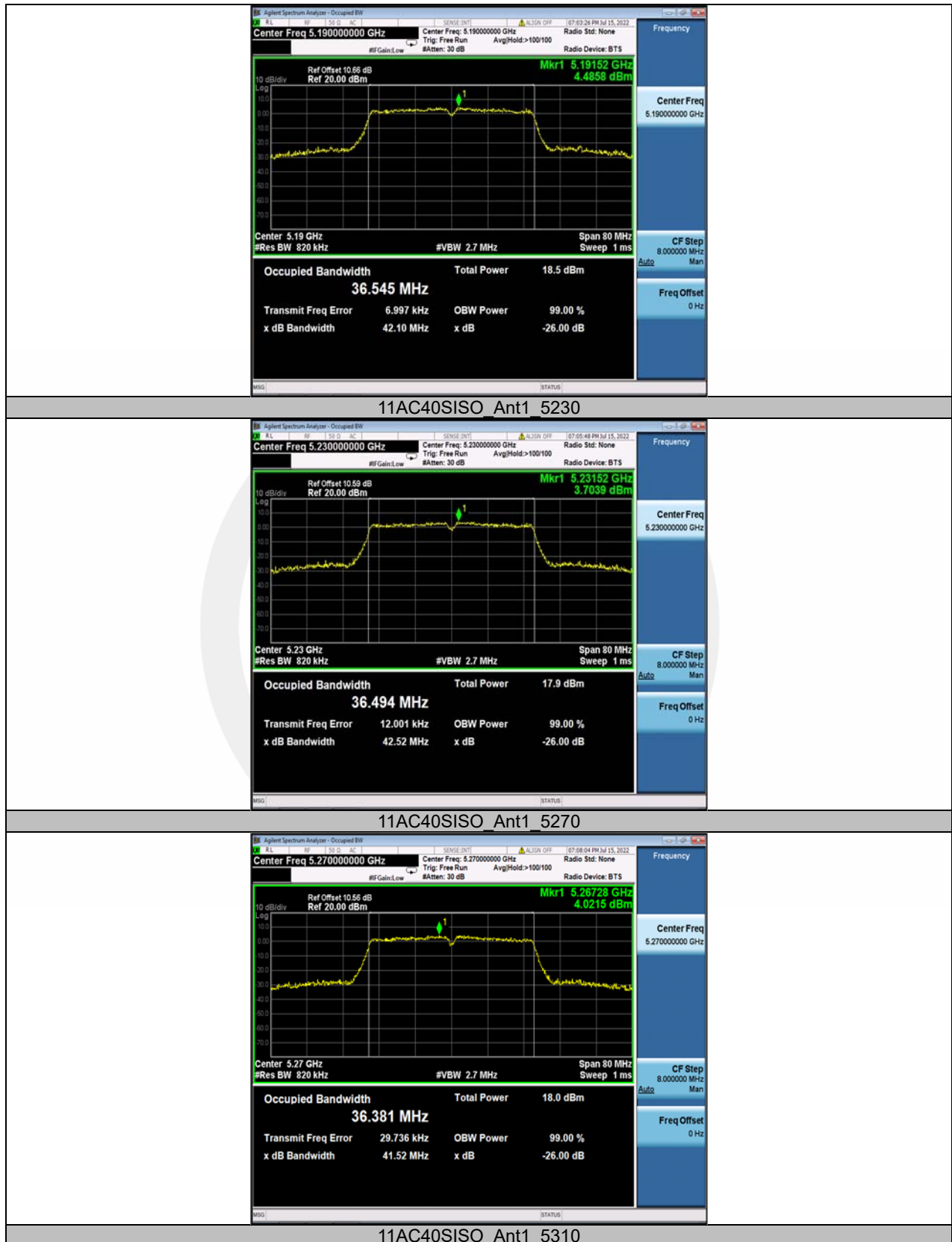
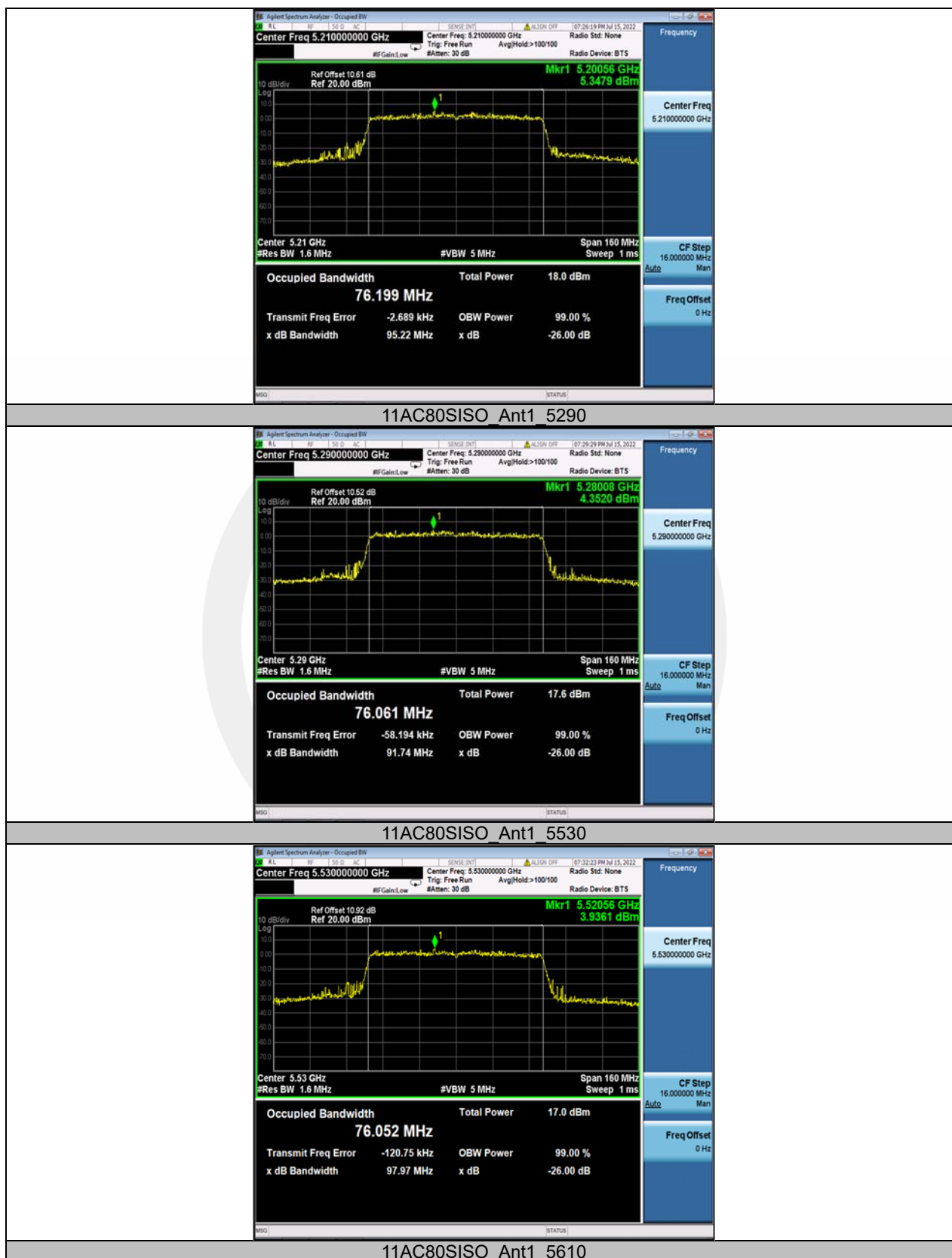












Min emission bandwidth (6Db)

TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.480	5737.400	5752.880	0.5	PASS
		5785	14.480	5778.080	5792.560	0.5	PASS
		5825	15.040	5817.440	5832.480	0.5	PASS
11N20SISO	Ant1	5745	15.120	5737.440	5752.560	0.5	PASS
		5785	15.120	5777.400	5792.520	0.5	PASS
		5825	15.600	5817.520	5833.120	0.5	PASS
11N40SISO	Ant1	5755	35.040	5737.480	5772.520	0.5	PASS
		5795	36.320	5776.840	5813.160	0.5	PASS
11AC20SISO	Ant1	5745	15.120	5737.440	5752.560	0.5	PASS
		5785	15.080	5777.440	5792.520	0.5	PASS
		5825	15.080	5817.440	5832.520	0.5	PASS
11AC40SISO	Ant1	5755	35.040	5737.560	5772.600	0.5	PASS
		5795	35.760	5777.080	5812.840	0.5	PASS
11AC80SISO	Ant1	5775	75.200	5737.400	5812.600	0.5	PASS

11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5745



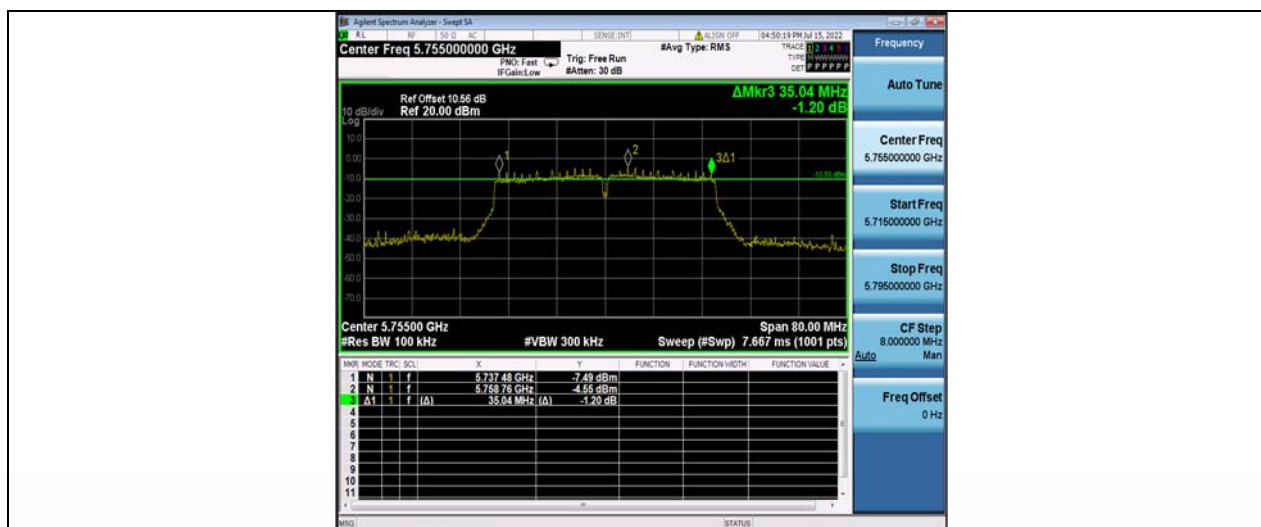
11N20SISO Ant1 5785



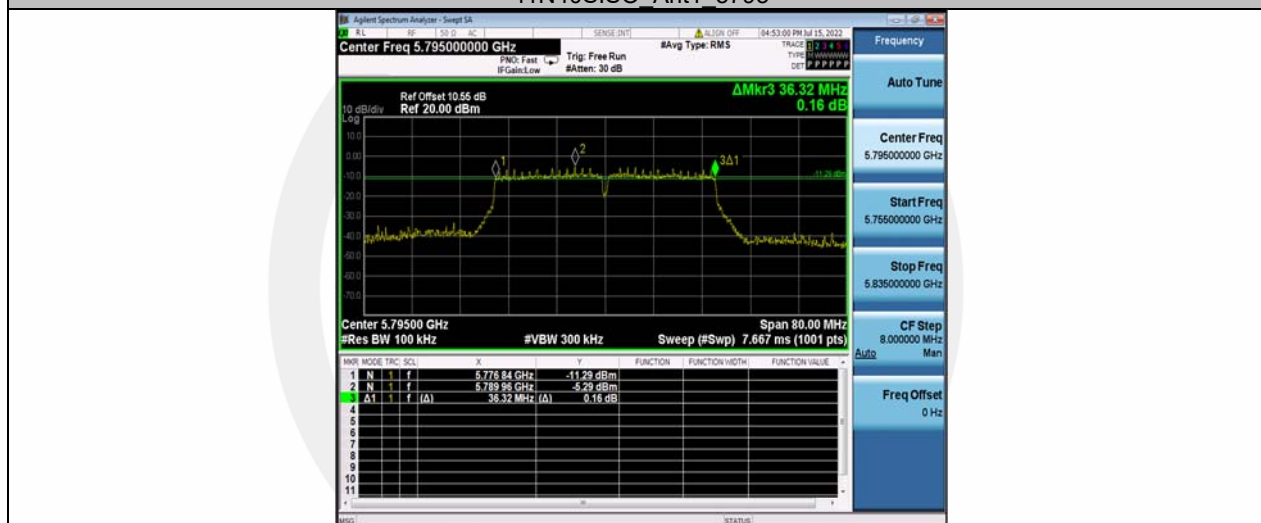
11N20SISO Ant1 5825



11N40SISO Ant1 5755



11N40SISO Ant1 5795



11AC20SISO Ant1 5745



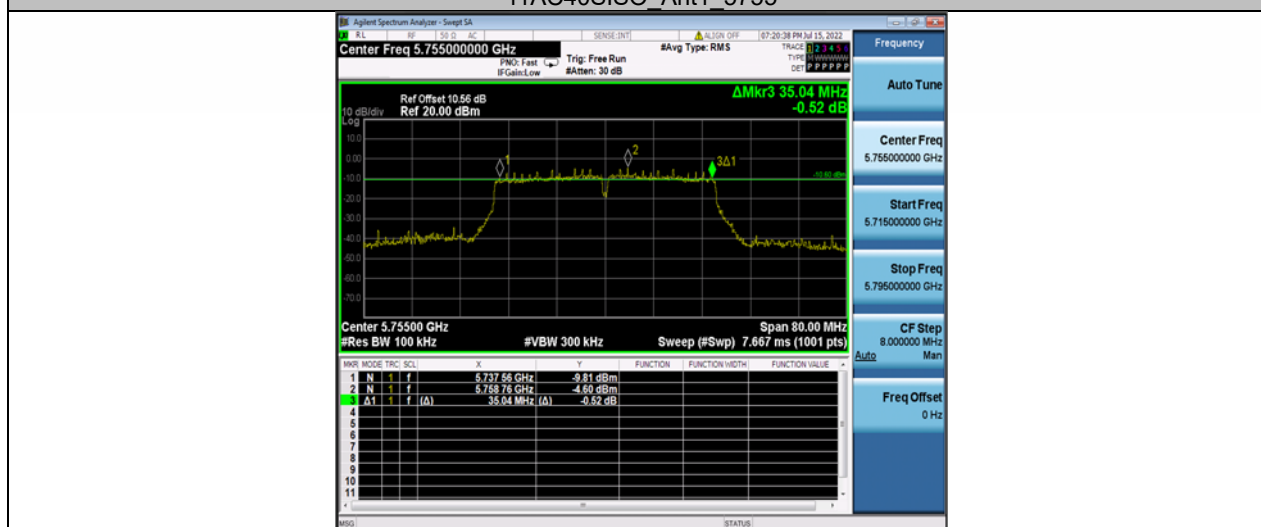
11AC20SISO Ant1 5785



11AC20SISO Ant1 5825



11AC40SISO Ant1 5755



11AC40SISO Ant1 5795



8.3 MAXIMUM CONDUCTED OUTPUT POWER

8.3.1 Applicable Standard

According to FCC Part 15.407(a)
 According to 789033 D02 Section II.E.2.b)
 According to RSS 247 6.2

8.3.2 Conformance Limit

FCC Limit:

- ☒ **For the band 5.15-5.25 GHz**
 - ☐ For an **outdoor access point**, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Note 1
 - ☐ For an **indoor access point**, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Note 1
 - ☐ For an **fixed point-to-point access points**, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Note 2
 - ☒ For an **client devices**, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. Note 1
- ☒ **For the band 5.25-5.35 GHz**
 - ☒ 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. Note 1
- ☒ **For the band 5.47-5.725 GHz**
 - ☒ 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. Note 1
- ☒ **For the band 5.725-5.85 GHz**
 - ☒ For an **other than fixed point-to-point U-NII devices**, The maximum conducted output power over the frequency band of operation shall not exceed 1 W. Note 1
 - ☐ For an **fixed point-to-point U-NII devices**, The maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Note 1: The limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note 2: The limits are based upon the maximum antenna gain does not exceed 23 dBi.

If transmitting antennas of directional gain greater than 23 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 23 dBi.

IC Limit:

- ☒ **For the band 5.15-5.25 GHz**
 - ☐ For **OEM devices installed in vehicles**, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.
 - ☒ For **other devices**, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.
- ☒ **For the band 5.25-5.35 GHz**
 - ☐ For **OEM devices installed in vehicles**, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.
 - ☒ For **other devices**, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have

the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

- ☒ **For the band 5.47-5.6 GHz and 5.65-5.725 GHz**
 - ☒ The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.
- ☒ **For the band 5.725-5.85 GHz**
 - ☒ For an **other than fixed point-to-point devices**, The maximum conducted output power shall not exceed 1 W. Note 1
 - ☐ For an **fixed point-to-point devices**, The maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Note 1: The limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power 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 7.1 radio frequency test setup

8.3.4 Test Procedure

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- (i) Measure the duty cycle, x, of the transmitter output signal.
- (ii) Set span to encompass the EBW (or the entire 99% occupied bandwidth) of the signal.
- (iii) Set RBW = 1 MHz.
- (iv) Set VBW $\geq$ 3 MHz.
- (v) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- (vi) Sweep time = auto.
- (vii) Detector = power averaging (rms).
- (viii) Do not use sweep triggering. Allow the sweep to “free run.”
- (ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
- (x) Compute power by integrating the spectrum across the EBW (or the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or the entire 99% occupied bandwidth) of the signal.
- (xi) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log (1/0.25) = 6 \text{ dB}$ if the duty cycle is 25%.

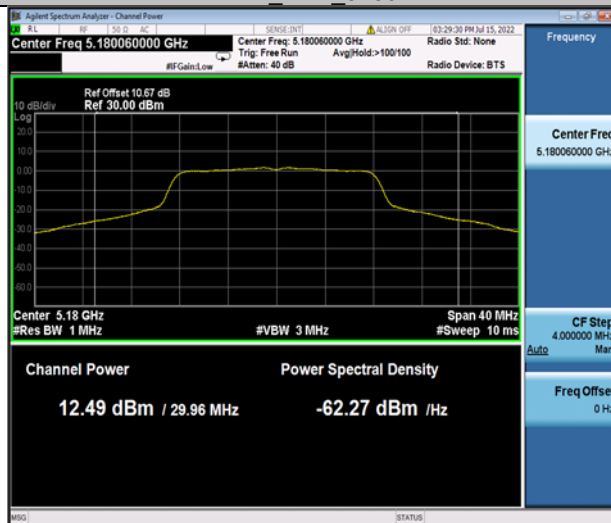
8.3.5 Test Results

Temperature:	25 °C
Relative Humidity:	45%
ATM Pressure:	1011 mbar
Test Engineer:	XXH

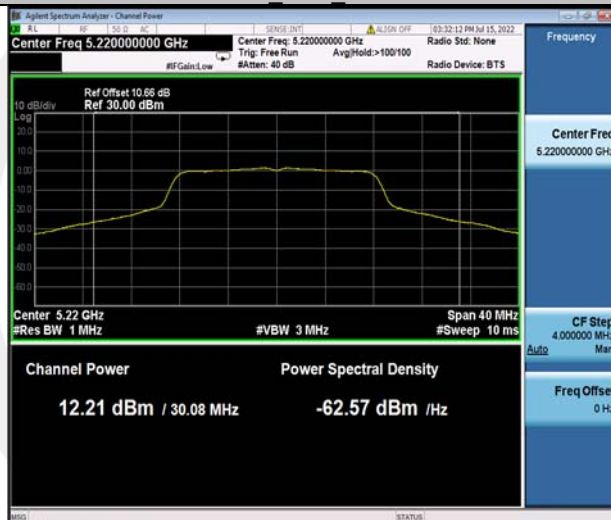
Note: N/A

Test Mode	Antenna	Frequency[MHz]	Channel Power[dBm]	Duty Cycle[%]	DC Factor[dBm]	Result[dBm]	Limit[dBm]	Gain[dBi]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
11A	Ant1	5180	12.42	98.10	0.08	12.50	≤23.98	4.60	17.10	≤23.01	PASS
		5220	12.15	98.57	0.06	12.21	≤23.98	4.60	16.81	≤23.01	PASS
		5240	12.10	98.57	0.06	12.16	≤23.98	4.60	16.76	≤23.01	PASS
		5260	12.47	98.10	0.08	12.55	≤23.98	4.60	17.15	≤30.00	PASS
		5300	11.83	98.10	0.08	11.91	≤23.98	4.60	16.51	≤30.00	PASS
		5320	12.06	98.10	0.08	12.14	≤23.98	4.60	16.74	≤30.00	PASS
		5500	12.07	98.10	0.08	12.15	≤23.98	4.60	16.75	≤30.00	PASS
		5580	10.89	98.57	0.06	10.95	≤23.98	4.60	15.55	≤30.00	PASS
		5700	10.36	98.10	0.08	10.44	≤23.98	4.60	15.04	≤30.00	PASS
		5745	10.24	98.10	0.08	10.32	≤30.00	4.60	14.92	---	PASS
11N20SI SO	Ant1	5785	10.81	98.10	0.08	10.89	≤30.00	4.60	15.49	---	PASS
		5825	11.64	98.57	0.06	11.70	≤30.00	4.60	16.30	---	PASS
		5180	12.99	97.96	0.09	13.08	≤23.98	4.60	17.68	≤23.01	PASS
		5220	12.40	97.96	0.09	12.49	≤23.98	4.60	17.09	≤23.01	PASS
		5240	12.25	98.47	0.07	12.32	≤23.98	4.60	16.92	≤23.01	PASS
		5260	12.65	97.96	0.09	12.74	≤23.98	4.60	17.34	≤30.00	PASS
		5300	11.90	97.96	0.09	11.99	≤23.98	4.60	16.59	≤30.00	PASS
		5320	12.09	97.96	0.09	12.18	≤23.98	4.60	16.78	≤30.00	PASS
		5500	12.01	98.47	0.07	12.08	≤23.98	4.60	16.68	≤30.00	PASS
		5580	10.84	97.96	0.09	10.93	≤23.98	4.60	15.53	≤30.00	PASS
11N40SI SO	Ant1	5700	10.15	97.96	0.09	10.24	≤23.98	4.60	14.84	≤30.00	PASS
		5745	10.03	97.96	0.09	10.12	≤30.00	4.60	14.72	---	PASS
		5785	10.64	98.47	0.07	10.71	≤30.00	4.60	15.31	---	PASS
		5825	11.49	97.96	0.09	11.58	≤30.00	4.60	16.18	---	PASS
		5190	11.26	95.96	0.18	11.44	≤23.98	4.60	16.04	≤23.01	PASS
		5230	10.62	96.94	0.13	10.75	≤23.98	4.60	15.35	≤23.01	PASS
		5270	10.76	95.96	0.18	10.94	≤23.98	4.60	15.54	≤30.00	PASS
		5310	10.16	95.92	0.18	10.34	≤23.98	4.60	14.94	≤30.00	PASS
		5510	9.84	95.92	0.18	10.02	≤23.98	4.60	14.62	≤30.00	PASS
		5550	9.60	95.92	0.18	9.78	≤23.98	4.60	14.38	≤30.00	PASS
11AC20 SISO	Ant1	5670	8.06	95.96	0.18	8.24	≤23.98	4.60	12.84	≤30.00	PASS
		5755	8.48	95.92	0.18	8.66	≤30.00	4.60	13.26	---	PASS
		5795	8.33	95.96	0.18	8.51	≤30.00	4.60	13.11	---	PASS
		5180	13.06	97.97	0.09	13.15	≤23.98	4.60	17.75	≤23.01	PASS
		5220	12.42	97.97	0.09	12.51	≤23.98	4.60	17.11	≤23.01	PASS
		5240	12.27	97.97	0.09	12.36	≤23.98	4.60	16.96	≤23.01	PASS
		5260	12.73	97.97	0.09	12.82	≤23.98	4.60	17.42	≤30.00	PASS
		5300	11.95	97.97	0.09	12.04	≤23.98	4.60	16.64	≤30.00	PASS
		5320	12.14	97.97	0.09	12.23	≤23.98	4.60	16.83	≤30.00	PASS
		5500	12.08	98.48	0.07	12.15	≤23.98	4.60	16.75	≤30.00	PASS
11AC40 SISO	Ant1	5580	11.00	97.97	0.09	11.09	≤23.98	4.60	15.69	≤30.00	PASS
		5700	10.31	98.48	0.07	10.38	≤23.98	4.60	14.98	≤30.00	PASS
		5745	10.14	97.97	0.09	10.23	≤30.00	4.60	14.83	---	PASS
		5785	10.70	97.97	0.09	10.79	≤30.00	4.60	15.39	---	PASS
		5825	11.22	97.97	0.09	11.31	≤30.00	4.60	15.91	---	PASS
		5190	11.41	95.96	0.18	11.59	≤23.98	4.60	16.19	≤23.01	PASS
		5230	10.75	95.96	0.18	10.93	≤23.98	4.60	15.53	≤23.01	PASS
		5270	10.87	95.96	0.18	11.05	≤23.98	4.60	15.65	≤30.00	PASS
		5310	10.30	96.94	0.13	10.43	≤23.98	4.60	15.03	≤30.00	PASS
		5510	9.93	95.96	0.18	10.11	≤23.98	4.60	14.71	≤30.00	PASS
11AC80 SISO	Ant1	5550	9.71	95.96	0.18	9.89	≤23.98	4.60	14.49	≤30.00	PASS
		5670	8.07	95.96	0.18	8.25	≤23.98	4.60	12.85	≤30.00	PASS
		5755	8.37	96.94	0.13	8.50	≤30.00	4.60	13.10	---	PASS
		5795	8.41	95.96	0.18	8.59	≤30.00	4.60	13.19	---	PASS
		5210	10.00	92.00	0.36	10.36	≤23.98	4.60	14.96	≤23.01	PASS
11AC80 SISO	Ant1	5290	9.65	92.00	0.36	10.01	≤23.98	4.60	14.61	≤30.00	PASS
		5530	8.74	92.00	0.36	9.10	≤23.98	4.60	13.70	≤30.00	PASS
		5610	7.92	92.00	0.36	8.28	≤23.98	4.60	12.88	≤30.00	PASS
		5775	7.66	94.00	0.27	7.93	≤30.00	4.60	12.53	---	PASS

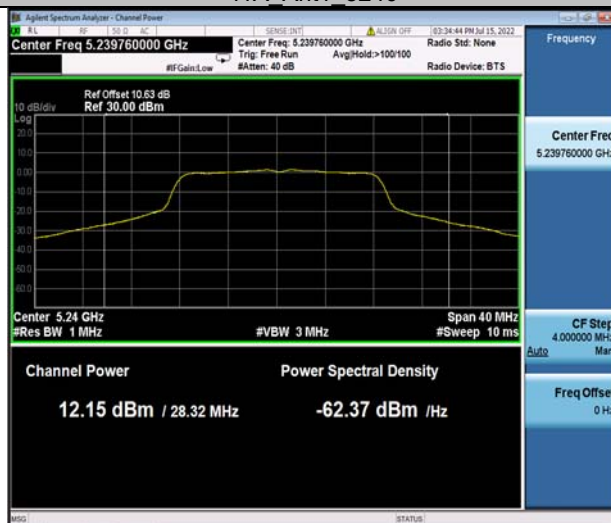
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11A_Ant1_5220



11A_Ant1_5240



11A_Ant1_5260

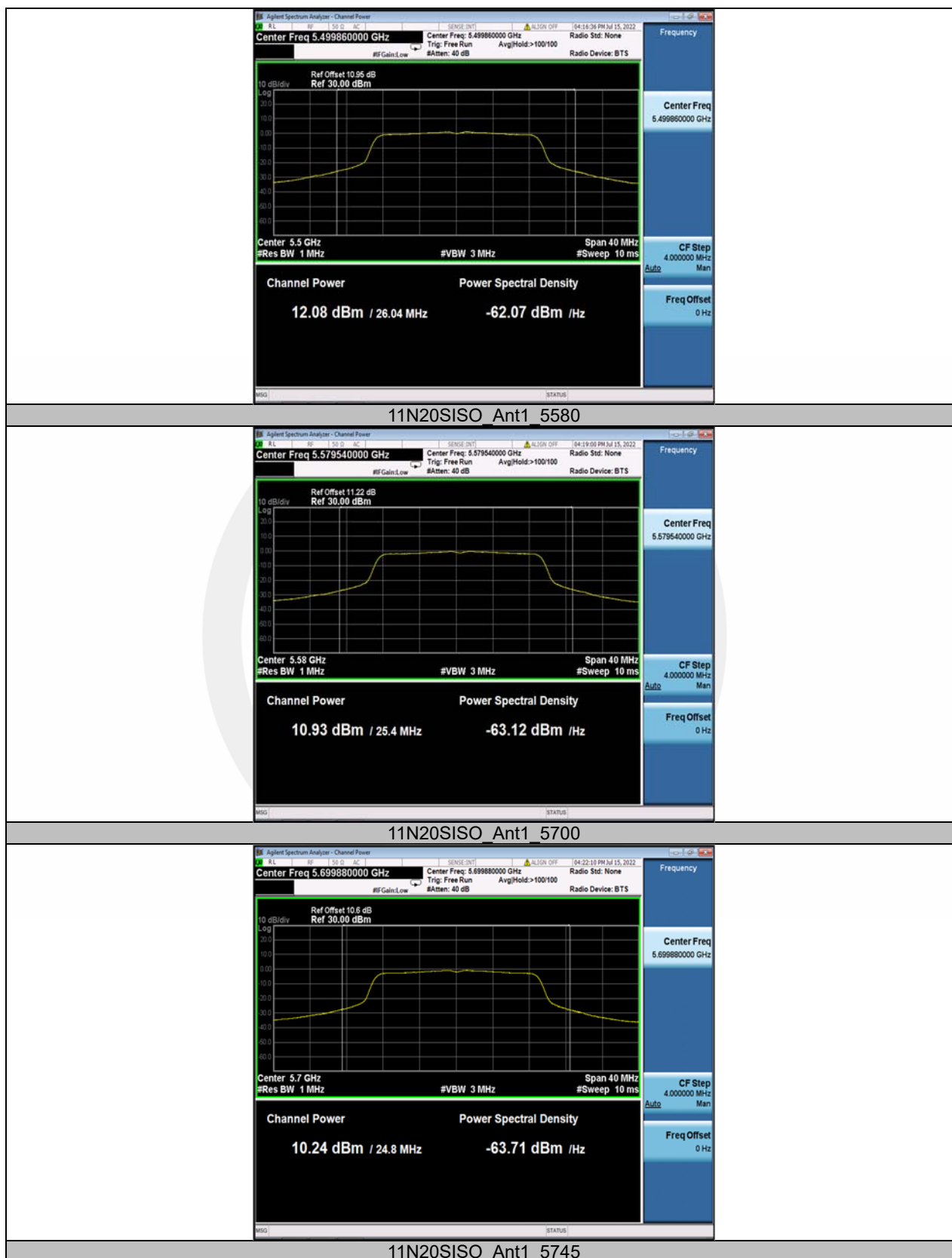


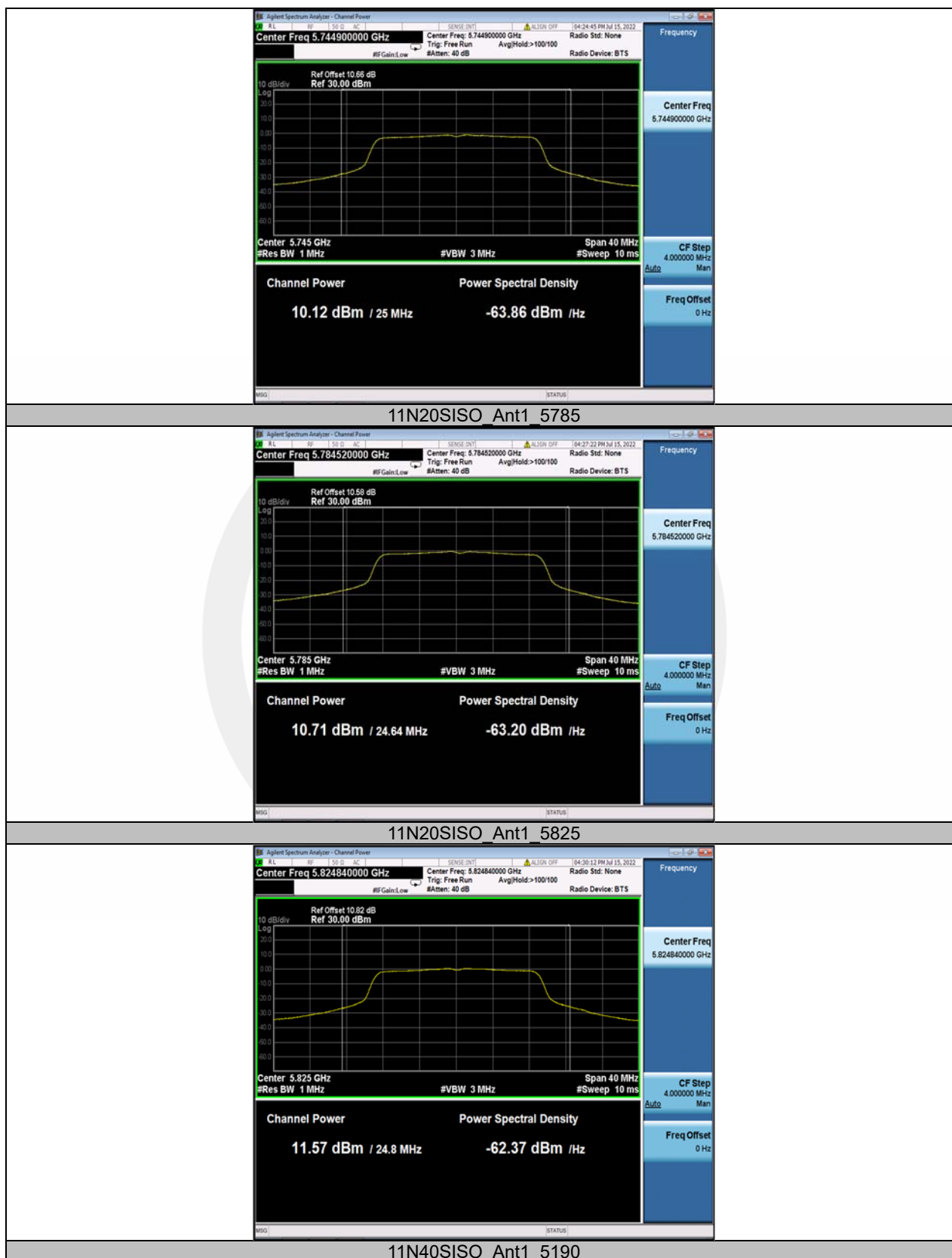












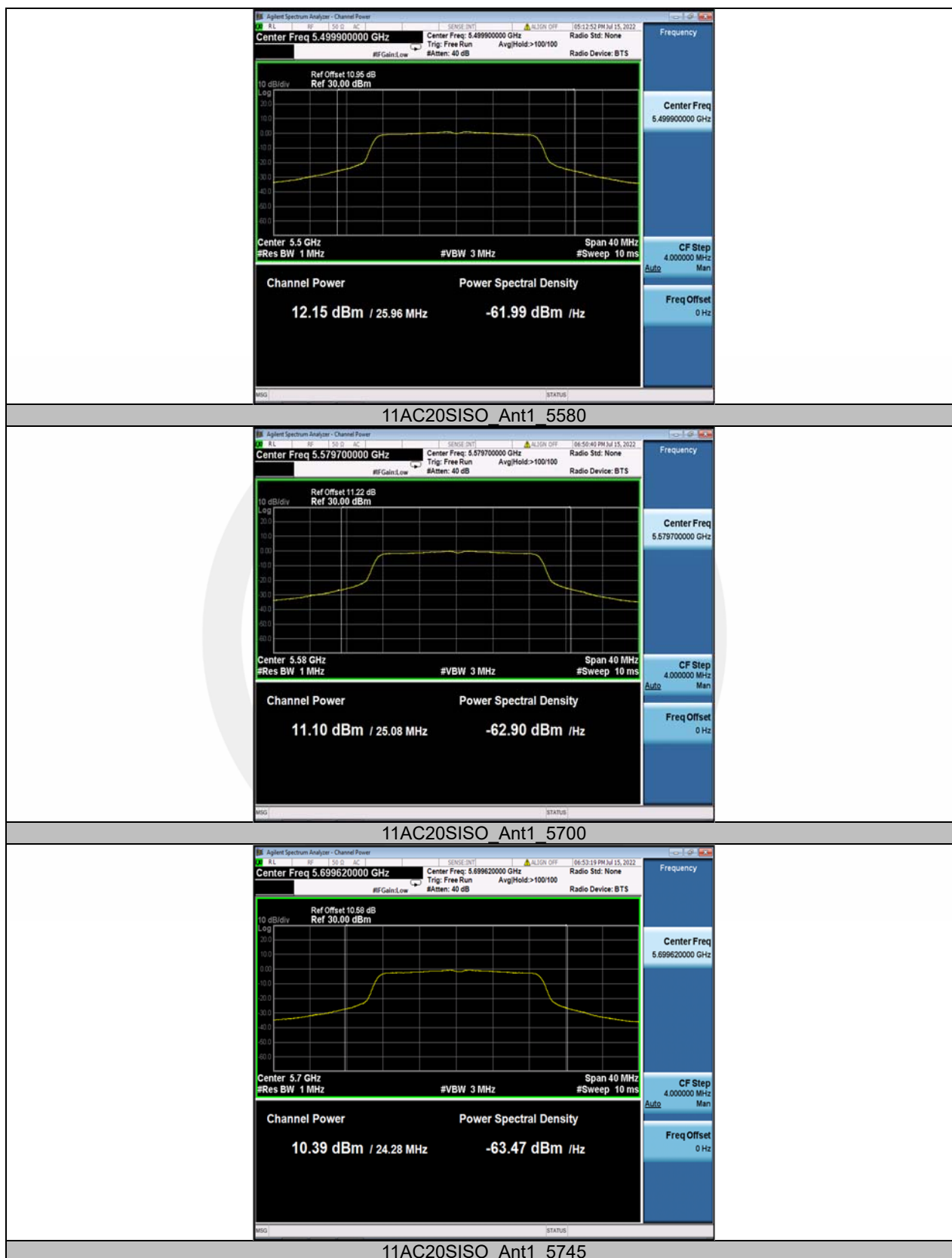




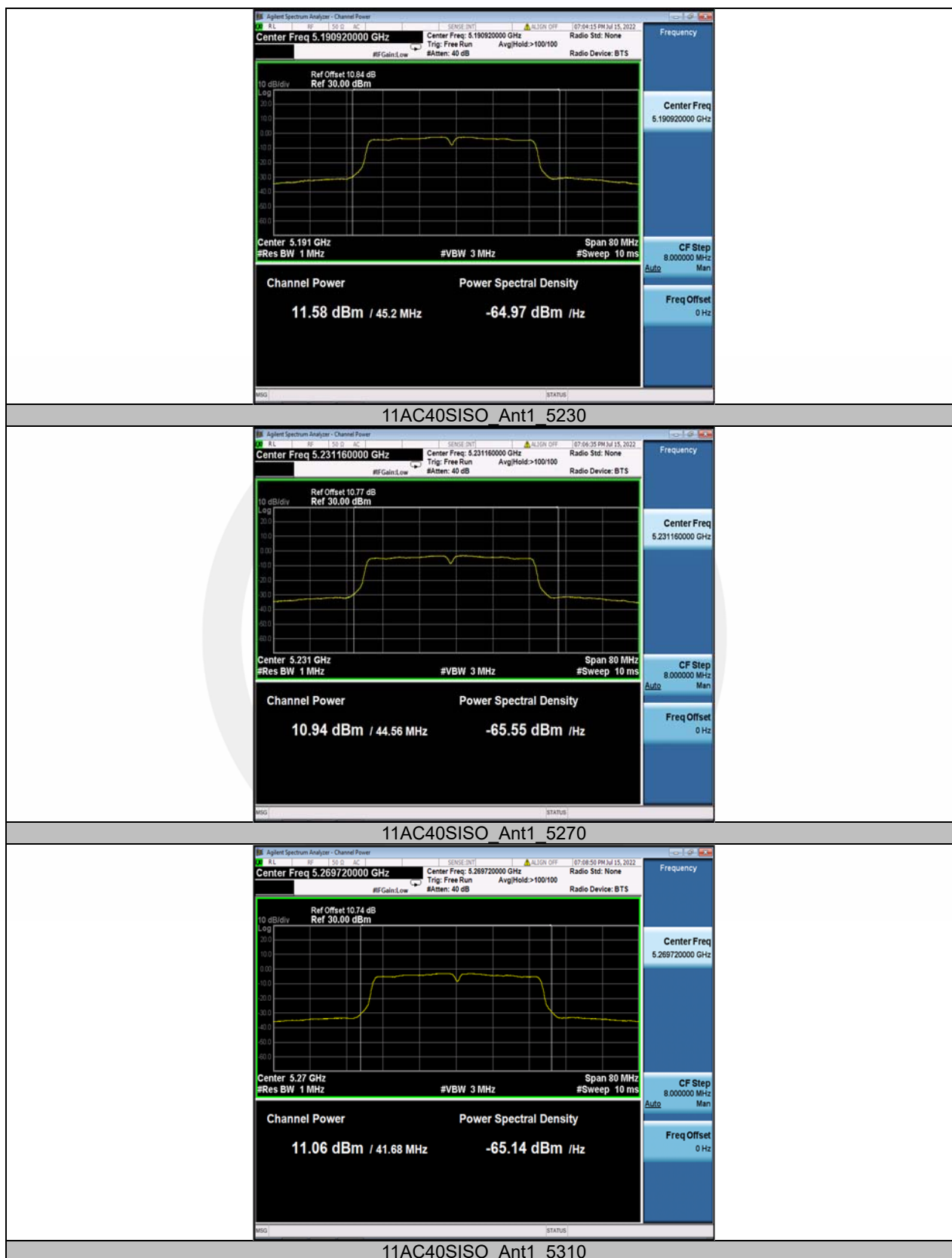




















8.4 MAXIMUM PEAK POWER DENSITY

8.4.1 Applicable Standard

According to FCC Part 15.407(a)
According to 789033 D02 Section II(F)
According to RSS 247 6.2

8.4.2 Conformance Limit

FCC Limit:

- ☒ **For the band 5.15-5.25 GHz**
 - ☐ For an **outdoor access point**, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Note 1
 - ☐ For an **indoor access point**, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Note 1
 - ☐ For an **fixed point-to-point access points**, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Note 2
 - ☒ For an **client devices**, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. Note 1
- ☒ **For the band 5.25-5.35 GHz**
 - ☒ The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. Note 1
- ☒ **For the band 5.47-5.725 GHz**
 - ☒ The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. Note 1
- ☒ **For the band 5.725-5.85 GHz**
 - ☒ For an **other than fixed point-to-point U-NII devices**, The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. Note 1
 - ☐ For an **fixed point-to-point U-NII devices**, The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

Note 1: The limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note 2: The limits are based upon the maximum antenna gain does not exceed 23 dBi.

If transmitting antennas of directional gain greater than 23 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 23 dBi.

IC Limit:

- ☒ **For the band 5.15-5.25 GHz**
 - ☐ For **OEM devices installed in vehicles**, N/A.
 - ☒ For **other devices**, The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.
- ☒ **For the band 5.25-5.35 GHz**
 - ☐ For **OEM devices installed in vehicles**, N/A.
 - ☒ For **other devices**, The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
- ☒ **For the band 5.47-5.6 GHz and 5.65-5.725 GHz**
 - ☒ The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.
- ☒ **For the band 5.725-5.85 GHz**
 - ☒ For an **other than fixed point-to-point devices**, The output power spectral density shall not exceed 30 dBm in any 500 kHz band. Note 1
 - ☐ For an **fixed point-to-point devices**, The output power spectral density shall not exceed 30 dBm in any 500 kHz band.

Note 1: The limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.4.3 Test Configuration

Test according to clause 7.1 radio frequency test setup

8.4.4 Test Procedure

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- (i) Measure the duty cycle, x , of the transmitter output signal.
- (ii) Set span to encompass the EBW (or the entire 99% occupied bandwidth) of the signal.
- (iii) Set RBW = 1 MHz.
- (iv) Set VBW $\geq$ 3 MHz.
- (v) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- (vi) Sweep time = auto.
- (vii) Detector = power averaging (rms).
- (viii) Do not use sweep triggering. Allow the sweep to “free run.”
- (ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
- (x) Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- (xi) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log (1/0.25) = 6 \text{ dB}$ if the duty cycle is 25%.

8.4.5 Test Results

Temperature:	25 °C
Relative Humidity:	45%
ATM Pressure:	1011 mbar
Test Engineer:	XXH

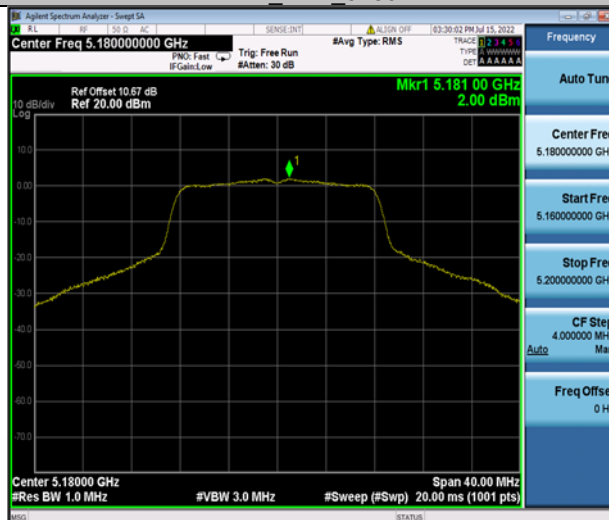
Note: N/A

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	2	≤11.00	PASS
		5220	1.72	≤11.00	PASS
		5240	1.58	≤11.00	PASS
		5260	1.97	≤11.00	PASS
		5300	1.31	≤11.00	PASS
		5320	1.6	≤11.00	PASS
		5500	1.67	≤11.00	PASS
		5580	0.34	≤11.00	PASS
		5700	-0.13	≤11.00	PASS
		5745	-2.89	≤30.00	PASS
		5785	-2.21	≤30.00	PASS
		5825	-1.26	≤30.00	PASS
11N20SISO	Ant1	5180	2.09	≤11.00	PASS
		5220	1.59	≤11.00	PASS
		5240	1.45	≤11.00	PASS
		5260	1.86	≤11.00	PASS
		5300	0.91	≤11.00	PASS
		5320	1.41	≤11.00	PASS
		5500	1.29	≤11.00	PASS
		5580	0.01	≤11.00	PASS
		5700	-0.58	≤11.00	PASS
		5745	-3.43	≤30.00	PASS
		5785	-2.78	≤30.00	PASS
		5825	-1.84	≤30.00	PASS
11N40SISO	Ant1	5190	-2.64	≤11.00	PASS
		5230	-3.12	≤11.00	PASS
		5270	-2.9	≤11.00	PASS
		5310	-3.64	≤11.00	PASS
		5510	-3.56	≤11.00	PASS
		5550	-4.09	≤11.00	PASS
		5670	-5.75	≤11.00	PASS
		5755	-7.7	≤30.00	PASS
		5795	-8.23	≤30.00	PASS
11AC20SISO	Ant1	5180	1.97	≤11.00	PASS
		5220	1.56	≤11.00	PASS
		5240	1.45	≤11.00	PASS
		5260	2.06	≤11.00	PASS
		5300	1.03	≤11.00	PASS
		5320	1.41	≤11.00	PASS
		5500	1.43	≤11.00	PASS
		5580	0.17	≤11.00	PASS
		5700	-0.45	≤11.00	PASS
		5745	-3.19	≤30.00	PASS
		5785	-2.78	≤30.00	PASS
		5825	-2.28	≤30.00	PASS
11AC40SISO	Ant1	5190	-2.42	≤11.00	PASS
		5230	-2.98	≤11.00	PASS
		5270	-2.84	≤11.00	PASS
		5310	-3.51	≤11.00	PASS
		5510	-3.41	≤11.00	PASS
		5550	-3.96	≤11.00	PASS
		5670	-5.71	≤11.00	PASS

		5755	-7.98	≤30.00	PASS
		5795	-8.11	≤30.00	PASS
11AC80SISO	Ant1	5210	-6.4	≤11.00	PASS
		5290	-6.51	≤11.00	PASS
		5530	-7.91	≤11.00	PASS
		5610	-8.67	≤11.00	PASS
		5775	-11.31	≤30.00	PASS



11A_Ant1_5180



11A_Ant1_5220



11A_Ant1_5240



11A_Ant1_5260

