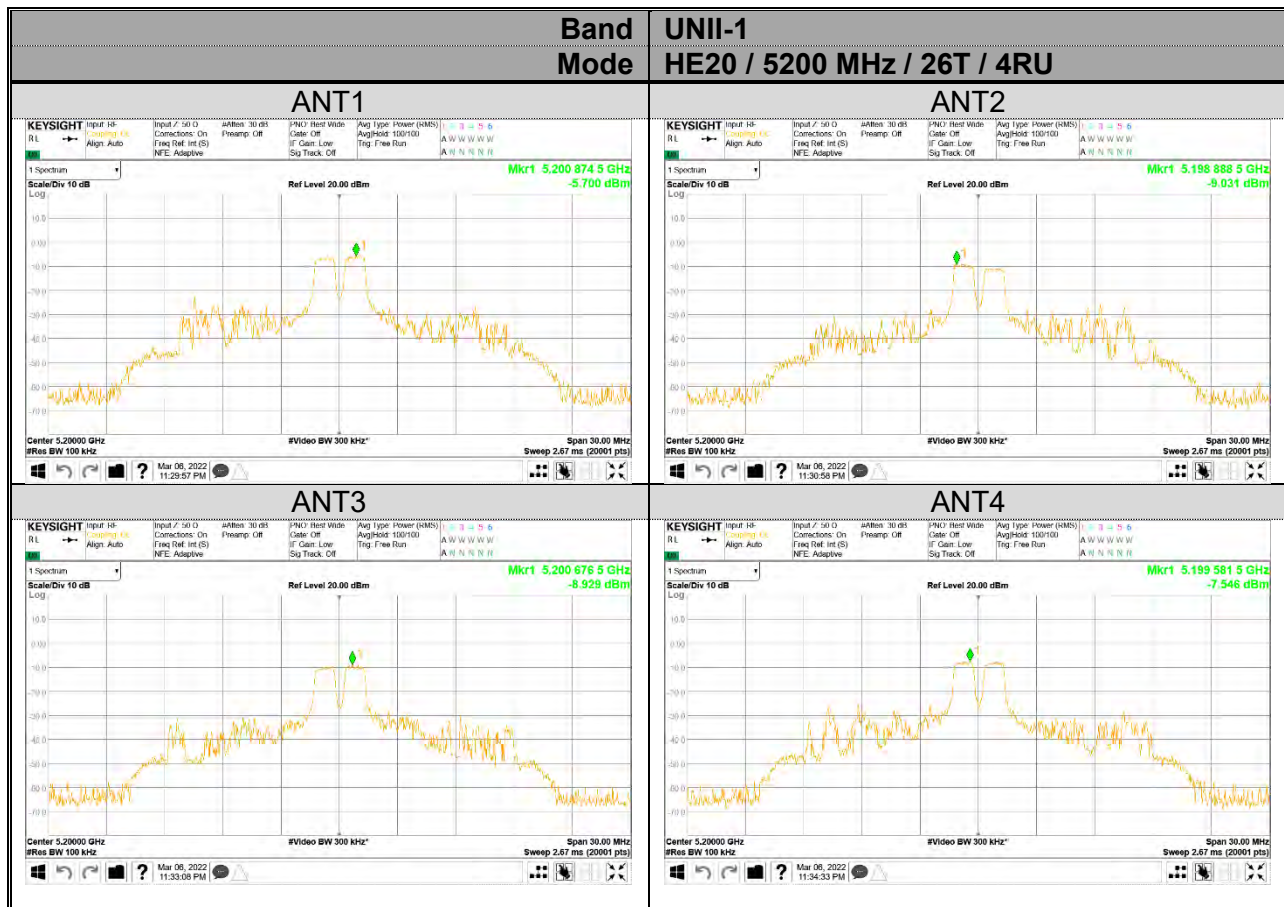
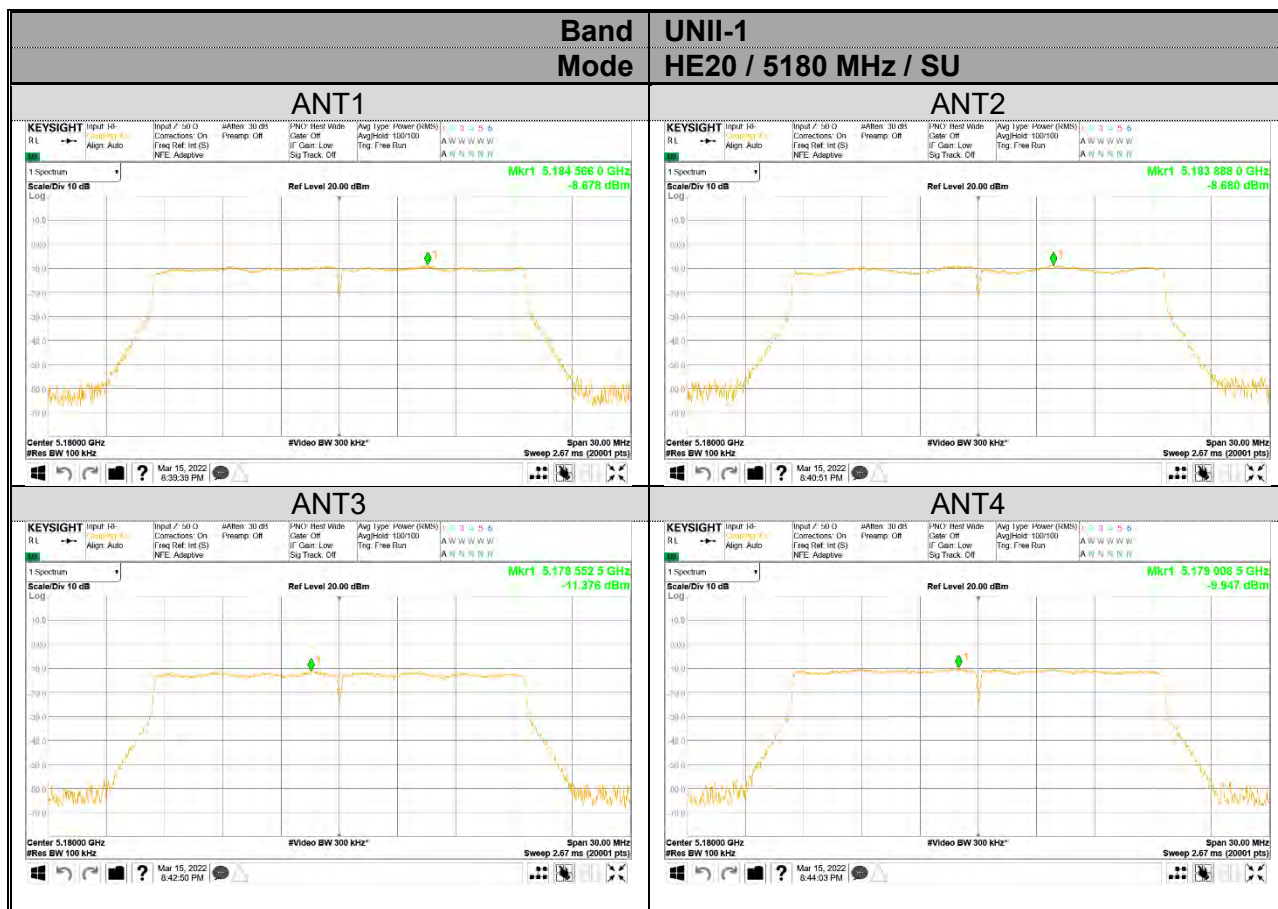
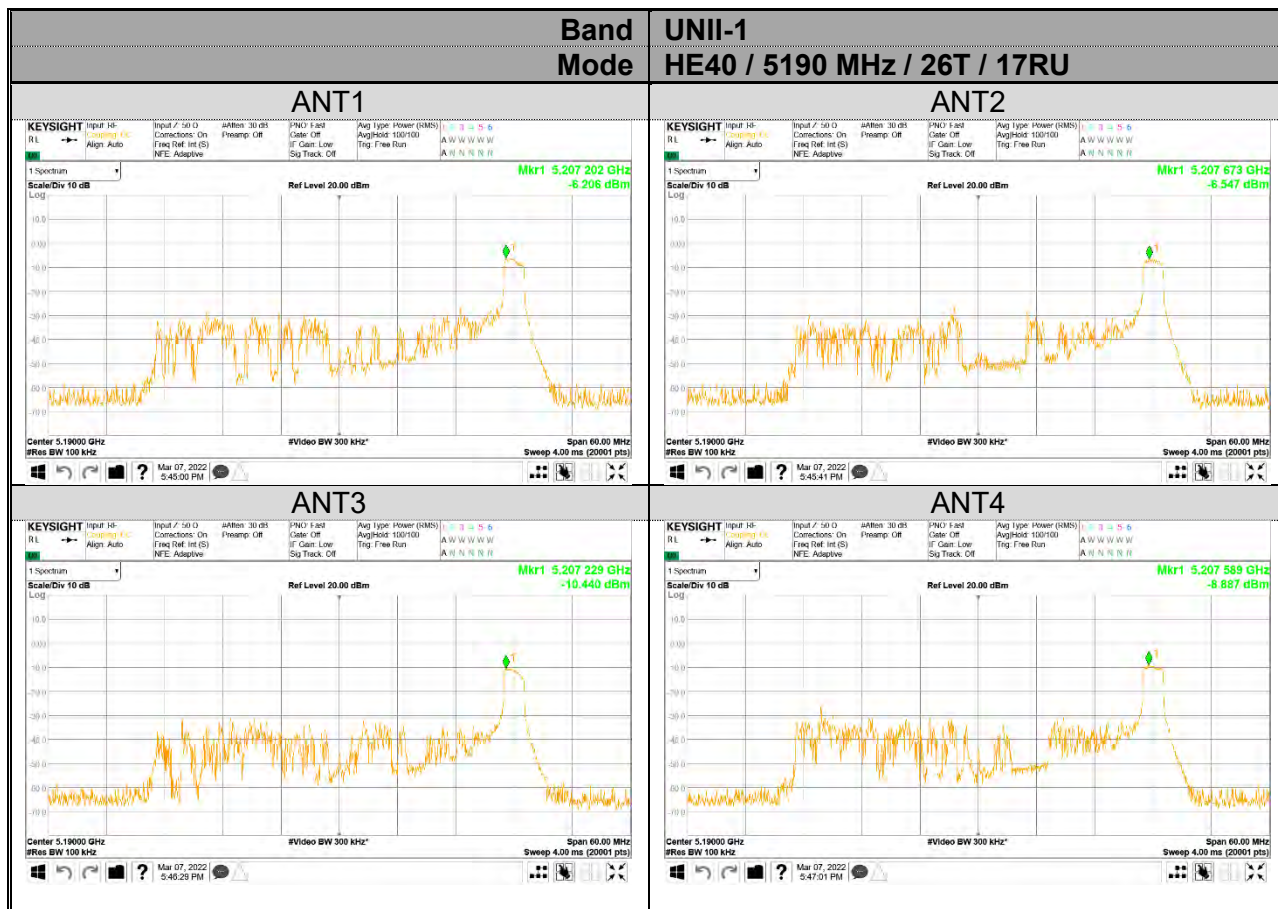


10.2.6. OUTPUT POWER AND PPSD PLOTS(WORST CASE)

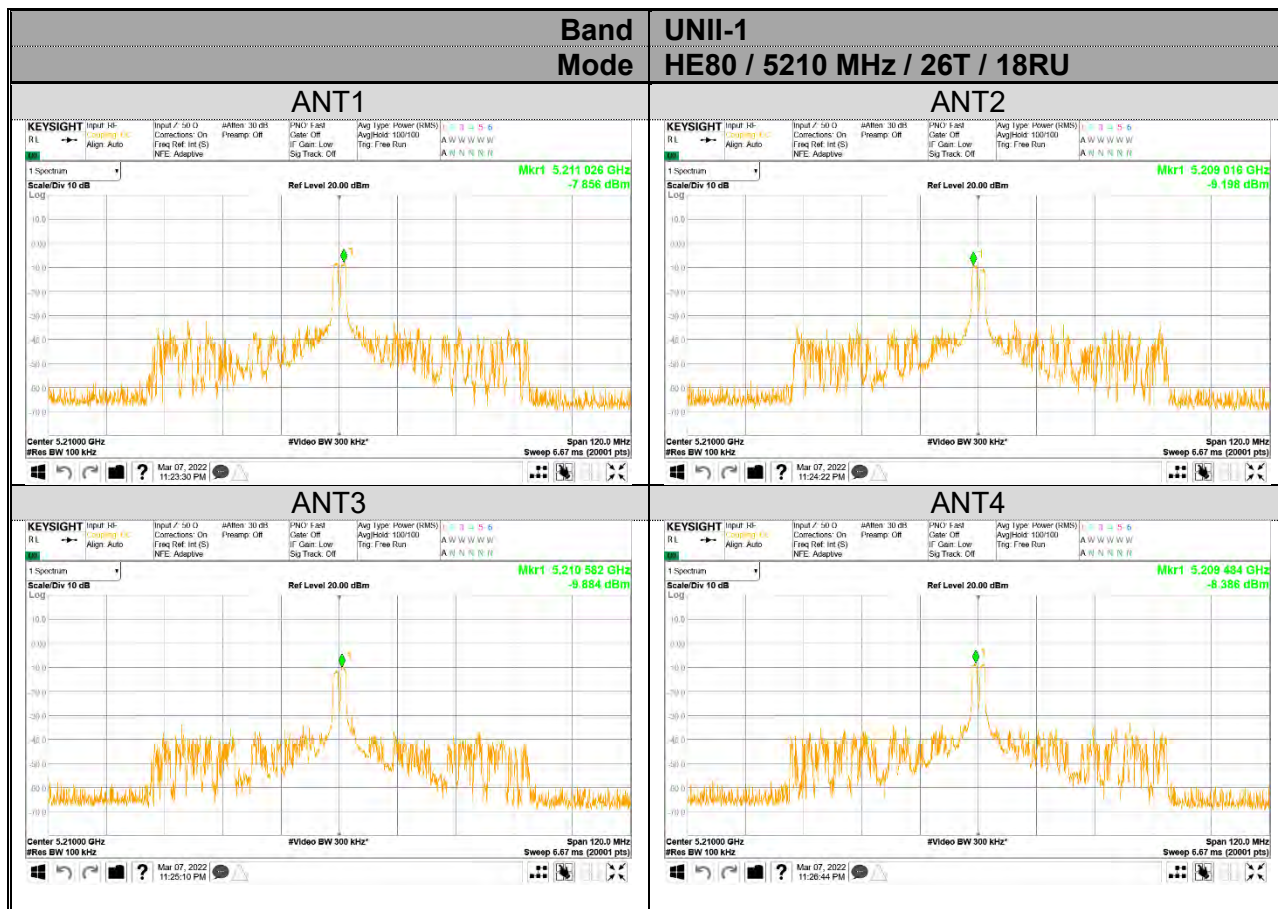
UNII-1 & 2A (4TX)

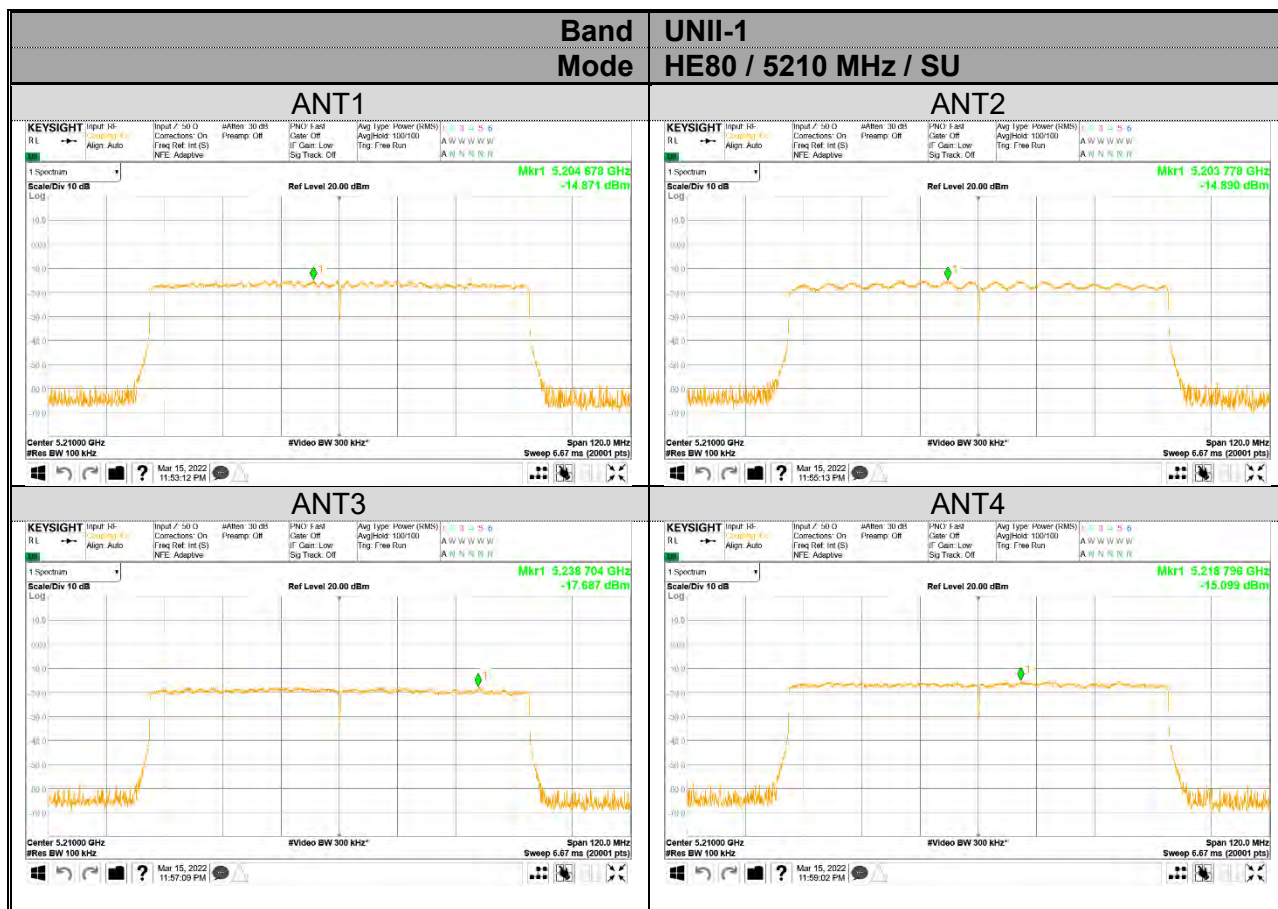


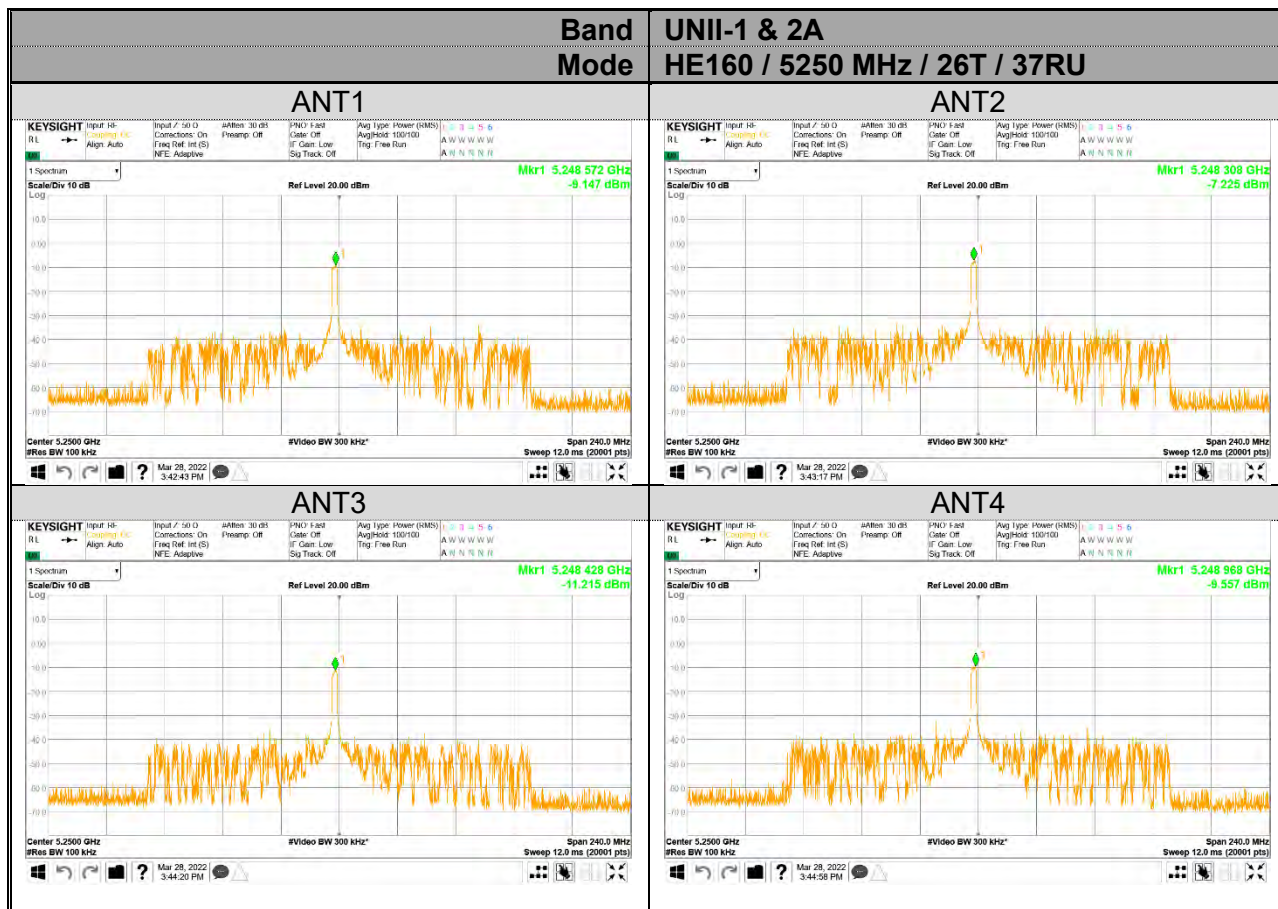




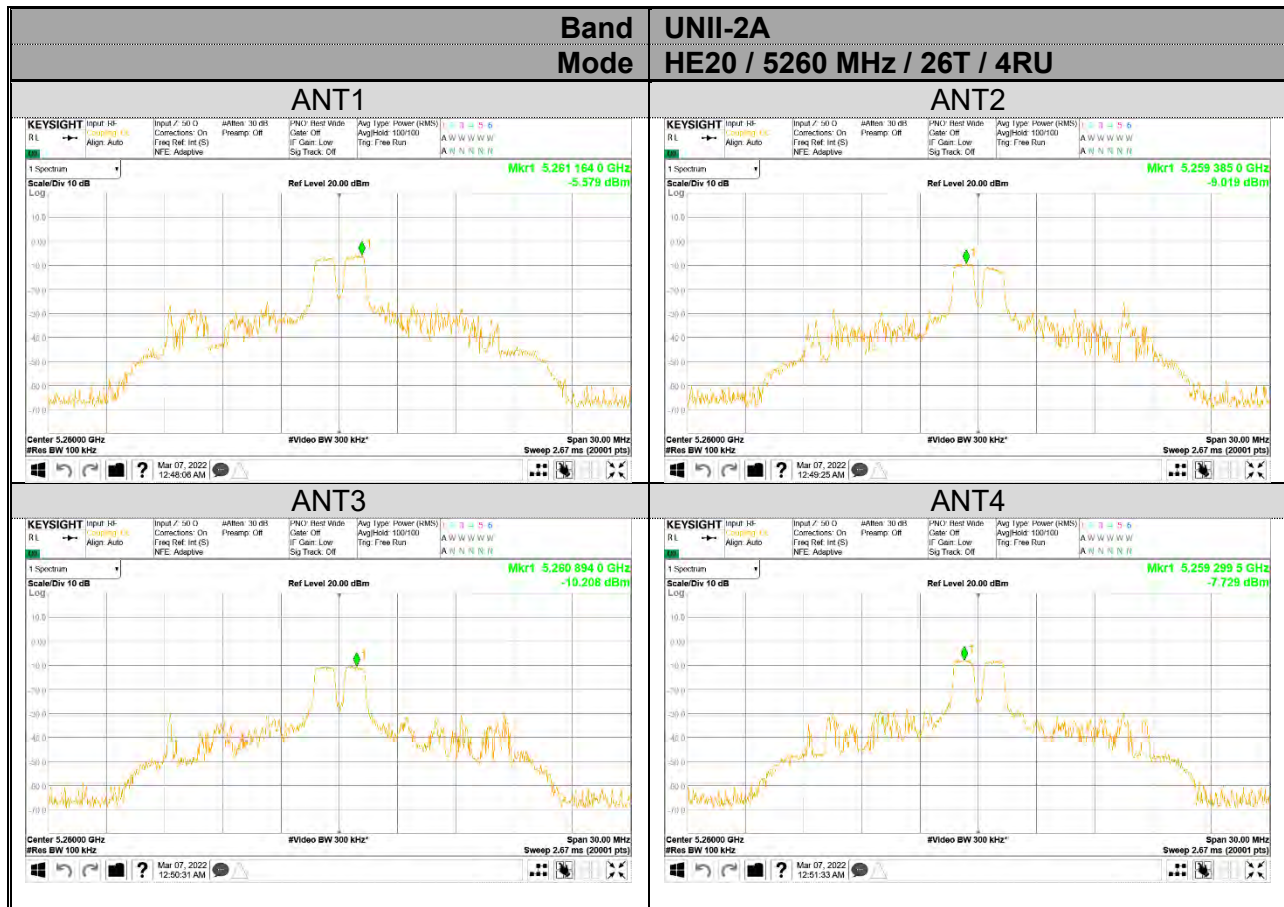


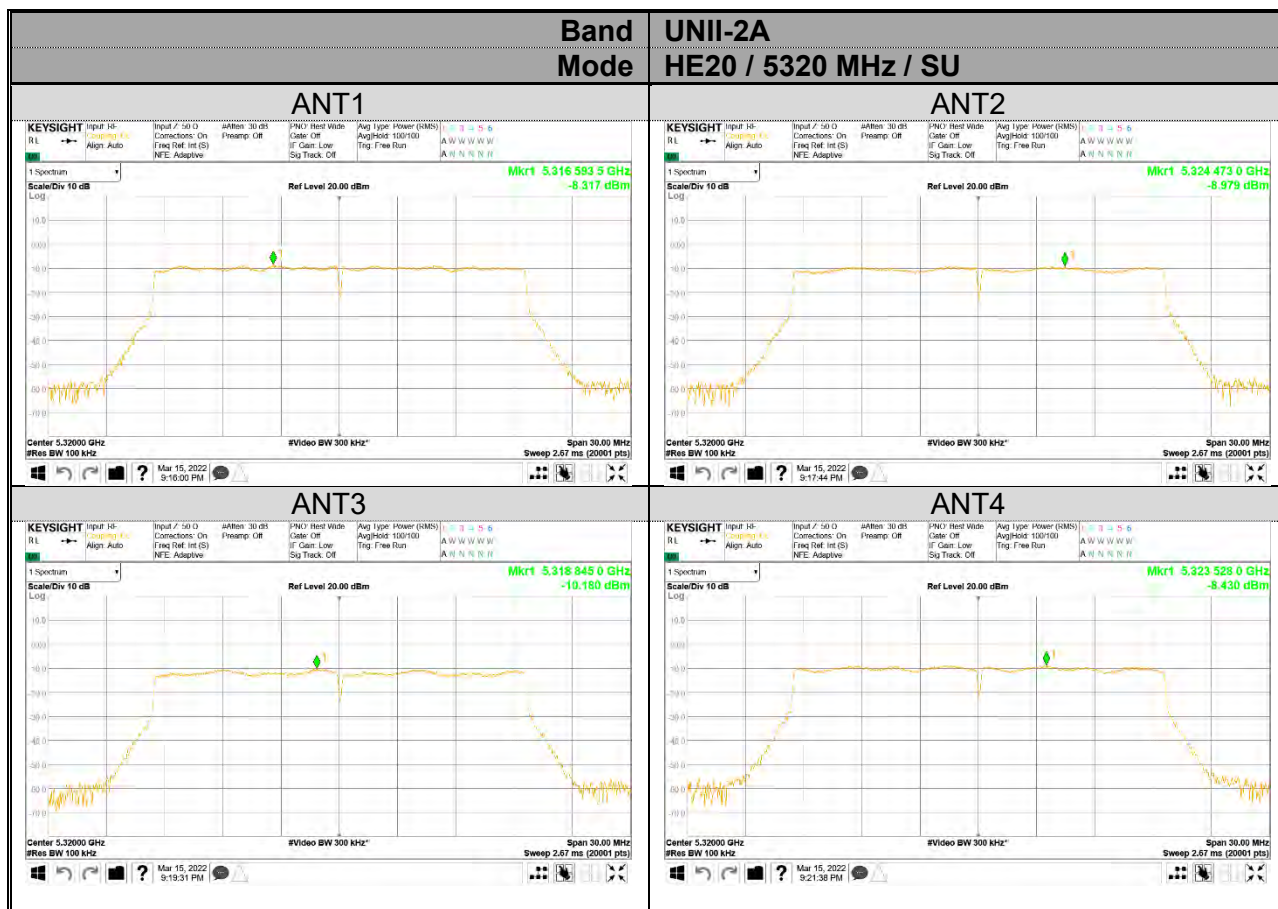


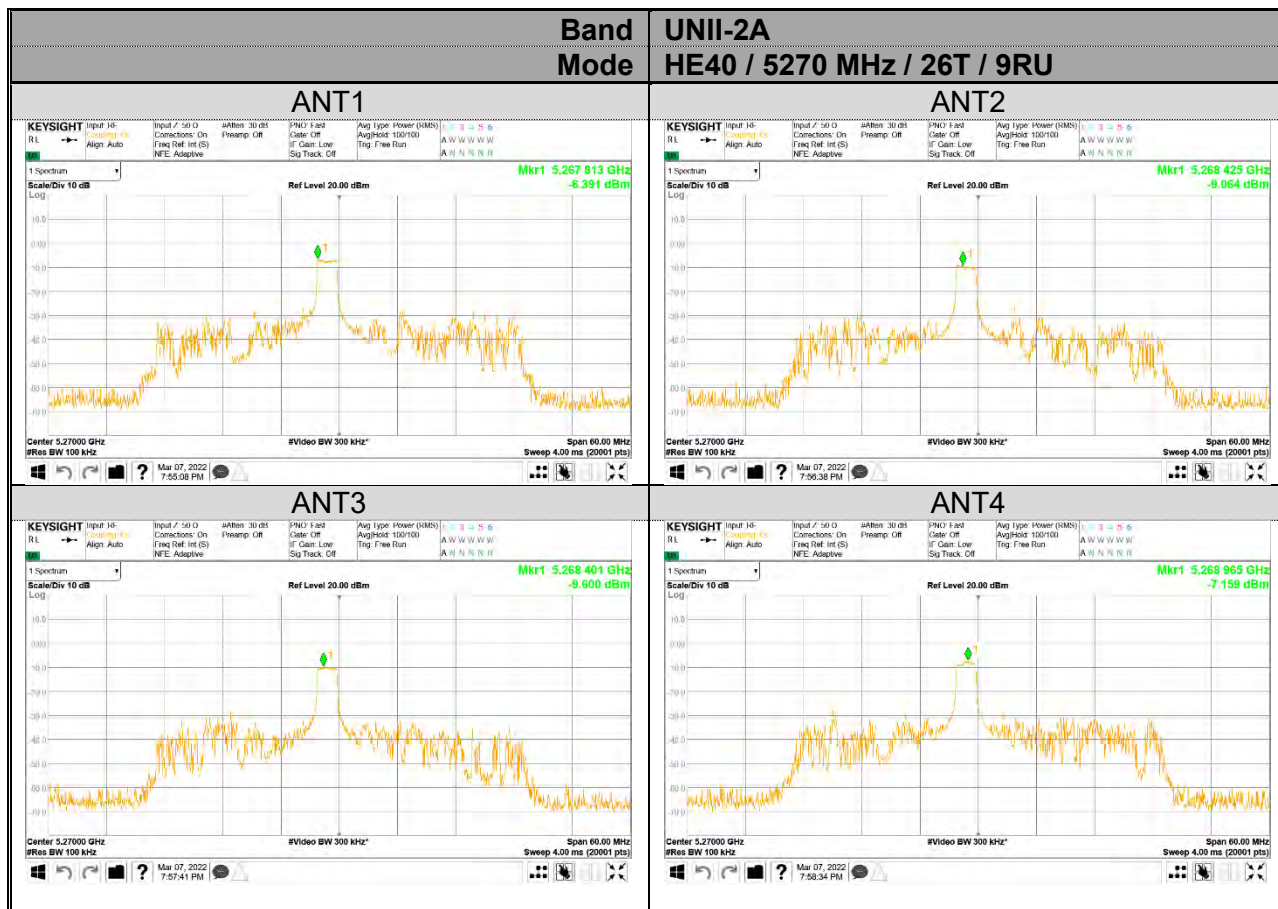


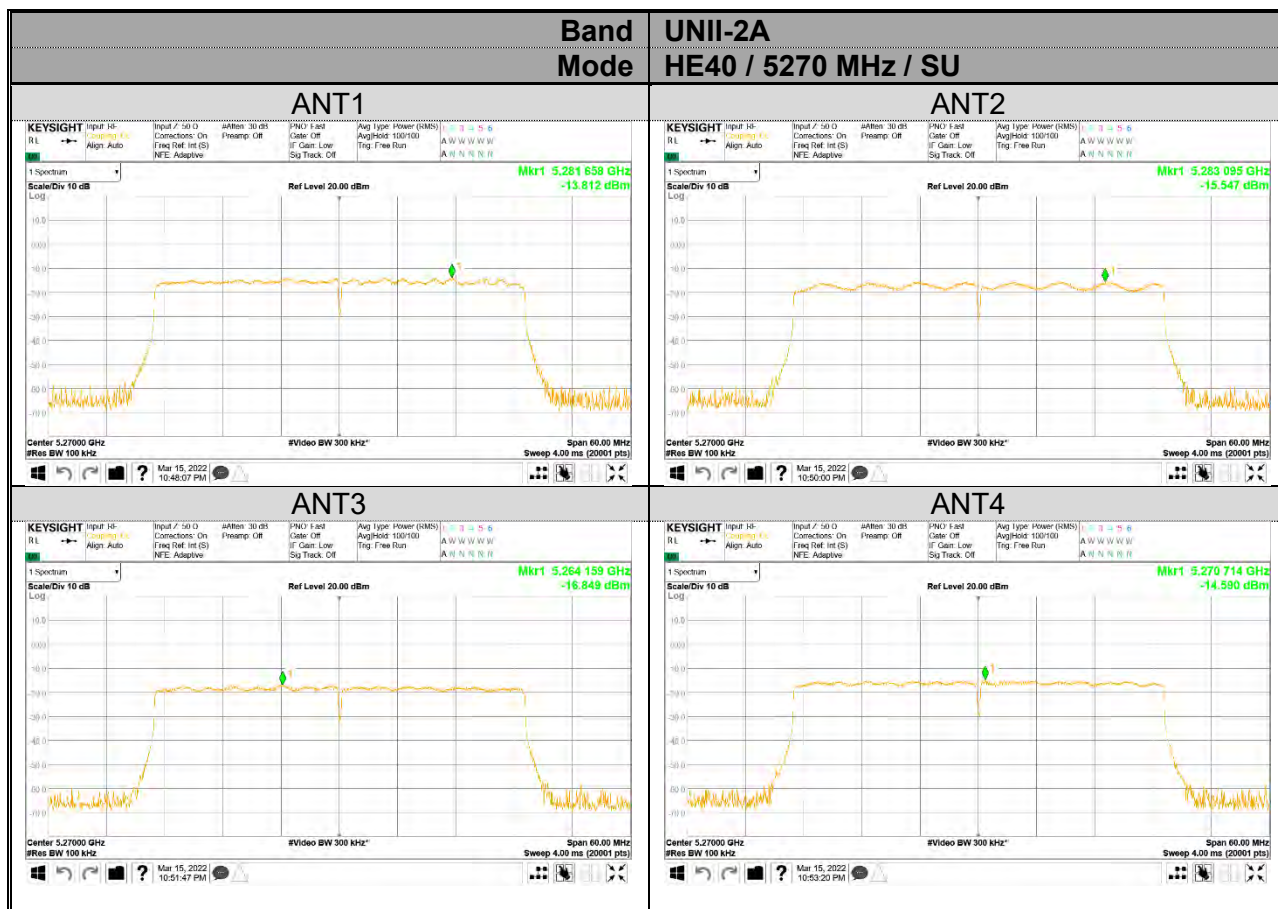


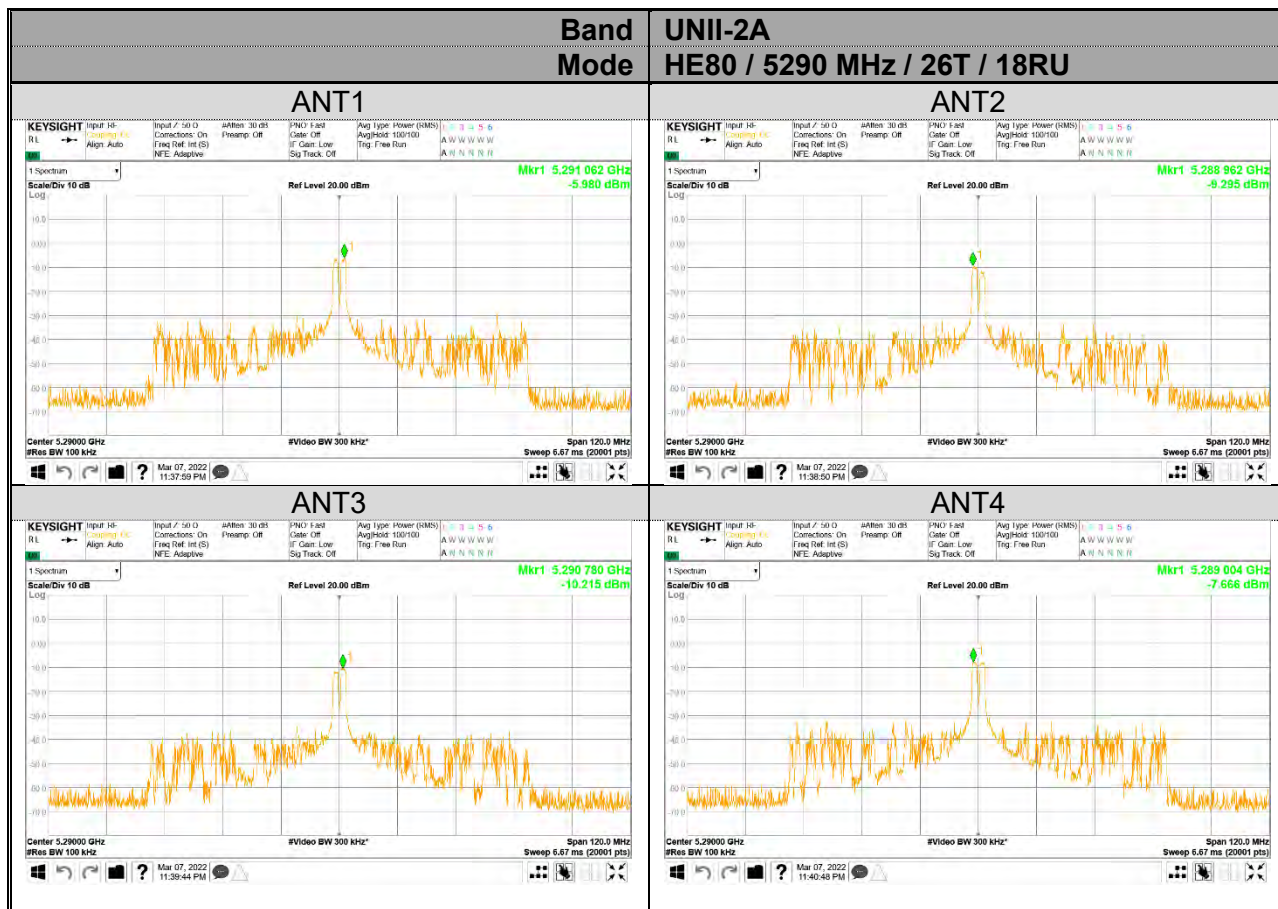


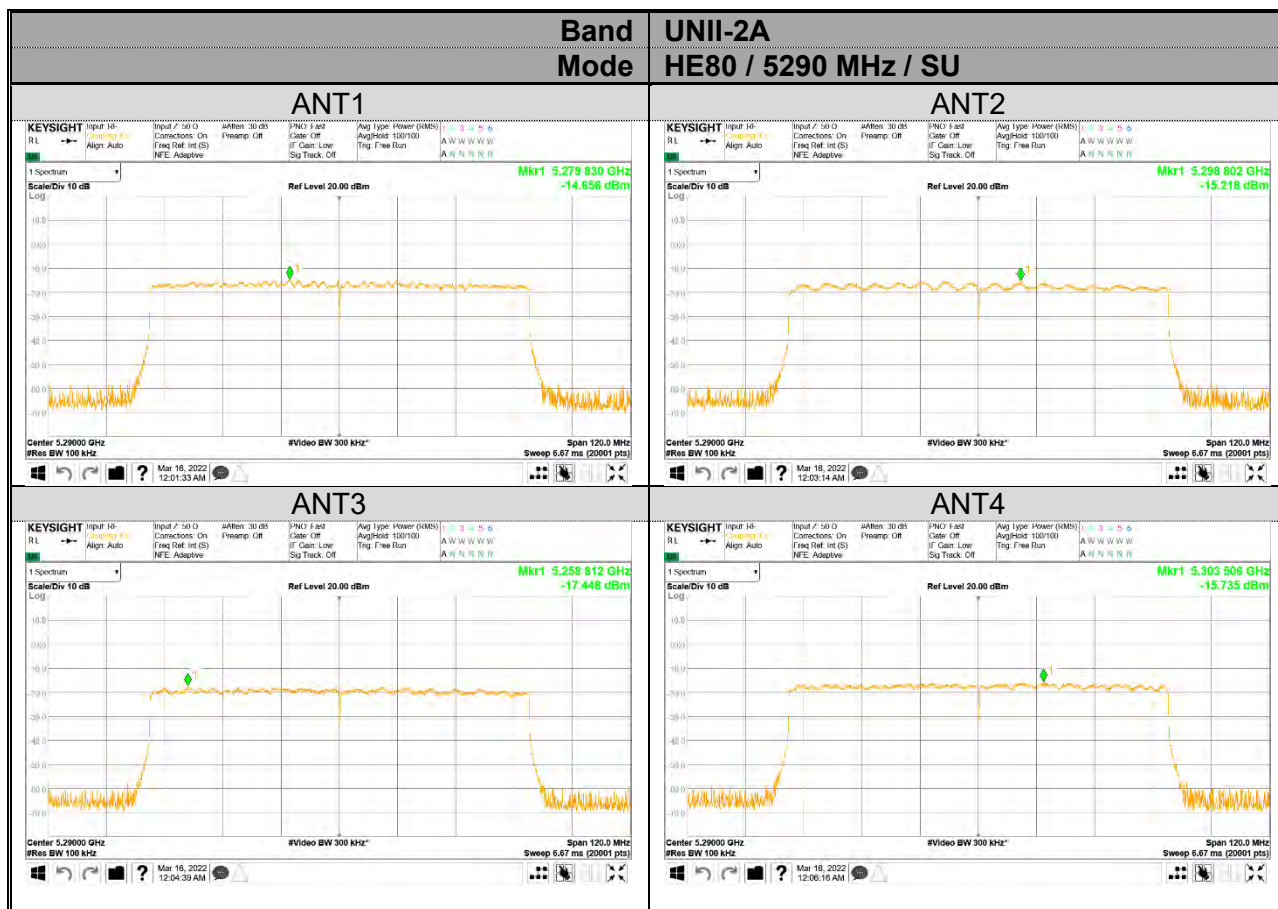




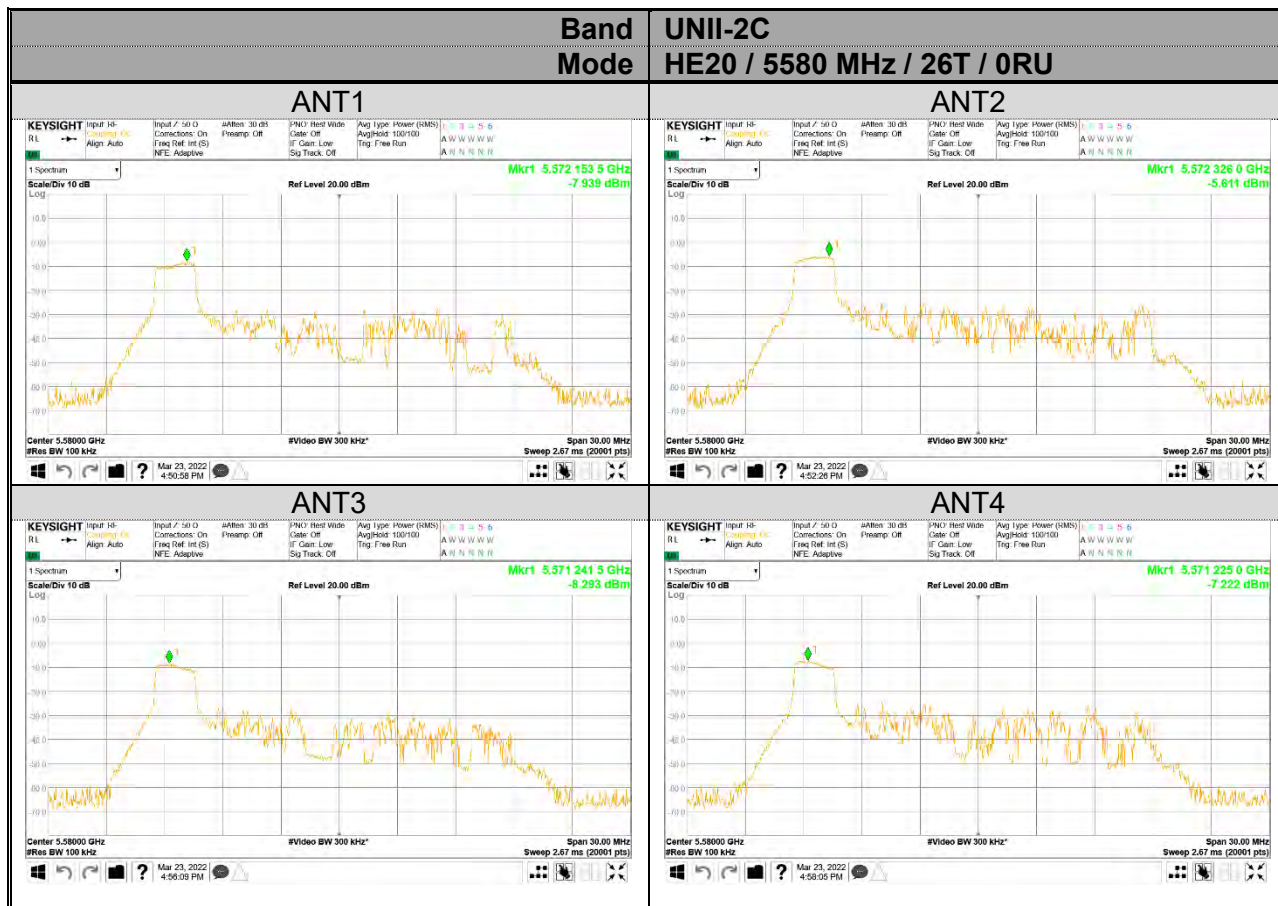


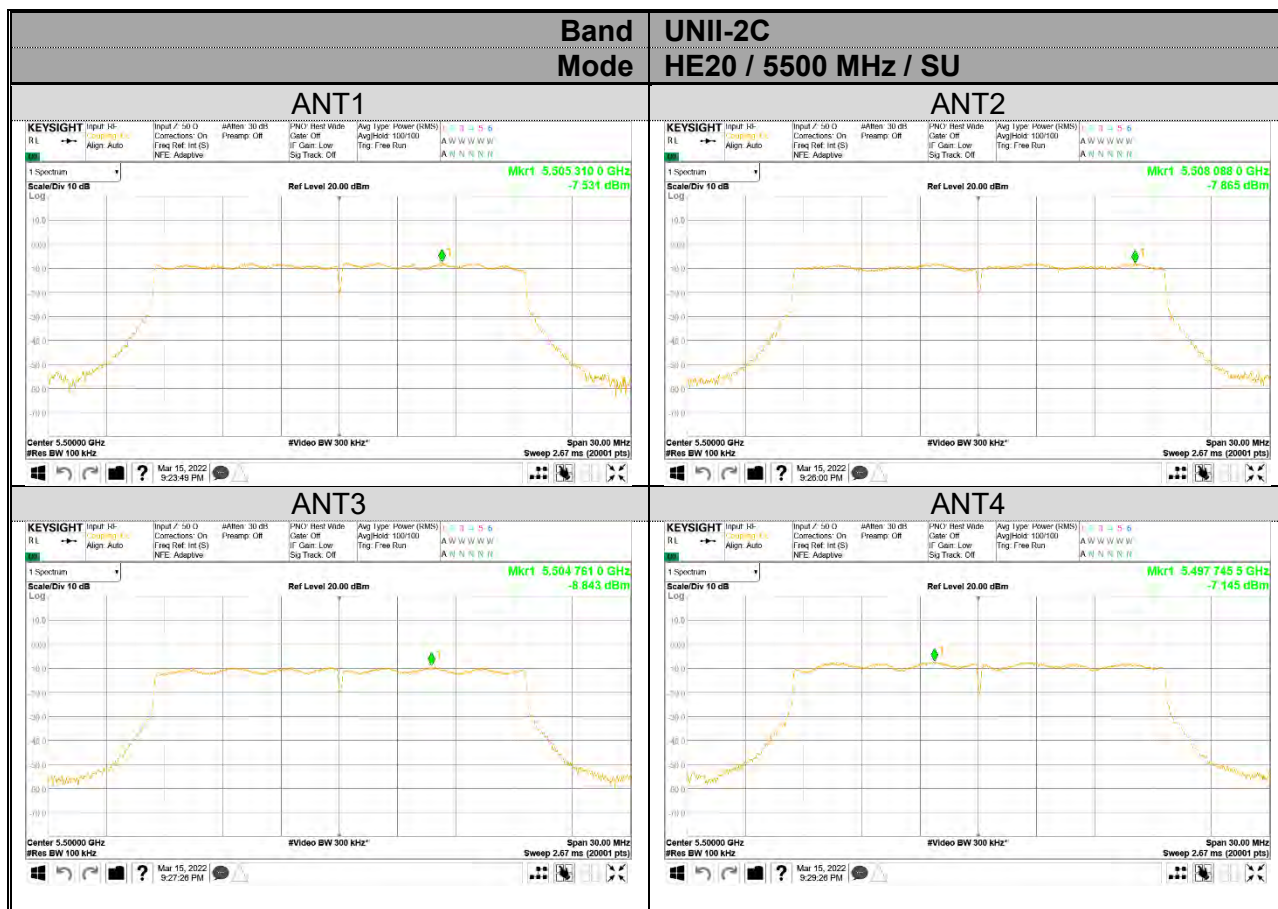


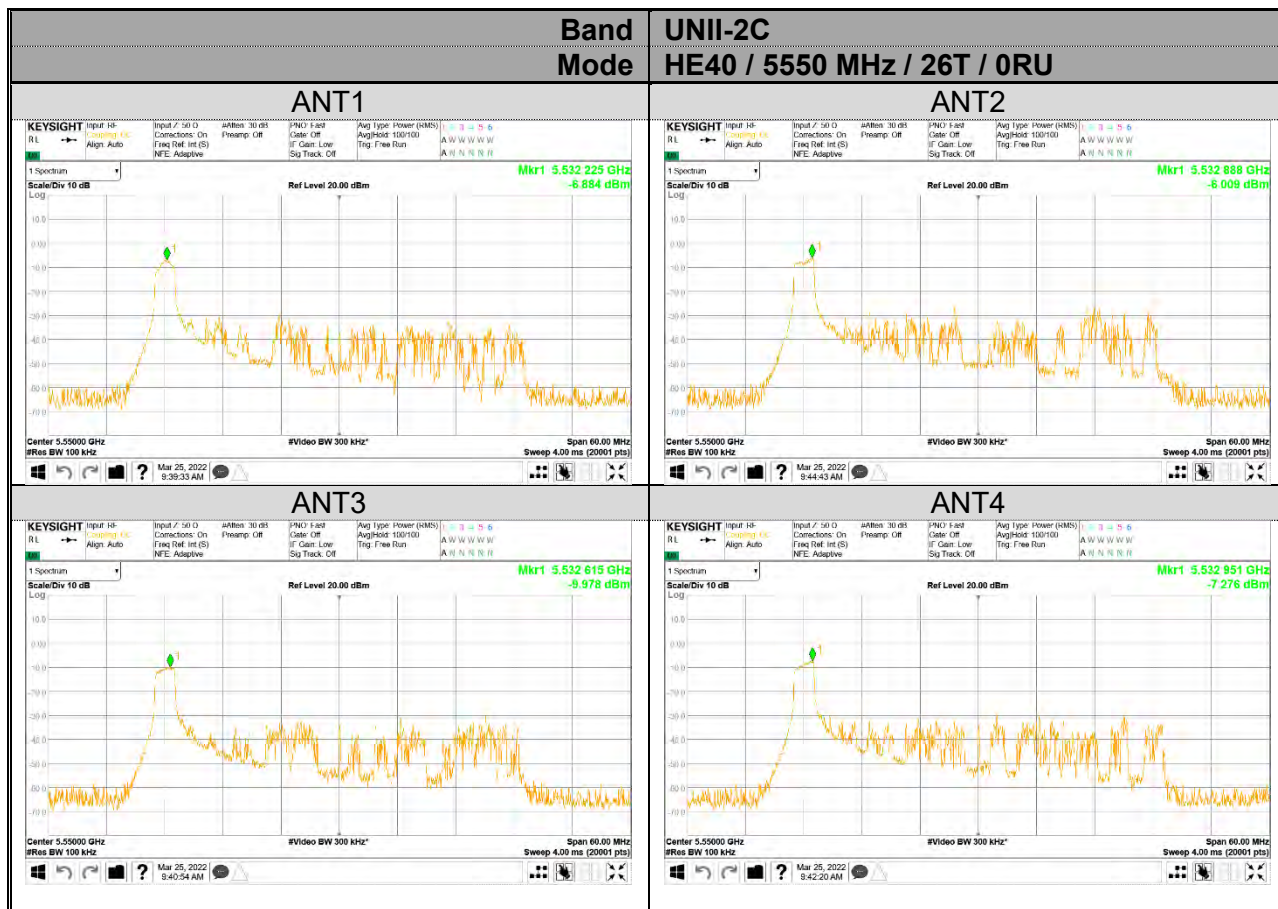


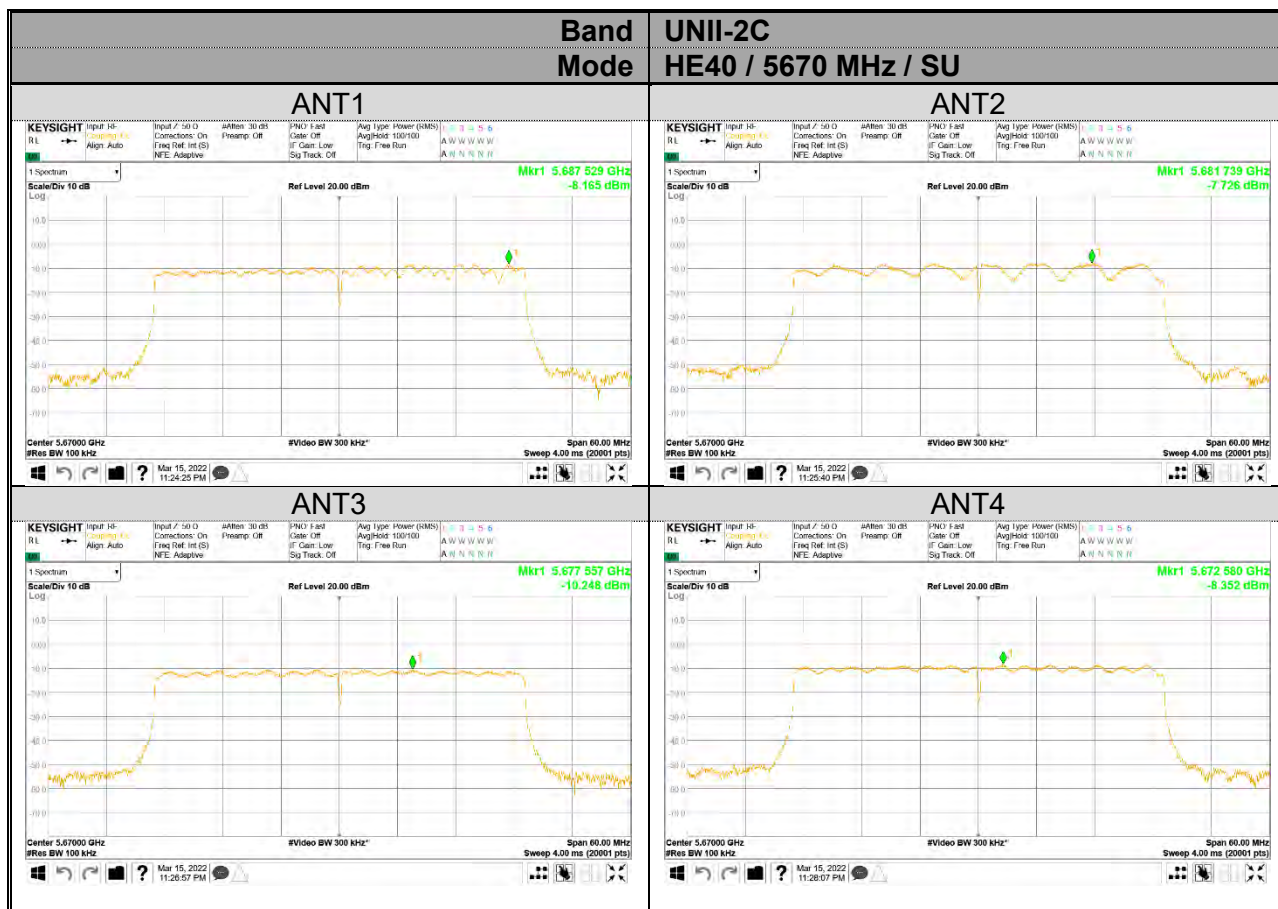


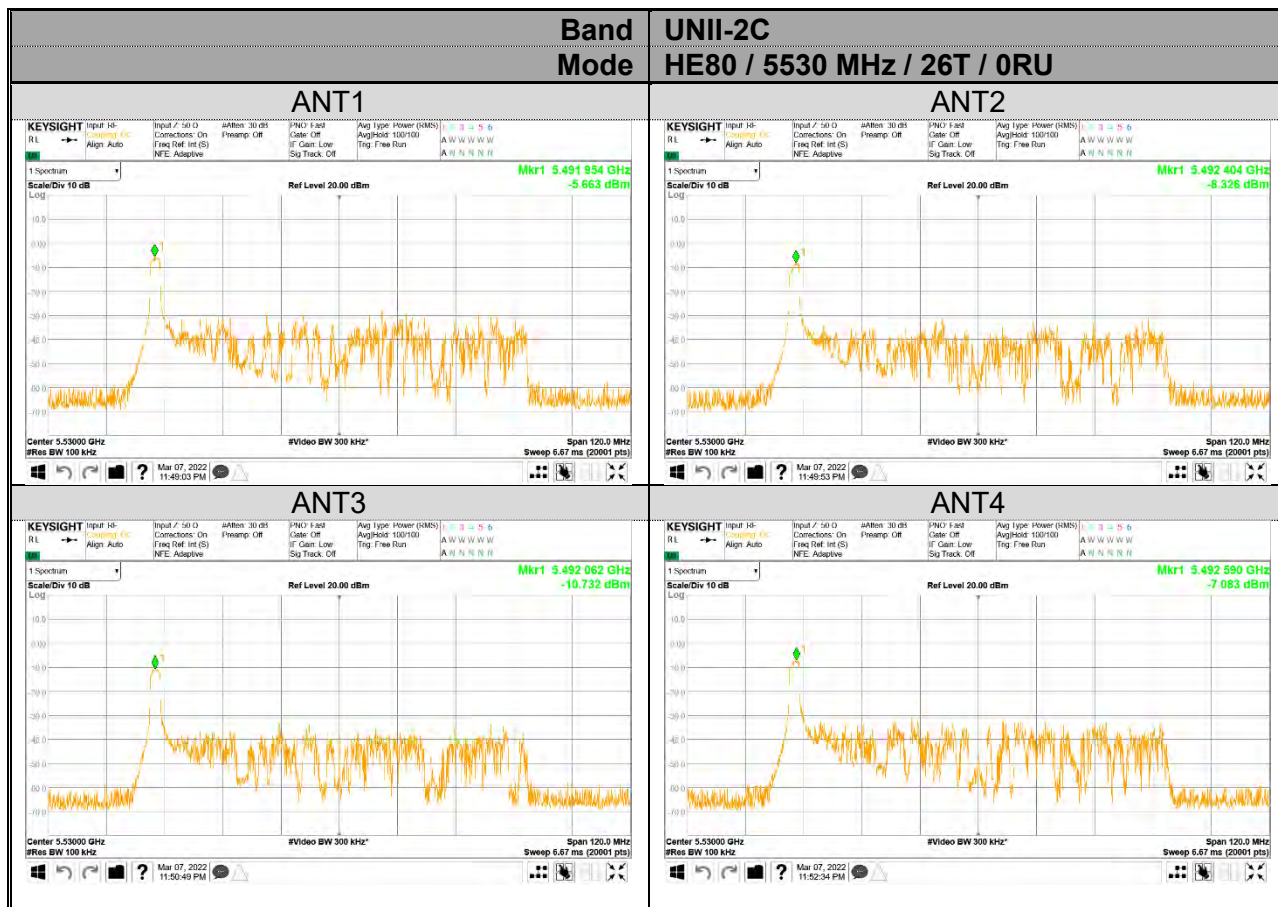
UNII-2C (4TX)

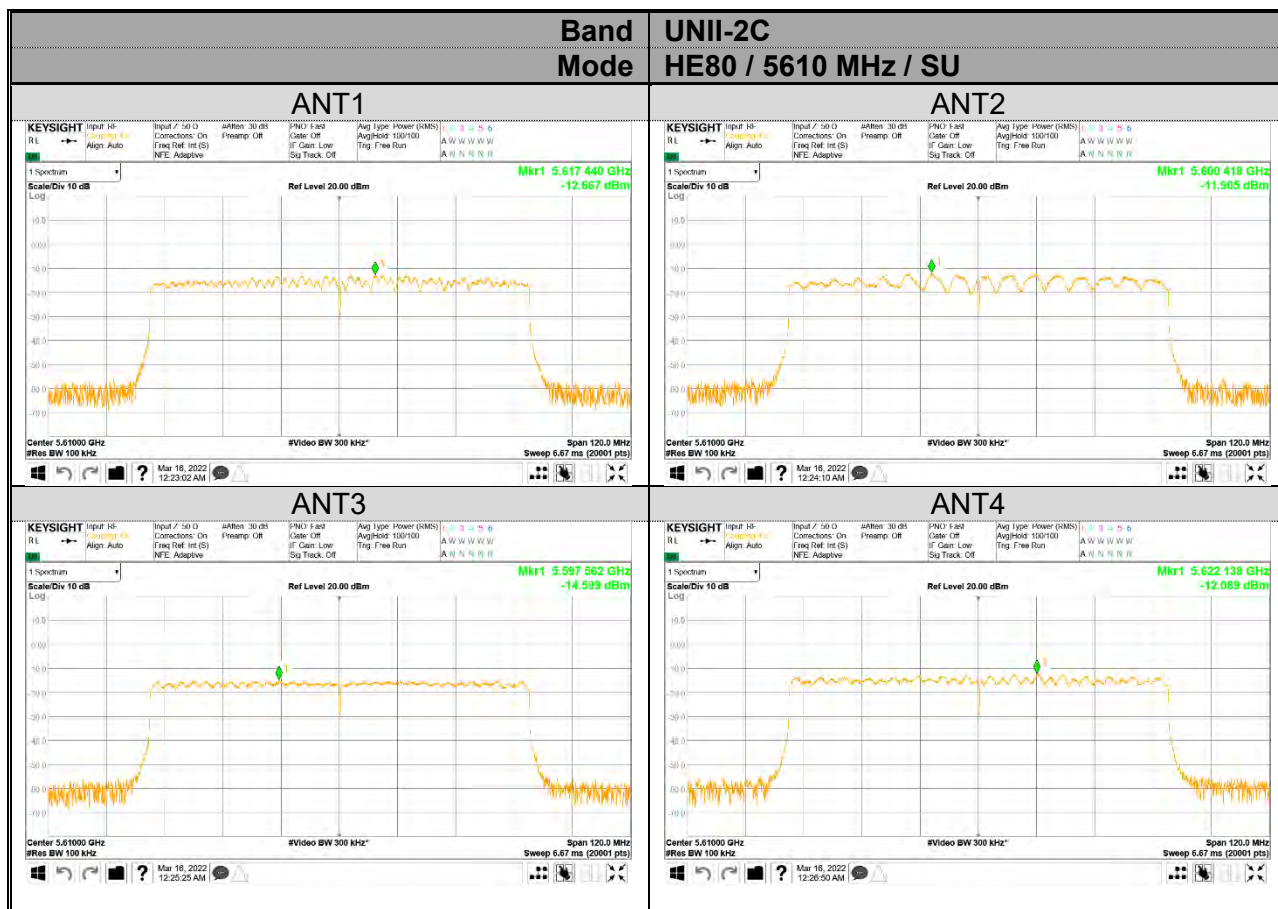


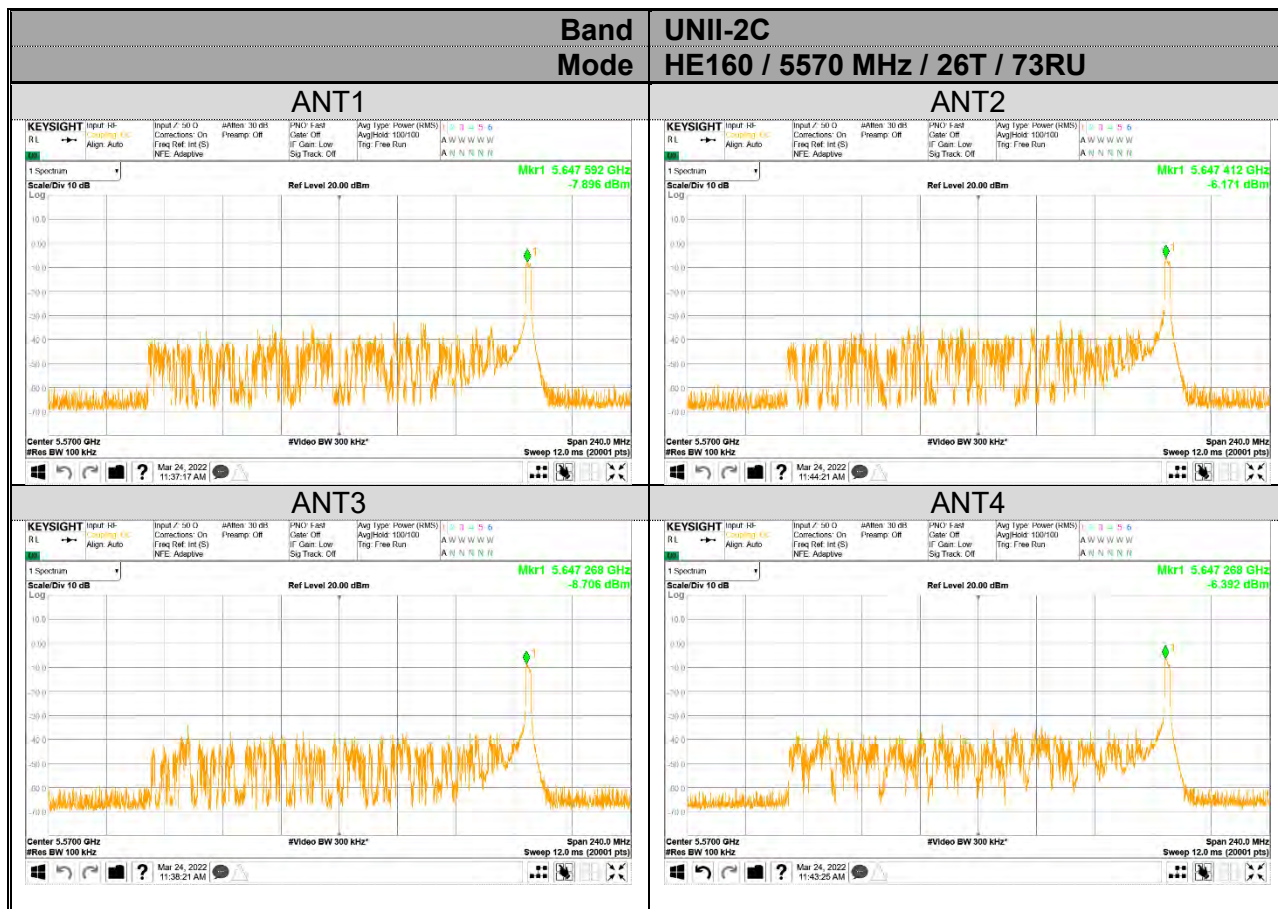


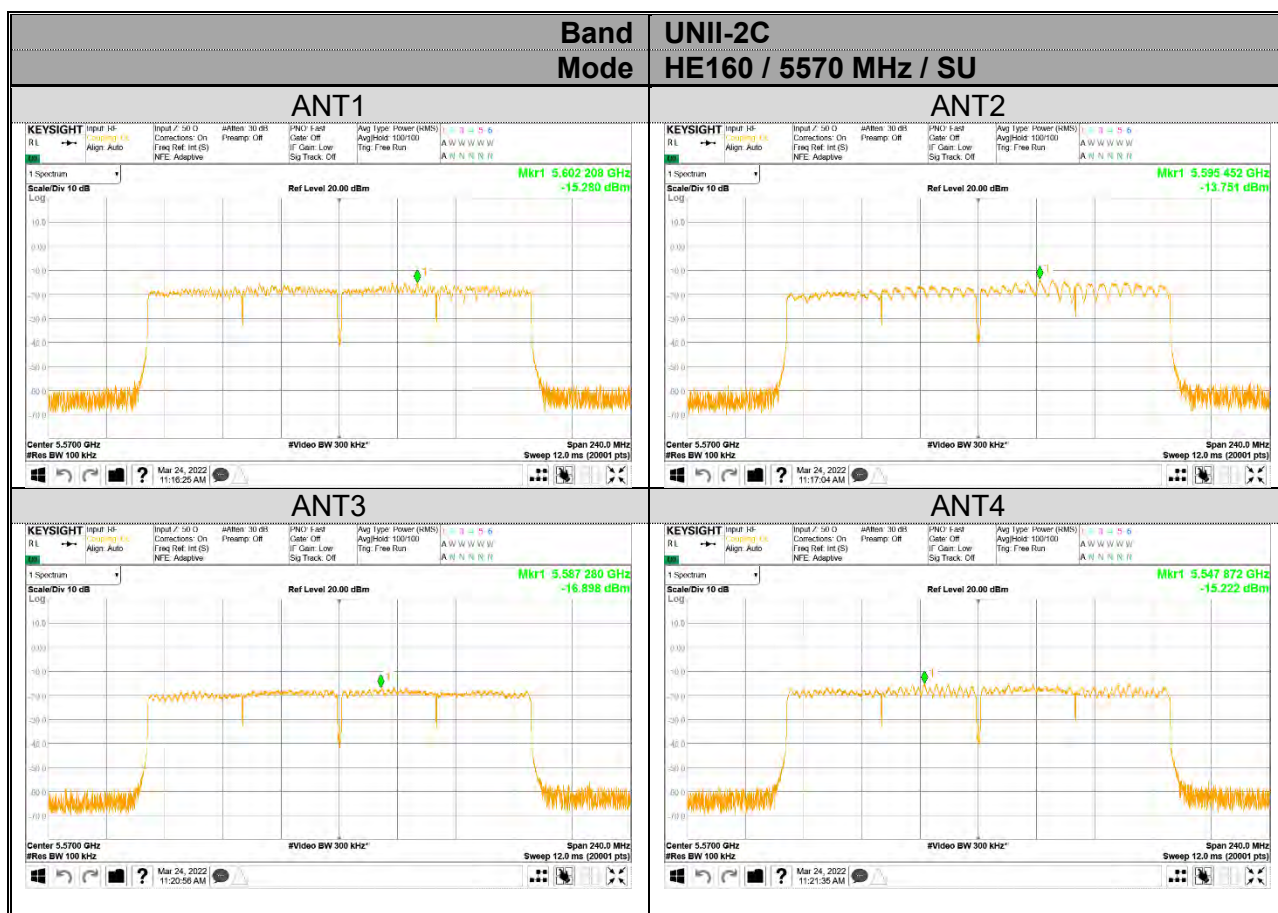




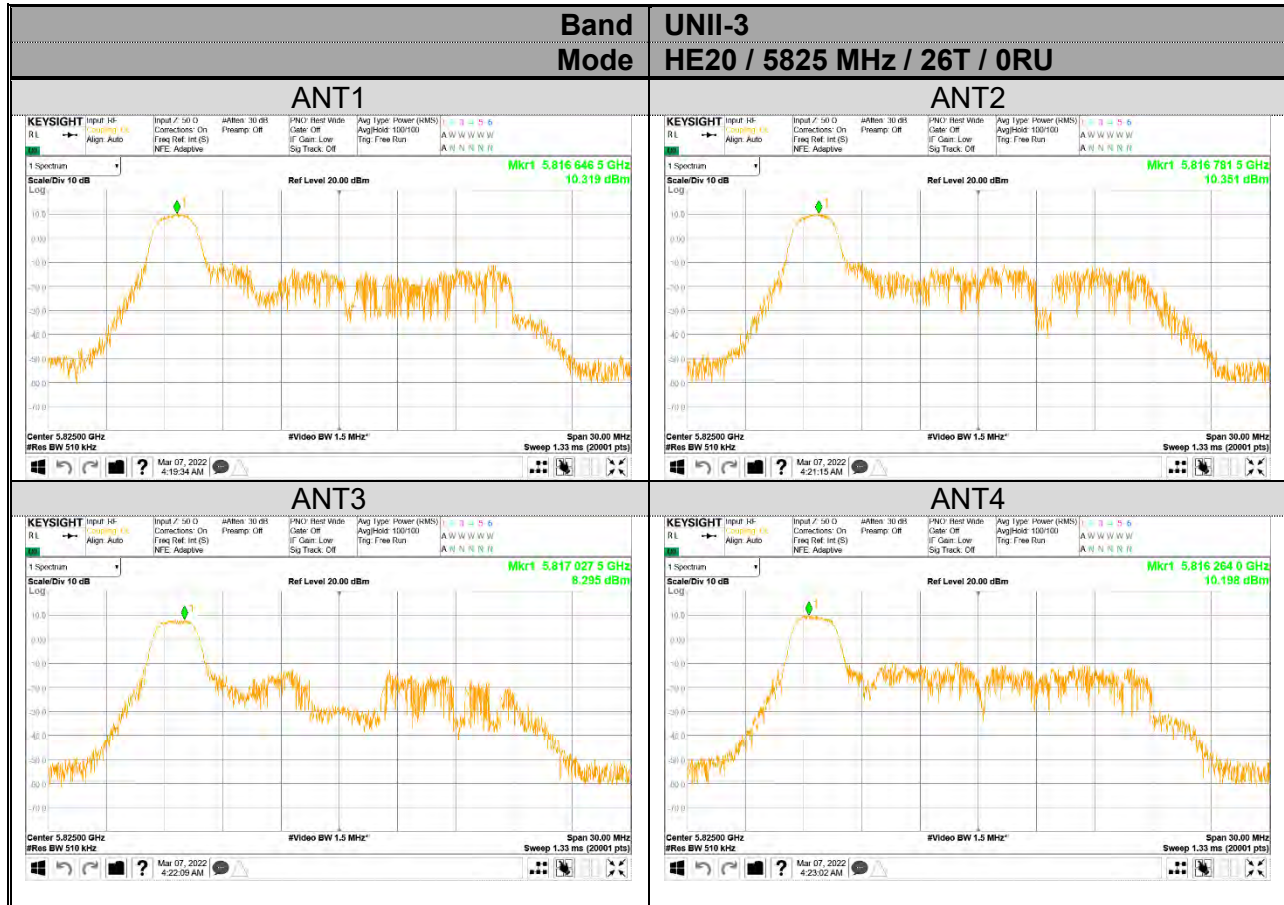


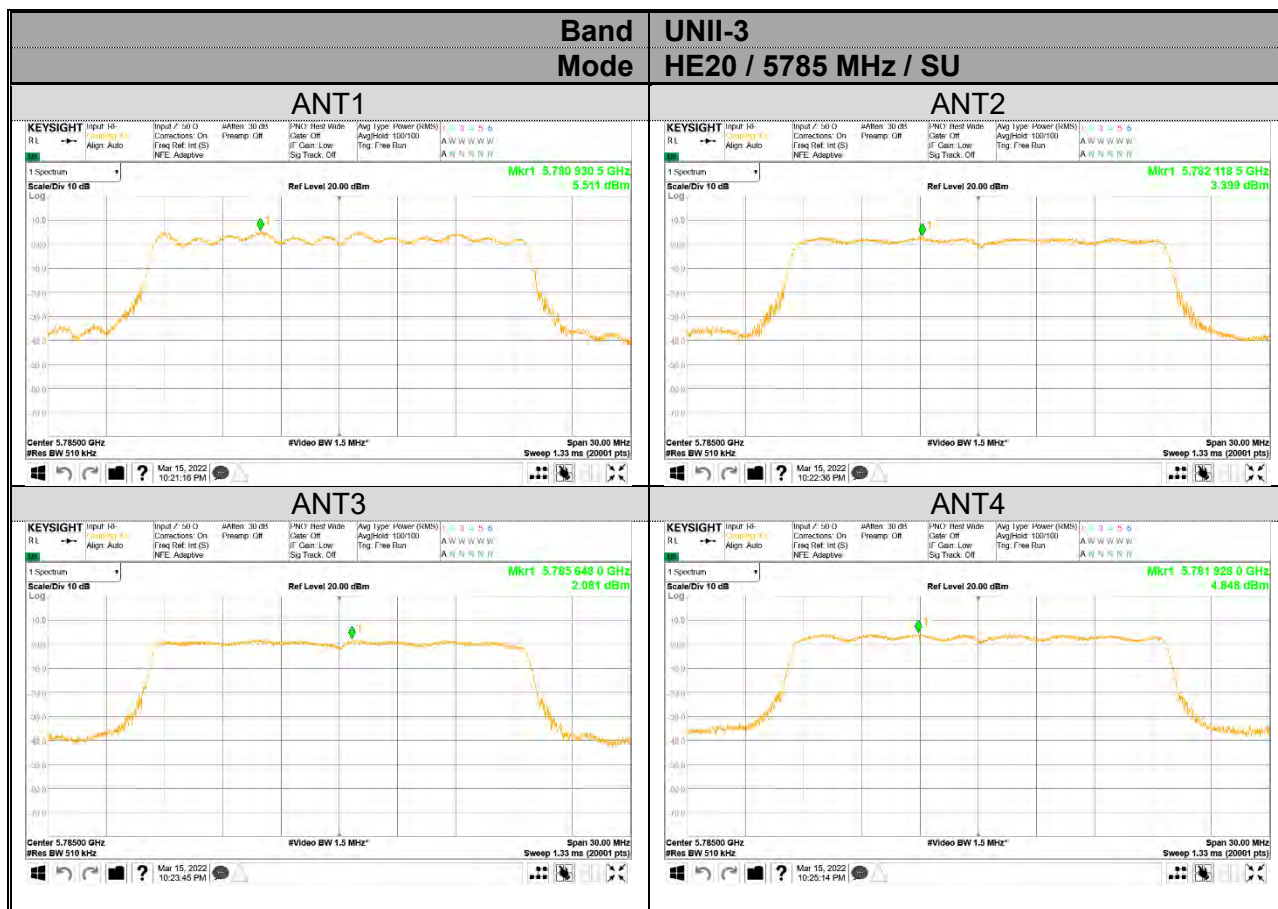


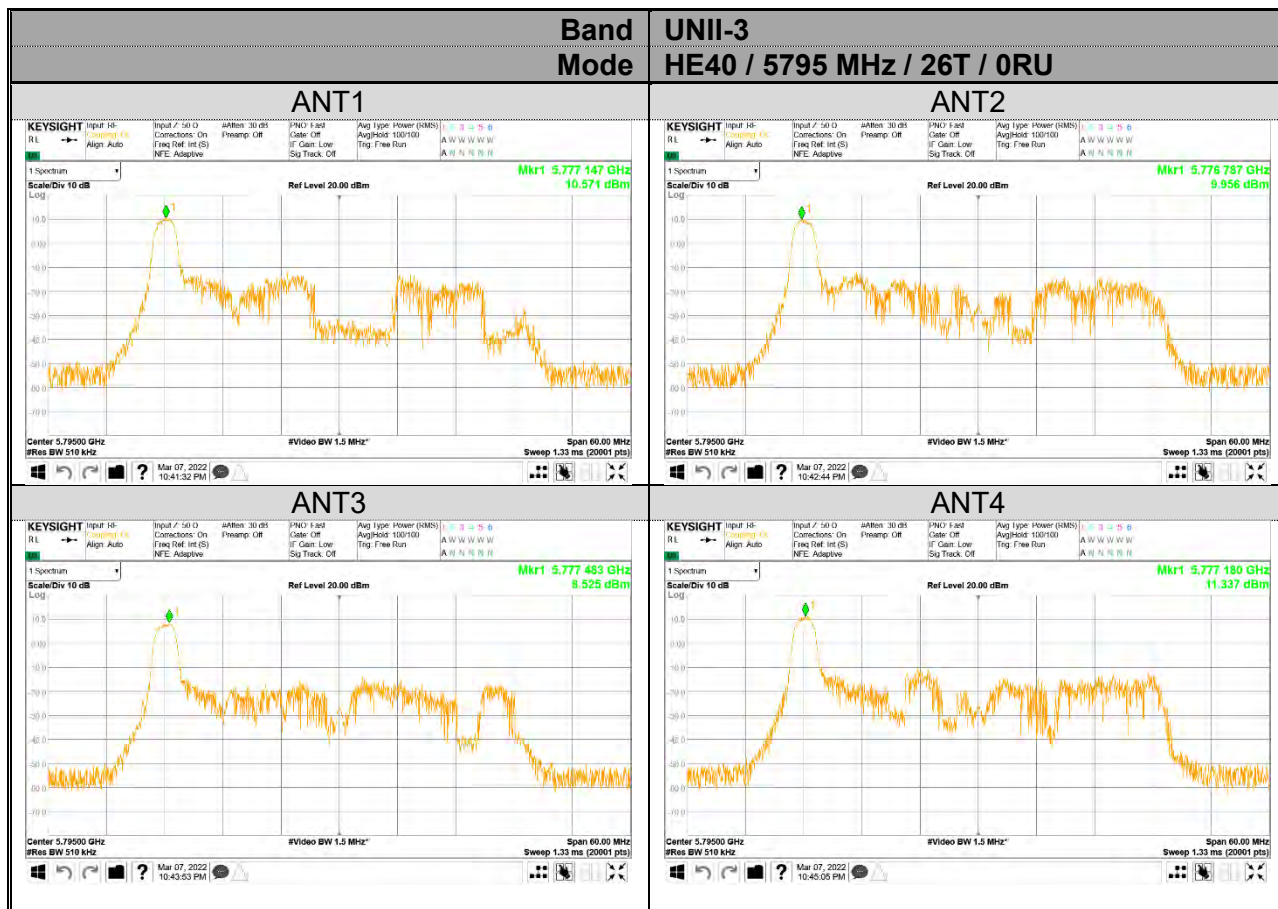


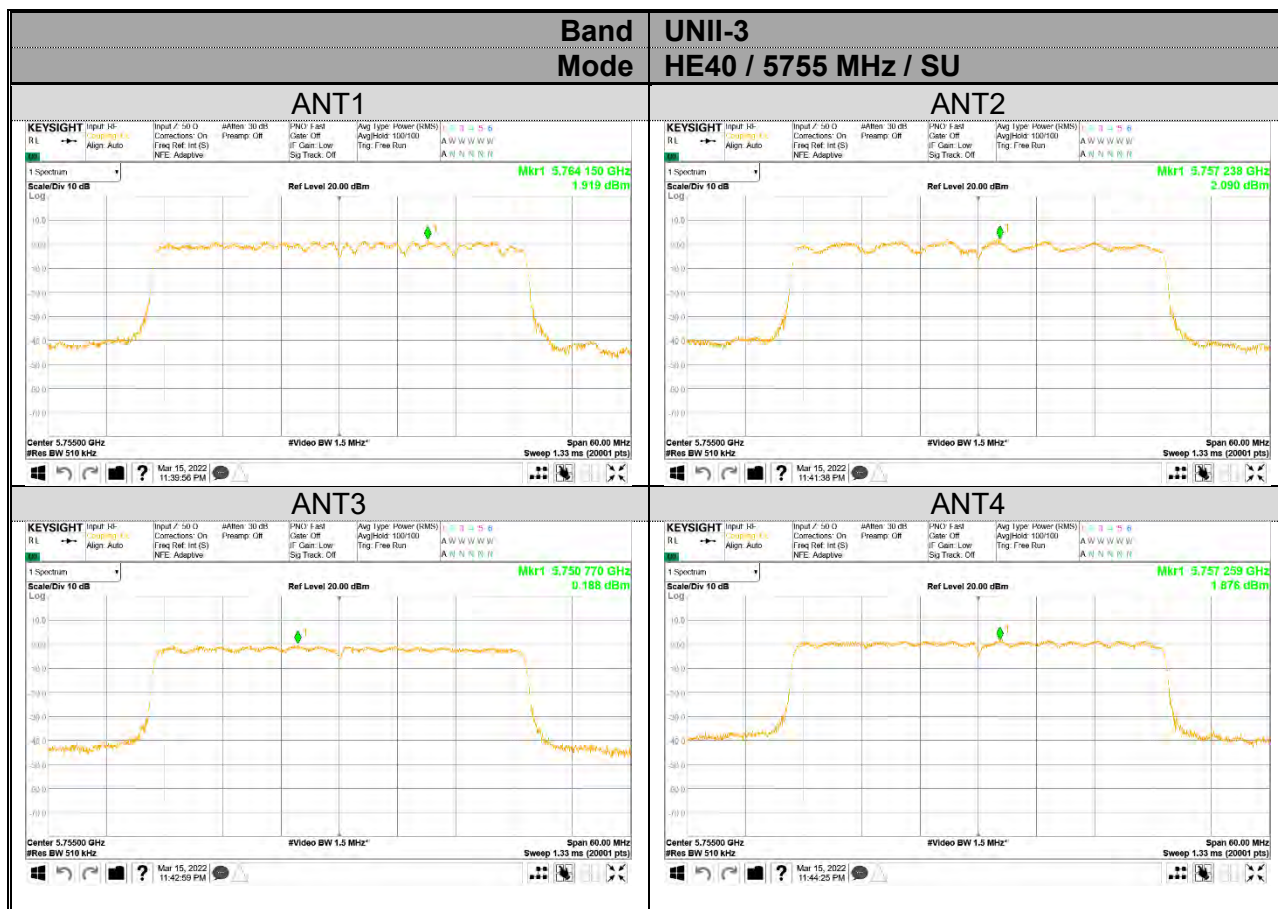


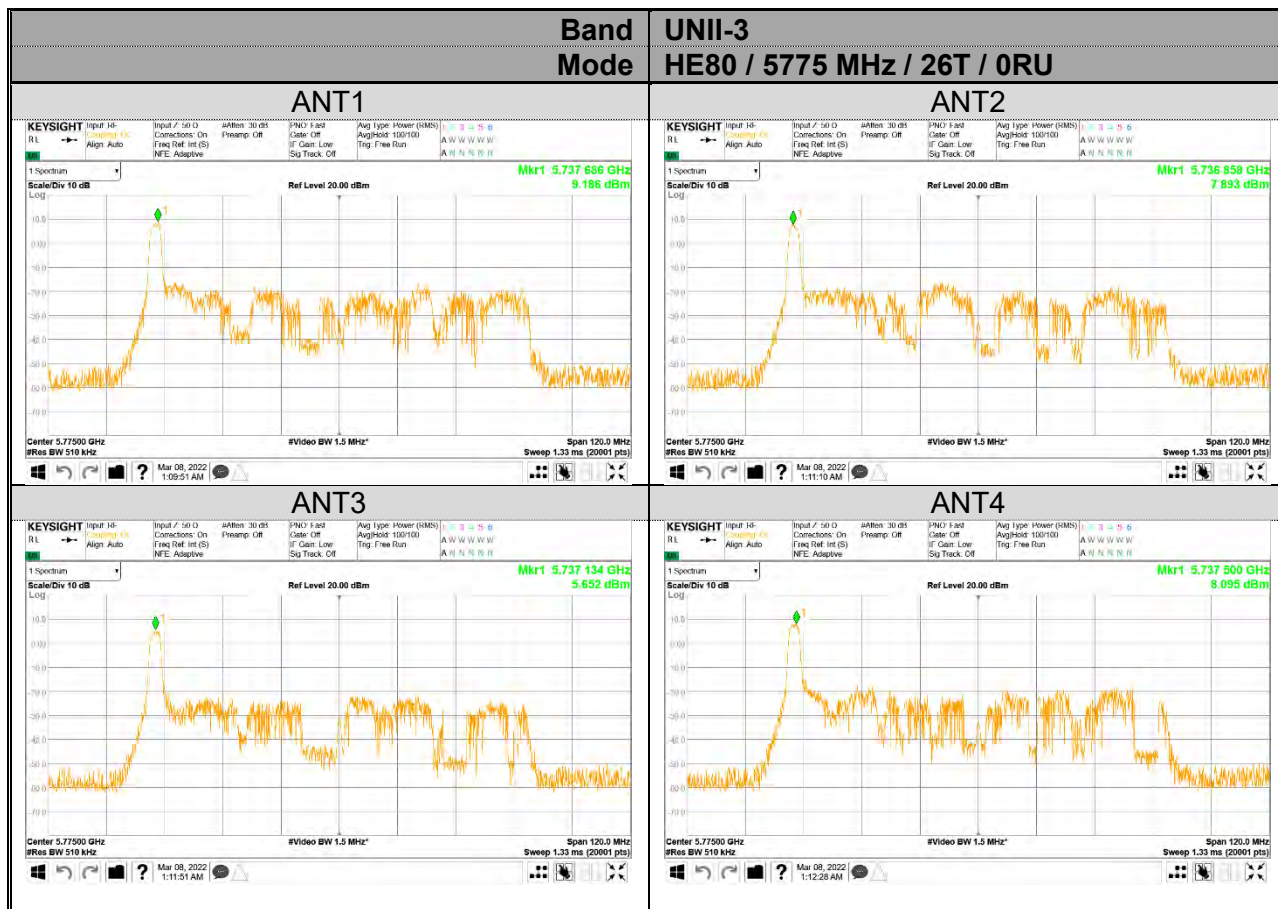
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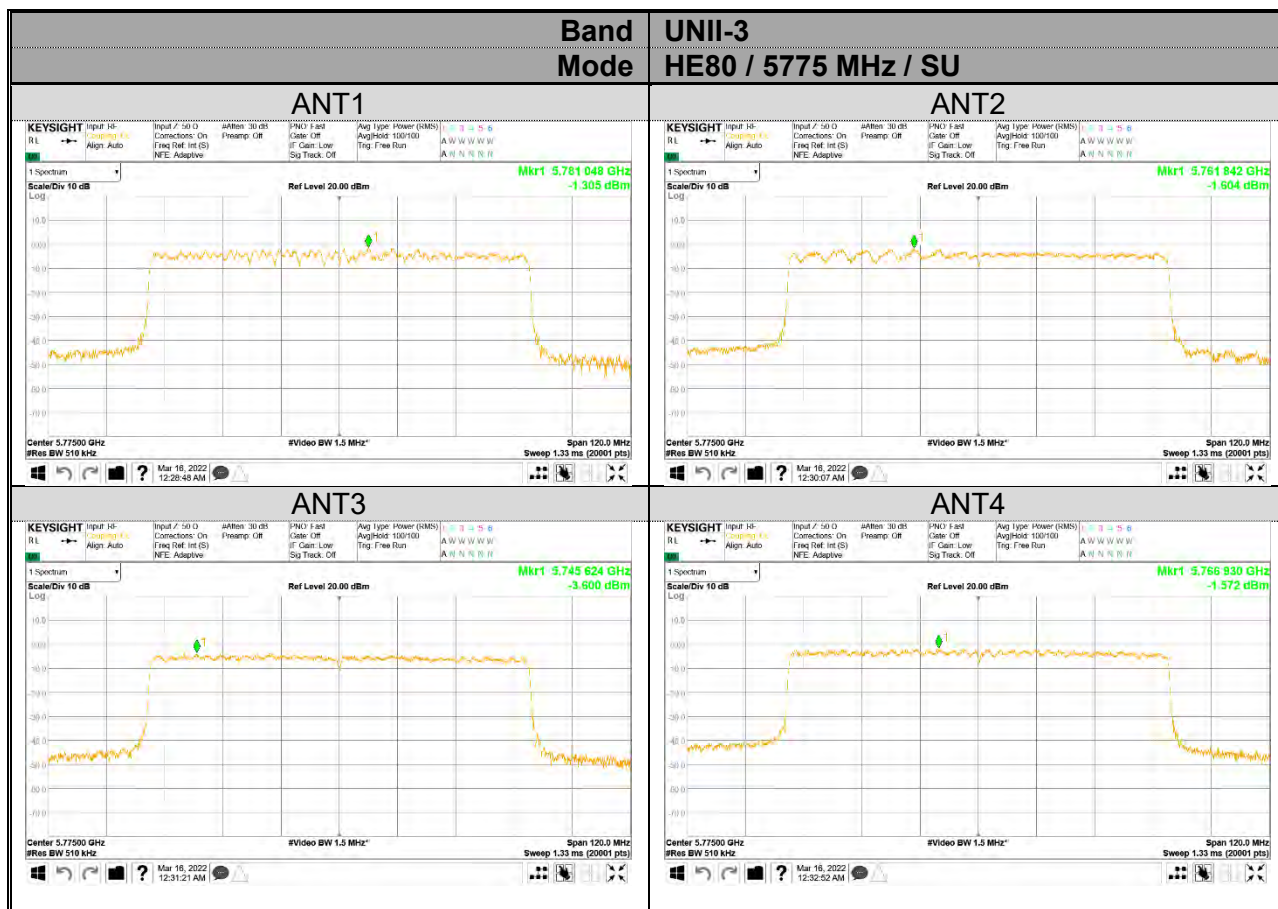




