



FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : CDMA/LTE Multi-mode Digital Mobile Phone
BRAND NAME : ZTE
MODEL NAME : ZTE N9510
FCC ID : Q78-ZTEN9510
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Feb. 04, 2013 and completely tested on Apr. 24, 2013. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	-
		Radiated Spurious Emission		Pass	Under limit 4.95 dB at 2483.500 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.84 dB at 0.540 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	CDMA/LTE Multi-mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE N9510
FCC ID	Q78-ZTEN9510
EUT supports Radios application	CDMA/EV-DO/LTE/WLAN 11abgn/Bluetooth EDR/Bluetooth v4.0-LE/ NFC
HW Version	czfA
SW Version	N9510V1.0.0B02
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

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5805MHz.
Maximum Output Power to Antenna	<2412 MHz ~ 2462 MHz> 802.11b : 17.46 dBm (0.0557 W) 802.11g : 20.96 dBm (0.1247 W) 802.11n HT20 : 20.46 dBm (0.1112 W) <5745 MHz ~ 5805 MHz> 802.11a : 22.23 dBm (0.1671 W) 802.11n HT20 : 21.56 dBm (0.1432 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain 3 dBi 802.11a/n : PIFA Antenna type with gain 3 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH01-KS	CO01-KS	03CH01-KS	149928/4086E-1

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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z 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 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	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	159	5795
	151	5755	161	5805
	157	5785	-	-

2.2 Pre-Scanned RF Power

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

Channel	Frequency	802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	16.12	16.14	16.13	16.18
CH 06	2437 MHz	17.27	17.24	17.27	17.38
CH 11	2462 MHz	17.32	17.36	17.42	17.46

Channel	Frequency	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	2412 MHz	19.86	20.12	19.96	20.08	20.12	20.21	20.24	20.35
CH 06	2437 MHz	20.42	20.53	20.48	20.56	20.62	20.68	20.72	20.76
CH 11	2462 MHz	20.58	20.62	20.68	20.75	20.81	20.86	20.92	20.96

Channel	Frequency	WLAN 2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 01	2412 MHz	18.65	18.69	18.72	18.83	19.05	19.12	19.21	19.32
CH 06	2437 MHz	19.42	19.53	19.64	19.71	19.86	20.13	20.18	20.34
CH 11	2462 MHz	19.36	19.42	19.53	19.64	20.15	20.21	20.34	20.46



Channel	Frequency	802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 149	5745	21.72	21.63	21.42	21.31	21.29	21.27	21.16	21.09
CH 157	5785	22.23	22.12	21.95	21.75	21.58	21.43	21.28	21.25
CH 161	5805	22.08	21.93	21.84	21.75	21.64	21.57	21.42	21.13

Channel	Frequency	WLAN 5.8GHz 802.11n HT-20 RF Power (dBm)							
		OFDM Data Rate							
		6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 149	5745	21.56	21.45	21.34	21.21	21.12	20.96	20.67	20.43
CH 157	5785	21.41	21.36	21.21	20.97	20.42	20.37	20.16	20.07
CH 161	5805	21.35	21.24	21.12	20.93	20.62	20.54	20.32	20.16

2.3 Test Mode

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	6dB BW Power Spectral Density	802.11b	11 Mbps	1/6/11
		802.11g	54 Mbps	1/6/11
		802.11n HT20	65 Mbps	1/6/11
	Output Power	802.11b	11 Mbps	1/6/11
		802.11g	54 Mbps	1/6/11
		802.11n HT20	65 Mbps	1/6/11
	Conducted Band Edge	802.11b	11 Mbps	1/11
		802.11g	54 Mbps	1/11
		802.11n HT20	65 Mbps	1/11
	Conducted Spurious Emission	802.11b	11 Mbps	1/6/11
		802.11g	54 Mbps	1/6/11
		802.11n HT20	65 Mbps	1/6/11
Radiated TCs	Radiated Band Edge	802.11b	11 Mbps	1/11
		802.11g	54 Mbps	1/11
		802.11n HT20	65 Mbps	1/11
	Radiated Spurious Emission	802.11b	11 Mbps	1/6/11
		802.11g	54 Mbps	1/6/11
		802.11n HT20	65 Mbps	1/6/11



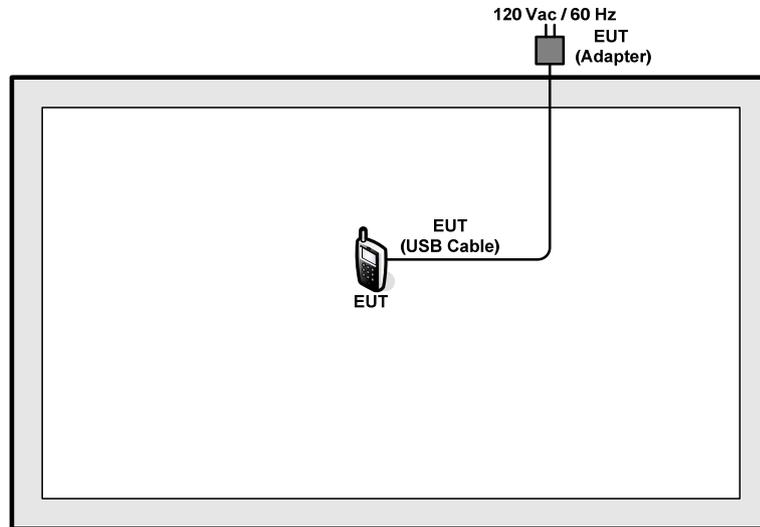
<5.8GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB BW Power Spectral Density	802.11a	6 Mbps	149/157/161
		802.11n HT20	6.5 Mbps	149/157/161
	Output Power	802.11a	6 Mbps	149/157/161
		802.11n HT20	6.5 Mbps	149/157/161
	Conducted Band Edge	802.11a	6 Mbps	149/161
		802.11n HT20	6.5 Mbps	149/161
Conducted Spurious Emission	802.11a	6 Mbps	149/157/161	
	802.11n HT20	6.5 Mbps	149/157/161	
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	149/161
		802.11n HT20	6.5 Mbps	149/161
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/161
		802.11n HT20	6.5 Mbps	149/157/161

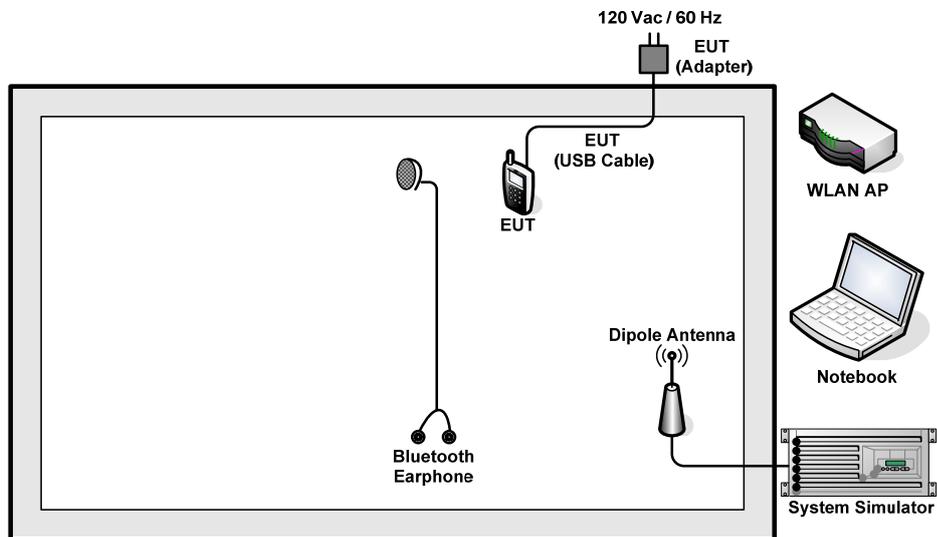
Test Cases	
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN 2.4GHz Link + USB Cable (Charging from Adapter) + NFC Tx Mode 2 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN 5GHz Link + USB Cable (Charging from Adapter) + NFC Tx
Remark: The worst case of conducted emission is mode 2; only the test data of it was reported.	

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<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.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	P08S	QDS-BRCM1030	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
5.	Bluetooth Earphone	Nokia	BH-106	QTLBH-106	N/A	N/A

2.6 Description of RF Function Operation Test Setup

The programmed RF utility “FCC Test”, is installed in EUT 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.



2.7 Measurement Results Explanation Example

For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and 10dB attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and 10dB attenuator factor.

Offset = RF cable loss + attenuator factor.

Following table shows an offset computation example with cable loss 5.6 dB.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 5.6 + 10 = 15.6 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

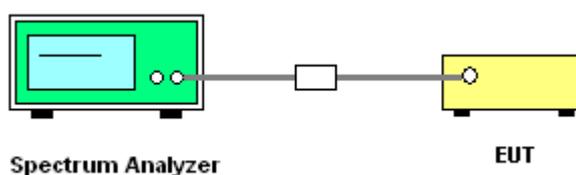
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 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) = 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. Measure and record the results in the test report.

3.1.4 Test Setup





3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	8.64	0.5	Pass
06	2437	7.64	0.5	Pass
11	2462	8.36	0.5	Pass

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.44	0.5	Pass
06	2437	16.48	0.5	Pass
11	2462	16.48	0.5	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.68	0.5	Pass
06	2437	17.68	0.5	Pass
11	2462	17.68	0.5	Pass



Test Mode :	802.11a	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.36	0.5	Pass
157	5785	16.36	0.5	Pass
161	5805	16.40	0.5	Pass

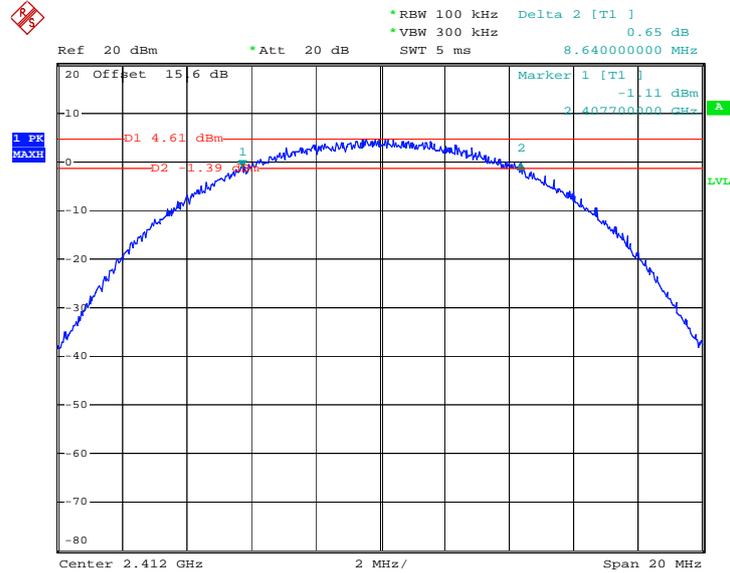
Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	5.8GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.56	0.5	Pass
157	5785	17.56	0.5	Pass
161	5805	17.60	0.5	Pass



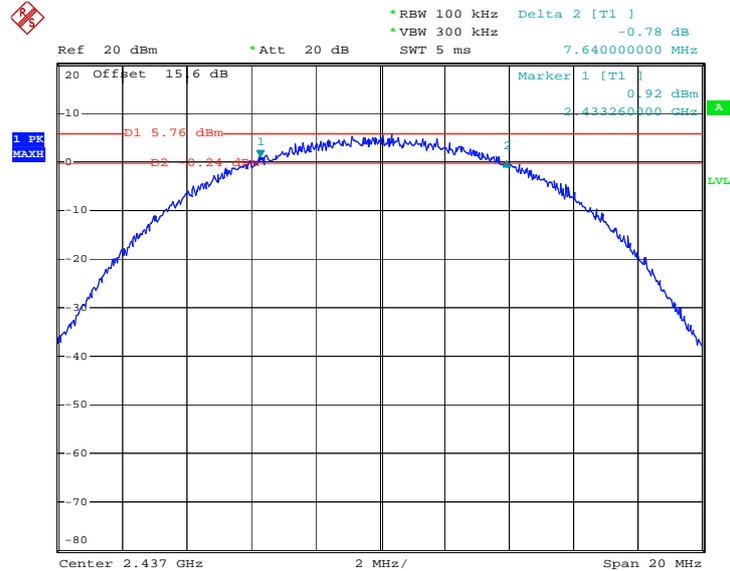
3.1.6 Test Result of 6dB Bandwidth Plots

6 dB Bandwidth Plot on 802.11b Channel 01



Date: 22.APR.2013 19:52:15

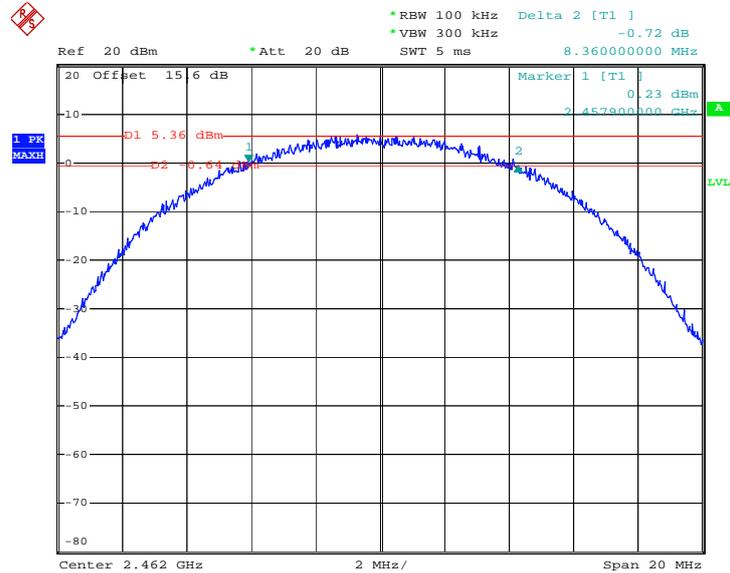
6 dB Bandwidth Plot on 802.11b Channel 06



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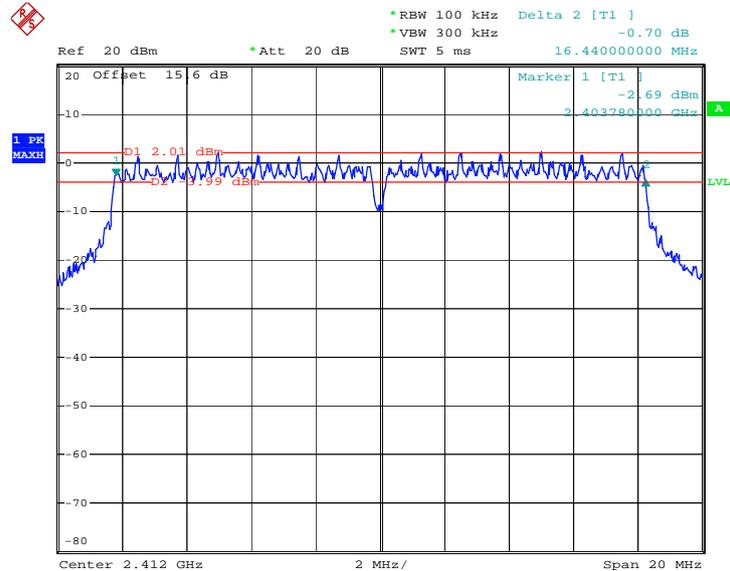


6 dB Bandwidth Plot on 802.11b Channel 11



Date: 9.FEB.2013 20:08:39

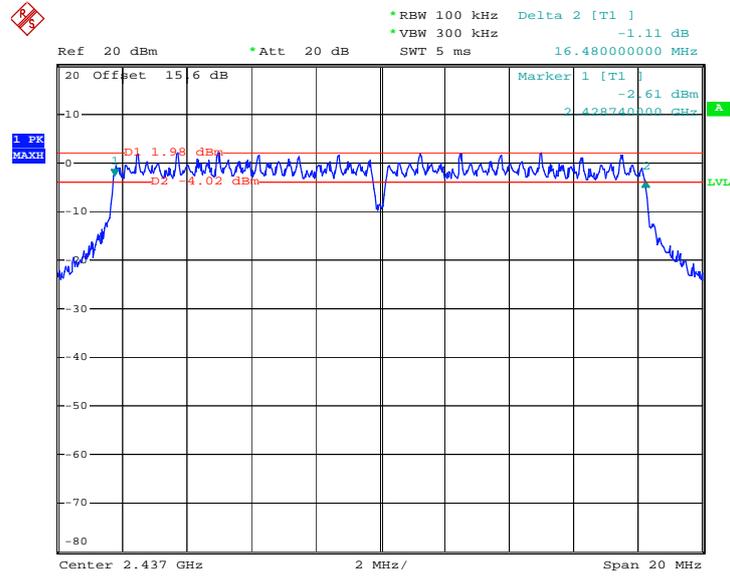
6 dB Bandwidth Plot on 802.11g Channel 01



Date: 9.FEB.2013 20:11:42

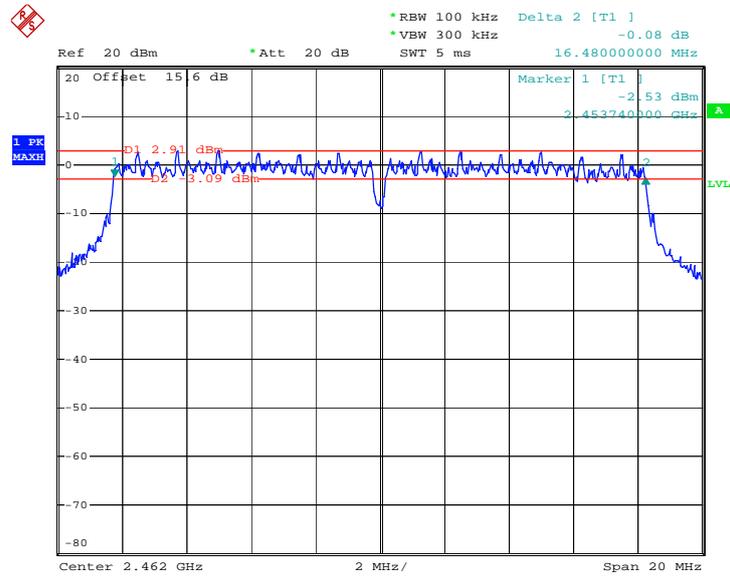


6 dB Bandwidth Plot on 802.11g Channel 06



Date: 9.FEB.2013 20:14:23

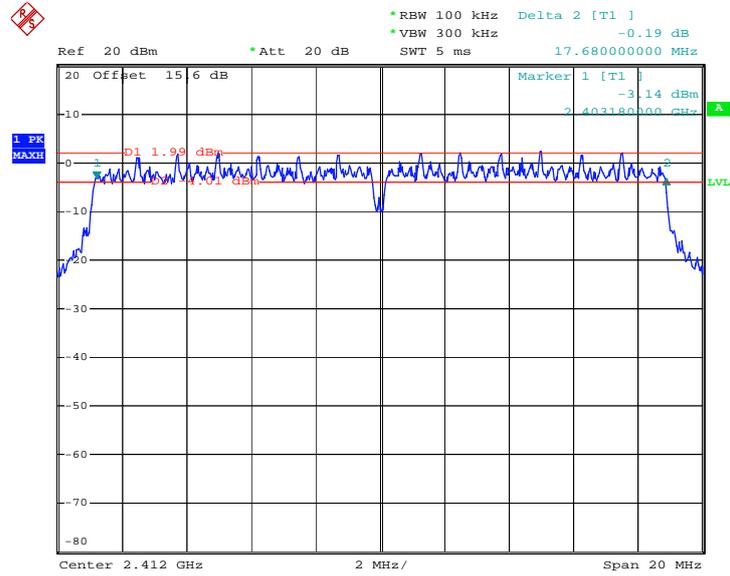
6 dB Bandwidth Plot on 802.11g Channel 11



Date: 9.FEB.2013 20:22:06

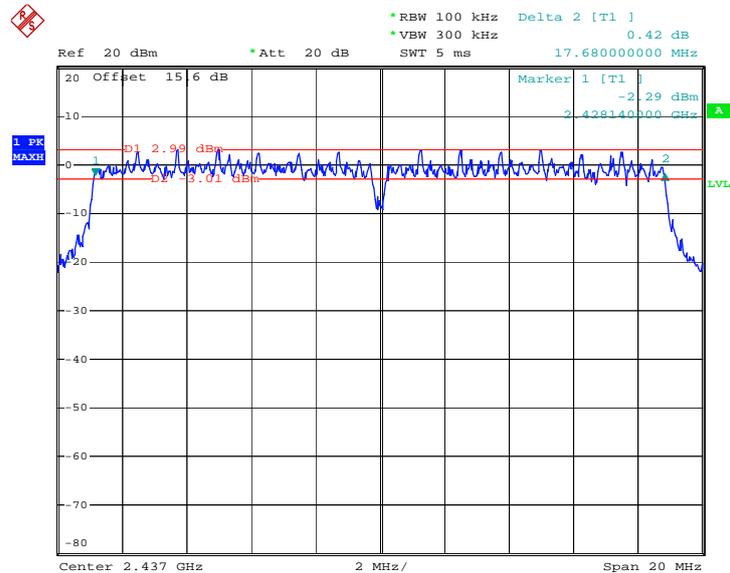


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 9.FEB.2013 20:44:30

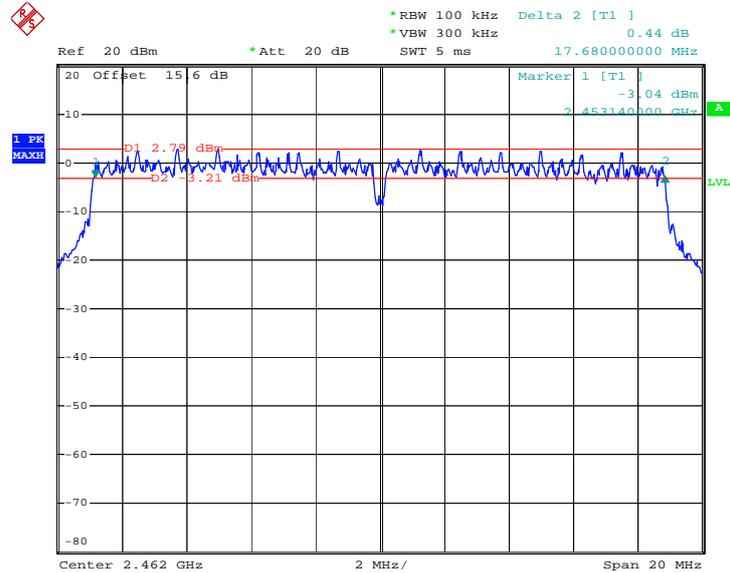
6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06



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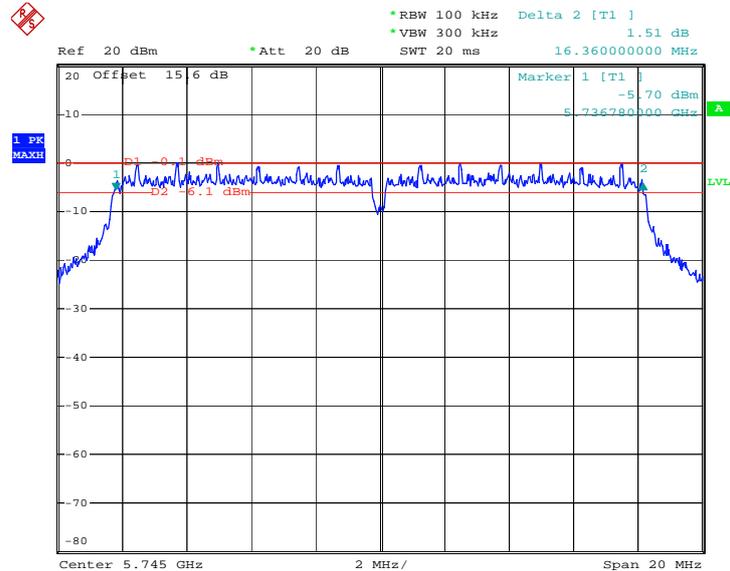


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11



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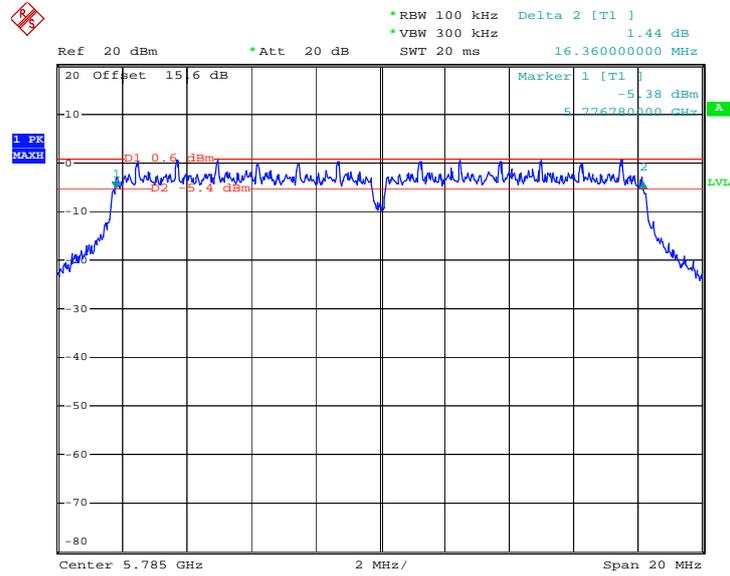
6 dB Bandwidth Plot on 802.11a Channel 149



Date: 12.APR.2013 02:54:48

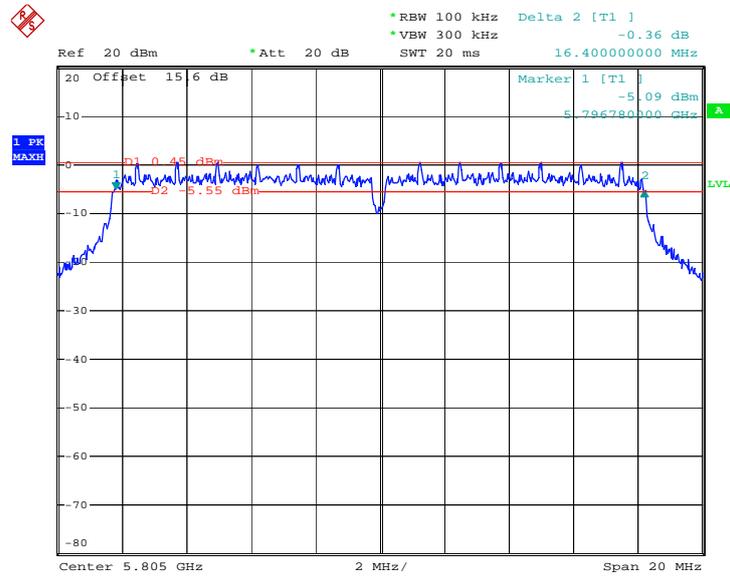


6 dB Bandwidth Plot on 802.11a Channel 157



Date: 12.APR.2013 02:58:40

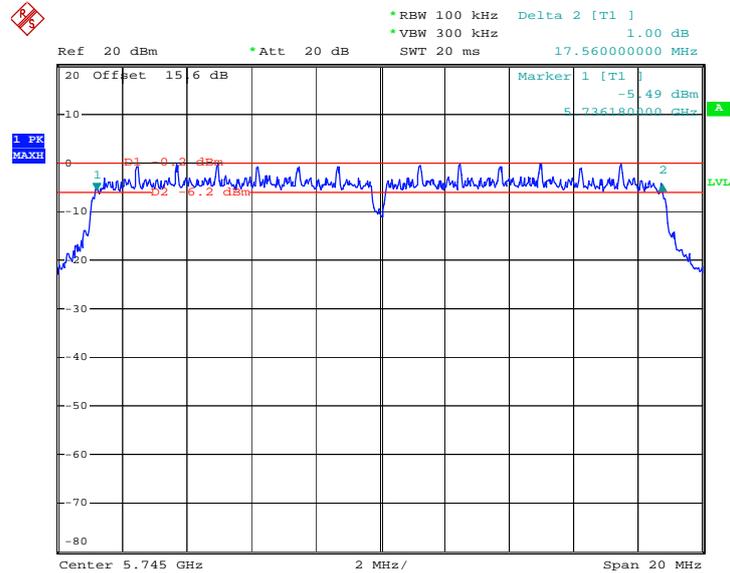
6 dB Bandwidth Plot on 802.11a Channel 161



Date: 12.APR.2013 03:01:05

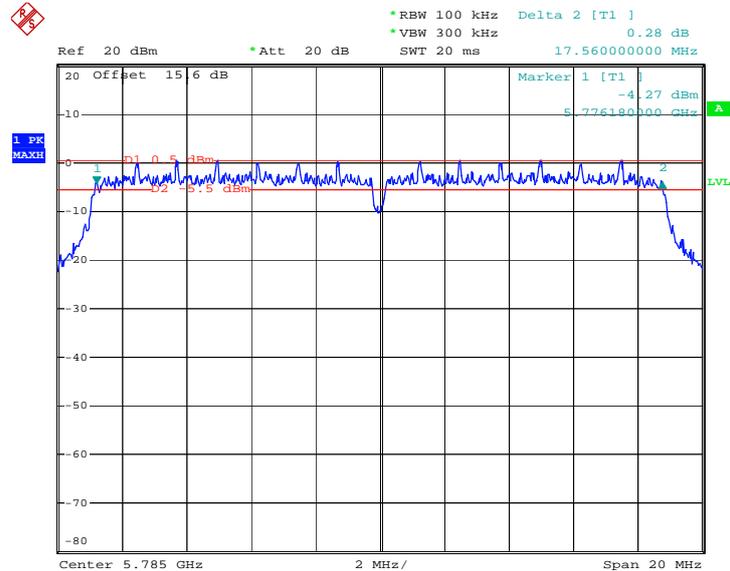


6 dB Bandwidth Plot on 5.8GHz 802.11n HT20 Channel 149



Date: 12.APR.2013 03:05:30

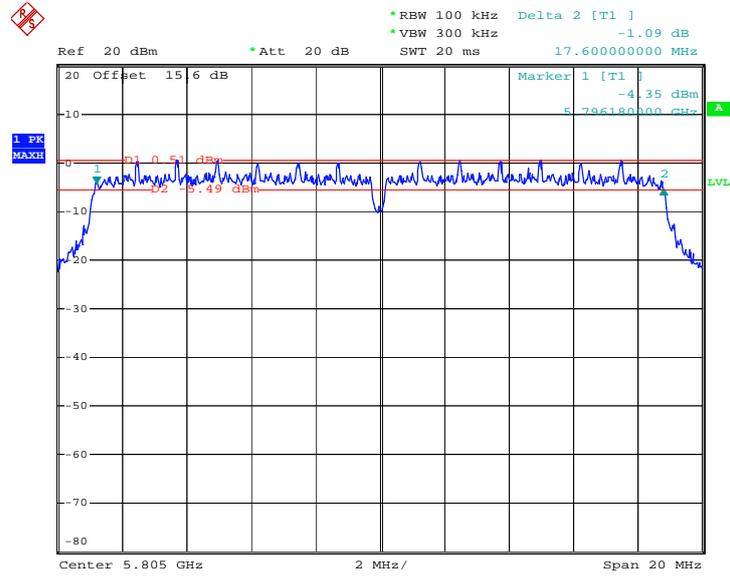
6 dB Bandwidth Plot on 5.8GHz 802.11n HT20 Channel 157



Date: 12.APR.2013 03:09:12



6 dB Bandwidth Plot on 5.8GHz 802.11n HT20 Channel 161



Date: 12.APR.2013 03:12:04

3.2 Output Power Measurement

3.2.1 Limit of 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 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.

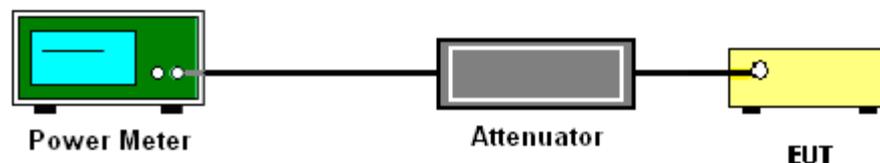
3.2.2 Measuring Instruments

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 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. 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 :	802.11b	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	16.18	30	Pass
06	2437	17.38	30	Pass
11	2462	17.46	30	Pass

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.35	30	Pass
06	2437	20.76	30	Pass
11	2462	20.96	30	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.32	30	Pass
06	2437	20.34	30	Pass
11	2462	20.46	30	Pass



Test Mode :	802.11 a	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	21.72	30	Pass
157	5785	22.23	30	Pass
161	5805	22.08	30	Pass

Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	5.8GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	21.56	30	Pass
157	5785	21.41	30	Pass
161	5805	21.35	30	Pass



3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%
Duty Cycle:	97.67%	Duty Factor:	0.10dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	13.42
06	2437	13.77
11	2462	14.38

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%
Duty Cycle:	46.56%	Duty Factor:	3.32dB

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	13.38
06	2437	13.94
11	2462	13.90

Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%
Duty Cycle:	44.81%	Duty Factor:	3.49dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Average Output Power (dBm)
01	2412	12.36
06	2437	12.81
11	2462	13.35



Test Mode :	802.11a	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%
Duty Cycle:	86.88%	Duty Factor:	0.61dB

Channel	Frequency (MHz)	802.11a Average Output Power (dBm)
149	5745	11.21
157	5785	11.13
161	5805	10.82

Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%
Duty Cycle:	85.15%	Duty Factor:	0.70dB

Channel	Frequency (MHz)	5.8GHz 802.11n HT20 Average Output Power (dBm)
149	5745	11.17
157	5785	10.62
161	5805	10.31

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.

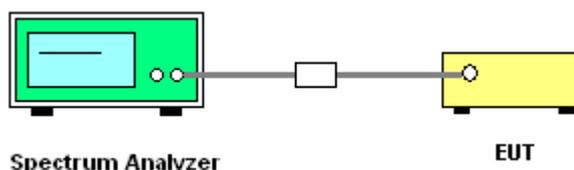
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Option 1 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.
7. The Measured power density (dBm)/ 100KHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	3.92	-10.86	8	Pass
06	2437	4.29	-9.94	8	Pass
11	2462	5.22	-8.76	8	Pass

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	1.22	-13.78	8	Pass
06	2437	1.80	-13.43	8	Pass
11	2462	2.61	-12.63	8	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	1.72	-14.35	8	Pass
06	2437	2.64	-11.21	8	Pass
11	2462	2.20	-13.78	8	Pass



Test Mode :	802.11a	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11a Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	-0.12	-13.32	8	Pass
157	5785	0.52	-13.87	8	Pass
161	5805	0.53	-13.04	8	Pass

Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Engineer :	Lizy Li	Relative Humidity :	47~48%

Channel	Frequency (MHz)	5.8GHz 802.11n HT20 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	-0.27	-14.70	8	Pass
157	5785	0.24	-14.02	8	Pass
161	5805	0.47	-13.54	8	Pass

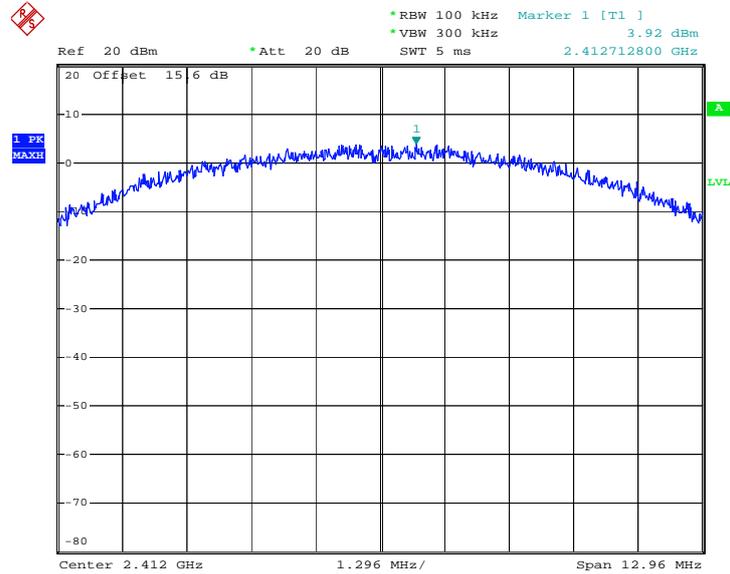
Note:

1. Measured power density (dBm) has offset with cable loss.
2. The Measured power density (dBm)/ 100KHz is reference level and used as 20dBc down for Conducted Band Edges and Conducted Spurious Emission limit line.



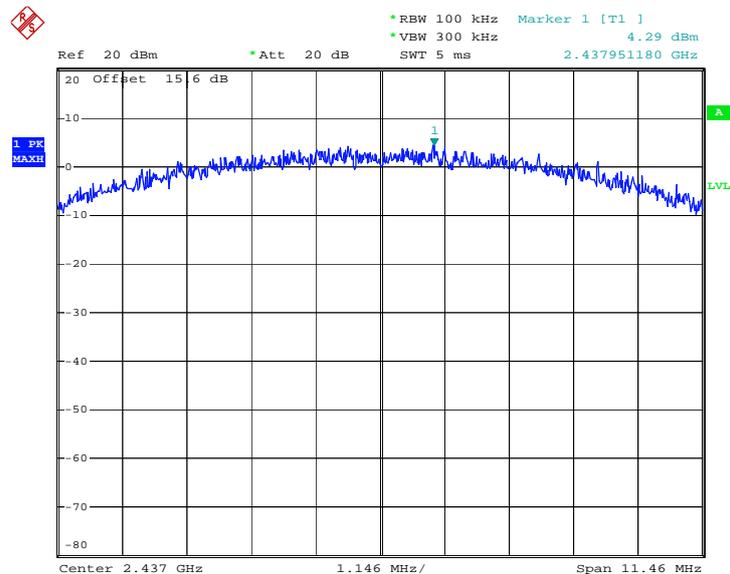
3.3.6 Test Result of Power Spectral Density Plots (100kHz)

PSD 100kHz Plot on 802.11b Channel 01



Date: 22.APR.2013 19:52:48

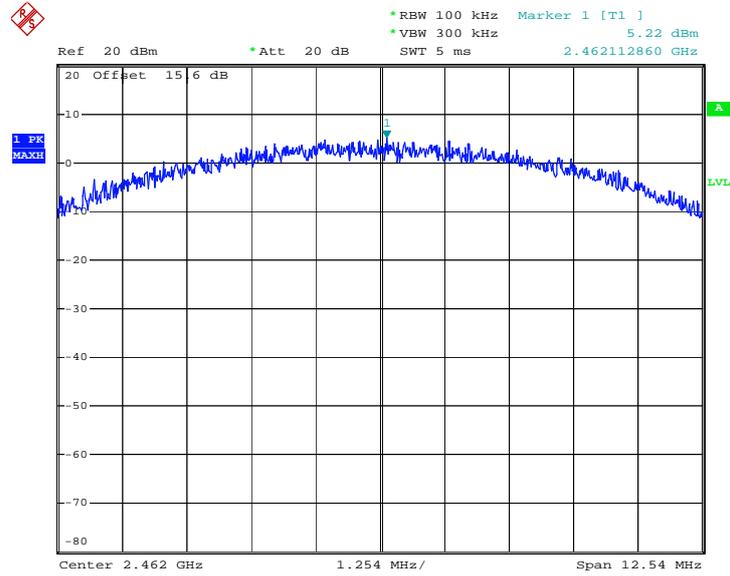
PSD 100kHz Plot on 802.11b Channel 06



Date: 9.FEB.2013 20:06:34

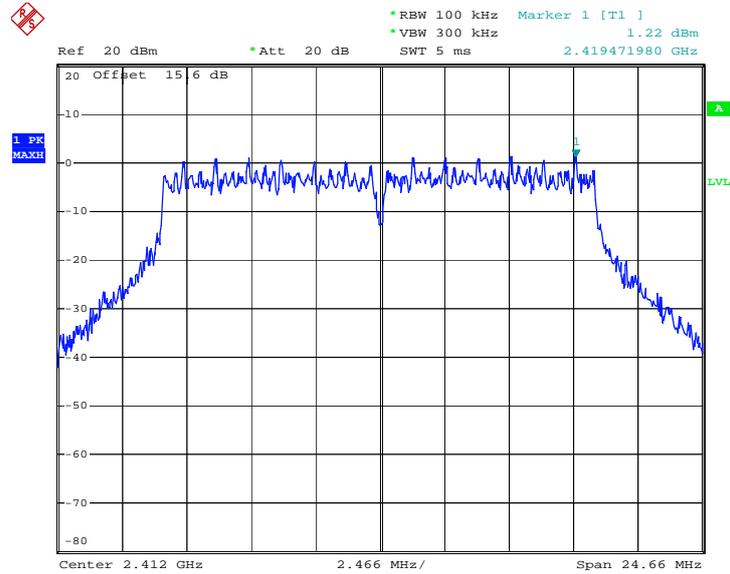


PSD 100kHz Plot on 802.11b Channel 11



Date: 9.FEB.2013 20:09:09

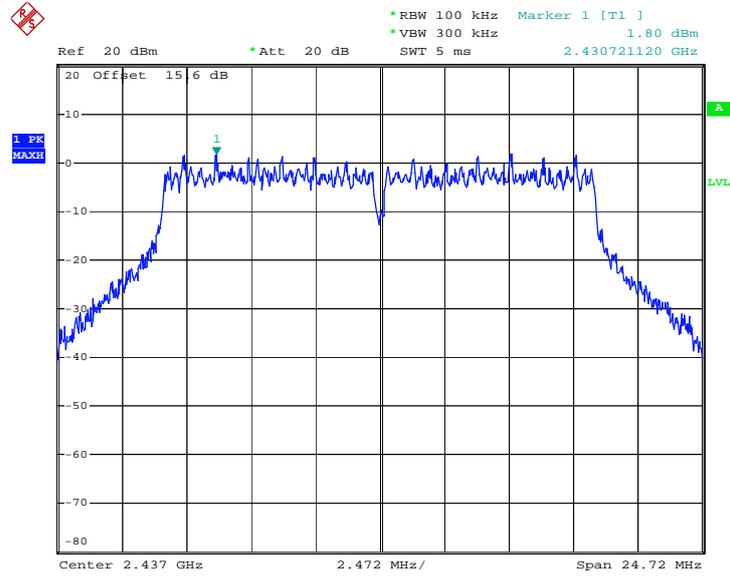
PSD 100kHz Plot on 802.11g Channel 01



Date: 9.FEB.2013 20:12:13

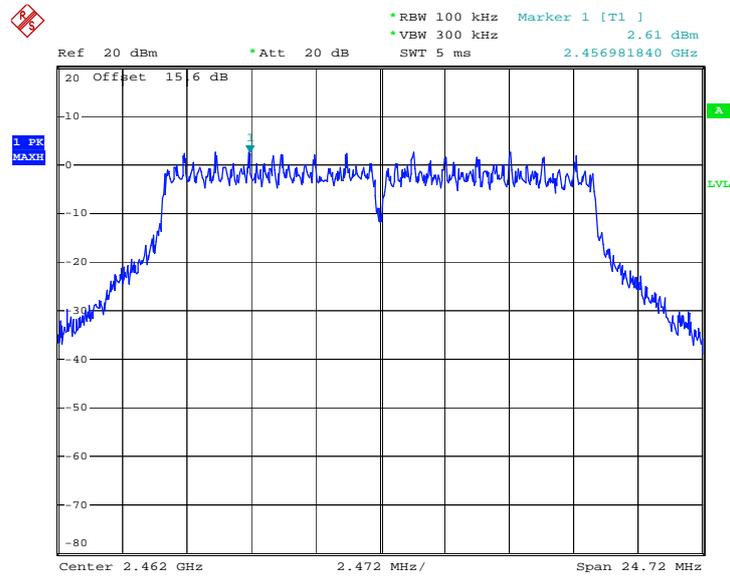


PSD 100kHz Plot 802.11g Channel 06



Date: 9.FEB.2013 20:14:54

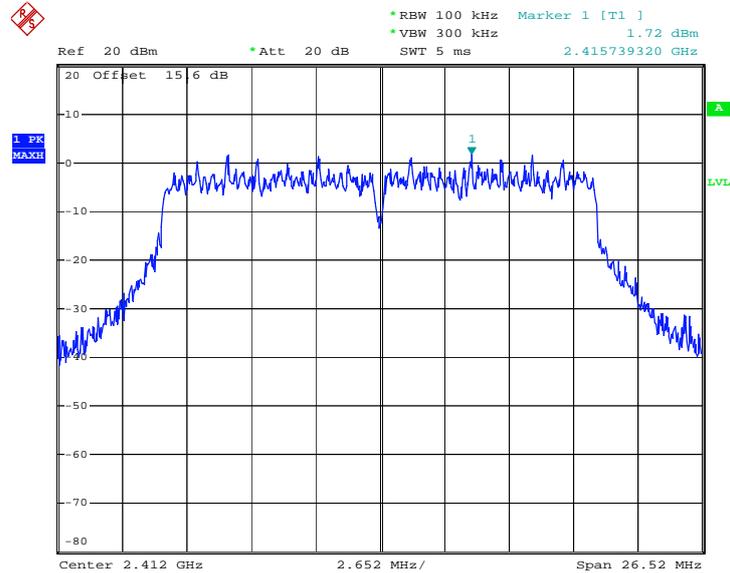
PSD 100kHz Plot 802.11g Channel 11



Date: 9.FEB.2013 20:22:37

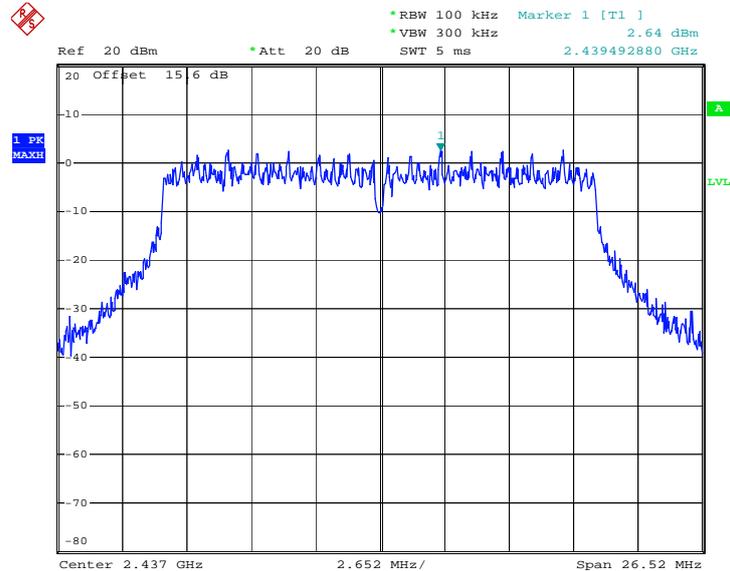


PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 9.FEB.2013 20:45:01

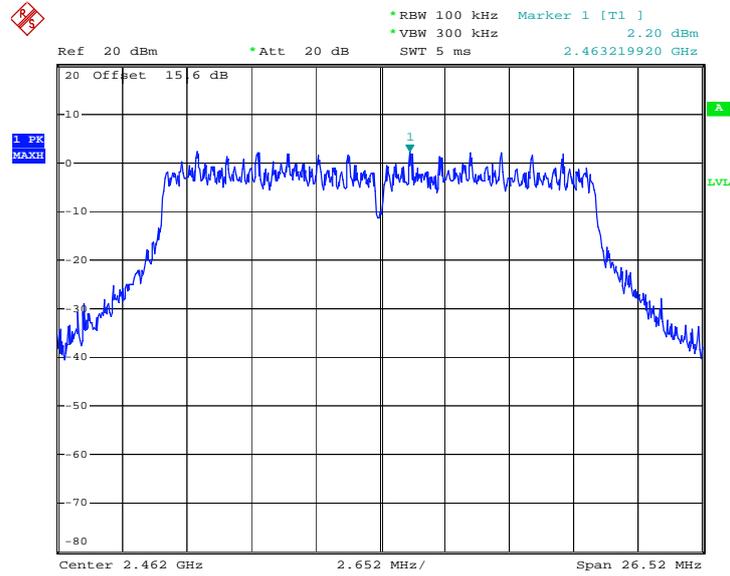
PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 06



Date: 9.FEB.2013 20:47:40

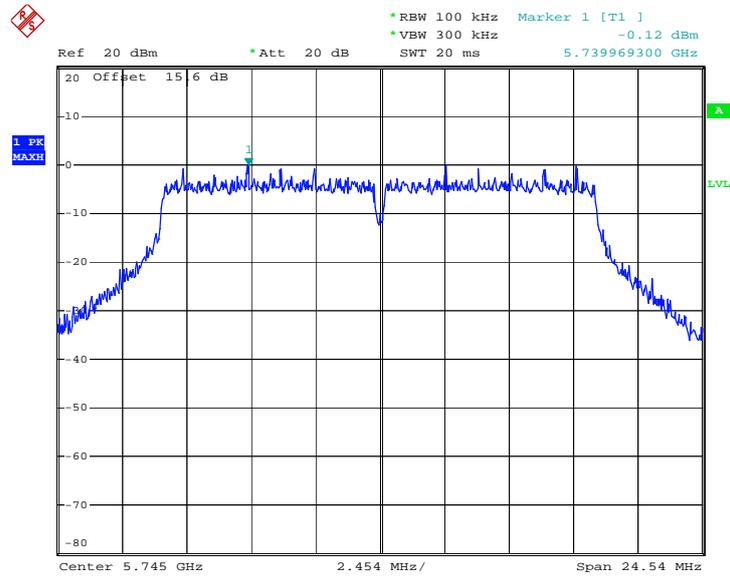


PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 9.FEB.2013 21:03:19

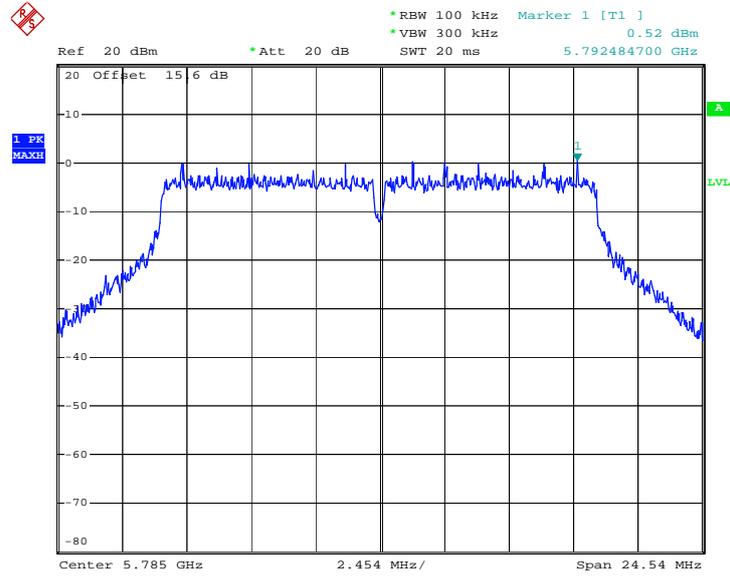
PSD 100kHz Plot on 802.11a Channel 149



Date: 12.APR.2013 02:55:19

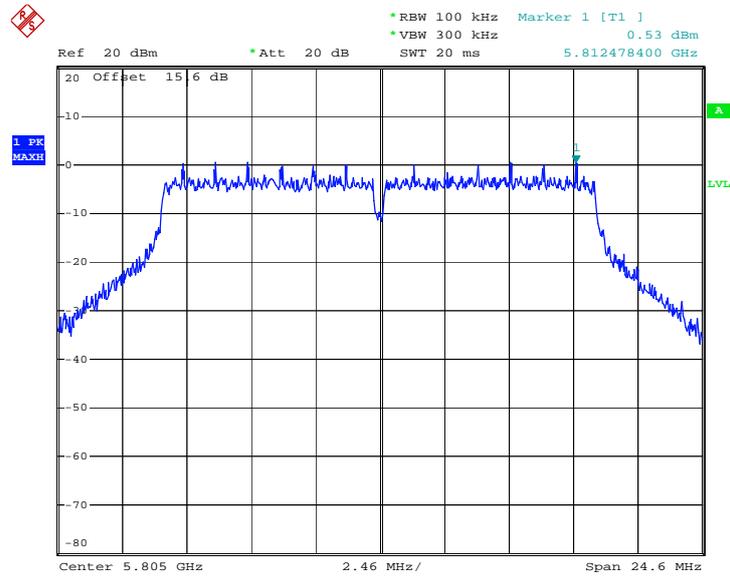


PSD 100kHz Plot on 802.11a Channel 157



Date: 12.APR.2013 02:59:11

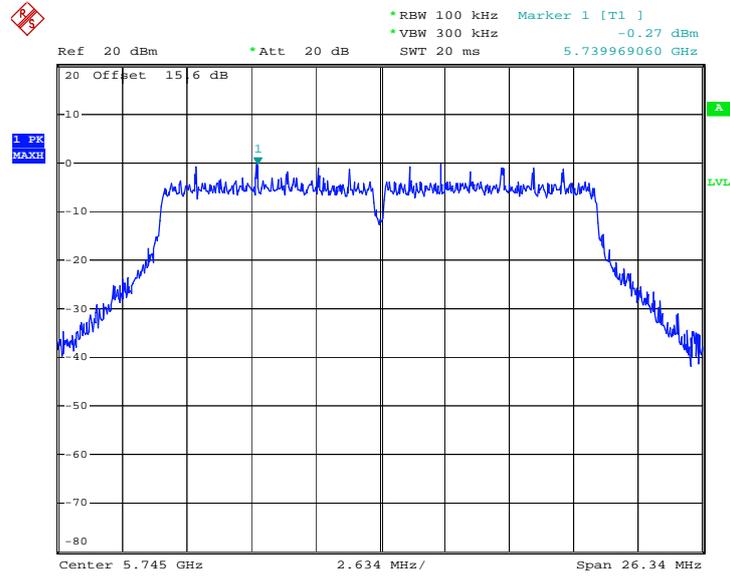
PSD 100kHz Plot on 802.11a Channel 161



Date: 12.APR.2013 03:01:36

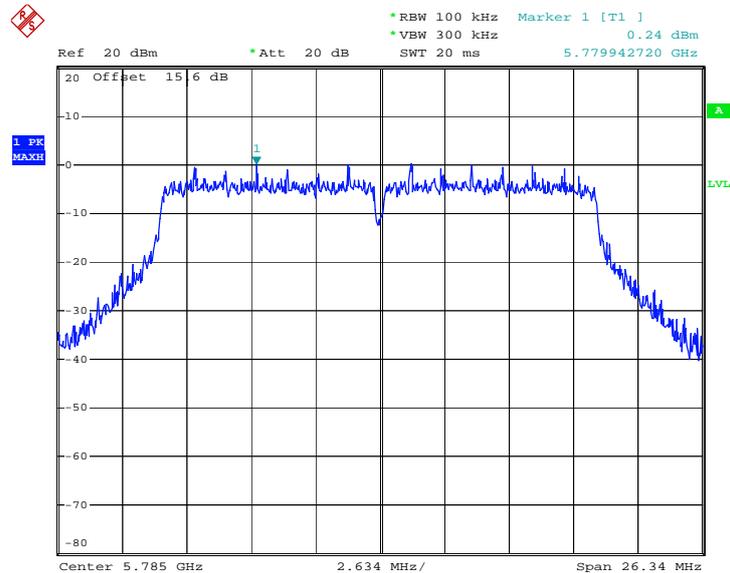


PSD 100kHz Plot on 5.8GHz 802.11n HT20 Channel 149



Date: 12.APR.2013 03:06:01

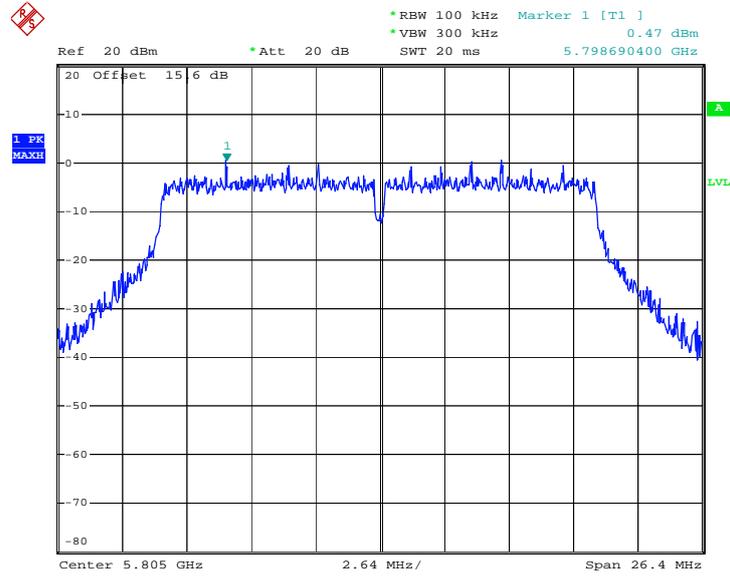
PSD 100kHz Plot on 5.8GHz 802.11n HT20 Channel 157



Date: 12.APR.2013 03:09:43



PSD 100kHz Plot on 5.8GHz 802.11n HT20 Channel 161

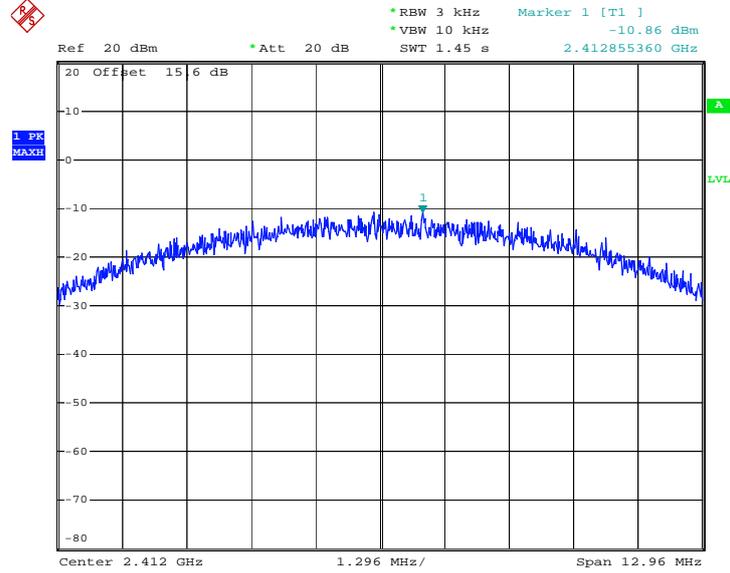


Date: 12.APR.2013 03:12:34



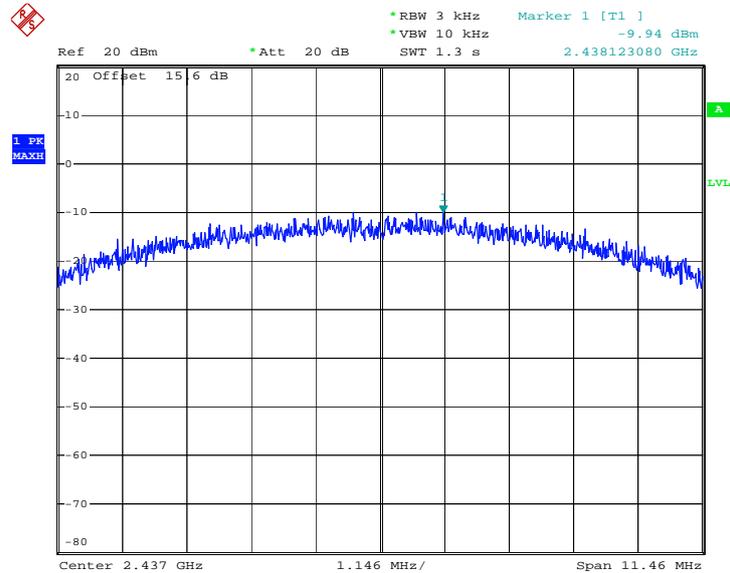
3.3.7 Test Result of Power Spectral Density Plots (3kHz)

PSD 3kHz Plot on 802.11b Channel 01



Date: 22.APR.2013 19:52:38

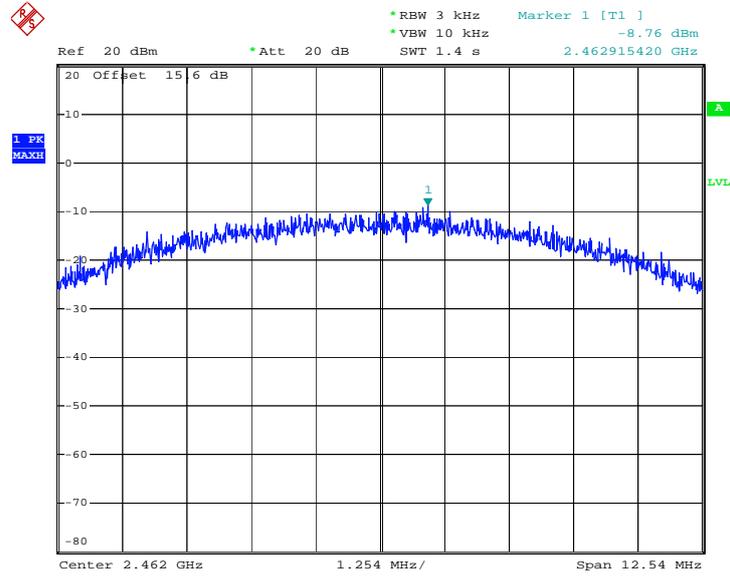
PSD 3kHz Plot on 802.11b Channel 06



Date: 9.FEB.2013 20:06:24

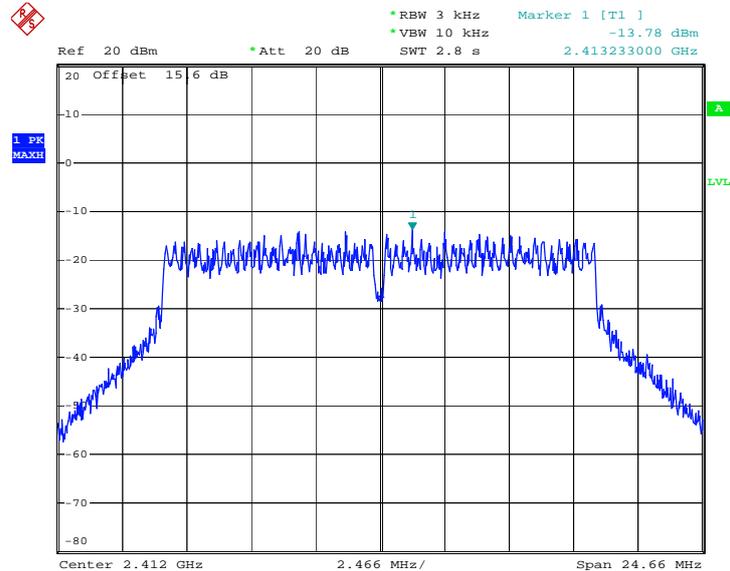


PSD 3kHz Plot on 802.11b Channel 11



Date: 9.FEB.2013 20:08:59

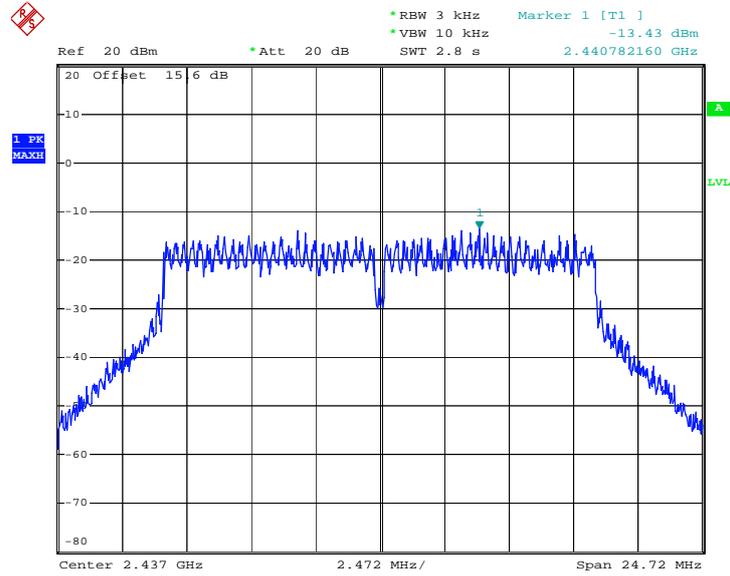
PSD 3kHz Plot on 802.11g Channel 01



Date: 9.FEB.2013 20:12:03

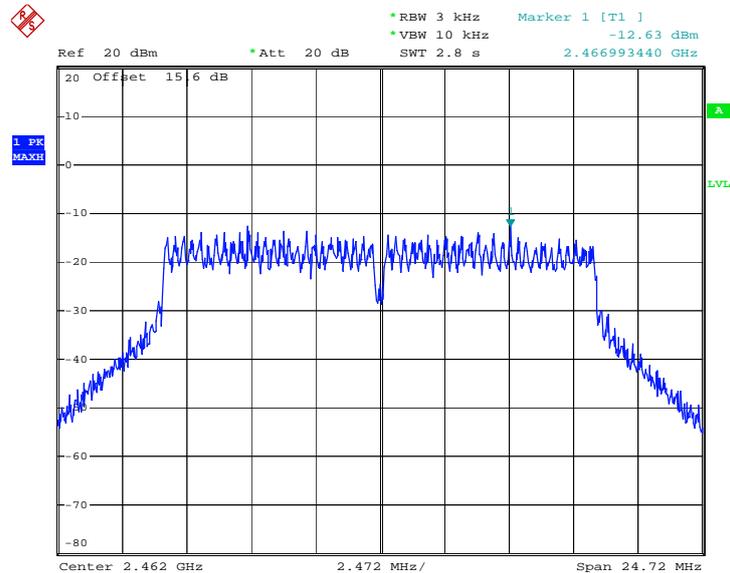


PSD 3kHz Plot on 802.11g Channel 06



Date: 9.FEB.2013 20:14:44

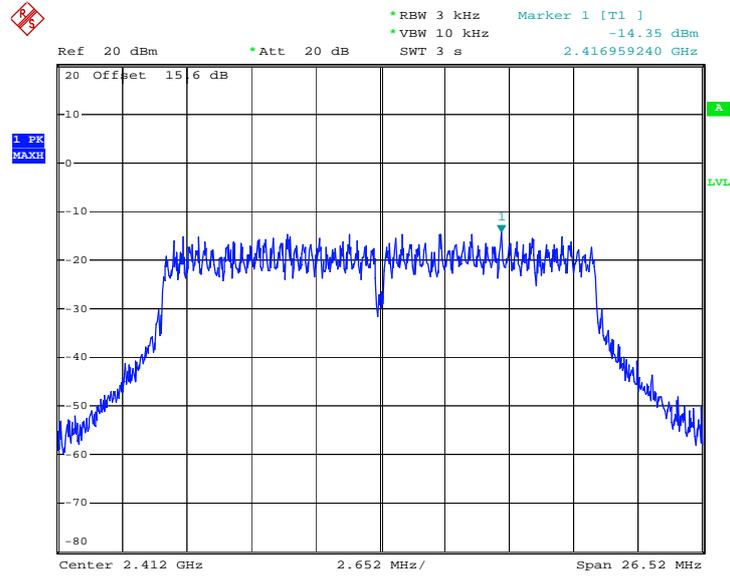
PSD 3kHz Plot on 802.11g Channel 11



Date: 9.FEB.2013 20:22:27

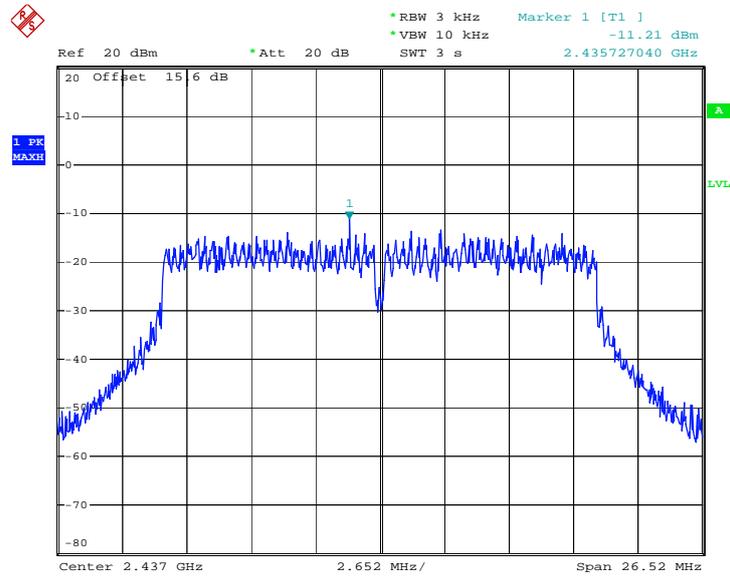


PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 9.FEB.2013 20:44:51

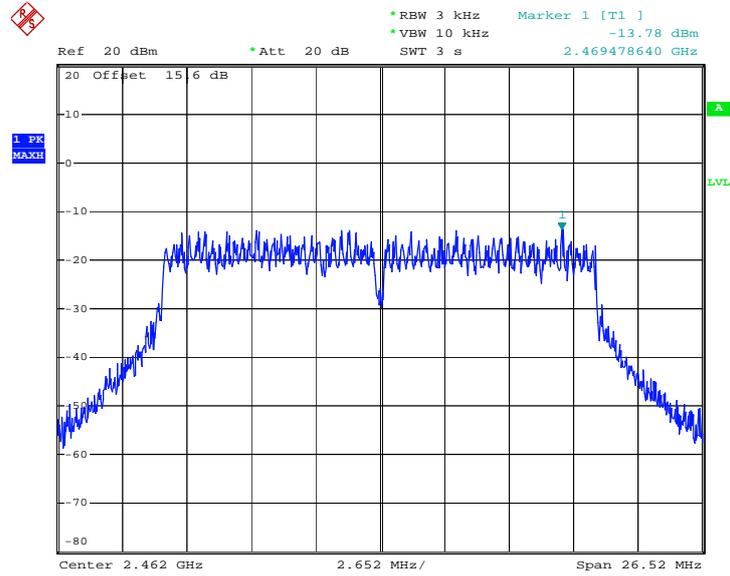
PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 06



Date: 9.FEB.2013 20:47:30

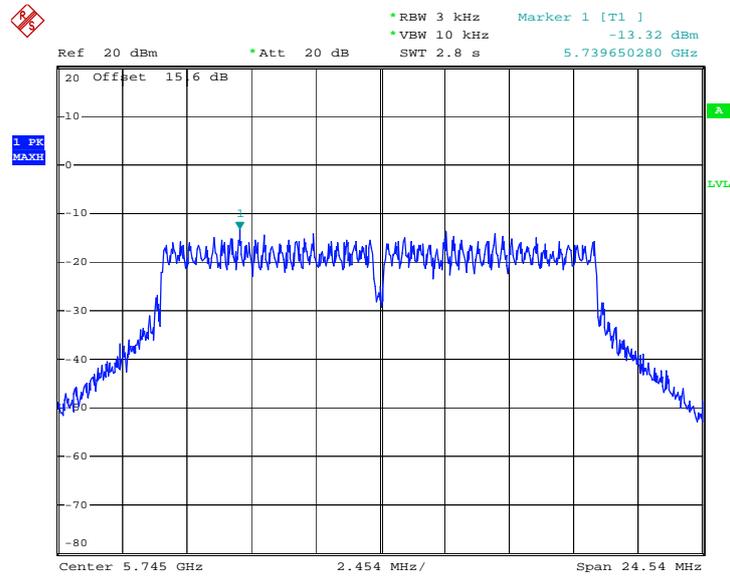


PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 9.FEB.2013 21:03:09

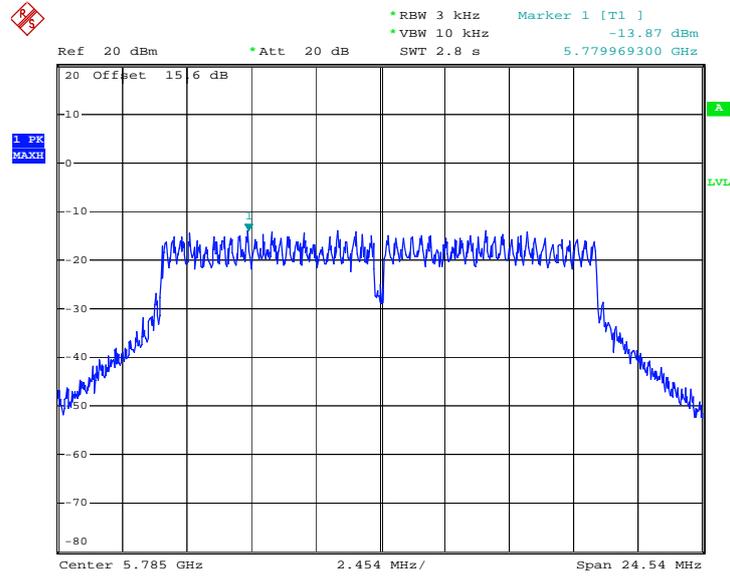
PSD 3kHz Plot on 802.11a Channel 149



Date: 12.APR.2013 02:55:09

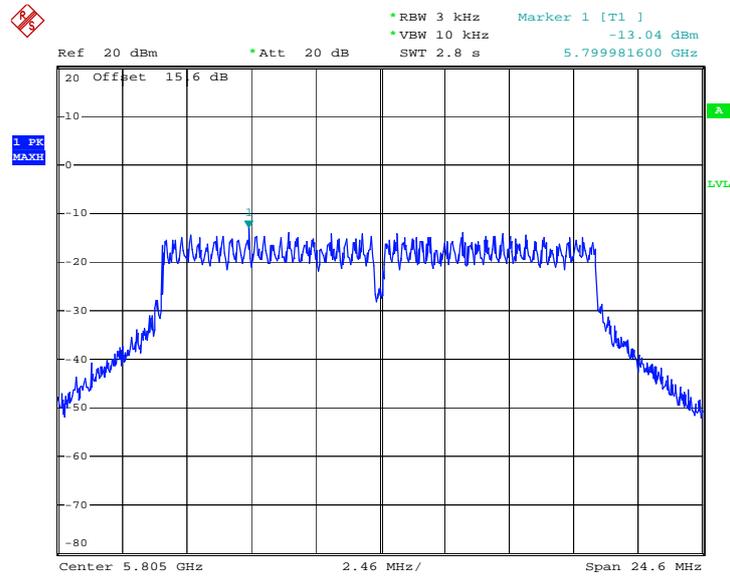


PSD 3kHz Plot on 802.11a Channel 157



Date: 12.APR.2013 02:59:01

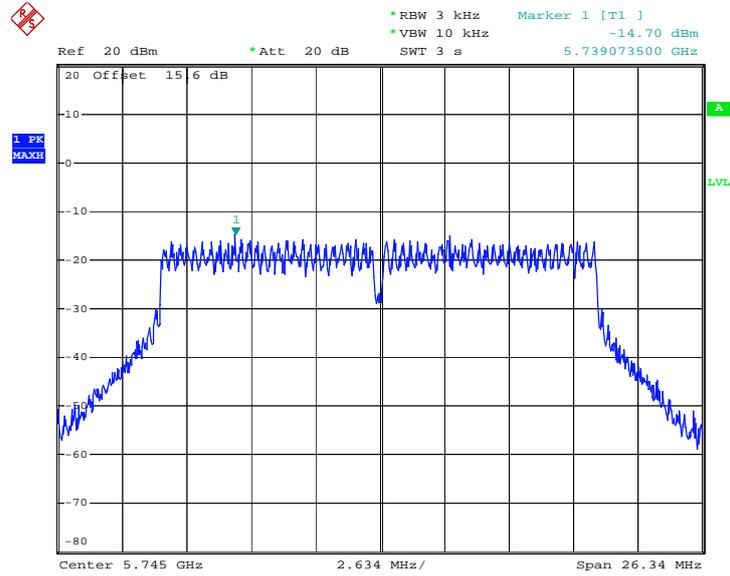
PSD 3kHz Plot on 802.11a Channel 161



Date: 12.APR.2013 03:01:26

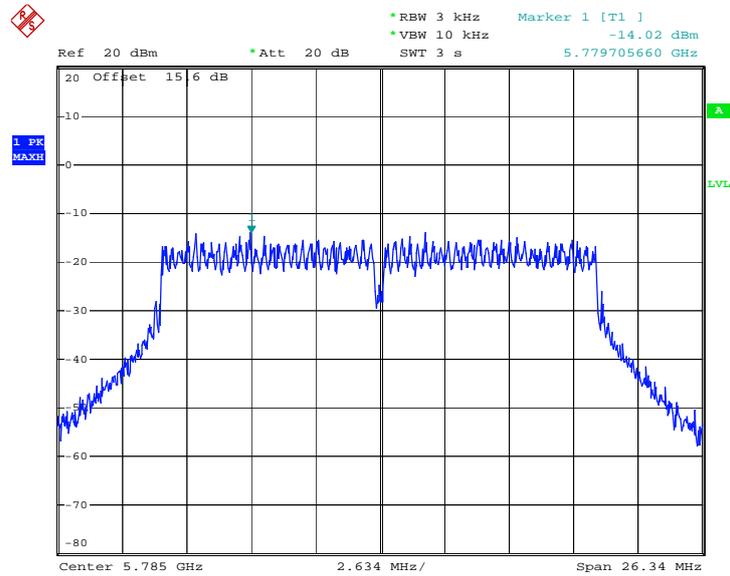


PSD 3kHz Plot on 5.8GHz 802.11n HT20 Channel 149



Date: 12.APR.2013 03:05:51

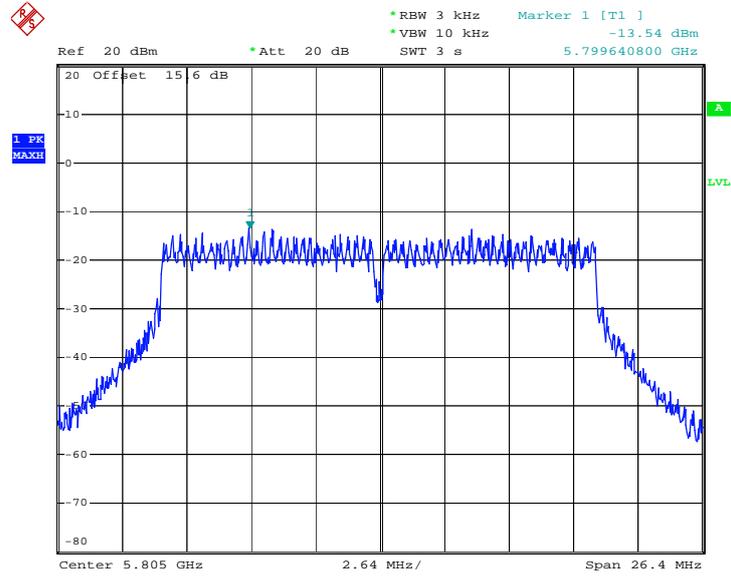
PSD 3kHz Plot on 5.8GHz 802.11n HT20 Channel 157



Date: 12.APR.2013 03:09:33



PSD 3kHz Plot on 5.8GHz 802.11n HT20 Channel 161



Date: 12.APR.2013 03:12:25

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).

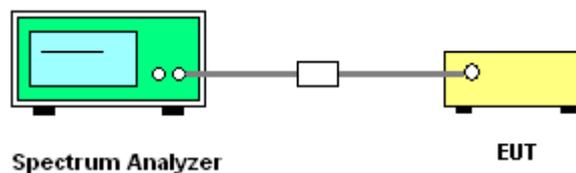
3.4.2 Measuring Instruments

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.

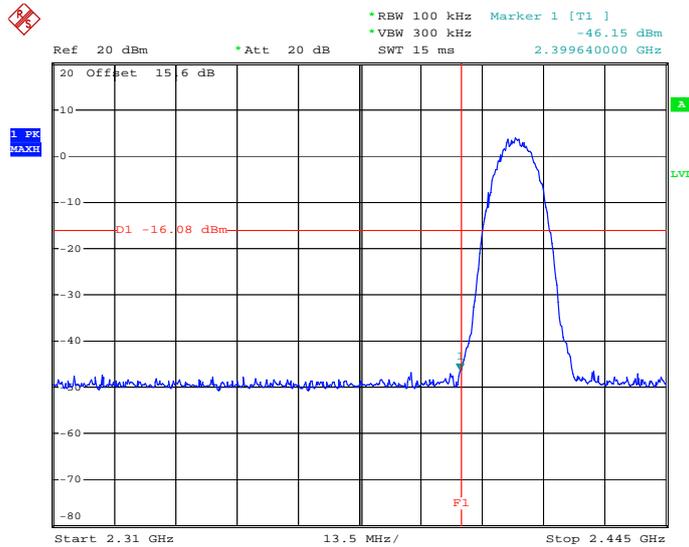
3.4.4 Test Setup



3.4.6 Test Result of Conducted Spurious at Band Edges

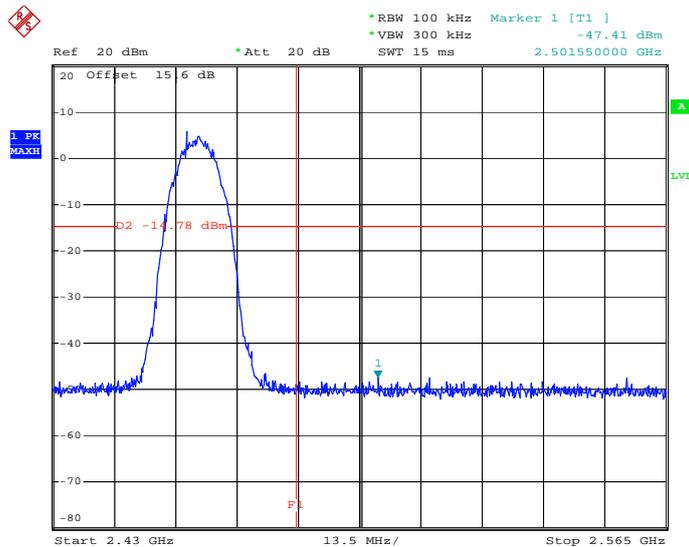
Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	01 and 11	Test Engineer :	Lizy Li

Low Band Edge Plot on 802.11b Channel 01



Date: 22.APR.2013 20:00:23

High Band Edge Plot on 802.11b Channel 11

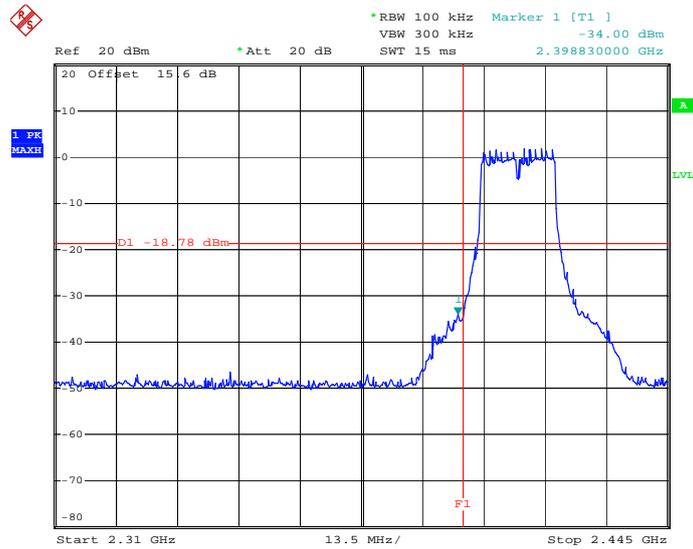


Date: 9.FEB.2013 20:09:25



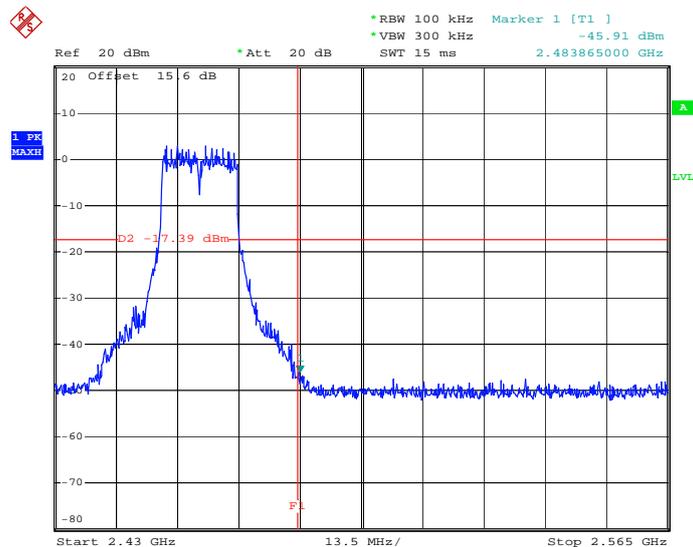
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	01 and 11	Test Engineer :	Lizy Li

Low Band Edge Plot on 802.11g Channel 01



Date: 9.FEB.2013 21:16:48

High Band Edge Plot on 802.11g Channel 11

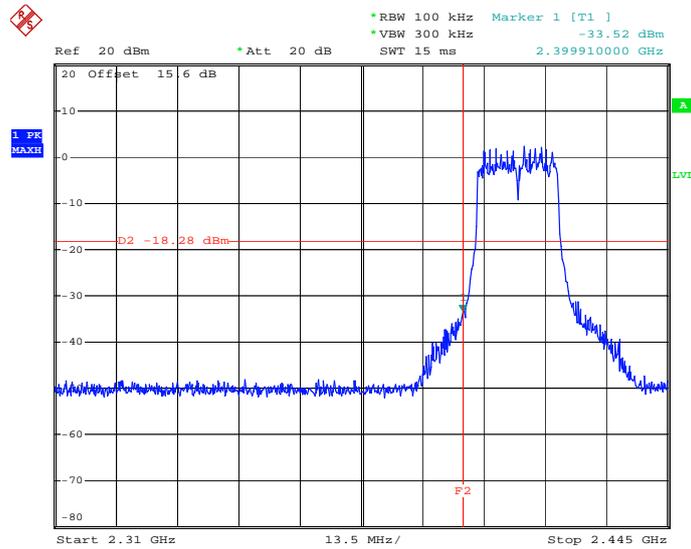


Date: 9.FEB.2013 20:22:53



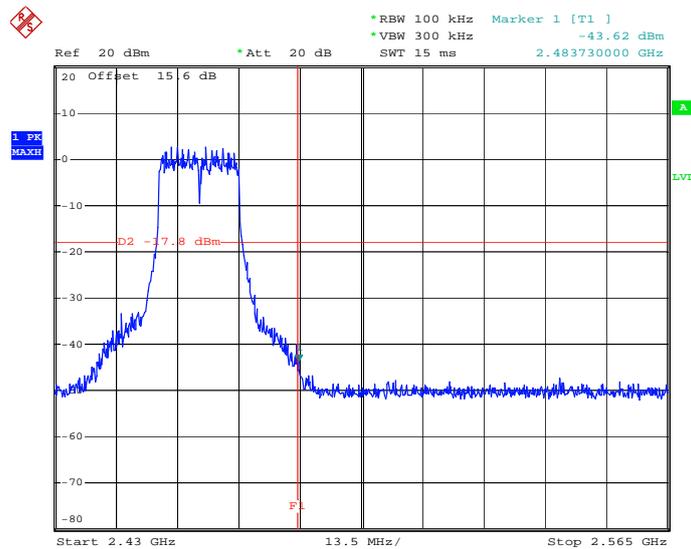
Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	01 and 11	Test Engineer :	Lizy Li

Low Band Edge Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 9.FEB.2013 20:45:17

High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11

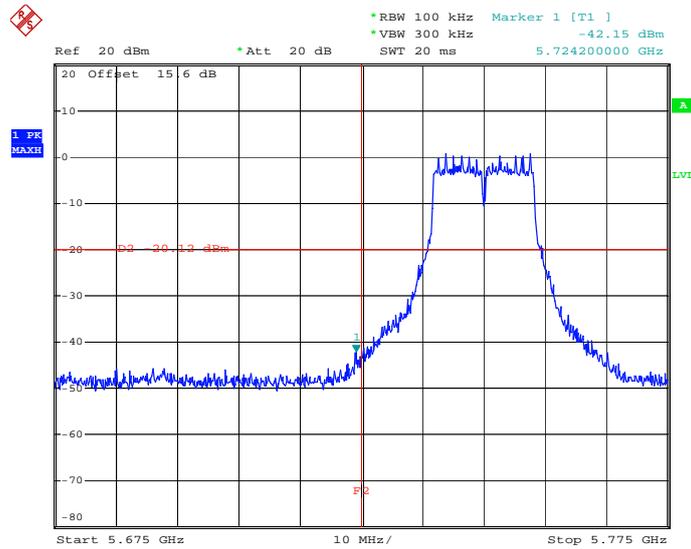


Date: 9.FEB.2013 21:03:35



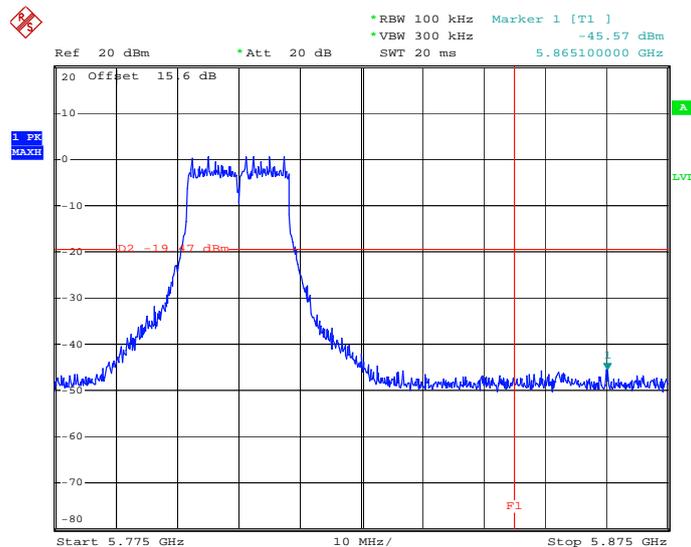
Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	149 and 161	Test Engineer :	Lizy Li

Low Band Edge Plot on 802.11a Channel 149



Date: 12.APR.2013 02:56:42

High Band Edge Plot on 802.11a Channel 161

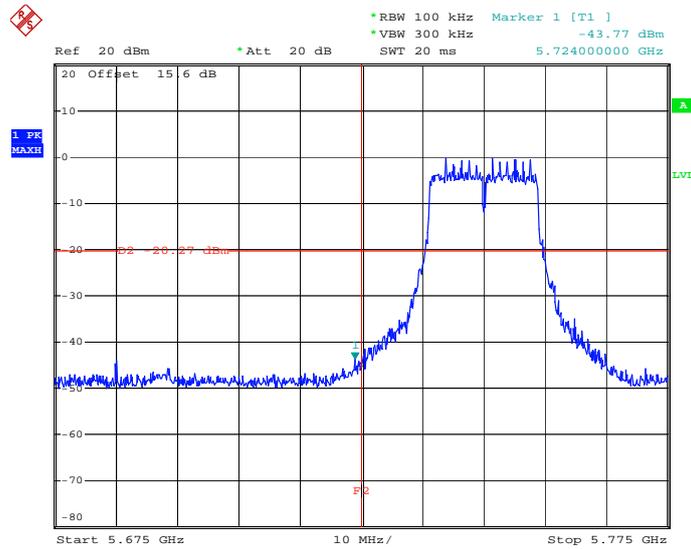


Date: 12.APR.2013 03:01:52



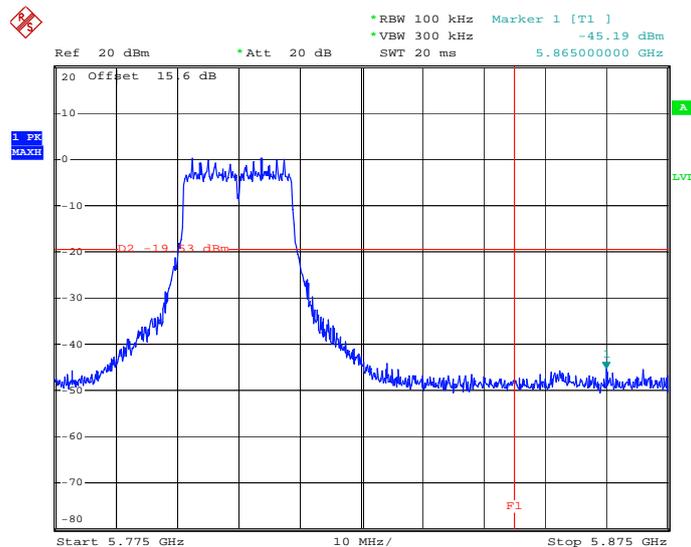
Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	149 and 161	Test Engineer :	Lizy Li

Low Band Edge Plot on 5.8GHz 802.11n HT20 Channel 149



Date: 12.APR.2013 03:06:17

High Band Edge Plot on 5GHz 802.11n HT20 Channel 161



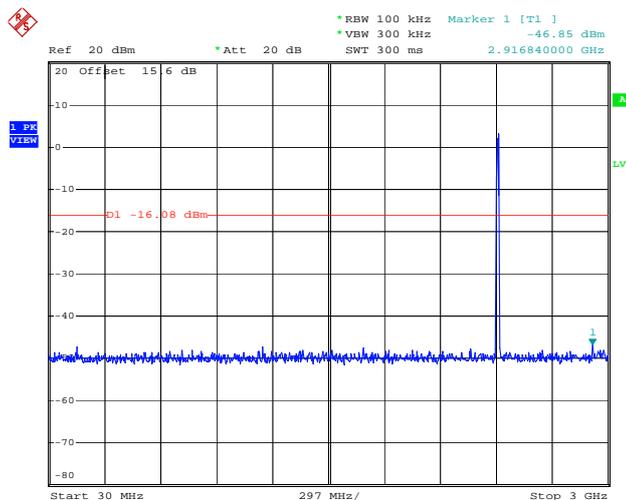
Date: 12.APR.2013 03:12:51

3.4.7 Test Result of Conducted Spurious Emission

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	47~48%
Test Channel :	01, 06, 11	Test Engineer :	Lizy Li

802.11b 30 MHz~3 GHz

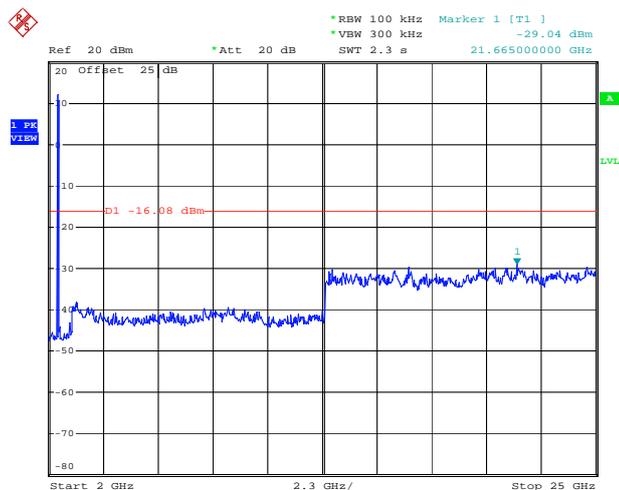
Conducted Spurious Emission Plot on Channel 01



Date: 22.APR.2013 19:53:23

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

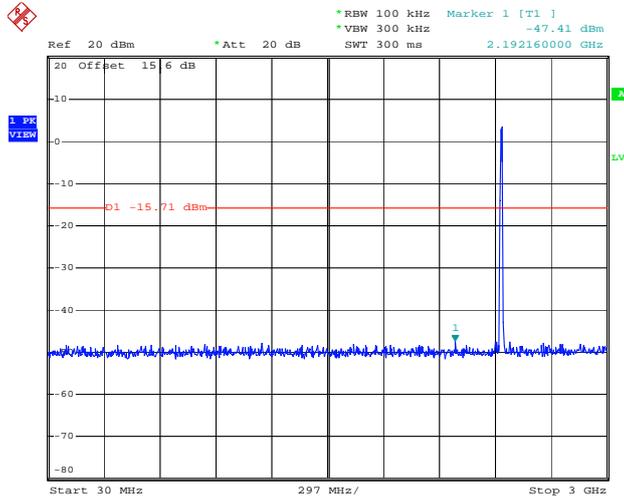


Date: 22.APR.2013 19:53:43



802.11b 30 MHz~3 GHz

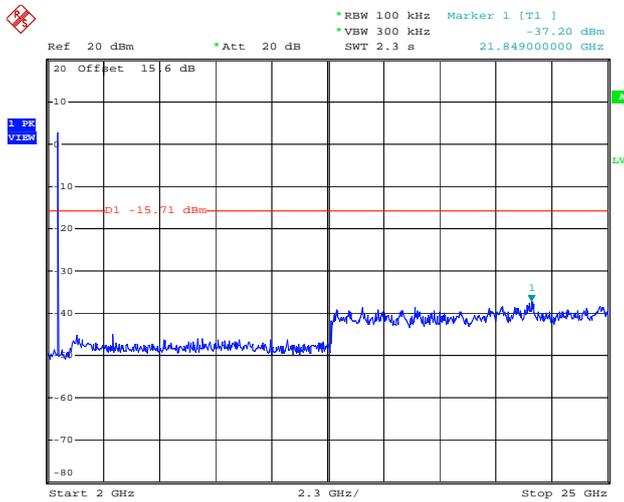
Conducted Spurious Emission Plot on Channel 06



Date: 9.FEB.2013 20:06:56

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

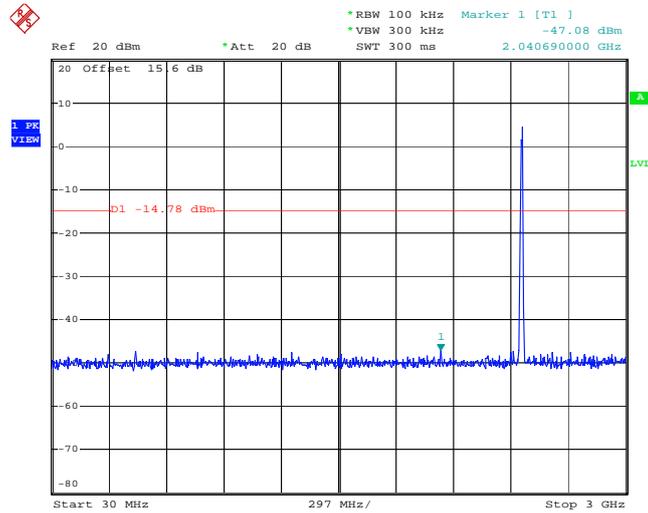


Date: 9.FEB.2013 20:07:14



802.11b 30 MHz~3 GHz

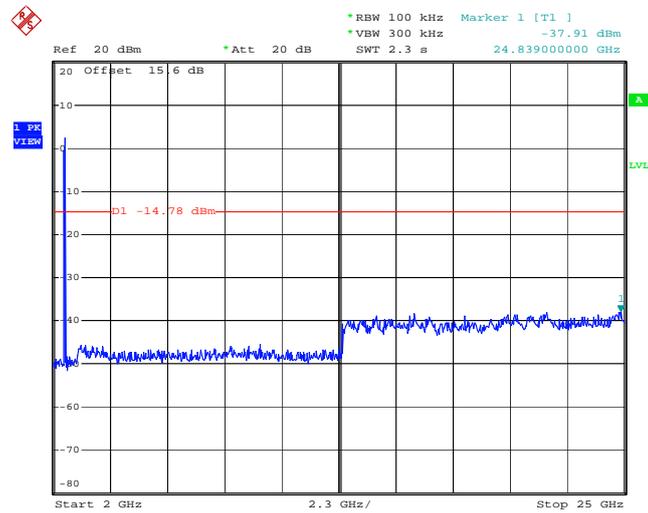
Conducted Spurious Emission Plot on Channel 11



Date: 9.FEB.2013 20:09:44

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



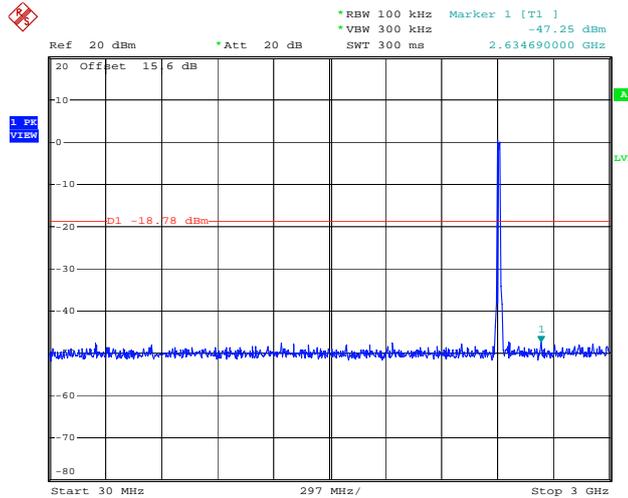
Date: 9.FEB.2013 20:10:02



Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	47~48%
Test Channel :	01, 06, 11	Test Engineer :	Lizy Li

802.11g 30 MHz~3 GHz

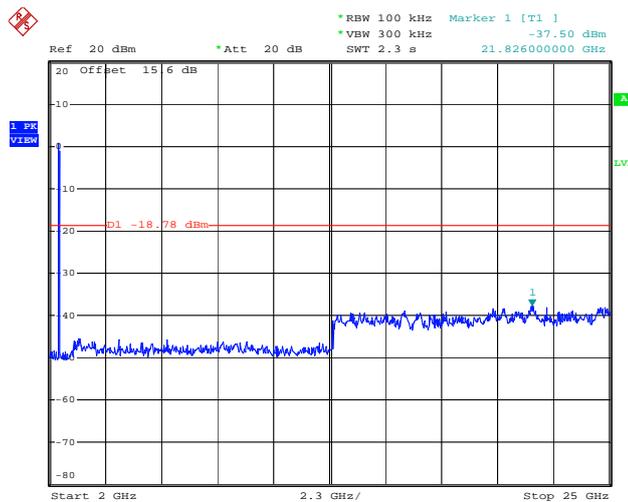
Conducted Spurious Emission Plot on Channel 01



Date: 9.FEB.2013 20:12:47

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

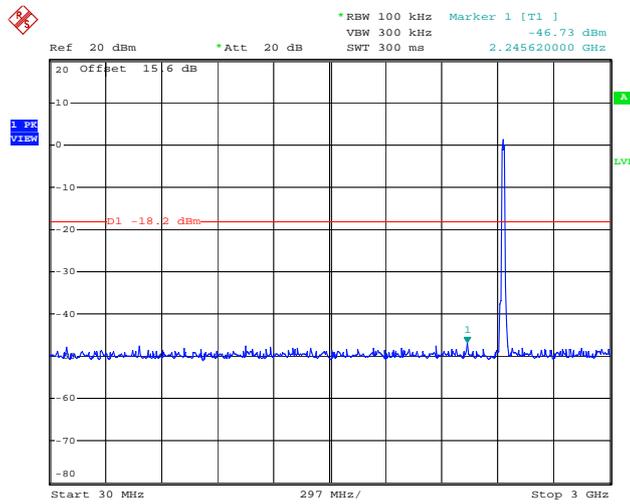


Date: 9.FEB.2013 20:13:06



802.11g 30 MHz~3 GHz

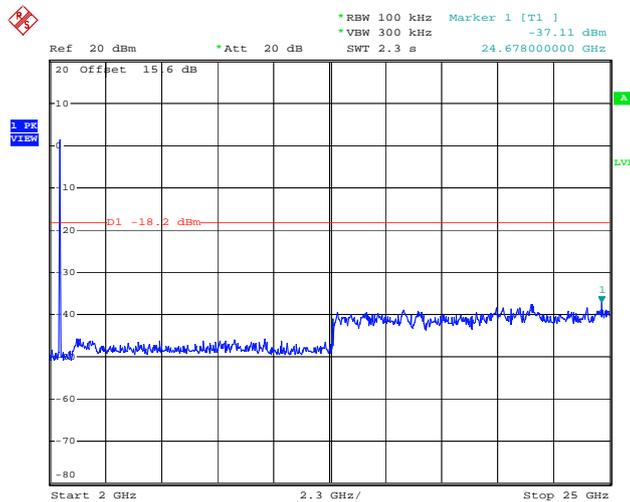
Conducted Spurious Emission Plot on Channel 06



Date: 9.FEB.2013 21:23:26

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

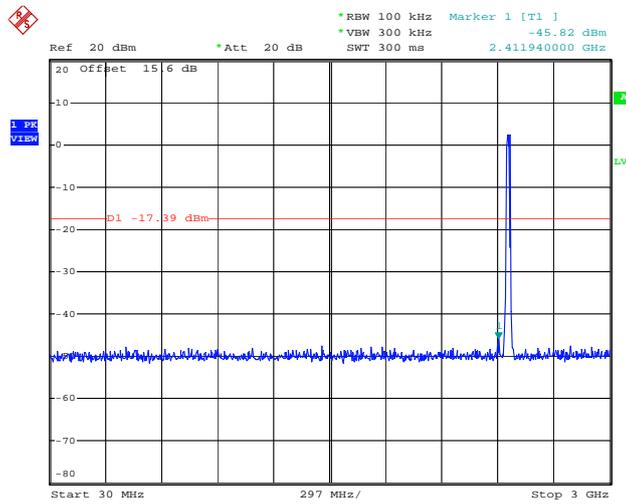


Date: 9.FEB.2013 20:15:34



802.11g 30 MHz~3 GHz

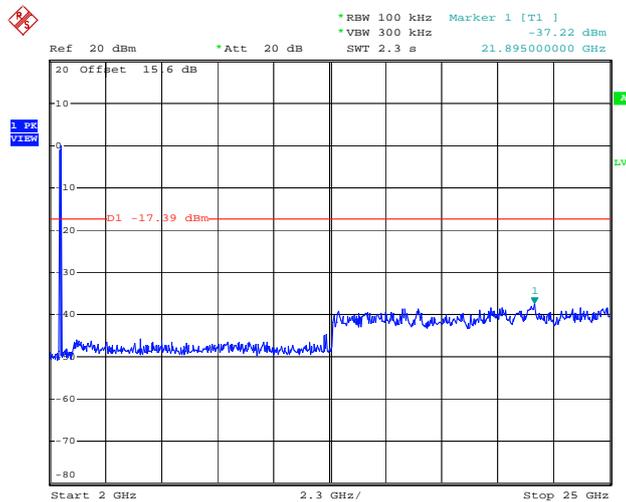
Conducted Spurious Emission Plot on Channel 11



Date: 9.FEB.2013 20:23:11

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



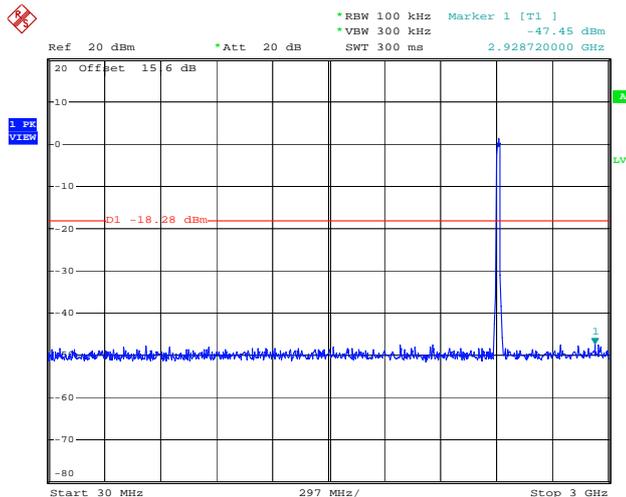
Date: 9.FEB.2013 20:23:30



Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	47~48%
Test Channel :	01, 06, 11	Test Engineer :	Lizy Li

2.4GHz 802.11n HT20 30 MHz~3 GHz

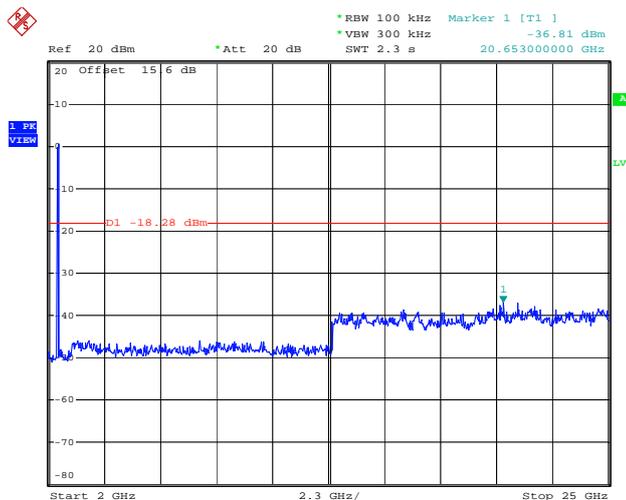
Conducted Spurious Emission Plot on Channel 01



Date: 9.FEB.2013 20:45:35

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

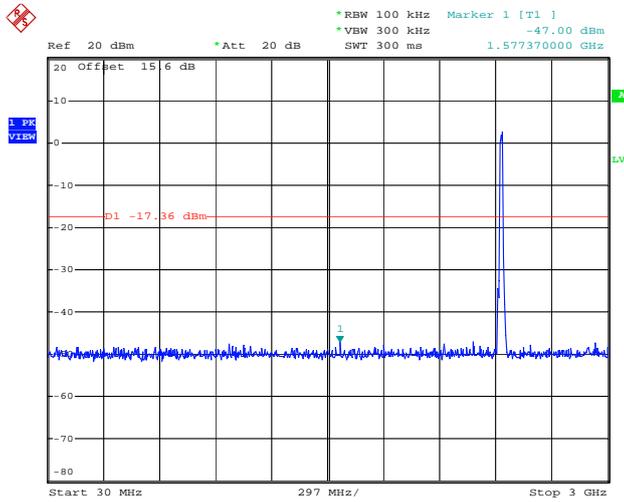


Date: 9.FEB.2013 20:45:54



2.4GHz 802.11n HT20 30 MHz~3 GHz

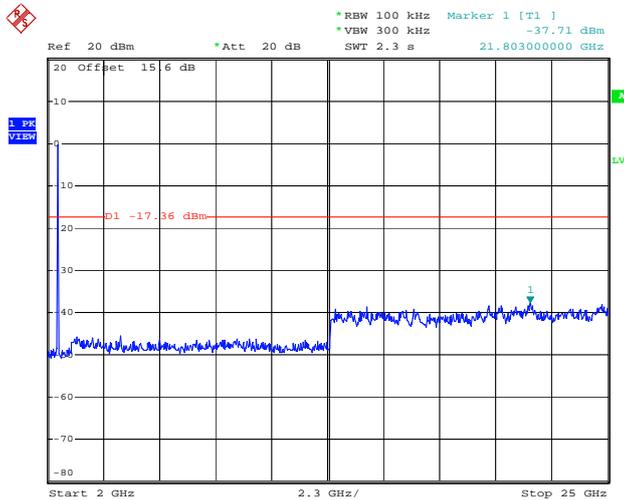
Conducted Spurious Emission Plot on Channel 06



Date: 9.FEB.2013 20:48:01

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

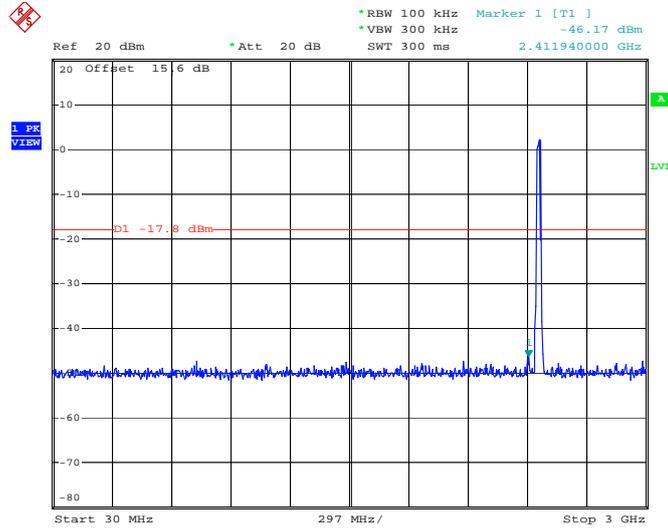


Date: 9.FEB.2013 20:48:20



2.4GHz 802.11n HT20 30 MHz~3 GHz

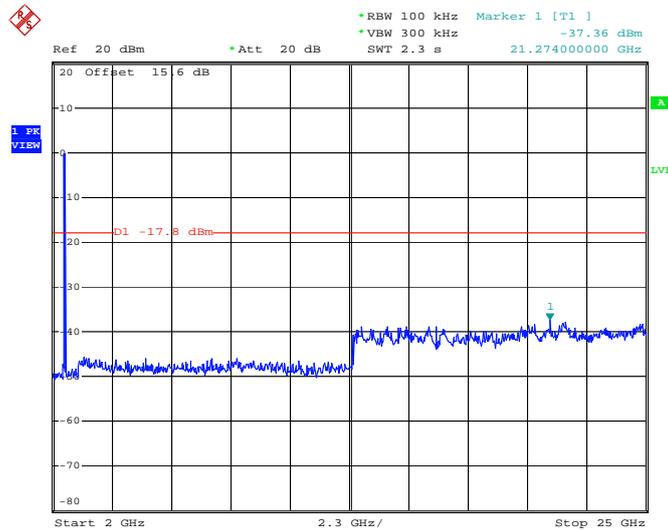
Conducted Spurious Emission Plot on Channel 11



Date: 9.FEB.2013 21:03:53

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



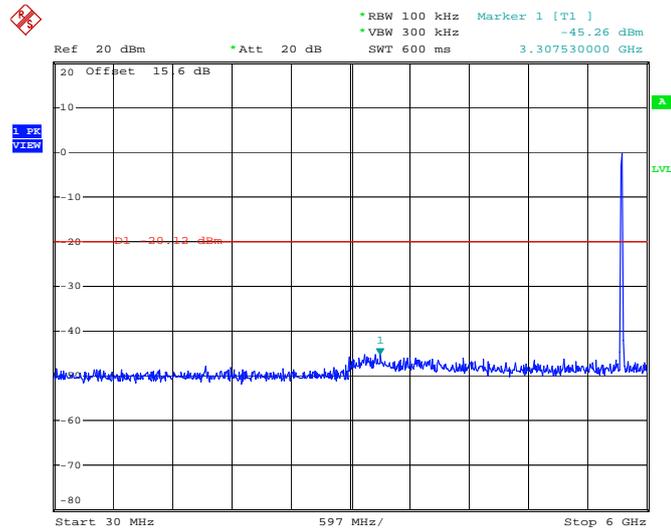
Date: 9.FEB.2013 21:04:11



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	47~48%
Test Channel :	149, 157, 161	Test Engineer :	Lizy Li

802.11a 30 MHz~6 GHz

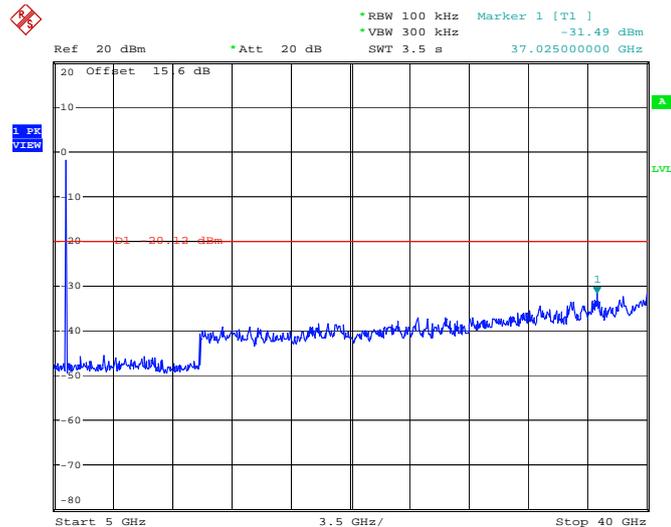
Conducted Spurious Emission Plot on Channel 149



Date: 12.APR.2013 02:55:53

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 149

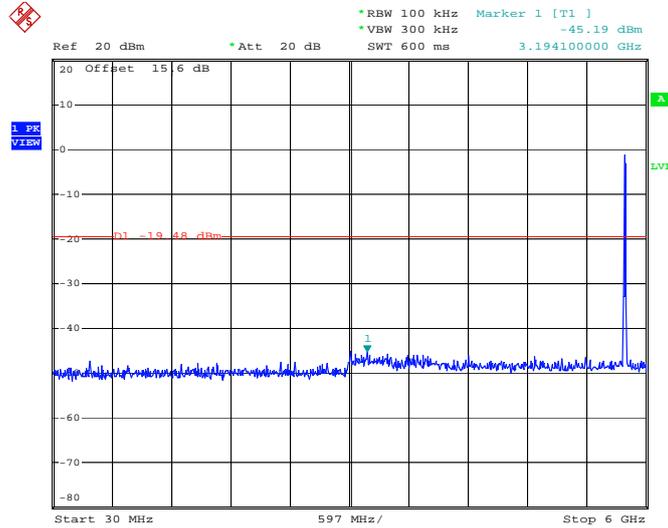


Date: 12.APR.2013 02:56:12



802.11a 30 MHz~6 GHz

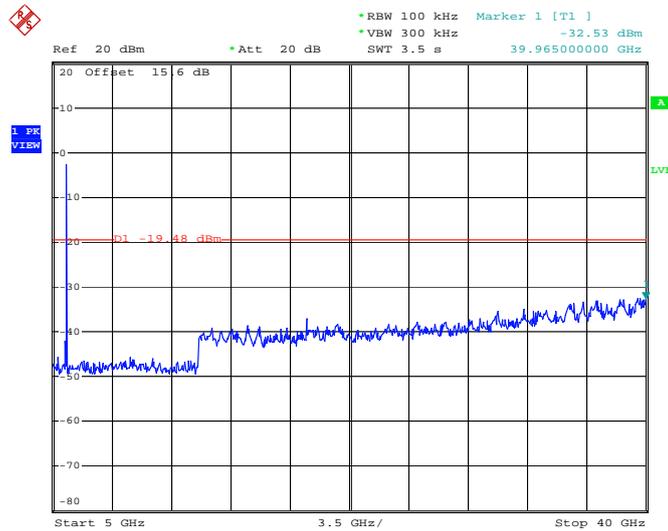
Conducted Spurious Emission Plot on Channel 157



Date: 12.APR.2013 02:59:33

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 157

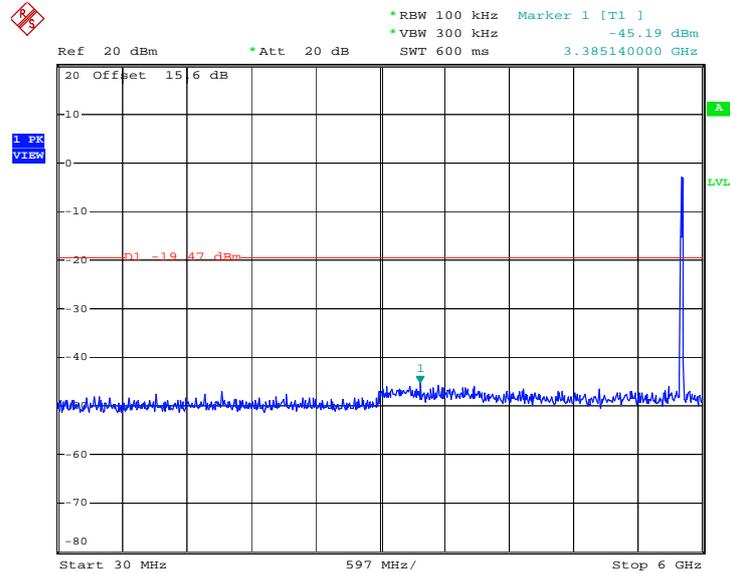


Date: 12.APR.2013 02:59:51



802.11a 30 MHz~6 GHz

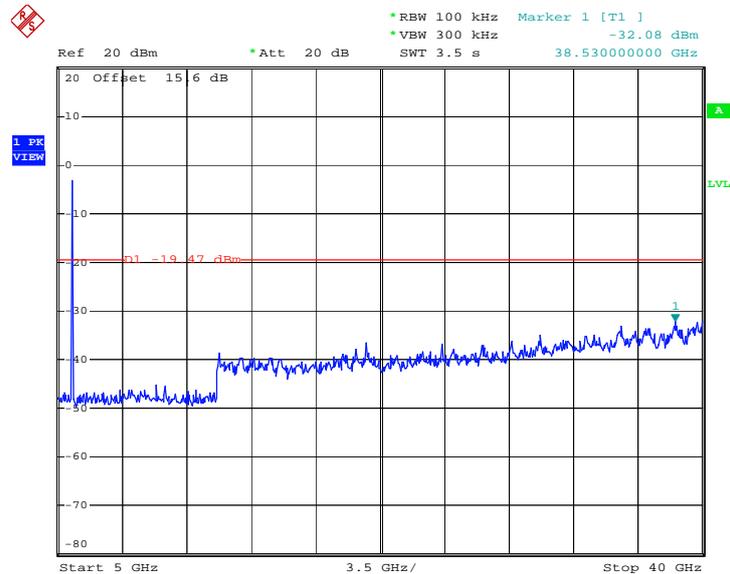
Conducted Spurious Emission Plot on Channel 161



Date: 12.APR.2013 03:02:10

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 161



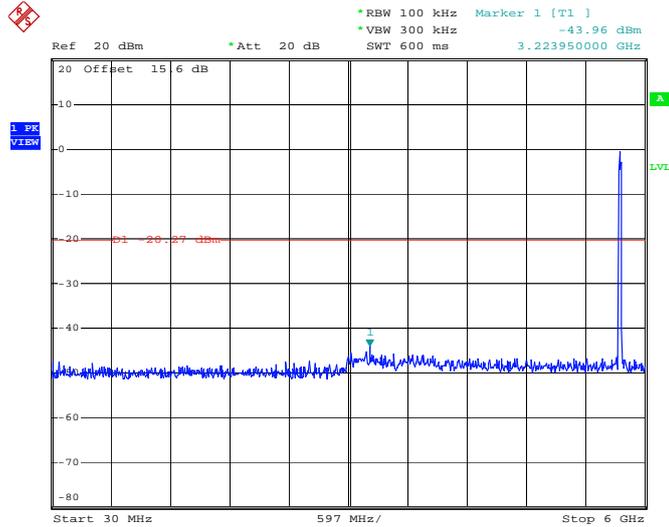
Date: 12.APR.2013 03:02:29



Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	30MHz-5GHz and 5G-40GHz	Relative Humidity :	47~48%
Test Channel :	149, 157, 161	Test Engineer :	Lizy Li

5.8GHz 802.11n HT20 30 MHz~6 GHz

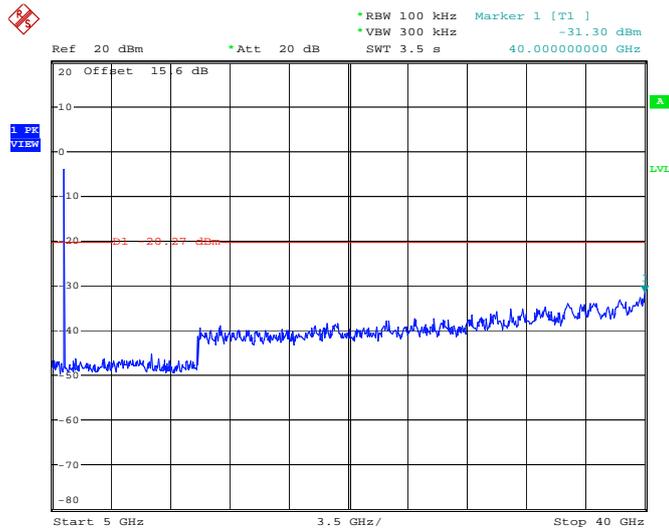
Conducted Spurious Emission Plot on Channel 149



Date: 12.APR.2013 03:06:35

5.8GHz 802.11n HT20 5 GHz~40 GHz

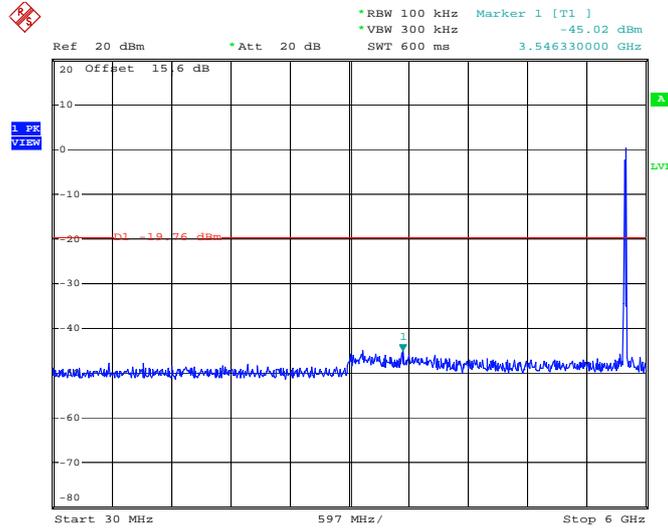
Conducted Spurious Emission Plot on Channel 149



Date: 12.APR.2013 03:06:54

5.8GHz 802.11n HT20 30 MHz~6 GHz

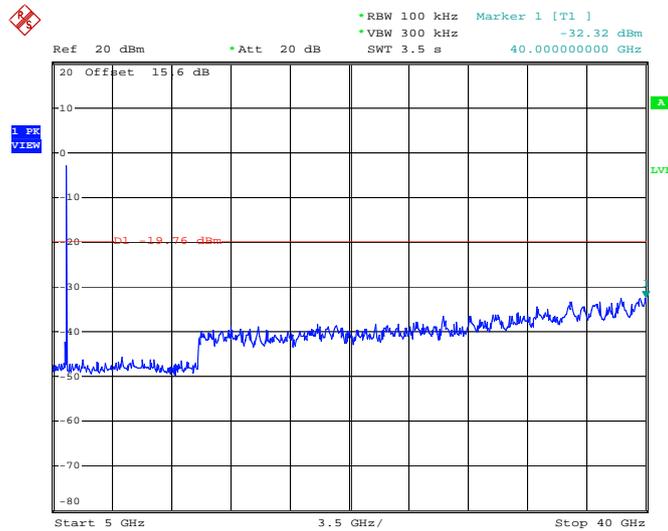
Conducted Spurious Emission Plot on Channel 157



Date: 12.APR.2013 03:10:05

5.8GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 157

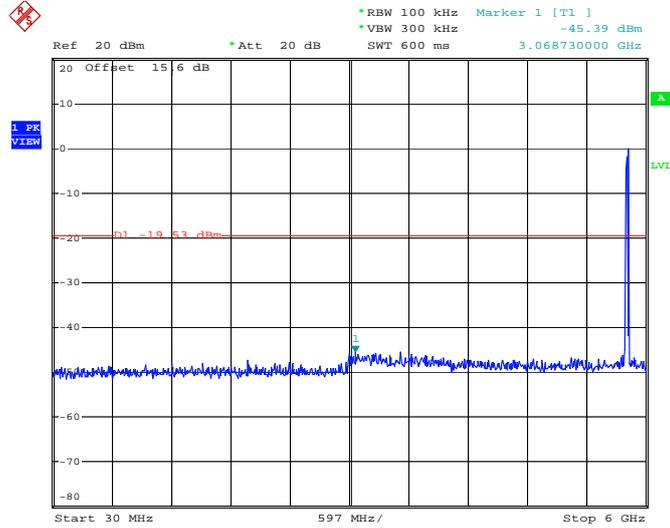


Date: 12.APR.2013 03:10:23



5.8GHz 802.11n HT20 30 MHz~6 GHz

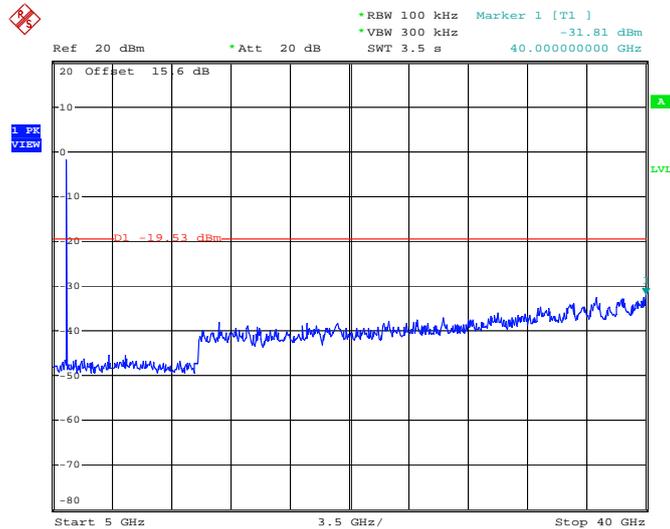
Conducted Spurious Emission Plot on Channel 161



Date: 12.APR.2013 03:13:09

5.8GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 161



Date: 12.APR.2013 03:13:27

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

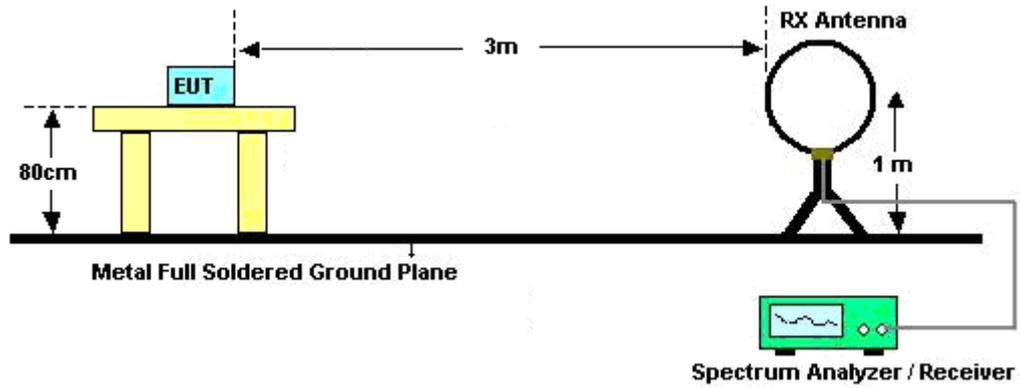
1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, $VBW = 3$ MHz for $f \geq 1$ GHz for peak measurement.
 For average measurement:
 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, 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(ms)	1/T(KHz)	VBW Setting
802.11b	82.456	0.940	1.064	3KHz
802.11g	46.561	0.176	5.682	10KHz
2.4GHz 802.11n HT20	44.809	0.164	6.098	10KHz
802.11a	86.875	1.39	0.719	1KHz
5.8GHz 802.11n HT20	85.146	1.284	0.779	1KHz

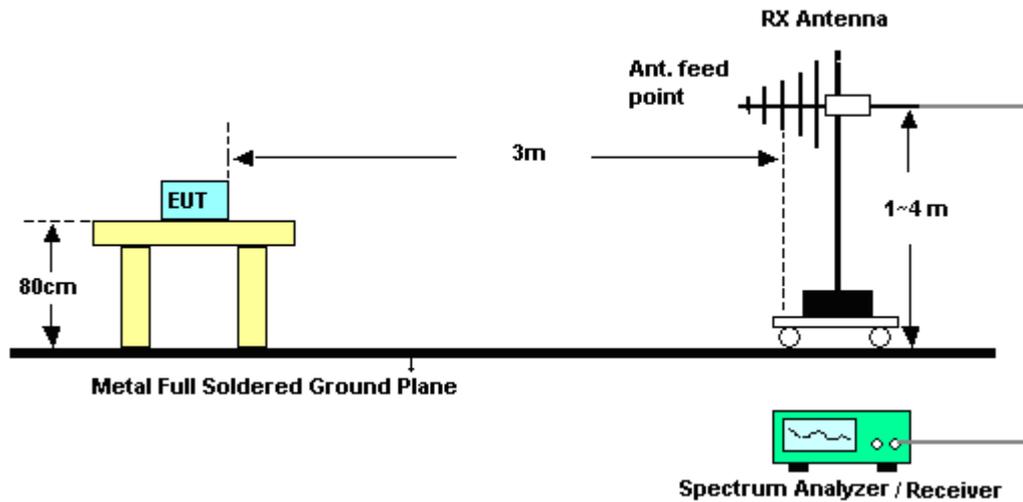
Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

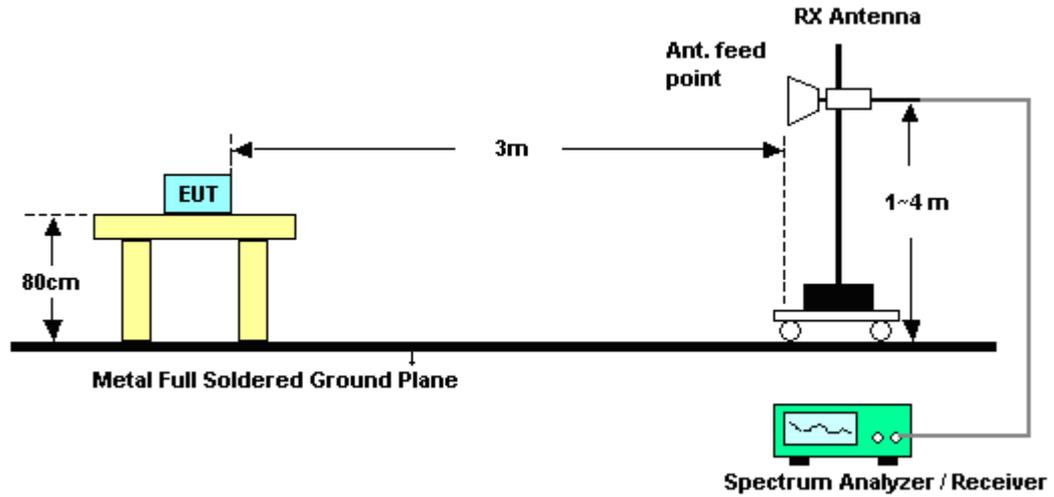
For radiated emissions below 30MHz



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

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	43~44%
Test Channel :	01	Test Engineer :	Stone Gu

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	56.38	-17.62	74	52.92	32.86	2.11	31.51	200	60	Peak
2390	45.74	-8.26	54	42.28	32.86	2.11	31.51	200	60	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
2389.74	51.96	-22.04	74	48.5	32.86	2.11	31.51	100	225	Peak
2390	43.97	-10.03	54	40.51	32.86	2.11	31.51	100	225	Average

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	43~44%
Test Channel :	11	Test Engineer :	Stone Gu

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
2484.19	58.84	-15.16	74	55.18	33.01	2.16	31.51	100	236	Peak
2483.5	49.05	-4.95	54	45.39	33.01	2.16	31.51	200	48	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
2484.82	53.33	-20.67	74	49.67	33.01	2.16	31.51	110	220	Peak
2483.53	43.12	-10.88	54	39.46	33.01	2.16	31.51	110	218	Average



Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	43~44%
Test Channel :	01	Test Engineer :	Stone Gu

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
2389.92	49.99	-24.01	74	46.53	32.86	2.11	31.51	109	46	Peak
2390	38.52	-15.48	54	35.06	32.86	2.11	31.51	109	45	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
2386.05	49.21	-24.79	74	45.75	32.86	2.11	31.51	123	274	Peak
2390	37.52	-16.48	54	34.06	32.86	2.11	31.51	120	280	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	43~44%
Test Channel :	11	Test Engineer :	Stone Gu

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
2484.25	54.14	-19.86	74	50.48	33.01	2.16	31.51	114	42	Peak
2483.5	40.01	-13.99	54	36.35	33.01	2.16	31.51	114	43	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	50.2	-23.8	74	46.54	33.01	2.16	31.51	146	214	Peak
2483.5	37.67	-16.33	54	34.01	33.01	2.16	31.51	146	214	Average



Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	43~44%
Test Channel :	01	Test Engineer :	Stone Gu

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	48.63	-25.37	74	45.17	32.86	2.11	31.51	108	183	Peak
2390	37.14	-16.86	54	33.68	32.86	2.11	31.51	108	183	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
2390	48.79	-25.21	74	45.33	32.86	2.11	31.51	147	281	Peak
2390	37.73	-16.27	54	34.27	32.86	2.11	31.51	147	281	Average

Test Mode :	2.4GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	43~44%
Test Channel :	11	Test Engineer :	Stone Gu

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	50.03	-23.97	74	46.37	33.01	2.16	31.51	200	65	Peak
2483.5	38.71	-15.29	54	35.05	33.01	2.16	31.51	200	65	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	47.15	-26.85	74	43.49	33.01	2.16	31.51	116	320	Peak
2483.5	37.83	-16.17	54	34.17	33.01	2.16	31.51	116	320	Average



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	43~44%
Test Channel :	149	Test Engineer :	Stone Gu

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
5722.65	74.69	-10.27	84.96	66.8	35.52	3.22	30.85	109	330	Peak
5745	104.96	-	-	97.07	35.52	3.21	30.84	109	331	Peak
5745	93	-	-	85.11	35.52	3.21	30.84	109	331	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
5722.55	69.64	-11.29	80.93	61.75	35.52	3.22	30.85	153	240	Peak
5745	100.93	-	-	93.04	35.52	3.21	30.84	153	246	Peak
5745	89.46	-	-	81.57	35.52	3.21	30.84	153	246	Average

Remark: 5722.65 MHz and 5722.65 MHz are not within restricted bands, and their limit lines are 20dB below the highest emission level. For example, 104.96 dBμV/m - 20dB = 84.96 dBμV/m.



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	43~44%
Test Channel :	161	Test Engineer :	Stone Gu

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
5805	103.65	-	-	95.72	35.55	3.17	30.79	143	328	Peak
5805	91.77	-	-	83.84	35.55	3.17	30.79	143	328	Average
5850	51.9	-31.75	83.65	43.95	35.56	3.16	30.77	143	328	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
5805	99.58	-	-	91.65	35.55	3.17	30.79	150	241	Peak
5805	87.22	-	-	79.29	35.55	3.17	30.79	150	241	Average
5850	51.11	-28.47	79.58	43.16	35.56	3.16	30.77	150	241	Peak

Remark: 5850 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	43~44%
Test Channel :	149	Test Engineer :	Stone Gu

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
5723.65	72.78	-11.13	83.91	64.89	35.52	3.22	30.85	159	320	Peak
5745	103.91	-	-	96.02	35.52	3.21	30.84	159	320	Peak
5745	92.59	-	-	84.7	35.52	3.21	30.84	159	320	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
5724	68.71	-9.92	78.63	60.82	35.52	3.22	30.85	141	244	Peak
5745	98.63	-	-	90.74	35.52	3.21	30.84	141	244	Peak
5745	87.9	-	-	80.01	35.52	3.21	30.84	141	244	Average

Remark: 5723.65 MHz and 5724 MHz are not within restricted bands, and their limit lines are 20dB below the highest emission level.



Test Mode :	5.8GHz 802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	43~44%
Test Channel :	161	Test Engineer :	Stone Gu

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
5805	101.25	-	-	93.32	35.55	3.17	30.79	156	321	Peak
5805	91.03	-	-	83.1	35.55	3.17	30.79	156	321	Average
5850	51.81	-29.44	81.25	43.86	35.56	3.16	30.77	156	321	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
5805	96.67	-	-	88.74	35.55	3.17	30.79	165	250	Peak
5805	85.36	-	-	77.43	35.55	3.17	30.79	165	250	Average
5850	51.44	-25.23	76.67	43.49	35.56	3.16	30.77	165	250	Peak

Remark: 5850 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

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.

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2398.92MHz and 7236MHz are not within restricted bands, and their limit lines are 20dB below the highest emission level. For example, 107.27dBuV/m - 20dB = 87.27dBuV/m. 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
2398.92	75.37	-11.9	87.27	71.91	32.86	2.11	31.51	200	60	Peak
2412	107.27	-	-	103.77	32.89	2.12	31.51	200	60	Peak
2412	99.98	-	-	96.48	32.89	2.12	31.51	200	60	Average
4824	48.25	-25.75	74	41.52	35.17	3.09	31.53	125	48	Peak
7236	49.88	-37.39	87.27	41.41	36.18	3.24	30.95	100	327	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2397.84MHz and 7236MHz are not within restricted bands, and their limit lines are 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
2397.84	72	-12.25	84.25	68.54	32.86	2.11	31.51	100	224	Peak
2412	104.25	-	-	100.75	32.89	2.12	31.51	100	224	Peak
2412	96.44	-	-	92.94	32.89	2.12	31.51	100	224	Average
4824	49.56	-24.44	74	42.83	35.17	3.09	31.53	138	112	Peak
7236	49.7	-34.55	84.25	41.23	36.18	3.24	30.95	100	31	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	108.75	-	-	105.17	32.95	2.14	31.51	200	54	Peak
2437	102.15	-	-	98.57	32.95	2.14	31.51	200	54	Average
4874	50.5	-23.5	74	43.72	35.18	3.12	31.52	100	231	Peak
7312	49.35	-24.65	74	40.88	36.2	3.21	30.94	100	0	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
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	104.04	-	-	100.46	32.95	2.14	31.51	120	210	Peak
2437	97.68	-	-	94.1	32.95	2.14	31.51	120	210	Average
4874	49.94	-24.06	74	43.16	35.18	3.12	31.52	100	0	Peak
7312	49.81	-24.19	74	41.34	36.2	3.21	30.94	100	0	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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
30	20.26	-19.74	40	35.49	18	0.34	33.57	100	251	Peak
111.48	16.84	-26.66	43.5	38.04	11.8	0.61	33.61	-	-	Peak
199.75	18.99	-24.51	43.5	42.73	9	0.82	33.56	-	-	Peak
297.72	21.41	-24.59	46	40.83	12.97	0.99	33.38	-	-	Peak
609.09	19.65	-26.35	46	32.55	18.64	1.41	32.95	-	-	Peak
846.74	21.64	-24.36	46	32.26	20.48	1.63	32.73	-	-	Peak
2462	107.12	-	-	103.5	32.98	2.15	31.51	200	48	Peak
2462	99.58	-	-	95.96	32.98	2.15	31.51	200	48	Average
4924	49.03	-24.97	74	42.2	35.19	3.15	31.51	200	0	Peak
7386	50.93	-23.07	74	42.43	36.24	3.19	30.93	125	341	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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
30	24.51	-15.49	40	39.74	18	0.34	33.57	121	132	Peak
100.81	15.77	-27.73	43.5	38.18	10.62	0.58	33.61	-	-	Peak
197.81	14.9	-28.6	43.5	38.73	8.91	0.82	33.56	-	-	Peak
305.48	16.97	-29.03	46	36.21	13.13	1	33.37	-	-	Peak
459.71	19.76	-26.24	46	35.3	16.43	1.22	33.19	-	-	Peak
814.73	21.03	-24.97	46	32.02	20.01	1.65	32.65	-	-	Peak
2462	104.03	-	-	100.41	32.98	2.15	31.51	110	219	Peak
2462	95.2	-	-	91.58	32.98	2.15	31.51	110	219	Average
4924	50.52	-23.48	74	43.69	35.19	3.15	31.51	100	0	Peak
7386	50.31	-23.69	74	41.81	36.24	3.19	30.93	100	0	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2399MHz and 7236MHz are not within restricted bands, and their limit lines are 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
2399	68.11	-11.02	79.13	64.65	32.86	2.11	31.51	109	46	Peak
2412	99.13	-	-	95.63	32.89	2.12	31.51	109	46	Peak
2412	89.13	-	-	85.63	32.89	2.12	31.51	109	46	Average
4824	50.84	-23.16	74	44.11	35.17	3.09	31.53	100	254	Peak
7236	49.71	-29.42	79.13	41.24	36.18	3.24	30.95	110	210	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2398.74MHz and 7236MHz are not within restricted bands, and their limit lines are 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
2398.74	61.47	-12.67	74.14	58.01	32.86	2.11	31.51	123	274	Peak
2412	94.14	-	-	90.64	32.89	2.12	31.51	122	273	Peak
2412	83.3	-	-	79.8	32.89	2.12	31.51	122	273	Average
4824	48.8	-25.2	74	42.07	35.17	3.09	31.53	105	159	Peak
7236	50.37	-23.77	74.14	41.9	36.18	3.24	30.95	100	210	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.32	-	-	98.74	32.95	2.14	31.51	107	42	Peak
2437	91.82	-	-	88.24	32.95	2.14	31.51	107	42	Average
4874	48.83	-25.17	74	42.05	35.18	3.12	31.52	100	123	Peak
7312	49.5	-24.5	74	41.03	36.2	3.21	30.94	110	145	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
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	97.85	-	-	94.27	32.95	2.14	31.51	112	320	Peak
2437	87.11	-	-	83.53	32.95	2.14	31.51	112	320	Average
4874	48.38	-25.62	74	41.6	35.18	3.12	31.52	100	102	Peak
7312	49.29	-24.71	74	40.82	36.2	3.21	30.94	100	123	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	100.88	-	-	97.26	32.98	2.15	31.51	114	43	Peak
2462	90.8	-	-	87.18	32.98	2.15	31.51	114	43	Average
4924	48.12	-25.88	74	41.29	35.19	3.15	31.51	100	123	Peak
7386	49.83	-24.17	74	41.33	36.24	3.19	30.93	100	125	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	96.67	-	-	93.05	32.98	2.15	31.51	141	321	Peak
2462	86.14	-	-	82.52	32.98	2.15	31.51	141	321	Average
4924	48.75	-25.25	74	41.92	35.19	3.15	31.51	100	124	Peak
7386	49.95	-24.05	74	41.45	36.24	3.19	30.93	100	159	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2398.74MHz and 7236MHz are not within restricted bands, and their limit lines are 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
2398.74	52.31	-23.69	76	48.85	32.86	2.11	31.51	108	183	Peak
2412	96	-	-	92.5	32.89	2.12	31.51	141	56	Peak
2412	86.04	-	-	82.54	32.89	2.12	31.51	141	56	Average
4824	47.75	-26.25	74	41.02	35.17	3.09	31.53	102	158	Peak
7236	49.74	-26.26	76	41.27	36.18	3.24	30.95	152	158	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 2398.38MHz and 7236MHz are not within restricted bands, and their limit lines are 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
2398.38	60.14	-11.65	71.79	56.68	32.86	2.11	31.51	147	281	Peak
2412	91.79	-	-	88.29	32.89	2.12	31.51	100	244	Peak
2412	82.7	-	-	79.2	32.89	2.12	31.51	100	244	Average
4824	47.43	-26.57	74	40.7	35.17	3.09	31.53	100	100	Peak
7236	49.89	-21.9	71.79	41.42	36.18	3.24	30.95	100	123	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	101	-	-	97.42	32.95	2.14	31.51	108	54	Peak
2437	90.25	-	-	86.67	32.95	2.14	31.51	108	54	Average
4874	48.86	-25.14	74	42.08	35.18	3.12	31.52	100	102	Peak
7311	49.49	-24.51	74	41.02	36.2	3.21	30.94	102	156	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
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	100.07	-	-	96.49	32.95	2.14	31.51	135	57	Peak
2437	89.79	-	-	86.21	32.95	2.14	31.51	135	57	Average
4874	49.17	-24.83	74	42.39	35.18	3.12	31.52	123	158	Peak
7311	50.16	-23.84	74	41.69	36.2	3.21	30.94	112	157	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	99.06	-	-	95.44	32.98	2.15	31.51	138	59	Peak
2462	89.16	-	-	85.54	32.98	2.15	31.51	138	59	Average
4924	48.71	-25.29	74	41.88	35.19	3.15	31.51	110	157	Peak
7386	50.24	-23.76	74	41.74	36.24	3.19	30.93	100	157	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	93.81	-	-	90.19	32.98	2.15	31.51	113	271	Peak
2462	82.33	-	-	78.71	32.98	2.15	31.51	113	271	Average
4924	48.22	-25.78	74	41.39	35.19	3.15	31.51	110	168	Peak
7386	49.67	-24.33	74	41.17	36.24	3.19	30.93	120	185	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5722.65MHz 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
5722.65	74.69	-10.27	84.96	66.8	35.52	3.22	30.85	109	331	Peak
5745	104.96	-	-	97.07	35.52	3.21	30.84	109	331	Peak
5745	93	-	-	85.11	35.52	3.21	30.84	109	331	Average
11490	50.22	-23.78	74	37.48	38.09	4.47	29.82	100	230	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5722.55MHz 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
5722.55	69.64	-11.29	80.93	61.75	35.52	3.22	30.85	153	246	Peak
5745	100.93	-	-	93.04	35.52	3.21	30.84	153	246	Peak
5745	89.46	-	-	81.57	35.52	3.21	30.84	153	246	Average
11490	50.44	-23.56	74	37.7	38.09	4.47	29.82	103	65	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	104.02	-	-	96.11	35.53	3.19	30.81	158	323	Peak
5785	92.03	-	-	84.12	35.53	3.19	30.81	158	323	Average
11571	50.09	-23.91	74	37.23	38.14	4.52	29.8	121	324	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
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	101.29	-	-	93.38	35.53	3.19	30.81	126	251	Peak
5785	89.11	-	-	81.2	35.53	3.19	30.81	126	251	Average
11571	50.05	-23.95	74	37.19	38.14	4.52	29.8	122	321	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	161	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5850MHz 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
5805	103.65	-	-	95.72	35.55	3.17	30.79	143	328	Peak
5805	91.77	-	-	83.84	35.55	3.17	30.79	143	328	Average
5850	51.9	-31.75	83.65	43.95	35.56	3.16	30.77	143	328	Peak
11610	49.6	-24.4	74	36.68	38.16	4.55	29.79	100	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	161	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5850MHz 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
5805	99.58	-	-	91.65	35.55	3.17	30.79	150	241	Peak
5805	87.22	-	-	79.29	35.55	3.17	30.79	150	241	Average
5850	51.11	-28.47	79.58	43.16	35.56	3.16	30.77	150	241	Peak
11610	49.42	-24.58	74	36.5	38.16	4.55	29.79	200	0	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5723.65MHz 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
5723.65	72.78	-11.13	83.91	64.89	35.52	3.22	30.85	159	320	Peak
5745	103.91	-	-	96.02	35.52	3.21	30.84	159	320	Peak
5745	92.59	-	-	84.7	35.52	3.21	30.84	159	320	Average
11490	50.56	-23.44	74	37.82	38.09	4.47	29.82	121	32	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5724MHz 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
5724	68.71	-9.92	78.63	60.82	35.52	3.22	30.85	141	244	Peak
5745	98.63	-	-	90.74	35.52	3.21	30.84	141	244	Peak
5745	87.9	-	-	80.01	35.52	3.21	30.84	141	244	Average
11490	50.49	-23.51	74	37.75	38.09	4.47	29.82	110	326	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	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	102.66	-	-	94.75	35.53	3.19	30.81	120	325	Peak
5785	90.73	-	-	82.82	35.53	3.19	30.81	120	325	Average
11571	50.02	-23.98	74	37.16	38.14	4.52	29.8	100	312	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
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	98.41	-	-	90.5	35.53	3.19	30.81	140	246	Peak
5785	86.99	-	-	79.08	35.53	3.19	30.81	140	246	Average
11571	50.03	-23.97	74	37.17	38.14	4.52	29.8	103	266	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	161	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Horizontal
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5850MHz 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
5805	101.25	-	-	93.32	35.55	3.17	30.79	156	321	Peak
5805	91.03	-	-	83.1	35.55	3.17	30.79	156	321	Average
5850	51.81	-29.44	81.25	43.86	35.56	3.16	30.77	156	321	Peak
11610	48.93	-25.07	74	36.01	38.16	4.55	29.79	100	0	Peak



Test Mode :	5.8GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	161	Relative Humidity :	43~44%
Test Engineer :	Stone Gu	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5805 MHz is fundamental signal which can be ignored. 5850MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 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
5805	96.67	-	-	88.74	35.55	3.17	30.79	165	250	Peak
5805	85.36	-	-	77.43	35.55	3.17	30.79	165	250	Average
5850	51.44	-25.23	76.67	43.49	35.56	3.16	30.77	165	250	Peak
11610	49.64	-24.36	74	36.72	38.16	4.55	29.79	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 (dBuV)	
	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.

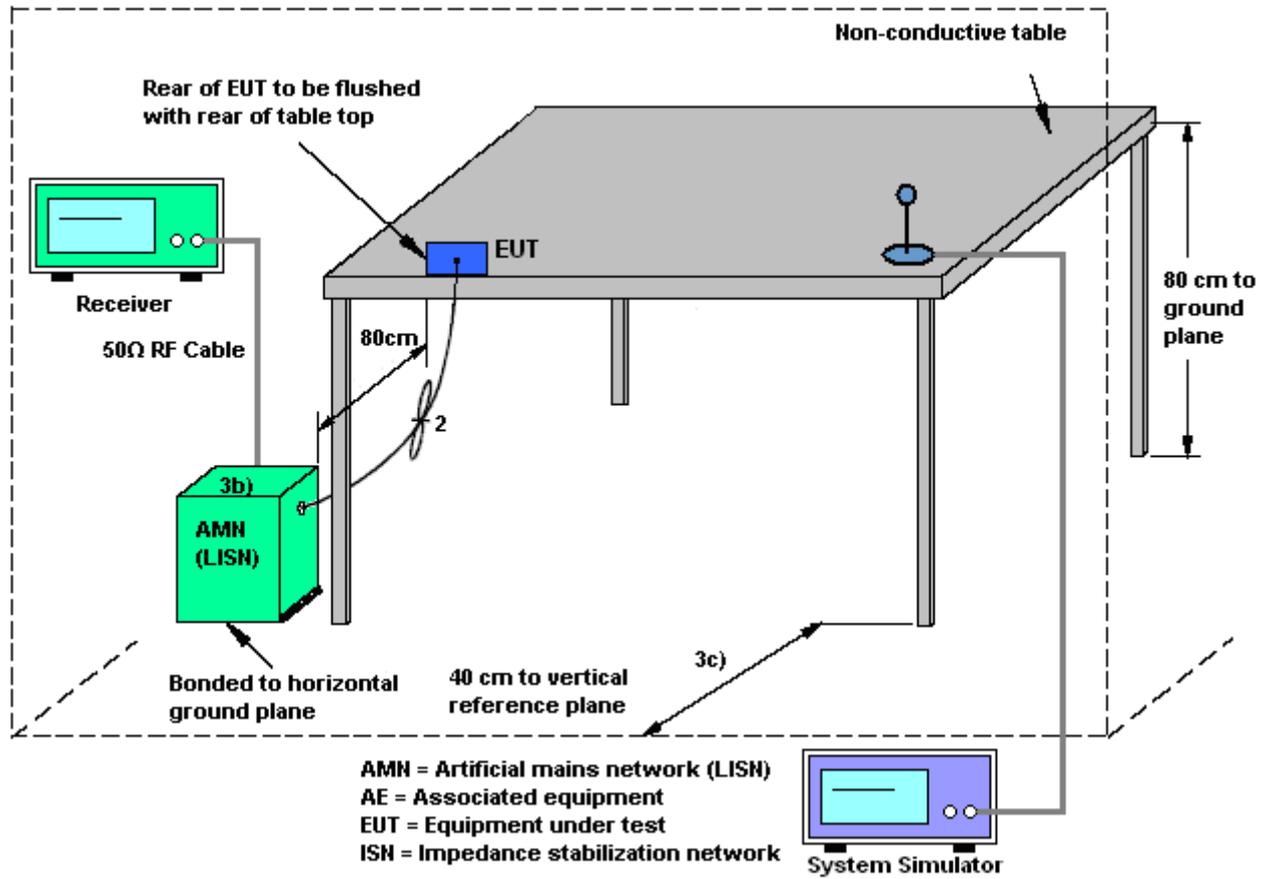
3.6.2 Measuring Instruments

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.

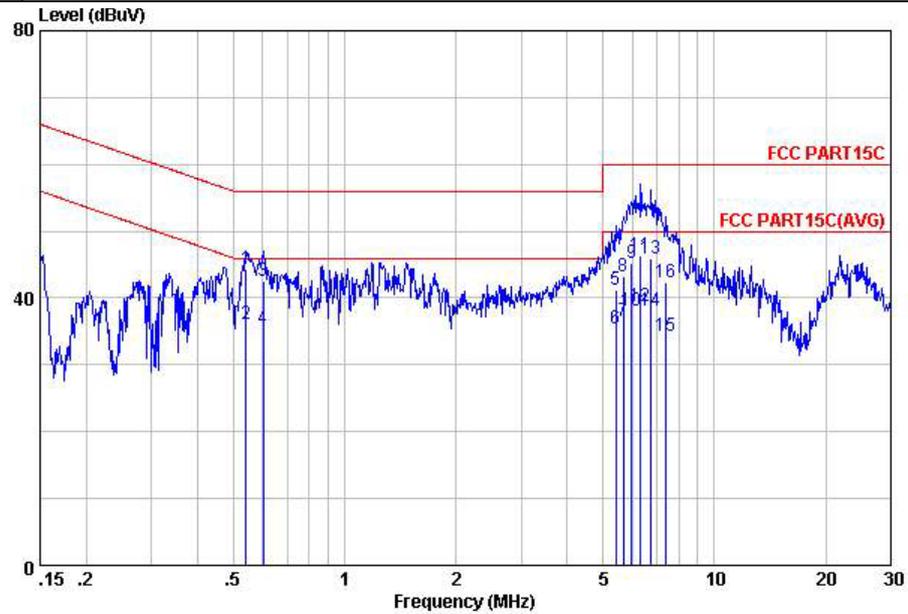
3.6.4 Test Setup





3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN 5GHz Link + USB Cable (Charging from Adapter) + NFC Tx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



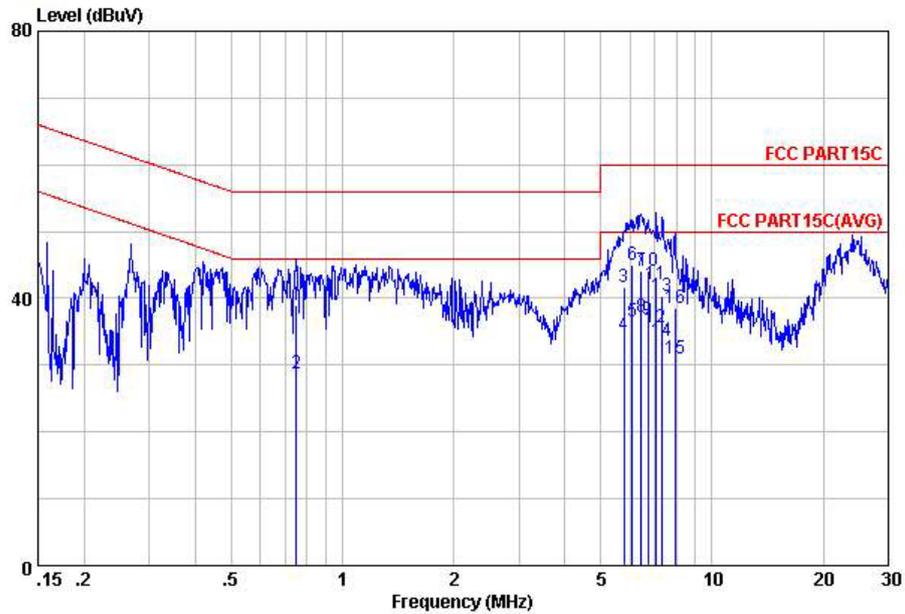
Site : C001-RS
 Condition: FCC PART15C LISN-L20130306 LINE

mode : mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.54	44.36	-11.64	56.00	33.90	0.20	10.26	QP
2	0.54	36.16	-9.84	46.00	25.70	0.20	10.26	Average
3	0.60	42.66	-13.34	56.00	32.20	0.20	10.26	QP
4	0.60	35.36	-10.64	46.00	24.90	0.20	10.26	Average
5	5.42	41.34	-18.66	60.00	30.80	0.20	10.34	QP
6	5.42	35.54	-14.46	50.00	25.00	0.20	10.34	Average
7	5.68	36.64	-13.36	50.00	26.10	0.20	10.34	Average
8	5.68	43.14	-16.86	60.00	32.60	0.20	10.34	QP
9	5.96	45.14	-14.86	60.00	34.60	0.20	10.34	QP
10	5.96	38.14	-11.86	50.00	27.60	0.20	10.34	Average
11	6.32	46.35	-13.65	60.00	35.81	0.20	10.34	QP
12	6.32	38.74	-11.26	50.00	28.20	0.20	10.34	Average
13	6.73	45.85	-14.15	60.00	35.30	0.20	10.35	QP
14	6.73	38.15	-11.85	50.00	27.60	0.20	10.35	Average
15	7.41	34.25	-15.75	50.00	23.70	0.20	10.35	Average
16	7.41	42.25	-17.75	60.00	31.70	0.20	10.35	QP



Test Mode :	Mode 2	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN 5GHz Link + USB Cable (Charging from Adapter) + NFC Tx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
 Condition: FCC PART15C LISN-N20130306 NEUTRAL

mode : mode 2

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.75	38.96	-17.04	56.00	28.50	0.19	10.27	QP
2	0.75	28.76	-17.24	46.00	18.30	0.19	10.27	Average
3	5.77	41.74	-18.26	60.00	31.20	0.20	10.34	QP
4	5.77	34.44	-15.56	50.00	23.90	0.20	10.34	Average
5	6.09	36.64	-13.36	50.00	26.10	0.20	10.34	Average
6	6.09	44.94	-15.06	60.00	34.40	0.20	10.34	QP
7	6.42	44.05	-15.95	60.00	33.50	0.20	10.35	QP
8	6.42	37.25	-12.75	50.00	26.70	0.20	10.35	Average
9	6.70	36.75	-13.25	50.00	26.20	0.20	10.35	Average
10	6.70	44.15	-15.85	60.00	33.60	0.20	10.35	QP
11	7.06	42.05	-17.95	60.00	31.50	0.20	10.35	QP
12	7.06	35.55	-14.45	50.00	25.00	0.20	10.35	Average
13	7.33	40.25	-19.75	60.00	29.70	0.20	10.35	QP
14	7.33	33.75	-16.25	50.00	23.20	0.20	10.35	Average
15	7.94	30.96	-19.04	50.00	20.40	0.20	10.36	Average
16	7.94	38.56	-21.44	60.00	28.00	0.20	10.36	QP



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	R&S	FSP40	100319	9kHz~40GHz	Dec. 29, 2012	Feb. 09, 2013~ Apr. 22, 2013	Dec. 28, 2013	Conducted (TH01-KS)
Power Meter	Agilent	E4416A	MY45101555	N/A	Aug. 22, 2012	Feb. 09, 2013~ Apr. 22, 2013	Aug. 21, 2013	Conducted (TH01-KS)
Power Sensor	Agilent	E9327A	MY44421198	N/A	Aug. 22, 2012	Feb. 09, 2013~ Apr. 22, 2013	Aug. 21, 2013	Conducted (TH01-KS)
DC Power Supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 22, 2012	Feb. 09, 2013~ Apr. 22, 2013	Aug. 21, 2013	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 29, 2012	Feb. 09, 2013~ Apr. 22, 2013	Dec. 28, 2013	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	Apr. 20, 2013	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	100400	9kHz~30GHz	Jun. 01, 2012	Apr. 20, 2013	May 31, 2013	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2012	Apr. 20, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
HFH2-Z2 Loop Antenna	R&S	HFH2-Z2	100321	9KHZ-30MHZ	Oct. 22, 2012	Apr. 20, 2013	Oct. 21, 2013	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2013	Apr. 20, 2013	Jan. 05, 2014	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	Jun. 01, 2012	Apr. 20, 2013	May 31, 2013	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 29, 2012	Apr. 20, 2013	Dec. 28, 2013	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2012	Apr. 20, 2013	Nov. 06, 2013	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	9170249	15GHz~40GHz	Nov. 23, 2012	Apr. 20, 2013	Nov. 22, 2013	Radiation (03CH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 01, 2012	Apr. 24, 2013	May 31, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 29, 2012	Apr. 24, 2013	Dec. 28, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Dec. 29, 2012	Apr. 24, 2013	Dec. 28, 2013	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	N/A	Nov. 15, 2012	Apr. 24, 2013	Nov. 14, 2013	Conduction (CO01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 29, 2012	Apr. 24, 2013	Dec. 28, 2013	Conduction (CO01-KS)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP320404 as below.