FCC Test Report

Product Name	AerialCast
Model No	WN4507L
FCC ID.	PPQ-WN4507L

Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho,New Taipei City 23585, Taiwan, R.O.C.

Date of Receipt	Nov. 05, 2013
Issue Date	Nov. 27, 2013
Report No.	13B0101R-RFUSP27V00
Report Version	V1.0

Testing Laboratory
0914

Test Report Certification

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Product Name	AerialCast
Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho,New Taipei City 23585, Taiwan, R.O.C.
Manufacturer	1. Lite-On Technology (Changzhou) Co., Ltd. 2. DONG GUAN G-COM COMPUTER CO., LTD
Model No.	WN4507L
EUT Rated Voltage	DC 5V by USB
EUT Test Voltage	AC 120V/60Hz
Trade Name	acer
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2012 ANSI C63.4: 2003, ANSI C63.10: 2009, KDB 558074
Test Result	Complied

The test results relate only to the samples tested.
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Tested By : Andy Lin
(Engineer / Andy Lin)

Approved By :
(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	AerialCast
Trade Name	acer
Model No.	WN4507L
FCC ID.	PPQ-WN4507L
Frequency Range	802.11b/g/n-20MHz:2412-2462MHz,802.11n-40MHz:2422-2452MHz 802.11a/n-20MHz:5745-5825MHz ,802.11n-40MHz:5755-5795MHz
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7 802.11a/n-20MHz: 5, n-40MHz: 2
Data Speed	802.11b: 1-11Mbps, 802.11a/g: 6-54Mbps, 802.11n: up to 300Mbps
Channel separation	802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20MHz: 20MHz 802.11n-40MHz: 40MHz
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11a/g/n: OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna Type	Printed on PCB
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
HDMI Cable	Shielded, 0.1m
USB Cable	Shielded, 0.8m
Power Adapter	MFR: PCD, M/N: DSA-5PFK-05 FUS Input: AC 100V-240V~50/60Hz Output: DC 5V, 1A

Antenna List

No.	Manufacturer	Part No.	Peak Gain	Note
1	Lite-On	Dongle	Printed on PCB	1.13dBi for 2.4GHz 2.70dBi for 5.725~5.850GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

802.11n-40MHz (2.4G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2422 MHz	Channel 2:	2427 MHz	Channel 3:	2432 MHz	Channel 4:	2437 MHz
Channel 5:	2442 MHz	Channel 6:	2447 MHz	Channel 7:	2452 MHz		

802.11n-40MHz (5G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency
Channel 151:	5755 MHz	Channel 159:	5795 MHz

Note:

1. This device is an AerialCast with a built-in WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps、802.11a/g is 6Mbps、802.11n(20M-BW) is 14.4Mbps and 、802.11n(40M-BW) is 30Mbps).
4. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11b is chain B、802.11g is chain B、802.11a is chain B)
5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11a/b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit - 802.11a 6Mbps
	Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)
	Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)
	Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)
	Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

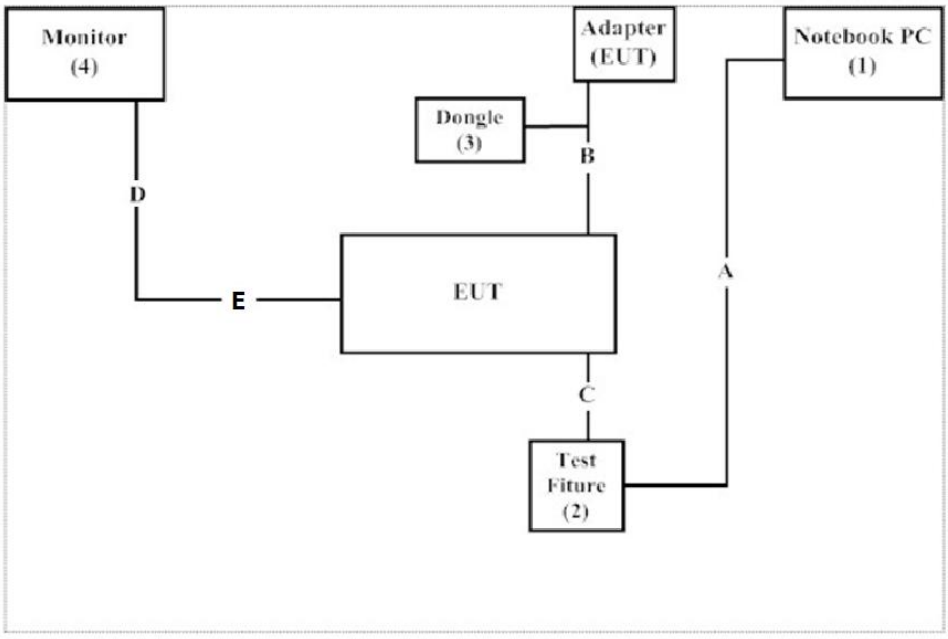
1.3. Tested System Details

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)	Notebook PC	lenovo	Think PAD X60	N/A	Non-Shielded, 0.8m
(2)	Test Fixture	LITE ON	N/A	N/A	N/A
(3)	FLASH	Transcend	JetFlash110	155422-2931	N/A
(4)	Monitor	Dell	ST232QLF	CN-QM2NN6-72872-22I-C9WS	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 1.0m
B	USB Cable	Non-Shielded, 0.8m
C	Signal Cable	Non-Shielded, 0.05m
D	HDMI Extender Cable	Shielded, 1.0m
E	HDMI Cable	Shielded, 0.1m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4

(2) Execute “Tera Term v4.67” program on the Notebook PC.

(3) Configure the test mode, the test channel, and the data rate.

(4) Start the continuous transmission.

(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://www.quietek.com/tw/ctg/cts/accreditations.htm
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

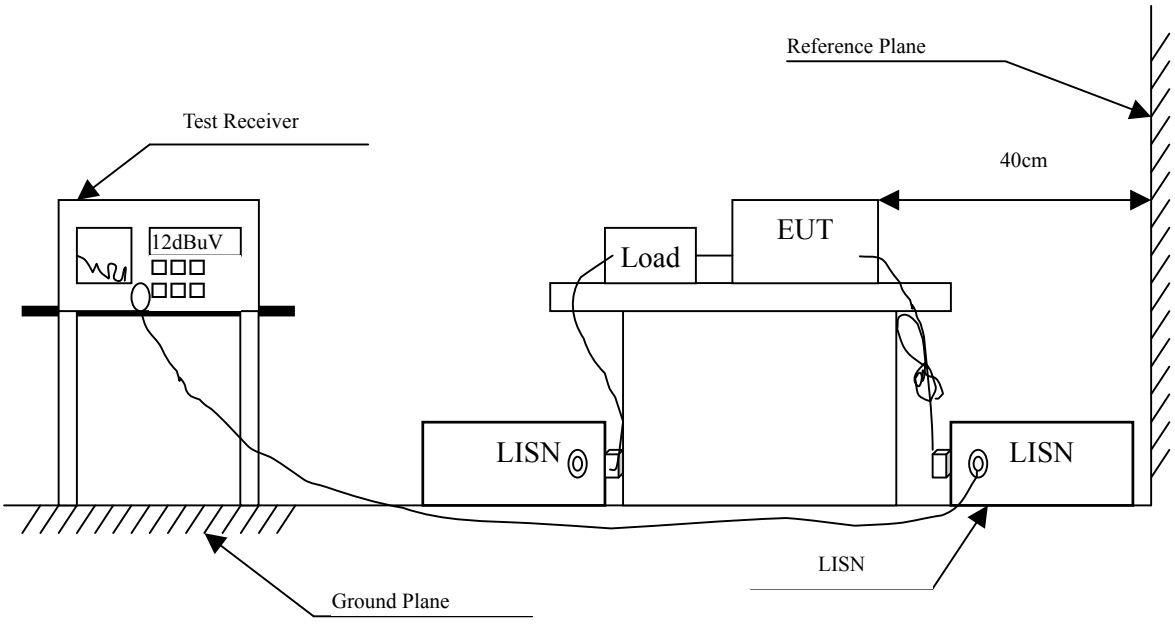
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2013	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2013	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2013	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2013	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2013	
	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 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

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 invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : AerialCast
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.396	9.708	31.570	41.278	-17.693	58.971
0.459	9.710	24.290	34.000	-23.171	57.171
0.591	9.716	24.640	34.356	-21.644	56.000
0.900	9.731	18.870	28.601	-27.399	56.000
1.216	9.745	20.650	30.395	-25.605	56.000
5.334	9.830	23.280	33.110	-26.890	60.000
Average					
0.396	9.708	25.040	34.748	-14.223	48.971
0.459	9.710	15.730	25.440	-21.731	47.171
0.591	9.716	16.240	25.956	-20.044	46.000
0.900	9.731	11.160	20.891	-25.109	46.000
1.216	9.745	12.170	21.915	-24.085	46.000
5.334	9.830	14.480	24.310	-25.690	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 : AerialCast
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.275	9.682	27.510	37.192	-25.237	62.429
0.404	9.688	33.700	43.388	-15.355	58.743
0.689	9.701	25.440	35.141	-20.859	56.000
1.060	9.728	20.980	30.708	-25.292	56.000
4.685	9.820	24.560	34.380	-21.620	56.000
17.509	9.990	25.960	35.950	-24.050	60.000
Average					
0.275	9.682	20.930	30.612	-21.817	52.429
0.404	9.688	29.480	39.168	-9.575	48.743
0.689	9.701	20.070	29.771	-16.229	46.000
1.060	9.728	14.360	24.088	-21.912	46.000
4.685	9.820	17.130	26.950	-19.050	46.000
17.509	9.990	15.250	25.240	-24.760	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 : AerialCast
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.400	9.708	32.750	42.458	-16.399	58.857
0.463	9.711	23.950	33.661	-23.396	57.057
0.634	9.718	24.940	34.658	-21.342	56.000
0.849	9.728	19.930	29.658	-26.342	56.000
1.064	9.738	22.300	32.038	-23.962	56.000
1.732	9.778	19.850	29.628	-26.372	56.000
Average					
0.400	9.708	24.710	34.418	-14.439	48.857
0.463	9.711	14.560	24.271	-22.786	47.057
0.634	9.718	15.540	25.258	-20.742	46.000
0.849	9.728	9.480	19.208	-26.792	46.000
1.064	9.738	11.620	21.358	-24.642	46.000
1.732	9.778	10.870	20.648	-25.352	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 : AerialCast
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.201	9.679	24.330	34.009	-30.534	64.543
0.302	9.683	27.640	37.323	-24.334	61.657
0.365	9.686	33.960	43.646	-16.211	59.857
0.486	9.692	24.920	34.612	-21.788	56.400
0.759	9.714	26.610	36.324	-19.676	56.000
17.099	9.980	28.390	38.370	-21.630	60.000
Average					
0.201	9.679	16.720	26.399	-28.144	54.543
0.302	9.683	22.560	32.243	-19.414	51.657
0.365	9.686	29.660	39.346	-10.511	49.857
0.486	9.692	20.210	29.902	-16.498	46.400
0.759	9.714	21.620	31.334	-14.666	46.000
17.099	9.980	18.020	28.000	-22.000	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. Maximum Conducted Power

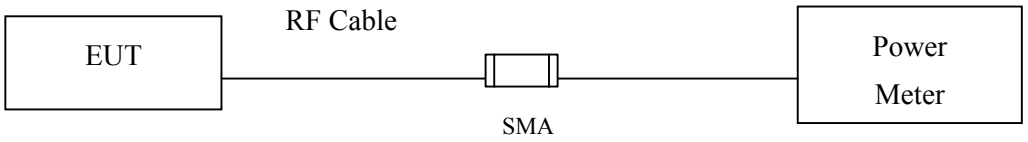
3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2013
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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



3.3. Limits

The maximum average power shall be less 1 Watt. (Section 15.247 (b)(3))

3.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Maximum Conducted Power

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	16.09	--	--	--	18.25	<30dBm	Pass
06	2437	15.98	15.72	15.6	15.38	18.24	<30dBm	Pass
11	2462	15.26	--	--	--	18.22	<30dBm	Pass

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	16.23	--	--	--	18.47	<30dBm	Pass
06	2437	16.58	16.13	16.02	15.91	18.92	<30dBm	Pass
11	2462	16.08	--	--	--	18.27	<30dBm	Pass

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

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	14.91	--	--	--	--	--	--	--	24.07	<30dBm	Pass
06	2437	15.10	15.05	15	14.88	14.71	14.57	14.51	14.44	24.34	<30dBm	Pass
11	2462	14.02	--	--	--	--	--	--	--	24.15	<30dBm	Pass

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	15.18	--	--	--	--	--	--	--	24.64	<30dBm	Pass
06	2437	15.29	15.18	15.05	14.92	14.87	14.74	14.69	14.55	24.51	<30dBm	Pass
11	2462	15.04	--	--	--	--	--	--	--	24.26	<30dBm	Pass

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

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
149	5745	13.29	--	--	--	--	--	--	--	22.60	<30dBm	Pass
157	5785	13.07	13.01	12.92	12.88	12.8	12.74	12.68	12.61	22.57	<30dBm	Pass
165	5825	13.2	--	--	--	--	--	--	--	22.87	<30dBm	Pass

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
149	5745	14.17	--	--	--	--	--	--	--	23.84	<30dBm	Pass
157	5785	14.16	14.08	13.99	13.84	13.72	13.65	13.54	13.51	24.06	<30dBm	Pass
165	5825	14.15	--	--	--	--	--	--	--	23.93	<30dBm	Pass

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

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
01	2412	13.84	--	--	--	--	--	--	--	21.89
06	2437	14.01	13.9	13.82	13.74	13.69	13.55	13.47	13.33	22.16
11	2462	13.99	--	--	--	--	--	--	--	22.02

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
01	2412	14.07	--	--	--	--	--	--	--	22.13
06	2437	14.02	13.82	13.77	13.71	13.64	13.59	13.49	13.4	22.06
11	2462	14.03	--	--	--	--	--	--	--	22.09

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
1	2412	14.4	21.89	22.13	25.02	<30dBm	Pass
6	2437	14.4	22.16	22.06	25.12	<30dBm	Pass
11	2462	14.4	22.02	22.09	25.07	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
3	2422	13.02	--	--	--	--	--	--	--	20.71
6	2437	13.16	13.08	12.99	12.84	12.76	12.69	12.61	12.58	22.21
9	2452	12.99	--	--	--	--	--	--	--	21.94

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
3	2422	13.25	--	--	--	--	--	--	--	22.14
6	2437	13.03	12.91	12.87	12.81	12.75	12.69	12.61	12.54	22.11
9	2452	13.17	--	--	--	--	--	--	--	22.24

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
3	2422	30	20.71	22.14	24.49	<30dBm	Pass
6	2437	30	22.21	22.11	25.17	<30dBm	Pass
9	2452	30	21.94	22.24	25.10	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
149	5745	12.29	--	--	--	--	--	--	--	22.42
157	5785	12.38	12.22	12.14	12.06	11.98	11.82	11.77	11.65	22.44
165	5825	12.12	--	--	--	--	--	--	--	22.45

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	14.4
		Measurement Level (dBm)								
149	5745	12.21	--	--	--	--	--	--	--	22.58
157	5785	12.07	11.94	11.81	11.75	11.67	11.59	11.52	11.47	22.21
165	5825	12.28	--	--	--	--	--	--	--	22.07

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
149	5745	14.4	22.42	22.58	25.51	<30dBm	Pass
157	5785	14.4	22.44	22.21	25.34	<30dBm	Pass
165	5825	14.4	22.45	22.07	25.27	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

Product : AerialCast
Test Item : Maximum Conducted Power
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

CHAIN A

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
151	5755	11.03	--	--	--	--	--	--	--	19.87
159	5795	11.11	11.08	11	10.97	10.84	10.77	10.71	10.69	20.02

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

CHAIN B

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power
		30	60	90	120	180	240	270	300	30
		Measurement Level (dBm)								
151	5755	11.01	--	--	--	--	--	--	--	20.81
159	5795	11.21	11.14	11.08	10.99	10.91	10.84	10.74	10.69	20.35

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

CHAIN A+B

Channel	Frequency (MHz)	Data Rata (Mbps)	Chain A Power (dBm)	Chain B Power (dBm)	Chain A+B Power (dBm)	Limit (dBm)	Result
151	5755	30	19.87	20.81	23.38	<30dBm	Pass
159	5795	30	20.02	20.35	23.20	<30dBm	Pass

Note: Peak Power Output Value (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW))

4. Radiated Emission

4.1. Test Equipment

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

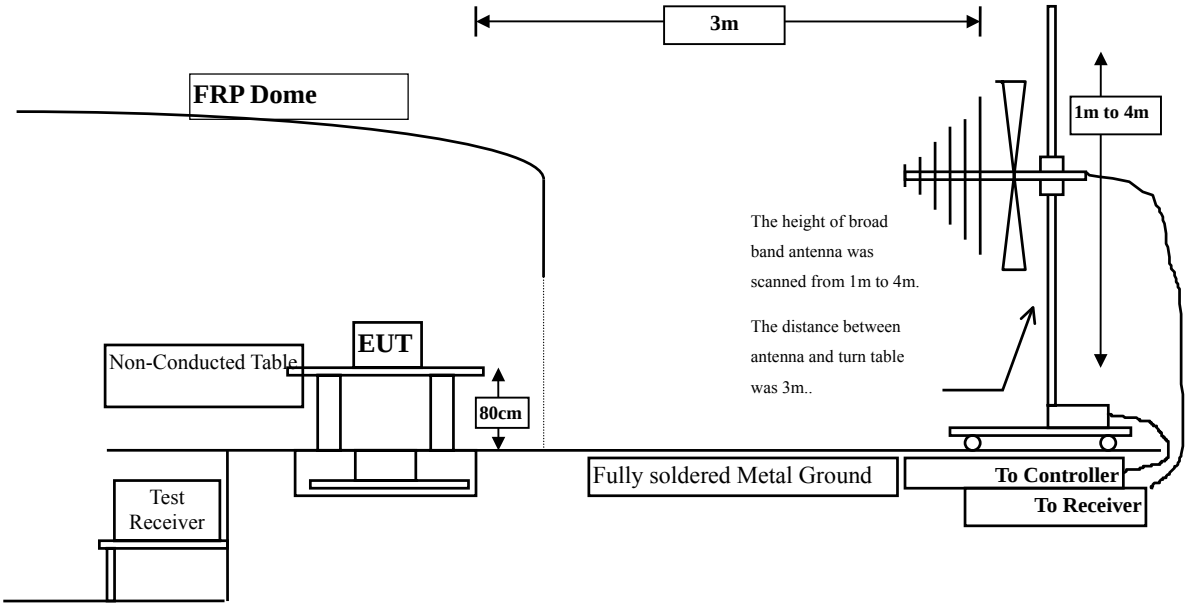
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

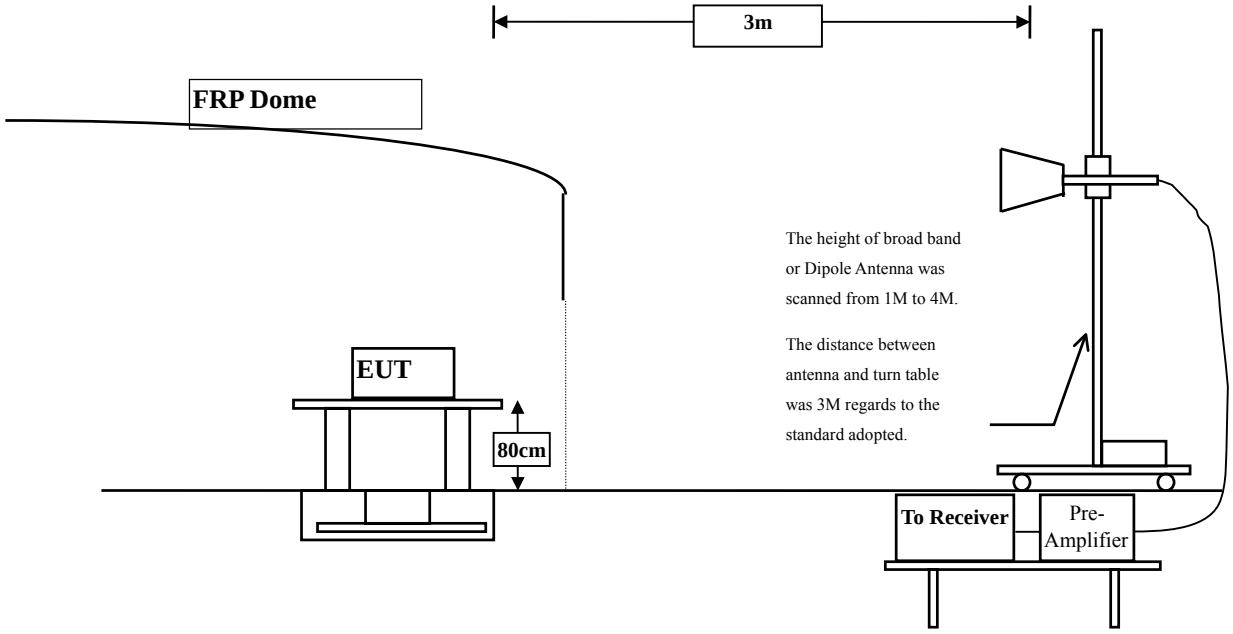
2. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 30dB 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 (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 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.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	42.720	45.981	-28.019	74.000
7236.000	10.650	37.010	47.660	-26.340	74.000
9648.000	13.337	36.600	49.936	-24.064	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	39.590	46.011	-27.989	74.000
7236.000	11.495	37.130	48.625	-25.375	74.000
9648.000	13.807	36.730	50.536	-23.464	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4874.000	3.038	45.130	48.167	-25.833	74.000
7311.000	11.795	36.240	48.034	-25.966	74.000
9748.000	12.635	37.780	50.415	-23.585	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	40.000	45.811	-28.189	74.000
7311.000	12.630	36.510	49.139	-24.861	74.000
9748.000	13.126	37.420	50.546	-23.454	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	40.770	43.627	-30.373	74.000
7386.000	12.127	36.210	48.338	-25.662	74.000
9848.000	12.852	37.100	49.953	-24.047	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	39.020	44.540	-29.460	74.000
7386.000	13.254	35.800	49.054	-24.946	74.000
9848.000	13.367	37.300	50.667	-23.333	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	40.080	43.341	-30.659	74.000
7236.000	10.650	37.060	47.710	-26.290	74.000
9648.000	13.337	37.260	50.596	-23.404	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	38.750	45.171	-28.829	74.000
7236.000	11.495	37.110	48.605	-25.395	74.000
9648.000	13.807	36.980	50.786	-23.214	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	41.920	44.957	-29.043	74.000
7311.000	11.795	36.970	48.764	-25.236	74.000
9748.000	12.635	37.440	50.075	-23.925	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	38.470	44.281	-29.719	74.000
7311.000	12.630	36.190	48.819	-25.181	74.000
9748.000	13.126	37.720	50.846	-23.154	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.840	40.697	-33.303	74.000
7386.000	12.127	36.090	48.218	-25.782	74.000
9848.000	12.852	37.120	49.973	-24.027	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	37.800	43.320	-30.680	74.000
7386.000	13.254	35.960	49.214	-24.786	74.000
9848.000	13.367	37.470	50.837	-23.163	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5745 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11490.000	17.106	47.890	64.997	-9.003	74.000
Average Detector:					
11490.000	17.106	34.770	51.877	-2.123	54.000
Vertical Peak Detector:					
11490.000	18.034	42.060	60.095	-13.905	74.000
Average Detector:					
11490.000	18.034	28.640	46.675	-7.325	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11570.000	16.809	48.270	65.079	-8.921	74.000
Average Detector:					
11570.000	16.809	35.180	51.989	-2.011	54.000
Vertical Peak Detector:					
11570.000	17.698	41.050	58.748	-15.252	74.000
Average Detector:					
11570.000	17.698	27.340	45.038	-8.962	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5825 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11650.000	16.158	49.460	65.618	-8.382	74.000
Average Detector:					
11650.000	16.158	35.810	51.968	-2.032	54.000
Vertical Peak Detector:					
11650.000	17.274	35.380	52.655	-21.345	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	47.160	50.421	-23.579	74.000
7236.000	10.650	37.680	48.330	-25.670	74.000
9648.000	13.337	37.100	50.436	-23.564	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	41.160	47.581	-26.419	74.000
7236.000	11.495	37.770	49.265	-24.735	74.000
9648.000	13.807	37.750	51.556	-22.444	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4874.000	3.038	49.110	52.147	-21.853	74.000
7311.000	11.795	36.140	47.934	-26.066	74.000
9748.000	12.635	37.500	50.135	-23.865	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4874.000	5.812	38.210	44.021	-29.979	74.000
7311.000	12.630	35.900	48.529	-25.471	74.000
9748.000	13.126	37.510	50.636	-23.364	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)
(2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4924.000	2.858	48.130	50.987	-23.013	74.000
7386.000	12.127	35.960	48.088	-25.912	74.000
9848.000	12.852	37.420	50.273	-23.727	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4924.000	5.521	37.300	42.820	-31.180	74.000
7386.000	13.254	36.090	49.344	-24.656	74.000
9848.000	13.367	37.460	50.827	-23.173	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 : AerialCast
Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2422MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4844.000	3.171	42.910	46.081	-27.919	74.000
7266.000	11.162	36.940	48.102	-25.898	74.000
9688.000	12.964	37.440	50.405	-23.595	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4844.000	6.178	37.440	43.618	-30.382	74.000
7266.000	11.982	36.750	48.732	-25.268	74.000
9688.000	13.507	37.440	50.948	-23.052	74.000
Average					
Detector:					
7311.000	11.795	36.610	48.404	-5.596	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	45.500	48.537	-25.463	74.000
7311.000	11.795	35.730	47.524	-26.476	74.000
9748.000	12.635	37.950	50.585	-23.415	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	40.510	46.321	-27.679	74.000
7311.000	12.630	36.360	48.989	-25.011	74.000
9748.000	13.126	37.350	50.476	-23.524	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)
(2452 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4904.000	2.914	40.590	43.505	-30.495	74.000
7356.000	11.995	36.200	48.194	-25.806	74.000
9808.000	12.475	37.140	49.615	-24.385	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4904.000	5.530	37.780	43.311	-30.689	74.000
7356.000	13.005	36.130	49.134	-24.866	74.000
9808.000	12.901	37.150	50.051	-23.949	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5745MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11490.000	17.106	45.930	63.037	-10.963	74.000
Average					
Detector:					
11490.000	17.106	31.270	48.377	-5.623	54.000
Vertical					
Peak Detector:					
11490.000	18.034	36.280	54.315	-19.685	74.000
Average					
Detector:					
11490.000	18.034	22.360	40.395	-13.605	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11570.000	16.809	45.910	62.719	-11.281	74.000
Average Detector:					
11570.000	16.809	31.100	47.909	-6.091	54.000
Vertical Peak Detector:					
11570.000	17.698	36.060	53.758	-20.242	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5825 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11650.000	16.158	44.840	60.998	-13.002	74.000
Average Detector:					
11650.000	16.158	29.980	46.138	-7.862	54.000
Vertical Peak Detector:					
11650.000	17.274	34.900	52.175	-21.825	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11510.000	17.124	36.740	53.864	-20.136	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
11510.000	18.081	35.560	53.641	-20.359	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 : AerialCast
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5795 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
11590.000	16.701	36.460	53.160	-20.840	74.000
Average Detector:					
--					
Vertical Peak Detector:					
11590.000	17.567	36.030	53.596	-20.404	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
66.860	-12.355	47.200	34.845	-5.155	40.000
159.980	-11.775	41.732	29.957	-13.543	43.500
227.880	-8.969	43.402	34.434	-11.566	46.000
328.760	-4.609	40.434	35.825	-10.175	46.000
408.300	-2.866	38.904	36.038	-9.962	46.000
546.040	3.570	26.346	29.915	-16.085	46.000
Vertical					
123.120	-3.921	34.810	30.889	-12.611	43.500
165.800	-7.719	35.848	28.129	-15.371	43.500
363.680	-2.393	34.757	32.364	-13.636	46.000
452.920	-6.306	37.861	31.555	-14.445	46.000
571.260	-5.526	40.024	34.499	-11.501	46.000
720.640	-0.099	32.576	32.477	-13.523	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
109.540	-7.488	37.241	29.753	-13.747	43.500
152.220	-10.135	39.105	28.970	-14.530	43.500
262.800	-5.013	46.893	41.880	-4.120	46.000
334.580	-3.901	37.152	33.251	-12.749	46.000
478.140	-0.291	35.110	34.819	-11.181	46.000
602.300	4.287	30.715	35.002	-10.998	46.000
Vertical					
117.300	-3.106	31.047	27.941	-15.559	43.500
202.660	-7.739	36.420	28.681	-14.819	43.500
288.020	-8.189	38.947	30.758	-15.242	46.000
480.080	-4.359	35.615	31.256	-14.744	46.000
600.360	-2.833	29.686	26.853	-19.147	46.000
780.780	3.060	24.490	27.550	-18.450	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps (5785MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
107.600	-7.058	40.172	33.114	-10.386	43.500
183.260	-12.294	48.458	36.164	-7.336	43.500
245.340	-6.346	43.022	36.676	-9.324	46.000
326.820	-4.548	42.097	37.550	-8.450	46.000
385.020	-1.350	38.931	37.581	-8.419	46.000
664.380	2.062	33.851	35.913	-10.087	46.000
Vertical					
189.080	-10.969	34.725	23.756	-19.744	43.500
280.260	-8.717	41.468	32.751	-13.249	46.000
369.500	-2.868	33.945	31.077	-14.923	46.000
489.780	-3.080	41.425	38.345	-7.655	46.000
615.880	-1.905	40.888	38.983	-7.017	46.000
759.440	2.532	36.049	38.581	-7.419	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
167.740	-10.799	40.909	30.110	-13.390	43.500
322.940	-4.442	41.649	37.207	-8.793	46.000
390.840	-1.849	35.791	33.942	-12.058	46.000
540.220	2.551	29.626	32.177	-13.823	46.000
600.360	3.977	29.617	33.594	-12.406	46.000
664.380	2.062	34.053	36.115	-9.885	46.000
Vertical					
140.580	-6.241	44.367	38.126	-5.374	43.500
247.280	-8.042	37.420	29.377	-16.623	46.000
359.800	-3.810	37.426	33.616	-12.384	46.000
478.140	-4.431	39.321	34.890	-11.110	46.000
610.060	-1.579	32.514	30.935	-15.065	46.000
753.620	3.187	30.999	34.186	-11.814	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)
(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
107.600	-7.058	41.789	34.731	-8.769	43.500
161.920	-11.626	43.314	31.689	-11.811	43.500
245.340	-6.346	45.411	39.065	-6.935	46.000
334.580	-3.901	42.053	38.152	-7.848	46.000
480.080	-0.329	39.853	39.524	-6.476	46.000
809.880	5.049	30.851	35.900	-10.100	46.000
Vertical					
128.940	-4.128	30.754	26.626	-16.874	43.500
214.300	-8.101	35.170	27.069	-16.431	43.500
338.460	-4.265	35.809	31.544	-14.456	46.000
435.460	-8.800	37.771	28.971	-17.029	46.000
528.580	-0.462	30.912	30.450	-15.550	46.000
720.640	-0.099	30.791	30.692	-15.308	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band) (5785 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
175.500	-10.017	43.182	33.164	-10.336	43.500
251.160	-5.745	44.605	38.860	-7.140	46.000
322.940	-4.442	43.149	38.707	-7.293	46.000
423.820	-3.167	39.091	35.924	-10.076	46.000
549.920	2.943	34.107	37.050	-8.950	46.000
697.360	3.171	34.543	37.714	-8.286	46.000
Vertical					
169.680	-8.728	38.692	29.964	-13.536	43.500
239.520	-8.581	41.791	33.211	-12.789	46.000
328.760	-5.099	43.962	38.863	-7.137	46.000
421.880	-9.024	45.250	36.226	-9.774	46.000
487.840	-3.132	42.248	39.116	-6.884	46.000
610.060	-1.579	27.153	25.574	-20.426	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 : AerialCast
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band) (5755MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
119.240	-9.621	40.750	31.129	-12.371	43.500
169.680	-10.508	35.417	24.909	-18.591	43.500
239.520	-6.851	43.022	36.172	-9.828	46.000
326.820	-4.548	41.617	37.070	-8.930	46.000
383.080	-1.164	40.177	39.013	-6.987	46.000
600.360	3.977	31.756	35.733	-10.267	46.000
Vertical					
159.980	-6.185	37.434	31.249	-12.251	43.500
229.820	-8.512	46.964	38.452	-7.548	46.000
346.220	-3.093	41.611	38.518	-7.482	46.000
454.860	-5.499	23.729	18.229	-27.771	46.000
534.400	-0.571	32.879	32.308	-13.692	46.000
761.380	2.335	33.663	35.998	-10.002	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.

5. RF Antenna conducted test

5.1. Test Equipment

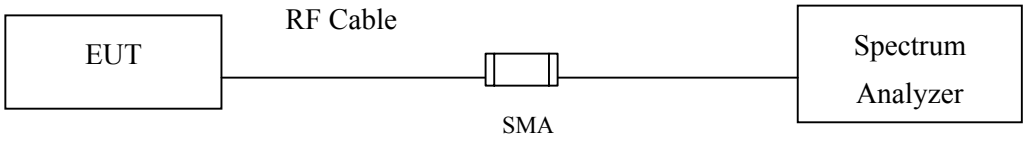
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

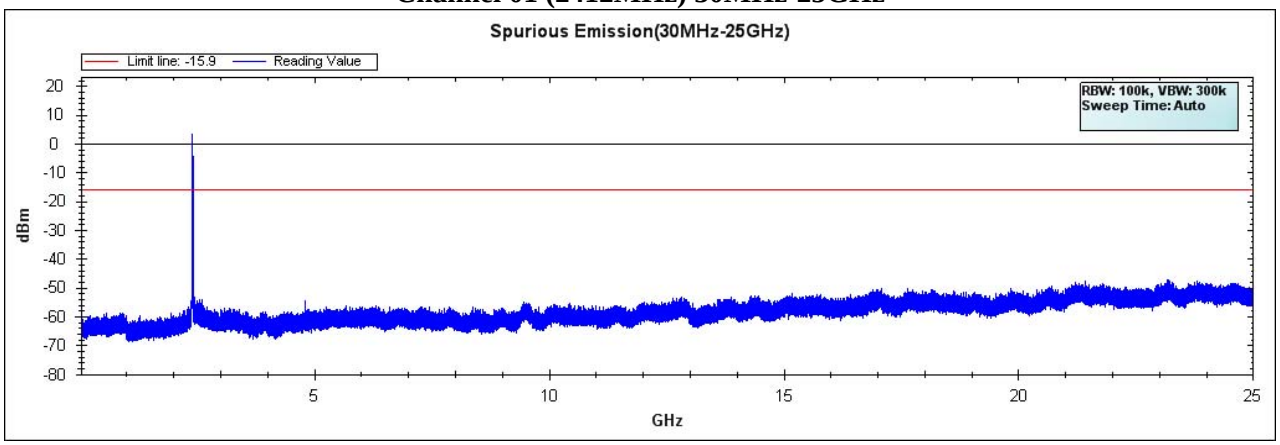
The measurement uncertainty

Conducted is defined as ± 1.27dB

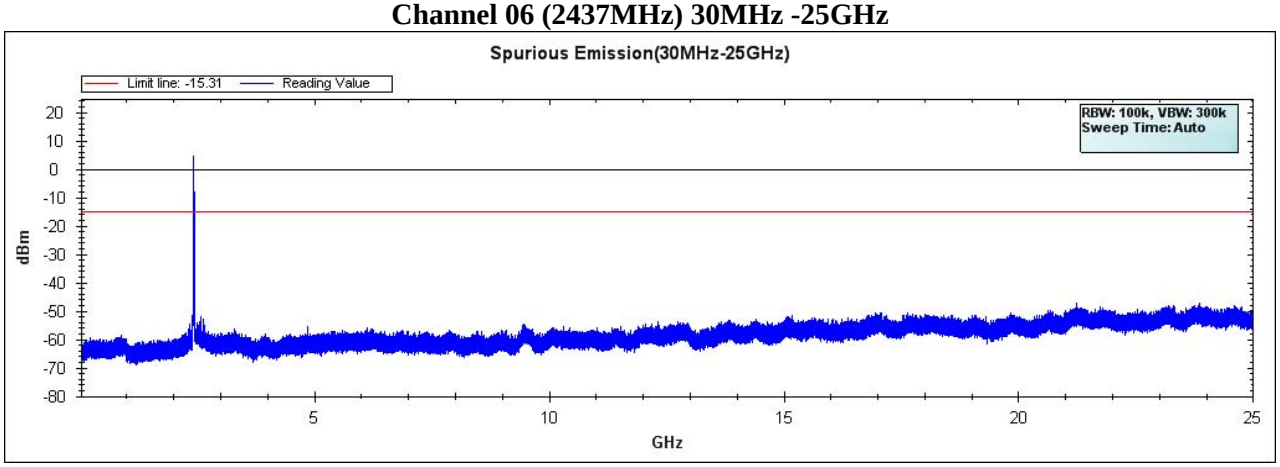
5.6. Test Result of RF antenna conducted test

Product : AerialCast
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

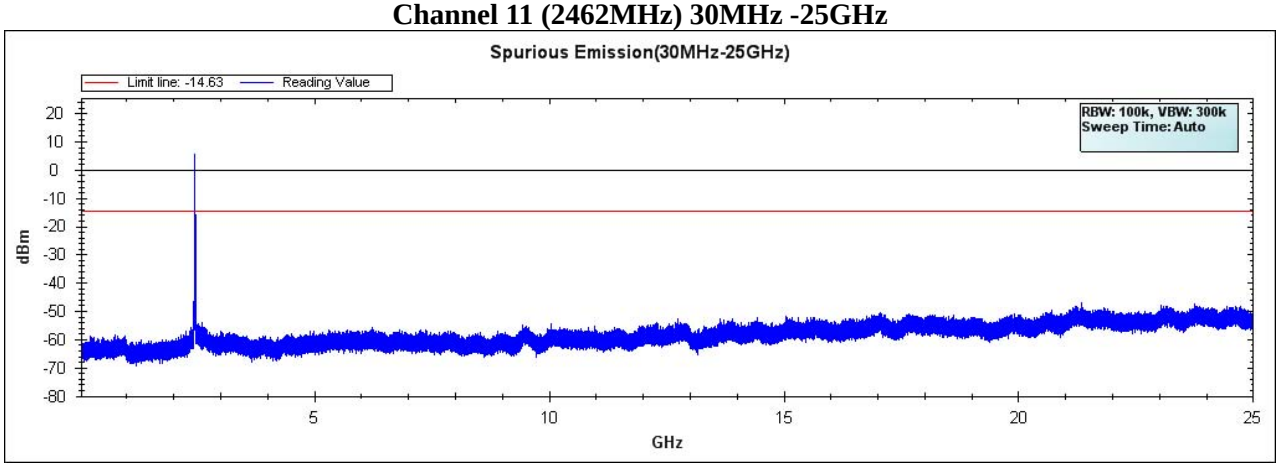
Channel 01 (2412MHz) 30MHz-25GHz



Channel 06 (2437MHz) 30MHz -25GHz



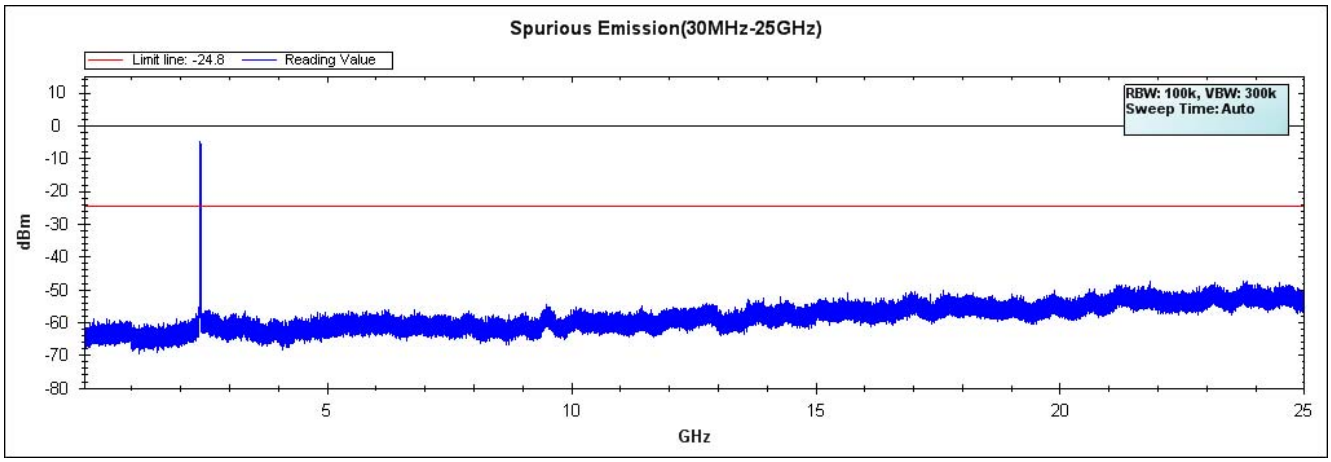
Channel 11 (2462MHz) 30MHz -25GHz



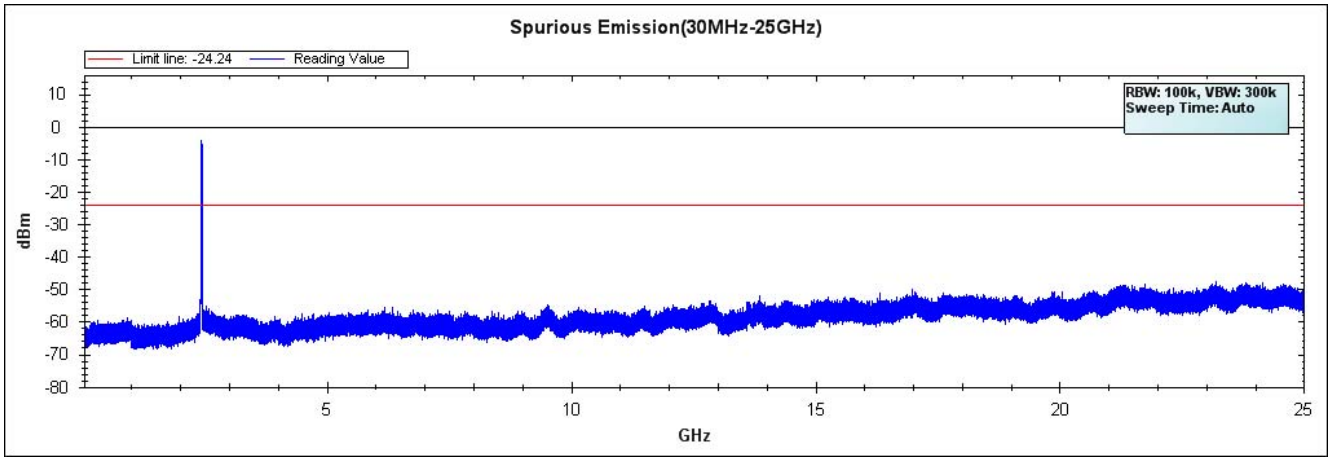
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

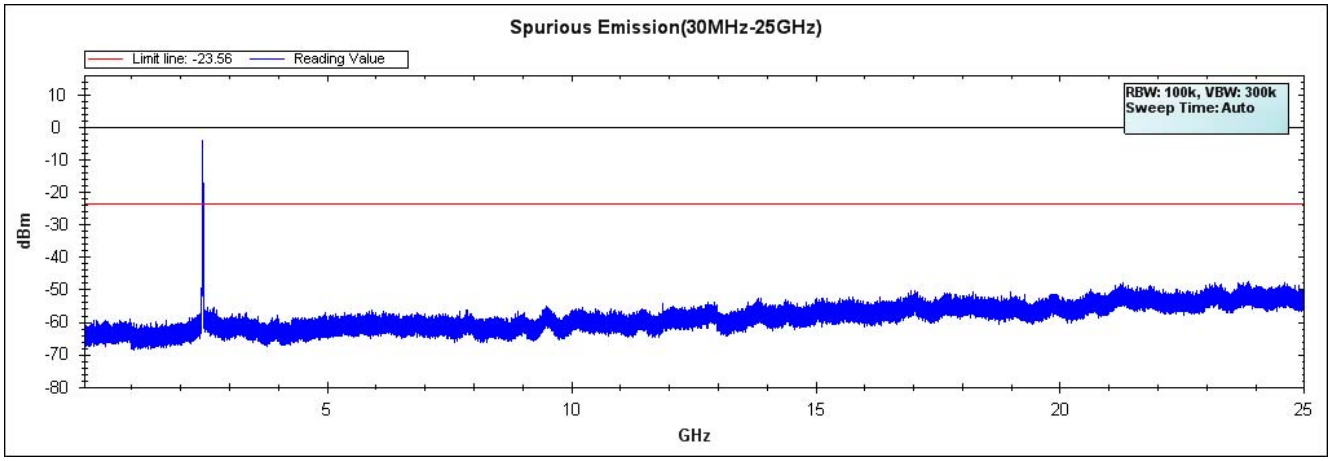
Channel 01 (2412MHz) 30MHz -25GHz



Channel 06 (2437MHz) 30MHz -25GHz



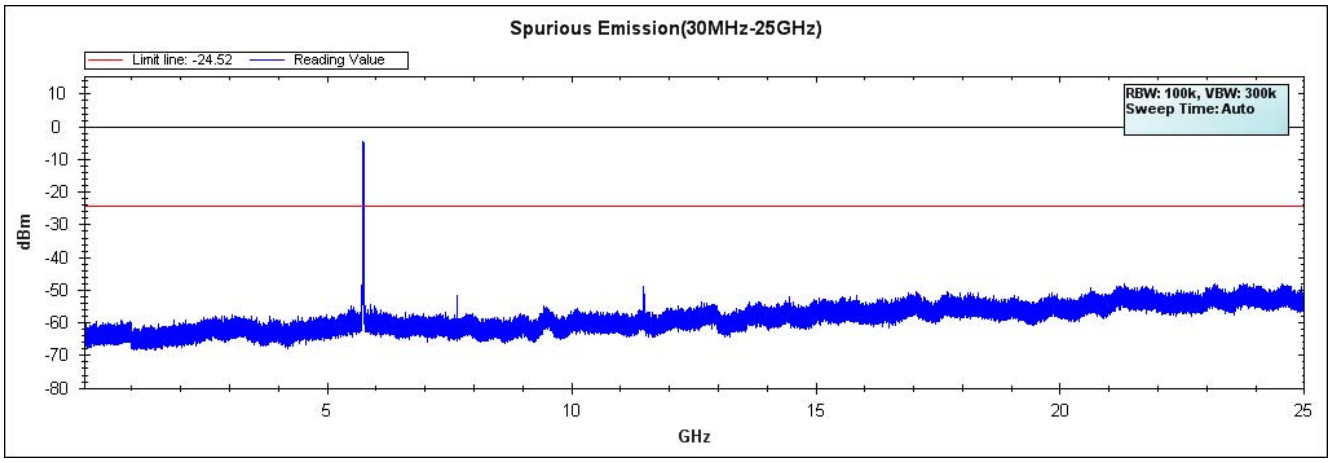
Channel 11 (2462MHz) 30MHz -25GHz

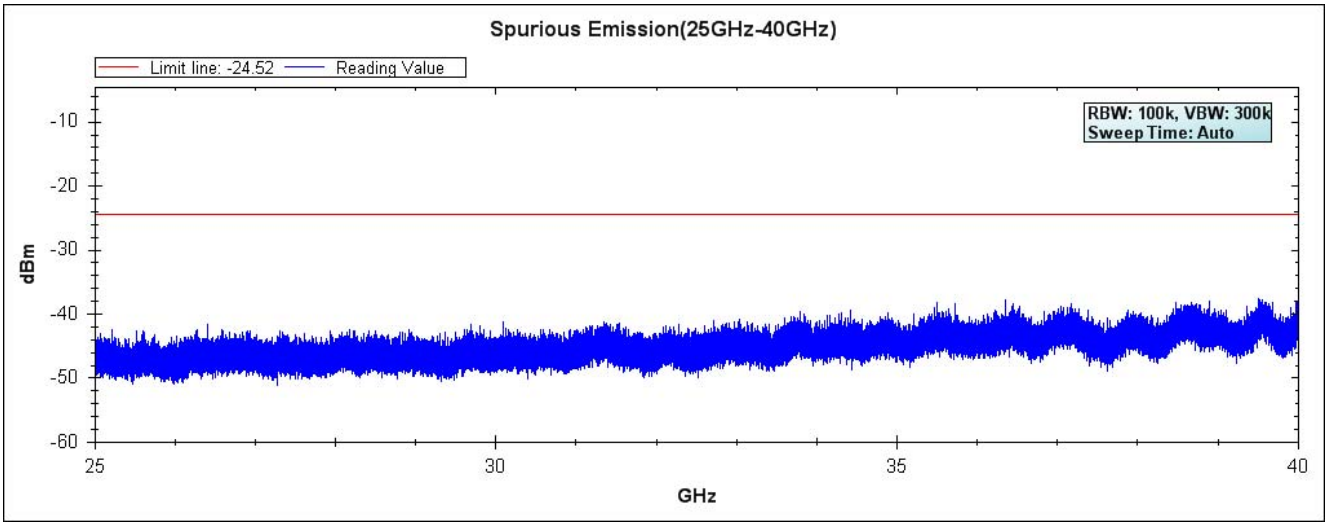


Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps

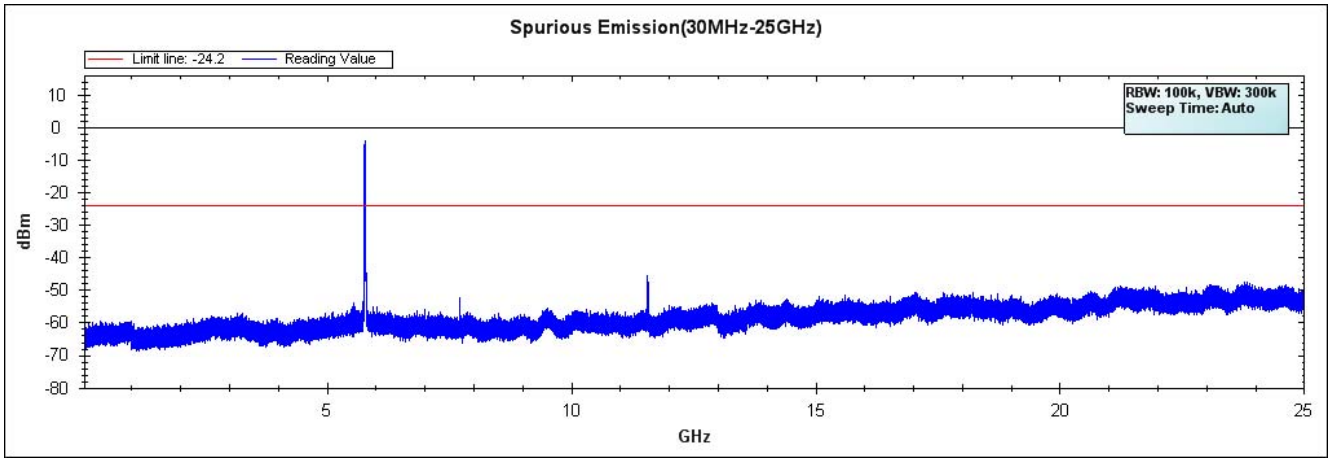
Channel 149 (5745MHz) 30MHz -40GHz

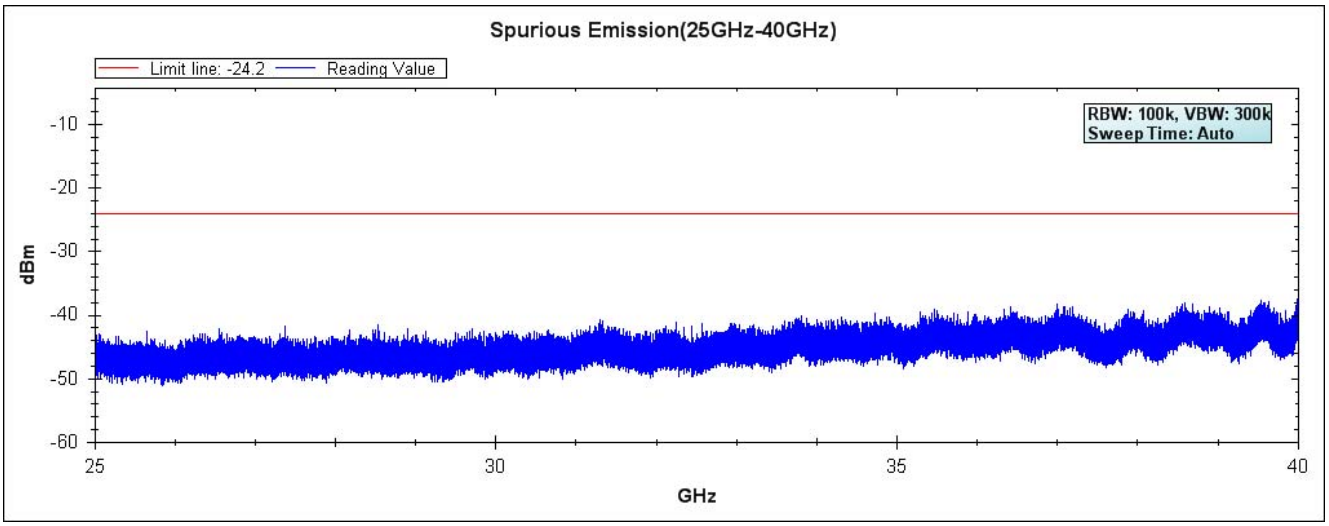




Note: The above test pattern is synthesized by multiple of the frequency range.

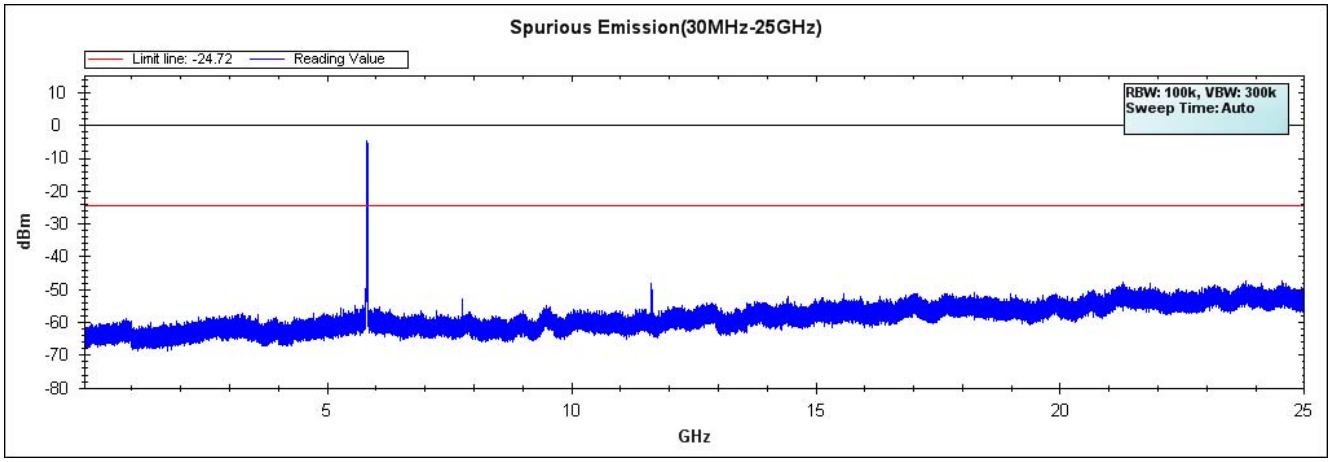
Channel 157 (5785MHz) 30MHz -40GHz

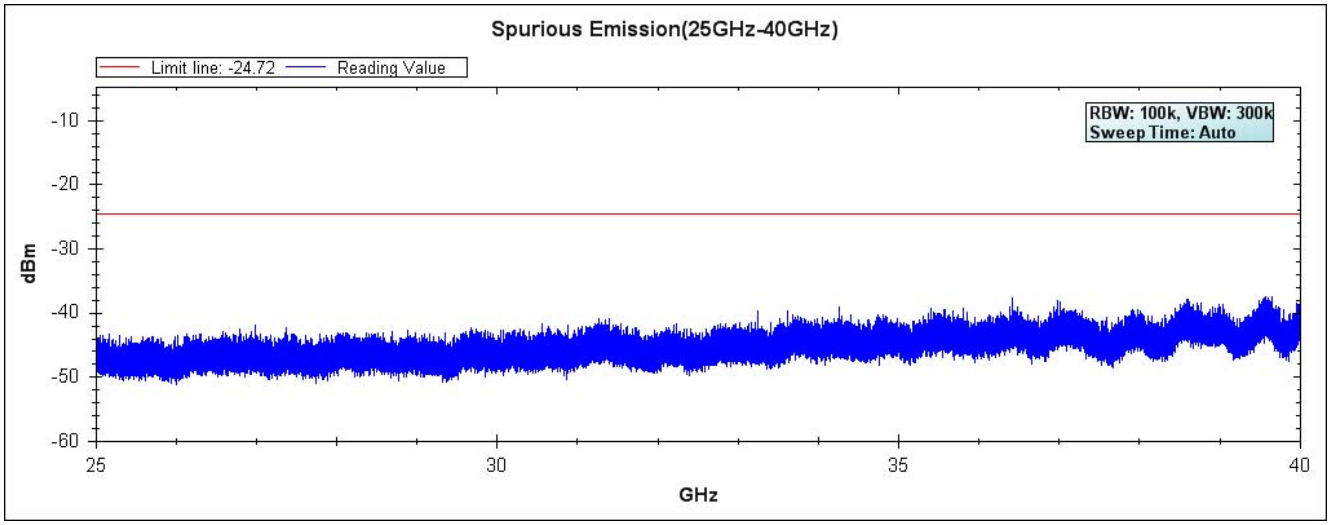




Note: The above test pattern is synthesized by multiple of the frequency range.

Channel 165 (5825MHz) 30MHz -40GHz

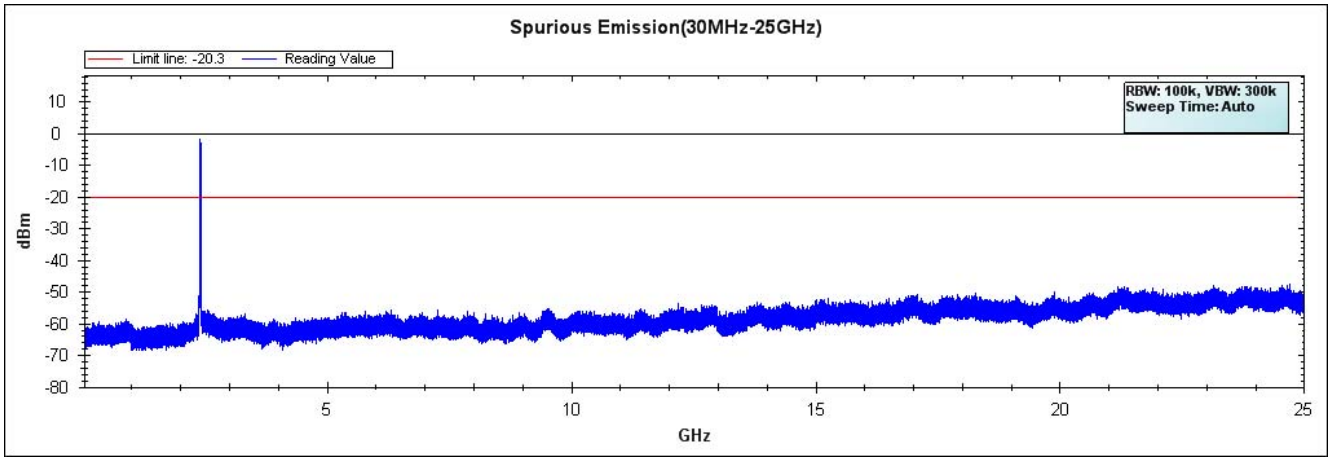




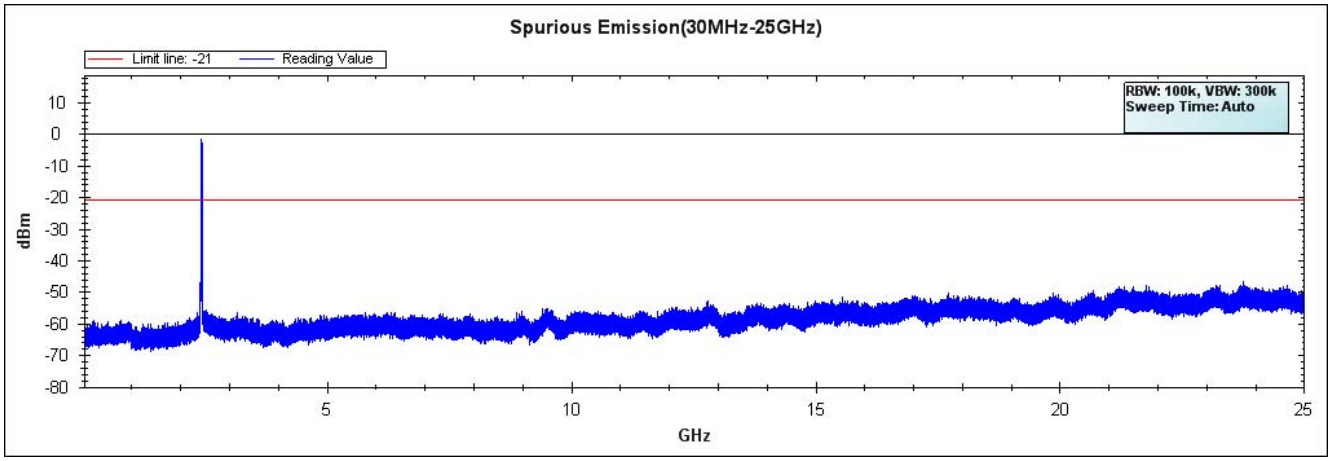
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

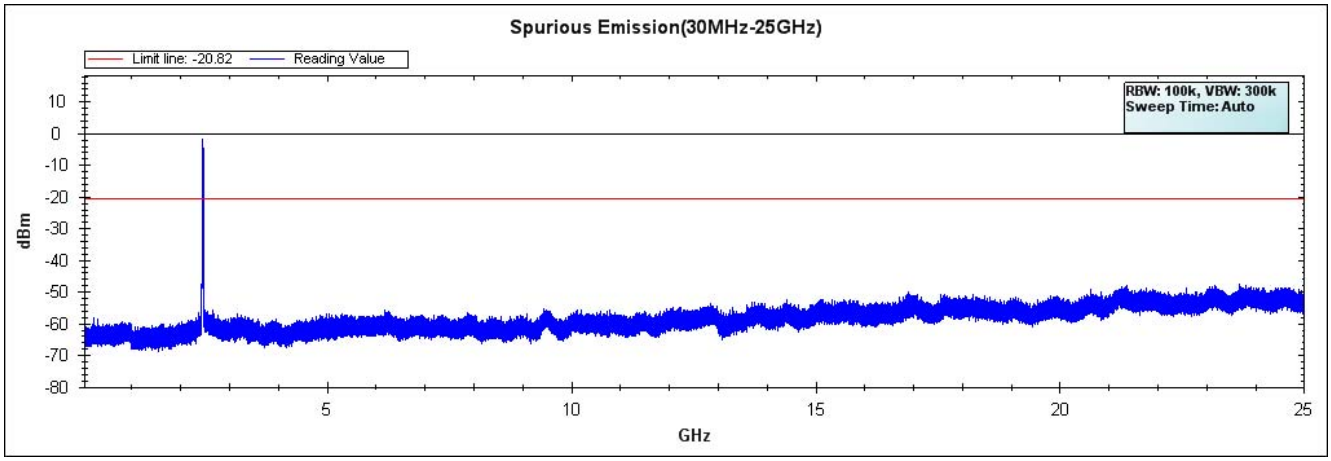
Channel 01 (2412MHz) 30MHz -25GHz-Chain A



Channel 06 (2437MHz) 30MHz -25GHz-Chain A

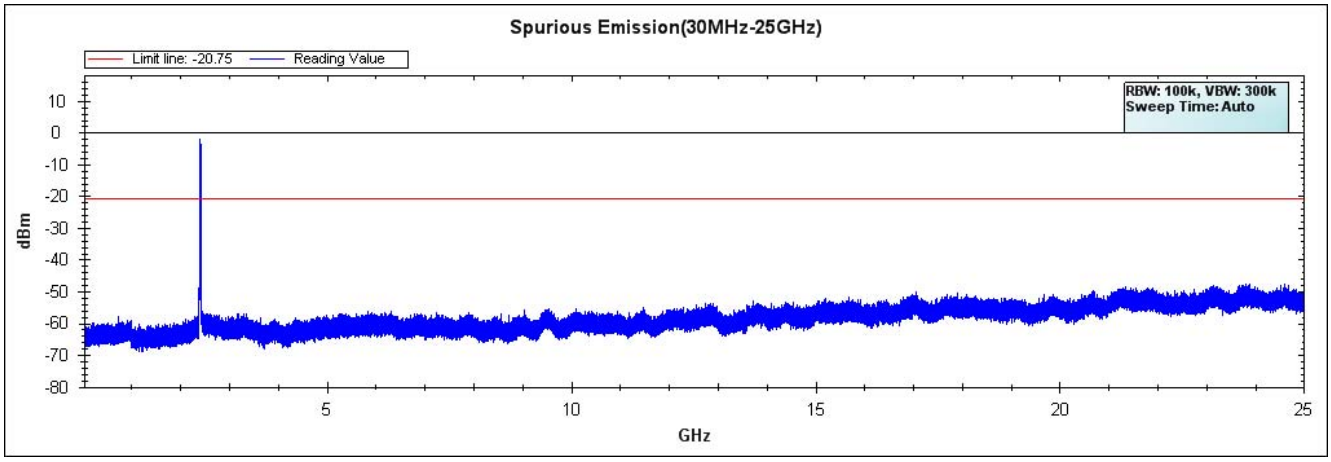


Channel 11 (2462MHz) 30MHz -25GHz-Chain A

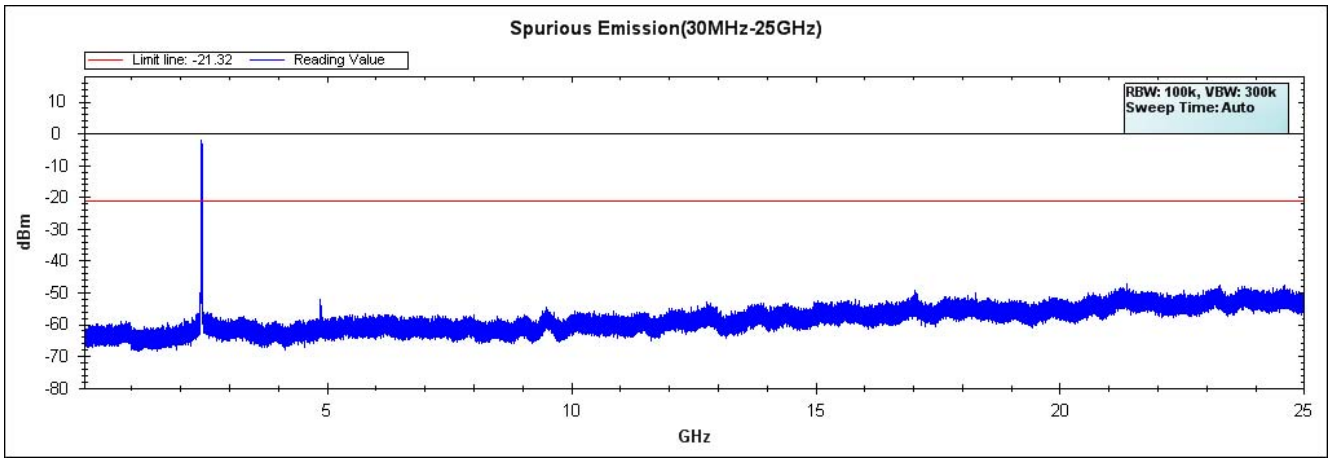


Note: The above test pattern is synthesized by multiple of the frequency range.

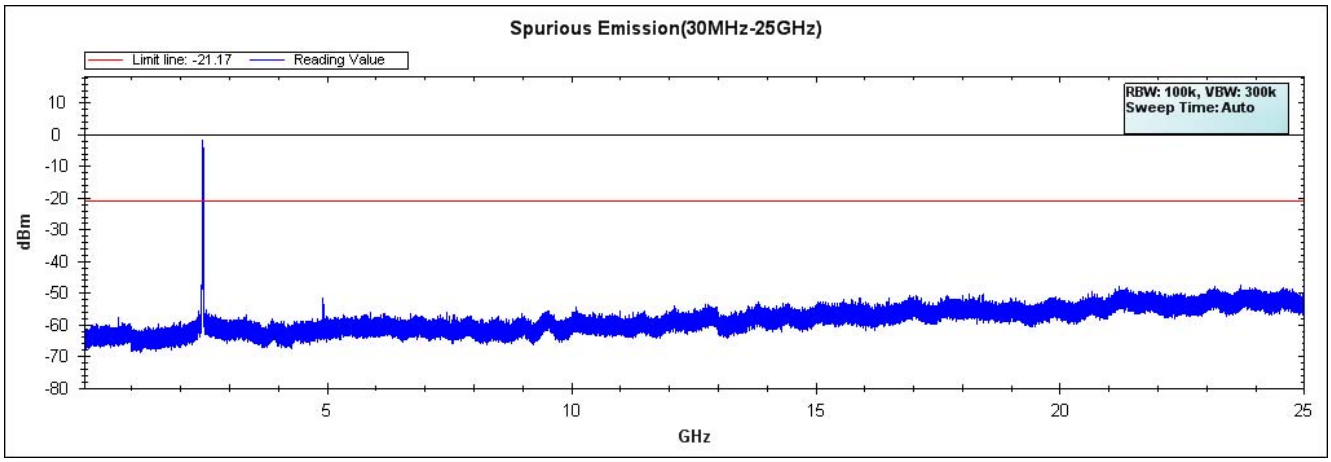
Channel 01 (2412MHz) 30MHz -25GHz-Chain B



Channel 06 (2437MHz) 30MHz -25GHz-Chain B



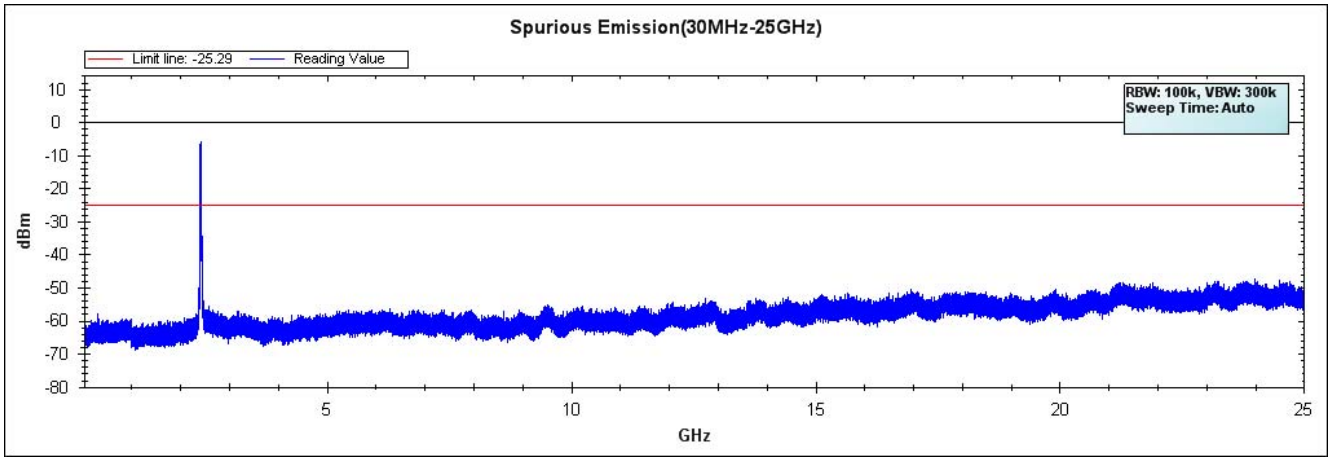
Channel 11 (2462MHz) 30MHz -25GHz-Chain B



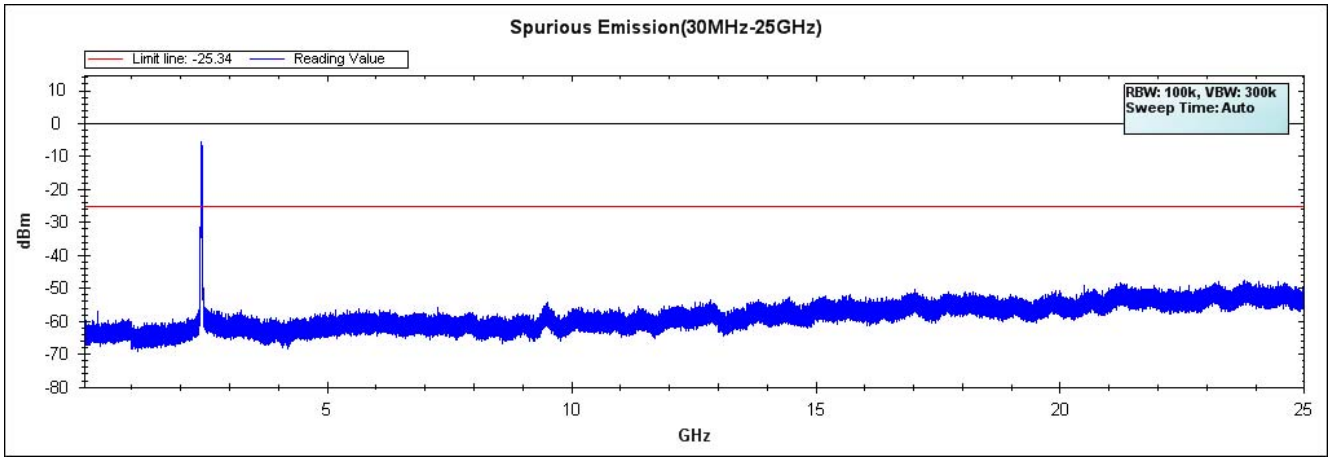
Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

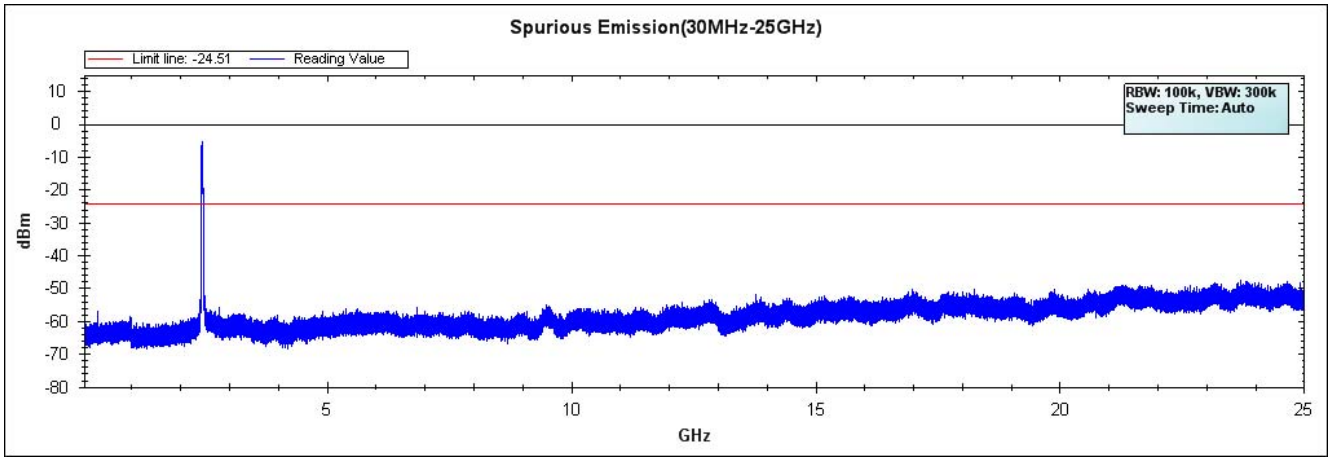
Channel 01 (2422MHz) 30MHz -25GHz-Chain A



Channel 04 (2437MHz) 30MHz -25GHz-Chain A

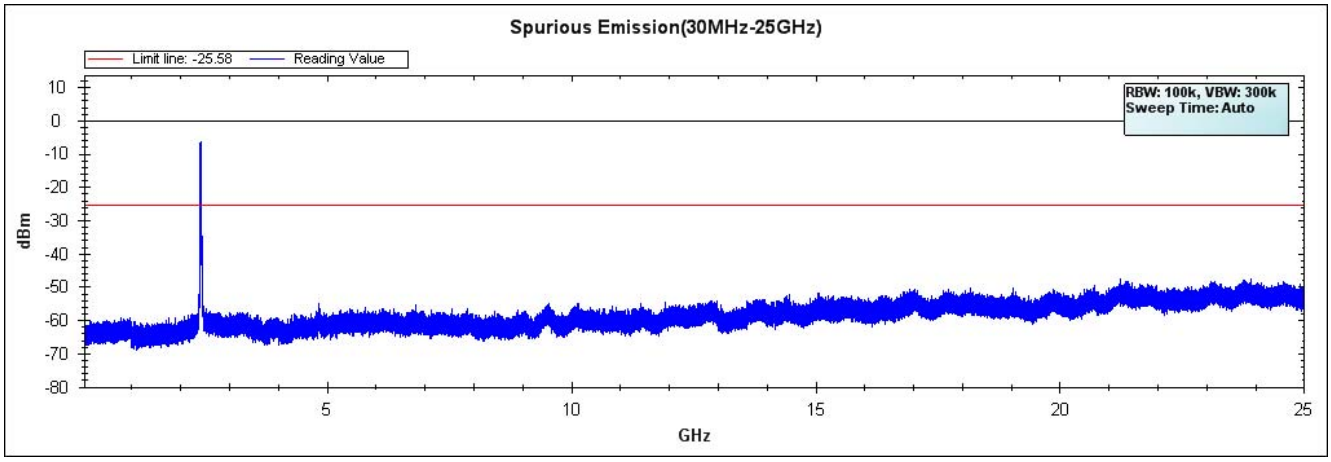


Channel 07 (2452MHz) 30MHz -25GHz-Chain A

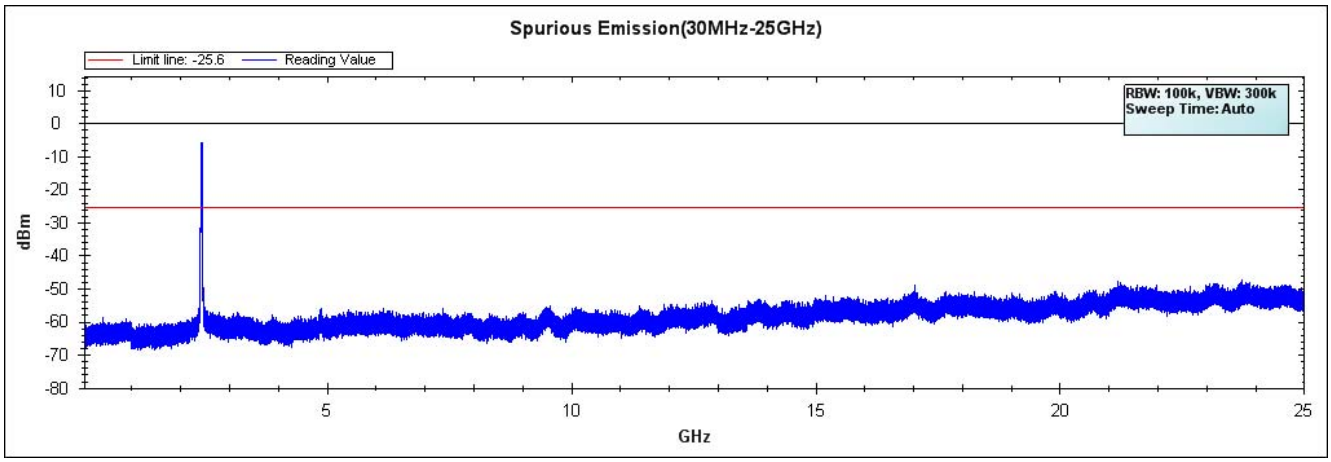


Note: The above test pattern is synthesized by multiple of the frequency range.

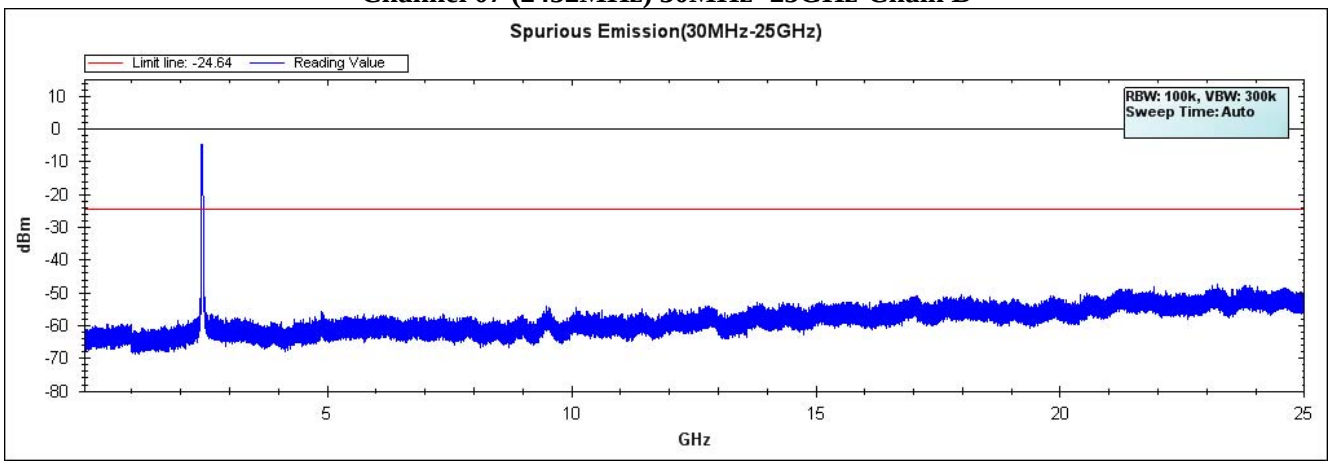
Channel 01 (2422MHz) 30MHz -25GHz-Chain B



Channel 04 (2437MHz) 30MHz -25GHz-Chain B



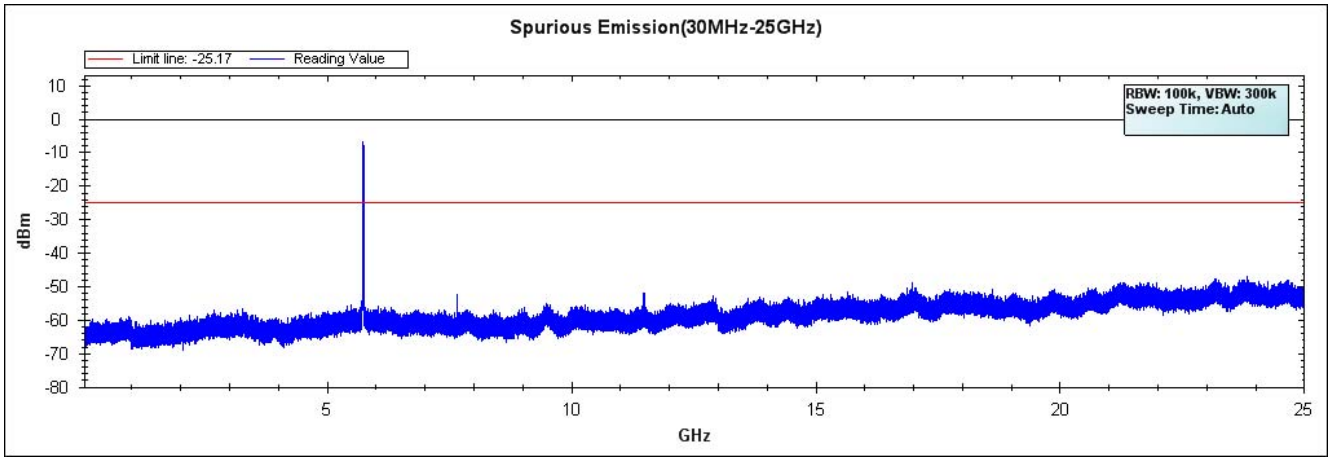
Channel 07 (2452MHz) 30MHz -25GHz-Chain B

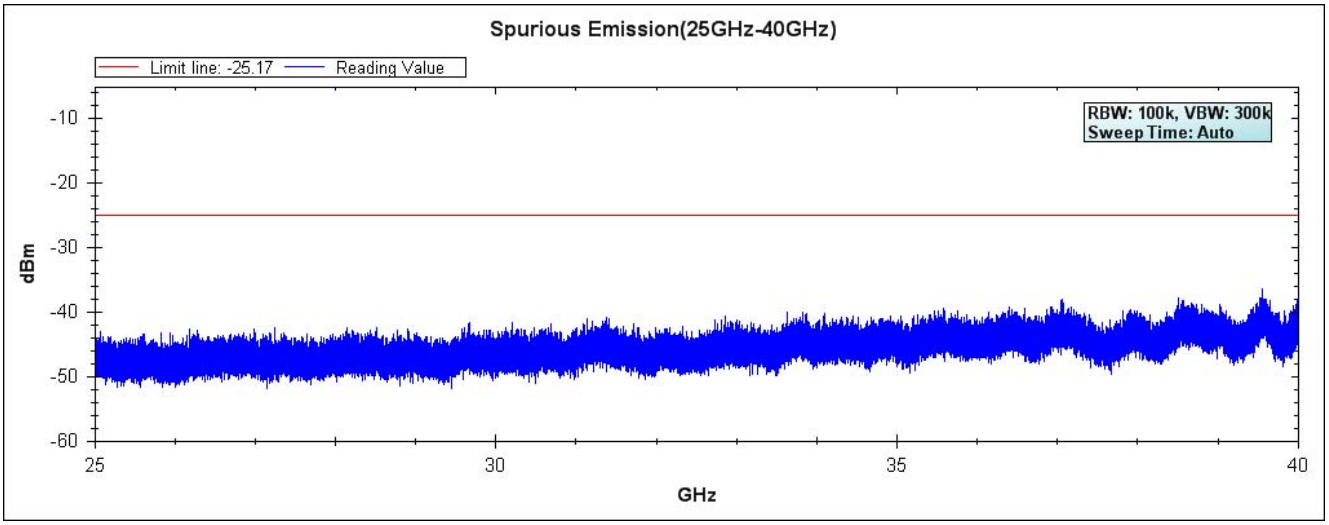


Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

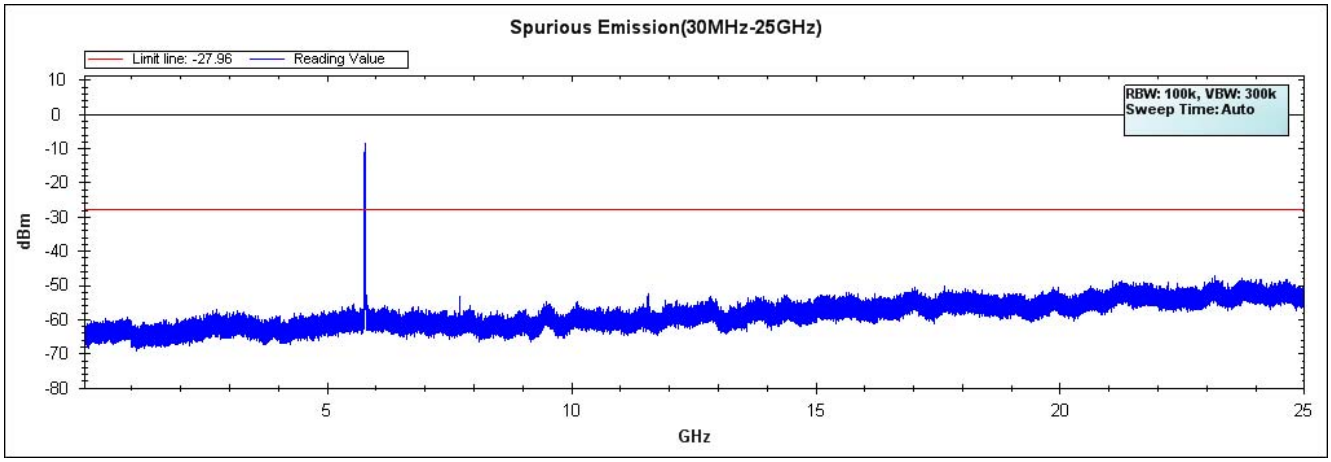
Channel 49 (5745MHz) 30MHz -40GHz-Chain A

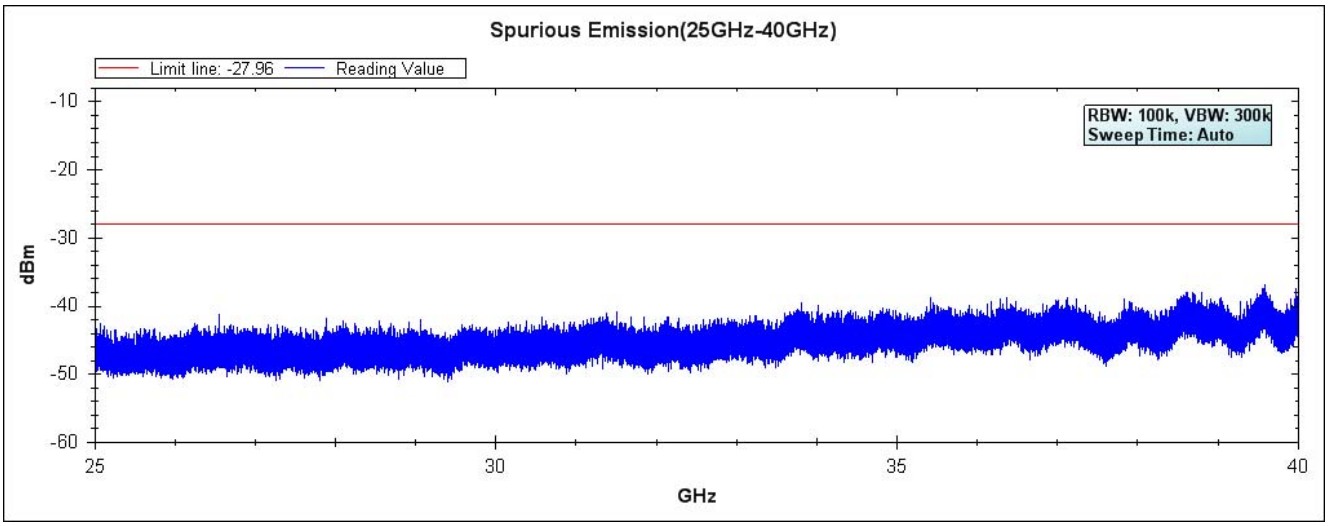




Note: The above test pattern is synthesized by multiple of the frequency range.

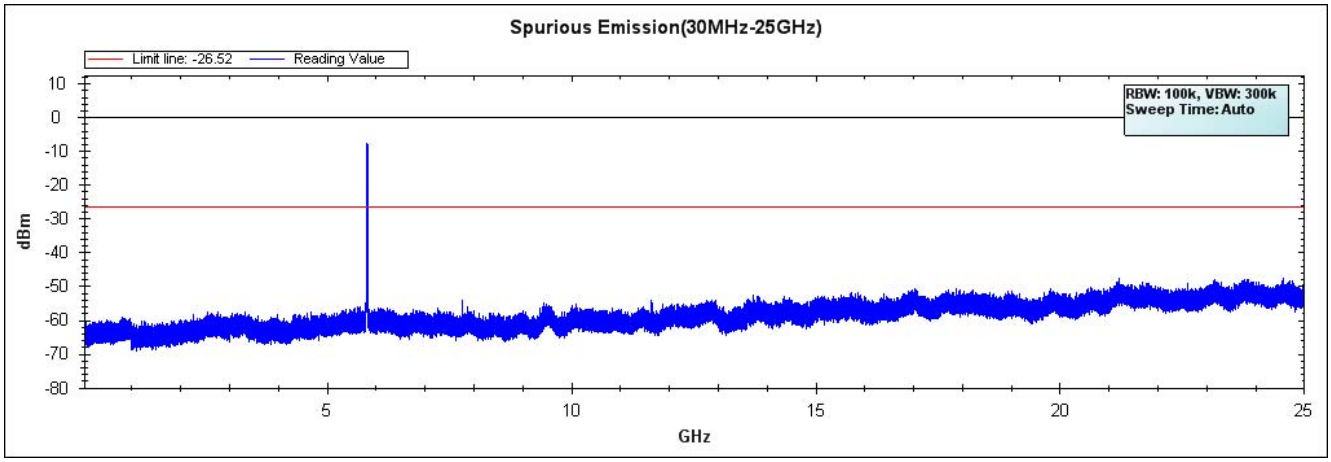
Channel 157 (5785MHz) 30MHz -40GHz-Chain A

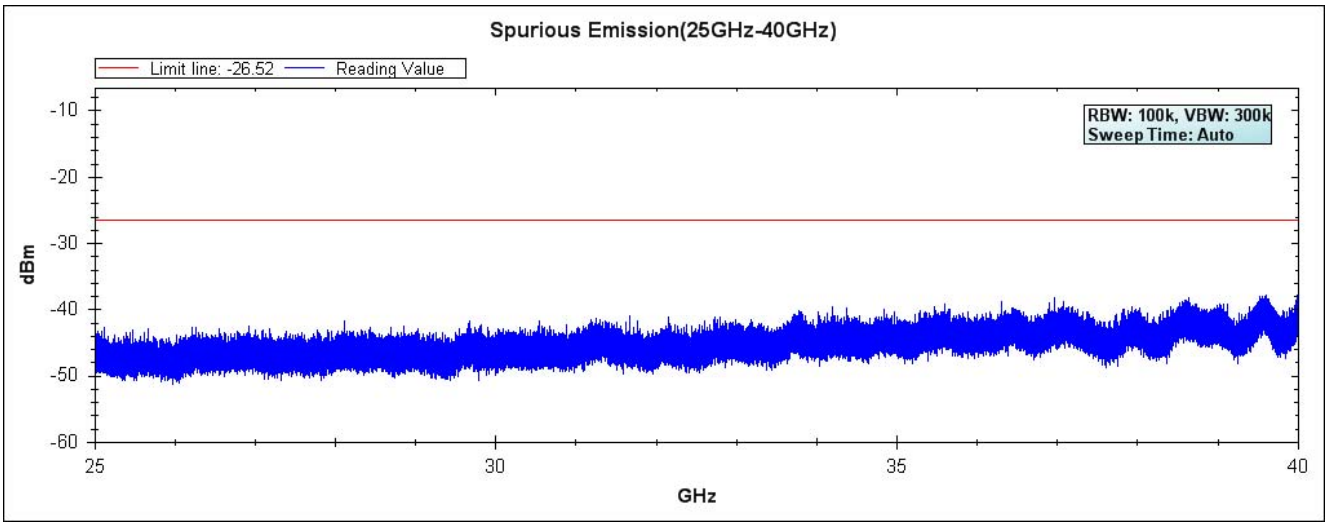




Note: The above test pattern is synthesized by multiple of the frequency range.

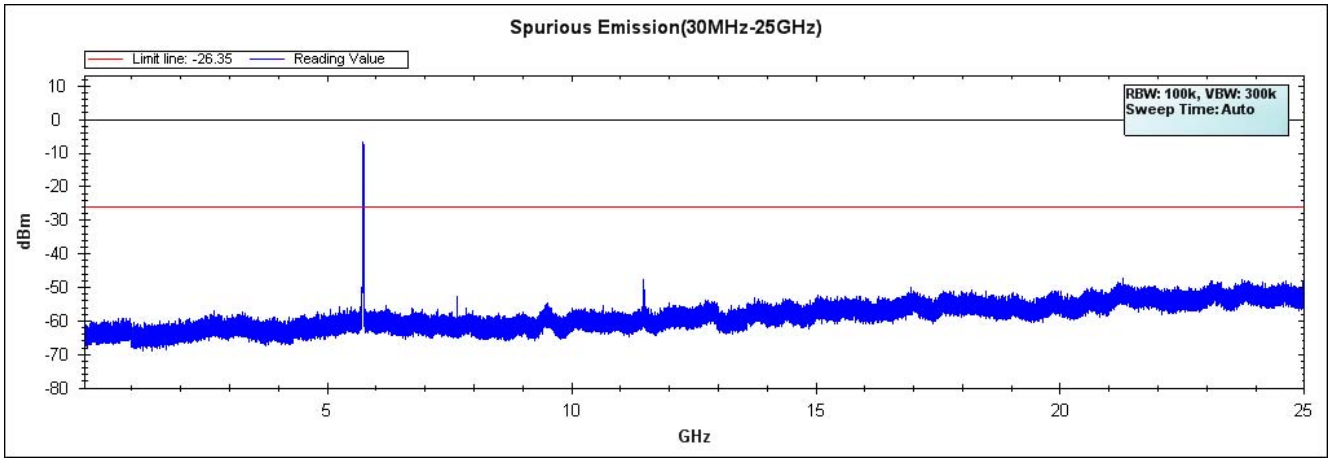
Channel 165 (5825MHz) 30MHz -40GHz-Chain A

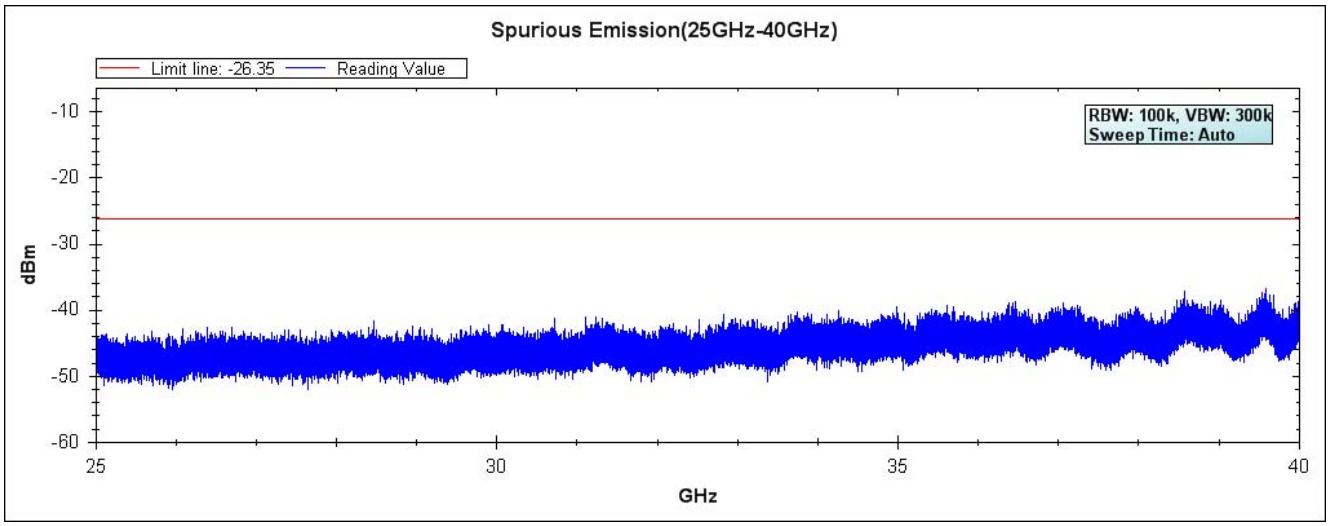




Note: The above test pattern is synthesized by multiple of the frequency range.

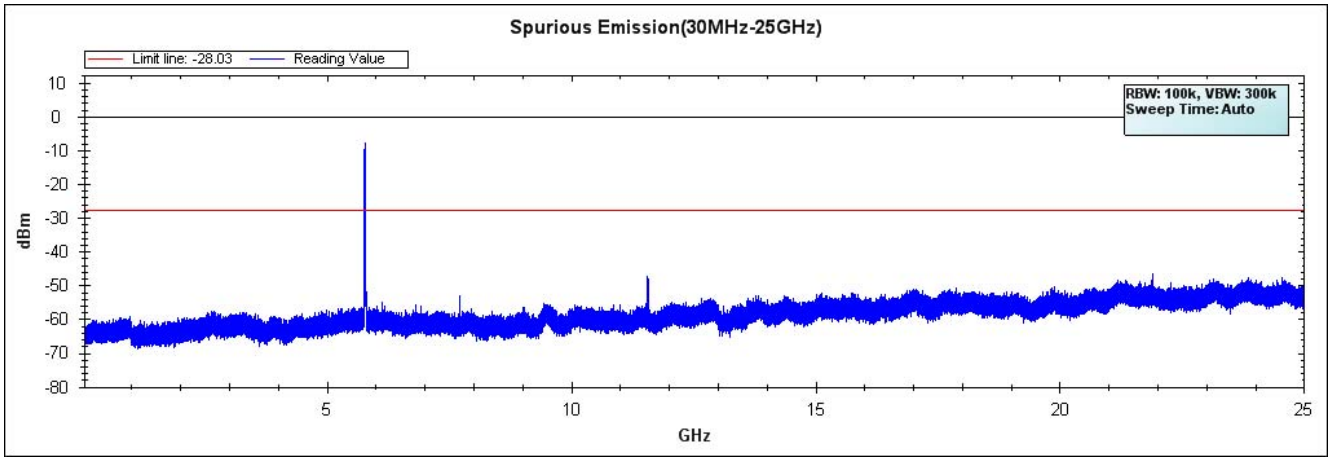
Channel 149 (5745MHz) 30MHz -40GHz-Chain B

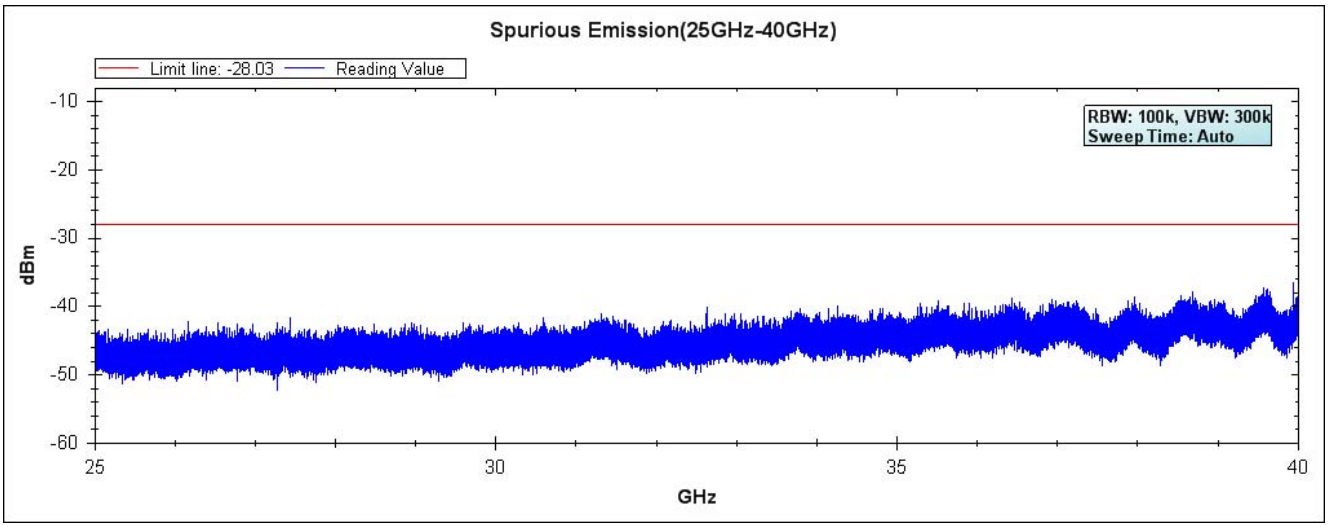




Note: The above test pattern is synthesized by multiple of the frequency range.

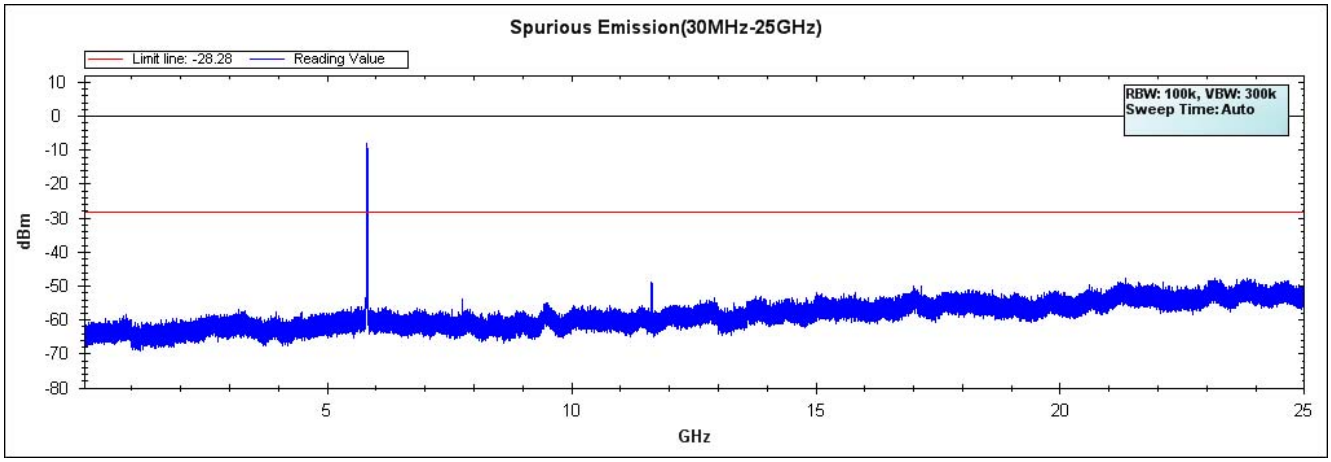
Channel 157 (5785MHz) 30MHz -40GHz-Chain B

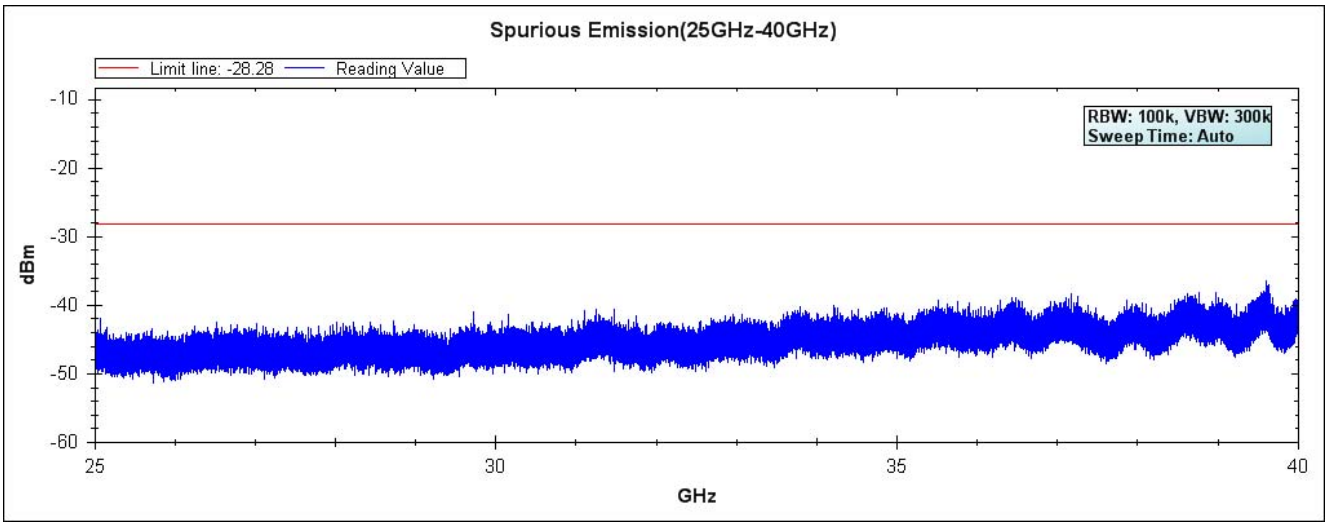




Note: The above test pattern is synthesized by multiple of the frequency range.

Channel 165 (5825MHz) 30MHz -40GHz-Chain B

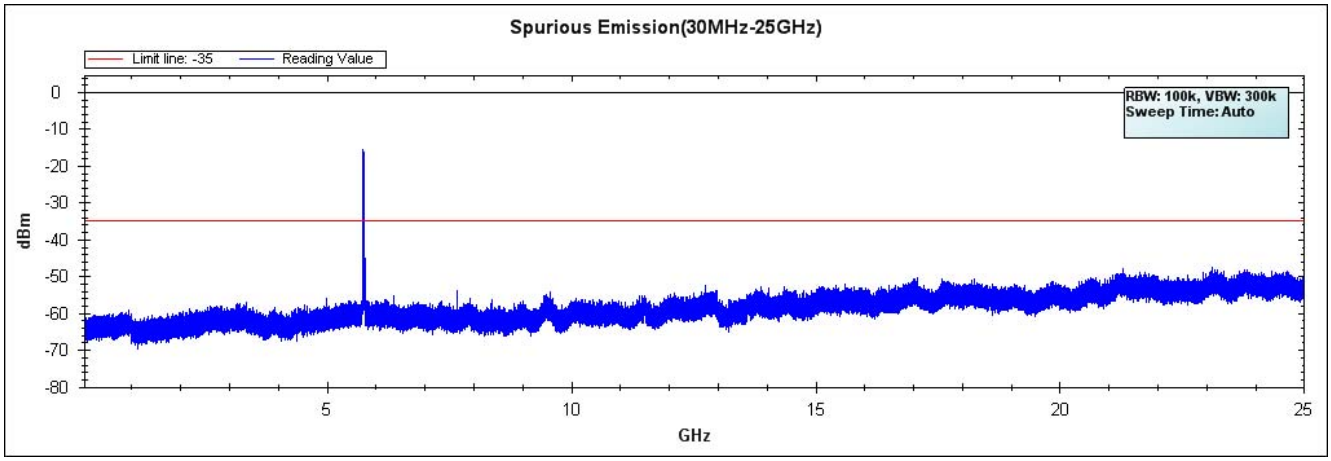


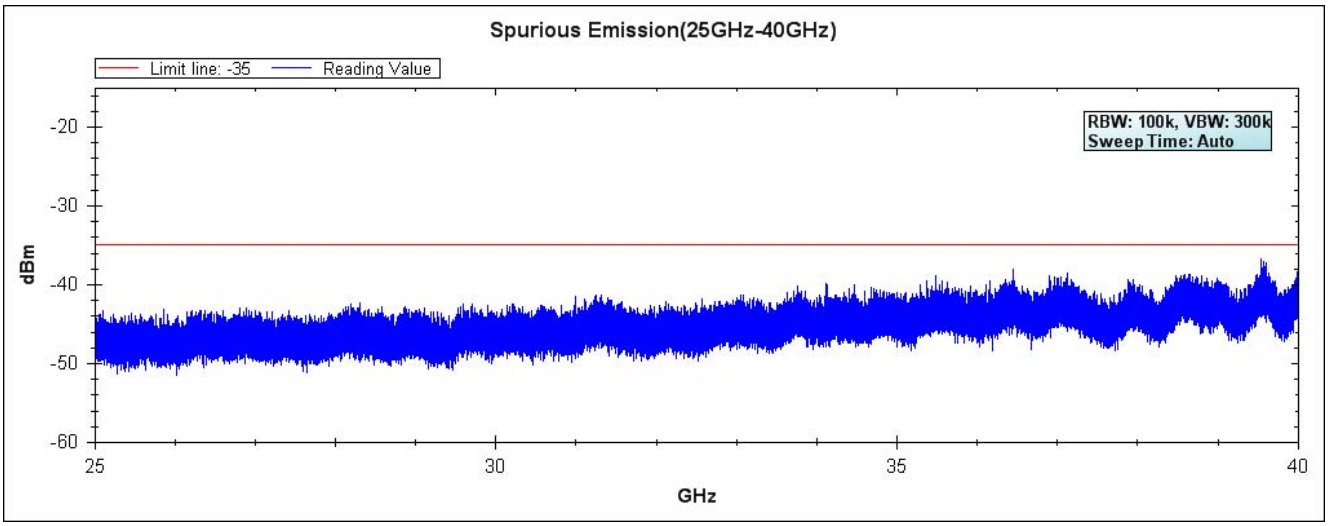


Note: The above test pattern is synthesized by multiple of the frequency range.

Product : AerialCast
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

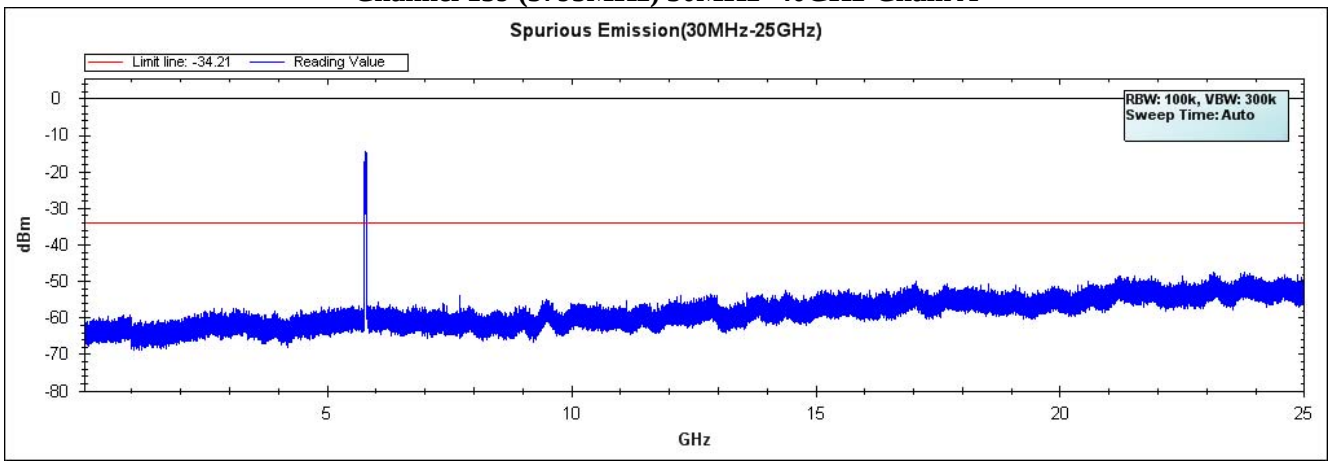
Channel 151 (5755MHz) 30MHz -40GHz-Chain A

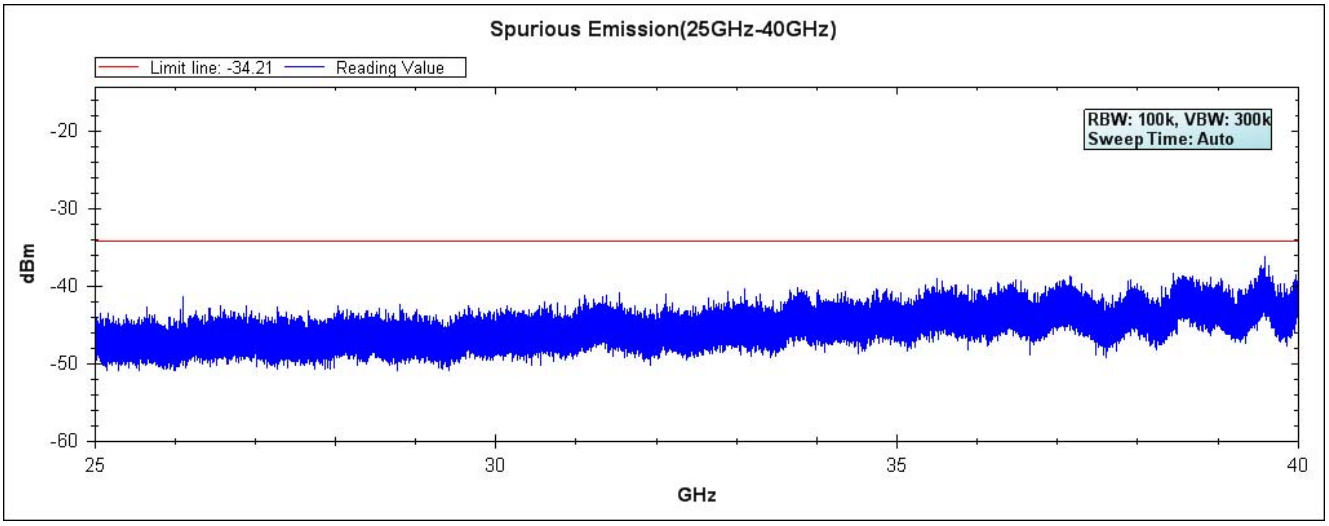




Note: The above test pattern is synthesized by multiple of the frequency range.

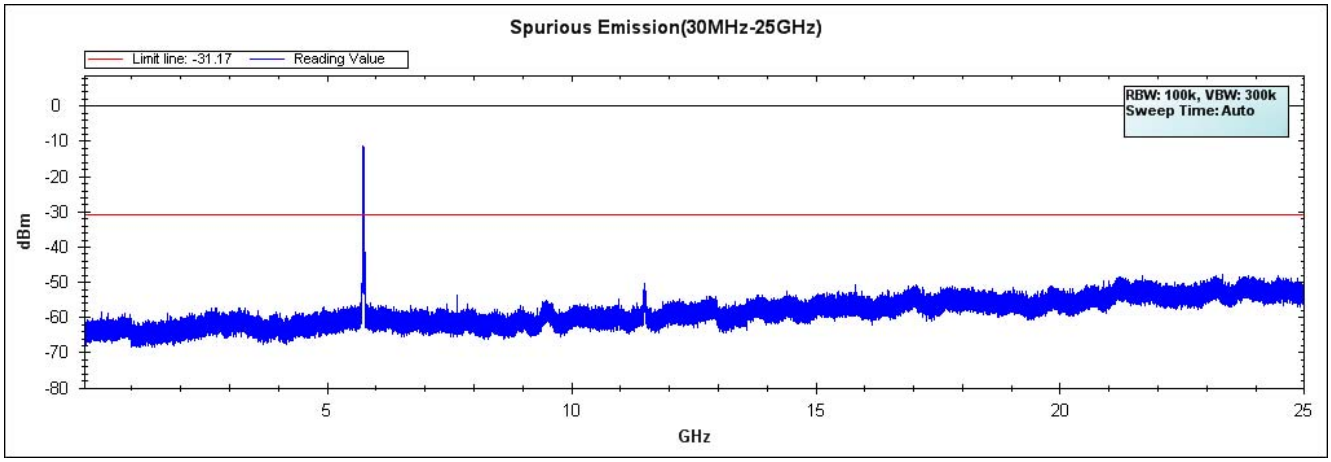
Channel 159 (5795MHz) 30MHz -40GHz-Chain A

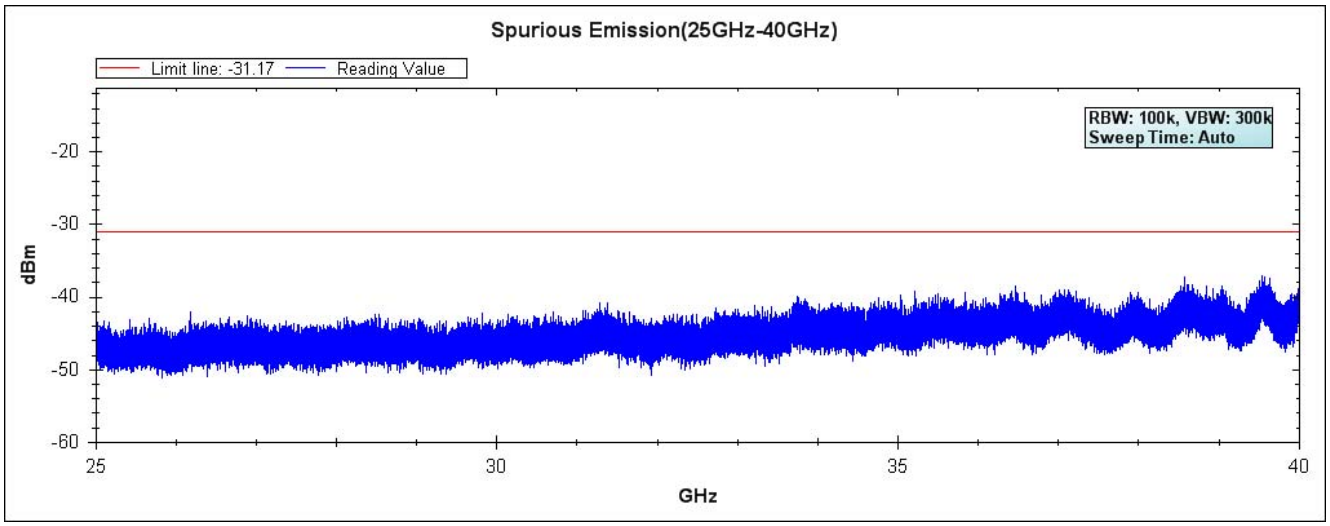




Note: The above test pattern is synthesized by multiple of the frequency range.

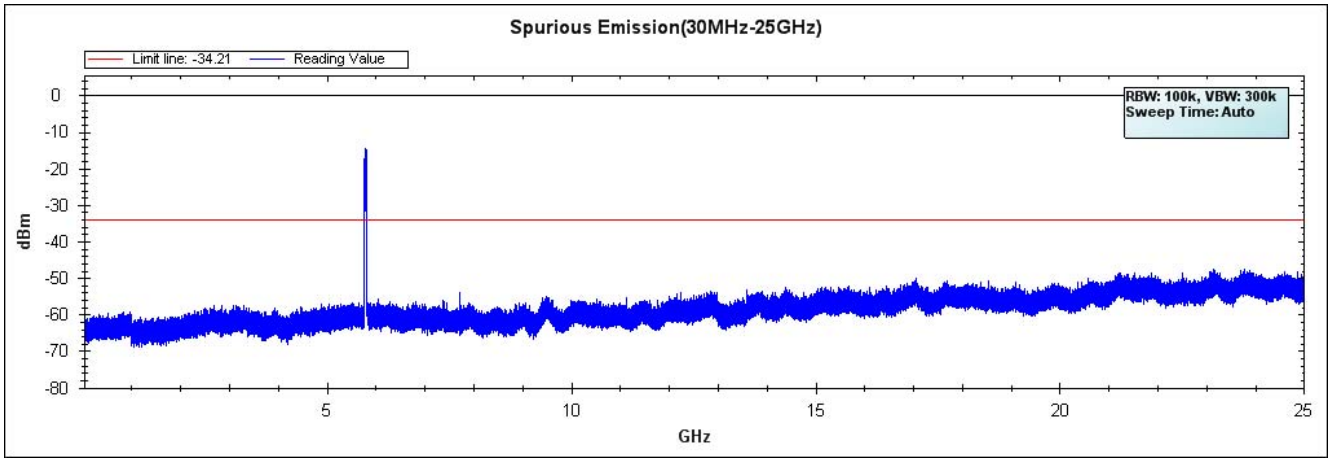
Channel 151 (5755MHz) 30MHz -40GHz-Chain B

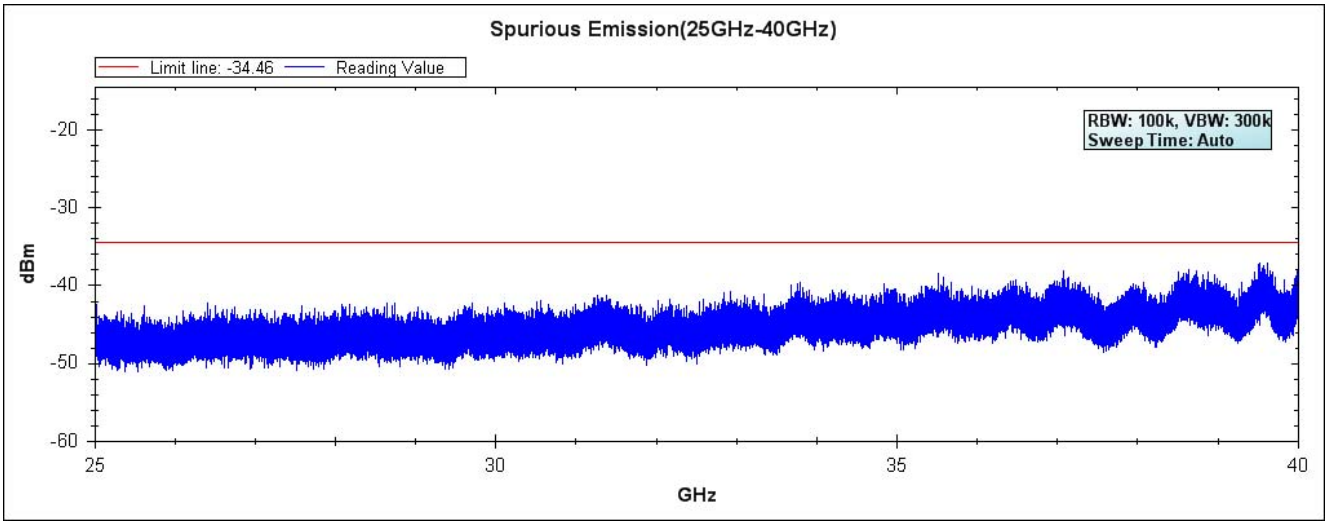




Note: The above test pattern is synthesized by multiple of the frequency range.

Channel 159 (5795MHz) 30MHz -40GHz-Chain B





S

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, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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:

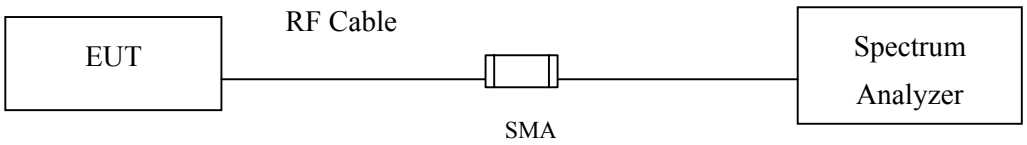
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
		Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
		Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

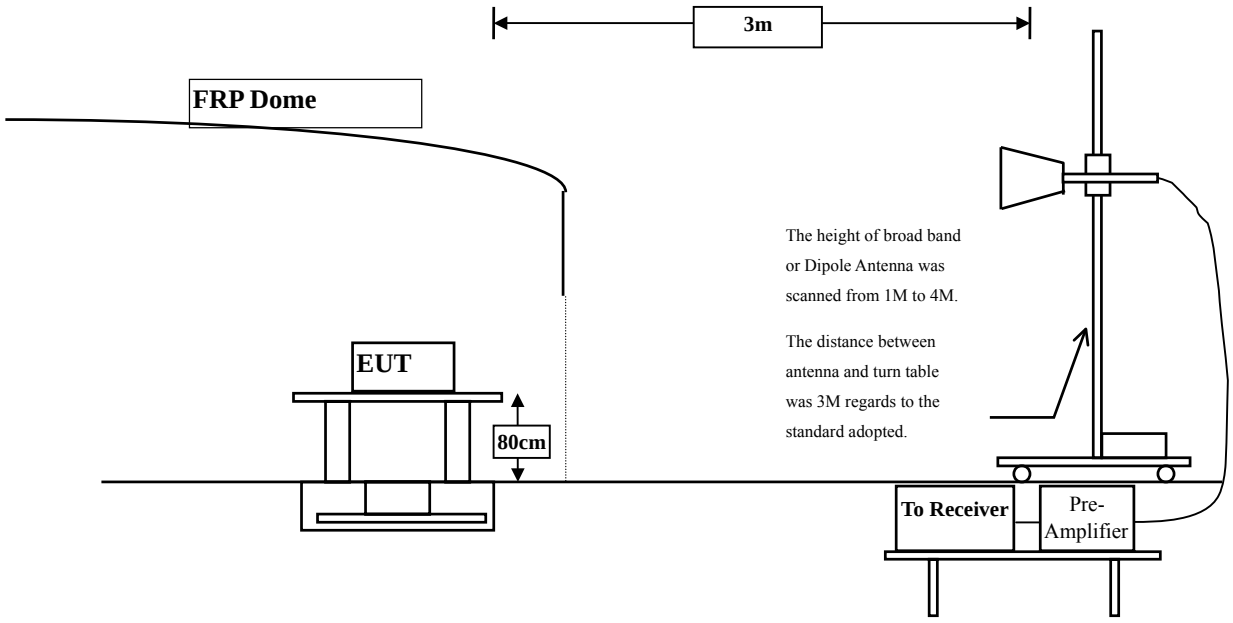
Note: 1. All instruments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:


3m
FRP Dome
EUT
80cm
The height of broad band or Dipole Antenna was scanned from 1M to 4M.
The distance between antenna and turn table was 3M regards to the standard adopted.
To Receiver
Pre-Amplifier

6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 30dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 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 from 1 meter to 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.

6.5. Uncertainty

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

6.6. Test Result of Band Edge

Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2352.400	31.361	26.070	57.432	74.00	54.00	Pass
01 (Peak)	2386.600	31.496	25.544	57.040	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	24.624	56.133	74.00	54.00	Pass
01 (Peak)	2413.000	31.646	73.522	105.168	--	--	--
01 (Average)	2390.000	31.509	13.084	44.593	74.00	54.00	Pass
01 (Average)	2411.400	31.634	69.750	101.384	--	--	--

Figure Channel 01: Horizontal (Peak)

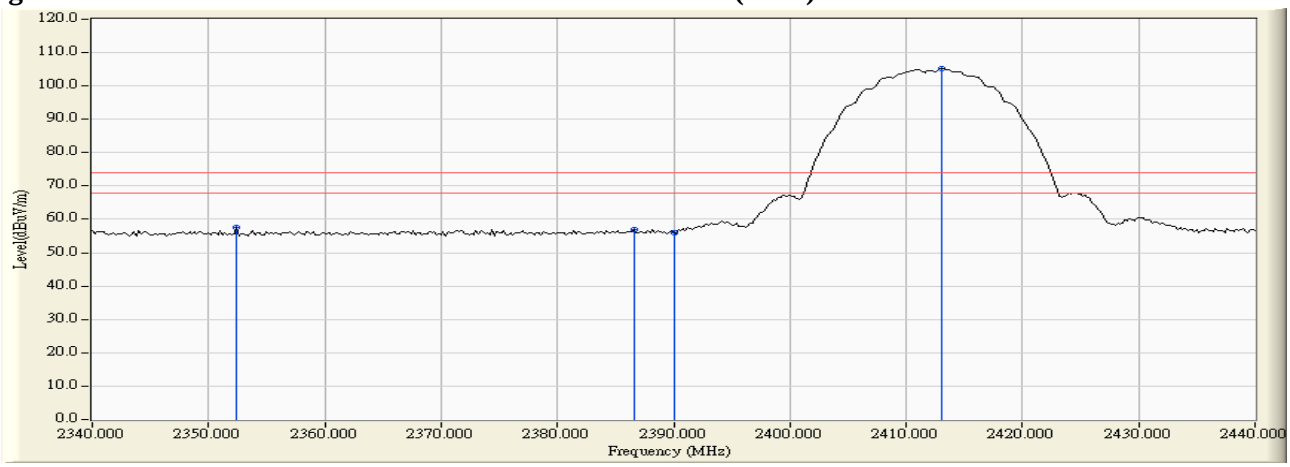
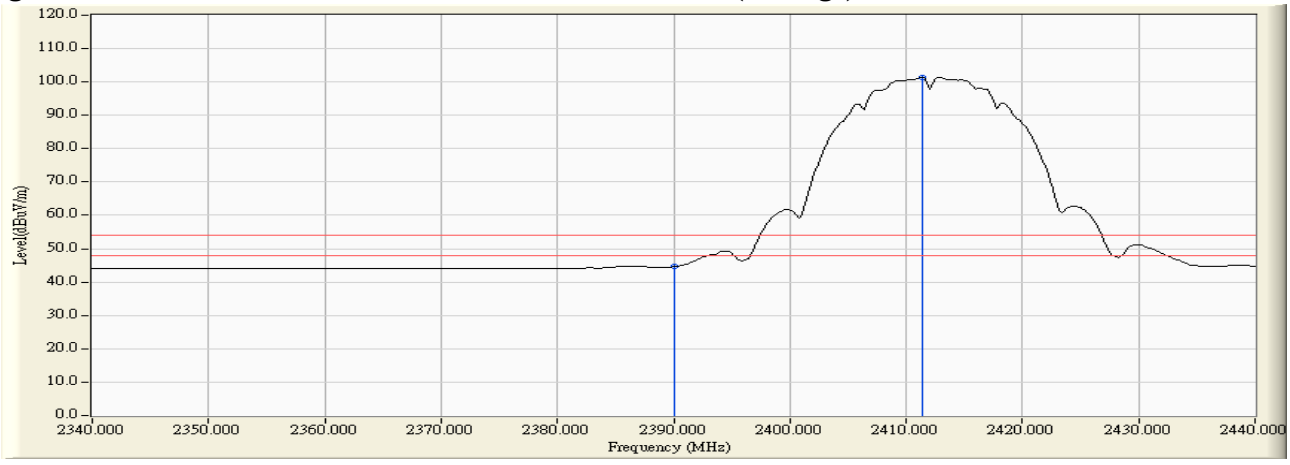


Figure Channel 01: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2365.000	31.031	25.739	56.770	74.00	54.00	Pass
01 (Peak)	2384.800	30.939	25.521	56.460	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	23.871	54.786	74.00	54.00	Pass
01 (Peak)	2413.000	30.956	65.377	96.333	--	--	--
01 (Average)	2390.000	30.915	12.295	43.210	74.00	54.00	Pass
01 (Average)	2412.800	30.955	61.583	92.538	--	--	--

Figure Channel 01: Vertical (Peak)

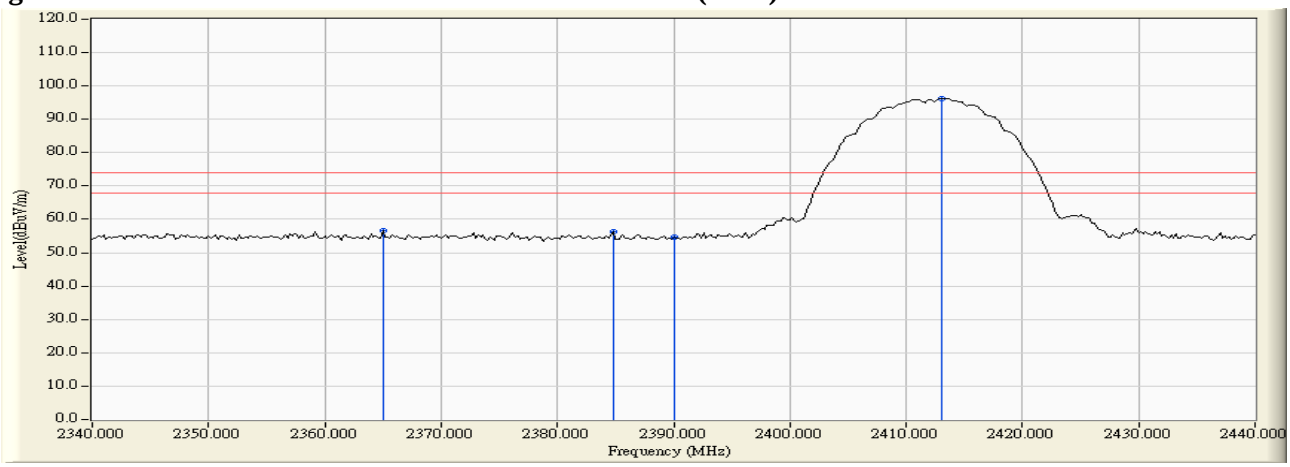
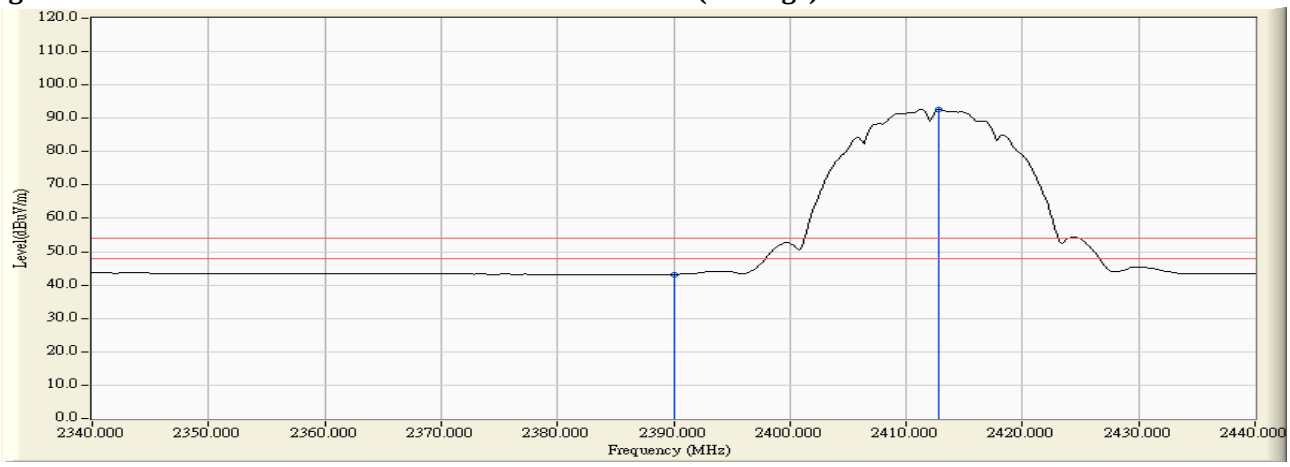


Figure Channel 01: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	32.026	72.782	104.808	--	--	--
11 (Peak)	2483.500	32.182	24.487	56.669	74.00	54.00	Pass
11 (Peak)	2488.900	32.223	25.531	57.754	74.00	54.00	Pass
11 (Average)	2461.300	32.014	69.171	101.185	--	--	--
11 (Average)	2483.500	32.182	13.816	45.998	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

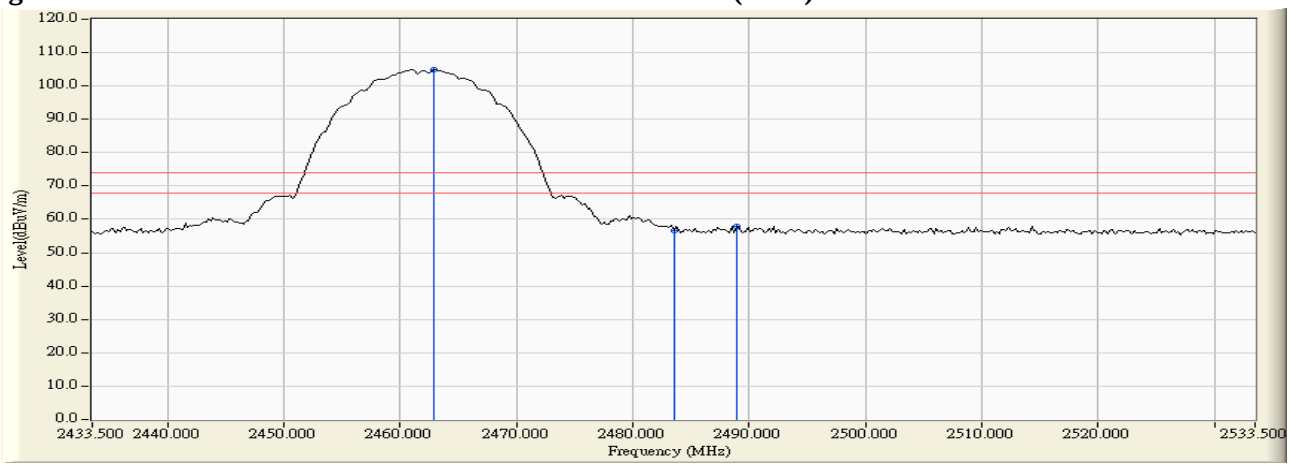
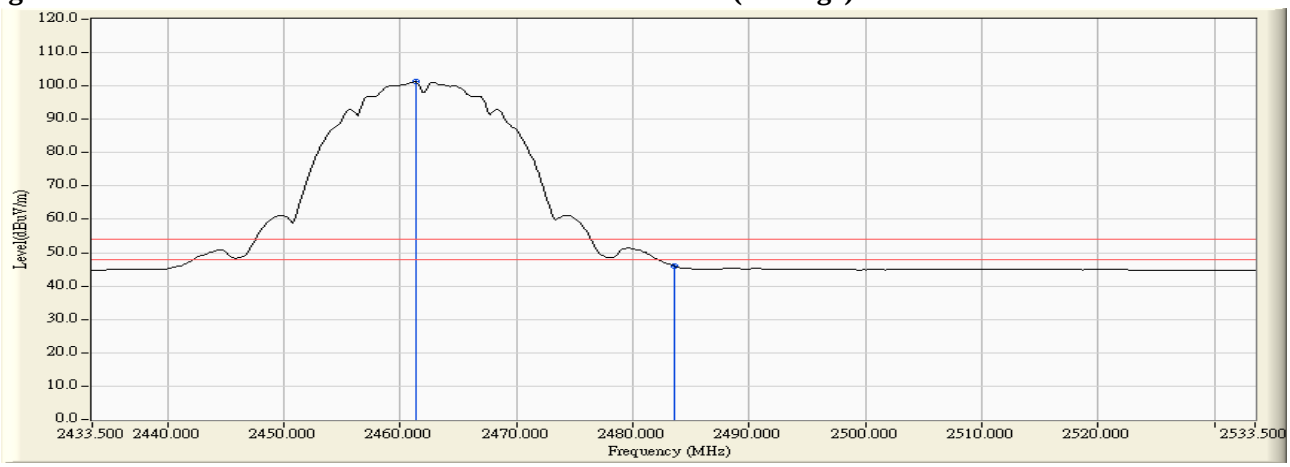


Figure Channel 11: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	31.296	65.202	96.498	--	--	--
11 (Peak)	2483.500	31.435	24.017	55.452	74.00	54.00	Pass
11 (Peak)	2487.900	31.465	25.308	56.773	74.00	54.00	Pass
11 (Average)	2461.300	31.286	61.577	92.863	--	--	--
11 (Average)	2483.500	31.435	12.554	43.989	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

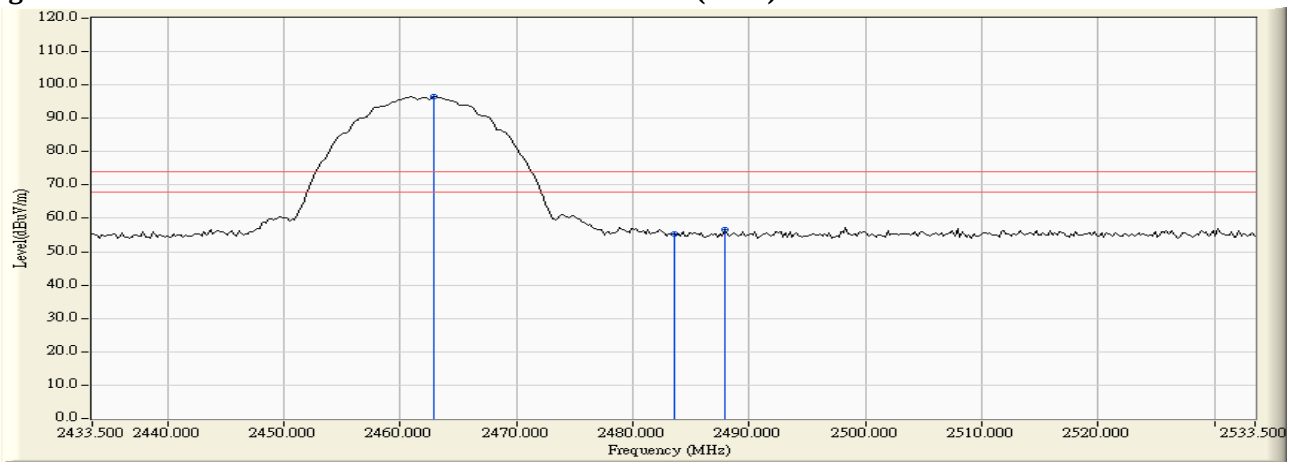
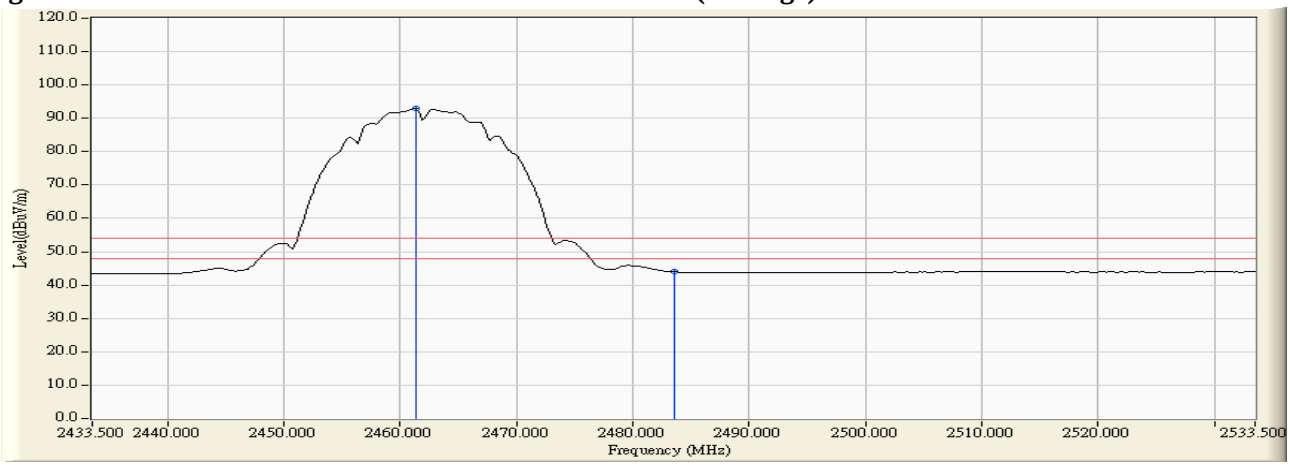


Figure Channel 11: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2384.200	31.486	26.451	57.937	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	25.270	56.779	74.00	54.00	Pass
01 (Peak)	2416.600	31.674	73.708	105.381	--	--	--
01(Average)	2390.000	31.509	13.905	45.414	74.00	54.00	Pass
01(Average)	2416.400	31.672	64.979	96.651	--	--	--

Figure Channel 01: Horizontal (Peak)

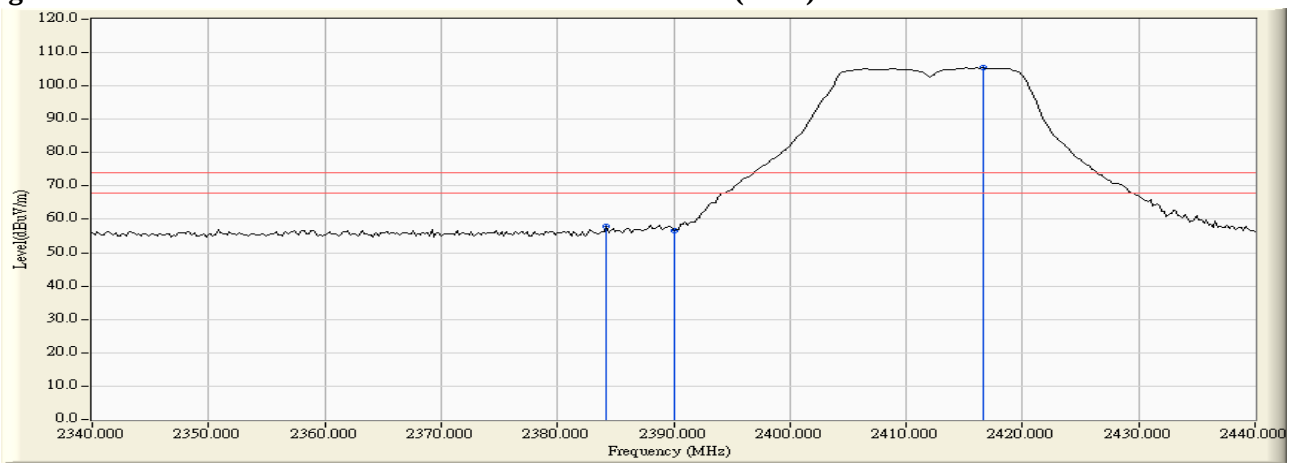
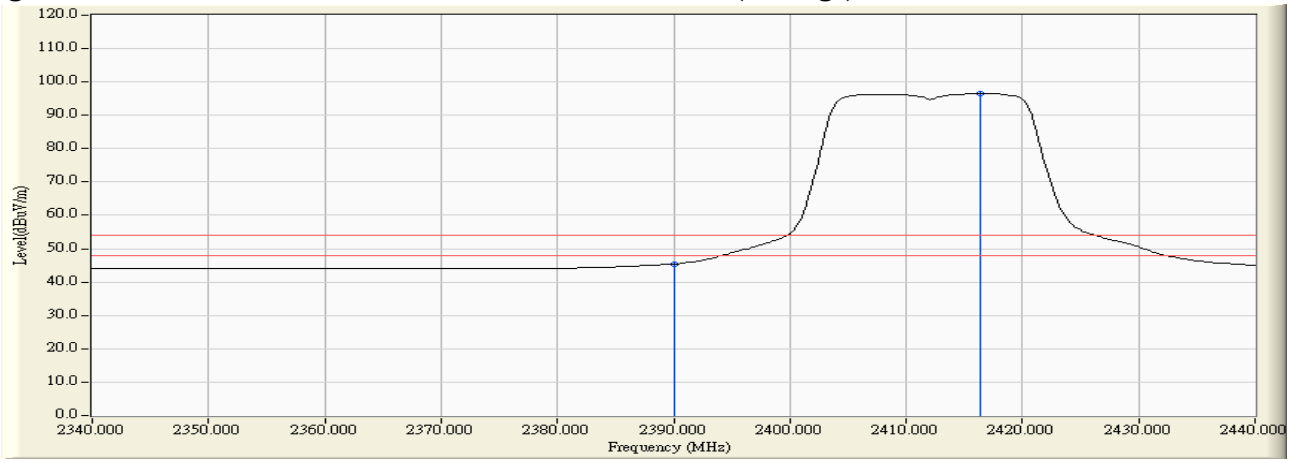


Figure Channel 01: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	25.076	55.991	74.00	54.00	Pass
01 (Peak)	2406.600	30.930	67.936	98.866	--	--	--
01 (Average)	2390.000	30.915	12.805	43.720	74.00	54.00	Pass
01 (Average)	2407.400	30.932	58.984	89.916	--	--	--

Figure Channel 01: Vertical (Peak)

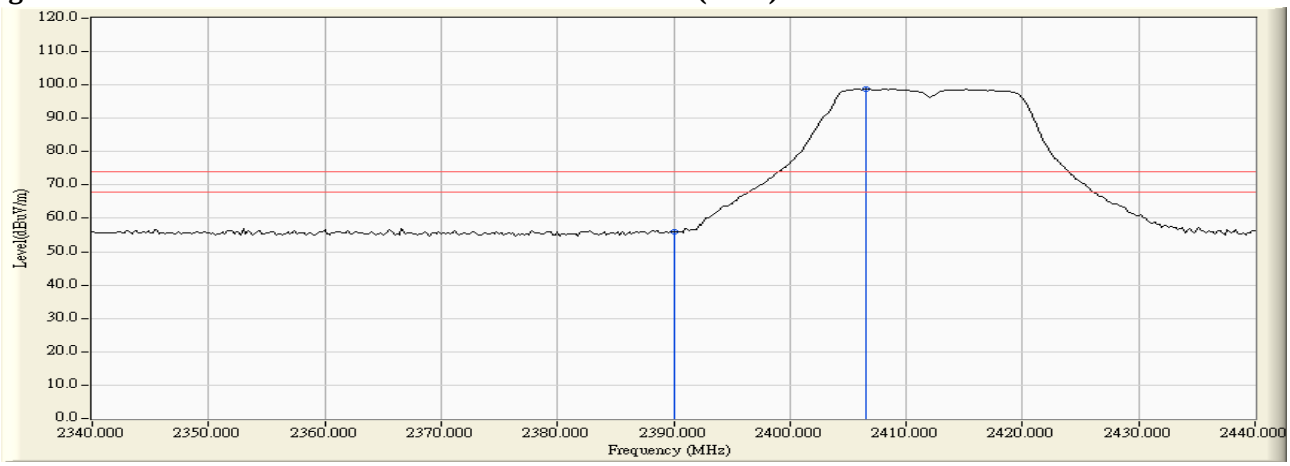
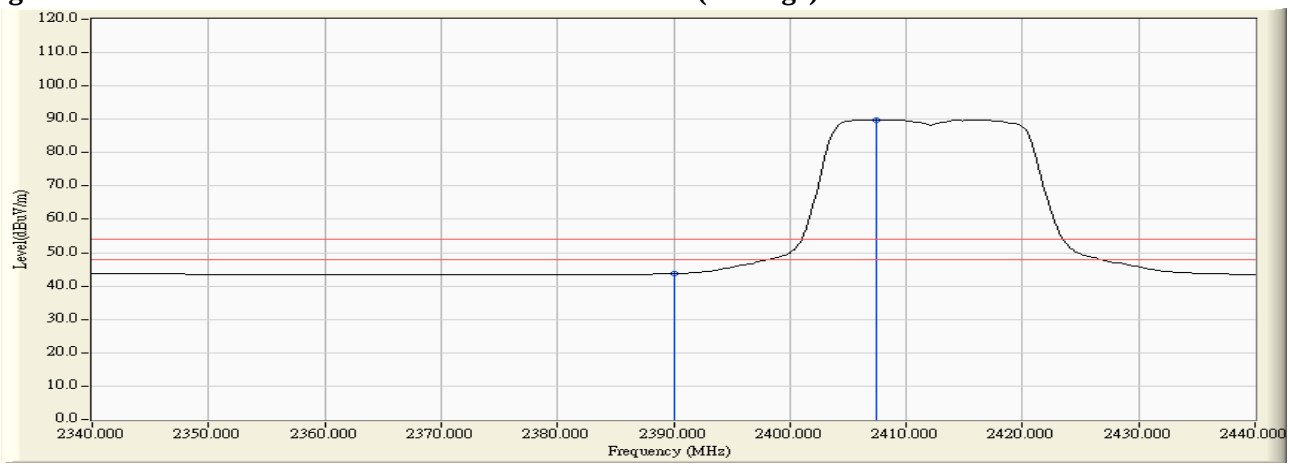


Figure Channel 01: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2458.700	31.994	73.133	105.127	--	--	--
11 (Peak)	2483.500	32.182	27.656	59.838	74.00	54.00	Pass
11 (Average)	2459.500	32.001	64.119	96.119	--	--	--
11 (Average)	2483.500	32.182	14.893	47.075	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

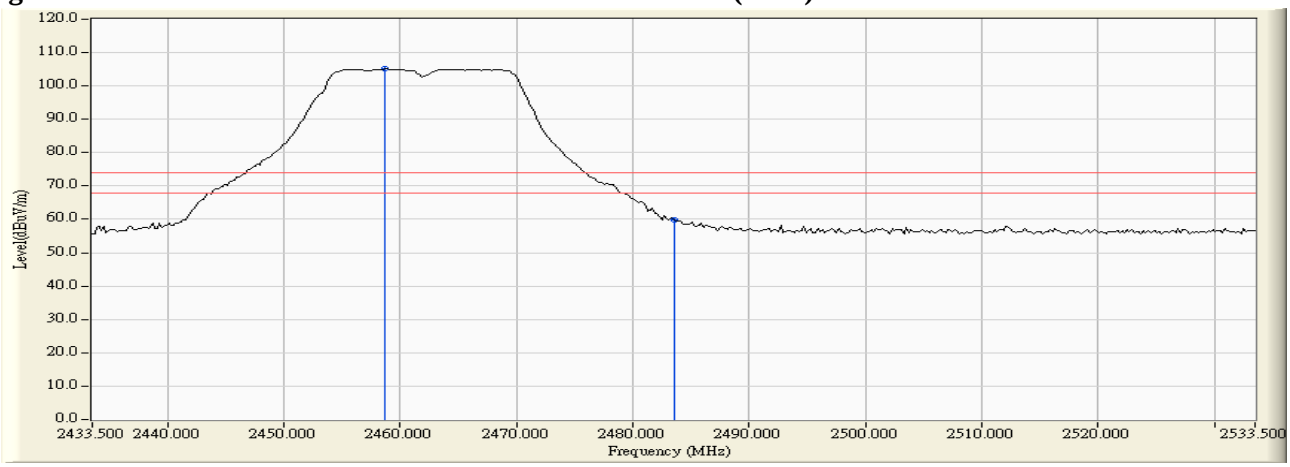
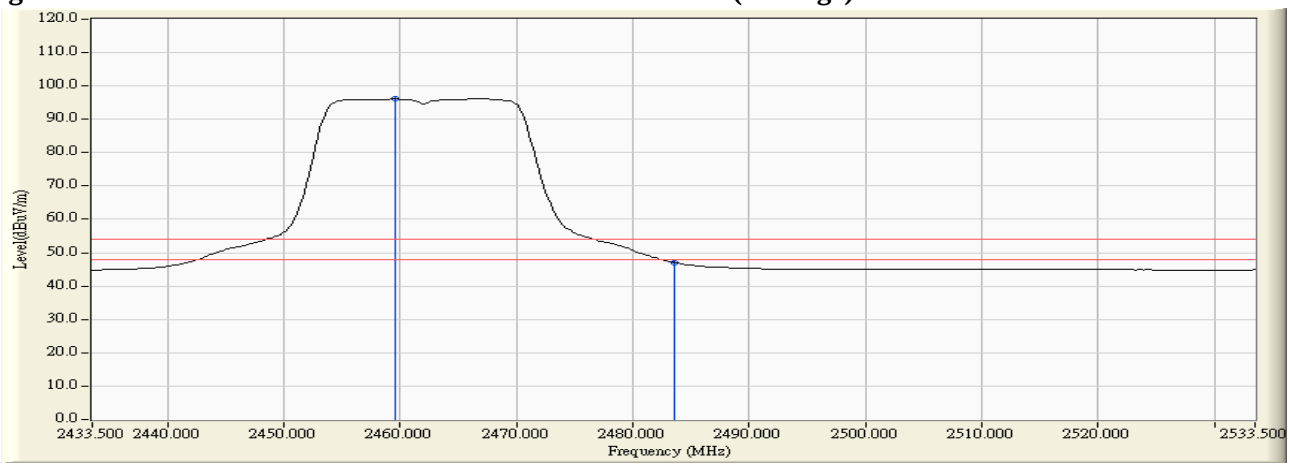


Figure Channel 11: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2468.500	31.334	65.687	97.021	--	--	--
11 (Peak)	2483.500	31.435	24.830	56.265	74.00	54.00	Pass
11 (Average)	2467.300	31.326	56.655	87.981	--	--	--
11 (Average)	2483.500	31.435	12.904	44.339	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

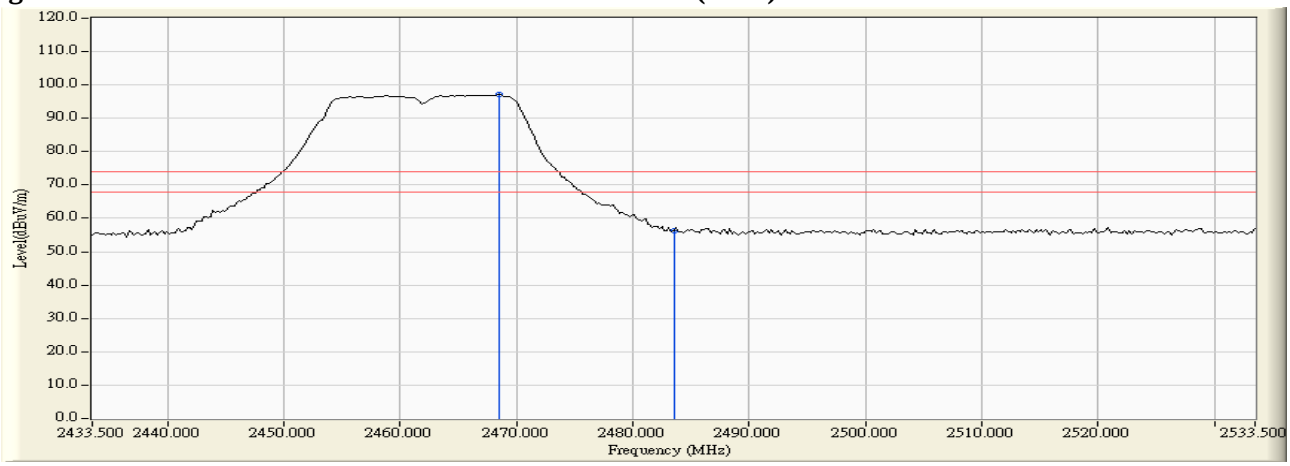
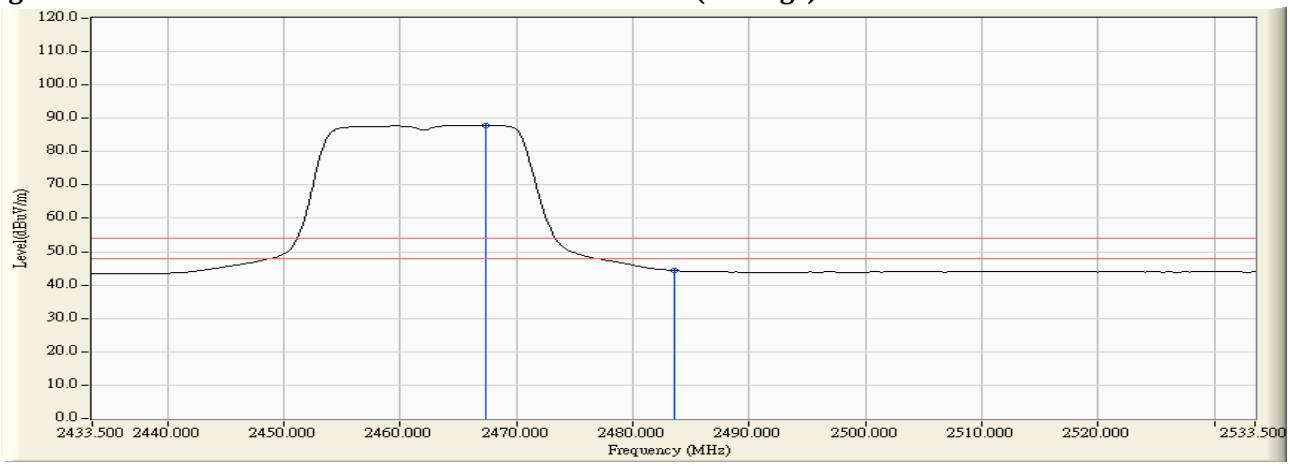


Figure Channel 11: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	31.509	28.405	59.914	74.00	54.00	Pass
01 (Peak)	2414.600	31.659	75.035	106.693	--	--	--
01 (Average)	2390.000	31.509	14.706	46.215	74.00	54.00	Pass
01 (Average)	2416.000	31.670	64.275	95.944	--	--	--

Figure Channel 01: Horizontal (Peak)

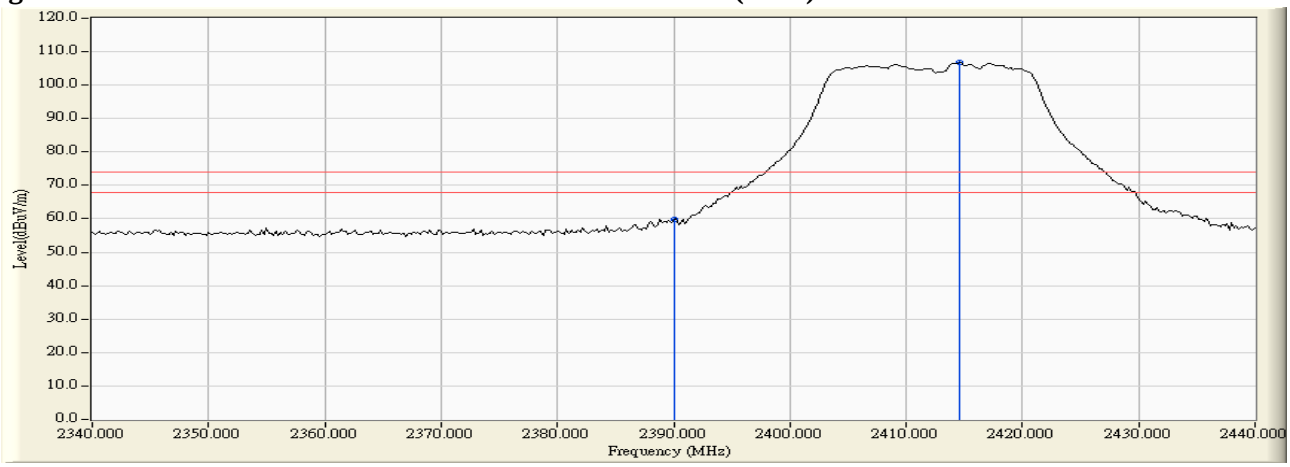
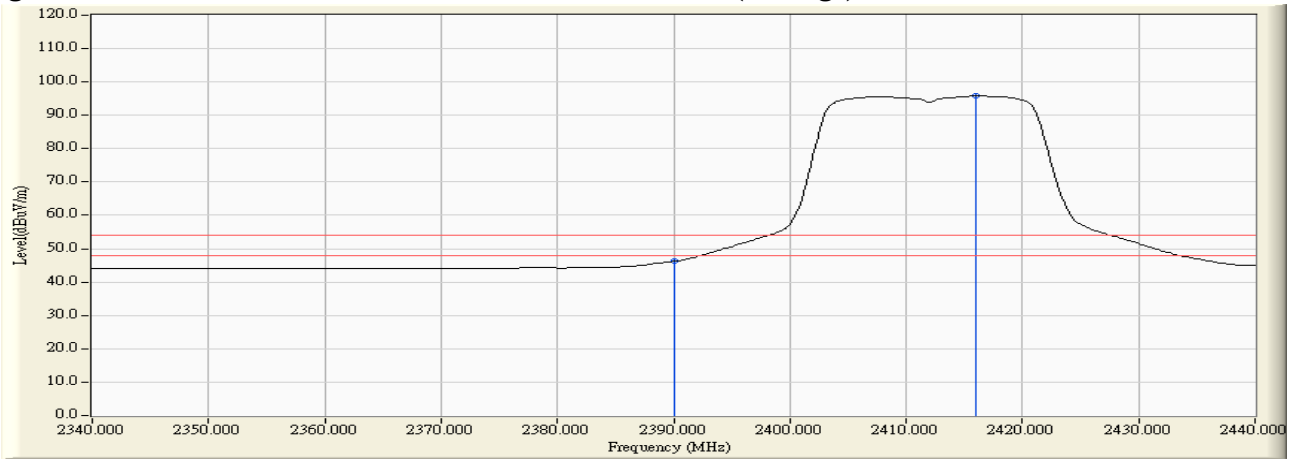


Figure Channel 01: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	25.672	56.587	74.00	54.00	Pass
01 (Peak)	2406.600	30.930	69.424	100.354	--	--	--
01 (Average)	2390.000	30.915	13.083	43.998	74.00	54.00	Pass
01 (Average)	2416.200	30.978	58.010	88.988	--	--	--

Figure Channel 01: Vertical (Peak)

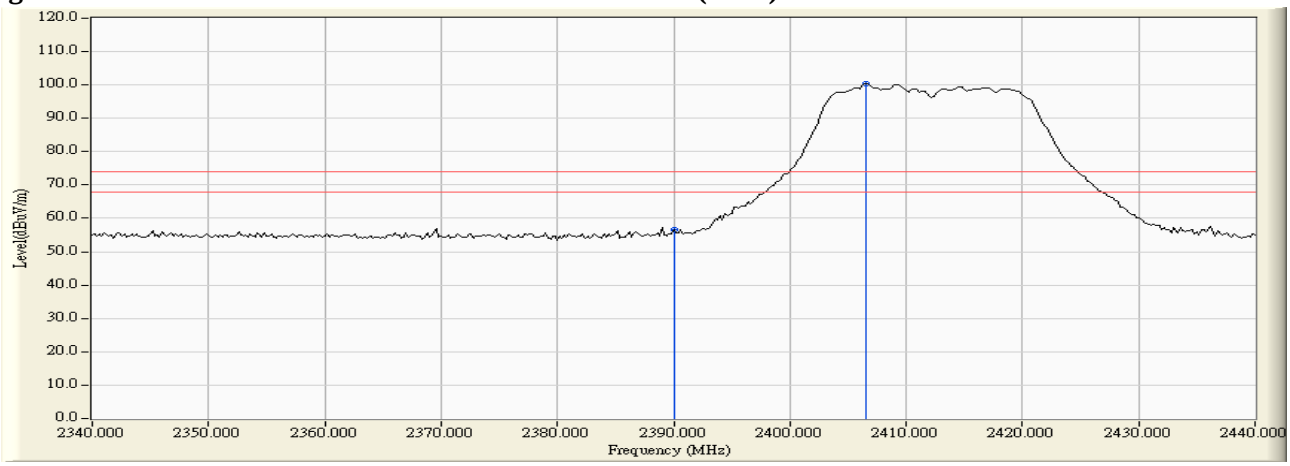
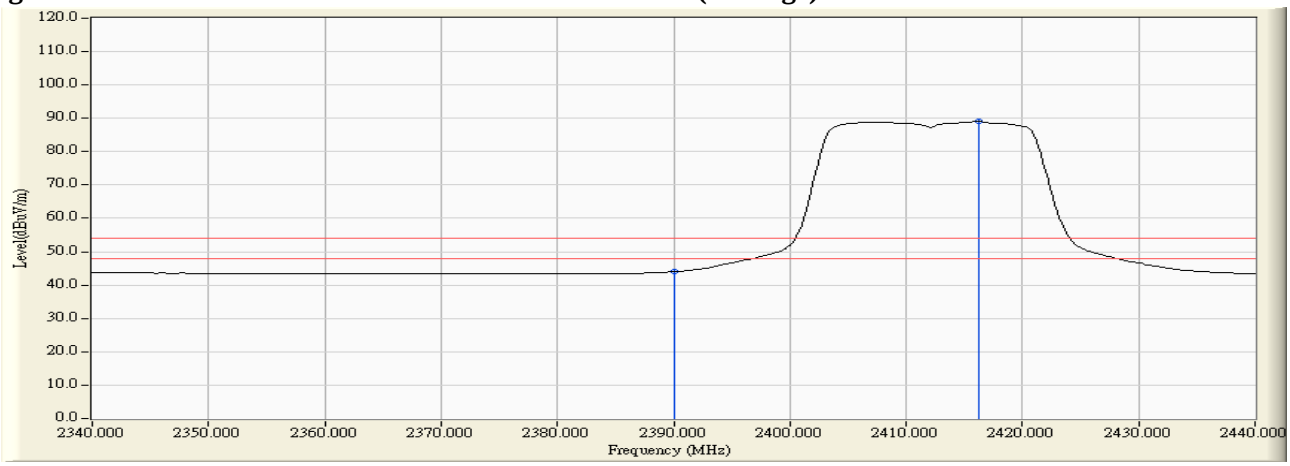


Figure Channel 01: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2468.700	32.070	75.442	107.512	--	--	--
11 (Peak)	2483.500	32.182	30.475	62.657	74.00	54.00	Pass
11 (Peak)	2484.700	32.192	30.934	63.125	74.00	54.00	Pass
11 (Average)	2467.700	32.063	65.127	97.189	--	--	--
11 (Average)	2483.500	32.182	17.587	49.769	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

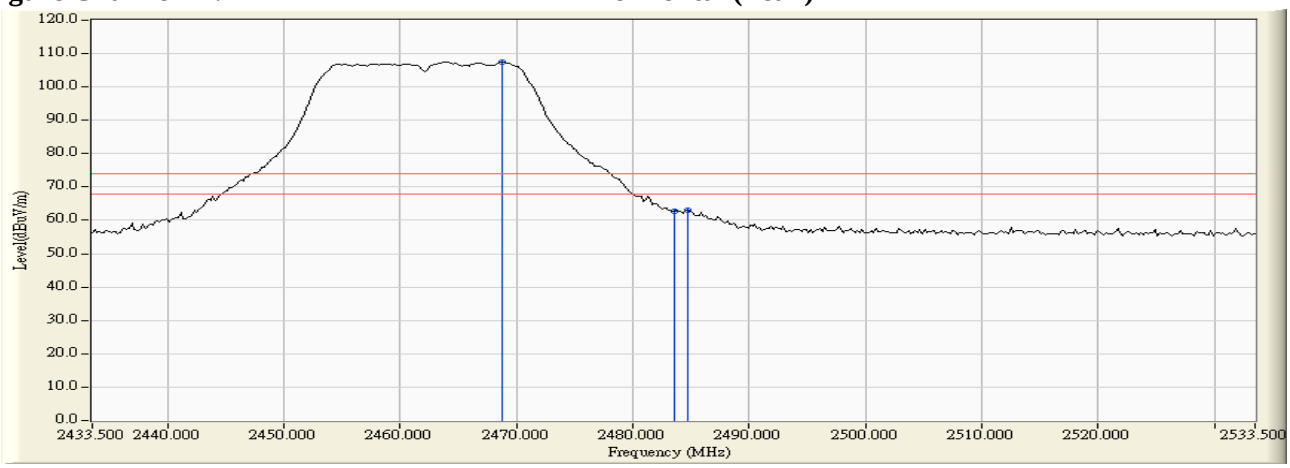
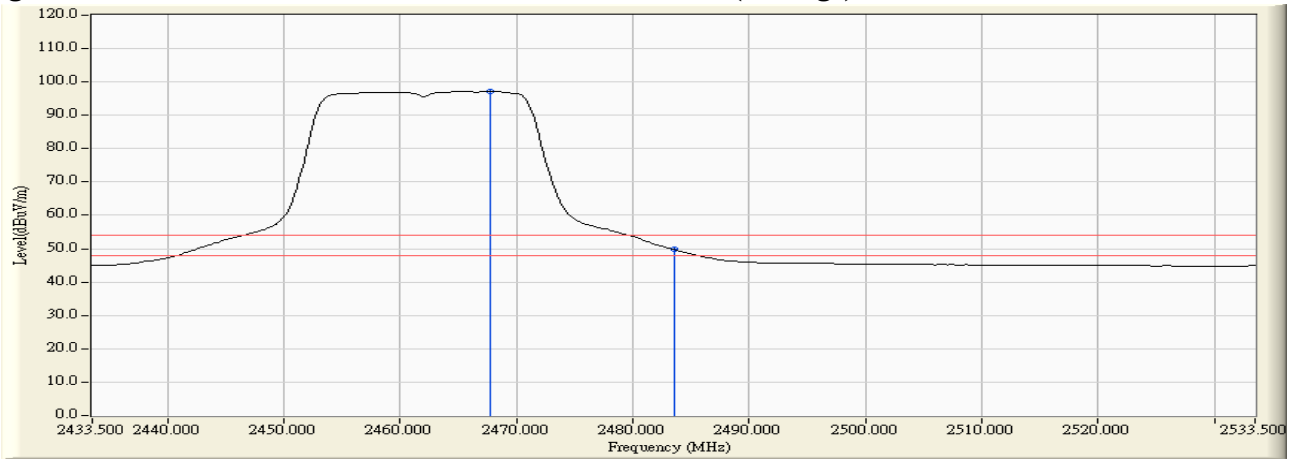


Figure Channel 11: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit - 802.11n-20BW_14.4Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2460.300	31.278	65.428	96.707	--	--	--
11 (Peak)	2483.500	31.435	24.094	55.529	74.00	54.00	Pass
11 (Peak)	2483.700	31.437	26.351	57.788	74.00	54.00	Pass
11 (Average)	2466.700	31.322	54.675	85.997	--	--	--
11 (Average)	2483.500	31.435	12.904	44.339	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

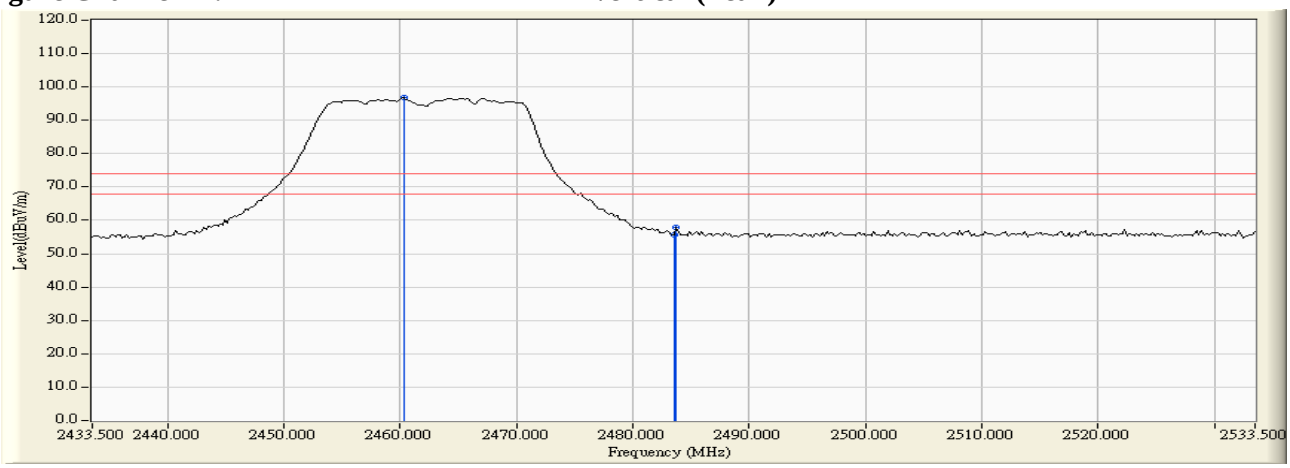
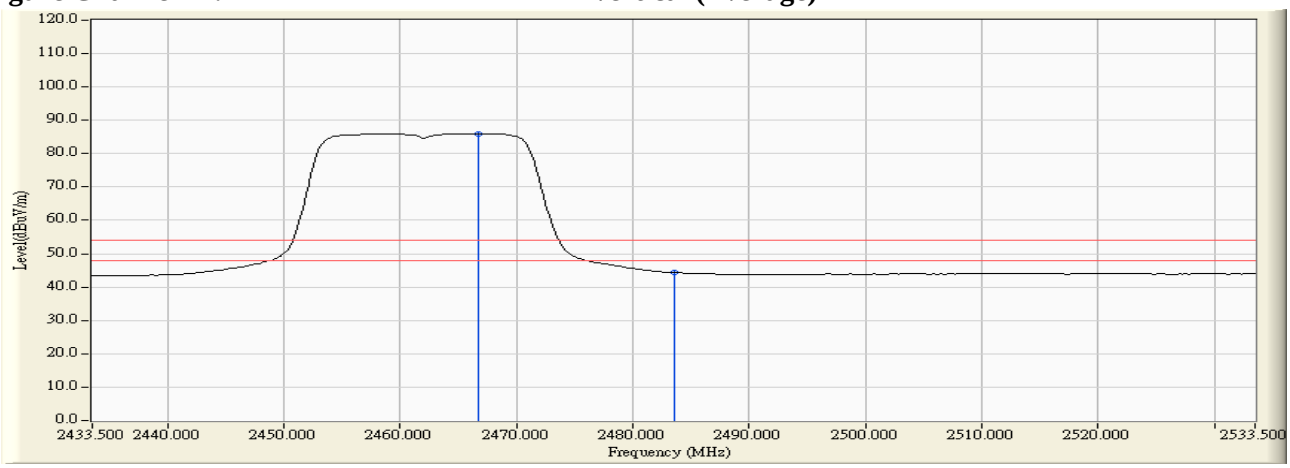


Figure Channel 11: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
0 (Peak)	2380.600	31.473	26.872	58.345	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	26.675	58.184	74.00	54.00	Pass
01 (Peak)	2430.000	31.776	71.166	102.942	--	--	--
01 (Average)	2390.000	31.509	15.534	47.043	74.00	54.00	Pass
01 (Average)	2432.800	31.798	60.333	92.130	--	--	--

Figure Channel 01: Horizontal (Peak)

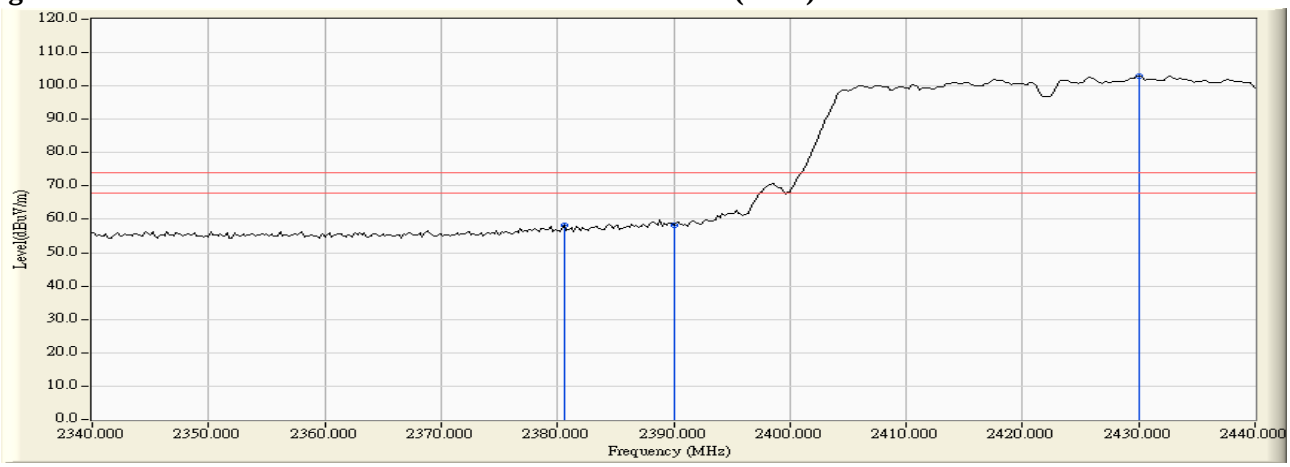
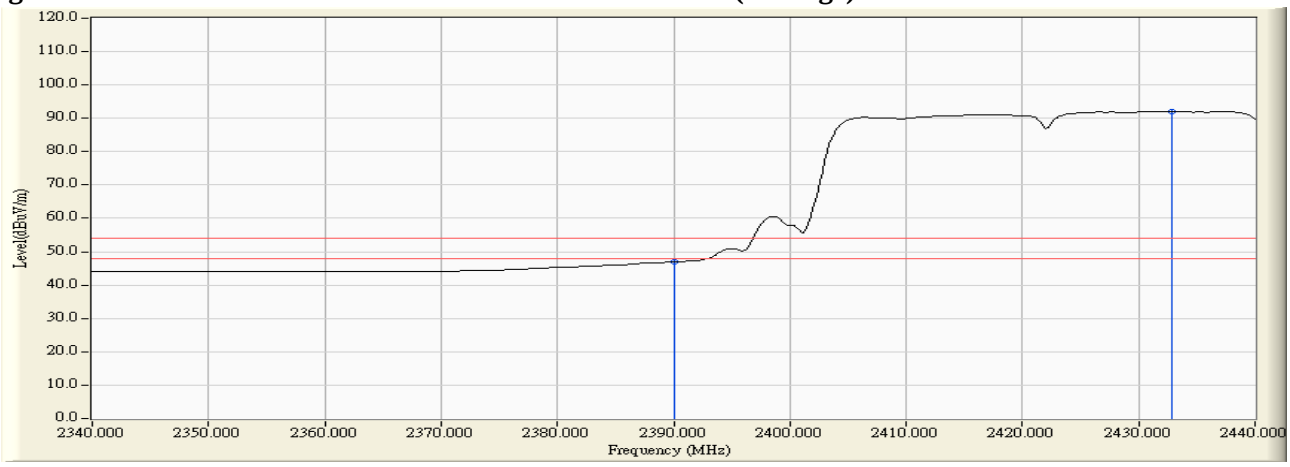


Figure Channel 01: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	24.932	55.847	74.00	54.00	Pass
01 (Peak)	2430.800	31.077	60.120	91.197	--	--	--
01 (Average)	2390.000	30.915	12.673	43.588	74.00	54.00	Pass
01 (Average)	2438.000	31.125	49.552	80.678	--	--	--

Figure Channel 01: Vertical (Peak)

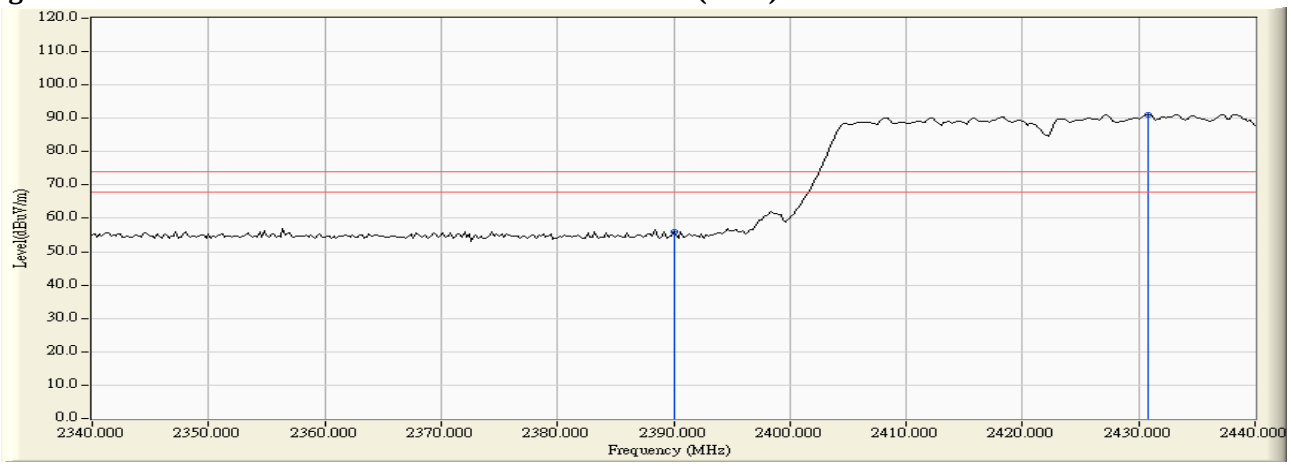
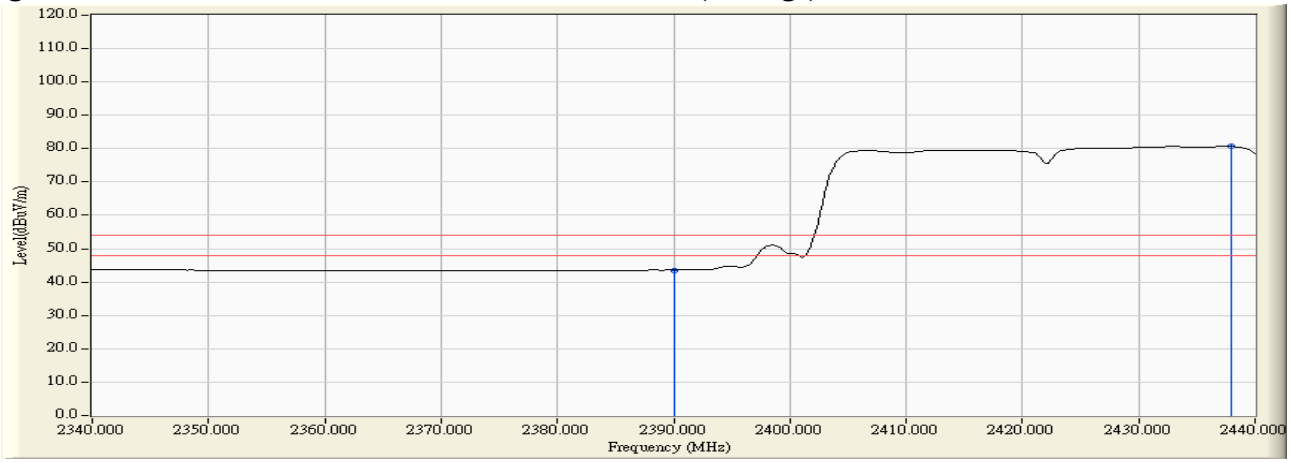


Figure Channel 01: Vertical (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
07 (Peak)	2462.700	32.025	70.898	102.923	--	--	--
07 (Peak)	2483.500	32.182	29.442	61.624	74.00	54.00	Pass
07 (Peak)	2487.300	32.211	30.079	62.290	74.00	54.00	Pass
07 (Average)	2461.300	32.014	60.559	92.573	--	--	--
07 (Average)	2483.500	32.182	17.095	49.277	74.00	54.00	Pass

Figure Channel 07: Horizontal (Peak)

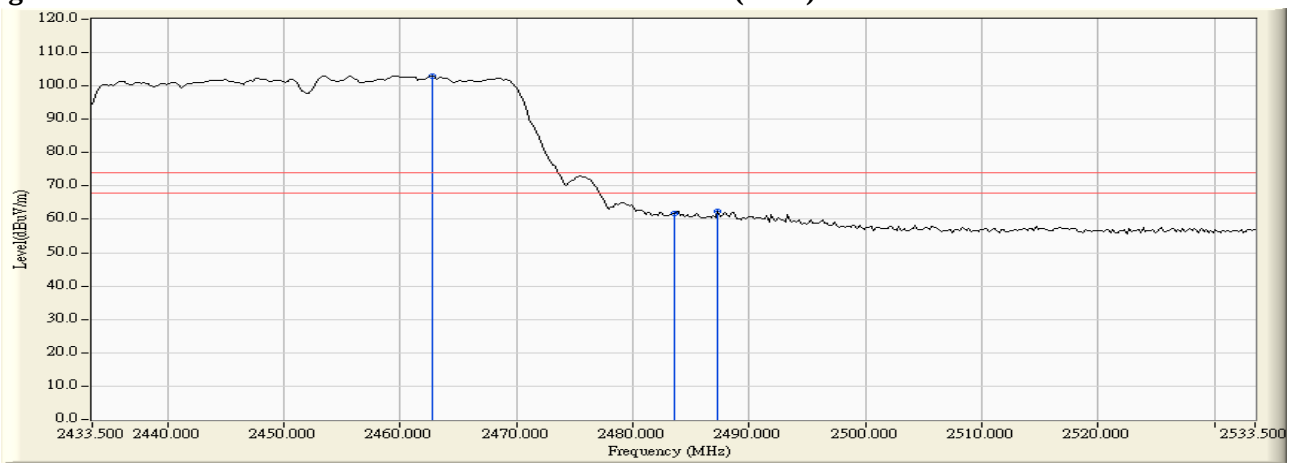
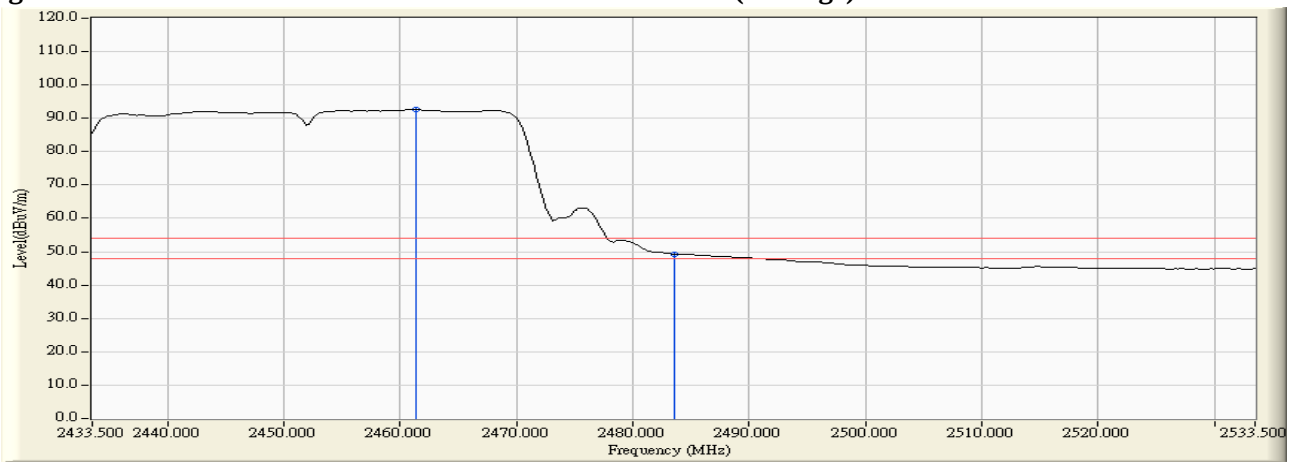


Figure Channel 07: Horizontal (Average)



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 : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit - 802.11n-40BW_30Mbps(2.4G Band)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
07 (Peak)	2460.700	31.281	61.729	93.010	--	--	--
07 (Peak)	2483.500	31.435	24.618	56.053	74.00	54.00	Pass
07 (Peak)	2508.900	31.544	25.974	57.519	74.00	54.00	Pass
07 (Average)	2461.100	31.285	50.836	82.120	--	--	--
07 (Average)	2483.500	31.435	12.983	44.418	74.00	54.00	Pass

Figure Channel 07: Vertical (Peak)

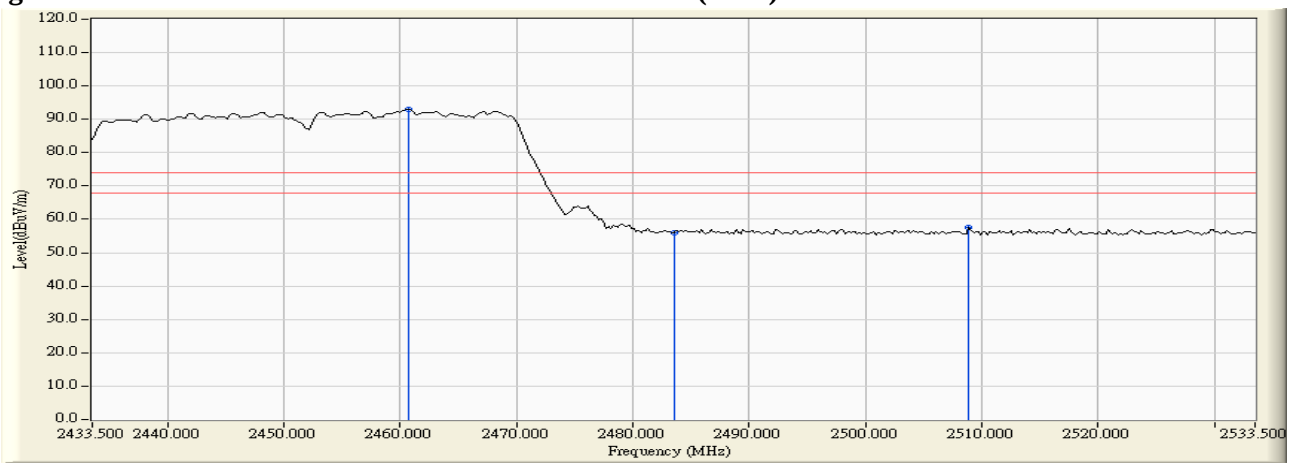
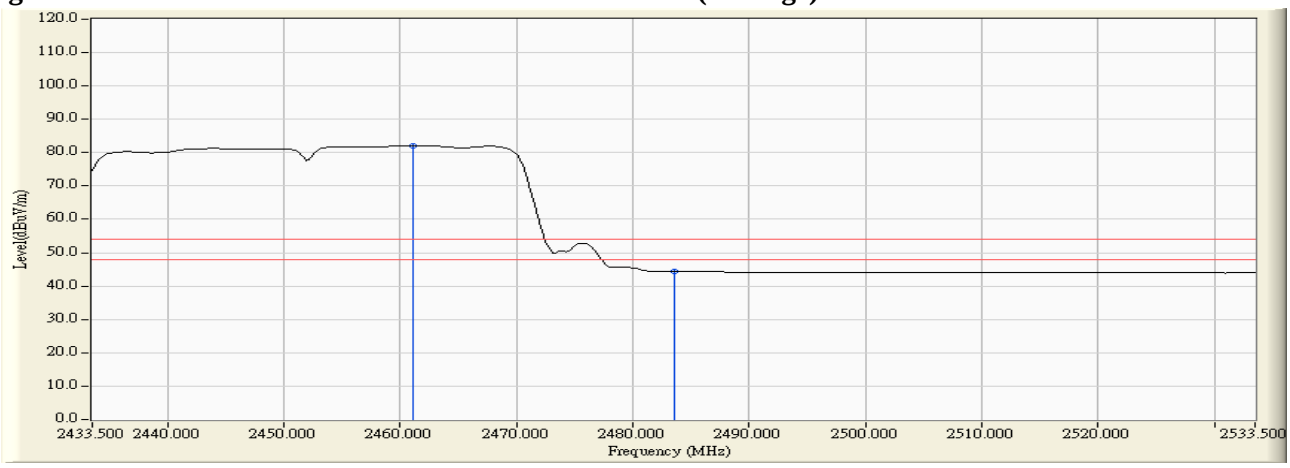


Figure Channel 07: Vertical (Average)

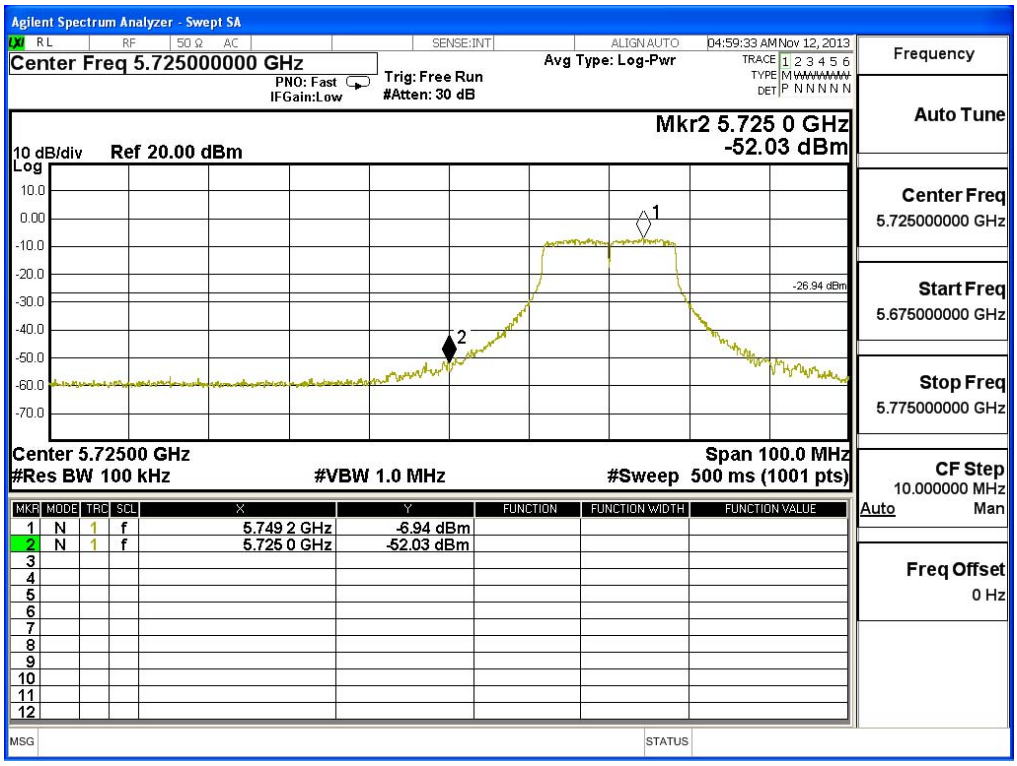


Note:

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.

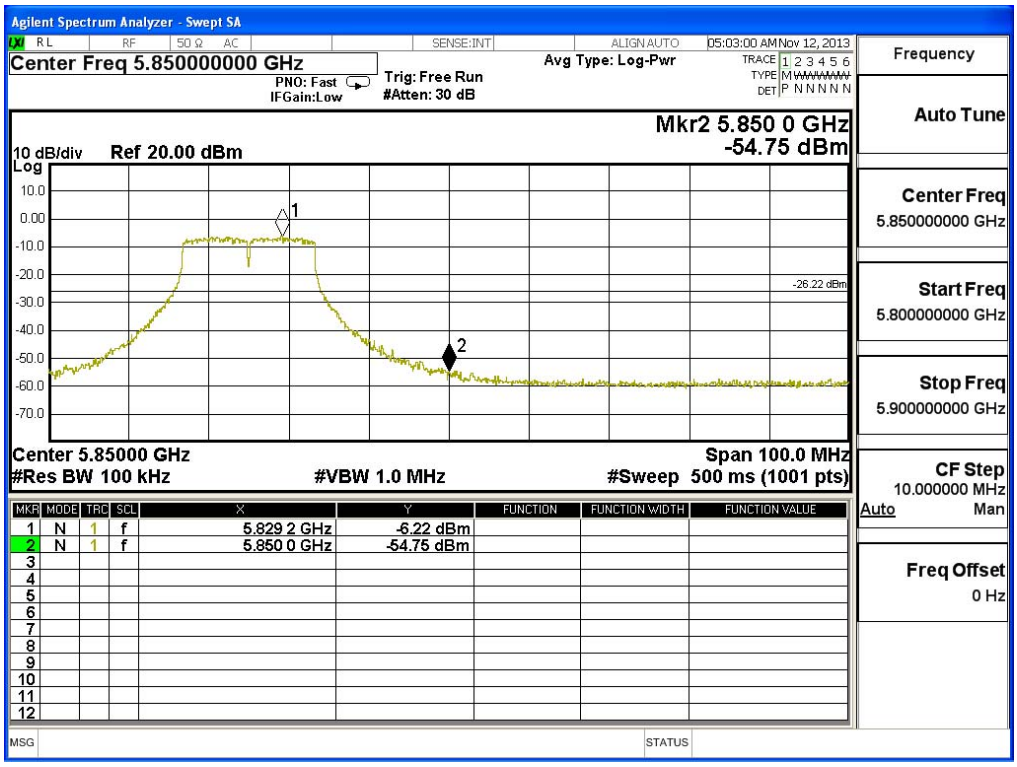
Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps

Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5745	45.09	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit - 802.11a 6Mbps

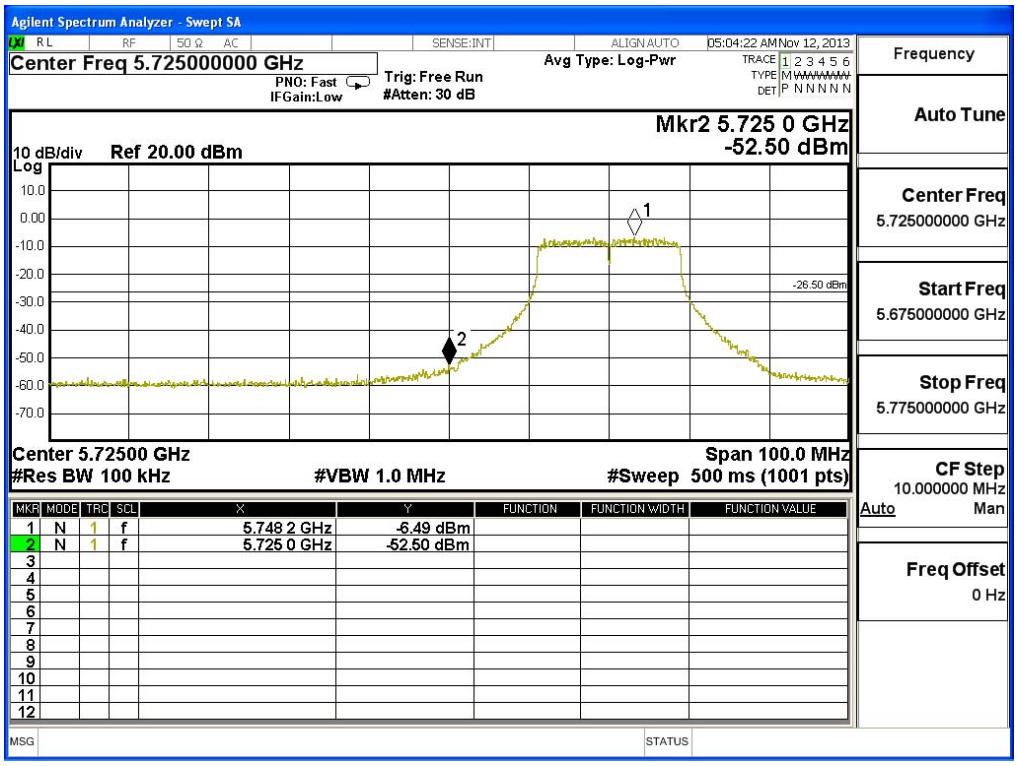
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5825	48.53	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

Chain A

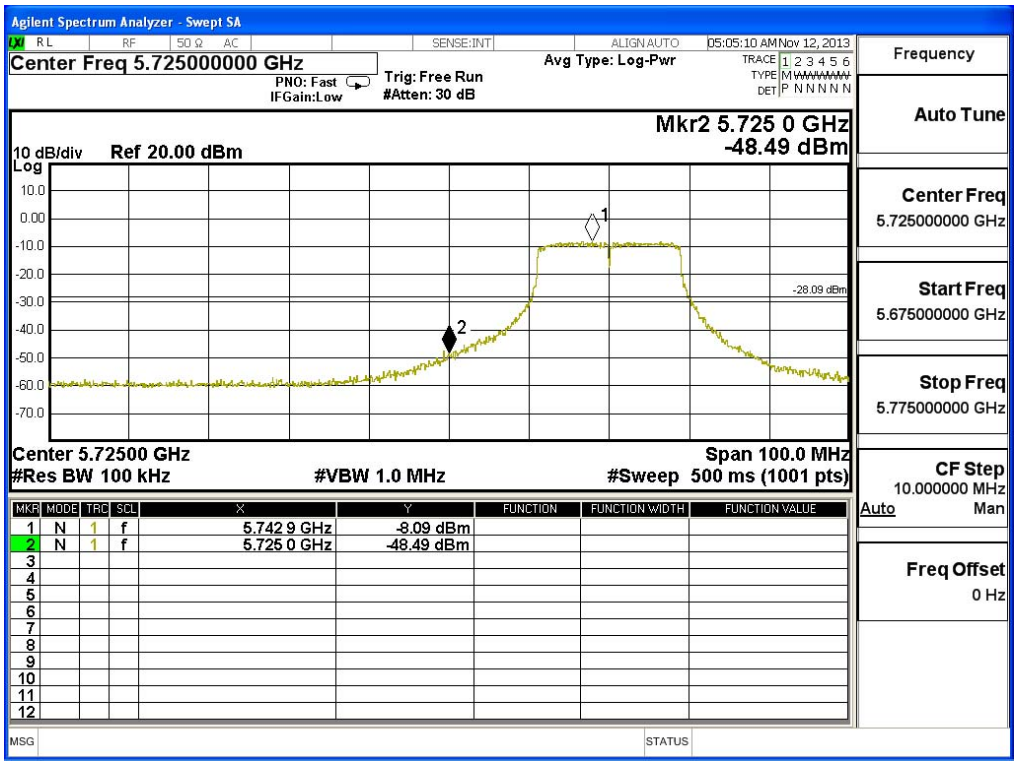
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5745	46.01	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

Chain B

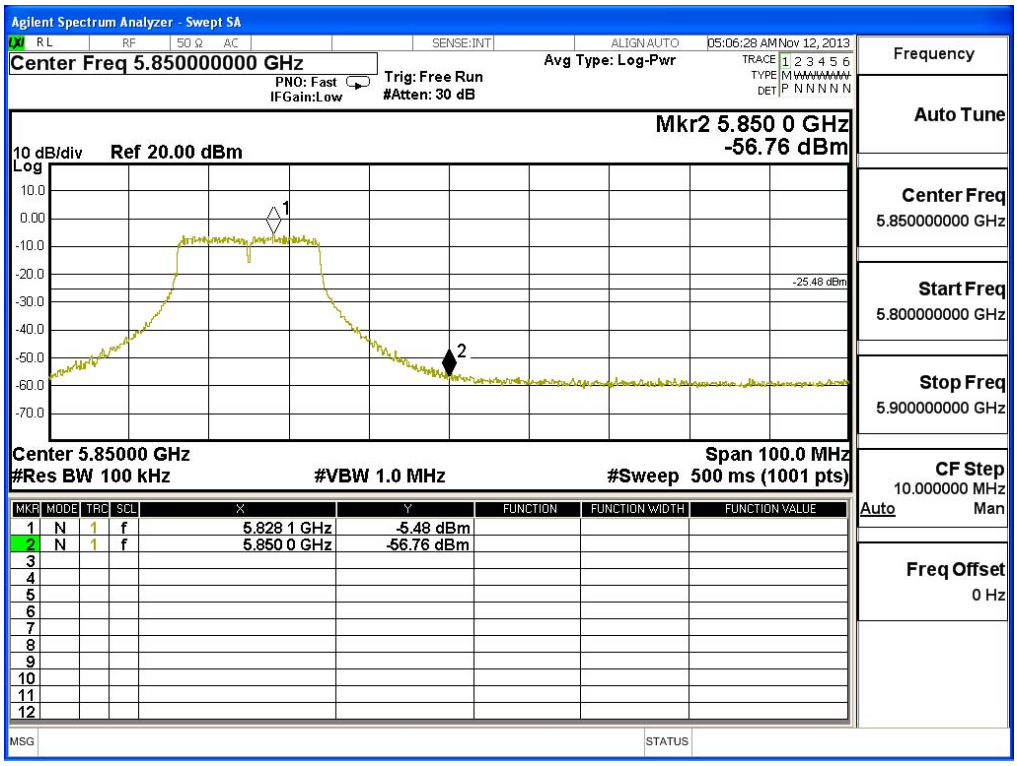
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5745	40.40	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

Chain A

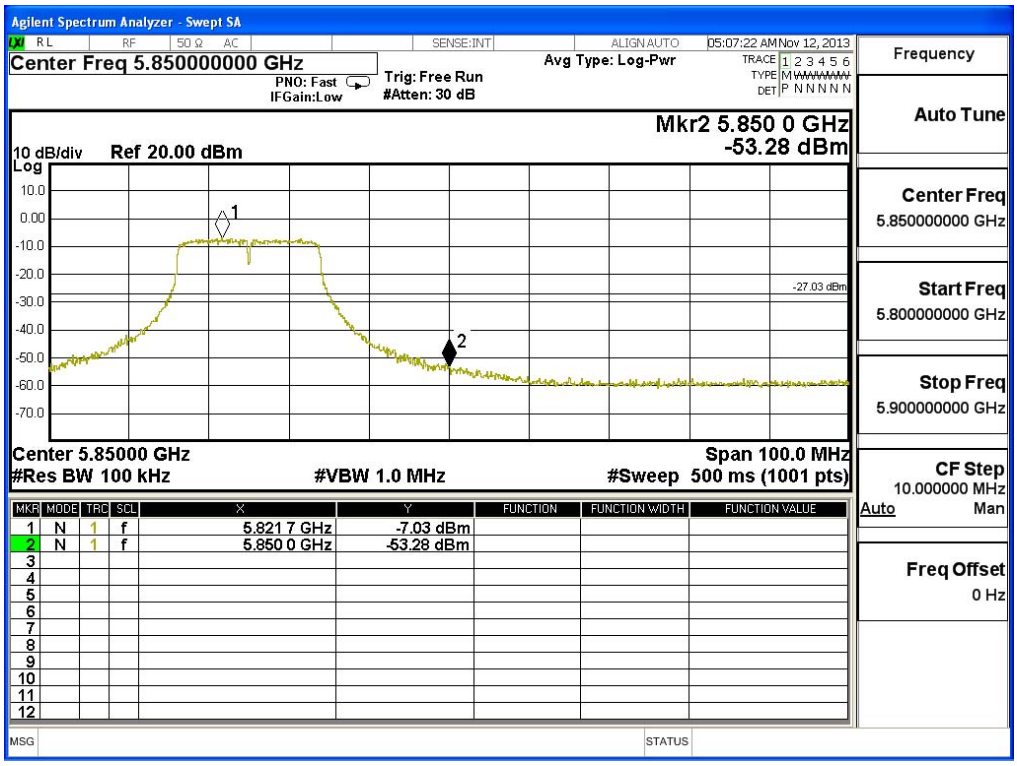
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5825	51.28	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit - 802.11n-20BW_14.4Mbps(5G Band)

Chain B

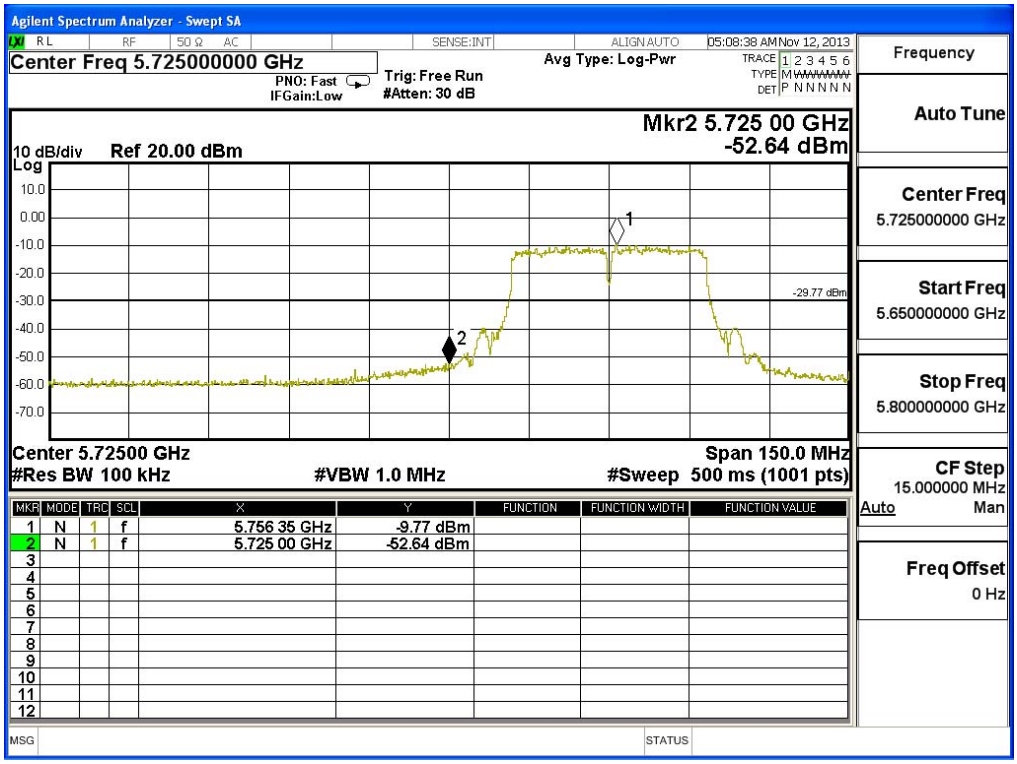
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5825	46.25	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

Chain A

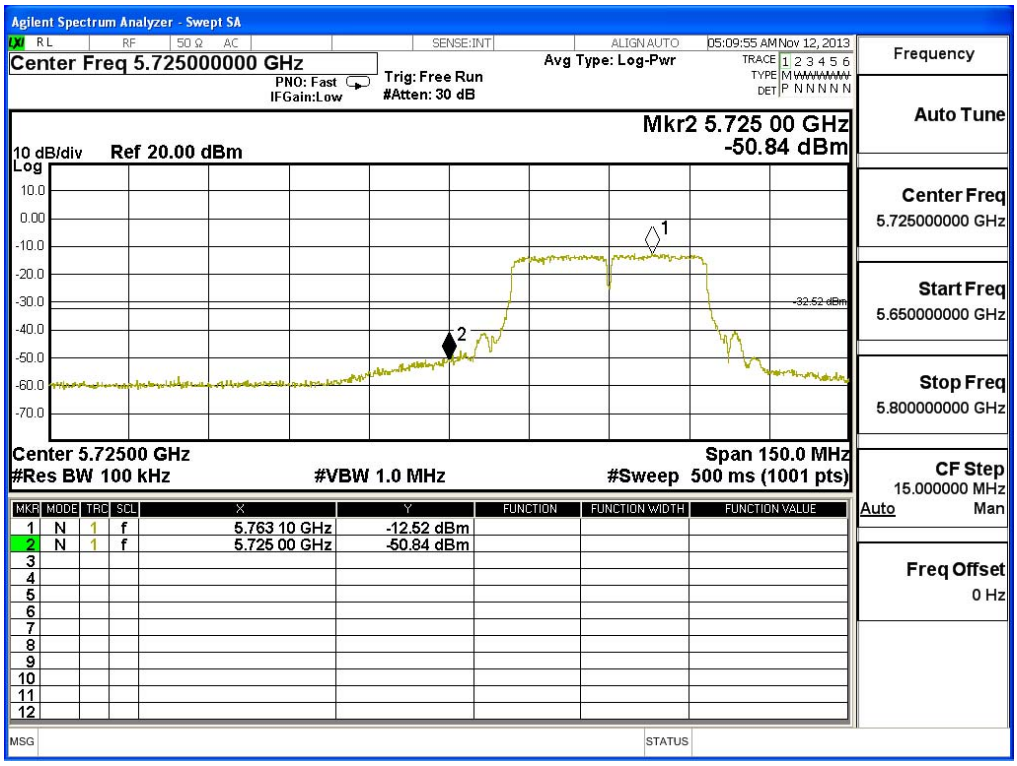
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5755	42.87	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

Chain B

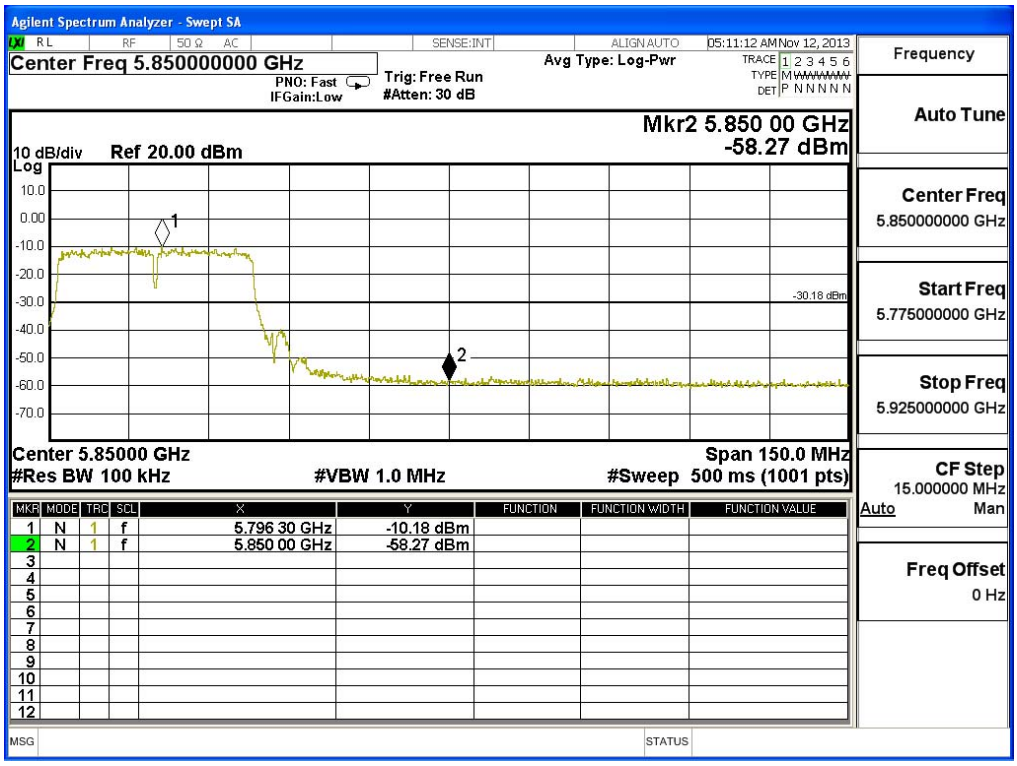
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5755	38.32	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

Chain A

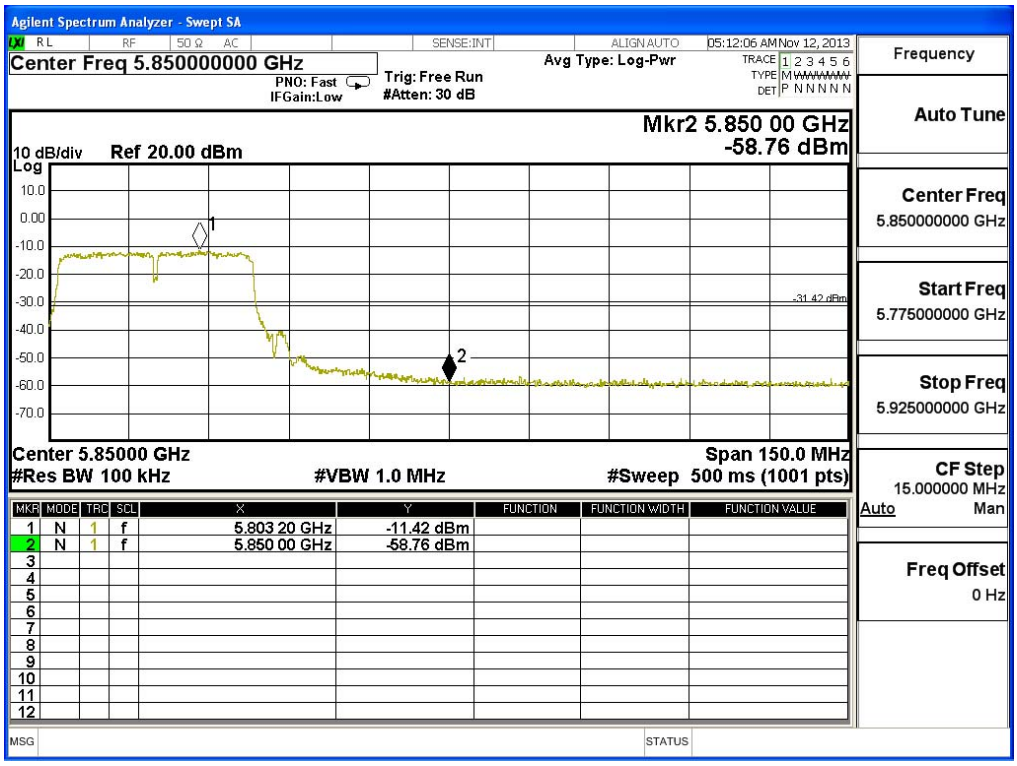
Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5795	48.09	>30	PASS



Product : AerialCast
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 7: Transmit - 802.11n-40BW_30Mbps(5G Band)

Chain B

Test Frequency (MHz)	Measurement Level Δ (dB)	Limit Δ (dB)	Result
5795	47.34	>30	PASS



7. Occupied Bandwidth

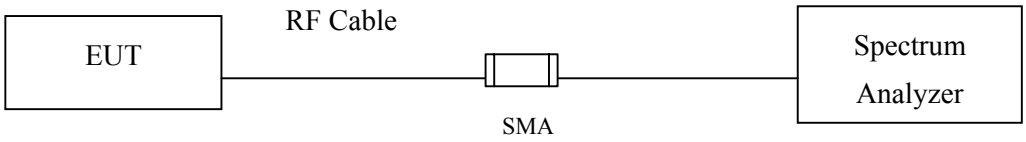
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the emission bandwidth, VBW≥3*RBW

7.5. Uncertainty

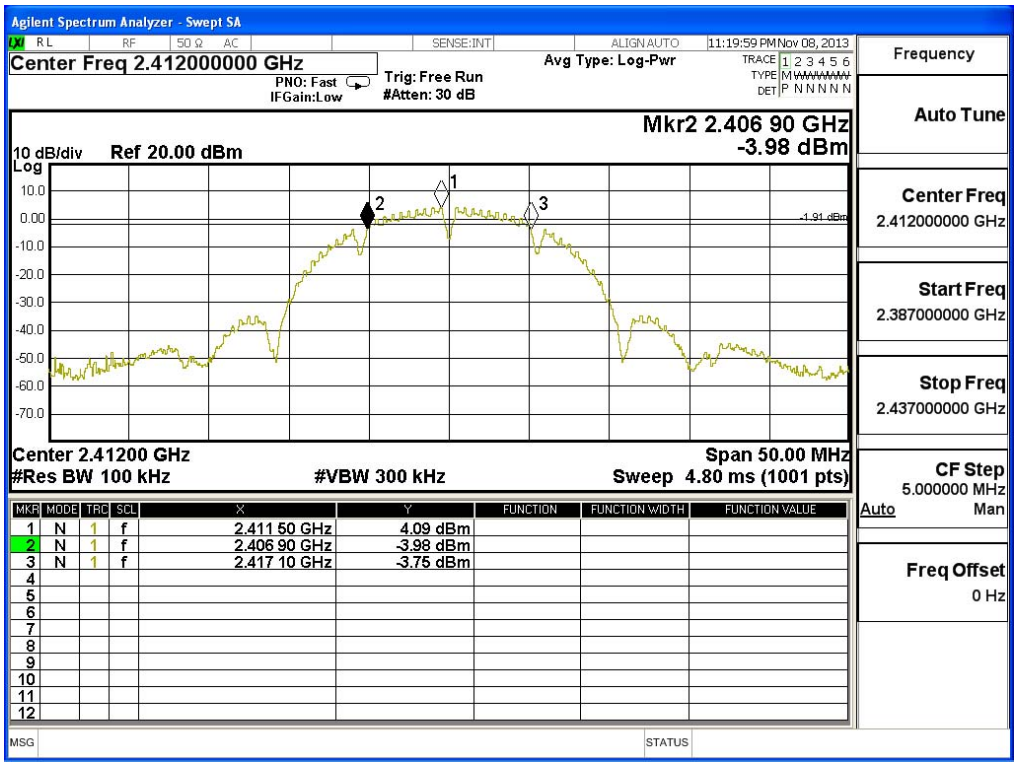
± 150Hz

7.6. Test Result of Occupied Bandwidth

Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	10200	>500	Pass

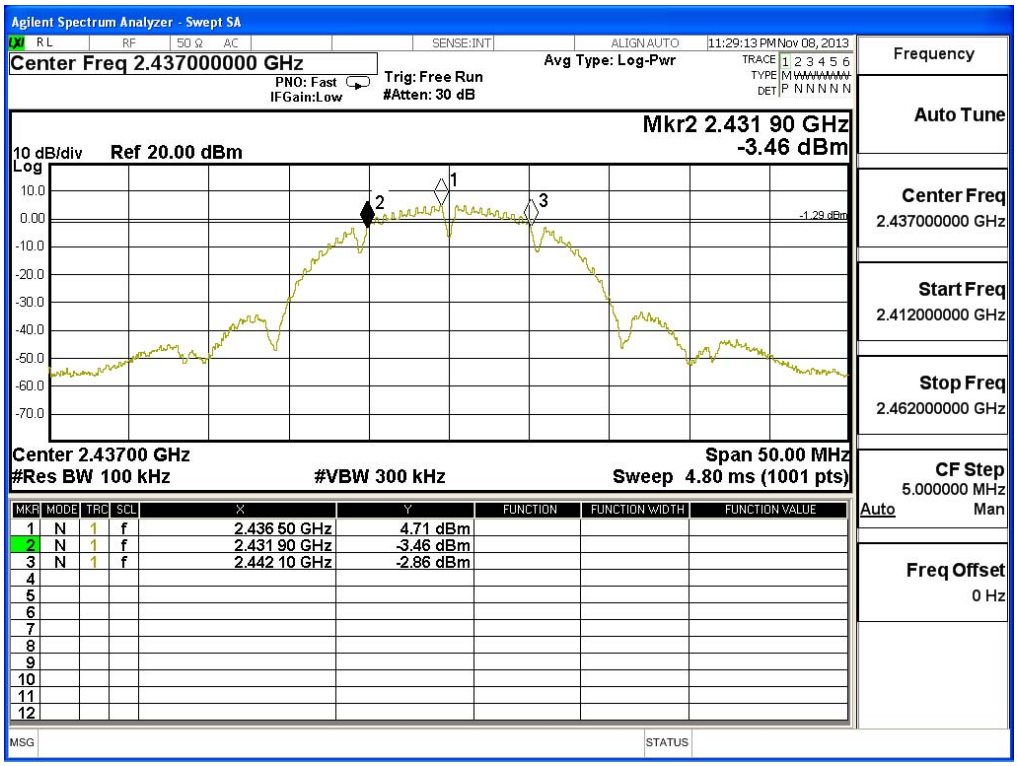
Figure Channel 1:



Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	10200	>500	Pass

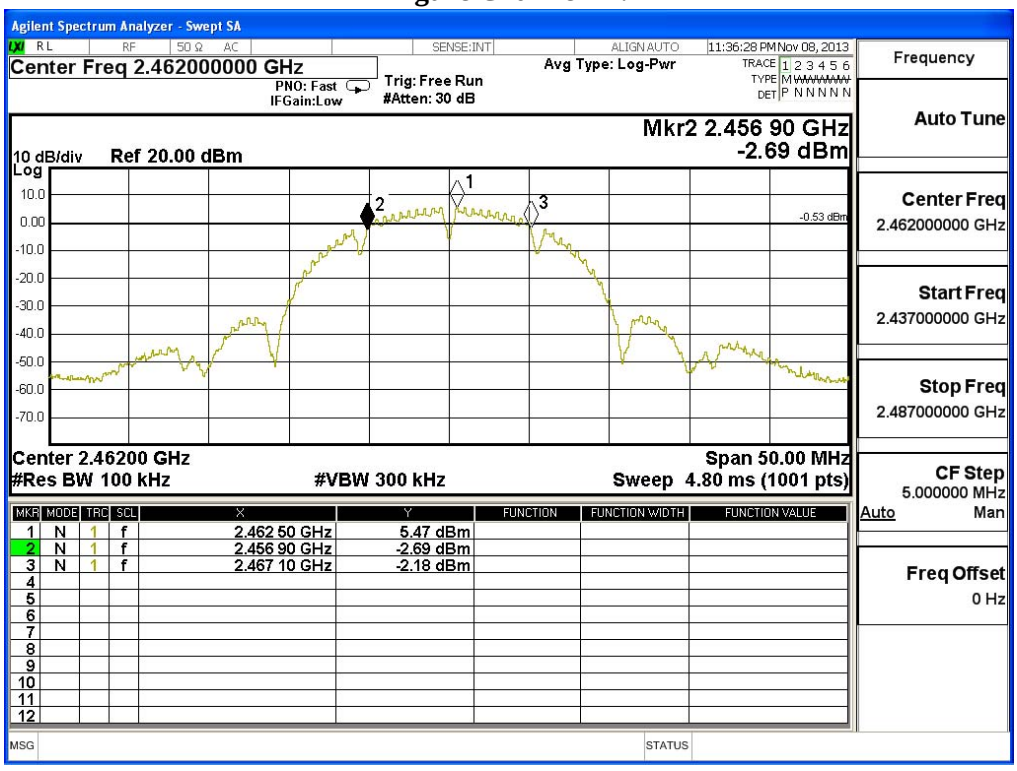
Figure Channel 6:



Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	10200	>500	Pass

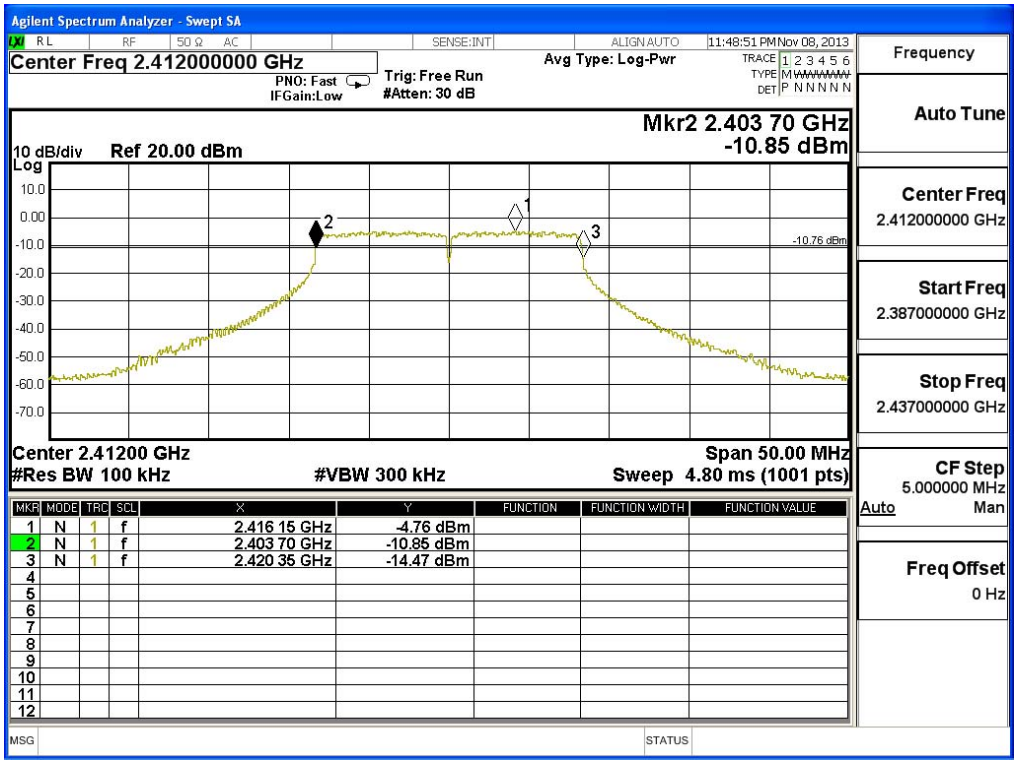
Figure Channel 11:



Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412.00	16650	>500	Pass

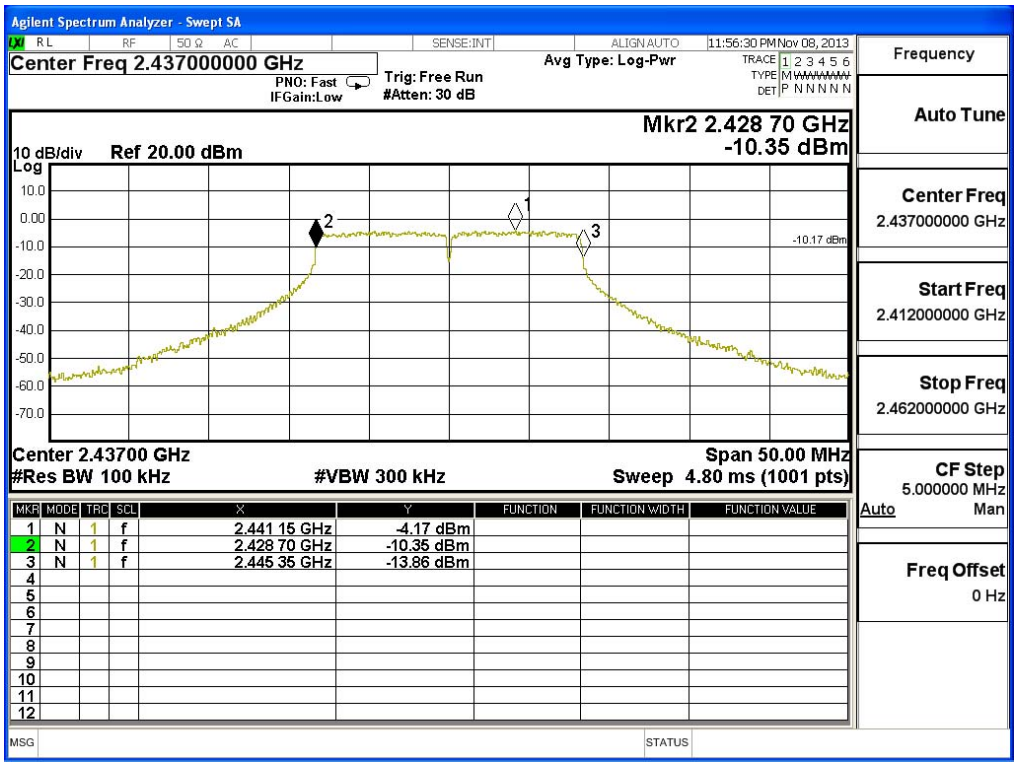
Figure Channel 1:



Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437.00	16650	>500	Pass

Figure Channel 6:



Product : AerialCast
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462.00	16650	>500	Pass

Figure Channel 11: