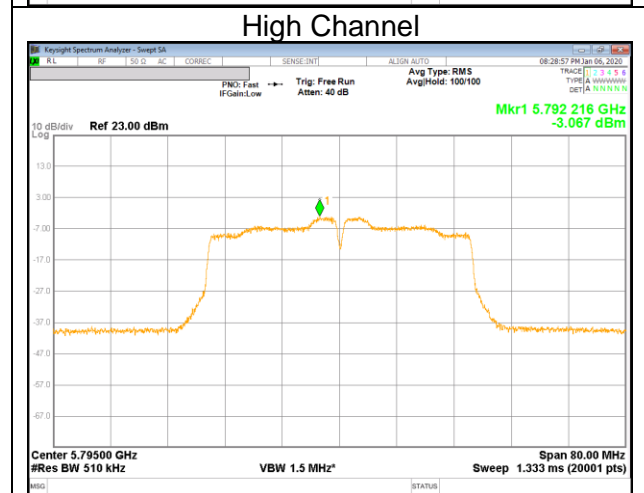
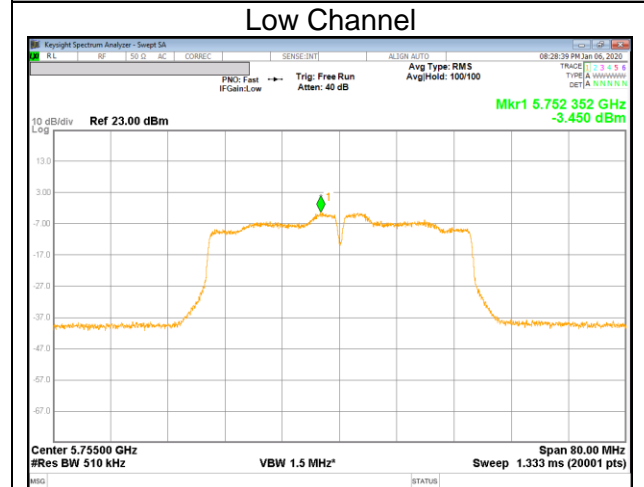
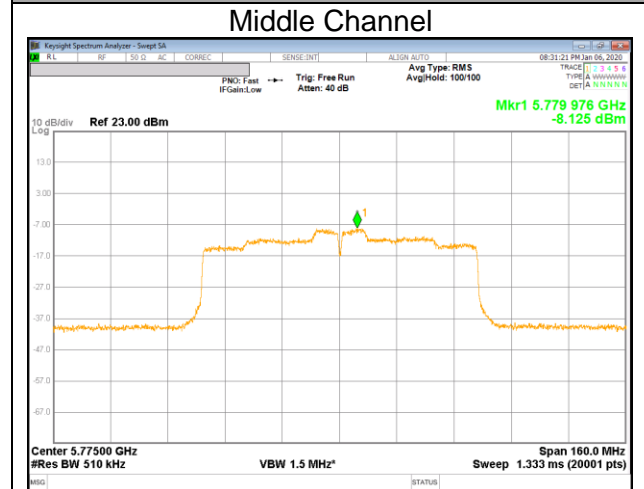
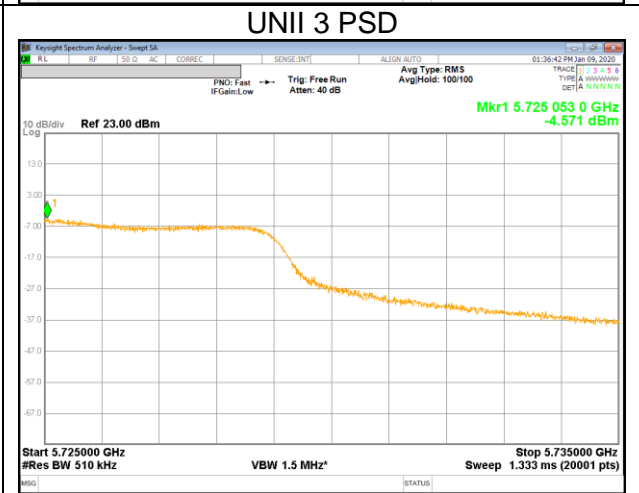
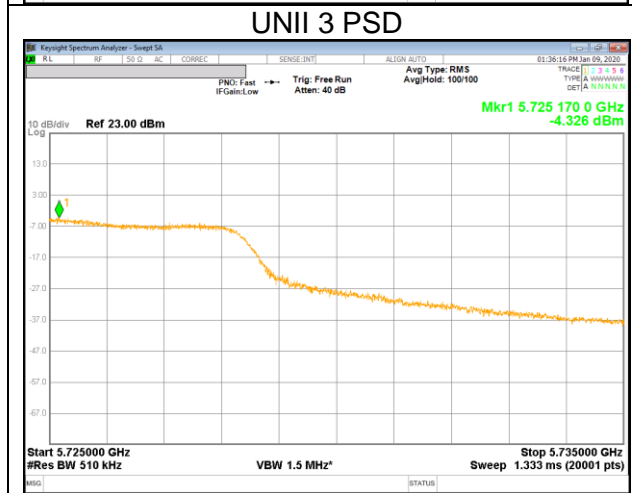
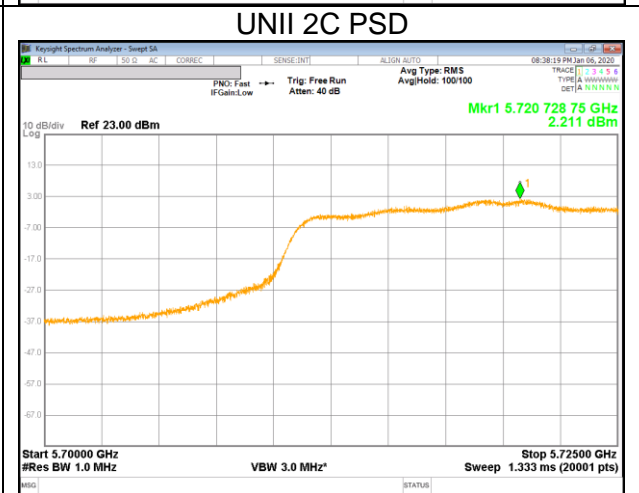
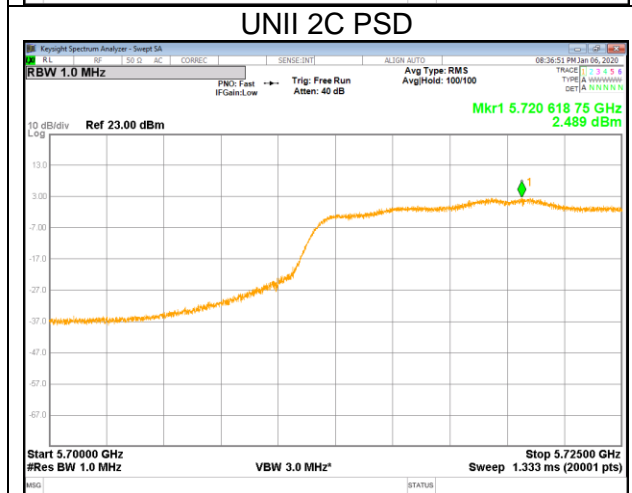
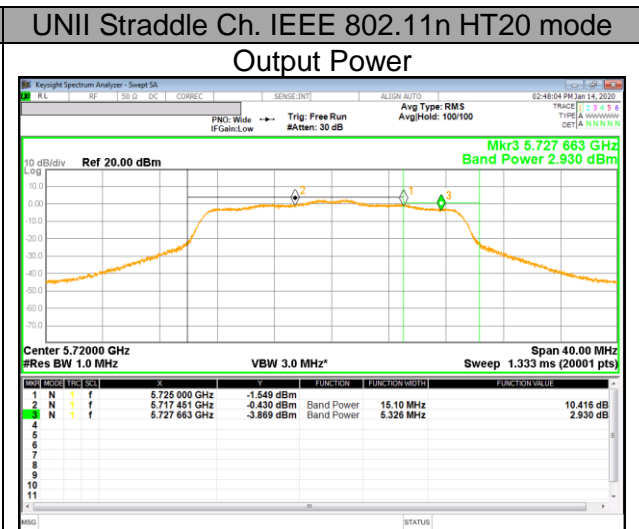
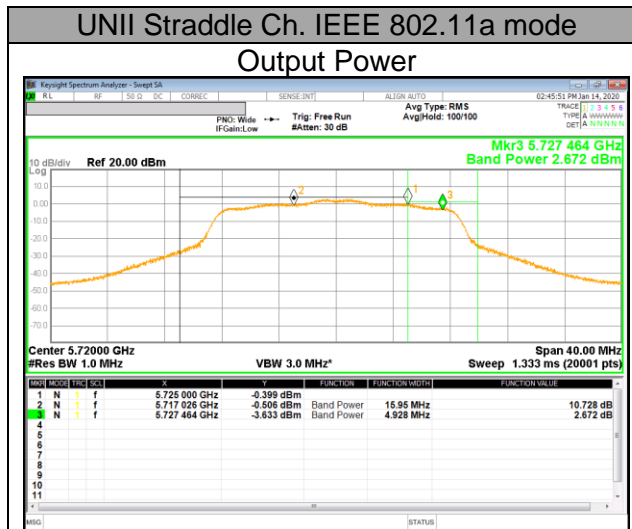


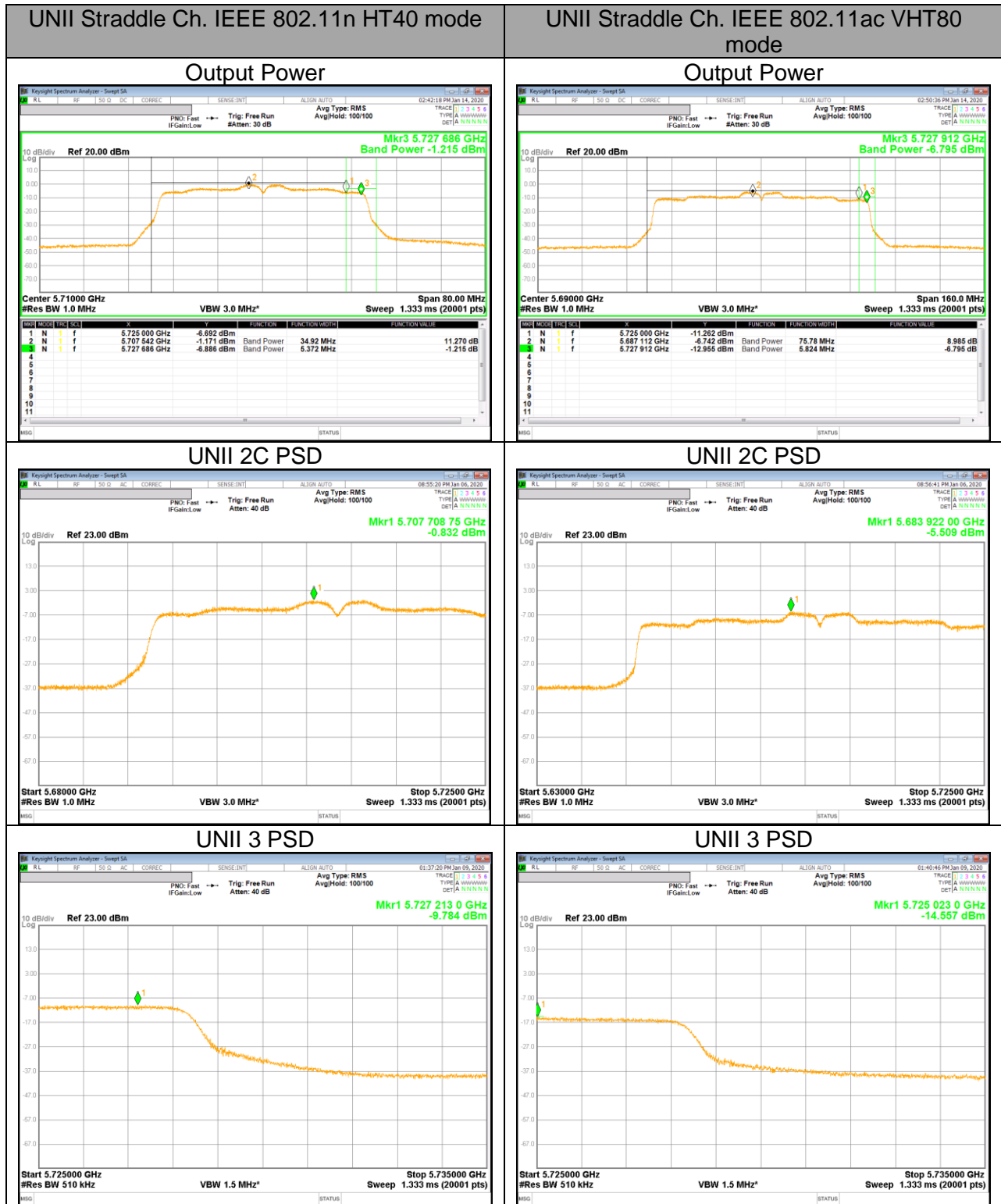
UNII 5.8 GHz IEEE 802.11n HT40 mode mode  
PSD



UNII 5.8 GHz IEEE 802.11ac VHT80 mode  
mode PSD







## 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 Part 15.205 (a) : Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~ 156.52525	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.7 ~ 156.9	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	162.0125 ~ 167.17	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	167.72 ~ 173.2	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	240 ~ 285	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	322 ~ 335.4	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	960 ~ 1240	3345.8 ~ 3358 3600 ~ 4400		

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

**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 )

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

## TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 100 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 1GHz 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.

Note : Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).  
Per FCC part 15.31(o), test results were not reported.

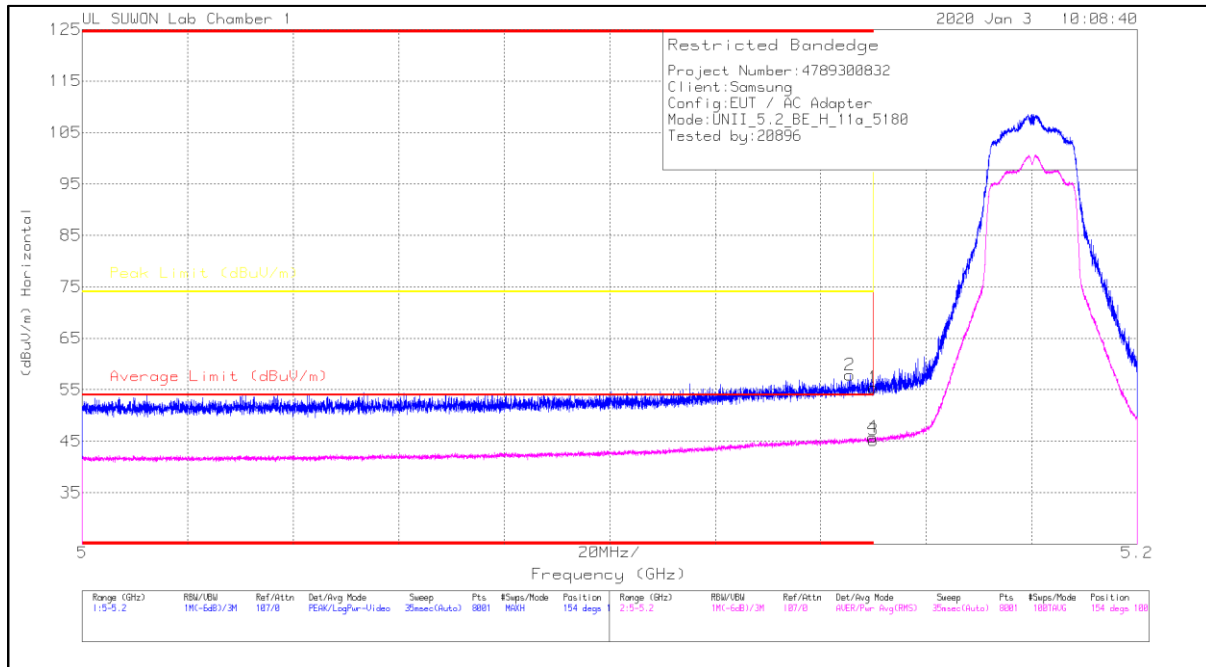
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open field test site.  
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

## 11.1. 5.2 GHz

### 11.1.1. TX ABOVE 1GHz 802.11a 1Tx MODE IN THE 5.2GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE DATA



#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	42.73	Pk	34.5	-21.8	0	55.43	-	-	74	-18.57	154	100	H
2	* 5.1455	45.27	Pk	34.4	-21.8	0	57.87	-	-	74	-16.13	154	100	H
3	5.15	32.52	RMS	34.5	-21.8	0	45.22	54	-8.78	-	-	154	100	H
4	* 5.14988	33.18	RMS	34.4	-21.8	0	45.78	54	-8.22	-	-	154	100	H

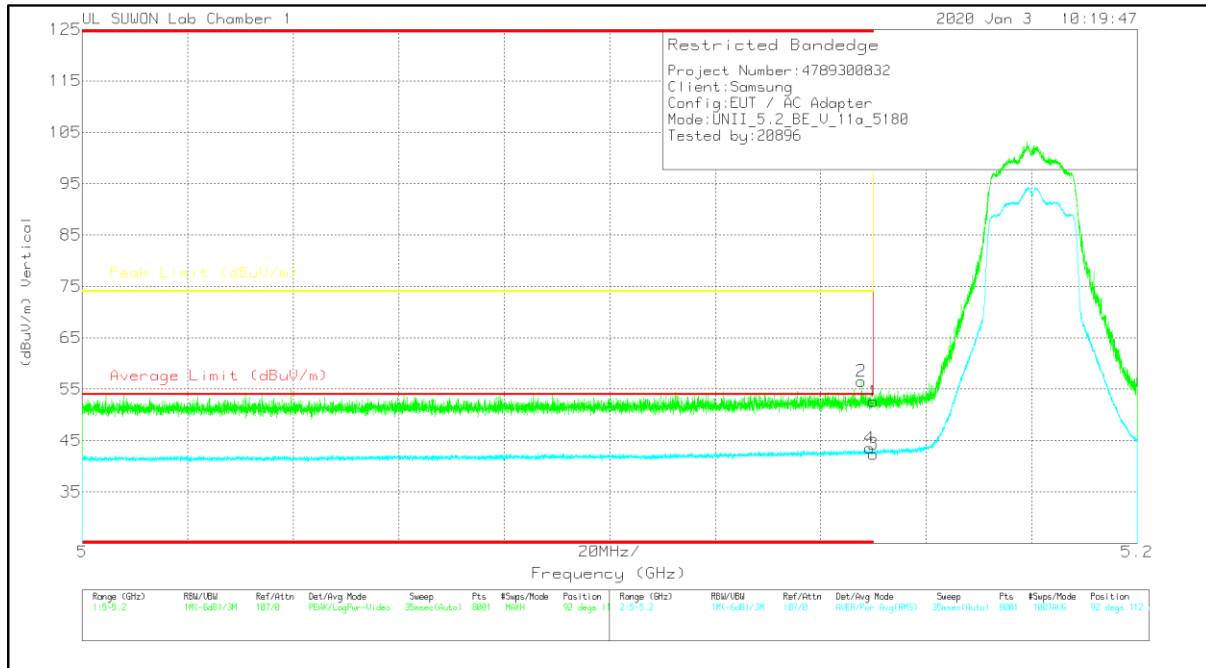
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection



**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	39.89	Pk	34.5	-21.8	0	52.59	-	-	74	-21.41	92	112	V
2	* 5.14773	43.94	Pk	34.4	-21.8	0	56.54	-	-	74	-17.46	92	112	V
3	5.15	29.68	RMS	34.5	-21.8	0	42.38	54	-11.62	-	-	92	112	V
4	* 5.14925	30.94	RMS	34.4	-21.8	0	43.54	54	-10.46	-	-	92	112	V

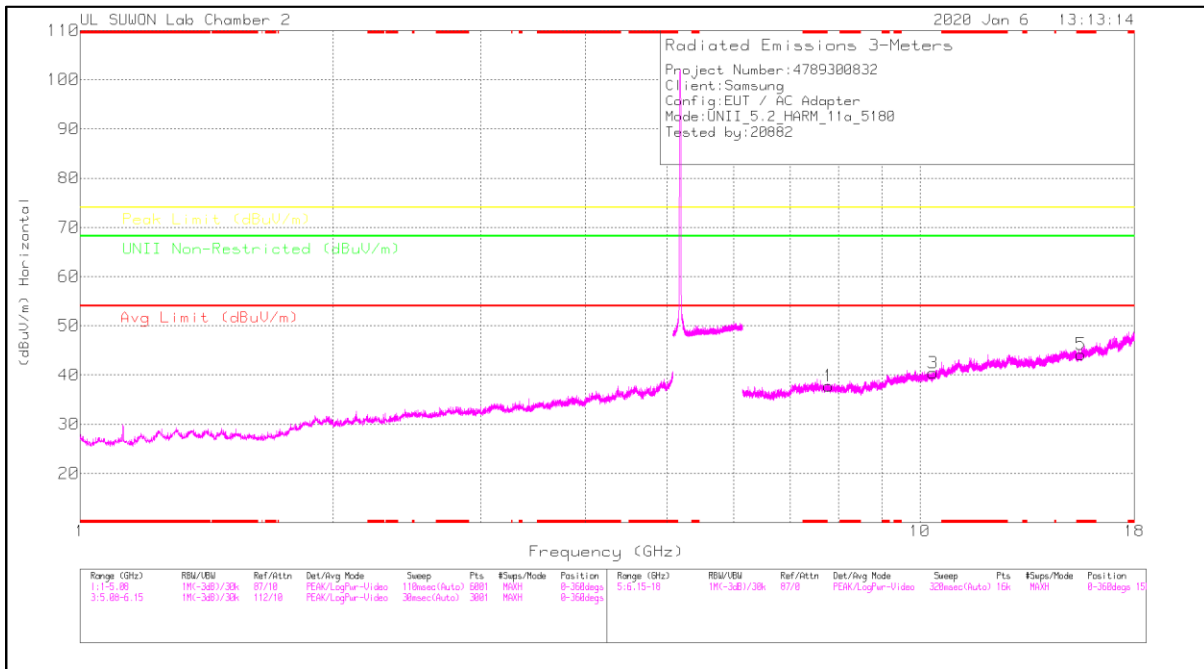
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

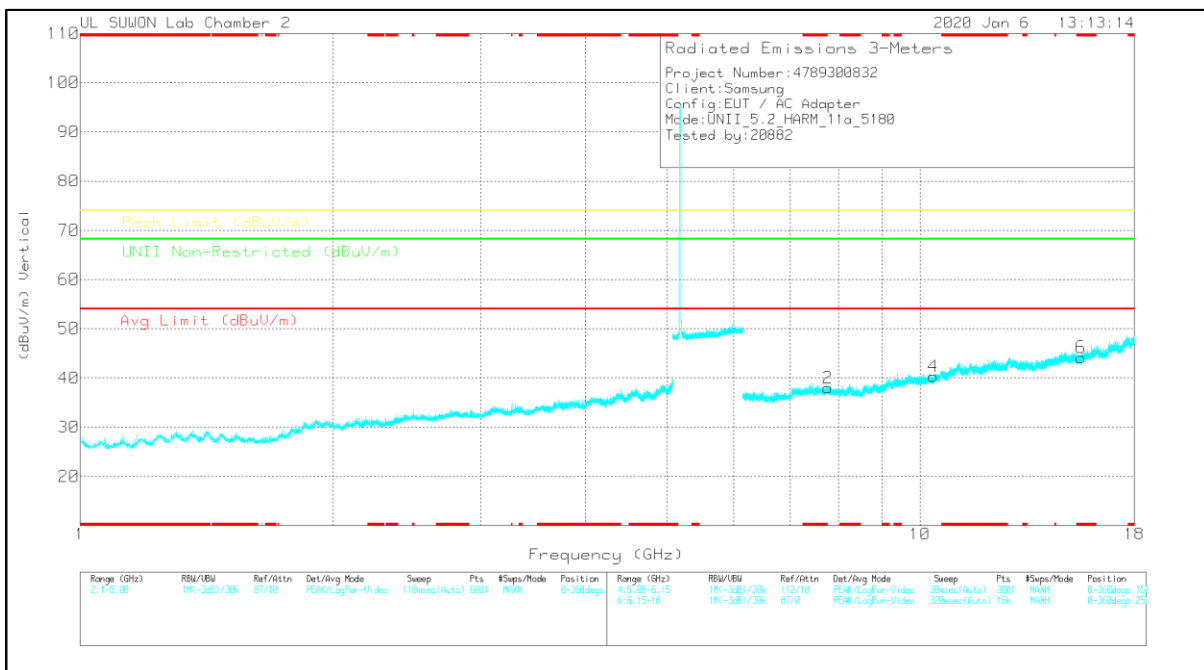
RMS - RMS detection

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.77779	25.34	PK	36	-23.6	0	37.74	-	-	-	-	68.2	-30.46	0-360	150	H
3	10.36612	23.52	PK	37.6	-20.7	0	40.42	-	-	-	-	68.2	-27.78	0-360	250	H
5	* 15.54647	23.78	PK	39.9	-19.5	0	44.18	-	-	74	-29.82	-	-	0-360	150	H
2	7.76891	25.59	PK	36	-23.6	0	37.99	-	-	-	-	68.2	-30.21	0-360	150	V
4	10.36834	23.39	PK	37.6	-20.7	0	40.29	-	-	-	-	68.2	-27.91	0-360	250	V
6	* 15.53906	23.85	PK	39.9	-19.6	0	44.15	-	-	74	-29.85	-	-	0-360	150	V

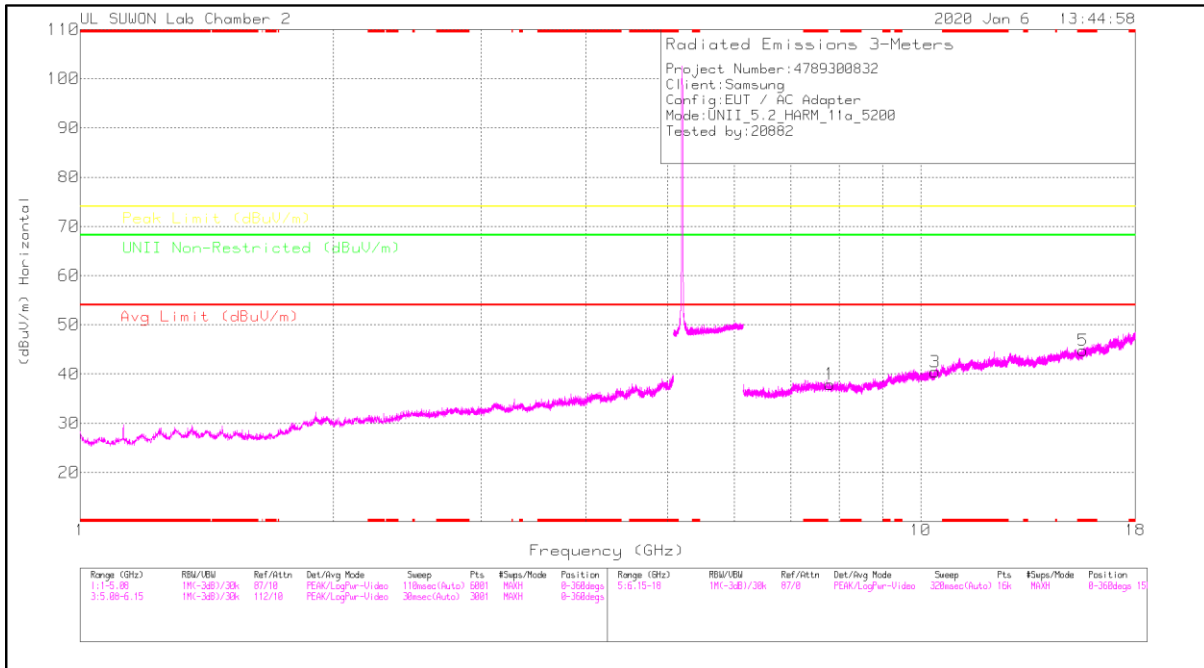
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

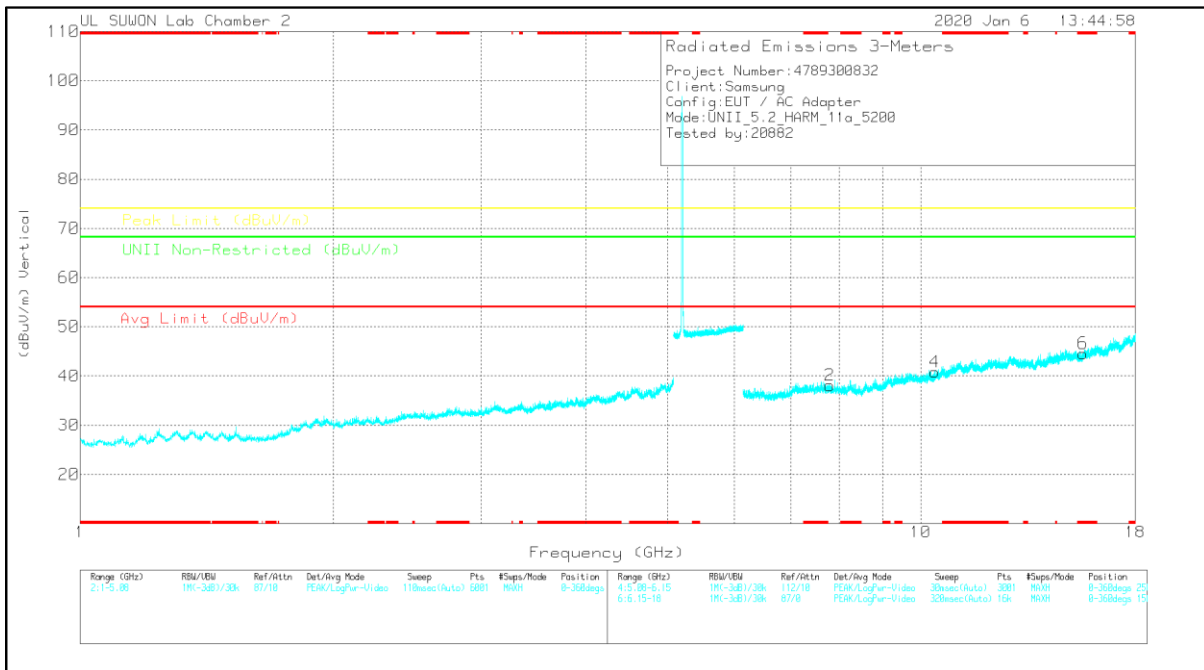
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.77643	36.34	PK-U	36	-23.6	0	48.74	-	-	-	-	68.2	-19.46	0	100	H
7.7793	35.84	PK-U	36	-23.6	0	48.24	-	-	-	-	68.2	-19.96	0	100	V
10.36668	33.53	PK-U	37.6	-20.7	0	50.43	-	-	-	-	68.2	-17.77	0	100	H
10.3666	33.22	PK-U	37.6	-20.7	0	50.12	-	-	-	-	68.2	-18.08	0	100	V
* 15.54584	33.83	PK-U	39.9	-19.6	0	54.13	-	-	74	-19.87	-	-	0	100	H
* 15.54782	33.98	PK-U	39.9	-19.5	0	54.38	-	-	74	-19.62	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.79853	25.71	PK	36	-23.8	0	37.91	-	-	-	-	68.2	-30.29	0-360	250	H
3	10.39944	23.5	PK	37.6	-20.7	0	40.4	-	-	-	-	68.2	-27.8	0-360	250	H
5	* 15.59979	24.54	PK	40	-19.8	0	44.74	-	-	74	-29.26	-	-	0-360	250	H
2	7.79927	25.87	PK	36	-23.8	0	38.07	-	-	-	-	68.2	-30.13	0-360	250	V
4	10.395	23.9	PK	37.6	-20.7	0	40.8	-	-	-	-	68.2	-27.4	0-360	150	V
6	* 15.60349	24.16	PK	40	-19.6	0	44.56	-	-	74	-29.44	-	-	0-360	250	V

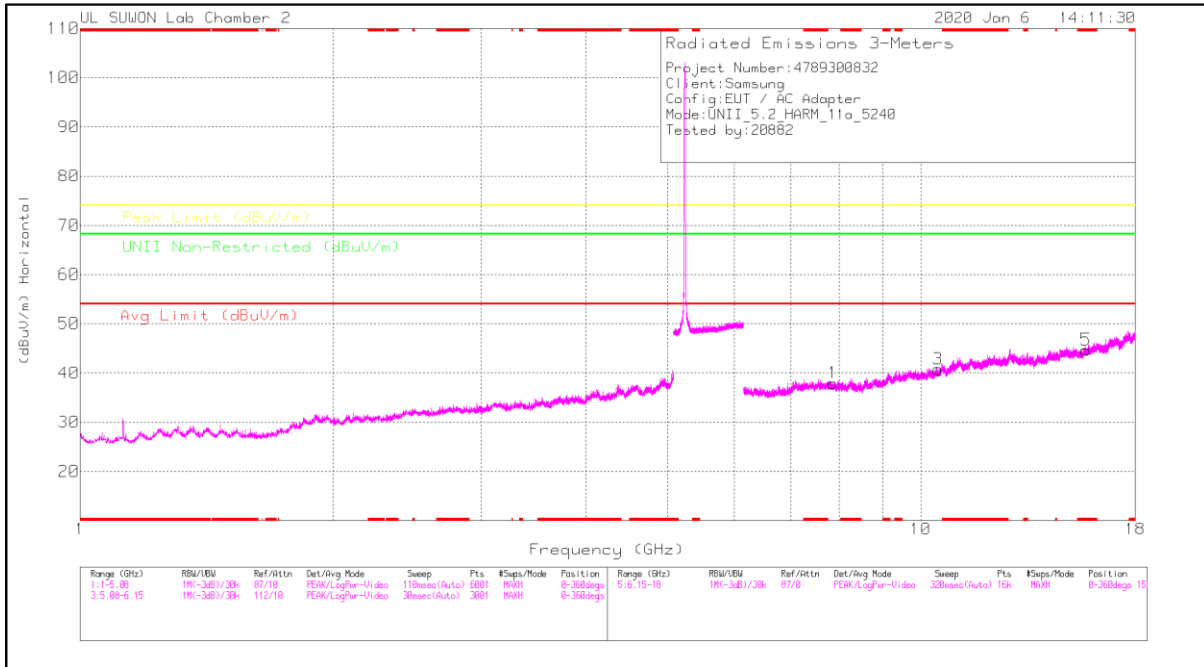
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

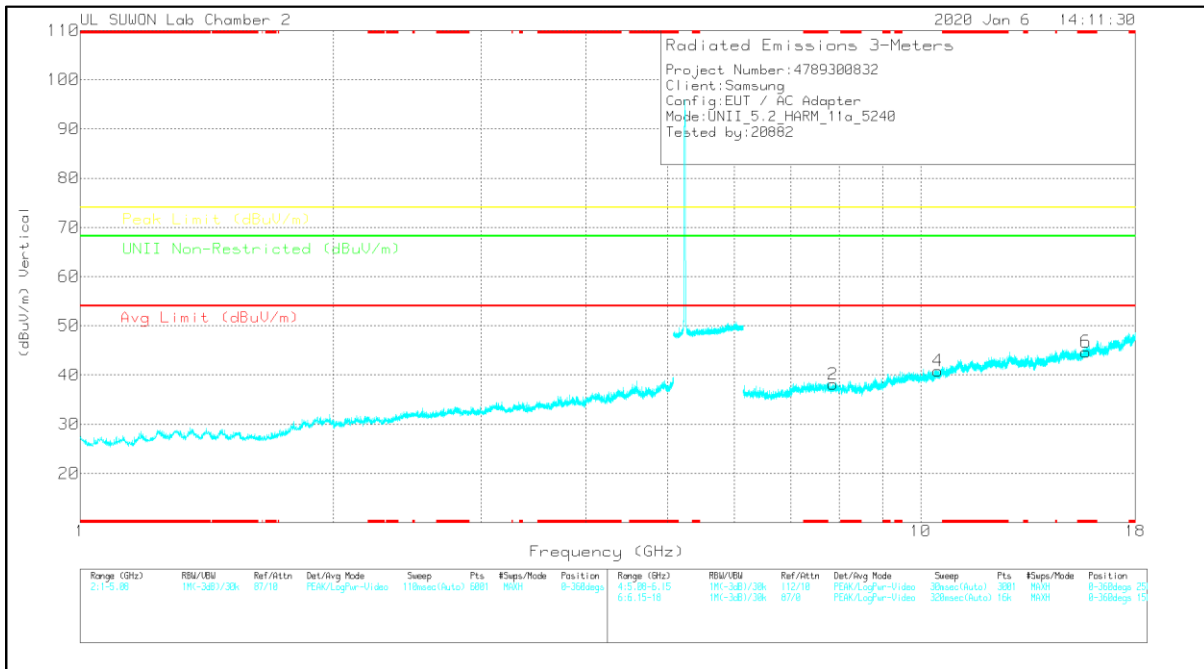
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.7988	35.74	PK-U	36	-23.7	0	48.04	-	-	-	-	68.2	-20.16	0	100	H
7.79754	35.81	PK-U	36	-23.7	0	48.11	-	-	-	-	68.2	-20.09	0	100	V
10.39781	33.4	PK-U	37.6	-20.7	0	50.3	-	-	-	-	68.2	-17.9	0	100	H
10.40144	33.44	PK-U	37.6	-20.7	0	50.34	-	-	-	-	68.2	-17.86	0	100	V
* 15.59885	34.5	PK-U	40	-19.6	0	54.9	-	-	74	-19.1	-	-	0	100	H
* 15.60067	34.08	PK-U	40	-19.7	0	54.38	-	-	74	-19.62	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-UNII: Maximum Peak

### 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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.85778	26.32	PK	35.9	-24.3	0	37.92	-	-	-	-	68.2	-30.28	0-360	150	H
3	10.48535	23.55	PK	37.7	-20.5	0	40.75	-	-	-	-	68.2	-27.45	0-360	250	H
5	* 15.72198	24.17	PK	40.2	-19.7	0	44.67	-	-	74	-29.33	-	-	0-360	150	H
2	7.86666	26.51	PK	35.9	-24.3	0	38.11	-	-	-	-	68.2	-30.09	0-360	150	V
4	10.48017	23.82	PK	37.7	-20.5	0	40.82	-	-	-	-	68.2	-27.38	0-360	250	V
6	* 15.72124	24.08	PK	40.2	-19.6	0	44.68	-	-	74	-29.32	-	-	0-360	250	V

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

**Radiated Emissions**

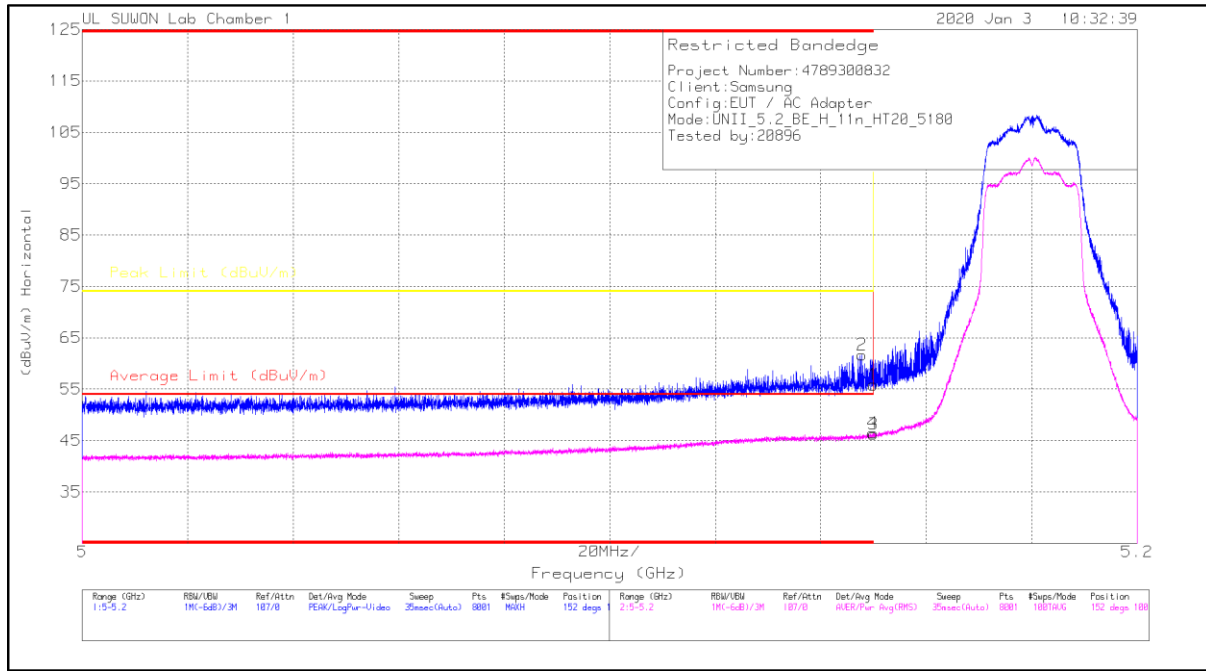
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.85962	32.91	PK-U	35.9	-24.3	0	44.51	-	-	-	-	68.2	-23.69	0	100	H
7.85997	36.17	PK-U	35.9	-24.3	0	47.77	-	-	-	-	68.2	-20.43	0	100	V
10.48518	32.81	PK-U	37.7	-20.5	0	50.01	-	-	-	-	68.2	-18.19	0	100	H
10.48704	33.47	PK-U	37.7	-20.5	0	50.67	-	-	-	-	68.2	-17.53	0	100	V
* 15.72086	34.16	PK-U	40.2	-19.6	0	54.76	-	-	74	-19.24	-	-	0	100	H
* 15.72245	34.28	PK-U	40.2	-19.7	0	54.78	-	-	74	-19.22	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**11.1.2. TX ABOVE 1GHz 802.11n HT20 1Tx MODE IN THE 5.2GHz BAND**

**RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	43.17	Pk	34.5	-21.8	0	55.87	-	-	74	-18.13	152	100	H
2	* 5.14785	49.17	Pk	34.4	-21.9	0	61.67	-	-	74	-12.33	152	100	H
3	5.15	33.54	RMS	34.5	-21.8	0	46.24	54	-7.76	-	-	152	100	H
4	* 5.1499	33.87	RMS	34.4	-21.8	0	46.47	54	-7.53	-	-	152	100	H

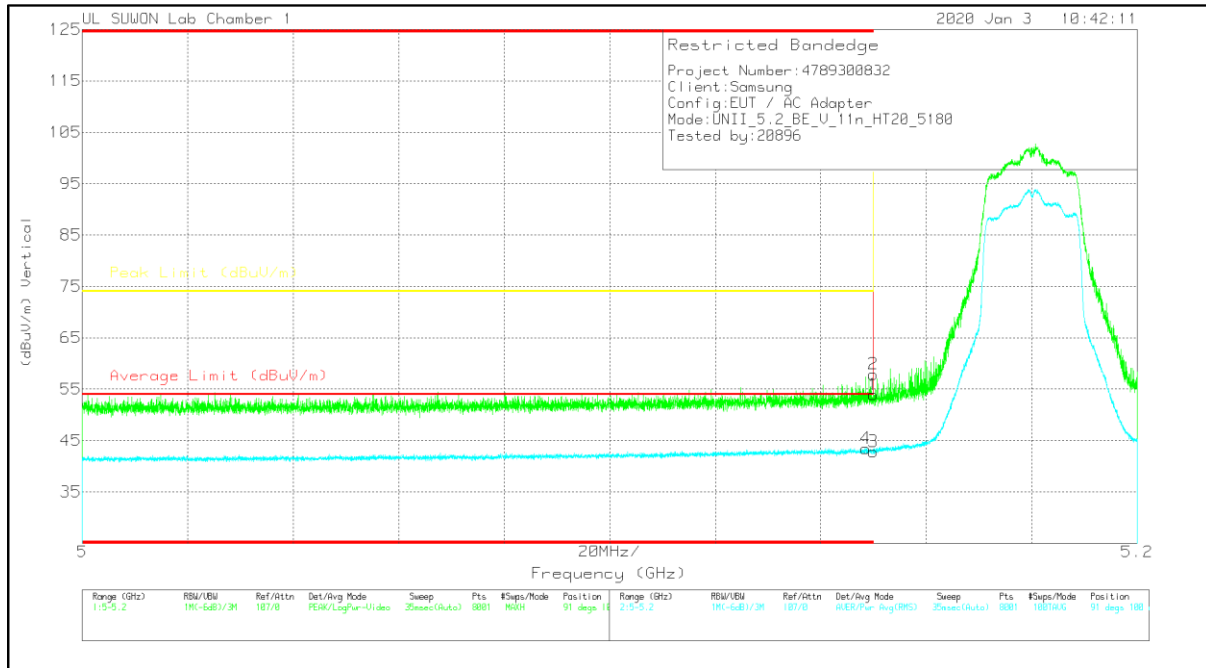
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection



**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	41.22	Pk	34.5	-21.8	0	53.92	-	-	74	-20.08	91	100	V
2	* 5.14998	45.32	Pk	34.4	-21.8	0	57.92	-	-	74	-16.08	91	100	V
3	5.15	30.15	RMS	34.5	-21.8	0	42.85	54	-11.15	-	-	91	100	V
4	* 5.14853	30.96	RMS	34.4	-21.9	0	43.46	54	-10.54	-	-	91	100	V

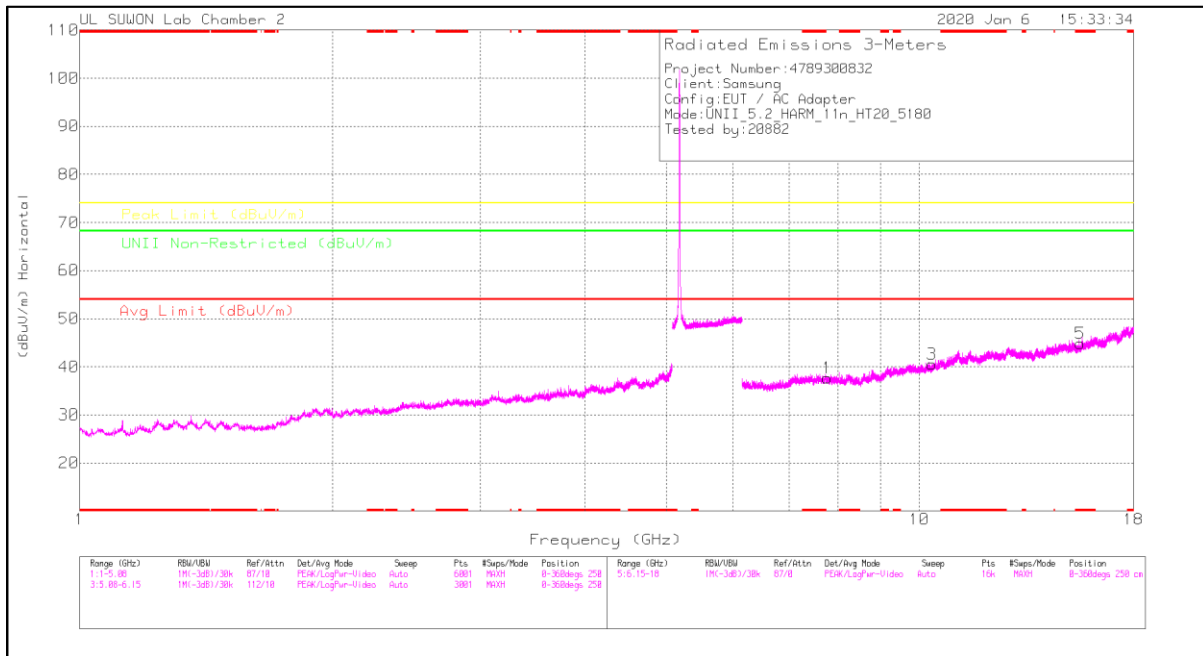
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

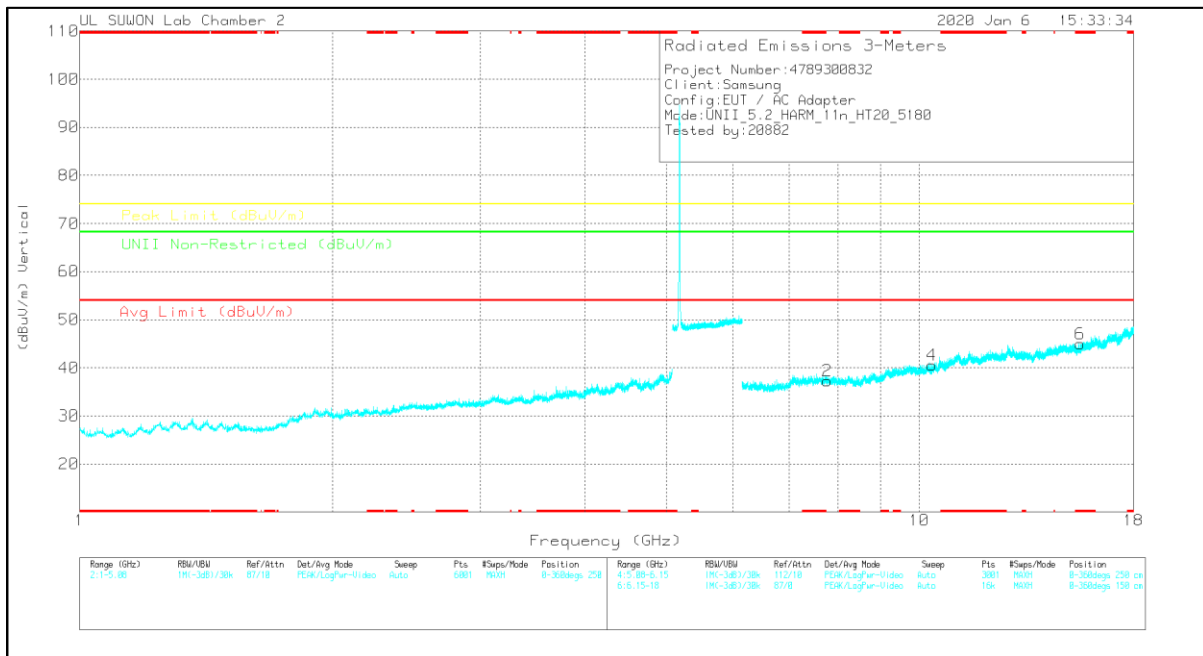
RMS - RMS detection

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.76965	25.26	PK	36	-23.6	0	37.66	-	-	-	-	68.2	-30.54	0-360	150	H
3	10.35501	23.85	PK	37.5	-20.8	0	40.55	-	-	-	-	68.2	-27.65	0-360	150	H
5	* 15.55091	24.42	PK	40	-19.6	0	44.82	-	-	74	-29.18	-	-	0-360	150	H
2	7.77187	24.95	PK	36	-23.6	0	37.35	-	-	-	-	68.2	-30.85	0-360	250	V
4	10.35345	23.74	PK	37.5	-20.7	0	40.54	-	-	-	-	68.2	-27.66	0-360	150	V
6	* 15.54869	24.55	PK	39.9	-19.5	0	44.95	-	-	74	-29.05	-	-	0-360	250	V

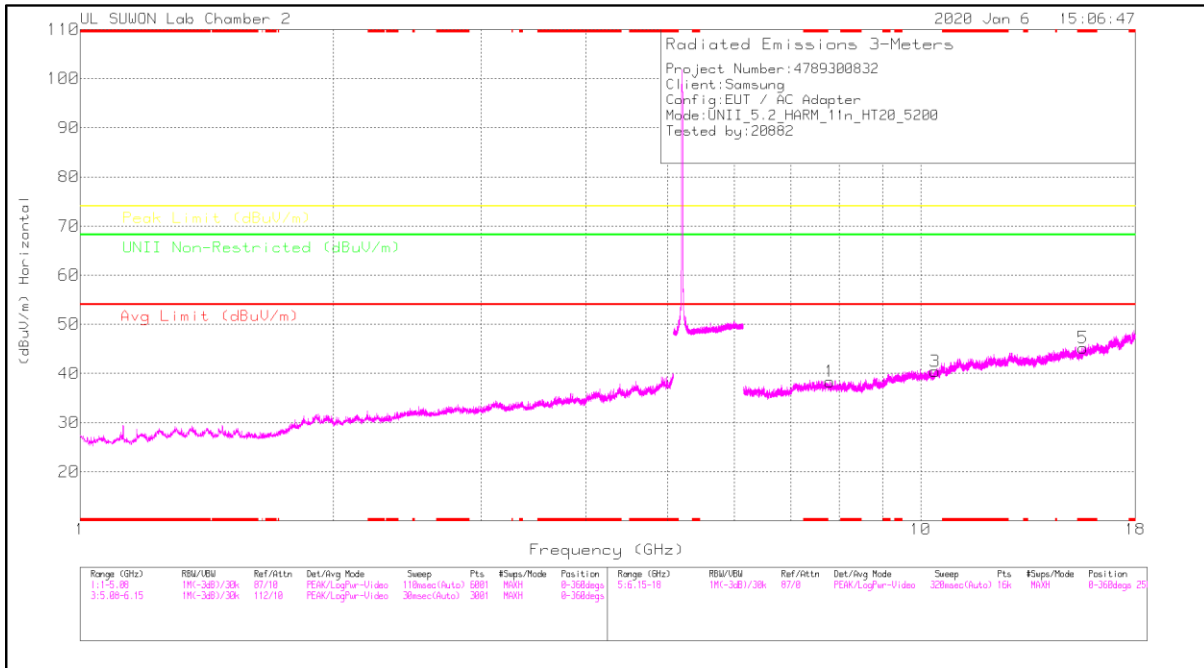
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

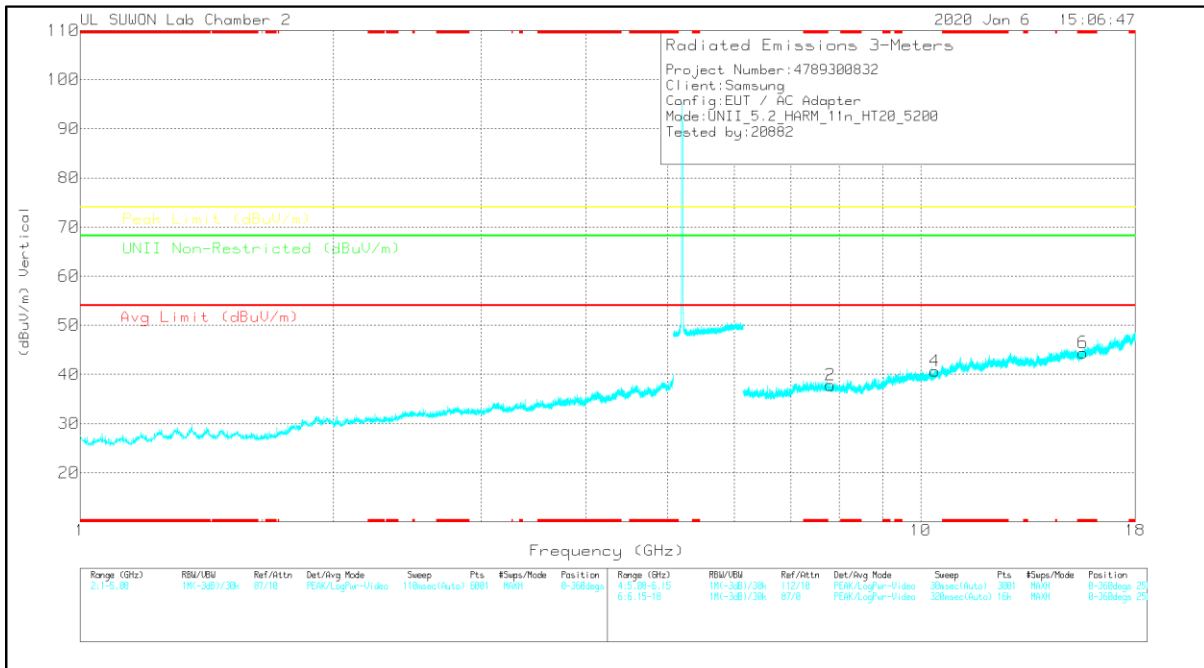
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.76994	35.57	PK-U	36	-23.6	0	47.97	-	-	-	-	68.2	-20.23	0	100	H
7.77108	35.48	PK-U	36	-23.6	0	47.88	-	-	-	-	68.2	-20.32	0	100	V
10.35404	33.85	PK-U	37.5	-20.7	0	50.45	-	-	-	-	68.2	-17.75	0	100	H
10.35334	33.57	PK-U	37.5	-20.7	0	50.37	-	-	-	-	68.2	-17.83	0	100	V
* 15.55071	33.82	PK-U	40	-19.6	0	54.22	-	-	74	-19.78	-	-	0	100	H
* 15.55204	33.8	PK-U	40	-19.6	0	54.2	-	-	74	-19.8	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.79334	25.93	PK	36	-23.6	0	38.33	-	-	-	-	68.2	-29.87	0-360	150	H
3	10.39944	23.52	PK	37.6	-20.7	0	40.42	-	-	-	-	68.2	-27.78	0-360	250	H
5	* 15.59386	24.77	PK	40	-19.6	0	45.17	-	-	74	-28.83	-	-	0-360	150	H
2	7.80668	25.63	PK	36	-23.8	0	37.83	-	-	-	-	68.2	-30.37	0-360	250	V
4	10.39574	23.76	PK	37.6	-20.7	0	40.66	-	-	-	-	68.2	-27.54	0-360	250	V
6	* 15.59683	24.03	PK	40	-19.6	0	44.43	-	-	74	-29.57	-	-	0-360	150	V

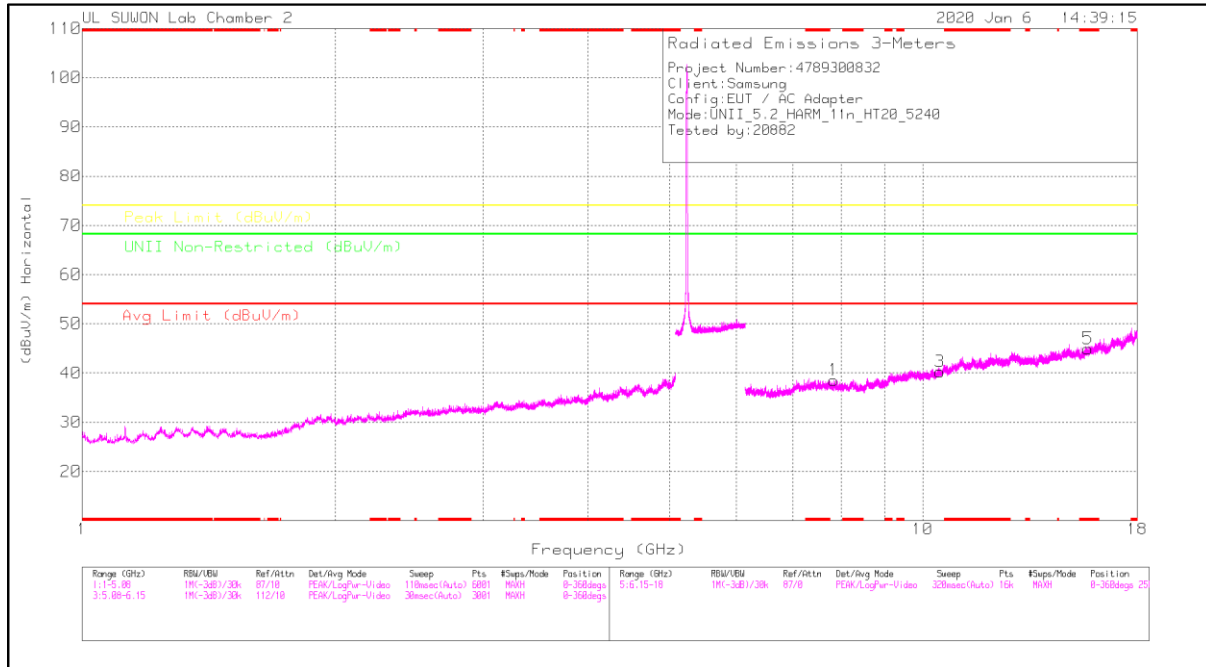
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

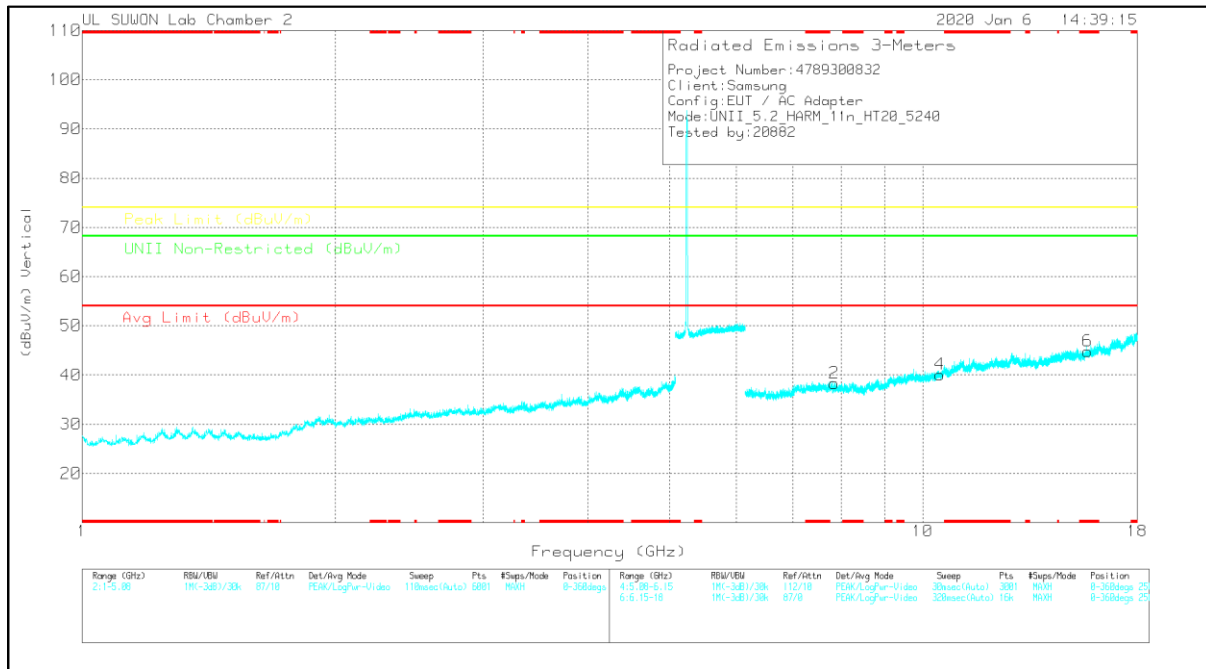
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.79211	35.69	PK-U	36	-23.7	0	47.99	-	-	-	-	68.2	-20.21	0	100	H
7.79145	36.08	PK-U	36	-23.7	0	48.38	-	-	-	-	68.2	-19.82	0	100	V
10.40042	33.64	PK-U	37.6	-20.7	0	50.54	-	-	-	-	68.2	-17.66	0	100	H
10.39945	32.98	PK-U	37.6	-20.7	0	49.88	-	-	-	-	68.2	-18.32	0	100	V
* 15.59247	34.01	PK-U	40	-19.6	0	54.41	-	-	74	-19.59	-	-	0	100	H
* 15.59405	34.31	PK-U	40	-19.6	0	54.71	-	-	74	-19.29	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

### 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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.84	26.73	PK	36	-24.2	0	38.53	-	-	-	-	68.2	-29.67	0-360	250	H
3	10.48165	23.05	PK	37.7	-20.5	0	40.25	-	-	-	-	68.2	-27.95	0-360	150	H
5	* 15.72198	24.43	PK	40.2	-19.7	0	44.93	-	-	74	-29.07	-	-	0-360	250	H
2	7.85259	26.62	PK	35.9	-24.2	0	38.32	-	-	-	-	68.2	-29.88	0-360	250	V
4	10.47942	22.89	PK	37.7	-20.5	0	40.06	-	-	-	-	68.2	-28.11	0-360	250	V
6	* 15.71384	24.23	PK	40.2	-19.6	0	44.63	-	-	74	-29.17	-	-	0-360	250	V

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

Radiated Emissions

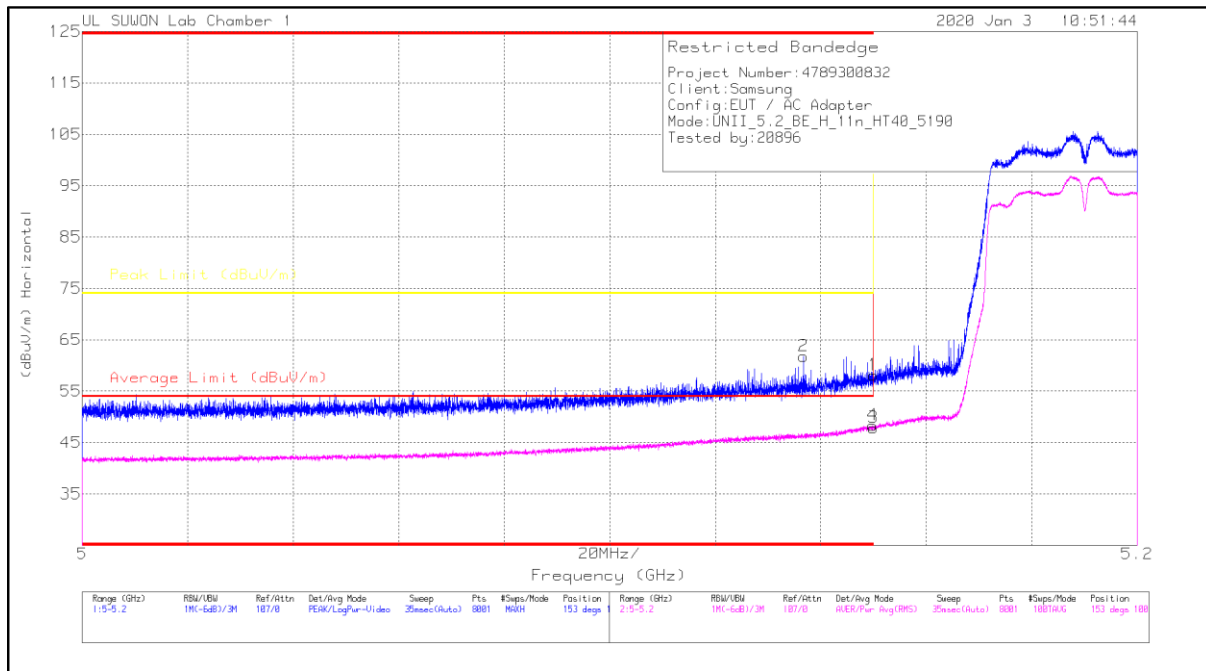
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.83856	36.27	PK-U	36	-24.1	0	48.17	-	-	-	-	68.2	-20.03	0	100	H
7.83855	35.96	PK-U	36	-24.1	0	47.86	-	-	-	-	68.2	-20.34	0	100	V
10.48323	33.47	PK-U	37.7	-20.5	0	50.67	-	-	-	-	68.2	-17.53	0	100	H
10.48212	33.36	PK-U	37.7	-20.5	0	50.56	-	-	-	-	68.2	-17.64	0	100	V
* 15.72269	34.05	PK-U	40.2	-19.6	0	54.65	-	-	74	-19.35	-	-	0	100	H
* 15.72284	34.07	PK-U	40.2	-19.6	0	54.67	-	-	74	-19.33	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**11.1.3. TX ABOVE 1GHz 802.11n HT40 1Tx MODE IN THE 5.2GHz BAND**

**RESTRICTED BANDEGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	45.44	Pk	34.5	-21.8	0	58.14	-	-	74	-15.86	153	100	H
2	* 5.13673	49.13	Pk	34.4	-21.7	0	61.83	-	-	74	-12.17	153	100	H
3	5.15	35.2	RMS	34.5	-21.8	0	47.9	54	-6.1	-	-	153	100	H
4	* 5.1498	35.78	RMS	34.4	-21.8	0	48.38	54	-5.62	-	-	153	100	H

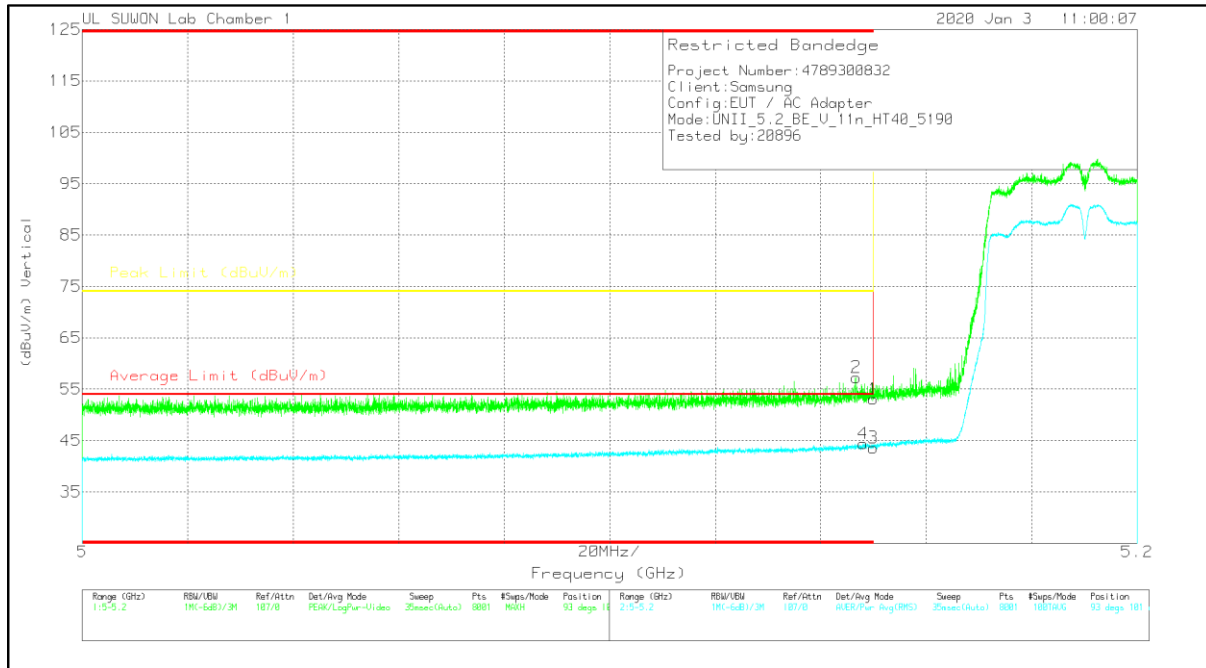
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection



**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	40.39	Pk	34.5	-21.8	0	53.09	-	-	74	-20.91	93	101	V
2	* 5.14673	44.68	Pk	34.4	-21.8	0	57.28	-	-	74	-16.72	93	101	V
3	5.15	30.9	RMS	34.5	-21.8	0	43.6	54	-10.4	-	-	93	101	V
4	* 5.14803	31.91	RMS	34.4	-21.9	0	44.41	54	-9.59	-	-	93	101	V

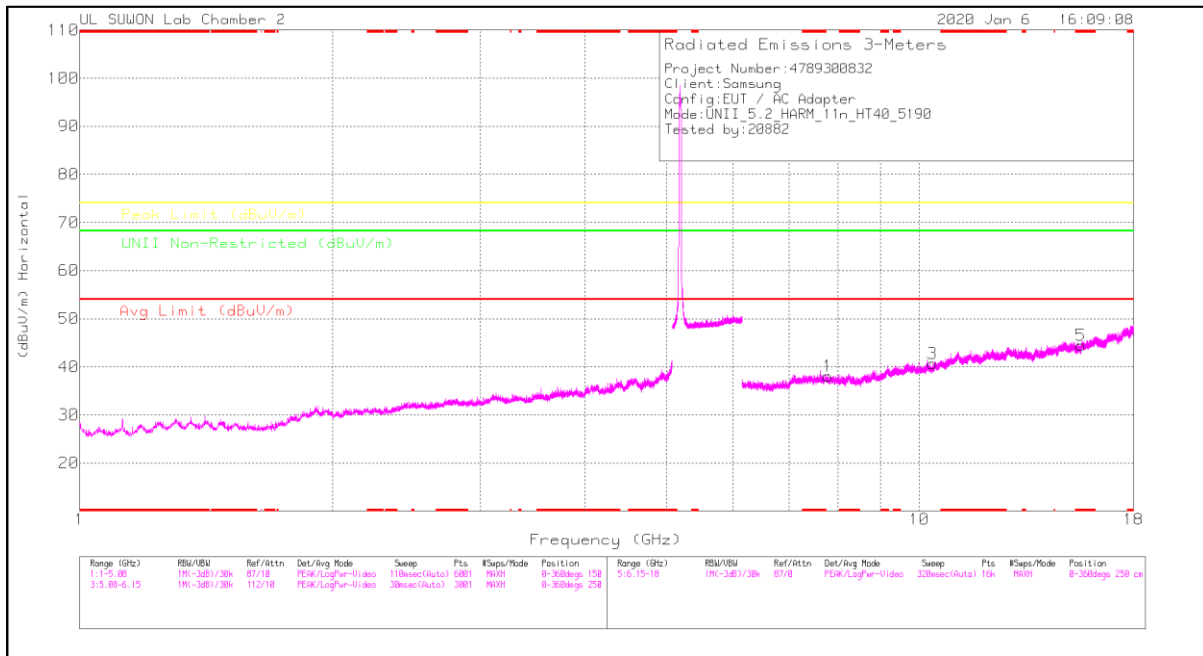
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

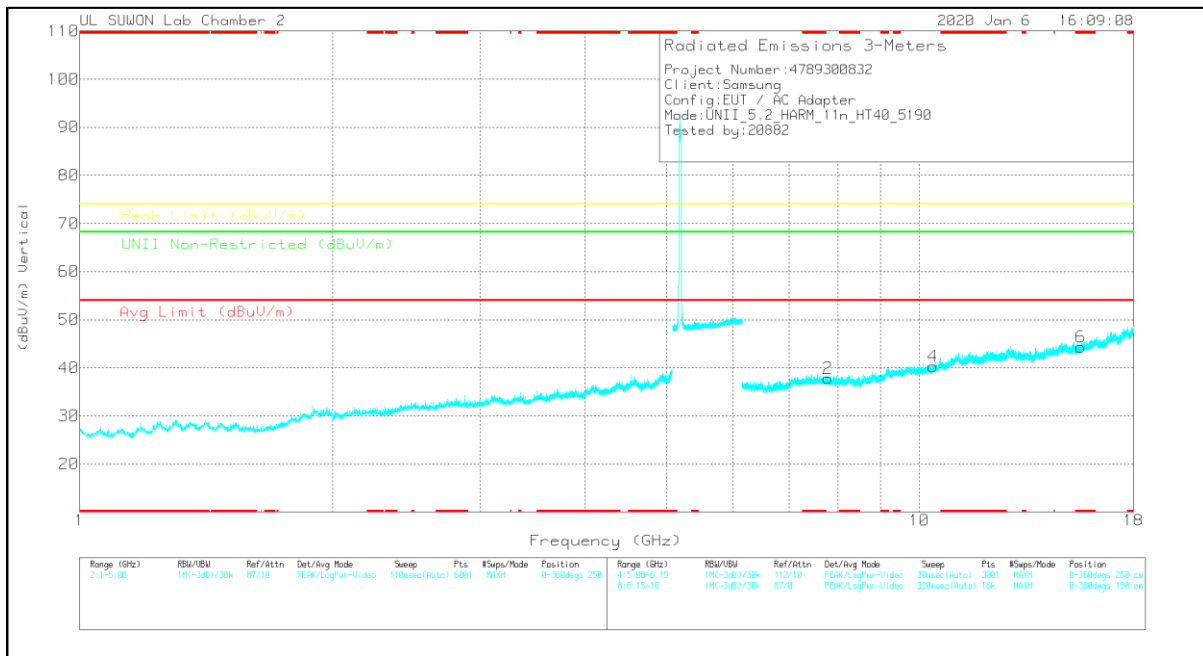
RMS - RMS detection

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.78594	25.63	PK	36	-23.6	0	38.03	-	-	-	-	68.2	-30.17	0-360	150	H
3	10.37426	23.77	PK	37.6	-20.7	0	40.67	-	-	-	-	68.2	-27.53	0-360	150	H
5	* 15.57165	24.18	PK	40	-19.7	0	44.48	-	-	74	-29.52	-	-	0-360	150	H
2	7.78298	25.57	PK	36	-23.7	0	37.87	-	-	-	-	68.2	-30.33	0-360	250	V
4	10.36759	23.43	PK	37.6	-20.7	0	40.33	-	-	-	-	68.2	-27.87	0-360	150	V
6	* 15.56942	24.06	PK	40	-19.7	0	44.36	-	-	74	-29.64	-	-	0-360	150	V

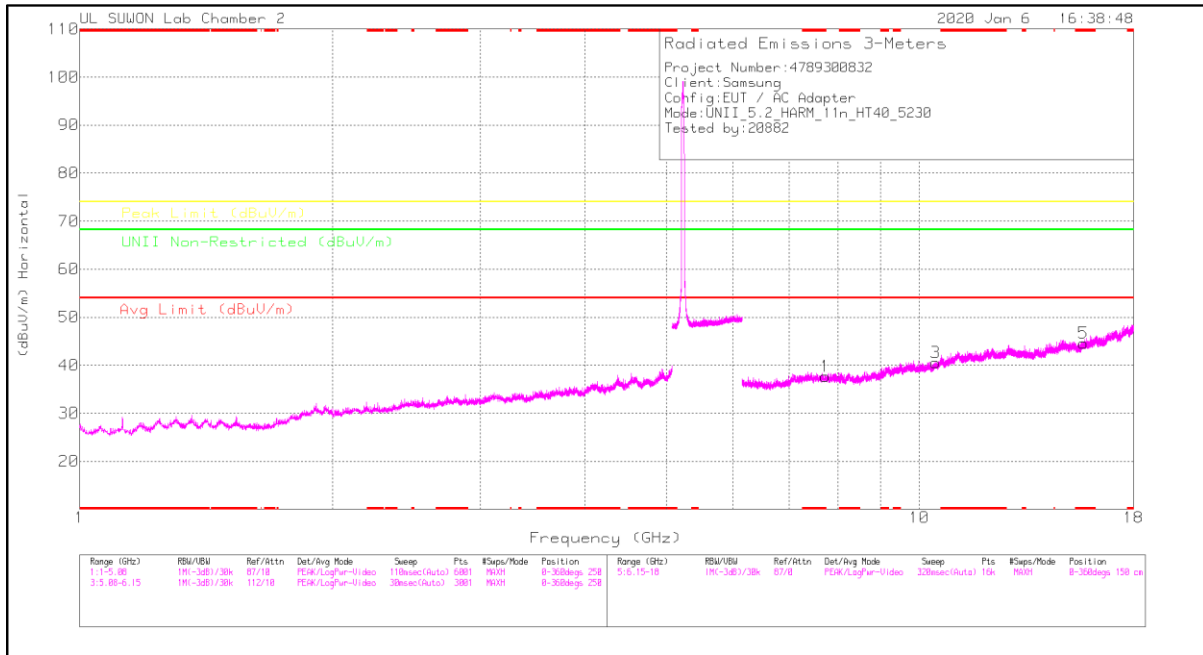
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK – Peak Detector

**Radiated Emissions**

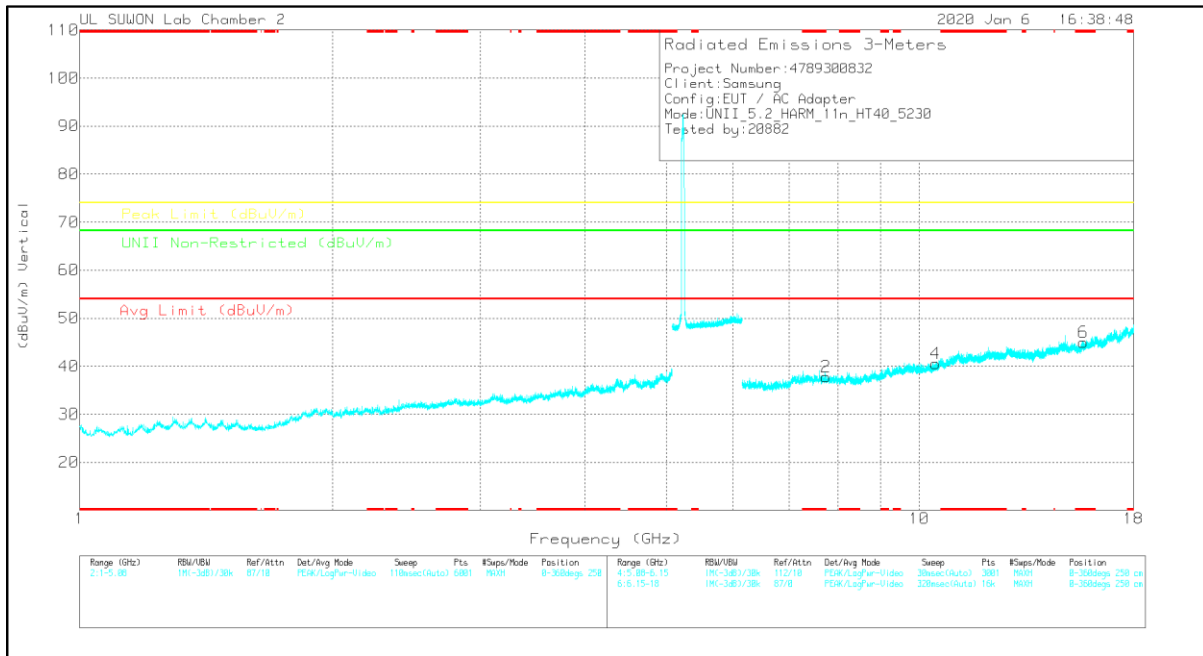
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.78697	35.87	PK-U	36	-23.6	0	48.27	-	-	-	-	68.2	-19.93	0	100	H
7.78666	35.84	PK-U	36	-23.6	0	48.24	-	-	-	-	68.2	-19.96	0	100	V
10.37359	33.15	PK-U	37.6	-20.8	0	49.95	-	-	-	-	68.2	-18.25	0	100	H
10.37334	33.9	PK-U	37.6	-23.7	0	50.8	-	-	-	-	68.2	-17.4	0	100	V
* 15.57059	33.91	PK-U	40	-19.7	0	54.21	-	-	74	-19.79	-	-	0	100	H
* 15.5714	33.74	PK-U	40	-19.7	0	54.04	-	-	74	-19.96	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 7.73706	25.3	PK	36	-23.6	0	37.7	-	-	74	-36.3	-	-	0-360	250	H
3	10.46387	23.44	PK	37.6	-20.5	0	40.54	-	-	-	-	68.2	-27.66	0-360	250	H
5	* 15.69014	24.05	PK	40.2	-19.7	0	44.55	-	-	74	-29.45	-	-	0-360	150	H
2	* 7.74965	25.35	PK	36	-23.5	0	37.85	-	-	74	-36.15	-	-	0-360	150	V
4	10.46721	23.47	PK	37.6	-20.5	0	40.57	-	-	-	-	68.2	-27.63	0-360	250	V
6	* 15.6894	24.52	PK	40.2	-19.7	0	45.02	-	-	74	-28.98	-	-	0-360	250	V

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

**Radiated Emissions**

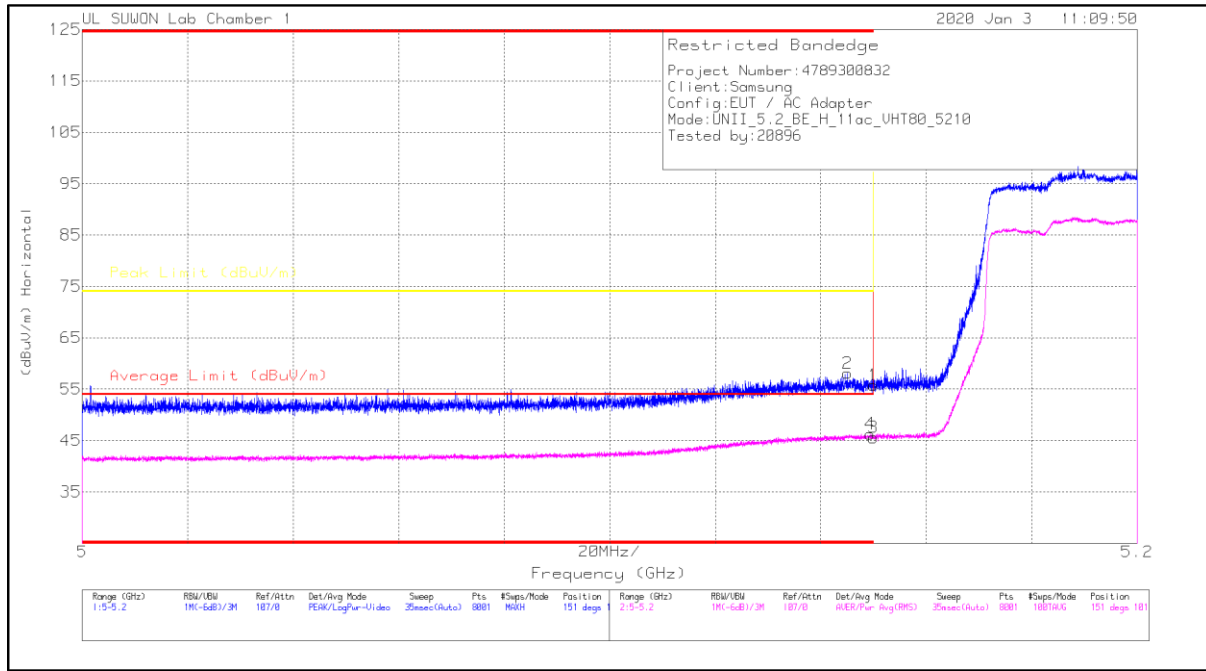
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.73589	36.92	PK-U	36	-23.6	0	49.32	-	-	74	-24.68	-	-	0	100	H
* 7.73682	35.8	PK-U	36	-23.6	0	48.2	-	-	74	-25.8	-	-	0	100	V
10.46197	32.88	PK-U	37.6	-20.5	0	49.88	-	-	-	-	68.2	-18.22	0	100	H
10.46195	32.87	PK-U	37.6	-20.5	0	49.97	-	-	-	-	68.2	-18.23	0	100	V
* 15.68969	34.16	PK-U	40.2	-19.7	0	54.66	-	-	74	-19.34	-	-	0	100	H
* 15.69109	34.33	PK-U	40.2	-19.7	0	54.83	-	-	74	-19.17	-	-	0	100	V

\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

**11.1.4. TX ABOVE 1GHz 802.11ac VHT80 1Tx MODE IN THE 5.2GHz BAND**

**RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE DATA**



**Trace Markers**

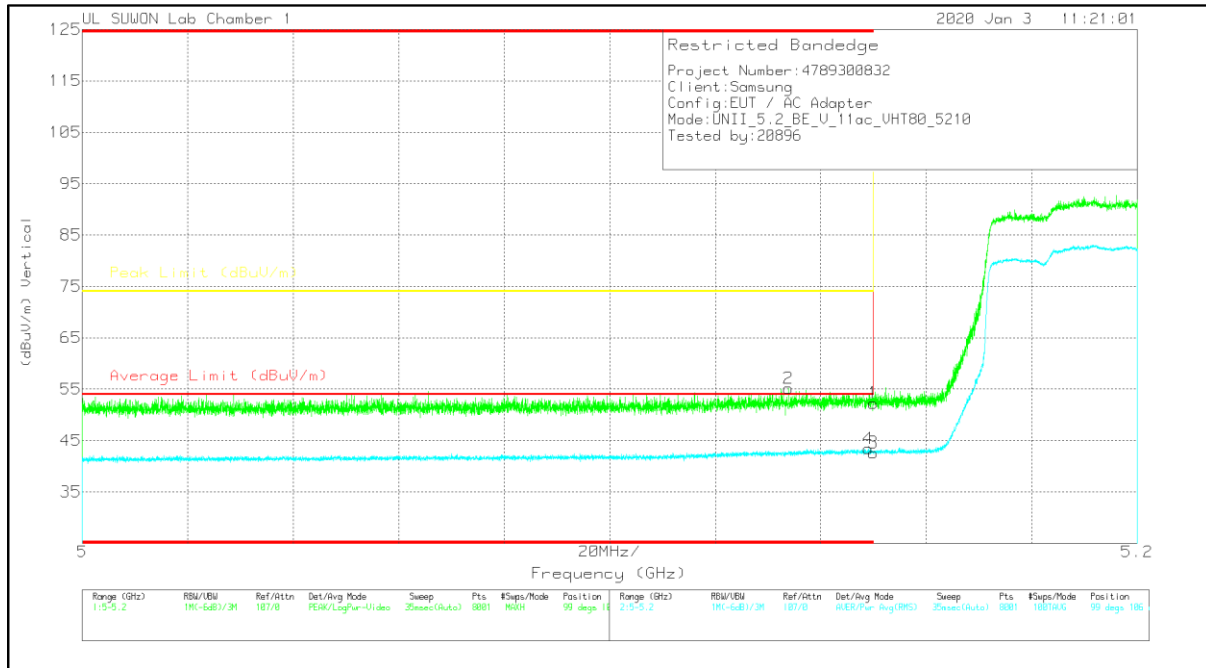
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.15	43.08	Pk	34.5	-21.8	0	55.78	-	-	74	-18.22	151	101	H
2	* 5.14505	45.5	Pk	34.4	-21.8	0	58.1	-	-	74	-15.9	151	101	H
3	5.15	32.89	RMS	34.5	-21.8	0	45.59	54	-8.41	-	-	151	101	H
4	* 5.14933	33.67	RMS	34.4	-21.8	0	46.27	54	-7.73	-	-	151	101	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	39.6	Pk	34.5	-21.8	0	52.3	-	-	74	-21.7	99	106	V
2	* 5.13388	42.55	Pk	34.4	-21.8	0	55.15	-	-	74	-18.85	99	106	V
3	5.15	29.91	RMS	34.5	-21.8	0	42.61	54	-11.39	-	-	99	106	V
4	* 5.14898	30.83	RMS	34.4	-21.8	0	43.43	54	-10.57	-	-	99	106	V

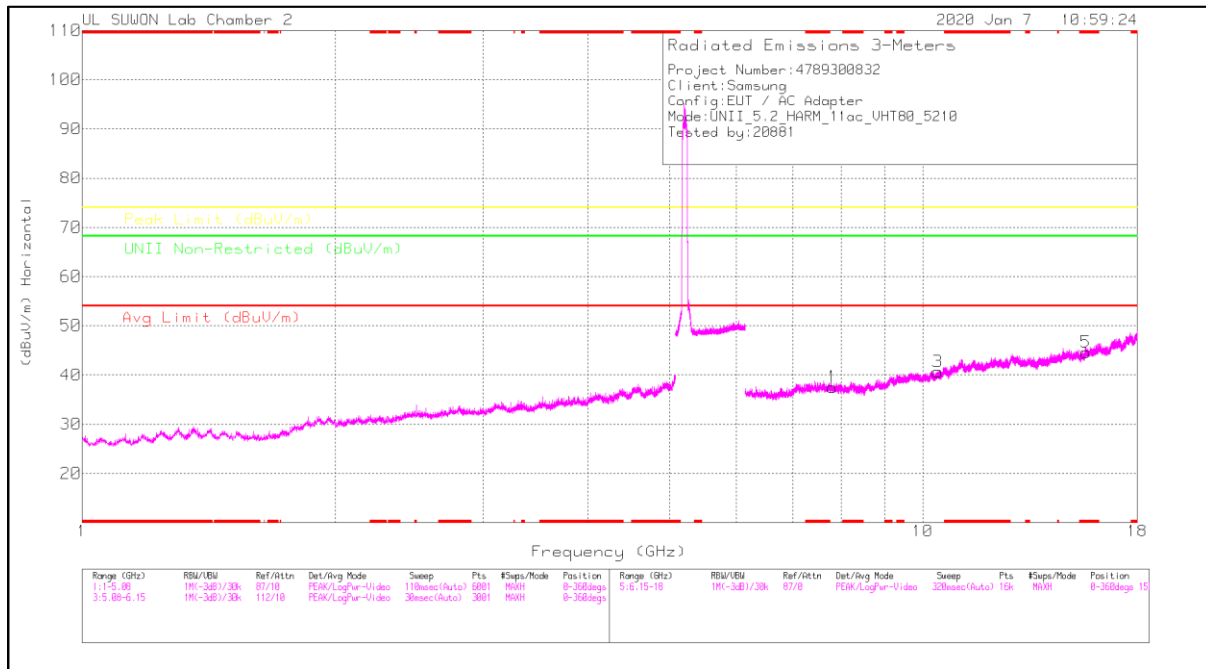
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

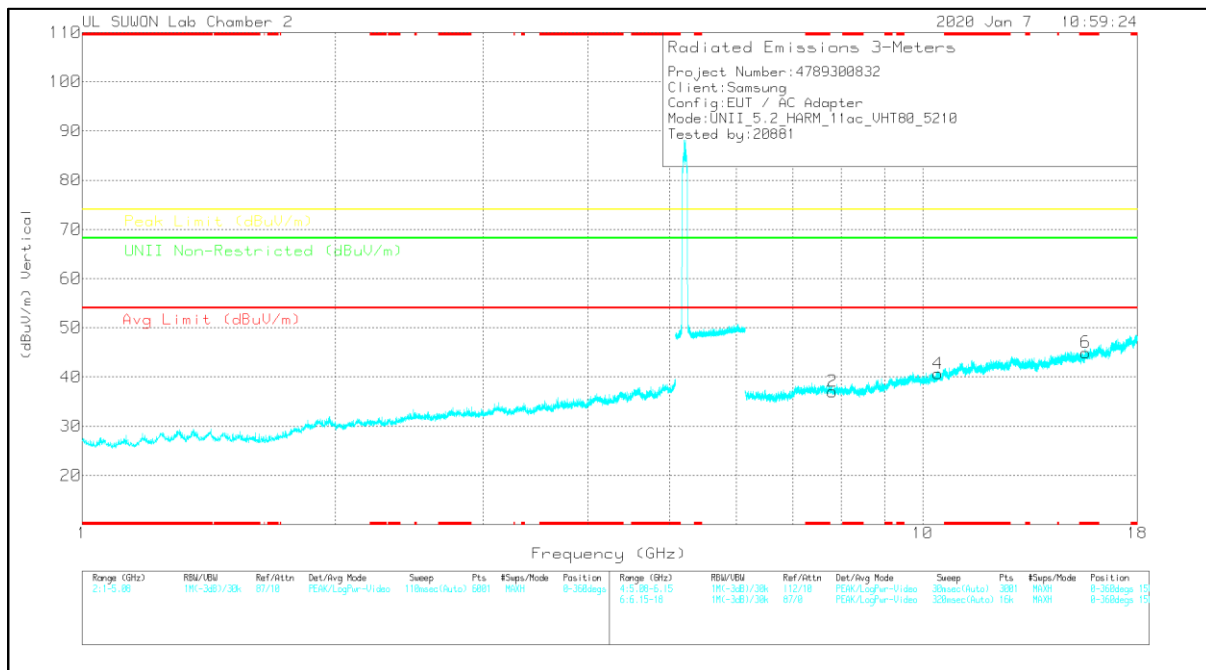
RMS - RMS detection

**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_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	7.81186	25.42	PK	36	-23.9	0	37.52	-	-	-	-	68.2	-30.68	0-360	150	H
3	10.4187	23.63	PK	37.6	-20.6	0	40.63	-	-	-	-	68.2	-27.57	0-360	150	H
5	* 15.63163	24.19	PK	40.1	-19.7	0	44.59	-	-	74	-29.41	-	-	0-360	150	H
2	7.81112	24.34	PK	36	-23.9	0	37.04	-	-	-	-	68.2	-31.16	0-360	250	V
4	10.4224	23.68	PK	37.6	-20.6	0	40.68	-	-	-	-	68.2	-27.52	0-360	150	V
6	* 15.632	24.56	PK	40.1	-19.7	0	44.96	-	-	74	-29.04	-	-	0-360	150	V

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

**Radiated Emissions**

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	6GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7.81203	35.68	PK-U	36	-23.9	0	47.78	-	-	-	-	68.2	-20.42	360	100	H
7.81141	35.5	PK-U	36	-23.9	0	47.6	-	-	-	-	68.2	-20.6	360	100	V
10.41848	34.01	PK-U	37.6	-20.6	0	51.01	-	-	-	-	68.2	-17.19	360	100	V
10.4174	33.24	PK-U	37.6	-20.6	0	50.24	-	-	-	-	68.2	-17.96	360	100	H
* 15.63201	34.19	PK-U	40.1	-19.7	0	54.59	-	-	74	-19.41	-	-	360	100	H
* 15.63032	34.38	PK-U	40.1	-19.7	0	54.78	-	-	74	-19.22	-	-	360	100	V

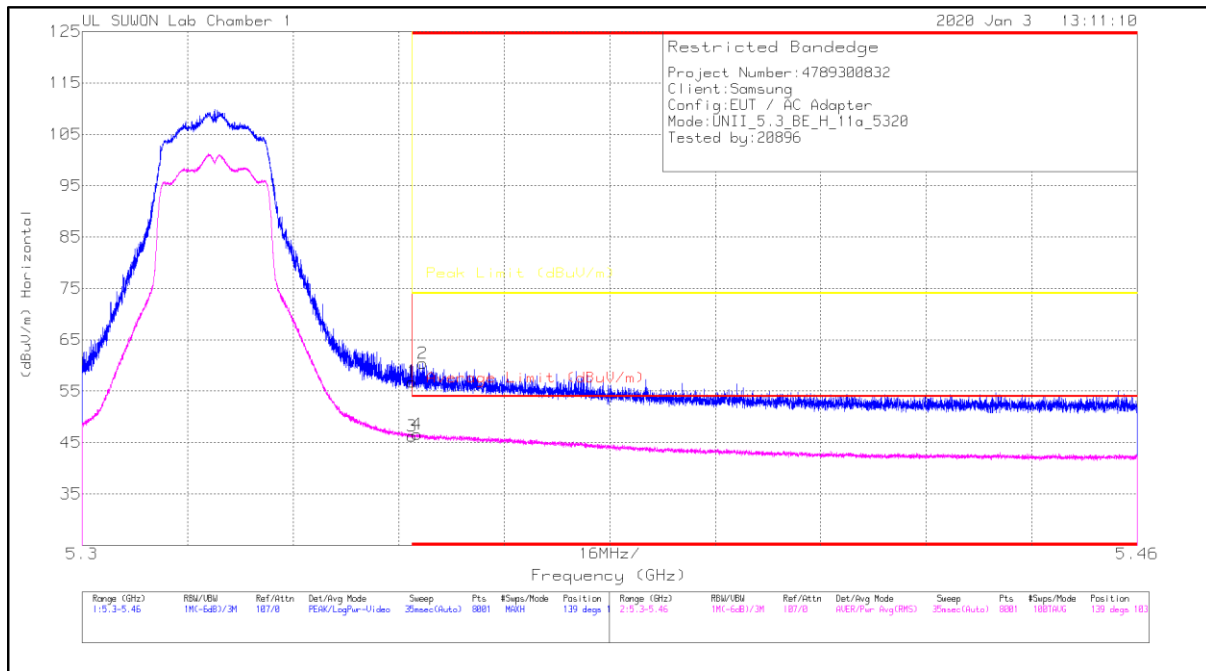
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band  
 PK-U - U-NII: Maximum Peak

## 11.2. 5.3 GHz

### 11.2.1. TX ABOVE 1 GHz 802.11a 1Tx MODE IN THE 5.3 GHz BAND

#### RESTRICTED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE DATA



#### Trace Markers

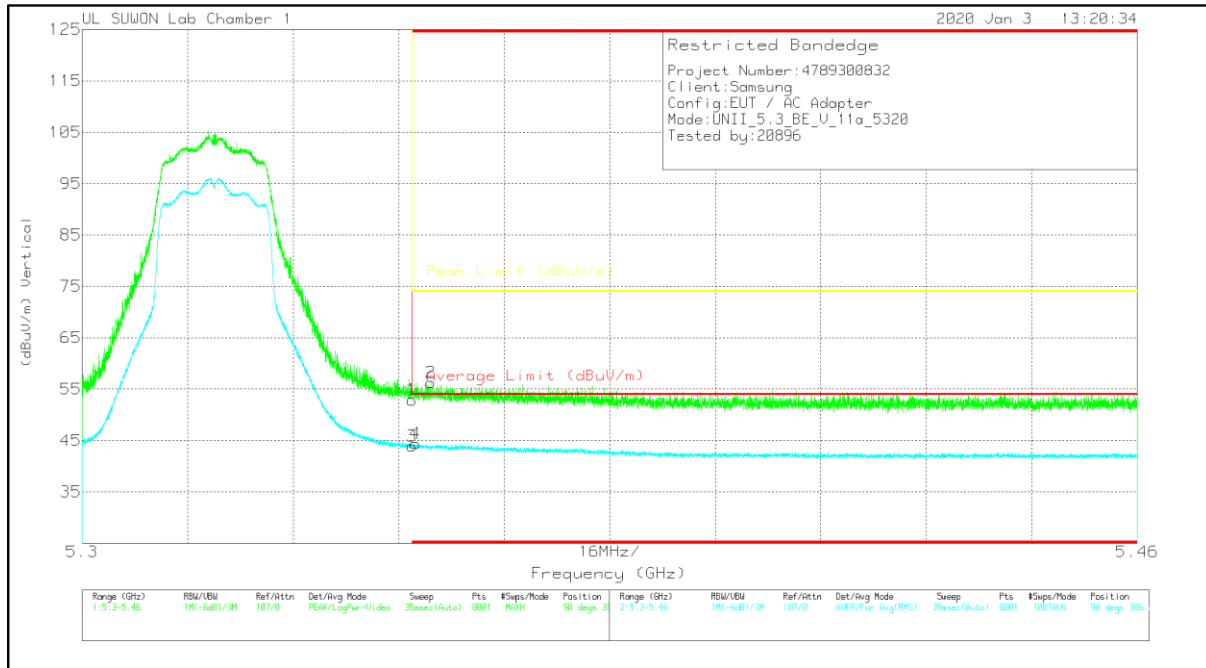
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35002	43.7	Pk	34.7	-21.6	0	56.8	-	-	74	-17.2	139	103	H
2	* 5.35166	47.32	Pk	34.7	-21.6	0	60.42	-	-	74	-13.58	139	103	H
3	* 5.35002	33.15	RMS	34.7	-21.6	0	46.25	54	-7.75	-	-	139	103	H
4	* 5.35076	33.5	RMS	34.7	-21.6	0	46.6	54	-7.4	-	-	139	103	H

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

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	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	* 5.35002	39.82	Pk	34.7	-21.6	0	52.92	-	-	74	-21.08	98	386	V
2	* 5.35288	43.17	Pk	34.7	-21.6	0	56.27	-	-	74	-17.73	98	386	V
3	* 5.35002	30.6	RMS	34.7	-21.6	0	43.9	54	-10.1	-	-	98	386	V
4	* 5.35054	31.29	RMS	34.7	-21.6	0	44.39	54	-9.61	-	-	98	386	V

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