

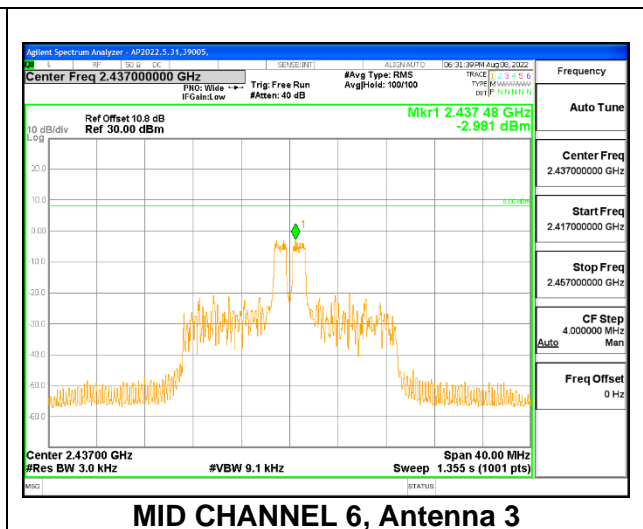
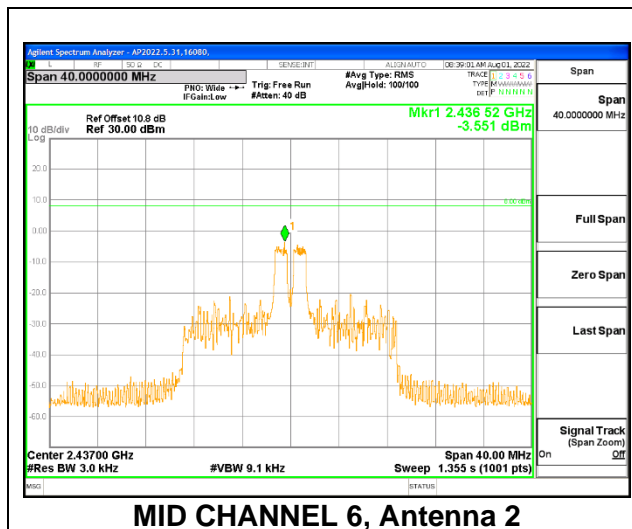
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 4

Duty Cycle CF (dB)	2.38	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/ 3kHz)	Antenna 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Mid 6	2437	-3.551	-2.981	2.13	8.0	-5.9

MID CHANNEL 6



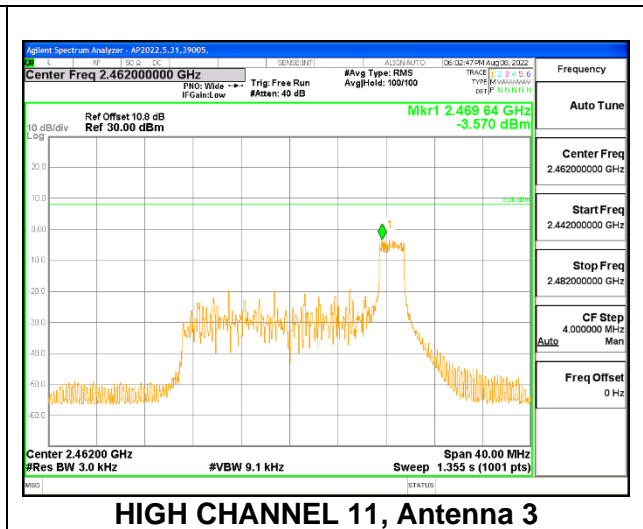
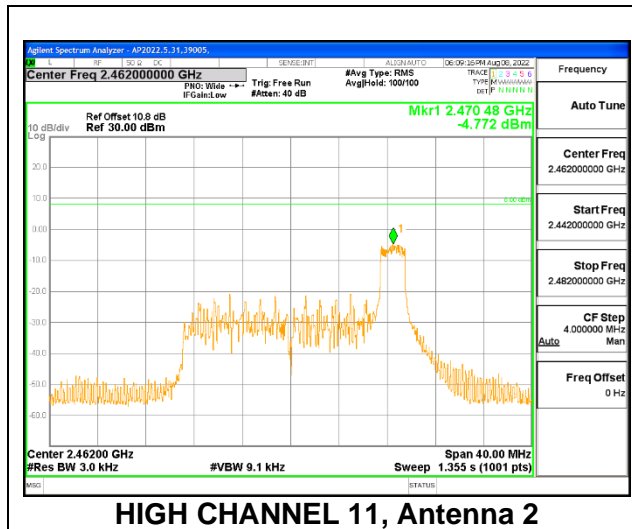
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 8

Duty Cycle CF (dB)	2.38	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/ 3kHz)	Antenna 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
High 11	2462	-4.772	-3.570	1.26	8.0	-6.7

HIGH CHANNEL 11



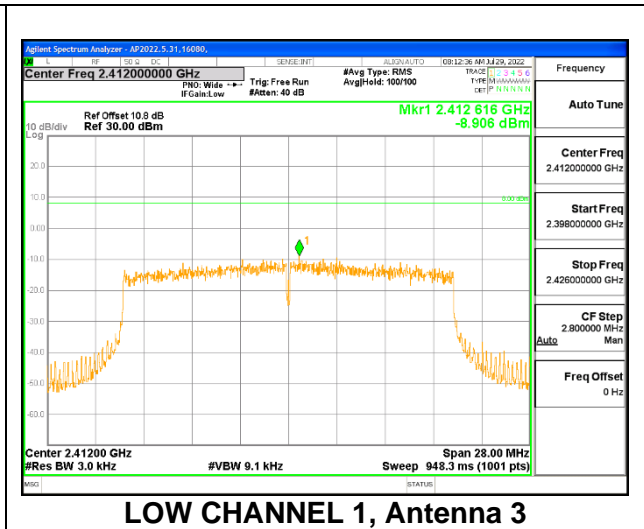
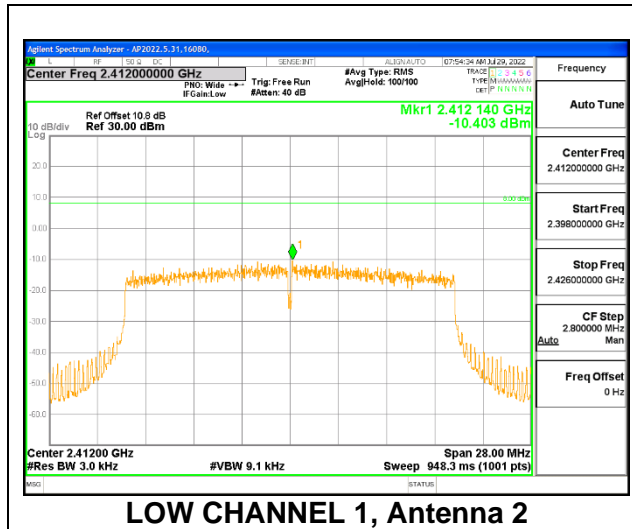
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 242-Tones, RU Index 61

Duty Cycle CF (dB)	2.92	Included in Calculations of Corr'd PSD
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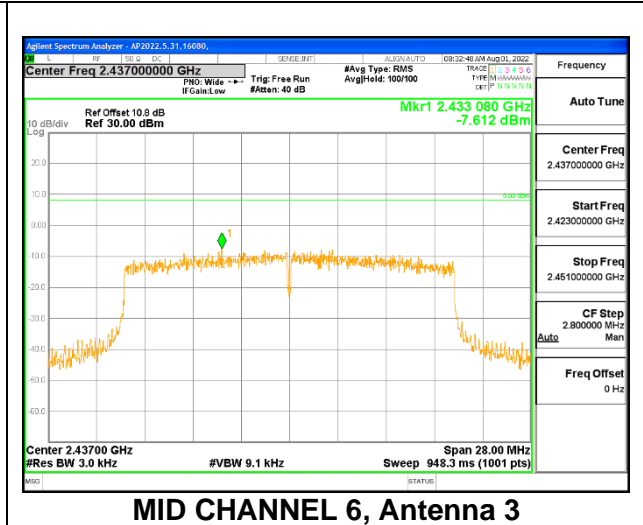
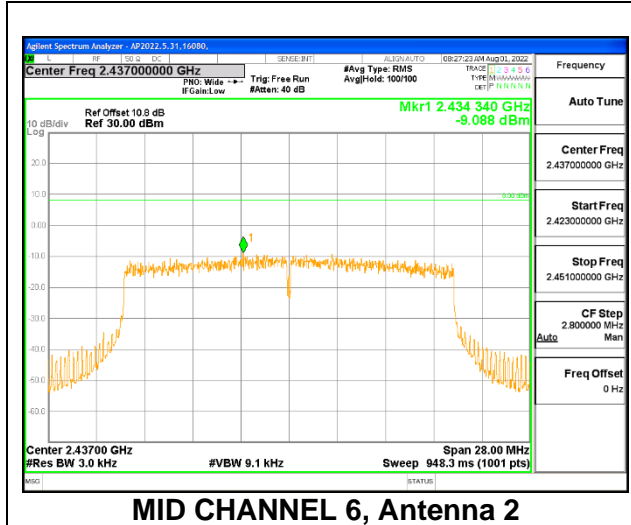
PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/3kHz)	Antenna 3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-10.403	-8.906	-3.66	8.0	-11.7
Mid 6	2437	-9.088	-7.612	-2.36	8.0	-10.4
High 11	2462	-9.776	-8.893	-3.38	8.0	-11.4

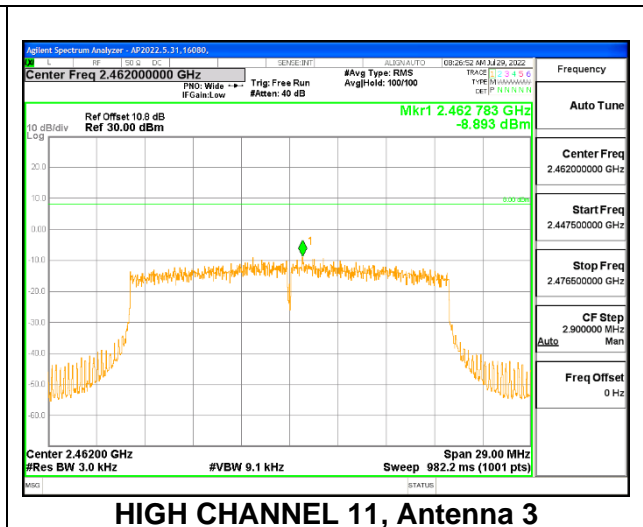
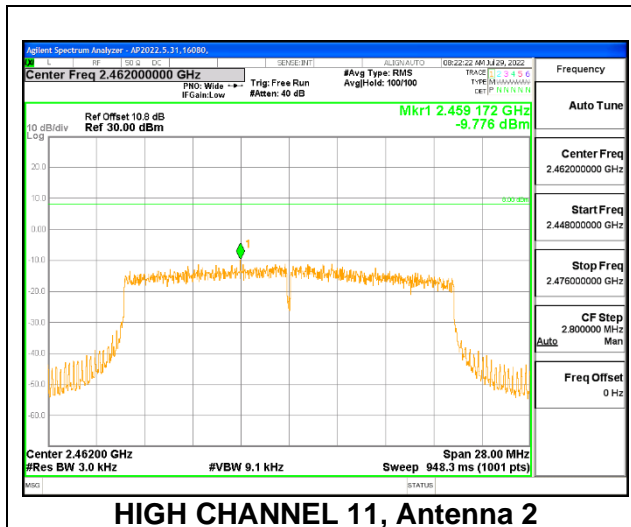
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 11



9.6.2. 802.11ax HE40 MODE 2TX

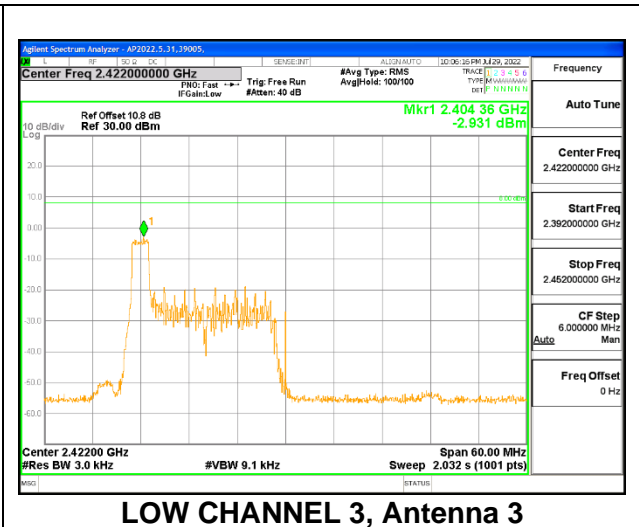
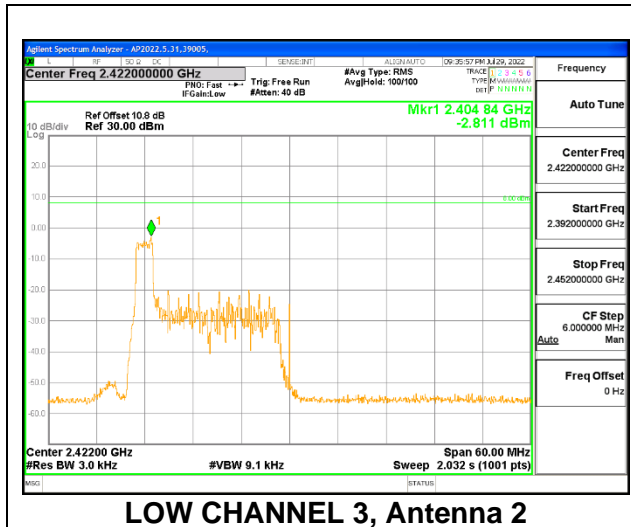
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 0

Duty Cycle CF (dB)	1.97	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/3kHz)	Antenna 3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 3	2422	-2.811	-2.931	2.11	8.0	-5.9

LOW CHANNEL 3



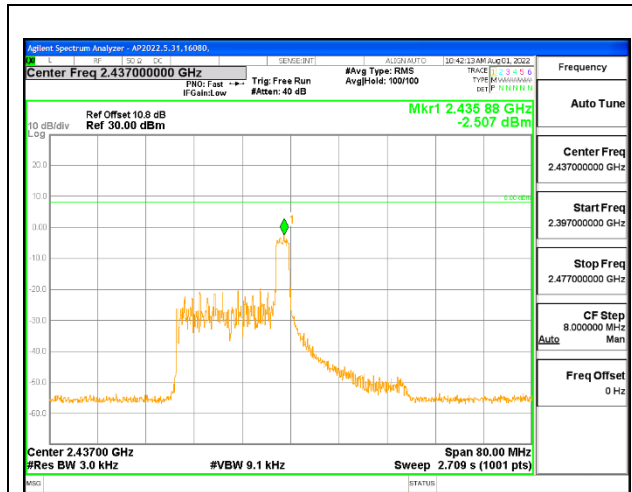
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 8

Duty Cycle CF (dB)	1.97	Included in Calculations of Corr'd PSD
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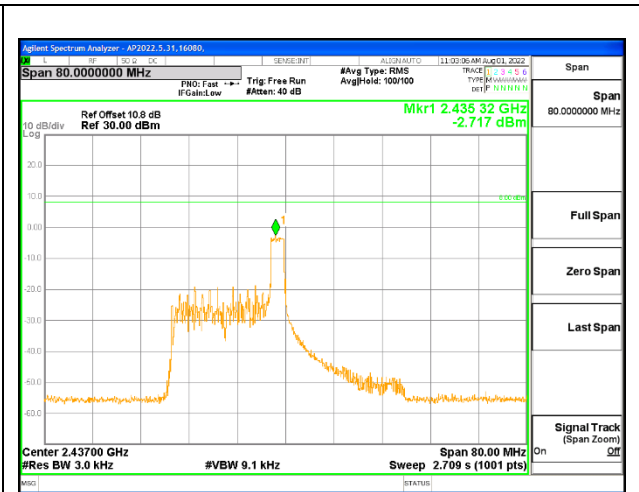
PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/ 3kHz)	Antenna 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Mid 6	2427	-2.507	-2.717	2.37	8.0	-5.6

MID CHANNEL 6



MID CHANNEL 6, Antenna 2



MID CHANNEL 6, Antenna 3

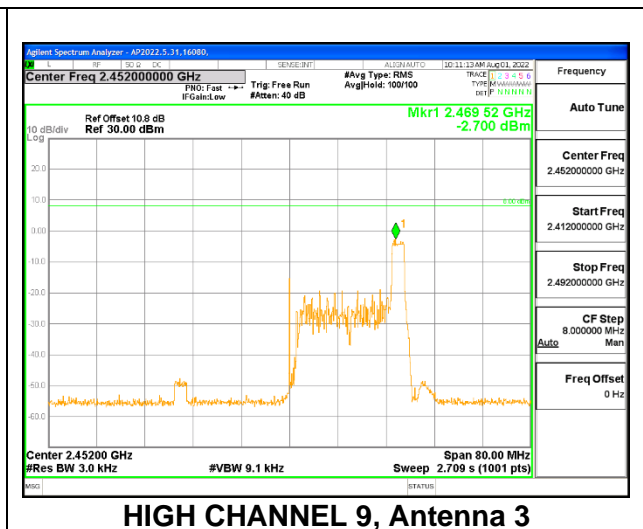
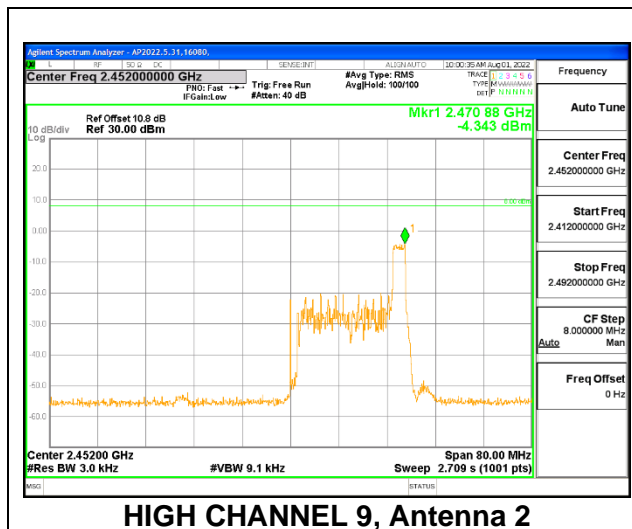
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 17

Duty Cycle CF (dB)	1.97	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/ 3kHz)	Antenna 3 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
High 9	2452	-4.343	-2.700	1.54	8.0	-6.5

HIGH CHANNEL 9



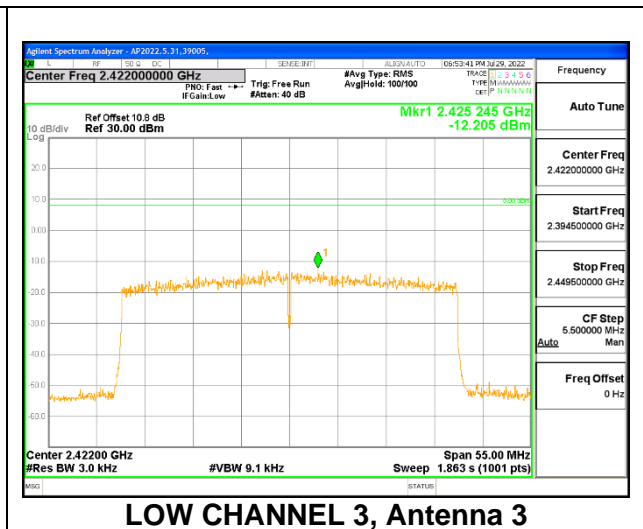
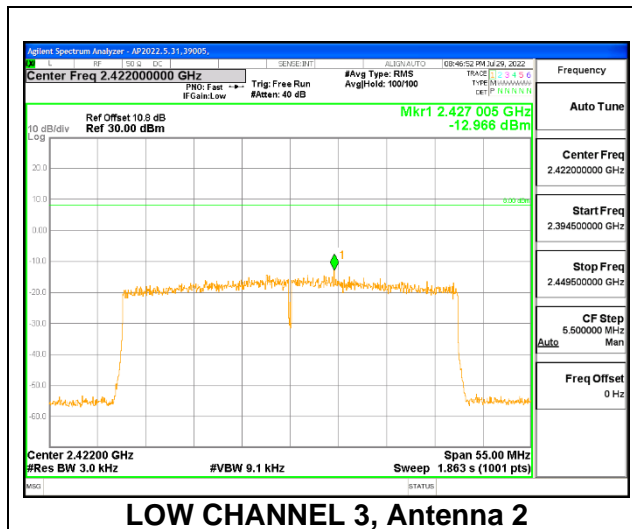
2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 484-Tones, RU Index 65

Duty Cycle CF (dB)	2.96	Included in Calculations of Corr'd PSD
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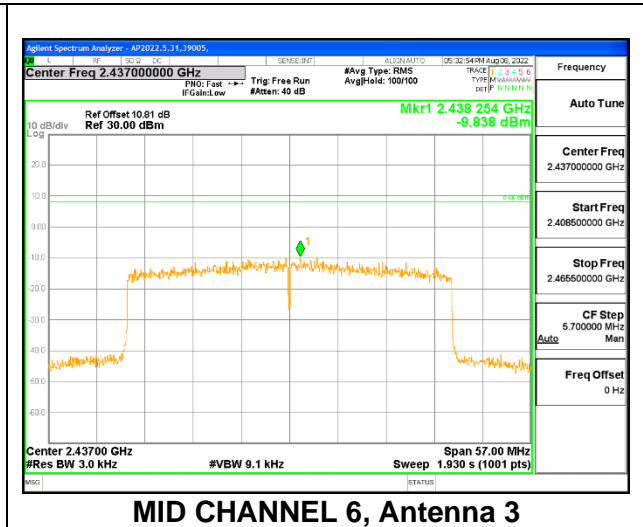
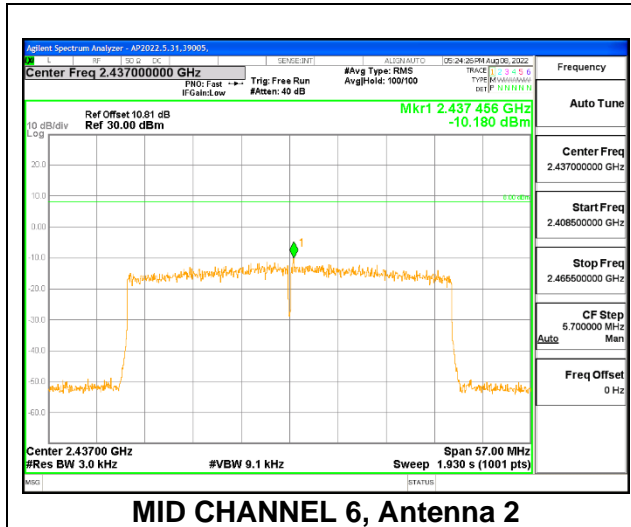
PSD Results

Channel	Frequency (MHz)	Antenna 2 Meas (dBm/3kHz)	Antenna 3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 3	2422	-12.966	-12.205	-6.60	8.0	-14.6
Mid 6	2437	-10.180	-9.838	-4.04	8.0	-12.0
High 9	2452	-14.507	-14.075	-8.32	8.0	-16.3

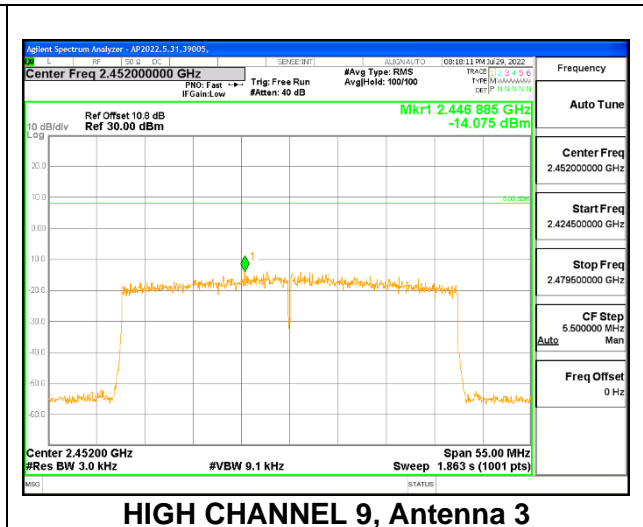
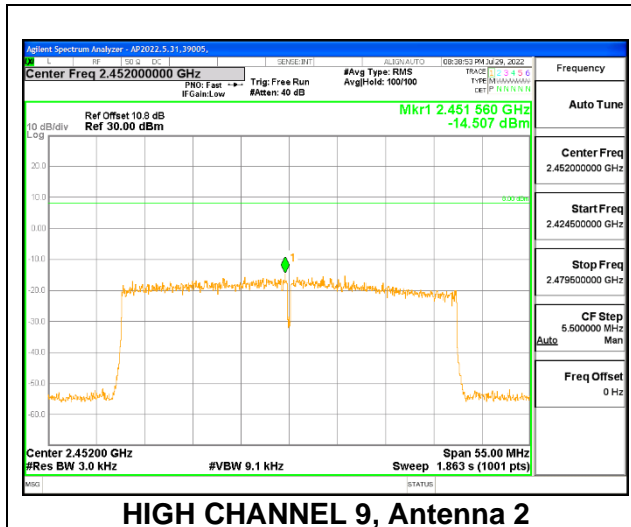
LOW CHANNEL 3



MID CHANNEL 6



HIGH CHANNEL 9



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.407 (d)

RSS-247 5.5

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

PROCEDURE

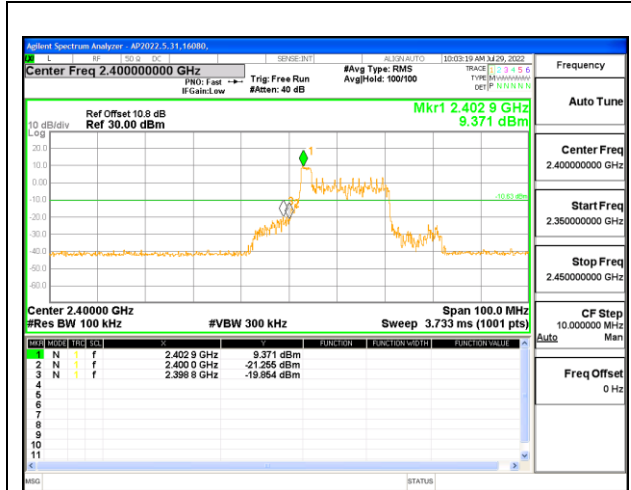
Output power was measured based on the use of peak measurement; therefore, the required attenuation is 20 dB.

RESULTS

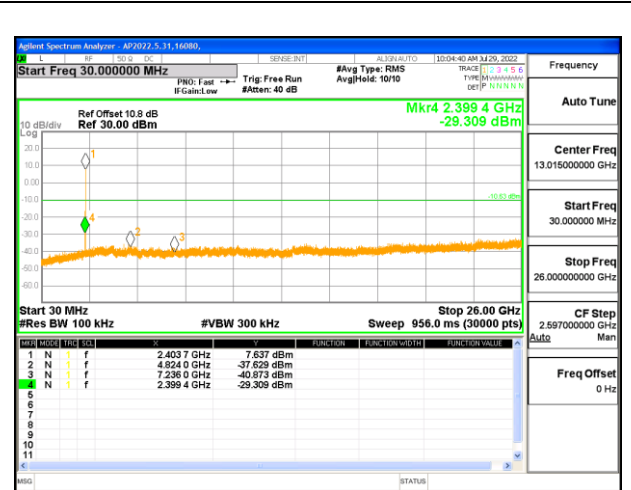
9.7.1. 802.11ax HE20 MODE 2TX

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 0

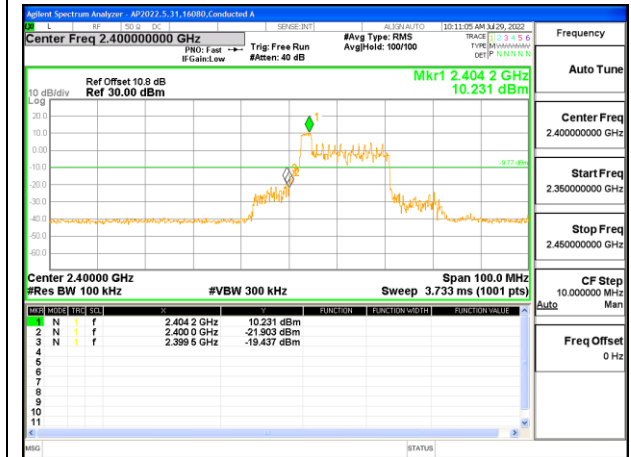
LOW CHANNEL 1



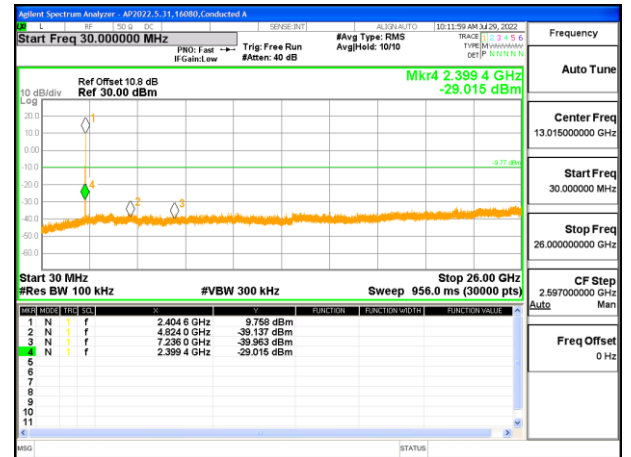
LOW CHANNEL 1 BANDEDGE
 Antenna 2



OUT-OF-BAND LOW CHANNEL 1
 Antenna 2



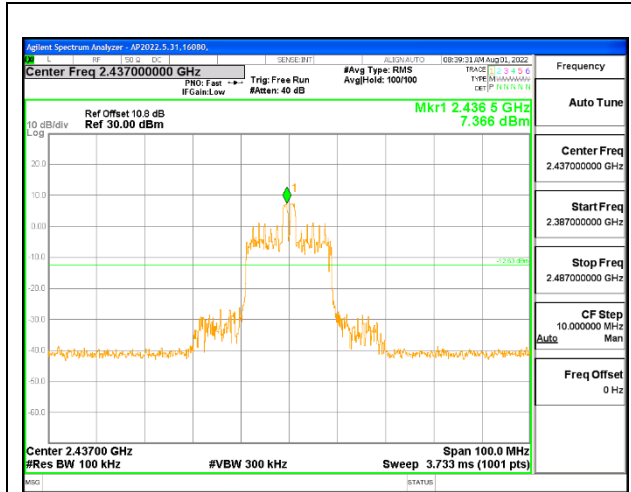
LOW CHANNEL 1 BANDEDGE
 Antenna 3



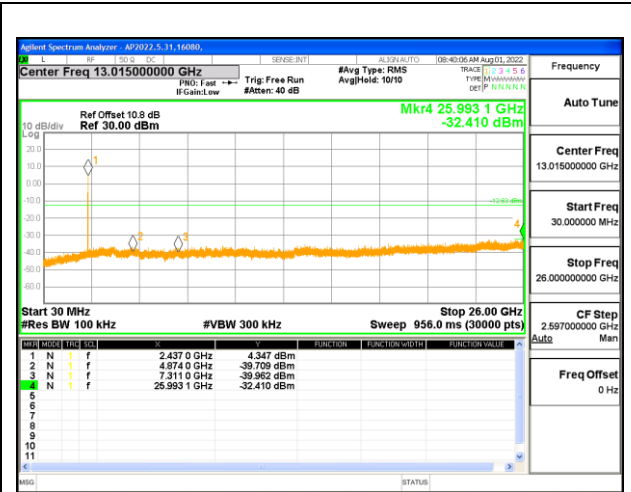
OUT-OF-BAND LOW CHANNEL 1
 Antenna 3

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 4

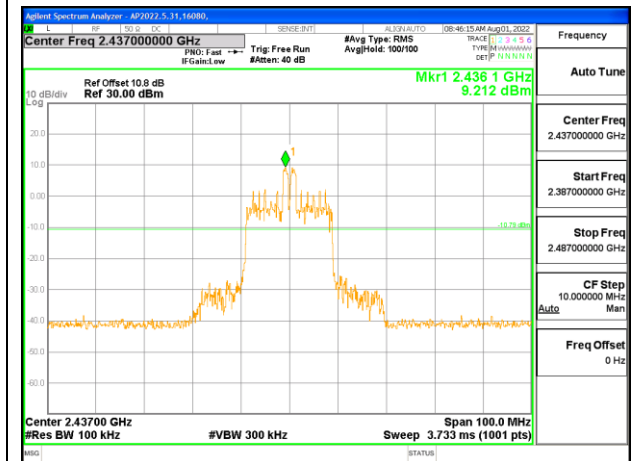
MID CHANNEL 6



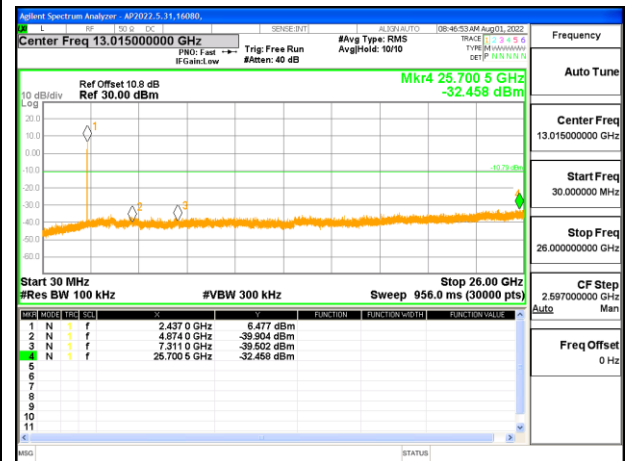
IN-BAND REFERENCE LEVEL
 Antenna 2



OUT-OF-BAND MID CHANNEL 6
 Antenna 2



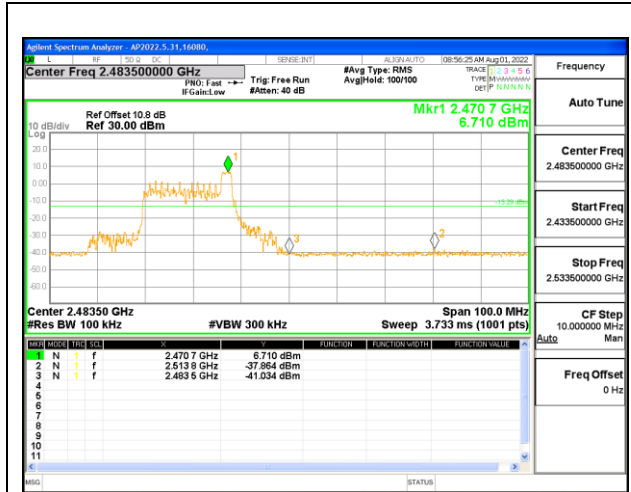
IN-BAND REFERENCE LEVEL
 Antenna 3



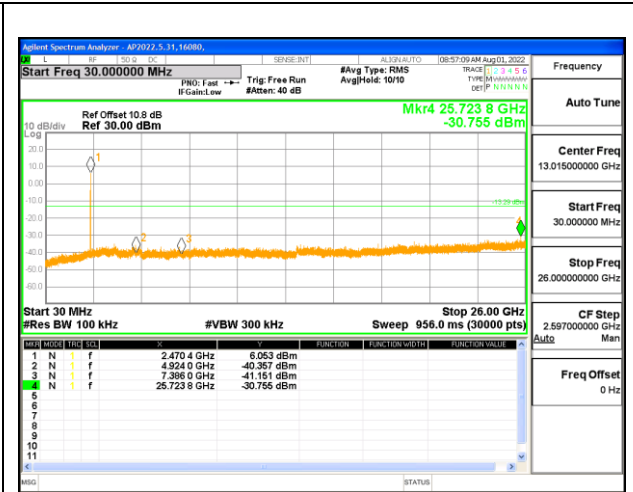
OUT-OF-BAND MID CHANNEL 6
 Antenna 3

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 8

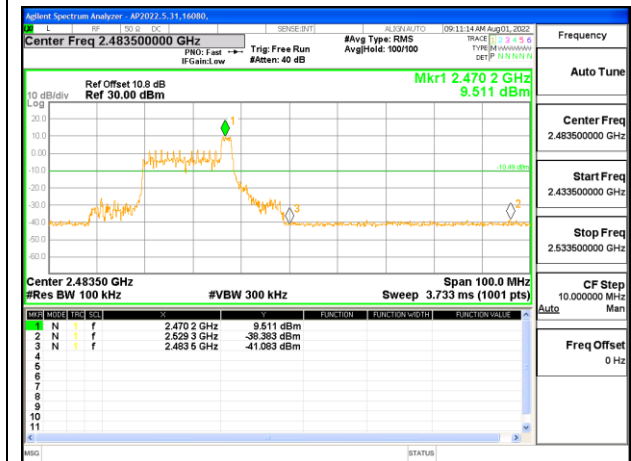
HIGH CHANNEL 11



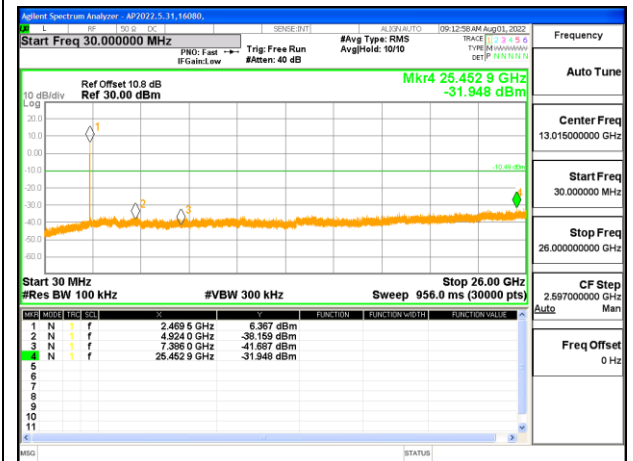
HIGH CHANNEL 11 BANDEDGE
 Antenna 2



OUT-OF-BAND HIGH CHANNEL 11
 Antenna 2



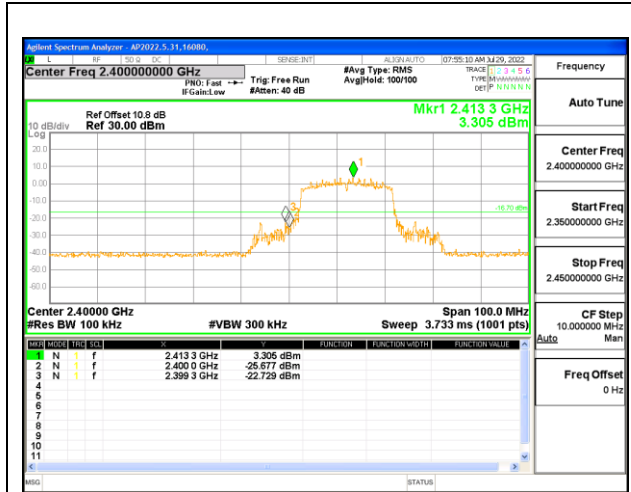
HIGH CHANNEL 11 BANDEDGE
 Antenna 3



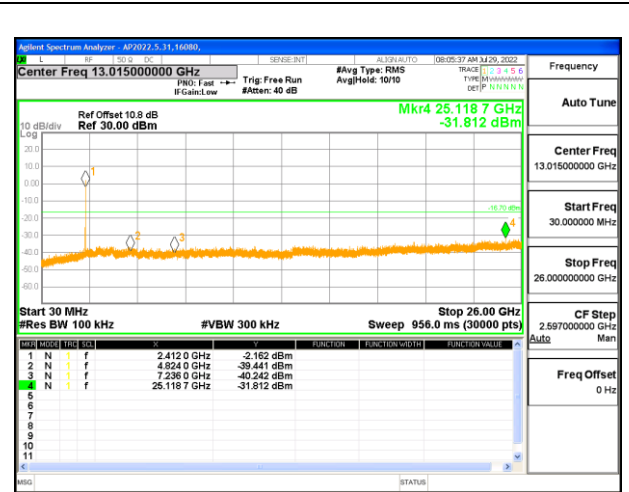
OUT-OF-BAND HIGH CHANNEL 11
 Antenna 3

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 242-Tones, RU Index 61

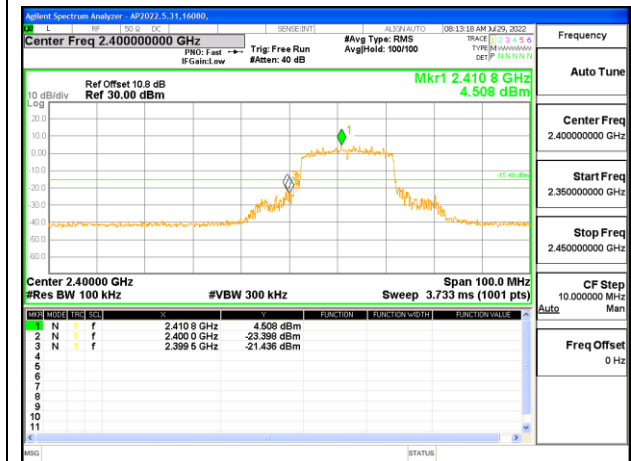
LOW CHANNEL 1



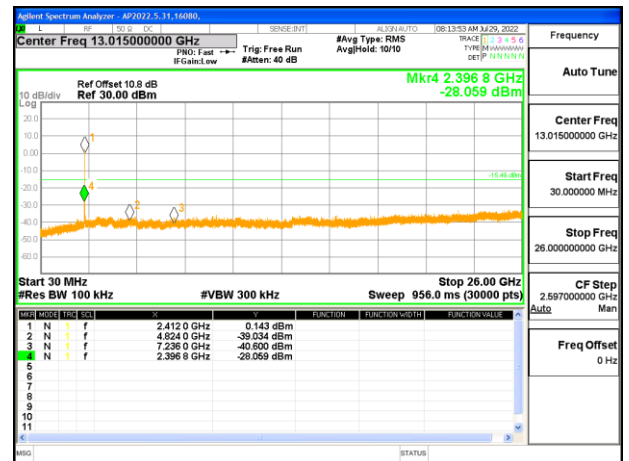
**LOW CHANNEL 1 BANDEDGE
 Antenna 2**



**OUT-OF-BAND LOW CHANNEL 1
 Antenna 2**

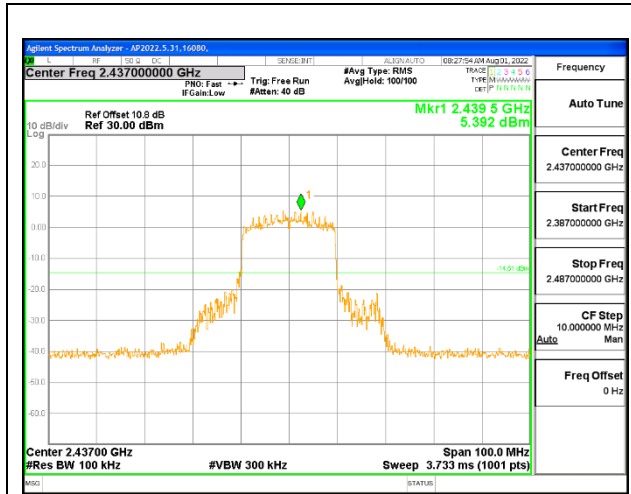


**LOW CHANNEL 1 BANDEDGE
 Antenna 3**

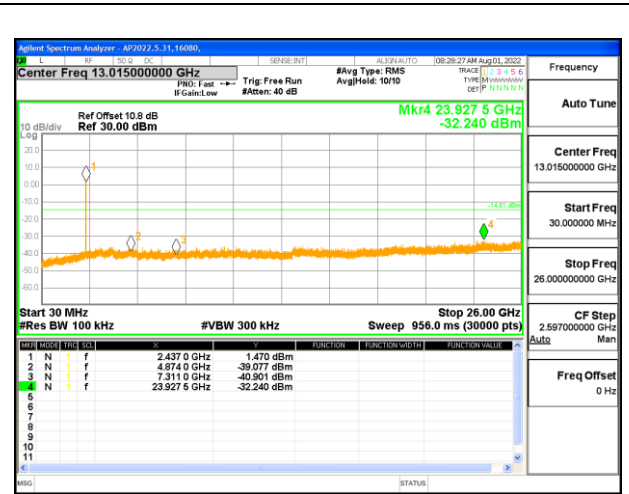


**OUT-OF-BAND LOW CHANNEL 1
 Antenna 3**

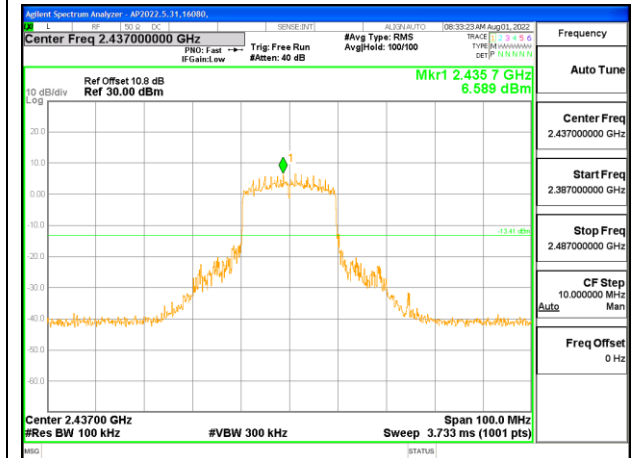
MID CHANNEL 6



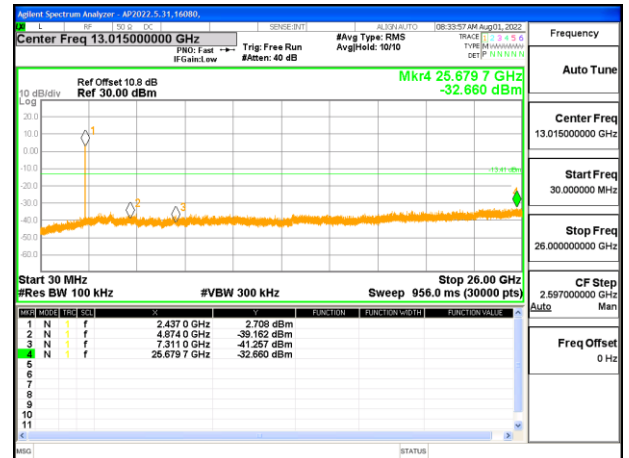
IN-BAND REFERENCE LEVEL
 Antenna 2



OUT-OF-BAND MID CHANNEL 6
 Antenna 2



IN-BAND REFERENCE LEVEL
 Antenna 3

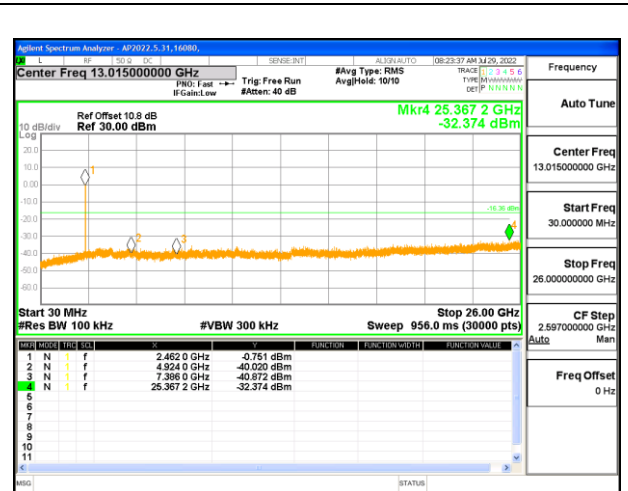


OUT-OF-BAND MID CHANNEL 6
 Antenna 3

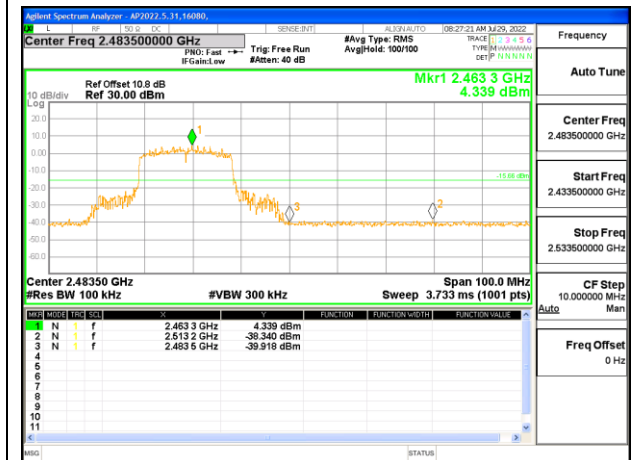
HIGH CHANNEL 11



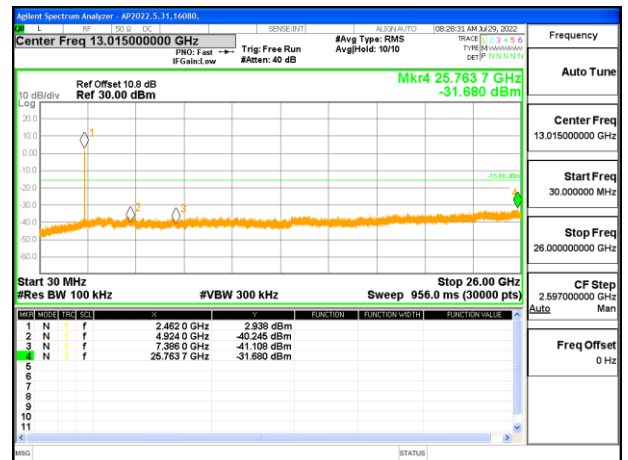
