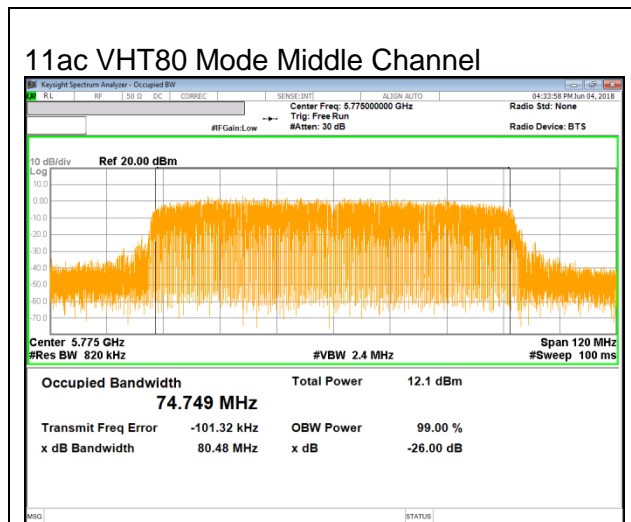


**UNII 5.8 GHz IEEE 802.11ac VHT80 mode**



## 10. ANTENNA PORT TEST RESULTS

### 10.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.407 (e)  
RSS-247 §6.2.4.1

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

#### TEST PROCEDURE

Reference to 789033 D02 General UNII Test Procedures New Rules v01r03: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### RESULTS

**10.1.1. 802.11a MODE IN THE 5.8 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	5745	16.32	0.5
Mid	5785	16.48	0.5
High	5825	16.33	0.5
Worst		16.32	

**10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	5745	16.68	0.5
Mid	5785	16.48	0.5
High	5825	17.55	0.5
Worst		16.48	

**10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	Minimum Limit [MHz]
Low	5755	35.09	0.5
High	5795	35.09	0.5
Worst		35.09	

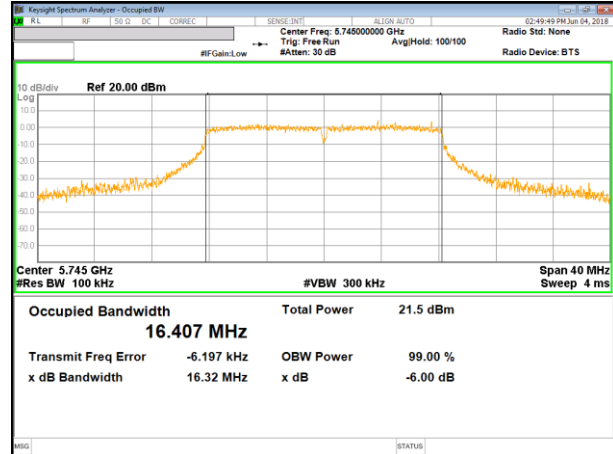
**10.1.4. 802.11n VHT80 MODE IN THE 5.8 GHz BAND**

Channel	Frequency	6 dB Bandwidth [MHz]	Minimum Limit
Middle	5775	75.07	0.5
Worst		75.07	

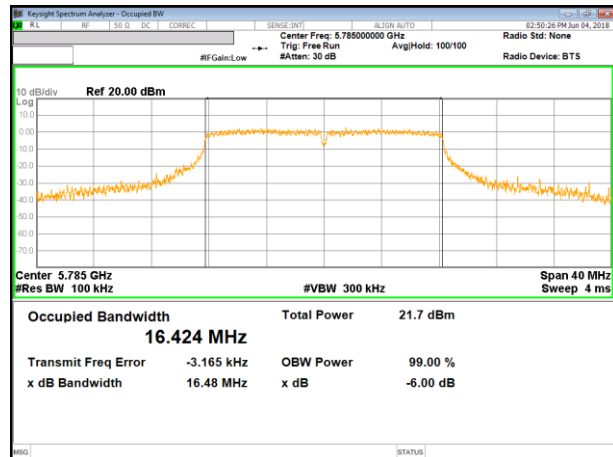
10.1.5. 6 dB BANDWIDTH PLOTS

**UNII 5.8 GHz IEEE 802.11a mode**

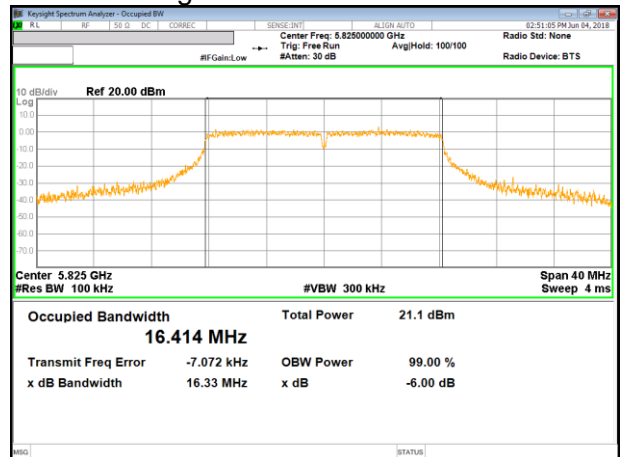
11a Mode Low Channel



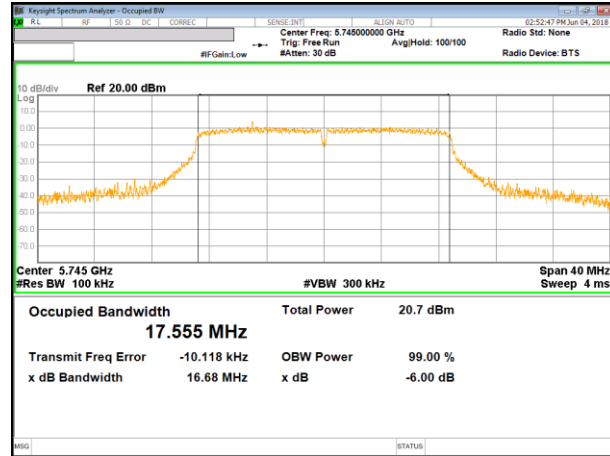
11a Mode Middle Channel



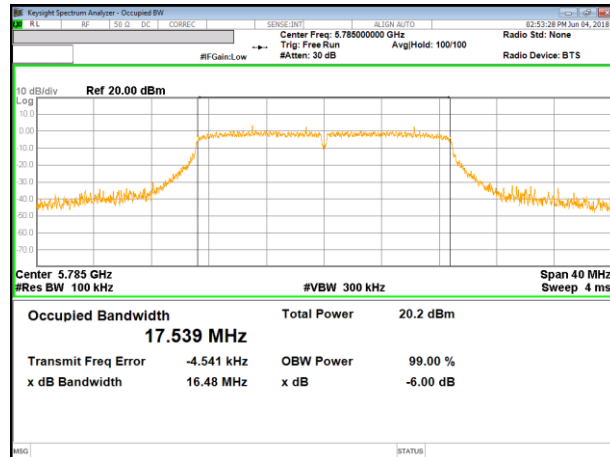
11a Mode High Channel



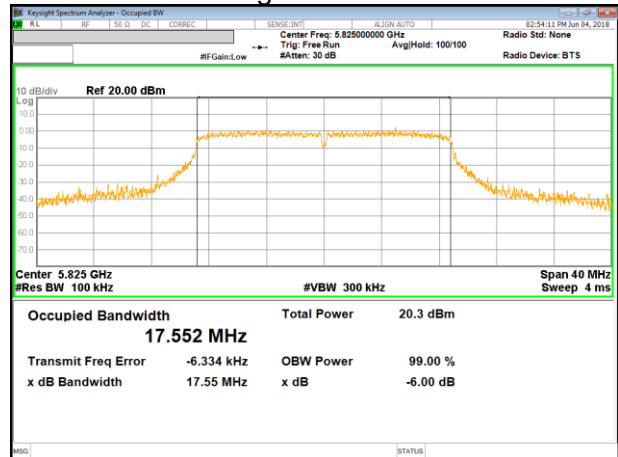
### 11n HT20 Mode Low Channel

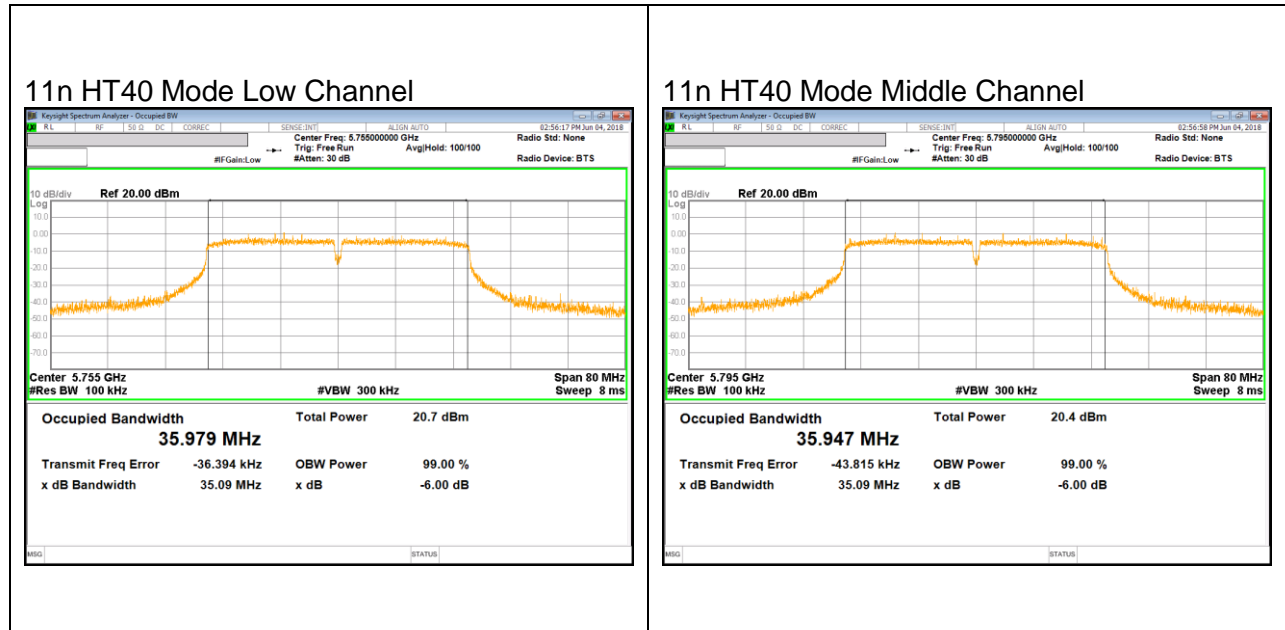


### 11n HT20 Mode Middle Channel

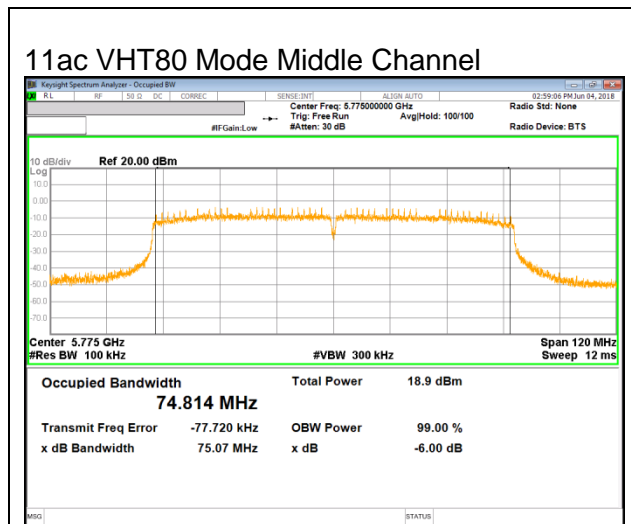


### 11n HT20 Mode High Channel





**UNII 5.8 GHz IEEE 802.11ac VHT80 mode**



## 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  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

#### **RSS-247 §6.2.1.1, §6.2.2.1, §6.2.3.1, §6.2.4.1**

6.2.1.1 - For other devices, the maximum e.i.r.p. shall not exceed 200 mW or  $10 + 10 \log 10B$ , dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

6.2.2.1 - The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log 10B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band; The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log 10B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

6.2.3.1 - The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log 10B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log 10B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

6.2.4.1 - The maximum conducted output power shall not exceed 1 W. The output 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 output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**TEST PROCEDURE**

KDB 789033 Method SA-1 and SA-2 are used for PPSD. RBW set to 1MHz (500kHz 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. Add duty cycle correction factor for HT40 and VHT80.

KDB 789033 Method PM is used for output power.

**DIRECTIONAL ANTENNA GAIN**

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

5 GHz

Frequency Band [MHz]	Antenna Gain [dBi]
5150 - 5250	0.20
5250 - 5350	-0.80
5470 - 5725	0.30
5725 - 5850	-0.30



**10.2.1. 802.11a MODE IN THE 5.2 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	20.42	16.45	0.20	0.20
Mid	5200	20.87	16.44	0.20	0.20
High	5240	20.30	16.46	0.20	0.20

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5180	24.00	22.16	21.96	21.96	11.00	9.80	9.80
Mid	5200	24.00	22.16	21.96	21.96	11.00	9.80	9.80
High	5240	24.00	22.16	21.96	21.96	11.00	9.80	9.80

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	16.78	16.78	21.96	-5.18
Mid	5200	16.68	16.68	21.96	-5.28
High	5240	16.39	16.39	21.96	-5.57

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	6.04	6.04	9.80	-3.76
Mid	5200	6.09	6.09	9.80	-3.71
High	5240	5.78	5.78	9.80	-4.02

**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]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5180	20.50	17.61	0.20	0.20
Mid	5200	20.71	17.59	0.20	0.20
High	5240	20.80	17.57	0.20	0.20

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5180	24.00	22.46	22.26	22.26	11.00	9.80	9.80
Mid	5200	24.00	22.45	22.25	22.25	11.00	9.80	9.80
High	5240	24.00	22.45	22.25	22.25	11.00	9.80	9.80

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.70	15.70	22.26	-6.56
Mid	5200	15.60	15.60	22.25	-6.65
High	5240	15.34	15.34	22.25	-6.91

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5180	4.83	4.83	9.80	-4.97
Mid	5200	4.51	4.51	9.80	-5.29
High	5240	4.53	4.53	9.80	-5.27

**10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND**

<b>Bandwidth and Antenna Gain</b>					
Channel	Frequency	Min 26 dB BW	Min 99% BW	Directional Gain for Power	Directional Gain for PPSD
	[MHz]	[MHz]	[MHz]	[dBi]	[dBi]
Low	5190	42.84	35.98	0.20	0.20
High	5230	42.96	36.00	0.20	0.20

**Limits**

Channel	Frequency	FCC Power Limit	IC EIRP Limit	Max IC Power Limit	Power Limit	FCC PPSD Limit	IC eirp PSD Limit	PPSD Limit
	[MHz]	[dBm]	[dBm]	[dBm]	[dBm]	[dBm]	[dBm]	[dBm]
Low	5190	24.00	23.00	22.80	22.80	11.00	9.80	9.80
High	5230	24.00	23.00	22.80	22.80	11.00	9.80	9.80

<b>Duty Cycle CF [dB]</b>	0.17	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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**Output Power Results**

Channel	Frequency	Meas Power	Total Corr'd Power	Power Limit	Power Margin
	[MHz]	[dBm]	[dBm]	[dBm]	[dB]
Low	5190	14.98	15.15	22.80	-7.82
High	5230	15.46	15.63	22.80	-7.34

**PPSD Results**

Channel	Frequency	Meas PPSD	Total Corr'd PPSD	PPSD Limit	PPSD Margin
	[MHz]	[dBm]	[dBm]	[dBm]	[dB]
Low	5190	0.82	0.99	9.80	-8.98
High	5230	1.42	1.59	9.80	-8.38

**10.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5210	83.94	74.93	0.20	0.20

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Middle	5210	24.00	23.00	22.80	22.80	11.00	10.70	10.70

<b>Duty Cycle CF [dB]</b>	1.47	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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**Output Power Results**

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5210	11.94997	13.42	22.80	-9.38

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5210	-4.56	-3.09	10.70	-13.79

**10.2.5. 802.11a MODE IN THE 5.3 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	20.51	16.45	-0.80	-0.80
Mid	5300	20.40	16.46	-0.80	-0.80
High	5320	20.50	16.44	-0.80	-0.80

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5260	24.00	23.16	29.16	23.16	11.00	11.00	11.00
Mid	5300	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5320	24.00	23.16	29.16	23.16	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	16.54	16.54	23.16	-6.62
Mid	5300	16.35	16.35	23.17	-6.82
High	5320	16.46	16.46	23.16	-6.70

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5260	5.71	5.71	11.00	-5.29
Mid	5300	5.66	5.66	11.00	-5.34
High	5320	5.80	5.80	11.00	-5.20

**10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5260	21.08	17.59	-0.80	-0.80
Mid	5300	20.87	17.61	-0.80	-0.80
High	5320	21.00	17.61	-0.80	-0.80

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5260	24.00	22.45	29.45	22.45	11.00	11.00	11.00
Mid	5300	24.00	22.46	29.46	22.46	11.00	11.00	11.00
High	5320	24.00	22.46	29.46	22.46	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.49	15.49	22.45	-6.96
Mid	5300	15.28	15.28	22.46	-7.18
High	5320	15.40	15.40	22.46	-7.06

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5260	4.57	4.57	11.00	-6.43
Mid	5300	3.92	3.92	11.00	-7.08
High	5320	4.44	4.44	11.00	-6.56

**10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5270	42.31	36.07	-0.80	-0.80
High	5310	42.61	36.00	-0.80	-0.80

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5270	24.00	23.00	30.00	23.00	11.00	11.00	11.00
High	5310	24.00	23.00	30.00	23.00	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	0.17	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.65	15.82	23.00	-7.35
High	5310	15.45	15.62	23.00	-7.55

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5270	1.50	1.67	11.00	-9.51
High	5310	1.10	1.28	11.00	-9.90

**10.2.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5290	84.53	74.75	-0.80	-0.80

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Middle	5290	24.00	23.00	30.00	23.00	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	1.47	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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**Output Power Results**

Channel	Frequency [MHz]	Total Corr'd Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5290	11.94	13.41	23.00	-9.59

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5290	-4.78	-3.31	11.00	-14.31



**10.2.9. 802.11a MODE IN THE 5.5 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	20.01	16.45	0.30	0.30
Mid	5580	20.86	16.42	0.30	0.30
High	5700	20.67	16.47	0.30	0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5500	24.00	22.16	29.16	22.16	11.00	11.00	11.00
Mid	5580	24.00	22.15	29.15	22.15	11.00	11.00	11.00
High	5700	24.00	22.17	29.17	22.17	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	16.60	16.60	22.16	-5.56
Mid	5580	16.28	16.28	22.15	-5.87
High	5700	16.97	16.97	22.17	-5.20

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5500	5.89	5.89	11.00	-5.11
Mid	5580	5.38	5.38	11.00	-5.62
High	5700	6.26	6.26	11.00	-4.74

**10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5500	20.99	17.59	0.30	0.30
Mid	5580	20.87	17.57	0.30	0.30
High	5700	21.01	17.61	0.30	0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5500	24.00	22.45	29.45	22.45	11.00	11.00	11.00
Mid	5580	24.00	22.45	29.45	22.45	11.00	11.00	11.00
High	5700	24.00	22.46	29.46	22.46	11.00	11.00	11.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.58	15.58	22.45	-6.87
Mid	5580	15.23	15.23	22.45	-7.22
High	5700	15.32	15.32	22.46	-7.14

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5500	4.67	4.67	11.00	-6.33
Mid	5580	4.45	4.45	11.00	-6.55
High	5700	4.54	4.54	11.00	-6.46

**10.2.11.802.11n HT40 MODE IN THE 5.5 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5510	42.39	35.99	0.30	0.30
Mid	5590	42.53	36.01	0.30	0.30
High	5670	43.19	36.09	0.30	0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5510	24.00	23.00	30.00	23.00	11.00	11.00	11.00
Mid	5590	24.00	23.00	30.00	23.00	11.00	11.00	11.00
High	5670	24.00	23.00	30.00	23.00	11.00	11.00	11.00
<b>Duty Cycle CF [dB]</b>		0.17	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>					

**Output Power Results**

Channel	Frequency [MHz]	Meas Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5510	15.29	15.46	23.00	-7.71
Mid	5590	15.18	15.35	23.00	-7.82
High	5670	15.46	15.63	23.00	-7.54

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5510	0.55	0.72	11.00	-10.45
Mid	5590	1.21	1.39	11.00	-9.79
High	5670	1.86	2.03	11.00	-9.14

**10.2.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5530	83.88	74.71	0.30	0.30
HIGH	5610	83.06	74.72	-0.30	-0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5530	24.00	23.00	30.00	23.00	11.00	11.00	11.00
HIGH	5610	24.00	23.00	30.00	23.00	11.00	11.00	11.00
<b>Duty Cycle CF [dB]</b>		1.47	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>					

**Output Power Results**

Channel	Frequency [MHz]	Total Corr'd Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Low	5530	11.69	13.16	23.00	-9.84
HIGH	5610	11.95	13.42	23.00	-9.58

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5530	-5.19	-3.72	11.00	-14.72
HIGH	5610	-4.86	-3.39	11.00	-14.39

**10.2.13. 802.11a MODE IN THE 5.8 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	20.21	16.45	-0.30	-0.30
Mid	5785	20.59	16.46	-0.30	-0.30
High	5825	20.80	16.45	-0.30	-0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5745	30.00	30.00	30.30	30.00	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.30	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.30	30.00	30.00	30.00	30.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	16.64	16.64	30.00	-13.36
Mid	5785	16.98	16.98	30.00	-13.02
High	5825	16.60	16.60	30.00	-13.40

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5745	3.11	3.11	30.00	-26.89
Mid	5785	3.45	3.45	30.00	-26.56
High	5825	2.85	2.85	30.00	-27.16

**10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5745	20.56	17.60	-0.30	-0.30
Mid	5785	20.94	17.60	-0.30	-0.30
High	5825	20.94	17.60	-0.30	-0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5745	30.00	30.00	30.30	30.00	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.30	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.30	30.00	30.00	30.00	30.00

<b>Duty Cycle CF [dB]</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.87	15.87	30.00	-14.13
Mid	5785	15.48	15.48	30.00	-14.52
High	5825	15.72	15.72	30.00	-14.28

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5745	2.28	2.28	30.00	-27.72
Mid	5785	1.67	1.67	30.00	-28.34
High	5825	1.81	1.81	30.00	-28.20

**10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Low	5755	41.93	36.07	-0.30	-0.30
High	5795	42.80	36.03	-0.30	-0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Low	5755	30.00	30.00	30.30	30.00	30.00	30.00	30.00
High	5795	30.00	30.00	30.30	30.00	30.00	30.00	30.00

<b>Duty Cycle CF [dB]</b>	0.17	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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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	15.51	15.68	30.00	-14.49
High	5795	15.47	15.64	30.00	-14.53

**PPSD Results**

Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Low	5755	-0.93	-0.76	30.00	-30.93
High	5795	-1.12	-0.94	30.00	-31.12

**10.2.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency [MHz]	Min 26 dB BW [MHz]	Min 99% BW [MHz]	Directional Gain for Power [dBi]	Directional Gain for PPSD [dBi]
Middle	5775	0.00	0.00	-0.30	-0.30

**Limits**

Channel	Frequency [MHz]	FCC Power Limit [dBm]	IC EIRP Limit [dBm]	Max IC Power Limit [dBm]	Power Limit [dBm]	FCC PPSD Limit [dBm]	IC eirp PSD Limit [dBm]	PPSD Limit [dBm]
Middle	5775	30.00	30.00	30.30	30.00	30.00	30.00	30.00

<b>Duty Cycle CF [dB]</b>	1.47	<b>Included in Calculations of Corr'd Power &amp; PPSD</b>
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**Output Power Results**

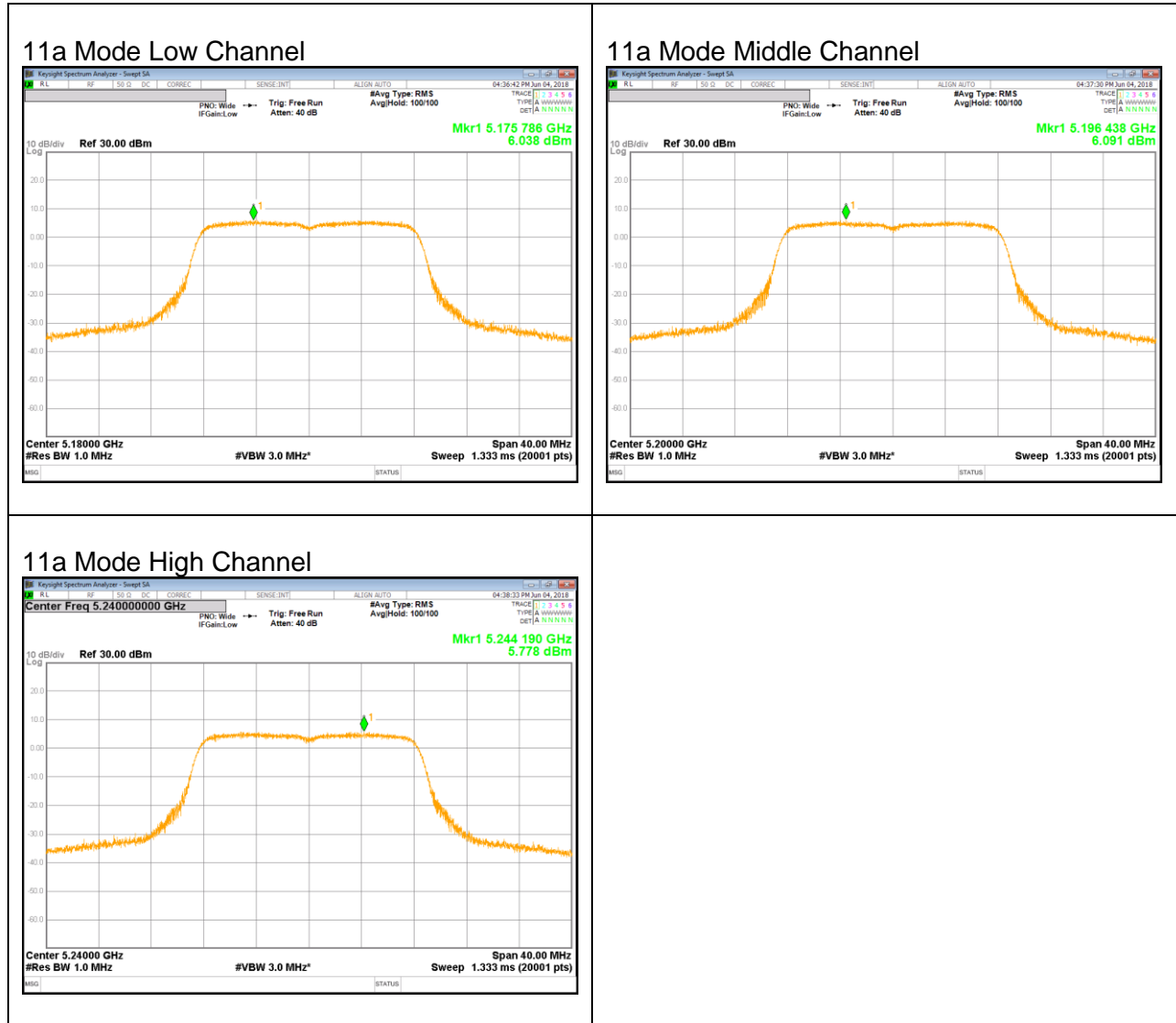
Channel	Frequency [MHz]	Total Corr'd Power [dBm]	Total Corr'd Power [dBm]	Power Limit [dBm]	Power Margin [dB]
Middle	5775	12.37	13.84	30.00	-16.16

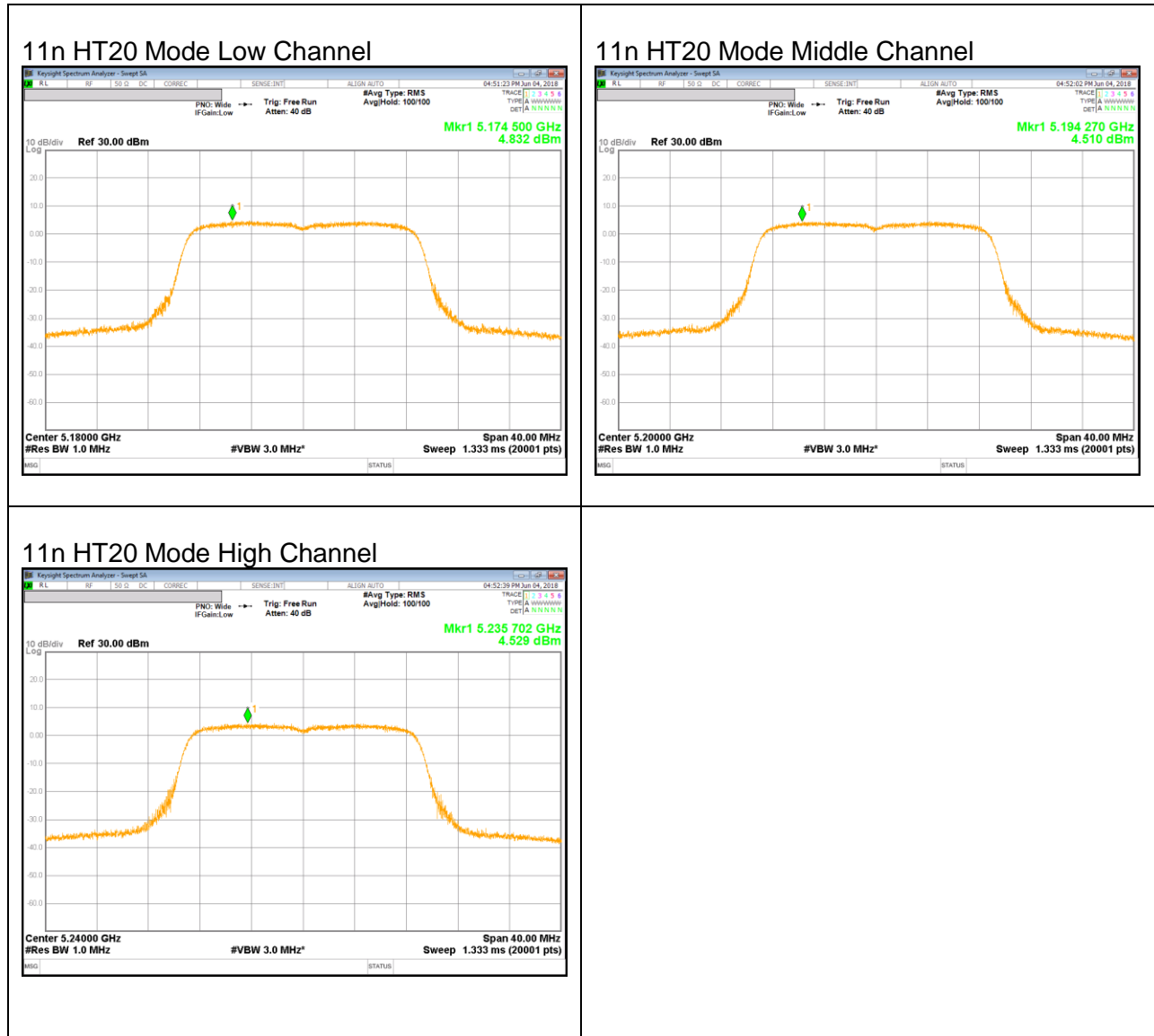
**PPSD Results**

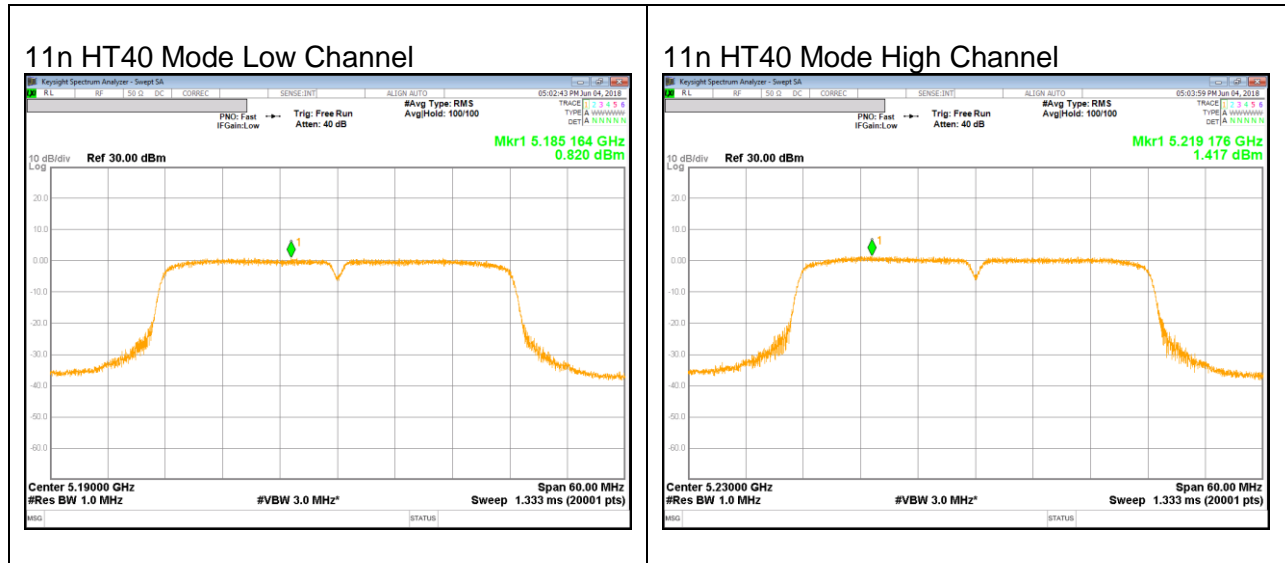
Channel	Frequency [MHz]	Meas PPSD [dBm]	Total Corr'd PPSD [dBm]	PPSD Limit [dBm]	PPSD Margin [dB]
Middle	5775	-6.54	-5.07	30.00	-35.07



