



11AC20MIMO_Ant2_5180



11AC20MIMO_Ant1_5220



11AC20MIMO_Ant2_5220



11AC20MIMO_Ant1_5240



11AC20MIMO_Ant2_5240



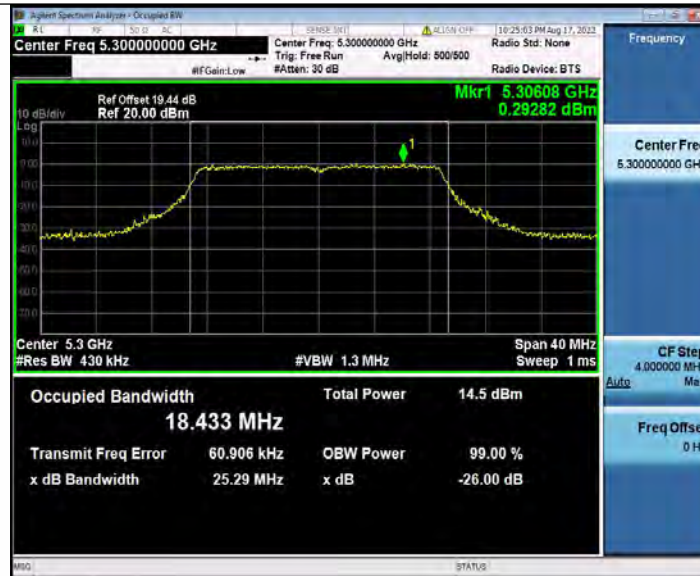
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11AC20MIMO_Ant1_5300



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11AC20MIMO_Ant2_5320



11AC20MIMO_Ant1_5500



11AC20MIMO_Ant2_5500



11AC20MIMO_Ant1_5580



11AC20MIMO_Ant2_5580



11AC20MIMO_Ant1_5700





11AC20MIMO_Ant2_5745



11AC20MIMO_Ant1_5785



11AC20MIMO_Ant2_5785



11AC20MIMO_Ant1_5825



11AC20MIMO_Ant2_5825



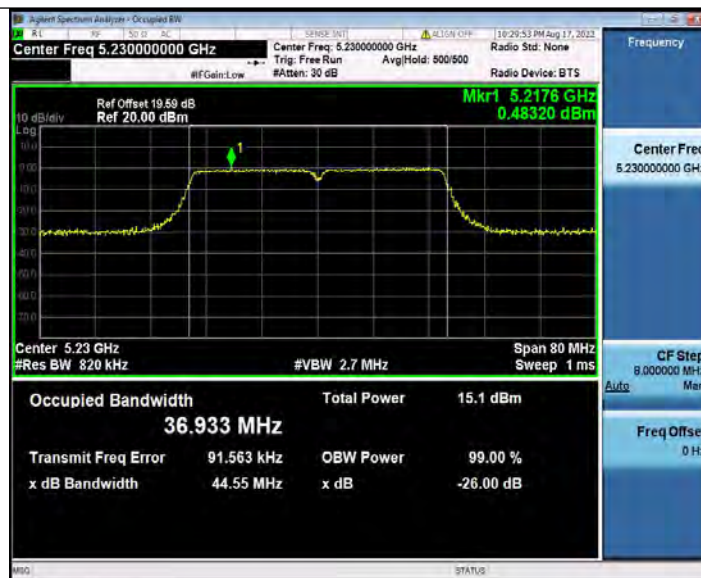
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11AC40MIMO_Ant2_5190



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



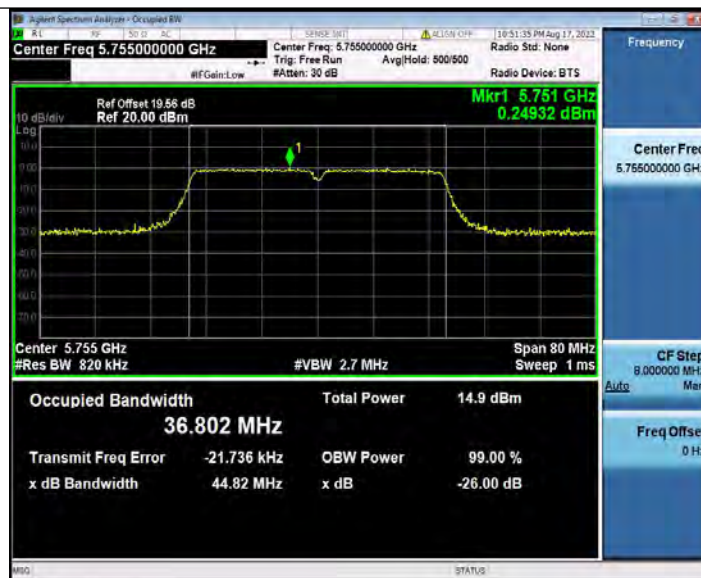
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11AC40MIMO_Ant2_5670



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



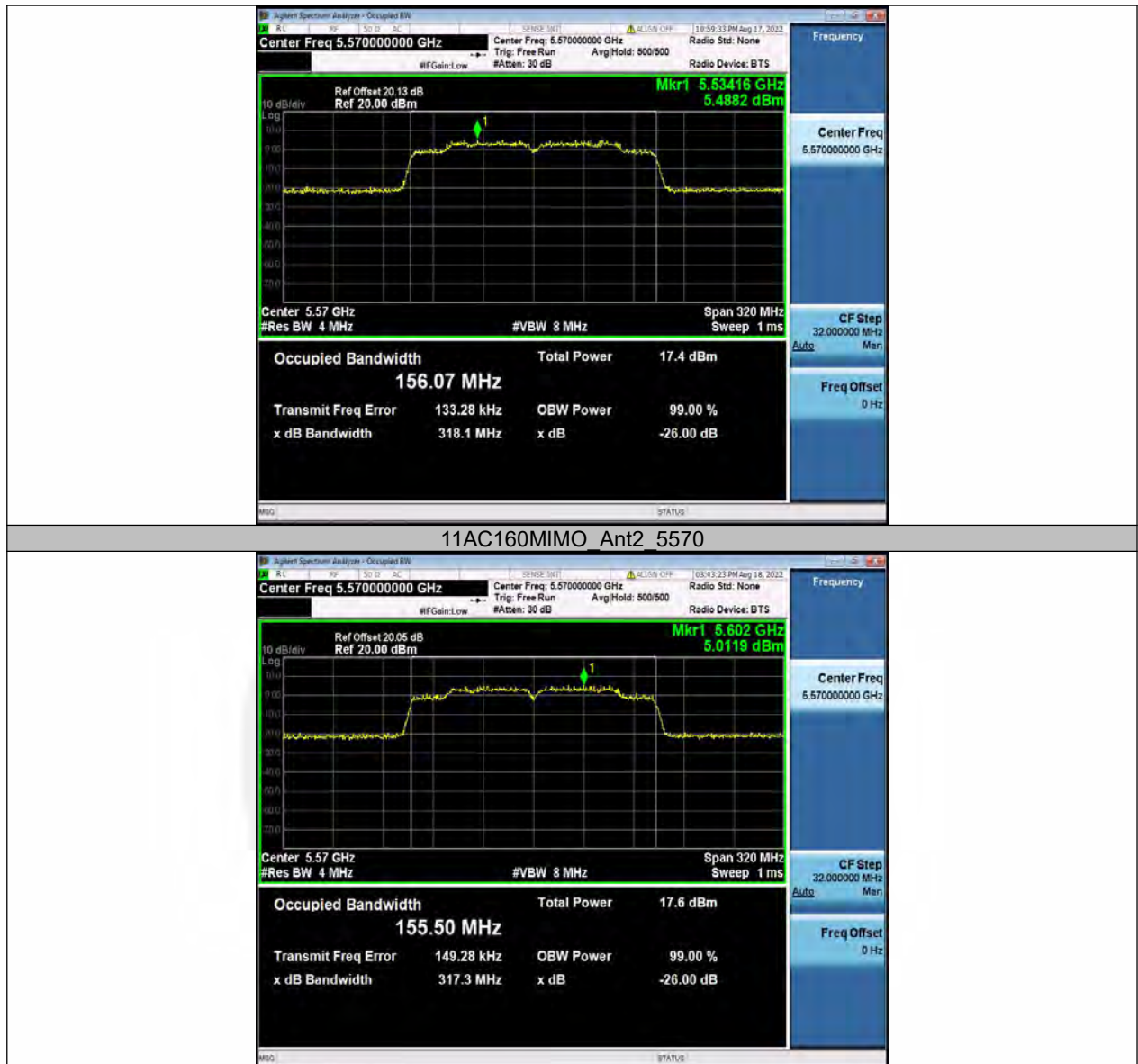
11AC160MIMO_Ant1_5250



11AC160MIMO_Ant2_5250



11AC160MIMO_Ant1_5570



Min emission bandwidth (6db)

TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.320	5736.840	5753.160	0.5	PASS
	Ant2	5745	16.360	5736.840	5753.200	0.5	PASS
	Ant1	5785	16.320	5776.840	5793.160	0.5	PASS
	Ant2	5785	16.320	5776.840	5793.160	0.5	PASS
	Ant1	5825	16.360	5816.840	5833.200	0.5	PASS
	Ant2	5825	16.320	5816.840	5833.160	0.5	PASS
11N20MIMO	Ant1	5745	17.600	5736.200	5753.800	0.5	PASS
	Ant2	5745	17.320	5736.200	5753.520	0.5	PASS
	Ant1	5785	17.560	5776.200	5793.760	0.5	PASS
	Ant2	5785	17.640	5776.160	5793.800	0.5	PASS
	Ant1	5825	17.520	5816.240	5833.760	0.5	PASS
	Ant2	5825	17.320	5816.480	5833.800	0.5	PASS
11N40MIMO	Ant1	5755	36.320	5736.840	5773.160	0.5	PASS
	Ant2	5755	35.920	5736.840	5772.760	0.5	PASS
	Ant1	5795	36.080	5776.840	5812.920	0.5	PASS
	Ant2	5795	36.320	5776.840	5813.160	0.5	PASS
11AC20MIMO	Ant1	5745	17.600	5736.200	5753.800	0.5	PASS
	Ant2	5745	17.520	5736.240	5753.760	0.5	PASS
	Ant1	5785	17.520	5776.240	5793.760	0.5	PASS
	Ant2	5785	17.520	5776.240	5793.760	0.5	PASS
	Ant1	5825	17.600	5816.200	5833.800	0.5	PASS
	Ant2	5825	17.560	5816.240	5833.800	0.5	PASS
11AC40MIMO	Ant1	5755	36.080	5736.840	5772.920	0.5	PASS
	Ant2	5755	36.080	5736.840	5772.920	0.5	PASS
	Ant1	5795	36.080	5776.840	5812.920	0.5	PASS
	Ant2	5795	36.080	5776.840	5812.920	0.5	PASS
11AC80MIMO	Ant1	5775	75.040	5737.400	5812.440	0.5	PASS
	Ant2	5775	75.200	5737.400	5812.600	0.5	PASS

11A_Ant1_5745



11A_Ant2_5745



11A_Ant1_5785



11A_Ant2_5785



11A_Ant1_5825



11A_Ant2_5825



11N20MIMO_Ant1_5745



11N20MIMO_Ant2_5745



11N20MIMO_Ant1_5785



11N20MIMO_Ant2_5785



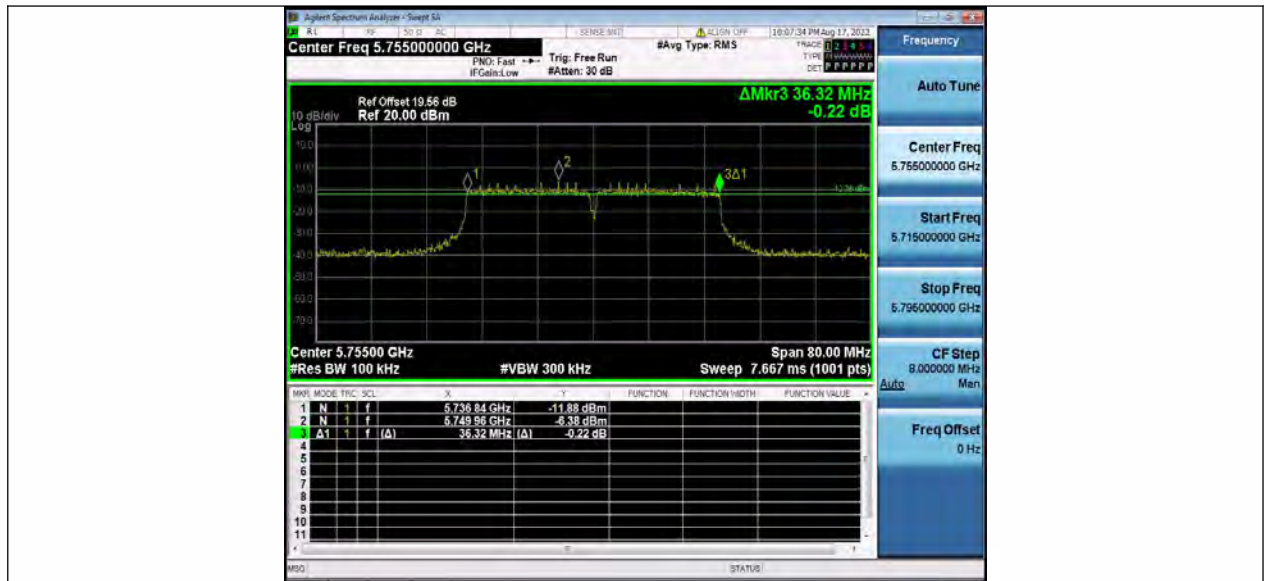
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11N20MIMO_Ant2_5825



11N40MIMO_Ant1_5755



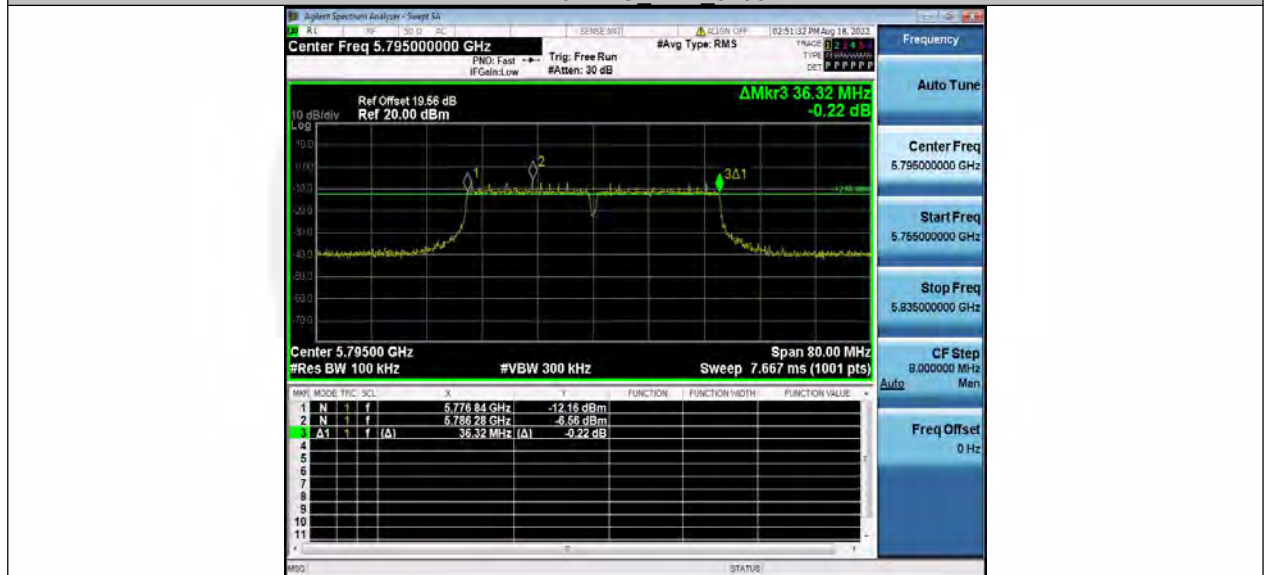
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11N40MIMO_Ant1_5795



11N40MIMO_Ant2_5795



11AC20MIMO_Ant1_5745



11AC20MIMO_Ant2_5745



11AC20MIMO_Ant1_5785



11AC20MIMO_Ant2_5785



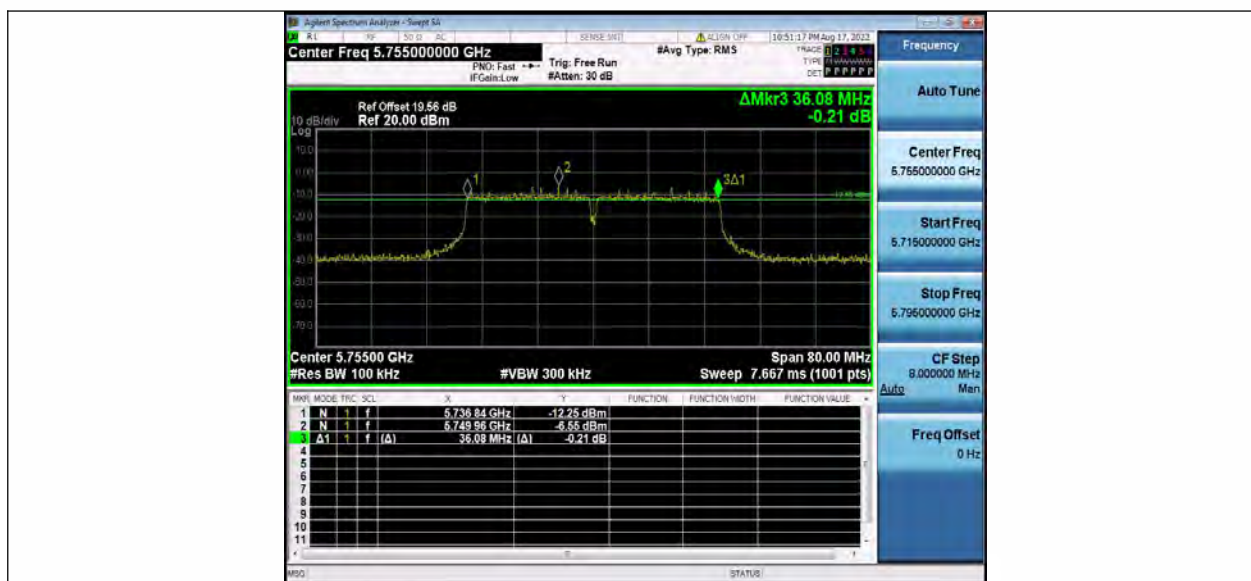
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11AC20MIMO_Ant2_5825



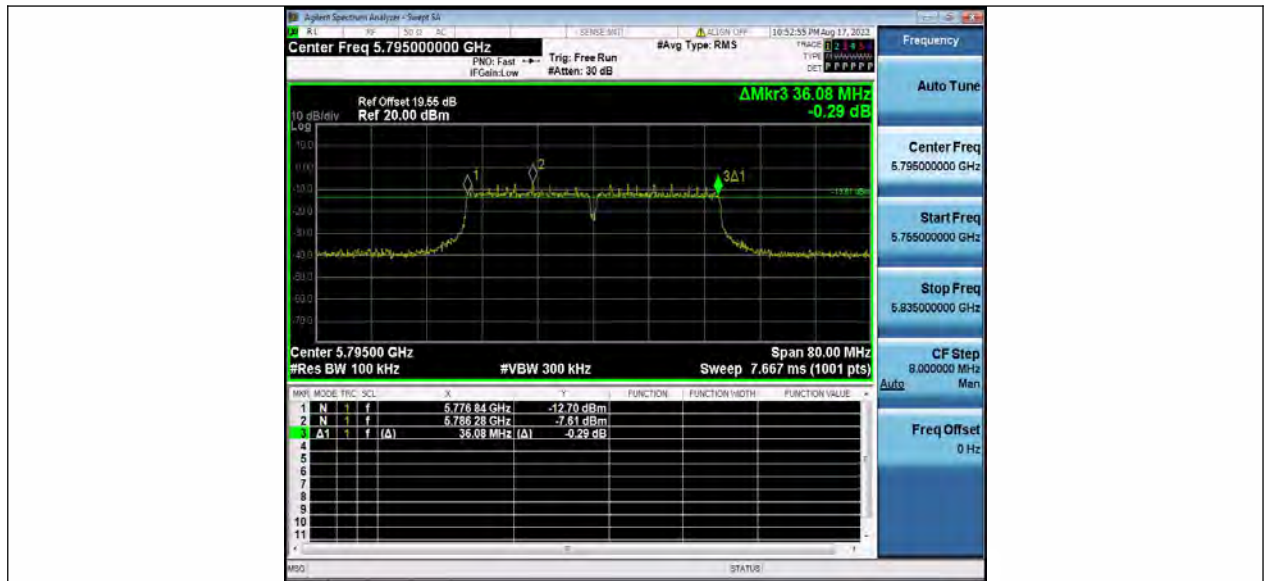
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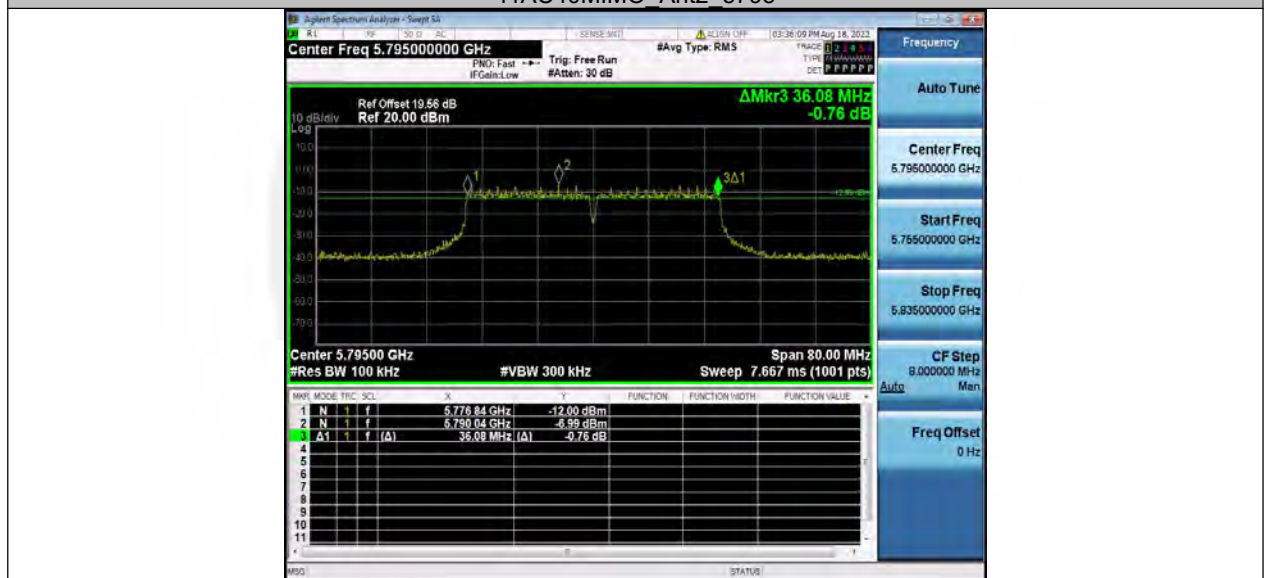
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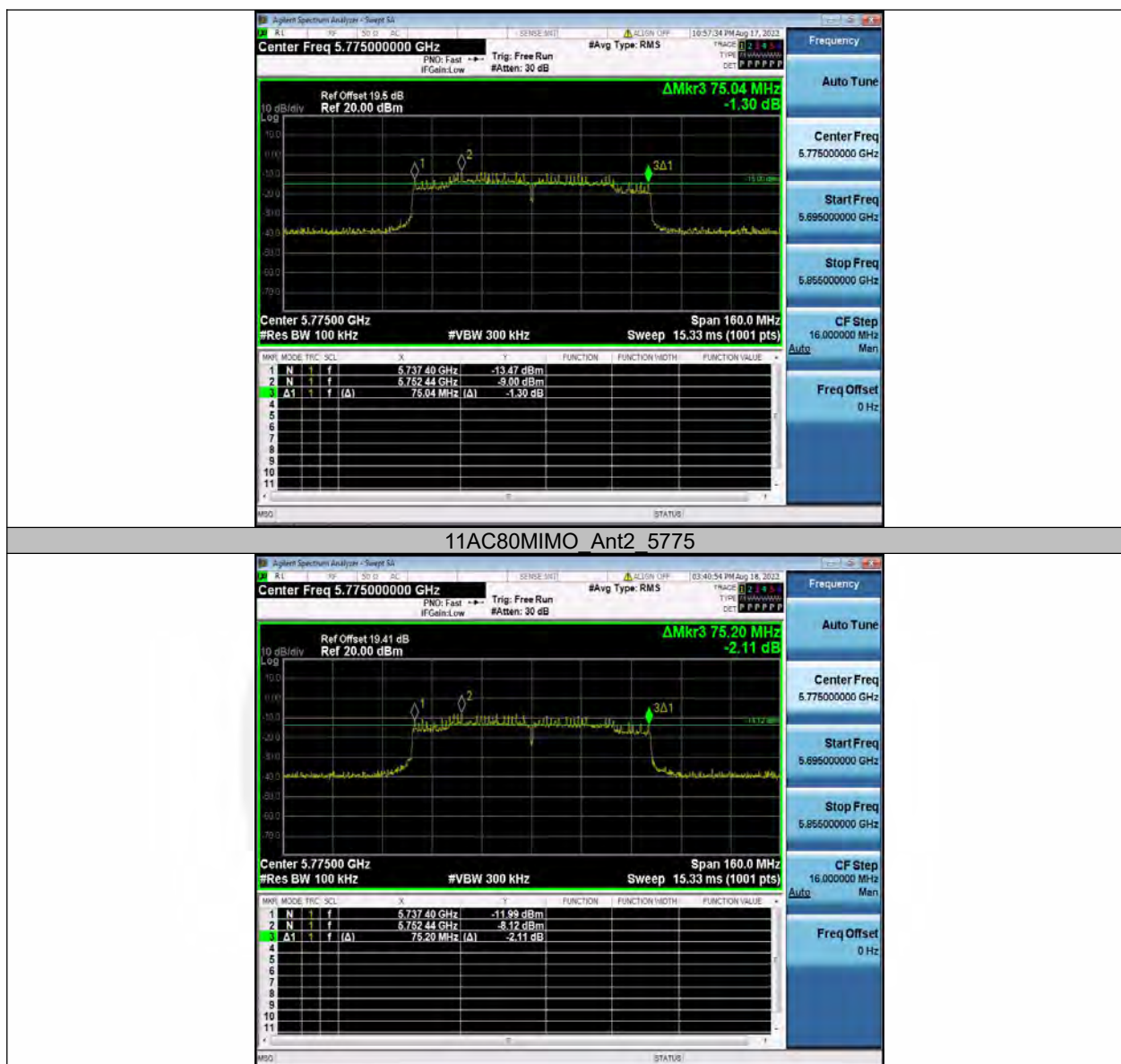
11AC40MIMO_Ant1_5795



11AC40MIMO_Ant2_5795



11AC80MIMO_Ant1_5775



8.2 MAXIMUM CONDUCTED OUTPUT POWER

8.2.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(E)

8.2.2 Conformance Limit

■ For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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 mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. 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

(a) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, 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

(a) (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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.

8.2.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

8.2.4 Test Procedure

The maximum average conducted output power can be measured using Method PM-G (Measurement using a gated RF average power meter):

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

- The Transmitter output (antenna port) was connected to the power meter.
- Turn on the EUT and power meter and then record the power value.
- Repeat above procedures on all channels needed to be tested.

8.2.5 Test Results

Test Mode	Antenna	Frequency [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11A	Ant1	5180	8.30	23.98	0.76	9.06	---	PASS
	Ant2	5180	9.69	23.98	2.85	12.54	---	PASS
	Ant1	5220	8.44	23.98	0.76	9.2	---	PASS
	Ant2	5220	9.19	23.98	2.85	12.04	---	PASS
	Ant1	5240	8.41	23.98	0.76	9.17	---	PASS
	Ant2	5240	9.40	23.98	2.85	12.25	---	PASS
	Ant1	5260	8.70	23.98	0.76	9.46	≤26.99	PASS
	Ant2	5260	9.42	23.98	2.85	12.27	≤26.99	PASS
	Ant1	5300	8.57	23.98	0.76	9.33	≤26.99	PASS
	Ant2	5300	9.63	23.98	2.85	12.48	≤26.99	PASS
	Ant1	5320	8.47	23.98	0.76	9.23	≤26.99	PASS
	Ant2	5320	9.86	23.98	2.85	12.71	≤26.99	PASS
	Ant1	5500	11.21	23.98	2.24	13.45	≤26.99	PASS
	Ant2	5500	10.55	23.98	3.21	13.76	≤26.99	PASS
	Ant1	5580	10.96	23.98	2.24	13.2	≤26.99	PASS
	Ant2	5580	11.27	23.98	3.21	14.48	≤26.99	PASS
	Ant1	5700	11.10	23.98	2.24	13.34	≤26.99	PASS
	Ant2	5700	12.11	23.98	3.21	15.32	≤26.99	PASS
	Ant1	5745	9.51	30	1.19	10.7	---	PASS
	Ant2	5745	9.73	30	3.13	12.86	---	PASS
11N20MI MO	Ant1	5785	9.03	30	1.19	10.22	---	PASS
	Ant2	5785	9.46	30	3.13	12.59	---	PASS
	Ant1	5825	9.06	30	1.19	10.25	---	PASS
	Ant2	5825	9.79	30	3.13	12.92	---	PASS
	Ant1	5180	7.23	23.98	0.76	7.99	---	PASS
	Ant2	5180	8.72	23.98	2.85	11.57	---	PASS
	total	5180	11.05	23.98	---	15.93	---	PASS
	Ant1	5220	7.06	23.98	0.76	7.82	---	PASS
	Ant2	5220	8.15	23.98	2.85	11	---	PASS
	total	5220	10.65	23.98	---	15.53	---	PASS
	Ant1	5240	7.06	23.98	0.76	7.82	---	PASS
	Ant2	5240	8.21	23.98	2.85	11.06	---	PASS
	total	5240	10.68	23.98	---	15.56	---	PASS
	Ant1	5260	7.40	23.98	0.76	8.16	≤26.99	PASS
	Ant2	5260	8.42	23.98	2.85	11.27	≤26.99	PASS
	total	5260	10.95	23.98	---	15.83	≤26.99	PASS
	Ant1	5300	7.61	23.98	0.76	8.37	≤26.99	PASS
	Ant2	5300	8.87	23.98	2.85	11.72	≤26.99	PASS
	total	5300	11.30	23.98	---	16.18	≤26.99	PASS

	Ant1	5320	7.33	23.98	0.76	8.09	≤26.99	PASS
	Ant2	5320	8.68	23.98	2.85	11.53	≤26.99	PASS
	total	5320	11.07	23.98	---	16.82	≤26.99	PASS
	Ant1	5500	9.88	23.98	2.24	12.12	≤26.99	PASS
	Ant2	5500	9.76	23.98	3.21	12.97	≤26.99	PASS
	total	5500	12.83	23.98	---	18.58	≤26.99	PASS
	Ant1	5580	9.54	23.98	2.24	11.78	≤26.99	PASS
	Ant2	5580	9.68	23.98	3.21	12.89	≤26.99	PASS
	total	5580	12.62	23.98	---	18.37	≤26.99	PASS
	Ant1	5700	9.99	23.98	2.24	12.23	≤26.99	PASS
	Ant2	5700	10.86	23.98	3.21	14.07	≤26.99	PASS
	total	5700	13.46	23.98	---	19.21	≤26.99	PASS
	Ant1	5745	7.54	30	1.19	8.73	---	PASS
	Ant2	5745	8.31	30	3.13	11.44	---	PASS
	total	5745	10.95	30	---	16.17	---	PASS
	Ant1	5785	7.11	30	1.19	8.3	---	PASS
	Ant2	5785	7.79	30	3.13	10.92	---	PASS
	total	5785	10.47	30	---	15.69	---	PASS
	Ant1	5825	7.13	30	1.19	8.32	---	PASS
	Ant2	5825	7.91	30	3.13	11.04	---	PASS
	total	5825	10.55	30	---	15.77	---	PASS
11N40MI MO	Ant1	5190	7.86	23.98	0.76	8.62	---	PASS
	Ant2	5190	8.79	23.98	2.85	11.64	---	PASS
	total	5190	11.36	23.98	---	16.24	---	PASS
	Ant1	5230	7.50	23.98	0.76	8.26	---	PASS
	Ant2	5230	8.64	23.98	2.85	11.49	---	PASS
	total	5230	11.12	23.98	---	16	---	PASS
	Ant1	5270	8.88	23.98	0.76	9.64	≤26.99	PASS
	Ant2	5270	9.68	23.98	2.85	12.53	≤26.99	PASS
	total	5270	12.31	23.98	---	17.19	≤26.99	PASS
	Ant1	5310	8.19	23.98	0.76	8.95	≤26.99	PASS
	Ant2	5310	9.30	23.98	2.85	12.15	≤26.99	PASS
	total	5310	11.79	23.98	---	16.67	≤26.99	PASS
	Ant1	5510	11.08	23.98	2.24	13.32	≤26.99	PASS
	Ant2	5510	11.11	23.98	3.21	14.32	≤26.99	PASS
	total	5510	14.11	23.98	---	19.86	≤26.99	PASS
	Ant1	5550	11.02	23.98	2.24	13.26	≤26.99	PASS
	Ant2	5550	11.23	23.98	3.21	14.44	≤26.99	PASS
	total	5550	14.14	23.98	---	19.89	≤26.99	PASS
	Ant1	5670	10.86	23.98	2.24	13.1	≤26.99	PASS
	Ant2	5670	12.01	23.98	3.21	15.22	≤26.99	PASS
	total	5670	14.48	23.98	---	20.23	≤26.99	PASS
	Ant1	5755	7.57	30	1.19	8.76	---	PASS
	Ant2	5755	8.27	30	3.13	11.4	---	PASS
	total	5755	10.94	30	---	16.16	---	PASS
	Ant1	5795	6.53	30	1.19	7.72	---	PASS
	Ant2	5795	7.24	30	3.13	10.37	---	PASS
	total	5795	9.91	30	---	15.13	---	PASS
11AC20M IMO	Ant1	5180	7.58	23.98	0.76	8.34	---	PASS
	Ant2	5180	8.51	23.98	2.85	11.36	---	PASS
	total	5180	11.08	23.98	---	16.3	---	PASS
	Ant1	5220	6.83	23.98	0.76	7.59	---	PASS
	Ant2	5220	7.88	23.98	2.85	10.73	---	PASS
	total	5220	10.40	23.98	---	15.28	---	PASS
	Ant1	5240	6.98	23.98	0.76	7.74	---	PASS

	Ant2	5240	8.01	23.98	2.85	10.86	---	PASS
	total	5240	10.54	23.98	---	15.42	---	PASS
	Ant1	5260	7.48	23.98	0.76	8.24	≤26.99	PASS
	Ant2	5260	8.27	23.98	2.85	11.12	≤26.99	PASS
	total	5260	10.90	23.98	---	15.78	≤26.99	PASS
	Ant1	5300	7.77	23.98	0.76	8.53	≤26.99	PASS
	Ant2	5300	8.77	23.98	2.85	11.62	≤26.99	PASS
	total	5300	11.31	23.98	---	16.19	≤26.99	PASS
	Ant1	5320	7.44	23.98	0.76	8.2	≤26.99	PASS
	Ant2	5320	8.66	23.98	2.85	11.51	≤26.99	PASS
	total	5320	11.10	23.98	---	15.98	≤26.99	PASS
	Ant1	5500	9.83	23.98	2.24	12.07	≤26.99	PASS
	Ant2	5500	9.55	23.98	3.21	12.76	≤26.99	PASS
	total	5500	12.70	23.98	---	18.45	≤26.99	PASS
	Ant1	5580	9.43	23.98	2.24	11.67	≤26.99	PASS
	Ant2	5580	9.49	23.98	3.21	12.7	≤26.99	PASS
	total	5580	12.47	23.98	---	18.22	≤26.99	PASS
	Ant1	5700	9.86	23.98	2.24	12.1	≤26.99	PASS
	Ant2	5700	10.85	23.98	3.21	14.06	≤26.99	PASS
	total	5700	13.39	23.98	---	19.14	≤26.99	PASS
	Ant1	5745	7.41	30	1.19	8.6	---	PASS
	Ant2	5745	8.27	30	3.13	11.4	---	PASS
	total	5745	10.87	30	---	16.09	---	PASS
	Ant1	5785	7.02	30	1.19	8.21	---	PASS
	Ant2	5785	7.74	30	3.13	10.87	---	PASS
	total	5785	10.41	30	---	15.63	---	PASS
	Ant1	5825	7.30	30	1.19	8.49	---	PASS
	Ant2	5825	7.68	30	3.13	10.81	---	PASS
	total	5825	10.50	30	---	15.72	---	PASS
11AC40M IMO	Ant1	5190	7.75	23.98	0.76	8.51	---	PASS
	Ant2	5190	8.71	23.98	2.85	11.56	---	PASS
	total	5190	11.27	23.98	---	16.15	---	PASS
	Ant1	5230	7.63	23.98	0.76	8.39	---	PASS
	Ant2	5230	8.58	23.98	2.85	11.43	---	PASS
	total	5230	11.14	23.98	---	16.02	---	PASS
	Ant1	5270	8.69	23.98	0.76	9.45	≤26.99	PASS
	Ant2	5270	9.61	23.98	2.85	12.46	≤26.99	PASS
	total	5270	12.18	23.98	---	17.06	≤26.99	PASS
	Ant1	5310	8.16	23.98	0.76	8.92	≤26.99	PASS
	Ant2	5310	9.30	23.98	2.85	12.15	≤26.99	PASS
	total	5310	11.78	23.98	---	11.78	≤26.99	PASS
	Ant1	5510	11.04	23.98	2.24	13.28	≤26.99	PASS
	Ant2	5510	11.18	23.98	3.21	14.39	≤26.99	PASS
	total	5510	14.12	23.98	---	19.87	≤26.99	PASS
	Ant1	5550	11.05	23.98	2.24	13.29	≤26.99	PASS
	Ant2	5550	11.12	23.98	3.21	14.33	≤26.99	PASS
	total	5550	14.10	23.98	---	19.85	≤26.99	PASS
	Ant1	5670	10.80	23.98	2.24	13.04	≤26.99	PASS
	Ant2	5670	12.05	23.98	3.21	15.26	≤26.99	PASS
	total	5670	14.48	23.98	---	20.23	≤26.99	PASS
	Ant1	5755	7.44	30	1.19	8.63	---	PASS
	Ant2	5755	8.30	30	3.13	11.43	---	PASS
	total	5755	10.90	30	---	16.12	---	PASS
	Ant1	5795	6.57	30	1.19	7.76	---	PASS
	Ant2	5795	7.20	30	3.13	10.33	---	PASS

	total	5795	9.91	30	---	15.13	---	PASS
11AC80M IMO	Ant1	5210	7.94	23.98	0.76	8.7	---	PASS
	Ant2	5210	8.78	23.98	2.85	11.63	---	PASS
	total	5210	11.39	23.98	---	16.27	---	PASS
	Ant1	5290	8.96	23.98	0.76	9.72	≤26.99	PASS
	Ant2	5290	9.93	23.98	2.85	12.78	≤26.99	PASS
	total	5290	12.48	23.98	---	17.36	≤26.99	PASS
	Ant1	5530	11.49	23.98	2.24	13.73	≤26.99	PASS
	Ant2	5530	11.10	23.98	3.21	14.31	≤26.99	PASS
	total	5530	14.31	23.98	---	19.19	≤26.99	PASS
	Ant1	5610	11.01	23.98	2.24	13.25	≤26.99	PASS
	Ant2	5610	11.48	23.98	3.21	14.69	≤26.99	PASS
	total	5610	14.26	23.98	---	20.01	≤26.99	PASS
	Ant1	5775	6.83	30	1.19	8.02	---	PASS
	Ant2	5775	7.62	30	3.13	10.75	---	PASS
	total	5775	10.25	30	---	15.47	---	PASS
11AC160 MIMO	Ant1	5250	6.07	23.98	0.76	6.83	≤26.99	PASS
	Ant2	5250	6.93	23.98	2.85	9.78	≤26.99	PASS
	total	5250	9.53	23.98	---	14.41	≤26.99	PASS
	Ant1	5570	8.51	23.98	2.24	10.75	≤26.99	PASS
	Ant2	5570	8.67	23.98	3.21	11.88	≤26.99	PASS
	total	5570	11.60	23.98	---	17.35	≤26.99	PASS

11A_Ant1_5180



11A_Ant2_5180

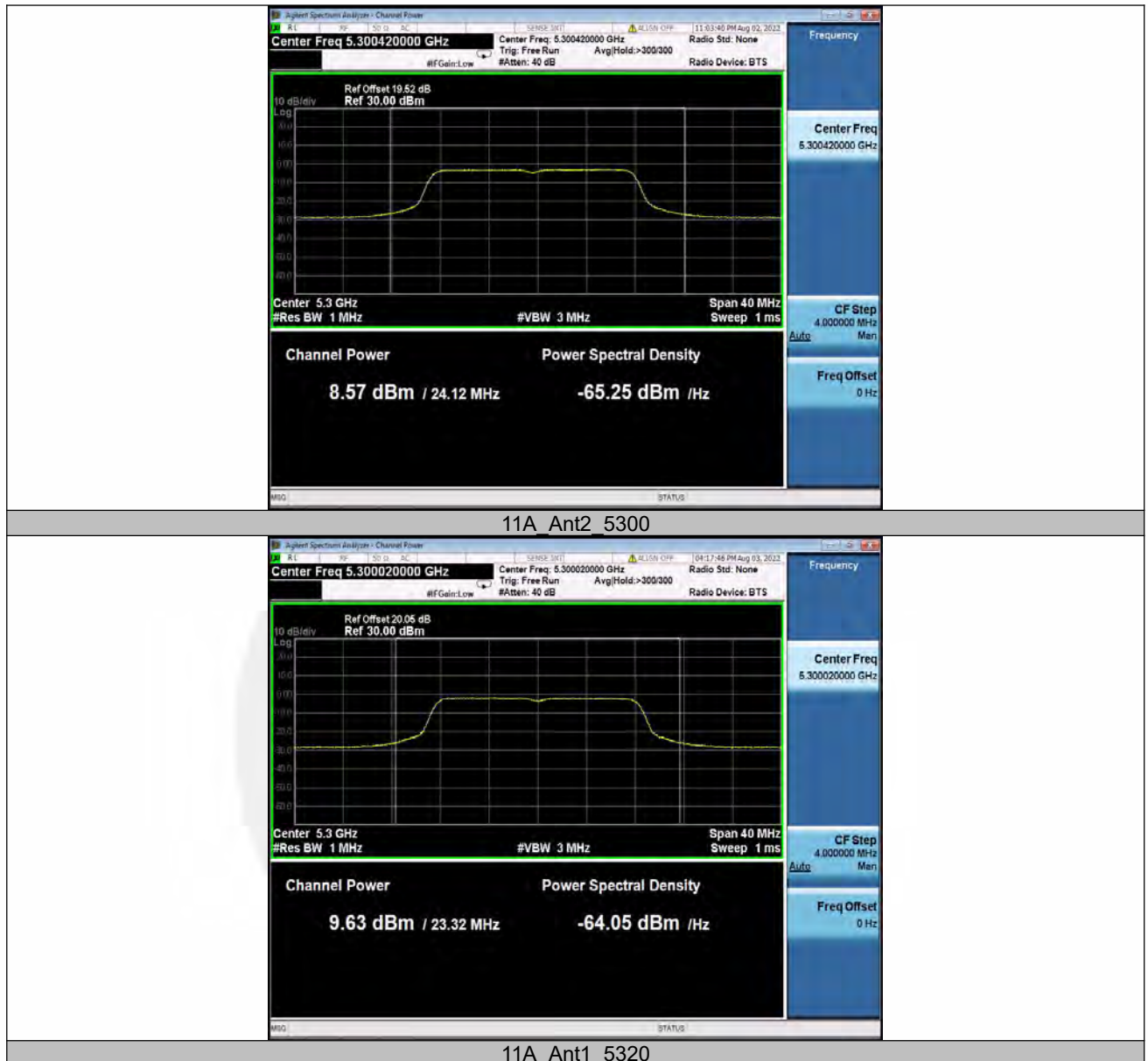


11A_Ant1_5220



















11A_Ant2_5745



11A_Ant1_5785







































































































8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(F)

8.3.2 Conformance Limit

■ For the band 5.15-5.25 GHz

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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 mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. 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

(b) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, 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

(a) (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1.

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) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ KHz})$ 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 $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ 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 $RBW=100 \text{ KHz}$ is available on nearly all spectrum analyzers.

8.3.5 Test Results

Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-2.91	11	PASS
	Ant2	5180	-1	11	PASS
	Ant1	5220	-2.65	11	PASS
	Ant2	5220	-1.86	11	PASS
	Ant1	5240	-2.58	11	PASS
	Ant2	5240	-1.61	11	PASS
	Ant1	5260	-2.26	11	PASS
	Ant2	5260	-2.51	11	PASS
	Ant1	5300	-2.66	11	PASS
	Ant2	5300	-1.34	11	PASS
	Ant1	5320	-2.59	11	PASS
	Ant2	5320	-1.32	11	PASS
	Ant1	5500	-0.03	11	PASS
	Ant2	5500	-1.28	11	PASS
	Ant1	5580	0.02	11	PASS
	Ant2	5580	0.03	11	PASS
	Ant1	5700	-0.3	11	PASS
	Ant2	5700	0.57	11	PASS
	Ant1	5745	-4.61	30	PASS
	Ant2	5745	-3.78	30	PASS
	Ant1	5785	-5.33	30	PASS
	Ant2	5785	-4.69	30	PASS
	Ant1	5825	-5.11	30	PASS
	Ant2	5825	-4.57	30	PASS
11N20MIMO	Ant1	5180	-4.37	11	PASS
	Ant2	5180	-3.16	11	PASS
	total	5180	-0.71	11	PASS
	Ant1	5220	-4.42	11	PASS
	Ant2	5220	-3.52	11	PASS
	total	5220	-0.94	11	PASS
	Ant1	5240	-4	11	PASS
	Ant2	5240	-3.28	11	PASS
	total	5240	-0.61	11	PASS
	Ant1	5260	-3.81	11	PASS
	Ant2	5260	-2.91	11	PASS
	total	5260	-0.33	11	PASS
	Ant1	5300	-3.64	11	PASS
	Ant2	5300	-2.61	11	PASS
	total	5300	-0.08	11	PASS
	Ant1	5320	-3.88	11	PASS
	Ant2	5320	-2.93	11	PASS
	total	5320	-0.37	11	PASS
	Ant1	5500	-1.69	11	PASS
	Ant2	5500	-1.51	11	PASS
	total	5500	1.41	11	PASS
	Ant1	5580	-1.89	11	PASS
	Ant2	5580	-1.72	11	PASS
	total	5580	1.21	11	PASS
	Ant1	5700	-1.47	11	PASS
	Ant2	5700	-0.6	11	PASS

	total	5700	2.00	11	PASS
	Ant1	5745	-6.68	30	PASS
	Ant2	5745	-6	30	PASS
	total	5745	-3.32	30	PASS
	Ant1	5785	-7.08	30	PASS
	Ant2	5785	-6.55	30	PASS
	total	5785	-3.80	30	PASS
	Ant1	5825	-7.06	30	PASS
	Ant2	5825	-6.7	30	PASS
	total	5825	-3.87	30	PASS
11N40MIMO	Ant1	5190	-6.27	11	PASS
	Ant2	5190	-5.94	11	PASS
	total	5190	-3.09	11	PASS
	Ant1	5230	-6.83	11	PASS
	Ant2	5230	-6.01	11	PASS
	total	5230	-3.39	11	PASS
	Ant1	5270	-5.4	11	PASS
	Ant2	5270	-4.81	11	PASS
	total	5270	-2.08	11	PASS
	Ant1	5310	-6.21	11	PASS
	Ant2	5310	-4.93	11	PASS
	total	5310	-2.51	11	PASS
	Ant1	5510	-3.39	11	PASS
	Ant2	5510	-3.51	11	PASS
	total	5510	-0.44	11	PASS
	Ant1	5550	-3.42	11	PASS
	Ant2	5550	-3.44	11	PASS
	total	5550	-0.42	11	PASS
	Ant1	5670	-3.46	11	PASS
	Ant2	5670	-2.27	11	PASS
	total	5670	0.19	11	PASS
	Ant1	5755	-9.28	30	PASS
	Ant2	5755	-8.7	30	PASS
	total	5755	-5.97	30	PASS
	Ant1	5795	-10.84	30	PASS
	Ant2	5795	-10.04	30	PASS
	total	5795	-7.41	30	PASS
11AC20MIMO	Ant1	5180	-4.1	11	PASS
	Ant2	5180	-3.11	11	PASS
	total	5180	-0.57	11	PASS
	Ant1	5220	-4.52	11	PASS
	Ant2	5220	-3.61	11	PASS
	total	5220	-1.03	11	PASS
	Ant1	5240	-3.85	11	PASS
	Ant2	5240	-3.24	11	PASS
	total	5240	-0.52	11	PASS
	Ant1	5260	-3.61	11	PASS
	Ant2	5260	-3.24	11	PASS
	total	5260	-0.41	11	PASS
	Ant1	5300	-3.71	11	PASS
	Ant2	5300	-2.59	11	PASS
	total	5300	-0.10	11	PASS
	Ant1	5320	-4.01	11	PASS
	Ant2	5320	-3.05	11	PASS
	total	5320	-0.49	11	PASS

	Ant1	5500	-1.45	11	PASS
	Ant2	5500	-1.86	11	PASS
	total	5500	1.36	11	PASS
	Ant1	5580	-1.91	11	PASS
	Ant2	5580	-1.99	11	PASS
	total	5580	1.06	11	PASS
	Ant1	5700	-1.39	11	PASS
	Ant2	5700	-0.76	11	PASS
	total	5700	1.95	11	PASS
	Ant1	5745	-6.79	30	PASS
	Ant2	5745	-6.22	30	PASS
	total	5745	-3.49	30	PASS
	Ant1	5785	-7.36	30	PASS
	Ant2	5785	-6.75	30	PASS
	total	5785	-4.03	30	PASS
	Ant1	5825	-7.26	30	PASS
	Ant2	5825	-6.42	30	PASS
	total	5825	-3.81	30	PASS
11AC40MIMO	Ant1	5190	-6.81	11	PASS
	Ant2	5190	-5.95	11	PASS
	total	5190	-3.35	11	PASS
	Ant1	5230	-6.74	11	PASS
	Ant2	5230	-5.89	11	PASS
	total	5230	-3.28	11	PASS
	Ant1	5270	-5.46	11	PASS
	Ant2	5270	-5	11	PASS
	total	5270	-2.21	11	PASS
	Ant1	5310	-6.14	11	PASS
	Ant2	5310	-5.35	11	PASS
	total	5310	-2.72	11	PASS
	Ant1	5510	-3.15	11	PASS
	Ant2	5510	-3.52	11	PASS
	total	5510	-0.32	11	PASS
	Ant1	5550	-3.42	11	PASS
	Ant2	5550	-3.57	11	PASS
	total	5550	-0.48	11	PASS
	Ant1	5670	-3.25	11	PASS
	Ant2	5670	-2.26	11	PASS
	total	5670	0.28	11	PASS
	Ant1	5755	-9.88	11	PASS
	Ant2	5755	-8.94	11	PASS
	total	5755	-6.37	11	PASS
	Ant1	5795	-10.72	11	PASS
	Ant2	5795	-9.9	11	PASS
	total	5795	-7.28	11	PASS
11AC80MIMO	Ant1	5210	-8.94	11	PASS
	Ant2	5210	-8.15	11	PASS
	total	5210	-5.52	11	PASS
	Ant1	5290	-7.69	11	PASS
	Ant2	5290	-7.1	11	PASS
	total	5290	-4.37	11	PASS
	Ant1	5530	-5.21	11	PASS
	Ant2	5530	-5.9	11	PASS
	total	5530	-2.53	11	PASS
	Ant1	5610	-5.68	11	PASS

	Ant2	5610	-5.55	11	PASS
	total	5610	-2.60	11	PASS
	Ant1	5775	-12.43	30	PASS
	Ant2	5775	-11.94	30	PASS
	total	5775	-9.17	30	PASS
11AC160MIMO	Ant1	5250	-12.93	11	PASS
	Ant2	5250	-13.03	11	PASS
	total	5250	-9.97	11	PASS
	Ant1	5570	-11.43	11	PASS
	Ant2	5570	-11.12	11	PASS
	total	5570	-8.26	11	PASS



11A Ant1 5180



11A Ant2 5180



11A Ant1 5220



11A_Ant2_5220



11A_Ant1_5240



11A_Ant2_5240



11A_Ant1_5260



11A_Ant2_5260



11A_Ant1_5300



11A_Ant2_5300



11A_Ant1_5320



11A_Ant2_5320



11A_Ant1_5500



11A_Ant2_5500



11A_Ant1_5580



11A_Ant2_5580



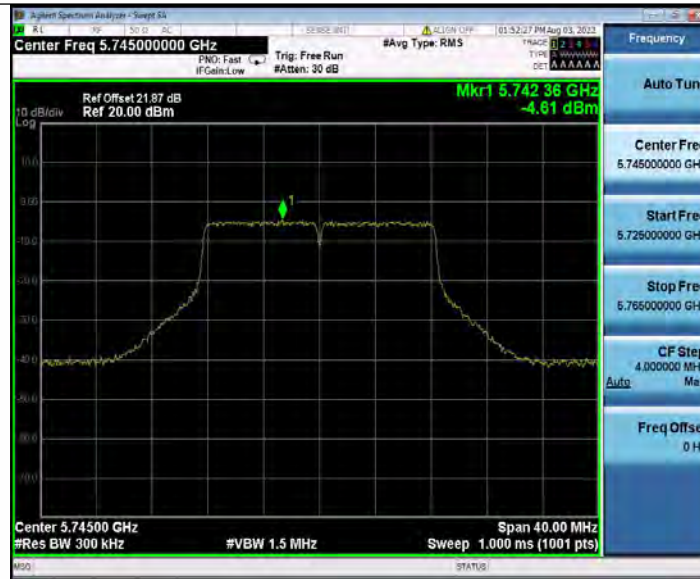
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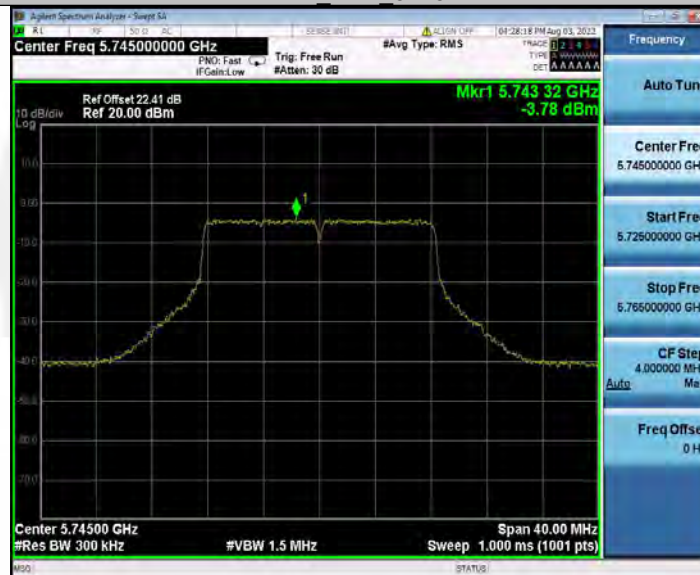
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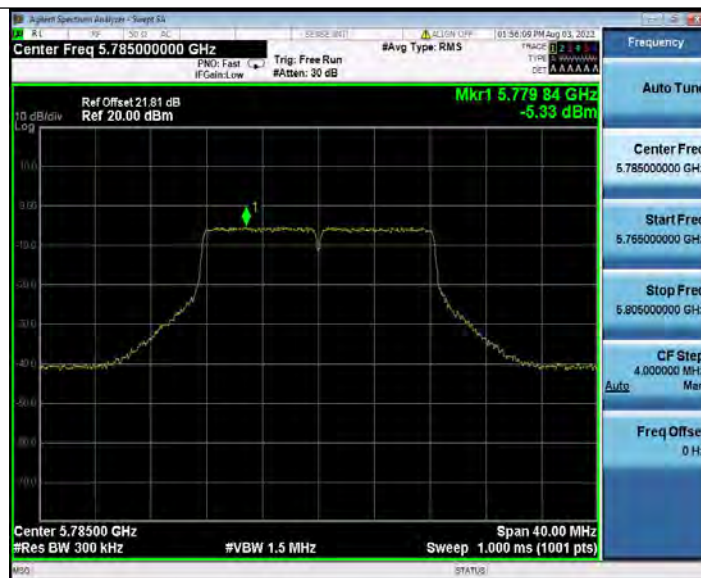
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11A_Ant2_5745



11A_Ant1_5785



11A_Ant2_5785



11A_Ant1_5825



11A_Ant2_5825



11N20MIMO_Ant1_5180



11N20MIMO_Ant2_5180



11N20MIMO_Ant1_5220



11N20MIMO_Ant2_5220



11N20MIMO_Ant1_5240