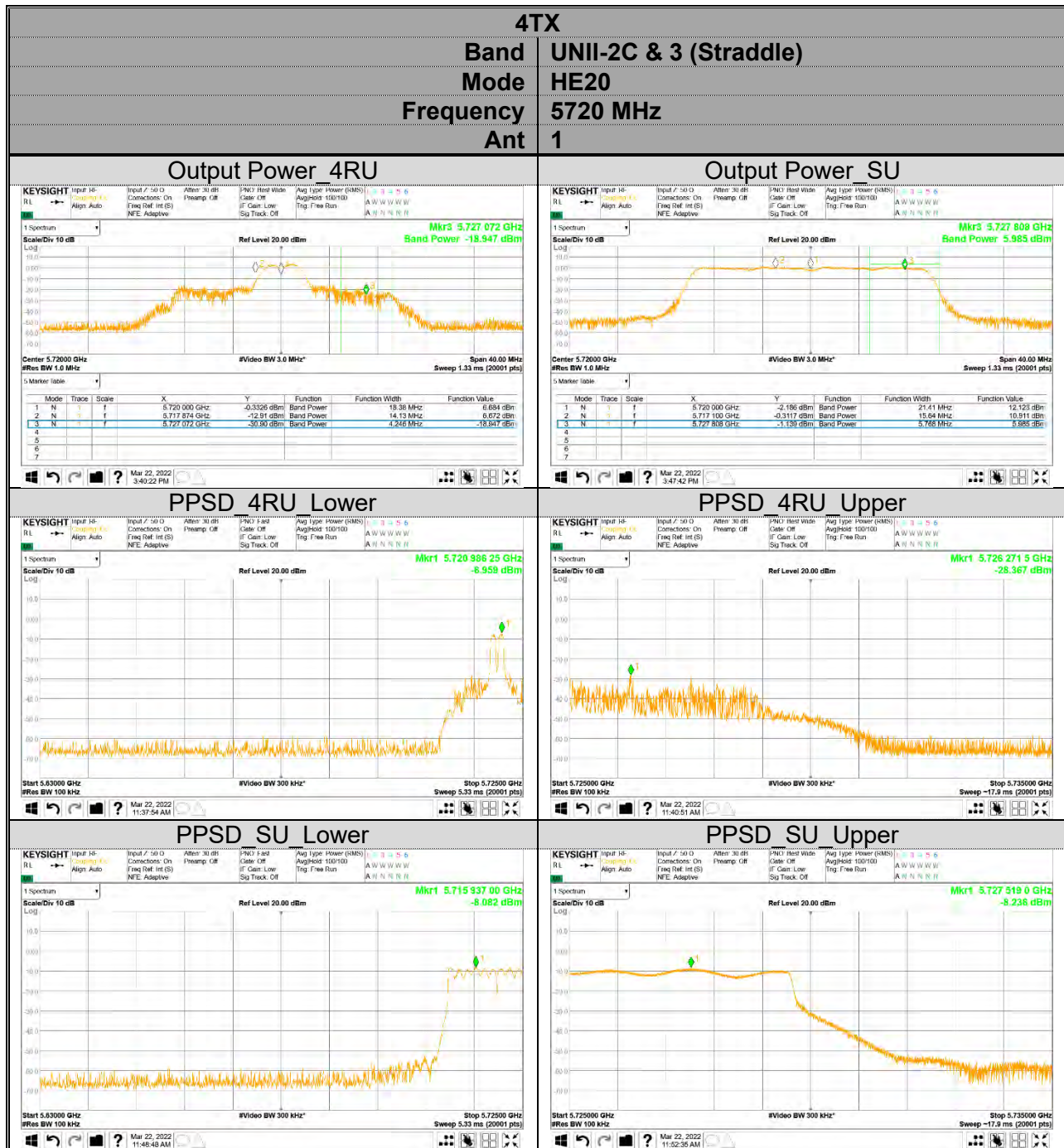


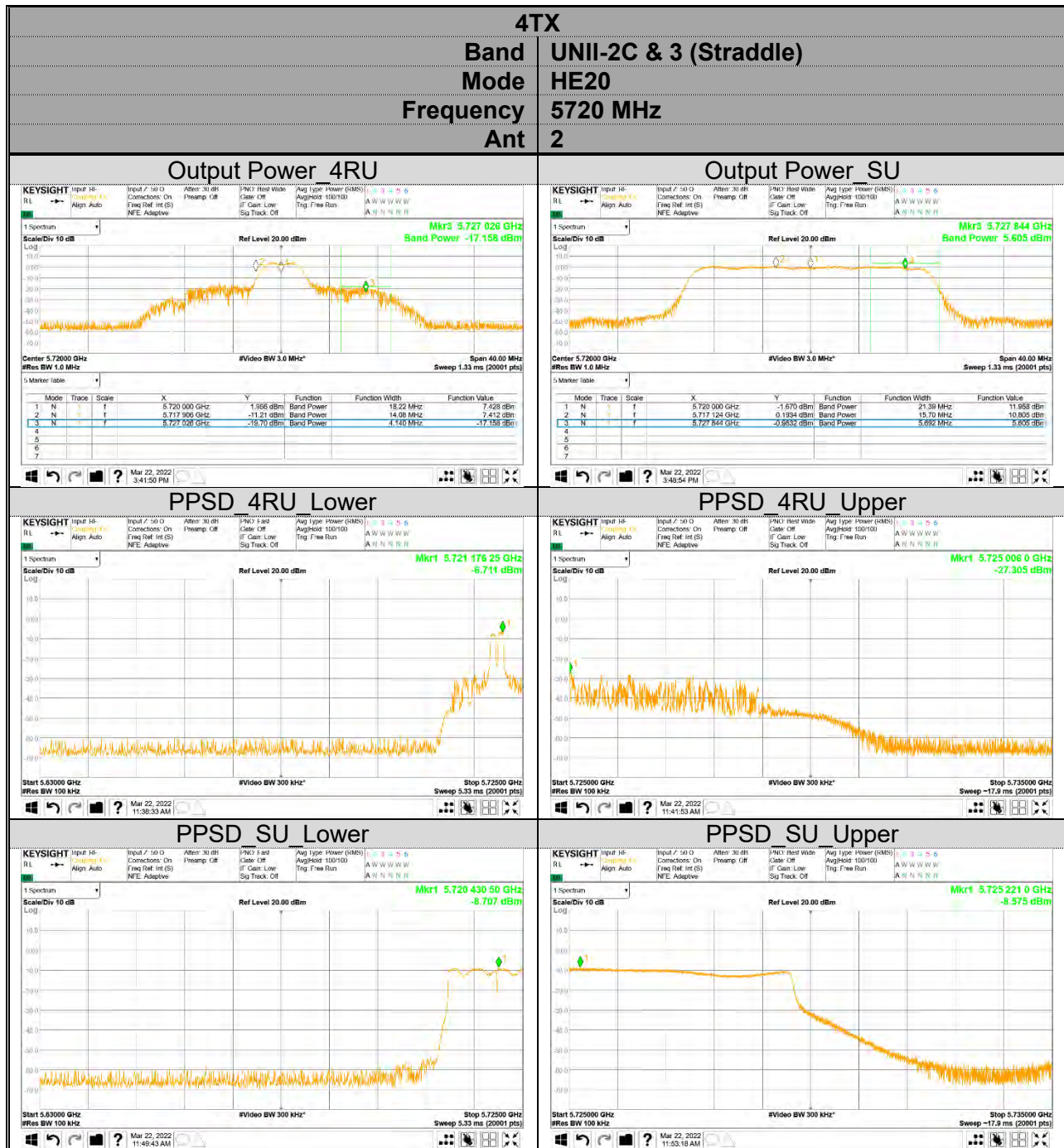


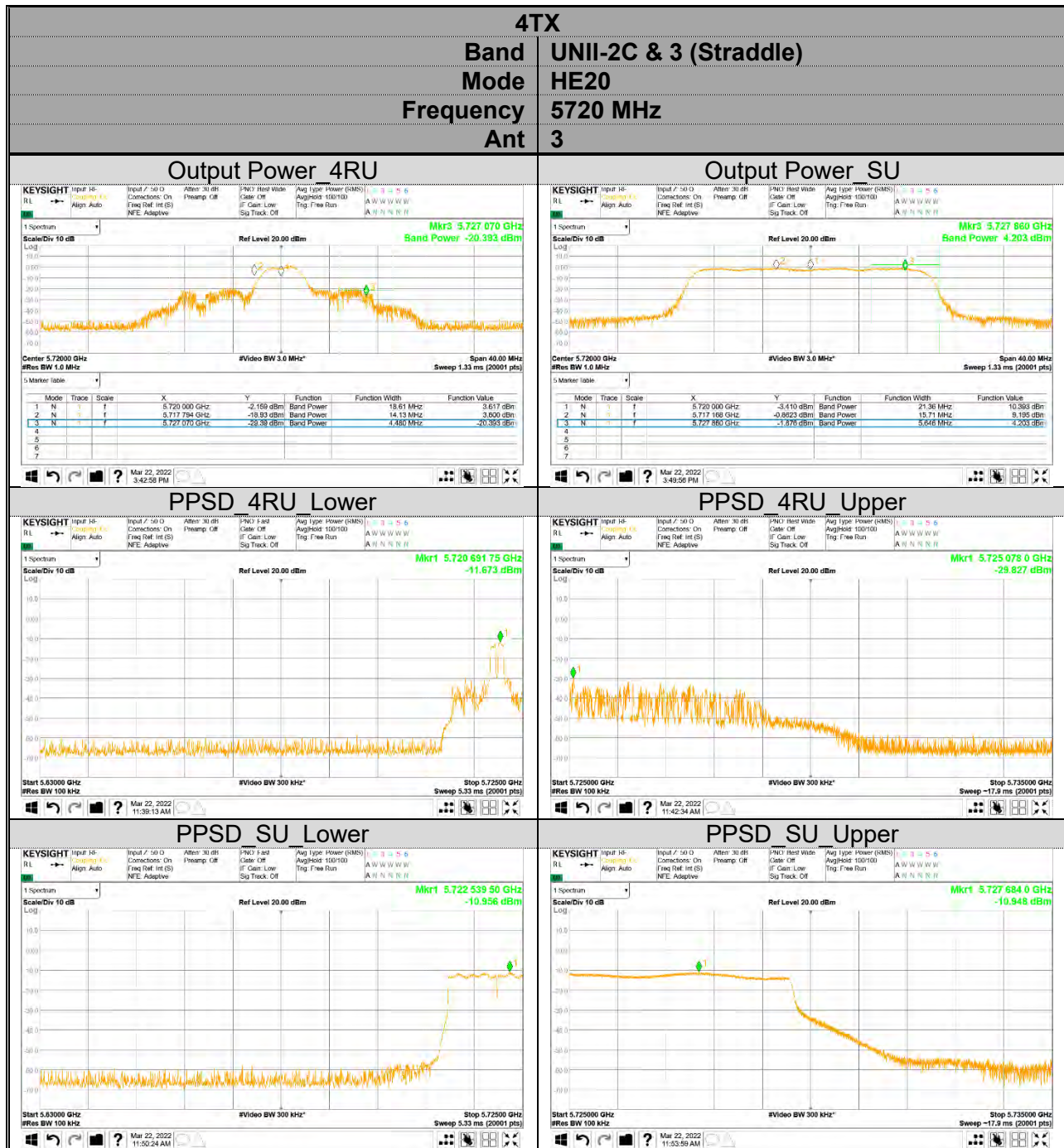


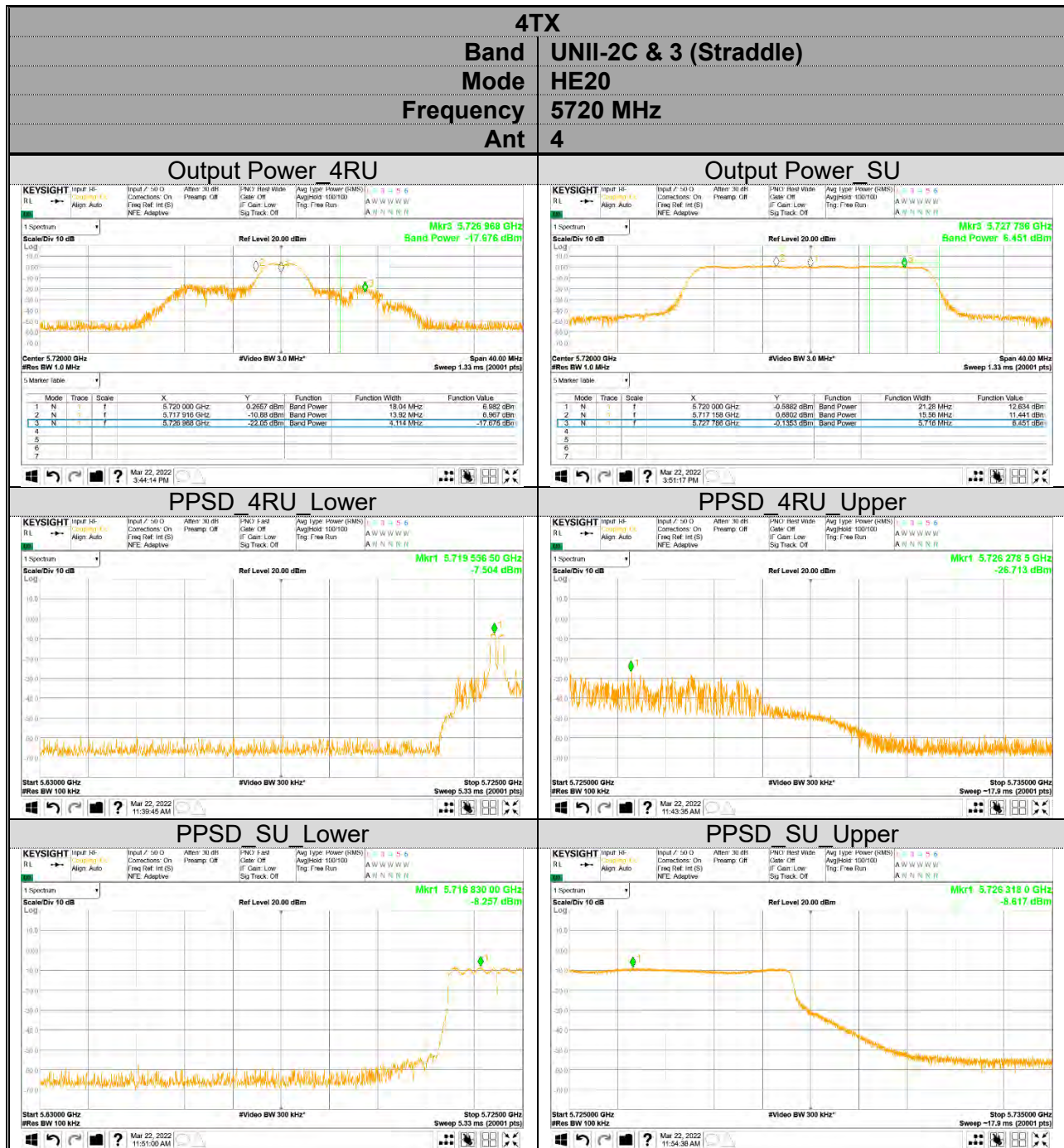


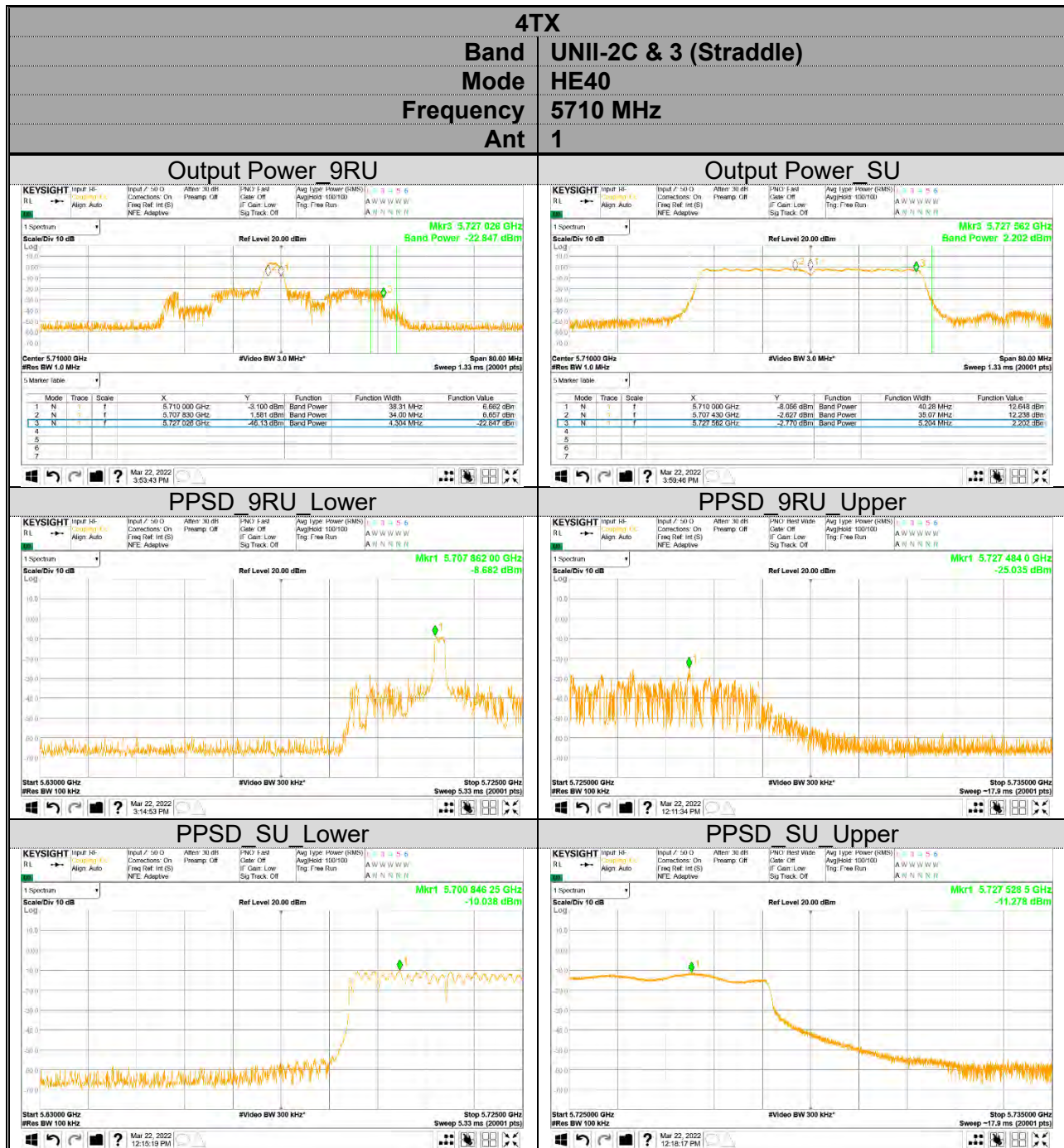
UNII Straddle Ch. Output Power and PSD

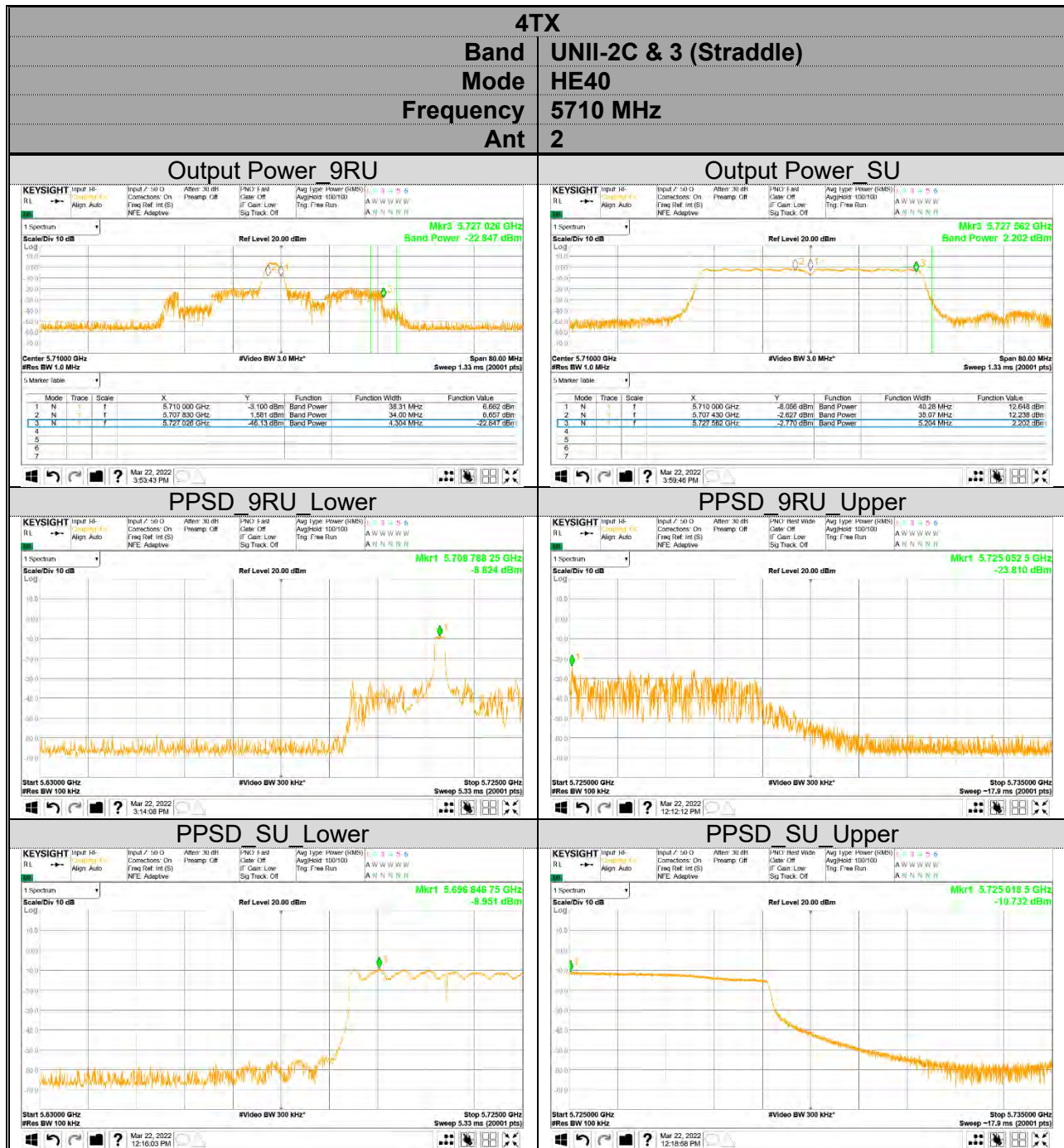


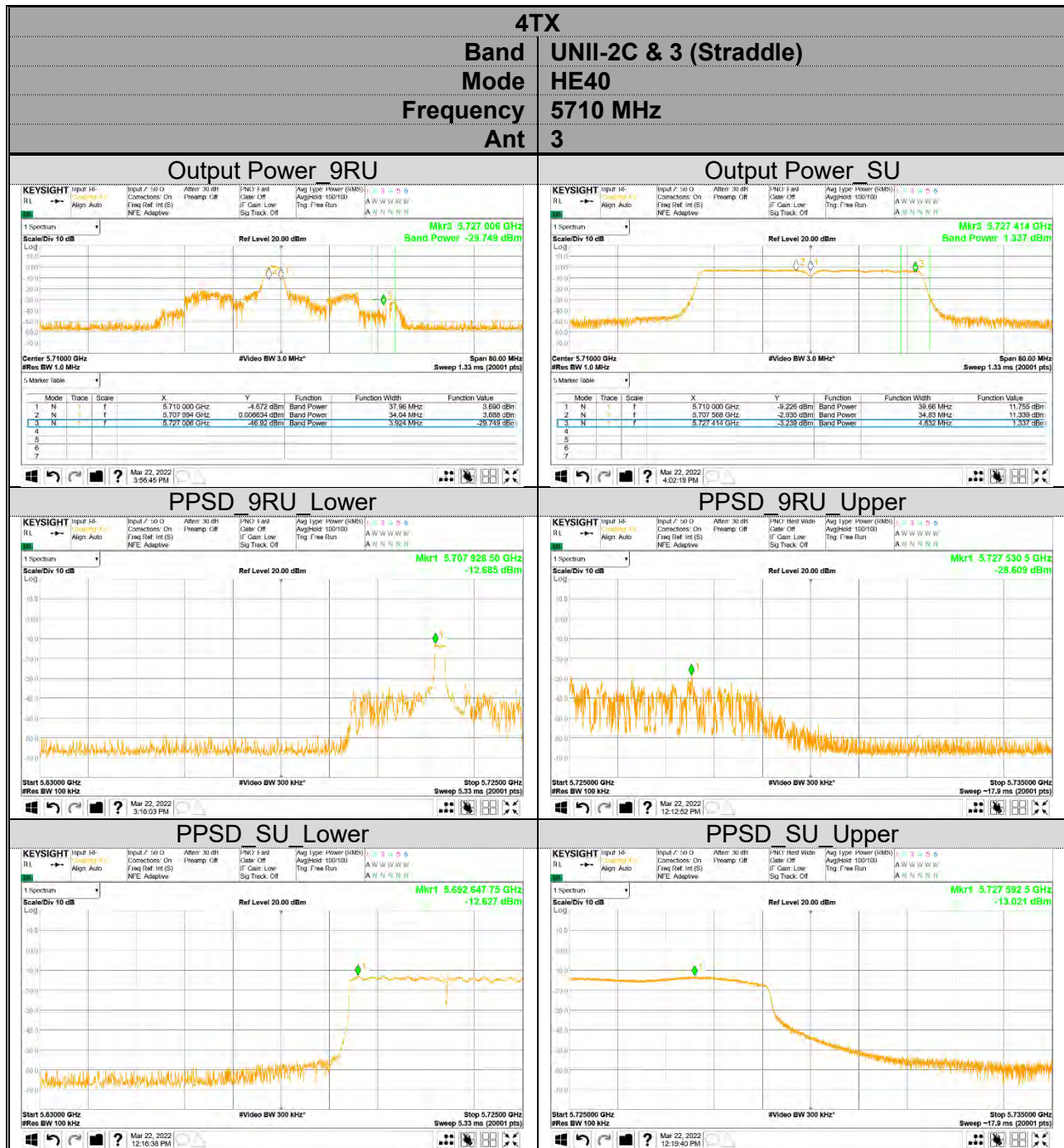


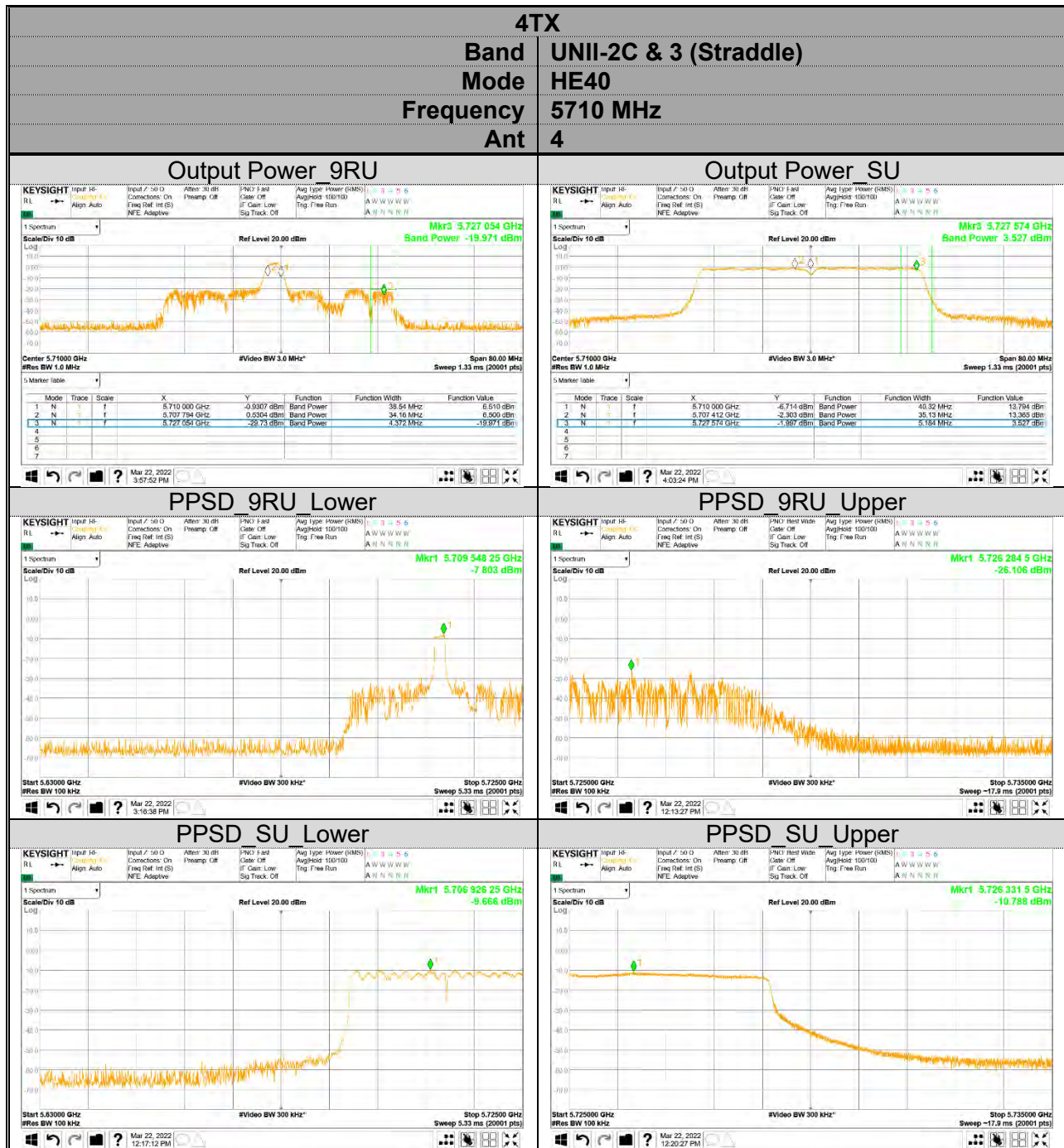


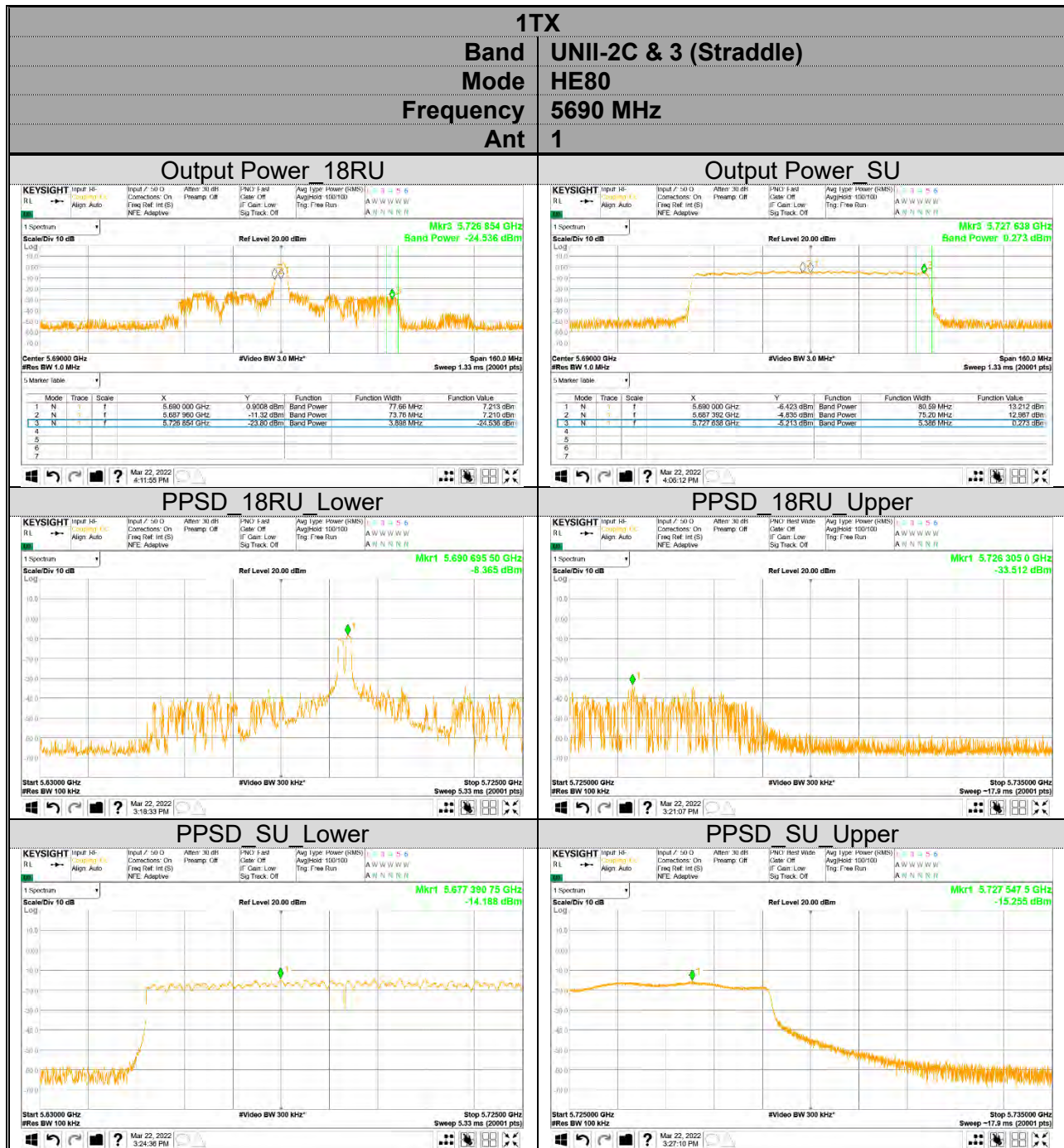


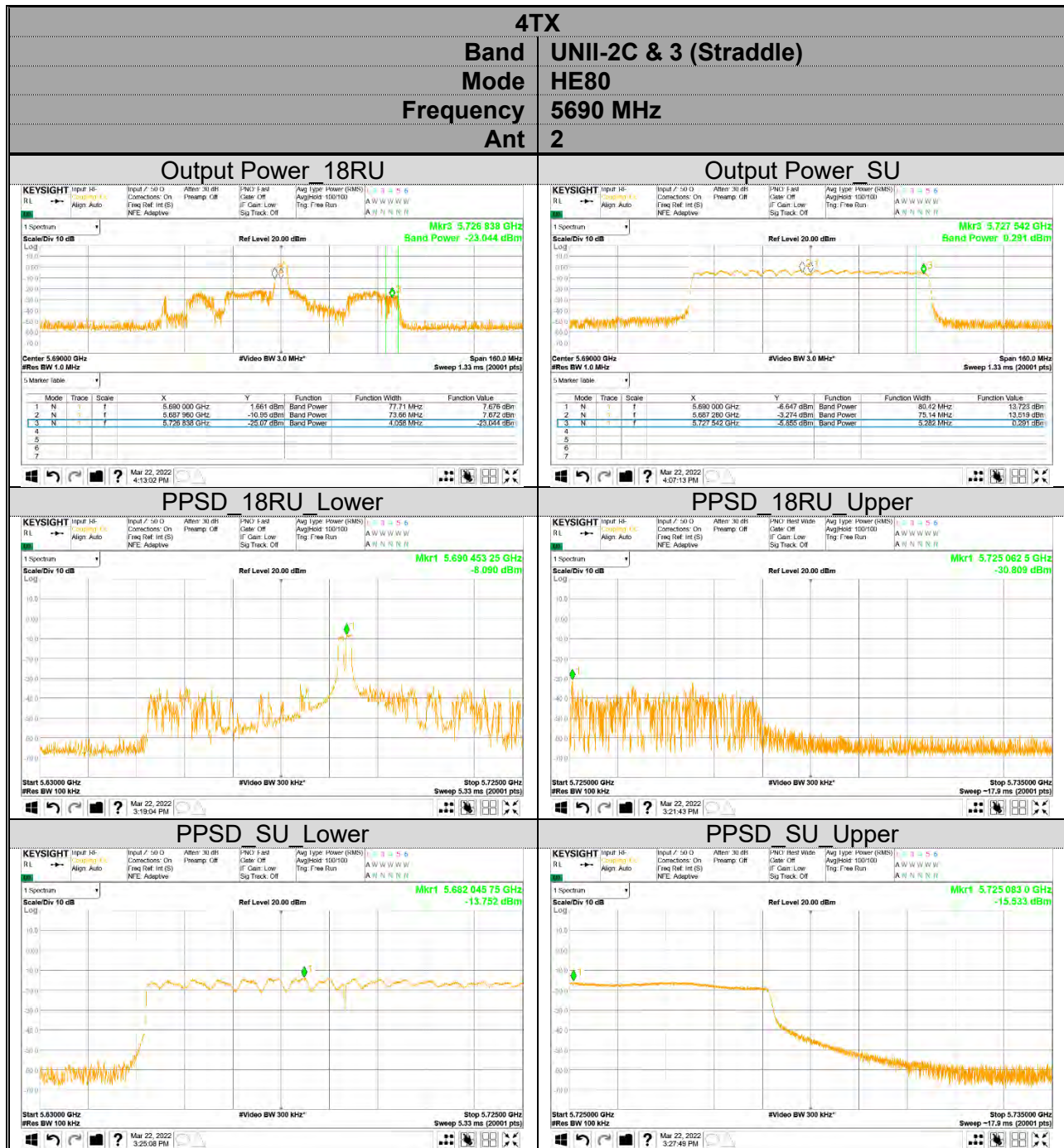


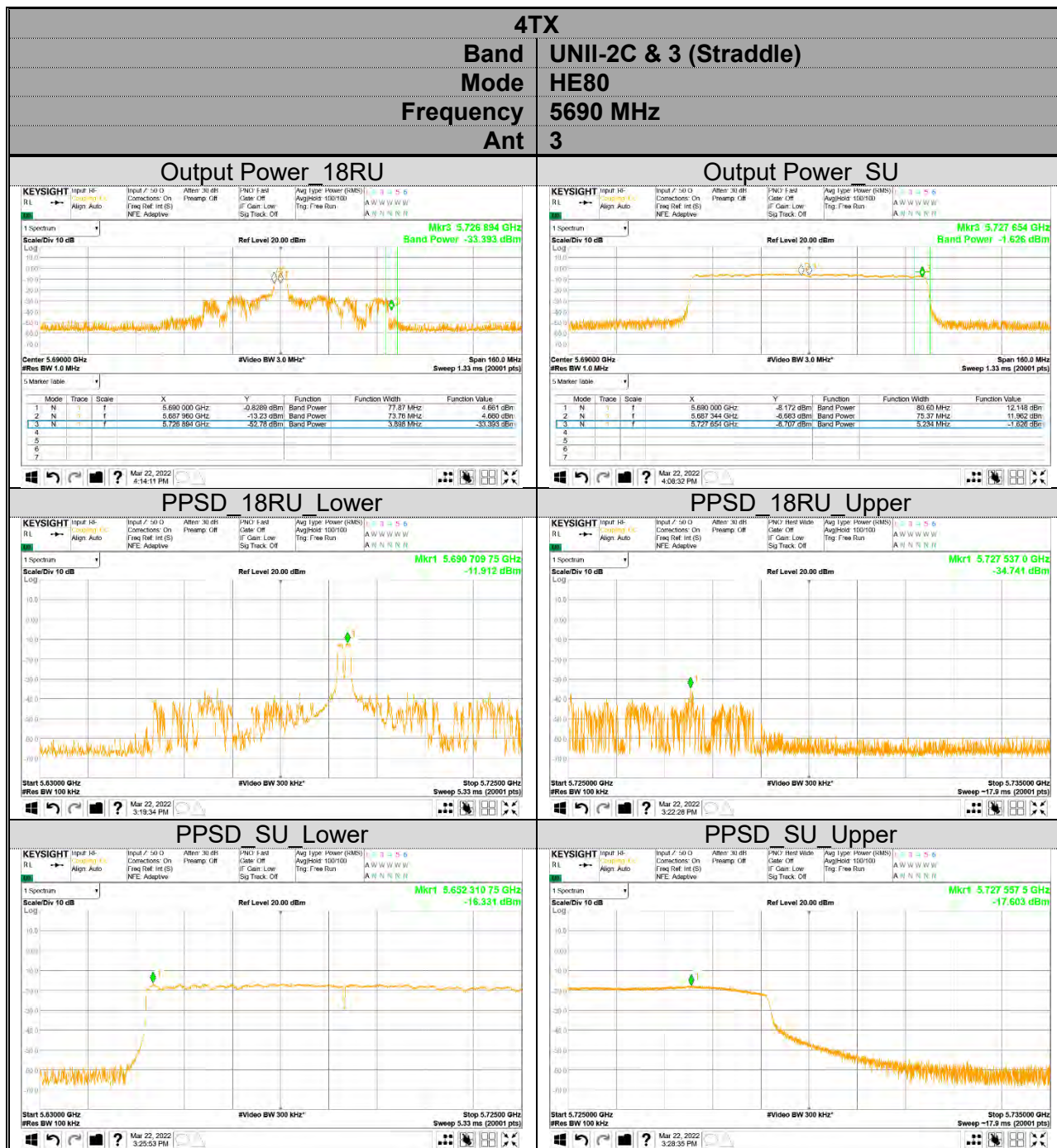


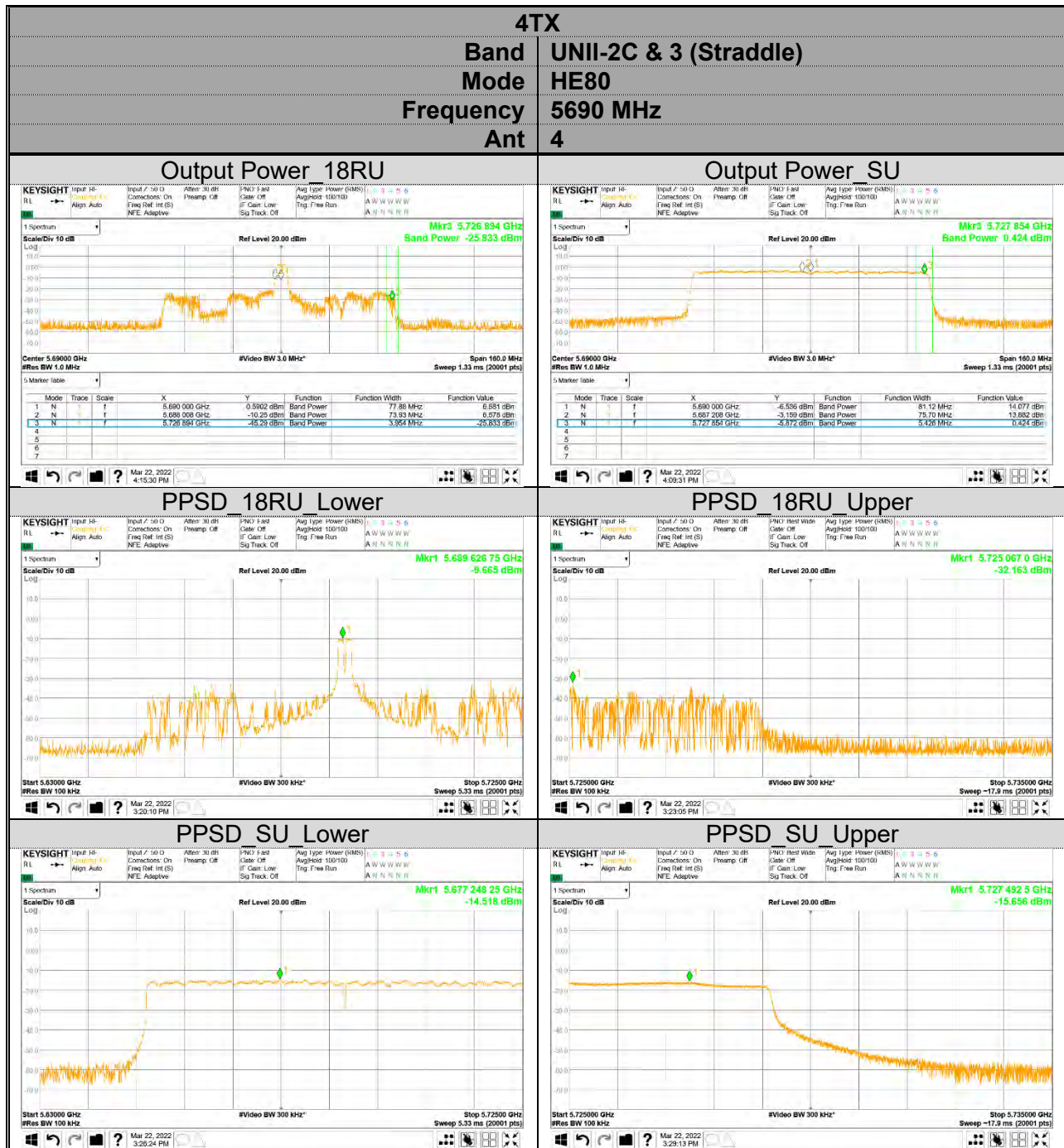












11. TRANSMITTER ABOVE 1 GHz

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)

(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 1 GHz and 150 cm for above 1 GHz. 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 30 MHz 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 9 kHz to 30 MHz; 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.

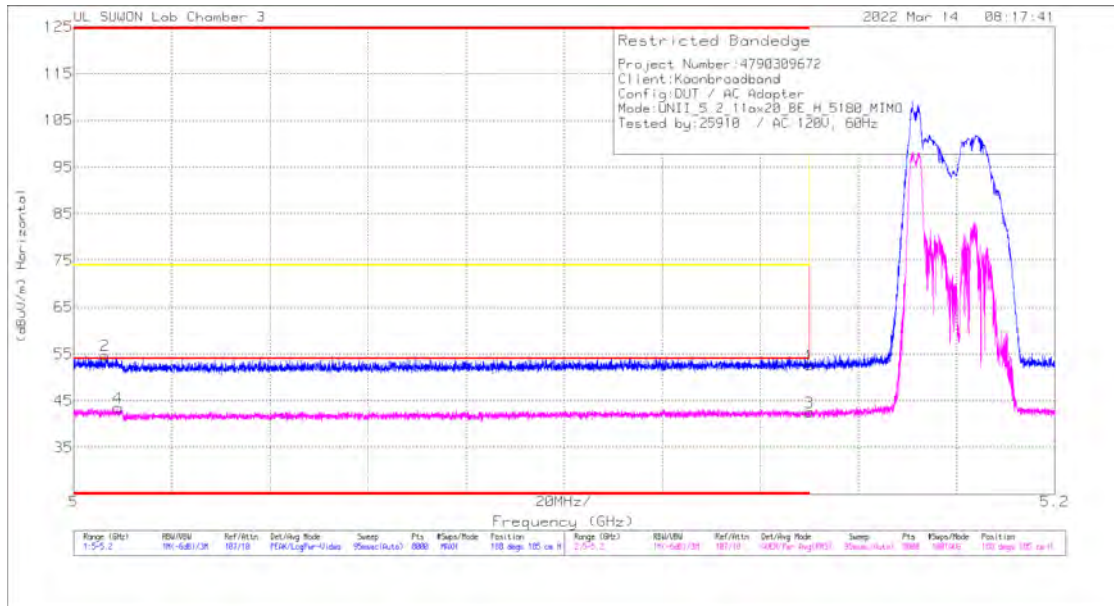
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open field test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field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

11.1. RADIATED TEST

11.1.1. BAND-EDGE_5.2GHz BAND

WORST CASE: 802.11ax HE20 / MIMO / 5180 MHz/ 26Tone / 0 RU)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.14999	39.05	Pk	34.8	-21.2	0	52.65	-	-	74	-21.35	188	185	H
2	* 5.00638	41.29	Pk	34.7	-21.2	0	54.79	-	-	74	-19.21	188	185	H
3	* 5.14999	28.98	RMS	34.8	-21.2	0	42.58	54	-11.42	-	-	188	185	H
4	* 5.00908	30.06	RMS	34.7	-21.2	0	43.56	54	-10.44	-	-	188	185	H

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

Pk - Peak detector

RMS - RMS detection

BANDEDGE TEST DATA

Mode	Freq. [MHz]	Tone / RU	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dB]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11ax(HE20)	5180	26 Tone / 0 RU	MIMO	* 5.00638	41.29	Pk	34.70	-21.20	0	54.79	-	-	74.00	-19.21	188	185	H
				* 5.14999	39.05	Pk	34.80	-21.20	0	52.65	-	-	74.00	-21.35	188	185	H
				* 5.00908	30.06	RMS	34.70	-21.20	0	43.56	54.00	-10.44	-	-	188	185	H
				* 5.14999	28.98	RMS	34.80	-21.20	0	42.58	54.00	-11.42	-	-	188	185	H
				* 5.07173	41.07	Pk	34.70	-21.20	0	54.57	-	-	74.00	-19.43	59	195	V
				* 5.14999	38.37	Pk	34.80	-21.20	0	51.97	-	-	74.00	-22.03	59	195	V
				* 5.00398	29.83	RMS	34.70	-21.20	0	43.33	54.00	-10.67	-	-	59	195	V
				* 5.14999	28.49	RMS	34.80	-21.20	0	42.09	54.00	-11.91	-	-	59	195	V

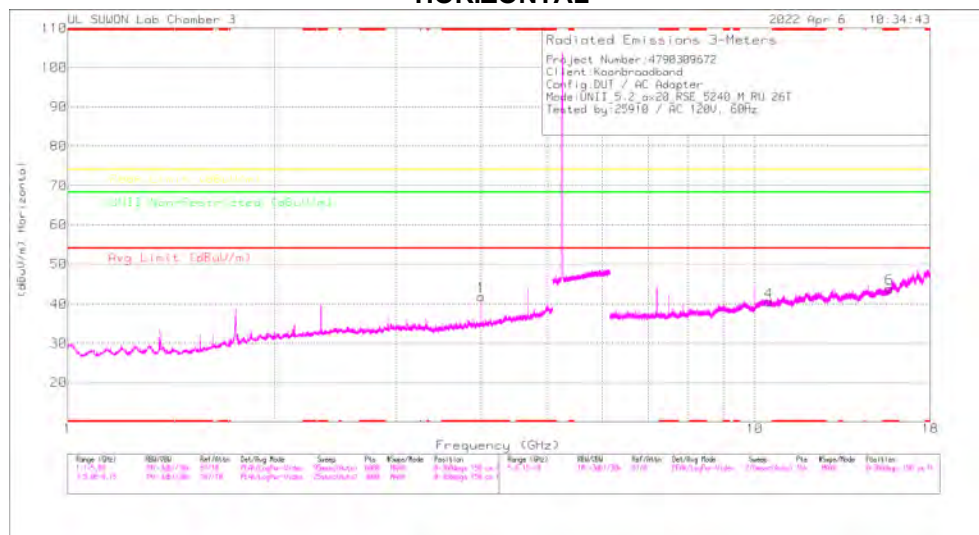
Note1. Pk - Peak detector, RMS - RMS detection

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

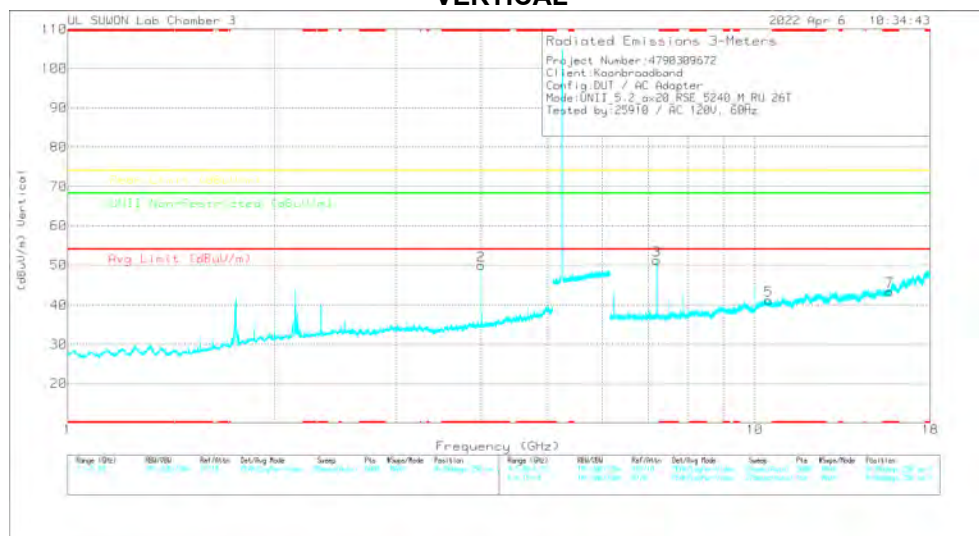
11.1.2. HARMONICS AND SPURIOUS EMISSIONS_5.2GHz BAND

WORST CASE: 802.11ax HE20 / 26 T / MIMO / 5240 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.

5240 MHz DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_LP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
* 4.00007	48.49	PK-U	33.9	-32.1	50.29	-	-	74	-23.71	-	-	306	388	H
* 3.99998	43.7	ADR	33.9	-32.1	45.5	54	-8.5	-	-	-	-	306	388	H
* 4.00006	51.95	PK-U	33.9	-32.1	53.75	-	-	74	-20.25	-	-	4	106	V
* 4.00001	48.76	ADR	33.9	-32.1	50.56	54	-3.44	-	-	-	-	4	106	V

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

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	6GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
7.19999	43.26	PK-U	36.1	-25.8	53.58	-	-	-	-	68.2	-14.62	13	279	V

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

Note: In the above emissions, frequencies other than harmonic are local oscillator generated during product operation regardless of RF transmission and were measured only in worst mode.

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

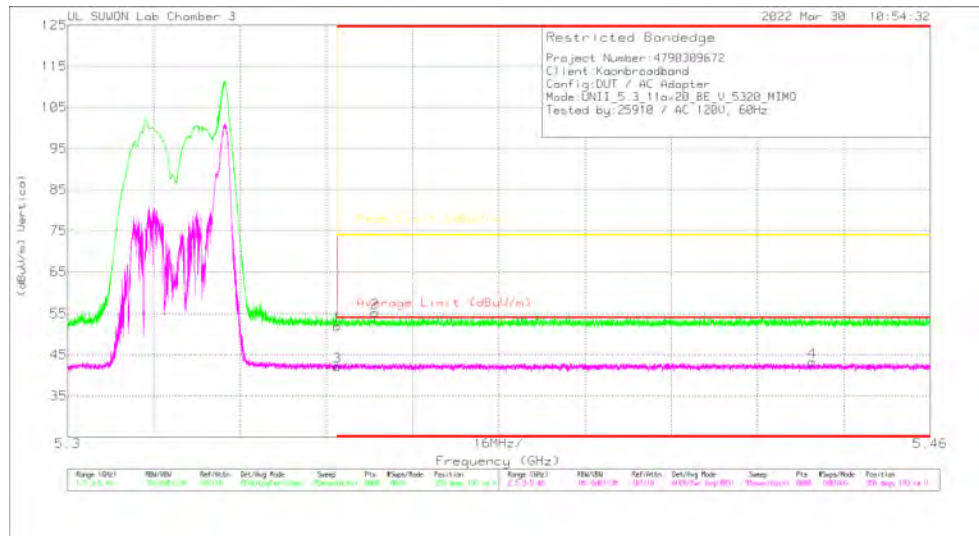
Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Non-Restricted [dBuV/m]	Margin [dB]	Altitude [Degs]	Height [cm]	Polarity
802.11ax(HE20)	5180	MIMO	10.372	33.55	PK-U	38.10	-21.40	0	50.25	-	-	-	-	68.20	-17.95	188	362	H
			* 15.54264	34.18	PK-U	40.20	-21.90	0	52.48	-	-	74.00	-21.52	-	-	283	260	H
			* 15.53992	22.89	ADR	40.20	-21.90	0	41.19	54.00	-12.81	-	-	-	-	283	260	H
			10.360	34.26	PK-U	38.10	-21.30	0	51.06	-	-	-	-	68.20	-17.14	57	221	V
			* 15.53908	34.31	PK-U	40.20	-21.90	0	52.61	-	-	74.00	-21.39	-	-	2	204	V
			* 15.53982	23.10	ADR	40.20	-21.90	0	41.40	54.00	-12.60	-	-	-	-	2	204	V
	5200	MIMO	10.400	35.07	PK-U	38.10	-21.40	0	51.77	-	-	-	-	68.20	-16.43	67	100	H
			* 15.5957	34.04	PK-U	40.30	-21.80	0	52.54	-	-	74.00	-21.46	-	-	289	261	H
			* 15.60078	22.92	ADR	40.30	-21.80	0	41.42	54.00	-12.58	-	-	-	-	289	261	H
			10.400	34.59	PK-U	38.10	-21.40	0	51.29	-	-	-	-	68.20	-16.91	55	218	V
			* 15.60759	34.30	PK-U	40.30	-21.70	0	52.90	-	-	74.00	-21.10	-	-	258	118	V
			* 15.60681	22.81	ADR	40.30	-21.70	0	41.41	54.00	-12.59	-	-	-	-	258	118	V
	5240	MIMO	10.478	33.50	PK-U	38.20	-21.50	0	50.20	-	-	-	-	68.20	-18.00	65	100	H
			* 15.71942	34.32	PK-U	40.50	-21.50	0	53.32	-	-	74.00	-20.68	-	-	340	115	H
			* 15.72855	22.74	ADR	40.50	-21.50	0	41.74	54.00	-12.26	-	-	-	-	340	115	H
			10.480	34.45	PK-U	38.20	-21.50	0	51.15	-	-	-	-	68.20	-17.05	54	217	V
			* 15.7218	34.27	PK-U	40.50	-21.60	0	53.17	-	-	74.00	-20.83	-	-	329	385	V
			* 15.72897	22.67	ADR	40.50	-21.50	0	41.67	54.00	-12.33	-	-	-	-	329	385	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

11.1.3. BAND-EDGE_5.3GHz BAND

WORST CASE: 802.11axHE20 / MIMO / 5320 MHz/ 26Tone / 8 RU)

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35001	37.58	Pk		-20.7	51.98	-	-	74	-22.02	356	193	V
2	* 5.35699	40.97	Pk		-20.8	55.27	-	-	74	-18.73	356	193	V
3	* 5.35001	27.79	RMS		-20.7	42.19	54	-11.81	-	-	356	193	V
4	* 5.43814	28.49	RMS		-20.5	43.29	54	-10.71	-	-	356	193	V

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

Pk - Peak detector

RMS - RMS detection

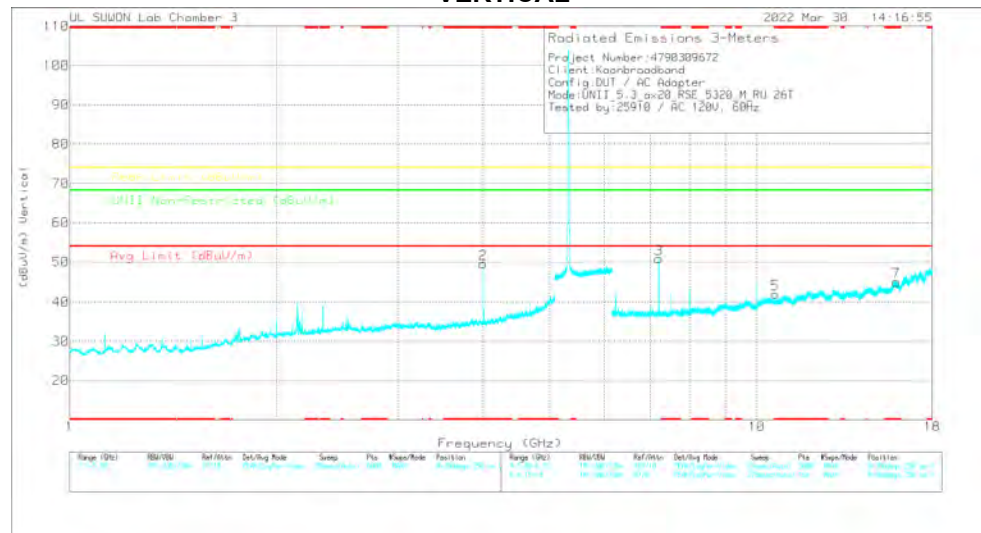
BANDEDGE TEST DATA

Mode	Freq. [MHz]	Tone / RU	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
802.11ax(HE20)	5320	26 Tone / 8 RU	MIMO	* 5.35001	38.35	Pk	35.10	-20.70	0	52.75	-	-	74.00	-21.25	185	275	H
				* 5.35691	40.64	Pk	35.10	-20.80	0	54.94	-	-	74.00	-19.06	185	275	H
				* 5.35001	28.25	RMS	35.10	-20.70	0	42.65	54.00	-11.35	-	-	185	275	H
				* 5.37369	28.87	RMS	35.10	-20.70	0	43.27	54.00	-10.73	-	-	185	275	H
				* 5.35001	37.58	Pk	35.10	-20.70	0	51.98	-	-	74.00	-22.02	356	193	V
				* 5.35699	40.97	Pk	35.10	-20.80	0	55.27	-	-	74.00	-18.73	356	193	V
				* 5.35001	27.79	RMS	35.10	-20.70	0	42.19	54.00	-11.81	-	-	356	193	V
				* 5.43814	28.49	RMS	35.30	-20.50	0	43.29	54.00	-10.71	-	-	356	193	V

Note1. Pk - Peak detector, RMS - RMS detector

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

HORIZONTAL



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5320 MHz DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_LP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
* 4.00009	48.87	PK-U	33.9	-32.1	50.67	-	-	74	-23.33	-	-	307	100	H
* 4.00004	43.91	ADR	33.9	-32.1	45.71	54	-8.29	-	-	-	-	307	100	H
* 4.00012	52.1	PK-U	33.9	-32.1	53.9	-	-	74	-20.1	-	-	10	108	V
* 4.00001	49.11	ADR	33.9	-32.1	50.91	54	-3.09	-	-	-	-	10	108	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

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_LP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
7.20003	43.16	PK-U	36.1	-25.8	53.46	-	-	-	-	68.2	-14.74	16	108	V

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

Note: In the above emissions, frequencies other than harmonic are local oscillator generated during product operation regardless of RF transmission and were measured only in worst mode.

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

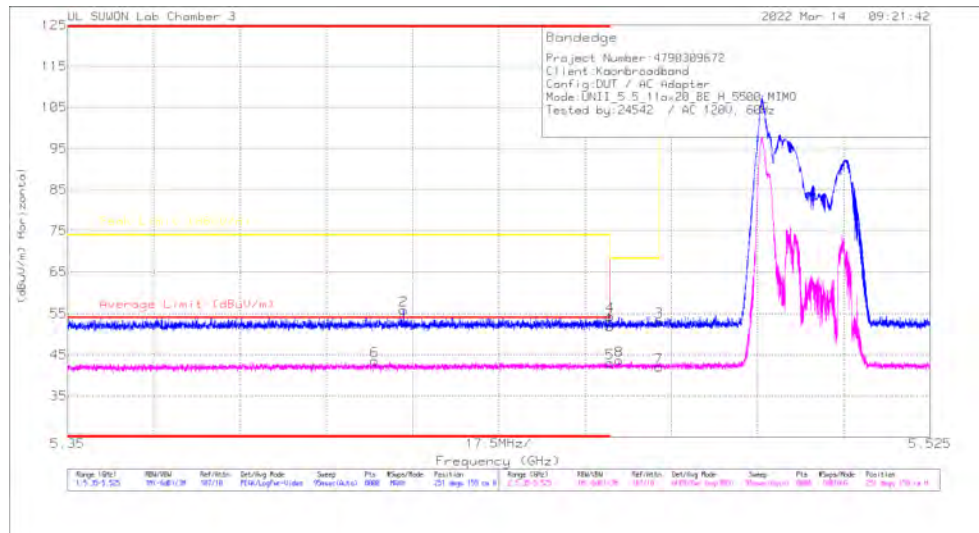
Mode	Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Non-Restricted [dBuV/m]	Margin [dB]	Altitude [Degs]	Height [cm]	Polarity
802.11ax(HE20)	5260	MIMO	10.519	33.86	PK-U	38.20	-21.40	0	50.66	-	-	-	-	68.20	-17.54	64	100	H
			* 15.78865	34.38	PK-U	40.60	-21.30	0	53.88	-	-	74.00	-20.32	-	-	156	103	H
			* 15.77904	22.74	ADR	40.60	-21.40	0	41.94	54.00	-12.06	-	-	-	-	156	103	H
			10.522	36.38	PK-U	38.20	-21.40	0	53.18	-	-	-	-	68.20	-15.02	159	101	V
			* 15.78647	34.52	PK-U	40.60	-21.30	0	53.82	-	-	74.00	-20.18	-	-	32	239	V
			* 15.78354	22.81	ADR	40.60	-21.30	0	42.11	54.00	-11.89	-	-	-	-	32	239	V
	5300	MIMO	* 10.60384	32.98	PK-U	38.30	-21.50	0	49.78	-	-	74.00	-24.22	-	-	58	151	H
			* 10.60005	22.04	ADR	38.30	-21.50	0	38.84	54.00	-15.16	-	-	-	-	58	151	H
			* 15.90294	33.69	PK-U	40.80	-21.00	0	53.49	-	-	74.00	-20.51	-	-	0	250	H
			* 15.90374	22.56	ADR	40.80	-21.00	0	42.36	54.00	-11.64	-	-	-	-	0	250	H
			* 10.60334	33.25	PK-U	38.30	-21.50	0	50.05	-	-	74.00	-23.95	-	-	48	211	V
			* 10.60006	22.80	ADR	38.30	-21.50	0	39.60	54.00	-14.40	-	-	-	-	48	211	V
	5320	MIMO	* 15.90661	34.18	PK-U	40.80	-21.00	0	53.98	-	-	74.00	-20.02	-	-	0	250	V
			* 15.9053	22.57	ADR	40.80	-21.00	0	42.37	54.00	-11.63	-	-	-	-	0	250	V
			* 10.64024	32.93	PK-U	38.30	-21.50	0	49.73	-	-	74.00	-24.27	-	-	12	297	H
			* 10.63986	22.08	ADR	38.30	-21.50	0	38.88	54.00	-15.12	-	-	-	-	12	297	H
			* 15.95868	34.10	PK-U	40.90	-20.90	0	54.10	-	-	74.00	-19.90	-	-	275	357	H
			* 15.96607	22.46	ADR	40.90	-20.90	0	42.46	54.00	-11.54	-	-	-	-	275	357	H
			* 10.6437	33.48	PK-U	38.30	-21.60	0	50.18	-	-	74.00	-23.82	-	-	48	211	V
			* 10.64004	22.46	ADR	38.30	-21.50	0	39.26	54.00	-14.74	-	-	-	-	48	211	V
			* 15.96236	33.96	PK-U	40.90	-20.90	0	53.96	-	-	74.00	-20.04	-	-	123	314	V
			* 15.96691	22.52	ADR	40.90	-20.90	0	42.52	54.00	-11.48	-	-	-	-	123	314	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

11.1.5. BAND-EDGE_5.5GHz BAND

WORST CASE: 802.11ax HE20 / MIMO / 5500 MHz/ 26Tone / 0 RU)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.45998	37.19	Pk	35.3	-20.6	51.89	-	-	74	-22.11	251	159	H
2	* 5.41815	41.25	Pk	35.2	-20.6	55.85	-	-	74	-18.15	251	159	H
3	5.46998	38.36	Pk	35.3	-20.6	53.06	-	-	68.2	-15.14	251	159	H
4	5.46009	39.68	Pk	35.3	-20.6	54.38	-	-	68.2	-13.82	251	159	H
5	* 5.45998	28.3	RMS	35.3	-20.6	43	54	-11	-	-	251	159	H
6	* 5.41229	28.97	RMS	35.2	-20.6	43.57	54	-10.43	-	-	251	159	H
7	5.46998	27.33	RMS	35.3	-20.6	42.03	-	-	-	-	251	159	H
8	5.46186	28.9	RMS	35.3	-20.6	43.6	-	-	-	-	251	159	H

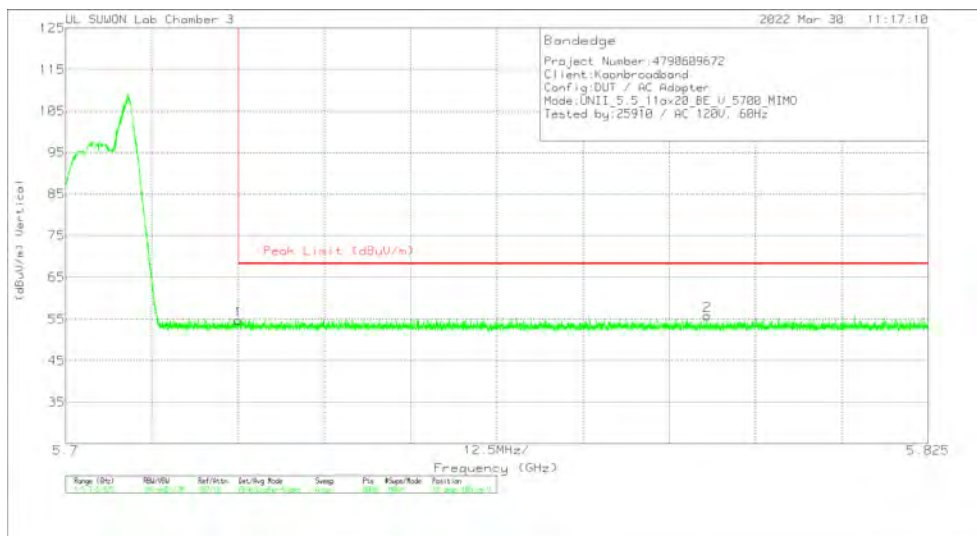
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

WORST CASE: 802.11ax HE20 / MIMO / 5700 MHz/ 26Tone / 8 RU)

VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.02	Pk	35.7	-20	54.72	68.2	-13.48	18	100	V
2	5.79298	40.03	Pk	35.8	-19.9	55.93	68.2	-12.27	18	100	V

Pk - Peak detector

BANDEDGE TEST DATA

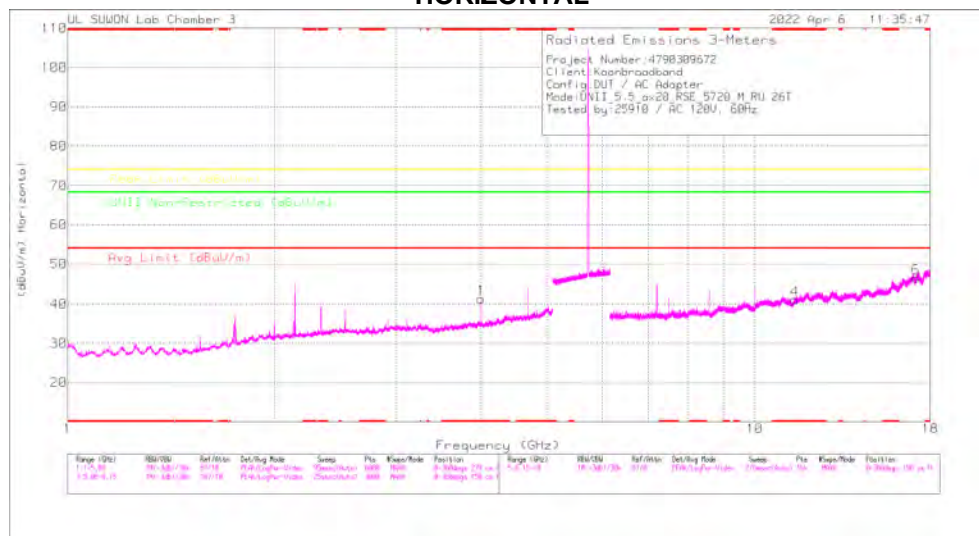
Mode	Freq. [MHz]	Tone / RU	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11ax(HE20)	5500	26 Tone / 0 RU	MIMO	* 5.45998	37.19	Pk	35.30	-20.60	0	51.89	-	-	74.00	-22.11	251	159	H
				* 5.41815	41.25	Pk	35.20	-20.60	0	55.85	-	-	74.00	-18.15	251	159	H
				5.46998	38.36	Pk	35.30	-20.60	0	53.06	-	-	68.20	-15.14	251	159	H
				5.46009	39.68	Pk	35.30	-20.60	0	54.38	-	-	68.20	-13.82	251	159	H
				* 5.45998	28.30	RMS	35.30	-20.60	0	43.00	54.00	-11.00	-	-	251	159	H
				* 5.41229	28.97	RMS	35.20	-20.60	0	43.57	54.00	-10.43	-	-	251	159	H
				* 5.45998	38.46	Pk	35.30	-20.60	0	53.16	-	-	74.00	-20.84	22	135	V
				* 5.38726	41.12	Pk	35.20	-20.70	0	55.62	-	-	74.00	-18.38	22	135	V
				5.46998	38.46	Pk	35.30	-20.60	0	53.16	-	-	68.20	-15.04	22	135	V
				5.46812	40.25	Pk	35.30	-20.60	0	54.95	-	-	68.20	-13.25	22	135	V
				* 5.45998	27.96	RMS	35.30	-20.60	0	42.66	54.00	-11.34	-	-	22	135	V
				* 5.45313	28.77	RMS	35.30	-20.60	0	43.47	54.00	-10.53	-	-	22	135	V
	5700	26 Tone / 8 RU	MIMO	5.72500	38.12	Pk	35.70	-20.00	0	53.82	-	-	68.20	-14.38	182	243	H
				5.77331	40.05	Pk	35.70	-19.90	0	55.85	-	-	68.20	-12.35	182	243	H
				5.72500	39.02	Pk	35.70	-20.00	0	54.72	-	-	68.20	-13.48	18	100	V
				5.79298	40.03	Pk	35.80	-19.90	0	55.93	-	-	68.20	-12.27	18	100	V

Note1. Pk - Peak detector, RMS - RMS detector

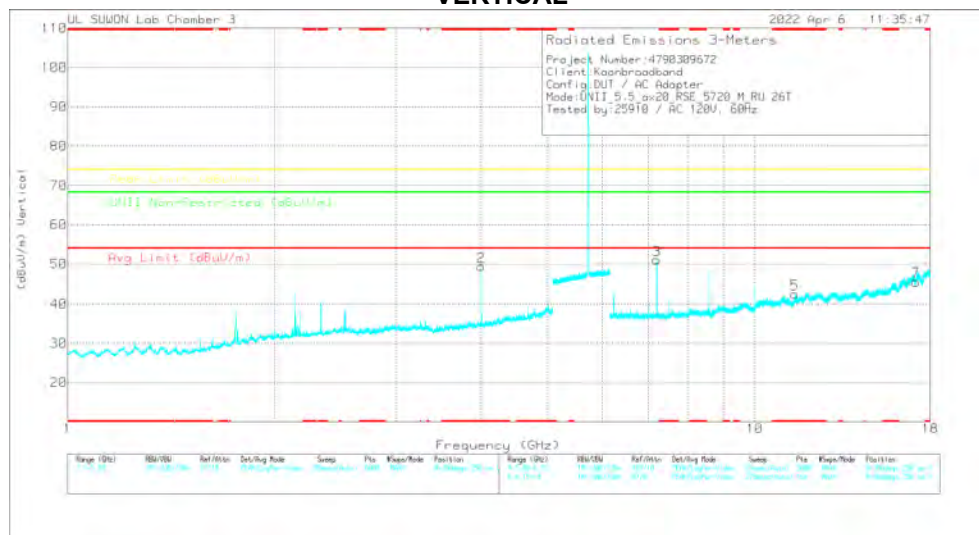
Note2. * - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

11.1.6. HARMONICS AND SPURIOUS EMISSIONS_5.5GHz BAND WORST CASE: 802.11ax HE20 / 26T / MIMO / 5720MHz)

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.

5720 MHz DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_LP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
* 3.99986	48.74	PK-U	33.9	-32.1	50.54	-	-	74	-23.46	-	-	304	389	H
* 4.00000	43.61	ADR	33.9	-32.1	45.41	54	-8.59	-	-	-	-	304	389	H
* 4.00006	51.92	PK-U	33.9	-32.1	53.72	-	-	74	-20.28	-	-	5	109	V
* 4.00005	48.92	ADR	33.9	-32.1	50.72	54	-3.28	-	-	-	-	5	109	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

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
7.20006	43.32	PK-U	36.1	-25.8	53.62	-	-	-	-	68.2	-14.58	14	280	V

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

PK-U - U-NII: Maximum Peak

Note: In the above emissions, frequencies other than harmonic are local oscillator generated during product operation regardless of RF transmission and were measured only in worst mode.

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)	Altitude (Degs)	Height (cm)	Polarity
802.11ax(HE20)	5500	MIMO	* 10.9999	34.68	PK-U	38.50	-21.70	0	51.48	-	-	74.00	-22.52	-	-	53	100	H
			* 10.99994	25.00	ADR	38.50	-21.70	0	41.80	54.00	-12.20	-	-	-	-	53	100	H
			16.506	33.49	PK-U	42.00	-19.60	0	55.89	-	-	-	-	68.20	-12.31	49	286	H
			* 10.99592	33.87	PK-U	38.50	-21.60	0	50.77	-	-	74.00	-23.23	-	-	50	212	V
			* 11.00022	22.84	ADR	38.50	-21.70	0	39.64	54.00	-14.36	-	-	-	-	50	212	V
			16.510	33.92	PK-U	42.00	-19.60	0	56.32	-	-	-	-	68.20	-11.88	318	364	V
	5580	MIMO	* 11.16055	34.96	PK-U	38.60	-21.80	0	51.76	-	-	74.00	-22.24	-	-	56	100	H
			* 11.16015	25.00	ADR	38.60	-21.80	0	41.80	54.00	-12.20	-	-	-	-	56	100	H
			16.747	31.72	PK-U	42.30	-19.10	0	54.92	-	-	-	-	68.20	-13.28	286	371	H
			* 11.15654	33.94	PK-U	38.60	-21.90	0	50.64	-	-	74.00	-23.36	-	-	58	223	V
			* 11.116	23.67	ADR	38.60	-21.80	0	40.47	54.00	-13.53	-	-	-	-	58	223	V
			16.733	31.85	PK-U	42.30	-19.20	0	54.95	-	-	-	-	68.20	-13.25	0	356	V
	5700	MIMO	* 11.39997	33.42	PK-U	38.60	-21.70	0	50.32	-	-	74.00	-23.68	-	-	304	101	H
			* 11.40009	22.89	ADR	38.60	-21.70	0	39.79	54.00	-14.21	-	-	-	-	304	101	H
			17.108	32.49	PK-U	42.30	-18.50	0	56.29	-	-	-	-	68.20	-11.91	328	217	H
			* 11.39948	33.69	PK-U	38.60	-21.70	0	50.59	-	-	74.00	-23.41	-	-	349	384	V
			* 11.39994	23.80	ADR	38.60	-21.70	0	40.70	54.00	-13.30	-	-	-	-	349	384	V
			17.101	32.07	PK-U	42.30	-18.50	0	55.87	-	-	-	-	68.20	-12.33	23	199	V
	5720	MIMO	* 11.44048	32.84	PK-U	38.60	-21.80	0	49.64	-	-	74.00	-24.36	-	-	305	100	H
			* 11.43984	22.52	ADR	38.60	-21.80	0	39.32	54.00	-14.68	-	-	-	-	305	100	H
			17.168	32.56	PK-U	42.20	-18.20	0	56.56	-	-	-	-	68.20	-11.64	3	155	H
			* 11.44031	34.05	PK-U	38.60	-21.80	0	50.85	-	-	74.00	-23.15	-	-	348	390	V
			* 11.44011	24.33	ADR	38.60	-21.80	0	41.13	54.00	-12.87	-	-	-	-	348	390	V
			17.157	32.60	PK-U	42.20	-18.40	0	56.40	-	-	-	-	68.20	-11.80	348	100	V

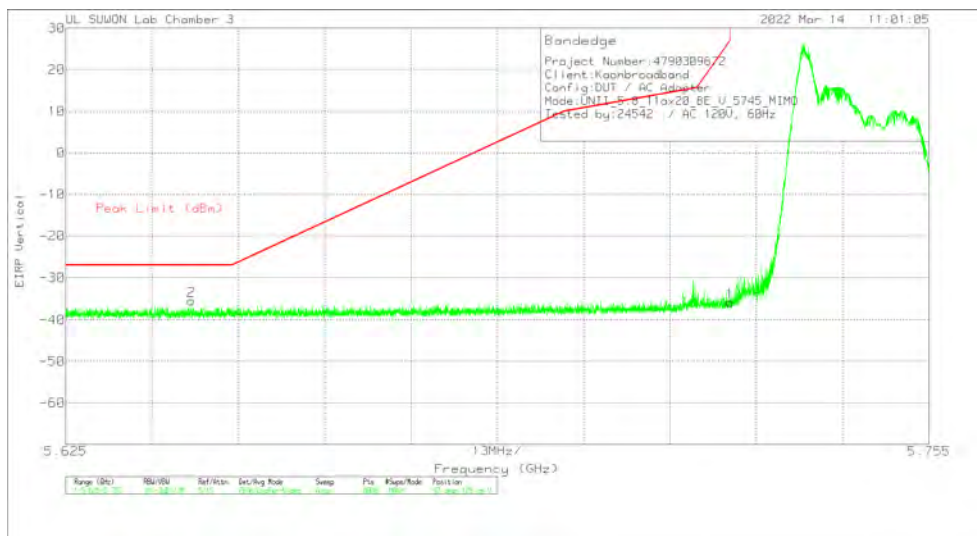
Note1. PK-U - U-NII: Maximum Peak / ADR - U-NII AD primary method, RMS average

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

11.1.7. BAND-EDGE_5.8GHz BAND

WORST CASE: 802.11ax HE20 / MIMO / 5745 MHz / 26Tone / 0 RU)

VERTICAL PEAK PLOT



VERTICAL DATA

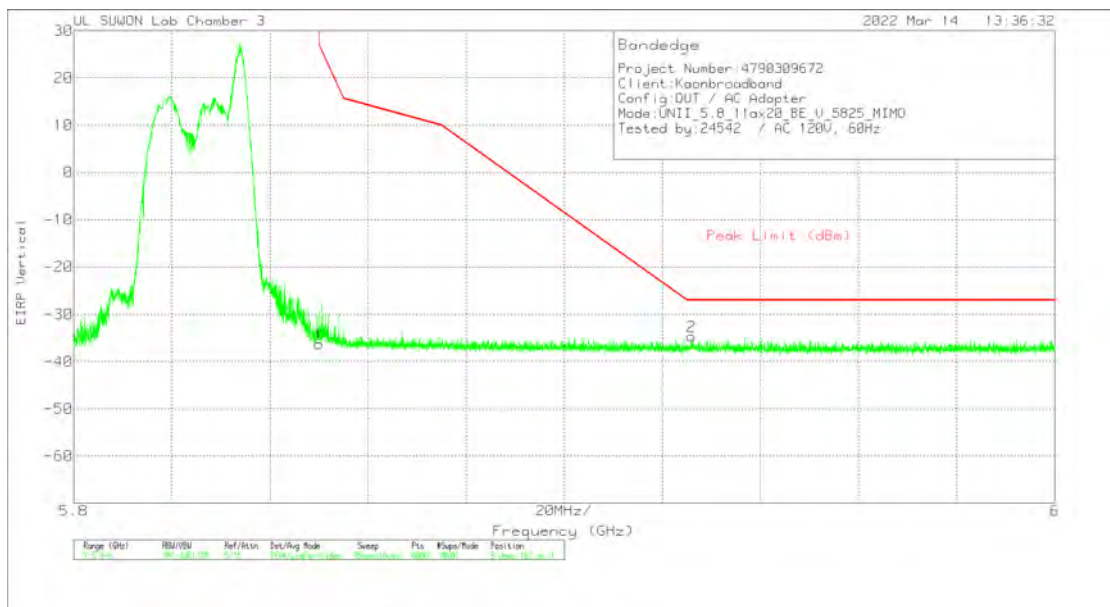
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	3117_00218957	10dB_ATT[dB]	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-63.17	Pk	35.6	-20	11.8	-35.77	27	-62.77	92	125	V
2	5.6439	-62.43	Pk	35.5	-20.3	11.8	-35.43	-27	-8.43	92	125	V

Pk - Peak detector

WORST CASE: 802.11ax HE20 / MIMO / 5825 MHz / 26Tone / 8 RU)

VERTICAL PEAK PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	3117_00218957	10dB_ATT[dB]	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85001	-64.16	Pk	35.9	-19.8	11.8	-36.26	26.99	-63.25	9	162	V
2	5.92594	-62.67	Pk	36	-19.8	11.8	-34.67	-27	-7.67	9	162	V

Pk - Peak detector

BANDEDGE TEST DATA

Mode	Freq. [MHz]	Tone / RU	Antenna	Frequency [GHz]	Reading [dBm]	Detector Mode	ANT Factor	Loss [dB]	Conv. F [dB]	DC Corr [dB]	Result [dBm]	PK Limit [dBm]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
802.11ax(HE20)	5745	26 Tone / 0 RU	MIMO	5.63361	-63.06	Pk	35.50	-20.40	11.80	0	-36.16	-27.00	-9.16	226	104	H
				5.72500	-63.31	Pk	35.60	-20.00	11.80	0	-35.91	-27.00	-62.91	226	104	H
				5.64390	-62.43	Pk	35.50	-20.30	11.80	0	-35.43	-27.00	-8.43	92	125	V
				5.72500	-63.17	Pk	35.60	-20.00	11.80	0	-35.77	-27.00	-62.77	92	125	V
	5825	26 Tone / 8 RU	MIMO	5.85001	-64.81	Pk	35.90	-19.80	11.80	0	-36.91	-26.99	-63.90	165	337	H
				5.98152	-63.38	Pk	36.00	-19.70	11.80	0	-35.28	-27.00	-8.28	165	337	H
				5.85001	-64.16	Pk	35.90	-19.80	11.80	0	-36.26	-26.99	-63.25	9	162	V
				5.92594	-62.67	Pk	36.00	-19.80	11.80	0	-34.67	-27.00	-7.67	9	162	V

Note1. Pk - Peak detector

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

Note3.

WORST CASE: 802.11ax HE20 / 26T / MIMO / 5785 MHz)

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

5785 MHz DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	5GHz_LP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Dops)	Height (cm)	Polarity
* 3.99987	48.82	PK-U	33.9	-32.1	50.62	-	-	74	-23.38	-	-	306	101	H
* 4.00004	43.91	ADR	33.9	-32.1	45.71	54	-8.29	-	-	-	-	306	101	H

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

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	6GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	Margin (dB)	Altitude (Dops)	Height (cm)	Polarity
7.1999	43.98	PK-U	36.1	-25.8	54.28	-	-	-	-	68.2	-13.92	13	124	V

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

Note: In the above emissions, frequencies other than harmonic are local oscillator generated during product operation regardless of RF transmission and were measured only in worst mode.

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]	Altitude [Dops]	Height [cm]	Polarity
802.11ax(HE20)	5745	MIMO	* 11.48515	33.41	PK-U	38.70	-21.70	0	50.41	-	-	74.00	-23.59	-	-	308	103	H
			* 11.48998	23.08	ADR	38.70	-21.70	0	40.08	54.00	-13.92	-	-	-	-	308	103	H
			17.241	32.38	PK-U	42.10	-17.60	0	56.88	-	-	-	-	68.20	-11.32	276	176	H
			* 11.49058	34.09	PK-U	38.70	-21.70	0	51.09	-	-	74.00	-22.91	-	-	351	358	V
			* 11.49006	23.11	ADR	38.70	-21.70	0	40.11	54.00	-13.89	-	-	-	-	351	358	V
			17.232	32.56	PK-U	42.10	-17.70	0	56.96	-	-	-	-	68.20	-11.24	12	106	V
	5785	MIMO	* 11.5687	42.35	PK-U	38.80	-21.90	0	59.25	-	-	74.00	-14.75	-	-	204	100	H
			* 11.56845	26.02	ADR	38.80	-21.90	0	42.92	54.00	-11.08	-	-	-	-	204	100	H
			17.356	32.34	PK-U	42.00	-17.80	0	56.54	-	-	-	-	68.20	-11.66	322	103	H
			* 11.57	35.27	PK-U	38.80	-21.90	0	52.17	-	-	74.00	-21.83	-	-	349	362	V
			* 11.56988	25.05	ADR	38.80	-21.90	0	41.95	54.00	-12.05	-	-	-	-	349	362	V
			17.363	32.25	PK-U	42.00	-17.70	0	56.55	-	-	-	-	68.20	-11.65	330	395	V
	5825	MIMO	* 11.6544	35.03	PK-U	38.90	-21.70	0	52.23	-	-	74.00	-21.77	-	-	205	100	H
			* 11.65022	23.11	ADR	38.90	-21.70	0	40.31	54.00	-13.69	-	-	-	-	205	100	H
			17.483	31.06	PK-U	42.00	-17.50	0	55.56	-	-	-	-	68.20	-12.64	201	143	H
			* 11.64998	35.35	PK-U	38.80	-21.70	0	52.45	-	-	74.00	-21.55	-	-	345	364	V
			* 11.65016	25.04	ADR	38.90	-21.70	0	42.24	54.00	-11.76	-	-	-	-	345	364	V
			17.476	31.21	PK-U	42.00	-17.40	0	55.81	-	-	-	-	68.20	-12.39	32	108	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

11.2. Spurious Emissions for Simultaneous Transmission

11.2.1. Worst test case RSDB condition

Case 1 (2.4GHz WLAN MIMO & 5GHz WLAN MIMO)

Case 1	2.4 GHz WLAN Antenna ANT2	5GHz WLAN Antenna ALL
Mode	802.11b	802.11a
Channel	11	157
Frequency[MHz]	2462	5785
Data Rate	1Mbps	6Mbps

Case 2 (2.4GHz WLAN MIMO & 5GHz WLAN MIMO)

Case 2	2.4 GHz WLAN Antenna ALL	5GHz WLAN Antenna ALL
Mode	802.11b	802.11a
Channel	1	157
Frequency[MHz]	2412	5785
Data Rate	1Mbps	6Mbps

11.2.2. Test Results

Please refer to the FCC Report UNII 802.11a_n_ac WLAN (Report No.: 4790309672-FR3)

12. WORST-CASE BELOW 1 GHz

RESULTS

Note.

Please refer to the FCC Report UNII 802.11a_n_ac WLAN (Report No.: 4790309672-FR3)

13. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 [*]	56 to 46 [*]
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

Note.

Please refer to the FCC Report UNII 802.11a_n_ac WLAN (Report No.: 4790309672-FR3)

END OF TEST REPORT