RF TEST REPORT

Applicant	Alcatel-Lucent Shanghai Bell Co.,Ltd.
FCC ID	2ADZRG240WZA
Brand	NOKIA
Product	Digital Home ONU
Model	G-240WZ-A
Report No.	YBA1610-0091RF03
Issue Date	October 24, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2016)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Performed by: Xianqing Li *Approved by: Kai Xu*

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Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Occupied bandwidth	15.407(e)	PASS
2	Conducted output power	15.407(a)	PASS
3	Frequency stability	15.407(g)	PASS
4	Maximum power spectral density	15.407(a)	PASS
5	Unwanted Emissions	15.407(b)	PASS
6	Conducted Emissions	15.207	PASS
Date of Testing: October 5, 2016~ October 21, 2016			

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1. Test Laboratory

1.1. Notes of the test report

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1.2. Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (recognition number is 428261)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

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1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
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2. General Description of Equipment under Test

Client Information

Applicant	Alcatel-Lucent Shanghai Bell Co.,Ltd.
Applicant address	388-389#,Ningqiao Road,Pudong Jinqiao, Shanghai CHINA
Manufacturer	Taicang T&W Electronics Co.,Ltd
Manufacturer address	Jiangnan Road 89,Ludu Town Taicang CHINA

General information

EUT Description	
Model:	G-240WZ-A
SN:	/
Hardware Version:	PEM 1+
Software Version:	3FE45890FFEB38
Power Supply:	AC Power Supply
Antenna Type:	External Antennas
Antenna Gain:	Antenna 1: 4.69 dBi Antenna 2: 4.00 dBi Antenna 3: 4.00 dBi Antenna 4: 4.44 dBi
Directional Gain	4.69dBi
additional beamforming gain:	1.5dB
Test Mode:	U-NII-1(5150MHz-5250MHz) U-NII-2A(5250MHz-5350MHz) U-NII-2C(5470MHz-5725MHz without TDWR) U-NII-3(5725MHz-5850MHz)
Modulation Type:	802.11a/n (HT20/HT40) : OFDM 802.11ac (HT20/HT40/HT80): OFDM
Max. Conducted Power	802.11a: 18.53 dBm 802.11n HT20: 24.01 dBm 802.11n HT40: 24.49 dBm 802.11ac HT20: 24.19 dBm 802.11ac HT40: 24.03 dBm 802.11ac HT80: 22.93 dBm
Operating Frequency Range(s)	U-NII-1: 5150-5250MHz U-NII-2A:5250-5350MHz U-NII-2C:5470-5725MHz (without 5600-5650MHz) U-NII-3: 5725-5850MHz

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Operating temperature range:	-5 ° C to +45° C
Operating voltage range:	90 V to 264 V
State AC voltage:	100V
EUT Accessory	
Adapter 1	Manufacture: DONGGUAN SHILONG FUHUA ELECTRONIC CO., LTD. Model : UES36-120300SPA1 PN: UE160529GWAD01-P
Adapter 2	Manufacture: DONGGUAN SHILONG FUHUA ELECTRONIC CO., LTD. Model : UES36-120300SPA1 PN: UE160523GWAD01-P
Adapter 3	Manufacture: CyberPower Systems (USA), Inc. Model : DTC36U12V3-G
Note: The information of the EUT is declared by the manufacturer. Please refer to the specifications or user manual for details.	

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3. Test Information

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR47 Part 15E (2016) Unlicensed National Information Infrastructure Devices

ANSI C63.10 (2013)

KDB 789033 D02 General UNII Test Procedures New Rules v01r03

KDB 662911 D01 Multiple Transmitter Output v02r01

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4. Test Configuration

Test Mode

The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all configurations for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Band	**Data Rate**
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac HT20	MCS0
802.11ac HT40	MCS0
802.11ac HT80	MCS0
The device supports non-beamforming and beamforming function in 802.11a/n/ac, after pre-testing, beamforming mode has the worst emission value, so the worst case was recorded.	

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5. Test Case Results

5.1. Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

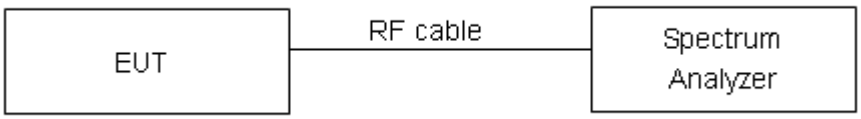
For U-NII-1/2A/2C, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

For U-NII-3, Set RBW = 100 kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

Rule FCC 15.407(e)

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

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

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Test Results:

Network Standards			Channel/ Frequency (MHz)	Minimum 26 dB bandwidth (MHz)			
				ANT1	ANT2	ANT3	ANT4
Single Antenna	802.11a	U-NII-1	36/5180	29.91	29.89	29.52	29.54
			40/5200	28.99	29.9	29.44	29.50
			48/5240	29.86	29.27	29.65	29.86
		U-NII-2A	52/5260	28.30	29.88	29.90	29.56
			60/5300	28.35	28.58	29.82	29.86
			64/5320	29.64	28.77	29.86	29.53
		U-NII-2C	100/5500	25.31	24.78	25.21	25.47
			116/5580	28.22	27.83	27.73	28.17
			140/5700	29.65	28.91	29.47	29.97
MIMO Antenna	802.11n HT20	U-NII-1	36/5180	25.34	25.71	25.41	24.68
			40/5200	25.64	23.20	23.81	23.15
			48/5240	22.88	22.31	22.44	22.35
		U-NII-2A	52/5260	22.61	22.64	23.09	23.45
			60/5300	22.96	22.6	22.73	22.74
			64/5320	22.81	22.51	22.67	22.52
		U-NII-2C	100/5500	22.95	22.50	22.40	22.77
			116/5580	22.66	22.37	22.53	22.58
			140/5700	29.77	29.96	29.94	29.83
	802.11n HT40	U-NII-1	38/5190	52.48	52.26	52.21	49.90
			46/5230	42.76	42.89	42.57	42.72
		U-NII-2A	54/5270	41.90	41.33	41.79	41.55
			62/5310	48.73	45.70	45.83	46.49
		U-NII-2C	102/5510	57.49	59.12	58.06	58.33
			110/5550	41.37	41.54	41.11	41.39
			134/5670	53.07	53.65	53.42	53.49
	802.11ac HT20	U-NII-1	36/5180	25.33	26.62	26.32	25.68
			40/5200	23.09	24.59	23.88	23.63
			48/5240	22.69	22.78	22.72	22.78
		U-NII-2A	52/5260	23.94	22.50	22.53	23.02
			60/5300	27.35	27.68	26.39	25.46
			64/5320	29.99	28.62	29.31	29.80
		U-NII-2C	100/5500	29.88	29.87	29.99	29.97
			116/5580	23.81	22.64	23.10	24.11
			140/5700	29.78	29.82	29.82	29.93
	802.11ac HT40	U-NII-1	38/5190	49.53	49.15	50.31	51.26
			46/5230	41.43	41.44	41.32	41.13

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		U-NII-2A	54/5270	41.47	41.69	41.38	41.82
			62/5310	41.39	41.80	41.47	41.32
		U-NII-2C	102/5510	41.63	41.35	41.34	41.17
			110/5550	41.83	41.97	41.73	41.19
			134/5670	41.47	41.38	41.30	41.32
	802.11ac HT80	U-NII-1	42/5210	81.09	81.51	80.56	80.94
		U-NII-2A	58/5290	81.67	81.39	81.42	81.80
		U-NII-2C	106/5530	81.62	81.27	81.06	81.51

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Network Standards			Channel/ Frequency (MHz)	99% bandwidth (MHz)			
				ANT1	ANT2	ANT3	ANT4
U-NII-3	Single Antenna	802.11a	149/5745	17.05	16.89	16.89	16.92
			157/5785	16.91	16.90	16.83	16.92
			165/5825	16.83	16.86	16.80	16.79
	MIMO Antenna	802.11n HT20	149/5745	18.91	18.84	18.73	18.81
			157/5785	19.10	18.99	19.06	19.09
			165/5825	18.26	18.23	18.21	18.19
		802.11n HT40	151/5755	37.20	37.29	37.18	37.27
			159/5795	36.83	36.79	36.83	37.00
		802.11ac HT20	149/5745	19.26	18.76	18.85	18.84
			157/5785	18.83	18.89	18.84	18.78
			165/5825	18.19	18.16	18.11	18.22
		802.11ac HT40	151/5755	36.32	36.31	36.32	36.31
			159/5795	36.33	36.28	36.32	36.31
		802.11ac HT80	155/5775	76.38	76.23	76.30	76.22

Network Standards			Channel/ Frequency (MHz)	Minimum 6 dB bandwidth (MHz)				Limit (MHz)	Conclusion
MIMO Antenna				ANT1	ANT2	ANT3	ANT4		
U-NII-3	Single Antenna	802.11a	149/5745	16.37	16.36	16.34	16.36	0.5	PASS
			157/5785	16.35	16.40	16.35	16.34	0.5	PASS
			165/5825	16.31	16.37	16.37	16.35	0.5	PASS
	MIMO Antenna	802.11n HT20	149/5745	17.66	17.62	17.36	17.37	0.5	PASS
			157/5785	17.74	17.58	17.61	17.39	0.5	PASS
			165/5825	17.68	17.61	17.64	17.58	0.5	PASS
		802.11n HT40	151/5755	35.73	35.71	35.70	35.73	0.5	PASS
			159/5795	36.35	36.32	36.37	36.36	0.5	PASS
		802.11ac HT20	149/5745	17.61	17.37	17.60	17.57	0.5	PASS
			157/5785	17.61	17.58	17.60	17.54	0.5	PASS
			165/5825	17.55	17.61	17.60	17.59	0.5	PASS
		802.11ac HT40	151/5755	35.81	36.13	35.79	36.09	0.5	PASS
			159/5795	36.09	36.37	36.38	36.33	0.5	PASS
		802.11ac HT80	155/5775	75.14	75.25	75.24	75.21	0.5	PASS

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Minimum 26 dB bandwidth (MHz):

Single Antenna

Antenna 1

U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5180



U-NII-2A, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5260



U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5200



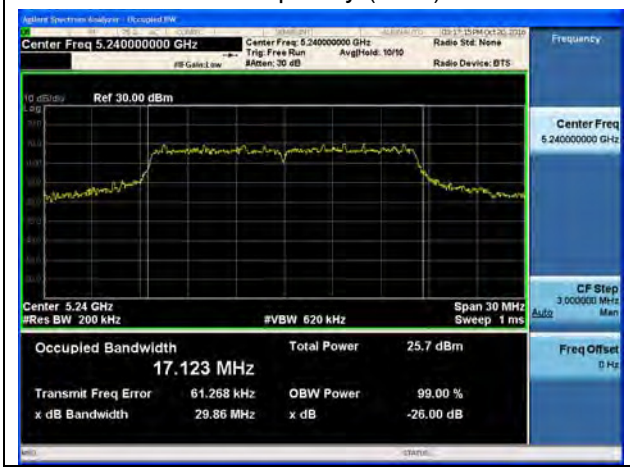
U-NII-2A, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5300



U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5240



U-NII-2A, 802.11a 26 dB bandwidth

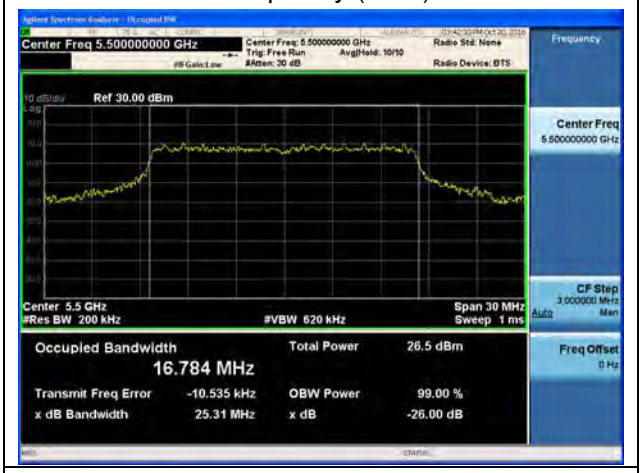
Carrier frequency (MHz):5320



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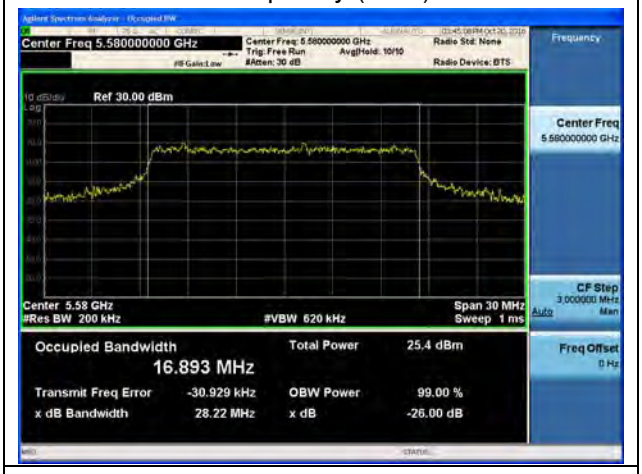
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5500



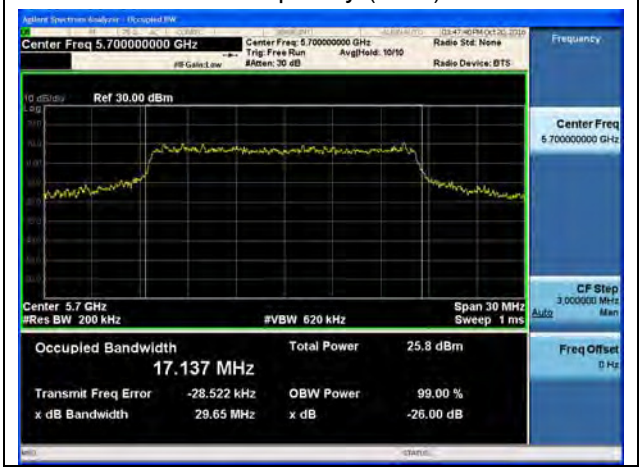
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5580



U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5700



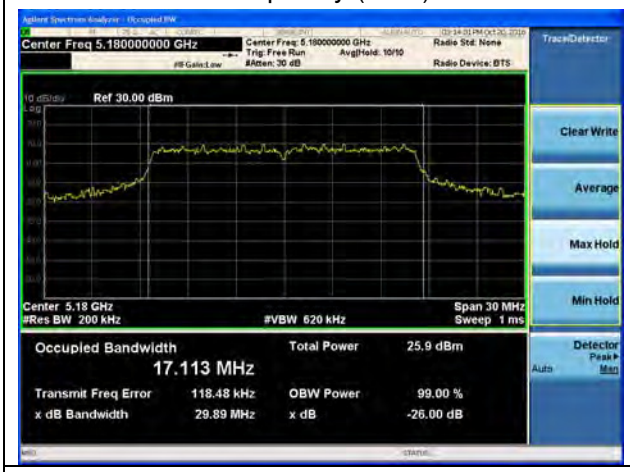
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Single Antenna

Antenna 2

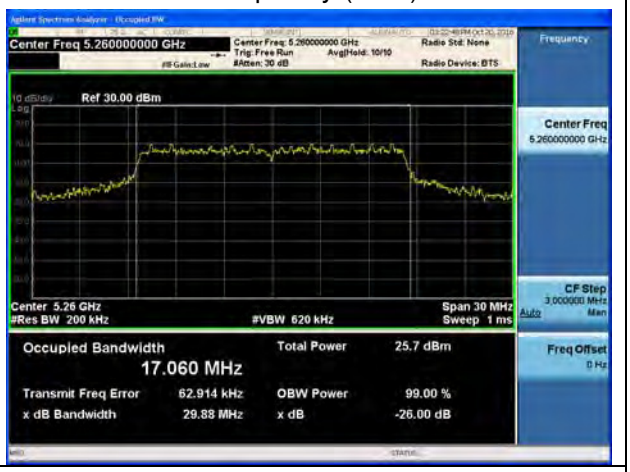
U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5180



U-NII-2A, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5260



U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5200



U-NII-2A, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5300



U-NII-1, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5240



U-NII-2A, 802.11a 26 dB bandwidth

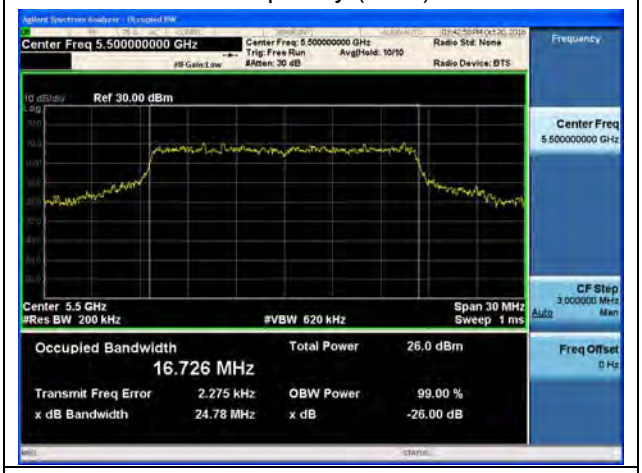
Carrier frequency (MHz):5320



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U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5500



U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5580



U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5700



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Single Antenna

Antenna 3

U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5260



U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz):5320



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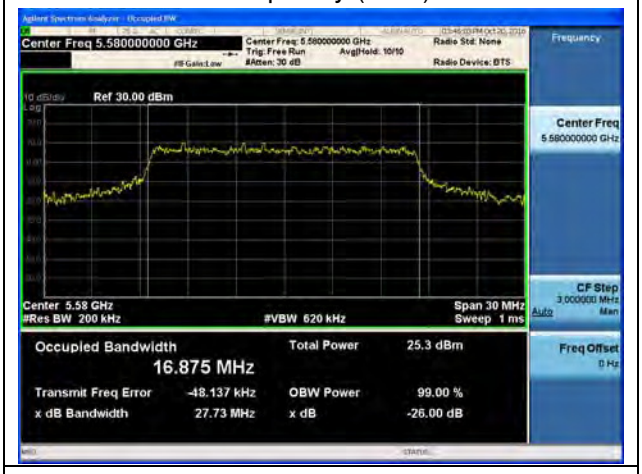
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5500



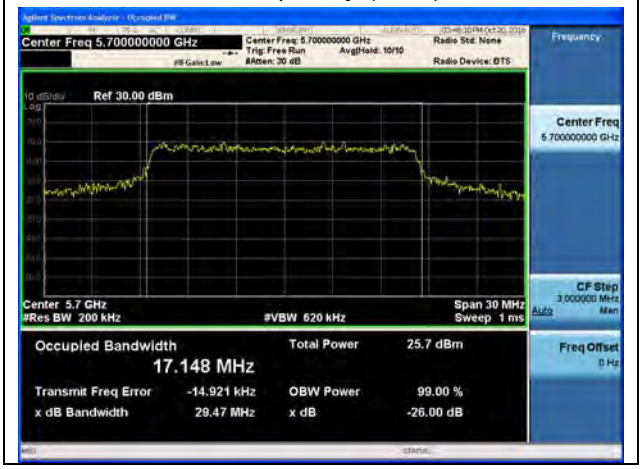
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5580



U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5700



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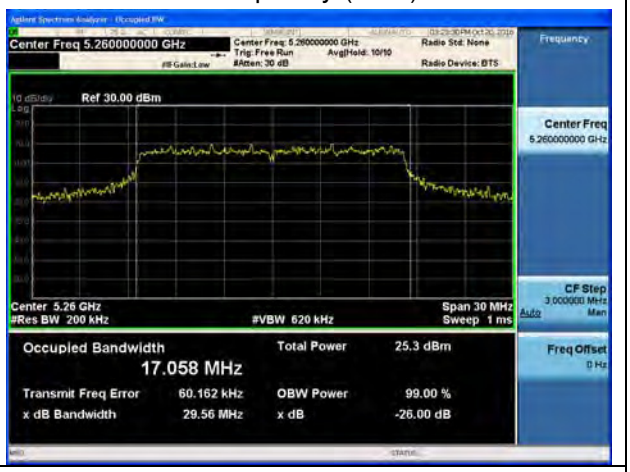
Single Antenna

Antenna 4

U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5260



U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11a 26 dB bandwidth
Carrier frequency (MHz):5240



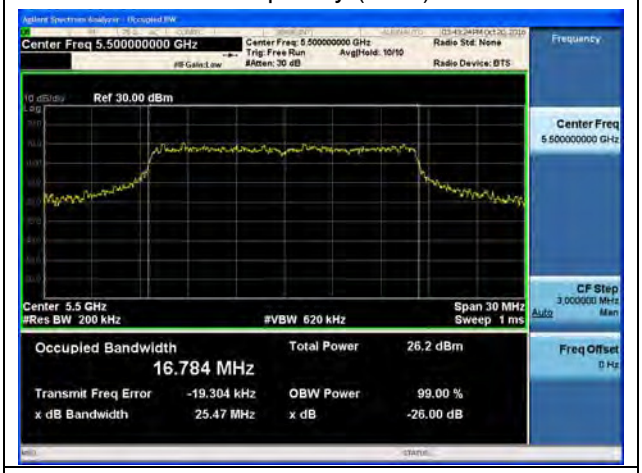
U-NII-2A, 802.11a 26 dB bandwidth
Carrier frequency (MHz):5320



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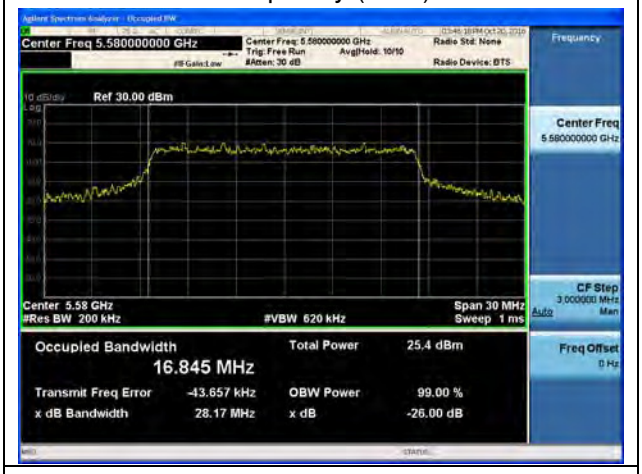
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5500



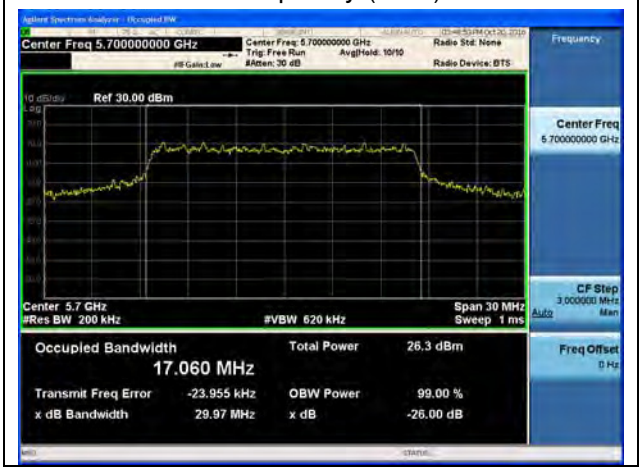
U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz): 5580



U-NII-2C, 802.11a 26 dB bandwidth

Carrier frequency (MHz):5700



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MIMO Antenna

Antenna 1

U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5260



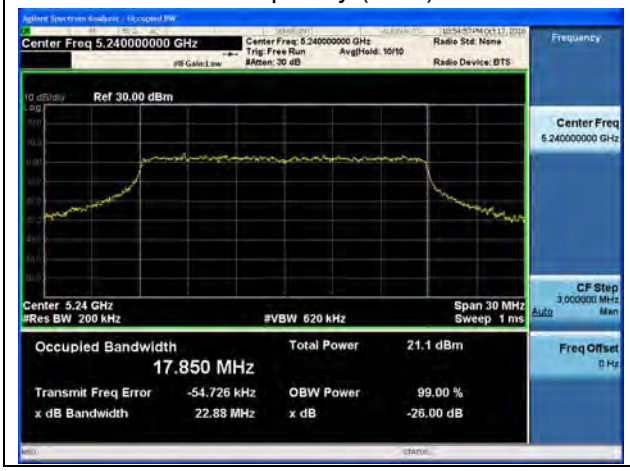
U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5320

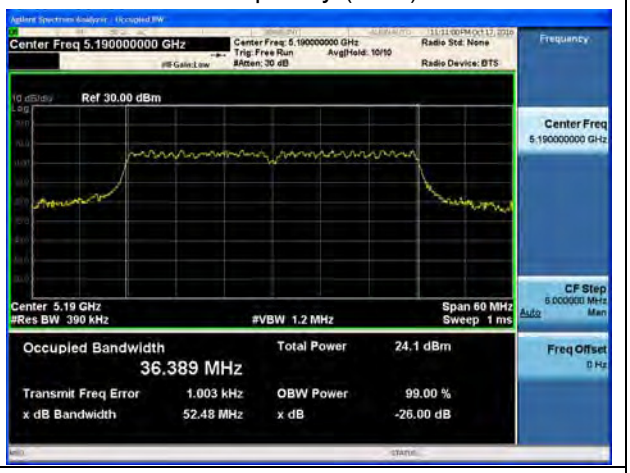


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U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



