 – 2480MHz
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7 Bluetooth: 79
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 7.2-150Mbps Bluetooth: 1-3Mbps
Type of Modulation	WLAN: 802.11b:DSSS (DBPSK, DQPSK, CCK) WLAN: 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) Bluetooth: FHSS- GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	Dipole
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter	MFR: FSP, M/N: FSP096AHB Input: AC 100-240V, 50-60Hz, 2.0A Output: DC 12V-8A Cable out: Non-Shielded, 2.5m, with one ferrite core bonded. Power Cord: Non-Shielded, 0.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	KINSUN	6603803081-000	Dipole	2.89 dBi for 2.4 GHz

802.11b/g/n-20MHz Center Frequency of Each Channel (WLAN):

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 (WLAN):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2422 MHz	Channel 02:	2427 MHz	Channel 03:	2432 MHz	Channel 04:	2437 MHz
Channel 05:	2442 MHz	Channel 06:	2447 MHz	Channel 07:	2452 MHz		

Frequency of Each Channel (Bluetooth):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2422 MHz	Channel 40:	2442 MHz	Channel 60:	2462 MHz
Channel 01:	2403 MHz	Channel 21:	2423 MHz	Channel 41:	2443 MHz	Channel 61:	2463 MHz
Channel 02:	2404 MHz	Channel 22:	2424 MHz	Channel 42:	2444 MHz	Channel 62:	2464 MHz
Channel 03:	2405 MHz	Channel 23:	2425 MHz	Channel 43:	2445 MHz	Channel 63:	2465 MHz
Channel 04:	2406 MHz	Channel 24:	2426 MHz	Channel 44:	2446 MHz	Channel 64:	2466 MHz
Channel 05:	2407 MHz	Channel 25:	2427 MHz	Channel 45:	2447 MHz	Channel 65:	2467 MHz
Channel 06:	2408 MHz	Channel 26:	2428 MHz	Channel 46:	2448 MHz	Channel 66:	2468 MHz
Channel 07:	2409 MHz	Channel 27:	2429 MHz	Channel 47:	2449 MHz	Channel 67:	2469 MHz
Channel 08:	2410 MHz	Channel 28:	2430 MHz	Channel 48:	2450 MHz	Channel 68:	2470 MHz
Channel 09:	2411 MHz	Channel 29:	2431 MHz	Channel 49:	2451 MHz	Channel 69:	2471 MHz
Channel 10:	2412 MHz	Channel 30:	2432 MHz	Channel 50:	2452 MHz	Channel 70:	2472 MHz
Channel 11:	2413 MHz	Channel 31:	2433 MHz	Channel 51:	2453 MHz	Channel 71:	2473 MHz
Channel 12:	2414 MHz	Channel 32:	2434 MHz	Channel 52:	2454 MHz	Channel 72:	2474 MHz
Channel 13:	2415 MHz	Channel 33:	2435 MHz	Channel 53:	2455 MHz	Channel 73:	2475 MHz
Channel 14:	2416 MHz	Channel 34:	2436 MHz	Channel 54:	2456 MHz	Channel 74:	2476 MHz
Channel 15:	2417 MHz	Channel 35:	2437 MHz	Channel 55:	2457 MHz	Channel 75:	2477 MHz
Channel 16:	2418 MHz	Channel 36:	2438 MHz	Channel 56:	2458 MHz	Channel 76:	2478 MHz
Channel 17:	2419 MHz	Channel 37:	2439 MHz	Channel 57:	2459 MHz	Channel 77:	2479 MHz
Channel 18:	2420 MHz	Channel 38:	2440 MHz	Channel 58:	2460 MHz	Channel 78:	2480 MHz
Channel 19:	2421 MHz	Channel 39:	2441 MHz	Channel 59:	2461 MHz		

