10. VLP TPC

LIMITS

FCC §15.407 (d) (10)

(10) Very low power devices operating in the 5.925-6.425 and 6.525-6.875 GHz bands shall employ a transmit power control (TPC) mechanism. A very low power device is required to have the capability to operate at least 6 dB below the maximum EIRP power spectral density (PSD) value of −5 dBm/MHz.

RSS 248 4.5.6

a. The maximum e.i.r.p. spectral density shall not exceed -5 dBm/MHz
A very low-power device shall implement transmitter power control in order to have the capability to operate at least 6 dB lower than the maximum e.i.r.p. spectral density limit.

PROCEDURE

This test demonstrates the ability of the device to increase and decrease power by the required 6dB as the RSSI is decreased and increased.

1. Configure EUT and companion device for peer-to-peer communication (refer to section 6.6)
2. Set variable attenuator to 0dB (noise free spectral environment, Low RSSI simulation)
3. Establish a link and start communication between EUT and companion device
4. Capture PSD spectrum analyzer trace (3)
5. Set variable attenuator to 40dB (noisy spectral environment, High RSSI simulation)
6. Capture PSD spectrum analyzer trace (2)
7. Compare the highest PSD from trace (2) to the highest PSD on trace (3) and determine the delta.

SA Settings: 100kHz RBW/ 300kHz VBW
Span: 1.5MHz
Sweep: 1ms, max hold enabled for 100 sweeps with rms detector enabled.

Set up - Refer to Section 6.6. EUT was set to HDR4 hopping low power mode.

Companion device used for testing only supports HDR4 IPA hopping mode thus that is the mode used for testing.

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RESULTS

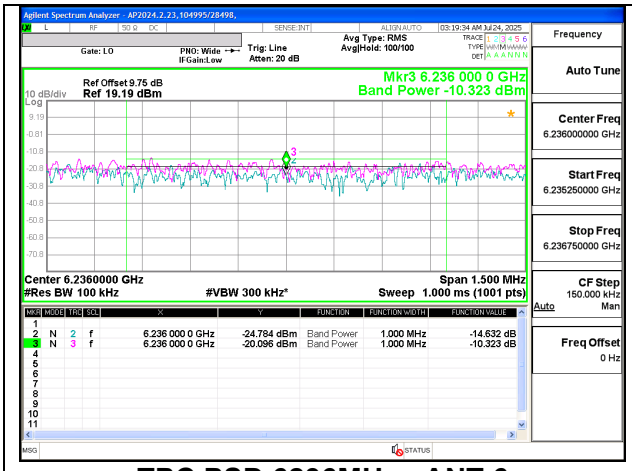
Mode	HDR4									
Frequency (MHz)	Antenna 6					Antenna 5				
	Highest Measured PSD EIRP (dBm/MHz)	Trace 2 EIRP PSD (dBm/MHz)	Trace 3 EIRP PSD (dBm/MHz)	Delta (dB)	High RSSI PSD EIRP (dBm/MHz)	Highest Measured PSD EIRP (dBm/MHz)	Trace 2 EIRP PSD (dBm/MHz)	Trace 3 EIRP PSD (dBm/MHz)	Delta (dB)	High RSSI PSD EIRP (dBm/MHz)
6236	-6.819	-14.632	-10.323	4.31	-11.13	-5.075	-12.752	-5.528	7.22	-12.30

For the TPC checks the device is operating in its normal (frequency hopping mode). Due to the frequency hopping operations, capturing the absolute rms PSD values is impractical. To show that output power is reduced with the high RSSI to a level at or below -11dBm/MHz the delta between the high RSSI and low RSSI PSD levels measured with the device hopping is applied to the measured maximum PSD for HDR4 from section 9.3.1 to show that the PSD at the high RSSI level is at or below-11dBm/MHz. The relative measurements (with the device hopping) are made following ANSI C63.10 section 12.6(e) (RBW < 1MHz and integration over 1MHz) at the center of the channel to reduce the impact from adjacent channels.

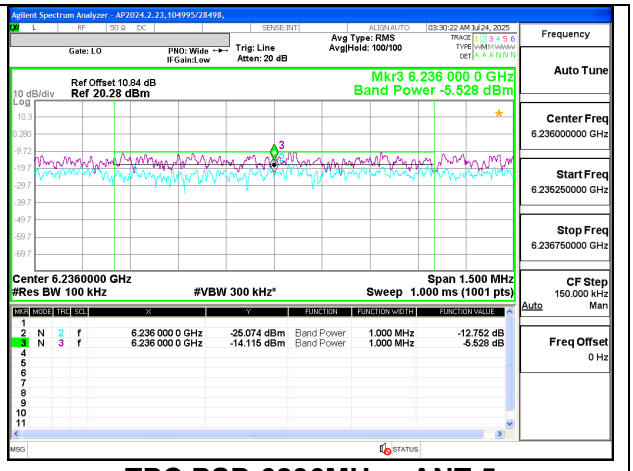
The device is compliant because when TPC is on the PSD is less than -11dBm/MHz.

Note: Testing was performed on SISO for BT UNII-5 TPC certification. Please refer to the operation description document regarding BT TxBF TPC.

VLP TPC POWER LEVEL REDUCTION



TPC PSD 6236MHz - ANT 6



TPC PSD 6236MHz - ANT 5

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11. RADIATED TEST RESULTS

LIMITS

FCC §15.35(b)
FCC §15.205 Restriced bands
§15.209 and FCC §15.407(b)(6) -Un-Restriced bands

RSS-GEN 8.1
RSS-GEN 8.9 Un-Restriced bands
RSS-GEN 8.10 Restriced bands

RSS 248 Issue 3 section 4.6.2a

Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27dBm/MHz rms and -7dBm/MHz Peak.

General field strength limits at frequencies above 30 MHz;

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 6 GHz bands.

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.

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

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

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

RESULTS

The plots in these sections are for reference settings only for different bandwidths and different antenna ports.

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11.1. TRANSMITTER OUTSIDE 5.925 - 7.125 GHz, 1- 18GHz

