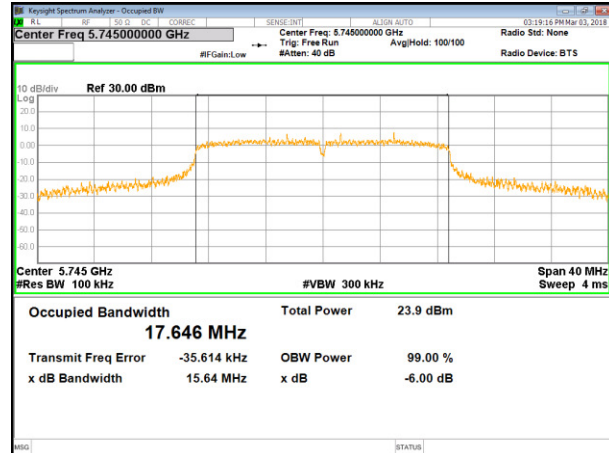
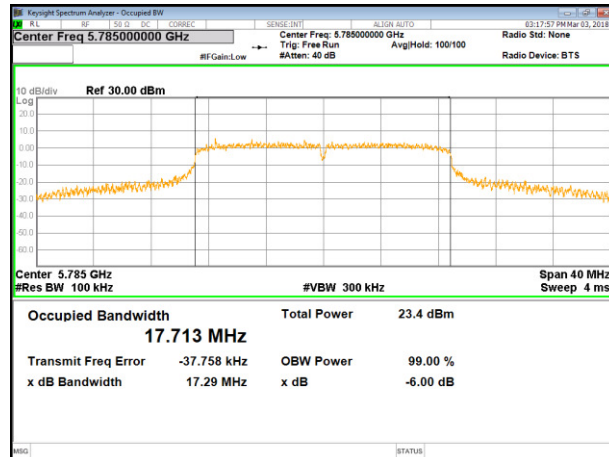


UNII 5.8 GHz IEEE 802.11n HT20 mode

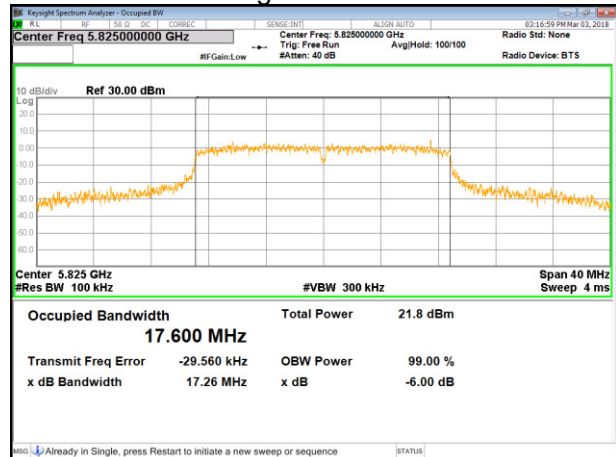
11n HT20 Mode Low Channel



11n HT20 Mode Middle Channel

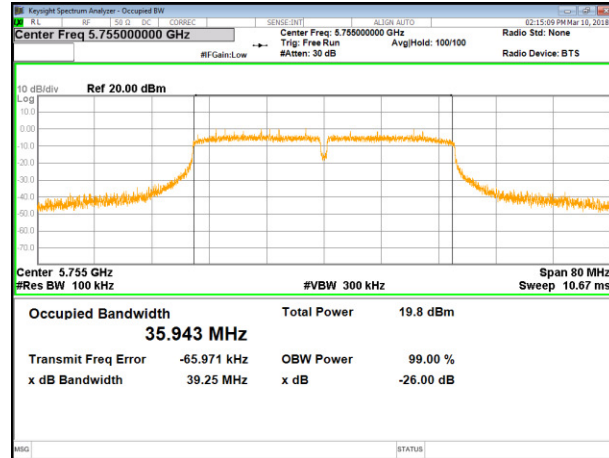


11n HT20 Mode High Channel

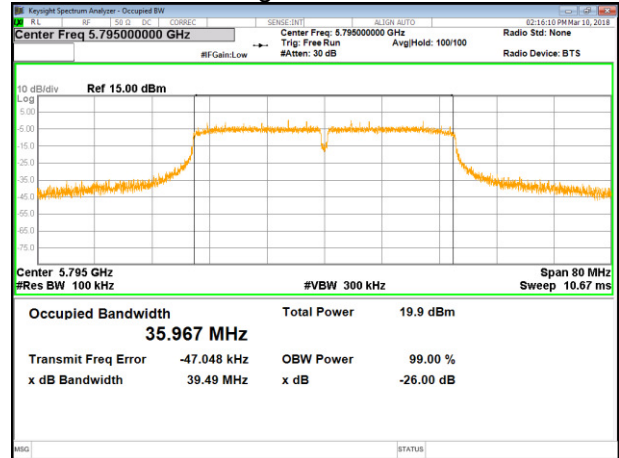


UNII 5.8 GHz IEEE 802.11n HT40 mode

11n HT40 Mode Low Channel



11n HT40 Mode High Channel



10.2. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

For the band 5.15–5.25 GHz, 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.

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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

TEST PROCEDURE

KDB 789033 Method SA-2 is used for PPSD. RBW set to 1 MHz (500 kHz for the band 5.725-5.85 GHz, the VBW $\geq 3 \times$ RBW, RMS detector and trace averaging). Peak marker value of the spectrum is used for PSD. For 802.11 n HT40 mode, add duty cycle correction factor.

KDB 789033 Method PM is used for output power. For 802.11 n HT40 mode, duty cycle correction factor is already added to the average output power results.

DIRECTIONAL ANTENNA GAIN

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

5 GHz

Frequency Band	Antenna Gain
[MHz]	[dBi]
5150 - 5250	-1.41
5250 - 5350	-2.72
5470 - 5725	-3.66
5725 - 5850	-5.64

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	19.89	-1.41	-1.41
Mid	5200	19.69	-1.41	-1.41
High	5240	19.40	-1.41	-1.41

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]
Low	5180	23.99	23.99	11.00
Mid	5200	23.94	23.94	11.00
High	5240	23.88	23.88	11.00

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	18.32	18.40	23.99	-5.59
Mid	5200	17.87	17.95	23.94	-5.99
High	5240	17.68	17.76	23.88	-6.12

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	8.30	8.38	11.00	-2.62
Mid	5200	7.86	7.93	11.00	-3.07
High	5240	7.67	7.74	11.00	-3.26

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	20.27	-1.41	-1.41
Mid	5200	20.48	-1.41	-1.41
High	5240	20.42	-1.41	-1.41

Limits

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

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5180	17.53	17.61	24.00	-6.39
Mid	5200	17.92	18.00	24.00	-6.00
High	5240	17.81	17.89	24.00	-6.11

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	7.13	7.21	11.00	-3.79
Mid	5200	7.59	7.67	11.00	-3.33
High	5240	7.43	7.52	11.00	-3.48

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5190	40.12	-1.41	-1.41
High	5230	39.30	-1.41	-1.41

Limits

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

Duty Cycle CF [dB]	0.18	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5190	15.30	15.48	24.00	-8.52
High	5230	14.57	14.75	24.00	-9.25

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5190	1.87	2.05	11.00	-8.95
High	5230	0.95	1.12	11.00	-9.88

10.2.4. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSP [dBi]
Low	5260	19.27	-2.72	-2.72
Mid	5300	19.53	-2.72	-2.72
High	5320	19.91	-2.72	-2.72

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSP Limit [dBm]
Low	5260	23.85	23.85	11.00
Mid	5300	23.91	23.91	11.00
High	5320	23.99	23.99	11.00

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	17.81	17.89	23.85	-5.96
Mid	5300	18.03	18.11	23.91	-5.80
High	5320	18.23	18.31	23.99	-5.68

PPSP Results

Channel	Frequency [MHz]	Meas PPSP [dBm]	Total Corr'd PPSP [dBm]	PPSP Limit [dBm]	PPSP Margin [dB]
Low	5260	7.80	7.88	11.00	-3.12
Mid	5300	8.15	8.23	11.00	-2.77
High	5320	8.35	8.43	11.00	-2.57

10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	20.26	-2.72	-2.72
Mid	5300	20.18	-2.72	-2.72
High	5320	20.04	-2.72	-2.72

Limits

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

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5260	17.91	17.99	24.00	-6.01
Mid	5300	18.29	18.37	24.00	-5.63
High	5320	18.33	18.41	24.00	-5.59

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5260	7.60	7.68	11.00	-3.32
Mid	5300	7.77	7.85	11.00	-3.15
High	5320	8.03	8.11	11.00	-2.89

10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5270	40.09	-2.72	-2.72
High	5310	40.06	-2.72	-2.72

Limits

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

Duty Cycle CF [dB]	0.18	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5270	14.86	15.04	24.00	-8.96
High	5310	14.27	14.45	24.00	-9.55

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5270	0.92	1.09	11.00	-9.91
High	5310	0.11	0.28	11.00	-10.72

10.2.7. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSP [dBi]
Low	5500	19.50	-3.66	-3.66
Mid	5580	19.88	-3.66	-3.66
High	5700	20.38	-3.66	-3.66

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSP Limit [dBm]
Low	5500	23.90	23.90	11.00
Mid	5580	23.98	23.98	11.00
High	5700	24.00	24.00	11.00

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	18.23	18.31	23.90	-5.59
Mid	5580	18.28	18.36	23.98	-5.62
High	5700	17.97	18.05	24.00	-5.95

PPSP Results

Channel	Frequency [MHz]	Meas PPSP [dBm]	Total Corr'd PPSP [dBm]	PPSP Limit [dBm]	PPSP Margin [dB]
Low	5500	8.24	8.31	11.00	-2.69
Mid	5580	8.37	8.45	11.00	-2.55
High	5700	8.33	8.41	11.00	-2.59

10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSP [dBi]
Low	5500	20.24	-3.66	-3.66
Mid	5580	20.79	-3.66	-3.66
High	5700	21.50	-3.66	-3.66

Limits

Channel	Frequency [MHz]	FCC Power Limit [dBm]	Power Limit [dBm]	FCC PPSP Limit [dBm]
Low	5500	24.00	24.00	11.00
Mid	5580	24.00	24.00	11.00
High	5700	24.00	24.00	11.00

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSP
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5500	18.23	18.31	24.00	-5.69
Mid	5580	18.30	18.38	24.00	-5.62
High	5700	17.97	18.05	24.00	-5.95

PPSP Results

Channel	Frequency [MHz]	Meas PPSP [dBm]	Total Corr'd PPSP [dBm]	PPSP Limit [dBm]	PPSP Margin [dB]
Low	5500	8.07	8.15	11.00	-2.85
Mid	5580	8.17	8.25	11.00	-2.75
High	5700	8.00	8.08	11.00	-2.92

10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5510	39.89	-3.66	-3.66
Mid	5590	39.64	-3.66	-3.66
High	5670	40.05	-3.66	-3.66

Limits

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

Duty Cycle CF [dB]	0.18	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5510	15.05	15.23	24.00	-8.77
Mid	5590	14.45	14.63	24.00	-9.37
High	5670	14.86	15.04	24.00	-8.96

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5510	0.82	1.00	11.00	-10.00
Mid	5590	0.37	0.55	11.00	-10.45
High	5670	1.64	1.81	11.00	-9.19

10.2.10. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	21.55	-5.64	-5.64
Mid	5785	21.98	-5.64	-5.64
High	5825	21.70	-5.64	-5.64

Limits

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

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	18.04	18.12	30.00	-11.88
Mid	5785	18.11	18.19	30.00	-11.81
High	5825	17.58	17.66	30.00	-12.34

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5745	5.34	5.42	30.00	-24.58
Mid	5785	5.28	5.35	30.00	-24.65
High	5825	4.87	4.95	30.00	-25.05

10.2.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	22.19	-5.64	-5.64
Mid	5785	23.63	-5.64	-5.64
High	5825	22.93	-5.64	-5.64

Limits

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

Duty Cycle CF [dB]	0.08	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5745	17.98	18.06	30.00	-11.94
Mid	5785	18.01	18.09	30.00	-11.91
High	5825	17.57	17.65	30.00	-12.35

PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5745	5.17	5.26	30.00	-24.74
Mid	5785	5.04	5.13	30.00	-24.87
High	5825	4.49	4.58	30.00	-25.42

10.2.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5755	39.78	-5.64	-5.64
High	5795	39.76	-5.64	-5.64

Limits

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

Duty Cycle CF [dB]	0.18	Included in Calculations of Corr'd Power & PPSD
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Output Power Results

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5755	14.38	14.56	30.00	-15.44
High	5795	14.80	14.98	30.00	-15.02

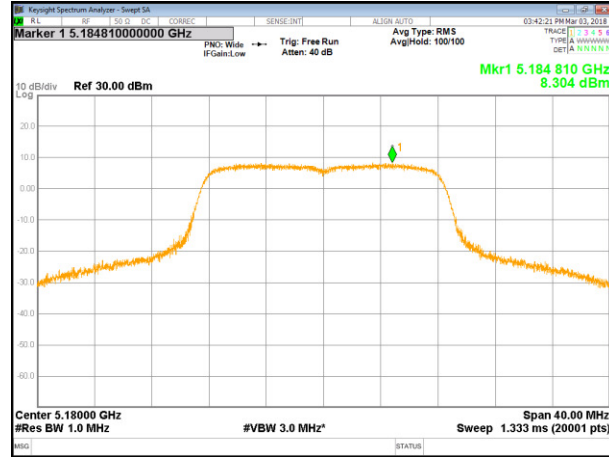
PPSD Results

Channel	Frequency [MHz]	Meas PPSD [dBm/500kHz]	Total Corr'd PPSD [dBm/500kHz]	PPSD Limit [dBm/500kHz]	PPSD Margin [dB]
Low	5755	-1.65	-1.47	30.00	-31.47
High	5795	-1.58	-1.41	30.00	-31.41

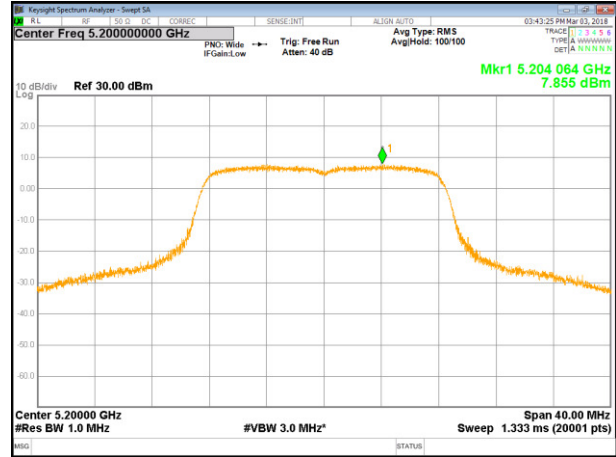
10.2.13. PPSD PLOTS

UNII 5.2 GHz IEEE 802.11a mode

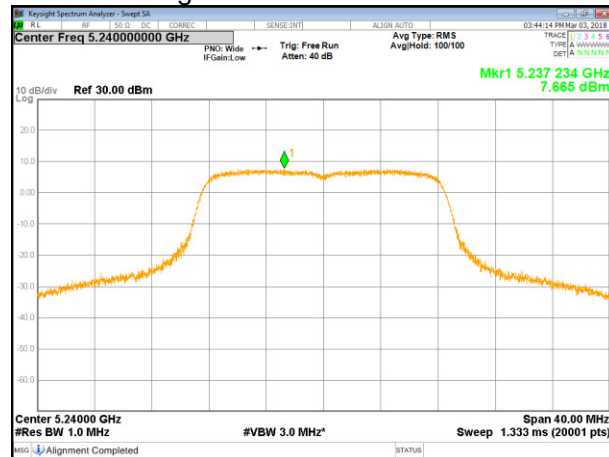
11a Mode Low Channel



11a Mode Middle Channel

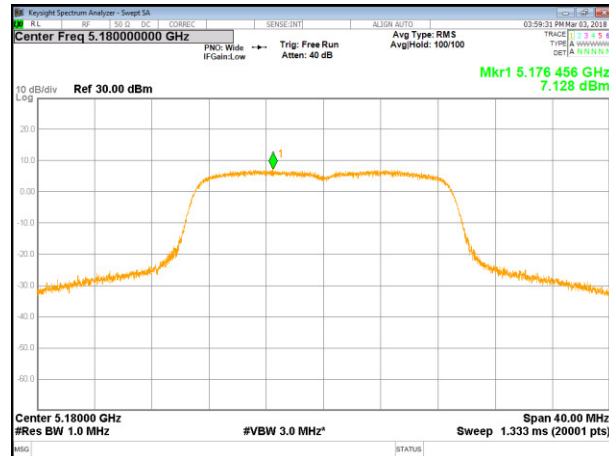


11a Mode High Channel

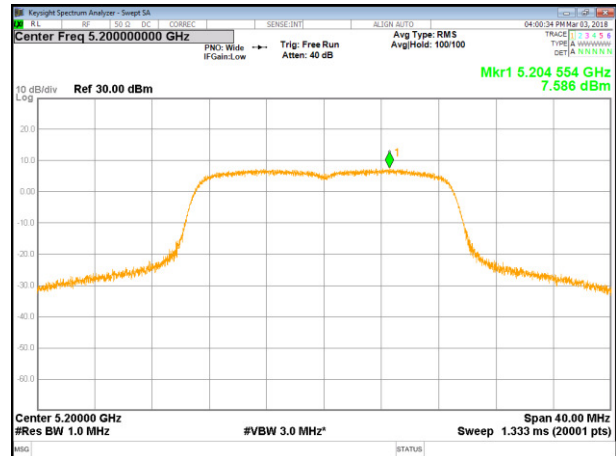


UNII 5.2 GHz IEEE 802.11n HT20 mode

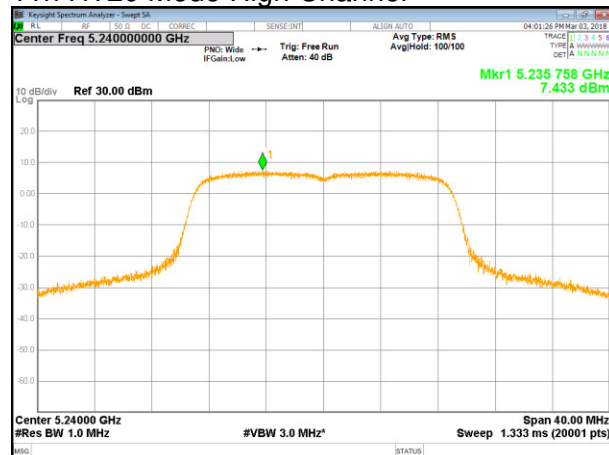
11n HT20 Mode Low Channel



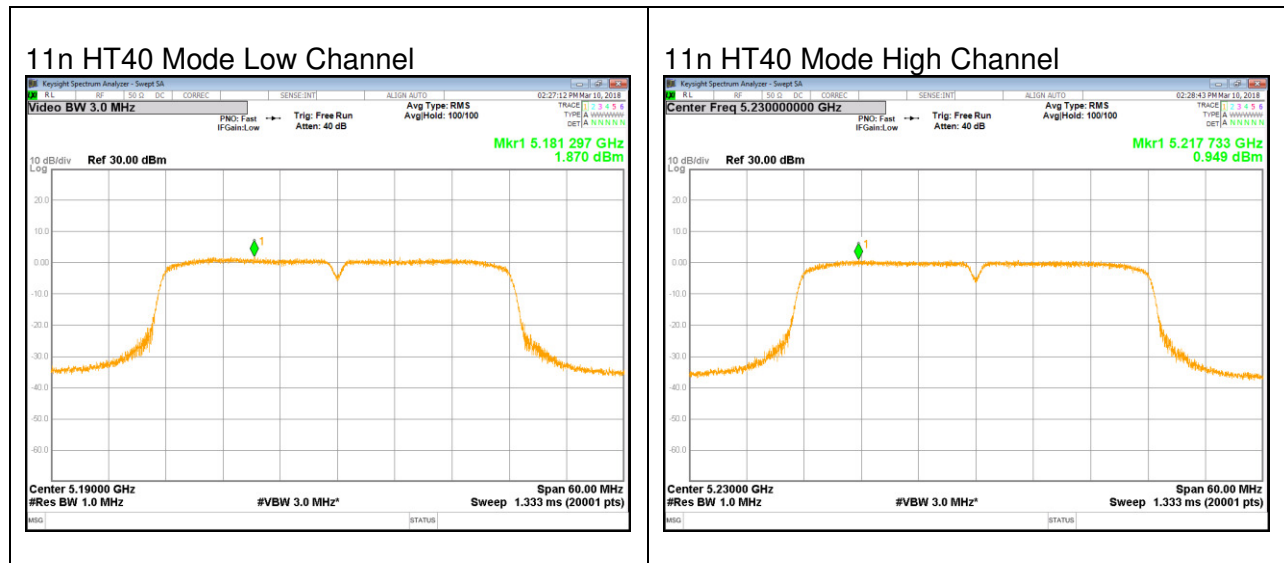
11n HT20 Mode Middle Channel



11n HT20 Mode High Channel

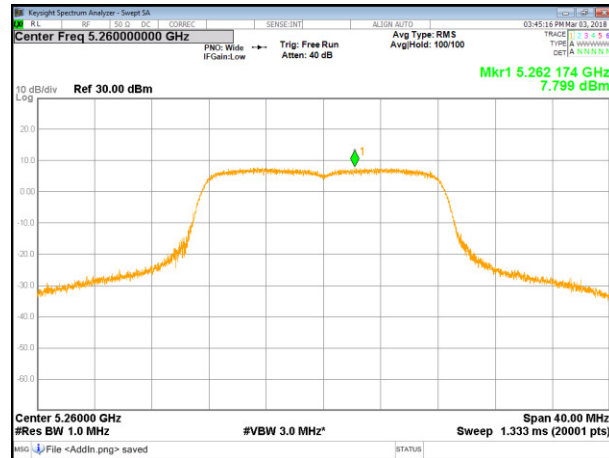


UNII 5.2 GHz IEEE 802.11n HT40 mode

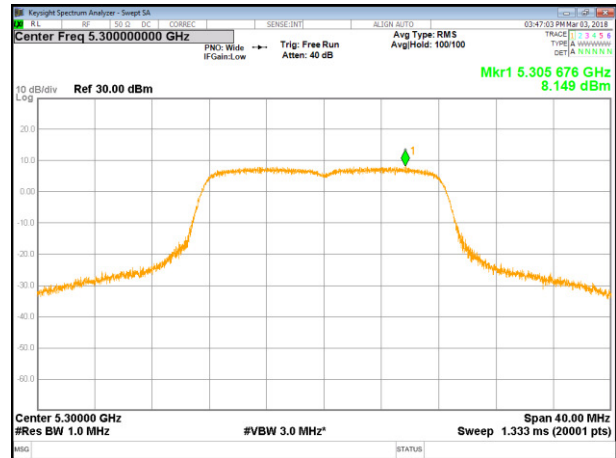


UNII 5.3 GHz IEEE 802.11a mode

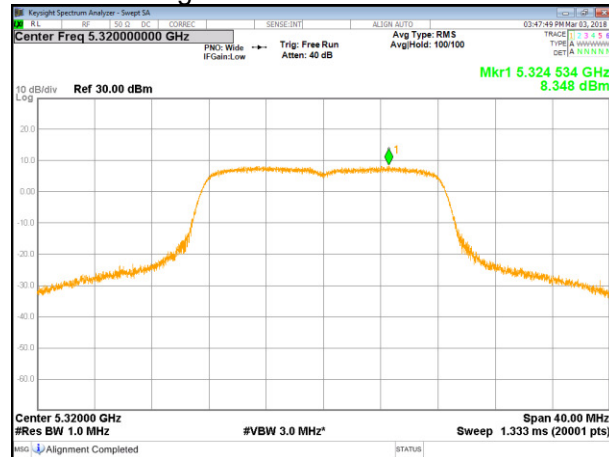
11a Mode Low Channel



11a Mode Middle Channel

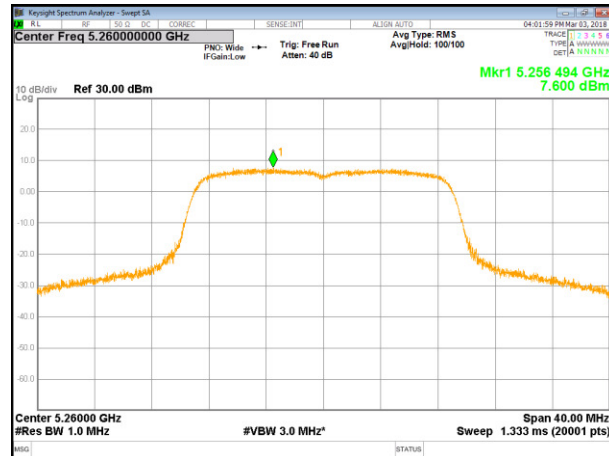


11a Mode High Channel

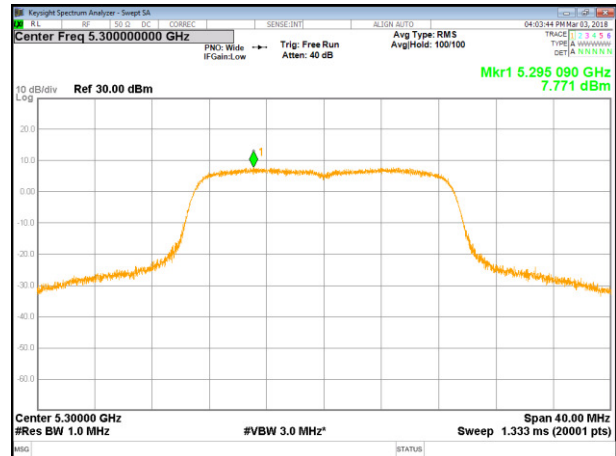


UNII 5.3 GHz IEEE 802.11n HT20 mode

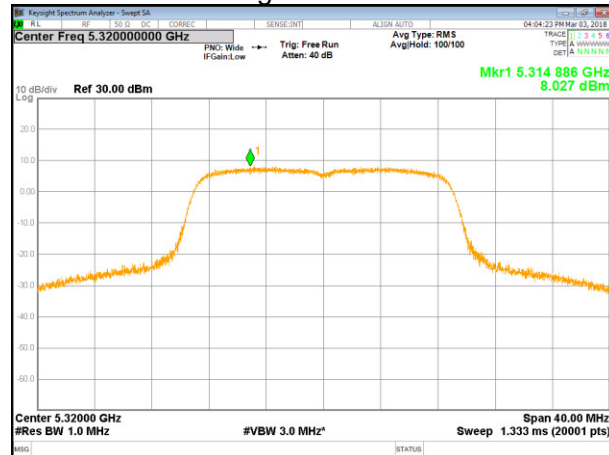
11n HT20 Mode Low Channel



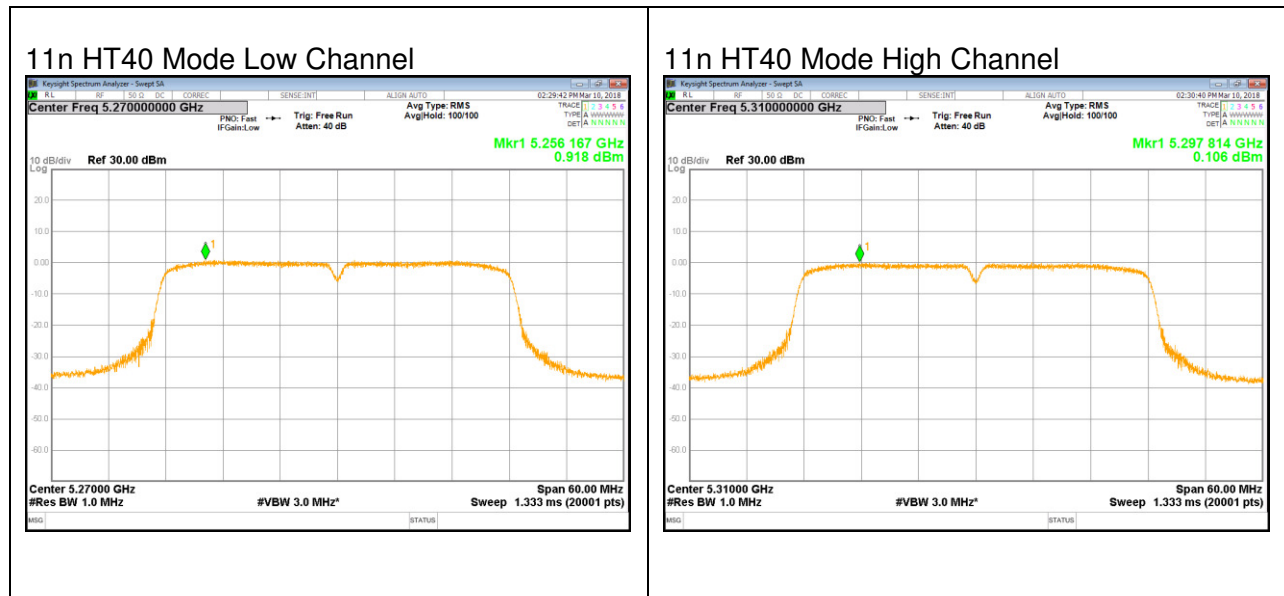
11n HT20 Mode Middle Channel



11n HT20 Mode High Channel

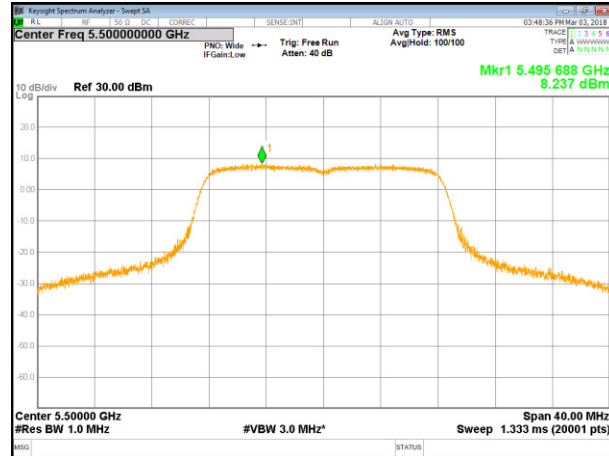


UNII 5.3 GHz IEEE 802.11n HT40 mode

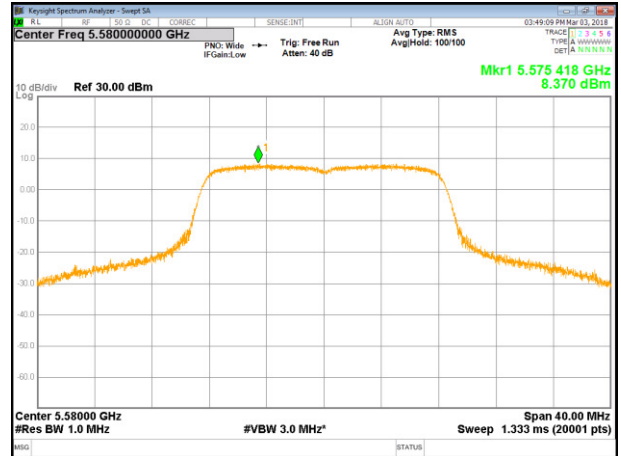


UNII 5.5 GHz IEEE 802.11a mode

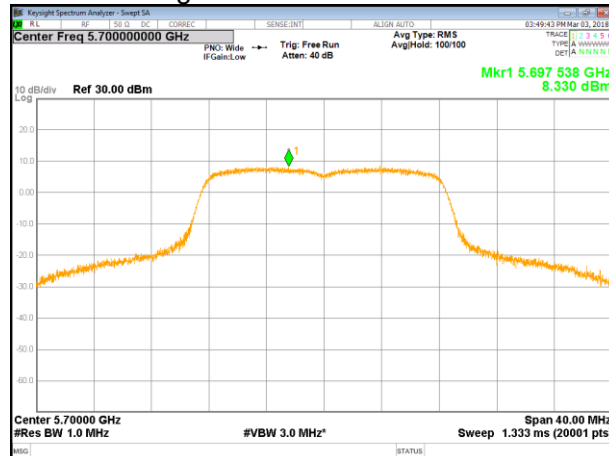
11a Mode Low Channel



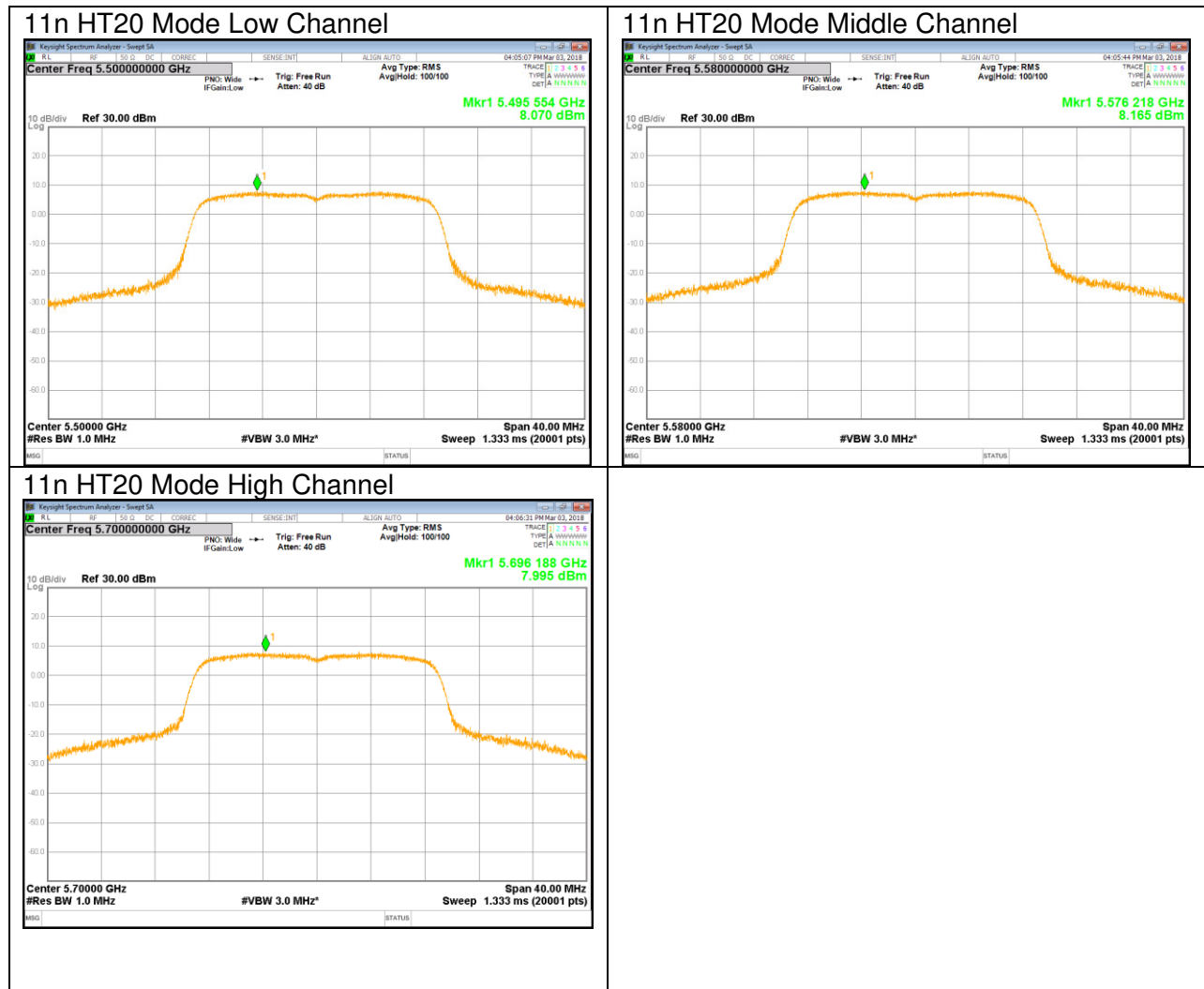
11a Mode Middle Channel



11a Mode High Channel

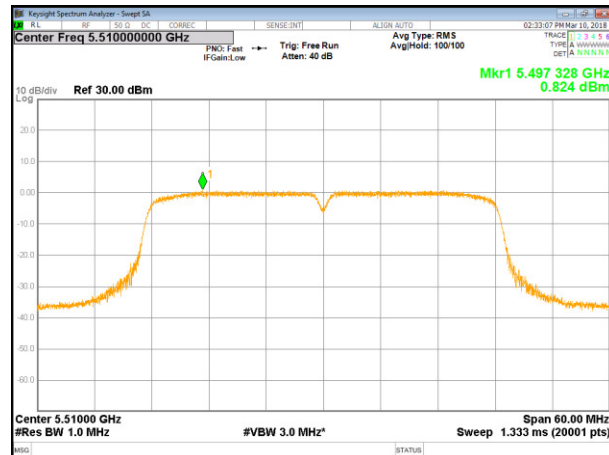


UNII 5.5 GHz IEEE 802.11n HT20 mode

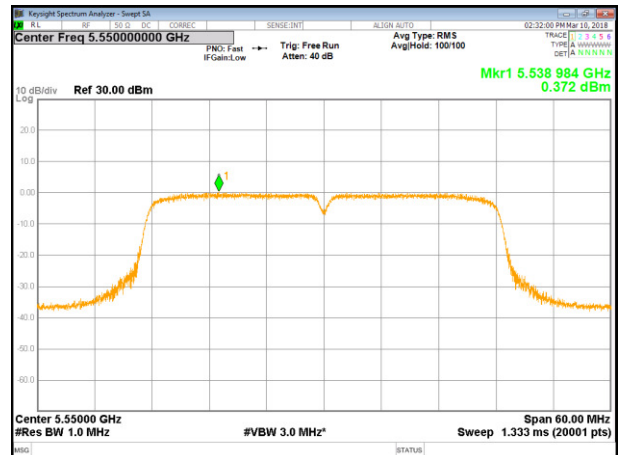


UNII 5.5 GHz IEEE 802.11n HT40 mode

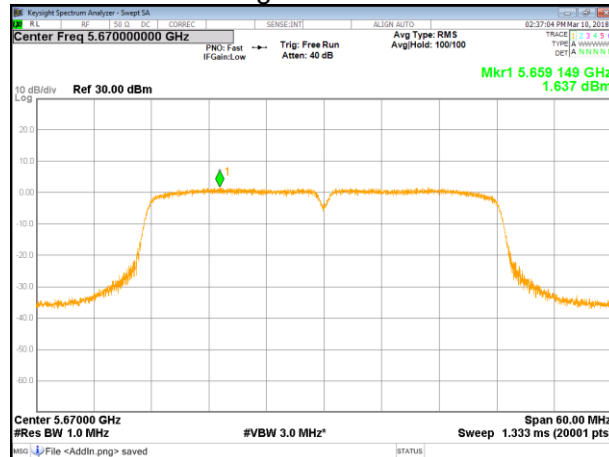
11n HT40 Mode Low Channel



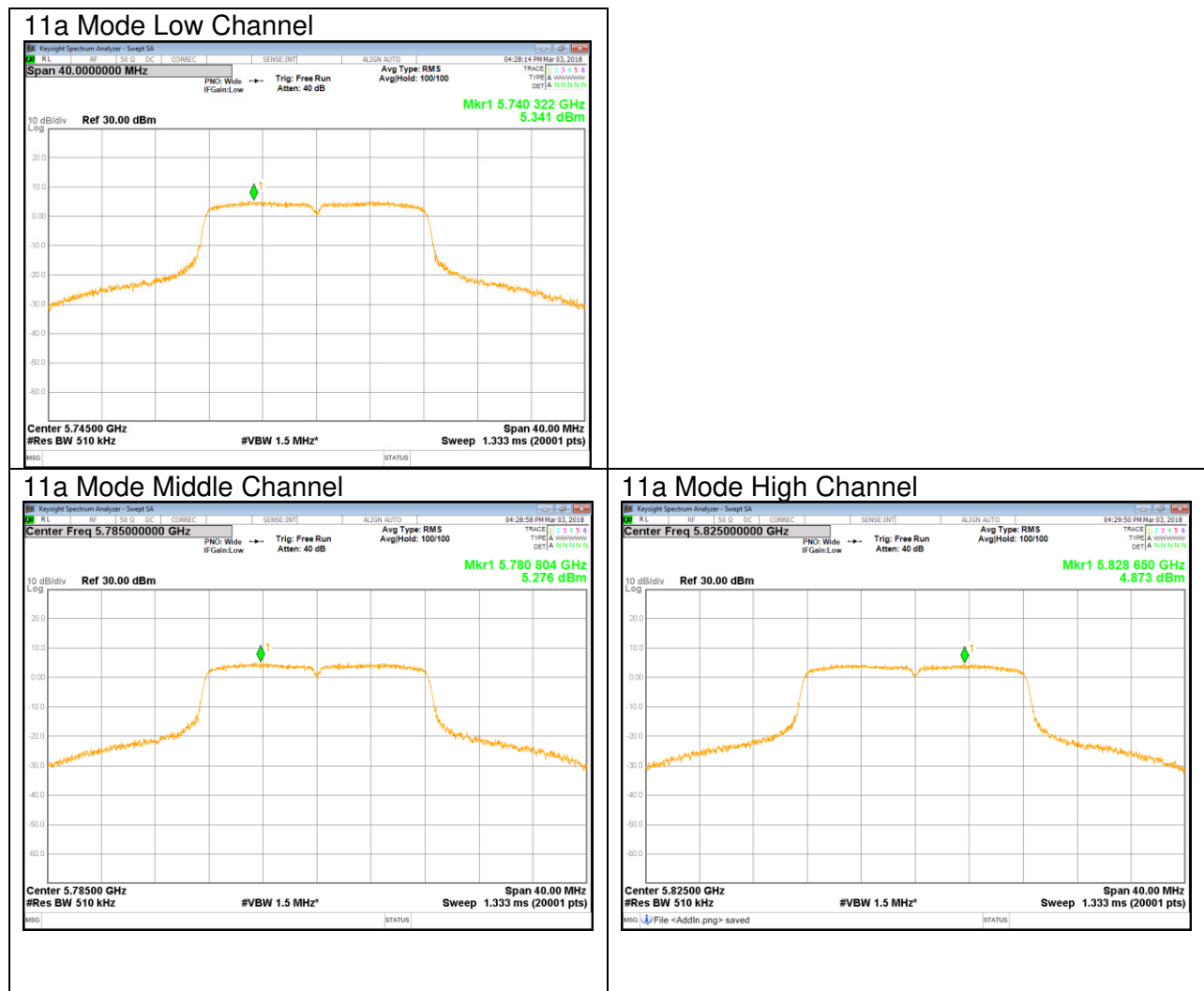
11n HT40 Mode Middle Channel



11n HT40 Mode High Channel

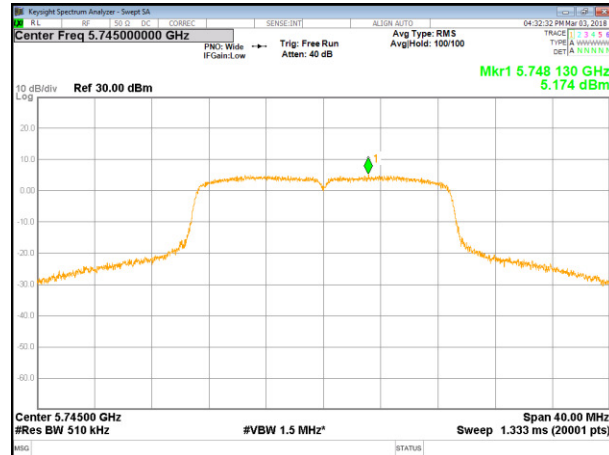


UNII 5.8 GHz IEEE 802.11a mode



UNII 5.8 GHz IEEE 802.11n HT20 mode

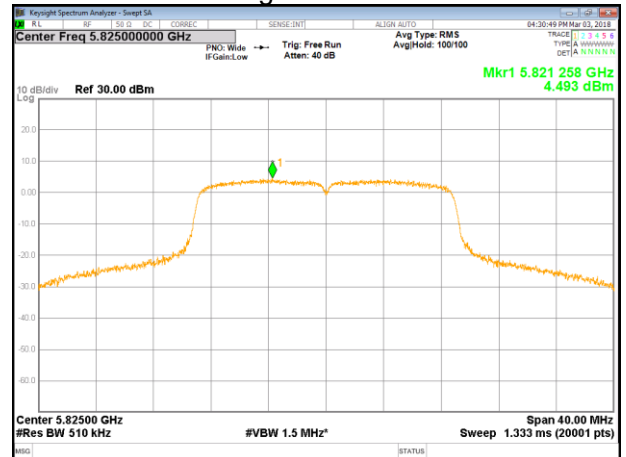
11n HT20 Mode Low Channel



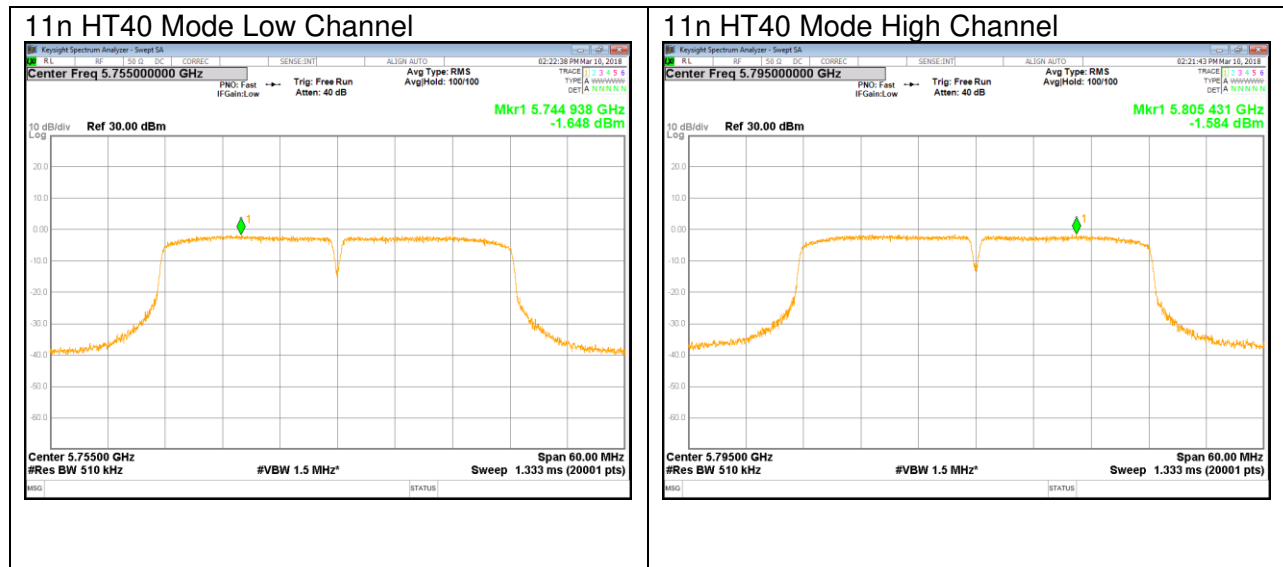
11n HT20 Mode Middle Channel



11n HT20 Mode High Channel



UNII 5.8 GHz IEEE 802.11n HT40 mode



11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

FCC §15.407 (b)

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth

in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

Note

- Limit translation to field strength level (FCC §15.407)

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2 = -27\text{dBm} + 95.2 = 68.2\text{dBuV/m}$$

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2 = -17\text{dBm} + 95.2 = 78.2\text{dBuV/m}$$

TEST PROCEDURE

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

Reference to KDB 789033 D02 v02r01 UNII part G) 6) c) 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.

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

The spectrum from 1 GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

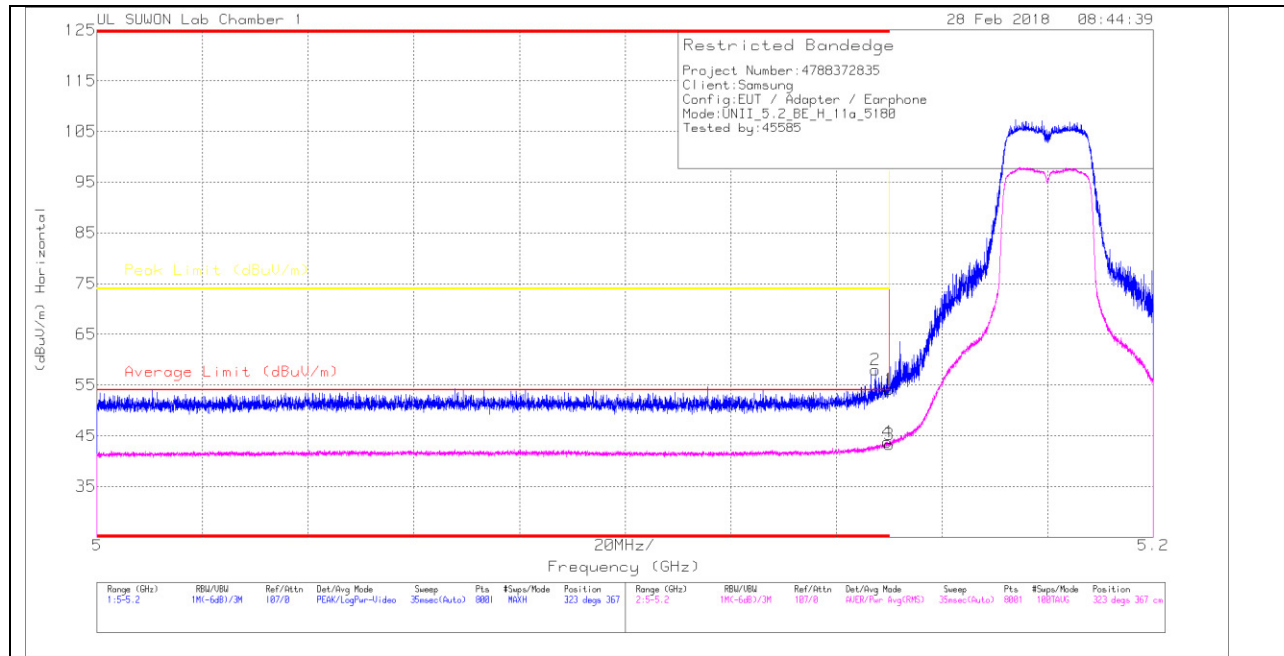
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.1. 5.2 GHz

11.1.1. TX Above 1GHz 802.11a MODE IN THE 5.2GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

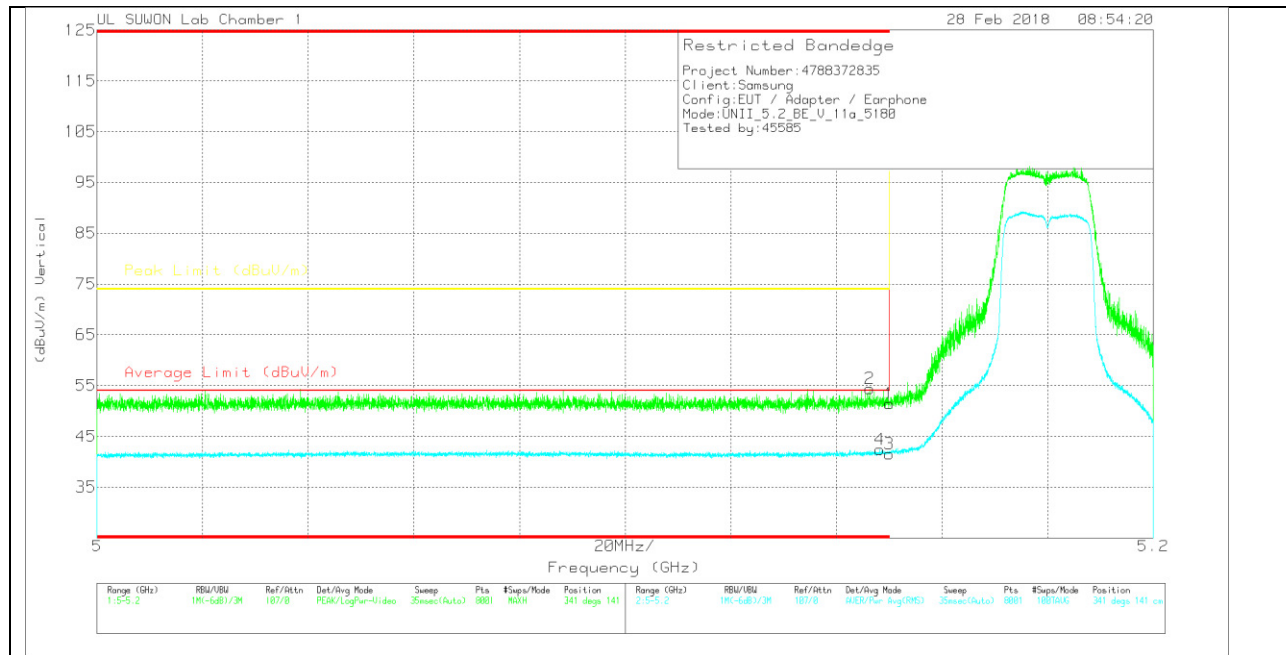
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	5.15	42.13	Pk	34	-22	0	54.13	-	-	74	-19.87	323	367	H
2	* 5.147	45.94	Pk	34	-22	0	57.94	-	-	74	-16.06	323	367	H
3	5.15	31.3	RMS	34	-22	0	43.3	54	-10.7	-	-	323	367	H
4	* 5.15	31.81	RMS	34	-22	0	43.81	54	-10.19	-	-	323	367	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Pk Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	5.15	39.4	Pk	34	-22	0	51.4	-	-	74	-22.6	341	141	V
2	* 5.146	42.4	Pk	34	-22	0	54.4	-	-	74	-19.6	341	141	V
3	5.15	29.6	RMS	34	-22	0	41.6	54	-12.4	-	-	341	141	V
4	* 5.148	30.36	RMS	34	-22	0	42.36	54	-11.64	-	-	341	141	V

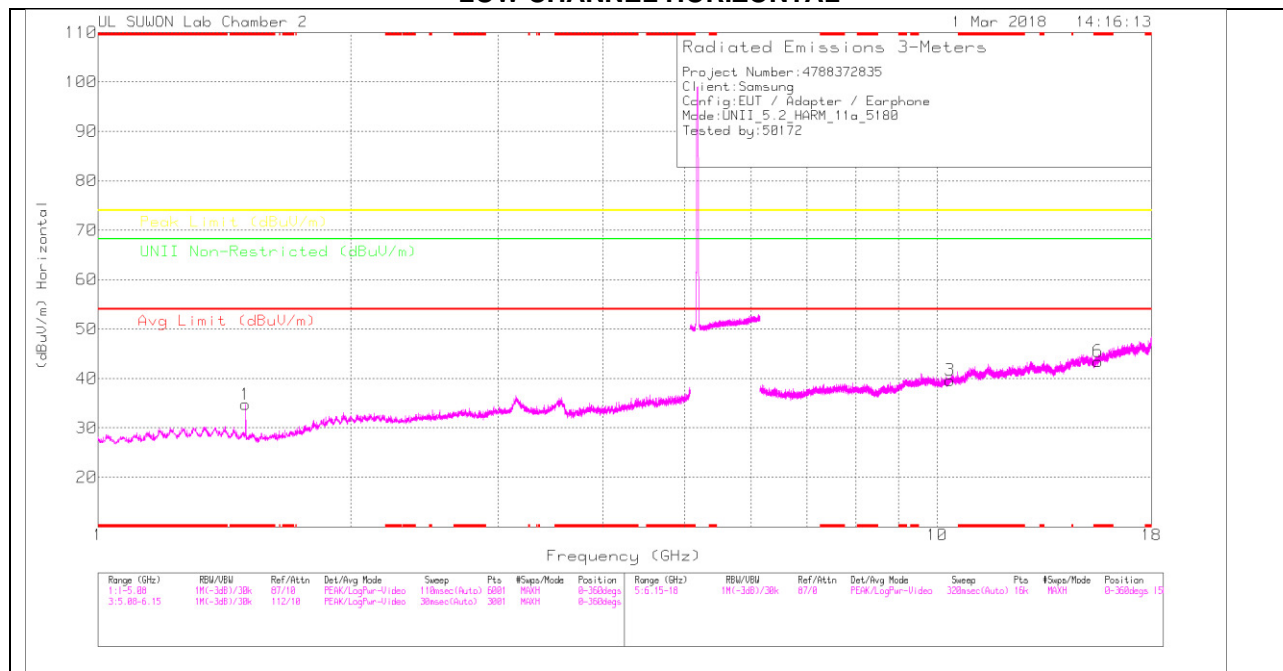
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

