ANT 4 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE

HIGH BANDEDGE

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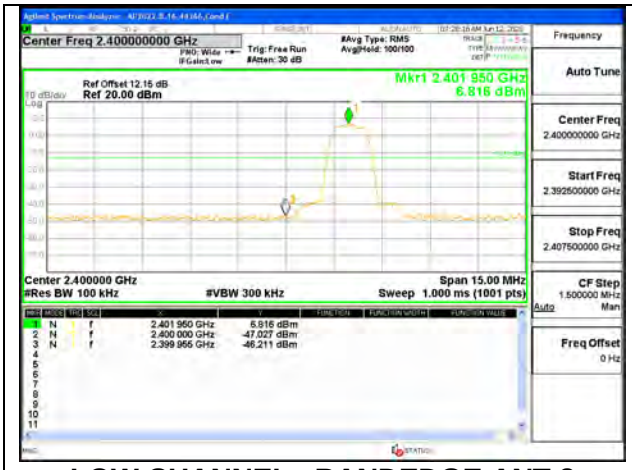
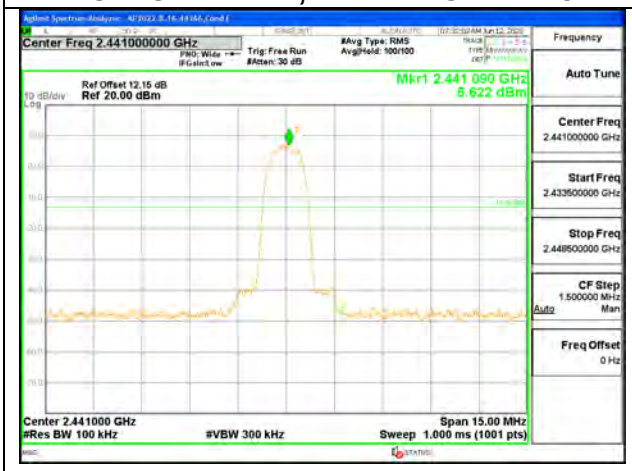
ANT 3



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 BANDEDGE ANT 3

HIGH CHANNEL OUT-OF-BAND ANT 3

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ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE

HIGH BANDEDGE

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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. 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 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.

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.

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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.

KDB 558074 D01 15.247 Meas Guidance v05r02

Use of a duty cycle correction factor (DCCF) is permitted for calculating average radiated field strength emission levels for an FHSS device in 15.247. This DCCF can be applied when the field strength limit (e.g., within a Government Restricted band) and the conditions specified in Section 15.35(c) can be satisfied. The average radiated field strength is calculated by subtracting the DCCF from the maximum radiated field strength level as determined through measurement. The maximum radiated field strength level represents the worst-case (maximum amplitude) RMS measurement of the emission(s) during continuous transmission (i.e., not including any time intervals during which the transmitter is off or is transmitting at a reduced power level). It is also acceptable to apply the DCCF to a measurement performed with a peak detector instead of the specified RMS power averaging detector. Note that Section 15.35(c) specifies that the DCCF shall represent the worst-case (greatest duty cycle) over any 100 msec transmission period.

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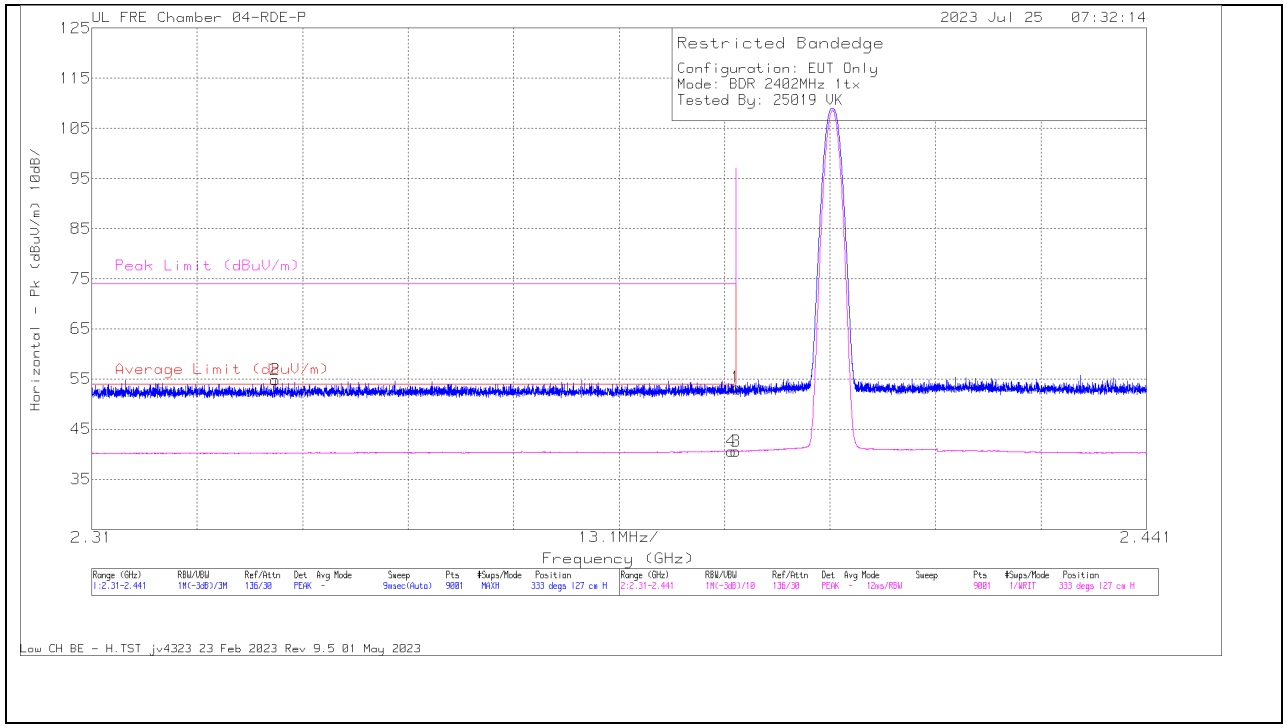
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

ANT 4

BANDEDGE (LOW 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
2	2.332795	63.24	Pk	31.4	-39.83	54.81	-	-	74	-19.19	333	127	H
4	2.389447	48.72	VA1T	31.7	-39.78	40.64	54	-13.36	-	-	333	127	H
1	2.39	61.43	Pk	31.7	-39.79	53.34	-	-	74	-20.66	333	127	H
3	2.39	48.72	VA1T	31.7	-39.79	40.63	54	-13.37	-	-	333	127	H

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

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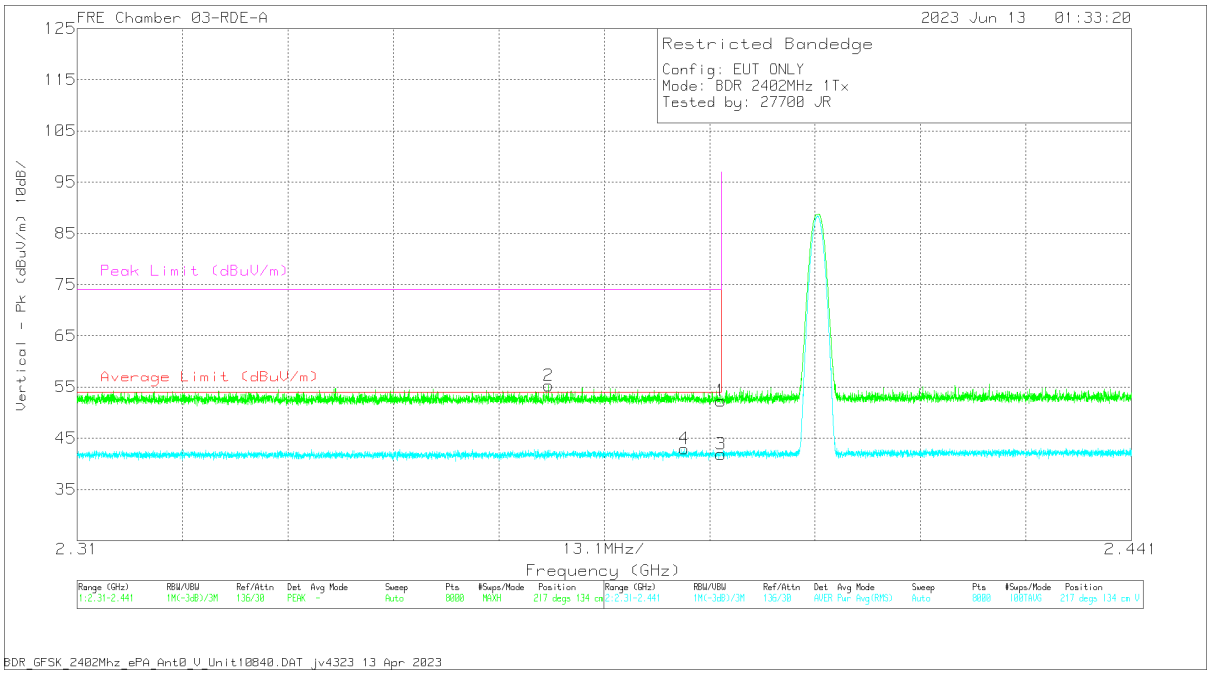
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230299 ACF (dB/m)	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	60.51	Pk	32.2	0	-40.42	52.29	-	-	74	-21.71	217	134	V
2	* 2.368581	63.61	Pk	32.1	0	-40.42	55.29	-	-	74	-18.71	217	134	V
3	* 2.39	50.11	RMS	32.2	0	-40.42	41.89	54	-12.11	-	-	217	134	V
4	* 2.385416	51.25	RMS	32.1	0	-40.39	42.96	54	-11.04	-	-	217	134	V

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

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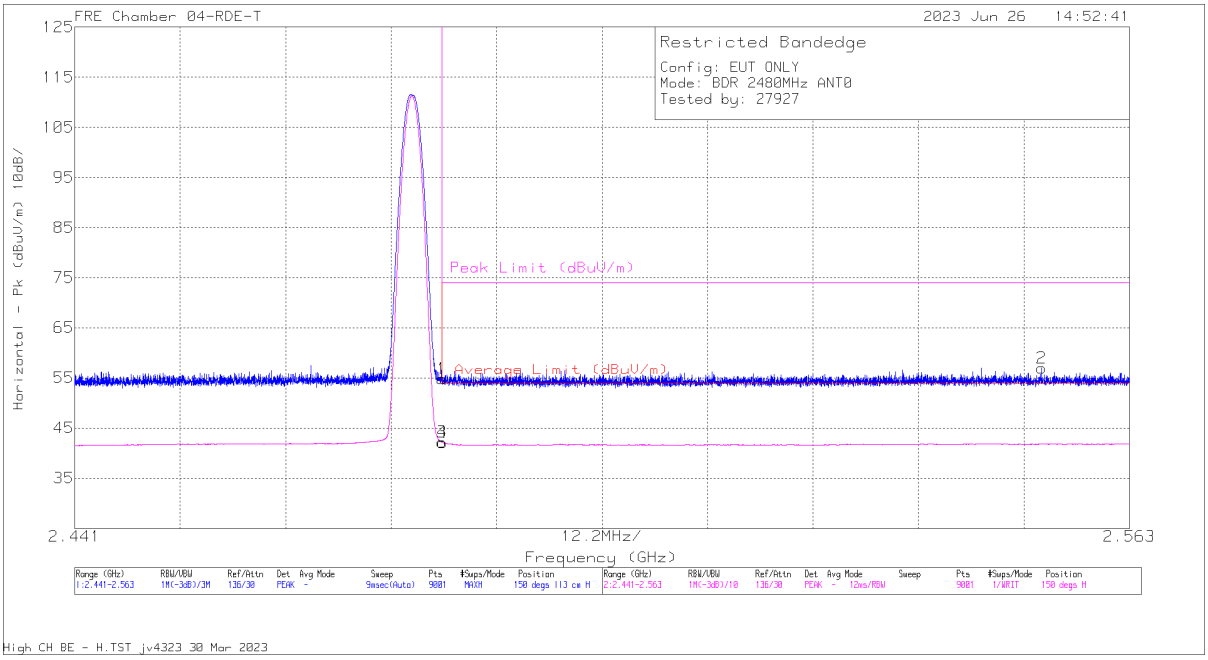
BANDEDGE (HIGH CHANNEL)

HORIZONTAL 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	60.47	Pk	32.2	-37.81	54.86	-	-	74	-19.14	150	113	H
3	* 2.4835	47.78	VA1T	32.2	-37.81	42.17	54	-11.83	-	-	150	113	H
4	* 2.483512	47.76	VA1T	32.2	-37.81	42.15	54	-11.85	-	-	150	113	H
2	2.552837	62.5	Pk	32.3	-37.78	57.02	-	-	74	-16.98	150	113	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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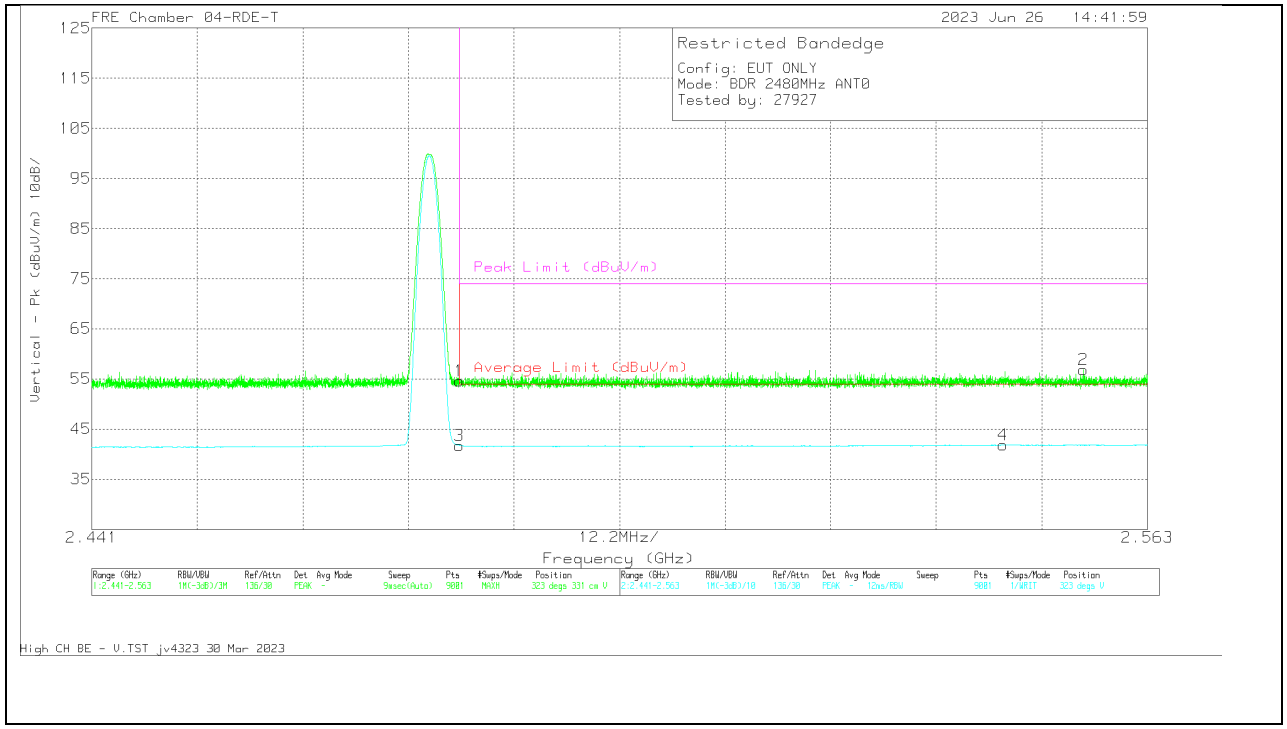
VERTICAL RESULT



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	60.19	Pk	32.2	-37.81	54.58	-	-	74	-19.42	323	331	V
3	* 2.4835	47.38	VA1T	32.2	-37.81	41.77	54	-12.23	-	-	323	330	V
4	2.546303	47.28	VA1T	32.3	-37.73	41.85	54	-12.15	-	-	323	330	V
2	2.555616	62.27	Pk	32.3	-37.76	56.81	-	-	74	-17.19	323	331	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
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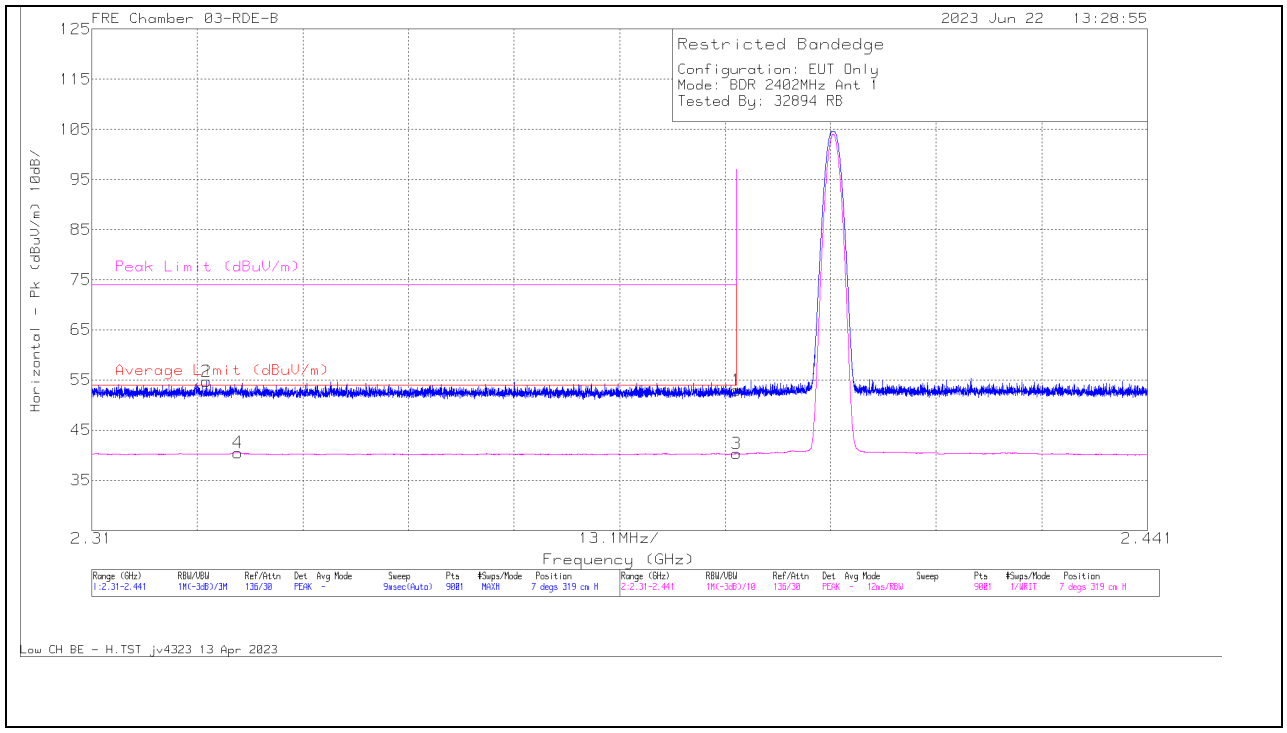
ANT 3

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.01	Pk	32.2	-41.2	53.01	-	-	74	-20.99	7	319	H
2	* 2.324207	63.88	Pk	32.1	-41.2	54.78	-	-	74	-19.22	7	319	H
3	* 2.39	49.3	VA1T	32.2	-41.2	40.3	54	-13.7	-	-	7	319	H
4	* 2.328122	49.62	VA1T	32.1	-41.2	40.52	54	-13.48	-	-	7	319	H

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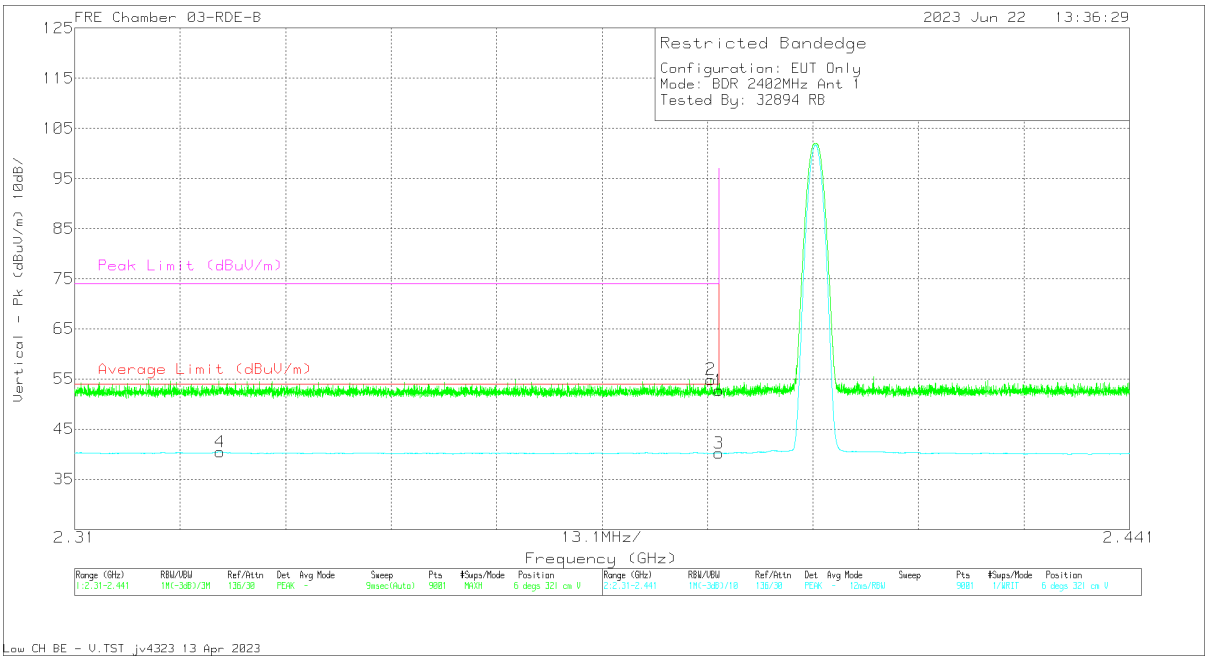
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.75	Pk	32.2	-41.2	52.75	-	-	74	-21.25	6	321	V
2	* 2.389025	64.01	Pk	32.2	-41.3	54.91	-	-	74	-19.09	6	321	V
3	* 2.39	49.25	VA1T	32.2	-41.2	40.25	54	-13.75	-	-	6	321	V
4	* 2.32802	49.54	VA1T	32.1	-41.2	40.44	54	-13.56	-	-	6	321	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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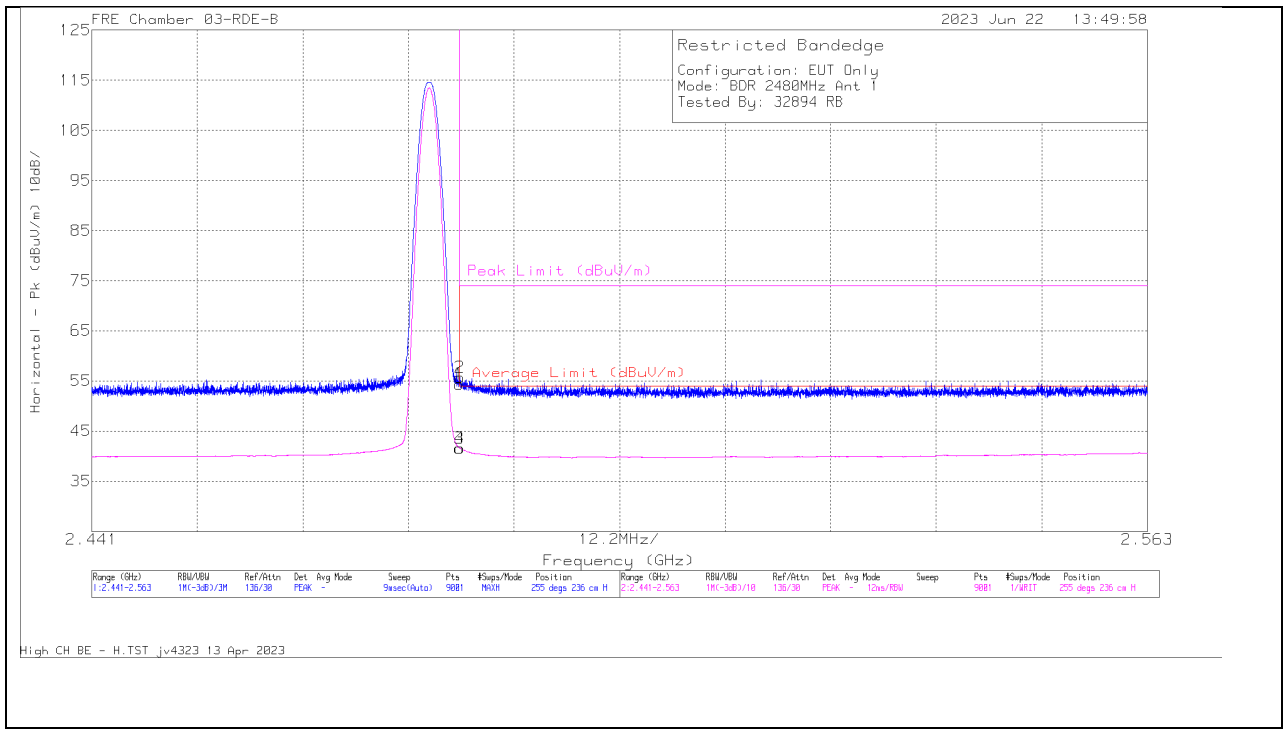
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	63.33	Pk	32.2	-41.15	54.38	-	-	74	-19.62	255	236	H
2	* 2.483539	64.72	Pk	32.2	-41.15	55.77	-	-	74	-18.23	255	236	H
3	* 2.4835	50.58	VA1T	32.2	-41.15	41.63	54	-12.37	-	-	255	236	H
4	* 2.483512	50.58	VA1T	32.2	-41.15	41.63	54	-12.37	-	-	255	236	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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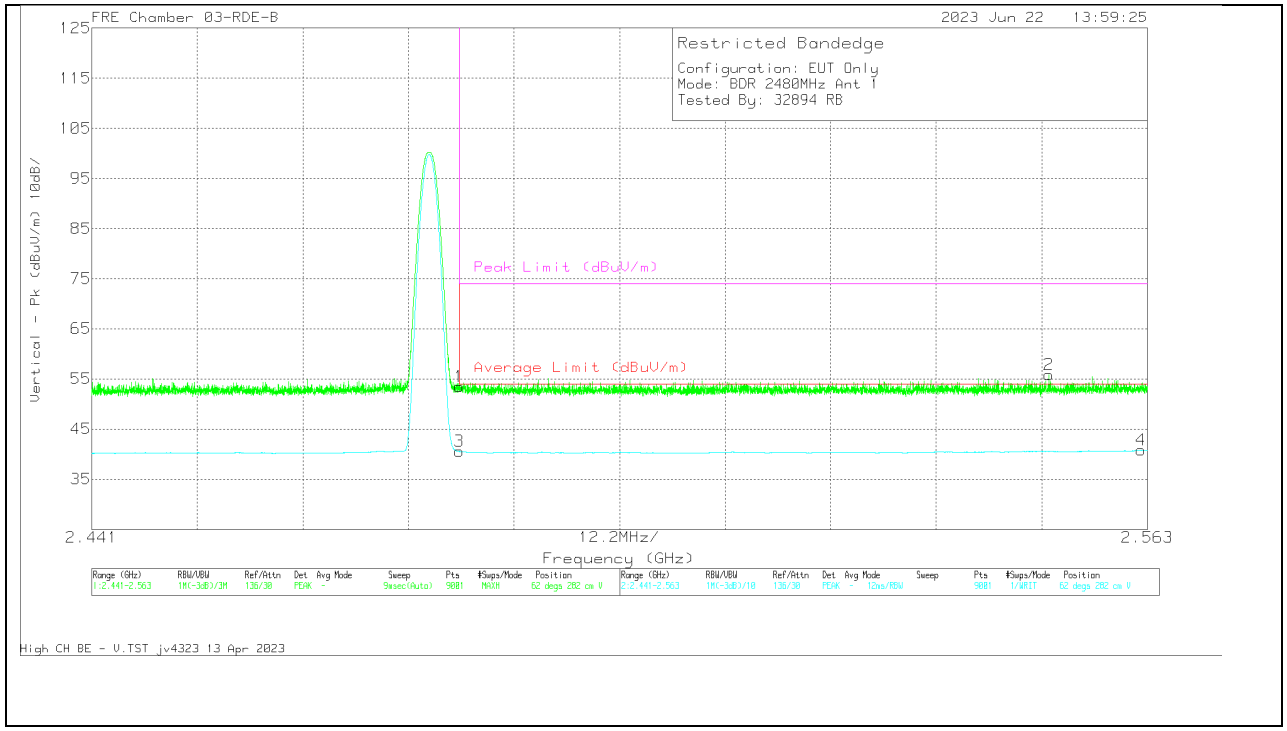
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.45	Pk	32.2	-41.15	53.5	-	-	74	-20.5	62	282	V
3	* 2.4835	49.48	VA1T	32.2	-41.15	40.53	54	-13.47	-	-	62	282	V
2	2.551617	64.47	Pk	32.3	-40.9	55.87	-	-	74	-18.13	62	282	V
4	2.562258	49.28	VA1T	32.3	-40.8	40.78	54	-13.22	-	-	62	282	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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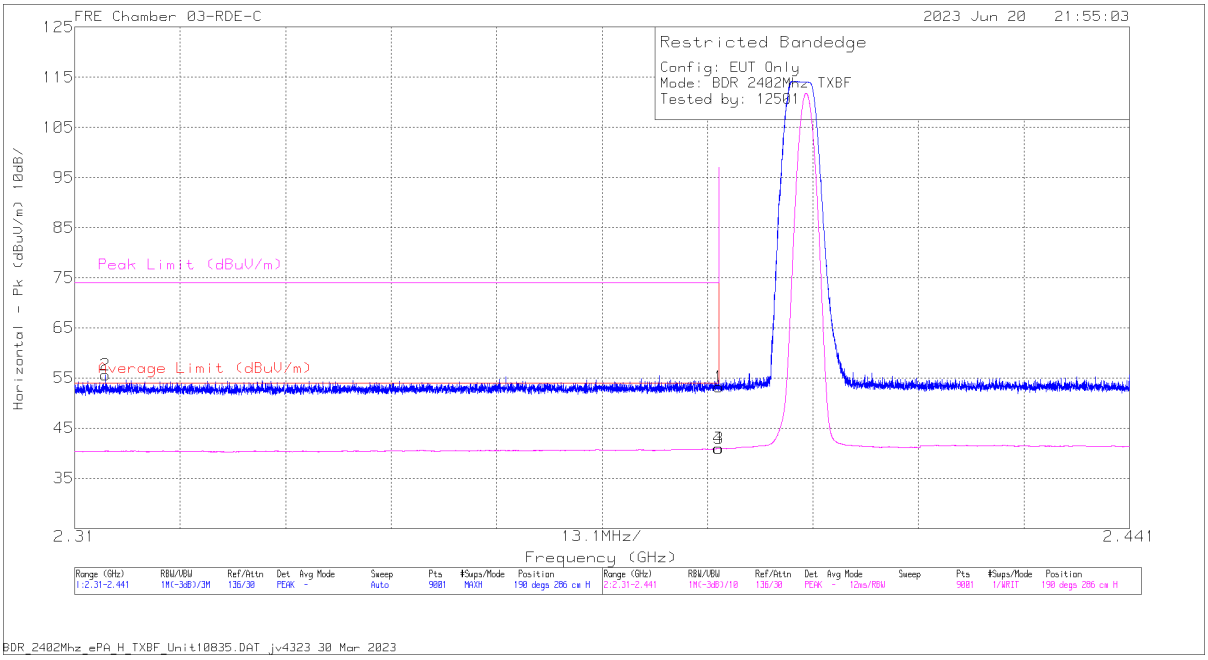
10.1.2. HIGH POWER BASIC DATA RATE TXBF GFSK MODULATION

BANDEDGE (LOW 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	* 2.39	60.88	Pk	32.1	-39.8	53.18	-	-	74	-20.82	190	286	H
2	* 2.313785	63.69	Pk	31.8	-39.92	55.57	-	-	74	-18.43	190	286	H
3	* 2.39	48.64	VA1T	32.1	-39.8	40.94	54	-13.06	-	-	190	286	H
4	* 2.389956	48.67	VA1T	32.1	-39.81	40.96	54	-13.04	-	-	190	286	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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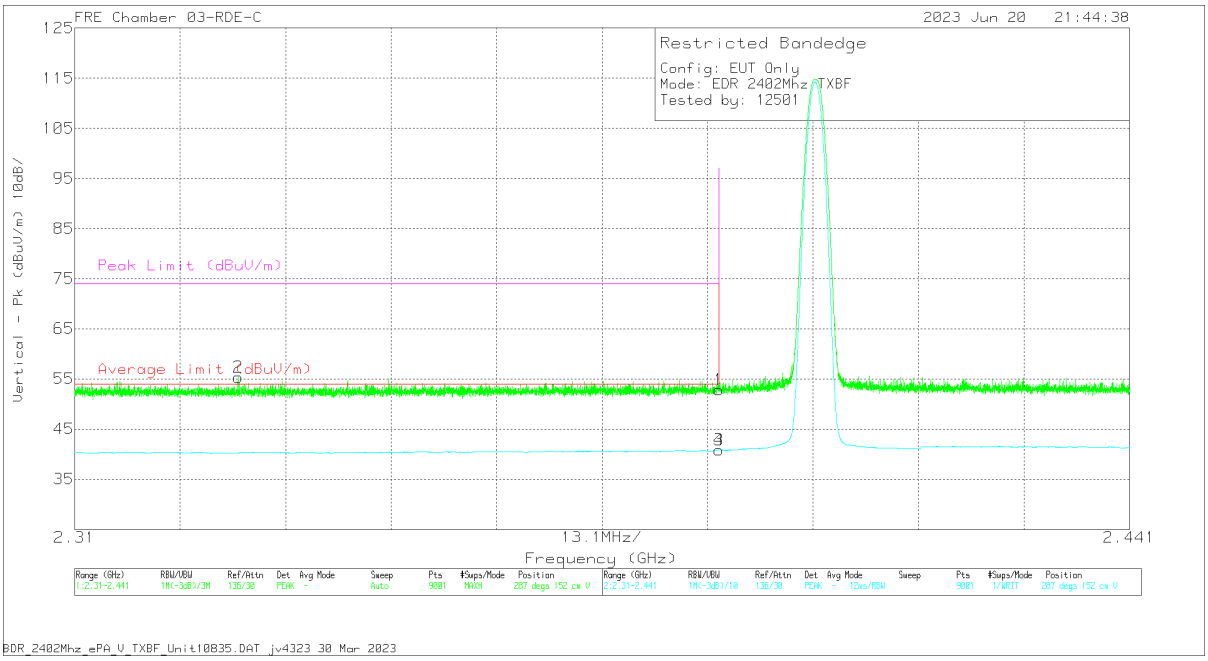
VERTICAL RESULT



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	* 2.39	60.53	Pk	32.1	-39.8	52.83	-	-	74	-21.17	287	152	V
2	* 2.330277	63.49	Pk	31.8	-39.97	55.32	-	-	74	-18.68	287	152	V
3	* 2.39	48.54	VA1T	32.1	-39.8	40.84	54	-13.16	-	-	287	152	V
4	* 2.39	48.54	VA1T	32.1	-39.8	40.84	54	-13.16	-	-	287	152	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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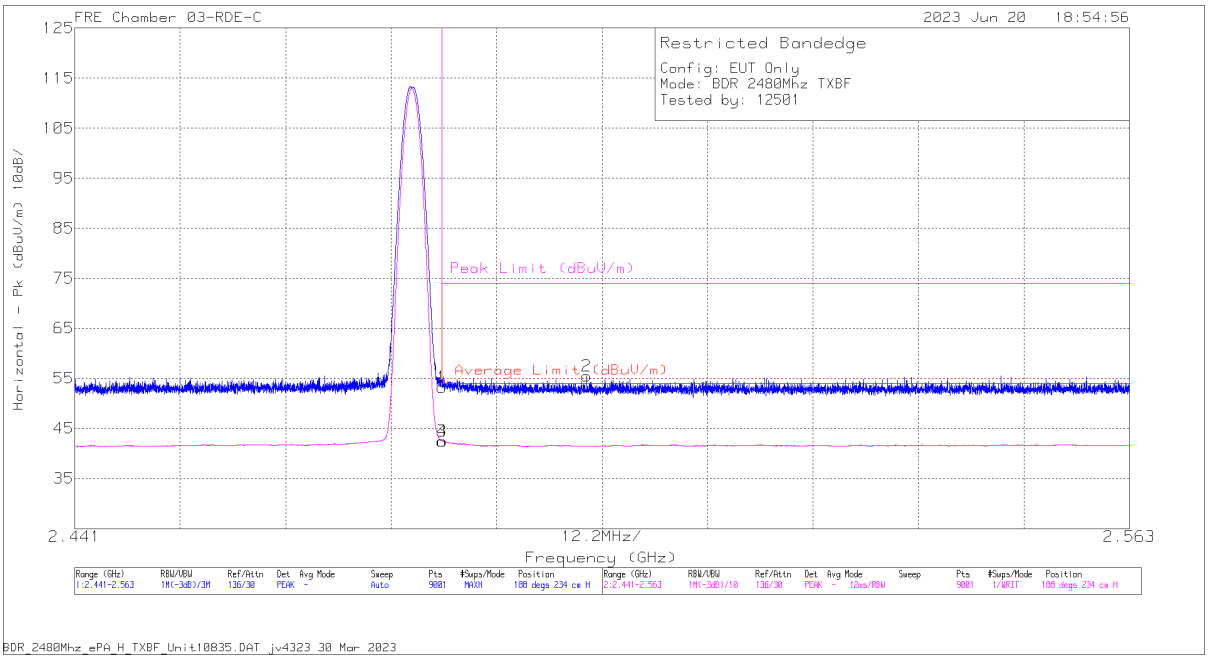
BANDEDGE (HIGH CHANNEL)

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	60.68	Pk	32.2	-39.6	53.28	-	-	74	-20.72	188	234	H
3	* 2.4835	49.89	VA1T	32.2	-39.6	42.49	54	-11.51	-	-	188	234	H
4	* 2.483512	49.88	VA1T	32.2	-39.6	42.48	54	-11.52	-	-	188	234	H
2	2.500213	62.9	Pk	32.3	-39.7	55.5	-	-	74	-18.5	188	234	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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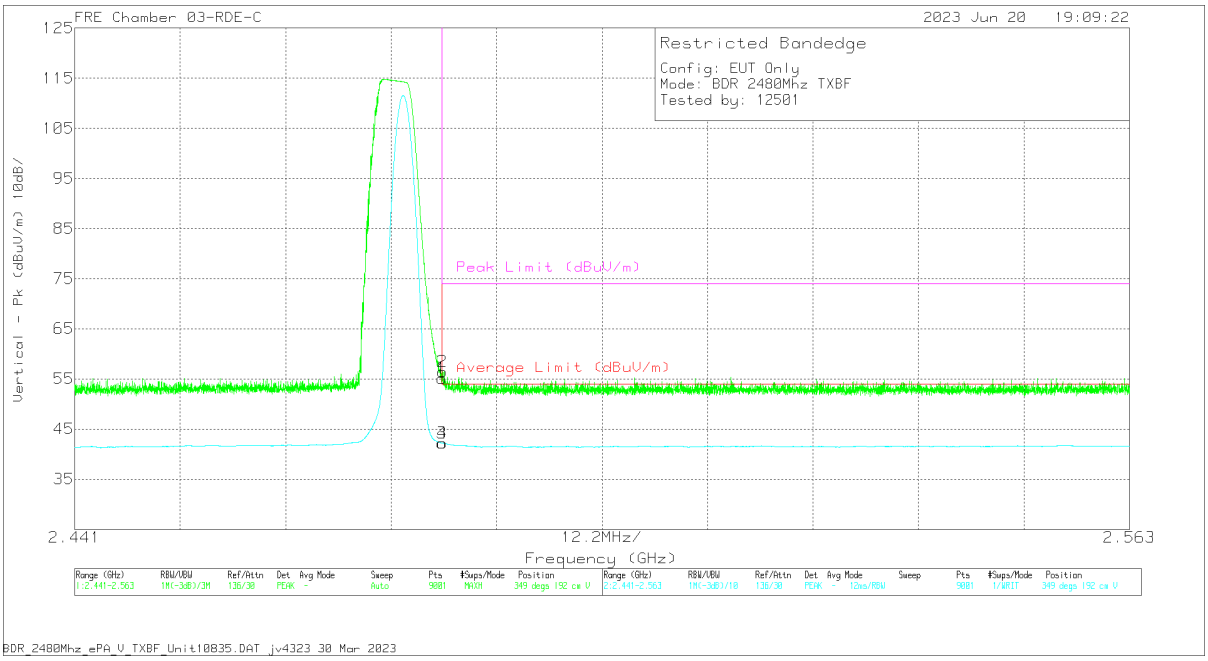
VERTICAL RESULT



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	62.49	Pk	32.2	-39.6	55.09	-	-	74	-18.91	349	192	V
2	* 2.483566	63.91	Pk	32.2	-39.6	56.51	-	-	74	-17.49	349	192	V
3	* 2.4835	49.61	VA1T	32.2	-39.6	42.21	54	-11.79	-	-	349	192	V
4	* 2.483512	49.6	VA1T	32.2	-39.6	42.2	54	-11.8	-	-	349	192	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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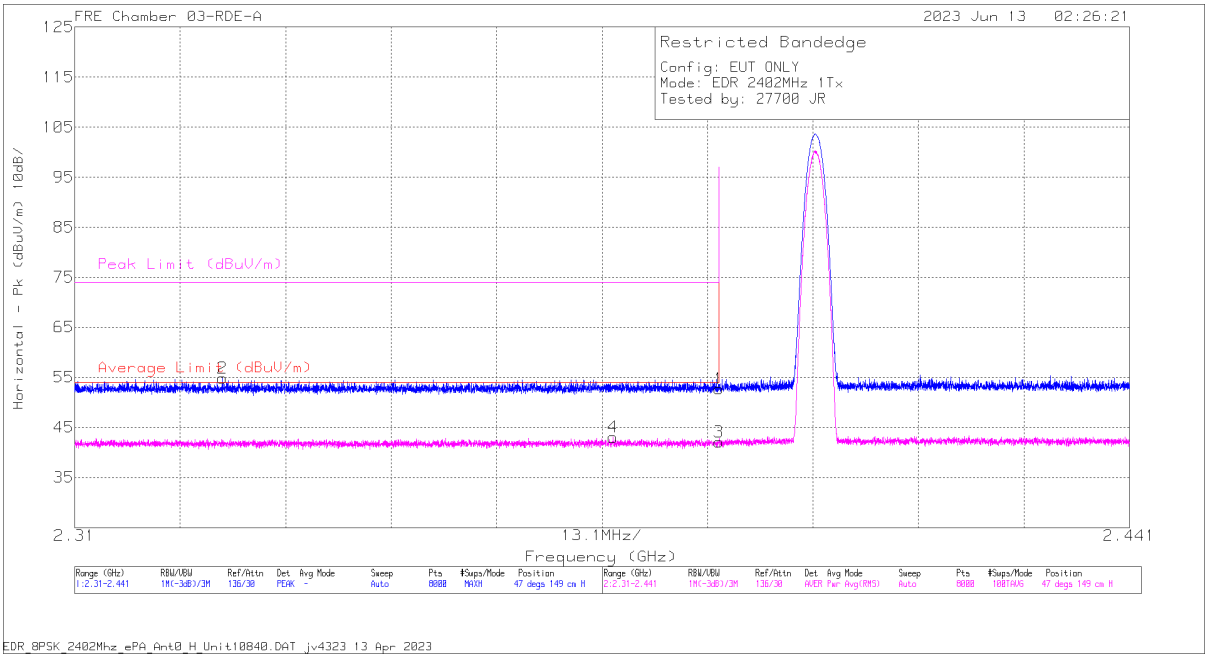
10.1.3. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 4

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230299 ACF (dB/m)	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	60.91	Pk	32.2	0	-40.42	52.69	-	-	74	-21.31	47	149	H
2	* 2.328326	63.24	Pk	32.1	0	-40.49	54.85	-	-	74	-19.15	47	149	H
3	* 2.39	50.36	RMS	32.2	0	-40.42	42.14	54	-11.86	-	-	47	149	H
4	* 2.376867	51.34	RMS	32.1	0	-40.41	43.03	54	-10.97	-	-	47	149	H

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

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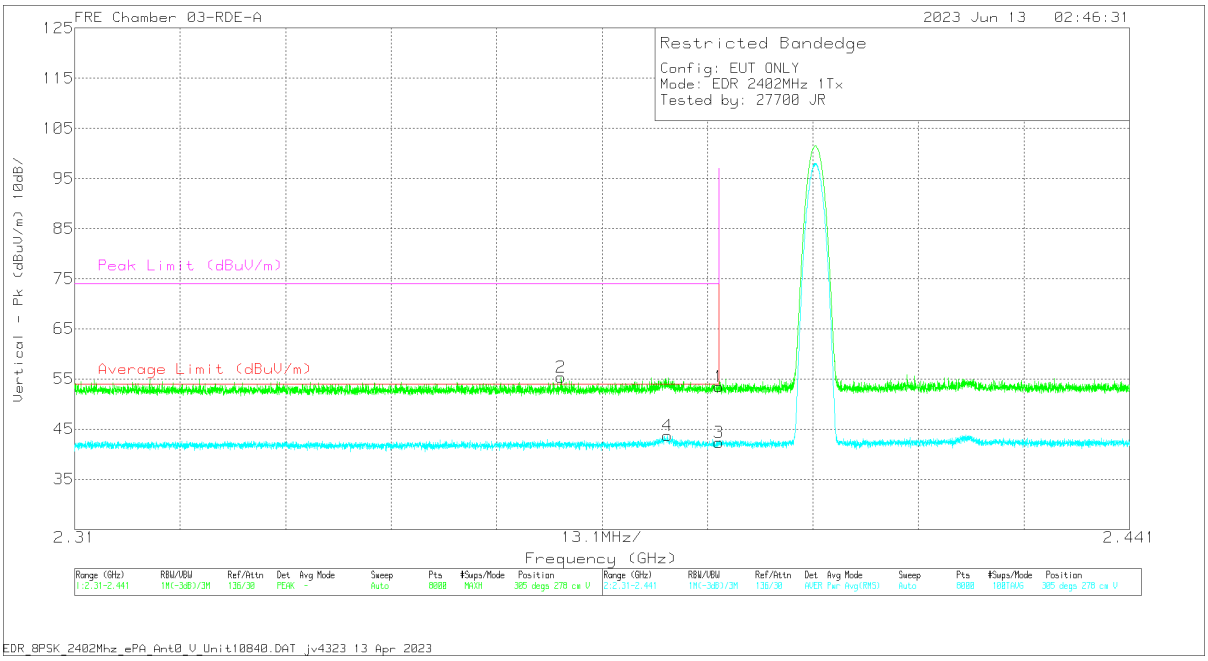
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230299 ACF (dB/m)	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	61.7	Pk	32.2	0	-40.42	53.48	-	-	74	-20.52	305	278	V
2	* 2.370398	63.71	Pk	32.1	0	-40.43	55.38	-	-	74	-18.62	305	278	V
3	* 2.39	50.53	RMS	32.2	0	-40.42	42.31	54	-11.69	-	-	305	278	V
4	* 2.383647	51.98	RMS	32.1	0	-40.39	43.69	54	-10.31	-	-	305	278	V

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

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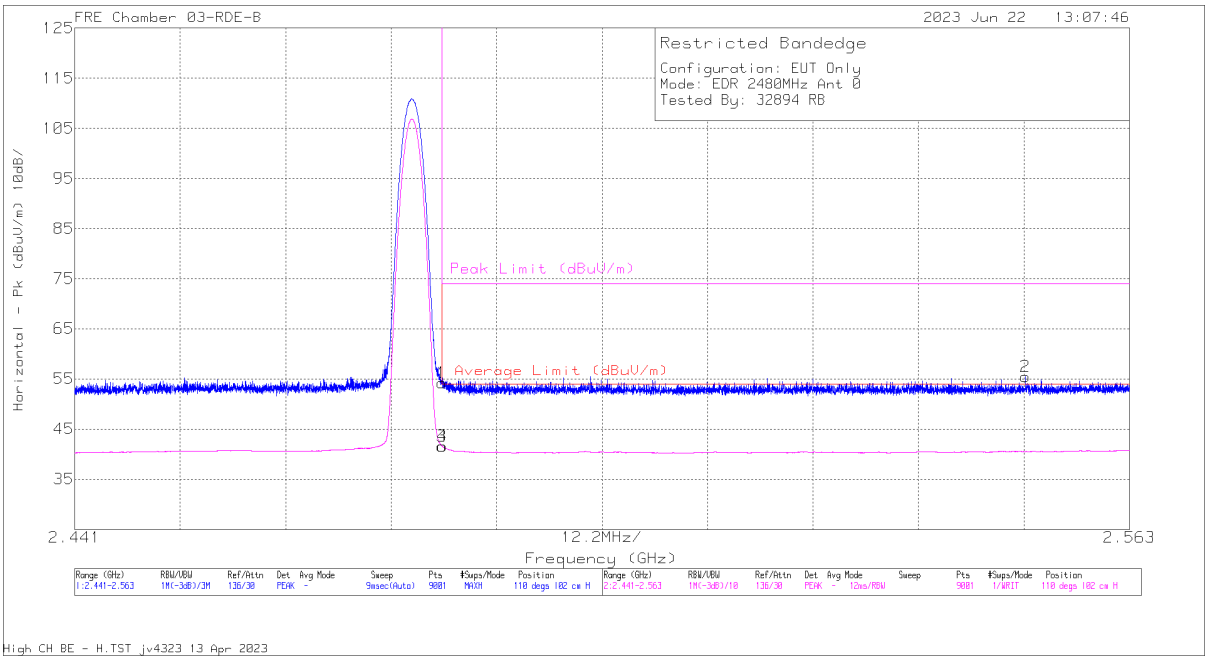
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	63.14	Pk	32.2	-41.15	54.19	-	-	74	-19.81	110	102	H
3	* 2.4835	50.52	VA1T	32.2	-41.15	41.57	54	-12.43	-	-	110	102	H
4	* 2.483512	50.51	VA1T	32.2	-41.15	41.56	54	-12.44	-	-	110	102	H
2	2.55098	64.11	Pk	32.3	-40.9	55.51	-	-	74	-18.49	110	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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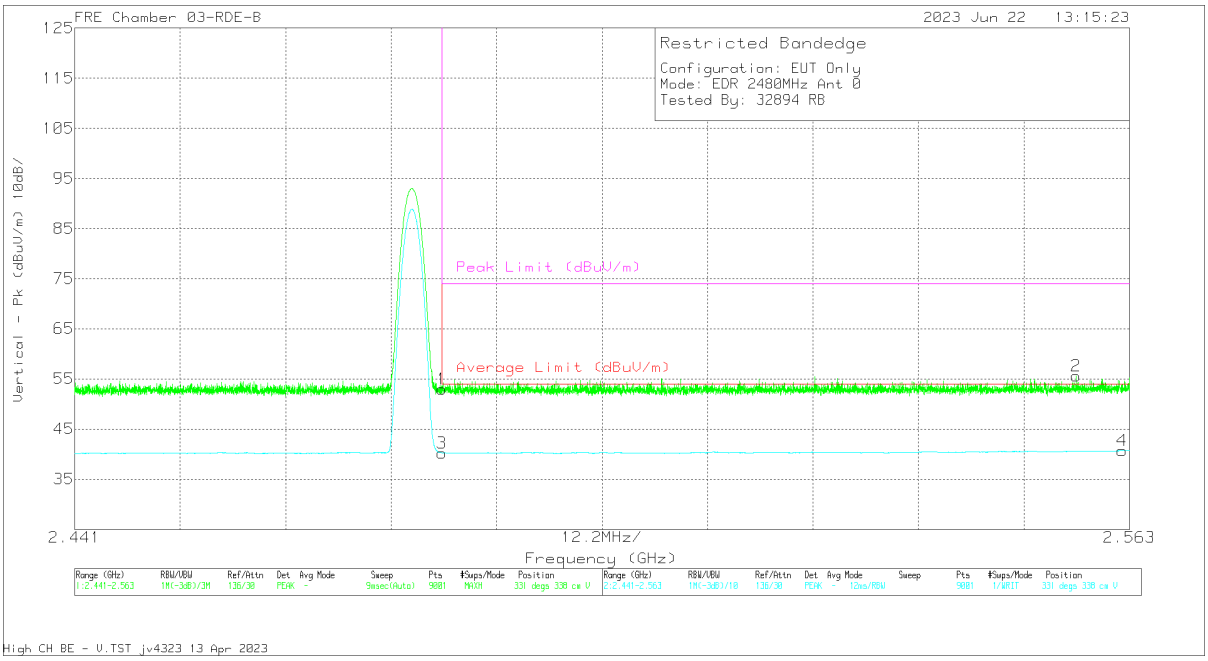
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.89	Pk	32.2	-41.15	52.94	-	-	74	-21.06	331	338	V
3	* 2.4835	49.2	VA1T	32.2	-41.15	40.25	54	-13.75	-	-	331	338	V
2	2.556809	64.23	Pk	32.3	-40.9	55.63	-	-	74	-18.37	331	338	V
4	2.562164	49.24	VA1T	32.3	-40.8	40.74	54	-13.26	-	-	331	338	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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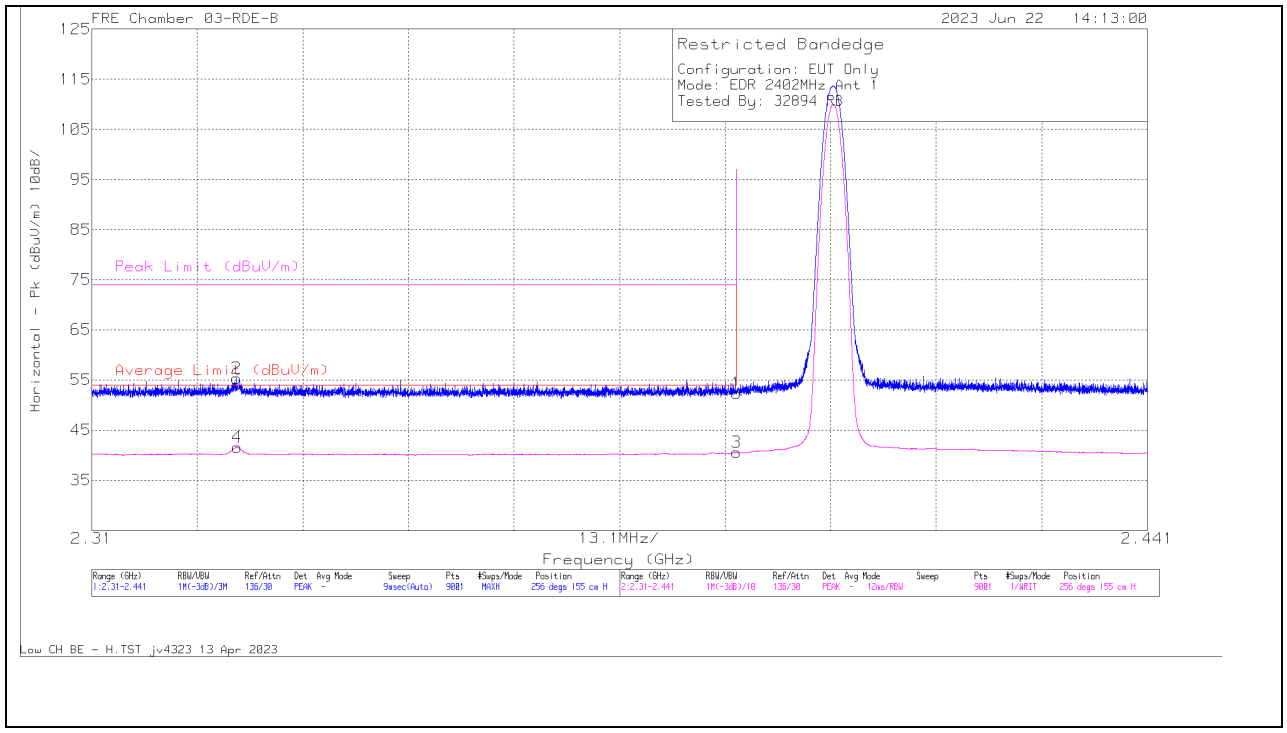
ANT 3

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.4	Pk	32.2	-41.2	52.4	-	-	74	-21.6	256	155	H
2	* 2.327977	64.45	Pk	32.1	-41.2	55.35	-	-	74	-18.65	256	155	H
3	* 2.39	49.56	VA1T	32.2	-41.2	40.56	54	-13.44	-	-	256	155	H
4	* 2.328064	50.66	VA1T	32.1	-41.2	41.56	54	-12.44	-	-	256	155	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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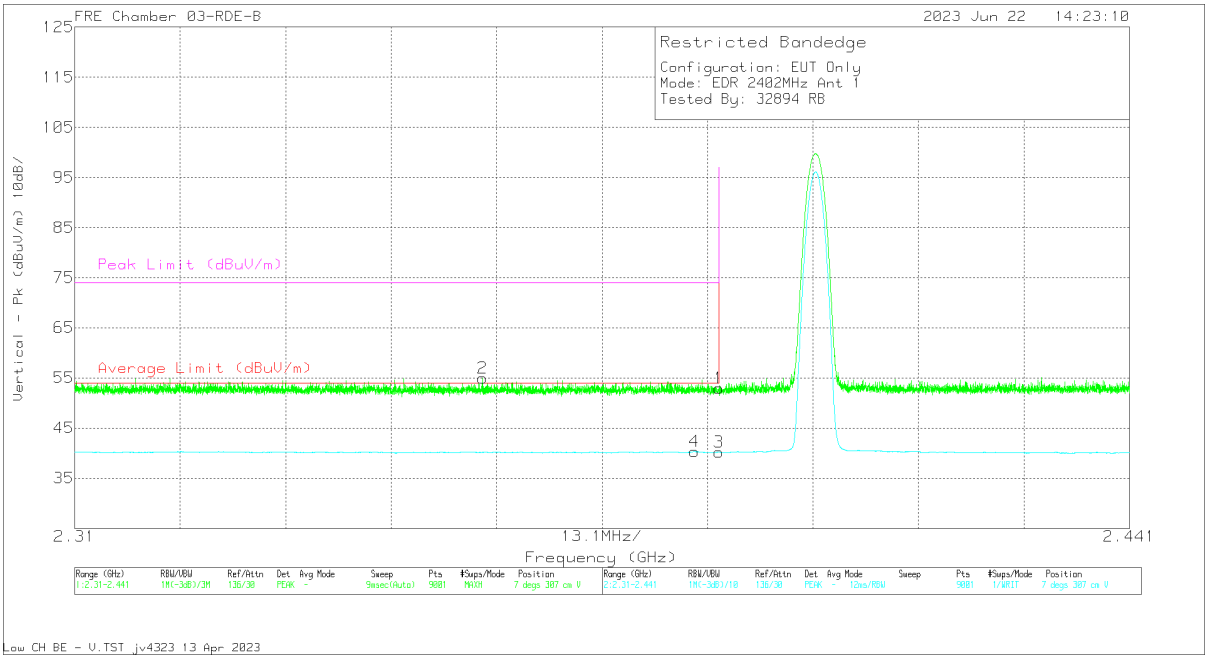
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.93	Pk	32.2	-41.2	52.93	-	-	74	-21.07	7	307	V
2	* 2.36064	64.03	Pk	32.1	-41.2	54.93	-	-	74	-19.07	7	307	V
3	* 2.39	49.19	VA1T	32.2	-41.2	40.19	54	-13.81	-	-	7	307	V
4	* 2.386987	49.22	VA1T	32.2	-41.1	40.32	54	-13.68	-	-	7	307	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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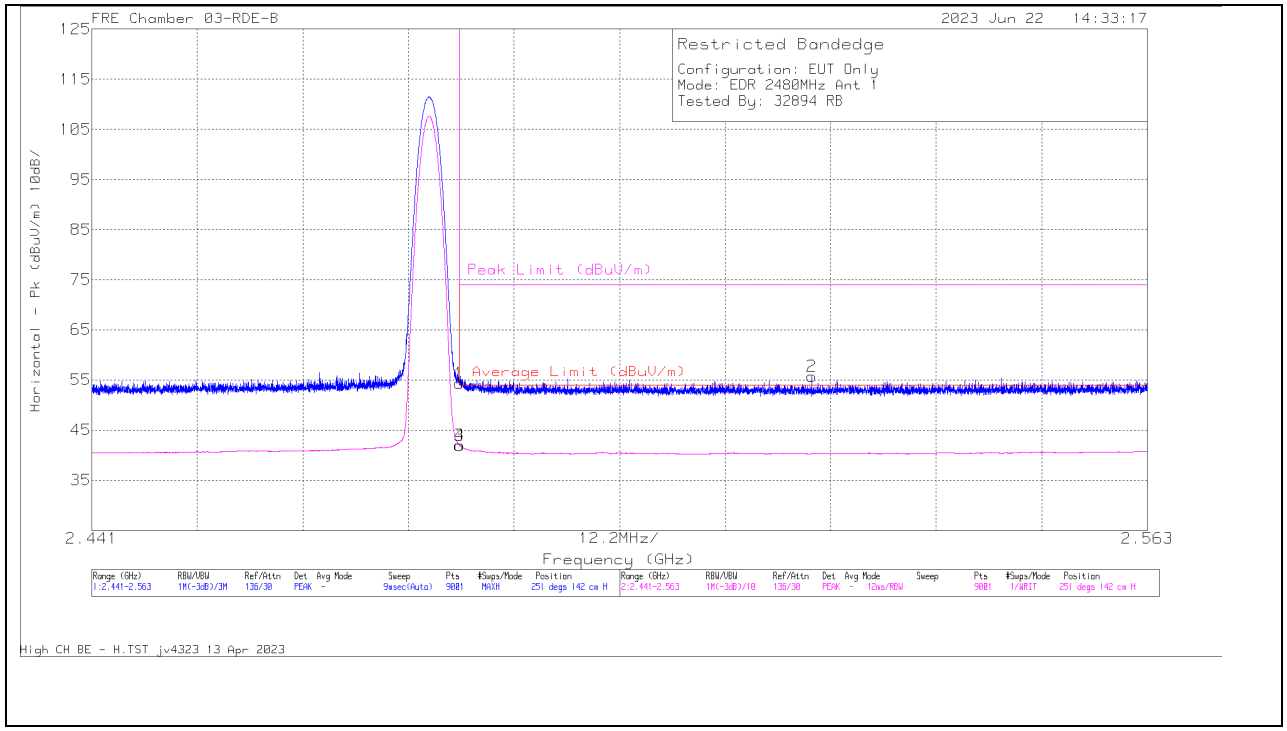
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	63.33	Pk	32.2	-41.15	54.38	-	-	74	-19.62	251	142	H
3	* 2.4835	50.91	VA1T	32.2	-41.15	41.96	54	-12.04	-	-	251	142	H
4	* 2.483512	50.9	VA1T	32.2	-41.15	41.95	54	-12.05	-	-	251	142	H
2	2.524207	64.56	Pk	32.3	-41.08	55.78	-	-	74	-18.22	251	142	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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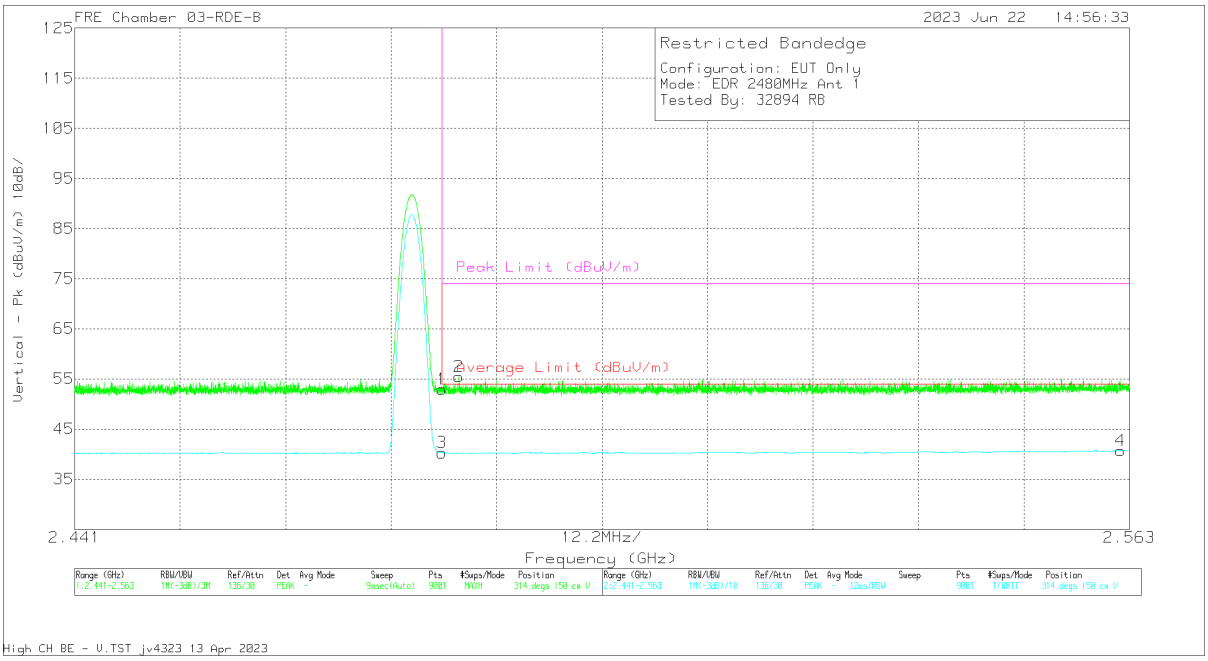
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.92	Pk	32.2	-41.15	52.97	-	-	74	-21.03	314	150	V
2	* 2.485409	64.47	Pk	32.2	-41.16	55.51	-	-	74	-18.49	314	150	V
3	* 2.4835	49.23	VA1T	32.2	-41.15	40.28	54	-13.72	-	-	314	150	V
4	2.56196	49.24	VA1T	32.3	-40.8	40.74	54	-13.26	-	-	314	150	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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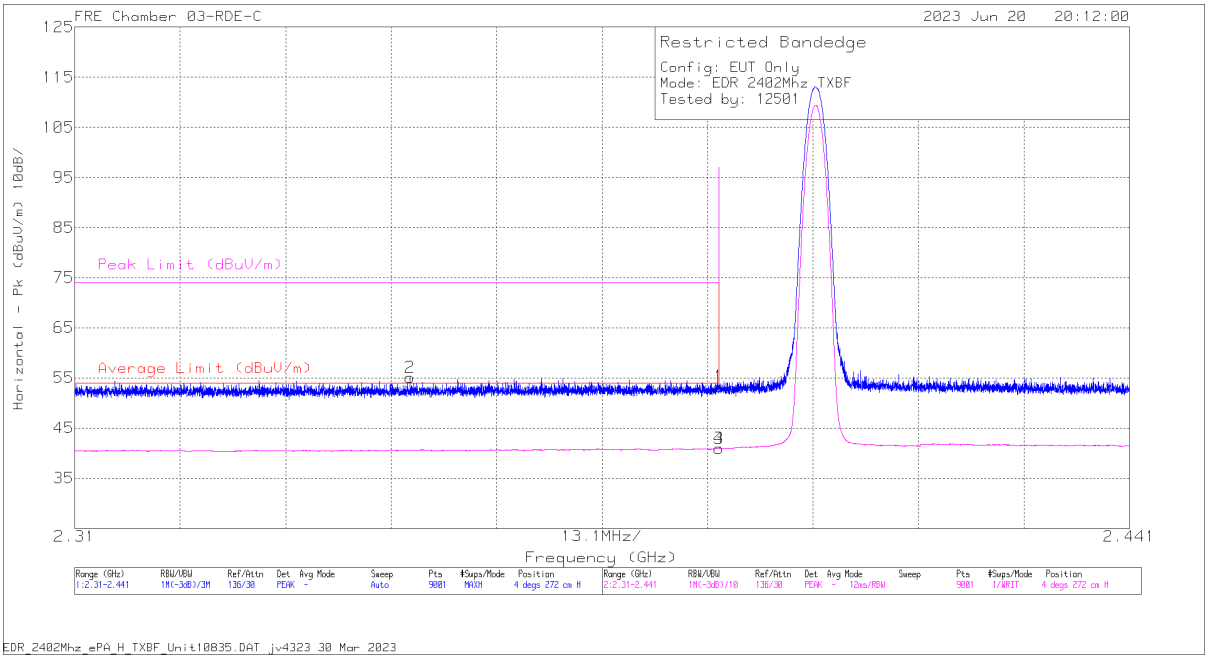
10.1.4. HIGH POWER ENHANCED DATA RATE TXBF 8PSK MODULATION

BANDEDGE (LOW 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	* 2.39	60.98	Pk	32.1	-39.8	53.28	-	-	74	-20.72	4	272	H
2	* 2.351645	63.08	Pk	31.9	-39.9	55.08	-	-	74	-18.92	4	272	H
3	* 2.39	48.7	VA1T	32.1	-39.8	41	54	-13	-	-	4	272	H
4	* 2.39	48.7	VA1T	32.1	-39.8	41	54	-13	-	-	4	272	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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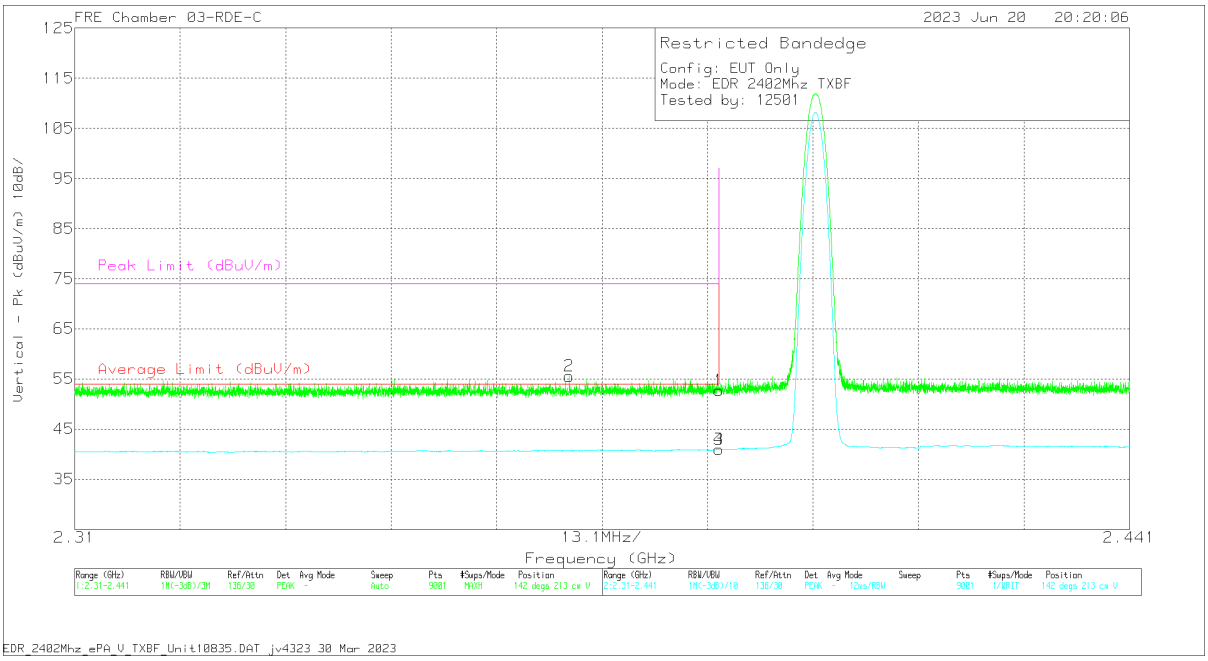
VERTICAL RESULT



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	* 2.39	60.42	Pk	32.1	-39.8	52.72	-	-	74	-21.28	142	213	V
2	* 2.371412	63.44	Pk	32	-39.9	55.54	-	-	74	-18.46	142	213	V
3	* 2.39	48.66	VA1T	32.1	-39.8	40.96	54	-13.04	-	-	142	213	V
4	* 2.389985	48.67	VA1T	32.1	-39.8	40.97	54	-13.03	-	-	142	213	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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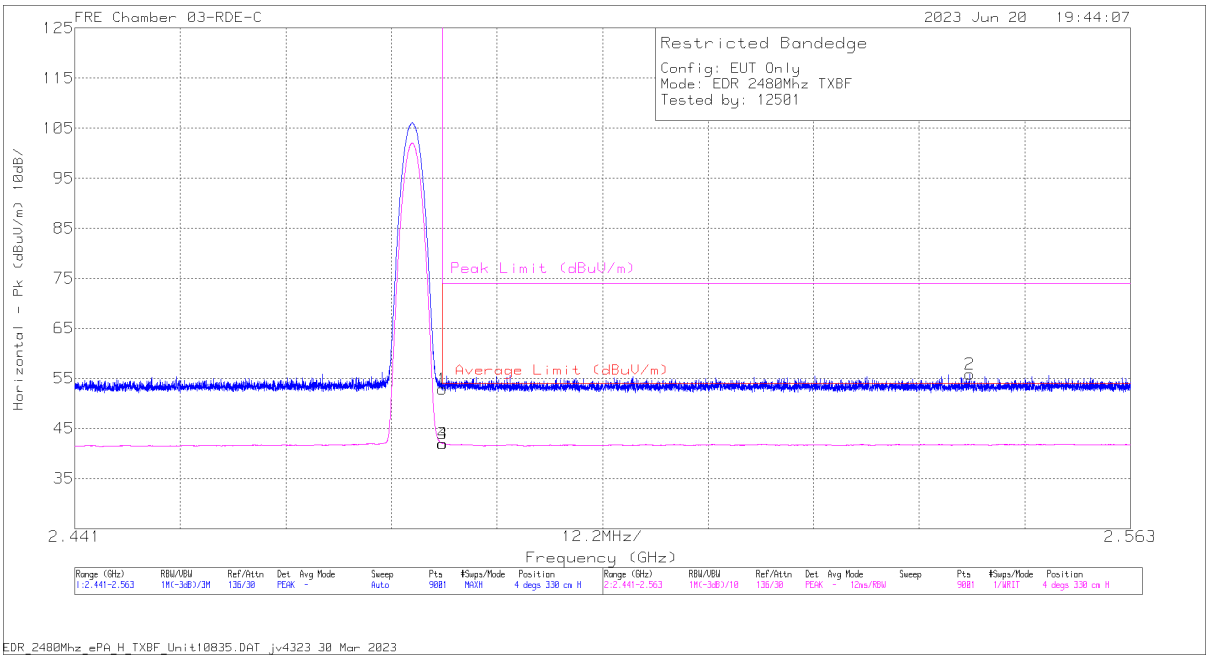
BANDEDGE (HIGH CHANNEL)

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	60.29	Pk	32.2	-39.6	52.89	-	-	74	-21.11	4	330	H
3	* 2.4835	49.38	VA1T	32.2	-39.6	41.98	54	-12.02	-	-	4	330	H
4	* 2.483512	49.38	VA1T	32.2	-39.6	41.98	54	-12.02	-	-	4	330	H
2	2.544419	63.07	Pk	32.3	-39.5	55.87	-	-	74	-18.13	4	330	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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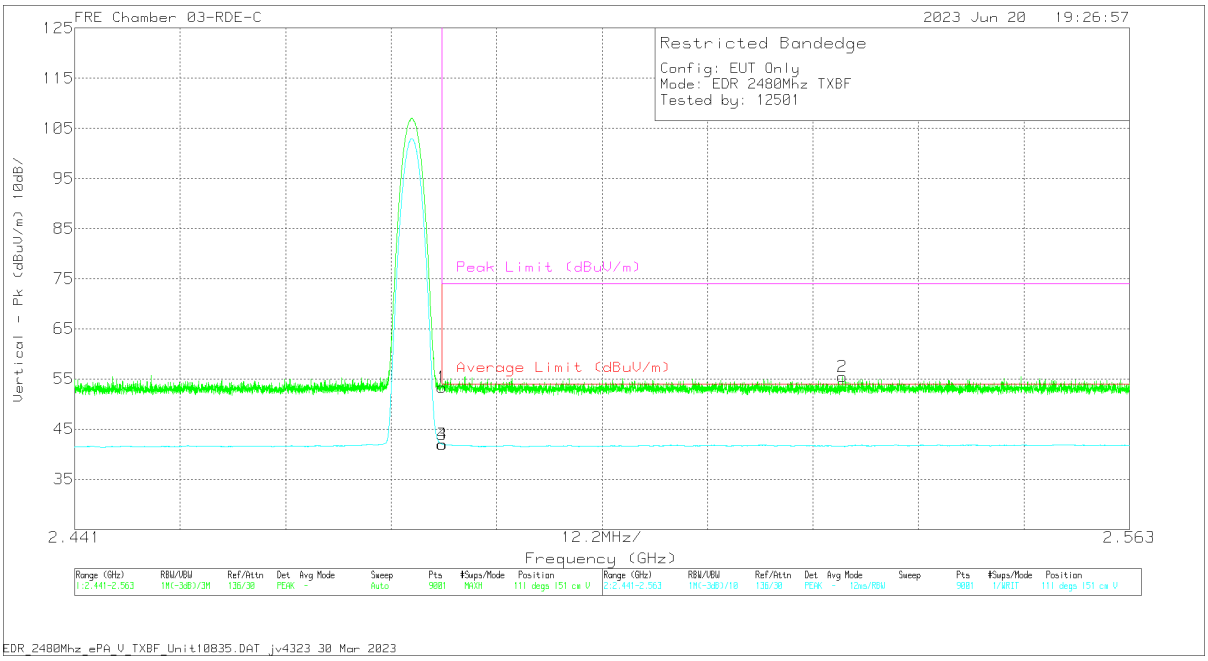
VERTICAL RESULT



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	60.79	Pk	32.2	-39.6	53.39	-	-	74	-20.61	111	151	V
3	* 2.4835	49.41	VA1T	32.2	-39.6	42.01	54	-11.99	-	-	111	151	V
4	* 2.483512	49.41	VA1T	32.2	-39.6	42.01	54	-11.99	-	-	111	151	V
2	2.529819	62.88	Pk	32.3	-39.7	55.48	-	-	74	-18.52	111	151	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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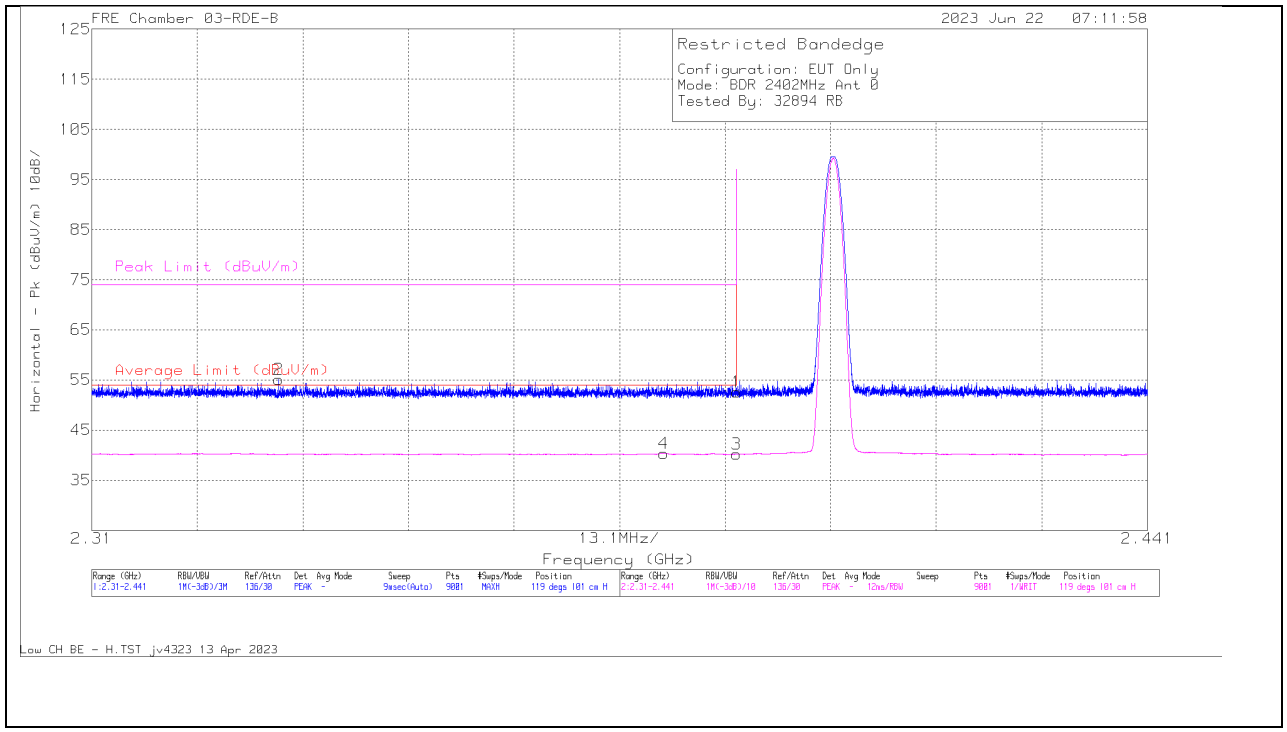
10.1.5. LOW POWER BASIC DATA RATE GFSK MODULATION

ANT 4

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.65	Pk	32.2	-41.2	52.65	-	-	74	-21.35	119	101	H
2	* 2.333173	64.28	Pk	32.1	-41.3	55.08	-	-	74	-18.92	119	101	H
3	* 2.39	49.22	VA1T	32.2	-41.2	40.22	54	-13.78	-	-	119	101	H
4	* 2.381019	49.37	VA1T	32.1	-41.1	40.37	54	-13.63	-	-	119	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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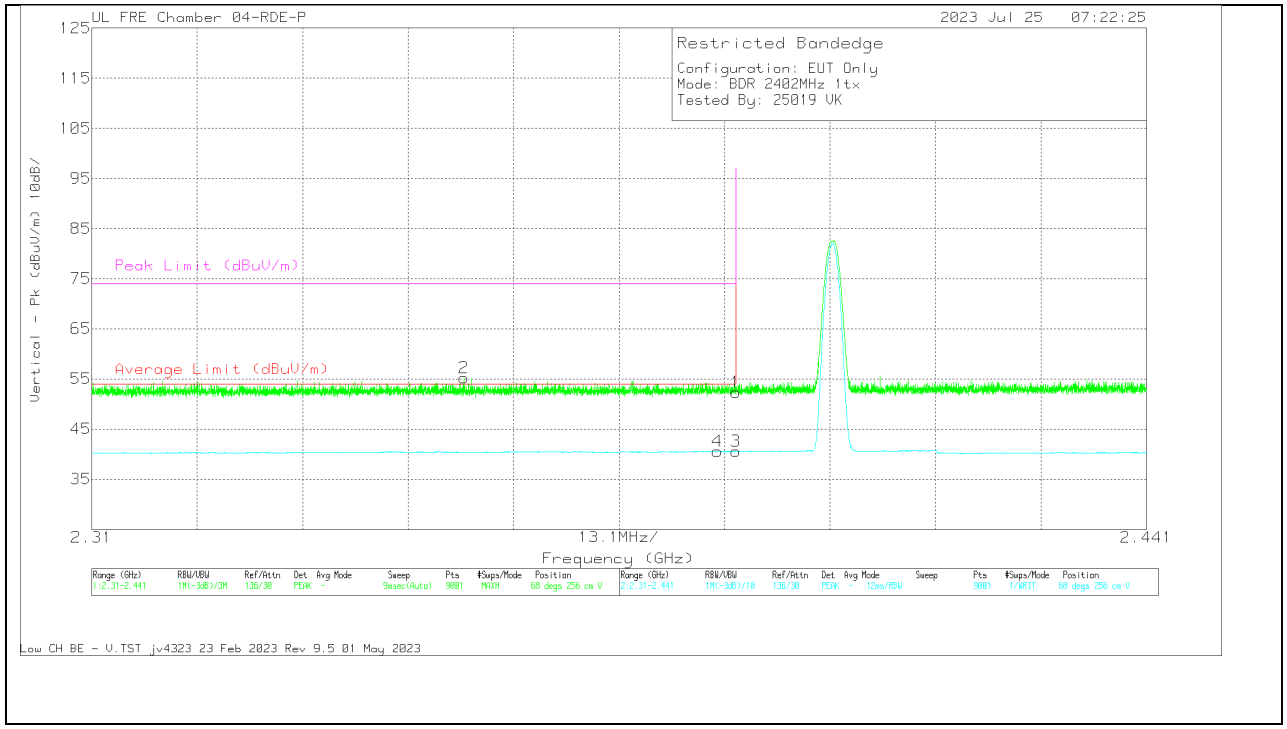
VERTICAL RESULT



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	2.356201	63.53	Pk	31.5	-39.83	55.2	-	-	74	-18.8	68	256	V
4	2.387714	48.62	VA1T	31.7	-39.75	40.57	54	-13.43	-	-	68	256	V
1	2.39	60.41	Pk	31.7	-39.79	52.32	-	-	74	-21.68	68	256	V
3	2.39	48.64	VA1T	31.7	-39.79	40.55	54	-13.45	-	-	68	256	V

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

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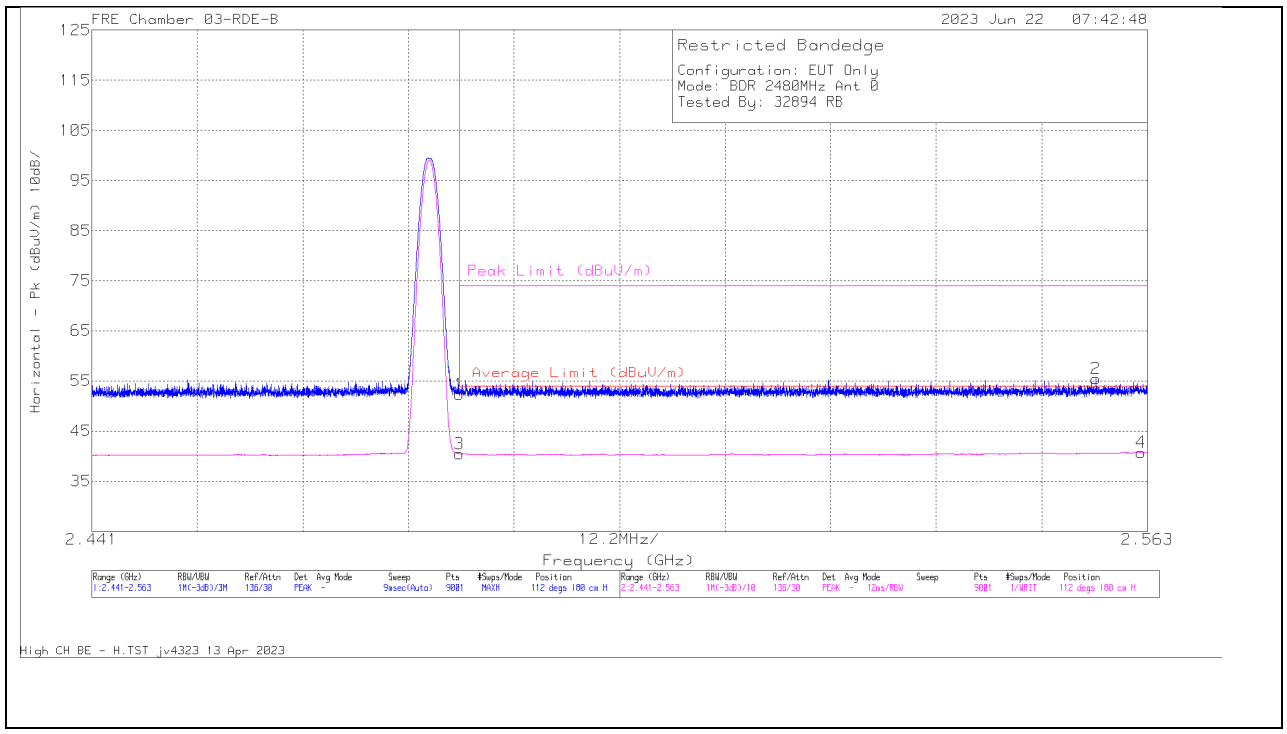
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.35	Pk	32.2	-41.15	52.4	-	-	74	-21.6	112	180	H
3	* 2.4835	49.45	VA1T	32.2	-41.15	40.5	54	-13.5	-	-	112	180	H
2	2.55708	64.03	Pk	32.3	-40.9	55.43	-	-	74	-18.57	112	180	H
4	2.562272	49.27	VA1T	32.3	-40.8	40.77	54	-13.23	-	-	112	180	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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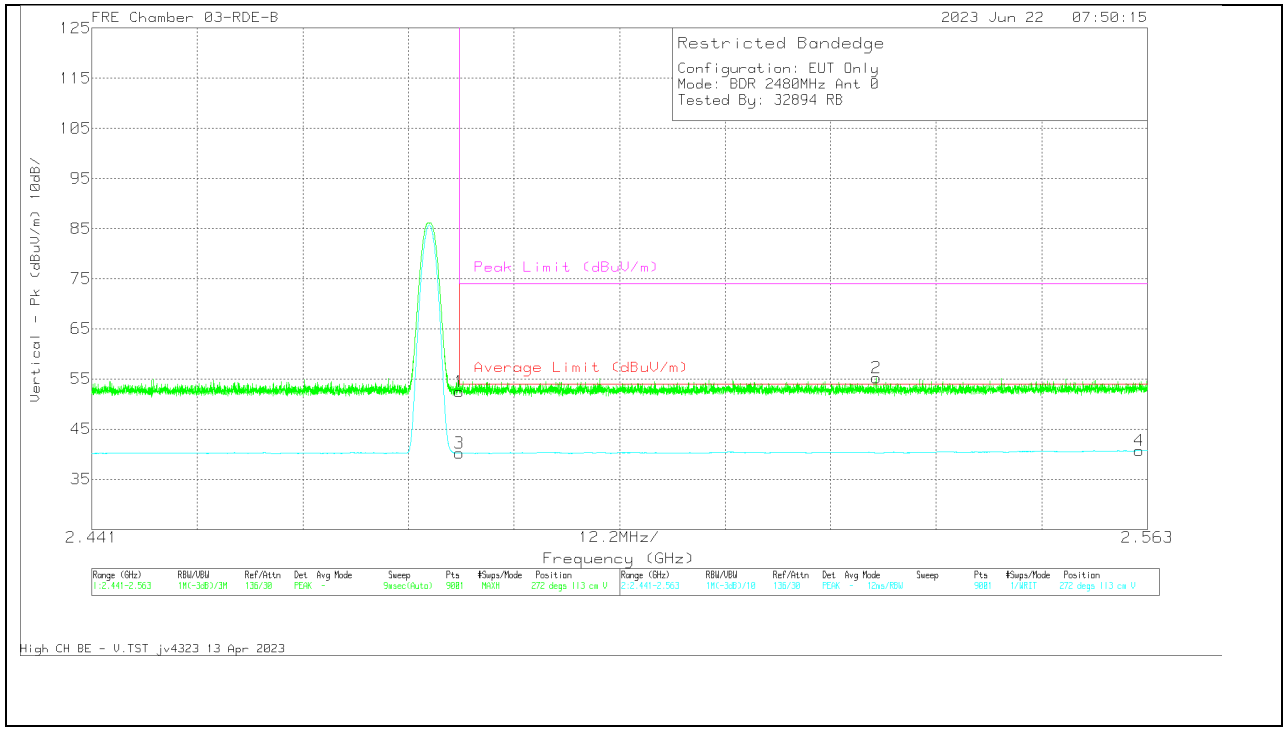
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.43	Pk	32.2	-41.15	52.48	-	-	74	-21.52	272	113	V
3	* 2.4835	49.17	VA1T	32.2	-41.15	40.22	54	-13.78	-	-	272	113	V
2	2.531703	63.97	Pk	32.3	-41.07	55.2	-	-	74	-18.8	272	113	V
4	2.562028	49.25	VA1T	32.3	-40.8	40.75	54	-13.25	-	-	272	113	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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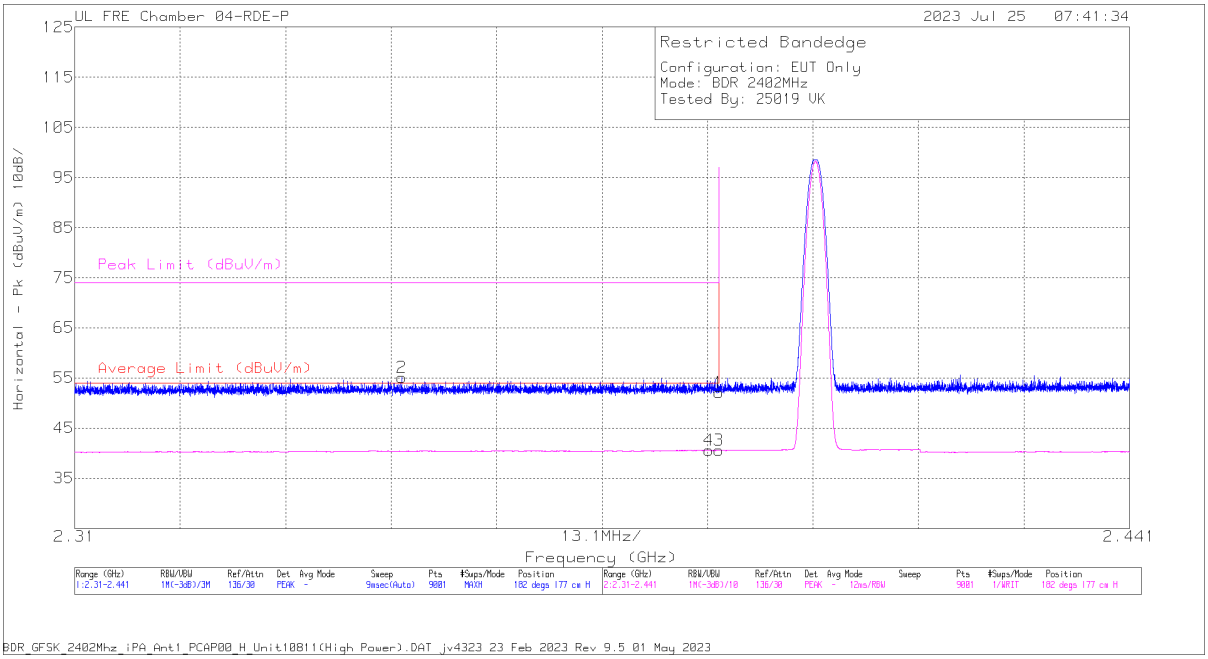
ANT 3

BANDEDGE (LOW 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
2	2.35064	63.44	Pk	31.5	-39.81	55.13	-	-	74	-18.87	182	177	H
4	2.388777	48.66	VA1T	31.7	-39.77	40.59	54	-13.41	-	-	182	177	H
1	2.39	60.24	Pk	31.7	-39.79	52.15	-	-	74	-21.85	182	177	H
3	2.39	48.66	VA1T	31.7	-39.79	40.57	54	-13.43	-	-	182	177	H

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

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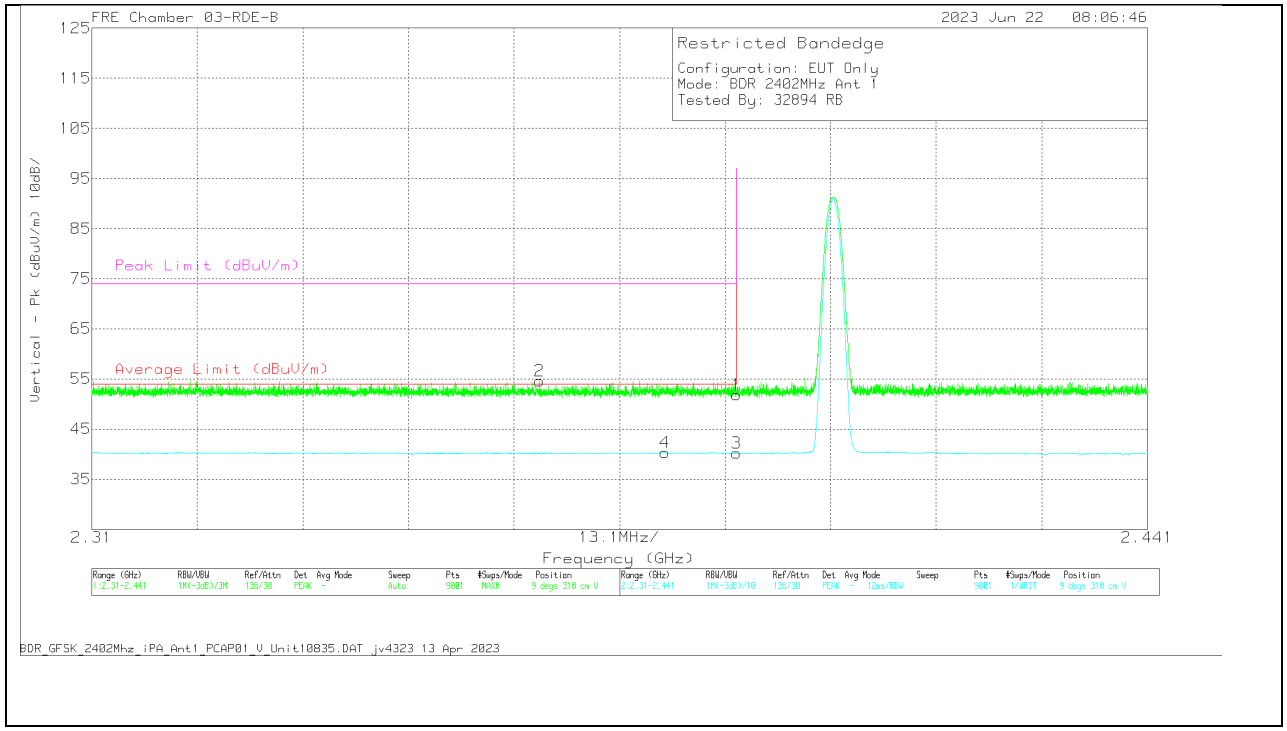
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	60.88	Pk	32.2	-41.2	51.88	-	-	74	-22.12	9	318	V
2	* 2.365589	63.71	Pk	32.1	-41.2	54.61	-	-	74	-19.39	9	318	V
3	* 2.39	49.19	VA1T	32.2	-41.2	40.19	54	-13.81	-	-	9	318	V
4	* 2.381121	49.36	VA1T	32.1	-41.12	40.34	54	-13.66	-	-	9	318	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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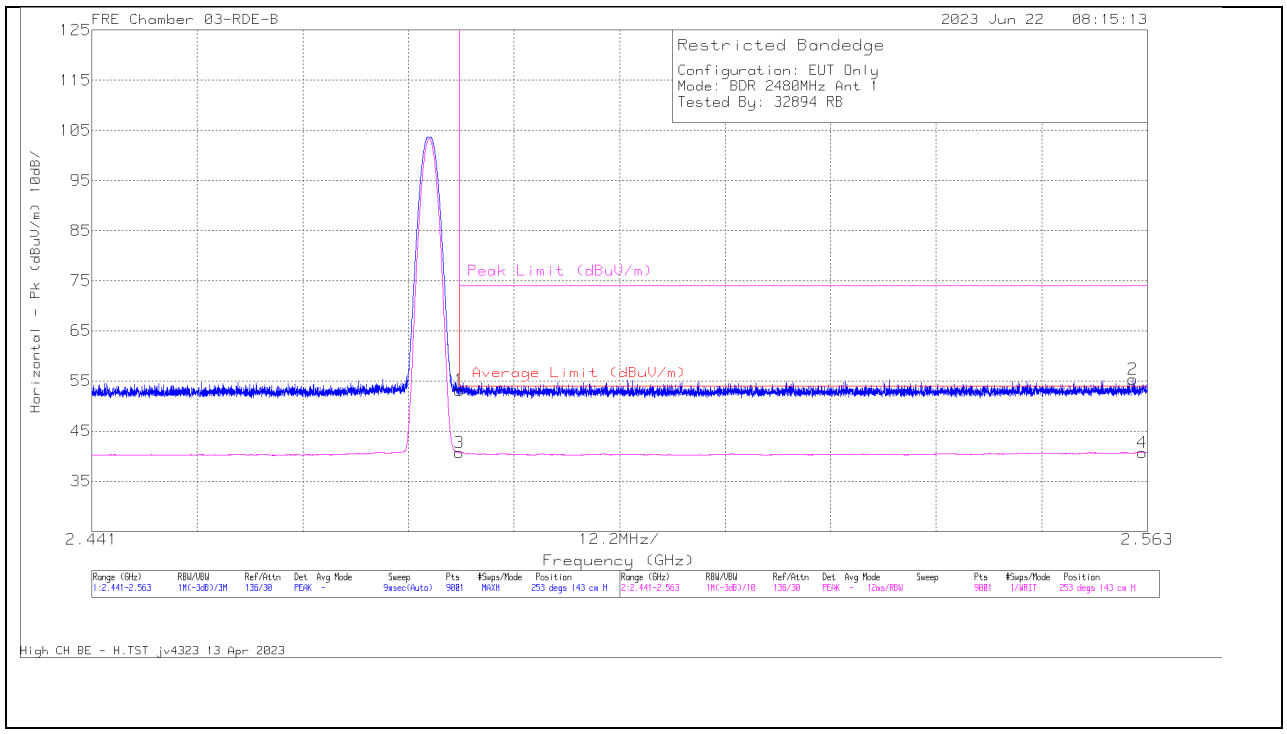
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.11	Pk	32.2	-41.15	53.16	-	-	74	-20.84	253	143	H
3	* 2.4835	49.66	VA1T	32.2	-41.15	40.71	54	-13.29	-	-	253	143	H
2	2.56135	63.93	Pk	32.3	-40.86	55.37	-	-	74	-18.63	253	143	H
4	2.562421	49.26	VA1T	32.3	-40.8	40.76	54	-13.24	-	-	253	143	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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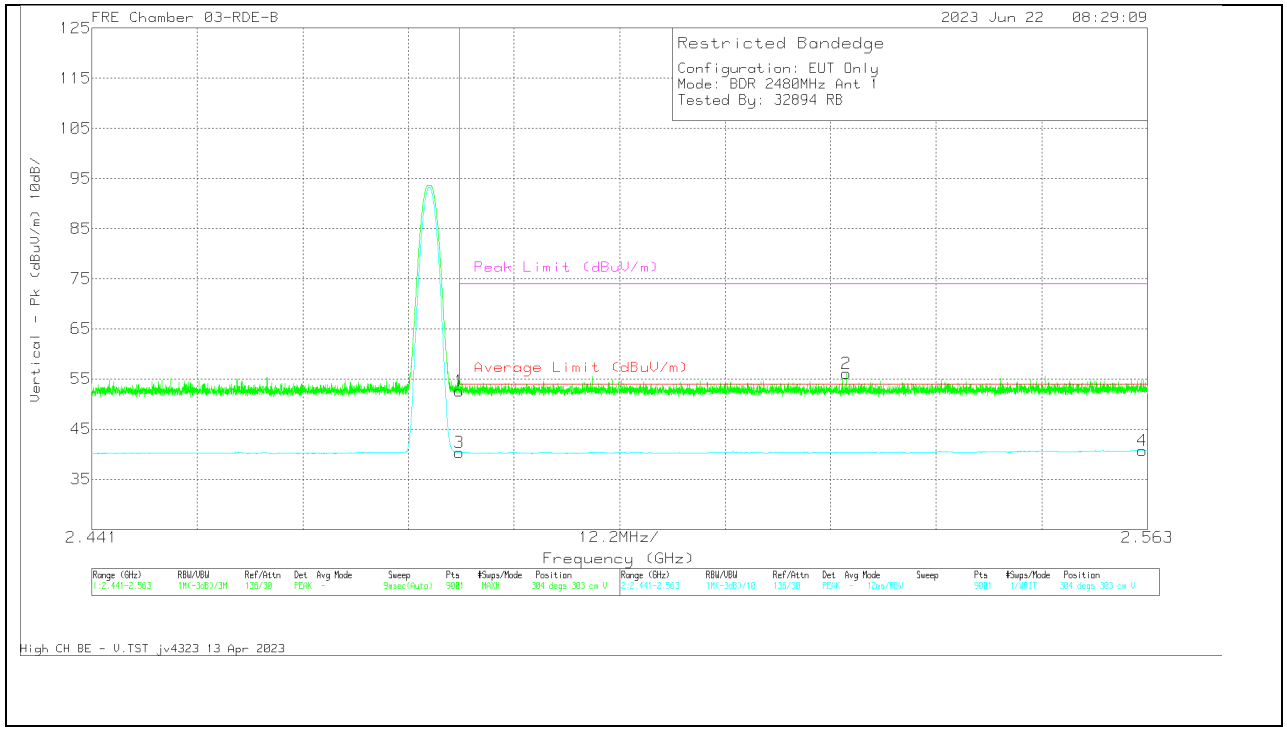
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.52	Pk	32.2	-41.15	52.57	-	-	74	-21.43	304	303	V
3	* 2.4835	49.29	VA1T	32.2	-41.15	40.34	54	-13.66	-	-	304	303	V
2	2.528206	64.82	Pk	32.3	-41	56.12	-	-	74	-17.88	304	303	V
4	2.562408	49.26	VA1T	32.3	-40.8	40.76	54	-13.24	-	-	304	303	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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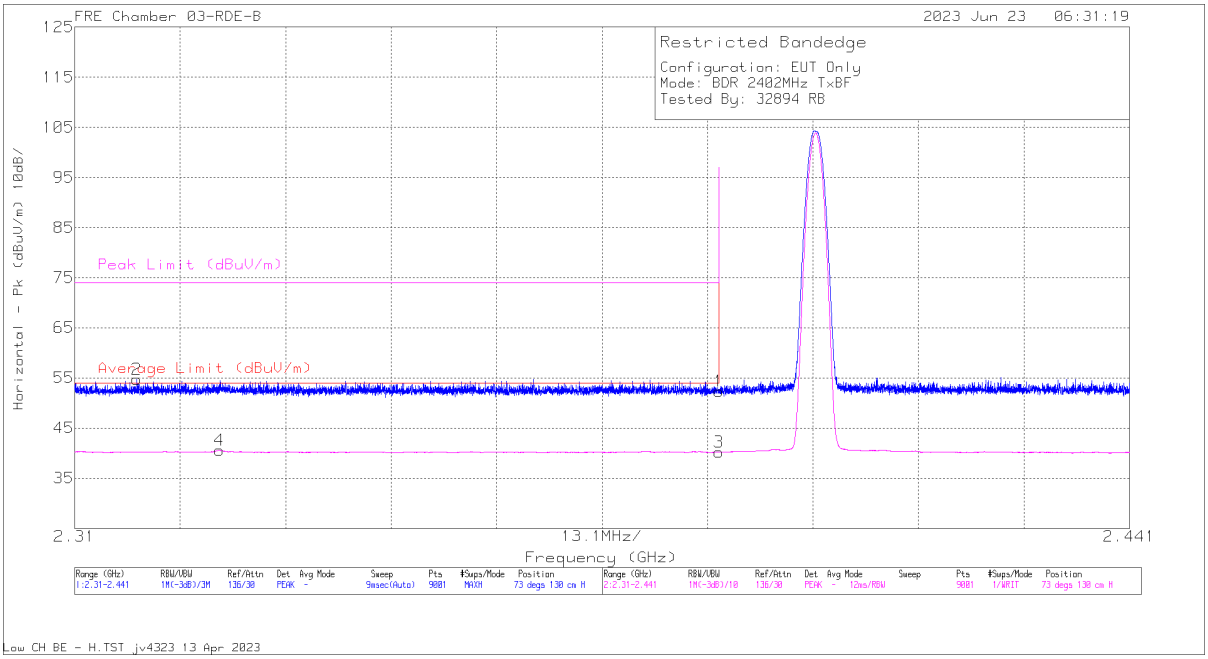
10.1.6. LOW POWER BASIC DATA RATE TXBF GFSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.39	Pk	32.2	-41.2	52.39	-	-	74	-21.61	73	130	H
2	* 2.3177	63.82	Pk	32.1	-41.2	54.72	-	-	74	-19.28	73	130	H
3	* 2.39	49.25	VA1T	32.2	-41.2	40.25	54	-13.75	-	-	73	130	H
4	* 2.327962	49.68	VA1T	32.1	-41.2	40.58	54	-13.42	-	-	73	130	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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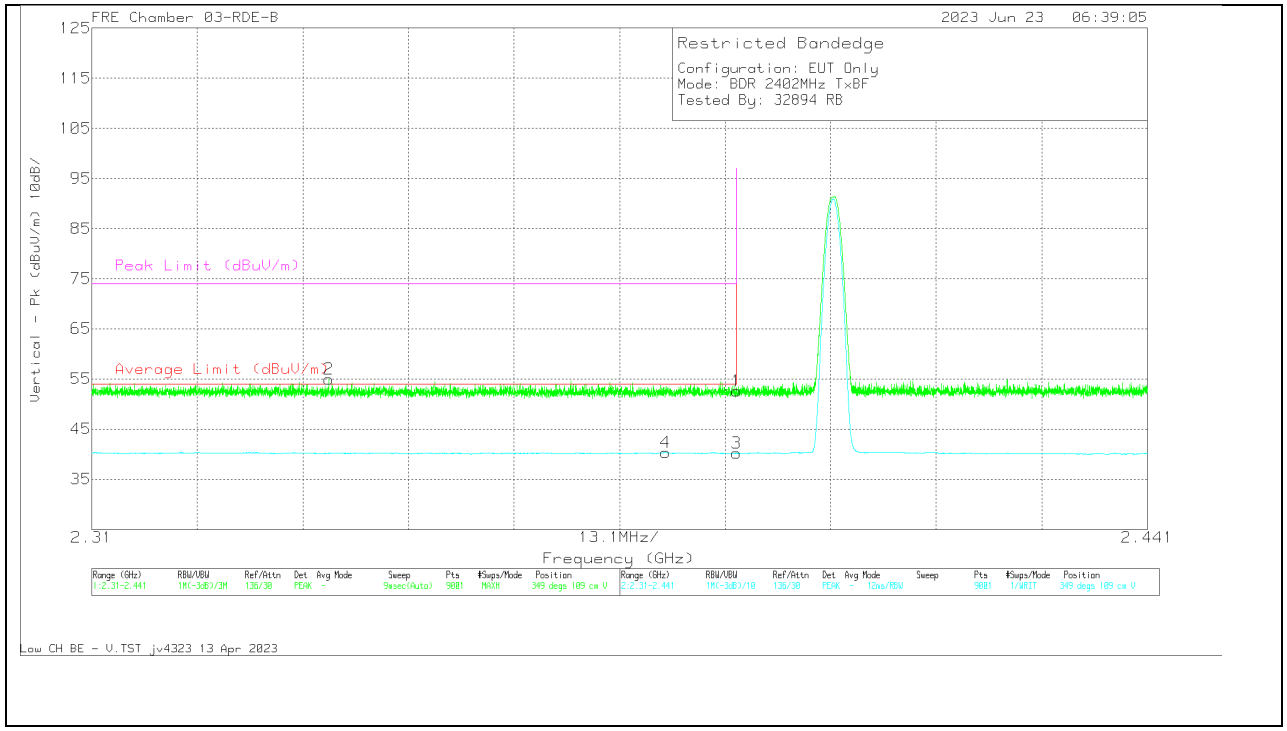
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.55	Pk	32.2	-41.2	52.55	-	-	74	-21.45	349	109	V
2	* 2.339418	64.12	Pk	32.1	-41.26	54.96	-	-	74	-19.04	349	109	V
3	* 2.39	49.17	VA1T	32.2	-41.2	40.17	54	-13.83	-	-	349	109	V
4	* 2.381193	49.37	VA1T	32.1	-41.14	40.33	54	-13.67	-	-	349	109	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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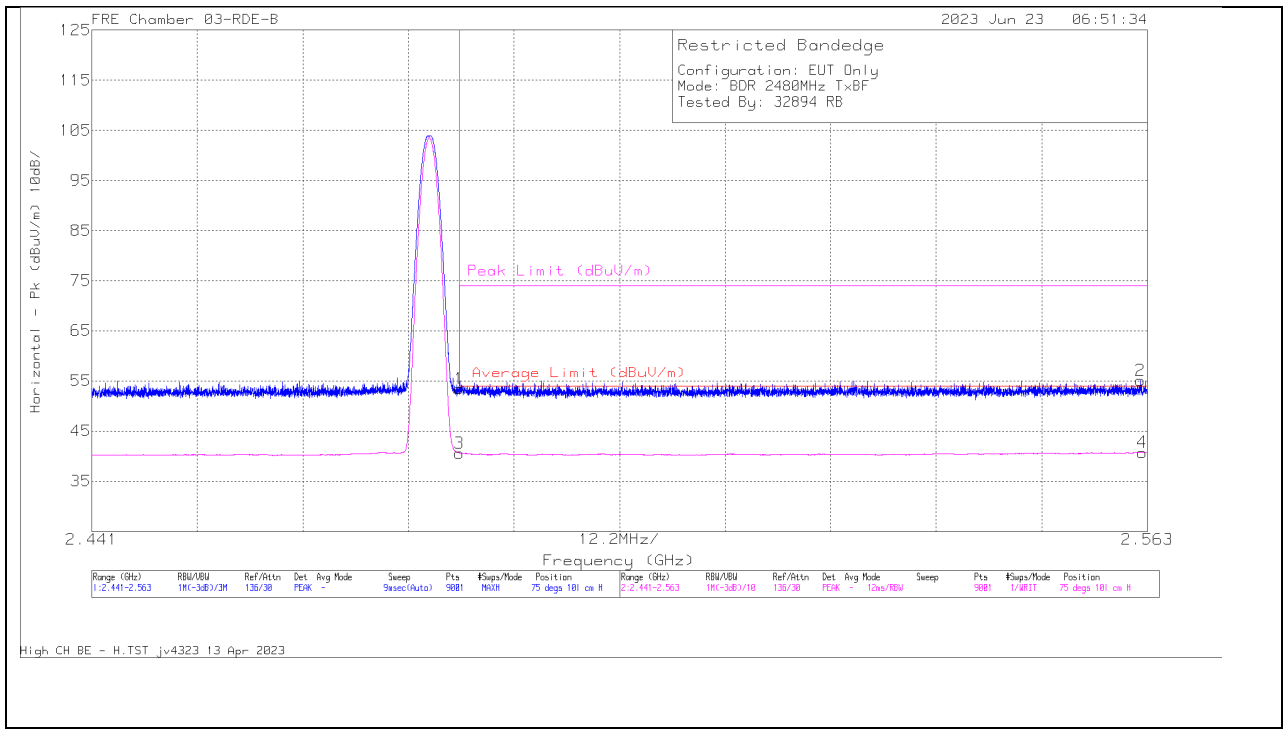
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.38	Pk	32.2	-41.15	53.43	-	-	74	-20.57	75	101	H
3	* 2.4835	49.59	VA1T	32.2	-41.15	40.64	54	-13.36	-	-	75	101	H
2	2.562204	63.63	Pk	32.3	-40.8	55.13	-	-	74	-18.87	75	101	H
4	2.562435	49.27	VA1T	32.3	-40.8	40.77	54	-13.23	-	-	75	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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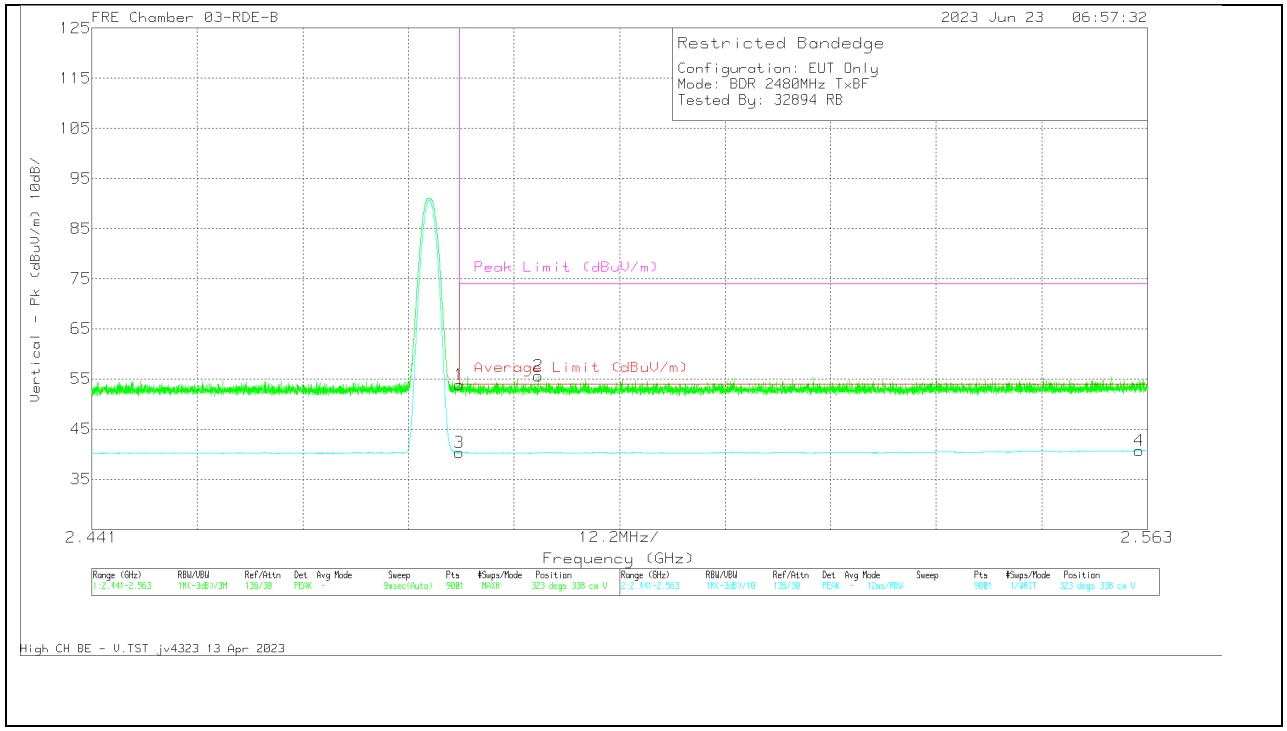
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.75	Pk	32.2	-41.15	53.8	-	-	74	-20.2	323	338	V
2	* 2.492581	64.49	Pk	32.2	-41.08	55.61	-	-	74	-18.39	323	338	V
3	* 2.4835	49.23	VA1T	32.2	-41.15	40.28	54	-13.72	-	-	323	338	V
4	2.562042	49.23	VA1T	32.3	-40.8	40.73	54	-13.27	-	-	323	338	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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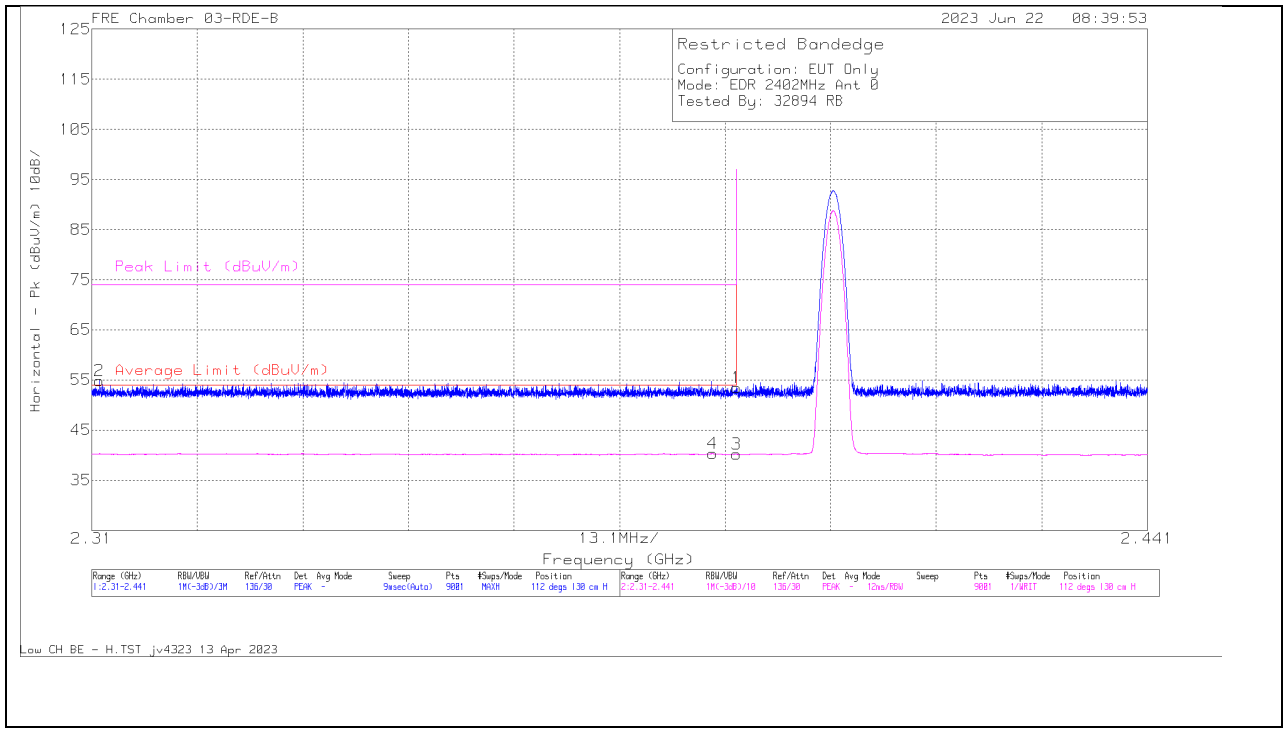
10.1.7. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 4

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.47	Pk	32.2	-41.2	53.47	-	-	74	-20.53	112	130	H
2	* 2.310917	63.92	Pk	32	-41.1	54.82	-	-	74	-19.18	112	130	H
3	* 2.39	49.19	VA1T	32.2	-41.2	40.19	54	-13.81	-	-	112	130	H
4	* 2.387045	49.21	VA1T	32.2	-41.1	40.31	54	-13.69	-	-	112	130	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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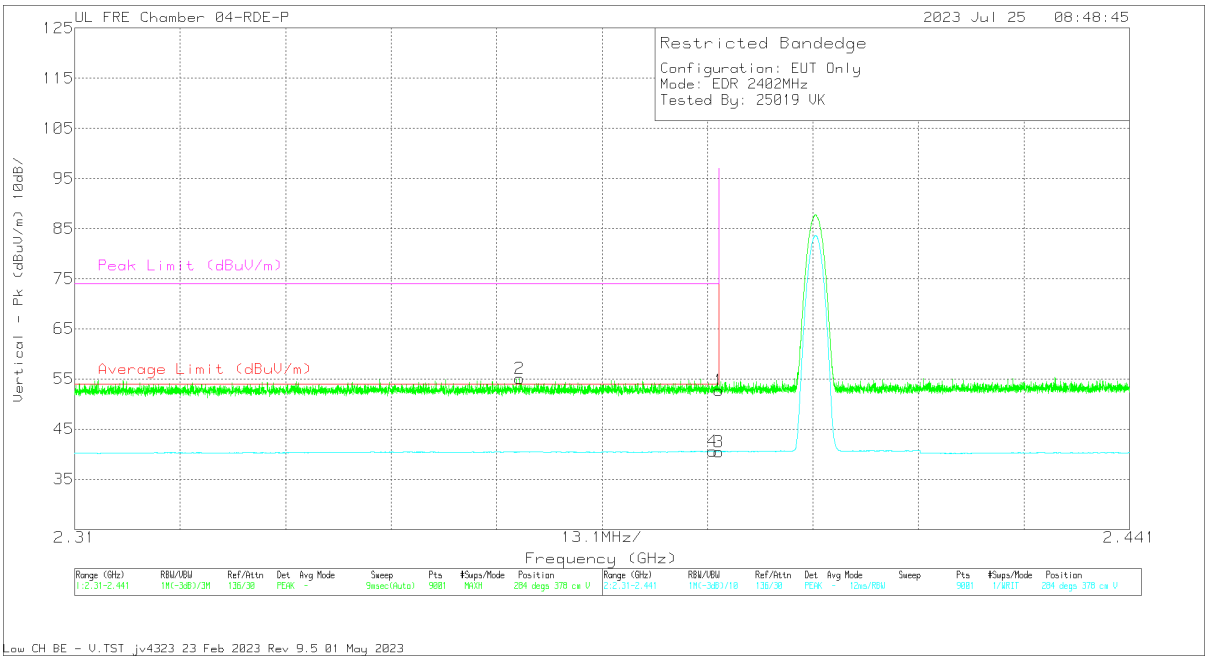
VERTICAL RESULT



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	2.365269	63.37	Pk	31.5	-39.79	55.08	-	-	74	-18.92	284	378	V
4	2.389243	48.64	VA1T	31.7	-39.77	40.57	54	-13.43	-	-	284	378	V
1	2.39	60.84	Pk	31.7	-39.79	52.75	-	-	74	-21.25	284	378	V
3	2.39	48.6	VA1T	31.7	-39.79	40.51	54	-13.49	-	-	284	378	V

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

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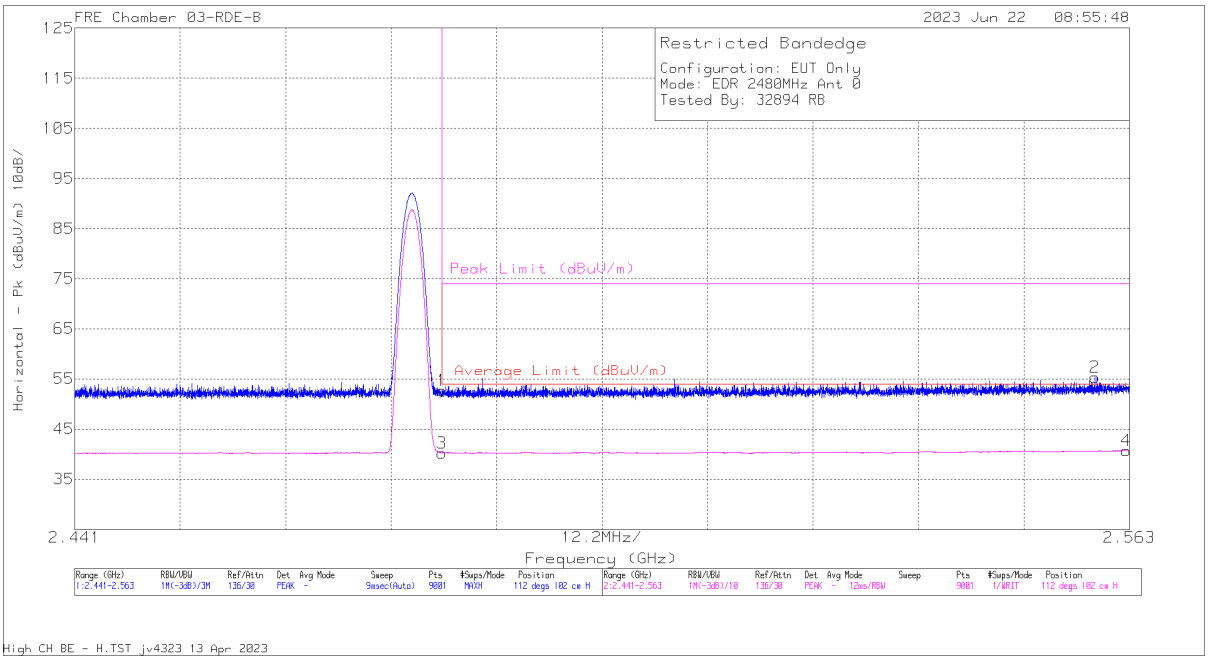
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.62	Pk	32.2	-41.15	52.67	-	-	74	-21.33	112	102	H
3	* 2.4835	49.21	VA1T	32.2	-41.15	40.26	54	-13.74	-	-	112	102	H
2	2.559019	63.91	Pk	32.3	-40.9	55.31	-	-	74	-18.69	112	102	H
4	2.562638	49.24	VA1T	32.3	-40.8	40.74	54	-13.26	-	-	112	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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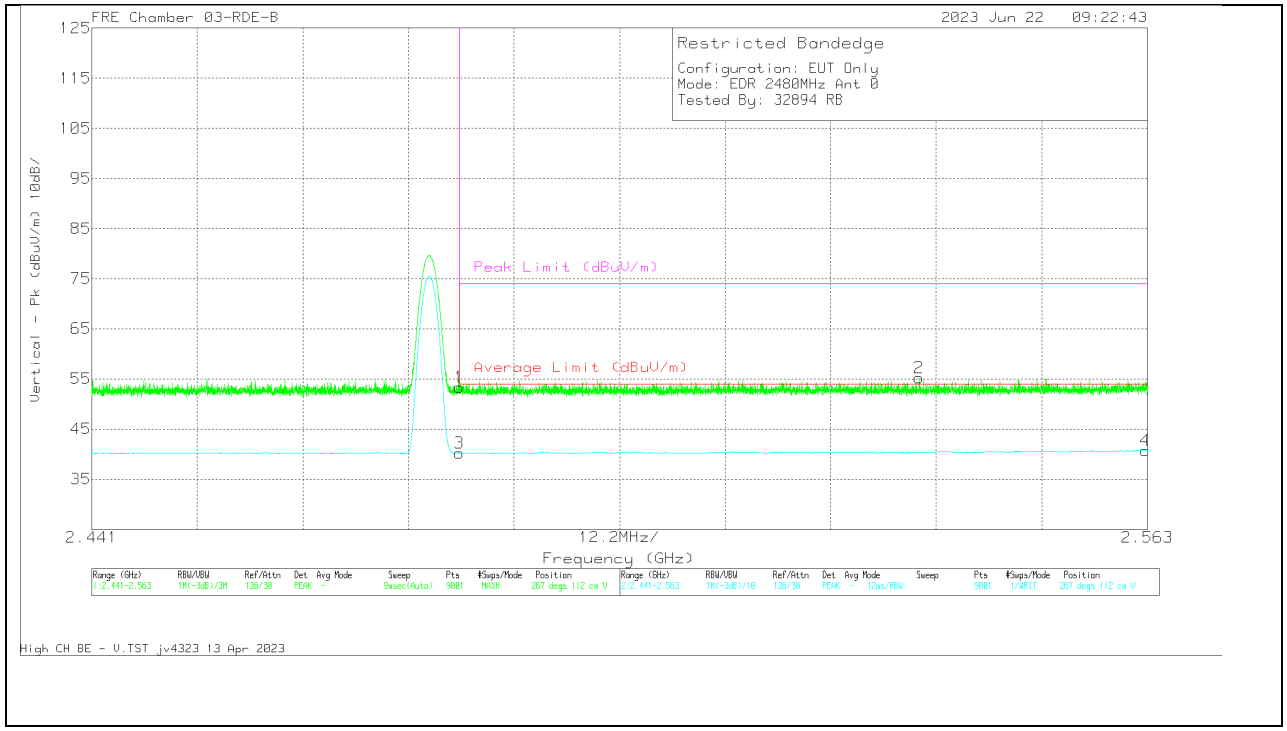
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	62.28	Pk	32.2	-41.15	53.33	-	-	74	-20.67	267	112	V
3	* 2.4835	49.14	VA1T	32.2	-41.15	40.19	54	-13.81	-	-	267	112	V
2	2.536624	63.97	Pk	32.3	-41	55.27	-	-	74	-18.73	267	112	V
4	2.562774	49.25	VA1T	32.3	-40.8	40.75	54	-13.25	-	-	267	112	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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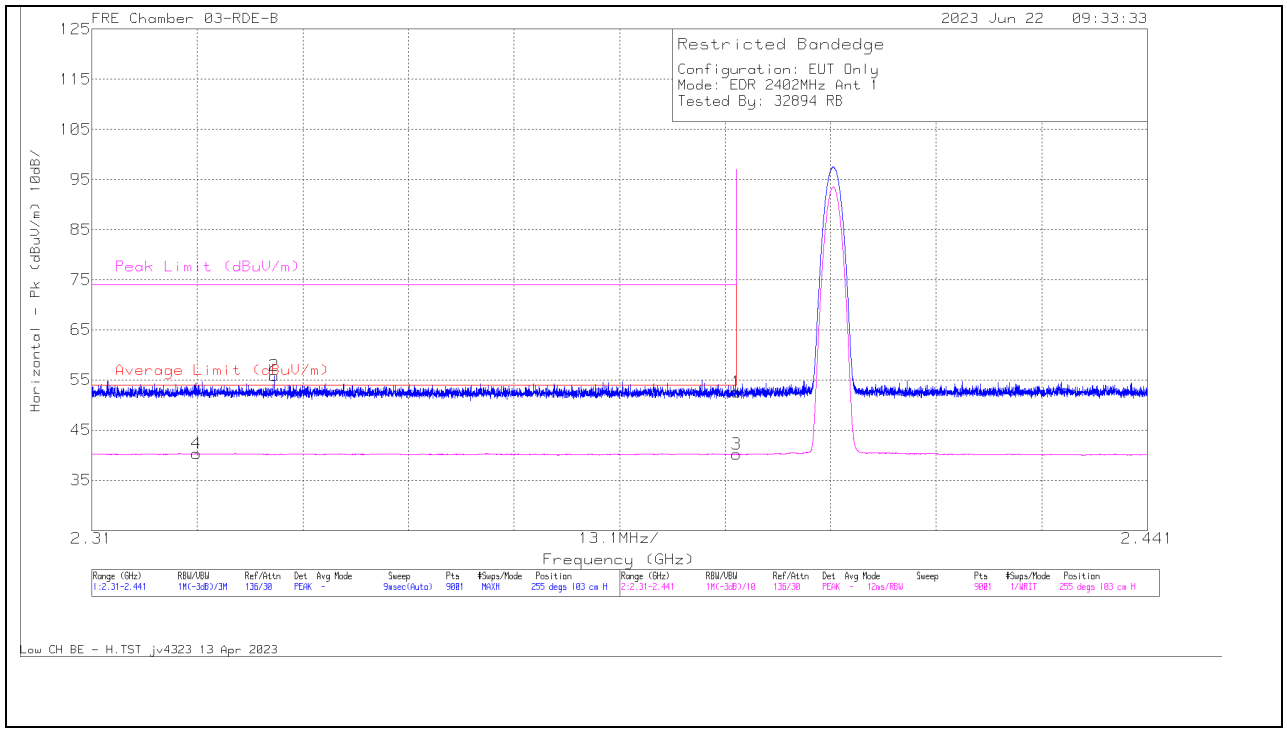
ANT 3

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.61	Pk	32.2	-41.2	52.61	-	-	74	-21.39	255	103	H
2	* 2.332635	65.03	Pk	32.1	-41.3	55.83	-	-	74	-18.17	255	103	H
3	* 2.39	49.17	VA1T	32.2	-41.2	40.17	54	-13.83	-	-	255	103	H
4	* 2.322999	49.32	VA1T	32.1	-41.1	40.32	54	-13.68	-	-	255	103	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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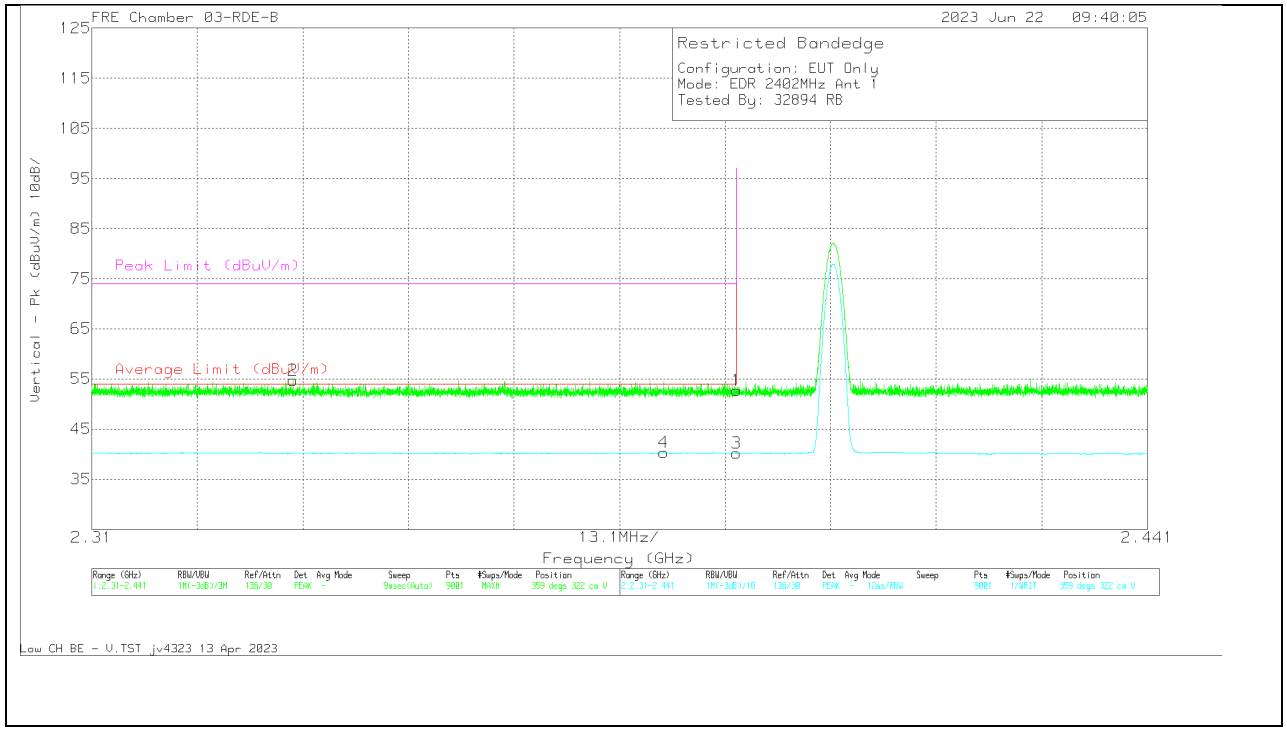
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.72	Pk	32.2	-41.2	52.72	-	-	74	-21.28	359	322	V
2	* 2.334993	63.86	Pk	32.1	-41.2	54.76	-	-	74	-19.24	359	322	V
3	* 2.39	49.16	VA1T	32.2	-41.2	40.16	54	-13.84	-	-	359	322	V
4	* 2.380975	49.32	VA1T	32.1	-41.1	40.32	54	-13.68	-	-	359	322	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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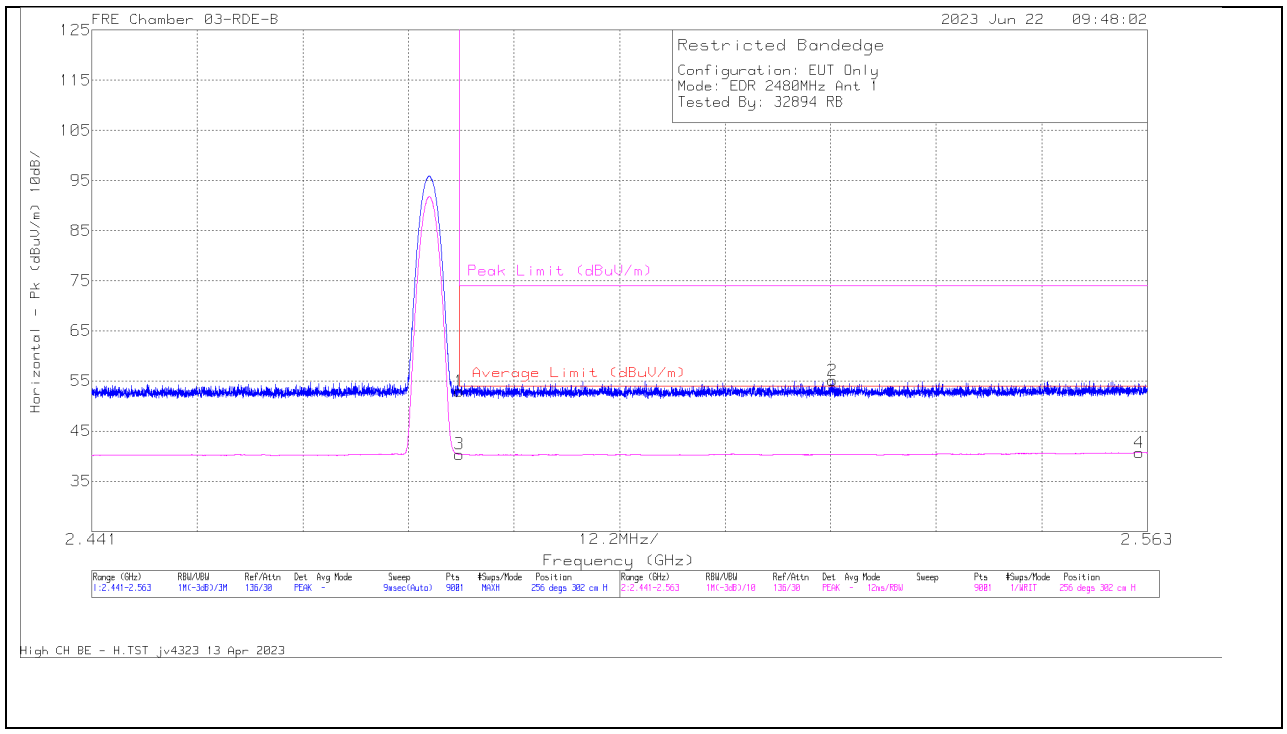
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.96	Pk	32.2	-41.15	53.01	-	-	74	-20.99	256	302	H
3	* 2.4835	49.35	VA1T	32.2	-41.15	40.4	54	-13.6	-	-	256	302	H
2	2.526593	63.82	Pk	32.3	-41	55.12	-	-	74	-18.88	256	302	H
4	2.562082	49.24	VA1T	32.3	-40.8	40.74	54	-13.26	-	-	256	302	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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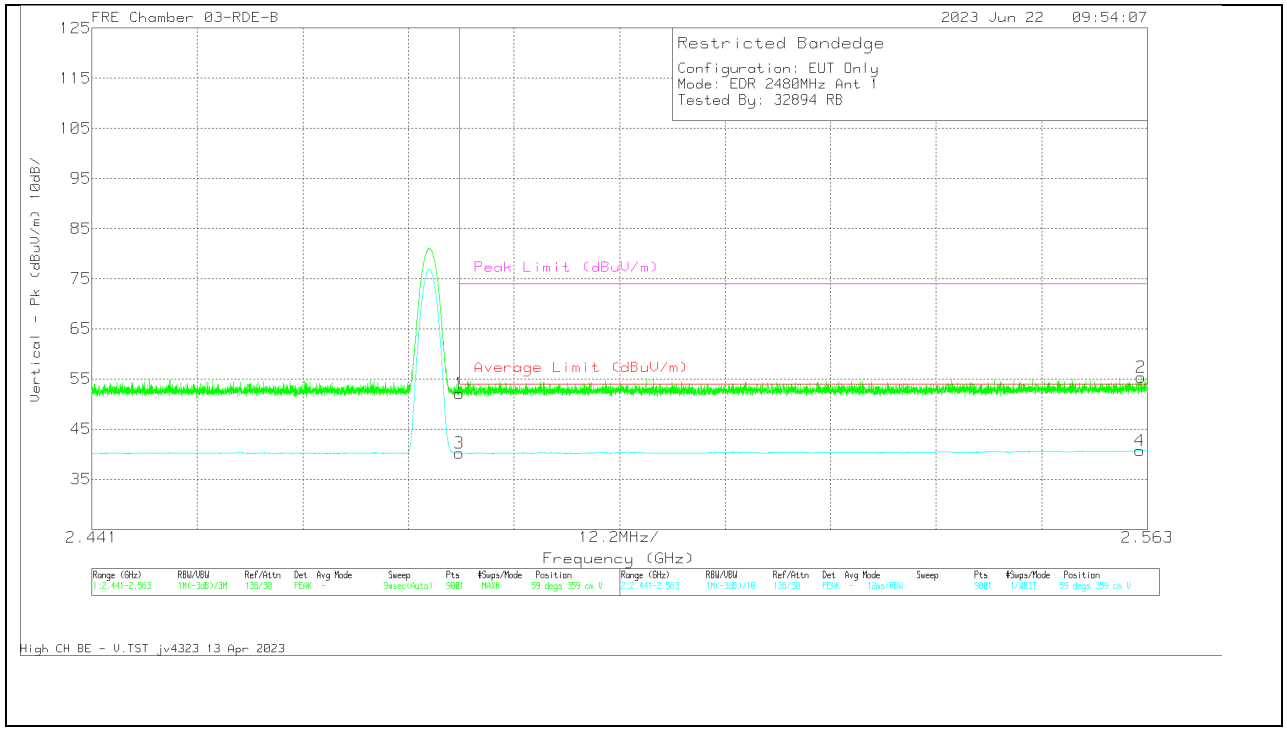
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.1	Pk	32.2	-41.15	52.15	-	-	74	-21.85	59	359	V
3	* 2.4835	49.17	VA1T	32.2	-41.15	40.22	54	-13.78	-	-	59	359	V
4	2.562109	49.26	VA1T	32.3	-40.8	40.76	54	-13.24	-	-	59	359	V
2	2.562258	63.85	Pk	32.3	-40.8	55.35	-	-	74	-18.65	59	359	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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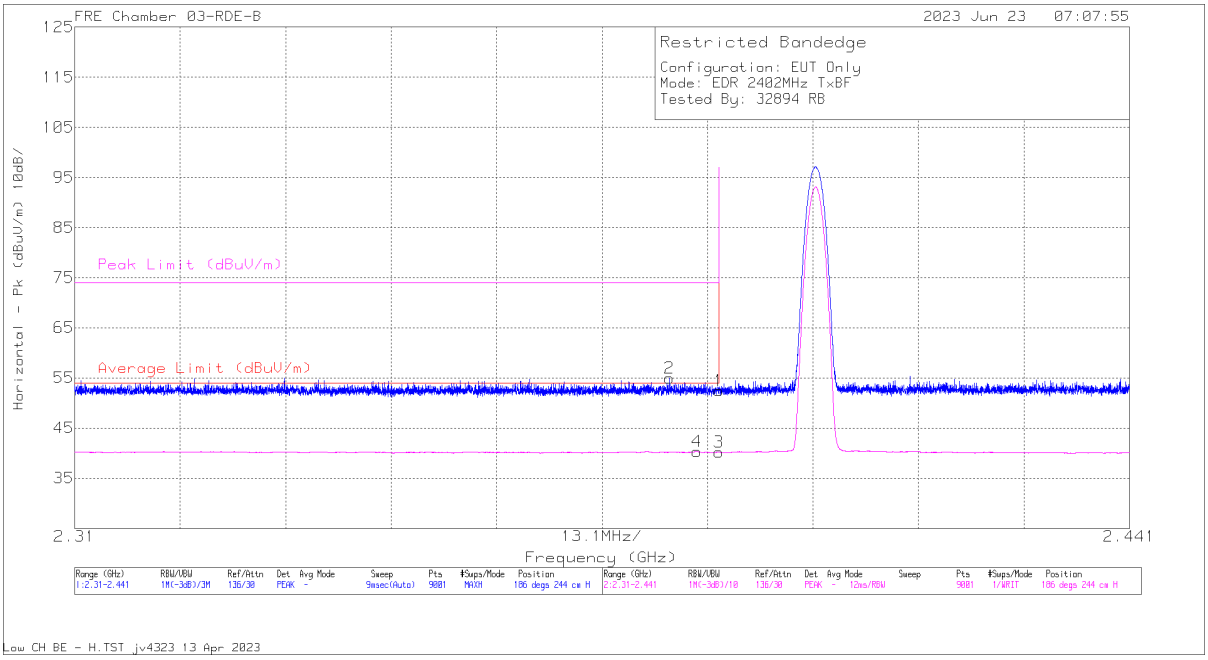
10.1.8. LOW POWER BASIC DATA RATE TXBF 8PSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.52	Pk	32.2	-41.2	52.52	-	-	74	-21.48	186	244	H
2	* 2.383886	64.03	Pk	32.2	-41.2	55.03	-	-	74	-18.97	186	244	H
3	* 2.39	49.17	VA1T	32.2	-41.2	40.17	54	-13.83	-	-	186	244	H
4	* 2.387321	49.25	VA1T	32.2	-41.13	40.32	54	-13.68	-	-	186	244	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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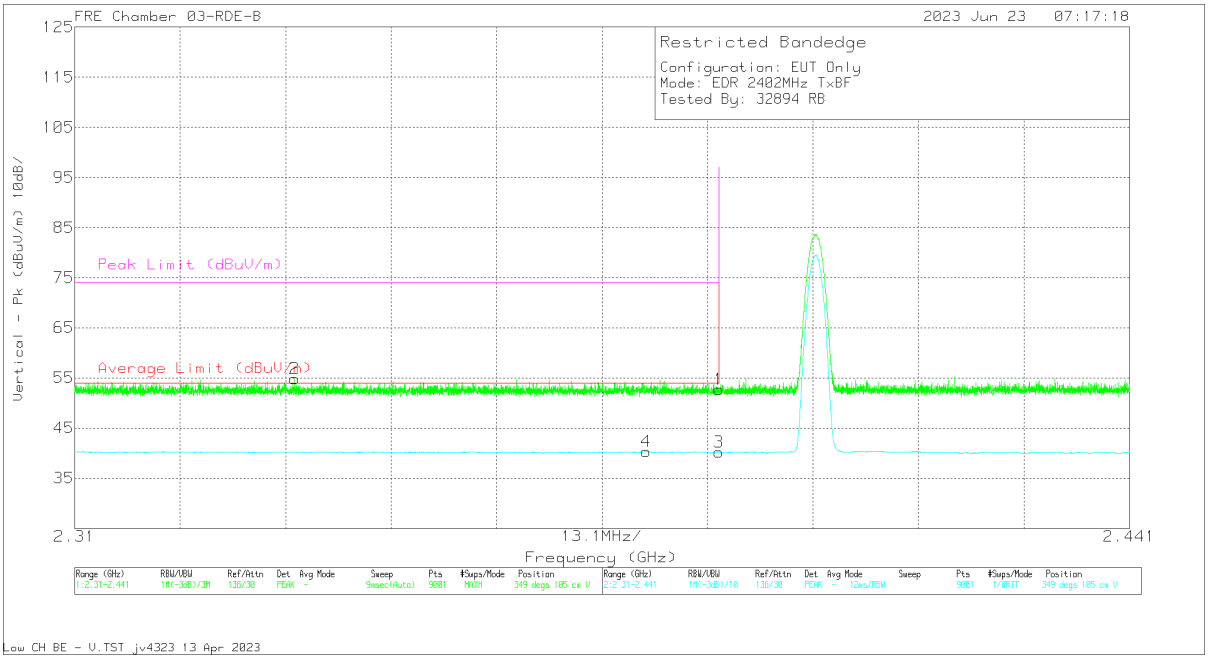
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	32.2	-41.2	52.66	-	-	74	-21.34	349	105	V
2	* 2.337336	63.94	Pk	32.1	-41.23	54.81	-	-	74	-19.19	349	105	V
3	* 2.39	49.19	VA1T	32.2	-41.2	40.19	54	-13.81	-	-	349	105	V
4	* 2.381019	49.32	VA1T	32.1	-41.1	40.32	54	-13.68	-	-	349	105	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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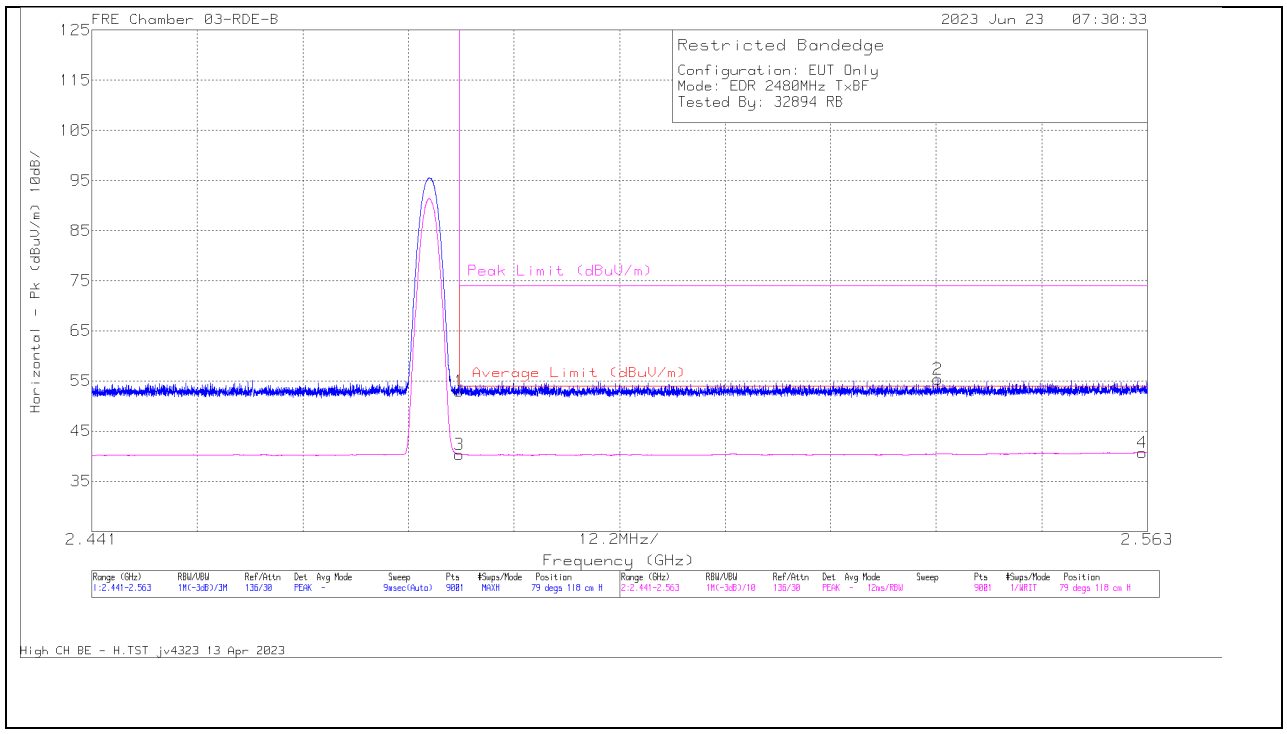
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.92	Pk	32.2	-41.15	52.97	-	-	74	-21.03	79	118	H
3	* 2.4835	49.31	VA1T	32.2	-41.15	40.36	54	-13.64	-	-	79	118	H
2	2.538807	63.93	Pk	32.3	-40.92	55.31	-	-	74	-18.69	79	118	H
4	2.562421	49.25	VA1T	32.3	-40.8	40.75	54	-13.25	-	-	79	118	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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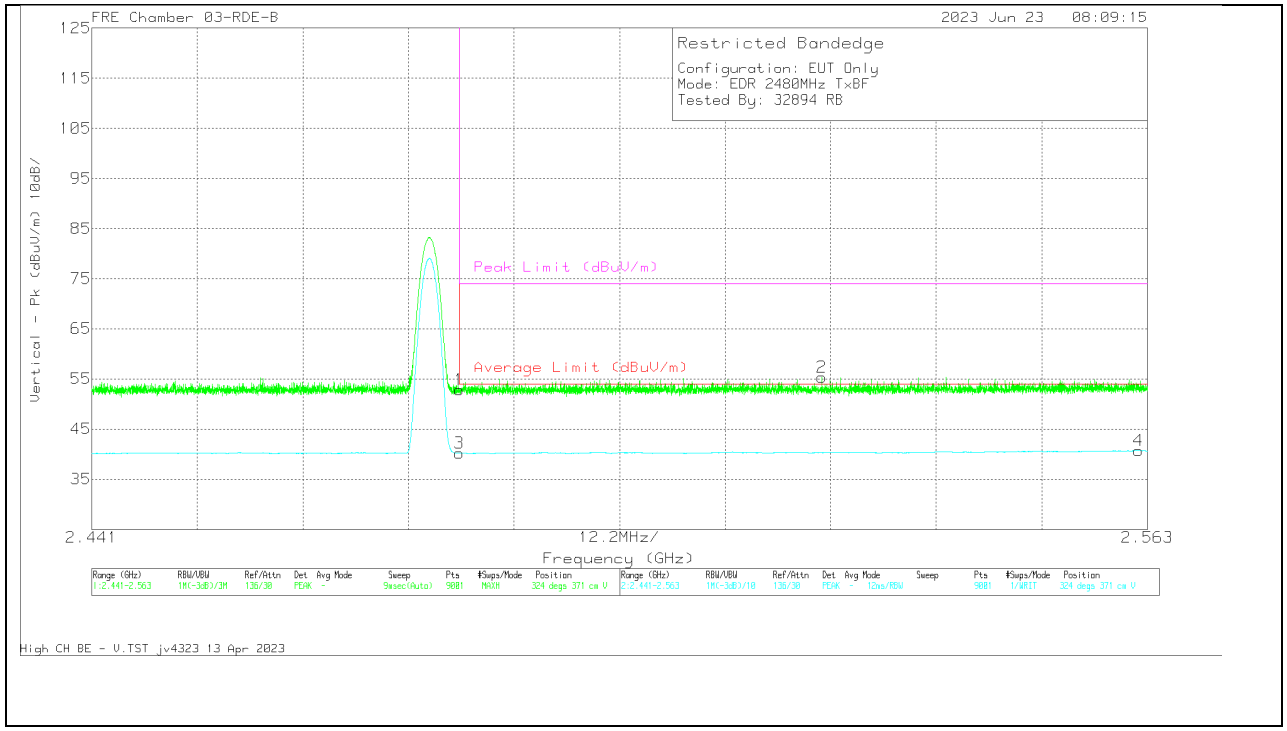
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	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	61.79	Pk	32.2	-41.15	52.84	-	-	74	-21.16	324	371	V
3	* 2.4835	49.15	VA1T	32.2	-41.15	40.2	54	-13.8	-	-	324	371	V
2	2.525373	64.01	Pk	32.3	-41	55.31	-	-	74	-18.69	324	371	V
4	2.56196	49.22	VA1T	32.3	-40.8	40.72	54	-13.28	-	-	324	371	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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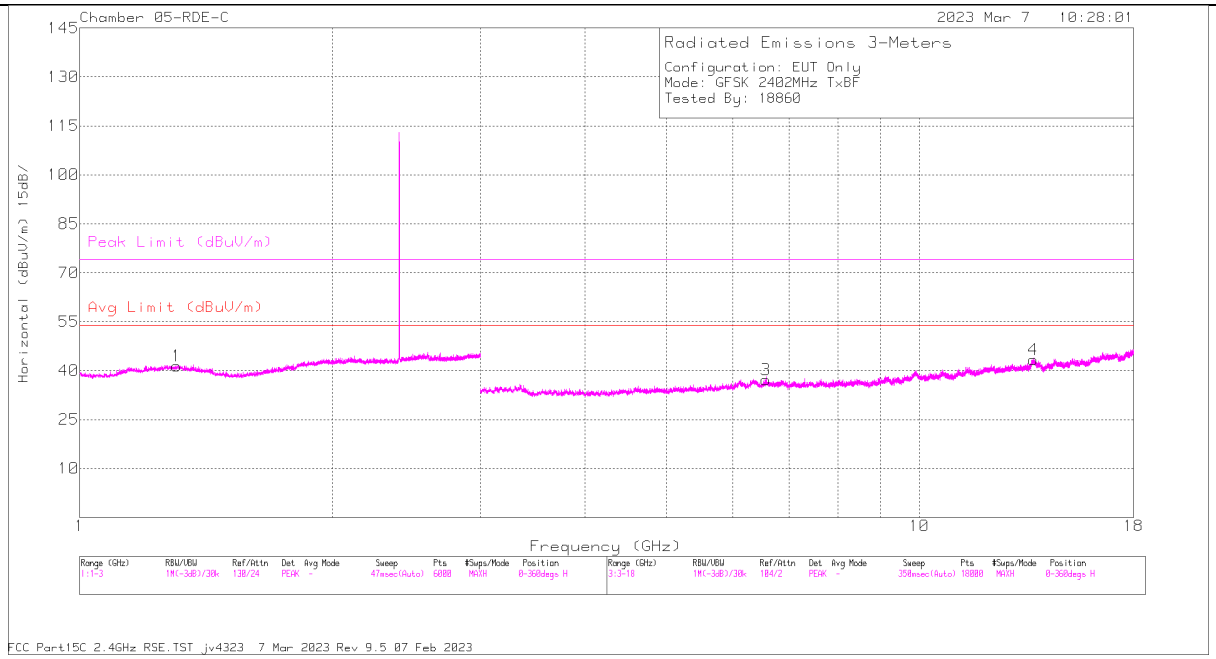
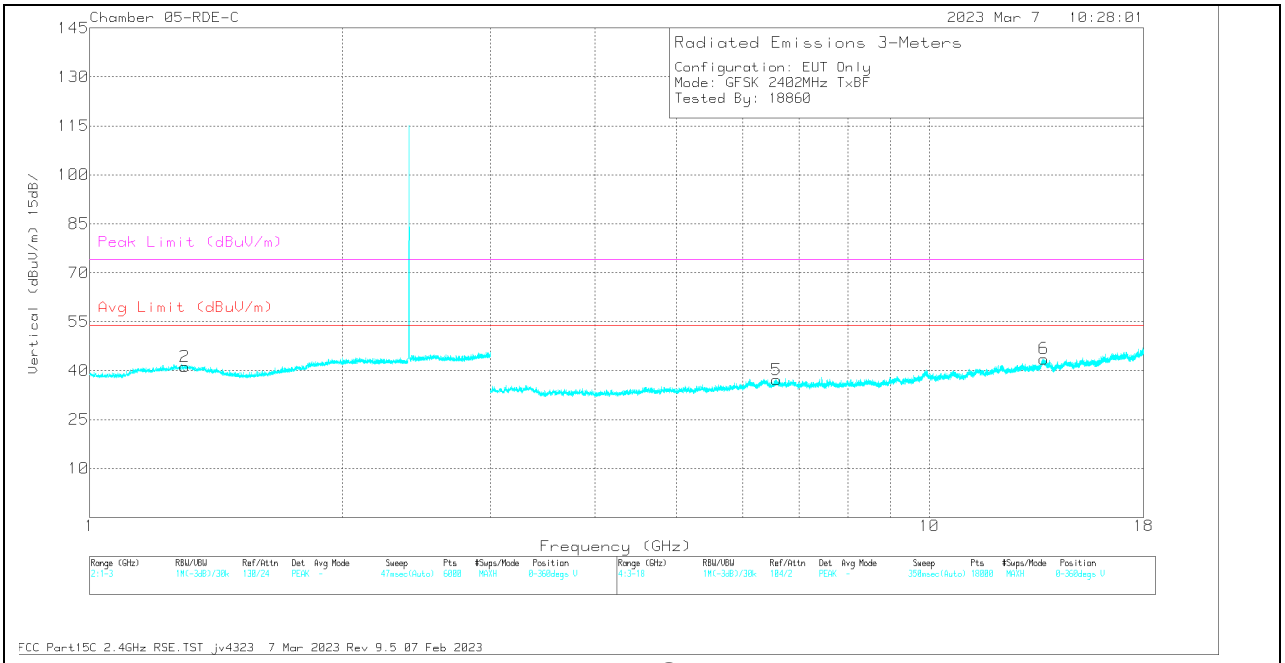
10.1.9. HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	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
2	1.297145	62.36	PKFH	29.9	-41	51.26	-	-	74	-22.74	360	199	V
	1.29862	50.42	VA1T	29.8	-40.99	39.23	54	-14.77	-	-	360	199	V
1	*1.303452	62.23	PKFH	29.8	-40.97	51.06	-	-	74	-22.94	360	199	H
	*1.303318	50.82	VA1T	29.8	-40.97	39.65	54	-14.35	-	-	360	199	H
3	6.566962	57.24	PKFH	36.1	-45.99	47.35	-	-	74	-26.65	360	101	H
	6.569005	45.27	VA1T	36.1	-45.96	35.41	-	-	-	-	360	101	H
5	6.580028	57.16	PKFH	36.2	-45.86	47.5	-	-	74	-26.5	360	101	V
	6.579633	44.9	VA1T	36.2	-45.86	35.24	-	-	-	-	360	101	V
4	13.682405	56.97	PKFH	39.1	-43.39	52.68	-	-	74	-21.32	360	199	H
	13.68213	45.63	VA1T	39.1	-43.4	41.33	-	-	-	-	360	199	H
6	13.697557	57.3	PKFH	39.1	-43.37	53.03	-	-	74	-20.97	360	198	V
	13.696207	45.67	VA1T	39.1	-43.34	41.43	-	-	-	-	360	198	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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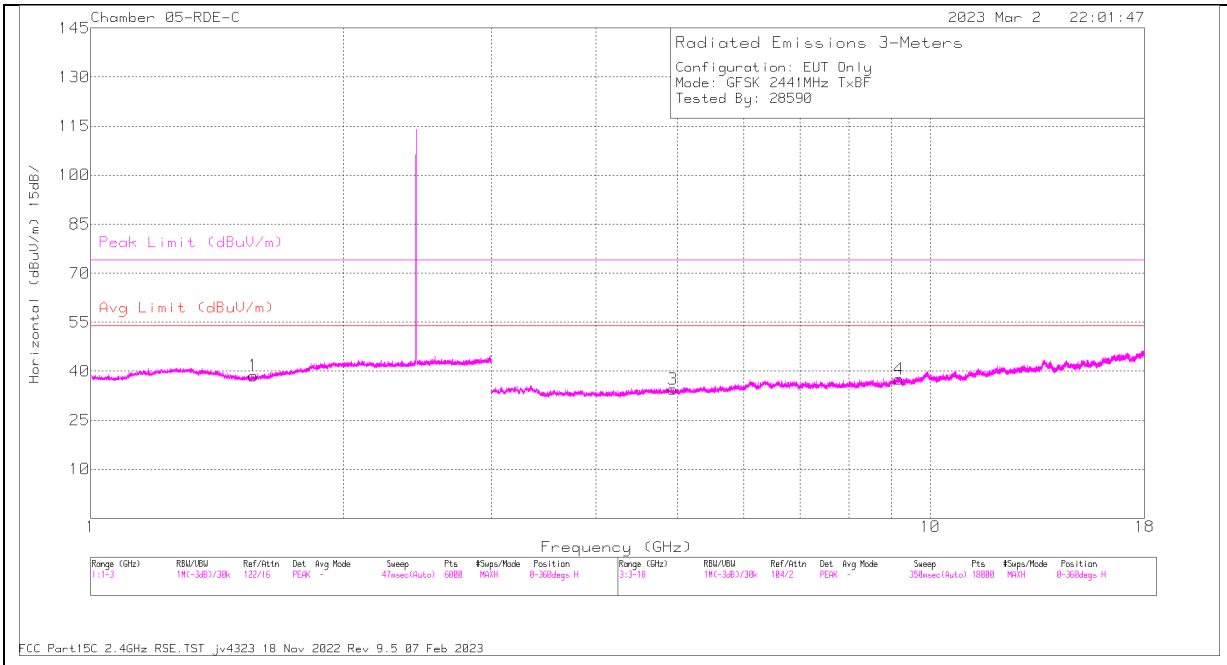
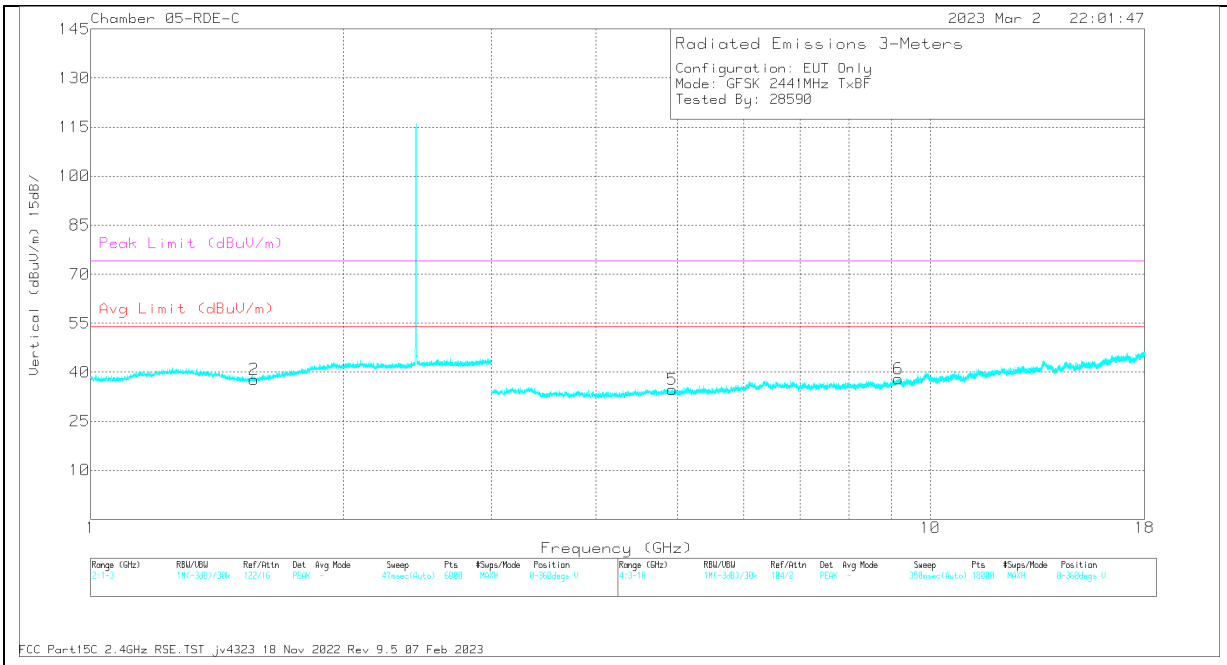
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	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	* 1.565241	59.12	PKFH	27.8	-40.66	46.26	-	-	74	-27.74	2	101	H
	* 1.563101	46.04	VA1T	27.8	-40.66	33.18	54	-20.82	-	-	2	101	H
2	* 1.565035	59.93	PKFH	27.8	-40.66	47.07	-	-	74	-26.93	2	101	V
	* 1.563927	45.89	VA1T	27.8	-40.66	33.03	54	-20.97	-	-	2	101	V
3	* 4.939883	57.25	PKFH	34.2	-48.88	42.57	-	-	74	-31.43	2	198	H
	* 4.940506	43.96	VA1T	34.2	-48.9	29.26	54	-24.74	-	-	2	198	H
4	* 9.175285	56.05	PKFH	36.3	-45.58	46.77	-	-	74	-27.23	2	198	H
	* 9.17694	41.78	VA1T	36.3	-45.55	32.53	54	-21.47	-	-	2	198	H
5	* 4.926203	58.13	PKFH	34.3	-49.02	43.41	-	-	74	-30.59	2	198	V
	* 4.925118	44.18	VA1T	34.2	-49.07	29.31	54	-24.69	-	-	2	198	V
6	* 9.16967	55.41	PKFH	36.3	-45.56	46.15	-	-	74	-27.85	2	101	V
	* 9.166884	41.79	VA1T	36.3	-45.52	32.57	54	-21.43	-	-	2	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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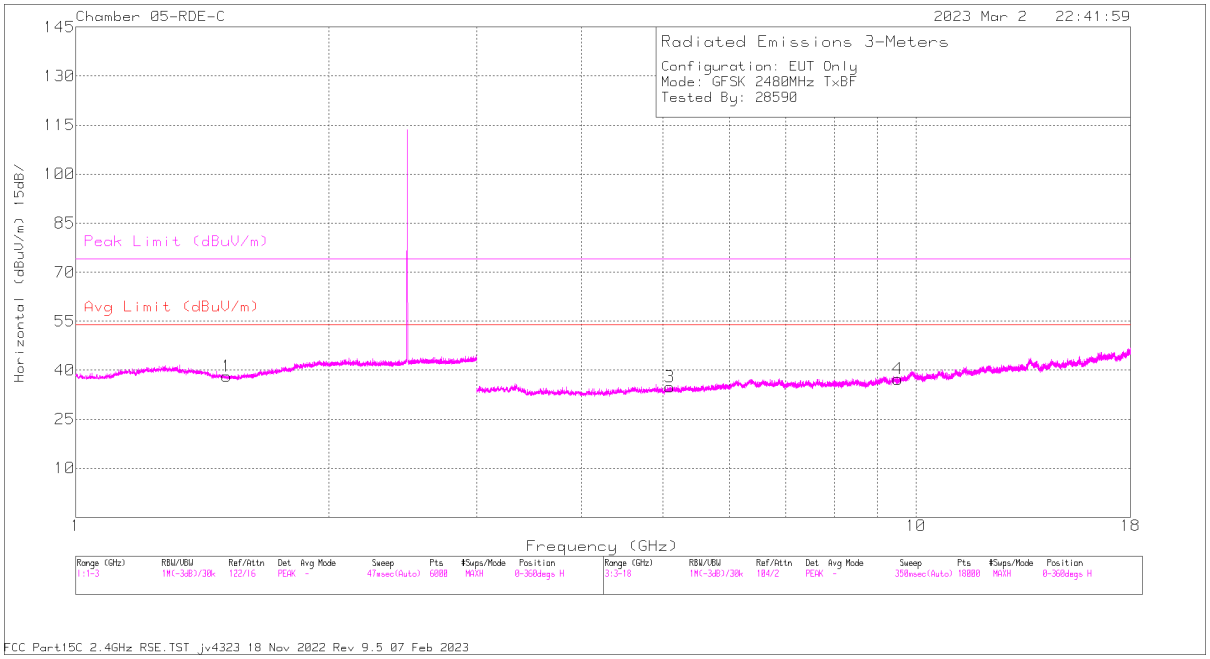
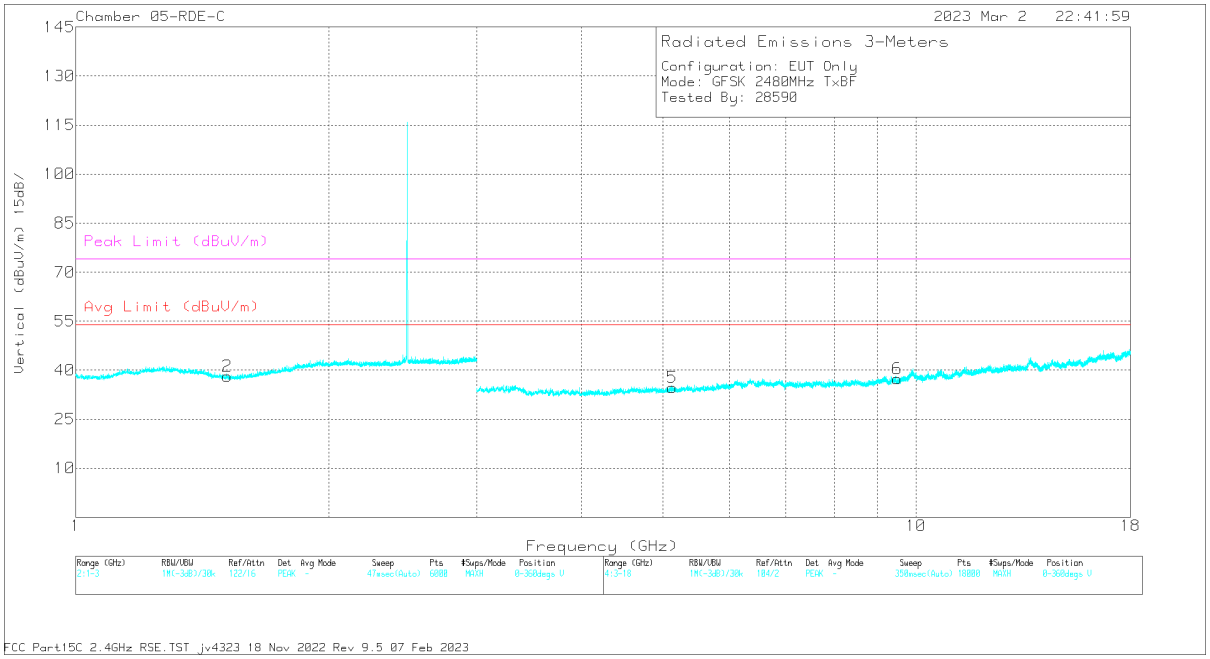
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	80707 ACF (dB)	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	* 1.511507	60.08	PKFH	27.8	-40.57	47.31	-	-	74	-26.69	360	101	H
	* 1.511593	46.04	VA1T	27.8	-40.57	33.27	54	-20.73	-	-	360	101	H
2	* 1.514822	59.45	PKFH	27.8	-40.57	46.68	-	-	74	-27.32	360	198	V
	* 1.513755	46	VA1T	27.8	-40.57	33.23	54	-20.77	-	-	360	198	V
3	* 5.097665	57.62	PKFH	34.4	-48.98	43.04	-	-	74	-30.96	360	101	H
	* 5.095186	44.35	VA1T	34.4	-49.09	29.66	54	-24.34	-	-	360	101	H
5	* 5.129585	58.36	PKFH	34.4	-49.13	43.63	-	-	74	-30.37	360	101	V
	* 5.127025	44.37	VA1T	34.4	-49.02	29.75	54	-24.25	-	-	360	101	V
6	9.506979	41.22	VA1T	36.8	-46.33	31.69	-	-	-	-	360	101	V
	9.509293	54.75	PKFH	36.8	-46.27	45.28	-	-	74	-28.72	360	101	V
4	9.523928	41.35	VA1T	36.8	-46.33	31.82	-	-	-	-	360	101	H
	9.524933	55.09	PKFH	36.8	-46.34	45.55	-	-	74	-28.45	360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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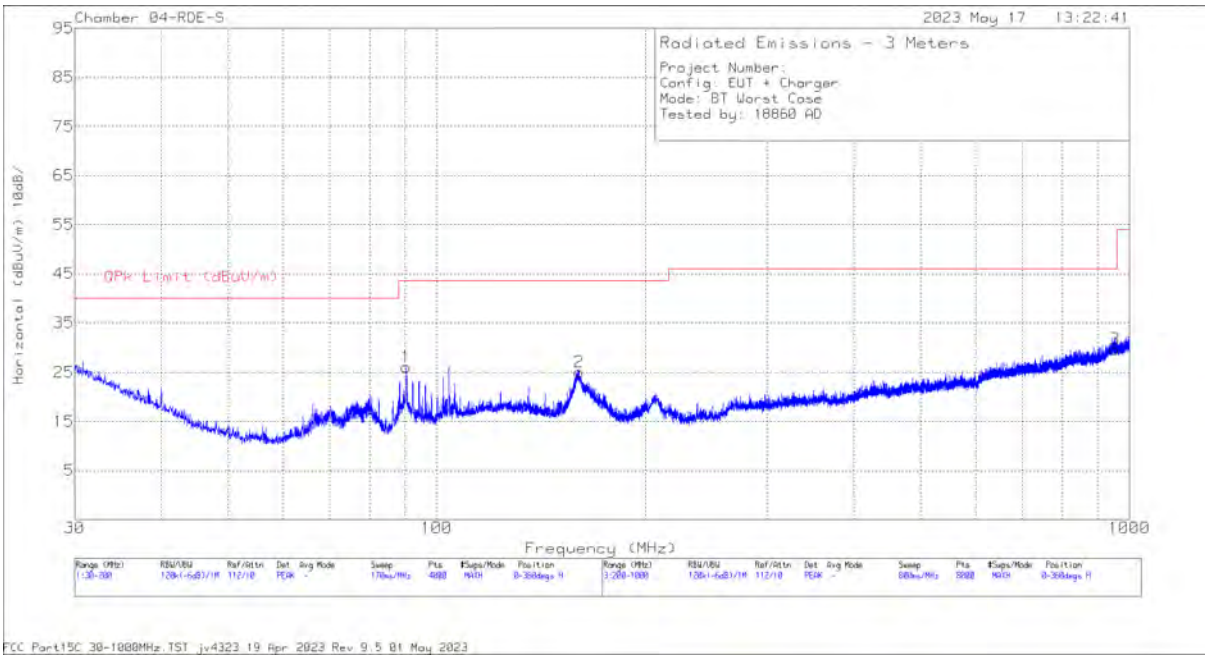
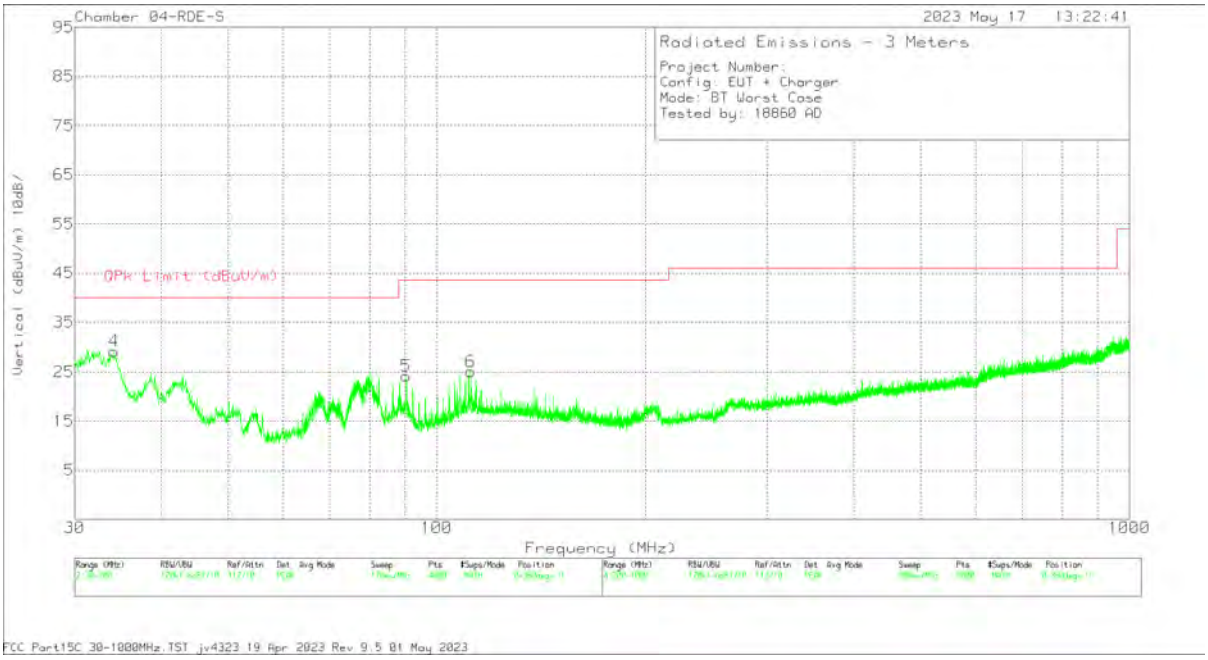
10.2. WORST CASE BELOW 1 GHZ

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	81560 ACF (dB) 10mH	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	34.2086	37.19	Pk	24.3	-32.3	29.19	40	-10.81	0-360	100	V
	34.2078	30.35	Qp	24.3	-32.3	22.35	40	-17.65	207	127	V
1	90.3231	43.89	Pk	14.1	-31.9	26.09	43.52	-17.43	0-360	300	H
5	90.3656	41.99	Pk	14.1	-31.9	24.19	43.52	-19.33	0-360	100	V
6	111.919	37.91	Pk	19	-31.8	25.11	43.52	-18.41	0-360	100	V
2	160.339	38.48	Pk	18.2	-31.6	25.08	43.52	-18.44	0-360	99	H
3	953.098	29.91	Pk	28.4	-28.7	29.61	46.02	-16.41	0-360	100	H

Pk - Peak detector
Qp - Quasi-Peak detector

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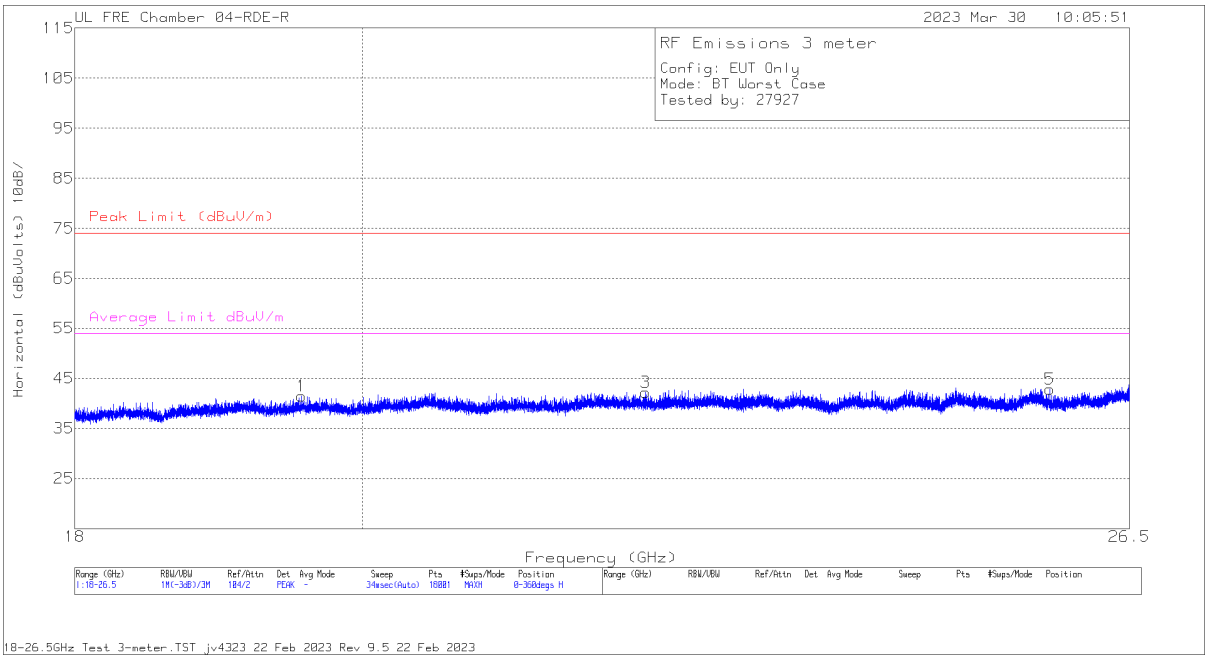
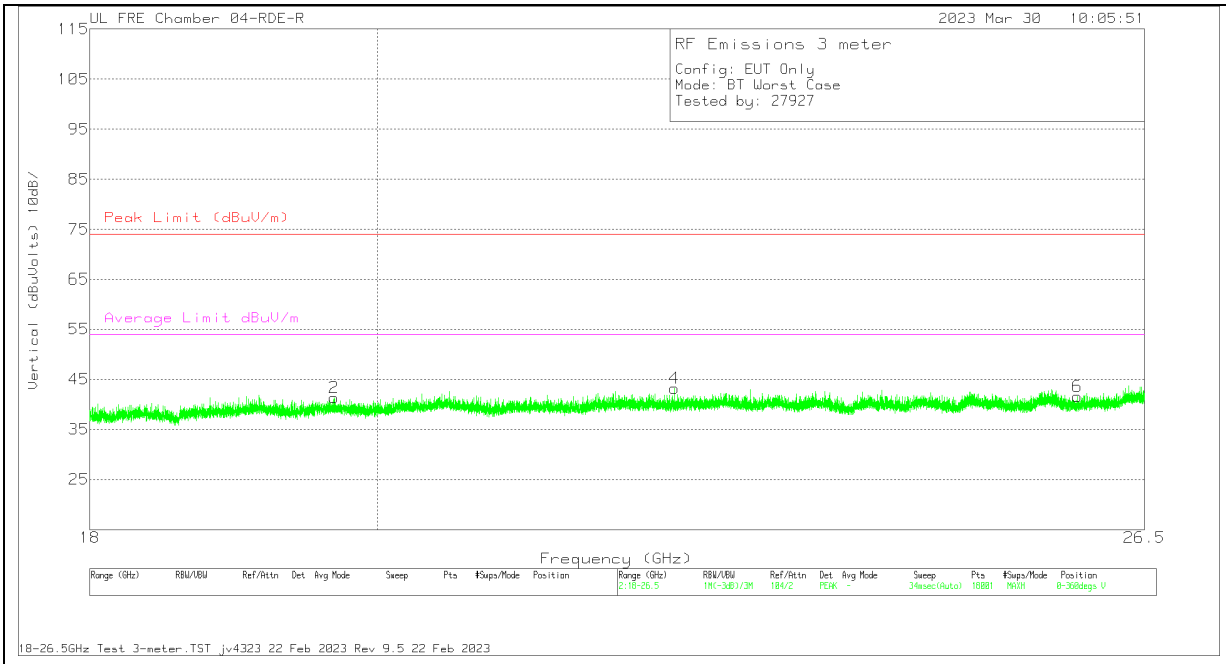
10.3. WORST CASE 18-26 GHZ

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



HORIZONTAL



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18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	172353 ACF (dB) - 3mH	171583 Amp Assembly (dB)	Cables (dB)	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	19.561638	57.93	Pk	33	-65.2	15.7	41.43	74	-32.57	54	-12.57	0-360	99	H
2	19.689138	57.98	Pk	33	-65.3	15.7	41.38	74	-32.62	54	-12.62	0-360	99	V
3	22.190498	57.23	Pk	33.8	-65.5	16.7	42.23	74	-31.77	54	-11.77	0-360	99	H
4	22.303831	58.27	Pk	33.8	-65.6	16.7	43.17	74	-30.83	54	-10.83	0-360	99	V
5	25.73783	53.5	Pk	34.6	-63.3	18	42.8	74	-31.2	54	-11.2	0-360	99	H
6	25.854941	51.86	Pk	34.7	-63.1	18.1	41.56	74	-32.44	54	-12.44	0-360	99	V

Pk - Peak detector

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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

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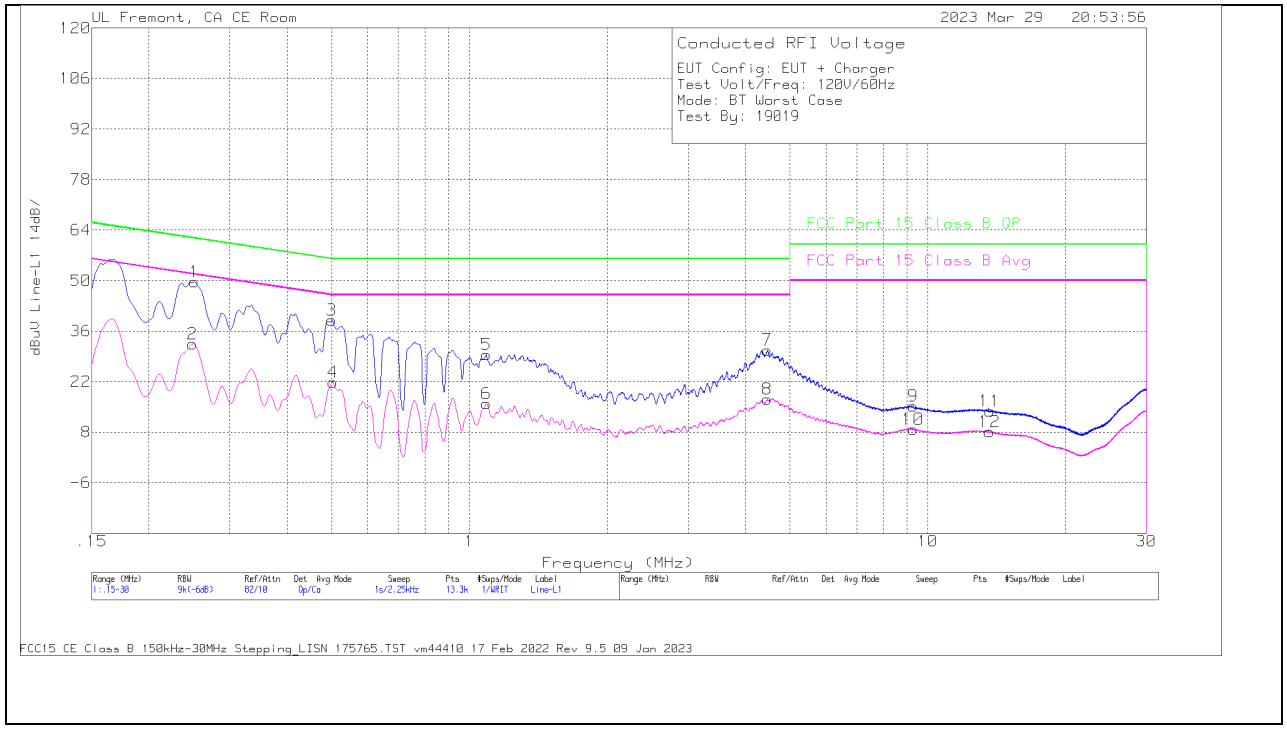
11.1. AC Power Line With AC/DC Adapter

LINE 1 RESULTS



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	.249	23.19	Ca	0	0	9.3	32.49	-	-	51.79	-19.3
4	.5033	12.37	Ca	0	.1	9.3	21.77	-	-	46	-24.23
6	1.0905	6.52	Ca	0	.1	9.3	15.92	-	-	46	-30.08
8	4.4678	7.71	Ca	0	.1	9.3	17.11	-	-	46	-28.89
10	9.285	-.62	Ca	0	.2	9.3	8.88	-	-	50	-41.12
12	13.632	-1.53	Ca	.1	.2	9.3	8.07	-	-	50	-41.93
1	.2513	40.41	Qp	0	0	9.3	49.71	61.72	-12.01	-	-
3	.501	29.6	Qp	0	.1	9.3	39	56	-17	-	-
5	1.0883	20.02	Qp	0	.1	9.3	29.42	56	-26.58	-	-
7	4.4655	21.39	Qp	0	.1	9.3	30.79	56	-25.21	-	-
9	9.285	5.68	Qp	0	.2	9.3	15.18	60	-44.82	-	-
11	13.6388	4.31	Qp	.1	.2	9.3	13.91	60	-46.09	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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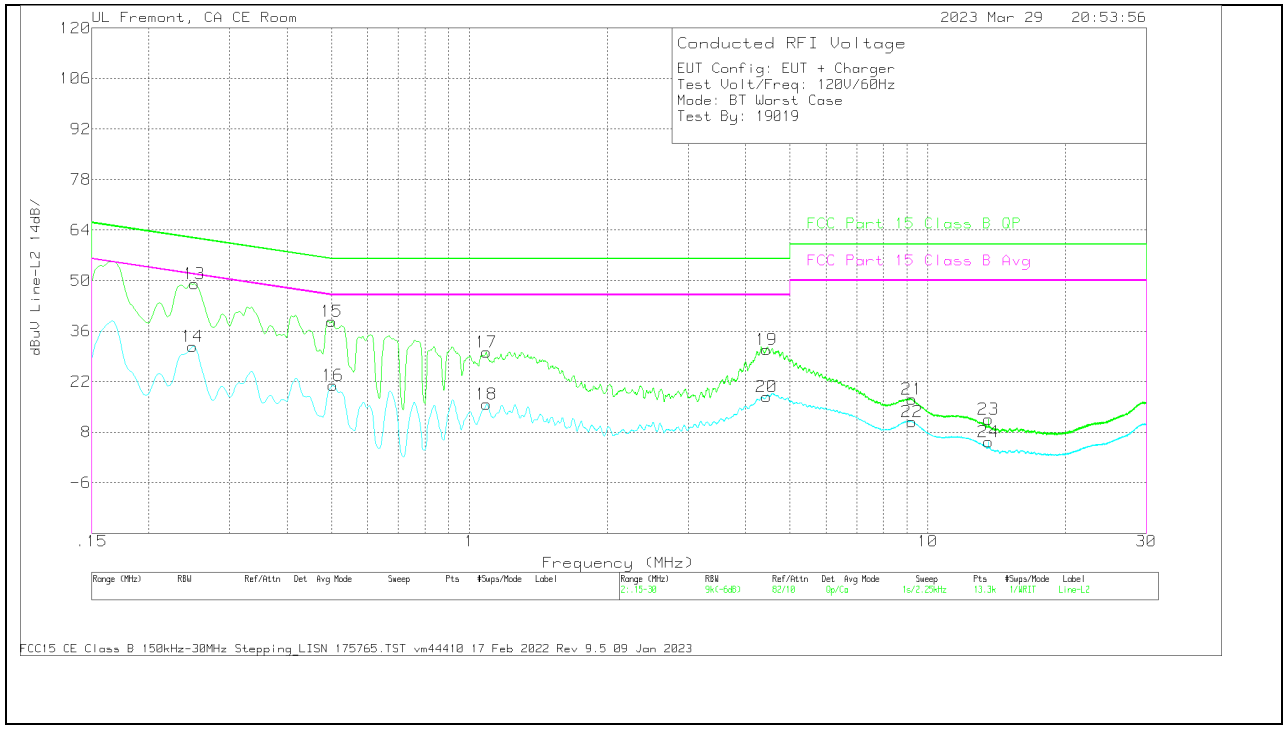
LINE 2 RESULTS



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	.249	22.45	Ca	0	0	9.3	31.75	-	-	51.79	-20.04
16	.5033	11.61	Ca	0	.1	9.3	21.01	-	-	46	-24.99
18	1.0905	6.35	Ca	0	.1	9.3	15.75	-	-	46	-30.25
20	4.4453	8.44	Ca	0	.1	9.3	17.84	-	-	46	-28.16
22	9.2513	1.43	Ca	0	.2	9.3	10.93	-	-	50	-39.07
24	13.56	-4.3	Ca	.1	.2	9.3	5.3	-	-	50	-44.7
13	.2513	39.89	Qp	0	0	9.3	49.19	61.72	-12.53	-	-
15	.501	29.33	Qp	0	.1	9.3	38.73	56	-17.27	-	-
17	1.0883	20.83	Qp	0	.1	9.3	30.23	56	-25.77	-	-
19	4.4453	21.49	Qp	0	.1	9.3	30.89	56	-25.11	-	-
21	9.2468	7.67	Qp	0	.2	9.3	17.17	60	-42.83	-	-
23	13.56	1.98	Qp	.1	.2	9.3	11.58	60	-48.42	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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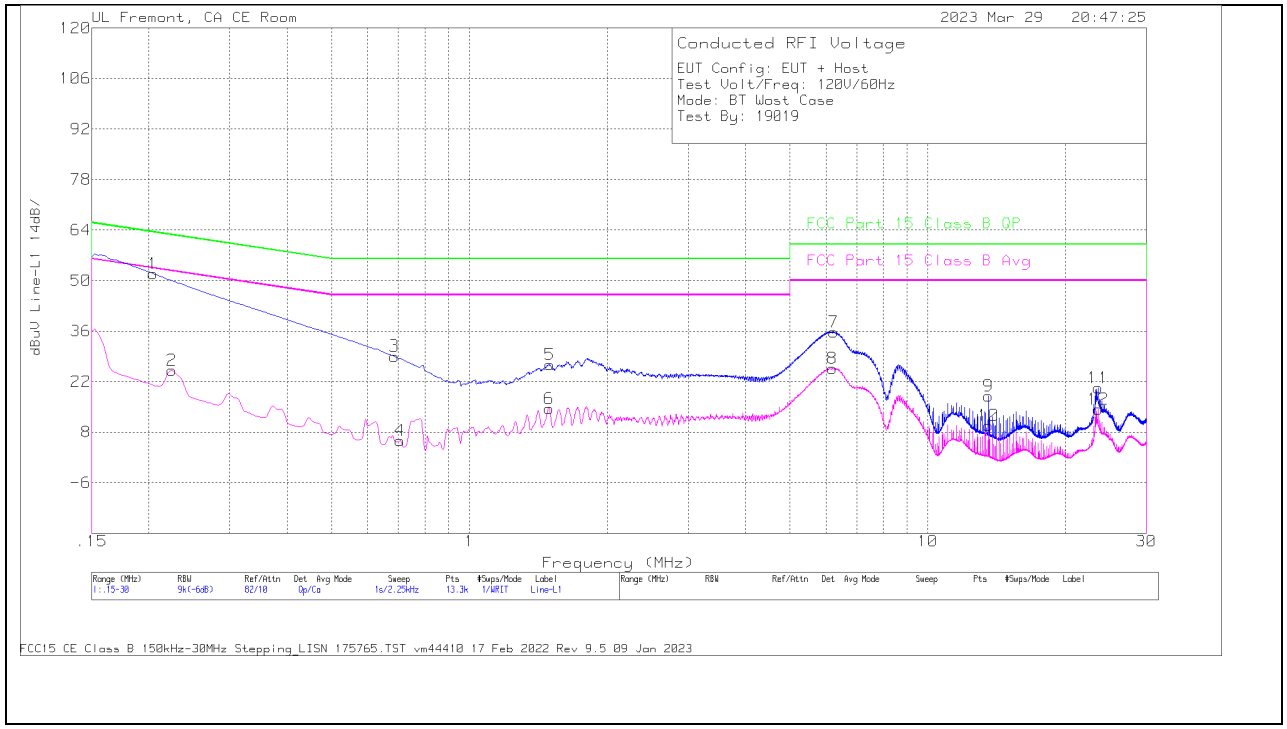
11.2. AC Power Line With Laptop

LINE 1 RESULTS



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	.2243	15.81	Ca	0	0	9.3	25.11	-	-	52.66	-27.55
4	.7058	-3.72	Ca	0	.1	9.3	5.68	-	-	46	-40.32
6	1.4933	5.12	Ca	0	.1	9.3	14.52	-	-	46	-31.48
8	6.2025	16.29	Ca	0	.1	9.3	25.69	-	-	50	-24.31
10	13.56	.24	Ca	.1	.2	9.3	9.84	-	-	50	-40.16
12	23.5073	4.4	Ca	.2	.3	9.4	14.3	-	-	50	-35.7
1	.204	42.58	Qp	0	0	9.4	51.98	63.45	-11.47	-	-
3	.6855	19.65	Qp	0	.1	9.3	29.05	56	-26.95	-	-
5	1.4978	17.35	Qp	0	.1	9.3	26.75	56	-29.25	-	-
7	6.2363	26.38	Qp	0	.1	9.3	35.78	60	-24.22	-	-
9	13.56	8.34	Qp	.1	.2	9.3	17.94	60	-42.06	-	-
11	23.5073	10.32	Qp	.2	.3	9.4	20.22	60	-39.78	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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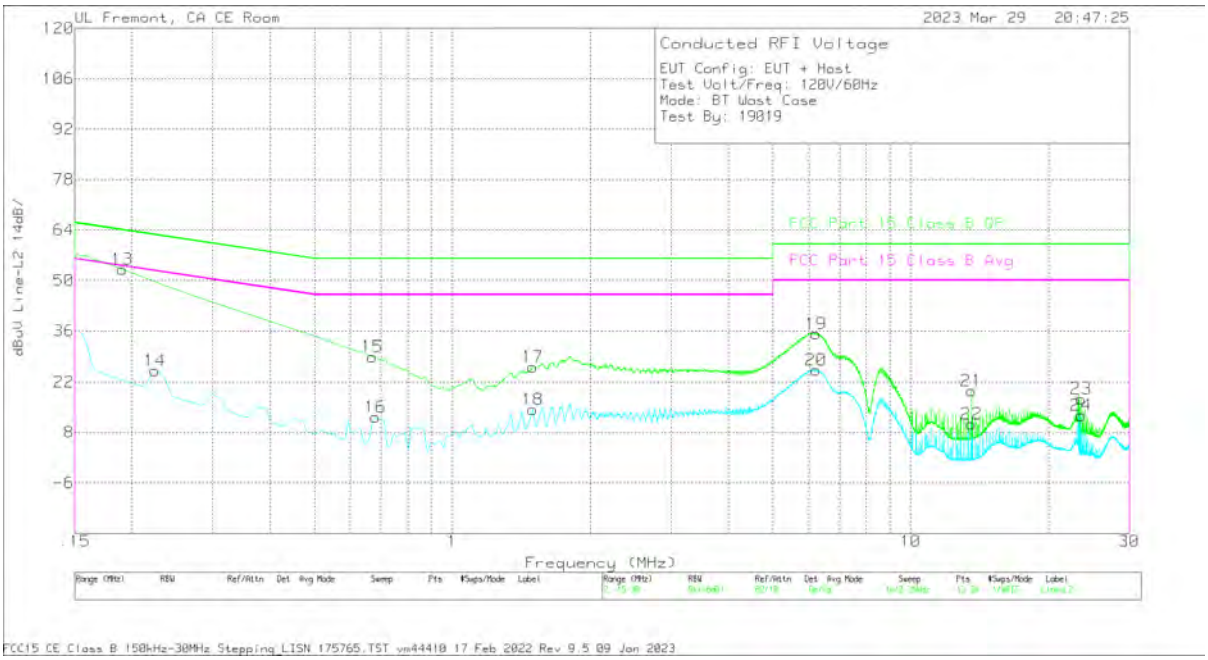
LINE 2 RESULTS



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	.2243	15.92	Ca	0	0	9.3	25.22	-	-	52.66	-27.44
16	.6788	2.92	Ca	0	.1	9.3	12.32	-	-	46	-33.68
18	1.4955	4.98	Ca	0	.1	9.3	14.38	-	-	46	-31.62
20	6.2228	15.88	Ca	0	.1	9.3	25.28	-	-	50	-24.72
22	13.56	.82	Ca	.1	.2	9.3	10.42	-	-	50	-39.58
24	23.5073	2.82	Ca	.2	.3	9.4	12.72	-	-	50	-37.28
13	.1905	43.68	Qp	0	0	9.4	53.08	64.01	-10.93	-	-
15	.6698	19.61	Qp	0	.1	9.3	29.01	56	-26.99	-	-
17	1.4955	16.74	Qp	0	.1	9.3	26.14	56	-29.86	-	-
19	6.2205	25.87	Qp	0	.1	9.3	35.27	60	-24.73	-	-
21	13.56	9.95	Qp	.1	.2	9.3	19.55	60	-40.45	-	-
23	23.5073	7.5	Qp	.2	.3	9.4	17.4	60	-42.6	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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12. SETUP PHOTOS

Please refer to setup photos 14523740-EP1V1

END OF TEST REPORT

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