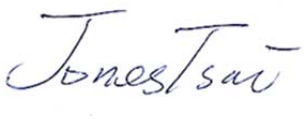
FCC RF Test Report

APPLICANT	:	Nest Labs Inc
EQUIPMENT	:	Signaling Apparatus
BRAND NAME	:	Nest
MODEL NAME	:	05A,05C
FCC ID	:	ZQAS10
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The product was received on Jun. 10, 2013 and completely tested on Jul. 04, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance 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.

Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager

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
FR351102-01	Rev. 01	Initial issue of report	Aug. 01, 2013

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.09 dB at 2388.660 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 14.1 dB at 0.446 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Nest Labs Inc
900 Hansen Way, Palo Alto California, 94304

1.2 Manufacturer

Pegatron Corporation
No. 400, Sec. 7, Chengde Rd., Beitou District, Taipei City 11262 Taiwan

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Signaling Apparatus
Brand Name	Nest
Model Name	05A,05C
FCC ID	ZQAS10
EUT supports Radios application	WLAN 11bgn
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. 05A for battery sku; 05C for line voltage sku.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum Output Power to Antenna	802.11b : 19.31 dBm (0.0853 W) 802.11g : 23.81 dBm (0.2404 W) 802.11n HT20 : 23.70 dBm (0.2344 W)
99% Occupied Bandwidth	802.11b : 12.90MHz 802.11g : 17.10MHz 802.11n HT20 : 17.95MHz
Antenna Type	PCB Antenna type with gain -1.1 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 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.

1.6 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 C63.10-2009

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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).

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 Channel

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

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate as following table and the highest (peak) power data rates were chosen for full test in the following tables.

2.4GHz 802.11b mode				
Data Rate (MHz)	1Mbps	2Mbps	5.5Mbps	11Mbps
Peak Power (dBm)	19.31	19.18	19.18	19.24

2.4GHz 802.11g mode								
Data Rate (MHz)	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Peak Power (dBm)	23.81	23.78	23.72	23.71	23.75	23.79	23.72	23.75

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Peak Power (dBm)	23.70	23.68	23.57	23.60	23.54	23.52	23.56	23.62

2.3 Test Mode

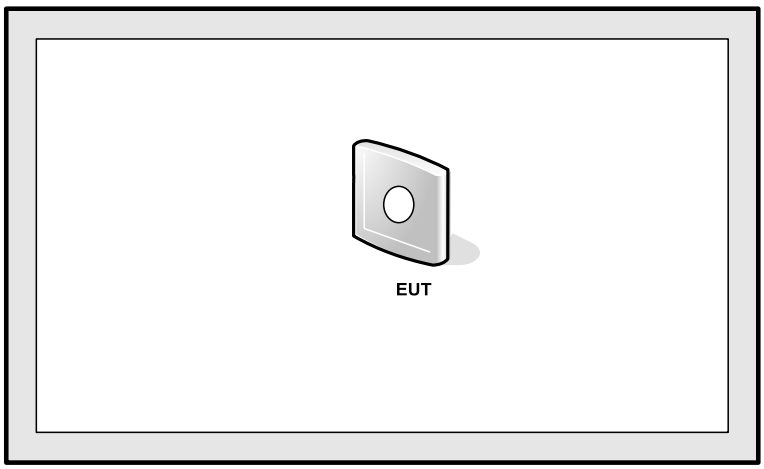
Final results of test modes, data rates and test channels are shown as following table.

Test Cases					
	Test Items	Mode	Data Rate	Test Channel	Remark
Conducted TCs	6dB and 99% BW Power Spectral Density	802.11b	1 Mbps	1/6/11	-
		802.11g	6 Mbps	1/6/11	-
		802.11n HT20	6.5 Mbps	1/6/11	-
	Output Power	802.11b	1 Mbps	1/6/11	-
		802.11g	6 Mbps	1/6/11	-
		802.11n HT20	6.5 Mbps	1/6/11	-
	Conducted Band Edge	802.11b	1 Mbps	1/11	-
		802.11g	6 Mbps	1/11	-
		802.11n HT20	6.5 Mbps	1/11	-
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11	-
		802.11g	6 Mbps	1/6/11	-
		802.11n HT20	6.5 Mbps	1/6/11	-
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11	6Cell
		802.11g	6 Mbps	1/11	6Cell
		802.11n HT20	6.5 Mbps	1/11	6Cell
		802.11n HT20	6.5 Mbps	1	3Cell and 3Cell with AC Cable
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11	6Cell
		802.11g	6 Mbps	1/6/11	6Cell
		802.11n HT20	6.5 Mbps	1/6/11	6Cell
		802.11n HT20	6.5 Mbps	1	3Cell and 3Cell with AC Cable
AC Conducted Emission	Mode 1 : WLAN Link				

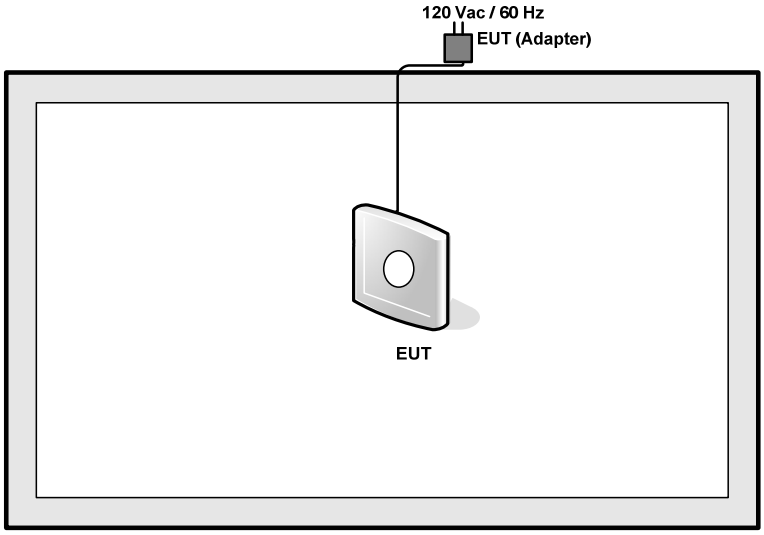
2.4 Connection Diagram of Test System

<WLAN Tx Mode>

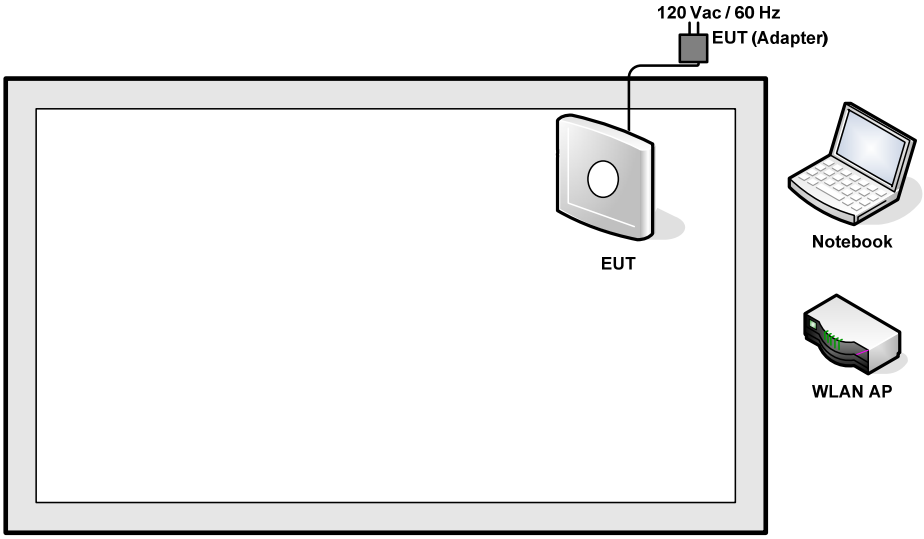
<6Cell/3Cell>:



<3Cell with AC Cable>:



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.6 Description of RF Function Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.7 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 0.6 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 0.6 + 10 = 10.6 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

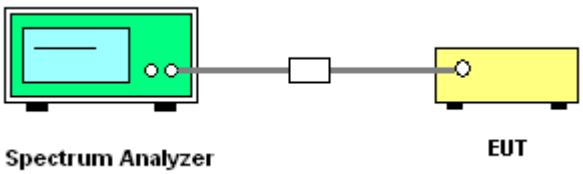
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer 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. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

3.1.4 Test Setup

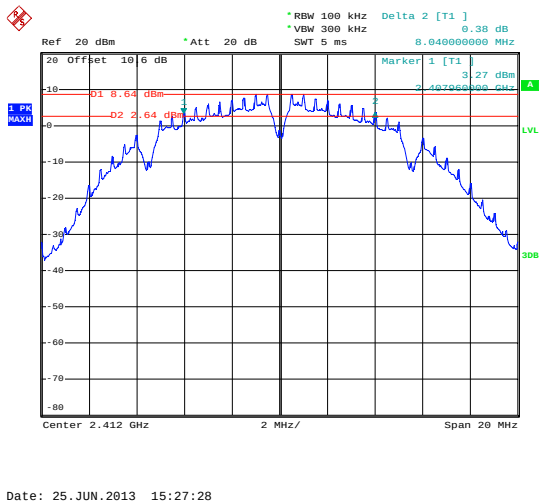


3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

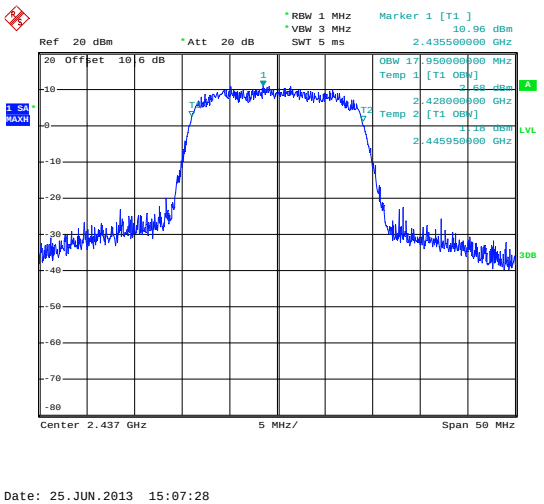
Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Jun Yang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	12.90	8.04	0.5	Pass
11b	1Mbps	1	6	2437	12.85	8.04	0.5	Pass
11b	1Mbps	1	11	2462	12.75	8.04	0.5	Pass
11g	6Mbps	1	1	2412	17.10	15.32	0.5	Pass
11g	6Mbps	1	6	2437	17.10	15.12	0.5	Pass
11g	6Mbps	1	11	2462	17.05	15.12	0.5	Pass
HT20	6.5Mbps	1	1	2412	17.90	15.12	0.5	Pass
HT20	6.5Mbps	1	6	2437	17.95	15.44	0.5	Pass
HT20	6.5Mbps	1	11	2462	17.90	16.04	0.5	Pass

Worst Case 6dB Bandwidth



Worst Case 99% Occupied Bandwidth



3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are 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.

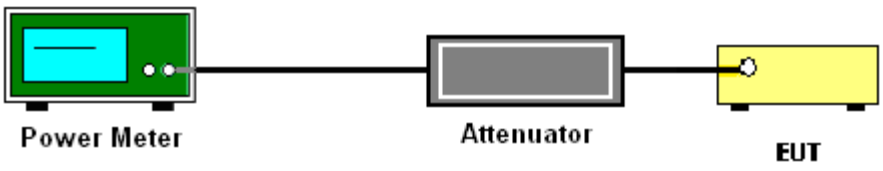
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 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.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Jun Yang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	19.31	30	-1.10	Pass
11b	1Mbps	1	6	2437	19.09	30	-1.10	Pass
11b	1Mbps	1	11	2462	19.03	30	-1.10	Pass
11g	6Mbps	1	1	2412	23.81	30	-1.10	Pass
11g	6Mbps	1	6	2437	23.52	30	-1.10	Pass
11g	6Mbps	1	11	2462	23.31	30	-1.10	Pass
HT20	6.5Mbps	1	1	2412	23.70	30	-1.10	Pass
HT20	6.5Mbps	1	6	2437	23.28	30	-1.10	Pass
HT20	6.5Mbps	1	11	2462	23.07	30	-1.10	Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Jun Yang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0.04	16.30	30	-1.10	Pass
11b	1Mbps	1	6	2437	0.04	16.20	30	-1.10	Pass
11b	1Mbps	1	11	2462	0.04	16.16	30	-1.10	Pass
11g	6Mbps	1	1	2412	0.04	13.51	30	-1.10	Pass
11g	6Mbps	1	6	2437	0.04	13.47	30	-1.10	Pass
11g	6Mbps	1	11	2462	0.04	13.43	30	-1.10	Pass
HT20	6.5Mbps	1	1	2412	0.08	13.32	30	-1.10	Pass
HT20	6.5Mbps	1	6	2437	0.08	13.19	30	-1.10	Pass
HT20	6.5Mbps	1	11	2462	0.08	13.01	30	-1.10	Pass

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

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

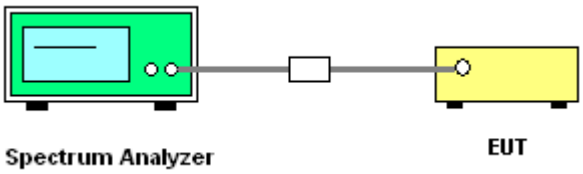
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
2. The RF output of EUT was connected to the spectrum analyzer 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. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

3.3.4 Test Setup



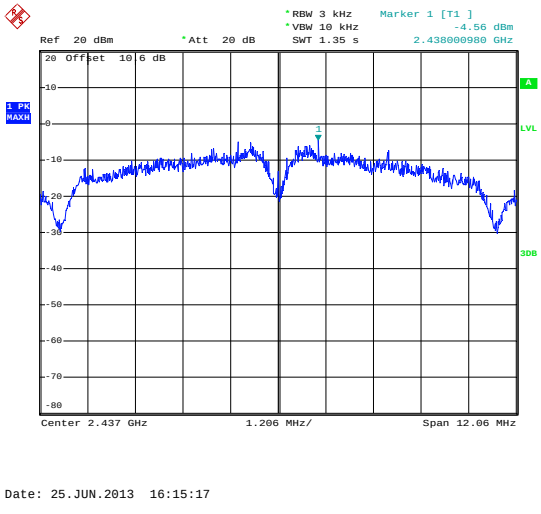
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Jun Yang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-5.81	8	-1.10	Pass
11b	1Mbps	1	6	2437	-4.56	8	-1.10	Pass
11b	1Mbps	1	11	2462	-5.69	8	-1.10	Pass
11g	6Mbps	1	1	2412	-11.00	8	-1.10	Pass
11g	6Mbps	1	6	2437	-10.69	8	-1.10	Pass
11g	6Mbps	1	11	2462	-11.27	8	-1.10	Pass
HT20	6.5Mbps	1	1	2412	-11.20	8	-1.10	Pass
HT20	6.5Mbps	1	6	2437	-11.86	8	-1.10	Pass
HT20	6.5Mbps	1	11	2462	-11.72	8	-1.10	Pass

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

Worst Case Power Density (dBm/3kHz)



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer 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. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

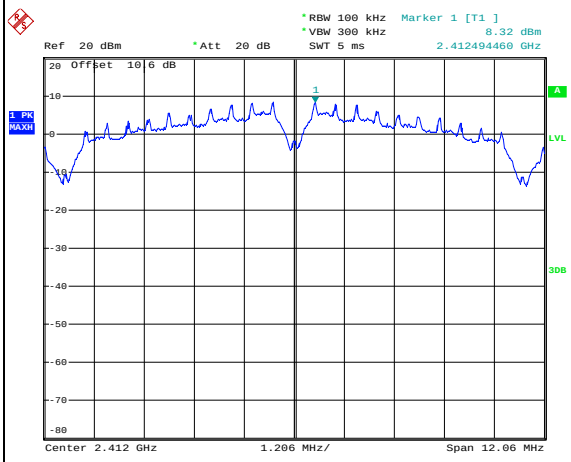
3.4.4 Test Setup

2.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Jun Yang

WLAN 802.11b Channel 01

100kHz PSD reference Level



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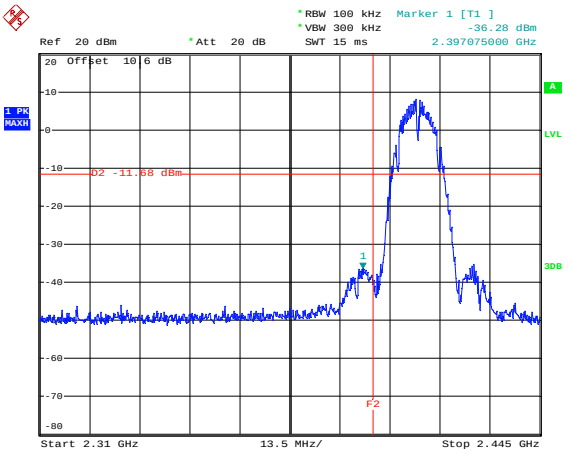
Low Channel Plot



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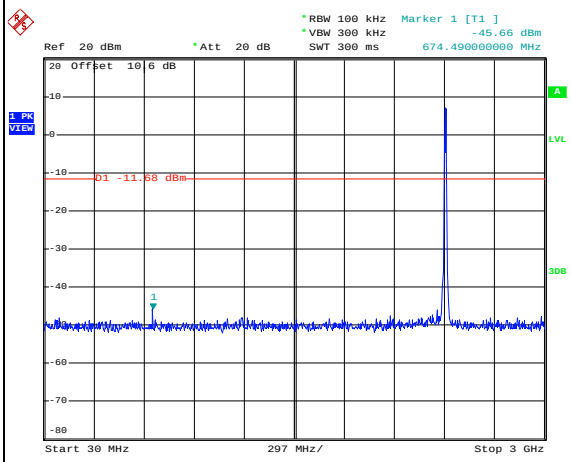
Spurious Emission 30MHz~3GHz



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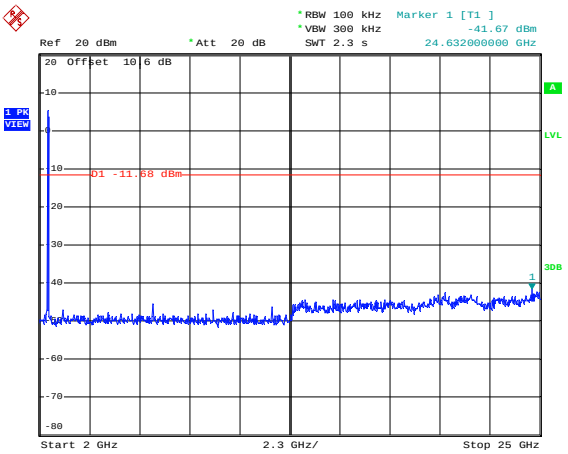
Spurious Emission 2GHz~25GHz



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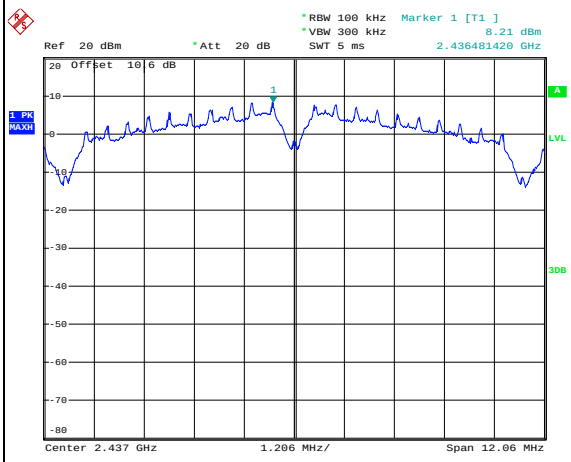
Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Jun Yang

WLAN 802.11b Channel 06

100kHz PSD reference Level



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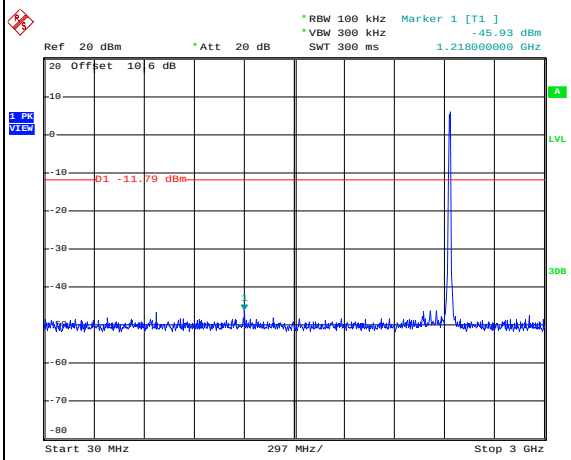
Spurious Emission 30MHz~3GHz



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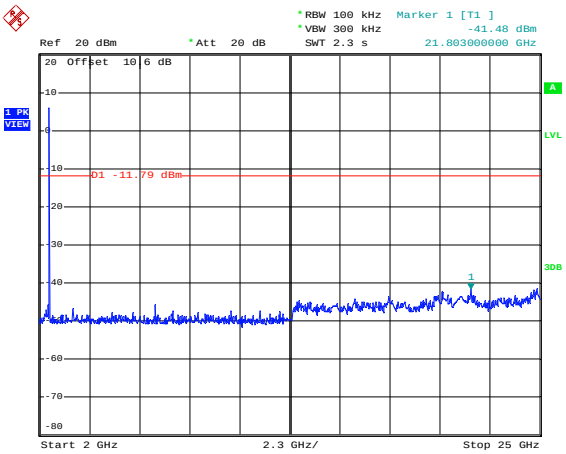
Spurious Emission 2GHz~25GHz



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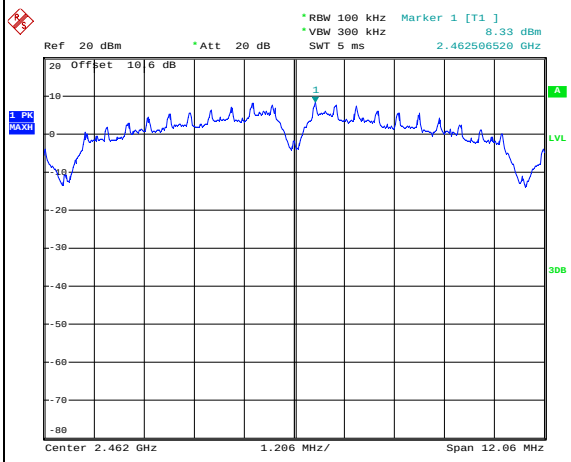
Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Jun Yang

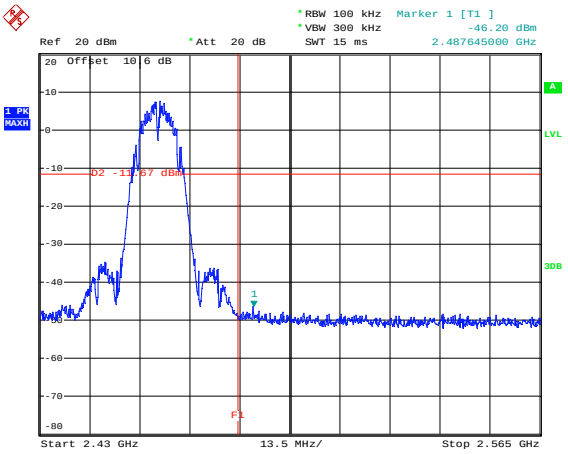
WLAN 802.11b Channel 11

100kHz PSD reference Level



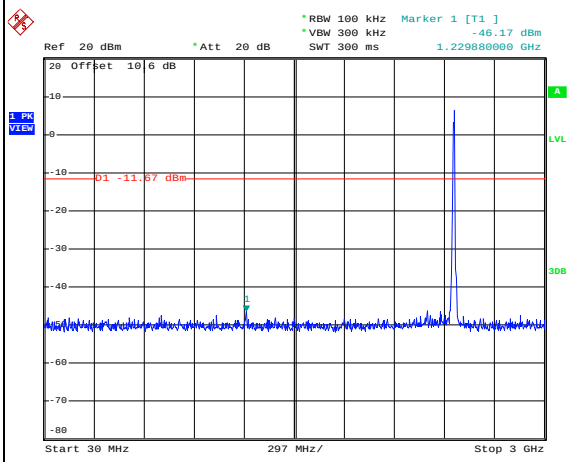
Date: 25.JUN.2013 16:19:58

High Channel Plot



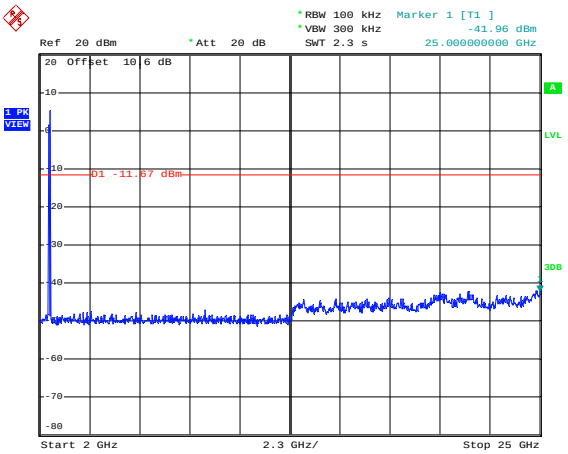
Date: 25.JUN.2013 16:20:38

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 16:21:09

Spurious Emission 2GHz~25GHz

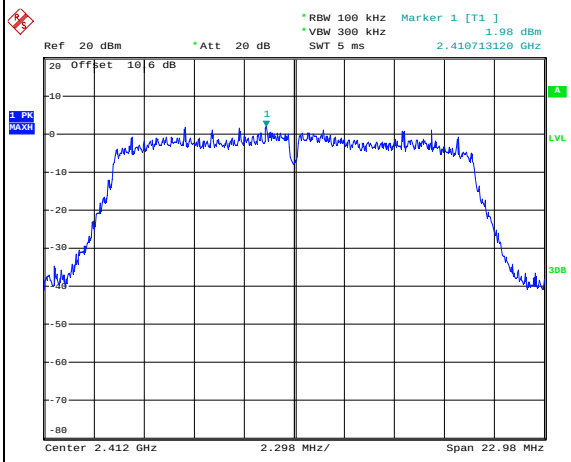


Date: 25.JUN.2013 16:21:27

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Jun Yang

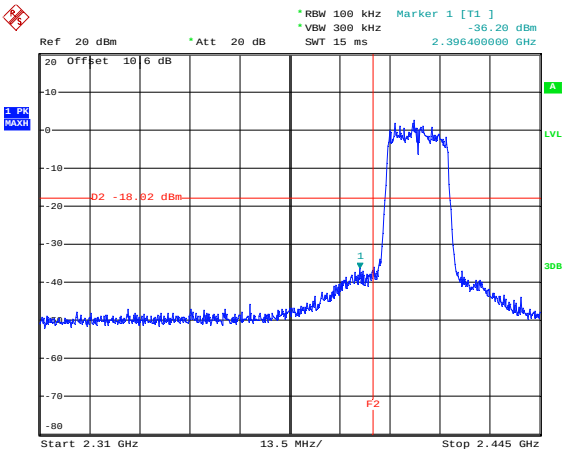
WLAN 802.11g Channel 01

100kHz PSD reference Level



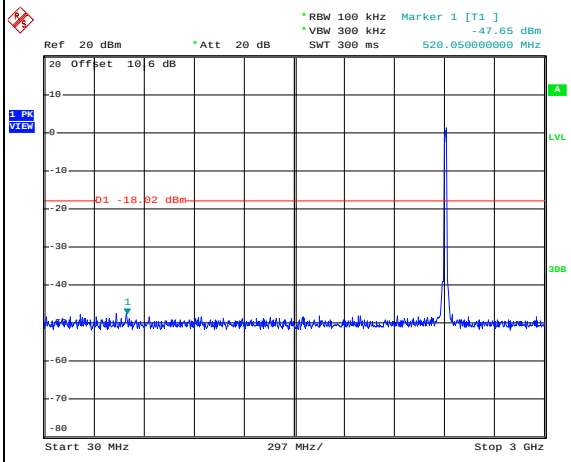
Date: 25.JUN.2013 16:27:17

Low Channel Plot



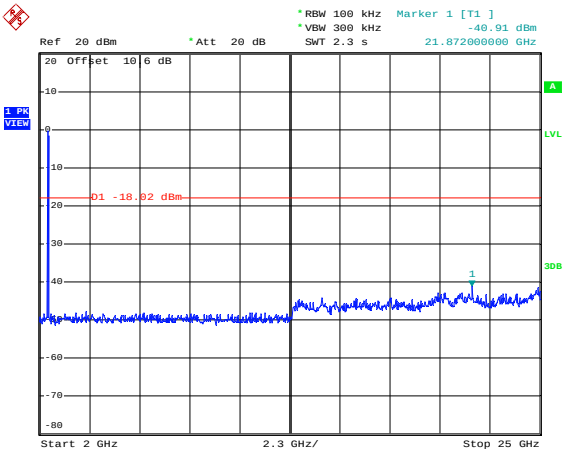
Date: 25.JUN.2013 16:27:35

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 16:27:55

Spurious Emission 2GHz~25GHz

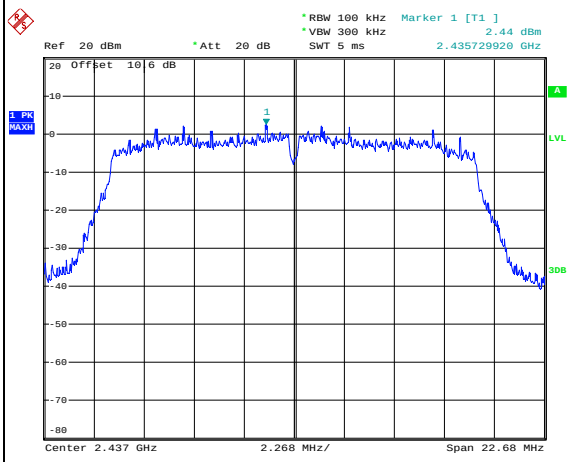


Date: 25.JUN.2013 16:28:14

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Jun Yang

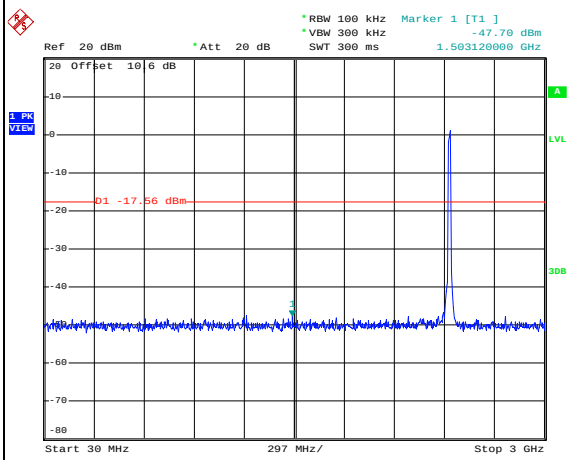
WLAN 802.11g Channel 06

100kHz PSD reference Level



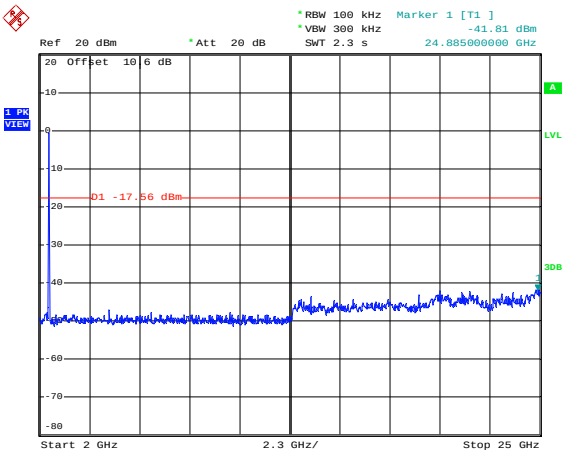
Date: 25.JUN.2013 16:31:36

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 16:32:15

Spurious Emission 2GHz~25GHz

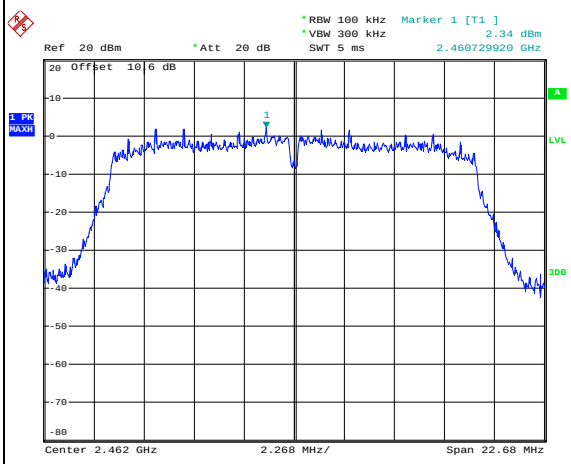


Date: 25.JUN.2013 16:32:34

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Jun Yang

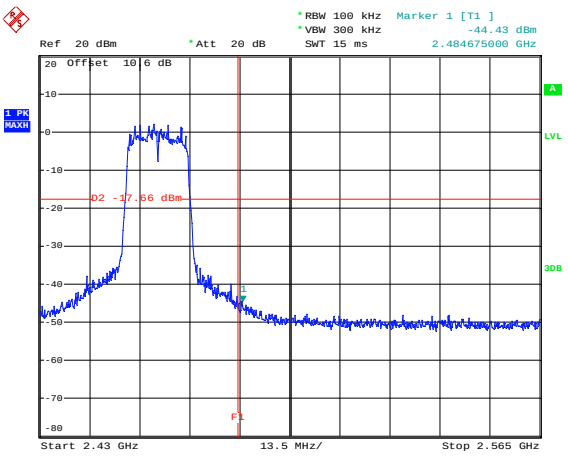
WLAN 802.11g Channel 11

100kHz PSD reference Level



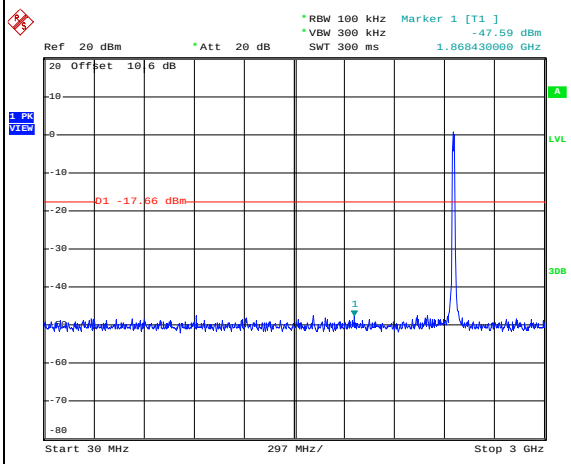
Date: 25.JUN.2013 16:37:26

High Channel Plot



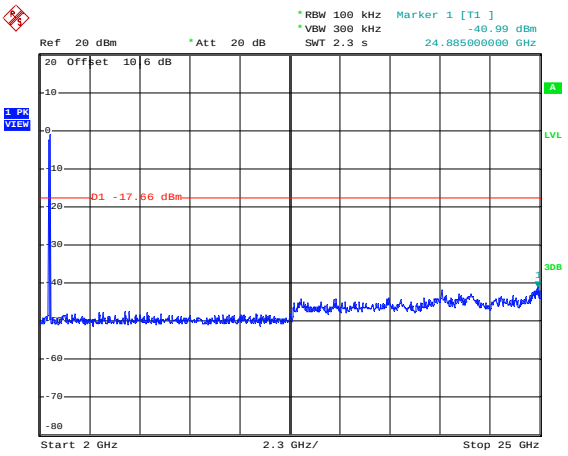
Date: 25.JUN.2013 16:37:42

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 16:38:05

Spurious Emission 2GHz~25GHz

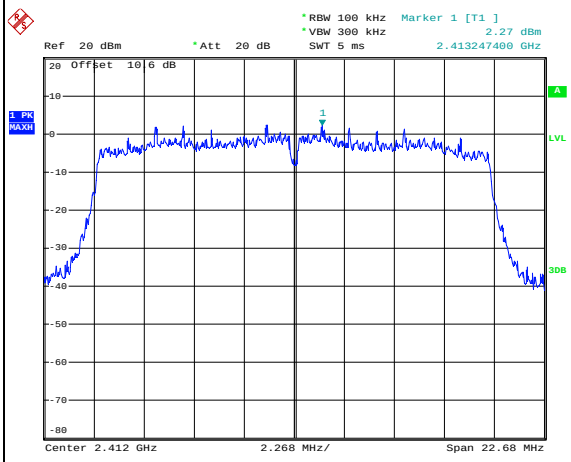


Date: 25.JUN.2013 16:38:24

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Jun Yang

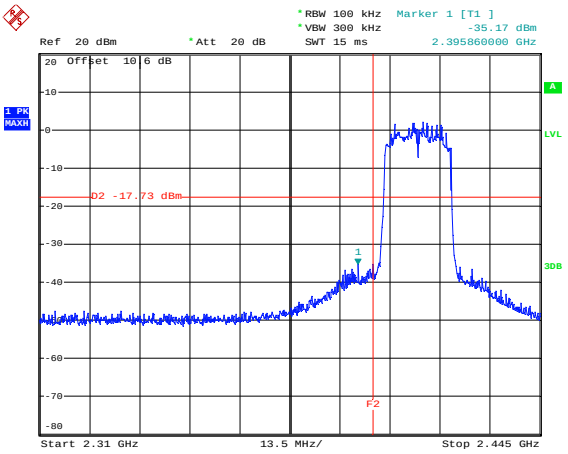
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



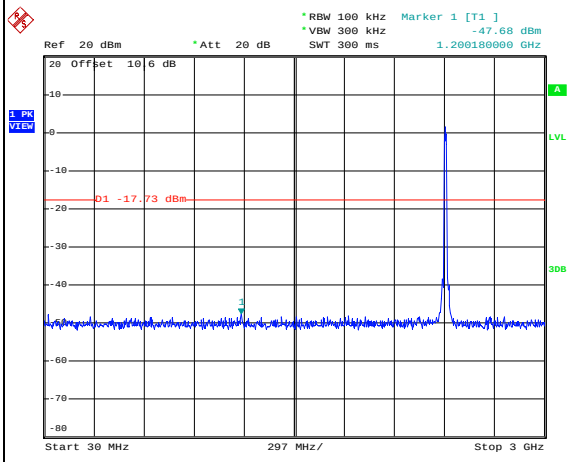
Date: 25.JUN.2013 14:59:48

Low Channel Plot



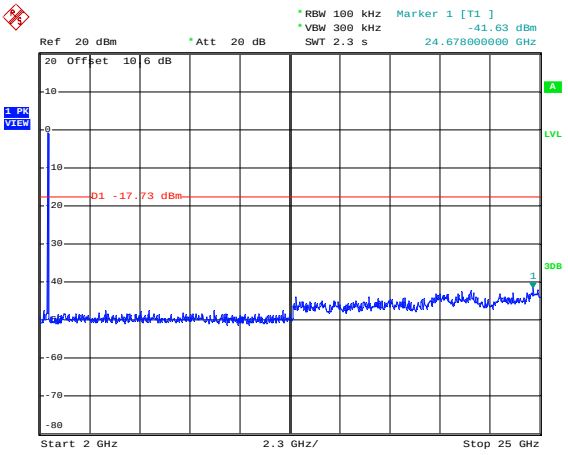
Date: 25.JUN.2013 15:00:22

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 15:40:17

Spurious Emission 2GHz~25GHz

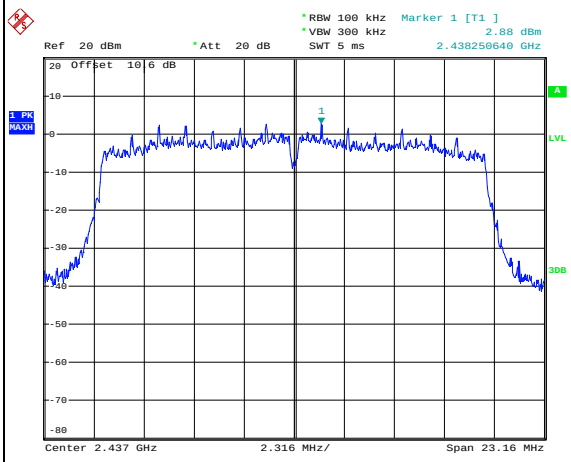


Date: 25.JUN.2013 15:40:35

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Jun Yang

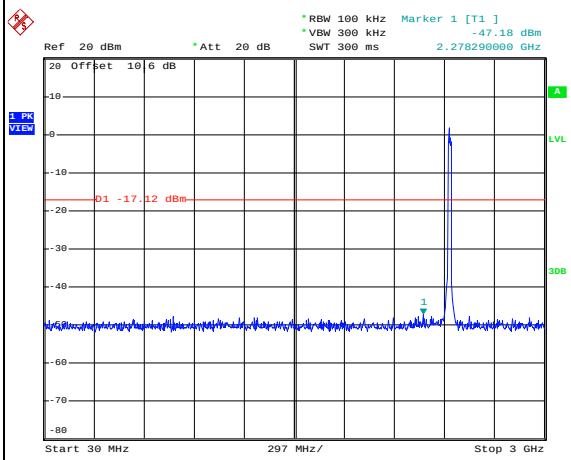
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



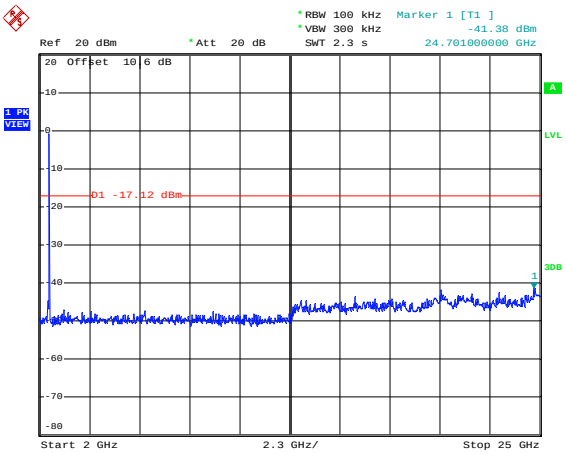
Date: 25.JUN.2013 15:06:30

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 15:41:28

Spurious Emission 2GHz~25GHz

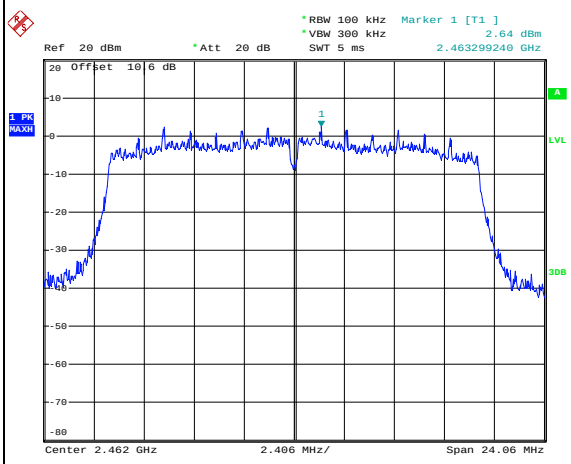


Date: 25.JUN.2013 15:41:46

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Jun Yang

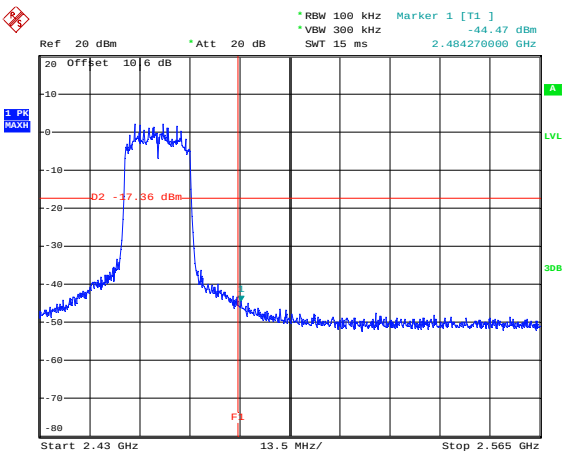
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



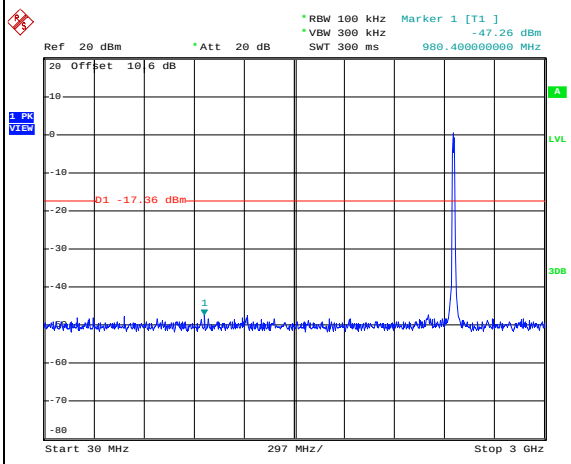
Date: 25.JUN.2013 15:20:26

High Channel Plot



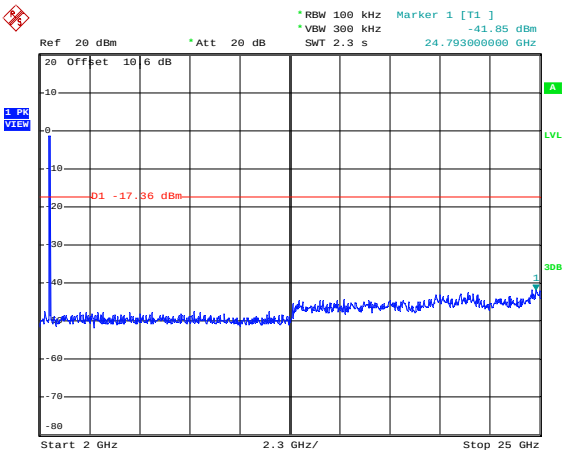
Date: 25.JUN.2013 15:20:44

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2013 15:42:35

Spurious Emission 2GHz~25GHz



Date: 25.JUN.2013 15:42:53

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 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

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

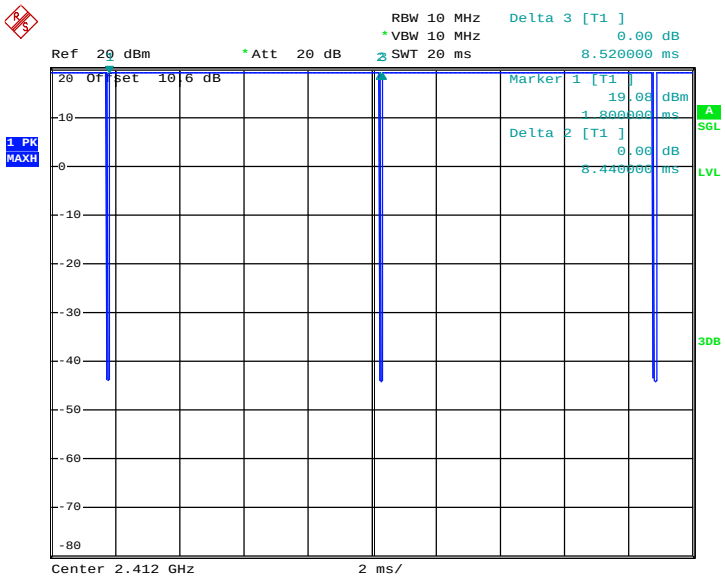
3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009.
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.

Band	Duty Cycle(%)	T(μs)	1/T(kHz)	VBW Setting
802.11b	99.06	-	-	10Hz
802.11g	99.04	-	-	10Hz
2.4GHz 802.11n HT20	98.21	-	-	10Hz

Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

802.11b Duty Cycle

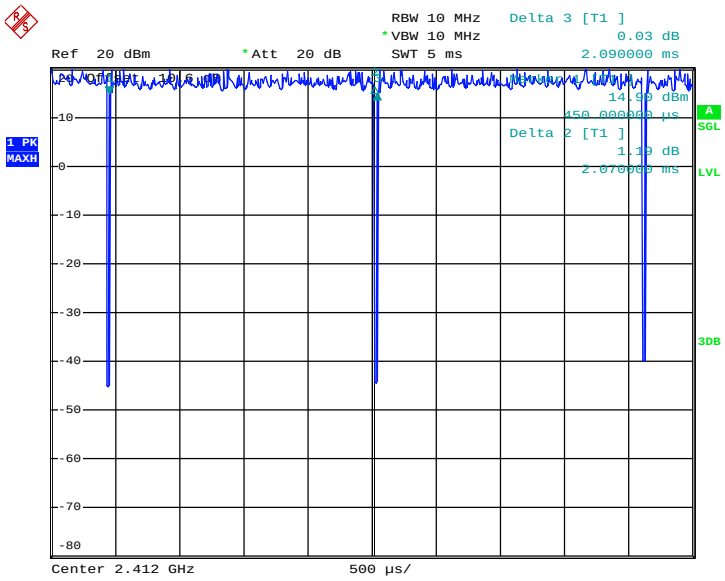


Date: 25.JUN.2013 13:20:23

Note:

The total loss is 10.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

802.11g Duty Cycle

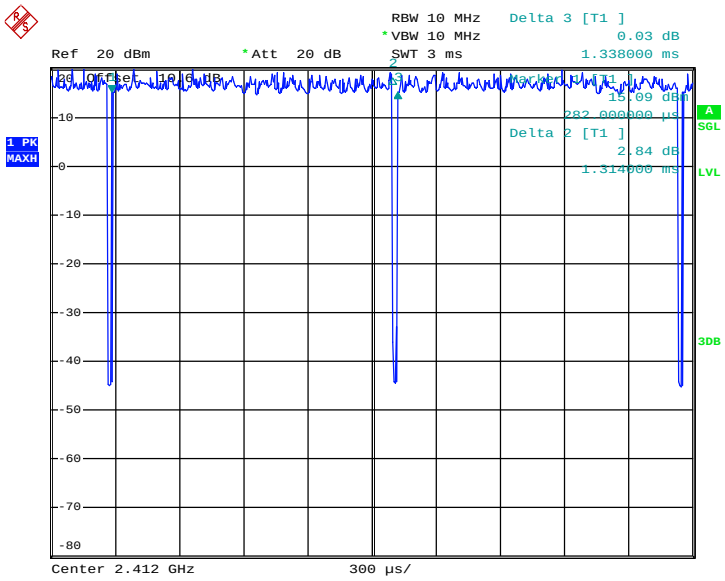


Date: 25.JUN.2013 13:31:09

Note:

The total loss is 10.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

2.4GHz 802.11n HT20 Duty Cycle



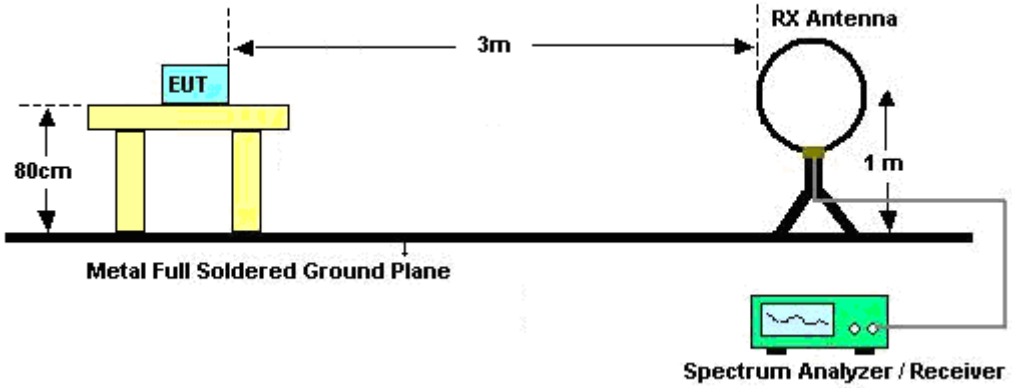
Date: 25.JUN.2013 13:45:12

Note:

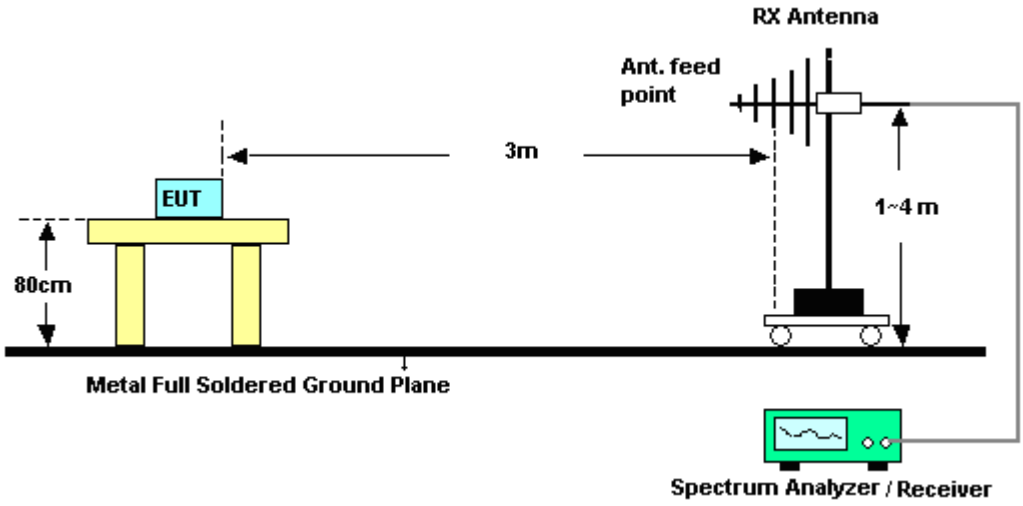
The total loss is 10.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

3.5.4 Test Setup

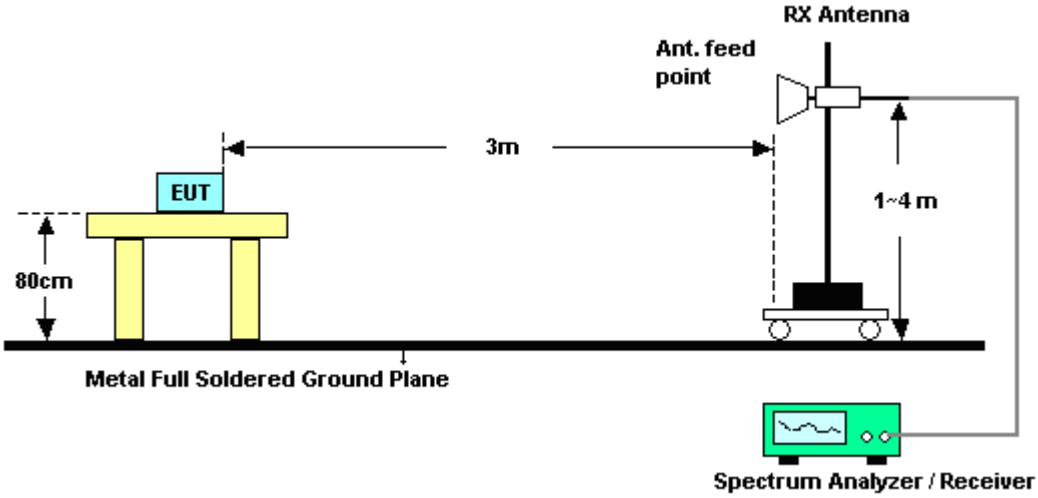
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 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.

3.5.6 Test Result of Radiated Band Edges

<6Cell>

Test Mode :	802.11b	**Temperature :**	21~23°C
Test Band :	Low	**Relative Humidity :**	51~53%
Test Channel :	01	**Test Engineer :**	Eric Shih

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
2386.14	64.33	-9.67	74	59.39	32.3	6.91	34.27	100	161	Peak
2386.68	52.49	-1.51	54	47.55	32.3	6.91	34.27	100	161	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
2368.77	60.89	-13.11	74	56	32.28	6.88	34.27	132	232	Peak
2386.32	48.45	-5.55	54	43.51	32.3	6.91	34.27	132	232	Average

Test Mode :	802.11b	**Temperature :**	21~23°C
Test Band :	High	**Relative Humidity :**	51~53%
Test Channel :	11	**Test Engineer :**	Eric Shih

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
2487.31	60.45	-13.55	74	55.44	32.38	7.06	34.43	117	163	Peak
2483.53	48.2	-5.8	54	43.19	32.38	7.06	34.43	117	163	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
2485.99	60.2	-13.8	74	55.19	32.38	7.06	34.43	154	234	Peak
2487.34	46.92	-7.08	54	41.91	32.38	7.06	34.43	154	234	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	Eric Shih

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
2389.47	72.26	-1.74	74	67.32	32.3	6.91	34.27	100	161	Peak
2390	53.52	-0.48	54	48.61	32.3	6.91	34.3	100	161	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
2388.48	69.56	-4.44	74	64.62	32.3	6.91	34.27	133	210	Peak
2389.92	52.38	-1.62	54	47.47	32.3	6.91	34.3	133	210	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	Eric Shih

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
2483.86	71.87	-2.13	74	66.86	32.38	7.06	34.43	118	169	Peak
2483.5	53.19	-0.81	54	48.18	32.38	7.06	34.43	118	169	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
2483.92	69.02	-4.98	74	64.01	32.38	7.06	34.43	154	230	Peak
2483.5	50.18	-3.82	54	45.17	32.38	7.06	34.43	154	230	Average

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	Eric Shih

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
2389.83	73.17	-0.83	74	68.26	32.3	6.91	34.3	100	164	Peak
2390	53.82	-0.18	54	48.91	32.3	6.91	34.3	100	164	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
2389.65	73.84	-0.16	74	68.9	32.3	6.91	34.27	133	216	Peak
2390	52.8	-1.2	54	47.89	32.3	6.91	34.3	133	216	Average

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	Eric Shih

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
2484.37	72.71	-1.29	74	67.7	32.38	7.06	34.43	118	165	Peak
2483.5	53.71	-0.29	54	48.7	32.38	7.06	34.43	118	165	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	71.05	-2.95	74	66.04	32.38	7.06	34.43	154	226	Peak
2483.5	50.7	-3.3	54	45.69	32.38	7.06	34.43	154	226	Average

<3Cell>

Test Mode :	802.11n HT20	**Temperature :**	21~23°C
Test Band :	High	**Relative Humidity :**	51~53%
Test Channel :	01	**Test Engineer :**	Eric Shih

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
2388.3	73.83	-0.17	74	68.89	32.3	6.91	34.27	100	174	Peak
2390	53.89	-0.11	54	48.98	32.3	6.91	34.3	100	174	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
2389.47	70.78	-3.22	74	65.84	32.3	6.91	34.27	132	206	Peak
2390	48.91	-5.09	54	44	32.3	6.91	34.3	132	206	Average

<3Cell with AC Cable>

Test Mode :	802.11n HT20	**Temperature :**	21~23°C
Test Band :	High	**Relative Humidity :**	51~53%
Test Channel :	01	**Test Engineer :**	Eric Shih

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
2388.66	73.91	-0.09	74	68.97	32.3	6.91	34.27	100	347	Peak
2390.01	53.31	-0.69	54	48.4	32.3	6.91	34.3	100	347	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
2389.02	69.32	-4.68	74	64.38	32.3	6.91	34.27	104	139	Peak
2390.01	47.6	-6.4	54	42.69	32.3	6.91	34.3	104	139	Average

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

Note: Below 1GHz for radiated emission measurement, pre-scanned all test modes and only choose the worst case mode was recorded in the report.

<6Cell>

Test Mode :	802.11b	**Temperature :**	21~23°C
Test Channel :	01	**Relative Humidity :**	51~53%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 115.25 dBμV/m - 20dB = 95.25 dBμV/m.		

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	115.25	-	-	110.29	32.31	6.95	34.3	100	161	Peak
2412	110.1	-	-	105.14	32.31	6.95	34.3	100	161	Average
4824	51.53	-22.47	74	67.72	33.97	8.77	58.93	101	141	Peak
4824	49.86	-4.14	54	66.05	33.97	8.77	58.93	101	141	Average
7236	45.51	-49.74	95.25	56.79	35.55	10.83	57.66	100	0	Peak

Test Mode :	802.11b	**Temperature :**	21~23°C
Test Channel :	01	**Relative Humidity :**	51~53%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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	113.07	-	-	108.11	32.31	6.95	34.3	132	232	Peak
2412	108.06	-	-	103.1	32.31	6.95	34.3	132	232	Average
4824	46.7	-27.3	74	62.89	33.97	8.77	58.93	100	0	Peak
7236	44.1	-48.97	93.07	55.38	35.55	10.83	57.66	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	114.07	-	-	109.1	32.33	6.99	34.35	148	164	Peak
2436	109.07	-	-	104.1	32.33	6.99	34.35	148	164	Average
4875	50.96	-23.04	74	67.02	33.95	8.82	58.83	100	0	Peak
7311	44.24	-29.76	74	55.52	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	112.89	-	-	107.9	32.35	6.99	34.35	130	231	Peak
2438	107.77	-	-	102.78	32.35	6.99	34.35	130	231	Average
4875	46.1	-27.9	74	62.16	33.95	8.82	58.83	100	0	Peak
7311	43.95	-30.05	74	55.23	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	114.22	-	-	109.22	32.37	7.02	34.39	117	163	Peak
2464	109.37	-	-	104.37	32.37	7.02	34.39	117	163	Average
4923	47.16	-26.84	74	63.09	33.93	8.87	58.73	100	0	Peak
7386	42.73	-31.27	74	54.02	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	112.32	-	-	107.32	32.37	7.02	34.39	154	234	Peak
2464	107.12	-	-	102.12	32.37	7.02	34.39	154	234	Average
4923	43.7	-30.3	74	59.63	33.93	8.87	58.73	100	0	Peak
7386	42.01	-31.99	74	53.3	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7227MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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	113.79	-	-	108.83	32.31	6.95	34.3	100	161	Peak
2412	103.01	-	-	98.05	32.31	6.95	34.3	100	161	Average
4830	45.74	-28.26	74	61.9	33.97	8.8	58.93	100	0	Peak
7227	43.14	-50.65	93.79	54.42	35.56	10.81	57.65	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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	112.31	-	-	107.35	32.31	6.95	34.3	133	210	Peak
2414	101.4	-	-	96.44	32.31	6.95	34.3	133	210	Average
4821	42.81	-31.19	74	59	33.97	8.77	58.93	100	0	Peak
7236	42.79	-49.52	92.31	54.07	35.55	10.83	57.66	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	113.56	-	-	108.59	32.33	6.99	34.35	148	159	Peak
2436	102.37	-	-	97.4	32.33	6.99	34.35	148	159	Average
4872	44.36	-29.64	74	60.42	33.95	8.82	58.83	100	0	Peak
7311	41.91	-32.09	74	53.19	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	112.16	-	-	107.17	32.35	6.99	34.35	130	231	Peak
2438	101.15	-	-	96.16	32.35	6.99	34.35	130	231	Average
4875	40.58	-33.42	74	56.64	33.95	8.82	58.83	100	0	Peak
7311	42.07	-31.93	74	53.35	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	113.63	-	-	108.63	32.37	7.02	34.39	118	169	Peak
2464	102.67	-	-	97.67	32.37	7.02	34.39	118	169	Average
4923	40.44	-33.56	74	56.37	33.93	8.87	58.73	100	0	Peak
7386	41.82	-32.18	74	53.11	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	111.65	-	-	106.65	32.37	7.02	34.39	154	230	Peak
2464	100.73	-	-	95.73	32.37	7.02	34.39	154	230	Average
4923	40.19	-33.81	74	56.12	33.93	8.87	58.73	100	0	Peak
7386	42.6	-31.4	74	53.89	35.52	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7242MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
33.78	29.97	-10.03	40	43.62	17.12	0.57	31.34	165	63	Peak
42.96	28.86	-11.14	40	47.72	11.7	0.64	31.2	-	-	Peak
137.19	31.12	-12.38	43.5	49.59	11.44	1.19	31.1	-	-	Peak
369.3	15.44	-30.56	46	29.23	15.19	2.08	31.06	-	-	Peak
610.8	21.11	-24.89	46	29.08	19.89	2.72	30.58	-	-	Peak
799.8	24.37	-21.63	46	29.43	22.1	3.14	30.3	-	-	Peak
2412	113.53	-	-	108.57	32.31	6.95	34.3	100	164	Peak
2412	102.69	-	-	97.73	32.31	6.95	34.3	100	164	Average
4833	47.35	-26.65	74	63.51	33.97	8.8	58.93	100	0	Peak
7242	44.3	-49.23	93.53	55.58	35.55	10.83	57.66	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
33.24	36.68	-3.32	40	49.66	17.84	0.56	31.38	130	42	Peak
42.42	34.52	-5.48	40	53.38	11.7	0.64	31.2	-	-	Peak
98.58	32.2	-11.3	43.5	52.63	9.68	0.99	31.1	-	-	Peak
414.8	18.9	-27.1	46	31.21	16.32	2.19	30.82	-	-	Peak
633.2	22.01	-23.99	46	29.69	20.06	2.79	30.53	-	-	Peak
776	23.72	-22.28	46	29.23	21.74	3.1	30.35	-	-	Peak
2410	112.03	-	-	107.07	32.31	6.95	34.3	133	216	Peak
2410	100.75	-	-	95.79	32.31	6.95	34.3	133	216	Average
4830	43.92	-30.08	74	60.08	33.97	8.8	58.93	100	0	Peak
7236	42.74	-49.29	92.03	54.02	35.55	10.83	57.66	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	113.37	-	-	108.4	32.33	6.99	34.35	119	168	Peak
2436	101.66	-	-	96.69	32.33	6.99	34.35	119	168	Average
4869	45.37	-28.63	74	61.43	33.95	8.82	58.83	100	0	Peak
7311	41.92	-32.08	74	53.2	35.54	10.91	57.73	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	112.49	-	-	107.5	32.35	6.99	34.35	130	228	Peak
2438	100.9	-	-	95.91	32.35	6.99	34.35	130	228	Average
4875	40.92	-33.08	74	56.98	33.95	8.82	58.83	100	0	Peak
7311	42.05	-31.95	74	53.33	35.54	10.91	57.73	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	112.78	-	-	107.78	32.37	7.02	34.39	118	165	Peak
2462	102.31	-	-	97.31	32.37	7.02	34.39	118	165	Average
4911	43.65	-30.35	74	59.61	33.93	8.87	58.76	100	0	Peak
7386	41.99	-32.01	74	53.28	35.52	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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	110.89	-	-	105.89	32.37	7.02	34.39	154	226	Peak
2464	99.93	-	-	94.93	32.37	7.02	34.39	154	226	Average
4923	41.26	-32.74	74	57.19	33.93	8.87	58.73	100	0	Peak
7386	42.21	-31.79	74	53.5	35.52	10.99	57.8	100	0	Peak

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Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	21~23°C
Test Channel :	01	**Relative Humidity :**	51~53%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
46.2	36.15	-3.85	40	56.98	9.7	0.67	31.2	106	35	Peak
56.46	27.18	-12.82	40	50.76	6.9	0.74	31.22	-	-	Peak
153.66	21.21	-22.29	43.5	40.15	10.99	1.21	31.14	-	-	Peak
375.6	16.3	-29.7	46	29.89	15.34	2.09	31.02	-	-	Peak
565.3	20.44	-25.56	46	29.38	19.21	2.59	30.74	-	-	Peak
767.6	23.4	-22.6	46	29.07	21.6	3.09	30.36	-	-	Peak
2412	114.89	-	-	109.93	32.31	6.95	34.3	100	174	Peak
2412	103.11	-	-	98.15	32.31	6.95	34.3	100	174	Average
4824	43.17	-30.83	74	59.36	33.97	8.77	58.93	100	0	Peak
7236	43.43	-51.46	94.89	54.71	35.55	10.83	57.66	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
35.67	36.4	-3.6	40	51.27	15.82	0.59	31.28	111	68	Peak
58.35	35.92	-4.08	40	59.93	6.5	0.75	31.26	-	-	Peak
93.72	33.93	-9.57	43.5	54.98	9.08	0.97	31.1	-	-	Peak
396.6	16.49	-29.51	46	29.36	15.92	2.13	30.92	-	-	Peak
598.2	21.16	-24.84	46	29.32	19.77	2.68	30.61	-	-	Peak
822.9	23.79	-22.21	46	28.62	22.32	3.2	30.35	-	-	Peak
2412	108.92	-	-	103.96	32.31	6.95	34.3	132	206	Peak
2412	97.82	-	-	92.86	32.31	6.95	34.3	132	206	Average
4824	40.16	-33.84	74	56.35	33.97	8.77	58.93	100	0	Peak
7236	41.95	-46.97	88.92	53.23	35.55	10.83	57.66	100	0	Peak

<3Cell with AC Cable>

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	21~23°C
Test Channel :	01	**Relative Humidity :**	51~53%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
50.52	33.66	-6.34	40	56.06	8.1	0.7	31.2	-	-	Peak
118.29	37.8	-5.7	43.5	56.3	11.52	1.09	31.11	128	64	Peak
194.7	23.71	-19.79	43.5	44.46	9.05	1.3	31.1	-	-	Peak
405	15.77	-30.23	46	28.37	16.12	2.16	30.88	-	-	Peak
543.6	19.24	-26.76	46	28.65	18.83	2.54	30.78	-	-	Peak
742.4	22.33	-23.67	46	28.46	21.23	3.04	30.4	-	-	Peak
2410	112.45	-	-	107.49	32.31	6.95	34.3	100	347	Peak
2410	101.28	-	-	96.32	32.31	6.95	34.3	100	347	Average
4824	43.49	-30.51	74	59.68	33.97	8.77	58.93	100	0	Peak
7236	42.71	-49.74	92.45	53.99	35.55	10.83	57.66	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2408 MHz is fundamental signal which can be ignored. 2. 7236MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
47.82	26.47	-13.53	40	47.7	9.3	0.67	31.2	-	-	Peak
118.83	36.47	-7.03	43.5	54.87	11.61	1.1	31.11	174	24	Peak
194.97	23.42	-20.08	43.5	44.17	9.05	1.3	31.1	-	-	Peak
408.5	16.42	-29.58	46	28.93	16.18	2.17	30.86	-	-	Peak
572.3	20.75	-25.25	46	29.53	19.32	2.61	30.71	-	-	Peak
902	25.1	-20.9	46	28.93	23.13	3.34	30.3	-	-	Peak
2408	104.44	-	-	99.48	32.31	6.95	34.3	104	139	Peak
2408	93.29	-	-	88.33	32.31	6.95	34.3	104	139	Average
4824	40.55	-33.45	74	56.74	33.97	8.77	58.93	100	0	Peak
7236	42.55	-41.89	84.44	53.83	35.55	10.83	57.66	100	0	Peak

3.6 AC Conducted Emission Measurement

3.6.1 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.

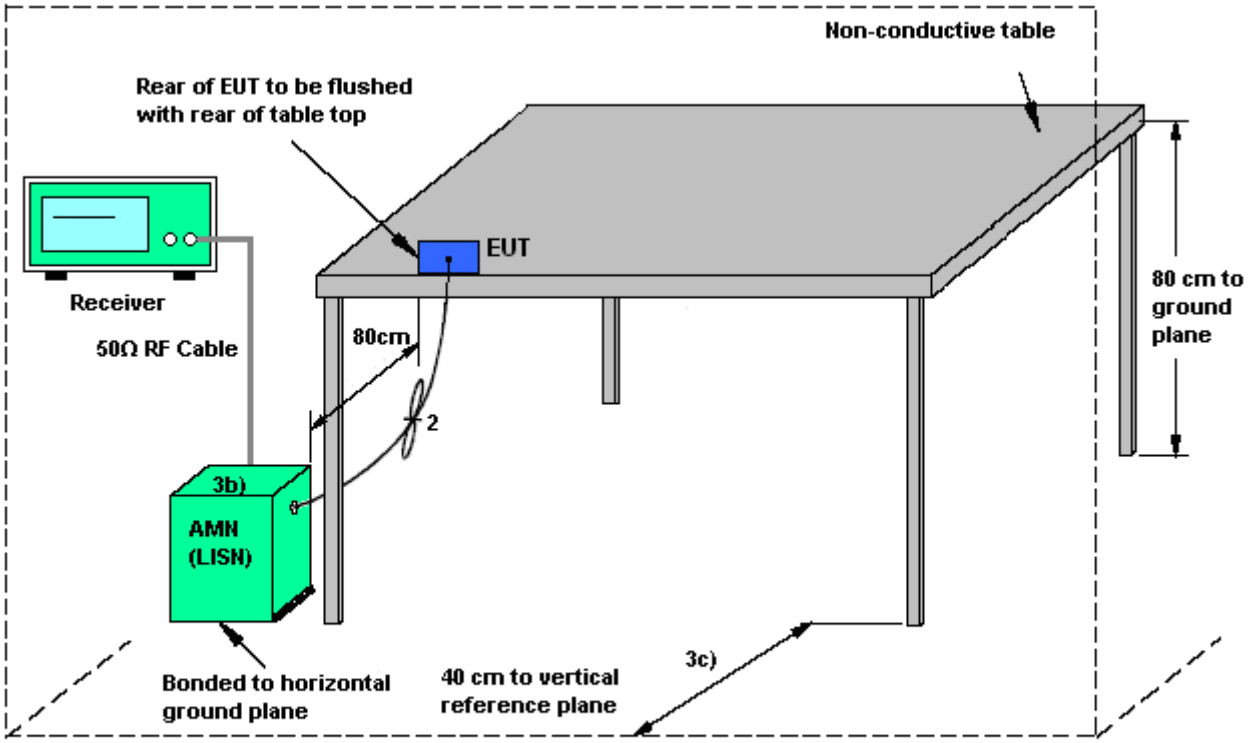
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009.
2. 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.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup

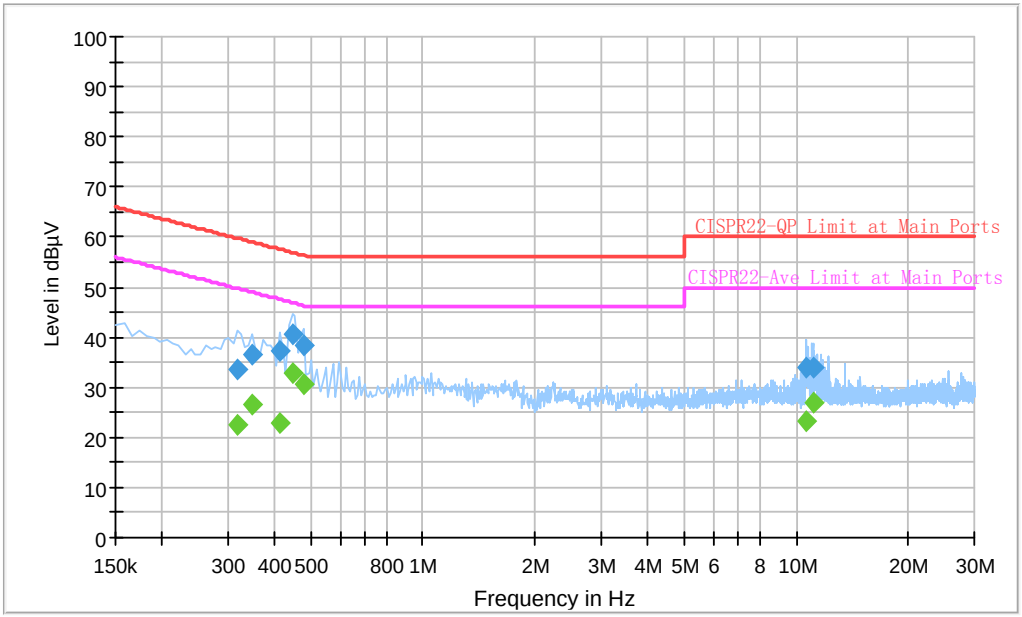


AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link		

ENV216 Auto Test



Final Result : Quasi-Peak

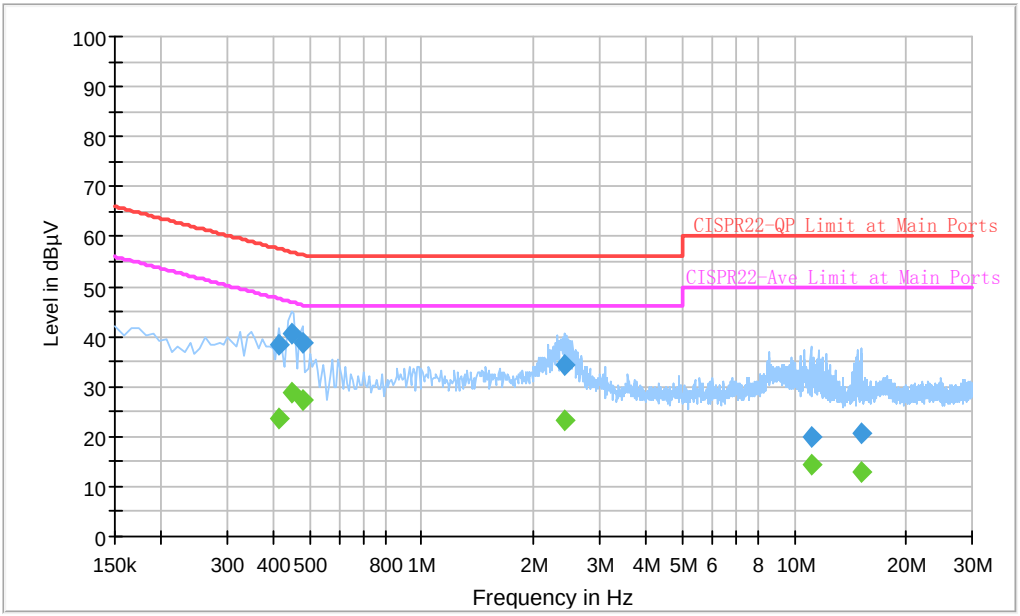
Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.318000	33.6	Off	L1	19.4	26.2	59.8
0.350000	36.5	Off	L1	19.4	22.5	59.0
0.414000	37.2	Off	L1	19.4	20.4	57.6
0.446000	40.4	Off	L1	19.3	16.5	56.9
0.478000	38.3	Off	L1	19.4	18.1	56.4
10.686000	33.9	Off	L1	19.7	26.1	60.0
11.070000	34.0	Off	L1	19.7	26.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.318000	22.7	Off	L1	19.4	27.1	49.8
0.350000	26.6	Off	L1	19.4	22.4	49.0
0.414000	22.8	Off	L1	19.4	24.8	47.6
0.446000	32.8	Off	L1	19.3	14.1	46.9
0.478000	30.5	Off	L1	19.4	15.9	46.4
10.686000	23.2	Off	L1	19.7	26.8	50.0
11.070000	27.0	Off	L1	19.7	23.0	50.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link		

ENV216 Auto Test



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.414000	38.3	Off	N	19.4	19.3	57.6
0.446000	40.7	Off	N	19.3	16.2	56.9
0.478000	38.8	Off	N	19.4	17.6	56.4
2.414000	34.3	Off	N	19.7	21.7	56.0
11.070000	19.9	Off	N	19.7	40.1	60.0
15.078000	20.6	Off	N	19.9	39.4	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.414000	23.5	Off	N	19.4	24.1	47.6
0.446000	28.9	Off	N	19.3	18.0	46.9
0.478000	27.5	Off	N	19.4	18.9	46.4
2.414000	23.2	Off	N	19.7	22.8	46.0
11.070000	14.4	Off	N	19.7	35.6	50.0
15.078000	13.0	Off	N	19.9	37.0	50.0

3.7 Antenna Requirements

3.7.1 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.

3.7.2 Antenna Connected Construction

Non-standard connector used.

3.7.3 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	Jun. 25, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Jun. 25, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Jun. 25, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz~1GHz	Oct. 06, 2012	Jun. 10, 2013~ Jul. 03, 2013	Oct. 05, 2013	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz~0GHz	Nov. 30, 2012	Jun. 10, 2013~ Jul. 03, 2013	Nov. 29, 2013	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz~18GHz	Aug. 22, 2012	Jun. 10, 2013~ Jul. 03, 2013	Aug. 21, 2013	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Dec. 01, 2012	Jun. 10, 2013~ Jul. 03, 2013	Nov. 30, 2013	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159088	1GHz~18GHz	Feb. 27, 2013	Jun. 10, 2013~ Jul. 03, 2013	Feb. 26, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10~1000MHz. 32dB.GAIN	Feb. 26, 2013	Jun. 10, 2013~ Jul. 03, 2013	Feb. 25, 2014	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Jun. 10, 2013~ Jul. 03, 2013-	Sep. 02, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz~40GHz	Sep. 28, 2012	Jun. 10, 2013~ Jul. 03, 2013	Sep. 27, 2013	Radiation (03CH07-HY)
Turn Table	chaintek	T-200-S	420/650/00	0~360 degree	N/A	Jun. 10, 2013~ Jul. 03, 2013	N/A	Radiation (03CH07-HY)
Antenna Mast	chaintek	M-400-0	114/800060 4/L	1 m~4 m	N/A	Jun. 10, 2013~ Jul. 03, 2013	N/A	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9kHz~30MHz	Jul. 03, 2012	Jun. 10, 2013~ Jul. 01, 2013	Jul. 02, 2013	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9kHz~30MHz	Jul. 01, 2013	Jul. 02, 2013~ Jul. 03, 2013	Jun. 30, 2014	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz~75GHz	Nov. 13, 2012	Jul. 04, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 12, 2012	Jul. 04, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 06, 2012	Jul. 04, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Jul. 04, 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 (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**