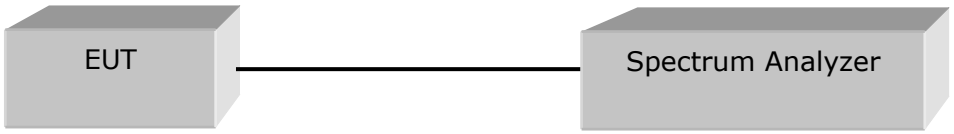
4.3 OUTPUT POWER

Test Procedures

Maximum Conducted Output Power(KDB 789033, Method SA-1, Method SA-2)
Multiple Transmitter Output (KDB 662911 D01, D02)

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.



Test Settings :

Center frequency = the highest, middle and the lowest channels

a) RBW = 1 MHz

b) VBW ≥ 3 x RBW

c) Sweep time = auto

d) Detector = power averaging (rms)

e) Trace mode = Average at least 100

f) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor (dB)
802.11a	0.11
802.11n_HT20	0.00
802.11n_HT40	0.10
802.11ac_VHT20	0.00
802.11ac_VHT40	0.09
802.11ac_VHT80	0.24

Limit

Operating Mode	Band	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)
SISO	UNII 1	802.11a/n/ac	ANT0	7.91	28.09
			ANT1	7.89	28.11
			ANT2	7.85	28.15
			ANT3	7.93	28.07
	UNII 3		ANT0	7.91	28.09
			ANT1	7.89	28.11
			ANT2	7.85	28.15
			ANT3	7.93	28.07
MIMO (2Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1	10.91	25.09
	UNII 3				
MIMO (3Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1 + ANT2	12.65	23.35
	UNII 3				
MIMO (4Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1 + ANT2 + ANT3	13.92	22.08
	UNII 3				

Test Data

ANT0

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	10.79	0.11	10.90	28.09	17.19
	5 200	11.32	0.11	11.43	28.09	16.66
	5 240	12.57	0.11	12.68	28.09	15.41
	5 745	14.30	0.11	14.41	28.09	13.68
	5 785	14.49	0.11	14.60	28.09	13.49
	5 825	15.05	0.11	15.16	28.09	12.93
802.11n _HT20	5 180	11.15	0.00	11.15	28.09	16.94
	5 200	11.73	0.00	11.73	28.09	16.36
	5 240	12.95	0.00	12.95	28.09	15.14
	5 745	14.21	0.00	14.21	28.09	13.88
	5 785	14.33	0.00	14.33	28.09	13.76
	5 825	14.92	0.00	14.92	28.09	13.17
802.11ac _VHT20	5 180	11.26	0.00	11.26	28.09	16.83
	5 200	11.88	0.00	11.88	28.09	16.21
	5 240	13.05	0.00	13.05	28.09	15.04
	5 745	14.26	0.00	14.26	28.09	13.83
	5 785	14.48	0.00	14.48	28.09	13.61
	5 825	15.11	0.00	15.11	28.09	12.98
802.11n _HT40	5 190	11.26	0.10	11.36	28.09	16.73
	5 230	12.53	0.10	12.63	28.09	15.46
	5 755	14.40	0.10	14.50	28.09	13.59
	5 795	14.65	0.10	14.75	28.09	13.34
802.11ac _VHT40	5 190	11.31	0.09	11.40	28.09	16.69
	5 230	12.52	0.09	12.61	28.09	15.48
	5 755	14.42	0.09	14.51	28.09	13.58
	5 795	14.70	0.09	14.79	28.09	13.30
802.11ac _VHT80	5 210	9.89	0.24	10.13	28.09	17.96
	5 775	14.54	0.24	14.78	28.09	13.31
Measurement uncertainty		± 1.5 dB				

ANT1

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	11.01	0.11	11.12	28.11	16.99
	5 200	11.36	0.11	11.47	28.11	16.64
	5 240	12.54	0.11	12.65	28.11	15.46
	5 745	14.40	0.11	14.51	28.11	13.60
	5 785	14.13	0.11	14.24	28.11	13.87
	5 825	13.89	0.11	14.00	28.11	14.11
802.11n _HT20	5 180	11.28	0.00	11.28	28.11	16.83
	5 200	11.80	0.00	11.80	28.11	16.31
	5 240	12.93	0.00	12.93	28.11	15.18
	5 745	14.22	0.00	14.22	28.11	13.89
	5 785	13.90	0.00	13.90	28.11	14.21
	5 825	13.78	0.00	13.78	28.11	14.33
802.11ac _VHT20	5 180	11.26	0.00	11.26	28.11	16.85
	5 200	11.65	0.00	11.65	28.11	16.46
	5 240	12.80	0.00	12.80	28.11	15.31
	5 745	14.12	0.00	14.12	28.11	13.99
	5 785	13.90	0.00	13.90	28.11	14.21
	5 825	13.63	0.00	13.63	28.11	14.48
802.11n _HT40	5 190	10.20	0.10	10.30	28.11	17.81
	5 230	11.38	0.10	11.48	28.11	16.63
	5 755	14.32	0.10	14.42	28.11	13.69
	5 795	14.14	0.10	14.24	28.11	13.87
802.11ac _VHT40	5 190	10.22	0.09	10.31	28.11	17.80
	5 230	11.34	0.09	11.43	28.11	16.68
	5 755	14.19	0.09	14.28	28.11	13.83
	5 795	14.10	0.09	14.19	28.11	13.92
802.11ac _VHT80	5 210	8.96	0.24	9.20	28.11	18.91
	5 775	14.31	0.24	14.55	28.11	13.56
Measurement uncertainty		± 1.5 dB				

ANT2

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	11.75	0.11	11.86	28.15	16.29
	5 200	12.05	0.11	12.16	28.15	15.99
	5 240	13.20	0.11	13.31	28.15	14.84
	5 745	15.44	0.11	15.55	28.15	12.60
	5 785	14.82	0.11	14.93	28.15	13.22
	5 825	14.51	0.11	14.62	28.15	13.53
802.11n _HT20	5 180	11.95	0.00	11.95	28.15	16.20
	5 200	12.32	0.00	12.32	28.15	15.83
	5 240	13.34	0.00	13.34	28.15	14.81
	5 745	15.09	0.00	15.09	28.15	13.06
	5 785	14.54	0.00	14.54	28.15	13.61
	5 825	14.30	0.00	14.30	28.15	13.85
802.11ac _VHT20	5 180	11.95	0.00	11.95	28.15	16.20
	5 200	12.20	0.00	12.20	28.15	15.95
	5 240	13.30	0.00	13.30	28.15	14.85
	5 745	15.06	0.00	15.06	28.15	13.09
	5 785	14.56	0.00	14.56	28.15	13.59
	5 825	14.18	0.00	14.18	28.15	13.97
802.11n _HT40	5 190	10.95	0.10	11.05	28.15	17.10
	5 230	11.93	0.10	12.03	28.15	16.12
	5 755	15.23	0.10	15.33	28.15	12.82
	5 795	14.72	0.10	14.82	28.15	13.33
802.11ac _VHT40	5 190	10.99	0.09	11.08	28.15	17.07
	5 230	11.80	0.09	11.89	28.15	16.26
	5 755	15.19	0.09	15.28	28.15	12.87
	5 795	14.73	0.09	14.82	28.15	13.33
802.11ac _VHT80	5 210	9.65	0.24	9.89	28.15	18.26
	5 775	14.94	0.24	15.18	28.15	12.97
Measurement uncertainty		± 1.5 dB				

ANT3

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	10.89	0.11	11.00	28.07	17.07
	5 200	11.56	0.11	11.67	28.07	16.40
	5 240	12.96	0.11	13.07	28.07	15.00
	5 745	14.64	0.11	14.75	28.07	13.32
	5 785	14.55	0.11	14.66	28.07	13.41
	5 825	15.13	0.11	15.24	28.07	12.83
802.11n _HT20	5 180	11.07	0.00	11.07	28.07	17.00
	5 200	11.80	0.00	11.80	28.07	16.27
	5 240	13.07	0.00	13.07	28.07	15.00
	5 745	14.39	0.00	14.39	28.07	13.68
	5 785	14.27	0.00	14.27	28.07	13.80
	5 825	14.71	0.00	14.71	28.07	13.36
802.11ac _VHT20	5 180	11.26	0.00	11.26	28.07	16.81
	5 200	11.95	0.00	11.95	28.07	16.12
	5 240	13.24	0.00	13.24	28.07	14.83
	5 745	14.40	0.00	14.40	28.07	13.67
	5 785	14.45	0.00	14.45	28.07	13.62
	5 825	14.79	0.00	14.79	28.07	13.28
802.11n _HT40	5 190	11.27	0.10	11.37	28.07	16.70
	5 230	12.69	0.10	12.79	28.07	15.28
	5 755	14.52	0.10	14.62	28.07	13.45
	5 795	14.57	0.10	14.67	28.07	13.40
802.11ac _VHT40	5 190	11.16	0.09	11.25	28.07	16.82
	5 230	12.58	0.09	12.67	28.07	15.40
	5 755	14.50	0.09	14.59	28.07	13.48
	5 795	14.52	0.09	14.61	28.07	13.46
802.11ac _VHT80	5 210	10.08	0.24	10.32	28.07	17.75
	5 775	14.64	0.24	14.88	28.07	13.19
Measurement uncertainty		± 1.5 dB				

ANT0 + ANT1

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	13.91	0.11	14.02	25.09	11.07
	5 200	14.35	0.11	14.46	25.09	10.63
	5 240	15.57	0.11	15.68	25.09	9.41
	5 745	17.36	0.11	17.47	25.09	7.62
	5 785	17.32	0.11	17.43	25.09	7.66
	5 825	17.52	0.11	17.63	25.09	7.46
802.11n _HT20	5 180	14.23	0.00	14.23	25.09	10.86
	5 200	14.78	0.00	14.78	25.09	10.31
	5 240	15.95	0.00	15.95	25.09	9.14
	5 745	17.23	0.00	17.23	25.09	7.86
	5 785	17.13	0.00	17.13	25.09	7.96
	5 825	17.40	0.00	17.40	25.09	7.69
802.11ac _VHT20	5 180	14.27	0.00	14.27	25.09	10.82
	5 200	14.78	0.00	14.78	25.09	10.31
	5 240	15.94	0.00	15.94	25.09	9.15
	5 745	17.20	0.00	17.20	25.09	7.89
	5 785	17.21	0.00	17.21	25.09	7.88
	5 825	17.44	0.00	17.44	25.09	7.65
802.11n _HT40	5 190	13.77	0.10	13.87	25.09	11.22
	5 230	15.00	0.10	15.10	25.09	9.99
	5 755	17.37	0.10	17.47	25.09	7.62
	5 795	17.41	0.10	17.51	25.09	7.58
802.11ac _VHT40	5 190	13.81	0.09	13.90	25.09	11.19
	5 230	14.98	0.09	15.07	25.09	10.02
	5 755	17.32	0.09	17.41	25.09	7.68
	5 795	17.42	0.09	17.51	25.09	7.58
802.11ac _VHT80	5 210	12.46	0.24	12.70	25.09	12.39
	5 775	17.44	0.24	17.68	25.09	7.41
Measurement uncertainty		± 1.5 dB				

ANT0 + ANT1 + ANT2

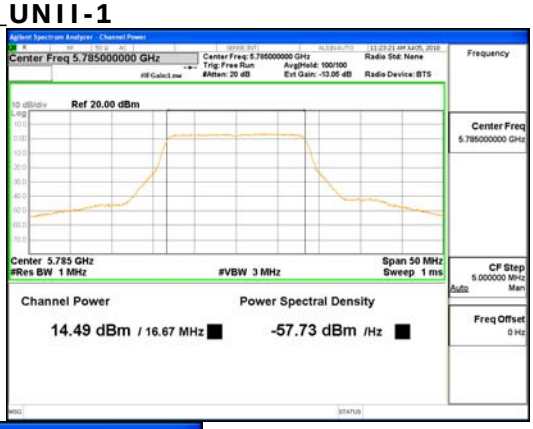
Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	15.97	0.11	16.08	23.35	7.27
	5 200	16.36	0.11	16.47	23.35	6.88
	5 240	17.55	0.11	17.66	23.35	5.69
	5 745	19.52	0.11	19.63	23.35	3.72
	5 785	19.26	0.11	19.37	23.35	3.98
	5 825	19.28	0.11	19.39	23.35	3.96
802.11n _HT20	5 180	16.25	0.00	16.25	23.35	7.10
	5 200	16.73	0.00	16.73	23.35	6.62
	5 240	17.85	0.00	17.85	23.35	5.50
	5 745	19.30	0.00	19.30	23.35	4.05
	5 785	19.04	0.00	19.04	23.35	4.31
	5 825	19.13	0.00	19.13	23.35	4.22
802.11ac _VHT20	5 180	16.27	0.00	16.27	23.35	7.08
	5 200	16.69	0.00	16.69	23.35	6.66
	5 240	17.83	0.00	17.83	23.35	5.52
	5 745	19.27	0.00	19.27	23.35	4.08
	5 785	19.09	0.00	19.09	23.35	4.26
	5 825	19.12	0.00	19.12	23.35	4.23
802.11n _HT40	5 190	15.60	0.10	15.70	23.35	7.65
	5 230	16.74	0.10	16.84	23.35	6.51
	5 755	19.44	0.10	19.54	23.35	3.81
	5 795	19.28	0.10	19.38	23.35	3.97
802.11ac _VHT40	5 190	15.63	0.09	15.72	23.35	7.63
	5 230	16.69	0.09	16.78	23.35	6.57
	5 755	19.39	0.09	19.48	23.35	3.87
	5 795	19.29	0.09	19.38	23.35	3.97
802.11ac _VHT80	5 210	14.29	0.24	14.53	23.35	8.82
	5 775	19.38	0.24	19.62	23.35	3.73
Measurement uncertainty		± 1.5 dB				

ANT0 + ANT1 + ANT2 + ANT3

Test Mode	Frequency (MHz)	Measured Output Power (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	17.15	0.11	17.26	22.08	4.82
	5 200	17.60	0.11	17.71	22.08	4.37
	5 240	18.85	0.11	18.96	22.08	3.12
	5 745	20.74	0.11	20.85	22.08	1.23
	5 785	20.53	0.11	20.64	22.08	1.44
	5 825	20.69	0.11	20.80	22.08	1.28
802.11n _HT20	5 180	17.40	0.00	17.40	22.08	4.68
	5 200	17.94	0.00	17.94	22.08	4.14
	5 240	19.10	0.00	19.10	22.08	2.98
	5 745	20.51	0.00	20.51	22.08	1.57
	5 785	20.29	0.00	20.29	22.08	1.79
	5 825	20.47	0.00	20.47	22.08	1.61
802.11ac _VHT20	5 180	17.46	0.00	17.46	22.08	4.62
	5 200	17.95	0.00	17.95	22.08	4.13
	5 240	19.12	0.00	19.12	22.08	2.96
	5 745	20.50	0.00	20.50	22.08	1.58
	5 785	20.38	0.00	20.38	22.08	1.70
	5 825	20.48	0.00	20.48	22.08	1.60
802.11n _HT40	5 190	16.96	0.10	17.06	22.08	5.02
	5 230	18.18	0.10	18.28	22.08	3.80
	5 755	20.65	0.10	20.75	22.08	1.33
	5 795	20.55	0.10	20.65	22.08	1.43
802.11ac _VHT40	5 190	16.96	0.09	17.05	22.08	5.03
	5 230	18.11	0.09	18.20	22.08	3.88
	5 755	20.61	0.09	20.70	22.08	1.38
	5 795	20.54	0.09	20.63	22.08	1.45
802.11ac _VHT80	5 210	15.69	0.24	15.93	22.08	6.15
	5 775	20.63	0.24	20.87	22.08	1.21

See next pages for actual measured spectrum plots.

ANT0_802.11a_UNII-1



ANT0_802.11a_UNII-3

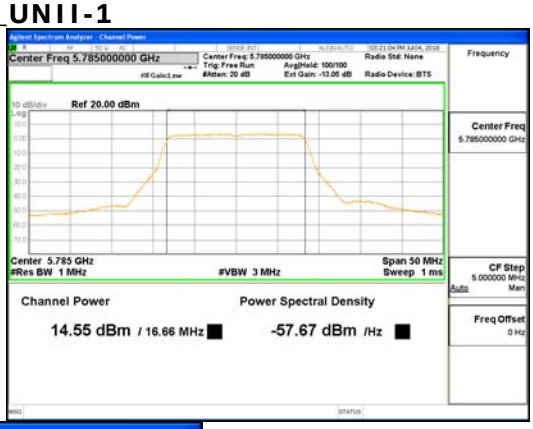
ANT1_802.11a_UNII-1

ANT1_802.11a_UNII-3

ANT2_802.11a_UNII-1

ANT2_802.11a_UNII-3

ANT3_802.11a_UNII-1



ANT3_802.11a_UNII-3

ANT0_802.11n_HT20_UNII-1

ANT0_802.11n_HT20_UNII-3

ANT1_802.11n_HT20_UNII-1

ANT1_802.11n_HT20_UNII-3

ANT2_802.11n_HT20_UNII-1

ANT2_802.11n_HT20_UNII-3

ANT3_802.11n_HT20_UNII-1

ANT3_802.11n_HT20_UNII-3

ANT0_802.11ac_VHT20_UNII-1

ANT0_802.11ac_VHT20_UNII-3

ANT1_802.11ac_VHT20_UNII-1

ANT1_802.11ac_VHT20_UNII-3

ANT2_802.11ac_VHT20_UNII-1

ANT2_802.11ac_VHT20_UNII-3

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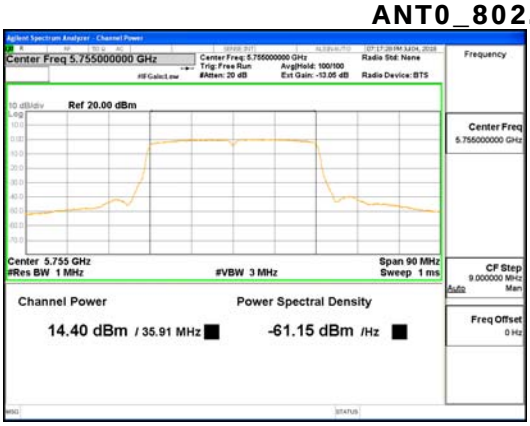
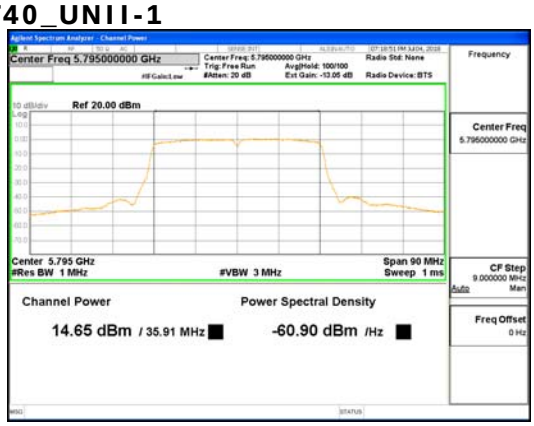
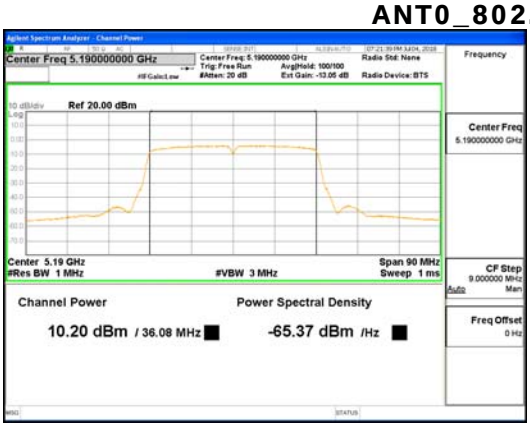
ANT3_802.11ac_VHT20_UNII-3

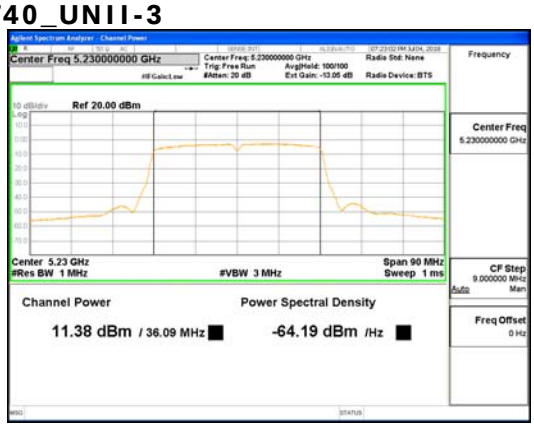
ANT0_802.11n_HT40_UNII-1



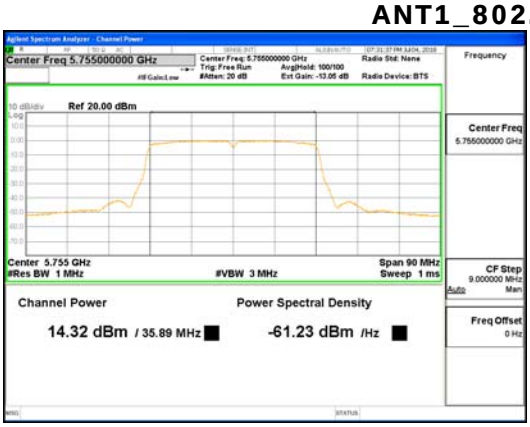


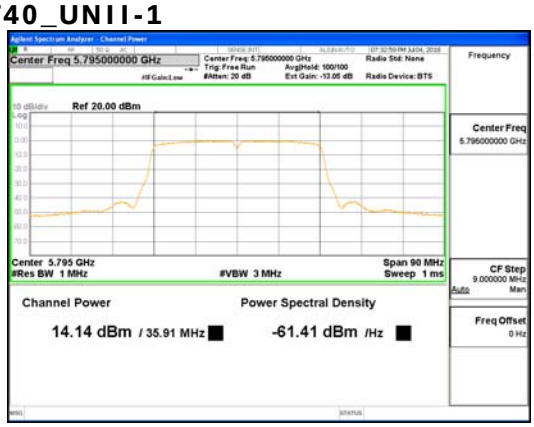
ANT0_802.11n_HT40_UNII-3





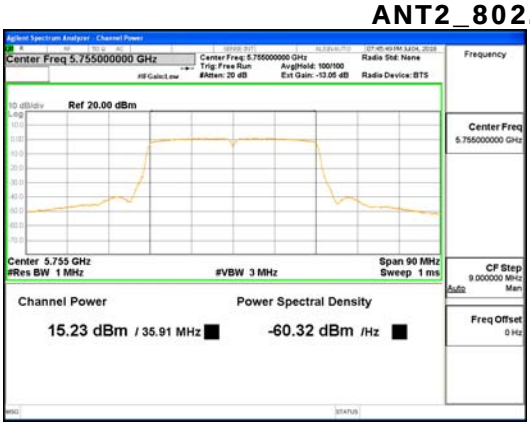
ANT1_802.11n_HT40_UNII-1

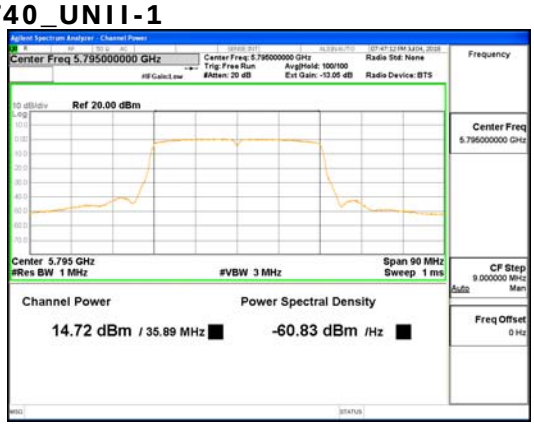




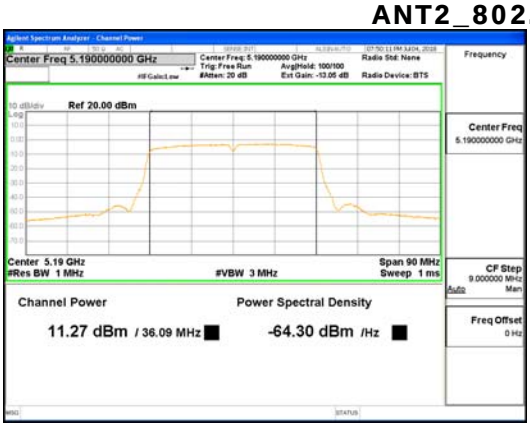
ANT1_802.11n_HT40_UNII-3

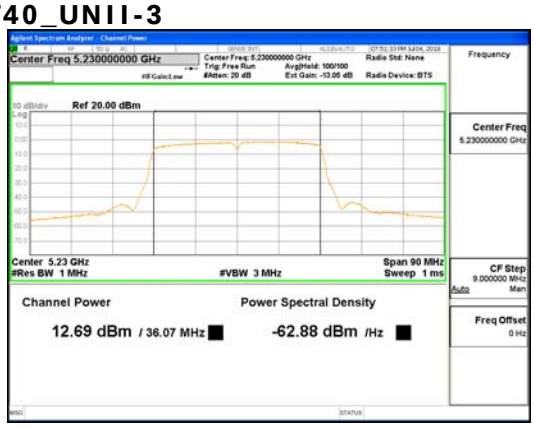
ANT2_802.11n_HT40_UNII-1



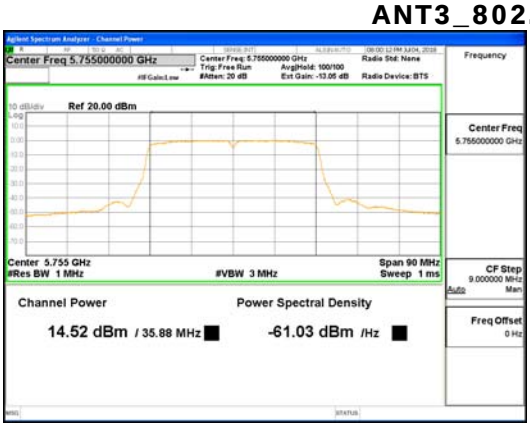


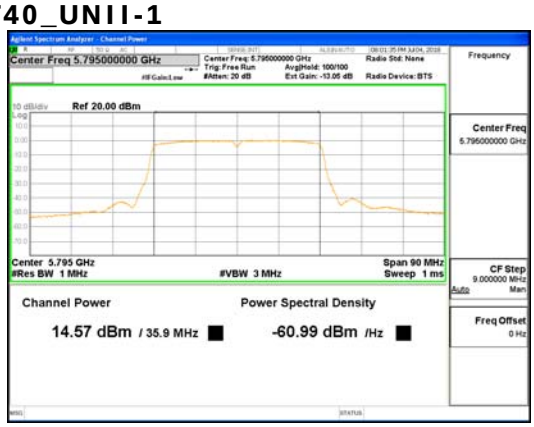
ANT2_802.11n_HT40_UNII-3





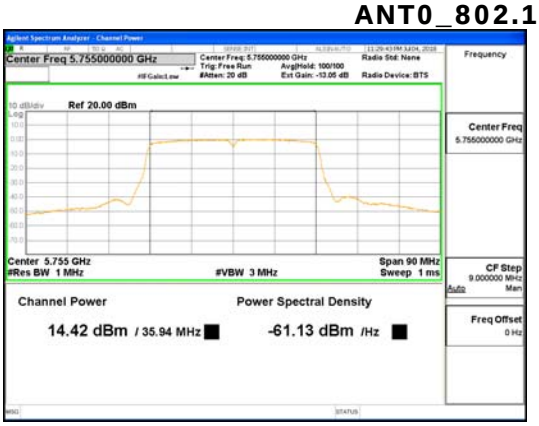
ANT3_802.11n_HT40_UNII-1

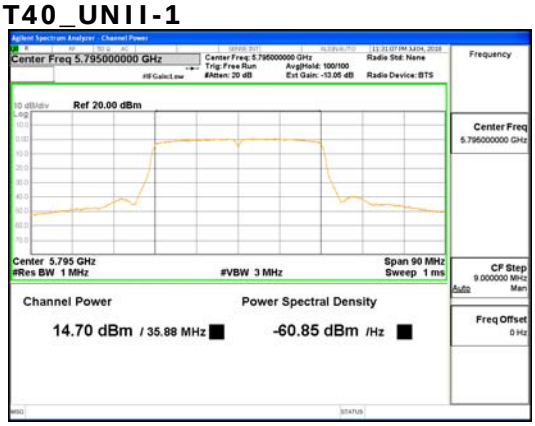




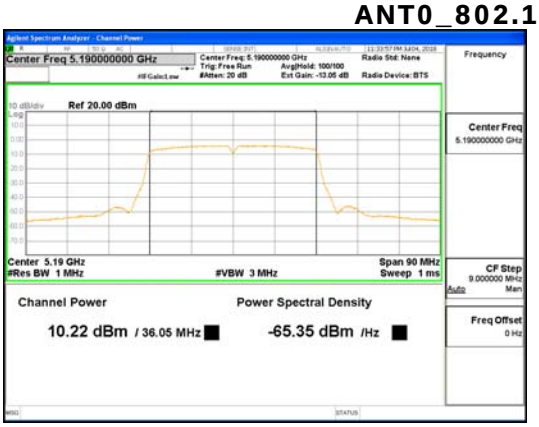
ANT3_802.11n_HT40_UNII-3

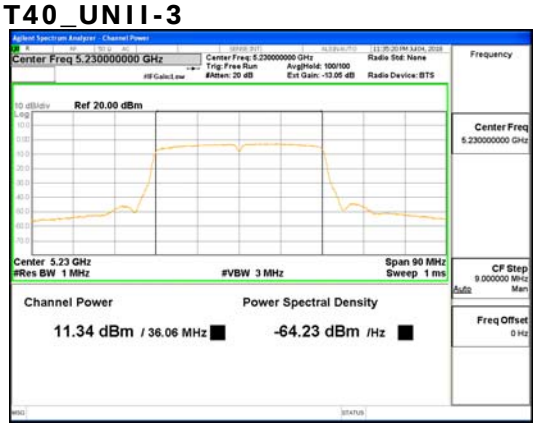
ANT0_802.11ac_VHT40_UNII-1



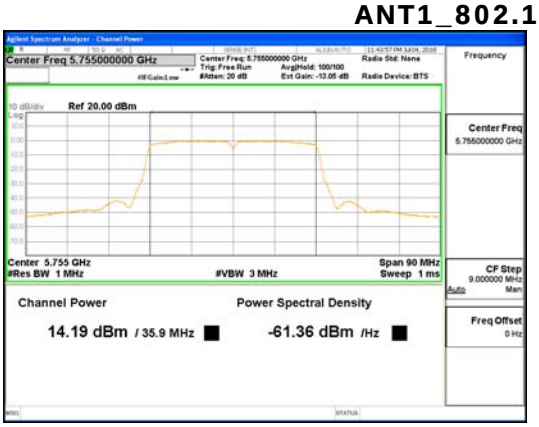


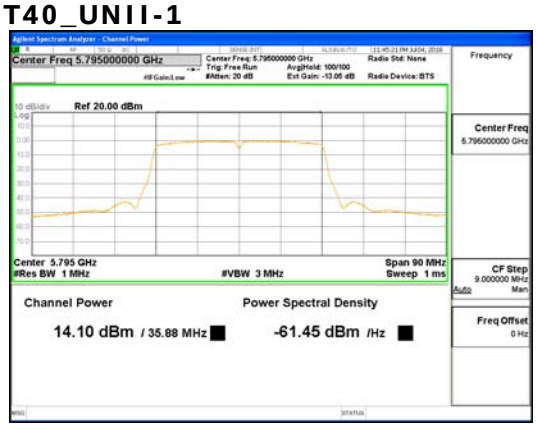
ANT0_802.11ac_VHT40_UNII-3





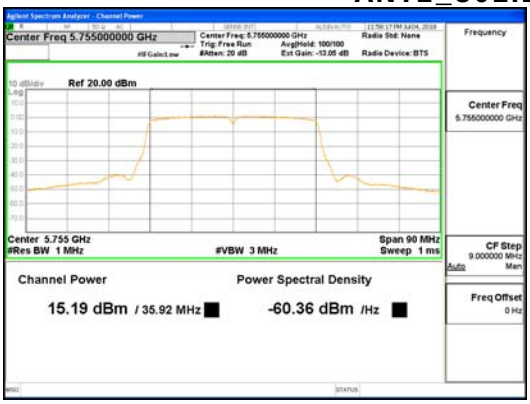
ANT1_802.11ac_VHT40_UNII-1





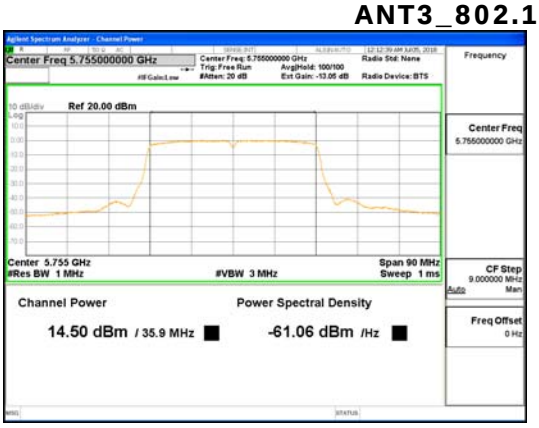
ANT1_802.11ac_VHT40_UNII-3

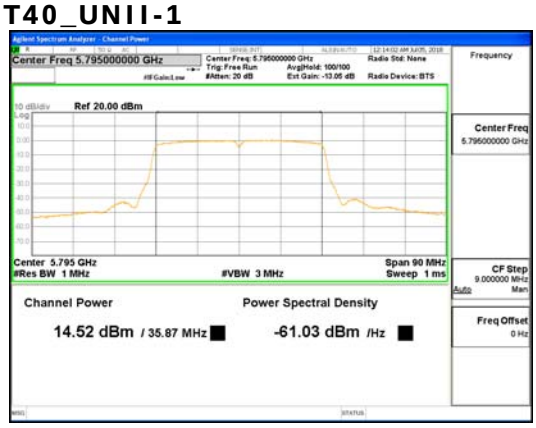
ANT2_802.11ac_VHT40_UNII-1



ANT2_802.11ac_VHT40_UNII-3

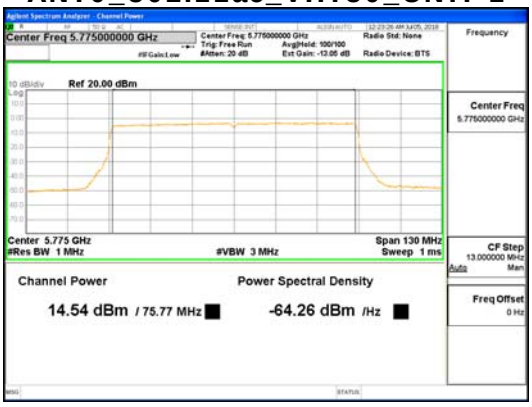
ANT3_802.11ac_VHT40_UNII-1





ANT3_802.11ac_VHT40_UNII-3

ANT0_802.11ac_VHT80_UNII-1



ANT0_802.11ac_VHT80_UNII-3

ANT1_802.11ac_VHT80_UNII-1

ANT1_802.11ac_VHT80_UNII-3

ANT2_802.11ac_VHT80_UNII-1

ANT2_802.11ac_VHT80_UNII-3

ANT3_802.11ac_VHT80_UNII-1

ANT3_802.11ac_VHT80_UNII-3

4.4 Power Spectral Density

Test Procedures

Maximum Power Spectral Density (KDB 789033, Method SA-2)
Multiple Transmitter Output (KDB 662911 D01, D02)

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Test Settings :

Center frequency = the highest, middle and the lowest channels

a) RBW = 1 MHz, 500 KHz (UNII 3)

b) VBW = 3 MHz, 1.5 MHz (UNII 3)

c) Sweep time = auto

d) Detector = power averaging (rms)

e) Trace mode = Average at least 100

f) Duty cycle factor = 10log(1/x)

Test mode	Duty Cycle Factor (dB)
802.11a	0.11
802.11n_HT20	0.00
802.11n_HT40	0.10
802.11ac_VHT20	0.00
802.11ac_VHT40	0.09
802.11ac_VHT80	0.24

Limit

Operating Mode	Band	Mode	ANT Configuration	ANT Gain (dBi)	Limit (dBm)
SISO	UNII 1	802.11a/n/ac	ANT0	7.91	15.09
			ANT1	7.89	15.11
			ANT2	7.85	15.15
			ANT3	7.93	15.07
	UNII 3		ANT0	7.91	28.09
			ANT1	7.89	28.11
			ANT2	7.85	28.15
			ANT3	7.93	28.07
MIMO (2Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1	10.91	12.09
	UNII 3				25.09
MIMO (3Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1 + ANT2	12.65	10.35
	UNII 3				23.35
MIMO (4Tx)	UNII 1	802.11a/n/ac	ANT0 + ANT1 + ANT2 + ANT3	13.92	9.08
	UNII 3				22.08

Test Data

ANT0

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	-0.36	0.11	-0.25	15.09	15.34
	5 200	0.43	0.11	0.54	15.09	14.55
	5 240	1.44	0.11	1.55	15.09	13.54
	5 745	0.27	0.11	0.38	28.09	27.71
	5 785	0.46	0.11	0.57	28.09	27.52
	5 825	1.13	0.11	1.24	28.09	26.85
802.11n _HT20	5 180	-0.05	0.00	-0.05	15.09	15.14
	5 200	0.5	0.00	0.50	15.09	14.59
	5 240	1.69	0.00	1.69	15.09	13.40
	5 745	0.09	0.00	0.09	28.09	28.00
	5 785	0.3	0.00	0.30	28.09	27.79
	5 825	0.73	0.00	0.73	28.09	27.36
802.11ac _VHT20	5 180	0.01	0.00	0.01	15.09	15.08
	5 200	0.56	0.00	0.56	15.09	14.53
	5 240	1.81	0.00	1.81	15.09	13.28
	5 745	0.23	0.00	0.23	28.09	27.86
	5 785	0.19	0.00	0.19	28.09	27.90
	5 825	0.89	0.00	0.89	28.09	27.20
802.11n _HT40	5 190	-2.94	0.10	-2.84	15.09	17.93
	5 230	-1.52	0.10	-1.42	15.09	16.51
	5 755	-2.75	0.10	-2.65	28.09	30.74
	5 795	-2.35	0.10	-2.25	28.09	30.34
802.11ac _VHT40	5 190	-2.73	0.09	-2.64	15.09	17.73
	5 230	-1.53	0.09	-1.44	15.09	16.53
	5 755	-2.6	0.09	-2.51	28.09	30.60
	5 795	-2.37	0.09	-2.28	28.09	30.37
802.11ac _VHT80	5 210	-7.1	0.24	-6.86	15.09	21.95
	5 775	-5.73	0.24	-5.49	28.09	33.58
Measurement uncertainty		± 1.5 dB				

ANT1

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	0.06	0.11	0.17	15.11	14.94
	5 200	0.42	0.11	0.53	15.11	14.58
	5 240	1.56	0.11	1.67	15.11	13.44
	5 745	0.70	0.11	0.81	28.11	27.30
	5 785	0.15	0.11	0.26	28.11	27.85
	5 825	-0.13	0.11	-0.02	28.11	28.13
802.11n _HT20	5 180	0.15	0.00	0.15	15.11	14.96
	5 200	0.38	0.00	0.38	15.11	14.73
	5 240	1.60	0.00	1.60	15.11	13.51
	5 745	0.05	0.00	0.05	28.11	28.06
	5 785	-0.45	0.00	-0.45	28.11	28.56
	5 825	-0.39	0.00	-0.39	28.11	28.50
802.11ac _VHT20	5 180	-0.09	0.00	-0.09	15.11	15.20
	5 200	0.49	0.00	0.49	15.11	14.62
	5 240	1.55	0.00	1.55	15.11	13.56
	5 745	0.18	0.00	0.18	28.11	27.93
	5 785	-0.27	0.00	-0.27	28.11	28.38
	5 825	-0.61	0.00	-0.61	28.11	28.72
802.11n _HT40	5 190	-3.89	0.10	-3.79	15.11	18.90
	5 230	-2.68	0.10	-2.58	15.11	17.69
	5 755	-2.69	0.10	-2.59	28.11	30.70
	5 795	-2.87	0.10	-2.77	28.11	30.88
802.11ac _VHT40	5 190	-3.84	0.09	-3.75	15.11	18.86
	5 230	-2.85	0.09	-2.76	15.11	17.87
	5 755	-2.89	0.09	-2.80	28.11	30.91
	5 795	-3.14	0.09	-3.05	28.11	31.16
802.11ac _VHT80	5 210	-8.16	0.24	-7.92	15.11	23.03
	5 775	-5.95	0.24	-5.71	28.11	33.82
Measurement uncertainty		± 1.5 dB				

ANT2

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	0.64	0.11	0.75	15.15	14.40
	5 200	1.01	0.11	1.12	15.15	14.03
	5 240	2.22	0.11	2.33	15.15	12.82
	5 745	1.38	0.11	1.49	28.15	26.66
	5 785	0.92	0.11	1.03	28.15	27.12
	5 825	0.52	0.11	0.63	28.15	27.52
802.11n _HT20	5 180	0.75	0.00	0.75	15.15	14.40
	5 200	1.02	0.00	1.02	15.15	14.13
	5 240	1.98	0.00	1.98	15.15	13.17
	5 745	1.01	0.00	1.01	28.15	27.14
	5 785	0.38	0.00	0.38	28.15	27.77
	5 825	0.31	0.00	0.31	28.15	27.84
802.11ac _VHT20	5 180	0.48	0.00	0.48	15.15	14.67
	5 200	0.81	0.00	0.81	15.15	14.34
	5 240	2.05	0.00	2.05	15.15	13.10
	5 745	0.73	0.00	0.73	28.15	27.42
	5 785	0.18	0.00	0.18	28.15	27.97
	5 825	-0.06	0.00	-0.06	28.15	28.21
802.11n _HT40	5 190	-3.28	0.10	-3.18	15.15	18.33
	5 230	-2.13	0.10	-2.03	15.15	17.18
	5 755	-1.97	0.10	-1.87	28.15	30.02
	5 795	-2.26	0.10	-2.16	28.15	30.31
802.11ac _VHT40	5 190	-3.18	0.09	-3.09	15.15	18.24
	5 230	-2.14	0.09	-2.05	15.15	17.20
	5 755	-1.86	0.09	-1.77	28.15	29.92
	5 795	-2.46	0.09	-2.37	28.15	30.52
802.11ac _VHT80	5 210	-7.52	0.24	-7.28	15.15	22.43
	5 775	-5.05	0.24	-4.81	28.15	32.96
Measurement uncertainty		± 1.5 dB				

ANT3

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	0.05	0.11	0.16	15.07	14.91
	5 200	0.63	0.11	0.74	15.07	14.33
	5 240	2.19	0.11	2.30	15.07	12.77
	5 745	0.69	0.11	0.80	28.07	27.27
	5 785	0.92	0.11	1.03	28.07	27.04
	5 825	1.19	0.11	1.30	28.07	26.77
802.11n _HT20	5 180	-0.28	0.00	-0.28	15.07	15.35
	5 200	0.58	0.00	0.58	15.07	14.49
	5 240	1.92	0.00	1.92	15.07	13.15
	5 745	0.11	0.00	0.11	28.07	27.96
	5 785	-0.03	0.00	-0.03	28.07	28.10
	5 825	0.70	0.00	0.70	28.07	27.37
802.11ac _VHT20	5 180	-0.02	0.00	-0.02	15.07	15.09
	5 200	0.61	0.00	0.61	15.07	14.46
	5 240	2.03	0.00	2.03	15.07	13.04
	5 745	0.47	0.00	0.47	28.07	27.60
	5 785	0.33	0.00	0.33	28.07	27.74
	5 825	0.64	0.00	0.64	28.07	27.43
802.11n _HT40	5 190	-2.88	0.10	-2.78	15.07	17.85
	5 230	-1.19	0.10	-1.09	15.07	16.16
	5 755	-2.65	0.10	-2.55	28.07	30.62
	5 795	-2.48	0.10	-2.38	28.07	30.45
802.11ac _VHT40	5 190	-2.88	0.09	-2.79	15.07	17.86
	5 230	-1.43	0.09	-1.34	15.07	16.41
	5 755	-2.61	0.09	-2.52	28.07	30.59
	5 795	-2.52	0.09	-2.43	28.07	30.50
802.11ac _VHT80	5 210	-6.78	0.24	-6.54	15.07	21.61
	5 775	-5.78	0.24	-5.54	28.07	33.61
Measurement uncertainty		± 1.5 dB				

ANT0 + ANT1

Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	2.87	0.11	2.98	12.09	9.11
	5 200	3.44	0.11	3.55	12.09	8.54
	5 240	4.51	0.11	4.62	12.09	7.47
	5 745	3.50	0.11	3.61	25.09	21.48
	5 785	3.32	0.11	3.43	25.09	21.66
	5 825	3.56	0.11	3.67	25.09	21.42
802.11n _HT20	5 180	3.06	0.00	3.06	12.09	9.03
	5 200	3.45	0.00	3.45	12.09	8.64
	5 240	4.66	0.00	4.66	12.09	7.43
	5 745	3.08	0.00	3.08	25.09	22.01
	5 785	2.95	0.00	2.95	25.09	22.14
	5 825	3.22	0.00	3.22	25.09	21.87
802.11ac _VHT20	5 180	2.97	0.00	2.97	12.09	9.12
	5 200	3.54	0.00	3.54	12.09	8.55
	5 240	4.69	0.00	4.69	12.09	7.40
	5 745	3.22	0.00	3.22	25.09	21.87
	5 785	2.98	0.00	2.98	25.09	22.11
	5 825	3.21	0.00	3.21	25.09	21.88
802.11n _HT40	5 190	-0.38	0.10	-0.28	12.09	12.37
	5 230	0.95	0.10	1.05	12.09	11.04
	5 755	0.29	0.10	0.39	25.09	24.70
	5 795	0.41	0.10	0.51	25.09	24.58
802.11ac _VHT40	5 190	-0.24	0.09	-0.15	12.09	12.24
	5 230	0.87	0.09	0.96	12.09	11.13
	5 755	0.27	0.09	0.36	25.09	24.73
	5 795	0.27	0.09	0.36	25.09	24.73
802.11ac _VHT80	5 210	-4.59	0.24	-4.35	12.09	16.44
	5 775	-2.83	0.24	-2.59	25.09	27.68
Measurement uncertainty		± 1.5 dB				

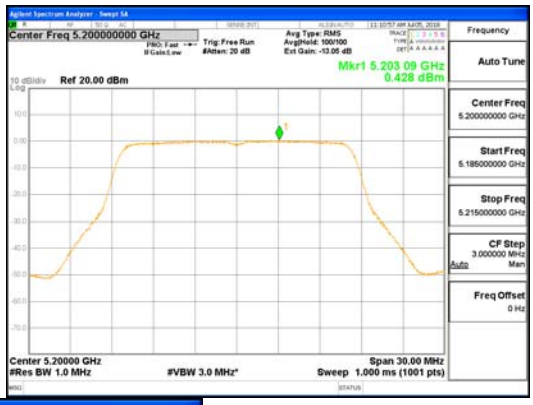
ANT0 + ANT1 + ANT2

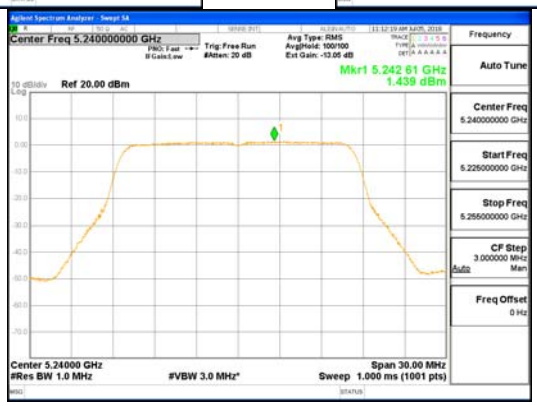
Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	4.90	0.11	5.01	10.35	5.34
	5 200	5.40	0.11	5.51	10.35	4.84
	5 240	6.52	0.11	6.63	10.35	3.72
	5 745	5.58	0.11	5.69	23.35	17.66
	5 785	5.29	0.11	5.40	23.35	17.95
	5 825	5.31	0.11	5.42	23.35	17.93
802.11n _HT20	5 180	5.07	0.00	5.07	10.35	5.28
	5 200	5.41	0.00	5.41	10.35	4.94
	5 240	6.53	0.00	6.53	10.35	3.82
	5 745	5.18	0.00	5.18	23.35	18.17
	5 785	4.86	0.00	4.86	23.35	18.49
	5 825	5.01	0.00	5.01	23.35	18.34
802.11ac _VHT20	5 180	4.91	0.00	4.91	10.35	5.44
	5 200	5.39	0.00	5.39	10.35	4.96
	5 240	6.58	0.00	6.58	10.35	3.77
	5 745	5.16	0.00	5.16	23.35	18.19
	5 785	4.81	0.00	4.81	23.35	18.54
	5 825	4.89	0.00	4.89	23.35	18.46
802.11n _HT40	5 190	1.42	0.10	1.52	10.35	8.83
	5 230	2.69	0.10	2.79	10.35	7.56
	5 755	2.32	0.10	2.42	23.35	20.93
	5 795	2.29	0.10	2.39	23.35	20.96
802.11ac _VHT40	5 190	1.54	0.09	1.63	10.35	8.72
	5 230	2.63	0.09	2.72	10.35	7.63
	5 755	2.34	0.09	2.43	23.35	20.92
	5 795	2.13	0.09	2.22	23.35	21.13
802.11ac _VHT80	5 210	-2.80	0.24	-2.56	10.35	12.91
	5 775	-0.79	0.24	-0.55	23.35	23.90
Measurement uncertainty		± 1.5 dB				

ANT0 + ANT1 + ANT2 + ANT3

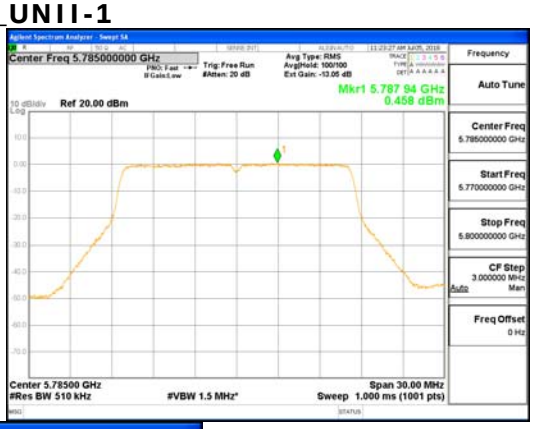
Test Mode	Frequency (MHz)	Measured Power Density (dBm)	Duty cycle Factor (dB)	Result Output Power (dBm)	Limit (dBm)	Margin (dB)
802.11a	5 180	6.13	0.11	6.24	9.08	2.84
	5 200	6.65	0.11	6.76	9.08	2.32
	5 240	7.89	0.11	8.00	9.08	1.08
	5 745	6.80	0.11	6.91	22.08	15.17
	5 785	6.65	0.11	6.76	22.08	15.32
	5 825	6.73	0.11	6.84	22.08	15.24
802.11n _HT20	5 180	6.18	0.00	6.18	9.08	2.90
	5 200	6.65	0.00	6.65	9.08	2.43
	5 240	7.82	0.00	7.82	9.08	1.26
	5 745	6.35	0.00	6.35	22.08	15.73
	5 785	6.08	0.00	6.08	22.08	16.00
	5 825	6.38	0.00	6.38	22.08	15.70
802.11ac _VHT20	5 180	6.12	0.00	6.12	9.08	2.96
	5 200	6.64	0.00	6.64	9.08	2.44
	5 240	7.89	0.00	7.89	9.08	1.19
	5 745	6.43	0.00	6.43	22.08	15.65
	5 785	6.13	0.00	6.13	22.08	15.95
	5 825	6.28	0.00	6.28	22.08	15.80
802.11n _HT40	5 190	2.79	0.10	2.89	9.08	6.19
	5 230	4.18	0.10	4.28	9.08	4.80
	5 755	3.52	0.10	3.62	22.08	18.46
	5 795	3.54	0.10	3.64	22.08	18.44
802.11ac _VHT40	5 190	2.88	0.09	2.97	9.08	6.11
	5 230	4.07	0.09	4.16	9.08	4.92
	5 755	3.55	0.09	3.64	22.08	18.44
	5 795	3.41	0.09	3.50	22.08	18.58
802.11ac _VHT80	5 210	-1.34	0.24	-1.10	9.08	10.18
	5 775	0.41	0.24	0.65	22.08	21.43
Measurement uncertainty		± 1.5 dB				

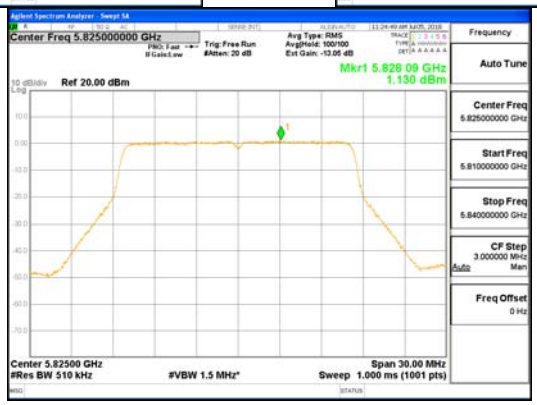
See next pages for actual measured spectrum plots.





ANT0_802.11a_UNII-1





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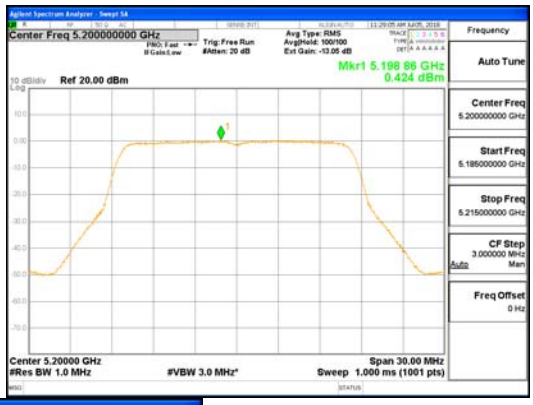

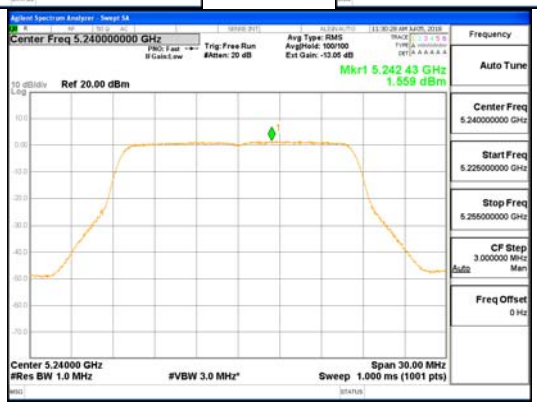

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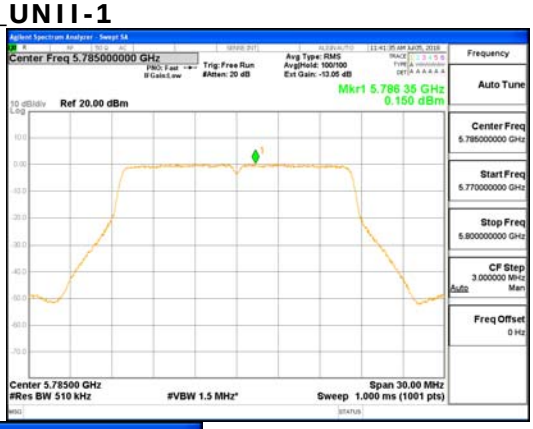

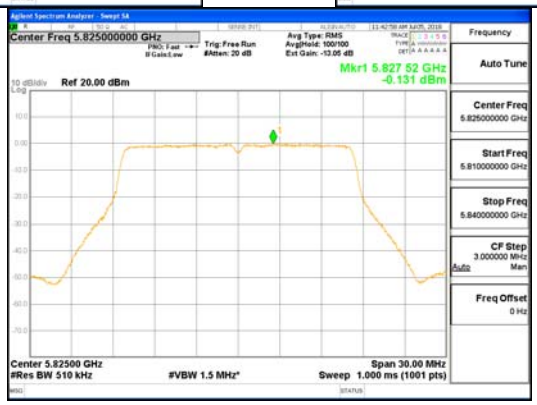

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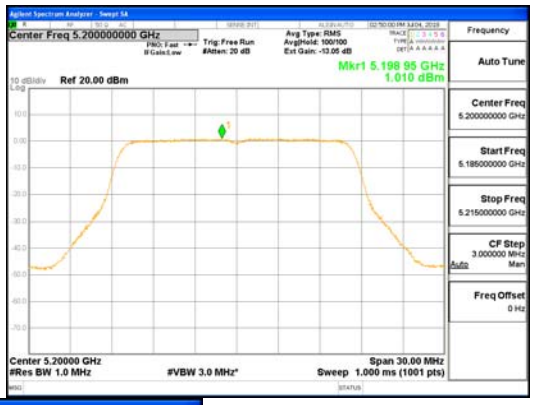

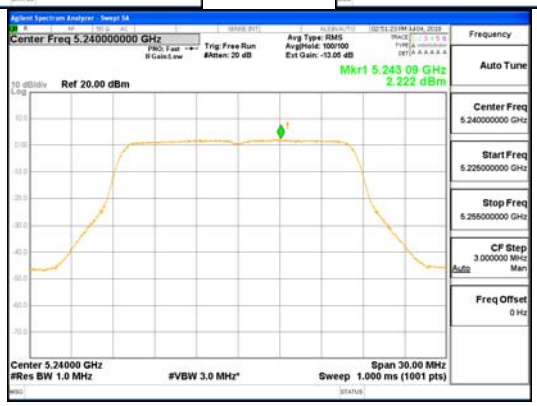

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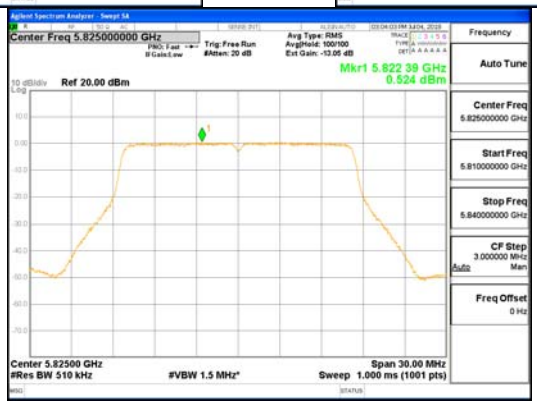

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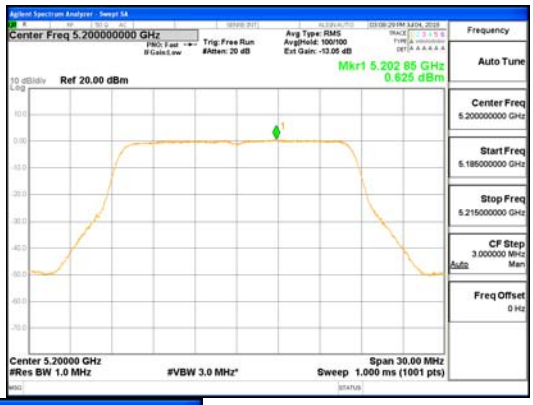
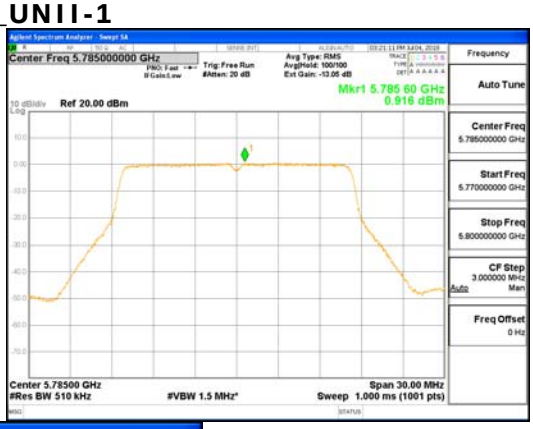
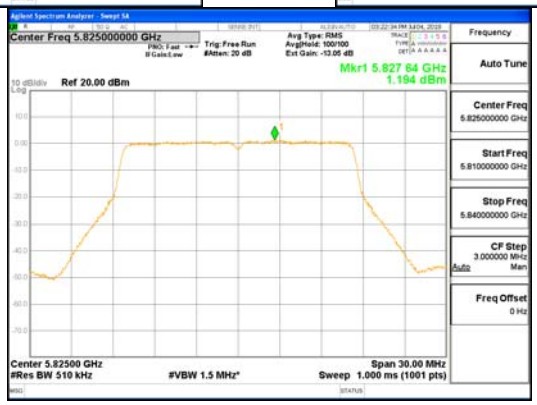


ANT3_802.11a_UNII-1





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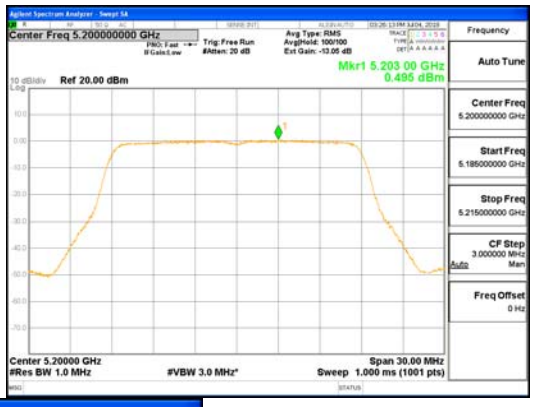

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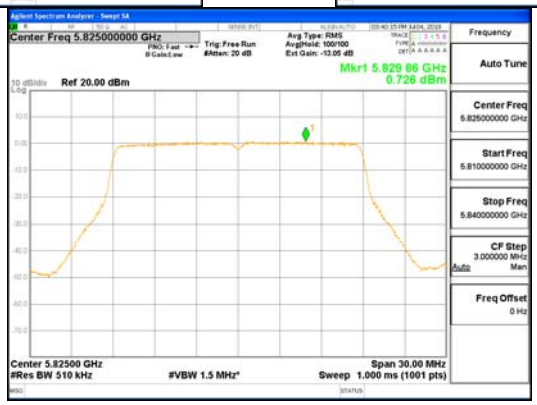

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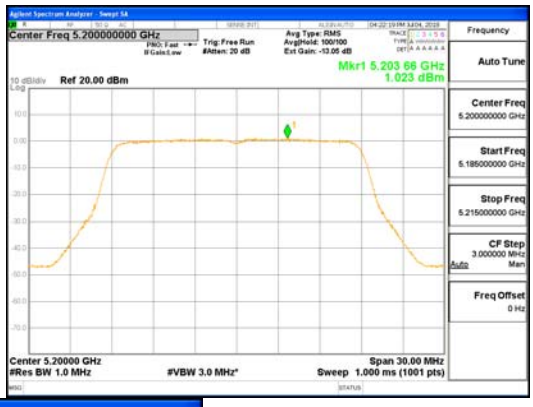
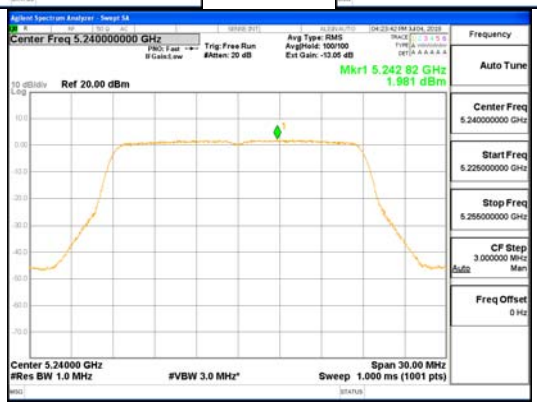
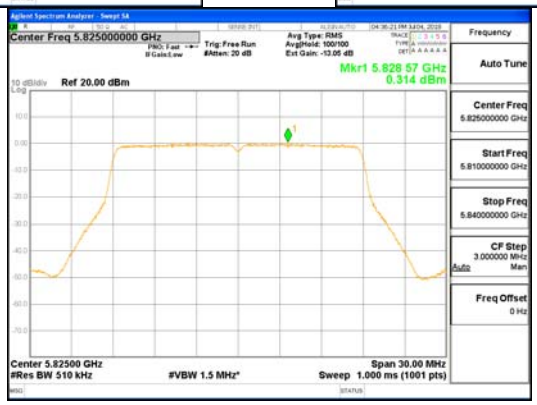
ANT1_802.11n_HT20_UNII-1

ANT1_802.11n_HT20_UNII-3



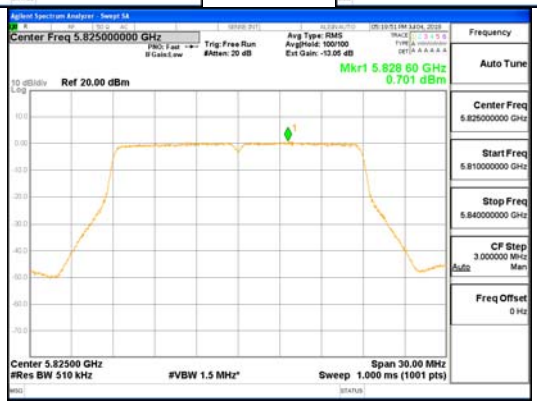


ANT2_802.11n_HT20_UNII-1



ANT2_802.11n_HT20_UNII-3

ANT3_802.11n_HT20_UNII-1



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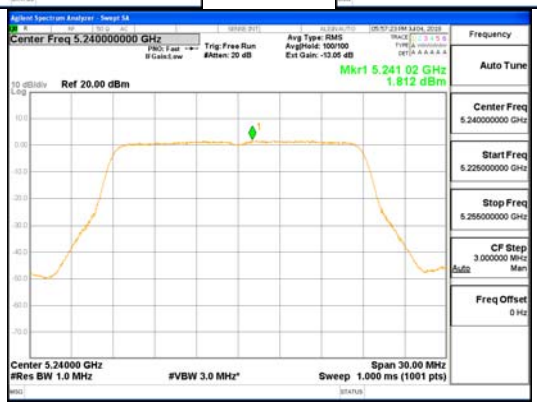

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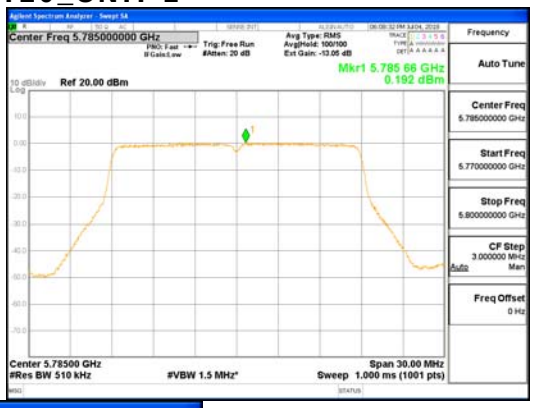

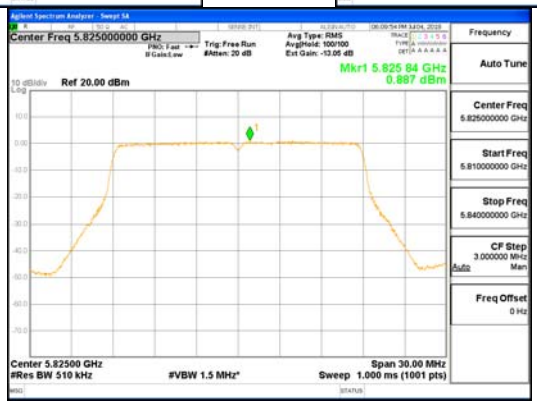

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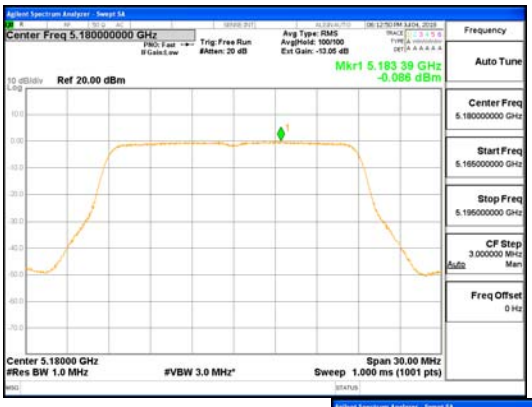
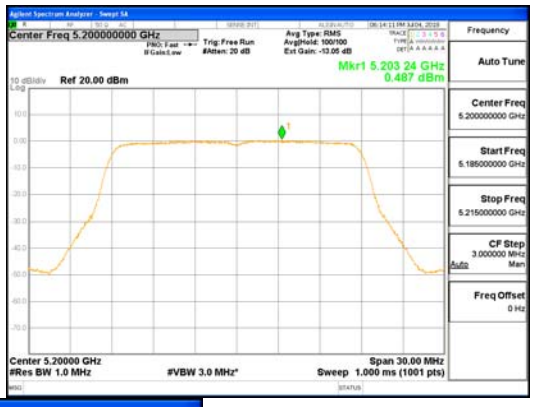
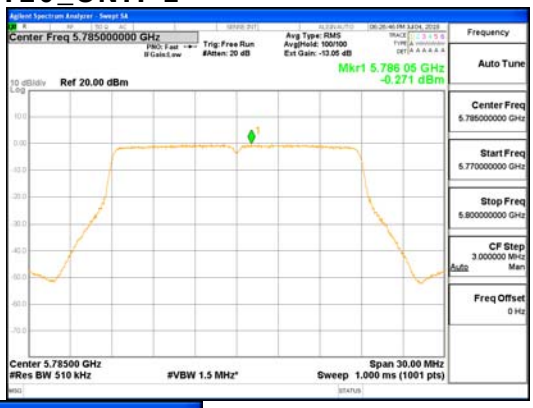


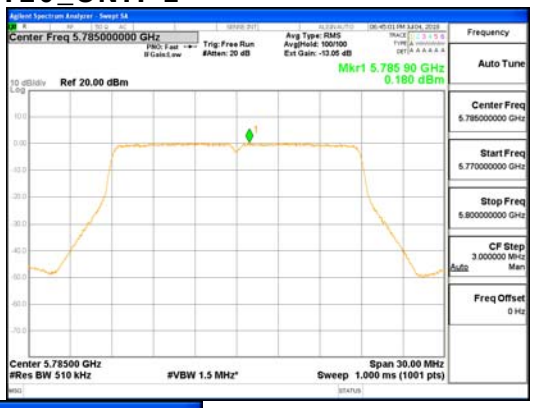


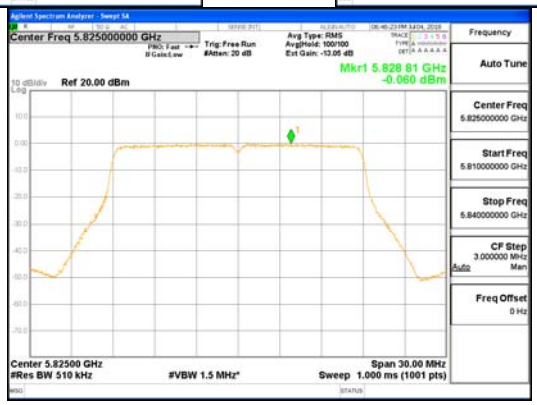
ANT1_802.11ac_VHT20_UNII-1



ANT1_802.11ac_VHT20_UNII-3

ANT2_802.11ac_VHT20_UNII-1





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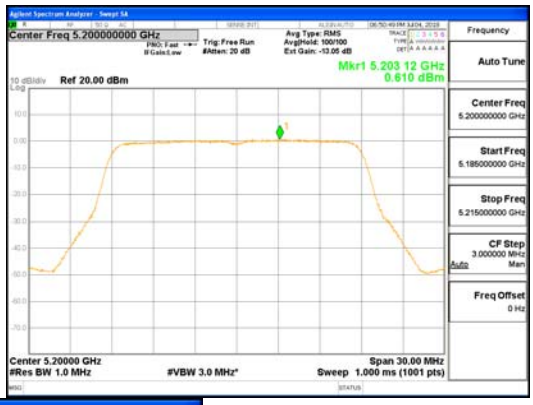

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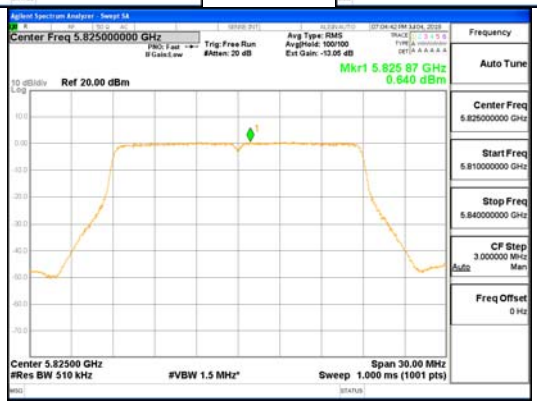

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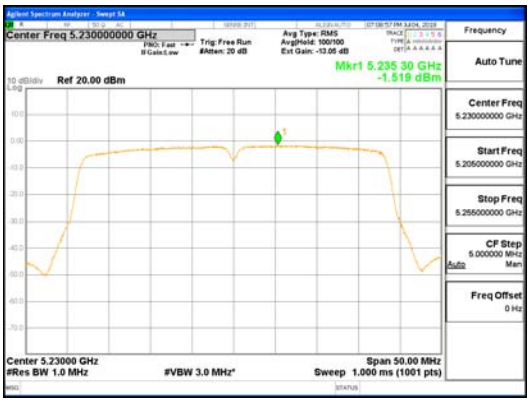

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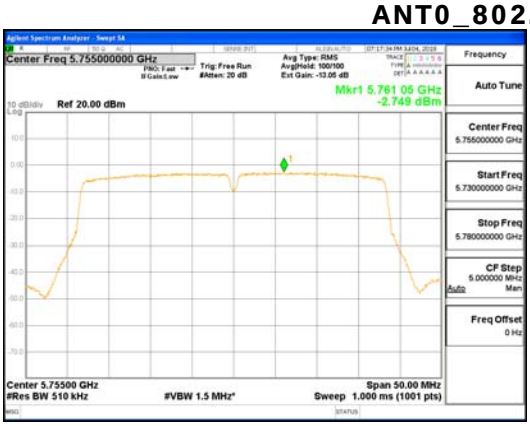

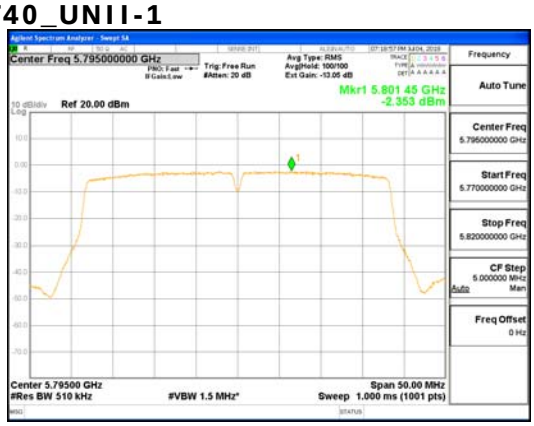

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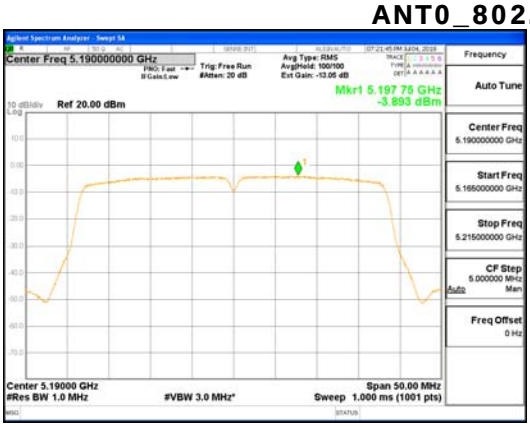
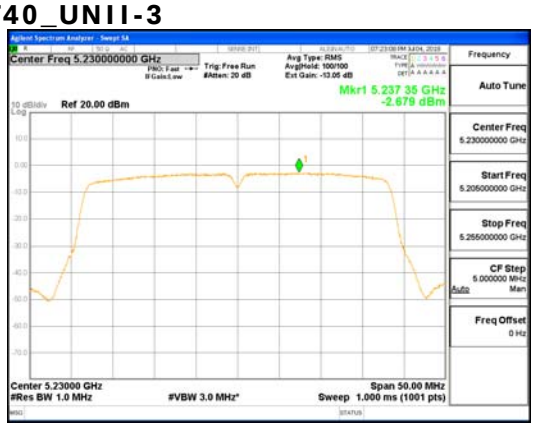
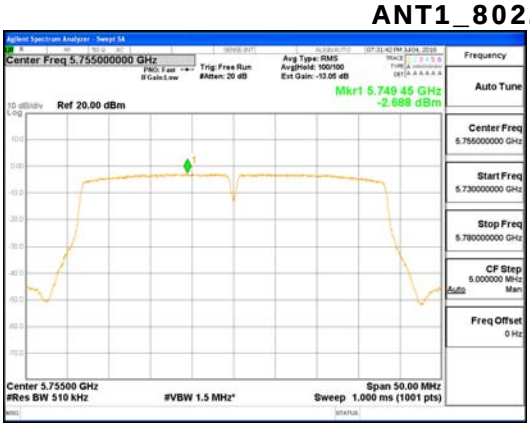
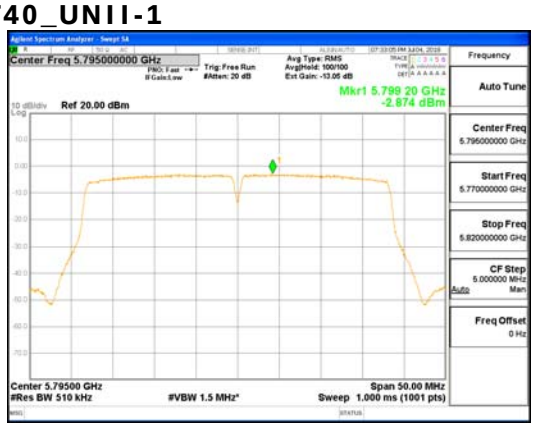




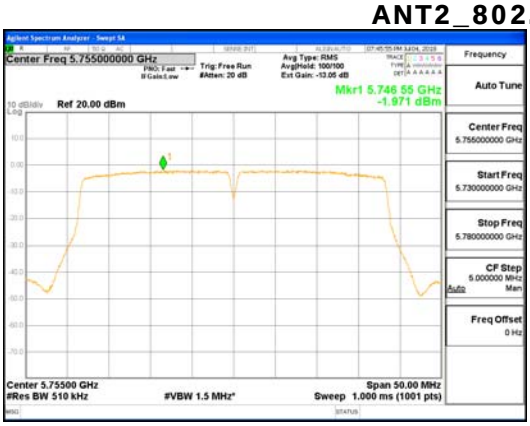
ANT1_802.11n_HT40_UNII-1

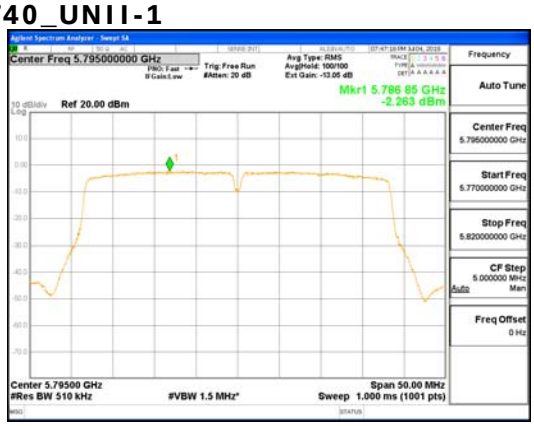




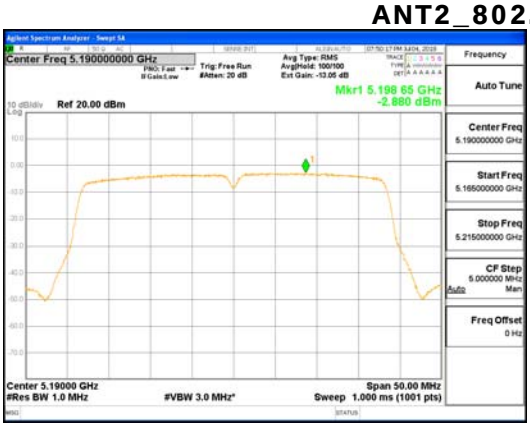
ANT1_802.11n_HT40_UNII-3

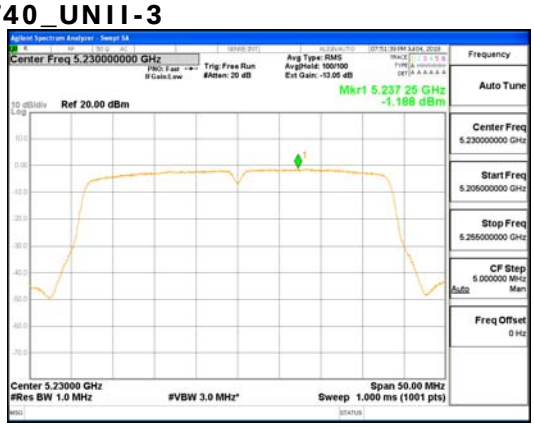
ANT2_802.11n_HT40_UNII-1



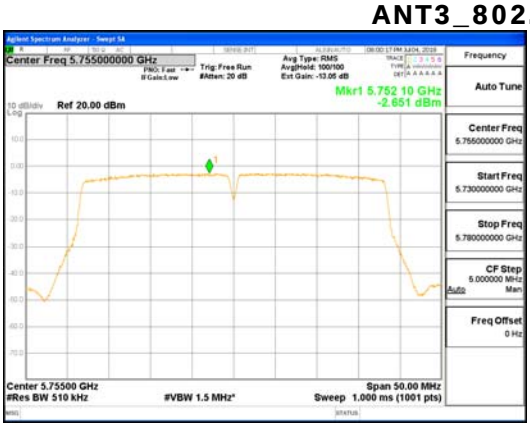


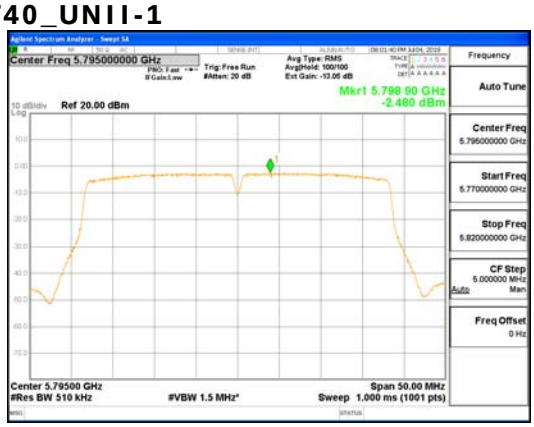
ANT2_802.11n_HT40_UNII-3





ANT3_802.11n_HT40_UNII-1





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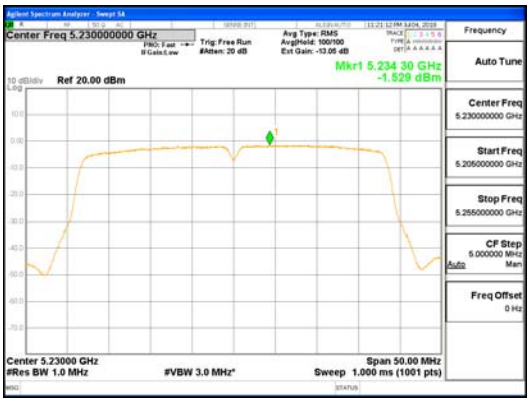
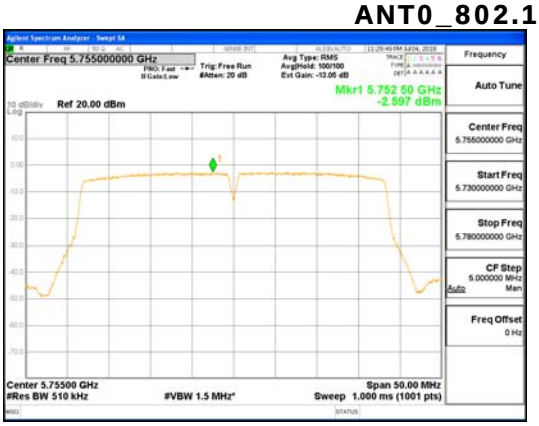
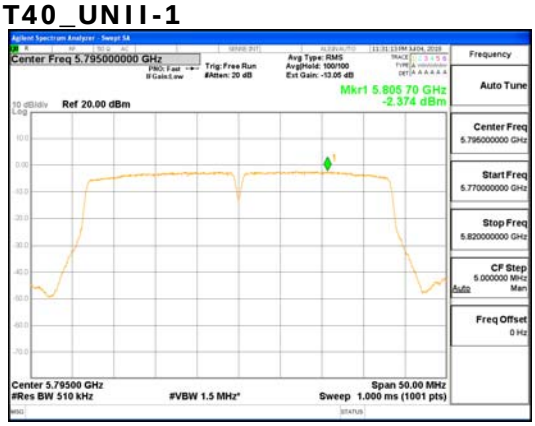
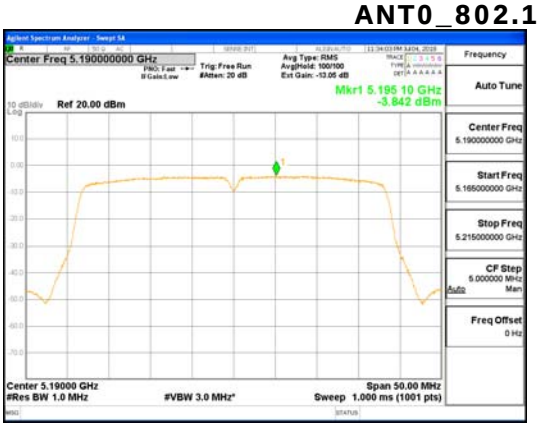


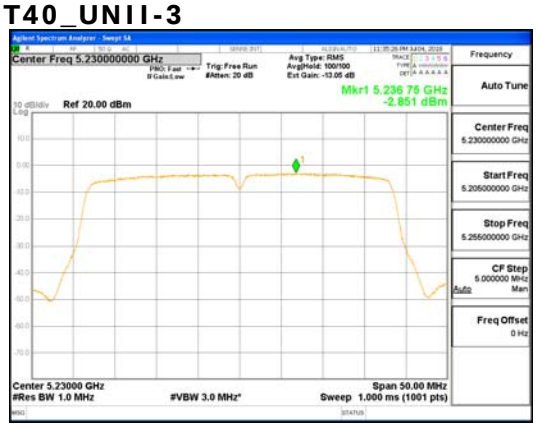
ANT0_802.11ac_VHT40_UNII-1



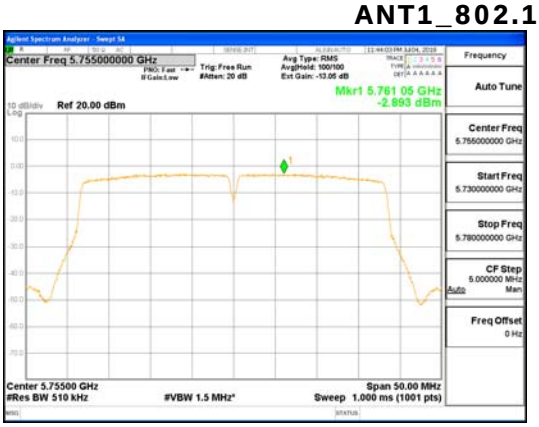


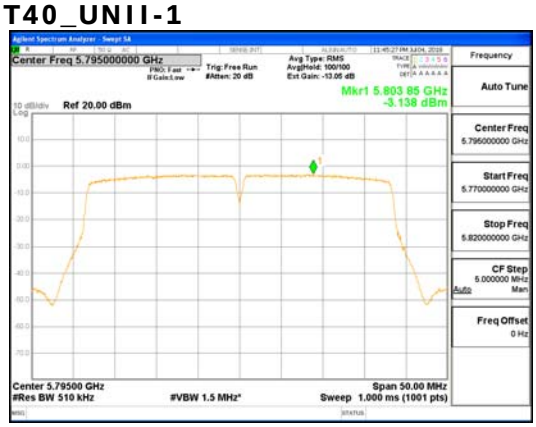
ANT0_802.11ac_VHT40_UNII-3





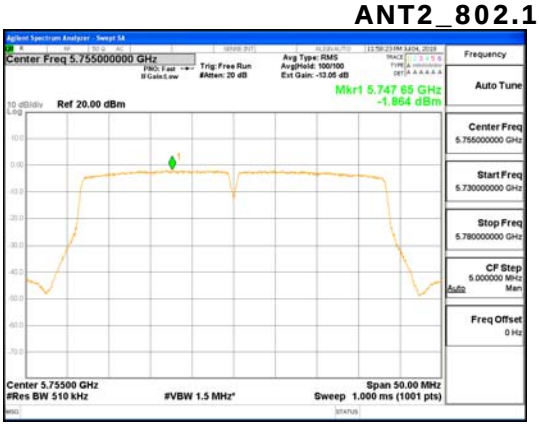
ANT1_802.11ac_VHT40_UNII-1

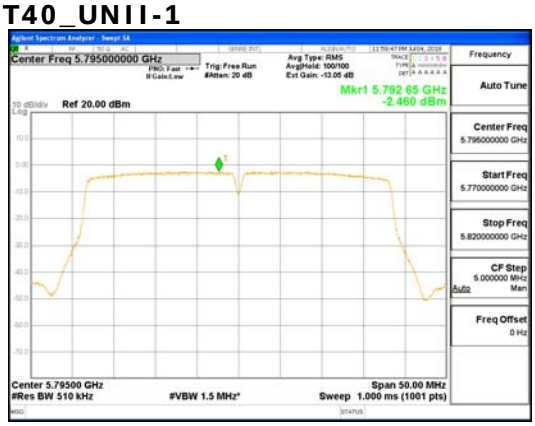




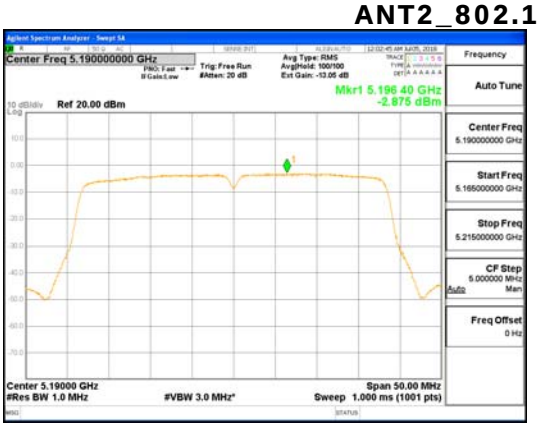
ANT1_802.11ac_VHT40_UNII-3

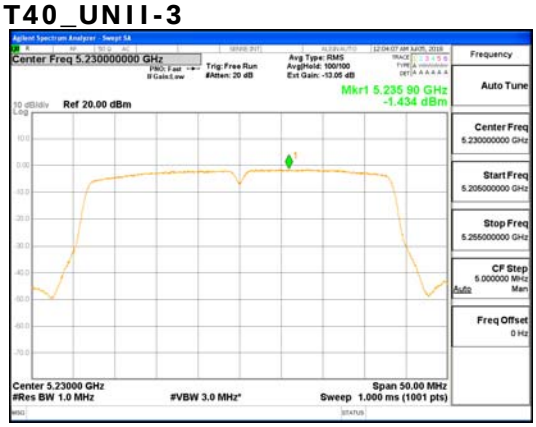
ANT2_802.11ac_VHT40_UNII-1



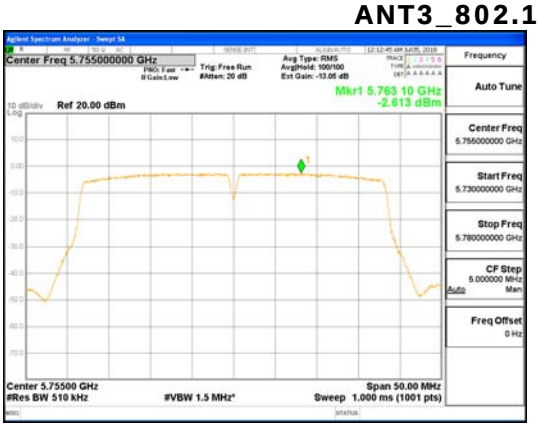


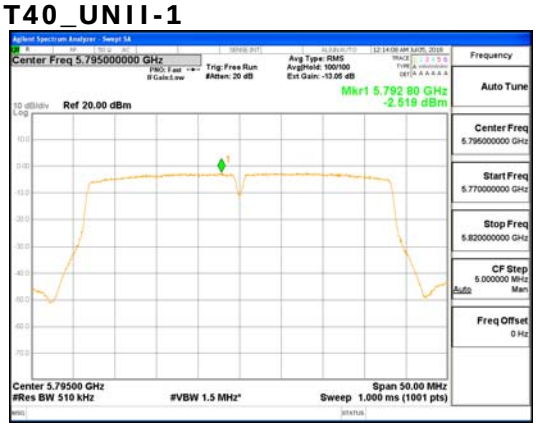
ANT2_802.11ac_VHT40_UNII-3





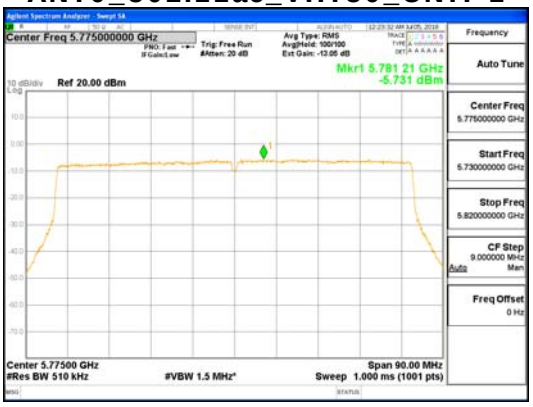
ANT3_802.11ac_VHT40_UNII-1





ANT3_802.11ac_VHT40_UNII-3

ANT0_802.11ac_VHT80_UNII-1

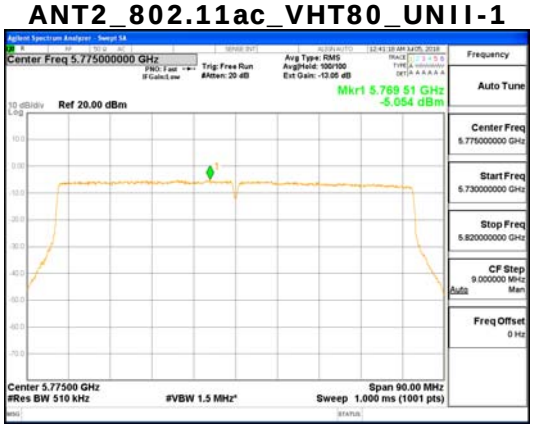


ANT0_802.11ac_VHT80_UNII-3

ANT1_802.11ac_VHT80_UNII-1

ANT1_802.11ac_VHT80_UNII-3

ANT2_802.11ac_VHT80_UNII-1



ANT2_802.11ac_VHT80_UNII-3

ANT3_802.11ac_VHT80_UNII-1

ANT3_802.11ac_VHT80_UNII-3