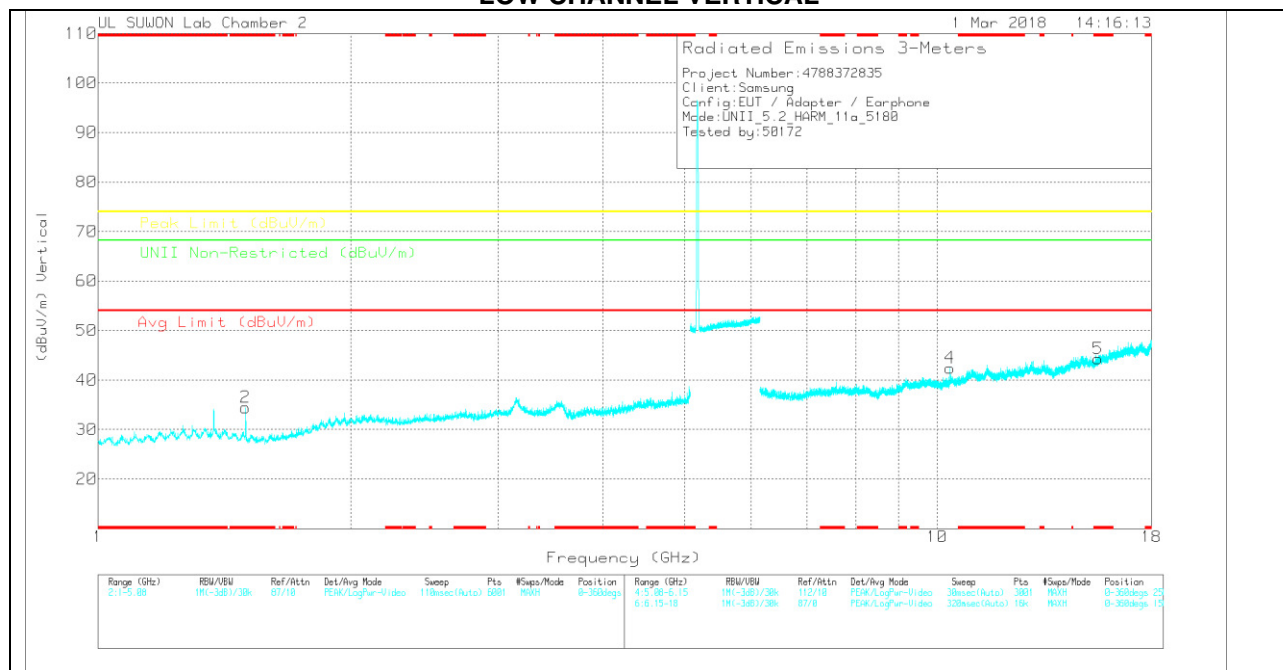
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	170531_3117003887 24)	SGR ₂ _LP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.499	34.85	Avg	28.3	-28.4	0	34.75	-	-	74	-39.25	-	-	0-360	250	H
2	* 1.499	34.55	Avg	28.3	-28.4	0	34.45	-	-	74	-39.55	-	-	0-360	250	V
3	10.359	18.85	Avg	37.5	-16.7	0	39.65	-	-	-	-	68.2	-28.55	0-360	250	H
6	* 15.54	18.06	Avg	39.8	-14.4	0	43.46	-	-	74	-30.54	-	-	0-360	150	H
4	10.359	21.64	Avg	37.5	-16.7	0	42.44	-	-	-	-	68.2	-25.76	0-360	150	V
5	* 15.541	18.91	Avg	39.8	-14.4	0	44.31	-	-	74	-29.69	-	-	0-360	250	V

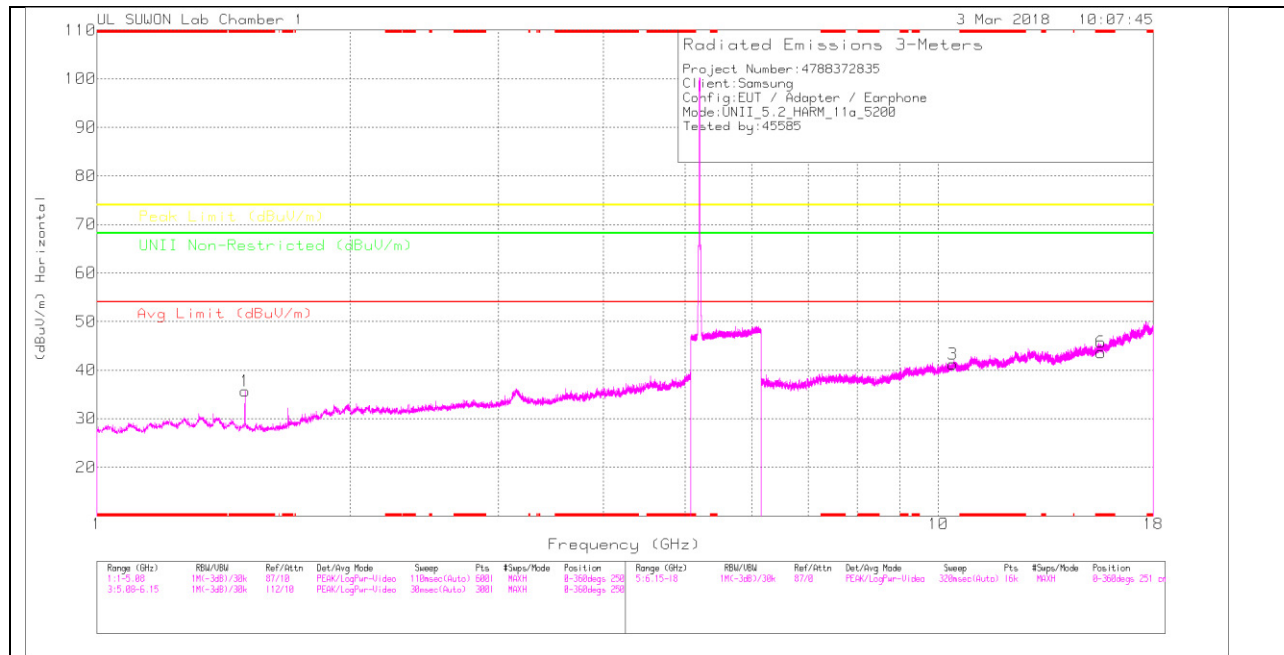
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

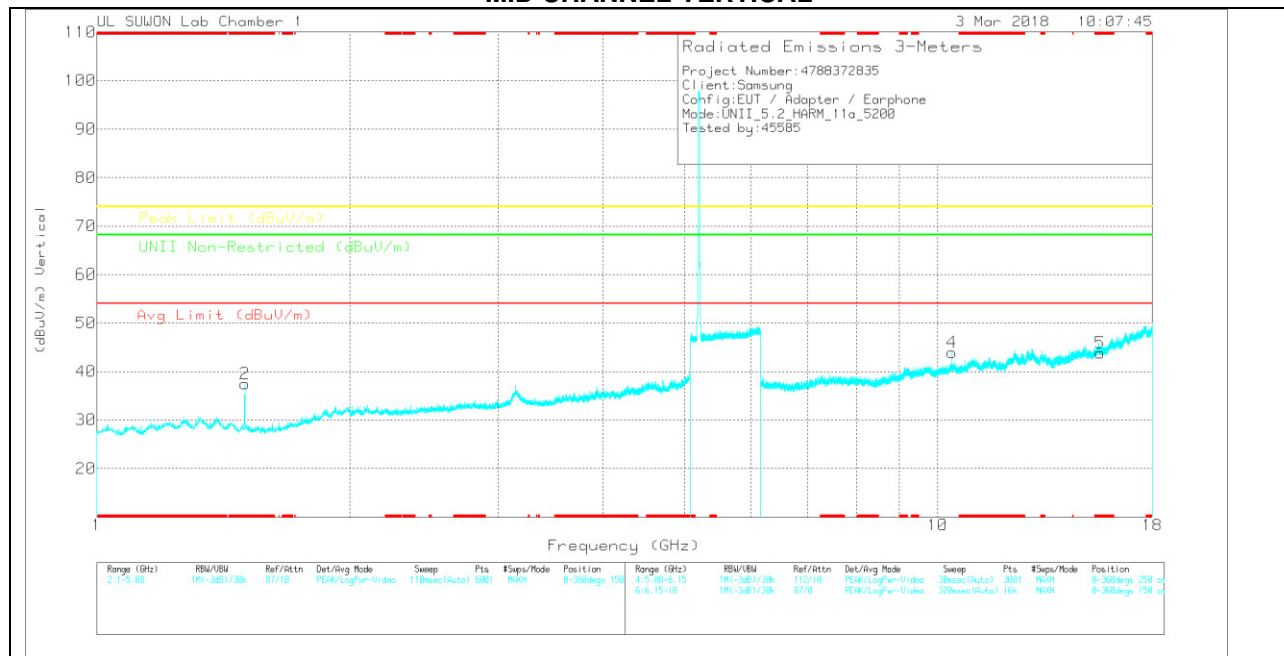
Frequency (GHz)	Meter Reading (dBuV)	Det	170531_311700168724)	SGR ₂ _LP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.5	29.63	PK-U	28.3	-28.4	0	29.53	-	-	74	-44.47	-	-	346	389	H
* 1.5	27.74	ADR	28.3	-28.4	0	27.64	54	-26.36	-	-	-	-	346	389	H
* 1.5	42.48	PK-U	28.3	-28.4	0	42.38	-	-	74	-31.62	-	-	237	129	V
* 1.499	28.01	ADR	28.3	-28.4	0	27.91	54	-26.09	-	-	-	-	237	129	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

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68737	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.499	43.97	PK	28.3	-36.6	0	35.67	-	-	74	-38.33	-	-	0-360	150	H
2	* 1.499	45.82	PK	28.3	-36.6	0	37.52	-	-	74	-36.48	-	-	0-360	150	V
3	10.404	25.7	PK	37.5	-22	0	41.2	-	-	-	-	68.2	-27	0-360	150	H
6	* 15.601	25.63	PK	39.8	-21.8	0	43.63	-	-	74	-30.37	-	-	0-360	150	H
4	10.399	28.49	PK	37.5	-22.1	0	43.89	-	-	-	-	68.2	-24.31	0-360	251	V
5	* 15.601	25.85	PK	39.8	-21.8	0	43.85	-	-	74	-30.15	-	-	0-360	251	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK – Peak Detector

Radiated Emissions

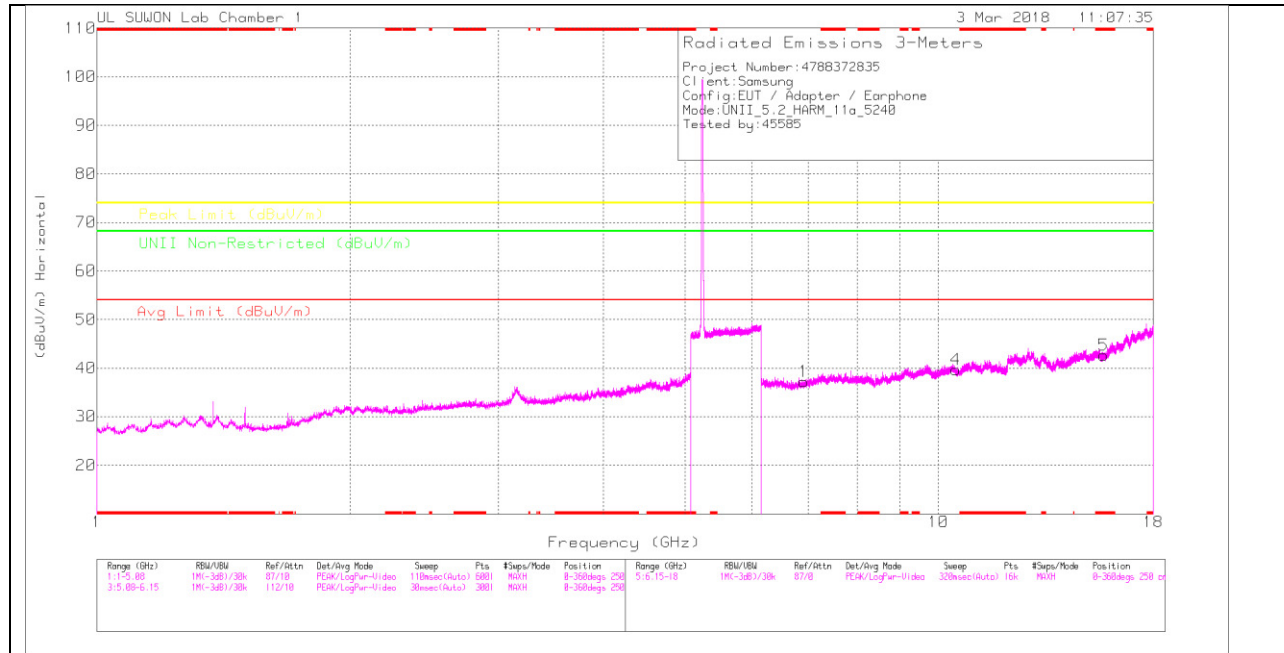
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.5	53.13	PK-U	28.3	-36.6	0	44.83	-	-	74	-29.17	-	-	263	283	H
* 1.5	37.73	ADR	28.3	-36.6	0	29.43	54	-24.57	-	-	-	-	263	283	H
* 1.5	47.75	PK-U	28.3	-36.6	0	39.45	-	-	74	-34.55	-	-	51	312	V
* 1.503	35.32	ADR	28.3	-36.6	0	27.02	54	-26.98	-	-	-	-	51	312	V
10.4	36.74	PK-U	37.5	-22.1	0	52.14	-	-	-	-	68.2	-16.06	285	217	V
10.403	36.07	PK-U	37.5	-22	0	51.57	-	-	-	-	68.2	-16.63	290	245	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

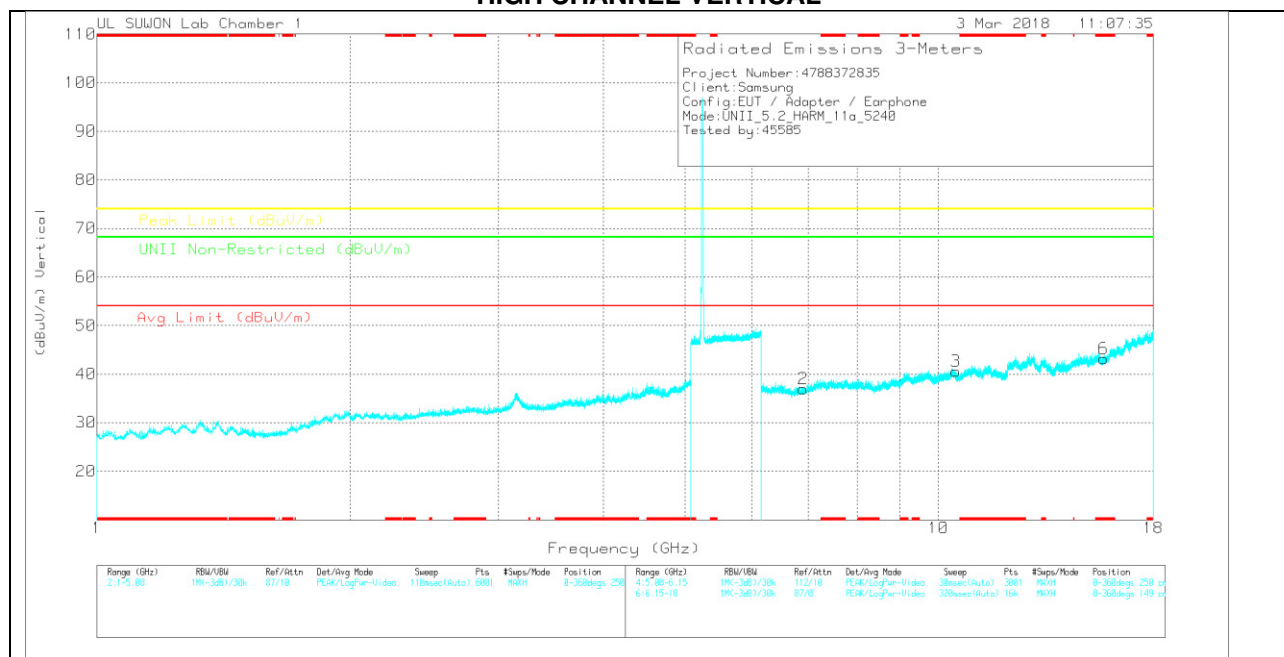
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	6GHz_HP(dB)_17080 9	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UL01 Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	6.915	30.21	PK	35.5	-28.5	0	37.21	-	-	-	-	68.2	-30.99	0-360	150	H
4	10.479	24.43	PK	37.5	-22.3	0	39.63	-	-	-	-	68.2	-28.57	0-360	150	H
5	* 15.717	24.29	PK	39.9	-21.5	0	42.69	-	-	74	-31.31	-	-	0-360	250	H
2	6.902	30.11	PK	35.5	-28.6	0	37.01	-	-	-	-	68.2	-31.19	0-360	250	V
3	10.48	25.43	PK	37.5	-22.3	0	40.63	-	-	-	-	68.2	-27.57	0-360	149	V
6	* 15.722	24.72	PK	39.9	-21.5	0	43.12	-	-	74	-30.88	-	-	0-360	149	V

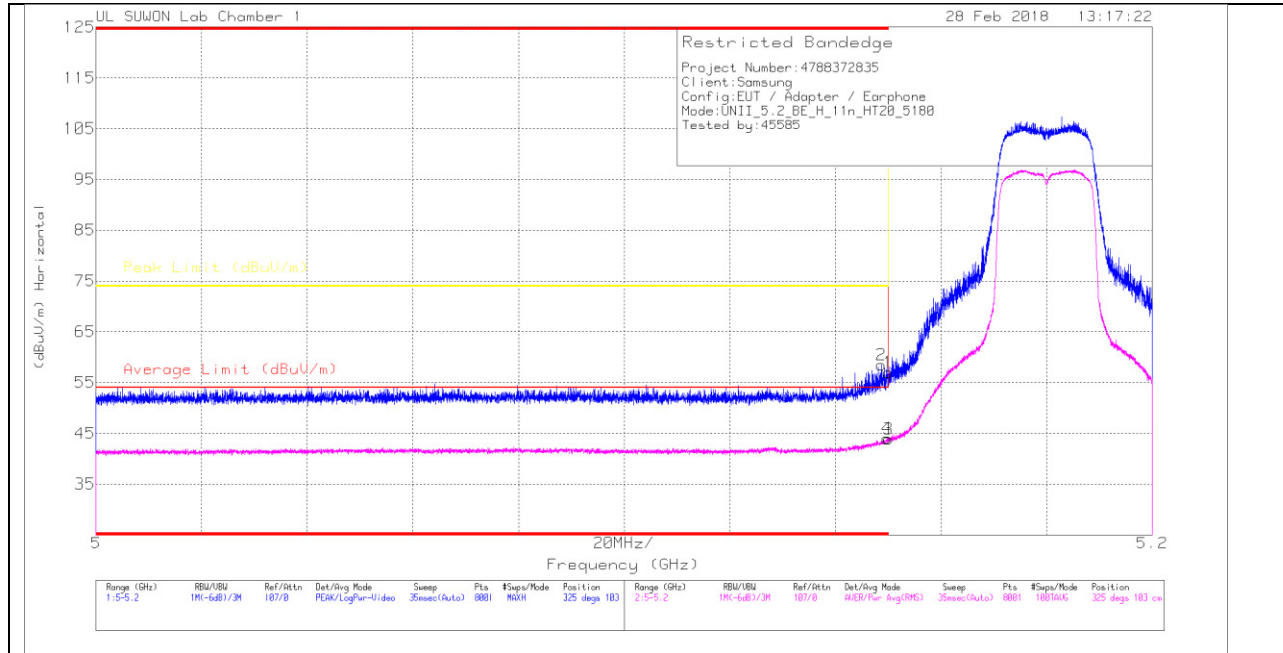
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

11.1.2. TX Above 1GHz 802.11n HT20 MODE IN THE 5.2GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

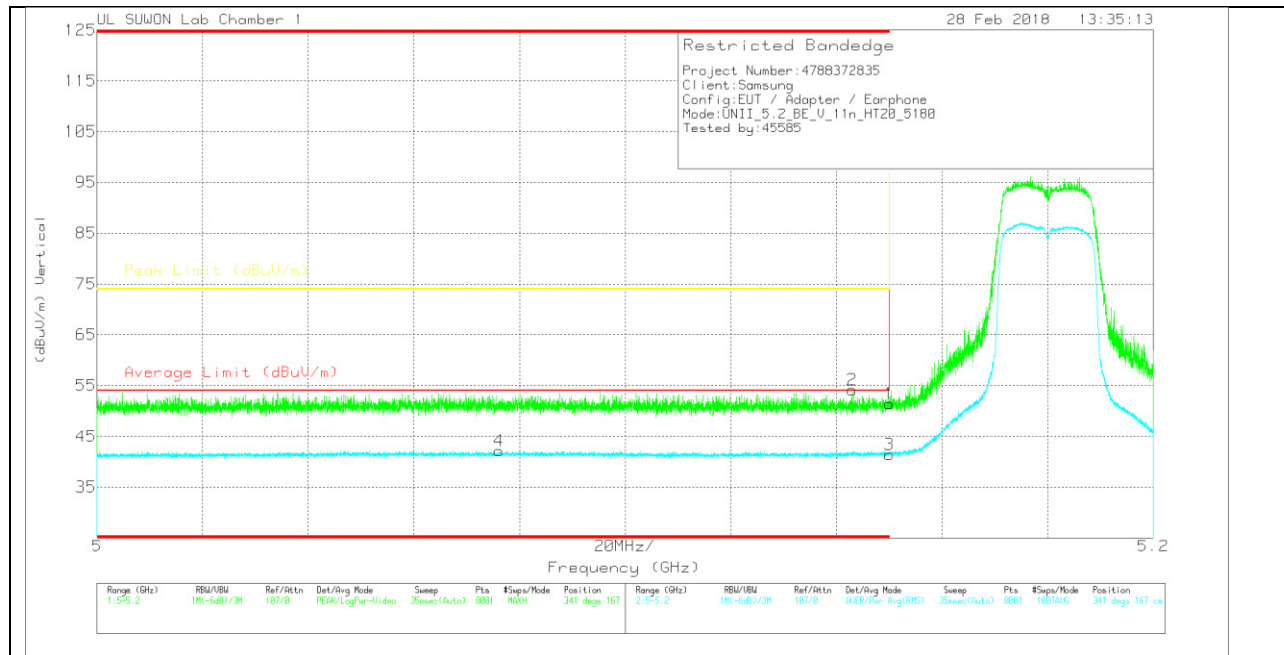
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	5.15	44.99	Pk	34	-22	0	56.99	-	-	74	-17.01	325	103	H
2	* 5.149	46.45	Pk	34	-22	0	58.45	-	-	74	-15.55	325	103	H
3	5.15	31.86	RMS	34	-22	0	43.86	54	-10.14	-	-	325	103	H
4	* 5.15	32.07	RMS	34	-22	0	44.07	54	-9.93	-	-	325	103	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (m)	Height (cm)	Polarity
1	5.15	39.41	Pk	34	-22	0	51.41	-	-	74	-22.59	341	167	V
2	* 5.143	42.11	Pk	34	-21.9	0	54.21	-	-	74	-19.79	341	167	V
3	5.15	29.38	RMS	34	-22	0	41.38	54	-12.62	-	-	341	167	V
4	* 5.076	30.2	RMS	33.9	-21.9	0	42.2	54	-11.8	-	-	341	167	V

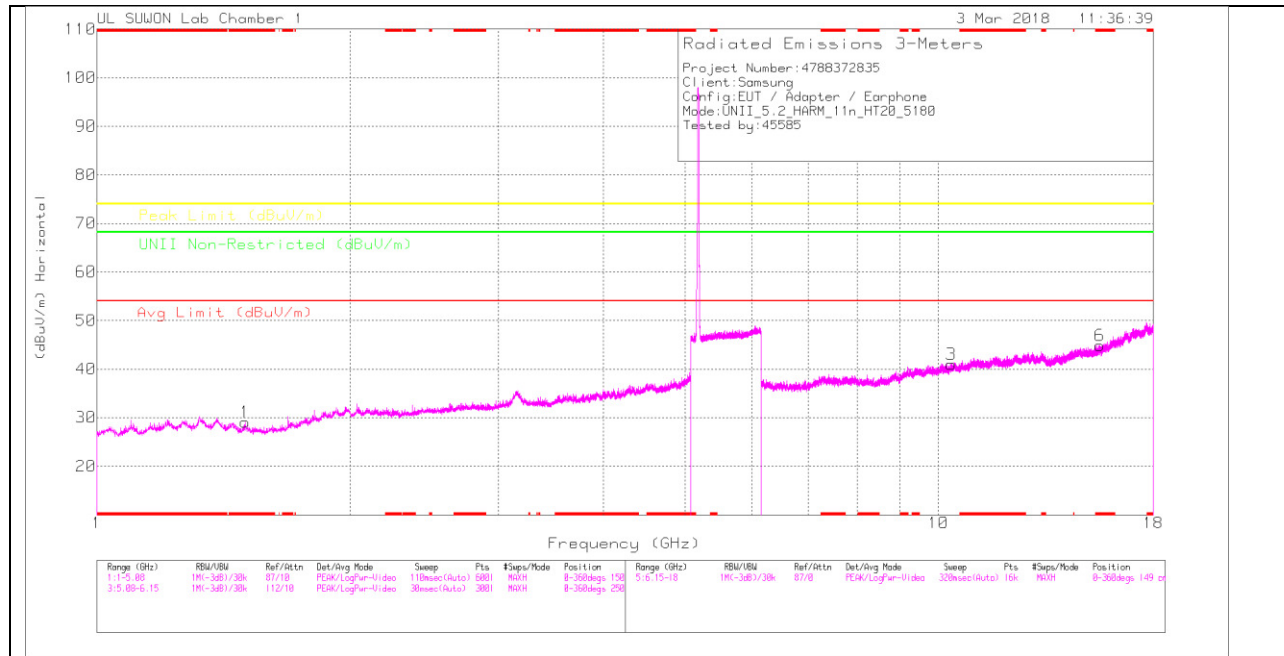
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

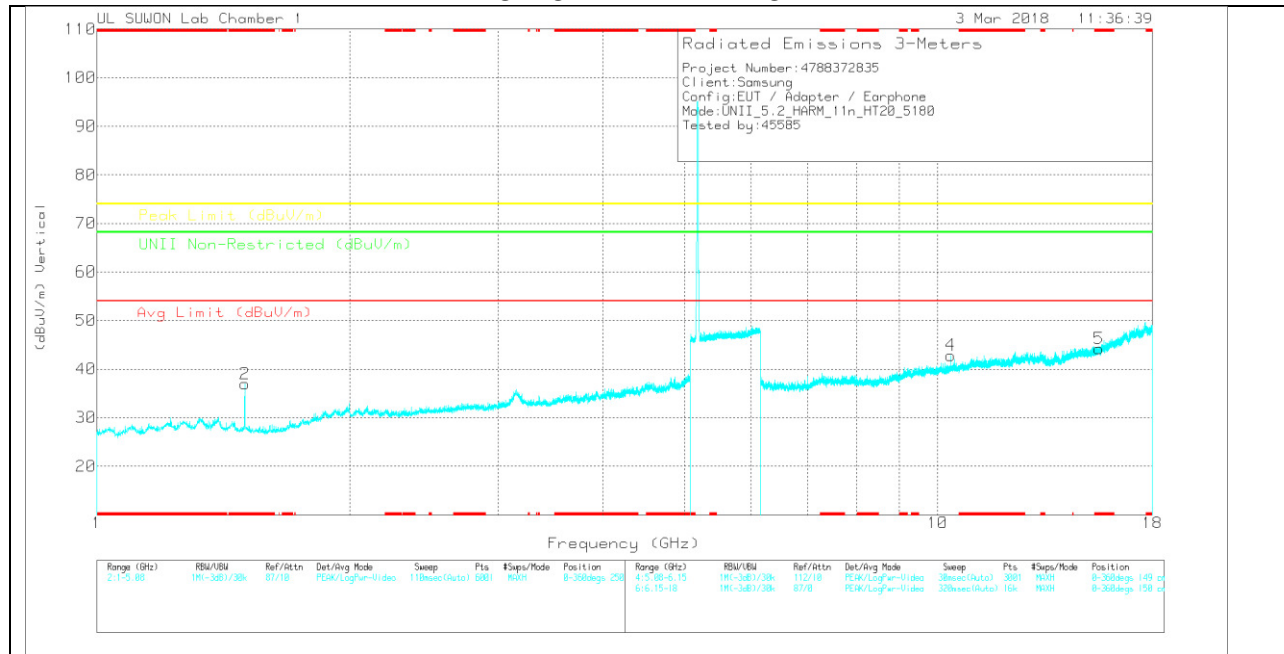
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.499	37.43	PK	28.3	-36.6	0	29.13	-	-	74	-44.87	-	-	0-360	150	H
2	* 1.5	45.28	PK	28.3	-36.6	0	36.98	-	-	74	-37.02	-	-	0-360	250	V
3	10.354	26.07	PK	37.5	-22.6	0	40.97	-	-	-	-	68.2	-27.23	0-360	250	H
6	* 15.539	26.39	PK	39.8	-21.3	0	44.89	-	-	74	-29.11	-	-	0-360	250	H
4	10.36	27.85	PK	37.5	-22.5	0	42.85	-	-	-	-	68.2	-25.35	0-360	250	V
5	* 15.547	25.84	PK	39.8	-21.4	0	44.24	-	-	74	-29.76	-	-	0-360	250	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK – Peak Detector

Radiated Emissions

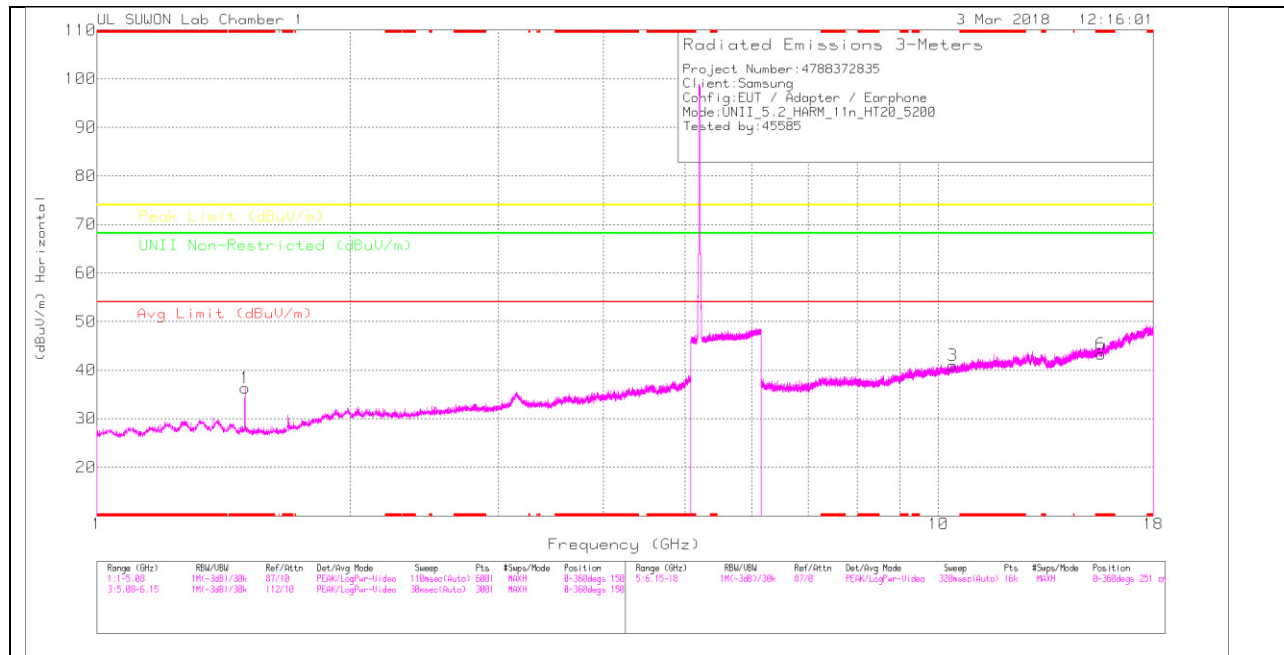
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00148 717	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.499	50.49	PK-U	28.3	-36.6	0	42.19	-	-	74	-31.81	-	-	35	142	H
* 1.5	35.6	ADR	28.3	-36.6	0	27.3	54	-26.7	-	-	-	-	35	142	H
* 1.5	50.5	PK-U	28.3	-36.6	0	42.2	-	-	74	-31.8	-	-	109	277	V
* 1.5	35.51	ADR	28.3	-36.6	0	27.21	54	-26.79	-	-	-	-	109	277	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

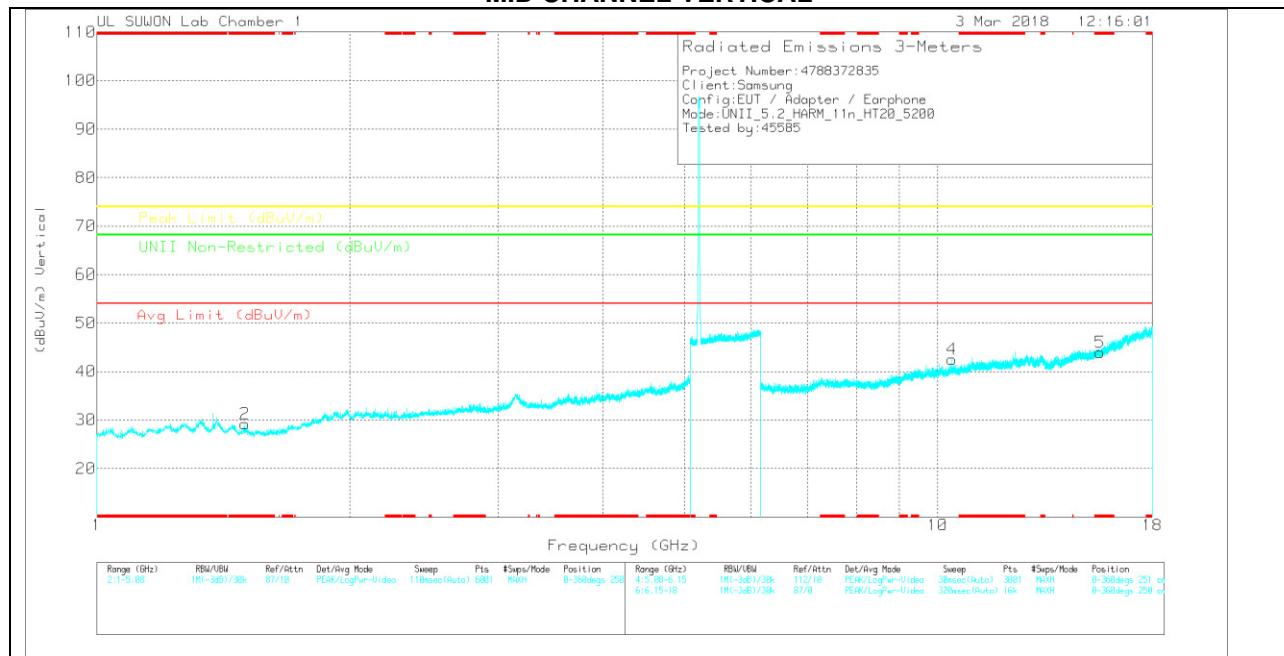
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	5GHz_LF(48)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U/NII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.499	44.65	PK	28.3	-36.6	0	36.35	-	-	74	-37.65	-	-	0-360	250	H
2	* 1.5	37.54	PK	28.3	-36.6	0	29.24	-	-	74	-44.76	-	-	0-360	250	V
3	10.392	25.63	PK	37.5	-22.2	0	40.93	-	-	-	-	68.2	-27.27	0-360	251	H
6	* 15.602	25.28	PK	39.8	-21.8	0	43.28	-	-	74	-30.72	-	-	0-360	150	H
4	10.399	27.1	PK	37.5	-22.1	0	42.5	-	-	-	-	68.2	-25.7	0-360	150	V
5	* 15.601	25.93	PK	39.8	-21.8	0	43.93	-	-	74	-30.07	-	-	0-360	150	V

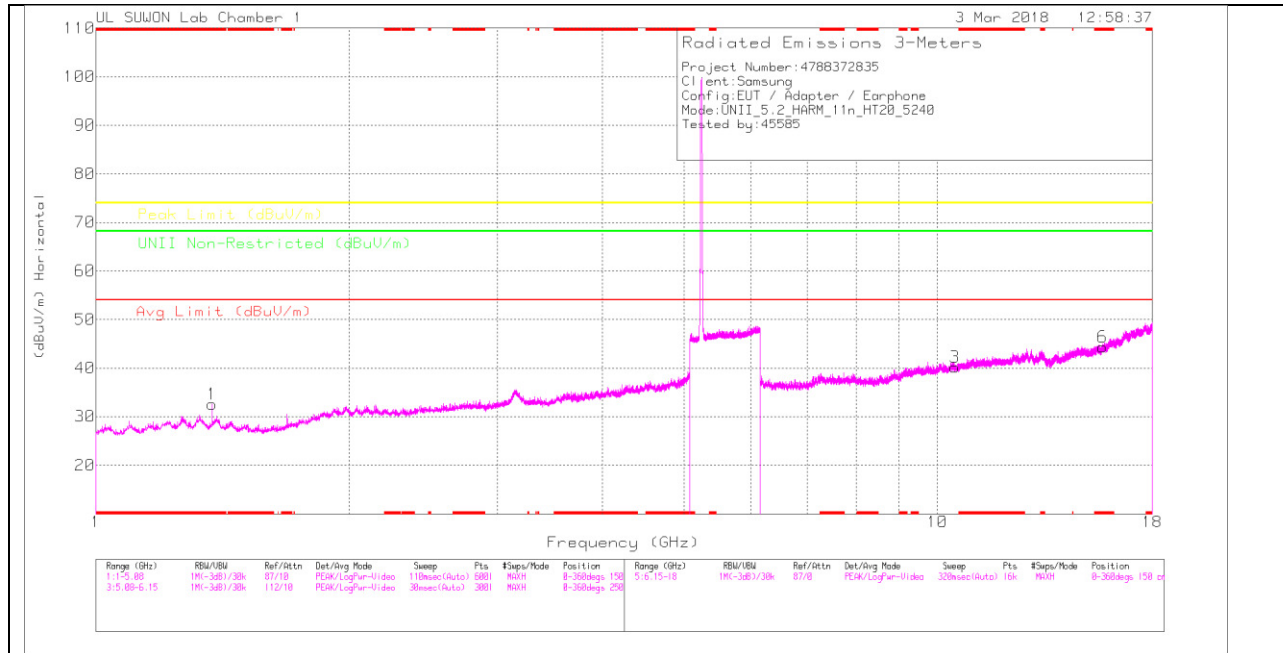
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

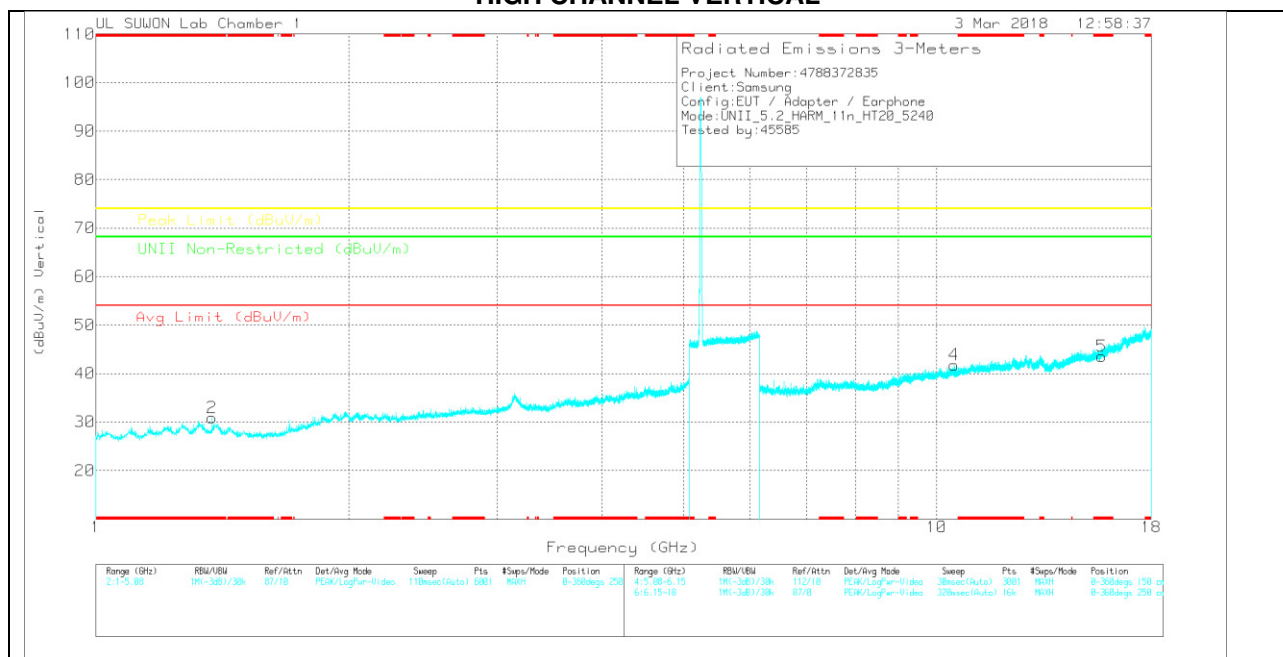
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	5GHz_LF(48)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U/NII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.5	50.87	PK-U	28.3	-36.6	0	42.57	-	-	74	-31.43	-	-	46	190	H
* 1.5	36.16	ADR	28.3	-36.6	0	27.86	54	-26.14	-	-	-	-	46	190	H
* 1.5	49.1	PK-U	28.3	-36.6	0	40.8	-	-	74	-33.2	-	-	182	352	V
* 1.5	35.02	ADR	28.3	-36.6	0	26.72	54	-27.28	-	-	-	-	182	352	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

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170511_1117_001 (dB)	SGHz_LF(RB)_L70809 (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	ULR Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.375	39.6	PK	29.4	-36.4	0	32.6	-	-	74	-41.4	-	-	0-360	250	H
2	* 1.375	37.84	PK	29.4	-36.4	0	30.84	-	-	74	-43.16	-	-	0-360	150	V
3	10.481	25.03	PK	37.5	-22.3	0	40.23	-	-	-	-	68.2	-27.97	0-360	250	H
6	* 15.721	25.97	PK	39.9	-21.5	0	44.37	-	-	74	-29.63	-	-	0-360	250	H
4	10.479	26.61	PK	37.5	-22.3	0	41.81	-	-	-	-	68.2	-26.39	0-360	250	V
5	* 15.721	25.18	PK	39.9	-21.5	0	43.58	-	-	74	-30.42	-	-	0-360	150	V

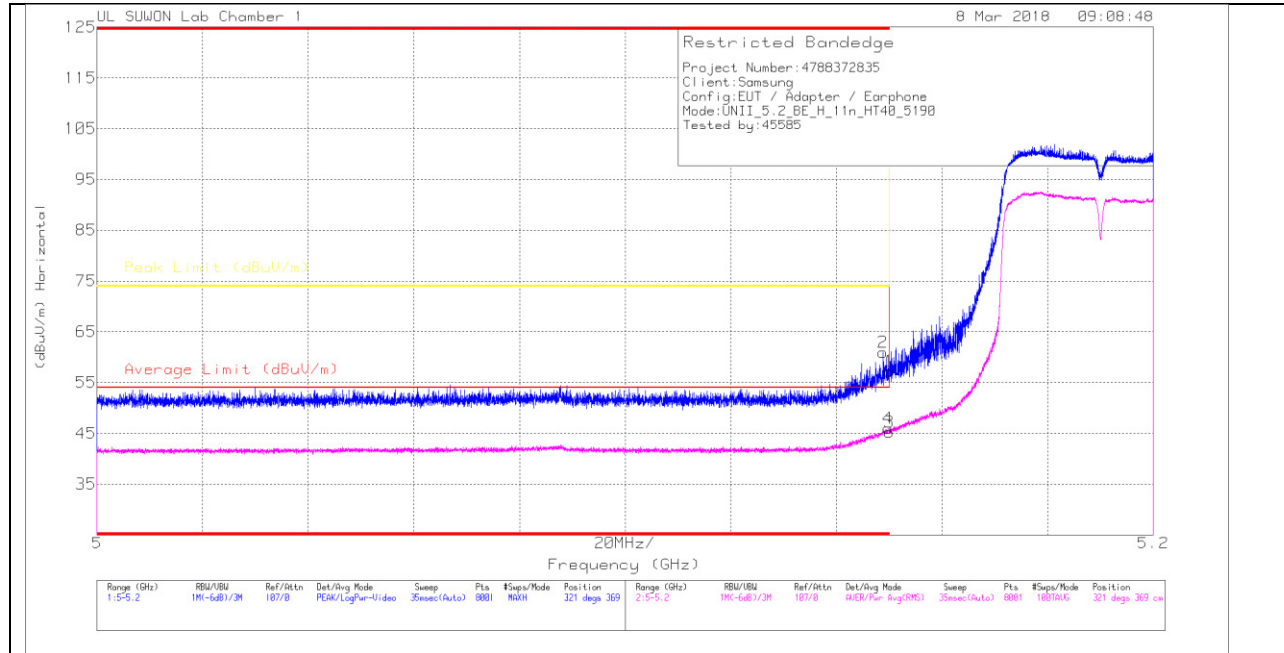
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

11.1.3. TX Above 1GHz 802.11n HT40 MODE IN THE 5.2GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

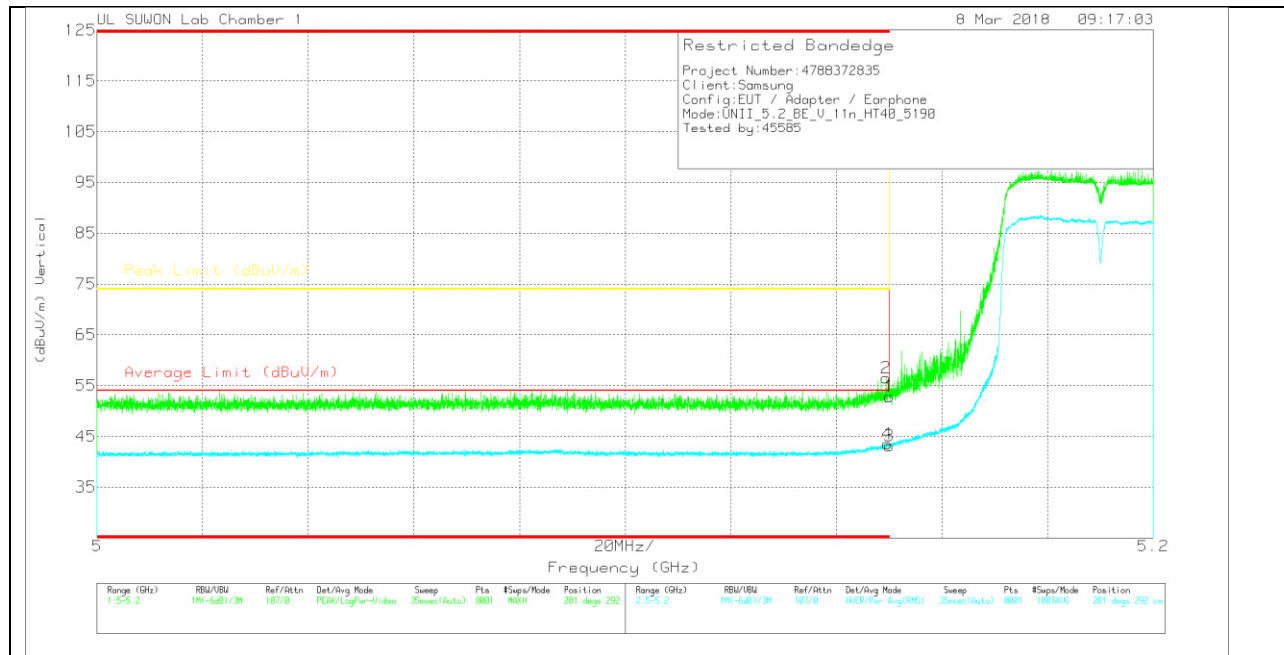
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.15	45.23	Pk	34	-22	0	57.23	-	-	74	-16.77	321	369	H
2	* 5.149	48.95	Pk	34	-22	0	60.95	-	-	74	-13.05	321	369	H
3	5.15	33.07	RMS	34	-22	.18	45.25	54	-8.75	-	-	321	369	H
4	* 5.15	33.86	RMS	34	-22	.18	46.04	54	-7.96	-	-	321	369	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	5.15	40.79	Pk	34	-22	0	52.79	-	-	74	-21.21	281	292	V
2	* 5.149	44.48	Pk	34	-22	0	56.48	-	-	74	-17.52	281	292	V
3	5.15	31.02	RMS	34	-22	.18	43.2	54	-10.8	-	-	281	292	V
4	* 5.15	31.34	RMS	34	-22	.18	43.52	54	-10.48	-	-	281	292	V

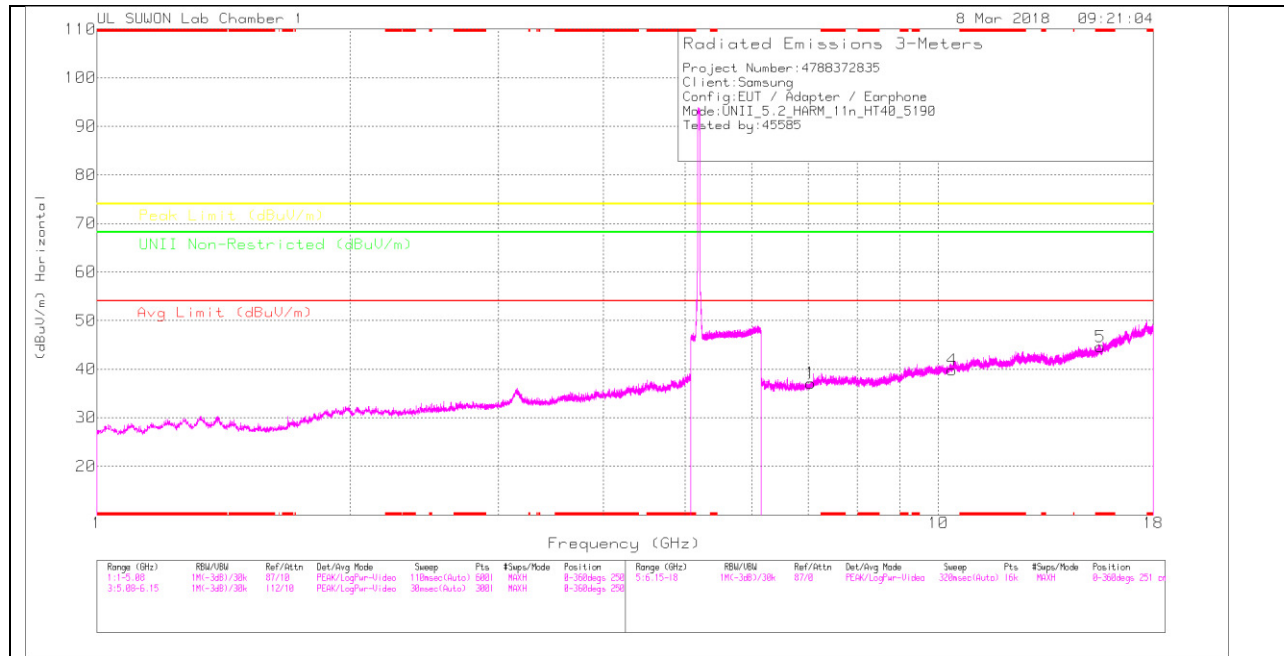
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

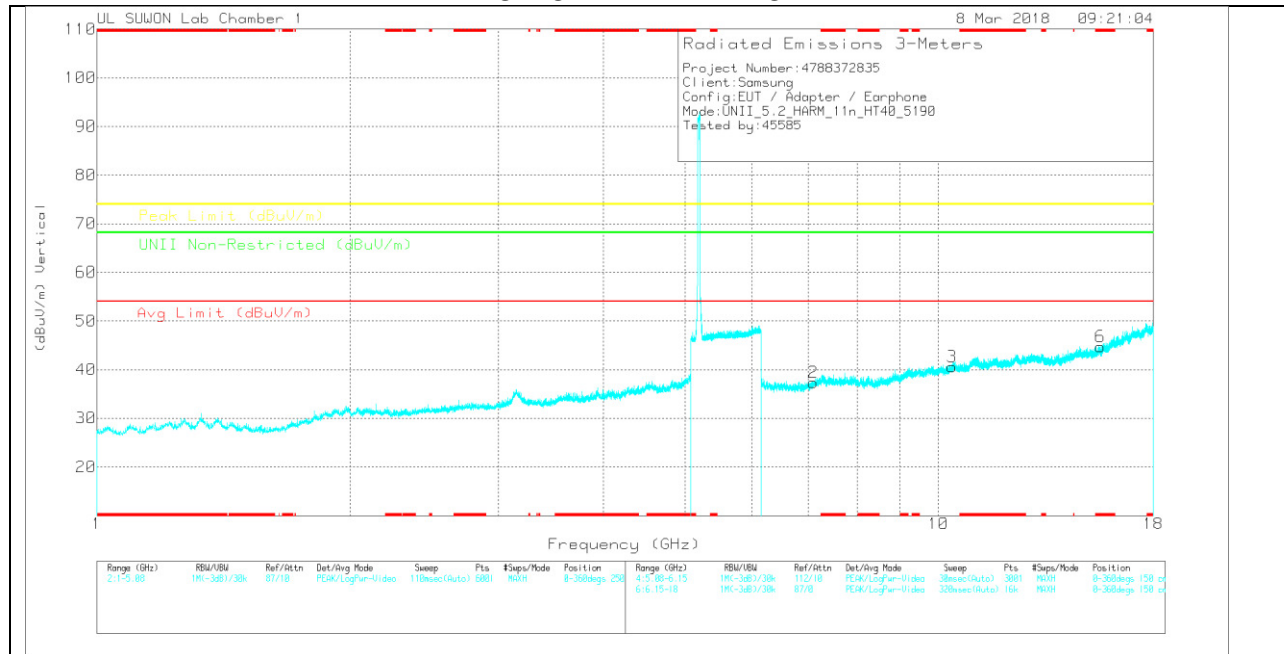
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

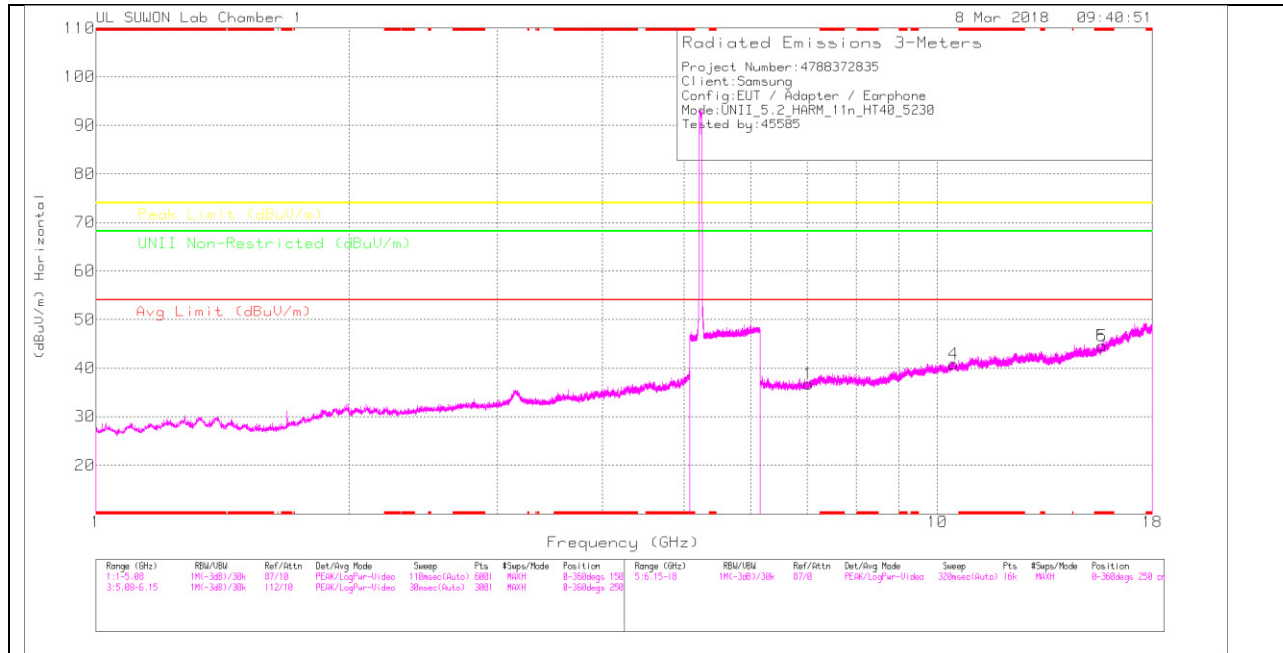
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	6GHz_HF(dB) 17080 9	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UL01 Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	7.054	29.53	PK	35.6	-28	0	37.13	-	-	-	-	68.2	-31.07	0-360	150	H
4	10.38	24.63	PK	37.5	-22.3	0	39.83	-	-	-	-	68.2	-28.37	0-360	150	H
5	* 15.573	26.31	PK	39.8	-21.5	0	44.61	-	-	74	-29.39	-	-	0-360	251	H
2	7.099	29.71	PK	35.7	-28	0	37.41	-	-	-	-	68.2	-30.79	0-360	251	V
3	10.38	25.35	PK	37.5	-22.3	0	40.55	-	-	-	-	68.2	-27.65	0-360	251	V
6	* 15.572	26.52	PK	39.8	-21.6	0	44.72	-	-	74	-29.28	-	-	0-360	150	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

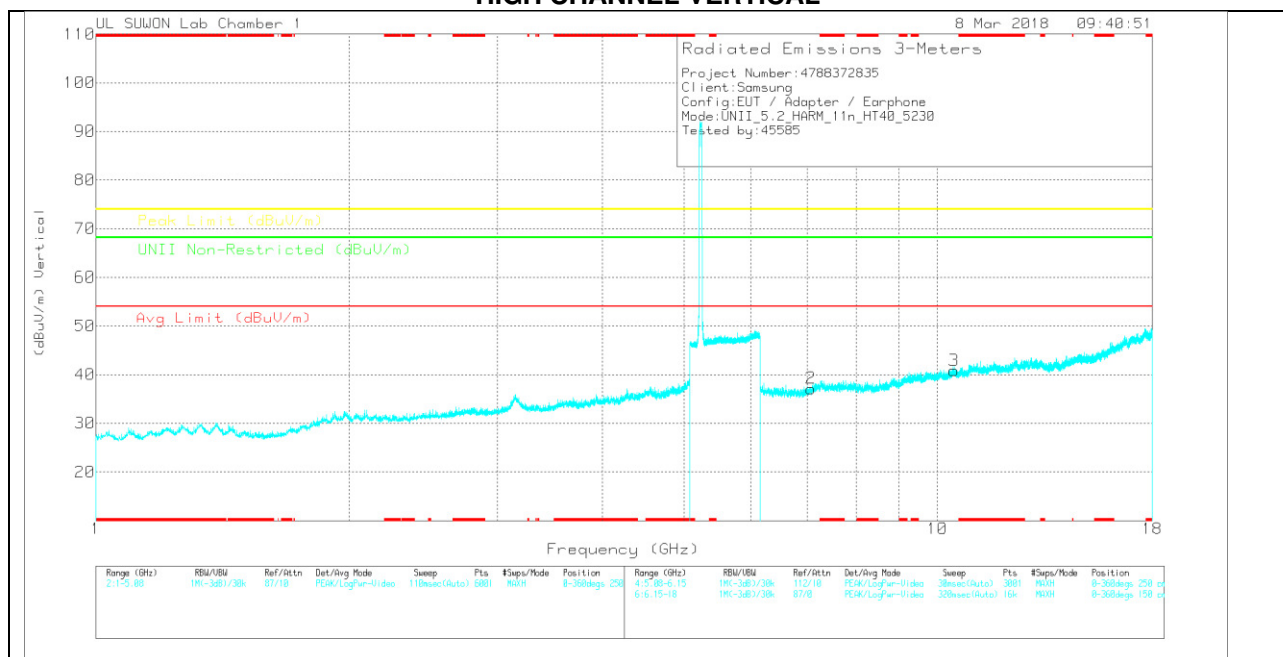
PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_2117_001 68717	6GHz_HPI9B_17080 9	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Unl Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	7.026	29.08	PK	35.6	-28	0	36.68	-	-	-	-	68.2	-31.52	0-360	250	H
4	10.459	25.49	PK	37.5	-22.1	0	40.89	-	-	-	-	68.2	-27.31	0-360	150	H
5	* 15.69	26.35	PK	39.9	-21.6	0	44.65	-	-	74	-29.35	-	-	0-360	150	H
6	* 15.69	26.35	PK	39.9	-21.6	0	44.65	-	-	74	-29.35	-	-	0-360	150	H
2	7.075	29.56	PK	35.6	-28	0	37.16	-	-	-	-	68.2	-31.04	0-360	250	V
3	10.461	25.41	PK	37.5	-22.1	0	40.81	-	-	-	-	68.2	-27.39	0-360	150	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

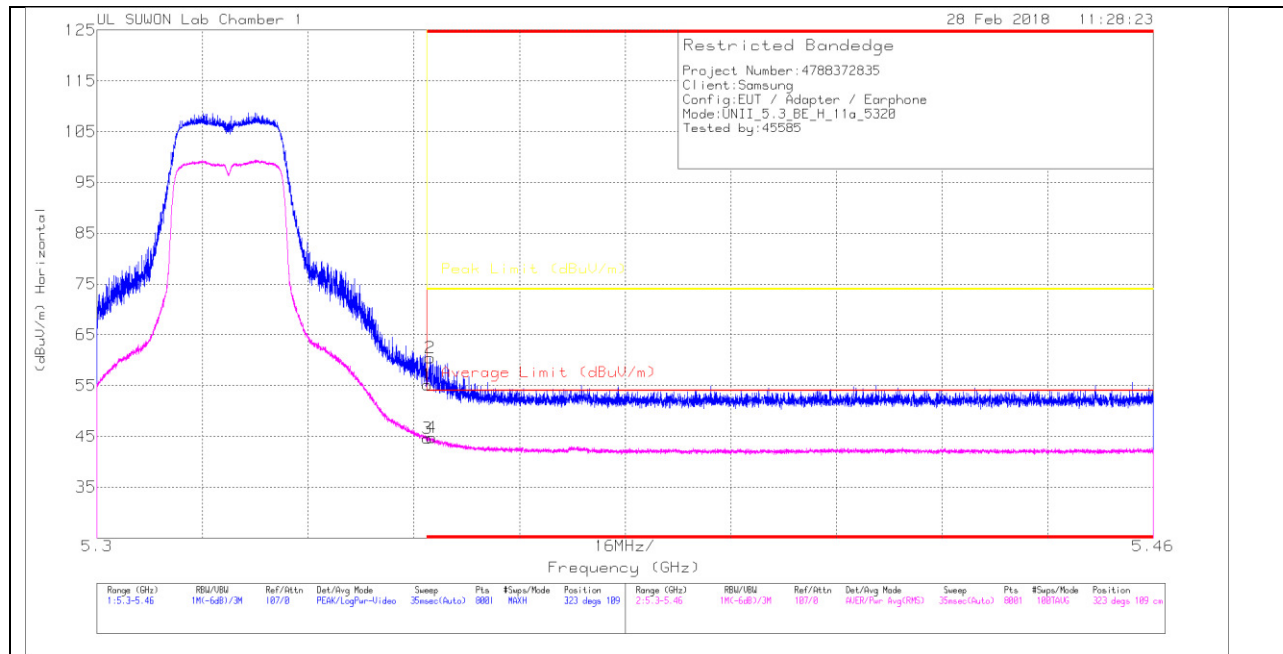
PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

11.2. 5.3 GHz

11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

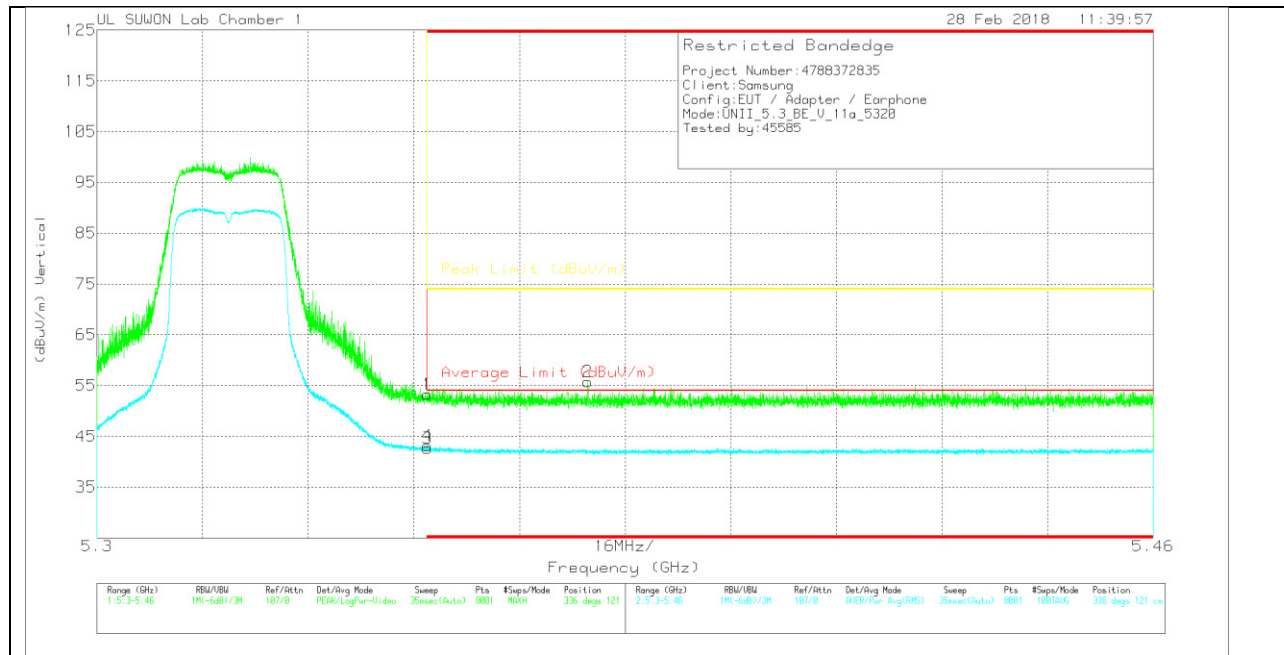
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	42.66	Pk		-21.7	0	55.16	-	-	74	-18.84	323	109	H
2	* 5.35	47.93	Pk		-21.7	0	60.43	-	-	74	-13.57	323	109	H
3	* 5.35	32.19	RMS		-21.7	0	44.69	54	-9.31	-	-	323	109	H
4	* 5.351	32.31	RMS		-21.7	0	44.81	54	-9.19	-	-	323	109	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	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	* 5.35	40.74	Pk	34.2	-21.7	0	53.24	-	-	74	-20.76	336	121	V
2	* 5.374	43.27	Pk	34.2	-21.7	0	55.77	-	-	74	-18.23	336	121	V
3	* 5.35	30.2	RMS	34.2	-21.7	0	42.7	54	-11.3	-	-	336	121	V
4	* 5.35	30.62	RMS	34.2	-21.7	0	43.12	54	-10.88	-	-	336	121	V

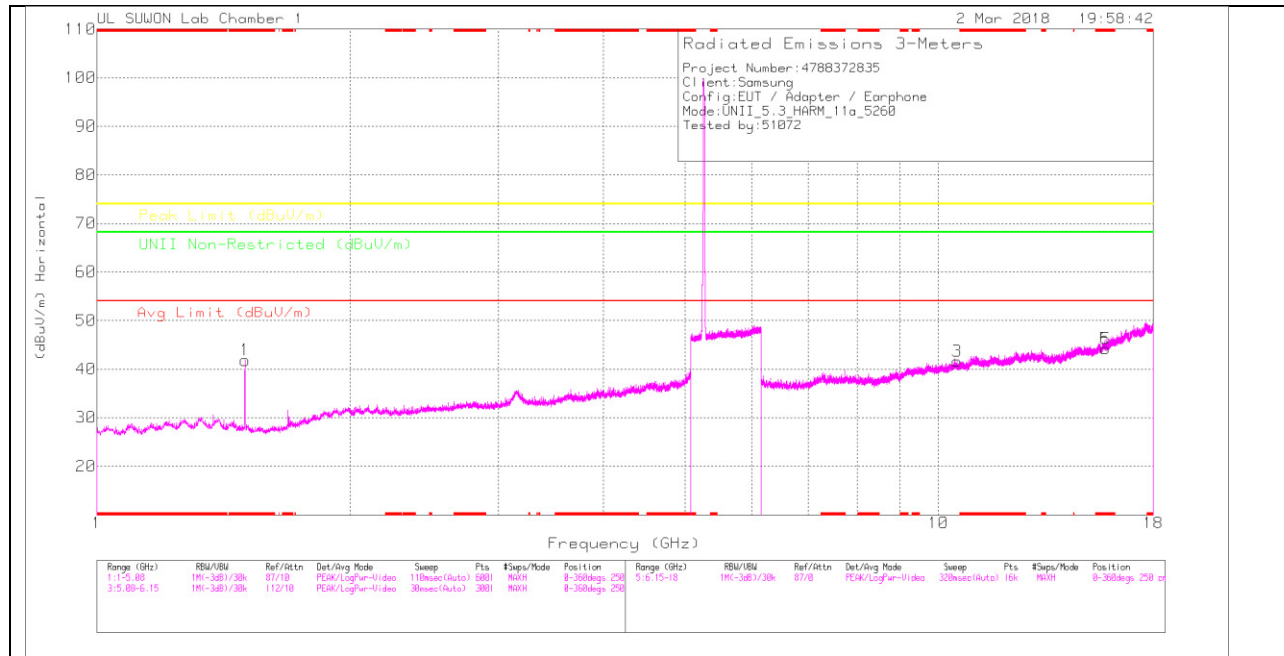
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

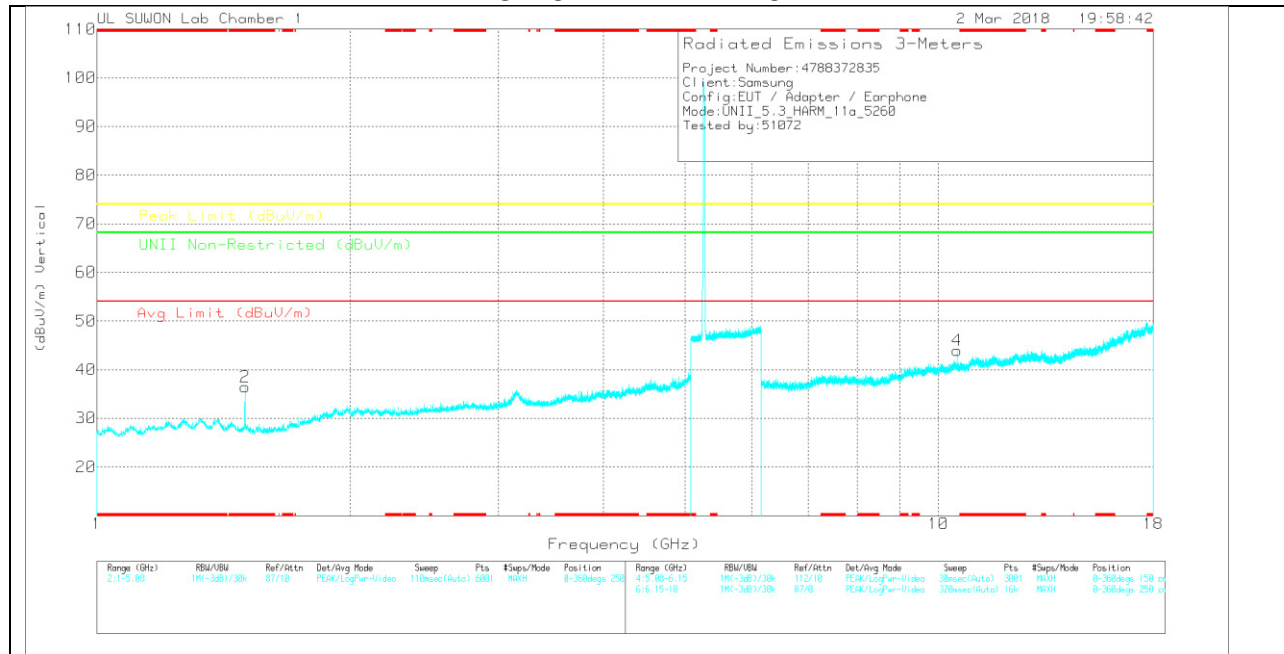
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	SGHz_LF(8B)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.499	50.12	PK	28.3	-36.6	0	41.82	-	-	74	-32.18	-	-	0-360	150	H
2	* 1.5	44.72	PK	28.3	-36.6	0	36.42	-	-	74	-37.58	-	-	0-360	250	V
3	10.52	27.16	PK	37.5	-23	0	41.66	-	-	-	-	68.2	-26.54	0-360	250	H
5	* 15.78	25.36	PK	40.1	-21.3	0	44.16	-	-	74	-29.84	-	-	0-360	250	H
6	* 15.78	25.36	PK	40.1	-21.3	0	44.16	-	-	74	-29.84	-	-	0-360	250	H
4	10.519	29.35	PK	37.5	-22.9	0	43.95	-	-	-	-	68.2	-24.25	0-360	250	V

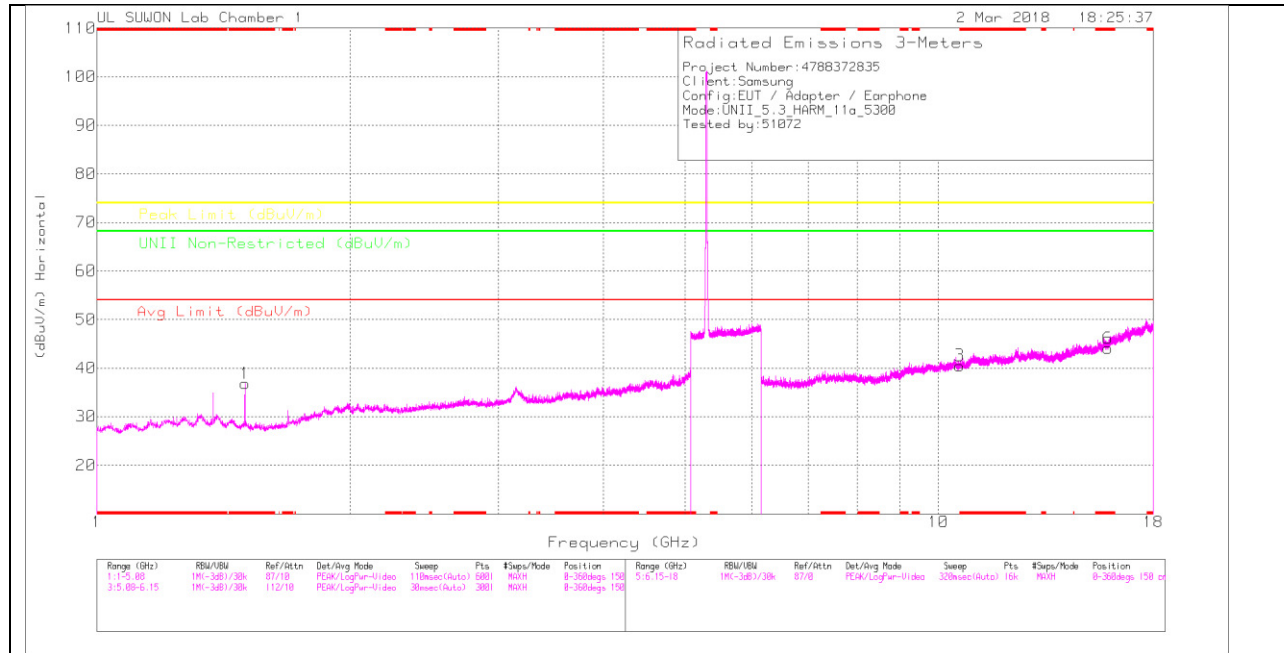
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

