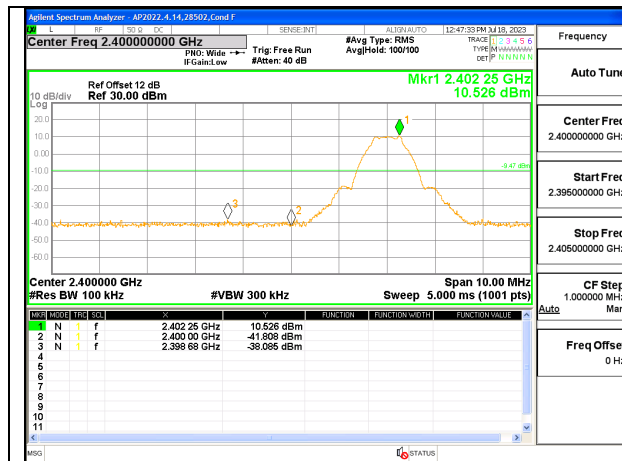
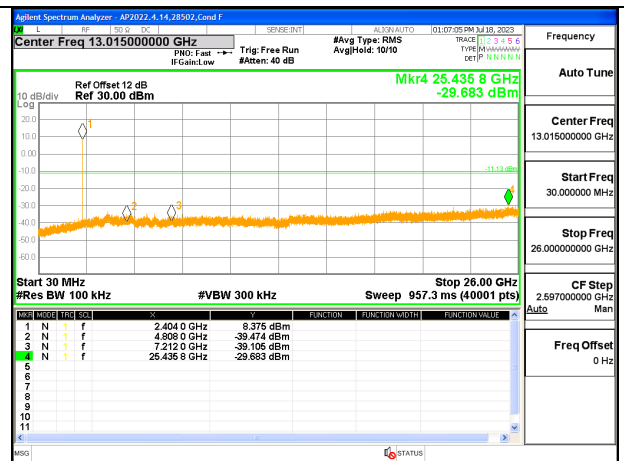
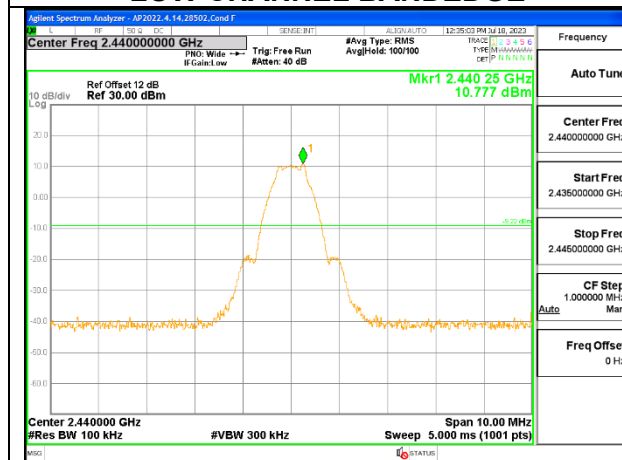
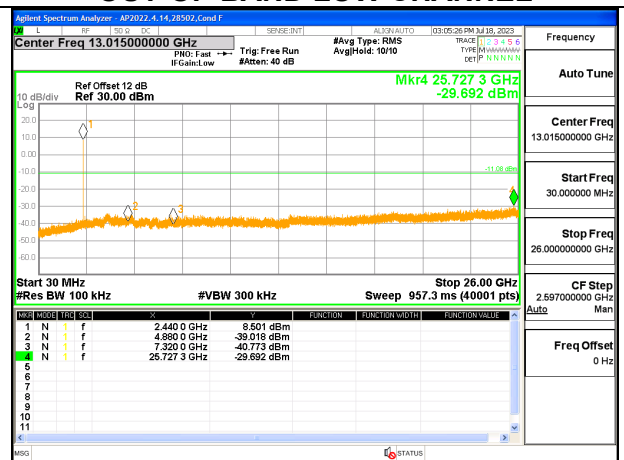
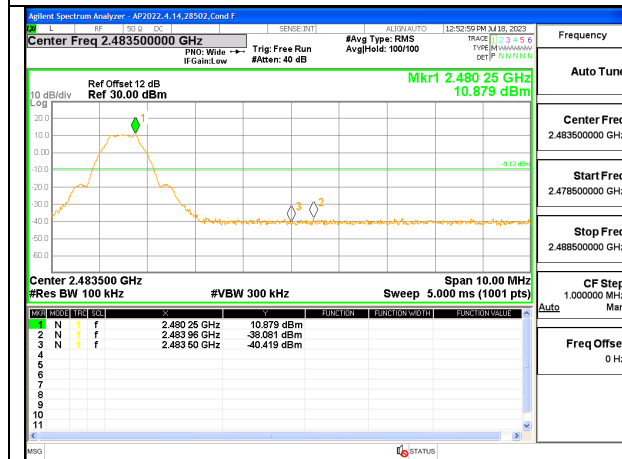
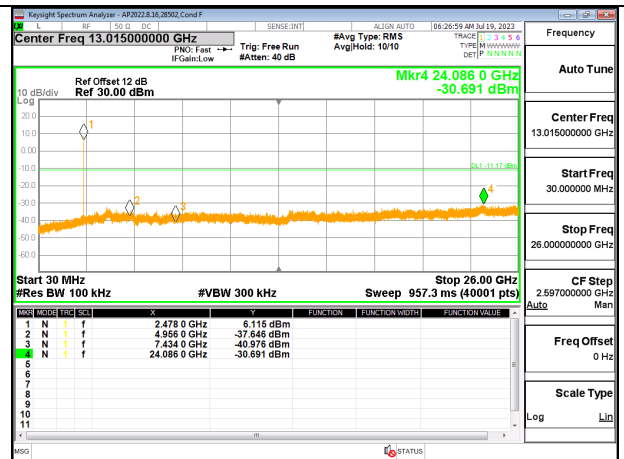
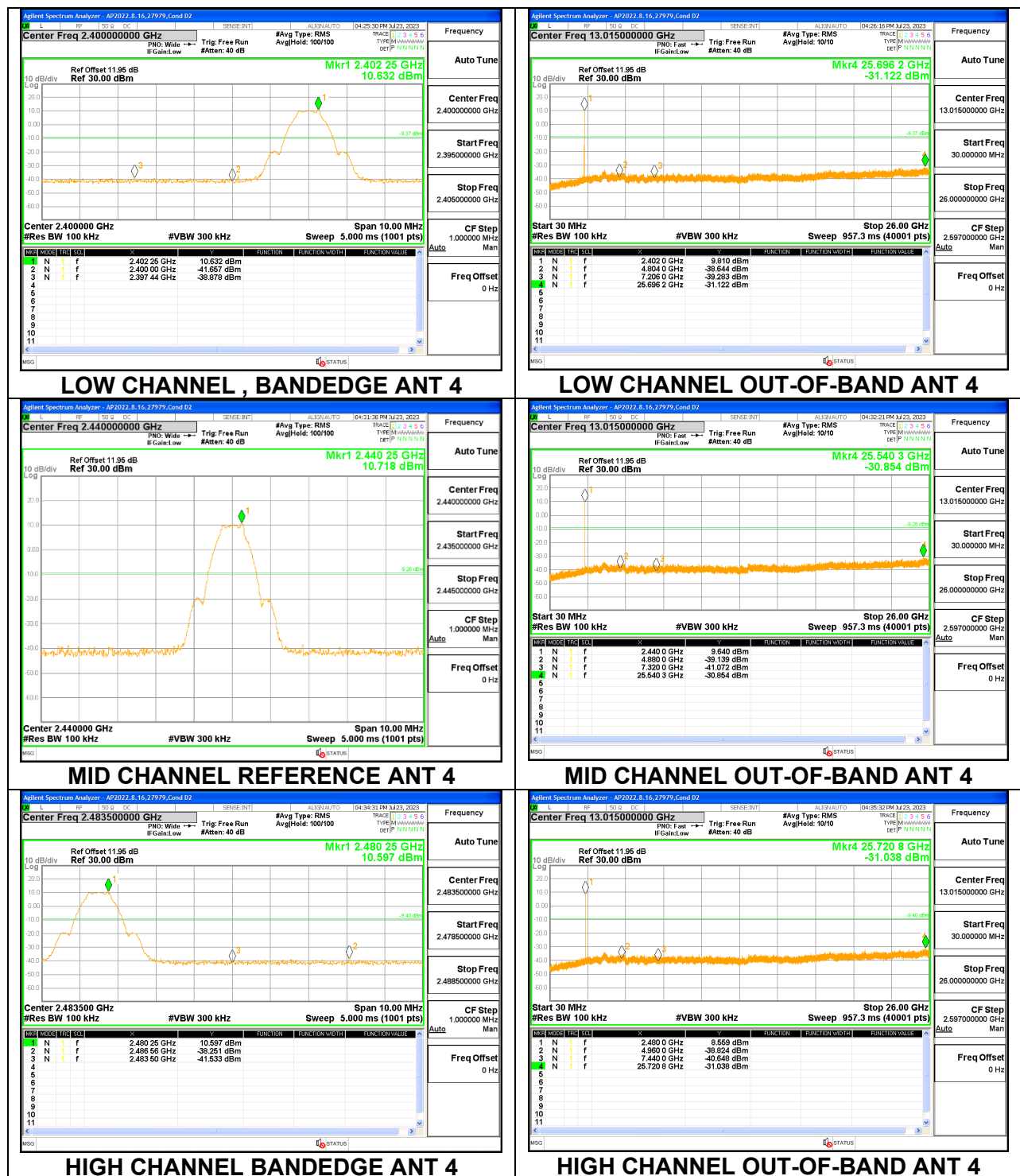
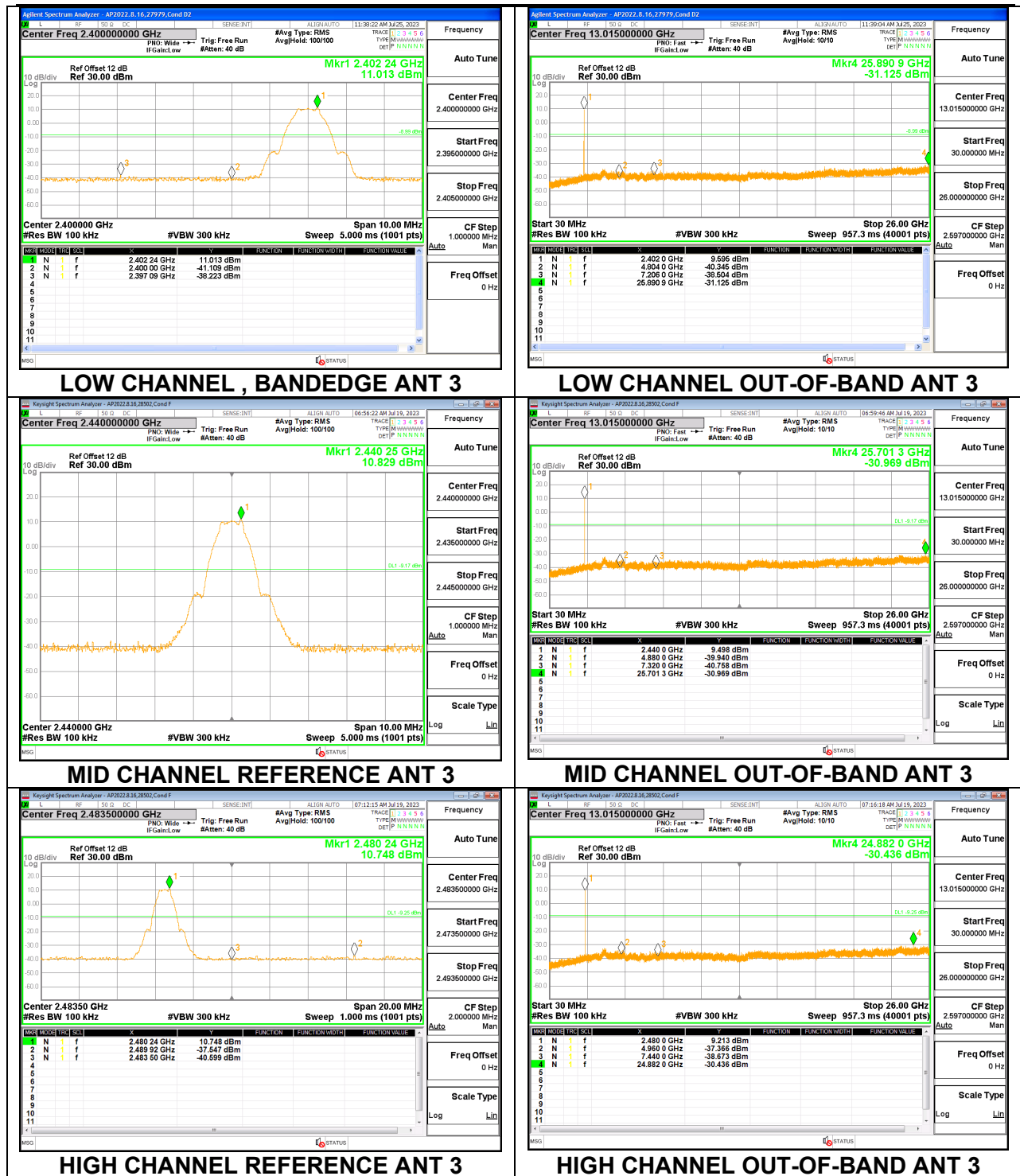


ANT 3**LOW CHANNEL BANDEDGE****OUT-OF-BAND LOW CHANNEL****IN-BAND REFERENCE LEVEL****OUT-OF-BAND MID CHANNEL****HIGH CHANNEL BANDEDGE****OUT-OF-BAND HIGH CHANNEL**

9.7.6. LOW POWER BLE TXBF (1Mbps)

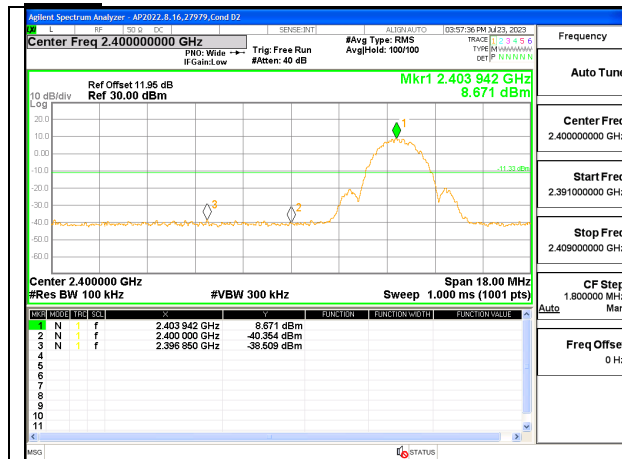
Note: Test procedures and setting are same as BLE normal mode.



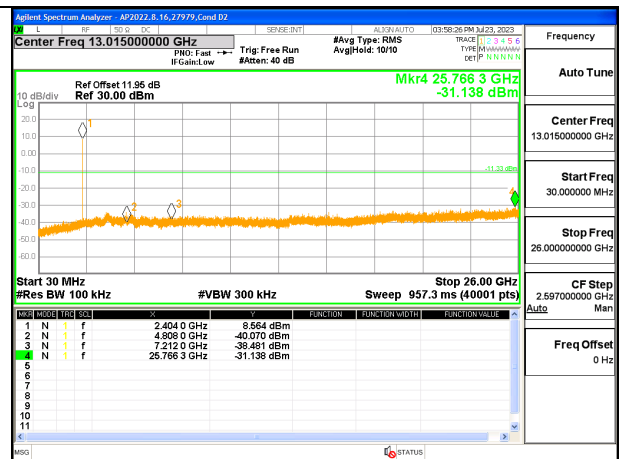


9.7.7. LOW POWER BLE (2Mbps)

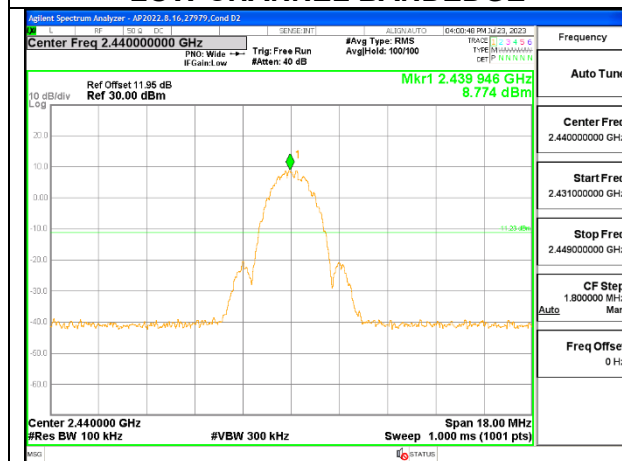
ANT 4



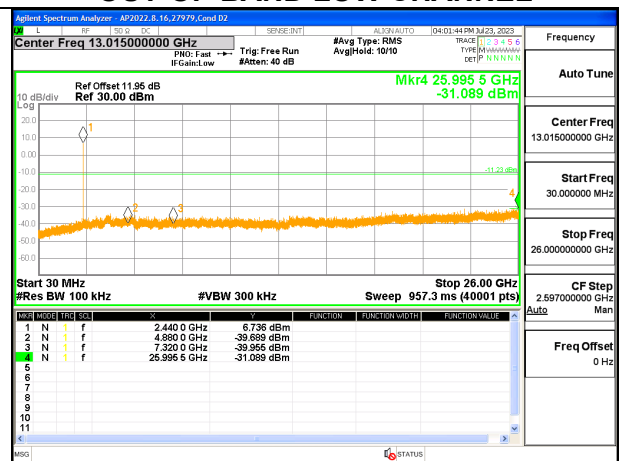
LOW CHANNEL BANDEDGE



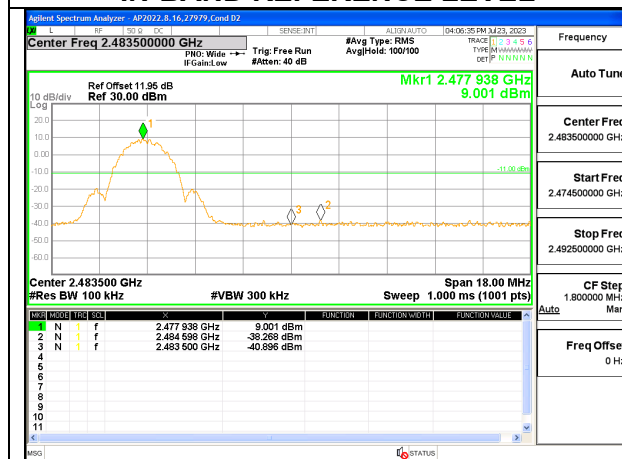
OUT-OF-BAND LOW CHANNEL



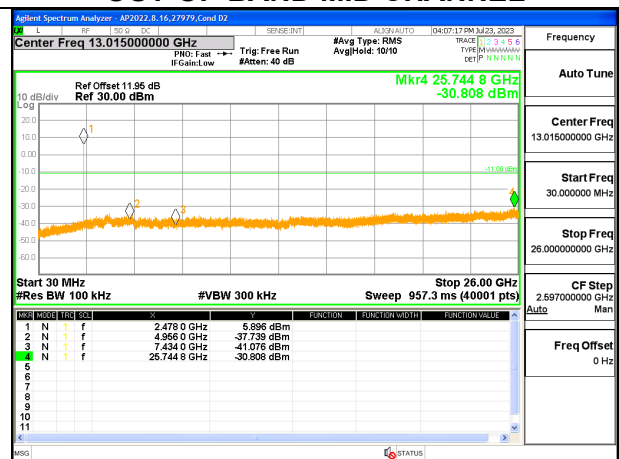
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

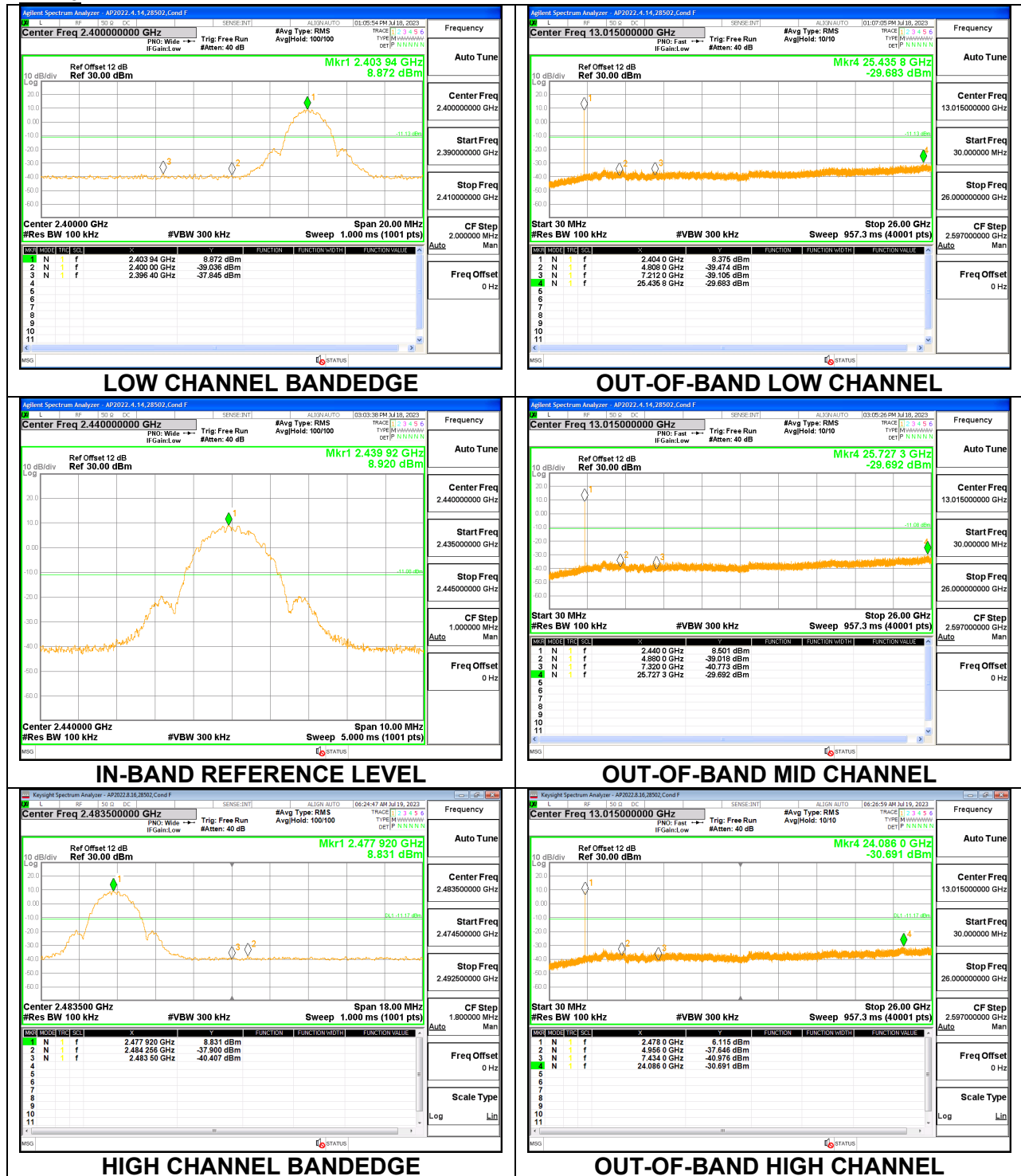


HIGH CHANNEL BANDEDGE



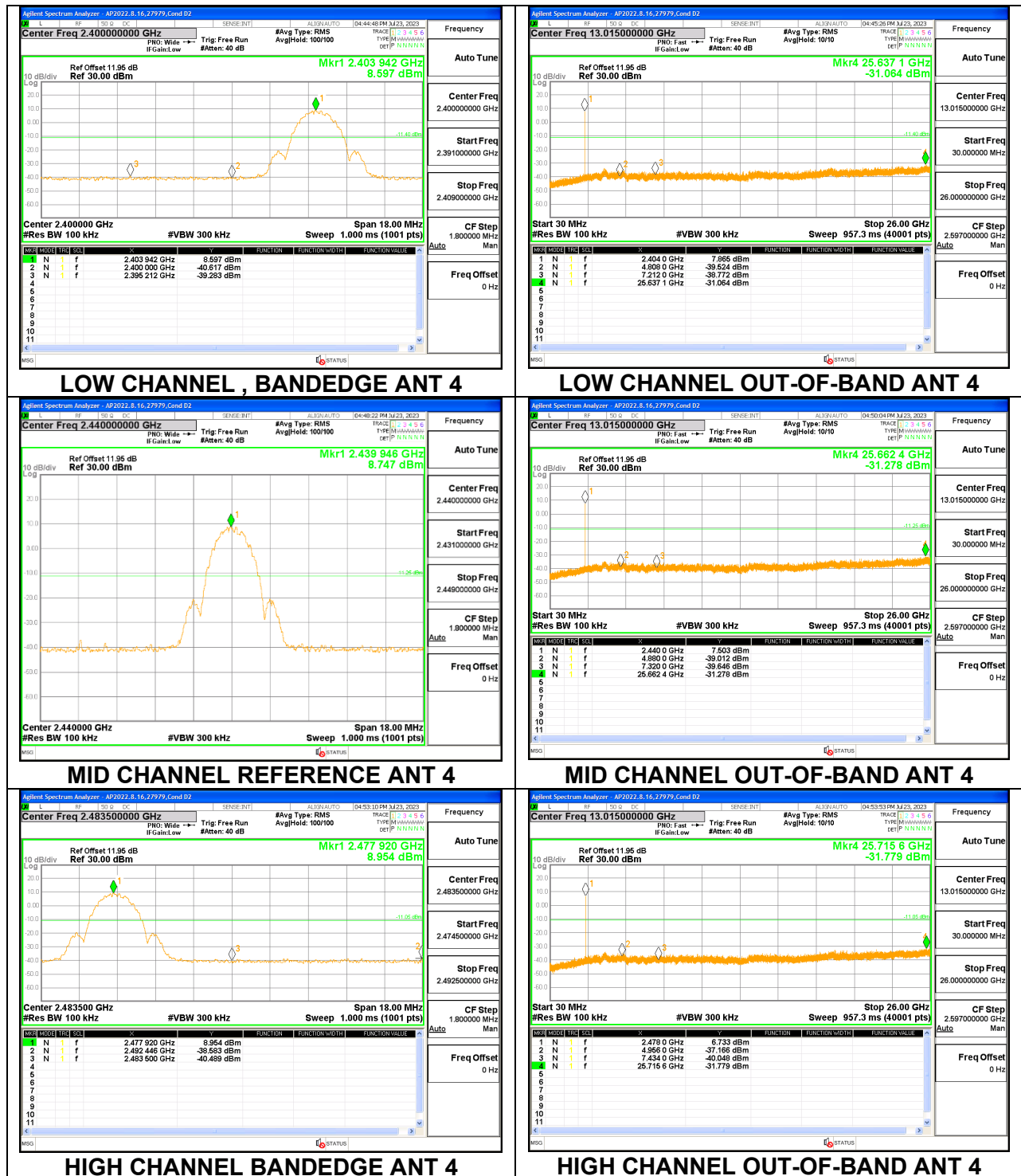
OUT-OF-BAND HIGH CHANNEL

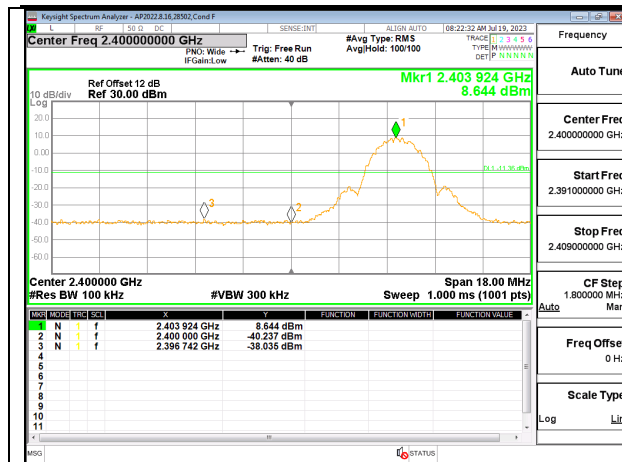
ANT 3



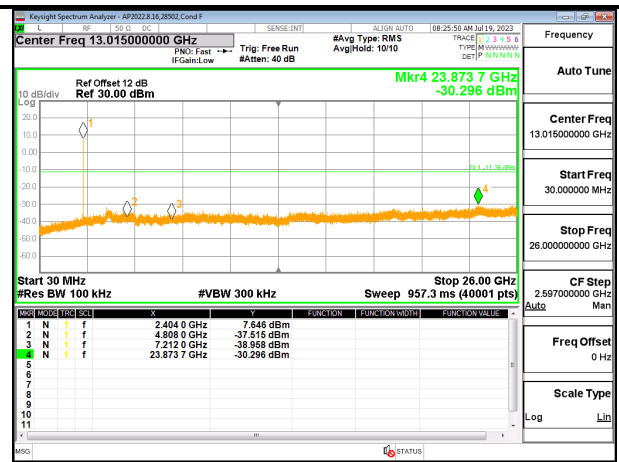
9.7.8. LOW POWER BLE TXBF (2Mbps)

Note: Test procedures and setting are same as BLE normal mode.

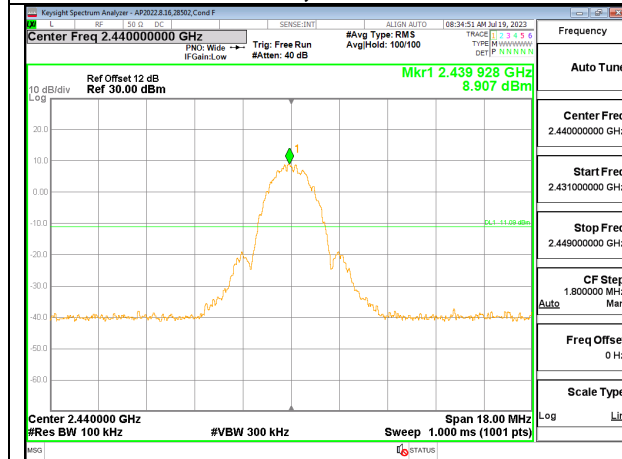




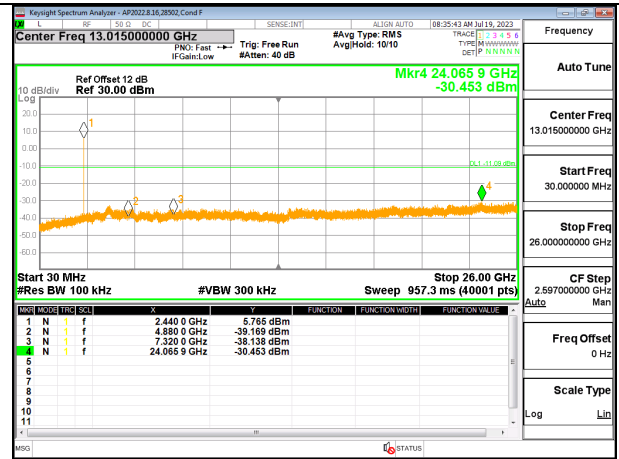
LOW CHANNEL , BANDEDGE ANT 3



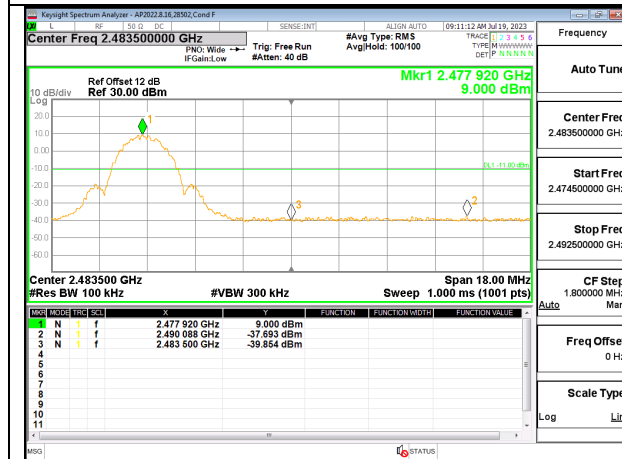
LOW CHANNEL OUT-OF-BAND ANT 3



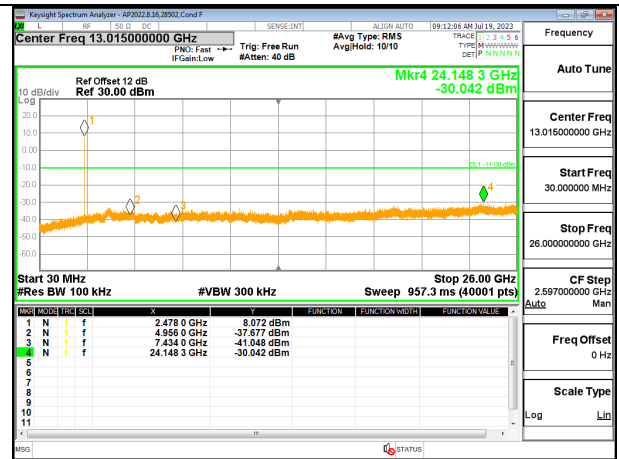
MID CHANNEL REFERENCE ANT 3



MID CHANNEL OUT-OF-BAND ANT 3



HIGH CHANNEL REFERENCE ANT 3



HIGH CHANNEL OUT-OF-BAND ANT 3

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

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. Peak detection is used unless otherwise noted as quasi-peak.

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 scans above 1 GHz test, two methods are used: the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T (10 Hz) video bandwidth with peak detector for average measurements; and other method with 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.

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 report in the table) using 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.

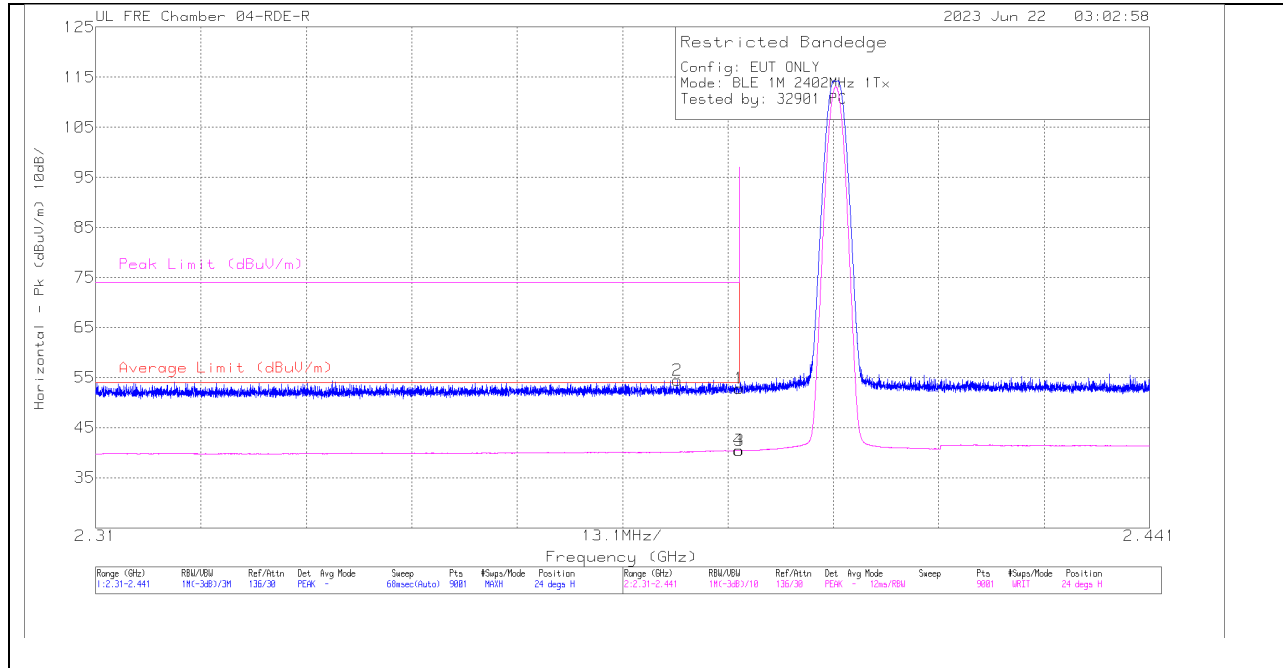
In addition:

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

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.

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

RESULTS

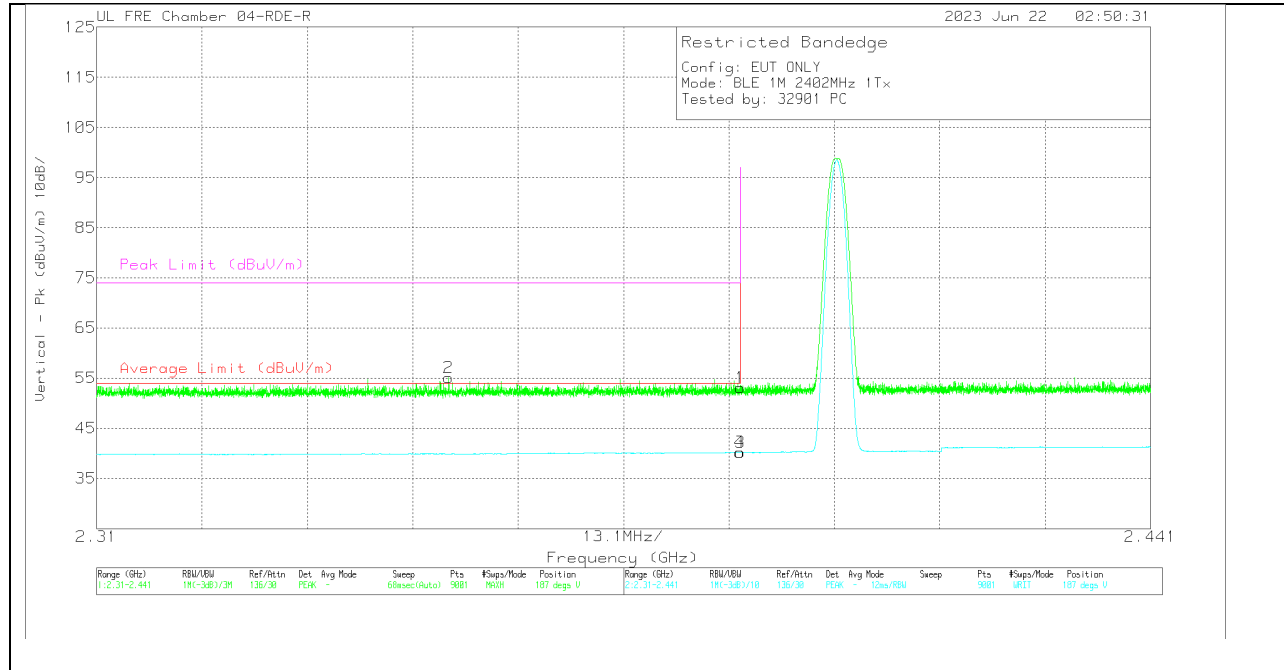
10.2. TRANSMITTER ABOVE 1 GHz**10.2.1. HIGH POWER BLE (1Mbps)****ANT 4****BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.382314	63.35	Pk	31.6	0	-40.42	54.53	-	-	74	-19.47	24	161	H
4	2.389971	49.22	VA1T	31.7	0	-40.44	40.48	54	-13.52	-	-	24	161	H
1	2.39	61.55	Pk	31.7	0	-40.44	52.81	-	-	74	-21.19	24	161	H
3	2.39	49.2	VA1T	31.7	0	-40.44	40.46	54	-13.54	-	-	24	161	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

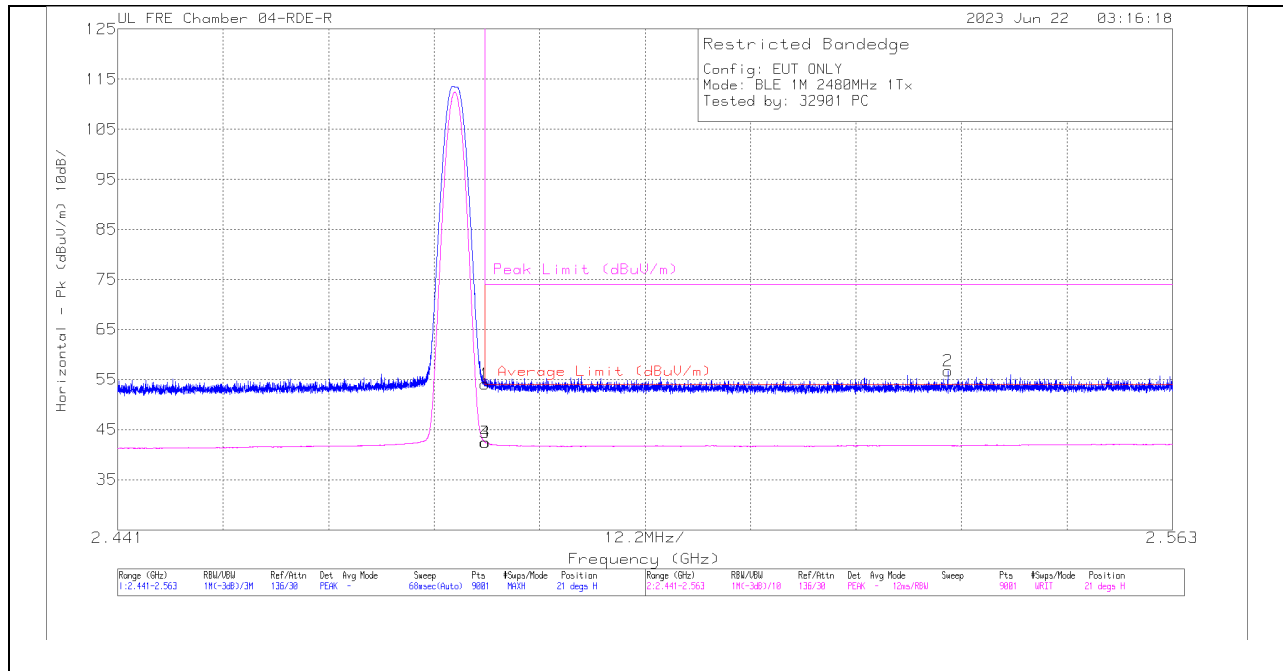
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.353741	64.12	Pk	31.5	0	-40.49	55.13	-	-	74	-18.87	187	147	V
4	2.389898	48.97	VA1T	31.7	0	-40.44	40.23	54	-13.77	-	-	187	147	V
1	2.39	61.89	Pk	31.7	0	-40.44	53.15	-	-	74	-20.85	187	147	V
3	2.39	48.96	VA1T	31.7	0	-40.44	40.22	54	-13.78	-	-	187	147	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

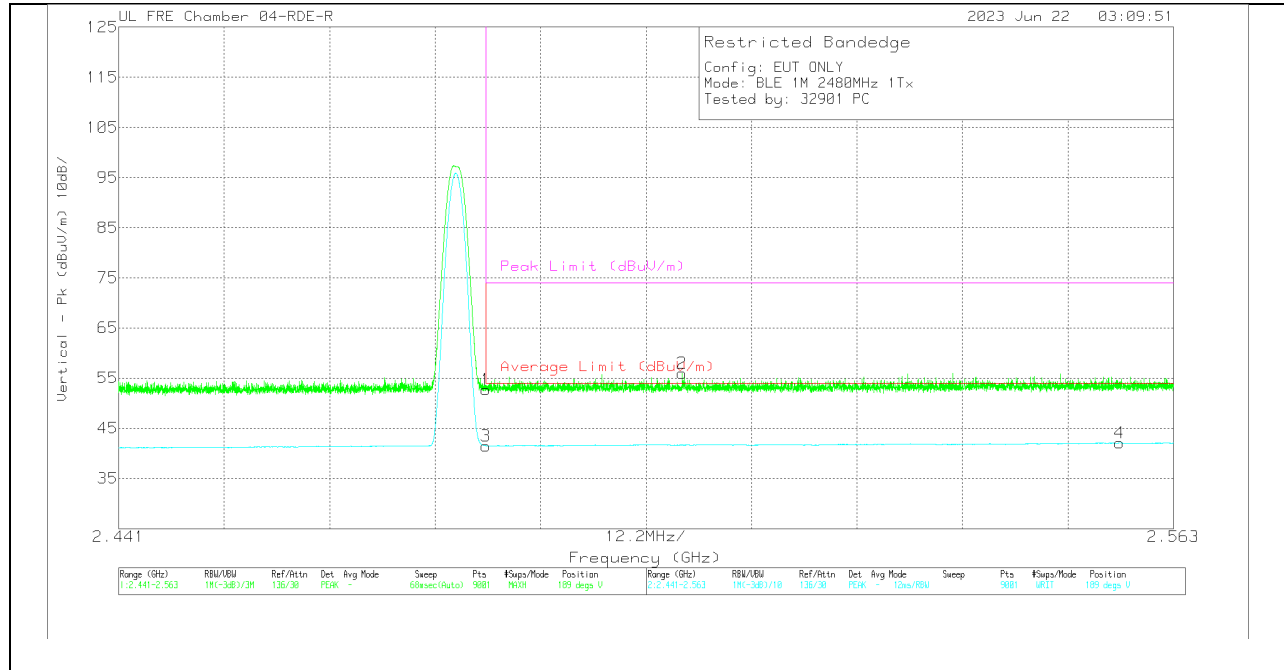
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (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	62.39	Pk	32.1	0	-40.37	54.12	-	-	74	-19.88	21	178	H
3	2.4835	50.73	VA1T	32.1	0	-40.37	42.46	54	-11.54	-	-	21	178	H
4	2.483512	50.72	VA1T	32.1	0	-40.37	42.45	54	-11.55	-	-	21	178	H
2	2.537017	64.85	Pk	32.1	0	-40.17	56.78	-	-	74	-17.22	21	178	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

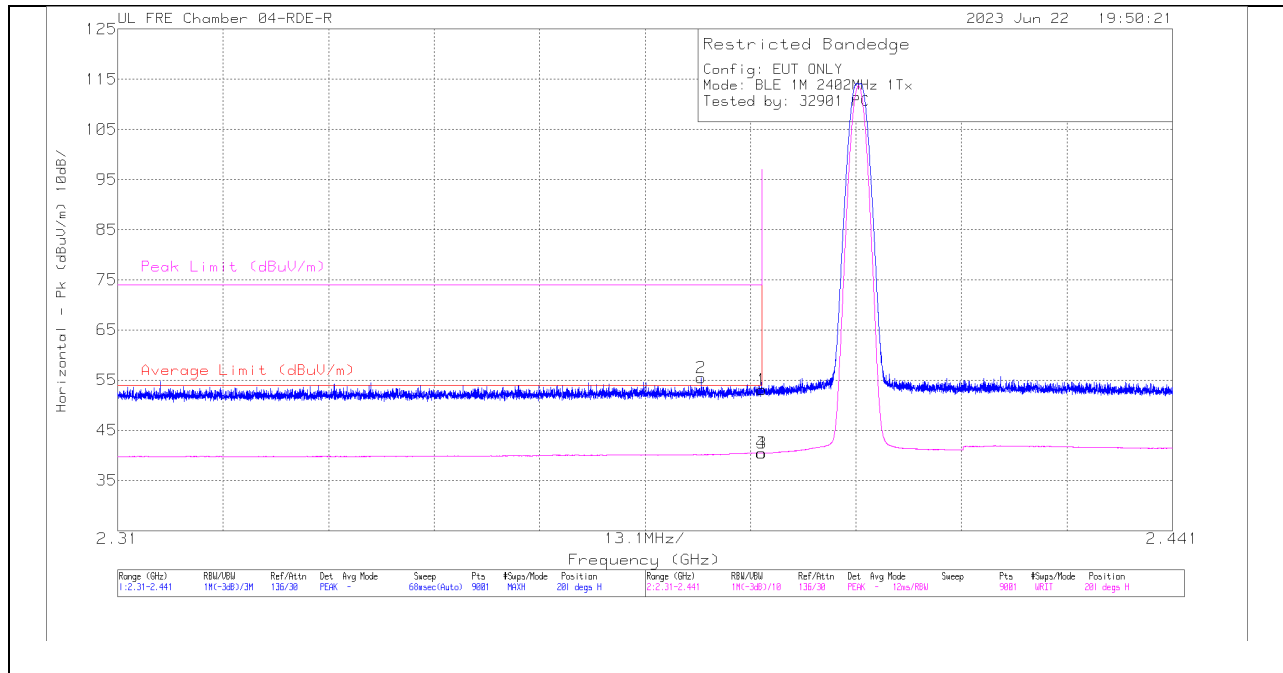
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (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	60.96	Pk	32.1	0	-40.37	52.69	-	-	74	-21.31	189	210	V
3	2.4835	49.77	VA1T	32.1	0	-40.37	41.5	54	-12.5	-	-	189	210	V
2	2.506177	64.18	Pk	32.1	0	-40.25	56.03	-	-	74	-17.97	189	210	V
4	2.556741	49.9	VA1T	32.2	0	-40.03	42.07	54	-11.93	-	-	189	210	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

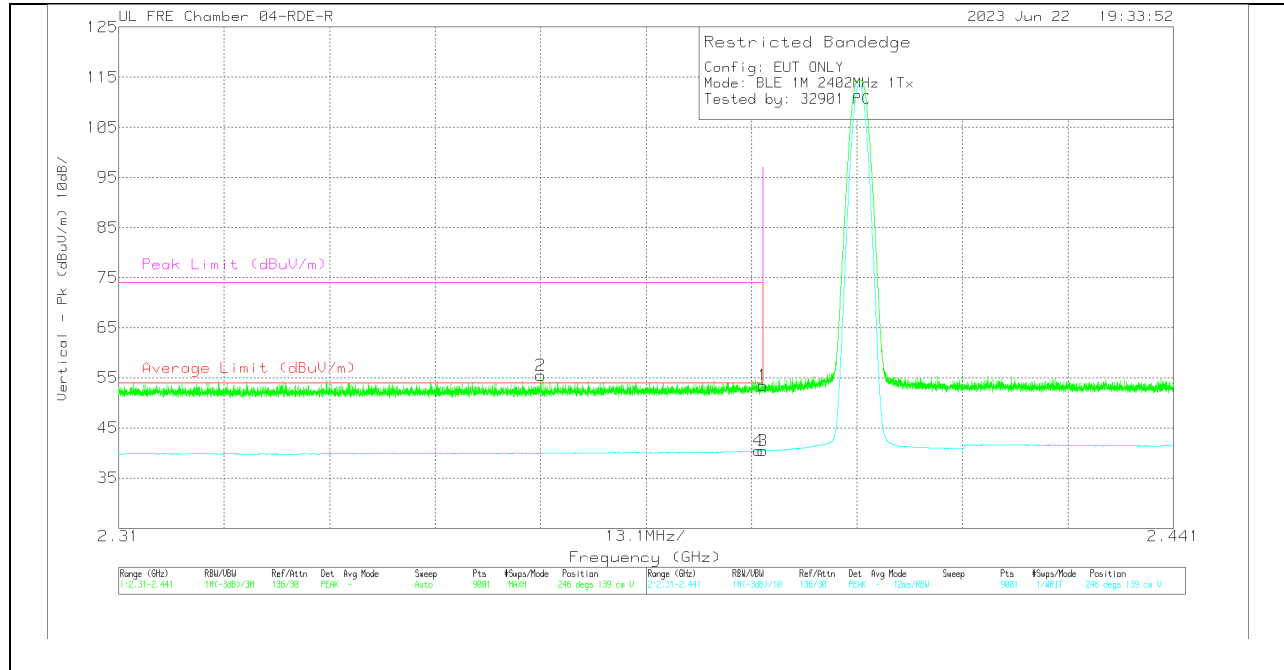
ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22740 ACF(dB) - 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.382489	64.28	Pk	31.6	-40.42	55.46	-	-	74	-18.54	201	101	H
4	2.389927	49.25	VA1T	31.7	-40.44	40.51	54	-13.49	-	-	201	100	H
1	2.39	61.86	Pk	31.7	-40.44	53.12	-	-	74	-20.88	201	101	H
3	2.39	49.23	VA1T	31.7	-40.44	40.49	54	-13.51	-	-	201	100	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

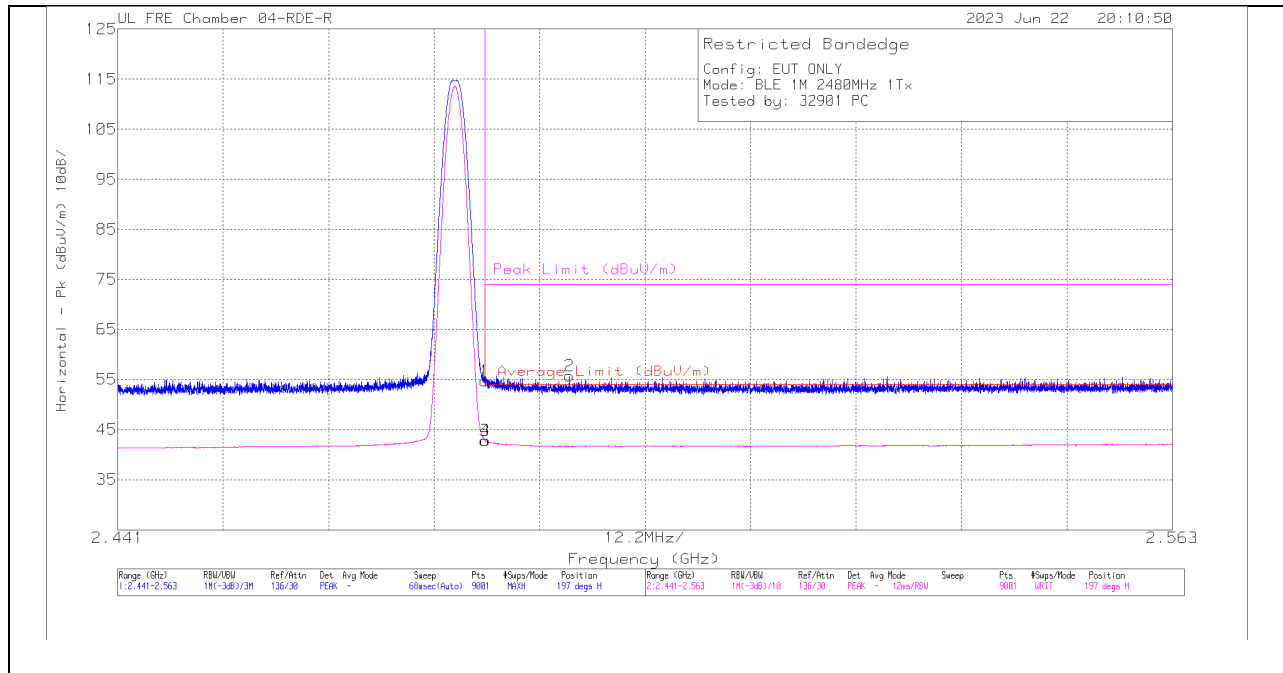
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.362416	64.44	Pk	31.5	-40.46	55.48	-	-	74	-18.52	246	139	V
4	2.389447	49.17	VA1T	31.7	-40.43	40.44	54	-13.56	-	-	246	139	V
1	2.39	62.27	Pk	31.7	-40.44	53.53	-	-	74	-20.47	246	139	V
3	2.39	49.15	VA1T	31.7	-40.44	40.41	54	-13.59	-	-	246	139	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

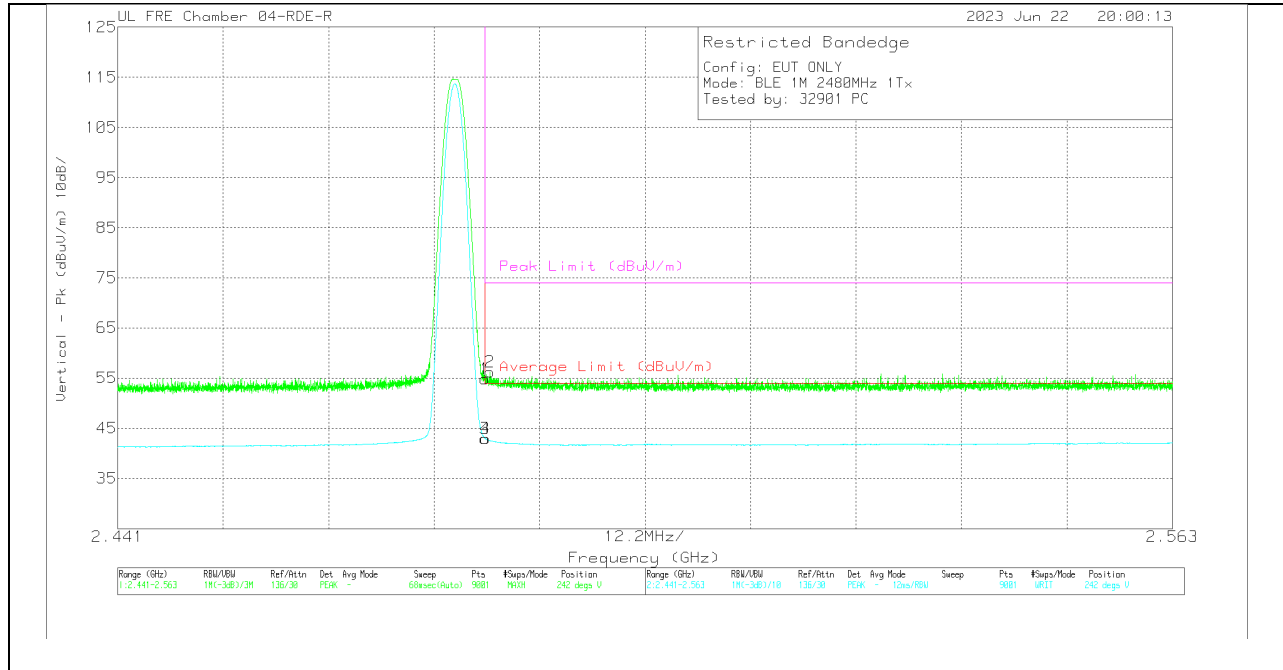
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBμV)	Det	222740 ACF(dB) - 3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Peak Limit (dBμV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.4835	62.95	Pk	32.1	0	-40.37	54.68	-	-	74	-19.32	197	175	H
3	2.4835	51.15	VA1T	32.1	0	-40.37	42.88	54	-11.12	-	-	197	175	H
4	2.483512	51.14	VA1T	32.1	0	-40.37	42.87	54	-11.13	-	-	197	175	H
2	2.493245	63.94	Pk	32.1	0	-40.31	55.73	-	-	74	-18.27	197	175	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (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	63.12	Pk	32.1	-40.37	54.85	-	-	74	-19.15	242	130	V
3	2.4835	51.25	VA1T	32.1	-40.37	42.98	54	-11.02	-	-	242	130	V
4	2.483512	51.23	VA1T	32.1	-40.37	42.96	54	-11.04	-	-	242	130	V
2	2.48404	64.49	Pk	32.1	-40.37	56.22	-	-	74	-17.78	242	130	V

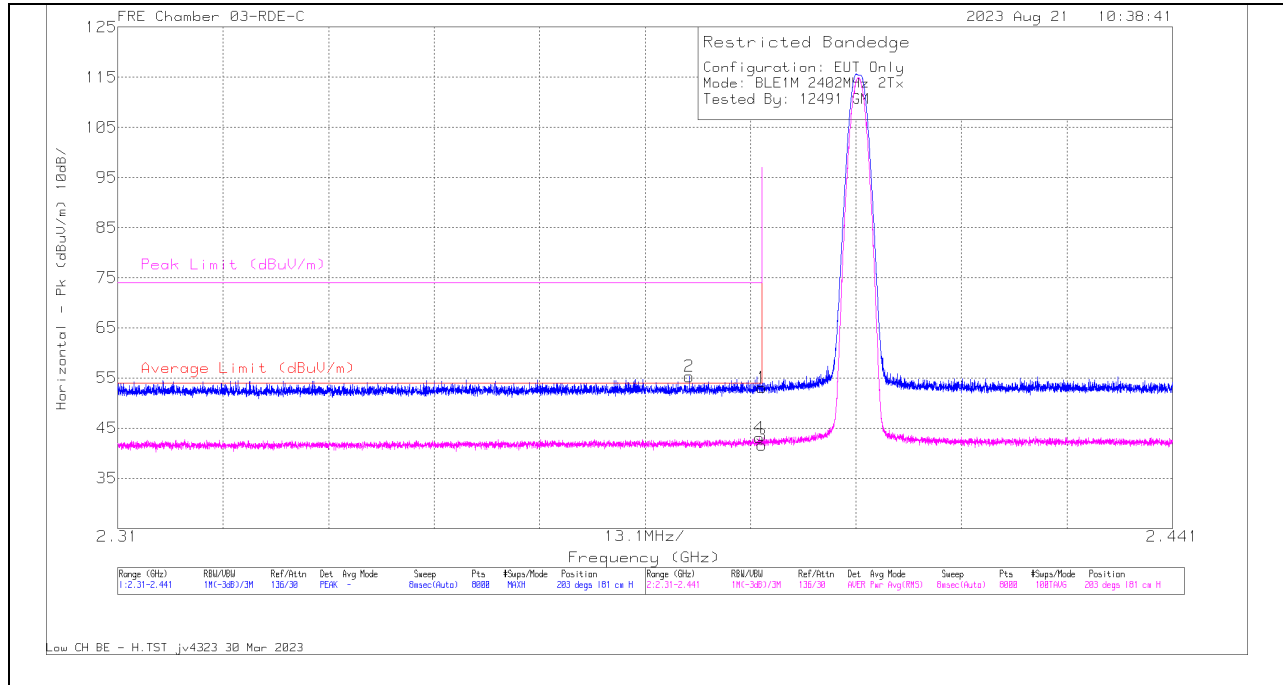
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

10.2.2. HIGH POWER BLE TXBF (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



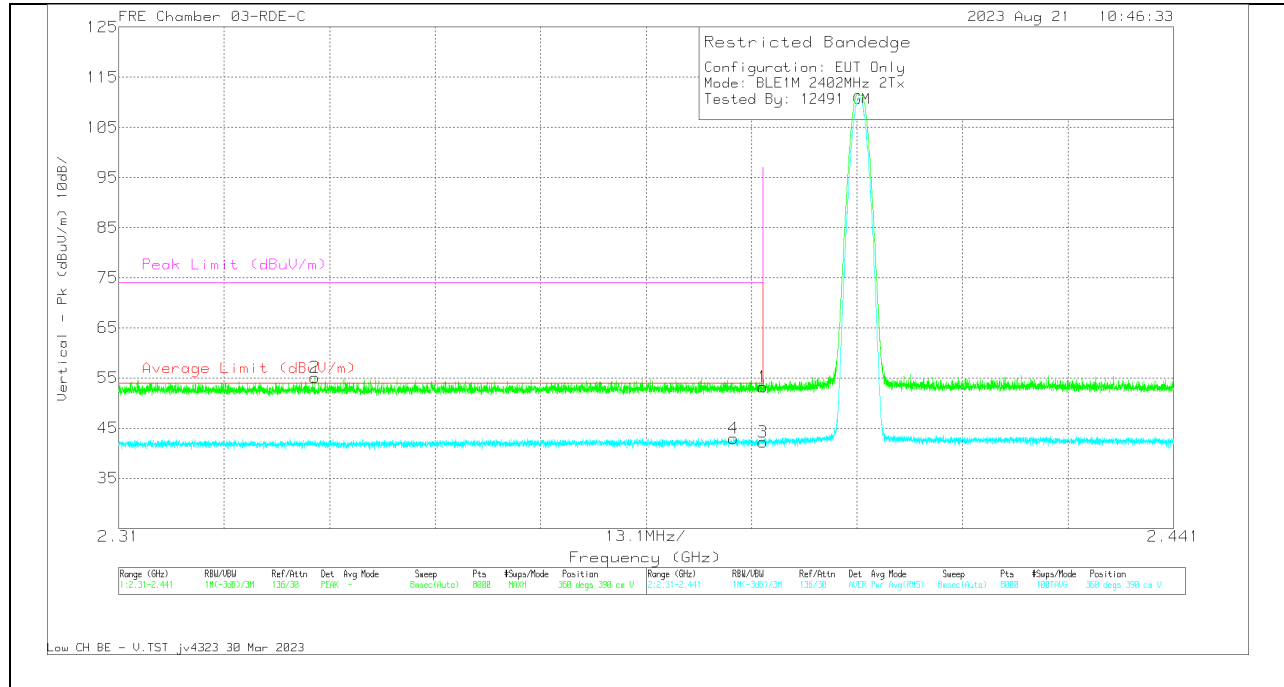
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.82	Pk	32.1	-39.8	53.12	-	-	74	-20.88	203	181	H
2	* 2.380978	63.09	Pk	32.1	-39.9	55.29	-	-	74	-18.71	203	181	H
3	* 2.39	49.33	RMS	32.1	-39.8	41.63	54	-12.37	-	-	203	181	H
4	* 2.389674	50.88	RMS	32.1	-39.87	43.11	54	-10.89	-	-	203	181	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

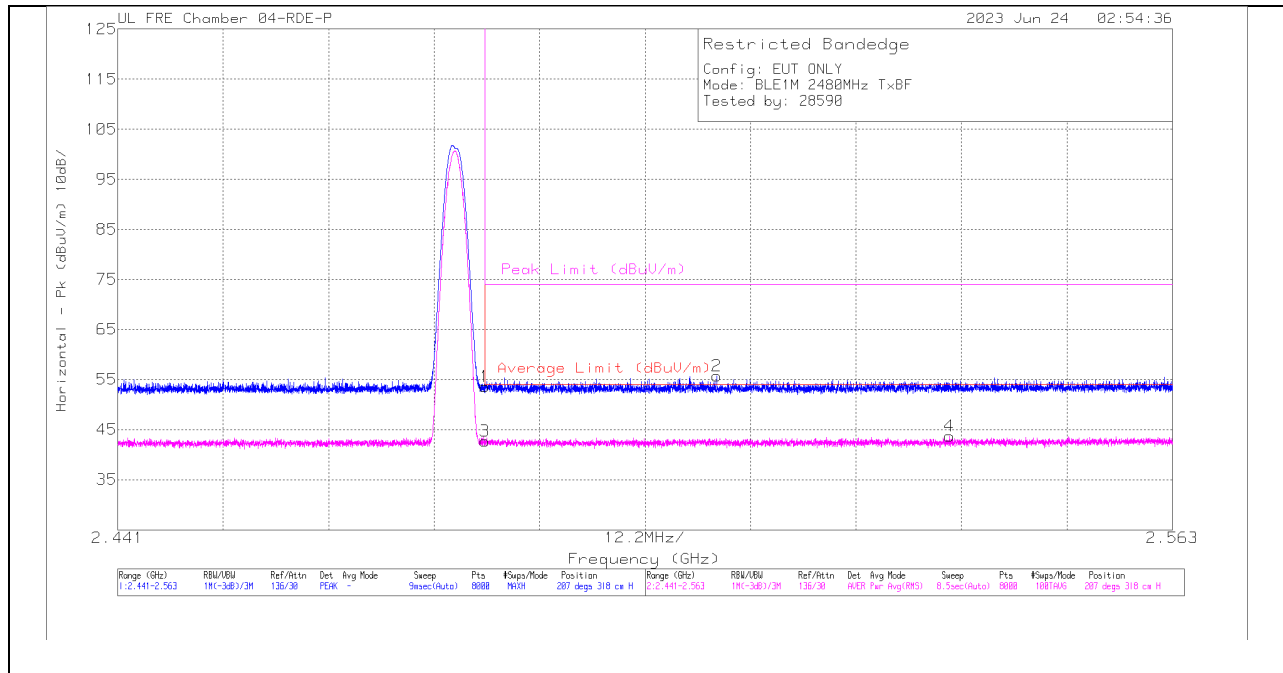


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.95	Pk	32.1	-39.8	53.25	-	-	74	-20.75	360	390	V
2	* 2.334353	63.25	Pk	31.8	-39.9	55.15	-	-	74	-18.85	360	390	V
3	* 2.39	49.87	RMS	32.1	-39.8	42.17	54	-11.83	-	-	360	390	V
4	* 2.386333	50.78	RMS	32.1	-39.9	42.98	54	-11.02	-	-	360	390	V

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

Pk - Peak detector

RMS - RMS detection

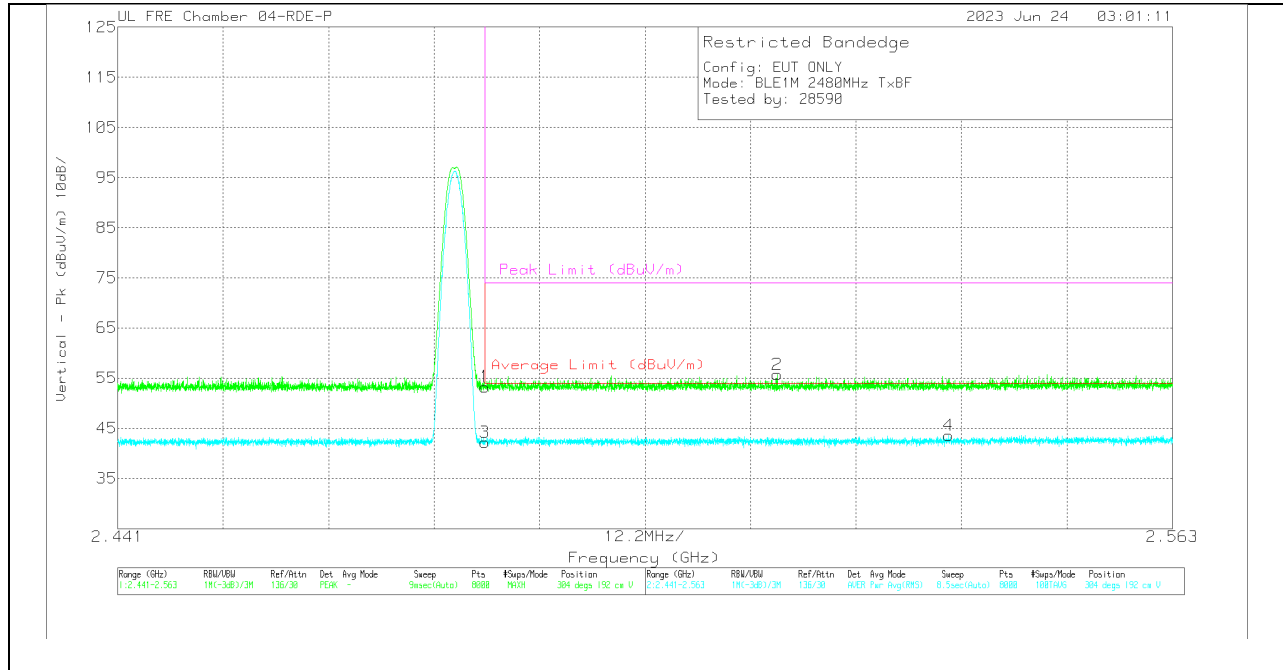
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (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	61.28	Pk	32.1	-39.76	53.62	-	-	74	-20.38	207	318	H
3	2.4835	50.38	RMS	32.1	-39.76	42.72	54	-11.28	-	-	207	318	H
2	2.51029	63.42	Pk	32.1	-39.74	55.78	-	-	74	-18.22	207	318	H
4	2.537225	51.3	RMS	32.1	-39.69	43.71	54	-10.29	-	-	207	318	H

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (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	60.95	Pk	32.1	-39.76	53.29	-	-	74	-20.71	304	192	V
3	2.4835	49.82	RMS	32.1	-39.76	42.16	54	-11.84	-	-	304	192	V
2	2.517291	63.41	Pk	32.1	-39.74	55.77	-	-	74	-18.23	304	192	V
4	2.537133	51.22	RMS	32.1	-39.69	43.63	54	-10.37	-	-	304	192	V

Pk - Peak detector

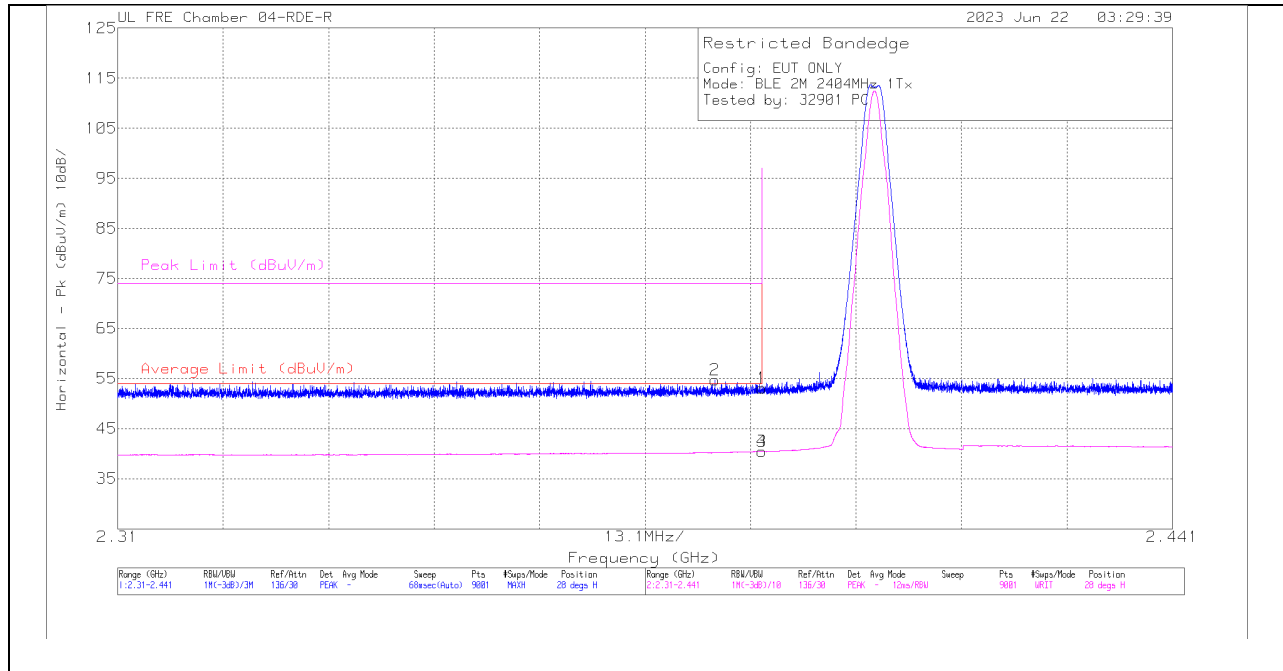
RMS - RMS detection

10.2.3. HIGH POWER BLE (2Mbps)

ANT 4

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

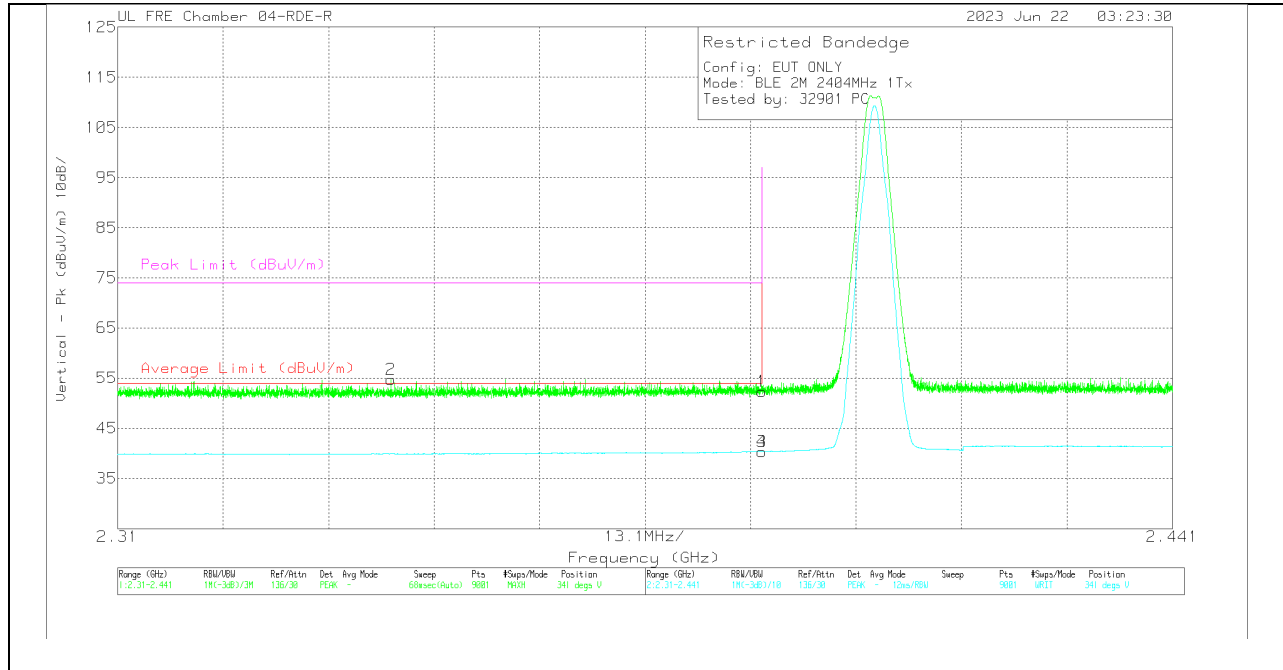


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.384192	63.55	Pk	31.6	0	-40.45	54.7	-	-	74	-19.3	28	161	H
1	2.39	61.82	Pk	31.7	0	-40.44	53.08	-	-	74	-20.92	28	161	H
3	2.39	49.22	VA1T	31.7	0	-40.44	40.48	54	-13.52	-	-	28	161	H
4	2.39	49.22	VA1T	31.7	0	-40.44	40.48	54	-13.52	-	-	28	161	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

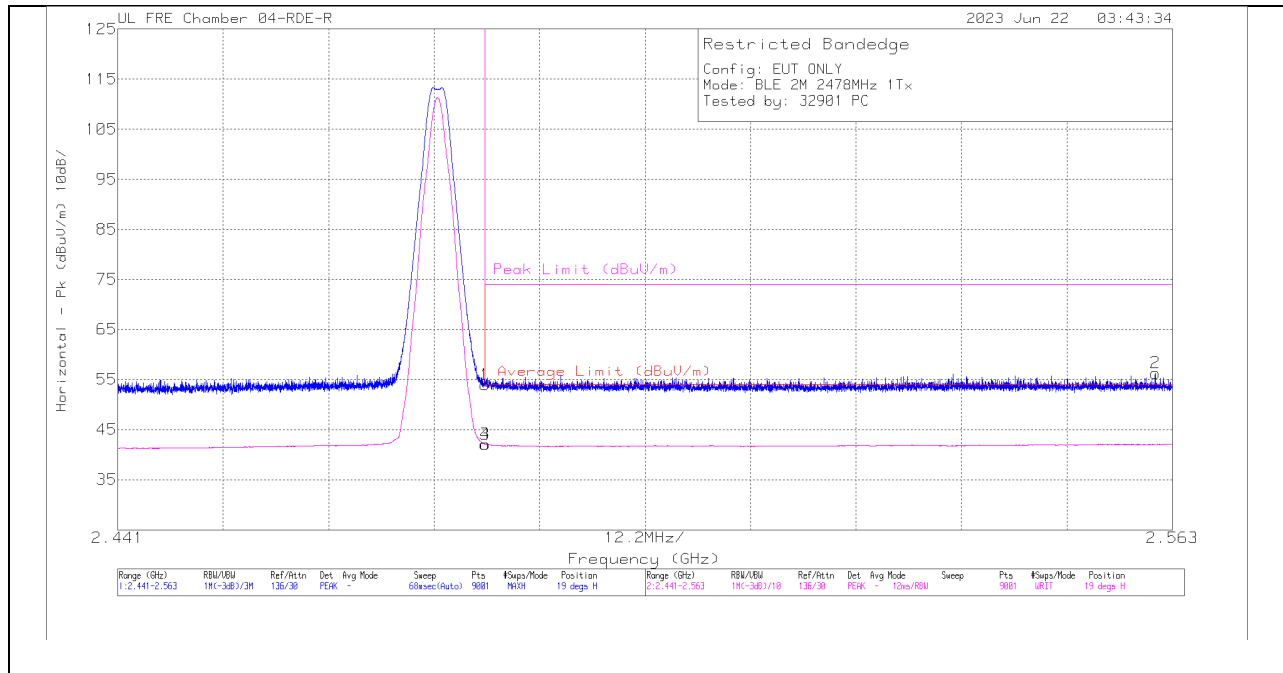
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.343945	63.79	Pk	31.4	-40.44	54.75	-	-	74	-19.25	341	390	V
1	2.39	61.09	Pk	31.7	-40.44	52.35	-	-	74	-21.65	341	390	V
3	2.39	49.12	VA1T	31.7	-40.44	40.38	54	-13.62	-	-	341	390	V
4	2.39	49.12	VA1T	31.7	-40.44	40.38	54	-13.62	-	-	341	390	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

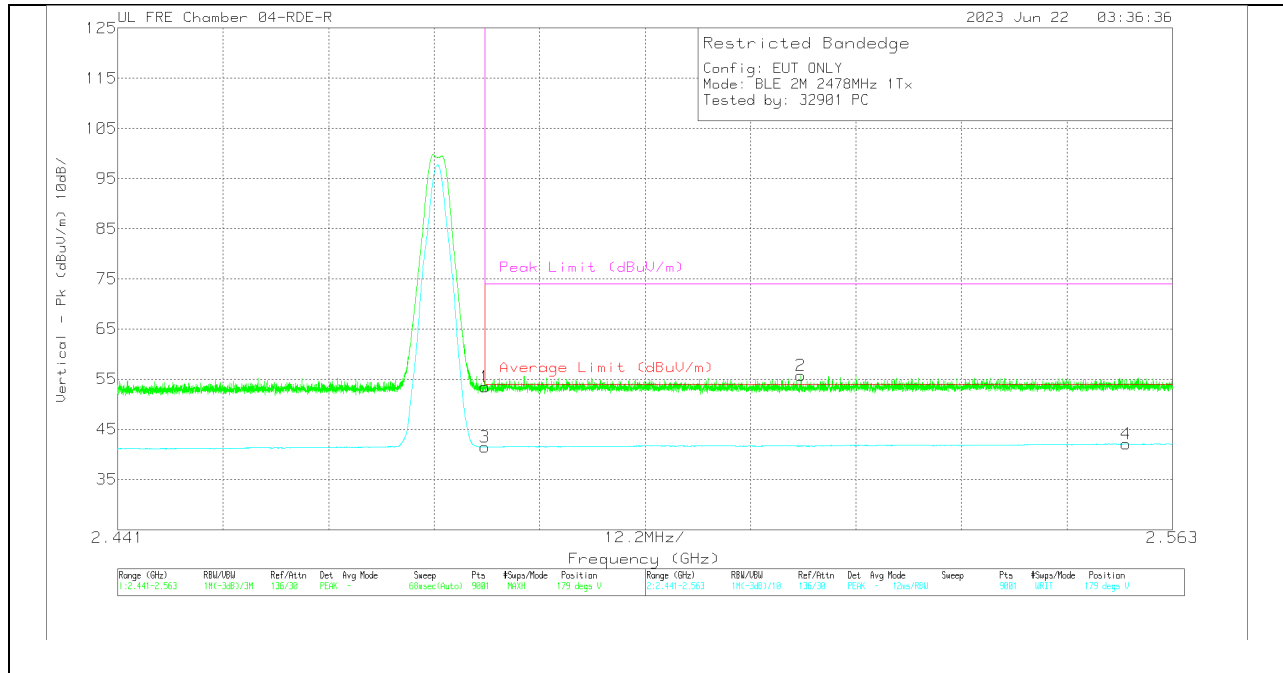
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) -3mH	DCCF (dB)	Gain/Loss (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	62.2	Pk	32.1	0	-40.37	53.93	-	-	74	-20.07	19	181	H
3	2.4835	50.37	VA1T	32.1	0	-40.37	42.1	54	-11.9	-	-	19	181	H
4	2.483512	50.36	VA1T	32.1	0	-40.37	42.09	54	-11.91	-	-	19	181	H
2	2.561011	64.16	Pk	32.2	0	-40.07	56.29	-	-	74	-17.71	19	181	H

Pk - Peak detector

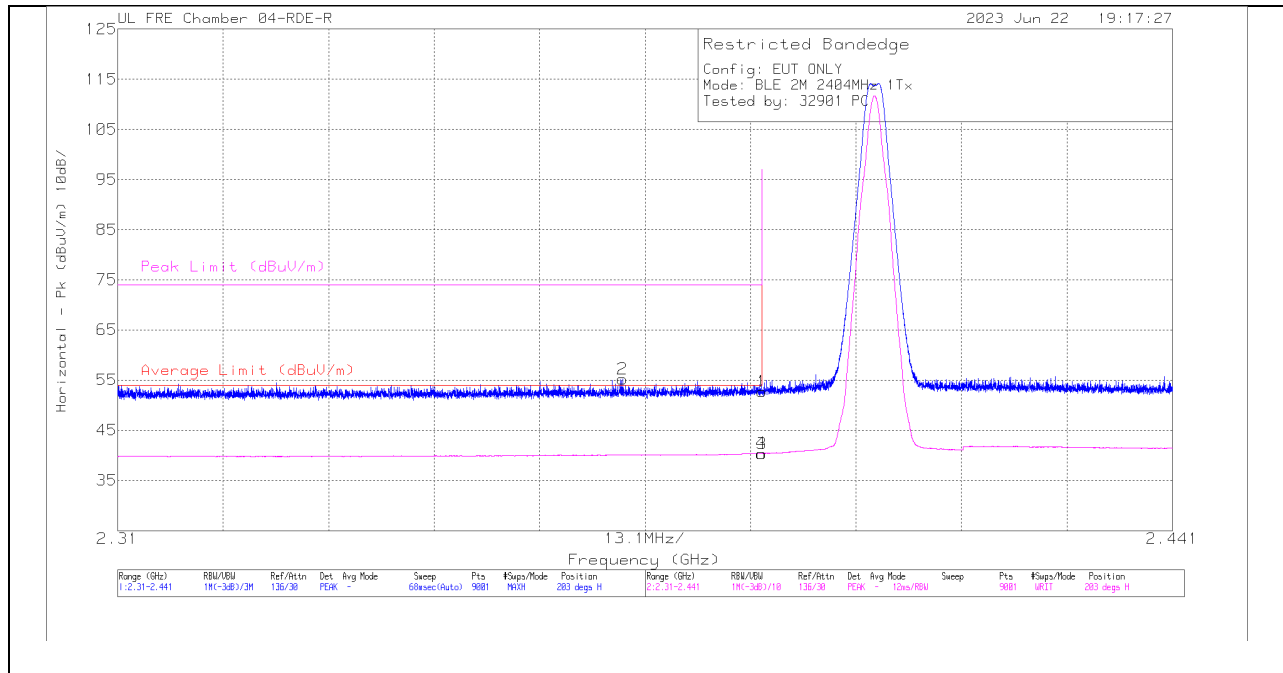
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

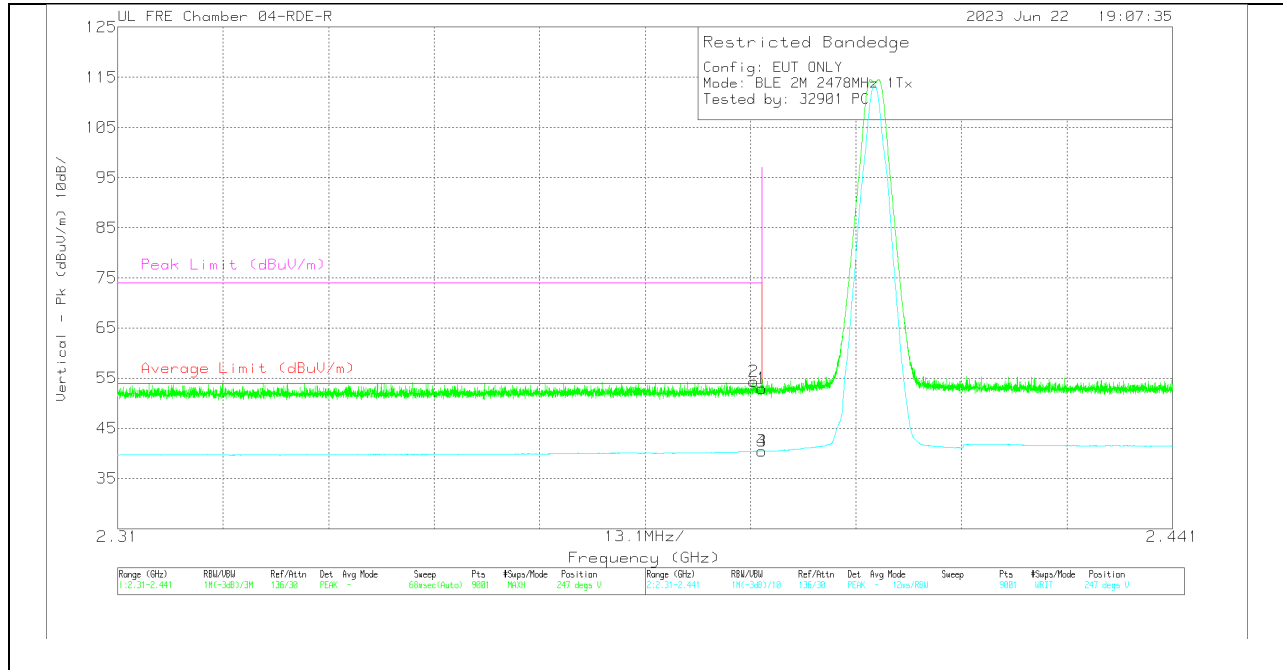
ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22740 ACF(dB) - 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.372693	64.05	Pk	31.6	-40.41	55.24	-	-	74	-18.76	203	102	H
4	2.389898	49.14	VA1T	31.7	-40.44	40.4	54	-13.6	-	-	203	102	H
1	2.39	61.45	Pk	31.7	-40.44	52.71	-	-	74	-21.29	203	102	H
3	2.39	49.11	VA1T	31.7	-40.44	40.37	54	-13.63	-	-	203	102	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

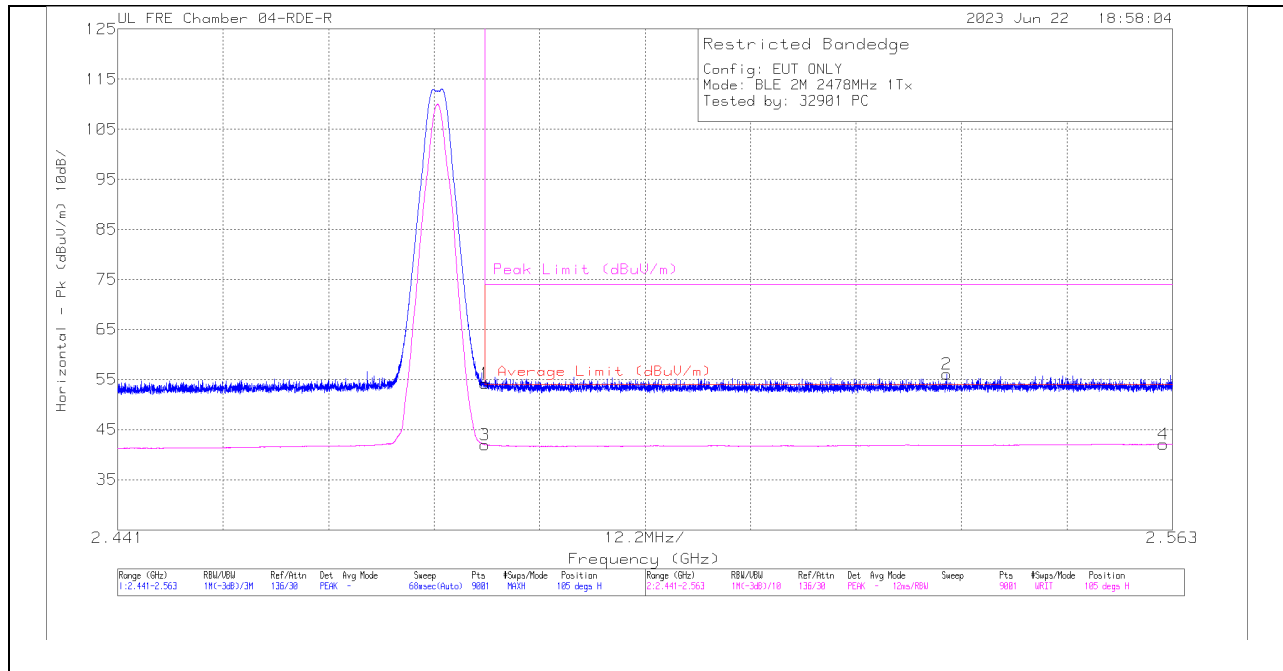
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.388966	63.07	Pk	31.7	-40.43	54.34	-	-	74	-19.66	247	139	V
1	2.39	61.7	Pk	31.7	-40.44	52.96	-	-	74	-21.04	247	139	V
3	2.39	49.2	VA1T	31.7	-40.44	40.46	54	-13.54	-	-	247	139	V
4	2.39	49.2	VA1T	31.7	-40.44	40.46	54	-13.54	-	-	247	139	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

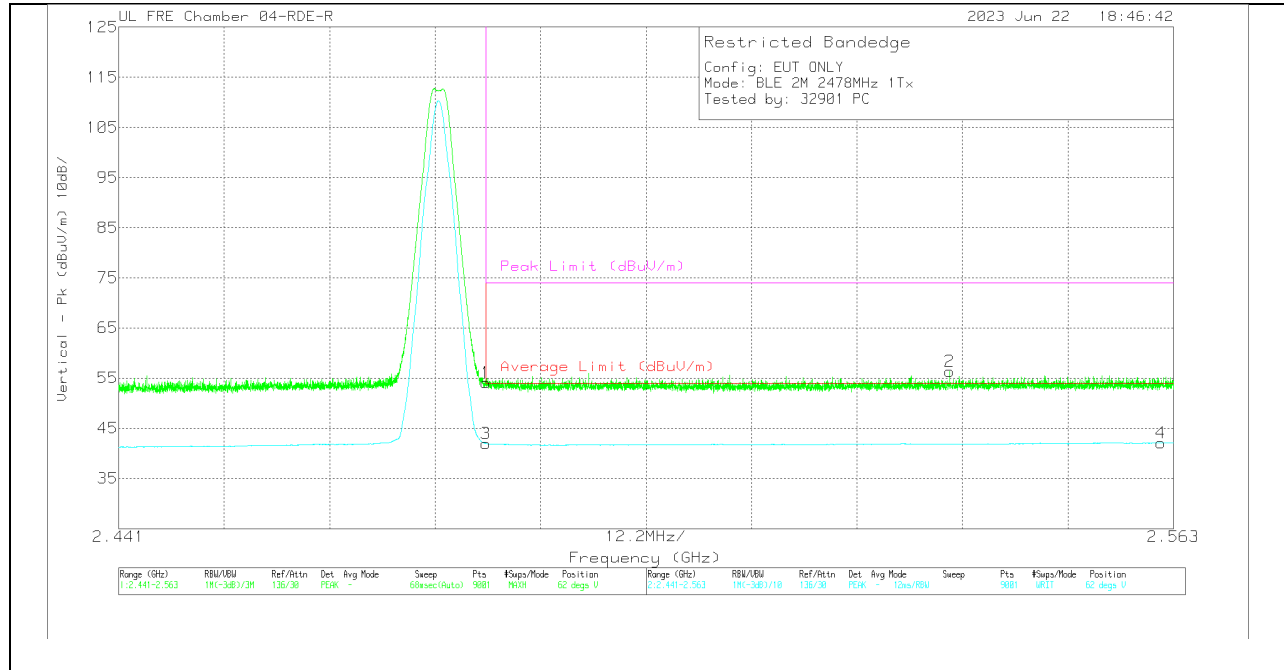
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22740 ACF(dB) - 3mH	Gain/Loss (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	62.52	Pk	32.1	-40.37	54.25	-	-	74	-19.75	105	175	H
3	2.4835	50.26	VA1T	32.1	-40.37	41.99	54	-12.01	-	-	105	175	H
2	2.536868	64.13	Pk	32.1	-40.17	56.06	-	-	74	-17.94	105	175	H
4	2.561947	49.97	VA1T	32.2	-40.05	42.12	54	-11.88	-	-	105	175	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	222740 ACF(dB) - 3mH	Gain/Loss (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	62.32	Pk	32.1	-40.37	54.05	-	-	74	-19.95	62	246	V
3	2.4835	50.24	VA1T	32.1	-40.37	41.97	54	-12.03	-	-	62	246	V
2	2.537126	64.44	Pk	32.1	-40.17	56.37	-	-	74	-17.63	62	246	V
4	2.561513	49.96	VA1T	32.2	-40.06	42.1	54	-11.9	-	-	62	246	V

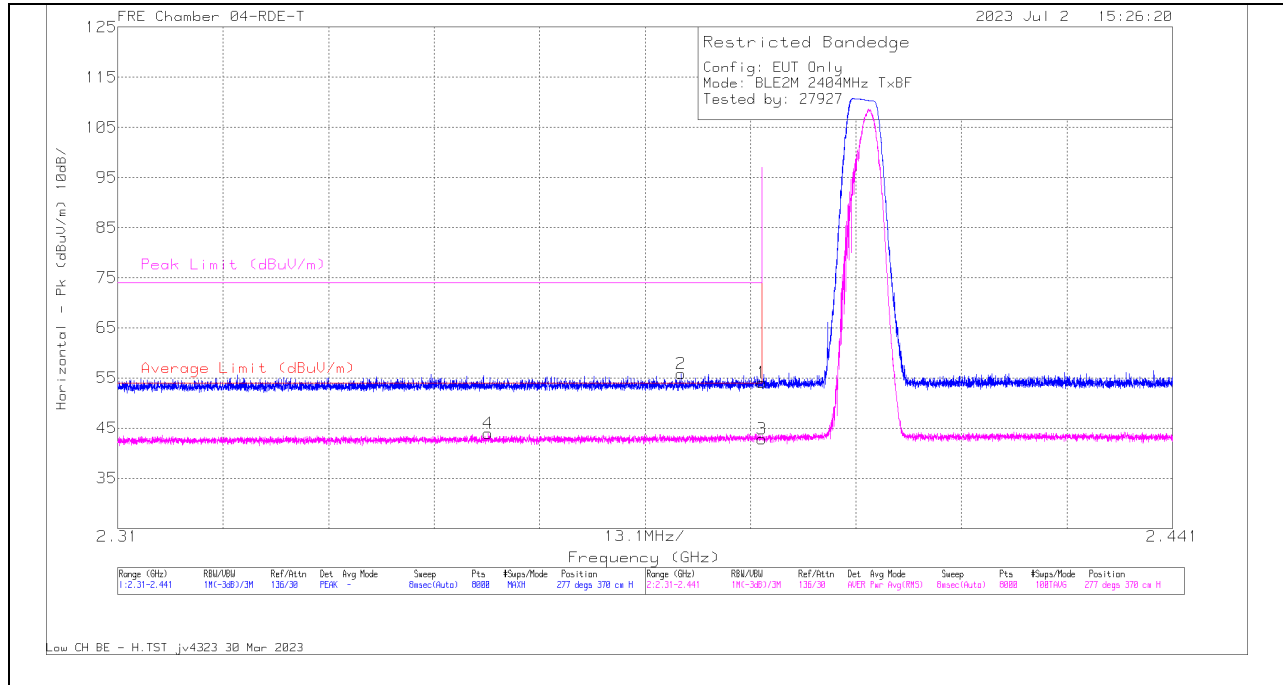
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

10.2.4. HIGH POWER BLE TXBF (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



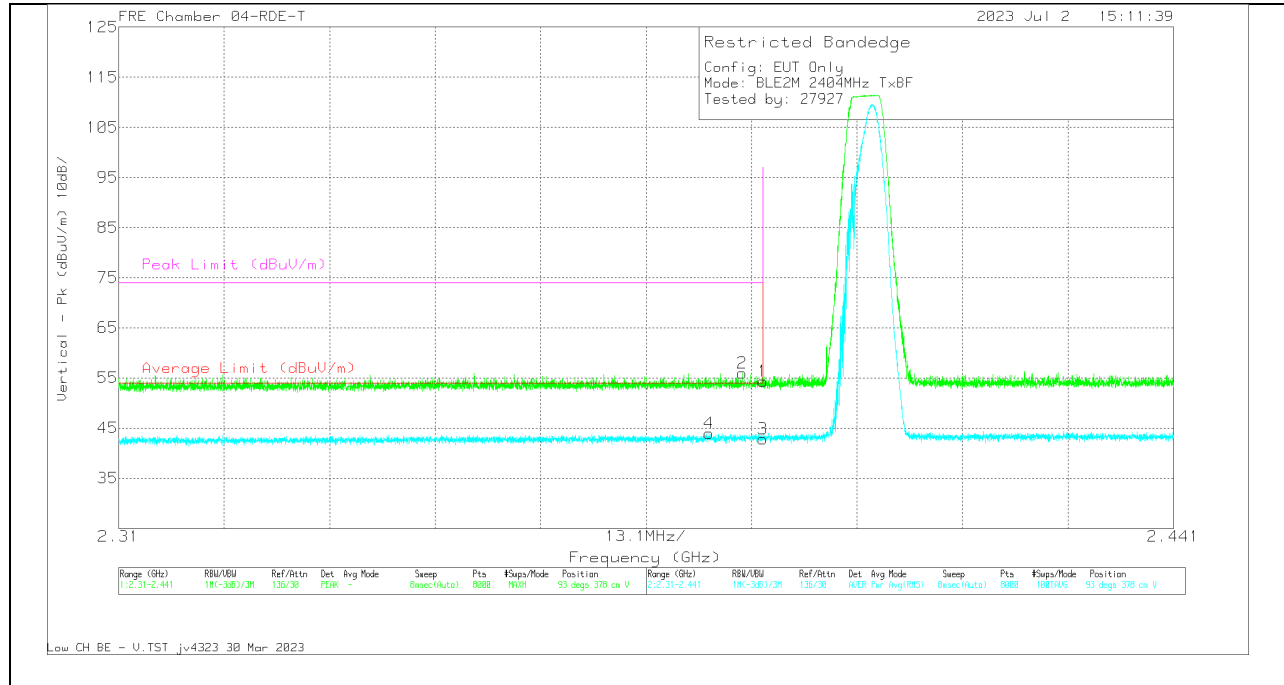
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	22673 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	59.88	Pk	32.1	-37.89	54.09	-	-	74	-19.91	277	370	H
2	* 2.379963	61.63	Pk	32.1	-37.87	55.86	-	-	74	-18.14	277	370	H
3	* 2.39	48.63	RMS	32.1	-37.89	42.84	54	-11.16	-	-	277	370	H
4	* 2.356019	49.82	RMS	32	-37.89	43.93	54	-10.07	-	-	277	370	H

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

Pk - Peak detector

RMS - RMS detection

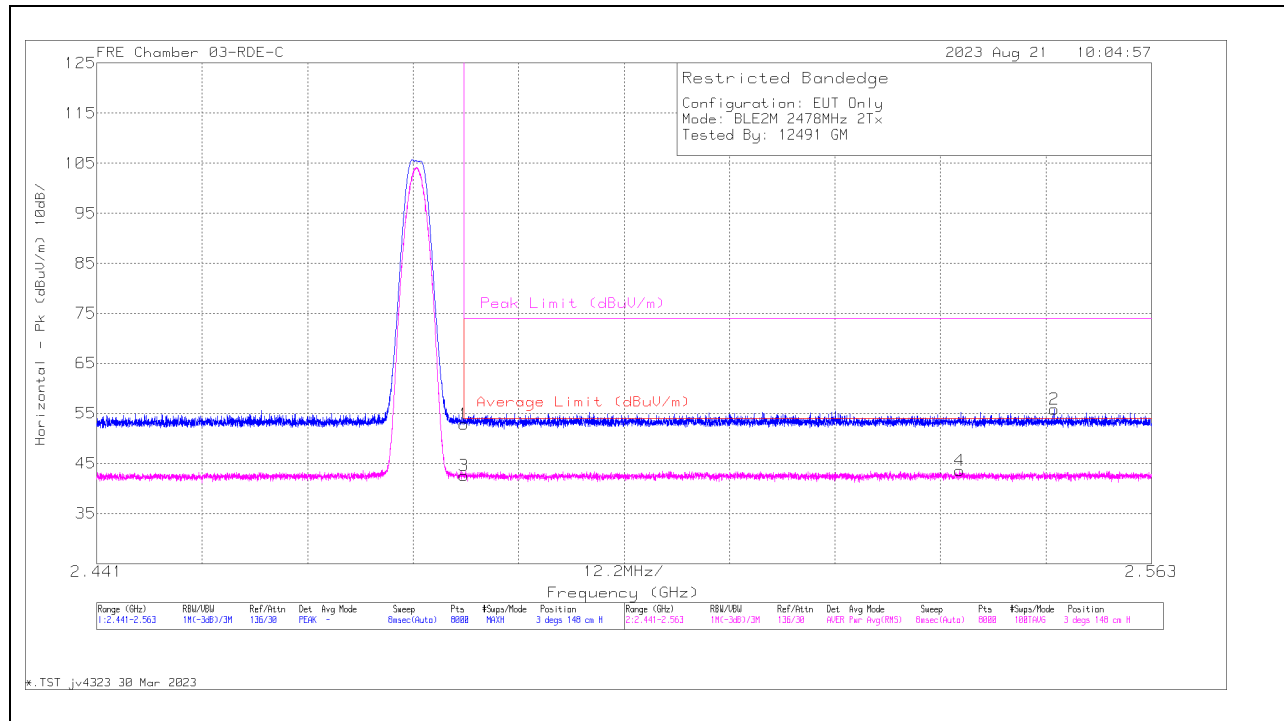
VERTICAL RESULT



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

Pk - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

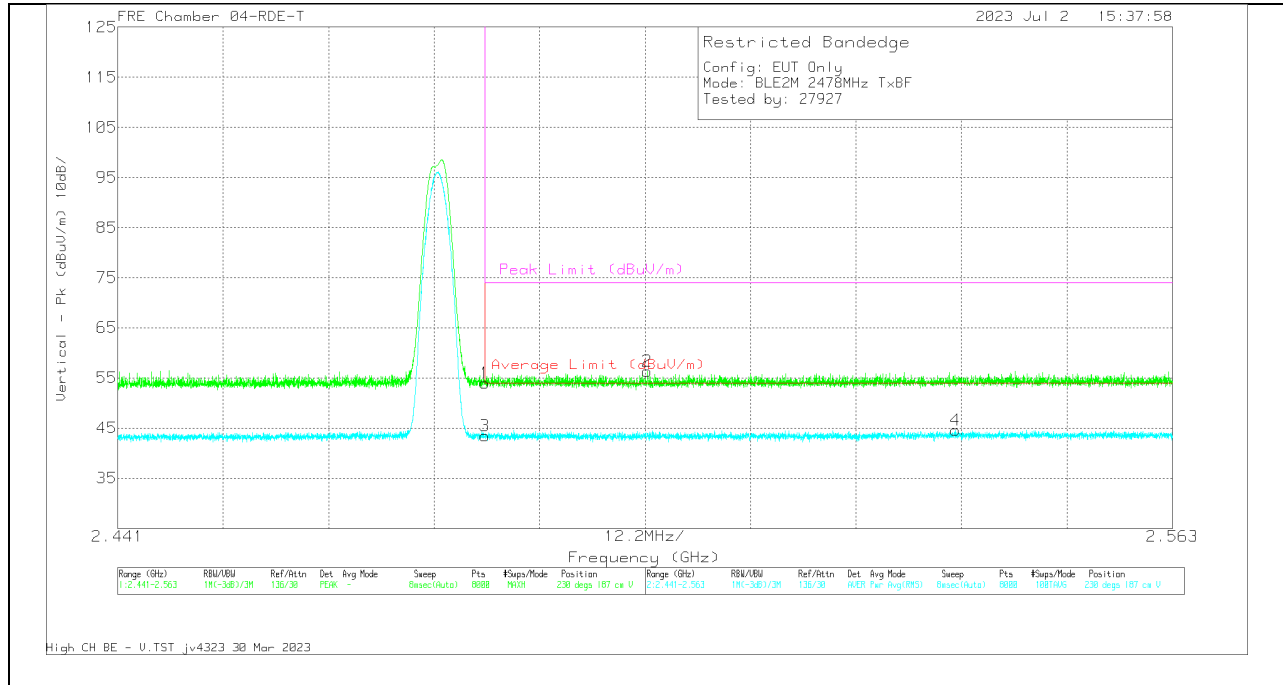
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	60.25	Pk	32.2	-39.6	52.85	-	-	74	-21.15	3	148	H
3	* 2.4835	49.96	RMS	32.2	-39.6	42.56	54	-11.44	-	-	3	148	H
4	2.540824	50.76	RMS	32.3	-39.52	43.54	54	-10.46	-	-	3	148	H
2	2.551745	63.1	Pk	32.3	-39.5	55.9	-	-	74	-18.1	3	148	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	Gain/Loss (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	59.54	Pk	32.2	-37.81	53.93	-	-	74	-20.07	230	187	V
3	* 2.4835	49.03	RMS	32.2	-37.81	43.42	54	-10.58	-	-	230	187	V
2	2.502237	61.91	Pk	32.3	-37.81	56.4	-	-	74	-17.6	230	187	V
4	2.537926	50.03	RMS	32.3	-37.75	44.58	54	-9.42	-	-	230	187	V

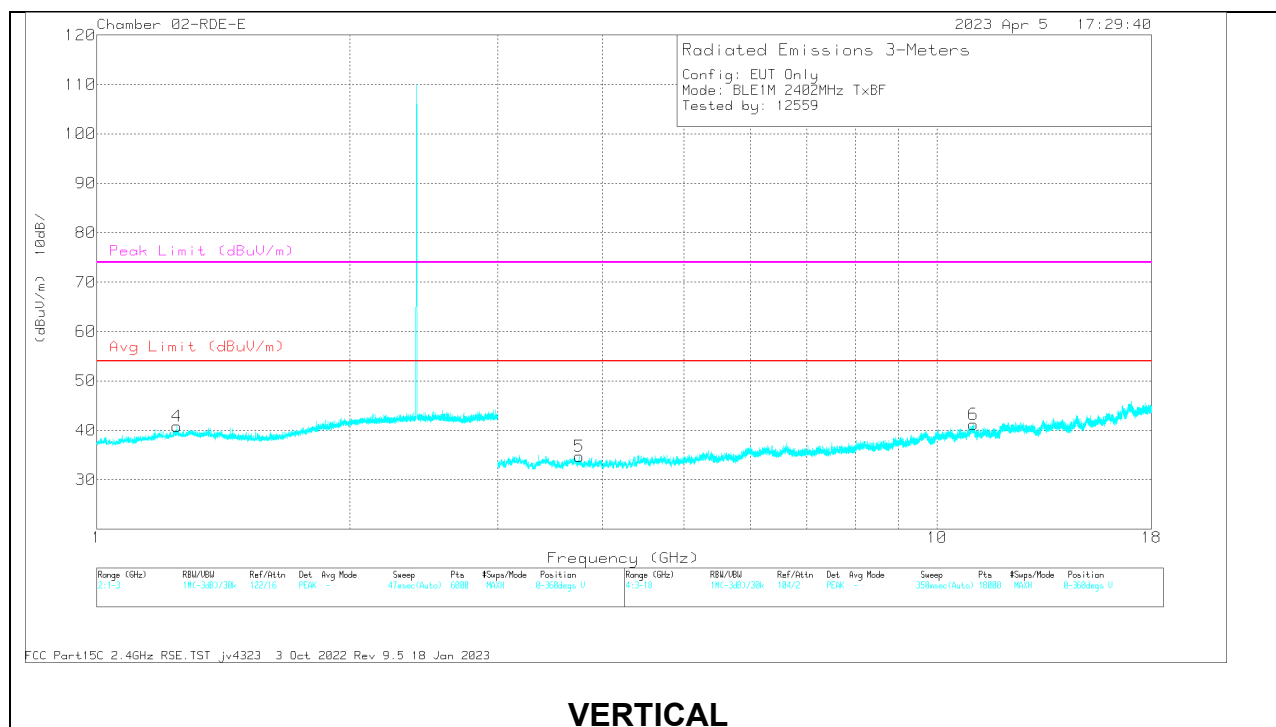
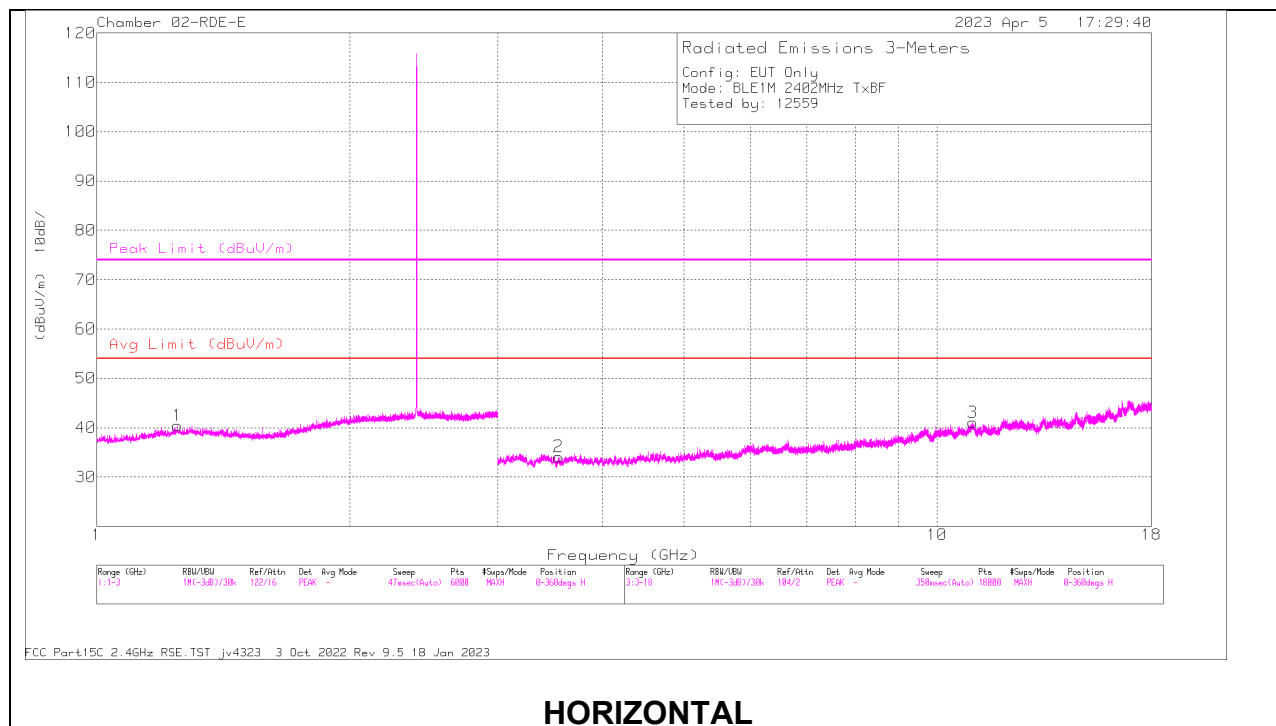
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

10.2.5. BLE1M, HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

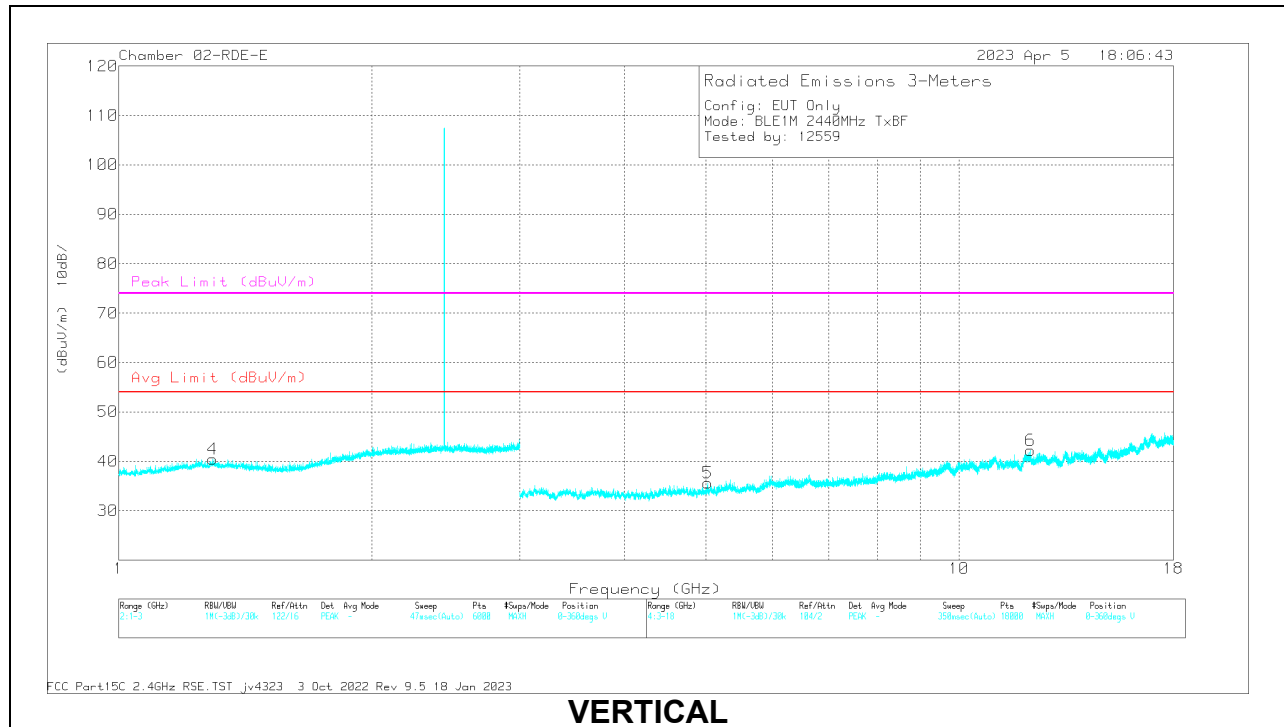
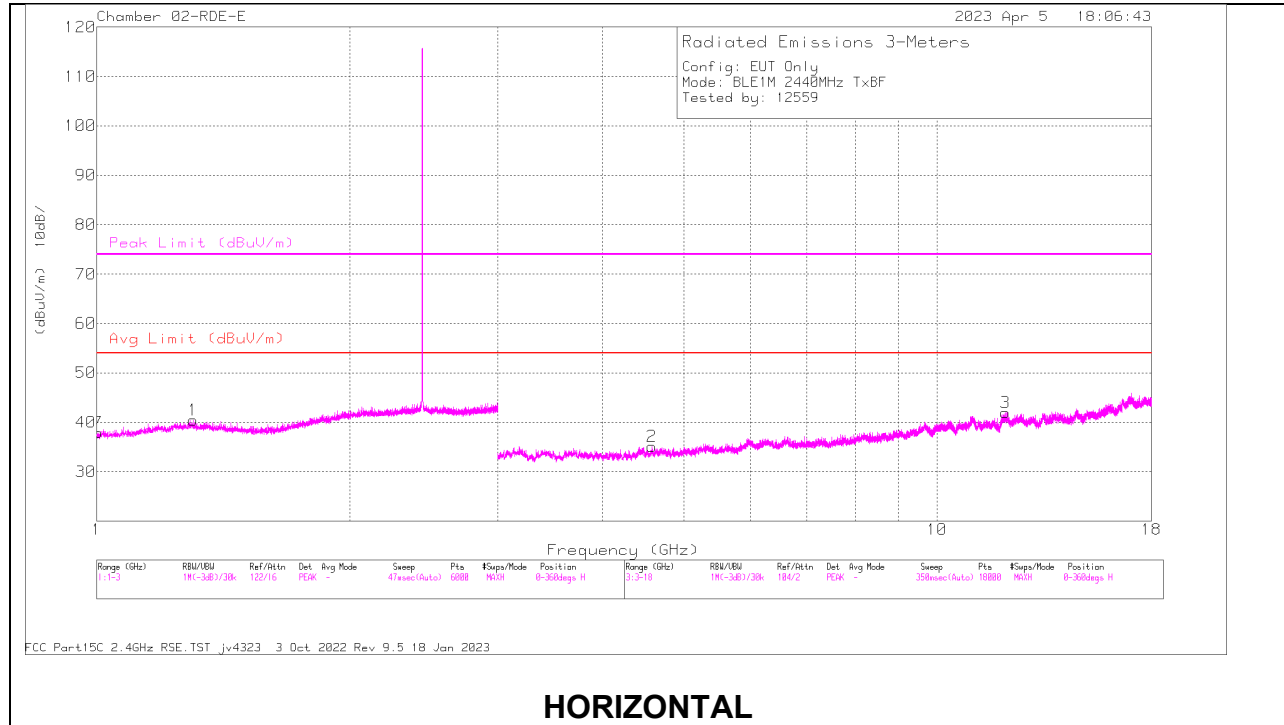
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.245709	60.56	PK2	28.9	-39.68	49.78			74	-24.22	360	199	H
	* 1.247198	48.8	MAv1	28.9	-39.68	38.02	54	-15.98	-	-	360	199	H
4	* 1.24667	60.56	PK2	28.9	-39.68	49.78			74	-24.22	360	199	V
	* 1.242751	48.95	MAv1	28.9	-39.68	38.17	54	-15.83	-	-	360	199	V
2	* 3.546407	55.72	PK2	33.1	-45.28	43.54			74	-30.46	360	199	H
	* 3.548011	44.34	MAv1	33.1	-45.28	32.16	54	-21.84	-	-	360	199	H
3	* 11.023918	54.8	PK2	37.9	-41.22	51.48			74	-22.52	360	199	H
	* 11.024055	42.59	MAv1	37.9	-41.22	39.27	54	-14.73	-	-	360	199	H
5	* 3.751255	56.73	PK2	33.3	-45.73	44.3			74	-29.7	360	199	V
	* 3.750634	44.94	MAv1	33.3	-45.72	32.52	54	-21.48	-	-	360	199	V
6	* 11.044441	54.2	PK2	37.9	-41.03	51.07			74	-22.93	360	101	V
	* 11.045402	42.5	MAv1	37.9	-41.02	39.38	54	-14.62	-	-	360	101	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 RESULTS



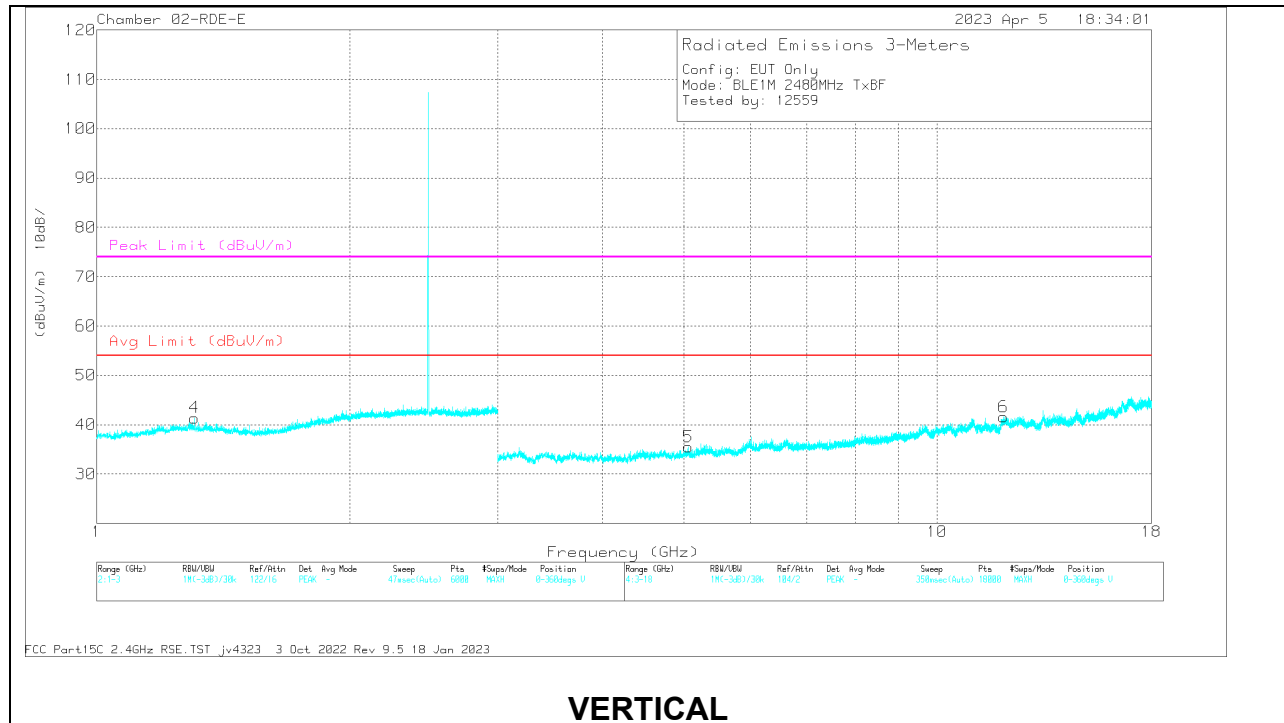
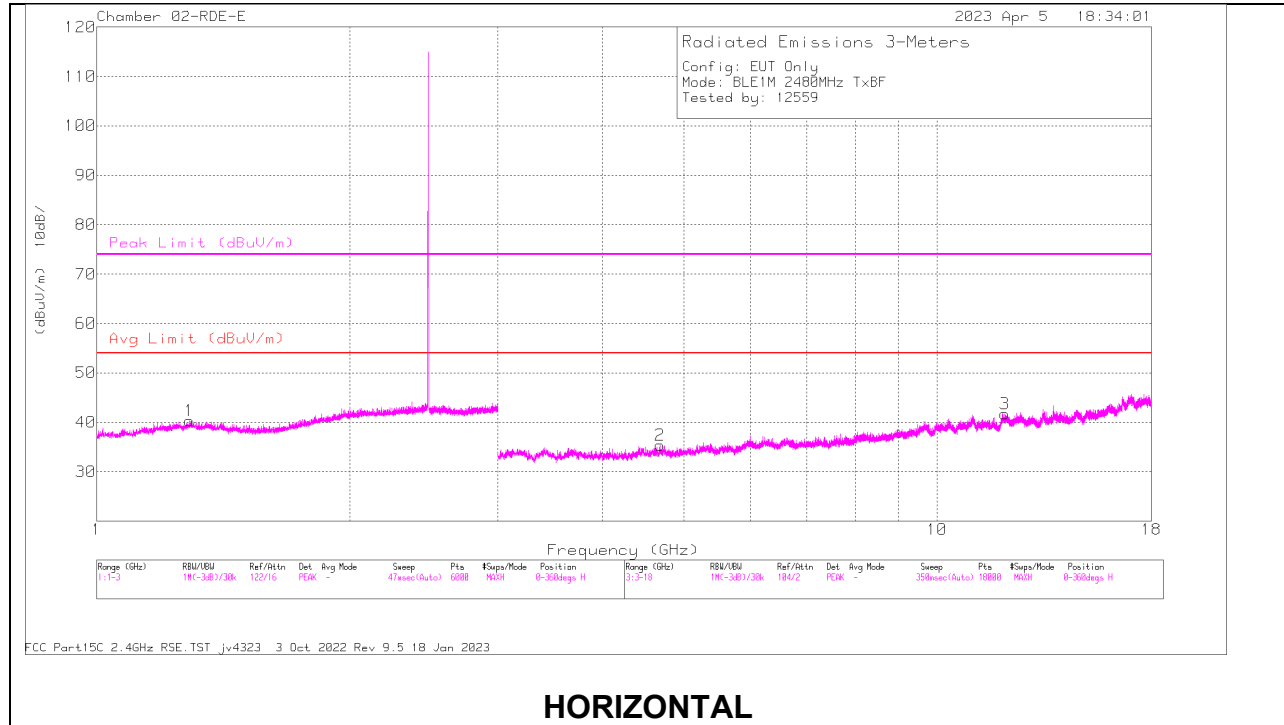
RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.301649	60.16	PK2	29	-39.58	49.58			74	-24.42	0	101	H
	* 1.301122	48.72	MAv1	29	-39.59	38.13	54	-15.87	-	-	0	101	H
4	* 1.291557	60.28	PK2	29.1	-39.62	49.76			74	-24.24	0	101	V
	* 1.294217	49.14	MAv1	29.1	-39.6	38.64	54	-15.36	-	-	0	101	V
2	* 4.58142	57.05	PK2	34.1	-46.54	44.61			74	-29.39	0	101	H
	* 4.58264	45.25	MAv1	34.1	-46.54	32.81	54	-21.19	-	-	0	101	H
3	* 12.063672	54.68	PK2	38.9	-42.41	51.17			74	-22.83	0	101	H
	* 12.065179	43.26	MAv1	38.9	-42.43	39.73	54	-14.27	-	-	0	101	H
5	* 5.022317	57.94	PK2	34	-47.36	44.58			74	-29.42	0	200	V
	* 5.022289	46.28	MAv1	34	-47.36	32.92	54	-21.08	-	-	0	200	V
6	* 12.174799	55.07	PK2	39	-42.6	51.47			74	-22.53	0	200	V
	* 12.173117	43.4	MAv1	39	-42.69	39.71	54	-14.29	-	-	0	200	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 RESULTS

RADIATED EMISSIONS

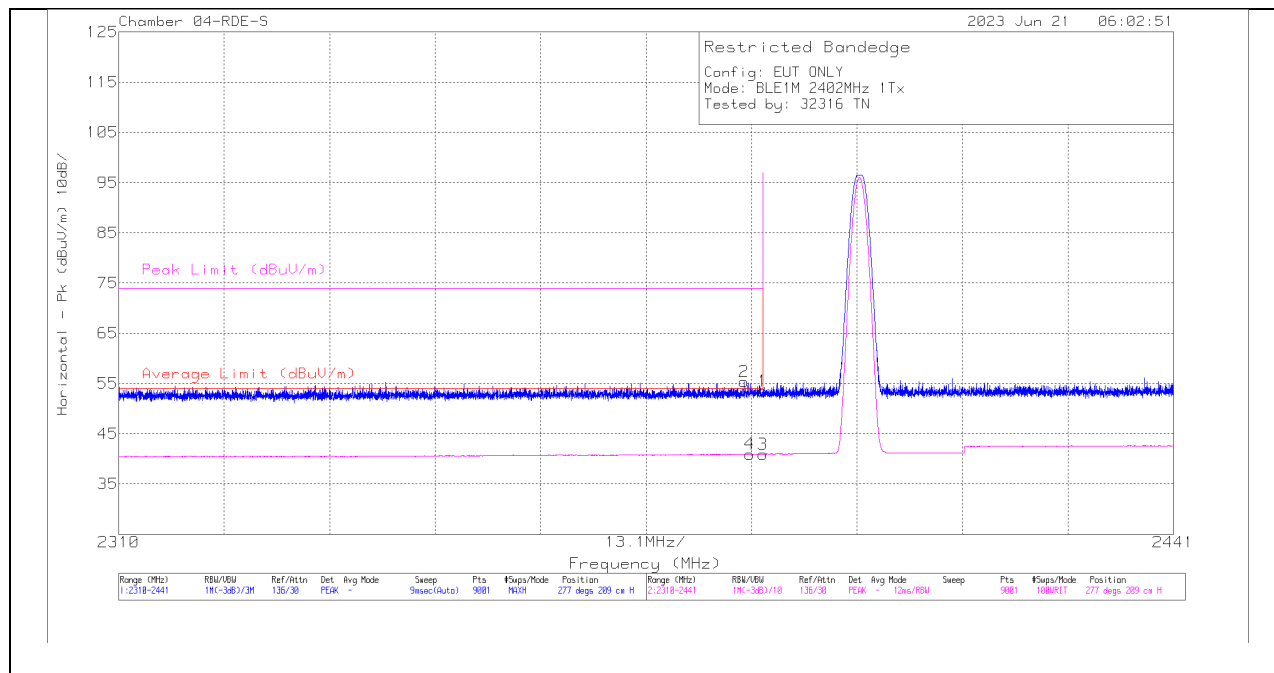
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.291232	60.4	PK2	29.1	-39.62	49.88			74	-24.12	0	101	H
	* 1.290306	48.67	MAv1	29.1	-39.62	38.15	54	-15.85	-	-	0	101	H
4	* 1.305969	60.72	PK2	29	-39.58	50.14			74	-23.86	0	199	V
	* 1.306533	48.97	MAv1	29	-39.58	38.39	54	-15.61	-	-	0	199	V
2	* 4.679087	57.29	PK2	34.1	-46.97	44.42			74	-29.58	0	199	H
	* 4.679698	45.69	MAv1	34.1	-46.94	32.85	54	-21.15	-	-	0	199	H
3	* 12.03735	54.44	PK2	38.8	-42.21	51.03			74	-22.97	0	199	H
	* 12.038609	42.93	MAv1	38.8	-42.22	39.51	54	-14.49	-	-	0	199	H
5	* 5.059705	58.29	PK2	34.1	-47.35	45.04			74	-28.96	0	199	V
	* 5.05694	46.62	MAv1	34.1	-47.36	33.36	54	-20.64	-	-	0	199	V
6	* 11.998887	54.68	PK2	38.8	-42.25	51.23			74	-22.77	0	199	V
	* 12.00102	43.06	MAv1	38.8	-42.31	39.55	54	-14.45	-	-	0	199	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.2.6. LOW POWER BLE (1Mbps)

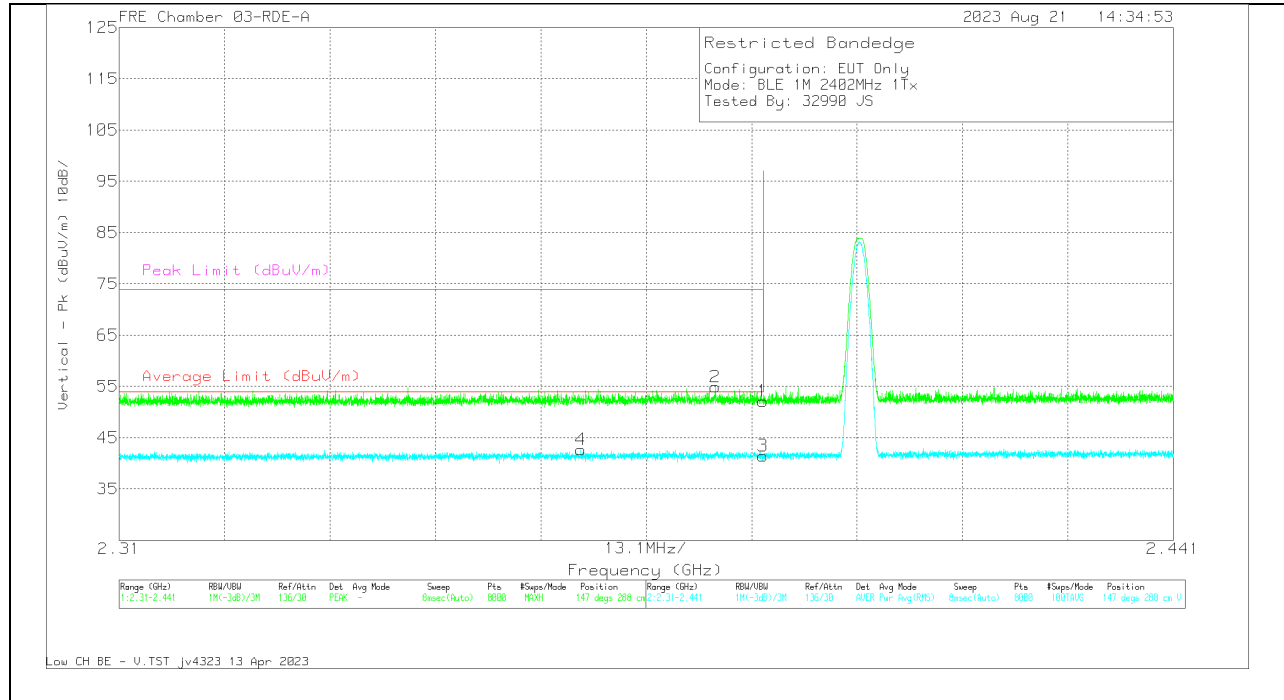
ANT 4**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2387.671	63.27	Pk	32.3	-40.21	55.36	-	-	74	-18.64	277	209	H
4	2388.37	48.87	VA1T	32.3	-40.2	40.97	54	-13.03	-	-	277	209	H
1	2390	61.44	Pk	32.3	-40.2	53.54	-	-	74	-20.46	277	209	H
3	2390	48.86	VA1T	32.3	-40.2	40.96	54	-13.04	-	-	277	209	H

Pk - Peak detector

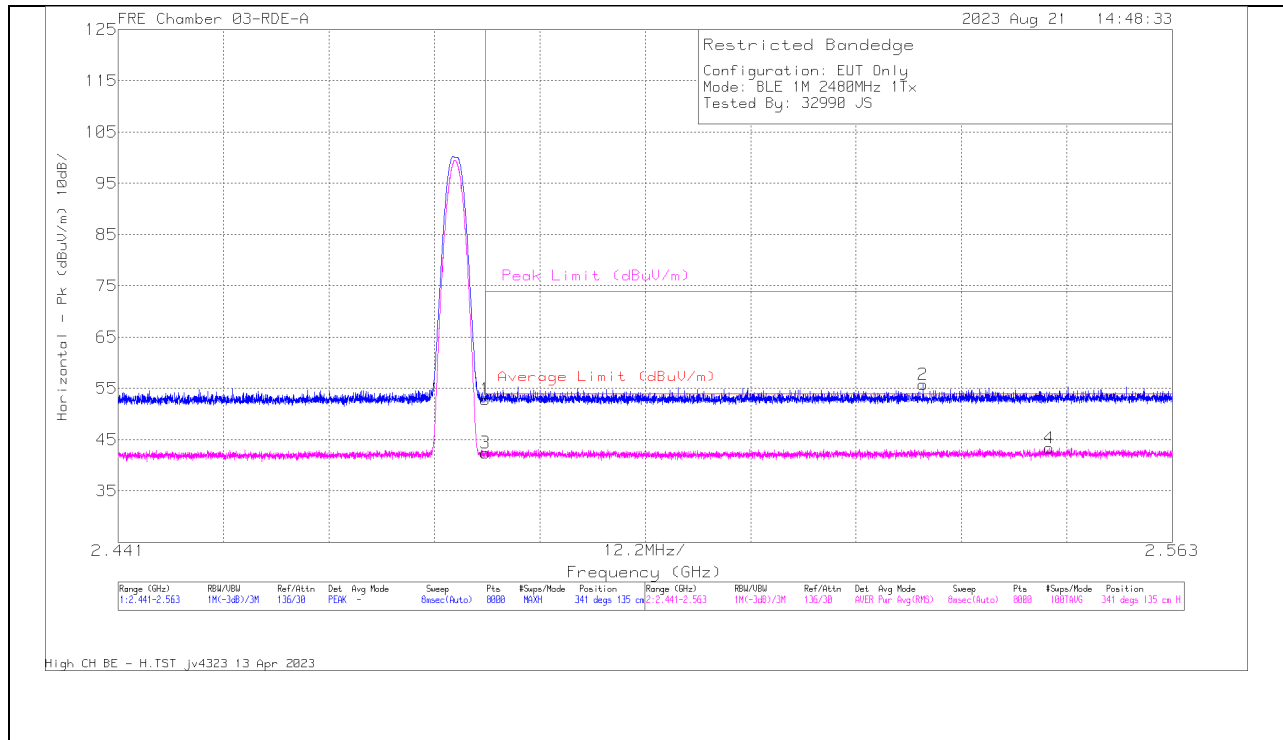
VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (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	60.62	Pk	31.9	0	-40.42	52.1	-	-	74	-21.9	147	288	V
2	* 2.384073	63.38	Pk	31.9	0	-40.38	54.9	-	-	74	-19.1	147	288	V
3	* 2.39	49.96	RMS	31.9	0	-40.42	41.44	54	-12.56	-	-	147	288	V
4	* 2.367369	51.28	RMS	31.8	0	-40.42	42.66	54	-11.34	-	-	147	288	V

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

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

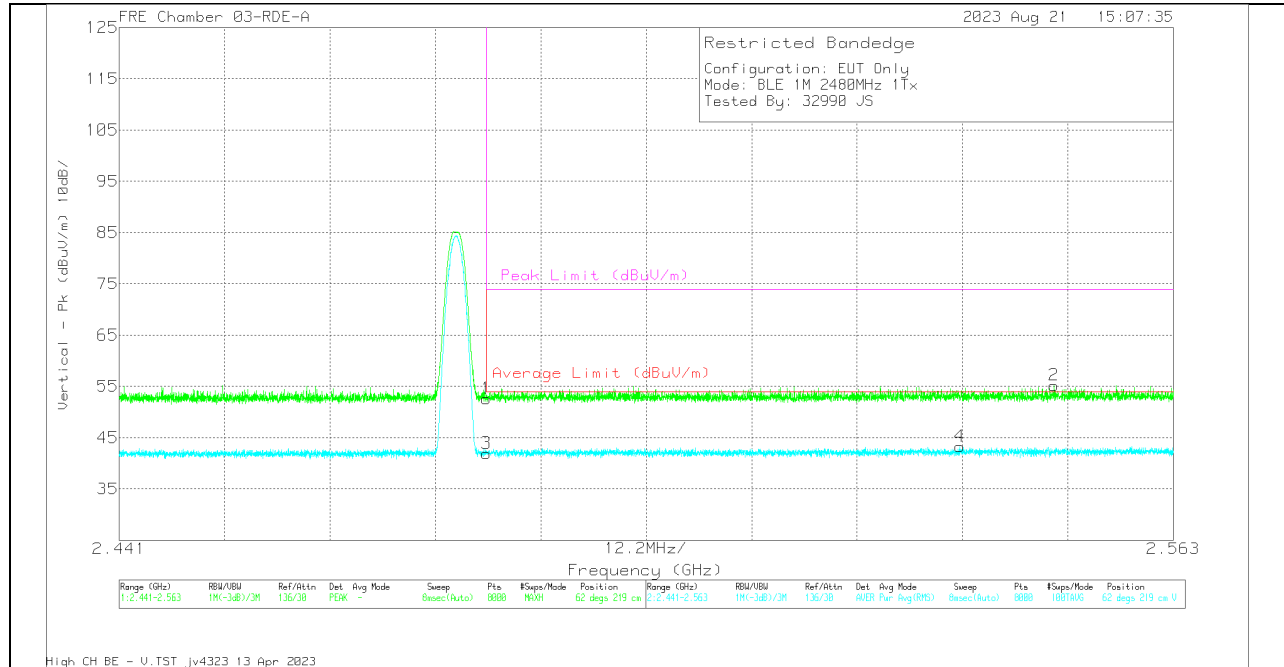
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	60.77	Pk	32.2	0	-40.11	52.86	-	-	74	-21.14	341	135	H
3	* 2.4835	50.32	RMS	32.2	0	-40.11	42.41	54	-11.59	-	-	341	135	H
2	2.534144	63.54	Pk	32.2	0	-39.97	55.77	-	-	74	-18.23	341	135	H
4	2.54874	51.13	RMS	32.2	0	-39.95	43.38	54	-10.62	-	-	341	135	H

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

Pk - Peak detector

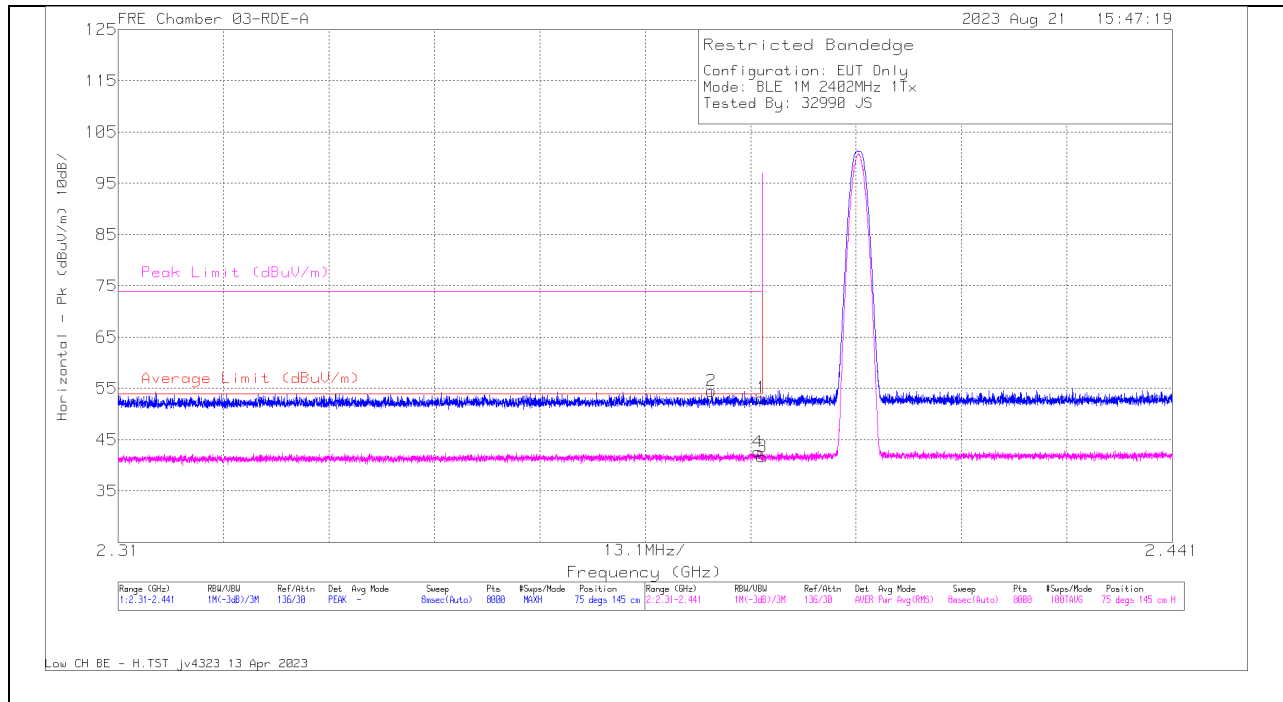
RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (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	60.51	Pk	32.2	0	-40.11	52.6	-	-	74	-21.4	62	219	V
3	* 2.4835	49.86	RMS	32.2	0	-40.11	41.95	54	-12.05	-	-	62	219	V
4	2.538262	51.1	RMS	32.2	0	-40.01	43.29	54	-10.71	-	-	62	219	V
2	2.549167	62.95	Pk	32.2	0	-39.94	55.21	-	-	74	-18.79	62	219	V

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

ANT 3**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (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	61.66	Pk	31.9	0	-40.42	53.14	-	-	74	-20.86	75	145	H
2	* 2.383746	63	Pk	31.9	0	-40.39	54.51	-	-	74	-19.49	75	145	H
3	* 2.39	50.2	RMS	31.9	0	-40.42	41.68	54	-12.32	-	-	75	145	H
4	* 2.389527	51.16	RMS	31.9	0	-40.42	42.64	54	-11.36	-	-	75	145	H

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

Pk - Peak detector

RMS - RMS detection

Vertical - Pk (dBuU/m) 10dB/

125
115
105
95
85
75
65
55
45
35

Peak Limit (dBuU/m)

Average Limit (dBuU/m)

13.1MHz/

2.31 2.441

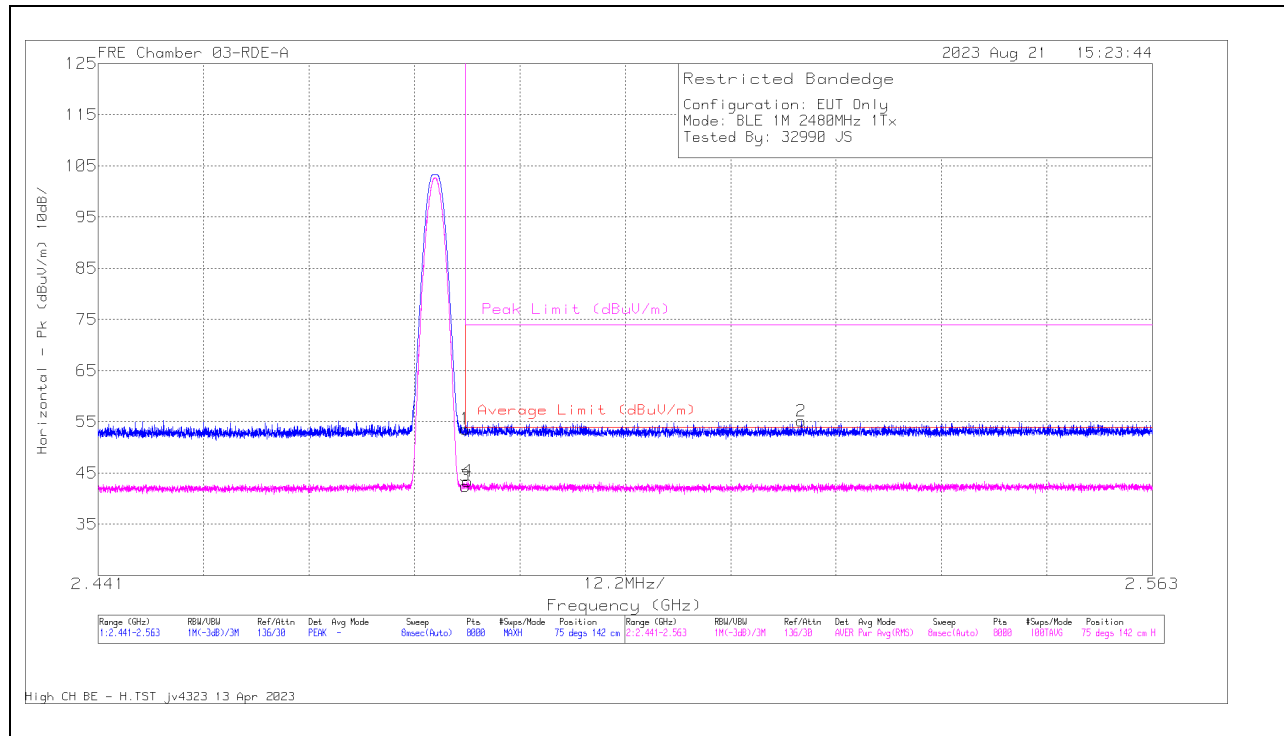
Restricted Bandedge
Configuration: EUT Only
Mode: BLE 1M 2402MHz 1Tx
Tested By: 32990 JS

Range (GHz)	RBW/VBW	Ref/Att	Det	AvG Mode	Sweep	Pts	#Seps/Mode	Position	Range (GHz)	RBW/VBW	Ref/Att	Det	AvG Mode	Sweep	Pts	#Seps/Mode	Position
1.2-31-2.441	1M-3dB/3M	136/30	PEAK	-	OneSec(Auto)	8000	N/A	116 degs 138 cm	2.2-31-2.441	1M-3dB/3M	136/30	AVER	Per Avg(RMS)	Basec(Auto)	8000	1001/005	116 degs 138 cm U

Low CH BE - U.TST jv4323 13 Apr 2023

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (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	60.76	Pk	31.9	0	-40.42	52.24	-	-	74	-21.76	116	138	V
2	* 2.367369	63.21	Pk	31.8	0	-40.42	54.59	-	-	74	-19.41	116	138	V
3	* 2.39	50.09	RMS	31.9	0	-40.42	41.57	54	-12.43	-	-	116	138	V
4	* 2.361702	51.25	RMS	31.8	0	-40.46	42.59	54	-11.41	-	-	116	138	V

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

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

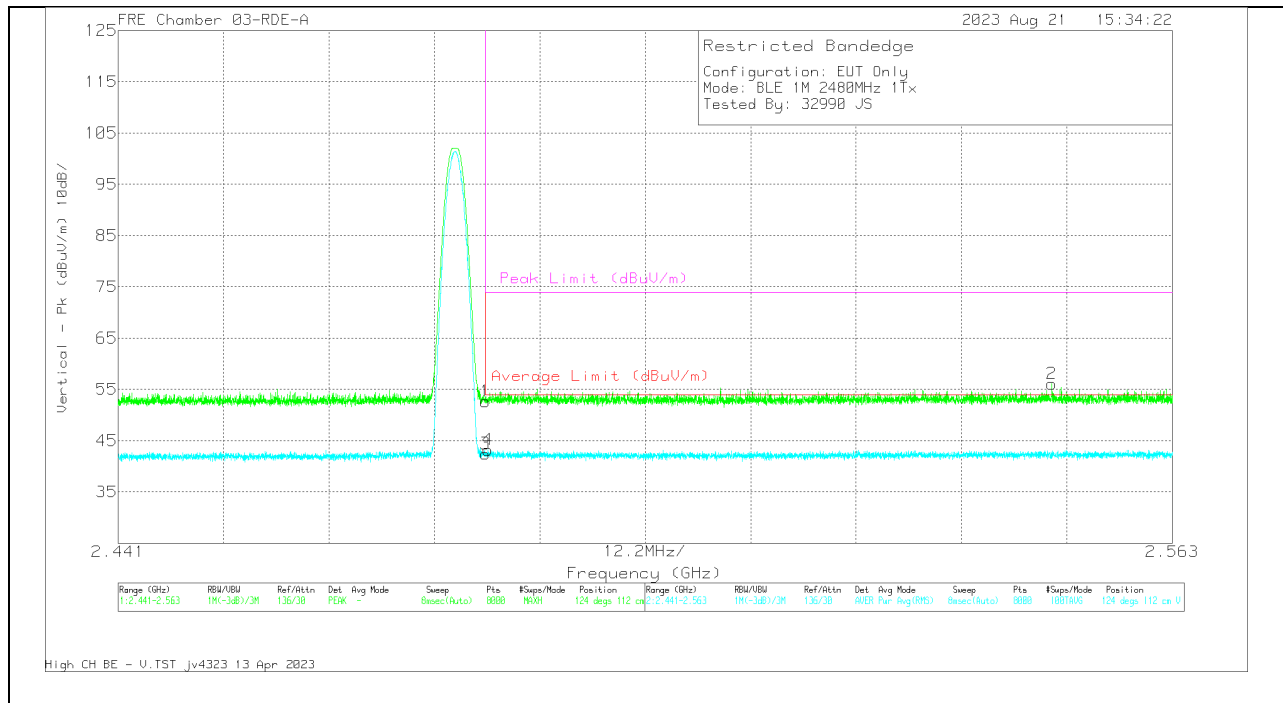
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	61.51	Pk	32.2	0	-40.11	53.6	-	-	74	-20.4	75	142	H
3	* 2.4835	50.39	RMS	32.2	0	-40.11	42.48	54	-11.52	-	-	75	142	H
4	* 2.483751	51.33	RMS	32.2	0	-40.11	43.42	54	-10.58	-	-	75	142	H
2	2.522385	63	Pk	32.2	0	-40.04	55.16	-	-	74	-18.84	75	142	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB) 3mH	DCCF (dB)	Gain/Loss (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	60.56	Pk	32.2	0	-40.11	52.65	-	-	74	-21.35	124	112	V
3	* 2.4835	50.34	RMS	32.2	0	-40.11	42.43	54	-11.67	-	-	124	112	V
4	* 2.483797	51.13	RMS	32.2	0	-40.11	43.22	54	-10.78	-	-	124	112	V
2	2.54906	63.83	Pk	32.2	0	-39.94	56.09	-	-	74	-17.91	124	112	V

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

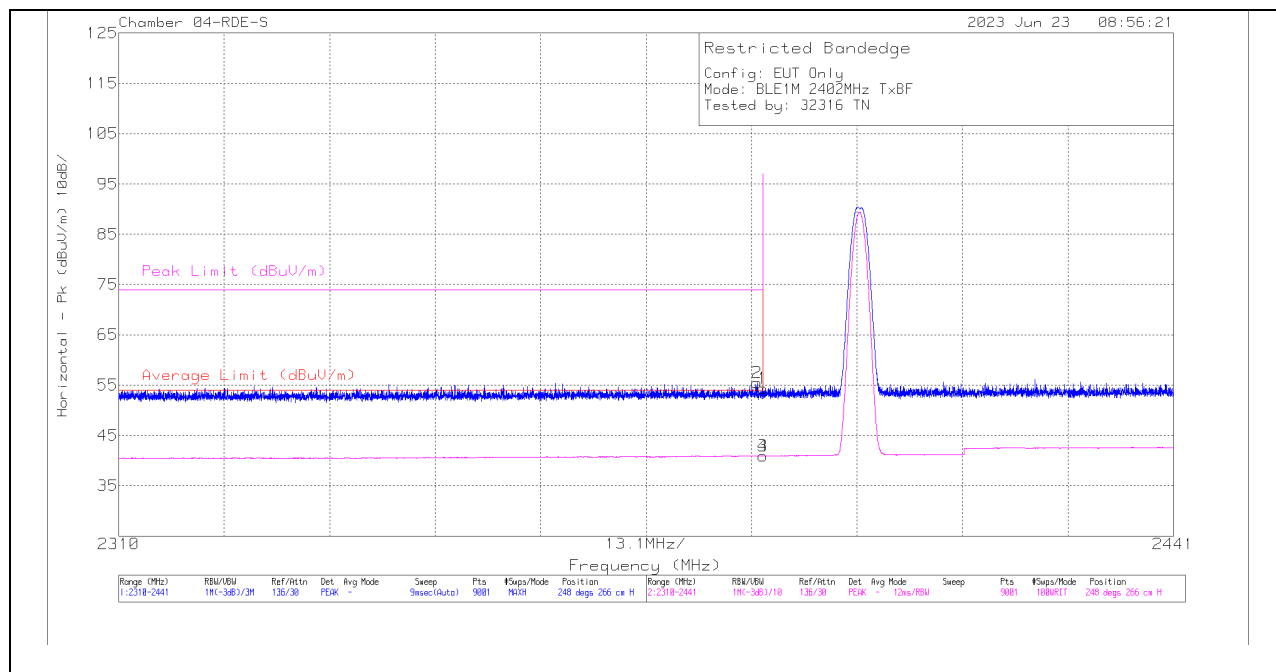
Pk - Peak detector

RMS - RMS detection

10.2.7. LOW POWER BLE TXBF (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

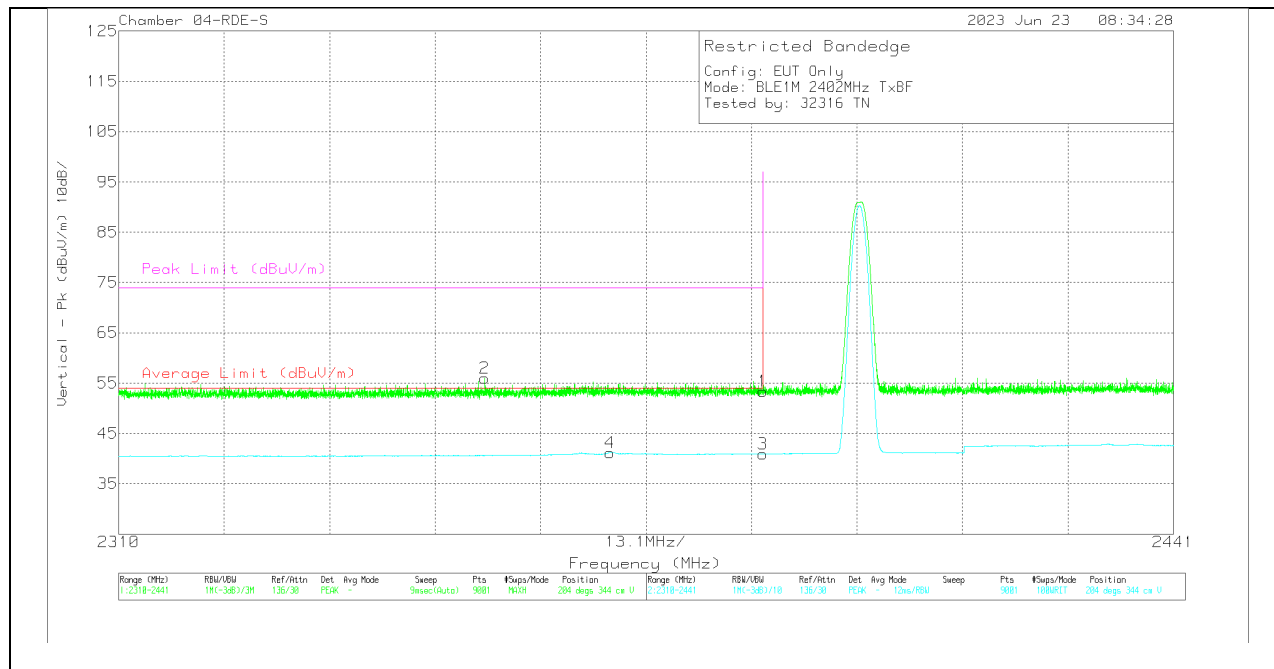


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2389.272	63.42	Pk	32.3	-40.21	55.51	-	-	74	-18.49	248	266	H
1	2390	62.24	Pk	32.3	-40.2	54.34	-	-	74	-19.66	248	266	H
3	2390	48.84	VA1T	32.3	-40.2	40.94	54	-13.06	-	-	248	266	H
4	2390	48.84	VA1T	32.3	-40.2	40.94	54	-13.06	-	-	248	266	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

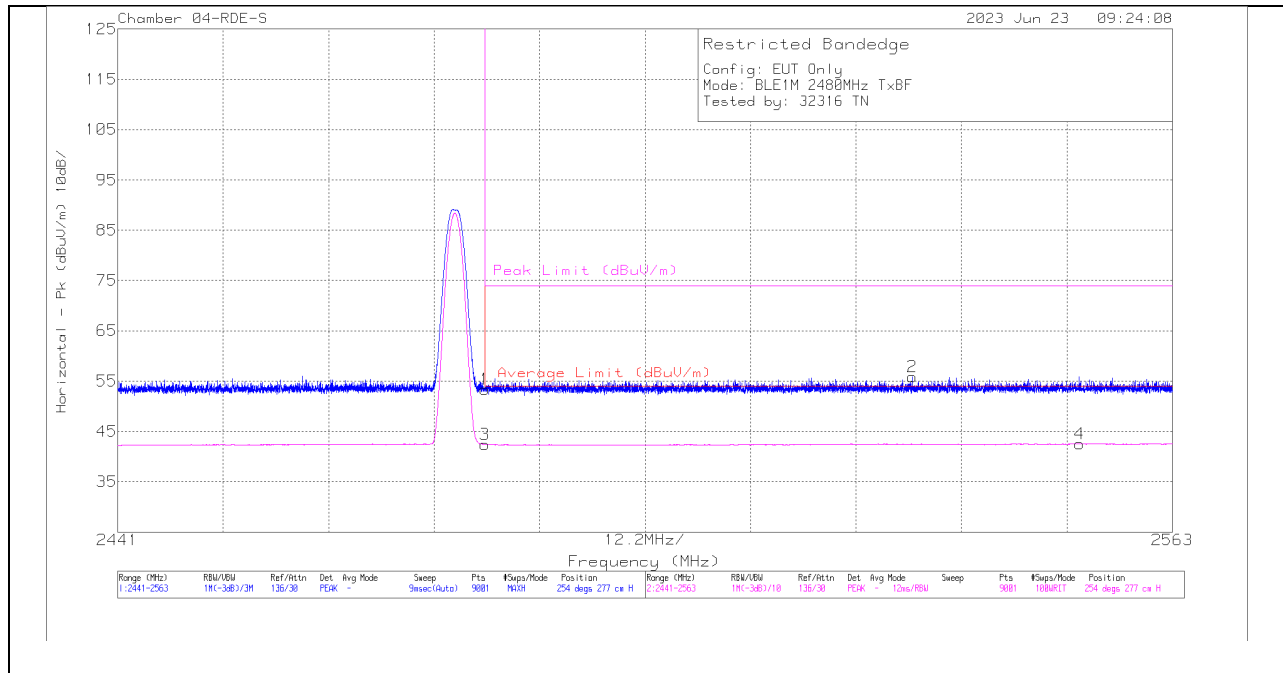
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2355.488	64.18	Pk	32.1	-40.32	55.96	-	-	74	-18.04	204	344	V
4	2371.019	49.27	VA1T	32.2	-40.28	41.19	54	-12.81	-	-	204	344	V
1	2390	61.29	Pk	32.3	-40.2	53.39	-	-	74	-20.61	204	344	V
3	2390	48.83	VA1T	32.3	-40.2	40.93	54	-13.07	-	-	204	344	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

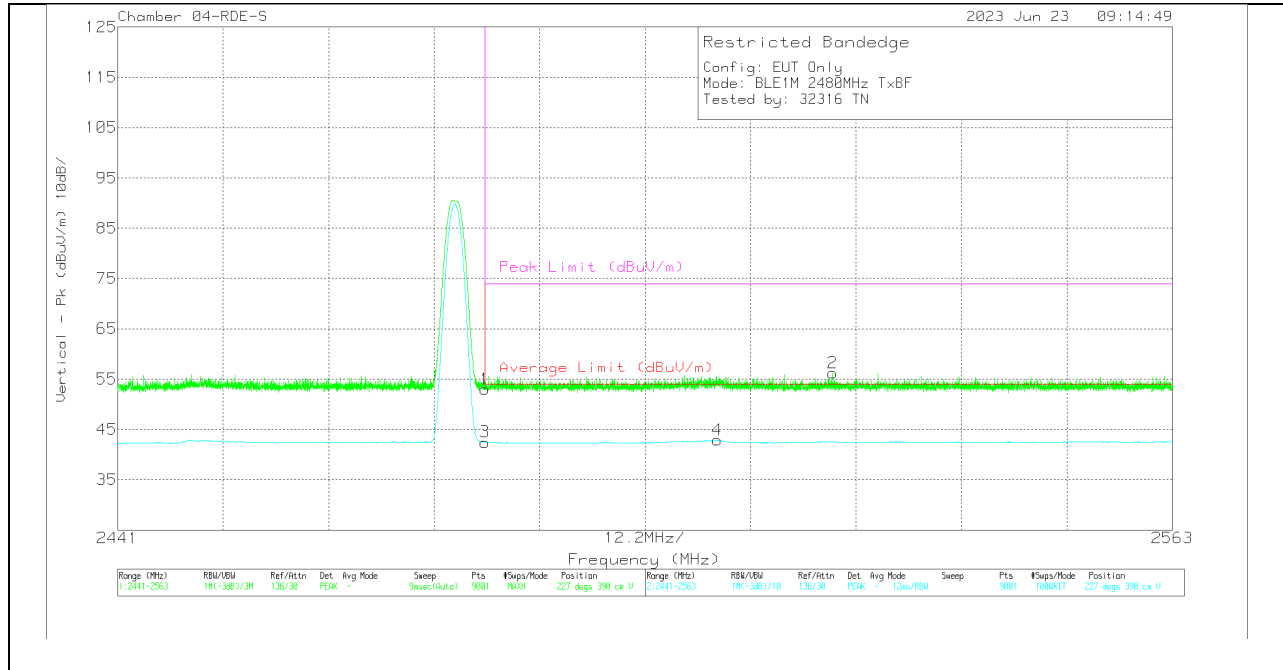
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (MHz)	Meter Reading (dBUV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBUV/m)	Average Limit (dBUV/m)	Margin (dB)	Peak Limit (dBUV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.5	60.98	Pk	32.4	-39.96	53.42	-	-	74	-20.58	254	277	H
3	2483.5	49.99	VA1T	32.4	-39.96	42.43	54	-11.57	-	-	254	277	H
2	2532.91	63.41	Pk	32.4	-39.91	55.9	-	-	74	-18.1	254	277	H
4	2552.295	50	VA1T	32.4	-39.85	42.55	54	-11.45	-	-	254	277	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

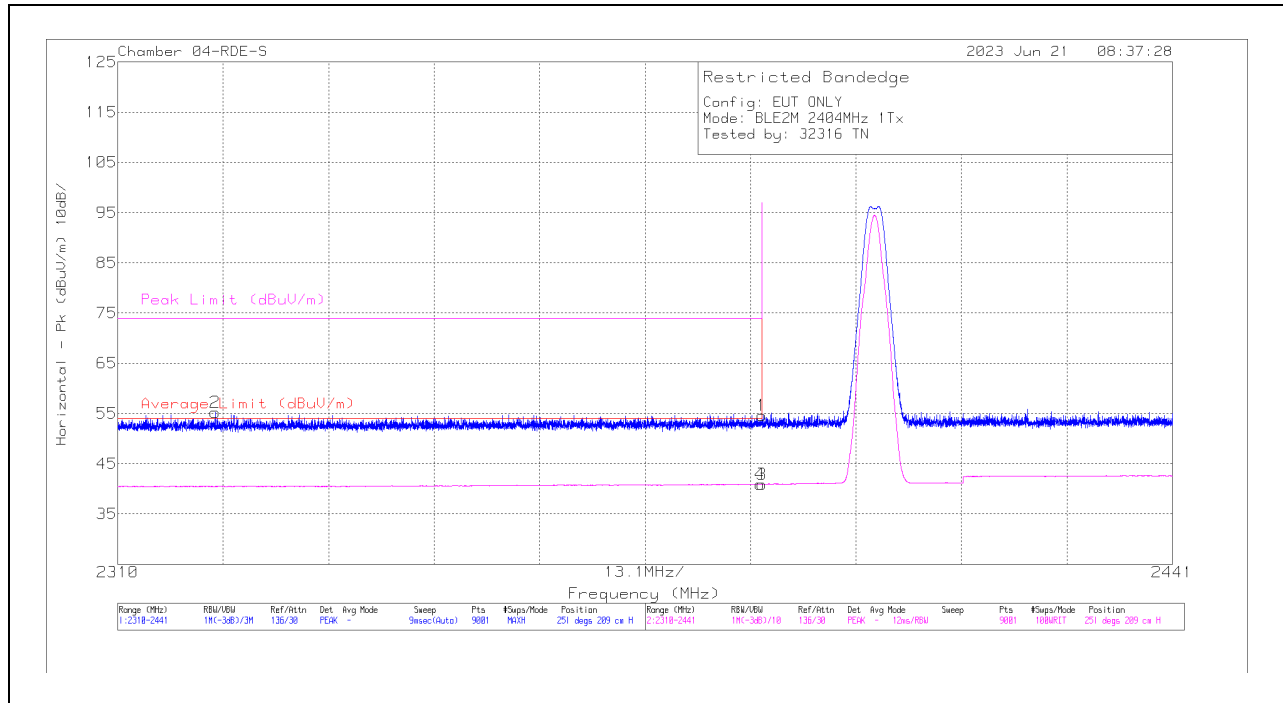


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.5	60.52	Pk	32.4	-39.96	52.96	-	-	74	-21.04	227	390	V
3	2483.5	50.03	VA1T	32.4	-39.96	42.47	54	-11.53	-	-	227	390	V
4	2510.366	50.39	VA1T	32.4	-39.94	42.85	54	-11.15	-	-	227	390	V
2	2523.705	63.71	Pk	32.4	-39.89	56.22	-	-	74	-17.78	227	390	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

10.2.8. LOW POWER BLE (2Mbps)

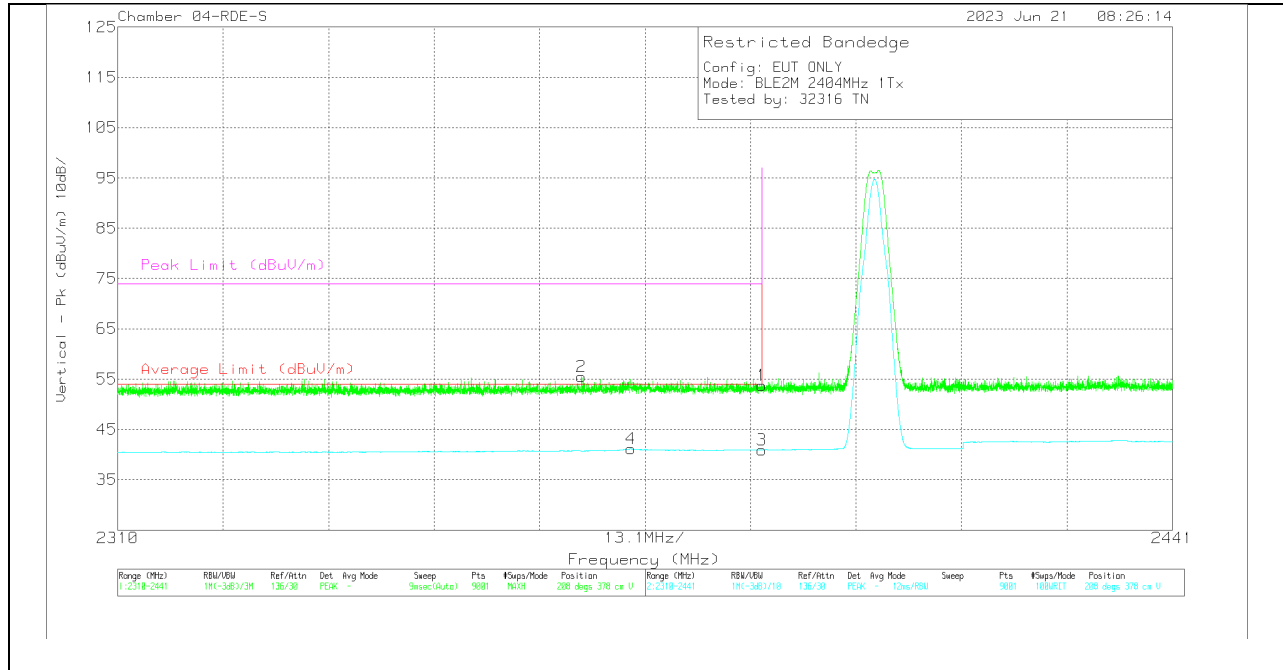
ANT 4**BANDEDGE (LOW CHANNEL)****HORIZONTAL RESULT**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2322.096	63.6	Pk	32	-40.38	55.22	-	-	74	-18.78	251	209	H
4	2389.752	48.85	VA1T	32.3	-40.2	40.95	54	-13.05	-	-	251	209	H
1	2390	62.47	Pk	32.3	-40.2	54.57	-	-	74	-19.43	251	209	H
3	2390	48.78	VA1T	32.3	-40.2	40.88	54	-13.12	-	-	251	209	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

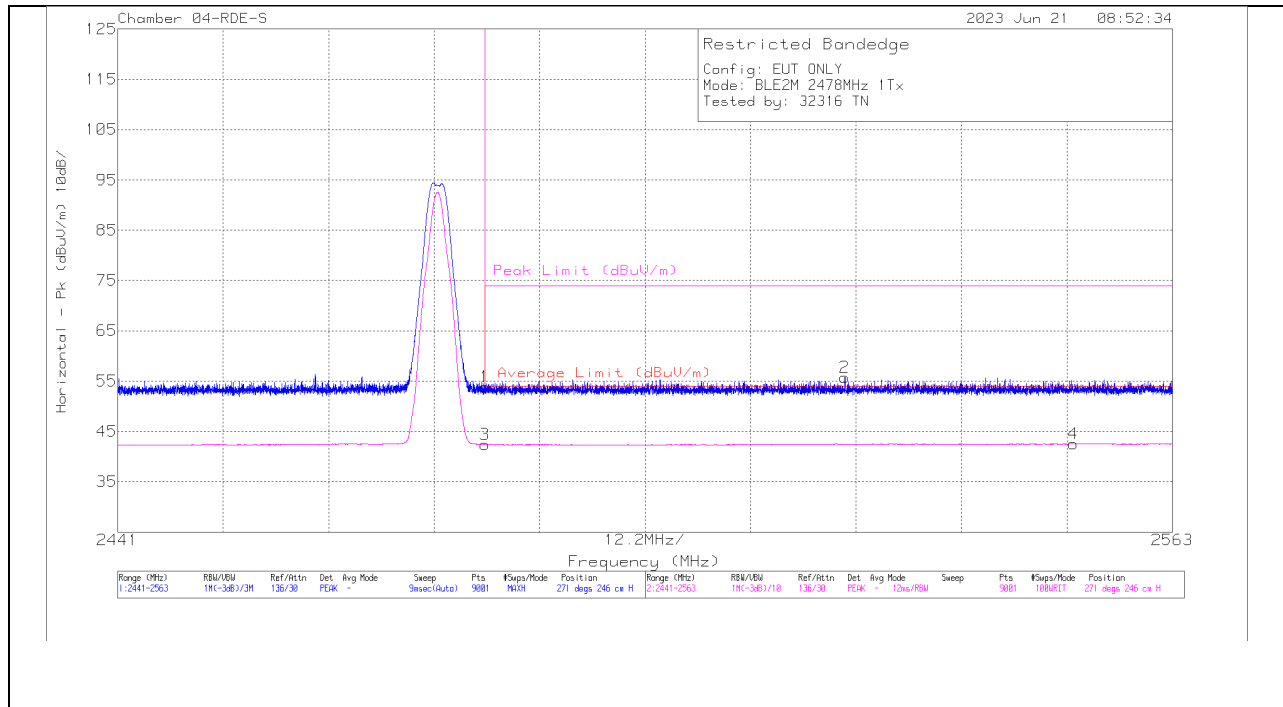
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2367.627	63.6	Pk	32.2	-40.29	55.51	-	-	74	-18.49	208	378	V
4	2373.755	49.17	VA1T	32.2	-40.26	41.11	54	-12.89	-	-	208	378	V
1	2390	61.69	Pk	32.3	-40.2	53.79	-	-	74	-20.21	208	378	V
3	2390	48.83	VA1T	32.3	-40.2	40.93	54	-13.07	-	-	208	378	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

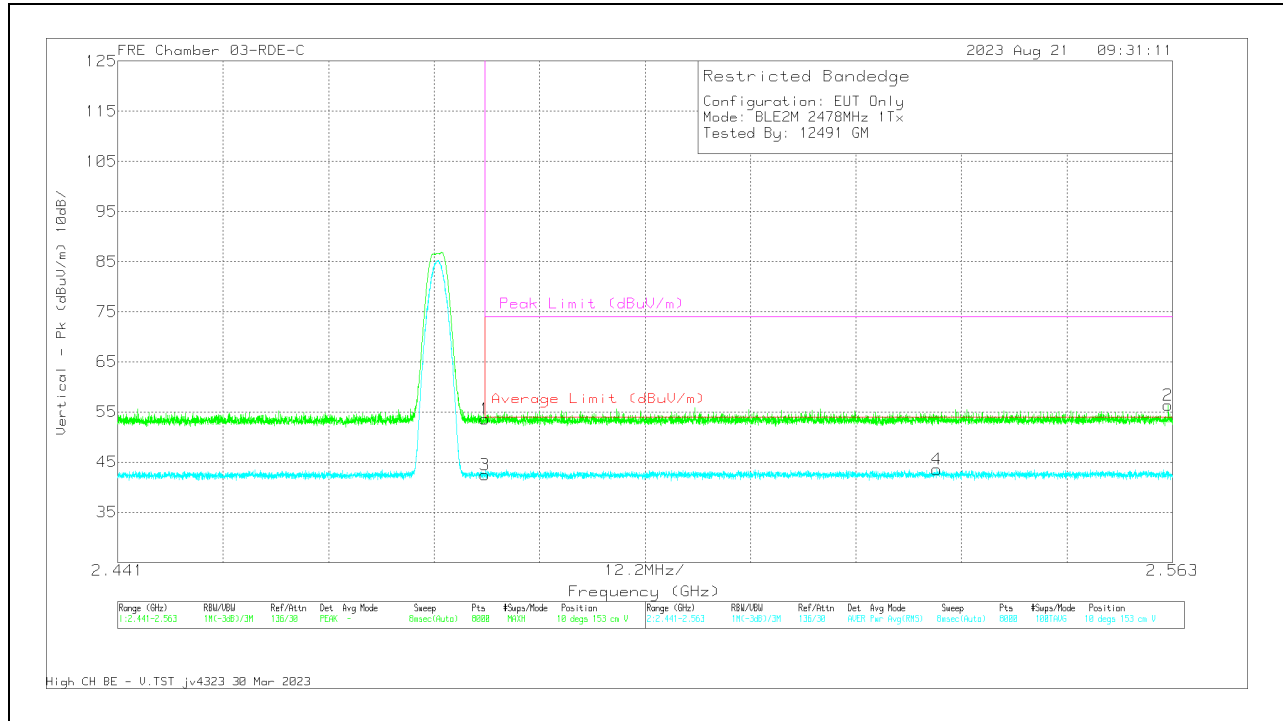
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.5	61.42	Pk	32.4	-39.96	53.86	-	-	74	-20.14	271	246	H
3	2483.5	49.99	VA1T	32.4	-39.96	42.43	54	-11.57	-	-	271	246	H
2	2525.115	63.29	Pk	32.4	-39.91	55.78	-	-	74	-18.22	271	246	H
4	2551.536	50.03	VA1T	32.4	-39.86	42.57	54	-11.43	-	-	271	246	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT

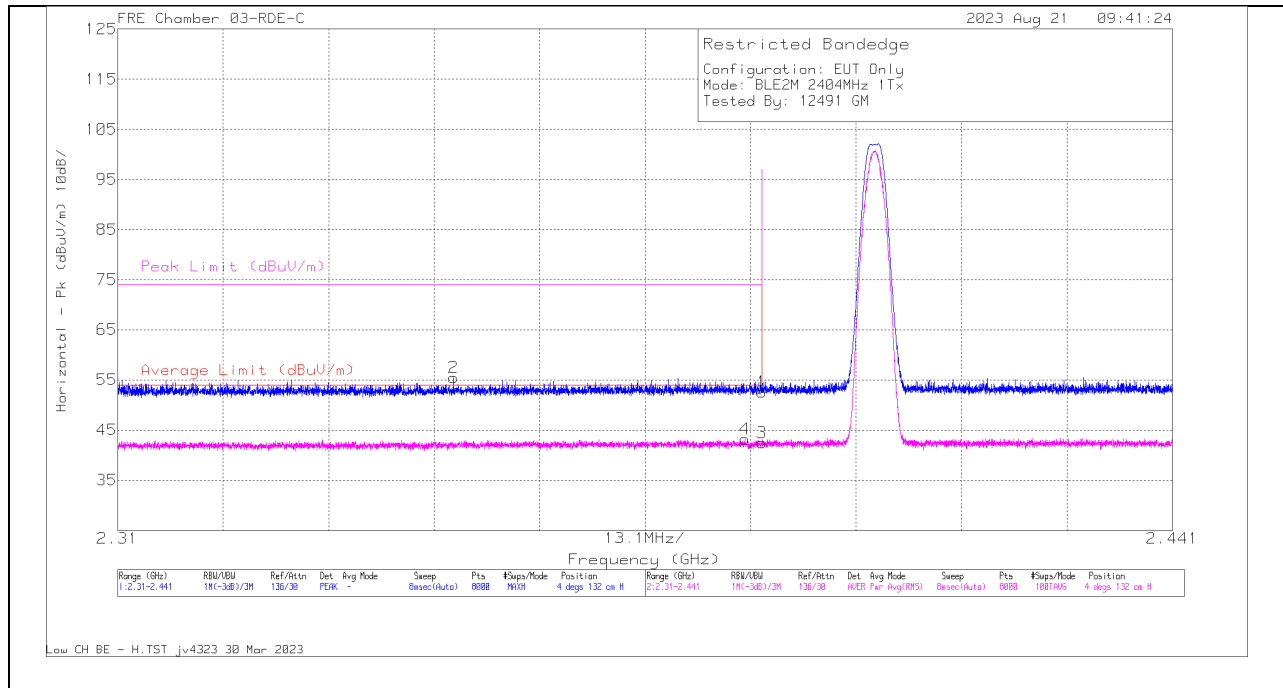


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	61.03	Pk	32.2	-39.6	53.63	-	-	74	-20.37	10	153	V
3	* 2.4835	49.87	RMS	32.2	-39.6	42.47	54	-11.53	-	-	10	153	V
4	2.535761	50.75	RMS	32.3	-39.52	43.53	54	-10.47	-	-	10	153	V
2	2.562513	63.54	Pk	32.3	-39.5	56.34	-	-	74	-17.66	10	153	V

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

PK - Peak detector

RMS - RMS detection

ANT 3**BANDEGE (LOW CHANNEL)****HORIZONTAL RESULT**

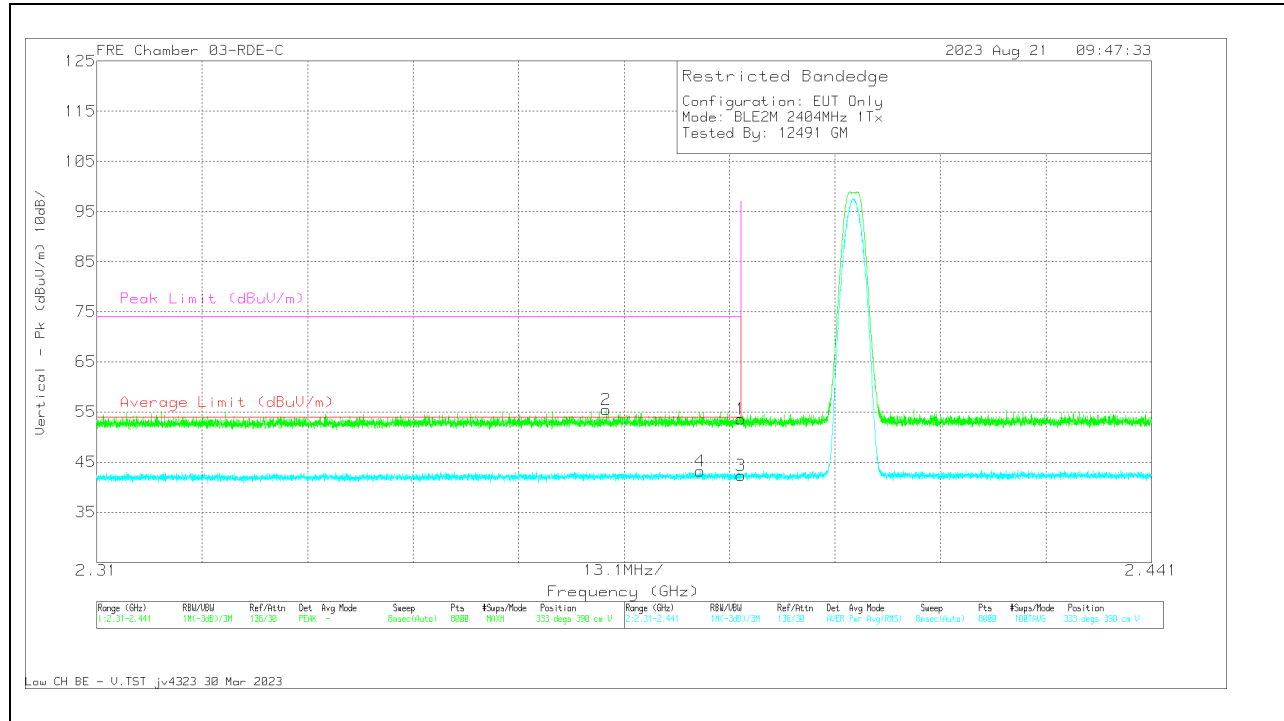
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Z26672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	60.25	Pk	32.1	-39.8	52.55	-	-	74	-21.45	4	132	H
2	* 2.351696	63.42	Pk	31.9	-39.9	55.42	-	-	74	-18.58	4	132	H
3	* 2.39	50.13	RMS	32.1	-39.8	42.43	54	-11.57	-	-	4	132	H
4	* 2.387873	50.98	RMS	32.1	-39.9	43.18	54	-10.82	-	-	4	132	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

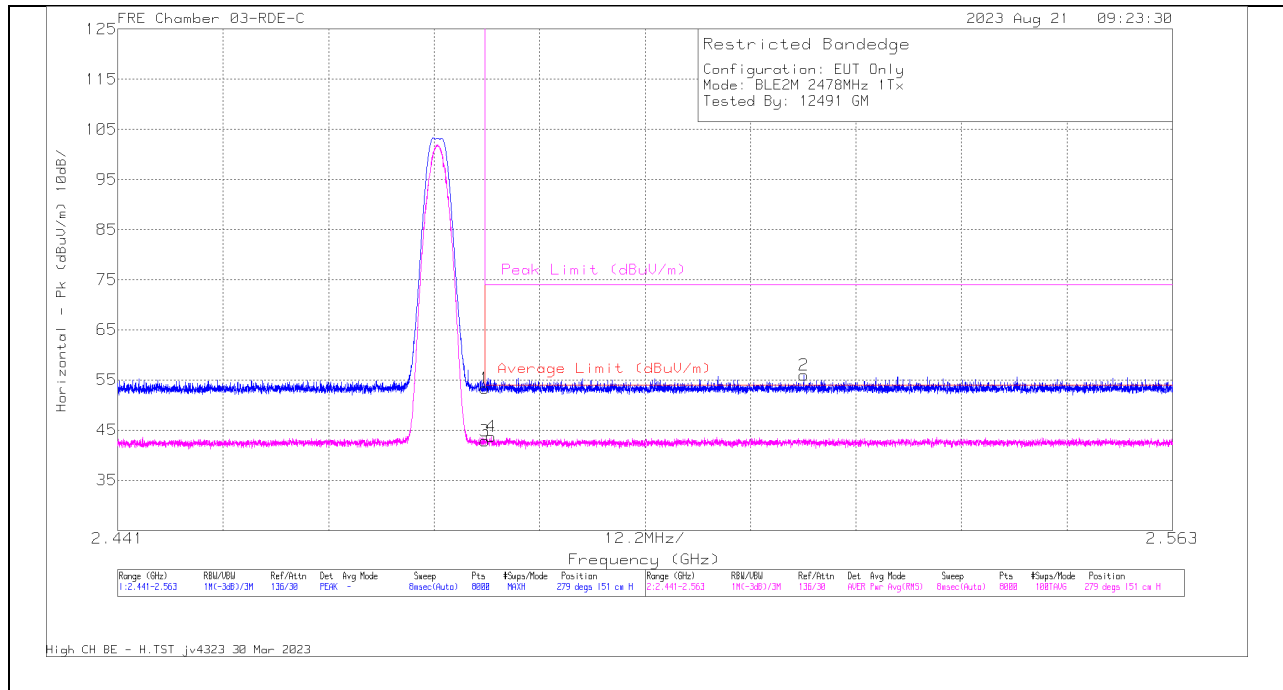


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Dege)	Height (cm)	Polarity
1	* 2.39	61.25	Pk	32.1	-39.8	53.55	-	-	74	-20.45	333	390	V
2	* 2.373297	63.32	Pk	32	-39.9	55.42	-	-	74	-18.58	333	390	V
3	* 2.39	50.02	RMS	32.1	-39.8	42.32	54	-11.68	-	-	333	390	V
4	* 2.384958	50.89	RMS	32.1	-39.8	43.19	54	-10.81	-	-	333	390	V

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

PK - Peak detector

RMS - RMS detection

BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

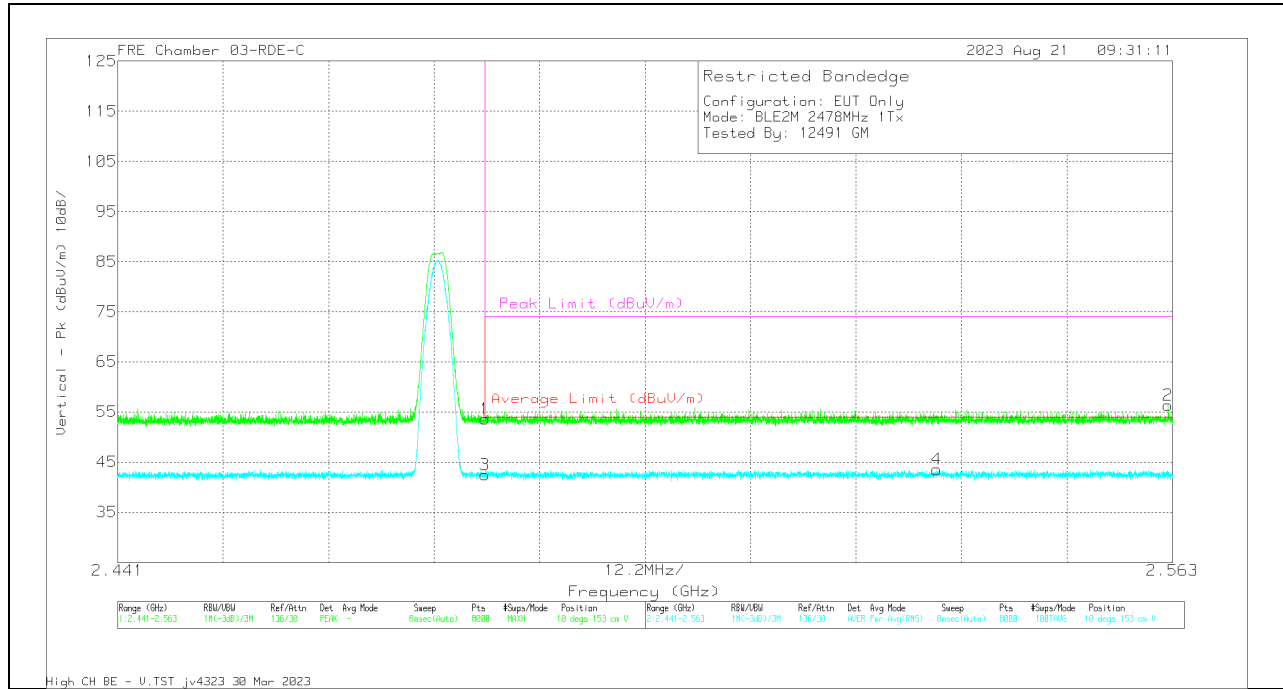
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1	* 2.4835	60.72	Pk	32.2	-39.6	53.32	-	-	74	-20.68	279	151	H
3	* 2.4835	50.21	RMS	32.2	-39.6	42.81	54	-11.19	-	-	279	151	H
4	* 2.484178	51.12	RMS	32.2	-39.62	43.7	54	-10.3	-	-	279	151	H
2	2.520341	63.16	Pk	32.3	-39.5	55.96	-	-	74	-18.04	279	151	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (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	61.03	Pk	32.2	-39.6	53.63	-	-	74	-20.37	10	153	V
3	* 2.4835	49.87	RMS	32.2	-39.6	42.47	54	-11.53	-	-	10	153	V
4	2.535761	50.75	RMS	32.3	-39.52	43.53	54	-10.47	-	-	10	153	V
2	2.562513	63.54	Pk	32.3	-39.5	56.34	-	-	74	-17.66	10	153	V

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

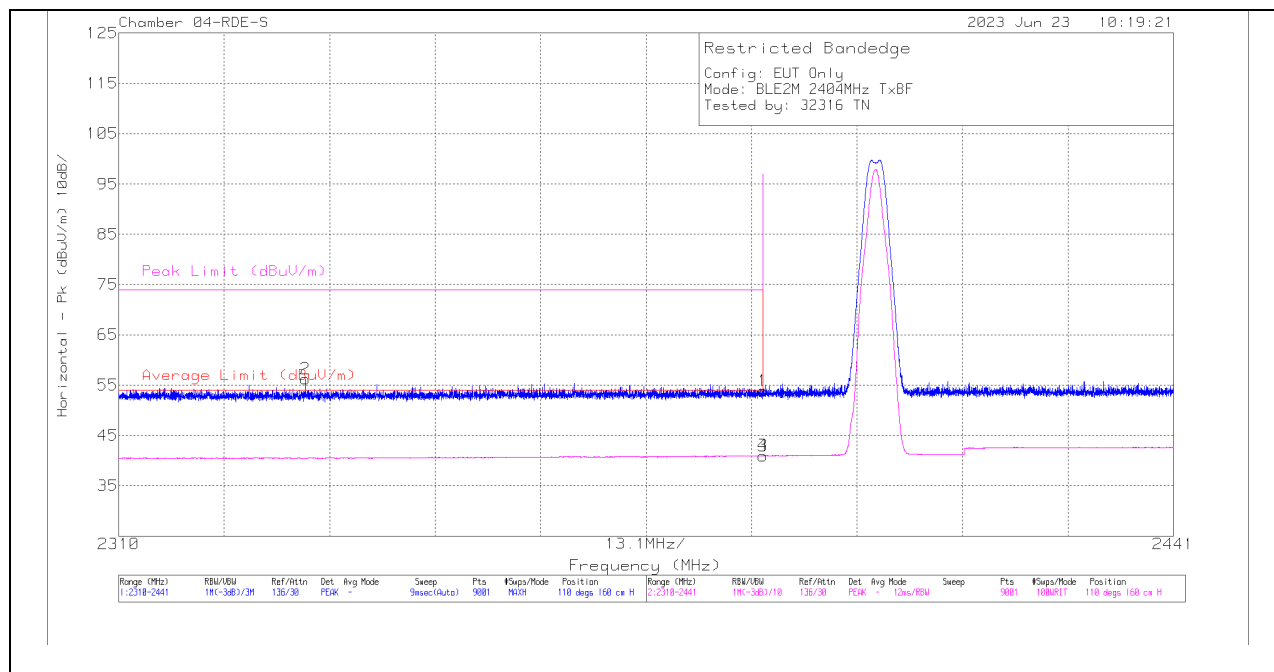
Pk - Peak detector

RMS - RMS detection

10.2.9. LOW POWER BLE TXBF (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT

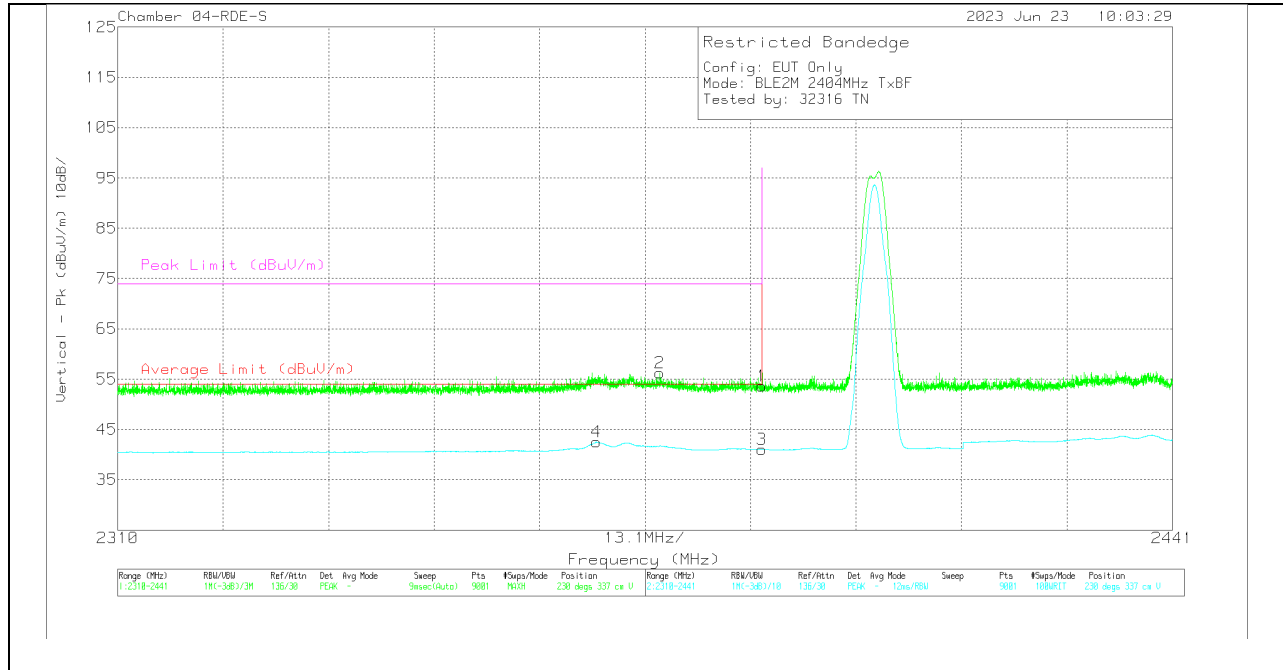


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2333.173	64.59	Pk	32	-40.35	56.24	-	-	74	-17.76	110	160	H
1	2390	61.75	Pk	32.3	-40.2	53.85	-	-	74	-20.15	110	160	H
3	2390	48.87	VA1T	32.3	-40.2	40.97	54	-13.03	-	-	110	160	H
4	2390	48.87	VA1T	32.3	-40.2	40.97	54	-13.03	-	-	110	160	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

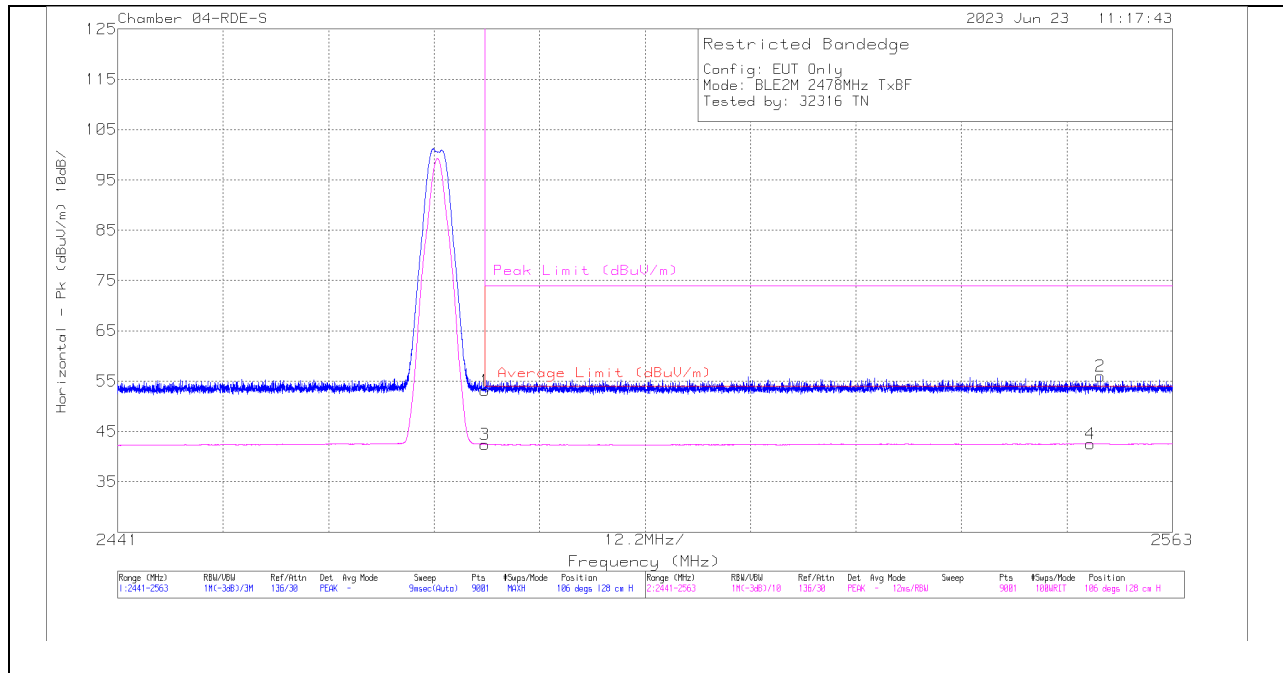
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2369.432	50.57	VA1T	32.2	-40.29	42.48	54	-11.52	-	-	230	337	V
2	2377.351	64.37	Pk	32.2	-40.28	56.29	-	-	74	-17.71	230	337	V
1	2390	61.5	Pk	32.3	-40.2	53.6	-	-	74	-20.4	230	337	V
3	2390	48.92	VA1T	32.3	-40.2	41.02	54	-12.98	-	-	230	337	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

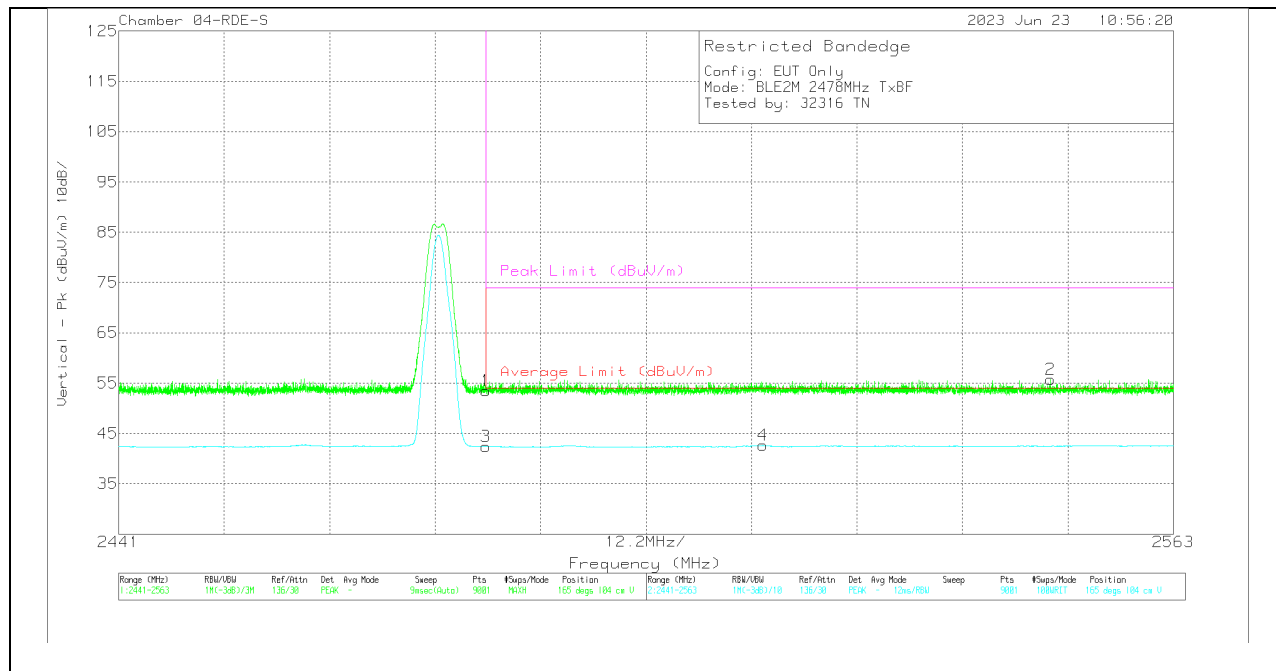
BANDEDGE (HIGH CHANNEL)**HORIZONTAL RESULT**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.5	60.66	Pk	32.4	-39.96	53.1	-	-	74	-20.9	106	128	H
3	2483.5	50	VA1T	32.4	-39.96	42.44	54	-11.56	-	-	106	128	H
4	2553.528	50.01	VA1T	32.4	-39.83	42.58	54	-11.42	-	-	106	128	H
2	2554.654	63.38	Pk	32.4	-39.84	55.94	-	-	74	-18.06	106	128	H

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

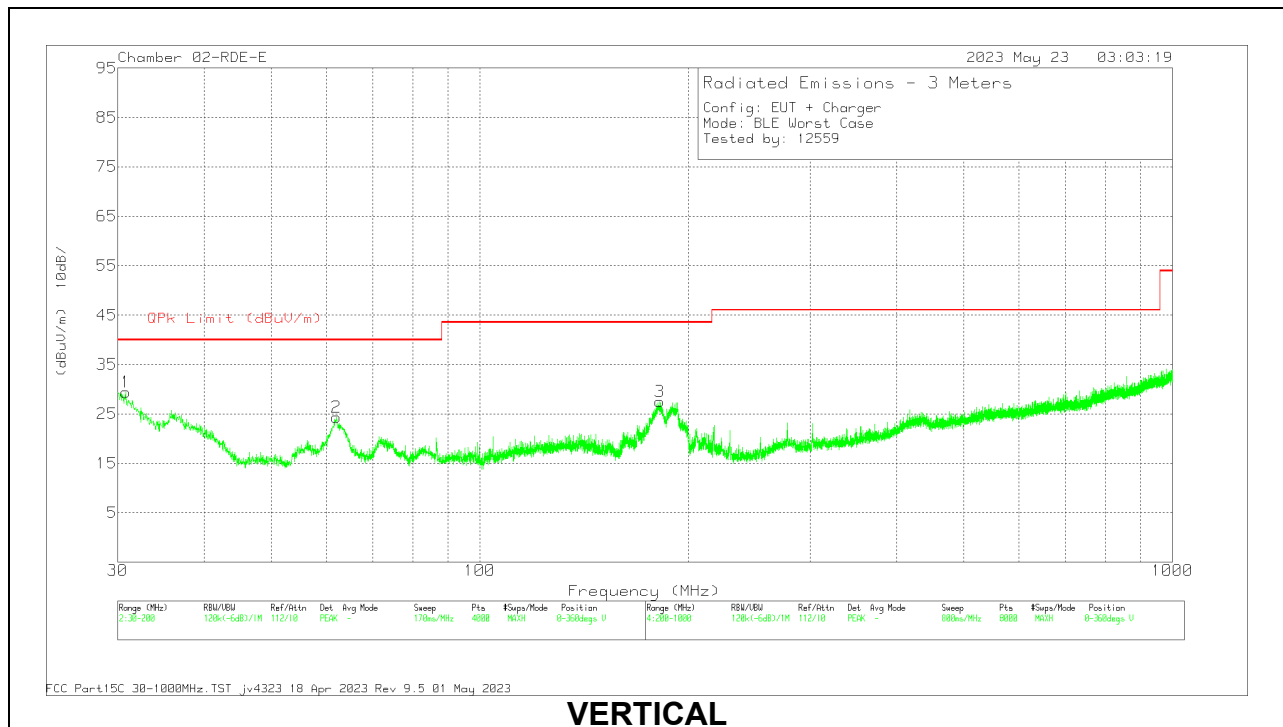
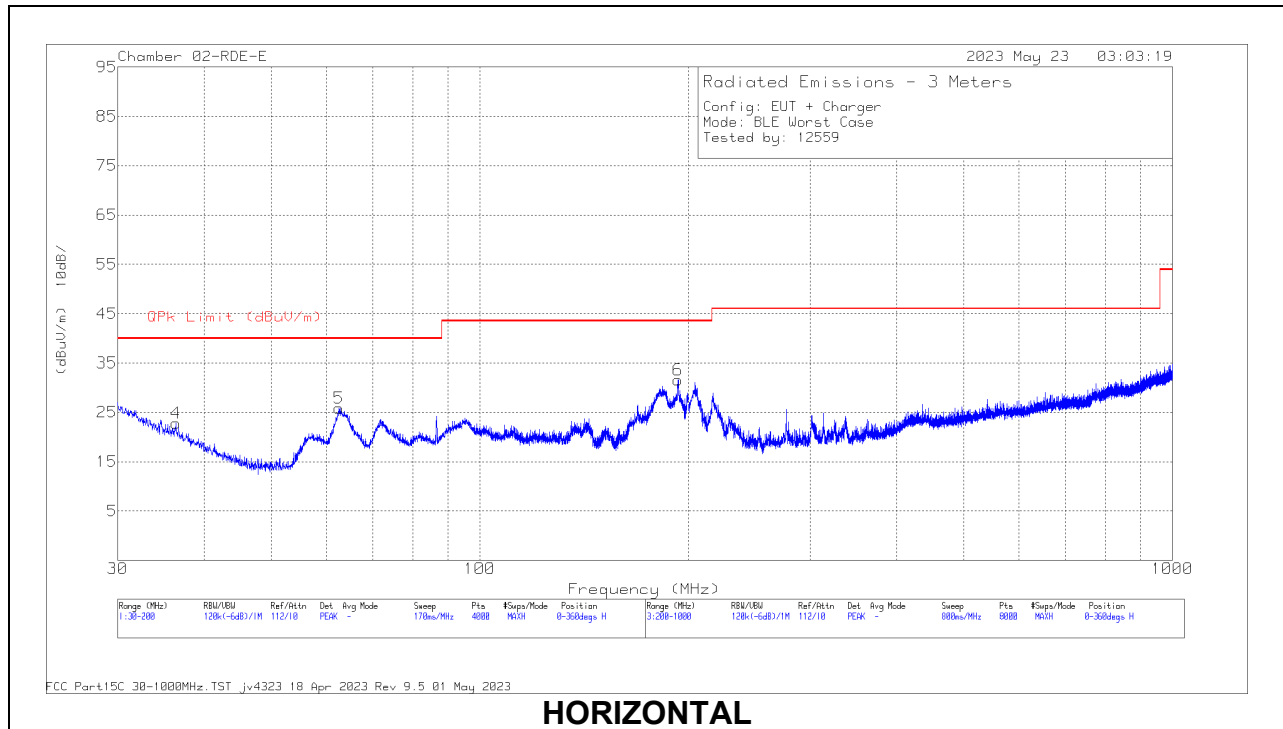
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	200784 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2483.5	61.09	Pk	32.4	-39.96	53.53	-	-	74	-20.47	165	104	V
3	2483.5	49.94	VA1T	32.4	-39.96	42.38	54	-11.62	-	-	165	104	V
4	2515.531	50.12	VA1T	32.4	-39.92	42.6	54	-11.4	-	-	165	104	V
2	2548.811	63.24	Pk	32.4	-39.9	55.74	-	-	74	-18.26	165	104	V

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B = 1/T_{on}$ where: T_{on} is transmit duration

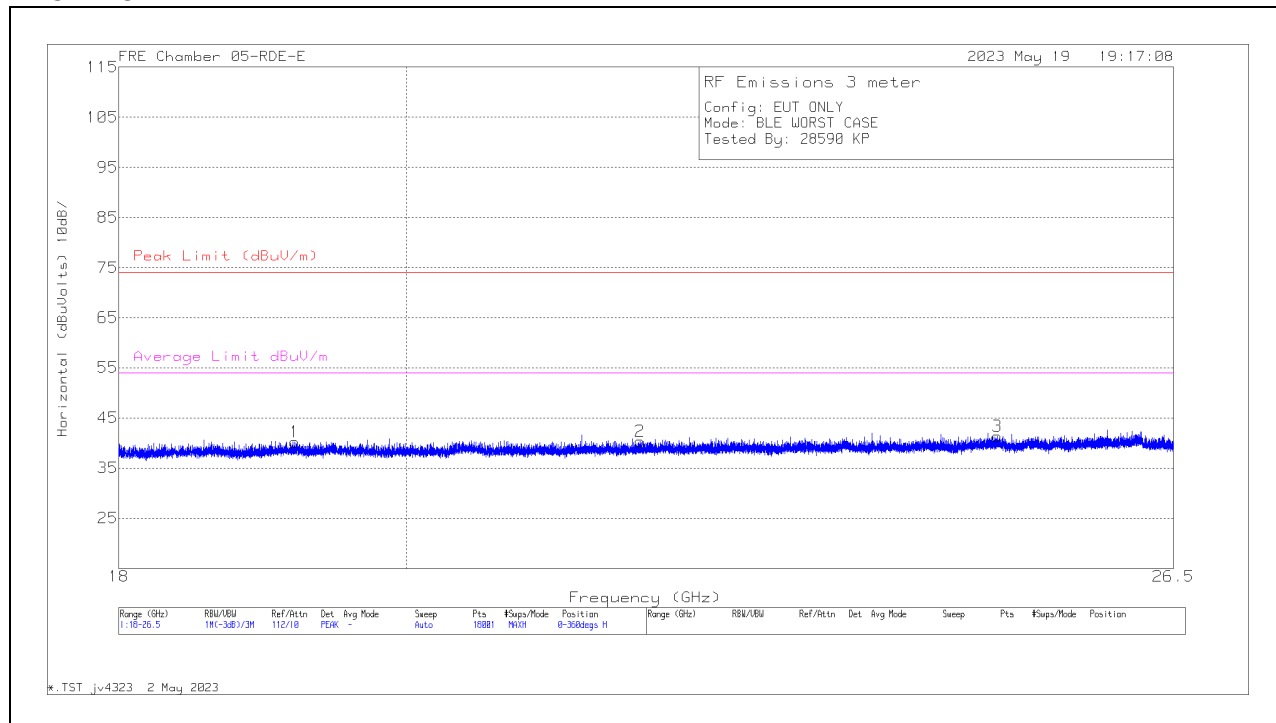
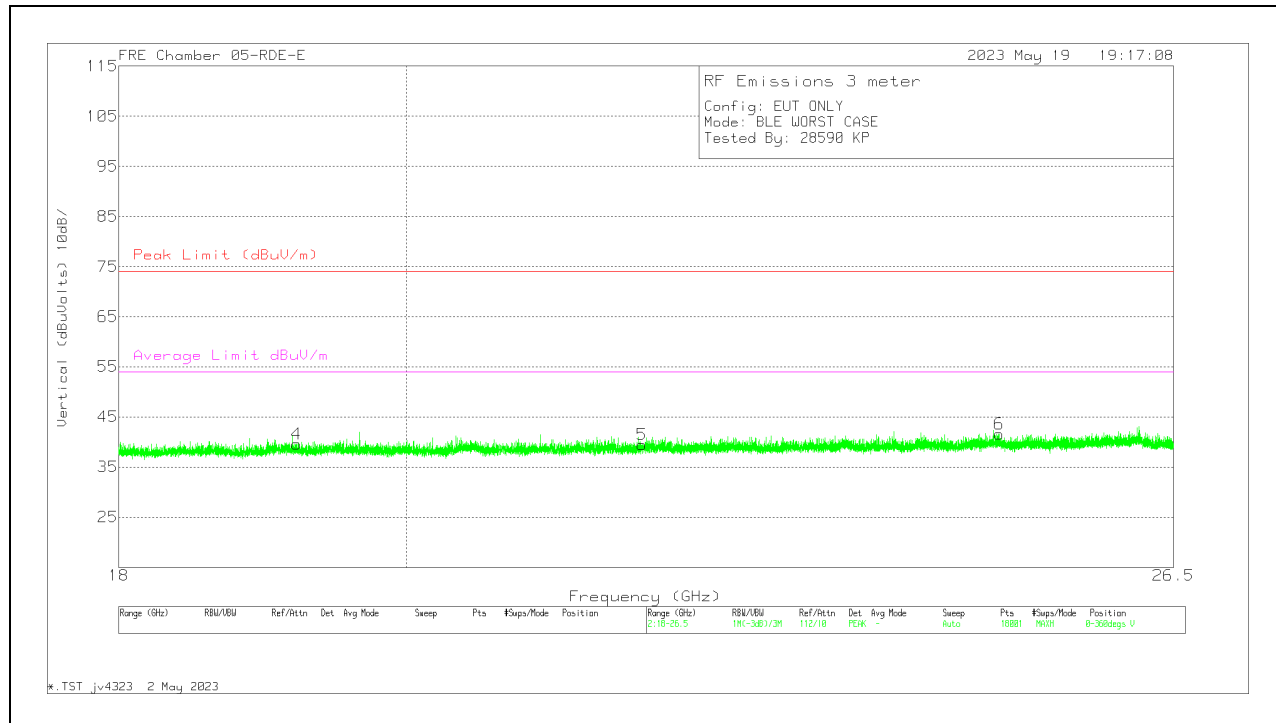
10.3. WORST CASE BELOW 1 GHZ**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)**

DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	230635 ACF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.8077	34.81	Pk	26.2	-31.6	29.41	40	-10.59	0-360	100	V
	30.629	30.83	Qp	26.4	-31.6	25.63	40	-14.37	117	123	V
4	36.3767	32.19	Pk	22.1	-31.5	22.79	40	-17.21	0-360	400	H
2	62.0108	41.82	Pk	13.6	-31.1	24.32	40	-15.68	0-360	100	V
5	62.5209	43.36	Pk	13.6	-31.1	25.86	40	-14.14	0-360	400	H
3	182.019	40.18	Pk	17.3	-30	27.48	43.52	-16.04	0-360	100	V
6	193.115	43.9	Pk	17.7	-30	31.6	43.52	-11.92	0-360	99	H

Pk - Peak detector

Qp - Quasi-Peak detector

10.4. WORST CASE 18-26 GHz**SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)****HORIZONTAL****VERTICAL**

DATA**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn ACF (dB/m)	amp/cbl (dB)	CBL/S WITCH	Corrected Reading (dBuV olt)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margi n (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	19.201805	56.4	Pk	32.4	-61.8	13.2	40.2	74	-33.80	54	-13.80	0-360	200	H
4	19.215027	55.94	Pk	32.3	-61.8	13.2	39.64	74	-34.36	54	-14.36	0-360	199	V
2	21.790054	56.17	Pk	32.8	-62.7	14.1	40.37	74	-33.63	54	-13.63	0-360	101	H
5	21.807526	55.18	Pk	32.8	-62.6	14.1	39.48	74	-34.52	54	-14.52	0-360	101	V
3	24.842025	54.03	Pk	33.6	-61.4	15.1	41.33	74	-32.67	54	-12.67	0-360	200	H
6	24.8569	54.25	Pk	33.6	-61.4	15.1	41.55	74	-32.45	54	-12.45	0-360	199	V

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	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.

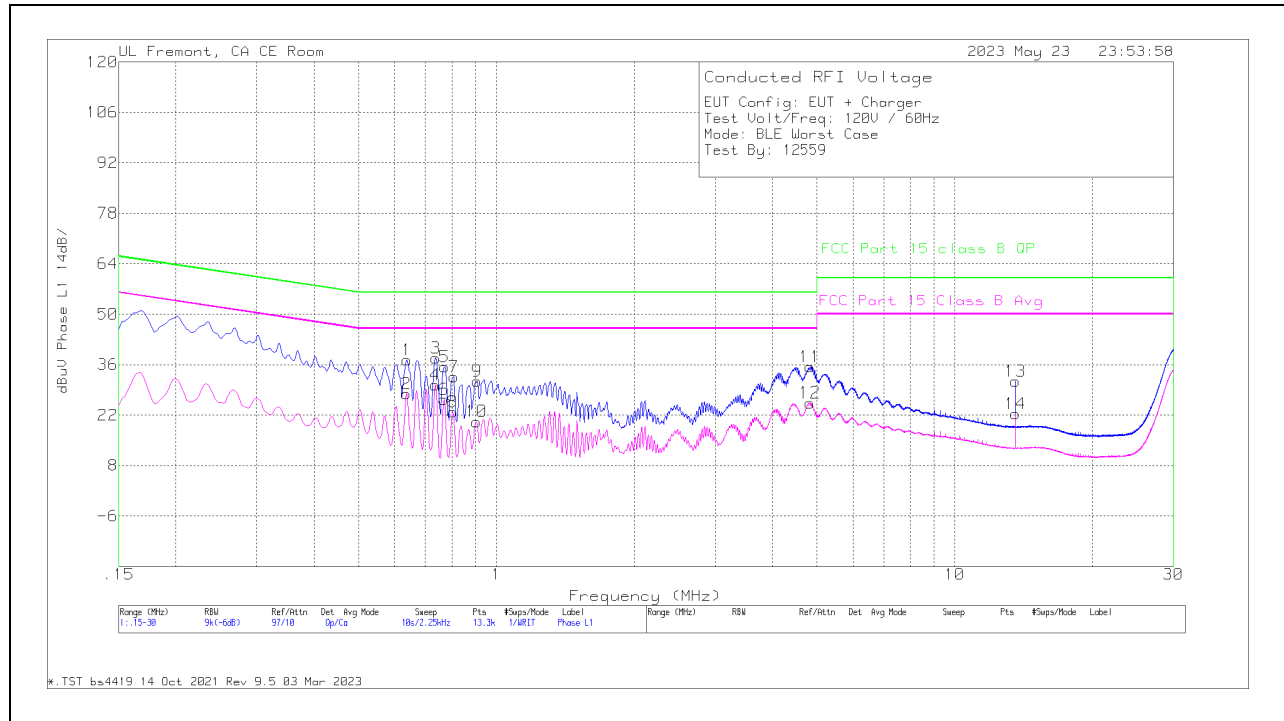
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line WITH AC/DC ADAPTER

LINE 1 RESULTS

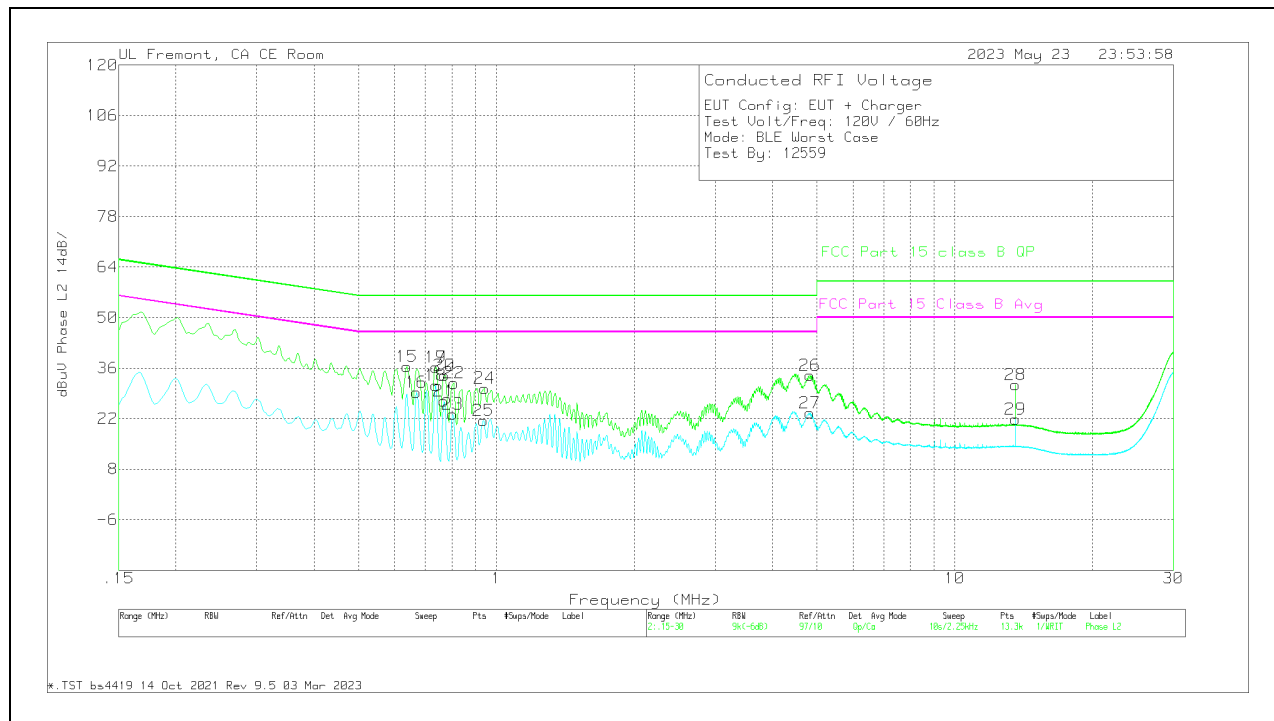


Trace Markers

Range 1: Phase L1 15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L1_LISN.cs v (dB)	C1&C3 cable path loss dB	207996 Limiter with dB short cabl	Corrected Reading dBuV	FCC Part 15 Class B QP dBuV	QP Margin (dB)	FCC Part 15 Class B Avg dBuV	L1_LISN.cs v dB	Margin (dB)
2	.636	8.58	Ca	.1	0	9.3	10	27.98	46	-18.02	-	-
4	.735	10.92	Ca	.1	0	9.3	10	30.32	46	-15.68	-	-
6	.7688	6.95	Ca	.1	0	9.3	10	26.35	46	-19.65	-	-
8	.8025	3.47	Ca	.1	0	9.3	10	22.87	46	-23.13	-	-
10	.9038	.79	Ca	.1	0	9.3	10	20.19	46	-25.81	-	-
12	4.8334	6	Ca	.1	0	9.3	10	25.4	46	-20.6	-	-
14	13.56	2.7	Ca	.2	.1	9.3	10	22.3	50	-27.7	-	-
1	.6383	17.83	Qp	.1	0	9.3	10	37.23	-	-	56	-18.77
3	.7373	18.47	Qp	.1	0	9.3	10	37.87	-	-	56	-18.13
5	.771	16.01	Qp	.1	0	9.3	10	35.41	-	-	56	-20.59
7	.807	13.25	Qp	.1	0	9.3	10	32.65	-	-	56	-23.35
9	.9083	11.95	Qp	.1	0	9.3	10	31.35	-	-	56	-24.65
11	4.83	16	Qp	.1	0	9.3	10	35.4	-	-	56	-20.6
13	13.56	11.83	Qp	.2	.1	9.3	10	31.43	-	-	60	-28.57

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Trace Markers

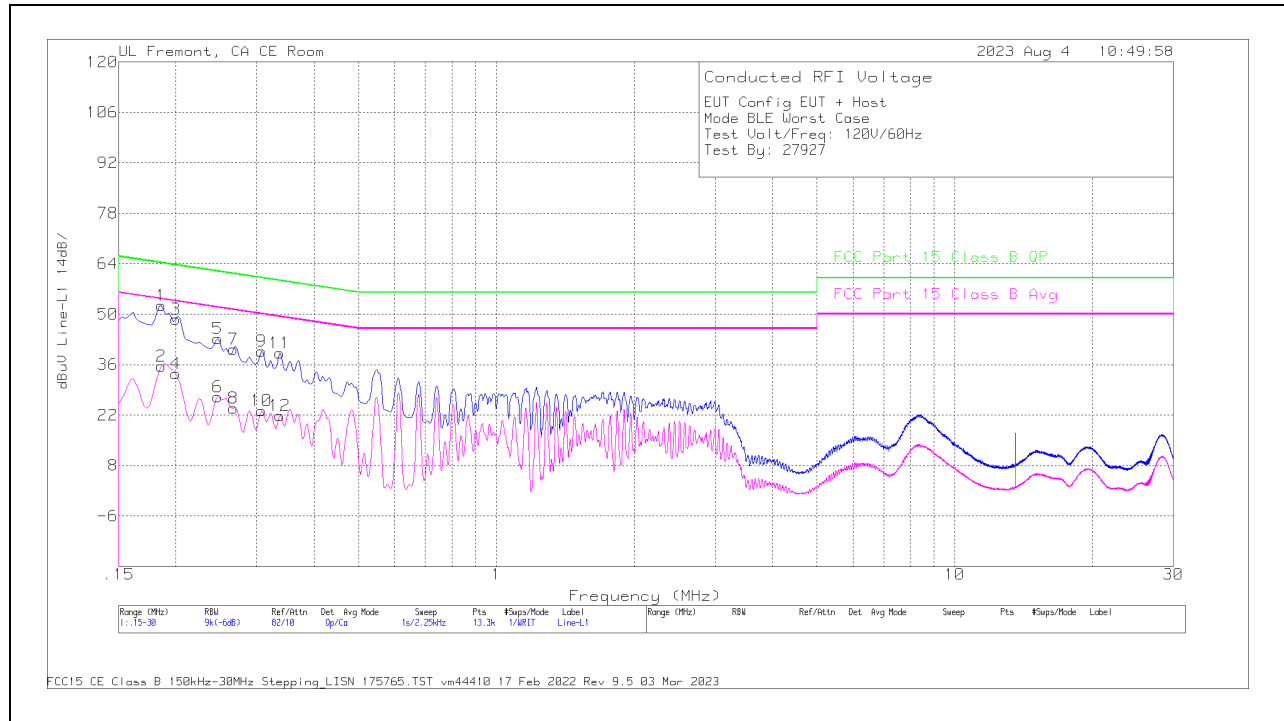
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	C2&C3 cable path loss (dB)	PRE0186447 LISN L2 (dB)	207996 Limiter with short cabl (dB)	10 dB Pad	Corrected Reading (dBuV)	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.6698	9.91	Ca	.1	0	9.3	10	29.31	46	-16.69	-	-
18	.7373	11.82	Ca	.1	0	9.3	10	31.22	46	-14.78	-	-
21	.7688	7.44	Ca	.1	0	9.3	10	26.84	46	-19.16	-	-
23	.8025	3.91	Ca	.1	0	9.3	10	23.31	46	-22.69	-	-
25	.9375	2.06	Ca	.1	0	9.3	10	21.46	46	-24.54	-	-
27	4.8345	4.16	Ca	.1	0	9.3	10	23.56	46	-22.44	-	-
29	13.56	2.27	Ca	.2	.1	9.3	10	21.87	50	-28.13	-	-
15	.6383	16.99	Qp	.1	0	9.3	10	36.39	-	-	56	-19.61
17	.7373	16.9	Qp	.1	0	9.3	10	36.3	-	-	56	-19.7
19	.7373	16.9	Qp	.1	0	9.3	10	36.3	-	-	56	-19.7
20	.771	14.65	Qp	.1	0	9.3	10	34.05	-	-	56	-21.95
22	.807	12.44	Qp	.1	0	9.3	10	31.84	-	-	56	-24.16
24	.942	11.04	Qp	.1	0	9.3	10	30.44	-	-	56	-25.56
26	4.8323	14.62	Qp	.1	0	9.3	10	34.02	-	-	56	-21.98
28	13.56	11.74	Qp	.2	.1	9.3	10	31.34	-	-	60	-28.66

Qp - Quasi-Peak detector

Ca - CISPR average detection

11.2. AC Power Line With Laptop

LINE 1 RESULTS



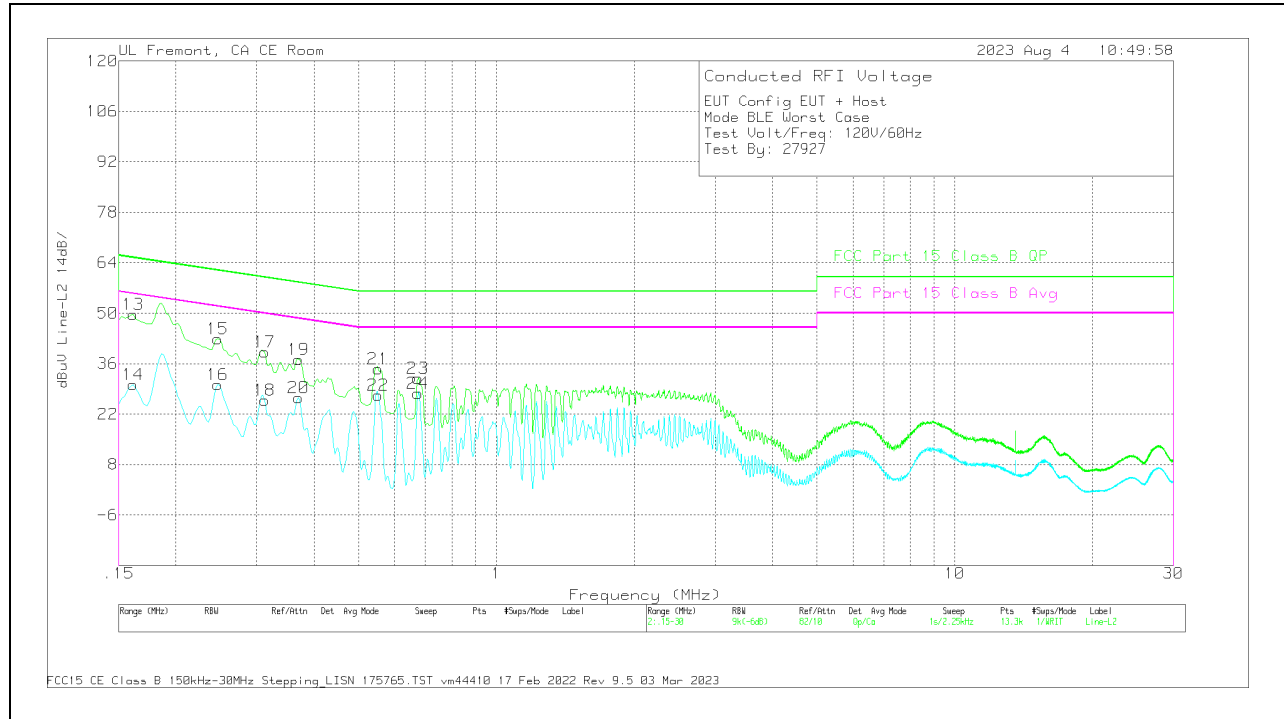
Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L1_LISN.csv (dB)	C1&C3 cable path loss (dB)	207996 Limiter with short cabl (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av (CISPR)Margin (dB)
2	.186	26.24	Ca	0	0	9.4	35.64	-	-	54.21	-18.57
4	.1995	24.03	Ca	0	0	9.4	33.43	-	-	53.63	-20.2
6	.2468	17.82	Ca	0	0	9.3	27.12	-	-	51.87	-24.75
8	.267	14.66	Ca	0	0	9.3	23.96	-	-	51.21	-27.25
10	.3075	13.95	Ca	0	0	9.3	23.25	-	-	50.04	-26.79
12	.3368	12.49	Ca	0	0	9.3	21.79	-	-	49.28	-27.49
1	.186	43.07	Qp	0	0	9.4	52.47	64.21	-11.74	-	-
3	.1995	39.2	Qp	0	0	9.4	48.6	63.63	-15.03	-	-
5	.2468	33.97	Qp	0	0	9.3	43.27	61.87	-18.6	-	-
7	.267	30.96	Qp	0	0	9.3	40.26	61.21	-20.95	-	-
9	.3075	30.42	Qp	0	0	9.3	39.72	60.04	-20.32	-	-
11	.3368	29.98	Qp	0	0	9.3	39.28	59.28	-20	-	-

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	L2_LISN (dB)	C2&C3 cable path loss (dB)	207996 Limiter with short cabl (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B QP (dBuV)	QP Margin (dB)	FCC Part 15 Class B Avg (dBuV)	Av (CISPR)Margin (dB)
14	.1613	20.71	Ca	0	0	9.4	30.11	-	-	55.4	-25.29
16	.2468	20.94	Ca	0	0	9.3	30.24	-	-	51.87	-21.63
18	.312	16.55	Ca	0	0	9.3	25.85	-	-	49.92	-24.07
20	.3705	17.14	Ca	0	.1	9.3	26.54	-	-	48.49	-21.95
22	.5528	17.84	Ca	0	.1	9.3	27.24	-	-	46	-18.76
24	.6743	18.41	Ca	0	.1	9.3	27.81	-	-	46	-18.19
13	.1613	40.22	Qp	0	0	9.4	49.62	65.4	-15.78	-	-
15	.2468	33.58	Qp	0	0	9.3	42.88	61.87	-18.99	-	-
17	.312	29.89	Qp	0	0	9.3	39.19	59.92	-20.73	-	-
19	.3705	27.74	Qp	0	.1	9.3	37.14	58.49	-21.35	-	-
21	.5528	25.2	Qp	0	.1	9.3	34.6	56	-21.4	-	-
23	.6743	22.51	Qp	0	.1	9.3	31.91	56	-24.09	-	-

12. SETUP PHOTOS

Please refer to 14523772-EP1V1 for setup photos

END OF TEST REPORT