11.1.1. UNII-5 BAND SISO MODE – BANDEDGE – HIGH POWER

UNII-5 (SISO)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBm)	Det	ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Correct Reading (dBm)	Avg Limit (dBm)	Avg Margin (dB)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
BDR	6106	6	5.877801	-48.25	Pk	35.4	11.8	0	-37.59	-38.64	-	-	-7	-31.64	8	184	H
			5.915068	-59.89	RMS	35.4	11.8	1.15	-37.51	-49.05	-27	-22.05	-	-	8	184	H
			5.925	-50.49	Pk	35.4	11.8	0	-37.5	-40.79	-	-	-7	-33.79	8	184	H
			5.925	-61.64	RMS	35.4	11.8	1.15	-37.5	-50.79	-27	-23.79	-	-	8	184	H
			5.893668	-47.67	Pk	35.4	11.8	0	-37.55	-38.02	-	-	-7	-31.02	354	385	V
			5.894001	-59.88	RMS	35.4	11.8	1.15	-37.54	-49.07	-27	-22.07	-	-	354	385	V
			5.925	-50.67	Pk	35.4	11.8	0	-37.5	-40.97	-	-	-7	-33.97	354	385	V
			5.925	-61.24	RMS	35.4	11.8	1.15	-37.5	-50.39	-27	-23.39	-	-	354	385	V
		5	5.836601	-49.61	Pk	34.8	11.8	0	-34.66	-37.67	-	-	-7	-30.67	281	177	H
			5.919801	-61.23	RMS	35	11.8	1.15	-34.9	-48.18	-27	-21.18	-	-	281	177	H
			5.925	-51.9	Pk	35	11.8	0	-34.9	-40	-	-	-7	-33	281	177	H
			5.925	-63.08	RMS	35	11.8	1.15	-34.9	-50.03	-27	-23.03	-	-	281	177	H
			5.880868	-49.72	Pk	34.9	11.8	0	-34.7	-37.72	-	-	-7	-30.72	130	176	V
			5.919335	-61.25	RMS	35	11.8	1.15	-34.9	-48.2	-27	-21.2	-	-	130	176	V
			5.925	-52.22	Pk	35	11.8	0	-34.9	-40.32	-	-	-7	-33.32	130	176	V
			5.925	-62.94	RMS	35	11.8	1.15	-34.9	-49.89	-27	-22.89	-	-	130	176	V
LE1M	6106	6	5.729934	-46.98	Pk	35.1	11.8	0	-37.93	-38.01	-	-	-7	-31.01	360	193	H
			5.786334	-59.1	RMS	35.2	11.8	0.72	-37.76	-49.14	-27	-22.14	-	-	360	193	H
			5.925	-50.62	Pk	35.4	11.8	0	-37.5	-40.92	-	-	-7	-33.92	360	193	H
			5.925	-60.76	RMS	35.4	11.8	0.72	-37.5	-50.34	-27	-23.34	-	-	360	193	H
			5.879268	-48.1	Pk	35.4	11.8	0	-37.58	-38.48	-	-	-7	-31.48	4	103	V
			5.910068	-60.07	RMS	35.4	11.8	0.72	-37.58	-49.73	-27	-22.73	-	-	4	103	V
			5.925	-49.2	Pk	35.4	11.8	0	-37.5	-39.5	-	-	-7	-32.5	4	103	V
			5.925	-61.7	RMS	35.4	11.8	0.72	-37.5	-51.28	-27	-24.28	-	-	4	103	V
		5	5.812868	-49.36	Pk	34.7	11.8	0	-34.61	-37.47	-	-	-7	-30.47	155	138	H
			5.831068	-61.43	RMS	34.8	11.8	0.72	-34.6	-48.71	-27	-21.71	-	-	155	138	H
			5.925	-51.72	Pk	35	11.8	0	-34.9	-39.82	-	-	-7	-32.82	155	138	H
			5.925	-62.5	RMS	35	11.8	0.72	-34.9	-49.88	-27	-22.88	-	-	155	138	H
			5.729734	-48.76	Pk	34.5	11.8	0	-34.9	-37.36	-	-	-7	-30.36	110	169	V
			5.881135	-61.32	RMS	34.9	11.8	0.72	-34.71	-48.61	-27	-21.61	-	-	110	169	V
			5.925	-51.71	Pk	35	11.8	0	-34.9	-39.81	-	-	-7	-32.81	110	169	V
			5.925	-62.05	RMS	35	11.8	0.72	-34.9	-49.43	-27	-22.43	-	-	110	169	V
LE2M	6106	6	5.648533	-47.42	Pk	35	11.8	0	-38.06	-38.68	-	-	-7	-31.68	359	169	H
			5.919068	-60.02	RMS	35.4	11.8	2.49	-37.55	-47.88	-27	-20.88	-	-	359	169	H
			5.925	-49.74	Pk	35.4	11.8	0	-37.5	-40.04	-	-	-7	-33.04	359	169	H
			5.925	-61.26	RMS	35.4	11.8	2.49	-37.5	-49.07	-27	-22.07	-	-	359	169	H
			5.738534	-47.81	Pk	35.2	11.8	0	-37.89	-38.7	-	-	-7	-31.7	6	105	V
			5.916868	-60.15	RMS	35.4	11.8	2.49	-37.55	-48.01	-27	-21.01	-	-	6	105	V
			5.925	-51.17	Pk	35.4	11.8	0	-37.5	-41.47	-	-	-7	-34.47	6	105	V
			5.925	-60.54	RMS	35.4	11.8	2.49	-37.5	-48.35	-27	-21.35	-	-	6	105	V
		5	5.819468	-49.25	Pk	34.7	11.8	0	-34.6	-37.35	-	-	-7	-30.35	149	178	H
			5.902135	-61.4	RMS	34.9	11.8	2.49	-34.8	-47.01	-27	-20.01	-	-	149	178	H
			5.925	-51.36	Pk	35	11.8	0	-34.9	-39.46	-	-	-7	-32.46	149	178	H
			5.925	-62.31	RMS	35	11.8	2.49	-34.9	-47.92	-27	-20.92	-	-	149	178	H
			5.865868	-49.01	Pk	34.8	11.8	0	-34.8	-37.21	-	-	-7	-30.21	119	217	V
			5.830468	-61.39	RMS	34.8	11.8	2.49	-34.6	-46.9	-27	-19.9	-	-	119	217	V
			5.925	-51.45	Pk	35	11.8	0	-34.9	-39.55	-	-	-7	-32.55	119	217	V
			5.925	-62.43	RMS	35	11.8	2.49	-34.9	-48.04	-27	-21.04	-	-	119	217	V
HDT2	6106	6	5.900268	-48.3	Pk	35.4	11.8	0	-37.54	-38.64	-	-	-7	-31.64	1	248	H
			5.902268	-59.64	RMS	35.4	11.8	0.18	-37.55	-49.81	-27	-22.81	-	-	1	248	H
			5.925	-50.05	Pk	35.4	11.8	0	-37.5	-40.35	-	-	-7	-33.35	1	248	H
			5.925	-60.68	RMS	35.4	11.8	0.18	-37.5	-50.8	-27	-23.8	-	-	1	248	H
			5.922268	-47.94	Pk	35.4	11.8	0	-37.55	-38.29	-	-	-7	-31.29	4	107	V
			5.901668	-59.99	RMS	35.4	11.8	0.18	-37.54	-50.15	-27	-23.15	-	-	4	107	V
			5.925	-49.86	Pk	35.4	11.8	0	-37.5	-40.16	-	-	-7	-33.16	4	107	V
			5.925	-61.62	RMS	35.4	11.8	0.18	-37.5	-51.74	-27	-24.74	-	-	4	107	V
		5	5.793801	-47.74	Pk	35.2	11.8	0	-37.77	-38.51	-	-	-7	-31.51	309	190	H
			5.735601	-59.51	RMS	35.2	11.8	0.18	-37.89	-50.22	-27	-23.22	-	-	309	190	H
			5.925	-50.04	Pk	35.4	11.8	0	-37.5	-40.34	-	-	-7	-33.34	309	190	H
			5.925	-61.3	RMS	35.4	11.8	0.18	-37.5	-51.42	-27	-24.42	-	-	309	190	H
			5.876935	-48.19	Pk	35.4	11.8	0	-37.59	-38.58	-	-	-7	-31.58	340	195	V
			5.913868	-59.98	RMS	35.4	11.8	0.18	-37.54	-50.14	-27	-23.14	-	-	340	195	V
			5.925	-50.39	Pk	35.4	11.8	0	-37.5	-40.69	-	-	-7	-33.69	340	195	V
			5.925	-61.42	RMS	35.4	11.8	0.18	-37.5	-51.54	-27	-24.54	-	-	340	195	V

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

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HDR4	6106	6	5.754601	-47.14	Pk	35.2	11.8	0	-37.93	-38.07	-	-	-7	-31.07	6	194	H
			5.918001	-60.06	RMS	35.4	11.8	1.3	-37.54	-49.1	-27	-22.1	-	-	6	194	H
			5.925	-49.99	Pk	35.4	11.8	0	-37.5	-40.29	-	-	-7	-33.29	6	194	H
			5.925	-60.78	RMS	35.4	11.8	1.3	-37.5	-49.78	-27	-22.78	-	-	6	194	H
			5.859868	-47.93	Pk	35.3	11.8	0	-37.69	-38.52	-	-	-7	-31.52	8	125	V
			5.901135	-60.02	RMS	35.4	11.8	1.3	-37.52	-49.04	-27	-22.04	-	-	8	125	V
			5.925	-51	Pk	35.4	11.8	0	-37.5	-41.3	-	-	-7	-34.3	8	125	V
			5.925	-61.53	RMS	35.4	11.8	1.3	-37.5	-50.53	-27	-23.53	-	-	8	125	V
		5	5.838801	-49.57	Pk	34.8	11.8	0	-34.7	-37.67	-	-	-7	-30.67	203	172	H
			5.887601	-61.35	RMS	34.9	11.8	1.3	-34.76	-48.11	-27	-21.11	-	-	203	172	H
			5.925	-52.02	Pk	35	11.8	0	-34.9	-40.12	-	-	-7	-33.12	203	172	H
			5.925	-62.2	RMS	35	11.8	1.3	-34.9	-49	-27	-22	-	-	203	172	H
			5.873468	-49.1	Pk	34.8	11.8	0	-34.8	-37.3	-	-	-7	-30.3	129	213	V
			5.917335	-61.51	RMS	35	11.8	1.3	-34.83	-48.24	-27	-21.24	-	-	129	213	V
			5.925	-51.66	Pk	35	11.8	0	-34.9	-39.76	-	-	-7	-32.76	129	213	V
			5.925	-62.43	RMS	35	11.8	1.3	-34.9	-49.23	-27	-22.23	-	-	129	213	V
HDRPM4	6107	6	5.886468	-48.14	Pk	35.4	11.8	0	-37.57	-38.51	-	-	-7	-31.51	4	174	H
			5.890335	-59.92	RMS	35.4	11.8	0.33	-37.56	-49.95	-27	-22.95	-	-	4	174	H
			5.925	-50.1	Pk	35.4	11.8	0	-37.5	-40.4	-	-	-7	-33.4	4	174	H
			5.925	-60.82	RMS	35.4	11.8	0.33	-37.5	-50.79	-27	-23.79	-	-	4	174	H
			5.666867	-47.35	Pk	35	11.8	0	-38.02	-38.57	-	-	-7	-31.57	336	364	V
			5.924068	-60.2	RMS	35.4	11.8	0.33	-37.52	-50.19	-27	-23.19	-	-	336	364	V
			5.925	-50.11	Pk	35.4	11.8	0	-37.5	-40.41	-	-	-7	-33.41	336	364	V
			5.925	-60.63	RMS	35.4	11.8	0.33	-37.5	-50.6	-27	-23.6	-	-	336	364	V
		5	5.873268	-48.68	Pk	34.8	11.8	0	-34.8	-36.88	-	-	-7	-29.88	71	330	H
			5.850401	-61.23	RMS	34.8	11.8	0.33	-34.76	-49.06	-27	-22.06	-	-	71	330	H
			5.925	-52.09	Pk	35	11.8	0	-34.9	-40.19	-	-	-7	-33.19	71	330	H
			5.925	-62.84	RMS	35	11.8	0.33	-34.9	-50.61	-27	-23.61	-	-	71	330	H
			5.691467	-49.35	Pk	34.4	11.8	0	-34.7	-37.85	-	-	-7	-30.85	147	365	V
			5.817468	-61.31	RMS	34.7	11.8	0.33	-34.6	-49.08	-27	-22.08	-	-	147	365	V
			5.925	-52.26	Pk	35	11.8	0	-34.9	-40.36	-	-	-7	-33.36	147	365	V
			5.925	-62.06	RMS	35	11.8	0.33	-34.9	-49.83	-27	-22.83	-	-	147	365	V
HDRPL8	6109	6	5.913135	-47.97	Pk	35.4	11.8	0	-37.56	-38.33	-	-	-7	-31.33	355	246	H
			5.905335	-59.74	RMS	35.4	11.8	0.23	-37.55	-49.86	-27	-22.86	-	-	355	246	H
			5.925	-50.17	Pk	35.4	11.8	0	-37.5	-40.47	-	-	-7	-33.47	355	246	H
			5.925	-60.22	RMS	35.4	11.8	0.23	-37.5	-50.29	-27	-23.29	-	-	355	246	H
			5.797734	-47.6	Pk	35.2	11.8	0	-37.75	-38.35	-	-	-7	-31.35	324	364	V
			5.713	-59.24	RMS	35.1	11.8	0.23	-37.94	-50.05	-27	-23.05	-	-	324	364	V
			5.925	-50.93	Pk	35.4	11.8	0	-37.5	-41.23	-	-	-7	-34.23	324	364	V
			5.925	-61.48	RMS	35.4	11.8	0.23	-37.5	-51.55	-27	-24.55	-	-	324	364	V
		5	5.685867	-48.86	Pk	34.4	11.8	0	-34.6	-37.26	-	-	-7	-30.26	100	362	H
			5.897001	-61.52	RMS	34.9	11.8	0.23	-34.8	-49.39	-27	-22.39	-	-	100	362	H
			5.925	-51.68	Pk	35	11.8	0	-34.9	-39.78	-	-	-7	-32.78	100	362	H
			5.925	-62.86	RMS	35	11.8	0.23	-34.9	-50.73	-27	-23.73	-	-	100	362	H
			5.852001	-49.25	Pk	34.8	11.8	0	-34.7	-37.35	-	-	-7	-30.35	146	367	V
			5.825201	-61.41	RMS	34.7	11.8	0.23	-34.52	-49.2	-27	-22.2	-	-	146	367	V
			5.925	-50.55	Pk	35	11.8	0	-34.9	-38.65	-	-	-7	-31.65	146	367	V
			5.925	-62.11	RMS	35	11.8	0.23	-34.9	-49.98	-27	-22.98	-	-	146	367	V

