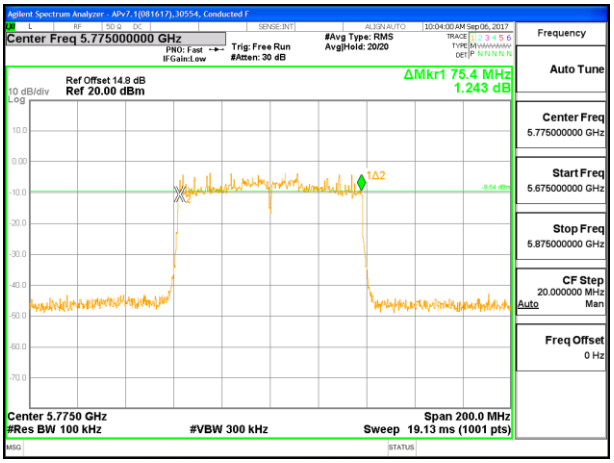
10.3.3. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

1TX Antenna A

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Mid	5775	75.4	0.5
138	5690	2.8	0.5

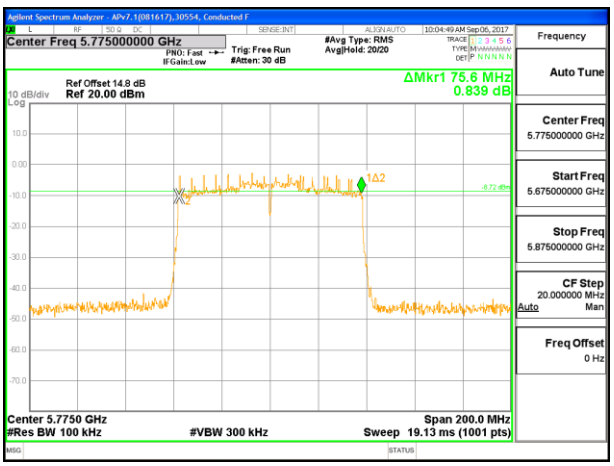


MID CHANNEL

CHANNEL 138

1TX Antenna B

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Mid	5775	75.6	0.5
138	5690	2.8	0.5



MID CHANNEL

CHANNEL 138

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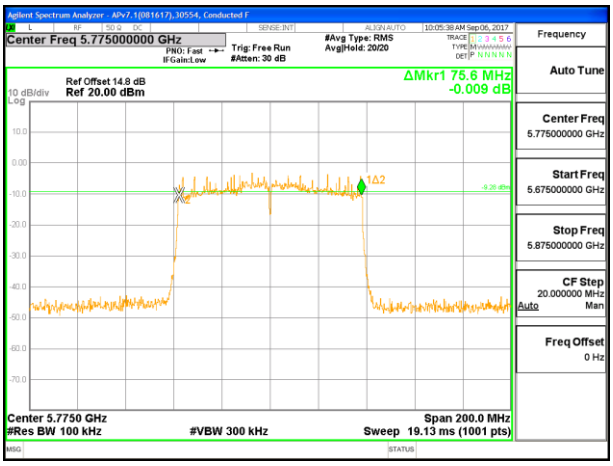
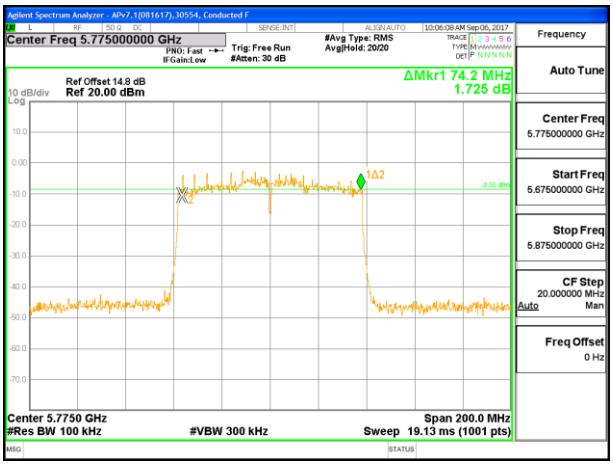
2TX Antenna A + Antenna B CDD MODE

Channel	Frequency (MHz)	6 dB BW Ant A (MHz)	6 dB BW Ant B (MHz)	Minimum Limit (MHz)
Mid	5775	75.6	74.2	0.5
138	5690	3.2	2.8	0.5

MID CHANNEL

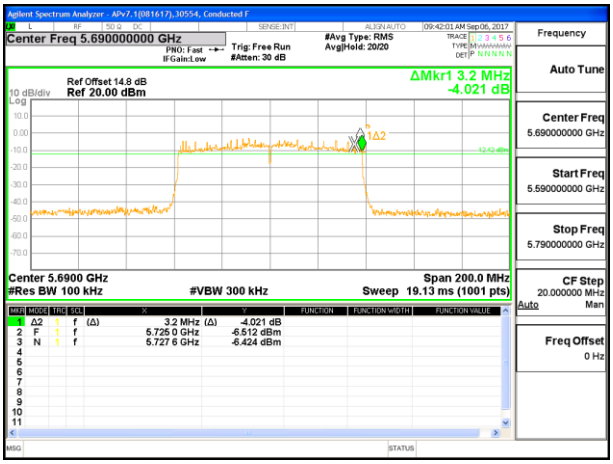


MID CHANNEL ANT A

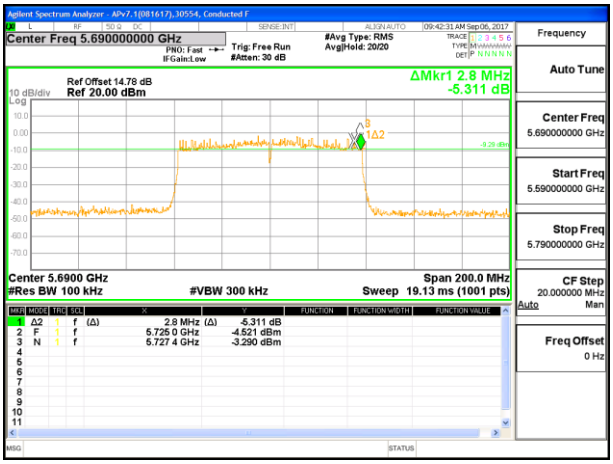


MID CHANNEL ANT B

CHANNEL 138



CHANNEL 138 ANT A



CHANNEL 138 ANT B

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10.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (1) (2) (3)
(a) 1
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. 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.

2) 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 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.

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(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

For 1 TX:
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

For 2 TX:

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Band (GHz)	Antenna A Gain (dBi)	Antenna B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
5.2	3.60	1.80	2.79
5.3	3.10	2.80	2.95
5.6	2.70	4.00	3.40
5.8	2.70	4.80	3.88

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Band (GHz)	Antenna A Gain (dBi)	Antenna B Gain (dBi)	Correlated Chains Directional Gain (dBi)
5.2	3.60	1.80	5.76
5.3	3.10	2.80	5.96
5.6	2.70	4.00	6.38
5.8	2.70	4.80	6.82

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10.4.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	3.60	3.60	24.00	11.00
Mid	5200	3.60	3.60	24.00	11.00
High	5240	3.60	3.60	24.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	16.88	16.88	24.00	-7.12
Mid	5200	19.97	19.97	24.00	-4.03
High	5240	19.74	19.74	24.00	-4.26

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	7.25	7.25	11.00	-3.76
Mid	5200	9.65	9.65	11.00	-1.35
High	5240	9.84	9.84	11.00	-1.16

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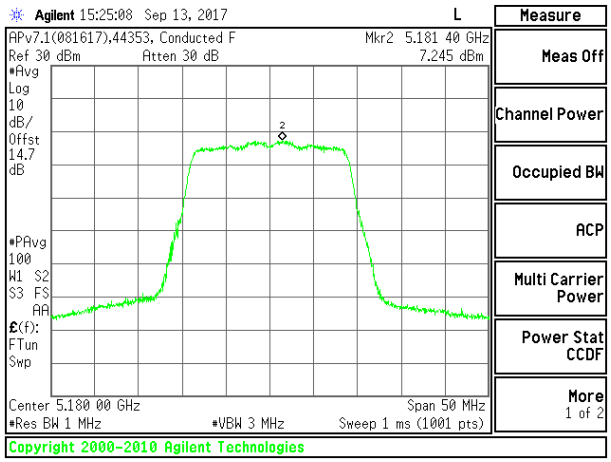
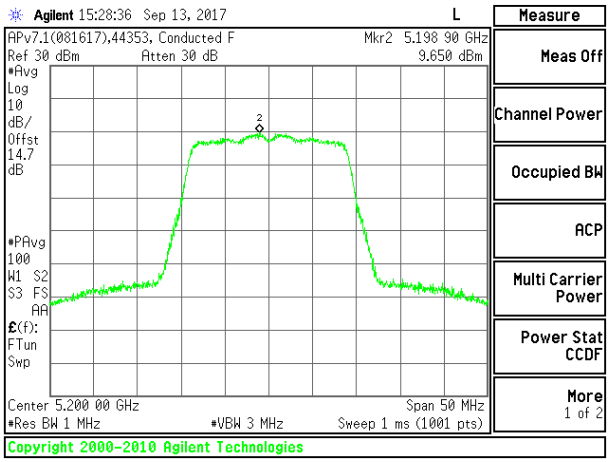


LOW CHANNEL



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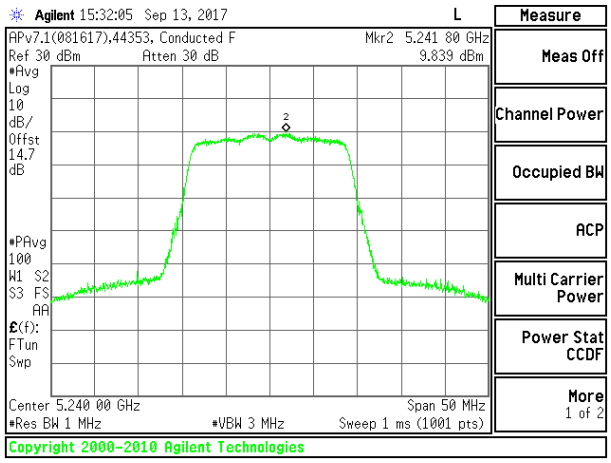

HIGH CHANNEL

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	1.80	1.80	24.00	11.00
Mid	5200	1.80	1.80	24.00	11.00
High	5240	1.80	1.80	24.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	16.90	16.90	24.00	-7.10
Mid	5200	19.79	19.79	24.00	-4.21
High	5240	19.99	19.99	24.00	-4.01

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	5.80	5.80	11.00	-5.20
Mid	5200	8.98	8.98	11.00	-2.02
High	5240	9.42	9.42	11.00	-1.58

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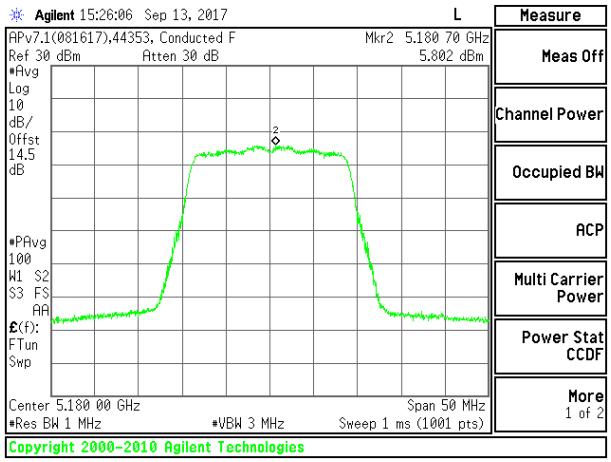
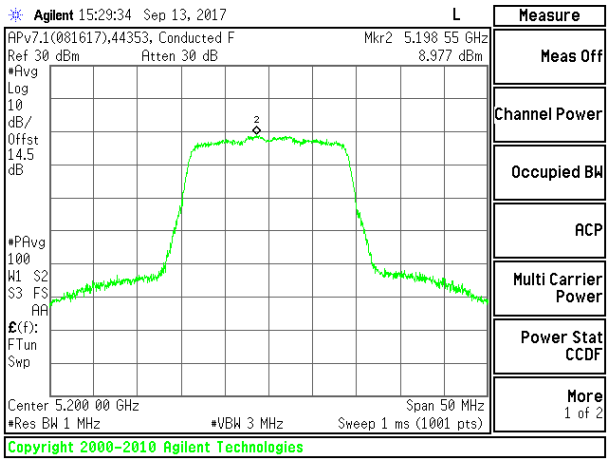
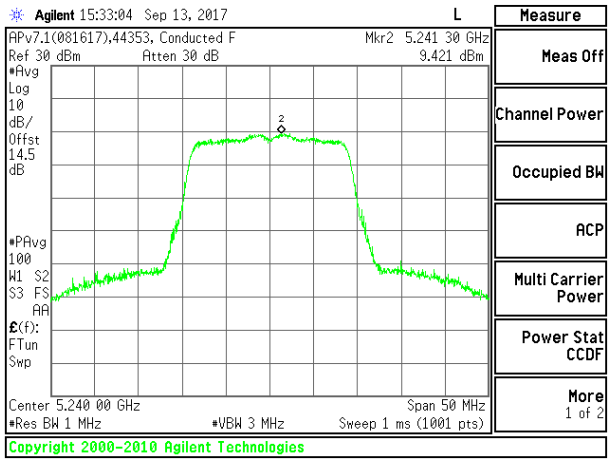


LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	2.79	5.76	24.00	11.00
Mid	5200	2.79	5.76	24.00	11.00
High	5240	2.79	5.76	24.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	15.88	15.94	18.92	24.00	-5.08
Mid	5200	15.92	15.83	18.89	24.00	-5.11
High	5240	15.79	15.87	18.84	24.00	-5.16

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	5.42	4.90	8.18	11.00	-2.82
Mid	5200	5.28	5.54	8.42	11.00	-2.58
High	5240	5.37	6.21	8.82	11.00	-2.18

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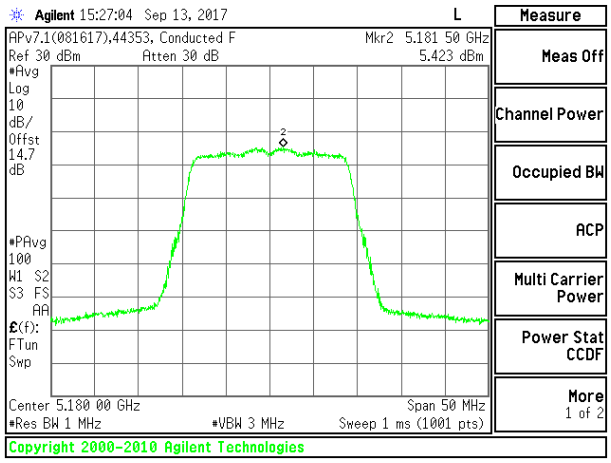
LOW CHANNEL



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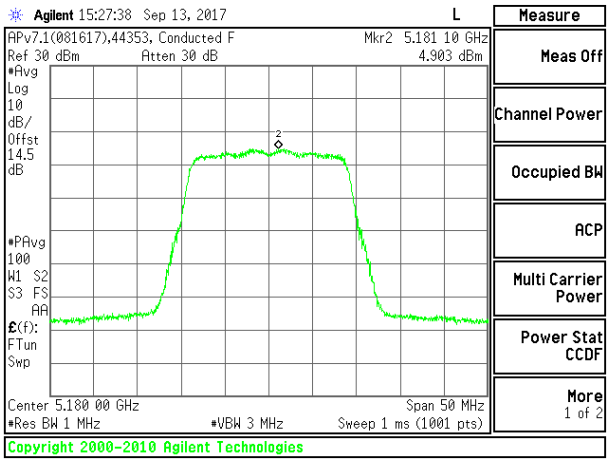
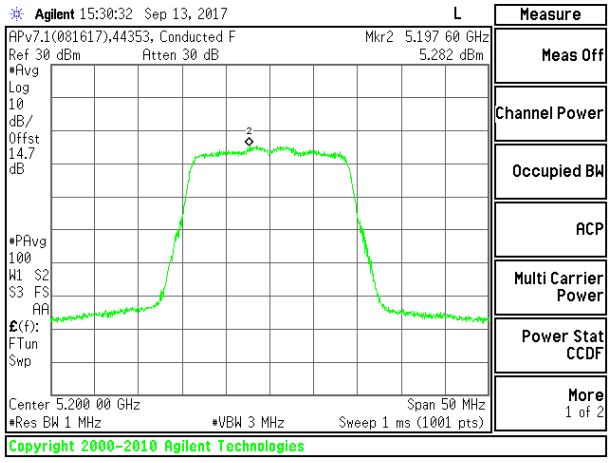


LOW CHANNEL ANT B

MID CHANNEL



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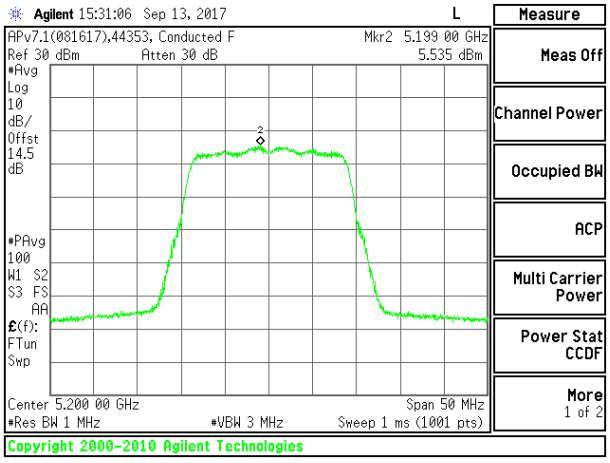
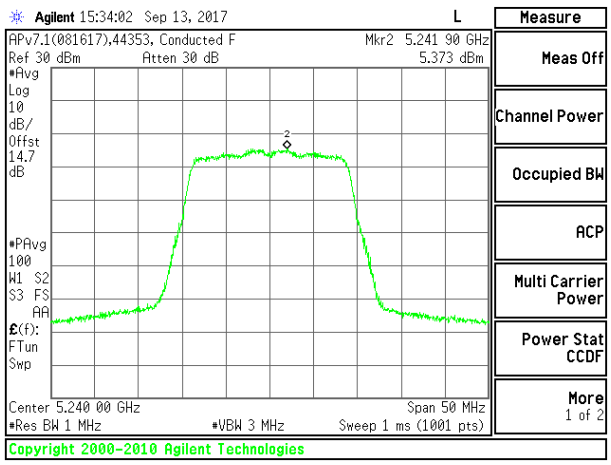


MID CHANNEL ANT B

HIGH CHANNEL



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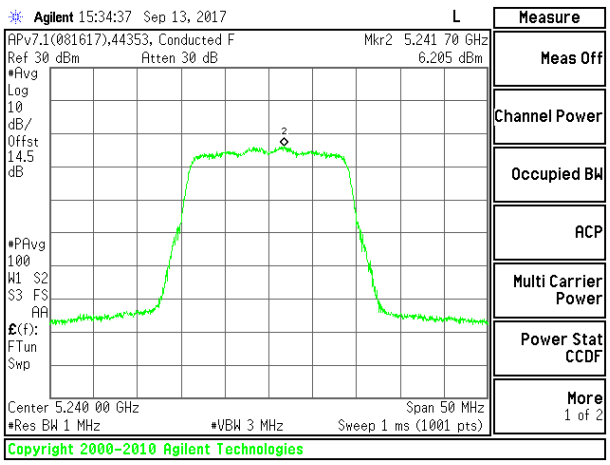

HIGH CHANNEL ANT B

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2TX Antenna A + Antenna B STBC MODE

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5200	2.79	2.79	24.00	11.00
High	5240	2.79	2.79	24.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5200	16.91	16.98	19.96	24.00	-4.04
High	5240	16.88	16.92	19.91	24.00	-4.09

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5200	6.28	6.56	9.43	11.00	-1.57
High	5240	6.68	6.90	9.80	11.00	-1.20

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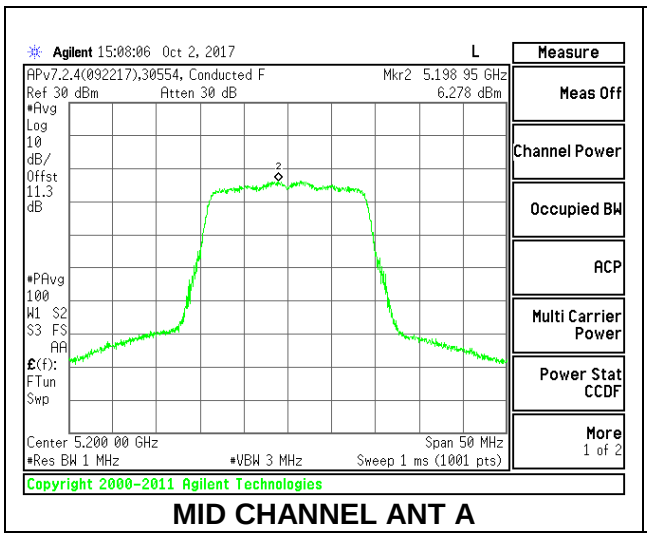
MID CHANNEL



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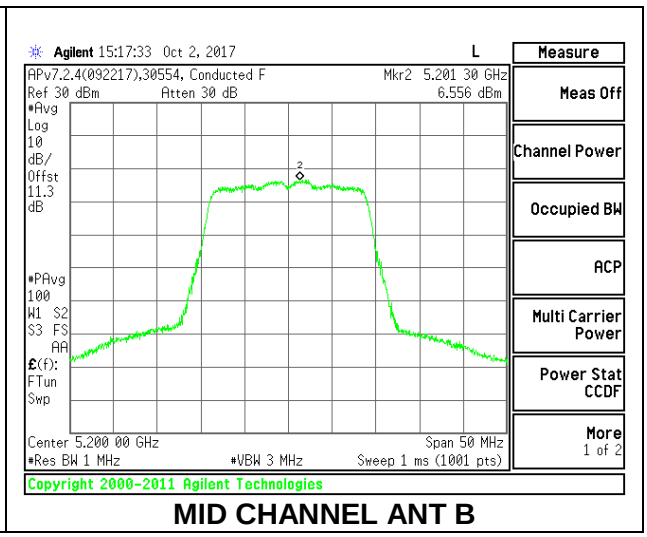
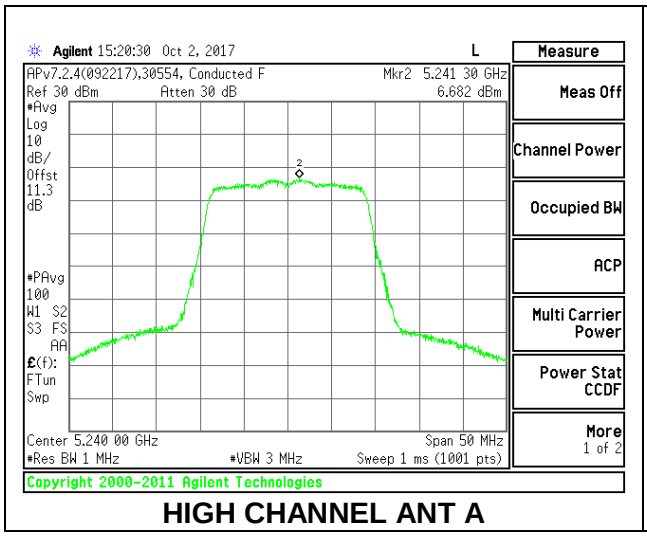
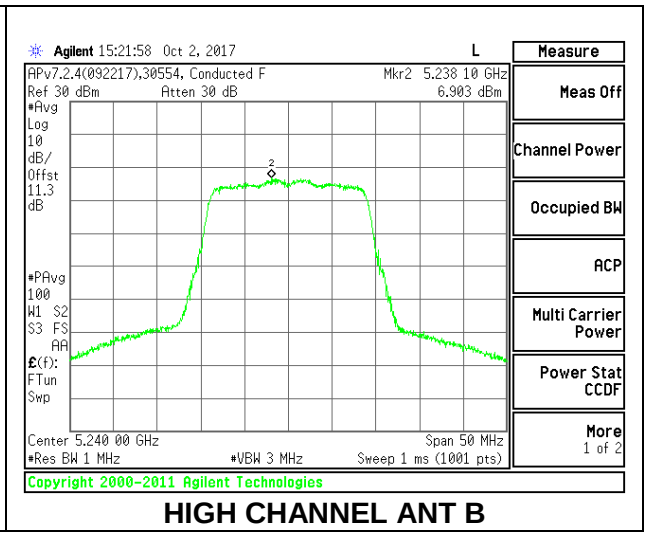


MID CHANNEL ANT B

HIGH CHANNEL



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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10.4.2. 802.11n HT40 MODE IN THE 5.2 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5190	3.60	3.60	24.00	11.00
High	5230	3.60	3.60	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	14.98	14.98	24.00	-9.02
High	5230	20.95	20.95	24.00	-3.05

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5190	1.407	1.51	11.00	-9.49
High	5230	7.975	8.08	11.00	-2.93

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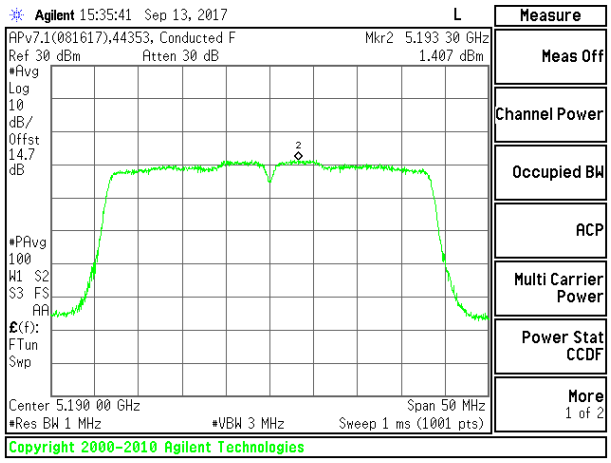
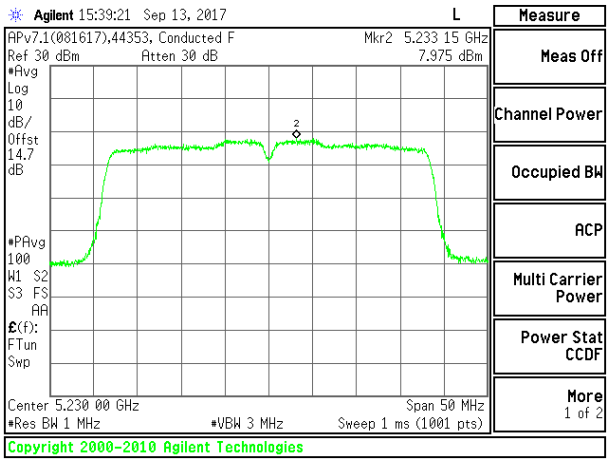


LOW CHANNEL



HIGH CHANNEL

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5190	1.80	1.80	24.00	11.00
High	5230	1.80	1.80	24.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	14.87	14.87	24.00	-9.13
High	5230	20.91	20.91	24.00	-3.09

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5190	1.592	1.69	11.00	-9.31
High	5230	7.522	7.62	11.00	-3.38

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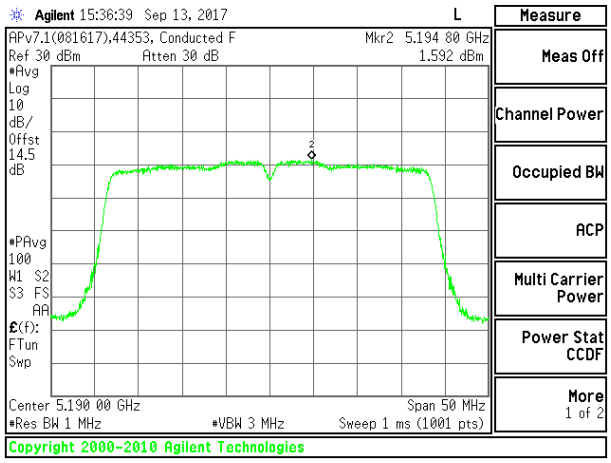
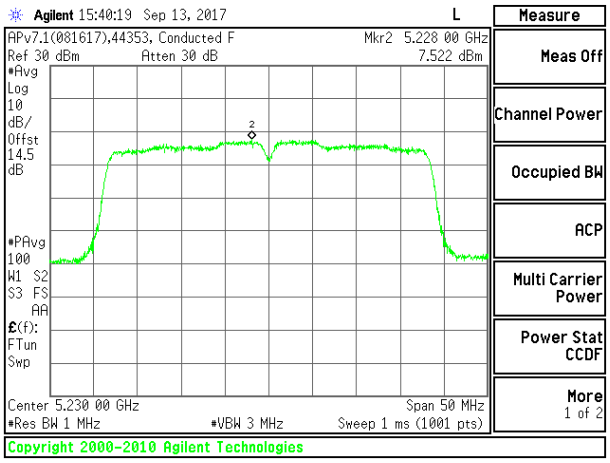


LOW CHANNEL



HIGH CHANNEL

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5190	2.79	5.76	24.00	11.00
High	5230	2.79	5.76	24.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	13.83	13.91	16.88	24.00	-7.12
High	5230	18.44	18.39	21.43	24.00	-2.57

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5190	0.65	0.24	3.56	11.00	-7.44
High	5230	5.39	4.98	8.30	11.00	-2.70

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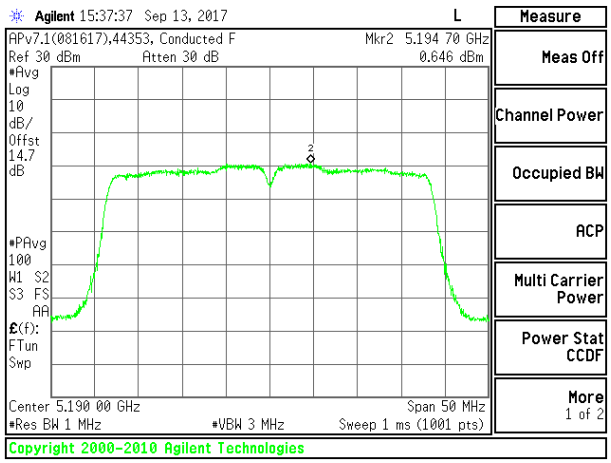
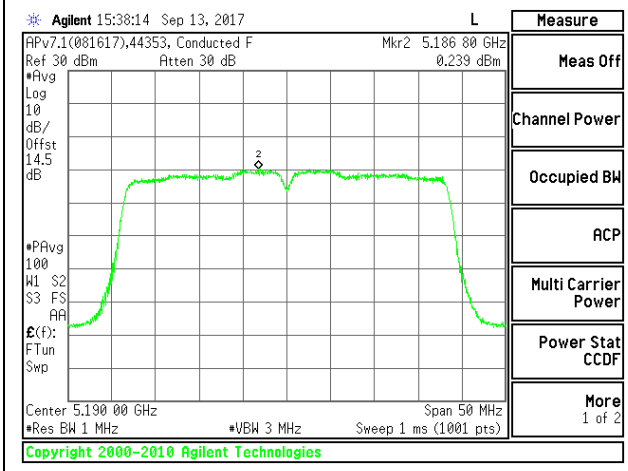
LOW CHANNEL

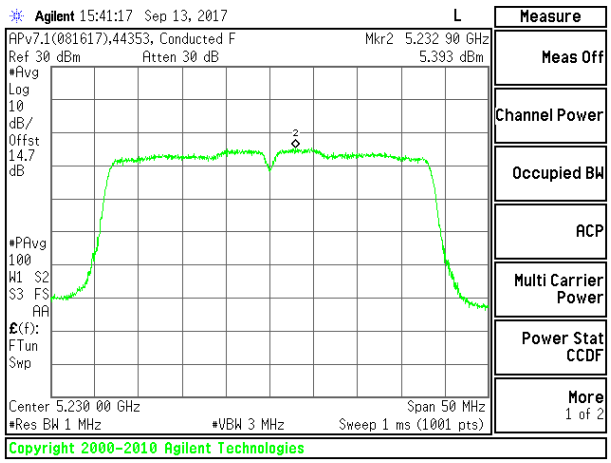


LOW CHANNEL ANT A



LOW CHANNEL ANT B

HIGH CHANNEL



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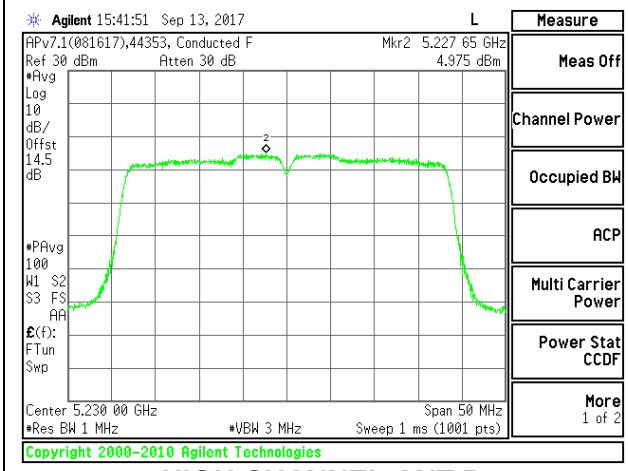

HIGH CHANNEL ANT B

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2TX Antenna A + Antenna B STBC MODE

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
High	5230	2.79	2.79	24.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
High	5230	19.37	19.44	22.42	24.00	-1.58

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
High	5230	6.42	6.31	9.47	11.00	-1.53

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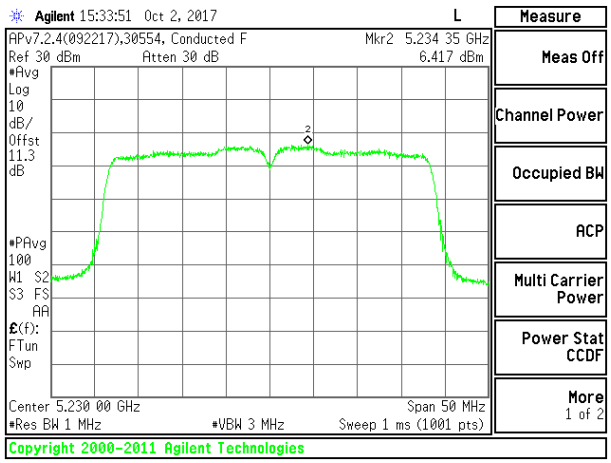
HIGH CHANNEL



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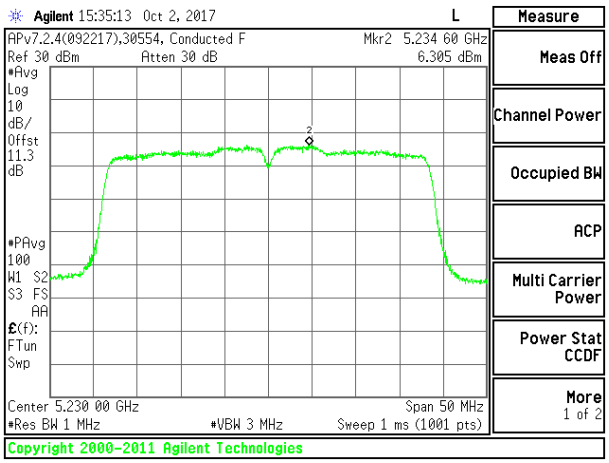

HIGH CHANNEL ANT B

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10.4.3. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	3.60	3.60	24.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	13.93	13.93	24.00	-10.07

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-1.784	-1.59	11.00	-12.59

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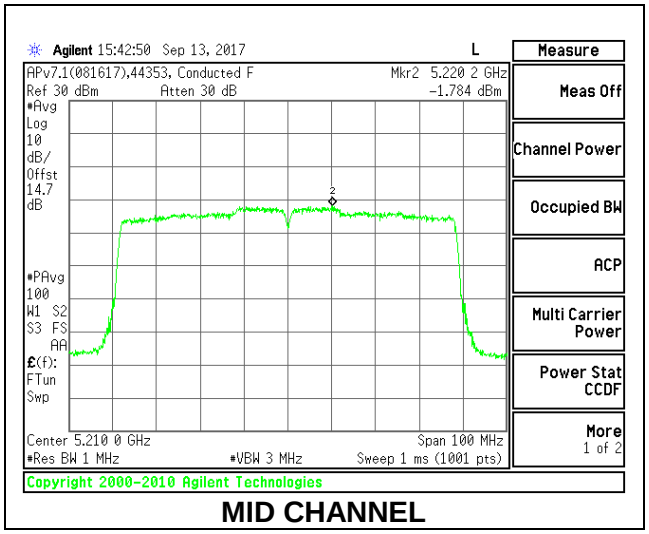

MID CHANNEL

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	1.80	1.80	24.00	11.00

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	13.99	13.99	24.00	-10.01

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-1.999	-1.81	11.00	-12.81

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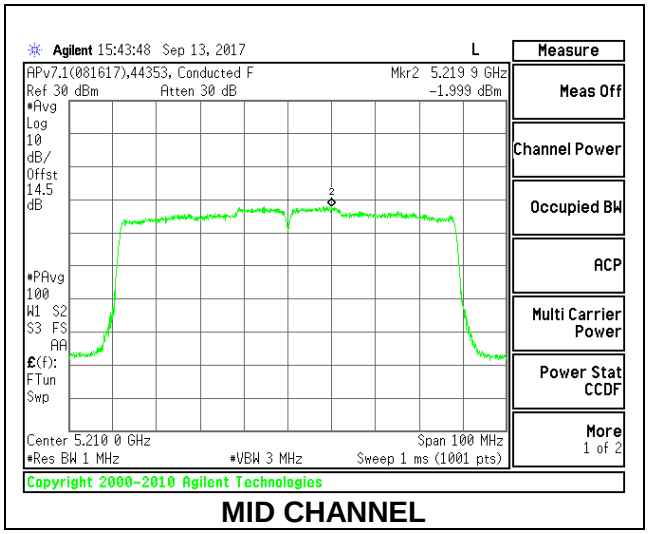

MID CHANNEL

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	2.79	5.76	24.00	11.00

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	13.44	13.42	16.44	24.00	-7.56

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-2.59	-2.96	0.43	11.00	-10.57

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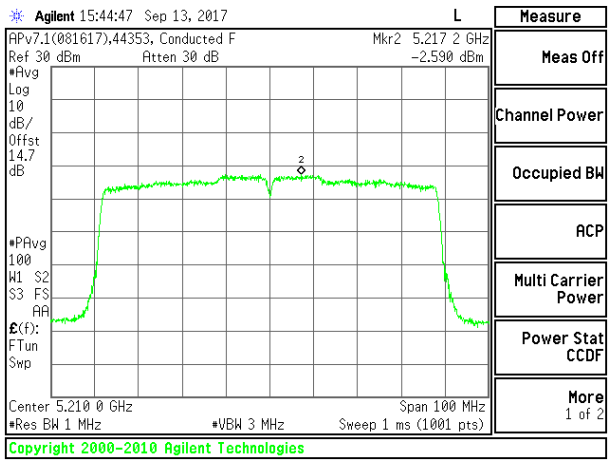
MID CHANNEL



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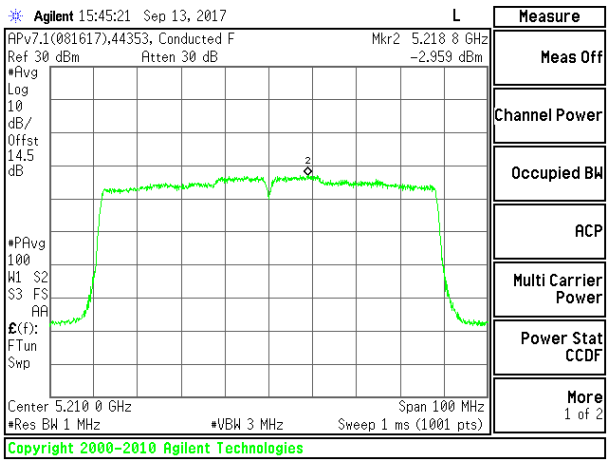

MID CHANNEL ANT B

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10.4.4. 802.11n HT20 MODE IN THE 5.3 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	22.00	17.639	3.10
Mid	5300	21.90	17.750	3.10
High	5320	22.00	17.732	3.10

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5260	24.00	23.46	29.46	23.46	11.00	11.00	11.00
Mid	5300	24.00	23.49	29.49	23.49	11.00	11.00	11.00
High	5320	24.00	23.49	29.49	23.49	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	19.88	19.88	23.46	-3.58
Mid	5300	19.76	19.76	23.49	-3.73
High	5320	16.84	16.84	23.49	-6.65

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	10.12	10.12	11.00	-0.88
Mid	5300	9.62	9.62	11.00	-1.38
High	5320	6.25	6.25	11.00	-4.75

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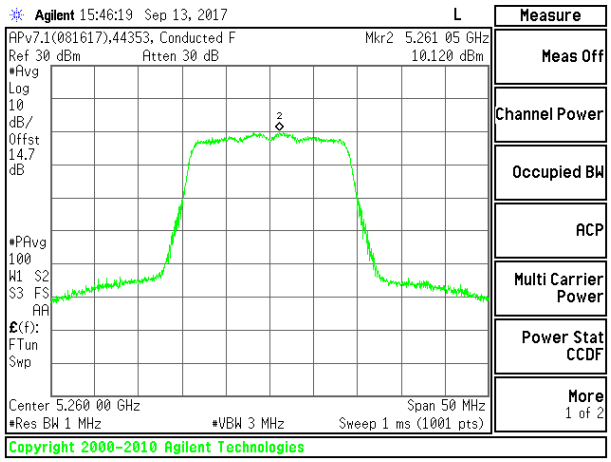
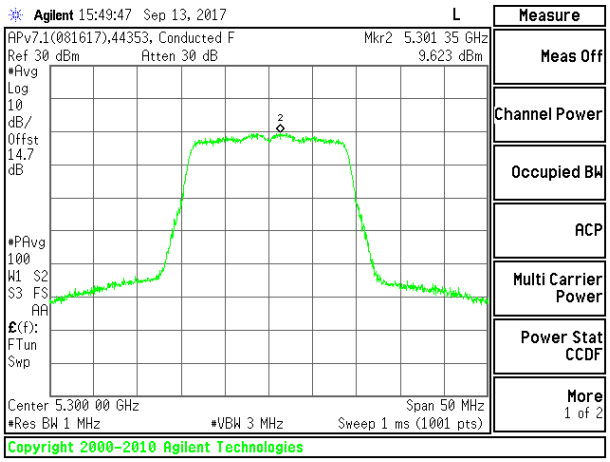


LOW CHANNEL



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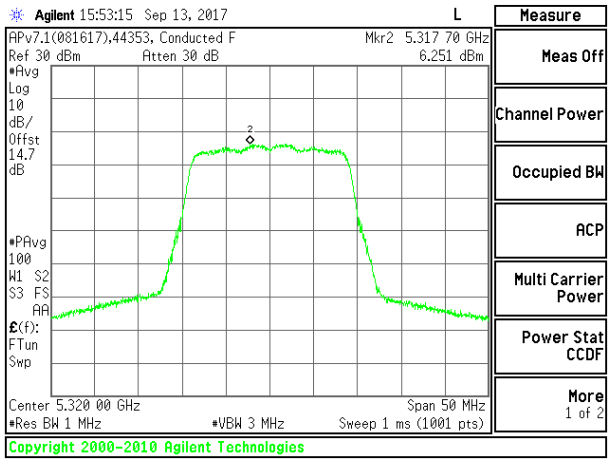

HIGH CHANNEL

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1TX Antenna B

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5260	21.90	17.731	2.80
Mid	5300	22.05	17.668	2.80
High	5320	21.90	17.747	2.80

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5260	24.00	23.49	29.49	23.49	11.00	11.00	11.00
Mid	5300	24.00	23.47	29.47	23.47	11.00	11.00	11.00
High	5320	24.00	23.49	29.49	23.49	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	19.62	19.62	23.49	-3.87
Mid	5300	19.35	19.35	23.47	-4.12
High	5320	16.91	16.91	23.49	-6.58

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	9.34	9.34	11.00	-1.66
Mid	5300	9.58	9.58	11.00	-1.42
High	5320	6.56	6.56	11.00	-4.44

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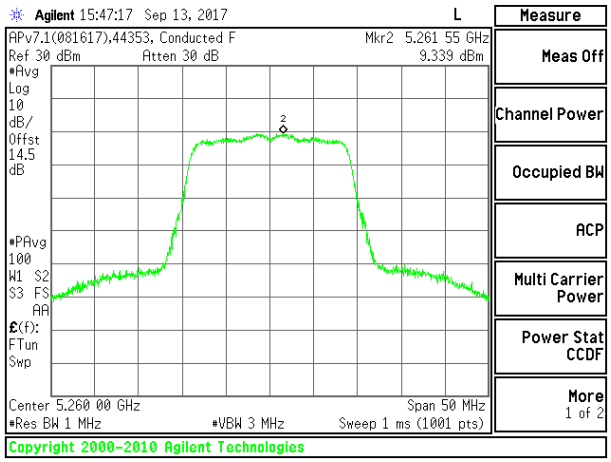

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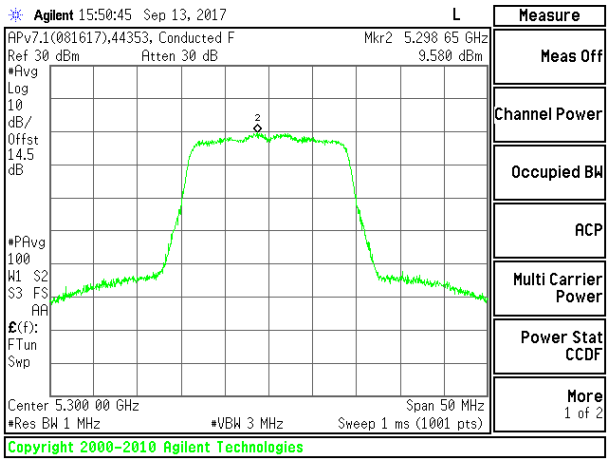
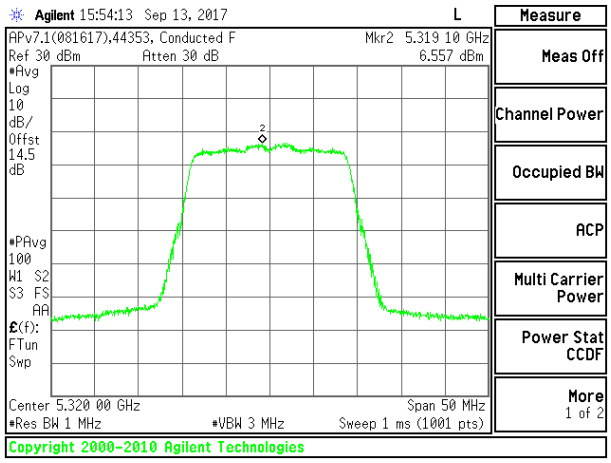


MID CHANNEL



HIGH CHANNEL

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2TX Antenna A+ Antenna B CDD MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	21.55	17.6660	2.95	5.96
Mid	5300	21.65	17.6290	2.95	5.96
High	5320	21.60	17.6440	2.95	5.96

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.47	29.47	23.47	11.00	11.00	11.00
Mid	5300	24.00	23.46	29.46	23.46	11.00	11.00	11.00
High	5320	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Low	5260	15.75	15.78	18.78	23.47	-4.70
Mid	5300	15.66	15.82	18.75	23.46	-4.71
High	5320	15.61	15.77	18.70	23.47	-4.76

PPSD Results

Channel	Frequency (MHz)	Ant A Meas PPSD (dBm)	Ant B Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margi (dB)
Low	5260	5.83	5.55	8.70	11.00	-2.30
Mid	5300	5.58	5.91	8.76	11.00	-2.24
High	5320	5.45	5.97	8.73	11.00	-2.27

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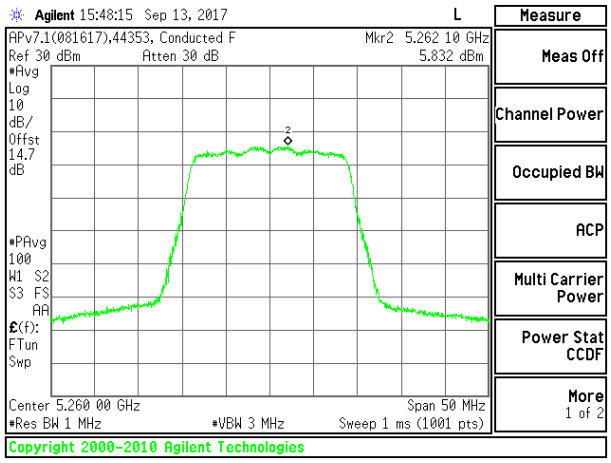
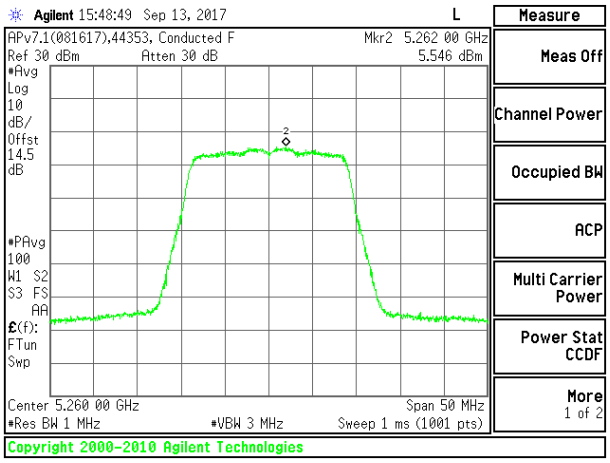
LOW CHANNEL

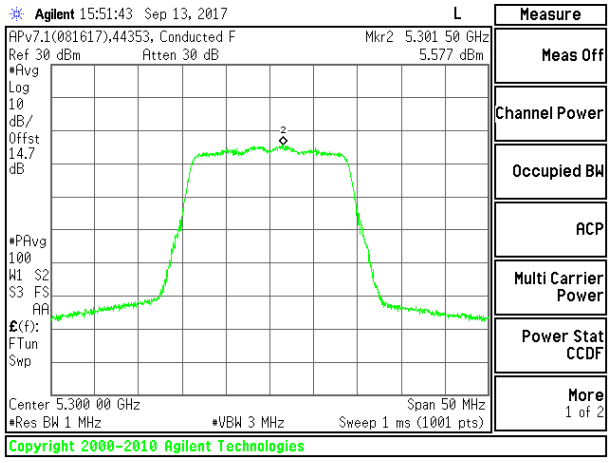


LOW CHANNEL ANT A



LOW CHANNEL ANT B

MID CHANNEL



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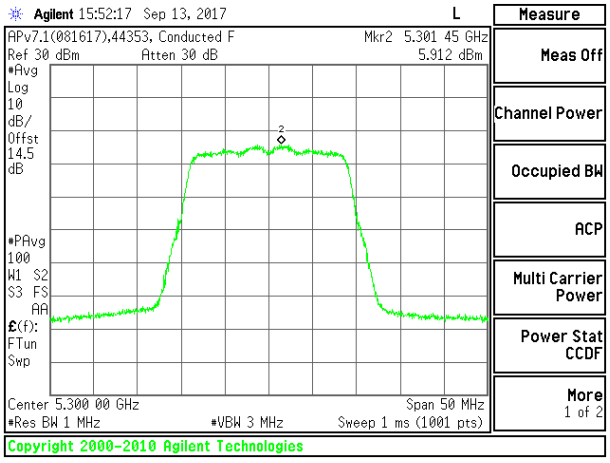
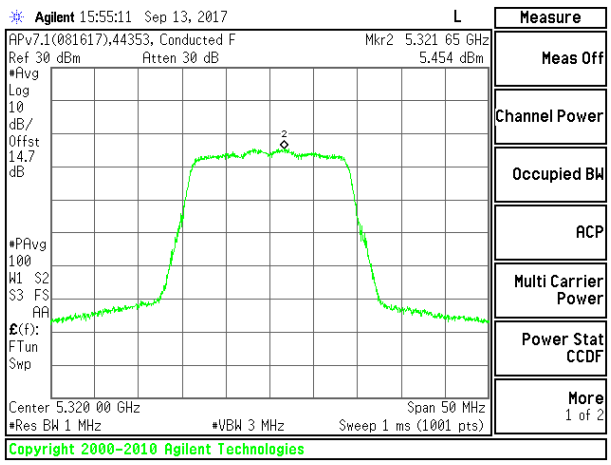


MID CHANNEL ANT B

HIGH CHANNEL



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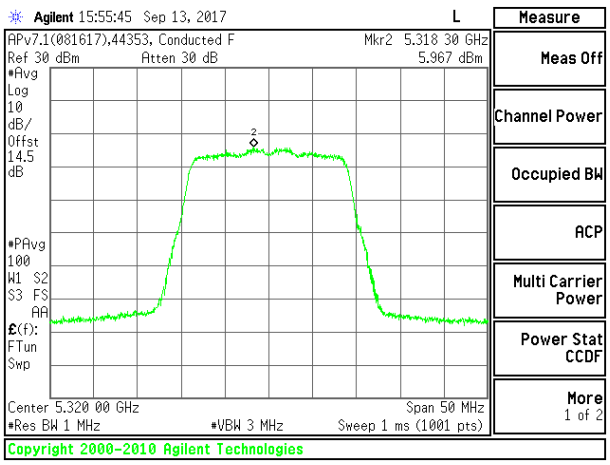

HIGH CHANNEL ANT B

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2TX Antenna A+ Antenna B STBC MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	21.88	16.4920	2.95	2.95
Mid	5300	22.00	17.7231	2.95	2.95

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.17	29.17	23.17	11.00	11.00	11.00
Mid	5300	24.00	23.49	29.49	23.49	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Low	5260	16.80	16.99	19.91	23.17	-3.27
Mid	5300	16.79	16.84	19.83	23.49	-3.66

PPSD Results

Channel	Frequency (MHz)	Ant A Meas PPSD (dBm)	Ant B Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margi (dB)
Low	5260	6.41	6.14	9.29	11.00	-1.71
Mid	5300	6.88	6.90	9.90	11.00	-1.10

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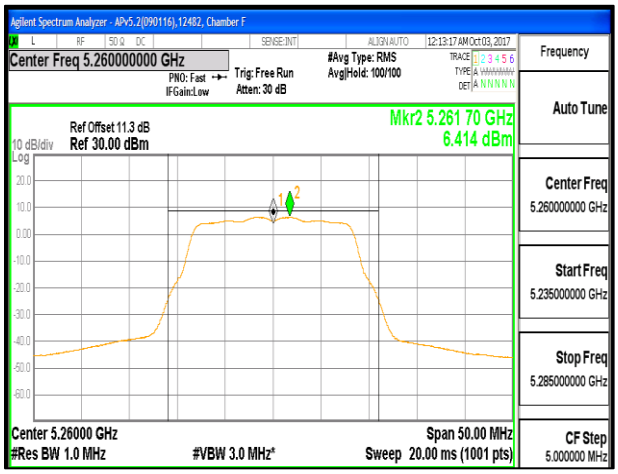
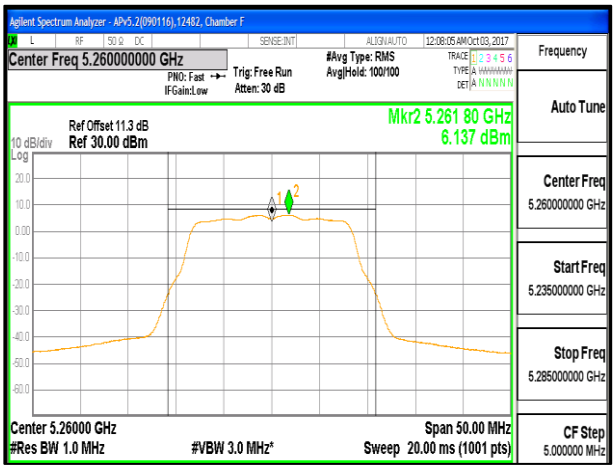
LOW CHANNEL

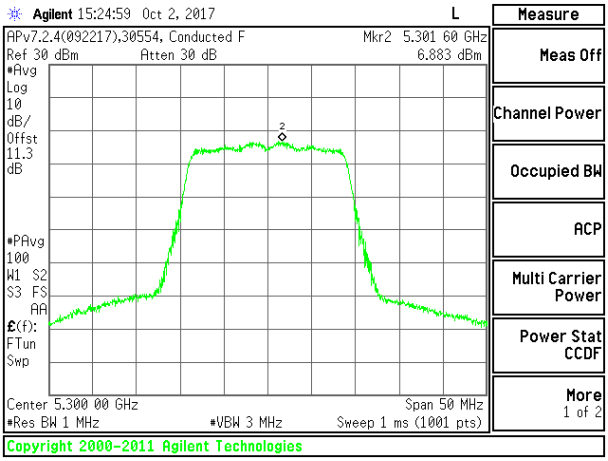


LOW CHANNEL ANT A



LOW CHANNEL ANT B

MID CHANNEL



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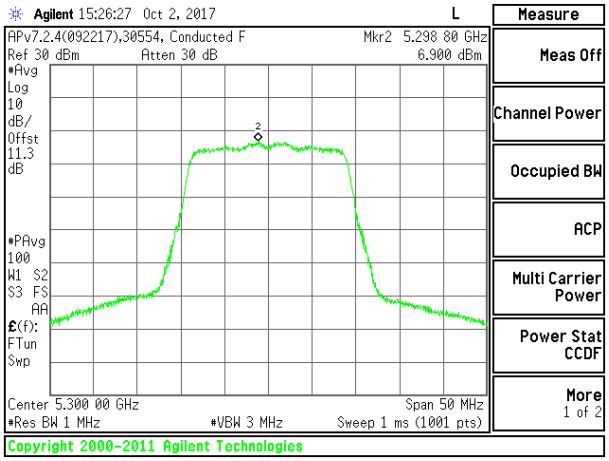

MID CHANNEL ANT B

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10.4.5. 802.11n HT40 MODE IN THE 5.3 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5270	40.40	36.278	3.10
High	5310	40.30	36.059	3.10

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	20.85	20.85	24.00	-3.15
High	5310	15.77	15.77	24.00	-8.23

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	8.23	8.33	11.00	-2.67
High	5310	2.77	2.87	11.00	-8.13

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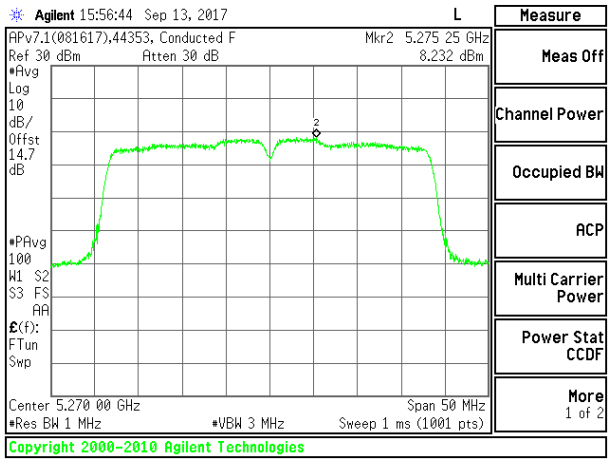
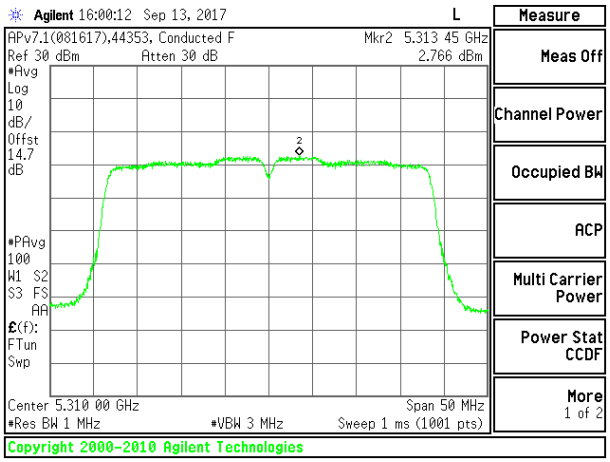


LOW CHANNEL



HIGH CHANNEL

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1TX Antenna B

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5270	40.60	36.070	2.80
High	5310	40.50	36.238	2.80

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	20.46	20.46	24.00	-3.54
High	5310	15.42	15.42	24.00	-8.58

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	7.88	7.98	11.00	-3.02
High	5310	2.51	2.61	11.00	-8.39

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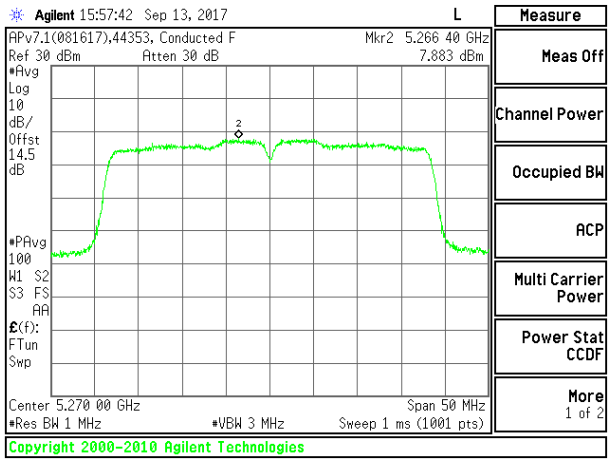

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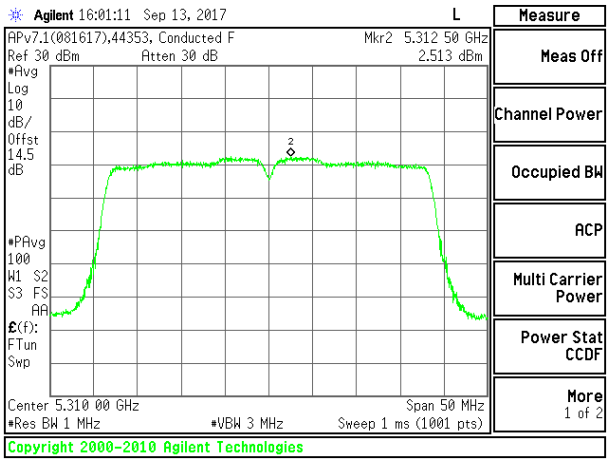

HIGH CHANNEL

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2TX Antenna A + Antenna B CDD MODE

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.20	36.17	2.95	5.96	24.00	11.00
High	5310	40.00	36.13	2.95	5.96	24.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.45	18.44	21.46	24.00	-2.54
High	5310	14.90	14.95	17.94	24.00	-6.06

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	5.43	5.42	8.54	11.00	-2.46
High	5310	1.86	1.90	4.99	11.00	-6.01

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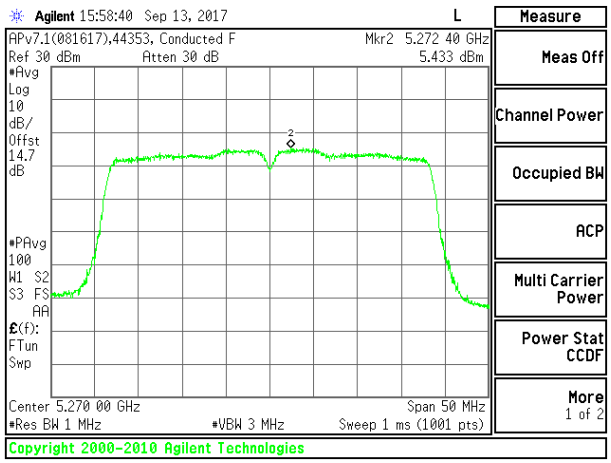
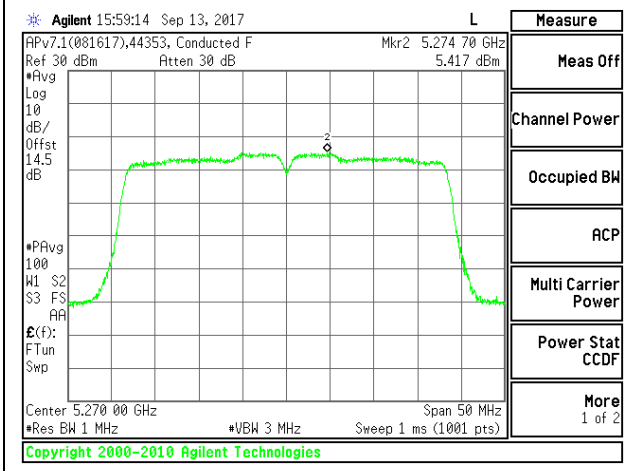
LOW CHANNEL

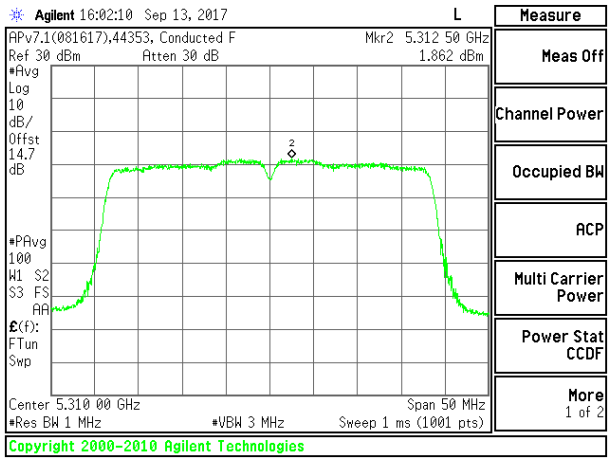


LOW CHANNEL ANT A

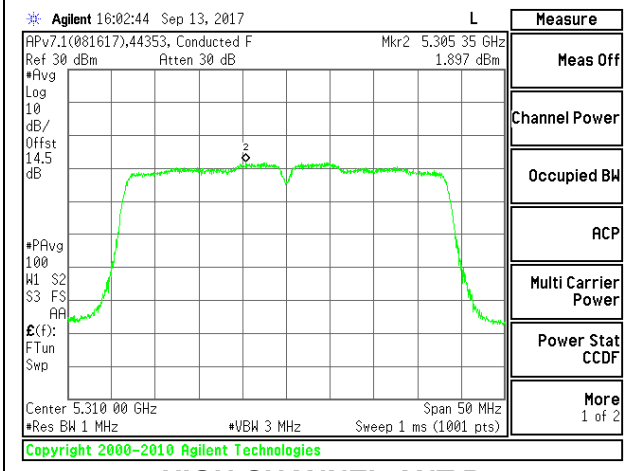


LOW CHANNEL ANT B

HIGH CHANNEL



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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2TX Antenna A + Antenna B STBC MODE

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.60	36.18	2.95	2.95	24.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	19.41	19.48	22.46	24.00	-1.54

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	6.35	6.61	9.59	11.00	-1.41

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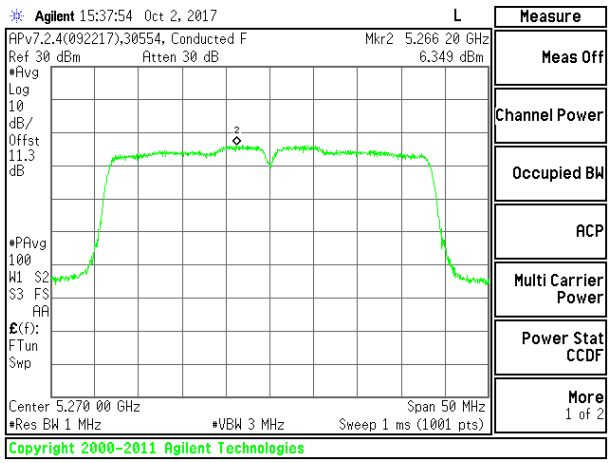
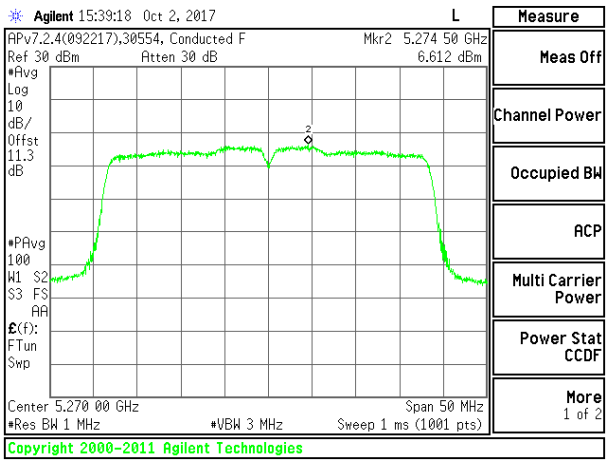
LOW CHANNEL



LOW CHANNEL ANT A



LOW CHANNEL ANT B

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10.4.6. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Mid	5290	82.20	74.264	3.10

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.92	14.92	24.00	-9.08

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-0.96	-0.77	11.00	-11.77

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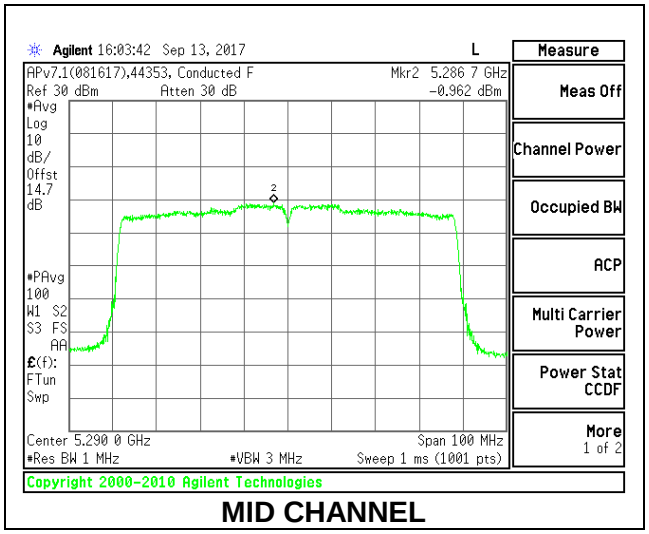

MID CHANNEL

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1TX Antenna B

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Mid	5290	82.40	75.399	2.80

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.80	14.80	24.00	-9.20

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-1.13	-0.94	11.00	-11.94

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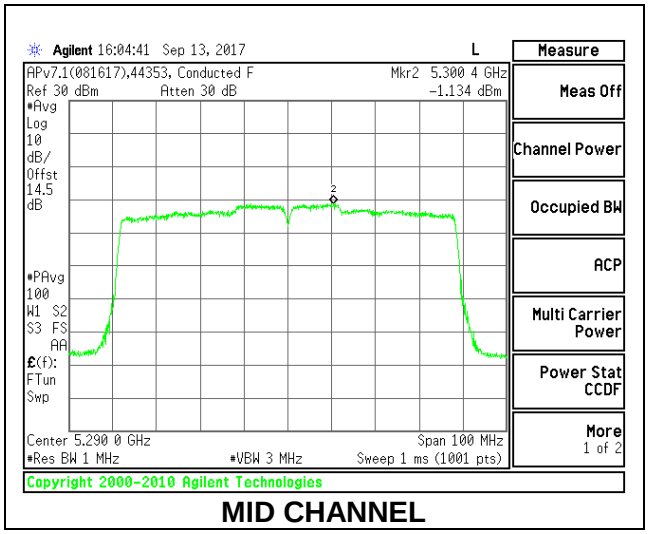

MID CHANNEL

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2TX Antenna A + Antenna B CDD MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Mid	5290	82.40	72.017	2.95	5.96

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Mid	5290	13.89	13.88	16.90	24.00	-7.10

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Mid	5290	-2.20	-2.18	1.01	11.00	-9.99

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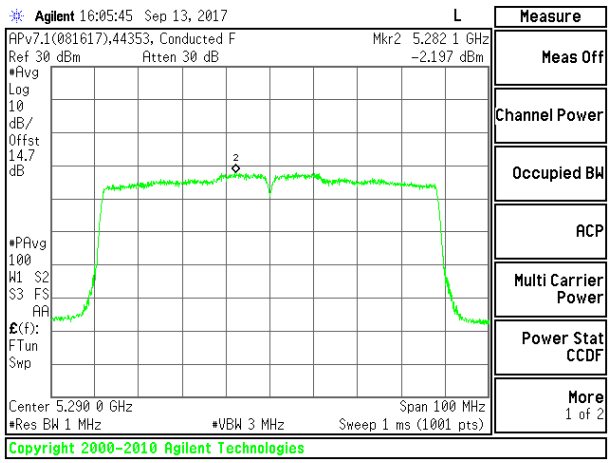
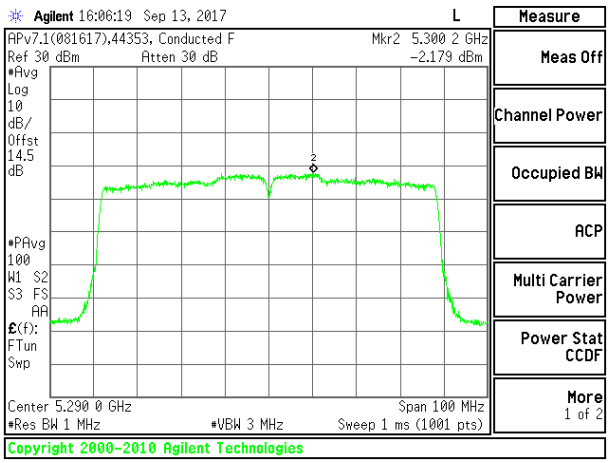
MID CHANNEL



MID CHANNEL ANT A



MID CHANNEL ANT B

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10.4.7. 802.11n HT20 MODE IN THE 5.6 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5500	21.95	17.86	2.70
Mid	5580	22.05	17.68	2.70
High	5700	21.95	17.68	2.70
144	5720	15.95	13.90	2.70

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5500	24.00	23.52	29.52	23.52	11.00	11.00	11.00
Mid	5580	24.00	23.47	29.47	23.47	11.00	11.00	11.00
High	5700	24.00	23.48	29.48	23.48	11.00	11.00	11.00
144	5720	23.03	22.43	28.43	22.43	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.830	16.83	23.52	-6.69
Mid	5580	19.880	19.88	23.47	-3.59
High	5700	16.320	16.32	23.48	-7.16
144	5720	19.040	19.04	22.43	-3.39

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	6.581	6.581	11.00	-4.42
Mid	5580	9.701	9.701	11.00	-1.30
High	5700	5.765	5.765	11.00	-5.24
144	5720	9.653	9.653	11.00	-1.35

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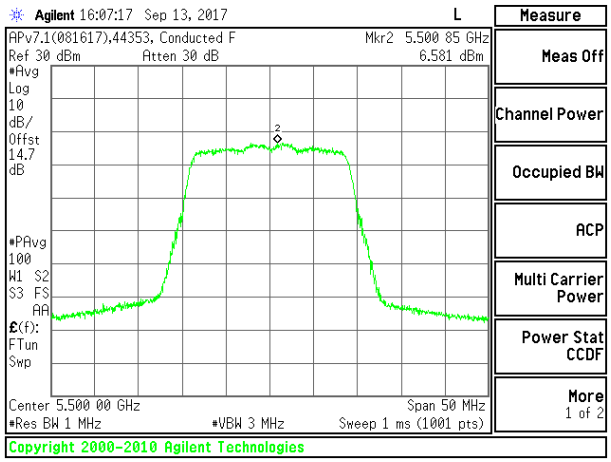
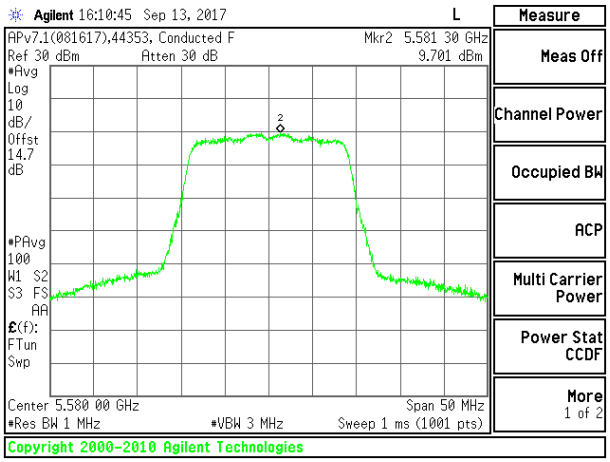
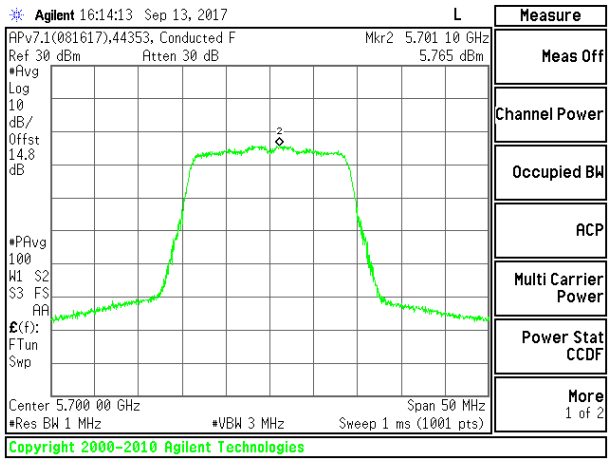


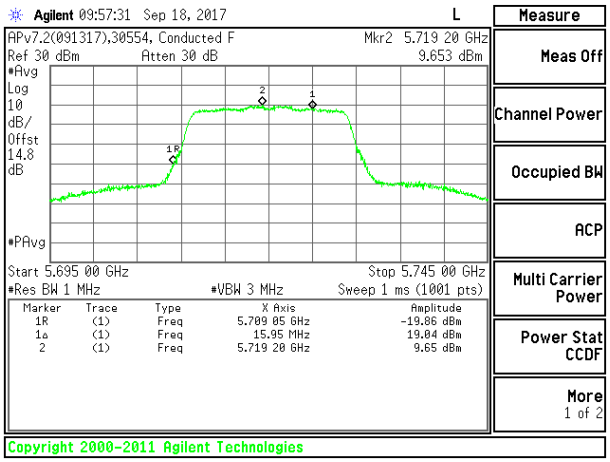
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



CHANNEL 144 OUTPUT POWER & PSD

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1TX Antenna B

Mid	5580	22.05	17.815	4.00
High	5700	22.00	17.715	4.00
144	5720	15.95	13.840	4.00

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5500	24.00	23.48	29.48	23.48	11.00	11.00	11.00
Mid	5580	24.00	23.51	29.51	23.51	11.00	11.00	11.00
High	5700	24.00	23.48	29.48	23.48	11.00	11.00	11.00
144	5720	23.03	22.41	28.41	22.41	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.780	16.78	23.48	-6.70
Mid	5580	19.630	19.63	23.51	-3.88
High	5700	16.500	16.50	23.48	-6.98
144	5720	19.020	19.02	22.41	-3.39

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	6.562	6.562	11.00	-4.44
Mid	5580	9.323	9.323	11.00	-1.68
High	5700	6.245	6.245	11.00	-4.76
144	5720	9.835	9.835	11.00	-1.17

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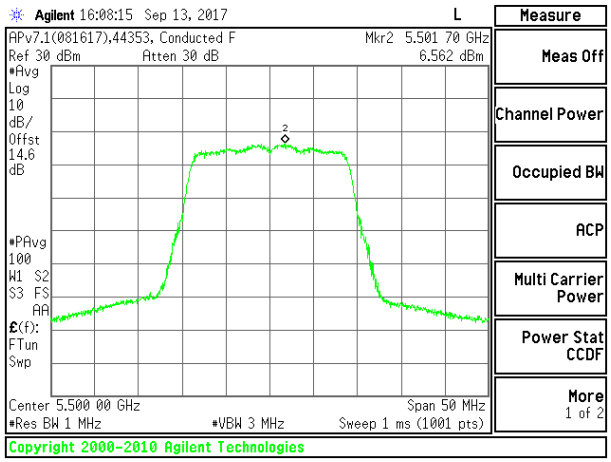
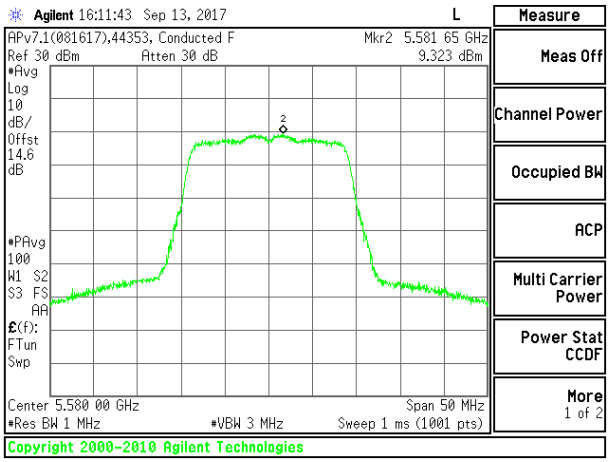
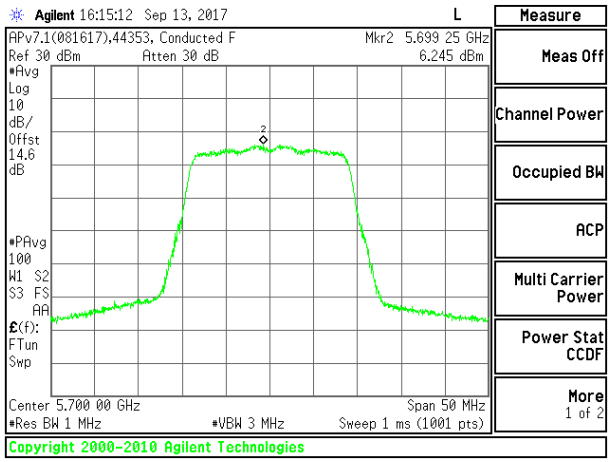


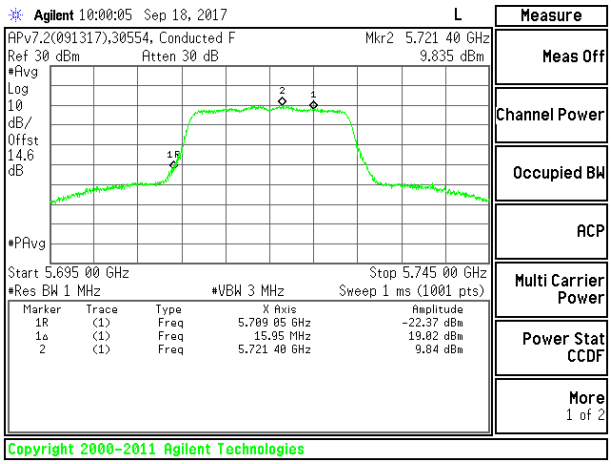
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



CHANNEL 144 OUTPUT POWER & PSD

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2TX Antenna A + Antenna B CDD MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	21.65	17.72	3.40	6.38
Mid	5580	21.70	17.73	3.40	6.38
High	5700	21.65	17.73	3.40	6.38
144	5720	15.75	13.87	3.40	6.38

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5500	24.00	23.49	29.49	23.49	10.62	11.00	10.62
Mid	5580	24.00	23.49	29.49	23.49	10.62	11.00	10.62
High	5700	24.00	23.49	29.49	23.49	10.62	11.00	10.62
144	5720	22.97	22.42	28.42	22.42	10.62	11.00	10.62

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Low	5500	15.89	15.77	18.84	23.49	-4.64
Mid	5580	15.77	15.81	18.80	23.49	-4.69
High	5700	15.36	15.12	18.25	23.49	-5.23
144	5720	14.85	14.89	17.88	22.42	-4.54

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Low	5500	5.11	5.07	8.10	10.62	-2.52
Mid	5580	5.29	5.40	8.36	10.62	-2.26
High	5700	5.28	4.49	7.91	10.62	-2.71
144	5720	5.30	5.72	8.53	10.62	-2.09

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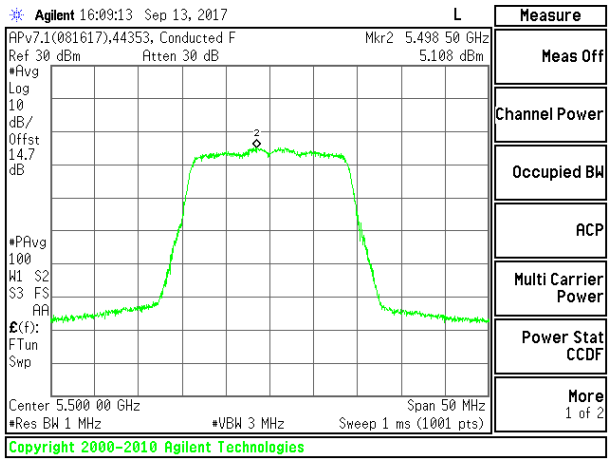
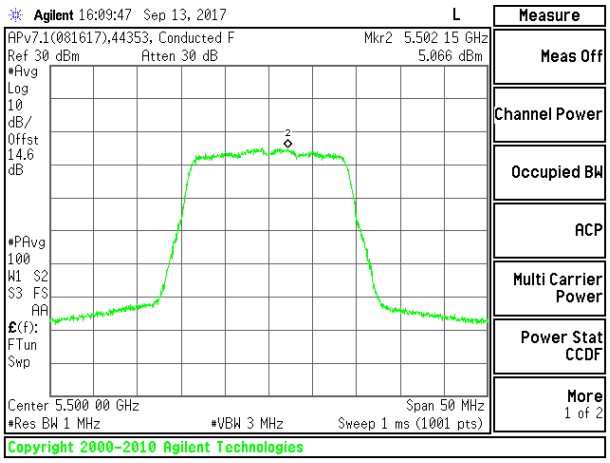
LOW CHANNEL

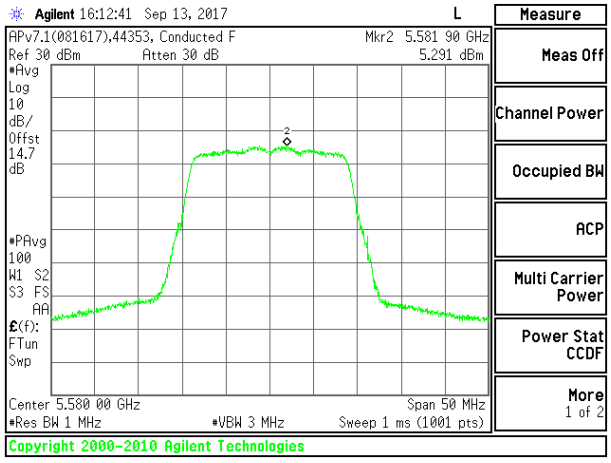


LOW CHANNEL ANT A

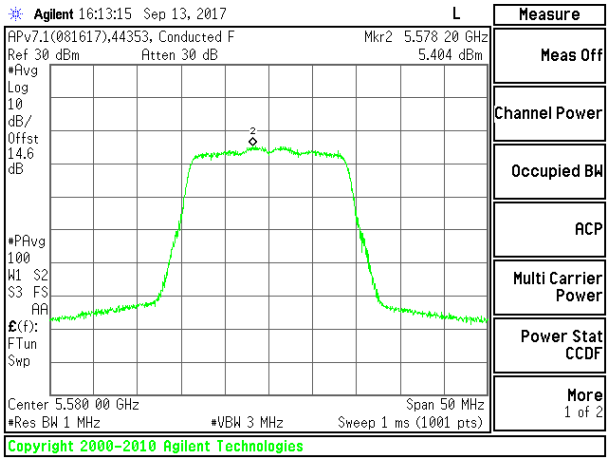


LOW CHANNEL ANT B

MID CHANNEL

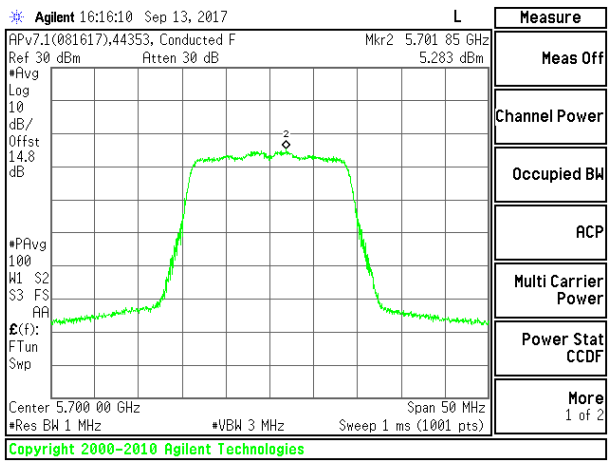


MID CHANNEL ANT A

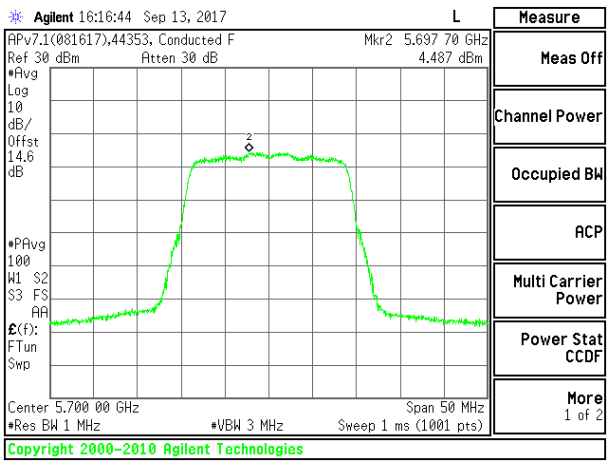


MID CHANNEL ANT B

HIGH CHANNEL



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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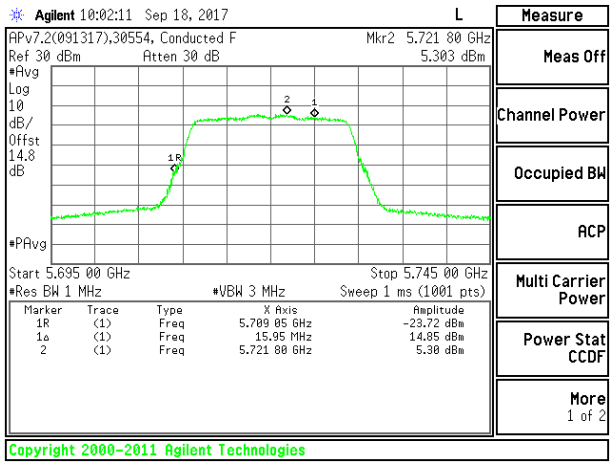
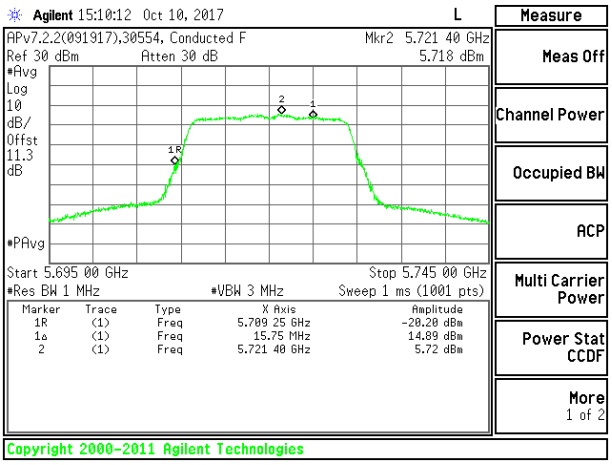
CHANNEL 144



ANT A OUTPUT POWER & PSD



ANT B OUTPUT POWER & PSD

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2TX Antenna A + Antenna B STBC MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Mid	5580	21.68	16.55	3.40	3.40
144	5720	22.15	17.68	3.40	3.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5580	24.00	23.19	29.19	23.19	11.00	11.00	11.00
144	5720	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Mid	5580	16.85	16.92	19.90	23.19	-3.29
144	5720	16.82	16.68	19.76	23.47	-3.71

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Mid	5580	6.09	6.48	9.30	11.00	-1.70
144	5720	6.60	6.31	9.47	11.00	-1.53

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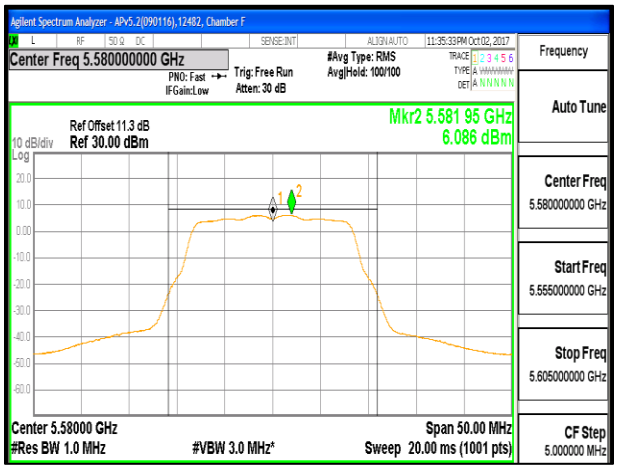
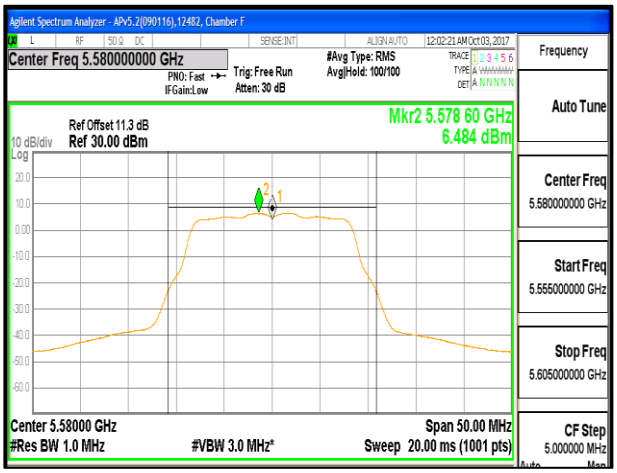
MID CHANNEL

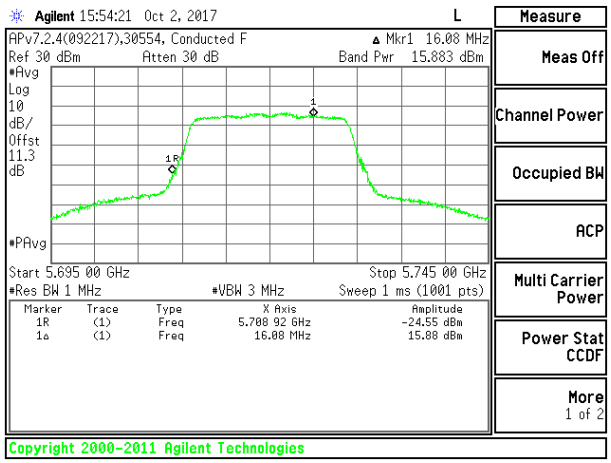


MID CHANNEL ANT A

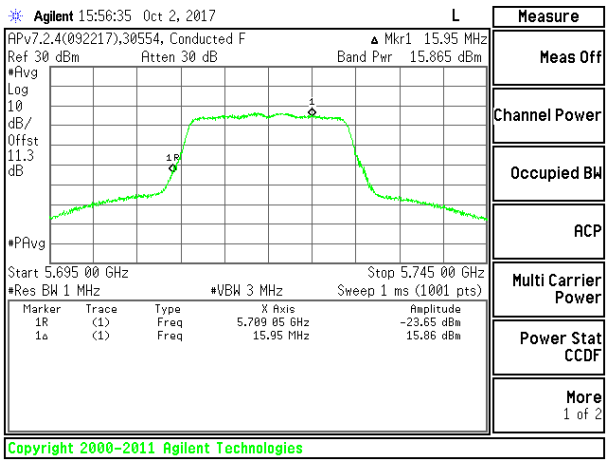


MID CHANNEL ANT B

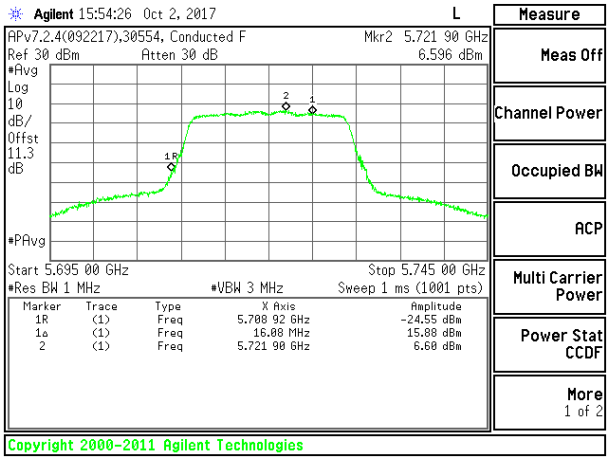
CHANNEL 144



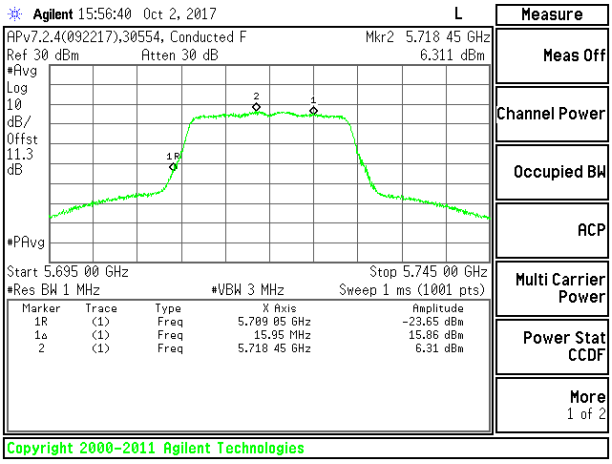
ANT A OUTPUT POWER



ANT B OUTPUT POWER



ANT A PSD



ANT B PSD

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10.4.8. 802.11n HT40 MODE IN THE 5.6 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5510	40.50	36.118	2.70
Mid	5550	40.50	35.920	2.70
High	5670	40.70	36.101	2.70
142	5710	40.50	35.977	2.70

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	15.79	15.79	24.00	-8.21
Mid	5550	20.87	20.87	24.00	-3.13
High	5670	16.88	16.88	24.00	-7.12
142	5710	20.54	20.54	24.00	-3.46

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	2.810	2.91	11.00	-8.09
Mid	5550	7.304	7.40	11.00	-3.60
High	5670	3.998	4.10	11.00	-6.90
142	5710	7.541	7.64	11.00	-3.36

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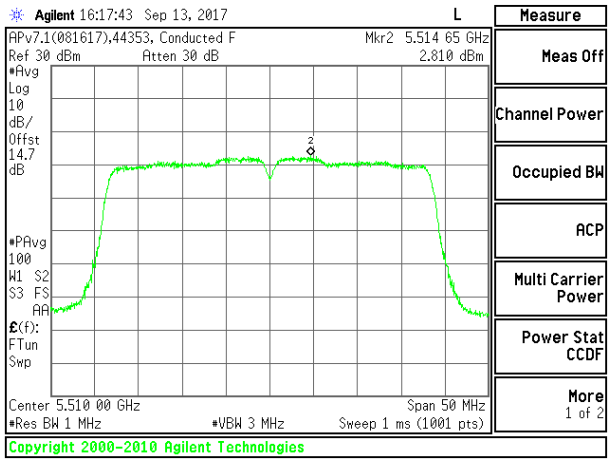
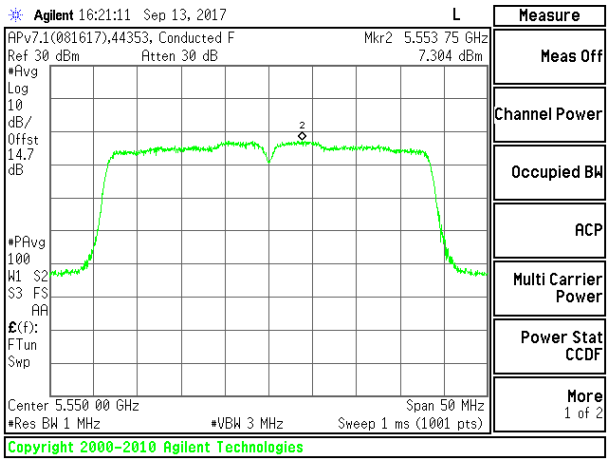
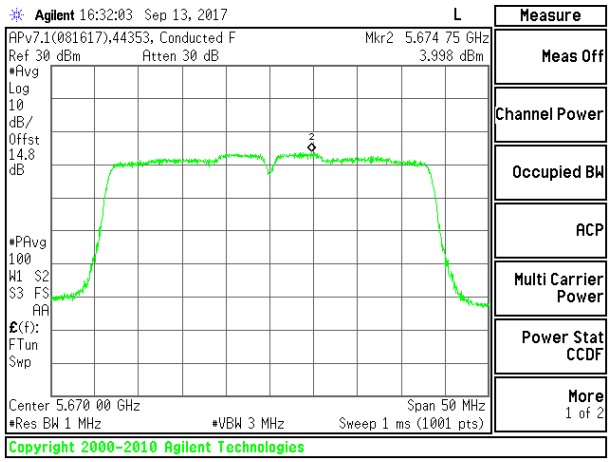


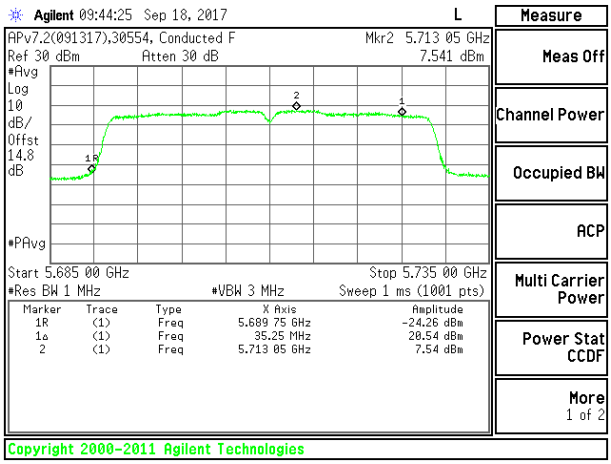
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



CHANNEL 142 OUTPUT POWER & PSD

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1TX Antenna B

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5510	40.60	35.01	4.00
Mid	5550	40.70	36.17	4.00
High	5670	40.50	36.33	4.00
142	5710	40.40	36.31	4.00

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	15.41	15.41	24.00	-8.59
Mid	5550	20.88	20.88	24.00	-3.12
High	5670	16.23	16.23	24.00	-7.77
142	5710	20.68	20.68	24.00	-3.32

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	2.476	2.58	11.00	-8.42
Mid	5550	7.335	7.44	11.00	-3.57
High	5670	2.432	2.53	11.00	-8.47
142	5710	7.945	8.05	11.00	-2.96

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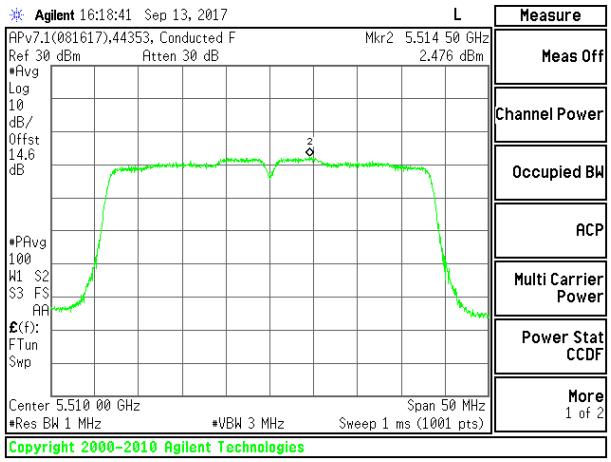
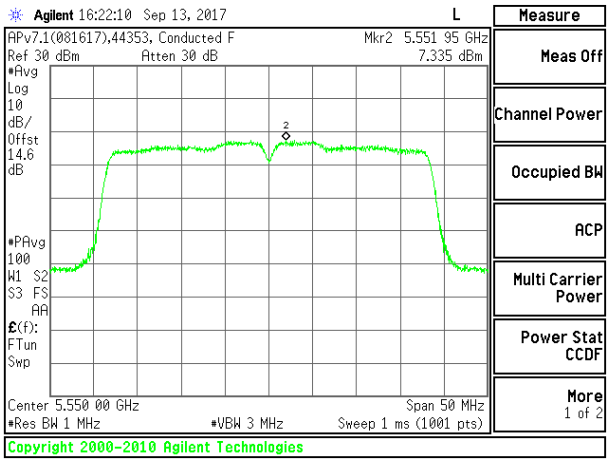
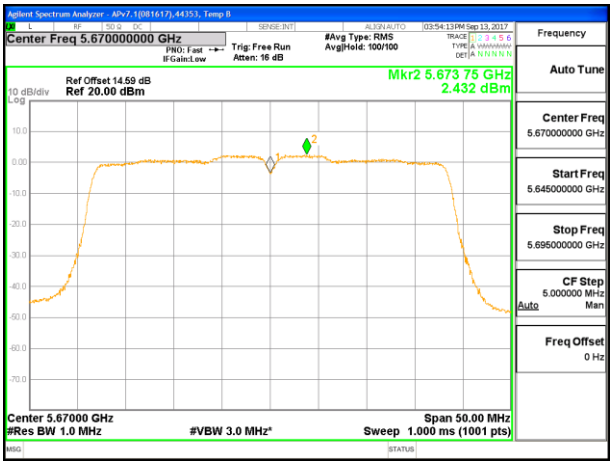


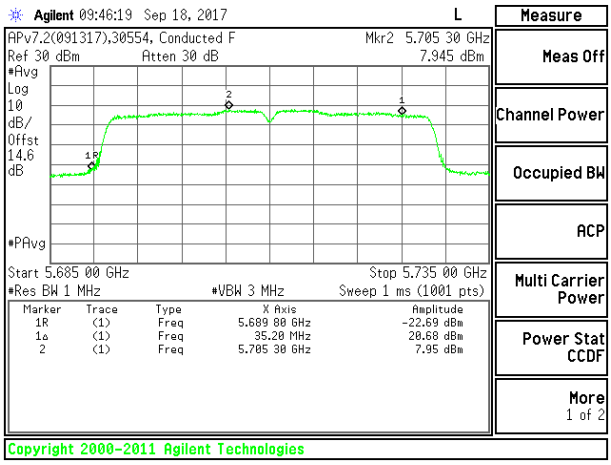
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



CHANNEL 142 OUTPUT POWER & PSD

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2TX Antenna A + Antenna B CDD MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5510	40.00	36.188	3.40	6.38
Mid	5550	40.00	36.038	3.40	6.38
High	5670	40.10	36.242	3.40	6.38
142	5710	40.10	36.173	3.40	6.38

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	10.62	11.00	10.62
Mid	5550	24.00	24.00	30.00	24.00	10.62	11.00	10.62
High	5670	24.00	24.00	30.00	24.00	10.62	11.00	10.62
142	5710	24.00	24.00	30.00	24.00	10.62	11.00	10.62

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Low	5510	14.88	14.63	17.77	24.00	-6.23
Mid	5550	18.39	18.46	21.44	24.00	-2.56
High	5670	15.89	15.72	18.82	24.00	-5.18
142	5710	17.79	17.76	20.79	24.00	-3.21

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Low	5510	1.87	1.28	4.69	10.62	-5.93
Mid	5550	5.03	4.49	7.88	10.62	-2.74
High	5670	2.89	2.45	5.79	10.62	-4.83
142	5710	5.13	4.85	8.10	10.62	-2.52

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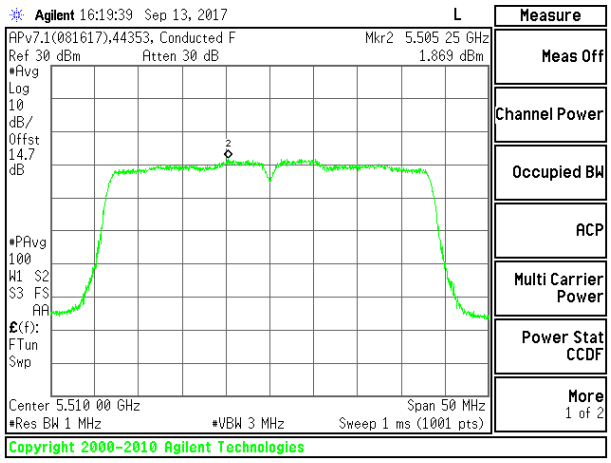
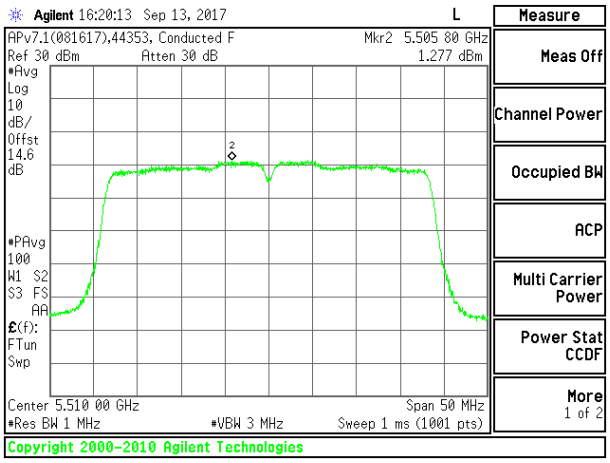
LOW CHANNEL

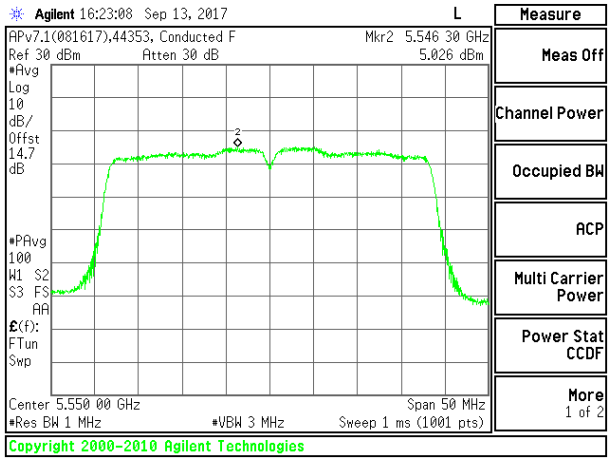


LOW CHANNEL ANT A



LOW CHANNEL ANT B

MID CHANNEL



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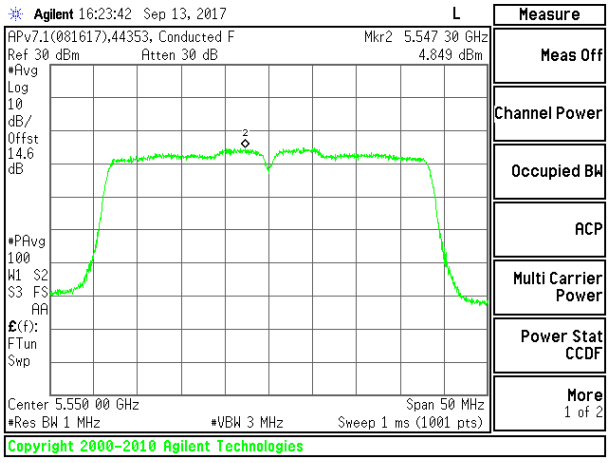
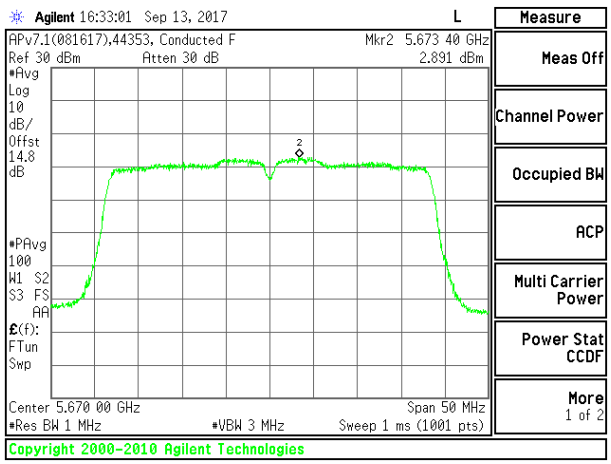
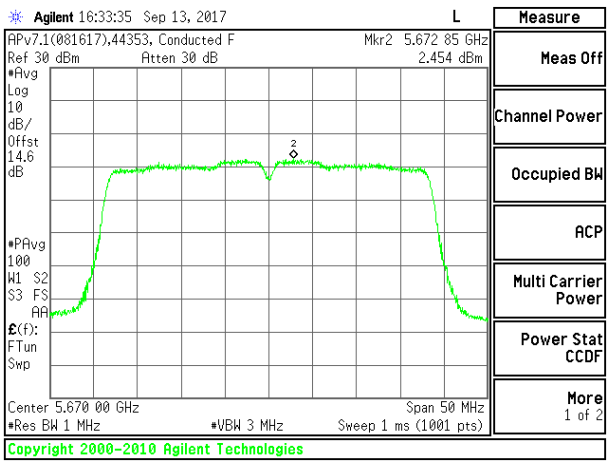


MID CHANNEL ANT B

HIGH CHANNEL



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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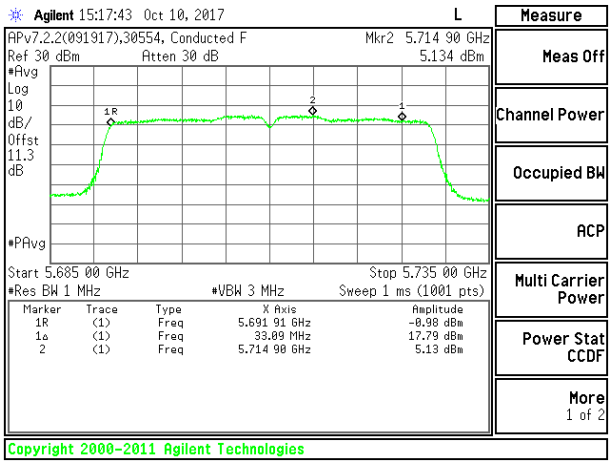
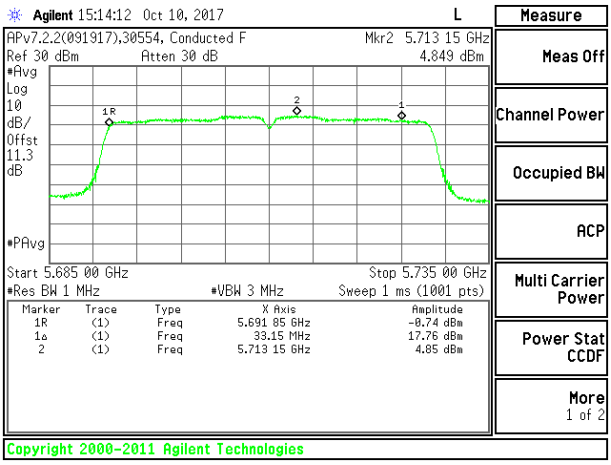
CHANNEL 142



ANT A OUTPUT POWER & PSD



ANT B OUTPUT POWER & PSD

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2TX Antenna A + Antenna B STBC MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Mid	5550	40.60	36.063	3.40	3.40
142	5710	40.60	36.190	3.40	3.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Mid	5550	19.45	19.49	22.48	24.00	-1.52
142	5710	18.82	18.76	21.80	24.00	-2.20

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Mid	5550	5.88	5.70	8.90	11.00	-2.10
142	5710	6.17	5.77	9.08	11.00	-1.92

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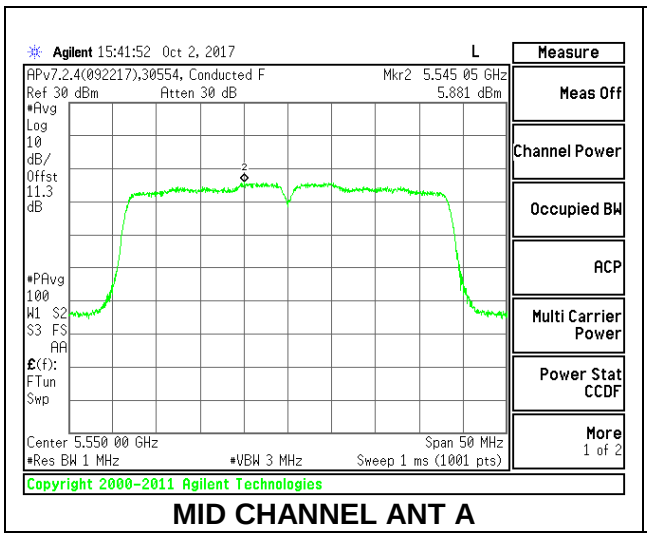
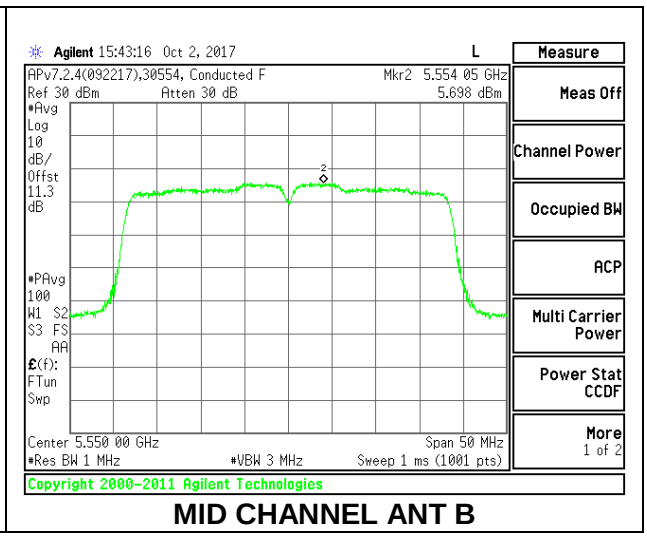
MID CHANNEL

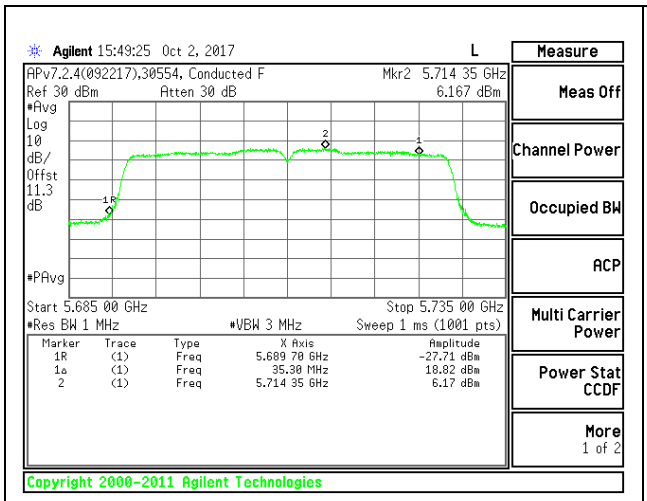


MID CHANNEL ANT A

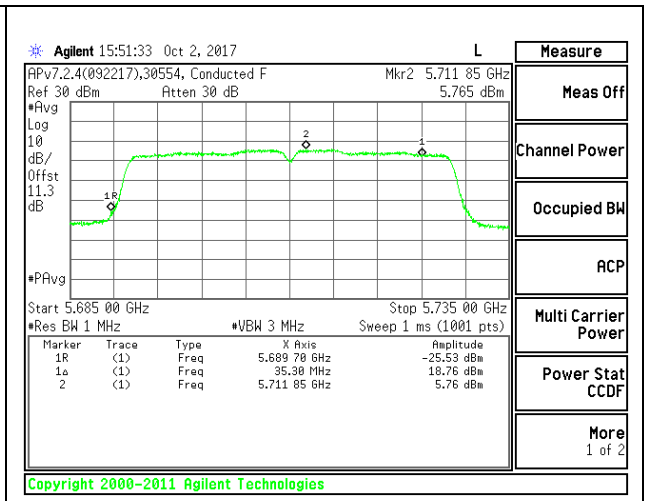


MID CHANNEL ANT B

CHANNEL 142



ANT A OUTPUT POWER & PSD



ANT B OUTPUT POWER & PSD

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10.4.9. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

1TX Antenna A

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5530	82.80	75.512	2.70
High	5610	82.00	75.409	2.70
138	5690	82.40	75.683	2.70

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5610	24.00	24.00	30.00	24.00	11.00	11.00	11.00
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	14.86	14.86	24.00	-9.14
High	5610	18.89	18.89	24.00	-5.11
138	5690	20.47	20.47	24.00	-3.53

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-1.39	-1.20	11.00	-12.20
High	5610	2.66	2.85	11.00	-8.15
138	5690	4.39	4.58	11.00	-6.42

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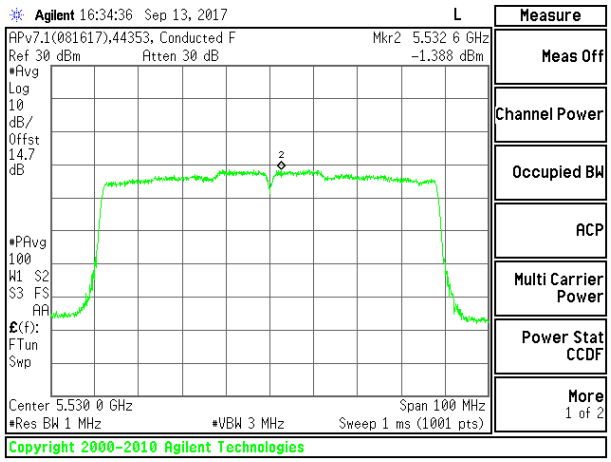
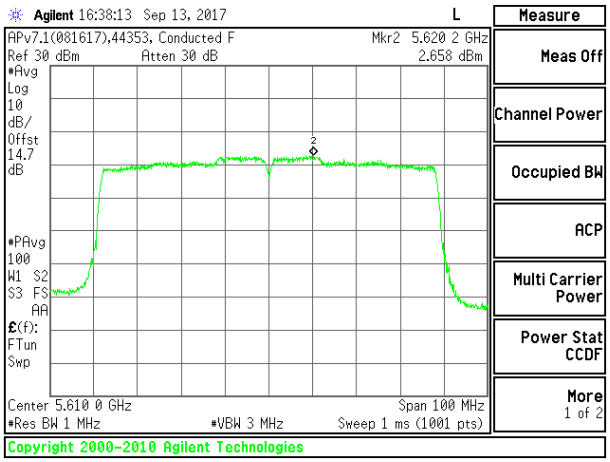
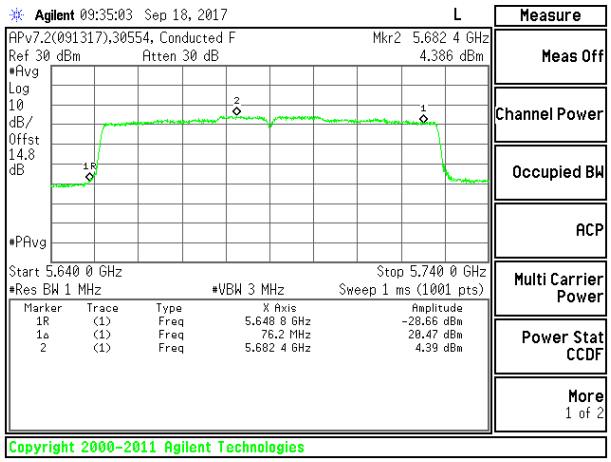


LOW CHANNEL



HIGH CHANNEL



CHANNEL 138 OUTPUT POWER & PSD

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1TX Antenna B

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5530	82.20	75.897	4.00
High	5610	82.60	75.823	4.00
138	5690	82.20	75.418	4.00

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5610	24.00	24.00	30.00	24.00	11.00	11.00	11.00
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	14.91	14.91	24.00	-9.09
High	5610	18.67	18.67	24.00	-5.33
138	5690	20.34	20.34	24.00	-3.66

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-1.43	-1.24	11.00	-12.24
High	5610	2.41	2.60	11.00	-8.40
138	5690	4.29	4.48	11.00	-6.52

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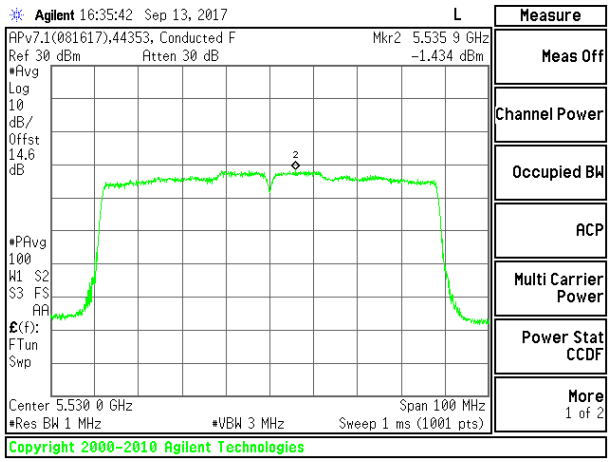
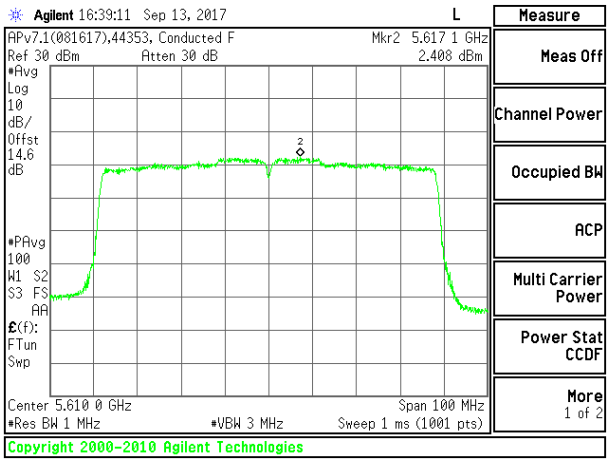
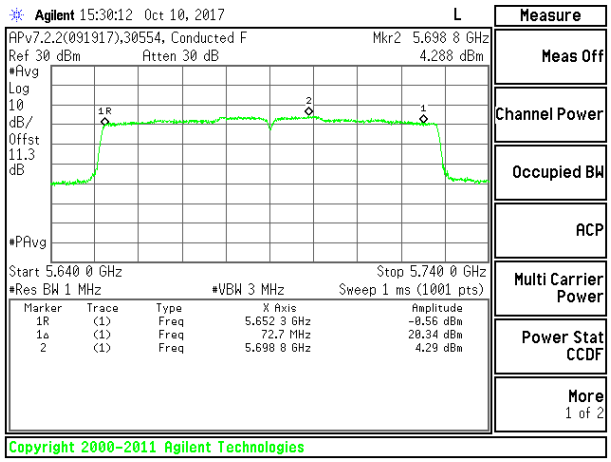


LOW CHANNEL



HIGH CHANNEL



CHANNEL 138 OUTPUT POWER & PSD

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2TX Antenna A + Antenna B CDD MODE

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5530	82.00	72.861	3.40	6.38
High	5610	82.20	75.874	3.40	6.38
138	5690	82.20	75.297	3.40	6.38

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	10.62	11.00	10.62
High	5610	24.00	24.00	30.00	24.00	10.62	11.00	10.62
138	5690	24.00	24.00	30.00	24.00	10.62	11.00	10.62

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi (dB)
Low	5530	13.52	13.67	16.61	24.00	-7.39
High	5610	17.63	17.88	20.77	24.00	-3.23
138	5690	20.34	20.36	23.36	24.00	-0.64

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margi (dB)
Low	5530	-2.753	-2.107	0.782	10.62	-9.84
High	5610	1.374	2.068	4.935	10.62	-5.68
138	5690	4.305	4.344	7.525	10.62	-3.10

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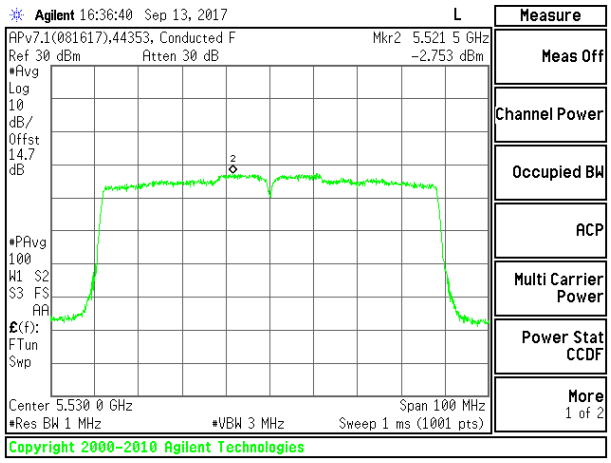
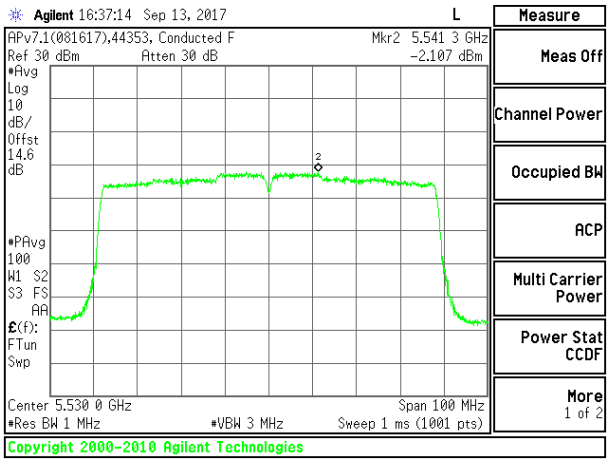
LOW CHANNEL

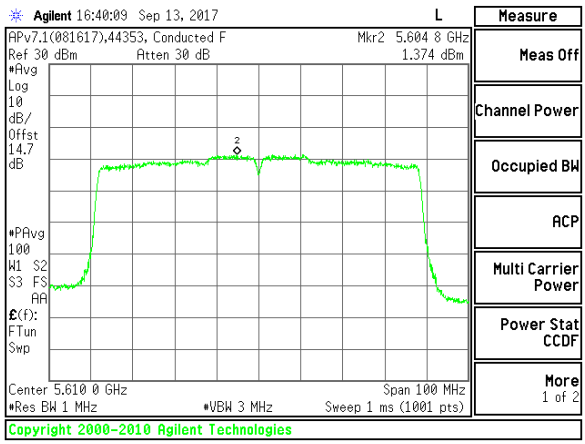


LOW CHANNEL ANT A

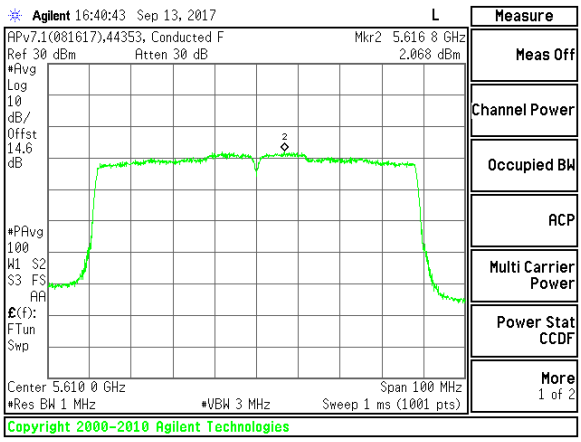


LOW CHANNEL ANT B

HIGH CHANNEL

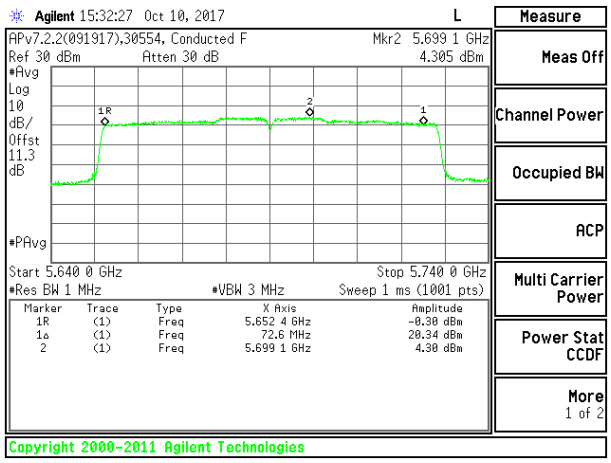


HIGH CHANNEL ANT A

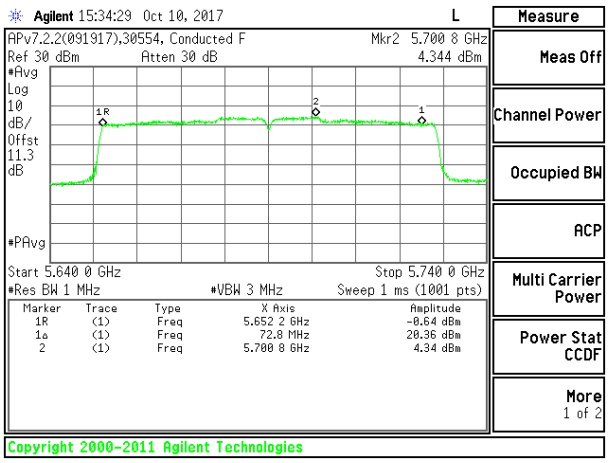


HIGH CHANNEL ANT B

CHANNEL 138



ANT A OUTPUT POWER & PSD



ANT B OUTPUT POWER & PSD

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10.4.10. 802.11n HT20 MODE IN THE 5.8 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5745	2.70	30.00	30.00
Mid	5785	2.70	30.00	30.00
High	5825	2.70	30.00	30.00
144	5720	2.70	30.00	30.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	19.86	19.86	30.00	-10.14
Mid	5785	20.91	20.91	30.00	-9.09
High	5825	19.92	19.92	30.00	-10.08
144	5720	12.69	12.69	30.00	-17.31

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	6.58	6.58	30.00	-23.42
Mid	5785	7.76	7.76	30.00	-22.24
High	5825	6.92	6.92	30.00	-23.09
144	5720	5.536	5.536	30.00	-24.46

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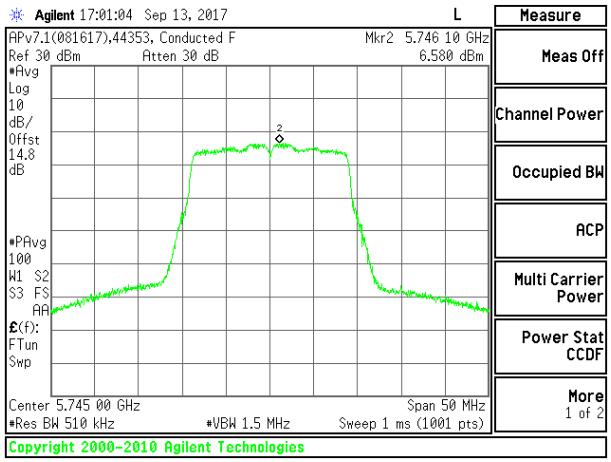
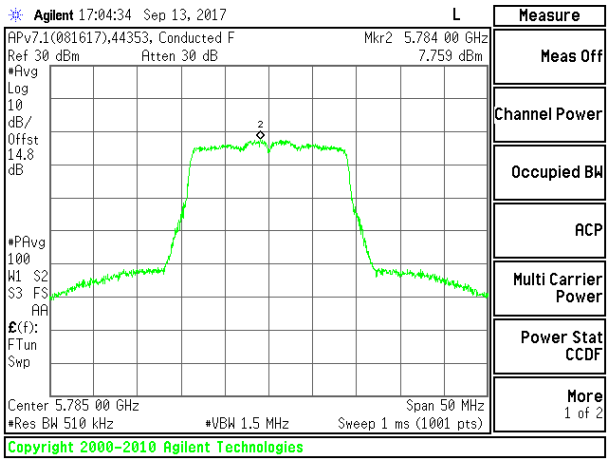
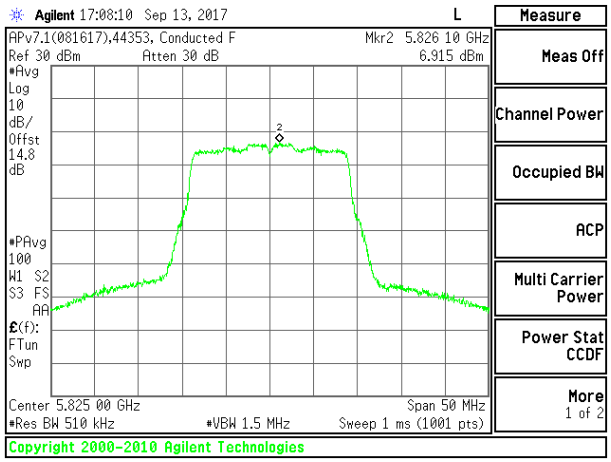


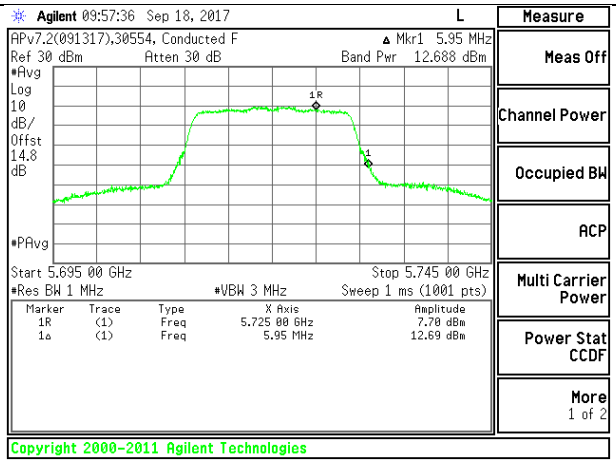
LOW CHANNEL



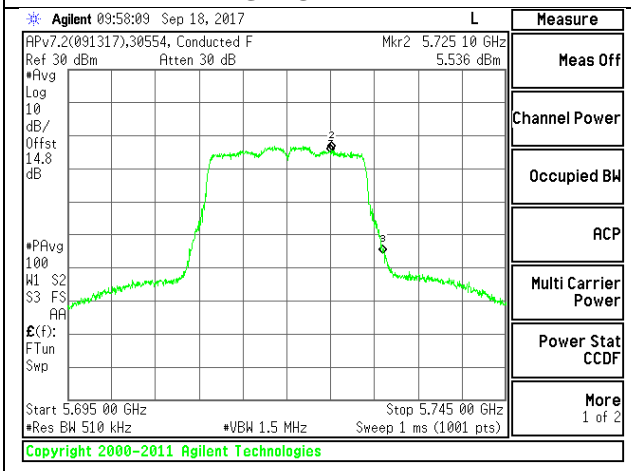
MID CHANNEL



HIGH CHANNEL



CHANNEL 144 OUTPUT POWER



CHANNEL 144 PSD

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5745	4.80	30.00	30.00
Mid	5785	4.80	30.00	30.00
High	5825	4.80	30.00	30.00
144	5720	4.80	30.00	30.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	19.54	19.54	30.00	-10.46
Mid	5785	20.93	20.93	30.00	-9.07
High	5825	19.71	19.71	30.00	-10.29
144	5720	12.76	12.76	30.00	-17.25

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	6.36	6.36	30.00	-23.64
Mid	5785	7.86	7.86	30.00	-22.14
High	5825	6.52	6.52	30.00	-23.48
144	5720	5.582	5.582	30.00	-24.42

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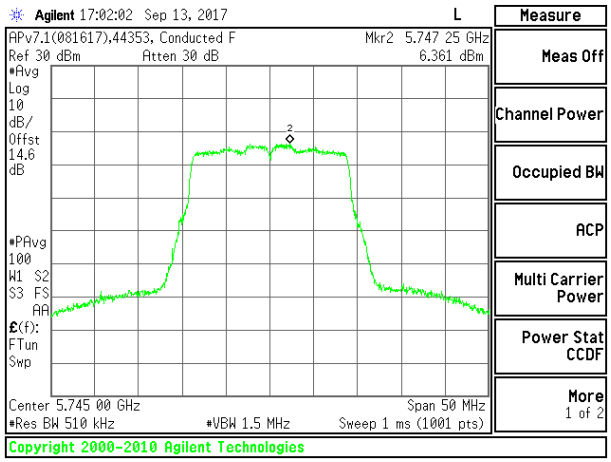
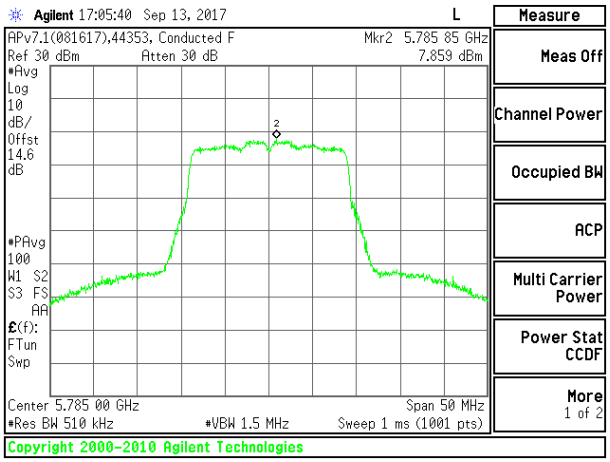
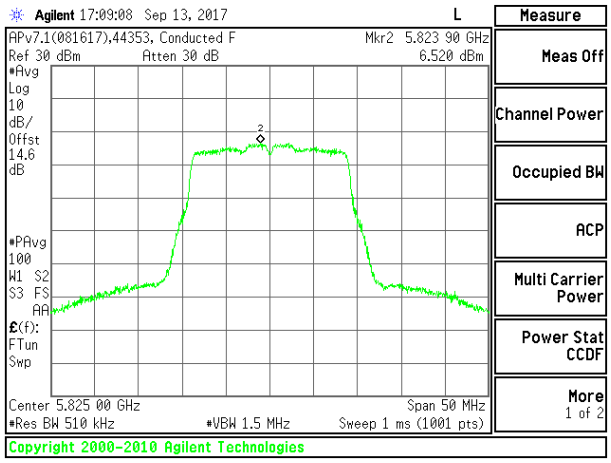


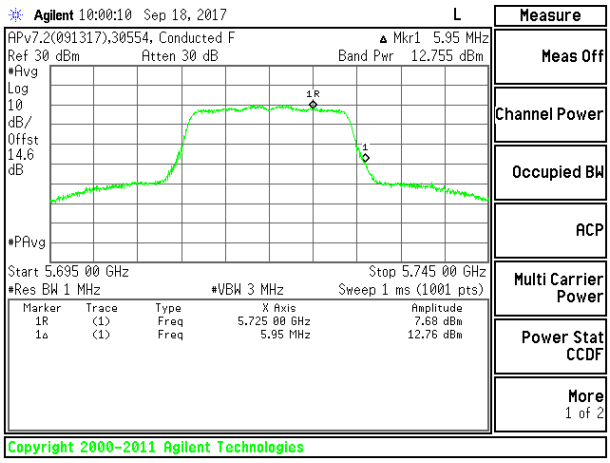
LOW CHANNEL



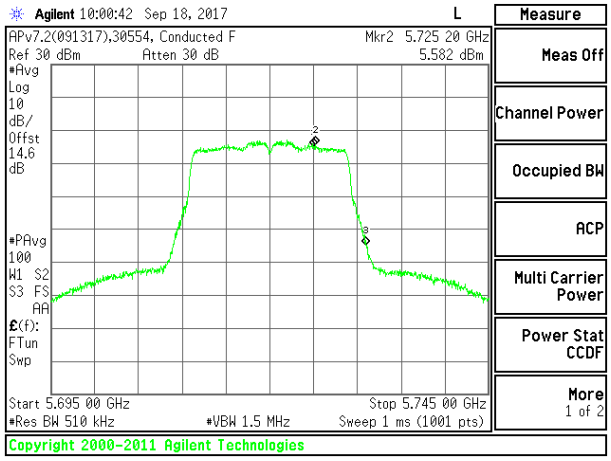
MID CHANNEL



HIGH CHANNEL



CHANNEL 144 OUTPUT POWER



CHANNEL 144 PSD

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5745	3.88	6.82	30.00	29.18
Mid	5785	3.88	6.82	30.00	29.18
High	5825	3.88	6.82	30.00	29.18
144	5720	3.88	6.82	30.00	29.18

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	19.21	19.44	22.34	30.00	-7.66
Mid	5785	20.61	20.79	23.71	30.00	-6.29
High	5825	19.22	19.43	22.34	30.00	-7.66
144	5720	8.56	8.65	11.61	30.00	-18.39

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	5.86	5.90	8.89	29.18	-20.29
Mid	5785	7.28	7.55	10.43	29.18	-18.75
High	5825	5.86	5.99	8.94	29.18	-20.24
144	5720	1.683	1.539	4.622	29.18	-24.56

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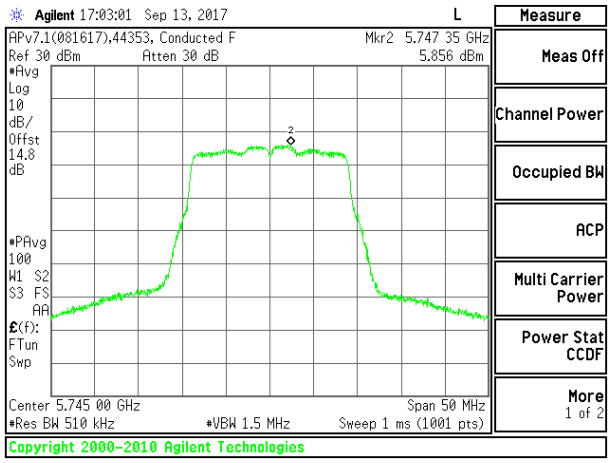
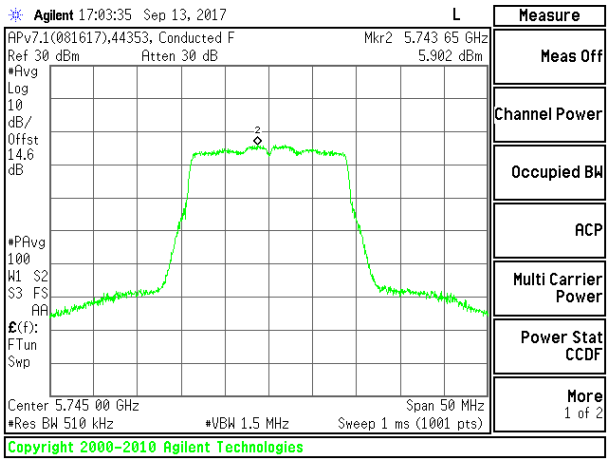
LOW CHANNEL

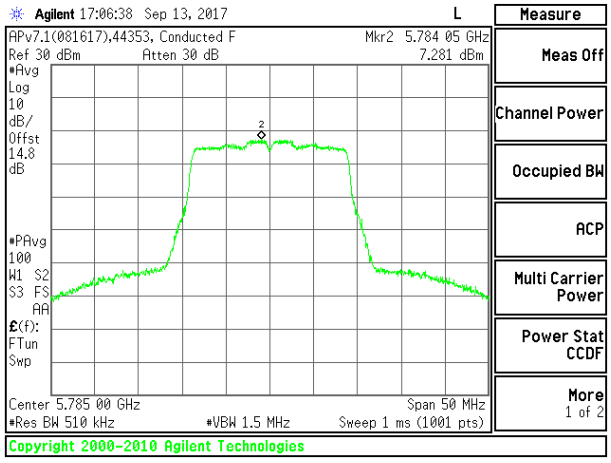


LOW CHANNEL ANT A

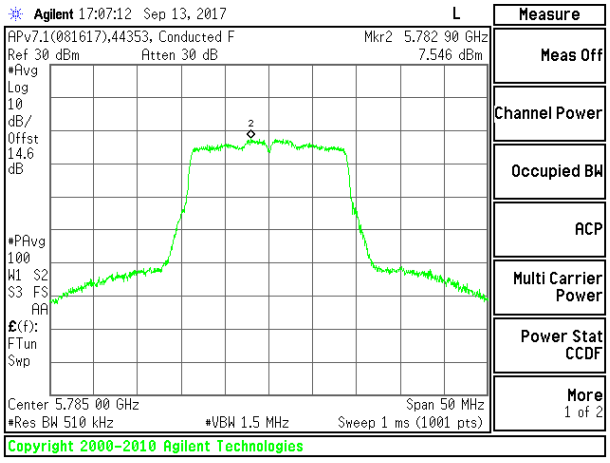


LOW CHANNEL ANT B

MID CHANNEL

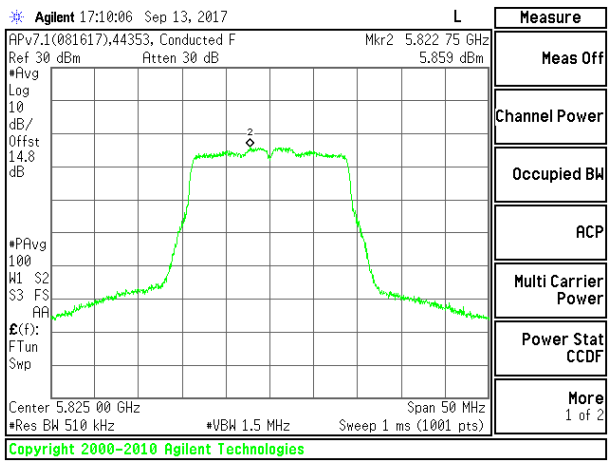


MID CHANNEL ANT A

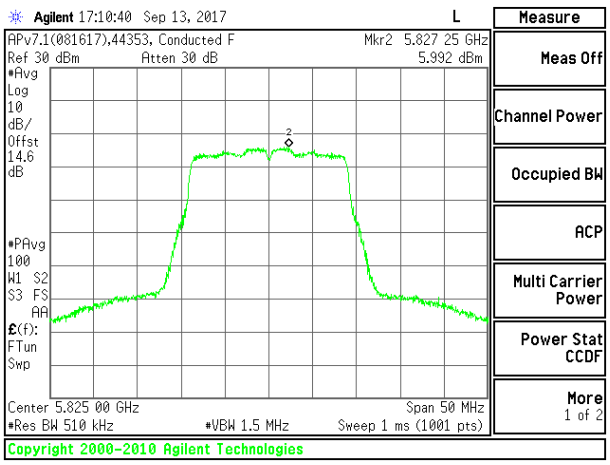


MID CHANNEL ANT B

HIGH CHANNEL



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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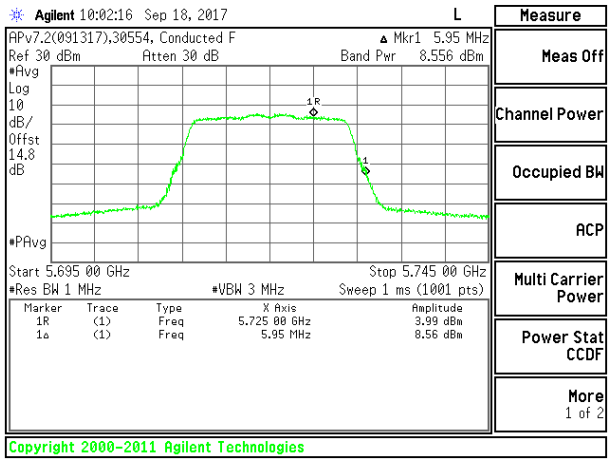
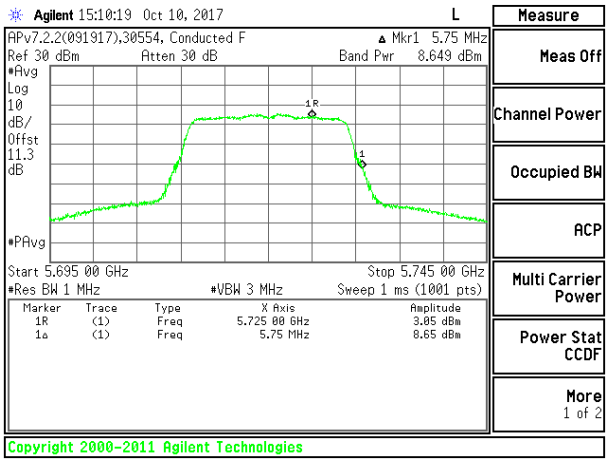
CHANNEL 144 OUTPUT POWER

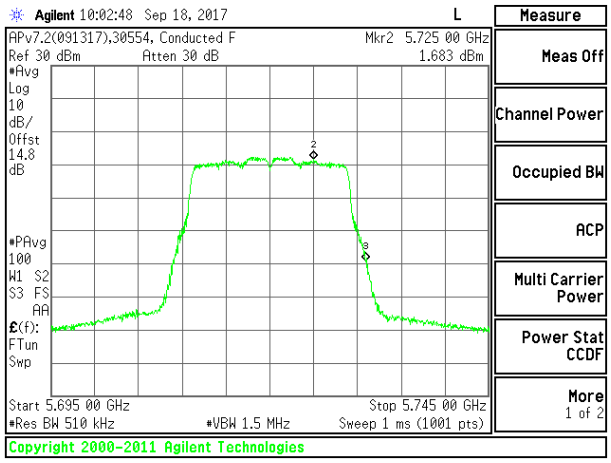


CHANNEL 144 ANT A

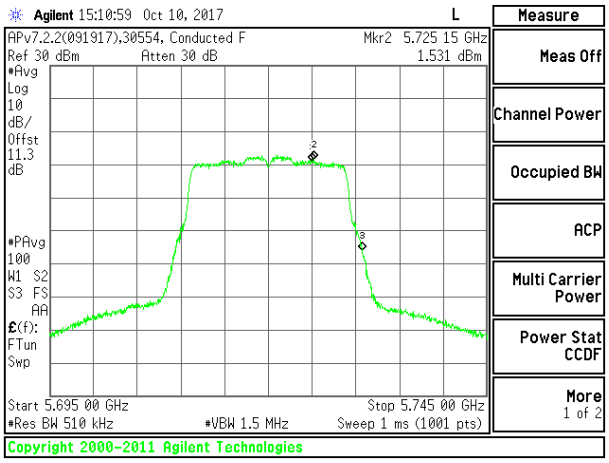


CHANNEL 144 ANT B

CHANNEL 144 PSD



CHANNEL 144 ANT A



CHANNEL 144 ANT B

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2TX Antenna A + Antenna B STBC MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
144	5720	3.88	3.88	30.00	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	9.63	9.63	12.64	30.00	-17.36

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	2.392	2.318	5.365	30.00	-24.63

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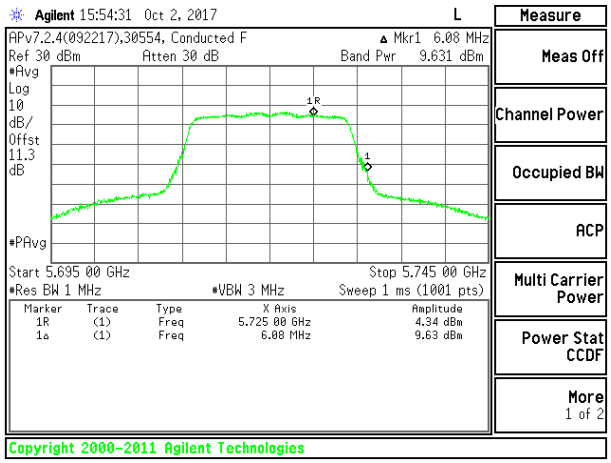
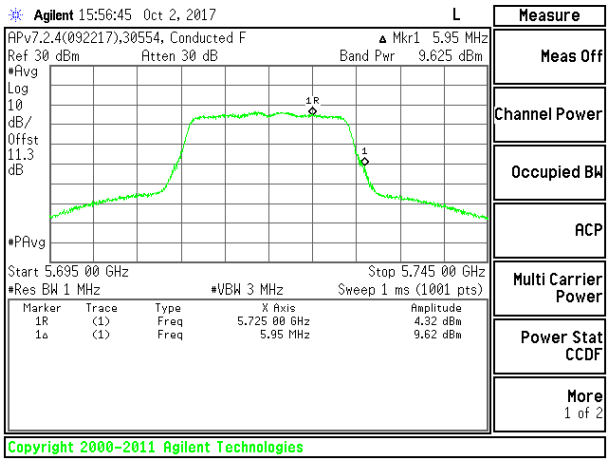
CHANNEL 144 OUTPUT POWER

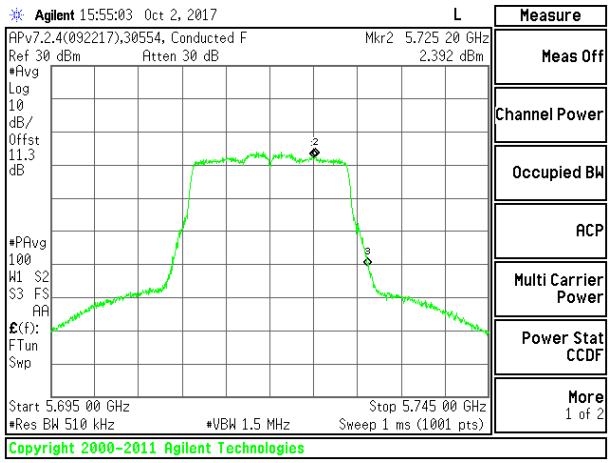


CHANNEL 144 ANT A

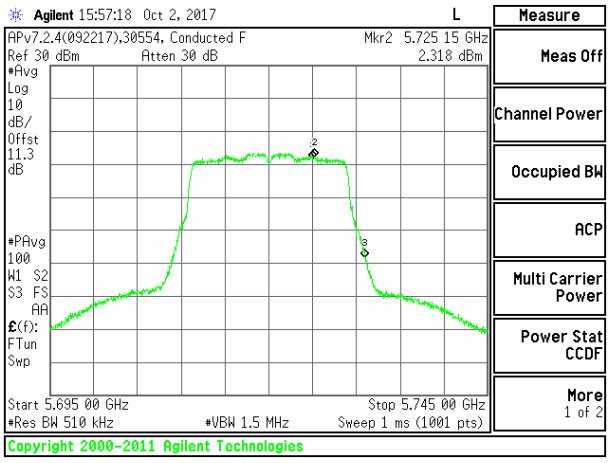


CHANNEL 144 ANT B

CHANNEL 144 PSD



CHANNEL 144 ANT A



CHANNEL 144 ANT B

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10.4.11. 802.11n HT40 MODE IN THE 5.8 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5755	2.70	30.00	30.00
High	5795	2.70	30.00	30.00
142	5710	2.70	30.00	30.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	19.83	19.83	30.00	-10.17
High	5795	19.61	19.61	30.00	-10.39
142	5710	8.74	8.74	30.00	-21.26

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	3.86	3.96	30.00	-26.04
High	5795	3.56	3.66	30.00	-26.34
142	5710	1.833	1.933	30.00	-28.07

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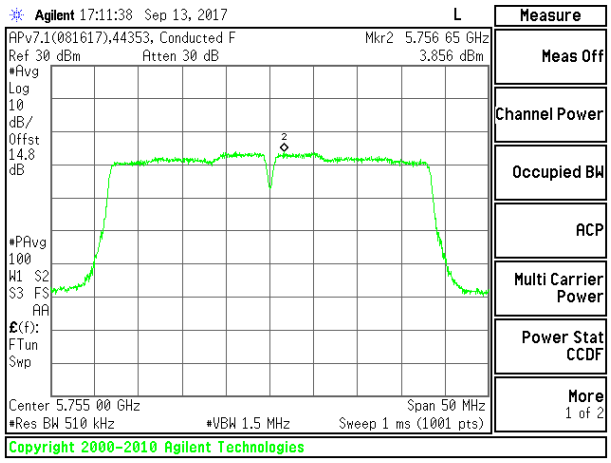
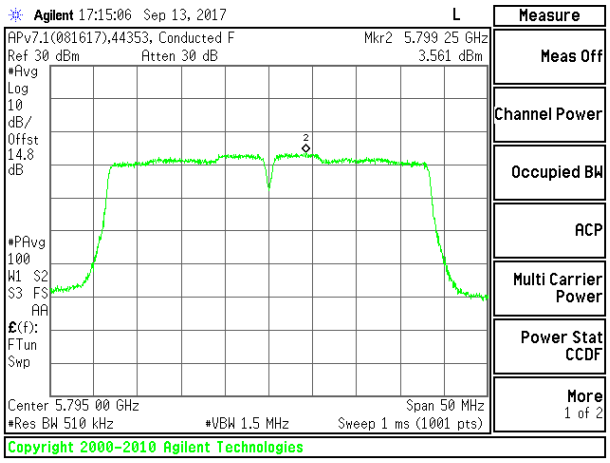
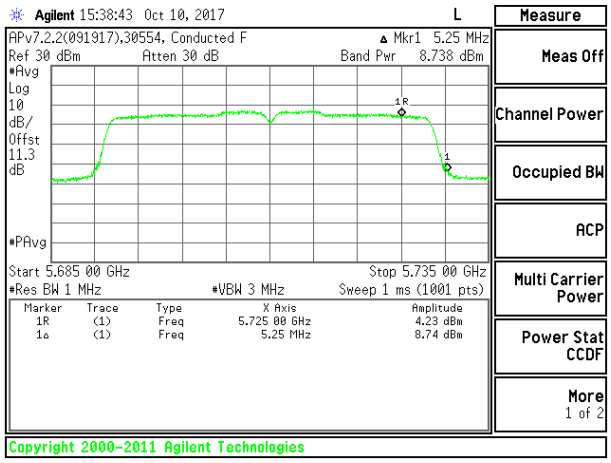


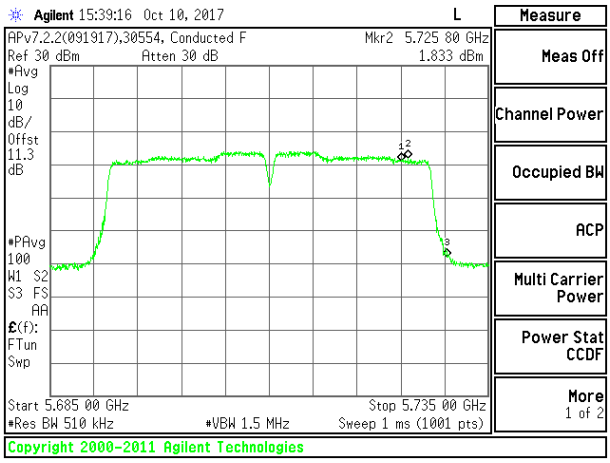
LOW CHANNEL



HIGH CHANNEL



CHANNEL 142 OUTPUT POWER



CHANNEL 142 PSD

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5755	4.80	30.00	30.00
High	5795	4.80	30.00	30.00
142	5710	4.80	30.00	30.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	19.69	19.69	30.00	-10.31
High	5795	19.62	19.62	30.00	-10.38
142	5710	8.81	8.81	30.00	-21.19

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	3.53	3.63	30.00	-26.38
High	5795	3.19	3.29	30.00	-26.71
142	5710	2.251	2.351	30.00	-27.65

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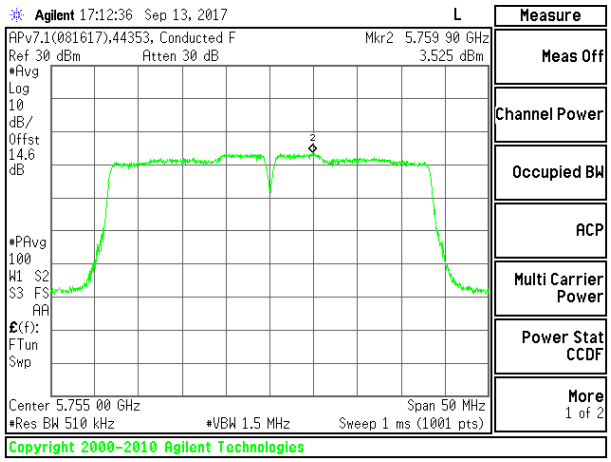
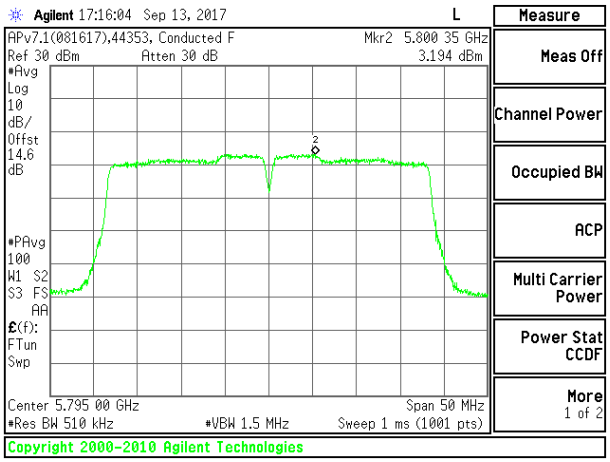
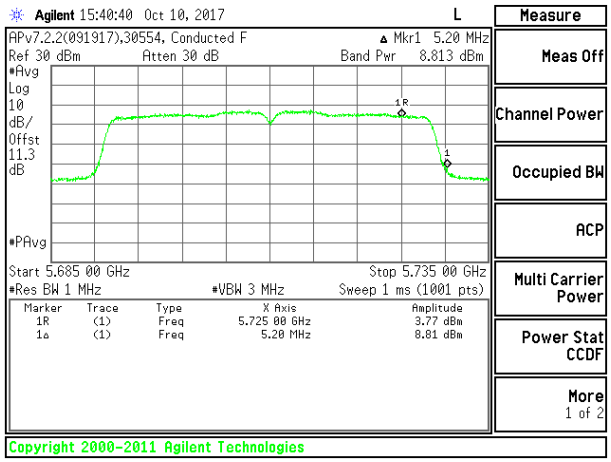


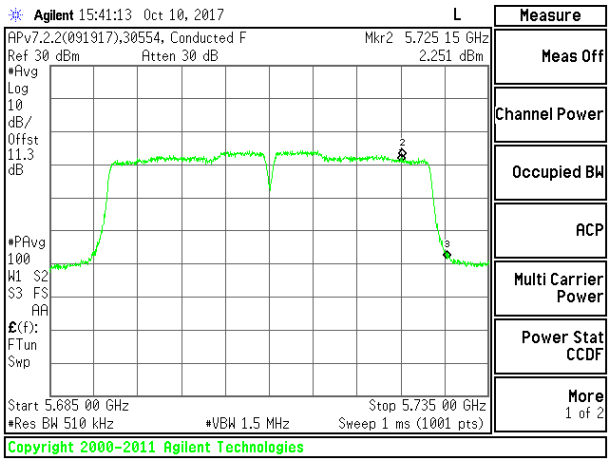
LOW CHANNEL



HIGH CHANNEL



CHANNEL 142 OUTPUT POWER



CHANNEL 142 PSD

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5755	3.88	6.82	30.00	29.18
High	5795	3.88	6.82	30.00	29.18
142	5710	3.88	6.82	30.00	29.18

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	19.33	19.41	22.38	30.00	-7.62
High	5795	19.44	19.19	22.33	30.00	-7.67
142	5710	6.66	6.65	9.66	30.00	-20.34

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	3.31	3.42	6.47	29.18	-22.71
High	5795	3.46	2.83	6.26	29.18	-22.92
142	5710	-0.052	-0.107	3.031	29.18	-26.15

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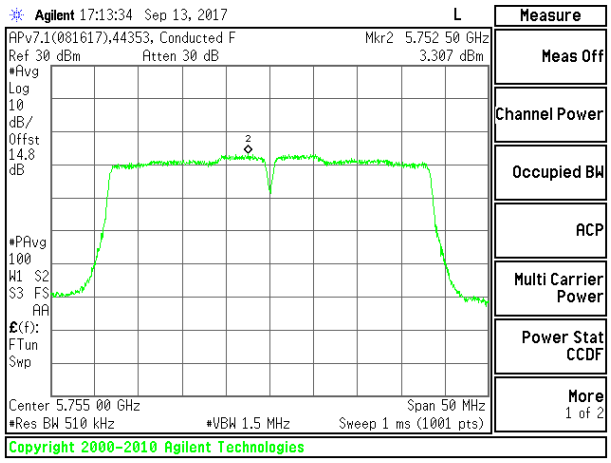
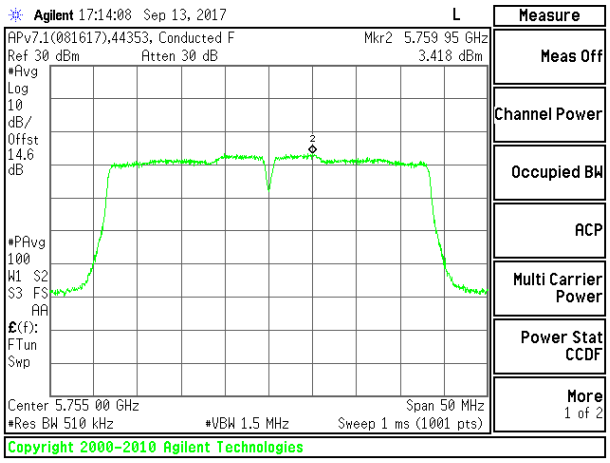
LOW CHANNEL

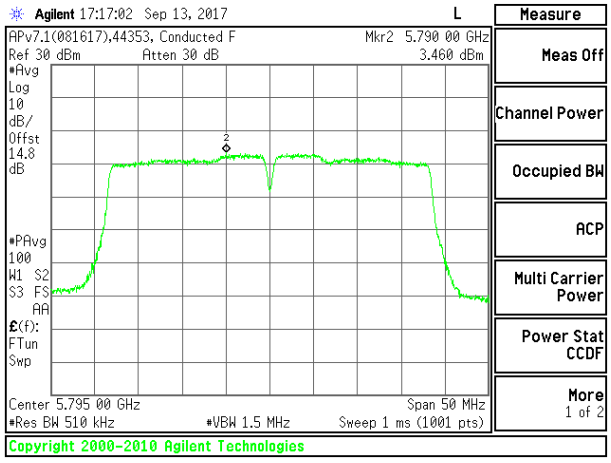


LOW CHANNEL ANT A

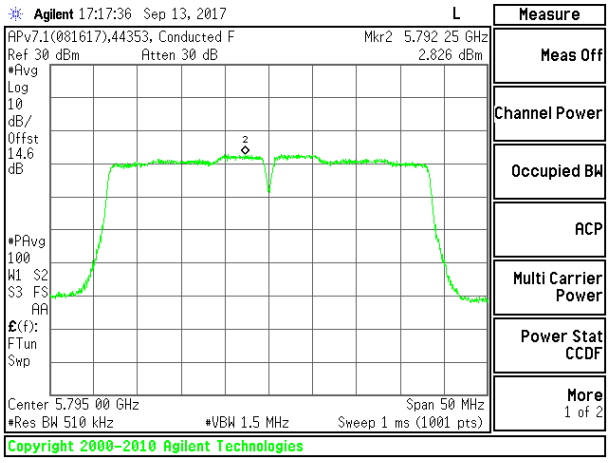


LOW CHANNEL ANT B

HIGH CHANNEL

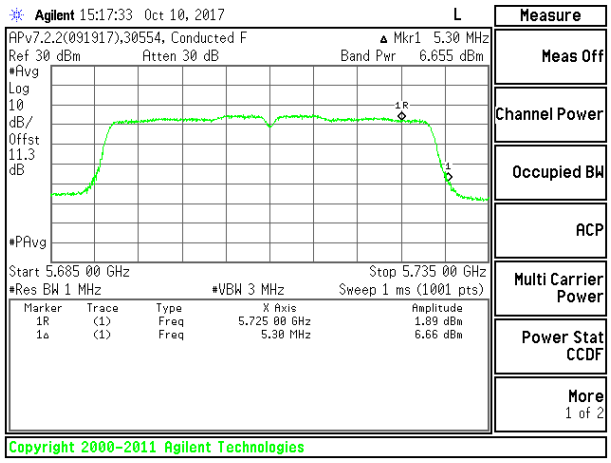


HIGH CHANNEL ANT A

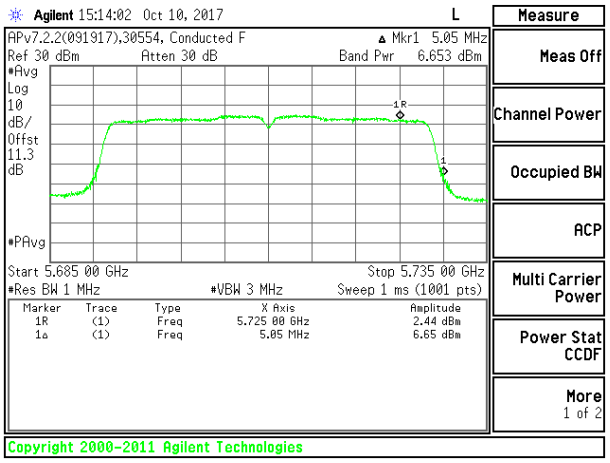


HIGH CHANNEL ANT B

CHANNEL 142 OUTPUT POWER



LOW CHANNEL ANT A



LOW CHANNEL ANT B

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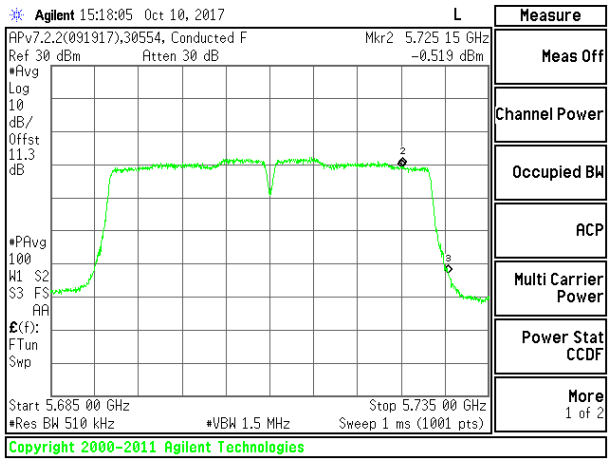
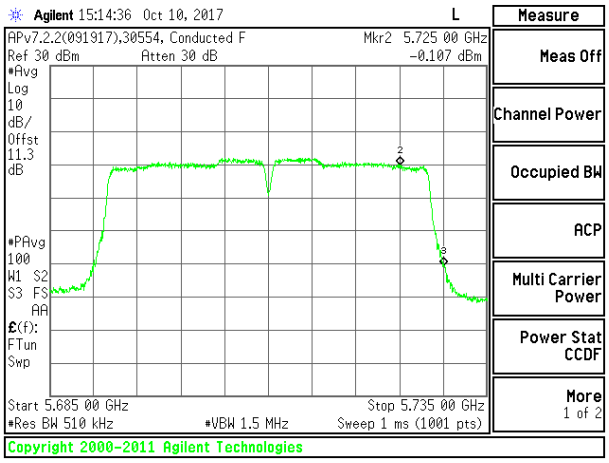
CHANNEL 142 PSD



HIGH CHANNEL ANT A



HIGH CHANNEL ANT B

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2TX Antenna A + Antenna B STBC MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
142	5710	3.88	3.88	30.00	30.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.48	7.59	10.55	30.00	-19.45

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.650	0.679	3.775	30.00	-26.23

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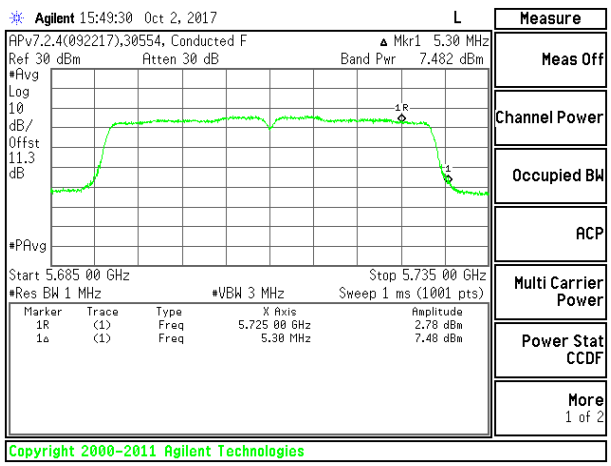
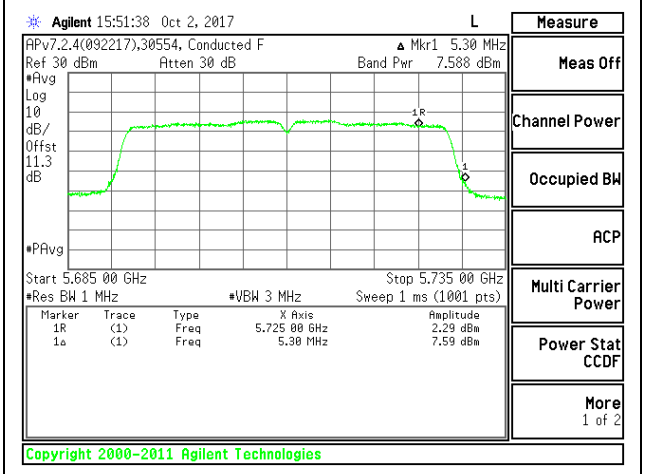
CHANNEL 142 OUTPUT POWER

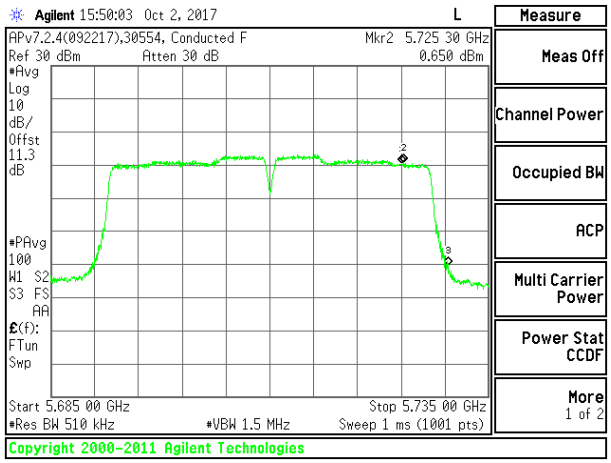


CHANNEL 142 ANT A

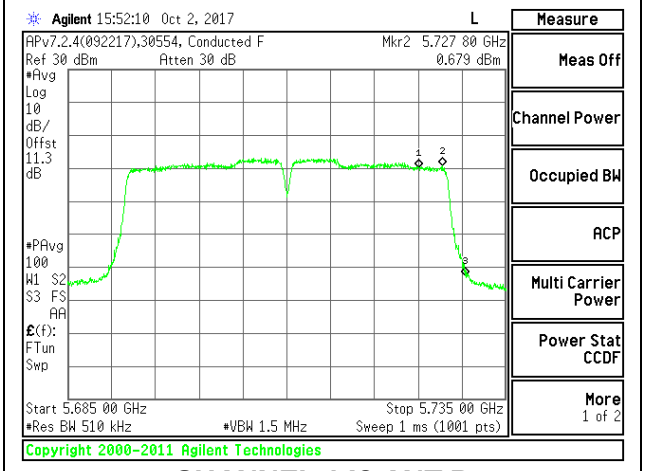


CHANNEL 142 ANT B

CHANNEL 142 PSD



CHANNEL 142 ANT A



CHANNEL 142 ANT B

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10.4.12. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

1TX Antenna A

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Mid	5775	2.70	30.00	30.00
138	5690	2.70	30.00	30.00

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	18.63	18.63	30.00	-11.37
138	5690	5.43	5.43	30.00	-24.57

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5775	-0.53	-0.34	30.00	-30.34
138	5690	-1.729	-1.539	30.00	-31.54

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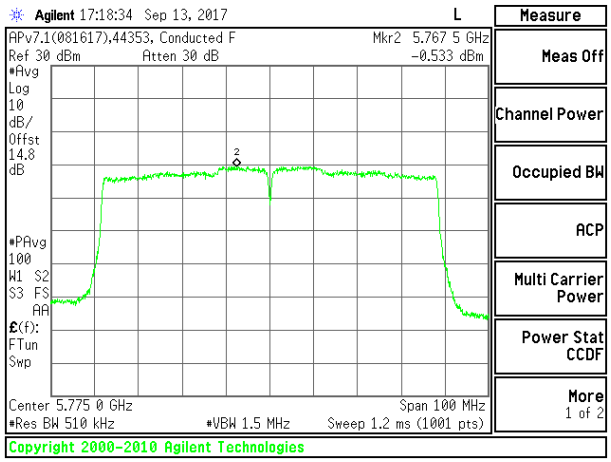
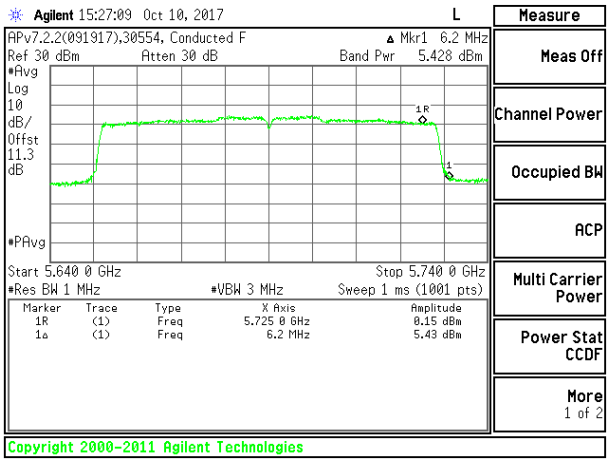
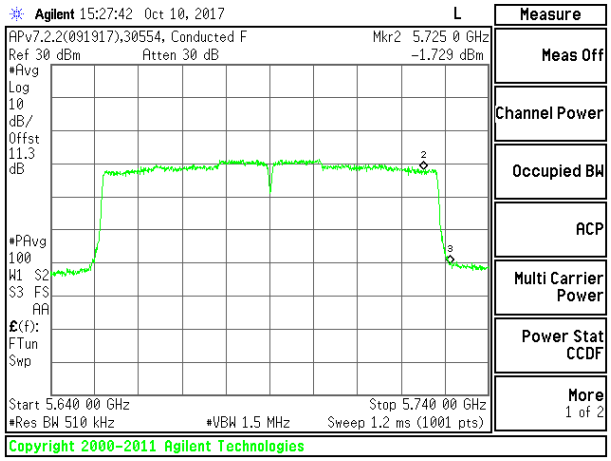


MID CHANNEL



CHANNEL 138 OUTPUT POWER



CHANNEL 138 PSD

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1TX Antenna B

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Mid	5775	4.80	30.00	30.00
138	5690	4.80	30.00	30.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power & PSD**

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	18.93	18.93	30.00	-11.07
138	5690	5.54	5.54	30.00	-24.46

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5775	0.37	0.56	30.00	-29.44
138	5690	-1.712	-1.522	30.00	-31.52

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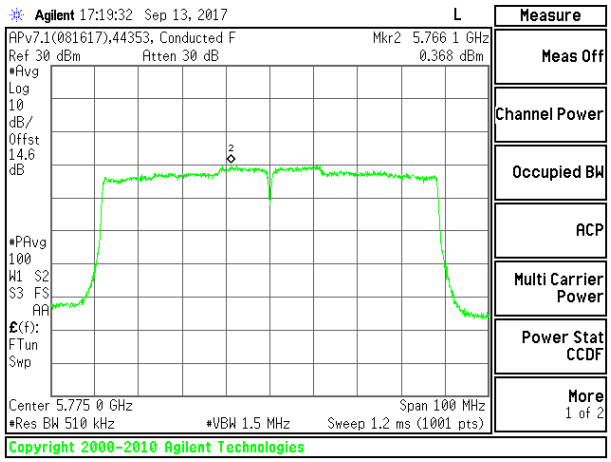

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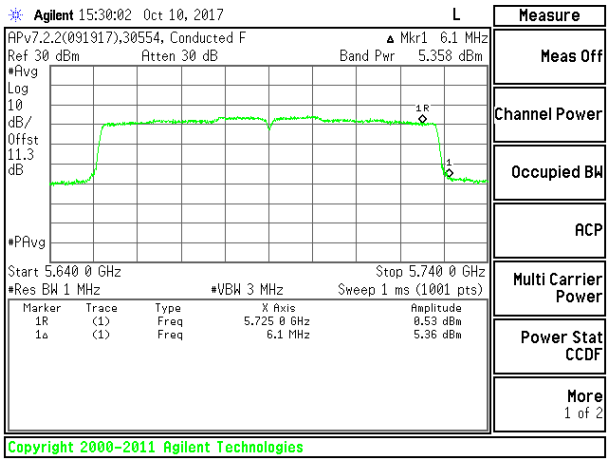
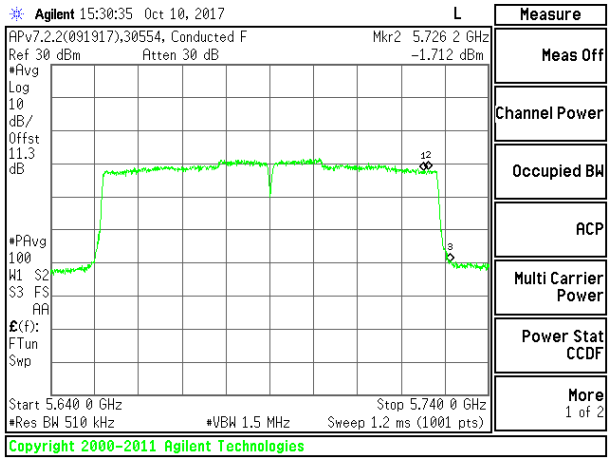


CHANNEL 138 OUTPUT POWER



CHANNEL 138 PSD

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2TX Antenna A + Antenna B CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Mid	5775	3.88	6.82	30.00	29.18
138	5690	3.88	6.82	30.00	29.18

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power**

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	17.69	17.59	20.65	30.00	-9.35
138	5690	5.41	5.44	8.43	30.00	-21.57

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5775	-0.99	-1.31	2.05	29.18	-27.13
138	5690	-1.645	-1.653	1.551	29.18	-27.63

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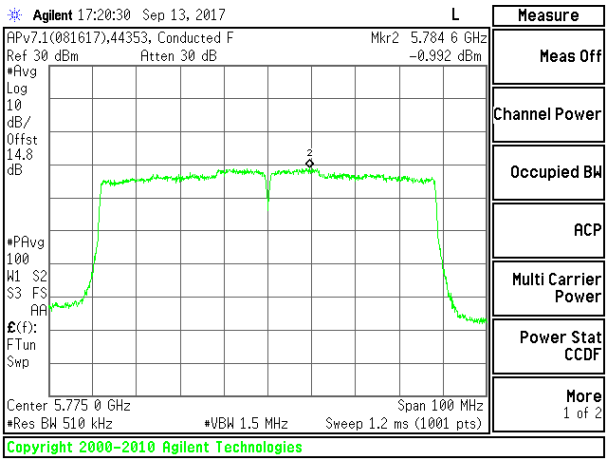
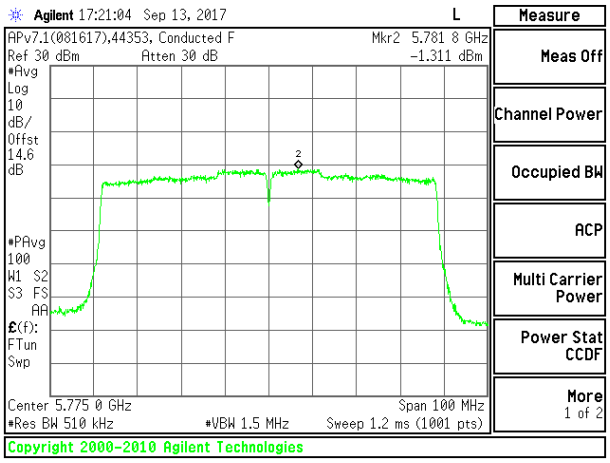
MID CHANNEL

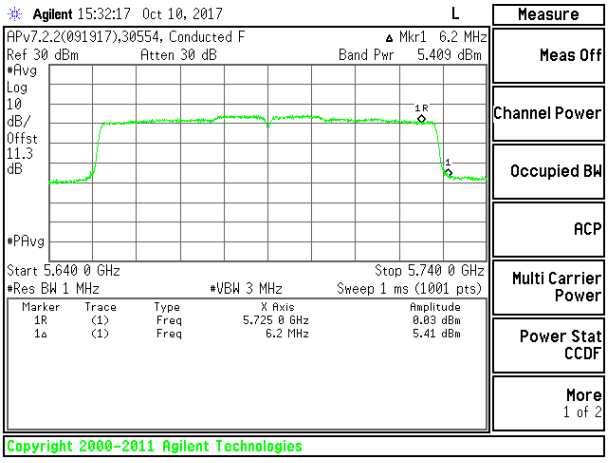


MID CHANNEL ANT A

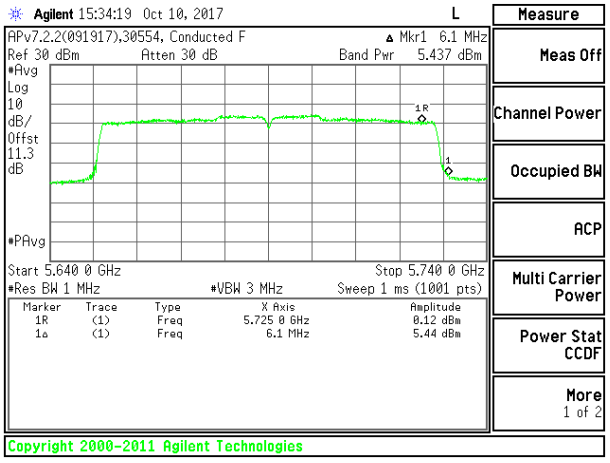


MID CHANNEL ANT B

CHANNEL 138 OUTPUT POWER

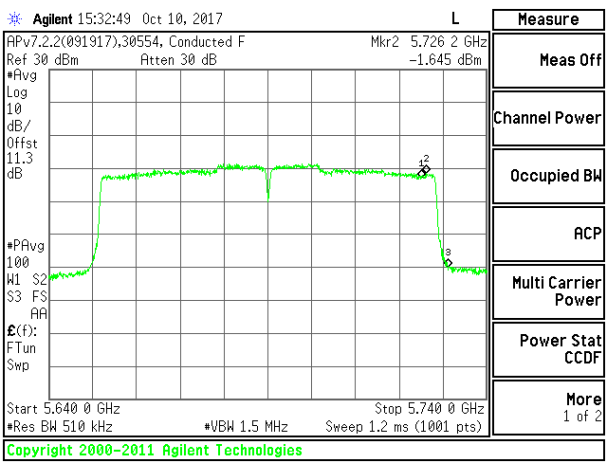


ANT A

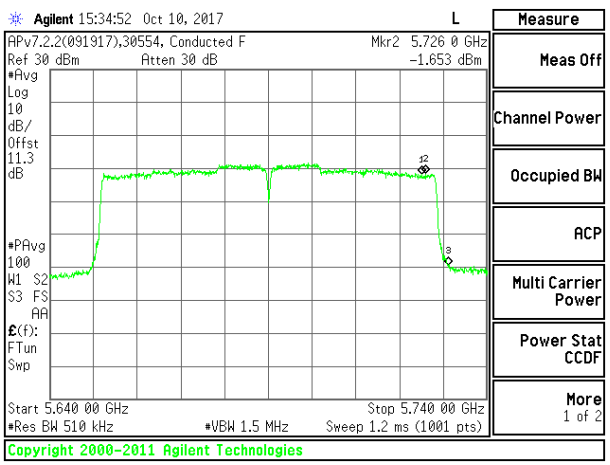


ANT B

CHANNEL 138 PSD



ANT A



ANT B

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10.5. TPC POWER

10.5.1. 802.11n HT20 TPC POWER, ANTENNA A, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5500	24	2.70	21.30
Mid	5600	24	2.70	21.30
High	5700	24	2.70	21.30

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5500	10.83	10.83	21.30	-10.47
Mid	5600	13.88	13.88	21.30	-7.42
High	5700	10.32	10.32	21.30	-10.98

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10.5.2. 802.11n HT20 TPC POWER, ANTENNA B, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5500	24	4.00	20.00
Mid	5600	24	4.00	20.00
High	5700	24	4.00	20.00

Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5500	10.78	10.78	20.00	-9.22
Mid	5600	13.63	13.63	20.00	-6.37
High	5700	10.50	10.50	20.00	-9.50

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10.5.3. 802.11n HT20 TPC POWER, 2TX ANTENNA A + ANTENNA B CDD

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.70	4.00	3.40

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.70	4.00	6.38

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RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5500	24	3.40	20.60
Mid	5600	24	3.40	20.60
High	5700	24	3.40	20.60

Duty Cycle CF (dB)		Included in Calculations of Corr'd Power

TPC Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Cond Power Limit (dBm)	Margin (dB)
Low	5500	9.89	9.77	12.84	20.60	-7.76
Mid	5600	9.77	10.81	13.33	20.60	-7.27
High	5700	9.36	9.42	12.40	20.60	-8.20

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10.5.4. 802.11n HT20 TPC POWER, 2TX ANTENNA A + ANTENNA B STBC

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.70	4.00	3.40

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.70	4.00	6.38

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RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Mid	5580	24	3.40	20.60

Duty Cycle CF (dB)		**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Cond Power Limit (dBm)	Margin (dB)
Mid	5580	10.85	10.92	13.90	20.60	-6.70

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10.5.5. 802.11n HT40 TPC POWER, ANTENNA A, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5510	24	2.70	21.30
Mid	5550	24	2.70	21.30
High	5670	24	2.70	21.30

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5510	9.79	9.89	21.30	-11.41
Mid	5550	14.87	14.97	21.30	-6.33
High	5670	10.88	10.98	21.30	-10.32

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10.5.6. 802.11n HT40 TPC POWER, ANTENNA B, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5510	24	4.00	20.00
Mid	5550	24	4.00	20.00
High	5670	24	4.00	20.00

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5510	9.41	9.51	20.00	-10.49
Mid	5550	14.88	14.98	20.00	-5.02
High	5670	10.23	10.33	20.00	-9.67

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10.5.7. 802.11n HT40 TPC POWER, 2TX ANTENNA A + ANTENNA B, CDD

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.70	4.00	3.40

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.70	4.00	6.38

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RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5510	24	3.40	20.60
Mid	5550	24	3.40	20.60
High	5670	24	3.40	20.60

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Cond Power Limit (dBm)	Margin (dB)
Low	5510	8.88	8.63	11.87	20.60	-8.73
Mid	5550	12.39	13.21	15.93	20.60	-4.67
High	5670	9.89	9.72	12.92	20.60	-7.68

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10.5.8. 802.11n HT40 TPC POWER, 2TX ANTENNA A + ANTENNA B, STBC

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.70	4.00	3.40

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.70	4.00	6.38

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RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Mid	5550	24	3.40	20.60

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Cond Power Limit (dBm)	Margin (dB)
Mid	5550	13.45	13.49	16.58	20.60	-4.02

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10.5.9. 802.11ac VHT80 TPC POWER, ANTENNA A, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5530	24	2.70	21.30
Mid	5610	24	2.70	21.30
144	5690	24	2.70	21.30

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5530	8.86	9.05	21.30	-12.25
Mid	5610	12.89	13.08	21.30	-8.22
144	5690	14.45	14.64	21.30	-6.66

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10.5.10. 802.11ac VHT80 TPC POWER, ANTENNA B, 1TX

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5530	24	4.00	20.00
Mid	5610	24	4.00	20.00
144	5690	24	4.00	20.00

Duty Cycle CF (dB)	0.19	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Meas Power (dBm)	Corr'd Power (dBm)	Cond Limit (dBm)	Margin (dB)
Low	5530	8.91	9.10	20.00	-10.90
Mid	5610	12.67	12.86	20.00	-7.14
144	5690	14.74	14.93	20.00	-5.07

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10.5.11. 802.11ac VHT80 TPC POWER, 2TX ANTENNA A + ANTENNA B, CDD

LIMITS

FCC §15.407 (h) (1)

Transmit power control (TPC). U-NII devices operating in the 5.25–5.35 GHz band and the 5.47–5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for uncorrelated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.70	4.00	3.40

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Use this table for correlated chains and unequal antenna gain

Ant A Gain (dBi)	Ant B Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.70	4.00	6.38

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RESULTS

TPC Limits

Channel	Frequency (MHz)	Limit EIRP (dBm)	Directional Gain (dBi)	Limit Cond (dBm)
Low	5530	24	3.40	20.60
Mid	5610	24	3.40	20.60
High	5690	24	3.40	20.60

Duty Cycle CF (dB)	0.10	**Included in Calculations of Corr'd Power**

TPC Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Cond Power Limit (dBm)	Margin (dB)
Low	5530	7.52	7.67	10.71	20.60	-9.89
Mid	5610	11.63	11.88	14.87	20.60	-5.73
High	5690	14.66	14.75	17.82	20.60	-2.78

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11. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

Reference to KDB 789033 UNII part G) 6) d) Method AD:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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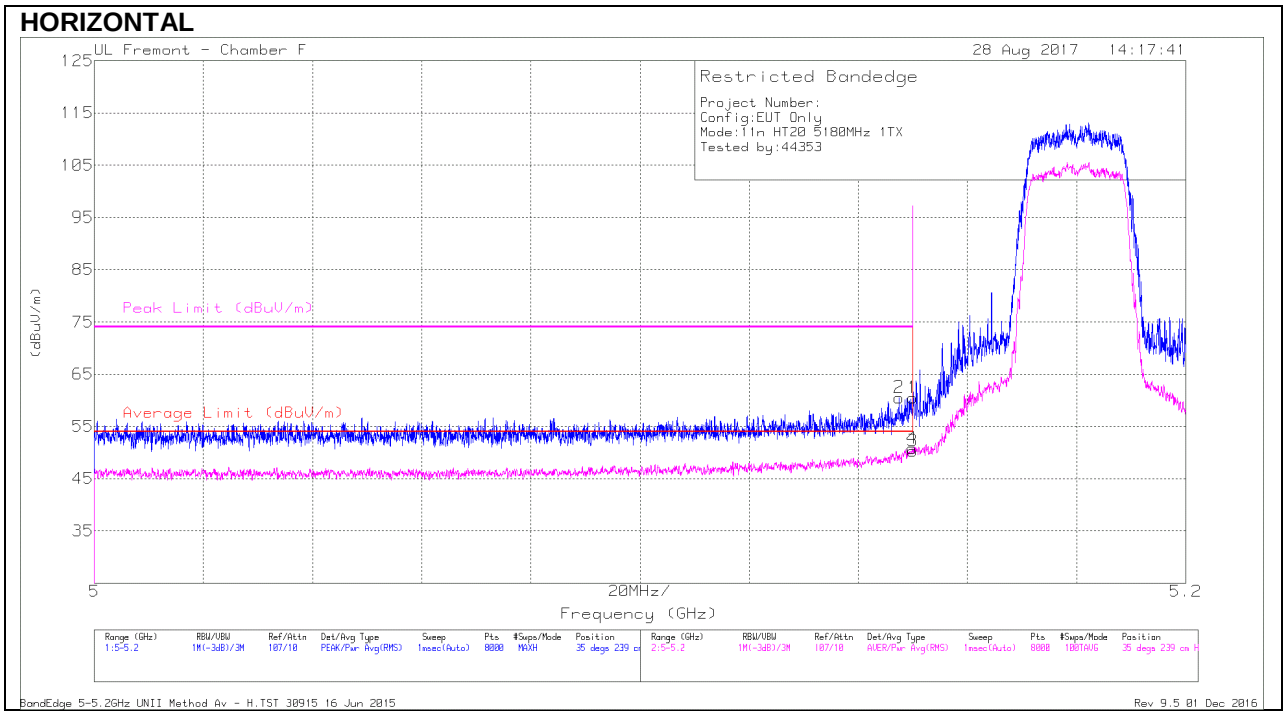
11.1. TRANSMITTER ABOVE 1 GHz

11.1.1. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

1TX Antenna A

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.7	Pk	34.5	-18.7	60.5	-	-	74	-13.5	35	239	H
2	* 5.147	44.83	Pk	34.4	-18.7	60.53	-	-	74	-13.47	35	239	H
3	* 5.15	34.51	RMS	34.5	-18.7	50.31	54	-3.69	-	-	35	239	H
4	* 5.15	35.04	RMS	34.5	-18.7	50.84	54	-3.16	-	-	35	239	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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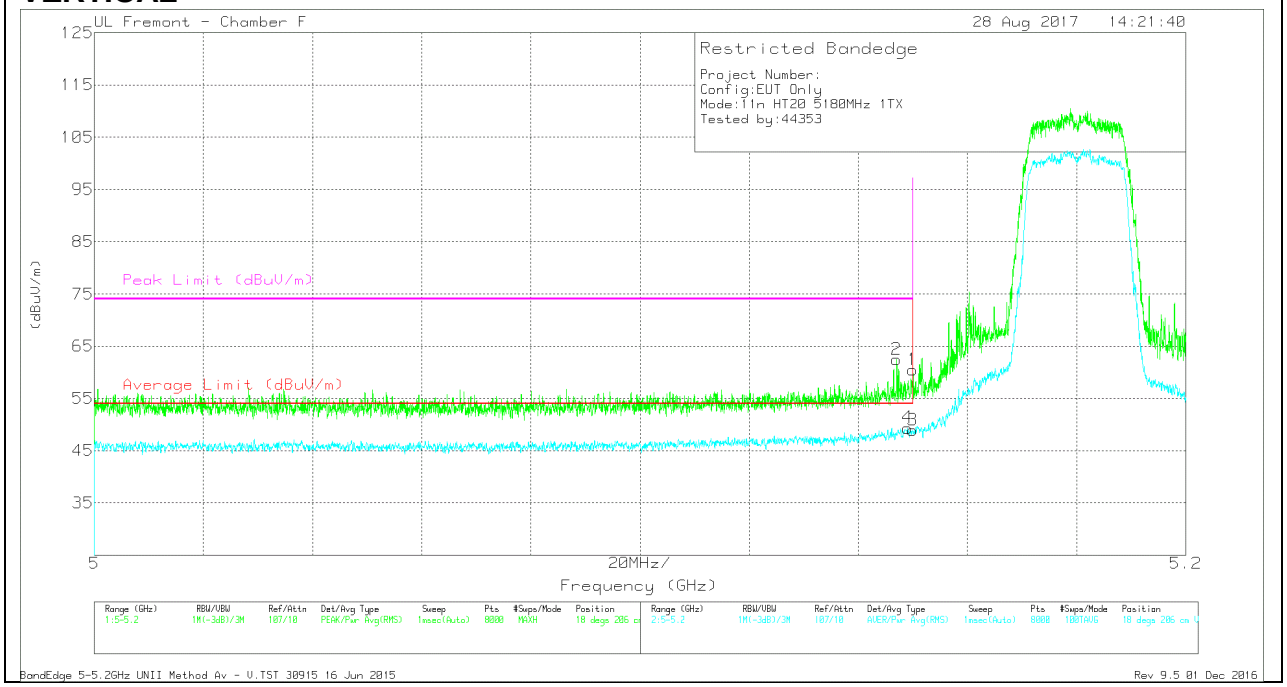
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.67	Pk	34.5	-18.7	60.47	-	-	74	-13.53	18	206	V
2	* 5.147	46.75	Pk	34.4	-18.7	62.45	-	-	74	-11.55	18	206	V
3	* 5.15	33.07	RMS	34.5	-18.7	48.87	54	-5.13	-	-	18	206	V
4	* 5.149	33.56	RMS	34.5	-18.7	49.36	54	-4.64	-	-	18	206	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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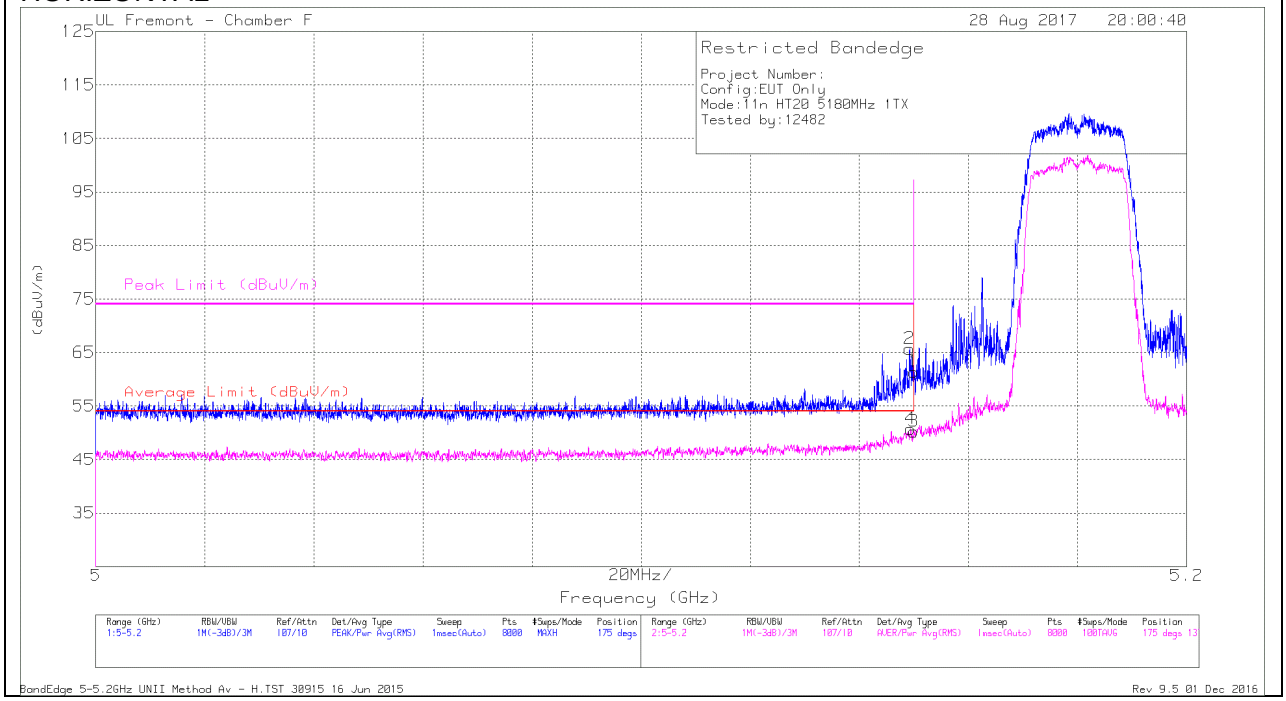
1TX Antenna B

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	45.59	Pk	34.5	-18.7	61.39	-	-	74	-12.61	175	137	H
2	* 5.149	49.89	Pk	34.5	-18.7	65.69	-	-	74	-8.31	175	137	H
3	* 5.15	34.44	RMS	34.5	-18.7	50.24	54	-3.76	-	-	175	137	H
4	* 5.149	34.93	RMS	34.5	-18.7	50.73	54	-3.27	-	-	175	137	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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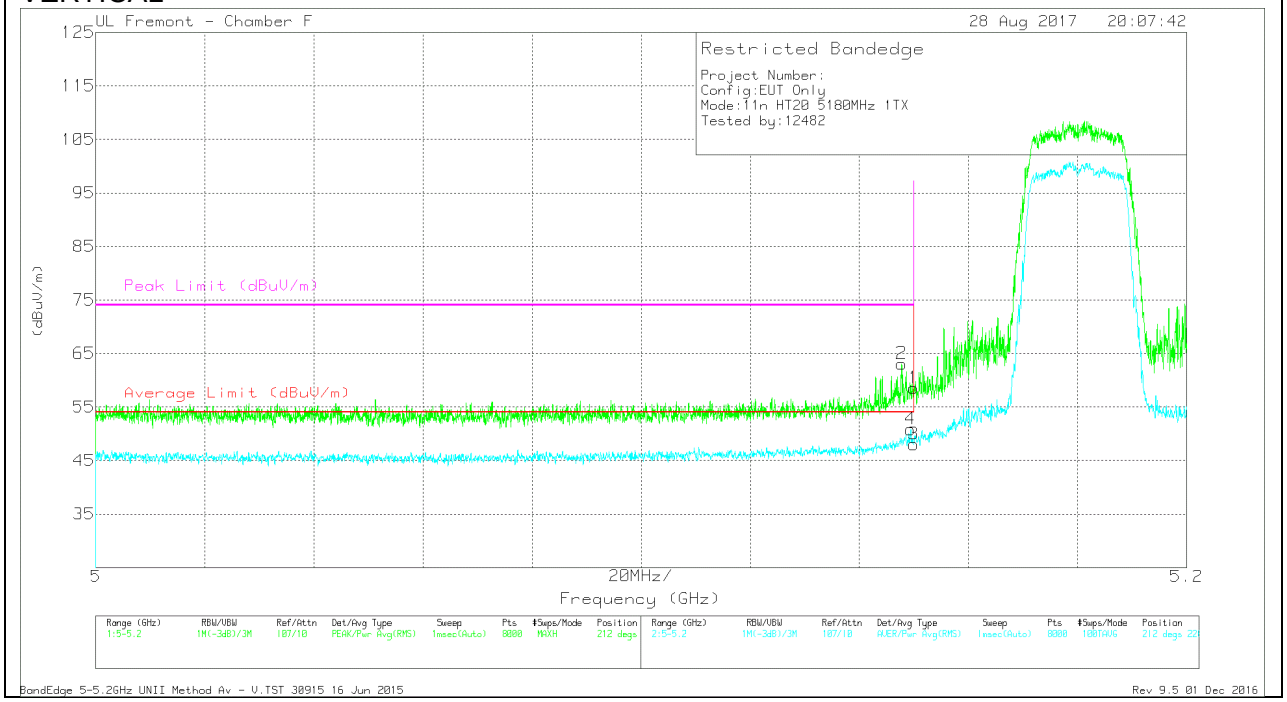
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.75	Pk	34.5	-18.7	58.55	-	-	74	-15.45	212	226	V
2	* 5.148	47.29	Pk	34.5	-18.7	63.09	-	-	74	-10.91	212	226	V
3	* 5.15	32.24	RMS	34.5	-18.7	48.04	54	-5.96	-	-	212	226	V
4	* 5.149	35.03	RMS	34.5	-18.7	50.83	54	-3.17	-	-	212	226	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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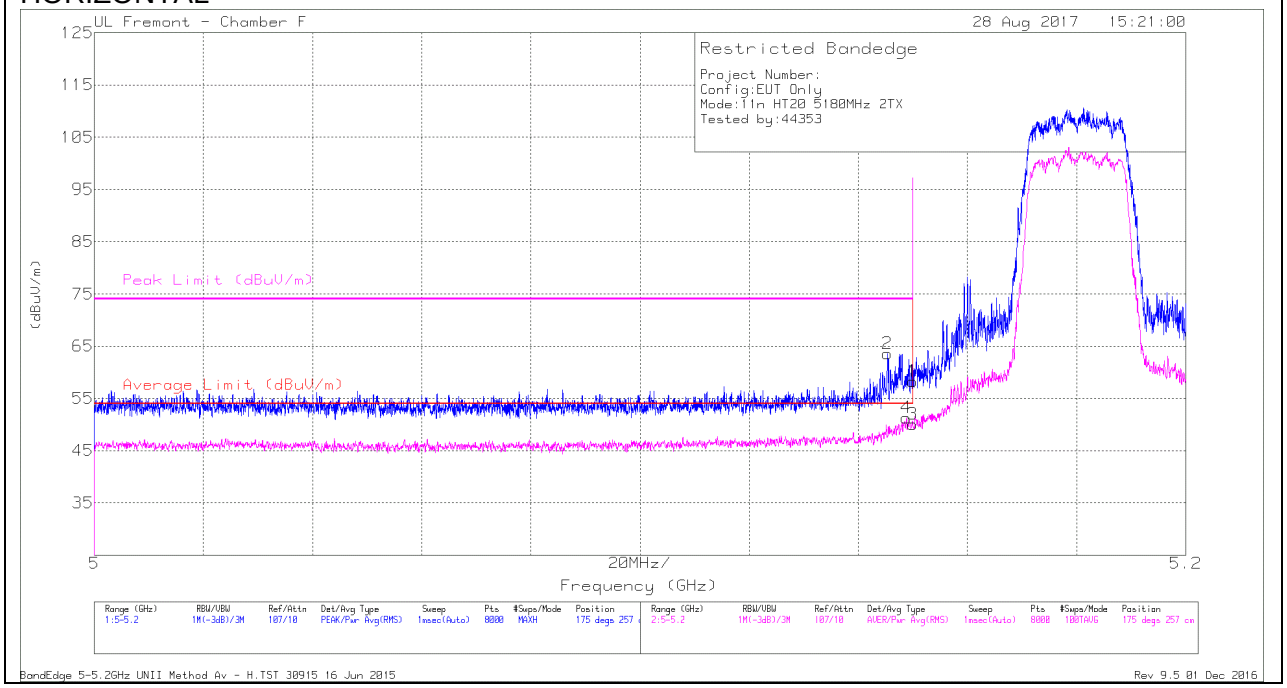
2TX Antenna A + Antenna B CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.42	Pk	34.5	-18.7	58.22	-	-	74	-15.78	175	257	H
2	* 5.145	47.86	Pk	34.4	-18.7	63.56	-	-	74	-10.44	175	257	H
3	* 5.15	34.29	RMS	34.5	-18.7	50.09	54	-3.91	-	-	175	257	H
4	* 5.149	35.43	RMS	34.5	-18.7	51.23	54	-2.77	-	-	175	257	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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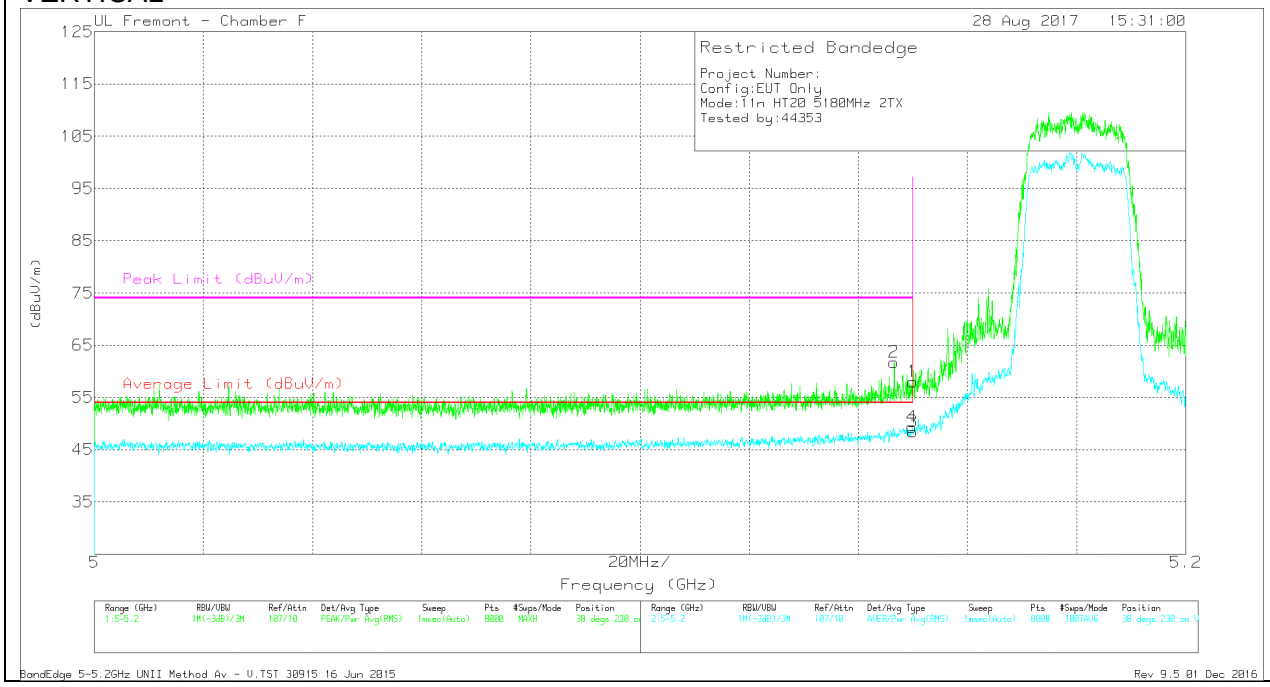
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.22	Pk	34.5	-18.7	58.02	-	-	74	-15.98	38	230	V
2	* 5.147	46.04	Pk	34.4	-18.7	61.74	-	-	74	-12.26	38	230	V
3	* 5.15	32.58	RMS	34.5	-18.7	48.38	54	-5.62	-	-	38	230	V
4	* 5.15	33.53	RMS	34.5	-18.7	49.33	54	-4.67	-	-	38	230	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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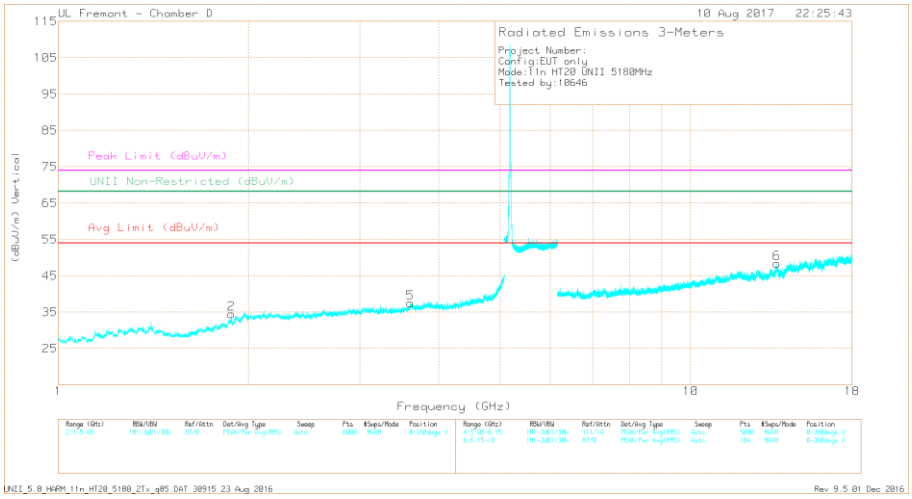
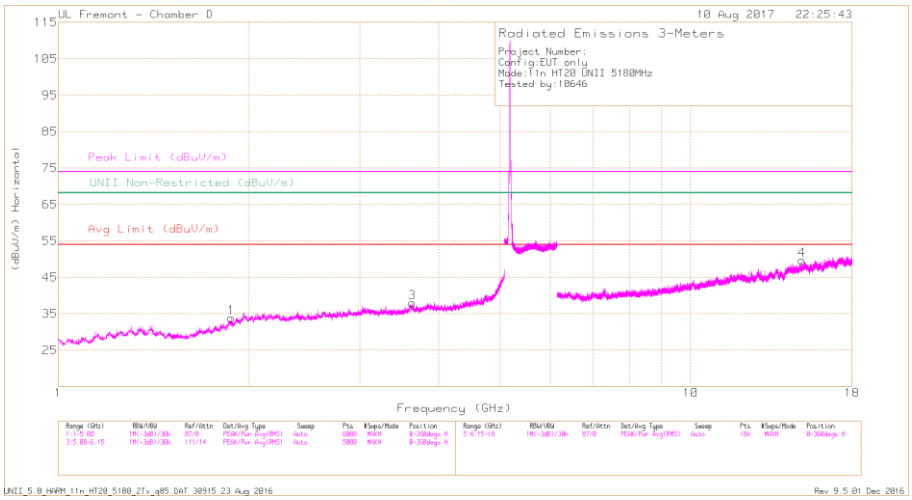
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL

VERTICAL



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.627	38.72	PK-U	33.4	-30.3	41.82	-	-	74	-32.18	-	-	131	223	H
	* 3.63	27.23	ADR	33.4	-30.3	30.33	54	-23.67	-	-	-	-	131	223	H
5	* 3.607	38.2	PK-U	33.3	-30.3	41.2	-	-	74	-32.8	-	-	269	198	V
	* 3.606	27.16	ADR	33.3	-30.3	30.16	54	-23.84	-	-	-	-	269	198	V
1	1.88	45.2	PK-U	30.6	-33.3	42.5	-	-	-	-	68.2	-25.7	46	289	H
2	1.88	45.9	PK-U	30.6	-33.3	43.2	-	-	-	-	68.2	-25	347	336	V
6	13.687	36.3	PK-U	39.5	-22.8	53	-	-	-	-	68.2	-15.2	107	215	V
4	15.002	35.84	PK-U	41.4	-23.3	53.94	-	-	-	-	68.2	-14.26	84	312	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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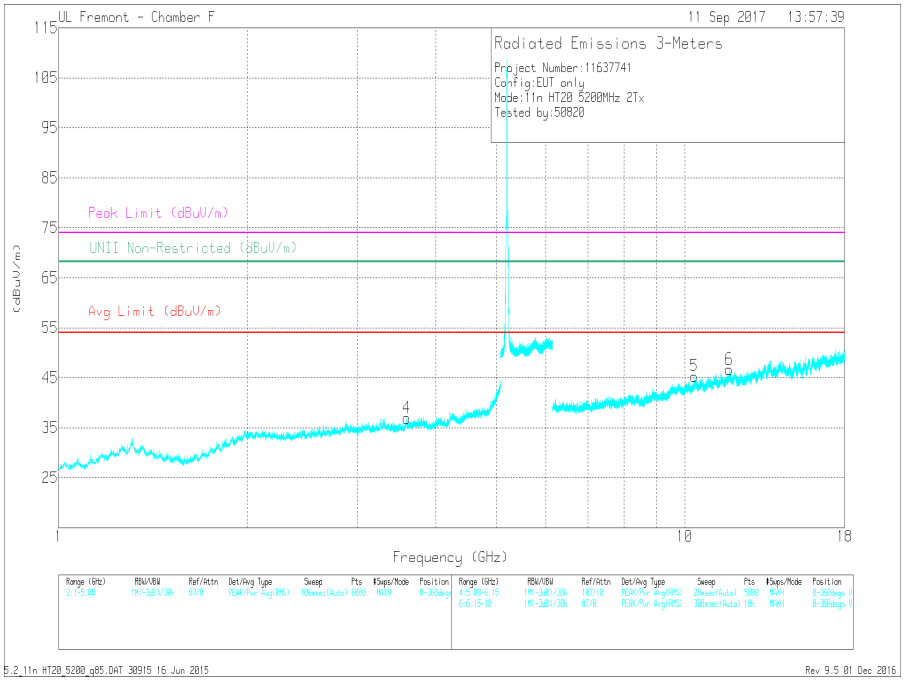
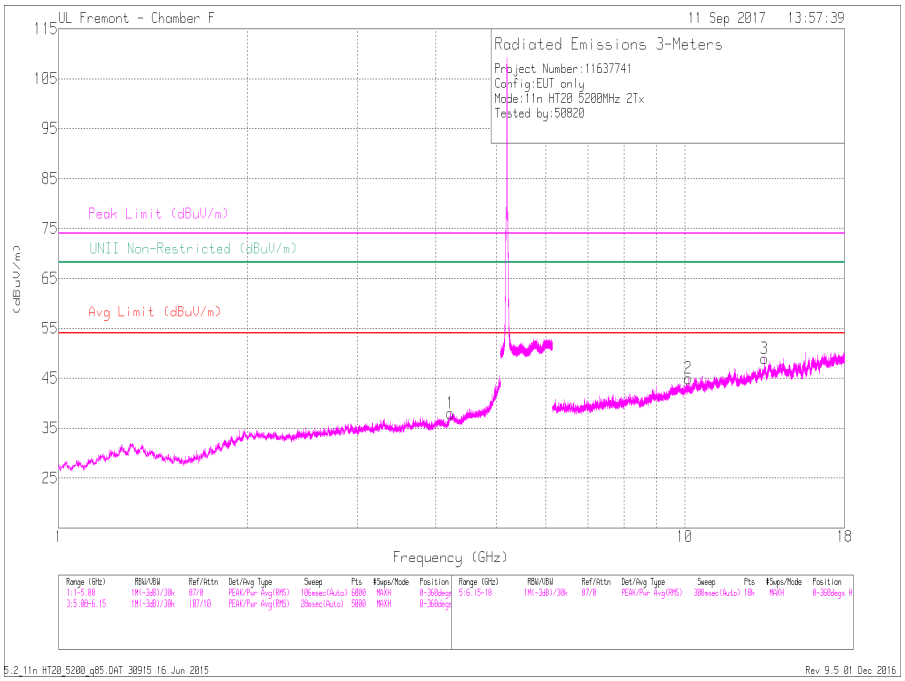
MID CHANNEL RESULTS

VERTICAL



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.223	38.43	PK-U	33.6	-27.3	44.73	-	-	74	-29.27	-	-	251	180	H
	* 4.222	27.05	ADR	33.6	-27.3	33.35	54	-20.65	-	-	-	-	251	180	H
4	* 3.599	40.24	PK-U	33.1	-29.4	43.94	-	-	74	-30.06	-	-	136	324	V
	* 3.598	28.17	ADR	33.1	-29.4	31.87	54	-22.13	-	-	-	-	136	324	V
2	10.123	34.86	PK-U	37.4	-21.2	51.06	-	-	-	-	68.2	-17.14	93	137	H
3	13.409	36.45	PK-U	39.4	-21.6	54.25	-	-	-	-	68.2	-13.95	331	294	H
5	10.36	36.02	PK-U	37.6	-21.3	52.32	-	-	-	-	68.2	-15.88	166	172	V
6	* 11.776	35.39	PK-U	39	-21.4	52.99	-	-	74	-21.01	-	-	241	255	V
	* 11.774	24.53	ADR	39	-21.4	42.13	54	-11.87	-	-	-	-	241	255	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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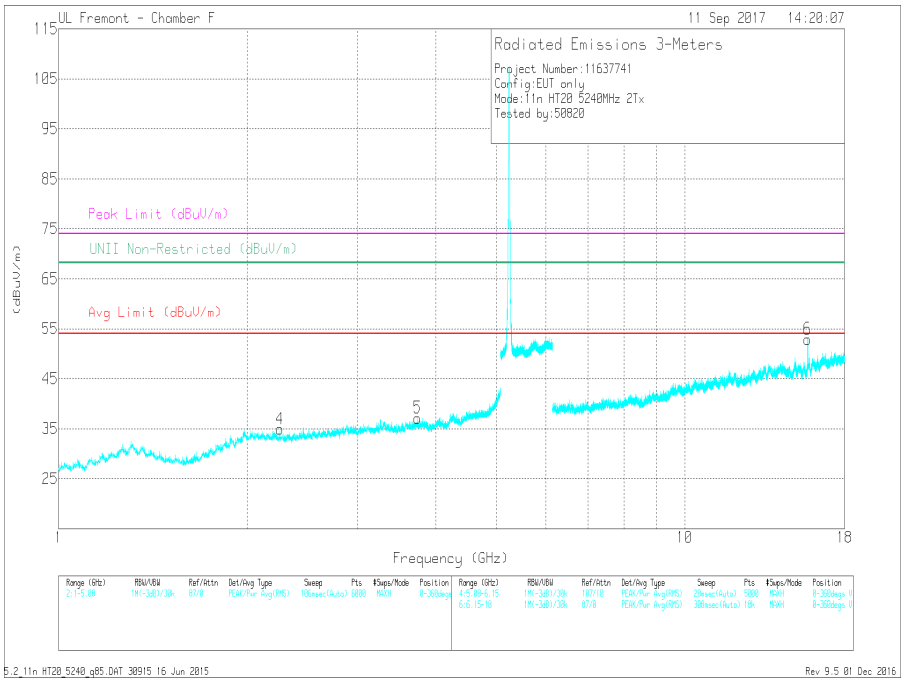
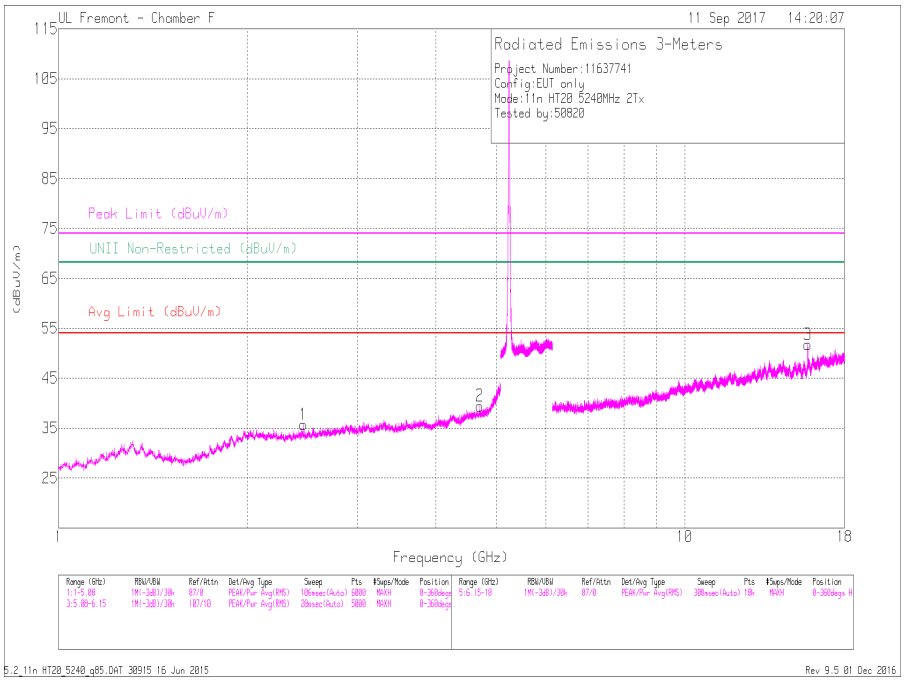
HIGH CHANNEL RESULTS

VERTICAL



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.458	40.18	PK-U	32.1	-30.5	41.78	-	-	-	-	68.2	-26.42	311	178	H
2	* 4.71	39.71	PK-U	34.1	-27.5	46.31	-	-	74	-27.69	-	-	288	160	H
	* 4.708	27.8	ADR	34.1	-27.4	34.5	54	-19.5	-	-	-	-	288	160	H
4	* 2.255	39.76	PK-U	31.8	-30.6	40.96	-	-	74	-33.04	-	-	172	335	V
	* 2.256	28.59	ADR	31.8	-30.6	29.79	54	-24.21	-	-	-	-	172	335	V
5	* 3.747	38.58	PK-U	33.3	-29.2	42.68	-	-	74	-31.32	-	-	102	193	V
	* 3.745	27.68	ADR	33.3	-29.2	31.78	54	-22.22	-	-	-	-	102	193	V
3	* 15.723	43.08	PK-U	41.1	-22.4	61.78	-	-	74	-12.22	-	-	307	197	H
	* 15.721	29.64	ADR	41.1	-22.4	48.34	54	-5.66	-	-	-	-	307	197	H
6	* 15.716	43.09	PK-U	41	-22.6	61.49	-	-	74	-12.51	-	-	247	231	V
	* 15.719	29.92	ADR	41.1	-22.5	48.52	54	-5.48	-	-	-	-	247	231	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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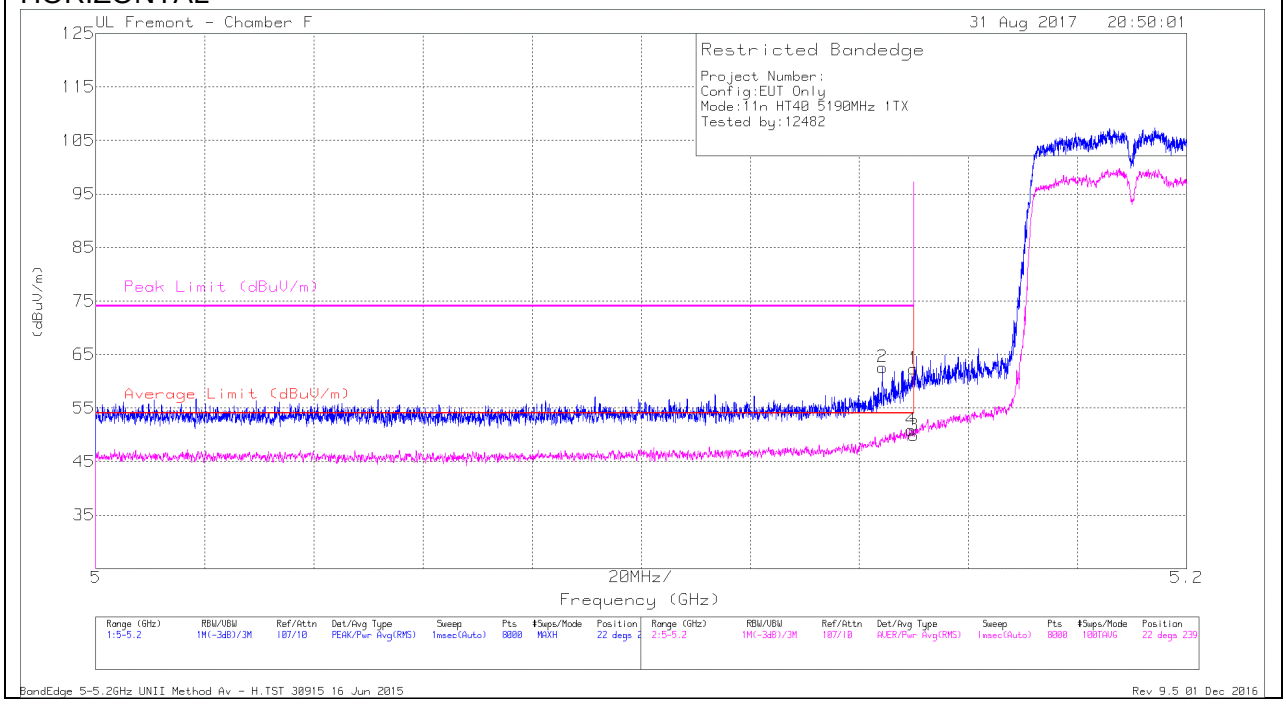
11.1.2. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

1TX Antenna A

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/ Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV /m)	Average Limit (dBuV /m)	Margin (dB)	Peak Limit (dBuV /m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	46.55	Pk	34.5	-18.7	0	62.35	-	-	74	-11.65	22	239	H
2	* 5.144	46.82	Pk	34.4	-18.6	0	62.62	-	-	74	-11.38	22	239	H
3	* 5.15	34	RMS	34.5	-18.7	.1	49.9	54	-4.1	-	-	22	239	H
4	* 5.149	34.98	RMS	34.5	-18.7	.1	50.88	54	-3.12	-	-	22	239	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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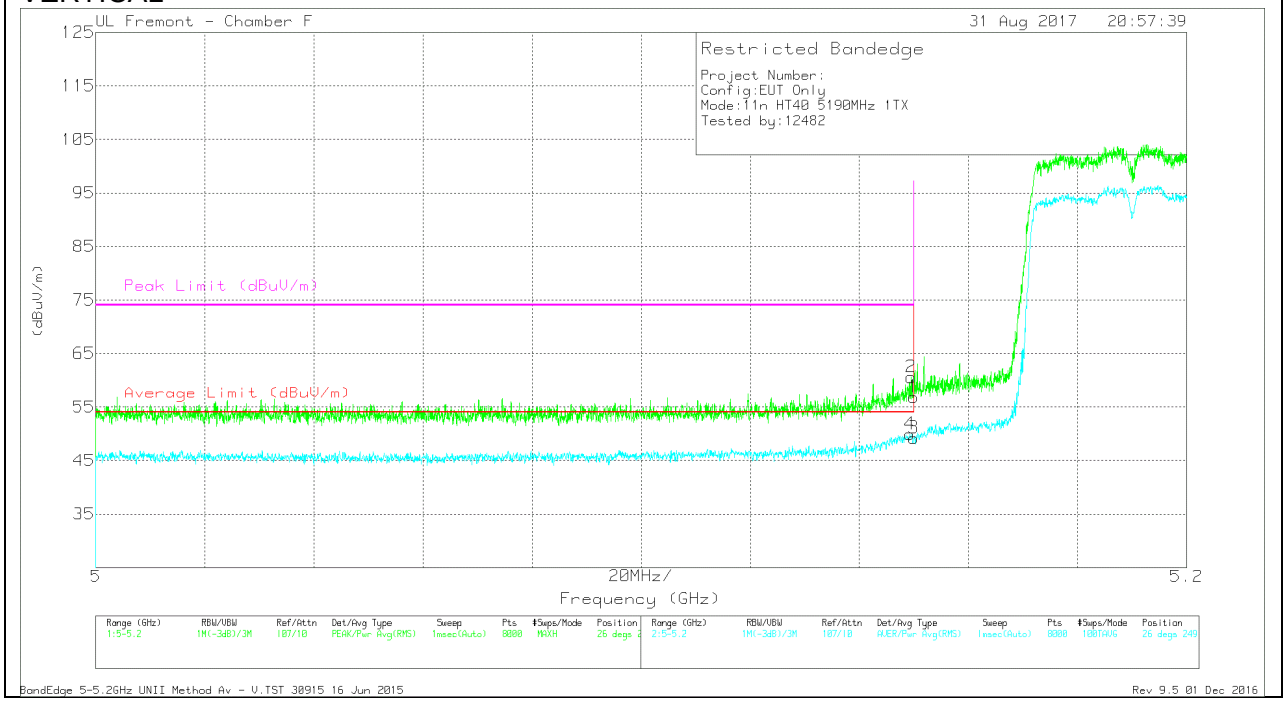
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/ Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV /m)	Average Limit (dBuV /m)	Margin (dB)	Peak Limit (dBuV /m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.09	Pk	34.5	-18.7	0	56.89	-	-	74	-17.11	26	249	V
2	* 5.149	44.77	Pk	34.5	-18.7	0	60.57	-	-	74	-13.43	26	249	V
3	* 5.15	33.32	RMS	34.5	-18.7	.1	49.22	54	-4.78	-	-	26	249	V
4	* 5.149	34.02	RMS	34.5	-18.7	.1	49.92	54	-4.08	-	-	26	249	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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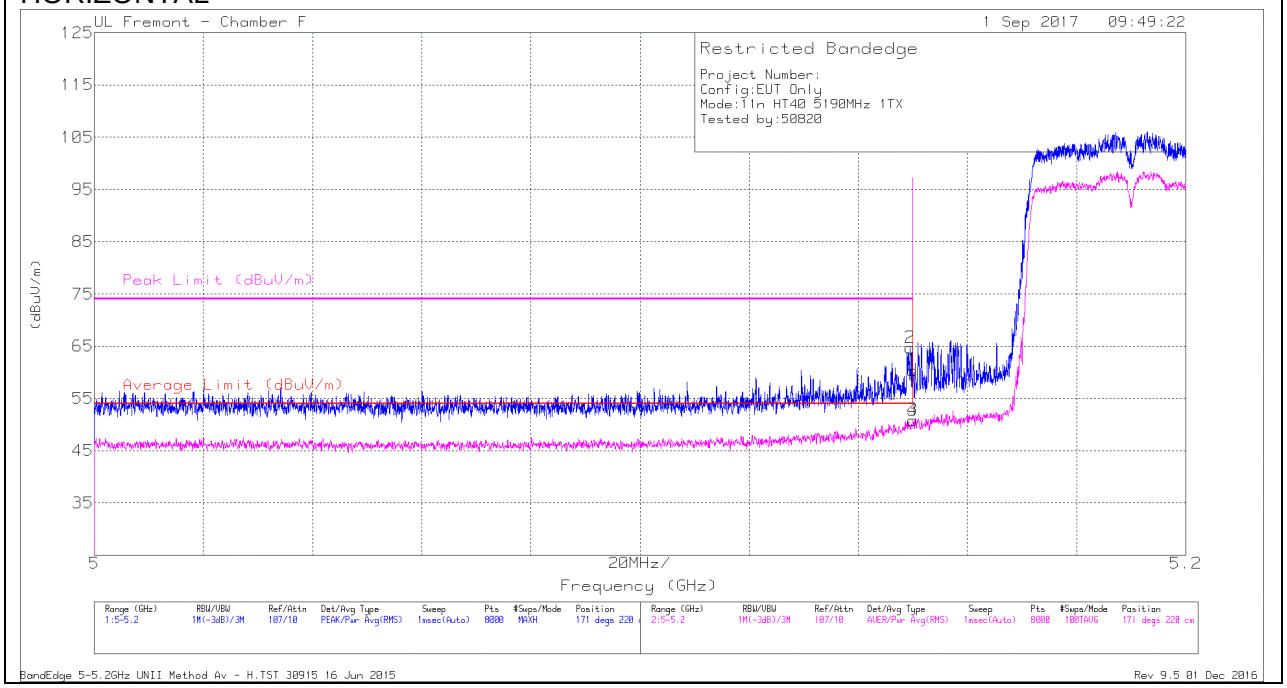
1TX Antenna B

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/ Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV /m)	Average Limit (dBuV /m)	Margin (dB)	Peak Limit (dBuV /m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	44.6	Pk	34.5	-18.7	0	60.4	-	-	74	-13.6	171	220	H
2	* 5.149	48.85	Pk	34.5	-18.7	0	64.65	-	-	74	-9.35	171	220	H
3	* 5.15	34.95	RMS	34.5	-18.7	.1	50.85	54	-3.15	-	-	171	220	H
4	* 5.15	34.87	RMS	34.5	-18.7	.1	50.77	54	-3.23	-	-	171	220	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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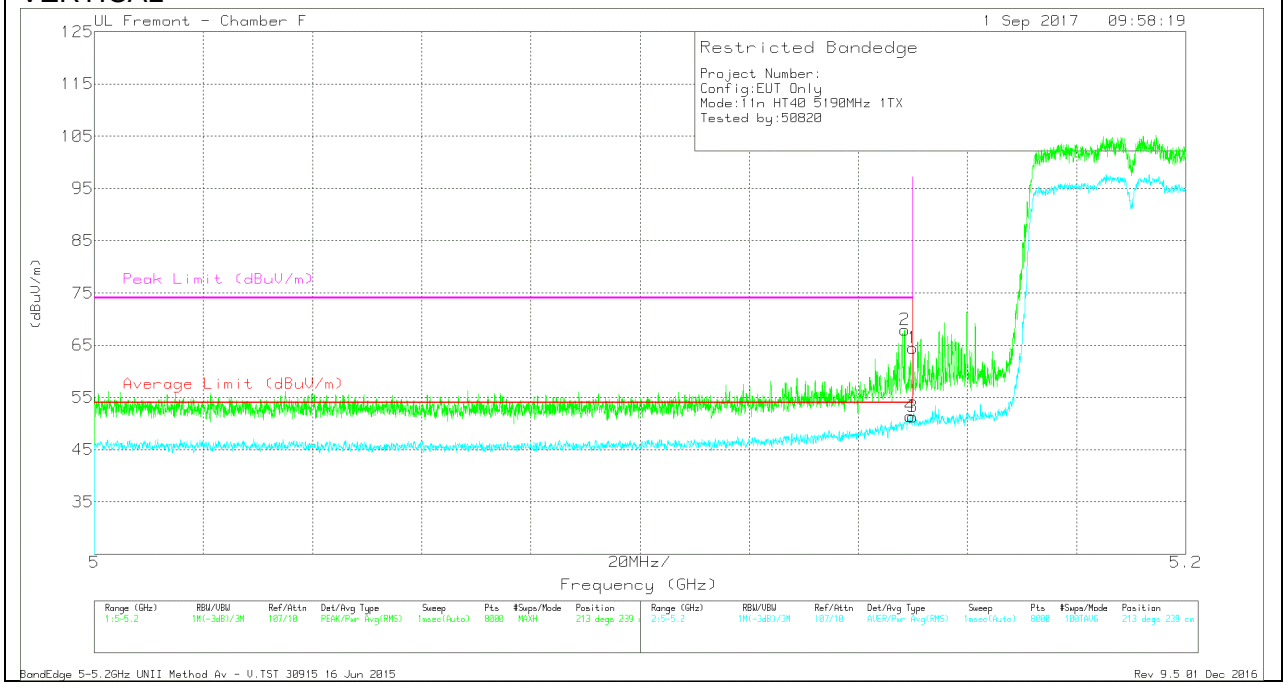
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	48.63	Pk	34.5	-18.7	64.43	-	-	74	-9.57	213	239	V
2	* 5.148	52.17	Pk	34.5	-18.7	67.97	-	-	74	-6.03	213	239	V
3	* 5.15	35.48	RMS	34.5	-18.7	51.28	54	-2.72	-	-	213	239	V
4	* 5.149	35.66	RMS	34.5	-18.7	51.46	54	-2.54	-	-	213	239	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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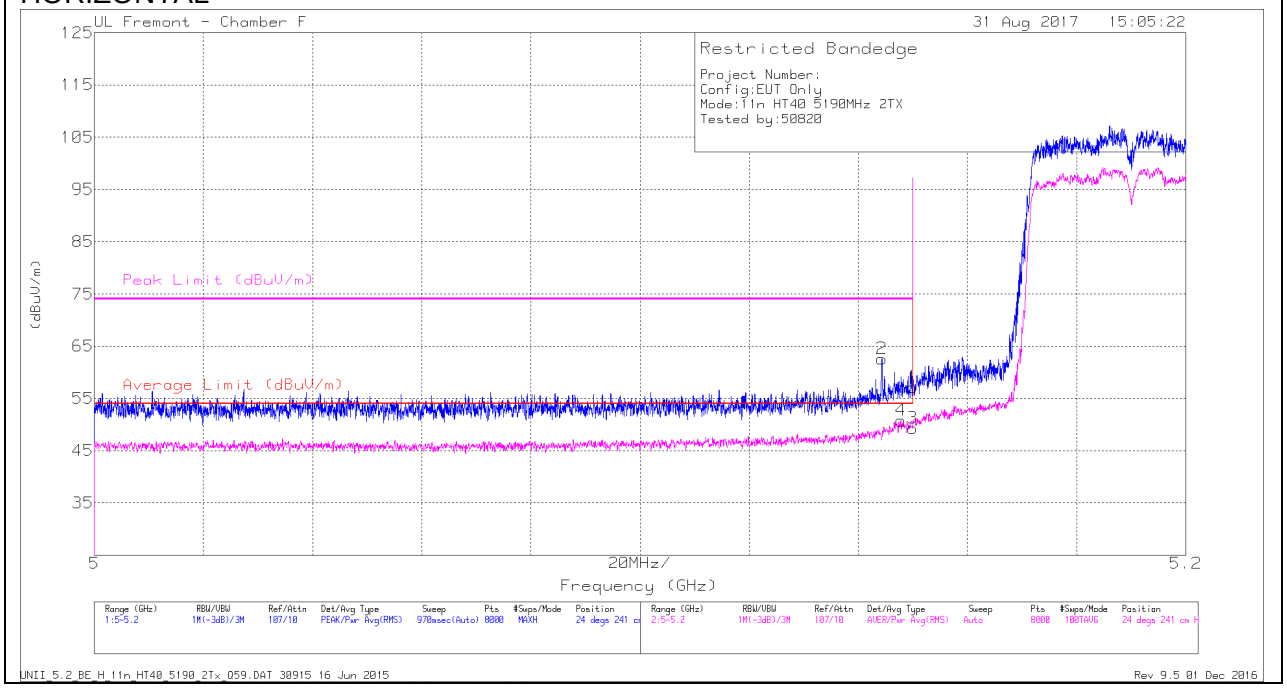
2TX Antenna A + Antenna B CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.27	Pk	34.5	-18.7	0	57.07	-	-	74	-16.93	24	241	H
2	* 5.144	46.82	Pk	34.4	-18.6	0	62.62	-	-	74	-11.38	24	241	H
3	* 5.15	33.48	RMS	34.5	-18.7	.1	49.38	54	-4.62	-	-	24	241	H
4	* 5.148	34.93	RMS	34.5	-18.7	.1	50.83	54	-3.17	-	-	24	241	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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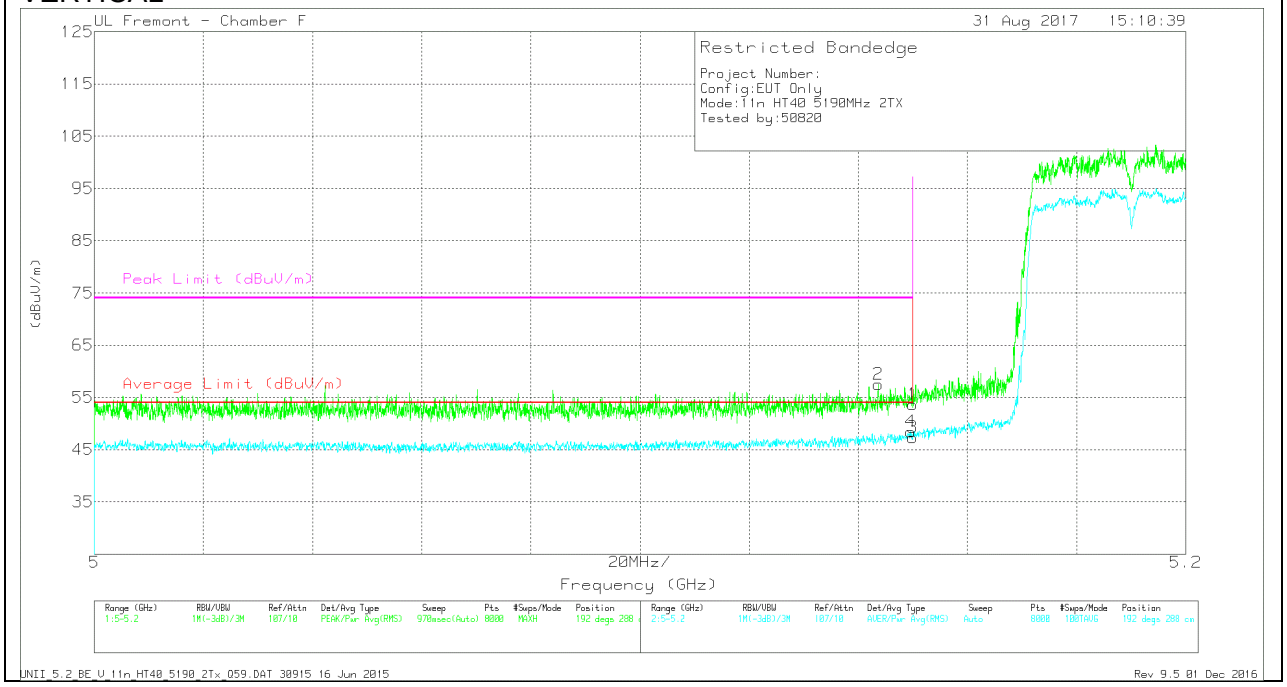
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.9	Pk	34.5	-18.7	0	53.7	-	-	74	-20.3	192	288	V
2	* 5.144	41.67	Pk	34.4	-18.6	0	57.47	-	-	74	-16.53	192	288	V
3	* 5.15	31.52	RMS	34.5	-18.7	.1	47.42	54	-6.58	-	-	192	288	V
4	* 5.15	32.62	RMS	34.5	-18.7	.1	48.52	54	-5.48	-	-	192	288	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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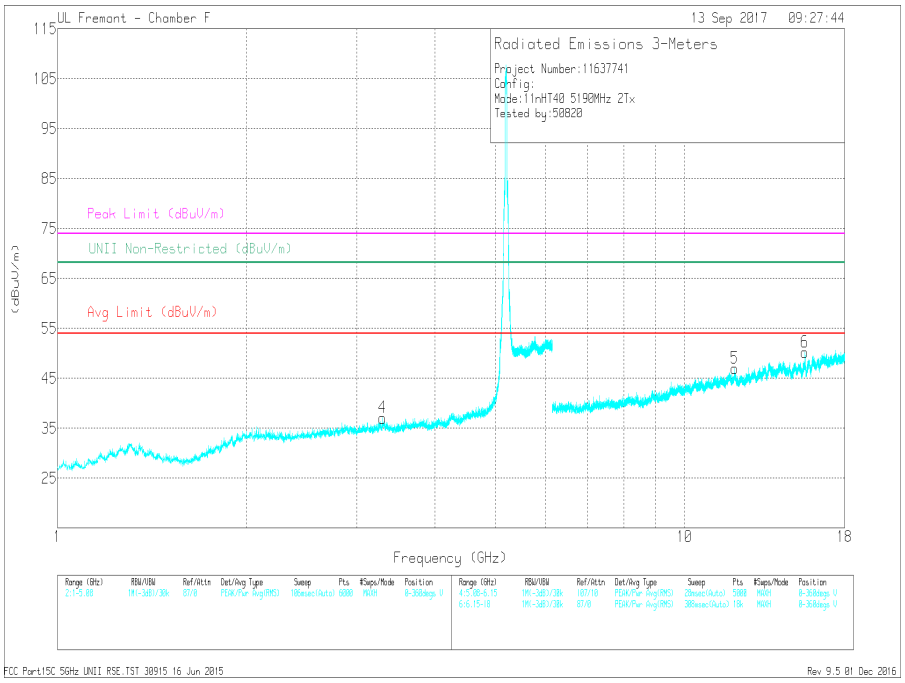
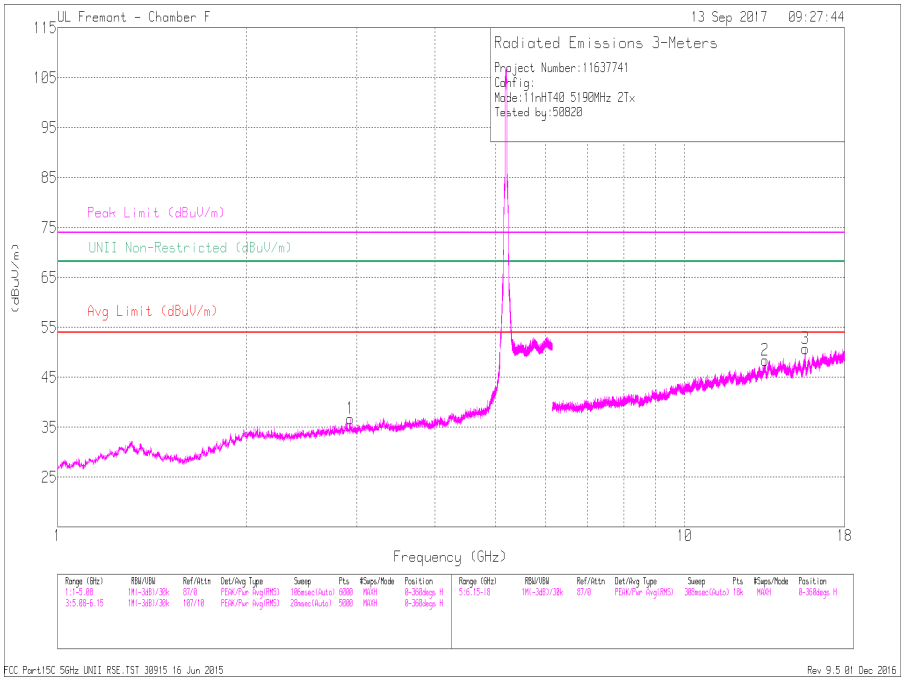
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL

VERTICAL



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.93	39.26	PK-U	32.8	-29.7	0	42.36	-	-	-	-	68.2	-25.84	303	244	H
4	3.296	39.74	PK-U	33.7	-29.9	0	43.54	-	-	-	-	68.2	-24.66	260	136	V
2	13.432	36.58	PK-U	39.3	-21.4	0	54.48	-	-	-	-	68.2	-13.72	145	279	H
3	* 15.576	39.38	PK-U	40.3	-22.8	0	56.88	-	-	74	-17.12	-	-	311	208	H
	* 15.575	27.68	ADR	40.3	-22.8	.1	45.28	54	-8.72	-	-	-	-	311	208	H
5	* 12.017	35.75	PK-U	39.2	-21.6	0	53.35	-	-	74	-20.65	-	-	233	113	V
	* 12.02	24.55	ADR	39.2	-21.6	.1	42.25	54	-11.75	-	-	-	-	233	113	V
6	* 15.563	40.31	PK-U	40.5	-22.8	0	58.01	-	-	74	-15.99	-	-	5	195	V
	* 15.563	28.39	ADR	40.5	-22.8	.1	46.19	54	-7.81	-	-	-	-	5	195	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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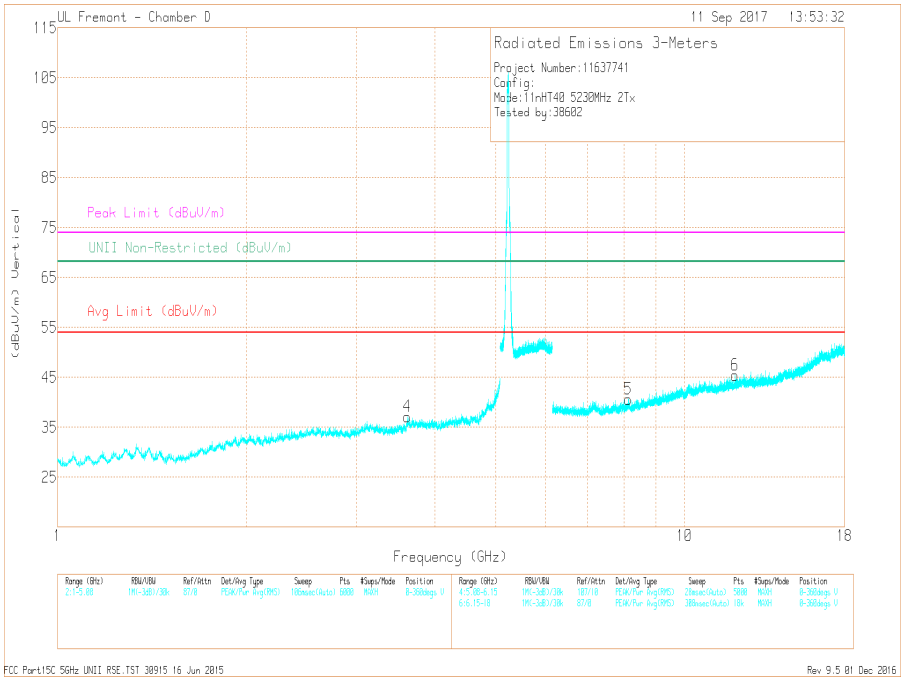
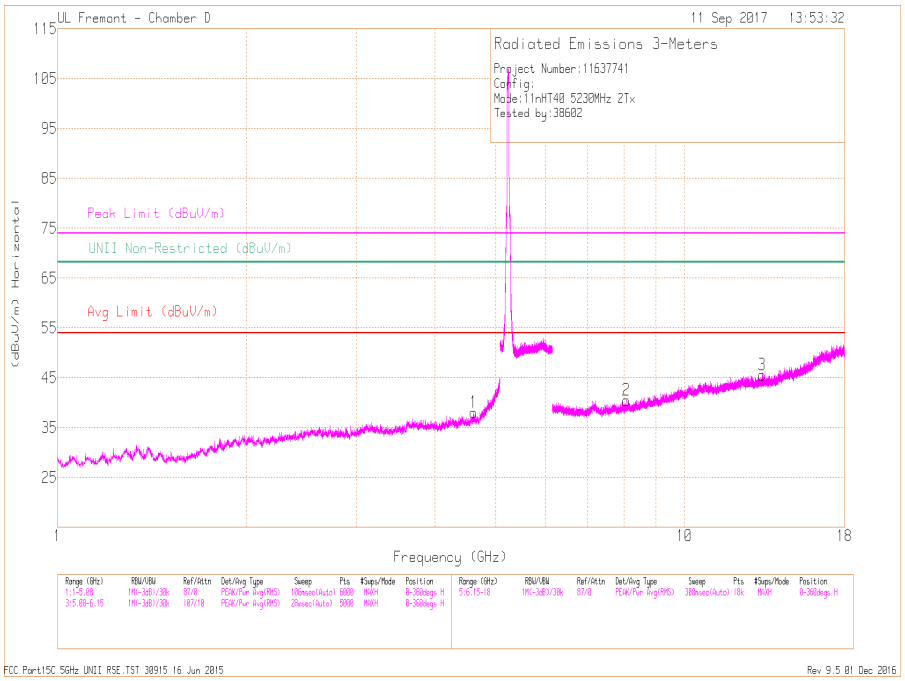
HIGH CHANNEL RESULTS

VERTICAL



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.611	37.79	PK-U	33.7	-26.6	0	44.89	-	-	74	-29.11	-	-	49	233	H
	* 4.611	26.1	ADR	33.7	-26.6	.1	33.3	54	-20.7	-	-	-	-	49	233	H
4	* 3.612	38.66	PK-U	33.1	-29.1	0	42.66	-	-	74	-31.34	-	-	204	325	V
	* 3.612	26.77	ADR	33.1	-29.1	.1	30.87	54	-23.13	-	-	-	-	204	325	V
2	* 8.07	35.08	PK-U	35.6	-24.3	0	46.38	-	-	74	-27.62	-	-	46	202	H
	* 8.071	23.77	ADR	35.6	-24.3	.1	35.17	54	-18.83	-	-	-	-	46	202	H
3	* 13.302	35.15	PK-U	39.2	-22.5	0	51.85	-	-	74	-22.15	-	-	297	234	H
	* 13.298	23.61	ADR	39.2	-22.5	.1	40.41	54	-13.59	-	-	-	-	297	234	H
5	* 8.13	36.24	PK-U	35.7	-23.6	0	48.34	-	-	74	-25.66	-	-	36	274	V
	* 8.127	23.48	ADR	35.7	-23.7	.1	35.58	54	-18.42	-	-	-	-	36	274	V
6	* 12.041	34.41	PK-U	38.7	-21.6	0	51.51	-	-	74	-22.49	-	-	60	331	V
	* 12.039	22.46	ADR	38.7	-21.6	.1	39.66	54	-14.34	-	-	-	-	60	331	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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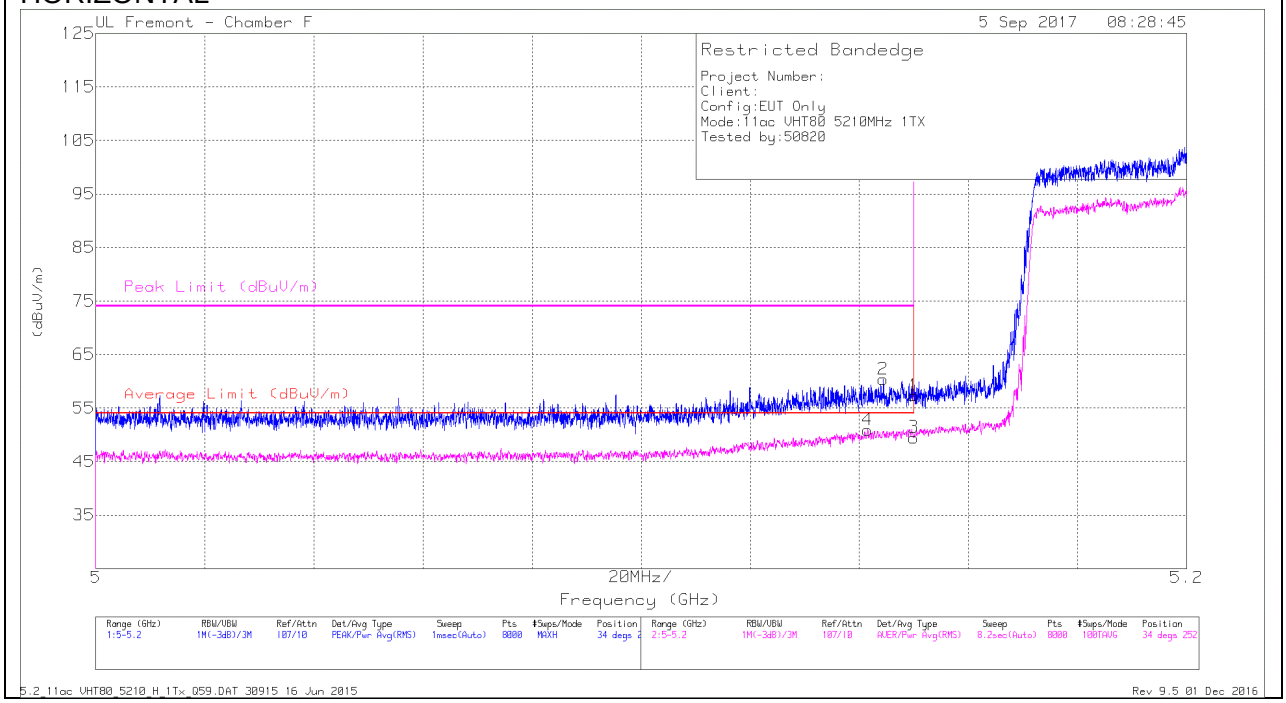
11.1.3. TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

1TX Antenna A

BANDEDGE (MID CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.52	Pk	34.5	-18.7	0	57.32	-	-	74	-16.68	34	252	H
2	* 5.144	44.56	Pk	34.4	-18.6	0	60.36	-	-	74	-13.64	34	252	H
3	* 5.15	33.66	RMS	34.5	-18.7	.19	49.65	54	-4.35	-	-	34	252	H
4	* 5.142	35.06	RMS	34.4	-18.6	.19	51.05	54	-2.95	-	-	34	252	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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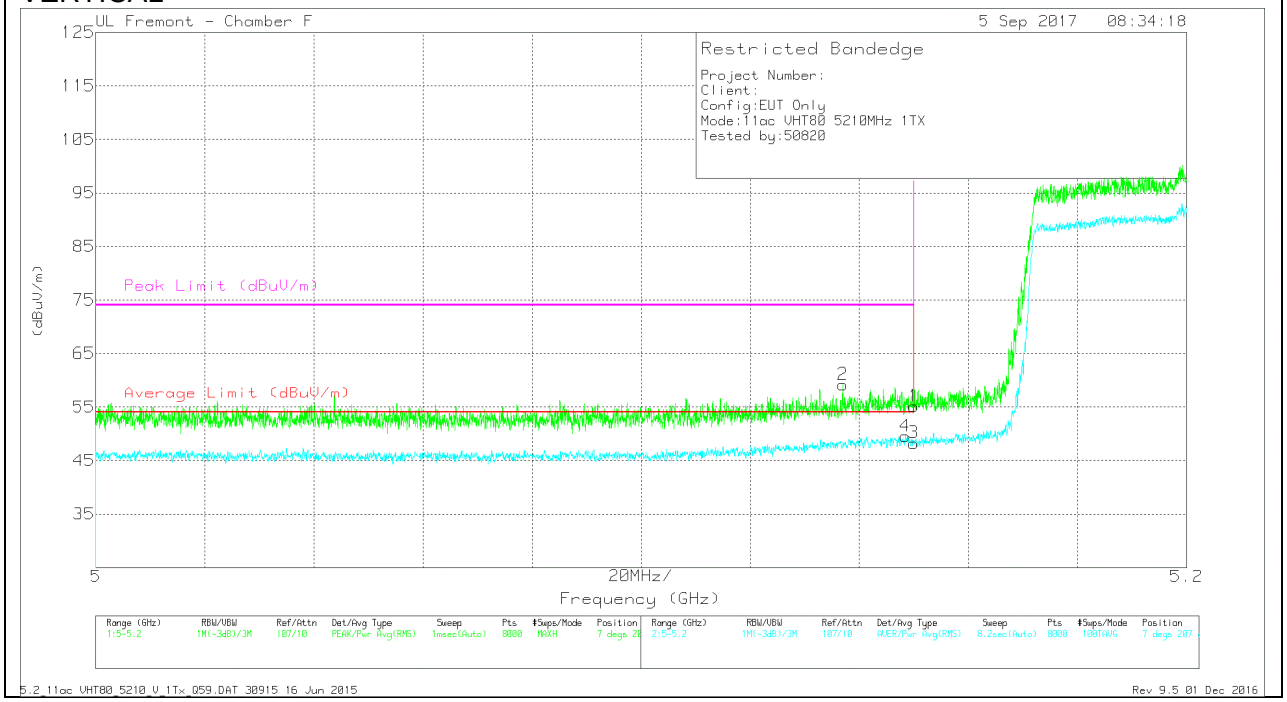
VERTICAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.32	Pk	34.5	-18.7	0	55.12	-	-	74	-18.88	7	207	V
2	* 5.137	43.46	Pk	34.4	-18.7	0	59.16	-	-	74	-14.84	7	207	V
3	* 5.15	32.47	RMS	34.5	-18.7	.19	48.46	54	-5.54	-	-	7	207	V
4	* 5.148	33.73	RMS	34.5	-18.7	.19	49.72	54	-4.28	-	-	7	207	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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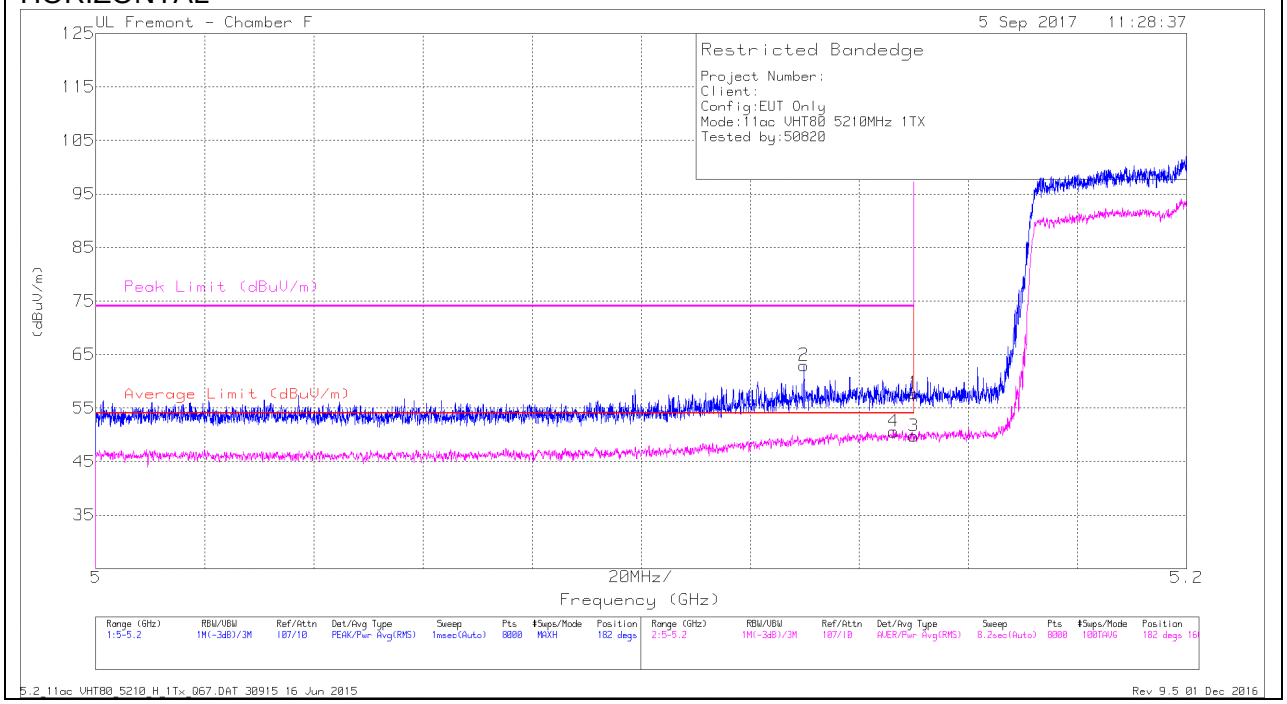
1TX Antenna B

BANDEDGE (MID CHANNEL)

HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.91	Pk	34.5	-18.7	0	57.71	-	-	74	-16.29	182	160	H
2	* 5.13	47.17	Pk	34.4	-18.6	0	62.97	-	-	74	-11.03	182	160	H
3	* 5.15	33.96	RMS	34.5	-18.7	.19	49.95	54	-4.05	-	-	182	160	H
4	* 5.146	34.9	RMS	34.4	-18.7	.19	50.79	54	-3.21	-	-	182	160	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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