

RF TEST REPORT

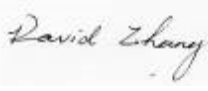


Report No.: FCC_RF_SL15013001-MIM-002_UNII_Rev1.0

Supersede Report No.: FCC_RF_SL15013001-MIM-002_UNII

Applicant	:	Mimosa Networks, Inc.
Product Name	:	Point to Point Device
Model No.	:	C5 & B5-Lite
Test Standard	:	47 CFR Part 15.407
Test Method	:	ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v01
FCC ID	:	2ABZJ-100-00010
IC ID	:	11823A-10000010
Dates of test	:	01/09/2015 to 03/16/2015
Issue Date	:	04/07/2015
Test Result	:	☒ Pass ☐ Fail
Equipment complied with the specification [X]		
Equipment did not comply with the specification []		

This Test Report is Issued Under the Authority of:

	
Nima Molaei	David Zhang
Test Engineer	Engineer Reviewer
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Issued By:
SIEMIC Laboratories
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Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



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Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC, RF/Wireless, Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless, Telecom
Taiwan	BSMI, NCC, NIST	EMC, RF, Telecom, Safety
Hong Kong	OFTA, NIST	RF/Wireless, Telecom
Australia	NATA, NIST	EMC, RF, Telecom, Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF, Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC, RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom, Safety
Israel	MOC, NIST	EMC, RF, Telecom, Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC, RF, Telecom
Canada	IC FCB, NIST	EMC, RF, Telecom
Singapore	iDA, NIST	EMC, RF, Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

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1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_RF_SL15013001-MIM-002_UNII	None	Original	03/24/2015
FCC_RF_SL15013001-MIM-002_UNII_Rev1.0	1.0	Correct PSD description Correct Band Edge plots	04/07/2015

2 Executive Summary

The purpose of this test program was to demonstrate compliance of following product

Company: Mimosa Networks, Inc.
Product: Point to Point Device
Model: C5 & B5-Lite

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	:	Mimosa Networks, Inc.
Applicant Address	:	300 Orchard City Dr. Suite 100, Campbell, CA 95008, USA
Manufacturer Name	:	Mimosa Networks, Inc.
Manufacturer Address	:	300 Orchard City Dr. Suite 100, Campbell, CA 95008, USA

4 Test site information

Lab performing tests	SIEMIC Laboratories
Lab Address	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	881796
IC Test Site No.	4842D-2
VCCI Test Site No.	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name	:	Point to Point Device
Model No.	:	C5 & B5-Lite
Trade Name	:	Mimosa
Serial No.	:	N/A
Input Power	:	48VDC
Power Adapter Manu/Model	:	PHIHONG /POE16R-560
Power Adapter SN	:	N/A
Product Hardware version	:	Rev. C
Product Software version	:	1.1.1
Radio Hardware version	:	Rev. C
Radio Software version	:	1.1.1
Test Software version	:	1.1.1
Date of EUT received	:	01/05/2015
Equipment Class/ Category	:	UNII
Clock Frequencies	:	N/A
Port/Connectors	:	PoE, Ethernet
Remark	:	The C5 is a client only device and the B5-Lite is a master device for a point to point short distance back haul that is powered with a 48v PoE injector. The C5 & B5-Lite are physically identical. The results which was presented in this report is related to B5-Lite model.

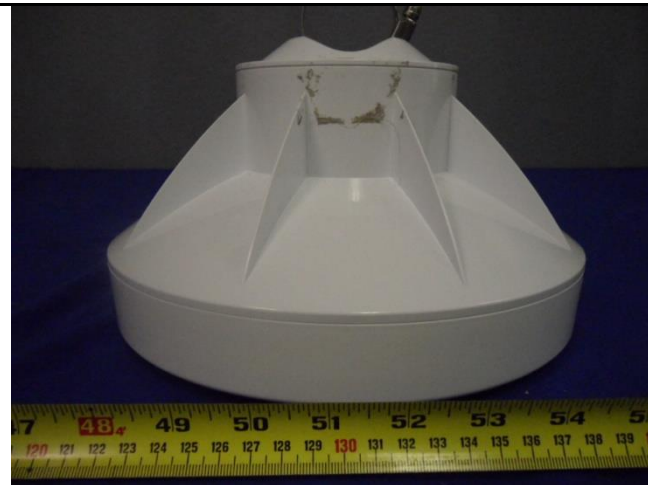
6.2 Radio Description

Radio Type	Description				
Operating Frequency (MHz)	4950 - 4980	5170-5240	5260-5340	5480-5715	5715-5840
Number of Channels	3 (20MHz)	16 (20MHz)	17 (20MHz)	48 (20MHz)	22 (20MHz)
		13 (40MHz)	13 (40MHz)	44 (40MHz)	18 (40MHz)
		5 (80MHz)	5 (80MHz)	36 (80MHz)	10 (80MHz)
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM)				
Channel Spacing	5MHz				
Antenna Type	Integrated Folded Dipole				
Antenna Gain (Peak)	20 dBi (5 GHz)				
Antenna Connector Type	N/A				

EUT Power Level Settings

Channel	Frequency	Bandwidth	Power Setting
34	5170	20	0
40	5200	20	23
48	5240	20	23
35	5175	40	0
40	5200	40	23
46	5230	40	23
39	5195	80	0
40	5200	80	23
42	5210	80	23
52	5260	20	7
59	5295	20	7
64	5320	20	0
54	5270	40	8
58	5290	40	8
62	5310	40	0
58	5290	80	0
100	5500	20	0
118	5590	20	9
140	5700	20	11
102	5510	40	0
111	5555	40	10
138	5690	40	11
106	5530	80	0
109	5545	80	11
112	5560	80	11
149	5745	20	15
157	5785	20	23
165	5825	20	15
151	5755	40	15
157	5785	40	23
163	5815	40	16
155	5775	80	15
157	5785	80	23
159	5795	80	15

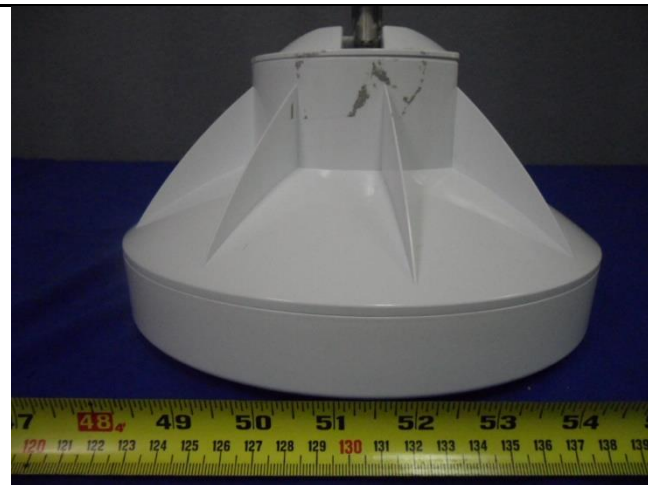
6.3 EUT Photos - External



EUT – Front View



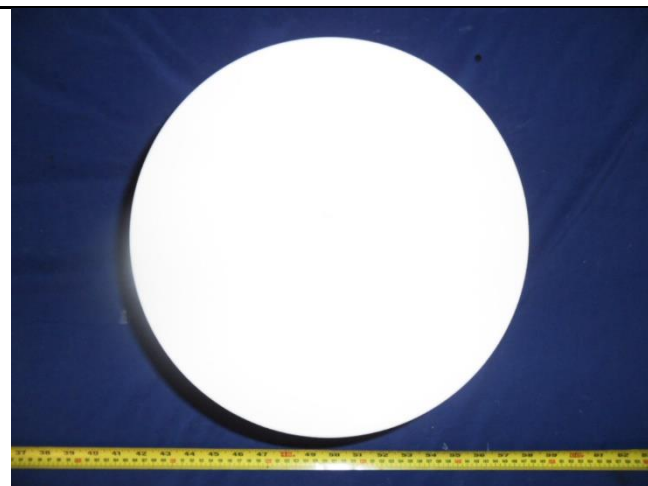
EUT – Rear View



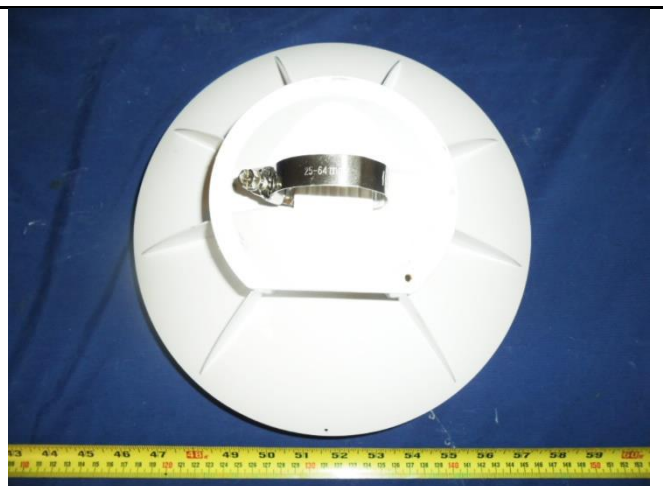
EUT – Left View



EUT – Right View

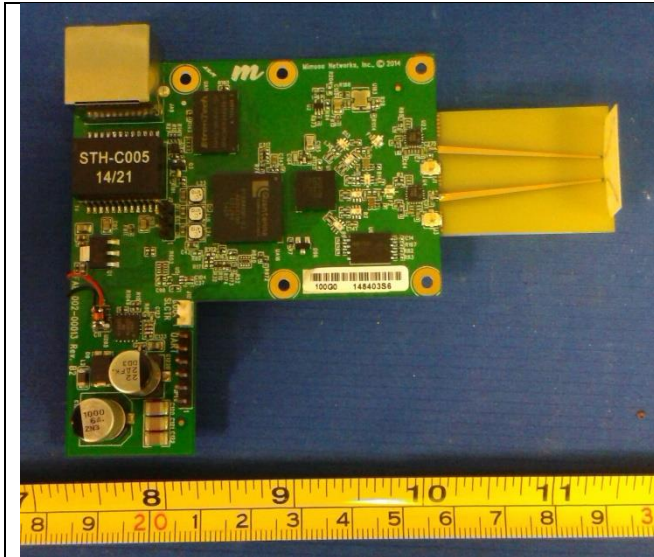


EUT – Top View

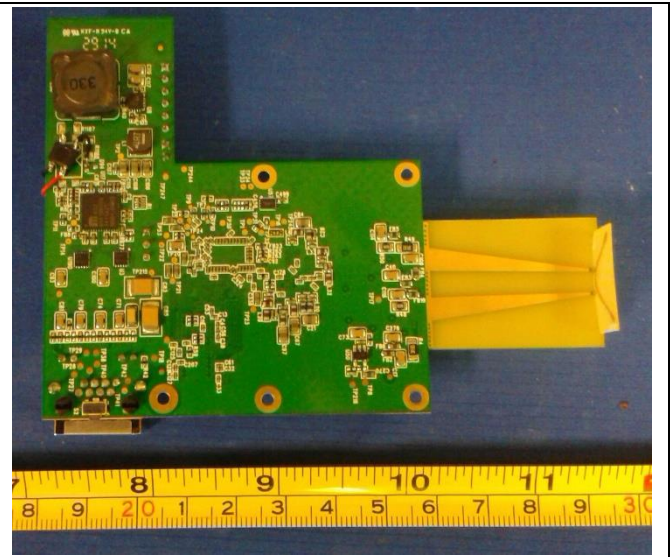


EUT – Bottom View

6.4 EUT Photos - Internal

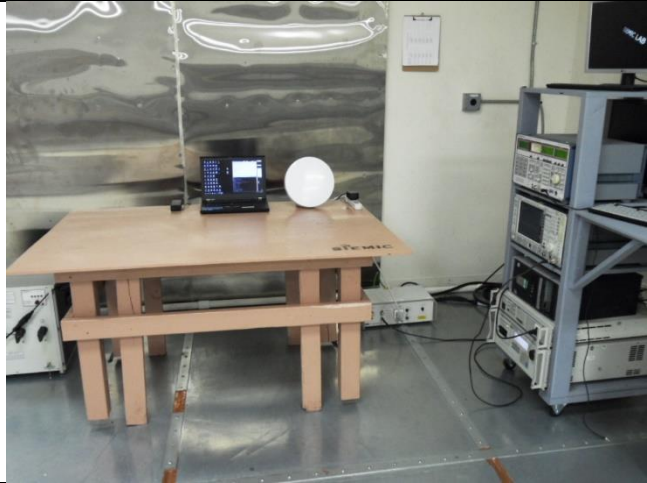


EUT Main PCBA Top View



EUT Main PCBA Bottom View

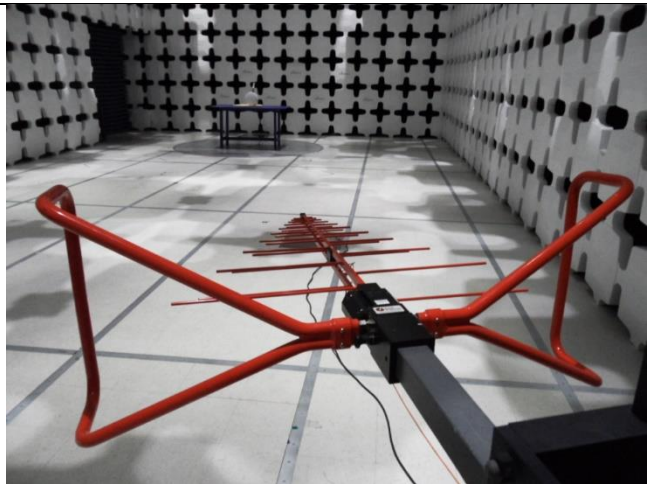
6.5 EUT Test Setup Photos



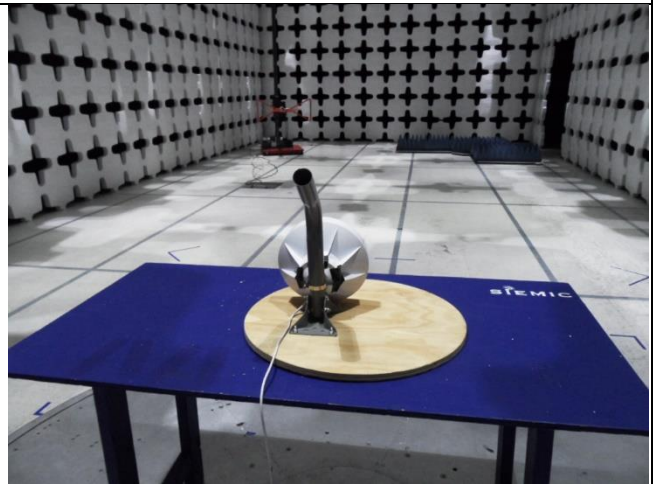
AC Line Conducted Emissions – Front View



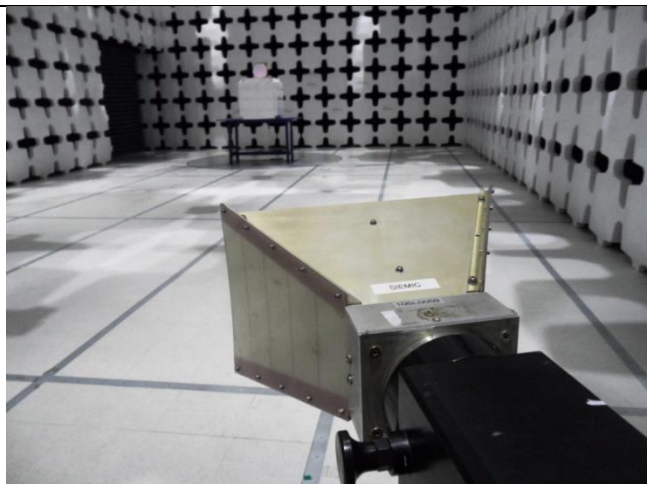
AC Line Conducted Emissions – Rear View



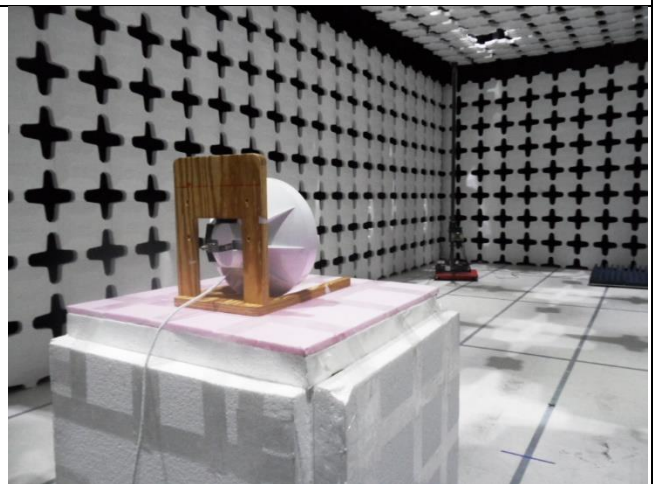
Radiated Emissions (<1GHz) – Front View



Radiated Emissions (<1GHz) – Rear View



Radiated Emissions (>1GHz) – Front View



Radiated Emissions (>1GHz) – Rear View

Note: The spurious emission in different EUT orientation was investigated, including the EUT standing up position and the laying down position. The EUT orientation shown in above setup photo is the worst case position.

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	T530	-	Lenovo	-
2	PoE Adapter	POE16R-560	-	PHIHONG	-

7.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
RJ45	EUT	RJ45	POE	RJ45	2	Unshielded	-
RJ45	POE	RJ45	Laptop	RJ45	3	Unshielded	-

7.3 Test Software Description

Test Item	Software	Description
RF Testing	Putty	Set the EUT to transmit continuously in different test modes and channels

8 Test Summary

Test Item	Test standard		Test Method/Procedure	Pass / Fail
Restricted Band of Operation	FCC	15.205	ANSI C63.10 – 2013 789033 D02 General UNII Test Procedures New Rules v01	☒ Pass ☐ N/A
AC Conducted Emissions Voltage	FCC	15.207(a)	ANSI C63.10 – 2013	☒ Pass ☐ N/A

Test Item	Test standard		Test Method/Procedure	Pass / Fail
26 & 6 dB Emission Bandwidth	FCC	15.407 (a) (2)	789033 D02 General UNII Test Procedures New Rules v01	☒ Pass ☐ N/A
Maximum conducted Output Power	FCC	15.407 (a) (2)	789033 D02 General UNII Test Procedures New Rules v01	☒ Pass ☐ N/A
Power reduction (Antenna Gain > 6 dBi)	FCC	15.407 (a) (2)	-	☐ Pass ☒ N/A
Band Edge and Radiated Spurious Emissions	FCC	15.407(b)(2), 15.407(b)(6)	ANSI C63.10 – 2013 789033 D02 General UNII Test Procedures New Rules v01	☒ Pass ☐ N/A
Power Spectral Density	FCC	15.407 (a) (2)	789033 D02 General UNII Test Procedures New Rules v01	☒ Pass ☐ N/A
Frequency Stability	FCC	15.407 (g)	-	☐ Pass ☒ N/A
Transmit Power Control (TPC)	FCC	15.407 (h)(1)	-	☐ Pass ☒ N/A
User Manual	FCC	-	-	☒ Pass ☐ N/A
Remark	1. All measurement uncertainties are not taken into consideration for all presented test result. 2. The applicant shall ensure frequency stability by showing that an emission is maintained within the band of operation under all normal operating conditions as specified in the user's manual.			

9 Measurement Uncertainty

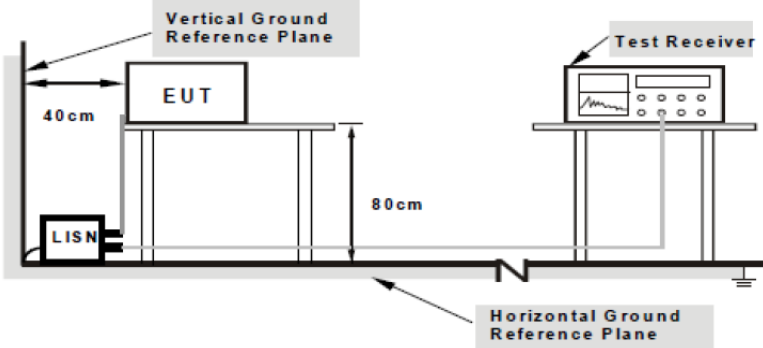
Emissions			
Test Item	Frequency Range	Description	Uncertainty
Band Edge and Radiated Spurious Emissions	30MHz – 1GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
Band Edge and Radiated Spurious Emissions	1GHz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+4.3dB/-4.1dB

10 Measurements, Examination and Derived Results

10.1 Conducted Emissions

Conducted Emission Limit

Frequency ranges (MHz)	Limit (dBuV)	
	QP	Average
0.15 ~ 0.5	66 – 56	56 – 46
0.5 ~ 5	56	46
5 ~ 30	60	50

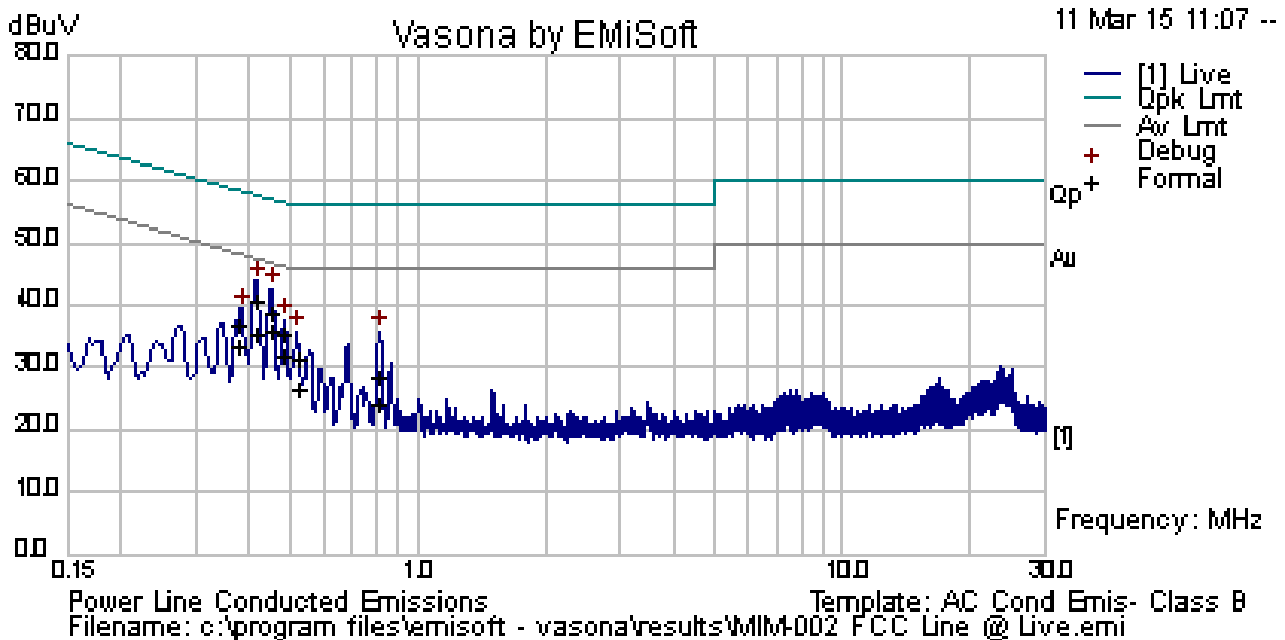
Spec	Item	Requirement	Applicable
47CFR§15.207	a)	For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequency ranges.	☒
Test Setup	 Note: 1. Support units were connected to second LISN. 2. Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.		
Procedure	- The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B. - The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains. - The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. - All other supporting equipment was powered separately from another main supply.		
Remark	EUT was tested at 120VAC, 60Hz		
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Conducted Emission Test Results

Test specification:	Conducted Emissions			
Environmental Conditions:	Temp(°C):	22.2	Result:	☒ Pass ☐ Fail
	Humidity (%):	37.1		
	Atmospheric(mbar):	1020.5		
Mains Power:	120Vac, 60Hz			
Tested by:	Teody Manansala			
Test Date:	11-Mar-15			
Remarks	Line			

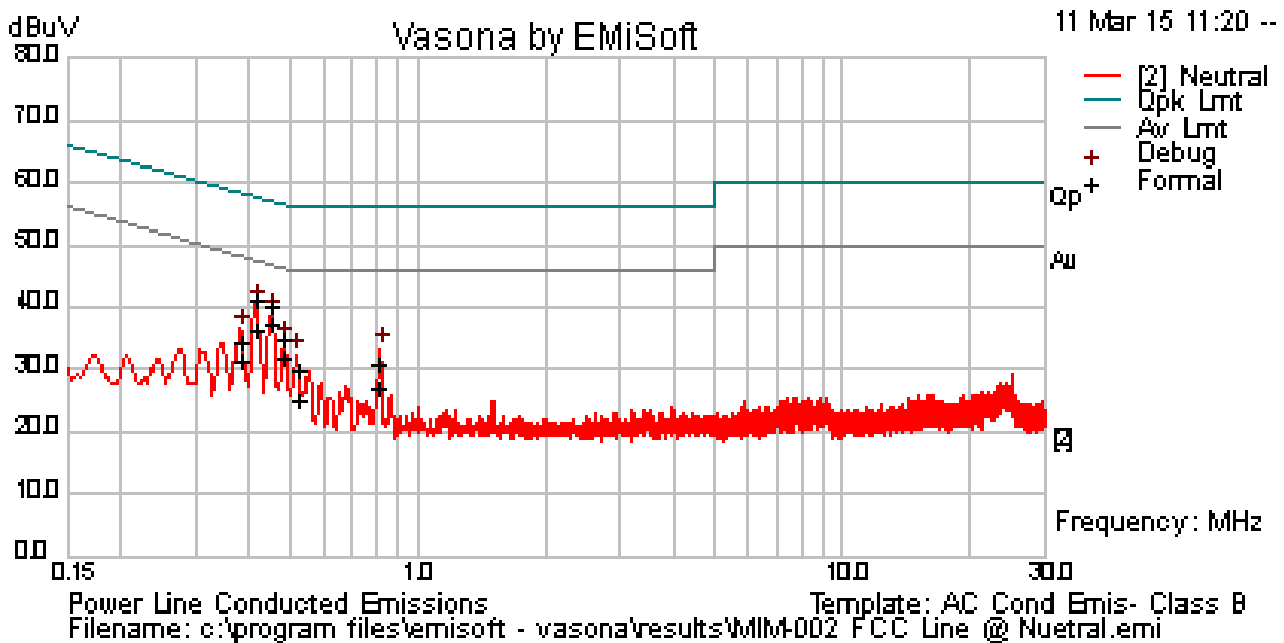


Line Plot at 120Vac, 60Hz

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Measurement Type	Line	Limit (dBuV)	Margin (dB)	Pass /Fail
0.42	30.11	10.01	0.73	40.85	Quasi Peak	Line	57.51	-16.66	Pass
0.45	27.98	10.01	0.73	38.72	Quasi Peak	Line	56.88	-18.17	Pass
0.48	24.39	10.01	0.74	35.14	Quasi Peak	Line	56.28	-21.14	Pass
0.38	25.87	10.01	0.72	36.60	Quasi Peak	Line	58.28	-21.68	Pass
0.81	17.87	10.01	0.76	28.65	Quasi Peak	Line	56.00	-27.35	Pass
0.52	20.79	10.01	0.74	31.54	Quasi Peak	Line	56.00	-24.46	Pass
0.42	24.52	10.01	0.73	35.26	Average	Line	47.51	-12.25	Pass
0.45	24.91	10.01	0.73	35.65	Average	Line	46.88	-11.24	Pass
0.48	21.08	10.01	0.74	31.82	Average	Line	46.28	-14.46	Pass
0.38	22.50	10.01	0.72	33.23	Average	Line	48.28	-15.05	Pass
0.81	13.38	10.01	0.76	24.16	Average	Line	46.00	-21.84	Pass
0.52	15.82	10.01	0.74	26.57	Average	Line	46.00	-19.43	Pass

Conducted Emission Test Results

Test specification:	Conducted Emissions			
Environmental Conditions:	Temp(°C):	22.2	Result:	☒ Pass ☐ Fail
	Humidity (%):	37.1		
	Atmospheric(mbar):	1020.5		
Mains Power:	120Vac, 60Hz			
Tested by:	Teody Manansala			
Test Date:	11-Mar-15			
Remarks	Neutral			



Neutral Plot at 120Vac, 60Hz

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Measurement Type	Line	Limit (dBuV)	Margin (dB)	Pass /Fail
0.42	30.55	10.01	0.73	41.29	Quasi Peak	Neutral	57.52	-16.23	Pass
0.45	29.62	10.01	0.73	40.36	Quasi Peak	Neutral	56.85	-16.49	Pass
0.49	24.23	10.01	0.74	34.98	Quasi Peak	Neutral	56.25	-21.28	Pass
0.38	23.79	10.01	0.72	34.52	Quasi Peak	Neutral	58.20	-23.68	Pass
0.81	20.09	10.01	0.76	30.87	Quasi Peak	Neutral	56.00	-25.13	Pass
0.52	19.05	10.01	0.74	29.80	Quasi Peak	Neutral	56.00	-26.20	Pass
0.42	25.47	10.01	0.73	36.21	Average	Neutral	47.52	-11.32	Pass
0.45	26.54	10.01	0.73	37.28	Average	Neutral	46.85	-9.57	Pass
0.49	20.93	10.01	0.74	31.67	Average	Neutral	46.25	-14.58	Pass
0.38	20.67	10.01	0.72	31.40	Average	Neutral	48.20	-16.80	Pass
0.81	16.10	10.01	0.76	26.88	Average	Neutral	46.00	-19.12	Pass
0.52	14.25	10.01	0.74	25.00	Average	Neutral	46.00	-21.00	Pass

Note: The results above show only the worst case.

10.2 26 dB Bandwidth & 6 dB Bandwidth

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	-	26 dB Emission BW: Report only for reference.	☒
	a) (2)	26 dB Emission BW: Report only for power limit calculation.	☐
	e)	Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.	☒
Test Setup			
Test Procedure	789033 D02 General UNII Test Procedures New Rules v01 <u>26dB Emission bandwidth measurement procedure (Other than 5.725-5.85 GHz)</u> - Allow the trace to stabilize. - Use the spectrum analyser built-in measurement function to determine the 26dB BW. - o Set RBW = around 1% of emission bandwidth - o Set VBW > RBW - o Detector = Peak - o Trace mode = max hold - Capture the plot. - Repeat above steps for different test channel and other modulation type. <u>6 dB Minimum emission bandwidth measurement procedure (for 5.725-5.85 GHz)</u> - Allow the trace to stabilize. - Use the spectrum analyser built-in measurement function to determine the 6dB BW. - o Set RBW = 100 KHz - o Set VBW ≥ 3 x RBW - o Detector = Peak - o Trace mode = max hold - o Sweep = auto couple - Capture the plot. - Repeat above steps for different test channel and other modulation type.		
Test Date	02/25/2015	Environmental condition	Temperature 22°C Relative Humidity 38% Atmospheric Pressure 1020mbar
Remark	99% BW result is presented here to show the channels in 5.1GHz is not crossing to DFS channel since the 26 dB BW is too wide.		
Result	☒ Pass ☐ Fail		

Equipment Setting

Test	RBW	VBW	Span	Detector	Sweep	Trace	Notes
26 dB Emission Bandwidth	1% of 26 dB EBW	>RBW	>EBW	PK	Auto	Maxhold	-
6 dB Bandwidth	100 KHz	≥3 x RBW	1.5 - 5 times of OBW	PK	Auto	Maxhold	-

Test Data ☒ Yes ☐ N/A
Test Plot ☒ Yes ☐ N/A

26dB Bandwidth measurement result for 5.1 GHz & 5.2GHz & 5.5GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Result (MHz)	Limit (MHz)
26dB BW	20	5170	Low	25.07	-
26dB BW	20	5200	Mid	24.87	-
26dB BW	20	5240	High	24.76	-
26dB BW	40	5175	Low	41.47	-
26dB BW	40	5200	Mid	42.09	-
26dB BW	40	5230	High	41.84	-
26dB BW	80	5195	Low	80.47	-
26dB BW	80	5200	Mid	79.99	-
26dB BW	80	5210	High	80.00	-
26dB BW	20	5260	Low	24.37	-
26dB BW	20	5295	Mid	24.36	-
26dB BW	20	5320	High	24.38	-
26dB BW	40	5270	Low	41.66	-
26dB BW	40	5290	Mid	41.49	-
26dB BW	40	5310	High	41.67	-
26dB BW	80	5290	Mid	80.27	-
26dB BW	20	5500	Low	24.36	-
26dB BW	20	5590	Mid	24.66	-
26dB BW	20	5700	High	24.92	-
26dB BW	40	5510	Low	41.94	-
26dB BW	40	5555	Mid	42.11	-
26dB BW	40	5690	High	41.88	-
26dB BW	80	5530	Low	80.79	-
26dB BW	80	5545	High	79.94	-
26dB BW	80	5560	Mid	79.76	-

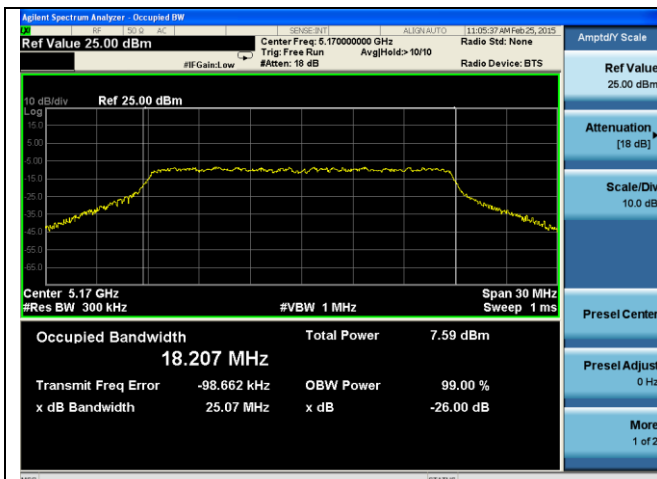
6dB Bandwidth measurement result for 5.8GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Result (MHz)	Limit (MHz)	Result
6dB BW	20	5745	Low	17.62	≥0.5	Pass
6dB BW	20	5785	Mid	17.61	≥0.5	Pass
6dB BW	20	5825	High	17.61	≥0.5	Pass
6dB BW	40	5755	Low	36.32	≥0.5	Pass
6dB BW	40	5785	Mid	36.29	≥0.5	Pass
6dB BW	40	5815	High	36.31	≥0.5	Pass
6dB BW	80	5775	Low	75.26	≥0.5	Pass
6dB BW	80	5785	Mid	75.27	≥0.5	Pass
6dB BW	80	5795	High	75.13	≥0.5	Pass

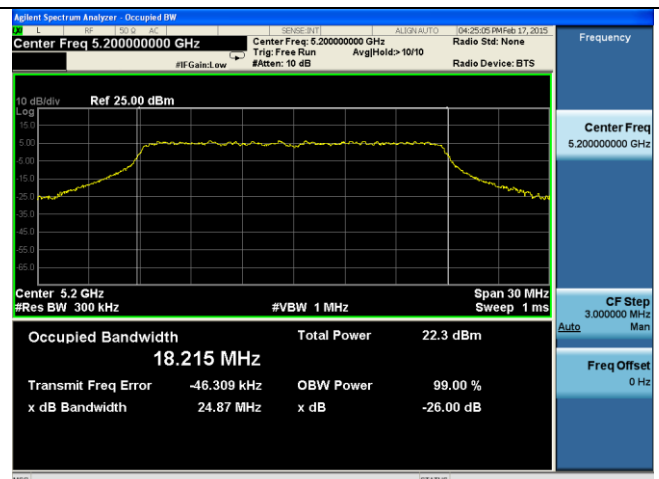
99% Occupied Bandwidth measurement result for 5.1GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Result (MHz)	Limit (MHz)
99% OBW	20	5170	Low	18.207	-
99% OBW	20	5200	Mid	18.215	-
99% OBW	20	5240	High	18.214	-
99% OBW	40	5175	Low	36.290	-
99% OBW	40	5200	Mid	36.304	-
99% OBW	40	5230	High	36.277	-
99% OBW	80	5195	Low	75.233	-
99% OBW	80	5200	Mid	75.144	-
99% OBW	80	5210	High	75.114	-

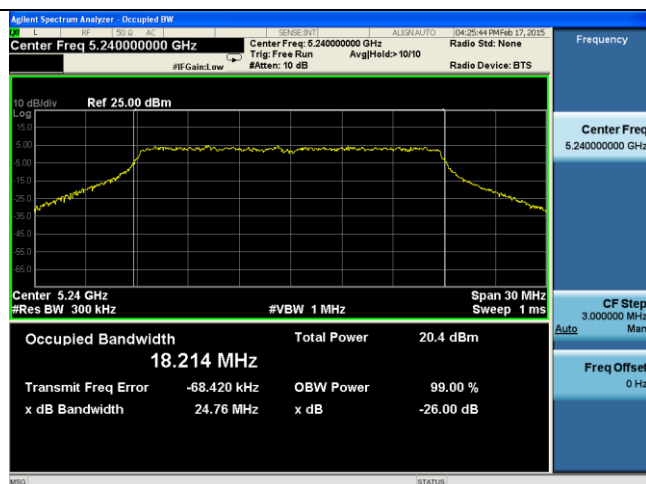
26dB Bandwidth Test Plots



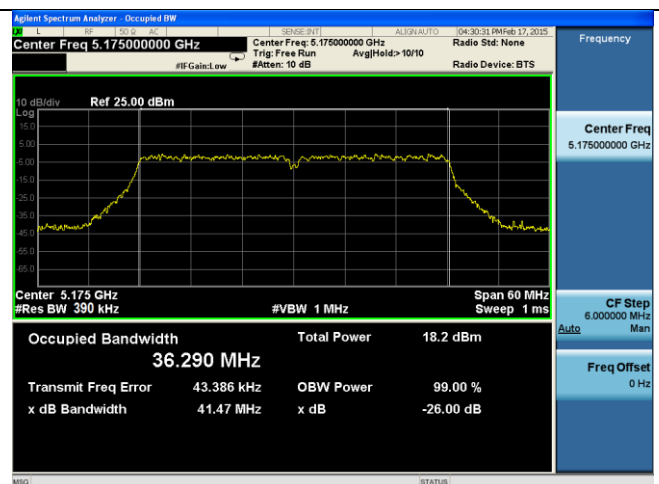
26dB BW - 5170MHz – 20BW



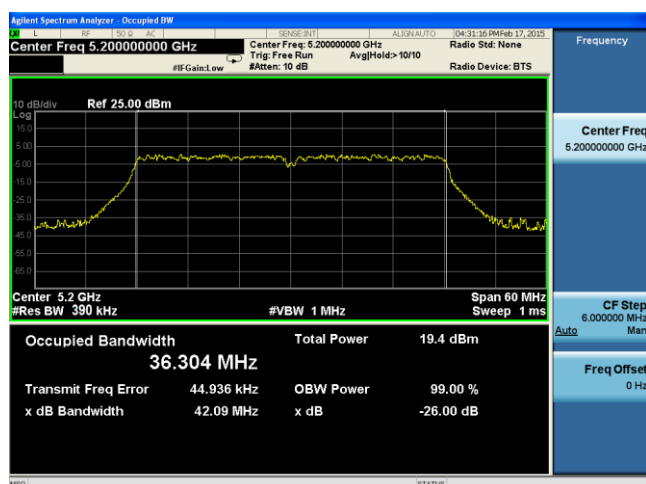
26dB BW - 5200MHz – 20BW



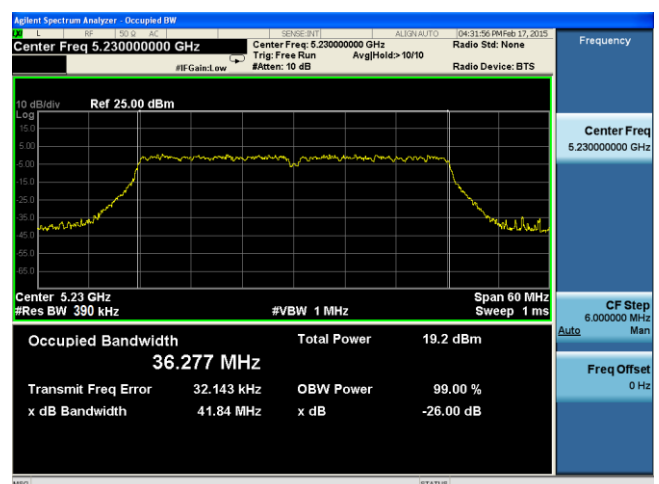
26dB BW - 5240MHz – 20BW



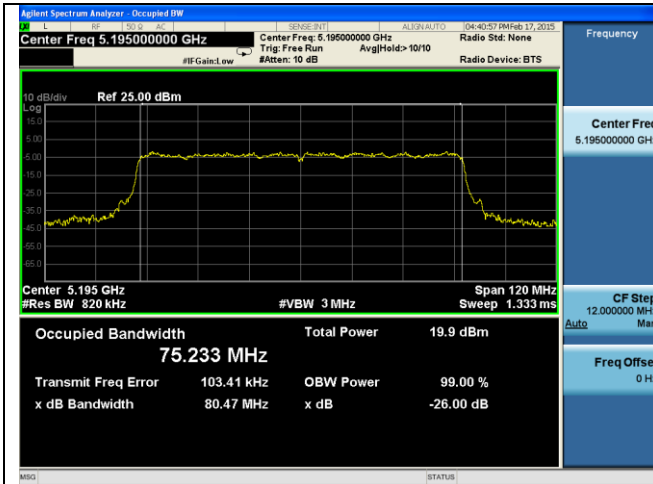
26dB BW - 5175MHz – 40BW



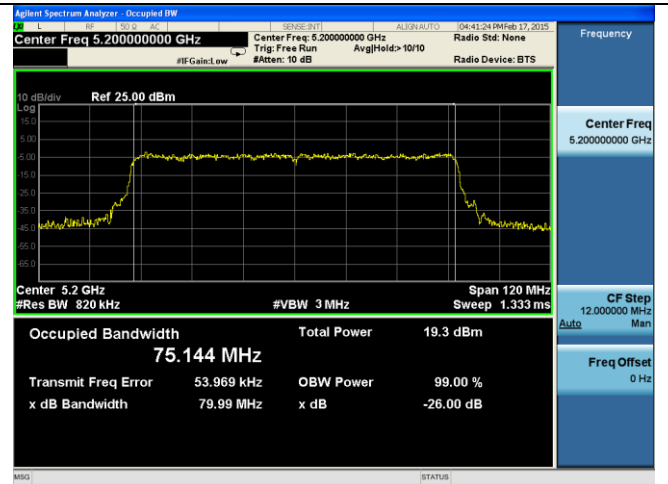
26dB BW - 5200MHz – 40BW



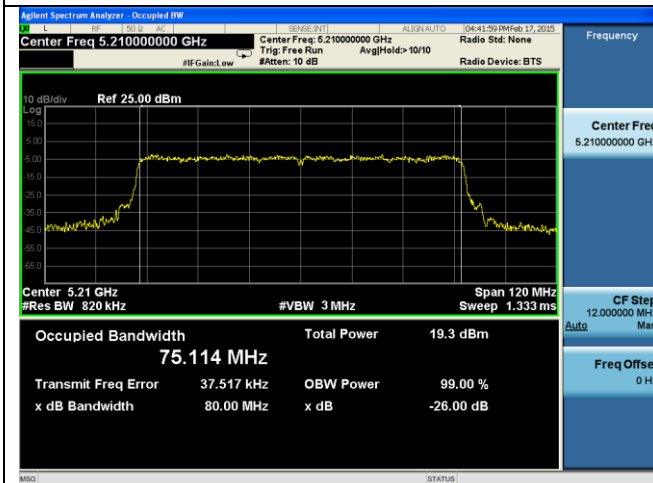
26dB BW - 5230MHz – 40BW



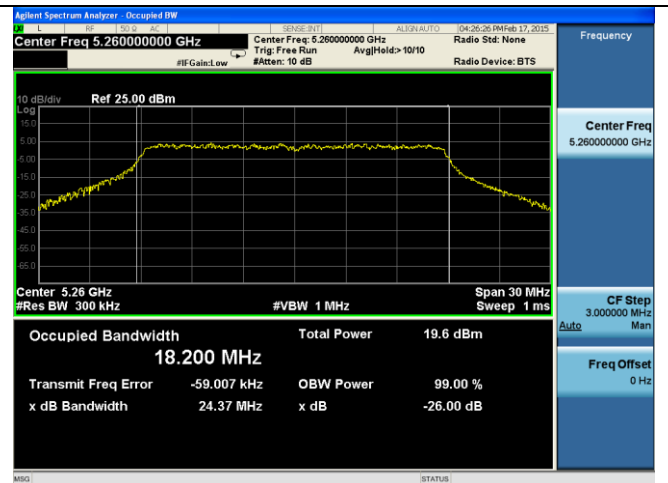
26dB BW - 5195MHz – 80BW



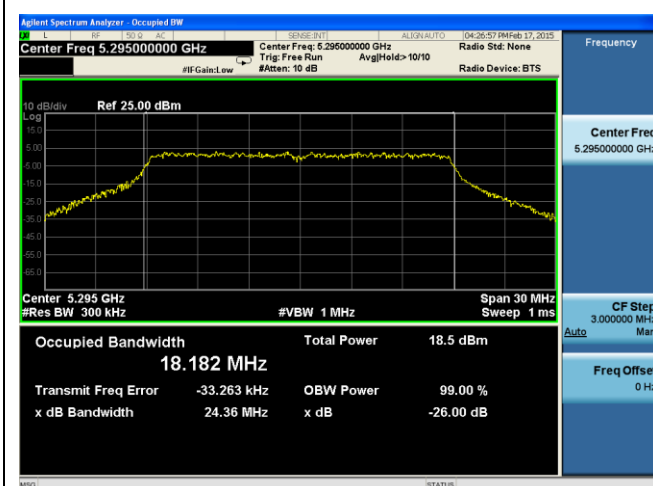
26dB BW - 5200MHz – 80BW



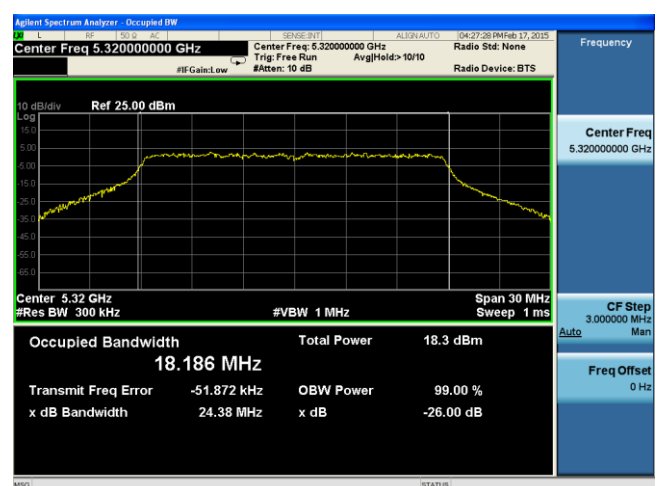
26dB BW - 5210MHz – 80BW



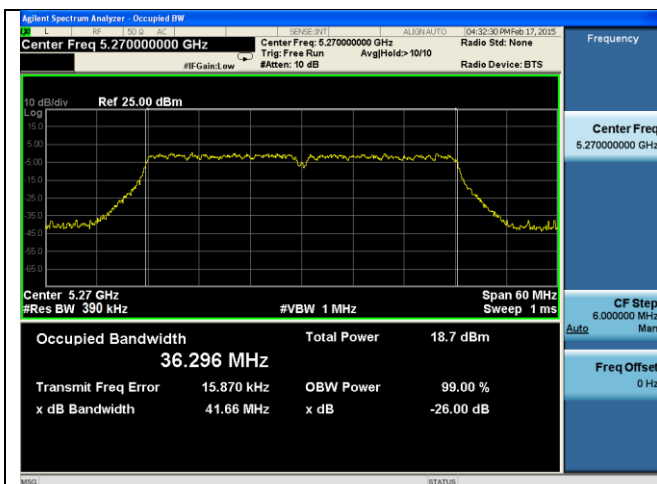
26dB BW - 5260MHz – 20BW



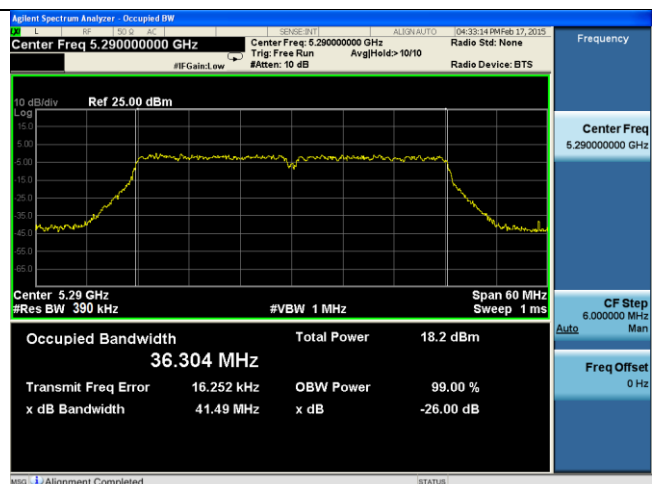
26dB BW - 5295MHz – 20BW



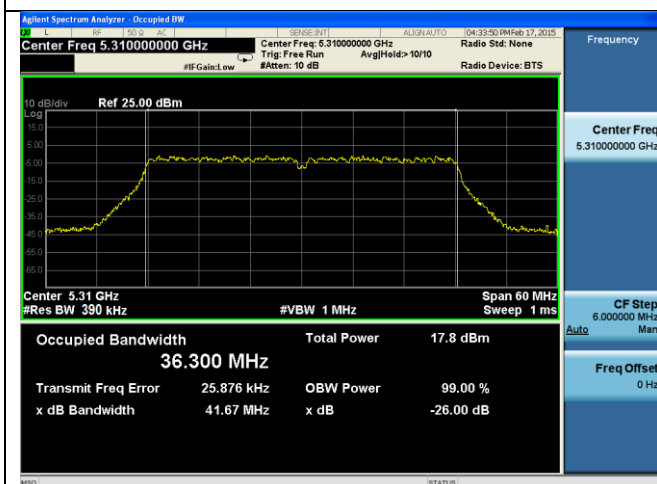
26dB BW - 5320MHz – 20BW



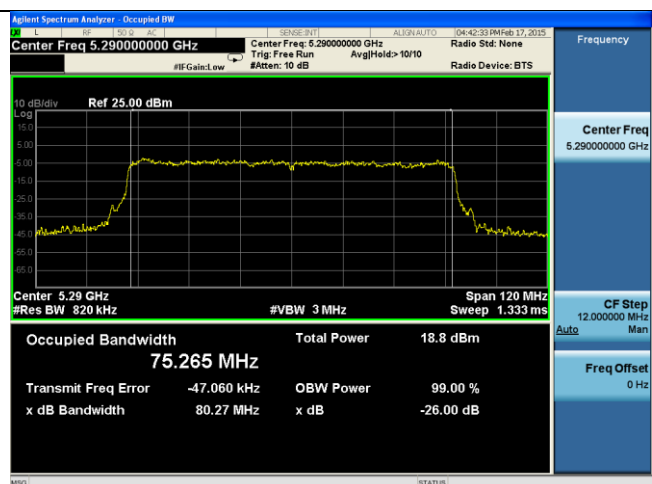
26dB BW - 5270MHz - 40BW



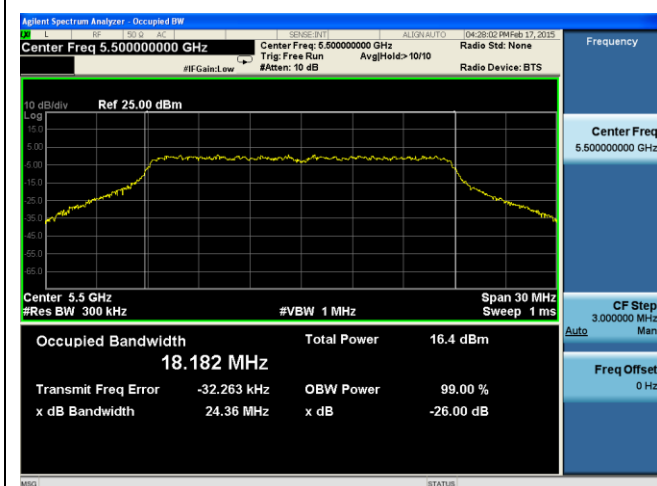
26dB BW - 5290MHz - 40BW



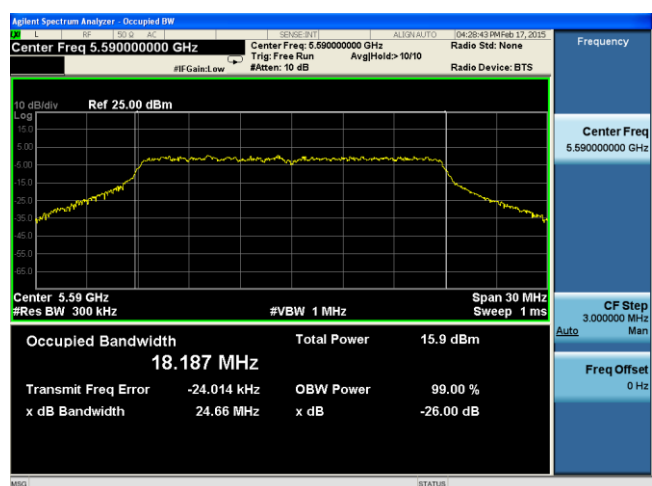
26dB BW - 5310MHz - 40BW



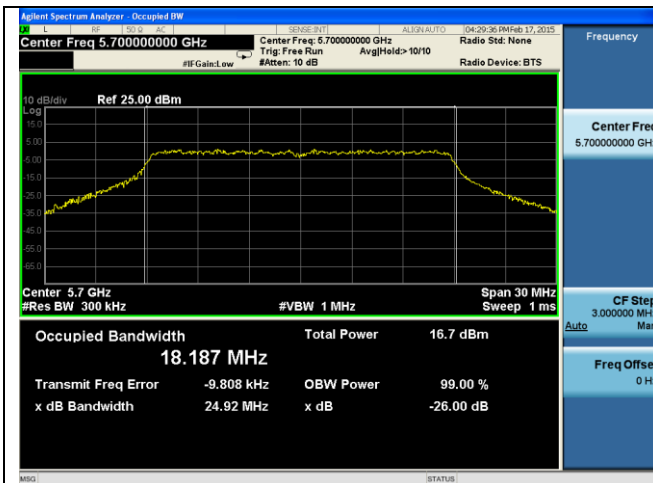
26dB BW - 5290MHz - 80BW



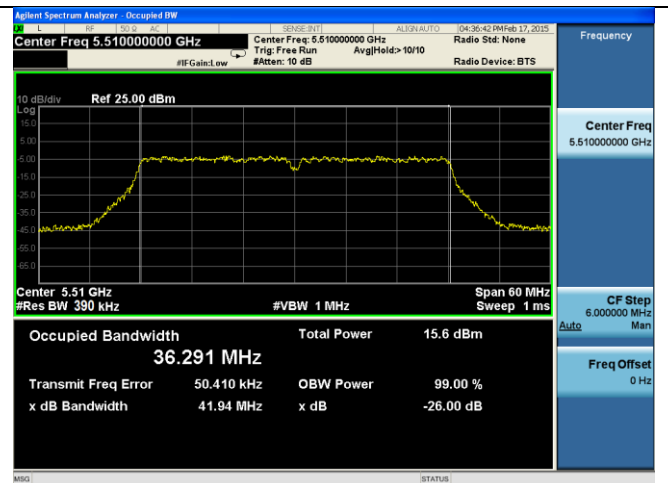
26dB BW - 5500MHz - 20BW



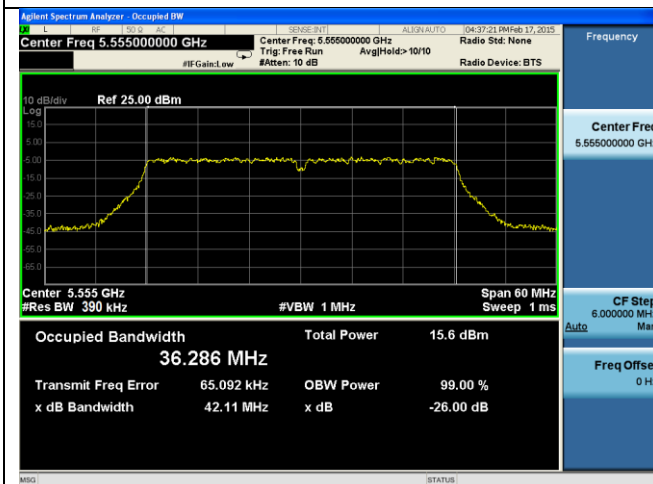
26dB BW - 5590MHz - 20BW



26dB BW - 5700MHz - 20BW



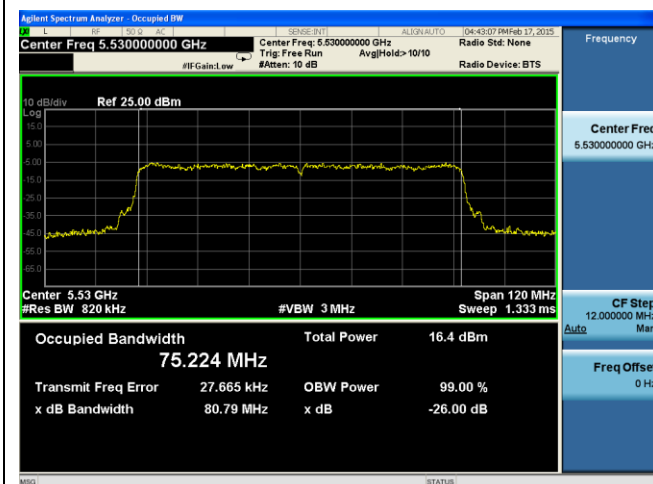
26dB BW - 5510MHz - 40BW



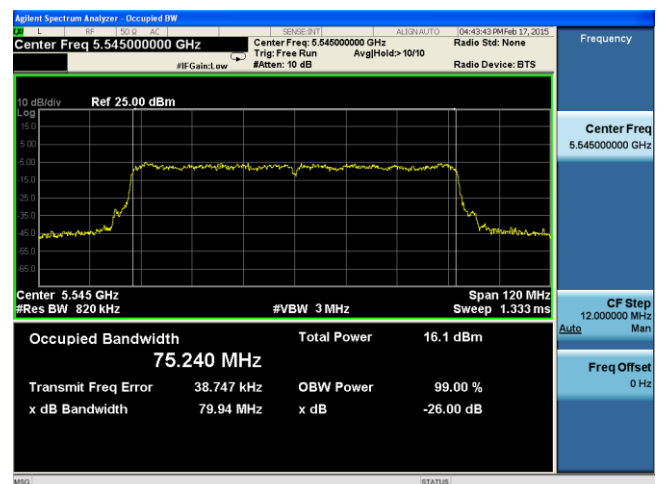
26dB BW - 5555MHz - 40BW



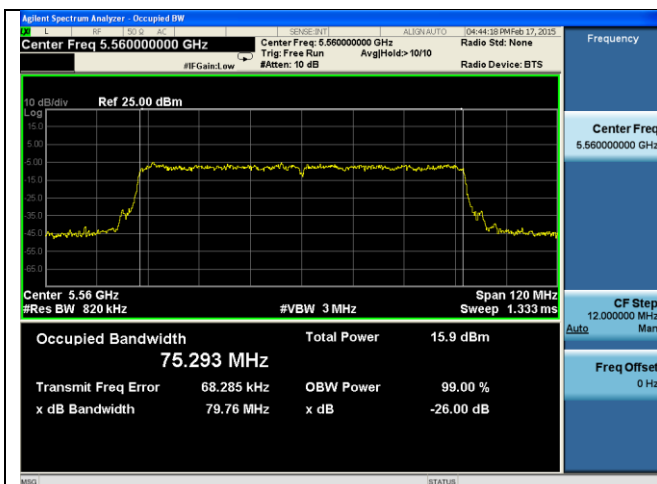
26dB BW - 5690MHz - 40BW



26dB BW - 5530MHz - 80BW

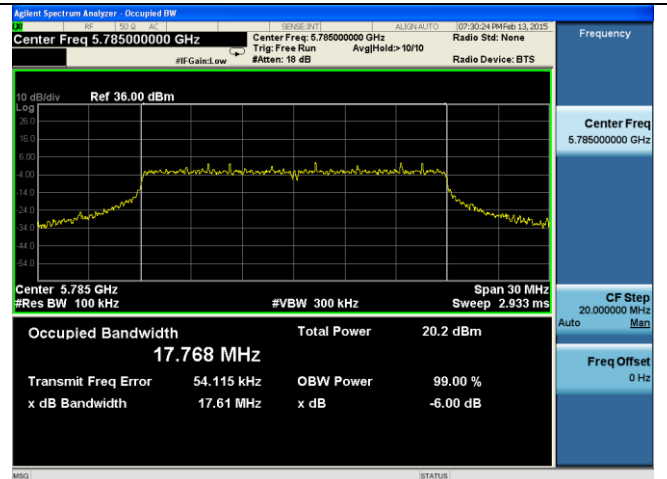
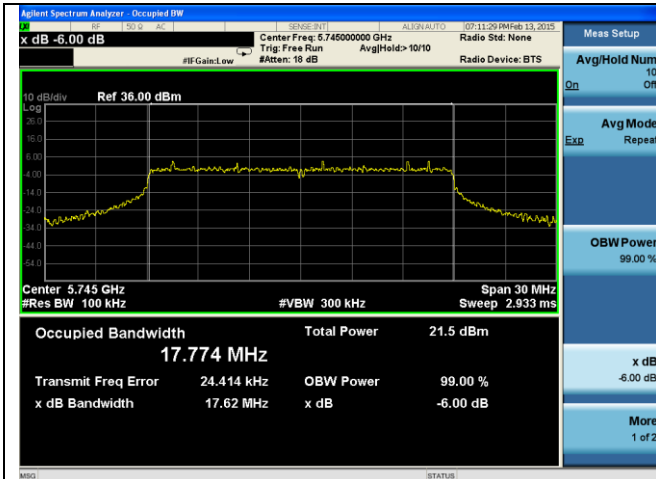


26dB BW - 5545MHz - 80BW



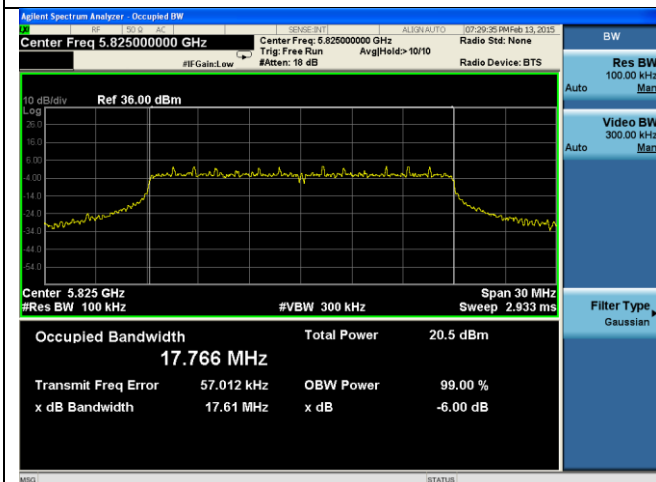
26dB BW - 5560MHz – 80BW

6dB Bandwidth Test Plots



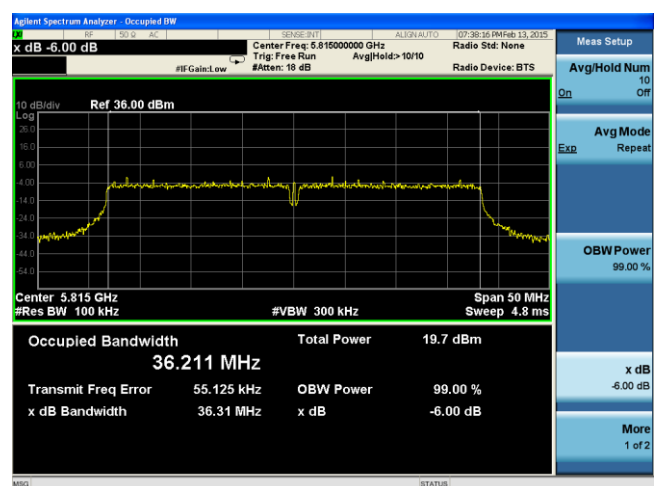
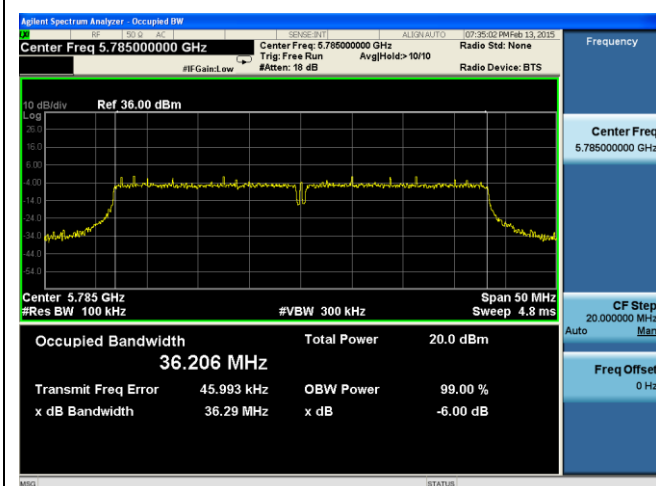
6dB BW - 5745MHz - 20BW

6dB BW - 5785MHz - 20BW



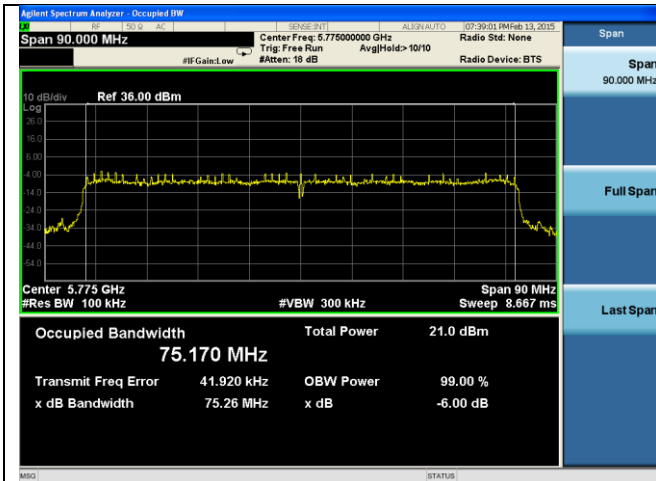
6dB BW - 5825MHz - 20BW

6dB BW - 5755MHz - 40BW

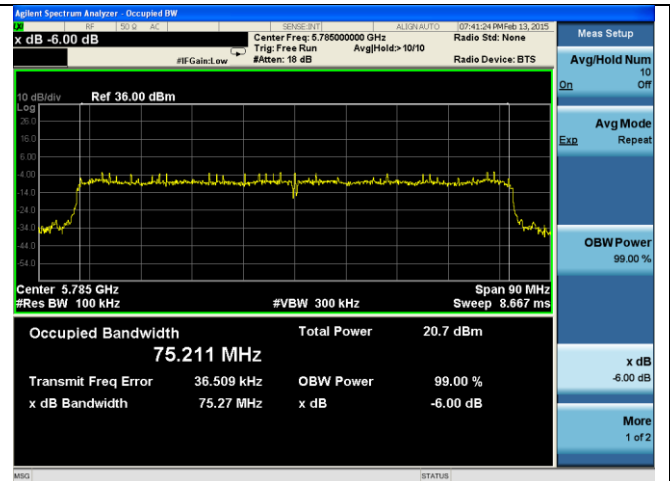


6dB BW - 5785MHz - 40BW

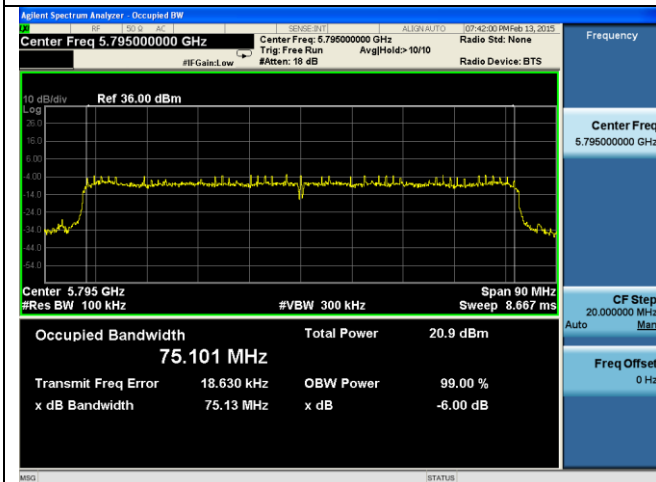
6dB BW - 5815MHz - 40BW



6dB BW - 5775MHz – 80BW



6dB BW - 5785MHz – 80BW



6dB BW - 5795MHz – 80BW

10.3 Peak Output Power

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	a)(1)(i)	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).	☐
	a)(1)(ii)	For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.	☐
	a)(1)(iii)	For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.	☒
	a)(1)(iv)	For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.	☐
	a)(2)	For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.	☒
	a)(3)	For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.	☒
Test Setup			
Test Procedure	789033 D02 General UNII Test Procedures New Rules v01 <u>Measurement using a Power Meter (PM)</u> Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required. - Connect EUT's RF output power to power meter - Set EUT to be continuous transmission mode - Measurement the average output power using power meter and record the result - Repeat above steps for different test channel and other modulation type.		
Test Date	02/27/2015	Environmental condition	Temperature 21°C Relative Humidity 40% Atmospheric Pressure 1019mbar
Remark	For 5Ghz band, Highest antenna gain = 20 dBi		
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Average Output Power measurement result for 5.1GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Average Output power	20	5170	Low	0.56	1.59	4.12	...	Pass
Average Output power	20	5200	Mid	18.23	19.6	21.98	30	Pass
Average Output power	20	5240	High	18.13	19.6	21.94	30	Pass
Average Output power	40	5175	Low	-2.85	-0.94	1.22	30	Pass
Average Output power	40	5200	Mid	18.65	19.75	22.25	30	Pass
Average Output power	40	5230	High	18.5	19.78	22.20	30	Pass
Average Output power	80	5195	Low	-1.8	0.27	2.37	30	Pass
Average Output power	80	5200	Mid	18.24	19.31	21.82	30	Pass
Average Output power	80	5210	High	18.16	19.53	21.91	30	Pass

Average Output Power measurement result for 5.2GHz & 5.5GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Average Output power	20	5260	Low	4.13	6.77	8.66	10	Pass
Average Output power	20	5295	Mid	3.42	6.43	8.19	10	Pass
Average Output power	20	5320	High	-3.52	0.04	1.63	10	Pass
Average Output power	40	5270	Low	4.93	7.29	9.28	10	Pass
Average Output power	40	5290	Mid	4.48	7.3	9.13	10	Pass
Average Output power	40	5310	High	-3.43	0.02	1.64	10	Pass
Average Output power	80	5290	Mid	-2.51	0.31	2.14	10	Pass
Average Output power	20	5500	Low	-5.66	-1.87	-0.35	10	Pass
Average Output power	20	5590	Mid	3.45	5.49	7.60	10	Pass
Average Output power	20	5700	High	6.43	7.27	9.88	10	Pass
Average Output power	40	5510	Low	-5.76	-2.2	-0.61	10	Pass
Average Output power	40	5555	Mid	4	6.93	8.72	10	Pass
Average Output power	40	5690	High	6.15	7.24	9.74	10	Pass
Average Output power	80	5530	Low	-5.39	-2.18	-0.48	10	Pass
Average Output power	80	5545	High	4.97	7.67	9.54	10	Pass
Average Output power	80	5560	Mid	4.8	8.16	9.81	10	Pass

Average Output Power Measurement Results for 5.8GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Average Output power	20	5745	Low	11.67	12.04	14.87	30	Pass
Average Output power	20	5785	Mid	20.43	19.51	23.00	30	Pass
Average Output power	20	5825	High	11.31	11.87	14.61	30	Pass
Average Output power	40	5755	Low	10.5	10.87	13.70	30	Pass
Average Output power	40	5785	Mid	20.44	19.07	22.82	30	Pass
Average Output power	40	5815	High	11.07	11.72	14.42	30	Pass
Average Output power	80	5775	Low	10.62	11.99	14.37	30	Pass
Average Output power	80	5785	Mid	20.5	19.74	23.15	30	Pass
Average Output power	80	5795	High	11.4	11.97	14.70	30	Pass

Peak Output Power measurement result for 5.1GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Peak Output power	20	5170	Low	5.01	7.05	9.16	-	-
Peak Output power	20	5200	Mid	23.65	24.78	27.26	-	-
Peak Output power	20	5240	High	23.39	24.95	27.25	-	-
Peak Output power	40	5175	Low	4.89	6.80	8.96	-	-
Peak Output power	40	5200	Mid	23.84	25.10	27.53	-	-
Peak Output power	40	5230	High	23.71	24.43	27.10	-	-
Peak Output power	80	5195	Low	6.11	8.25	10.32	-	-
Peak Output power	80	5200	Mid	23.55	24.72	27.18	-	-
Peak Output power	80	5210	High	23.60	25.00	27.37	-	-
Note:		The Peak power measurement was presented just as a references.						

Peak Output Power measurement result for 5.2GHz & 5.5GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Peak Output power	20	5260	Low	11.72	14.34	16.23	-	-
Peak Output power	20	5295	Mid	10.98	13.98	15.74	-	-
Peak Output power	20	5320	High	4.27	7.84	9.42	-	-
Peak Output power	40	5270	Low	12.13	14.57	16.53	-	-
Peak Output power	40	5290	Mid	12.69	15.47	17.31	-	-
Peak Output power	40	5310	High	4.30	7.64	9.29	-	-
Peak Output power	80	5290	Mid	4.51	8.45	9.92	-	-
Peak Output power	20	5500	Low	1.82	5.61	7.13	-	-
Peak Output power	20	5590	Mid	10.60	13.00	14.97	-	-
Peak Output power	20	5700	High	13.88	14.74	17.34	-	-
Peak Output power	40	5510	Low	1.53	4.97	6.59	-	-
Peak Output power	40	5555	Mid	11.23	14.11	15.91	-	-
Peak Output power	40	5690	High	13.36	14.48	16.97	-	-
Peak Output power	80	5530	Low	2.71	6.11	7.74	-	-
Peak Output power	80	5545	High	12.49	15.22	17.08	-	-
Peak Output power	80	5560	Mid	12.91	15.59	17.46	-	-
Note:		The Peak power measurement was presented just as a references.						

Peak Output Power Measurement Results for 5.8GHz

Type	Bandwidth (MHz)	Freq (MHz)	CH	Conducted Power (dBm)			Limit (dBm)	Result
				Chain1	Chain2	Combined Power		
Peak Output power	20	5745	Low	18.93	19.53	22.25	-	-
Peak Output power	20	5785	Mid	26.39	27.08	29.76	-	-
Peak Output power	20	5825	High	18.73	19.24	22.00	-	-
Peak Output power	40	5755	Low	18.29	18.63	21.47	-	-
Peak Output power	40	5785	Mid	26.14	26.73	29.46	-	-
Peak Output power	40	5815	High	18.82	19.37	22.11	-	-
Peak Output power	80	5775	Low	18.57	19.77	22.22	-	-
Peak Output power	80	5785	Mid	26.73	27.11	29.93	-	-
Peak Output power	80	5795	High	19.48	19.99	22.75	-	-
Note:	The Peak power measurement was presented just as a references.							