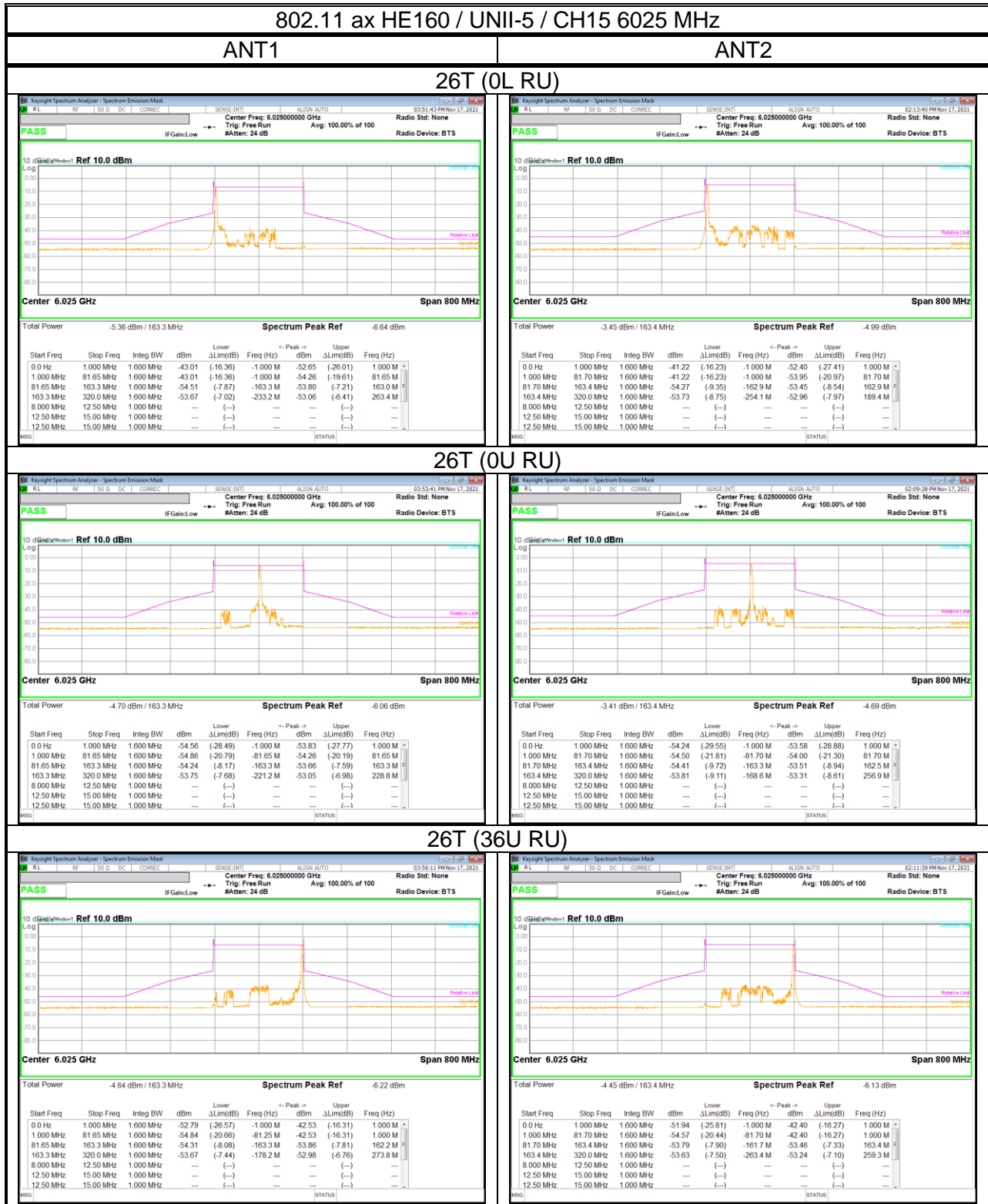
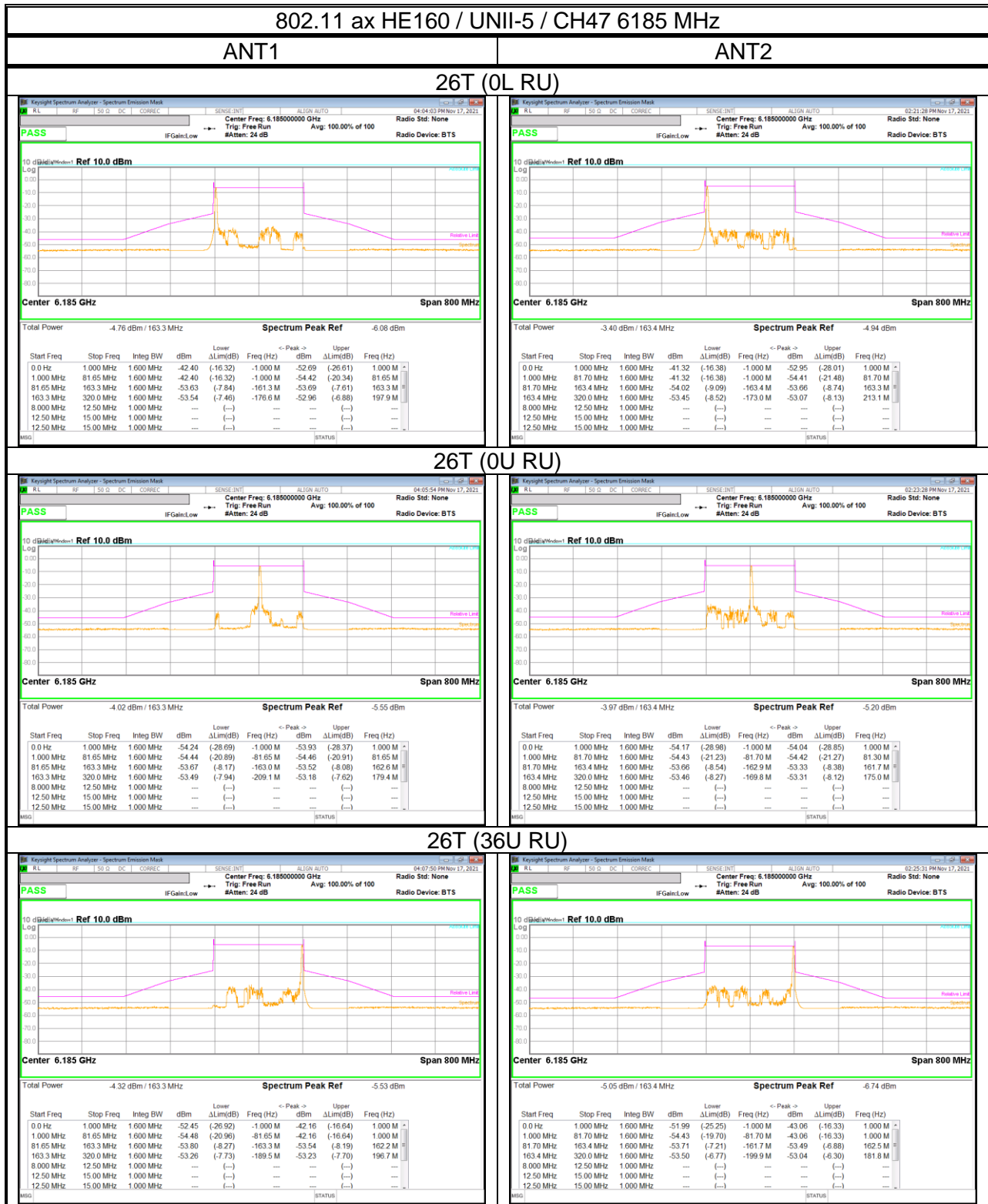
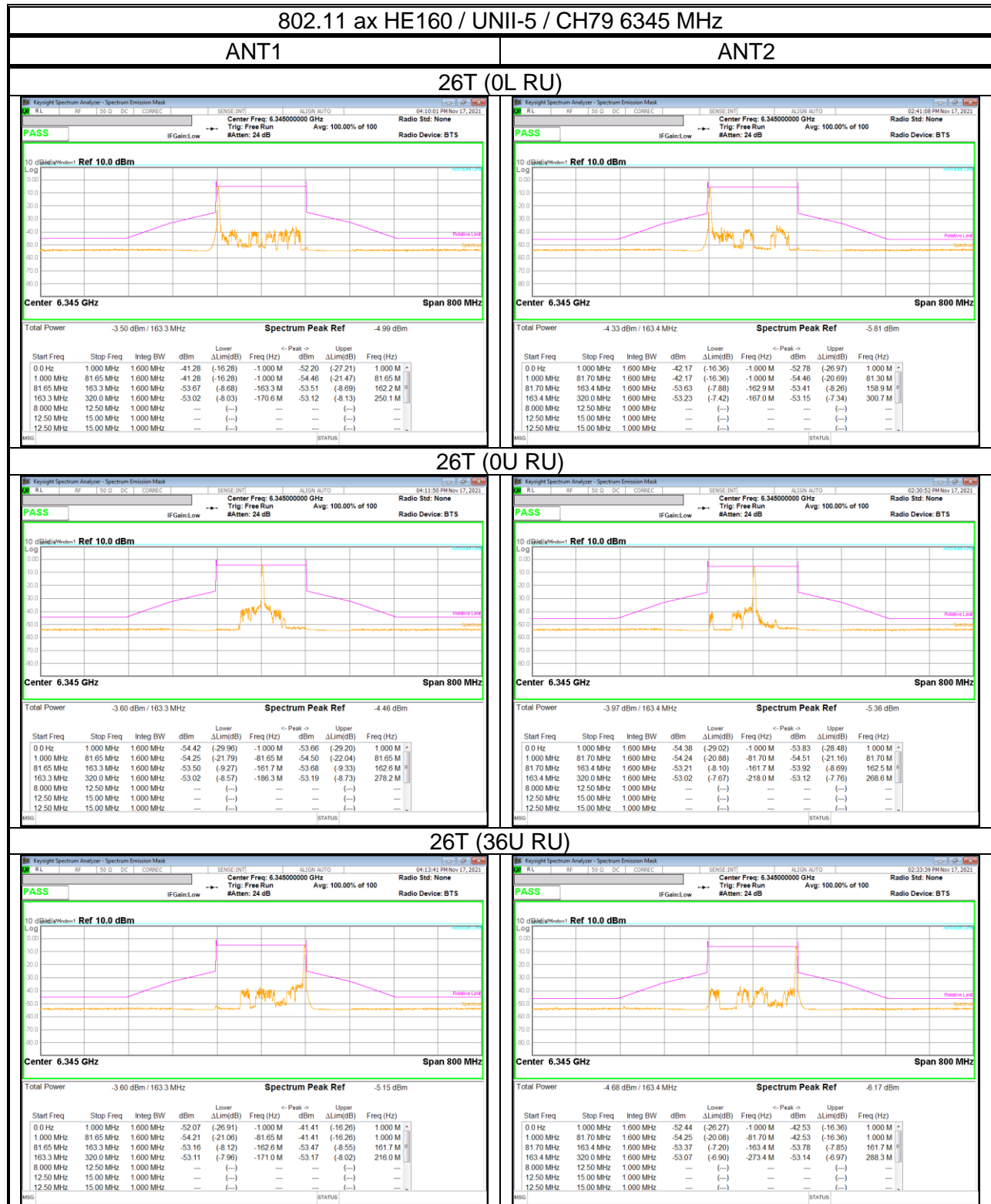
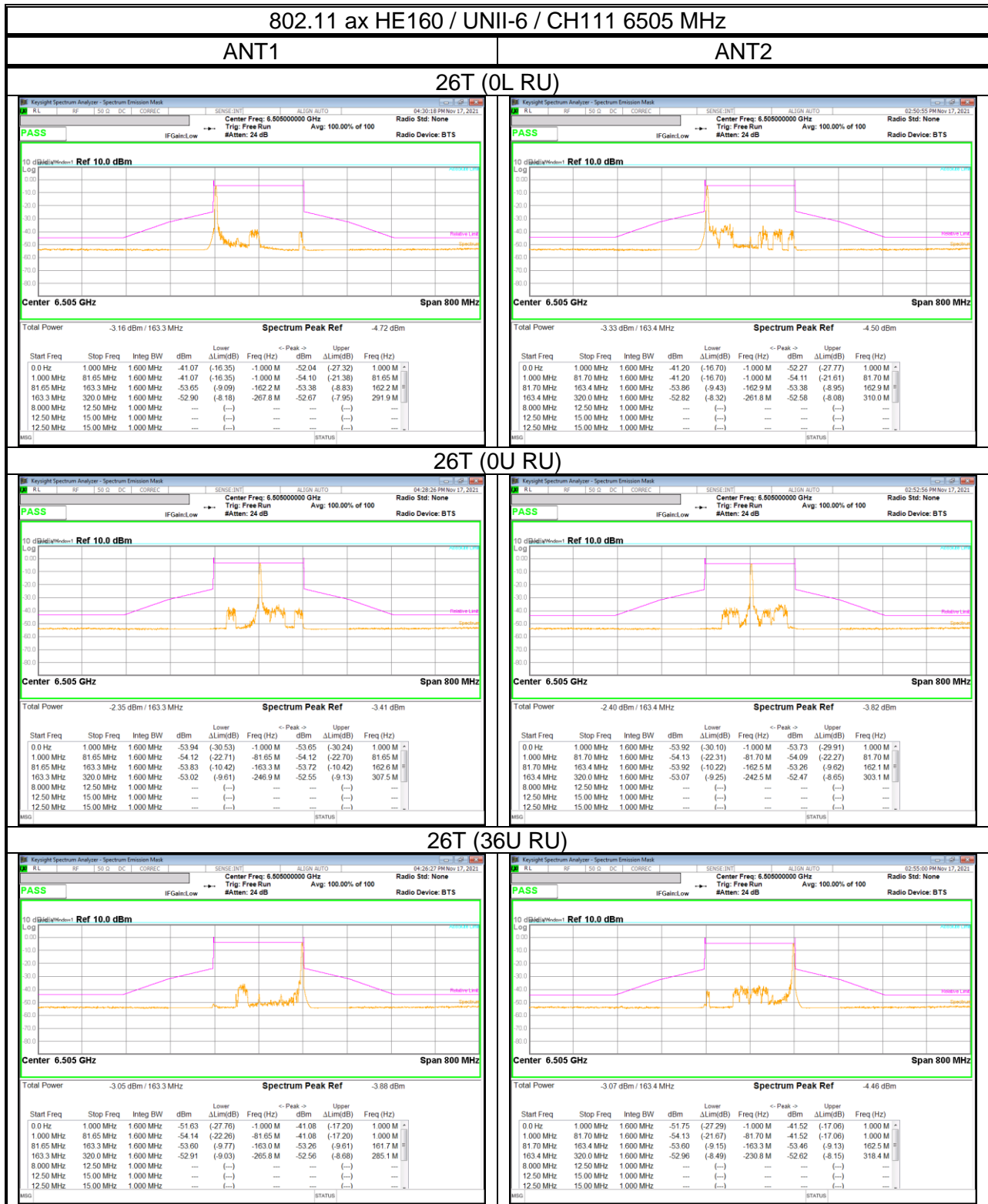


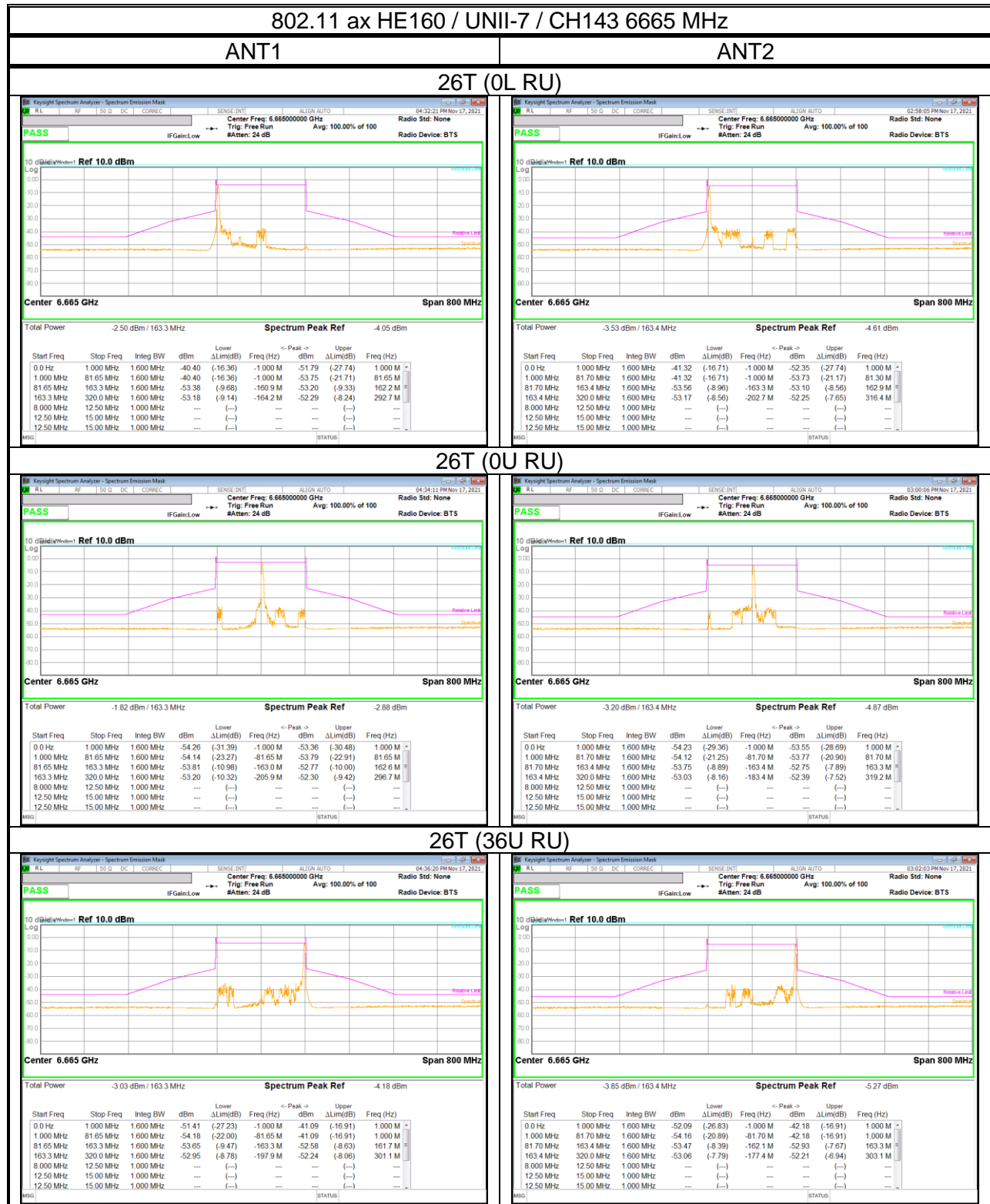
10.2.9. 802.11 ax HE160 RU MODE











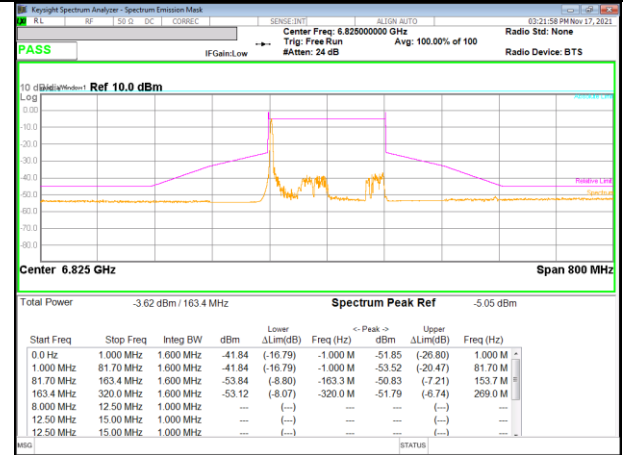
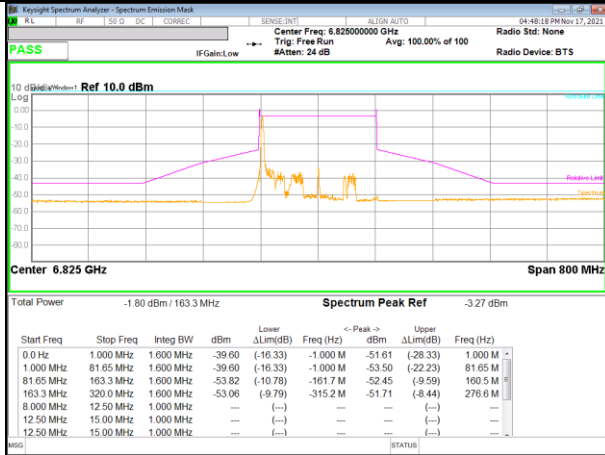


802.11 ax HE160 / UNII-7 / CH175 6825 MHz

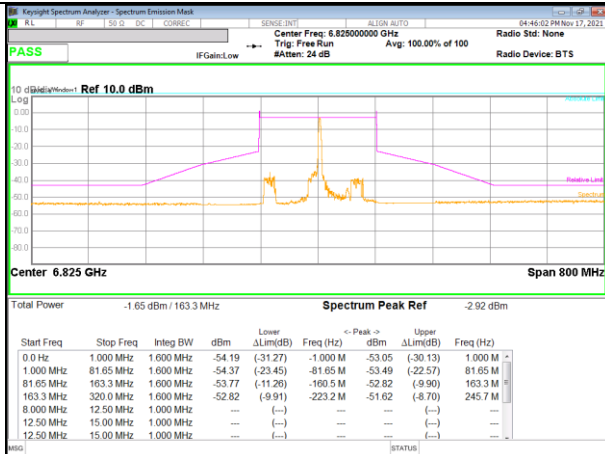
ANT1

ANT2

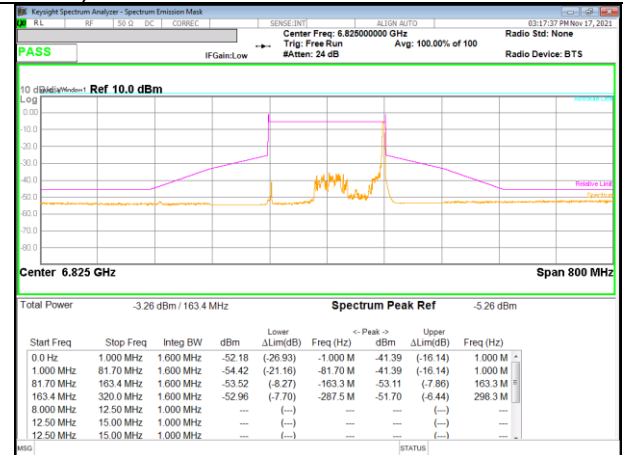
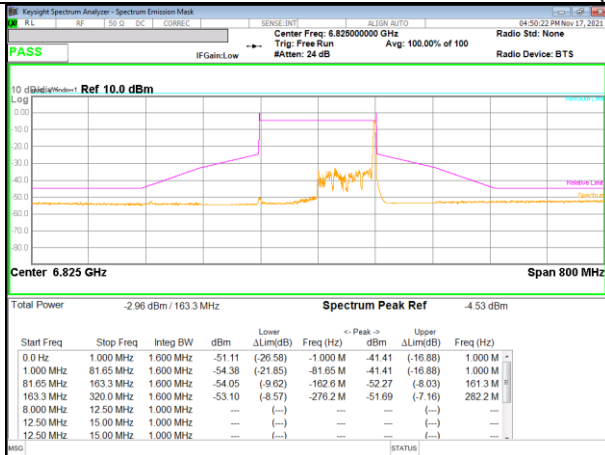
26T (0L RU)



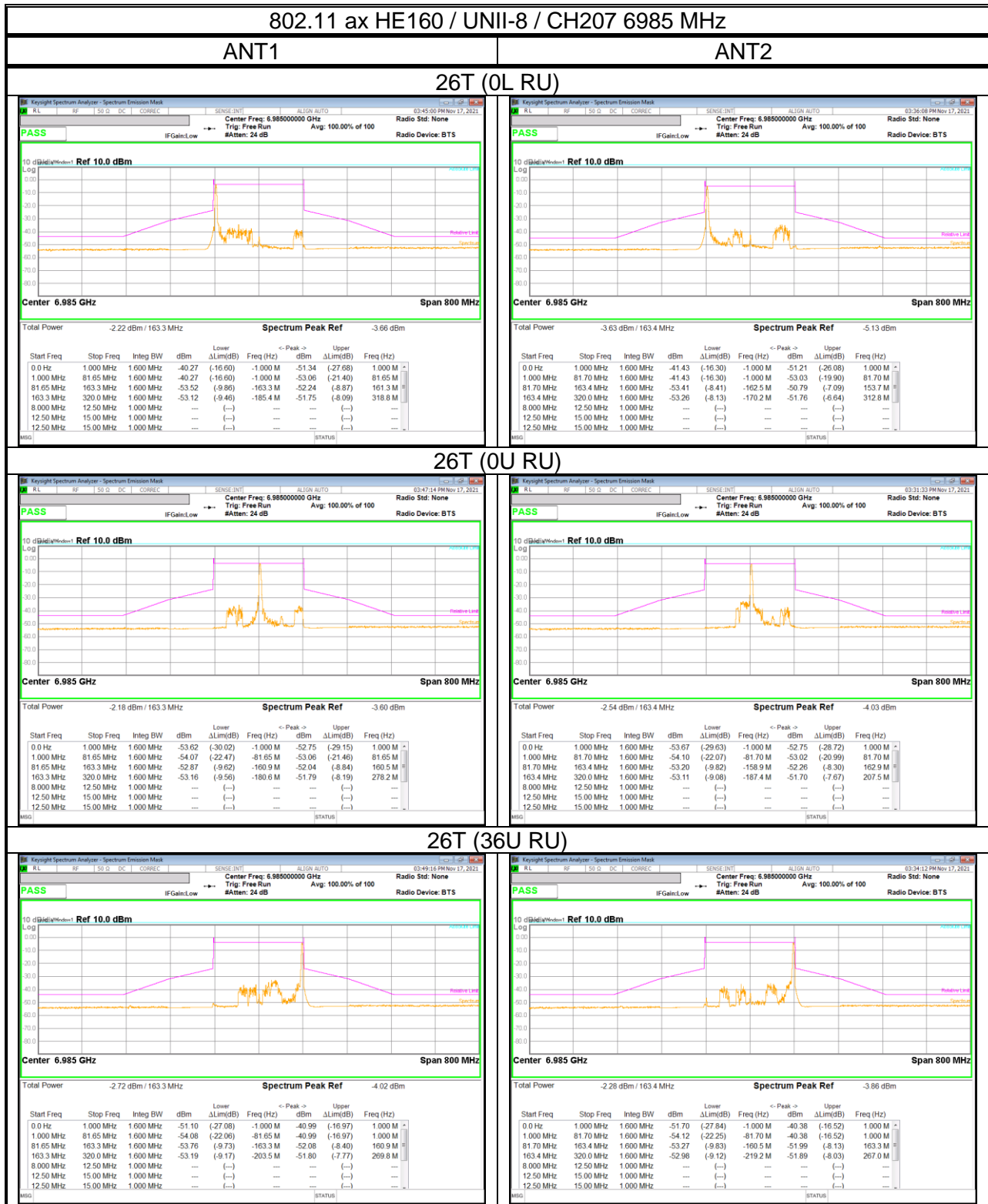
26T (0U RU)



26T (36U RU)







## 11. TRANSMITTER ABOVE 1 GHz

### LIMITS

FCC §15.205 and §15.209

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

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

FCC 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)**

(6) For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

(8) 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.

(9) 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.

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

(11) 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.

**KDB 987594 D02**

**G. Unwanted Emission Measurement**

Use guidance in KDB 789033 for measurements below 1000 MHz and above 1000 MHz. Unwanted emissions outside of restricted bands are measured with a RMS detector. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit

**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.

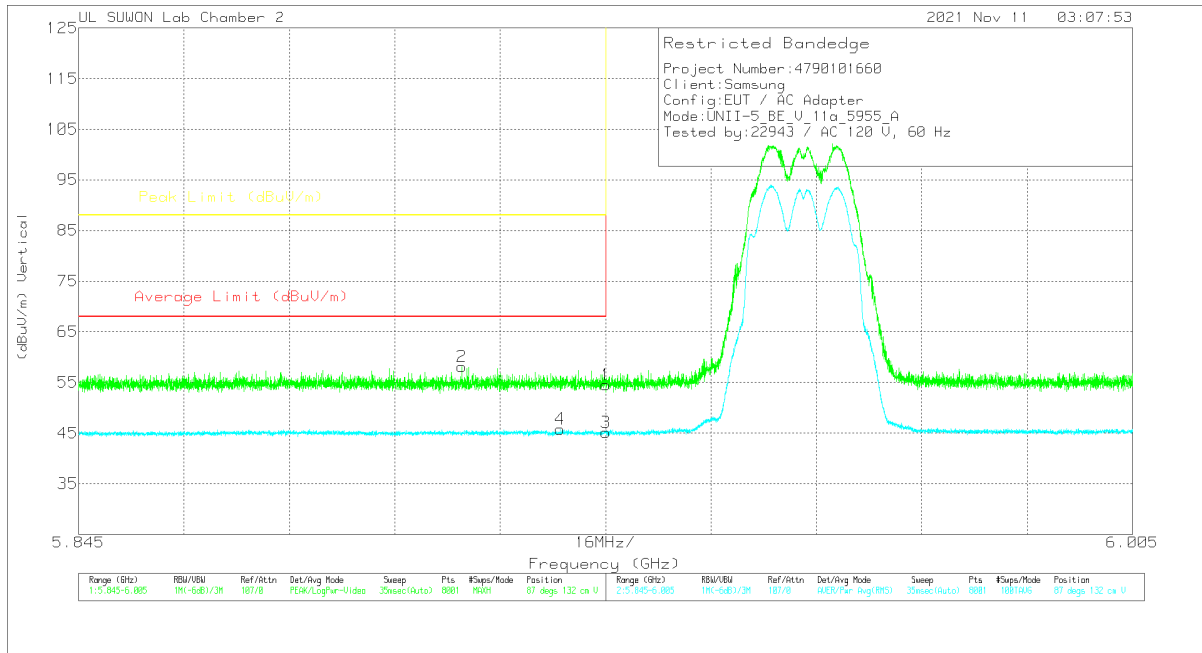
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.

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. TX ABOVE 1GHz 2Tx MODE IN U-NII-5 BAND

**BANDEDGE (WORST CASE: 802.11a / 5955 MHz)**

**VERTICAL PEAK AND AVERAGE DATA**



**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBu/m)	Det	3117_00166724	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBu/m)	Average Limit (dBu/m)	Margin (dB)	Peak Limit (dBu/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.925	36.29	PK	35.1	-16.9	0	54.49	-	-	88	-33.51	87	132	V
2	5.90318	40.06	PK	35	-16.9	0	58.16	-	-	88	-29.84	87	132	V
3	5.925	28.75	RMS	35.1	-16.9	.15	45.1	68	-22.9	-	-	87	132	V
4	5.91808	27.56	RMS	35	-16.9	.15	45.61	68	-22.19	-	-	87	132	V

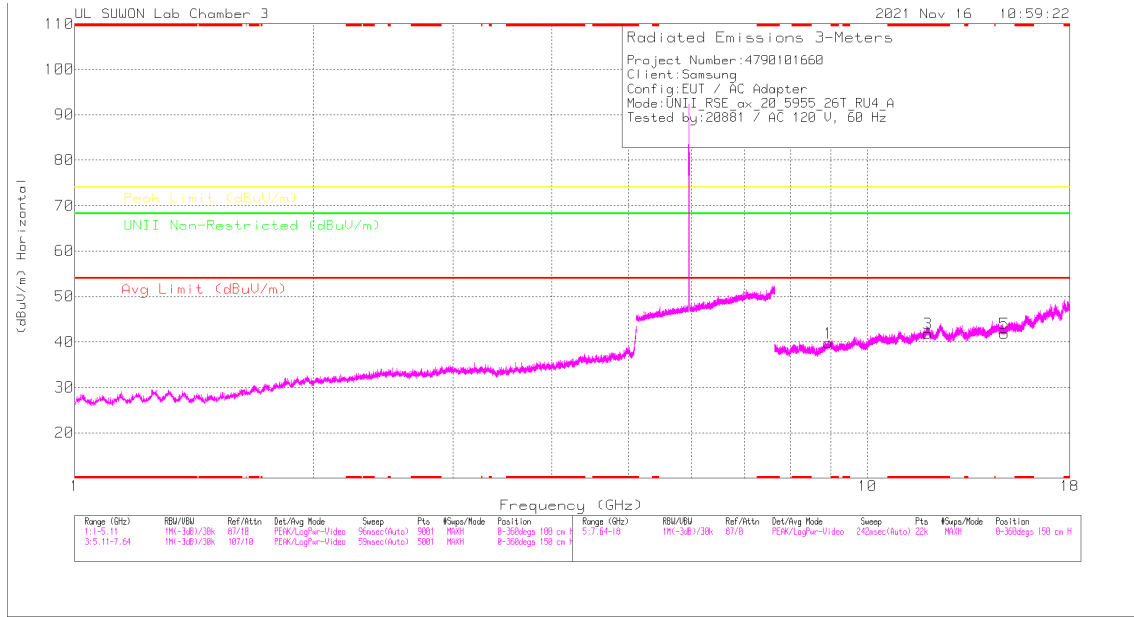
PK - Peak detector

**BANDEDGE TEST DATA**

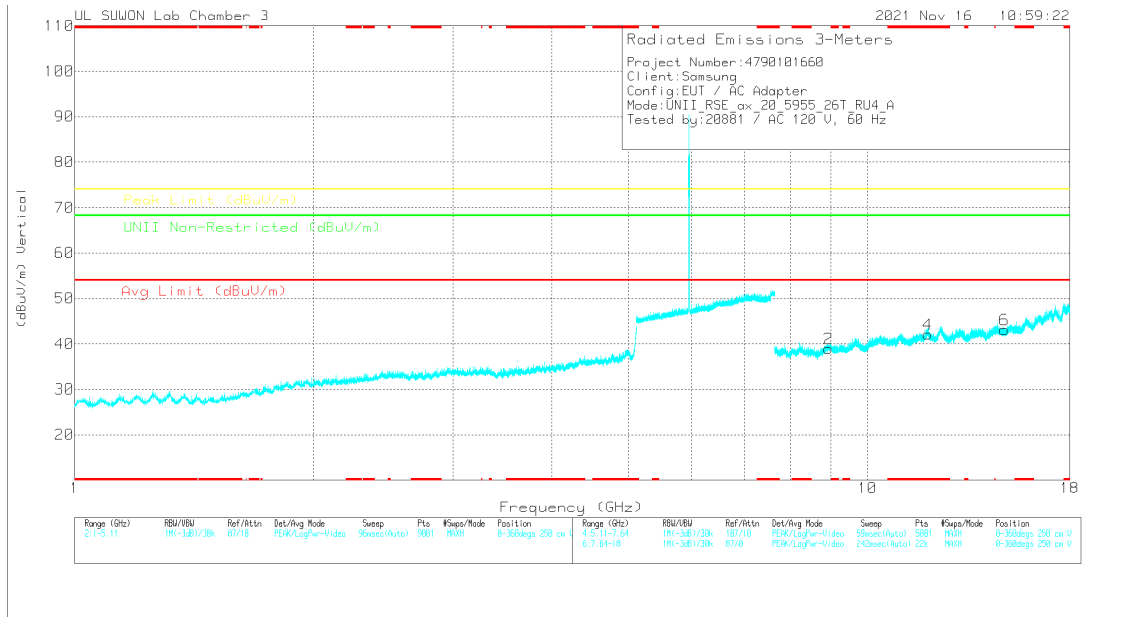
Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11a	5955	MIMO	5.92500	37.12	Pk	35.10	-16.90	0.00	55.32	-	-	88.00	-32.68	69	169	H
			5.86116	39.56	Pk	34.90	-16.90	0.00	57.56	-	-	88.00	-30.44	69	169	H
			5.92500	26.69	RMS	35.10	-16.90	0.15	45.04	68.00	-22.96	-	-	69	169	H
			5.87678	27.29	RMS	35.00	-16.80	0.15	45.64	68.00	-22.36	-	-	69	169	H
			5.92500	36.29	Pk	35.10	-16.90	0.00	54.49	-	-	88.00	-33.51	87	132	V
			5.90318	40.06	Pk	35.00	-16.90	0.00	58.16	-	-	88.00	-29.84	87	132	V
			5.92500	26.75	RMS	35.10	-16.90	0.15	45.10	68.00	-22.90	-	-	87	132	V
			5.91808	27.56	RMS	35.00	-16.90	0.15	45.81	68.00	-22.19	-	-	87	132	V
802.11ax (HE20) SU	5955	MIMO	5.92500	35.33	Pk	35.10	-16.90	0.00	53.53	-	-	88.00	-34.47	105	127	H
			5.91572	40.28	Pk	35.00	-16.90	0.00	58.38	-	-	88.00	-29.62	105	127	H
			5.92500	27.10	RMS	35.10	-16.90	0.00	45.30	68.00	-22.70	-	-	105	127	H
			5.90826	27.54	RMS	35.00	-16.80	0.00	45.74	68.00	-22.26	-	-	105	127	H
			5.92500	36.33	Pk	35.10	-16.90	0.00	54.53	-	-	88.00	-33.47	88	108	V
			5.89020	39.86	Pk	35.00	-17.00	0.00	57.86	-	-	88.00	-30.14	88	108	V
			5.92500	26.72	RMS	35.10	-16.90	0.00	44.92	68.00	-23.08	-	-	88	108	V
			5.89902	27.49	RMS	35.00	-16.90	0.00	45.59	68.00	-22.41	-	-	88	108	V
802.11ax (HE40) SU	5965	MIMO	5.92499	37.13	Pk	36.00	-19.80	0.00	53.33	-	-	88.00	-34.67	105	135	H
			5.90047	40.34	Pk	36.00	-19.80	0.00	56.54	-	-	88.00	-31.46	105	135	H
			5.92499	27.78	RMS	36.00	-19.90	0.00	43.98	68.00	-24.02	-	-	105	135	H
			5.87971	28.85	RMS	36.00	-19.90	0.00	44.95	68.00	-23.05	-	-	105	135	H
			5.92499	37.26	Pk	36.00	-19.80	0.00	53.46	-	-	88.00	-34.54	91	100	V
			5.88255	40.36	Pk	36.00	-19.80	0.00	56.56	-	-	88.00	-31.44	91	100	V
			5.92499	27.59	RMS	36.00	-19.80	0.00	43.79	68.00	-24.21	-	-	91	100	V
			5.92203	28.33	RMS	36.00	-19.80	0.00	44.53	68.00	-23.47	-	-	91	100	V
802.11ax (HE80) SU	5985	MIMO	5.92499	36.94	Pk	36.00	-19.80	0.00	53.14	-	-	88.00	-34.86	107	135	H
			5.87909	40.53	Pk	36.00	-19.90	0.00	56.63	-	-	88.00	-31.37	107	135	H
			5.92499	26.82	RMS	36.00	-19.80	0.00	43.02	68.00	-24.98	-	-	107	135	H
			5.91643	28.33	RMS	36.00	-19.80	0.00	44.53	68.00	-23.47	-	-	107	135	H
			5.92499	37.09	Pk	36.00	-19.80	0.00	53.29	-	-	88.00	-34.71	91	103	V
			5.90743	39.96	Pk	36.00	-19.80	0.00	56.16	-	-	88.00	-31.84	91	103	V
			5.92499	26.63	RMS	36.00	-19.80	0.00	42.83	68.00	-25.17	-	-	91	103	V
			5.90673	28.47	RMS	36.00	-19.80	0.00	44.67	68.00	-23.33	-	-	91	103	V
802.11ax (HE160) SU	6025	MIMO	5.92499	37.61	Pk	36.00	-19.80	0.00	53.81	-	-	88.00	-34.19	104	135	H
			5.89327	39.61	Pk	36.00	-19.80	0.00	55.81	-	-	88.00	-32.19	104	135	H
			5.92499	26.82	RMS	36.00	-19.80	0.00	43.02	68.00	-24.98	-	-	104	135	H
			5.92405	28.46	RMS	36.00	-19.80	0.00	44.66	68.00	-23.34	-	-	104	135	H
			5.92499	36.69	Pk	36.00	-19.80	0.00	52.89	-	-	88.00	-35.11	84	100	V
			5.89553	40.07	Pk	36.00	-19.90	0.00	56.17	-	-	88.00	-31.83	84	100	V
			5.92499	27.11	RMS	36.00	-19.80	0.00	43.31	68.00	-24.69	-	-	84	100	V
			5.90961	28.37	RMS	36.00	-19.90	0.00	44.47	68.00	-23.53	-	-	84	100	V

Note1. Pk - Peak detector, RMS - RMS detector  
 Note2. \* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

**HARMONICS AND SPURIOUS EMISSIONS(WORST CASE: 802.11ax HE20 / 26T / 4RU / 5955 MHz )  
 HORIZONTAL**



**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.

**Radiated Emissions**

Frequency (GHz)	Meas. Result (dBuV)	Det.	3177_00218667	ISG4LHP158	DC Corr (dB)	Corrected Reading (dBuV)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
8.935	35.56	PKU	36.7	-22.5	0	49.76	-	-	-	-	68.2	-18.44	0	100	H
8.93904	35.61	PKU	36.7	-22.5	0	49.81	-	-	-	-	68.2	-18.39	0	100	V
* 11.90308	34.39	PKU	39.1	-22.2	0	51.29	-	-	74	-22.71	-	-	0	100	H
* 11.90051	34.44	PKU	39.1	-22.2	0	51.34	-	-	74	-22.66	-	-	0	100	V
14.88774	35.22	PKU	40	-22.5	0	52.72	-	-	-	-	68.2	-15.48	0	100	H
14.88818	34.56	PKU	40	-22.5	0	52.06	-	-	-	-	68.2	-16.14	0	100	V

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



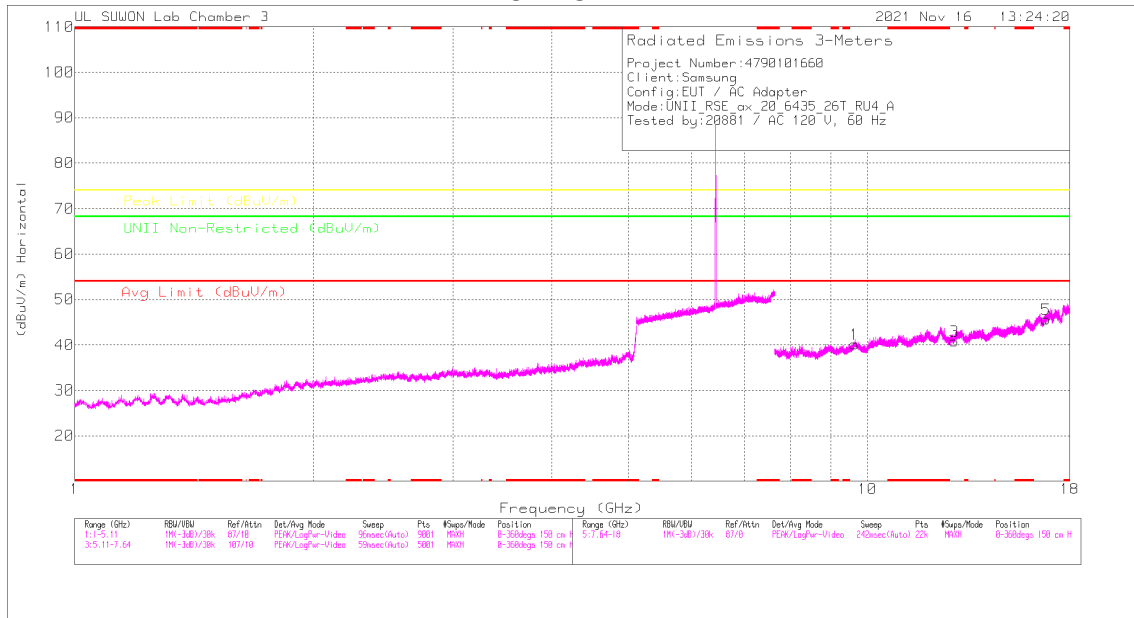
**HARMONICS AND SPURIOUS EMISSIONS TEST DATA**

Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Non-Restricted [dBuV/m]	Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11a	5955	MIMO	8.93051	35.26	PK-U	36.70	-22.50	0.00	49.46	-	-	-	-	68.20	-18.74	0	100	H
			8.94015	35.34	PK-U	36.70	-22.40	0.00	49.64	-	-	-	-	68.20	-18.56	0	100	V
			11.90751	34.42	PK-U	39.10	-22.20	0.00	51.32	-	-	74.00	-22.68	-	-	0	100	H
			11.90124	33.93	PK-U	39.10	-22.20	0.00	50.83	-	-	74.00	-23.17	-	-	0	100	V
			* 17.86693	32.36	PK-U	41.80	-16.40	0.00	57.76	-	-	74.00	-16.24	-	-	0	100	H
			* 17.87332	32.91	PK-U	41.80	-16.20	0.00	58.51	-	-	74.00	-15.49	-	-	0	100	V
	6175	MIMO	9.26583	34.22	PK-U	37.10	-21.60	0.00	49.72	-	-	-	-	68.20	-18.48	0	100	H
			9.26561	34.07	PK-U	37.10	-21.60	0.00	49.57	-	-	-	-	68.20	-18.63	0	100	V
			* 12.34082	35.41	PK-U	39.30	-22.30	0.00	52.41	-	-	74.00	-21.59	-	-	0	100	H
			* 12.34593	35.17	PK-U	39.30	-22.40	0.00	52.07	-	-	74.00	-21.93	-	-	0	100	V
			* 15.46867	34.57	PK-U	40.20	-21.90	0.00	52.87	-	-	74.00	-21.13	-	-	0	100	H
			* 15.48002	34.44	PK-U	40.20	-21.80	0.00	52.84	-	-	74.00	-21.16	-	-	0	100	V
	6415	MIMO	9.62354	35.17	PK-U	37.30	-22.00	0.00	50.47	-	-	-	-	68.20	-17.73	0	100	H
			9.62316	34.53	PK-U	37.30	-22.00	0.00	49.83	-	-	-	-	68.20	-18.37	0	100	V
			12.81950	35.84	PK-U	39.50	-23.10	0.00	52.24	-	-	-	-	68.20	-15.96	0	100	H
			12.81952	36.24	PK-U	39.50	-23.20	0.00	52.54	-	-	-	-	68.20	-15.66	0	100	V
			* 16.03155	34.71	PK-U	41.10	-20.80	0.00	55.01	-	-	74.00	-18.99	-	-	0	100	H
			* 16.03151	34.55	PK-U	41.10	-20.80	0.00	54.85	-	-	74.00	-19.15	-	-	0	100	V
802.11ax (HE20) 4RU Spot-Check	5955	MIMO	8.93500	35.56	PK-U	36.70	-22.50	0.00	49.76	-	-	-	-	68.20	-18.44	0	100	H
			8.93904	35.61	PK-U	36.70	-22.50	0.00	49.81	-	-	-	-	68.20	-18.39	0	100	V
			* 11.90308	34.39	PK-U	39.10	-22.20	0.00	51.29	-	-	74.00	-22.71	-	-	0	100	H
			* 11.90051	34.44	PK-U	39.10	-22.20	0.00	51.34	-	-	74.00	-22.66	-	-	0	100	V
			14.88774	35.22	PK-U	40.00	-22.50	0.00	52.72	-	-	-	-	68.20	-15.48	0	100	H
			14.88818	34.56	PK-U	40.00	-22.50	0.00	52.06	-	-	-	-	68.20	-16.14	0	100	V
802.11ax (HE40) 9RU Spot-Check	6165	MIMO	9.252	33.65	PK-U	37.10	-21.70	0.00	49.05	-	-	-	-	68.20	-19.15	0	100	H
			9.245	33.99	PK-U	37.10	-21.70	0.00	49.39	-	-	-	-	68.20	-18.81	0	100	V
			* 12.32419	35.03	PK-U	39.30	-22.30	0.00	52.03	-	-	74.00	-21.97	-	-	0	100	H
			* 12.33505	35.34	PK-U	39.30	-22.40	0.00	52.24	-	-	74.00	-21.76	-	-	0	100	V
			* 15.42035	34.88	PK-U	40.10	-21.70	0.00	53.28	-	-	74.00	-20.72	-	-	0	100	H
			* 15.42124	35.39	PK-U	40.10	-21.70	0.00	53.79	-	-	74.00	-20.21	-	-	0	100	V

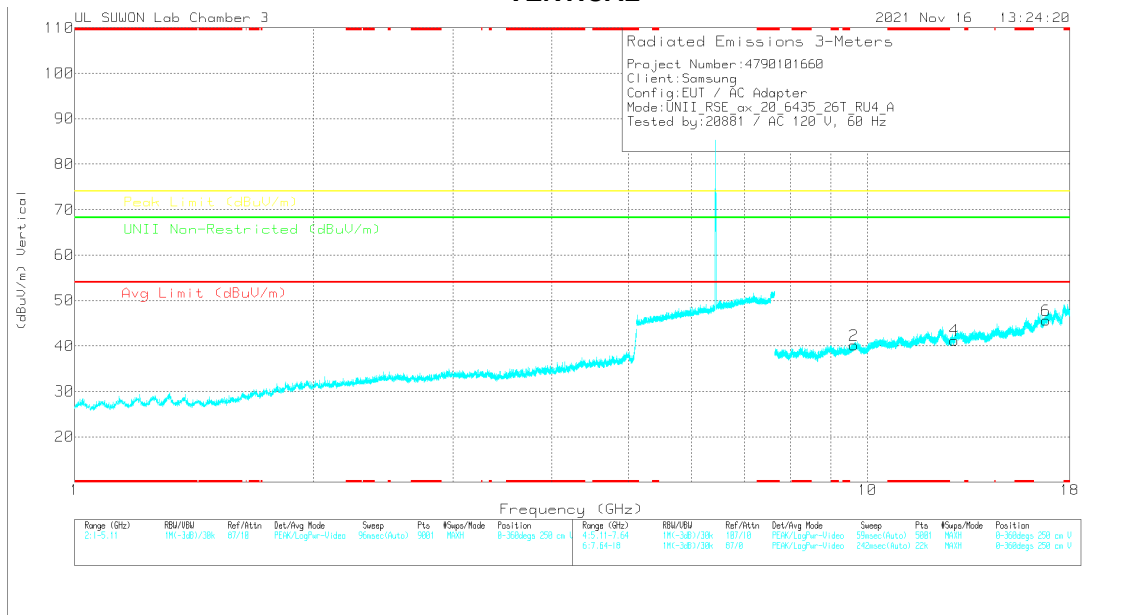
Note1. PK-U - U-NII: Maximum Peak  
 Note2. \* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

## 11.2. TX ABOVE 1GHz 2Tx MODE IN U-NII-6 BAND

### HARMONICS AND SPURIOUS EMISSIONS(WORST CASE: 802.11ax HE20 / 26T / 4RU / 6435 MHz) HORIZONTAL



### 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.

### Radiated Emissions

Frequency (GHz)	Main Reading (dBm)	Det	3117_30218957	90Hz_HPF(dB)	DC Corr (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Peak Limit (dBm)	Margin (dB)	UNII Non-Restricted (dBm)	Margin (dB)	Admth (Drops)	Height (cm)	Polarity
9.61723	34.85	PK-U	37.3	-21.9	0	50.25	-	-	-	-	68.2	-17.95	0	100	H
9.62691	34.55	PK-U	37.4	-21.9	0	50.05	-	-	-	-	68.2	-18.15	0	100	V
12.88036	34.62	PK-U	39.5	-22.9	0	51.22	-	-	-	-	68.2	-16.98	0	100	H
12.86982	34.94	PK-U	39.5	-23	0	51.44	-	-	-	-	68.2	-16.76	0	100	V
16.81319	33.13	PK-U	42.4	-18.6	0	56.93	-	-	-	-	68.2	-11.27	0	100	H
16.79848	31.95	PK-U	42.4	-18.9	0	55.45	-	-	-	-	68.2	-12.75	0	100	V

PK-U - U-NII: Maximum Peak

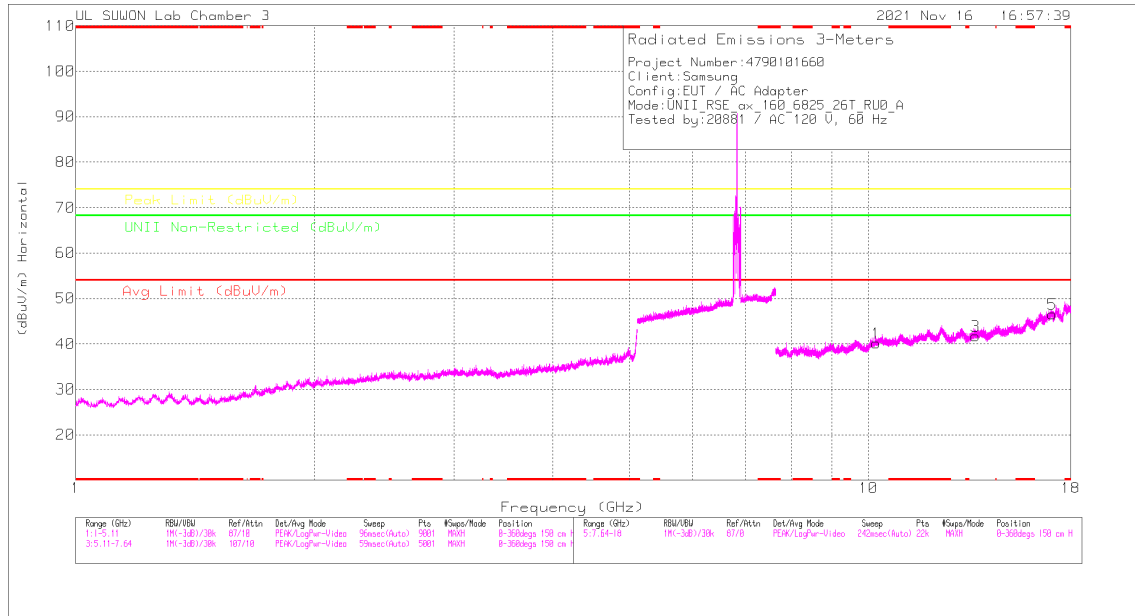
**HARMONICS AND SPOURIOUS EMISSIONS TEST DATA**

Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Non-Restricted [dBuV/m]	Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity	
802.11a	6435	MIMO	9.64308	34.67	PK-U	37.40	-21.80	0.00	50.27	-	-	-	-	68.20	-17.93	0	100	H	
			9.64315	34.88	PK-U	37.40	-21.80	0.00	50.48	-	-	-	-	68.20	-17.72	0	100	V	
			12.87897	36.14	PK-U	39.50	-23.00	0.00	52.64	-	-	-	-	68.20	-15.56	0	100	H	
			12.87924	35.94	PK-U	39.50	-23.00	0.00	52.44	-	-	-	-	68.20	-15.76	0	100	V	
			* 16.09815	34.61	PK-U	41.20	-20.70	0.00	55.11	-	-	74.00	-18.89	-	-	-	0	100	H
			* 16.09827	34.74	PK-U	41.20	-20.70	0.00	55.24	-	-	74.00	-18.76	-	-	-	0	100	V
	6475	MIMO	9.71552	35.02	PK-U	37.40	-21.90	0.00	50.52	-	-	-	-	68.20	-17.68	0	100	H	
			9.71589	34.66	PK-U	37.40	-21.90	0.00	50.16	-	-	-	-	68.20	-18.04	0	100	V	
			12.95524	35.58	PK-U	39.40	-22.40	0.00	52.58	-	-	-	-	68.20	-15.62	0	100	H	
			12.95553	36.00	PK-U	39.40	-22.40	0.00	53.00	-	-	-	-	68.20	-15.20	0	100	V	
			16.20595	33.96	PK-U	41.30	-20.40	0.00	54.86	-	-	-	-	68.20	-13.34	0	100	H	
			16.20595	34.06	PK-U	41.30	-20.40	0.00	54.96	-	-	-	-	68.20	-13.24	0	100	V	
	6515	MIMO	9.77198	34.19	PK-U	37.50	-22.00	0.00	49.69	-	-	-	-	68.20	-18.51	0	100	H	
			9.77226	34.42	PK-U	37.50	-22.00	0.00	49.92	-	-	-	-	68.20	-18.28	0	100	V	
			13.04194	35.57	PK-U	39.40	-22.30	0.00	52.67	-	-	-	-	68.20	-15.53	0	100	H	
			13.04194	35.88	PK-U	39.40	-22.30	0.00	52.98	-	-	-	-	68.20	-15.22	0	100	V	
			16.27922	34.03	PK-U	41.50	-20.70	0.00	54.83	-	-	-	-	68.20	-13.37	0	100	H	
			16.27922	34.27	PK-U	41.50	-20.70	0.00	55.07	-	-	-	-	68.20	-13.13	0	100	V	
802.11ax (HE20) 4RU Spot-Check	6435	MIMO	9.61723	34.85	PK-U	37.30	-21.90	0.00	50.25	-	-	-	-	68.20	-17.95	0	100	H	
			9.62891	34.55	PK-U	37.40	-21.90	0.00	50.05	-	-	-	-	68.20	-18.15	0	100	V	
			12.88036	34.62	PK-U	39.50	-22.90	0.00	51.22	-	-	-	-	68.20	-16.98	0	100	H	
			12.86982	34.94	PK-U	39.50	-23.00	0.00	51.44	-	-	-	-	68.20	-16.76	0	100	V	
			16.81319	33.13	PK-U	42.40	-18.60	0.00	56.93	-	-	-	-	68.20	-11.27	0	100	H	
			16.79848	31.95	PK-U	42.40	-18.90	0.00	55.45	-	-	-	-	68.20	-12.75	0	100	V	

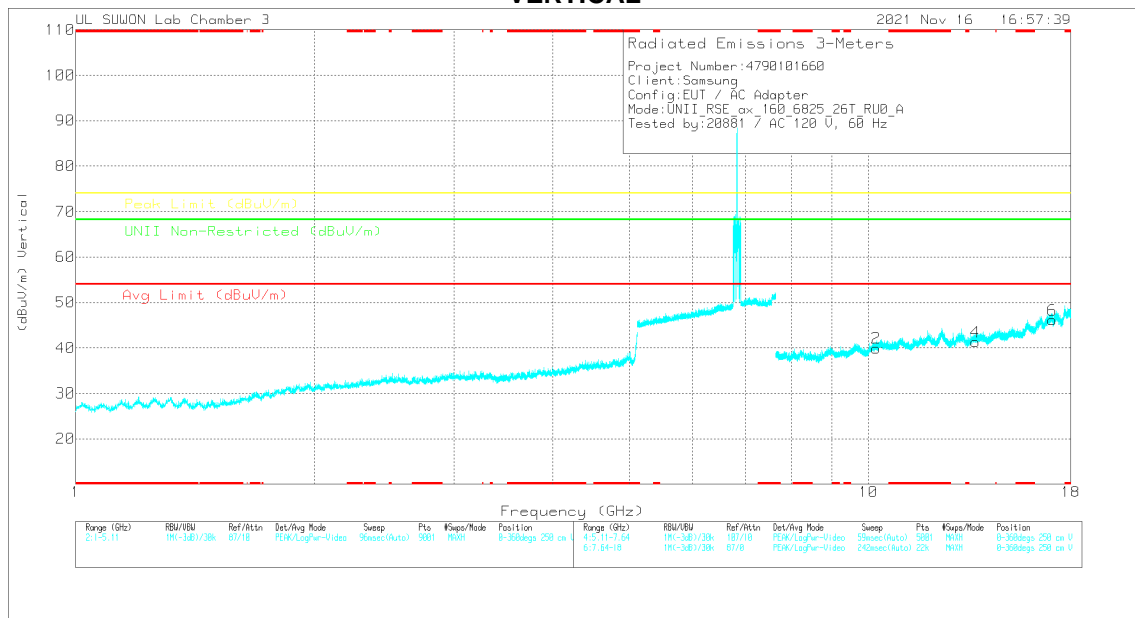
Note1. PK-U - U-NII: Maximum Peak / ADR - U-NII AD primary method, RMS average  
 Note2. \* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

### 11.3. TX ABOVE 1GHz 2Tx MODE IN U-NII-7 BAND

#### HARMONICS AND SPURIOUS EMISSIONS(WORST CASE: 802.11ax HE160 / 26T / 0RU / 6825 MHz) HORIZONTAL



#### 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.

#### Radiated Emissions

Frequency (GHz)	Meas Reading (dBuV)	Det	3117_20210907	ICNo_HFy(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restrictd (dBuV/m)	Margin (dB)	Acmtch (Degs)	Height (cm)	Polarity
10.24579	34.25	PK-U	38	-21.7	0	50.55	-	-	-	-	68.2	-17.65	0	100	H
10.2359	34.31	PK-U	38	-21.7	0	50.61	-	-	-	-	68.2	-17.59	0	100	V
13.65802	36.12	PK-U	38.9	-23.3	0	51.72	-	-	-	-	68.2	-16.48	0	100	H
13.65473	36	PK-U	38.9	-23.2	0	51.7	-	-	-	-	68.2	-16.5	0	100	V
17.0558	33.53	PK-U	42.3	-18.1	0	51.73	-	-	-	-	68.2	-10.47	0	100	H
17.05218	32.95	PK-U	42.3	-18.4	0	50.85	-	-	-	-	68.2	-11.34	0	100	V

PK-U - U-NII: Maximum Peak

**HARMONICS AND SPOURIOUS EMISSIONS TEST DATA**

Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Non-Restricted [dBuV/m]	Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11a	6535	MIMO	9.81292	33.66	PK-U	37.60	-22.00	0.00	49.26	-	-	-	-	68.20	-18.94	0	100	H
			9.81301	33.75	PK-U	37.60	-22.00	0.00	49.35	-	-	-	-	68.20	-18.85	0	100	V
			13.07790	35.23	PK-U	39.30	-22.40	0.00	52.13	-	-	-	-	68.20	-16.07	0	100	H
			13.07769	36.05	PK-U	39.30	-22.40	0.00	52.95	-	-	-	-	68.20	-15.25	0	100	V
			16.40088	34.47	PK-U	41.70	-20.40	0.00	55.77	-	-	-	-	68.20	-12.43	0	100	H
			16.40086	34.78	PK-U	41.70	-20.40	0.00	56.08	-	-	-	-	68.20	-12.12	0	100	V
	6695	MIMO	10.05013	33.74	PK-U	38.00	-21.30	0.00	50.44	-	-	-	-	68.20	-17.76	0	100	H
			10.05016	33.48	PK-U	38.00	-21.30	0.00	50.18	-	-	-	-	68.20	-18.02	0	100	V
			13.40593	35.48	PK-U	39.20	-22.80	0.00	51.88	-	-	-	-	68.20	-16.32	0	100	H
			13.40583	35.43	PK-U	39.20	-22.90	0.00	51.73	-	-	-	-	68.20	-16.47	0	100	V
			16.74673	32.94	PK-U	42.30	-19.00	0.00	56.24	-	-	-	-	68.20	-11.96	0	100	H
			16.74648	33.03	PK-U	42.30	-19.10	0.00	56.23	-	-	-	-	68.20	-11.97	0	100	V
	6875	MIMO	10.31162	34.07	PK-U	38.00	-21.30	0.00	50.77	-	-	-	-	68.20	-17.43	0	100	H
			10.31166	34.28	PK-U	38.00	-21.30	0.00	50.98	-	-	-	-	68.20	-17.22	0	100	V
			13.74286	37.08	PK-U	38.90	-23.20	0.00	52.78	-	-	-	-	68.20	-15.42	0	100	H
			13.74289	37.00	PK-U	38.90	-23.20	0.00	52.70	-	-	-	-	68.20	-15.50	0	100	V
			17.20252	33.51	PK-U	42.10	-18.20	0.00	57.41	-	-	-	-	68.20	-10.79	0	100	H
			17.20213	33.47	PK-U	42.10	-18.20	0.00	57.37	-	-	-	-	68.20	-10.83	0	100	V
802.11ax (HE20) 4RU Spot-Check	6695	MIMO	10.05032	33.57	PK-U	38.00	-21.30	0.00	50.27	-	-	-	-	68.20	-17.93	0	100	H
			10.04454	33.37	PK-U	37.90	-21.30	0.00	49.97	-	-	-	-	68.20	-18.23	0	100	V
			* 13.39017	34.60	PK-U	39.20	-22.80	0.00	51.00	-	-	74.00	-23.00	-	-	0	100	H
			** 13.39339	33.84	PK-U	39.20	-22.80	0.00	50.24	-	-	74.00	-23.76	-	-	0	100	V
			16.73796	32.28	PK-U	42.30	-19.20	0.00	55.38	-	-	-	-	68.20	-12.82	0	100	H
			16.72994	32.21	PK-U	42.30	-19.30	0.00	55.21	-	-	-	-	68.20	-12.99	0	100	V
802.11ax (HE160) 0RU Spot-Check	6825	MIMO	10.24579	34.25	PK-U	38.00	-21.70	0.00	50.55	-	-	-	-	68.20	-17.65	0	100	H
			10.23690	34.31	PK-U	38.00	-21.70	0.00	50.61	-	-	-	-	68.20	-17.59	0	100	V
			13.65802	36.12	PK-U	38.90	-23.30	0.00	51.72	-	-	-	-	68.20	-16.48	0	100	H
			13.65473	36.00	PK-U	38.90	-23.20	0.00	51.70	-	-	-	-	68.20	-16.50	0	100	V
			17.06580	33.53	PK-U	42.30	-18.10	0.00	57.73	-	-	-	-	68.20	-10.47	0	100	H
			17.05218	32.96	PK-U	42.30	-18.40	0.00	56.86	-	-	-	-	68.20	-11.34	0	100	V

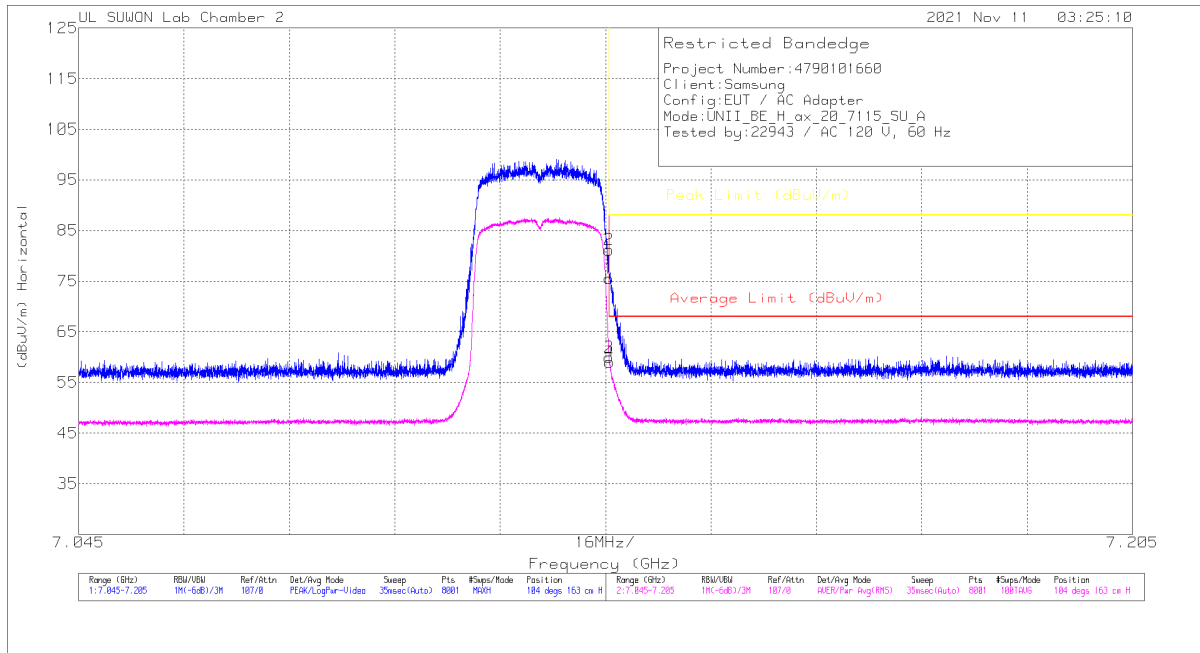
Note1. PK-U - U-NII: Maximum Peak / ADR - U-NII AD primary method, RMS average

Note2. \* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

### 11.4. TX ABOVE 1GHz 2Tx MODE IN U-NII-8 BAND

#### BANDEDGE (WORST CASE: 802.11ax HE20 / 26T/ SU / 7115 MHz)

#### HORIZONTAL PEAK DATA



#### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00166724	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	7.12552	54.7	PK		-15.2	0	75.6	-	-	88	-12.4	104	163	H
2	7.12554	60.29	PK		-15.2	0	81.19	-	-	88	-6.81	104	163	H
3	7.12552	39.08	RMS		-15.2	0	59.98	68	-8.02	-	-	104	163	H
4	7.1256	38.15	RMS		-15.2	0	59.05	68	-8.95	-	-	104	163	H

PK - Peak detector  
 RMS - RMS detection

**BANDEDGE TEST DATA**

Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11a	7115	MIMO	7.12502	50.85	Pk	36.10	-15.20	0.00	71.75	-	-	88.00	-16.25	106	159	H
			7.12516	51.84	Pk	36.10	-15.20	0.00	72.74	-	-	88.00	-15.26	106	159	H
			7.12502	39.13	RMS	36.10	-15.20	0.15	60.18	68.00	-7.82	-	-	106	159	H
			7.12504	39.37	RMS	36.10	-15.20	0.15	60.42	68.00	-7.58	-	-	106	159	H
			7.12502	46.03	Pk	36.10	-15.20	0.00	66.93	-	-	88.00	-21.07	88	129	V
			7.12526	47.89	Pk	36.10	-15.20	0.00	68.79	-	-	88.00	-19.21	88	129	V
			7.12502	33.81	RMS	36.10	-15.20	0.15	54.86	68.00	-13.14	-	-	88	129	V
			7.12504	34.79	RMS	36.10	-15.20	0.15	55.84	68.00	-12.16	-	-	88	129	V
802.11ax (HE20)	7115	MIMO	7.12552	54.70	Pk	36.10	-15.20	0.00	75.60	-	-	88.00	-12.40	104	163	H
			7.12554	60.29	Pk	36.10	-15.20	0.00	81.19	-	-	88.00	-6.81	104	163	H
			7.12552	39.08	RMS	36.10	-15.20	0.00	59.98	68.00	-8.02	-	-	104	163	H
			7.12560	38.15	RMS	36.10	-15.20	0.00	59.05	68.00	-8.95	-	-	104	163	H
			7.12552	51.38	Pk	36.10	-15.20	0.00	72.28	-	-	88.00	-15.72	88	125	V
			7.12556	52.59	Pk	36.10	-15.20	0.00	73.49	-	-	88.00	-14.51	88	125	V
			7.12552	34.89	RMS	36.10	-15.20	0.00	55.79	68.00	-12.21	-	-	88	125	V
			7.12558	34.60	RMS	36.10	-15.20	0.00	55.50	68.00	-12.50	-	-	88	125	V
802.11ax (HE40)	7085	MIMO	7.12501	36.87	Pk	36.10	-16.90	0.00	56.07	-	-	88.00	-31.93	103	146	H
			7.14063	39.71	Pk	36.10	-16.80	0.00	59.01	-	-	88.00	-28.99	103	146	H
			7.12501	26.44	RMS	36.10	-16.90	0.00	45.64	68.00	-22.36	-	-	103	146	H
			7.17574	27.36	RMS	36.10	-16.60	0.00	46.86	68.00	-21.14	-	-	103	146	H
			7.12501	35.39	Pk	36.10	-16.90	0.00	54.59	-	-	88.00	-33.41	87	141	V
			7.18190	38.81	Pk	36.10	-16.60	0.00	58.31	-	-	88.00	-29.69	87	141	V
			7.12501	26.52	RMS	36.10	-16.90	0.00	45.72	68.00	-22.28	-	-	87	141	V
			7.18114	27.29	RMS	36.10	-16.60	0.00	46.79	68.00	-21.21	-	-	87	141	V
802.11ax (HE80)	7025	MIMO	7.12501	36.78	Pk	36.10	-16.90	0.00	55.98	-	-	88.00	-32.02	103	131	H
			7.18108	38.76	Pk	36.10	-16.60	0.00	58.26	-	-	88.00	-29.74	103	131	H
			7.12501	25.63	RMS	36.10	-16.90	0.00	44.83	68.00	-23.17	-	-	103	131	H
			7.19630	27.18	RMS	36.10	-16.50	0.00	46.78	68.00	-21.22	-	-	103	131	H
			7.12501	36.48	Pk	36.10	-16.90	0.00	55.68	-	-	88.00	-32.32	91	147	V
			7.12903	39.54	Pk	36.10	-16.80	0.00	58.84	-	-	88.00	-29.16	91	147	V
			7.12501	26.46	RMS	36.10	-16.90	0.00	45.66	68.00	-22.34	-	-	91	147	V
			7.18948	27.41	RMS	36.10	-16.50	0.00	47.01	68.00	-20.99	-	-	91	147	V
802.11ax (HE160)	6985	MIMO	7.12501	36.81	Pk	36.10	-16.90	0.00	56.01	-	-	88.00	-31.99	102	122	H
			7.17742	39.16	Pk	36.10	-16.60	0.00	58.66	-	-	88.00	-29.34	102	122	H
			7.12501	26.63	RMS	36.10	-16.90	0.00	45.83	68.00	-22.17	-	-	102	122	H
			7.15192	27.48	RMS	36.10	-16.70	0.00	46.88	68.00	-21.12	-	-	102	122	H
			7.12501	36.08	Pk	36.10	-16.90	0.00	55.28	-	-	88.00	-32.72	88	137	V
			7.20466	39.11	Pk	36.10	-16.50	0.00	58.71	-	-	88.00	-29.29	88	137	V
			7.12501	26.84	RMS	36.10	-16.90	0.00	46.04	68.00	-21.96	-	-	88	137	V
			7.16398	27.57	RMS	36.10	-16.60	0.00	47.07	68.00	-20.93	-	-	88	137	V

Note1. Pk - Peak detector, RMS - RMS detector