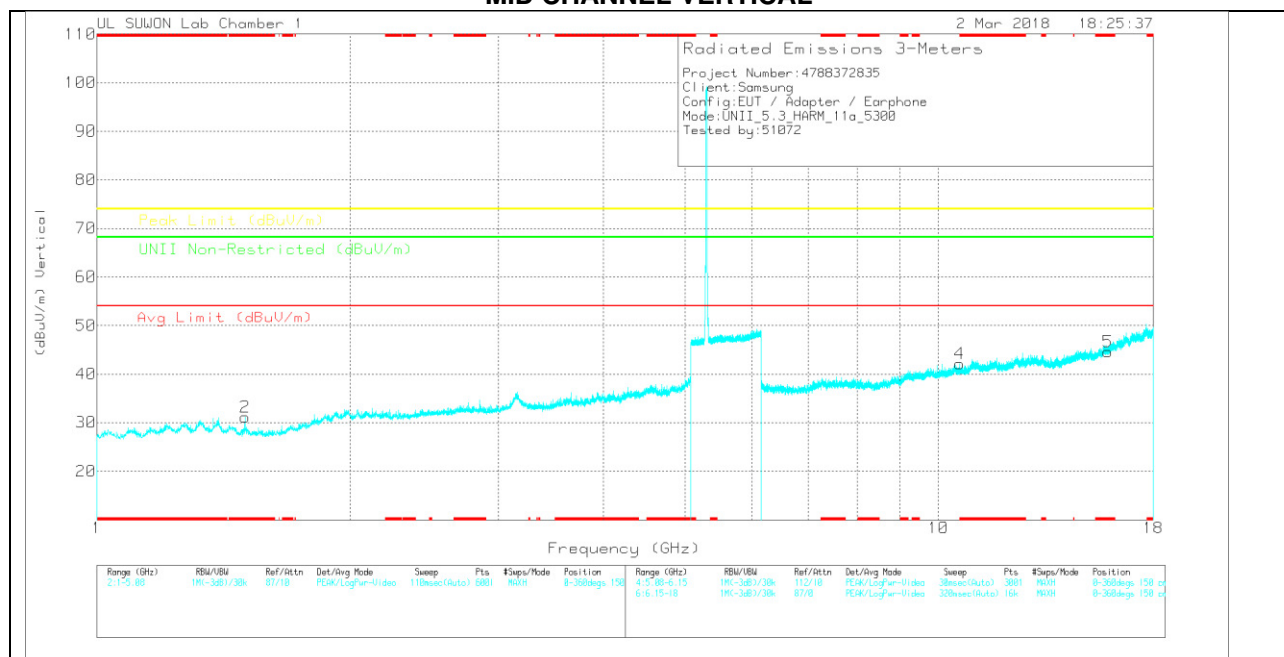
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	SGHz_LF(8B)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.499	52.91	PK-U	28.3	-36.6	0	44.61	-	-	74	-29.39	-	-	183	170	H
* 1.5	37.45	ADR	28.3	-36.6	0	29.15	54	-24.85	-	-	-	-	183	170	H
* 1.5	48.53	PK-U	28.3	-36.6	0	40.23	-	-	74	-33.77	-	-	226	360	V
* 1.499	35.36	ADR	28.3	-36.6	0	27.06	54	-26.94	-	-	-	-	226	360	V
10.519	36.94	PK-U	37.5	-22.9	0	51.54	-	-	-	-	68.2	-16.66	39	100	H
10.519	37.03	PK-U	37.5	-22.9	0	51.63	-	-	-	-	68.2	-16.57	278	106	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

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 98737	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.5	45.08	PK	28.3	-36.6	0	36.78	-	-	74	-37.22	-	-	0-360	150	H
2	* 1.499	39.41	PK	28.3	-36.6	0	31.11	-	-	74	-42.89	-	-	0-360	150	V
3	* 10.6	25.72	PK	37.6	-22.8	0	40.52	-	-	74	-33.48	-	-	0-360	250	H
6	* 15.9	25.3	PK	40.3	-21.5	0	44.1	-	-	74	-29.9	-	-	0-360	150	H
4	* 10.6	27.28	PK	37.6	-22.8	0	42.08	-	-	74	-31.92	-	-	0-360	250	V
5	* 15.9	25.81	PK	40.3	-21.5	0	44.61	-	-	74	-29.39	-	-	0-360	150	V

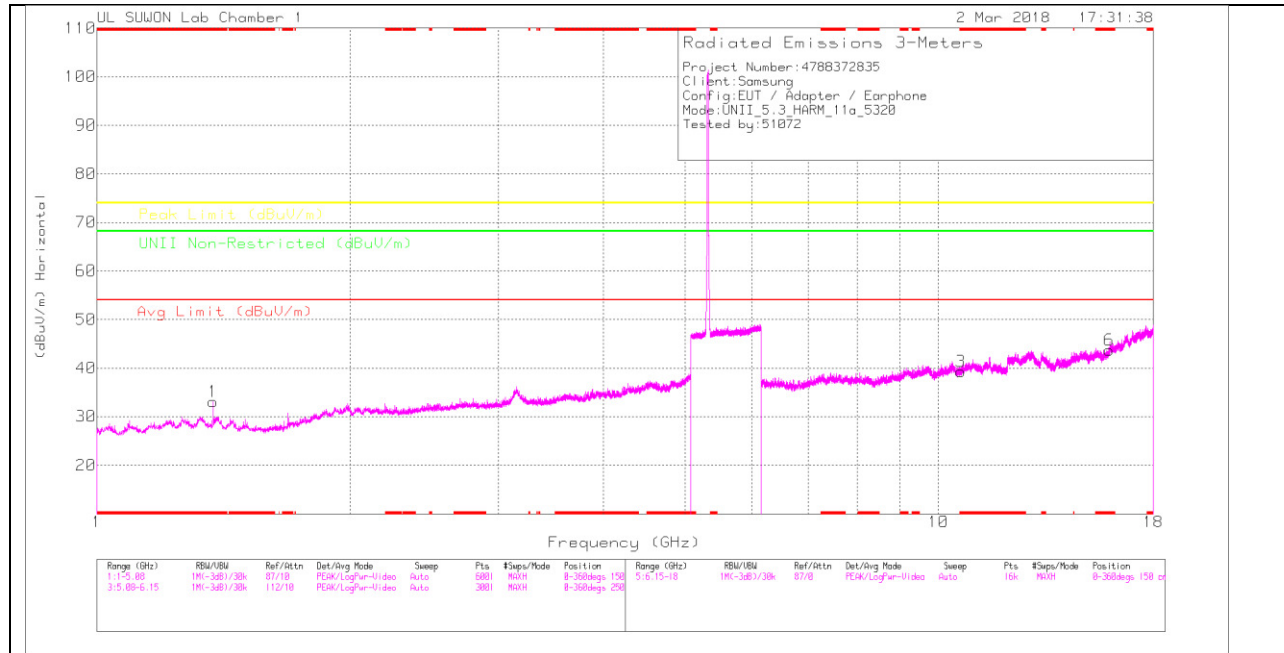
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

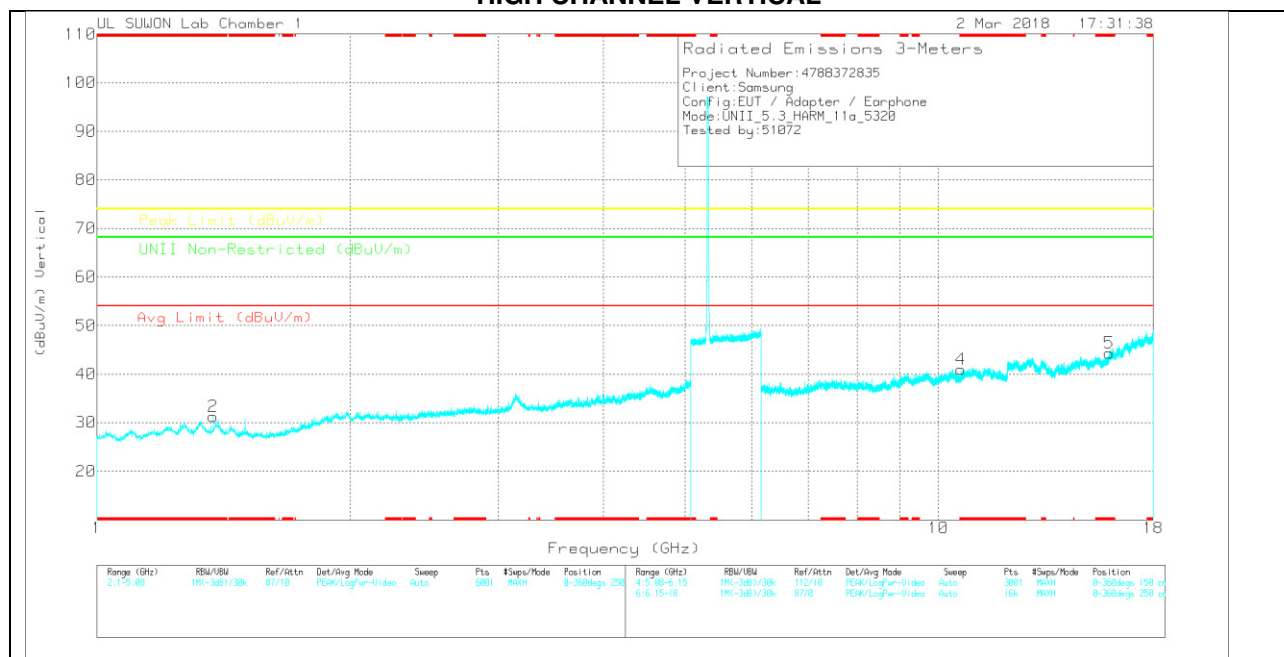
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	5GHz_LP(RB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	U-NII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.5	51.66	PK-U	28.3	-36.6	0	43.36	-	-	74	-30.64	-	-	205	175	H
* 1.5	37.07	ADR	28.3	-36.6	0	28.77	54	-25.23	-	-	-	-	205	175	H
* 1.5	49.84	PK-U	28.3	-36.6	0	41.54	-	-	74	-32.46	-	-	5	400	V
* 1.5	35.68	ADR	28.3	-36.6	0	27.38	54	-26.62	-	-	-	-	5	400	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

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_001 68717	5GHz_LP(08)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 1.375	40.03	PK	29.4	-36.4	0	33.03	-	-	74	-40.97	-	-	0-360	150	H
2	* 1.374	38.4	PK	29.4	-36.5	0	31.3	-	-	74	-42.7	-	-	0-360	150	V
3	* 10.64	24.11	PK	37.7	-22.5	0	39.31	-	-	74	-34.69	-	-	0-360	150	H
6	* 15.962	24.31	PK	40.4	-21	0	43.71	-	-	74	-30.29	-	-	0-360	150	H
4	* 10.64	25.83	PK	37.7	-22.5	0	41.03	-	-	74	-32.97	-	-	0-360	250	V
5	* 15.961	24.93	PK	40.4	-21	0	44.33	-	-	74	-29.67	-	-	0-360	250	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK – Peak Detector

Radiated Emissions

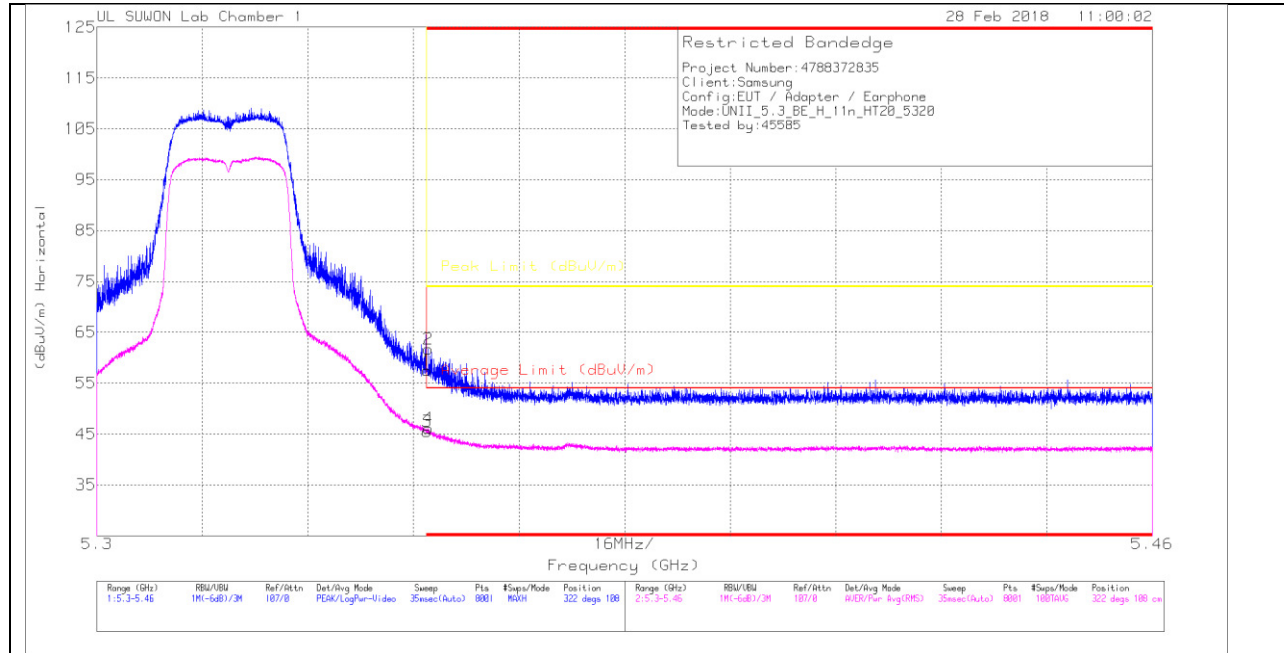
Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	5GHz_LP(08)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
* 1.374	47.26	PK-U	29.4	-36.4	0	40.26	-	-	74	-33.74	-	-	168	277	H
* 1.375	34.44	ADR	29.4	-36.4	0	27.44	54	-26.56	-	-	-	-	168	277	H
* 1.375	47.04	PK-U	29.4	-36.4	0	40.04	-	-	74	-33.96	-	-	178	376	V
* 1.375	34.54	ADR	29.4	-36.4	0	27.54	54	-26.46	-	-	-	-	178	376	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

11.2.2. TX ABOVE 1GHz 802.11n HT20 MODE IN THE 5.3GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

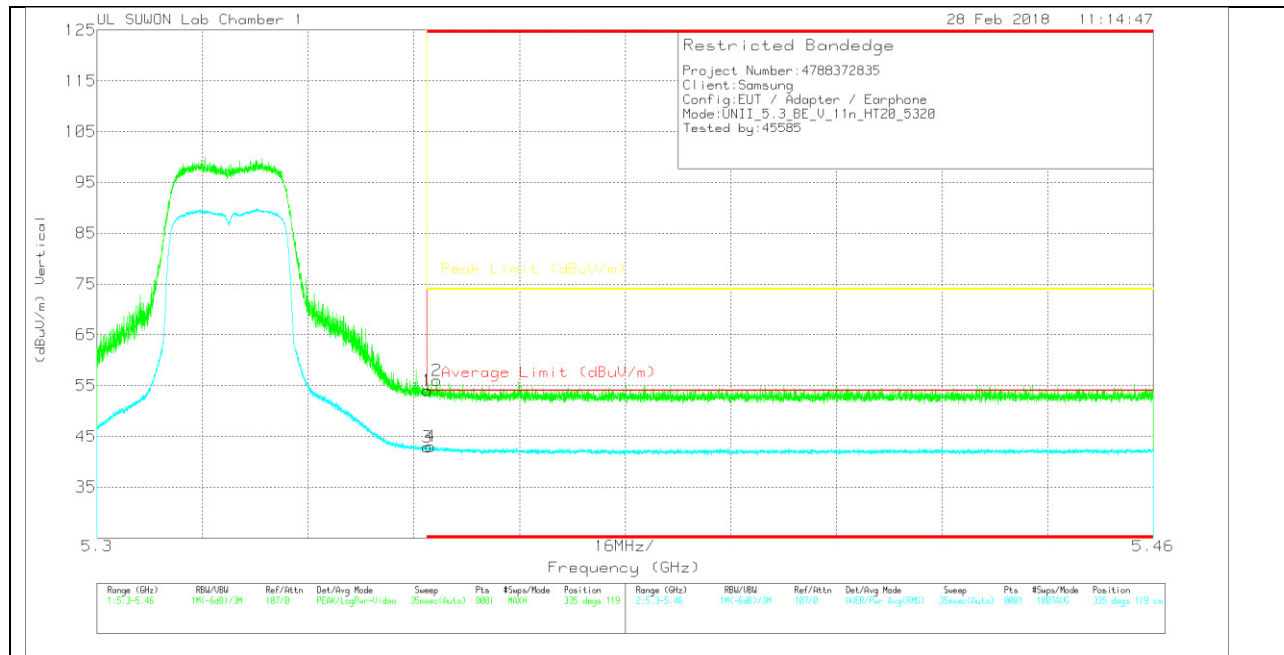
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.35	44.99	Pk	34.2	-21.7	0	57.49	-	-	74	-16.51	322	108	H
2	* 5.35	49.2	Pk	34.2	-21.7	0	61.7	-	-	74	-12.3	322	108	H
3	* 5.35	32.97	RMS	34.2	-21.7	0	45.47	54	-8.53	-	-	322	108	H
4	* 5.35	33.57	RMS	34.2	-21.7	0	46.07	54	-7.93	-	-	322	108	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168 717	10dB_ATT(dB)_170809	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (m)	Height (cm)	Polarity
1	* 5.35	41.49	Pk	34.2	-21.7	0	53.99	-	-	74	-20.01	335	119	V
2	* 5.351	43.48	Pk	34.2	-21.7	0	55.98	-	-	74	-18.02	335	119	V
3	* 5.35	30.42	RMS	34.2	-21.7	0	42.92	54	-11.08	-	-	335	119	V
4	* 5.351	30.55	RMS	34.2	-21.7	0	43.05	54	-10.95	-	-	335	119	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection