

FCC Test Report

(Class II Permissive Change)

Product Name	Network Media Module
Model No	CY920-C, CY920-A
FCC ID	ZQO-CY920C

Applicant	MICROCHIP TECHNOLOGY INC.
Address	2355 West Chandler Blvd.Chandler, Arizona, USA 85224-6199

Date of Receipt	Apr. 17, 2015
Issued Date	May. 22, 2015
Report No.	1540389R-RFUSP30V00
Report Version	V1.0



The test results relate only to the samples tested.
 The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
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Test Report

Issued Date: May. 22, 2015

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Product Name	Network Media Module
Applicant	MICROCHIP TECHNOLOGY INC.
Address	2355 West Chandler Blvd.Chandler, Arizona, USA 85224-6199
Manufacturer	(1) Lite-On Technology (Changzhou) Co., Ltd. (2) Lite-On Network Communication (Dongguan) Limited
Model No.	CY920-C, CY920-A
FCC ID.	ZQO-CY920C
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	AC 120V/60Hz
Trade Name	Network Media Module
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2014 ANSI C63.4: 2009, C63.10: 2009 789033 D02 General UNII Test Procedures New Rules v01
Test Result	Complied

Documented By : Leven Huang
(Senior Adm. Specialist / Leven Huang)

Tested By : Andy Lin
(Engineer / Andy Lin)

Approved By : Vincent Lin
(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Network Media Module
Trade Name	Network Media Module
FCC ID.	ZQO-CY920C
Model No.	CY920-C, CY920-A
Frequency Range	802.11a/n-20MHz: 5180-5240MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230, 5755-5795MHz
Number of Channels	802.11a/n-20MHz: 9; 802.11n-40MHz: 4
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 150Mbps
Type of Modulation	802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna type	Dipole Antenna
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	WALSIN	PI_RFDPA870920IMLB301_V01 RFDPA870920IMLB305 (ferrite core φ 4.0*10) RFDPA870920IMLB304 (ferrite core φ 8.0*4mm)	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
2	WALSIN	PI_RFDPA870930IMLB301_V01 RFDPA870930IMLB304 (ferrite core φ 4.0*10) RFDPA870930IMLB303 (ferrite core φ 8.0*4mm)	Dipole Antenna	1.88dBi for 5150-5250GHz 2.77dBi For 5.725~5.825GHz
3	WALSIN	RFDPA870933IMLB301 RFDPA870933IMLB303 (ferrite core φ 4.0*10) RFDPA870933IMLB302 (ferrite core φ 8.0*4mm)	Dipole Antenna	1.53dBi for 5150-5250GHz 2.64dBi For 5.725~5.825GHz
4	WALSIN	RFDPA870930IMAB301	Dipole Antenna	--
5	WALSIN	RFDPA870945IMAB301	Dipole Antenna	--
6	WALSIN	RFDPA870900SBAB801 +RFCBA100630SA6B301	Dipole Antenna	--
7	WALSIN	RFDPA870900SBAB801 +RFCBA100645SA6B301	Dipole Antenna	--
8	WALSIN	RFDPA870920IMLB305	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
9	WALSIN	RFDPA870900SMLB801+ RFCBA100620SF6B301	Dipole Antenna	2.09dBi for 5150-5250GHz 1.90dBi For 5.725~5.825GHz
10	WALSIN	RFDPA870900SMLB801+ RFCBA100620SF6B305	Dipole Antenna	1.64dBi for 5150-5250GHz 1.19dBi For 5.725~5.825GHz
11	WALSIN	RFDPA870900SMLB801+ RFCBA100633SF6B301	Dipole Antenna	1.35dBi for 5150-5250GHz 0.82dBi For 5.725~5.825GHz
12	WALSIN	RFDPA870900SMLB801+ RFCBA100633SF6B302	Dipole Antenna	1.35dBi for 5150-5250GHz 0.82dBi For 5.725~5.825GHz
13	WALSIN	RFDPA870900SMLB801+ RFCBA100625SF6B301	Dipole Antenna	1.49dBi for 5150-5250GHz 1.20dBi For 5.725~5.825GHz
14	WALSIN	RFDPA870900SMLB801 +RFCBA100625SF6B302	Dipole Antenna	1.59dBi for 5150-5250GHz 1.51dBi For 5.725~5.825GHz
15	WALSIN	RFDPA870900SMLB803+ RFCBA100625SF6B301	Dipole Antenna	1.49dBi for 5150-5250GHz 1.20dBi For 5.725~5.825GHz
16	WALSIN	RFDPA870900SMLB803+ RFCBA100625SF6B302	Dipole Antenna	1.59dBi for 5150-5250GHz 1.51dBi For 5.725~5.825GHz
17	WALSIN	RFDPA870920IMLB307	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
18	WALSIN	RFDPA870920IMLB306	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
19	WALSIN	RFDPA870925IMLB301	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
20	WALSIN	RFDPA870925IMLB302	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
21	WALSIN	RFDPA870925IMLB303	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz
22	WALSIN	RFDPA870925IMLB304	Dipole Antenna	3.26dBi for 5150-5250GHz 1.55dBi For 5.725~5.825GHz

Note:

1. The antenna of EUT is conform to FCC 15.203
2. Only the higher gain antenna was tested and recorded in this report.

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

Note:

1. The EUT is a Network Media Module, with a built-in WLAN Transceiver and Bluetooth Transceiver this report is for WLAN 5G.
2. Module contains a diversity function, only worst case is shown in the report.
3. Antenna no.1, no.2 and no.3 has divided into with core / without core, only worst case is shown in the report.
4. Module includes 2nd Source, the test item conducted emission and 30MHz – 1GHz radiated emission are tested at two modules (see report attachment 3) , brand differences are as follows:

Model Name	CY920-C		CY920-A (Remove Extended connector & Ethernet IC)	
	main source	2nd source	main source	2nd source
Flash U21	Macronix	WINBOND	Macronix	WINBOND
DDR U22	ESMT	ETRON	ESMT	ETRON
64pin connector J300,J301	Xinya	Xisheng	Xinya	Xisheng
u.fl CON1,CON2	IPEX	ELECTRIC CONNECTOR	IPEX	ELECTRIC CONNECTOR
Bead for Supply Noise Filter FB602	BLM15EG121SN1D (MURATA)	BLM15PX121SN1D (MURATA)	BLM15EG121SN1D (MURATA)	BLM15PX121SN1D (MURATA)
Regulator IC U801	EMP8130-12VN05NRR (ESMT)	XC6228D122VR-G (TOREX)	EMP8130-12VN05NRR (ESMT)	XC6228D122VR-G (TOREX)
INDUCTOR RF L917	MLG0603Q0N2CT000 SMD(TDK)	MLG0603W0N2CT000 SMD(TDK)	MLG0603Q0N2CT000 SMD(TDK)	MLG0603W0N2CT000 SMD(TDK)

5. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
6. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps, 802.11n-20BW is 7.2Mbps and 802.11n-40BW are 15Mbps)
7. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.

8. This is requesting a Class II permissive change for FCC ID: ZQO-CY920C originally granted on 11/13/2014. The differences are listed as below:

- (1) Original grant compliance band 1 and band 3 are following old rule of UNII requirements, changed to meet the requirements of the new rules, and all other hardware is identical with original granted.
- (2) Add antennas and groups cable, as follows:

Antenna Part No.	Cable Part No.
RFDPA870920IMLB305	--
RFDPA870900SMLB801	RFCBA100620SF6B301
RFDPA870900SMLB801	RFCBA100620SF6B305
RFDPA870900SMLB801	RFCBA100633SF6B301
RFDPA870900SMLB801	RFCBA100633SF6B302
RFDPA870900SMLB801	RFCBA100625SF6B301
RFDPA870900SMLB801	RFCBA100625SF6B302
RFDPA870900SMLB803	RFCBA100625SF6B301
RFDPA870900SMLB803	RFCBA100625SF6B302
RFDPA870920IMLB307	--
RFDPA870920IMLB306	--
RFDPA870925IMLB301	--
RFDPA870925IMLB302	--
RFDPA870925IMLB303	--
RFDPA870925IMLB304	--

- (3) DM920 IC production version
 - (4) New Top shield can w/ 1mm height increase
 - (5) RF absorber (optional)
 - (6) Antenna 'with Ferrite core' - P/N inclusion
200mm, 300mm, 335mm cable lengths
9. 'Without' and 'with' RF absorber through pre-testing, only the worst case is shown in the report.
10. Between CY920-C and CY920-A; worst case CY920-C is selected for testing.

Test Mode	<p>Mode 1: Transmit (802.11a-6Mbps)</p> <p>Mode 2: Transmit (802.11n-20BW 7.2Mbps)</p> <p>Mode 3: Transmit (802.11n-40BW 15Mbps)</p> <p>Mode 4: Transmit (802.11n-40BW 15Mbps)(Shield can height and absorber etc.)</p>
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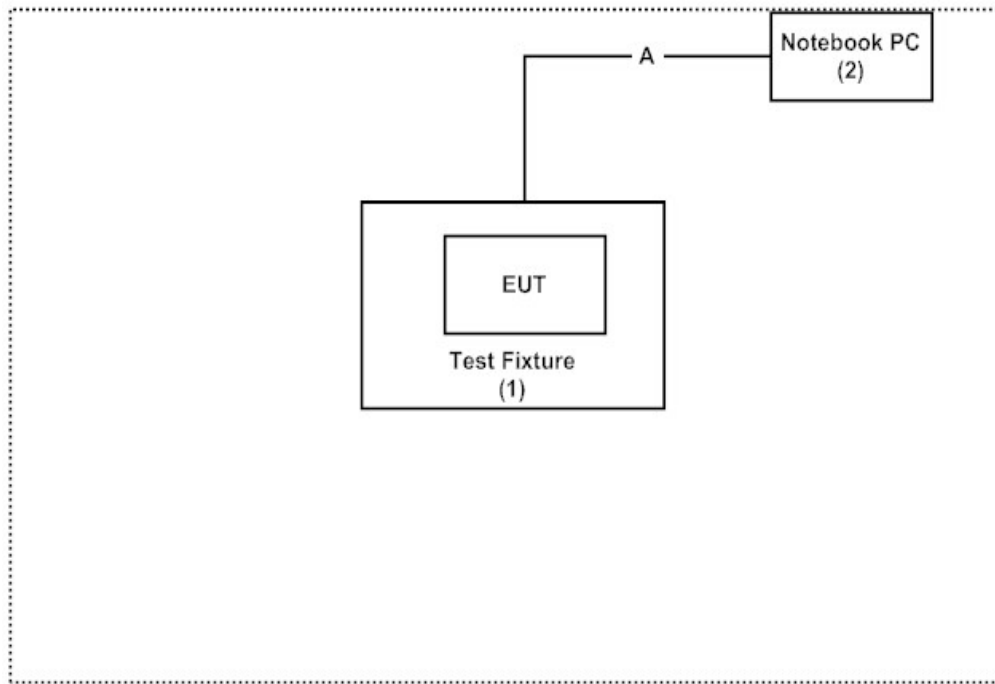
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Test Fixture	Liteon	N/A	N/A
2	Notebook PC	DELL	PPT	N/A
				Non-Shielded, 0.8m

Signal Cable Type	Signal cable Description
A	USB to RS-232 Cable
	Shielded, 1.5m

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute “Hyper Terminal v5.1” program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press “OK” to start the continuous Transmit.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>

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

Site Description: File on
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FCC Accreditation Number: TW1014

2. Conducted Emission

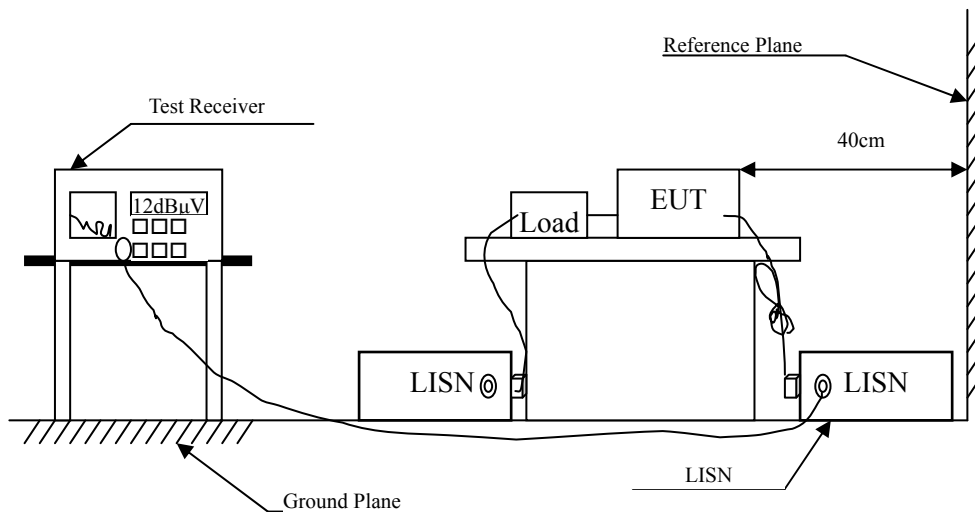
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2014	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2015	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2015	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2015	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2015	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBμV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

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

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2009 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBµV	Measurement Level dBµV	Margin dB	Limit dBµV
LINE 1					
Quasi-Peak					
0.158	9.747	40.700	50.447	-15.324	65.771
0.173	9.742	37.330	47.073	-18.270	65.343
0.205	9.739	32.380	42.119	-22.310	64.429
0.470	9.751	23.660	33.411	-23.446	56.857
2.771	9.850	21.910	31.760	-24.240	56.000
16.572	10.000	24.230	34.230	-25.770	60.000
Average					
0.158	9.747	30.880	40.627	-15.144	55.771
0.173	9.742	30.200	39.943	-15.400	55.343
0.205	9.739	23.850	33.589	-20.840	54.429
0.470	9.751	15.210	24.961	-21.896	46.857
2.771	9.850	14.910	24.760	-21.240	46.000
16.572	10.000	18.630	28.630	-21.370	50.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 2					
Quasi-Peak					
0.162	9.747	41.100	50.847	-14.810	65.657
0.201	9.749	32.940	42.689	-21.854	64.543
0.255	9.751	26.270	36.021	-26.979	63.000
0.451	9.750	22.980	32.730	-24.670	57.400
2.787	9.850	21.420	31.270	-24.730	56.000
16.736	10.030	23.780	33.810	-26.190	60.000
Average					
0.162	9.747	31.590	41.337	-14.320	55.657
0.201	9.749	22.590	32.339	-22.204	54.543
0.255	9.751	17.320	27.071	-25.929	53.000
0.451	9.750	17.350	27.100	-20.300	47.400
2.787	9.850	13.090	22.940	-23.060	46.000
16.736	10.030	18.390	28.420	-21.580	50.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 1					
Quasi-Peak					
0.205	9.651	33.020	42.671	-21.758	64.429
0.236	9.652	31.350	41.002	-22.541	63.543
0.267	9.654	26.670	36.324	-26.333	62.657
0.396	9.661	23.730	33.391	-25.580	58.971
0.818	9.684	20.530	30.214	-25.786	56.000
14.611	10.073	30.110	40.183	-19.817	60.000
Average					
0.205	9.651	12.930	22.581	-31.848	54.429
0.236	9.652	16.580	26.232	-27.311	53.543
0.267	9.654	15.530	25.184	-27.473	52.657
0.396	9.661	12.050	21.711	-27.260	48.971
0.818	9.684	9.110	18.794	-27.206	46.000
14.611	10.073	25.260	35.333	-14.667	50.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
LINE 2					
Quasi-Peak					
0.154	9.660	40.730	50.390	-15.496	65.886
0.166	9.659	24.240	33.899	-31.644	65.543
0.205	9.661	33.000	42.661	-21.768	64.429
0.259	9.664	28.830	38.494	-24.392	62.886
0.334	9.658	24.680	34.338	-26.405	60.743
14.107	10.088	30.680	40.768	-19.232	60.000
Average					
0.154	9.660	21.900	31.560	-24.326	55.886
0.166	9.659	-2.050	7.609	-47.934	55.543
0.205	9.661	13.320	22.981	-31.448	54.429
0.259	9.664	11.430	21.094	-31.792	52.886
0.334	9.658	12.860	22.518	-28.225	50.743
14.107	10.088	27.280	37.368	-12.632	50.000

Note:

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

3. Maximun conducted output power

3.1. Test Equipment

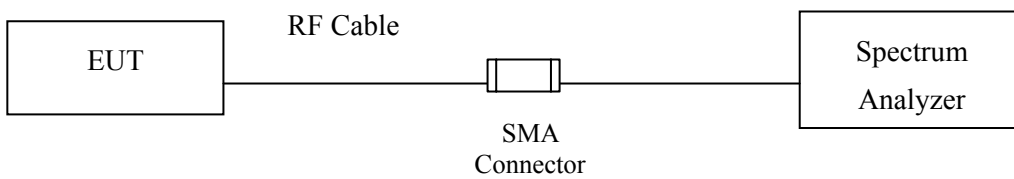
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

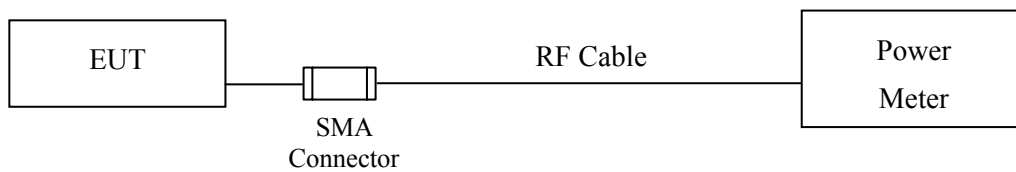
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement (for 802.11a)



3.3. Limits

3.3.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W, provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, if transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, if transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, if transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in

this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

3.4. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

802.11an (BW \leq 40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter)

Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 65MHz)

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Maximum conducted output power

Product : Network Media Module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	12.71	--	--	--	--	--	--	--	<24dBm
44	5220	16.03	15.88	15.69	15.53	15.36	15.19	15.02	14.85	<24dBm
48	5240	15.92	--	--	--	--	--	--	--	<24dBm
149	5745	13.27	--	--	--	--	--	--	--	<30dBm
157	5785	12.49	12.41	12.33	12.25	12.17	12.09	12.01	11.93	<30dBm
165	5825	12.82	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	--	12.71	24	--
44	5220	--	16.03	24	--
48	5240	--	15.92	24	--
149	5745	--	13.27	30	--
157	5785	--	12.49	30	--
165	5825	--	12.82	30	--

Note: Power Output Value =Reading value on average power meter + cable loss

Product : Network Media Module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	12.48	--	--	--	--	--	--	--	<24dBm
44	5220	15.71	15.60	15.44	15.31	15.18	15.04	14.91	14.77	<24dBm
48	5240	15.81	--	--	--	--	--	--	--	<24dBm
149	5745	13.23	--	--	--	--	--	--	--	<30dBm
157	5785	12.41	12.38	12.35	12.32	12.29	12.26	12.23	12.2	<30dBm
165	5825	12.75	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	--	12.48	24	--
44	5220	--	15.71	24	--
48	5240	--	15.81	24	--
149	5745	--	13.23	30	--
157	5785	--	12.41	30	--
165	5825	--	12.75	30	--

Note: Power Output Value =Reading value on average power meter + cable loss

Product : Network Media Module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	11.86	11.78	11.48	11.33	11.14	10.95	10.76	10.57	<24dBm
46	5230	16.25	--	--	--	--	--	--	--	<24dBm
151	5755	13.65	13.59	13.53	13.47	13.41	13.35	13.29	13.23	<30dBm
159	5795	13.71	--	--	--	--	--	--	--	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
38	5190	--	11.86	24	--
46	5230	--	16.25	24	--
151	5755	--	13.65	30	--
159	5795	--	13.71	30	--

Note: Power Output Value =Reading value on average power meter + cable loss

4. Peak Power Spectral Density

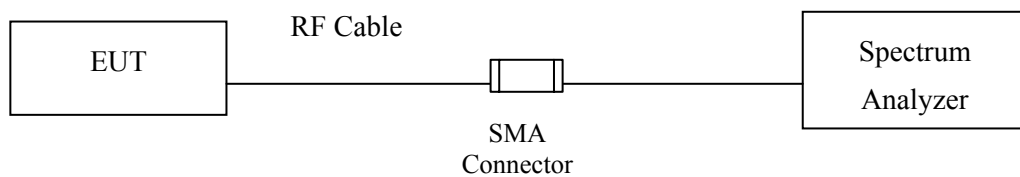
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup



4.3. Limits

- (1) For the band 5.15-5.25 GHz,
 - (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the

equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/100\text{ kHz}) = 6.98\text{ dB}$.