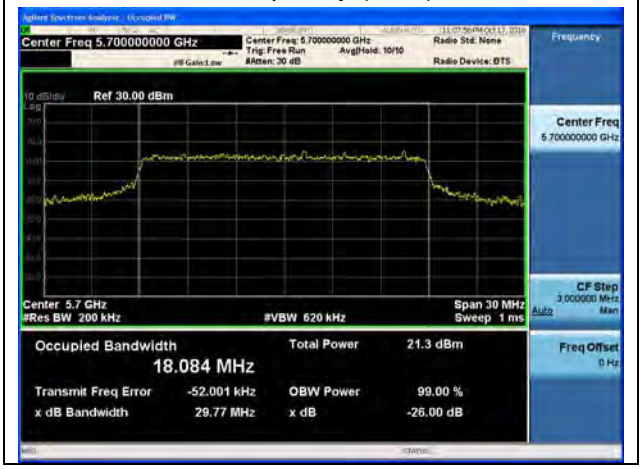
U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5230



U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5700

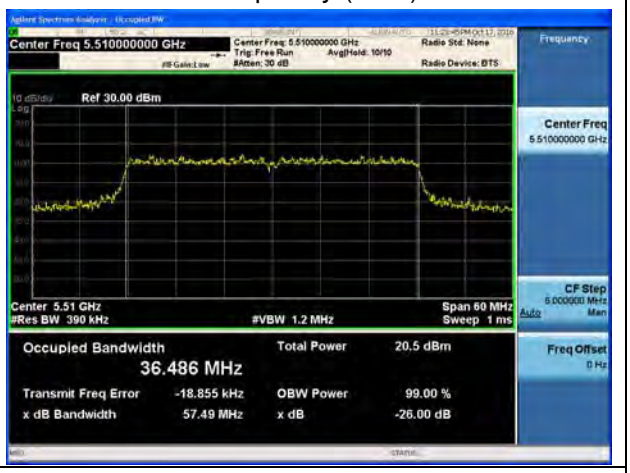


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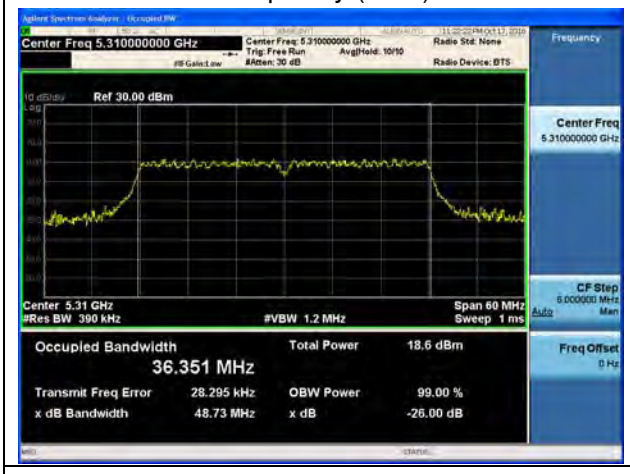
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5670

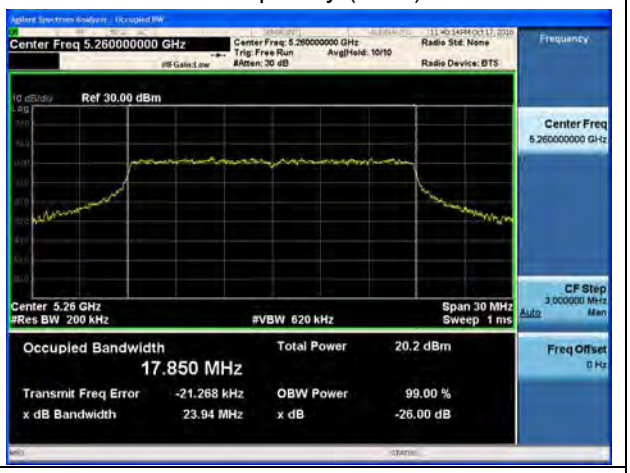


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U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5260



U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5320

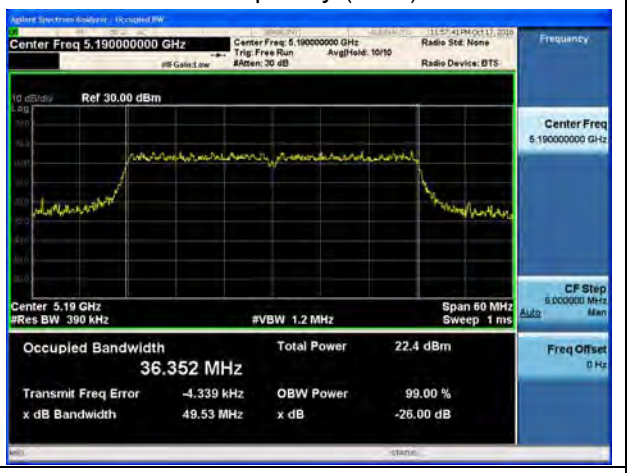


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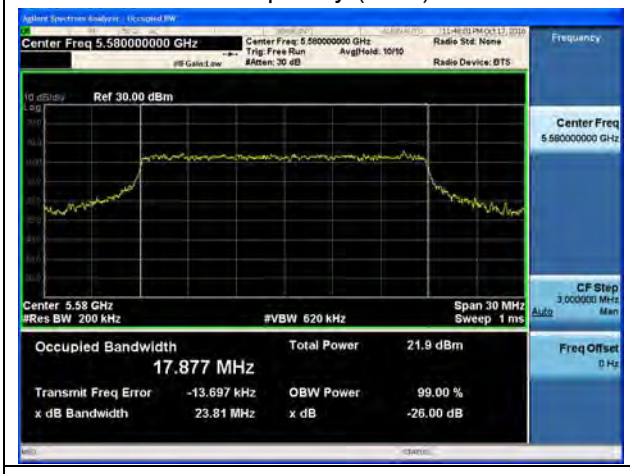
U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



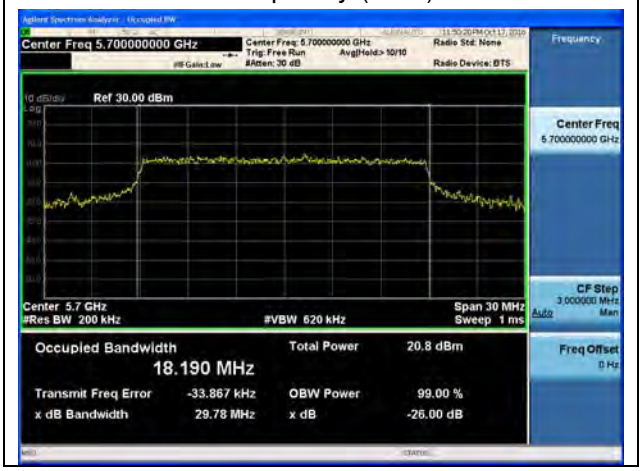
U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5230



U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5700

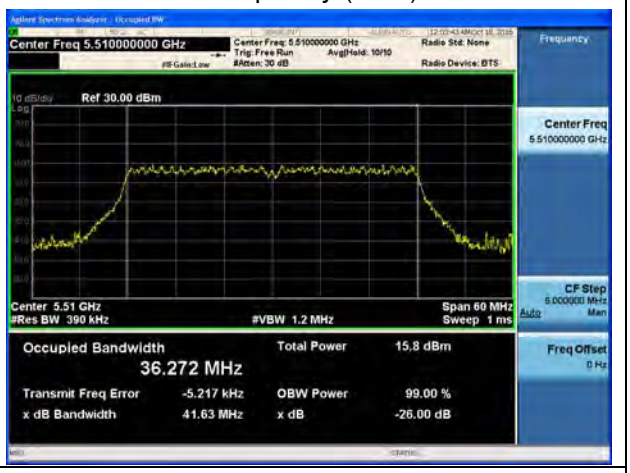


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U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



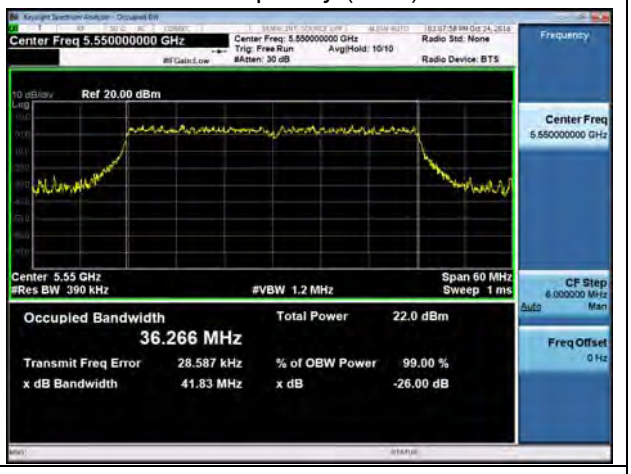
U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



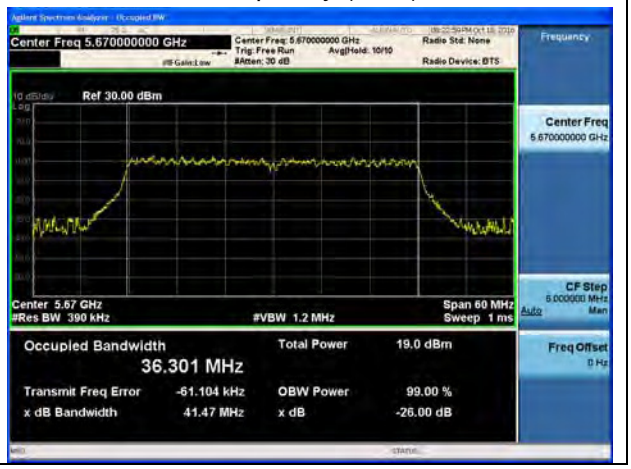
U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5550

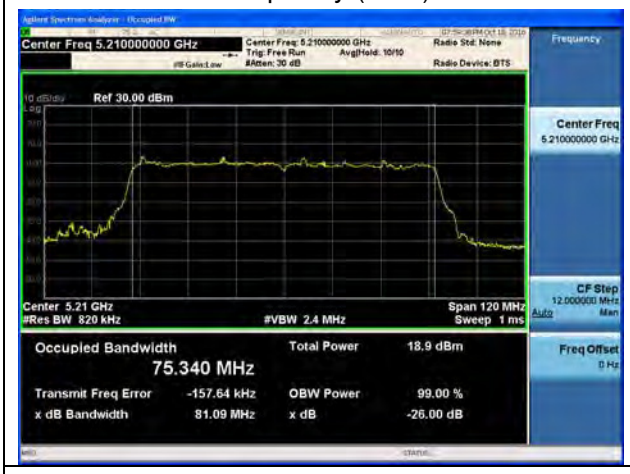


U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5670

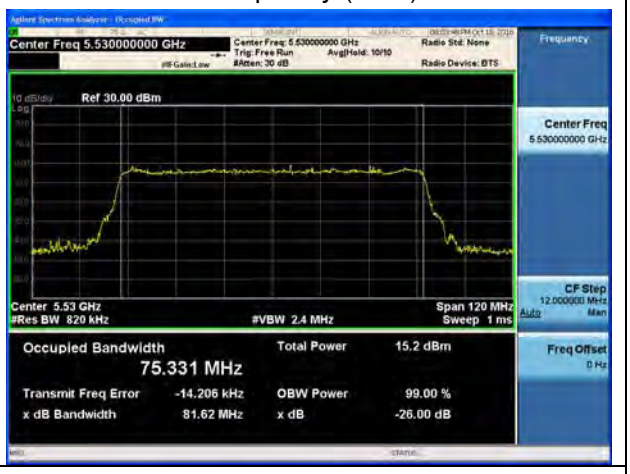


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U-NII-1, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5210



U-NII-2C, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5530



U-NII-2A, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5290

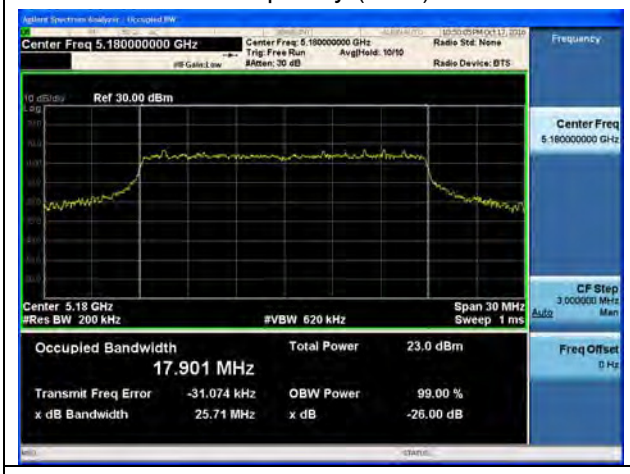


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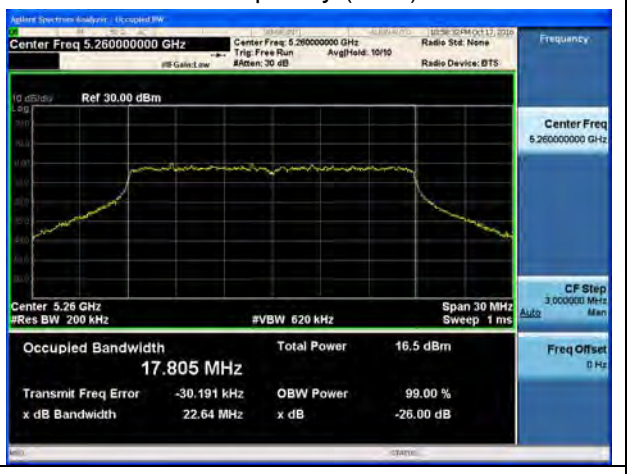
MIMO Antenna

Antenna 2

U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5260



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5320



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U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



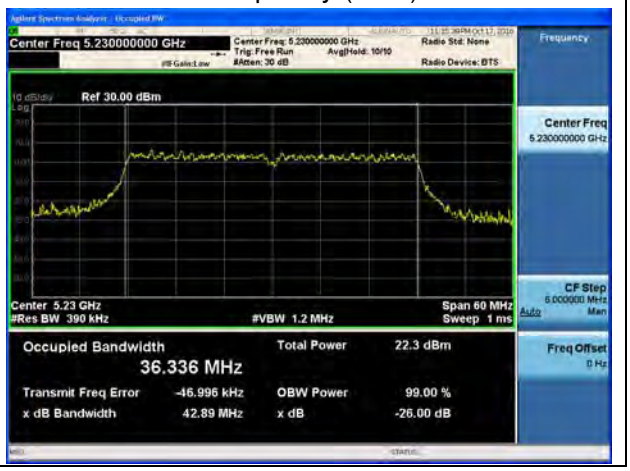
U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



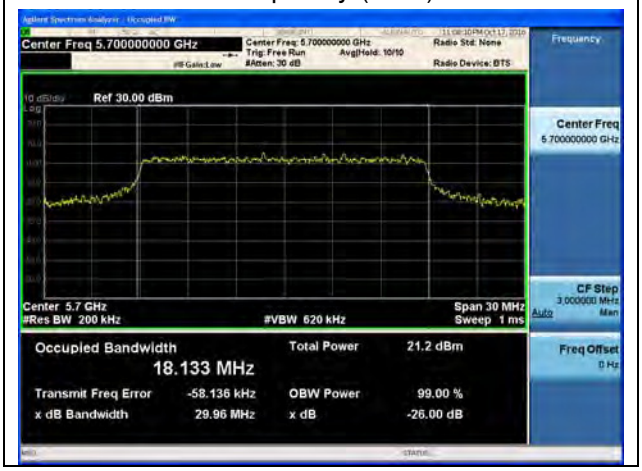
U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5230

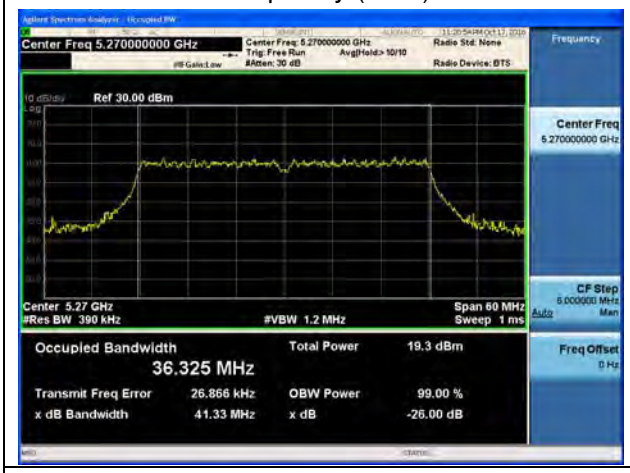


U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5700

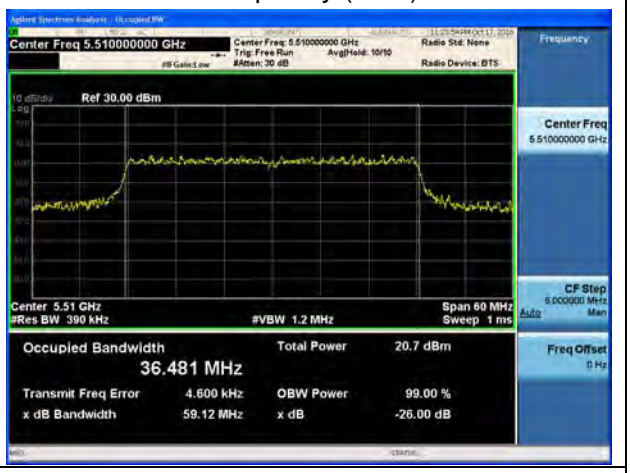


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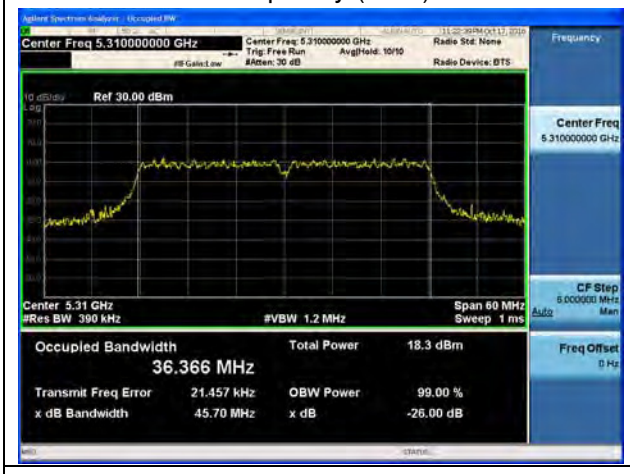
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



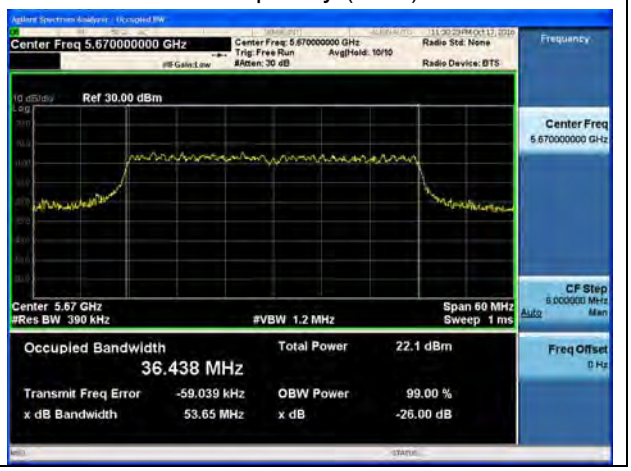
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5670

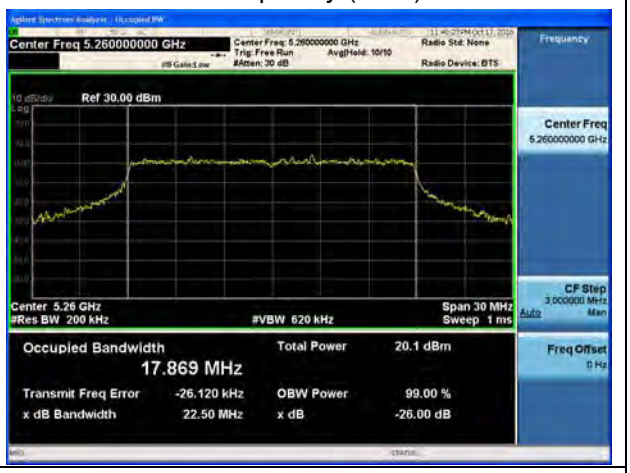


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U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5260



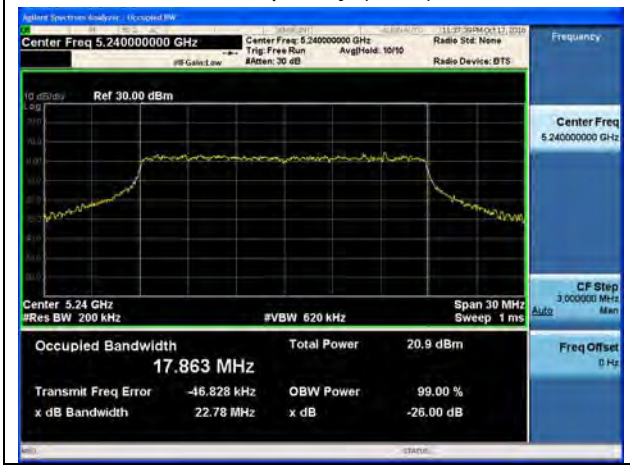
U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



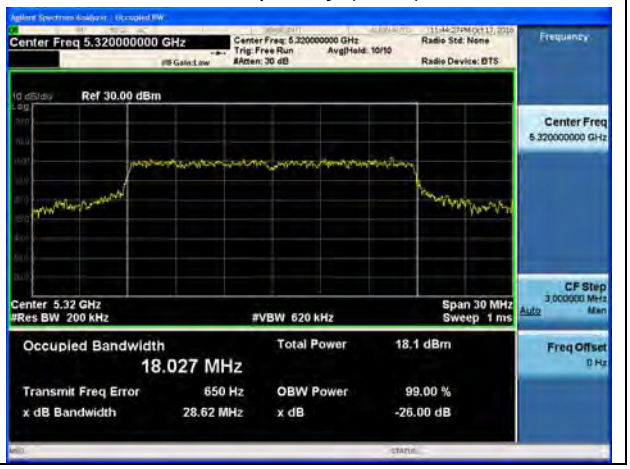
U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5320

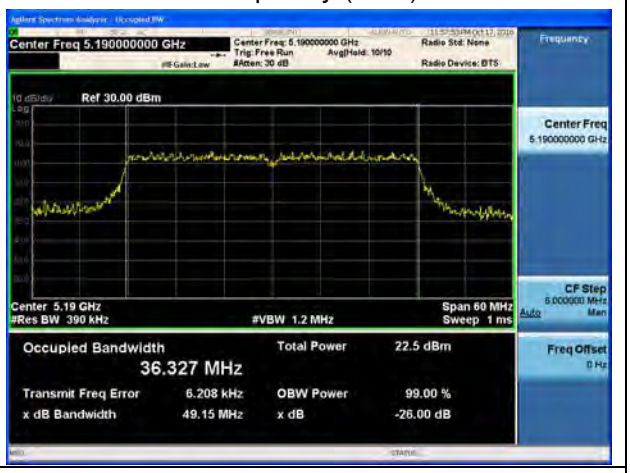


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U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5230

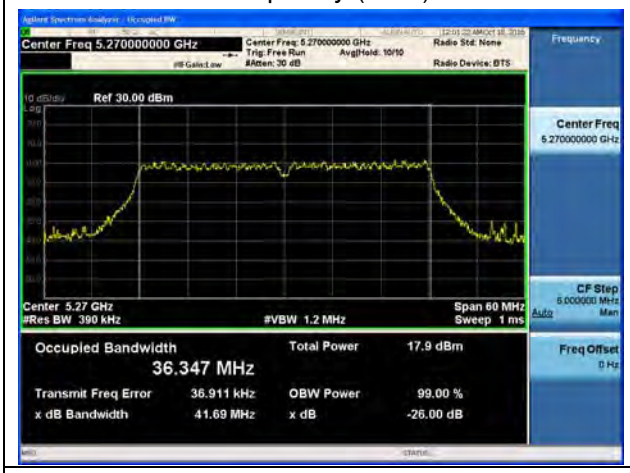


U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5700



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U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



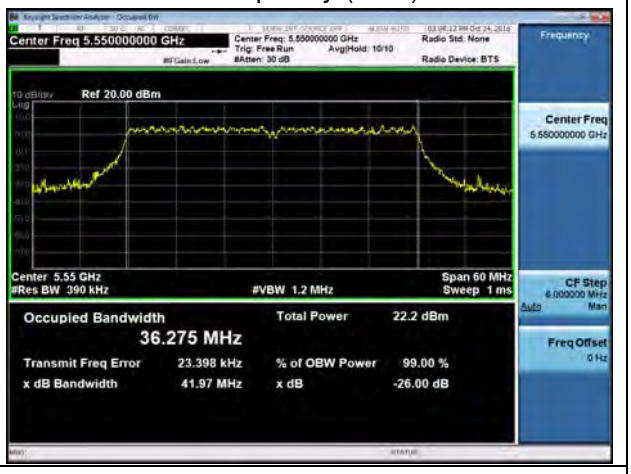
U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



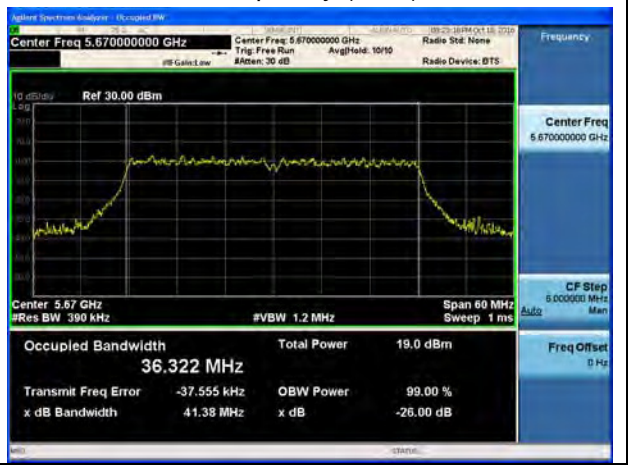
U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5670

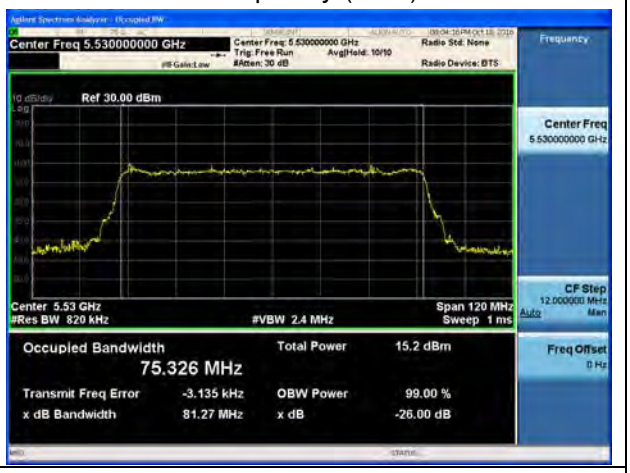


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U-NII-1, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5210



U-NII-2C, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5530



U-NII-2A, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5290



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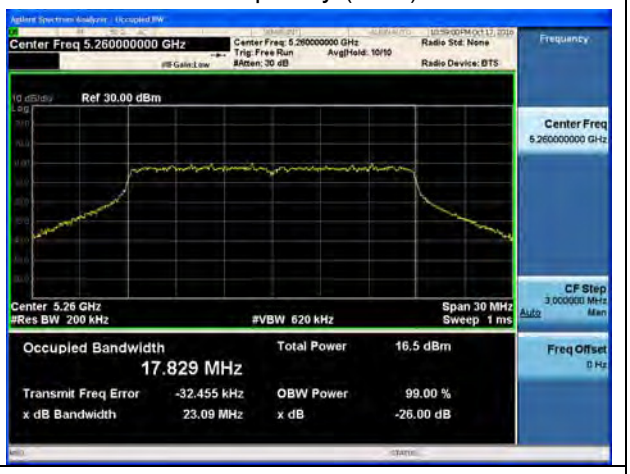
MIMO Antenna

Antenna 3

U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5260



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5320

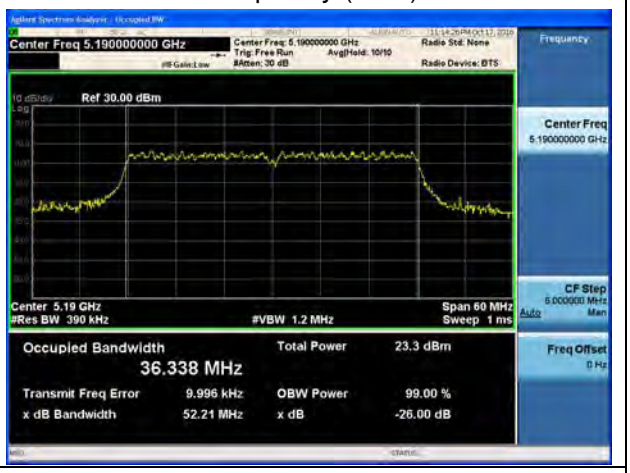


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U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



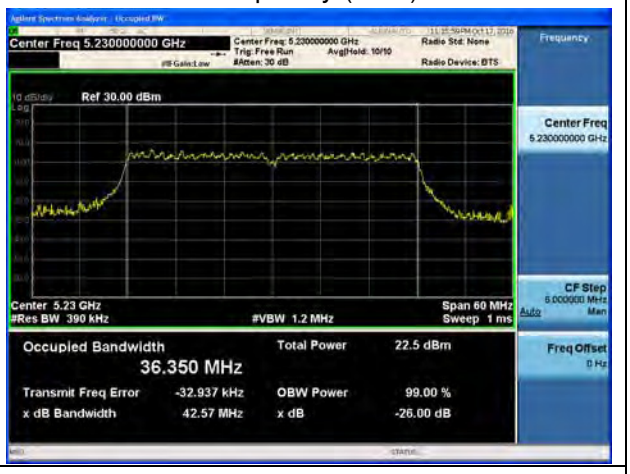
U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5230



U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5700

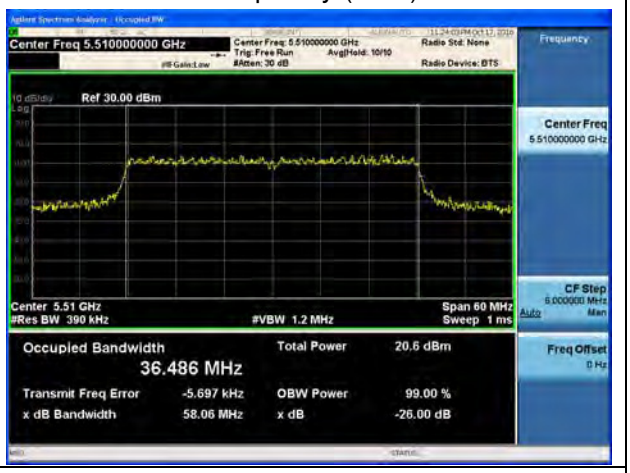


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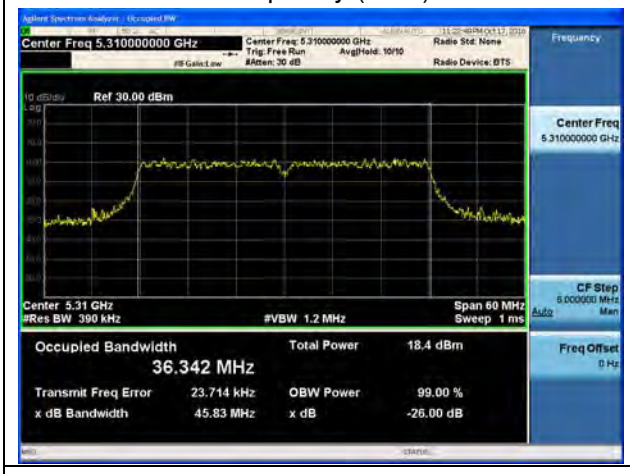
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



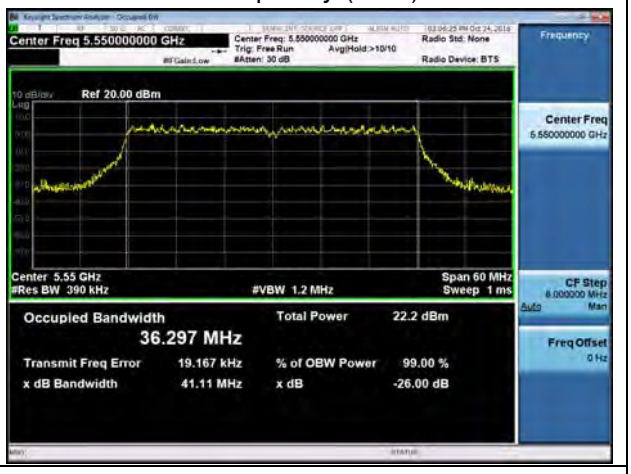
U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



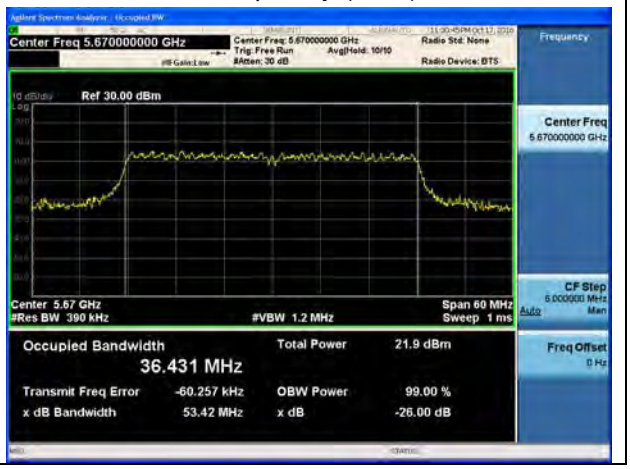
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5670



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U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5260



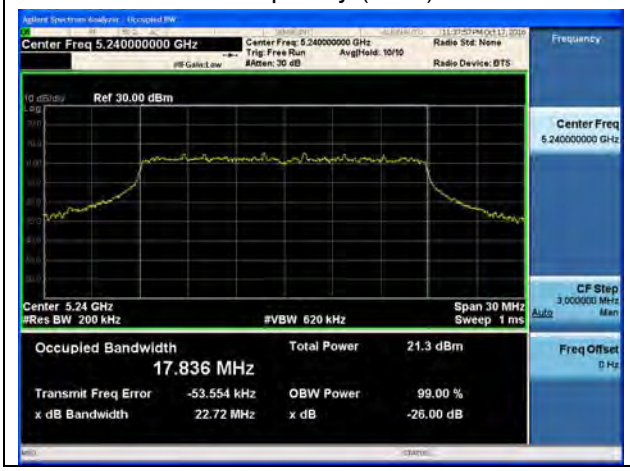
U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5320

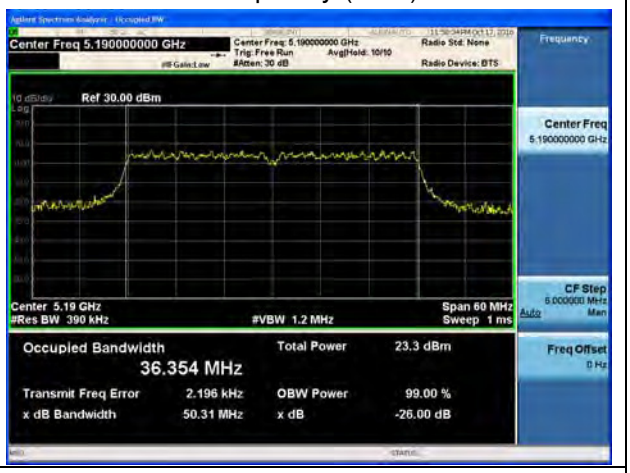


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U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



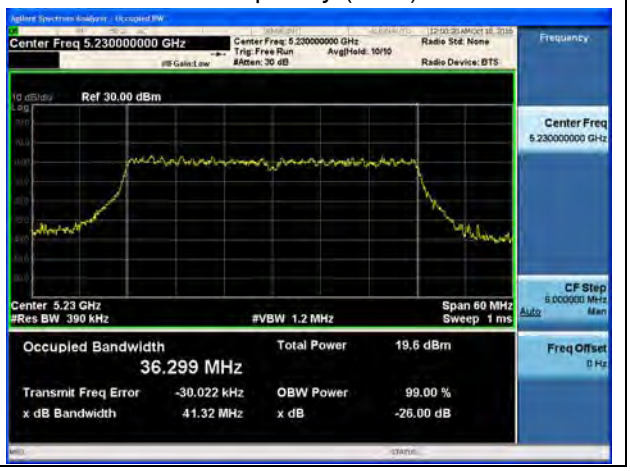
U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



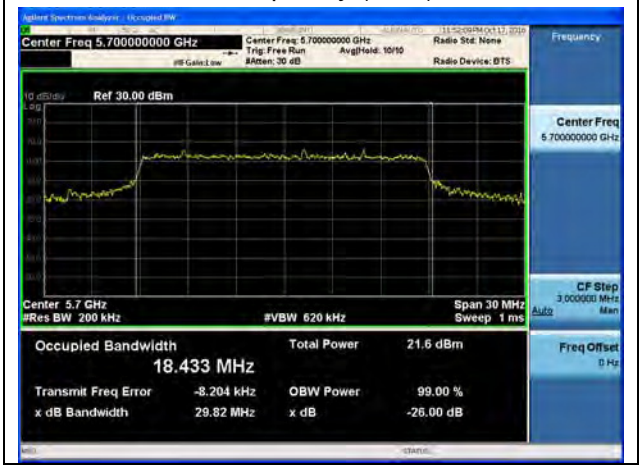
U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5230

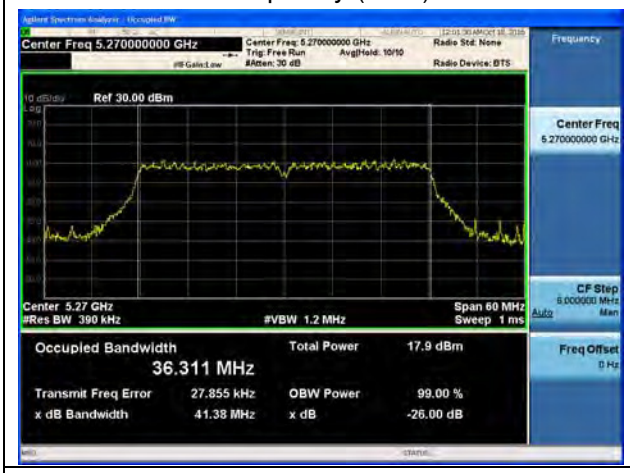


U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5700

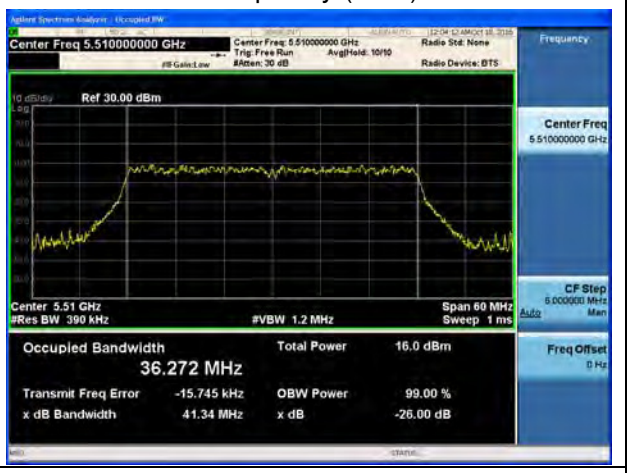


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U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



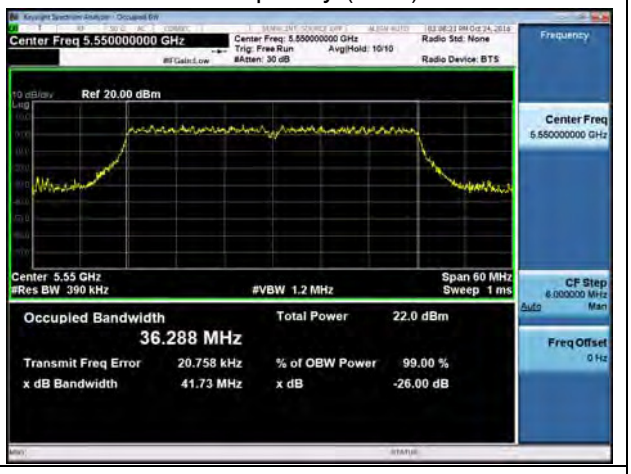
U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5670



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U-NII-1, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5210



U-NII-2C, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5530



U-NII-2A, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5290

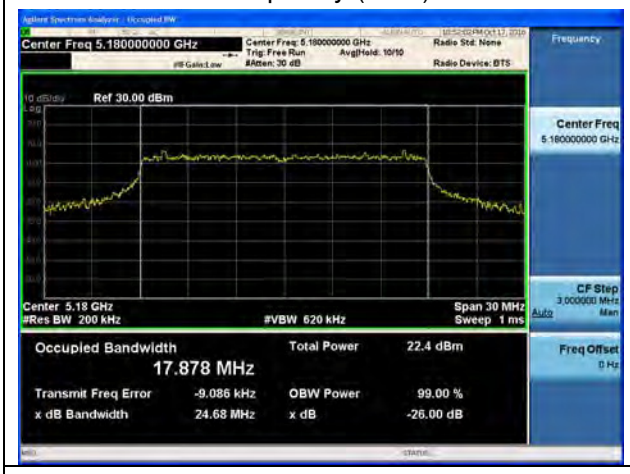


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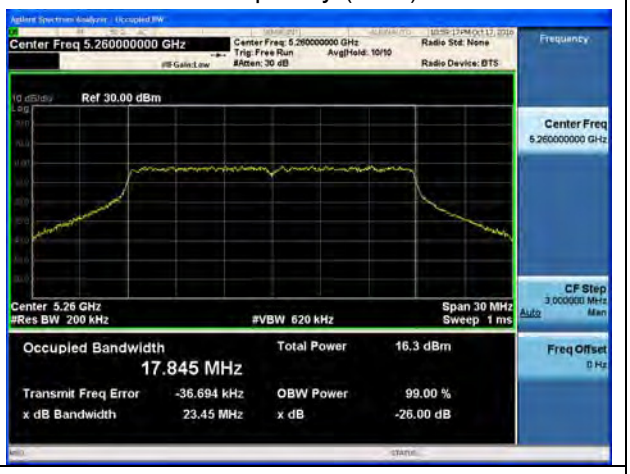
MIMO Antenna

Antenna 4

U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5260



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5320



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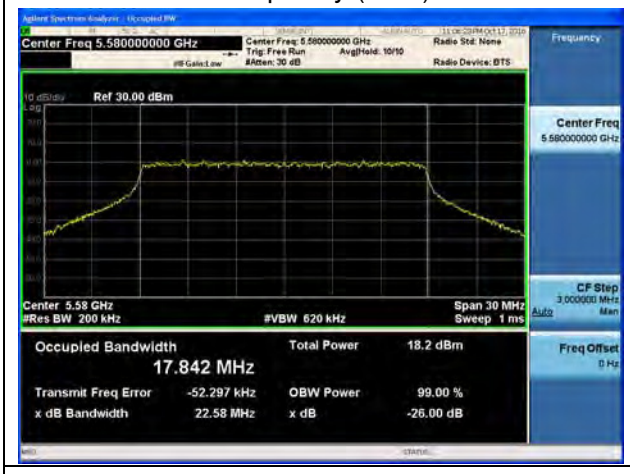
U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



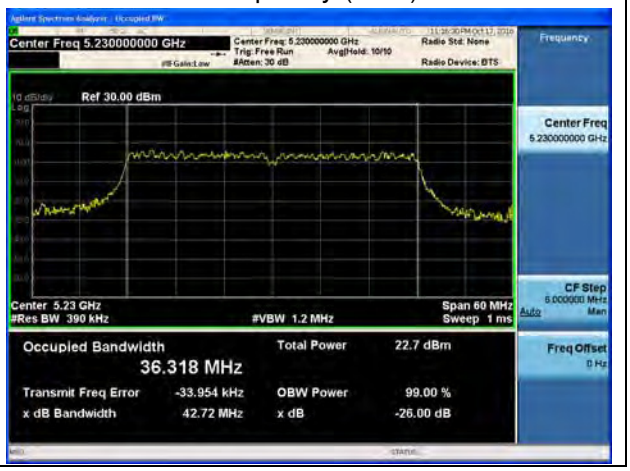
U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



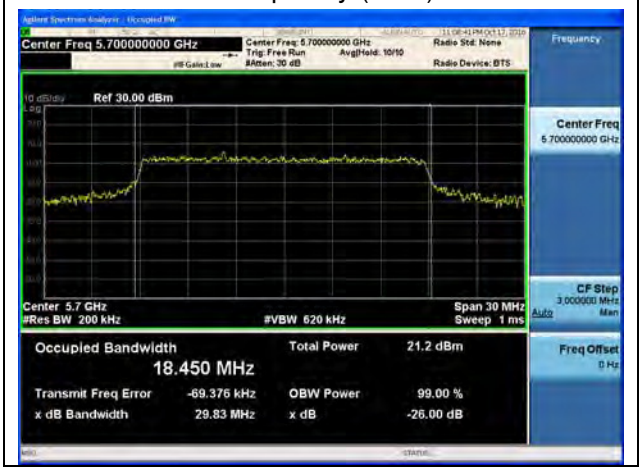
U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5230



U-NII-2C, 802.11n HT20 26 dB bandwidth
Carrier frequency (MHz):5700

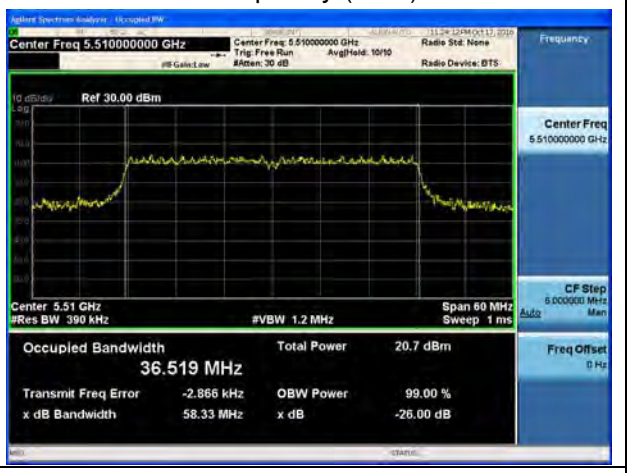


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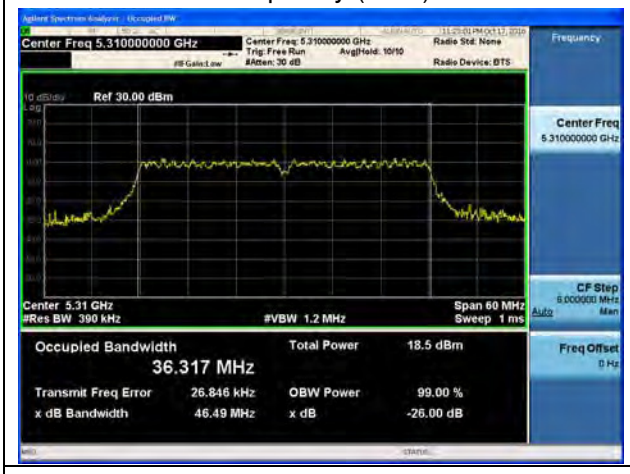
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



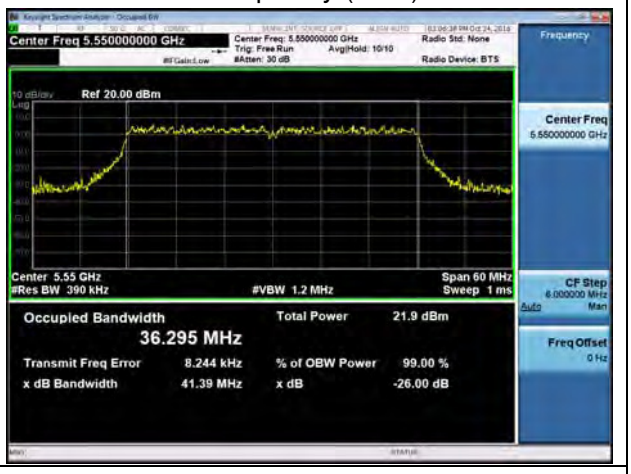
U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



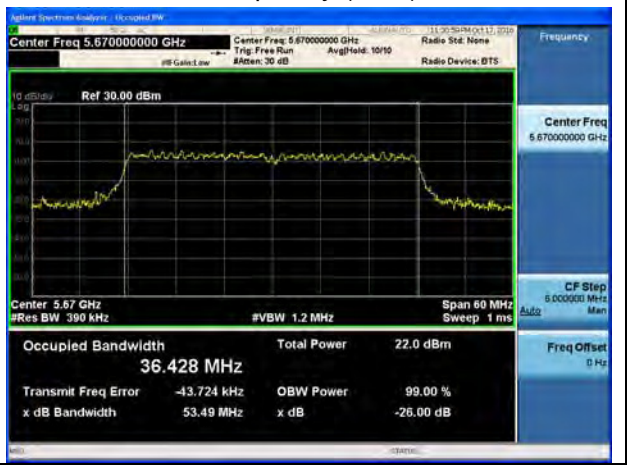
U-NII-2A, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11n HT40 26 dB bandwidth
Carrier frequency (MHz): 5670



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U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5180



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5260



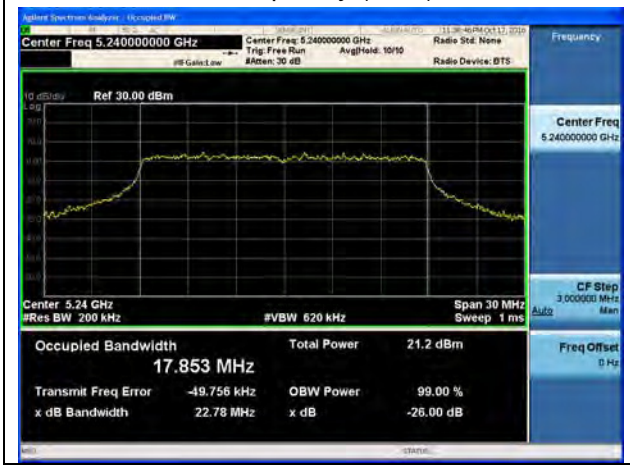
U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5200



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5300



U-NII-1, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5240



U-NII-2A, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5320

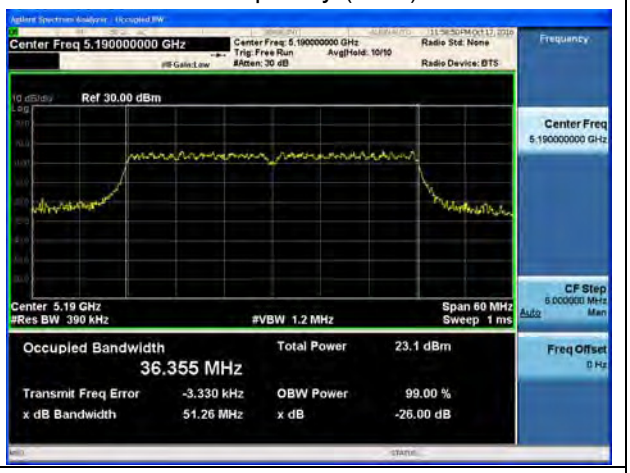


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U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5500



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5190



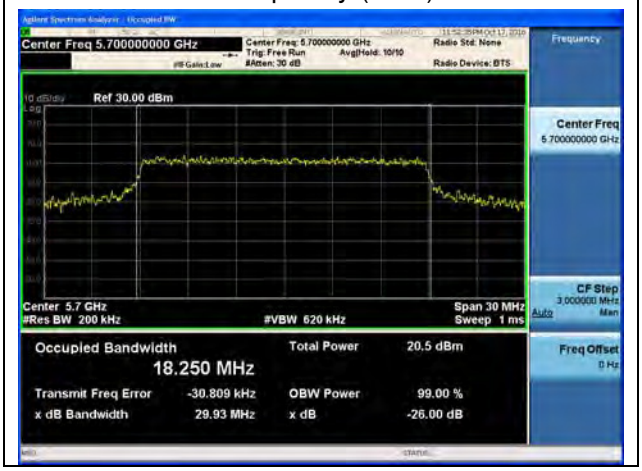
U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz): 5580



U-NII-1, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5230

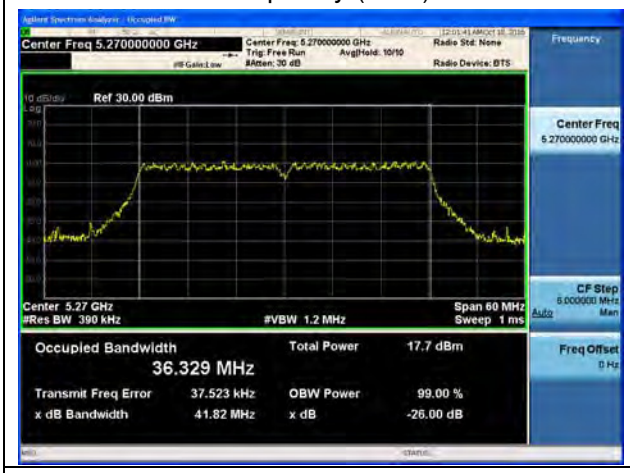


U-NII-2C, 802.11ac HT20 26 dB bandwidth
Carrier frequency (MHz):5700

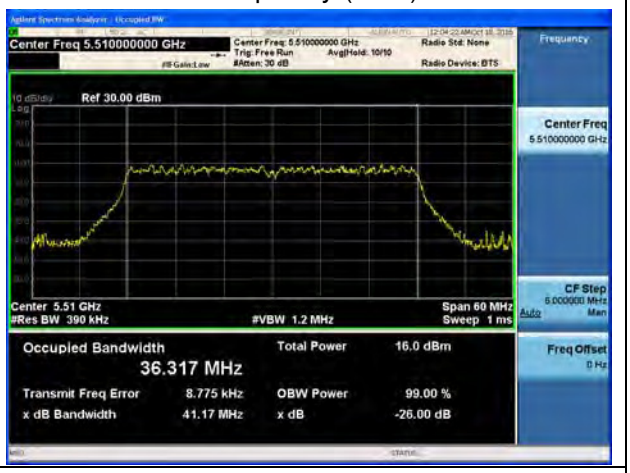


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U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5270



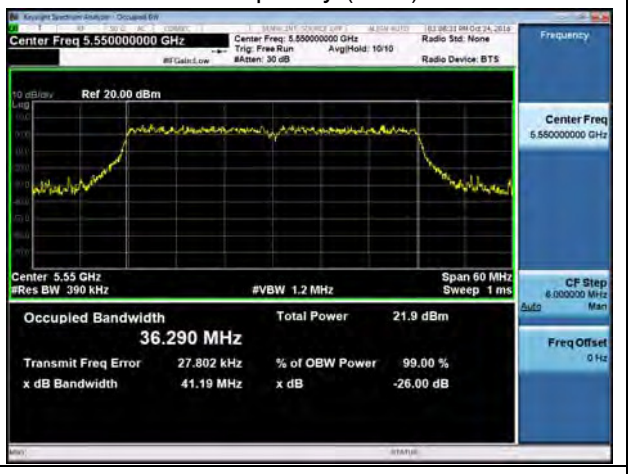
U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5510



U-NII-2A, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5310



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5550



U-NII-2C, 802.11ac HT40 26 dB bandwidth
Carrier frequency (MHz): 5670

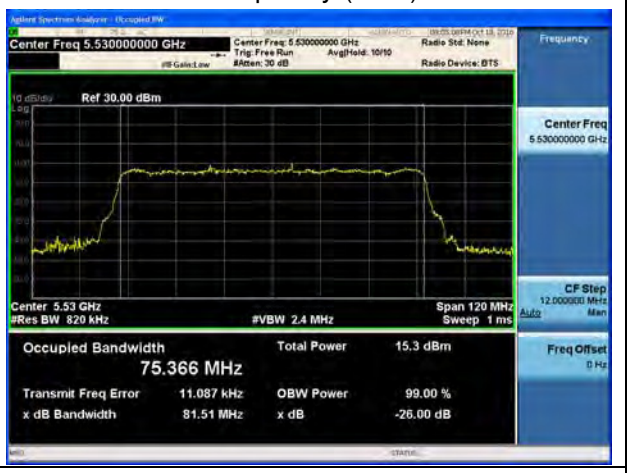


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U-NII-1, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5210



U-NII-2C, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5530

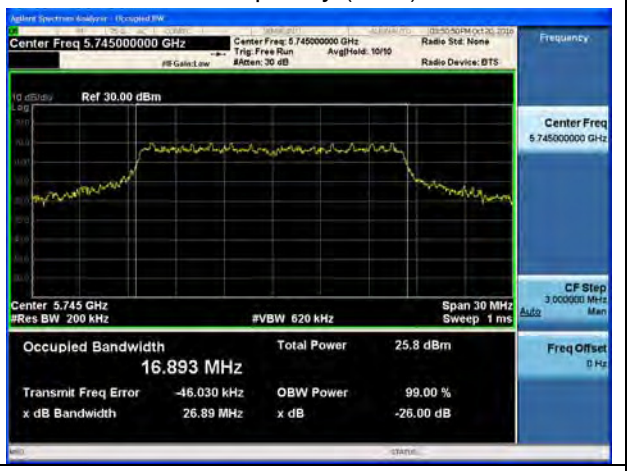
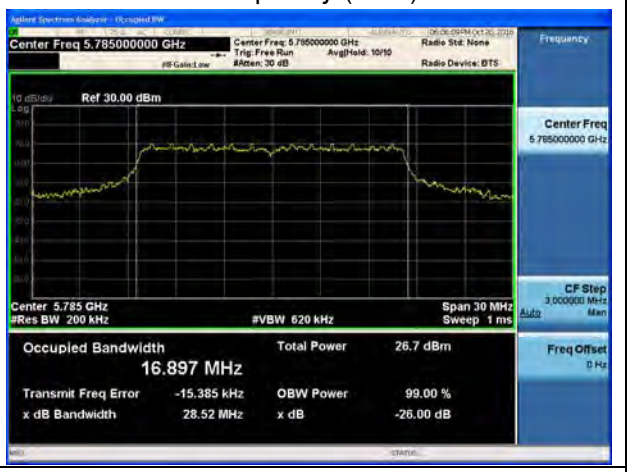
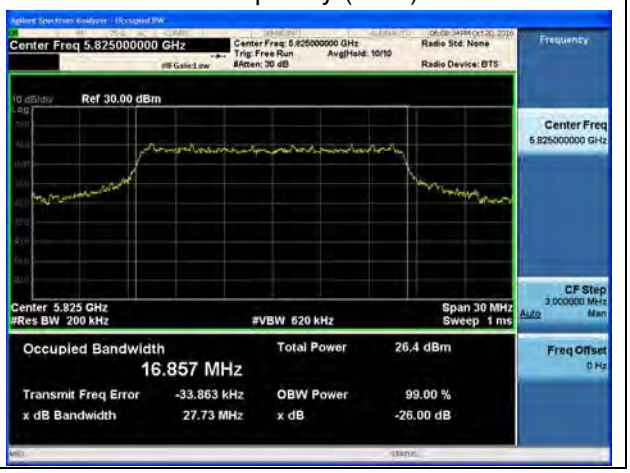


U-NII-2A, 802.11ac HT80 26 dB bandwidth
Carrier frequency (MHz): 5290

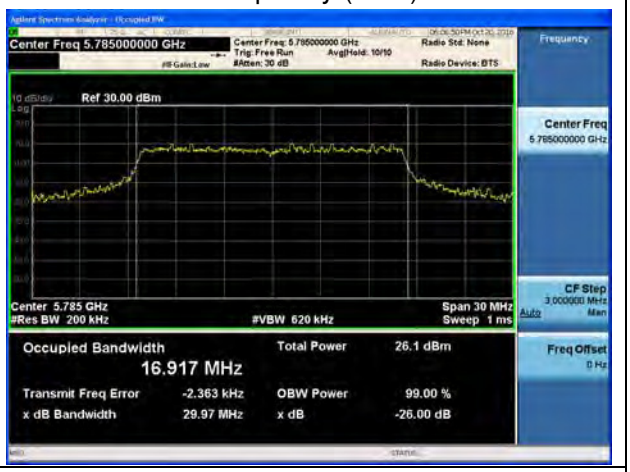
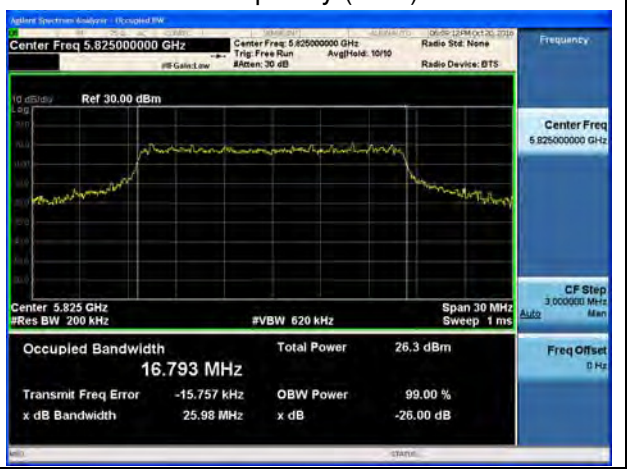


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99% bandwidth (MHz):

Single Antenna：Antenna 1	Single Antenna：Antenna 2
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5745	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5745
	
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5785	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5785
	
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5825	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5825
	

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Single Antenna：Antenna 3	Single Antenna：Antenna 4
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5745	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5745
	
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5785	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5785
	
U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5825	U-NII-3, 802.11a 99% bandwidth Carrier frequency (MHz): 5825
	

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MIMO Antenna

Antenna 1

U-NII-3, 802.11n HT20 99% bandwidth

Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 99% bandwidth

Carrier frequency (MHz): 5755



U-NII-3, 802.11n HT20 99% bandwidth

Carrier frequency (MHz): 5785



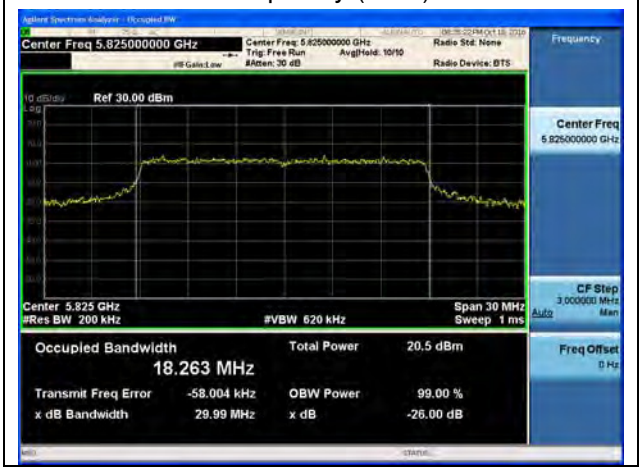
U-NII-3, 802.11n HT40 99% bandwidth

Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 99% bandwidth

Carrier frequency (MHz): 5825

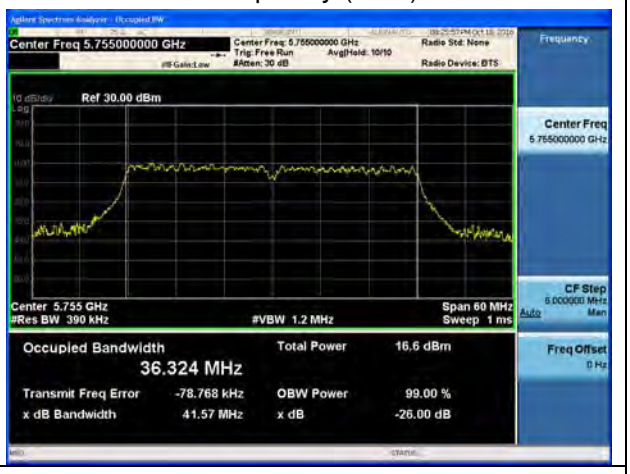


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U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11ac HT40 99% bandwidth
Carrier frequency (MHz): 5755



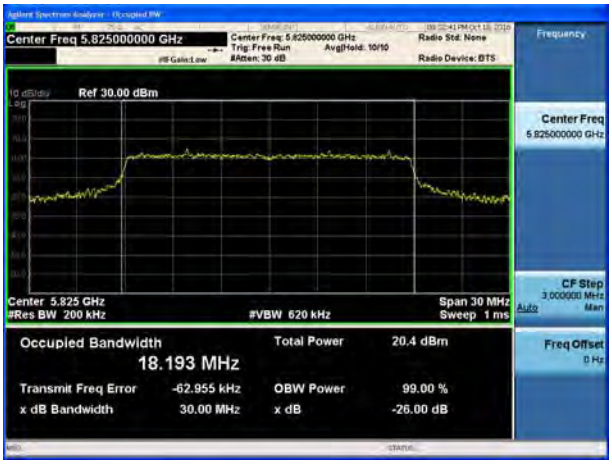
U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11ac HT40 99% bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz):
5825



U-NII-3, 802.11ac HT80 99% bandwidth
Carrier frequency (MHz): 5775



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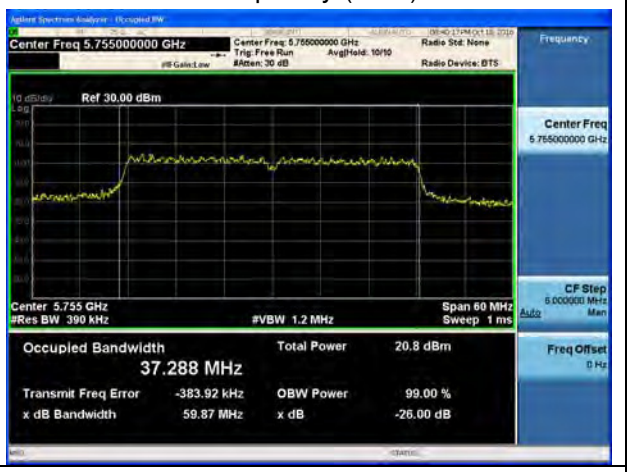
MIMO Antenna

Antenna 2

U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5825



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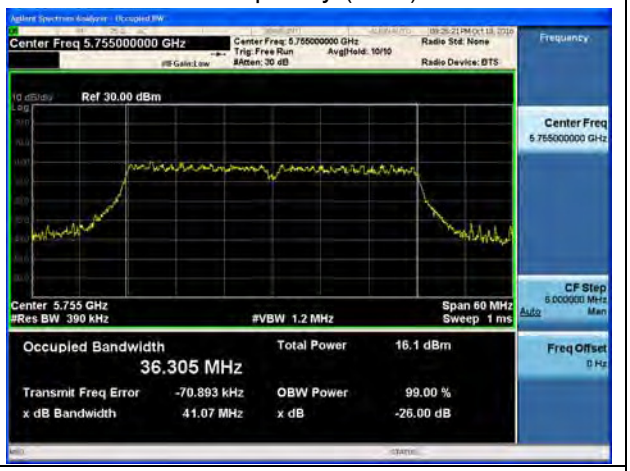
U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5745



U-NII-3, 802.11ac HT40 99% bandwidth

Carrier frequency (MHz): 5755



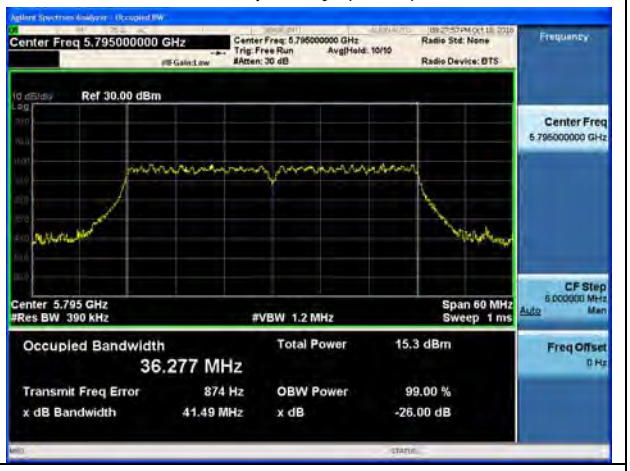
U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5785



U-NII-3, 802.11ac HT40 99% bandwidth

Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 99% bandwidth

Carrier frequency (MHz): 5775



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MIMO Antenna

Antenna 3

U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5755



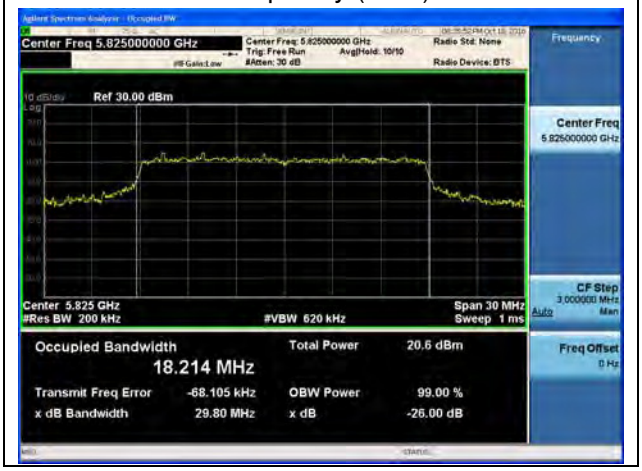
U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5825

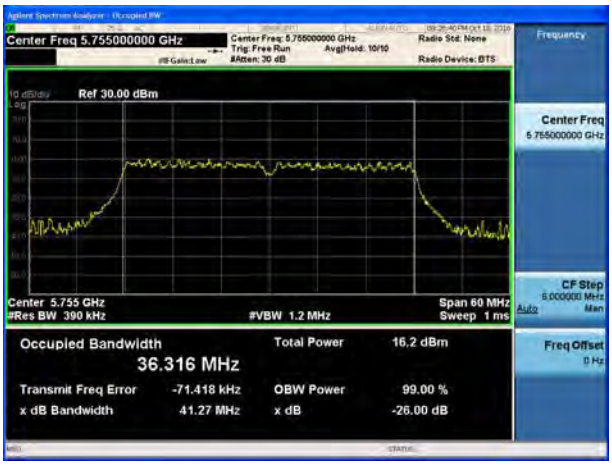


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U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz):
5745



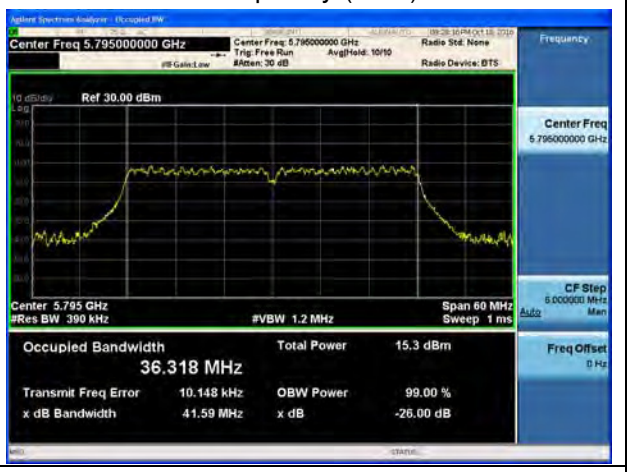
U-NII-3, 802.11ac HT40 99% bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11ac HT40 99% bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 99% bandwidth
Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 99% bandwidth
Carrier frequency (MHz): 5775



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MIMO Antenna

Antenna 4

U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5755



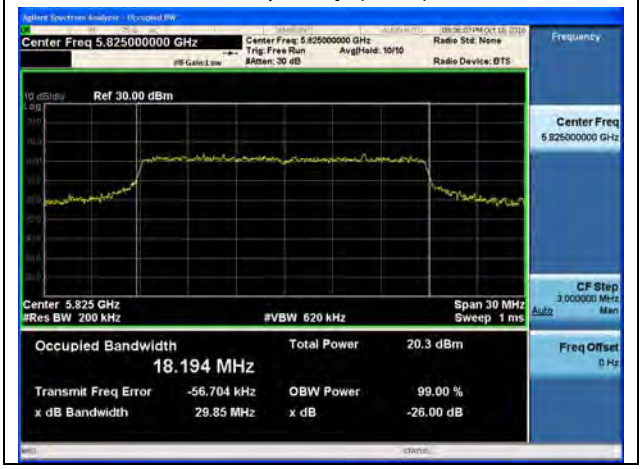
U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 99% bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 99% bandwidth
Carrier frequency (MHz): 5825



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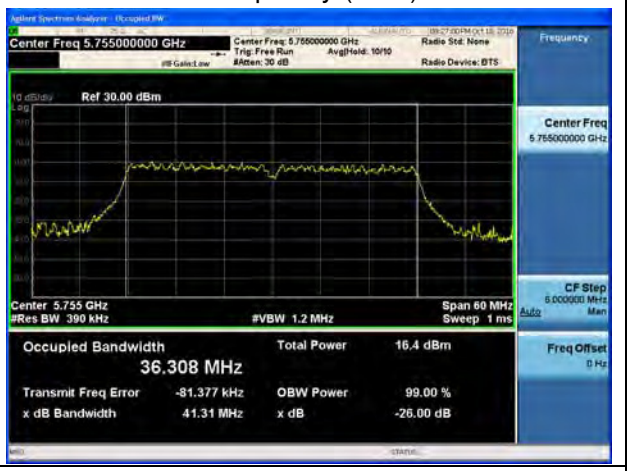
U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5745



U-NII-3, 802.11ac HT40 99% bandwidth

Carrier frequency (MHz): 5755



U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5785



U-NII-3, 802.11ac HT40 99% bandwidth

Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 99% bandwidth

Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 99% bandwidth

Carrier frequency (MHz): 5775

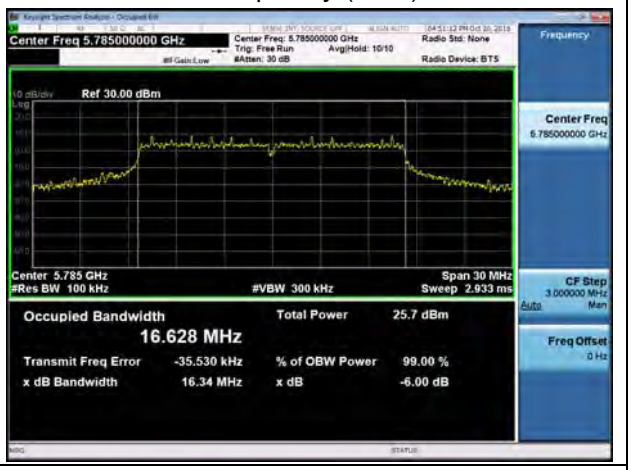


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Minimum 6 dB bandwidth (MHz)

Single Antenna：Antenna 1	Single Antenna：Antenna 2
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5745	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5745
	
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5785	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5785
	
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5825	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5825
	

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Single Antenna：Antenna 3	Single Antenna：Antenna 4
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5745	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5745
	
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5785	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5785
	
U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5825	U-NII-3, 802.11a 6 dB bandwidth Carrier frequency (MHz): 5825
	

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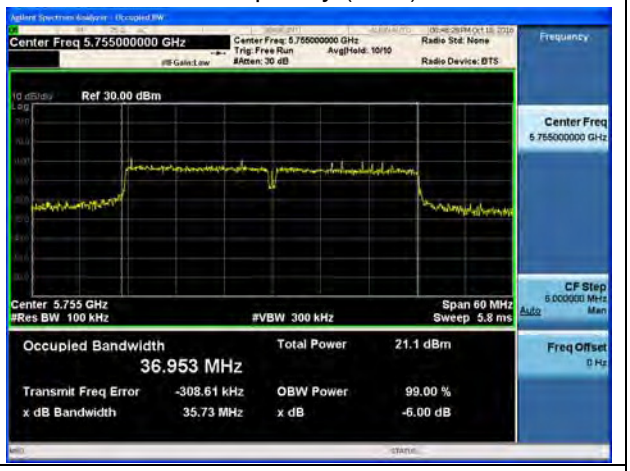
MIMO Antenna

Antenna 1

U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



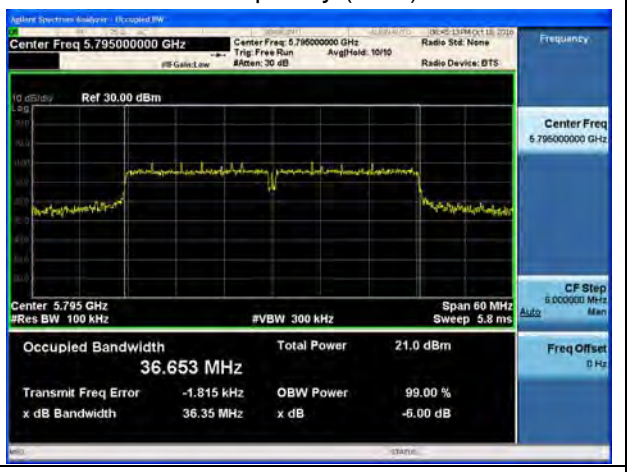
U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5795

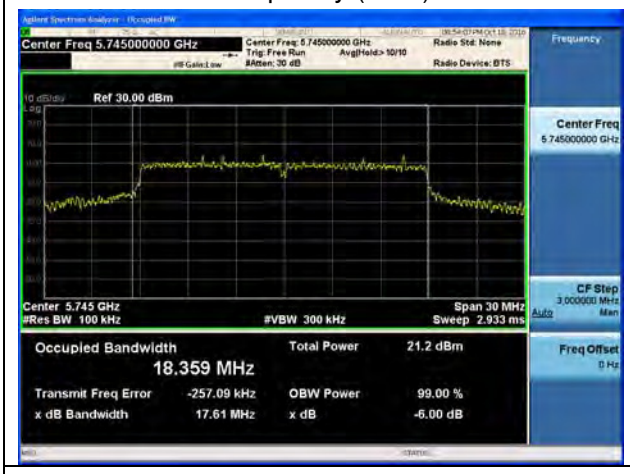


U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5825

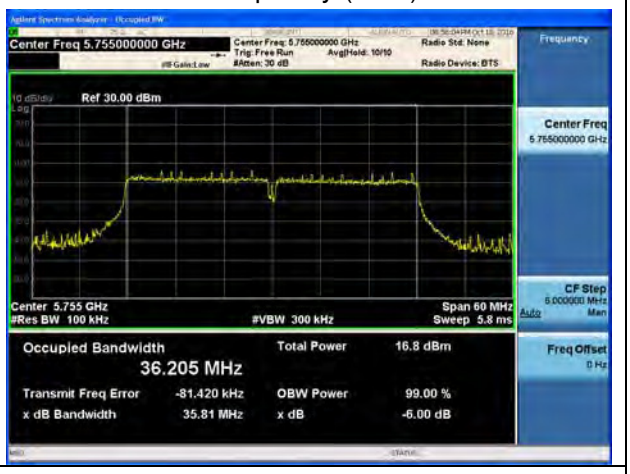


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U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



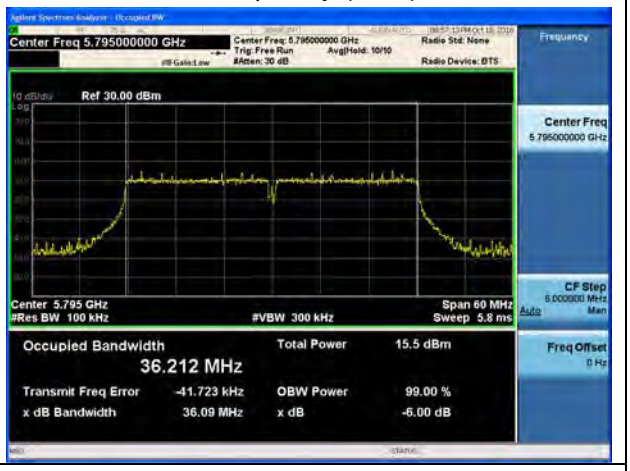
U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



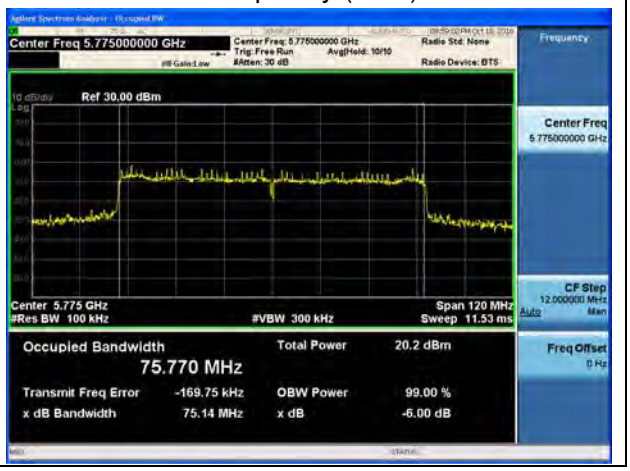
U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 6 dB bandwidth
Carrier frequency (MHz): 5775



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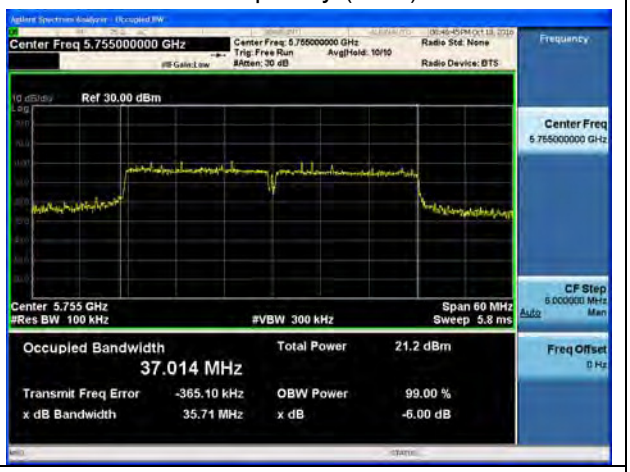
MIMO Antenna

Antenna 2

U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



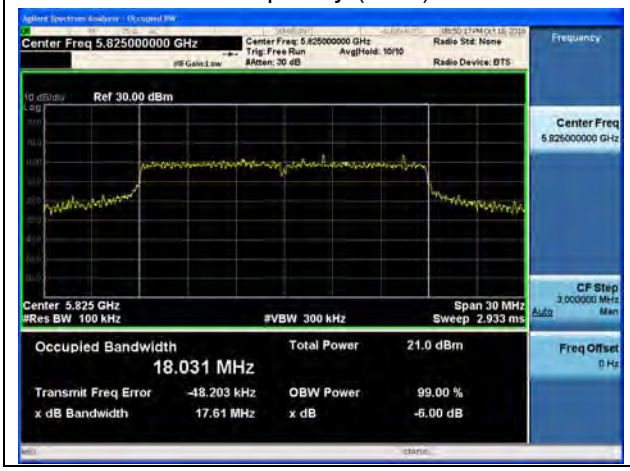
U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



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U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



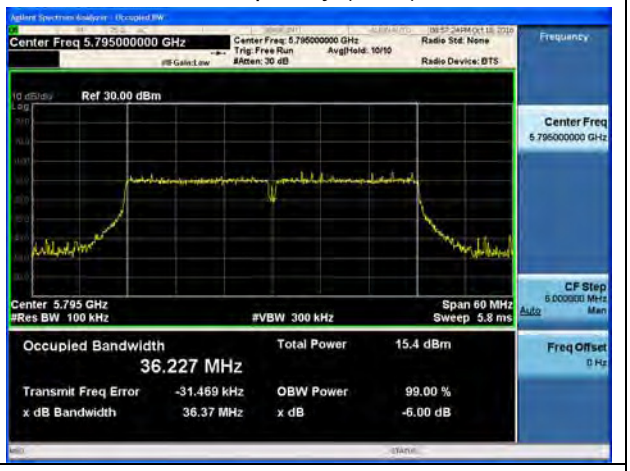
U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



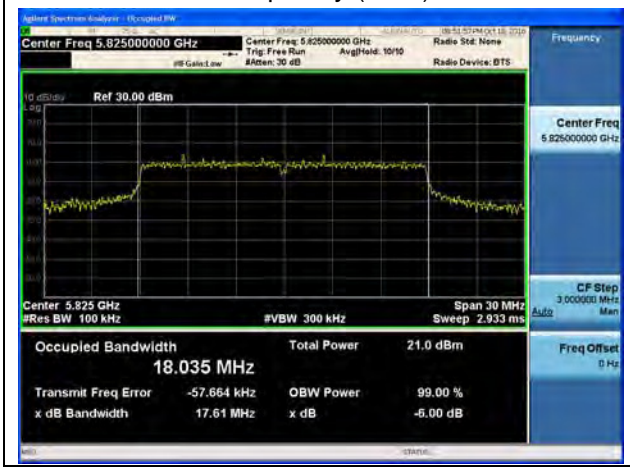
U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 6 dB bandwidth
Carrier frequency (MHz): 5775

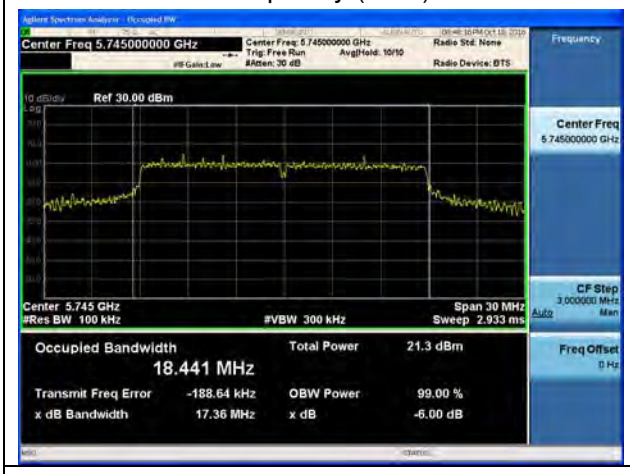


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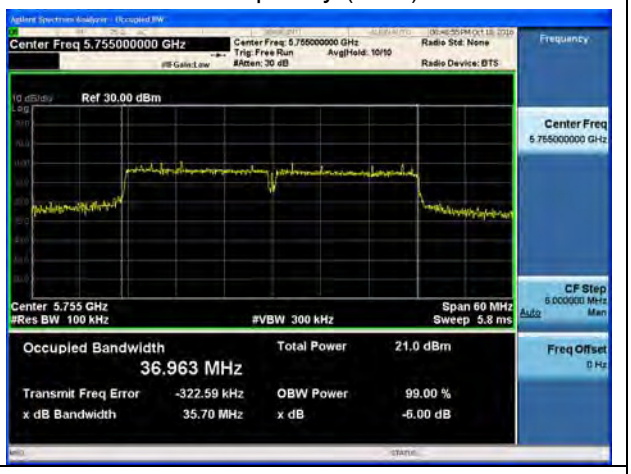
MIMO Antenna

Antenna 3

U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5825

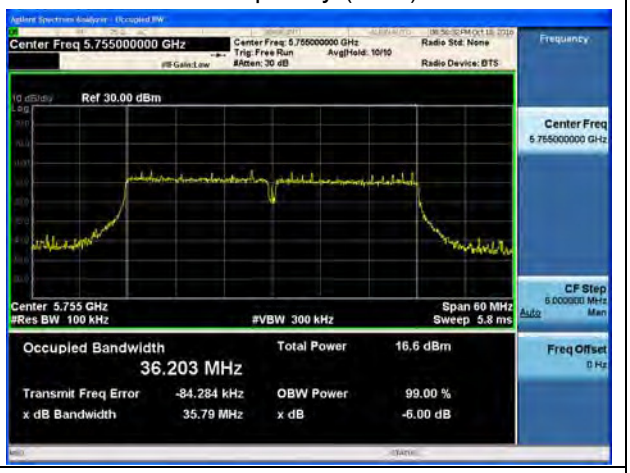


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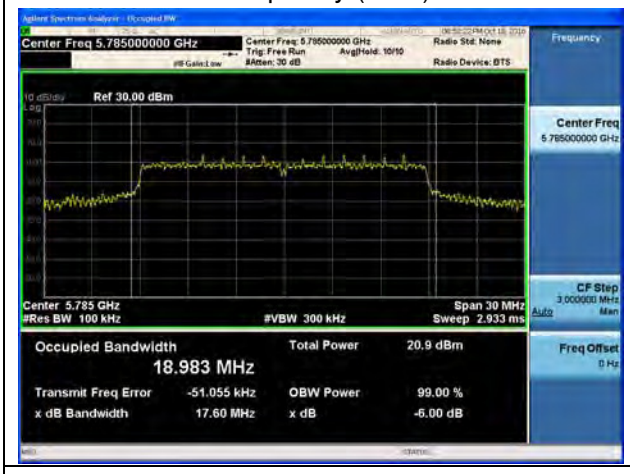
U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



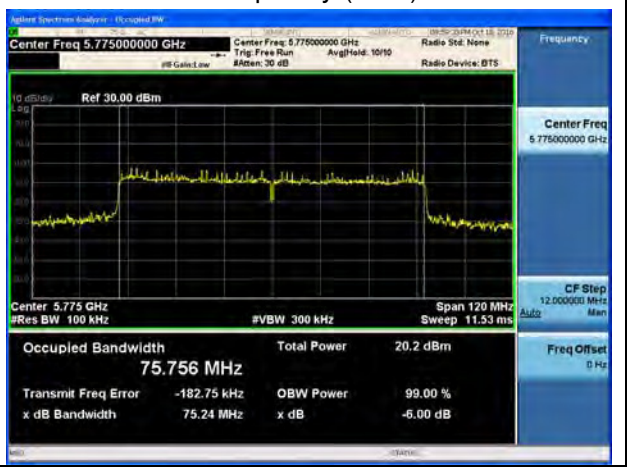
U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 6 dB bandwidth
Carrier frequency (MHz): 5775

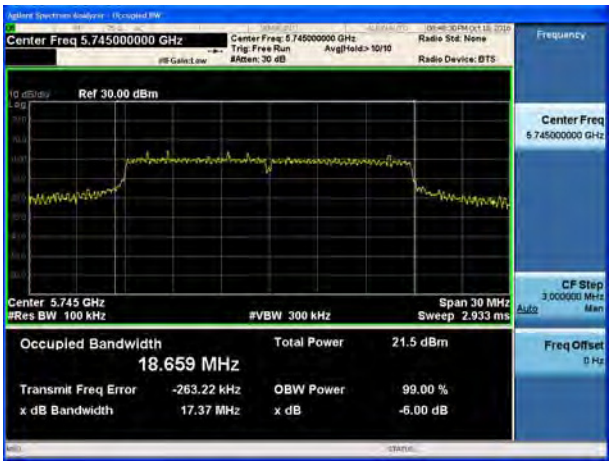


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MIMO Antenna

Antenna 4

U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



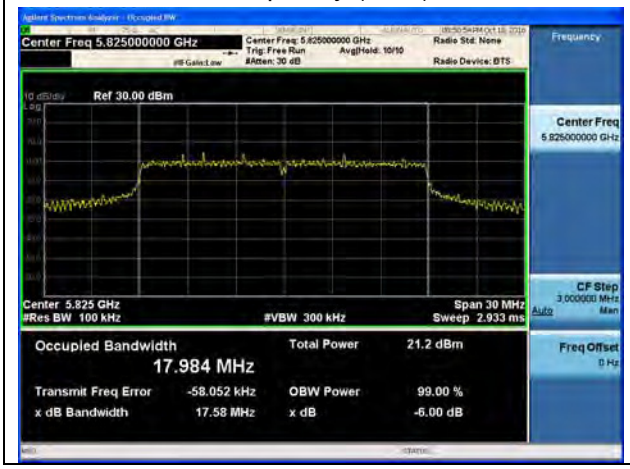
U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



U-NII-3, 802.11n HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11n HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



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U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5745



U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5755



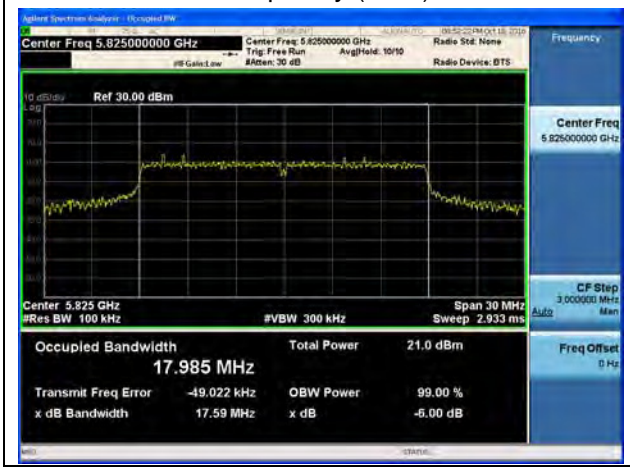
U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5785



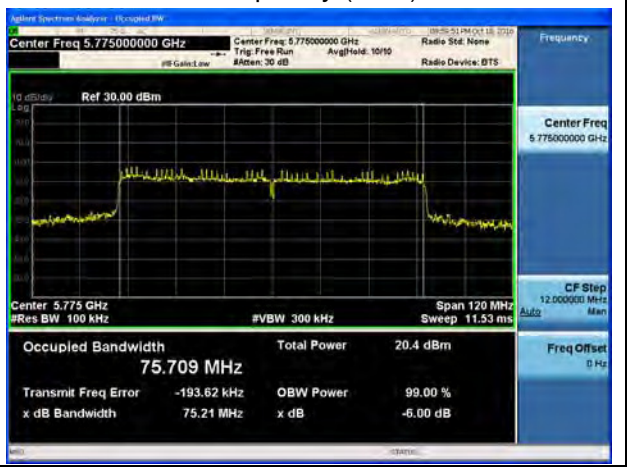
U-NII-3, 802.11ac HT40 6 dB bandwidth
Carrier frequency (MHz): 5795



U-NII-3, 802.11ac HT20 6 dB bandwidth
Carrier frequency (MHz): 5825



U-NII-3, 802.11ac HT80 6 dB bandwidth
Carrier frequency (MHz): 5775



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5.2. Conducted output power

Ambient condition

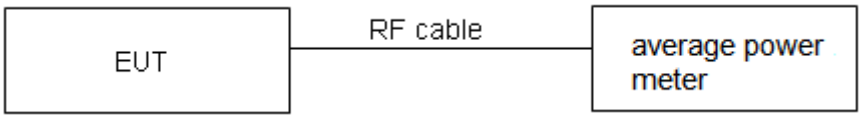
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test Setup



Limits

Rule FCC Part 15.407(a)(1)(2)(3)

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.

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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

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Test Results

Single Antenna Power Index												
Packet Type	CH36	CH40	CH48	CH52	CH60	CH64	CH 100	CH 116	CH 140	CH 149	CH 157	CH 165
802.11a	23	23	23	23	23	23	23	23	23	23	23	23

MIMO Antenna Power Index												
Packet Type	CH36	CH40	CH48	CH52	CH60	CH64	CH 100	CH 116	CH 140	CH 149	CH 157	CH 165
802.11n HT20	23	23	23	18	18	17	18	18	18	23	23	23
802.11ac HT20	23	23	23	18	18	17	18	18	18	23	23	23
Packet Type	CH38	CH46	CH54	CH62	CH102	CH 110	CH 134	CH 151	CH 159	/	/	/
802.11n HT40	23	23	18	18	20	21	20	23	23	/	/	/
802.11ac HT40	23	20	18	18	16	21	19	17	16	/	/	/
Packet Type	CH42	CH58	CH106	CH155	/	/	/	/	/	/	/	/
802.11ac HT80	16	17	14	21	/	/	/	/	/	/	/	/

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Network Standards		Channel/ Frequency (MHz)	Limit 11 dBm + 10 log B (dBm)					MIMO Antenna Value[note2] (dBi)	Final Limit (dBm)
MIMO Antenna			ANT1	ANT2	ANT3	ANT4	/		
802.11n HT20	U-NII-2A	52/5260	24.54	24.55	24.63	24.70	>24	5.79	24
		60/5300	24.61	24.54	24.57	24.57	>24	5.79	24
		64/5320	24.58	24.52	24.55	24.53	>24	5.79	24
	U-NII-2C	100/5500	24.61	24.52	24.50	24.57	>24	5.79	24
		116/5580	24.55	24.50	24.53	24.54	>24	5.79	24
		140/5700	25.74	25.77	25.76	25.75	>24	5.79	24
802.11n HT40	U-NII-2A	54/5270	27.22	27.16	27.21	27.19	>24	5.79	24
		62/5310	27.88	27.60	27.61	27.67	>24	5.79	24
	U-NII-2C	102/5510	28.60	28.72	28.64	28.66	>24	5.79	24
		110/5550	27.17	27.18	27.14	27.17	>24	5.79	24
		134/5670	28.25	28.30	28.28	28.28	>24	5.79	24
802.11ac HT20	U-NII-2A	52/5260	24.79	24.52	24.53	24.62	>24	5.79	24
		60/5300	25.37	25.42	25.21	25.06	>24	5.79	24
		64/5320	25.77	25.57	25.67	25.74	>24	5.79	24
	U-NII-2C	100/5500	25.75	25.75	25.77	25.77	>24	5.79	24
		116/5580	24.77	24.55	24.64	24.82	>24	5.79	24
		140/5700	25.74	25.75	25.75	25.76	>24	5.79	24
802.11ac HT40	U-NII-2A	54/5270	27.18	27.20	27.17	27.21	>24	5.79	24
		62/5310	27.17	27.21	27.18	27.16	>24	5.79	24
	U-NII-2C	102/5510	27.19	27.16	27.16	27.15	>24	5.79	24
		110/5550	27.21	27.23	27.20	27.15	>24	5.79	24
		134/5670	27.18	27.17	27.16	27.16	>24	5.79	24
802.11ac HT80	U-NII-2A	58/5290	30.12	30.11	30.11	30.13	>24	5.79	24
	U-NII-2C	106/5530	30.12	30.10	30.09	30.11	>24	5.79	24

Note: 1. 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.

2. MIMO antenna Gain=10*log((10 $^{\text{Antenna Gain1/10}}$+10 $^{\text{Antenna Gain2/10}}$+10 $^{\text{Antenna Gain3/10}}$+10 $^{\text{Antenna Gain4/10}}$)/$N_{ANT}$)

Antenna value=Antenna gain+beamforming

3. Final limit is calculated as chosen limt-Antenna value exceeding 6dBi.

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Network Standards		Channel/ Frequency (MHz)	Average Output Power (dBm)				Limit (dBm)	Conclusion
Single Antenna			ANT1	ANT2	ANT3	ANT4		
802.11a	U-NII-1	36/5180	16.98	17.51	17.68	16.45	30	PASS
		40/5200	16.91	17.30	17.46	16.58	30	PASS
		48/5240	17.09	17.86	17.67	16.38	30	PASS
	U-NII-2A	52/5260	16.87	17.54	17.41	16.70	24	PASS
		60/5300	17.17	17.81	17.65	17.14	24	PASS
		64/5320	17.65	18.21	18.33	17.49	24	PASS
	U-NII-2C	100/5500	17.25	17.91	18.10	17.29	24	PASS
		116/5580	16.19	16.77	16.71	16.63	24	PASS
		140/5700	17.30	18.30	17.95	17.37	24	PASS
	U-NII-3	149/5745	17.10	18.05	17.78	17.50	30	PASS
		157/5785	17.55	18.15	18.53	17.57	30	PASS
		165/5825	17.24	17.94	17.92	16.81	30	PASS

Network Standards		Channel/ Frequency (MHz)	Average Output Power (dBm)					Limit (dBm)	Conclusion
MIMO Antenna			ANT1	ANT2	ANT3	ANT4	MIMO		
802.11n HT20	U-NII-1	36/5180	16.73	17.40	17.35	16.99	23.15	30	PASS
		40/5200	16.62	18.35	17.37	16.90	23.38	30	PASS
		48/5240	18.07	18.59	17.52	17.22	23.90	30	PASS
	U-NII-2A	52/5260	15.44	14.88	14.94	13.25	20.72	24	PASS
		60/5300	15.07	15.04	14.96	13.89	20.79	24	PASS
		64/5320	13.13	13.78	13.58	13.16	19.44	24	PASS
	U-NII-2C	100/5500	12.56	13.26	13.89	13.51	19.36	24	PASS
		116/5580	13.91	13.99	12.86	13.51	19.61	24	PASS
		140/5700	13.38	14.28	13.64	13.88	19.83	24	PASS
	U-NII-3	149/5745	17.92	18.50	18.17	17.26	24.01	30	PASS
		157/5785	17.91	17.57	18.83	16.33	23.77	30	PASS
		165/5825	17.76	16.68	17.92	17.25	23.45	30	PASS
802.11n HT40	U-NII-1	38/5190	17.78	18.31	18.86	16.70	24.01	30	PASS
		46/5230	18.15	19.37	18.78	17.33	24.49	30	PASS
	U-NII-2A	54/5270	14.61	15.35	15.33	15.22	21.16	24	PASS
		62/5310	15.09	15.41	15.64	15.67	21.48	24	PASS
	U-NII-2C	102/5510	14.65	15.90	15.93	14.86	21.39	24	PASS
		110/5550	16.30	16.71	15.66	16.89	22.44	24	PASS
		134/5670	15.01	16.27	16.11	16.50	22.03	24	PASS

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	U-NII-3	151/5755	17.72	18.73	18.95	17.14	24.22	30	PASS
		159/5795	18.28	18.02	18.61	16.87	24.01	30	PASS
802.11ac HT20	U-NII-1	36/5180	16.38	17.89	18.14	16.13	23.24	30	PASS
		40/5200	16.88	17.34	18.32	17.11	23.47	30	PASS
		48/5240	18.43	18.73	17.43	17.15	24.01	30	PASS
	U-NII-2A	52/5260	14.27	14.85	14.56	13.76	20.40	24	PASS
		60/5300	14.50	16.30	14.16	13.48	20.76	24	PASS
		64/5320	13.53	14.56	12.84	11.64	19.29	24	PASS
	U-NII-2C	100/5500	12.48	13.14	13.51	14.25	19.41	24	PASS
		116/5580	13.71	13.37	14.10	13.99	19.82	24	PASS
		140/5700	13.85	13.96	14.53	14.83	20.33	24	PASS
	U-NII-3	149/5745	18.91	18.52	18.02	17.01	24.19	30	PASS
		157/5785	16.84	16.99	18.90	17.73	23.72	30	PASS
		165/5825	17.59	17.22	18.10	15.97	23.31	30	PASS
802.11ac HT40	U-NII-1	38/5190	18.63	17.92	18.19	17.18	24.03	30	PASS
		46/5230	15.87	16.47	16.40	16.23	22.27	30	PASS
	U-NII-2A	54/5270	14.77	15.70	15.59	14.83	21.26	24	PASS
		62/5310	15.05	15.04	15.38	15.88	21.37	24	PASS
	U-NII-2C	102/5510	11.22	12.04	11.78	10.97	17.54	24	PASS
		110/5550	14.95	16.50	16.59	15.53	21.97	24	PASS
		134/5670	15.33	15.19	15.88	14.08	21.19	24	PASS
	U-NII-3	151/5755	13.89	14.24	14.05	13.29	19.90	30	PASS
		159/5795	12.66	13.13	12.83	11.85	18.66	30	PASS
802.11ac HT80	U-NII-1	42/5210	11.84	11.94	13.08	11.82	18.23	30	PASS
	U-NII-2A	58/5290	13.75	13.99	14.49	13.80	20.04	24	PASS
	U-NII-2C	106/5530	8.83	9.15	9.62	8.95	15.17	24	PASS
	U-NII-3	155/5775	17.02	17.16	16.68	16.75	22.93	30	PASS

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5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10 C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15 C to +25 C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.

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b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
c) Measure the frequency at each of the frequencies specified in 5.6.
d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

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

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936Hz

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Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
220	-20	5199.980	5199.975	5199.964	5199.953
220	-10	5199.975	5199.965	5199.955	5199.945
220	0	5199.969	5199.959	5199.946	5199.936
220	10	5199.959	5199.955	5199.942	5199.935
220	20	5199.951	5199.948	5199.934	5199.930
220	30	5199.943	5199.940	5199.926	5199.922
220	40	5199.935	5199.938	5199.925	5199.919
220	50	5199.928	5199.936	5199.921	5199.913
90	20	5199.946	5199.947	5199.931	5199.920
264	20	5199.949	5199.946	5199.924	5199.925
MHz		-0.020	-0.025	-0.036	-0.047
PPM		-0.00038	-0.00048	-0.00069	-0.00090

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Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
220	-20	5299.971	5299.958	5299.957	5299.956
220	-10	5299.971	5299.958	5299.948	5299.955
220	0	5299.966	5299.955	5299.944	5299.951
220	10	5299.962	5299.953	5299.940	5299.944
220	20	5299.956	5299.946	5299.934	5299.938
220	30	5299.946	5299.939	5299.931	5299.936
220	40	5299.940	5299.934	5299.922	5299.927
220	50	5299.934	5299.925	5299.919	5299.919
90	20	5299.947	5299.937	5299.931	5299.934
264	20	5299.953	5299.938	5299.929	5299.929
MHz		-0.029	-0.042	-0.043	-0.044
PPM		-0.00055	-0.00079	-0.00081	-0.00083

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Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
220	-20	5579.965	5579.963	5579.962	5579.951
220	-10	5579.963	5579.960	5579.953	5579.944
220	0	5579.955	5579.952	5579.953	5579.942
220	10	5579.952	5579.952	5579.948	5579.940
220	20	5579.952	5579.944	5579.940	5579.938
220	30	5579.945	5579.937	5579.932	5579.931
220	40	5579.940	5579.929	5579.932	5579.928
220	50	5579.933	5579.923	5579.923	5579.924
90	20	5579.946	5579.937	5579.936	5579.928
264	20	5579.948	5579.944	5579.938	5579.933
MHz		-0.035	-0.037	-0.038	-0.049
PPM		-0.00063	-0.00066	-0.00068	-0.00088

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Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
220	-20	5784.965	5784.954	5784.953	5784.952
220	-10	5784.955	5784.951	5784.946	5784.944
220	0	5784.951	5784.943	5784.938	5784.938
220	10	5784.944	5784.935	5784.928	5784.936
220	20	5784.940	5784.931	5784.927	5784.926
220	30	5784.936	5784.928	5784.923	5784.921
220	40	5784.932	5784.922	5784.920	5784.916
220	50	5784.926	5784.919	5784.912	5784.913
90	20	5784.931	5784.924	5784.924	5784.916
264	20	5784.937	5784.931	5784.924	5784.921
MHz		-0.035	-0.046	-0.047	-0.048
PPM		-0.00061	-0.00080	-0.00081	-0.00083

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5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

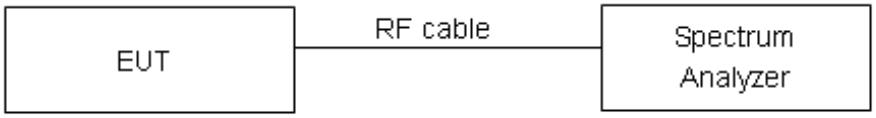
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 510 kHz, VBW =1.5MHz for the band 5.725-5.85 GHz

Set RBW = 1 MHz, VBW =3MHz for the band 5.150-5.250 GHz, 5.25-5.35 GHz and 5.47-5.725 GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ Part 15.407(a)(2) / Part 15.407(a)(3)

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum powerspectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/MHz	Limits
5150-5250	17dBm/MHz
5.25-5.35 GHz and 5.47-5.725 GHz	11dBm/MHz
5725-5850	30dBm/500kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

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Test Results:

Network Standards		Channel/ Frequency (MHz)	Power Spectral Density (dBm / MHz)				Limit (dBm / MHz)	Conclusion
Single Antenna			ANT1	ANT2	ANT3	ANT4		
802.11a	U-NII-1	36/5180	6.90	7.59	7.68	7.00	17	PASS
		40/5200	6.98	7.88	7.63	6.82	17	PASS
		48/5240	6.87	7.41	7.46	7.61	17	PASS
	U-NII-2A	52/5260	6.64	7.62	7.43	6.28	11	PASS
		60/5300	7.17	7.94	8.00	6.84	11	PASS
		64/5320	7.35	7.58	7.63	7.25	11	PASS
	U-NII-2C	100/5500	7.68	7.93	8.10	7.52	11	PASS
		116/5580	7.16	7.83	7.65	7.19	11	PASS
		140/5700	7.24	7.87	8.18	7.30	11	PASS
	U-NII-3	149/5745	7.09	8.03	7.80	7.27	30	PASS
		157/5785	6.94	7.86	7.64	6.89	30	PASS
		165/5825	7.00	7.80	7.62	6.64	30	PASS

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Network Standards		Channel/ Frequency (MHz)	Power Spectral Density (dBm / MHz)					Limit (dBm / MHz)	Conclusion
MIMO Antenna			ANT1	ANT2	ANT3	ANT4	MIMO		
802.11n HT20	U-NII-1	36/5180	6.42	7.13	6.58	5.38	12.44	17	PASS
		40/5200	7.09	7.46	7.32	5.86	13.00	17	PASS
		48/5240	6.77	8.17	7.30	5.86	13.13	17	PASS
	U-NII-2A	52/5260	3.13	4.09	2.85	2.46	9.20	11	PASS
		60/5300	2.77	3.86	3.47	2.94	9.30	11	PASS
		64/5320	3.60	3.95	3.94	1.80	9.43	11	PASS
	U-NII-2C	100/5500	2.68	3.37	2.47	3.11	8.94	11	PASS
		116/5580	2.97	2.92	2.77	3.50	9.07	11	PASS
		140/5700	1.90	3.85	2.34	2.33	8.69	11	PASS
	U-NII-3	149/5745	4.71	5.45	4.42	4.08	10.72	30	PASS
		157/5785	3.46	4.50	5.02	3.01	10.09	30	PASS
		165/5825	3.04	4.36	4.01	2.53	9.57	30	PASS
802.11n HT40	U-NII-1	38/5190	4.82	4.30	3.55	3.23	10.04	17	PASS
		46/5230	5.18	4.79	4.19	2.69	10.33	17	PASS
	U-NII-2A	54/5270	0.19	0.34	-0.36	0.43	6.18	11	PASS
		62/5310	0.76	1.13	0.96	1.08	7.01	11	PASS
	U-NII-2C	102/5510	0.25	1.44	0.86	1.13	6.96	11	PASS
		110/5550	2.19	2.82	2.13	3.34	8.67	11	PASS
		134/5670	0.69	1.28	1.48	1.15	7.18	11	PASS
	U-NII-3	151/5755	0.96	2.11	1.76	0.53	7.41	30	PASS
		159/5795	0.79	1.17	0.92	-0.93	6.58	30	PASS
802.11ac HT20	U-NII-1	36/5180	6.32	6.60	7.01	5.48	12.41	17	PASS
		40/5200	7.46	7.57	6.58	6.55	13.09	17	PASS
		48/5240	7.58	7.63	6.81	6.18	13.11	17	PASS
	U-NII-2A	52/5260	2.31	3.41	3.16	2.63	8.92	11	PASS
		60/5300	1.91	4.15	2.99	1.95	8.87	11	PASS
		64/5320	3.07	3.59	4.13	2.08	9.30	11	PASS
	U-NII-2C	100/5500	2.18	3.73	2.89	3.26	9.07	11	PASS
		116/5580	2.31	3.96	2.46	2.72	8.93	11	PASS
		140/5700	2.55	3.16	3.43	1.40	8.72	11	PASS
	U-NII-3	149/5745	4.90	5.78	5.09	2.62	10.77	30	PASS
		157/5785	4.79	4.65	4.62	2.38	10.24	30	PASS
		165/5825	3.83	3.12	3.17	3.50	9.44	30	PASS
802.11ac HT40	U-NII-1	38/5190	5.12	4.22	3.83	2.05	9.96	17	PASS
		46/5230	0.90	2.63	1.54	1.78	7.78	17	PASS
	U-NII-2A	54/5270	0.02	0.99	-0.14	-0.67	6.11	11	PASS

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		62/5310	0.59	0.98	1.06	0.69	6.85	11	PASS
	U-NII-2C	102/5510	-3.11	-2.22	-2.44	-3.95	3.14	11	PASS
		118/5590	2.15	1.89	1.70	0.92	7.71	11	PASS
		134/5670	0.31	1.75	1.21	1.33	7.20	11	PASS
	U-NII-3	151/5755	-3.44	-3.37	-2.95	-4.09	2.58	30	PASS
		159/5795	-5.03	-4.21	-3.14	-5.00	1.75	30	PASS
802.11ac HT80	U-NII-1	42/5210	-4.04	-4.19	-3.52	-4.09	2.07	17	PASS
	U-NII-2A	58/5290	-3.72	-2.51	-3.13	-3.17	2.91	11	PASS
	U-NII-2C	106/5530	-6.70	-6.74	-6.86	-7.72	-0.97	11	PASS
	U-NII-3	155/5775	1.69	2.71	2.54	1.29	8.12	30	PASS

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5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

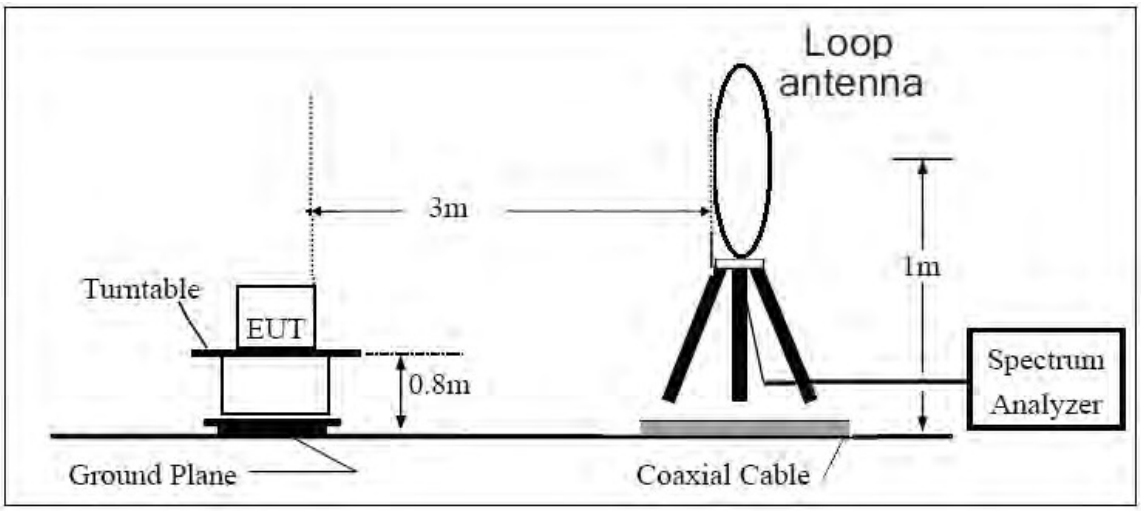
During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
Below 1GHz (detector: Peak and Quasi-Peak)
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz (detector: Peak):
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

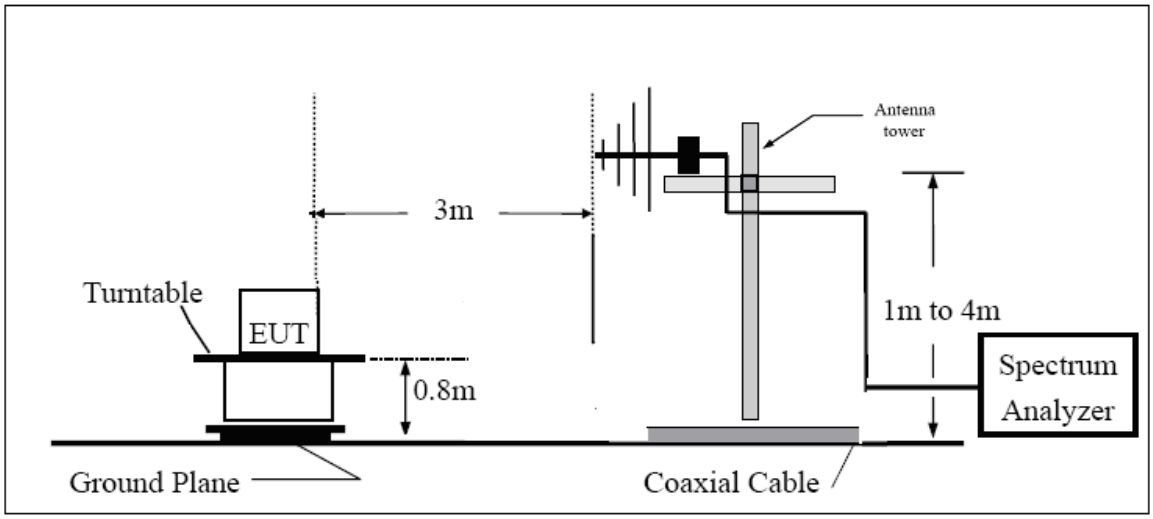
The test is in transmitting mode.

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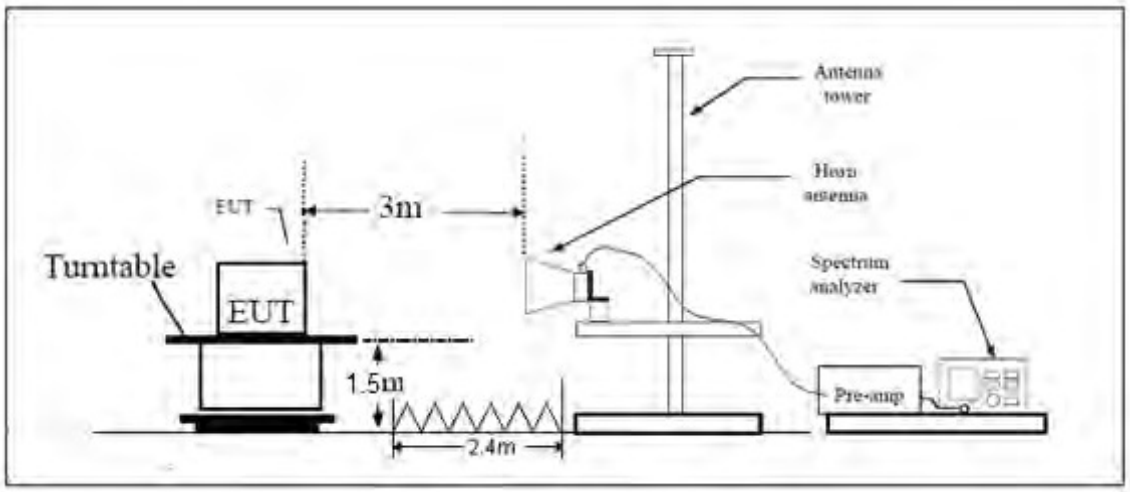
9KHz~~~30MHz



30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

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Limits

(1) For transmitters operating in the 5725-5850 MHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(3) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters

(5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

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(6) Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
1GHz-26.5G	3.68 dB
26.5G-40GHz	4.76dB

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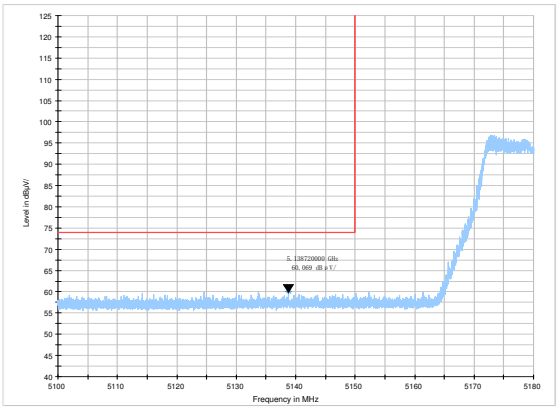
Test Results:

PASS

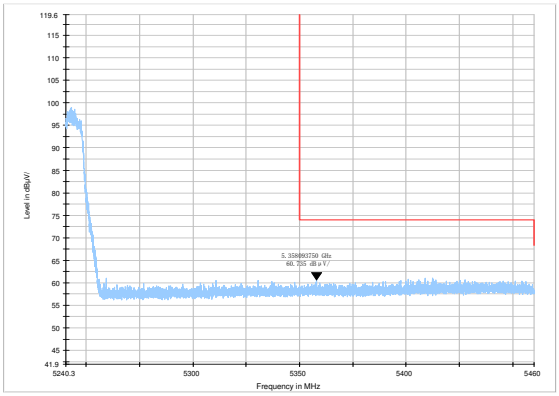
The signal beyond the limit is carrier.

Single Antenna: Antenna 1

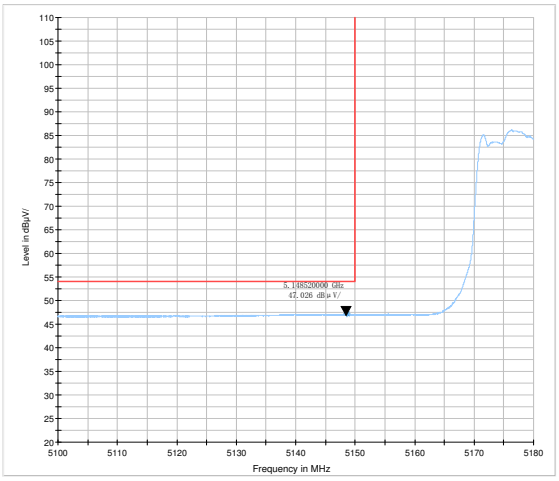
U-NII-1 802.11a-Channel 36: Peak



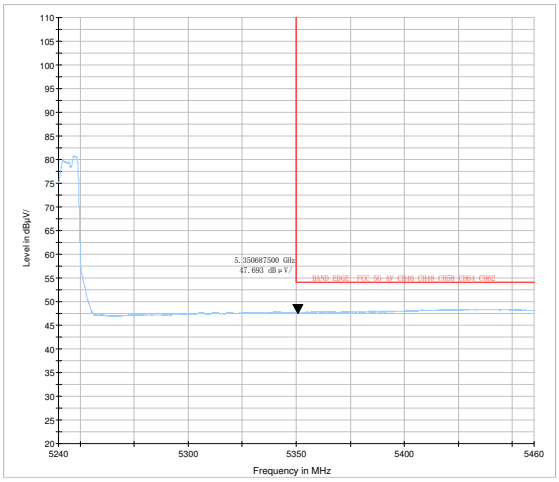
U-NII-1 802.11a-Channel 48: Peak



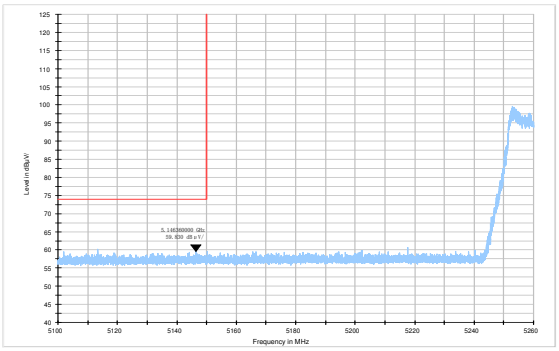
U-NII-1 802.11a-Channel 36: Average



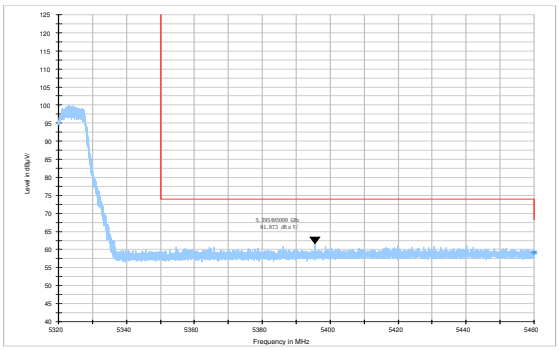
U-NII-1 802.11a-Channel 48: Average



U-NII-2A 802.11a-Channel 52: Peak

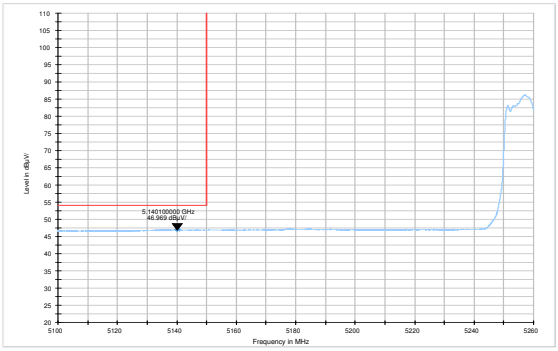


U-NII-2A 802.11a-Channel 64: Peak

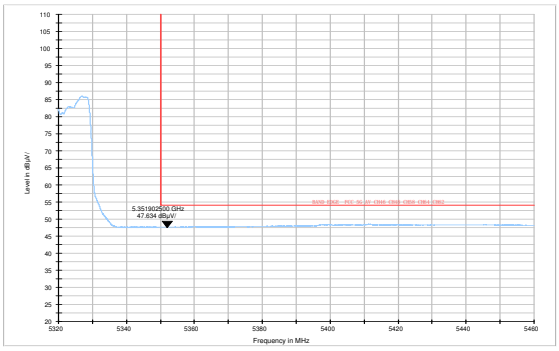


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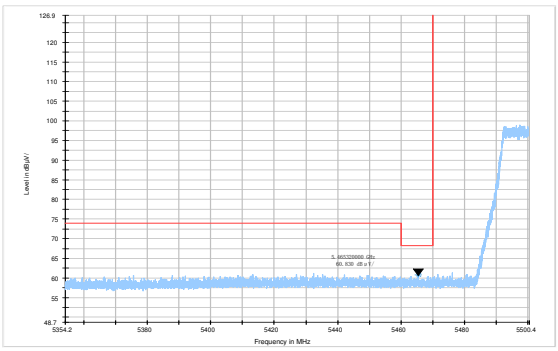
U-NII-2A 802.11a-Channel 52: Average



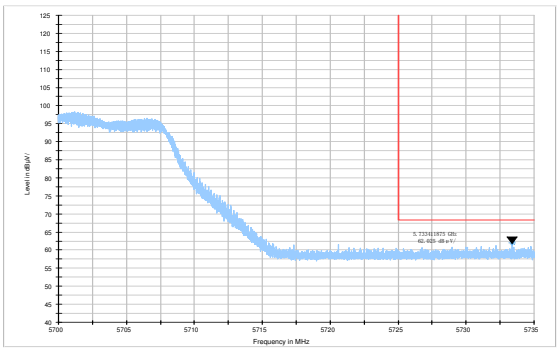
U-NII-2A 802.11a-Channel 64: Average



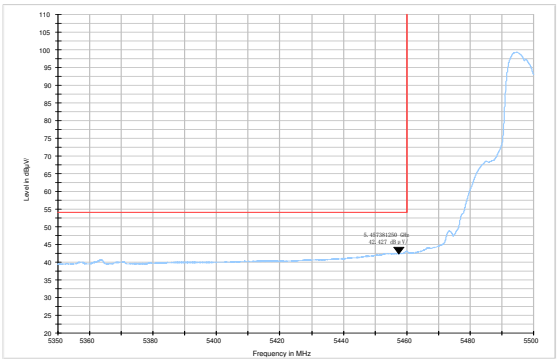
U-NII-2C 802.11a-Channel 100: Peak



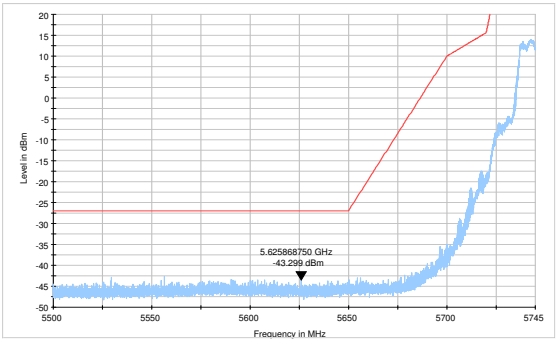
U-NII-2C 802.11a-Channel 140: Peak



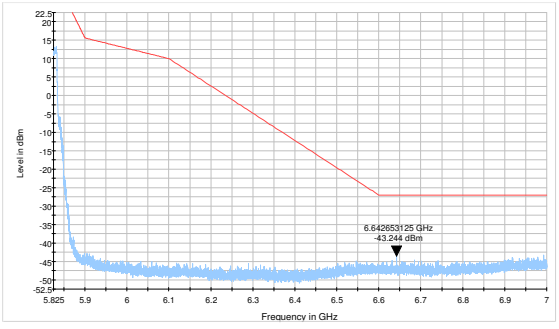
U-NII-2C 802.11a-Channel 100: Average



U-NII-3 802.11a-Channel 149: Peak



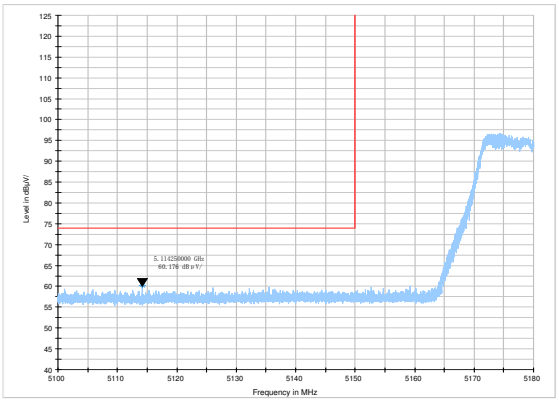
U-NII-3 802.11a-Channel 165: Peak



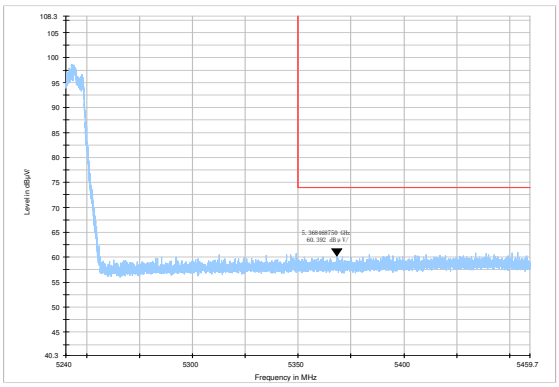
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MIMO

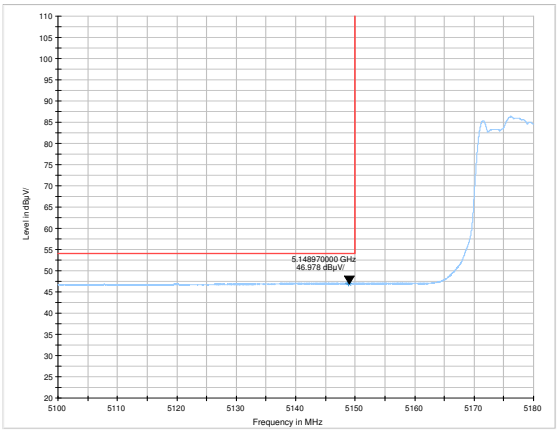
U-NII-1 802.11n HT20-Channel 36: Peak



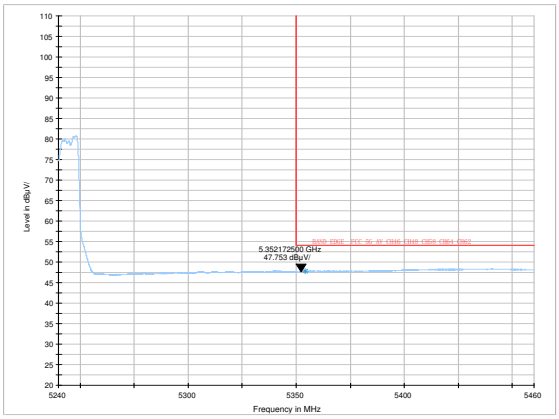
U-NII-1 802.11n HT20-Channel 48: Peak



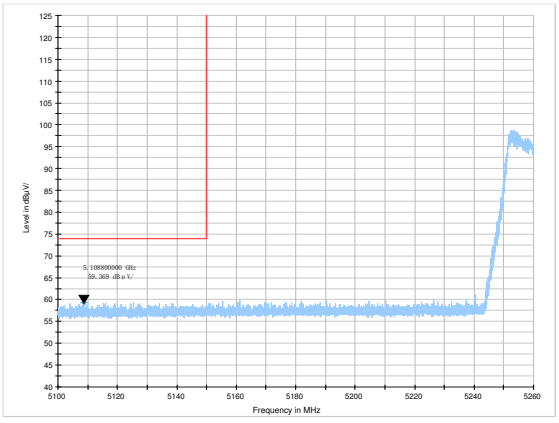
U-NII-1 802.11n HT20-Channel 36: Average



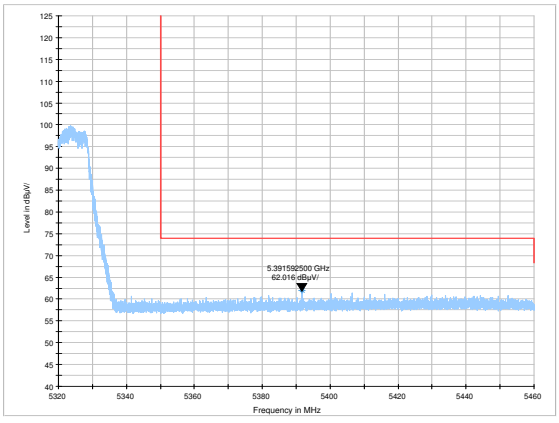
U-NII-1 802.11n HT20-Channel 48: Average



U-NII-2A 802.11n HT20-Channel 52: Peak

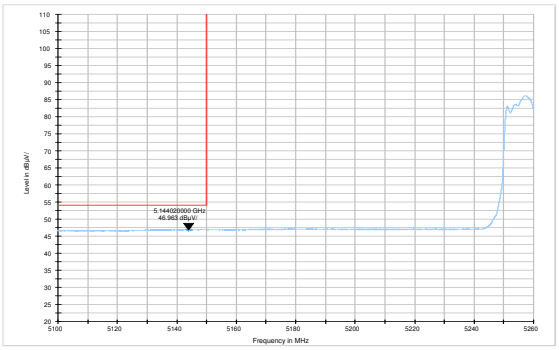


U-NII-2A 802.11n HT20-Channel 64: Peak

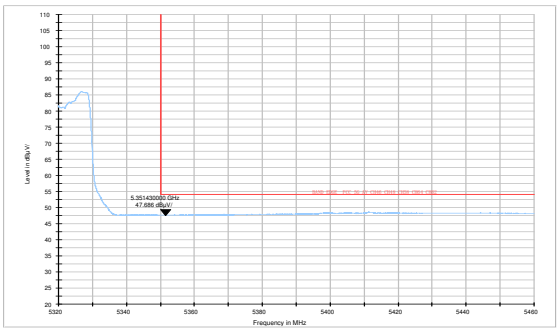


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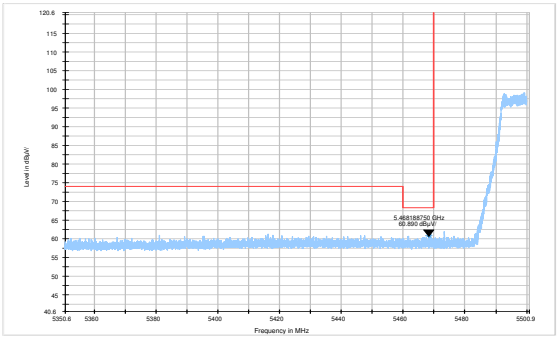
U-NII-2A 802.11n HT20-Channel 52: Average



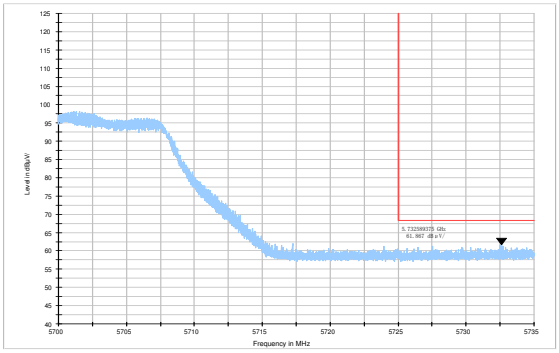
U-NII-2A 802.11n HT20-Channel 64: Average



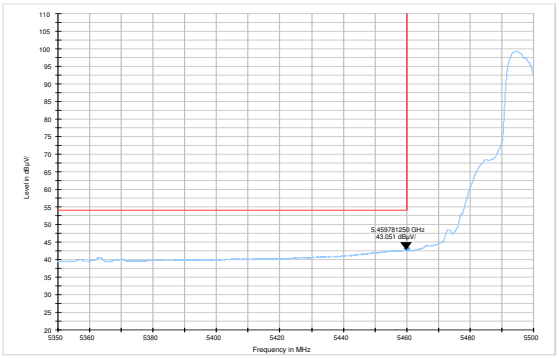
U-NII-2C 802.11n HT20-Channel 100: Peak



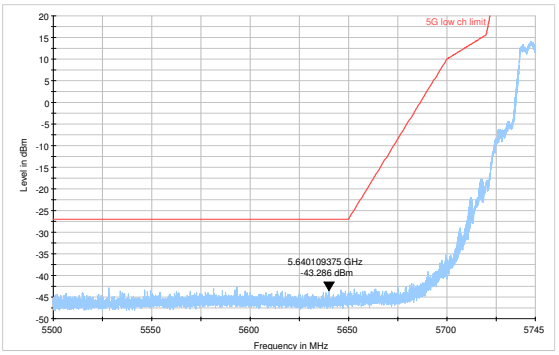
U-NII-2C 802.11n HT20-Channel 140: Peak



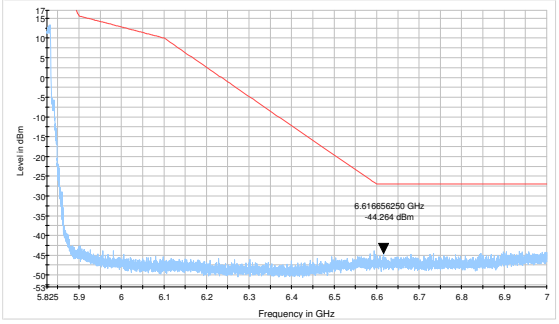
U-NII-2C 802.11n HT20-Channel 100: Average



U-NII-3 802.11n HT20-Channel 149: Peak

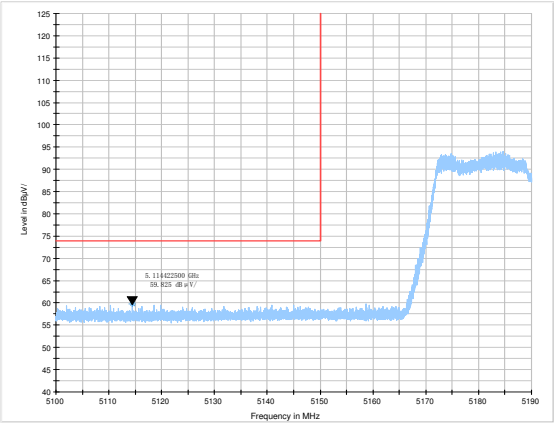


U-NII-3 802.11n HT20-Channel 165: Peak

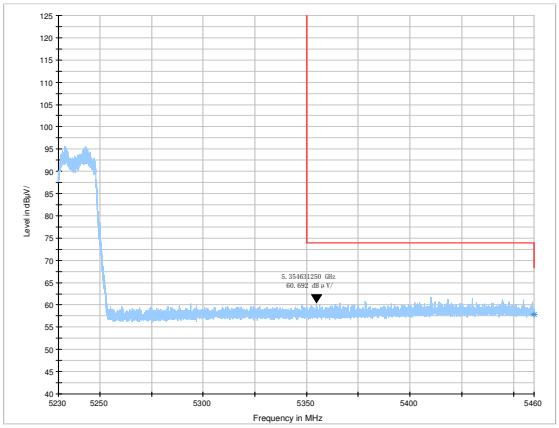


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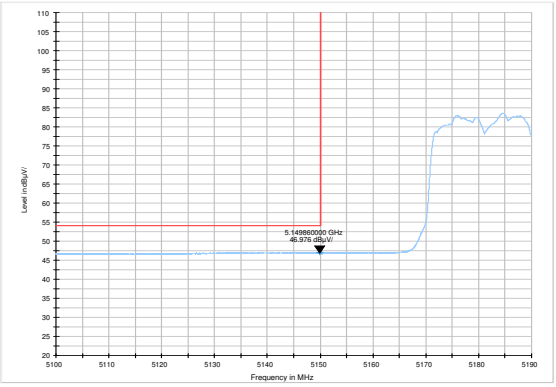
U-NII-1 802.11n HT40-Channel 38: Peak



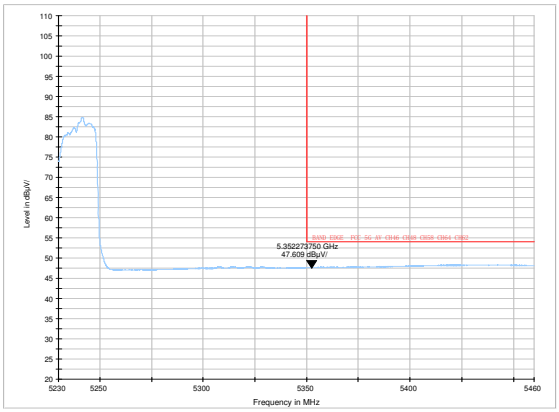
U-NII-1 802.11n HT40-Channel 46: Peak



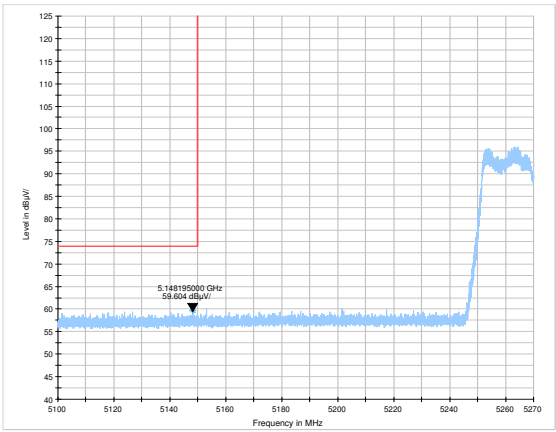
U-NII-1 802.11n HT40-Channel 38: Average



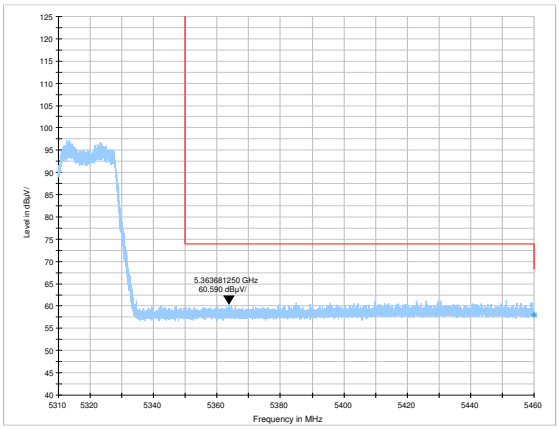
U-NII-1 802.11n HT40-Channel 46: Average



U-NII-2A 802.11n HT40-Channel 54: Peak

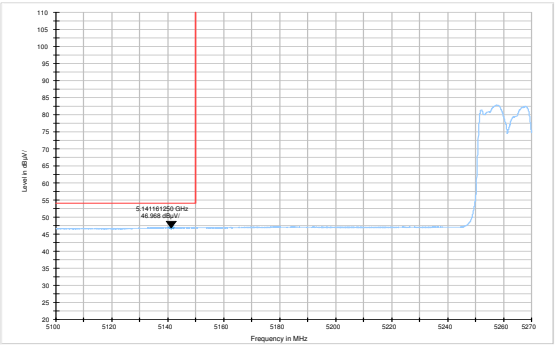


U-NII-2A 802.11n HT40-Channel 62: Peak

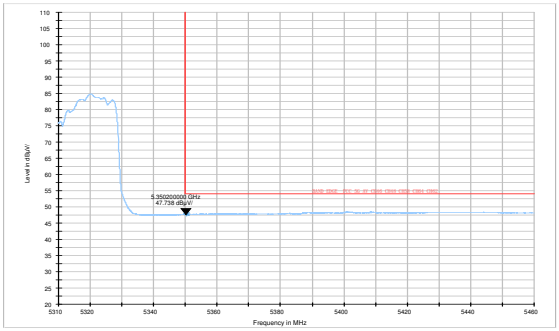


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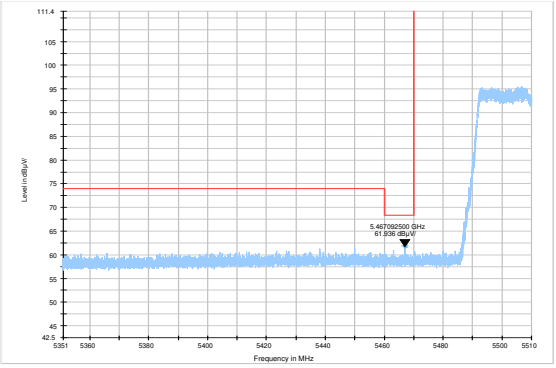
U-NII-2A 802.11n HT40-Channel 54: Average



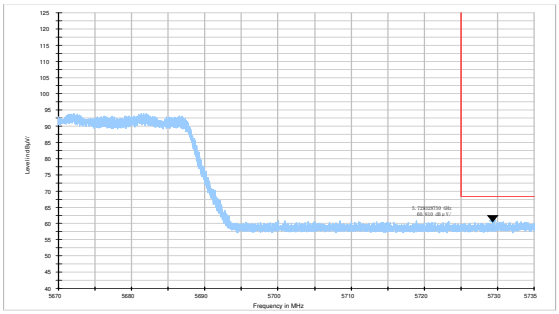
U-NII-2A 802.11n HT40-Channel 62: Average



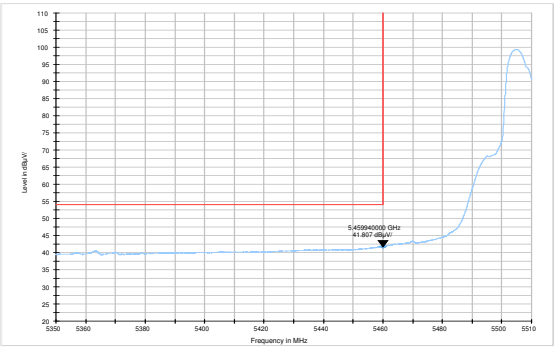
U-NII-2C 802.11n HT40-Channel 102: Peak



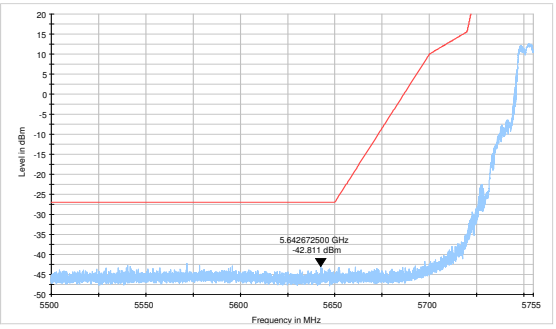
U-NII-2C 802.11n HT40-Channel 134: Peak



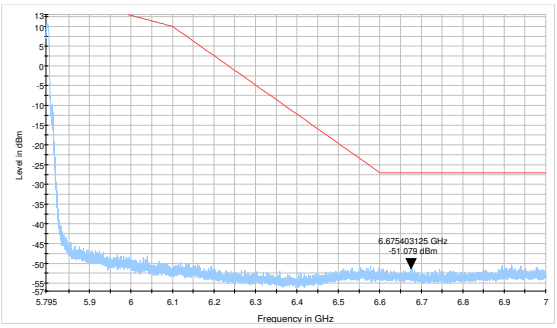
U-NII-2C 802.11n HT40-Channel 102: Average



U-NII-3 802.11n HT40-Channel 151: Peak

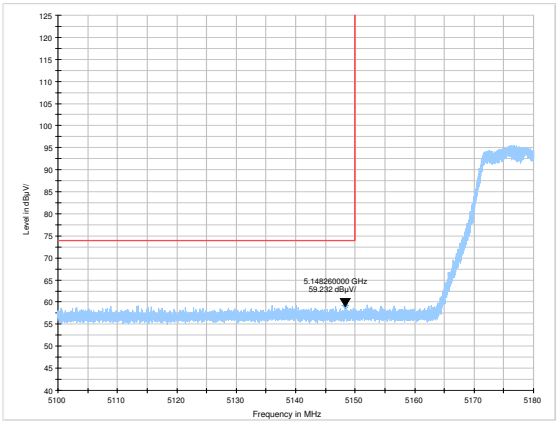


U-NII-3 802.11n HT40-Channel 159: Peak

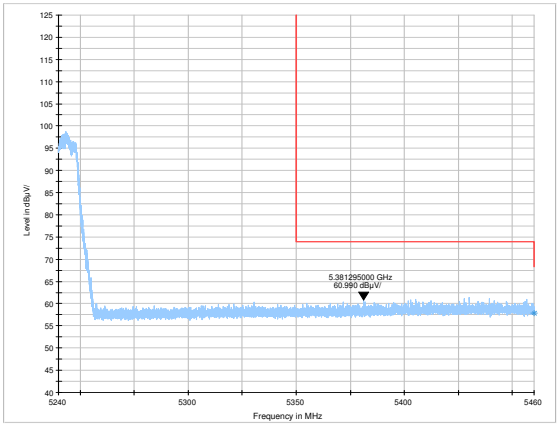


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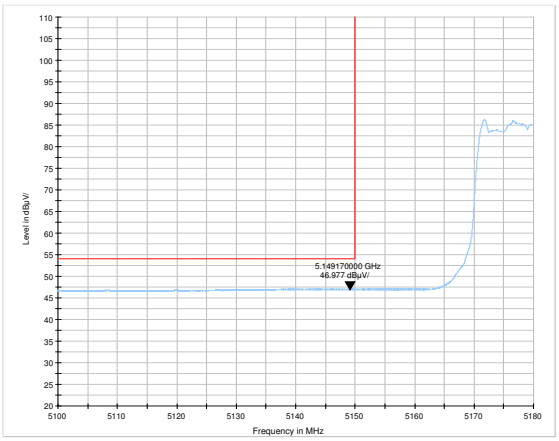
U-NII-1 802.11ac HT20 -Channel 36: Peak



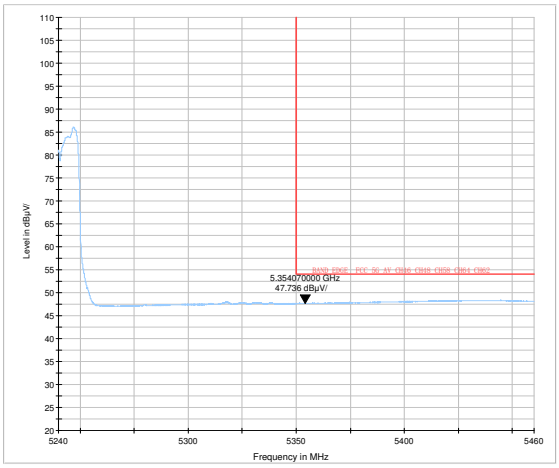
U-NII-1 802.11ac HT20 -Channel 48: Peak



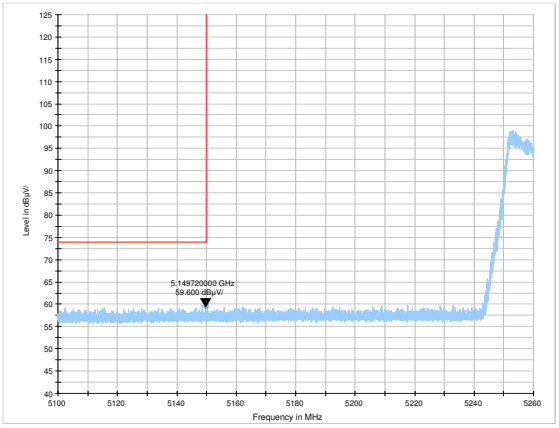
U-NII-1 802.11ac HT20-Channel 36: Average



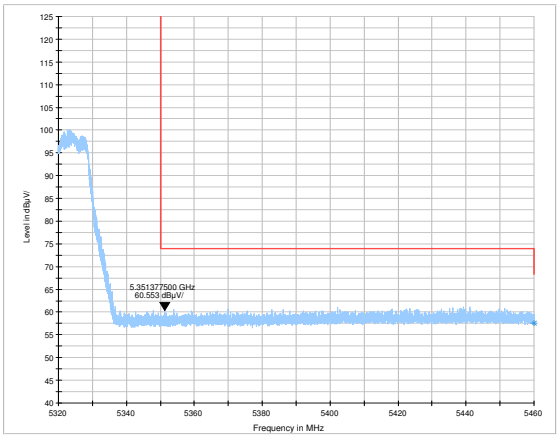
U-NII-1 802.11ac HT20 -Channel 48: Average



U-NII-2A 802.11ac HT20 -Channel 52: Peak

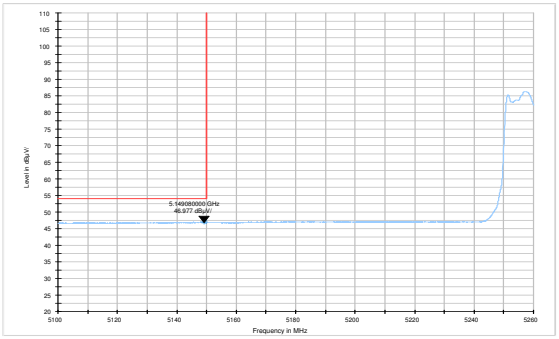


U-NII-2A 802.11ac HT20 -Channel 64: Peak

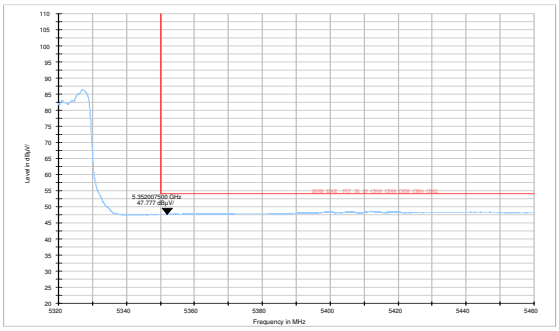


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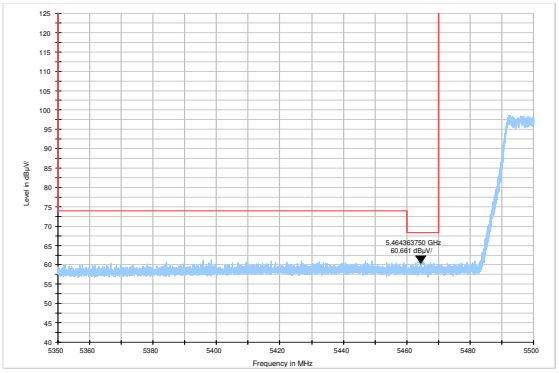
U-NII-2A 802.11ac HT20-Channel 52: Average



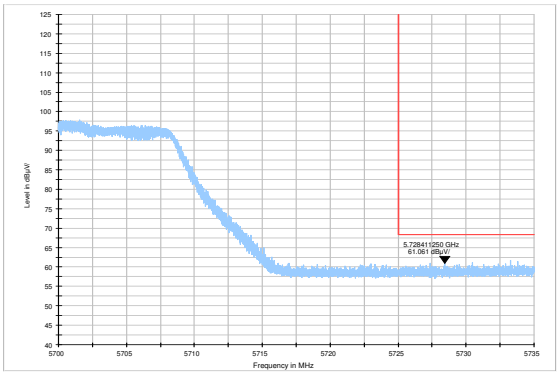
U-NII-2A 802.11ac HT20 -Channel 64: Average



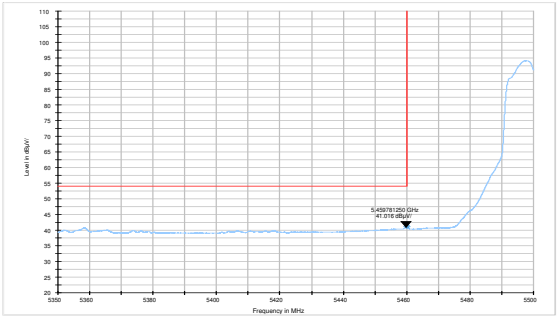
U-NII-2C 802.11ac HT20 -Channel 100: Peak



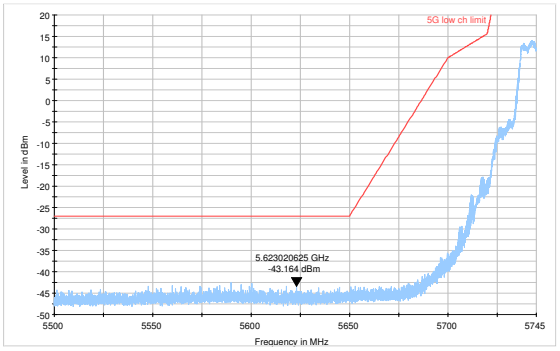
U-NII-2C 802.11ac HT20 -Channel 140: Peak



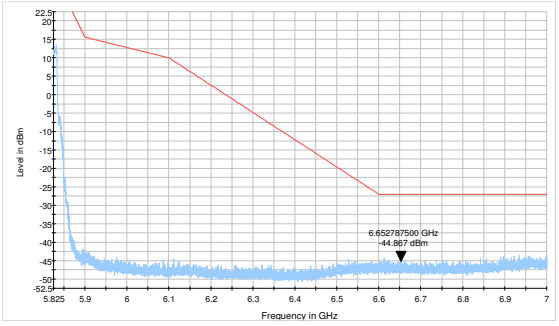
U-NII-2C 802.11ac HT20-Channel 100: Average



U-NII-3 802.11ac HT20-Channel 149: Peak

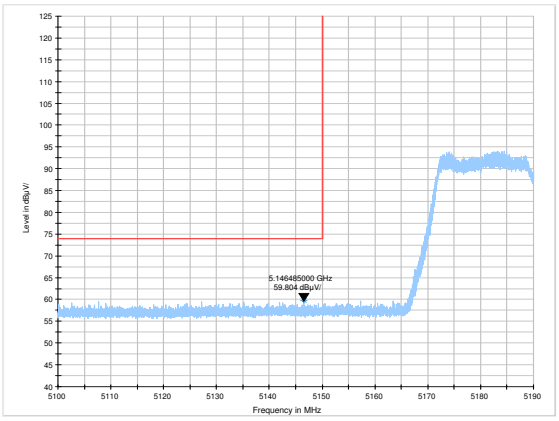


U-NII-3 802.11ac HT20-Channel 165: Peak

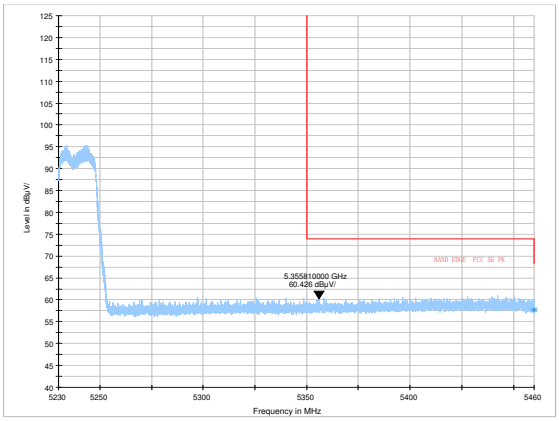


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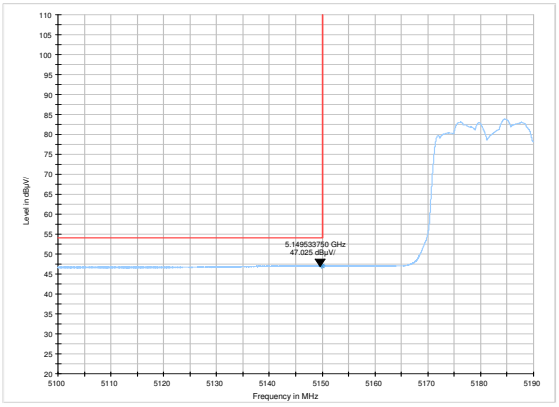
U-NII-1 802.11ac HT40-Channel 38: Peak



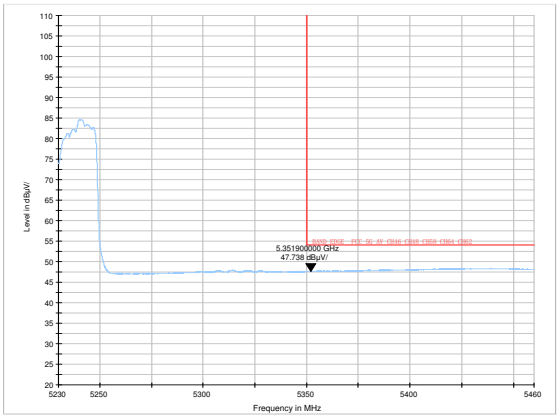
U-NII-1 802.11ac HT40-Channel 46: Peak



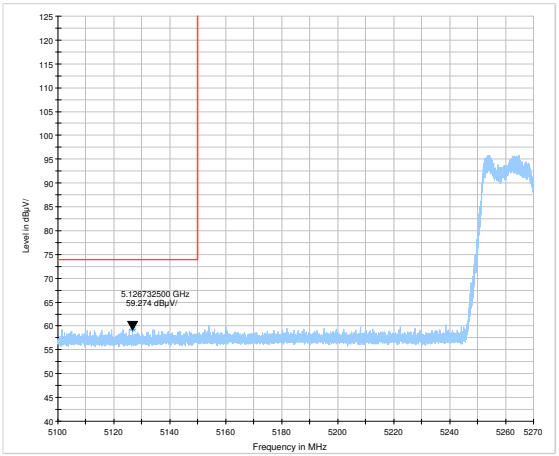
U-NII-1 802.11ac HT40-Channel 38: Average



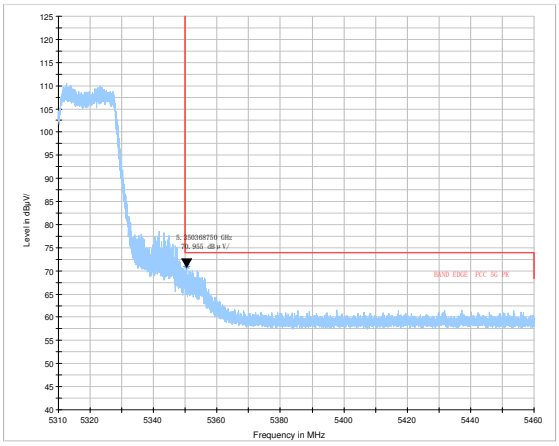
U-NII-1 802.11ac HT40-Channel 46: Average



U-NII-2A 802.11ac HT40-Channel 54: Peak

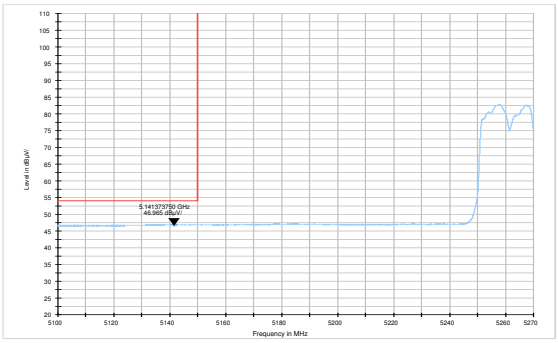


U-NII-2A 802.11ac HT40-Channel 62: Peak

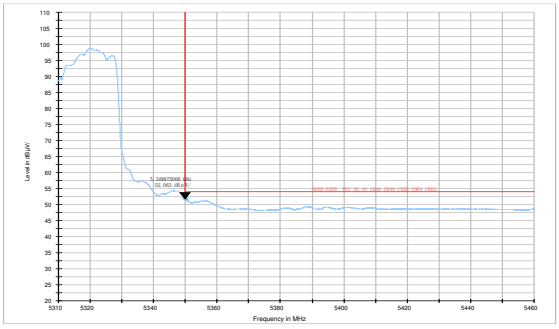


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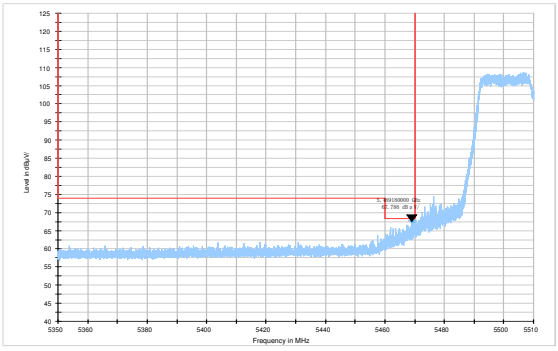
U-NII-2A 802.11ac HT40-Channel 54: Average



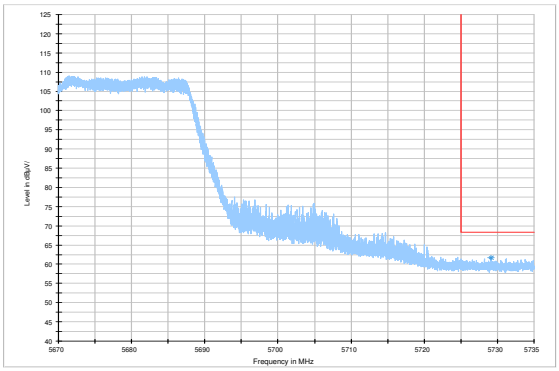
U-NII-2A 802.11ac HT40-Channel 62: Average



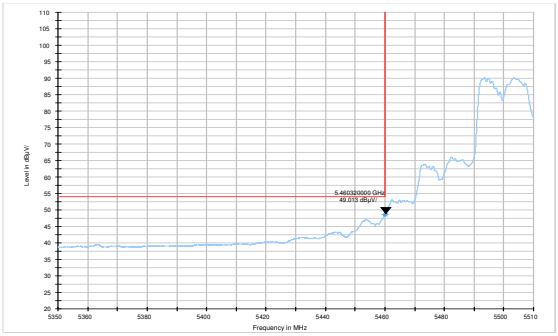
U-NII-2C 802.11ac HT40-Channel 102: Peak



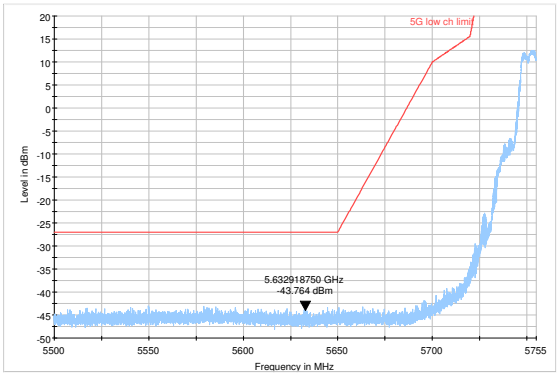
U-NII-2C 802.11ac HT40-Channel 134: Peak



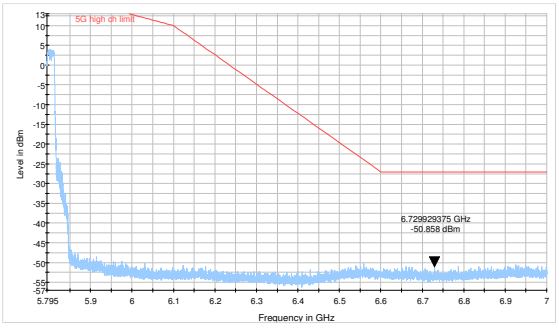
U-NII-2C 802.11ac HT40-Channel 102: Average



U-NII-3 802.11ac HT40-Channel 151: Peak

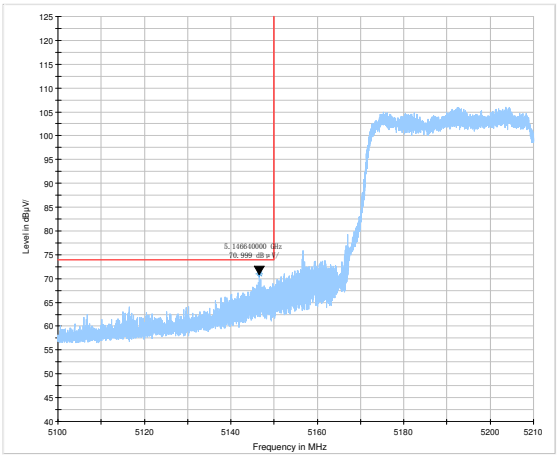


U-NII-3 802.11ac HT40-Channel 159: Peak

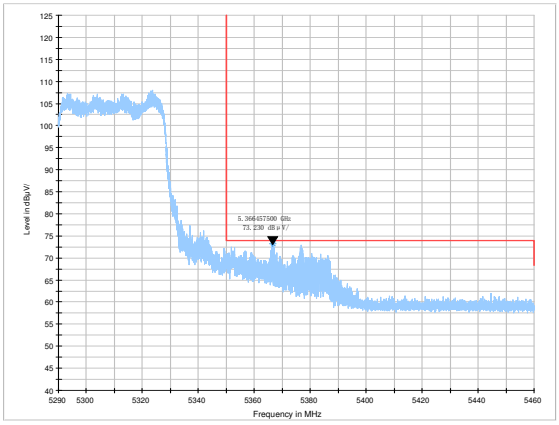


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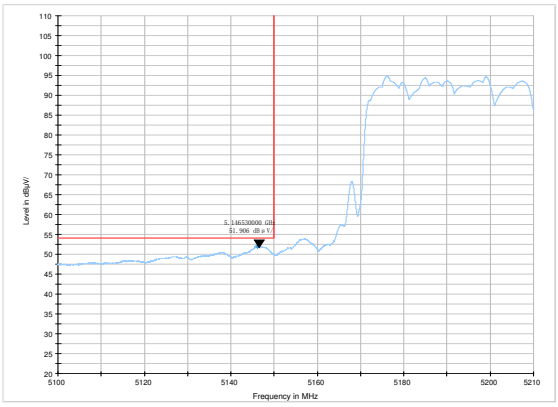
U-NII-1 802.11ac HT80 –Channel 42: Peak



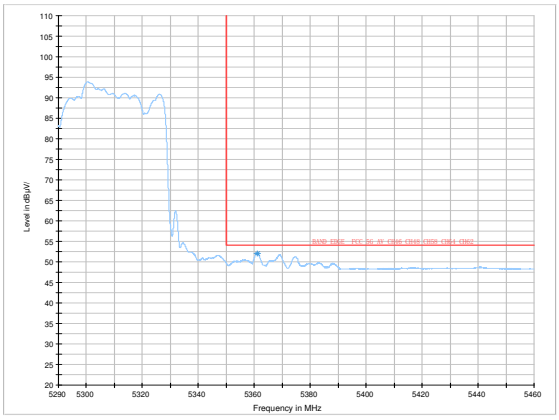
U-NII-2A 802.11ac HT80 –Channel 58: Peak



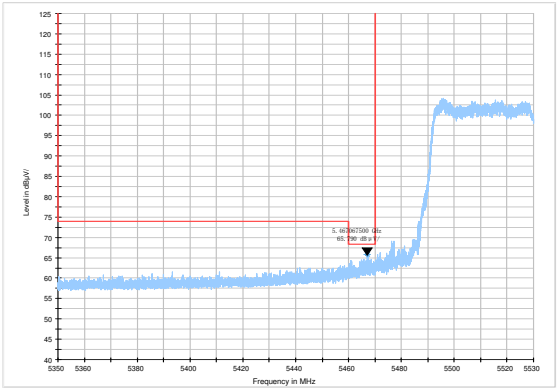
U-NII-1 802.11ac HT80- Channel 42: Average



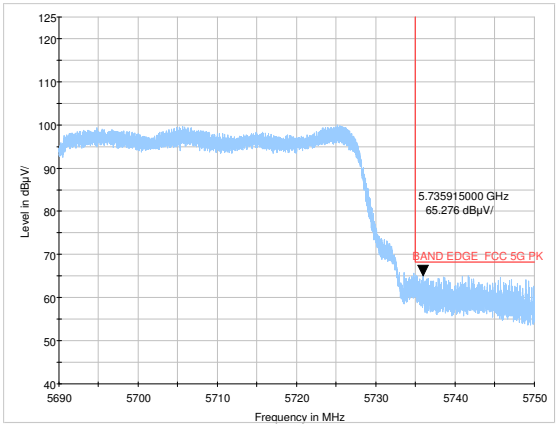
U-NII-2A 802.11ac HT80- Channel 58: Average



U-NII-2C 802.11ac HT80 –Channel 106: Peak

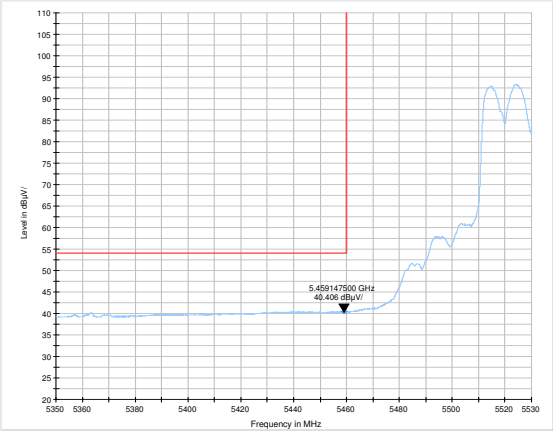


U-NII-2C 802.11ac HT80 –Channel 138: Peak

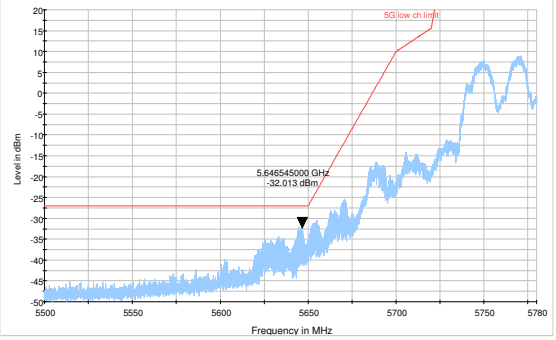


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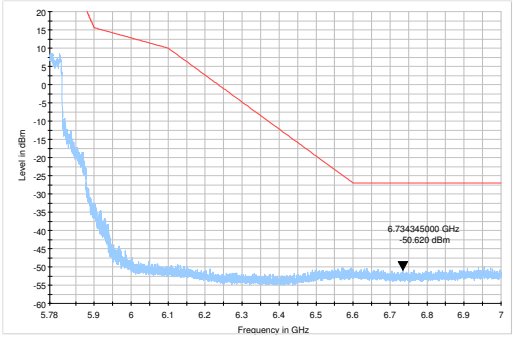
U-NII-2C 802.11ac HT80- Channel 106: Average



U-NII-3 802.11ac HT80- Channel 155 : Peak



U-NII-3 802.11ac HT80- Channel 155: Peak



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