HIGH CHANNEL 11 BANDEDGE
Antenna 2



OUT-OF-BAND HIGH CHANNEL 11
Antenna 2



HIGH CHANNEL 11 BANDEDGE
Antenna 3

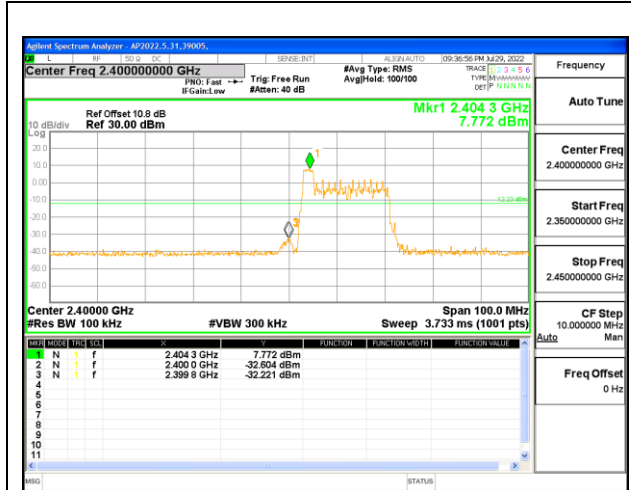


OUT-OF-BAND HIGH CHANNEL 11
Antenna 3

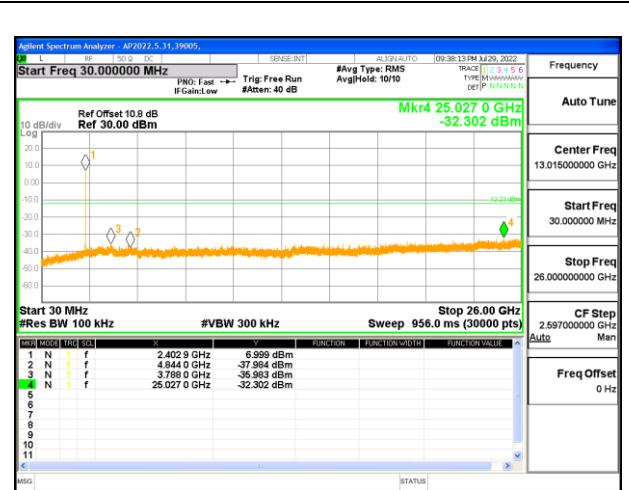
9.7.2. 802.11ax HE40 MODE 2TX

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 0

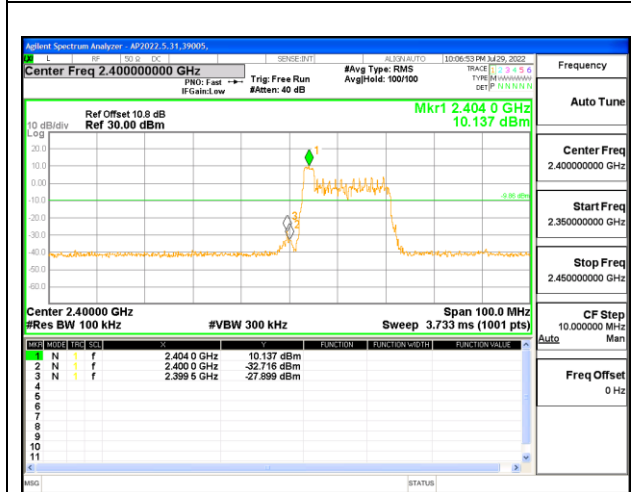
LOW CHANNEL 3



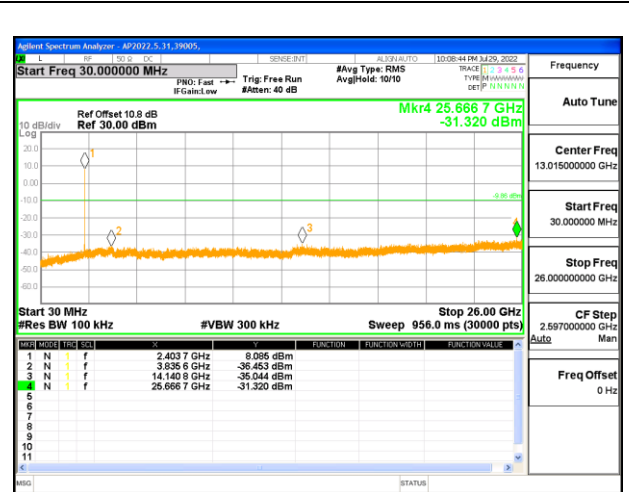
LOW CHANNEL 3 BANDEDGE
 Antenna 2



OUT-OF-BAND LOW CHANNEL 3
 Antenna 2



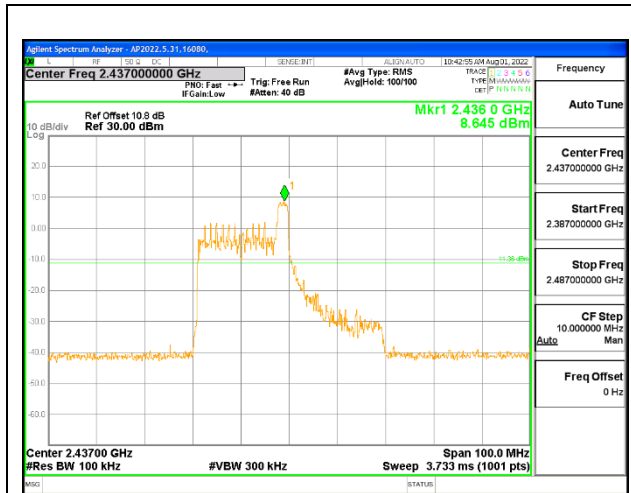
LOW CHANNEL 3 BANDEDGE
 Antenna 3



OUT-OF-BAND LOW CHANNEL 3
 Antenna 3

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 8

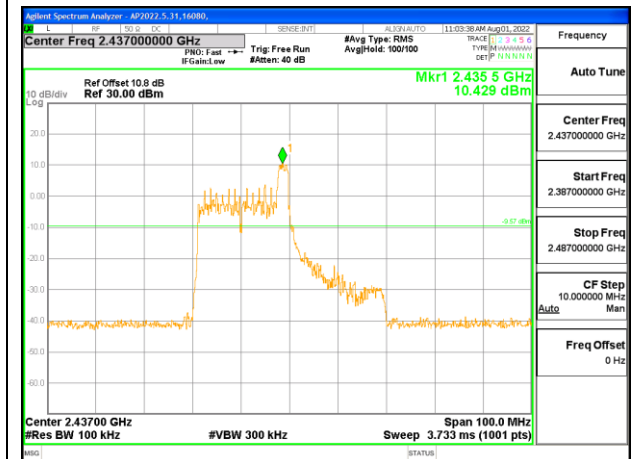
MID CHANNEL 6



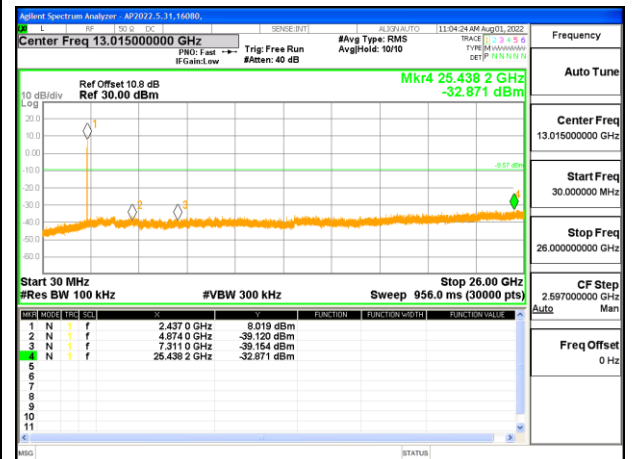
**IN-BAND REFERENCE LEVEL
 Antenna 2**



**OUT-OF-BAND MID CHANNEL 6
 Antenna 2**



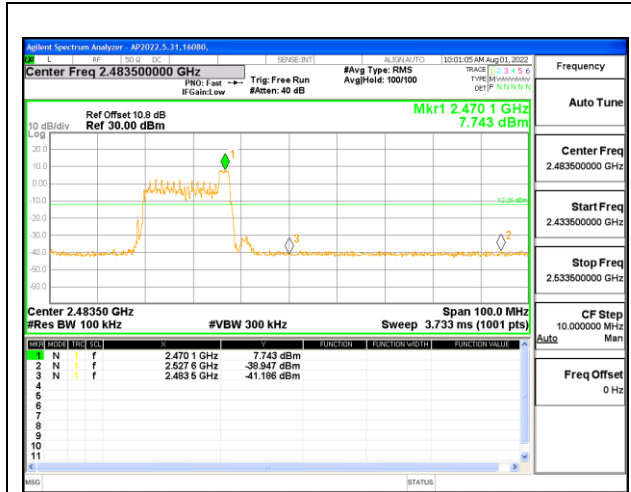
**IN-BAND REFERENCE LEVEL
 Antenna 3**



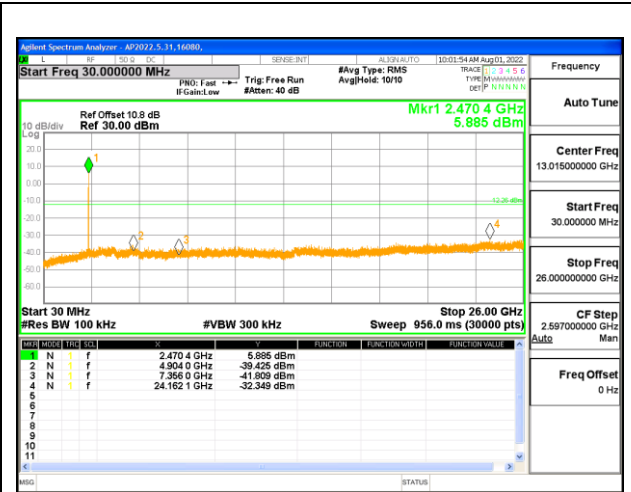
**OUT-OF-BAND MID CHANNEL 6
 Antenna 3**

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 26-Tones, RU Index 17

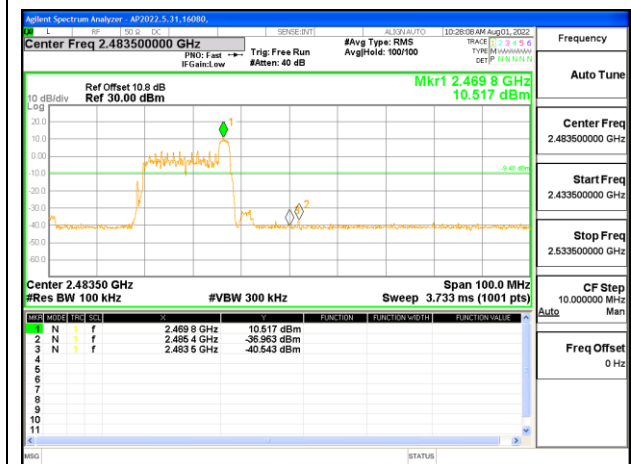
HIGH CHANNEL 9



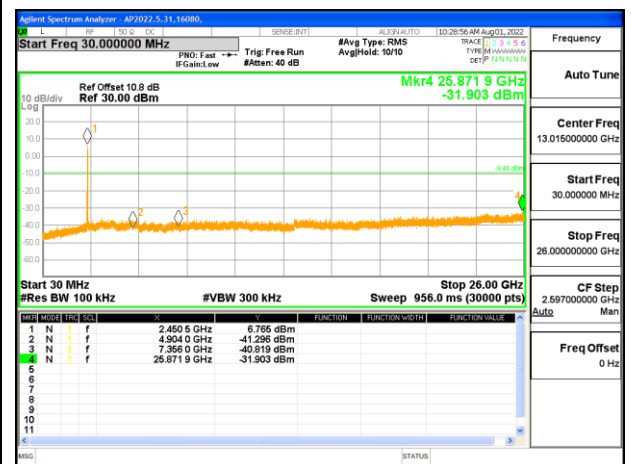
HIGH CHANNEL 9 BANDEDGE
 Antenna 2



OUT-OF-BAND HIGH CHANNEL 9
 Antenna 2



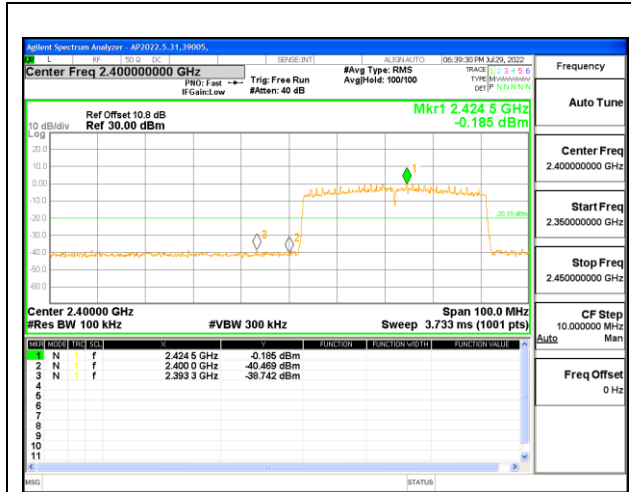
HIGH CHANNEL 9 BANDEDGE
 Antenna 3



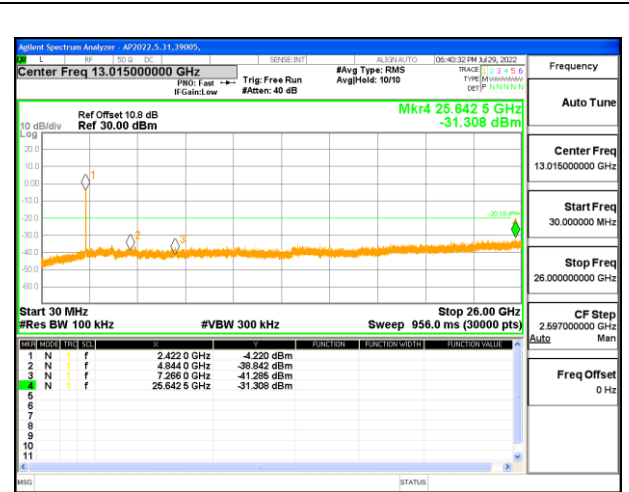
OUT-OF-BAND HIGH CHANNEL 9
 Antenna 3

2TX Antenna 2 + Antenna 3 CDD OFDMA MODE: 484-Tones, RU Index 65

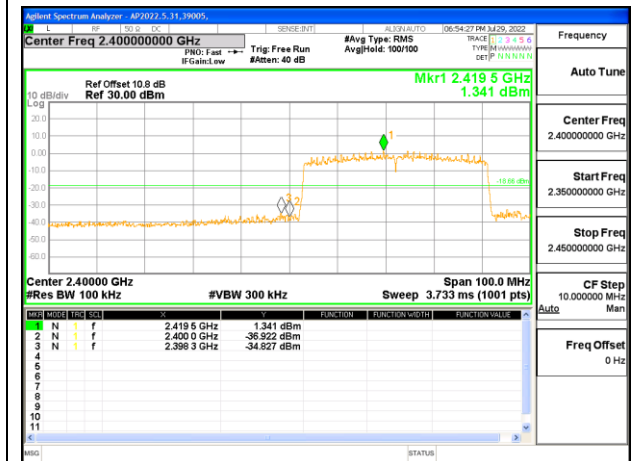
LOW CHANNEL 3



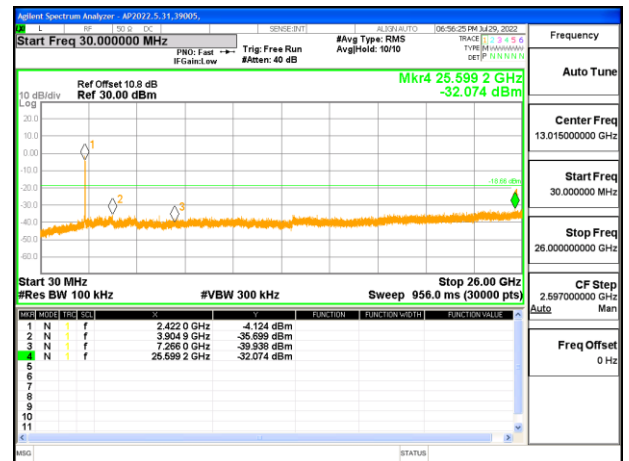
**LOW CHANNEL 3 BANDEDGE
 Antenna 2**



**OUT-OF-BAND LOW CHANNEL 3
 Antenna 2**

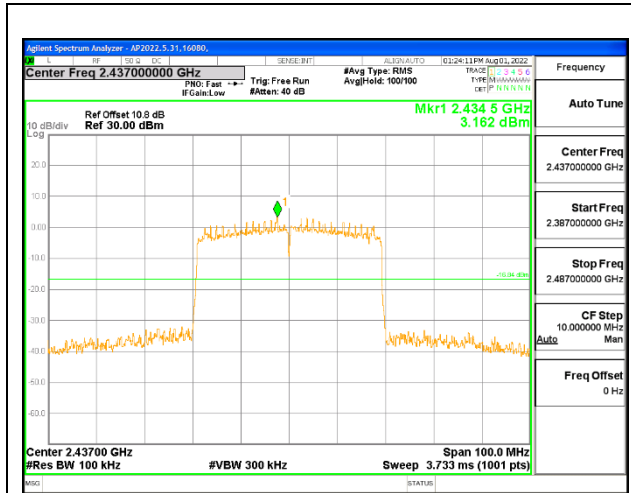


**LOW CHANNEL 3 BANDEDGE
 Antenna 3**

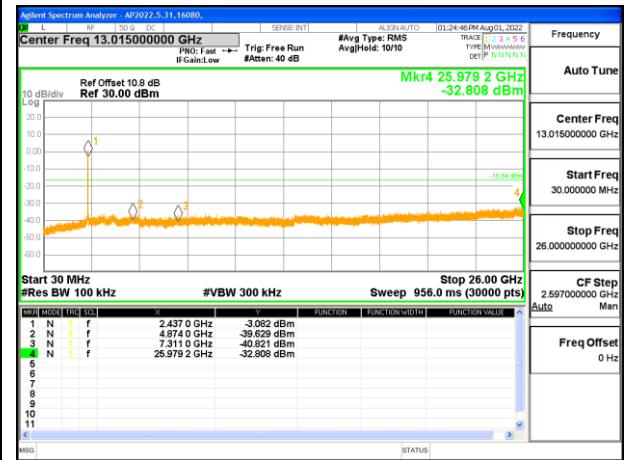


**OUT-OF-BAND LOW CHANNEL 3
 Antenna 3**

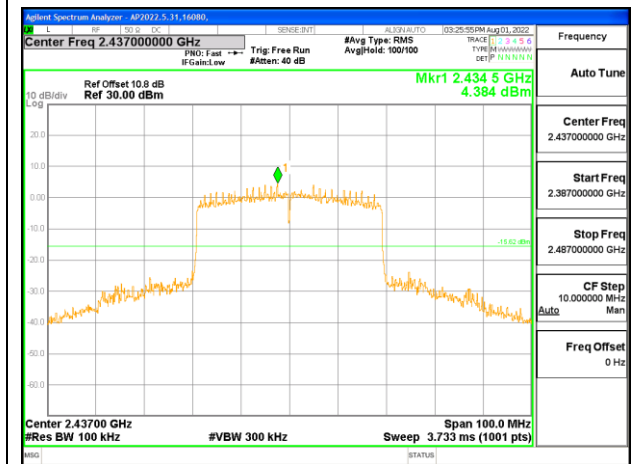
MID CHANNEL 6



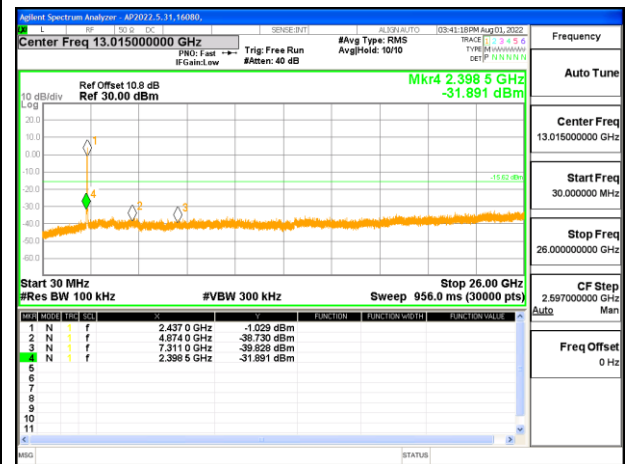
IN-BAND REFERENCE LEVEL
 Antenna 2



OUT-OF-BAND MID CHANNEL 6
 Antenna 2

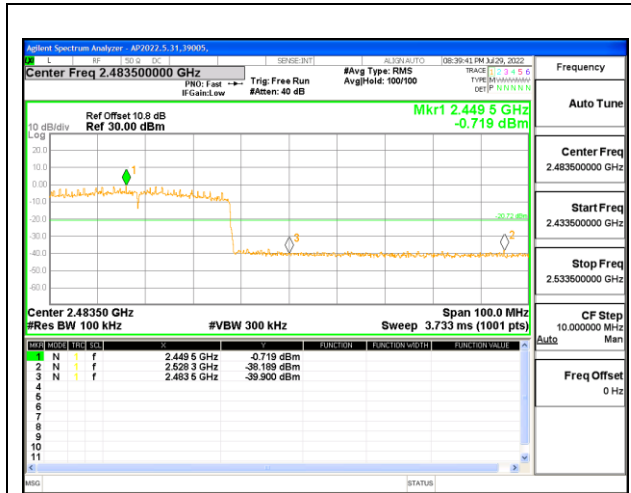


IN-BAND REFERENCE LEVEL
 Antenna 3



OUT-OF-BAND MID CHANNEL 6
 Antenna 3

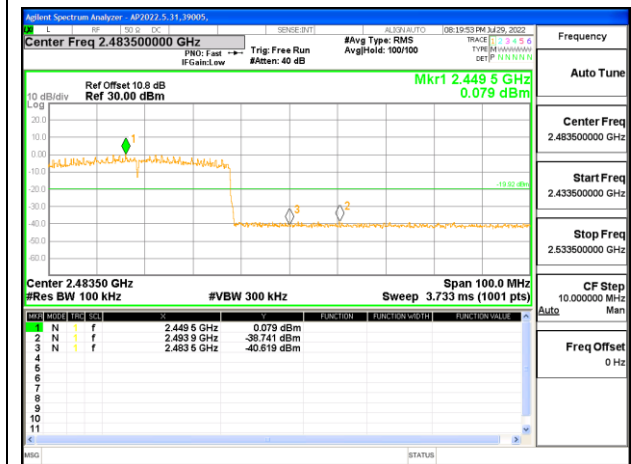
HIGH CHANNEL 9



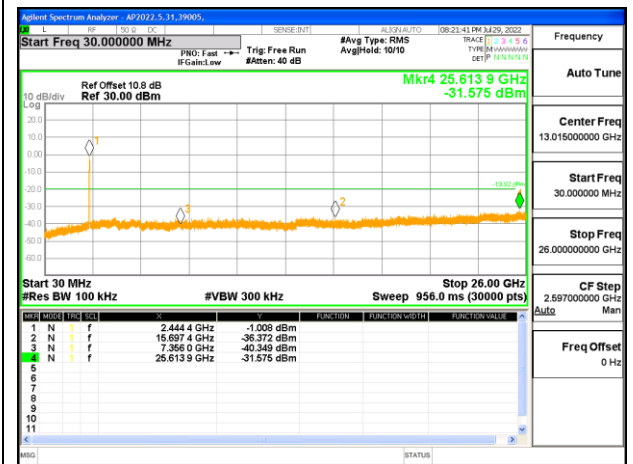
**HIGH CHANNEL 9 BANDEDGE
 Antenna 2**



**OUT-OF-BAND HIGH CHANNEL 9
 Antenna 2**



**HIGH CHANNEL 9 BANDEDGE
 Antenna 3**



**OUT-OF-BAND HIGH CHANNEL 9
 Antenna 3**

10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement 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 in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 30MHz, below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

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.

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y - 51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

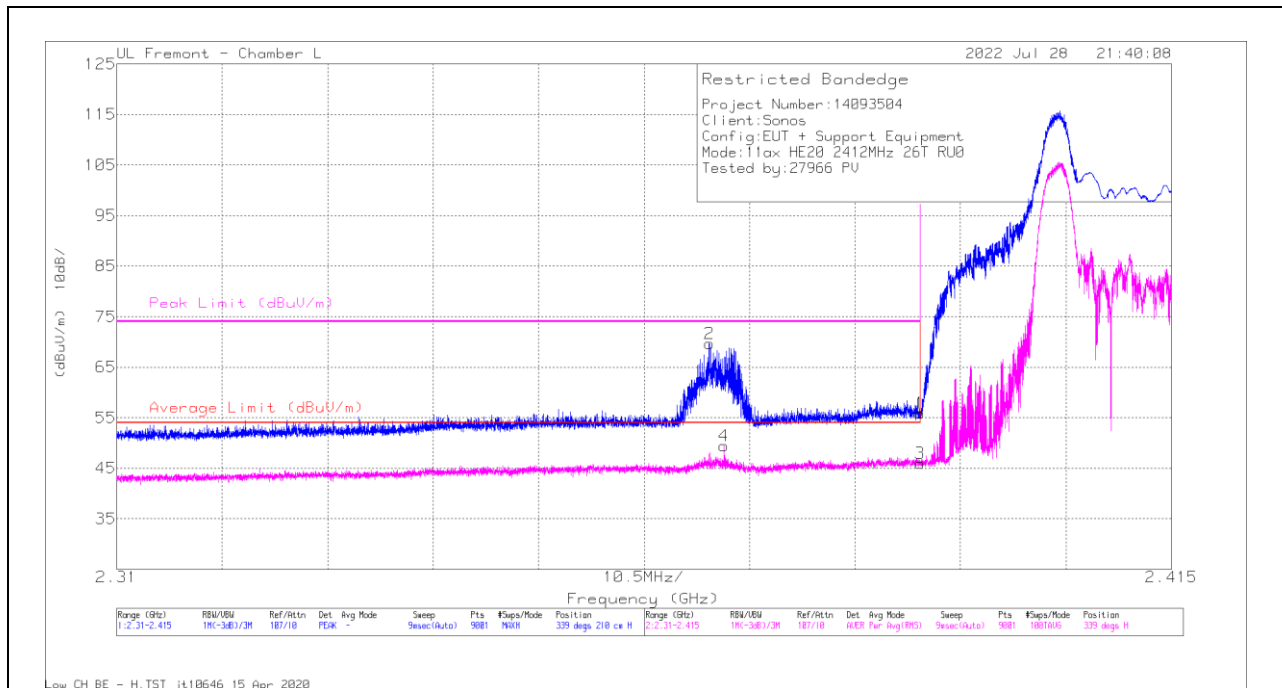
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11ax HE20 MODE IN THE 2.4GHz BAND

2TX Antenna 2 + Antenna 3 OFDMA MODE: 26-Tones, RU Index 0

BANDEDGE (LOW CHANNEL 1)

HORIZONTAL RESULT



Trace Markers

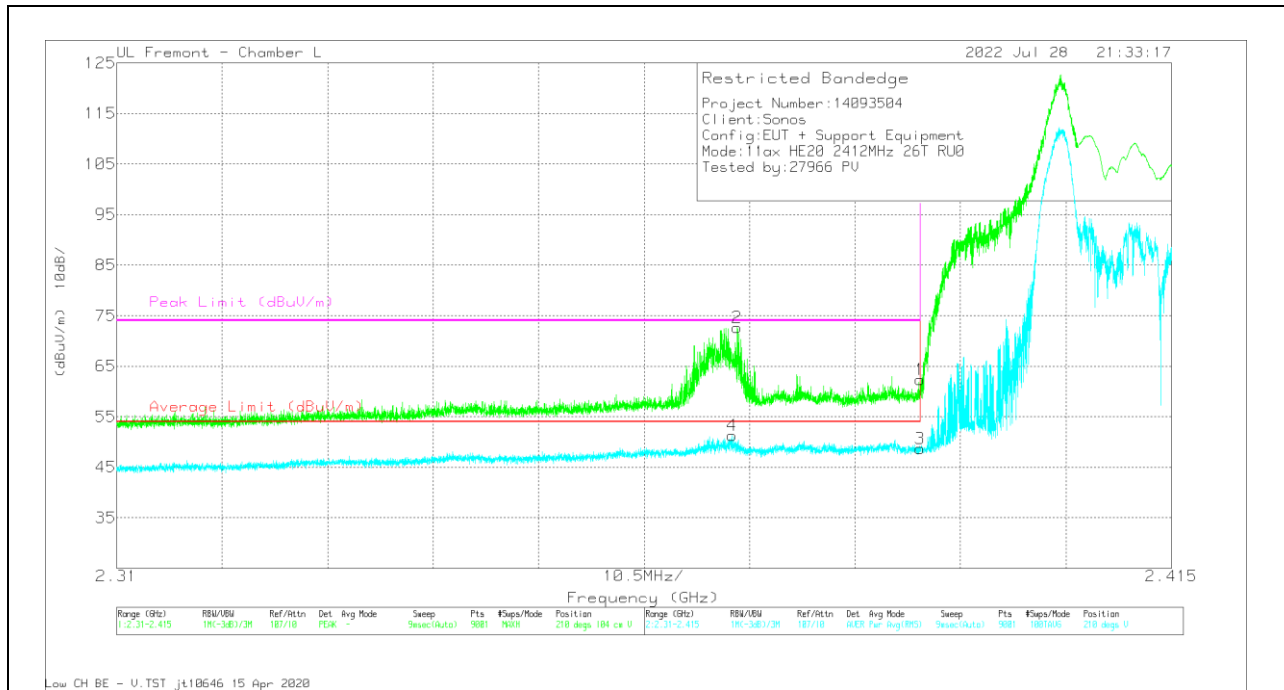
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	44.03	Pk	31.9	-20.1	0	55.83	-	-	74	-18.17	339	210	H
2	* 2.368988	57.9	Pk	31.9	-20.1	0	69.7	-	-	74	-4.3	339	210	H
3	* 2.39	31.8	RMS	31.9	-20.1	2.38	45.98	54	-8.02	-	-	339	210	H
4	* 2.370458	35.27	RMS	31.9	-20.1	2.38	49.45	54	-4.55	-	-	339	210	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/CbI/Pad (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	* 2.39	50.49	Pk	31.9	-20.1	0	62.29	-	-	74	-11.71	210	104	V
2	* 2.371753	60.83	Pk	31.9	-20.1	0	72.63	-	-	74	-1.37	210	104	V
3	* 2.39	34.46	RMS	31.9	-20.1	2.38	48.64	54	-5.36	-	-	210	104	V
4	* 2.371252	37.07	RMS	31.9	-20.1	2.38	51.25	54	-2.75	-	-	210	104	V

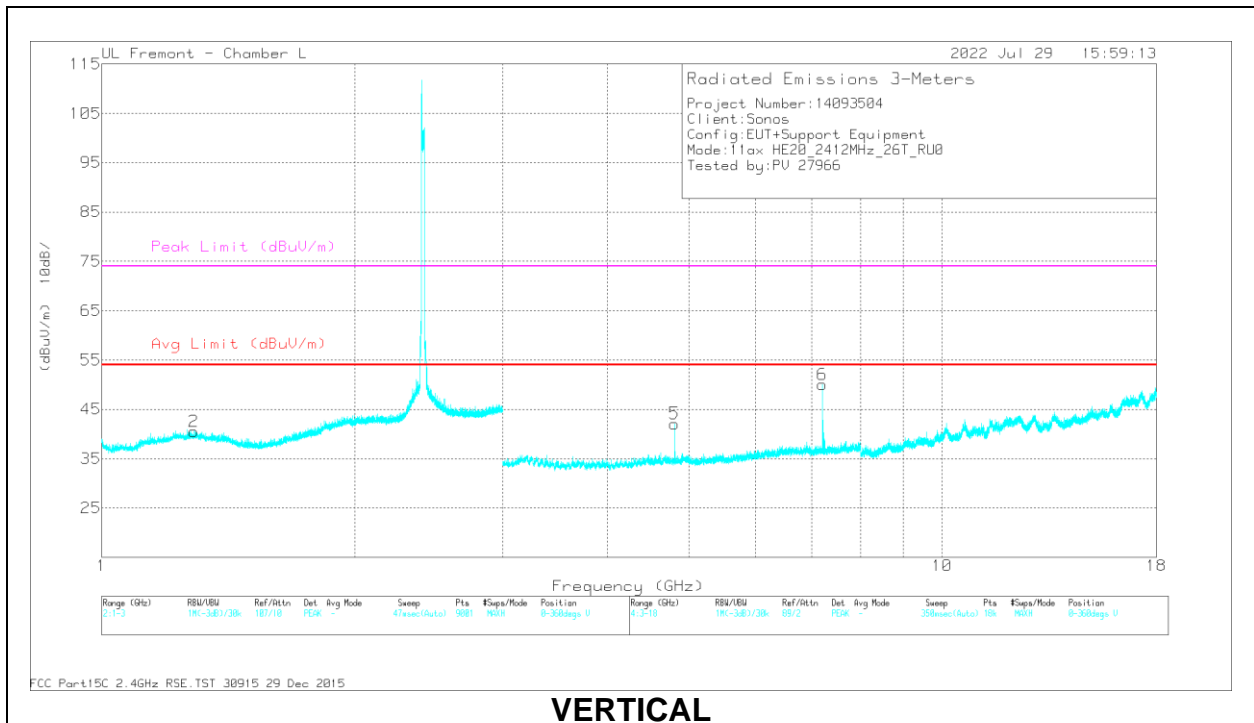
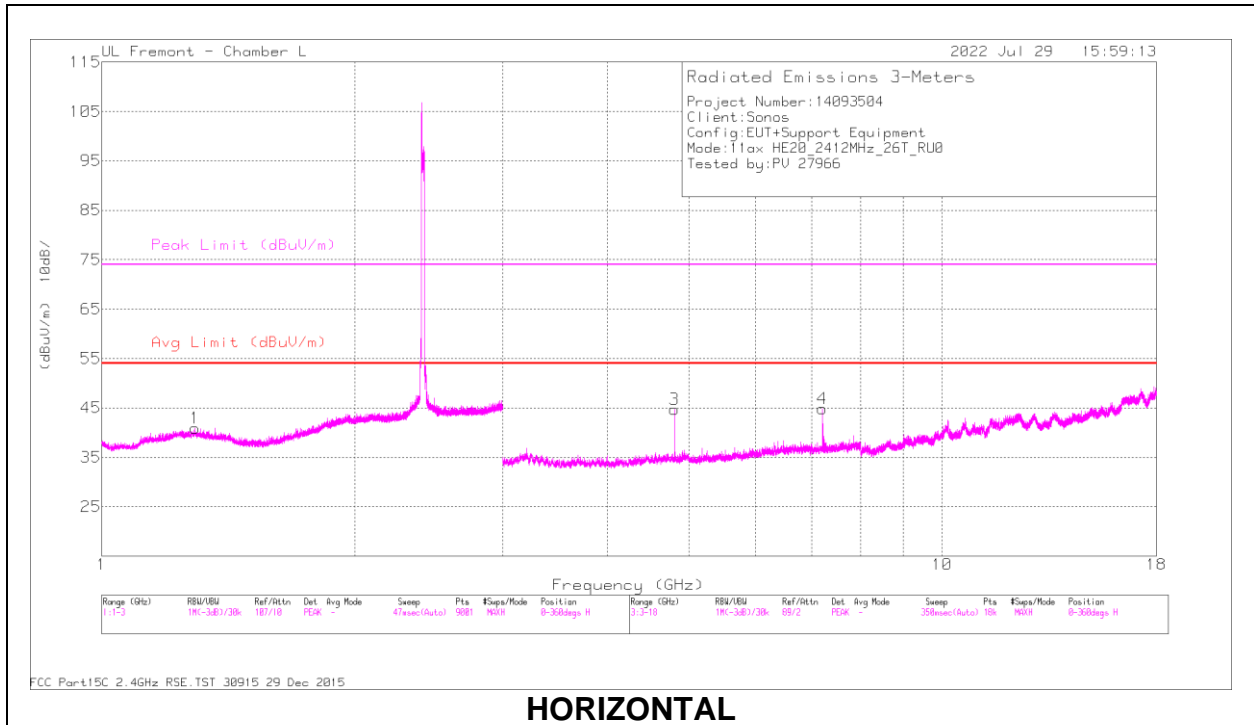
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL 1 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.291647	43.22	PK2	30	-23.2	0	50.02	-	-	74	-23.98	114	294	H
	* 1.292777	31.19	MAv1	30	-23.2	2.38	40.37	54	-13.63	-	-	114	294	H
2	* 1.287253	43	PK2	30	-23.2	0	49.8	-	-	74	-24.2	183	106	V
	* 1.28856	31.84	MAv1	30	-23.2	2.38	41.02	54	-12.98	-	-	183	106	V
3	* 4.807511	60.02	PK2	34.1	-26.6	0	67.52	-	-	74	-6.48	145	101	H
	* 4.807215	34.96	MAv1	34.1	-26.6	2.38	44.84	54	-9.16	-	-	145	101	H
4	7.210016	58.64	PK2	35.9	-23	0	71.54	-	-	-	-	211	102	H
5	* 4.807181	58.67	PK2	34.1	-26.6	0	66.17	-	-	74	-7.83	253	101	V
	* 4.807569	35.52	MAv1	34.1	-26.6	2.38	45.4	54	-8.6	-	-	253	101	V
6	7.21005	62.51	PK2	35.9	-23	0	75.41	-	-	-	-	139	101	V

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

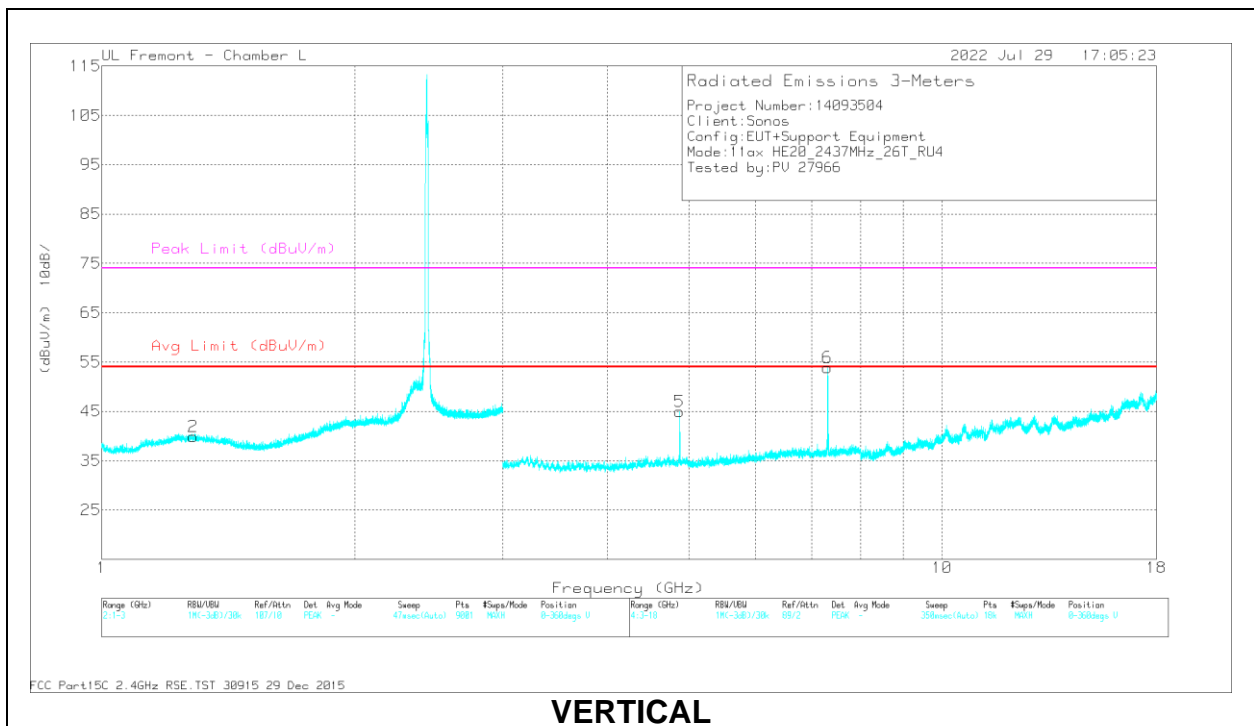
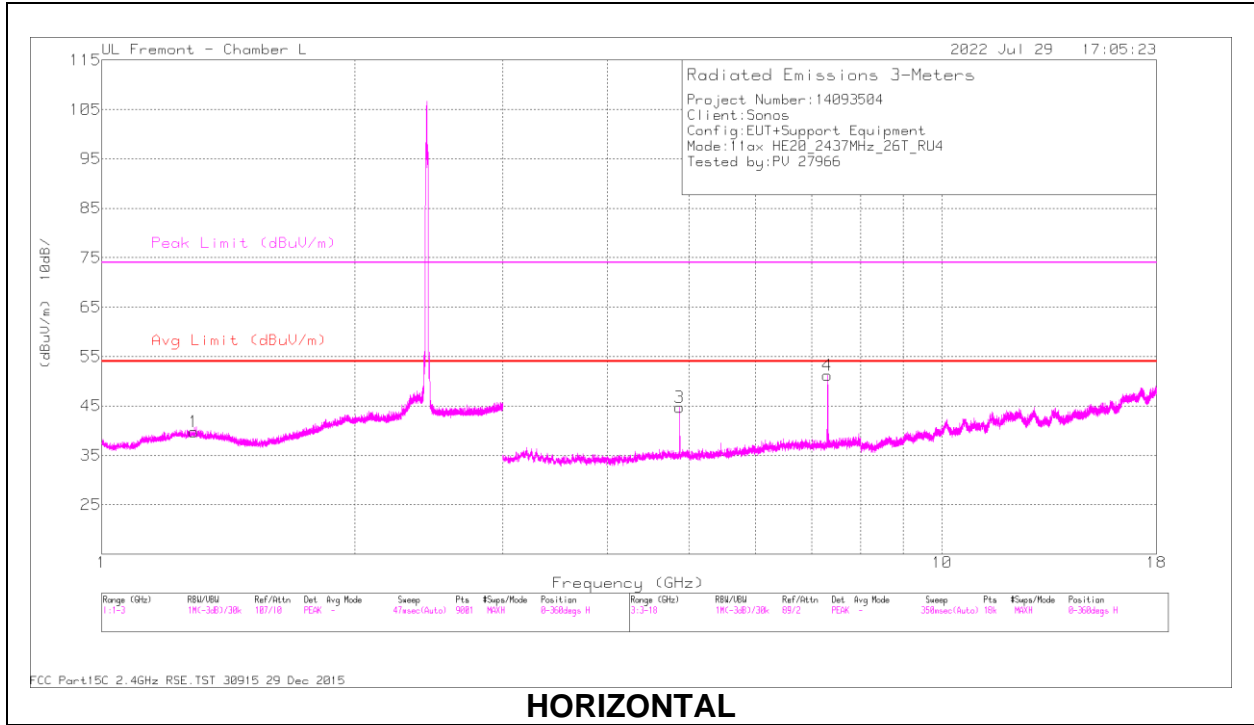
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

2TX Antenna 2 + Antenna 3 OFDMA MODE: 26-Tones, RU Index 4

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL 6 RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.289183	43.5	PK2	30	-23.2	0	50.3	-	-	74	-23.7	208	111	H
	* 1.288212	31.7	MAv1	30	-23.2	2.38	40.88	54	-13.12	-	-	208	111	H
2	* 1.287135	42.78	PK2	30	-23.2	0	49.58	-	-	74	-24.42	131	233	V
	* 1.285169	31.59	MAv1	30	-23.2	2.38	40.77	54	-13.23	-	-	131	233	V
3	* 7.311974	55.35	PK2	35.9	-22.8	0	68.45	-	-	74	-5.55	88	104	H
	* 7.311127	31.9	MAv1	35.9	-22.9	2.38	47.28	54	-6.72	-	-	88	104	H
4	* 4.874096	54.29	PK2	34.2	-26.4	0	62.09	-	-	74	-11.91	292	105	H
	* 4.873832	29.89	MAv1	34.2	-26.4	2.38	40.07	54	-13.93	-	-	292	105	H
5	* 7.311611	59.16	PK2	35.9	-22.8	0	72.26	-	-	74	-1.74	135	104	V
	* 7.311078	36.69	MAv1	35.9	-22.9	2.38	52.07	54	-1.93	-	-	135	104	V
6	* 4.873926	51.46	PK2	34.2	-26.4	0	59.26	-	-	74	-14.74	237	105	V
	* 4.872895	29.84	MAv1	34.2	-26.5	2.38	39.92	54	-14.08	-	-	237	105	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average