4.5. Uncertainty

± 1.27 dB

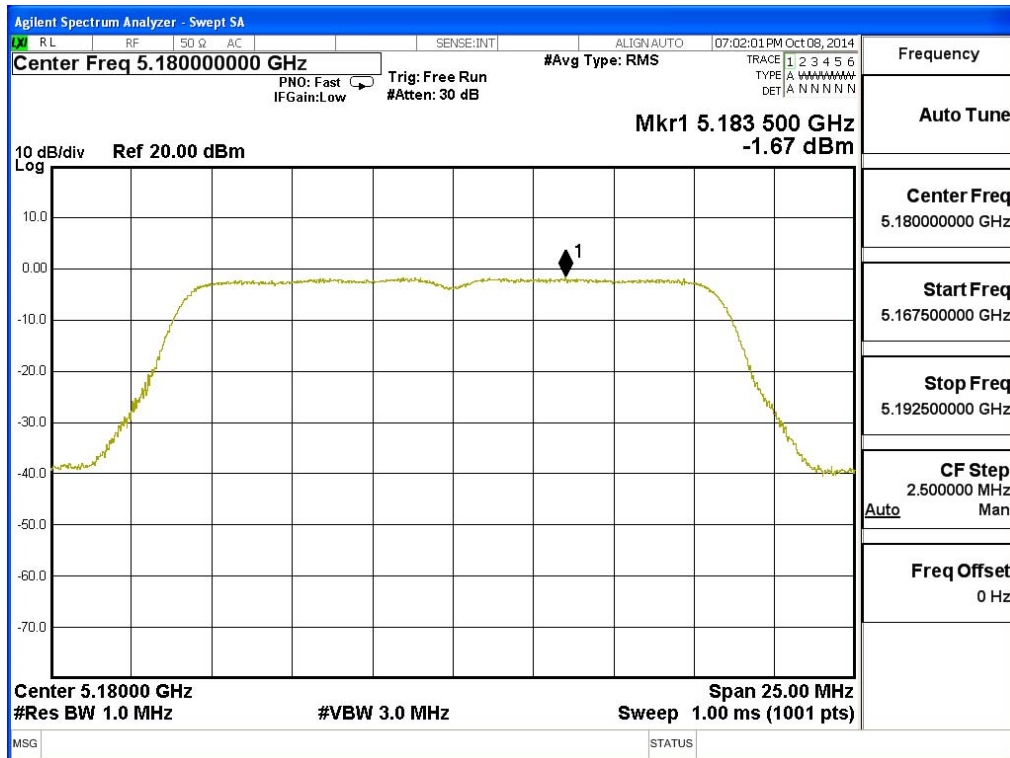
4.6. Test Result of Peak Power Spectral Density

Product : Network Media Module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

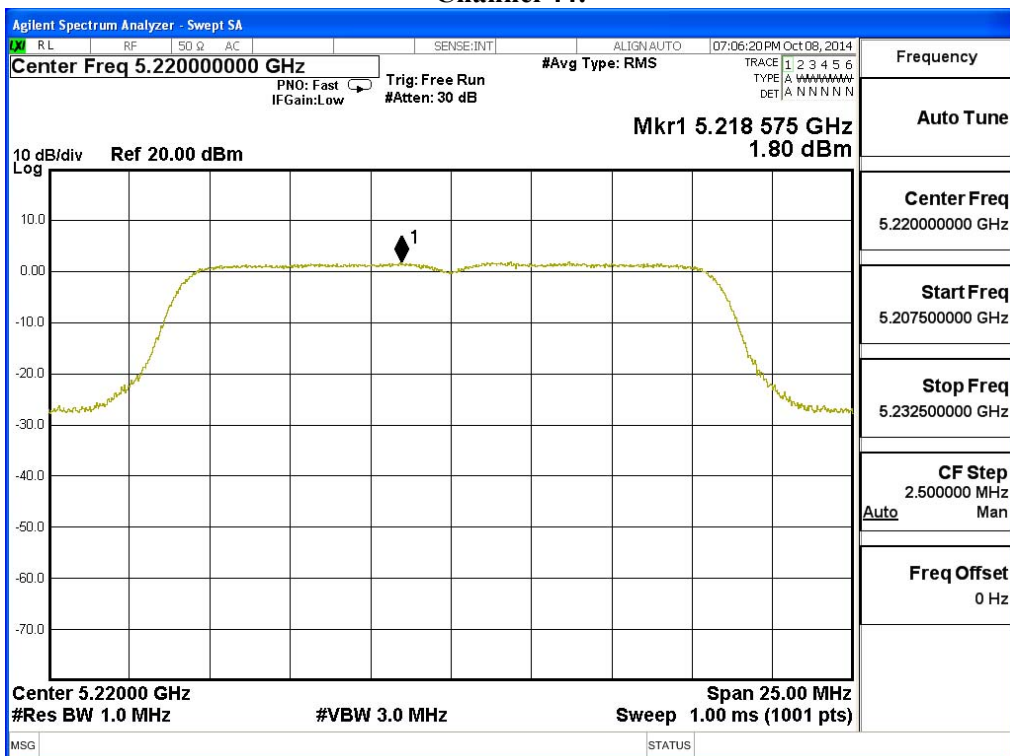
Channel Number	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	-1.670	11	Pass
44	5220	6	1.800	11	Pass
48	5240	6	1.890	11	Pass

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-0.09	6.98	6.89	<30	Pass
157	5785	6	0.07	6.98	7.05	<30	Pass
165	5825	6	-0.15	6.98	7.13	<30	Pass

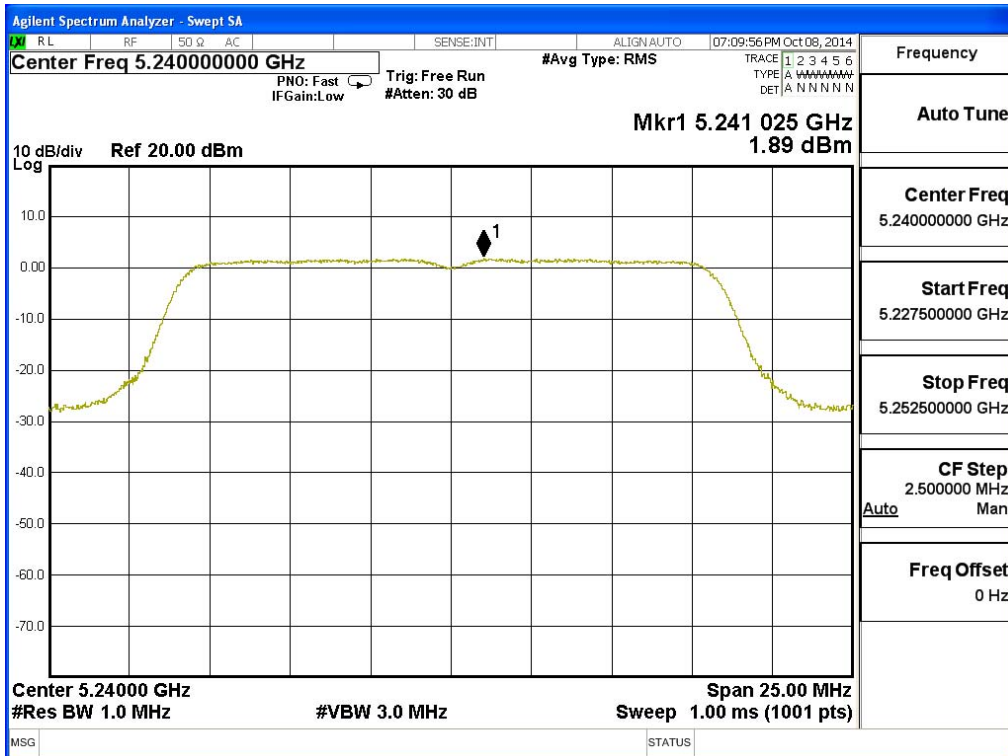
Channel 36:



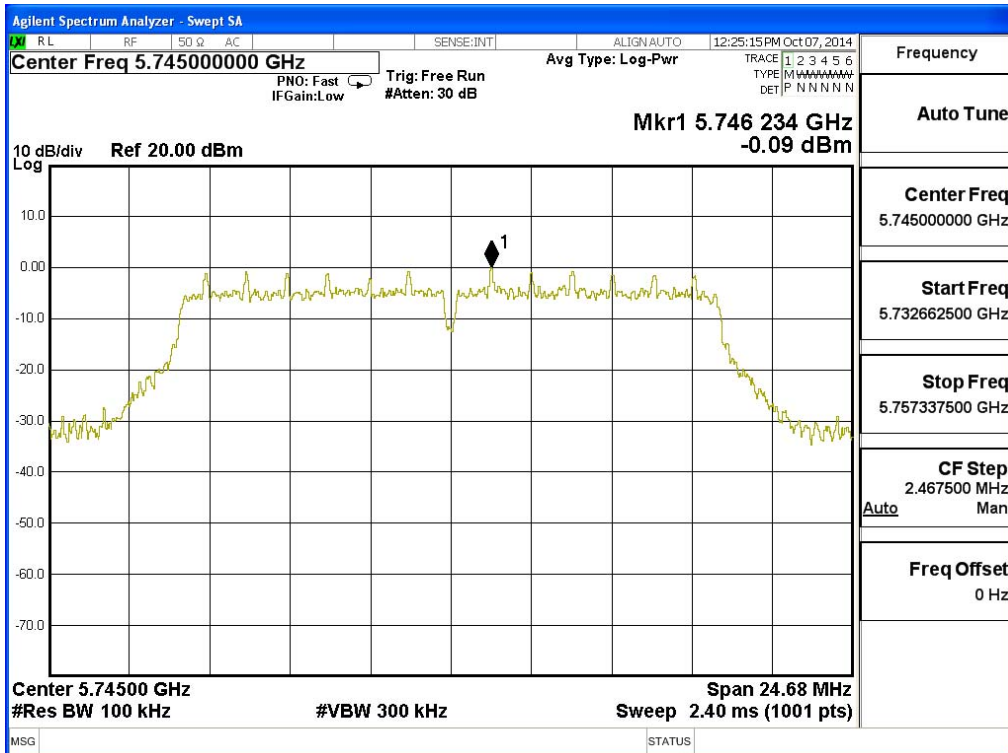
Channel 44:



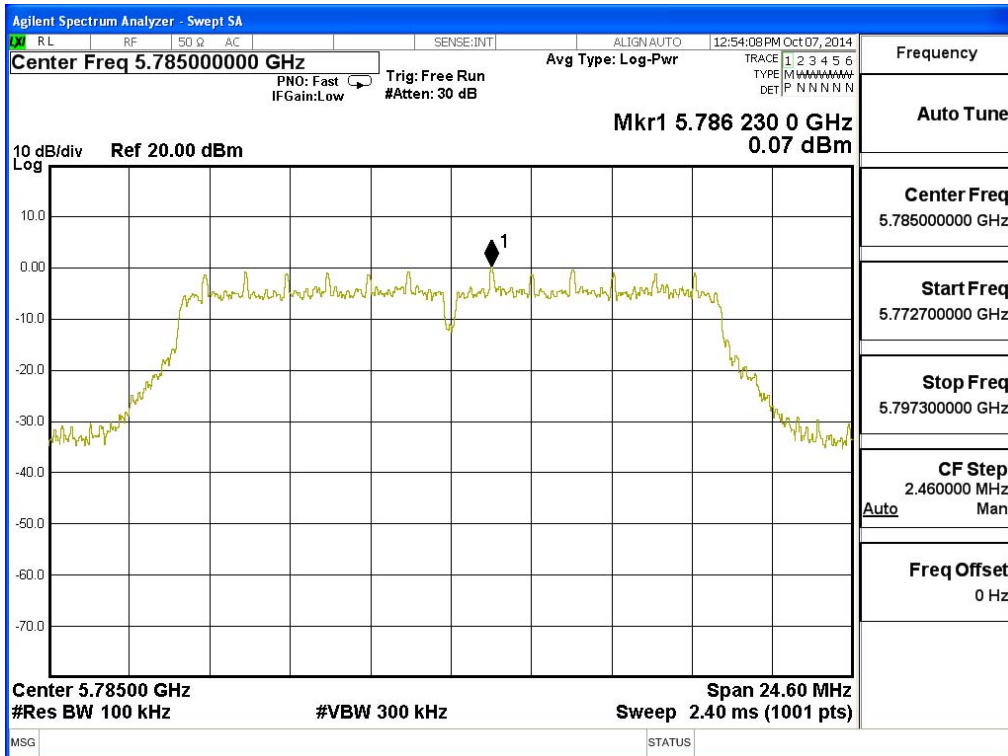
Channel 48:



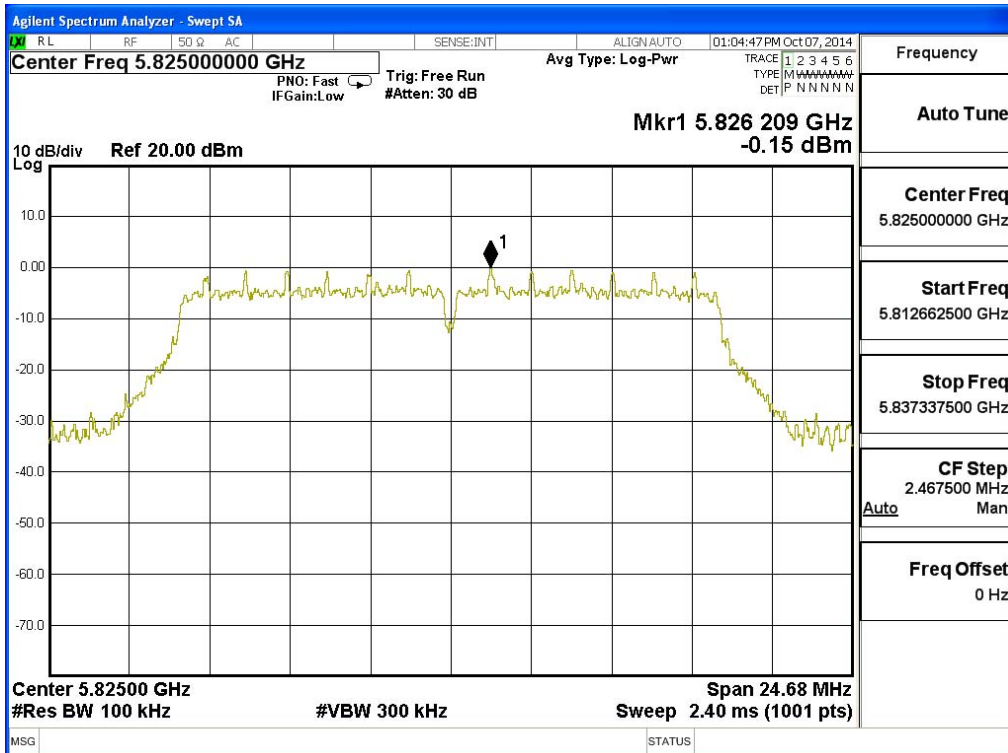
Channel 149:



Channel 157:



Channel 165:

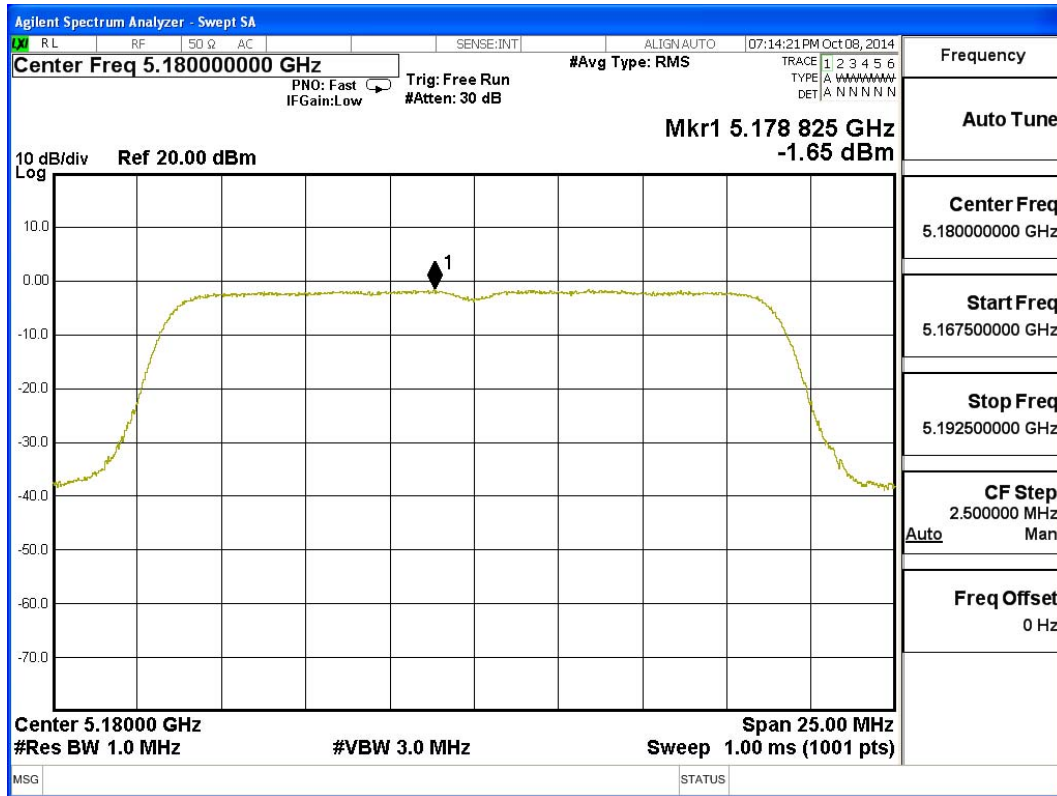


Product : Network Media Module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

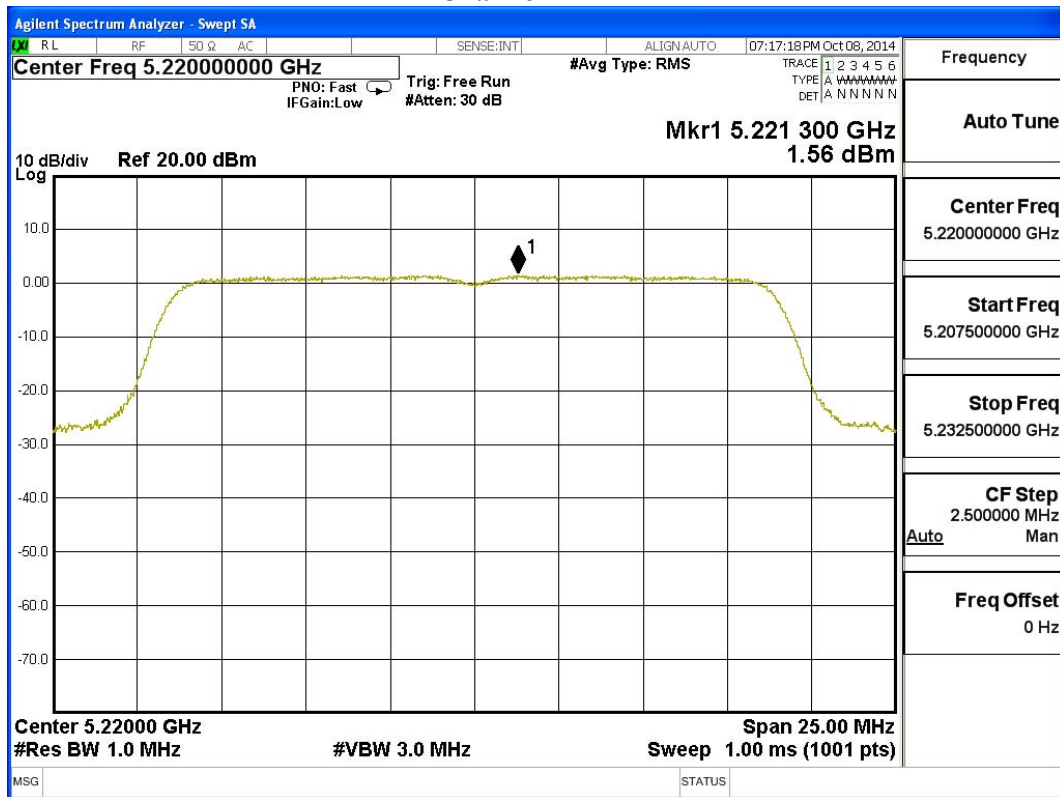
Channel Number	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	-1.650	11	Pass
44	5220	6	1.560	11	Pass
48	5240	6	1.660	11	Pass

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-0.16	6.98	6.82	<30	Pass
157	5785	6	-0.28	6.98	6.70	<30	Pass
165	5825	6	0.09	6.98	7.07	<30	Pass

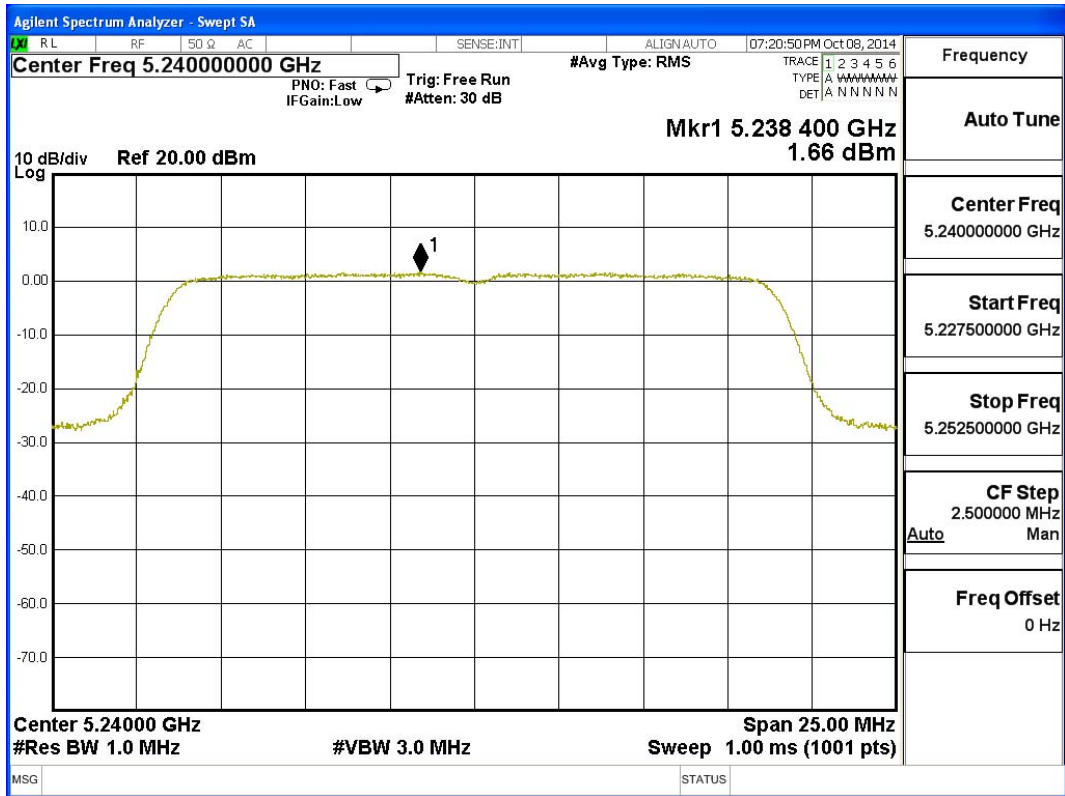
Channel 36



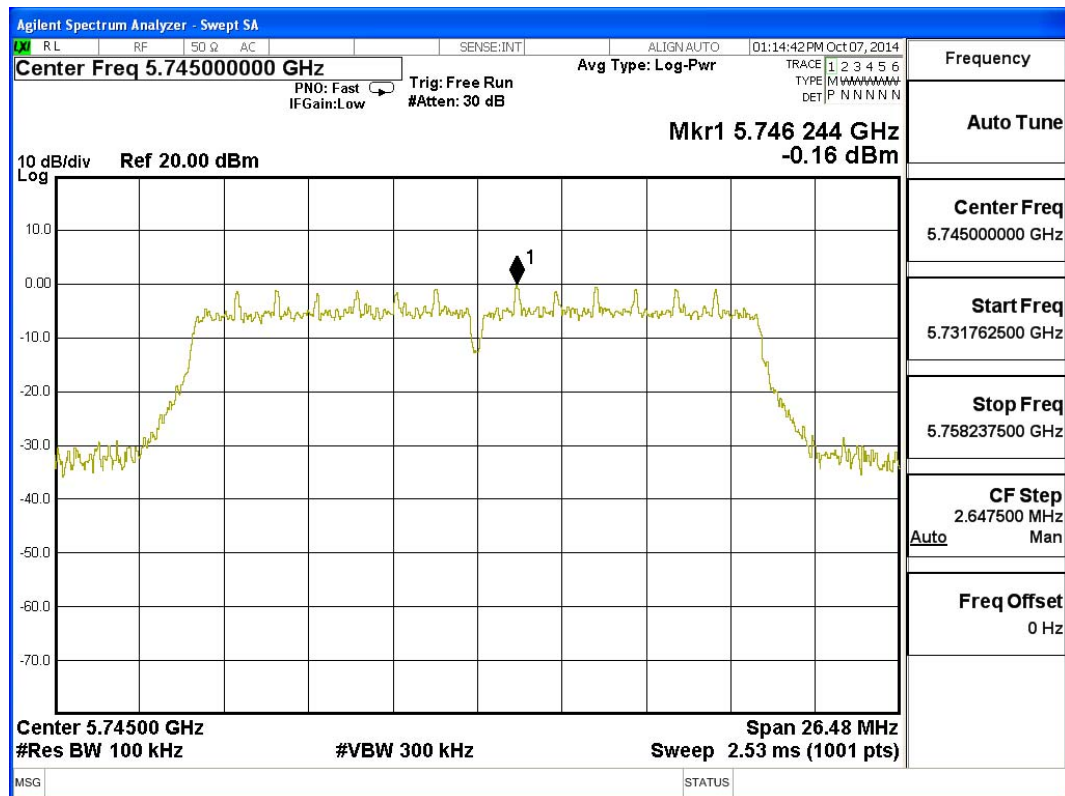
Channel 44



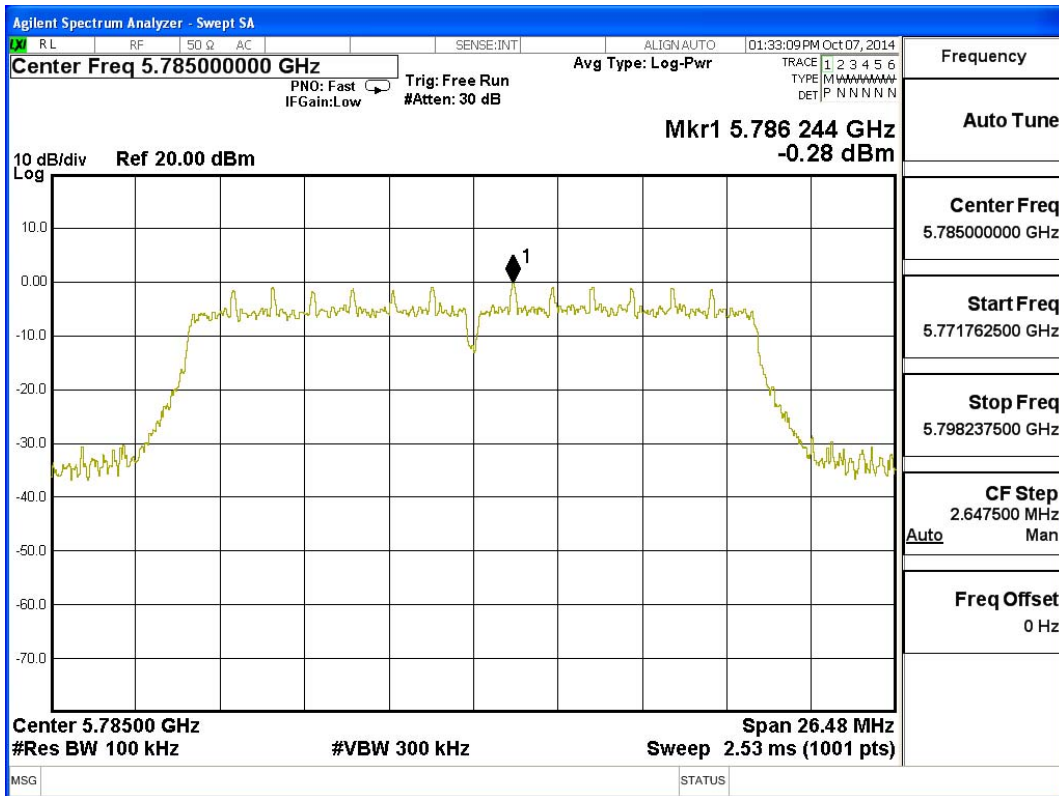
Channel 48



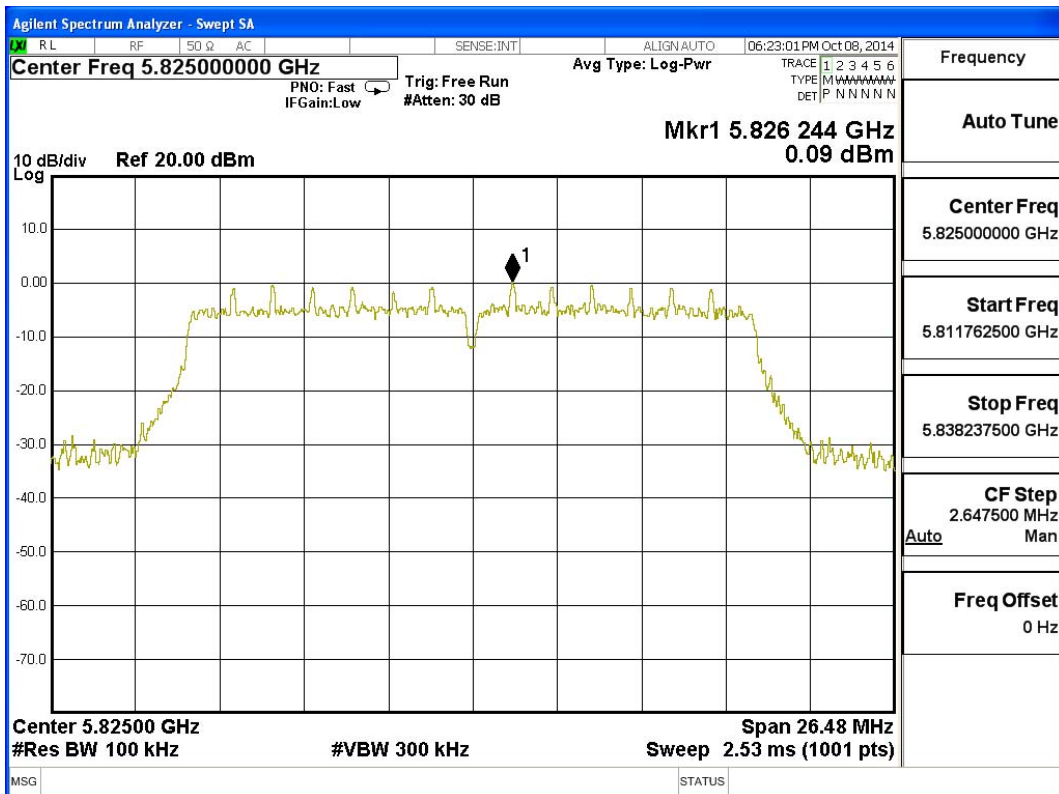
Channel 149



Channel 157



Channel 165

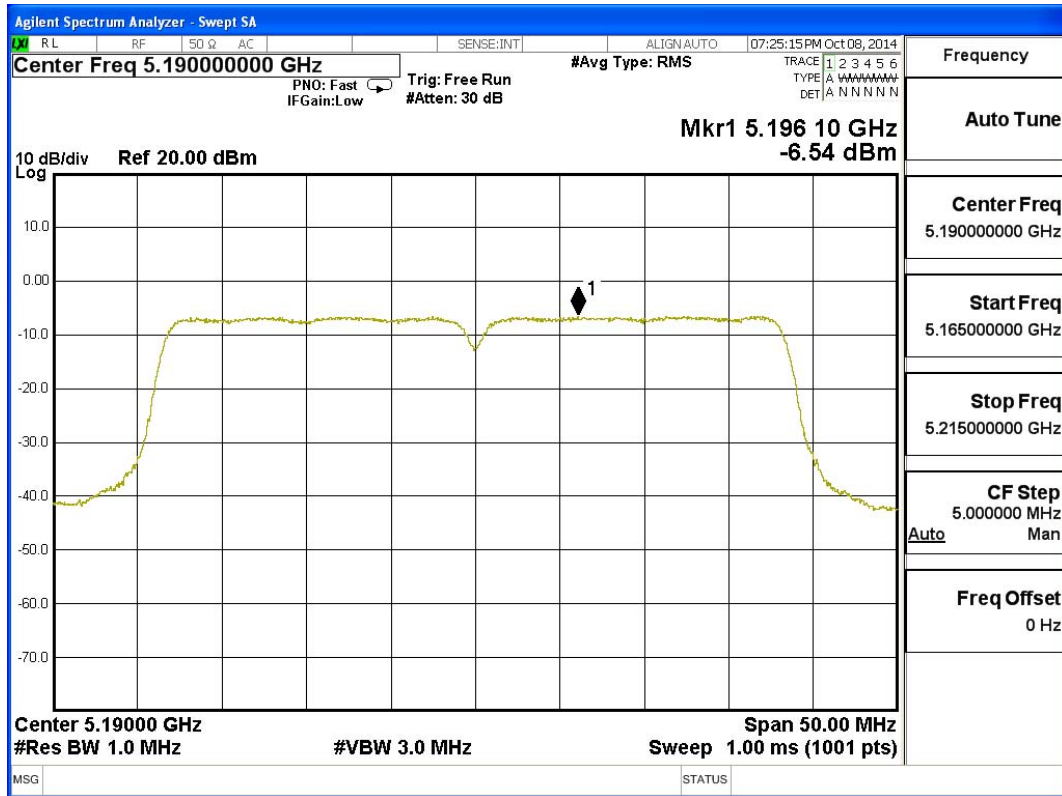


Product : Network Media Module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

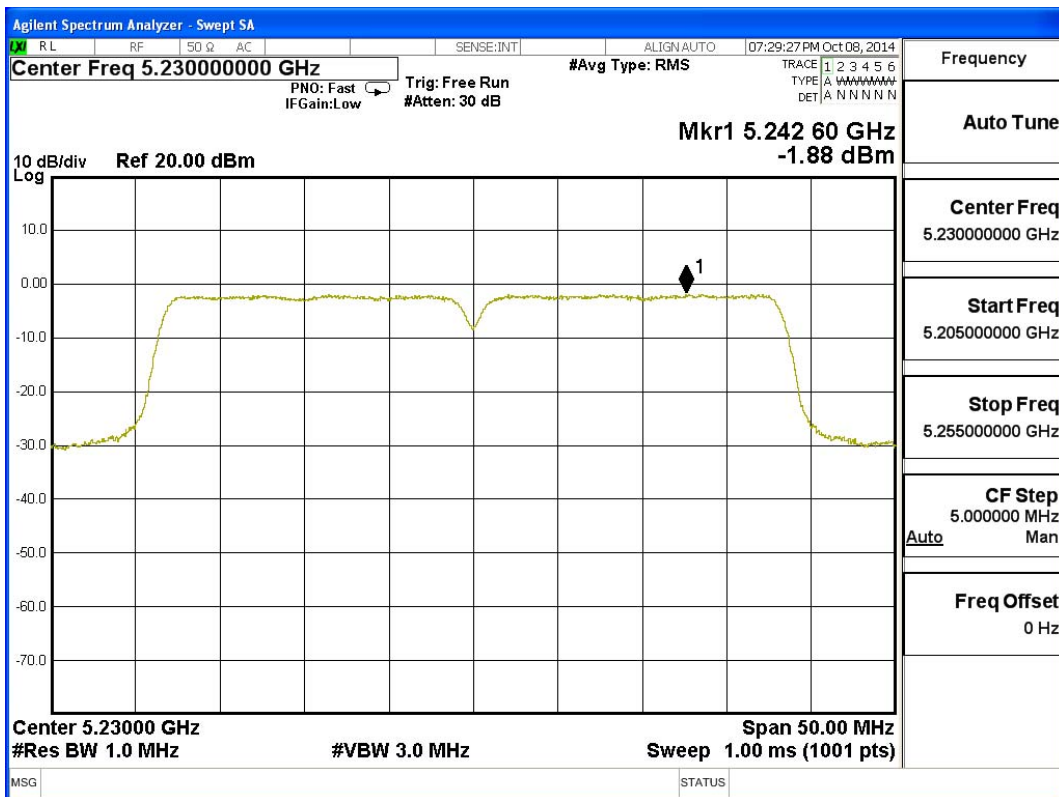
Channel Number	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	6	-6.540	11	Pass
46	5230	6	-1.880	11	Pass

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
151	5755	6	-3.96	6.98	3.08	<30	Pass
159	5795	6	-3.45	6.98	3.53	<30	Pass

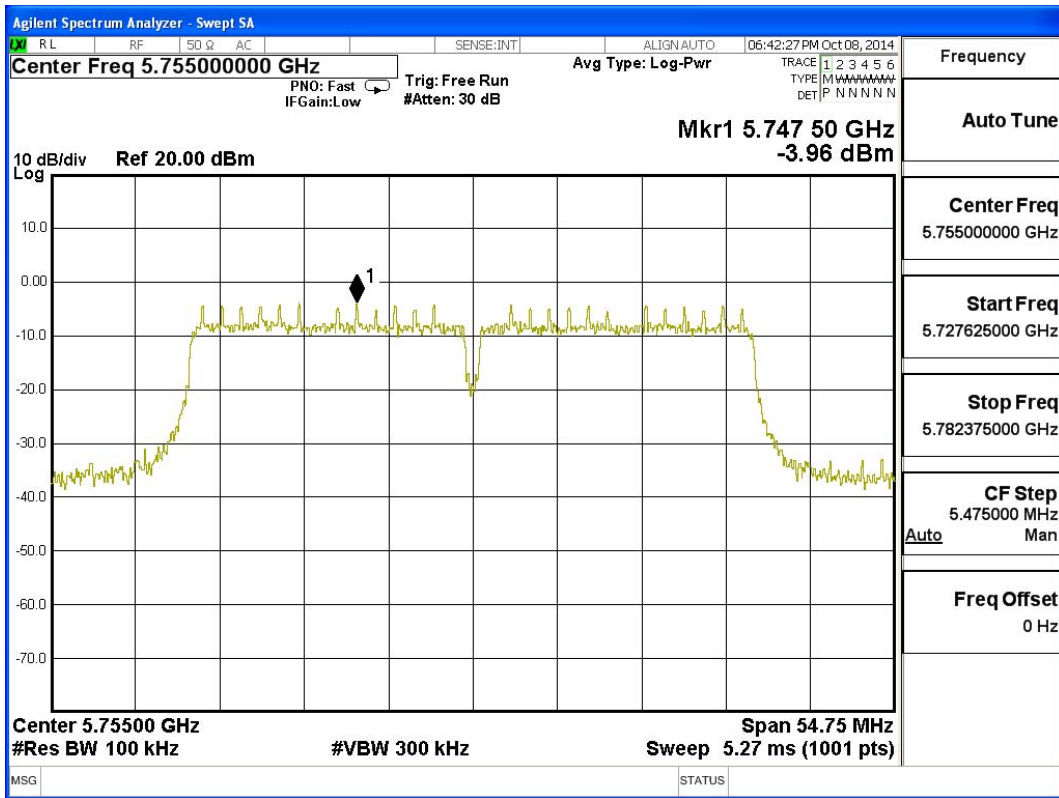
Channel 38



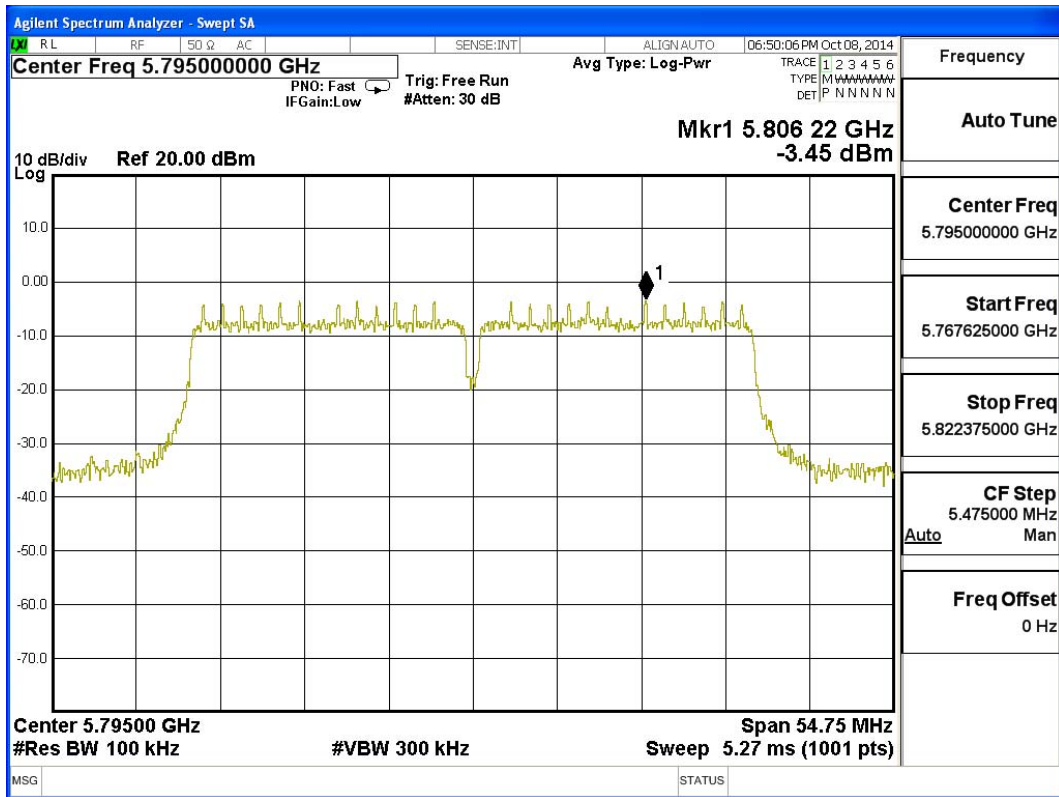
Channel 46



Channel 151



Channel 159



5. Radiated Emission

5.1. Test Equipment

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

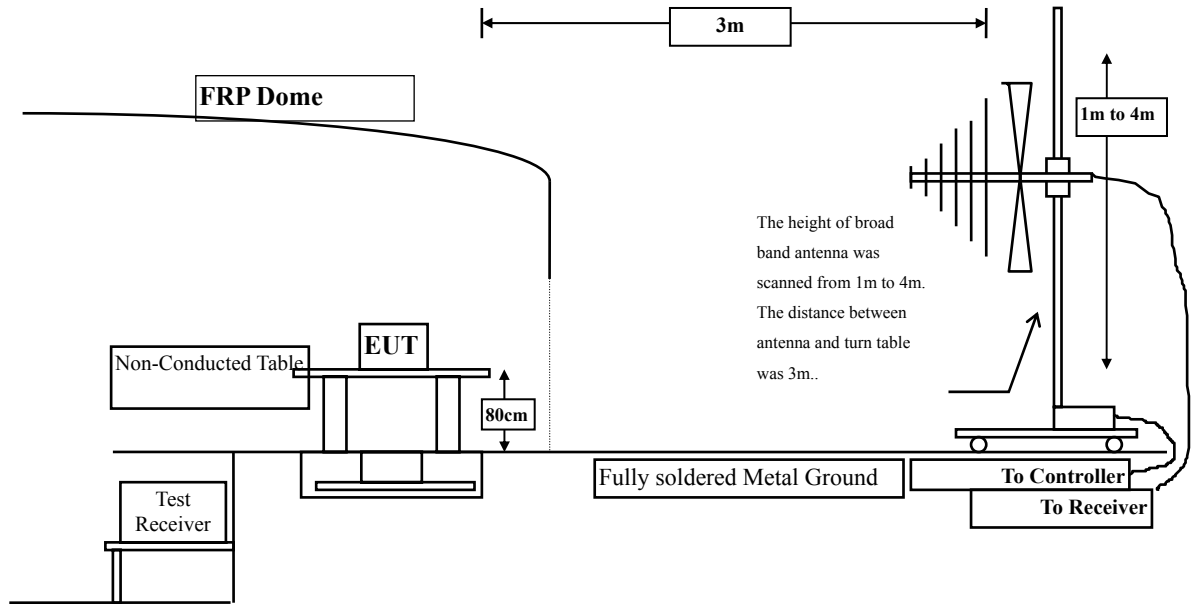
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep., 2014
	X	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun., 2014
	X	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun., 2014
	X	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun., 2014
	X	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun., 2014

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct, 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar, 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan, 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug, 2014
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul, 2014
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul, 2014

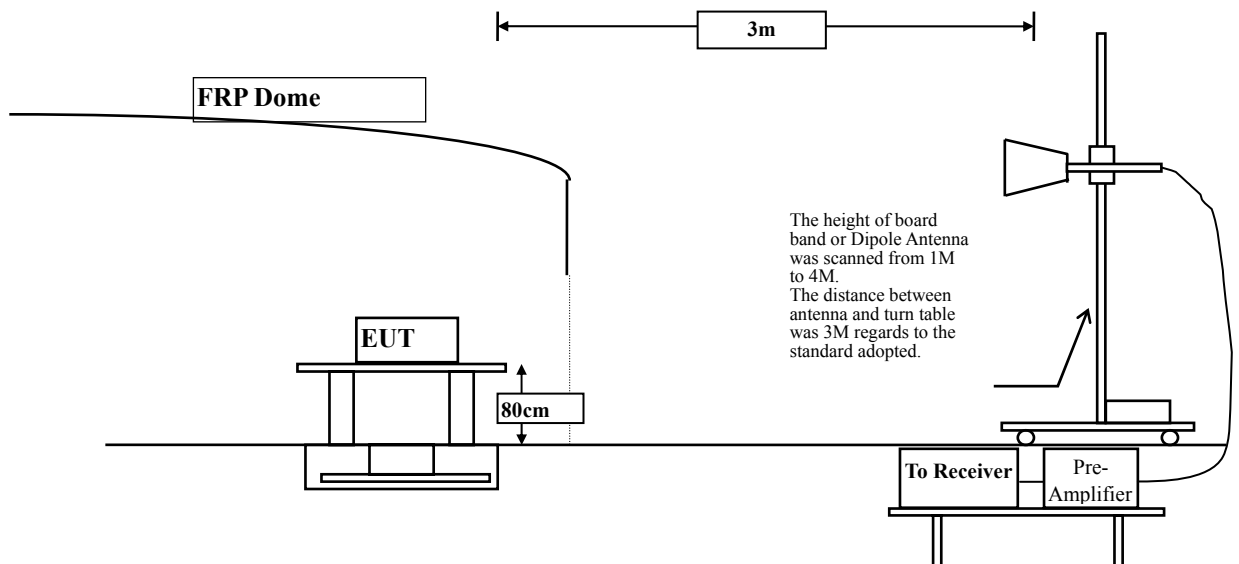
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

5.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



5.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: E field strength (dBμV/m) = 20 log E field strength (uV/m)

5.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

5.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

5.6. Test Result of Radiated Emission

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4740.000	2.720	44.170	46.890	-27.110	74.000
10360.000	13.054	38.060	51.114	-22.886	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4740.000	6.407	53.540	59.947	-14.053	74.000
10360.000	13.848	36.370	50.218	-23.782	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
4740.000	6.407	41.530	47.937	-6.063	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4780.000	3.025	42.540	45.565	-28.435	74.000
10440.000	13.462	36.170	49.632	-24.368	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4780.000	6.485	55.910	62.395	-11.605	74.000
10440.000	14.385	36.320	50.705	-23.295	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
4780.000	6.485	43.460	49.945	-4.055	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss - Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4800.000	7.613	40.456	48.070	-25.930	74.000
10480.000	13.813	35.800	49.613	-24.387	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4800.000	6.467	55.370	61.837	-12.163	74.000
10480.000	14.740	35.500	50.240	-23.760	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
4800.000	6.467	44.000	50.467	-3.533	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4785.000	3.064	40.680	43.744	-30.256	74.000
11490.000	17.196	36.020	53.216	-20.784	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4785.000	6.495	52.030	58.525	-15.475	74.000
11490.000	18.124	34.260	52.384	-21.616	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
4785.000	6.495	39.360	45.855	-8.145	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
5305.000	3.860	48.010	51.870	-22.130	74.000
11570.000	16.899	35.280	52.179	-21.821	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
5305.000	5.748	55.940	61.688	-12.312	74.000
11570.000	17.788	34.630	52.418	-21.582	74.000
17355.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average Detector:					
5305.000	5.748	46.230	51.978	-2.022	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
5345.000	3.732	48.690	52.422	-21.578	74.000
11650.000	16.325	33.650	49.975	-24.025	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
5345.000	5.697	58.740	64.437	-9.563	74.000
11650.000	17.441	34.270	51.711	-22.289	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
5345.000	6.646	43.553	50.200	-3.800	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4740.000	2.720	41.620	44.340	-29.660	74.000
10360.000	13.054	36.660	49.714	-24.286	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4740.000	6.407	51.520	57.927	-16.073	74.000
10360.000	13.848	37.360	51.208	-22.792	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average Detector:					
4740.000	6.407	39.640	46.047	-7.953	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4780.000	3.025	42.490	45.515	-28.485	74.000
10440.000	13.462	38.380	51.842	-22.158	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4780.000	6.485	53.430	59.915	-14.085	74.000
10440.000	14.385	36.710	51.095	-22.905	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
4780.000	6.485	41.600	48.085	-5.915	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5240MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4800.000	3.130	43.310	46.440	-27.560	74.000
10480.000	13.813	36.740	50.553	-23.447	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4800.000	6.467	52.280	58.747	-15.253	74.000
10480.000	14.740	39.210	53.950	-20.050	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average Detector:					
4800.000	6.467	40.150	46.617	-7.383	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4785.000	3.064	42.460	45.524	-28.476	74.000
11490.000	17.196	33.890	51.086	-22.914	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4785.000	6.495	51.090	57.585	-16.415	74.000
11490.000	18.124	35.310	53.434	-20.566	74.000
17235.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
4785.000	6.495	35.690	42.185	-11.815	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
5305.000	3.860	47.870	51.730	-22.270	74.000
11570.000	16.899	33.720	50.619	-23.381	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
5305.000	5.748	58.570	64.318	-9.682	74.000
11570.000	17.788	35.460	53.248	-20.752	74.000
17355.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average Detector:					
5305.000	5.748	43.360	49.108	-4.892	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss - Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
5345.000	3.732	44.240	47.972	-26.028	74.000
11650.000	16.325	33.050	49.375	-24.625	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
5345.000	5.697	55.810	61.507	-12.493	74.000
11650.000	17.441	32.830	50.271	-23.729	74.000
17475.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
5345.000	5.697	46.460	52.157	-1.843	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4750.000	2.796	42.410	45.206	-28.794	74.000
10380.000	13.081	36.920	50.001	-23.999	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4750.000	6.426	48.800	55.226	-18.774	74.000
10380.000	13.938	34.880	48.818	-25.182	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
4750.000	6.426	37.640	44.066	-9.934	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11n-40BW 15Mbps)(Shield can height and absorber etc.)(5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
10380.000	12.939	37.150	50.089	-23.911	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10380.000	13.796	37.490	51.286	-22.714	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector:					
4790.000	3.101	42.850	45.951	-28.049	74.000
10460.000	13.638	36.650	50.288	-23.712	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4790.000	6.504	50.610	57.114	-16.886	74.000
10460.000	14.563	37.100	51.663	-22.337	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average Detector:					
4790.000	6.504	39.670	46.174	-7.826	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4780.000	3.025	40.140	43.165	-30.835	74.000
11510.000	17.196	34.860	52.056	-21.944	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4780.000	6.485	49.470	55.955	-18.045	74.000
11510.000	18.124	34.700	52.824	-21.176	74.000
17265.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
4780.000	6.485	35.930	42.415	-11.585	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5795MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
5315.000	3.829	45.680	49.509	-24.491	74.000
11590.000	16.791	34.300	51.091	-22.909	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
5315.000	5.736	54.840	60.576	-13.424	74.000
11590.000	17.657	34.280	51.937	-22.063	74.000
17385.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
5315.000	5.736	44.480	50.216	-3.784	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
Peak Detector					
105.660	-6.673	35.428	28.755	-14.745	43.500
247.280	-6.192	38.901	32.708	-13.292	46.000
400.540	-2.276	35.637	33.361	-12.639	46.000
565.440	1.611	30.684	32.295	-13.705	46.000
701.240	2.668	35.078	37.746	-8.254	46.000
837.040	5.103	28.092	33.194	-12.806	46.000
Vertical					
Peak Detector					
109.540	-0.418	35.623	35.205	-8.295	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
549.920	-2.877	40.075	37.198	-8.802	46.000
701.240	0.198	35.078	35.276	-10.724	46.000
837.040	2.223	28.092	30.314	-15.686	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
111.480	-7.914	35.226	27.312	-16.188	43.500
350.100	-2.332	33.810	31.478	-14.522	46.000
518.880	1.714	31.115	32.829	-13.171	46.000
600.360	3.977	37.982	41.959	-4.041	46.000
701.240	2.668	35.078	37.746	-8.254	46.000
881.660	6.307	26.235	32.542	-13.458	46.000
Vertical					
Peak Detector					
111.480	-0.954	35.226	34.272	-9.228	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
549.920	-2.877	40.075	37.198	-8.802	46.000
701.240	0.198	35.078	35.276	-10.724	46.000
881.660	2.557	27.493	30.050	-15.950	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
107.600	-7.058	35.813	28.755	-14.745	43.500
293.840	-3.868	34.401	30.534	-15.466	46.000
449.040	-2.238	35.769	33.531	-12.469	46.000
610.060	4.101	33.582	37.683	-8.317	46.000
749.740	3.320	35.075	38.395	-7.605	46.000
881.660	6.307	27.493	33.800	-12.200	46.000
Vertical					
Peak Detector					
105.660	-0.253	35.428	35.175	-8.325	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
549.920	-2.877	40.075	37.198	-8.802	46.000
650.800	-4.705	41.220	36.515	-9.485	46.000
749.740	2.510	35.075	37.585	-8.415	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
107.600	-7.058	35.545	28.487	-15.013	43.500
293.840	-3.868	34.401	30.534	-15.466	46.000
474.260	0.024	34.945	34.968	-11.032	46.000
610.060	4.101	33.582	37.683	-8.317	46.000
749.740	3.320	35.075	38.395	-7.605	46.000
881.660	6.307	27.493	33.800	-12.200	46.000
Vertical					
Peak Detector					
109.540	-0.418	35.614	35.196	-8.304	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
549.920	-2.877	40.075	37.198	-8.802	46.000
701.240	0.198	35.078	35.276	-10.724	46.000
951.500	6.621	27.234	33.855	-12.145	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
107.600	-7.058	35.813	28.755	-14.745	43.500
247.280	-6.192	38.901	32.708	-13.292	46.000
449.040	-2.238	35.769	33.531	-12.469	46.000
610.060	4.101	33.582	37.683	-8.317	46.000
749.740	3.320	35.075	38.395	-7.605	46.000
881.660	6.307	27.493	33.800	-12.200	46.000
Vertical					
Peak Detector					
105.660	-0.253	35.428	35.175	-8.325	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
549.920	-2.877	40.075	37.198	-8.802	46.000
701.240	0.198	35.078	35.276	-10.724	46.000
881.660	2.557	27.493	30.050	-15.950	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11n-40BW 15Mbps)(Shield can height and absorber etc.)(5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
371.440	-1.097	33.492	32.395	-13.605	46.000
470.380	1.226	33.150	34.376	-11.624	46.000
544.100	3.512	32.974	36.486	-9.514	46.000
747.800	3.296	36.364	39.660	-6.340	46.000
850.620	5.982	37.038	43.020	-2.980	46.000
930.160	7.187	33.880	41.067	-4.933	46.000
Vertical					
99.840	-0.021	33.586	33.565	-9.935	43.500
373.380	-2.373	34.055	31.682	-14.318	46.000
524.700	-0.379	33.550	33.171	-12.829	46.000
689.600	2.538	33.686	36.224	-9.776	46.000
800.180	2.801	36.528	39.329	-6.671	46.000
928.220	6.203	33.926	40.129	-5.871	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Network Media Module
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5755MHz)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV/m	Margin dB	Limit dBμV/m
Horizontal					
Peak Detector					
107.600	-7.058	35.545	28.487	-15.013	43.500
293.840	-3.868	34.401	30.534	-15.466	46.000
449.040	-2.238	35.745	33.507	-12.493	46.000
610.060	4.101	33.582	37.683	-8.317	46.000
749.740	3.320	35.075	38.395	-7.605	46.000
881.660	6.307	27.493	33.800	-12.200	46.000
Vertical					
Peak Detector					
109.540	-0.418	35.614	35.196	-8.304	43.500
247.280	-8.042	38.901	30.858	-15.142	46.000
400.540	-5.156	35.636	30.481	-15.519	46.000
600.360	-2.833	37.982	35.149	-10.851	46.000
749.740	2.510	35.075	37.585	-8.415	46.000
951.500	6.621	27.234	33.855	-12.145	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

6. Band Edge

6.1. Test Equipment

RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

RF Radiated Measurement:

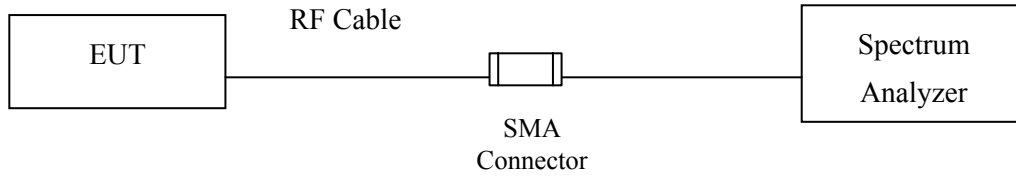
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ CB # 8	X	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2014
	X	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	X	Horn Antenna	TRC	AH-0801/95051	Aug., 2014
	X	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2015
	X	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2014
	X	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2014

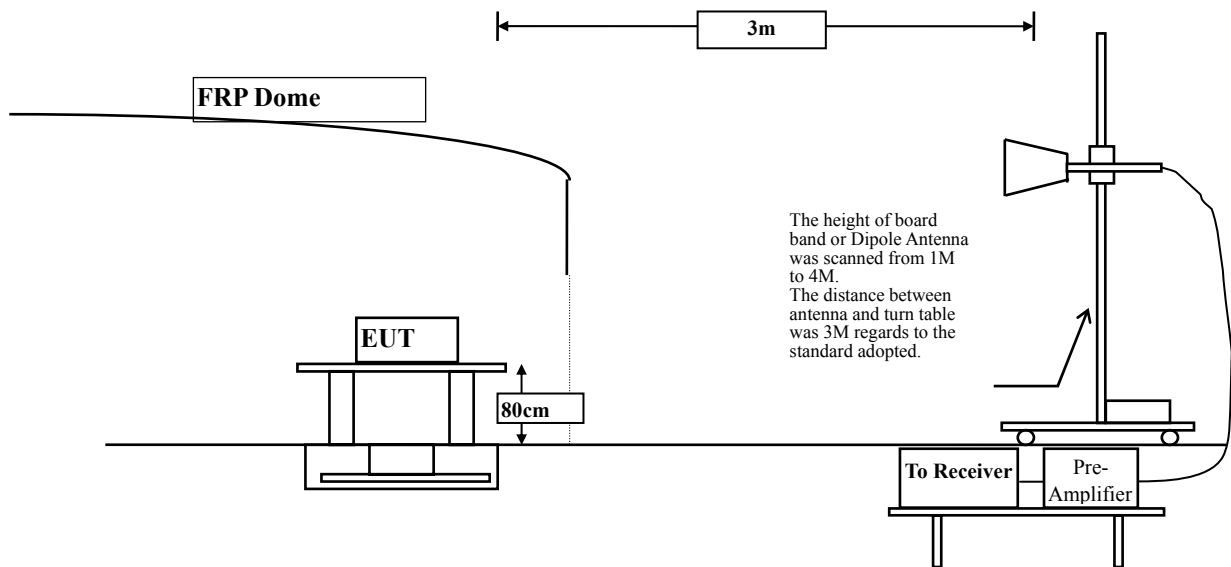
- Note:
1. All instruments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



6.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBµV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage (dBµV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

6.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2009 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.10, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

6.5. Uncertainty

- ± 3.8 dB below 1GHz
- ± 3.9 dB above 1GHz

6.6. Test Result of Band Edge

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5141.400	3.371	50.529	53.899	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	46.059	49.399	74.00	54.00	Pass
36 (Peak)	5183.400	3.222	92.455	95.677	--	--	--
36 (Average)	5135.800	3.389	38.425	41.815	74.00	54.00	Pass
36 (Average)	5150.000	3.340	34.119	37.459	74.00	54.00 </td <td>Pass</td>	Pass
36 (Average)	5177.800	3.242	80.374	83.616	--	--	--

Figure Channel 36: Horizontal (Peak)

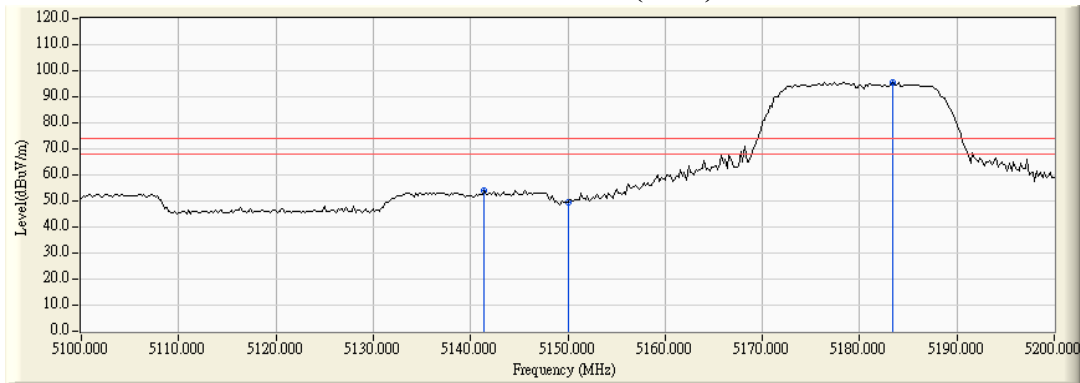
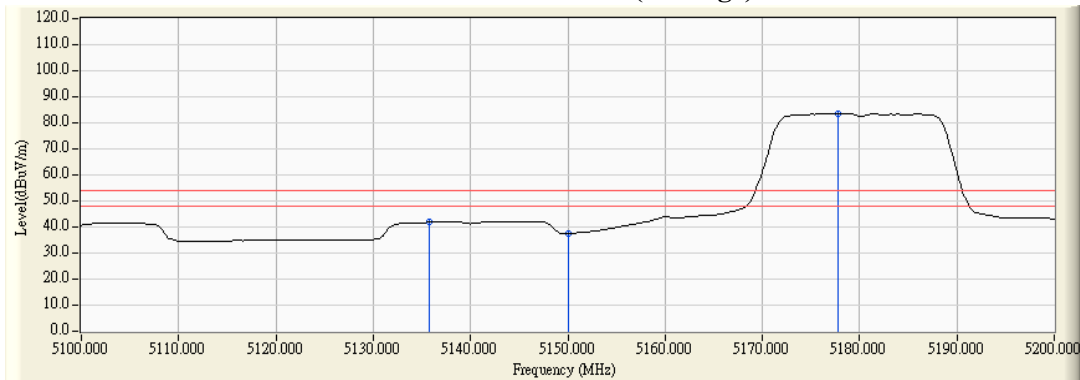


Figure Channel 36: Horizontal (Average)



- Note: 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
 4. “ * ”, means this data is the worst emission level.
 5. Measurement Level = Reading Level + Correct Factor.
 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5138.800	5.228	54.097	59.326	74.00	54.00	Pass
36 (Peak)	5150.000	5.260	51.639	56.899	74.00	54.00	Pass
36 (Peak)	5178.800	5.338	97.043	102.381	--	--	--
36 (Average)	5139.000	5.229	42.584	47.814	74.00	54.00	Pass
36 (Average)	5150.000	5.260	37.037	42.297	74.00	54.00	Pass
36 (Average)	5178.000	5.335	85.248	90.584	--	--	--

Figure Channel 36: Vertical (Peak)

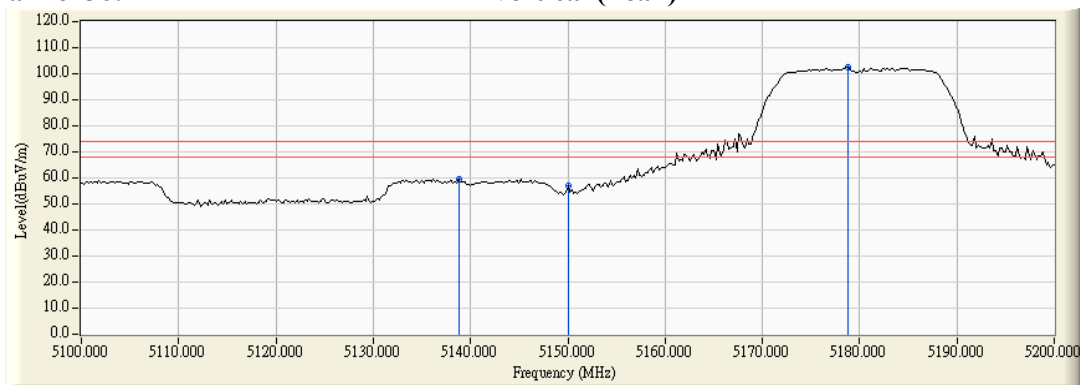
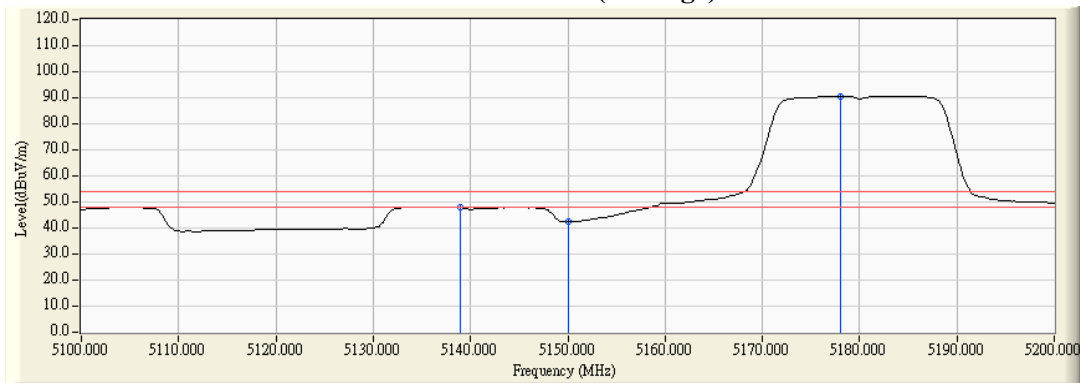


Figure Channel 36: Vertical (Average)



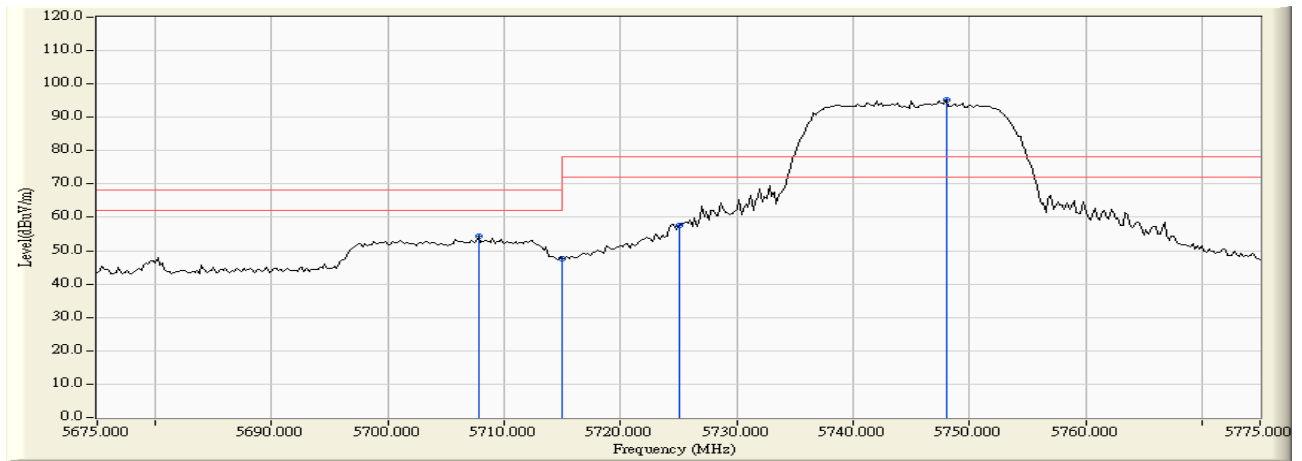
Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 149

RF Radiated Measurement (Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5707.800	4.648	49.767	54.414	-13.806	68.220	Pass
Horizontal	5715.000	4.652	42.964	47.616	-20.604	68.220	Pass
Horizontal	5725.000	4.654	52.929	57.583	-20.637	78.220	Pass
Horizontal	5748.000	4.658	90.656	95.313	17.093	78.220	Pass



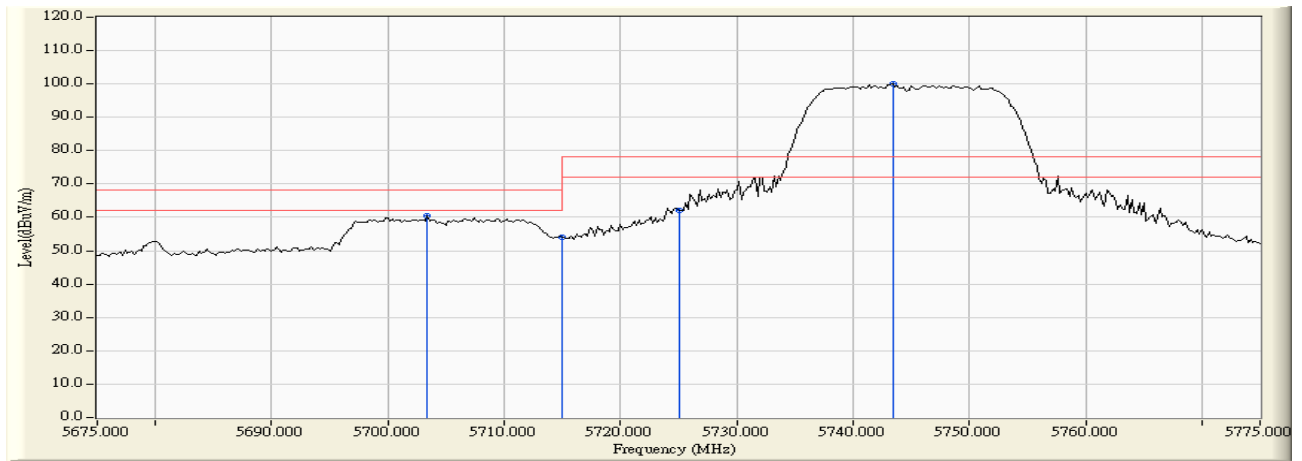
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 149

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5703.400	5.987	54.393	60.380	-7.840	68.220	Pass
Vertical	5715.000	5.994	48.118	54.112	-14.108	68.220	Pass
Vertical	5725.000	5.992	56.227	62.220	-16.000	78.220	Pass
Vertical	5743.400	5.989	94.028	100.017	21.797	78.220	Pass



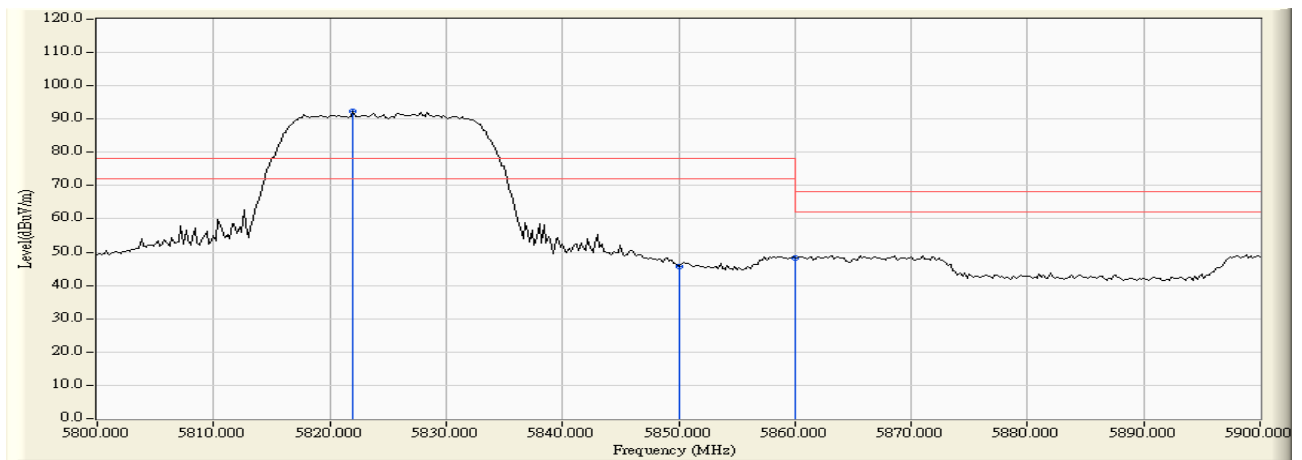
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 165

RF Radiated Measurement(Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5822.000	4.797	87.390	92.186	13.966	78.220	Pass
Horizontal	5850.000	4.964	40.844	45.808	-32.412	78.220	Pass
Horizontal	5860.000	5.023	43.304	48.327	-19.893	68.220	Pass



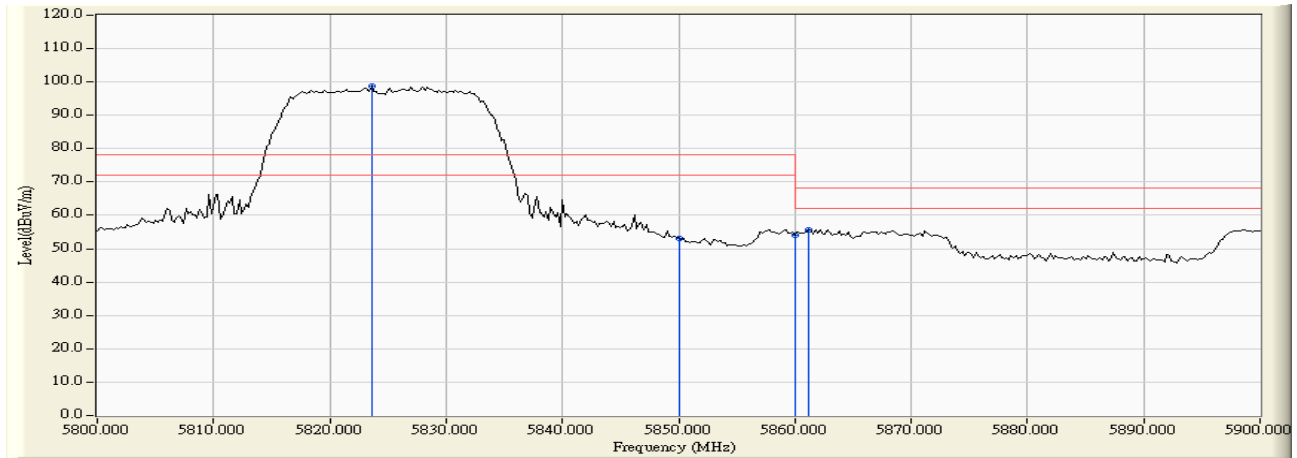
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 165

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5823.600	6.005	92.603	98.609	20.389	78.220	Pass
Vertical	5850.000	6.037	46.924	52.961	-25.259	78.220	Pass
Vertical	5860.000	6.047	48.074	54.121	-14.099	68.220	Pass
Vertical	5861.200	6.048	49.740	55.789	-12.431	68.220	Pass



Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5148.800	3.345	50.685	54.030	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	46.875	50.215	74.00	54.00	Pass
36 (Peak)	5185.200	3.216	91.273	94.489	--	--	--
36 (Average)	5141.200	3.371	38.522	41.893	74.00	54.00	Pass
36 (Average)	5150.000	3.340	35.038	38.378	74.00	54.00	Pass
36 (Average)	5177.600	3.243	79.890	83.133	--	--	--

Figure Channel 36: Horizontal (Peak)

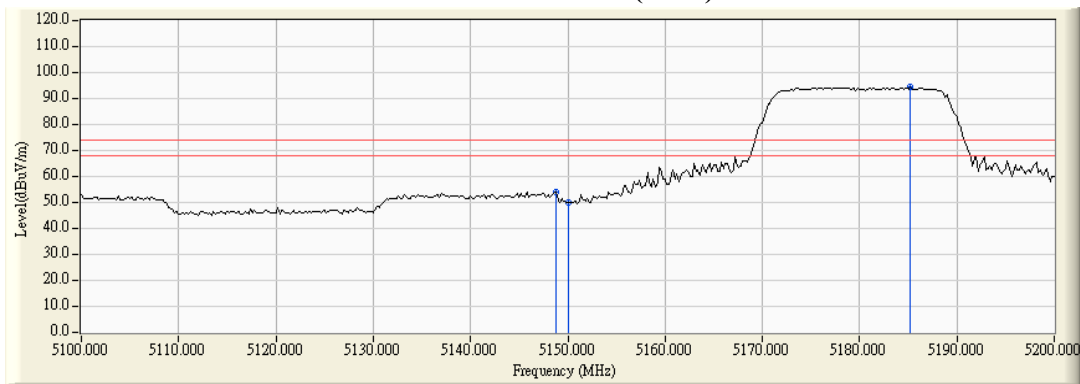
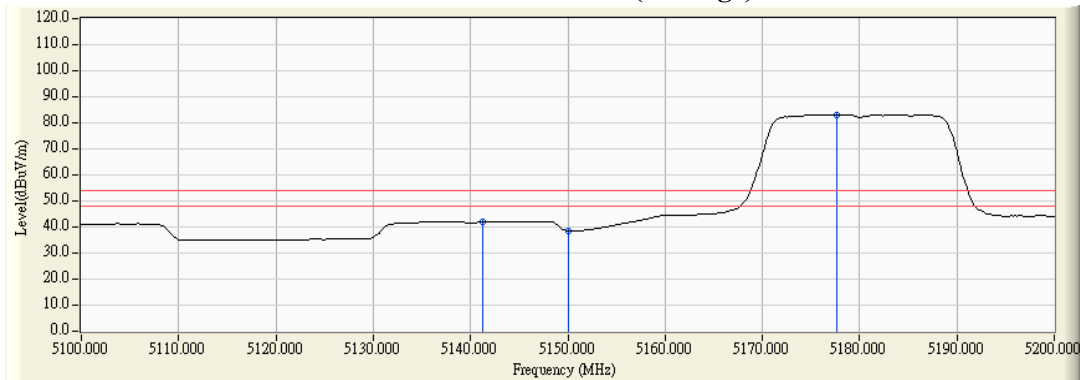


Figure Channel 36: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
36 (Peak)	5148.400	5.256	54.076	59.332	74.00	54.00	Pass
36 (Peak)	5150.000	5.260	51.186	56.446	74.00	54.00	Pass
36 (Peak)	5179.400	5.339	96.875	102.215	--	--	--
36 (Average)	5148.200	5.255	42.573	47.828	74.00	54.00	Pass
36 (Average)	5150.000	5.260	38.440	43.700	74.00	54.00	Pass
36 (Average)	5185.800	5.358	84.974	90.332	--	--	--

Figure Channel 36: Vertical (Peak)

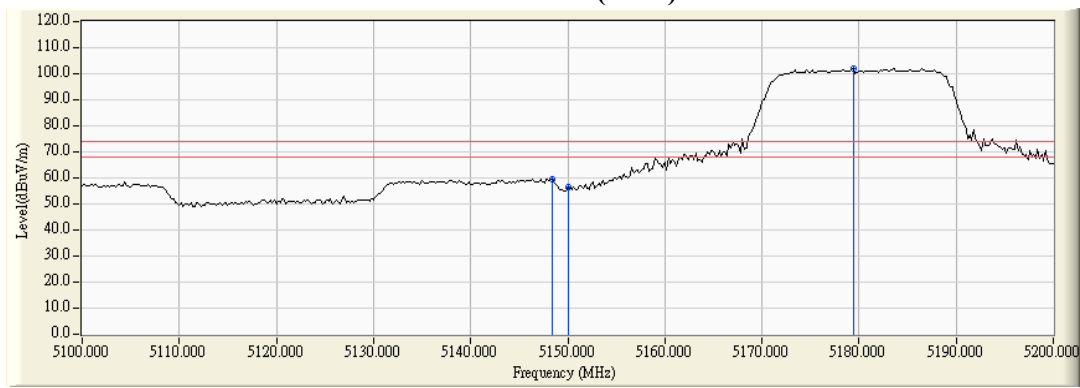
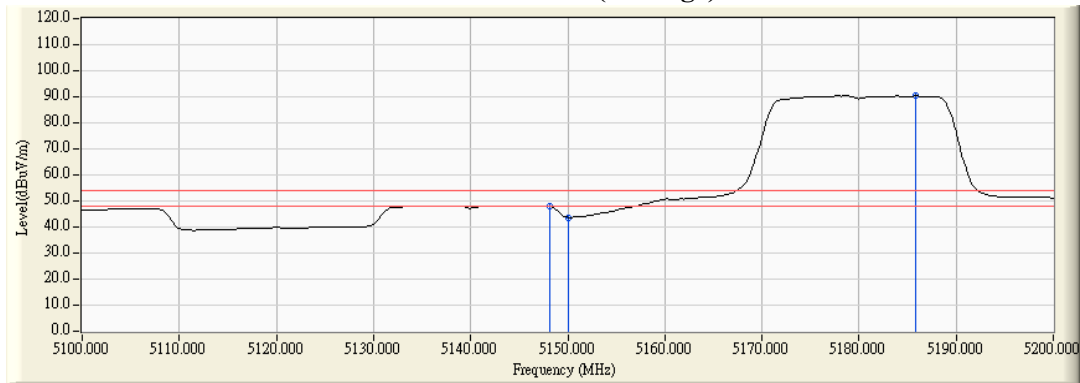


Figure Channel 36: Vertical (Average)



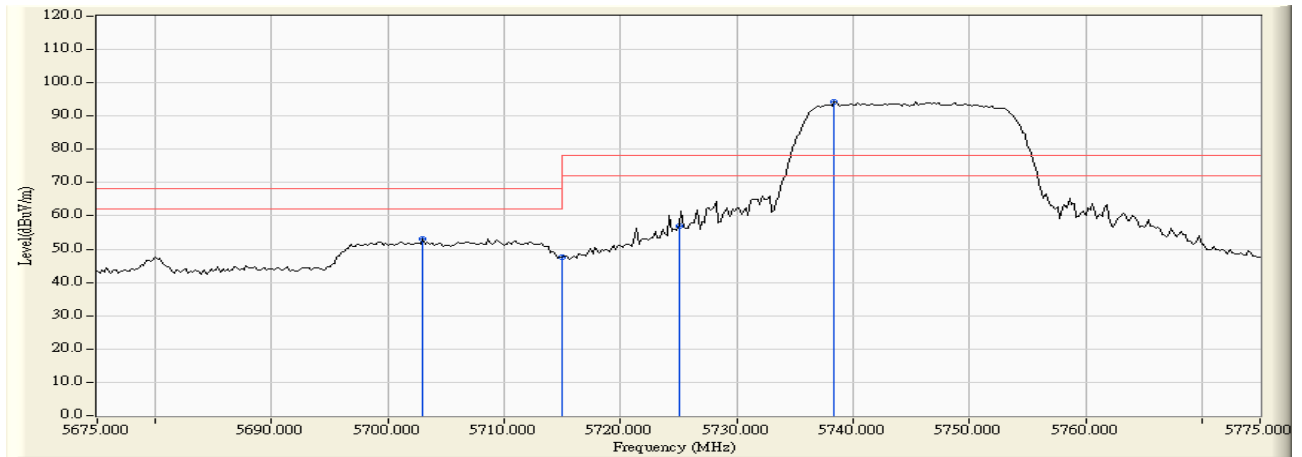
Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 149

RF Radiated Measurement (Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5703.000	4.635	48.565	53.200	-15.020	68.220	Pass
Horizontal	5715.000	4.652	43.048	47.700	-20.520	68.220	Pass
Horizontal	5725.000	4.654	52.357	57.011	-21.209	78.220	Pass
Horizontal	5738.400	4.656	89.703	94.359	16.139	78.220	Pass



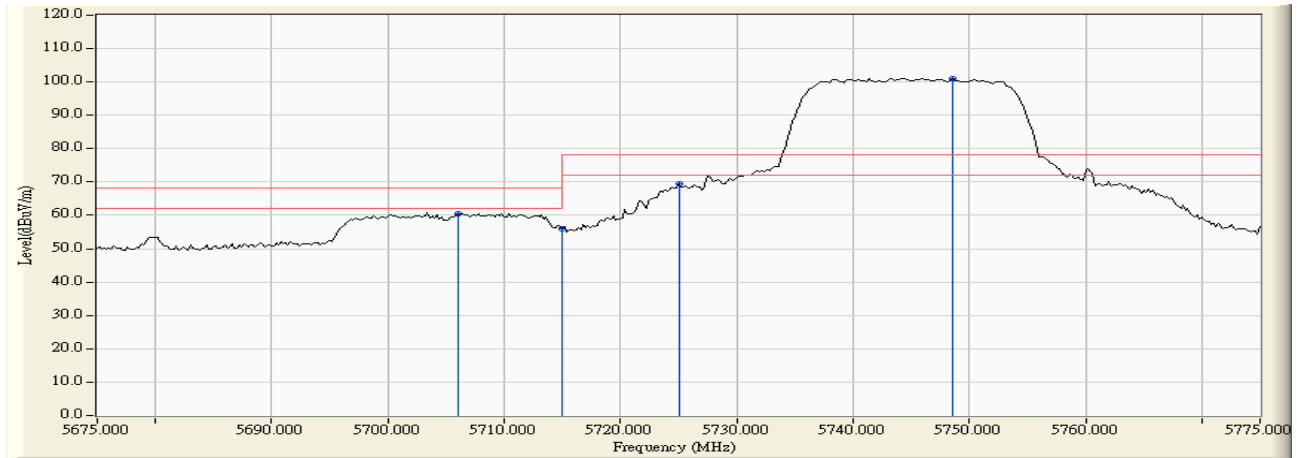
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 149

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5706.000	5.990	54.336	60.327	-7.893	68.220	Pass
Vertical	5715.000	5.994	50.033	56.027	-12.193	68.220	Pass
Vertical	5725.000	5.992	63.405	69.398	-8.822	78.220	Pass
Vertical	5748.600	5.988	95.079	101.067	22.847	78.220	Pass



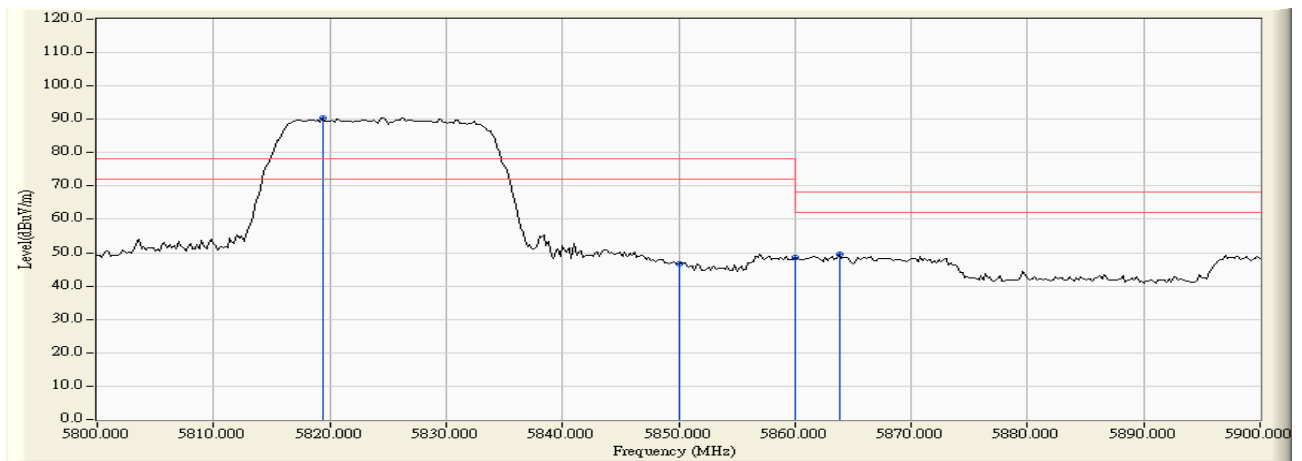
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 165

RF Radiated Measurement (Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5819.400	4.781	85.688	90.469	12.249	78.220	--
Horizontal	5850.000	4.964	41.622	46.586	-31.634	78.220	Pass
Horizontal	5860.000	5.023	43.497	48.520	-19.700	68.220	Pass
Horizontal	5863.800	5.044	44.474	49.519	-18.701	68.220	Pass



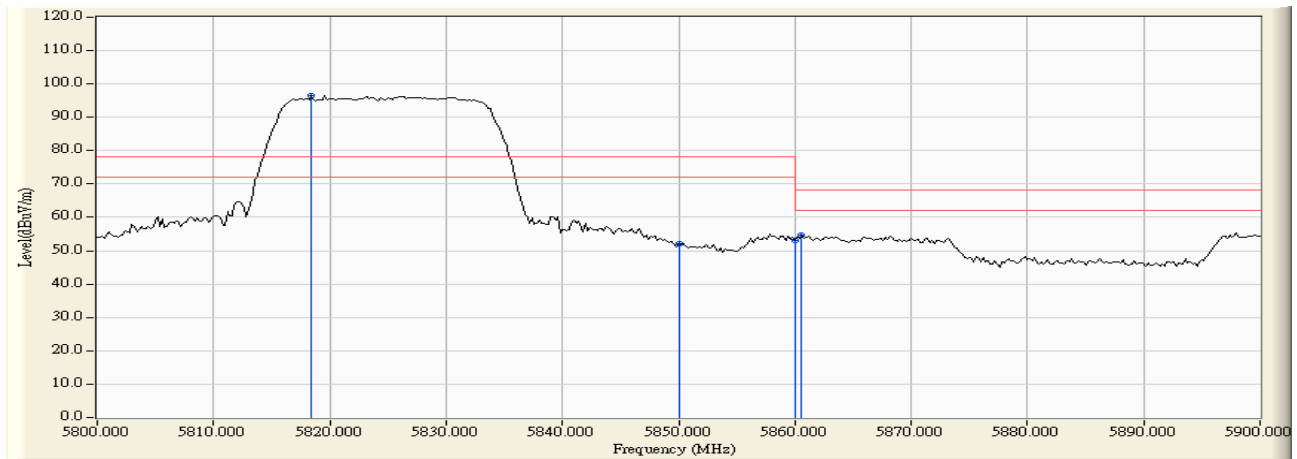
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 165

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5818.400	6.000	90.401	96.401	18.181	78.220	Pass
Vertical	5850.000	6.037	45.936	51.973	-26.247	78.220	Pass
Vertical	5860.000	6.047	47.106	53.153	-15.067	68.220	Pass
Vertical	5860.600	6.049	48.751	54.799	-13.421	68.220	Pass



Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5149.600	3.342	50.444	53.786	74.00	54.00	Pass
38 (Peak)	5150.000	3.340	49.256	52.596	74.00	54.00	Pass
38 (Peak)	5198.600	3.157	87.960	91.118	--	--	--
38 (Average)	5150.000	3.340	37.088	40.428	74.00	54.00	Pass
38 (Average)	5198.600	3.157	74.622	77.780	--	--	--

Figure Channel 38: Horizontal (Peak)

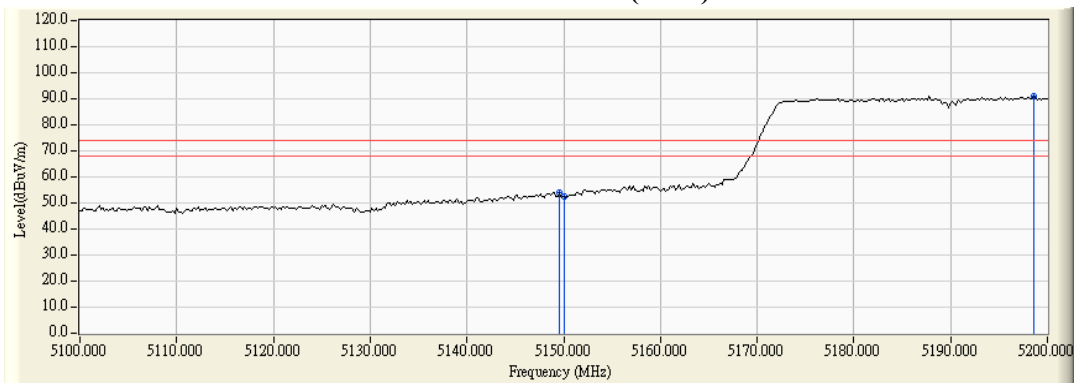
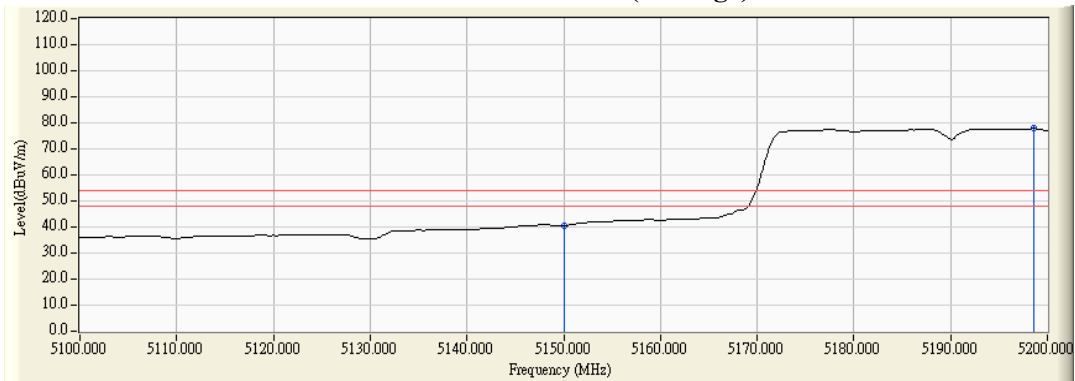


Figure Channel 38: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Result
38 (Peak)	5148.000	5.254	54.009	59.263	74.00	54.00	Pass
38 (Peak)	5150.000	5.260	52.746	58.006	74.00	54.00	Pass
38 (Peak)	5196.800	5.379	91.285	96.664	--	--	--
38 (Average)	5150.000	5.260	40.182	45.442	74.00	54.00	Pass
38 (Average)	5198.600	5.382	78.539	83.921	--	--	--

Figure Channel 38: Vertical (Peak)

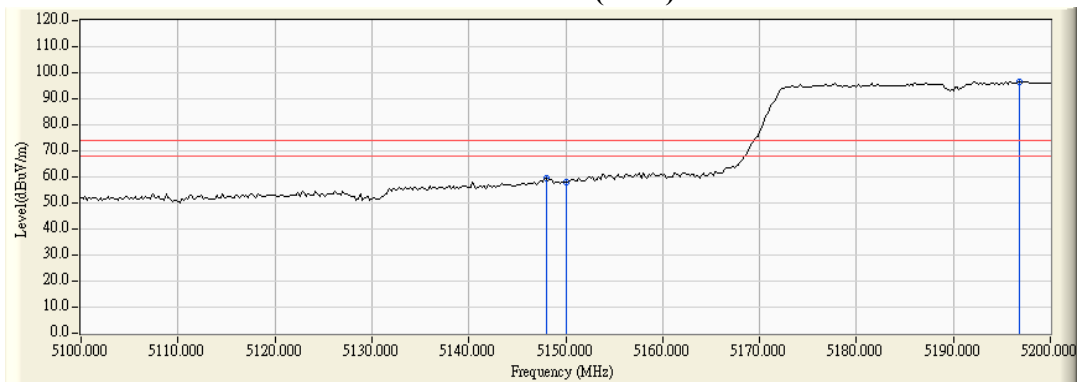
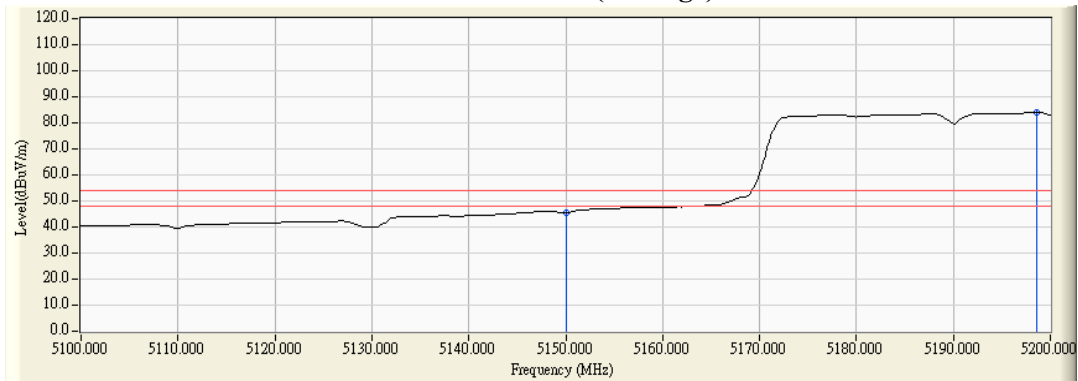


Figure Channel 38: Vertical (Average)



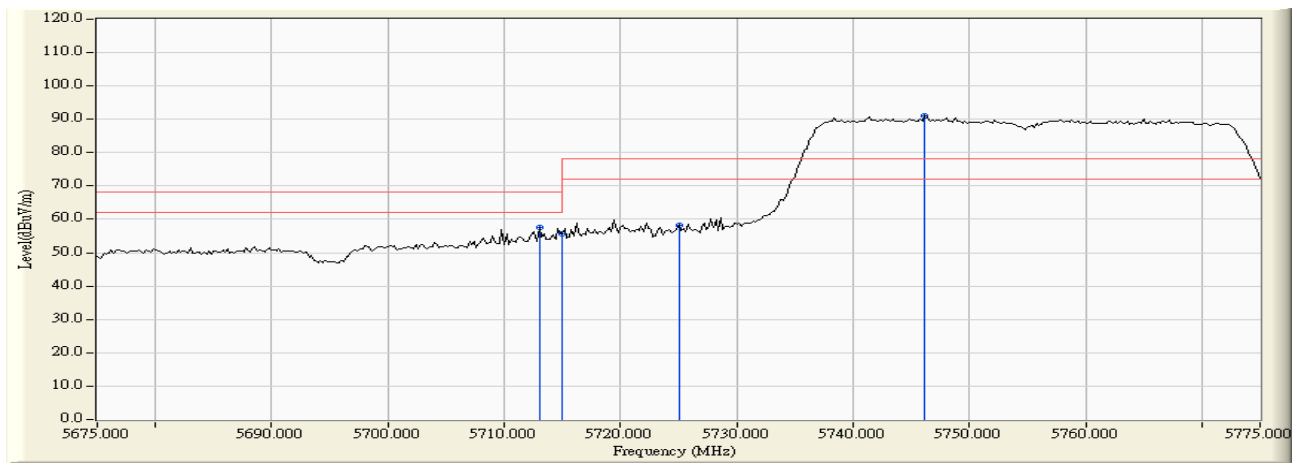
Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 151

RF Radiated Measurement (Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5713.000	4.652	52.794	57.445	-10.775	68.220	Pass
Horizontal	5715.000	4.652	50.940	55.592	-12.628	68.220	Pass
Horizontal	5725.000	4.654	53.453	58.107	-20.113	78.220	Pass
Horizontal	5746.200	4.657	86.379	91.036	12.816	78.220	Pass



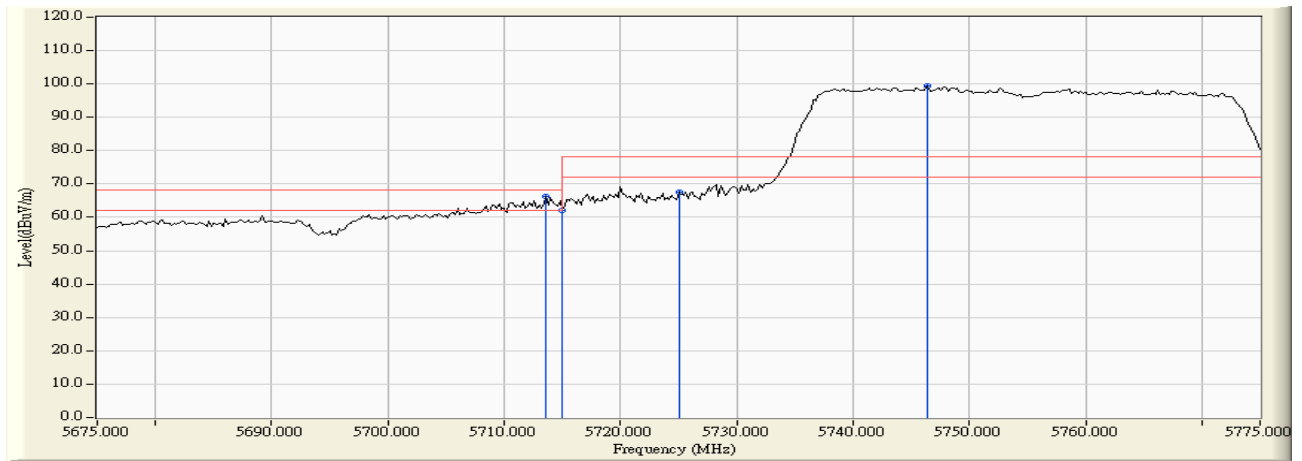
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 151

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5713.600	5.994	60.399	66.393	-1.827	68.220	Pass
Vertical	5715.000	5.994	55.983	61.977	-6.243	68.220	Pass
Vertical	5725.000	5.992	61.715	67.708	-10.512	78.220	Pass
Vertical	5746.400	5.989	93.416	99.405	21.185	78.220	Pass



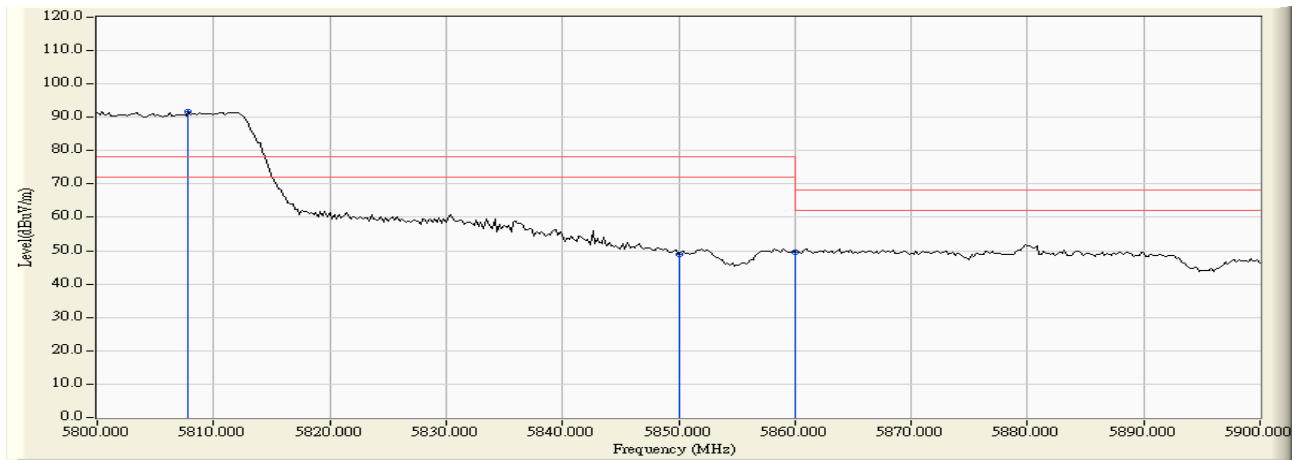
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 159

RF Radiated Measurement (Horizontal):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5807.800	4.718	86.940	91.658	13.438	78.220	--
Horizontal	5850.000	4.964	44.050	49.014	-29.206	78.220	Pass
Horizontal	5860.000	5.023	44.456	49.479	-18.741	68.220	Pass



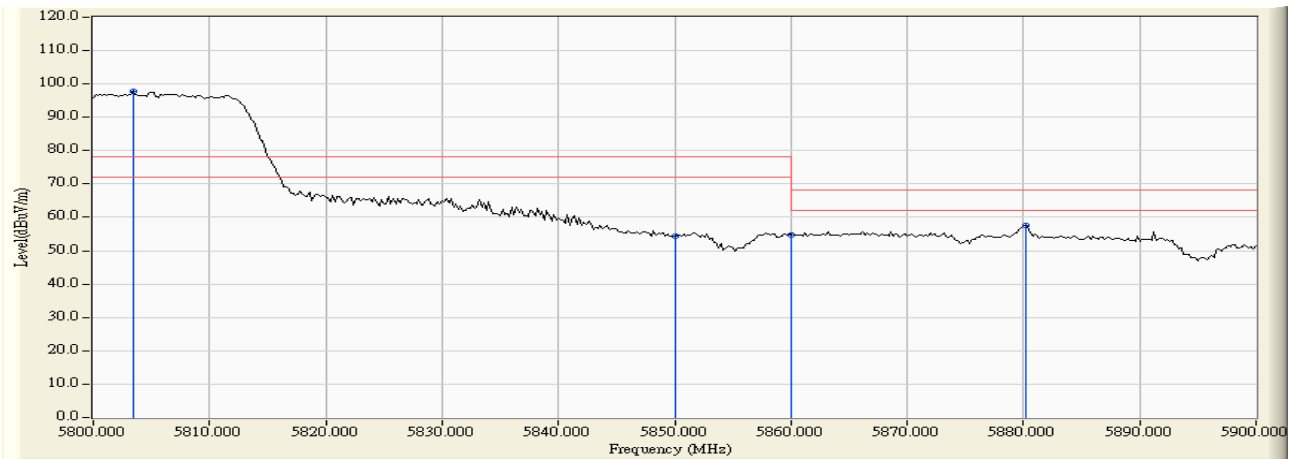
Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

Product : Network Media Module
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 159

RF Radiated Measurement (Vertical):

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5803.400	5.982	91.688	97.671	19.451	78.220	Pass
Vertical	5850.000	6.037	48.345	54.382	-23.838	78.220	Pass
Vertical	5860.000	6.047	48.728	54.775	-13.445	68.220	Pass
Vertical	5880.200	6.071	51.459	57.529	-10.691	68.220	Pass



Note:

1. All readings above 1GHz are performed with peak measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. “ * ”, means this data is the worst emission level.
4. Measurement Level = Reading Level + Correct Factor.

7. Occupied Bandwidth

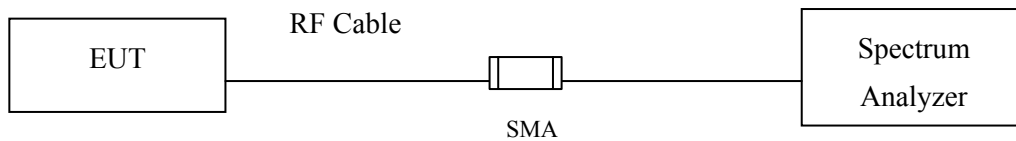
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

7.2. Test Setup



7.3. Limits

For the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

7.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.5. Uncertainty

± 150Hz

7.6. Test Result of Occupied Bandwidth

Product : Network Media Module
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	16450	>500	Pass
157	5785	16400	>500	Pass
165	5825	16450	>500	Pass

Figure Channel 149:

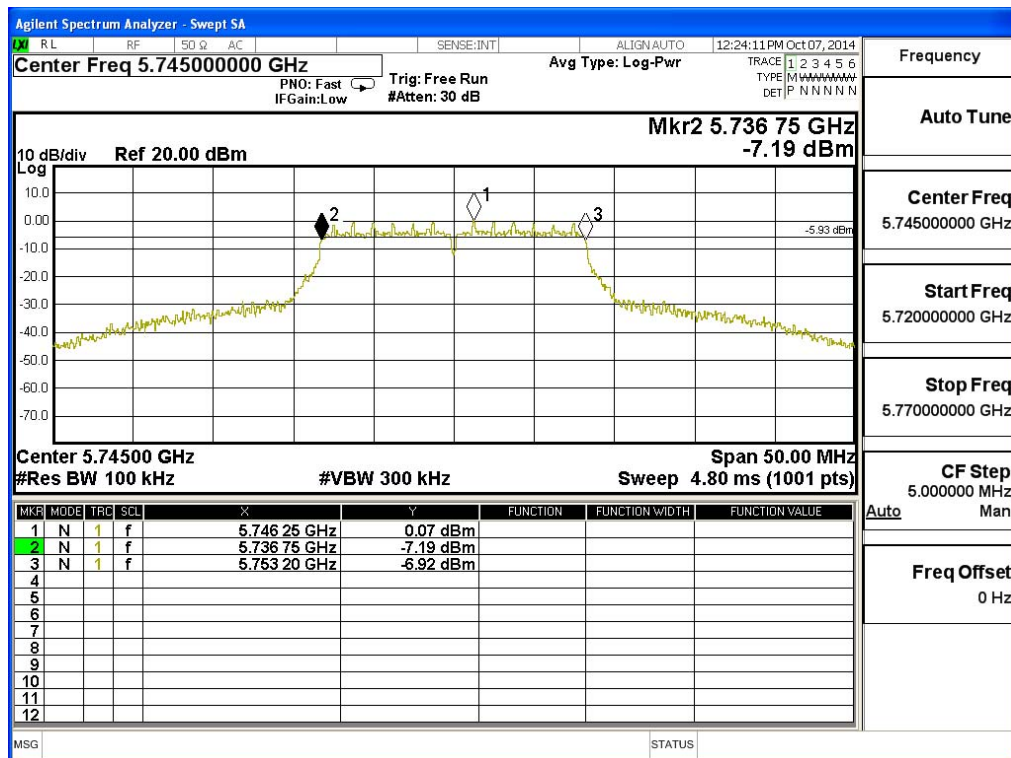


Figure Channel 157:

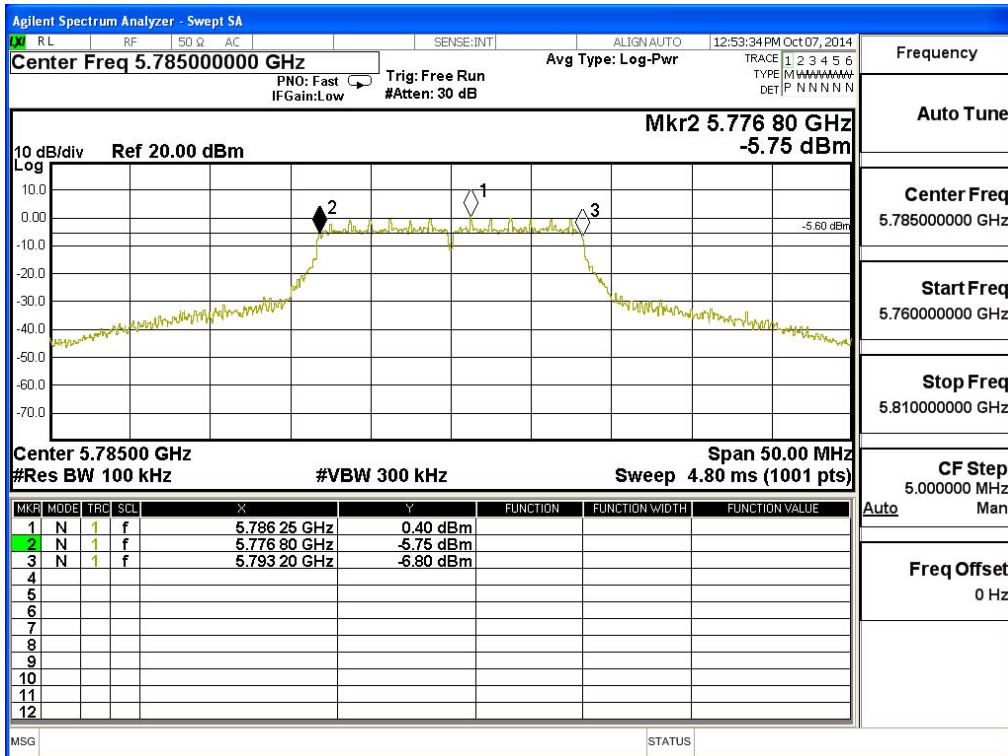
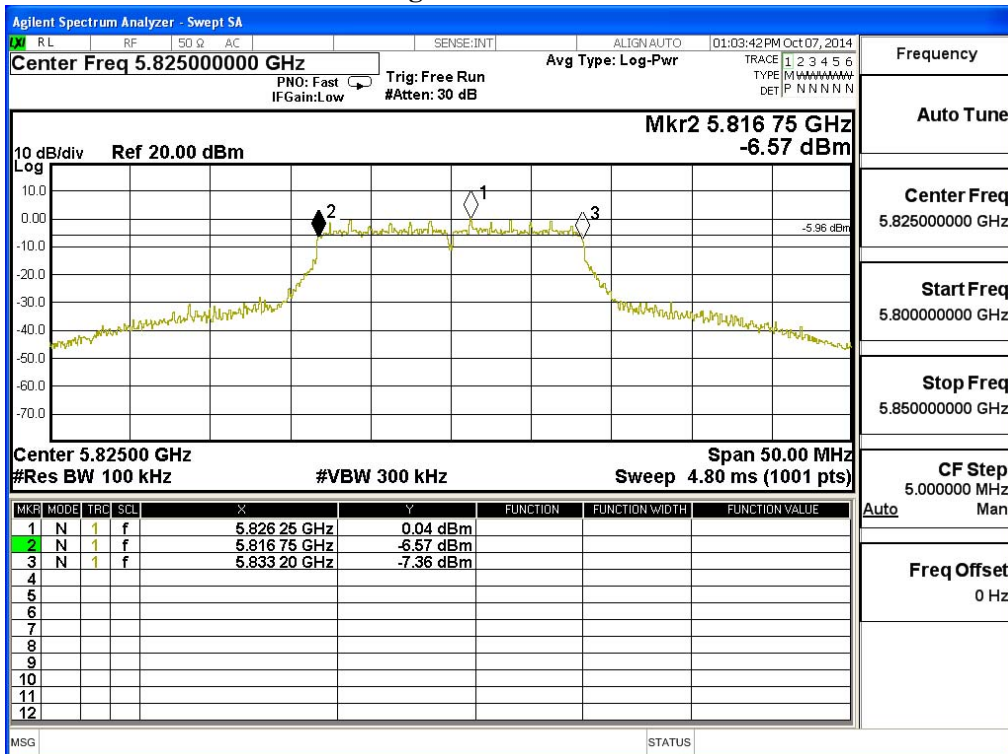


Figure Channel 165:



Product : Network Media Module
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	17650	>500	Pass
157	5785	17650	>500	Pass
165	5825	17650	>500	Pass

Figure Channel 149:

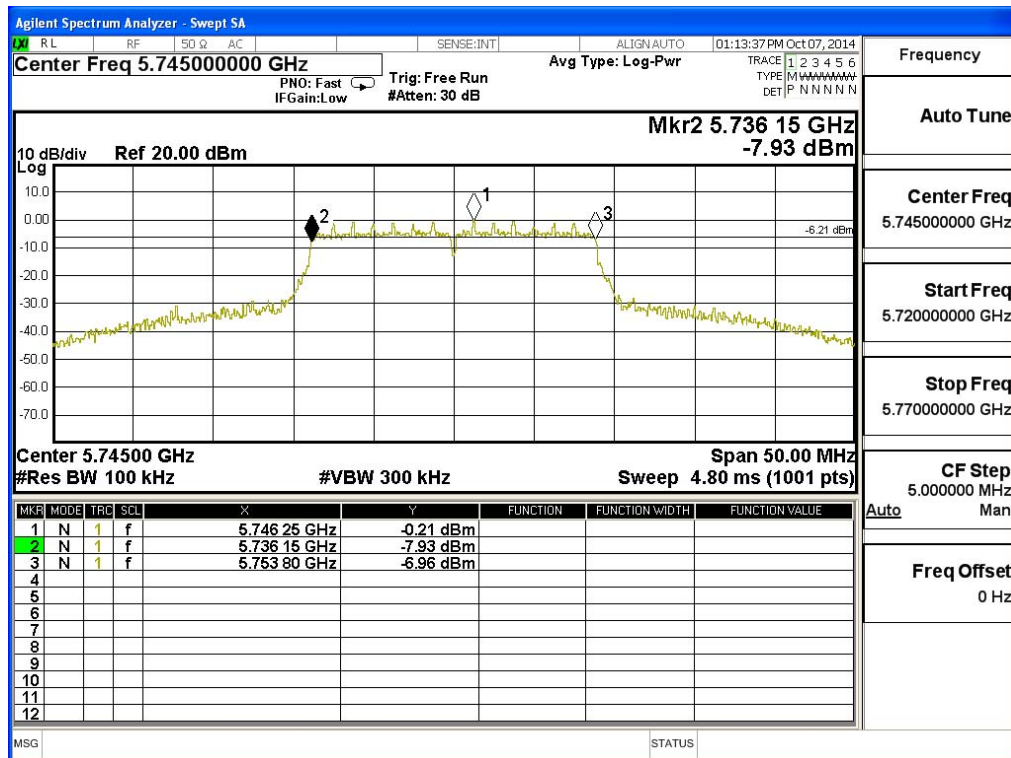


Figure Channel 157:

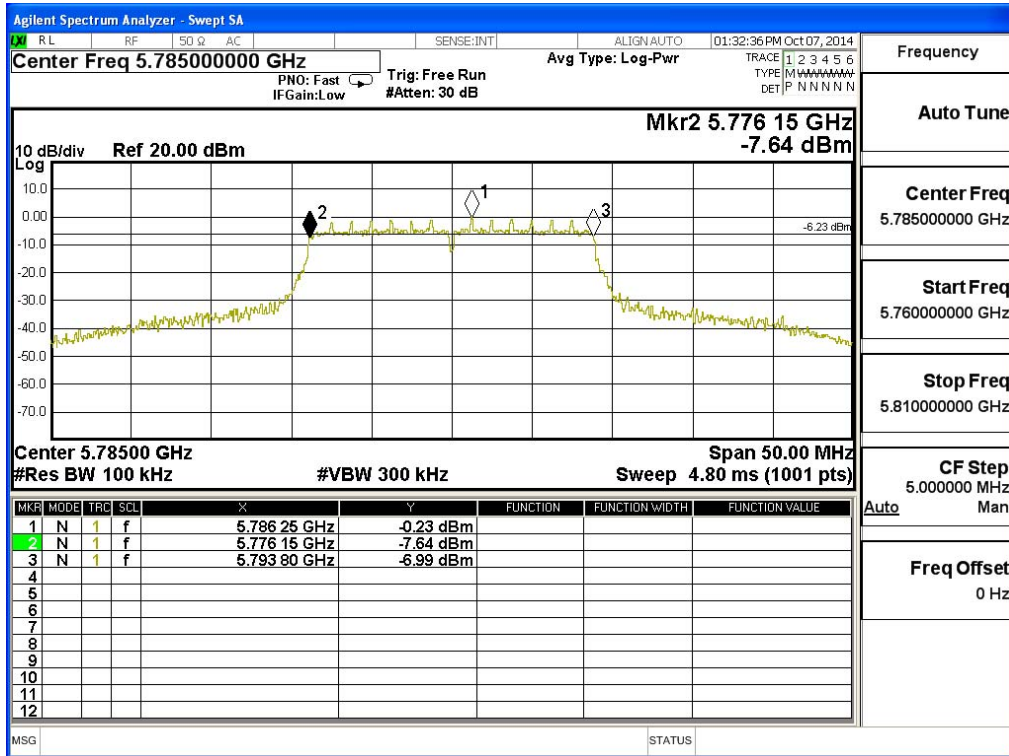
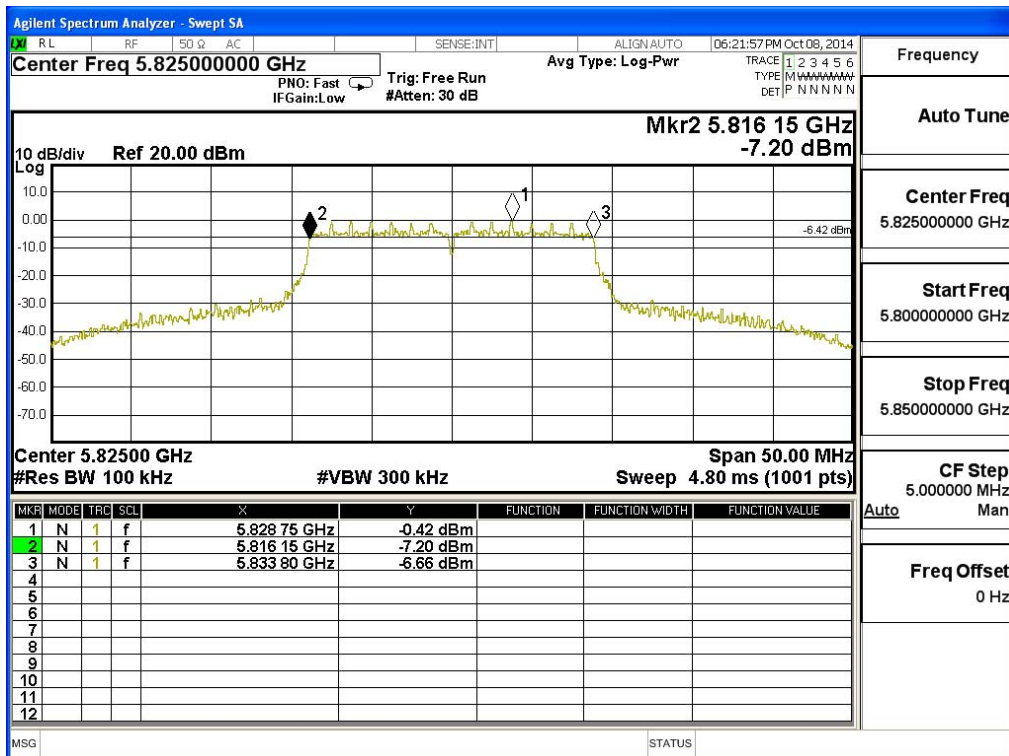


Figure Channel 165:



Product : Network Media Module
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755	36500	>500	Pass
159	5795	36500	>500	Pass

Figure Channel 151:

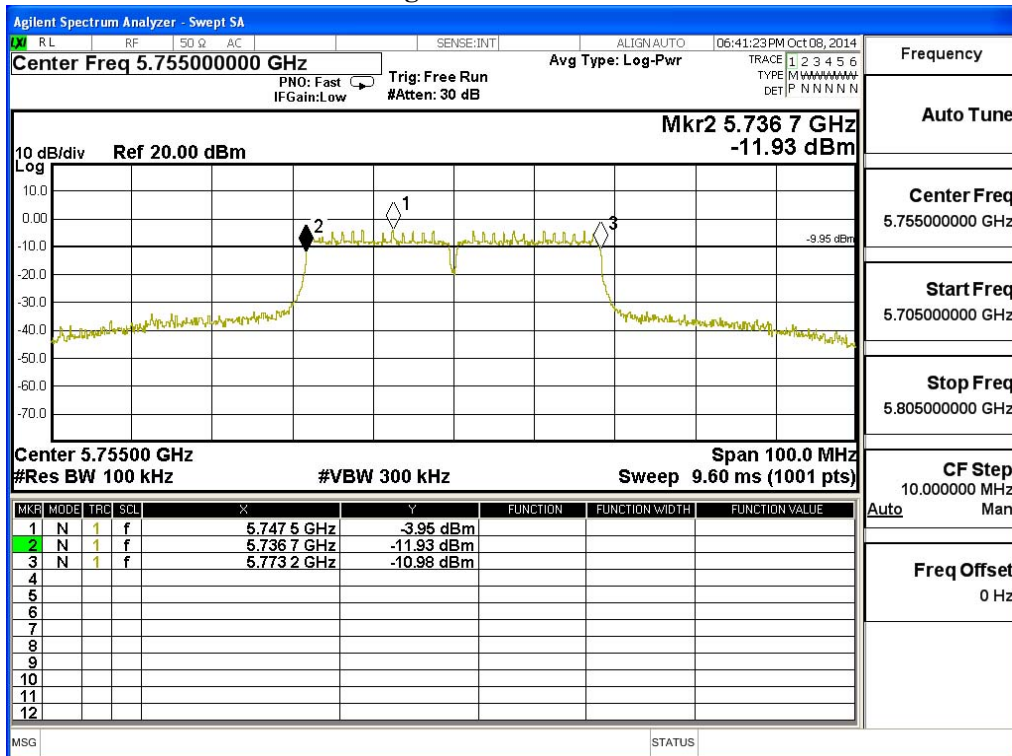
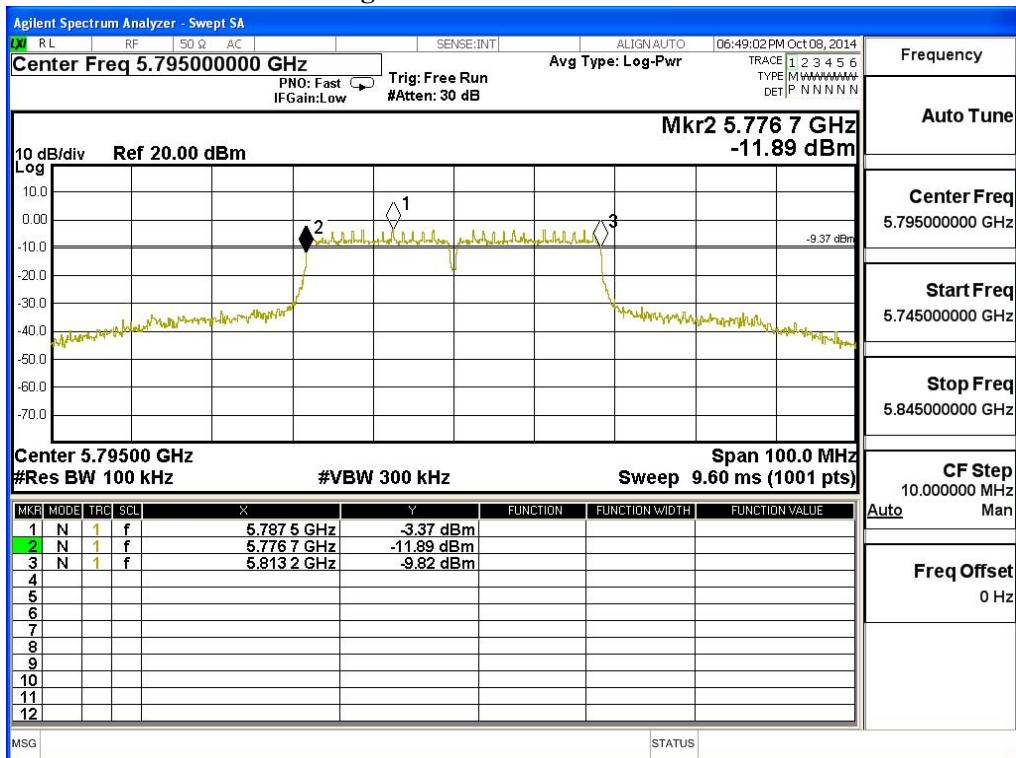


Figure Channel 159:



Frequency	
Auto Tune	
Center Freq	5.79500000 GHz
Start Freq	5.74500000 GHz
Stop Freq	5.84500000 GHz
CF Step	10.000000 MHz
Auto Man	
Freq Offset	0 Hz

8. Frequency Stability

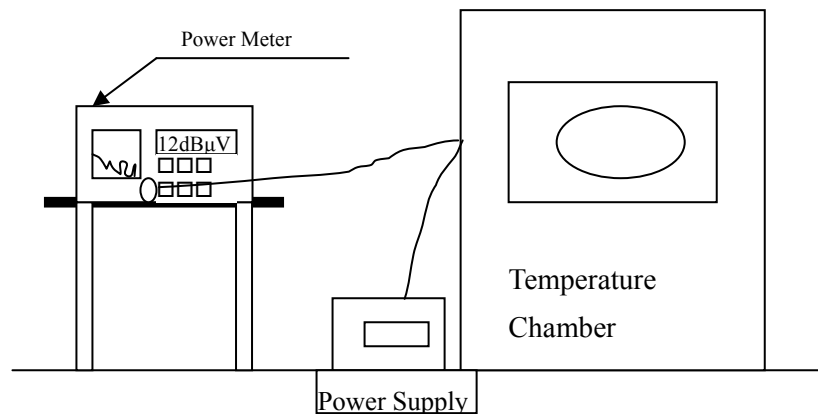
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

8.2. Test Setup



8.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

8.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

8.5. Uncertainty

± 150 Hz

8.6. Test Result of Frequency Stability

Product : Network Media Module
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Carrier Wave

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.2300	-0.2300
		38	5190.0000	5190.0026	-0.0026
		44	5220.0000	5220.0015	-0.0015
		46	5230.0000	5230.0054	-0.0054
		48	5240.0000	5240.0048	-0.0048
		149	5745.0000	5745.0037	-0.0037
		151	5755.0000	5755.0021	-0.0021
		157	5785.0000	5785.0026	-0.0026
		159	5795.0000	5795.0034	-0.0034
		165	5825.0000	5825.0011	-0.0011
Tmax (70) °C	Vmax (132)V	36	5180.0000	5180.0027	-0.0027
		38	5190.0000	5190.0026	-0.0026
		44	5220.0000	5220.0018	-0.0018
		46	5230.0000	5230.0057	-0.0057
		48	5240.0000	5240.0045	-0.0045
		149	5745.0000	5745.0101	-0.0101
		151	5755.0000	5755.0754	-0.0754
		157	5785.0000	5785.0903	-0.0903
		159	5795.0000	5795.0034	-0.0034
		165	5825.0000	5825.0058	-0.0058

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tmax (70) °C	Vmin (108)V	36	5180.0000	5180.0065	-0.0065
		38	5190.0000	5190.0028	-0.0028
		44	5220.0000	5220.0014	-0.0014
		46	5230.0000	5230.0054	-0.0054
		48	5240.0000	5240.0058	-0.0058
		149	5745.0000	5745.0200	-0.0200
		151	5755.0000	5755.0312	-0.0312
		157	5785.0000	5785.0011	-0.0011
		159	5795.0000	5795.0102	-0.0102
		165	5825.0000	5825.0003	-0.0003
Tnom (0) °C	Vnom (132)V	36	5180.0000	5180.0057	-0.0057
		38	5190.0000	5190.0024	-0.0024
		44	5220.0000	5220.0018	-0.0018
		46	5230.0000	5230.0058	-0.0058
		48	5240.0000	5240.0047	-0.0047
		149	5745.0000	5745.0012	-0.0012
		151	5755.0000	5755.0037	-0.0037
		157	5785.0000	5785.0100	-0.0100
		159	5795.0000	5795.0030	-0.0030
		165	5825.0000	5825.0017	-0.0017
Tmax (0) °C	Vmax (108)V	36	5180.0000	5180.2300	-0.2300
		38	5190.0000	5190.0026	-0.0026
		44	5220.0000	5220.0015	-0.0015
		46	5230.0000	5230.0054	-0.0054
		48	5240.0000	5240.0036	-0.0036
		149	5745.0000	5745.0019	-0.0019
		151	5755.0000	5755.0035	-0.0035
		157	5785.0000	5785.0101	-0.0101
		159	5795.0000	5795.0039	-0.0039
		165	5825.0000	5825.0029	-0.0029

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 4: Pretest Data

Attachment 4 : Pretest Data

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Transmit (5GHz) for M/N: CY920-C (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
Line 1					
Quasi-Peak					
0.193	9.650	38.130	47.780	-16.991	64.771
0.279	9.655	24.690	34.345	-27.969	62.314
0.388	9.661	19.690	29.351	-29.849	59.200
0.654	9.675	33.740	43.415	-12.585	56.000
0.931	9.690	27.090	36.780	-19.220	56.000
1.755	9.747	24.960	34.708	-21.292	56.000
Average					
0.193	9.650	28.210	37.860	-16.911	54.771
0.279	9.655	9.910	19.565	-32.749	52.314
0.388	9.661	10.480	20.141	-29.059	49.200
0.654	9.675	25.630	35.305	-10.695	46.000
0.931	9.690	16.560	26.250	-19.750	46.000
1.755	9.747	14.430	24.178	-21.822	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Transmit (5GHz) for M/N: CY920-C (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 2					
Quasi-Peak					
0.189	9.660	36.310	45.970	-18.916	64.886
0.306	9.657	25.240	34.897	-26.646	61.543
0.400	9.661	23.630	33.291	-25.566	58.857
0.611	9.673	33.820	43.493	-12.507	56.000
0.806	9.693	29.950	39.643	-16.357	56.000
1.349	9.723	27.860	37.583	-18.417	56.000
Average					
0.189	9.660	27.470	37.130	-17.756	54.886
0.306	9.657	17.960	27.617	-23.926	51.543
0.400	9.661	15.770	25.431	-23.426	48.857
0.611	9.673	24.770	34.443	-11.557	46.000
0.806	9.693	19.780	29.473	-16.527	46.000
1.349	9.723	16.550	26.273	-19.727	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Transmit (5GHz) for M/N: CY920-C (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 1					
Quasi-Peak					
0.193	9.650	37.680	47.330	-17.441	64.771
0.295	9.656	25.030	34.686	-27.171	61.857
0.404	9.662	19.500	29.162	-29.581	58.743
0.623	9.673	32.820	42.493	-13.507	56.000
0.802	9.683	26.660	36.343	-19.657	56.000
1.334	9.722	26.120	35.842	-20.158	56.000
Average					
0.193	9.650	27.860	37.510	-17.261	54.771
0.295	9.656	13.210	22.866	-28.991	51.857
0.404	9.662	11.100	20.762	-27.981	48.743
0.623	9.673	23.210	32.883	-13.117	46.000
0.802	9.683	17.320	27.003	-18.997	46.000
1.334	9.722	15.970	25.692	-20.308	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Transmit (5GHz) for M/N: CY920-C (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 2					
Quasi-Peak					
0.201	9.660	35.100	44.760	-19.783	64.543
0.302	9.658	24.760	34.418	-27.239	61.657
0.408	9.662	23.670	33.332	-25.297	58.629
0.658	9.675	33.880	43.555	-12.445	56.000
0.826	9.695	29.630	39.325	-16.675	56.000
1.337	9.722	27.740	37.462	-18.538	56.000
Average					
0.201	9.660	28.040	37.700	-16.843	54.543
0.302	9.658	17.910	27.568	-24.089	51.657
0.408	9.662	16.170	25.832	-22.797	48.629
0.658	9.675	26.530	36.205	-9.795	46.000
0.826	9.695	19.470	29.165	-16.835	46.000
1.337	9.722	17.930	27.652	-18.348	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Transmit (5GHz) for M/N: CY920-A (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 1					
Quasi-Peak					
0.201	9.650	37.990	47.640	-16.903	64.543
0.650	9.675	32.410	42.085	-13.915	56.000
1.025	9.695	26.620	36.315	-19.685	56.000
1.345	9.723	27.420	37.143	-18.857	56.000
1.873	9.762	22.760	32.522	-23.478	56.000
2.994	9.803	20.580	30.383	-25.617	56.000
Average					
0.201	9.650	28.260	37.910	-16.633	54.543
0.650	9.675	24.180	33.855	-12.145	46.000
1.025	9.695	16.440	26.135	-19.865	46.000
1.345	9.723	15.860	25.583	-20.417	46.000
1.873	9.762	12.440	22.202	-23.798	46.000
2.994	9.803	11.650	21.453	-24.547	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Transmit (5GHz) for M/N: CY920-A (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 2					
Quasi-Peak					
0.201	9.660	35.390	45.050	-19.493	64.543
0.279	9.665	24.350	34.015	-28.299	62.314
0.408	9.662	24.350	34.012	-24.617	58.629
0.611	9.673	33.820	43.493	-12.507	56.000
0.931	9.700	29.250	38.950	-17.050	56.000
1.962	9.767	25.580	35.347	-20.653	56.000
Average					
0.201	9.660	28.300	37.960	-16.583	54.543
0.279	9.665	13.910	23.575	-28.739	52.314
0.408	9.662	16.680	26.342	-22.287	48.629
0.611	9.673	24.680	34.353	-11.647	46.000
0.931	9.700	19.100	28.800	-17.200	46.000
1.962	9.767	16.470	26.237	-19.763	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Transmit (5GHz) for M/N: CY920-A (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V	Margin dB	Limit dB μ V
Line 1					
Quasi-Peak					
0.185	9.651	37.140	46.791	-18.209	65.000
0.298	9.656	24.730	34.386	-27.385	61.771
0.505	9.667	25.210	34.877	-21.123	56.000
0.650	9.675	32.330	42.005	-13.995	56.000
0.935	9.691	25.150	34.841	-21.159	56.000
1.787	9.757	23.660	33.417	-22.583	56.000
Average					
0.185	9.651	25.620	35.271	-19.729	55.000
0.298	9.656	13.680	23.336	-28.435	51.771
0.505	9.667	16.450	26.117	-19.883	46.000
0.650	9.675	24.130	33.805	-12.195	46.000
0.935	9.691	14.710	24.401	-21.599	46.000
1.787	9.757	11.730	21.487	-24.513	46.000

Note:

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

Product : Network Media Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Transmit (5GHz) for M/N: CY920-A (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dBμV	Measurement Level dBμV	Margin dB	Limit dBμV
Line 2					
Quasi-Peak					
0.209	9.661	32.320	41.981	-22.333	64.314
0.408	9.662	23.770	33.432	-25.197	58.629
0.654	9.675	34.210	43.885	-12.115	56.000
1.017	9.705	27.500	37.205	-18.795	56.000
1.962	9.767	24.680	34.447	-21.553	56.000
17.201	10.156	16.540	26.696	-33.304	60.000
Average					
0.209	9.661	23.720	33.381	-20.933	54.314
0.408	9.662	16.170	25.832	-22.797	48.629
0.654	9.675	26.050	35.725	-10.275	46.000
1.017	9.705	16.200	25.905	-20.095	46.000
1.962	9.767	15.950	25.717	-20.283	46.000
17.201	10.156	9.540	19.696	-30.304	50.000

Note:

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

Product : Network Media Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Transmit (5GHz) for M/N: CY920-C (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
107.600	-7.597	34.490	26.893	-16.607	43.500
225.940	-9.647	44.883	35.236	-10.764	46.000
365.620	0.382	33.763	34.145	-11.855	46.000
600.360	3.472	26.384	29.856	-16.144	46.000
800.180	6.417	24.940	31.357	-14.643	46.000
951.500	6.993	24.981	31.974	-14.026	46.000
Vertical					
43.580	-10.919	41.976	31.057	-8.943	40.000
262.800	-4.944	33.778	28.834	-17.166	46.000
511.120	0.783	23.826	24.609	-21.391	46.000
689.600	2.302	22.662	24.964	-21.036	46.000
817.640	2.966	23.702	26.668	-19.332	46.000
920.460	3.272	23.924	27.196	-18.804	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz

Product : Network Media Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Transmit (5GHz) for M/N: CY920-C (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
159.980	-10.030	39.087	29.056	-14.444	43.500
264.740	-5.501	34.376	28.876	-17.124	46.000
433.520	0.841	26.825	27.666	-18.334	46.000
633.340	1.530	28.323	29.853	-16.147	46.000
800.180	6.417	26.726	33.143	-12.857	46.000
930.160	7.530	23.045	30.575	-15.425	46.000
Vertical					
43.580	-10.919	42.493	31.574	-8.426	40.000
192.960	-5.655	31.358	25.703	-17.797	43.500
379.200	0.881	24.831	25.712	-20.288	46.000
596.480	0.907	23.416	24.323	-21.677	46.000
757.500	2.487	23.961	26.448	-19.552	46.000
901.060	1.858	22.760	24.618	-21.382	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz

Product : Network Media Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Transmit (5GHz) for M/N: CY920-A (Main Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
107.600	-7.597	33.823	26.226	-17.274	43.500
225.940	-9.647	42.540	32.893	-13.107	46.000
373.380	0.873	30.741	31.614	-14.386	46.000
575.140	3.025	25.616	28.641	-17.359	46.000
701.240	2.759	28.049	30.808	-15.192	46.000
897.180	5.487	23.367	28.854	-17.146	46.000
Vertical					
43.580	-10.919	41.447	30.528	-9.472	40.000
175.500	-1.842	28.100	26.258	-17.242	43.500
363.680	0.079	24.772	24.851	-21.149	46.000
536.340	1.609	25.519	27.128	-18.872	46.000
771.080	2.766	24.031	26.798	-19.202	46.000
930.160	3.830	23.422	27.252	-18.748	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss - Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz

Product : Network Media Module
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Transmit (5GHz) for M/N: CY920-A (2nd Source)

Frequency MHz	Correct Factor dB	Reading Level dB μ V	Measurement Level dB μ V/m	Margin dB	Limit dB μ V/m
Horizontal					
119.240	-7.291	35.094	27.804	-15.696	43.500
225.940	-9.647	42.339	32.692	-13.308	46.000
365.620	0.382	34.781	35.163	-10.837	46.000
526.640	3.112	26.350	29.462	-16.538	46.000
701.240	2.759	27.530	30.289	-15.711	46.000
879.720	6.618	23.824	30.442	-15.558	46.000
Vertical					
43.580	-10.919	42.949	32.030	-7.970	40.000
177.440	-1.248	28.006	26.758	-16.742	43.500
373.380	0.043	25.261	25.304	-20.696	46.000
538.280	1.996	24.180	26.176	-19.824	46.000
782.720	2.757	26.346	29.103	-16.897	46.000
930.160	3.830	23.777	27.607	-18.393	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz