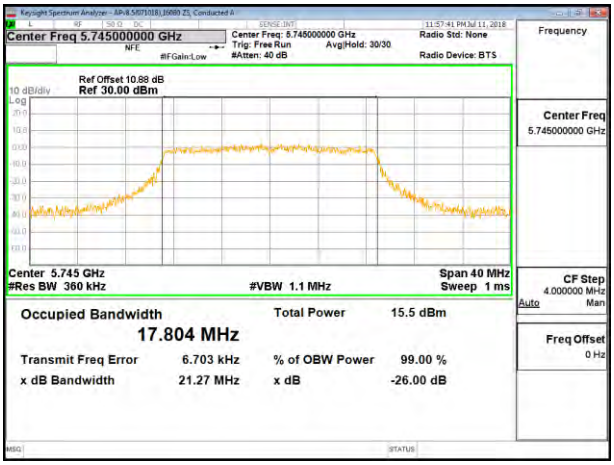
8.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

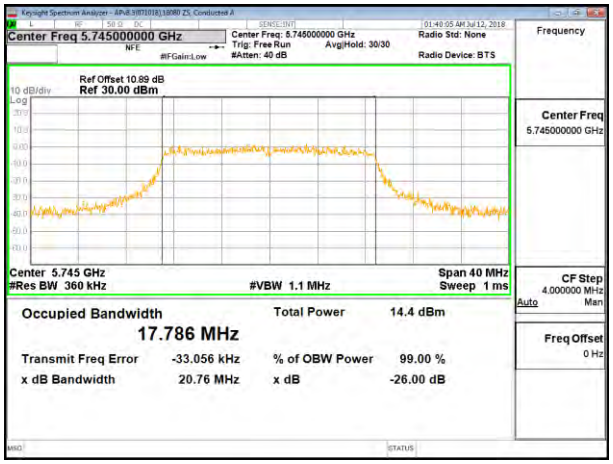
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Chain 0 (MHz)	99% Bandwidth Chain 1 (MHz)
Low	5745	**17.804**	17.786
Mid	5785	17.765	**17.808**
High	5825	17.762	17.783

LOW CHANNEL

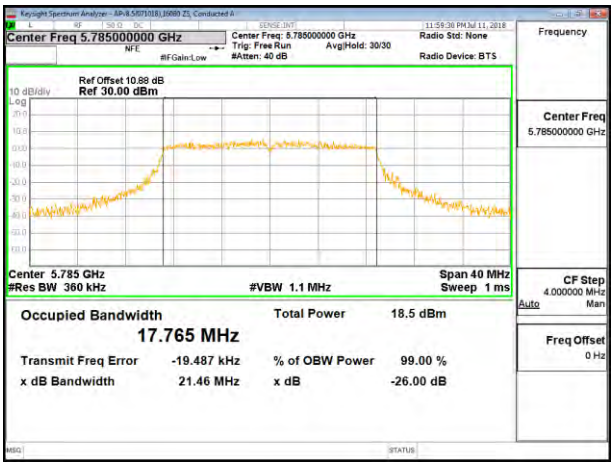


LOW CHANNEL CHAIN 0

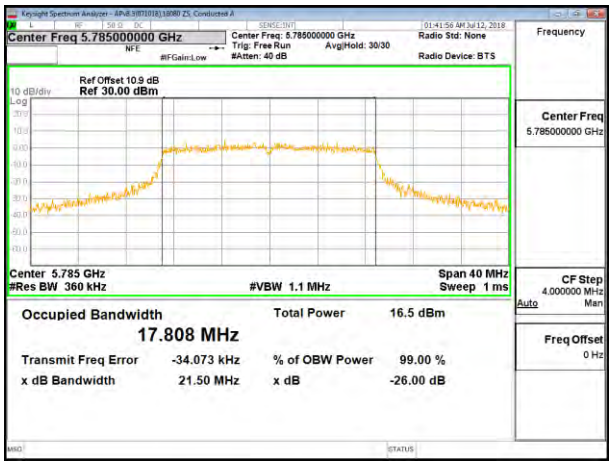


LOW CHANNEL CHAIN 1

MID CHANNEL

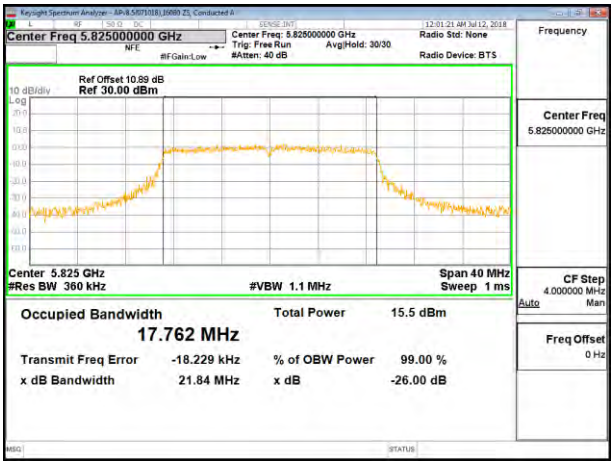


MID CHANNEL CHAIN 0

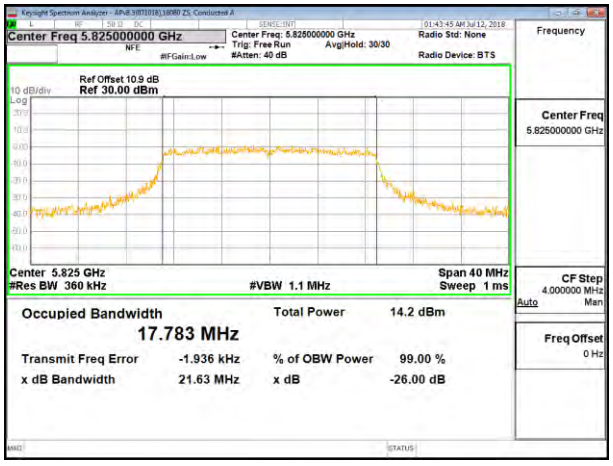


MID CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



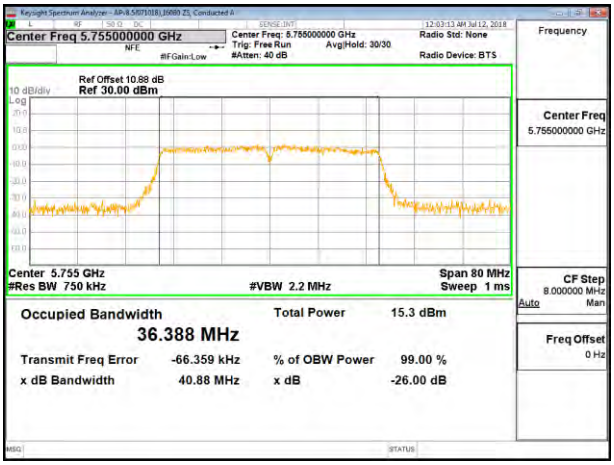
HIGH CHANNEL CHAIN 1

8.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

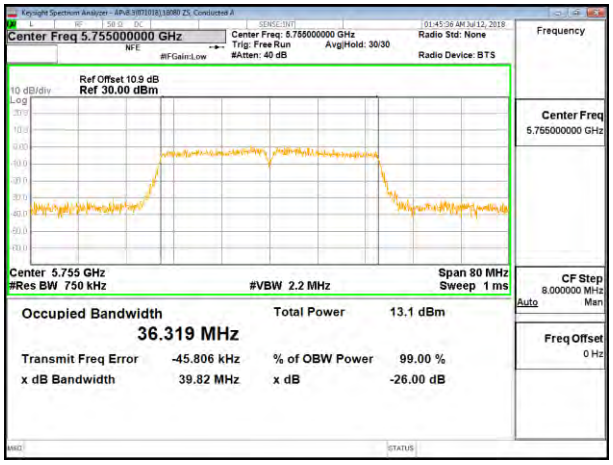
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Chain 0 (MHz)	99% Bandwidth Chain 1 (MHz)
Low	5755	**36.388**	36.319
High	5795	36.360	**36.346**

LOW CHANNEL

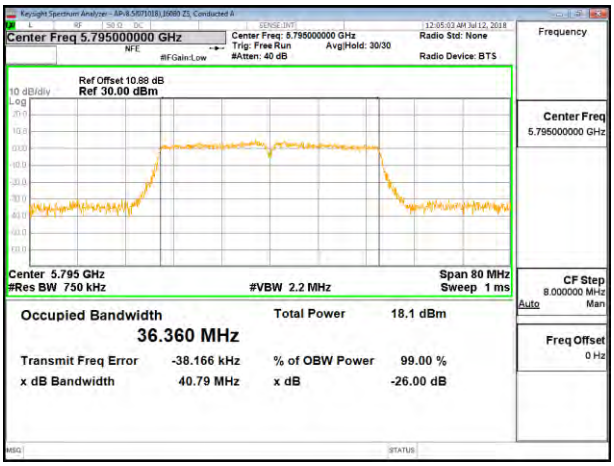


LOW CHANNEL CHAIN 0

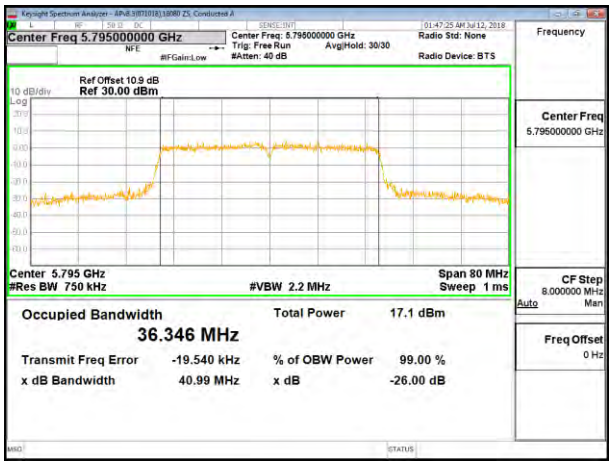


LOW CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



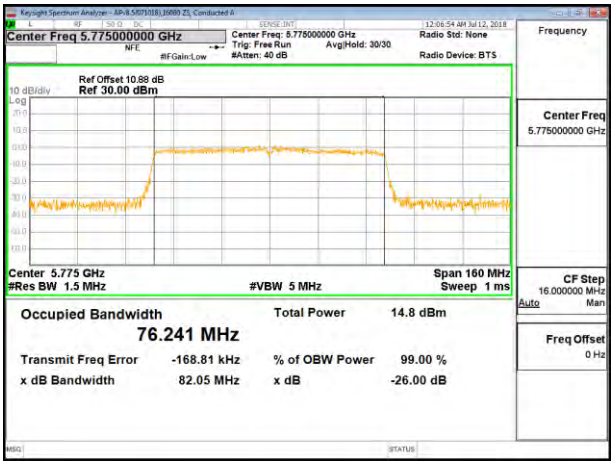
HIGH CHANNEL CHAIN 1

8.3.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

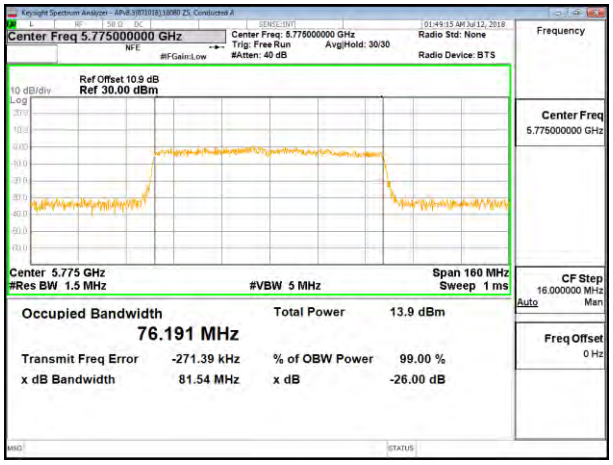
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Chain 0 (MHz)	99% Bandwidth Chain 1 (MHz)
Mid	5775	76.241	76.191

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

8.4. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

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

RESULTS

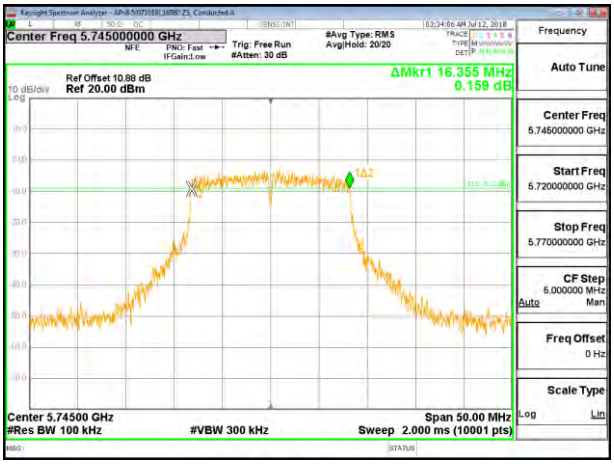
UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

8.4.1. 802.11a MODE IN THE 5.8 GHz BAND

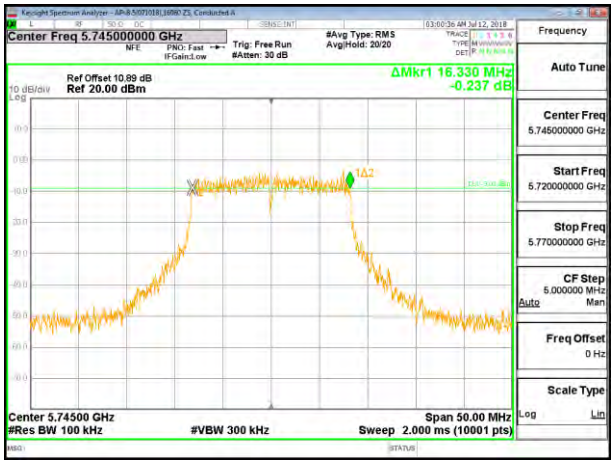
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	16.355	16.330	0.5
Mid	5785	**16.455**	**16.405**	0.5
High	5825	16.320	16.365	0.5
144	5720	3.265	3.245	0.5

LOW CHANNEL

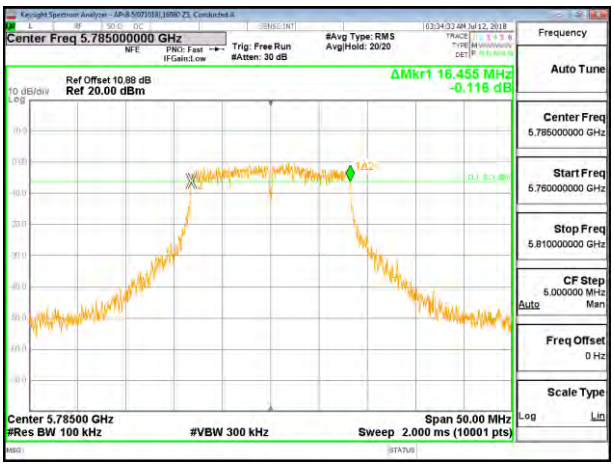


LOW CHANNEL CHAIN 0

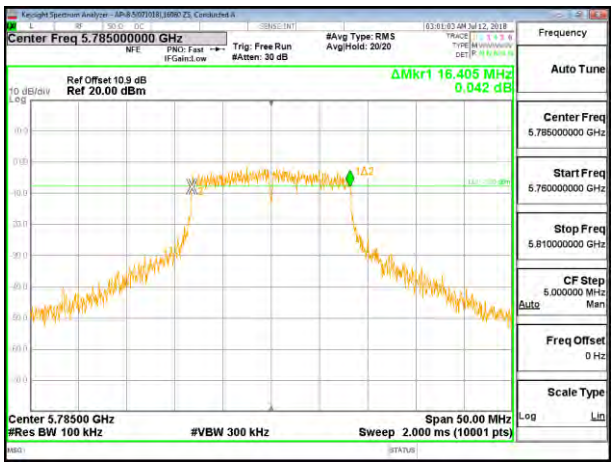


LOW CHANNEL CHAIN 1

MID CHANNEL

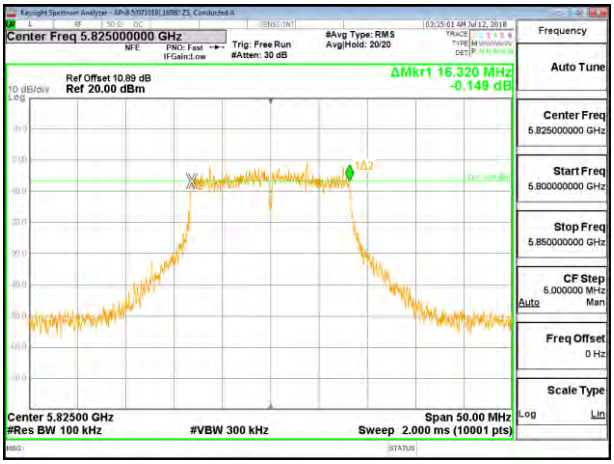


MID CHANNEL CHAIN 0

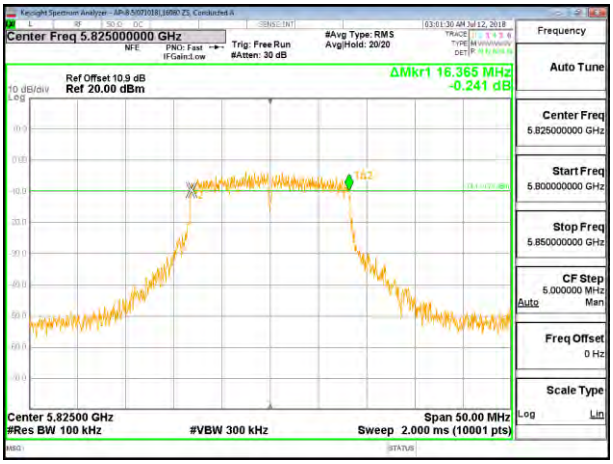


MID CHANNEL CHAIN 1

HIGH CHANNEL

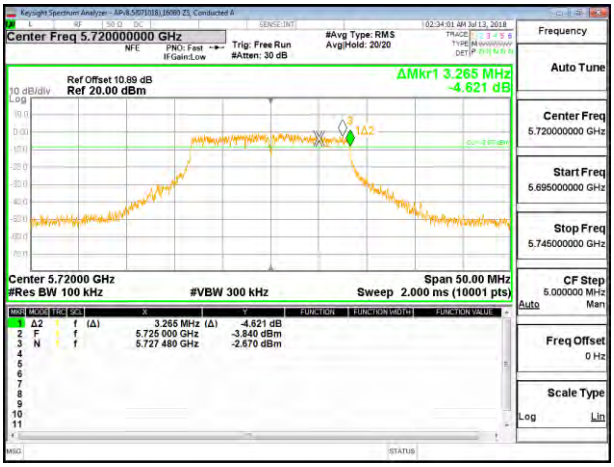


HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

CHANNEL 144



CHANNEL 144 CHAIN 0

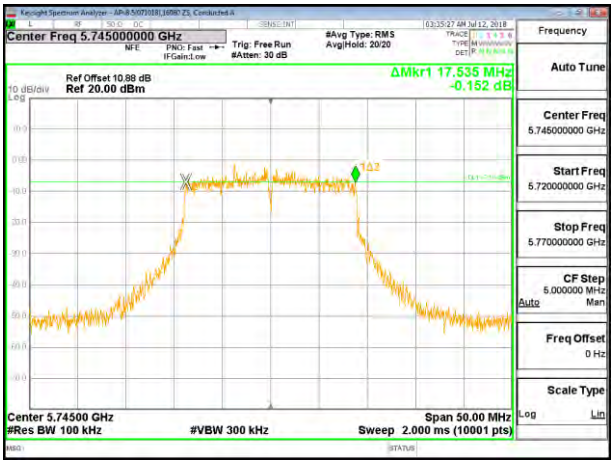
CHANNEL 144 CHAIN 1

8.4.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

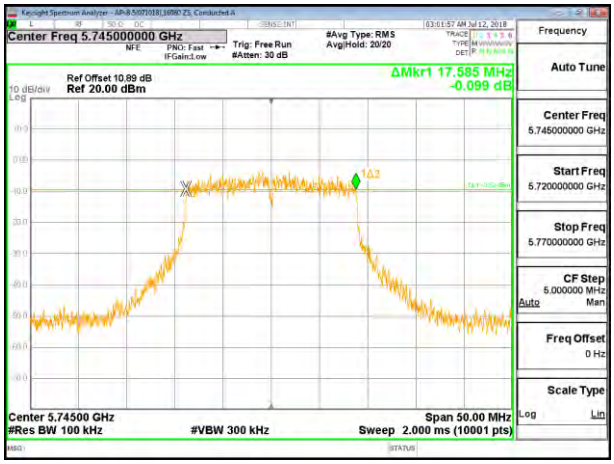
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	**17.535**	17.585	0.5
Mid	5785	17.535	17.575	0.5
High	5825	17.370	**17.610**	0.5
144	5720	3.835	3.850	0.5

LOW CHANNEL

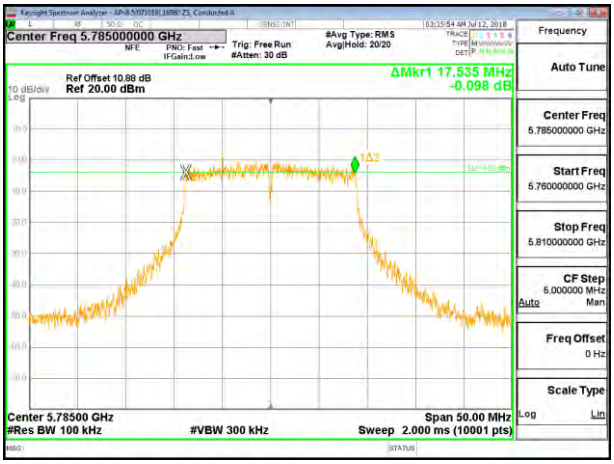


LOW CHANNEL CHAIN 0

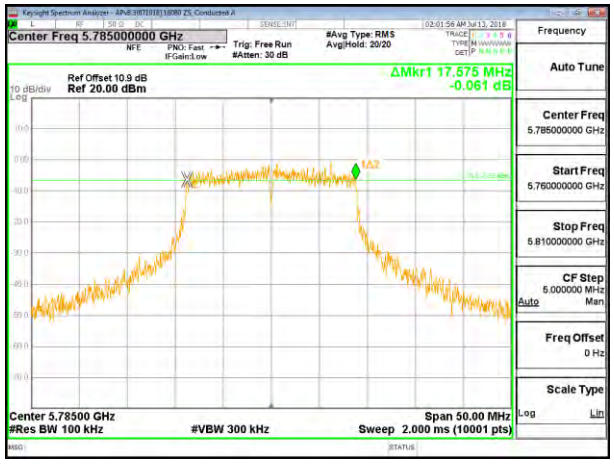


LOW CHANNEL CHAIN 1

MID CHANNEL

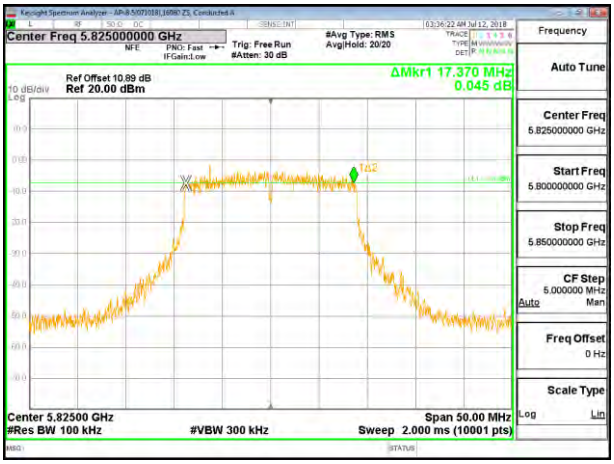


MID CHANNEL CHAIN 0

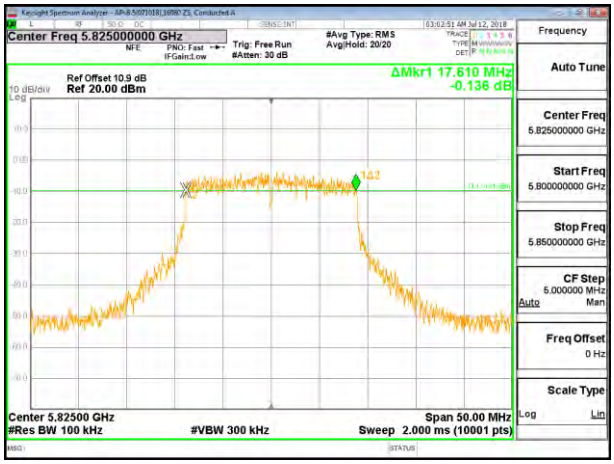


MID CHANNEL CHAIN 1

HIGH CHANNEL

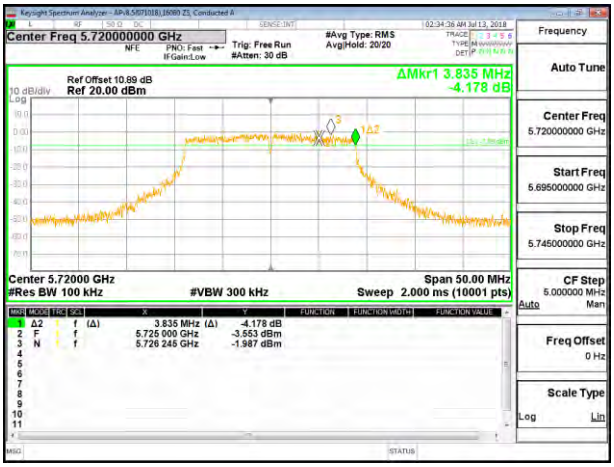


HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

CHANNEL 144



CHANNEL 144 CHAIN 0

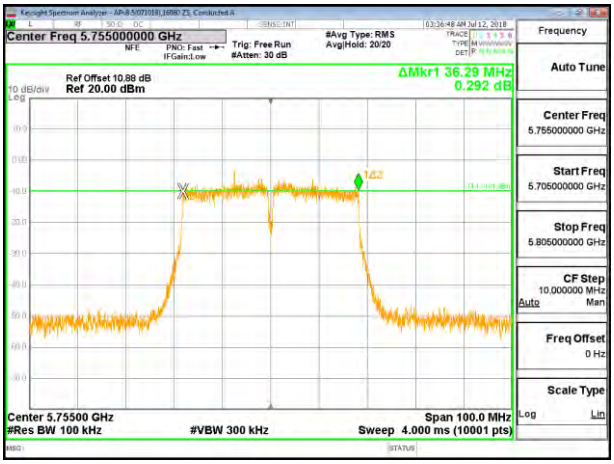
CHANNEL 144 CHAIN 1

8.4.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

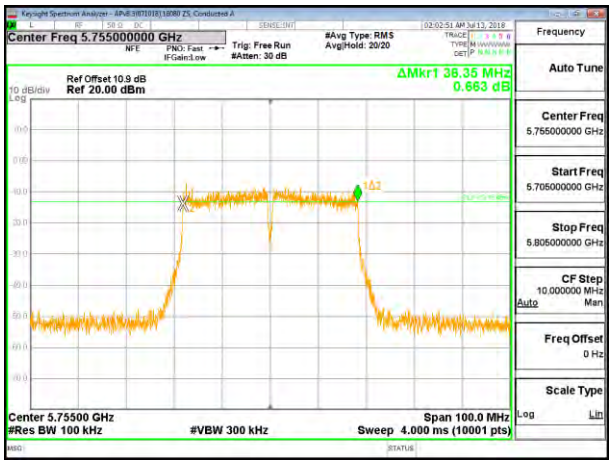
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	36.29	**36.35**	0.5
High	5795	**36.33**	36.34	0.5
142	5710	3.170	3.130	0.5

LOW CHANNEL

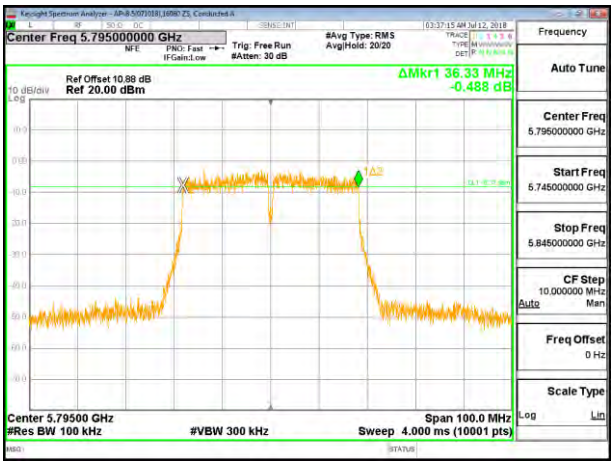


LOW CHANNEL CHAIN 0

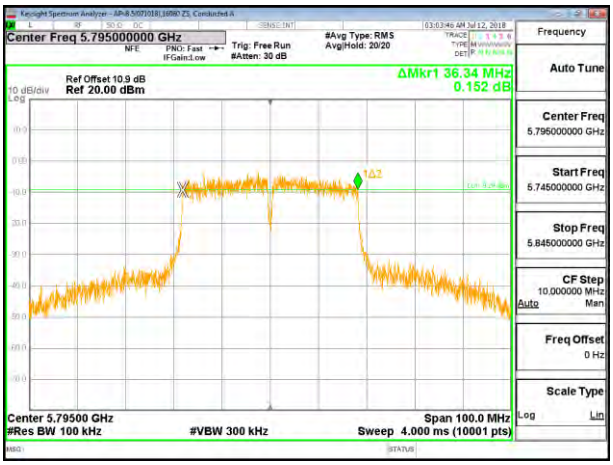


LOW CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

CHANNEL 142

CHANNEL 142 CHAIN 0

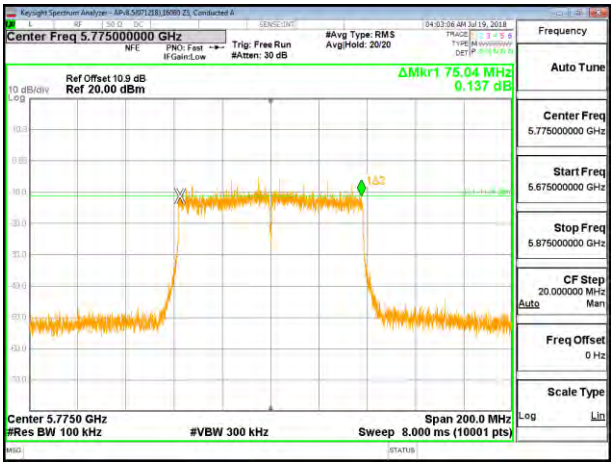
CHANNEL 142 CHAIN 1

8.4.4. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

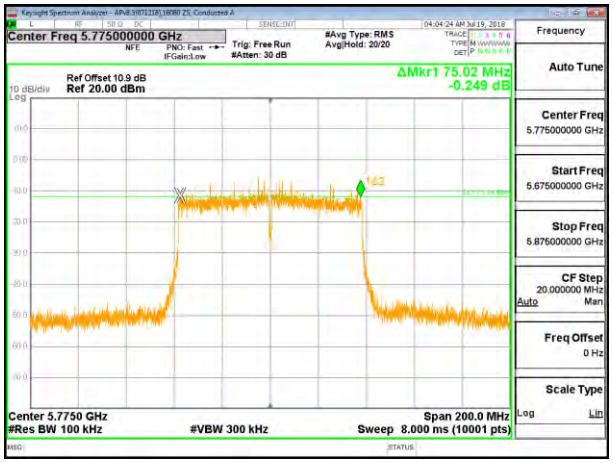
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Mid	5775	75.04	75.02	0.5
138	5690	3.26	3.20	0.5

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

CHANNEL 138

CHANNEL 138 CHAIN 0

CHANNEL 138 CHAIN 1

8.5. OUTPUT POWER AND PSD

LIMITS

FCC §15.407

Band 5.15–5.25 GHz

(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. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. 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.

(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.

Bands 5.25-5.35 GHz and 5.47-5.725 GHz

The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 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.

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.

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3.b (Method PM-G) and for straddles channels KDB 789033 D02 v02r01, Section E.2.b (Method SA-1) was used.

The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

DIRECTIONAL ANTENNA GAIN

For 2 TX:

Tx chains are uncorrelated for power and correlated for PSD due to the device supporting CDD in all MIMO modes. The directional gains are as follows:

Band (GHz)	Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)	Correlated Chains Directional Gain (dBi)
5.2	-4.30	-3.70	-3.99	-0.98
5.3	-4.30	-3.70	-3.99	-0.98
5.6	-4.20	-1.50	-2.64	0.26
5.8	-4.50	-4.20	-4.35	-1.34

RESULTS

8.5.1. 802.11a MODE IN THE 5.2 GHz BAND

2TX Antenna 1 + Antenna 2 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/1MHz)
Low	5180	-3.99	-0.98	24.00	11.00
Mid	5200	-3.99	-0.98	24.00	11.00
High	5240	-3.99	-0.98	24.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	14.45	12.29	16.51	24.00	-7.49
Mid	5200	14.41	12.24	16.47	24.00	-7.53
High	5240	**14.56**	**12.34**	16.60	24.00	-7.40

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5180	**4.275**	2.001	6.30	11.00	-4.70
Mid	5200	4.002	**2.209**	6.21	11.00	-4.79
High	5240	3.898	1.917	6.03	11.00	-4.97

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

LOW CHANNEL

LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

MID CHANNEL

MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

8.5.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

2TX Antenna 1 + Antenna 2 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/ 1MHz)
Low	5180	-3.99	-0.98	24.00	11.00
Mid	5200	-3.99	-0.98	24.00	11.00
High	5240	-3.99	-0.98	24.00	11.00

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

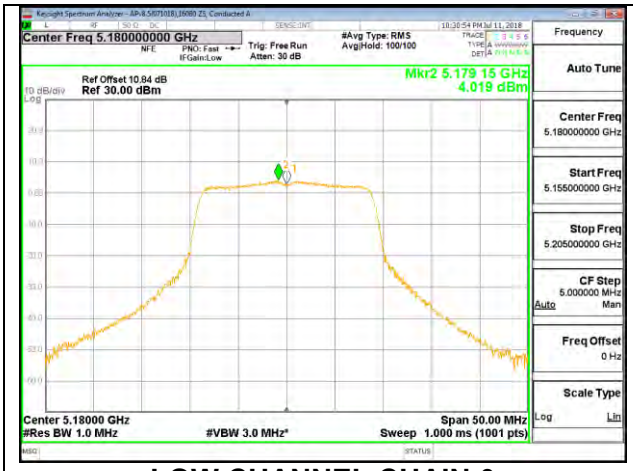
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	14.36	**12.35**	16.48	24.00	-7.52
Mid	5200	14.31	12.25	16.41	24.00	-7.59
High	5240	**14.48**	12.32	16.54	24.00	-7.46

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5180	**4.019**	1.740	6.14	11.00	-4.86
Mid	5200	3.626	1.513	5.81	11.00	-5.19
High	5240	3.745	**1.799**	5.99	11.00	-5.01

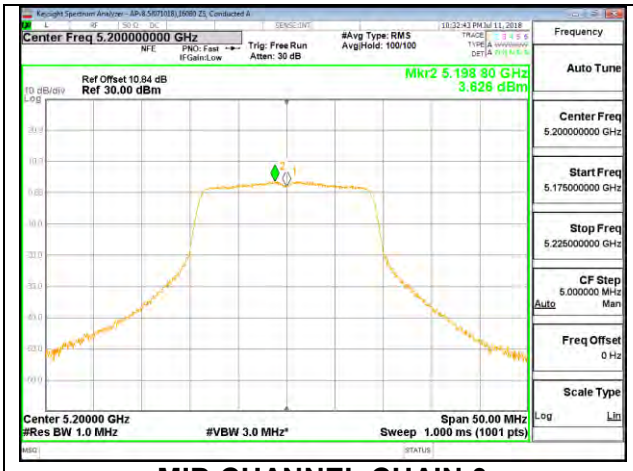
LOW CHANNEL



LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

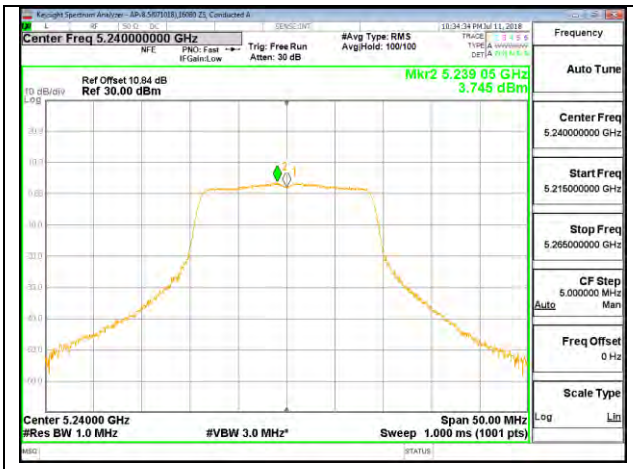
MID CHANNEL



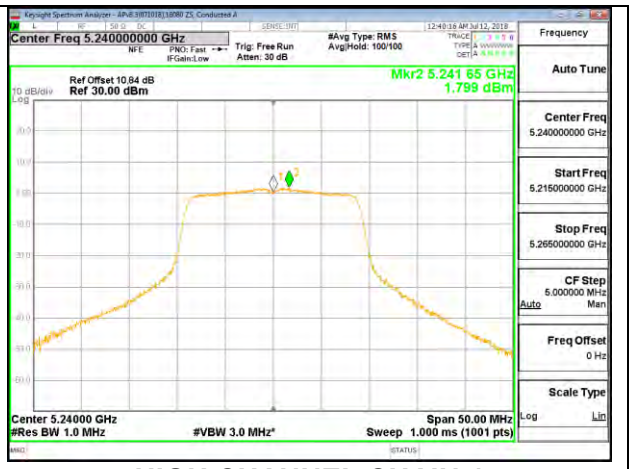
MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

8.5.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

2TX Antenna 1 + Antenna 2 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/ 1MHz)
Low	5190	-3.99	-0.98	24.00	11.00
High	5230	-3.99	-0.98	24.00	11.00

Duty Cycle CF (dB)	0.28	Included in Calculations of Corr'd Power & PSD

Output Power Results

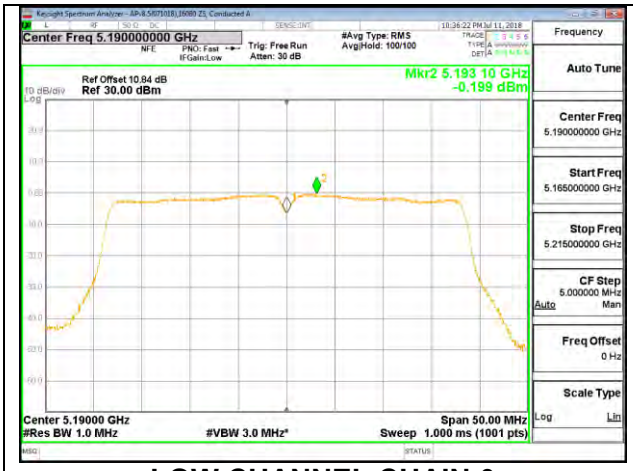
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	13.27	7.34	14.54	24.00	-9.46
High	5230	**14.35**	**12.34**	16.75	24.00	-7.25

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5190	-0.199	-6.418	1.01	11.00	-9.99
High	5230	**0.377**	**-1.544**	2.81	11.00	-8.19

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

LOW CHANNEL

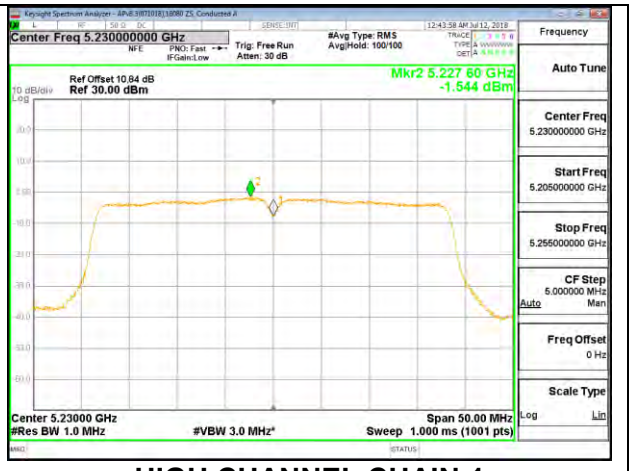


LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

8.5.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

2TX Antenna 1 + Antenna 2 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/ 1MHz)
Mid	5210	-3.99	-0.98	24.00	11.00

Duty Cycle CF (dB)	0.57	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	12.37	6.71	13.98	24.00	-10.02

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Mid	5210	-4.632	-10.942	-3.15	11.00	-14.15

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

MID CHANNEL

MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

8.5.5. 802.11a MODE IN THE 5.3 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/1MHz)
Low	5260	21.50	-3.99	-0.98	24.00	11.00
Mid	5300	22.35	-3.99	-0.98	24.00	11.00
High	5320	22.00	-3.99	-0.98	24.00	11.00

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

Output Power Results

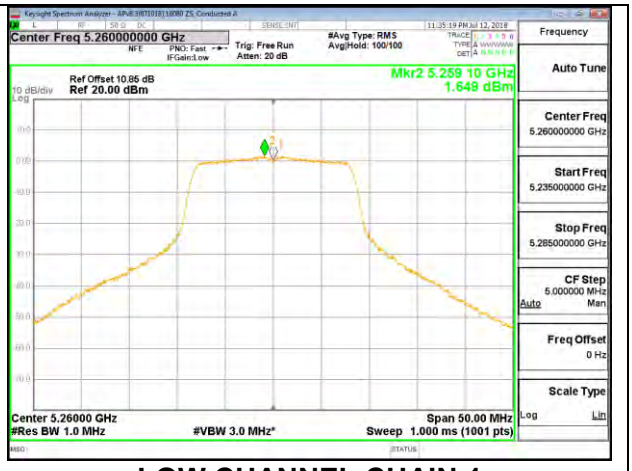
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	14.31	**12.32**	16.44	24.00	-7.56
Mid	5300	**14.55**	12.26	16.56	24.00	-7.44
High	5320	14.21	12.06	16.28	24.00	-7.72

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5260	3.713	**1.649**	5.81	11.00	-5.19
Mid	5300	**3.844**	1.460	5.82	11.00	-5.18
High	5320	3.235	1.127	5.32	11.00	-5.68

LOW CHANNEL

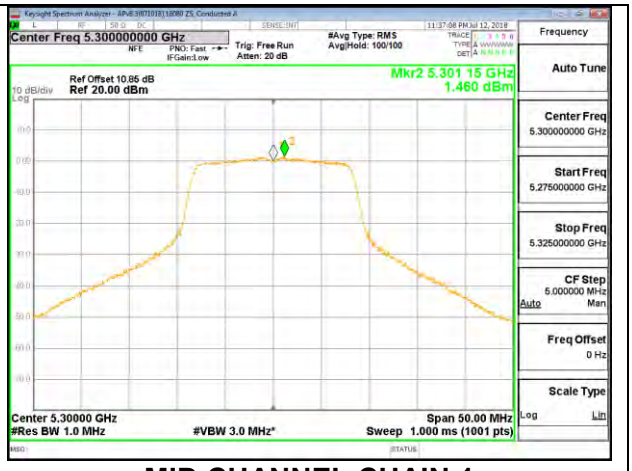
LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

MID CHANNEL

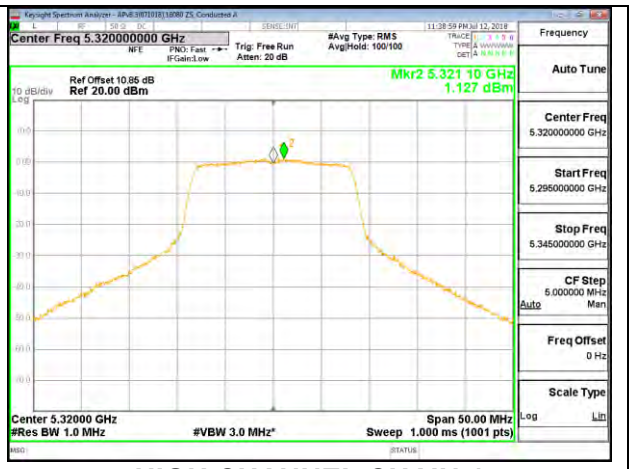
MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

8.5.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/1MHz)
Low	5260	23.20	-3.99	-0.98	24.00	11.00
Mid	5300	23.10	-3.99	-0.98	24.00	11.00
High	5320	22.90	-3.99	-0.98	24.00	11.00

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

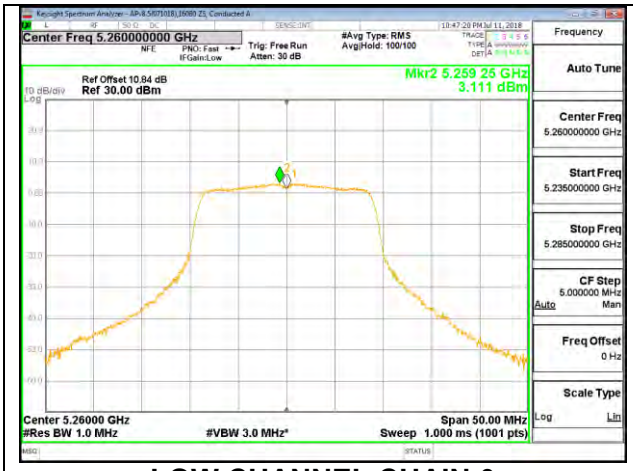
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	14.13	12.32	16.33	24.00	-7.67
Mid	5300	14.47	**12.35**	16.55	24.00	-7.45
High	5320	**14.72**	12.09	16.61	24.00	-7.39

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5260	3.111	**1.587**	5.53	11.00	-5.47
Mid	5300	**3.323**	1.005	5.43	11.00	-5.57
High	5320	3.191	0.978	5.33	11.00	-5.67

LOW CHANNEL



LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

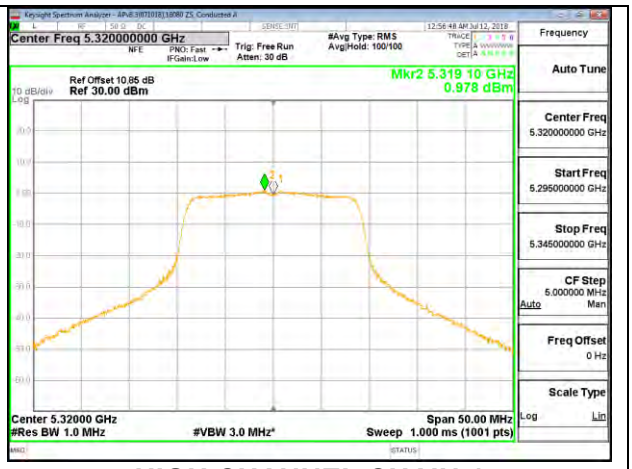
MID CHANNEL

MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

8.5.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/1MHz)
Low	5270	41.80	-3.99	-0.98	24.00	11.00
High	5310	41.90	-3.99	-0.98	24.00	11.00

Duty Cycle CF (dB)	0.28	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	**14.52**	**12.13**	16.50	24.00	-7.50
High	5310	13.67	8.29	14.78	24.00	-9.22

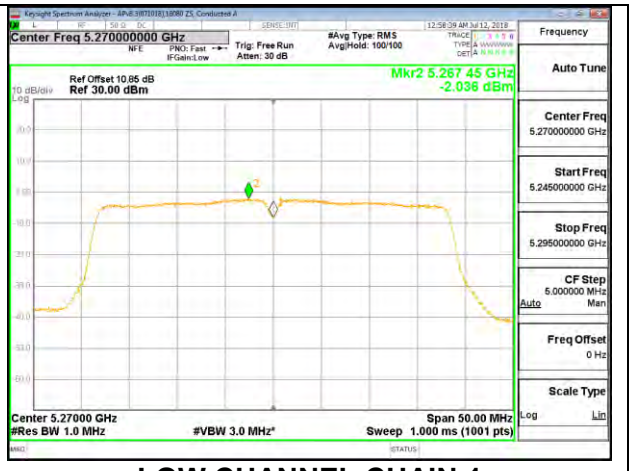
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5270	**0.415**	**-2.036**	2.65	11.00	-8.35
High	5310	-0.997	-6.617	0.34	11.00	-10.66

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

LOW CHANNEL

LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

8.5.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/1MHz)
Mid	5290	84.20	-3.99	-0.98	24.00	11.00

Duty Cycle CF (dB)	0.57	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.53	7.03	13.61	24.00	-10.39

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/1MHz)	Chain 1 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Mid	5290	-5.085	-10.565	-3.43	11.00	-14.43

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

MID CHANNEL

MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

8.5.9. 802.11a MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5500	22.05	-2.64	0.26	24.00	11.00
Mid	5580	21.60	-2.64	0.26	24.00	11.00
High	5700	21.95	-2.64	0.26	24.00	11.00
144	5720	22.40	-2.64	0.26	24.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	**14.61**	12.13	16.55	24.00	-7.45
Mid	5580	14.13	12.04	16.22	24.00	-7.78
High	5700	12.69	9.06	14.25	24.00	-9.75
144	5720	14.15	**12.18**	16.29	24.00	-7.71

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	3.729	1.616	5.81	11.00	-5.19
Mid	5580	**3.946**	**1.819**	6.02	11.00	-4.98
High	5700	1.980	-1.015	3.75	11.00	-7.25
144	5720	3.558	1.803	5.78	11.00	-5.22

LOW CHANNEL

LOW CHANNEL CHAIN 0

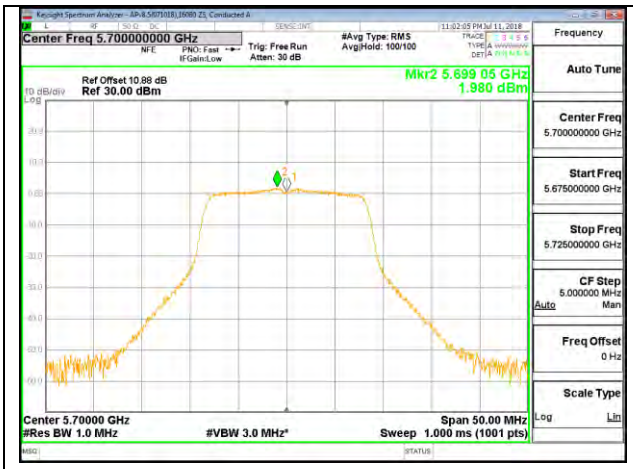
LOW CHANNEL CHAIN 1

MID CHANNEL

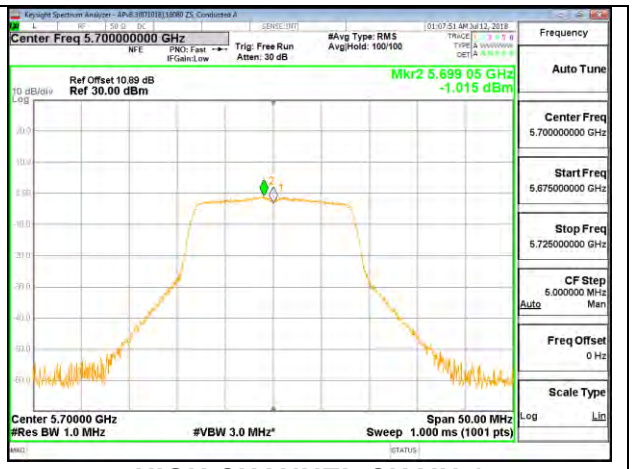
MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL

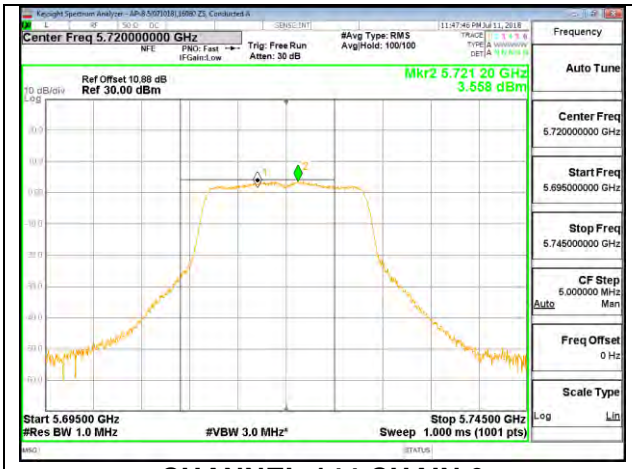


HIGH CHANNEL CHAIN 0

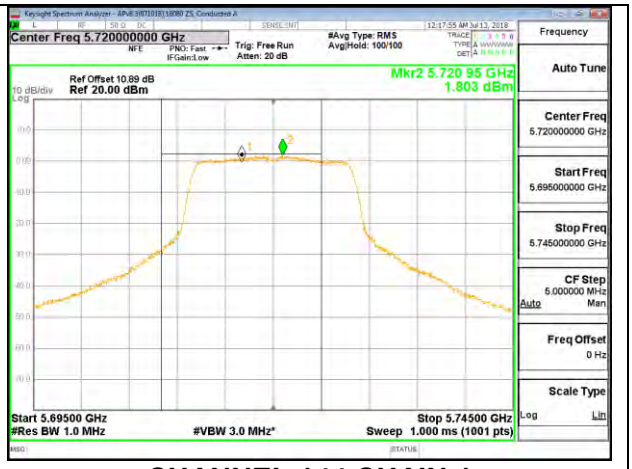


HIGH CHANNEL CHAIN 1

CHANNEL 144



CHANNEL 144 CHAIN 0



CHANNEL 144 CHAIN 1

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

8.5.10. 802.11n HT20 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5500	23.40	-2.64	0.26	24.00	11.00
Mid	5580	22.95	-2.64	0.26	24.00	11.00
High	5700	22.55	-2.64	0.26	24.00	11.00
144	5720	23.25	-2.64	0.26	24.00	11.00

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

Output Power Results

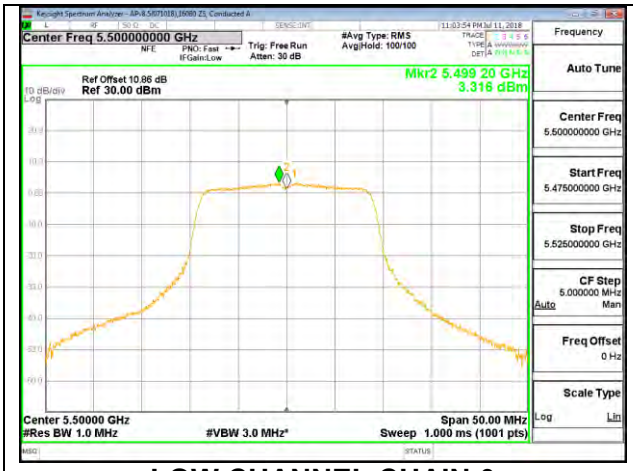
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.44	**12.58**	16.62	24.00	-7.38
Mid	5580	14.09	12.07	16.21	24.00	-7.79
High	5700	12.74	9.05	14.29	24.00	-9.71
144	5720	**14.63**	12.11	16.66	24.00	-7.34

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	3.316	1.522	5.62	11.00	-5.38
Mid	5580	3.449	**1.685**	5.77	11.00	-5.23
High	5700	1.540	-1.203	3.49	11.00	-7.51
144	5720	**3.796**	1.417	5.88	11.00	-5.12

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

LOW CHANNEL



LOW CHANNEL CHAIN 0

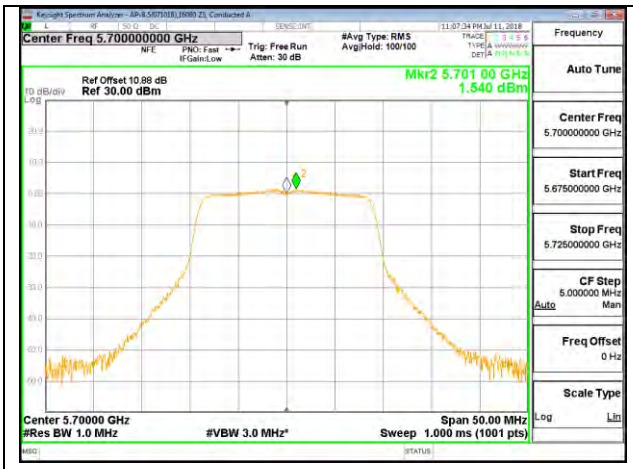
LOW CHANNEL CHAIN 1

MID CHANNEL

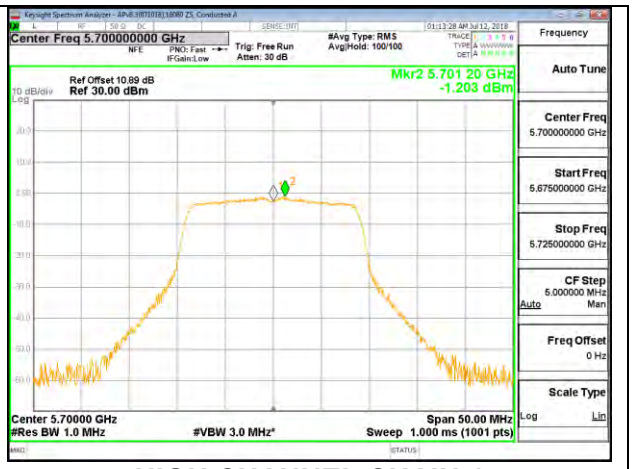
MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL



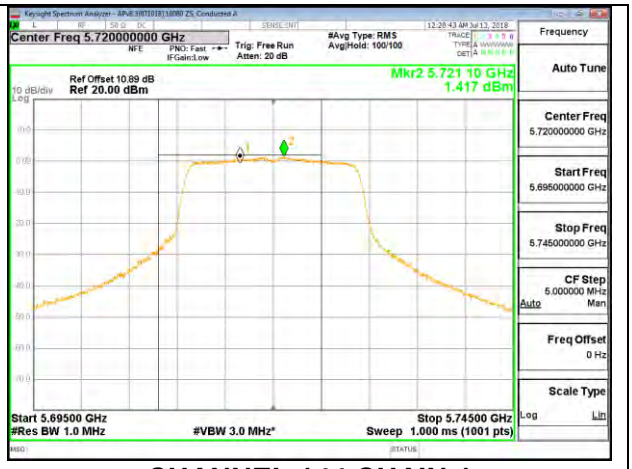
HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

CHANNEL 144

CHANNEL 144 CHAIN 0



CHANNEL 144 CHAIN 1

8.5.11. 802.11n HT40 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5510	41.60	-2.64	0.26	24.00	11.00
Mid	5550	41.60	-2.64	0.26	24.00	11.00
High	5670	41.70	-2.64	0.26	24.00	11.00
142	5710	41.60	-2.64	0.26	24.00	11.00

Duty Cycle CF (dB)	0.28	Included in Calculations of Corr'd Power & PSD

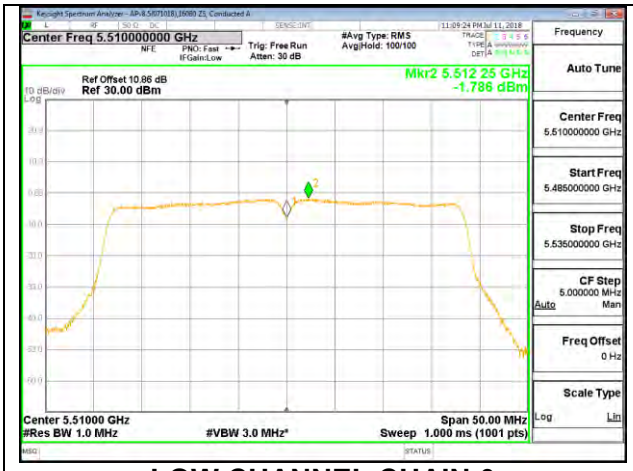
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.37	8.98	14.01	24.00	-9.99
Mid	5550	14.21	**12.43**	16.42	24.00	-7.58
High	5670	14.11	12.08	16.22	24.00	-7.78
142	5710	**14.36**	12.18	16.70	24.00	-7.30

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5510	-1.786	-5.061	0.17	11.00	-10.83
Mid	5550	0.386	**-1.259**	2.93	11.00	-8.07
High	5670	0.524	-1.510	2.92	11.00	-8.08
142	5710	**0.685**	-1.665	2.96	11.00	-8.04

LOW CHANNEL

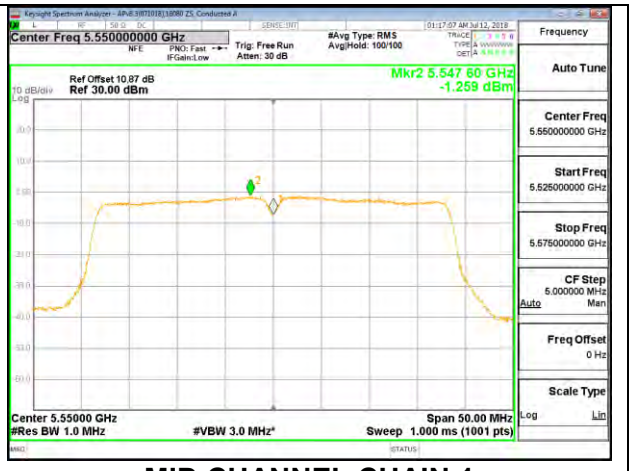


LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

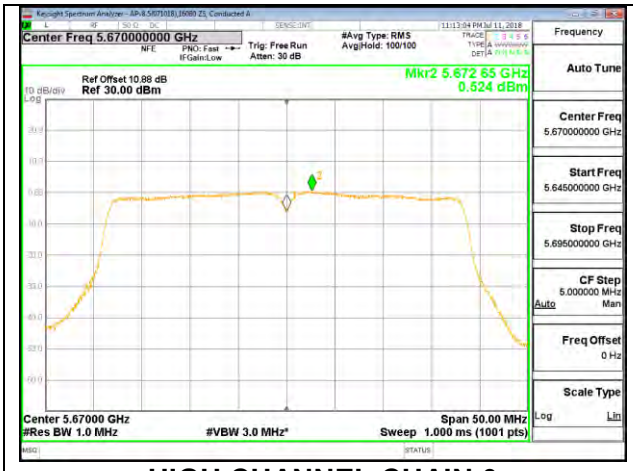
MID CHANNEL

MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

HIGH CHANNEL

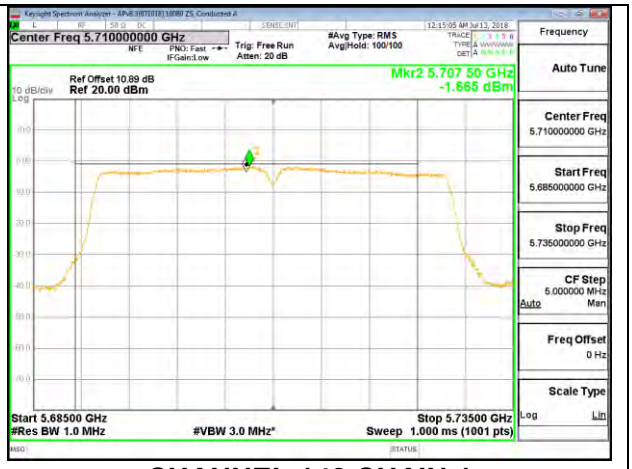


HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

CHANNEL 142

CHANNEL 142 CHAIN 0



CHANNEL 142 CHAIN 1

8.5.12. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5530	83.60	-2.64	0.26	24.00	11.00
High	5610	87.00	-2.64	0.26	24.00	11.00
138	5690	84.60	-2.64	0.26	24.00	11.00

Duty Cycle CF (dB)	0.57	Included in Calculations of Corr'd Power & PSD

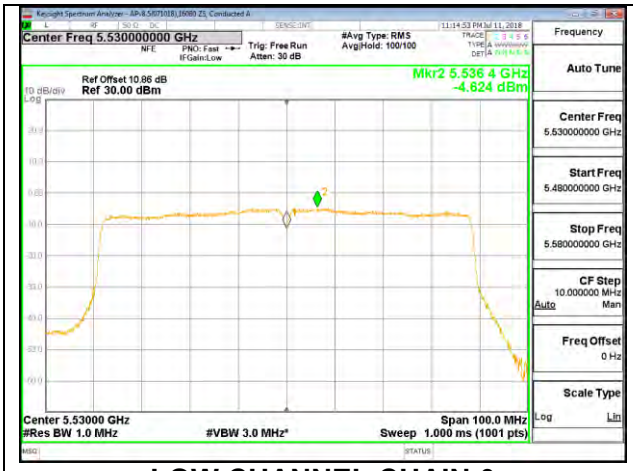
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	12.67	8.67	14.13	24.00	-9.87
High	5610	**14.62**	**12.42**	16.67	24.00	-7.33
138	5690	14.62	12.37	17.22	24.00	-6.78

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5530	-4.624	-8.214	-2.48	11.00	-13.48
High	5610	-2.149	**-4.622**	0.37	11.00	-10.63
138	5690	**-1.974**	-4.711	0.45	11.00	-10.55

LOW CHANNEL



LOW CHANNEL CHAIN 0

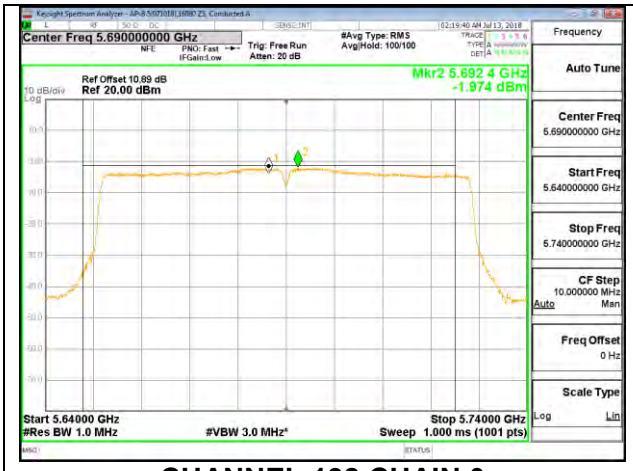
LOW CHANNEL CHAIN 1

HIGH CHANNEL

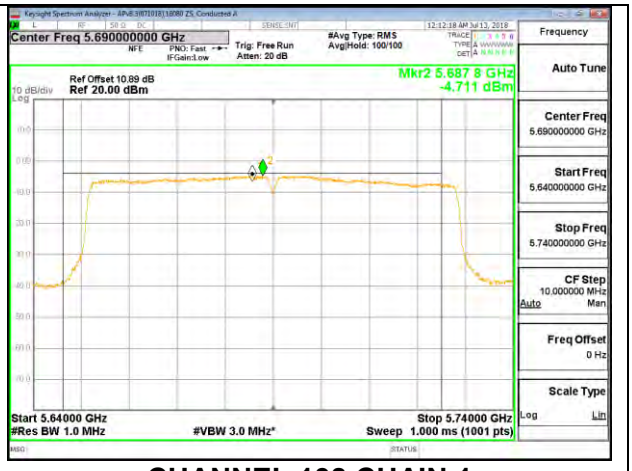
HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

CHANNEL 138



CHANNEL 138 CHAIN 0



CHANNEL 138 CHAIN 1

8.5.13. 802.11a MODE IN THE 5.8 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5745	-4.35	-1.34	30.00	30.00
Mid	5785	-4.35	-1.34	30.00	30.00
High	5825	-4.35	-1.34	30.00	30.00

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

Output Power Results

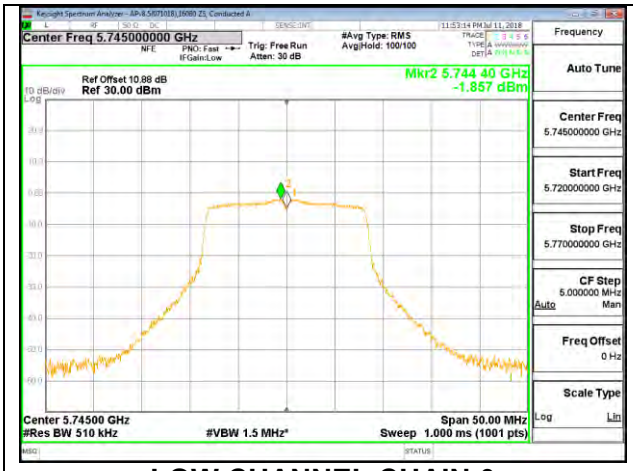
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	11.47	10.12	13.86	30.00	-16.14
Mid	5785	**14.30**	**12.26**	16.41	30.00	-13.59
High	5825	11.49	10.18	13.89	30.00	-16.11

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5745	-1.857	-2.738	0.74	30.00	-29.26
Mid	5785	**1.253**	**-1.021**	3.27	30.00	-26.73
High	5825	-1.490	-2.619	0.99	30.00	-29.01

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

LOW CHANNEL



LOW CHANNEL CHAIN 0

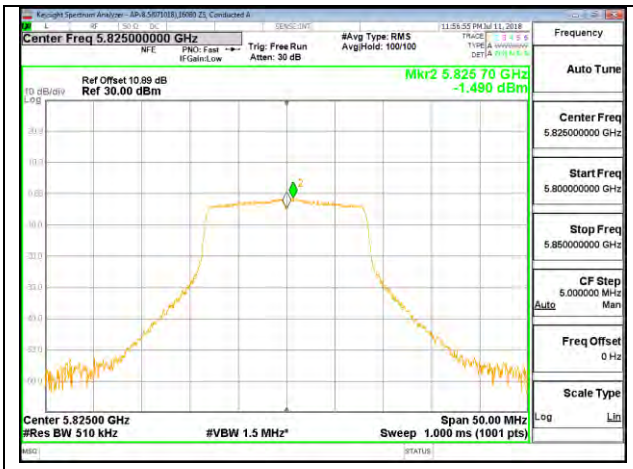
LOW CHANNEL CHAIN 1

MID CHANNEL

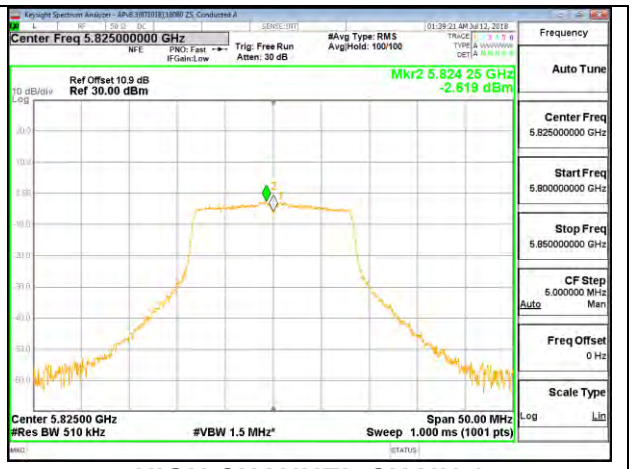
MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

8.5.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5745	-4.35	-1.34	30.00	30.00
Mid	5785	-4.35	-1.34	30.00	30.00
High	5825	-4.35	-1.34	30.00	30.00

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

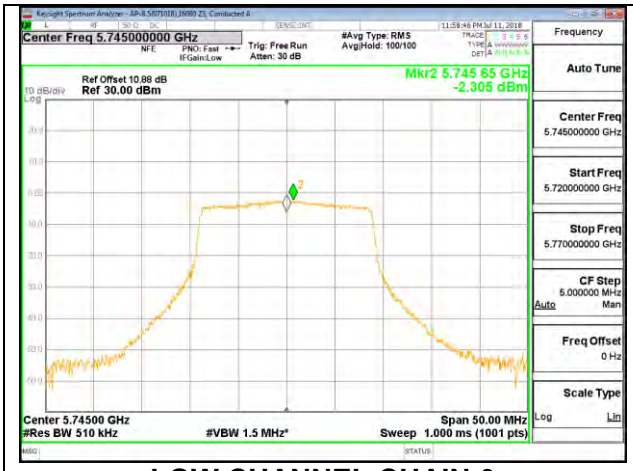
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	11.41	10.26	13.88	30.00	-16.12
Mid	5785	**14.19**	**12.24**	16.33	30.00	-13.67
High	5825	11.43	10.12	13.83	30.00	-16.17

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5745	-2.305	-2.937	0.50	30.00	-29.50
Mid	5785	**1.056**	**-1.047**	3.24	30.00	-26.76
High	5825	-1.779	-2.987	0.77	30.00	-29.23

LOW CHANNEL

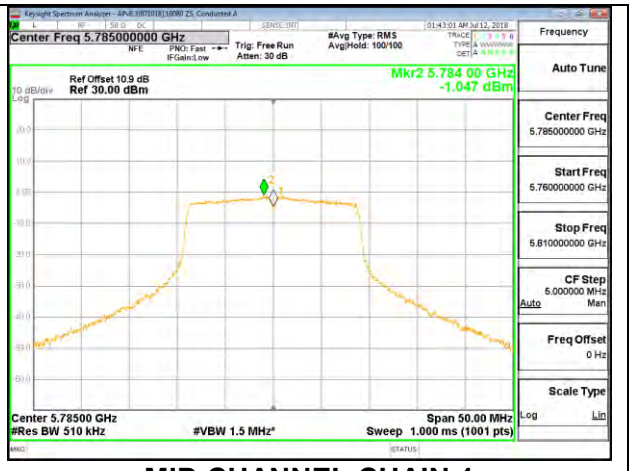


LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

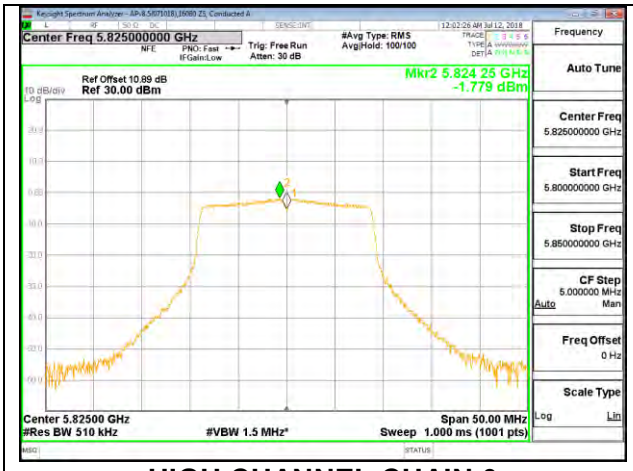
MID CHANNEL

MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

8.5.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5755	-4.35	-1.34	30.00	30.00
High	5795	-4.35	-1.34	30.00	30.00

Duty Cycle CF (dB)	0.28	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.92	8.67	13.60	30.00	-16.40
High	5795	**14.06**	**12.74**	16.46	30.00	-13.54

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5755	-5.511	-7.992	-3.29	30.00	-33.29
High	5795	**-2.644**	**-3.234**	0.36	30.00	-29.64

LOW CHANNEL

LOW CHANNEL CHAIN 0

LOW CHANNEL CHAIN 1

HIGH CHANNEL

HIGH CHANNEL CHAIN 0

HIGH CHANNEL CHAIN 1

8.5.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Mid	5755	-4.35	-1.34	30.00	30.00

Duty Cycle CF (dB)	0.57	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5755	11.15	9.97	13.61	30.00	-16.39

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Mid	5755	-8.785	-9.816	-5.69	30.00	-35.69

MID CHANNEL

MID CHANNEL CHAIN 0

MID CHANNEL CHAIN 1

9. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restriced bands

FCC §15.407(b)(1-3) -Un-Restriced bands

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 measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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 1 GHz 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.

The spectrum from 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 5 GHz bands.

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.

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

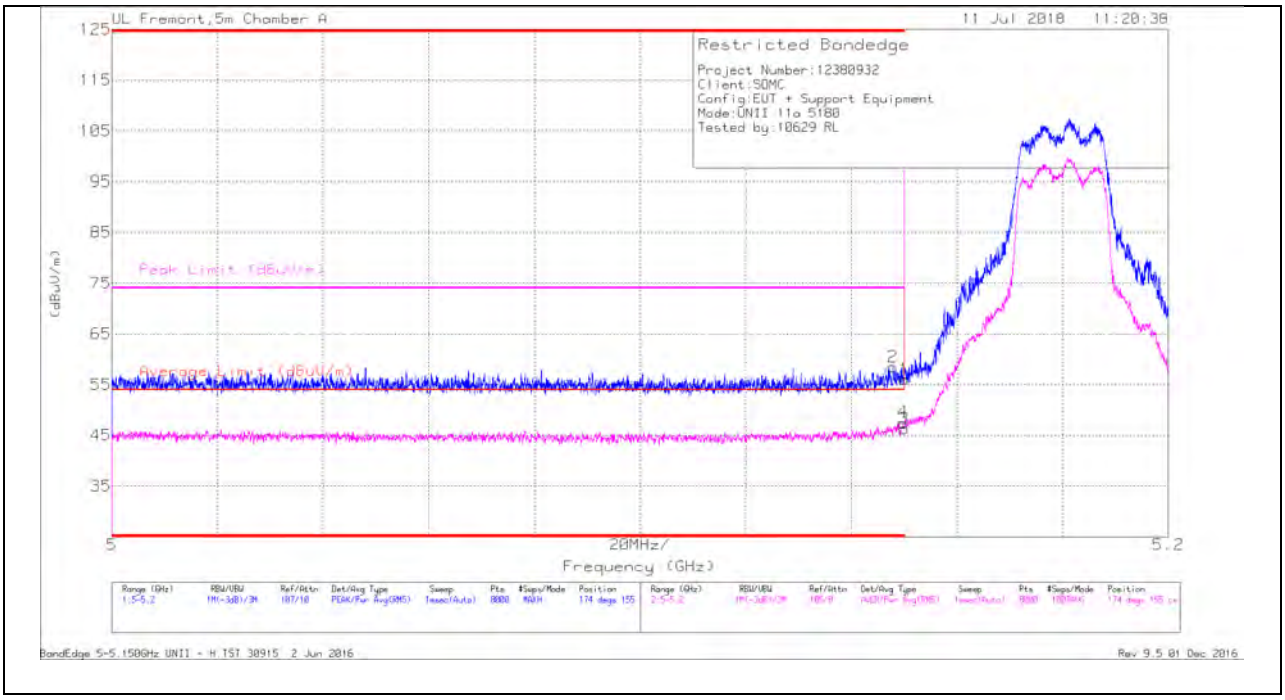
9.1. TRANSMITTER ABOVE 1 GHz

9.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

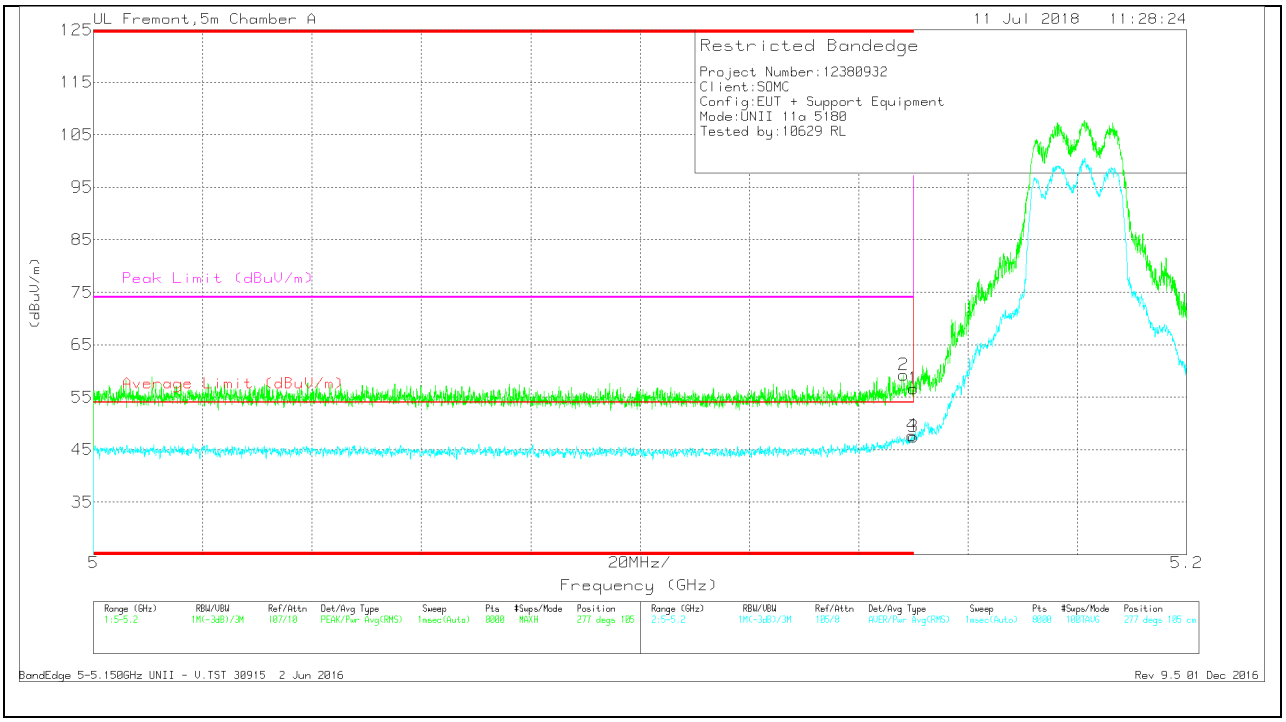


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	39.28	Pk	34.4	-17.7	55.98	-	-	74	-18.02	174	155	H
2	* 5.148	41.8	Pk	34.4	-17.7	58.5	-	-	74	-15.5	174	155	H
3	* 5.15	29.67	RMS	34.4	-17.7	46.37	54	-7.63	-	-	174	155	H
4	* 5.15	30.7	RMS	34.4	-17.6	47.5	54	-6.5	-	-	174	155	H

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

VERTICAL RESULT



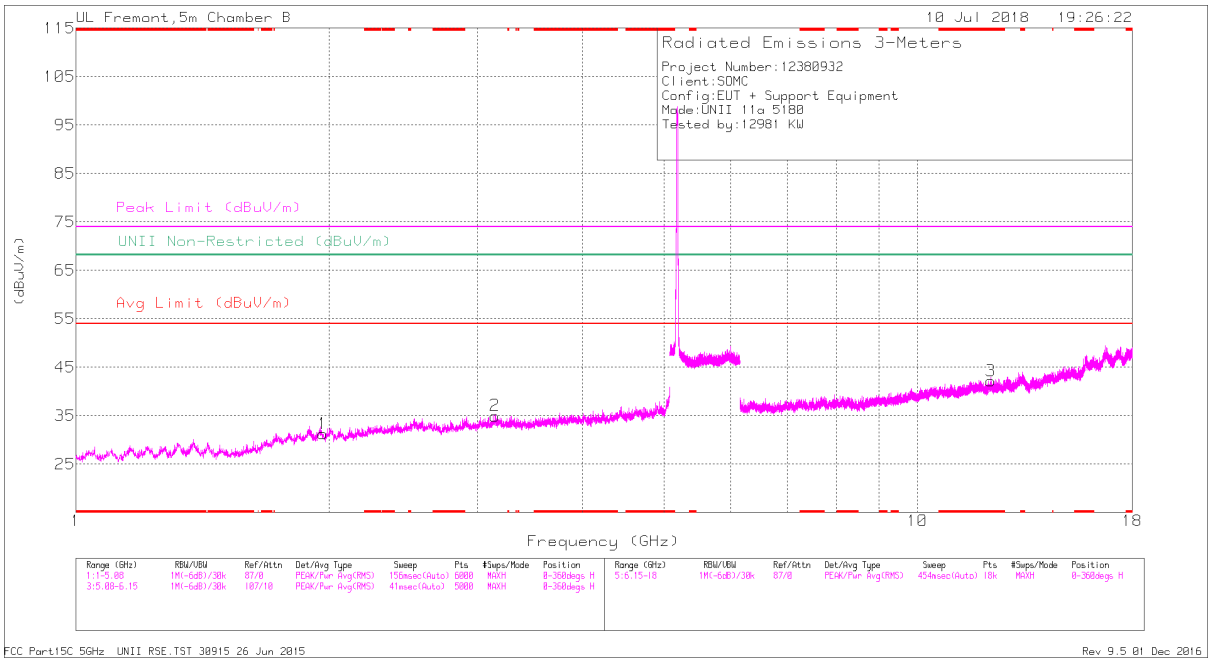
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
2	* 5.148	42.51	Pk	34.4	-17.7	59.21	-	-	74	-14.79	277	105	V
1	* 5.15	39.91	Pk	34.4	-17.7	56.61	-	-	74	-17.39	277	105	V
3	* 5.15	30.79	RMS	34.4	-17.7	47.49	54	-6.51	-	-	277	105	V
4	* 5.15	30.89	RMS	34.4	-17.6	47.69	54	-6.31	-	-	277	105	V

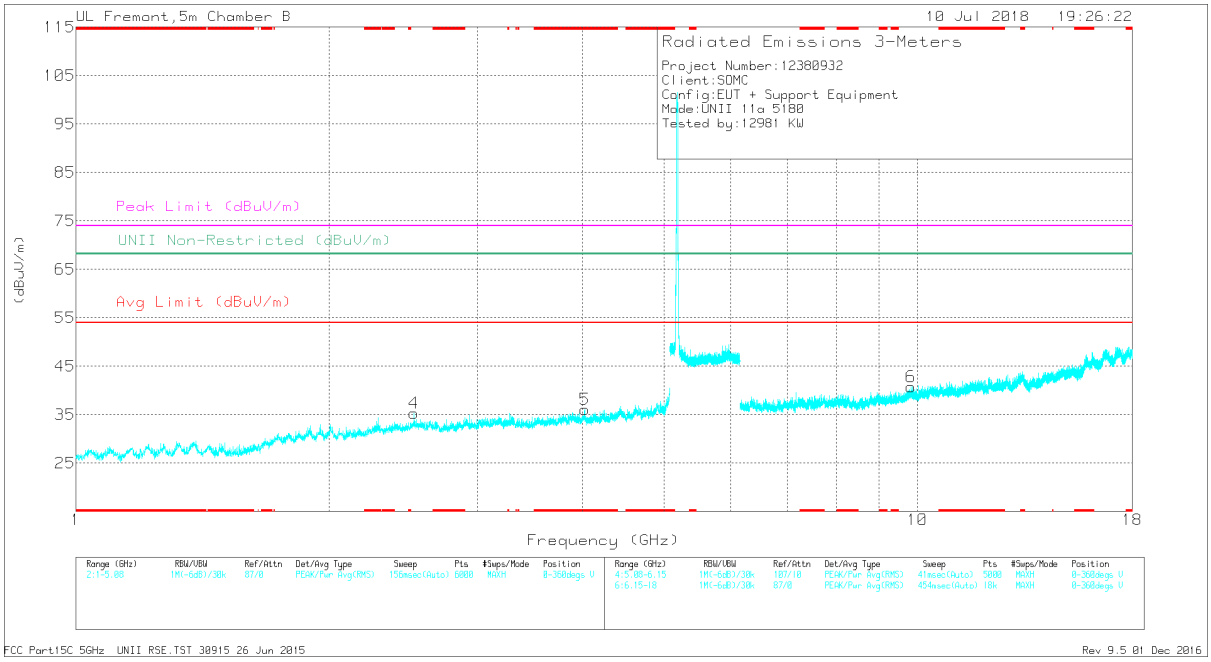
* - indicates frequency in CFR47 Pt 15 Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

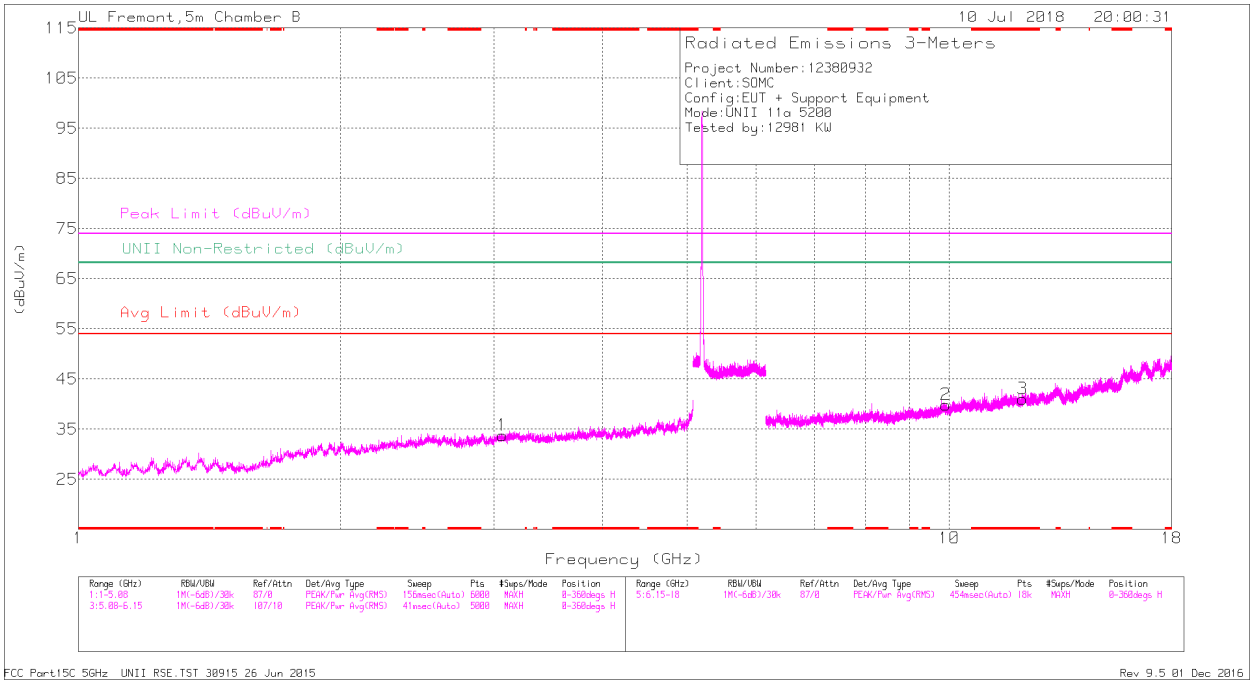
Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
5	* 4.024	39.58	PK-U	33.4	-30.9	42.08	-	-	74	-31.92	-	-	317	127	V
	* 4.025	28.4	ADR	33.4	-31	30.8	54	-23.2	-	-	-	-	317	127	V
3	* 12.223	32.83	PK-U	39.2	-23.7	48.33	-	-	74	-25.67	-	-	294	131	H
	* 12.22	22.1	ADR	39.2	-23.7	37.6	54	-16.4	-	-	-	-	294	131	H
1	1.968	40.45	PK-U	30.9	-32.7	38.65	-	-	-	-	68.2	-29.55	301	122	H
4	2.523	40.2	PK-U	32.7	-32.4	40.5	-	-	-	-	68.2	-27.7	243	136	V
2	3.146	39.98	PK-U	33.2	-32	41.18	-	-	-	-	68.2	-27.02	270	141	H
6	9.821	34.48	PK-U	37.3	-24.9	46.88	-	-	-	-	68.2	-21.32	178	187	V

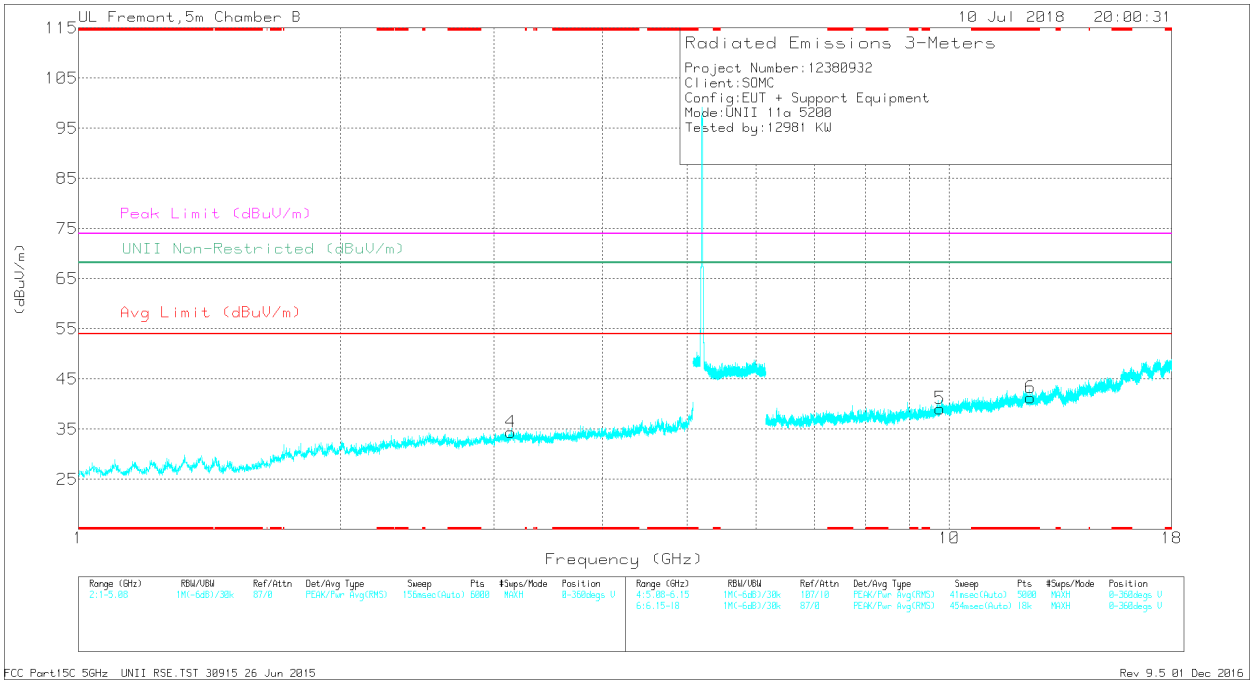
* - indicates frequency in CFR47 Pt 15 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

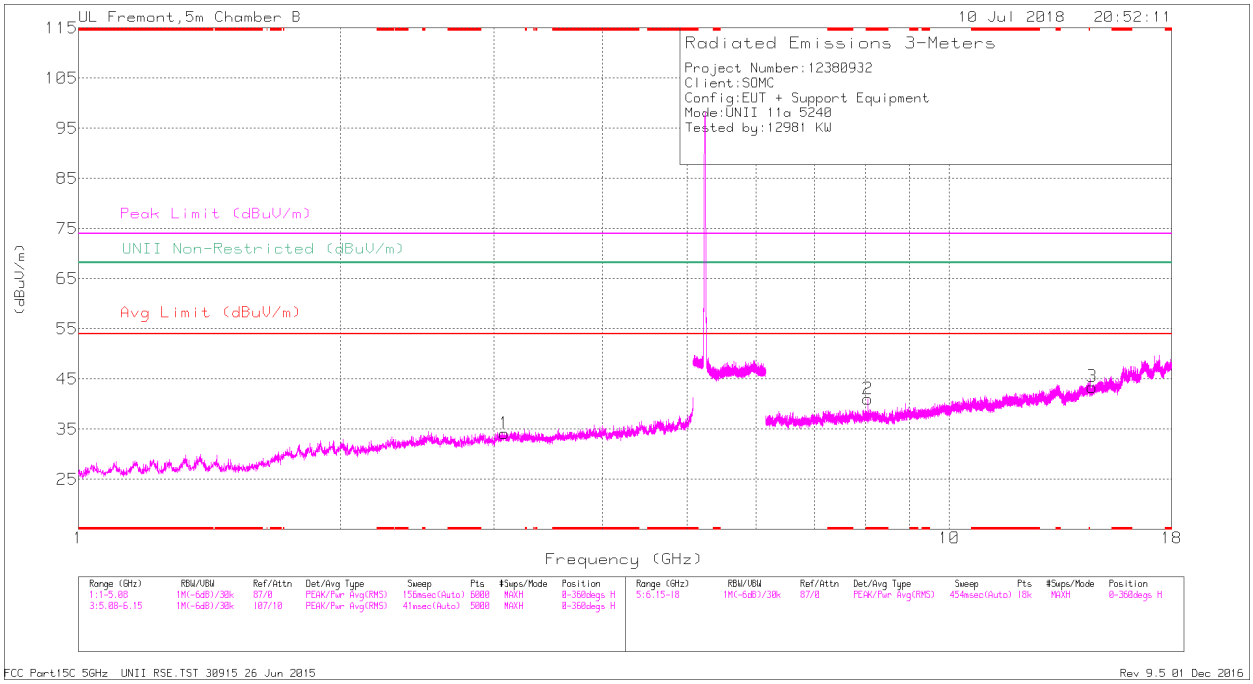
Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	* 12.142	33.9	PK-U	39.1	-24.4	48.6	-	-	74	-25.4	-	-	247	175	H
	* 12.141	22.49	ADR	39.1	-24.4	37.19	54	-16.81	-	-	-	-	247	175	H
6	* 12.391	33.06	PK-U	39	-24.1	47.96	-	-	74	-26.04	-	-	178	136	V
	* 12.393	22.24	ADR	39	-24.1	37.14	54	-16.86	-	-	-	-	178	136	V
1	3.069	40.15	PK-U	33.1	-32.2	41.05	-	-	-	-	68.2	-27.15	10	107	H
4	3.133	40.44	PK-U	33.2	-32.2	41.44	-	-	-	-	68.2	-26.76	117	169	V
5	9.761	34.41	PK-U	37.3	-25.6	46.11	-	-	-	-	68.2	-22.09	184	147	V
2	9.907	33.64	PK-U	37.3	-25.2	45.74	-	-	-	-	68.2	-22.46	150	157	H

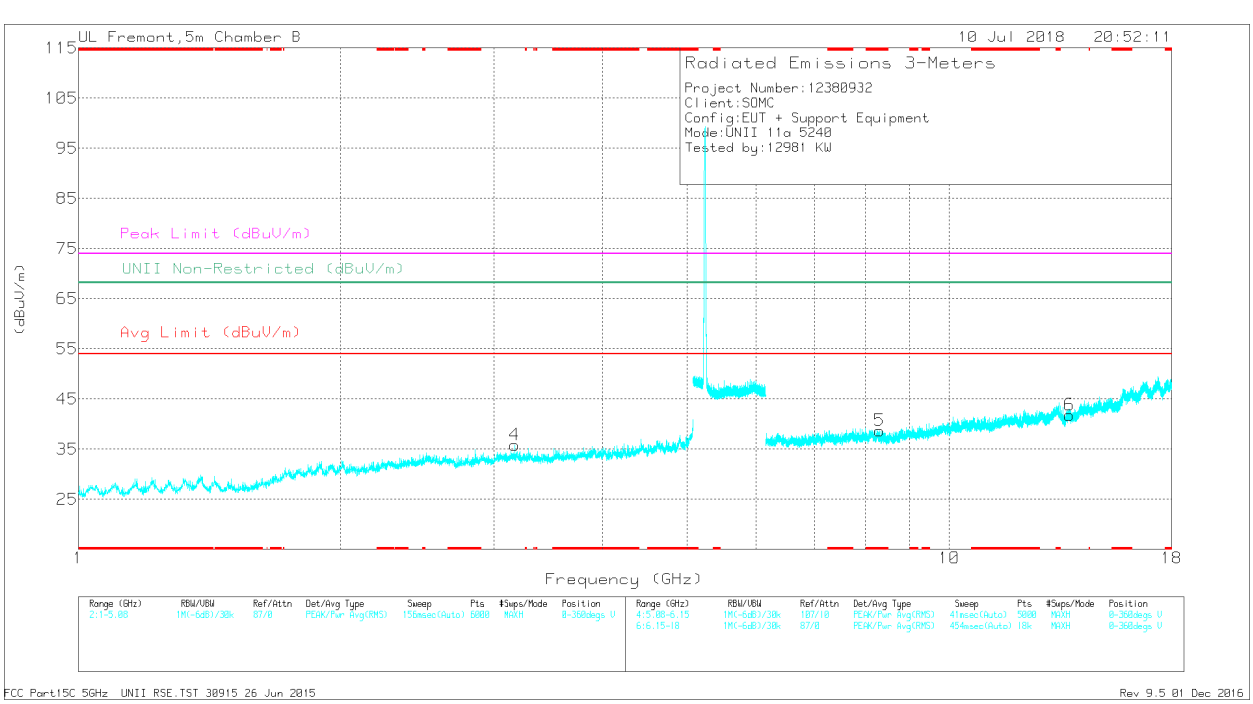
* - indicates frequency in CFR47 Pt 15 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
2	* 8.056	36.06	PK-U	36.4	-27.8	44.66	-	-	74	-29.34	-	-	66	170	H
	* 8.057	25.09	ADR	36.4	-27.8	33.69	54	-20.31	-	-	-	-	66	170	H
5	* 8.312	35.74	PK-U	36.3	-27.5	44.54	-	-	74	-29.46	-	-	167	145	V
	* 8.31	24.73	ADR	36.3	-27.5	33.53	54	-20.47	-	-	-	-	167	145	V
1	3.084	39.64	PK-U	33.2	-32.3	40.54	-	-	-	-	68.2	-27.66	198	159	H
4	3.168	39.9	PK-U	33.1	-31.8	41.2	-	-	-	-	68.2	-27	222	145	V
6	13.735	33.65	PK-U	39.2	-23.8	49.05	-	-	-	-	68.2	-19.15	225	164	V
3	14.593	33.21	PK-U	40.2	-23.3	50.11	-	-	-	-	68.2	-18.09	304	125	H

* - indicates frequency in CFR47 Pt 15 Restricted Band

PK-U - U-NII: Maximum Peak

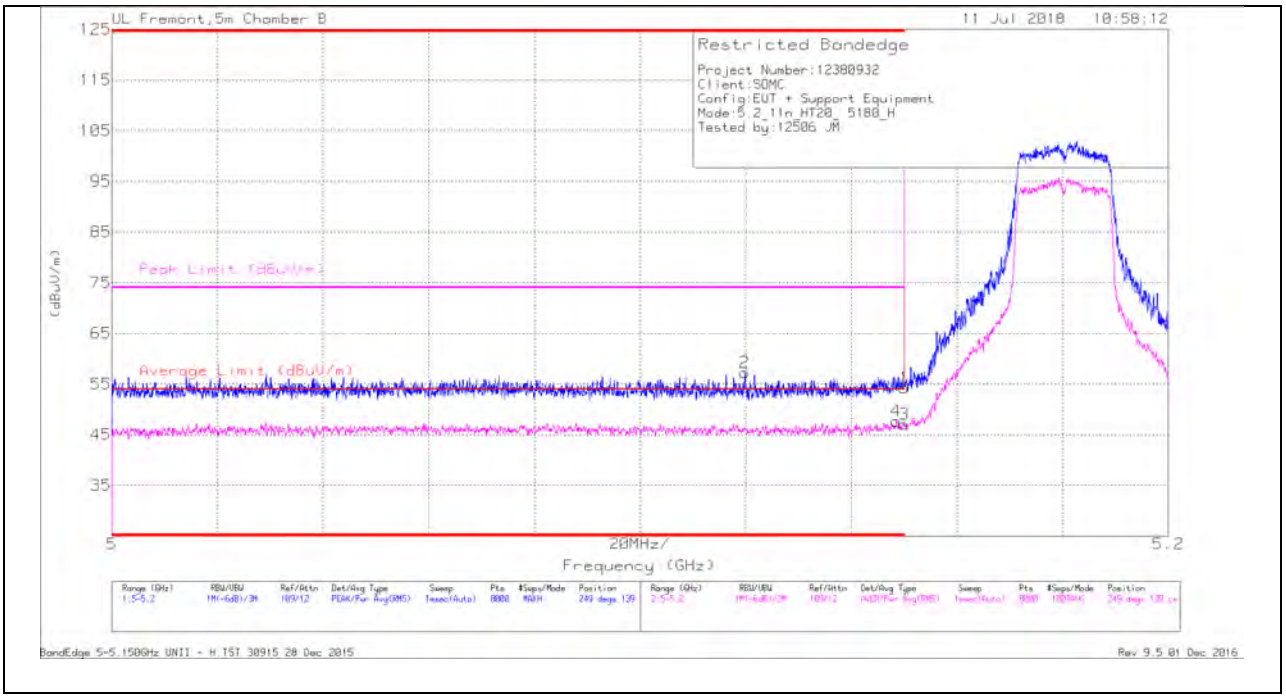
ADR - U-NII AD primary method, RMS average

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

2TX Antenna 1 + Antenna 2 CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

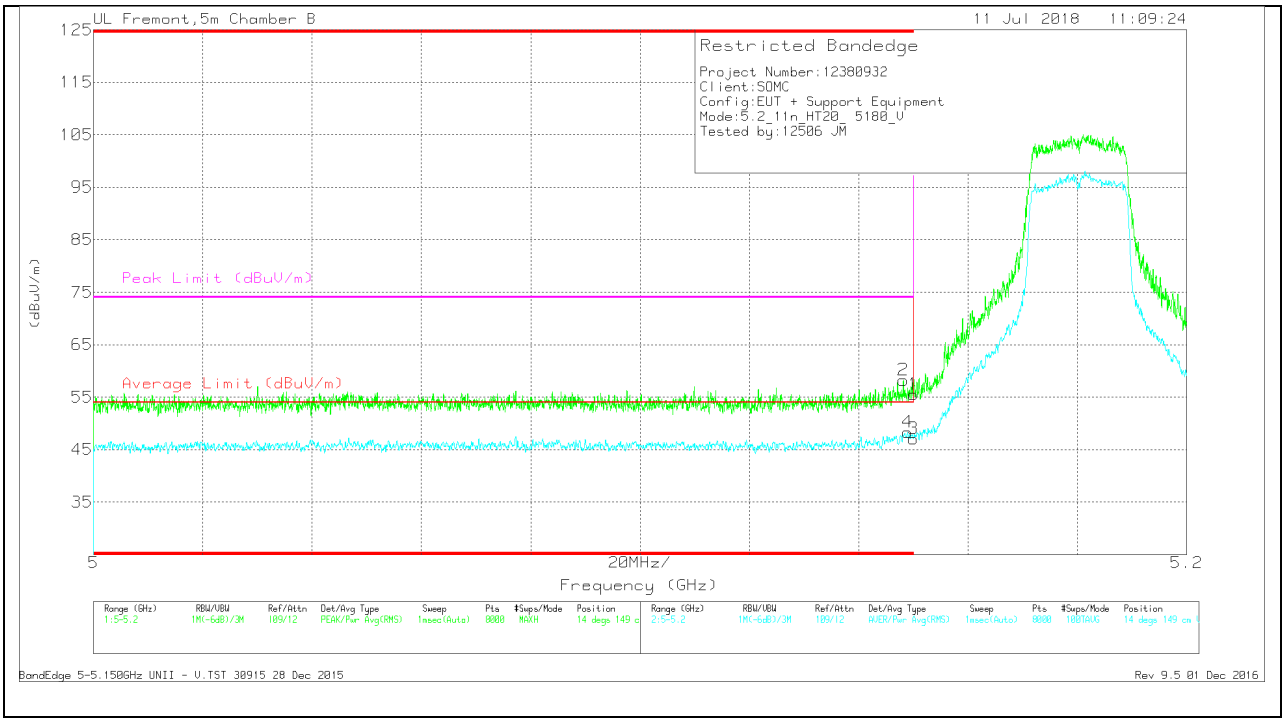


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	38.14	Pk	34.6	-18.5	0	54.24	-	-	74	-19.76	249	139	H
2	* 5.12	40.9	Pk	34.6	-18.3	0	57.2	-	-	74	-16.8	249	139	H
3	* 5.15	30.81	RMS	34.6	-18.5	.1	47.01	54	-6.99	-	-	249	139	H
4	* 5.149	31.51	RMS	34.6	-18.5	.1	47.71	54	-6.29	-	-	249	139	H

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

VERTICAL RESULT



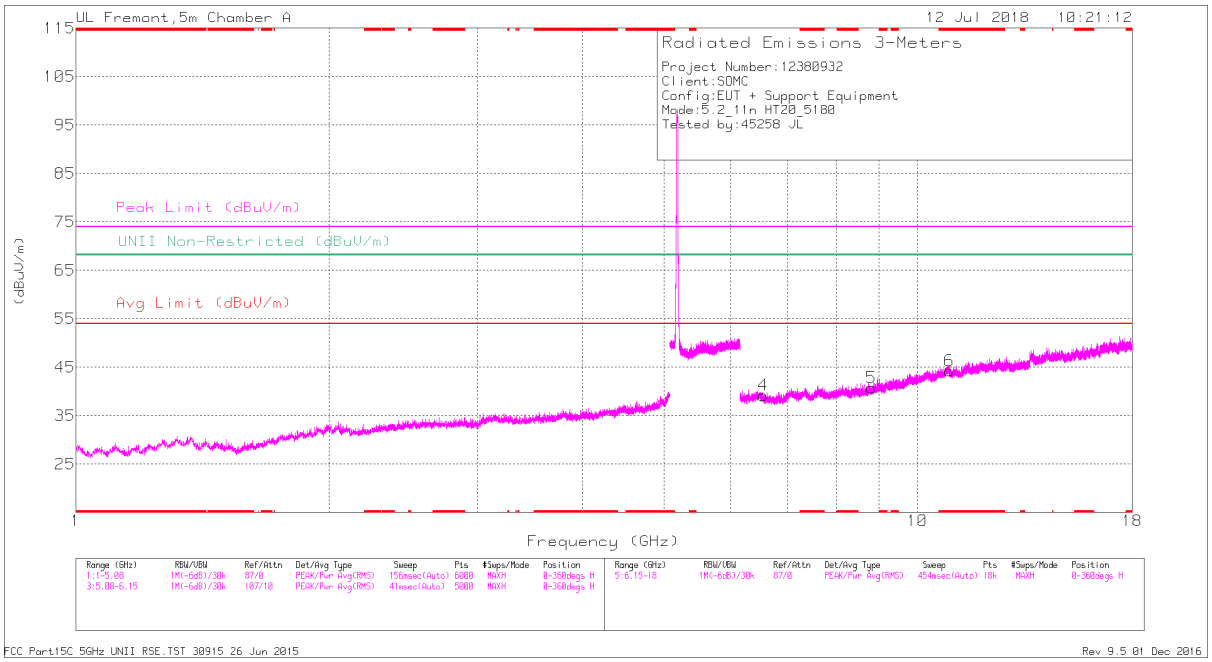
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
2	* 5.148	42.15	Pk	34.6	-18.5	0	58.25	-	-	74	-15.75	14	149	V
4	* 5.149	32.08	RMS	34.6	-18.5	.1	48.28	54	-5.72	-	-	14	149	V
1	* 5.15	39.35	Pk	34.6	-18.5	0	55.45	-	-	74	-18.55	14	149	V
3	* 5.15	30.84	RMS	34.6	-18.5	.1	47.04	54	-6.96	-	-	14	149	V

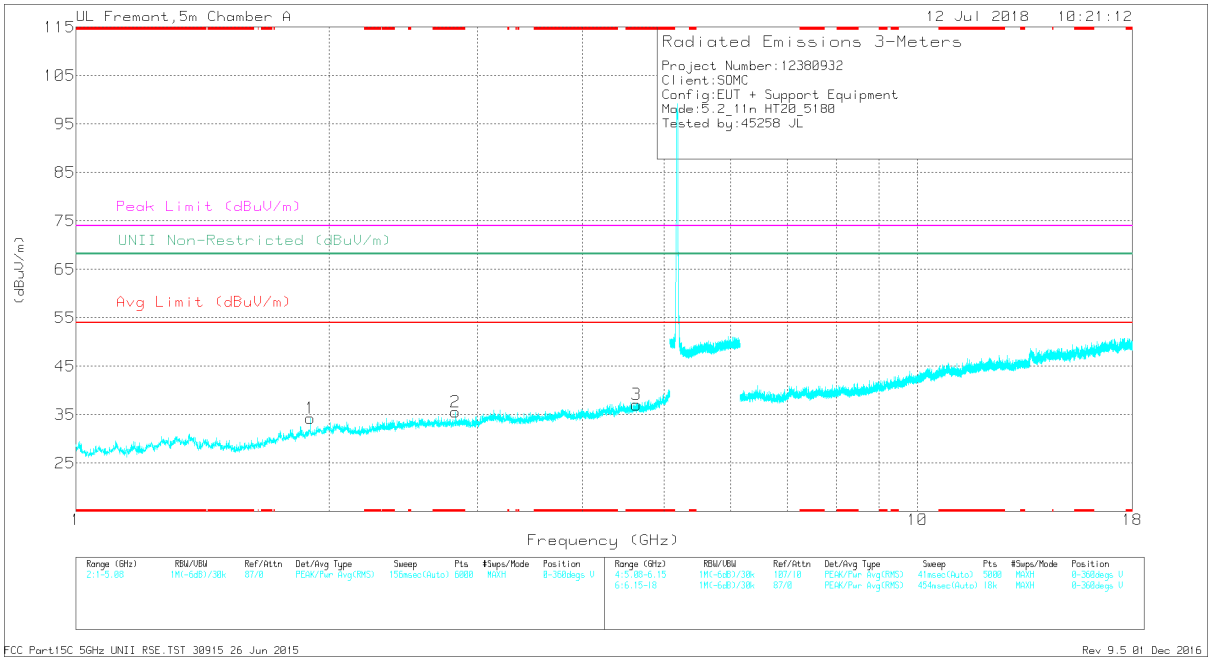
* - indicates frequency in CFR47 Pt 15 Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

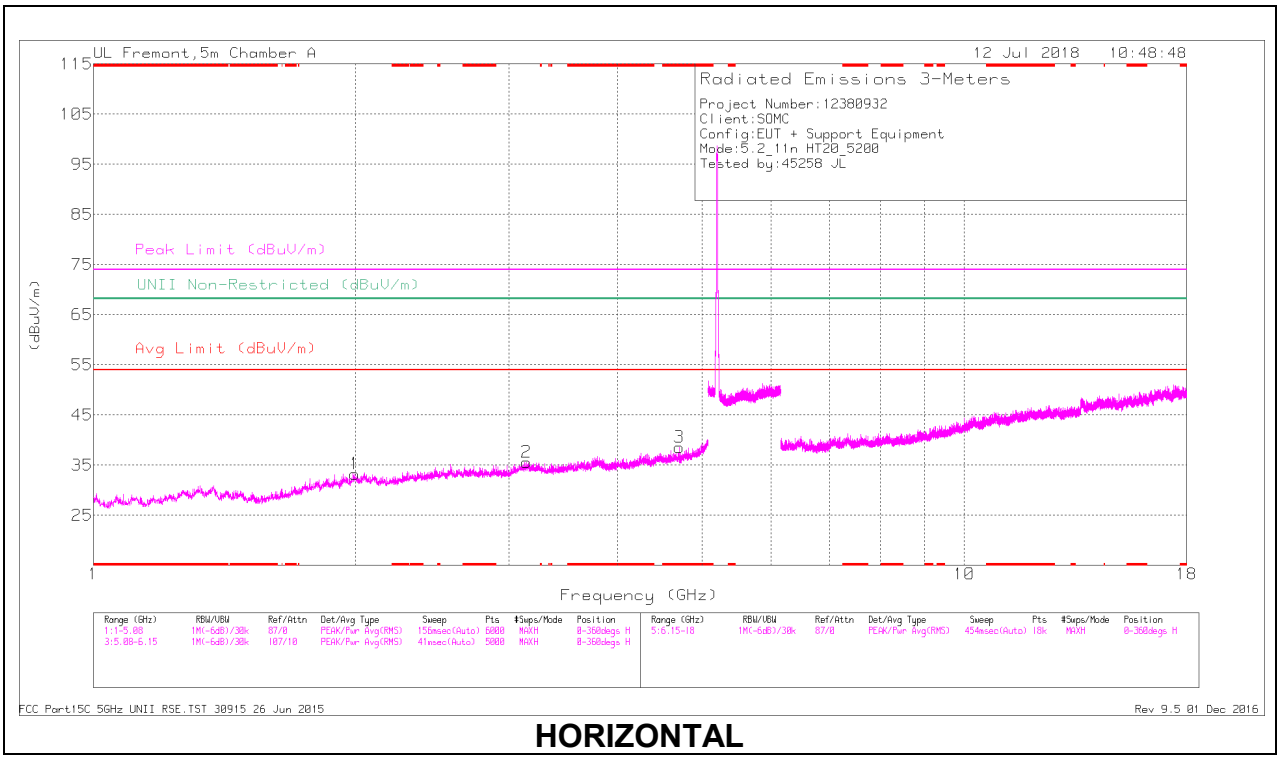
Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
2	* 2.823	38.32	PK-U	32.2	-29.5	0	41.02	-	-	74	-32.98	-	-	117	187	V
	* 2.826	26.54	ADR	32.2	-29.5	.1	29.34	54	-24.66	-	-	-	-	117	187	V
3	* 4.635	35.59	PK-U	34	-26.4	0	43.19	-	-	74	-30.81	-	-	201	223	V
	* 4.634	24.84	ADR	34	-26.4	.1	32.54	54	-21.46	-	-	-	-	201	223	V
6	* 10.911	31.62	PK-U	37.9	-18.6	0	50.92	-	-	74	-23.08	-	-	253	194	H
	* 10.912	20.71	ADR	37.9	-18.6	.1	40.11	54	-13.89	-	-	-	-	253	194	H
1	1.899	39.37	PK-U	31	-31.4	0	38.97	-	-	-	-	68.2	-29.23	39	148	V
4	6.561	34.21	PK-U	35.6	-24.2	0	45.61	-	-	-	-	68.2	-22.59	220	236	H
5	8.814	32.68	PK-U	36	-21.8	0	46.88	-	-	-	-	68.2	-21.32	333	204	H