Note:
1. The EUT is a IPC , Contains functions and so on WiFi、Bluetooth.
2. Regarding to the operation frequency band, the lowest, middle, and highest frequency are selected to perform the test.
3. This device is a composite device in accordance with Part 15 regulations. The function for the 2.4GHz transmitting was measured and made a test report that the report number is 115211R-RFUSP28V01、115211R-RFUSP29V01, certified under FCC ID: ZJD-ARV5403FL

Test Mode	Mode 1: Receive (802.11n MCS0 7.2Mbps 20M-BW) - WLAN Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN Mode 3: Receive - Bluetooth

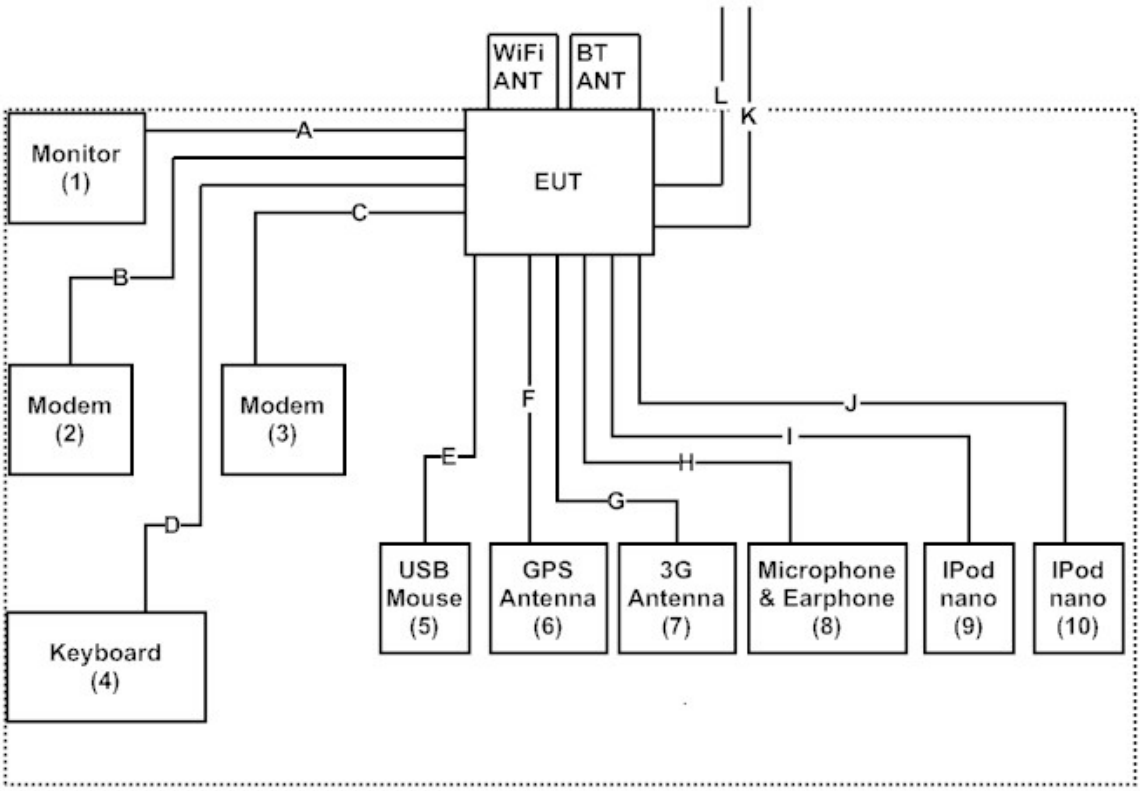
1.2. Test System Details

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.	FCC ID	Power Cord
1	Monitor	LG	W2261VT	907YHZK07373	DoC	Non-Shielded, 1.8m
2	Modem	ACEEX	DM-1414	0102027541	IFAXDM1414	Non-Shielded, 1.8m
3	Modem	ACEEX	DM-1414	0102027559	IFAXDM1414	Non-Shielded, 1.8m
4	Keyboard	DELL	SK-8115	MY-0DJ325-71619-6A 3-1917	DoC	N/A
5	USB Mouse	DELL	M056U0A	F0Y01YEF	DoC8	N/A
6	GPS Antenna	N/A	DAM1575A4	N/A	N/A	N/A
7	3G Antenna	Mobile mark	N/A	N/A	N/A	N/A
8	Microphone & Earphone	Ergotech	ET-E201	N/A	N/A	N/A
9	IPod nano	Apple	A1199	5U704829VQ5	N/A	N/A
10	IPod nano	Apple	A1199	5U705F6YVQ5	N/A	N/A

Signal Cable Type		Signal cable Description
A	VGA Cable	Non-Shielded, 1.8m, with two ferrite cores bonded.
B	RS-232 Cable	Non-Shielded, 1.5m
C	RS-232 Cable	Non-Shielded, 1.5m
D	USB Cable	Non-Shielded, 1.8m
E	USB Cable	Non-Shielded, 1.8m
F	GPS Antenna Cable	Non-Shielded, 5.0m
G	3G Antenna Cable	Non-Shielded, 4.5m
H	Microphone & Earphone Cable	Non-Shielded, 1.8m
I	USB Cable	Non-Shielded, 12m
J	USB Cable	Non-Shielded, 1.2m
K	RJ45 Cable	Non-Shielded, 5.0m
L	RJ45 Cable	Non-Shielded, 5.0m

1.3. Configuration of Test System



1.4. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.3.

(2) Execute software 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.

1.5. 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: http://www.quietek.com/tw/ctg/cts/accreditations.htm

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

Site Description: Federal Communications Commission
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7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

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E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Conducted Emission

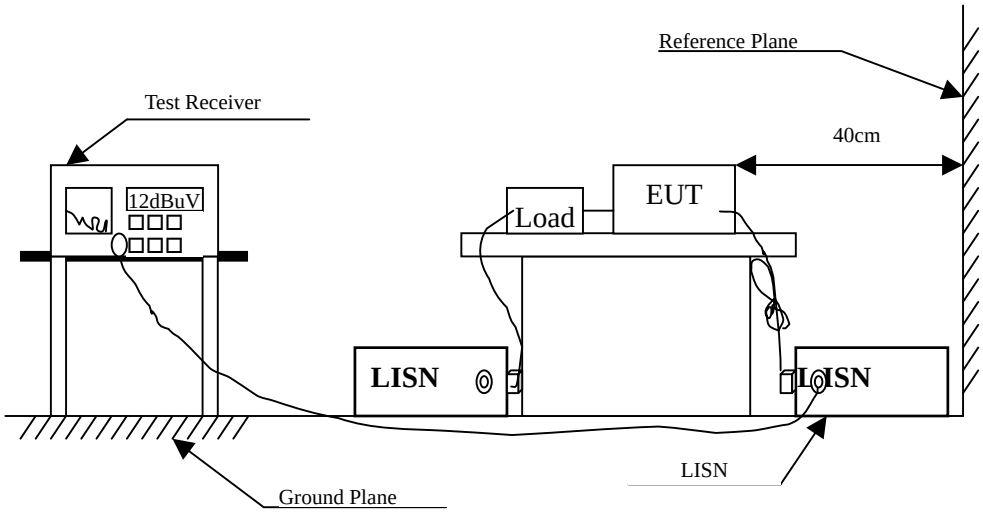
2.1. Test Equipment

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/014	Feb., 2011	
2	L.I.S.N.	R & S	ESH3-Z5/825562/002	Feb., 2011	EUT
3	L.I.S.N.	R & S	ENV4200/848411/010	Feb., 2011	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2/100410	July, 2010	
5	No.1 Shielded Room			N/A	

Note: All equipments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart B Paragraph 15.107 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

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 C63.4: 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 : IPC
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.240	9.680	39.930	49.610	-13.819	63.429
0.291	9.653	40.550	50.203	-11.768	61.971
0.459	9.640	30.170	39.810	-17.361	57.171
0.572	9.640	26.350	35.990	-20.010	56.000
3.478	9.690	22.530	32.220	-23.780	56.000
12.572	9.900	21.460	31.360	-28.640	60.000
Average					
0.240	9.680	23.940	33.620	-19.809	53.429
0.291	9.653	30.650	40.303	-11.668	51.971
0.459	9.640	16.510	26.150	-21.021	47.171
0.572	9.640	17.900	27.540	-18.460	46.000
3.478	9.690	14.990	24.680	-21.320	46.000
12.572	9.900	12.210	22.110	-27.890	50.000

Note:

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

Product : IPC
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.244	9.689	37.170	46.859	-16.455	63.314
0.291	9.663	40.020	49.683	-12.288	61.971
0.431	9.649	28.450	38.099	-19.872	57.971
0.654	9.650	25.550	35.200	-20.800	56.000
3.459	9.690	22.670	32.360	-23.640	56.000
12.576	9.900	21.280	31.180	-28.820	60.000
Average					
0.244	9.689	19.520	29.209	-24.105	53.314
0.291	9.663	29.510	39.173	-12.798	51.971
0.431	9.649	23.290	32.939	-15.032	47.971
0.654	9.650	14.950	24.600	-21.400	46.000
3.459	9.690	13.420	23.110	-22.890	46.000
12.576	9.900	11.320	21.220	-28.780	50.000

Note:

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

Product : IPC
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Receive - Bluetooth (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.232	9.685	41.470	51.155	-12.502	63.657
0.291	9.653	40.060	49.713	-12.258	61.971
0.334	9.650	36.790	46.440	-14.303	60.743
0.545	9.640	29.610	39.250	-16.750	56.000
0.865	9.664	25.210	34.875	-21.125	56.000
13.005	9.910	21.920	31.830	-28.170	60.000
Average					
0.232	9.685	28.840	38.525	-15.132	53.657
0.291	9.653	30.070	39.723	-12.248	51.971
0.334	9.650	24.640	34.290	-16.453	50.743
0.545	9.640	21.100	30.740	-15.260	46.000
0.865	9.664	20.740	30.405	-15.595	46.000
13.005	9.910	12.410	22.320	-27.680	50.000

Note:

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

Product : IPC
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Receive - Bluetooth (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.232	9.695	38.190	47.885	-15.772	63.657
0.252	9.685	35.420	45.105	-17.981	63.086
0.318	9.660	33.070	42.730	-18.470	61.200
0.431	9.649	27.450	37.099	-20.872	57.971
3.455	9.690	22.130	31.820	-24.180	56.000
12.486	9.893	21.360	31.253	-28.747	60.000
Average					
0.232	9.695	25.550	35.245	-18.412	53.657
0.252	9.685	17.580	27.265	-25.821	53.086
0.318	9.660	14.810	24.470	-26.730	51.200
0.431	9.649	23.100	32.749	-15.222	47.971
3.455	9.690	11.870	21.560	-24.440	46.000
12.486	9.893	11.320	21.213	-28.787	50.000

Note:

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

3. Radiated Emission

3.1. Test Equipment

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

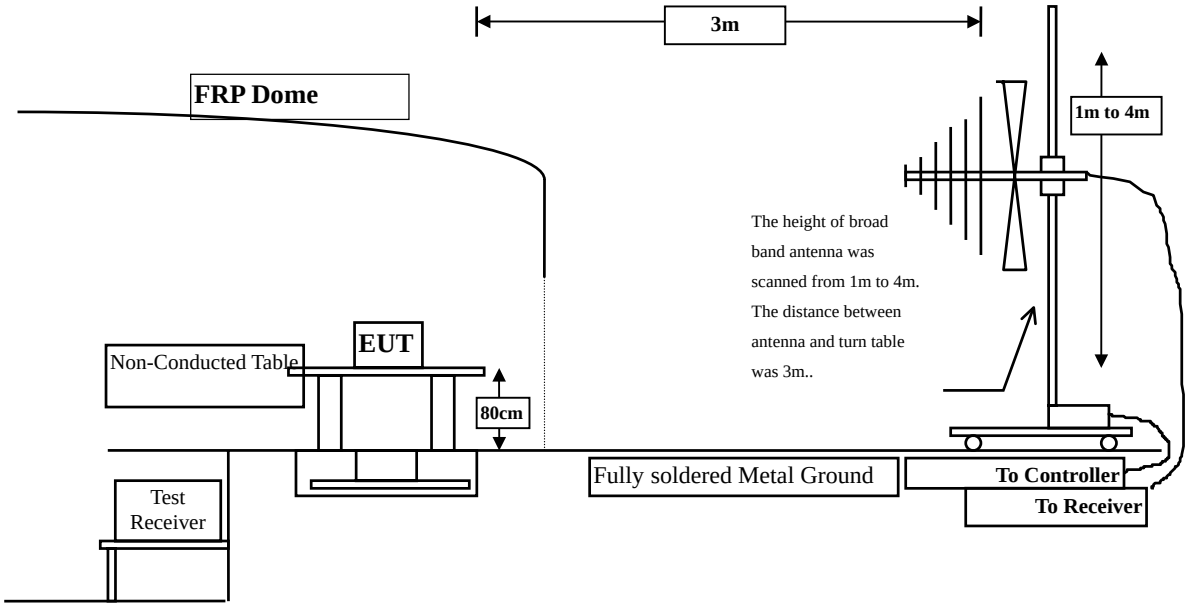
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2011
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2011
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated every one year.

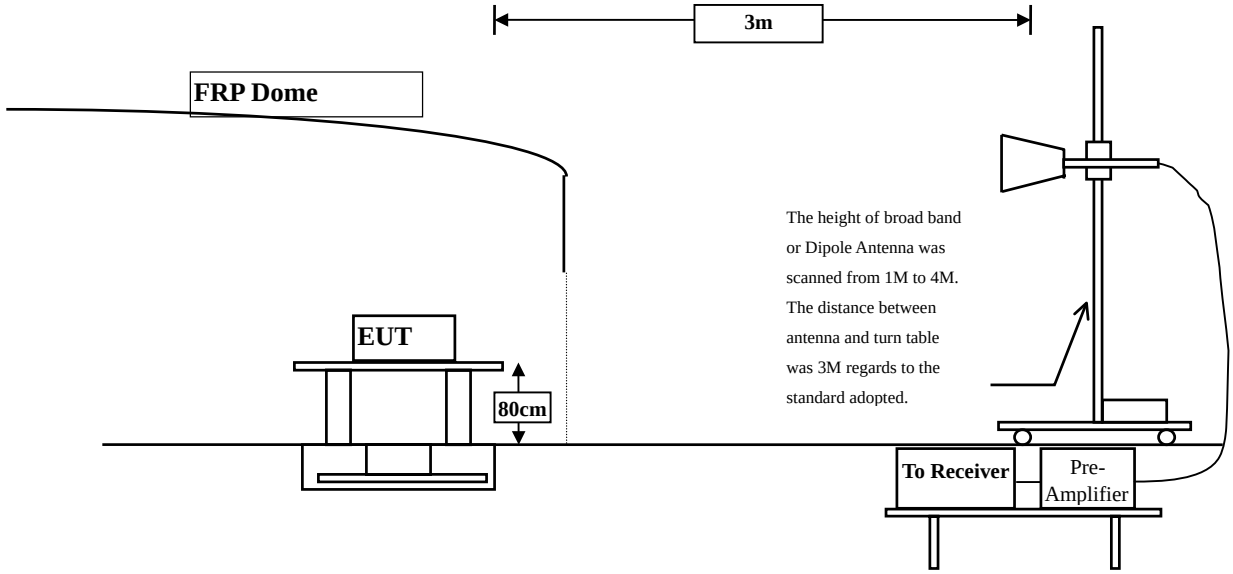
2. The test equipments marked by "X" are used to measure the final test results.

3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.3. Limits

FCC Part 15 Subpart B Paragraph 15.109 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 : 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 closed point of any part of the device or system.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 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 on the Final Measurement.

The measurement frequency range form 30MHz - 10th Harmonic of fundamental was investigated.

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Receive (802.11n MCS0 7.2Mbps 20M-BW) - WLAN (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2412.000	-1.016	36.450	35.434	-38.566	74.000
4824.000	3.094	37.450	40.544	-33.456	74.000
7236.000	10.561	36.780	47.341	-26.659	74.000
Average Detector:					
--					
Peak Detector:					
2412.000	-1.705	36.810	35.105	-38.895	74.000
4824.000	6.254	37.130	43.384	-30.616	74.000
7236.000	11.406	36.680	48.086	-25.914	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Receive (802.11n MCS0 7.2Mbps 20M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2437.000	-0.856	43.110	42.255	-31.745	74.000
4874.000	2.918	37.130	40.047	-33.953	74.000
7311.000	12.630	35.840	48.469	-25.531	74.000
Average Detector:					
--					
Peak Detector:					
2437.000	-1.566	44.920	43.354	-30.646	74.000
4874.000	5.692	36.130	41.821	-32.179	74.000
7311.000	12.563	37.150	49.712	-24.288	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Receive (802.11n MCS0 7.2Mbps 20M-BW) - WLAN (2462MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2462.000	-0.695	38.350	37.655	-36.345	74.000
4924.000	2.785	37.310	40.095	-33.905	74.000
7386.000	12.082	36.110	48.193	-25.807	74.000
Average Detector:					
--					
Peak Detector:					
2462.000	-1.424	40.620	39.196	-34.804	74.000
4924.000	5.448	36.060	41.507	-32.493	74.000
7386.000	13.209	35.750	48.959	-25.041	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2422MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2422.000	-0.952	36.310	35.358	-38.642	74.000
4844.000	3.023	36.230	39.253	-34.747	74.000
7266.000	11.082	36.430	47.512	-26.488	74.000
Average Detector:					
--					
Peak Detector:					
2422.000	-1.650	39.750	38.101	-35.899	74.000
4844.000	6.030	36.470	42.499	-31.501	74.000
7266.000	11.902	36.070	47.972	-26.028	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2437.000	-0.856	38.650	37.795	-36.205	74.000
4874.000	2.918	36.420	39.337	-34.663	74.000
7311.000	11.728	35.660	47.387	-26.613	74.000
Average Detector:					
--					
Peak Detector:					
2437.000	-1.566	39.350	37.784	-36.216	74.000
4874.000	5.692	36.410	42.101	-31.899	74.000
7311.000	12.563	35.630	48.192	-25.808	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2452MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2452.000	-0.758	37.250	36.491	-37.509	74.000
4904.000	2.823	36.210	39.034	-34.966	74.000
7356.000	11.941	35.800	47.741	-26.259	74.000
Average Detector:					
--					
Peak Detector:					
2452.000	-1.480	37.520	36.039	-37.961	74.000
4904.000	5.439	36.140	41.580	-32.420	74.000
7356.000	12.951	35.750	48.701	-25.299	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receive - Bluetooth (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2402.000	-1.073	38.120	37.048	-36.952	74.000
4804.000	3.139	37.230	40.369	-33.631	74.000
7206.000	10.038	36.710	46.748	-27.252	74.000
Average Detector:					
--					
Peak Detector:					
2402.000	-1.729	40.570	38.841	-35.159	74.000
4804.000	6.450	37.800	44.250	-29.750	74.000
7206.000	10.907	36.610	47.517	-26.483	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receive - Bluetooth (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2441.000	-0.829	38.210	37.381	-36.619	74.000
4882.000	2.889	37.930	40.819	-33.181	74.000
7323.000	11.783	35.660	47.443	-26.557	74.000
Average Detector:					
--					
Peak Detector:					
2441.000	-1.543	42.330	40.787	-33.213	74.000
4882.000	5.601	38.050	43.652	-30.348	74.000
7323.000	12.664	35.330	47.995	-26.005	74.000
Average Detector:					
--					

