11N40MIMO_Ant1_5190

11N40MIMO_Ant2_5190

11N40MIMO_Ant1_5230


11N40MIMO_Ant2_5230

11N40MIMO_Ant1_5270

11N40MIMO_Ant2_5270


11N40MIMO_Ant1_5310

11N40MIMO_Ant2_5310

11N40MIMO_Ant1_5510


11N40MIMO_Ant2_5510

11N40MIMO_Ant1_5550

11N40MIMO_Ant2_5550


11N40MIMO_Ant1_5670

11N40MIMO_Ant2_5670

11N40MIMO_Ant1_5755


11N40MIMO_Ant2_5755

11N40MIMO_Ant1_5795

11N40MIMO_Ant2_5795


11AC20MIMO_Ant1_5180

11AC20MIMO_Ant2_5180

11AC20MIMO_Ant1_5200


11AC20MIMO_Ant2_5200

11AC20MIMO_Ant1_5240

11AC20MIMO_Ant2_5240


11AC20MIMO_Ant1_5260

11AC20MIMO_Ant2_5260

11AC20MIMO_Ant1_5280


11AC20MIMO_Ant2_5280

11AC20MIMO_Ant1_5320

11AC20MIMO_Ant2_5320


11AC20MIMO_Ant1_5500

11AC20MIMO_Ant2_5500

11AC20MIMO_Ant1_5580


11AC20MIMO_Ant2_5580

11AC20MIMO_Ant1_5700

11AC20MIMO_Ant2_5700


11AC20MIMO_Ant1_5745

11AC20MIMO_Ant2_5745

11AC20MIMO_Ant1_5785


11AC20MIMO_Ant2_5785

11AC20MIMO_Ant1_5825

11AC20MIMO_Ant2_5825


11AC40MIMO_Ant1_5190

11AC40MIMO_Ant2_5190

11AC40MIMO_Ant1_5230


11AC40MIMO_Ant2_5230

11AC40MIMO_Ant1_5270

11AC40MIMO_Ant2_5270


11AC40MIMO_Ant1_5310

11AC40MIMO_Ant2_5310

11AC40MIMO_Ant1_5510


11AC40MIMO_Ant2_5510

11AC40MIMO_Ant1_5550

11AC40MIMO_Ant2_5550


11AC40MIMO_Ant1_5670

11AC40MIMO_Ant2_5670

11AC40MIMO_Ant1_5755


11AC40MIMO_Ant2_5755

11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795


11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

11AC80MIMO_Ant1_5290


11AC80MIMO_Ant2_5290

11AC80MIMO_Ant1_5530

11AC80MIMO_Ant2_5530


11AC80MIMO_Ant1_5610

11AC80MIMO_Ant2_5610

11AC80MIMO_Ant1_5775


11AC80MIMO_Ant2_5775


8.3 MAXIMUMPEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNIIBand I
According to FCC Part 15.407(a)(2) for UNIIBand II-A and UNIIBand II-C
According to FCC Part 15.407(a)(3) for UNIIBand III
According to 789033 D02 Section II(F)
According to RSS 247, 6.2

8.3.2 Conformance Limit

FCC Limit:

■ For the band 5.15-5.25 GHz,

(a)(1) (i) For an outdoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (ii) For an indoor access point, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For client devices, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2)The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz bandprovided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

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

IC Limit:

■ Frequency band 5150-5250 MHz

The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

■ Frequency band 5250-5350 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

■ Frequency bands 5470-5600 MHz and 5650-5725 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

■ Frequency band 5725-5850 MHz

The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.3.4 Test Procedure

Methods refer to FCC KDB 789033

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) andintegrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections

5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

8.3.5 Test Results

Temperature:	25 ˚C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

Note: N/A

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	4.15	≤11.00	PASS
	Ant2	5180	4.18	≤11.00	PASS
	Ant1	5200	4.05	≤11.00	PASS
	Ant2	5200	4.34	≤11.00	PASS
	Ant1	5240	4.28	≤11.00	PASS
	Ant2	5240	4.63	≤11.00	PASS
	Ant1	5260	4.56	≤11.00	PASS
	Ant2	5260	4.92	≤11.00	PASS
	Ant1	5280	4.72	≤11.00	PASS
	Ant2	5280	4.84	≤11.00	PASS
	Ant1	5320	4.64	≤11.00	PASS
	Ant2	5320	4.87	≤11.00	PASS
	Ant1	5500	4.56	≤11.00	PASS
	Ant2	5500	4.65	≤11.00	PASS
	Ant1	5580	4.73	≤11.00	PASS
	Ant2	5580	4.68	≤11.00	PASS
	Ant1	5700	4.74	≤11.00	PASS
	Ant2	5700	5.10	≤11.00	PASS
	Ant1	5745	2.56	≤30.00	PASS
	Ant2	5745	2.28	≤30.00	PASS
	Ant1	5785	2.32	≤30.00	PASS
	Ant2	5785	2.22	≤30.00	PASS
	Ant1	5825	2.49	≤30.00	PASS
	Ant2	5825	2.68	≤30.00	PASS
11N20MIMO	Ant1	5180	3.02	≤11.00	PASS
	Ant2	5180	3.04	≤11.00	PASS
	total	5180	6.04	≤11.00	PASS
	Ant1	5200	3.13	≤11.00	PASS
	Ant2	5200	3.17	≤11.00	PASS
	total	5200	6.16	≤11.00	PASS
	Ant1	5240	3.46	≤11.00	PASS
	Ant2	5240	3.86	≤11.00	PASS
	total	5240	6.67	≤11.00	PASS
	Ant1	5260	3.50	≤11.00	PASS
	Ant2	5260	3.76	≤11.00	PASS
	total	5260	6.64	≤11.00	PASS
	Ant1	5280	3.52	≤11.00	PASS
	Ant2	5280	3.71	≤11.00	PASS
	total	5280	6.63	≤11.00	PASS
	Ant1	5320	3.48	≤11.00	PASS
	Ant2	5320	3.79	≤11.00	PASS
	total	5320	6.65	≤11.00	PASS
	Ant1	5500	3.42	≤11.00	PASS

	Ant2	5500	3.61	≤11.00	PASS
	total	5500	6.53	≤11.00	PASS
	Ant1	5580	3.57	≤11.00	PASS
	Ant2	5580	3.99	≤11.00	PASS
	total	5580	6.80	≤11.00	PASS
	Ant1	5700	3.61	≤11.00	PASS
	Ant2	5700	3.80	≤11.00	PASS
	total	5700	6.72	≤11.00	PASS
	Ant1	5745	1.27	≤30.00	PASS
	Ant2	5745	1.43	≤30.00	PASS
	total	5745	4.36	≤30.00	PASS
	Ant1	5785	0.75	≤30.00	PASS
	Ant2	5785	1.50	≤30.00	PASS
	total	5785	4.15	≤30.00	PASS
	Ant1	5825	1.15	≤30.00	PASS
	Ant2	5825	1.81	≤30.00	PASS
	total	5825	4.50	≤30.00	PASS
11N40MIMO	Ant1	5190	0.21	≤11.00	PASS
	Ant2	5190	0.25	≤11.00	PASS
	total	5190	3.24	≤11.00	PASS
	Ant1	5230	0.58	≤11.00	PASS
	Ant2	5230	0.44	≤11.00	PASS
	total	5230	3.52	≤11.00	PASS
	Ant1	5270	0.64	≤11.00	PASS
	Ant2	5270	0.73	≤11.00	PASS
	total	5270	3.70	≤11.00	PASS
	Ant1	5310	0.59	≤11.00	PASS
	Ant2	5310	0.56	≤11.00	PASS
	total	5310	3.59	≤11.00	PASS
	Ant1	5510	0.60	≤11.00	PASS
	Ant2	5510	0.99	≤11.00	PASS
	total	5510	3.81	≤11.00	PASS
	Ant1	5550	0.90	≤11.00	PASS
	Ant2	5550	0.88	≤11.00	PASS
	total	5550	3.90	≤11.00	PASS
	Ant1	5670	1.22	≤11.00	PASS
	Ant2	5670	1.28	≤11.00	PASS
	total	5670	4.26	≤11.00	PASS
	Ant1	5755	-1.87	≤30.00	PASS
	Ant2	5755	-2.10	≤30.00	PASS
	total	5755	1.03	≤30.00	PASS
	Ant1	5795	-2.03	≤30.00	PASS
	Ant2	5795	-1.72	≤30.00	PASS
	total	5795	1.14	≤30.00	PASS
11AC20MIMO	Ant1	5180	2.90	≤11.00	PASS
	Ant2	5180	3.05	≤11.00	PASS
	total	5180	5.99	≤11.00	PASS
	Ant1	5200	3.21	≤11.00	PASS
	Ant2	5200	3.44	≤11.00	PASS
	total	5200	6.34	≤11.00	PASS
	Ant1	5240	3.25	≤11.00	PASS
	Ant2	5240	3.65	≤11.00	PASS
	total	5240	6.46	≤11.00	PASS
	Ant1	5260	3.44	≤11.00	PASS
	Ant2	5260	3.62	≤11.00	PASS

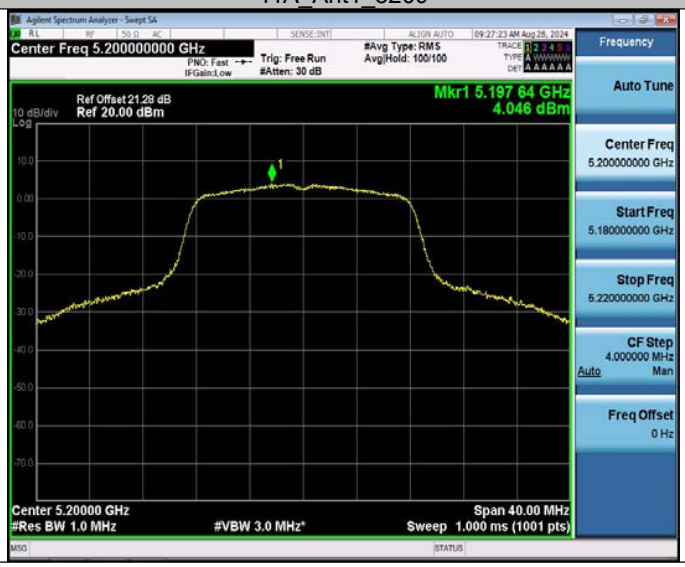
	total	5260	6.54	≤11.00	PASS
	Ant1	5280	3.83	≤11.00	PASS
	Ant2	5280	4.02	≤11.00	PASS
	total	5280	6.94	≤11.00	PASS
	Ant1	5320	3.38	≤11.00	PASS
	Ant2	5320	3.85	≤11.00	PASS
	total	5320	6.63	≤11.00	PASS
	Ant1	5500	3.82	≤11.00	PASS
	Ant2	5500	4.12	≤11.00	PASS
	total	5500	6.98	≤11.00	PASS
	Ant1	5580	3.90	≤11.00	PASS
	Ant2	5580	3.88	≤11.00	PASS
	total	5580	6.90	≤11.00	PASS
	Ant1	5700	4.03	≤11.00	PASS
	Ant2	5700	3.79	≤11.00	PASS
	total	5700	6.92	≤11.00	PASS
	Ant1	5745	1.52	≤30.00	PASS
	Ant2	5745	1.33	≤30.00	PASS
	total	5745	4.44	≤30.00	PASS
	Ant1	5785	1.03	≤30.00	PASS
	Ant2	5785	1.48	≤30.00	PASS
	total	5785	4.27	≤30.00	PASS
	Ant1	5825	1.64	≤30.00	PASS
	Ant2	5825	1.96	≤30.00	PASS
	total	5825	4.81	≤30.00	PASS
11AC40MIMO	Ant1	5190	0.43	≤11.00	PASS
	Ant2	5190	0.63	≤11.00	PASS
	total	5190	3.54	≤11.00	PASS
	Ant1	5230	0.47	≤11.00	PASS
	Ant2	5230	0.37	≤11.00	PASS
	total	5230	3.43	≤11.00	PASS
	Ant1	5270	0.67	≤11.00	PASS
	Ant2	5270	0.59	≤11.00	PASS
	total	5270	3.64	≤11.00	PASS
	Ant1	5310	0.80	≤11.00	PASS
	Ant2	5310	0.43	≤11.00	PASS
	total	5310	3.63	≤11.00	PASS
	Ant1	5510	0.55	≤11.00	PASS
	Ant2	5510	0.92	≤11.00	PASS
	total	5510	3.75	≤11.00	PASS
	Ant1	5550	0.95	≤11.00	PASS
	Ant2	5550	1.38	≤11.00	PASS
	total	5550	4.18	≤11.00	PASS
	Ant1	5670	1.42	≤11.00	PASS
	Ant2	5670	1.44	≤11.00	PASS
	total	5670	4.44	≤11.00	PASS
	Ant1	5755	-1.76	≤30.00	PASS
	Ant2	5755	-2.02	≤30.00	PASS
	total	5755	1.12	≤30.00	PASS
	Ant1	5795	-2.12	≤30.00	PASS
	Ant2	5795	-1.81	≤30.00	PASS
	total	5795	1.05	≤30.00	PASS
11AC80MIMO	Ant1	5210	-2.54	≤11.00	PASS
	Ant2	5210	-2.56	≤11.00	PASS
	total	5210	0.46	≤11.00	PASS

	Ant1	5290	-1.82	≤11.00	PASS
	Ant2	5290	-1.64	≤11.00	PASS
	total	5290	1.28	≤11.00	PASS
	Ant1	5530	-2.05	≤11.00	PASS
	Ant2	5530	-1.69	≤11.00	PASS
	total	5530	1.14	≤11.00	PASS
	Ant1	5610	-1.31	≤11.00	PASS
	Ant2	5610	-1.15	≤11.00	PASS
	total	5610	1.78	≤11.00	PASS
	Ant1	5775	-4.44	≤30.00	PASS
	Ant2	5775	-4.26	≤30.00	PASS
	total	5775	-1.34	≤30.00	PASS

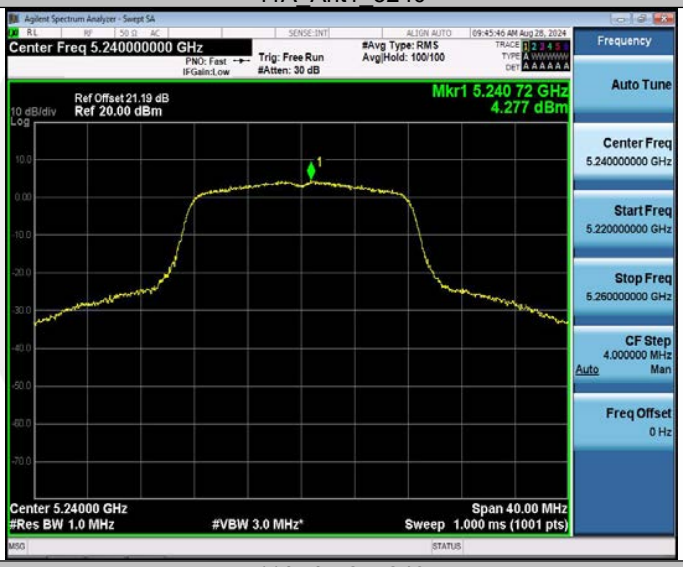
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

11A_Ant1_5180

11A_Ant2_5180

11A_Ant1_5200


11A_Ant2_5200

11A_Ant1_5240

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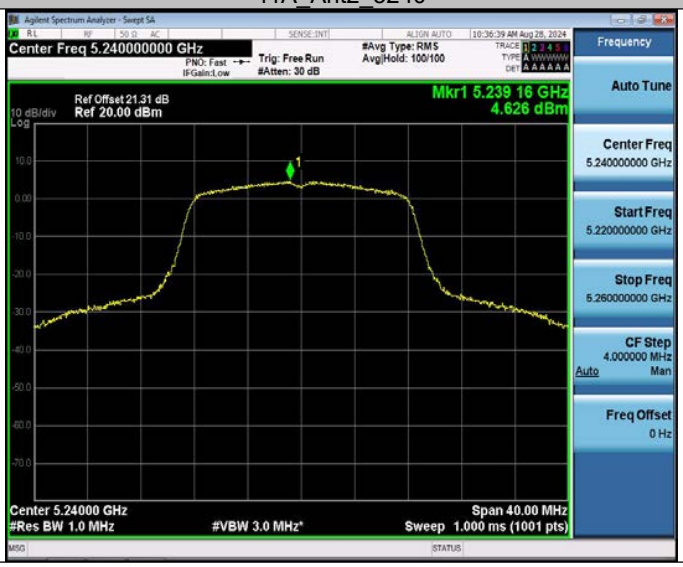

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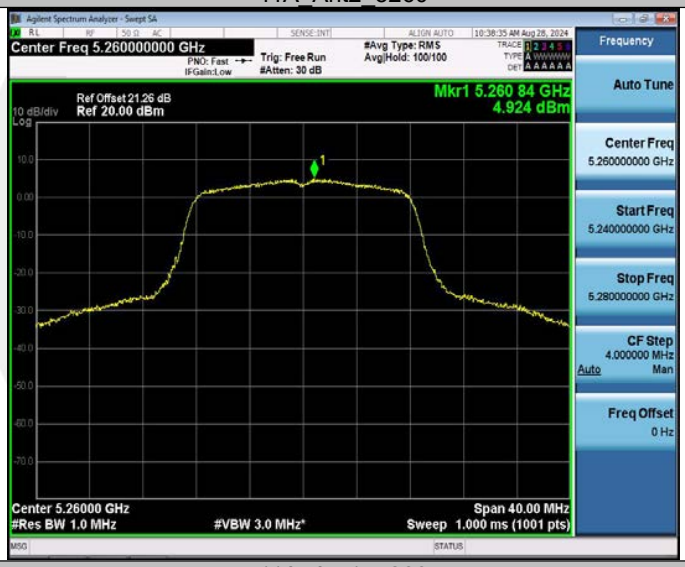
11A_Ant2_5260

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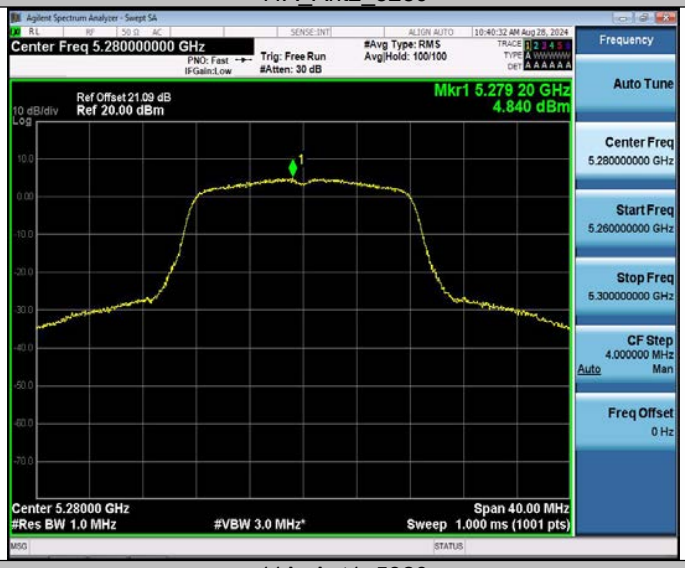
11A_Ant2_5280

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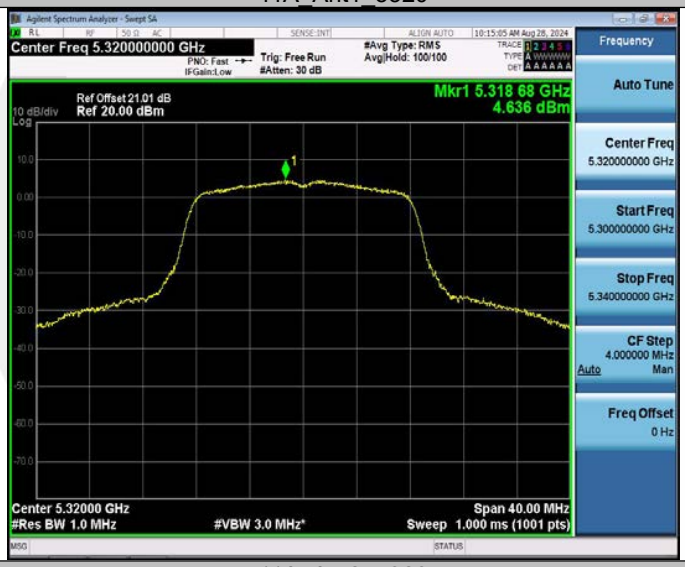
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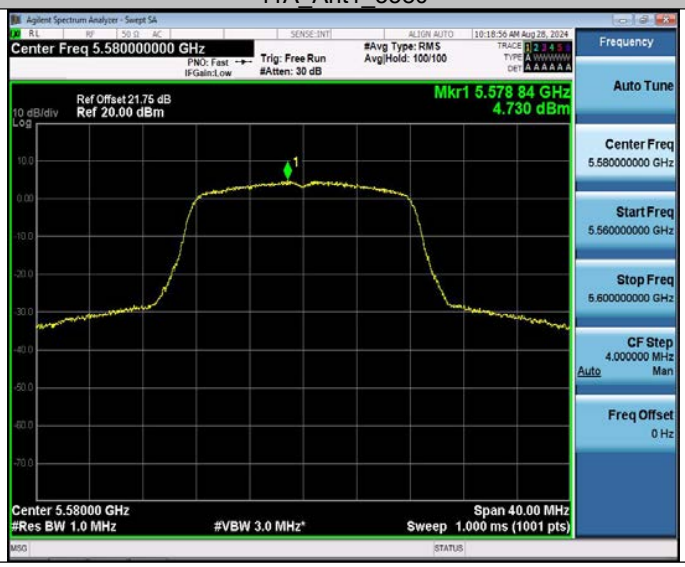
11A_Ant1_5500

11A_Ant2_5500

11A_Ant1_5580


11A_Ant2_5580

11A_Ant1_5700

11A_Ant2_5700


11A_Ant1_5745

11A_Ant2_5745

11A_Ant1_5785


11A_Ant2_5785

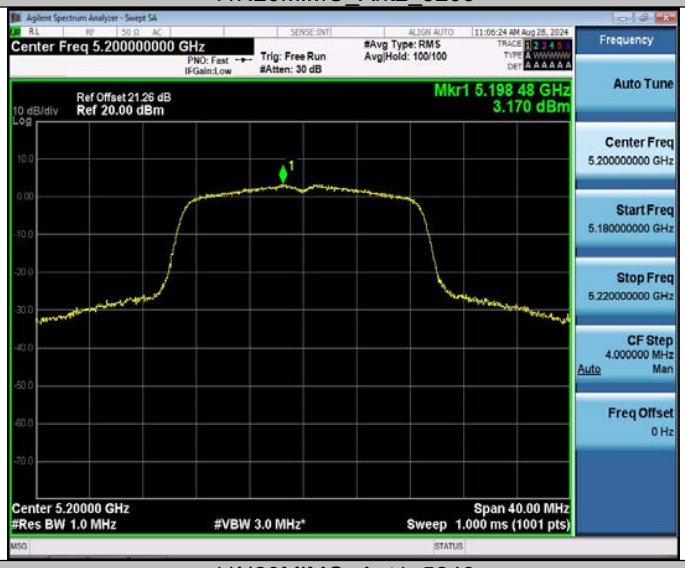
11A_Ant1_5825

11A_Ant2_5825

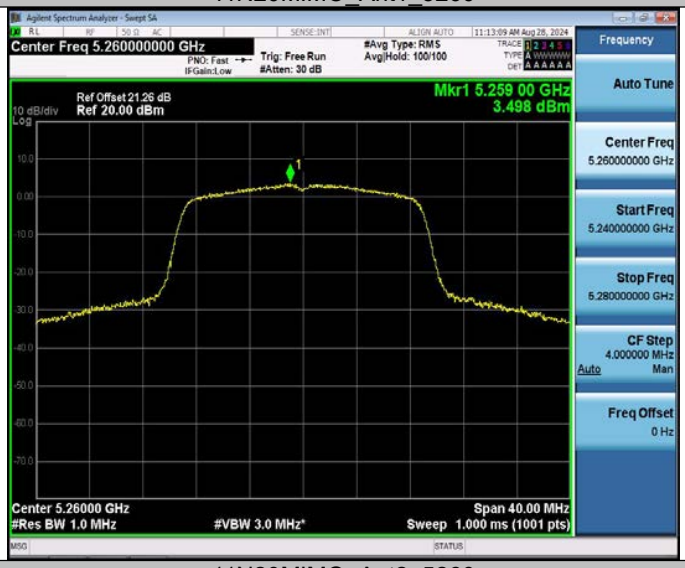

11N20MIMO_Ant1_5180

11N20MIMO_Ant2_5180

11N20MIMO_Ant1_5200


11N20MIMO_Ant2_5200

11N20MIMO_Ant1_5240

11N20MIMO_Ant2_5240


11N20MIMO_Ant1_5260

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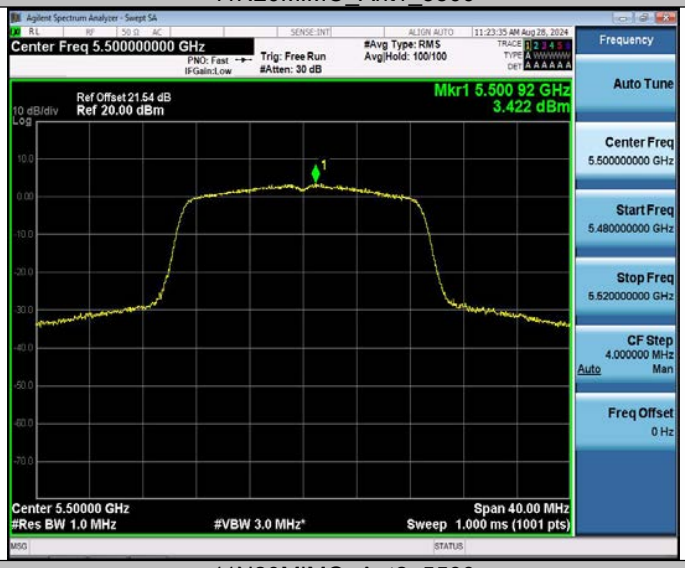
11N20MIMO_Ant1_5280


11N20MIMO_Ant2_5280

11N20MIMO_Ant1_5320

11N20MIMO_Ant2_5320


11N20MIMO_Ant1_5500

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11N20MIMO_Ant1_5580


11N20MIMO_Ant2_5580

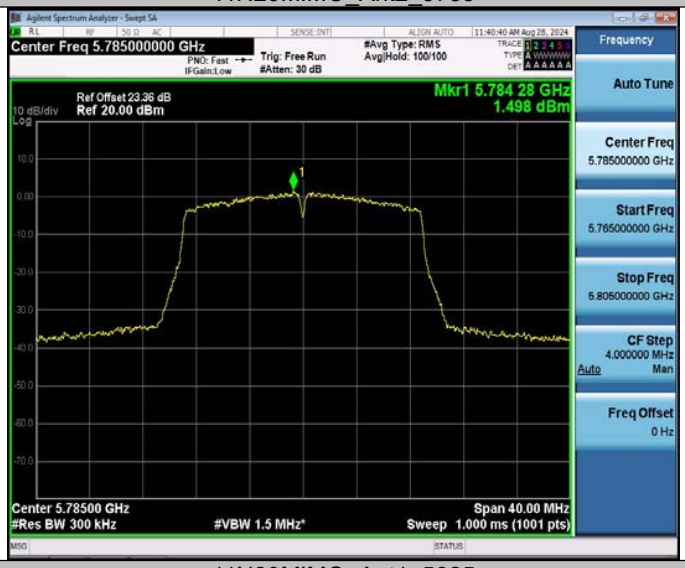
11N20MIMO_Ant1_5700

11N20MIMO_Ant2_5700


11N20MIMO_Ant1_5745

11N20MIMO_Ant2_5745

11N20MIMO_Ant1_5785


11N20MIMO_Ant2_5785

11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825


11N40MIMO_Ant1_5190

11N40MIMO_Ant2_5190

11N40MIMO_Ant1_5230


11N40MIMO_Ant2_5230

11N40MIMO_Ant1_5270

11N40MIMO_Ant2_5270