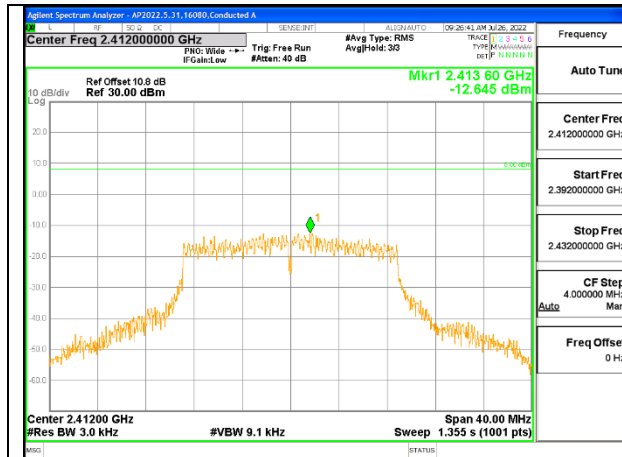
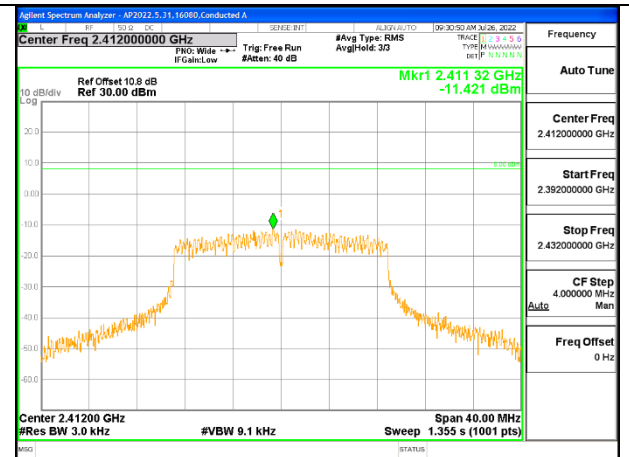


LOW CHANNEL 1

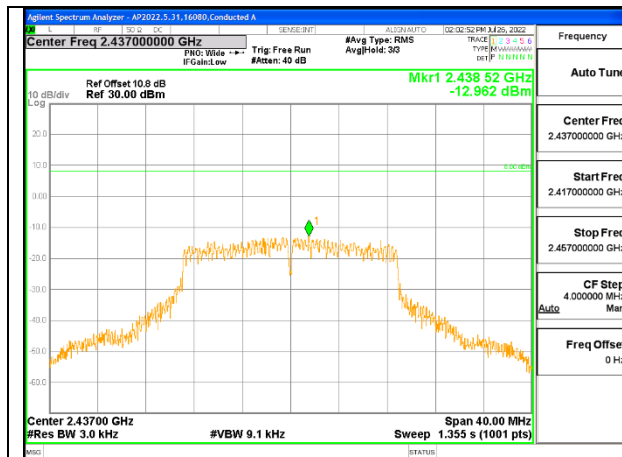


LOW CHANNEL 1 ANTENNA 2

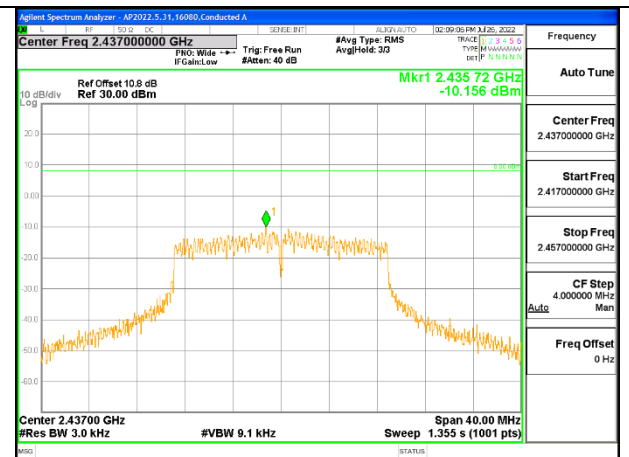


LOW CHANNEL 1 ANTENNA 3

MID CHANNEL 6

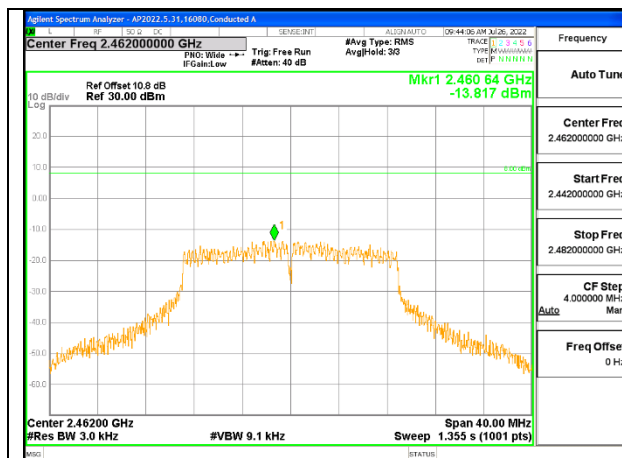


MID CHANNEL 6 ANTENNA 2

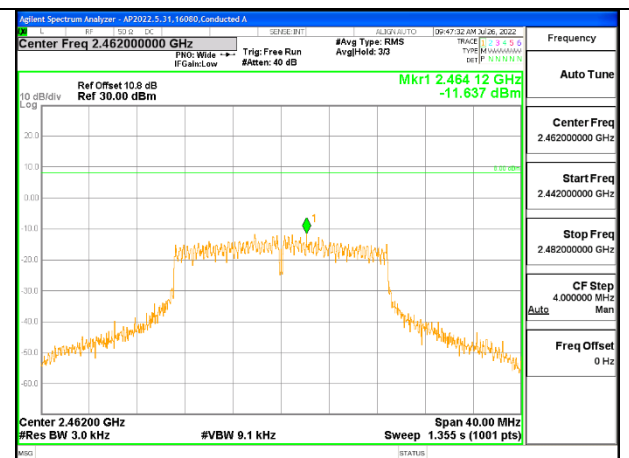


MID CHANNEL 6 ANTENNA 3

HIGH CHANNEL 11



HIGH CHANNEL 11 ANTENNA 2



HIGH CHANNEL 11 ANTENNA 3

9.6.4. 802.11n HT40 MODE

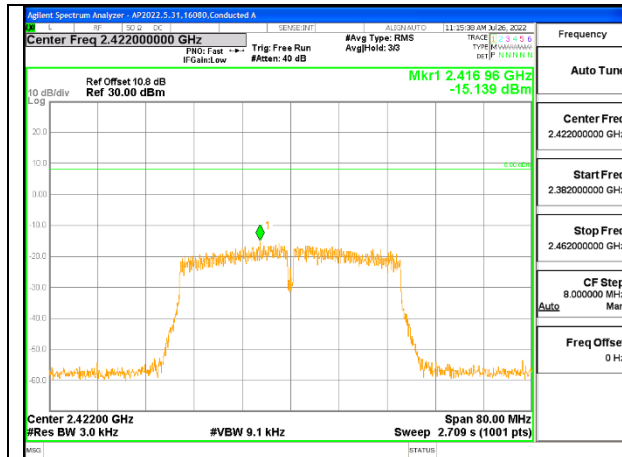
2TX Antenna 2 + Antenna 3 CDD MODE

Duty Cycle CF (dB)	2.03	Included in Calculations of Corr'd PSD
--------------------	------	--

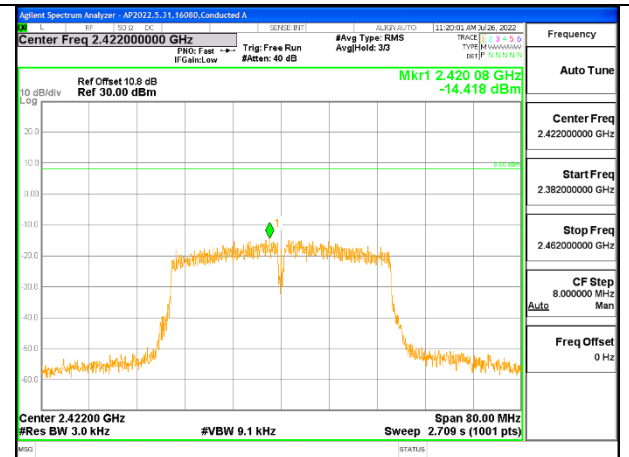
PSD Results

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	-15.139	-14.418	-9.72	8.0	-17.7
Mid 6	2437	-15.088	-14.571	-9.78	8.0	-17.8
High 9	2452	-15.931	-15.705	-10.78	8.0	-18.8

LOW CHANNEL 3

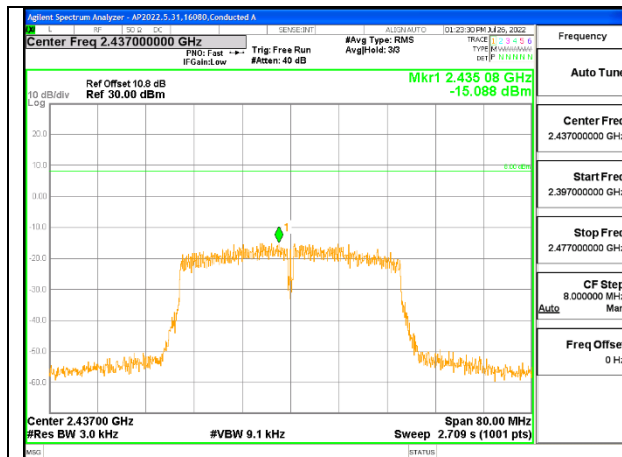


LOW CHANNEL 3 ANTENNA 2

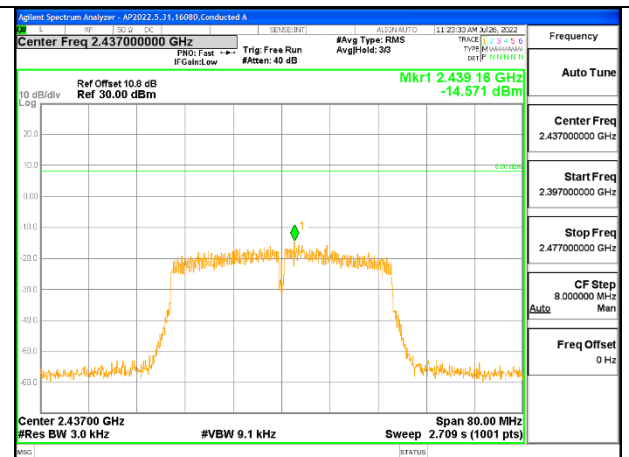


LOW CHANNEL 3 ANTENNA 3

MID CHANNEL 6

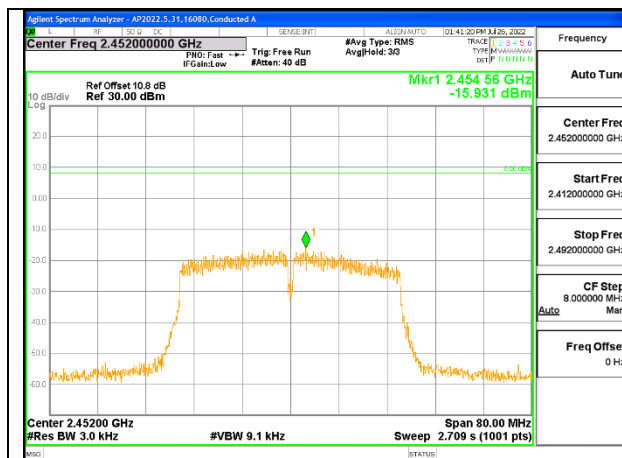


MID CHANNEL 6 ANTENNA 2

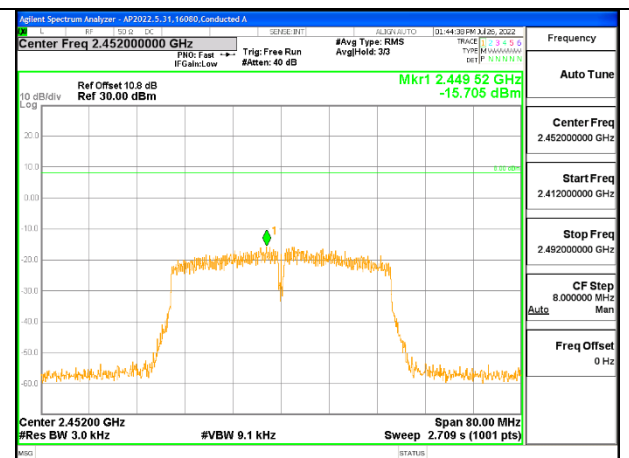


MID CHANNEL 6 ANTENNA 3

HIGH CHANNEL 9



HIGH CHANNEL 9 ANTENNA 2



HIGH CHANNEL 9 ANTENNA 3

9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

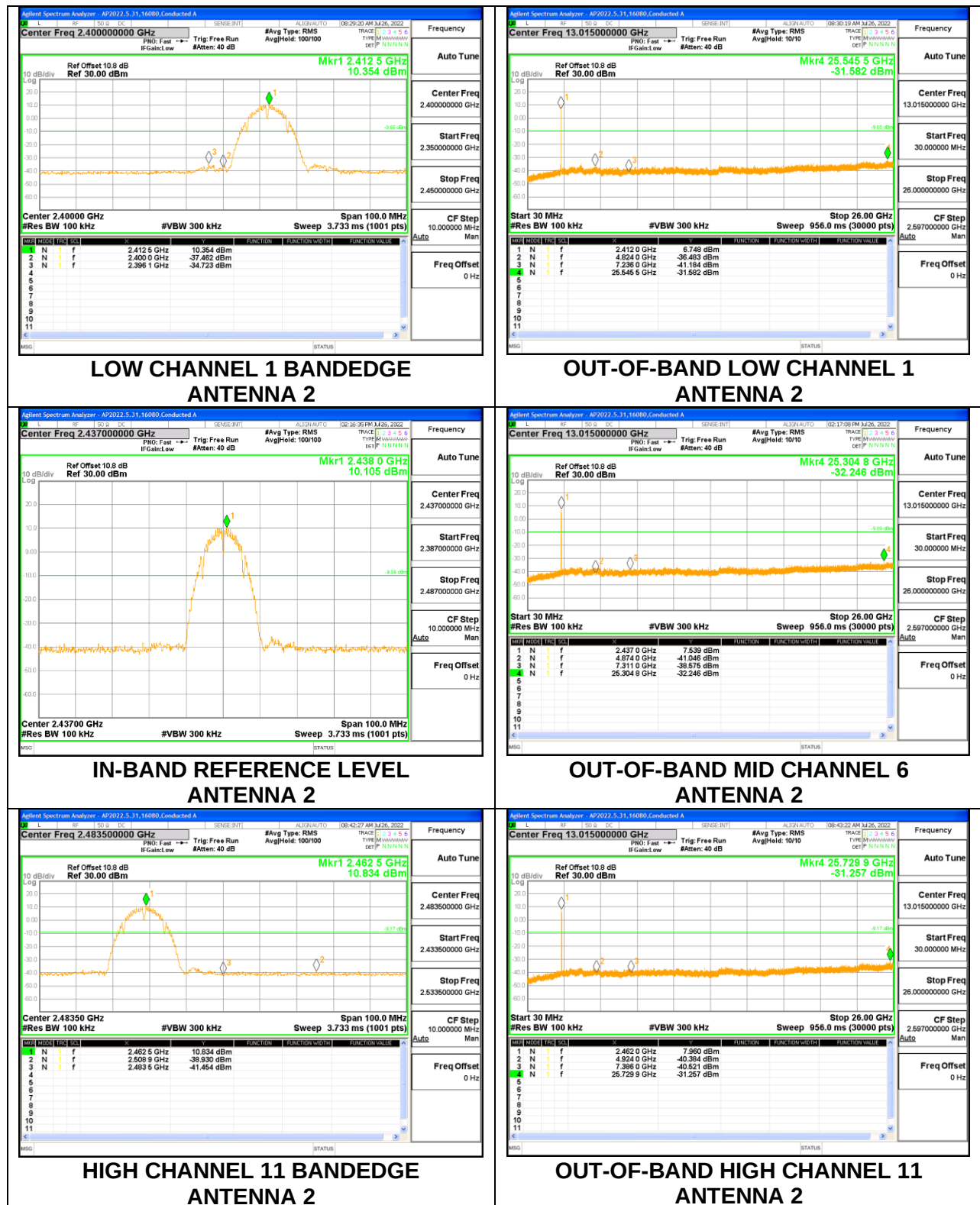
RSS-247 5.5

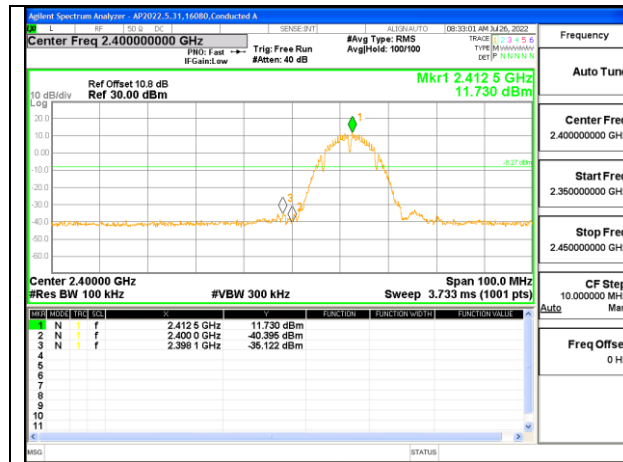
Output power was measured based on the use of peak measurement; therefore, the required attenuation is 20 dB.

RESULTS

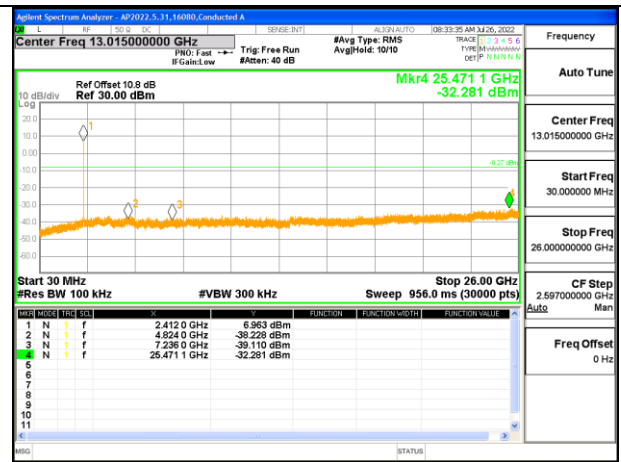
9.7.1. 802.11b MODE

2TX Antenna 2 + Antenna 3 CDD MODE

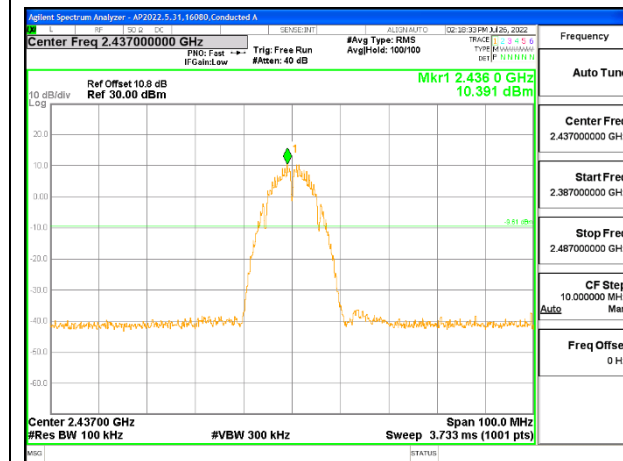




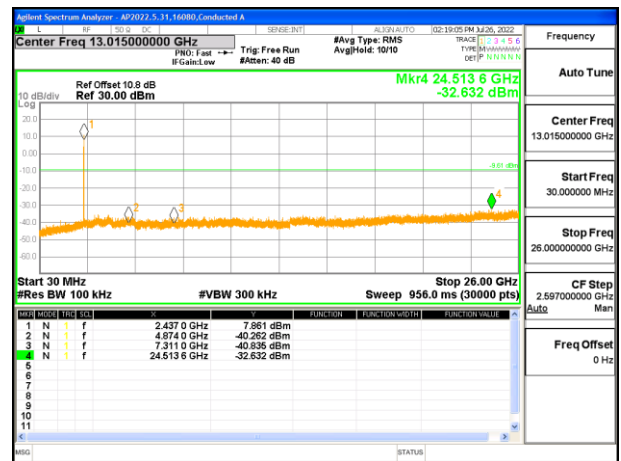
LOW CHANNEL 1 BANDEDGE
ANTENNA 3



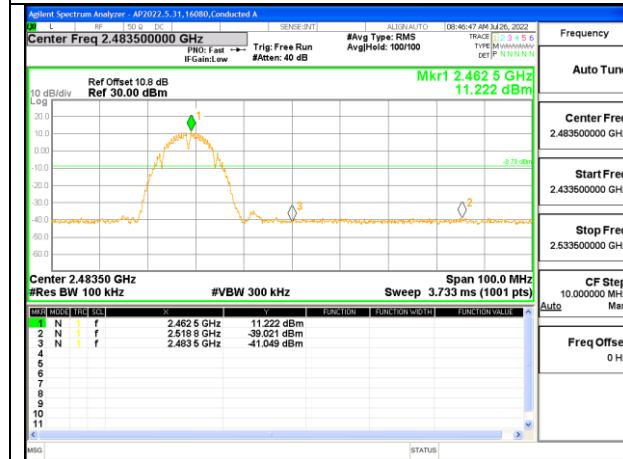
OUT-OF-BAND LOW CHANNEL 1
ANTENNA 3



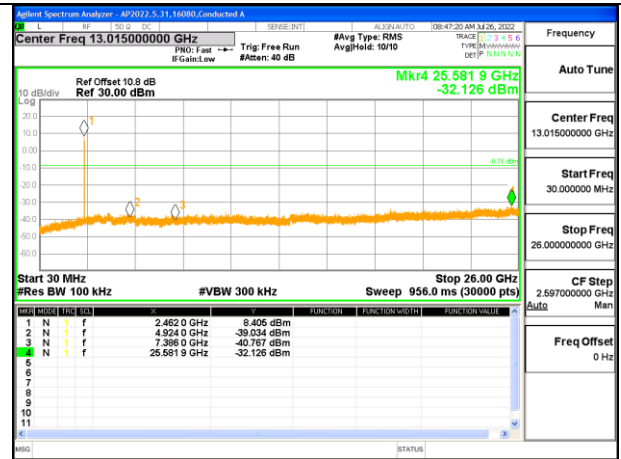
IN-BAND REFERENCE LEVEL
ANTENNA 3



OUT-OF-BAND MID CHANNEL 6
ANTENNA 3



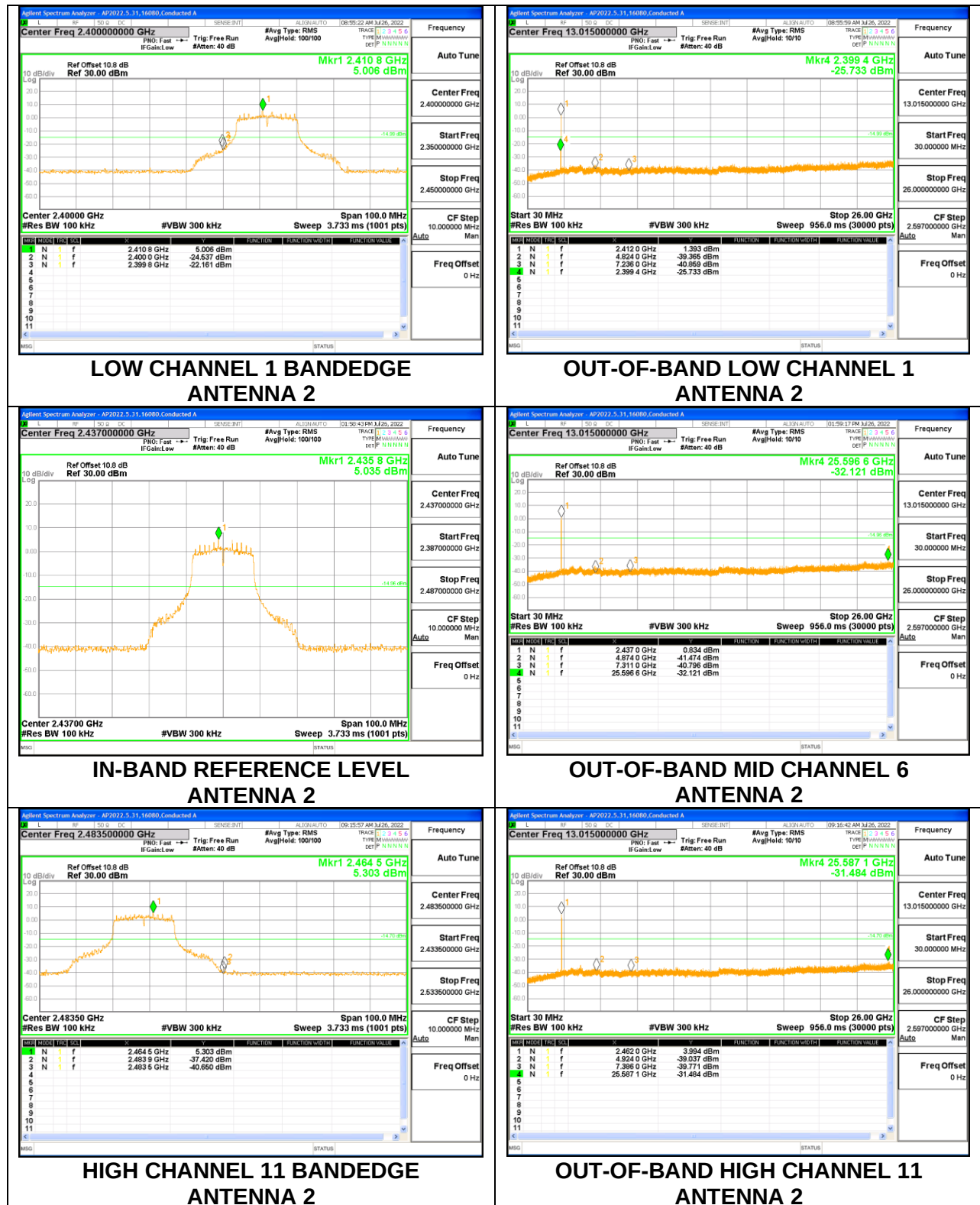
HIGH CHANNEL 11 BANDEDGE
ANTENNA 3

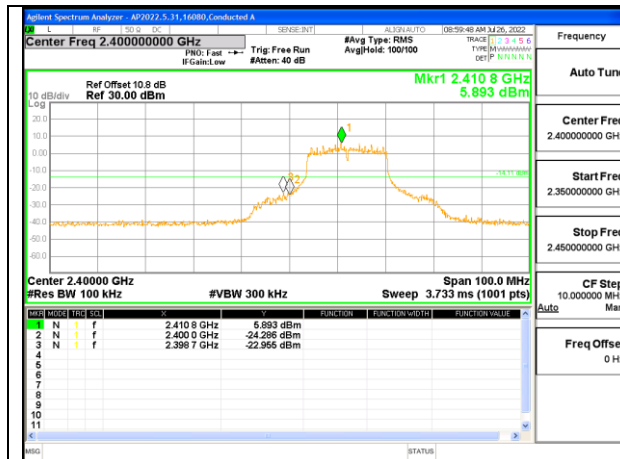


OUT-OF-BAND HIGH CHANNEL 11
ANTENNA 3

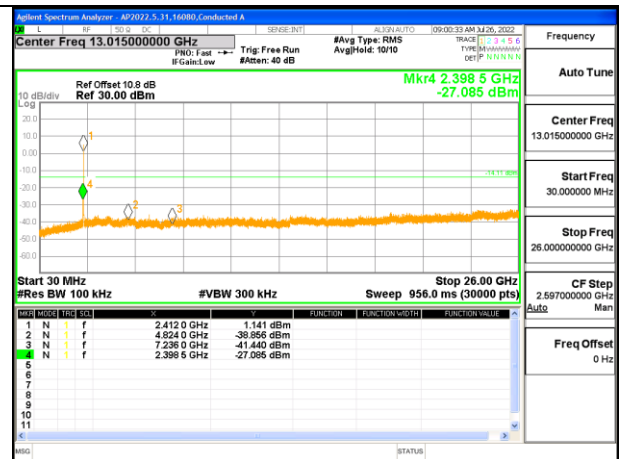
9.7.2. 802.11g MODE

2TX Antenna 2 + Antenna 3 CDD MODE

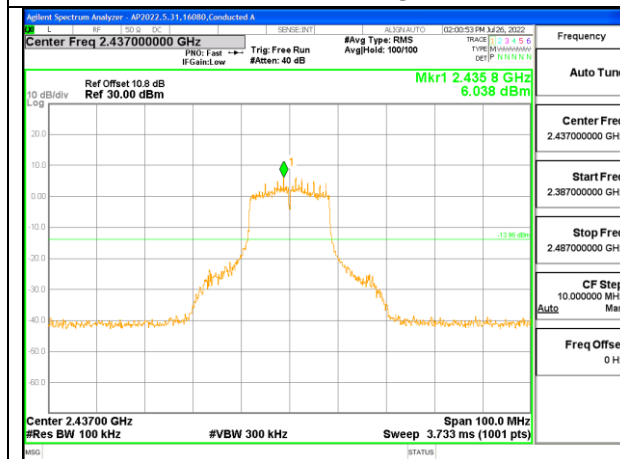




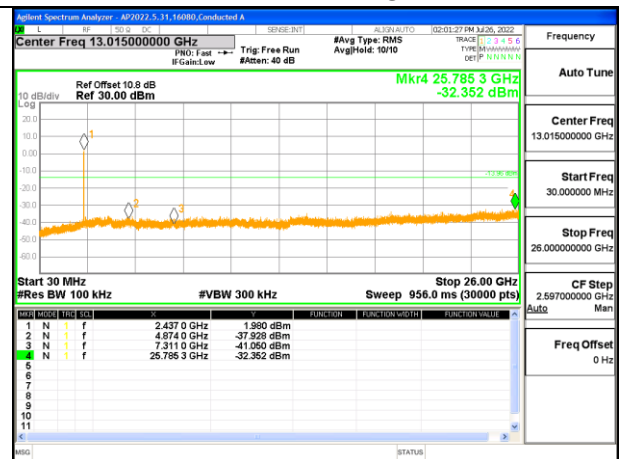
LOW CHANNEL 1 BANDEDGE
ANTENNA 3



OUT-OF-BAND LOW CHANNEL 1
ANTENNA 3



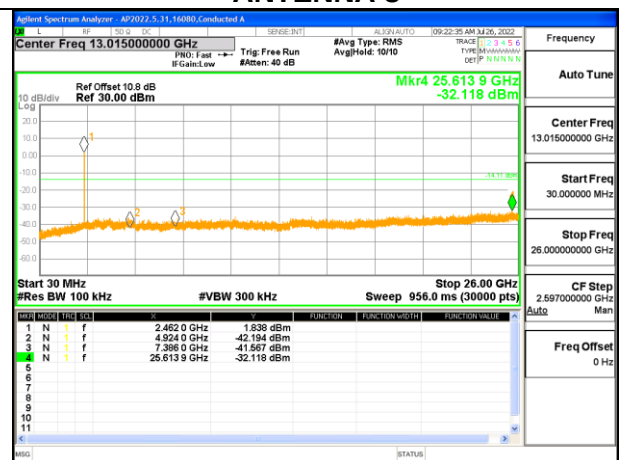
IN-BAND REFERENCE LEVEL
ANTENNA 3



OUT-OF-BAND MID CHANNEL 6
ANTENNA 3



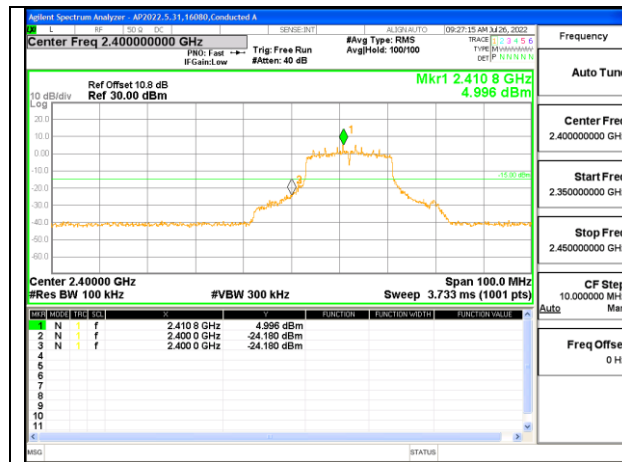
HIGH CHANNEL 11 BANDEDGE
ANTENNA 3



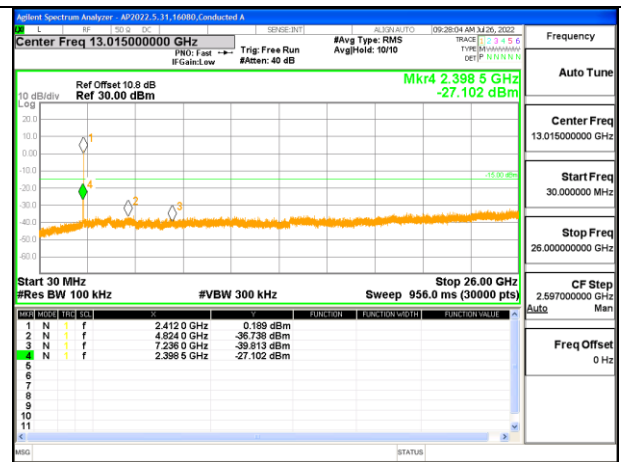
OUT-OF-BAND HIGH CHANNEL 11
ANTENNA 3

9.7.3. 2.11n HT20 MODE

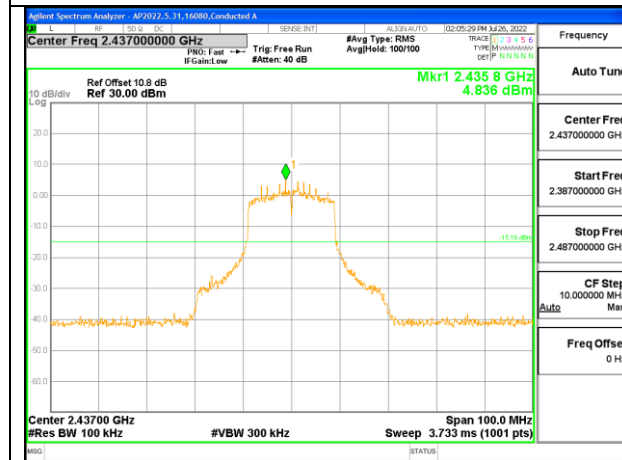
2TX Antenna 2 + Antenna 3 CDD MODE



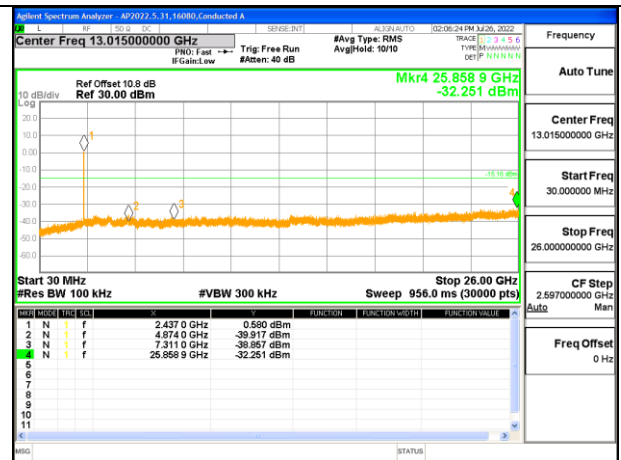
LOW CHANNEL 1 BANDEDGE
ANTENNA 2



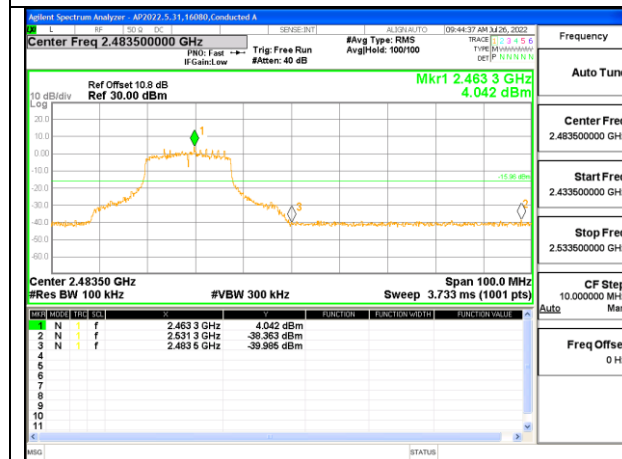
OUT-OF-BAND LOW CHANNEL 1
ANTENNA 2



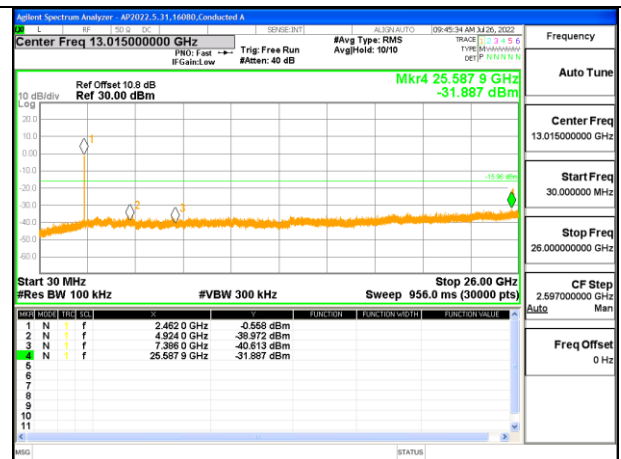
IN-BAND REFERENCE LEVEL
ANTENNA 2



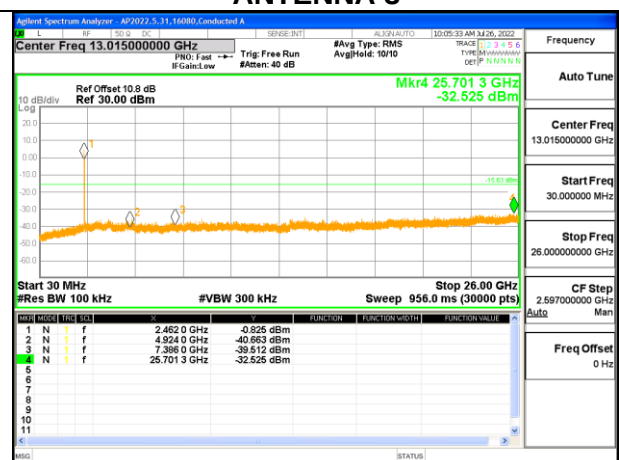
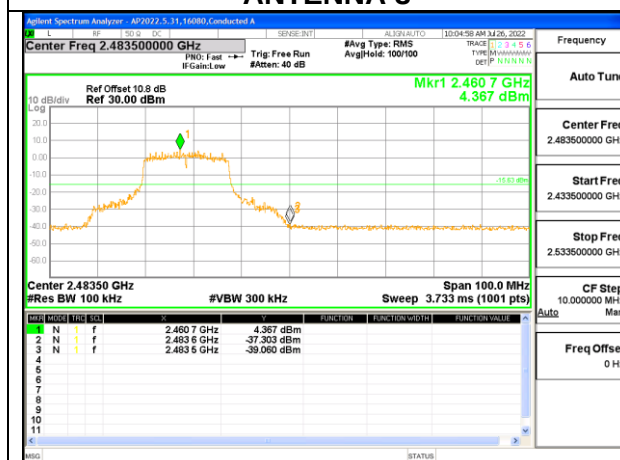
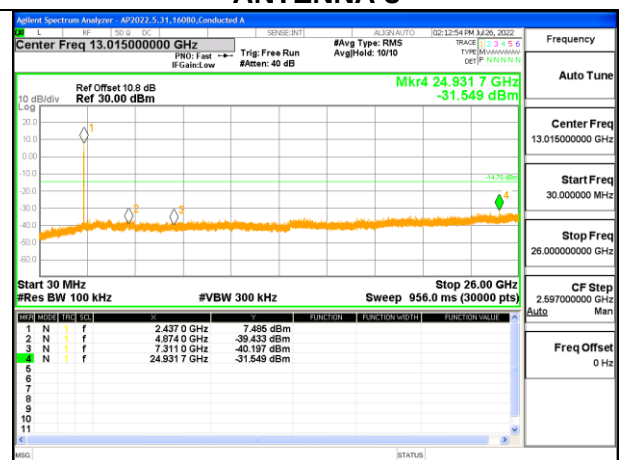
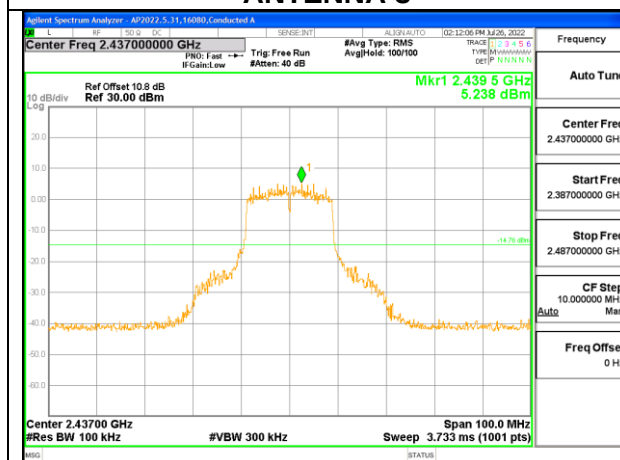
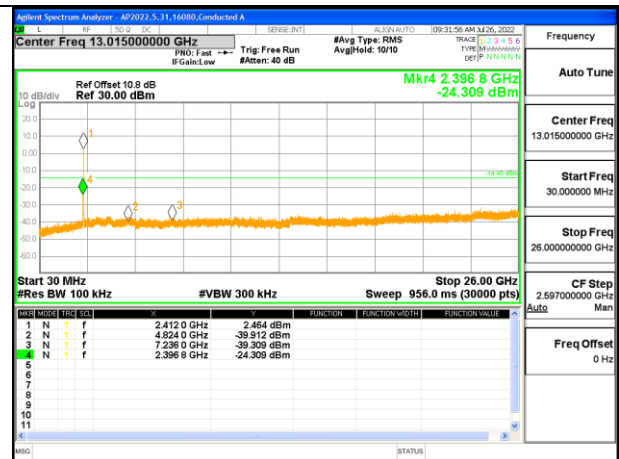
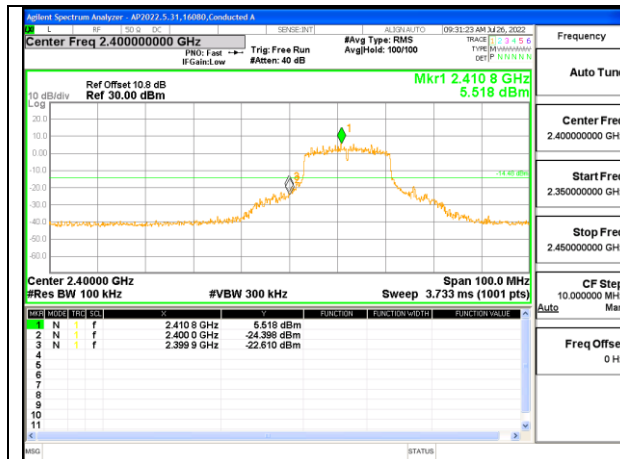
OUT-OF-BAND MID CHANNEL 6
ANTENNA 2



HIGH CHANNEL 11 BANDEDGE
ANTENNA 2

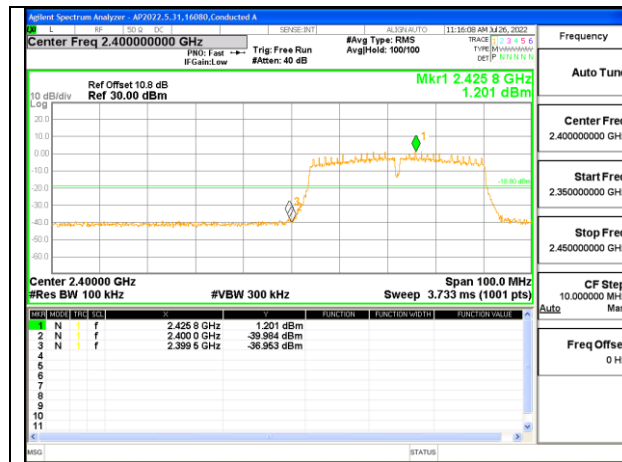


OUT-OF-BAND HIGH CHANNEL 11
ANTENNA 2

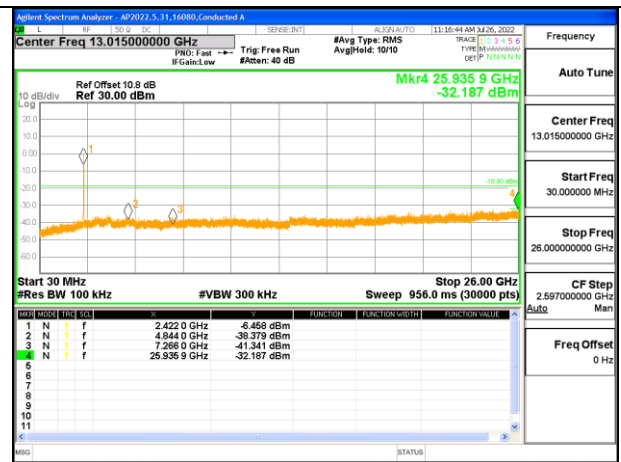


9.7.4. 802.11n HT40 MODE

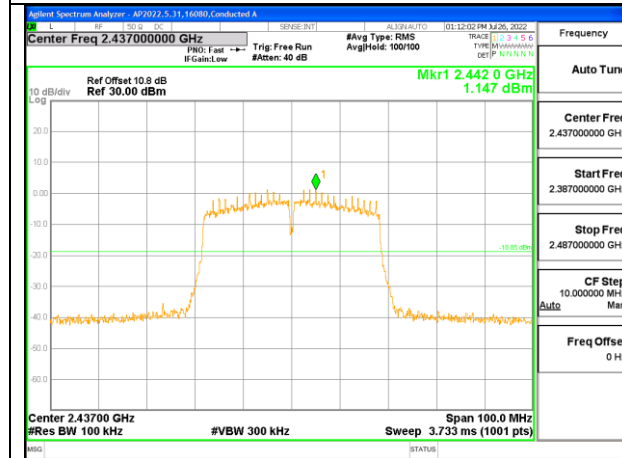
2TX Antenna 2 + Antenna 3 CDD MODE



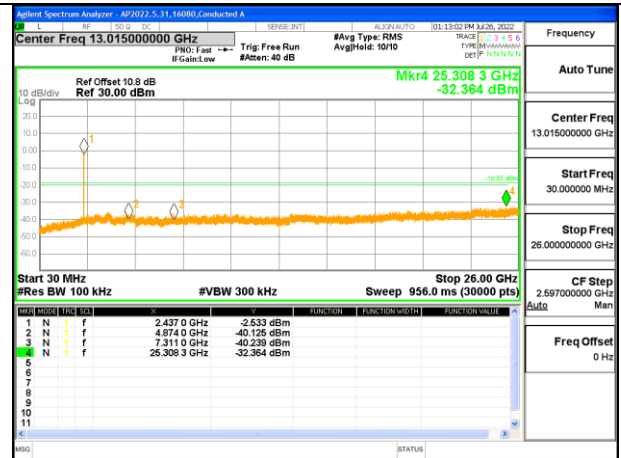
LOW CHANNEL 3 BANDEDGE
ANTENNA 2



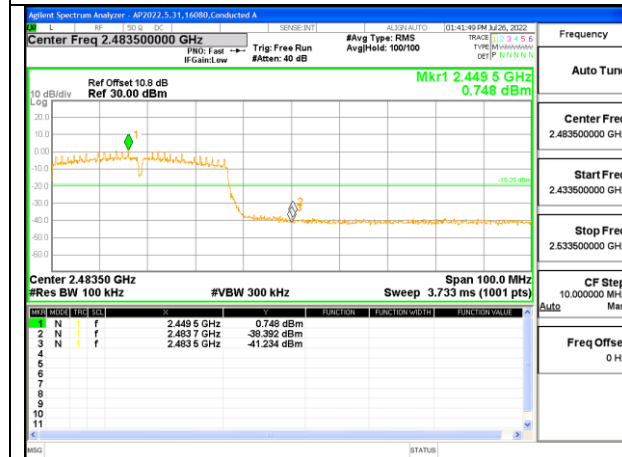
OUT-OF-BAND LOW CHANNEL 3
ANTENNA 2



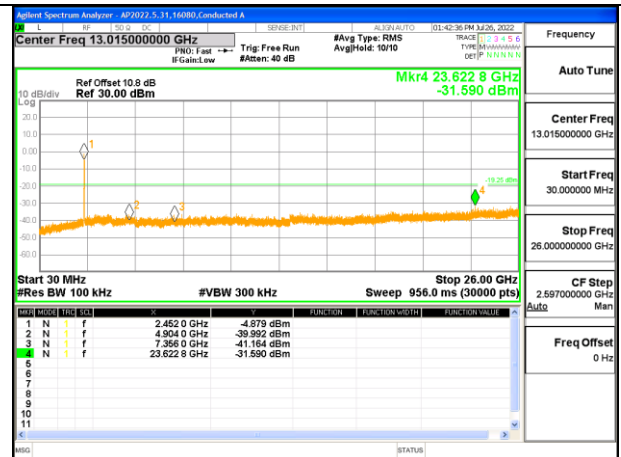
IN-BAND REFERENCE LEVEL
ANTENNA 2



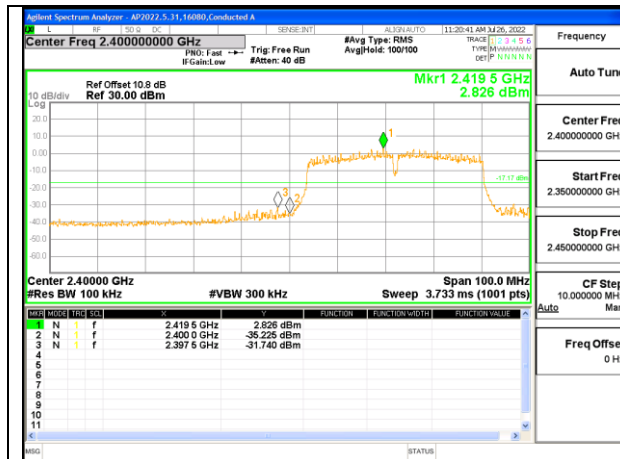
OUT-OF-BAND MID CHANNEL 6
ANTENNA 2



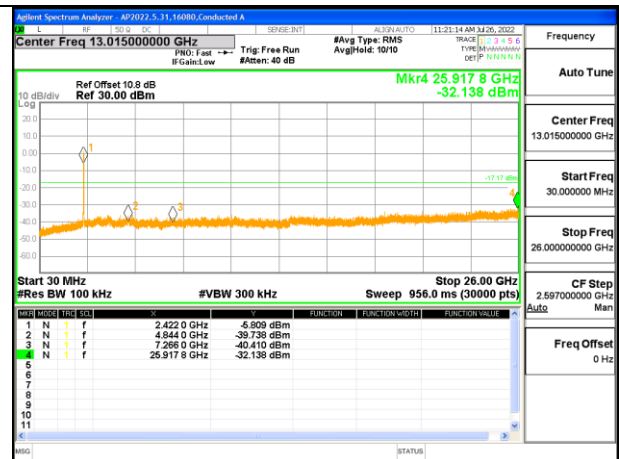
HIGH CHANNEL 9 BANDEDGE
ANTENNA 2



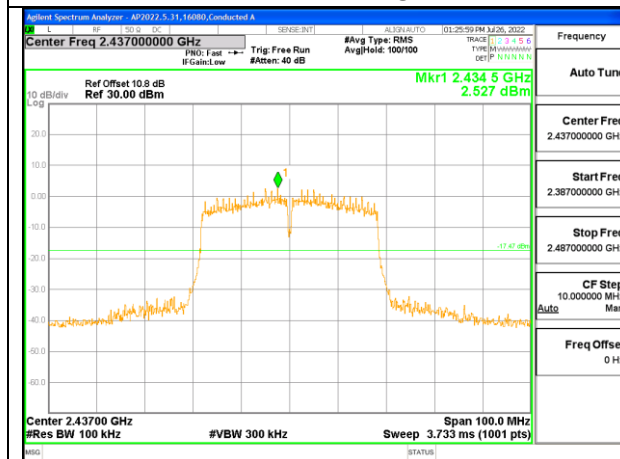
OUT-OF-BAND HIGH CHANNEL 9
ANTENNA 2



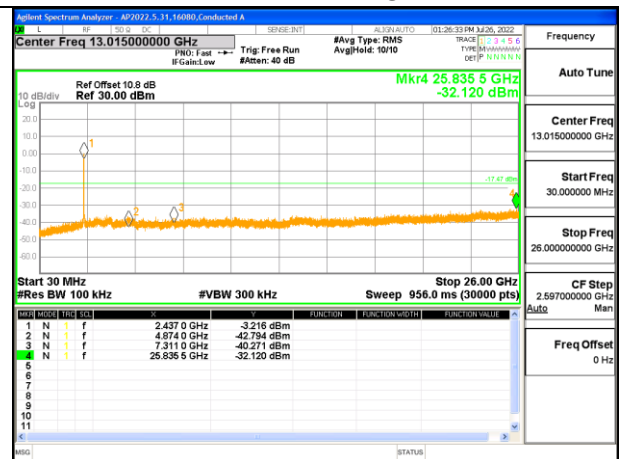
**LOW CHANNEL 3 BANDEDGE
ANTENNA 3**



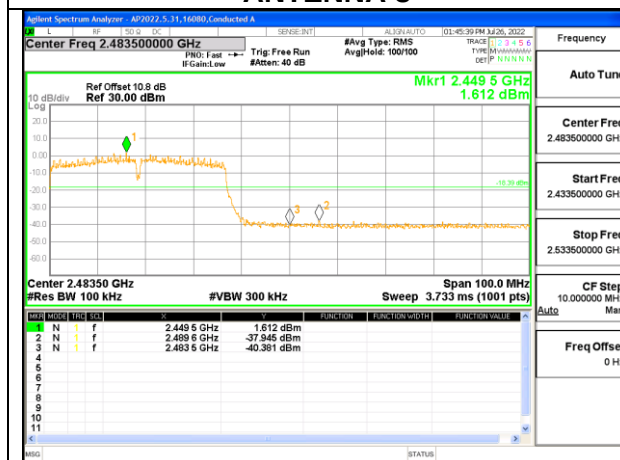
**OUT-OF-BAND LOW CHANNEL 3
ANTENNA 3**



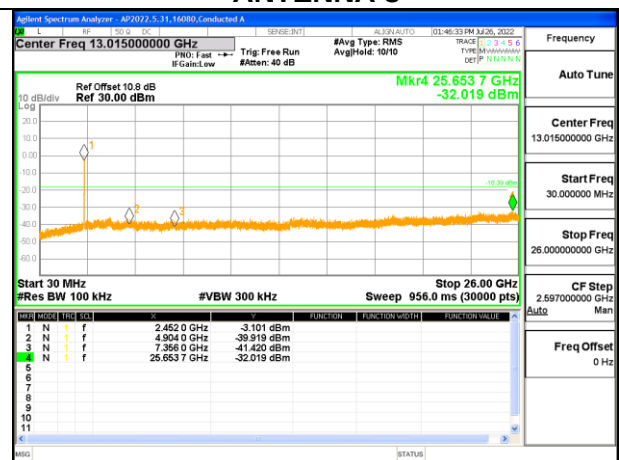
**IN-BAND REFERENCE LEVEL
ANTENNA 3**



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



**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 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.

Base 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.

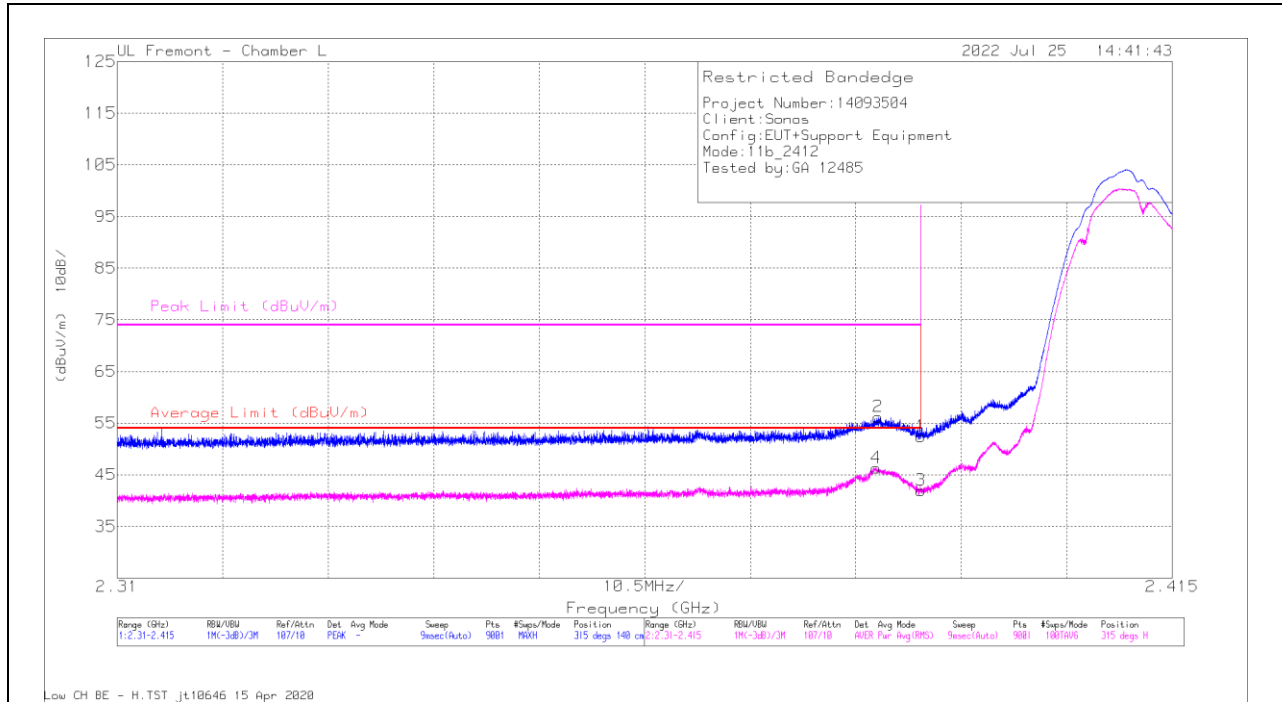
10.1. TRANSMITTER ABOVE 1 GHz

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

2TX Antenna 2 + Antenna 3 CDD MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Trace Markers

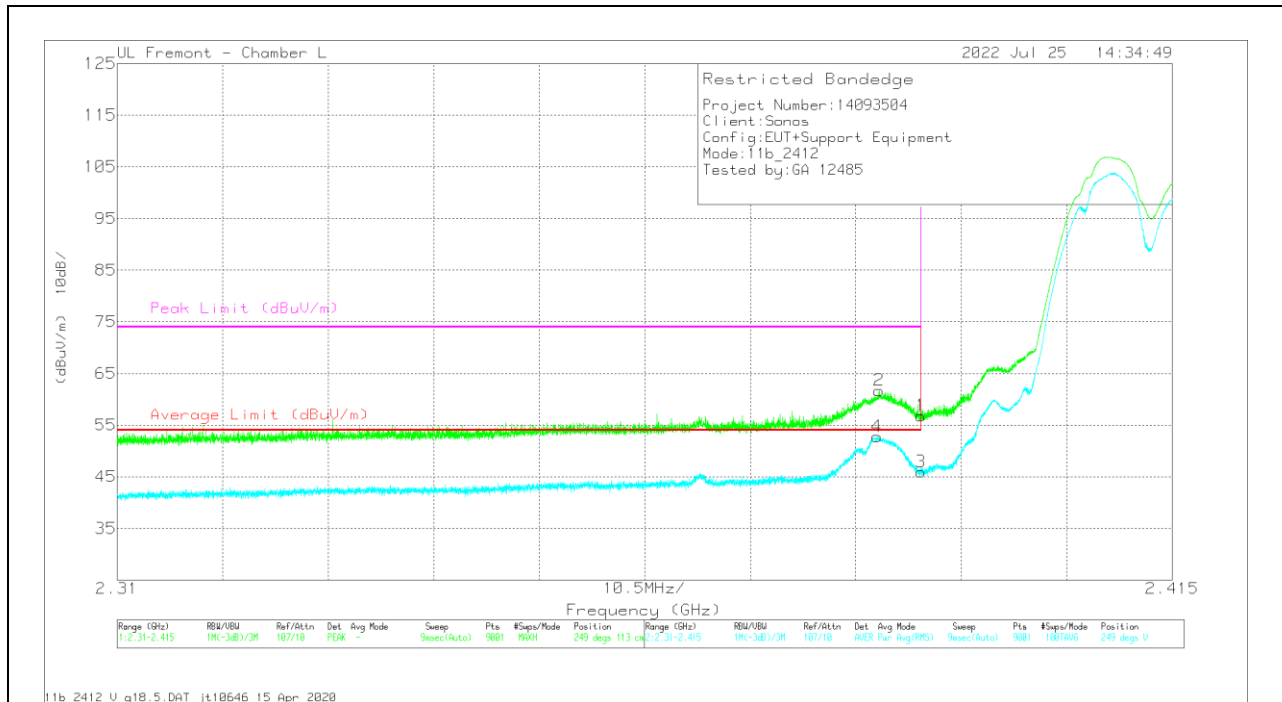
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.64	Pk	31.9	-20.1	0	52.44	-	-	74	-21.56	315	140	H
2	* 2.385742	44.42	Pk	31.9	-20.1	0	56.22	-	-	74	-17.78	315	140	H
3	* 2.39	29.98	RMS	31.9	-20.1	.2	41.98	54	-12.02	-	-	315	140	H
4	* 2.385532	34.31	RMS	31.9	-20.1	.2	46.31	54	-7.69	-	-	315	140	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/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	44.99	Pk	31.9	-20.1	0	56.79	-	-	74	-17.21	249	113	V
2	* 2.385824	49.91	Pk	31.9	-20.1	0	61.71	-	-	74	-12.29	249	113	V
3	* 2.39	33.95	RMS	31.9	-20.1	.2	45.95	54	-8.05	-	-	249	113	V
4	* 2.385625	40.78	RMS	31.9	-20.1	.2	52.78	54	-1.22	-	-	249	113	V

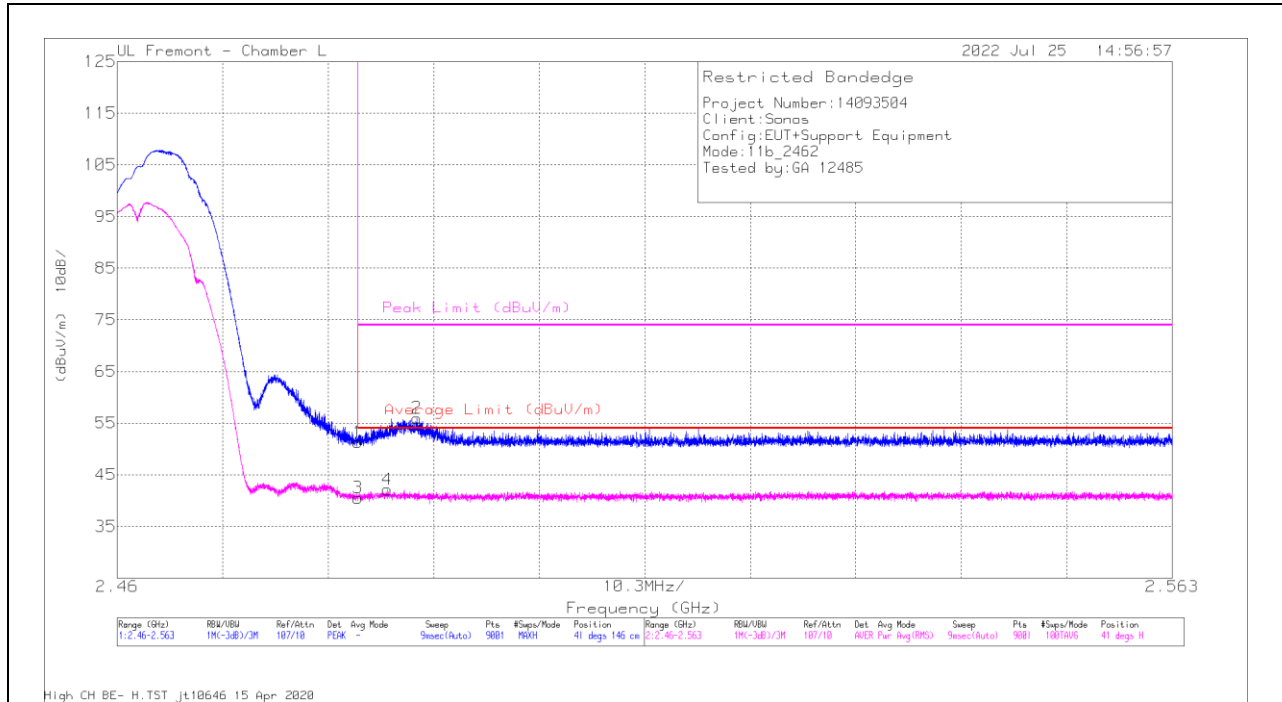
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Trace Markers

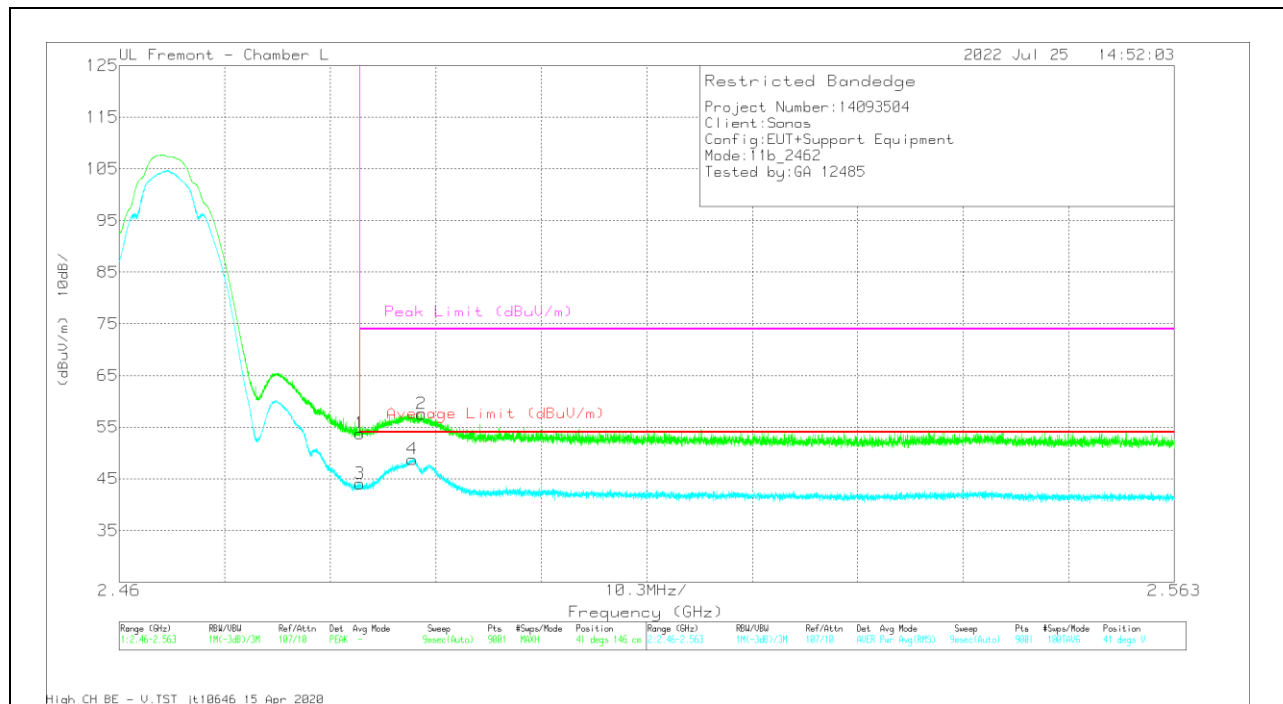
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	38.97	Pk	32.2	-19.9	0	51.27	-	-	74	-22.73	41	146	H
2	* 2.489274	43.65	Pk	32.2	-19.9	0	55.95	-	-	74	-18.05	41	146	H
3	* 2.4835	28.03	RMS	32.2	-19.9	.2	40.53	54	-13.47	-	-	41	146	H
4	* 2.486356	29.62	RMS	32.2	-19.9	.2	42.12	54	-11.88	-	-	41	146	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/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	* 2.4835	41.49	Pk	32.2	-19.9	0	53.79	-	-	74	-20.21	41	146	V
2	* 2.489503	45.29	Pk	32.2	-19.9	0	57.59	-	-	74	-16.41	41	146	V
3	* 2.4835	31.57	RMS	32.2	-19.9	.2	44.07	54	-9.93	-	-	41	146	V
4	* 2.48861	36.3	RMS	32.2	-19.9	.2	48.8	54	-5.2	-	-	41	146	V

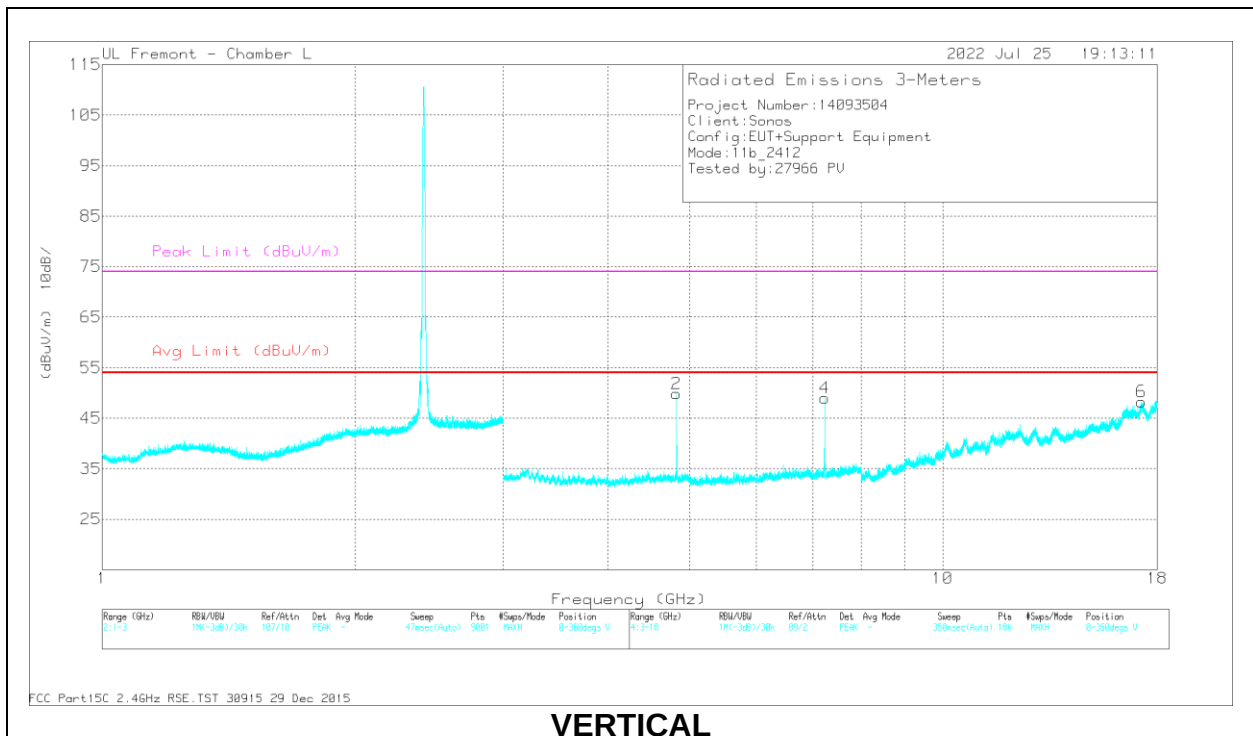
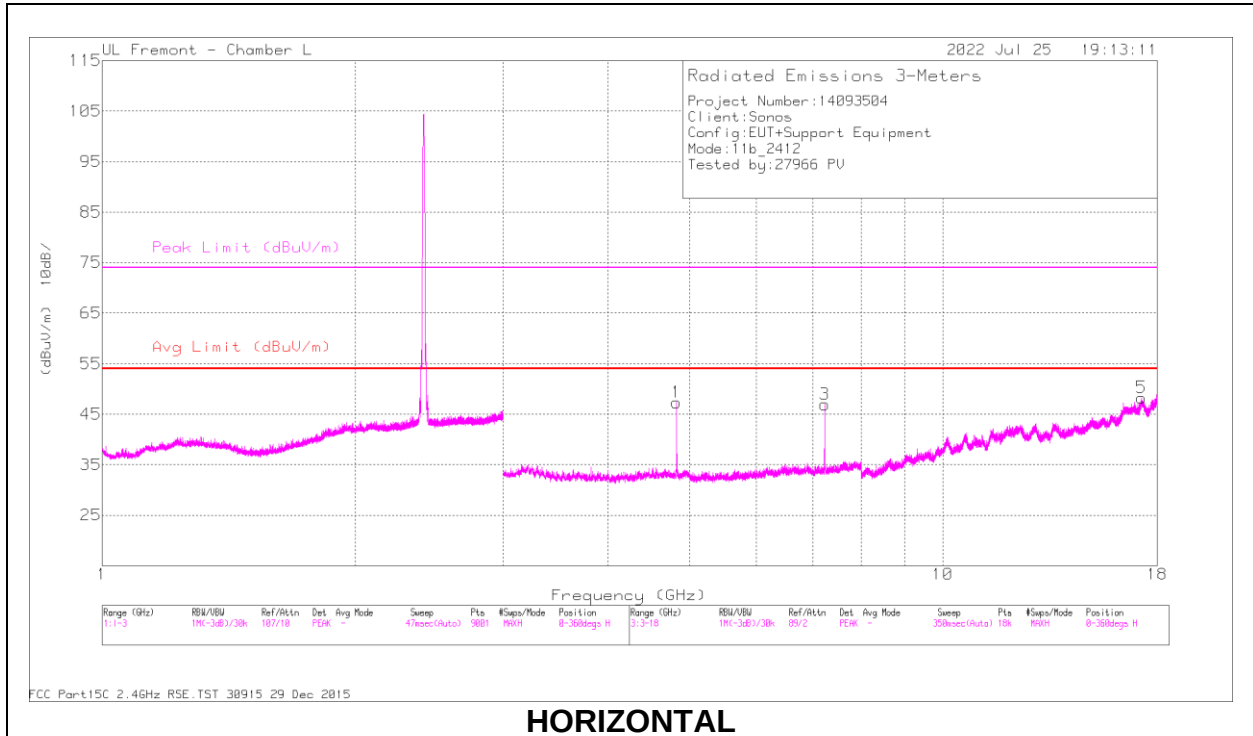
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



RADIATED EMISSIONS

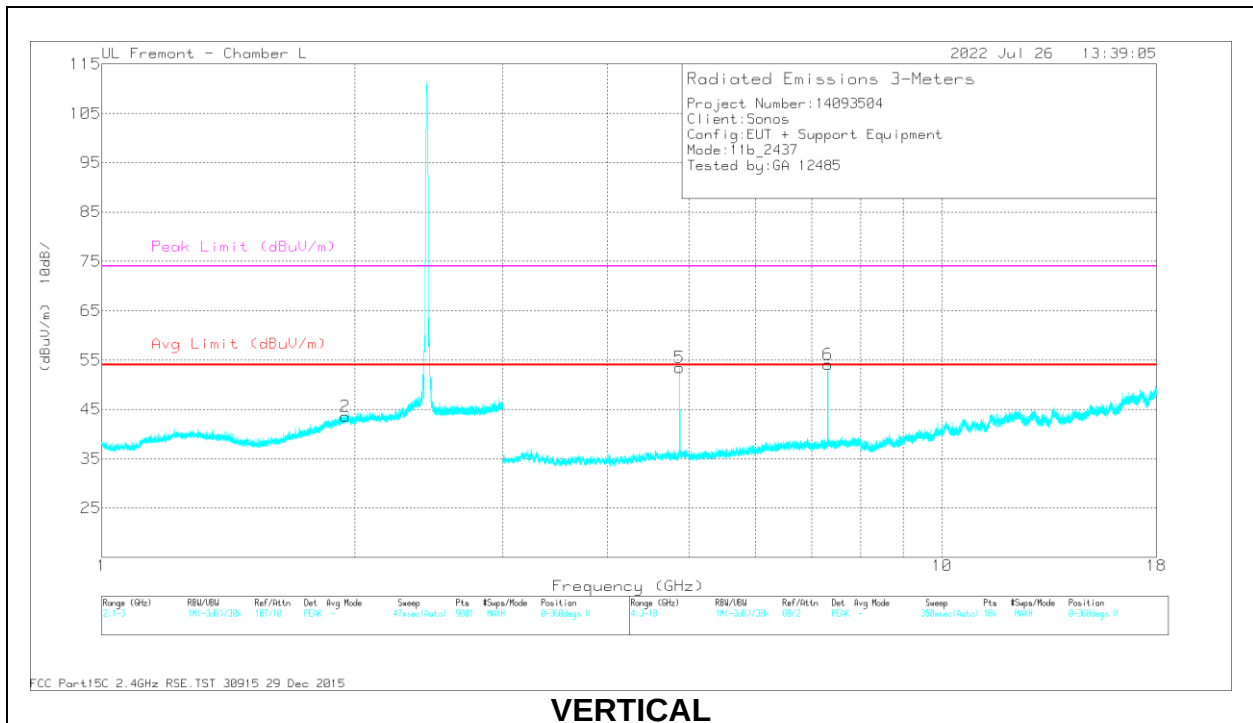
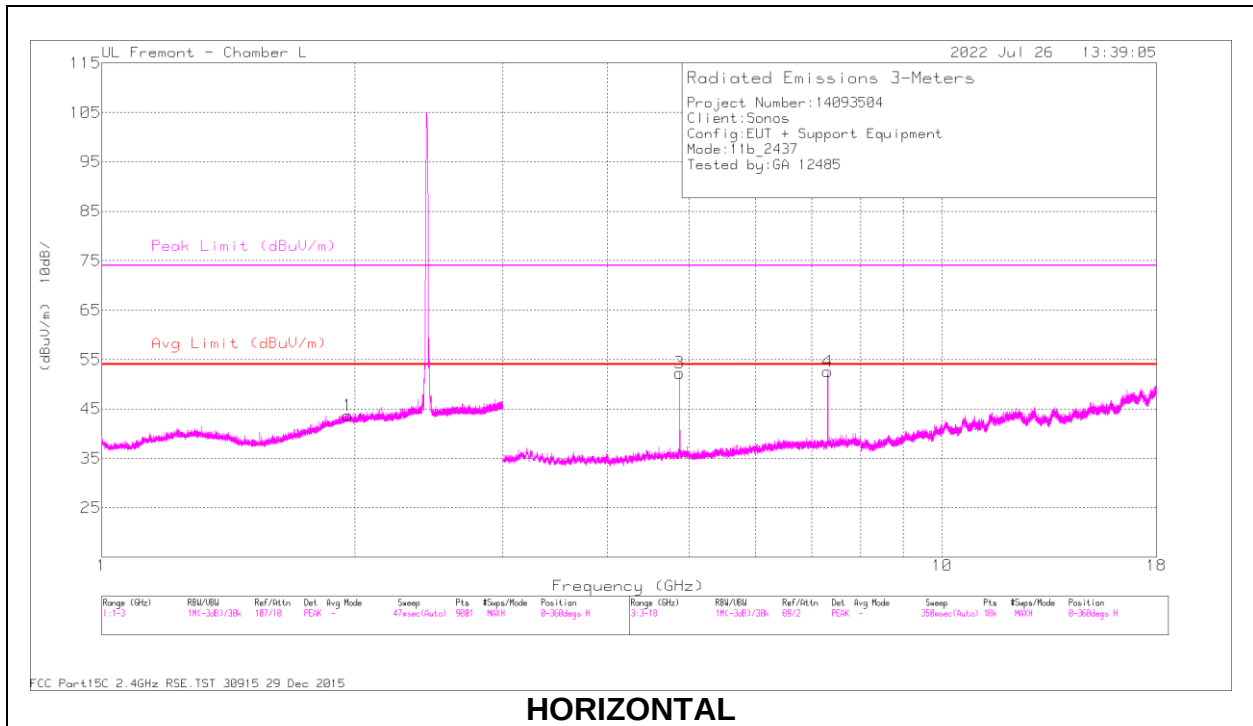
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Filtr (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.824115	43.92	PK2	34.1	-26.5	0	51.52	-	-	74	-22.48	298	103	H
	* 4.824003	36.54	MAV1	34.1	-26.5	.2	44.34	54	-9.66	-	-	298	103	H
3	7.237503	38.51	PK2	35.9	-23.2	0	51.21	-	-	-	-	93	111	H
5	17.241125	31	PK2	41.5	-14.9	0	57.6	-	-	-	-	245	165	H
2	* 4.824003	46.01	PK2	34.1	-26.5	0	53.61	-	-	74	-20.39	187	120	V
	* 4.823947	38.29	MAV1	34.1	-26.5	.2	46.09	54	-7.91	-	-	187	120	V
4	7.237334	40.6	PK2	35.9	-23.2	0	53.3	-	-	-	-	133	120	V
6	17.24277	31.94	PK2	41.5	-15	0	58.44	-	-	-	-	39	326	V

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

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL, CH 6 RESULTS



RADIATED EMISSIONS

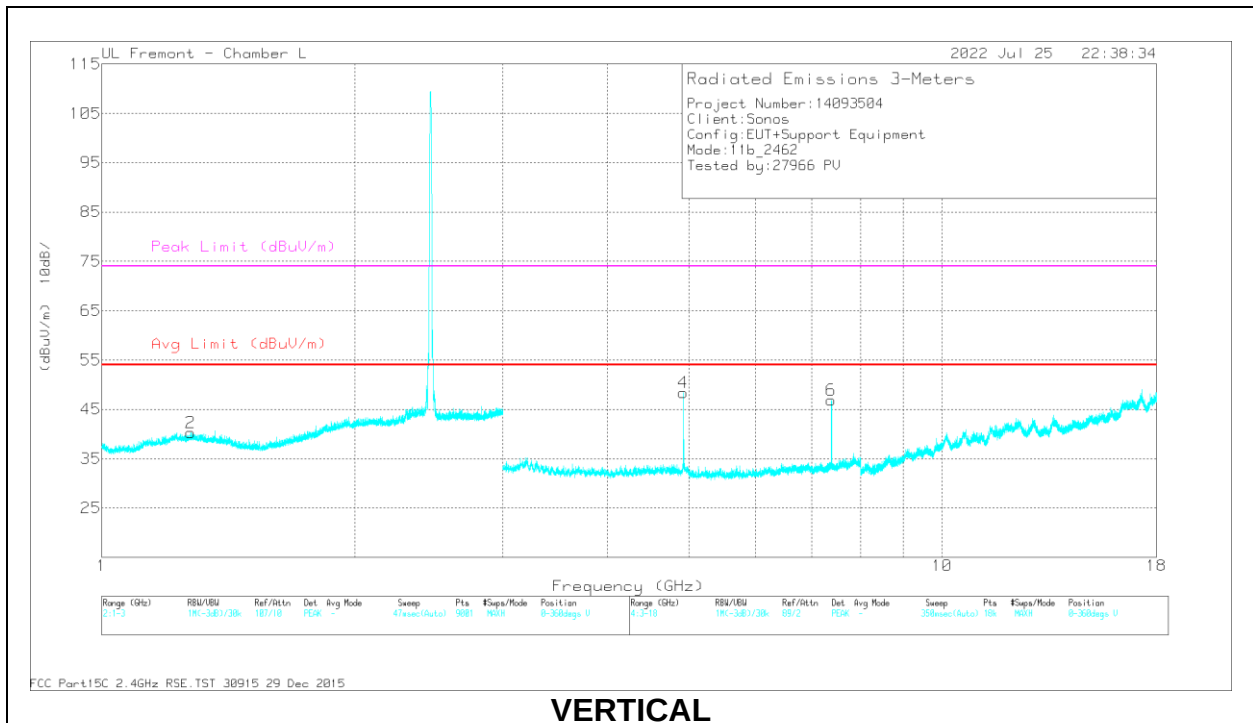
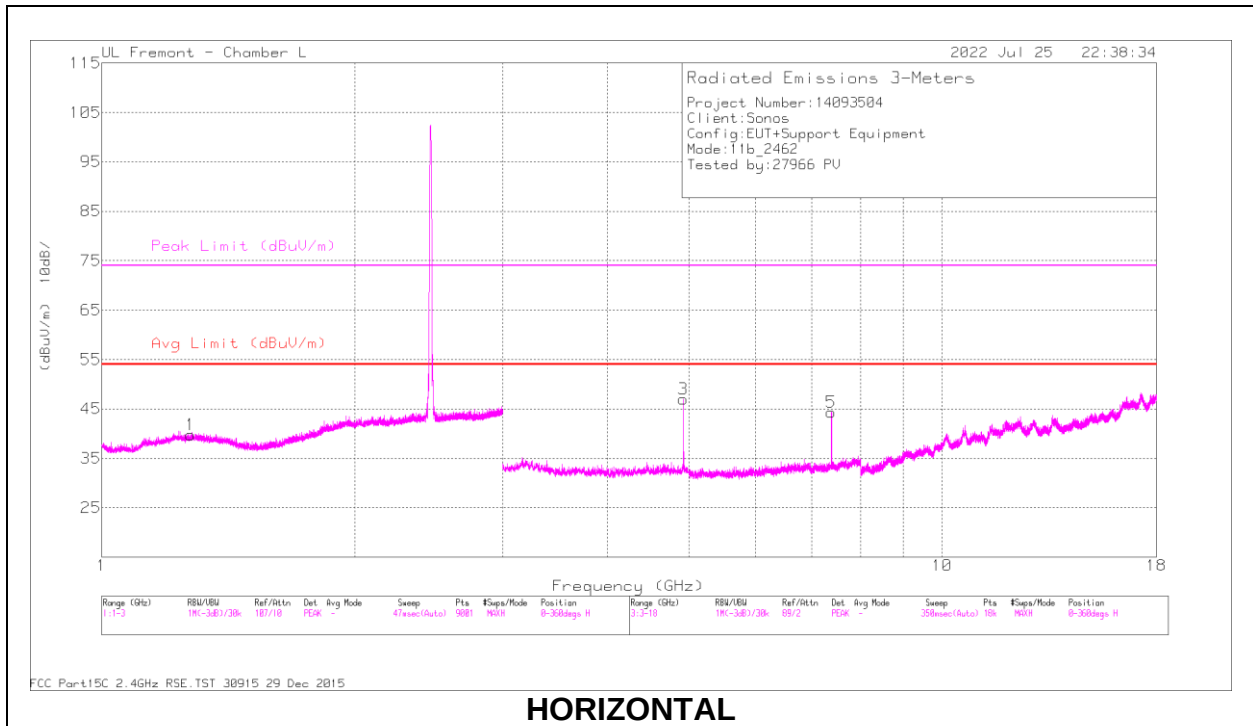
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	Amp/Cbl/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.964448	42.85	PK2	31.9	-21.2	0	53.55	-	-	-	-	46	116	H
2	1.947132	42.58	PK2	31.8	-21.2	0	53.18	-	-	-	-	269	226	V
3	* 4.87393	47.9	PK2	34.2	-26.4	0	55.7	-	-	74	-18.3	139	102	H
	* 4.873978	42.46	MAv1	34.2	-26.4	.2	50.46	54	-3.54	-	-	139	102	H
4	* 7.312767	44.68	PK2	35.9	-22.8	0	57.78	-	-	74	-16.22	95	104	H
	* 7.312577	39.09	MAv1	35.9	-22.8	.2	52.39	54	-1.61	-	-	95	104	H
5	* 4.87384	49.33	PK2	34.2	-26.4	0	57.13	-	-	74	-16.87	178	101	V
	* 4.87393	43.36	MAv1	34.2	-26.4	.2	51.36	54	-2.64	-	-	178	101	V
6	* 7.312783	45.21	PK2	35.9	-22.8	0	58.31	-	-	74	-15.69	141	102	V
	* 7.313191	39.07	MAv1	35.9	-22.8	.2	52.37	54	-1.63	-	-	141	102	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL, CH 11 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	* 1.272915	42.88	PK2	29.9	-23.2	0	49.58	-	-	74	-24.42	12	186	H
	* 1.274485	31.33	MAv1	30	-23.2	.2	38.33	54	-15.67	-	-	12	186	H
2	* 1.275912	43.5	PK2	30	-23.2	0	50.3	-	-	74	-23.7	294	249	V
	* 1.274581	31.16	MAv1	30	-23.2	.2	38.16	54	-15.84	-	-	294	249	V
3	* 4.923996	42.23	PK2	34.2	-25.6	0	50.83	-	-	74	-23.17	263	103	H
	* 4.923945	35.89	MAv1	34.2	-25.6	.2	44.69	54	-9.31	-	-	263	103	H
5	* 7.387456	36.25	PK2	35.9	-22.5	0	49.65	-	-	74	-24.35	97	104	H
	* 7.387304	28.85	MAv1	35.9	-22.5	.2	42.45	54	-11.55	-	-	97	104	H
4	* 4.923957	45.26	PK2	34.2	-25.6	0	53.86	-	-	74	-20.14	182	126	V
	* 4.923929	37.82	MAv1	34.2	-25.6	.2	46.62	54	-7.38	-	-	182	126	V
6	* 7.387624	38.07	PK2	35.9	-22.4	0	51.57	-	-	74	-22.43	141	101	V
	* 7.387628	31.93	MAv1	35.9	-22.4	.2	45.63	54	-8.37	-	-	141	101	V

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

PK2 - KDB558074 Method: Maximum Peak

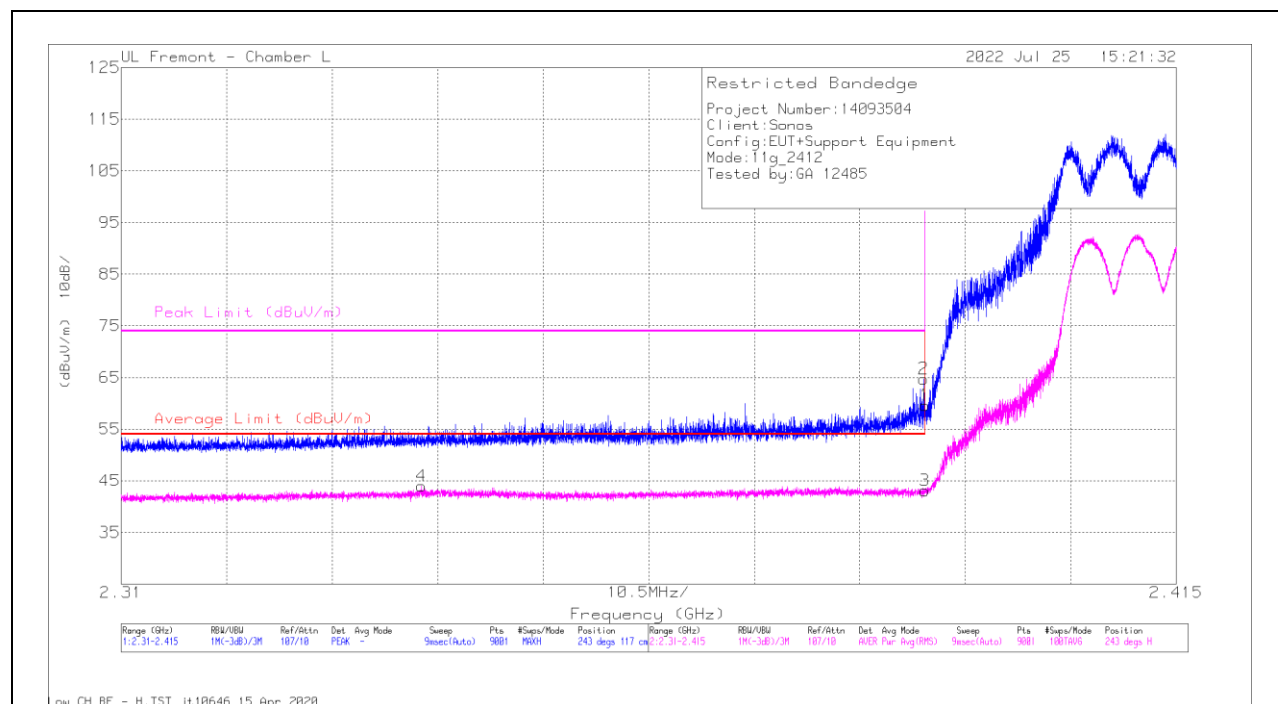
MAv1 - KDB558074 Option 1 Maximum RMS Average

10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

2TX Antenna 2 + Antenna 3 CDD MODE

BANDEDGE (LOW CHANNEL, CH 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	47.8	Pk	31.9	-20.1	0	59.6	-	-	74	-14.4	243	117	H
2	* 2.389849	52.92	Pk	31.9	-20.1	0	64.72	-	-	74	-9.28	243	117	H
3	* 2.39	30.24	RMS	31.9	-20.1	1.06	43.1	54	-10.9	-	-	243	117	H
4	* 2.339903	31.1	RMS	32	-20.2	1.06	43.96	54	-10.04	-	-	243	117	H

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

Pk - Peak detector

RMS - RMS detection