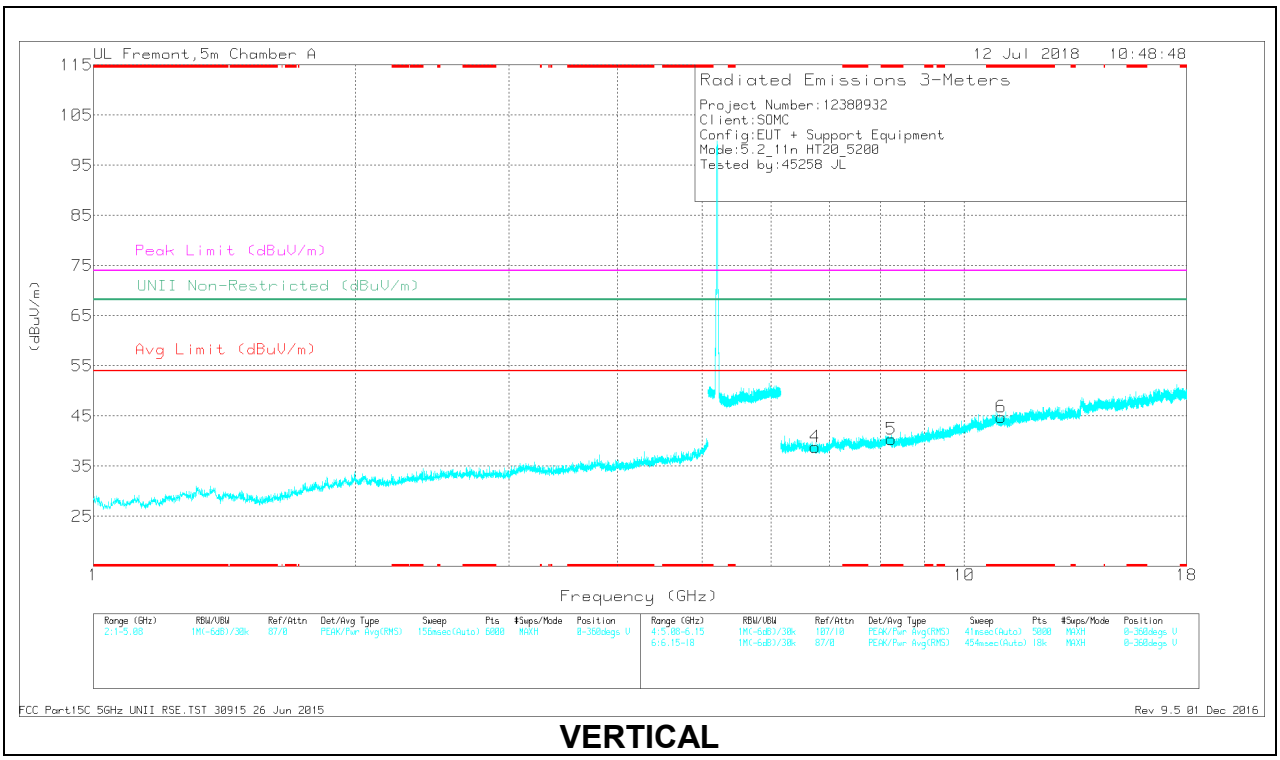
* - indicates frequency in CFR47 Pt 15 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 771-1000 FAX:(510) 661-0888

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

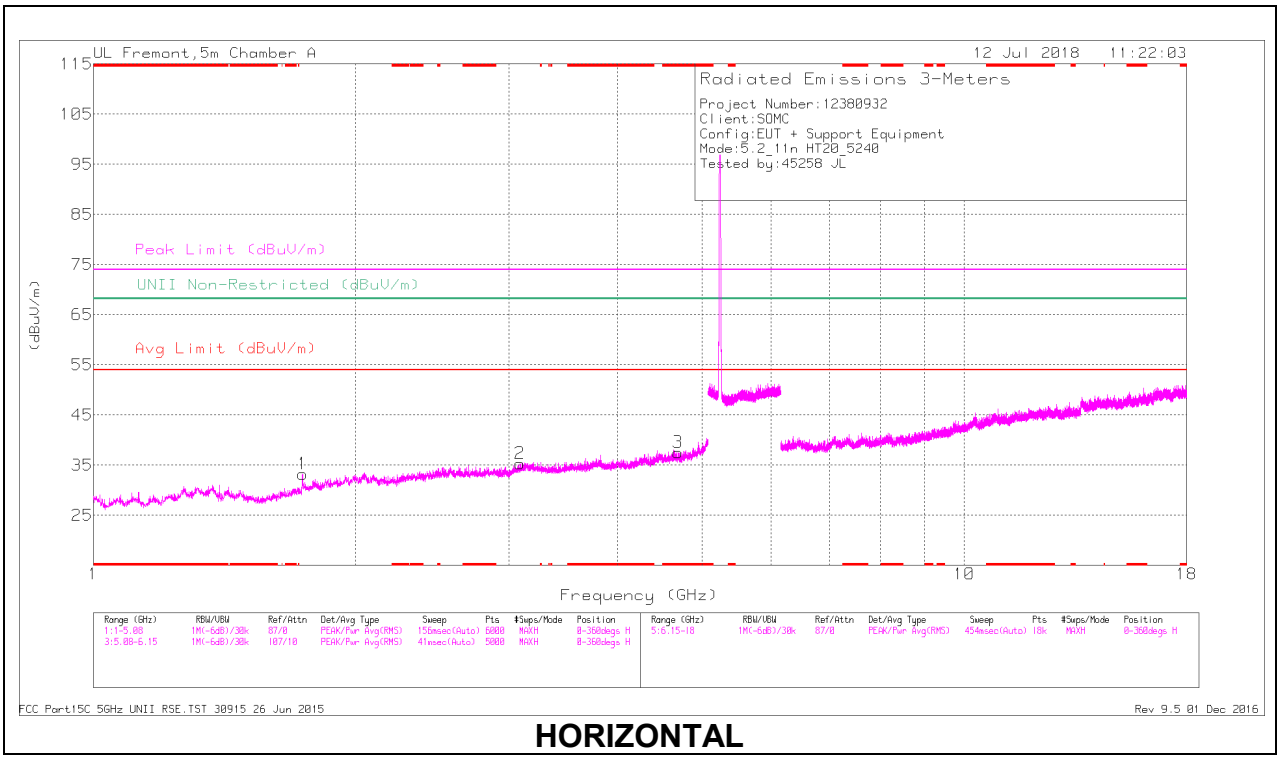
RADIATED EMISSIONS

Radiated Emissions

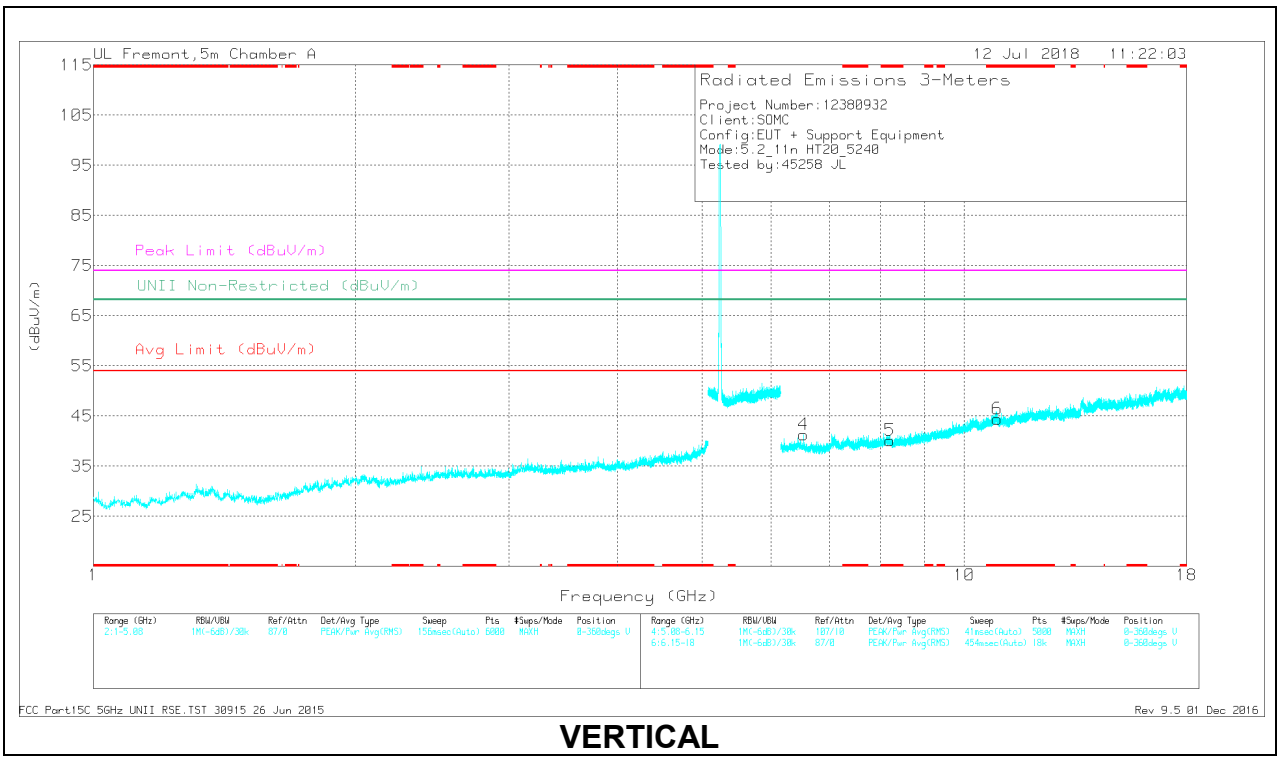
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.702	36.38	PK-U	33.9	-26.8	0	43.48	-	-	74	-30.52	-	-	332	187	H
	* 4.703	25.17	ADR	33.9	-26.9	.1	32.27	54	-21.73	-	-	-	-	332	187	H
5	* 8.246	32.95	PK-U	35.9	-22	0	46.85	-	-	74	-27.15	-	-	277	209	V
	* 8.245	22.08	ADR	35.9	-22	.1	36.08	54	-17.92	-	-	-	-	277	209	V
6	* 11.027	31.88	PK-U	37.9	-18.8	0	50.98	-	-	74	-23.02	-	-	244	192	V
	* 11.027	20.91	ADR	37.9	-18.8	.1	40.11	54	-13.89	-	-	-	-	244	192	V
1	1.994	39.49	PK-U	31.4	-30.6	0	40.29	-	-	-	-	68.2	-27.91	271	176	H
2	3.142	37.92	PK-U	32.8	-28.4	0	42.32	-	-	-	-	68.2	-25.88	188	231	H
4	6.74	33.59	PK-U	35.5	-23.9	0	45.19	-	-	-	-	68.2	-23.01	100	255	V

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
3	* 4.686	36.01	PK-U	33.9	-26.4	0	43.51	-	-	74	-30.49	-	-	21	166	H
	* 4.687	24.95	ADR	33.9	-26.4	.1	32.55	54	-21.45	-	-	-	-	21	166	H
5	* 8.215	32.43	PK-U	35.8	-21.7	0	46.53	-	-	74	-27.47	-	-	76	189	V
	* 8.215	21.71	ADR	35.8	-21.7	.1	35.91	54	-18.09	-	-	-	-	76	189	V
6	* 10.912	31.57	PK-U	37.9	-18.5	0	50.97	-	-	74	-23.03	-	-	137	174	V
	* 10.912	20.8	ADR	37.9	-18.6	.1	40.2	54	-13.8	-	-	-	-	137	174	V
1	1.738	39.34	PK-U	29.6	-30.9	0	38.04	-	-	-	-	68.2	-30.16	193	229	H
2	3.09	37.52	PK-U	32.9	-28.7	0	41.72	-	-	-	-	68.2	-26.48	251	211	H
4	6.537	34.54	PK-U	35.7	-23.6	0	46.64	-	-	-	-	68.2	-21.56	306	191	V

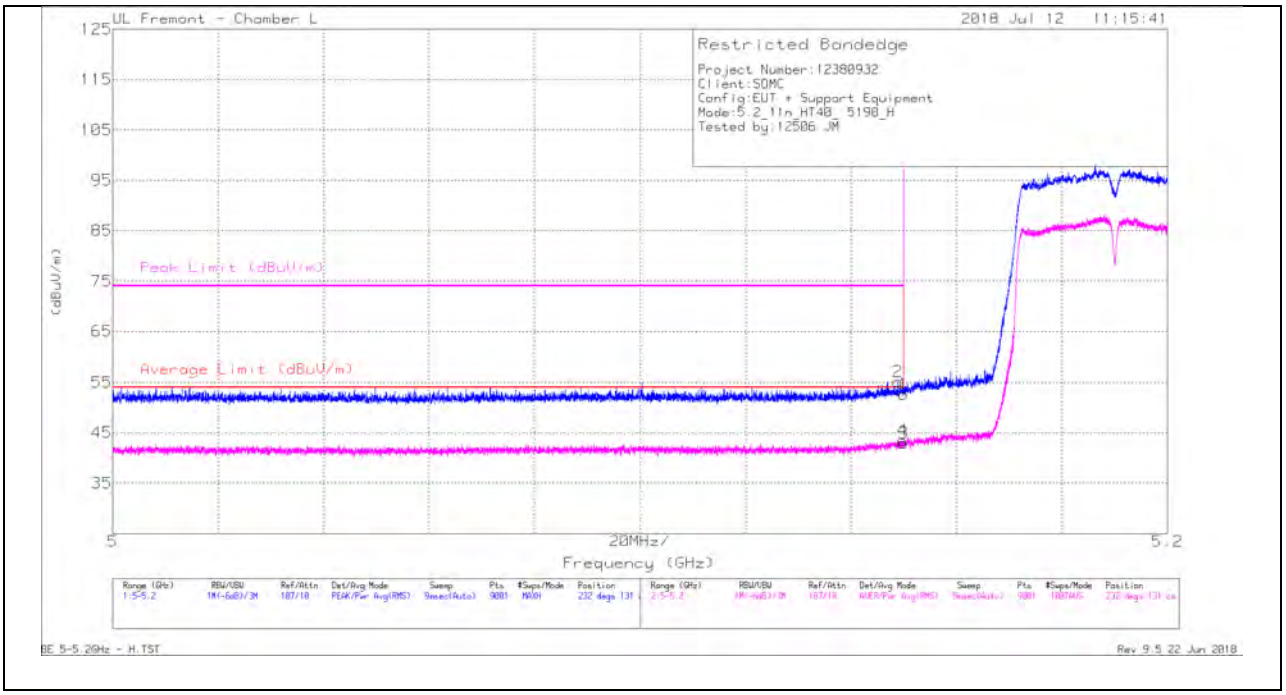
* - indicates frequency in CFR47 Pt 15 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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

2TX Antenna 1 + Antenna 2 CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

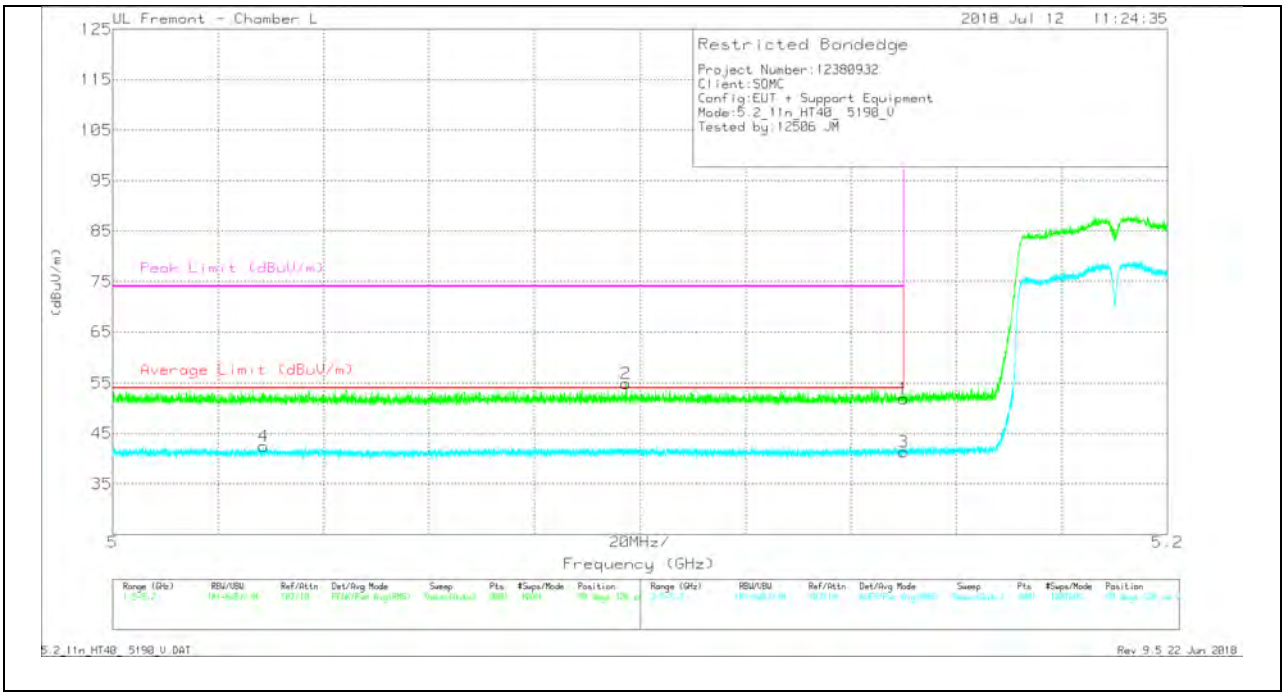


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	37.48	Pk	34.4	-19.2	0	52.68	-	-	74	-21.32	232	131	H
2	* 5.149	39.96	Pk	34.4	-19.2	0	55.16	-	-	74	-18.84	232	131	H
3	* 5.15	27.51	RMS	34.4	-19.2	.28	42.99	54	-11.01	-	-	232	131	H
4	* 5.15	27.93	RMS	34.4	-19.2	.28	43.41	54	-10.59	-	-	232	131	H

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

VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	36.71	Pk	34.4	-19.2	0	51.91	-	-	74	-22.09	99	126	V
2	* 5.097	39.44	Pk	34.4	-19	0	54.84	-	-	74	-19.16	99	126	V
3	* 5.15	26.18	RMS	34.4	-19.2	.28	41.66	54	-12.34	-	-	99	126	V
4	* 5.029	27.2	RMS	34.4	-19.1	.28	42.78	54	-11.22	-	-	99	126	V

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