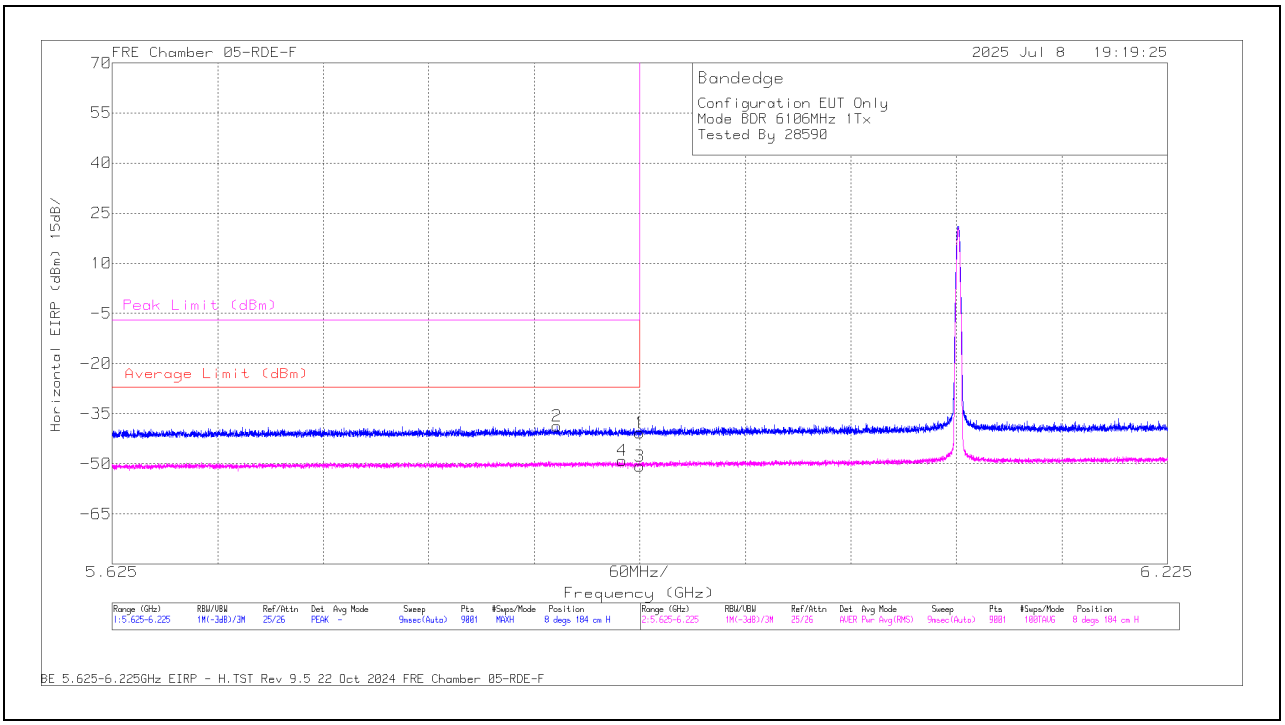
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

1TX Antenna 6:

BANDEDGE (LOW CHANNEL / 6106MHz)

HORIZONTAL RESULT



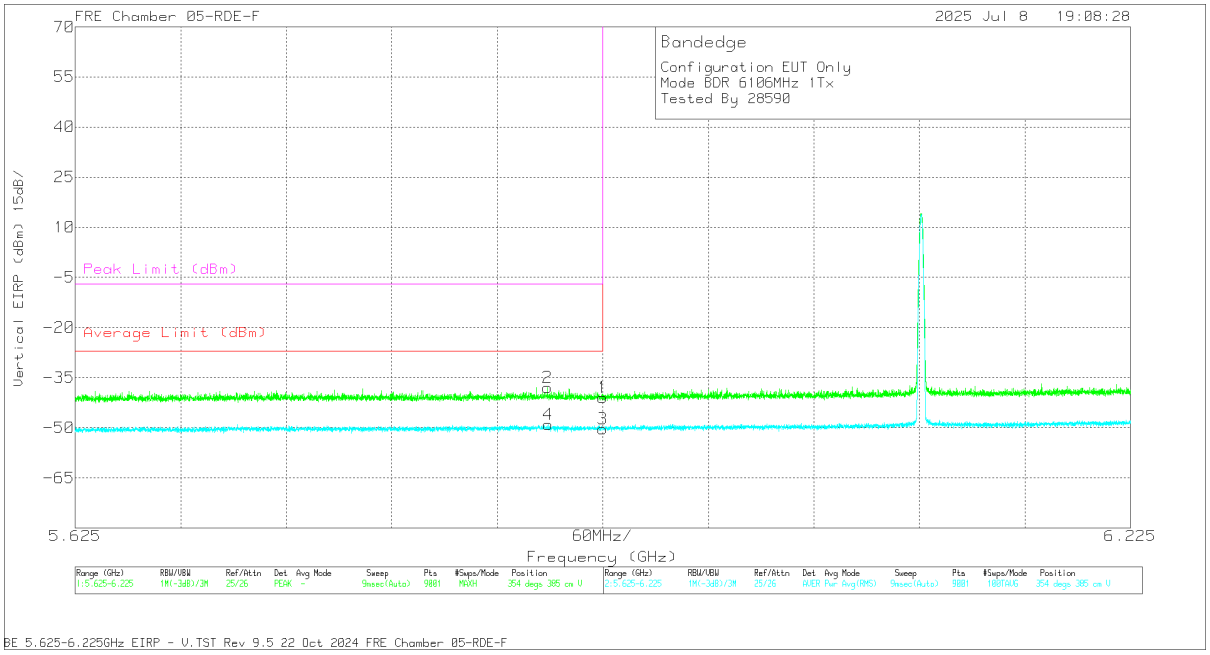
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Average Limit (dBm)	Margin (dB)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.925	-50.49	Pk	35.4	11.8	0	-37.5	-40.79	-	-	-7	-33.79	8	184	H
2	5.877801	-48.25	Pk	35.4	11.8	0	-37.59	-38.64	-	-	-7	-31.64	8	184	H
3	5.925	-61.64	RMS	35.4	11.8	1.15	-37.5	-50.79	-27	-23.79	-	-	8	184	H
4	5.915068	-59.89	RMS	35.4	11.8	1.15	-37.51	-49.05	-27	-22.05	-	-	8	184	H

Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	230299 ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Average Limit (dBm)	Margin (dB)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.925	-50.67	Pk	35.4	11.8	0	-37.5	-40.97	-	-	-7	-33.97	354	385	V
2	5.893668	-47.67	Pk	35.4	11.8	0	-37.55	-38.02	-	-	-7	-31.02	354	385	V
3	5.925	-61.24	RMS	35.4	11.8	1.15	-37.5	-50.39	-27	-23.39	-	-	354	385	V
4	5.894001	-59.88	RMS	35.4	11.8	1.15	-37.54	-49.07	-27	-22.07	-	-	354	385	V

Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.1.2. UNII-5 BAND MIMO MODE – BANDEDGE – HIGH POWER

UNII-5 (MIMO)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBm)	Det	ACF (dB/m)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Correct Reading (dBm)	Avg Limit (dBm)	Avg Margin (dB)	Pk Limit (dBm)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
BDR	6106	6 + 5	5.869468	-47.94	Pk	35.2	11.8	0	-37.75	-38.69	-	-	-7	-31.69	34	148	H
			5.871868	-59.63	RMS	35.2	11.8	1.15	-37.74	-49.22	-27	-22.22	-	-	34	148	H
			5.925	-50.55	Pk	35.3	11.8	0	-37.72	-41.17	-	-	-7	-34.17	34	148	H
			5.925	-60.71	RMS	35.3	11.8	1.15	-37.72	-50.18	-27	-23.18	-	-	34	148	H
			5.854934	-47.6	Pk	35.2	11.8	0	-37.89	-38.49	-	-	-7	-31.49	44	119	V
			5.877468	-59.87	RMS	35.2	11.8	1.15	-37.66	-49.38	-27	-22.38	-	-	44	119	V
			5.925	-50.25	Pk	35.3	11.8	0	-37.72	-40.87	-	-	-7	-33.87	44	119	V
			5.925	-60.96	RMS	35.3	11.8	1.15	-37.72	-50.43	-27	-23.43	-	-	44	119	V
LE1M	6106	6 + 5	5.923268	-47.91	Pk	35.3	11.8	0	-37.71	-38.52	-	-	-7	-31.52	30	149	H
			5.870068	-59.58	RMS	35.2	11.8	0.72	-37.73	-49.59	-27	-22.59	-	-	30	149	H
			5.925	-49.57	Pk	35.3	11.8	0	-37.72	-40.19	-	-	-7	-33.19	30	149	H
			5.925	-60.6	RMS	35.3	11.8	0.72	-37.72	-50.5	-27	-23.5	-	-	30	149	H
			5.744267	-46.55	Pk	35.1	11.8	0	-38.14	-37.79	-	-	-7	-30.79	42	119	V
			5.878001	-59.51	RMS	35.2	11.8	0.72	-37.67	-49.46	-27	-22.46	-	-	42	119	V
			5.925	-50.53	Pk	35.3	11.8	0	-37.72	-41.15	-	-	-7	-34.15	42	119	V
			5.925	-60.67	RMS	35.3	11.8	0.72	-37.72	-50.57	-27	-23.57	-	-	42	119	V
LE2M	6106	6 + 5	5.855934	-47.46	Pk	35.2	11.8	0	-37.81	-38.27	-	-	-7	-31.27	32	150	H
			5.876201	-61.33	RMS	35.2	11.8	2.49	-37.72	-49.56	-27	-22.56	-	-	32	150	H
			5.925	-50.55	Pk	35.3	11.8	0	-37.72	-41.17	-	-	-7	-34.17	32	150	H
			5.925	-62.89	RMS	35.3	11.8	2.49	-37.72	-51.02	-27	-24.02	-	-	32	150	H
			5.867868	-47.93	Pk	35.2	11.8	0	-37.74	-38.67	-	-	-7	-31.67	41	119	V
			5.857668	-59.7	RMS	35.2	11.8	2.49	-37.73	-47.94	-27	-20.94	-	-	41	119	V
			5.925	-49.15	Pk	35.3	11.8	0	-37.72	-39.77	-	-	-7	-32.77	41	119	V
			5.925	-61.13	RMS	35.3	11.8	2.49	-37.72	-49.26	-27	-22.26	-	-	41	119	V
HDT2	6106	6 + 5	5.832334	-47.76	Pk	35.3	11.8	0	-37.74	-38.4	-	-	-7	-31.4	304	109	H
			5.831334	-59.8	RMS	35.2	11.8	0.18	-37.74	-50.36	-27	-23.36	-	-	304	109	H
			5.925	-50.42	Pk	35.4	11.8	0	-37.5	-40.72	-	-	-7	-33.72	304	109	H
			5.925	-60.73	RMS	35.4	11.8	0.18	-37.5	-50.85	-27	-23.85	-	-	304	109	H
			5.905068	-48.02	Pk	35.4	11.8	0	-37.56	-38.38	-	-	-7	-31.38	357	179	V
			5.880335	-60.02	RMS	35.4	11.8	0.18	-37.57	-50.21	-27	-23.21	-	-	357	179	V
			5.925	-50.34	Pk	35.4	11.8	0	-37.5	-40.64	-	-	-7	-33.64	357	179	V
			5.925	-61.42	RMS	35.4	11.8	0.18	-37.5	-51.54	-27	-24.54	-	-	357	179	V
HDR4	6106	6 + 5	5.859001	-47.9	Pk	35.2	11.8	0	-37.77	-38.67	-	-	-7	-31.67	35	110	H
			5.869601	-59.48	RMS	35.2	11.8	1.3	-37.75	-48.93	-27	-21.93	-	-	35	110	H
			5.925	-49.92	Pk	35.3	11.8	0	-37.72	-40.54	-	-	-7	-33.54	35	110	H
			5.925	-60.77	RMS	35.3	11.8	1.3	-37.72	-50.09	-27	-23.09	-	-	35	110	H
			5.881935	-47.05	Pk	35.2	11.8	0	-37.8	-37.85	-	-	-7	-30.85	44	110	V
			5.890201	-58.73	RMS	35.2	11.8	1.3	-37.63	-48.06	-27	-21.06	-	-	44	110	V
			5.925	-50.59	Pk	35.3	11.8	0	-37.72	-41.21	-	-	-7	-34.21	44	110	V
			5.925	-59.59	RMS	35.3	11.8	1.3	-37.72	-48.91	-27	-21.91	-	-	44	110	V
HDRPM4	6107	6 + 5	5.891068	-47.82	Pk	35.2	11.8	0	-37.65	-38.47	-	-	-7	-31.47	60	184	H
			5.866401	-59.64	RMS	35.2	11.8	0.33	-37.8	-50.11	-27	-23.11	-	-	60	184	H
			5.925	-49.74	Pk	35.3	11.8	0	-37.72	-40.36	-	-	-7	-33.36	60	184	H
			5.925	-60.94	RMS	35.3	11.8	0.33	-37.72	-51.23	-27	-24.23	-	-	60	184	H
			5.804401	-47.38	Pk	35.1	11.8	0	-38.04	-38.52	-	-	-7	-31.52	52	109	V
			5.895535	-59.71	RMS	35.2	11.8	0.33	-37.68	-50.06	-27	-23.06	-	-	52	109	V
			5.925	-49.45	Pk	35.3	11.8	0	-37.72	-40.07	-	-	-7	-33.07	52	109	V
			5.925	-60.62	RMS	35.3	11.8	0.33	-37.72	-50.91	-27	-23.91	-	-	52	109	V
HDRPL8	6109	6 + 5	5.908735	-47.38	Pk	35.2	11.8	0	-37.74	-38.12	-	-	-7	-31.12	38	159	H
			5.917735	-59.52	RMS	35.2	11.8	0.23	-37.68	-49.97	-27	-22.97	-	-	38	159	H
			5.925	-49.86	Pk	35.3	11.8	0	-37.72	-40.48	-	-	-7	-33.48	38	159	H
			5.925	-60.52	RMS	35.3	11.8	0.23	-37.72	-50.91	-27	-23.91	-	-	38	159	H
			5.761067	-47.21	Pk	35.1	11.8	0	-38.11	-38.42	-	-	-7	-31.42	50	391	V
			5.907468	-59.75	RMS	35.2	11.8	0.23	-37.65	-50.17	-27	-23.17	-	-	50	391	V
			5.925	-49.16	Pk	35.3	11.8	0	-37.72	-39.78	-	-	-7	-32.78	50	391	V
			5.925	-61.22	RMS	35.3	11.8	0.23	-37.72	-51.61	-27	-24.61	-	-	50	391	V

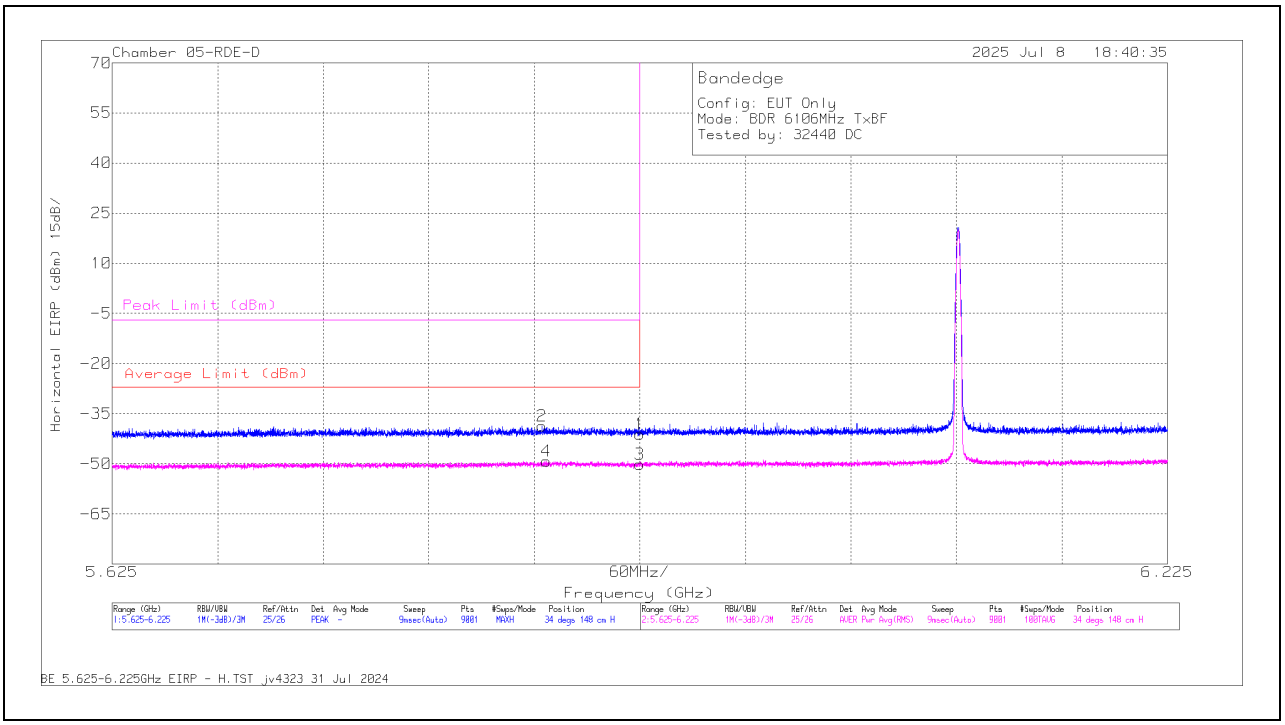
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

2TX Antennas 6 + 5:

BANDEDGE (LOW CHANNEL / 6106MHz)

HORIZONTAL RESULT



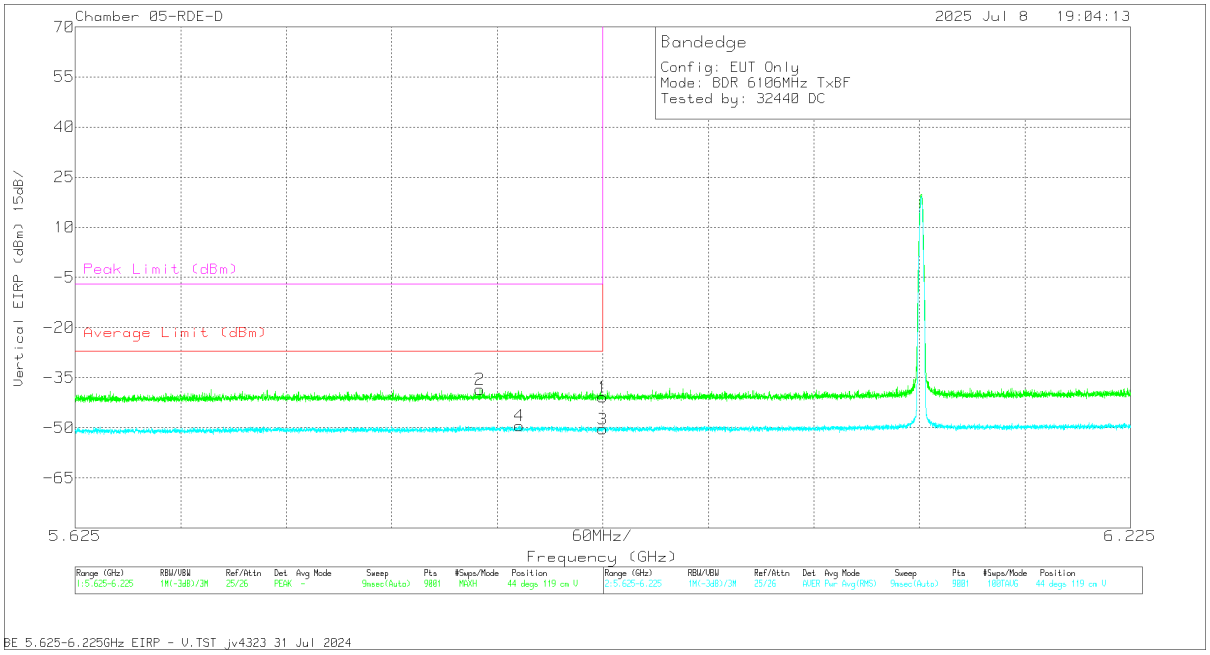
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81887 ACF (dB)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Average Limit (dBm)	Margin (dB)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.925	-50.55	Pk	35.3	11.8	0	-37.72	-41.17	-	-	-7	-34.17	34	148	H
2	5.869468	-47.94	Pk	35.2	11.8	0	-37.75	-38.69	-	-	-7	-31.69	34	148	H
3	5.925	-60.71	RMS	35.3	11.8	1.15	-37.72	-50.18	-27	-23.18	-	-	34	148	H
4	5.871868	-59.63	RMS	35.2	11.8	1.15	-37.74	-49.22	-27	-22.22	-	-	34	148	H

Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

VERTICAL RESULT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81887 ACF (dB)	Conversion Factor (dB)	DCCF (dB)	Gain/Loss (dB)	Corrected Reading EIRP (dBm)	Average Limit (dBm)	Margin (dB)	Peak Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.925	-50.25	Pk	35.3	11.8	0	-37.72	-40.87	-	-	-7	-33.87	44	119	V
3	5.925	-60.96	RMS	35.3	11.8	1.15	-37.72	-50.43	-27	-23.43	-	-	44	119	V
2	5.854934	-47.6	Pk	35.2	11.8	0	-37.89	-38.49	-	-	-7	-31.49	44	119	V
4	5.877468	-59.87	RMS	35.2	11.8	1.15	-37.66	-49.38	-27	-22.38	-	-	44	119	V

Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.1.3. UNII-5 BAND MIMO TXBF MODE - SPURIOUS EMISSIONS – HIGH POWER

UNII-5 (MIMO TXBF)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	DCCF (dB)	Amp/Cbl/ Fltr/Pad (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
BDR	6106	6 + 5	2568.56	55.01	PK-U	32.4	0	-43.9	43.51	-	-	88.2	-44.69	330	270	H
			2568.457	43.44	ADR	32.4	1.15	-43.9	33.09	68.2	-35.11	-	-	330	270	H
			2568.064	55.04	PK-U	32.4	0	-43.9	43.54	-	-	88.2	-44.66	200	318	V
			2570.179	43.43	ADR	32.4	1.15	-43.9	33.08	68.2	-35.12	-	-	200	318	V
			3137.063	52.27	PK-U	33.2	0	-41.9	43.57	-	-	88.2	-44.63	271	108	H
			3139.308	40.27	ADR	33.2	1.15	-41.9	32.72	68.2	-35.48	-	-	271	108	H
			3133.751	51.95	PK-U	33.2	0	-41.9	43.25	-	-	88.2	-44.95	168	173	V
			3133.805	40.76	ADR	33.2	1.15	-41.9	33.21	68.2	-34.99	-	-	168	173	V
			* 12211.181	46.16	PK-U	38.8	0	-34.6	50.36	-	-	74	-23.64	130	124	H
			* 12210.972	34.19	ADR	38.8	1.15	-34.6	39.54	54	-14.46	-	-	130	124	H
			* 12213.275	45.72	PK-U	38.8	0	-34.6	49.92	-	-	74	-24.08	172	221	V
			* 12211.371	34.27	ADR	38.8	1.15	-34.6	39.62	54	-14.38	-	-	172	221	V
	6265	6 + 5	1878.404	56.6	PK-U	30.7	0	-45.4	41.9	-	-	88.2	-46.3	103	253	H
			1880.589	44.84	ADR	30.7	1.15	-45.4	31.29	68.2	-36.91	-	-	103	253	H
			1884.291	56.95	PK-U	30.7	0	-45.3	42.35	-	-	88.2	-45.85	49	347	V
			1880.462	45.08	ADR	30.7	1.15	-45.4	31.53	68.2	-36.67	-	-	49	347	V
			2989.235	53.79	PK-U	32.9	0	-42.4	44.29	-	-	88.2	-43.91	170	101	H
			2989.354	41.4	ADR	32.9	1.15	-42.4	33.05	68.2	-35.15	-	-	170	101	H
			2985.696	54.23	PK-U	32.9	0	-42.5	44.63	-	-	88.2	-43.57	340	246	V
			2983.234	41.8	ADR	32.9	1.15	-42.5	33.35	68.2	-34.85	-	-	340	246	V
			10324.928	48.9	PK-U	37.5	0	-36.5	49.9	-	-	88.2	-38.3	9	218	H
			10327.008	37.26	ADR	37.5	1.15	-36.5	39.41	68.2	-28.79	-	-	9	218	H
			10312.215	48.69	PK-U	37.5	0	-36.4	49.79	-	-	88.2	-38.41	358	326	V
			10311.358	37.36	ADR	37.5	1.15	-36.4	39.61	68.2	-28.59	-	-	358	326	V
	6420	6 + 5	3145.383	46.01	PK-U	33	0	-25.92	53.09	-	-	88.2	-35.11	201	273	H
			3151.054	34.23	ADR	33	1.15	-25.95	42.43	68.2	-25.77	-	-	201	273	H
			3129.881	46.25	PK-U	33	0	-25.86	53.39	-	-	88.2	-34.81	75	231	V
			3148.654	34.15	ADR	33	1.15	-25.9	42.4	68.2	-25.8	-	-	75	231	V
			4450.225	46.38	PK-U	33.8	0	-25.42	54.76	-	-	88.2	-33.44	338	222	H
			4474.029	34.73	ADR	33.8	1.15	-25.34	44.34	68.2	-23.86	-	-	338	222	H
			4424.681	45.86	PK-U	33.8	0	-25.19	54.47	-	-	88.2	-33.73	21	299	V
			4449.785	34.6	ADR	33.8	1.15	-25.42	44.13	68.2	-24.07	-	-	21	299	V
			10563.839	57.23	PK-U	37.6	0	-46.06	48.77	-	-	88.2	-39.43	350	400	H
			10572.511	45.85	ADR	37.6	1.15	-46.08	38.52	68.2	-29.68	-	-	350	400	H
			10552.127	57.38	PK-U	37.6	0	-45.97	49.01	-	-	88.2	-39.19	16	201	V
			10553.949	45.48	ADR	37.6	1.15	-45.96	38.27	68.2	-29.93	-	-	16	201	V
LE1M	6106	6 + 5	* 1.274482	59.58	PK-U	29.4	0	-48.32	40.66	-	-	88.2	-47.54	360	200	H
			* 1.276777	48.39	ADR	29.4	0.72	-48.35	30.16	68.2	-38.04	-	-	360	200	H
			* 3.927532	56.33	PK-U	33.3	0	-45.78	43.85	-	-	74	-30.15	360	200	H
			* 3.927187	44.48	ADR	33.3	0.72	-45.78	32.72	54	-21.28	-	-	360	200	H
			* 1.275034	60.3	PK-U	29.4	0	-48.33	41.37	-	-	88.2	-46.83	360	200	V
			* 1.27386	48.23	ADR	29.4	0.72	-48.32	30.03	68.2	-38.17	-	-	360	200	V
			* 3.928813	55.92	PK-U	33.3	0	-45.77	43.45	-	-	74	-30.55	360	200	V
			* 3.929495	44.27	ADR	33.3	0.72	-45.77	32.52	54	-21.48	-	-	360	200	V
			* 11.329813	55.35	PK-U	38.2	0	-42.53	51.02	-	-	74	-22.98	360	101	H
			* 11.327174	43.63	ADR	38.2	0.72	-42.59	39.96	54	-14.04	-	-	360	101	H
			* 11.329449	55.91	PK-U	38.2	0	-42.54	51.57	-	-	74	-22.43	360	101	V
			* 11.328389	43.78	ADR	38.2	0.72	-42.57	40.13	54	-13.87	-	-	360	101	V
	6265	6 + 5	* 1.272899	61.23	PK-U	28.8	0	-49.7	40.33	-	-	88.2	-47.87	0	199	H
			* 1.272742	49.66	ADR	28.8	0.72	-49.7	29.48	68.2	-38.72	-	-	0	199	H
			* 1.272835	61.67	PK-U	28.8	0	-49.7	40.77	-	-	88.2	-47.43	0	101	V
			* 1.272458	49.76	ADR	28.8	0.72	-49.7	29.58	68.2	-38.62	-	-	0	101	V
			3.128467	46.75	ADR	33.1	0.72	-47.1	33.47	68.2	-34.73	-	-	0	199	H
			3.129439	46.71	ADR	33.1	0.72	-47.1	33.43	68.2	-34.77	-	-	0	101	V
			3.129546	58.34	PK-U	33.1	0	-47.1	44.34	-	-	88.2	-43.86	0	101	V
			3.13032	58.74	PK-U	33.1	0	-47.1	44.74	-	-	88.2	-43.46	0	199	H
			13.885553	41.18	ADR	39	0.72	-40.94	39.96	68.2	-28.24	-	-	0	101	V
			13.887927	53.21	PK-U	39	0	-40.9	51.31	-	-	88.2	-36.89	0	199	H
			13.888102	52.82	PK-U	39	0	-40.91	50.91	-	-	88.2	-37.29	0	101	V
			13.88845	41.49	ADR	39	0.72	-40.94	40.27	68.2	-27.93	-	-	0	199	H
	6420	6 + 5	* 1.4047	59.01	PK-U	28.4	0	-49.1	38.31	-	-	74	-35.69	2	199	H
			* 1.402144	47.47	ADR	28.4	0.72	-49.2	27.39	54	-26.61	-	-	2	199	H
			* 3.953621	57.3	PK-U	33.6	0	-46.46	44.44	-	-	74	-29.56	2	101	H
			* 3.954869	45.64	ADR	33.6	0.72	-46.5	33.46	54	-20.54	-	-	2	101	H
			* 1.399913	59.37	PK-U	28.4	0	-49.1	38.67	-	-	74	-35.33	2	200	V
			* 1.398829	47.82	ADR	28.4	0.72	-49.12	27.82	54	-26.18	-	-	2	200	V
			* 3.95518	57.42	PK-U	33.6	0	-46.48	44.54	-	-	74	-29.46	2	200	V
			* 3.954998	45.66	ADR	33.6	0.72	-46.5	33.48	54	-20.52	-	-	2	200	V
			* 12.006923	54.02	PK-U	38.8	0	-41.69	51.13	-	-	74	-22.87	2	200	H
			* 12.006728	41.87	ADR	38.8	0.72	-41.67	39.72	54	-14.28	-	-	2	200	H
			* 12.000552	53.13	PK-U	38.8	0	-41.6	50.33	-	-	74	-23.67	2	101	V
			* 11.99914	41.81	ADR	38.8	0.72	-41.6	39.73	54	-14.27	-	-	2	101	V

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

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RMS - RMS detection

UNII-5 (MIMO TXBF)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	DCCF (dB)	Amp/Cbl/ Fltr/Pad (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LE2M	6106	6 + 5	* 3687.402	52.78	PK-U	33.6	0	-41.8	44.58	-	-	74	-29.42	170	185	H
			* 3690.679	40.19	ADR	33.6	2.49	-41.8	34.48	54	-19.52	-	-	170	185	H
			* 3682.276	52.2	PK-U	33.6	0	-41.8	44	-	-	74	-30	343	175	V
			* 3682.646	40.29	ADR	33.6	2.49	-41.8	34.58	54	-19.42	-	-	343	175	V
			* 12211.832	46.06	PK-U	38.8	0	-34.6	50.26	-	-	74	-23.74	97	160	H
			* 12211.032	34.34	ADR	38.8	2.49	-34.6	41.03	54	-12.97	-	-	97	160	H
			* 12210.876	47.41	PK-U	38.8	0	-34.6	51.61	-	-	74	-22.39	44	195	V
			* 12212.816	35.99	ADR	38.8	2.49	-34.6	42.68	54	-11.32	-	-	44	195	V
			16546.064	45.95	PK-U	41.1	0	-33.3	53.75	-	-	88.2	-34.45	114	205	H
			16545.617	34.14	ADR	41.1	2.49	-33.3	44.43	68.2	-23.77	-	-	114	205	H
			16551.039	46.45	PK-U	41.1	0	-33.3	54.25	-	-	88.2	-33.95	261	242	V
			16549.532	34.23	ADR	41.1	2.49	-33.3	44.52	68.2	-23.68	-	-	261	242	V
	6265	6 + 5	* 1542.847	56.32	PK-U	28.3	0	-45.7	38.92	-	-	74	-35.08	308	152	H
			* 1540.264	44.83	ADR	28.3	2.49	-45.7	29.92	54	-24.08	-	-	308	152	H
			* 1540.474	57.33	PK-U	28.3	0	-45.7	39.93	-	-	74	-34.07	353	204	V
			* 1540.325	44.62	ADR	28.3	2.49	-45.7	29.71	54	-24.29	-	-	353	204	V
			* 11147.928	48.42	PK-U	37.9	0	-35.7	50.62	-	-	74	-23.38	108	186	H
			* 11145.193	36.58	ADR	37.9	2.49	-35.8	41.17	54	-12.83	-	-	108	186	H
			* 11140.05	48.6	PK-U	37.9	0	-35.8	50.7	-	-	74	-23.3	184	224	V
			* 11141.88	36.67	ADR	37.9	2.49	-35.8	41.26	54	-12.74	-	-	184	224	V
			8859.789	48.69	PK-U	36.1	0	-36.7	48.09	-	-	88.2	-40.11	158	113	H
			8860.352	36.82	ADR	36.1	2.49	-36.7	38.71	68.2	-29.49	-	-	158	113	H
			8857.486	49.19	PK-U	36	0	-36.7	48.49	-	-	88.2	-39.71	21	103	V
			8857.44	36.74	ADR	36	2.49	-36.7	38.53	68.2	-29.67	-	-	21	103	V
	6420	6 + 5	1.430667	61.62	PK-U	28.2	0	-49.17	40.65	-	-	88.2	-47.55	360	101	H
			1.431162	50.07	ADR	28.2	2.49	-49.18	31.58	68.2	-36.62	-	-	360	101	H
			1.430293	62.05	PK-U	28.2	0	-49.13	41.12	-	-	88.2	-47.08	360	101	V
			1.429257	49.84	ADR	28.2	2.49	-49.17	31.36	68.2	-36.84	-	-	360	101	V
			* 3.34599	57.95	PK-U	32.7	0	-46.6	44.05	-	-	74	-29.95	360	101	H
			* 3.348871	45.85	ADR	32.7	2.49	-46.7	34.34	54	-19.66	-	-	360	101	H
			3.344954	58.41	PK-U	32.7	0	-46.6	44.51	-	-	88.2	-43.69	360	101	V
			3.344556	45.84	ADR	32.7	2.49	-46.6	34.43	68.2	-33.77	-	-	360	101	V
			* 12.147979	53.27	PK-U	38.9	0	-41.2	50.97	-	-	74	-23.03	360	101	H
			* 12.145533	41.56	ADR	38.9	2.49	-41.25	41.7	54	-12.3	-	-	360	101	H
			* 12.150347	53.46	PK-U	38.9	0	-41.3	51.06	-	-	74	-22.94	360	101	V
			* 12.148899	41.62	ADR	38.9	2.49	-41.2	41.81	54	-12.19	-	-	360	101	V
HDT2	6106	6 + 5	1.857206	58.43	PK-U	30.5	0	-46.12	42.81	-	-	88.2	-45.39	48	166	H
			1.856368	46.87	ADR	30.5	0.18	-46.16	31.39	68.2	-36.81	-	-	48	166	H
			3.295994	55.55	PK-U	32.8	0	-45	43.35	-	-	88.2	-44.85	345	228	H
			3.295716	44.15	ADR	32.8	0.18	-45.03	32.1	68.2	-36.1	-	-	345	228	H
			1.852852	58.19	PK-U	30.5	0	-46.2	42.49	-	-	88.2	-45.71	15	257	V
			1.851908	46.66	ADR	30.5	0.18	-46.2	31.14	68.2	-37.06	-	-	15	257	V
			3.296041	55.13	PK-U	32.8	0	-45	42.93	-	-	88.2	-45.27	90	361	V
			3.297063	43.49	ADR	32.8	0.18	-45.01	31.46	68.2	-36.74	-	-	90	361	V
			* 12.423078	52.38	PK-U	38.6	0	-40.6	50.38	-	-	74	-23.62	90	101	H
			* 12.425967	40.65	ADR	38.6	0.18	-40.6	38.83	54	-15.17	-	-	90	101	H
			* 12.424764	52.29	PK-U	38.6	0	-40.6	50.29	-	-	74	-23.71	90	101	V
			* 12.422956	40.83	ADR	38.6	0.18	-40.6	39.01	54	-14.99	-	-	90	101	V
	6265	6 + 5	2.097387	57.47	PK-U	31.9	0	-46.5	42.87	-	-	88.2	-45.33	50	190	H
			2.097551	45.98	ADR	31.9	0.18	-46.5	31.56	68.2	-36.64	-	-	50	190	H
			* 3.856726	55.38	PK-U	33.4	0	-45.07	43.71	-	-	74	-30.29	224	169	H
			* 3.858789	43.56	ADR	33.4	0.18	-45.1	32.04	54	-21.96	-	-	224	169	H
			2.099945	57.14	PK-U	31.9	0	-46.4	42.64	-	-	88.2	-45.56	274	131	V
			2.09989	45.69	ADR	31.9	0.18	-46.4	31.37	68.2	-36.83	-	-	274	131	V
			* 3.864964	55.34	PK-U	33.4	0	-45	43.74	-	-	74	-30.26	15	323	V
			* 3.864769	43.58	ADR	33.4	0.18	-45	32.16	54	-21.84	-	-	15	323	V
			12.769943	52.92	PK-U	38.9	0	-40.9	50.92	-	-	88.2	-37.28	15	199	H
			12.769336	41.32	ADR	38.9	0.18	-40.9	39.5	68.2	-28.7	-	-	15	199	H
			12.767918	52.65	PK-U	38.9	0	-40.9	50.65	-	-	88.2	-37.55	15	199	V
			12.764763	41.35	ADR	38.9	0.18	-40.92	39.51	68.2	-28.69	-	-	15	199	V
	6420	6 + 5	1.774283	56.23	PK-U	29.9	0	-46.5	39.63	-	-	88.2	-48.57	358	125	H
			1.771786	44.82	ADR	29.9	0.18	-46.42	28.48	68.2	-39.72	-	-	358	125	H
			3.175368	56.01	PK-U	33	0	-45.6	43.41	-	-	88.2	-44.79	31	238	H
			3.178611	44.24	ADR	33	0.18	-45.7	31.72	68.2	-36.48	-	-	31	238	H
			1.766918	56.75	PK-U	29.8	0	-46.5	40.05	-	-	88.2	-48.15	93	115	V
			1.76697	45.02	ADR	29.8	0.18	-46.5	28.5	68.2	-39.7	-	-	93	115	V
			3.175922	55.65	PK-U	33	0	-45.6	43.05	-	-	88.2	-45.15	26	240	V
			3.178112	44.18	ADR	33	0.18	-45.7	31.66	68.2	-36.54	-	-	26	240	V
			* 11.678818	53.34	PK-U	38.3	0	-42.2	49.44	-	-	74	-24.56	26	199	H
			* 11.67893	41.69	ADR	38.3	0.18	-42.2	37.97	54	-16.03	-	-	26	199	H
			* 11.674519	53.85	PK-U	38.3	0	-42.05	50.1	-	-	74	-23.9	26	199	V
			* 11.676116	41.73	ADR	38.3	0.18	-42.11	38.1	54	-15.9	-	-	26	199	V

