FCC RF Test Report

APPLICANT	:	Motorola Solutions, Inc.
EQUIPMENT	:	WLAN/BT module
BRAND NAME	:	MOTOROLA
MODEL NAME	:	21-148603-0B
FCC ID	:	UZ7211486030B
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

This is a partial report which is included the RF conducted power, radiated spurious emission, and AC conducted emission test items. The product was received on Nov. 06, 2013 and testing was completed on Dec. 23, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR3N0602B	Rev. 01	Initial issue of report	Jan. 09, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(b)	RSS-210 A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.2	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.15 dB at 2484.370 MHz
3.3	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 19.40 dB at 0.182 MHz
3.4	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Motorola Solutions, Inc.
One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.2 Manufacturer

Motorola Solutions, Inc.
One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	WLAN/BT module
Brand Name	MOTOROLA
Model Name	21-148603-0B
FCC ID	UZ7211486030B
Installed into host	Equipment Name: WORKABOUT PRO 4 Brand Name: MOTOROLA Model Name: 7528X
EUT supports Radios application	WLAN 11a/b/g/n HT20 Bluetooth v2.1 + EDR
Host HW Version	MV
Host SW Version	0.1.36119.1
Host FW Version	X_2.01.0.0.062R
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Product Specification subjective to this standard</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>802.11b/g/n : 2412 MHz ~ 2472 MHz
802.11a/n: 5745~5825MHz.</td></tr>
<tr><td>Maximum (Peak) Output Power to antenna</td><td><Ant. 1>
<2412 MHz ~ 2472 MHz >
802.11b : 20.43 dBm (0.1104 W)
802.11g : 23.96 dBm (0.2489 W)
802.11n HT20 : 23.69 dBm (0.2339 W)
<5745 MHz ~ 5825 MHz >
802.11a : 21.86 dBm (0.1535 W)
802.11n HT20 : 21.75 dBm (0.1496 W)
<Ant. 2>
<2412 MHz ~ 2472 MHz >
802.11b : 20.32 dBm (0.1076 W)
802.11g : 23.78 dBm (0.2388 W)
802.11n HT20 : 23.58 dBm (0.2280 W)
<5745 MHz ~ 5825 MHz >
802.11a : 21.82 dBm (0.1521 W)
802.11n HT20 : 21.71 dBm (0.1483 W)</td></tr>
<tr><td>Antenna Type</td><td><Ant. 1>
802.11b/g/n : PIFA Antenna type with gain 4.94 dBi
802.11a/n : PIFA Antenna type with gain 4.47 dBi
<Ant. 2>
802.11b/g/n : PIFA Antenna type with gain 4.94 dBi
802.11a/n : PIFA Antenna type with gain 4.47 dBi</td></tr>
<tr><td>Type of Modulation</td><td>802.11b : DSSS (DBPSK / DQPSK / CCK)
802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)</td></tr>
<tr><td>Antenna Function for Transmitter</td><td>
<table>
<tr><th></th><th>Ant. 1
(Main Antenna)</th><th>Ant. 2
(Aux. Antenna)</th></tr>
<tr><td>802.11 b</td><td>V</td><td>V</td></tr>
<tr><td>802.11 g</td><td>V</td><td>V</td></tr>
<tr><td>802.11 a</td><td>V</td><td>V</td></tr>
<tr><td>802.11 n</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

List of Accessory for Host (WORKABOUT PRO 4):

Specification of Accessory		
AC Adapter	**Brand Name**	PHIHONG
	Model Name	PSA15R-050P
Battery	**Brand Name**	Psion
	Model Name	WA3010
Docking	**Brand Name**	Psion
	Model Name	WA4003-G2
USB to RS232 Adapter	**Brand Name**	PSION
	Model Name	WA4015-G1
Pouch Holster	**Model Name**	WA6084
Pistol Holster	**Model Name**	WA6083
Carry Case	**Model Name**	WA6080
USB Cable	**Brand Name**	N/A
	Model Name	N/A
	Power Cord	1.4 meter shielded cable without ferrite core

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	**Sporton Site No.**			**FCC/IC Registration No.**
	TH02-HY	CO05-HY	03CH07-HY	722060/4086B-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ANSI C63.4-2003

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	161	5805
	153	5765	165	5825
	157	5785	-	-

2.2 RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

<Ant. 1>

Channel	Frequency	2.4GHz 802.11b RF Peak Output Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	20.29	20.26	20.12	19.88
CH 02	2417 MHz	**20.43**	20.37	19.94	19.76
CH 06	2437 MHz	20.37	20.33	19.91	19.95
CH 10	2457 MHz	20.41	20.30	19.48	19.57
CH 11	2462 MHz	19.76	19.44	19.37	19.53
CH 12	2467 MHz	17.41	17.37	17.39	17.39
CH 13	2472 MHz	15.05	14.98	14.80	14.87

Channel	Frequency	2.4GHz 802.11g RF Peak Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	23.12	23.10	23.09	23.11	23.07	23.05	23.10	23.04
CH 02	2417 MHz	23.25	23.24	23.21	23.17	23.19	23.18	23.13	23.14
CH 06	2437 MHz	23.87	23.85	23.81	23.82	23.84	23.77	23.80	23.80
CH 10	2457 MHz	**23.96**	23.94	23.92	23.91	23.89	23.92	23.91	23.92
CH 11	2462 MHz	23.76	23.74	23.70	23.73	23.71	23.67	23.70	23.72
CH 12	2467 MHz	22.88	22.87	22.81	22.80	22.85	22.84	22.80	22.77
CH 13	2472 MHz	9.21	9.17	9.12	9.20	9.14	9.15	9.19	9.20

Channel	Frequency	2.4GHz 802.11n HT20 RF Peak Output Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412 MHz	23.05	23.03	23.02	23.04	23.00	22.98	23.03	22.97
CH 02	2417 MHz	23.18	23.16	23.13	23.09	23.11	23.10	23.05	23.06
CH 06	2437 MHz	23.61	23.57	23.53	23.54	23.56	23.49	23.52	23.52
CH 10	2457 MHz	**23.69**	23.60	23.58	23.57	23.55	23.58	23.57	23.58
CH 11	2462 MHz	23.55	23.50	23.46	23.49	23.47	23.43	23.46	23.48
CH 12	2467 MHz	18.95	18.91	18.85	18.84	18.89	18.88	18.84	18.81
CH 13	2472 MHz	8.64	8.55	8.50	8.58	8.52	8.53	8.57	8.58

Channel	Frequency	5GHz 802.11a RF Peak Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745 MHz	21.75	21.71	21.67	21.72	21.71	21.64	21.63	21.70
CH157	5785 MHz	21.67	21.64	21.60	21.62	21.64	21.61	21.61	21.65
CH165	5825 MHz	**21.86**	21.85	21.83	21.79	21.80	21.74	21.75	21.78

Channel	Frequency	5GHz 802.11n HT-20 RF Peak Output Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745 MHz	21.66	21.64	21.60	21.65	21.64	21.57	21.56	21.63
CH157	5785 MHz	**21.75**	21.68	21.64	21.66	21.68	21.65	21.65	21.69
CH165	5825 MHz	21.73	21.69	21.67	21.63	21.64	21.58	21.59	21.62

<Ant. 2>

Channel	Frequency	2.4GHz 802.11b RF Peak Output Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	20.19	19.93	19.86	19.78
CH 02	2417 MHz	**20.32**	19.91	19.83	19.74
CH 06	2437 MHz	20.23	19.89	19.74	19.67
CH 10	2457 MHz	20.28	19.82	19.56	19.49
CH 11	2462 MHz	19.57	19.34	18.93	18.86
CH 12	2467 MHz	17.32	17.30	17.28	17.29
CH 13	2472 MHz	15.13	15.02	14.07	14.02

Channel	Frequency	2.4GHz 802.11g RF Peak Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	23.09	22.92	22.91	22.93	22.89	22.85	22.92	22.89
CH 02	2417 MHz	23.22	23.05	23.03	22.99	23.01	23.00	22.95	22.96
CH 06	2437 MHz	23.66	23.67	23.61	23.64	23.66	23.59	23.62	23.62
CH 10	2457 MHz	**23.78**	23.76	23.74	23.73	23.71	23.74	23.73	23.74
CH 11	2462 MHz	23.49	23.56	23.50	23.55	23.70	23.49	23.52	23.54
CH 12	2467 MHz	22.68	22.69	22.63	22.62	22.67	22.66	22.62	22.59
CH 13	2472 MHz	9.04	8.99	8.96	9.02	8.97	8.97	9.01	9.02

Channel	Frequency	2.4GHz 802.11n HT20 RF Peak Output Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412 MHz	22.93	22.89	22.88	22.90	22.86	22.84	22.89	22.83
CH 02	2417 MHz	23.10	23.03	23.02	23.04	23.00	22.98	23.03	22.97
CH 06	2437 MHz	23.50	23.49	23.45	23.46	23.48	23.41	23.44	23.44
CH 10	2457 MHz	**23.58**	23.57	23.53	23.54	23.56	23.49	23.52	23.52
CH 11	2462 MHz	23.43	23.38	23.34	23.37	23.35	23.31	23.34	23.36
CH 12	2467 MHz	18.74	18.63	18.57	18.56	18.61	18.60	18.56	18.53
CH 13	2472 MHz	8.57	8.47	8.42	8.50	8.44	8.45	8.49	8.50

Channel	Frequency	5GHz 802.11a RF Peak Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745 MHz	21.66	21.53	21.49	21.54	21.53	21.46	21.45	21.52
CH157	5785 MHz	21.61	21.56	21.52	21.54	21.56	21.53	21.53	21.57
CH165	5825 MHz	**21.82**	21.77	21.75	21.71	21.72	21.66	21.67	21.70

Channel	Frequency	5GHz 802.11n HT20 RF Peak Output Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745 MHz	21.49	21.46	21.42	21.47	21.46	21.39	21.38	21.45
CH157	5785 MHz	**21.71**	21.70	21.66	21.68	21.70	21.67	21.67	21.69
CH165	5825 MHz	21.67	21.60	21.58	21.54	21.55	21.49	21.50	21.53

2.3 Average Conducted Output Power

The conducted power tables are as follow.

<Ant. 1>

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412MHz	17.94	17.91	17.75	17.74
CH 02	2417MHz	18.02	17.97	17.80	17.82
CH 06	2437MHz	18.11	17.93	17.83	17.80
CH 10	2457MHz	18.11	18.02	17.37	17.42
CH 11	2462MHz	17.34	17.23	17.18	17.17
CH 12	2467MHz	15.16	15.14	15.13	15.14
CH 13	2472MHz	12.78	12.76	12.77	12.70

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412MHz	13.26	13.22	13.23	13.25	13.24	13.24	13.20	13.20
CH 02	2417MHz	13.38	13.36	13.26	13.29	13.27	13.33	13.37	13.37
CH 06	2437MHz	15.62	15.59	15.56	15.59	15.55	15.60	15.57	15.56
CH 10	2457MHz	15.73	15.72	15.66	15.69	15.71	15.70	15.70	15.67
CH 11	2462MHz	14.87	14.83	14.82	14.85	14.84	14.86	14.85	14.81
CH 12	2467MHz	12.23	12.22	12.19	12.22	12.20	12.17	12.14	12.14
CH 13	2472MHz	-1.53	-1.58	-1.56	-1.54	-1.57	-1.54	-1.56	-1.54

Channel	Frequency	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412MHz	13.03	12.83	12.88	12.90	12.99	12.98	12.88	12.89
CH 02	2417MHz	13.17	12.97	12.91	12.94	13.02	13.07	13.05	13.06
CH 06	2437MHz	13.99	13.87	13.88	13.91	13.97	13.96	13.92	13.92
CH 10	2457MHz	14.08	13.96	13.94	13.97	14.01	14.07	14.01	13.99
CH 11	2462MHz	13.80	13.78	13.79	13.77	13.77	13.77	13.70	13.67
CH 12	2467MHz	8.52	8.46	8.47	8.50	8.51	8.47	8.45	8.46
CH 13	2472MHz	-1.21	-1.30	-1.24	-1.22	-1.22	-1.24	-1.28	-1.25

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745MHz	15.23	15.21	15.15	15.17	15.21	15.18	15.15	15.14
CH157	5785MHz	15.07	15.04	14.99	15.02	15.03	15.04	15.05	15.04
CH165	5825MHz	14.31	14.28	14.25	14.26	14.30	14.27	14.27	14.24

Channel	Frequency	5GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745MHz	13.25	13.22	13.19	13.23	13.21	13.15	13.18	13.18
CH157	5785MHz	13.59	13.45	13.43	13.48	13.46	13.46	13.41	13.41
CH165	5825MHz	13.86	13.77	13.77	13.80	13.83	13.84	13.85	13.83

<Ant. 2>

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412MHz	17.78	17.62	17.59	17.64
CH 02	2417MHz	17.74	17.67	17.60	17.55
CH 06	2437MHz	17.90	17.68	17.66	17.62
CH 10	2457MHz	17.90	17.65	17.49	17.42
CH 11	2462MHz	17.22	17.01	16.75	16.73
CH 12	2467MHz	15.09	15.06	15.04	15.00
CH 13	2472MHz	12.92	12.85	12.15	12.09

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412MHz	13.18	13.11	13.20	13.21	13.18	13.15	13.14	13.14
CH 02	2417MHz	13.31	13.27	13.25	13.27	13.23	13.26	13.33	13.33
CH 06	2437MHz	14.65	14.53	14.58	14.60	14.54	14.56	14.56	14.55
CH 10	2457MHz	14.73	14.61	14.68	14.70	14.67	14.66	14.68	14.64
CH 11	2462MHz	13.97	13.86	13.93	13.95	13.92	13.91	13.93	13.89
CH 12	2467MHz	12.19	12.06	12.11	12.13	12.09	12.03	12.03	12.03
CH 13	2472MHz	-1.77	-1.89	-1.79	-1.78	-1.83	-1.83	-1.82	-1.80

Channel	Frequency	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412MHz	12.65	12.63	12.54	12.55	12.62	12.64	12.54	12.55
CH 02	2417MHz	12.80	12.71	12.65	12.67	12.76	12.78	12.79	12.75
CH 06	2437MHz	13.67	13.56	13.57	13.59	13.66	13.65	13.61	13.61
CH 10	2457MHz	13.72	13.66	13.64	13.66	13.71	13.67	13.71	13.69
CH 11	2462MHz	13.53	13.51	13.52	13.49	13.50	13.50	13.43	13.40
CH 12	2467MHz	8.30	8.28	8.29	8.28	8.28	8.29	8.27	8.28
CH 13	2472MHz	-1.40	-1.46	-1.50	-1.41	-1.43	-1.45	-1.44	-1.41

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745MHz	14.93	14.91	14.84	14.89	14.93	14.90	14.87	14.86
CH157	5785MHz	14.92	14.88	14.80	14.86	14.87	14.88	14.89	14.88
CH165	5825MHz	14.24	14.00	13.94	13.98	14.02	13.99	13.99	13.96

Channel	Frequency	5GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745MHz	12.94	12.91	12.87	12.91	12.88	12.85	12.93	12.93
CH157	5785MHz	13.55	13.50	13.52	13.50	13.52	13.52	13.47	13.47
CH165	5825MHz	13.68	13.56	13.60	13.63	13.64	13.65	13.64	13.66

2.4 Test Mode

Preliminary test for Radiated Spurious Emissions:

<2.4GHz>

Test Cases					
Radiated TCs	Test Items	Mode	Data Rate	Test Channel	Antenna
	Radiated Band Edge	802.11b	1 Mbps	1/11	Main/Aux.
		802.11g	6 Mbps	1/11	Main/Aux.
		802.11n HT20	MCS0	1/11	Main/Aux.
	Radiated Spurious Emission	802.11b	1 Mbps	6	Main/Aux.

<5GHz>

Test Cases					
Radiated TCs	Test Items	Mode	Data Rate	Test Channel	Antenna
	Radiated Band Edge	802.11a	6 Mbps	149/165	Main/Aux.
		802.11n HT20	MCS0	149/165	Main/Aux.

The preliminary test purpose is to find out the worst antenna, and choose the worst antenna (Aux. Antenna) to perform final test demonstrated in compliance with FCC standard.

Final results of test modes, data rates and test channels are shown as following table.

<2.4GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	Output Power	802.11b	1 Mbps	1/2/6/10/11/12/13
		802.11g	6 Mbps	1/2/6/10/11/12/13
		802.11n HT20	MCS0	1/2/6/10/11/12/13
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/2/10/11/12/13
		802.11g	6 Mbps	1/2/10/11/12/13
		802.11n HT20	MCS0	1/2/10/11/12/13
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11

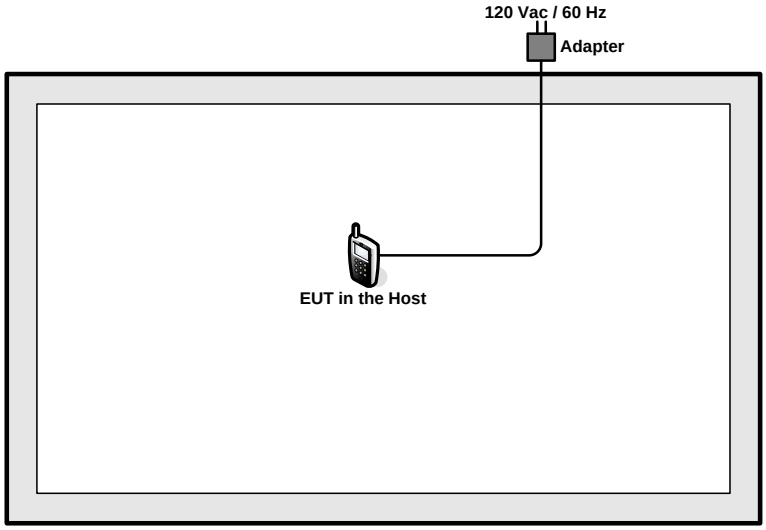
<5GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	MCS0	149/165
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165

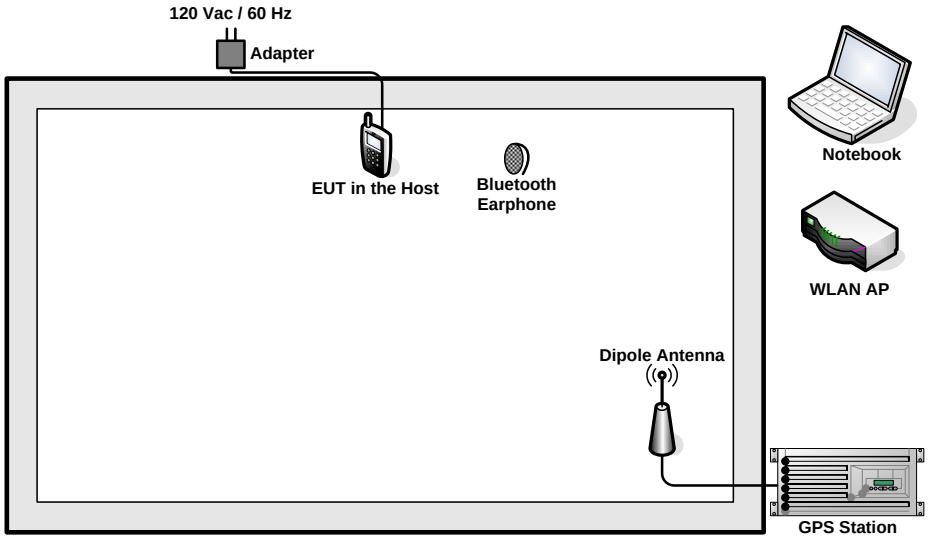
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (2.4GHz) Link + Bluetooth Link + GPS Rx + MP3 + Adapter

2.5 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.6 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY70DA2029	N/A	N/A
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.7 EUT Operation Test Setup

The programmed RF utility “XW2DMT tools” is installed in WORKABOUT PRO 4 to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

2.8 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.
Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 Peak Output Power Measurement

3.1.1 Limit of Peak Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

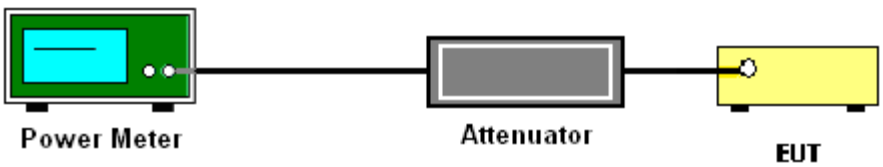
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of Peak Output Power

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Rover Lee	Relative Humidity :	45~49%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)		Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	20.29	20.19	30.00	30.00	4.94	4.94	Pass
11b	1Mbps	1	6	2437	20.37	20.23	30.00	30.00	4.94	4.94	Pass
11b	1Mbps	1	11	2462	19.76	19.57	30.00	30.00	4.94	4.94	Pass
11g	6Mbps	1	1	2412	23.12	23.09	30.00	30.00	4.94	4.94	Pass
11g	6Mbps	1	6	2437	23.87	23.66	30.00	30.00	4.94	4.94	Pass
11g	6Mbps	1	11	2462	23.76	23.49	30.00	30.00	4.94	4.94	Pass
HT20	MCS0	1	1	2412	23.05	22.93	30.00	30.00	4.94	4.94	Pass
HT20	MCS0	1	6	2437	23.61	23.50	30.00	30.00	4.94	4.94	Pass
HT20	MCS0	1	11	2462	23.55	23.43	30.00	30.00	4.94	4.94	Pass

Note: Measured power (dBm) has offset with cable loss.

Test Band :	5GHz	Temperature :	24~26℃
Test Engineer :	Rover Lee	Relative Humidity :	45~49%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)		Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	149	5745	21.75	21.66	30.00	30.00	4.47	4.47	Pass
11a	6Mbps	1	157	5785	21.67	21.61	30.00	30.00	4.47	4.47	Pass
11a	6Mbps	1	165	5825	21.86	21.82	30.00	30.00	4.47	4.47	Pass
HT20	MCS0	1	149	5745	21.66	21.49	30.00	30.00	4.47	4.47	Pass
HT20	MCS0	1	157	5785	21.75	21.71	30.00	30.00	4.47	4.47	Pass
HT20	MCS0	1	165	5825	21.73	21.67	30.00	30.00	4.47	4.47	Pass

Note: Measured power (dBm) has offset with cable loss.

3.1.6 Test Result of Average output Power (Reporting Only)

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Rover Lee	Relative Humidity :	45~49%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		Power Limit (dBm)	DG (dBi)		Pass/ Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2		Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	0.00	0.00	17.94	17.78	30	4.94	4.94	Pass
11b	1Mbps	1	6	2437	0.00	0.00	18.11	17.90	30	4.94	4.94	Pass
11b	1Mbps	1	11	2462	0.00	0.00	17.34	17.22	30	4.94	4.94	Pass
11g	6Mbps	1	1	2412	0.07	0.05	13.26	13.18	30	4.94	4.94	Pass
11g	6Mbps	1	6	2437	0.07	0.05	15.62	14.65	30	4.94	4.94	Pass
11g	6Mbps	1	11	2462	0.07	0.05	14.87	13.97	30	4.94	4.94	Pass
HT20	MCS0	1	1	2412	0.11	0.08	13.03	12.65	30	4.94	4.94	Pass
HT20	MCS0	1	6	2437	0.11	0.08	13.99	13.67	30	4.94	4.94	Pass
HT20	MCS0	1	11	2462	0.11	0.08	13.80	13.53	30	4.94	4.94	Pass

Note: Measured power (dBm) has offset with cable loss and duty factor.

Test Band :	5GHz	Temperature :	24~26℃
Test Engineer :	Rover Lee	Relative Humidity :	45~49%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		Power Limit (dBm)	DG (dBi)		Pass/ Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2		Ant. 1	Ant. 2	
11a	6Mbps	1	149	5745	0.06	0.09	15.23	14.93	30	4.47	4.47	Pass
11a	6Mbps	1	157	5785	0.06	0.09	15.07	14.92	30	4.47	4.47	Pass
11a	6Mbps	1	165	5825	0.06	0.09	14.31	14.24	30	4.47	4.47	Pass
HT20	MCS0	1	149	5745	0.11	0.11	13.25	12.94	30	4.47	4.47	Pass
HT20	MCS0	1	157	5785	0.11	0.11	13.59	13.55	30	4.47	4.47	Pass
HT20	MCS0	1	165	5825	0.11	0.11	13.86	13.68	30	4.47	4.47	Pass

Note: Measured power (dBm) has offset with cable loss and duty factor.

3.2 Radiated Band Edges and Spurious Emission Measurement

3.2.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

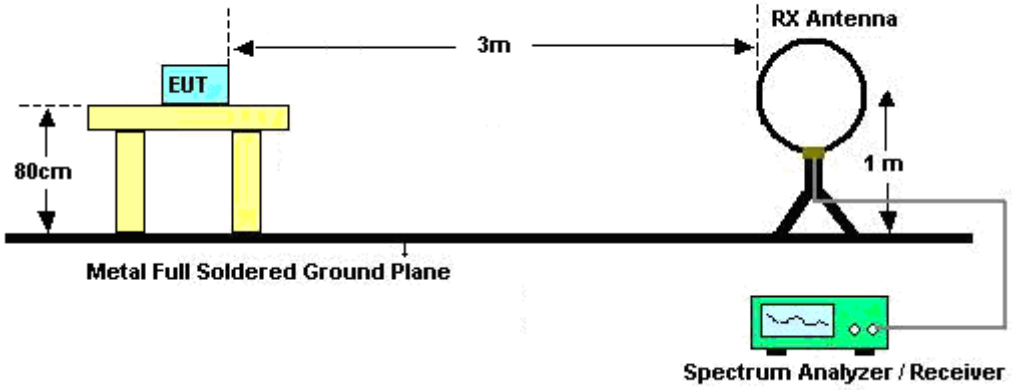
3.2.3 Test Procedure

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

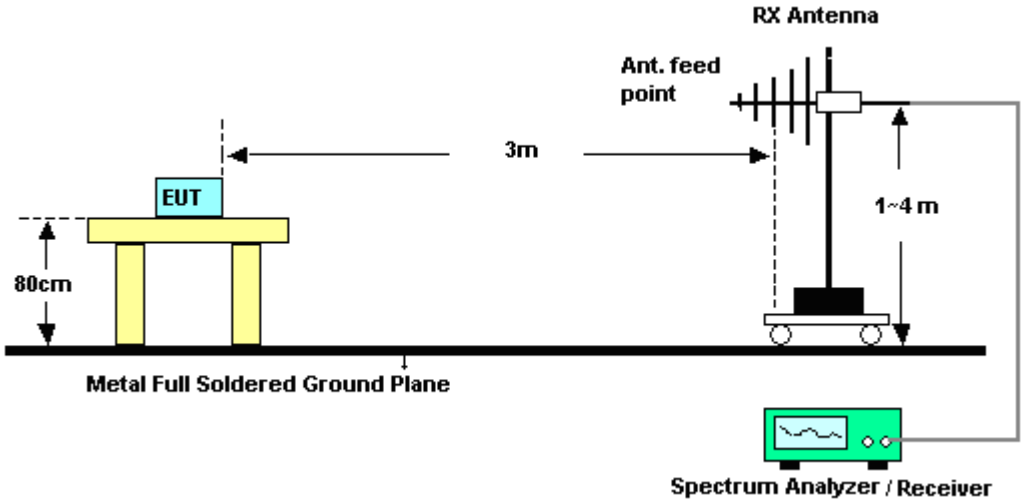
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	100.00	-	-	10Hz
2	802.11b	100.00	-	-	
1	802.11g	98.40	-	-	
2	802.11g	98.92	-	-	
1	2.4GHz 802.11n HT20	97.47	4620.00	0.216	300Hz
2	2.4GHz 802.11n HT20	98.09	-	-	10Hz
1	802.11a	98.58	-	-	
2	802.11a	97.87	5520.00	0.181	300Hz
1	5GHz 802.11n HT20	97.47	4620.00	0.216	
2	5GHz 802.11n HT20	97.47	4620.00	0.216	

3.2.4 Test Setup

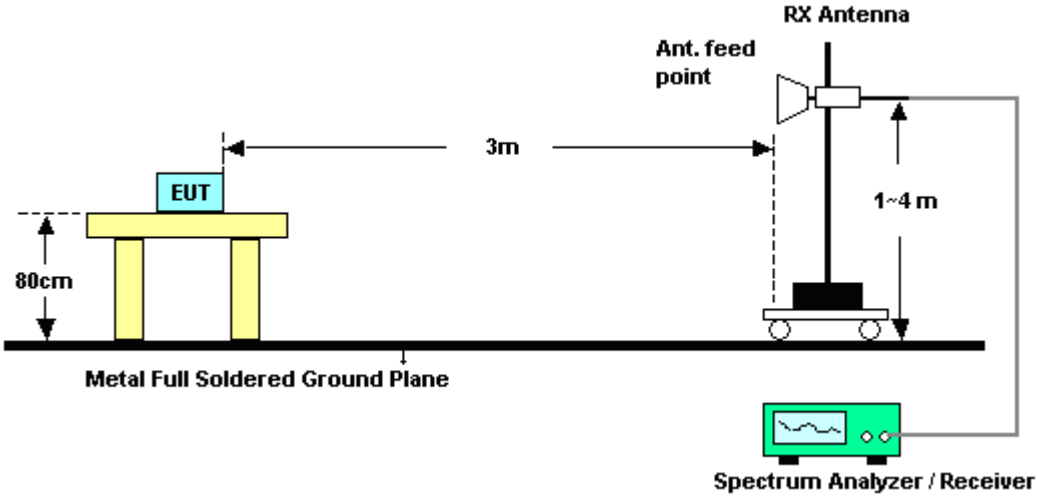
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)

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

3.2.6 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11b	**Temperature :**	21~24°C
Test Band :	Low	**Relative Humidity :**	51~56%
Test Channel :	01	**Test Engineer :**	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2386.05	62.43	-11.57	74	57.49	32.3	6.91	34.27	114	198	Peak
2385.42	51.78	-2.22	54	46.86	32.28	6.91	34.27	114	198	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2385.6	57.14	-16.86	74	52.2	32.3	6.91	34.27	102	360	Peak
2385.6	45.94	-8.06	54	41	32.3	6.91	34.27	102	360	Average

Test Mode :	802.11b	**Temperature :**	21~24°C
Test Band :	Low	**Relative Humidity :**	51~56%
Test Channel :	02	**Test Engineer :**	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2389.29	58.7	-15.3	74	53.76	32.3	6.91	34.27	153	220	Peak
2388.84	46.27	-7.73	54	41.33	32.3	6.91	34.27	153	220	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2370.03	57.68	-16.32	74	52.79	32.28	6.88	34.27	101	93	Peak
2389.02	44.38	-9.62	54	39.44	32.3	6.91	34.27	101	93	Average

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	10	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.52	58.02	-15.98	74	53.01	32.38	7.06	34.43	190	218	Peak
2483.68	44.79	-9.21	54	39.78	32.38	7.06	34.43	190	218	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2485.12	57.56	-16.44	74	52.55	32.38	7.06	34.43	100	149	Peak
2483.56	44.13	-9.87	54	39.12	32.38	7.06	34.43	100	149	Average

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	11	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.37	62.6	-11.4	74	57.59	32.38	7.06	34.43	171	192	Peak
2486.89	51.18	-2.82	54	46.17	32.38	7.06	34.43	171	192	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2489.56	59.41	-14.59	74	54.38	32.4	7.06	34.43	100	360	Peak
2487.7	46.79	-7.21	54	41.76	32.4	7.06	34.43	100	360	Average

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	12	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.74	63.09	-10.91	74	58.08	32.38	7.06	34.43	109	357	Peak
2484.37	52.85	-1.15	54	47.84	32.38	7.06	34.43	109	357	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.77	58.44	-15.56	74	53.43	32.38	7.06	34.43	100	76	Peak
2484.04	45.1	-8.9	54	40.09	32.38	7.06	34.43	100	76	Average

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	13	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2488.51	62.55	-11.45	74	57.52	32.4	7.06	34.43	108	344	Peak
2489.26	52.72	-1.28	54	47.69	32.4	7.06	34.43	108	344	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2489.17	59.11	-14.89	74	54.08	32.4	7.06	34.43	100	118	Peak
2487.67	46.39	-7.61	54	41.36	32.4	7.06	34.43	100	118	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	01	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.11	62.35	-11.65	74	57.41	32.3	6.91	34.27	116	0	Peak
2390	48.07	-5.93	54	43.16	32.3	6.91	34.3	116	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2382.18	56.52	-17.48	74	51.6	32.28	6.91	34.27	101	86	Peak
2384.43	43.61	-10.39	54	38.69	32.28	6.91	34.27	101	86	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	02	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.12	59.82	-14.18	74	54.88	32.3	6.91	34.27	116	1	Peak
2390	45.61	-8.39	54	40.7	32.3	6.91	34.3	116	1	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2317.74	58.31	-15.69	74	53.5	32.23	6.8	34.22	101	130	Peak
2387.94	43.47	-10.53	54	38.53	32.3	6.91	34.27	101	130	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	10	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2485.21	57.64	-16.36	74	52.63	32.38	7.06	34.43	191	218	Peak
2483.56	43.86	-10.14	54	38.85	32.38	7.06	34.43	191	218	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.71	58.14	-15.86	74	53.13	32.38	7.06	34.43	104	117	Peak
2483.62	43.92	-10.08	54	38.91	32.38	7.06	34.43	104	117	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	11	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	61.9	-12.1	74	56.89	32.38	7.06	34.43	109	353	Peak
2483.53	47.81	-6.19	54	42.8	32.38	7.06	34.43	109	353	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2490.97	56.63	-17.37	74	51.6	32.4	7.06	34.43	100	140	Peak
2483.53	43.53	-10.47	54	38.52	32.38	7.06	34.43	100	140	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	12	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.71	72.3	-1.7	74	67.29	32.38	7.06	34.43	110	0	Peak
2483.5	50.52	-3.48	54	45.51	32.38	7.06	34.43	110	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.77	63.14	-10.86	74	58.13	32.38	7.06	34.43	100	119	Peak
2483.5	44.91	-9.09	54	39.9	32.38	7.06	34.43	100	119	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	13	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.59	72.44	-1.56	74	67.43	32.38	7.06	34.43	110	360	Peak
2483.5	47	-7	54	41.99	32.38	7.06	34.43	110	360	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.62	61.5	-12.5	74	56.49	32.38	7.06	34.43	100	99	Peak
2483.5	44.05	-9.95	54	39.04	32.38	7.06	34.43	100	99	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	01	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	60.6	-13.4	74	55.69	32.3	6.91	34.3	113	359	Peak
2390	48.15	-5.85	54	43.24	32.3	6.91	34.3	113	359	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2368.59	56.64	-17.36	74	51.75	32.28	6.88	34.27	101	122	Peak
2390	44.24	-9.76	54	39.33	32.3	6.91	34.3	101	122	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	02	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2332.77	58.18	-15.82	74	53.33	32.23	6.84	34.22	168	193	Peak
2389.83	43.62	-10.38	54	38.71	32.3	6.91	34.3	168	193	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2379.39	58.36	-15.64	74	53.47	32.28	6.88	34.27	101	148	Peak
2388.84	43.49	-10.51	54	38.55	32.3	6.91	34.27	101	148	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	10	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2488	58.83	-15.17	74	53.8	32.4	7.06	34.43	188	212	Peak
2483.56	44	-10	54	38.99	32.38	7.06	34.43	188	212	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2489.2	57.86	-16.14	74	52.83	32.4	7.06	34.43	102	154	Peak
2483.53	43.75	-10.25	54	38.74	32.38	7.06	34.43	102	154	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	11	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	64.78	-9.22	74	59.77	32.38	7.06	34.43	108	358	Peak
2483.5	50.2	-3.8	54	45.19	32.38	7.06	34.43	108	358	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.38	56.54	-17.46	74	51.53	32.38	7.06	34.43	126	8	Peak
2483.5	44.16	-9.84	54	39.15	32.38	7.06	34.43	126	8	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	12	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.8	72.34	-1.66	74	67.33	32.38	7.06	34.43	109	360	Peak
2483.5	50.39	-3.61	54	45.38	32.38	7.06	34.43	109	360	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	62.43	-11.57	74	57.42	32.38	7.06	34.43	100	119	Peak
2483.5	44.9	-9.1	54	39.89	32.38	7.06	34.43	100	119	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	13	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	61.86	-12.14	74	56.85	32.38	7.06	34.43	108	194	Peak
2483.59	44.51	-9.49	54	39.5	32.38	7.06	34.43	108	194	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	67.92	-6.08	74	62.91	32.38	7.06	34.43	101	311	Peak
2483.5	45.93	-8.07	54	40.92	32.38	7.06	34.43	101	311	Average

Test Mode :	802.11a	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	149	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	70.41	-19	89.41	59.19	35.33	10.04	34.15	100	332	Peak
5743	99.53	-	-	88.3	35.34	10.06	34.17	100	332	Average
5743	109.41	-	-	98.18	35.34	10.06	34.17	100	332	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.92	60.65	-22.5	83.15	49.43	35.33	10.04	34.15	121	164	Peak
5743	93.15	-	-	81.92	35.34	10.06	34.17	121	164	Average
5743	103.15	-	-	91.92	35.34	10.06	34.17	121	164	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	165	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	97.75	-	-	86.51	35.4	10.11	34.27	109	329	Average
5823	107.48	-	-	96.24	35.4	10.11	34.27	109	329	Peak
5850.08	57.34	-30.14	87.48	46.11	35.41	10.13	34.31	109	329	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	93.8	-	-	82.56	35.4	10.11	34.27	120	163	Average
5827	103.45	-	-	92.21	35.4	10.11	34.27	120	163	Peak
5857.52	53.17	-30.28	83.45	41.93	35.42	10.13	34.31	120	163	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~56%
Test Channel :	149	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	75.1	-15.6	90.7	63.88	35.33	10.04	34.15	100	332	Peak
5743	100.09	-	-	88.86	35.34	10.06	34.17	100	332	Average
5743	110.7	-	-	99.47	35.34	10.06	34.17	100	332	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.92	64.06	-19.77	83.83	52.84	35.33	10.04	34.15	110	144	Peak
5744	93.33	-	-	82.1	35.34	10.06	34.17	110	144	Average
5744	103.83	-	-	92.6	35.34	10.06	34.17	110	144	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~56%
Test Channel :	165	Test Engineer :	Stan Hsieh

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	98.88	-	-	87.64	35.4	10.11	34.27	110	332	Average
5824	109.41	-	-	98.17	35.4	10.11	34.27	110	332	Peak
5850	61.98	-27.43	89.41	50.75	35.41	10.13	34.31	110	332	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	90.84	-	-	79.6	35.4	10.11	34.27	148	188	Average
5824	101.41	-	-	90.17	35.4	10.11	34.27	148	188	Peak
5853.52	55.34	-26.07	81.41	44.1	35.42	10.13	34.31	148	188	Peak

3.2.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

Test Mode :	802.11b	**Temperature :**	21~24°C
Test Channel :	01	**Relative Humidity :**	51~56%
Test Engineer :	Stan Hsieh	**Polarization :**	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	109.5	-	-	104.54	32.31	6.95	34.3	114	198	Average
2414	114.23	-	-	109.27	32.31	6.95	34.3	114	198	Peak
4824	40.71	-33.29	74	56.9	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11b	**Temperature :**	21~24°C
Test Channel :	01	**Relative Humidity :**	51~56%
Test Engineer :	Stan Hsieh	**Polarization :**	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	102.86	-	-	97.9	32.31	6.95	34.3	102	360	Average
2410	107.69	-	-	102.73	32.31	6.95	34.3	102	360	Peak
4824	43.6	-30.4	74	59.79	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	110.1	-	-	105.11	32.35	6.99	34.35	114	194	Average
2437	115.13	-	-	110.14	32.35	6.99	34.35	114	194	Peak
4875	39.42	-34.58	74	55.48	33.95	8.82	58.83	100	0	Peak
7311	42.99	-31.01	74	54.27	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	103.14	-	-	98.15	32.35	6.99	34.35	100	0	Average
2438	108.13	-	-	103.14	32.35	6.99	34.35	100	0	Peak
4875	40.58	-33.42	74	56.64	33.95	8.82	58.83	100	0	Peak
7311	42.9	-31.1	74	54.18	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	110.29	-	-	105.29	32.37	7.02	34.39	171	192	Average
2462	115.24	-	-	110.24	32.37	7.02	34.39	171	192	Peak
4923	41.64	-32.36	74	57.57	33.93	8.87	58.73	100	0	Peak
7386	42.48	-31.52	74	53.77	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	105.33	-	-	100.33	32.37	7.02	34.39	100	360	Average
2462	110.07	-	-	105.07	32.37	7.02	34.39	100	360	Peak
4923	42.91	-31.09	74	58.84	33.93	8.87	58.73	100	0	Peak
7386	42.32	-31.68	74	53.61	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	100.4	-	-	95.44	32.31	6.95	34.3	116	0	Average
2412	111.63	-	-	106.67	32.31	6.95	34.3	116	0	Peak
4824	40.34	-33.66	74	56.53	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	91.73	-	-	86.77	32.31	6.95	34.3	101	86	Average
2410	103.41	-	-	98.45	32.31	6.95	34.3	101	86	Peak
4824	40.46	-33.54	74	56.65	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	92.72	-	-	87.75	32.33	6.99	34.35	166	24	Average
2436	103.27	-	-	98.3	32.33	6.99	34.35	166	24	Peak
4875	40.66	-33.34	74	56.72	33.95	8.82	58.83	100	0	Peak
7311	42.48	-31.52	74	53.76	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	93.07	-	-	88.1	32.33	6.99	34.35	100	291	Average
2436	103.81	-	-	98.84	32.33	6.99	34.35	100	291	Peak
4875	39.59	-34.41	74	55.65	33.95	8.82	58.83	100	0	Peak
7311	43.08	-30.92	74	54.36	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	99.18	-	-	94.18	32.37	7.02	34.39	109	353	Average
2462	110.73	-	-	105.73	32.37	7.02	34.39	109	353	Peak
4923	41.35	-32.65	74	57.28	33.93	8.87	58.73	100	0	Peak
7386	42.47	-31.53	74	53.76	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	89.14	-	-	84.14	32.37	7.02	34.39	100	140	Average
2462	100.7	-	-	95.7	32.37	7.02	34.39	100	140	Peak
4923	40.24	-33.76	74	56.17	33.93	8.87	58.73	100	0	Peak
7386	41.61	-32.39	74	52.9	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	99.99	-	-	95.03	32.31	6.95	34.3	113	359	Average
2414	111.27	-	-	106.31	32.31	6.95	34.3	113	359	Peak
4824	40.86	-33.14	74	57.05	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	91.62	-	-	86.66	32.31	6.95	34.3	101	122	Average
2412	102.47	-	-	97.51	32.31	6.95	34.3	101	122	Peak
4824	40.49	-33.51	74	56.68	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	92.65	-	-	87.66	32.35	6.99	34.35	157	213	Average
2438	104.12	-	-	99.13	32.35	6.99	34.35	157	213	Peak
4875	39.89	-34.11	74	55.95	33.95	8.82	58.83	100	0	Peak
7311	42.8	-31.2	74	54.08	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	89.86	-	-	84.87	32.35	6.99	34.35	100	133	Average
2438	100.81	-	-	95.82	32.35	6.99	34.35	100	133	Peak
4875	40.26	-33.74	74	56.32	33.95	8.82	58.83	100	0	Peak
7311	42.8	-31.2	74	54.08	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	100.29	-	-	95.29	32.37	7.02	34.39	108	358	Average
2464	111.34	-	-	106.34	32.37	7.02	34.39	108	358	Peak
4923	39.72	-34.28	74	55.65	33.93	8.87	58.73	100	0	Peak
7386	42.2	-31.8	74	53.49	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	90.26	-	-	85.26	32.37	7.02	34.39	126	8	Average
2464	101.83	-	-	96.83	32.37	7.02	34.39	126	8	Peak
4923	39.9	-34.1	74	55.83	33.93	8.87	58.73	100	0	Peak
7386	43.57	-30.43	74	54.86	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	99.53	-	-	88.3	35.34	10.06	34.17	100	332	Average
5743	109.41	-	-	98.18	35.34	10.06	34.17	100	332	Peak
11490	48.04	-25.96	74	52.3	38.38	14.33	56.97	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	93.15	-	-	81.92	35.34	10.06	34.17	121	164	Average
5743	103.15	-	-	91.92	35.34	10.06	34.17	121	164	Peak
11490	47.02	-26.98	74	51.28	38.38	14.33	56.97	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	100.72	-	-	89.51	35.37	10.07	34.23	100	134	Average
5785	110.81	-	-	99.6	35.37	10.07	34.23	100	134	Peak
11571	46.38	-27.62	74	50.29	38.46	14.41	56.78	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5784 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5784	93.28	-	-	82.07	35.37	10.07	34.23	109	37	Average
5784	103.23	-	-	92.02	35.37	10.07	34.23	109	37	Peak
11571	46.1	-27.9	74	50.01	38.46	14.41	56.78	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	97.75	-	-	86.51	35.4	10.11	34.27	109	329	Average
5823	107.48	-	-	96.24	35.4	10.11	34.27	109	329	Peak
11649	47.03	-26.97	74	50.61	38.51	14.52	56.61	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5827 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	93.8	-	-	82.56	35.4	10.11	34.27	120	163	Average
5827	103.45	-	-	92.21	35.4	10.11	34.27	120	163	Peak
11649	46.31	-27.69	74	49.89	38.51	14.52	56.61	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
44.58	18.93	-21.07	40	38.98	10.5	0.65	31.2	-	-	Peak
204.15	26.12	-17.38	43.5	46.73	9.15	1.34	31.1	122	100	Peak
216.03	27.17	-18.83	46	47.55	9.26	1.4	31.04	-	-	Peak
407.8	22.07	-23.93	46	34.64	16.12	2.17	30.86	-	-	Peak
734.7	24.15	-21.85	46	29.45	22.08	3.02	30.4	-	-	Peak
922.3	27.24	-18.76	46	30.13	24.06	3.39	30.34	-	-	Peak
5743	100.09	-	-	88.86	35.34	10.06	34.17	100	332	Average
5743	110.7	-	-	99.47	35.34	10.06	34.17	100	332	Peak
11490	46.8	-27.2	74	51.06	38.38	14.33	56.97	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5744 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	27.18	-12.82	40	39.82	18.28	0.54	31.46	177	52	Peak
36.48	25.16	-14.84	40	40.5	15.32	0.6	31.26	-	-	Peak
42.96	24.19	-15.81	40	42.85	11.9	0.64	31.2	-	-	Peak
407.8	20.11	-25.89	46	32.68	16.12	2.17	30.86	-	-	Peak
735.4	24.31	-21.69	46	29.59	22.1	3.02	30.4	-	-	Peak
904.1	26.6	-19.4	46	30.24	23.32	3.35	30.31	-	-	Peak
5744	93.33	-	-	82.1	35.34	10.06	34.17	110	144	Average
5744	103.83	-	-	92.6	35.34	10.06	34.17	110	144	Peak
11490	47.61	-26.39	74	51.87	38.38	14.33	56.97	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	101.33	-	-	90.11	35.38	10.07	34.23	100	134	Average
5787	111.72	-	-	100.5	35.38	10.07	34.23	100	134	Peak
11571	47.22	-26.78	74	51.13	38.46	14.41	56.78	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	93.52	-	-	82.3	35.38	10.07	34.23	109	40	Average
5787	104.3	-	-	93.08	35.38	10.07	34.23	109	40	Peak
11571	46.72	-27.28	74	50.63	38.46	14.41	56.78	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Horizontal
Remark :	1. 5824 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	98.88	-	-	87.64	35.4	10.11	34.27	110	332	Average
5824	109.41	-	-	98.17	35.4	10.11	34.27	110	332	Peak
11649	46.25	-27.75	74	49.83	38.51	14.52	56.61	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~56%
Test Engineer :	Stan Hsieh	Polarization :	Vertical
Remark :	1. 5824 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	90.84	-	-	79.6	35.4	10.11	34.27	148	188	Average
5824	101.41	-	-	90.17	35.4	10.11	34.27	148	188	Peak
11649	46.15	-27.85	74	49.73	38.51	14.52	56.61	100	0	Peak

3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

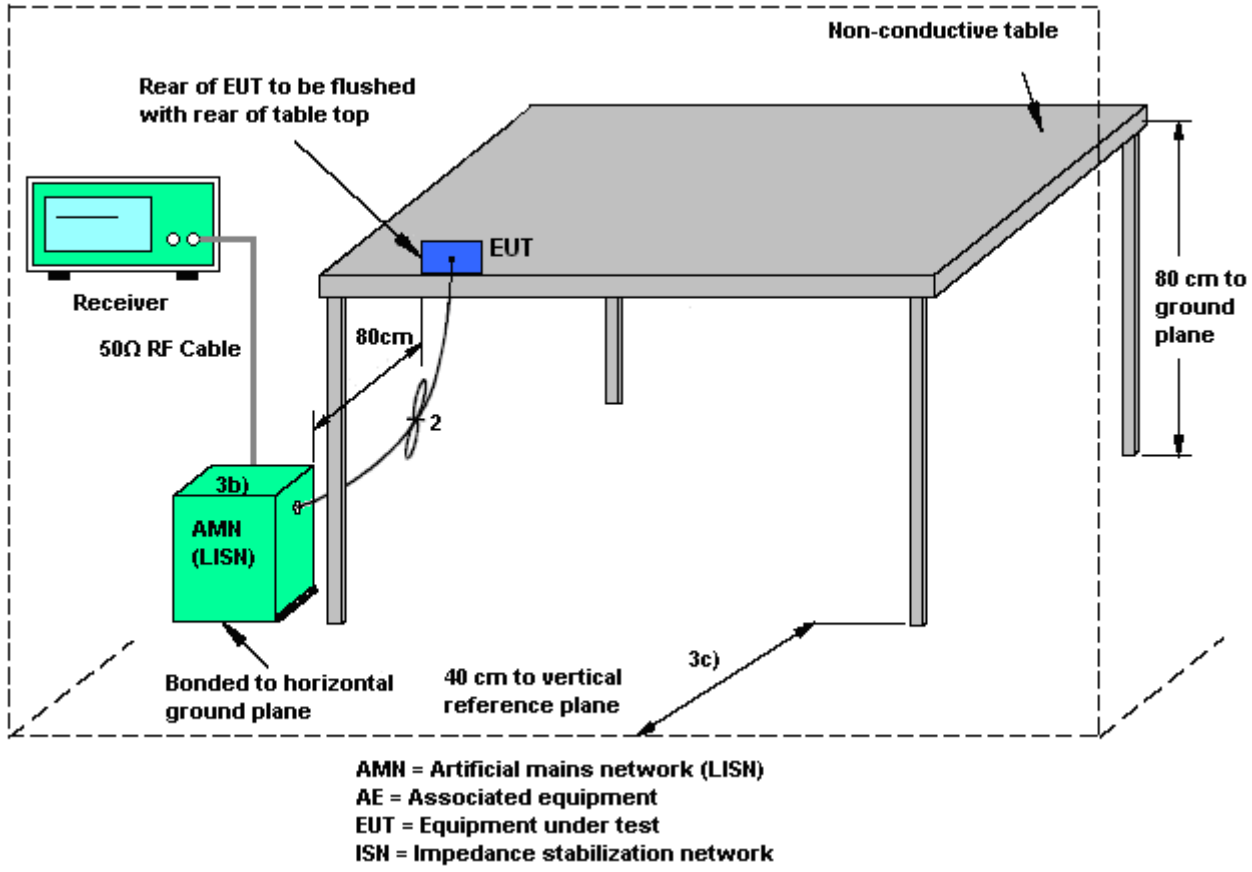
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

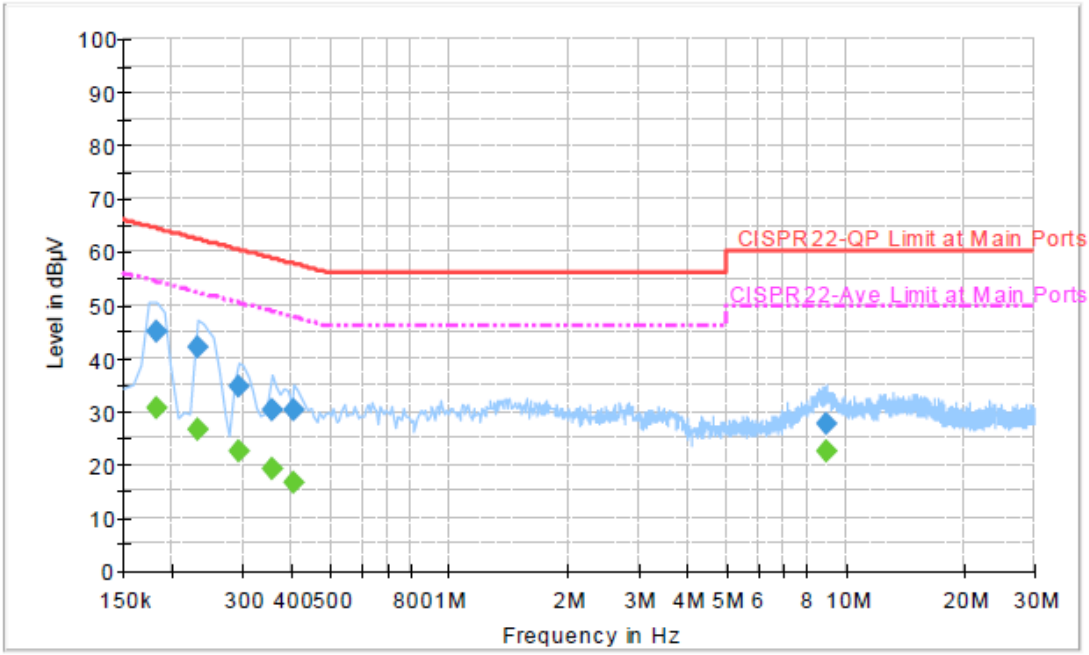
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (2.4GHz) Link + Bluetooth Link + GPS Rx + MP3 + Adapter		



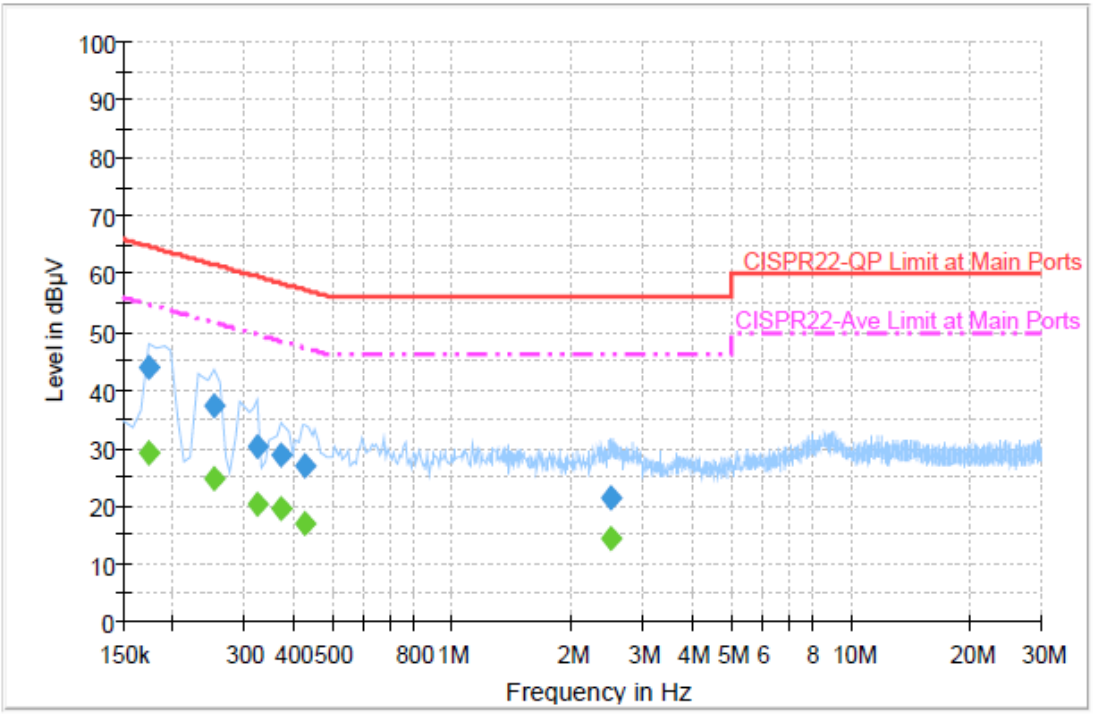
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	45.0	Off	L1	19.4	19.4	64.4
0.230000	41.9	Off	L1	19.4	20.5	62.4
0.294000	34.9	Off	L1	19.4	25.5	60.4
0.358000	30.3	Off	L1	19.4	28.5	58.8
0.406000	30.2	Off	L1	19.4	27.5	57.7
8.934000	27.6	Off	L1	19.8	32.4	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	30.6	Off	L1	19.4	23.8	54.4
0.230000	26.6	Off	L1	19.4	25.8	52.4
0.294000	22.6	Off	L1	19.4	27.8	50.4
0.358000	19.1	Off	L1	19.4	29.7	48.8
0.406000	16.6	Off	L1	19.4	31.1	47.7
8.934000	22.4	Off	L1	19.8	27.6	50.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (2.4GHz) Link + Bluetooth Link + GPS Rx + MP3 + Adapter		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	43.8	Off	N	19.4	21.0	64.8
0.254000	37.2	Off	N	19.5	24.4	61.6
0.326000	30.2	Off	N	19.4	29.4	59.6
0.374000	28.9	Off	N	19.4	29.5	58.4
0.430000	27.1	Off	N	19.4	30.2	57.3
2.494000	21.5	Off	N	19.6	34.5	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	29.2	Off	N	19.4	25.6	54.8
0.254000	24.7	Off	N	19.5	26.9	51.6
0.326000	20.4	Off	N	19.4	29.2	49.6
0.374000	19.6	Off	N	19.4	28.8	48.4
0.430000	16.9	Off	N	19.4	30.4	47.3
2.494000	14.5	Off	N	19.6	31.5	46.0

3.4 Antenna Requirements

3.4.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Nov. 14, 2013~ Dec. 23, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Nov. 14, 2013~ Dec. 23, 2013	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Nov. 14, 2013~ Dec. 23, 2013	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9 kHz~7 GHz	Sep. 06, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Sep. 05, 2014	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9 kHz ~ 30 GHz	Nov. 20, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Nov. 19, 2014	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 Mhz	Jul. 03, 2012	Dec. 18, 2013 ~ Dec. 23, 2013	Jul. 03, 2014	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30 MHz ~ 1 GHz	Oct. 10, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Oct. 09, 2014	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1 GHz~18 GHz	Aug. 22, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Aug. 21, 2014	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15 GHz- 40 GHz	Oct. 03, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Oct. 02, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	30 MHz~1 GHz	Feb. 26, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Feb. 25, 2014	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A01917	1 GHz~26.5 GHz	Aug. 12, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Aug. 11, 2014	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159088	DC~18 G High Gain	Feb. 27, 2013	Dec. 18, 2013 ~ Dec. 23, 2013	Feb. 26, 2014	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Dec. 18, 2013 ~ Dec. 23, 2013	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Dec. 18, 2013 ~ Dec. 23, 2013	N/A	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 15, 2013	Dec. 18, 2013	Nov. 14, 2014	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2013	Dec. 18, 2013	Dec. 11, 2014	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 04, 2013	Dec. 18, 2013	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Dec. 18, 2013	N/A	Conduction (CO05-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.50**