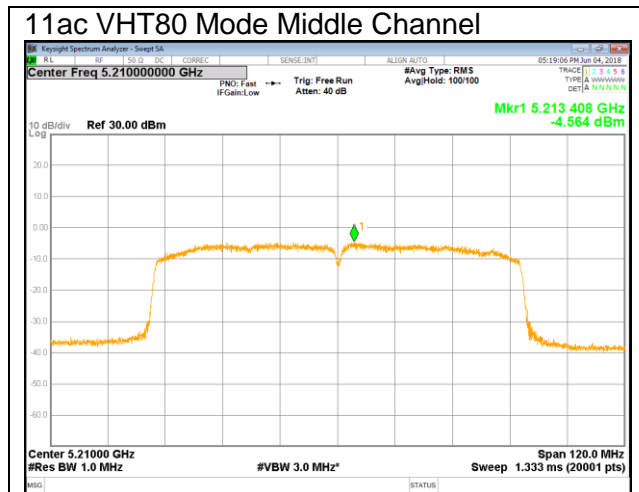
**UNII 5.2 GHz IEEE 802.11a mode**

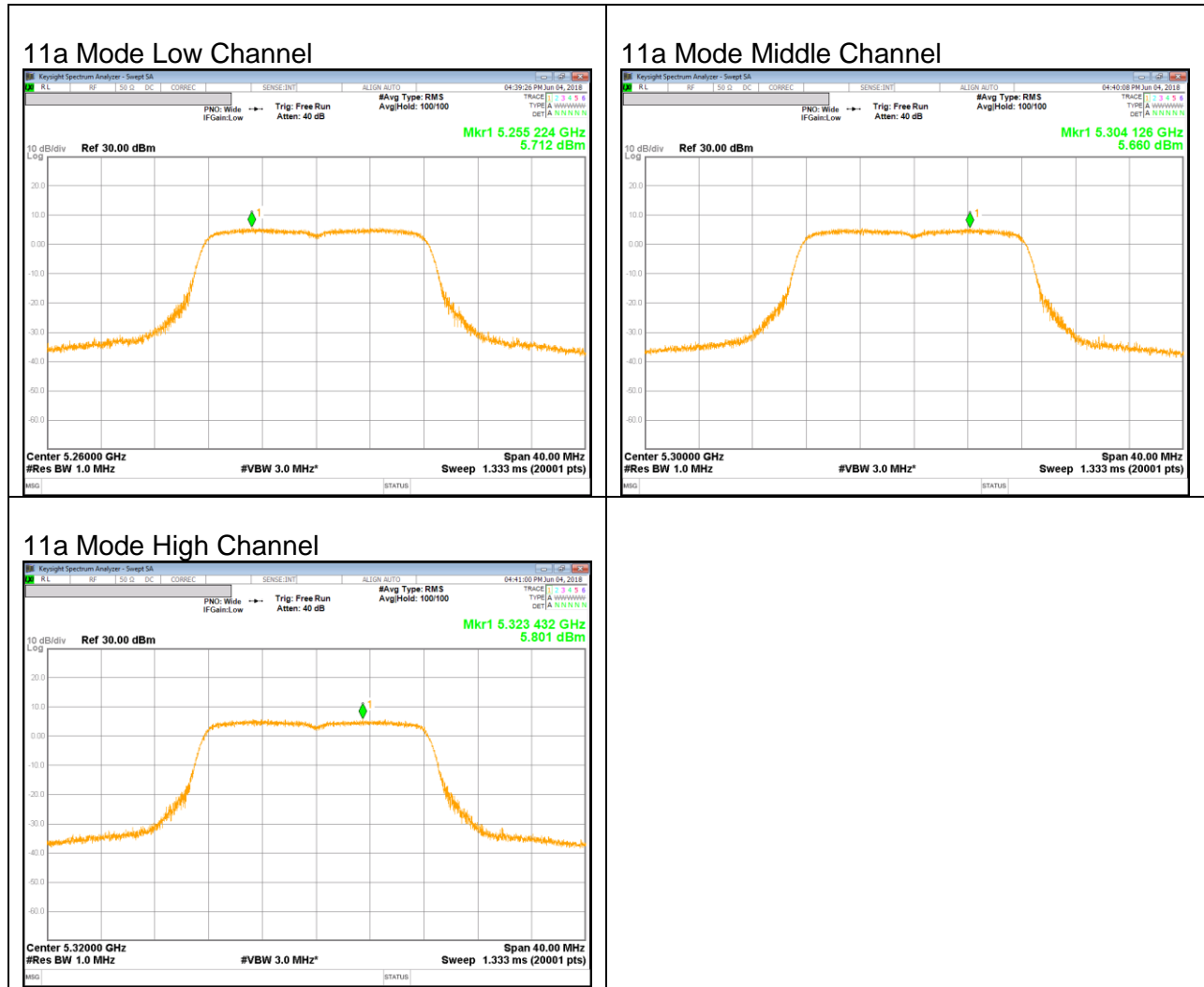


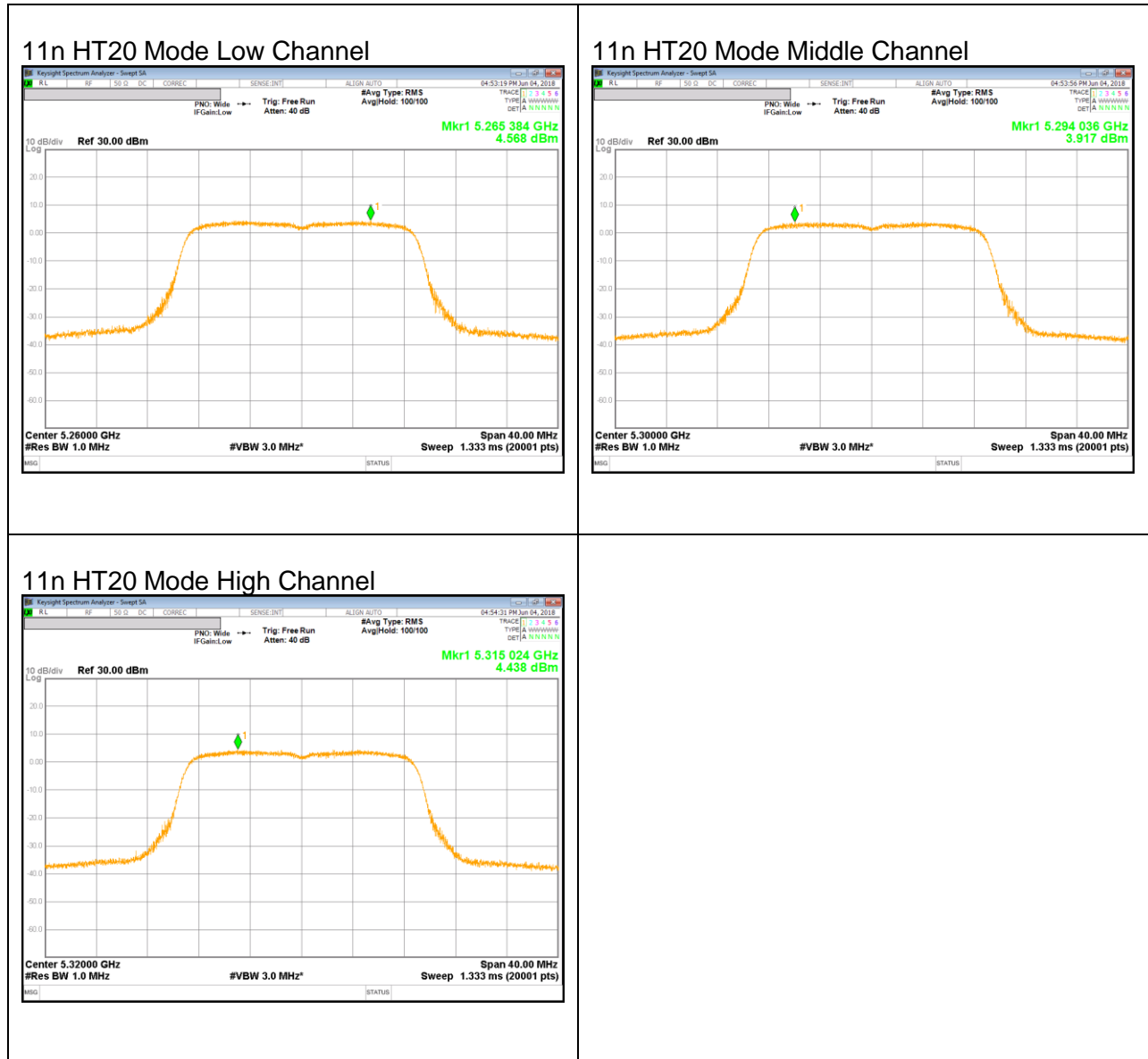


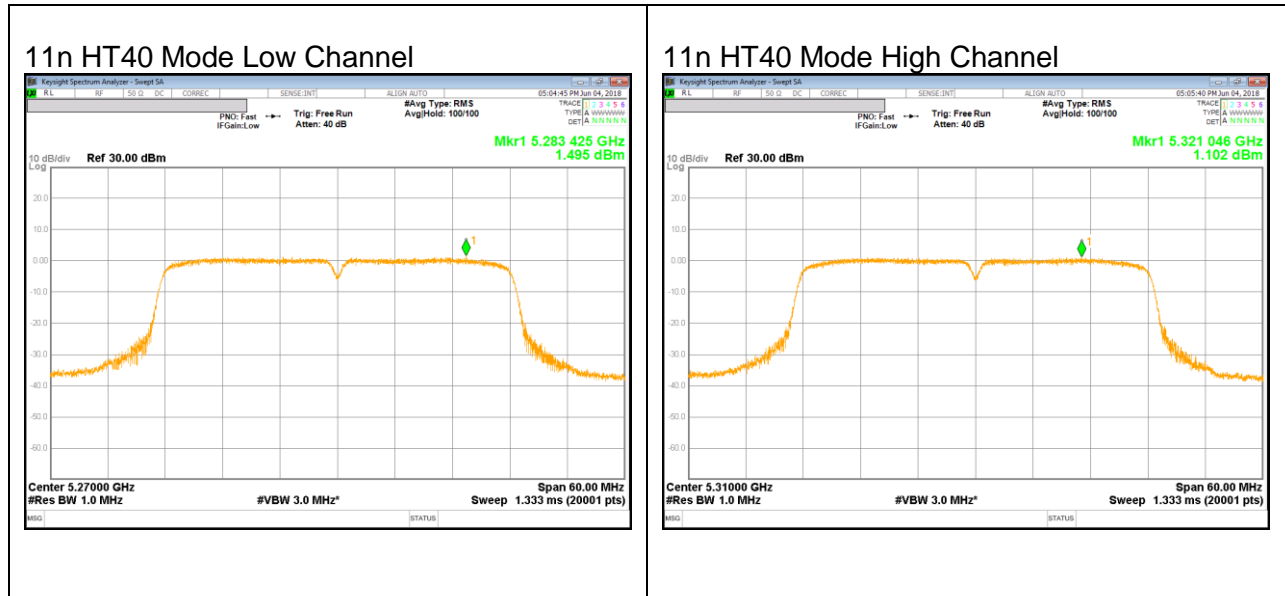


**UNII 5.2 GHz IEEE 802.11ac VHT80 mode**

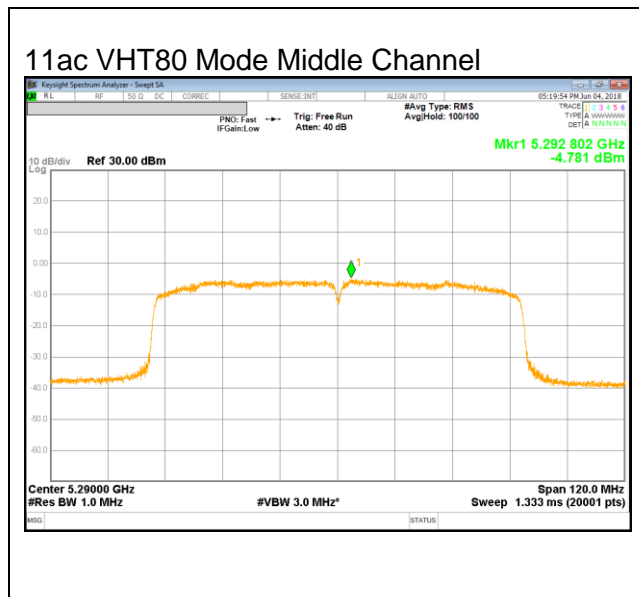


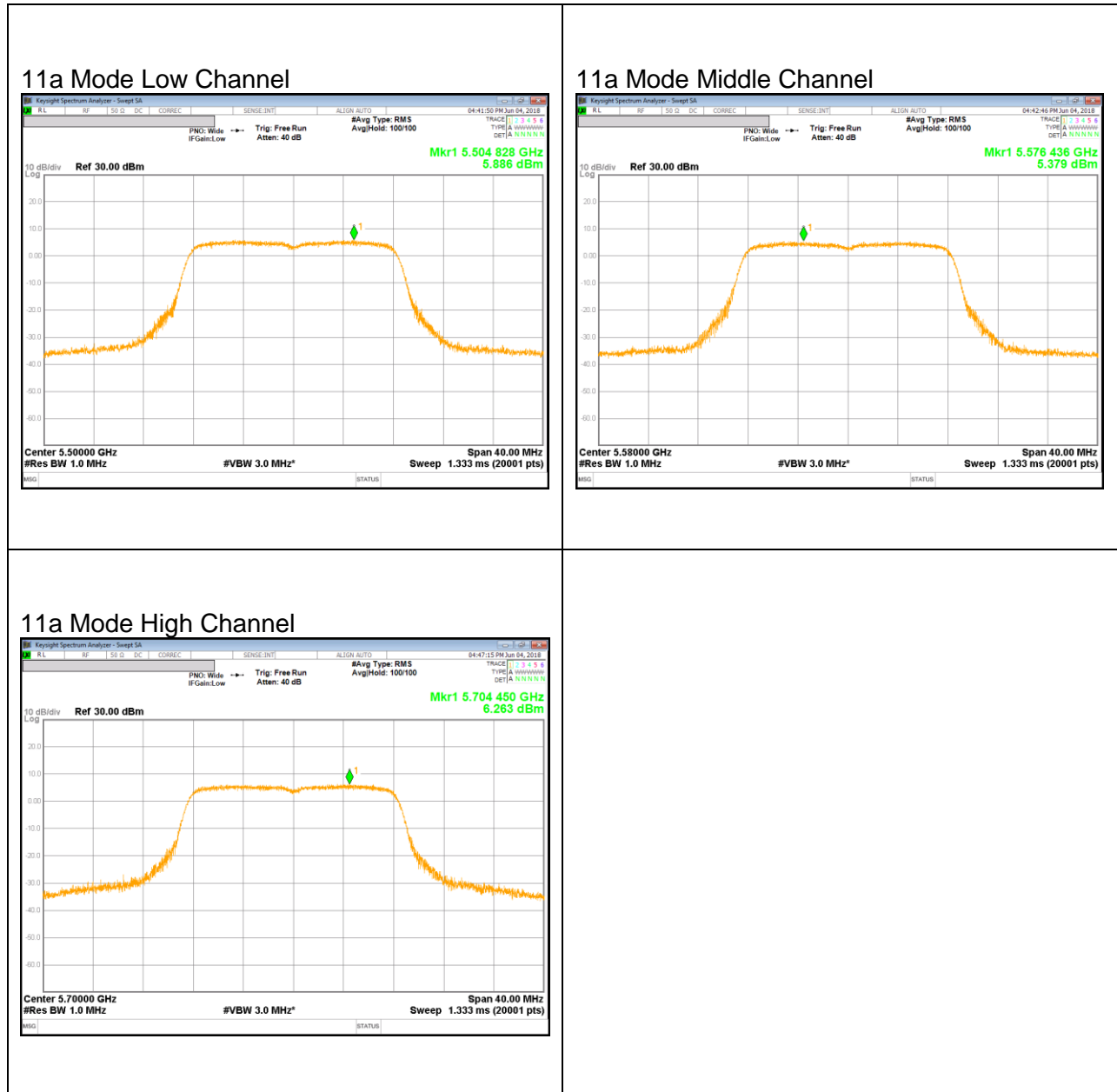


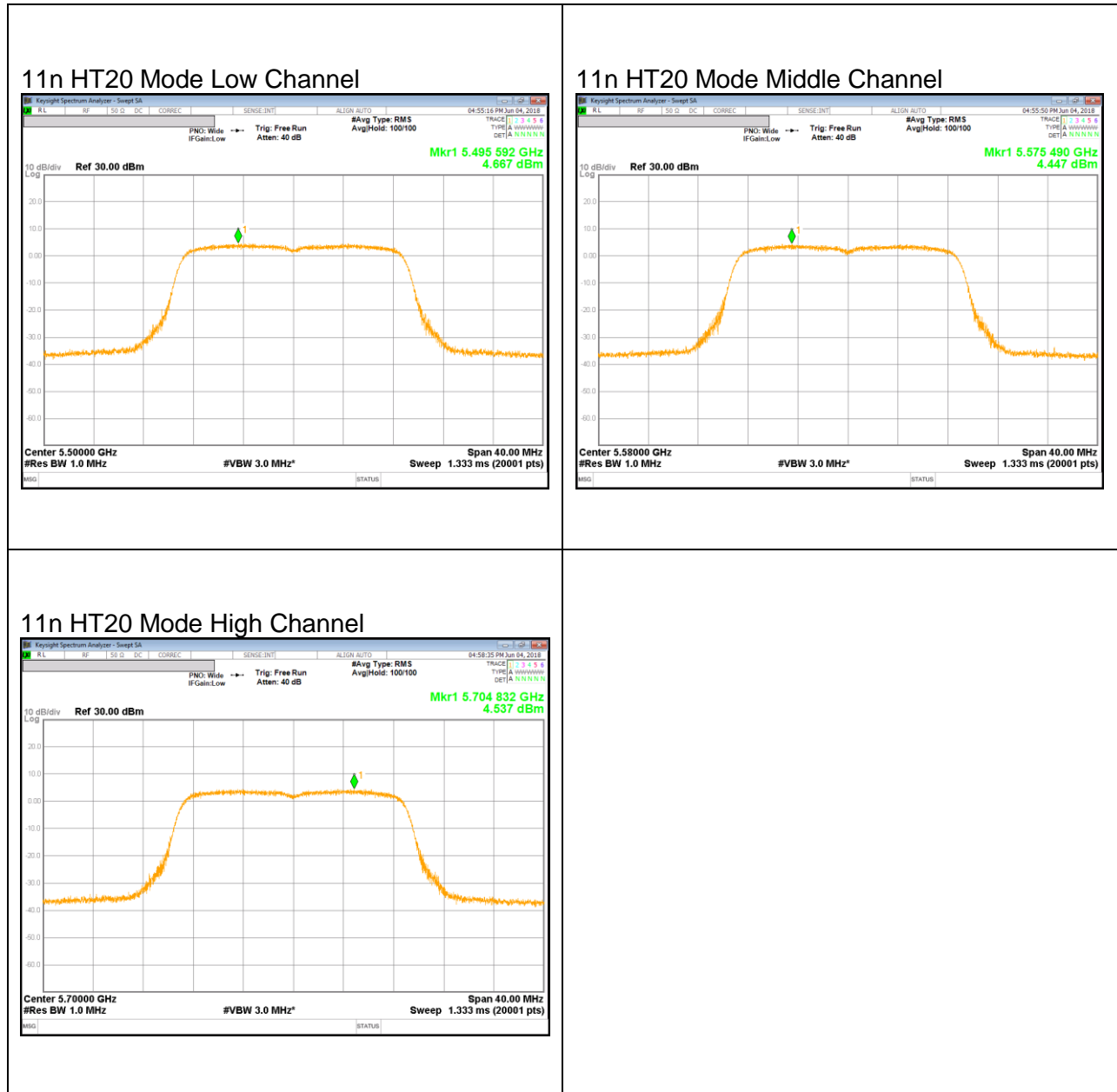




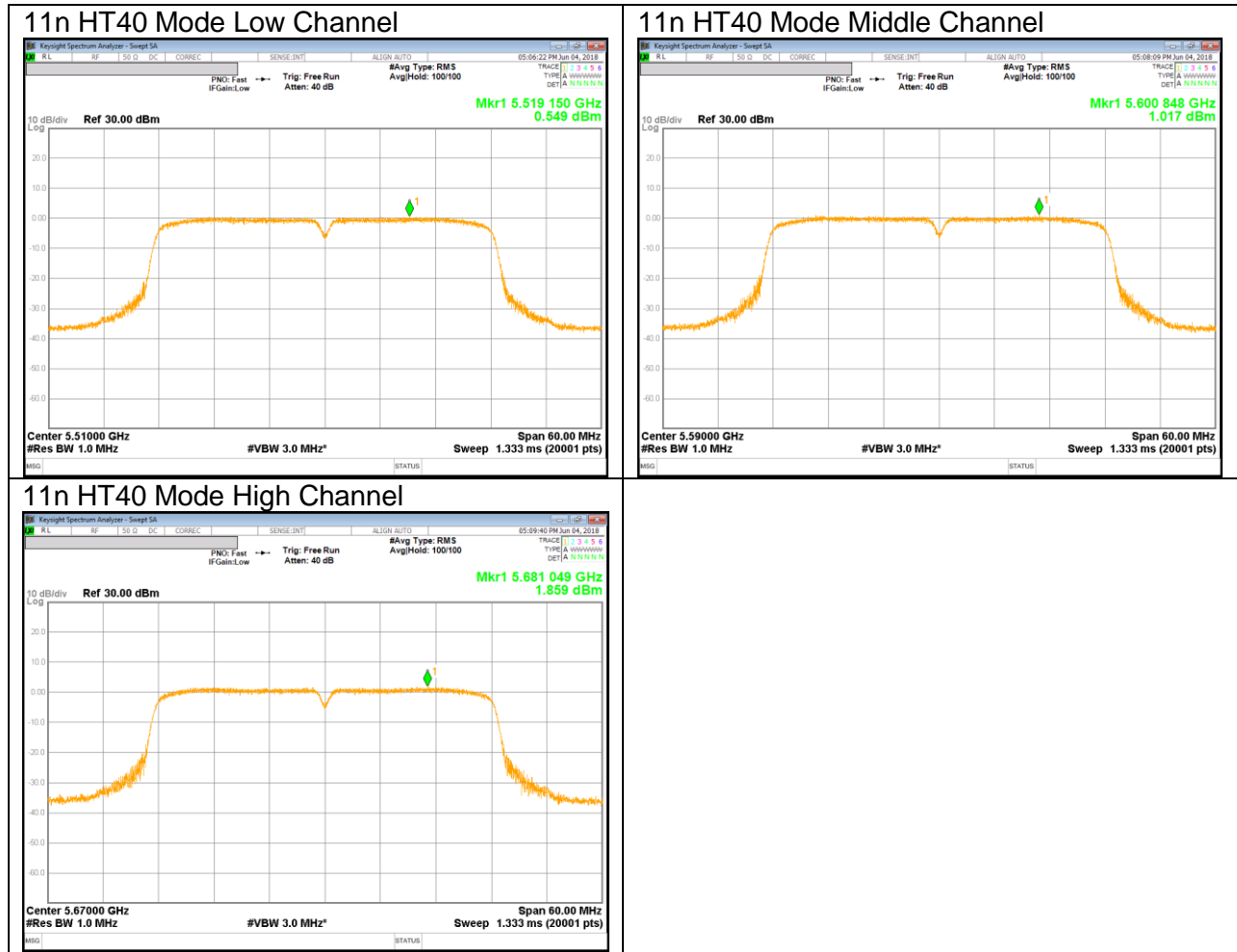
**UNII 5.3 GHz IEEE 802.11ac VHT80 mode**



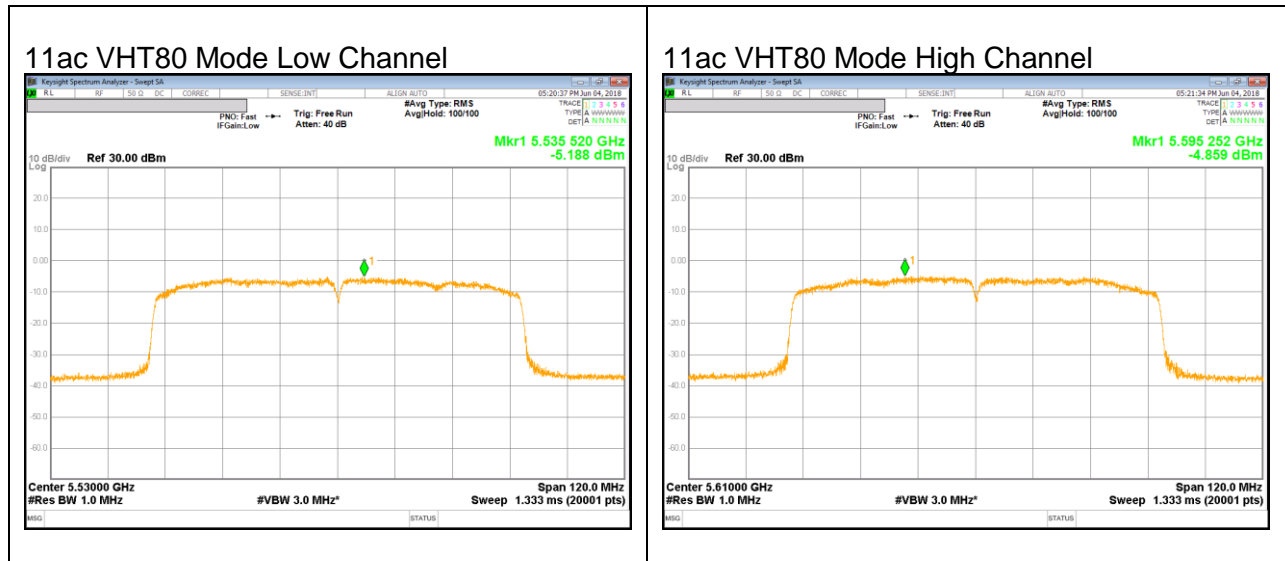


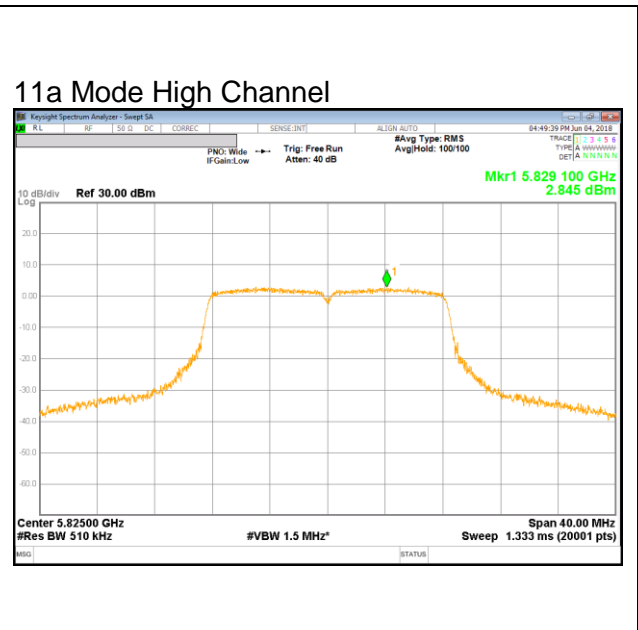
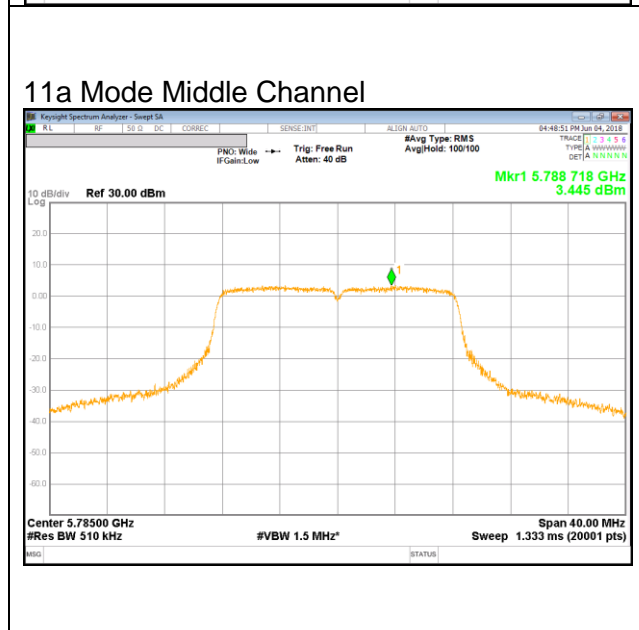
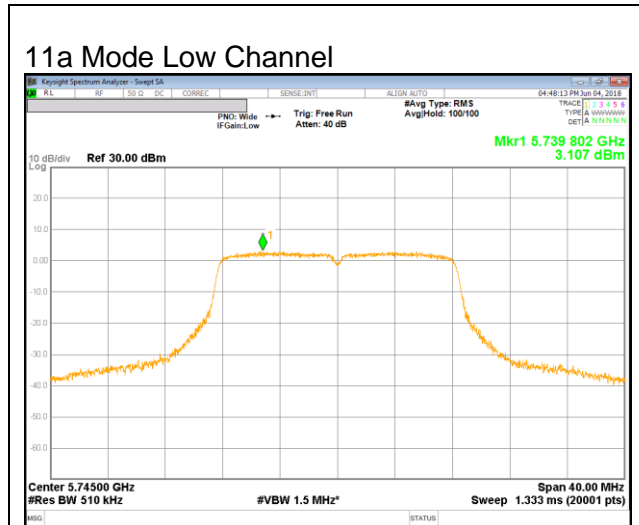




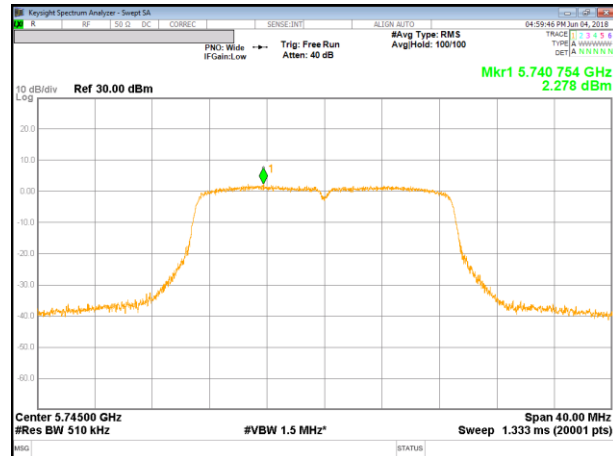


**UNII 5.5 GHz IEEE 802.11ac VHT80 mode**

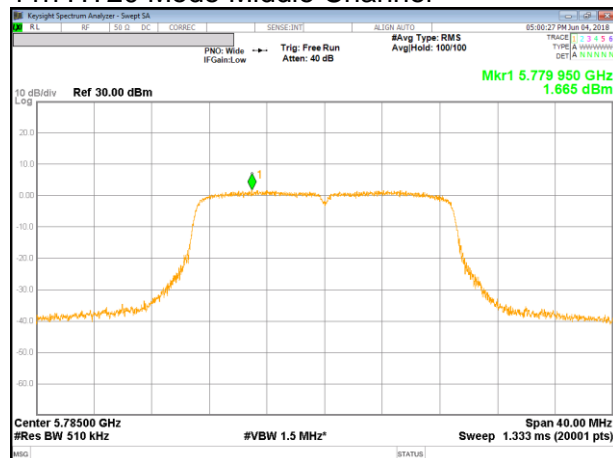




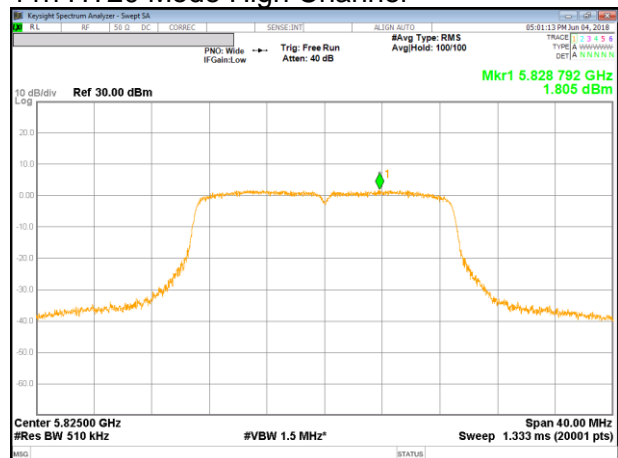
### 11n HT20 Mode Low Channel

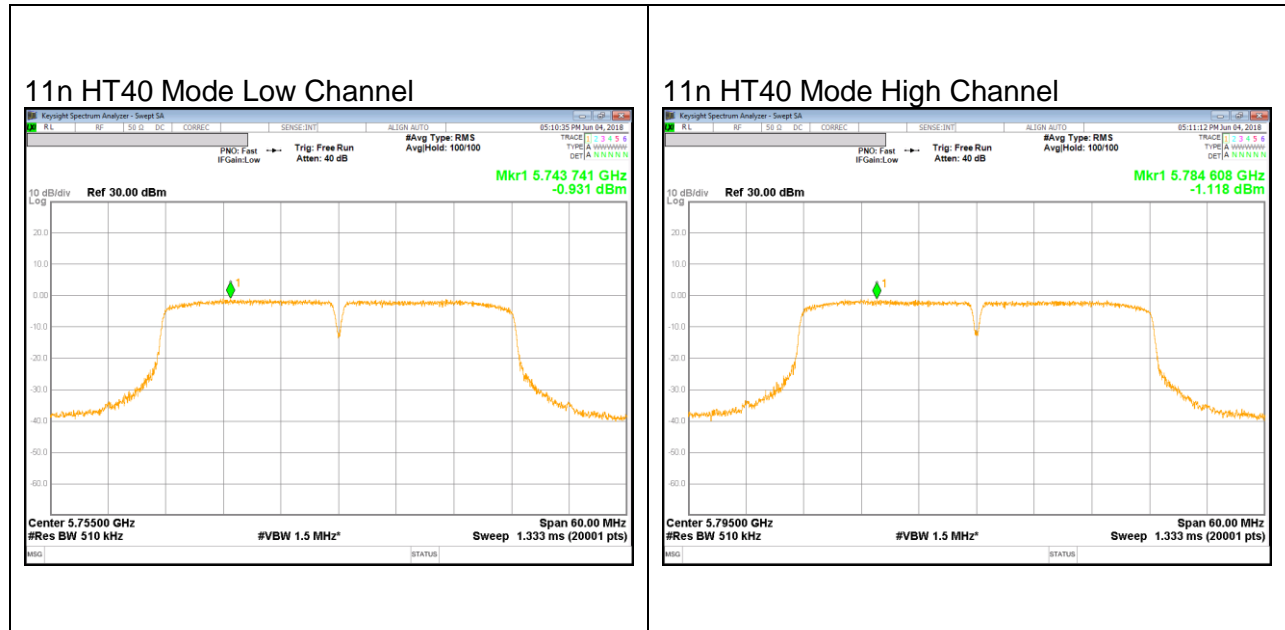


### 11n HT20 Mode Middle Channel

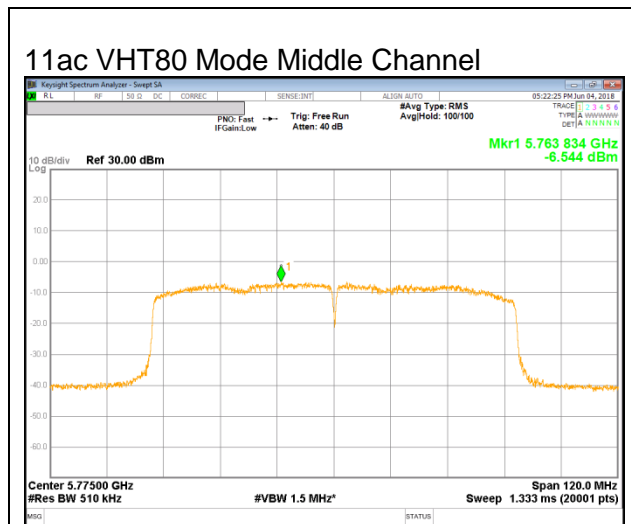


### 11n HT20 Mode High Channel





**UNII 5.8 GHz IEEE 802.11ac VHT80 mode**



# 11. TRANSMITTER ABOVE 1 GHz

## LIMITS

FCC §15.205 and §15.209  
 IC RSS-GEN Clause 8.9 (Transmitter)  
 IC RSS-GEN Clause 7 (Receiver)

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)** **IC RSS-247**

(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)

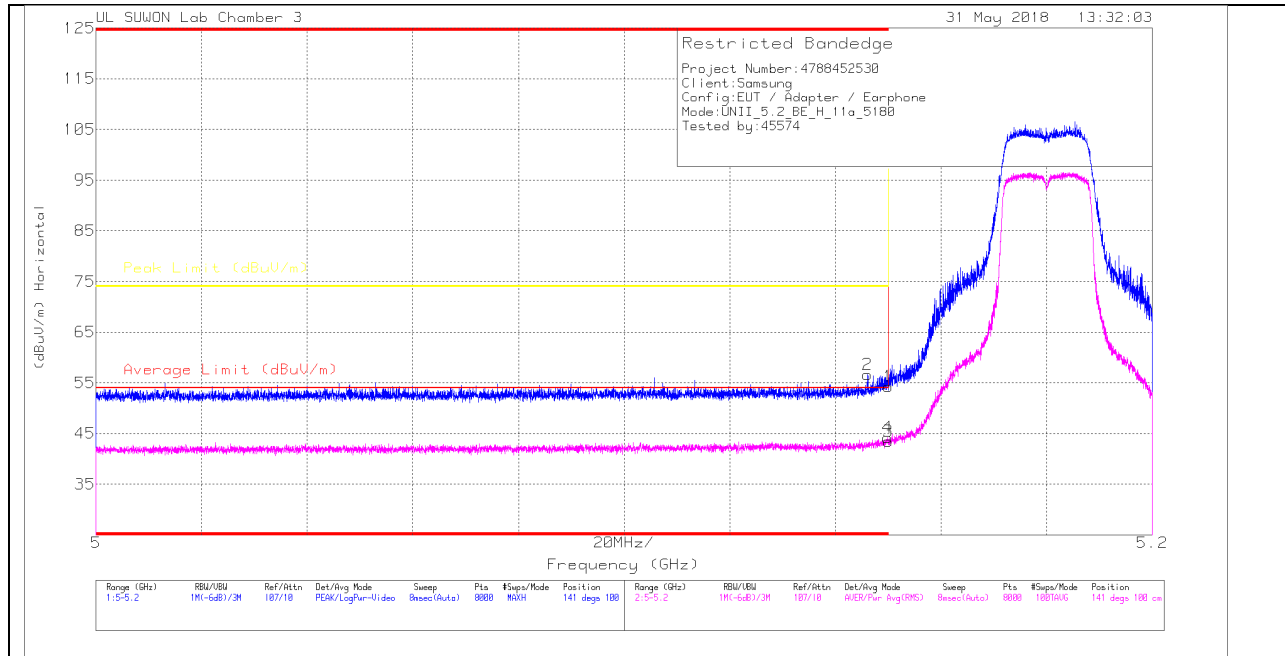
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

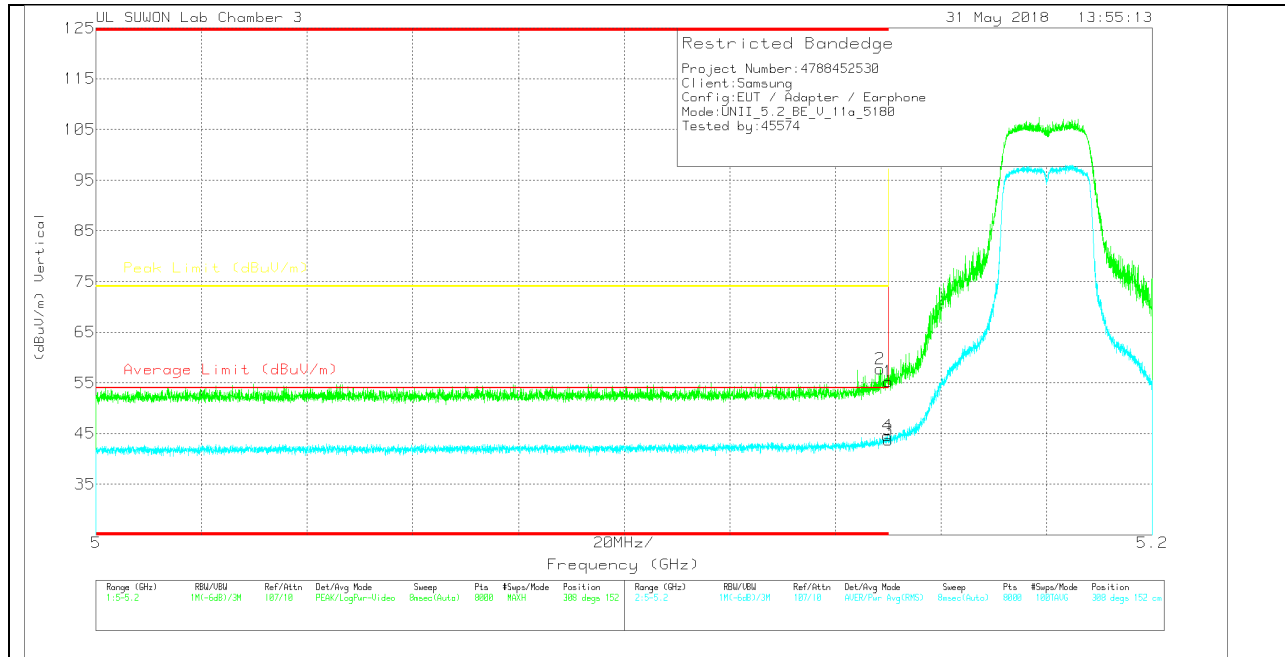
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	38.75	Pk	34.3	-18.8	0	54.25	-	-	74	-19.75	141	100	H
2	* 5.146	41.08	Pk	34.3	-18.8	0	56.58	-	-	74	-17.42	141	100	H
3	* 5.15	28.44	RMS	34.3	-19.3	0	43.44	54	-10.56	-	-	141	100	H
4	* 5.15	29.16	RMS	34.3	-19.3	0	44.16	54	-9.84	-	-	141	100	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	3117(0020599)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.72	Pk	34.3	-18.8	0	55.22	-	-	74	-18.78	308	152	V
2	* 5.148	42.34	Pk	34.3	-18.9	0	57.74	-	-	74	-16.26	308	152	V
3	* 5.15	28.73	RMS	34.3	-19.3	0	43.73	54	-10.27	-	-	308	152	V
4	* 5.15	29.54	RMS	34.3	-19.3	0	44.54	54	-9.46	-	-	308	152	V

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

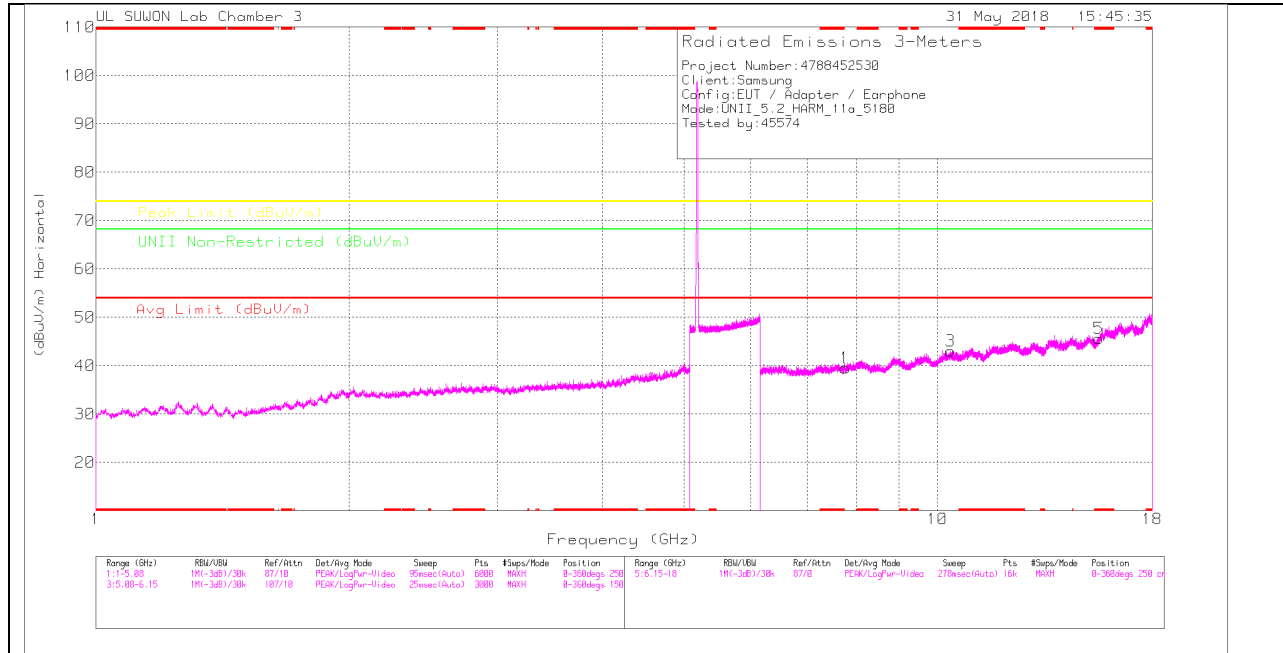
Pk - Peak detector

RMS - RMS detection

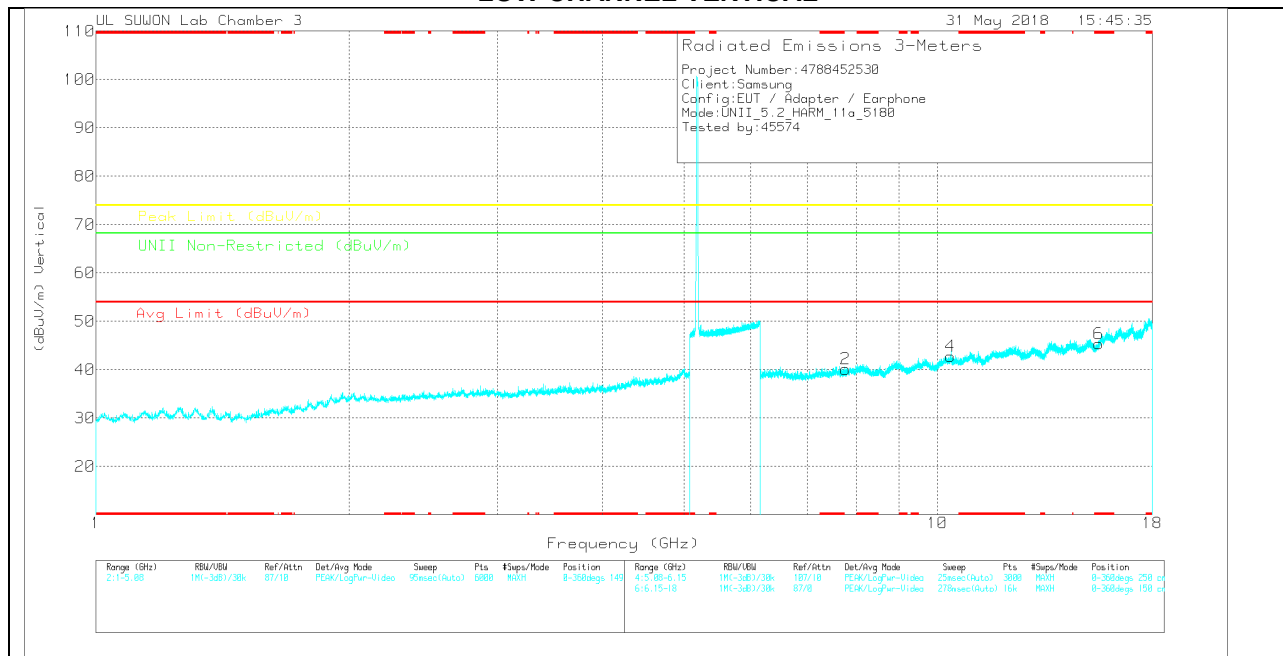


### HARMONICS AND SPURIOUS EMISSIONS

#### 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**

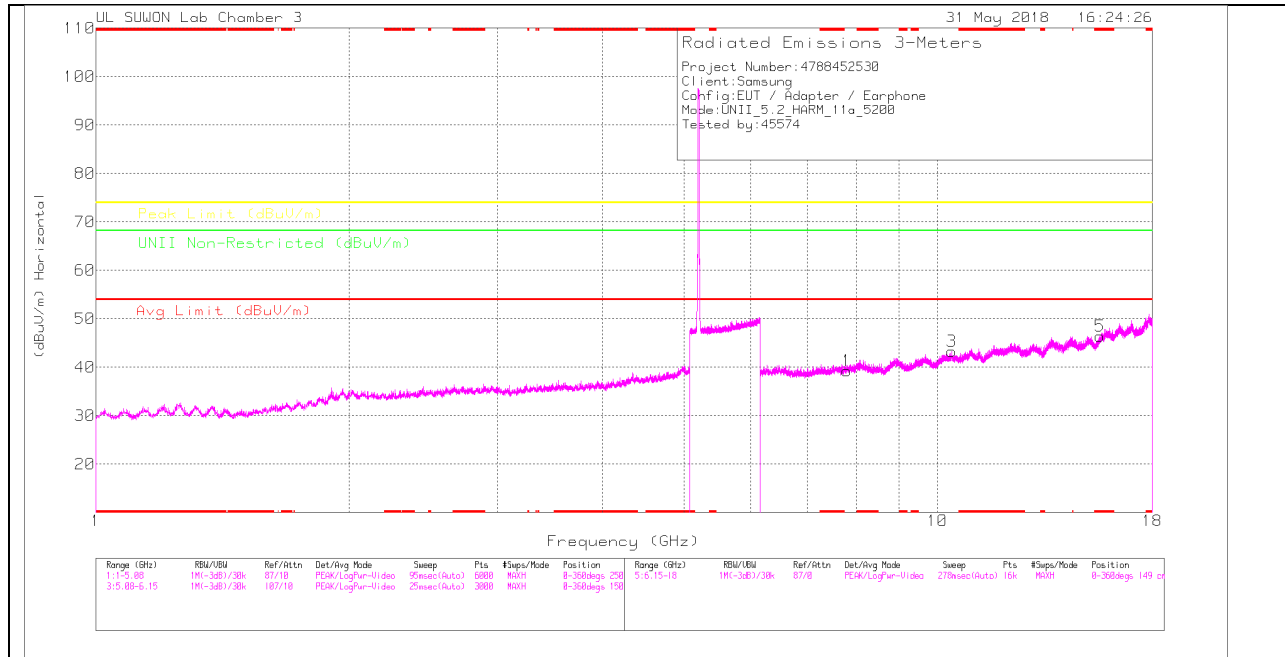
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.769	26.94	PK	35.6	-23	0	39.54	-	-	-	-	68.2	-28.66	0-360	250	H
3	10.361	24.68	PK	37.5	-19.2	0	42.98	-	-	-	-	68.2	-25.22	0-360	250	H
5	*15.541	25.36	PK	40	-19.7	0	45.66	-	-	74	-28.34	-	-	0-360	250	H
2	7.77	27.52	PK	35.6	-23	0	40.12	-	-	-	-	68.2	-28.08	0-360	250	V
4	10.361	24.47	PK	37.5	-19.2	0	42.77	-	-	-	-	68.2	-25.43	0-360	250	V
6	*15.542	25.09	PK	40	-19.7	0	45.39	-	-	74	-28.61	-	-	0-360	150	V

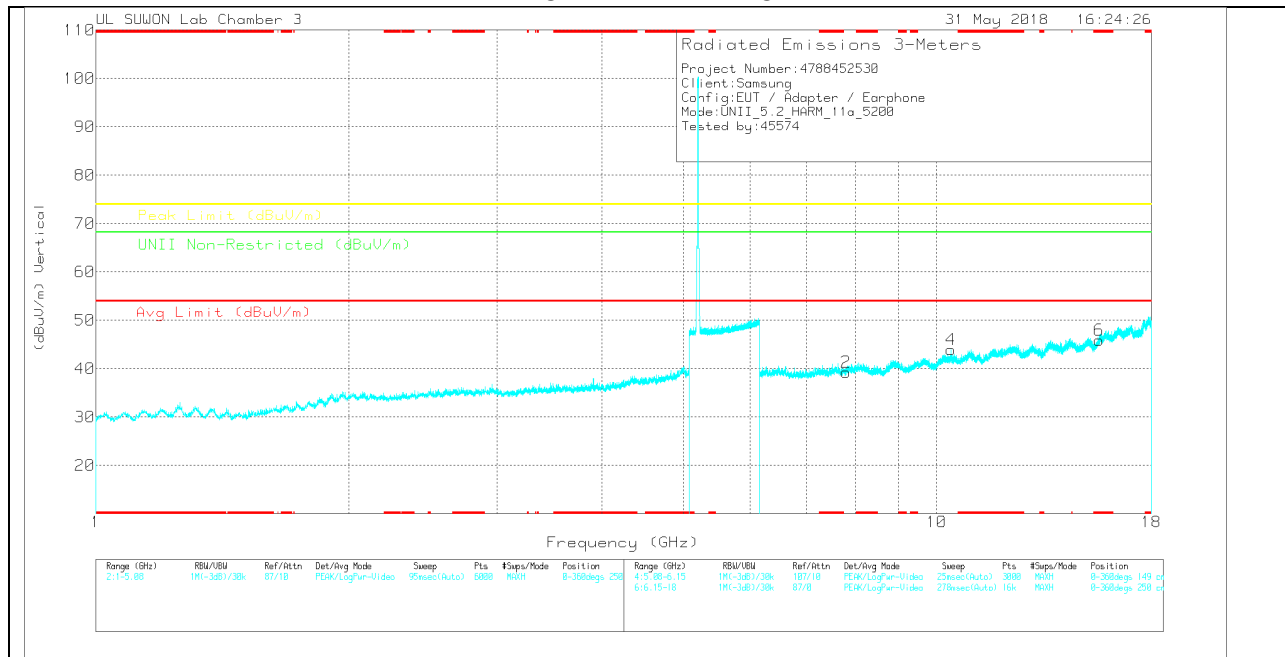
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

**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**

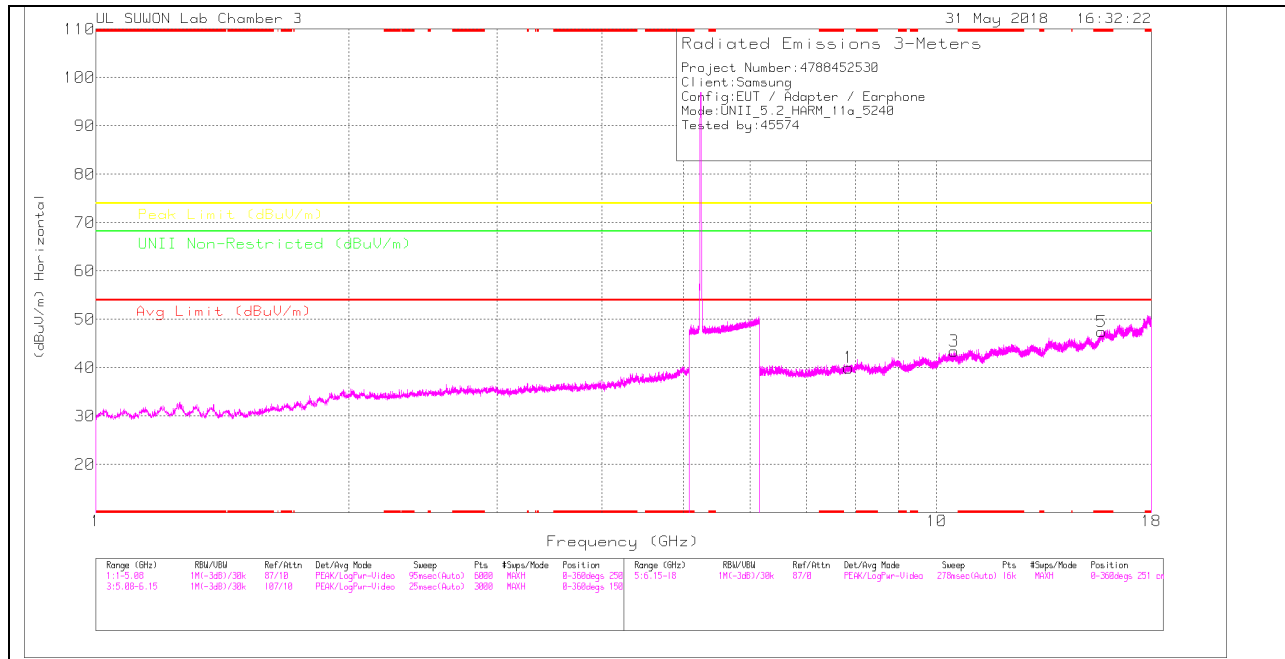
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	1117(0020959)	6GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.8	26.51	PK	35.6	-22.8	0	39.31	-	-	-	-	68.2	-28.89	0-360	149	H
3	10.401	25.09	PK	37.5	-19.3	0	43.29	-	-	-	-	68.2	-24.91	0-360	250	H
5	* 15.6	25.66	PK	40.2	-19.4	0	46.46	-	-	74	-27.54	-	-	0-360	250	H
2	7.8	26.47	PK	35.6	-22.8	0	39.27	-	-	-	-	68.2	-28.93	0-360	250	V
4	10.4	25.8	PK	37.5	-19.3	0	44	-	-	-	-	68.2	-24.2	0-360	149	V
6	* 15.6	25.14	PK	40.2	-19.4	0	45.94	-	-	74	-28.06	-	-	0-360	149	V

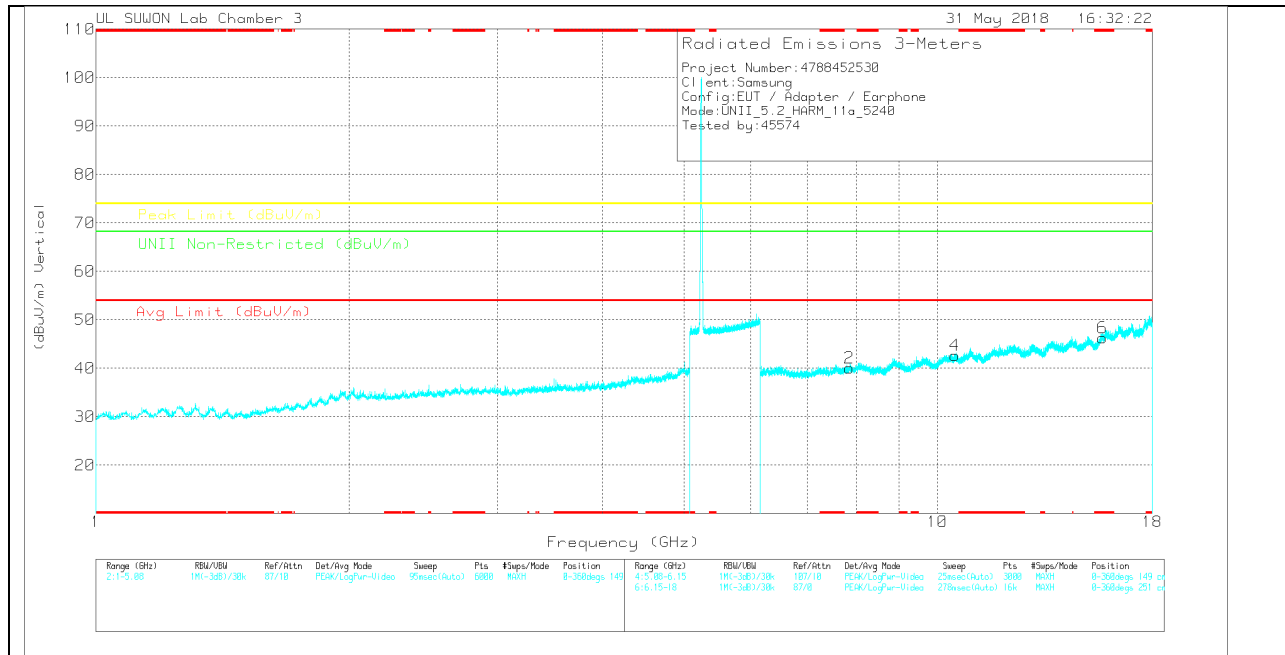
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK - Peak Detector

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

**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

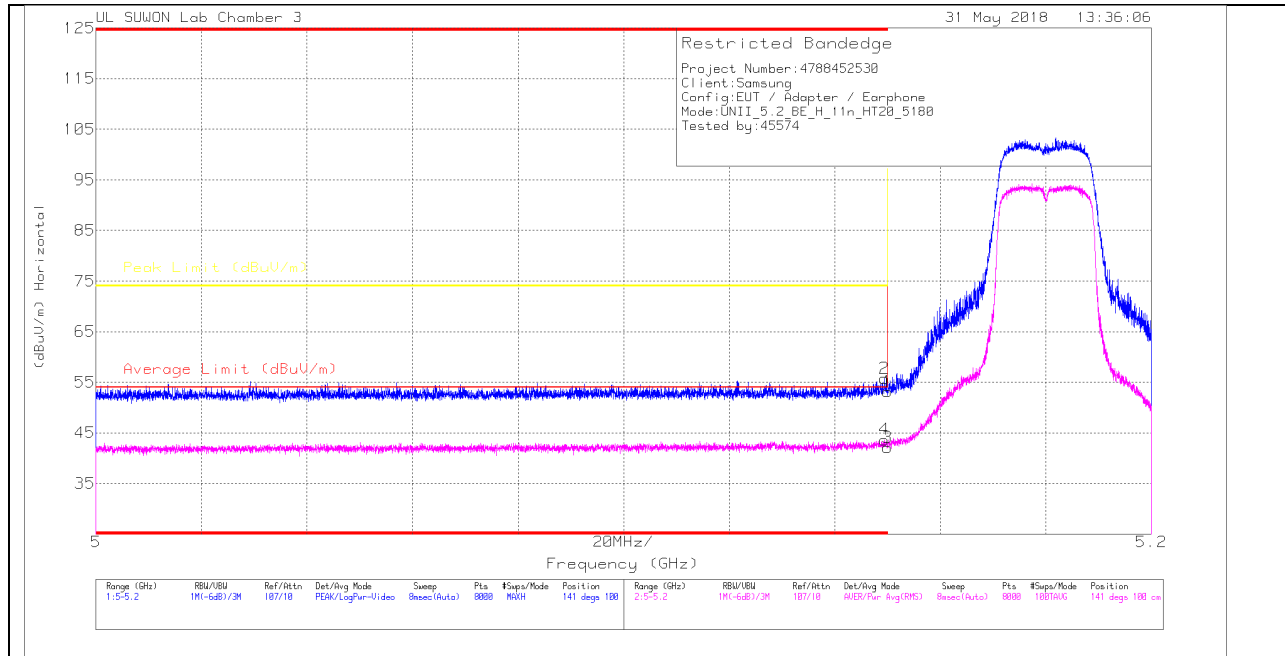
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Ag Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.861	26.69	PK	35.6	-22.3	0	39.99	-	-	-	-	68.2	-28.21	0-360	150	H
3	10.481	24.98	PK	37.7	-19.3	0	43.38	-	-	-	-	68.2	-24.82	0-360	251	H
5	*15.72	26.1	PK	40.5	-19.2	0	47.4	-	-	74	-26.6	-	-	0-360	150	H
2	7.861	26.79	PK	35.6	-22.3	0	40.09	-	-	-	-	68.2	-28.11	0-360	251	V
4	10.481	24.19	PK	37.7	-19.3	0	42.59	-	-	-	-	68.2	-25.61	0-360	149	V
6	*15.72	24.96	PK	40.5	-19.2	0	46.26	-	-	74	-27.74	-	-	0-360	251	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**

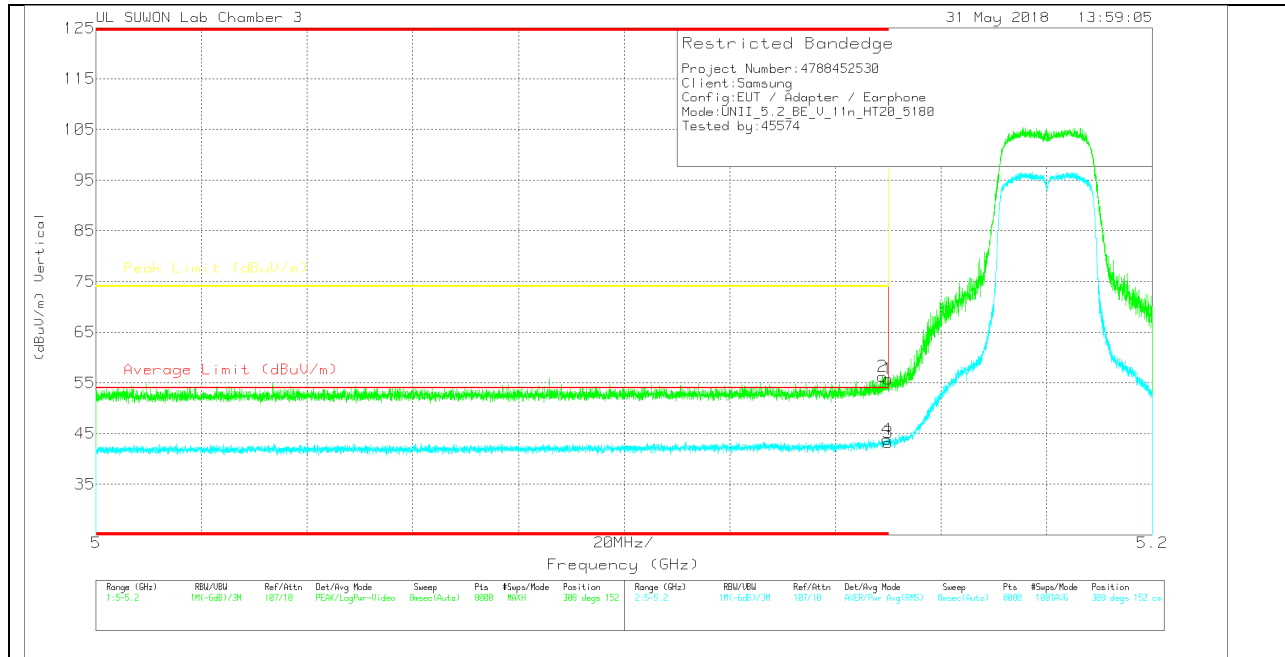
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.67	Pk	34.3	-18.8	0	53.17	-	-	74	-20.83	141	100	H
2	* 5.149	40.27	Pk	34.3	-18.8	0	55.77	-	-	74	-18.23	141	100	H
3	* 5.15	27.15	RMS	34.3	-19.3	0	42.15	54	-11.85	-	-	141	100	H
4	* 5.149	28.65	RMS	34.3	-19.3	0	43.65	54	-10.35	-	-	141	100	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	3117(00205959)	10dB_ATT[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	40.25	Pk	34.3	-18.8	0	55.75	-	-	74	-18.25	308	152	V
2	* 5.149	40.86	Pk	34.3	-18.9	0	56.26	-	-	74	-17.74	308	152	V
3	* 5.15	28.26	RMS	34.3	-19.3	0	43.26	54	-10.74	-	-	308	152	V
4	* 5.15	28.87	RMS	34.3	-19.3	0	43.87	54	-10.13	-	-	308	152	V

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

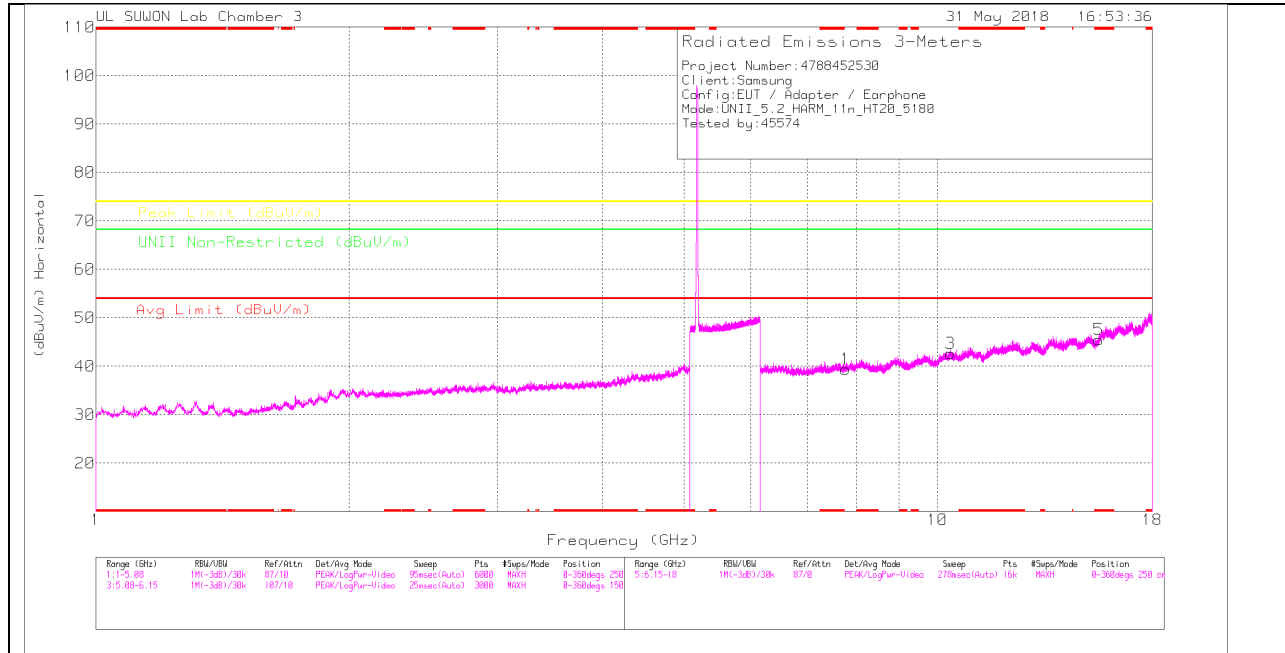
Pk - Peak detector

RMS - RMS detection

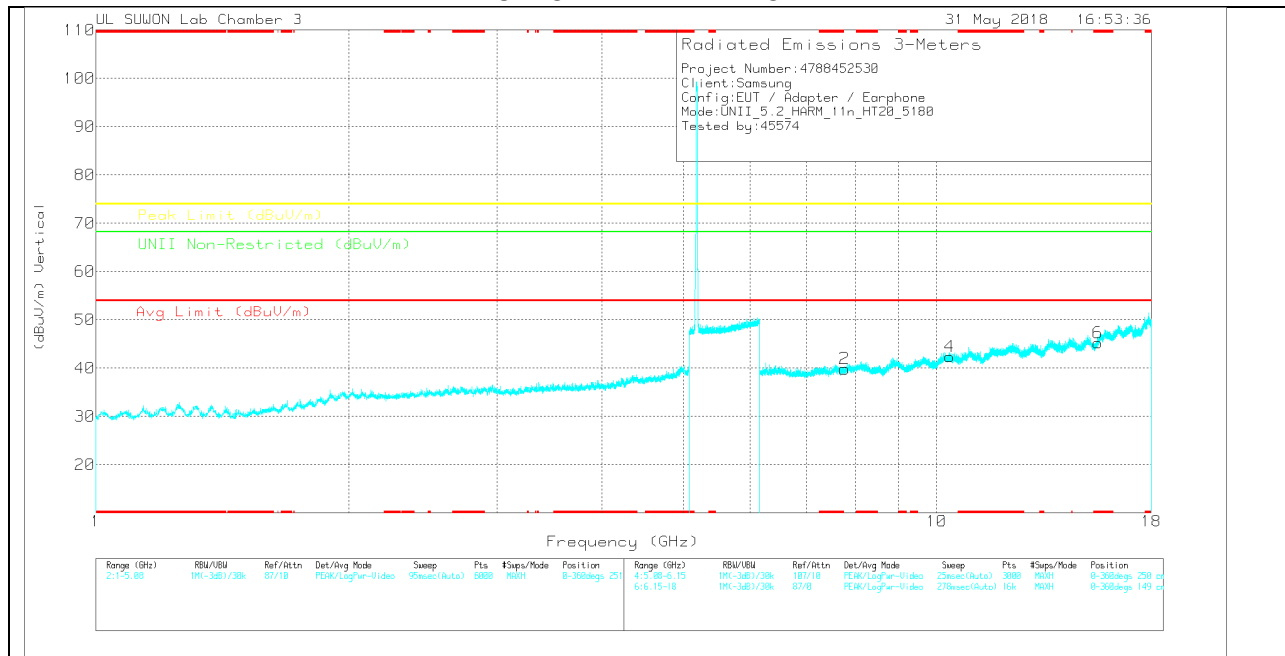


### HARMONICS AND SPURIOUS EMISSIONS

#### 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.

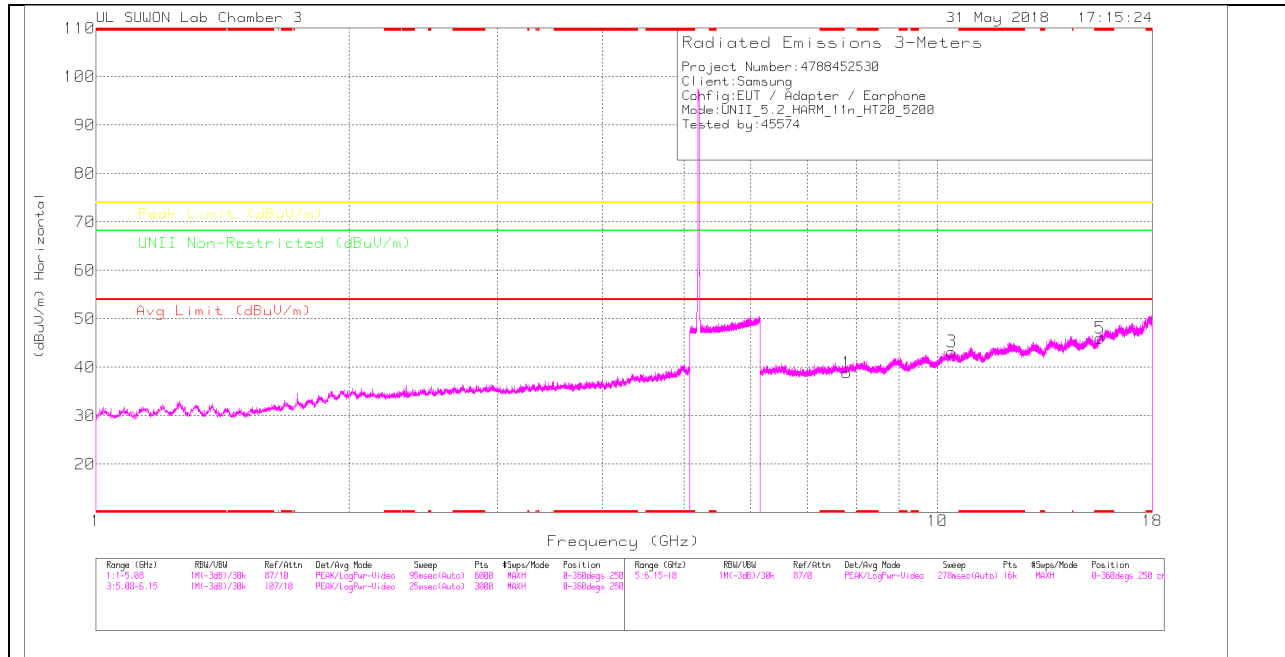
#### LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	317(020999)	GHz_HF[dB]	DC Corr [dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.771	26.86	PK	35.6	-23	0	39.46	-	-	-	-	68.2	-28.74	0-360	250	H
3	10.36	24.47	PK	37.5	-19.3	0	42.67	-	-	-	-	68.2	-25.53	0-360	250	H
5	* 15.541	25.24	PK	40	-19.7	0	45.54	-	-	74	-28.46	-	-	0-360	250	H
2	7.769	27.26	PK	35.6	-23	0	39.86	-	-	-	-	68.2	-28.34	0-360	149	V
4	10.36	24.17	PK	37.5	-19.3	0	42.37	-	-	-	-	68.2	-25.83	0-360	149	V
6	* 15.541	24.94	PK	40	-19.7	0	45.24	-	-	74	-28.76	-	-	0-360	149	V

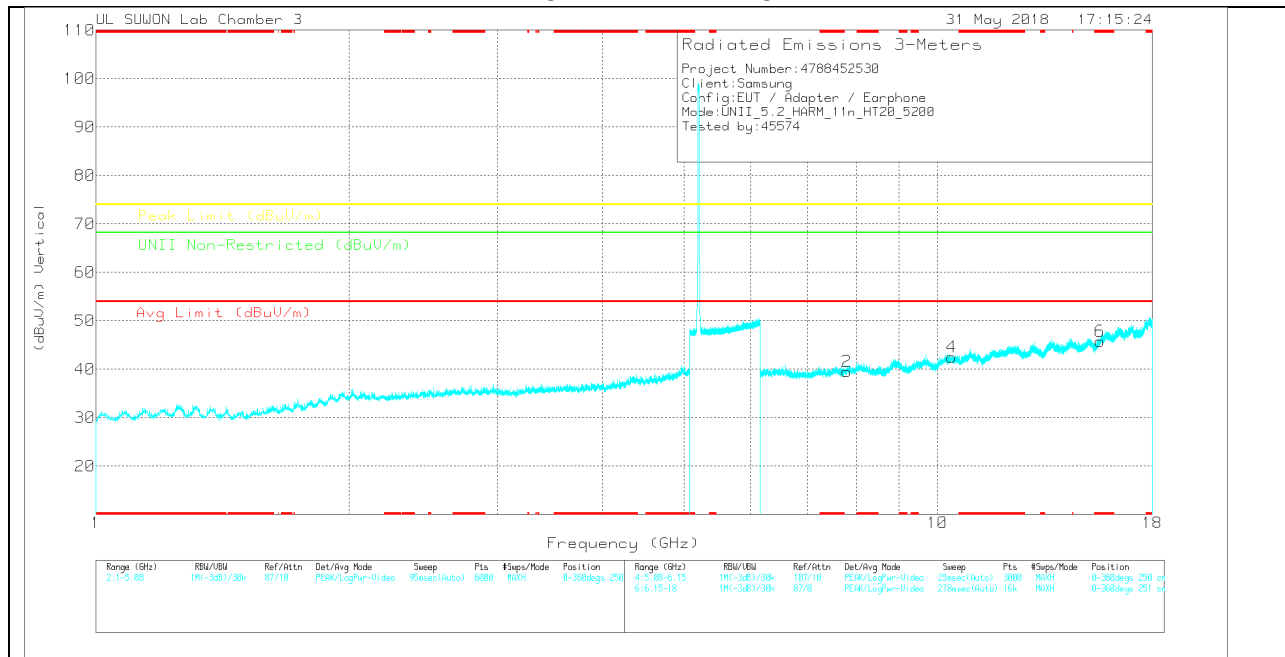
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

**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

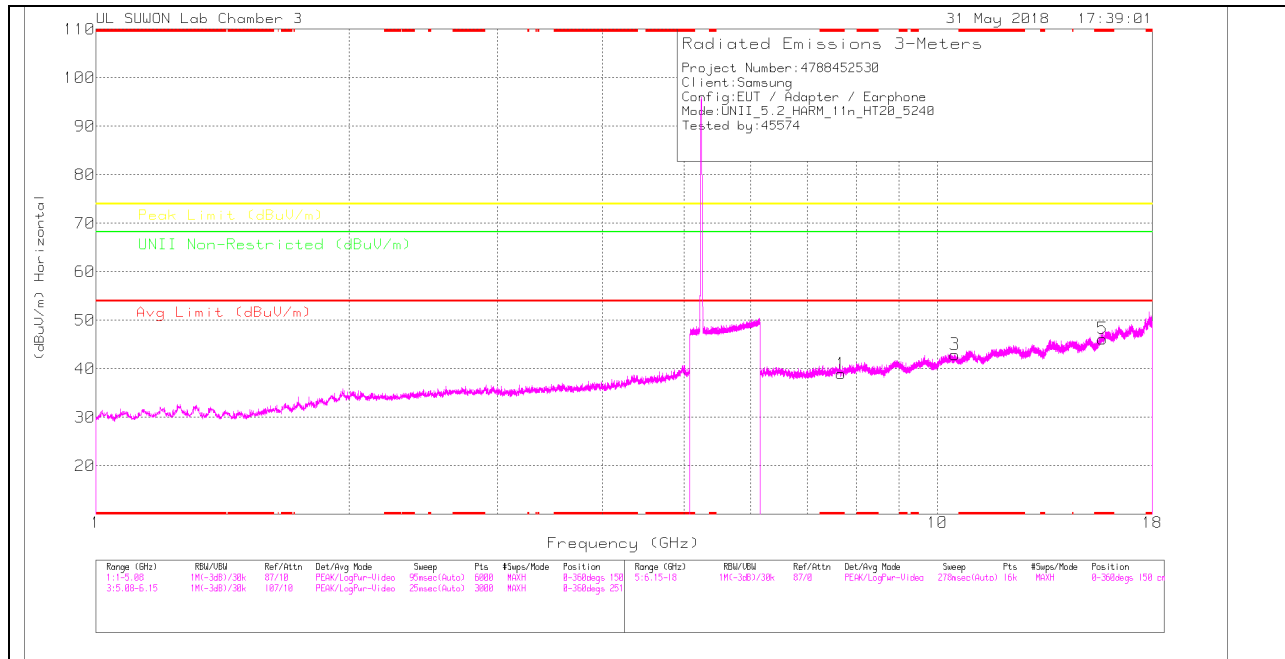
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0209999)	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.8	26.11	PK	35.6	-22.8	0	38.91	-	-	-	-	68.2	-29.29	0-360	150	H
3	10.401	25.03	PK	37.5	-19.3	0	43.23	-	-	-	-	68.2	-24.97	0-360	250	H
5	* 15.6	25.27	PK	40.2	-19.4	0	46.07	-	-	74	-27.93	-	-	0-360	150	H
2	7.8	26.77	PK	35.6	-22.8	0	39.57	-	-	-	-	68.2	-28.63	0-360	251	V
4	10.401	24.26	PK	37.5	-19.3	0	42.46	-	-	-	-	68.2	-25.74	0-360	149	V
6	* 15.6	25.01	PK	40.2	-19.4	0	45.81	-	-	74	-28.19	-	-	0-360	149	V

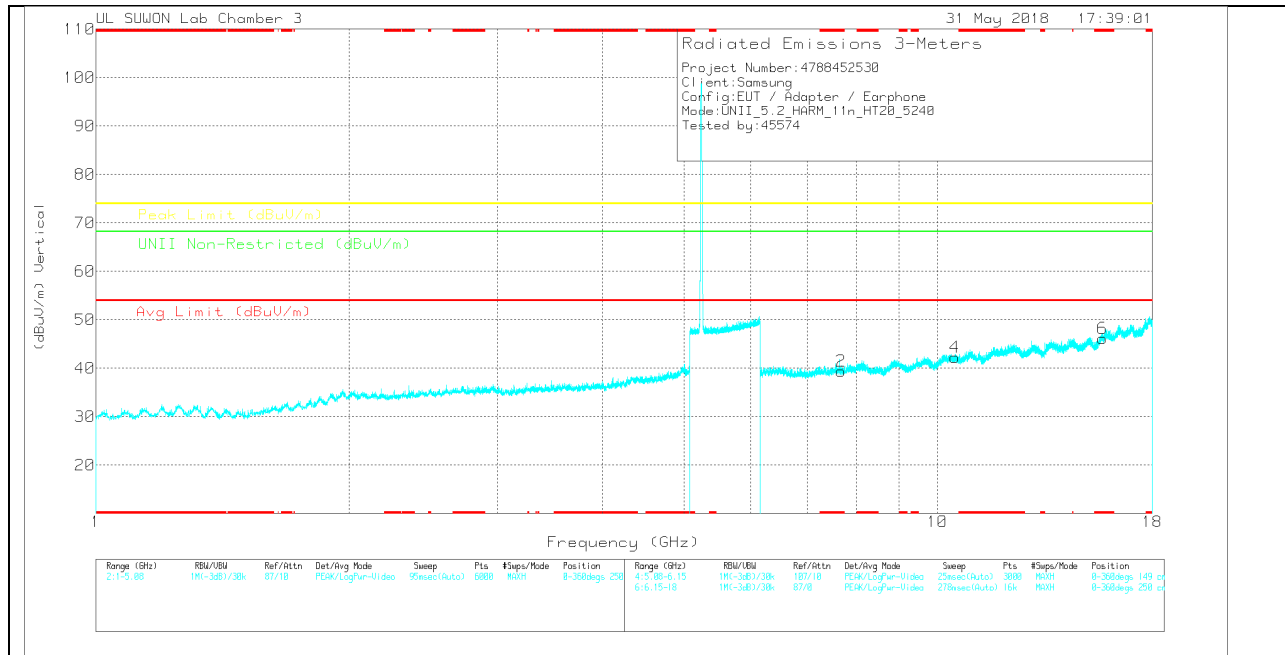
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

**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

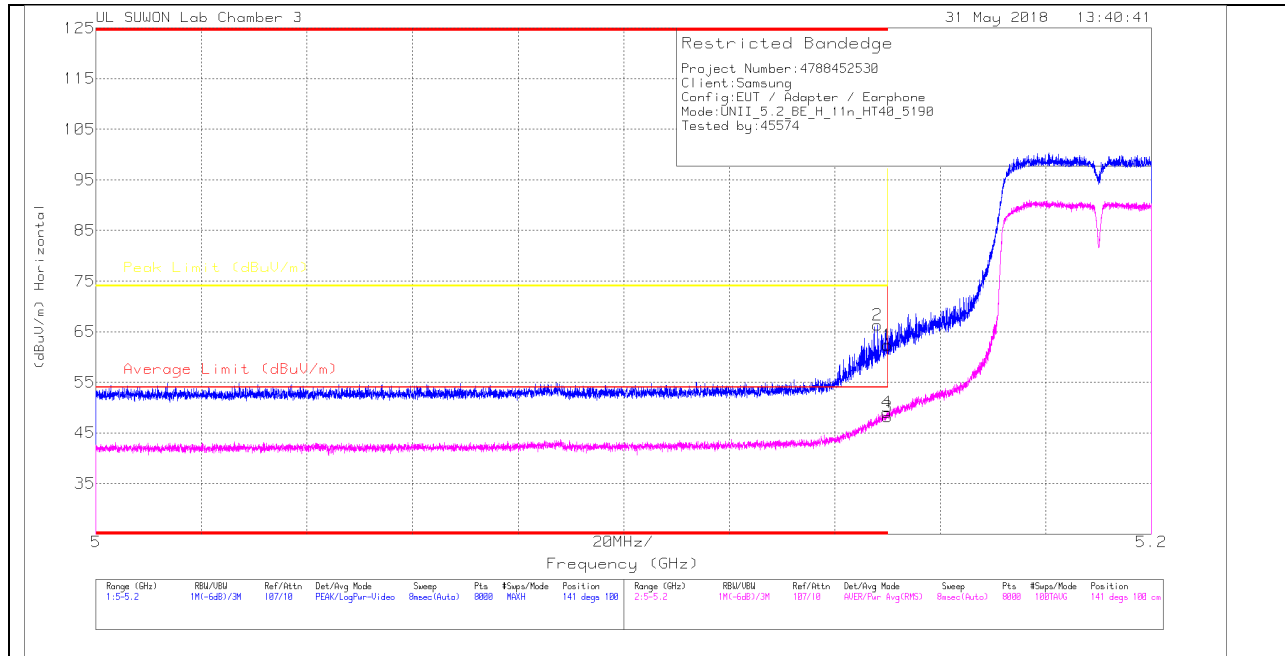
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	1117(0020959)	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 7.68	26.71	PK	35.6	-23.3	0	39.01	-	-	74	-34.99	-	-	0-360	150	H
3	10.48	24.57	PK	37.7	-19.3	0	42.97	-	-	-	-	68.2	-25.23	0-360	250	H
5	* 15.72	24.92	PK	40.5	-19.2	0	46.22	-	-	74	-27.78	-	-	0-360	250	H
2	* 7.681	27.09	PK	35.6	-23.3	0	39.39	-	-	74	-34.61	-	-	0-360	150	V
4	10.481	23.82	PK	37.7	-19.3	0	42.22	-	-	-	-	68.2	-25.98	0-360	150	V
6	* 15.72	24.88	PK	40.5	-19.2	0	46.18	-	-	74	-27.82	-	-	0-360	250	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

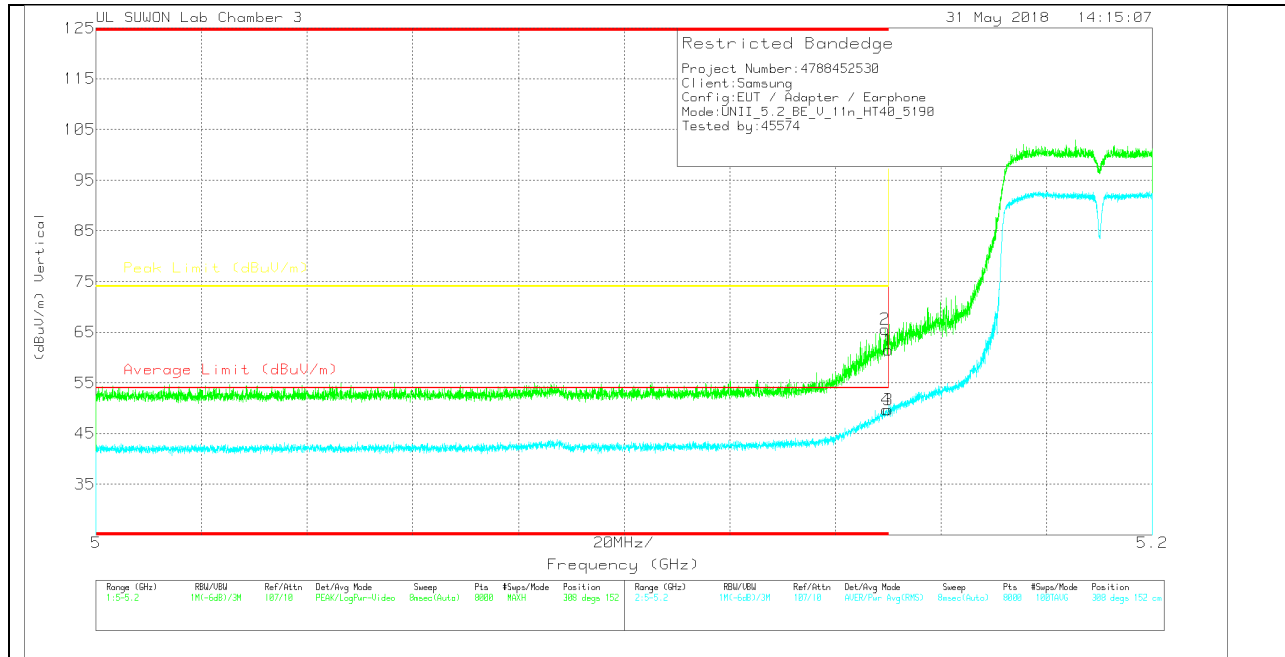
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	100B_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	46.83	Pk	34.3	-18.8	0	62.33	-	-	74	-11.67	141	100	H
2	* 5.148	50.9	Pk	34.3	-18.9	0	66.3	-	-	74	-7.7	141	100	H
3	* 5.15	32.99	RMS	34.3	-19.3	.17	48.16	54	-5.84	-	-	141	100	H
4	* 5.15	33.88	RMS	34.3	-19.3	.17	49.05	54	-4.95	-	-	141	100	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	3117(00205959)	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Asmuth (Degs)	Height (cm)	Polarity
1	* 5.15	45.99	Pk	34.3	-18.8	0	61.49	-	-	74	-12.51	308	152	V
2	* 5.149	50.1	Pk	34.3	-18.8	0	65.6	-	-	74	-8.4	308	152	V
3	* 5.15	34.49	RMS	34.3	-19.3	.17	49.66	54	-4.34	-	-	308	152	V
4	* 5.15	34.5	RMS	34.3	-19.3	.17	49.67	54	-4.33	-	-	308	152	V

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

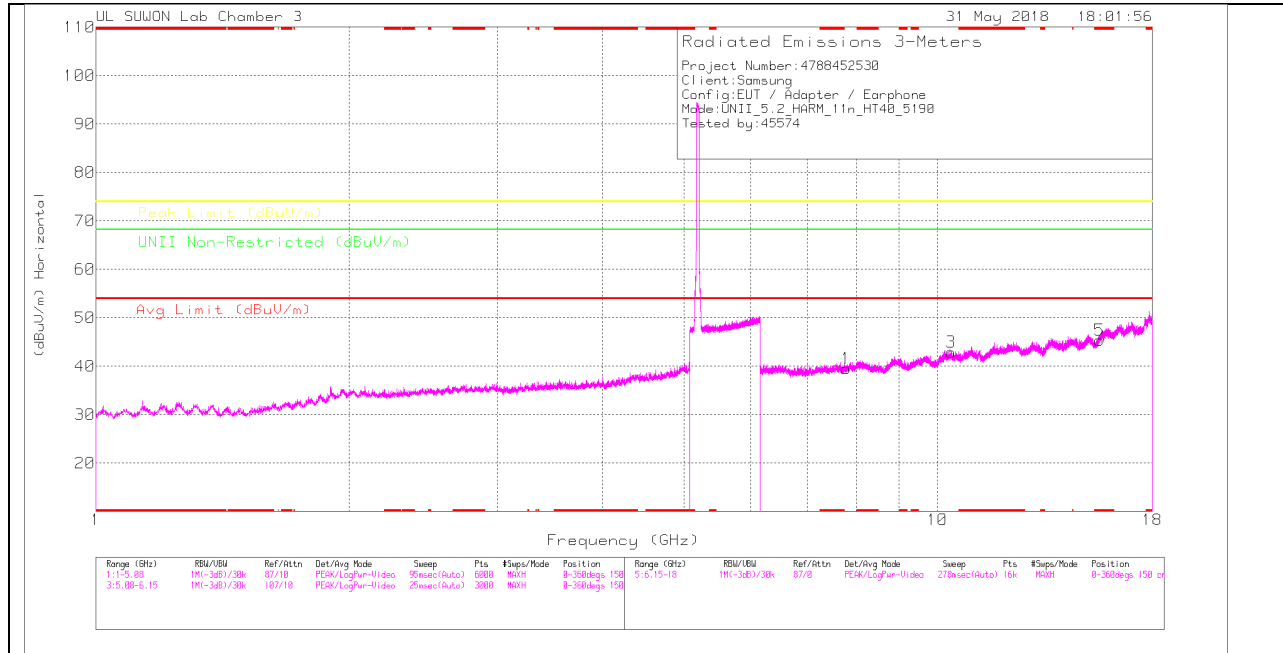
Pk - Peak detector

RMS - RMS detection

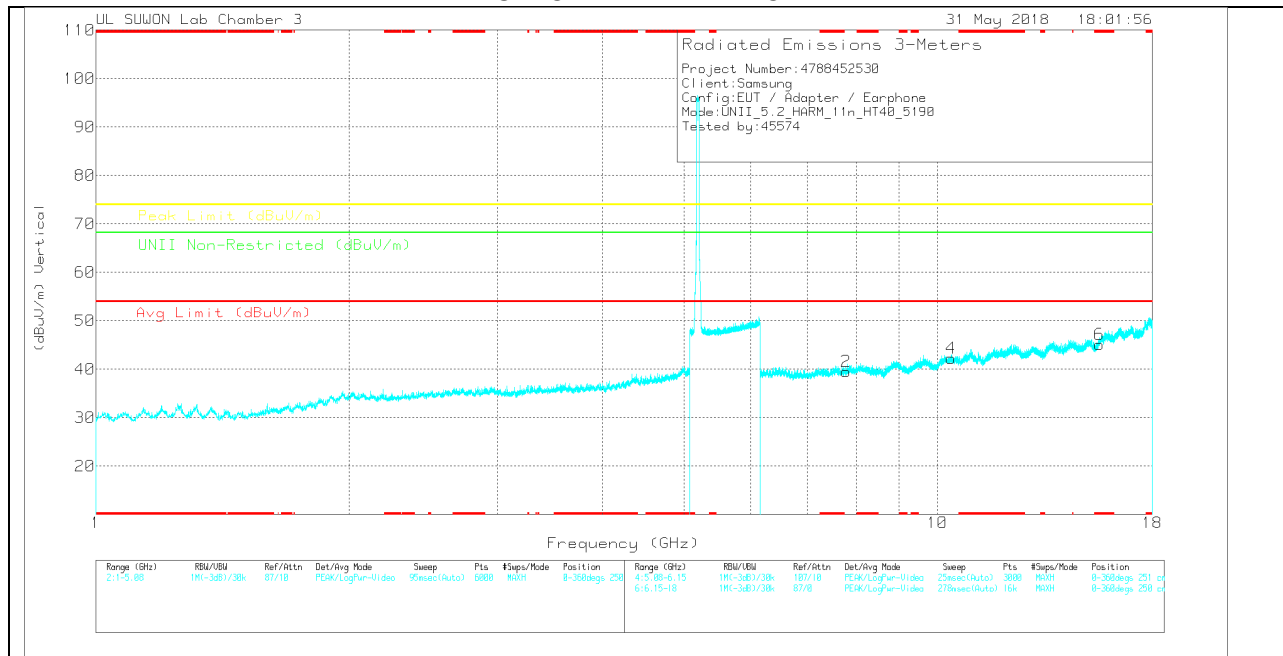


### HARMONICS AND SPURIOUS EMISSIONS

#### 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**

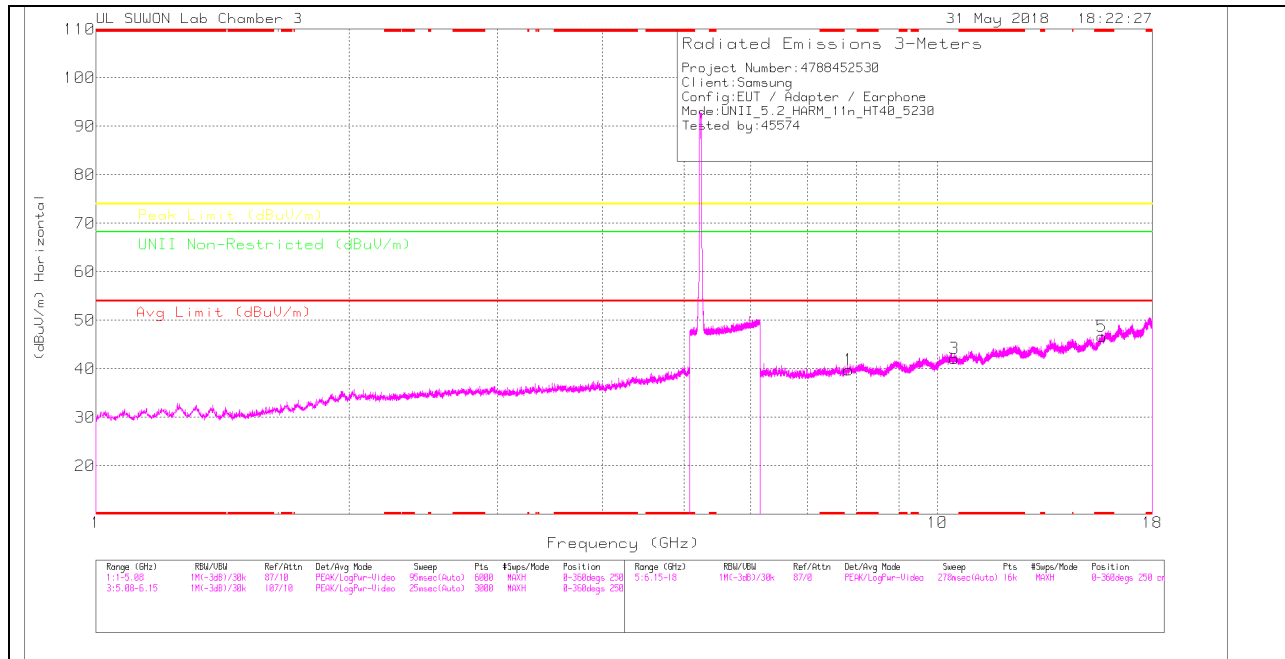
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.785	26.86	PK	35.6	-22.9	0	39.56	-	-	-	-	68.2	-28.64	0.360	250	H
3	10.381	24.56	PK	37.5	-19.2	0	42.86	-	-	-	-	68.2	-25.34	0.360	150	H
5	*15.571	24.84	PK	40.1	-19.6	0	45.34	-	-	74	-28.66	-	-	0.360	150	H
2	7.785	26.79	PK	35.6	-22.9	0	39.49	-	-	-	-	68.2	-28.71	0.360	149	V
4	10.381	23.96	PK	37.5	-19.2	0	42.26	-	-	-	-	68.2	-25.94	0.360	250	V
6	*15.57	24.67	PK	40.1	-19.6	0	45.17	-	-	74	-28.83	-	-	0.360	250	V

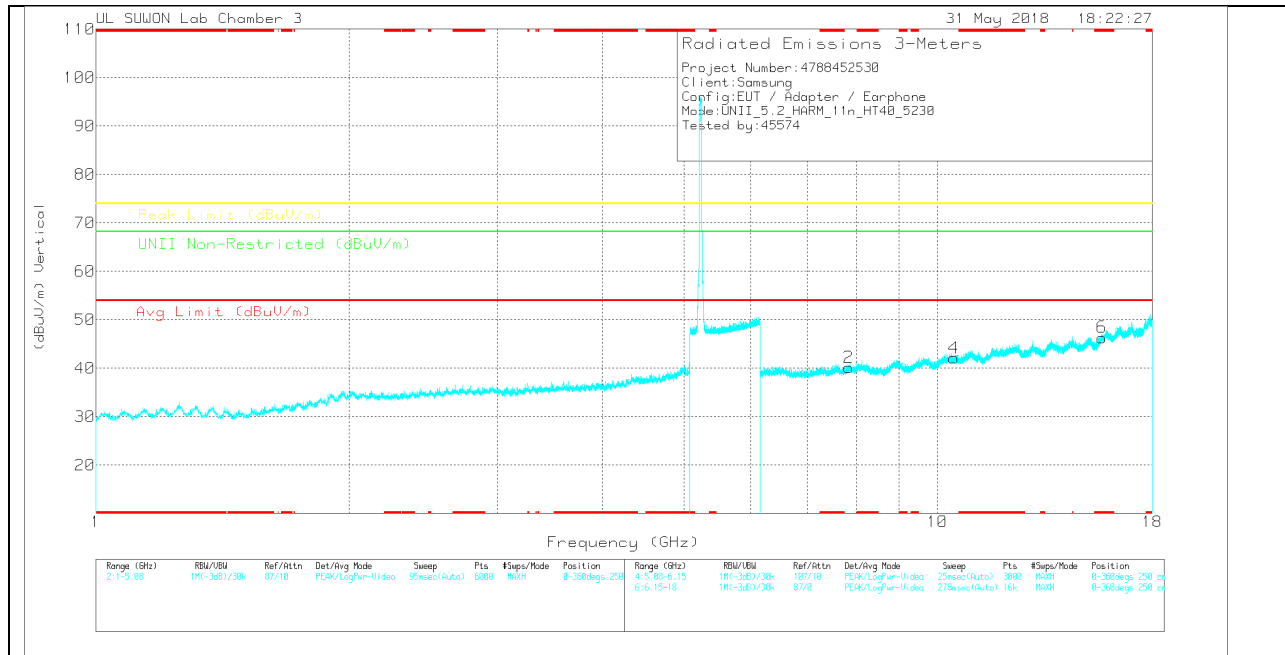
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak detector

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

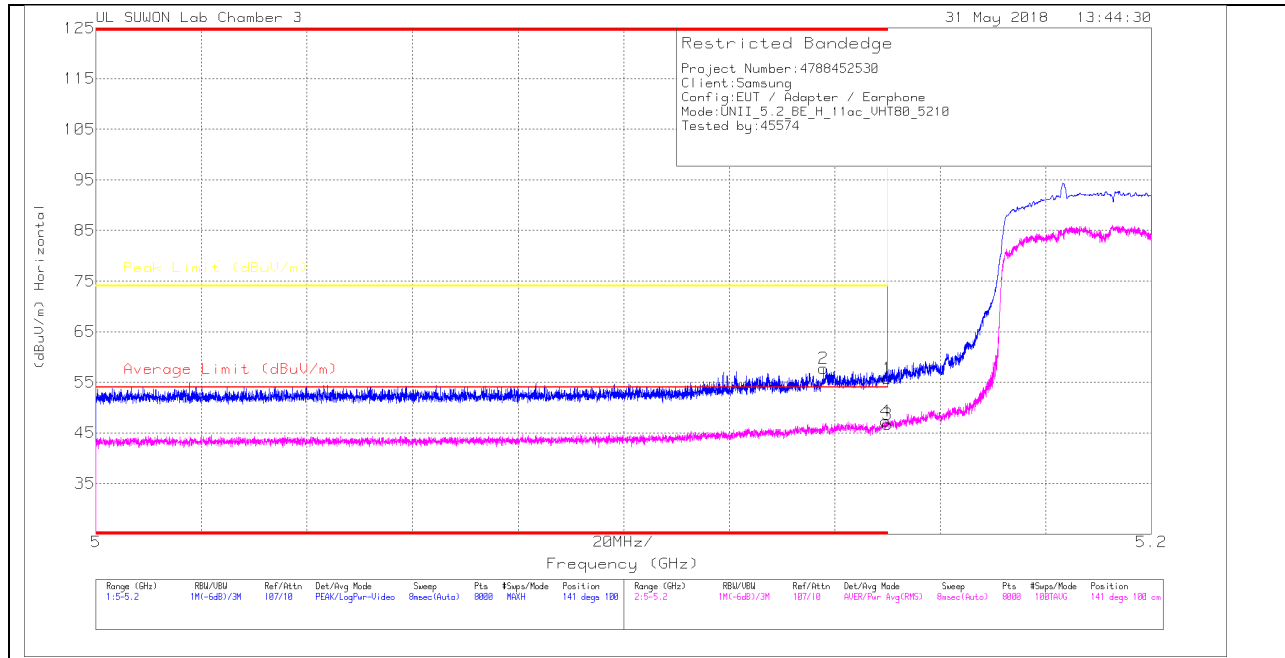
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.847	26.65	PK	35.6	-22.4	0	39.85	-	-	-	-	68.2	-28.35	0-360	150	H
3	10.462	23.96	PK	37.6	-19.4	0	42.16	-	-	-	-	68.2	-26.04	0-360	150	H
5	* 15.689	25.63	PK	40.4	-19.3	0	46.73	-	-	74	-27.27	-	-	0-360	150	H
2	7.846	27.03	PK	35.6	-22.4	0	40.23	-	-	-	-	68.2	-27.97	0-360	250	V
4	10.461	23.98	PK	37.6	-19.4	0	42.18	-	-	-	-	68.2	-26.02	0-360	150	V
6	* 15.691	25.25	PK	40.4	-19.3	0	46.35	-	-	74	-27.65	-	-	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).

**11.1.4. TX ABOVE 1GHz 802.11ac VHT80 MODE IN THE 5.2GHz BAND  
 RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

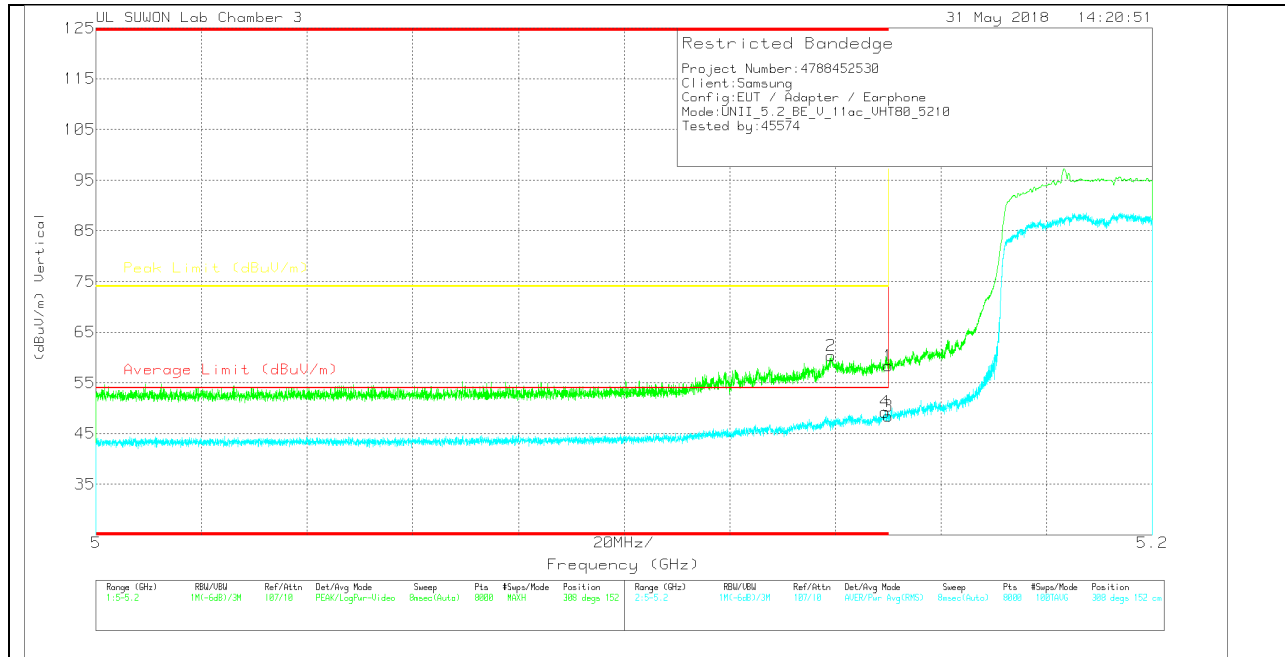
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	311700205959	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.22	Pk	34.3	-18.8	0	55.72	-	-	74	-18.28	141	100	H
2	* 5.138	42.19	Pk	34.3	-18.8	0	57.69	-	-	74	-16.31	141	100	H
3	* 5.15	30.23	RMS	34.3	-19.3	1.47	46.7	54	-7.3	-	-	141	100	H
4	* 5.15	30.79	RMS	34.3	-19.3	1.47	47.26	54	-6.74	-	-	141	100	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	3117(0020559)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Asimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.84	Pk	34.3	-18.8	0	58.34	-	-	74	-15.66	308	152	V
2	* 5.139	44.94	Pk	34.3	-18.9	0	60.34	-	-	74	-13.66	308	152	V
3	* 5.15	31.96	RMS	34.3	-19.3	1.47	48.43	54	-5.57	-	-	308	152	V
4	* 5.149	32.77	RMS	34.3	-19.3	1.47	49.24	54	-4.76	-	-	308	152	V

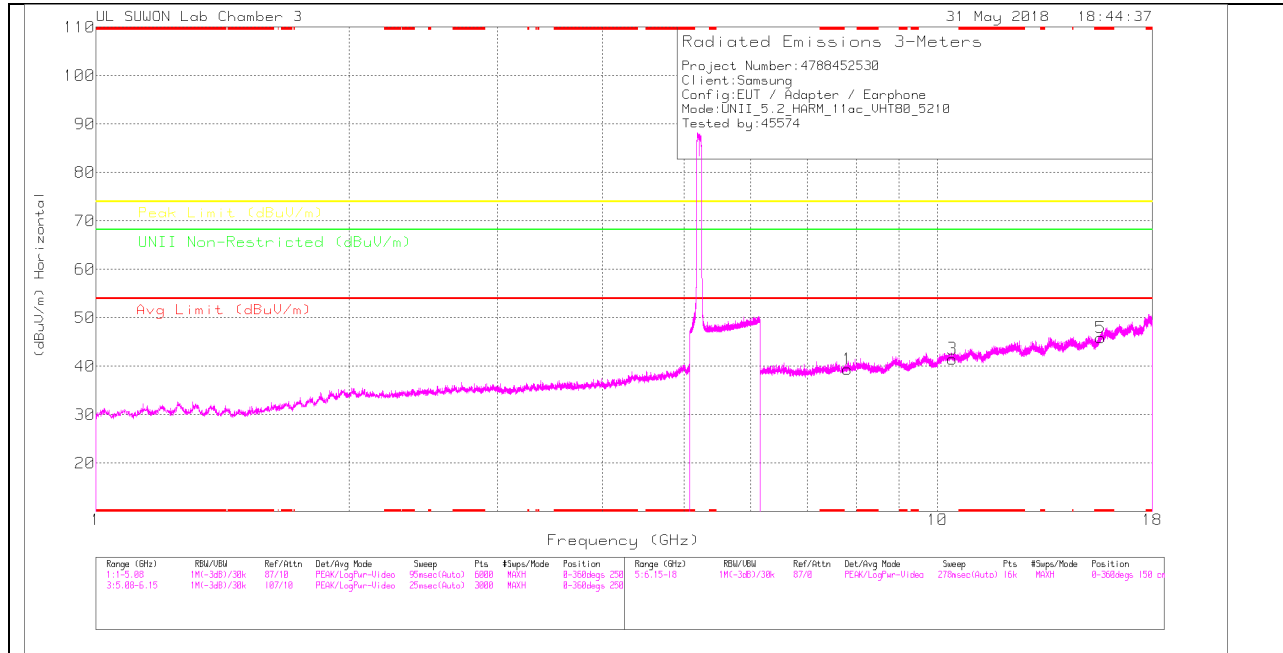
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

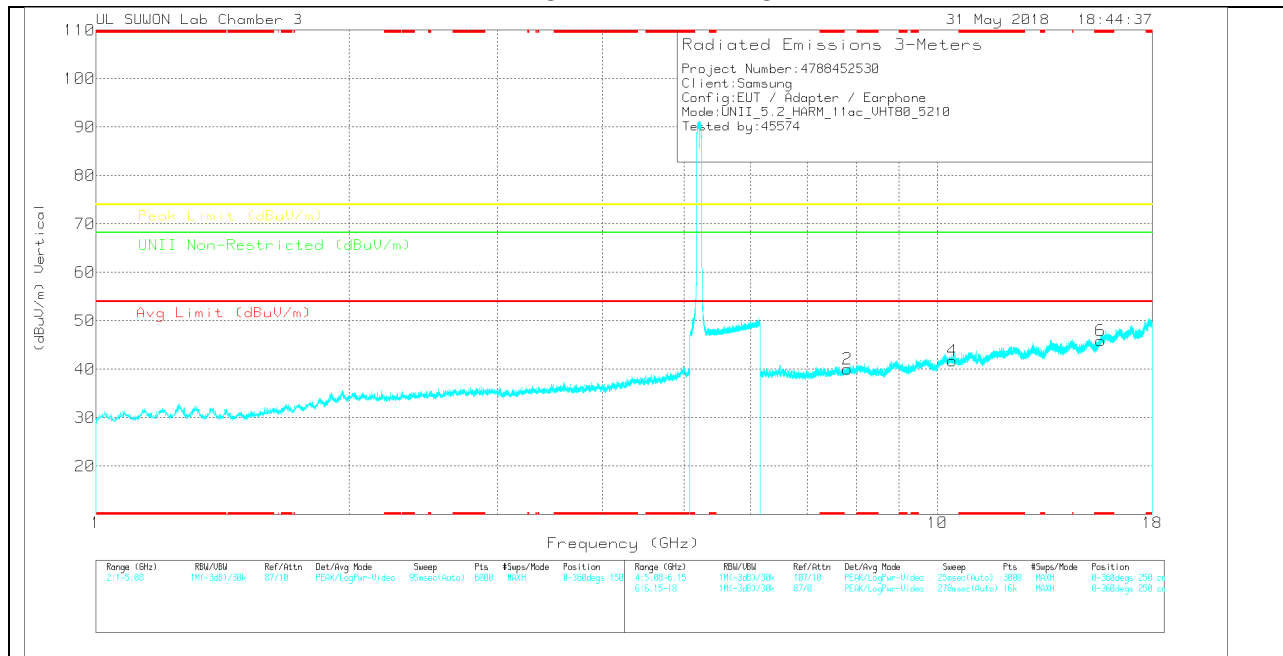
RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS

#### 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	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.815	26.43	PK	35.6	-22.6	0	39.43	-	-	-	-	68.2	-28.77	0-360	150	H
3	10.421	23.34	PK	37.6	-19.4	0	41.54	-	-	-	-	68.2	-26.66	0-360	150	H
5	*15.631	25.03	PK	40.3	-19.4	0	45.93	-	-	74	-28.07	-	-	0-360	150	H
2	7.815	27.08	PK	35.6	-22.6	0	40.08	-	-	-	-	68.2	-28.12	0-360	149	V
4	10.421	23.5	PK	37.6	-19.4	0	41.7	-	-	-	-	68.2	-26.5	0-360	250	V
6	*15.631	24.97	PK	40.3	-19.4	0	45.87	-	-	74	-28.13	-	-	0-360	149	V

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

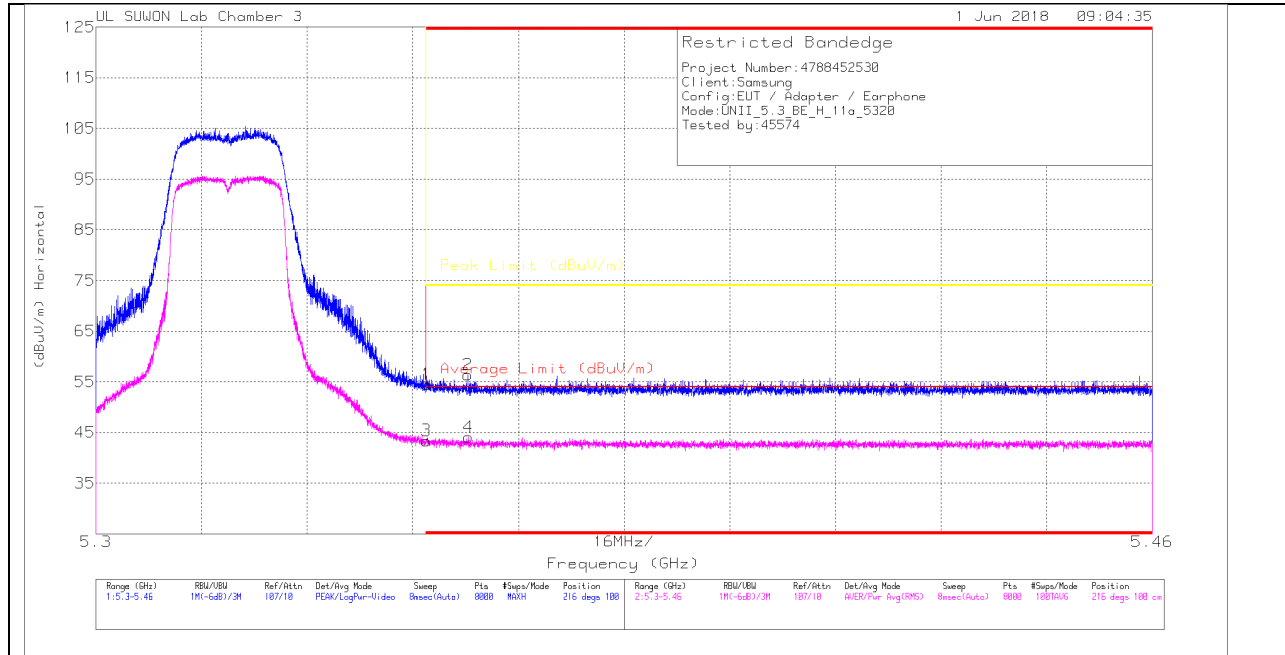
Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).



**11.2. 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**

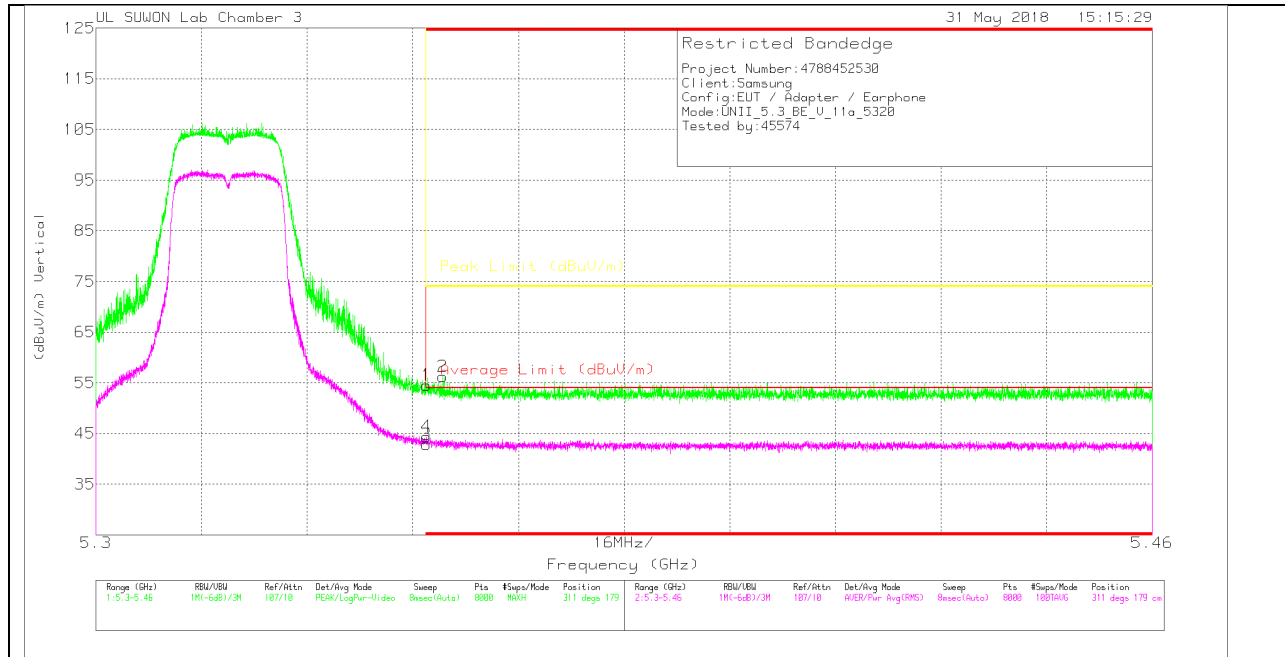
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.78	Pk	34.4	-18.7	0	54.48	-	-	74	-19.52	216	100	H
2	* 5.356	40.66	Pk	34.4	-18.7	0	56.36	-	-	74	-17.64	216	100	H
3	* 5.35	28	RMS	34.4	-19	0	43.4	54	-10.6	-	-	216	100	H
4	* 5.356	28.67	RMS	34.4	-19	0	44.07	54	-9.93	-	-	216	100	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	3117(0020559)	10dB_ATT[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	* 5.35	38.87	Pk	34.4	-18.7	0	54.57	-	-	74	-19.43	311	179	V
2	* 5.353	40.57	Pk	34.4	-18.7	0	56.27	-	-	74	-17.73	311	179	V
3	* 5.35	27.46	RMS	34.4	-19	0	42.86	54	-11.14	-	-	311	179	V
4	* 5.35	28.99	RMS	34.4	-19	0	44.39	54	-9.61	-	-	311	179	V

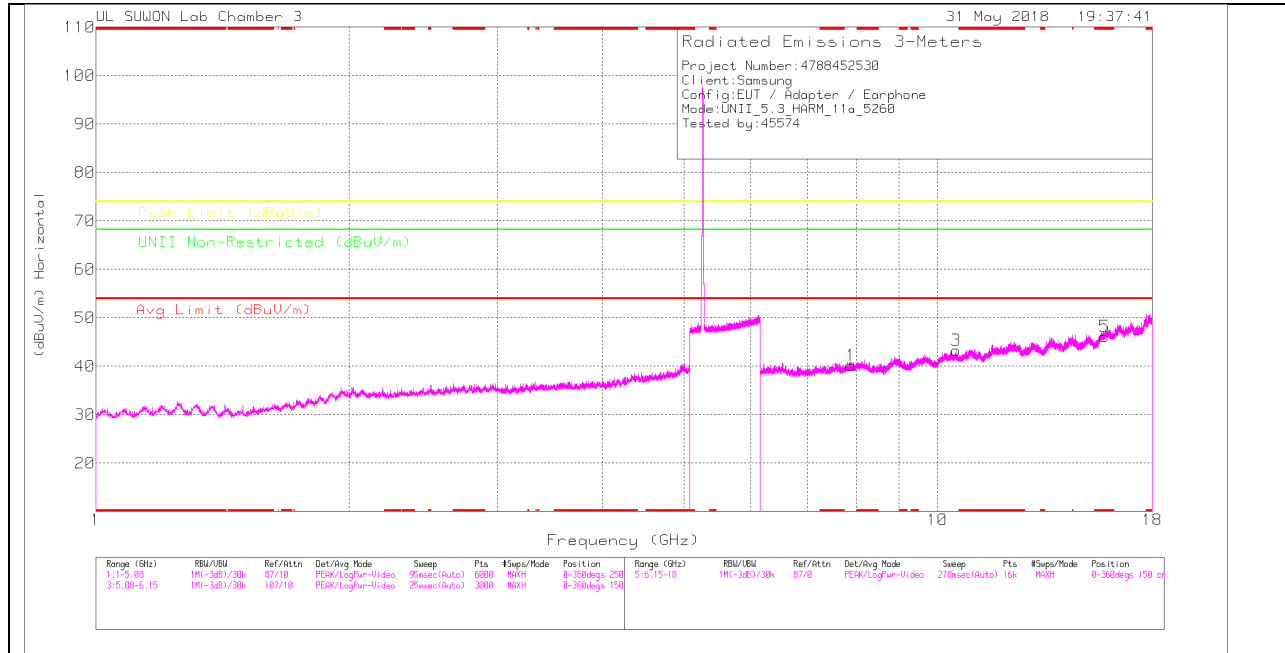
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

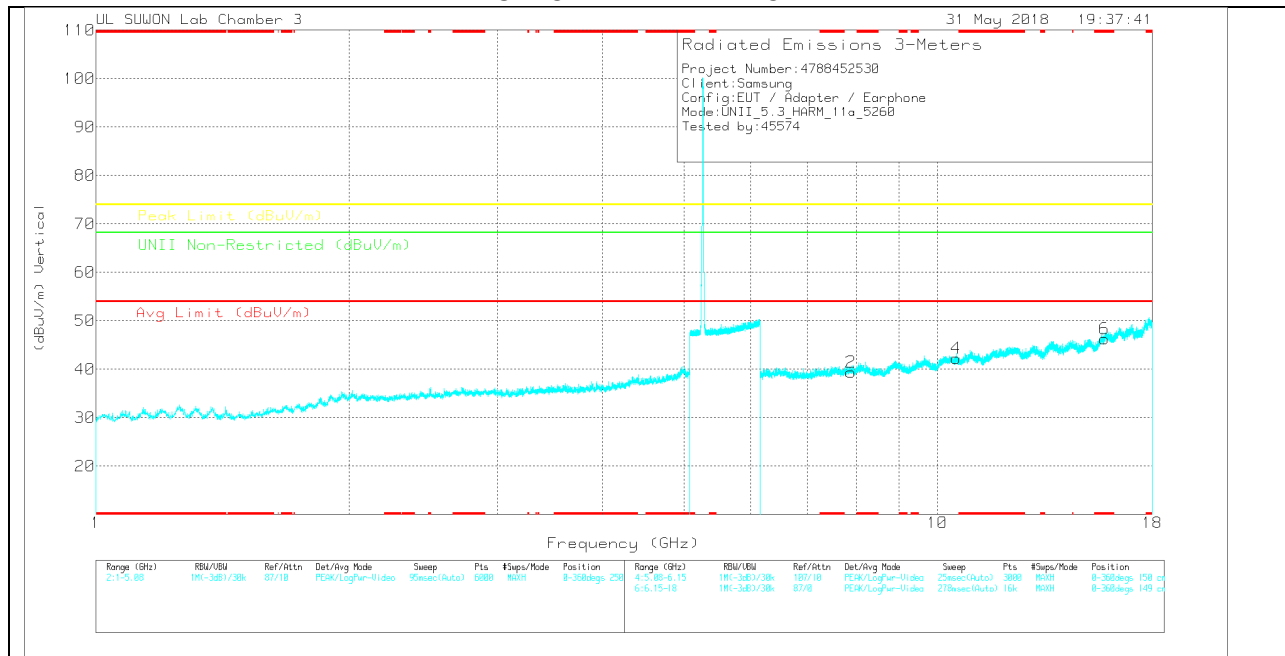
RMS - RMS detection

### 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**

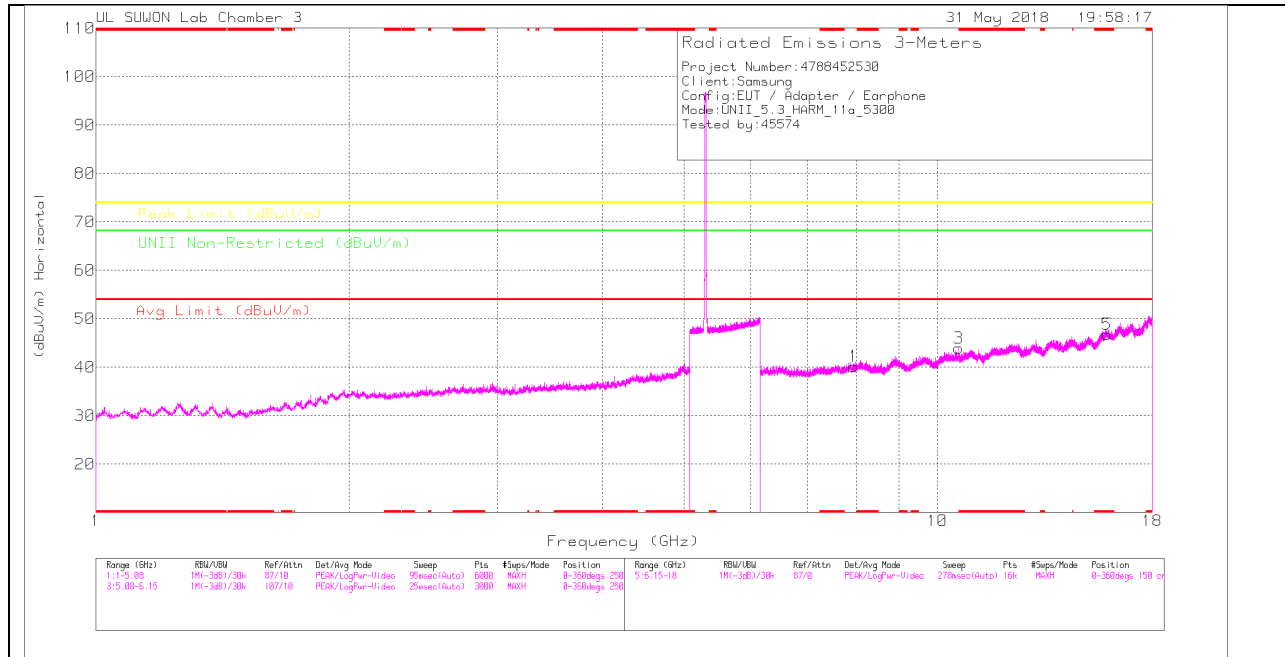
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.891	26.88	PK	35.7	-22.4	0	40.18	-	-	-	-	68.2	-28.02	0-360	150	H
3	10.521	24.76	PK	37.7	-19.2	0	43.26	-	-	-	-	68.2	-24.94	0-360	250	H
5	*15.78	24.48	PK	40.7	-19	0	46.18	-	-	74	-27.82	-	-	0-360	150	H
2	7.891	26.14	PK	35.7	-22.4	0	39.44	-	-	-	-	68.2	-28.76	0-360	149	V
4	10.521	23.81	PK	37.7	-19.2	0	42.31	-	-	-	-	68.2	-25.89	0-360	149	V
6	*15.781	24.51	PK	40.7	-18.9	0	46.31	-	-	74	-27.69	-	-	0-360	149	V

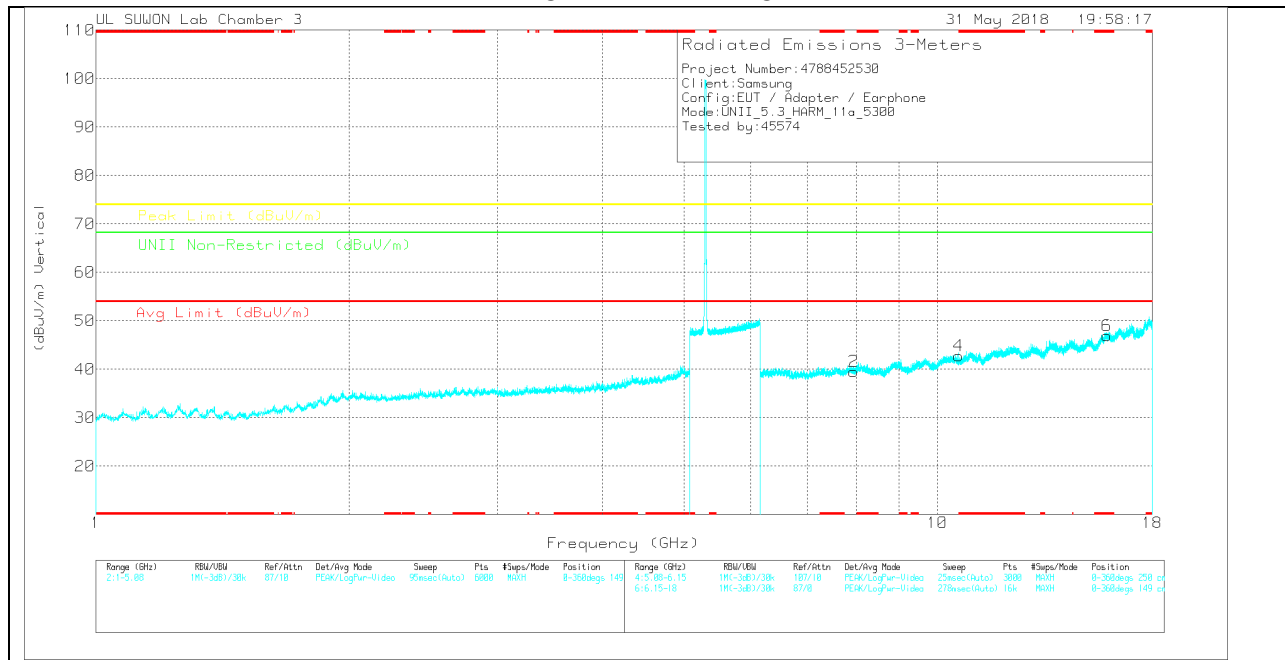
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

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**

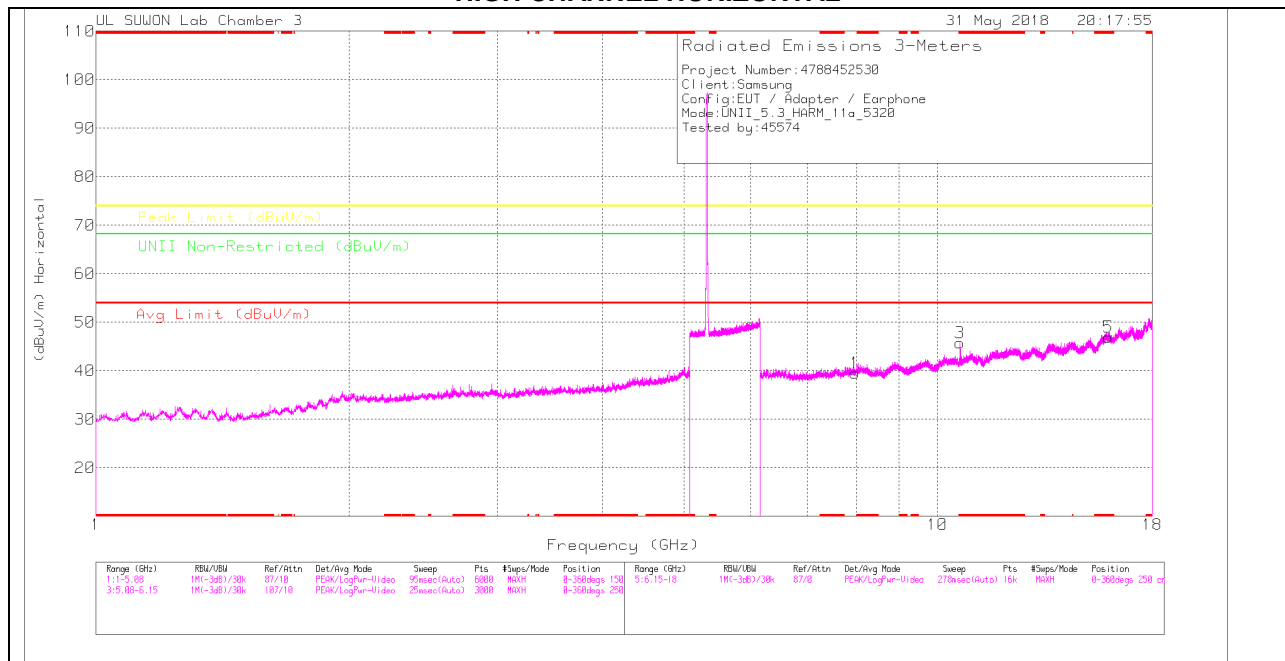
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.951	27.06	PK	35.7	-22.6	0	40.15	-	-	-	-	68.2	-28.04	0-360	250	H
3	* 10.603	25.57	PK	37.7	-19.3	0	43.97	-	-	74	-30.03	-	-	0-360	250	H
5	* 15.9	24.16	PK	41	-18.4	0	46.76	-	-	74	-27.24	-	-	0-360	250	H
2	7.951	26.4	PK	35.7	-22.6	0	39.5	-	-	-	-	68.2	-28.7	0-360	149	V
4	10.6	24.44	PK	37.7	-19.4	0	42.74	-	-	-	-	68.2	-25.46	0-360	149	V
6	* 15.9	24.34	PK	41	-18.4	0	46.94	-	-	74	-27.06	-	-	0-360	149	V

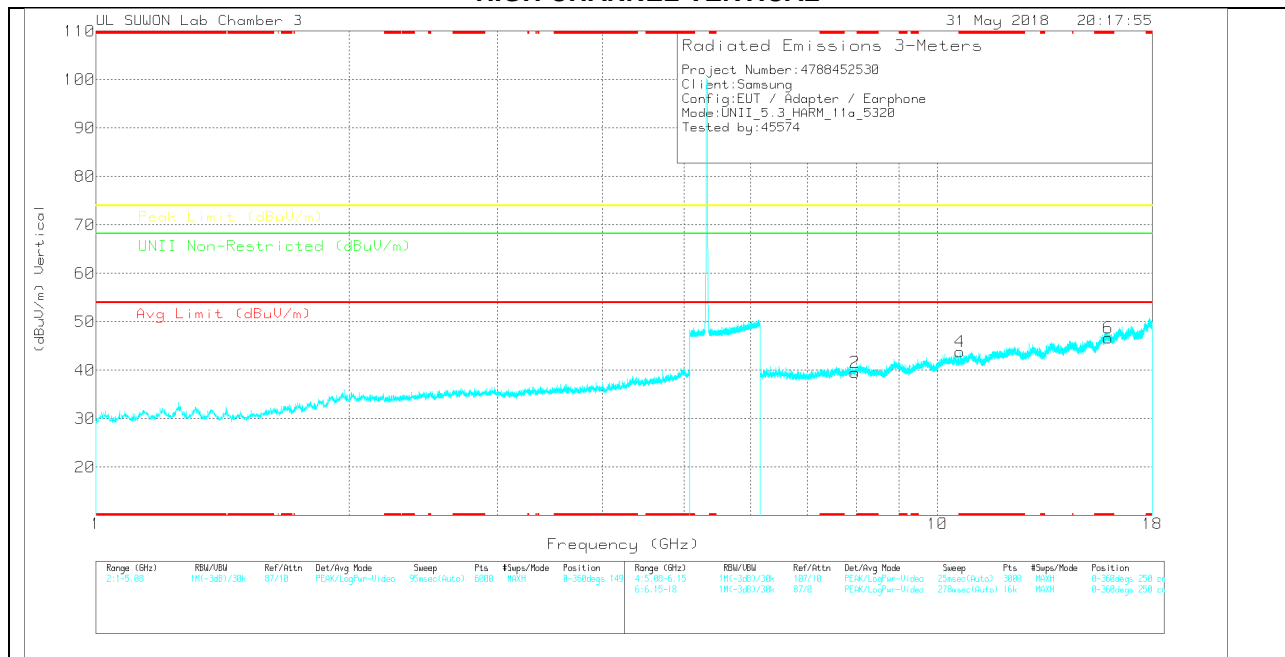
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

**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	3117(0020959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNR Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.98	26.5	PK	35.7	-22.7	0	39.5	-	-	-	-	68.2	-28.7	0-360	250	H
3	* 10.64	27.41	PK	37.6	-19.3	0	45.71	-	-	74	-28.29	-	-	0-360	250	H
5	* 15.961	24.35	PK	41.1	-18.5	0	46.95	-	-	74	-27.05	-	-	0-360	250	H
2	7.98	26.48	PK	35.7	-22.7	0	39.48	-	-	-	-	68.2	-28.72	0-360	250	V
4	* 10.64	25.5	PK	37.6	-19.3	0	43.8	-	-	74	-30.2	-	-	0-360	250	V
6	* 15.961	24.09	PK	41.1	-18.5	0	46.69	-	-	74	-27.31	-	-	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	3117(0020959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNR Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.641	38.85	PK-U	37.6	-19.3	0	57.15	-	-	74	-16.85	-	-	228	279	H
* 10.641	26.65	ADR	37.6	-19.3	0	44.95	54	-9.05	-	-	-	-	228	279	H
* 10.64	37.22	PK-U	37.6	-19.3	0	55.52	-	-	74	-18.48	-	-	174	207	V
* 10.64	25.37	ADR	37.6	-19.3	0	43.67	54	-10.33	-	-	-	-	174	207	V

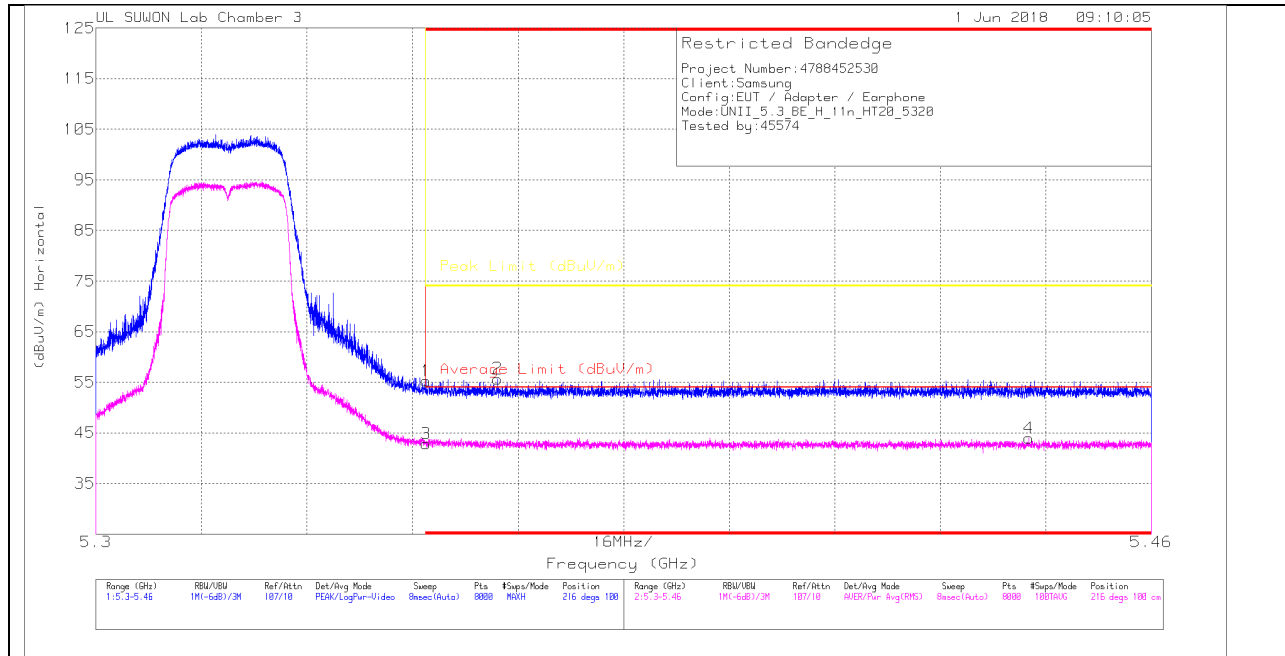
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak  
 ADR - U-NII AD primary method, RMS average



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

**AUTHORIZED BANDEGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

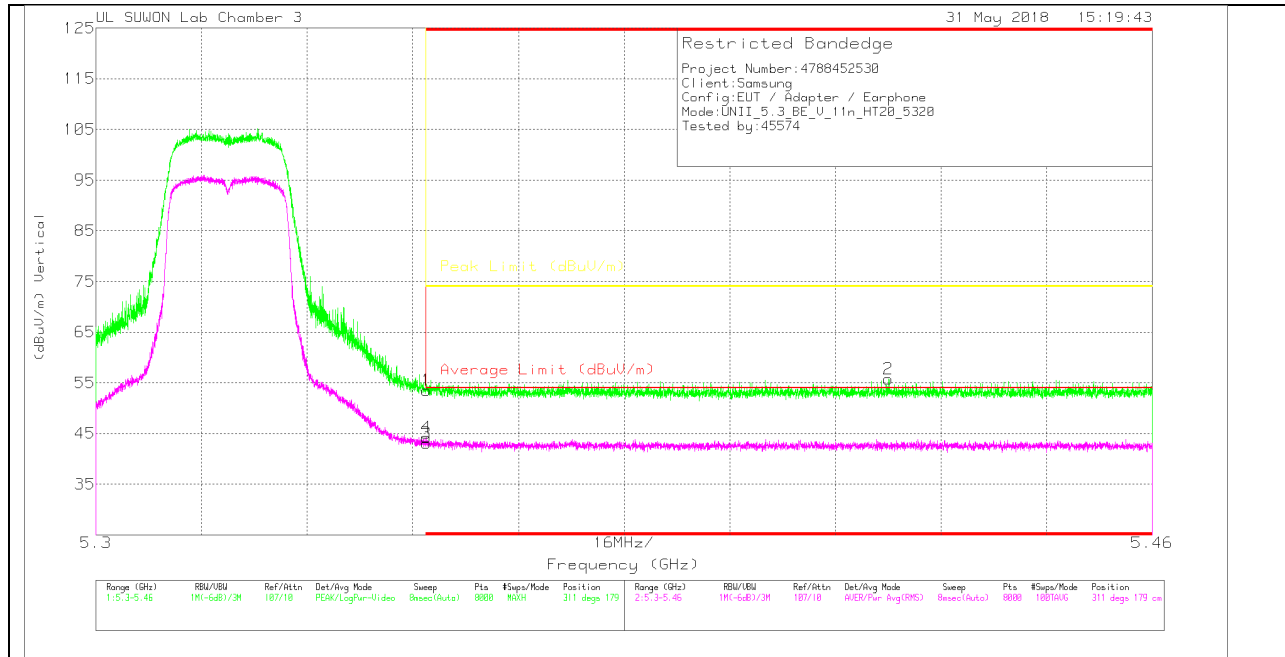
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	311700205559	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.59	Pk	34.4	-18.7	0	55.29	-	-	74	-18.71	216	100	H
2	* 5.361	39.89	Pk	34.4	-18.6	0	55.69	-	-	74	-18.31	216	100	H
3	* 5.35	27.49	RMS	34.4	-19	0	42.89	54	-11.11	-	-	216	100	H
4	* 5.441	28.61	RMS	34.3	-18.9	0	44.01	54	-9.99	-	-	216	100	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	311700205959	10dB_ATT[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	* 5.35	37.81	Pk	34.4	-18.7	0	53.51	-	-	74	-20.49	311	179	V
2	* 5.42	39.88	Pk	34.3	-18.4	0	55.78	-	-	74	-18.22	311	179	V
3	* 5.35	27.74	RMS	34.4	-19	0	43.14	54	-10.86	-	-	311	179	V
4	* 5.35	28.78	RMS	34.4	-19	0	44.18	54	-9.82	-	-	311	179	V

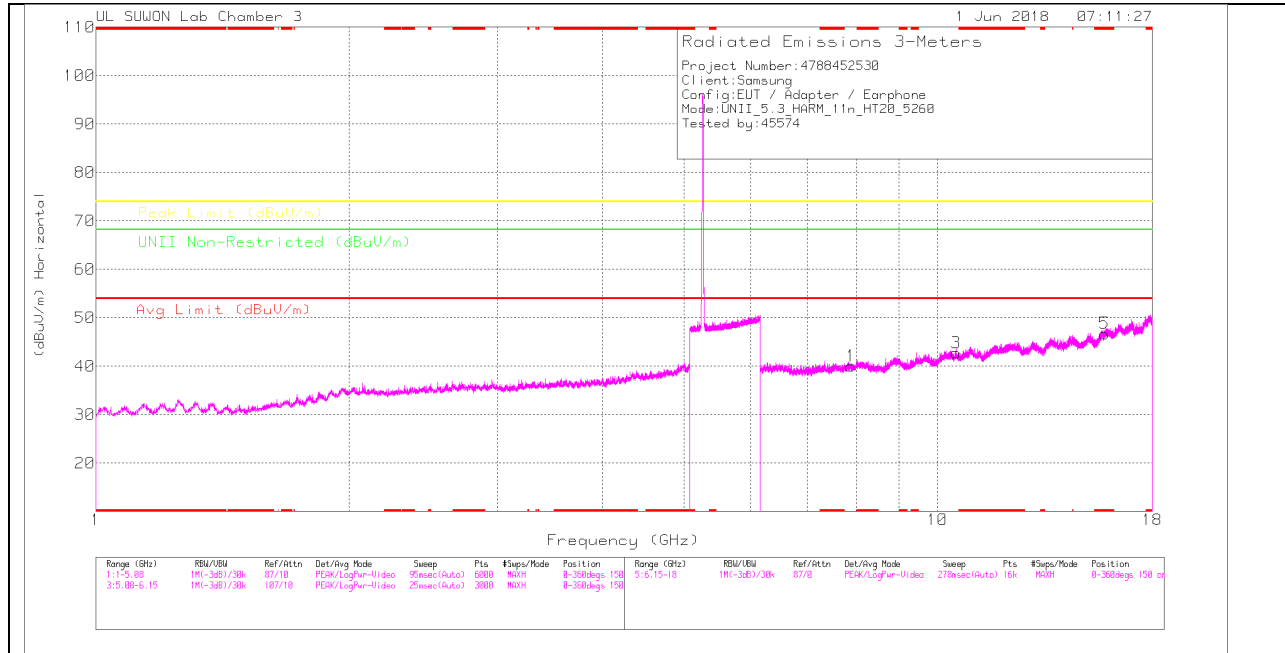
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

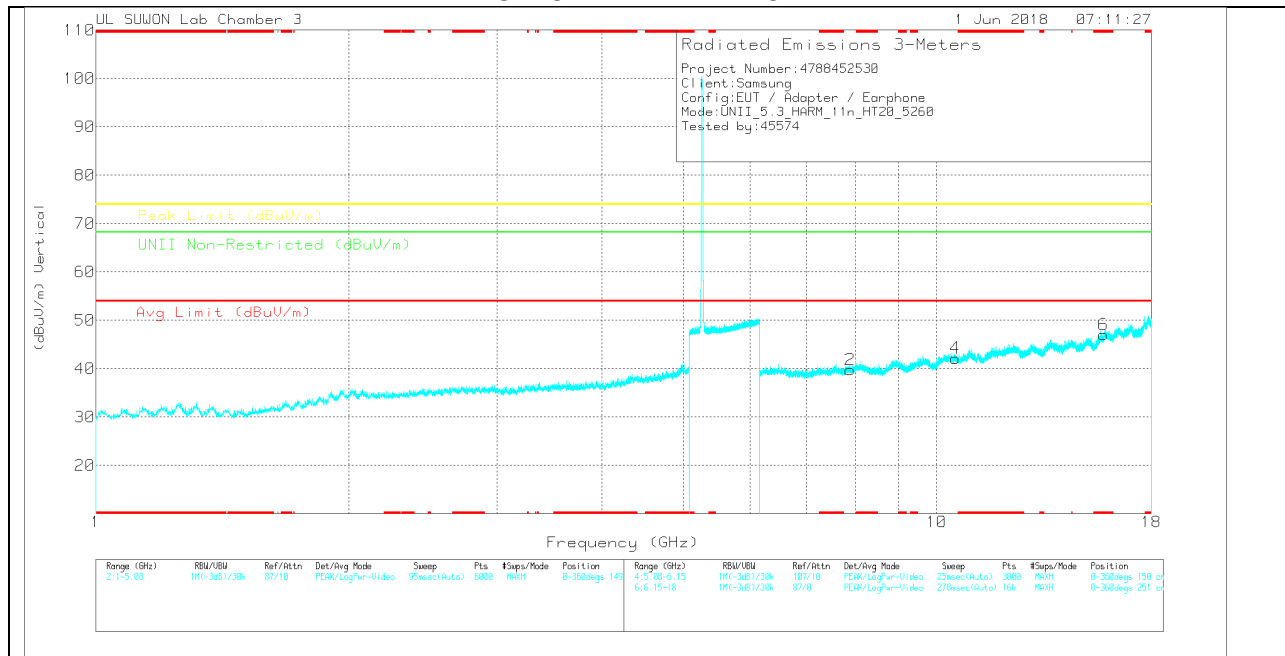
RMS - RMS detection

### 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**

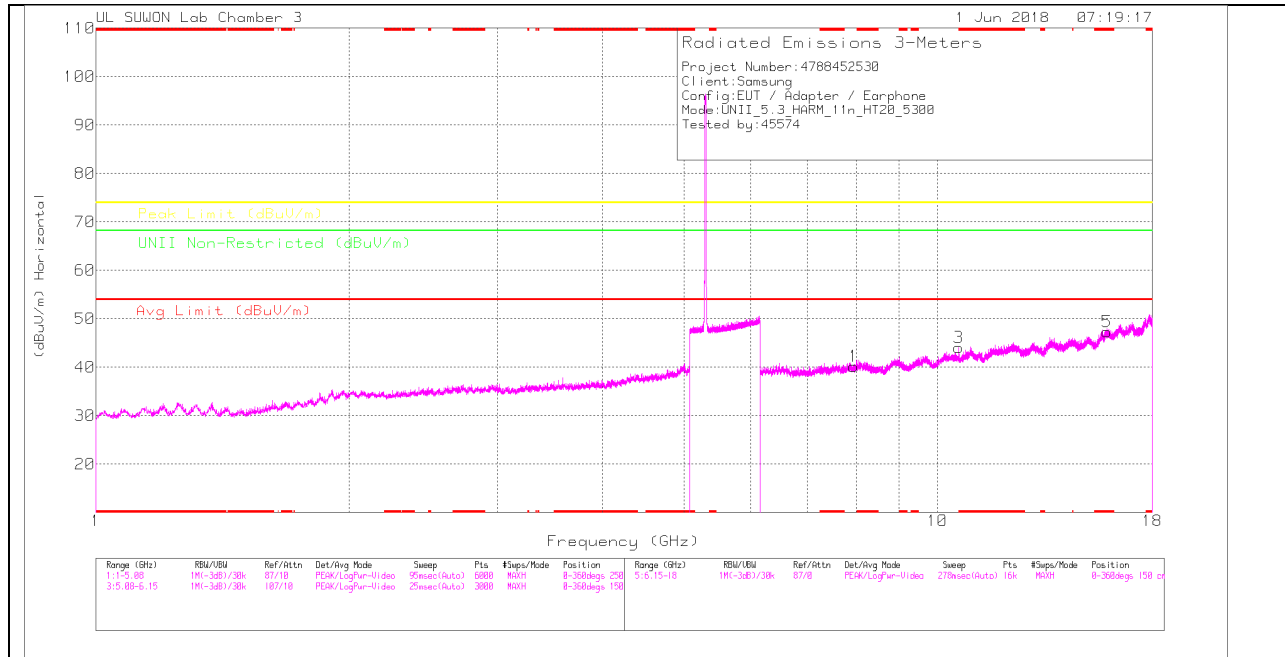
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.891	26.7	PK	35.7	-22.4	0	40	-	-	-	-	68.2	-38.2	0-360	250	H
3	10.521	24.26	PK	37.7	-19.2	0	42.76	-	-	-	-	68.2	-25.44	0-360	250	H
5	* 15.781	24.94	PK	40.7	-18.9	0	46.74	-	-	74	-27.26	-	-	0-360	150	H
2	7.891	26.48	PK	35.7	-22.4	0	39.78	-	-	-	-	68.2	-28.42	0-360	251	V
4	10.521	23.69	PK	37.7	-19.2	0	42.19	-	-	-	-	68.2	-26.01	0-360	149	V
6	* 15.78	25.4	PK	40.7	-19	0	47.1	-	-	74	-26.9	-	-	0-360	149	V

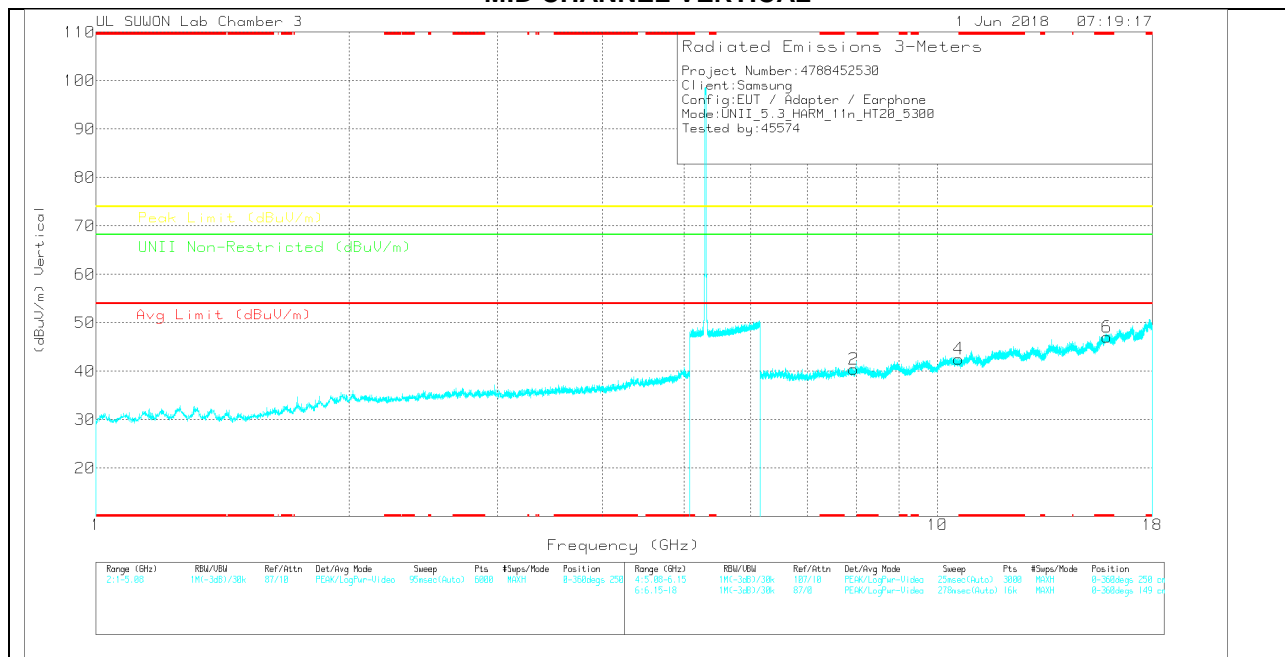
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

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

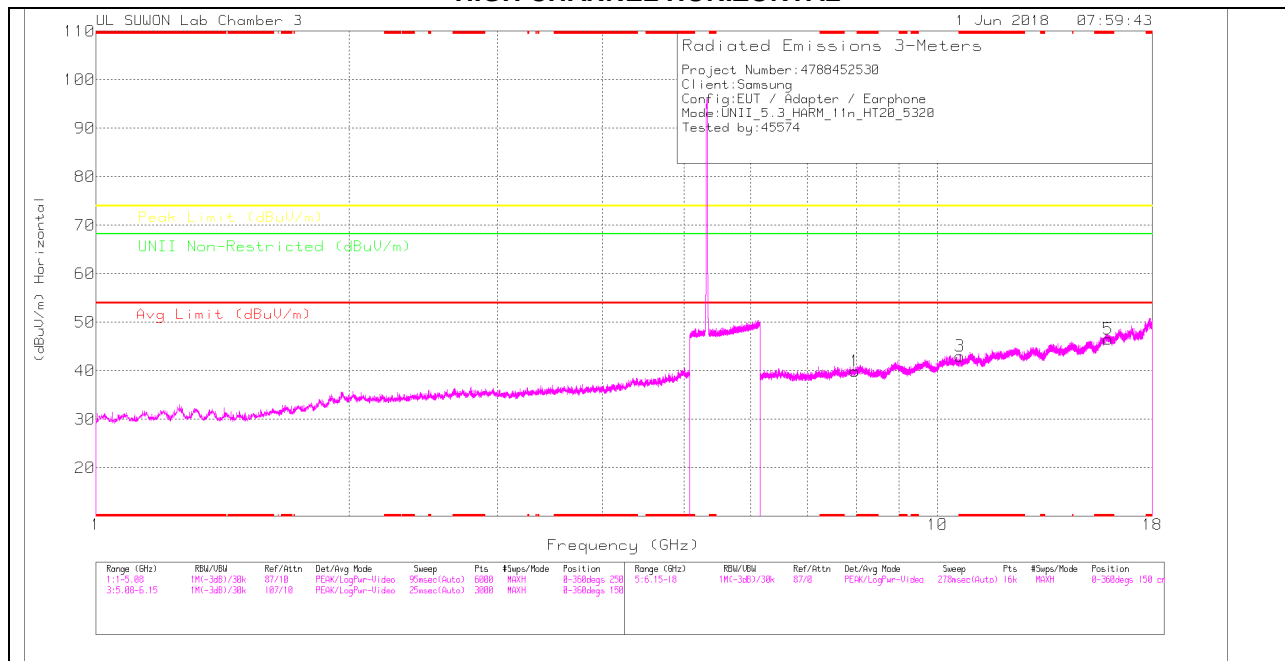
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020955E)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.951	27.04	PK	35.7	-22.6	0	40.14	-	-	-	-	68.2	-28.06	0-360	250	H
3	10.599	25.74	PK	37.7	-19.4	0	44.04	-	-	-	-	68.2	-24.16	0-360	250	H
5	* 15.902	24.72	PK	41	-18.4	0	47.32	-	-	74	-26.68	-	-	0-360	250	H
2	7.951	27.38	PK	35.7	-22.6	0	40.48	-	-	-	-	68.2	-27.72	0-360	250	V
4	* 10.601	24.28	PK	37.7	-19.4	0	42.58	-	-	74	-31.42	-	-	0-360	250	V
6	* 15.899	24.52	PK	41	-18.4	0	47.12	-	-	74	-26.88	-	-	0-360	250	V

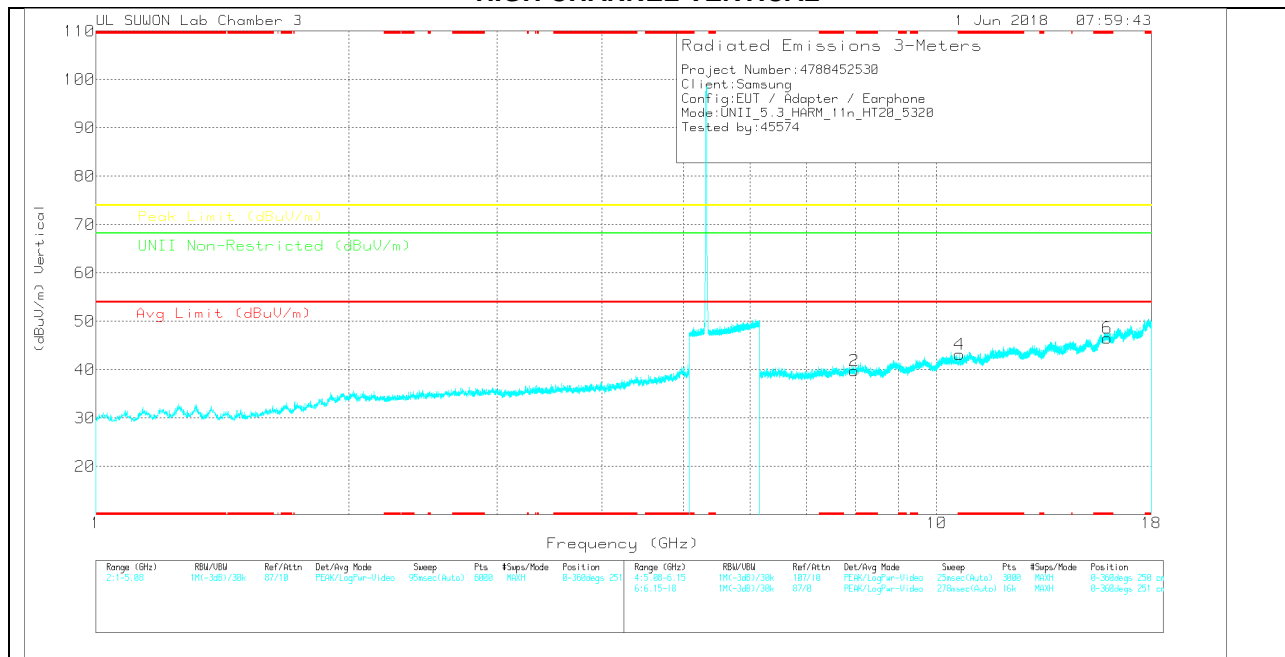
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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 (dBμV)	Det	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBμV/m)	Avg Limit (dBμV/m)	Margin (dB)	Peak Limit (dBμV/m)	Margin (dB)	UNE Non-Restricted (dBμV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.981	26.92	PK	35.7	-22.7	0	39.92	-	-	-	-	68.2	-28.28	0-360	150	H
3	*10.641	24.78	PK	37.6	-19.3	0	43.08	-	-	74	-30.92	-	-	0-360	250	H
5	*15.96	23.98	PK	41.1	-18.5	0	46.58	-	-	74	-27.42	-	-	0-360	250	H
2	7.981	26.78	PK	35.7	-22.7	0	39.78	-	-	-	-	68.2	-28.42	0-360	251	V
4	*10.642	24.98	PK	37.6	-19.4	0	43.18	-	-	74	-30.82	-	-	0-360	149	V
6	*15.96	23.99	PK	41.1	-18.5	0	46.59	-	-	74	-27.41	-	-	0-360	149	V

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

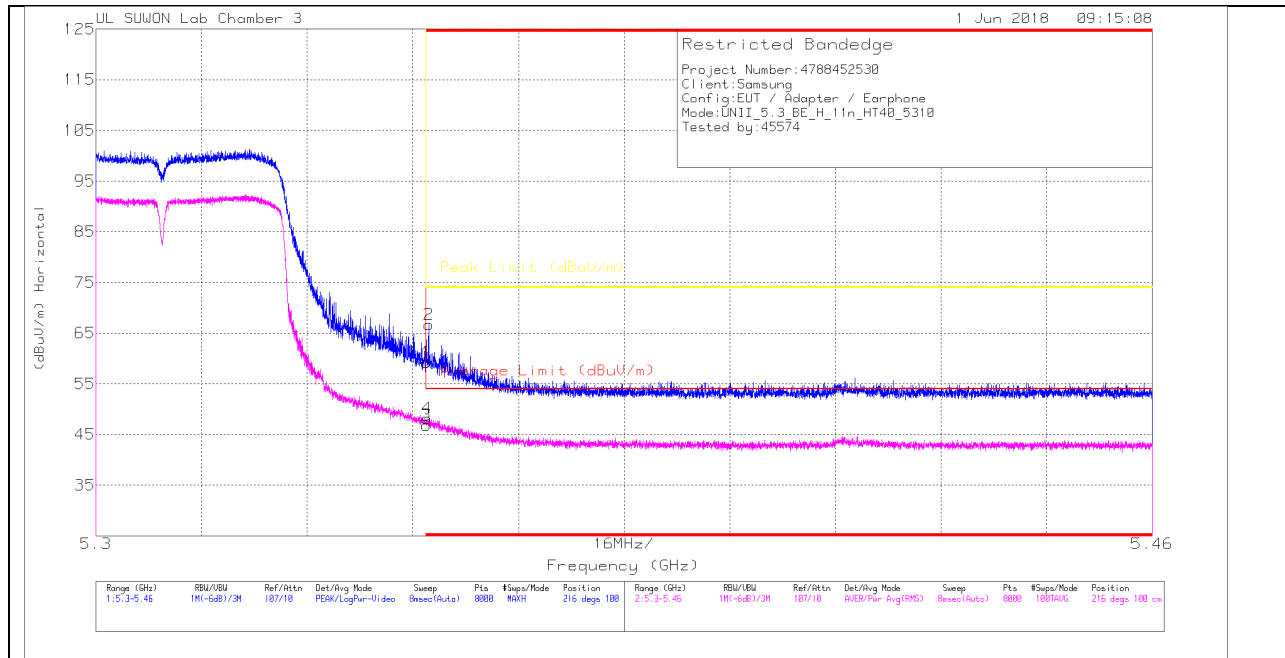
Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).



**11.2.3.TX ABOVE 1GHz 802.11n HT40 MODE IN THE 5.3GHz BAND**

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

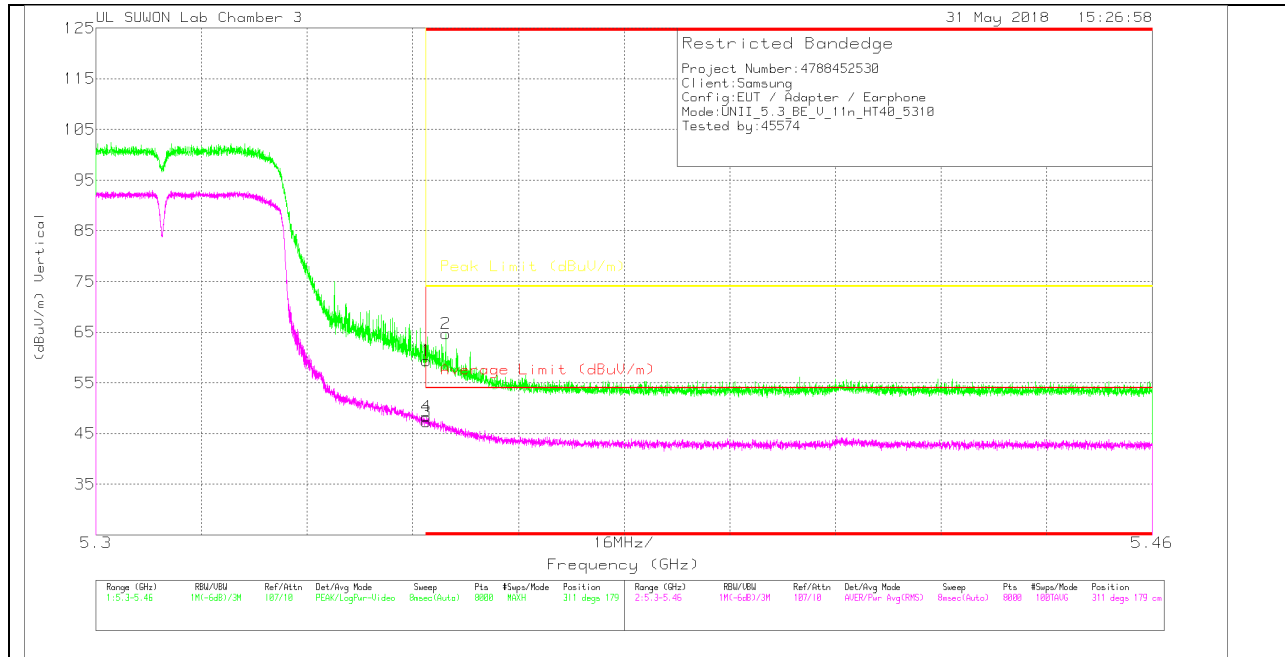
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	43.53	Pk	34.4	-18.7	0	59.23	-	-	74	-14.77	216	100	H
2	* 5.35	50.99	Pk	34.4	-18.7	0	66.69	-	-	74	-7.31	216	100	H
3	* 5.35	31.23	RMS	34.4	-19	.17	46.8	54	-7.2	-	-	216	100	H
4	* 5.35	32.65	RMS	34.4	-19	.17	48.22	54	-5.78	-	-	216	100	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	311700205959	10dB_ATT[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	* 5.35	43.6	Pk	34.4	-18.7	0	59.3	-	-	74	-14.7	311	179	V
2	* 5.353	48.89	Pk	34.4	-18.6	0	64.69	-	-	74	-9.31	311	179	V
3	* 5.35	31.78	RMS	34.4	-19	-17	47.35	54	-6.65	-	-	311	179	V
4	* 5.35	32.71	RMS	34.4	-19	-17	48.28	54	-5.72	-	-	311	179	V

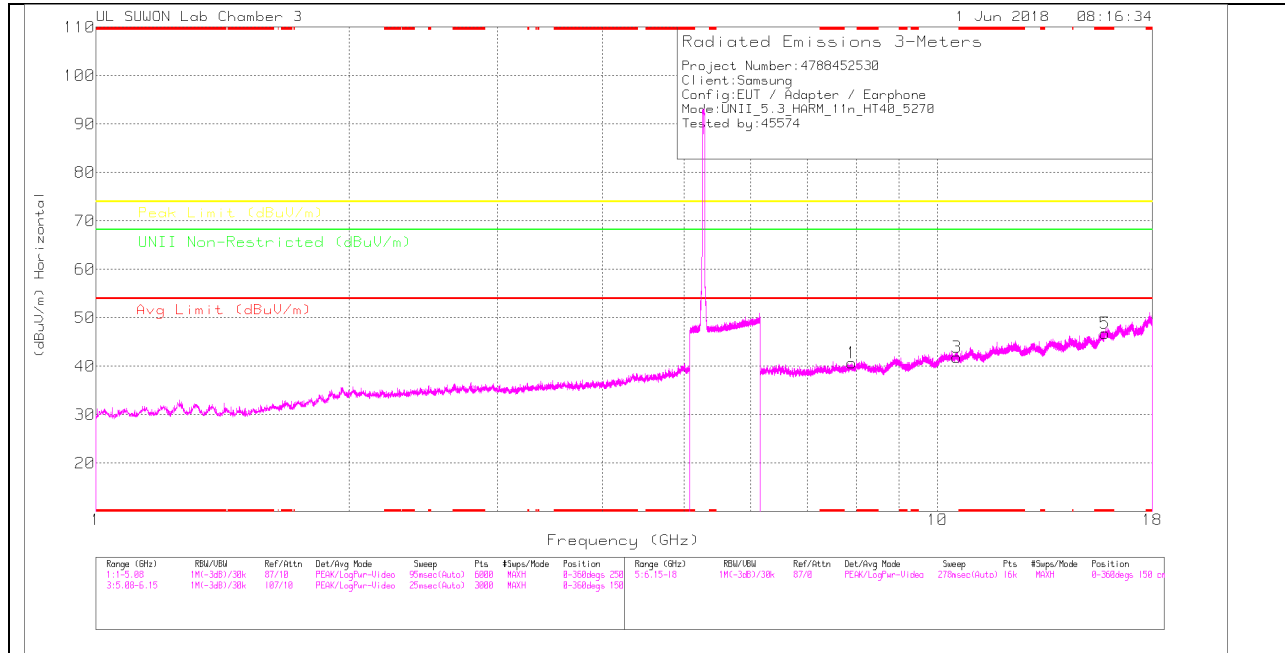
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

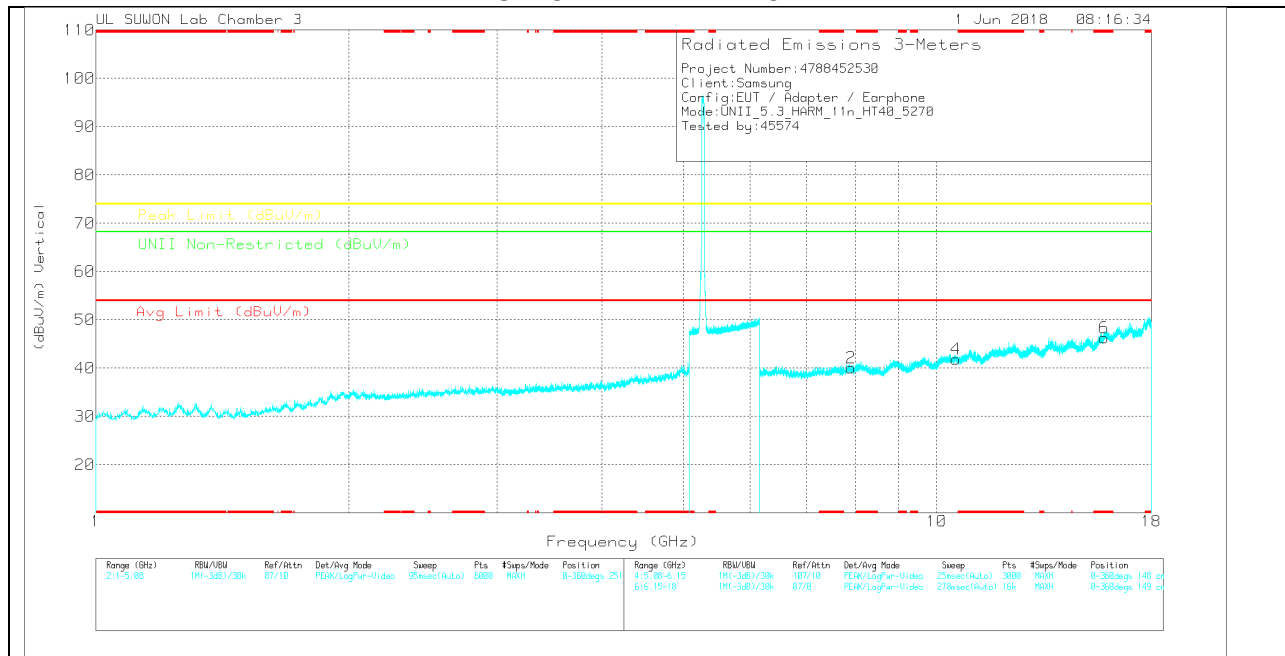
RMS - RMS detection

### 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**

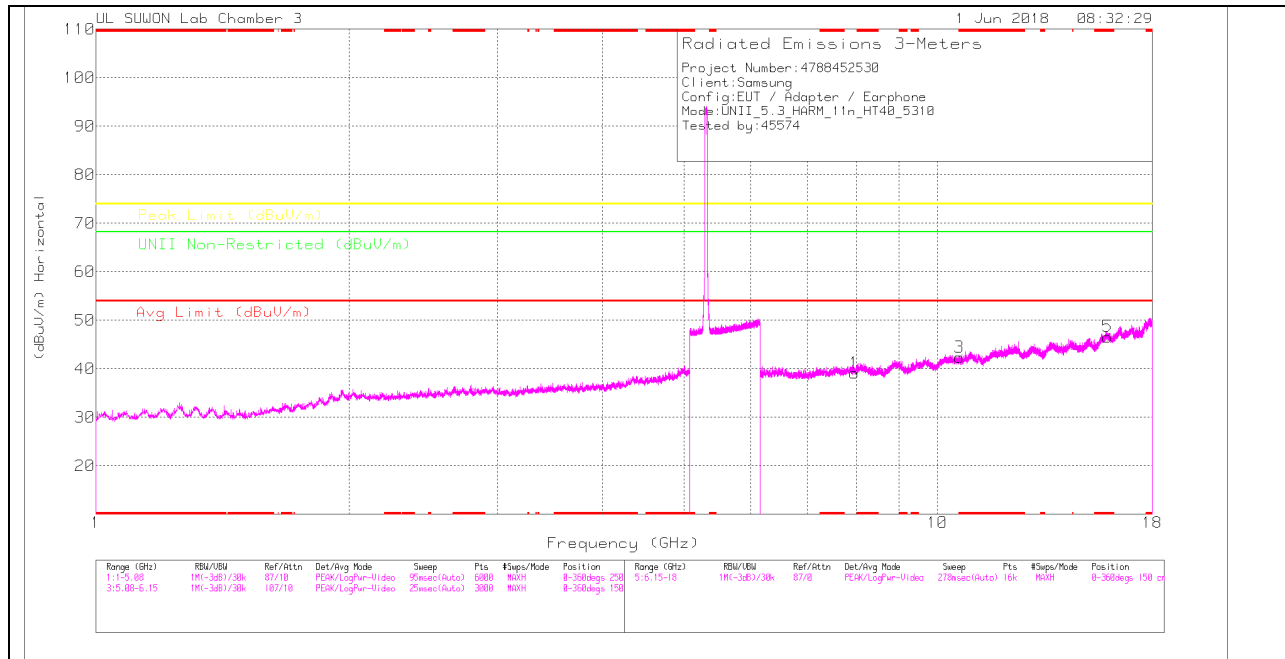
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBµV)	Det	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	Margin (dB)	UNE Non-Restricted (dBµV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.905	27.56	PK	35.7	-22.5	0	40.76	-	-	-	-	68.2	-27.44	0-360	150	H
3	10.541	23.48	PK	37.7	-19.3	0	41.88	-	-	-	-	68.2	-26.32	0-360	150	H
5	*15.811	24.95	PK	40.7	-18.9	0	46.75	-	-	74	-27.25	-	-	0-360	250	H
2	7.905	26.81	PK	35.7	-22.5	0	40.01	-	-	-	-	68.2	-28.19	0-360	149	V
4	10.541	23.5	PK	37.7	-19.3	0	41.9	-	-	-	-	68.2	-26.3	0-360	149	V
6	*15.811	24.4	PK	40.7	-18.8	0	46.3	-	-	74	-27.7	-	-	0-360	250	V

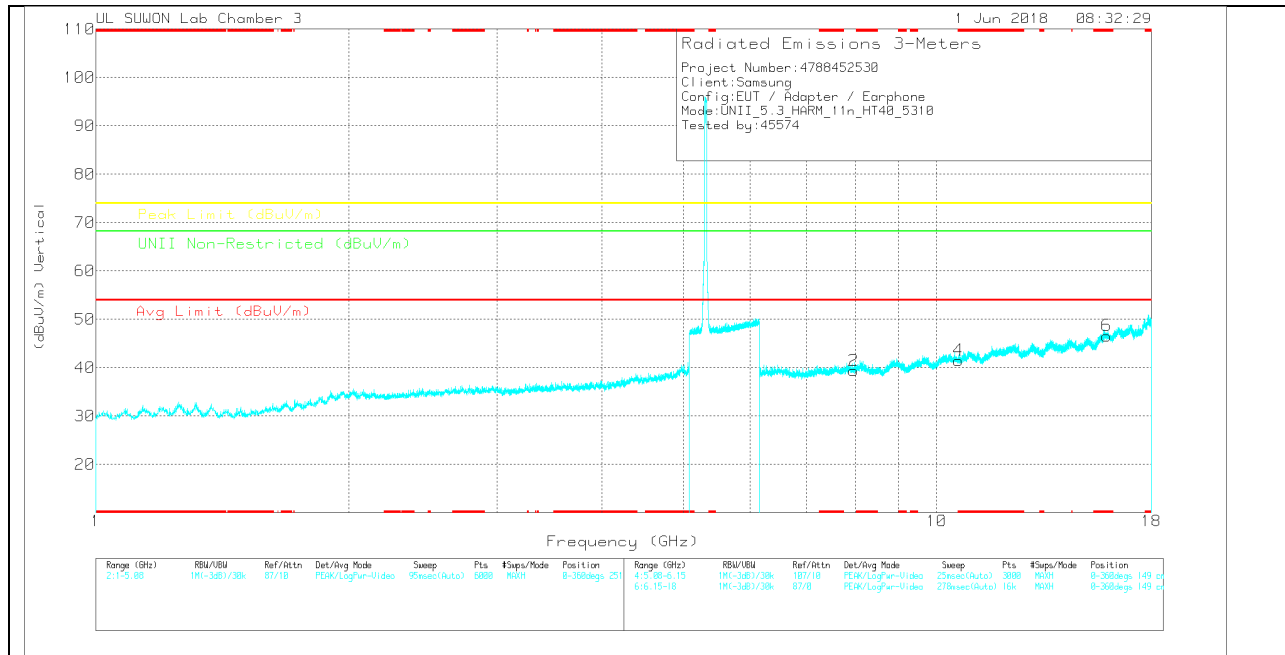
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

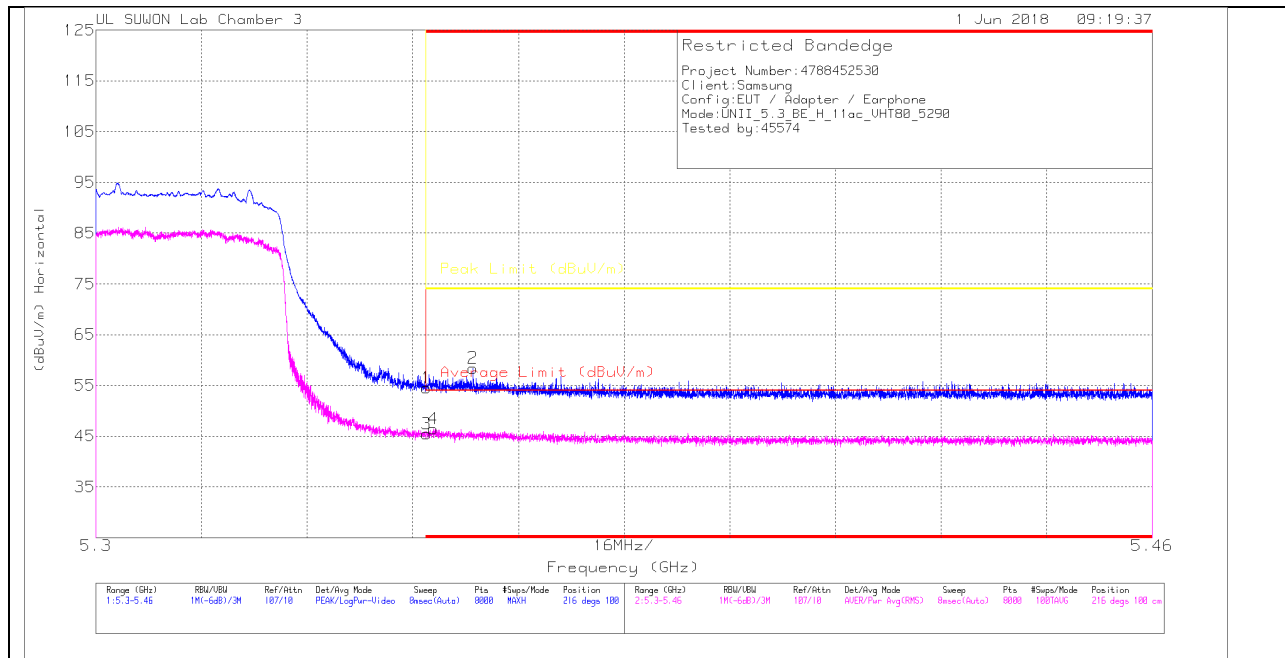
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.965	26.09	PK	35.7	-22.7	0	39.09	-	-	-	-	68.2	-29.11	0-360	250	H
3	* 10.62	23.94	PK	37.7	-19.3	0	42.34	-	-	74	-31.66	-	-	0-360	150	H
5	* 15.931	24.01	PK	41	-18.4	0	46.61	-	-	74	-27.39	-	-	0-360	150	H
2	7.965	26.38	PK	35.7	-22.7	0	39.38	-	-	-	-	68.2	-28.82	0-360	149	V
4	* 10.62	23.14	PK	37.7	-19.3	0	41.54	-	-	74	-32.46	-	-	0-360	149	V
6	* 15.931	24.01	PK	41	-18.4	0	46.61	-	-	74	-27.39	-	-	0-360	250	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).

**11.2.4. TX ABOVE 1GHz 802.11ac VHT80 MODE IN THE 5.3GHz BAND**

**RESTRICTED BANDEDGE (High CHANNEL)  
 HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

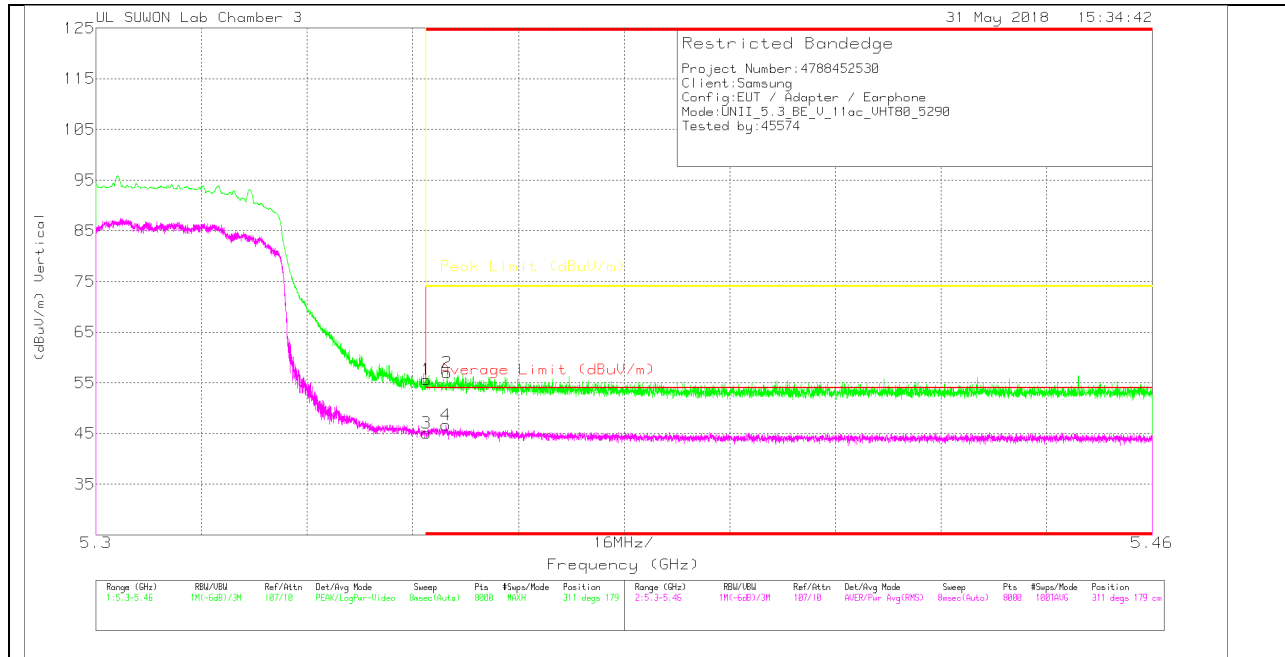
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT[DB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.83	Pk	34.4	-18.7	0	54.53	-	-	74	-19.47	216	100	H
2	* 5.357	42.62	Pk	34.4	-18.6	0	58.42	-	-	74	-15.58	216	100	H
3	* 5.35	28.56	RMS	34.4	-19	1.47	45.43	54	-8.57	-	-	216	100	H
4	* 5.351	29.56	RMS	34.4	-19	1.47	46.43	54	-7.57	-	-	216	100	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	311700205959	10dB_ATT[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	* 5.35	39.93	Pk	34.4	-18.7	0	55.63	-	-	74	-18.37	311	179	V
2	* 5.353	41.16	Pk	34.4	-18.6	0	56.96	-	-	74	-17.04	311	179	V
3	* 5.35	28.15	RMS	34.4	-19	1.47	45.02	54	-8.98	-	-	311	179	V
4	* 5.353	29.77	RMS	34.4	-19	1.47	46.64	54	-7.36	-	-	311	179	V

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

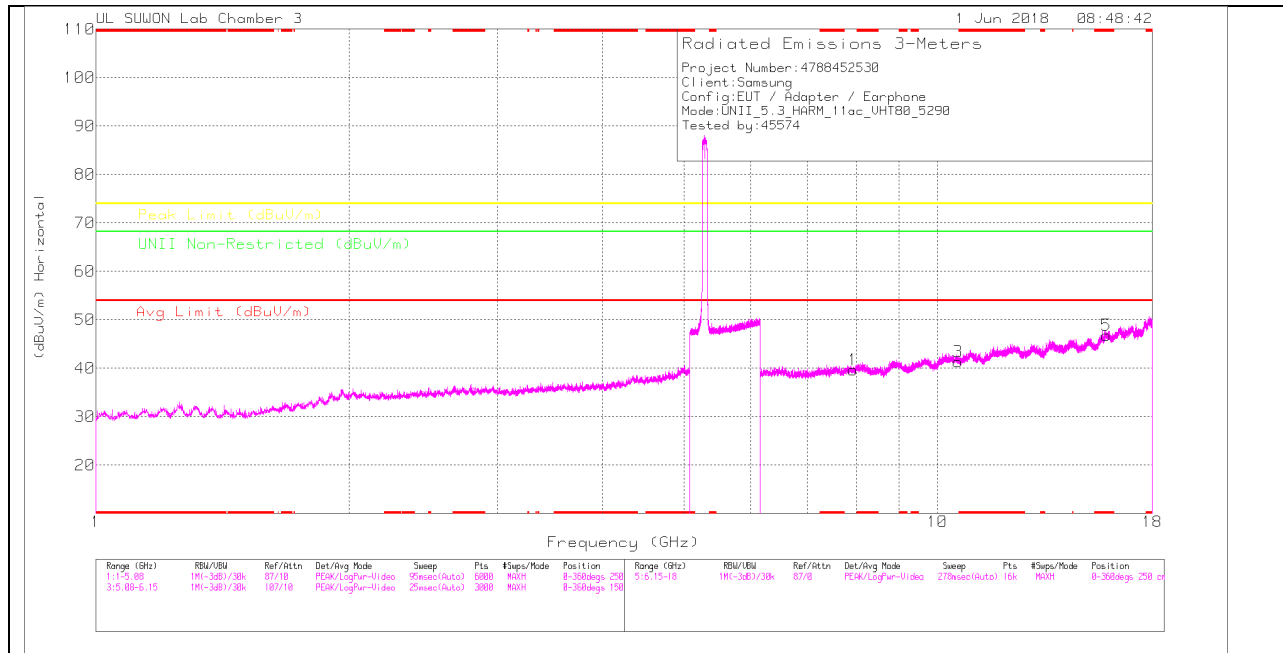
Pk - Peak detector

RMS - RMS detection

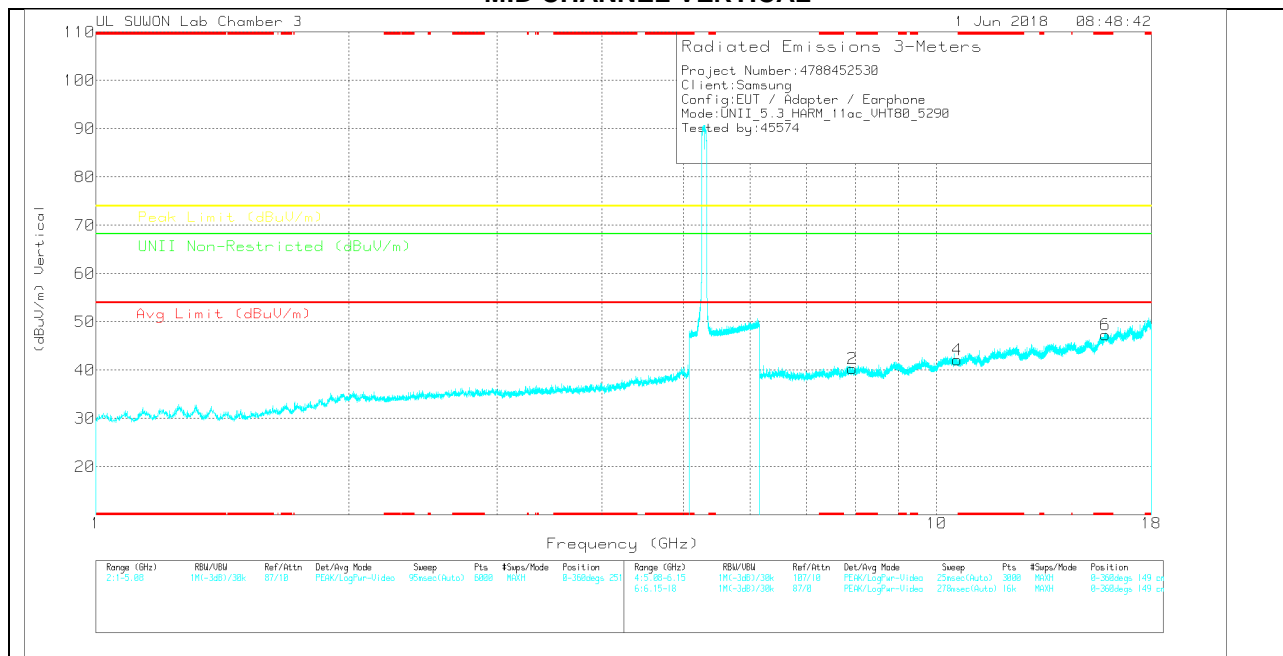


### HARMONICS AND SPURIOUS EMISSIONS

#### 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 (dBµV)	Det	3117(00209959)	GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	Margin (dB)	UNE Non-Restricted (dBµV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.936	26.55	PK	35.7	-22.6	0	39.65	-	-	-	-	68.2	-28.55	0-360	150	H
3	10.581	22.94	PK	37.7	-19.3	0	41.34	-	-	-	-	68.2	-26.86	0-360	150	H
5	*15.87	24.53	PK	40.9	-18.6	0	46.83	-	-	74	-27.17	-	-	0-360	150	H
2	7.935	27.15	PK	35.7	-22.5	0	40.35	-	-	-	-	68.2	-27.85	0-360	149	V
4	10.581	23.67	PK	37.7	-19.3	0	42.07	-	-	-	-	68.2	-26.13	0-360	250	V
6	*15.871	24.9	PK	40.9	-18.5	0	47.3	-	-	74	-26.7	-	-	0-360	149	V

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

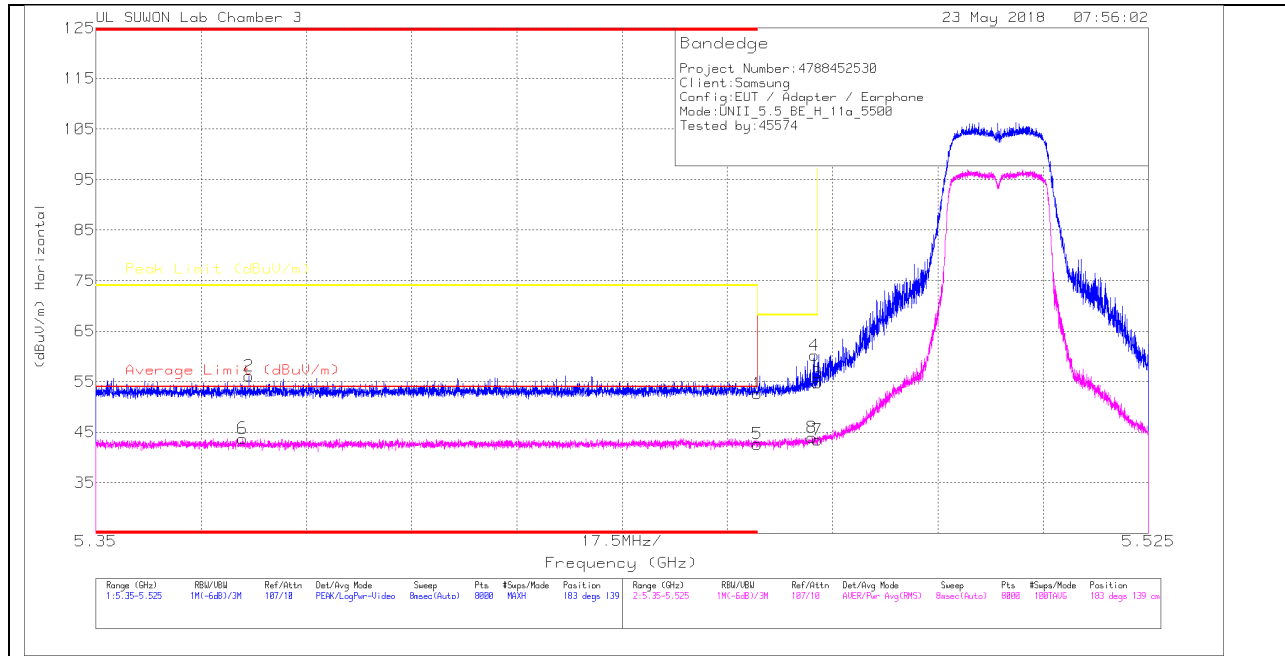
Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

**11.3. 5.5-5.6 GHz**

**11.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND**

**RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

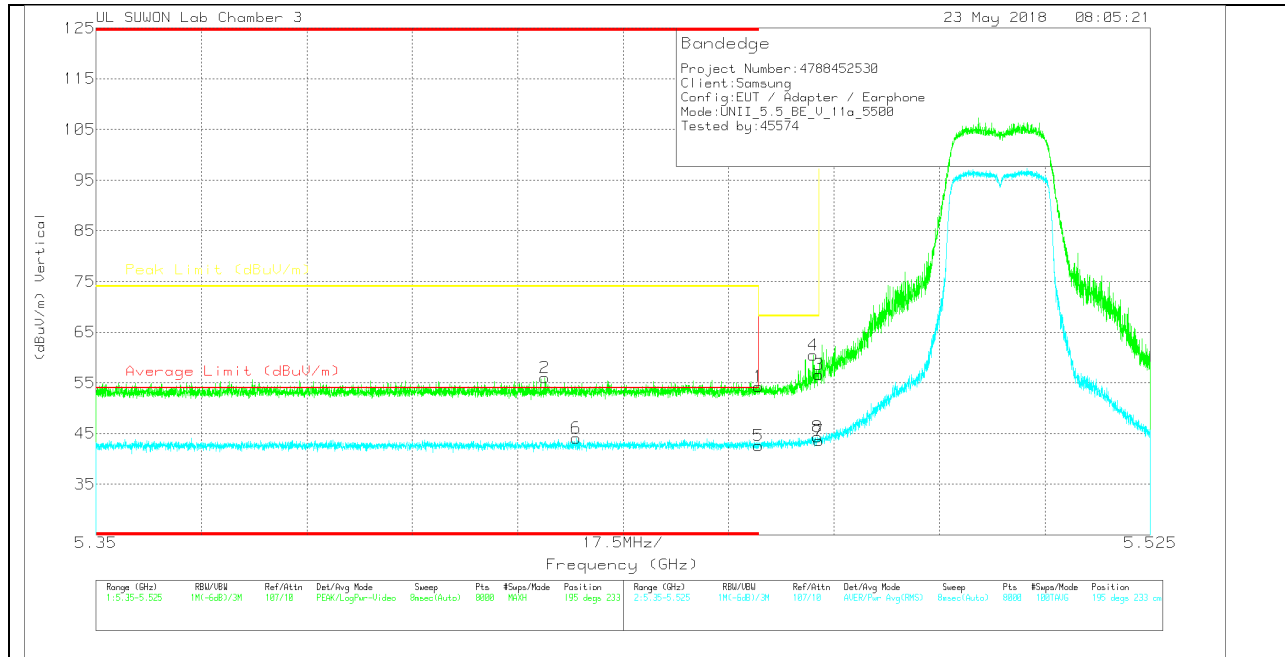
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	36.8	Pk	34.3	-18.4	0	52.7	-	-	74	-21.3	183	139	H
2	* 5.375	40.48	Pk	34.3	-18.6	0	56.18	-	-	74	-17.82	183	139	H
3	5.47	38.87	Pk	34.3	-18.4	0	54.77	-	-	68.2	-13.43	183	139	H
4	5.469	44.3	Pk	34.3	-18.4	0	60.2	-	-	68.2	-8	183	139	H
5	* 5.46	27.16	RMS	34.3	-18.8	0	42.66	54	-11.34	-	-	183	139	H
6	* 5.374	28.37	RMS	34.4	-19	0	43.77	54	-10.23	-	-	183	139	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	3117(00205959)	10dB_ATT[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	* 5.46	38.4	Pk	34.3	-18.4	0	54.3	-	-	74	-19.7	195	233	V
2	* 5.424	40.05	Pk	34.3	-18.4	0	55.95	-	-	74	-18.05	195	233	V
3	5.47	40.71	Pk	34.3	-18.4	0	56.61	-	-	68.2	-11.59	195	233	V
4	5.469	44.53	Pk	34.3	-18.4	0	60.43	-	-	68.2	-7.77	195	233	V
5	* 5.46	27.12	RMS	34.3	-18.8	0	42.62	54	-11.38	-	-	195	233	V
6	* 5.43	28.66	RMS	34.3	-18.9	0	44.06	54	-9.94	-	-	195	233	V

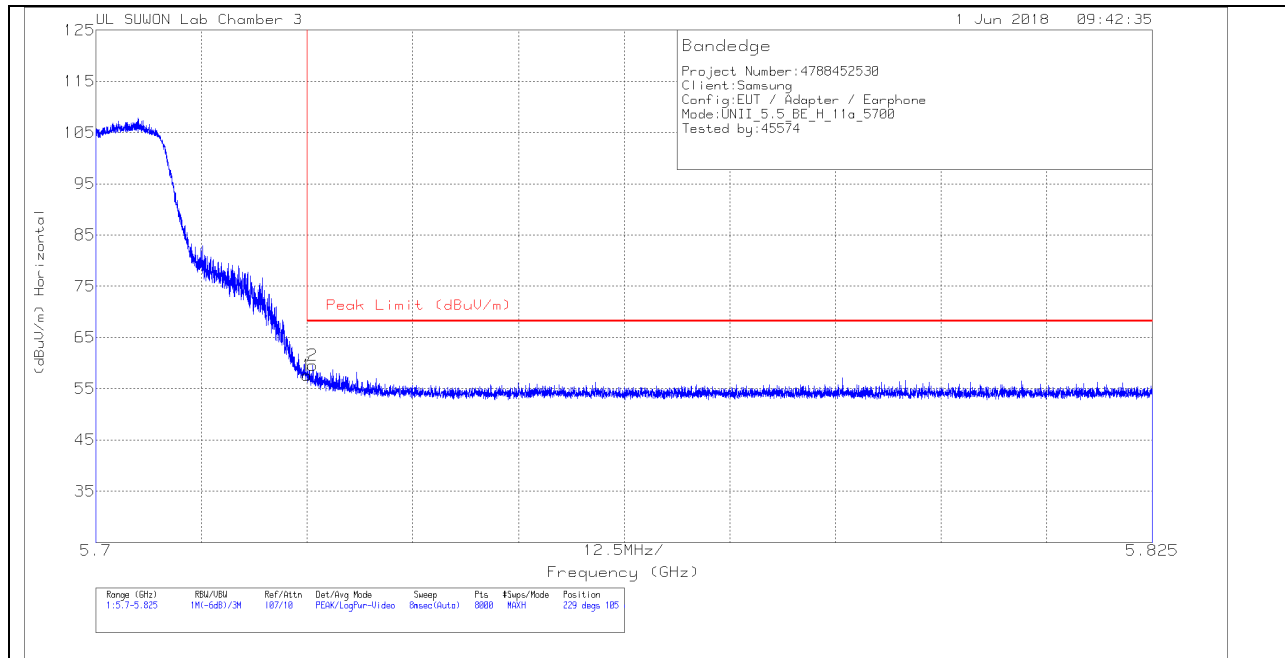
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

### AUTHORIZED BANDEGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



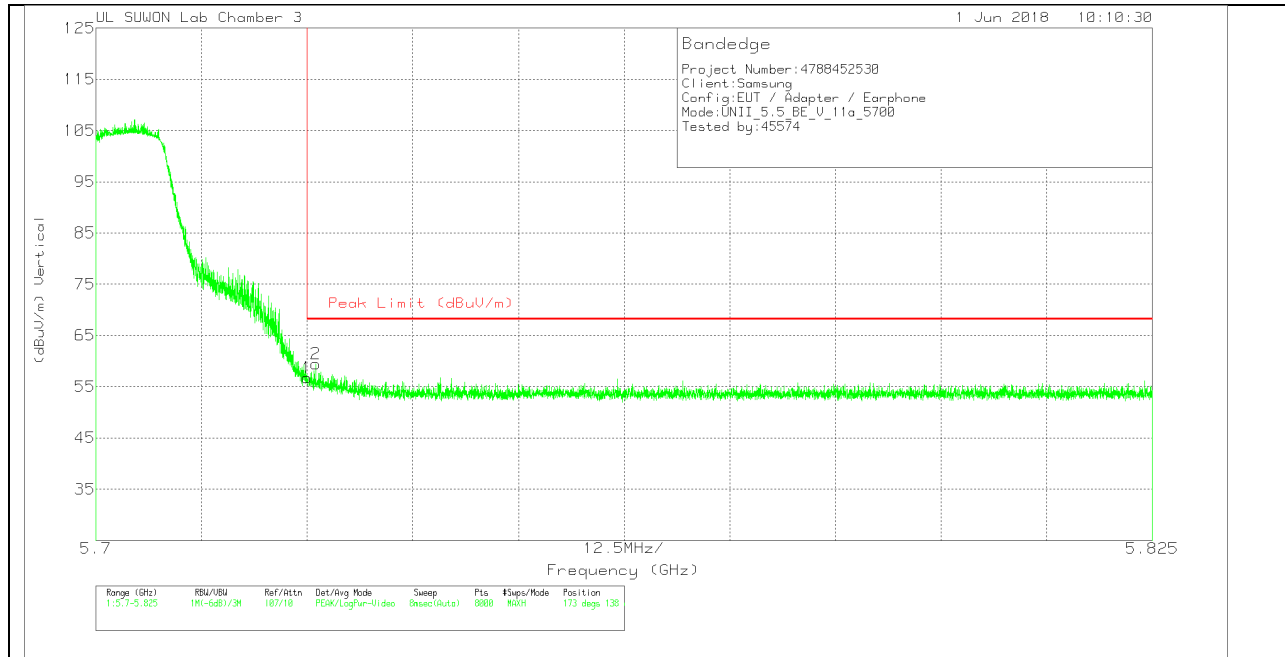
#### HORIZONTAL DATA

##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117[00205959]	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.83	Pk	34.7	-17.9	57.63	68.2	-10.57	229	105	H
2	5.726	42.73	Pk	34.7	-17.9	59.53	68.2	-8.67	229	105	H

Pk - Peak detector

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

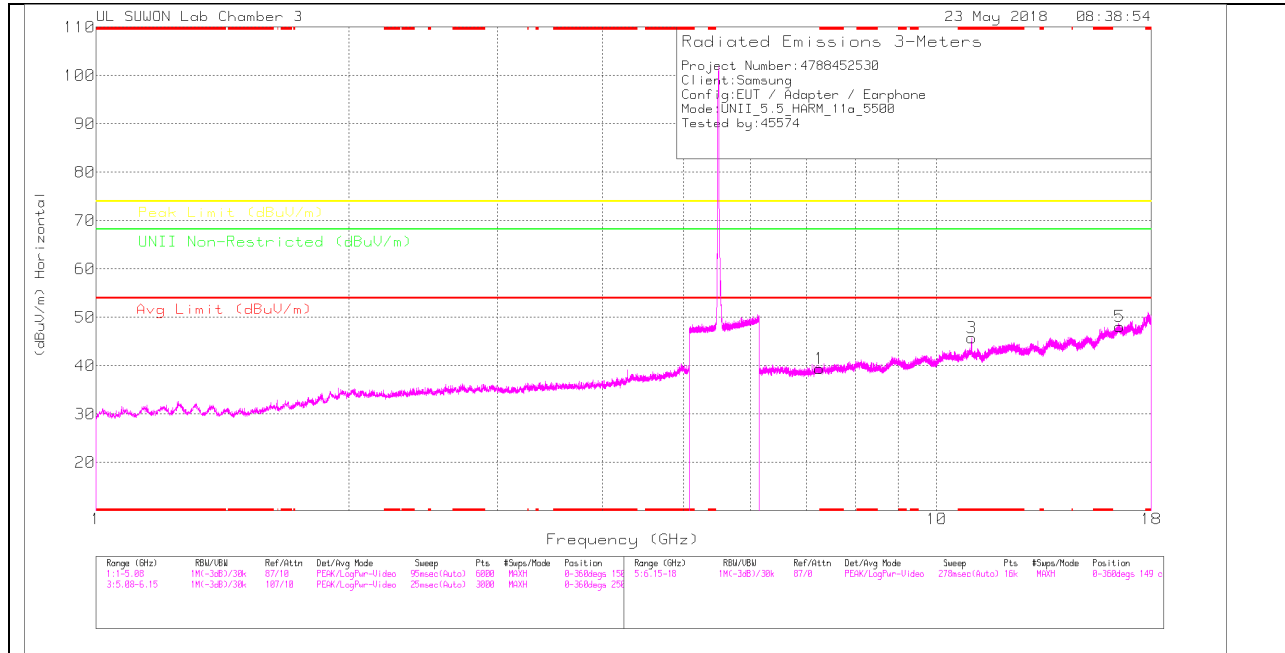
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117[00205959]	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.95	Pk	34.7	-17.9	56.75	68.2	-11.45	173	138	V
2	5.726	42.64	Pk	34.7	-17.9	59.44	68.2	-8.76	173	138	V

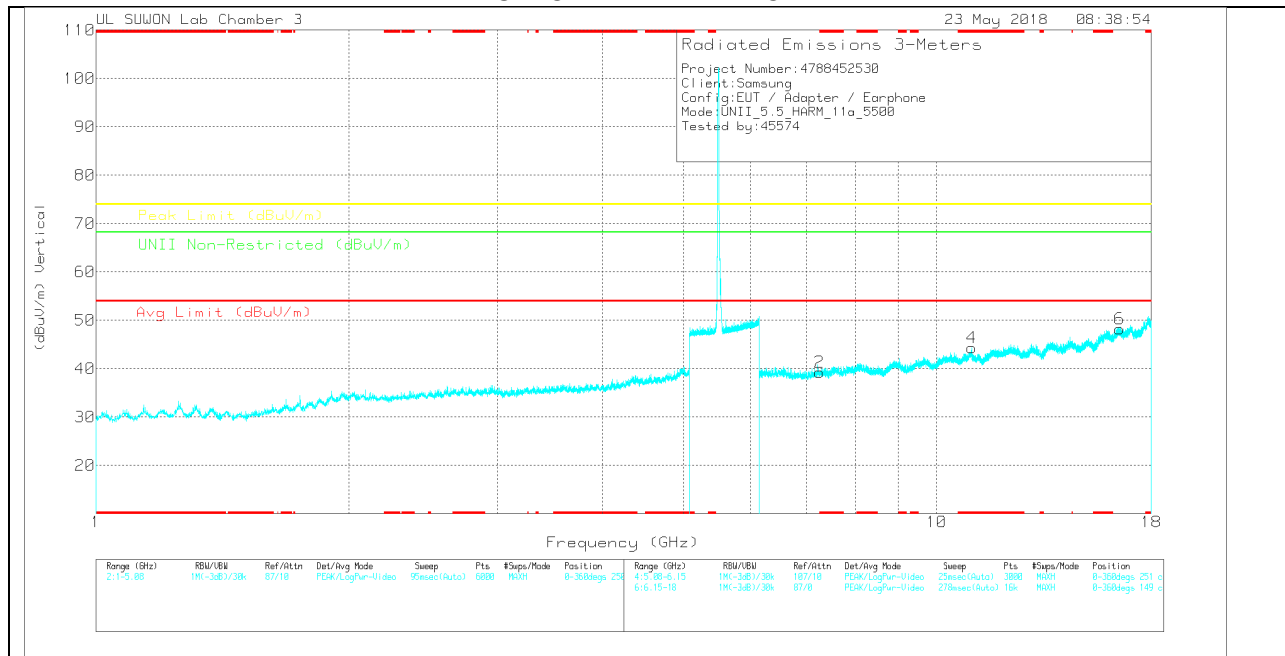
Pk - Peak detector

### 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	3117[0020959]	6GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Aug Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.248	27.08	PK	35.6	-23.3	0	39.38	-	-	-	-	68.2	-28.82	0-360	250	H
3	* 11	27.52	PK	37.8	-19.5	0	45.82	-	-	74	-28.18	-	-	0-360	250	H
5	16.499	24.11	PK	41.4	-17.4	0	48.11	-	-	-	-	68.2	-20.09	0-360	149	H
2	7.248	26.98	PK	35.6	-23.3	0	39.28	-	-	-	-	68.2	-28.92	0-360	149	V
4	* 11.001	26.06	PK	37.8	-19.5	0	44.36	-	-	74	-29.64	-	-	0-360	149	V
6	16.5	24.21	PK	41.4	-17.4	0	48.21	-	-	-	-	68.2	-19.99	0-360	149	V

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

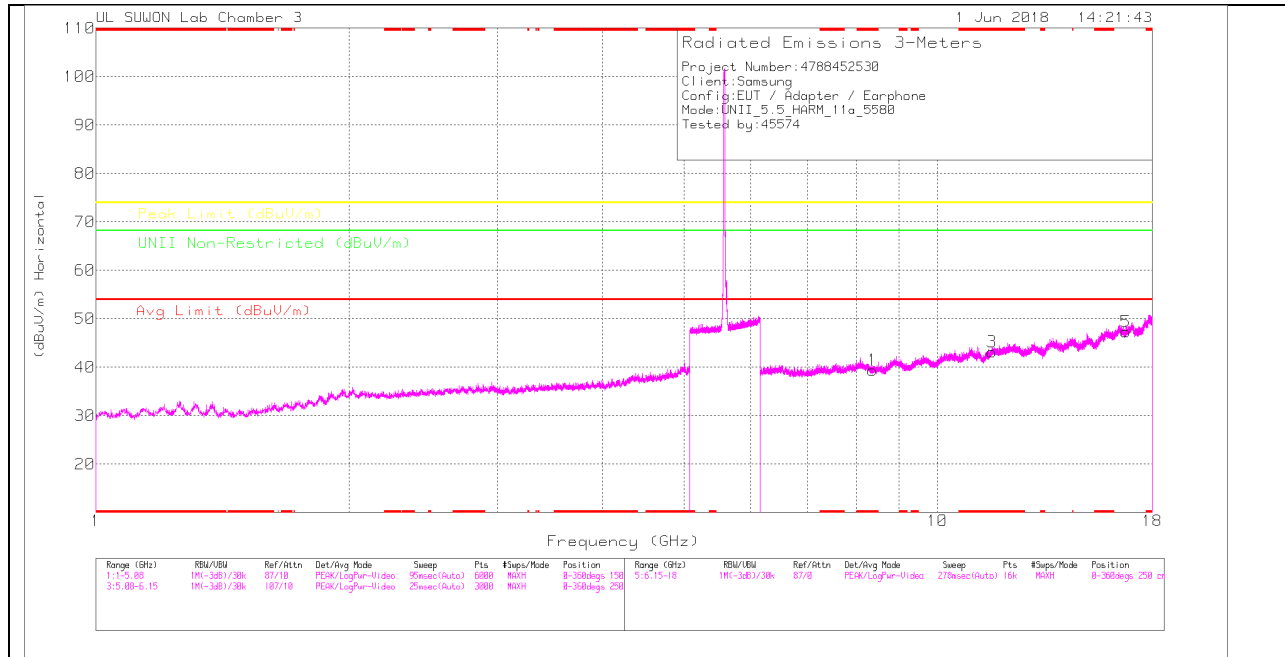
**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117[0020959]	6GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Aug Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.001	38.5	PK-U	37.8	-19.5	0	56.8	-	-	74	-17.2	-	-	171	243	H
* 11.001	26.68	ADR	37.8	-19.5	0	44.98	54	-9.02	-	-	-	-	171	243	H
* 11.001	37	PK-U	37.8	-19.5	0	55.3	-	-	74	-18.7	-	-	161	100	V
* 11.001	25.45	ADR	37.8	-19.5	0	43.75	54	-10.25	-	-	-	-	161	100	V

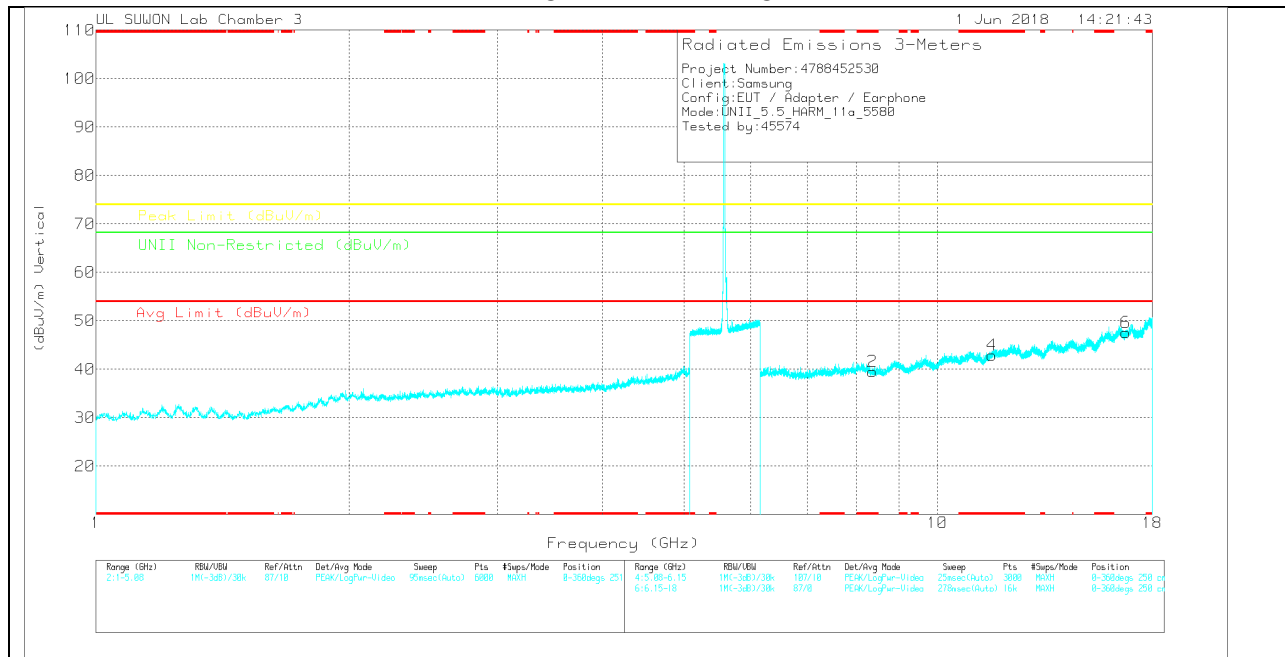
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak  
 ADR - U-NII AD primary method, RMS average



**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

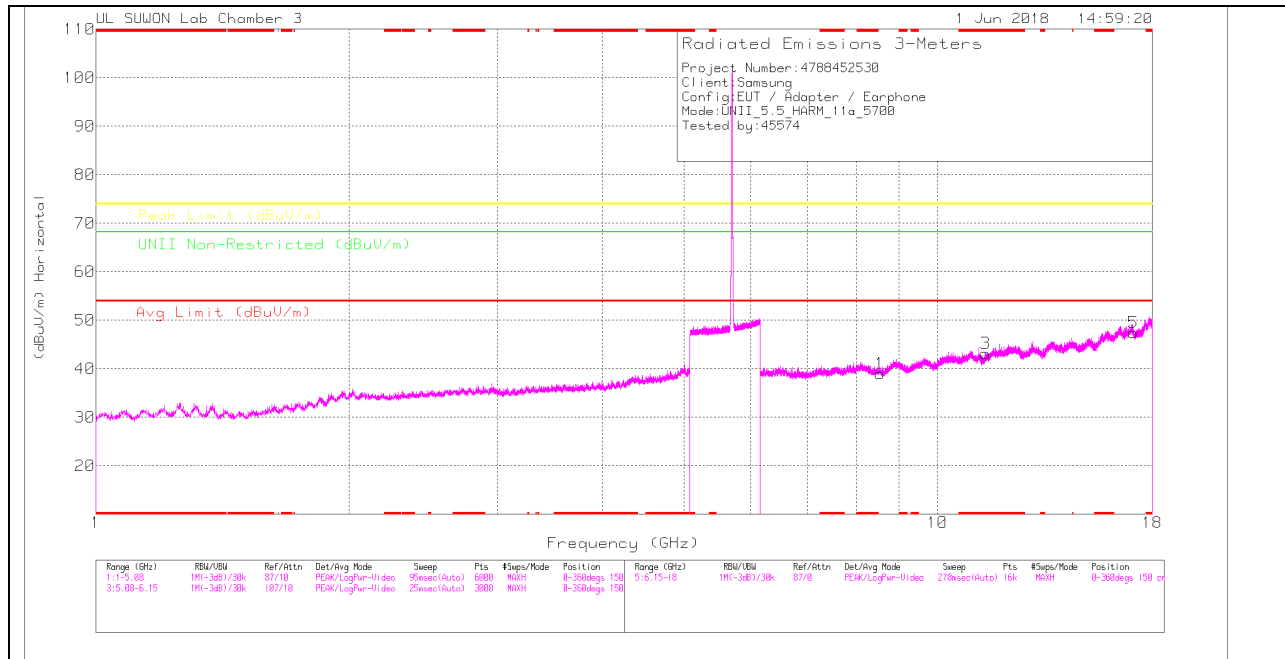
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0020959)	GHz_HF[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 8.371	25.56	PK	35.8	-21.9	0	39.46	-	-	74	-34.54	-	-	0-360	250	H
3	* 11.601	24.76	PK	38.2	-19.8	0	43.16	-	-	74	-30.84	-	-	0-360	250	H
5	16.74	22.77	PK	41.5	-17	0	47.27	-	-	-	-	68.2	-20.93	0-360	250	H
2	* 8.371	25.63	PK	35.8	-21.9	0	39.53	-	-	74	-34.47	-	-	0-360	149	V
4	* 11.601	24.51	PK	38.2	-19.8	0	42.91	-	-	74	-31.09	-	-	0-360	149	V
6	16.74	23.14	PK	41.5	-17	0	47.64	-	-	-	-	68.2	-20.56	0-360	250	V

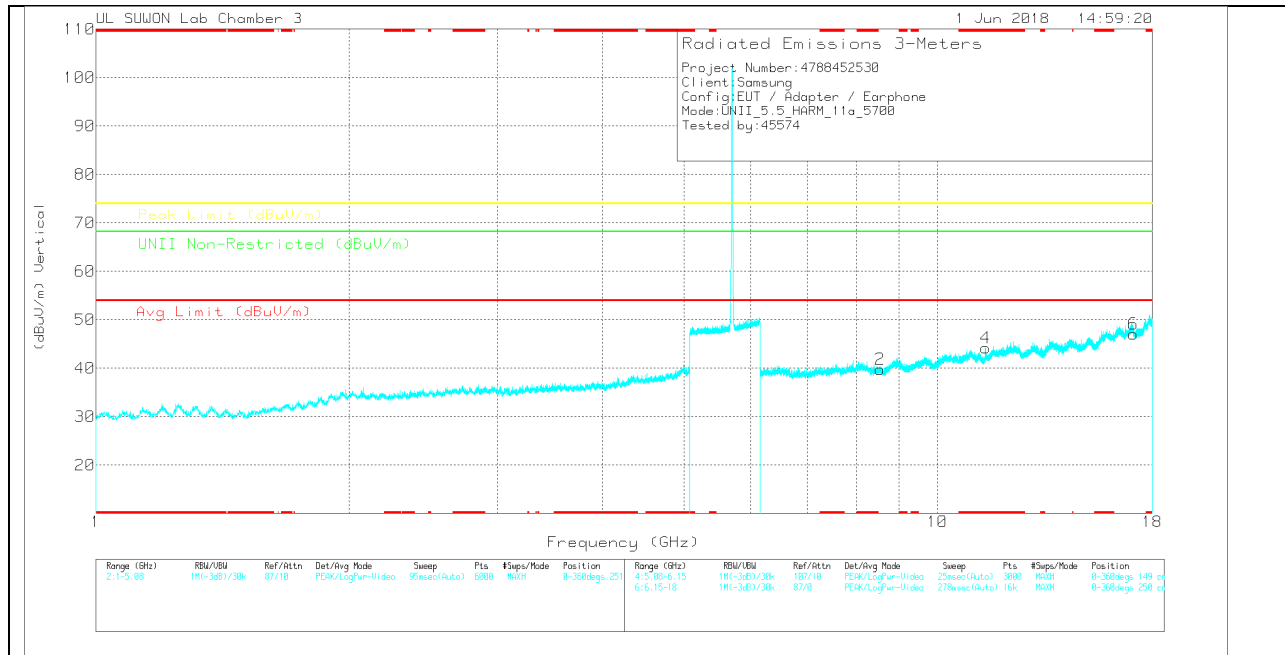
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak detector

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

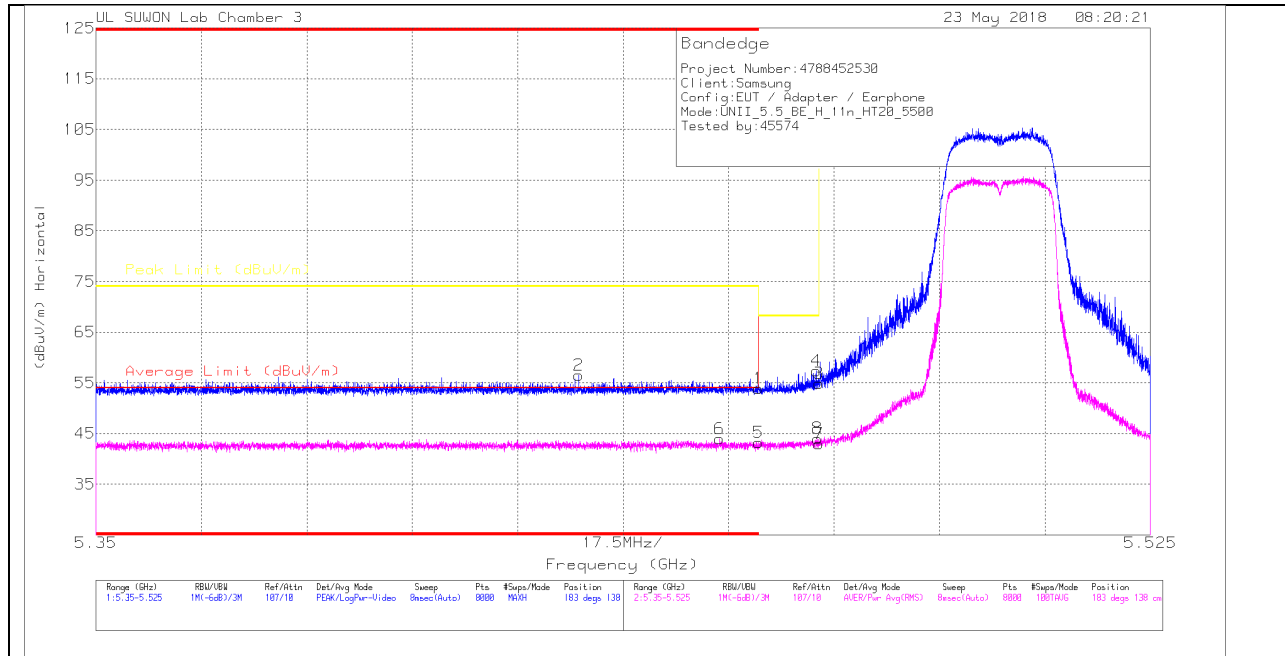
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	317(0020999)	GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	8.551	24.42	PK	35.8	-21.2	0	39.02	-	-	-	-	68.2	-29.18	0-360	150	H
3	* 11.4	24.71	PK	38	-19.6	0	43.11	-	-	74	-30.89	-	-	0-360	150	H
5	17.101	22.41	PK	41	-16	0	47.41	-	-	-	-	68.2	-20.79	0-360	250	H
2	8.551	25.23	PK	35.8	-21.2	0	39.83	-	-	-	-	68.2	-28.37	0-360	149	V
4	* 11.401	25.91	PK	38	-19.7	0	44.21	-	-	74	-29.79	-	-	0-360	250	V
6	17.101	22.05	PK	41	-16	0	47.05	-	-	-	-	68.2	-21.15	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).

**11.3.2.TX ABOVE 1GHz 802.11n HT20 MODE IN THE 5.5GHz BAND  
 RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

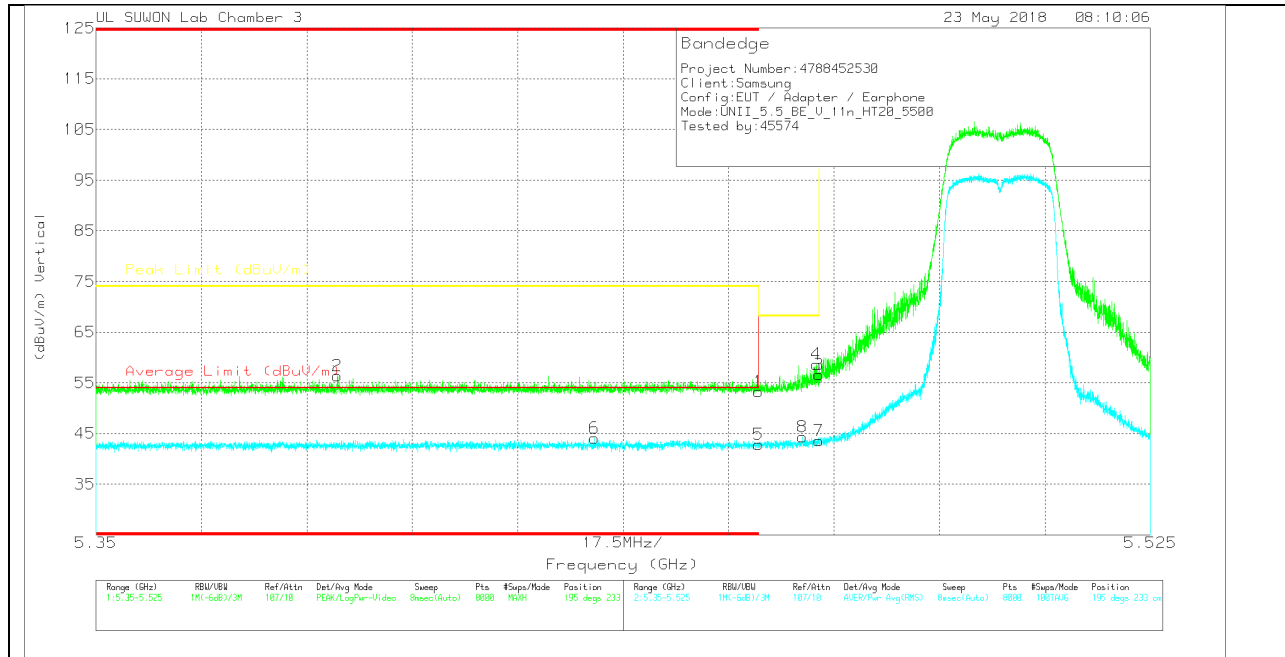
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00205959)	1008_ATT1[db]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.46	37.98	Pk	34.3	-18.4	0	53.88	-	-	74	-20.12	183	138	H
2	* 5.43	40.56	Pk	34.3	-18.4	0	56.46	-	-	74	-17.54	183	138	H
3	5.47	38.96	Pk	34.3	-18.4	0	54.86	-	-	68.2	-13.34	183	138	H
4	5.47	41.51	Pk	34.3	-18.4	0	57.41	-	-	68.2	-10.79	183	138	H
5	* 5.46	27.74	RMS	34.3	-18.8	0	43.24	54	-10.76	-	-	183	138	H
6	* 5.454	28.46	RMS	34.3	-18.8	0	43.96	54	-10.04	-	-	183	138	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	311700205959	10dB_ATT[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	* 5.46	37.36	Pk	34.3	-18.4	0	53.26	-	-	74	-20.74	195	233	V
2	* 5.39	40.54	Pk	34.3	-18.5	0	56.34	-	-	74	-17.66	195	233	V
3	5.47	40.78	Pk	34.3	-18.4	0	56.68	-	-	68.2	-11.52	195	233	V
4	5.47	42.77	Pk	34.3	-18.4	0	58.67	-	-	68.2	-9.53	195	233	V
5	* 5.46	27.33	RMS	34.3	-18.8	0	42.83	54	-11.17	-	-	195	233	V
6	* 5.433	28.65	RMS	34.3	-18.9	0	44.05	54	-9.95	-	-	195	233	V

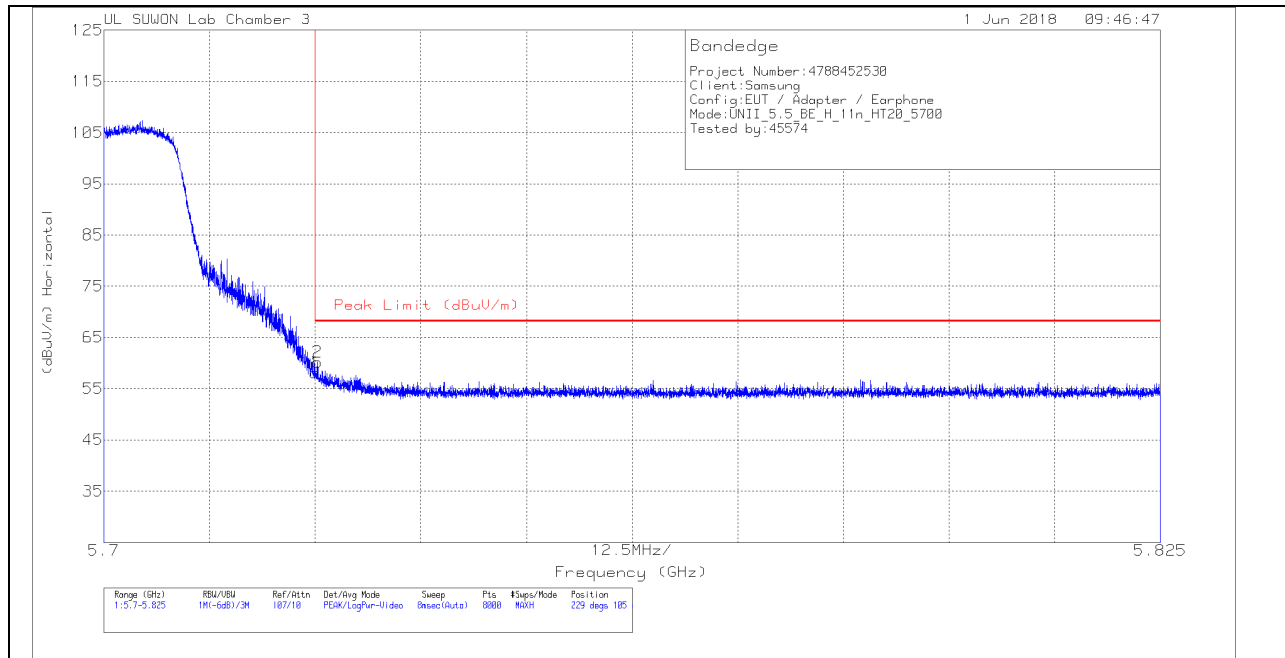
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

**AUTHORIZED BANDEGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



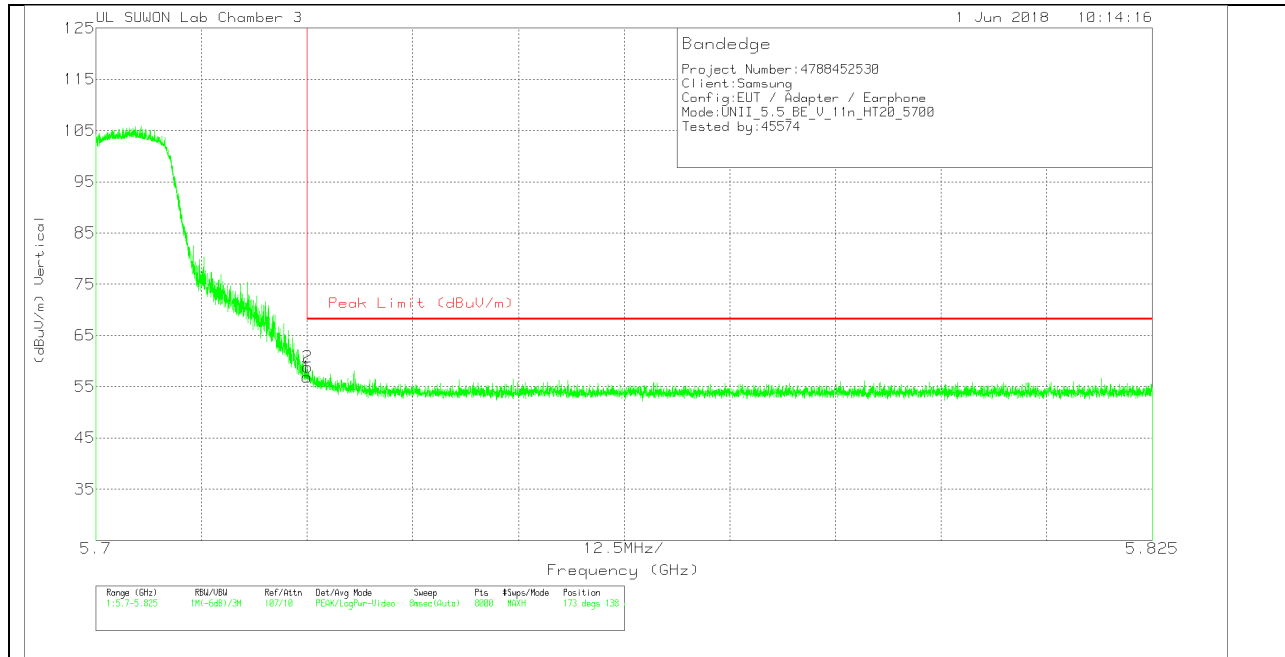
**HORIZONTAL DATA**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117[00205959]	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	41.35	Pk	34.7	-17.9	58.15	68.2	-10.05	229	105	H
2	5.725	43.4	Pk	34.7	-17.9	60.2	68.2	-8	229	105	H

Pk - Peak detector

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

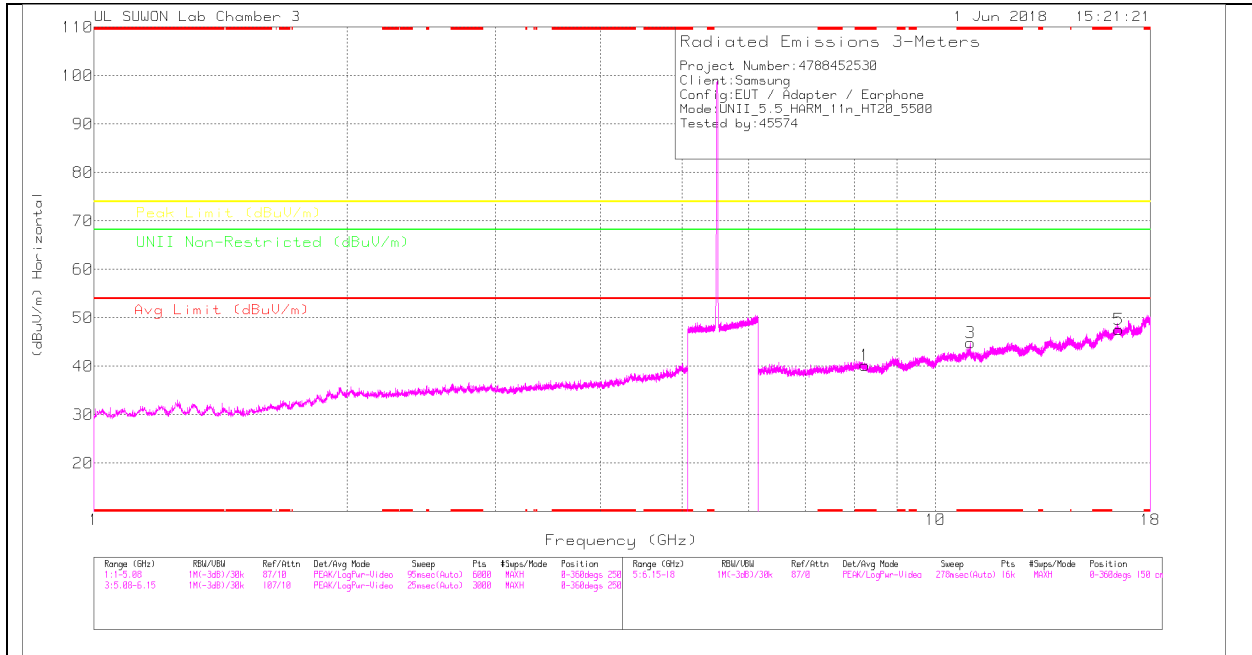
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117[00205959]	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.04	Pk	34.7	-17.9	56.84	68.2	-11.36	173	138	V
2	5.725	42.05	Pk	34.7	-17.9	58.85	68.2	-9.35	173	138	V

Pk - Peak detector

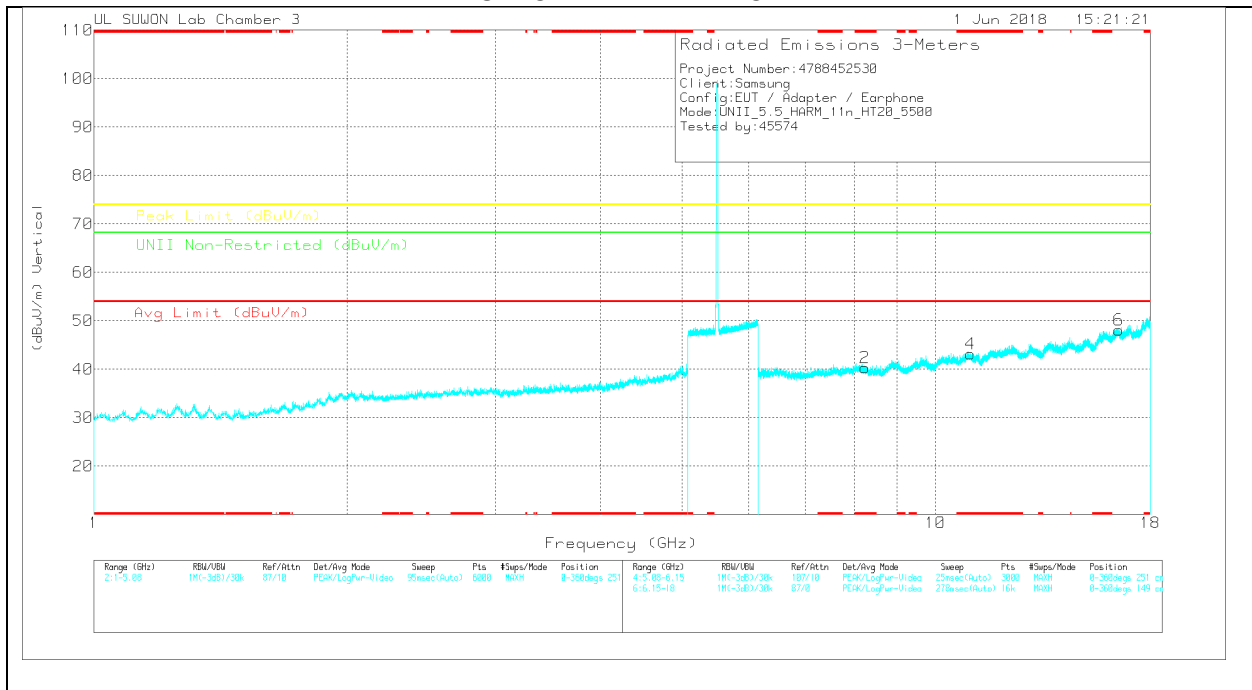


### HARMONICS AND SPURIOUS EMISSIONS

#### 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**

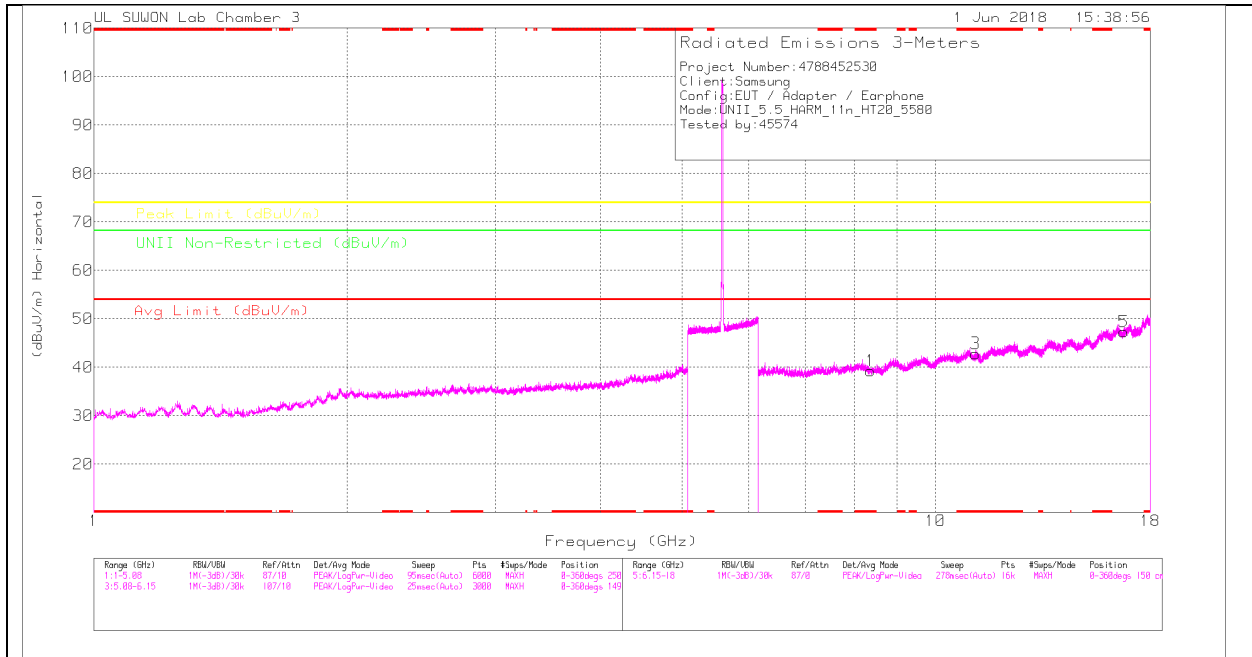
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	317(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 8.251	26.26	PK	35.8	-21.9	0	40.16	-	-	74	-33.84	-	-	0-360	150	H
3	*10.996	26.65	PK	37.8	-19.6	0	44.85	-	-	74	-29.15	-	-	0-360	251	H
5	16.502	23.6	PK	41.4	-17.4	0	47.6	-	-	-	-	68.2	-20.6	0-360	150	H
2	* 8.25	26.43	PK	35.8	-21.9	0	40.33	-	-	74	-33.67	-	-	0-360	251	V
4	*11.001	24.81	PK	37.8	-19.5	0	43.11	-	-	74	-30.89	-	-	0-360	149	V
6	16.499	24.11	PK	41.4	-17.4	0	48.11	-	-	-	-	68.2	-20.09	0-360	251	V

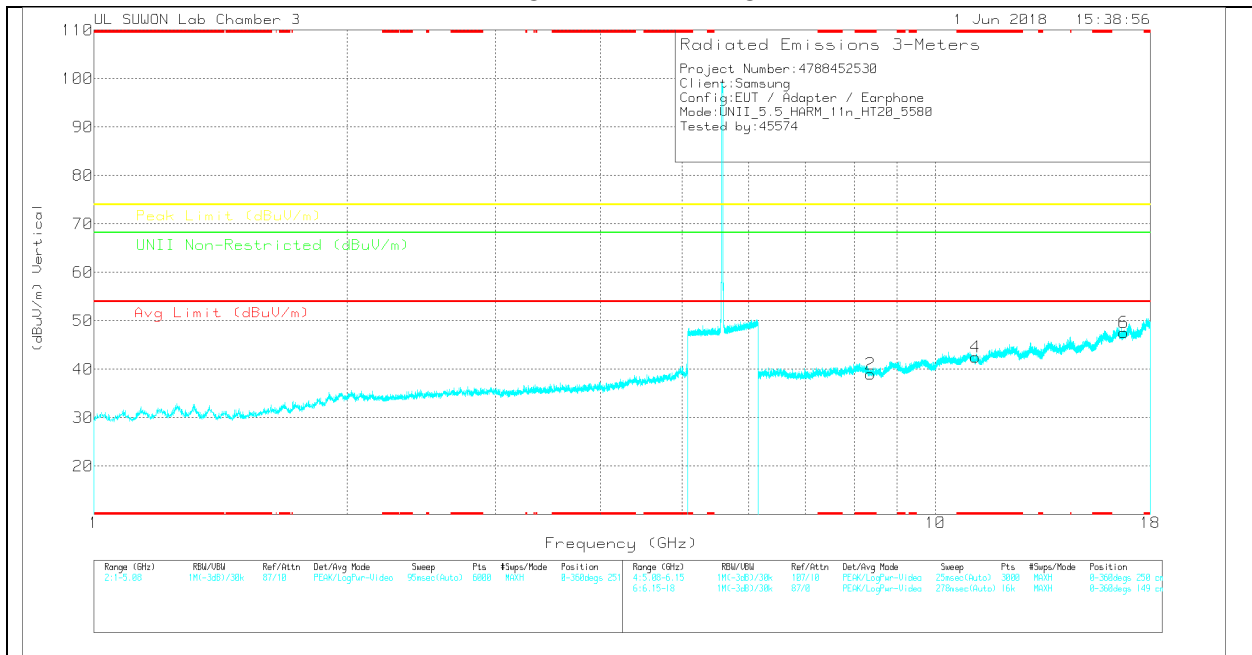
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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

**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

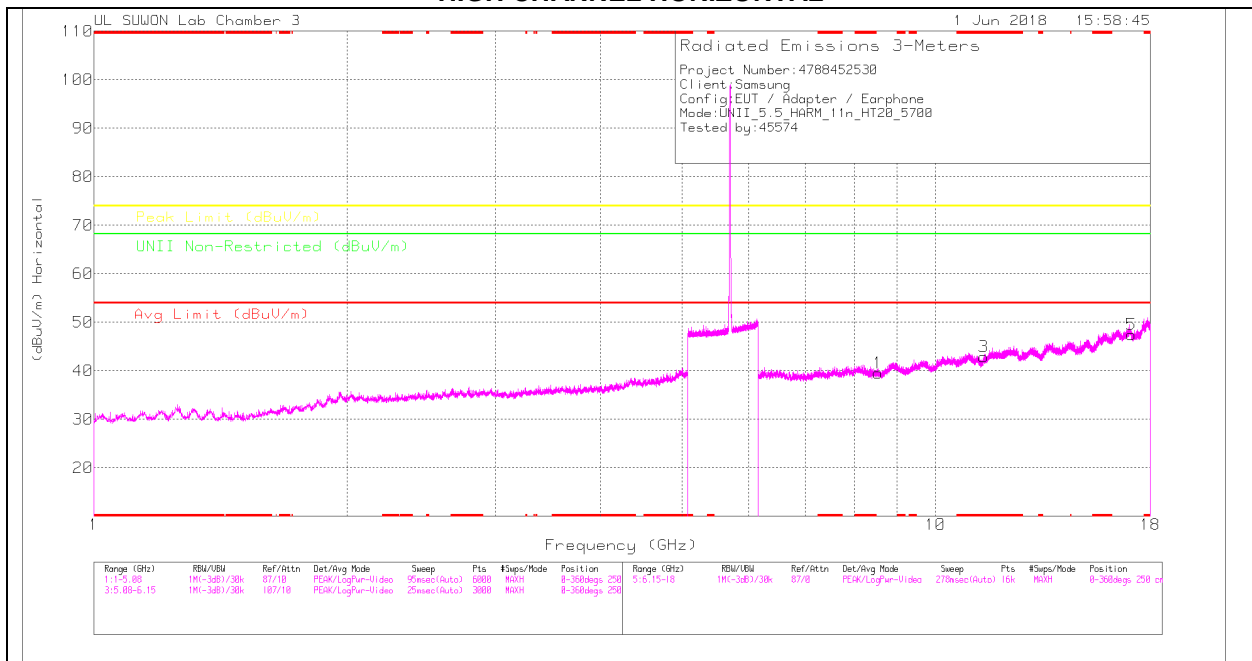
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	1117(0020959)	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Ag Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Limit Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 8.373	25.27	PK	35.8	-21.8	0	39.27	-	-	74	-34.73	-	-	0-360	250	H
3	* 11.16	24.74	PK	37.9	-19.8	0	42.84	-	-	74	-31.16	-	-	0-360	150	H
5	16.742	22.78	PK	41.5	-16.9	0	47.38	-	-	-	-	68.2	-20.82	0-360	150	H
2	* 8.373	25.07	PK	35.8	-21.8	0	39.07	-	-	74	-34.93	-	-	0-360	149	V
4	* 11.16	24.42	PK	37.9	-19.8	0	42.52	-	-	74	-31.48	-	-	0-360	250	V
6	16.742	22.93	PK	41.5	-16.9	0	47.53	-	-	-	-	68.2	-20.67	0-360	250	V

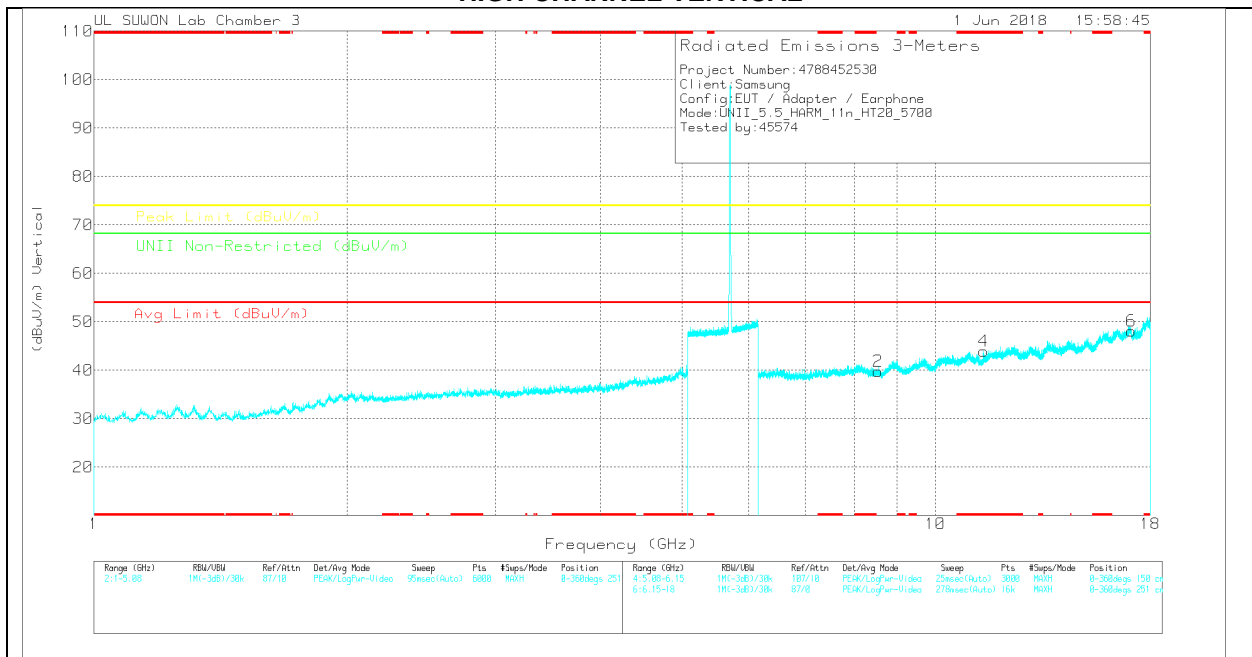
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

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	3117(00209959)	6GHz_HF(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNE Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	8.551	24.9	PK	35.8	-21.2	0	39.5	-	-	-	-	68.2	-28.7	0-360	250	H
3	*11.401	24.55	PK	38	-19.7	0	42.85	-	-	74	-31.15	-	-	0-360	250	H
5	17.101	22.44	PK	41	-16	0	47.44	-	-	-	-	68.2	-20.76	0-360	250	H
2	8.551	25.17	PK	35.8	-21.2	0	39.77	-	-	-	-	68.2	-28.43	0-360	149	V
4	*11.401	25.62	PK	38	-19.7	0	43.92	-	-	74	-30.08	-	-	0-360	251	V
6	17.101	23.07	PK	41	-16	0	48.07	-	-	-	-	68.2	-20.13	0-360	251	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).