

FCC RF Test Report

APPLICANT : HTC Corporation
EQUIPMENT : Smartphone
MODEL NAME : CDMA-HTI13
FCC ID : NM8CDMAHTI13
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Feb. 09, 2012 and completely tested on Mar. 26, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

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

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Feature of Equipment Under Test	6
1.4 Testing Site	7
1.5 Applied Standards	7
1.6 Ancillary Equipment List	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Pre-Scanned RF Power	8
2.2 Maximum Peak Conducted Output Power:	9
2.3 Maximum Average Conducted Output Power:	10
2.4 Test Mode	11
2.5 Connection Diagram of Test System	12
2.6 RF Utility	13
3 TEST RESULT	14
3.1 6dB and 99% Bandwidth Measurement	14
3.2 Output Power Measurement	27
3.3 Band Edges Measurement	42
3.4 Spurious Emission Measurement	57
3.5 Power Spectral Density Measurement	78
3.6 AC Conducted Emission Measurement	92
3.7 Radiated Emission Measurement	97
3.8 Antenna Requirements	134
4 LIST OF MEASURING EQUIPMENT	135
5 UNCERTAINTY OF EVALUATION	136
APPENDIX A. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR220352B	Rev. 01	Initial issue of report	Apr. 03, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	$\leq 20\text{dBc}$	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	$< 20\text{ dBc}$	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}$	Pass	-
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 13.60 dB at 1.230 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.15 dB at 2483.500 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

HTC Corporation

No. 23, Xinghua Rd., Taoyuan City, Taiwan

1.2 Manufacturer

HTC Corporation

1F., No. 6-3, Baoqiang Rd., Xindian City, Taipei, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Smartphone
Model Name	CDMA_HTI13
FCC ID	NM8CDMAHTI13
Sample 1	EUT with LCD Panel 1, Main Camera 1, and 2nd Camera 1
Sample 2	EUT with LCD Panel 1, Main Camera 2, and 2nd Camera 2
Tx/Rx Frequency Range	802.11b/g/n : 2400 MHz ~ 2483.5 MHz 802.11a/n : 5725 MHz ~ 5825 MHz
Channel Spacing	802.11b/g : 5 MHz 802.11a : 20 MHz
Maximum Output Power to Antenna	<2400 MHz ~ 2483.5 MHz> 802.11b : 20.44 dBm (0.1107 W) 802.11g : 19.92 dBm (0.0982 W) 802.11g/n (BW 20MHz) : 18.70 dBm (0.0741 W) 802.11g/n (BW 40MHz) : 17.89 dBm (0.0615 W) <5725 MHz ~ 5825 MHz> 802.11a : 16.70 dBm (0.0468 W) 802.11a/n (BW 20MHz) : 15.90 dBm (0.0389 W) 802.11a/n (BW 40MHz) : 16.14 dBm (0.0411 W)
Duty Cycle	<2400 MHz ~ 2483.5 MHz> 802.11b : 97.62% 802.11g : 86.70% 802.11g/n (BW 20MHz) : 85.87% 802.11g/n (BW 40MHz) : 81.79% <5725 MHz ~ 5825 MHz> 802.11a : 86.70% 802.11a/n (BW 20MHz) : 85.77% 802.11a/n (BW 40MHz) : 81.84%
Antenna Type	802.11b/g/n : PIFA Antenna with gain 1.22 dBi 802.11a/n : PIFA Antenna with gain -1.62 dBi
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

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 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH07HY	722060/4086B-1

1.5 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 v01
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3

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.

1.6 Ancillary Equipment List

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.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY70DA2029	N/A	N/A

2 Test Configuration of Equipment Under Test

2.1 Pre-Scanned RF Power

Preliminary tests were performed in different data rate as below table and the highest power data rates (11b, 11g, 11g/n (BW 20MHz), 11g/n (BW 40MHz), 11a, 11a/n (BW 20MHz), 11a/n (BW 40MHz) modes) were chosen for full test in the following sections to demonstrate compliance to the FCC limit line.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.44	20.42	19.06	18.75

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	19.92	19.71	19.55	19.18	18.96	18.37	17.93	17.76

2.4GHz 802.11g/n (BW 20MHz) mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	18.70	18.43	18.03	17.75	17.36	16.83	16.59	16.36

2.4GHz 802.11g/n (BW 40MHz) mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	17.89	17.57	17.36	17.08	16.75	16.35	16.19	15.94

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	16.70	16.66	16.25	15.62	15.48	14.06	13.16	12.32

5GHz 802.11a/n (BW 20MHz) mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	15.90	15.47	15.36	14.88	15.13	12.85	13.27	12.56

5GHz 802.11a/n (BW 40MHz) mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	16.14	15.7	15.99	15.01	14.93	13.72	13.63	12.41

2.2 Maximum Peak Conducted Output Power:

Band	2.4GHz 802.11b RF Power (dBm)			2.4GHz 802.11g RF Power (dBm)		
Channel	1	6	11	1	6	11
Frequency (MHz)	2412	2437	2462	2412	2437	2462
Peak Power	20.40	20.44	19.43	19.66	19.92	18.90

Band	2.4GHz 802.11g/n (BW 20MHz) RF Peak Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Peak Power	18.26	18.70	18.03

Band	2.4GHz 802.11g/n (BW 40MHz) RF Peak Power (dBm)		
Channel	3	6	09
Frequency (MHz)	2422	2437	2452
Peak Power	17.89	17.87	17.57

Band	2.4GHz 802.11a RF Peak Power (dBm)		
Channel	149	157	161
Frequency (MHz)	5745	5785	5805
Peak Power	16.70	15.36	16.37

Band	2.4GHz 802.11a/n (BW 20MHz) RF Peak Power (dBm)		
Channel	149	157	161
Frequency (MHz)	5745	5785	5805
Peak Power	15.19	15.51	15.90

Band	2.4GHz 802.11a/n (BW 40MHz) RF Peak Power (dBm)	
Channel	151	159
Frequency (MHz)	5755	5795
Peak Power	16.14	16.01

Remark:

The data rates of WLAN 802.11b/g/n/a were set in 1Mbps for 802.11b, 6Mbps for 802.11g, MCS0 for 802.11g/n (BW 20MHz), MCS0 for 802.11g/n (BW 40MHz), 6Mbps for 802.11a, MCS0 for 802.11a/n (BW 20MHz), MCS0 for 802.11a/n (BW 40MHz) for all the test cases due to the highest RF output power.

2.3 Maximum Average Conducted Output Power:

Band	2.4GHz 802.11b RF Power (dBm)			2.4GHz 802.11g RF Power (dBm)		
Channel	1	6	11	1	6	11
Frequency (MHz)	2412	2437	2462	2412	2437	2462
Average Power	17.85	17.86	16.84	13.60	13.91	12.84

Band	2.4GHz 802.11g/n (BW 20MHz) RF Peak Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Average Power	12.31	12.68	12.03

Band	2.4GHz 802.11g/n (BW 40MHz) RF Peak Power (dBm)		
Channel	3	6	09
Frequency (MHz)	2422	2437	2452
Average Power	11.92	11.87	11.53

Band	2.4GHz 802.11a RF Peak Power (dBm)		
Channel	149	157	161
Frequency (MHz)	5745	5785	5805
Average Power	13.26	13.24	13.32

Band	2.4GHz 802.11a/n (BW 20MHz) RF Peak Power (dBm)		
Channel	149	157	161
Frequency (MHz)	5745	5785	5805
Average Power	13.28	13.36	13.32

Band	2.4GHz 802.11a/n (BW 40MHz) RF Peak Power (dBm)	
Channel	151	159
Frequency (MHz)	5755	5795
Average Power	13.31	13.37

Remark:

1. The average power, which is used by the test method, AVG2, in DTS Meas. Guidance v01, is reporting only.
2. The EUT is programmed to transmit signals continuously.

2.4 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 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), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations, laptop / tablet modes.

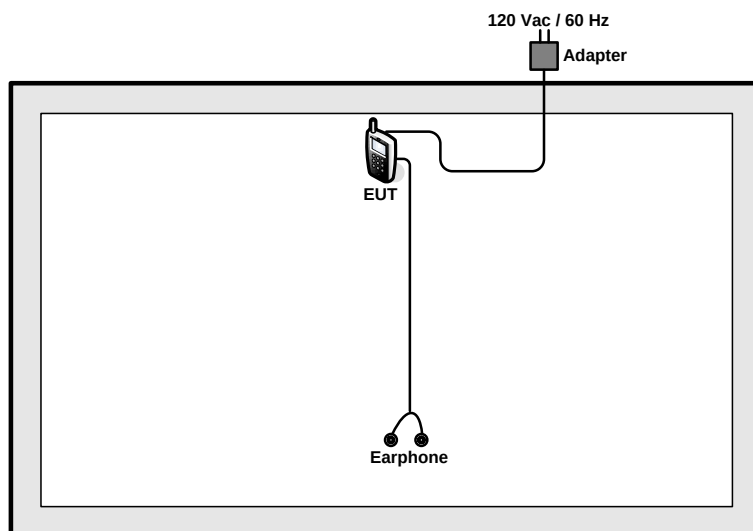
The following table is showing the total pre-scanned test modes, and the worst cases (Y plane for 802.11b/g/n and X plane for 802.11a/n) are recorded in this report only.

Test Cases		
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)	802.11a/n (Modulation : OFDM)
Conducted TCs	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11g/n_CH01_2412 MHz (BW 20M) Mode 8: 802.11g/n_CH06_2437 MHz (BW 20M) Mode 9: 802.11g/n_CH11_2462 MHz (BW 20M) Mode 10: 802.11g/n_CH03_2422 MHz (BW 40M) Mode 11: 802.11g/n_CH06_2437 MHz (BW 40M) Mode 12: 802.11g/n_CH09_2452 MHz (BW 40M)	Mode 13: 802.11a_CH149_5745 MHz Mode 14: 802.11a_CH157_5785 MHz Mode 15: 802.11a_CH161_5805 MHz Mode 16: 802.11a/n_CH149_5745 MHz (BW 20M) Mode 17: 802.11a/n_CH157_5785 MHz (BW 20M) Mode 18: 802.11a/n_CH161_5805 MHz (BW 20M) Mode 19: 802.11a/n_CH151_5755 MHz (BW 40M) Mode 20: 802.11a/n_CH159_5795 MHz (BW 40M)
Radiated TCs	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11g/n_CH01_2412 MHz (BW 20M) Mode 8: 802.11g/n_CH06_2437 MHz (BW 20M) Mode 9: 802.11g/n_CH11_2462 MHz (BW 20M)	Mode 10: 802.11a_CH149_5745 MHz Mode 11: 802.11a_CH157_5785 MHz Mode 12: 802.11a_CH161_5805 MHz Mode 13: 802.11a/n_CH149_5745 MHz (BW 20M) Mode 14: 802.11a/n_CH157_5785 MHz (BW 20M) Mode 15: 802.11a/n_CH161_5805 MHz (BW 20M) Mode 16: 802.11a/n_CH151_5755 MHz (BW 40M) Mode 17: 802.11a/n_CH159_5795 MHz (BW 40M)

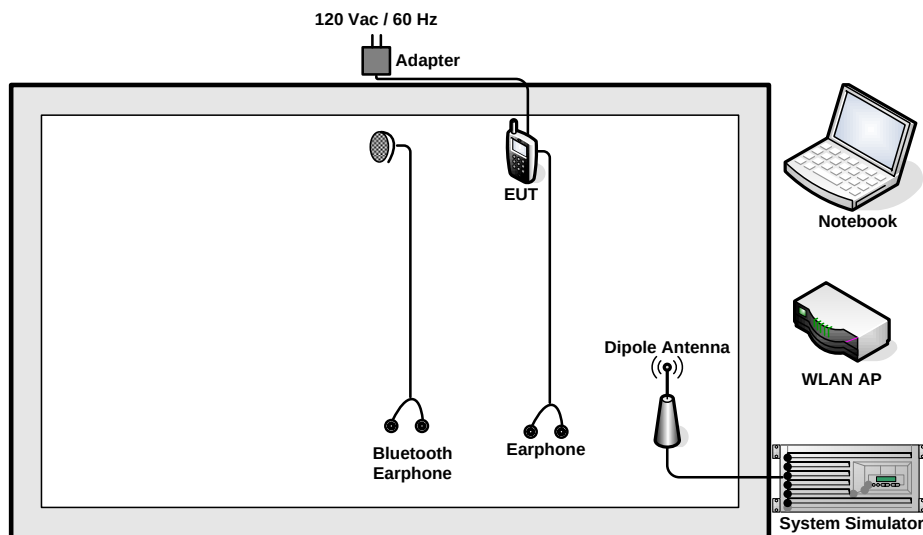
AC Conducted Emission	Mode 1: GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC On + Earphone + Battery 1 + USB Cable (Charging from Adapter) Mode 2: GSM850 Idle + Bluetooth Link + WLAN (5G) Link + NFC On + Earphone + Battery 1 + USB Cable (Charging from Adapter)
Remark: 1. The worst case of conducted emission is mode 1; only the test data of it was reported. 2. All the cases of Radiation Emission were only for Sample 1 and Battery 1. 3. All the cases of Conduction Emission were only for Sample 1.	

2.5 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.6 RF Utility

The programmed RF utility "HTC SSD Test Tool ==> WiFi Router" ==> "QRCT.exe ==> WLAN" 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.

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.

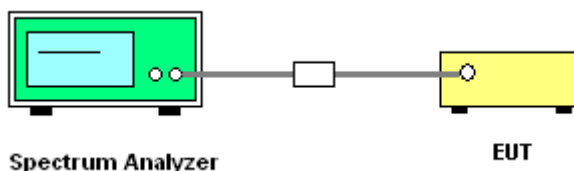
3.1.2 Measuring Instruments

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 v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% of the emission bandwidth (EBW). Set the Video bandwidth (VBW) $\geq 3 * RBW$. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.097	0.5	Pass
06	2437	9.106	0.5	Pass
11	2462	8.682	0.5	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.513	0.5	Pass
06	2437	16.405	0.5	Pass
11	2462	16.362	0.5	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g/n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.724	0.5	Pass
06	2437	17.689	0.5	Pass
11	2462	17.793	0.5	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11 g/n (BW 40MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
03	2422	35.614	0.5	Pass
06	2437	35.827	0.5	Pass
09	2452	36.189	0.5	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.352	0.5	Pass
157	5785	16.397	0.5	Pass
161	5805	16.476	0.5	Pass

Test Mode :	Mode 16, 17, 18	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11 a/n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.670	0.5	Pass
157	5785	17.849	0.5	Pass
161	5805	17.762	0.5	Pass

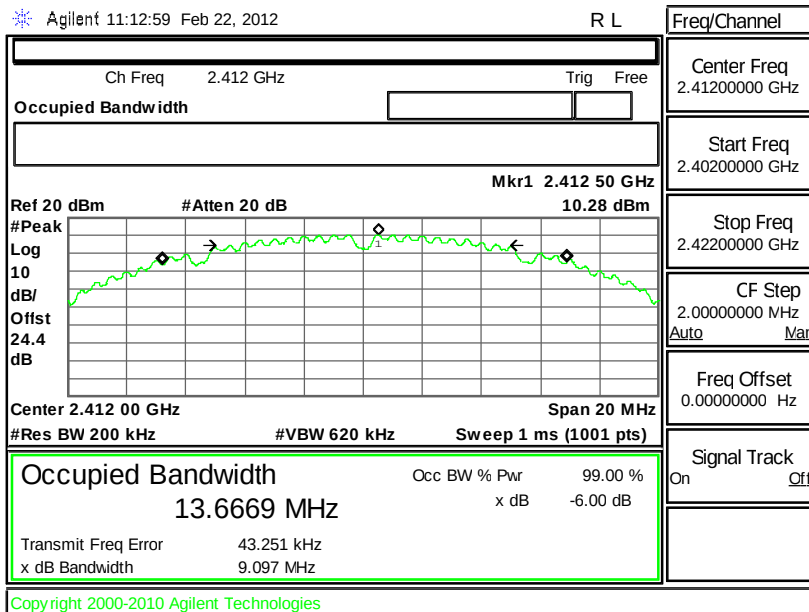
Test Mode :	Mode 19, 20	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11 a/n (BW 40MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	35.883	0.5	Pass
159	5795	35.976	0.5	Pass

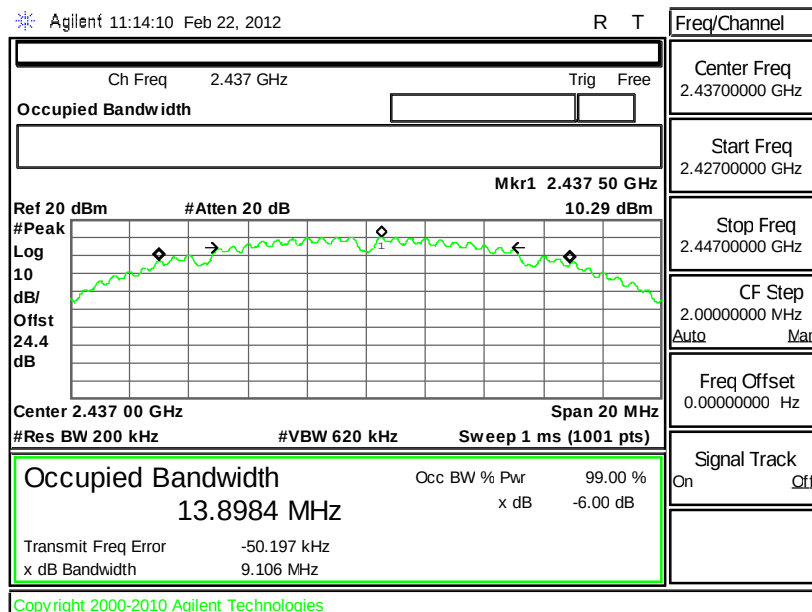


3.1.6 Test Result of 6dB Bandwidth Plots

Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01

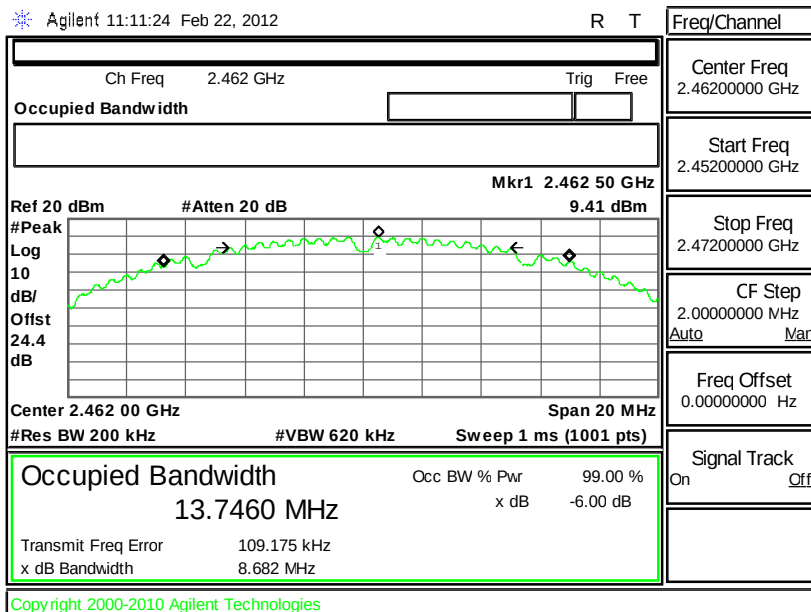


Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06

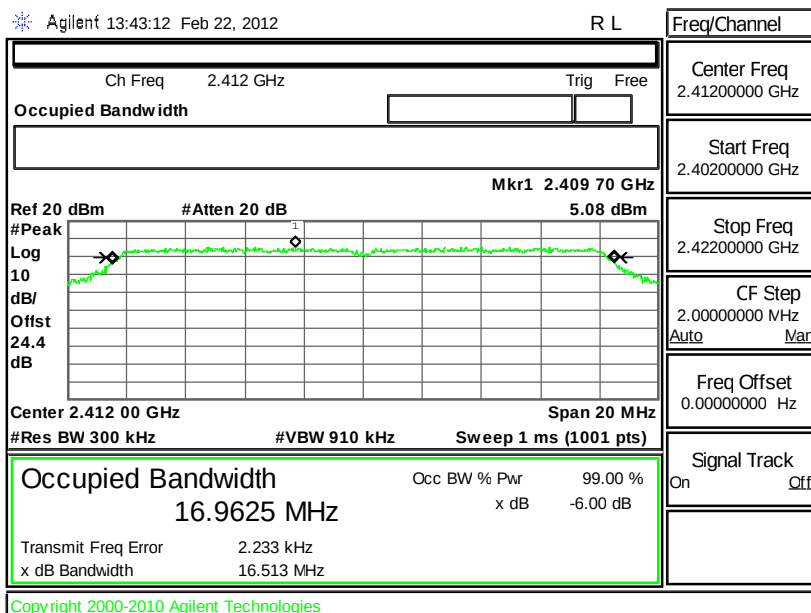




Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11

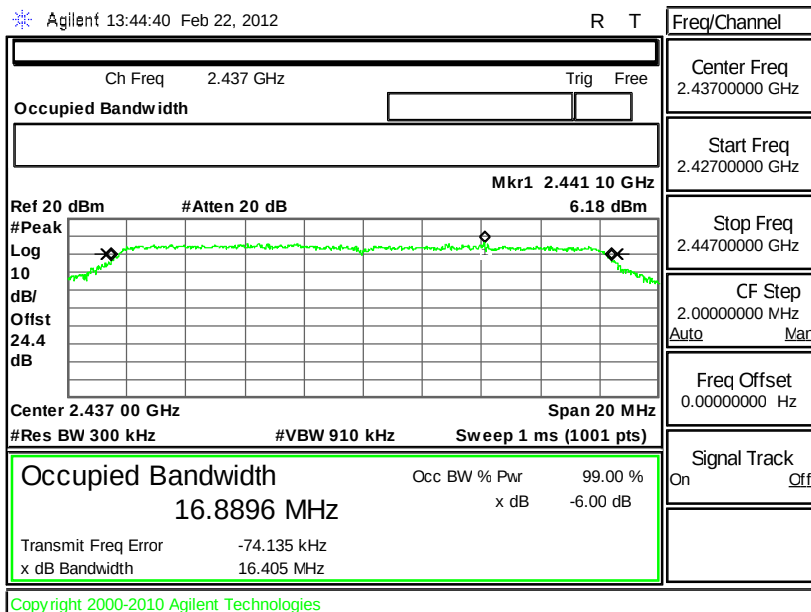


Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01

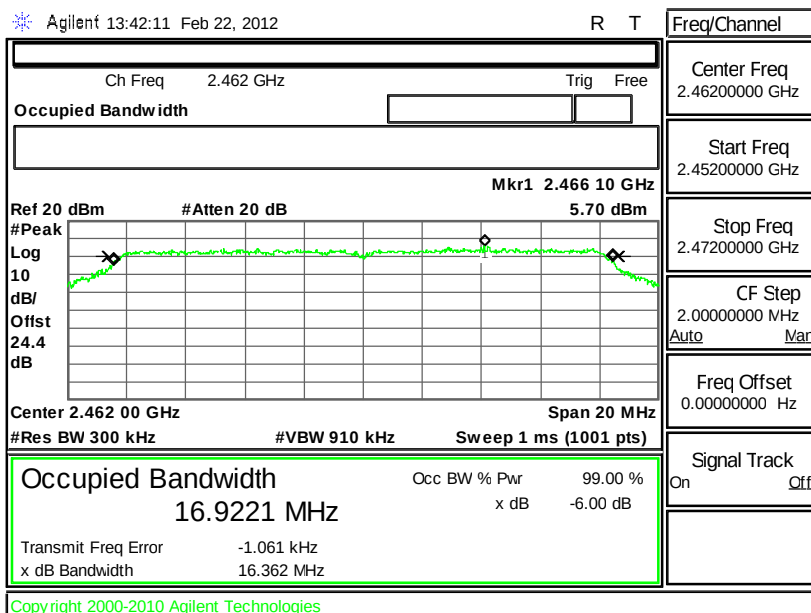




Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06

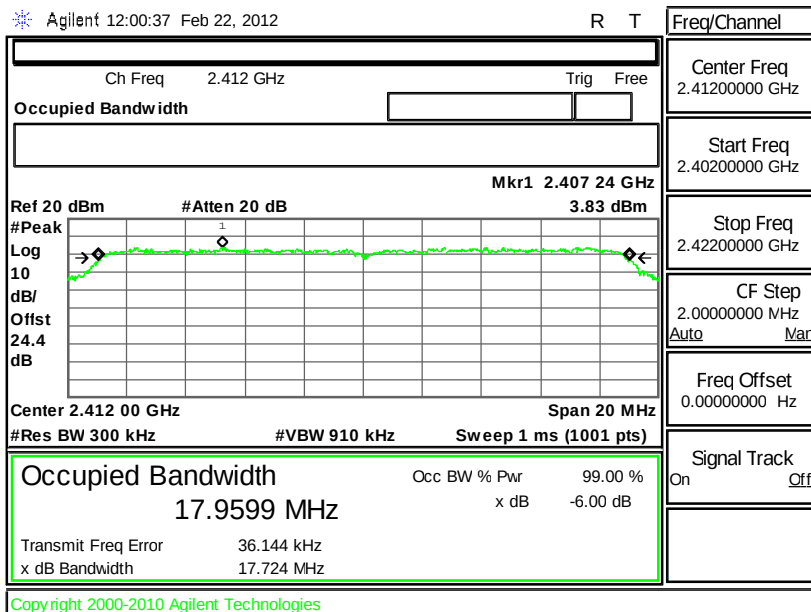


Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11

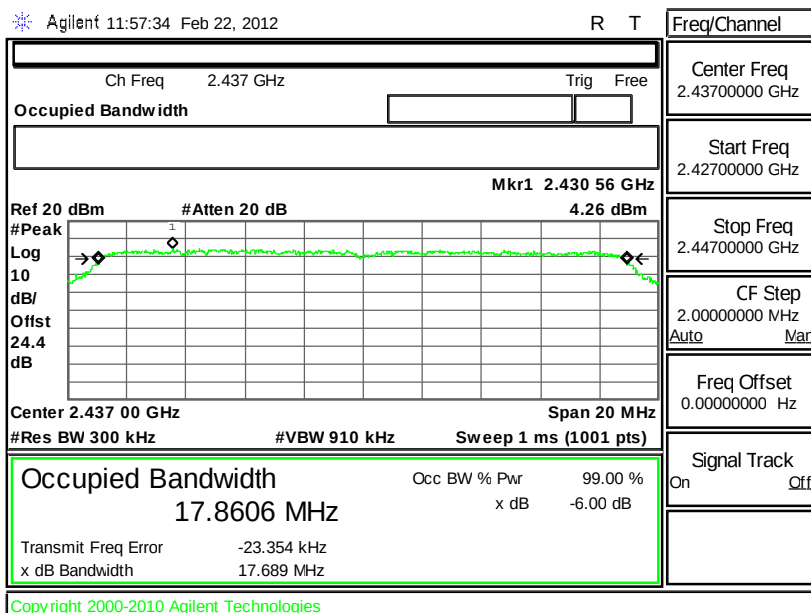




Mode 7 : 6 dB Bandwidth Plot on 802.11g/n (BW 20MHz) Channel 01

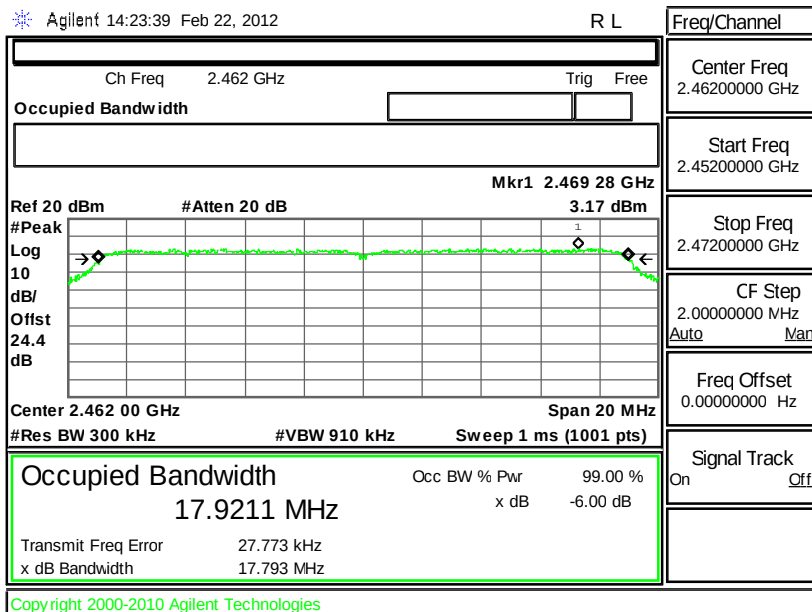


Mode 8 : 6 dB Bandwidth Plot on 802.11g/n (BW 20MHz) Channel 06

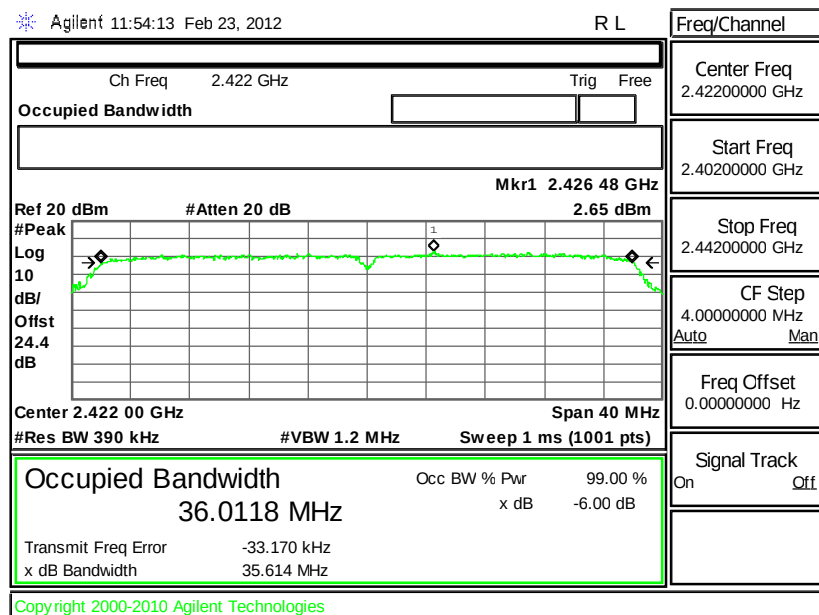




Mode 9 : 6 dB Bandwidth Plot on 802.11g/n (BW 20MHz) Channel 11

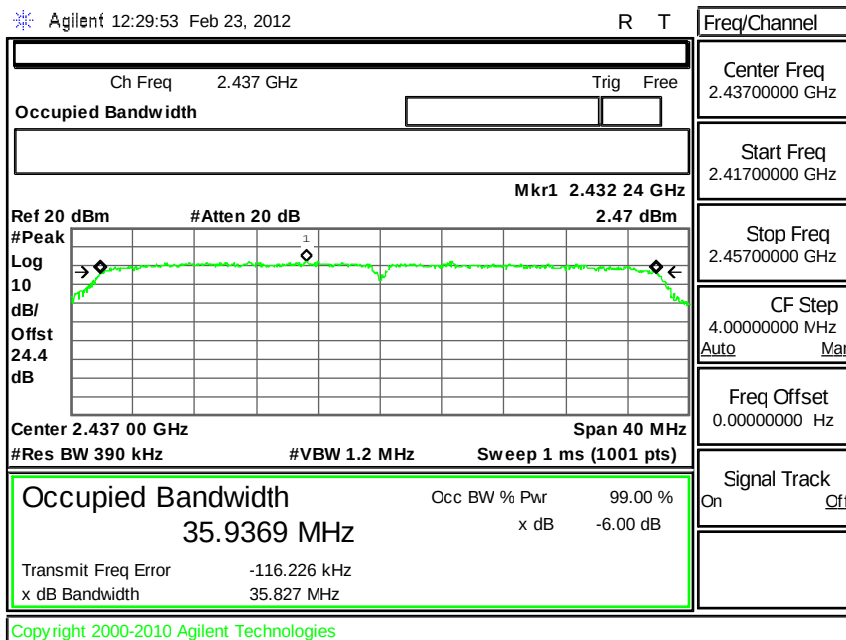


Mode 10 : 6 dB Bandwidth Plot on 802.11g/n (BW 40MHz) Channel 03

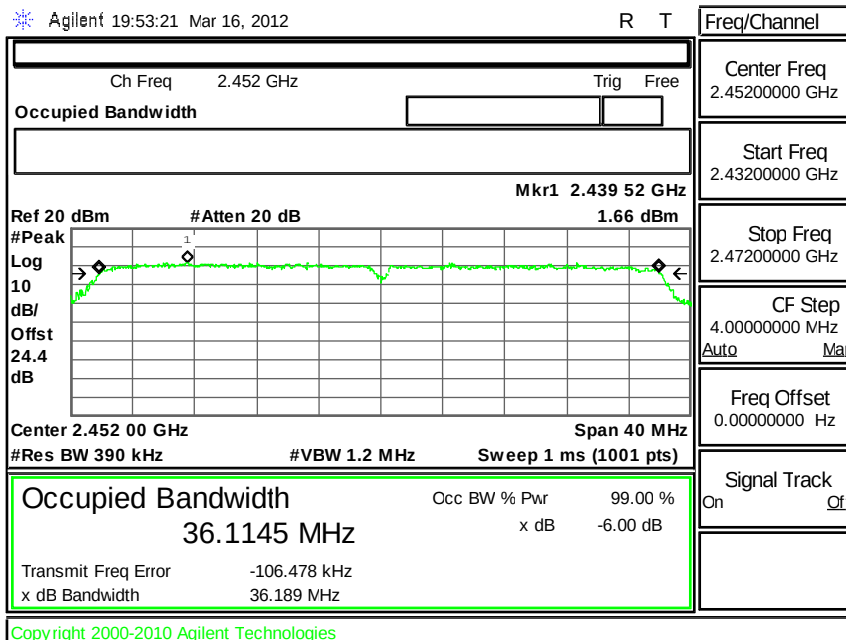




Mode 11 : 6 dB Bandwidth Plot on 802.11g/n (BW 40MHz) Channel 06

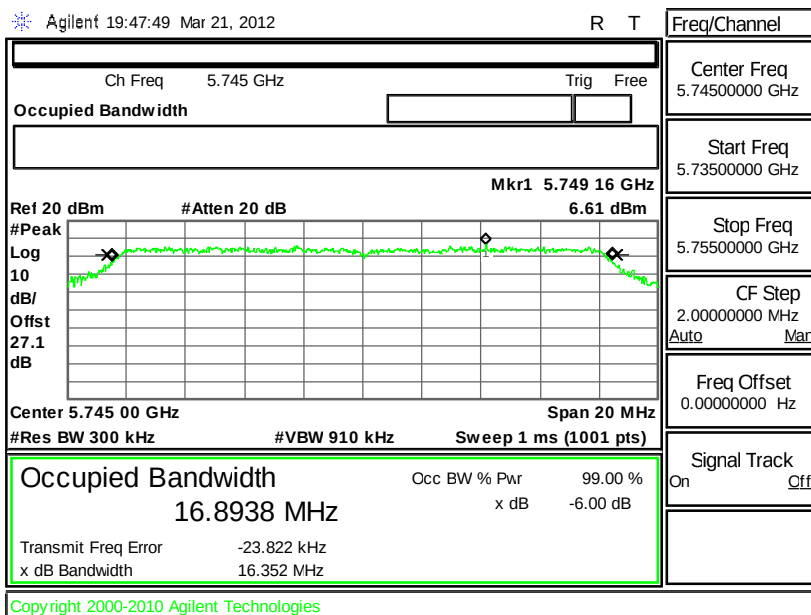


Mode 12 : 6 dB Bandwidth Plot on 802.11g/n (BW 40MHz) Channel 09

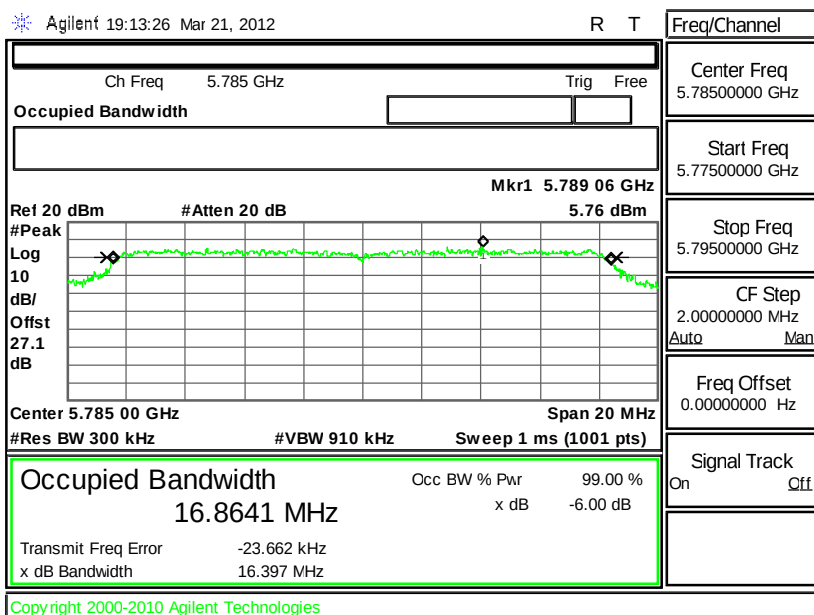




Mode 13: 6 dB Bandwidth Plot on 802.11a Channel 149

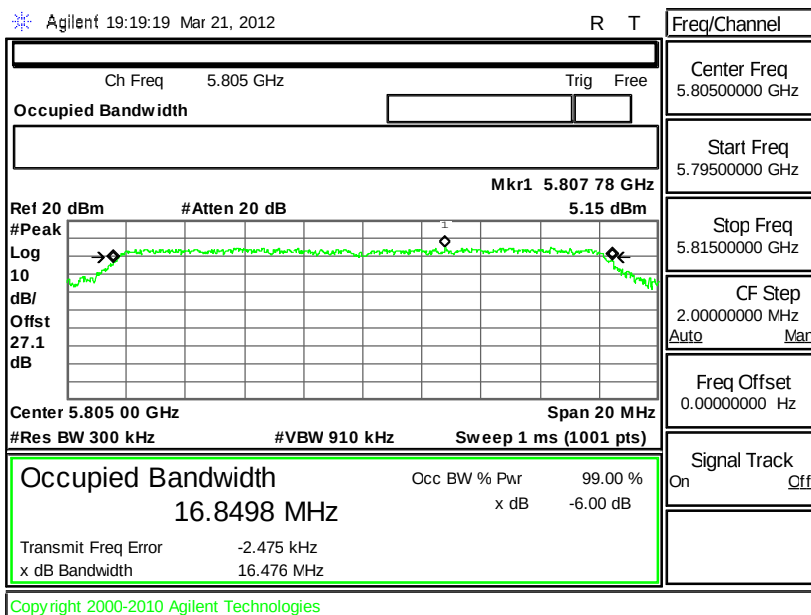


Mode 14: 6 dB Bandwidth Plot on 802.11a Channel 157

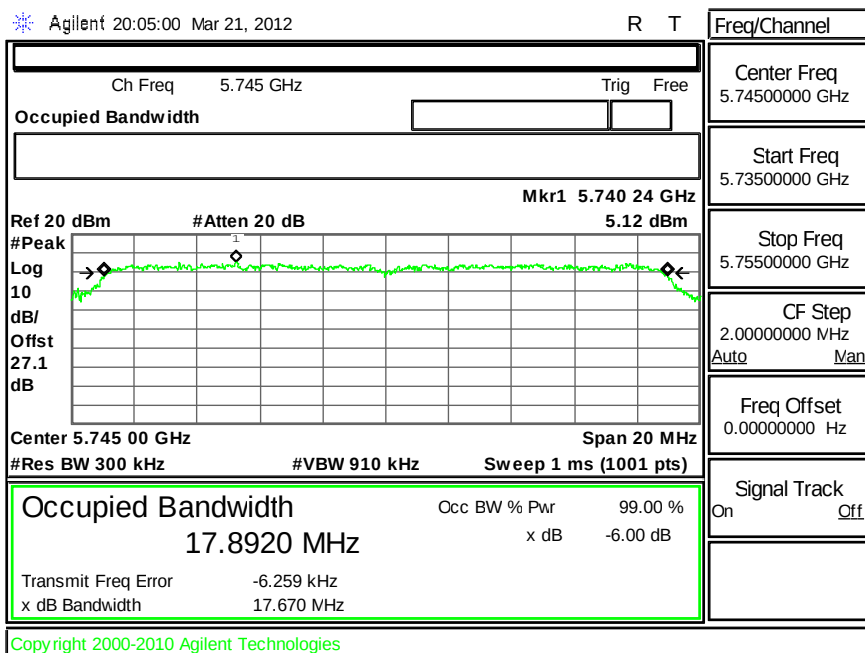




Mode 15: 6 dB Bandwidth Plot on 802.11a Channel 161

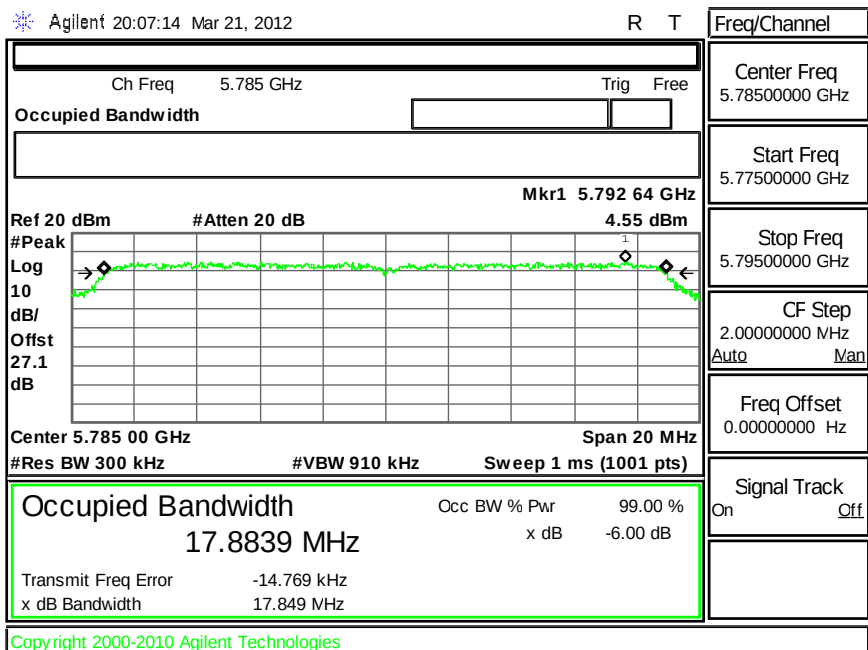


Mode 16 : 6 dB Bandwidth Plot on 802.11a/n (BW 20MHz) Channel 149

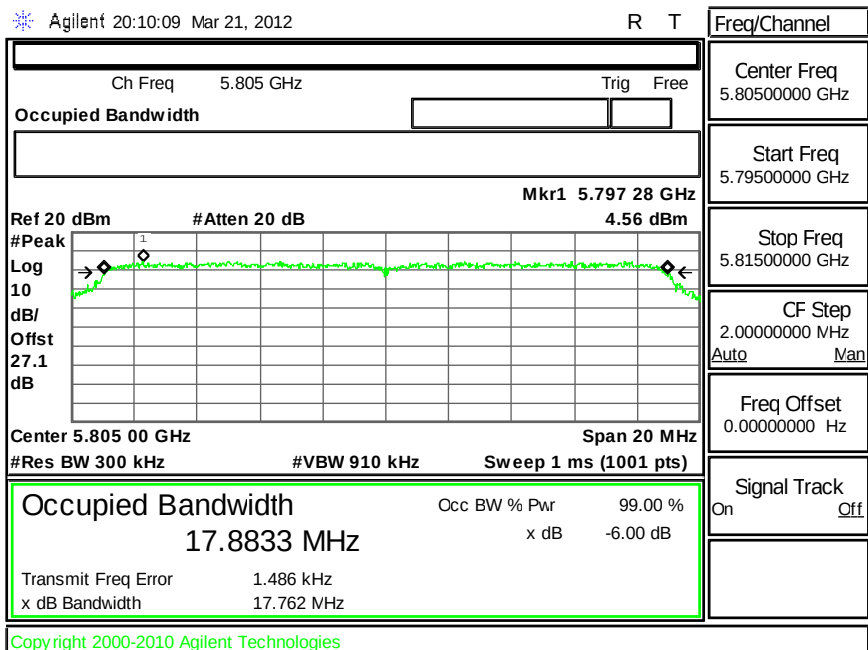




Mode 17 : 6 dB Bandwidth Plot on 802.11a/n (BW 20MHz) Channel 157

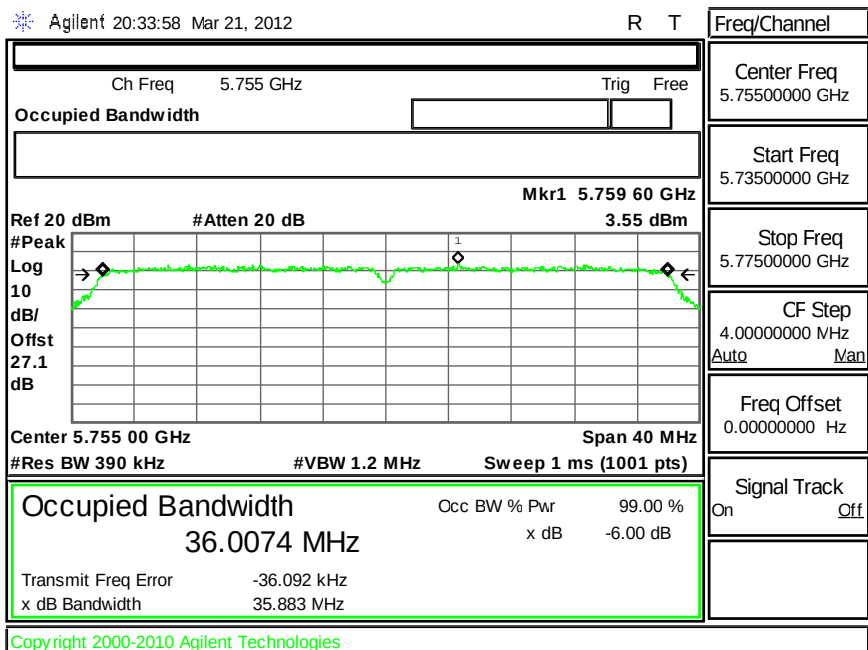


Mode 18 : 6 dB Bandwidth Plot on 802.11a/n (BW 20MHz) Channel 159

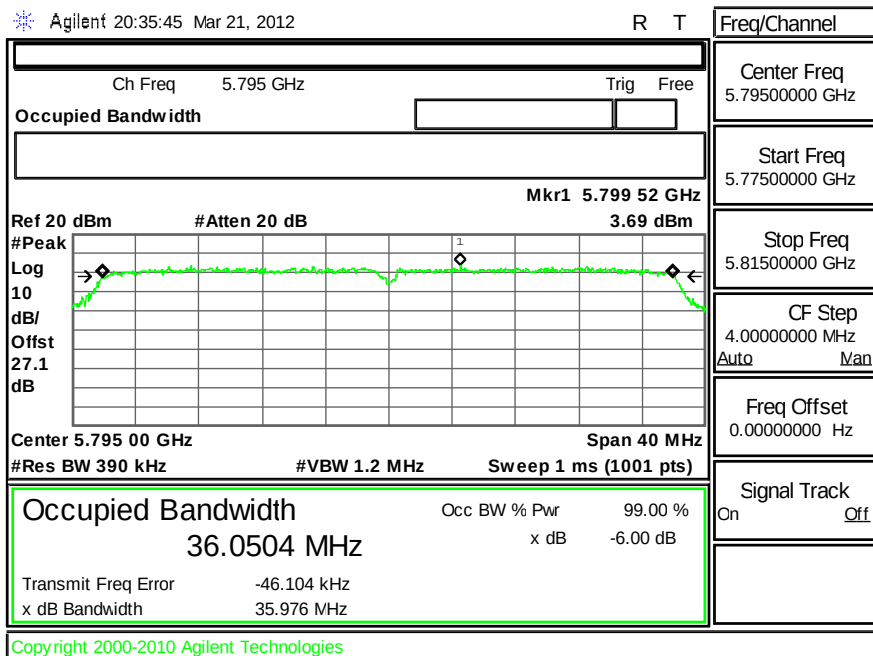




Mode 19 : 6 dB Bandwidth Plot on 802.11a/n (BW 40MHz) Channel 151



Mode 20: 6 dB Bandwidth Plot on 802.11a/n (BW 40MHz) Channel 159



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.

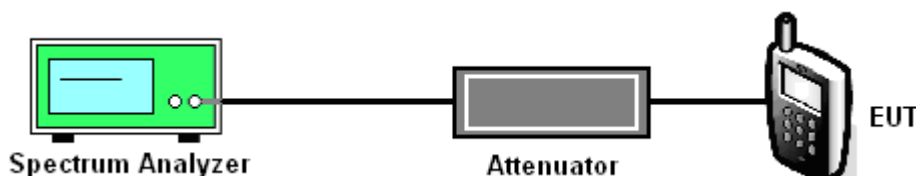
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure PK2 of FCC KDB No. 558074 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. The spectrum analyzer's settings are Resolution bandwidth (RBW) = 1MHz, Video bandwidth (VBW) = 3MHz, Peak Detector, auto sweep time, and the frequency span to a value that is 5-30 % greater than the EBW.
4. The spectrum analyzer's integrated band power measurement function is used to measure the peak power and the test results are demonstrated to compliance to the limit line as following plots.

3.2.4 Test Setup



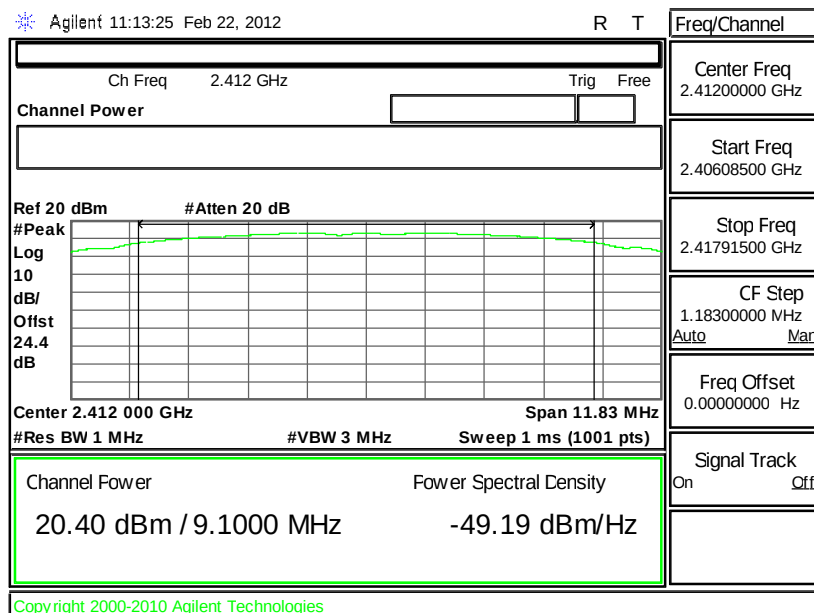


3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

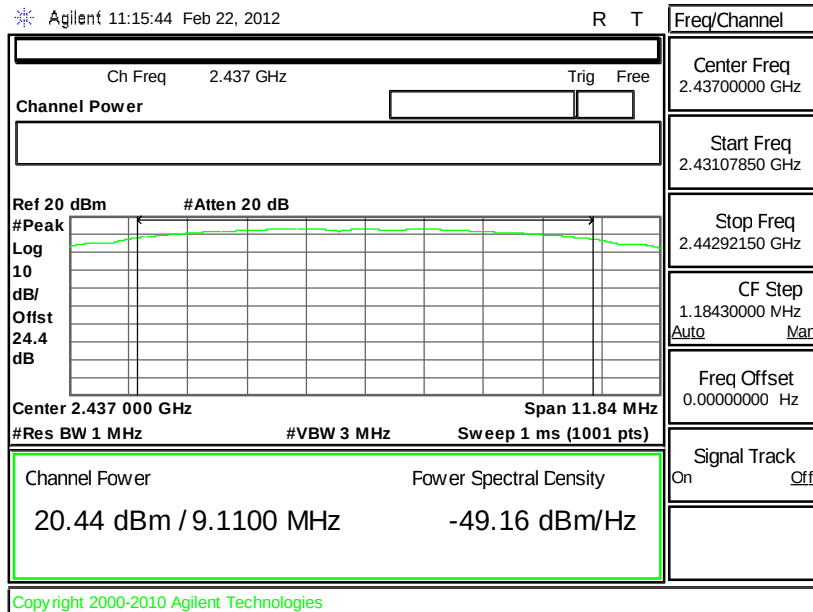
Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.40	30	Pass
06	2437	20.44	30	Pass
11	2462	19.43	30	Pass

Mode 1 : Output Power Plot on 802.11b Channel 01

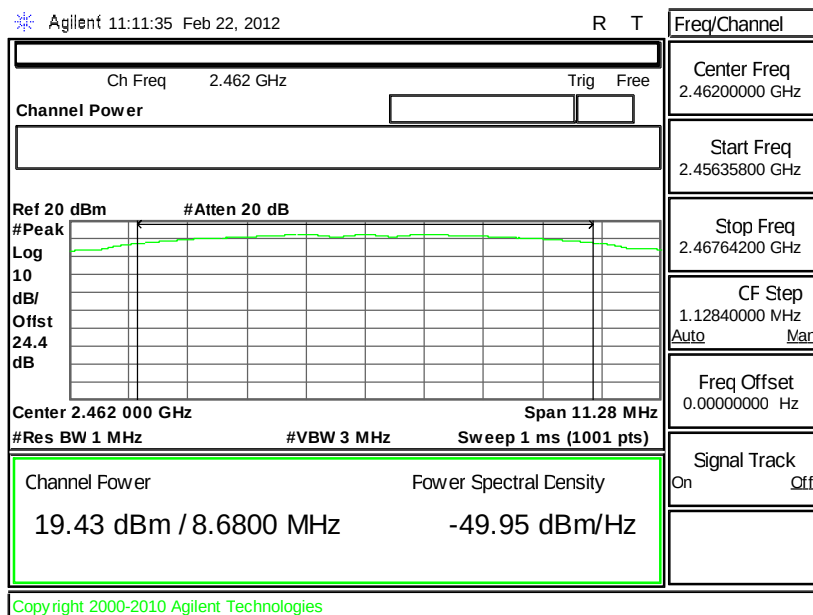




Mode 2 : Output Power Plot on 802.11b Channel 06



Mode 3 : Output Power Plot on 802.11b Channel 11

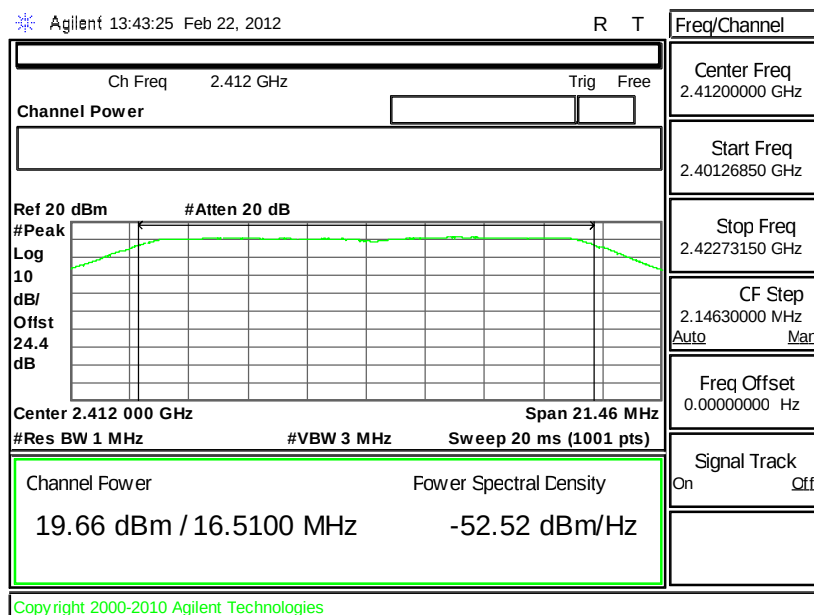




Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

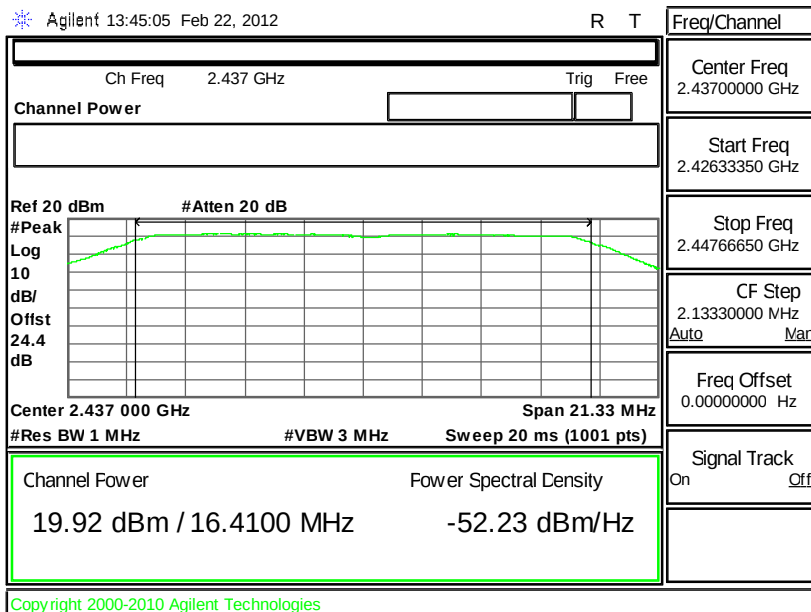
Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.66	30	Pass
06	2437	19.92	30	Pass
11	2462	18.90	30	Pass

Mode 4 : Output Power Plot on 802.11g Channel 01

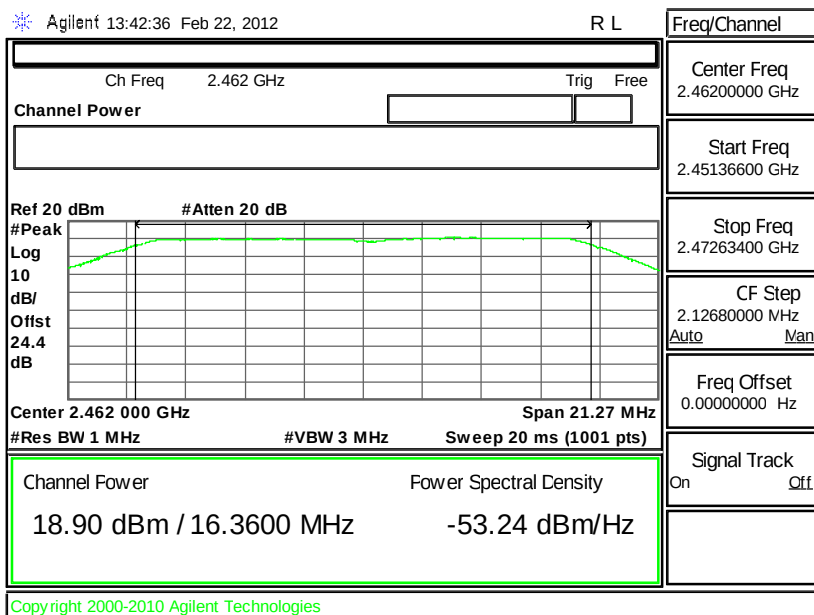




Mode 5 : Output Power Plot on 802.11g Channel 06



Mode 6 : Output Power Plot on 802.11g Channel 11

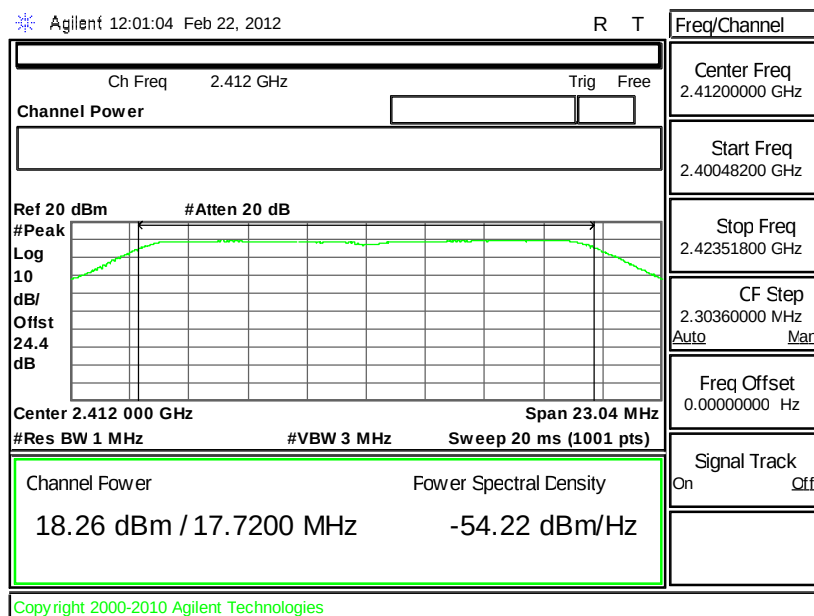




Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

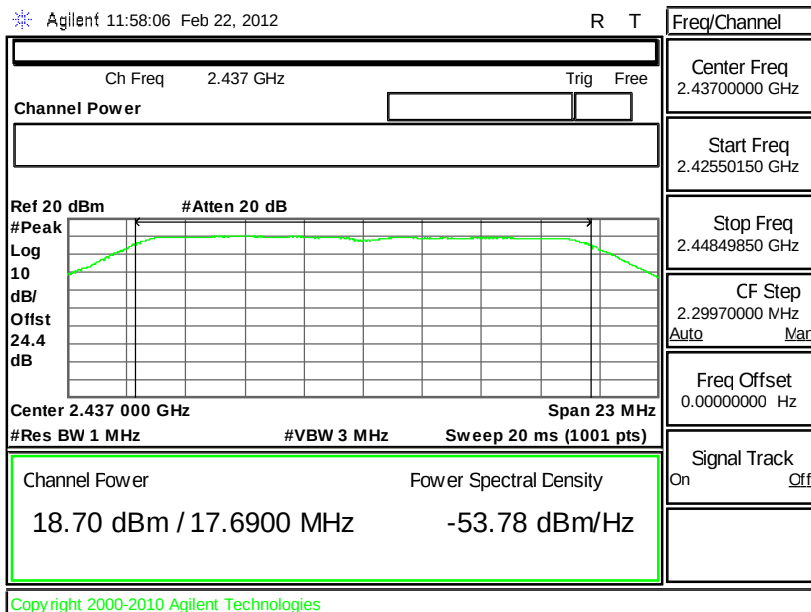
Channel	Frequency (MHz)	802.11g/n (BW 20MHz) Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	18.26	30	Pass
06	2437	18.70	30	Pass
11	2462	18.03	30	Pass

Mode 7: Output Power Plot on 802.11g/n (BW 20MHz) channel 01

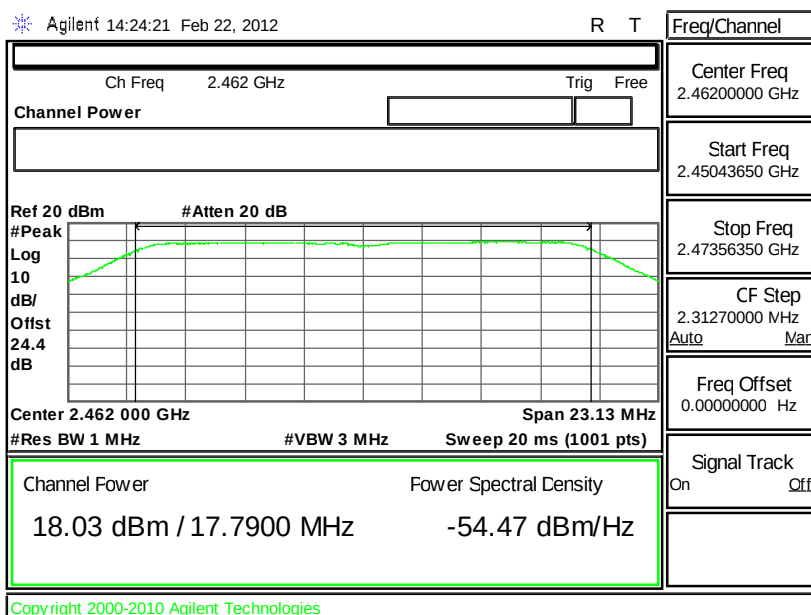




Mode 8 : Output Power Plot on 802.11g/n (BW 20MHz) Channel 06



Mode 9 : Output Power Plot on 802.11g/n (BW 20MHz) Channel 11

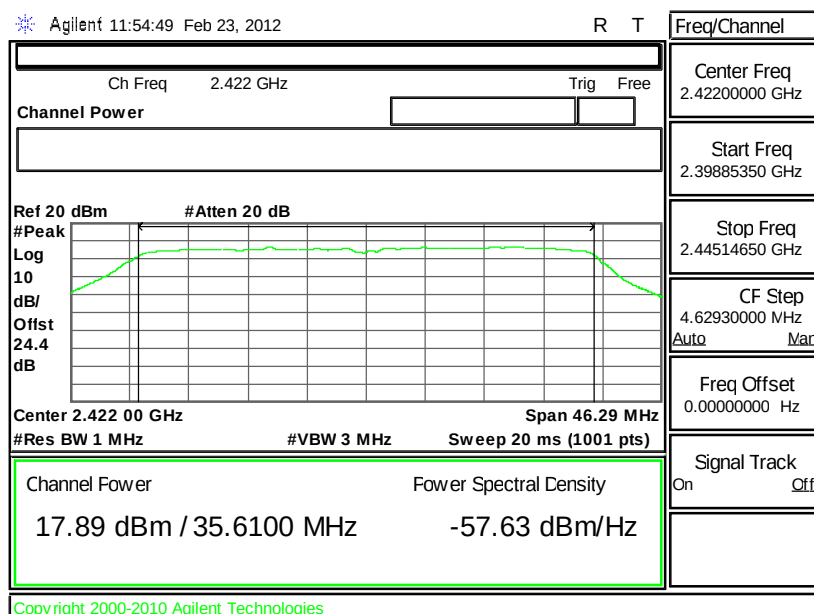




Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

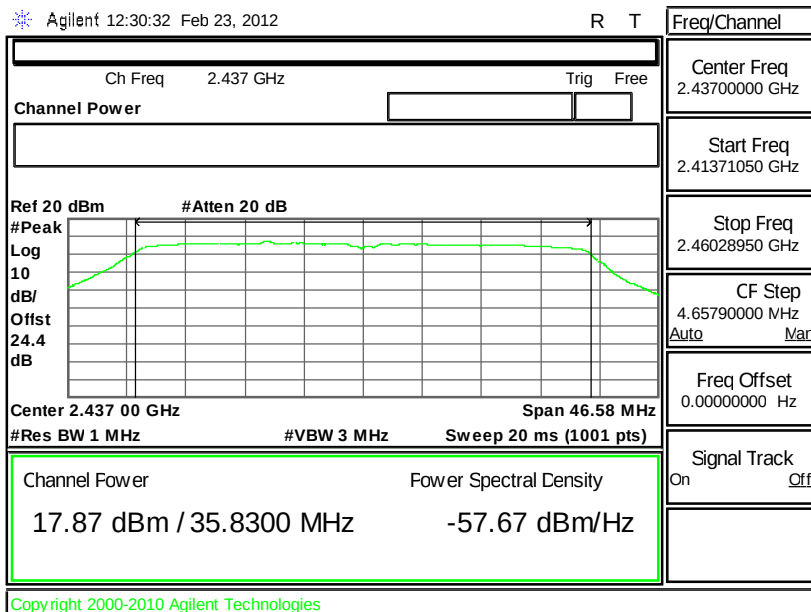
Channel	Frequency (MHz)	802.11g/n (BW 40MHz) Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
03	2422	17.89	30	Pass
06	2437	17.87	30	Pass
09	2452	17.57	30	Pass

Mode 10: Output Power Plot on 802.11g/n (BW 40MHz) channel 01

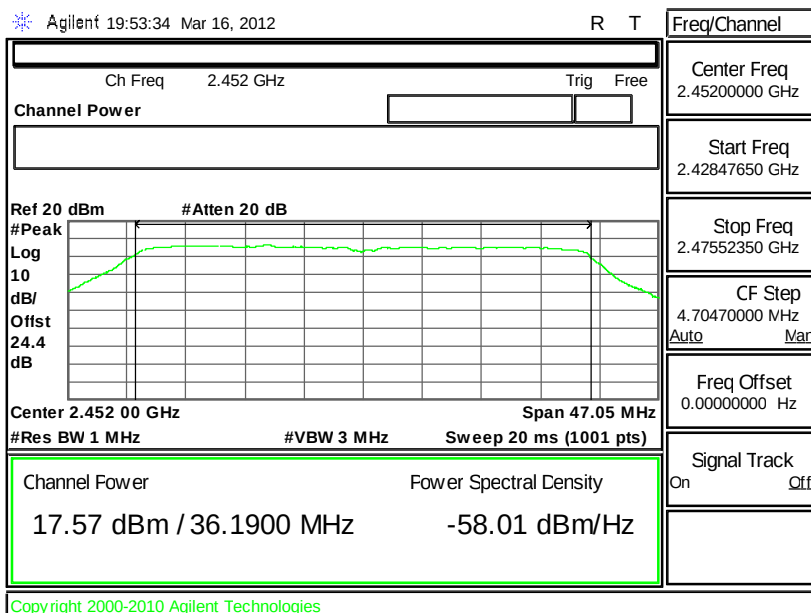




Mode 11 : Output Power Plot on 802.11g/n (BW 40MHz) Channel 06



Mode 12 : Output Power Plot on 802.11g/n (BW 40MHz) Channel 09

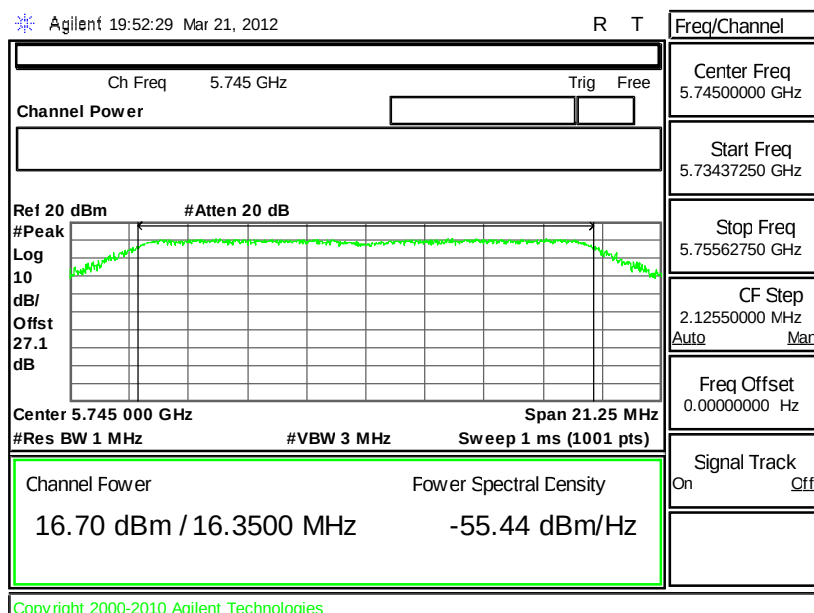




Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

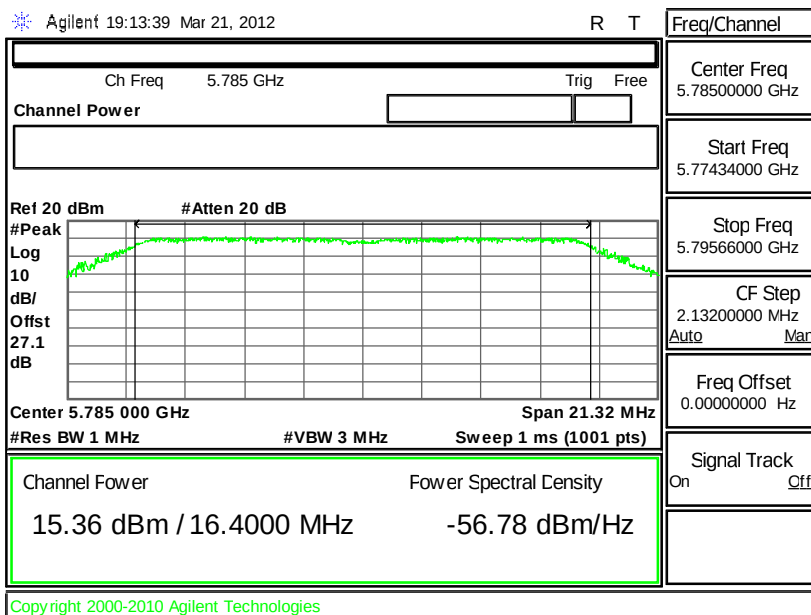
Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	16.70	30	Pass
157	5785	15.36	30	Pass
161	5805	16.37	30	Pass

Mode 13 : Output Power Plot on 802.11a Channel 149

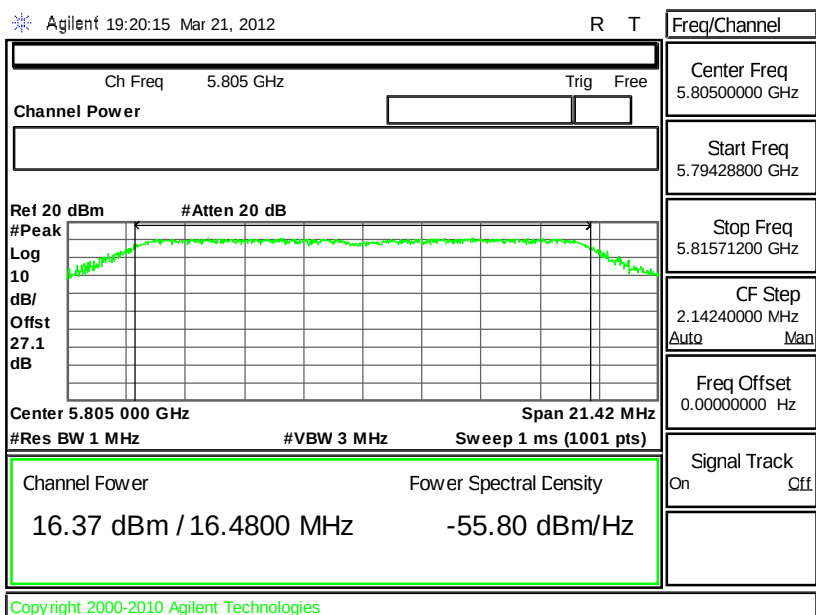




Mode 14 : Output Power Plot on 802.11a Channel 157



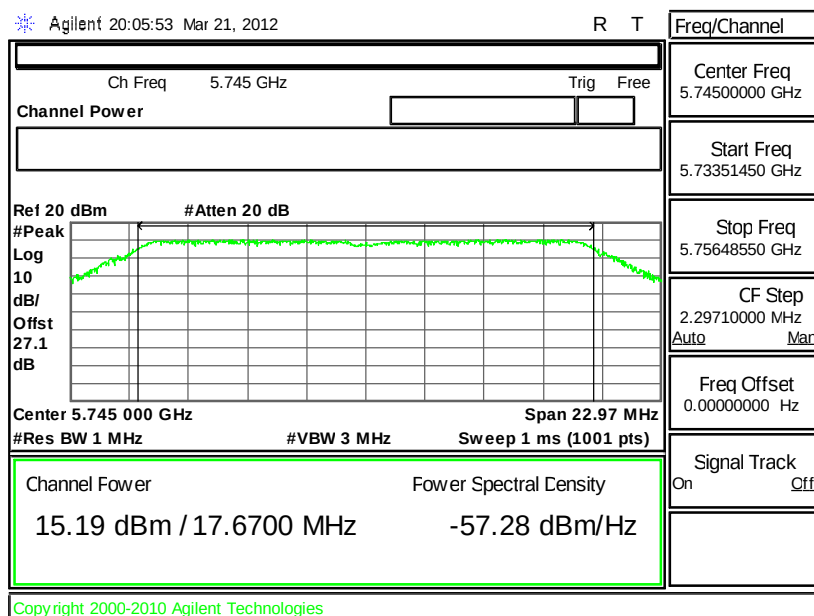
Mode 15 : Output Power Plot on 802.11a Channel 161





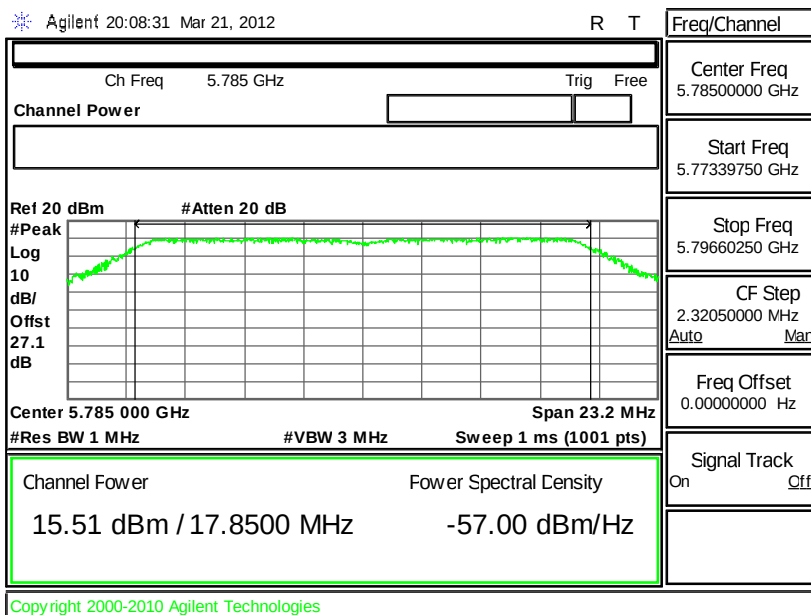
Test Mode :	Mode 16, 17, 18	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a/n (BW 20MHz) Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	15.19	30	Pass
157	5785	15.51	30	Pass
161	5805	15.90	30	Pass

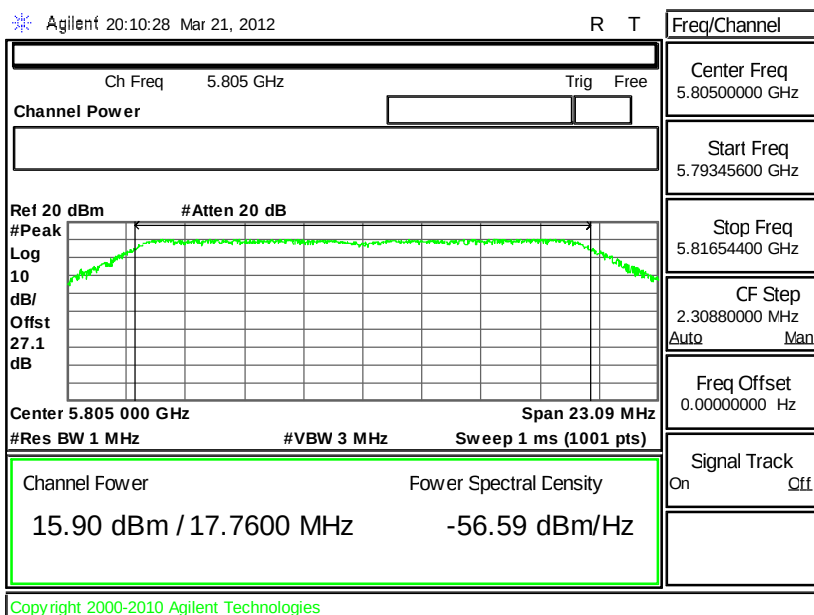
Mode 16 : Output Power Plot on 802.11a/n (BW 20MHz) Channel 149



Mode 17 : Output Power Plot on 802.11a/n (BW 20MHz) Channel 157



Mode 18 : Output Power Plot on 802.11a/n (BW 20MHz) Channel 161

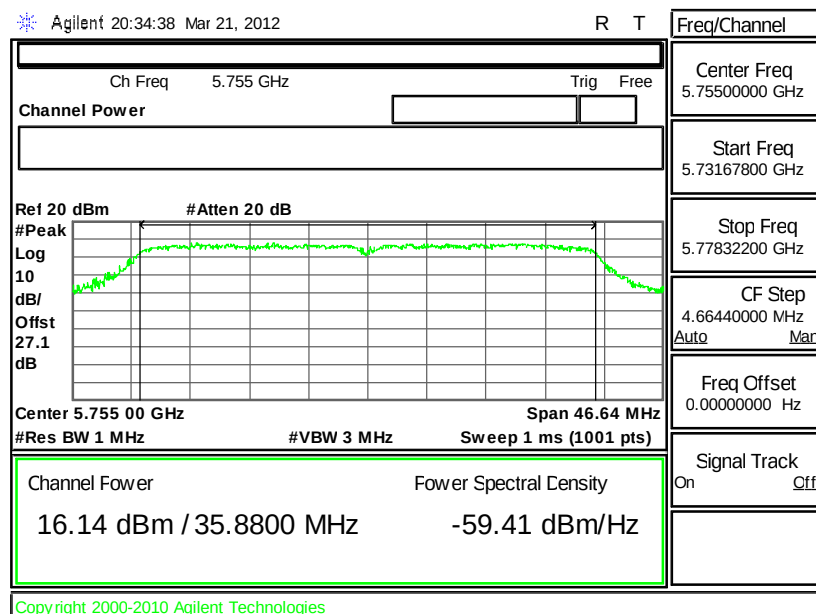




Test Mode :	Mode 19, 20	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

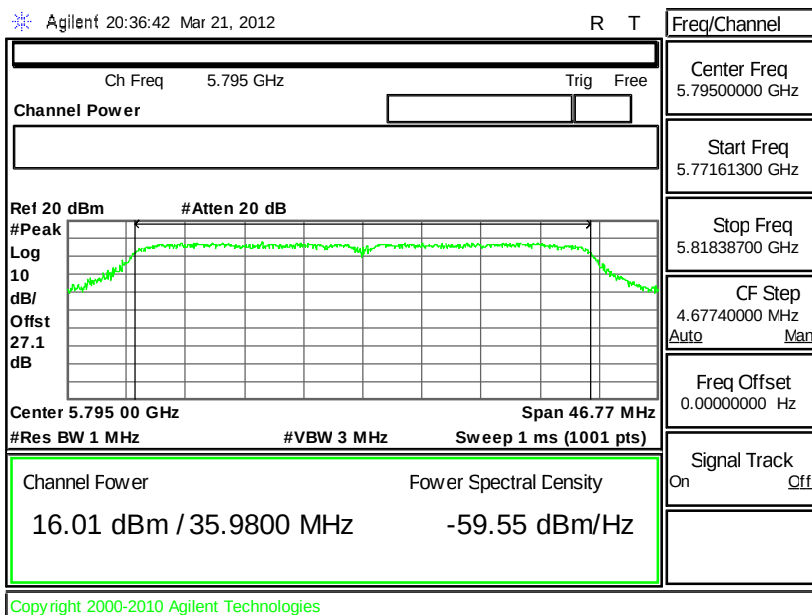
Channel	Frequency (MHz)	802.11a/n (BW 20MHz) Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	16.14	30	Pass
159	5795	16.01	30	Pass

Mode 19 : Output Power Plot on 802.11a/n (BW 40MHz) Channel 151





Mode 20: Output Power Plot on 802.11a/n (BW 40MHz) Channel 161



3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

In any 100 KHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. 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.

3.3.2 Measuring Instruments

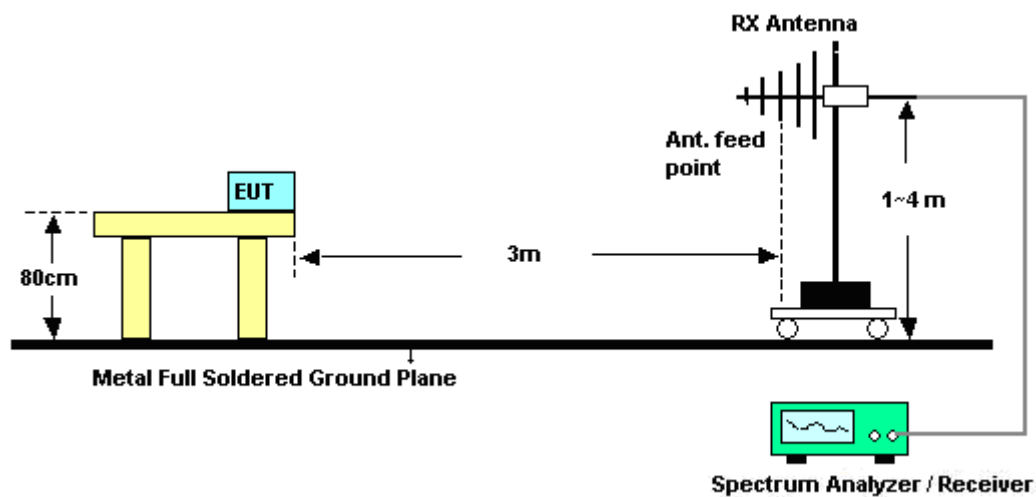
See list of measuring instruments of this test report.

3.3.3 Test Procedures

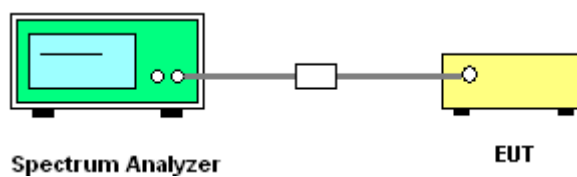
1. The testing follows the guidelines in ANSI C63.4-2003 and the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. Conducted emission test: Set RBW = 100 KHz, Video bandwidth (VBW) $\geq$ RBW. Out of the authorized frequency band emissions must be at least 20 dB lower than the highest emission level within the authorized band as measured with a 100 KHz RBW. 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).
3. Radiated emission test: Apply to band edge emissions that falling on the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurement above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, then modify the unit for continuous operation. Use the settings in this paragraph to correct the reading level by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation per 15.35(b) and (c).

3.3.4 Test Setup

<Radiated Band Edges>



<Conducted Band Edges>



3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	22~24°C
Test Band :	802.11b	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	David Yang

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
2389.99	51.13	-22.87	74	47	32.06	6.03	33.96	112	40	Peak
2389.99	39.47	-14.53	54	35.34	32.06	6.03	33.96	112	40	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
2387.33	48.76	-25.24	74	44.63	32.06	6.03	33.96	122	312	Peak
2387.33	37.2	-16.8	54	33.07	32.06	6.03	33.96	122	312	Average

Test Mode :	Mode 3	Temperature :	22~24°C
Test Band :	802.11b	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	David Yang

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
2486.89	52.65	-21.35	74	48.29	32.18	6.18	34	139	40	Peak
2486.89	44.79	-9.21	54	40.43	32.18	6.18	34	139	40	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
2487.46	51.25	-22.75	74	46.89	32.18	6.18	34	120	316	Peak
2487.46	43.17	-10.83	54	38.81	32.18	6.18	34	120	316	Average

Test Mode :	Mode 4	Temperature :	22~24°C
Test Band :	802.11g	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	David Yang

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
2389.99	71.53	-2.47	74	67.4	32.06	6.03	33.96	173	35	Peak
2389.99	49.08	-4.92	54	44.95	32.06	6.03	33.96	173	35	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
2389.99	67.81	-6.19	74	63.68	32.06	6.03	33.96	120	312	Peak
2389.99	45.88	-8.12	54	41.75	32.06	6.03	33.96	120	312	Average

Test Mode :	Mode 6	Temperature :	22~24°C
Test Band :	802.11g	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	David Yang

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	71.52	-2.48	74	67.16	32.18	6.18	34	107	30	Peak
2483.5	48.65	-5.35	54	44.29	32.18	6.18	34	107	30	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	69.65	-4.35	74	65.29	32.18	6.18	34	118	214	Peak
2483.5	47.31	-6.69	54	42.95	32.18	6.18	34	118	214	Average

Test Mode :	Mode 7	Temperature :	22~24°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	David Yang

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
2389.99	67.39	-6.61	74	63.26	32.06	6.03	33.96	140	49	Peak
2389.99	46.26	-7.74	54	42.13	32.06	6.03	33.96	140	49	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
2389.99	69.28	-4.72	74	65.15	32.06	6.03	33.96	120	208	Peak
2389.99	47.92	-6.08	54	43.79	32.06	6.03	33.96	120	208	Average

Test Mode :	Mode 9	Temperature :	22~24°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	David Yang

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	73.85	-0.15	74	69.49	32.18	6.18	34	106	36	Peak
2483.5	51.12	-2.88	54	46.76	32.18	6.18	34	106	36	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	73.61	-0.39	74	69.25	32.18	6.18	34	113	350	Peak
2483.5	50.43	-3.57	54	46.07	32.18	6.18	34	113	350	Average

Test Mode :	Mode 10	Temperature :	22~24°C
Test Band :	802.11a	Relative Humidity :	51~53%
Test Channel :	149	Test Engineer :	David Yang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	89.92	-0.35	90.27	78.45	34.81	9.92	33.26	100	6	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
5725	84.52	-0.73	85.25	73.05	34.81	9.92	33.26	100	123	Peak

Test Mode :	Mode 12	Temperature :	22~24°C
Test Band :	802.11a	Relative Humidity :	51~53%
Test Channel :	161	Test Engineer :	David Yang

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
5850	64.81	-25.04	89.85	53.42	34.98	9.87	33.46	100	10	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
5850	63.33	-23.31	86.64	51.94	34.98	9.87	33.46	102	23	Peak



Test Mode :	Mode 13	Temperature :	22~24°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	51~53%
Test Channel :	149	Test Engineer :	David Yang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	88.9	-0.18	89.08	77.43	34.81	9.92	33.26	100	8	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
5725	83.59	-0.58	84.17	72.12	34.81	9.92	33.26	101	58	Peak

Test Mode :	Mode 15	Temperature :	22~24°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	51~53%
Test Channel :	161	Test Engineer :	David Yang

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
5850	64.95	-23.39	88.34	53.56	34.98	9.87	33.46	100	11	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
5850	60.54	-22.94	83.48	49.15	34.98	9.87	33.46	128	64	Peak



Test Mode :	Mode 16	Temperature :	22~24°C
Test Band :	802.11a/n (BW 40MHz)	Relative Humidity :	51~53%
Test Channel :	151	Test Engineer :	David Yang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	85.96	-0.26	86.22	74.49	34.81	9.92	33.26	100	8	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
5725	81.55	-0.17	81.72	70.08	34.81	9.92	33.26	126	124	Peak

Test Mode :	Mode 17	Temperature :	22~24°C
Test Band :	802.11a/n (BW 40MHz)	Relative Humidity :	51~53%
Test Channel :	159	Test Engineer :	David Yang

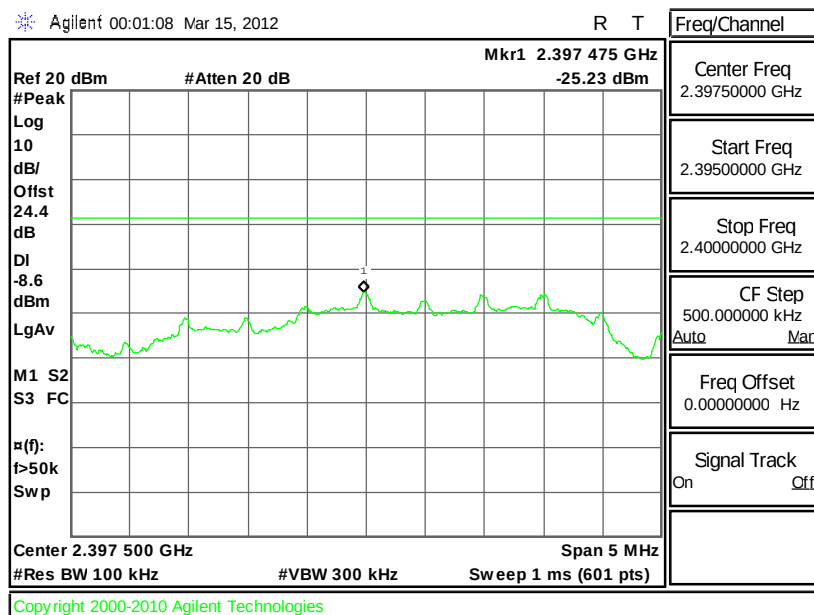
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	72.85	-12.83	85.68	61.46	34.98	9.87	33.46	100	0	Peak

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
5850	70.35	-10.83	81.18	58.96	34.98	9.87	33.46	100	62	Peak

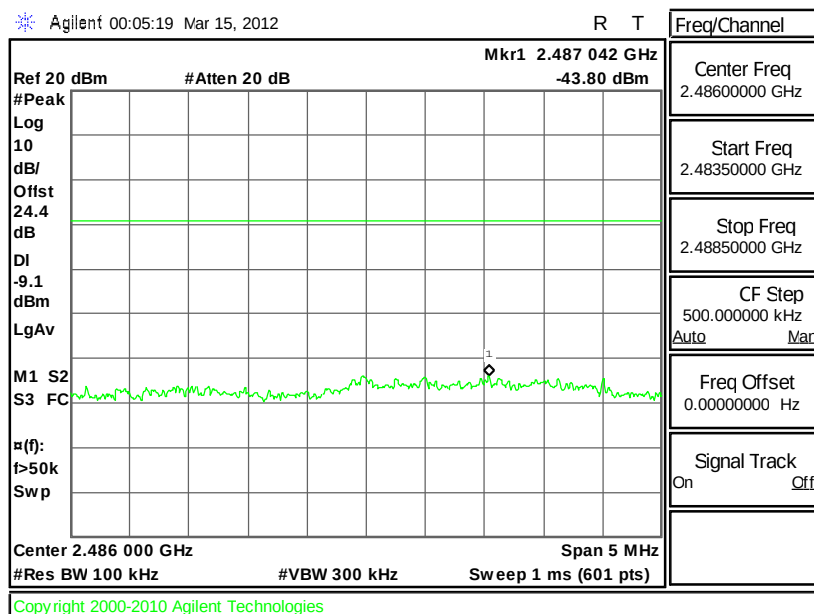
3.3.6 Test Result of Conducted Band Edges

Test Mode :	Mode 1 and 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11b Channel 01

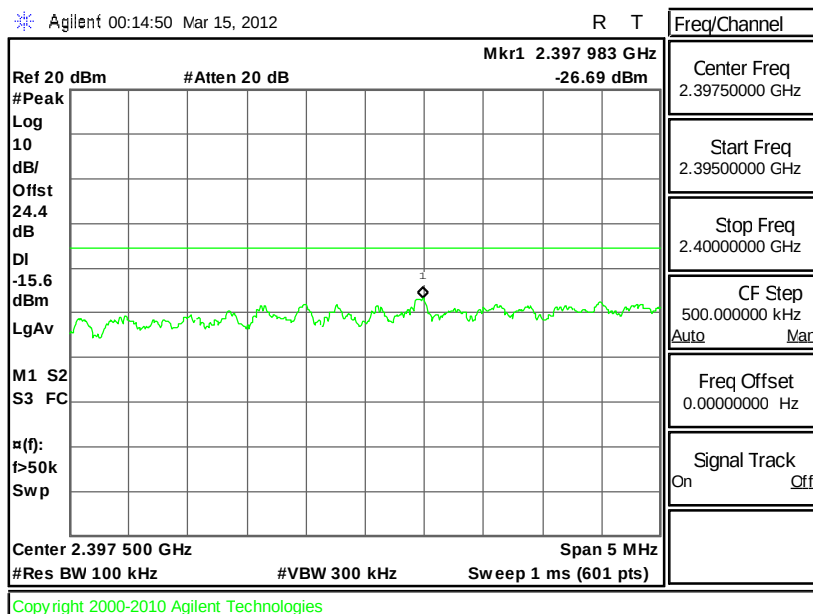
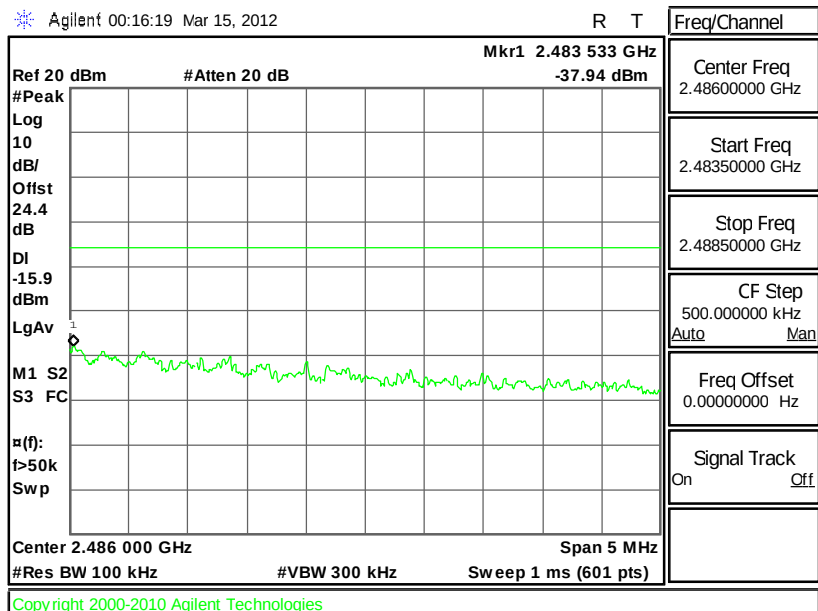


High Band Edge Plot on 802.11b Channel 11



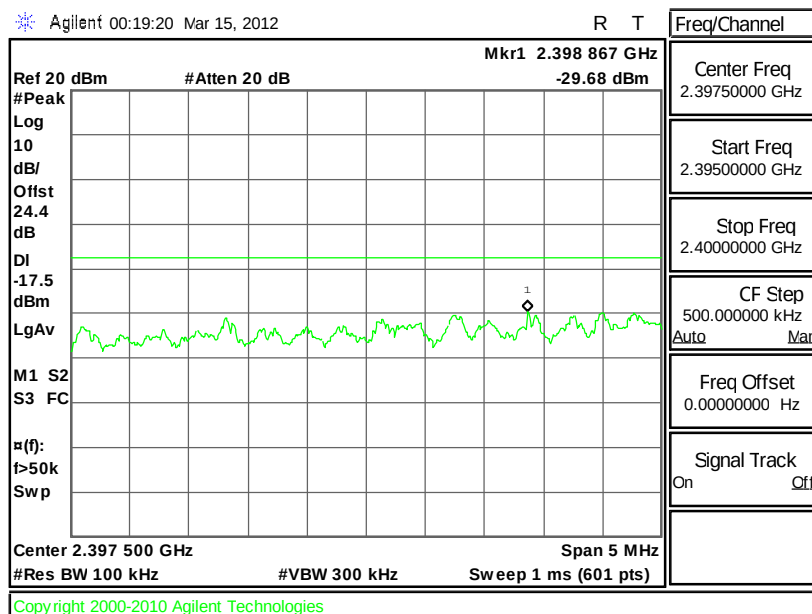
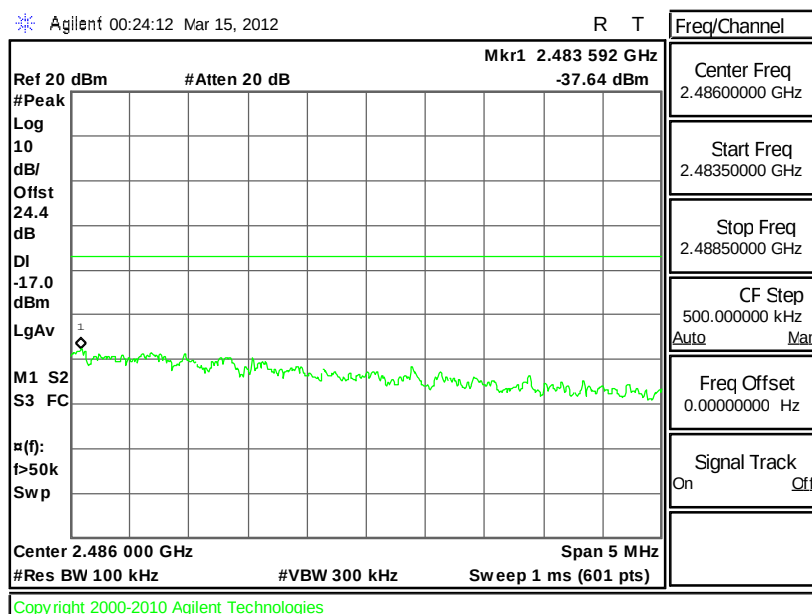


Test Mode :	Mode 4 and 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11g Channel 01**High Band Edge Plot on 802.11g Channel 11**

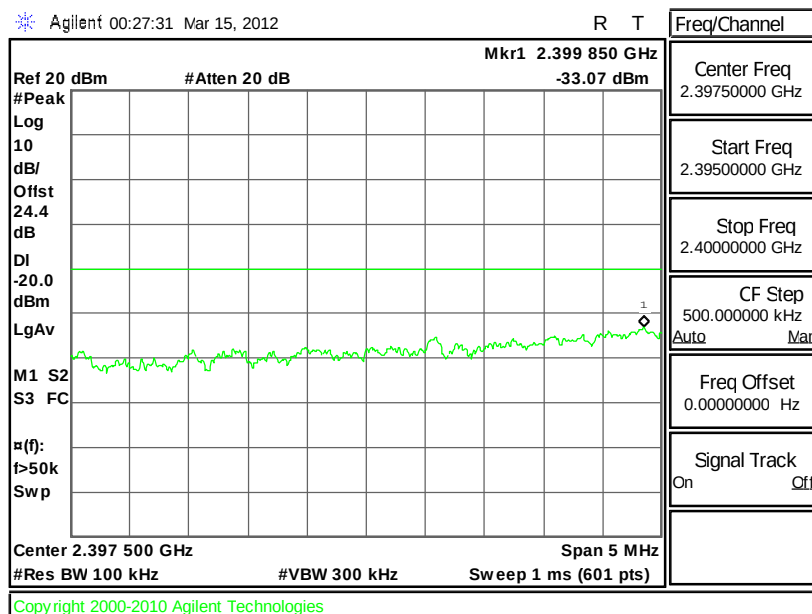
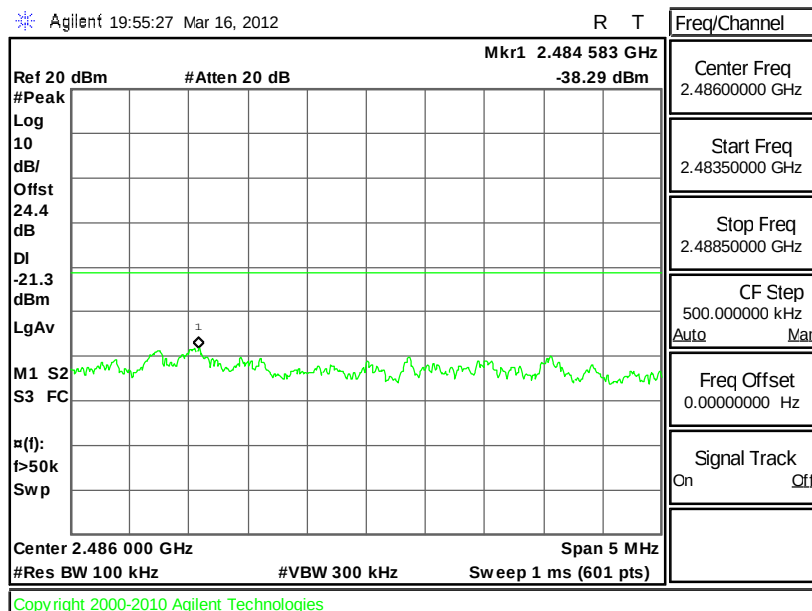


Test Mode :	Mode 7 and 9	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11 g/n (BW 20MHz) Channel 01**High Band Edge Plot on 802.11 g/n (BW 20MHz) Channel 11**

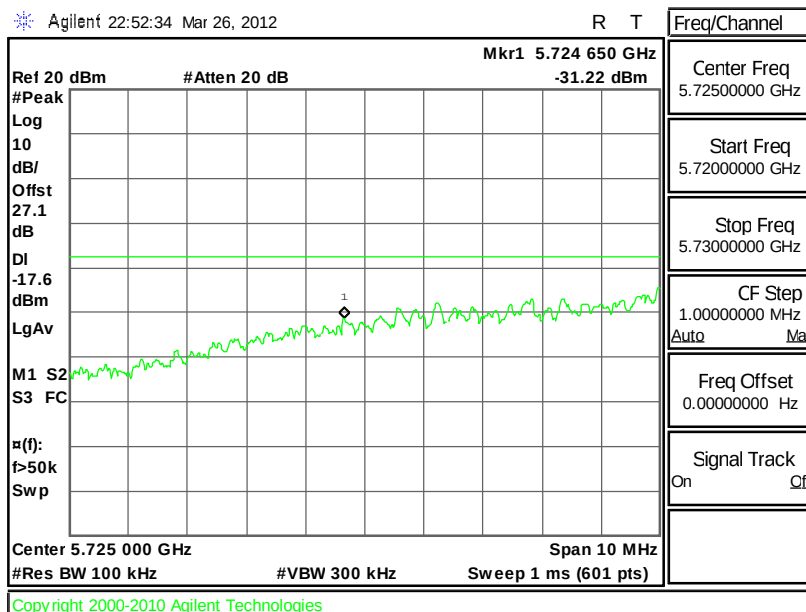
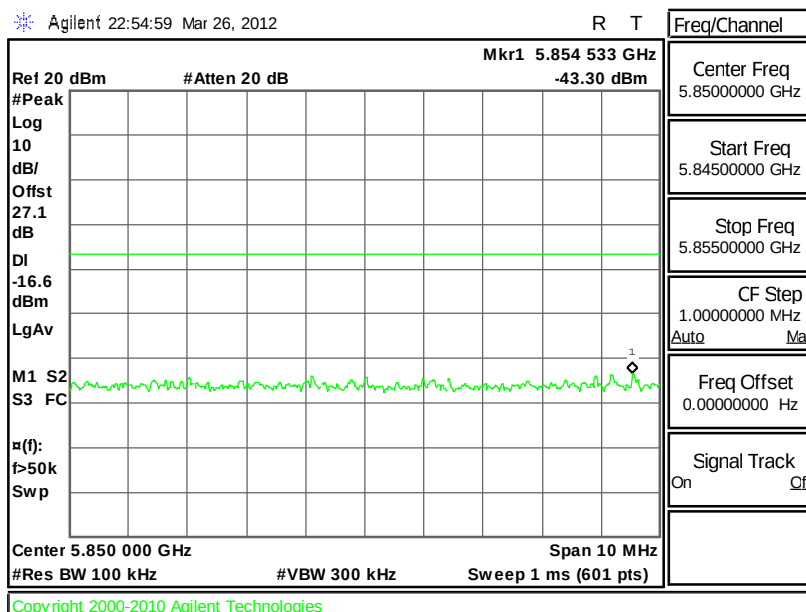


Test Mode :	Mode 10 and 12	Temperature :	24~26°C
Test Band :	802.11g/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	03 and 09	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11g/n (BW 40MHz) Channel 01**High Band Edge Plot on 802.11g/n (BW 40MHz) Channel 11**

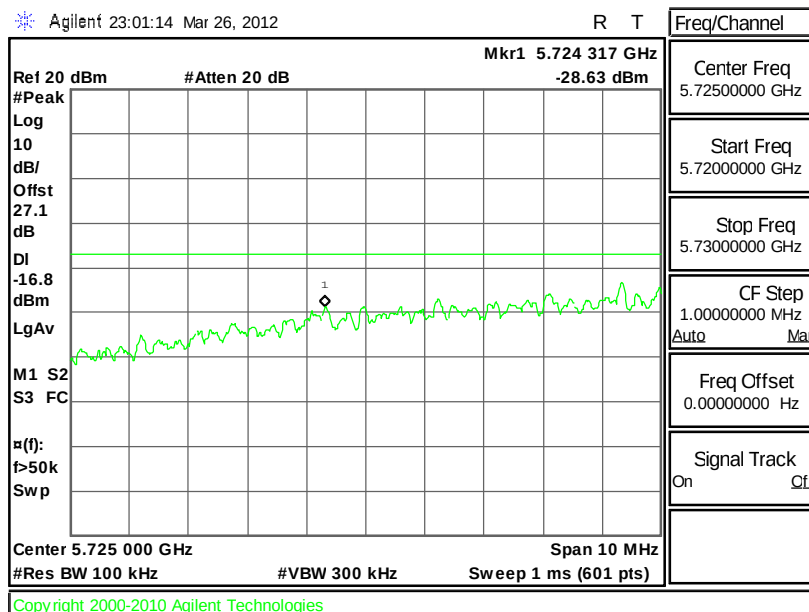
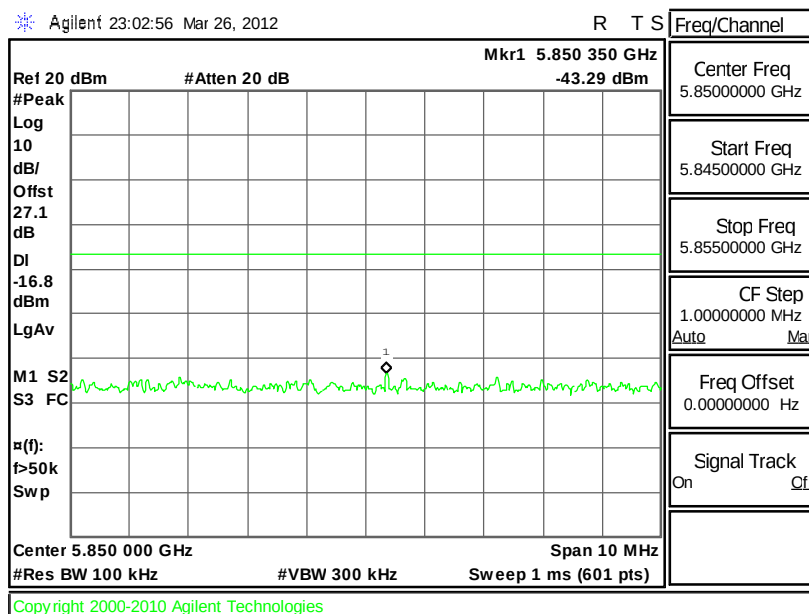


Test Mode :	Mode 13 and 15	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	149 and 161	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11a Channel 149**High Band Edge Plot on 802.11a Channel 161**

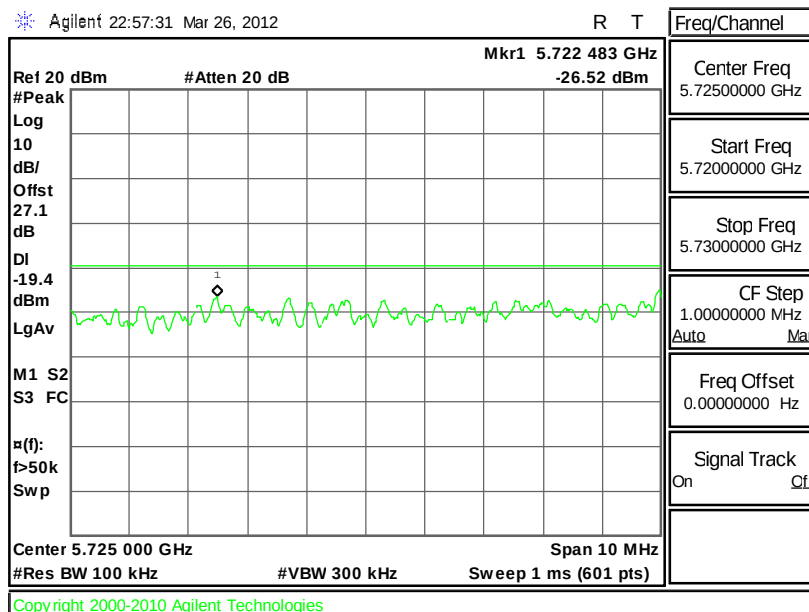
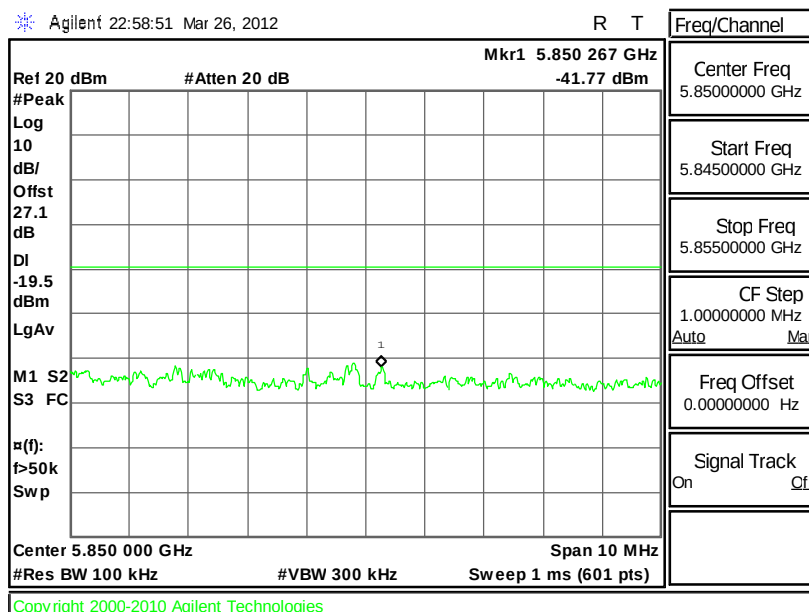


Test Mode :	Mode 16 and 18	Temperature :	24~26°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	149 and 161	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11a/n (BW 20MHz) Channel 149**High Band Edge Plot on 802.11a/n (BW 20MHz) Channel 161**



Test Mode :	Mode 19 and 20	Temperature :	24~26°C
Test Band :	802.11a/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11a/n (BW 40MHz) Channel 151**High Band Edge Plot on 802.11a/n (BW 40MHz) Channel 159**

3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

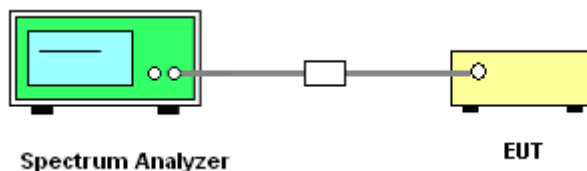
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable. The path loss was compensated to the results for each measurement.
2. Set RBW = 100 KHz, Video bandwidth (VBW) $\geq$ RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 KHz RBW.

3.4.4 Test Setup

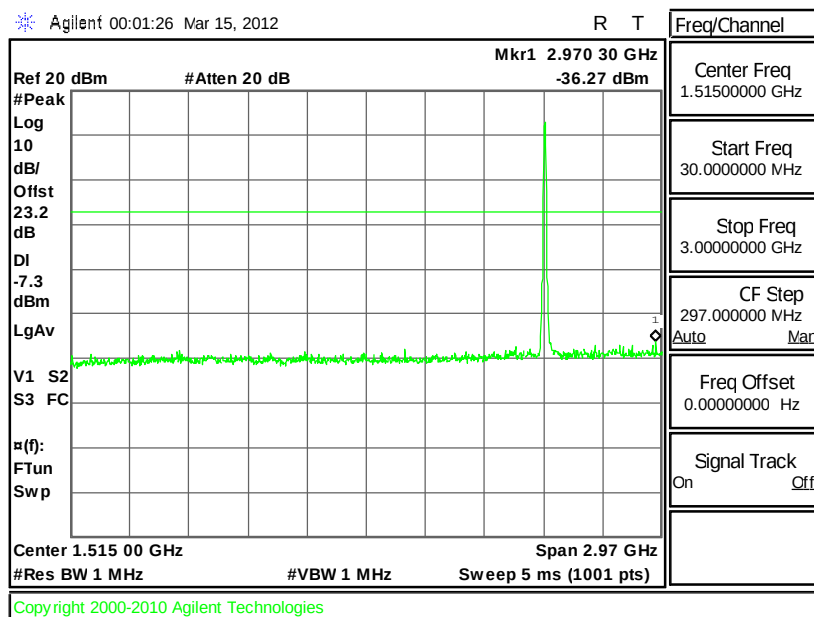




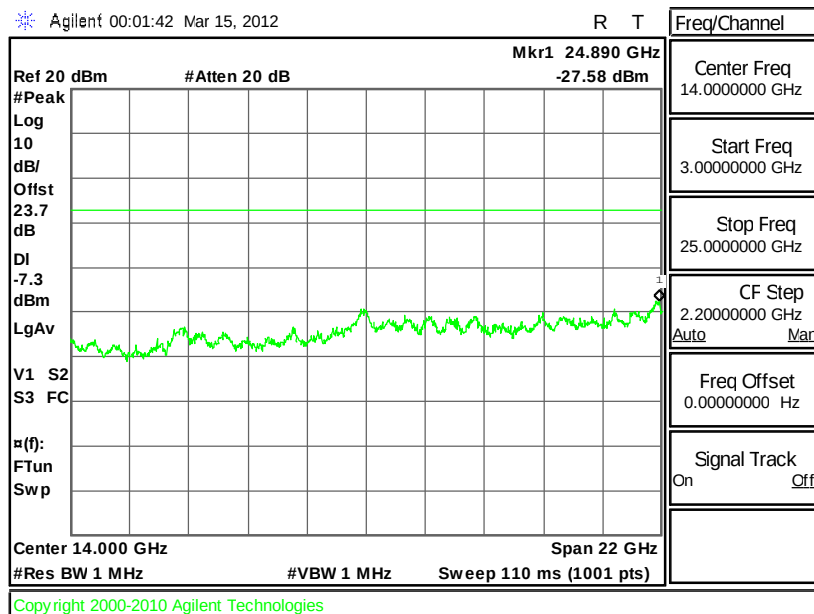
3.4.5 Test Result

Test Mode :	Mode 1	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

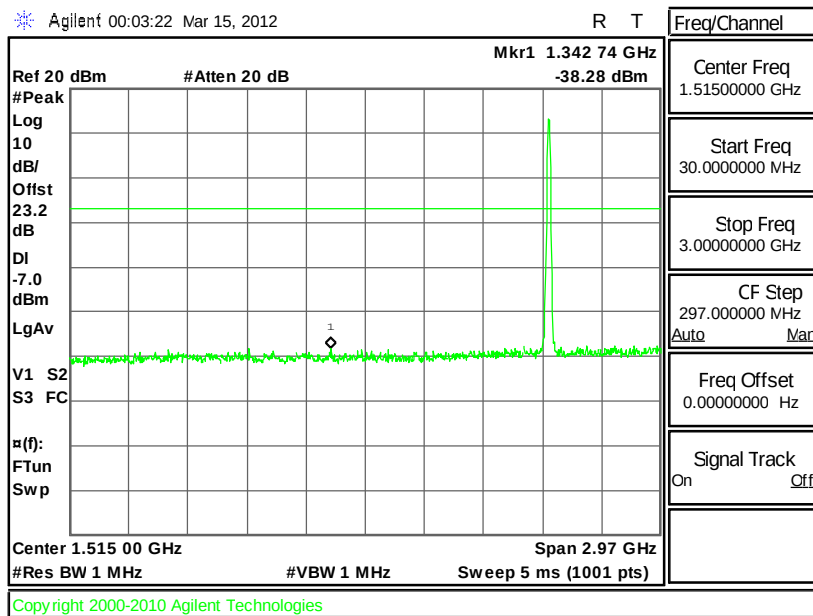
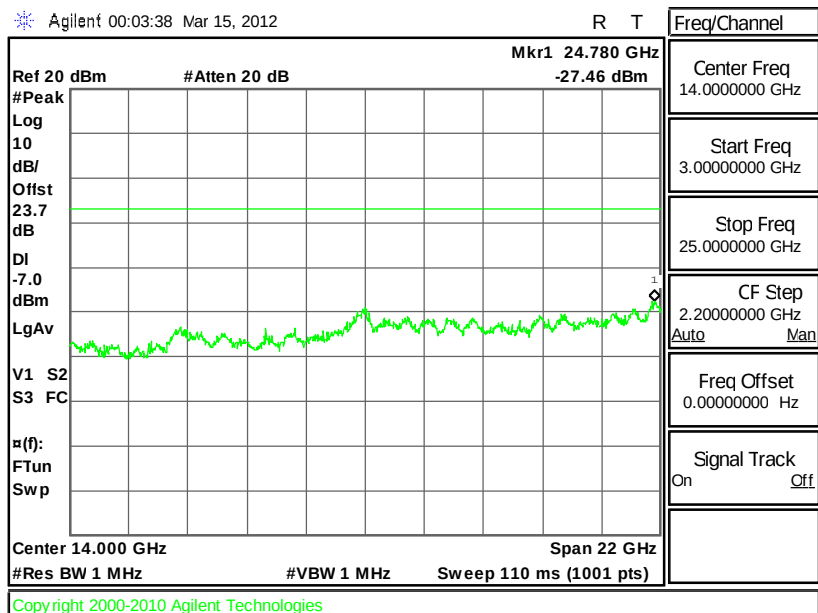


Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



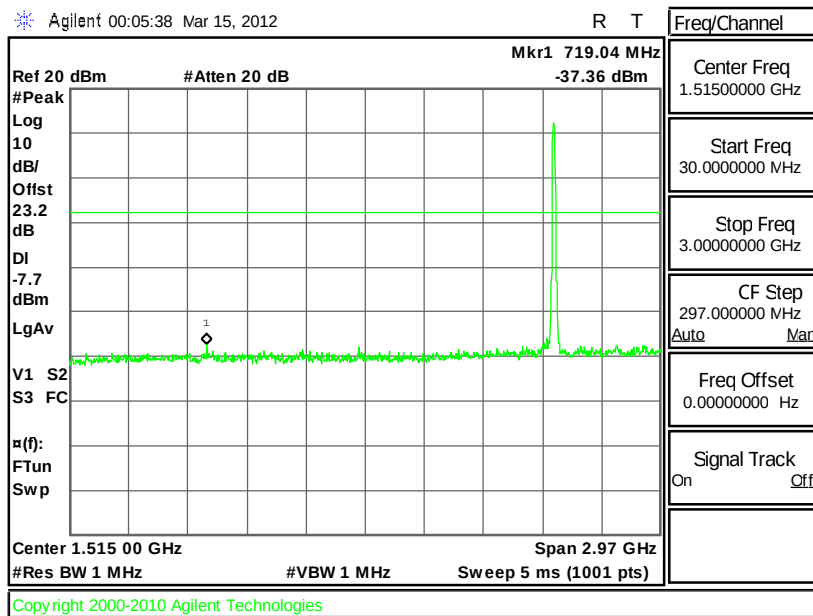
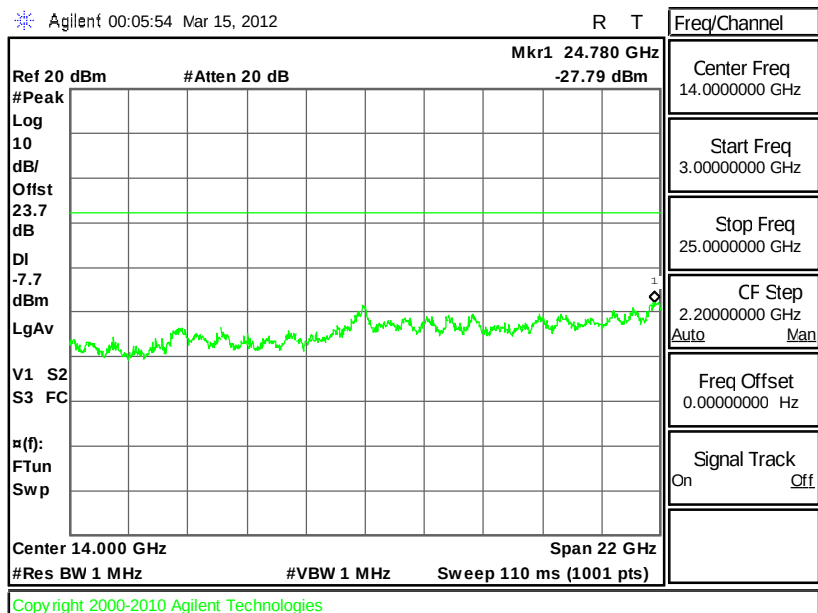


Test Mode :	Mode 2	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

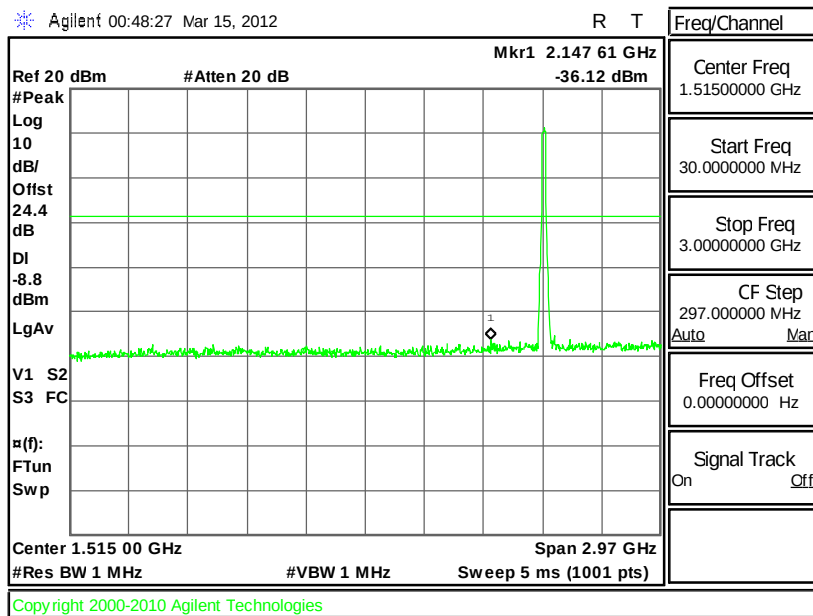
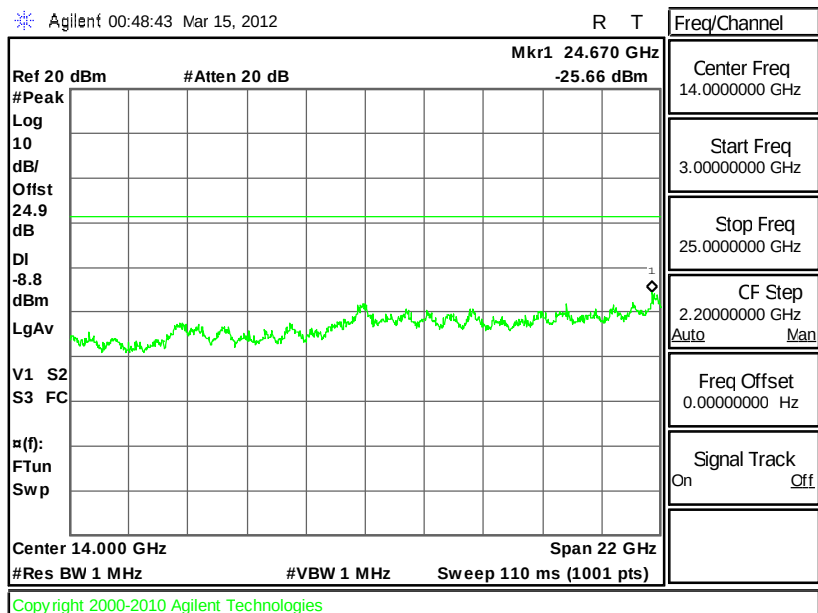


Test Mode :	Mode 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

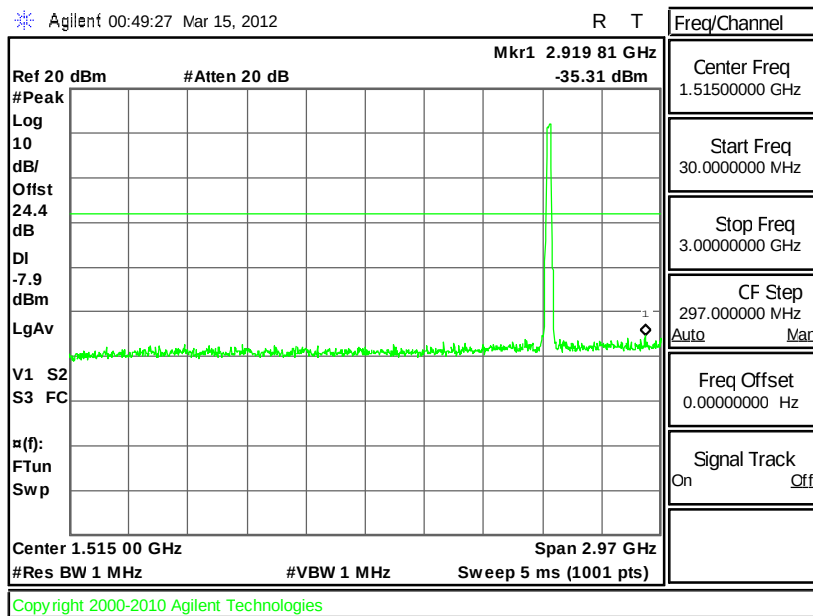
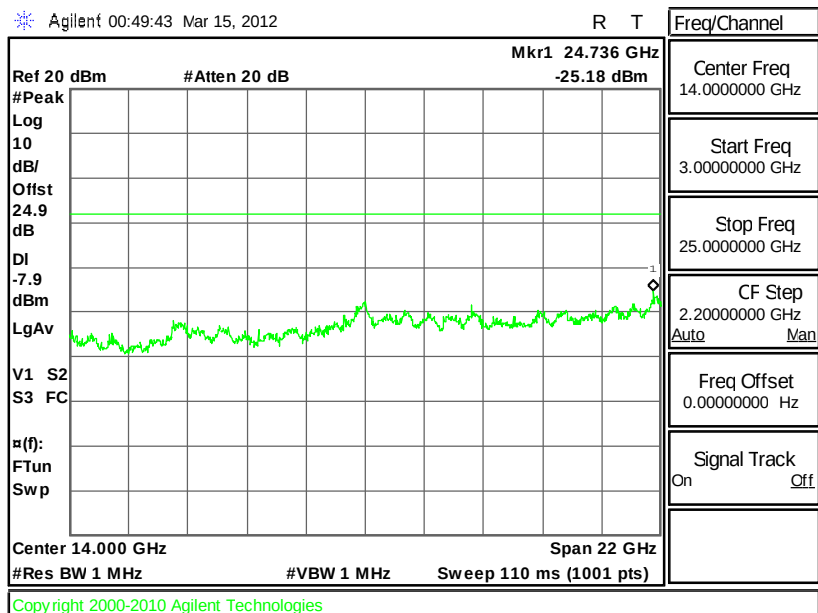


Test Mode :	Mode 4	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

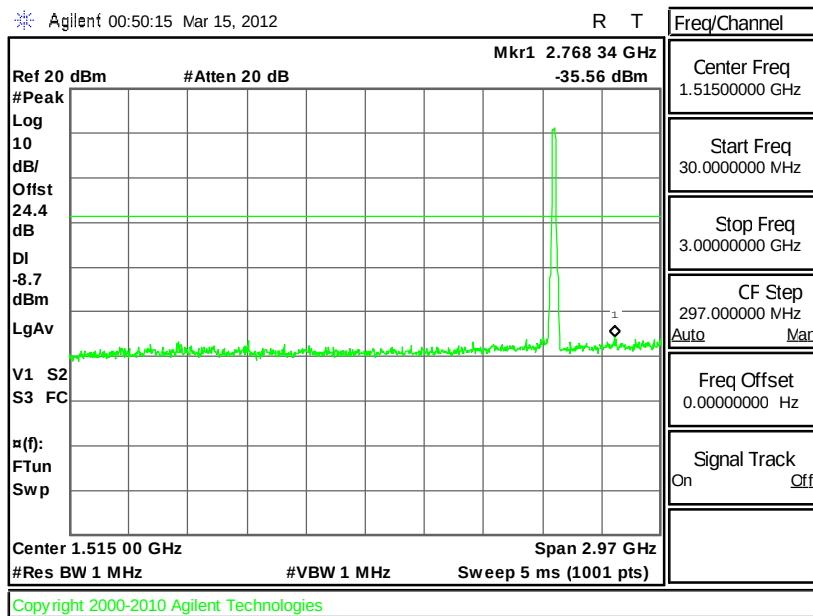
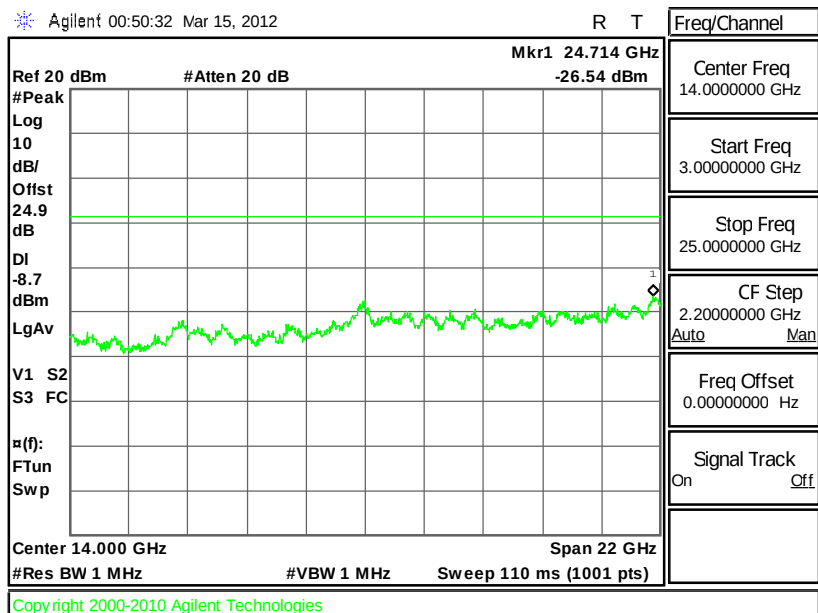


Test Mode :	Mode 5	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

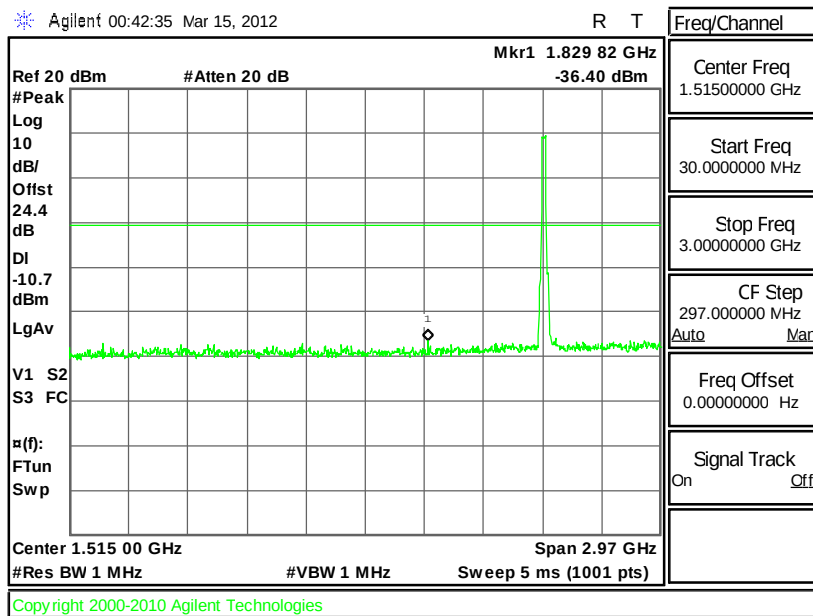
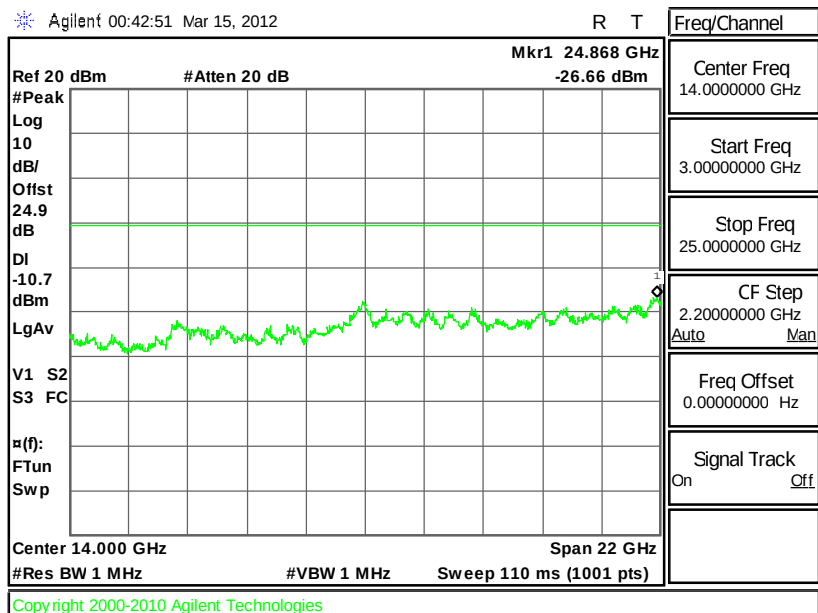


Test Mode :	Mode 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz**

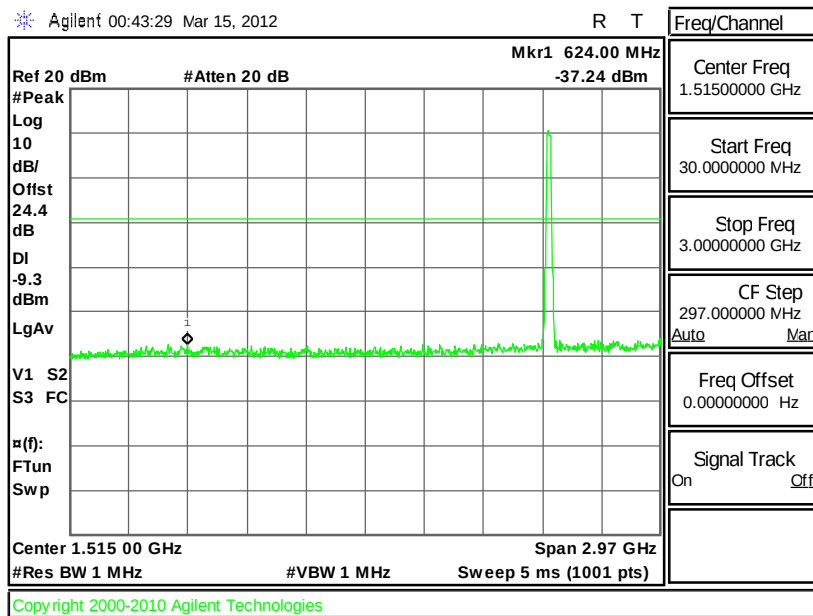
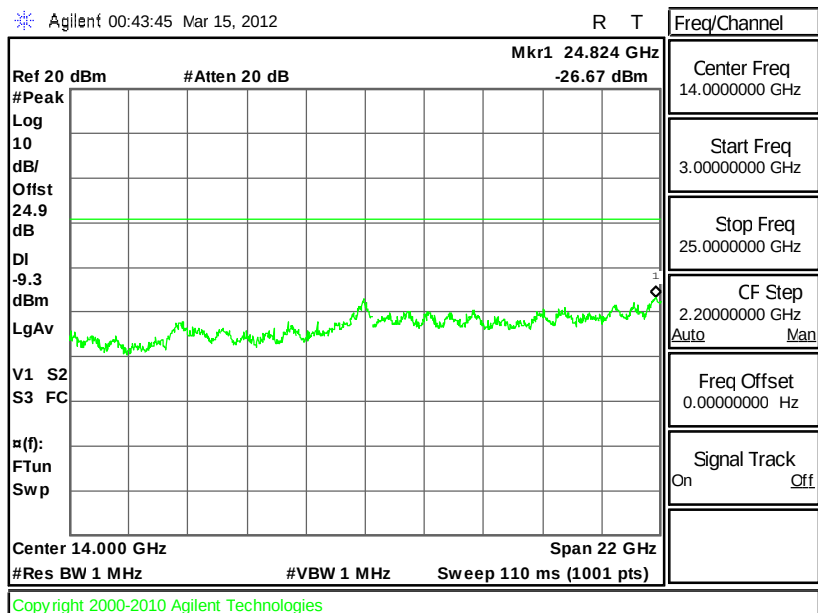


Test Mode :	Mode 7	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

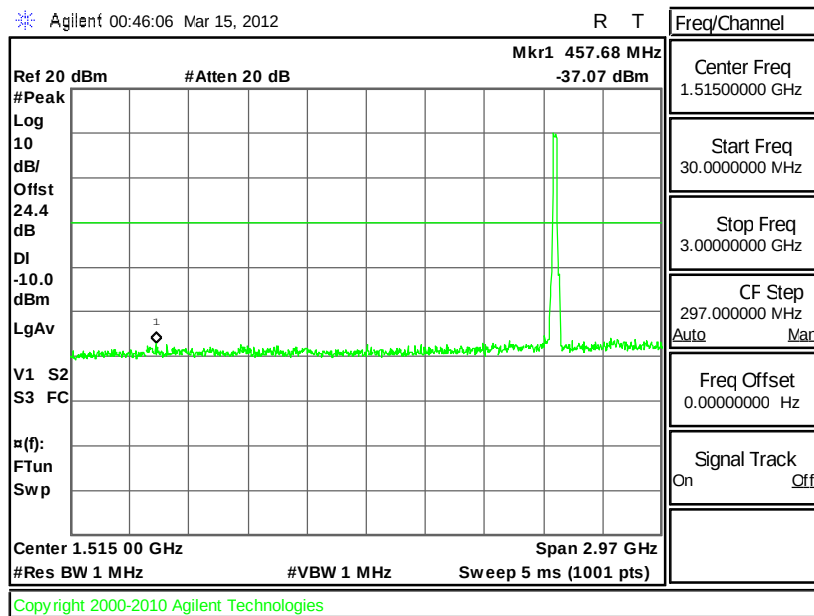
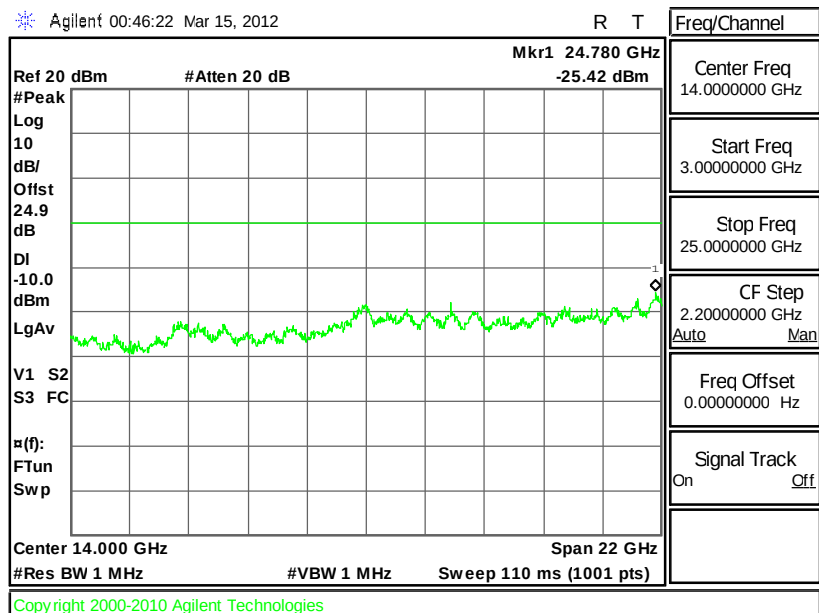


Test Mode :	Mode 8	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

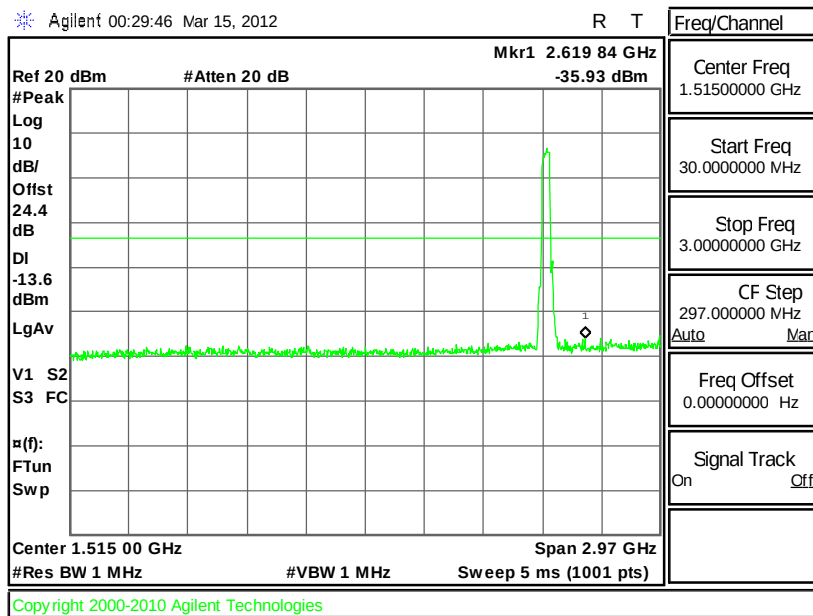
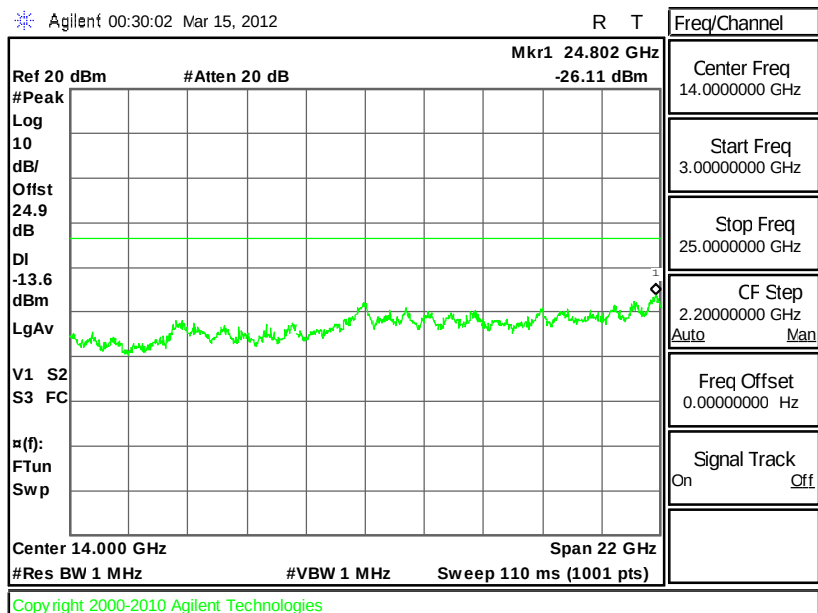


Test Mode :	Mode 9	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**



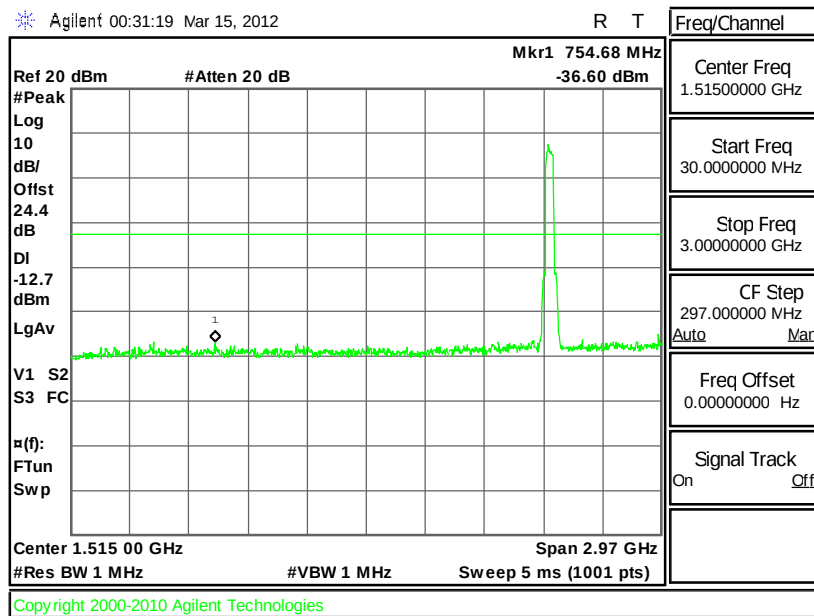
Test Mode :	Mode 10	Temperature :	24~26°C
Test Band :	802.11g/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	03	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

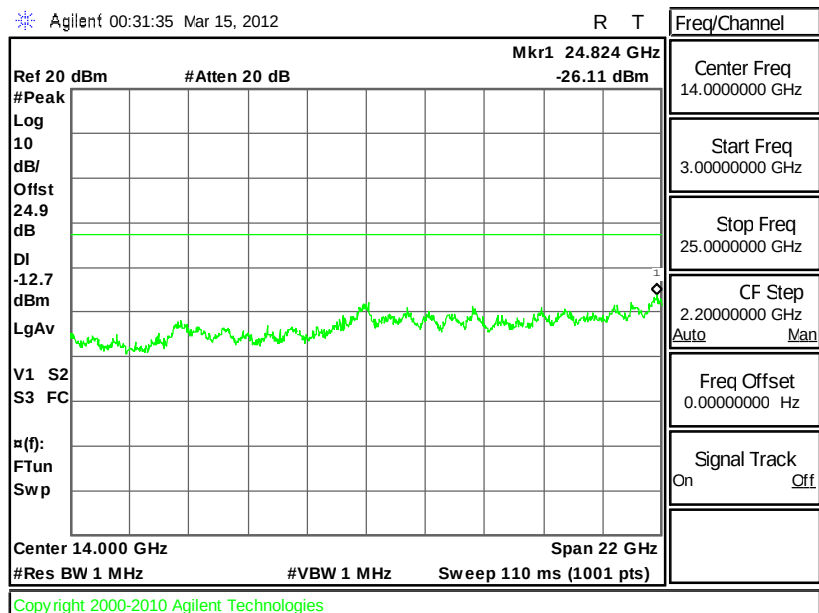


Test Mode :	Mode 11	Temperature :	24~26°C
Test Band :	802.11g/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

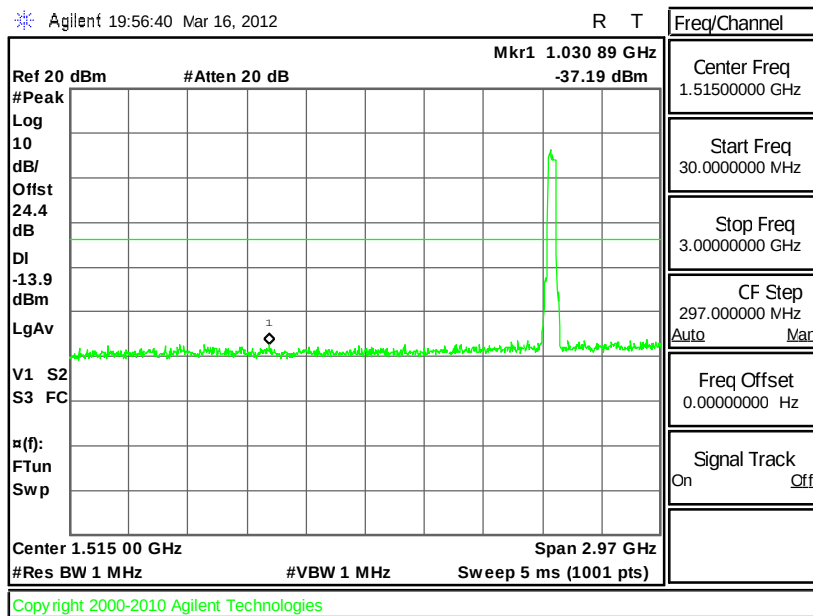
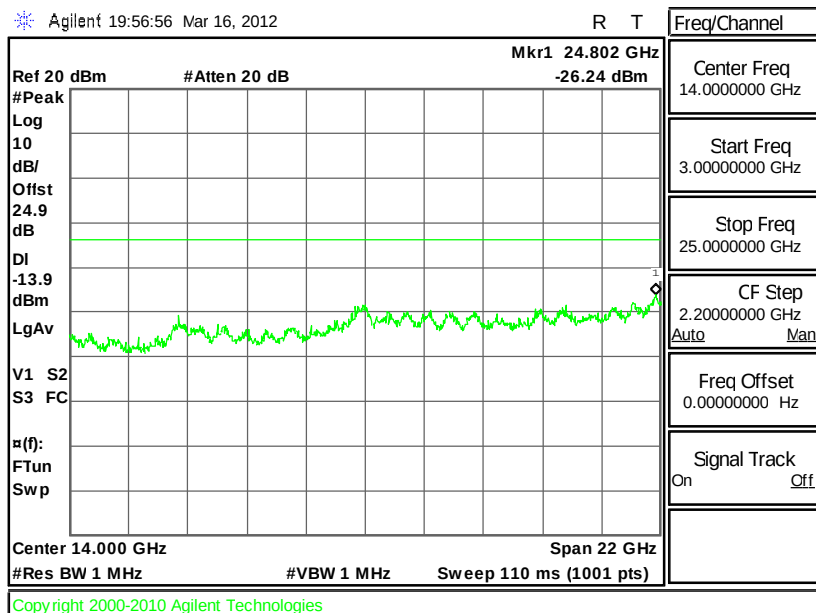


Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz





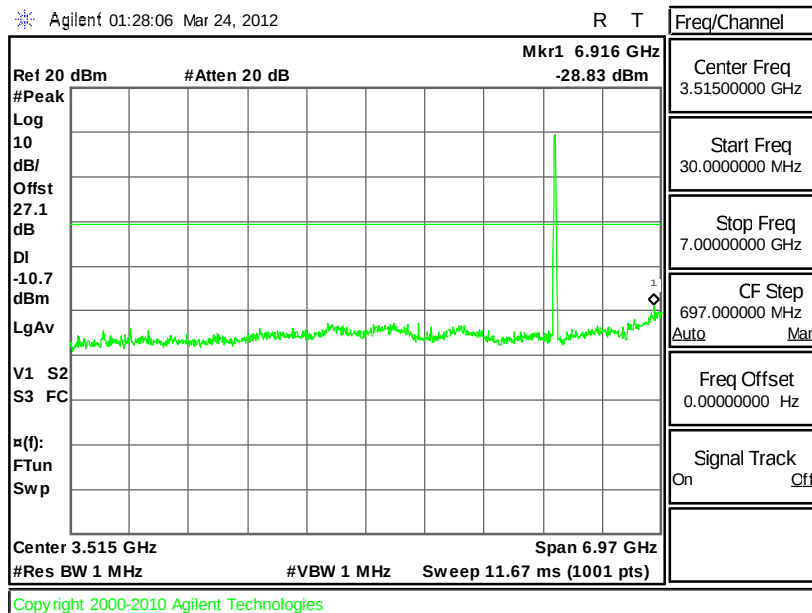
Test Mode :	Mode 12	Temperature :	24~26°C
Test Band :	802.11g/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	09	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz**Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz**

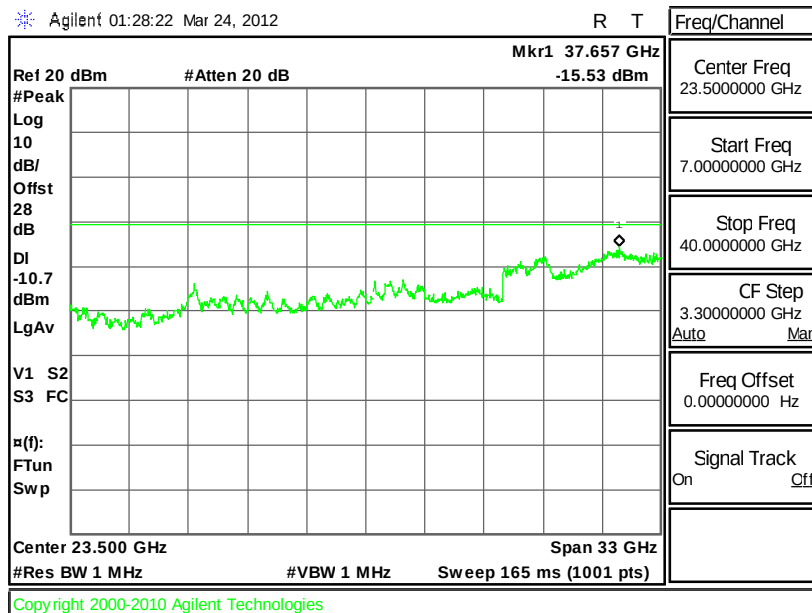


Test Mode :	Mode 13	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz

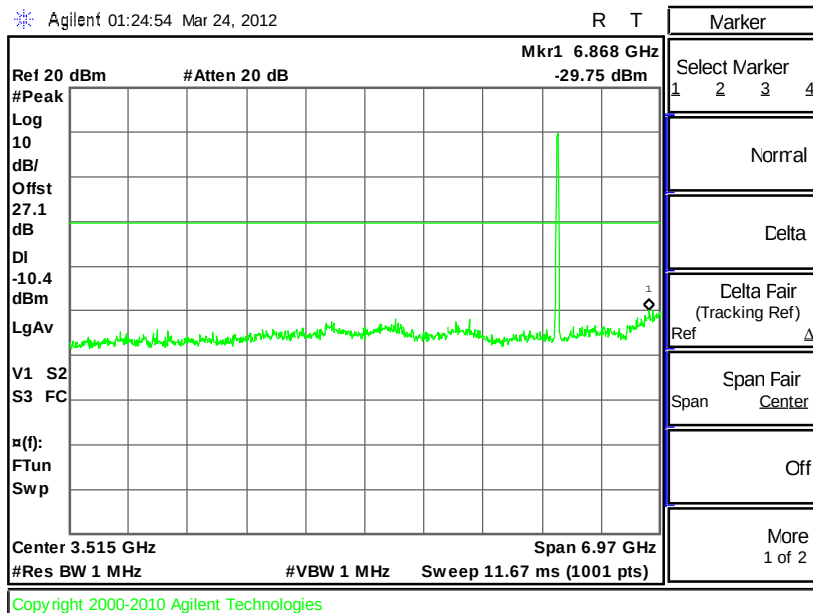
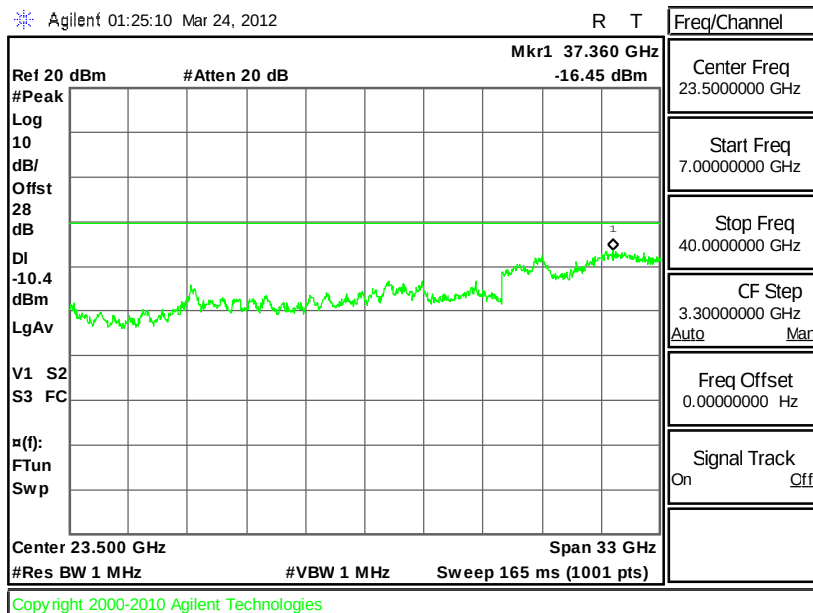


Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



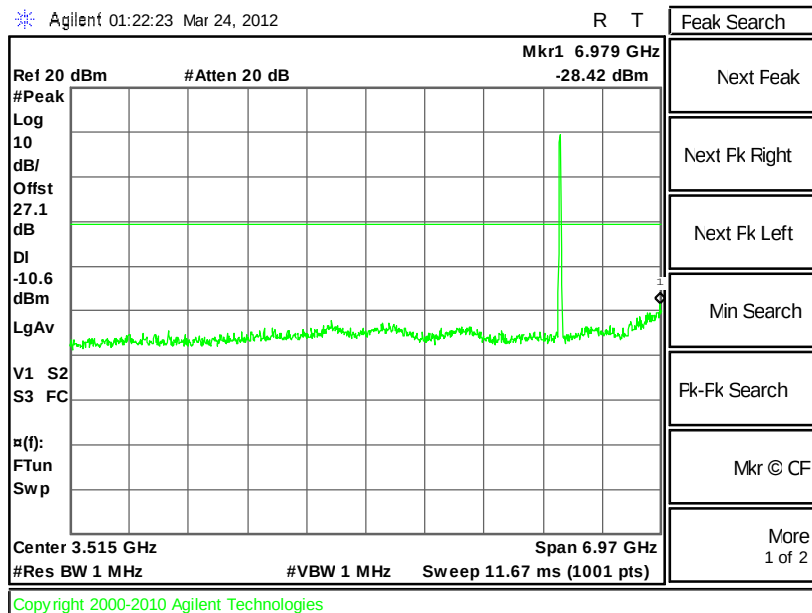
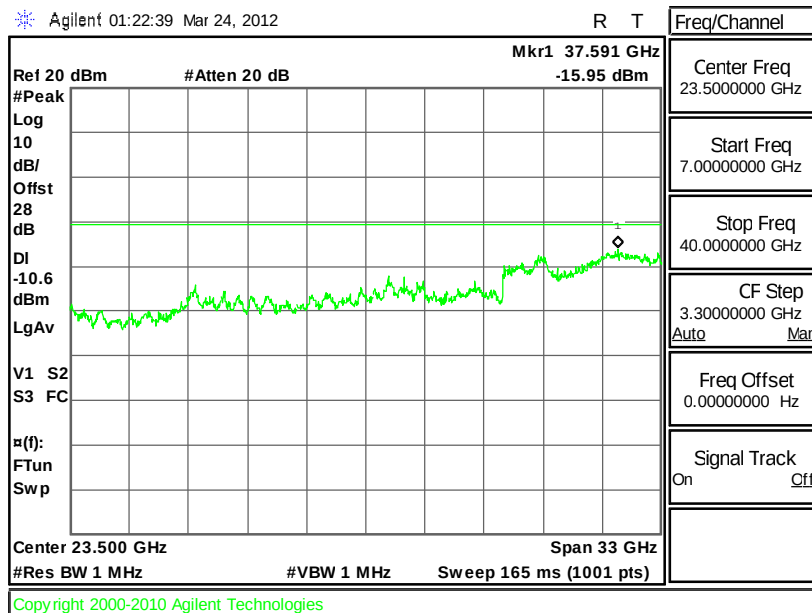


Test Mode :	Mode 14	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**

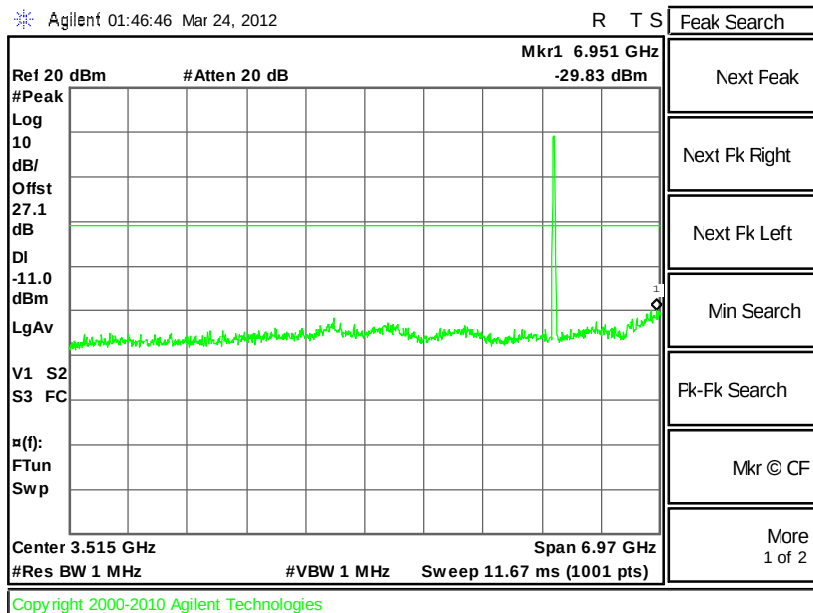
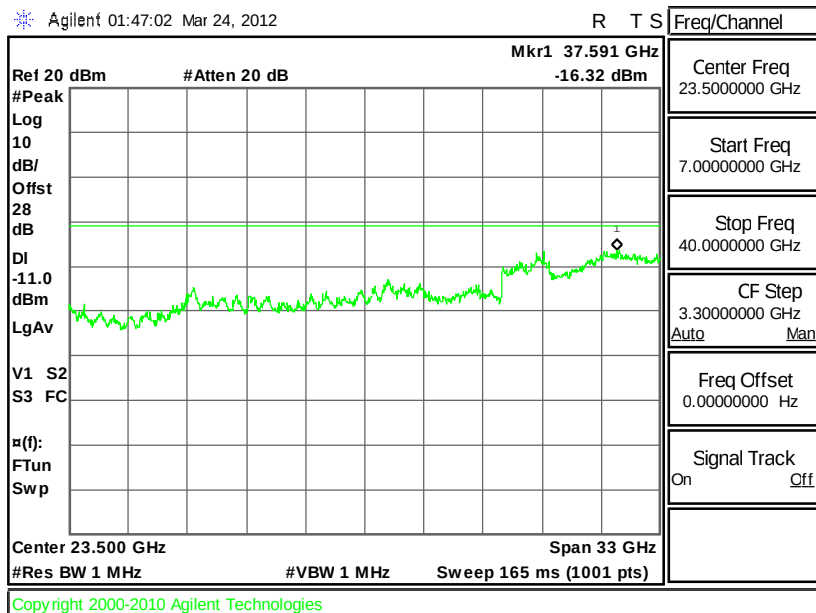


Test Mode :	Mode 15	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	161	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**

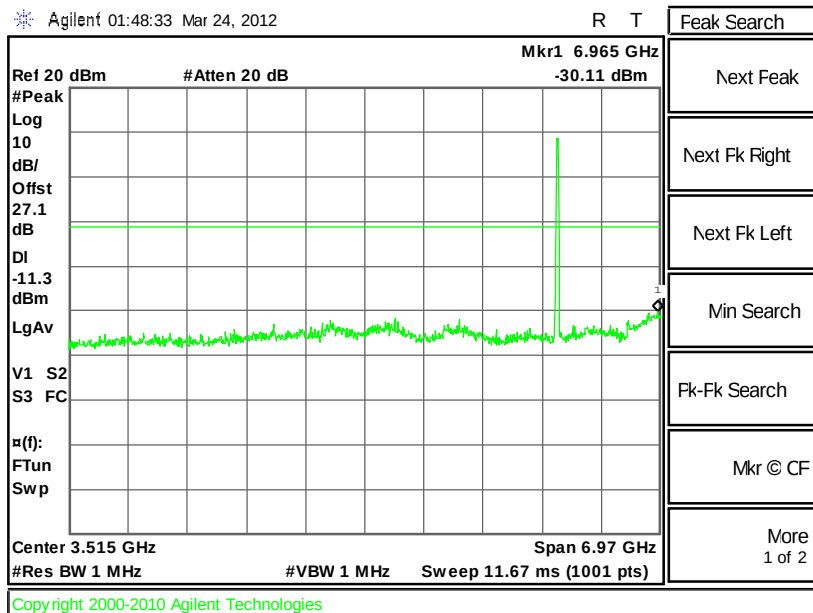
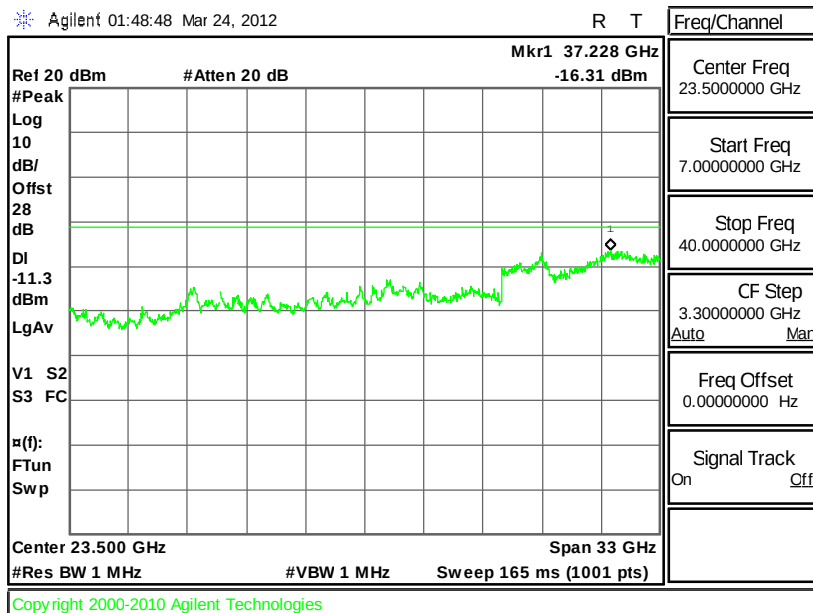


Test Mode :	Mode 16	Temperature :	24~26°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**

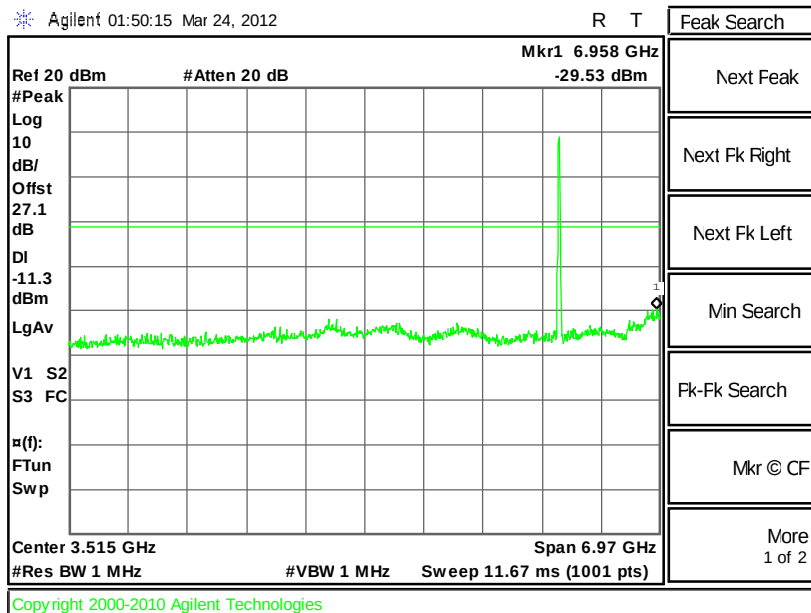
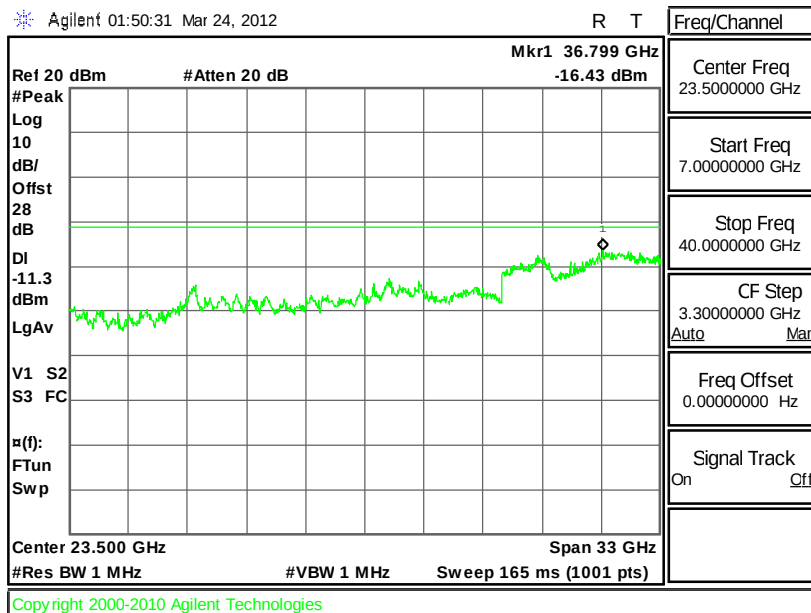


Test Mode :	Mode 17	Temperature :	24~26°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**



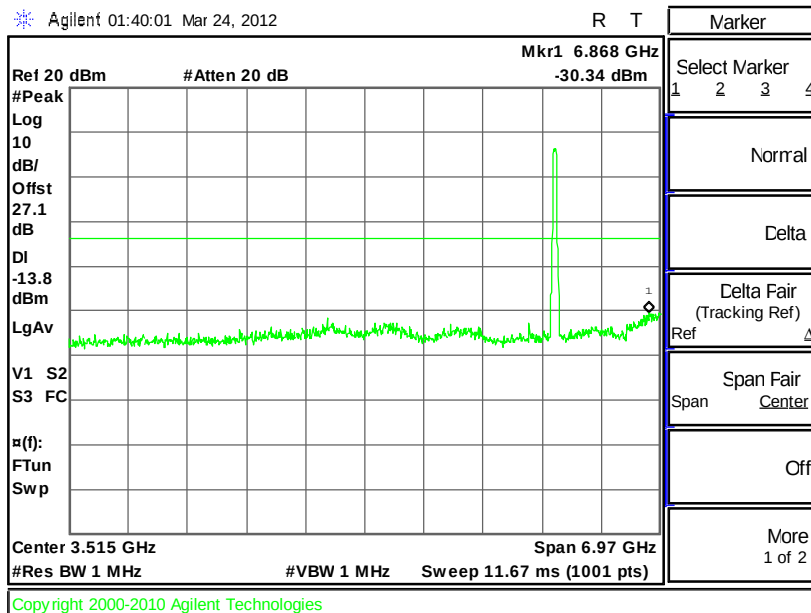
Test Mode :	Mode 18	Temperature :	24~26°C
Test Band :	802.11a/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	161	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**

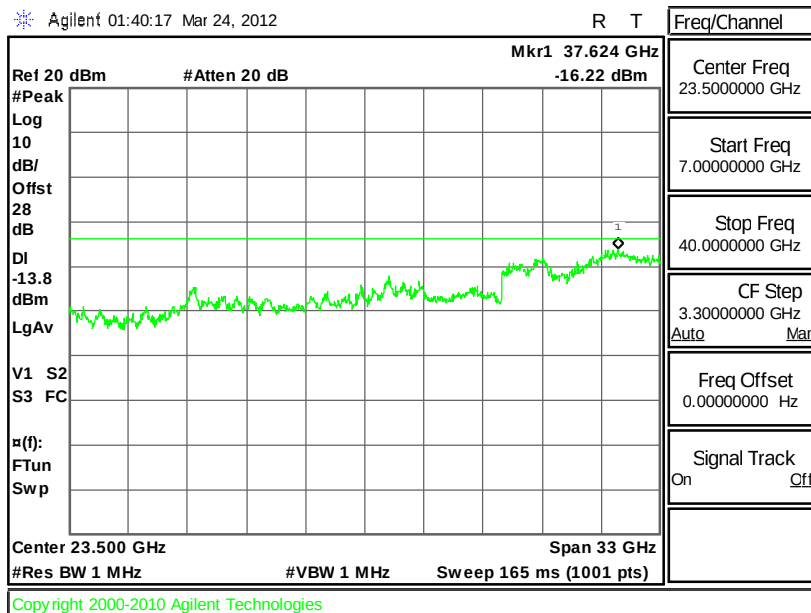


Test Mode :	Mode 19	Temperature :	24~26°C
Test Band :	802.11a/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	151	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz

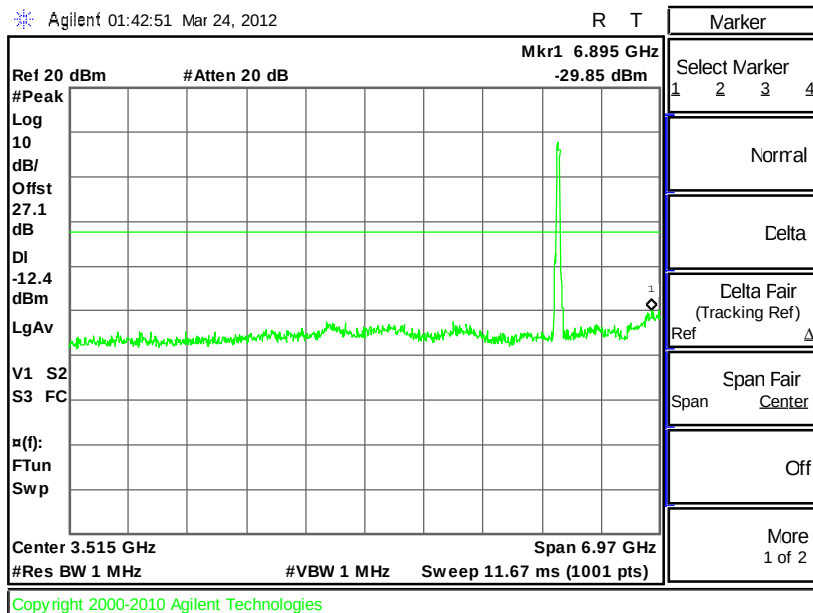
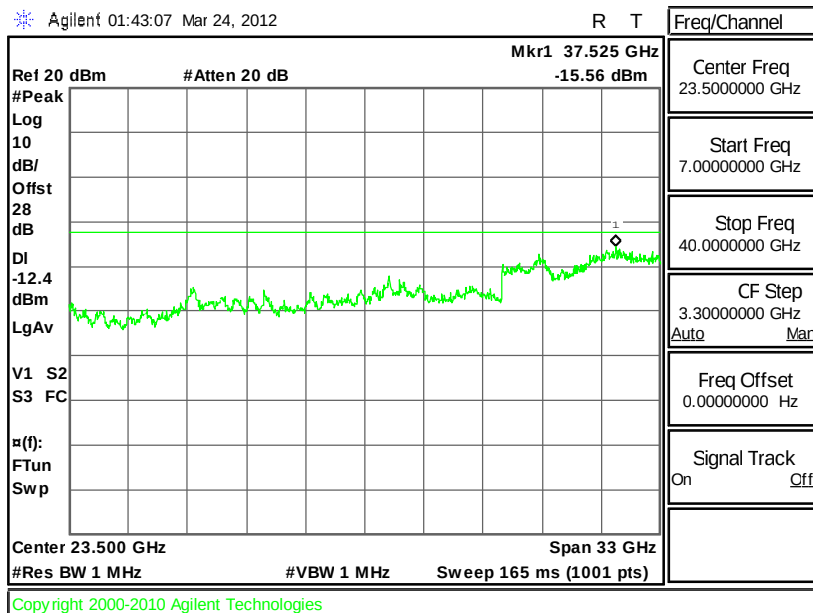


Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz





Test Mode :	Mode 20	Temperature :	24~26°C
Test Band :	802.11a/n (BW 40MHz)	Relative Humidity :	50~53%
Test Channel :	159	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz**Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz**

3.5 Power Spectral Density Measurement

3.5.1 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.

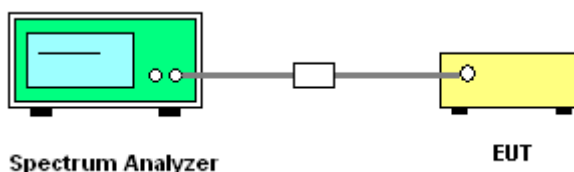
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows Measurement Procedure PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Record the measurement data derived from spectrum analyzer.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 KHz. Video bandwidth (VBW) $\geq$ 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
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 in any 100 kHz band segment within the fundamental EBW.
6. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3\text{ kHz}/100\text{ kHz} = -15.2\text{ dB})$.

3.5.4 Test Setup



3.5.5 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	11.35	-3.85	8	Pass
06	2437	11.58	-3.62	8	Pass
11	2462	10.88	-4.32	8	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	4.43	-10.77	8	Pass
06	2437	5.23	-9.97	8	Pass
11	2462	4.06	-11.14	8	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g/n (BW 20MHz) Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	2.55	-12.65	8	Pass
06	2437	3.35	-11.85	8	Pass
11	2462	2.98	-12.22	8	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g/n (BW 40MHz) Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
03	2422	0.00	-15.20	8	Pass
06	2437	-0.12	-15.32	8	Pass
09	2452	-1.31	-16.51	8	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	2.41	-12.79	8	Pass
157	5785	3.49	-11.71	8	Pass
161	5805	3.36	-11.84	8	Pass

Test Mode :	Mode 16, 17, 18	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a/n (BW 20MHz) Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	3.26	-11.94	8	Pass
157	5785	3.01	-12.19	8	Pass
161	5805	3.22	-11.98	8	Pass

Test Mode :	Mode 19, 20	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a/n (BW 40MHz) Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
151	5755	0.56	-14.64	0.5	Pass
159	5795	0.49	-14.71	0.5	Pass

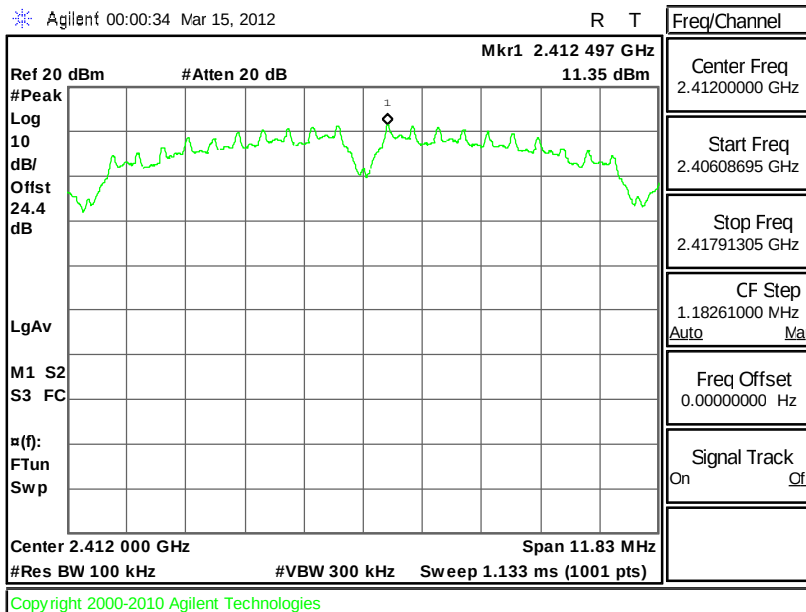
Note:

1. Measured power density (dBm) has offset with cable loss.
2. $BWCF (dB) = 10 \log (3k/100k) = -15.2 \text{ dB}$
3. $\text{Power Density/ 3kHz (dBm)} = \text{Measured power density/ 100KHz (dBm)} + BWCF (dB)$

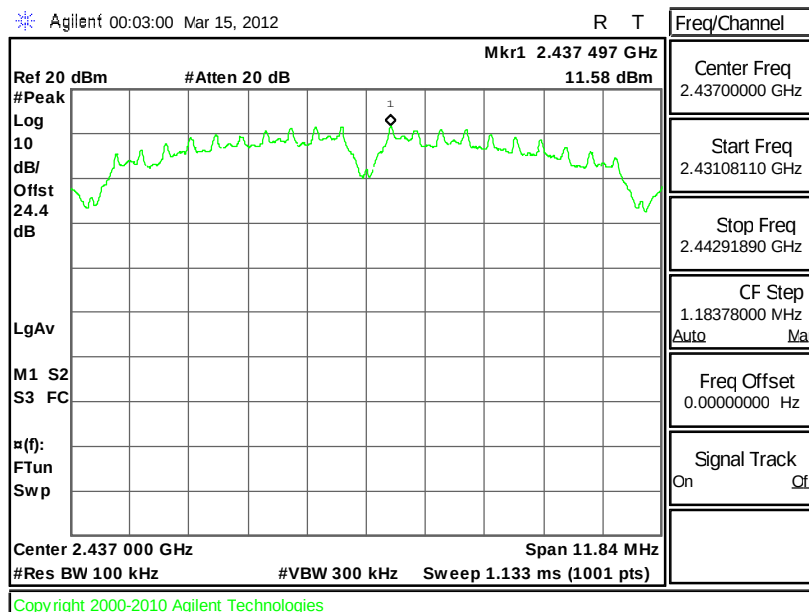


3.5.6 Test Result of Power Spectral Density Plots

Mode 1 : PSD Plot on 802.11b Channel 01

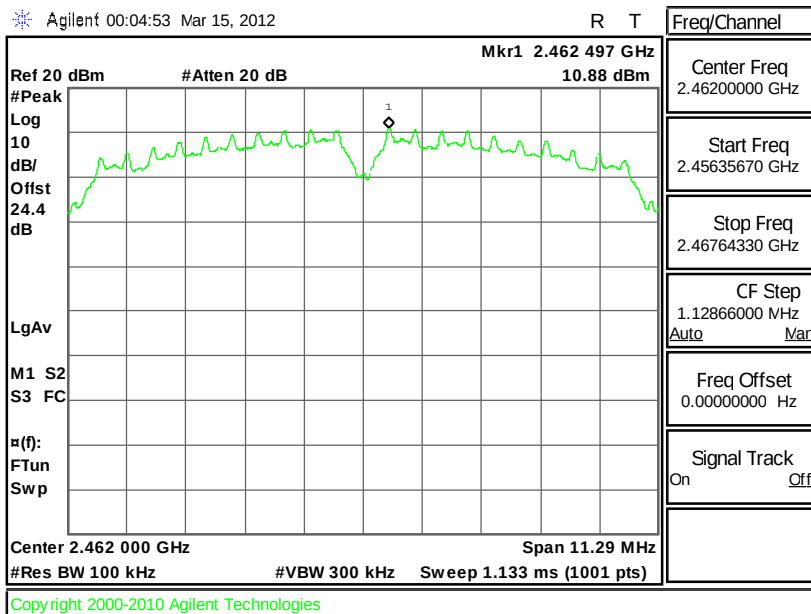


Mode 2 : PSD Plot on 802.11b Channel 06

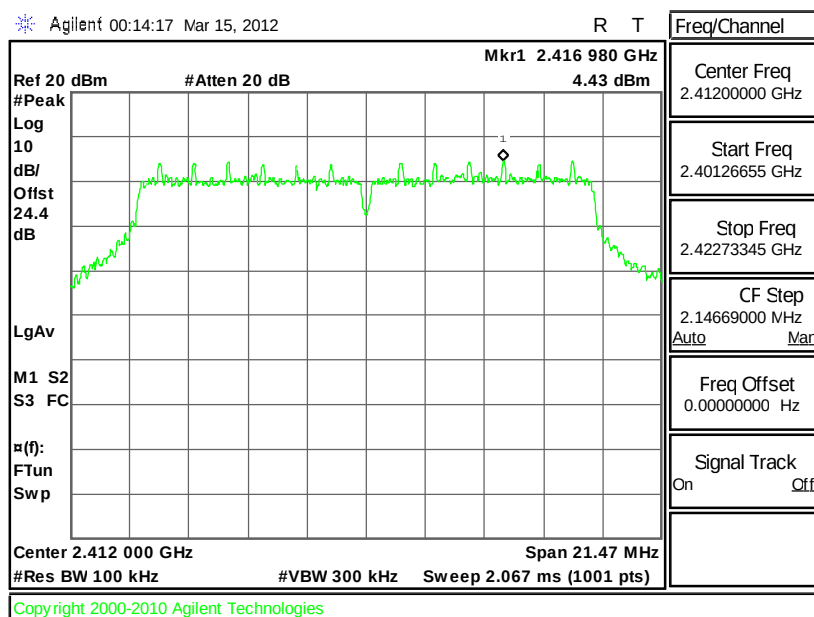




Mode 3 : PSD Plot on 802.11b Channel 11

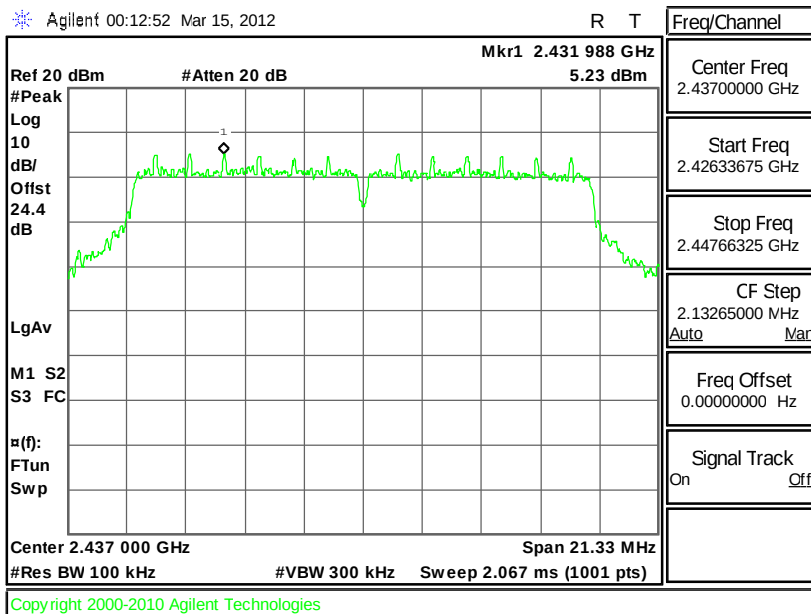


Mode 4 : PSD Plot on 802.11g Channel 01

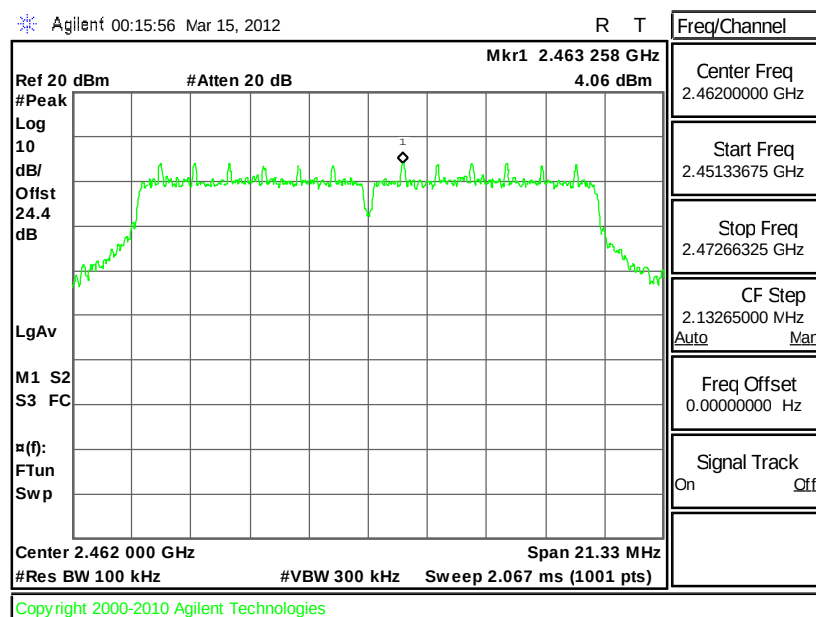




Mode 5 : PSD Plot on 802.11g Channel 06

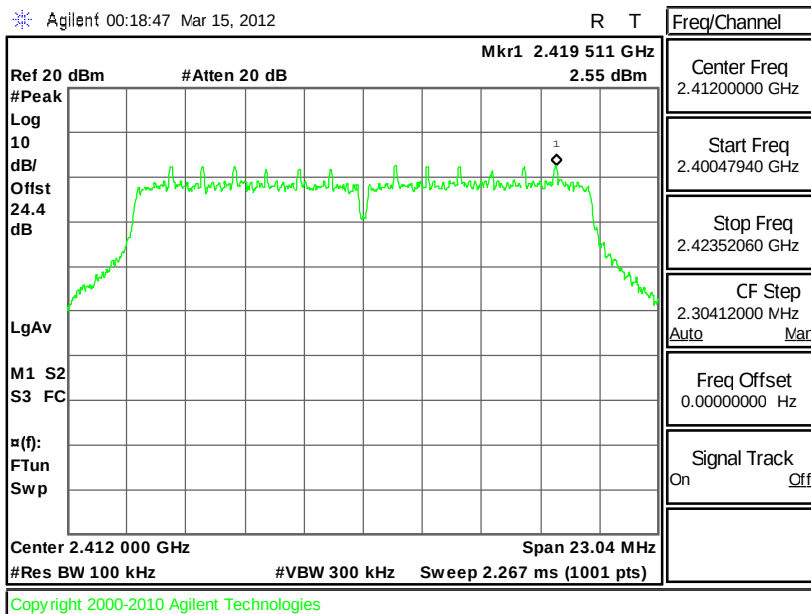


Mode 6 : PSD Plot on 802.11g Channel 11

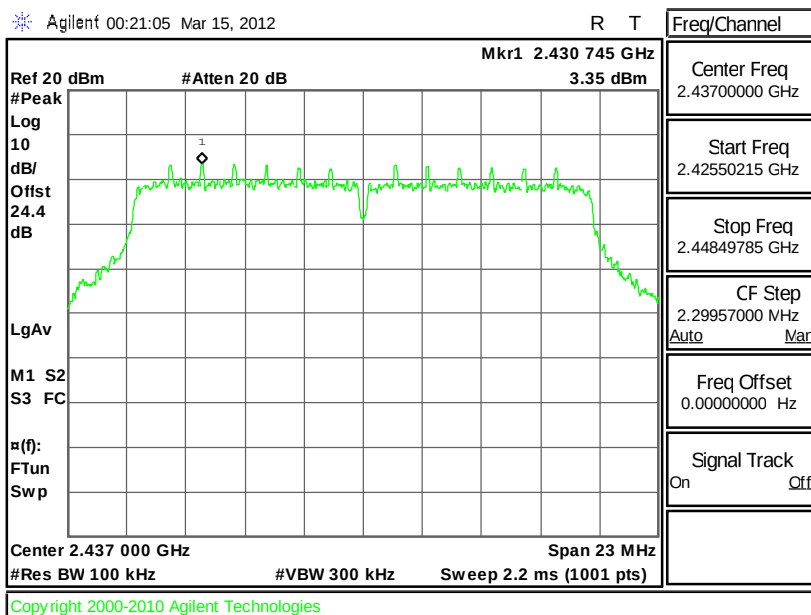




Mode 7 : PSD Plot on 802.11g/n (BW 20MHz) Channel 01

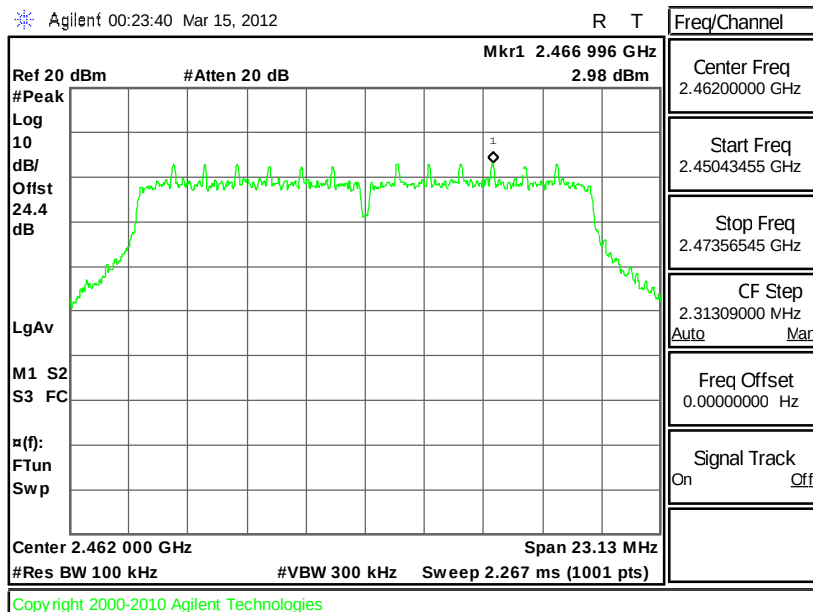


Mode 8 : PSD Plot on 802.11g/n (BW 20MHz) Channel 06

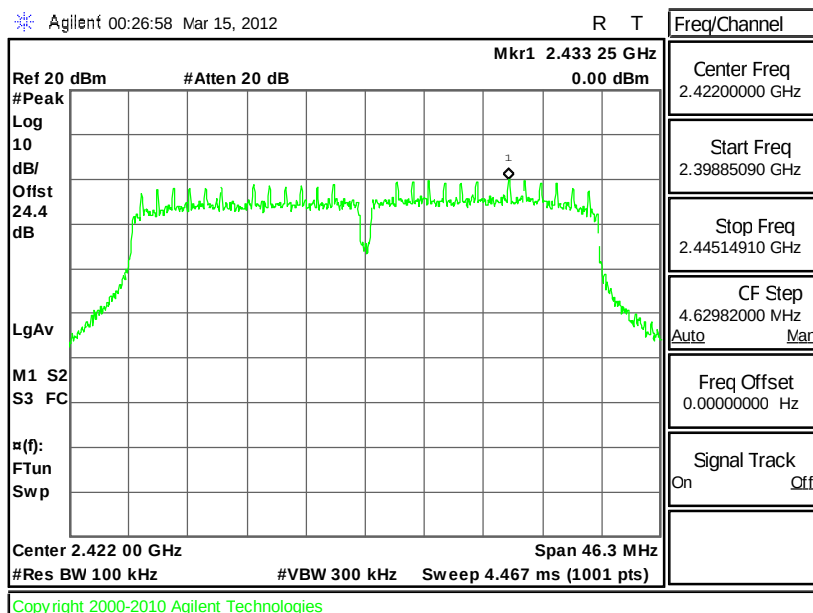




Mode 9 : PSD Plot on 802.11g/n (BW 20MHz) Channel 11

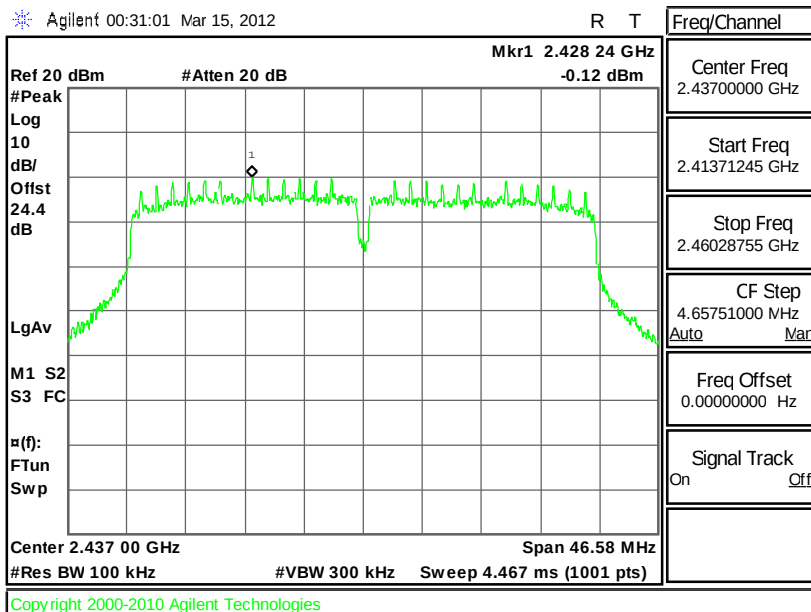


Mode 10 : PSD Plot on 802.11g/n (BW 40MHz) Channel 03

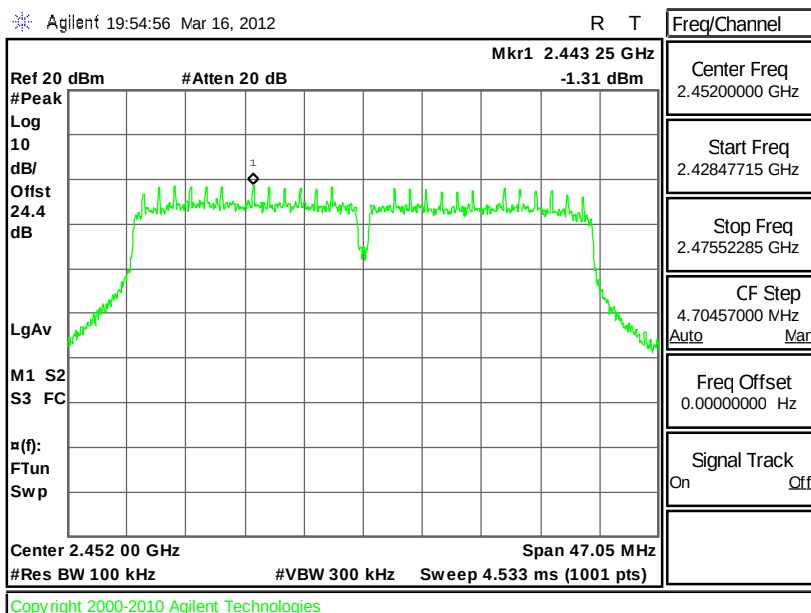




Mode 11 : PSD Plot on 802.11g/n (BW 40MHz) Channel 06

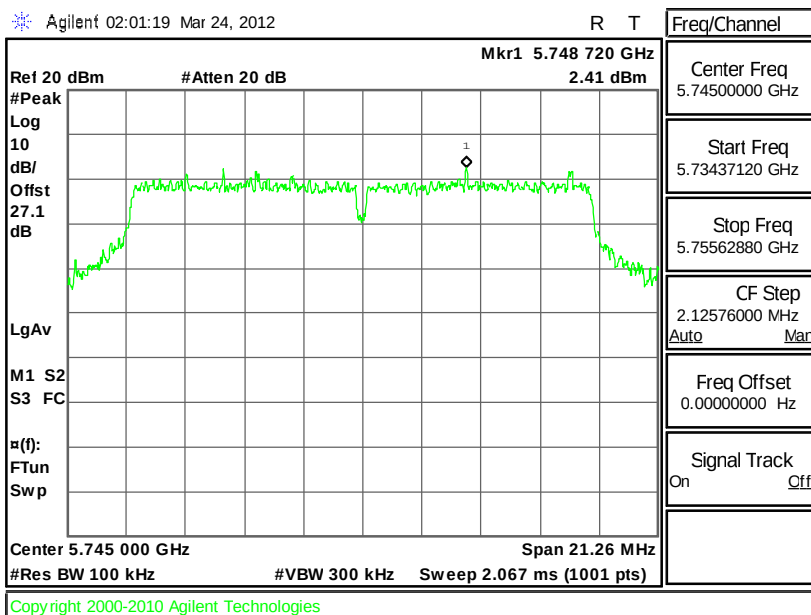


Mode 12 : PSD Plot on 802.11g/n (BW 40MHz) Channel 09

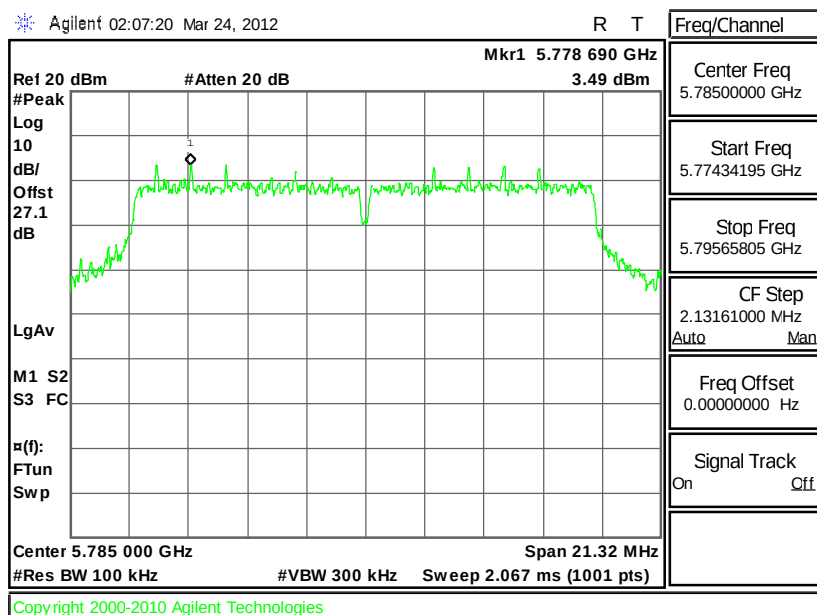




Mode 13: PSD Plot on 802.11a Channel 149

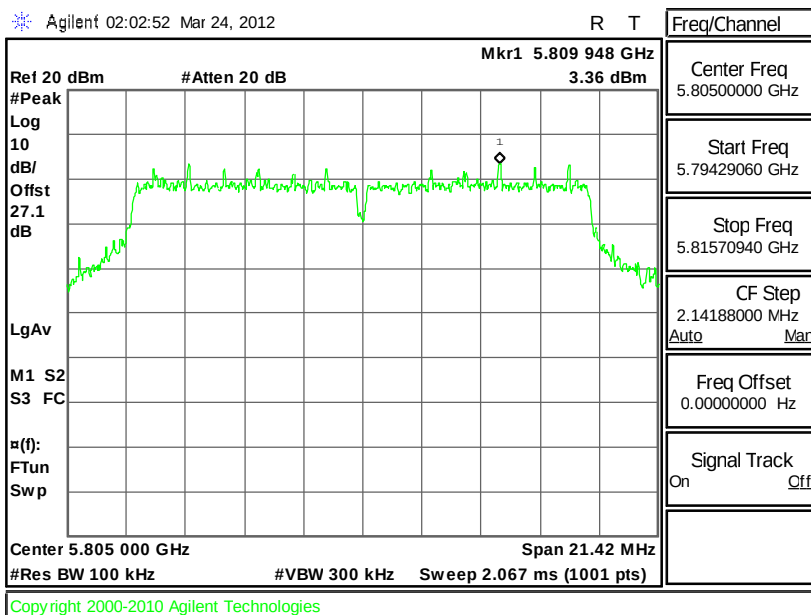


Mode 14: PSD Plot on 802.11a Channel 157

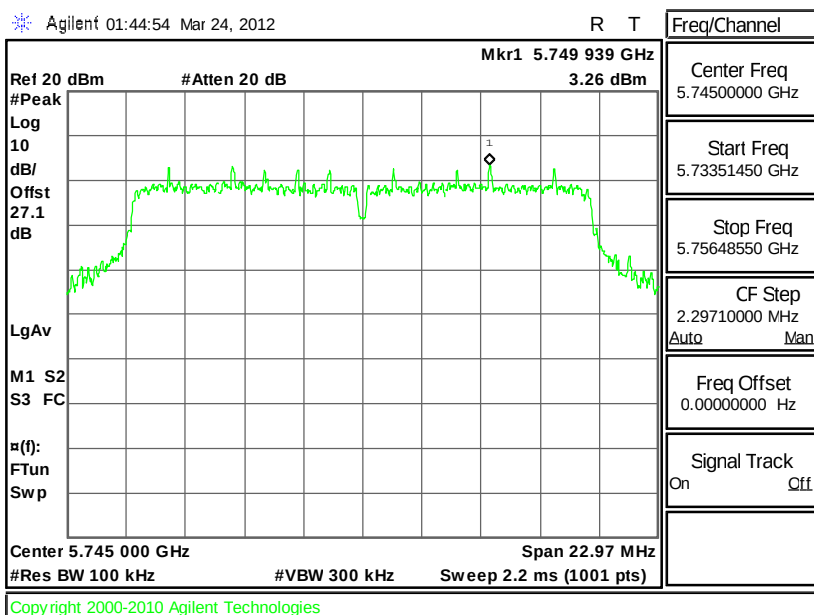




Mode 15: PSD Plot on 802.11a Channel 161

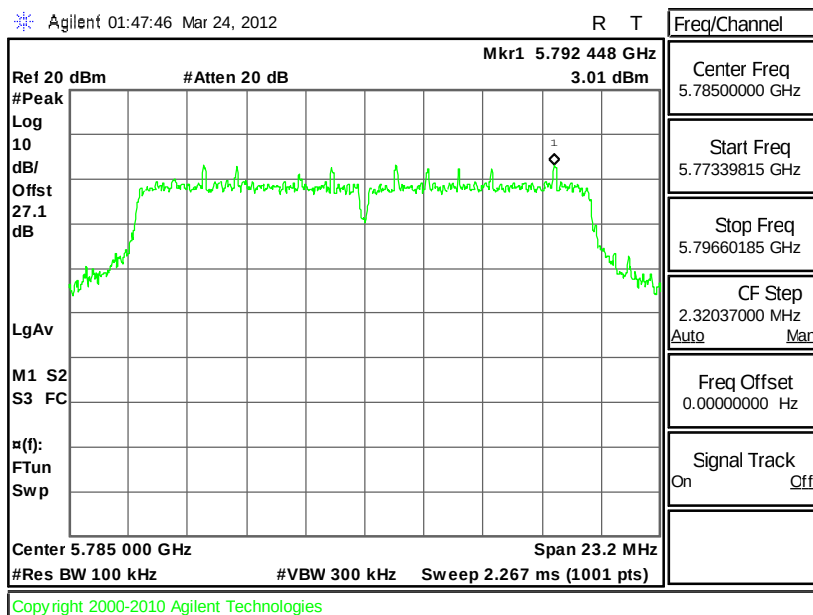


Mode 16 : PSD Plot on 802.11a/n (BW 20MHz) Channel 149

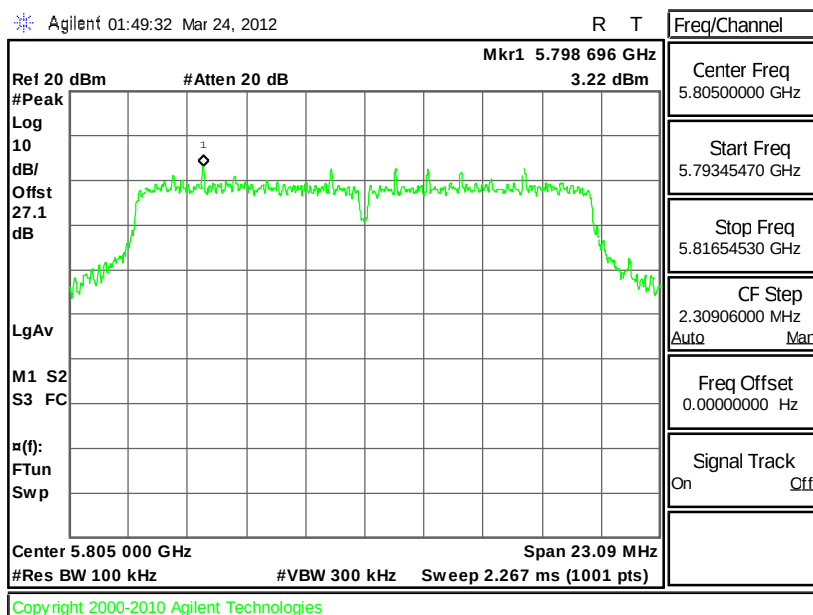




Mode 17 : PSD Plot on 802.11a/n (BW 20MHz) Channel 157

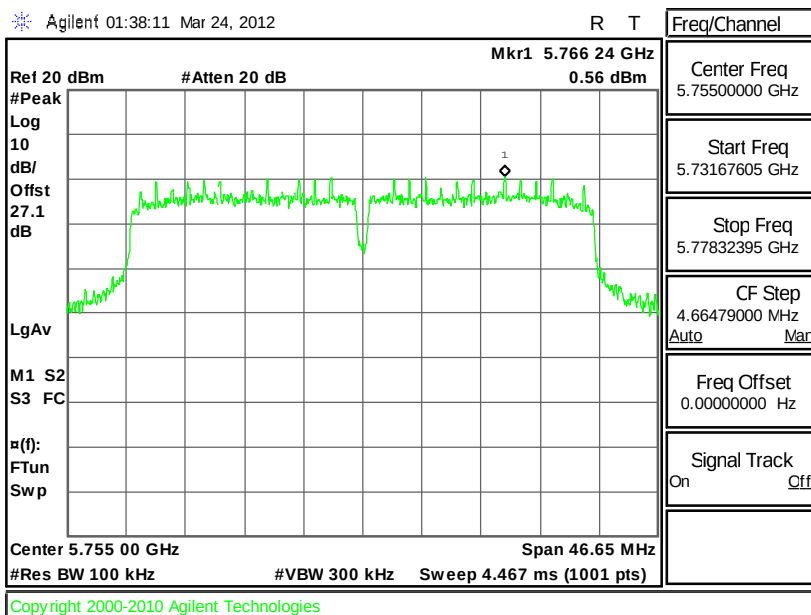


Mode 18 : PSD Plot on 802.11a/n (BW 20MHz) Channel 161

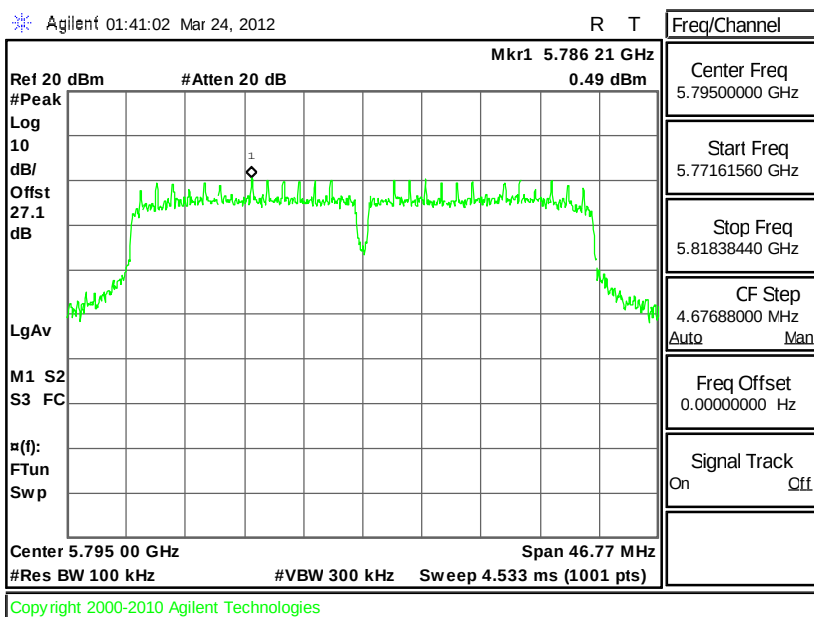




Mode 19 : PSD Plot on 802.11a/n (BW 40MHz) Channel 151



Mode 20: PSD Plot on 802.11a/n (BW 40MHz) Channel 159



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.

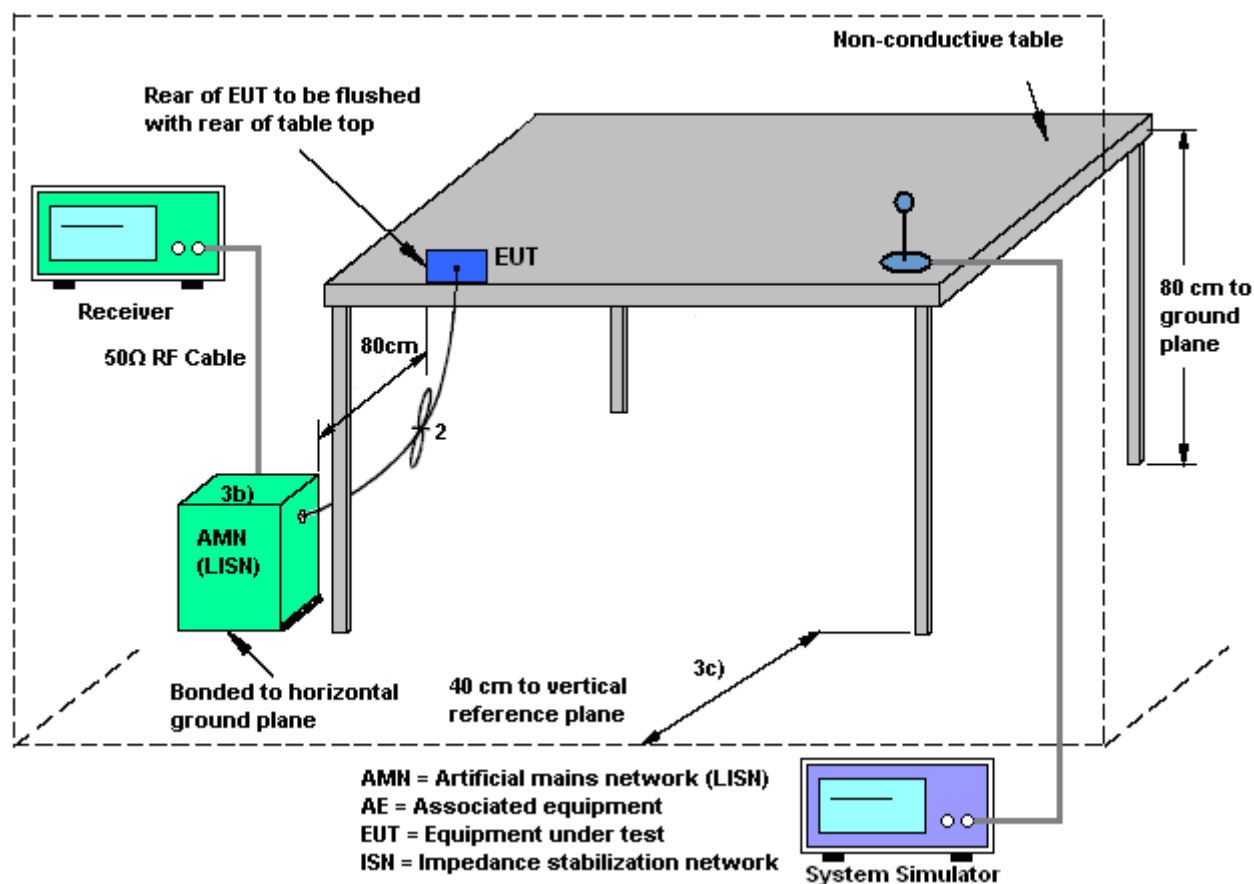
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

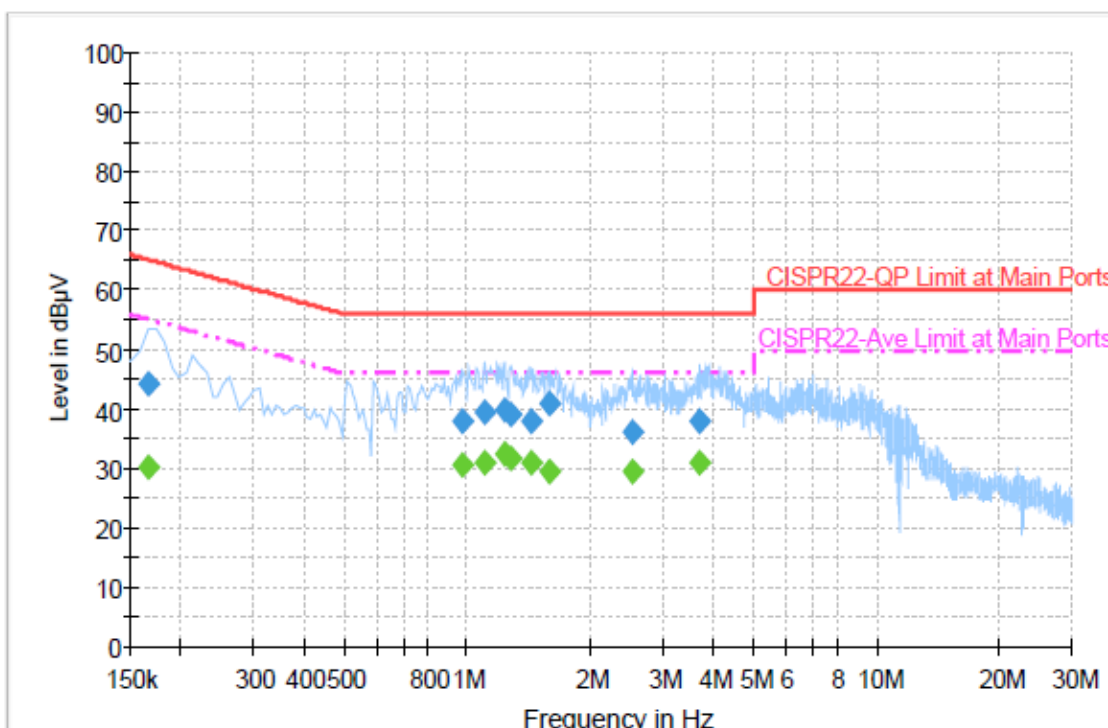
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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

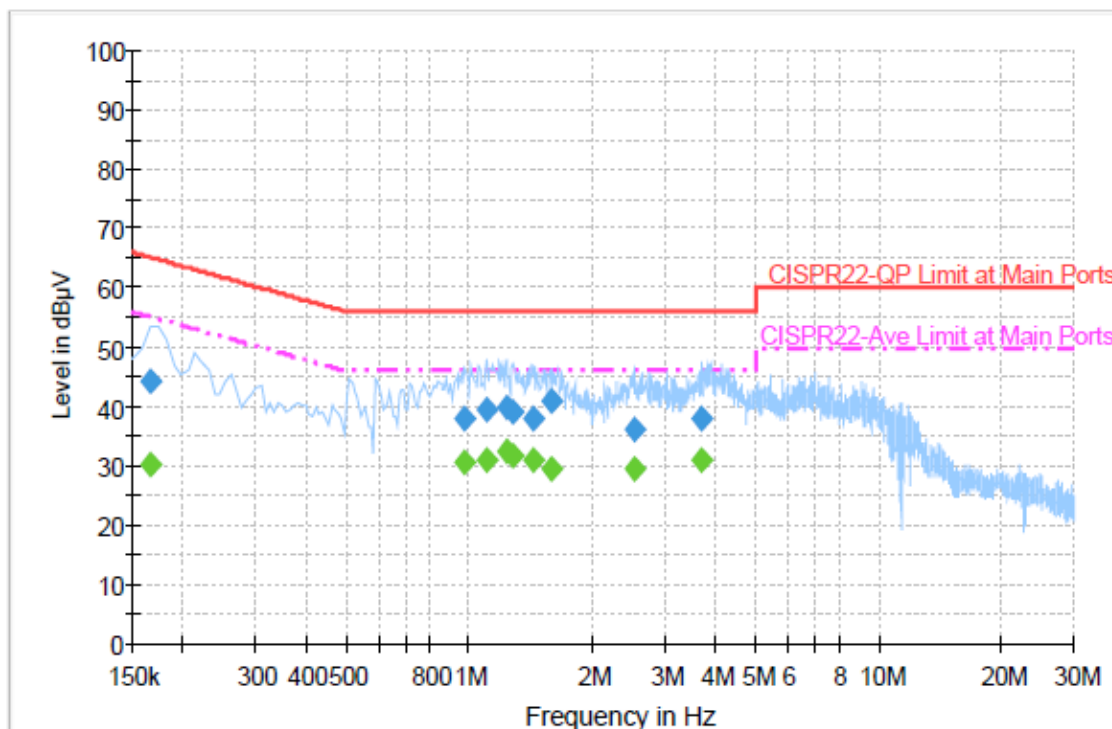
Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Hayden Wu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC On + Earphone + Battery 1 + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : QuasiPeak

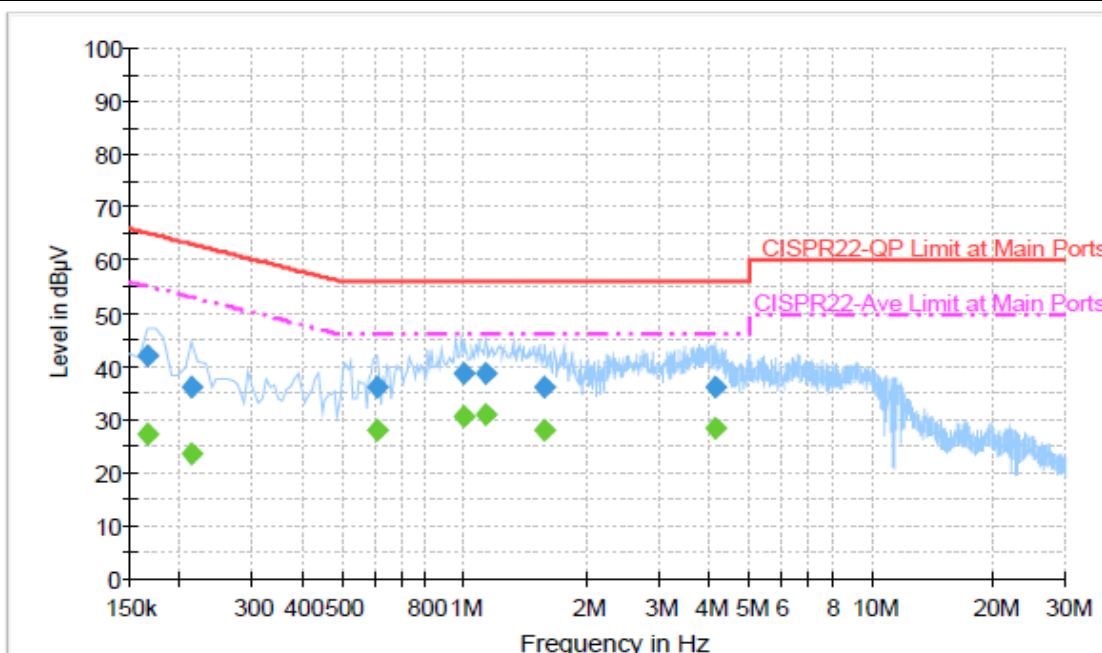
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	44.2	Off	L1	19.3	21.0	65.2
0.974000	38.1	Off	L1	19.4	17.9	56.0
1.102000	39.7	Off	L1	19.4	16.3	56.0
1.230000	39.9	Off	L1	19.4	16.1	56.0
1.278000	39.2	Off	L1	19.4	16.8	56.0
1.438000	37.9	Off	L1	19.4	18.1	56.0
1.590000	41.1	Off	L1	19.4	14.9	56.0
2.518000	36.2	Off	L1	19.4	19.8	56.0
3.694000	38.1	Off	L1	19.5	17.9	56.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Hayden Wu	Relative Humidity :	46~48%%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC On + Earphone + Battery 1 + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	30.3	Off	L1	19.3	24.9	55.2
0.974000	30.7	Off	L1	19.4	15.3	46.0
1.102000	31.1	Off	L1	19.4	14.9	46.0
1.230000	32.4	Off	L1	19.4	13.6	46.0
1.278000	31.9	Off	L1	19.4	14.1	46.0
1.438000	31.2	Off	L1	19.4	14.8	46.0
1.590000	29.5	Off	L1	19.4	16.5	46.0
2.518000	29.6	Off	L1	19.4	16.4	46.0
3.694000	30.9	Off	L1	19.5	15.1	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC On + Earphone + Battery 1 + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	42.1	Off	N	19.3	23.1	65.2
0.214000	36.2	Off	N	19.4	26.8	63.0
0.606000	36.2	Off	N	19.4	19.8	56.0
0.998000	38.8	Off	N	19.4	17.2	56.0
1.126000	38.9	Off	N	19.4	17.1	56.0
1.574000	36.0	Off	N	19.4	20.0	56.0
4.142000	36.0	Off	N	19.5	20.0	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	27.3	Off	N	19.3	27.9	55.2
0.214000	23.6	Off	N	19.4	29.4	53.0
0.606000	28.0	Off	N	19.4	18.0	46.0
0.998000	30.7	Off	N	19.4	15.3	46.0
1.126000	31.0	Off	N	19.4	15.0	46.0
1.574000	28.1	Off	N	19.4	17.9	46.0
4.142000	28.6	Off	N	19.5	17.4	46.0

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

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

3.7.2 Measuring Instruments

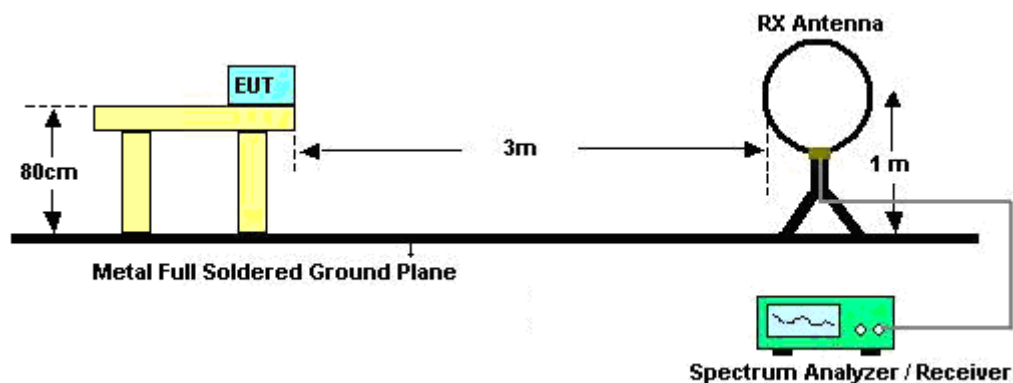
See list of measuring instruments of this test report.

3.7.3 Test Procedures

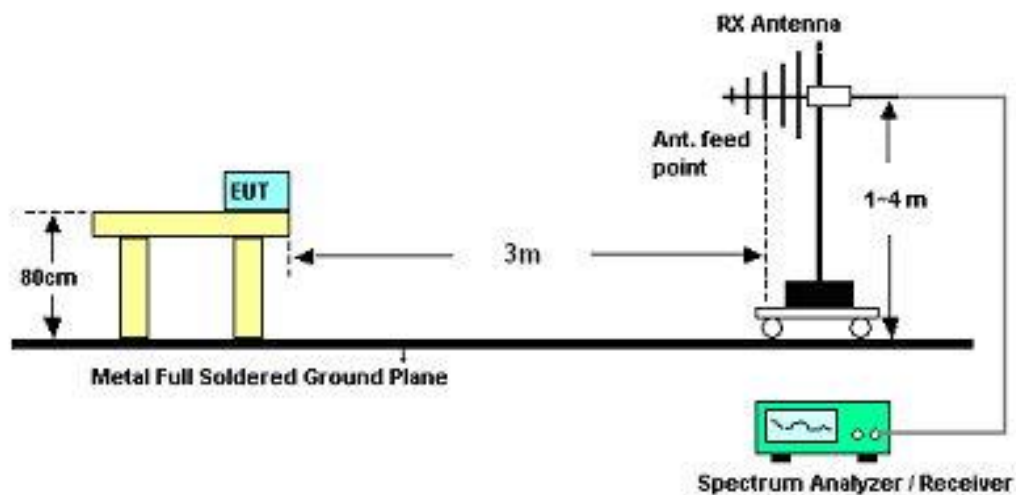
- Use the following spectrum analyzer settings:
 - Span shall wide enough to fully capture the emission being measured;
 - Set RBW = 1 MHz for $f \geq 1$ GHz, 100 KHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - Measurement above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB per decade from 3m to 1m.
Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$ (dB)
- Maximize the emission by rotating the EUT for three orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines in ANSI C63.4-2003.

3.7.4 Test Setup

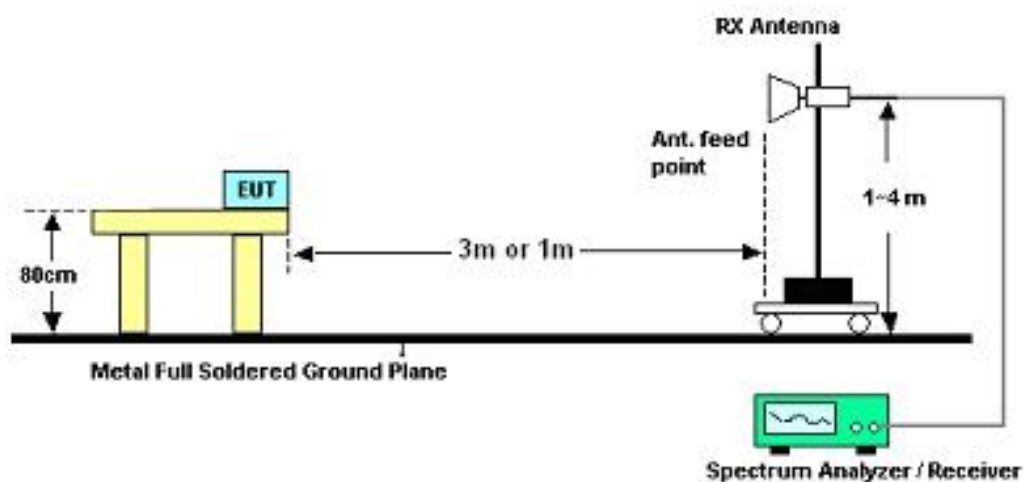
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.7.5 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.

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

Test Mode :	Mode 1	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 108.86 dBuV/m - 20dB = 88.86 dBuV/m.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	20.6	-19.4	40	31.53	20	0.53	31.46	122	103	Peak
103.17	16.97	-26.53	43.5	37.43	10.07	1.01	31.54	-	-	Peak
238.17	19.85	-26.15	46	37.96	11.79	1.52	31.42	-	-	Peak
315.4	21.86	-24.14	46	37.66	13.72	1.8	31.32	-	-	Peak
450.5	19.67	-26.33	46	31.4	17.07	2.3	31.1	-	-	Peak
719.3	22.02	-23.98	46	28.91	20.89	2.99	30.77	-	-	Peak
2389.99	51.13	-22.87	74	47	32.06	6.03	33.96	112	40	Peak
2389.99	39.47	-14.53	54	35.34	32.06	6.03	33.96	112	40	Average
2412	108.86	-	-	104.68	32.08	6.07	33.97	112	40	Peak
2412	103.51	-	-	99.33	32.08	6.07	33.97	112	40	Average
2486	32.88	-21.12	54	28.52	32.18	6.18	34	112	40	Average
2486	44.44	-29.56	74	40.08	32.18	6.18	34	112	40	Peak
4824	43.9	-30.1	74	59.79	34.1	9.12	59.11	100	0	Peak
7236	45.91	-42.95	88.86	58.29	35.7	10.03	58.11	100	0	Peak

Test Mode :	Mode 1	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band.		

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	31.53	-8.47	40	42.46	20	0.53	31.46	100	351	Peak
43.5	26.85	-13.15	40	46.61	11.1	0.64	31.5	-	-	Peak
166.89	24.51	-18.99	43.5	44.95	9.85	1.23	31.52	-	-	Peak
300	21.29	-24.71	46	37.55	13.3	1.77	31.33	-	-	Peak
421.8	17.84	-28.16	46	30.31	16.46	2.22	31.15	-	-	Peak
688.5	21.64	-24.36	46	29.04	20.51	2.92	30.83	-	-	Peak
2387.33	48.76	-25.24	74	44.63	32.06	6.03	33.96	122	312	Peak
2387.33	37.2	-16.8	54	33.07	32.06	6.03	33.96	122	312	Average
2412	106.53	-	-	102.35	32.08	6.07	33.97	122	312	Peak
2412	101.32	-	-	97.14	32.08	6.07	33.97	122	312	Average
2494	31.58	-22.42	54	27.2	32.2	6.18	34	122	312	Average
2494	43.6	-30.4	74	39.22	32.2	6.18	34	122	312	Peak
7236	44.65	-41.88	86.53	57.03	35.7	10.03	58.11	100	0	Peak

Test Mode :	Mode 2	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
31.62	20.79	-19.21	40	33.14	18.56	0.55	31.46	136	224	Peak
105.06	16.9	-26.6	43.5	37.18	10.25	1.02	31.55	-	-	Peak
275.7	22.63	-23.37	46	39.39	12.96	1.64	31.36	-	-	Peak
357.4	18.23	-27.77	46	32.59	14.87	2.04	31.27	-	-	Peak
438.6	20.19	-25.81	46	32.23	16.81	2.27	31.12	-	-	Peak
738.9	22.65	-23.35	46	29.17	21.18	3.03	30.73	-	-	Peak
2390	48.85	-25.15	74	44.72	32.06	6.03	33.96	108	40	Peak
2390	36.56	-17.44	54	32.43	32.06	6.03	33.96	108	40	Average
2437	109.98	-	-	105.72	32.13	6.11	33.98	108	40	Peak
2437	104.87	-	-	100.61	32.13	6.11	33.98	108	40	Average
2484	47.02	-26.98	74	42.66	32.18	6.18	34	108	40	Peak
2484	35.42	-18.58	54	31.06	32.18	6.18	34	108	40	Average
7311	46.18	-27.82	74	58.55	35.7	10.06	58.13	100	0	Peak

Test Mode :	Mode 2	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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	31.33	-8.67	40	42.26	20	0.53	31.46	105	114	Peak
43.5	26.73	-13.27	40	46.49	11.1	0.64	31.5	-	-	Peak
129.9	23.08	-20.42	43.5	41.9	11.6	1.15	31.57	-	-	Peak
341.3	24.61	-21.39	46	39.58	14.43	1.9	31.3	-	-	Peak
512.1	18.59	-27.41	46	28.87	18.3	2.47	31.05	-	-	Peak
750.1	22.64	-23.36	46	28.94	21.34	3.06	30.7	-	-	Peak
2390	48.2	-25.8	74	44.07	32.06	6.03	33.96	120	305	Peak
2390	36.41	-17.59	54	32.28	32.06	6.03	33.96	120	305	Average
2437	108.7	-	-	104.47	32.1	6.11	33.98	120	305	Peak
2437	103.5	-	-	99.24	32.13	6.11	33.98	120	305	Average
2484	46.81	-27.19	74	42.45	32.18	6.18	34	120	305	Peak
2484	34.83	-19.17	54	30.47	32.18	6.18	34	120	305	Average
4874	43.39	-30.61	74	59.2	34.1	9.13	59.04	100	0	Peak
7311	44.19	-29.81	74	56.56	35.7	10.06	58.13	100	0	Peak

Test Mode :	Mode 3	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

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
30.81	20.22	-19.78	40	31.86	19.28	0.54	31.46	-	-	Peak
103.98	18.13	-25.37	43.5	38.5	10.16	1.01	31.54	-	-	Peak
236.01	29.99	-16.01	46	48.32	11.59	1.51	31.43	122	154	Peak
346.9	18.79	-27.21	46	33.55	14.58	1.95	31.29	-	-	Peak
469.4	18.97	-27.03	46	30.24	17.45	2.35	31.07	-	-	Peak
730.5	21.91	-24.09	46	28.6	21.05	3.01	30.75	-	-	Peak
2390	46.83	-27.17	74	42.7	32.06	6.03	33.96	139	40	Peak
2390	33.94	-20.06	54	29.81	32.06	6.03	33.96	139	40	Average
2462	101.35	-	-	97.05	32.15	6.14	33.99	139	40	Average
2462	106.56	-	-	102.26	32.15	6.14	33.99	139	40	Peak
2486.89	52.65	-21.35	74	48.29	32.18	6.18	34	139	40	Peak
2486.89	44.79	-9.21	54	40.43	32.18	6.18	34	139	40	Average
4924	43.9	-30.1	74	59.61	34.1	9.15	58.96	100	0	Peak

Test Mode :	Mode 3	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

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	31.47	-8.53	40	42.4	20	0.53	31.46	105	44	Peak
43.5	26.82	-13.18	40	46.58	11.1	0.64	31.5	-	-	Peak
106.41	21.66	-21.84	43.5	41.75	10.43	1.03	31.55	-	-	Peak
307.7	17.75	-28.25	46	33.78	13.51	1.79	31.33	-	-	Peak
438.6	17.65	-28.35	46	29.69	16.81	2.27	31.12	-	-	Peak
654.2	21.33	-24.67	46	29.12	20.23	2.85	30.87	-	-	Peak
2390	46.36	-27.64	74	42.23	32.06	6.03	33.96	120	316	Peak
2390	33.83	-20.17	54	29.7	32.06	6.03	33.96	120	316	Average
2462	100.12	-	-	95.82	32.15	6.14	33.99	120	316	Average
2462	105.24	-	-	100.94	32.15	6.14	33.99	120	316	Peak
2487.46	51.25	-22.75	74	46.89	32.18	6.18	34	120	316	Peak
2487.46	43.17	-10.83	54	38.81	32.18	6.18	34	120	316	Average
4924	43.84	-30.16	74	59.55	34.1	9.15	58.96	100	0	Peak

Test Mode :	Mode 4	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

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
30.81	21.06	-18.94	40	32.7	19.28	0.54	31.46	114	153	Peak
150.69	17.99	-25.51	43.5	37.14	11.2	1.21	31.56	-	-	Peak
285.42	18.49	-27.51	46	35.07	13.09	1.66	31.33	-	-	Peak
360.9	18.62	-27.38	46	32.88	14.95	2.06	31.27	-	-	Peak
547.8	19.73	-26.27	46	29.25	18.91	2.55	30.98	-	-	Peak
752.9	23.65	-22.35	46	29.9	21.39	3.06	30.7	-	-	Peak
2389.99	71.53	-2.47	74	67.4	32.06	6.03	33.96	173	35	Peak
2389.99	49.08	-4.92	54	44.95	32.06	6.03	33.96	173	35	Average
2412	106.73	-	-	102.55	32.08	6.07	33.97	173	35	Peak
2412	88.68	-	-	84.5	32.08	6.07	33.97	173	35	Average
2484	31.59	-22.41	54	27.23	32.18	6.18	34	173	35	Average
2484	43.94	-30.06	74	39.58	32.18	6.18	34	173	35	Peak



Test Mode :	Mode 4	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	31.67	-8.33	40	43.31	19.28	0.54	31.46	100	33	Peak
43.5	26.95	-13.05	40	46.71	11.1	0.64	31.5	-	-	Peak
296.22	25.65	-20.35	46	41.99	13.25	1.74	31.33	-	-	Peak
309.8	19.5	-26.5	46	35.48	13.56	1.79	31.33	-	-	Peak
503	18.86	-27.14	46	29.31	18.15	2.46	31.06	-	-	Peak
682.2	21.86	-24.14	46	29.35	20.45	2.9	30.84	-	-	Peak
2389.99	67.81	-6.19	74	63.68	32.06	6.03	33.96	120	312	Peak
2389.99	45.88	-8.12	54	41.75	32.06	6.03	33.96	120	312	Average
2412	103.69	-	-	99.51	32.08	6.07	33.97	120	312	Peak
2412	85.98	-	-	81.8	32.08	6.07	33.97	120	312	Average
2486	31.51	-22.49	54	27.15	32.18	6.18	34	120	312	Average
2486	44.64	-29.36	74	40.28	32.18	6.18	34	120	312	Peak

Test Mode :	Mode 5	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
31.62	21.17	-18.83	40	33.52	18.56	0.55	31.46	121	174	Peak
104.25	17.8	-25.7	43.5	38.07	10.25	1.02	31.54	-	-	Peak
268.14	19.54	-26.46	46	36.43	12.86	1.63	31.38	-	-	Peak
363.7	19.08	-26.92	46	33.24	15.03	2.07	31.26	-	-	Peak
564.6	19.88	-26.12	46	29.06	19.19	2.59	30.96	-	-	Peak
780.9	23.99	-22.01	46	29.76	21.81	3.11	30.69	-	-	Peak
2390	48.57	-25.43	74	44.44	32.06	6.03	33.96	166	41	Peak
2390	34.67	-19.33	54	30.54	32.06	6.03	33.96	166	41	Average
2437	105.57	-	-	101.31	32.13	6.11	33.98	166	41	Peak
2437	87.41	-	-	83.15	32.13	6.11	33.98	166	41	Average
2492	47.8	-26.2	74	43.42	32.2	6.18	34	166	41	Peak
2492	36.1	-17.9	54	31.72	32.2	6.18	34	166	41	Average

Test Mode :	Mode 5	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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	32.21	-7.79	40	43.14	20	0.53	31.46	100	56	Peak
43.5	27.33	-12.67	40	47.09	11.1	0.64	31.5	-	-	Peak
233.58	25.68	-20.32	46	44.15	11.46	1.5	31.43	-	-	Peak
307	25.69	-20.31	46	41.72	13.51	1.79	31.33	-	-	Peak
486.9	18.94	-27.06	46	29.78	17.82	2.4	31.06	-	-	Peak
724.2	22.58	-23.42	46	29.38	20.96	3	30.76	-	-	Peak
2390	49.01	-24.99	74	44.88	32.06	6.03	33.96	117	355	Peak
2390	37.33	-16.67	54	33.2	32.06	6.03	33.96	117	355	Average
2437	104.24	-	-	100.01	32.1	6.11	33.98	117	355	Peak
2437	86.39	-	-	82.13	32.13	6.11	33.98	117	355	Average
2492	48.11	-25.89	74	43.73	32.2	6.18	34	117	355	Peak
2492	37.04	-16.96	54	32.66	32.2	6.18	34	117	355	Average

Test Mode :	Mode 6	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

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	20.98	-19.02	40	31.91	20	0.53	31.46	132	167	Peak
105.33	18	-25.5	43.5	38.18	10.34	1.03	31.55	-	-	Peak
241.14	21.7	-24.3	46	39.6	11.99	1.53	31.42	-	-	Peak
344.1	19.91	-26.09	46	34.77	14.51	1.92	31.29	-	-	Peak
469.4	19.6	-26.4	46	30.87	17.45	2.35	31.07	-	-	Peak
738.2	22.01	-23.99	46	28.54	21.17	3.03	30.73	-	-	Peak
2390	45.64	-28.36	74	41.51	32.06	6.03	33.96	107	30	Peak
2390	33.58	-20.42	54	29.45	32.06	6.03	33.96	107	30	Average
2462	87.29	-	-	82.99	32.15	6.14	33.99	107	30	Average
2462	105.69	-	-	101.39	32.15	6.14	33.99	107	30	Peak
2483.5	71.52	-2.48	74	67.16	32.18	6.18	34	107	30	Peak
2483.5	48.65	-5.35	54	44.29	32.18	6.18	34	107	30	Average



Test Mode :	Mode 6	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

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	32.75	-7.25	40	43.68	20	0.53	31.46	109	112	Peak
43.5	27.14	-12.86	40	46.9	11.1	0.64	31.5	-	-	Peak
226.29	24.06	-21.94	46	43.13	10.92	1.46	31.45	-	-	Peak
309.8	19.02	-26.98	46	35	13.56	1.79	31.33	-	-	Peak
405	20.13	-25.87	46	33.02	16.12	2.16	31.17	-	-	Peak
673.8	21.6	-24.4	46	29.17	20.39	2.89	30.85	-	-	Peak
2390	45.86	-28.14	74	41.73	32.06	6.03	33.96	118	214	Peak
2390	33.57	-20.43	54	29.44	32.06	6.03	33.96	118	214	Average
2462	85.67	-	-	81.37	32.15	6.14	33.99	118	214	Average
2462	103.67	-	-	99.37	32.15	6.14	33.99	118	214	Peak
2483.5	69.65	-4.35	74	65.29	32.18	6.18	34	118	214	Peak
2483.5	47.31	-6.69	54	42.95	32.18	6.18	34	118	214	Average



Test Mode :	Mode 7	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

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
30.81	20.62	-19.38	40	32.26	19.28	0.54	31.46	145	273	Peak
103.17	16.69	-26.81	43.5	37.15	10.07	1.01	31.54	-	-	Peak
280.02	20.48	-25.52	46	37.16	13.03	1.64	31.35	-	-	Peak
318.9	22.73	-23.27	46	38.42	13.82	1.81	31.32	-	-	Peak
483.4	19.02	-26.98	46	29.95	17.74	2.39	31.06	-	-	Peak
729.8	22.21	-23.79	46	28.91	21.04	3.01	30.75	-	-	Peak
2389.99	67.39	-6.61	74	63.26	32.06	6.03	33.96	140	49	Peak
2389.99	46.26	-7.74	54	42.13	32.06	6.03	33.96	140	49	Average
2412	106.4	-	-	102.22	32.08	6.07	33.97	140	49	Peak
2412	87.24	-	-	83.06	32.08	6.07	33.97	140	49	Average
2484	33.43	-20.57	54	29.07	32.18	6.18	34	140	49	Average
2484	47.24	-26.76	74	42.88	32.18	6.18	34	140	49	Peak



Test Mode :	Mode 7	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

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	32.08	-7.92	40	43.01	20	0.53	31.46	103	100	Peak
43.77	26.97	-13.03	40	46.73	11.1	0.64	31.5	-	-	Peak
129.9	24.96	-18.54	43.5	43.78	11.6	1.15	31.57	-	-	Peak
304.9	25.13	-20.87	46	41.25	13.43	1.78	31.33	-	-	Peak
464.5	17.99	-28.01	46	29.39	17.35	2.33	31.08	-	-	Peak
702.5	22	-24	46	29.25	20.63	2.94	30.82	-	-	Peak
2389.99	69.28	-4.72	74	65.15	32.06	6.03	33.96	120	208	Peak
2389.99	47.92	-6.08	54	43.79	32.06	6.03	33.96	120	208	Average
2412	105.25	-	-	101.07	32.08	6.07	33.97	120	208	Peak
2412	86.9	-	-	82.72	32.08	6.07	33.97	120	208	Average
2484	33.57	-20.43	54	29.21	32.18	6.18	34	120	208	Average
2484	46.4	-27.6	74	42.04	32.18	6.18	34	120	208	Peak

Test Mode :	Mode 8	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
31.89	21.07	-18.93	40	33.42	18.56	0.55	31.46	133	208	Peak
106.41	18.1	-25.4	43.5	38.19	10.43	1.03	31.55	-	-	Peak
235.74	21.2	-24.8	46	39.53	11.59	1.51	31.43	-	-	Peak
354.6	20.1	-25.9	46	34.57	14.79	2.02	31.28	-	-	Peak
500.9	19.47	-26.53	46	29.99	18.1	2.45	31.07	-	-	Peak
696.2	21.9	-24.1	46	29.22	20.57	2.93	30.82	-	-	Peak
2382	51.58	-22.42	74	47.48	32.03	6.03	33.96	138	48	Peak
2382	40.09	-13.91	54	35.99	32.03	6.03	33.96	138	48	Average
2437	106.98	-	-	102.75	32.1	6.11	33.98	138	48	Peak
2437	88.85	-	-	84.59	32.13	6.11	33.98	138	48	Average
2492	52.09	-21.91	74	47.71	32.2	6.18	34	138	48	Peak
2492	40.67	-13.33	54	36.29	32.2	6.18	34	138	48	Average

Test Mode :	Mode 8	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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	31.86	-8.14	40	42.79	20	0.53	31.46	100	342	Peak
43.5	26.93	-13.07	40	46.69	11.1	0.64	31.5	-	-	Peak
92.37	21.94	-21.56	43.5	43.66	8.84	0.96	31.52	-	-	Peak
332.9	23.77	-22.23	46	39.03	14.19	1.86	31.31	-	-	Peak
475	18.69	-27.31	46	29.8	17.58	2.37	31.06	-	-	Peak
730.5	22.82	-23.18	46	29.51	21.05	3.01	30.75	-	-	Peak
2388	51.6	-22.4	74	47.47	32.06	6.03	33.96	116	136	Peak
2388	40.16	-13.84	54	36.03	32.06	6.03	33.96	116	136	Average
2437	105.57	-	-	101.34	32.1	6.11	33.98	116	136	Peak
2437	87.75	-	-	83.49	32.13	6.11	33.98	116	136	Average
2486	50.64	-23.36	74	46.28	32.18	6.18	34	116	136	Peak
2486	39.08	-14.92	54	34.72	32.18	6.18	34	116	136	Average

Test Mode :	Mode 9	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

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	20.97	-19.03	40	31.9	20	0.53	31.46	116	197	Peak
106.41	17.44	-26.06	43.5	37.53	10.43	1.03	31.55	-	-	Peak
244.38	21.63	-24.37	46	39.32	12.2	1.53	31.42	-	-	Peak
351.8	18.78	-27.22	46	33.35	14.72	1.99	31.28	-	-	Peak
483.4	18.8	-27.2	46	29.73	17.74	2.39	31.06	-	-	Peak
736.1	22.26	-23.74	46	28.82	21.14	3.03	30.73	-	-	Peak
2390	48.16	-25.84	74	44.03	32.06	6.03	33.96	106	36	Peak
2390	34.97	-19.03	54	30.84	32.06	6.03	33.96	106	36	Average
2462	87.94	-	-	83.64	32.15	6.14	33.99	106	36	Average
2462	105.64	-	-	101.34	32.15	6.14	33.99	106	36	Peak
2483.5	73.85	-0.15	74	69.49	32.18	6.18	34	106	36	Peak
2483.5	51.12	-2.88	54	46.76	32.18	6.18	34	106	36	Average

Test Mode :	Mode 9	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

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	32.48	-7.52	40	43.41	20	0.53	31.46	104	115	Peak
43.77	26.99	-13.01	40	46.75	11.1	0.64	31.5	-	-	Peak
106.41	22.37	-21.13	43.5	42.46	10.43	1.03	31.55	-	-	Peak
304.9	26.33	-19.67	46	42.45	13.43	1.78	31.33	-	-	Peak
335	22.04	-23.96	46	37.24	14.24	1.87	31.31	-	-	Peak
668.9	21.5	-24.5	46	29.12	20.35	2.88	30.85	-	-	Peak
2390	48.83	-25.17	74	44.7	32.06	6.03	33.96	113	350	Peak
2390	35.16	-18.84	54	31.03	32.06	6.03	33.96	113	350	Average
2462	86.11	-	-	81.81	32.15	6.14	33.99	113	350	Average
2462	103.9	-	-	99.6	32.15	6.14	33.99	113	350	Peak
2483.5	73.61	-0.39	74	69.25	32.18	6.18	34	113	350	Peak
2483.5	50.43	-3.57	54	46.07	32.18	6.18	34	113	350	Average

Test Mode :	Mode 10	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	21.7	-18.3	40	32.63	20	0.53	31.46	122	163	Peak
103.17	17.4	-26.1	43.5	37.86	10.07	1.01	31.54	-	-	Peak
256.26	16.62	-29.38	46	33.79	12.68	1.57	31.42	-	-	Peak
354.6	18.28	-27.72	46	32.75	14.79	2.02	31.28	-	-	Peak
508.6	18.95	-27.05	46	29.3	18.23	2.47	31.05	-	-	Peak
727	23.02	-22.98	46	29.76	21.01	3.01	30.76	-	-	Peak
5725	89.92	-0.35	90.27	78.45	34.81	9.92	33.26	100	6	Peak
5745	92.39	-	-	80.94	34.84	9.91	33.3	100	6	Average
5745	110.27	-	-	98.82	34.84	9.91	33.3	100	6	Peak
5850	53.22	-37.05	90.27	41.83	34.98	9.87	33.46	100	6	Peak

Test Mode :	Mode 10	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.1	-7.9	40	43.03	20	0.53	31.46	100	298	Peak
43.5	27.56	-12.44	40	47.32	11.1	0.64	31.5	-	-	Peak
106.41	21.69	-21.81	43.5	41.78	10.43	1.03	31.55	-	-	Peak
307	18.26	-27.74	46	34.29	13.51	1.79	31.33	-	-	Peak
453.3	17.49	-28.51	46	29.16	17.11	2.31	31.09	-	-	Peak
691.3	22.1	-23.9	46	29.48	20.53	2.92	30.83	-	-	Peak
5725	84.52	-0.73	85.25	73.05	34.81	9.92	33.26	100	123	Peak
5745	87.91	-	-	76.46	34.84	9.91	33.3	100	123	Average
5745	105.25	-	-	93.8	34.84	9.91	33.3	100	123	Peak
5850	52.46	-32.79	85.25	41.07	34.98	9.87	33.46	100	123	Peak

Test Mode :	Mode 11	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	21.44	-18.56	40	32.37	20	0.53	31.46	112	173	Peak
104.25	17.29	-26.21	43.5	37.56	10.25	1.02	31.54	-	-	Peak
241.14	22.93	-23.07	46	40.83	11.99	1.53	31.42	-	-	Peak
351.8	18.98	-27.02	46	33.55	14.72	1.99	31.28	-	-	Peak
540.1	19.88	-26.12	46	29.57	18.78	2.53	31	-	-	Peak
755.7	22.8	-23.2	46	29	21.43	3.07	30.7	-	-	Peak
5725	57.71	-31.49	89.2	46.24	34.81	9.92	33.26	100	8	Peak
5785	91.79	-	-	80.34	34.89	9.9	33.34	100	8	Average
5785	109.2	-	-	97.75	34.89	9.9	33.34	100	8	Peak
5850	53.81	-35.39	89.2	42.42	34.98	9.87	33.46	100	8	Peak

Test Mode :	Mode 11	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.28	-7.72	40	43.21	20	0.53	31.46	103	39	Peak
43.77	27.25	-12.75	40	47.01	11.1	0.64	31.5	-	-	Peak
243.3	26.1	-19.9	46	43.86	12.13	1.53	31.42	-	-	Peak
315.4	24.47	-21.53	46	40.27	13.72	1.8	31.32	-	-	Peak
461.7	17.97	-28.03	46	29.43	17.29	2.33	31.08	-	-	Peak
718.6	22.04	-23.96	46	28.95	20.88	2.98	30.77	-	-	Peak
5725	55.75	-30.36	86.11	44.28	34.81	9.92	33.26	102	94	Peak
5785	89.25	-	-	77.8	34.89	9.9	33.34	102	94	Average
5785	106.11	-	-	94.69	34.91	9.89	33.38	102	94	Peak
5850	53.62	-32.49	86.11	42.23	34.98	9.87	33.46	102	94	Peak

Test Mode :	Mode 12	Temperature :	22~24°C
Test Channel :	161	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	21.08	-18.92	40	32.01	20	0.53	31.46	123	251	Peak
104.25	17.91	-25.59	43.5	38.18	10.25	1.02	31.54	-	-	Peak
291.09	23.4	-22.6	46	39.84	13.18	1.7	31.32	-	-	Peak
357.4	18.53	-27.47	46	32.89	14.87	2.04	31.27	-	-	Peak
584.9	21.1	-24.9	46	29.85	19.54	2.65	30.94	-	-	Peak
755	23.15	-22.85	46	29.36	21.42	3.07	30.7	-	-	Peak
5725	53.4	-36.45	89.85	41.93	34.81	9.92	33.26	100	10	Peak
5805	91.84	-	-	80.4	34.93	9.89	33.38	100	10	Average
5805	109.85	-	-	98.43	34.91	9.89	33.38	100	10	Peak
5850	64.81	-25.04	89.85	53.42	34.98	9.87	33.46	100	10	Peak

Test Mode :	Mode 12	Temperature :	22~24°C
Test Channel :	161	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.16	-7.84	40	43.09	20	0.53	31.46	106	114	Peak
43.5	27.04	-12.96	40	46.8	11.1	0.64	31.5	-	-	Peak
138.81	24.52	-18.98	43.5	43.45	11.42	1.2	31.55	-	-	Peak
340.6	18.48	-27.52	46	33.49	14.4	1.89	31.3	-	-	Peak
495.3	19.1	-26.9	46	29.74	18	2.43	31.07	-	-	Peak
727.7	22.49	-23.51	46	29.22	21.01	3.01	30.75	-	-	Peak
5725	54.26	-32.38	86.64	42.79	34.81	9.92	33.26	102	23	Peak
5805	89.07	-	-	77.63	34.93	9.89	33.38	102	23	Average
5805	106.64	-	-	95.22	34.91	9.89	33.38	102	23	Peak
5850	63.33	-23.31	86.64	51.94	34.98	9.87	33.46	102	23	Peak

Test Mode :	Mode 13	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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
31.89	21.04	-18.96	40	33.39	18.56	0.55	31.46	133	200	Peak
106.41	17.03	-26.47	43.5	37.12	10.43	1.03	31.55	-	-	Peak
271.38	24.61	-21.39	46	41.44	12.9	1.64	31.37	-	-	Peak
344.1	18.69	-27.31	46	33.55	14.51	1.92	31.29	-	-	Peak
559	19.88	-26.12	46	29.19	19.09	2.57	30.97	-	-	Peak
780.2	22.94	-23.06	46	28.73	21.79	3.11	30.69	-	-	Peak
5725	88.9	-0.18	89.08	77.43	34.81	9.92	33.26	100	8	Peak
5745	109.08	-	-	97.63	34.84	9.91	33.3	100	8	Peak
5745	91.88	-	-	80.43	34.84	9.91	33.3	100	8	Average
5850	51.81	-37.27	89.08	40.42	34.98	9.87	33.46	100	8	Peak

Test Mode :	Mode 13	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.22	-7.78	40	43.15	20	0.53	31.46	105	58	Peak
43.77	27.47	-12.53	40	47.23	11.1	0.64	31.5	-	-	Peak
106.41	22.01	-21.49	43.5	42.1	10.43	1.03	31.55	-	-	Peak
346.2	22.4	-23.6	46	37.19	14.56	1.94	31.29	-	-	Peak
527.5	19.36	-26.64	46	29.32	18.56	2.5	31.02	-	-	Peak
783.7	23.64	-22.36	46	29.37	21.85	3.11	30.69	-	-	Peak
5725	83.59	-0.58	84.17	72.12	34.81	9.92	33.26	101	58	Peak
5745	87.45	-	-	76	34.84	9.91	33.3	101	58	Average
5745	104.17	-	-	92.72	34.84	9.91	33.3	101	58	Peak
5850	52.09	-32.08	84.17	40.7	34.98	9.87	33.46	101	58	Peak

Test Mode :	Mode 14	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	21.42	-18.58	40	32.35	20	0.53	31.46	123	155	Peak
105.33	17.08	-26.42	43.5	37.26	10.34	1.03	31.55	-	-	Peak
229.53	22.91	-23.09	46	41.68	11.19	1.48	31.44	-	-	Peak
309.8	19.55	-26.45	46	35.53	13.56	1.79	31.33	-	-	Peak
509.3	20.31	-25.69	46	30.64	18.25	2.47	31.05	-	-	Peak
777.4	23.36	-22.64	46	29.18	21.77	3.1	30.69	-	-	Peak
5725	58.09	-31.2	89.29	46.62	34.81	9.92	33.26	100	10	Peak
5785	91.65	-	-	80.2	34.89	9.9	33.34	100	10	Average
5785	109.29	-	-	97.87	34.91	9.89	33.38	100	10	Peak
5850	54.51	-34.78	89.29	43.12	34.98	9.87	33.46	100	10	Peak

Test Mode :	Mode 14	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.01	-7.99	40	42.94	20	0.53	31.46	100	173	Peak
43.5	27.11	-12.89	40	46.87	11.1	0.64	31.5	-	-	Peak
106.41	22.33	-21.17	43.5	42.42	10.43	1.03	31.55	-	-	Peak
307	18.84	-27.16	46	34.87	13.51	1.79	31.33	-	-	Peak
472.9	18.93	-27.07	46	30.11	17.53	2.36	31.07	-	-	Peak
794.2	23.79	-22.21	46	29.33	22.01	3.13	30.68	-	-	Peak
5725	54.08	-29.68	83.76	42.61	34.81	9.92	33.26	100	130	Peak
5785	87.09	-	-	75.64	34.89	9.9	33.34	100	130	Average
5785	103.76	-	-	92.31	34.89	9.9	33.34	100	130	Peak
5850	53.49	-30.27	83.76	42.1	34.98	9.87	33.46	100	130	Peak

Test Mode :	Mode 15	Temperature :	22~24°C
Test Channel :	161	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	20.38	-19.62	40	31.31	20	0.53	31.46	130	152	Peak
106.41	17.79	-25.71	43.5	37.88	10.43	1.03	31.55	-	-	Peak
239.25	21.74	-24.26	46	39.77	11.86	1.53	31.42	-	-	Peak
351.8	19.53	-26.47	46	34.1	14.72	1.99	31.28	-	-	Peak
554.1	19.4	-26.6	46	28.81	19.01	2.56	30.98	-	-	Peak
755	22.36	-23.64	46	28.57	21.42	3.07	30.7	-	-	Peak
5725	53.67	-34.67	88.34	42.2	34.81	9.92	33.26	100	11	Peak
5805	90.79	-	-	79.35	34.93	9.89	33.38	100	11	Average
5805	108.34	-	-	96.9	34.93	9.89	33.38	100	11	Peak
5850	64.95	-23.39	88.34	53.56	34.98	9.87	33.46	100	11	Peak

Test Mode :	Mode 15	Temperature :	22~24°C
Test Channel :	161	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5805 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	31.91	-8.09	40	42.84	20	0.53	31.46	103	347	Peak
43.5	27.26	-12.74	40	47.02	11.1	0.64	31.5	-	-	Peak
192.81	24.04	-19.46	43.5	45.22	9.03	1.29	31.5	-	-	Peak
304.9	19.81	-26.19	46	35.93	13.43	1.78	31.33	-	-	Peak
503	19.19	-26.81	46	29.64	18.15	2.46	31.06	-	-	Peak
794.2	23.01	-22.99	46	28.55	22.01	3.13	30.68	-	-	Peak
5725	52.92	-30.56	83.48	41.45	34.81	9.92	33.26	128	64	Peak
5805	86.52	-	-	75.08	34.93	9.89	33.38	128	64	Average
5805	103.48	-	-	92.04	34.93	9.89	33.38	128	64	Peak
5850	60.54	-22.94	83.48	49.15	34.98	9.87	33.46	128	64	Peak

Test Mode :	Mode 16	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	21.22	-18.78	40	32.86	19.28	0.54	31.46	122	154	Peak
103.98	16.83	-26.67	43.5	37.2	10.16	1.01	31.54	-	-	Peak
272.73	20.91	-25.09	46	37.71	12.92	1.64	31.36	-	-	Peak
357.4	19.86	-26.14	46	34.22	14.87	2.04	31.27	-	-	Peak
556.2	20.05	-25.95	46	29.41	19.04	2.57	30.97	-	-	Peak
763.4	23.01	-22.99	46	29.07	21.55	3.08	30.69	-	-	Peak
5725	85.96	-0.26	86.22	74.49	34.81	9.92	33.26	100	8	Peak
5755	88.12	-	-	76.67	34.84	9.91	33.3	100	8	Average
5755	106.22	-	-	94.77	34.84	9.91	33.3	100	8	Peak
5850	59.38	-26.84	86.22	47.99	34.98	9.87	33.46	100	8	Peak

Test Mode :	Mode 16	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	32.18	-7.82	40	43.11	20	0.53	31.46	106	208	Peak
44.58	27.55	-12.45	40	47.9	10.5	0.65	31.5	-	-	Peak
106.41	22.17	-21.33	43.5	42.26	10.43	1.03	31.55	-	-	Peak
335.7	26.17	-19.83	46	41.33	14.27	1.87	31.3	-	-	Peak
503	19.5	-26.5	46	29.95	18.15	2.46	31.06	-	-	Peak
729.8	22.09	-23.91	46	28.79	21.04	3.01	30.75	-	-	Peak
5725	81.55	-0.17	81.72	70.08	34.81	9.92	33.26	126	124	Peak
5755	101.72	-	-	90.27	34.84	9.91	33.3	126	124	Peak
5755	84.51	-	-	73.04	34.86	9.91	33.3	126	124	Average
5850	55.69	-26.03	81.72	44.3	34.98	9.87	33.46	126	124	Peak

Test Mode :	Mode 17	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Horizontal
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	20.52	-19.48	40	31.45	20	0.53	31.46	116	192	Peak
106.14	17.48	-26.02	43.5	37.66	10.34	1.03	31.55	-	-	Peak
261.93	20.68	-25.32	46	37.73	12.76	1.6	31.41	-	-	Peak
354.6	18.45	-27.55	46	32.92	14.79	2.02	31.28	-	-	Peak
553.4	19.52	-26.48	46	28.93	19.01	2.56	30.98	-	-	Peak
761.3	22.91	-23.09	46	29.01	21.52	3.08	30.7	-	-	Peak
5725	68.1	-17.58	85.68	56.63	34.81	9.92	33.26	100	0	Peak
5795	88.3	-	-	76.88	34.91	9.89	33.38	100	0	Average
5795	105.68	-	-	94.26	34.91	9.89	33.38	100	0	Peak
5850	72.85	-12.83	85.68	61.46	34.98	9.87	33.46	100	0	Peak

Test Mode :	Mode 17	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	David Yang	Polarization :	Vertical
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. 5725 and 5850 MHz are not within a restricted band.		

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	31.92	-8.08	40	42.85	20	0.53	31.46	103	225	Peak
43.5	27.17	-12.83	40	46.93	11.1	0.64	31.5	-	-	Peak
205.5	25.8	-17.7	43.5	46.43	9.5	1.34	31.47	-	-	Peak
307	23.74	-22.26	46	39.77	13.51	1.79	31.33	-	-	Peak
503	19.31	-26.69	46	29.76	18.15	2.46	31.06	-	-	Peak
752.2	22.67	-23.33	46	28.92	21.39	3.06	30.7	-	-	Peak
5725	63.22	-17.96	81.18	51.75	34.81	9.92	33.26	100	62	Peak
5795	84.29	-	-	72.87	34.91	9.89	33.38	100	62	Average
5795	101.18	-	-	89.76	34.91	9.89	33.38	100	62	Peak
5850	70.35	-10.83	81.18	58.96	34.98	9.87	33.46	100	62	Peak

3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Connected Construction

The antennas type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement.

3.8.3 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	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 03, 2011	Feb. 22, 2012 ~ Mar. 26, 2012	Apr. 02, 2012	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Mar. 06, 2012 ~ Mar. 10, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 21, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Oct. 20, 2012	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Dec. 05, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 10, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Aug. 09, 2012	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz ~ 26.5GHz	Dec. 05, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Dec. 04, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10 ~ 1000MHz 32dB GAIN	Mar 29, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Mar 28, 2012	Radiation (03CH07-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz ~ 7GHz	Aug. 22, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Aug. 21, 2012	Radiation (03CH07-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 18, 2011	Mar. 06, 2012 ~ Mar. 10, 2012	Jul. 17, 2012	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Mar. 06, 2012 ~ Mar. 10, 2012	Jul. 28, 2012	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26		

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

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

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	± 0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	± 1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	± 0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site Imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				