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.

Product : IPC
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receive - Bluetooth (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2480.000	-0.581	40.240	39.659	-34.341	74.000
4960.000	2.722	37.480	40.202	-33.798	74.000
7440.000	12.451	35.140	47.591	-26.409	74.000
Average Detector:					
--					
Peak Detector:					
2480.000	-1.324	41.300	39.976	-34.024	74.000
4960.000	5.519	37.330	42.849	-31.151	74.000
7440.000	13.310	35.210	48.520	-25.480	74.000
Average Detector:					
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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.

Product : IPC
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Receive (802.11n MCS0 7.2Mbps 20M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
90.140	-9.449	41.307	31.858	-11.642	43.500
239.520	-6.851	39.125	32.275	-13.725	46.000
305.480	-2.929	35.158	32.229	-13.771	46.000
608.120	4.384	30.908	35.292	-10.708	46.000
633.340	1.880	32.915	34.795	-11.205	46.000
1000.000	9.119	35.556	44.675	-9.325	54.000
Vertical					
101.780	-0.021	37.661	37.639	-5.861	43.500
200.720	-7.835	47.107	39.272	-4.228	43.500
274.440	-8.718	40.745	32.027	-13.973	46.000
338.460	-4.265	36.195	31.930	-14.070	46.000
685.720	2.319	30.223	32.541	-13.459	46.000
965.080	7.932	28.981	36.913	-17.087	54.000
1000.000	4.329	35.586	39.915	-14.085	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.

Product : IPC
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Receive (802.11n MCS0 15Mbps 40M-BW) - WLAN (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
84.320	-10.564	41.901	31.337	-8.663	40.000
241.460	-6.531	37.854	31.323	-14.677	46.000
499.480	0.048	32.592	32.640	-13.360	46.000
606.180	4.666	30.605	35.271	-10.729	46.000
633.340	1.880	33.719	35.599	-10.401	46.000
1000.000	9.119	35.437	44.556	-9.444	54.000
Vertical					
47.460	-5.701	41.102	35.402	-4.598	40.000
99.840	-0.021	37.133	37.112	-6.388	43.500
204.600	-7.666	46.890	39.223	-4.277	43.500
328.760	-5.099	35.939	30.840	-15.160	46.000
965.080	7.932	30.210	38.142	-15.858	54.000
1000.000	4.329	37.097	41.426	-12.574	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.

Product : IPC
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receive - Bluetooth (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
86.260	-9.948	40.667	30.719	-9.281	40.000
299.660	-3.585	34.934	31.349	-14.651	46.000
371.440	-1.097	31.802	30.705	-15.295	46.000
573.200	2.537	31.789	34.326	-11.674	46.000
633.340	1.880	33.539	35.419	-10.581	46.000
1000.000	9.119	34.610	43.729	-10.271	54.000
Vertical					
41.640	-1.809	37.644	35.835	-4.165	40.000
99.840	-0.021	36.249	36.228	-7.272	43.500
365.620	-2.179	31.927	29.748	-16.252	46.000
685.720	2.319	30.223	32.541	-13.459	46.000
967.020	8.071	29.443	37.514	-16.486	54.000
1000.000	4.329	37.797	42.126	-11.874	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.

4. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs