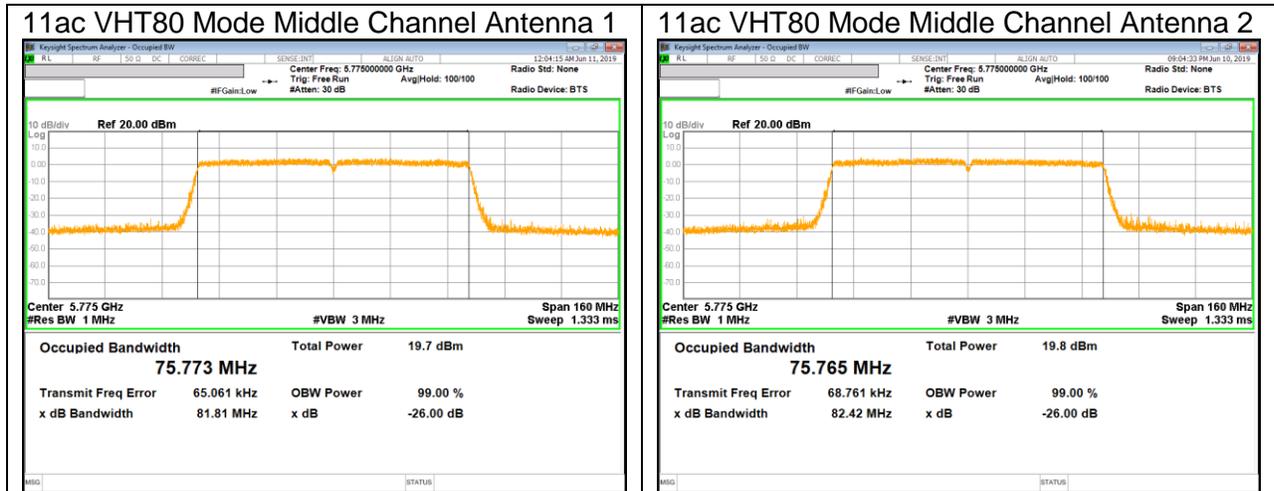


UNII 5.8 GHz IEEE 802.11ac VHT80 mode



10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407

The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

Reference to 789033 D02 General UNII Test Procedures New Rules v02r01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

NOTE

- Calculation for 6dB Bandwidth of UNII-3 Straddle Channel

- ex) Fundamental frequency : 5720MHz
- 6dB BW : 16.350MHz
 - Starting Frequency of UNII-3 band : 5725MHz
 - 6dB Bandwidth of UNII-3 band Portion
 $= (5720 + (16.350 / 2) - 5725) = 3.175 \text{ MHz}$

RESULTS

10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]		Minimum Limit [MHz]
		Antenna 1	Antenna 2	
Straddle	5720	3.17	3.19	0.5
Low	5745	16.57	16.32	
Mid	5785	16.48	16.34	
High	5825	16.35	16.56	
Worst		3.17		

10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]		Minimum Limit [MHz]
		Antenna 1	Antenna 2	
Straddle	5720	3.80	3.80	0.5
Low	5745	17.58	17.59	
Mid	5785	17.58	17.58	
High	5825	17.58	17.78	
Worst		3.80		

10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

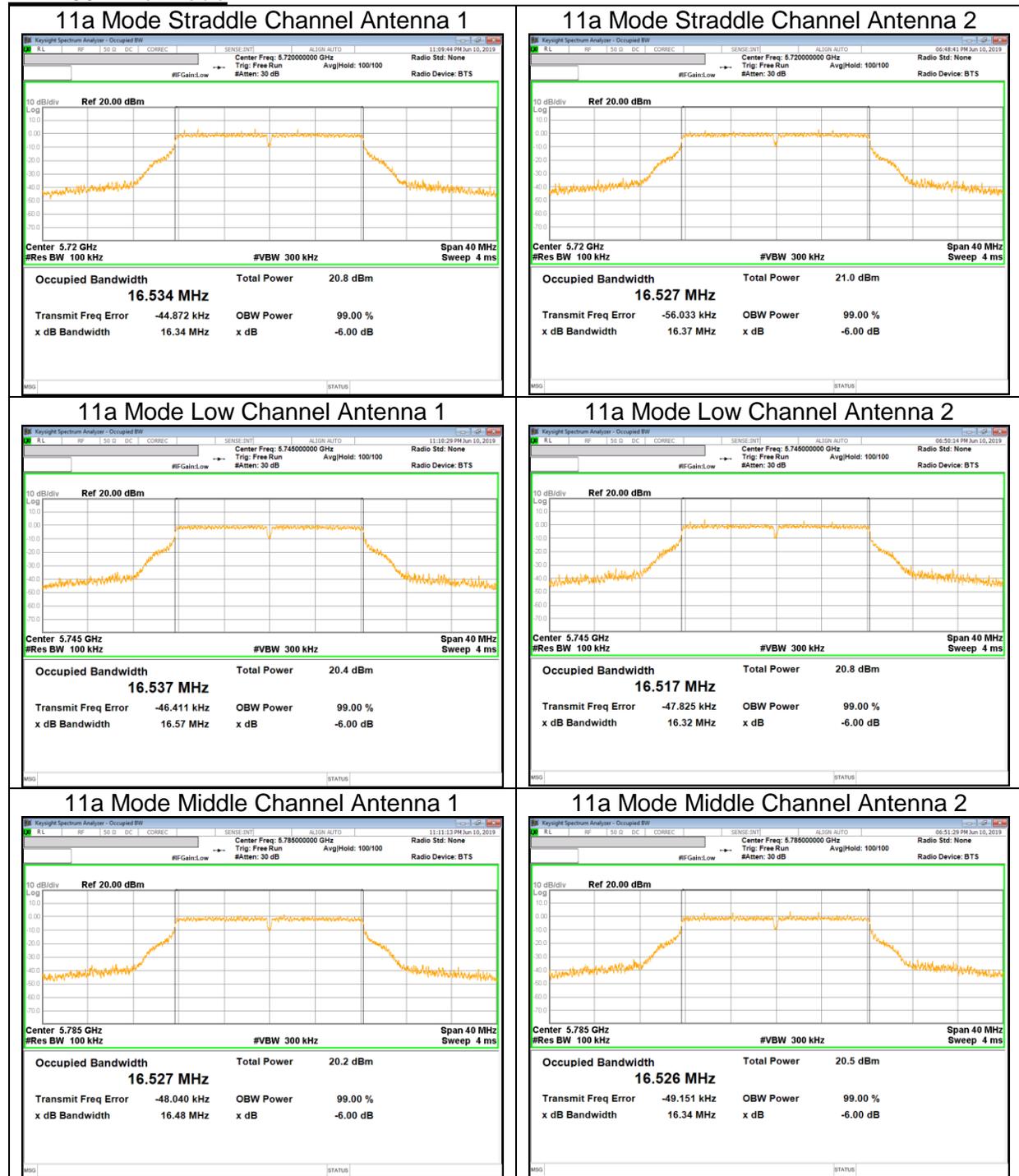
Channel	Frequency [MHz]	6 dB Bandwidth [MHz]		Minimum Limit [MHz]
		Antenna 1	Antenna 2	
Straddle	5710	3.16	3.17	0.5
Low	5755	36.32	36.32	
High	5795	35.93	36.31	
Worst		3.16		

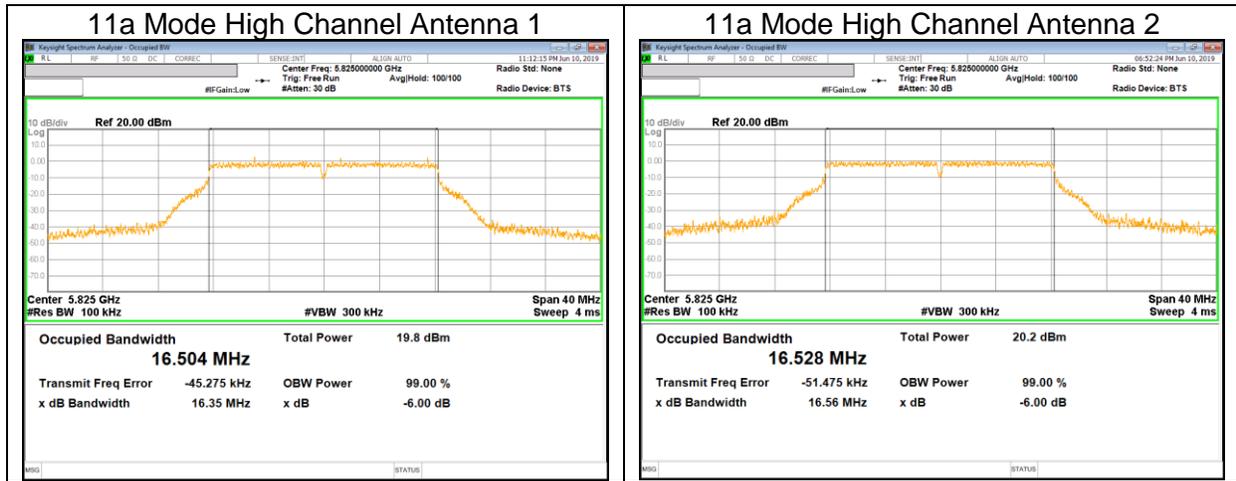
10.1.4. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]		Minimum Limit [MHz]
		Antenna 1	Antenna 2	
Straddle	5690	2.83	3.01	0.5
Middle	5775	76.30	76.04	
Worst		2.83		

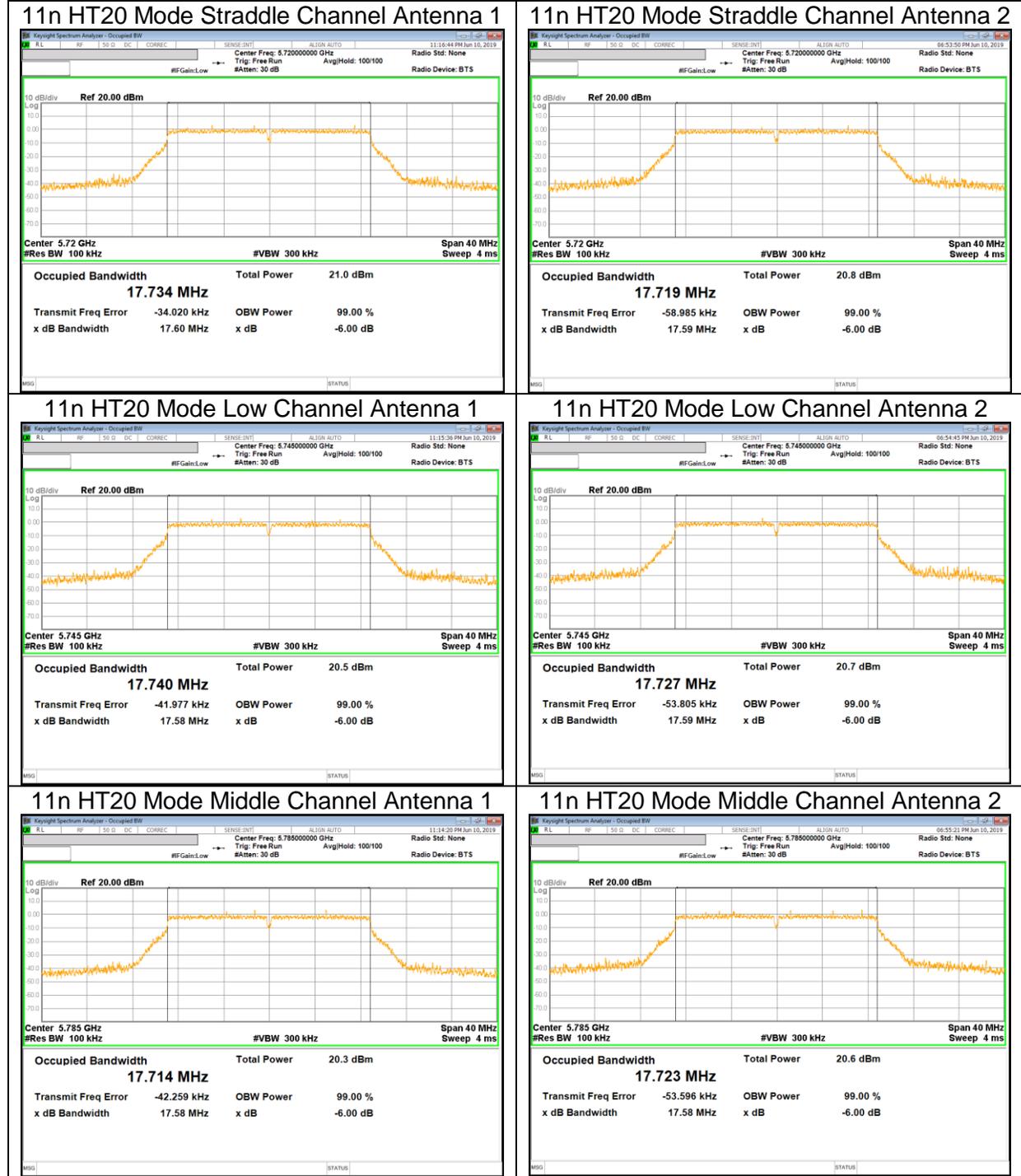
10.1.5. 6 dB BANDWIDTH PLOTS

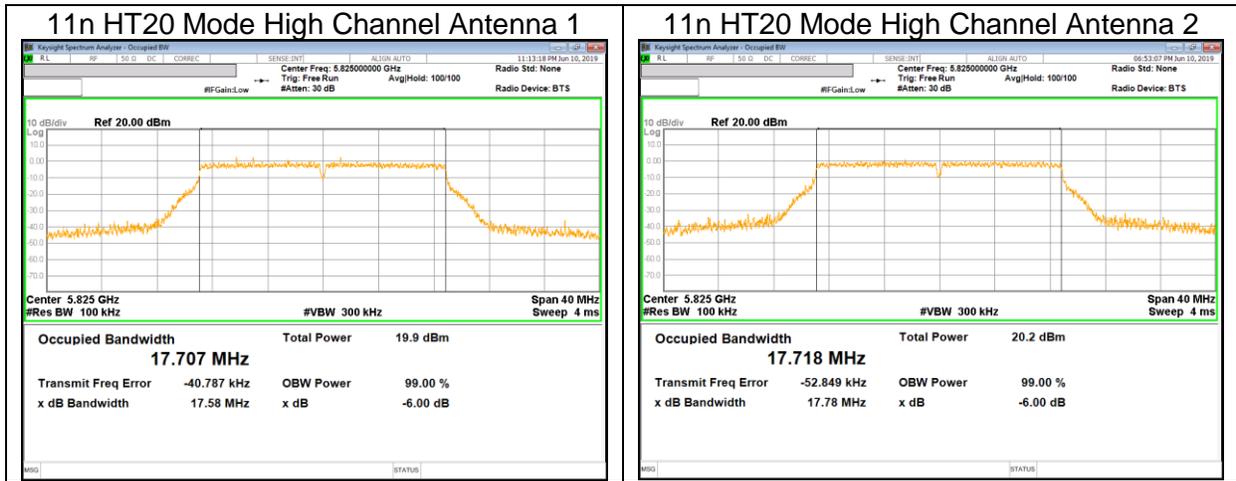
IEEE 802.11a mode



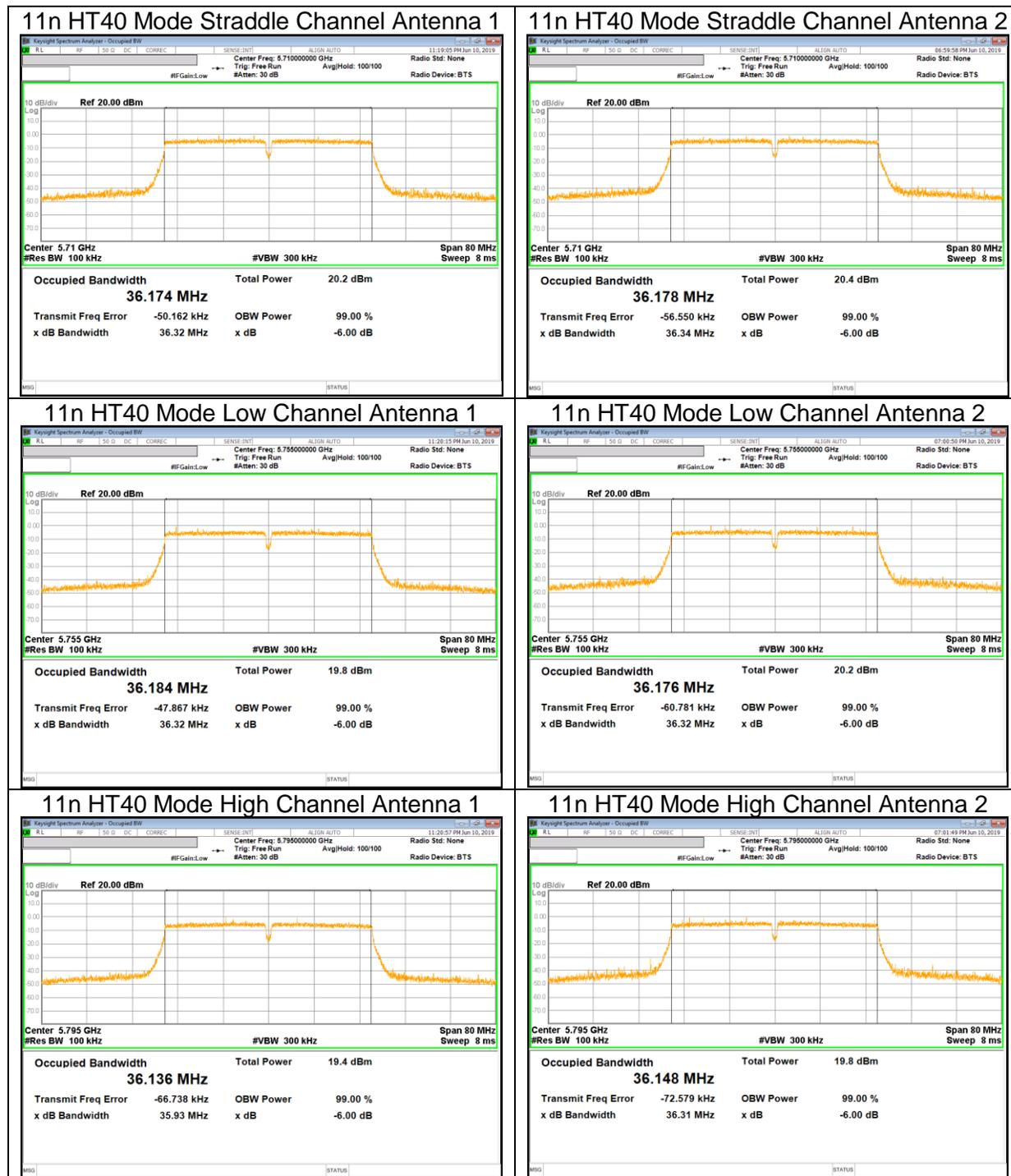


IEEE 802.11n HT20 mode

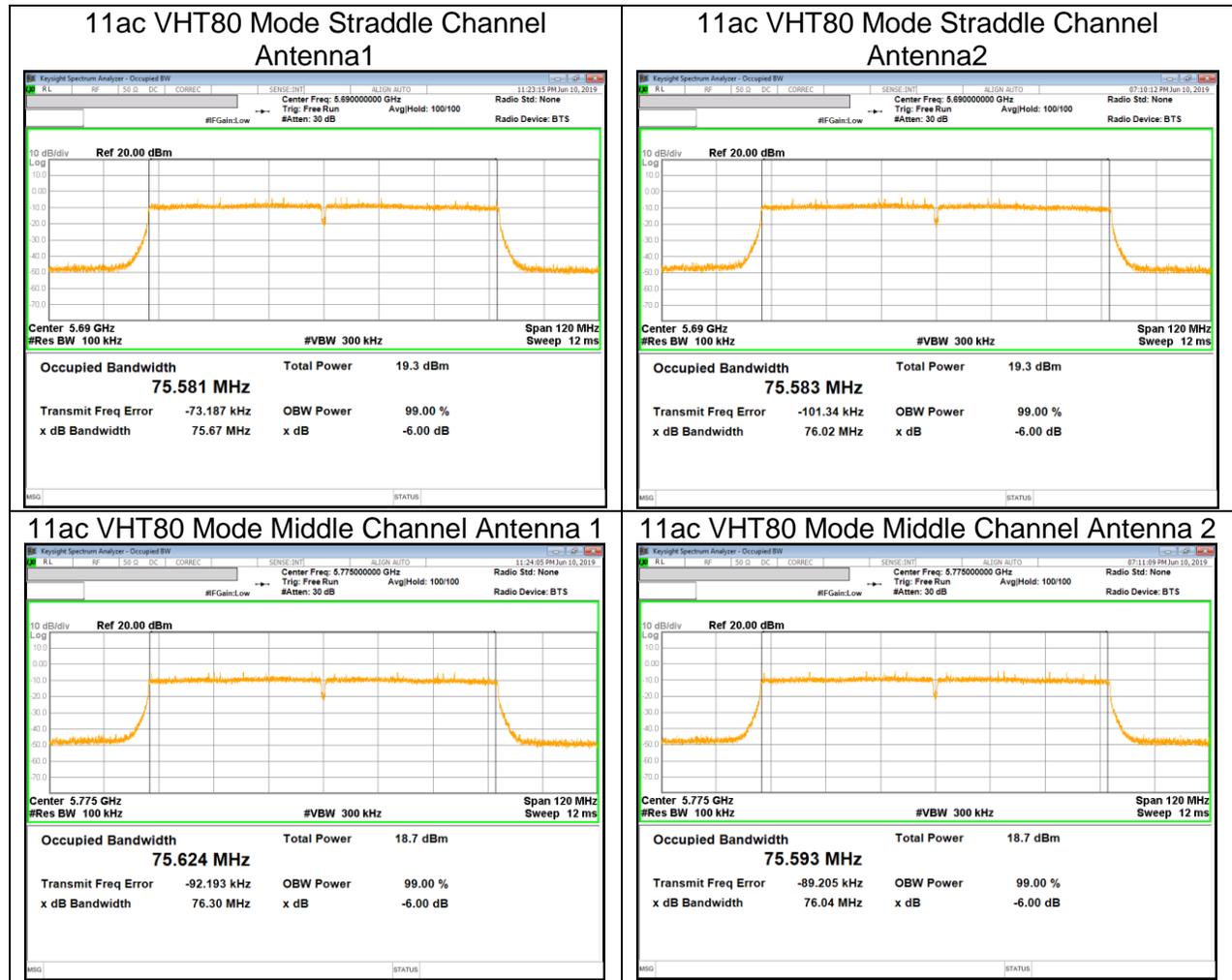




IEEE 802.11n HT40 mode



IEEE 802.11ac VHT80 mode



10.2. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

FCC

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak 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 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, 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.

TEST PROCEDURE

KDB 789033 Method PM is used for output power.

KDB 789033 Method SA-2 is used for only power of straddle Ch. and PPSD. RBW set to 1MHz(500kHz for the band 5.725-5.85 GHz, the VBW $\geq 3 \times \text{RBW}$, RMS detector and trace averaging). Band power function used for power and peak marker value of the spectrum is used for PSD.

DIRECTIONAL ANTENNA GAIN

For OUTPUT POWER and PSD: The TX chains are correlated and the antenna gains are unequal among the chains. The directional gain is:

Frequency Range [MHz]	Antenna 1 Gain[dBi]	Antenna 2 Gain[dBi]	Correlated Chains Directional Gain [dBi]
UNII 1	-6.25	-6.21	-3.22
UNII 2A	-6.44	-6.29	-3.35
UNII 2C	-7.01	-6.15	-3.56
UNII 3	-6.10	-6.32	-3.20

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	21.28	-3.22	-3.22
Mid	5200	21.21	-3.22	-3.22
High	5240	21.05	-3.22	-3.22

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5180	24.00	24.00	11.00	11.00
Mid	5200	24.00	24.00	11.00	11.00
High	5240	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	15.91	15.57	18.75	24.00	-5.25
Mid	5200	15.85	15.54	18.71	24.00	-5.29
High	5240	15.89	15.59	18.75	24.00	-5.25

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5180	4.69	4.74	7.73	11.00	-3.27
Mid	5200	5.11	4.71	7.93	11.00	-3.07
High	5240	5.18	4.99	8.10	11.00	-2.90

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	21.33	-3.22	-3.22
Mid	5200	21.40	-3.22	-3.22
High	5240	21.41	-3.22	-3.22

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5180	24.00	24.00	11.00	11.00
Mid	5200	24.00	24.00	11.00	11.00
High	5240	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	15.88	15.57	18.74	24.00	-5.26
Mid	5200	15.85	15.53	18.70	24.00	-5.30
High	5240	15.90	15.56	18.74	24.00	-5.26

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5180	4.90	4.50	7.71	11.00	-3.29
Mid	5200	4.70	4.38	7.55	11.00	-3.45
High	5240	4.87	4.49	7.69	11.00	-3.31

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5190	39.35	-3.22	-3.22
High	5230	39.63	-3.22	-3.22

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5190	24.00	24.00	11.00	11.00
High	5230	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5190	14.12	13.84	16.99	24.00	-7.01
High	5230	14.14	13.91	17.04	24.00	-6.96

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5190	0.09	0.18	3.15	11.00	-7.85
High	5230	0.03	-0.03	3.01	11.00	-7.99

10.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Mid	5210	81.63	-3.22	-3.22

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Mid	5210	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Mid	5210	13.08	13.81	16.47	24.00	-7.53

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Mid	5210	-3.78	-3.29	-0.52	11.00	-11.52

10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	21.20	-3.35	-3.35
Mid	5300	21.18	-3.35	-3.35
High	5320	21.24	-3.35	-3.35

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5260	24.00	24.00	11.00	11.00
Mid	5300	24.00	24.00	11.00	11.00
High	5320	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	15.97	15.67	18.83	24.00	-5.17
Mid	5300	15.98	15.66	18.83	24.00	-5.17
High	5320	15.99	15.68	18.85	24.00	-5.15

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5260	5.44	4.93	8.21	11.00	-2.79
Mid	5300	5.24	4.94	8.10	11.00	-2.90
High	5320	5.11	4.98	8.05	11.00	-2.95

10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	21.27	-3.35	-3.35
Mid	5300	21.34	-3.35	-3.35
High	5320	21.33	-3.35	-3.35

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5260	24.00	24.00	11.00	11.00
Mid	5300	24.00	24.00	11.00	11.00
High	5320	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	15.90	15.60	18.76	24.00	-5.24
Mid	5300	15.95	15.57	18.77	24.00	-5.23
High	5320	15.96	15.65	18.82	24.00	-5.18

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5260	4.99	4.65	7.83	11.00	-3.17
Mid	5300	4.84	4.80	7.83	11.00	-3.17
High	5320	4.87	4.53	7.71	11.00	-3.29

10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5270	39.69	-3.35	-3.35
High	5310	39.80	-3.35	-3.35

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5270	24.00	24.00	11.00	11.00
High	5310	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5270	14.15	14.84	17.52	24.00	-6.48
High	5310	14.20	14.69	17.46	24.00	-6.54

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5270	-0.14	0.66	3.29	11.00	-7.71
High	5310	-0.15	0.60	3.25	11.00	-7.75

10.2.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Mid	5290	81.06	-3.35	-3.35

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Mid	5290	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Mid	5290	13.08	13.75	16.44	24.00	-7.56

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Mid	5290	-4.01	-3.34	-0.65	11.00	-11.65

10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	21.20	-3.56	-3.56
Mid	5580	21.26	-3.56	-3.56
High	5700	21.12	-3.56	-3.56

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5500	24.00	24.00	11.00	11.00
Mid	5580	24.00	24.00	11.00	11.00
High	5700	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	15.31	15.57	18.45	24.00	-5.55
Mid	5580	15.50	15.51	18.52	24.00	-5.48
High	5700	15.60	15.40	18.51	24.00	-5.49

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5500	4.50	5.15	7.85	11.00	-3.15
Mid	5580	4.73	5.14	7.95	11.00	-3.05
High	5700	4.87	4.96	7.92	11.00	-3.08

10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	21.34	-3.56	-3.56
Mid	5580	21.40	-3.56	-3.56
High	5700	21.35	-3.56	-3.56

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5500	24.00	24.00	11.00	11.00
Mid	5580	24.00	24.00	11.00	11.00
High	5700	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	15.33	15.48	18.42	24.00	-5.58
Mid	5580	15.48	15.60	18.55	24.00	-5.45
High	5700	15.53	15.36	18.46	24.00	-5.54

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5500	4.29	4.64	7.48	11.00	-3.52
Mid	5580	4.29	4.98	7.66	11.00	-3.34
High	5700	4.35	4.67	7.52	11.00	-3.48

10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5510	39.67	-3.56	-3.56
Mid	5590	39.52	-3.56	-3.56
High	5670	39.60	-3.56	-3.56

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5510	24.00	24.00	11.00	11.00
Mid	5590	24.00	24.00	11.00	11.00
High	5670	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5510	14.46	14.80	17.64	24.00	-6.36
Mid	5590	14.55	14.70	17.64	24.00	-6.36
High	5670	14.62	14.58	17.61	24.00	-6.39

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5510	-0.23	0.38	3.10	11.00	-7.90
Mid	5590	0.17	0.84	3.53	11.00	-7.47
High	5670	0.85	0.96	3.91	11.00	-7.09

10.2.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5530	81.25	-3.56	-3.56
High	5610	81.45	-3.56	-3.56

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
Low	5530	24.00	24.00	11.00	11.00
High	5610	24.00	24.00	11.00	11.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5530	13.44	13.66	16.56	24.00	-7.44
High	5610	13.51	13.55	16.54	24.00	-7.46

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
Low	5530	-3.87	-3.47	-0.65	11.00	-11.65
High	5610	-3.54	-3.42	-0.47	11.00	-11.47

10.2.13. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	21.29	-3.20	-3.20
Mid	5785	21.09	-3.20	-3.20
High	5825	21.08	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/500 kHz]	PPSD Limit [dBm/500 kHz]
Low	5745	30.00	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	15.39	15.38	18.40	30.00	-11.60
Mid	5785	15.36	15.36	18.37	30.00	-11.63
High	5825	15.10	15.32	18.22	30.00	-11.78

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/500kHz]	Antenna 2 Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5745	1.40	1.81	4.62	30.00	-25.38
Mid	5785	1.37	1.84	4.62	30.00	-25.38
High	5825	1.16	1.92	4.57	30.00	-25.43

10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	21.53	-3.20	-3.20
Mid	5785	21.23	-3.20	-3.20
High	5825	21.36	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/500 kHz]	PPSD Limit [dBm/500 kHz]
Low	5745	30.00	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	15.42	15.39	18.42	30.00	-11.58
Mid	5785	15.28	15.37	18.34	30.00	-11.66
High	5825	15.05	15.30	18.19	30.00	-11.81

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/500kHz]	Antenna 2 Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5745	1.12	1.69	4.42	30.00	-25.58
Mid	5785	1.27	1.76	4.53	30.00	-25.47
High	5825	1.09	1.49	4.30	30.00	-25.70

10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5755	39.73	-3.20	-3.20
High	5795	39.35	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/500 kHz]	PPSD Limit [dBm/500 kHz]
Low	5755	30.00	30.00	30.00	30.00
High	5795	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5755	14.51	14.74	17.64	30.00	-12.36
High	5795	14.36	14.64	17.51	30.00	-12.49

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/500kHz]	Antenna 2 Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5755	-2.21	-1.71	1.06	30.00	-28.94
High	5795	-2.48	-1.87	0.85	30.00	-29.15

10.2.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Mid	5775	81.81	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/500 kHz]	PPSD Limit [dBm/500 kHz]
Mid	5775	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Mid	5775	13.41	13.21	16.32	30.00	-13.68

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/500kHz]	Antenna 2 Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Mid	5775	-6.42	-6.05	-3.22	30.00	-33.22

10.2.17. 802.11a MODE IN THE STRADDLE CHANNEL

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
UNII-2C	5720	15.62	-3.56	-3.56
UNII-3	5720	5.62	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
UNII-2C	5720	22.94	22.94	11.00	11.00
UNII-3	5720	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
UNII-2C	5720	14.25	14.31	17.29	22.94	-5.65
UNII-3	5720	8.05	8.21	11.14	30.00	-18.86

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
UNII-2C	5720	5.73	4.81	8.31	11.00	-2.69
UNII-3*	5720	1.30	1.58	4.45	30.00	-25.55

* For UNII-3, the unit of PPSD is [dBm/500kHz].

10.2.18. 802.11n HT20 MODE IN THE STRADDLE CHANNEL

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
UNII-2C	5720	15.73	-3.56	-3.56
UNII-3	5720	5.73	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
UNII-2C	5720	22.97	22.97	11.00	11.00
UNII-3	5720	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
UNII-2C	5720	14.10	14.19	17.15	22.97	-5.82
UNII-3	5720	8.48	8.60	11.55	30.00	-18.45

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
UNII-2C	5720	5.45	4.33	7.94	11.00	-3.06
UNII-3*	5720	1.23	1.19	4.22	30.00	-25.78

* For UNII-3, the unit of PPSD is [dBm/500kHz].

10.2.19. 802.11n HT40 MODE IN THE STRADDLE CHANNEL

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
UNII-2C	5710	34.78	-3.56	-3.56
UNII-3	5710	4.78	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
UNII-2C	5710	24.00	24.00	11.00	11.00
UNII-3	5710	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
UNII-2C	5710	14.21	14.24	17.23	24.00	-6.77
UNII-3	5710	3.61	3.77	6.70	30.00	-23.30

PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
UNII-2C	5710	0.60	0.81	3.72	11.00	-7.28
UNII-3*	5710	-3.27	-2.72	0.03	30.00	-29.97

* For UNII-3, the unit of PPSD is [dBm/500kHz].

10.2.20. 802.11ac VHT80 MODE IN THE STRADDLE CHANNEL

Bandwidth and Antenna Gain

Portion	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
UNII-2C	5690	75.69	-3.56	-3.56
UNII-3	5690	5.69	-3.20	-3.20

Limits

Portion	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm/MHz]	PPSD Limit [dBm/MHz]
UNII-2C	5690	24.00	24.00	11.00	11.00
UNII-3	5690	30.00	30.00	30.00	30.00

Duty Cycle CF [dB]	0.00	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Portion	Frequency [MHz]	Antenna 1 Meas Power [dBm]	Antenna 2 Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
UNII-2C	5690	13.37	13.19	16.29	24.00	-7.71
UNII-3	5690	-1.21	-1.35	1.73	30.00	-28.27

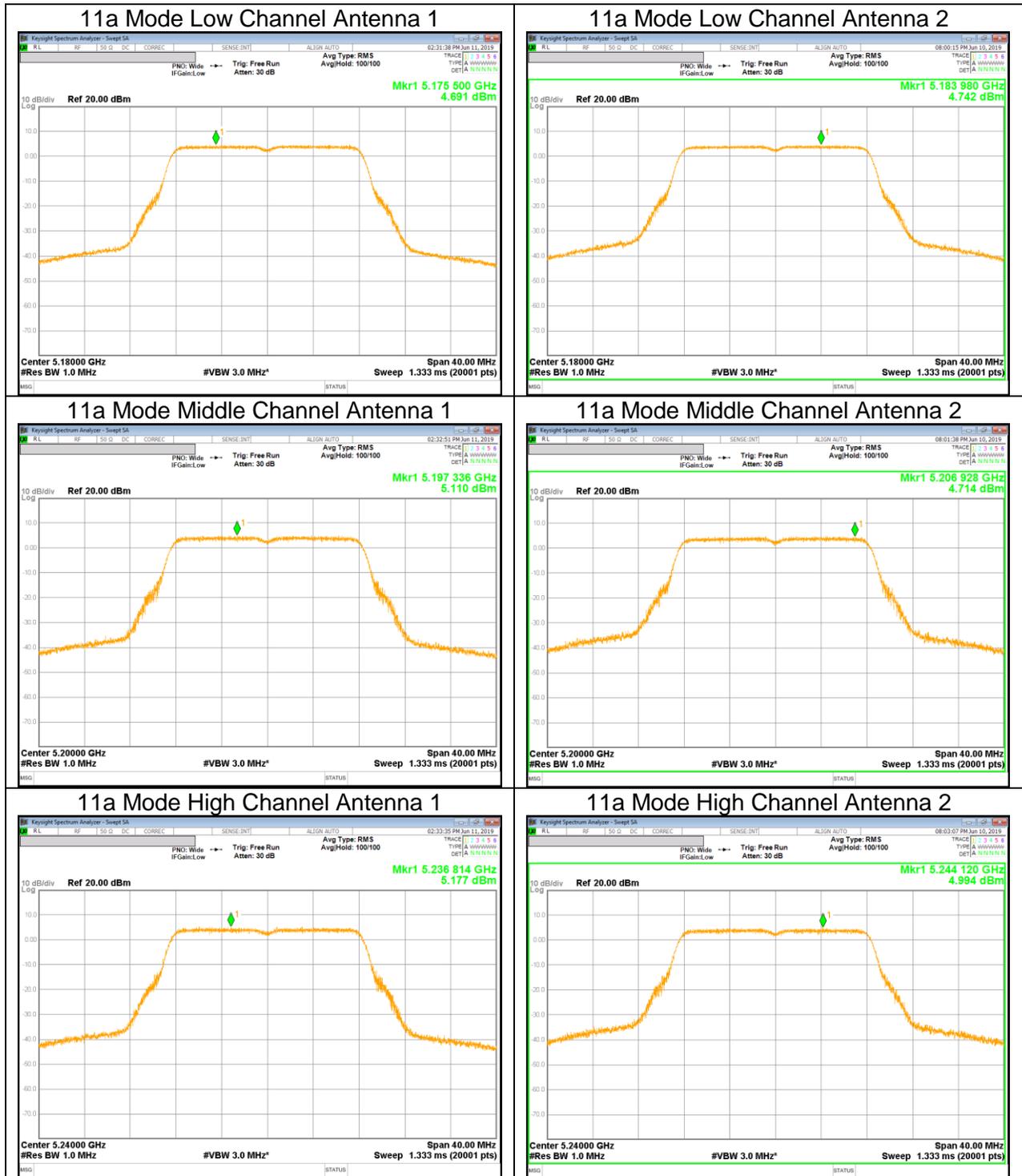
PPSD Results

Channel	Frequency [MHz]	Antenna 1 Meas PPSD [dBm/MHz]	Antenna 2 Meas PPSD [dBm/MHz]	Total Corr'd PPSD [dBm/MHz]	PPSD Limit [dBm/MHz]	PPSD Margin [dB]
UNII-2C	5690	-3.19	-3.03	-0.10	11.00	-11.10
UNII-3*	5690	-8.02	-7.87	-4.93	30.00	-34.93

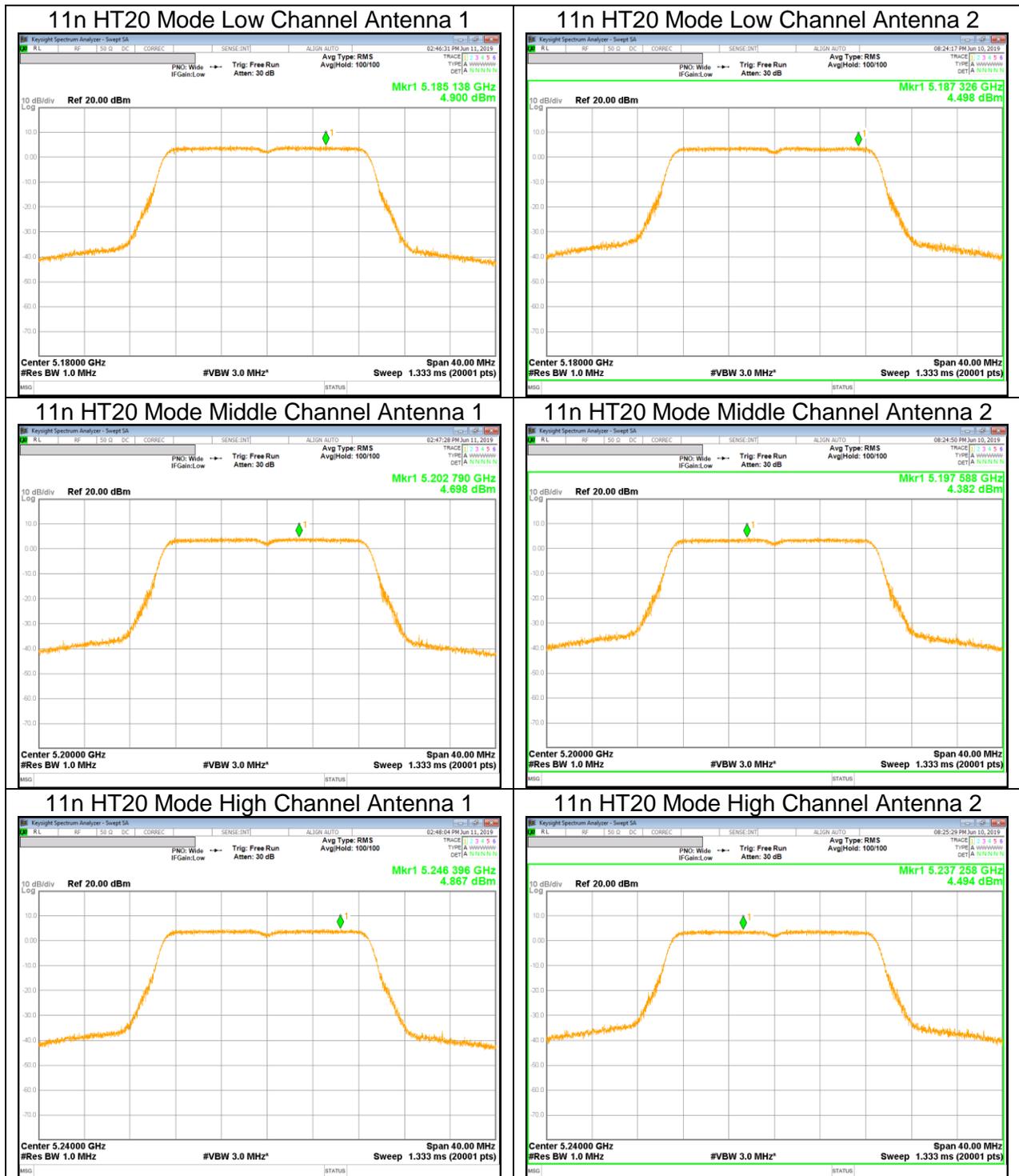
* For UNII-3, the unit of PPSD is [dBm/500kHz].

10.2.21. OUTPUT POWER AND PSD PLOTS

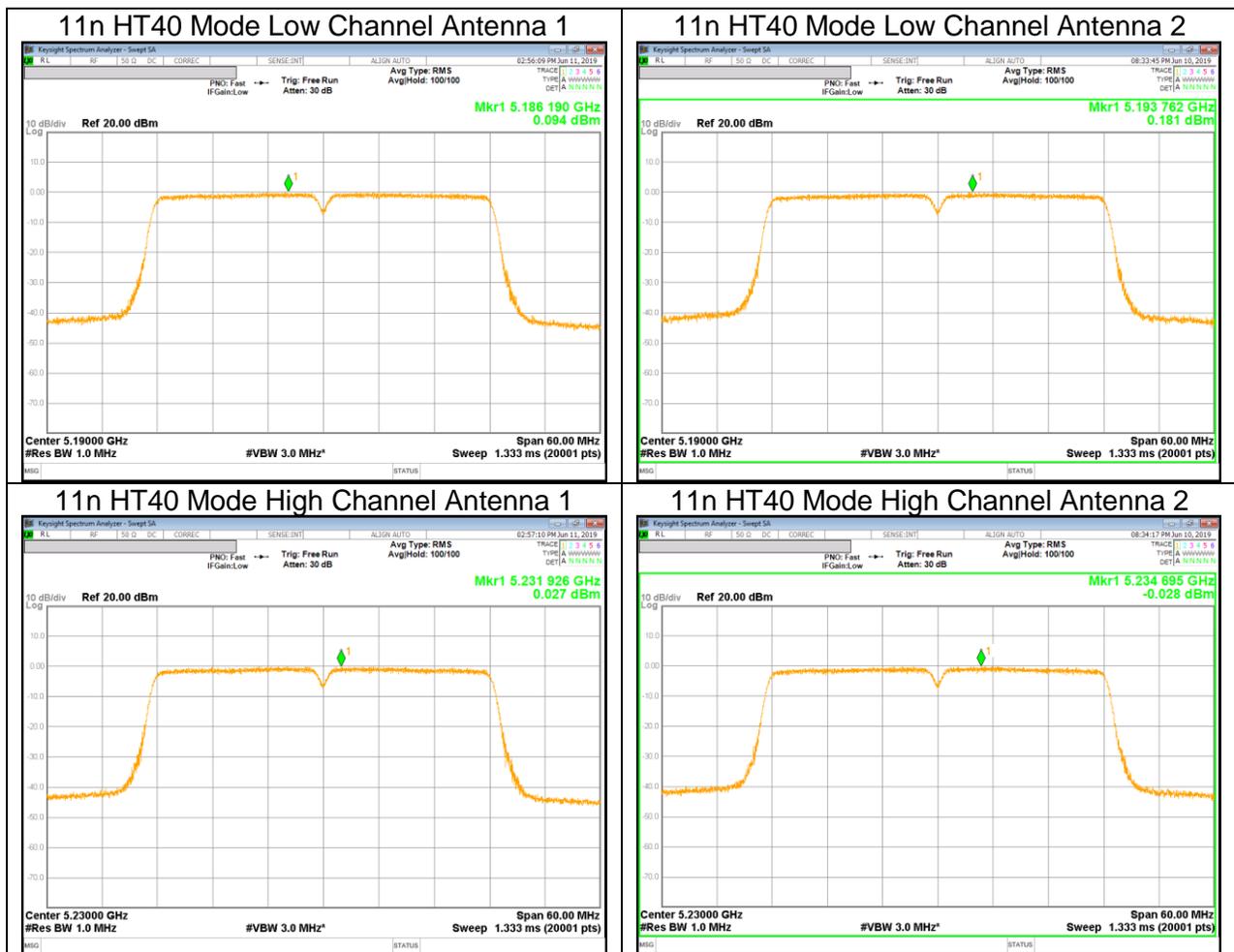
UNII 5.2 GHz IEEE 802.11a mode PSD



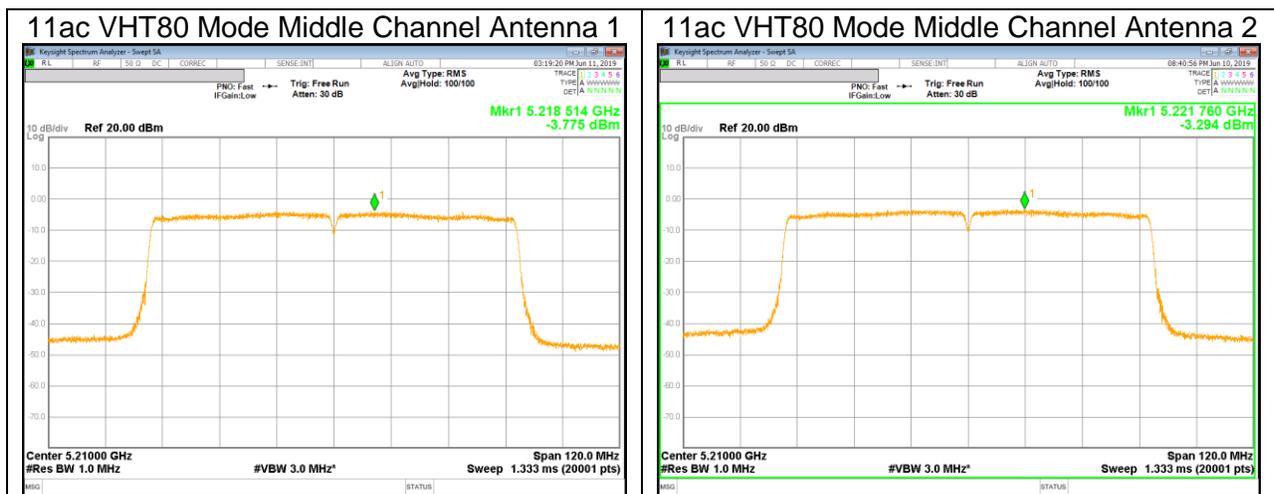
UNII 5.2 GHz IEEE 802.11n HT20 mode PSD



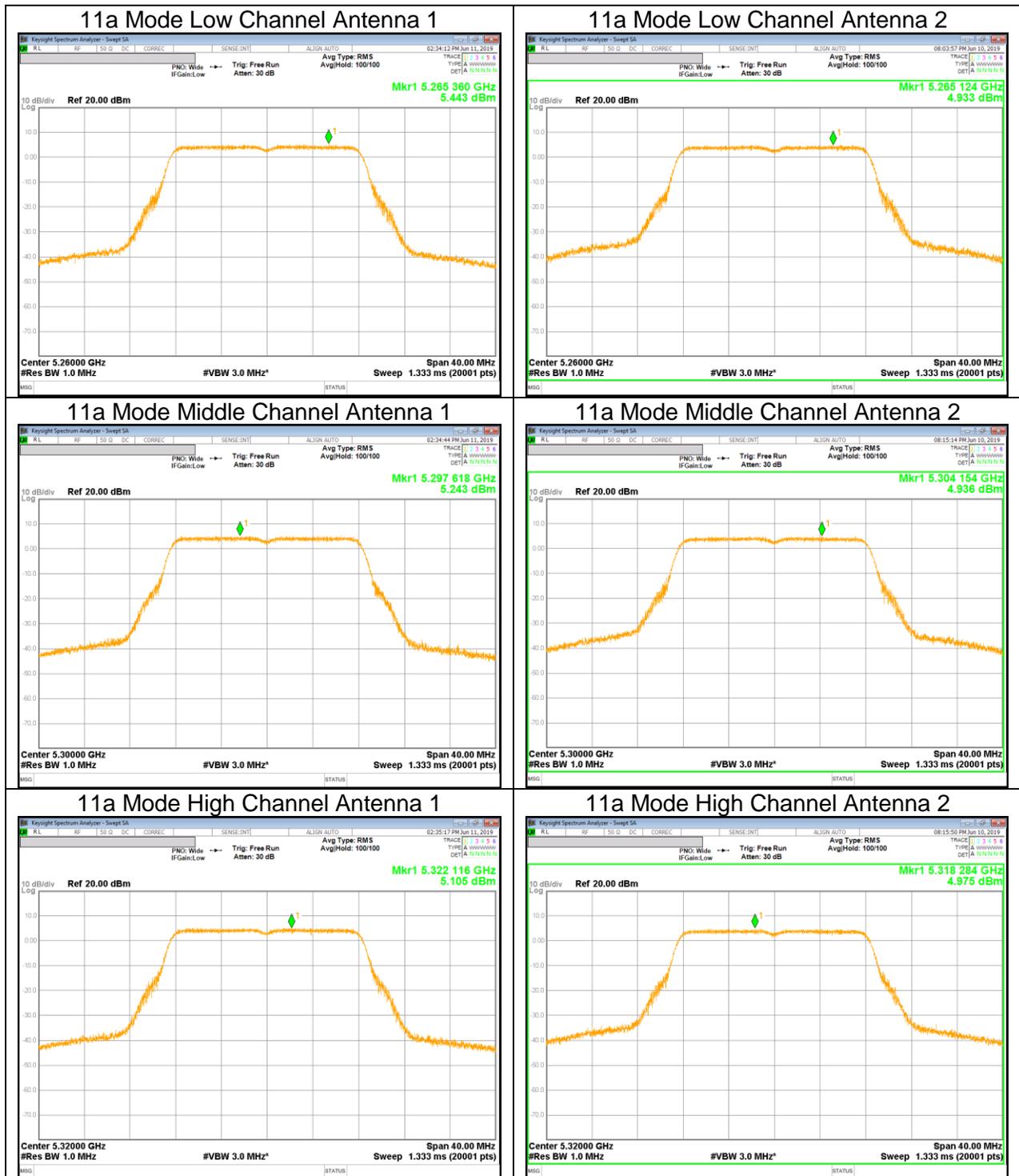
UNII 5.2 GHz IEEE 802.11n HT40 mode PSD



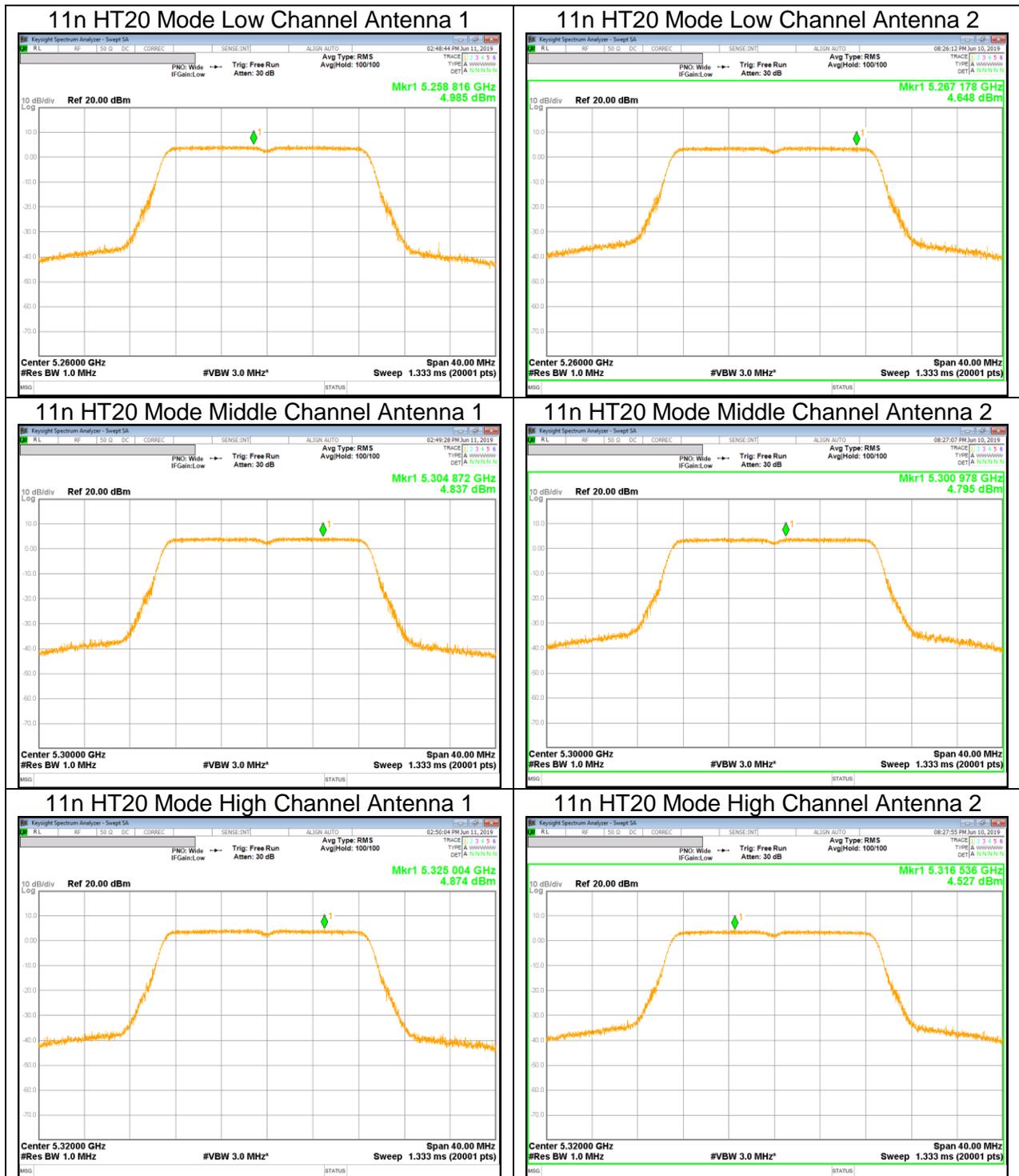
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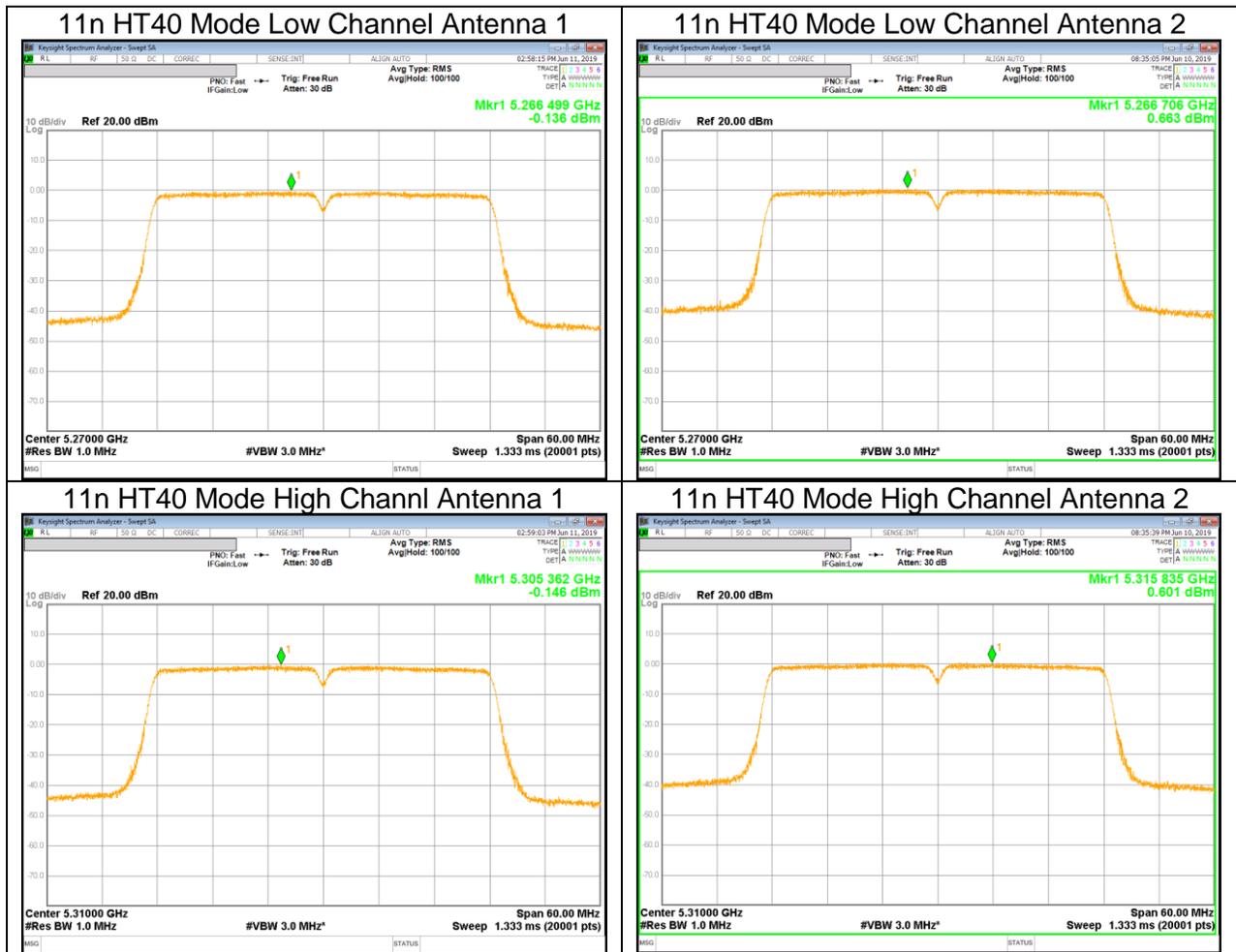
UNII 5.3 GHz IEEE 802.11a mode PSD



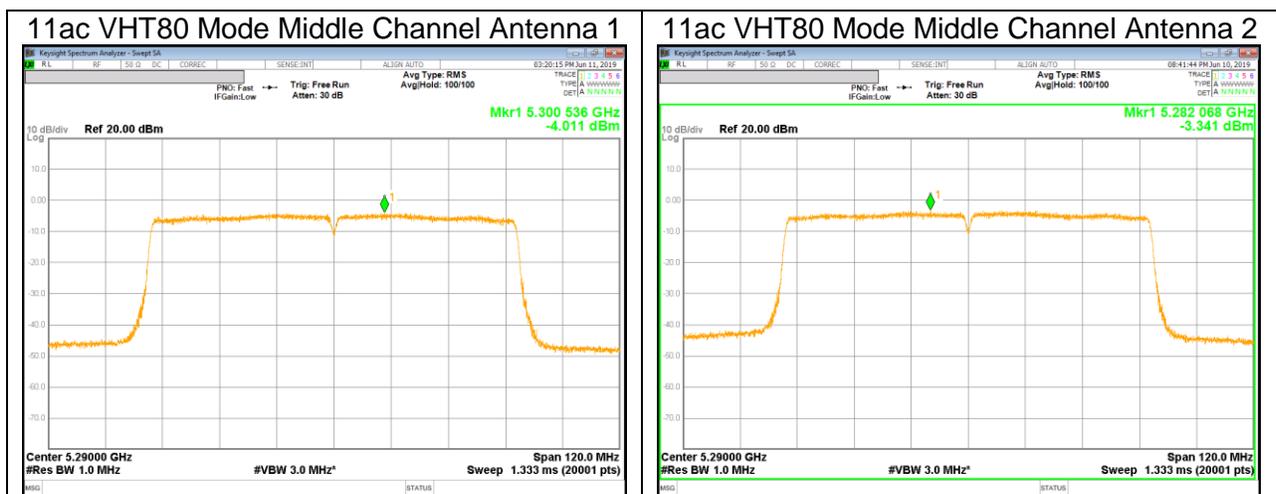
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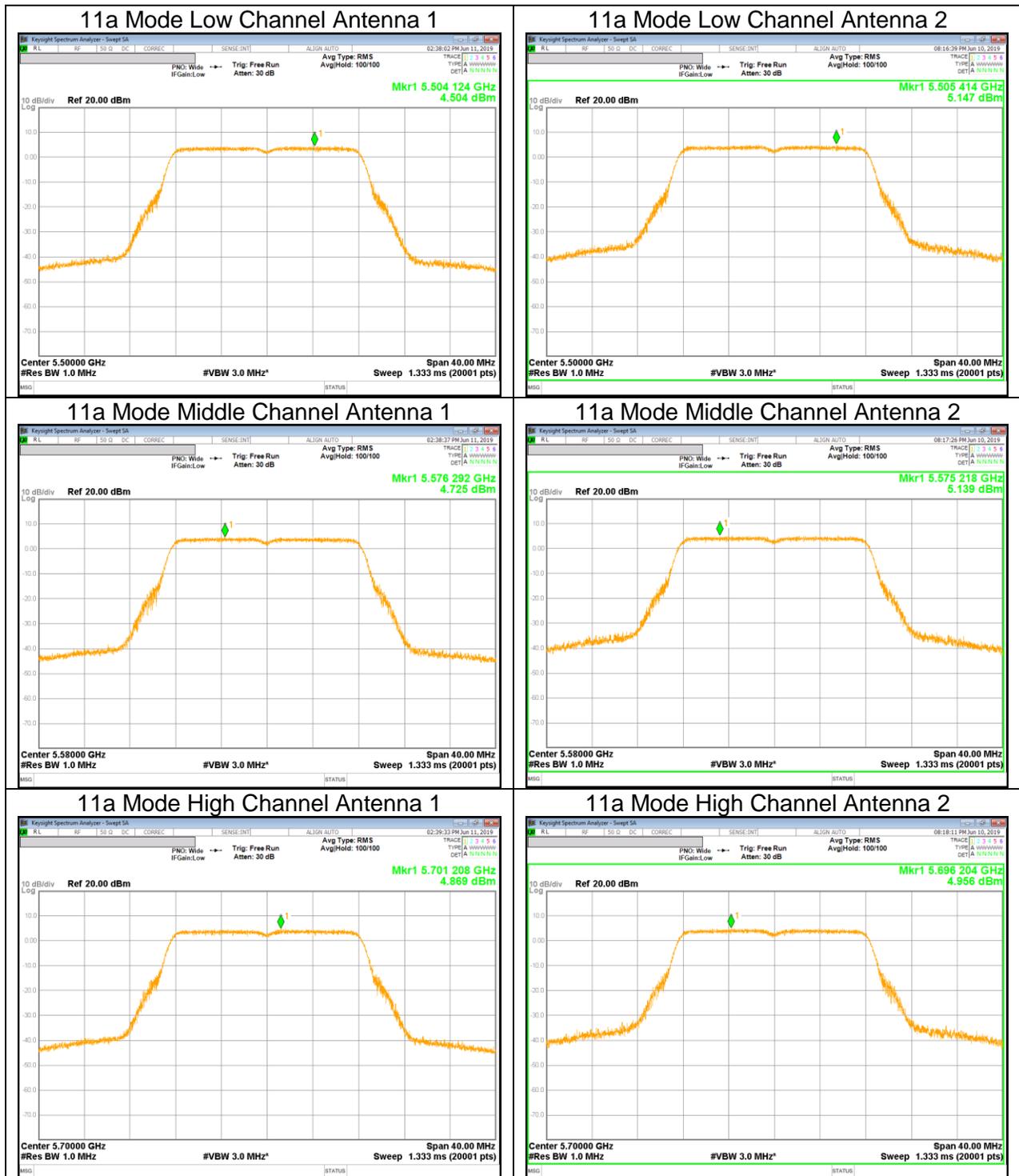
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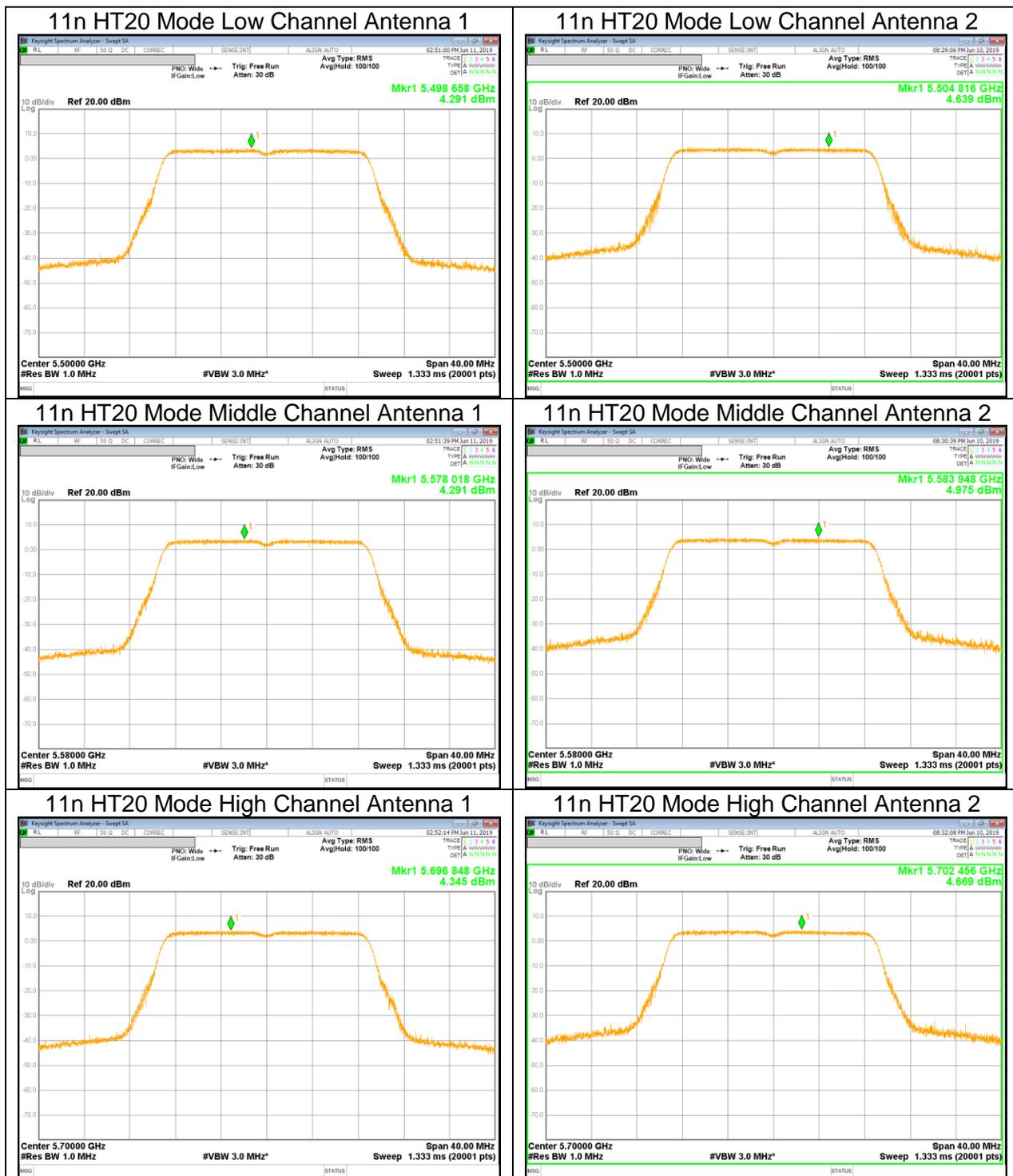
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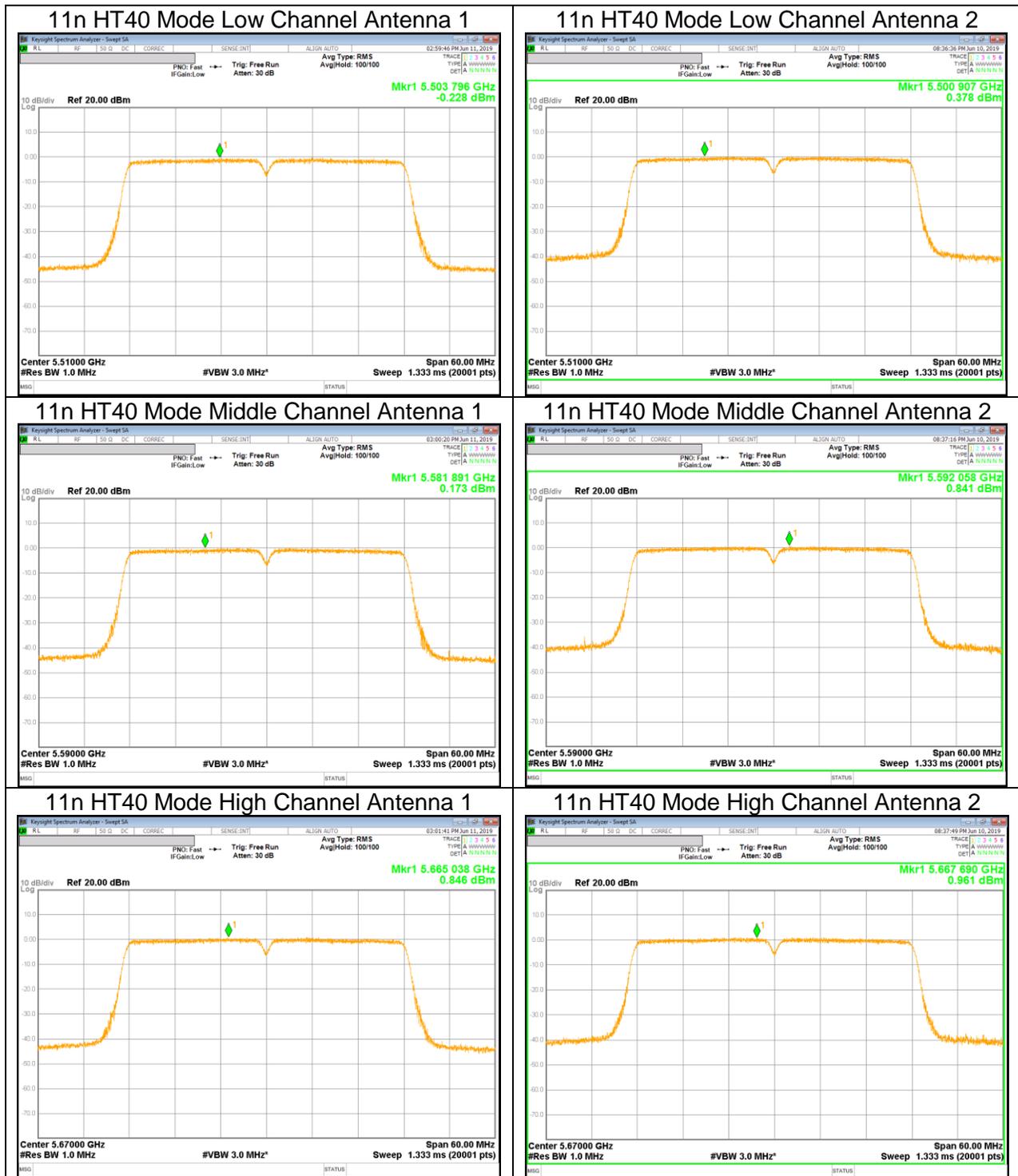
UNII 5.5 GHz IEEE 802.11a mode PSD



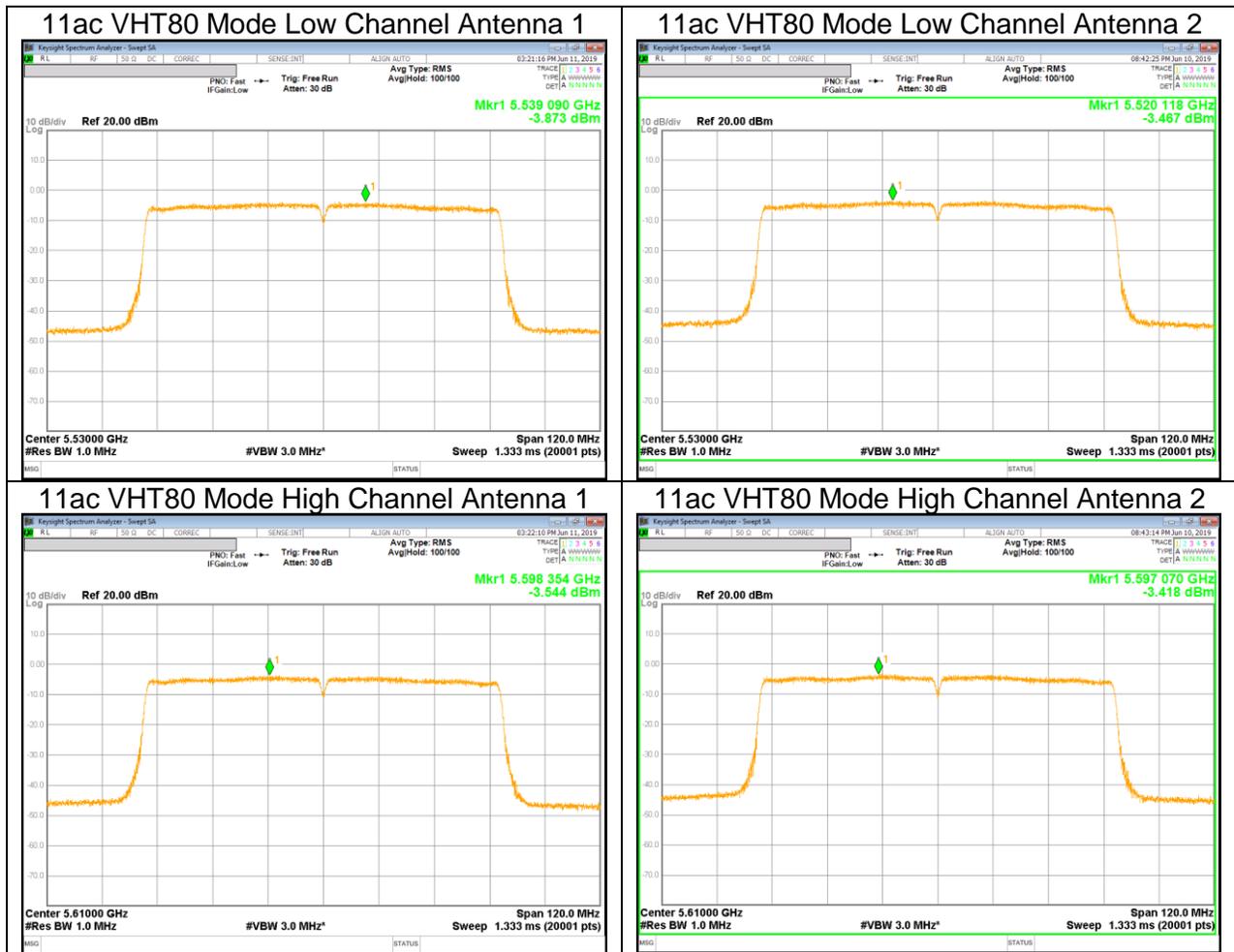
UNII 5.5 GHz IEEE 802.11n HT20 mode PSD



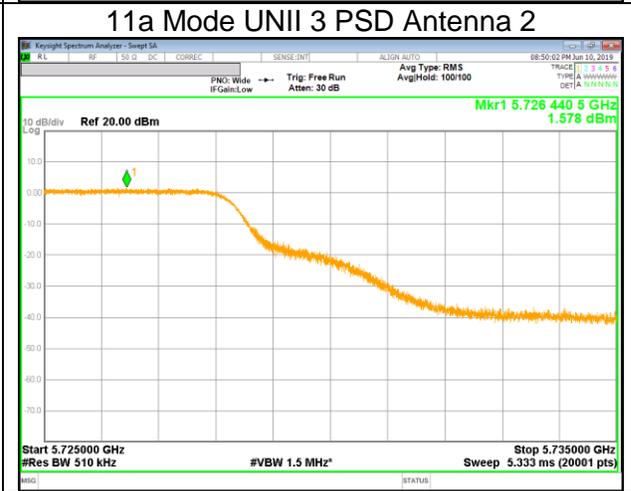
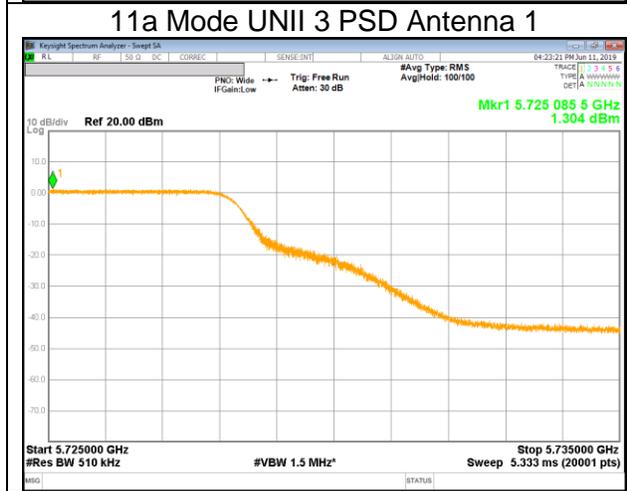
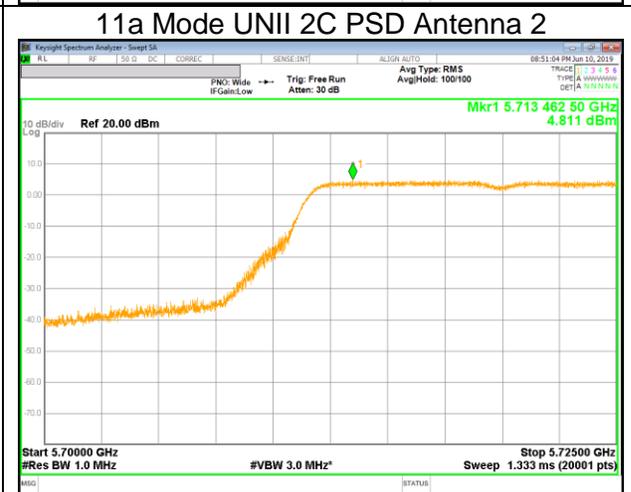
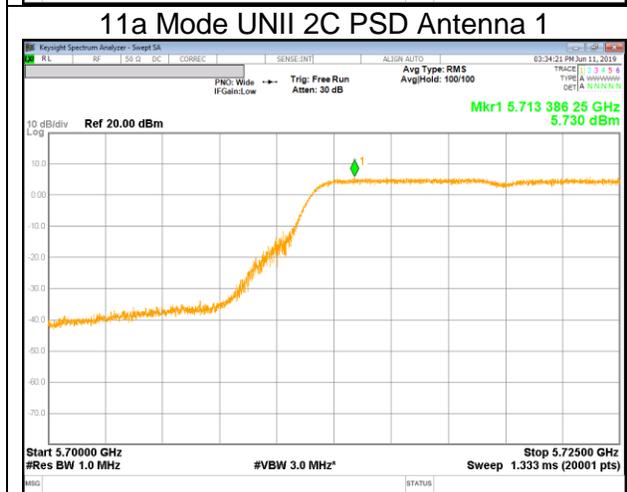
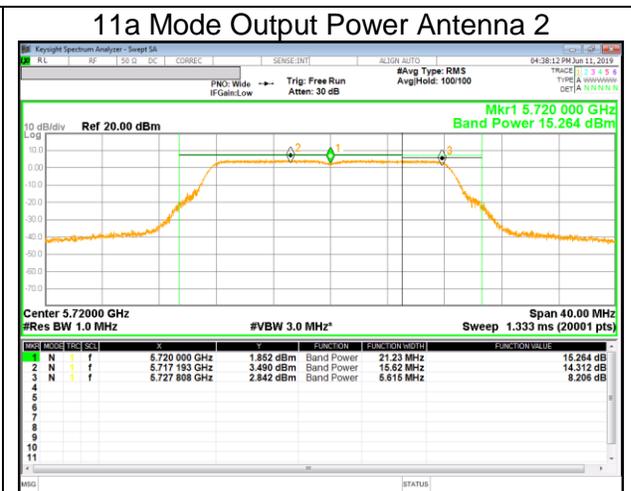
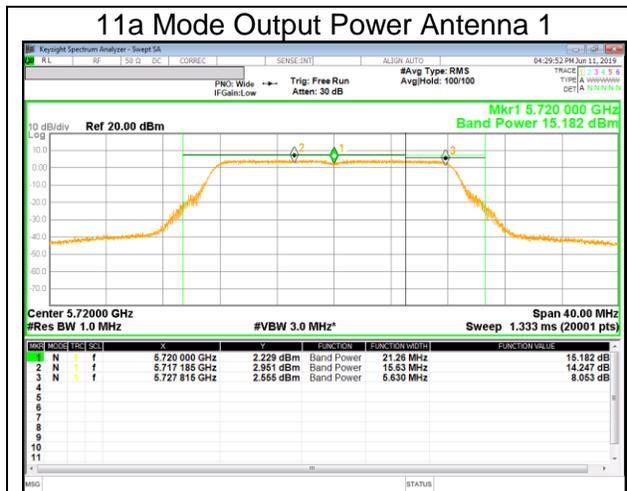
UNII 5.5 GHz IEEE 802.11n HT40 mode PSD



UNII 5.5 GHz IEEE 802.11ac VHT80 mode PSD



UNII Straddle Ch. IEEE 802.11a mode Ourput Power and PSD



UNII Straddle Ch. IEEE 802.11n HT20 mode Ourput Power and PSD