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

UL VERIFICATION SERVICES INC.
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UNII-5 (MIMO TXBF)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	DCCF (dB)	Amp/Cbl/ Fltr/Pad (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
HDR4	6106	6 + 5	1734.752	57.29	PK-U	29.5	0	-46	40.79	-	-	88.2	-47.41	164	166	H
			1732.73	45.8	ADR	29.5	1.3	-46	30.6	68.2	-37.6	-	-	164	166	H
			1737.005	57.32	PK-U	29.5	0	-46	40.82	-	-	88.2	-47.38	241	108	V
			1736.163	45.56	ADR	29.5	1.3	-46	30.36	68.2	-37.84	-	-	241	108	V
			* 3903.041	51.69	PK-U	33.6	0	-41.5	43.79	-	-	74	-30.21	87	171	H
			* 3902.407	40.1	ADR	33.6	1.3	-41.5	33.5	54	-20.5	-	-	87	171	H
			* 3894.337	52.05	PK-U	33.6	0	-41.5	44.15	-	-	74	-29.85	239	397	V
			* 3893.171	39.86	ADR	33.6	1.3	-41.5	33.26	54	-20.74	-	-	239	397	V
			* 15856.021	46.47	PK-U	40.5	0	-33.3	53.67	-	-	74	-20.33	154	287	H
			* 15856.299	34.82	ADR	40.5	1.3	-33.4	43.22	54	-10.78	-	-	154	287	H
			* 15841.548	46.48	PK-U	40.5	0	-33.4	53.58	-	-	74	-20.42	57	226	V
			* 15841.746	34.94	ADR	40.5	1.3	-33.4	43.34	54	-10.66	-	-	57	226	V
	6265	6 + 5	* 1264	58.09	PK-U	28.9	0	-46.2	40.79	-	-	88.2	-47.41	52	186	H
			* 1265.147	46.59	ADR	28.9	1.3	-46.2	30.59	68.2	-37.61	-	-	52	186	H
			* 1261.886	58.17	PK-U	28.9	0	-46.2	40.87	-	-	88.2	-47.33	355	112	V
			* 1262.614	46.44	ADR	28.9	1.3	-46.2	30.44	68.2	-37.76	-	-	355	112	V
			* 4020.977	51.71	PK-U	33.6	0	-41.5	43.81	-	-	74	-30.19	360	133	H
			* 4021.456	40.22	ADR	33.6	1.3	-41.5	33.62	54	-20.38	-	-	360	133	H
			* 4018.416	52.22	PK-U	33.6	0	-41.5	44.32	-	-	74	-29.68	319	162	V
			* 4020.28	40.27	ADR	33.6	1.3	-41.5	33.67	54	-20.33	-	-	319	162	V
			* 12532.321	45.81	PK-U	38.9	0	-34.4	50.31	-	-	74	-23.69	45	101	H
			* 12529.768	34.53	ADR	38.9	1.3	-34.4	40.33	54	-13.67	-	-	45	101	H
			* 12529.109	46.73	PK-U	38.9	0	-34.4	51.23	-	-	74	-22.77	76	246	V
			* 12530.222	35.09	ADR	38.9	1.3	-34.4	40.89	54	-13.11	-	-	76	246	V
	6420	6 + 5	* 1262.49	46.27	PK-U	29.1	0	-28.04	47.33	-	-	88.2	-40.87	0	100	H
			* 1229.27	34.04	ADR	28.9	1.3	-28.1	36.14	54	-17.86	-	-	0	100	H
			* 1251.288	46.64	PK-U	29.1	0	-28.09	47.65	-	-	88.2	-40.55	0	201	V
			* 1242.609	34.09	ADR	29	1.3	-28.08	36.31	68.2	-31.89	-	-	0	201	V
			* 3944.034	46.02	PK-U	33.9	0	-25.75	54.17	-	-	74	-19.83	0	100	H
			* 3936.003	34.15	ADR	33.9	1.3	-25.76	43.59	54	-10.41	-	-	0	100	H
			* 3939.694	46.34	PK-U	33.9	0	-25.77	54.47	-	-	74	-19.53	0	200	V
			* 3955.262	34.01	ADR	33.9	1.3	-25.83	43.38	54	-10.62	-	-	0	200	V
			* 11757.868	56.23	PK-U	38.6	0	-45	49.83	-	-	74	-24.17	0	100	H
			* 11748.336	44.79	ADR	38.6	1.3	-44.97	39.72	54	-14.28	-	-	0	100	H
			* 11754.808	56.64	PK-U	38.6	0	-44.91	50.33	-	-	74	-23.67	0	201	V
			* 11742.929	44.8	ADR	38.6	1.3	-45.03	39.67	54	-14.33	-	-	0	201	V
HDRPM4	6107	6 + 5	2.24659	61.76	PK-U	32.2	0	-50.91	43.05	-	-	74	-30.95	49	382	H
			2.248603	49.73	ADR	32.2	0.33	-50.93	31.33	54	-22.67	-	-	219	189	V
			2.24887	49.81	ADR	32.2	0.33	-50.93	31.41	54	-22.59	-	-	49	382	H
			2.250015	61.43	PK-U	32.2	0	-50.91	42.72	-	-	74	-31.28	219	189	V
			4.264106	57.7	PK-U	34.2	0	-46.88	45.02	-	-	74	-28.98	5	148	V
			4.264117	57.35	PK-U	34.2	0	-46.88	44.67	-	-	74	-29.33	208	203	H
			4.265287	45.19	ADR	34.2	0.33	-46.88	32.84	54	-21.16	-	-	208	203	H
			4.26624	45.43	ADR	34.2	0.33	-46.91	33.05	54	-20.95	-	-	5	148	V
			12.376504	54.94	PK-U	38.9	0	-43.67	50.17	-	-	74	-23.83	260	121	V
			12.377104	43.49	ADR	38.9	0.33	-43.68	39.04	54	-14.96	-	-	260	121	V
			12.377315	55.01	PK-U	38.9	0	-43.69	50.22	-	-	74	-23.78	90	209	H
			12.38022	43.59	ADR	38.9	0.33	-43.78	39.04	54	-14.96	-	-	90	209	H
	6265	6 + 5	2.266773	49.86	ADR	32.1	0.33	-50.89	31.4	54	-22.6	-	-	349	156	V
			2.268449	49.97	ADR	32.1	0.33	-50.92	31.48	54	-22.52	-	-	285	152	H
			2.269062	61.34	PK-U	32.1	0	-50.9	42.54	-	-	74	-31.46	285	152	H
			2.269367	61.36	PK-U	32.1	0	-50.91	42.55	-	-	74	-31.45	349	156	V
			4.251341	45.42	ADR	34.1	0.33	-47.01	32.84	54	-21.16	-	-	93	262	H
			4.252427	57.3	PK-U	34.1	0	-46.94	44.46	-	-	74	-29.54	93	262	H
			4.253061	45.27	ADR	34.1	0.33	-46.91	32.79	54	-21.21	-	-	197	387	V
			4.253822	57.29	PK-U	34.1	0	-46.89	44.5	-	-	74	-29.5	197	387	V
			12.3773	43.53	ADR	38.9	0.33	-43.69	39.07	54	-14.93	-	-	147	251	H
			12.378248	43.73	ADR	38.9	0.33	-43.72	39.24	54	-14.76	-	-	118	180	V
			12.379773	55.2	PK-U	38.9	0	-43.78	50.32	-	-	74	-23.68	147	251	H
			12.380426	54.95	PK-U	38.9	0	-43.78	50.07	-	-	74	-23.93	118	180	V
	6420	6 + 5	1.736822	61.68	PK-U	29.5	0	-48.9	42.28	-	-	88.2	-45.92	1	101	H
			1.737475	50.34	ADR	29.5	0.33	-48.9	31.27	68.2	-36.93	-	-	1	101	H
			1.733617	61.55	PK-U	29.5	0	-48.9	42.15	-	-	88.2	-46.05	1	101	V
			1.734462	49.78	ADR	29.5	0.33	-48.9	30.71	68.2	-37.49	-	-	1	101	V
			* 3.609057	57.54	PK-U	33.1	0	-46.5	44.14	-	-	74	-29.86	1	101	H
			* 3.609303	45.94	ADR	33.1	0.33	-46.5	32.87	54	-21.13	-	-	1	101	H
			* 3.610413	57.77	PK-U	33.1	0	-46.5	44.37	-	-	74	-29.63	1	200	V
			* 3.609902	45.95	ADR	33.1	0.33	-46.5	32.88	54	-21.12	-	-	1	200	V
			* 10.905688	54.25	PK-U	37.9	0	-42.67	49.48	-	-	74	-24.52	1	101	H
			* 10.905383	42.83	ADR	37.9	0.33	-42.64	38.42	54	-15.58	-	-	1	101	H
			* 10.901607	54.36	PK-U	37.9	0	-42.6	49.66	-	-	74	-24.34	1	200	V
			* 10.90261	42.69	ADR	37.9	0.33	-42.6	38.32	54	-15.68	-	-	1	200	V

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

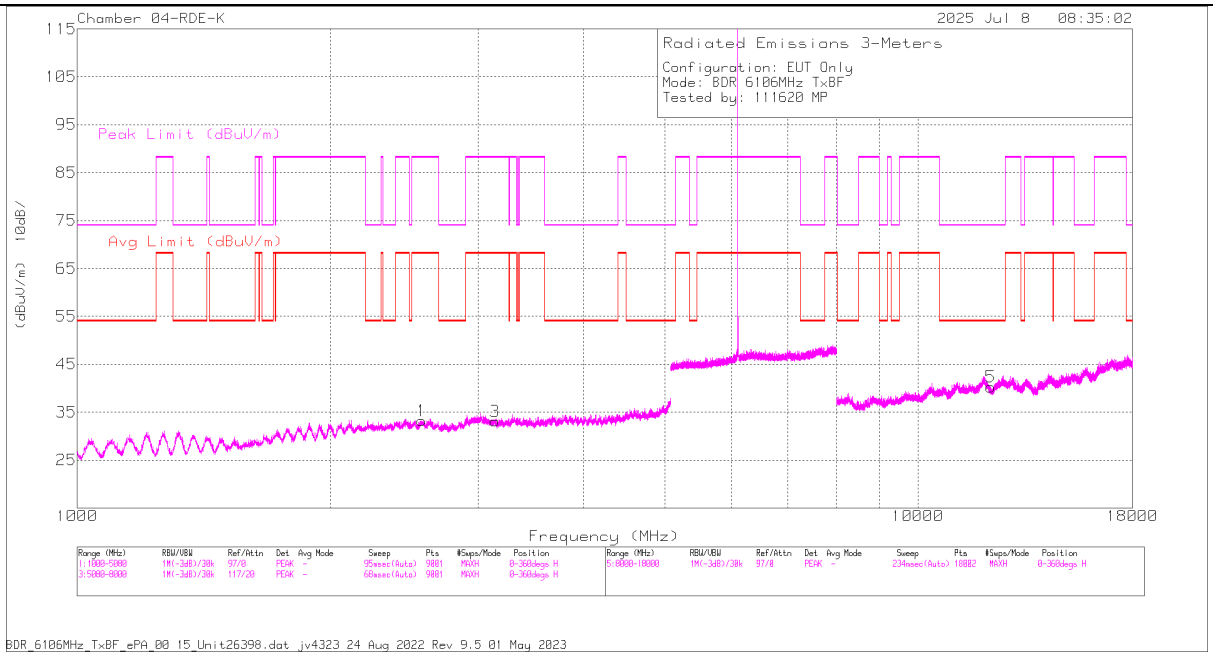
UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

UNII-5 (MIMO TXBF)	Channel Frequency (MHz)	Ant. #	Frequency (GHz)	Meter Reading (dBuV)	Det	ACF (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DCCF (dB)	Correct Reading (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)	Pk Limit (dBuV/m)	Pk Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
HDRPL8	6109	6 + 5	2.244357	49.67	ADR	32.2	-50.93	0.23	31.17	54	-22.83	-	-	255	255	V
			2.244501	61.56	PK-U	32.2	-50.92	0	42.84	-	-	74	-31.16	255	255	V
			2.247851	61.93	PK-U	32.2	-50.92	0	43.21	-	-	74	-30.79	328	157	H
			2.249085	49.66	ADR	32.2	-50.93	0.23	31.16	54	-22.84	-	-	328	157	H
			4.294564	46.21	ADR	34.2	-47.35	0.23	33.29	54	-20.71	-	-	313	383	H
			4.29658	57.93	PK-U	34.2	-47.35	0	44.78	-	-	74	-29.22	313	383	H
			4.297002	57.51	PK-U	34.2	-47.35	0	44.36	-	-	74	-29.64	255	255	V
			4.297785	45.96	ADR	34.2	-47.37	0.23	33.02	54	-20.98	-	-	255	255	V
			12.398504	43.4	ADR	38.9	-44.17	0.23	38.36	54	-15.64	-	-	223	193	H
			12.39951	54.89	PK-U	38.9	-44.18	0	49.61	-	-	74	-24.39	223	193	H
			12.401906	55.59	PK-U	38.9	-44.17	0	50.32	-	-	74	-23.68	231	164	V
			12.402403	43.49	ADR	38.9	-44.18	0.23	38.44	54	-15.56	-	-	231	164	V
	6265	6 + 5	2.249627	49.73	ADR	32.2	-50.92	0.23	31.24	54	-22.76	-	-	172	132	H
			2.250287	61.65	PK-U	32.2	-50.91	0	42.94	-	-	74	-31.06	172	132	H
			2.250366	49.88	ADR	32.2	-50.91	0.23	31.4	54	-22.6	-	-	293	258	V
			2.253636	61.3	PK-U	32.2	-50.91	0	42.59	-	-	74	-31.41	293	258	V
			4.289982	57.72	PK-U	34.2	-47.13	0	44.79	-	-	74	-29.21	248	307	V
			4.29037	46.12	ADR	34.2	-47.16	0.23	33.39	54	-20.61	-	-	248	307	V
			4.291178	57.36	PK-U	34.2	-47.23	0	44.33	-	-	74	-29.67	345	380	H
			4.292507	46.08	ADR	34.2	-47.29	0.23	33.22	54	-20.78	-	-	345	380	H
			12.375579	43.8	ADR	38.9	-43.62	0.23	39.31	54	-14.69	-	-	138	210	H
			12.376954	55.19	PK-U	38.9	-43.68	0	50.41	-	-	74	-23.59	144	229	V
			12.377036	43.62	ADR	38.9	-43.68	0.23	39.07	54	-14.93	-	-	144	229	V
			12.377503	55.07	PK-U	38.9	-43.7	0	50.27	-	-	74	-23.73	138	210	H
	6417	6 + 5	2.246793	61.52	PK-U	32.2	-50.91	0	42.81	-	-	74	-31.19	166	271	H
			2.244306	49.84	ADR	32.2	-50.93	0.23	31.34	54	-22.66	-	-	166	271	H
			2.239204	60.79	PK-U	32.2	-50.91	0	42.08	-	-	74	-31.92	247	166	V
			2.243012	49.51	ADR	32.2	-50.9	0.23	31.04	54	-22.96	-	-	247	166	V
			4.111	57.98	PK-U	33.7	-47.62	0	44.06	-	-	74	-29.94	254	203	H
			4.109903	46.57	ADR	33.7	-47.59	0.23	32.91	54	-21.09	-	-	254	203	H
			4.112799	58.23	PK-U	33.7	-47.61	0	44.32	-	-	74	-29.68	140	117	V
			4.112707	46.79	ADR	33.7	-47.61	0.23	33.11	54	-20.89	-	-	140	117	V
			12.313187	55.45	PK-U	38.9	-43.47	0	50.88	-	-	74	-23.12	180	171	H
			12.311597	44.29	ADR	38.9	-43.48	0.23	39.94	54	-14.06	-	-	180	171	H
			12.304354	55.73	PK-U	38.9	-43.35	0	51.28	-	-	74	-22.72	300	103	V
			12.306884	44.17	ADR	38.9	-43.37	0.23	39.93	54	-14.07	-	-	300	103	V

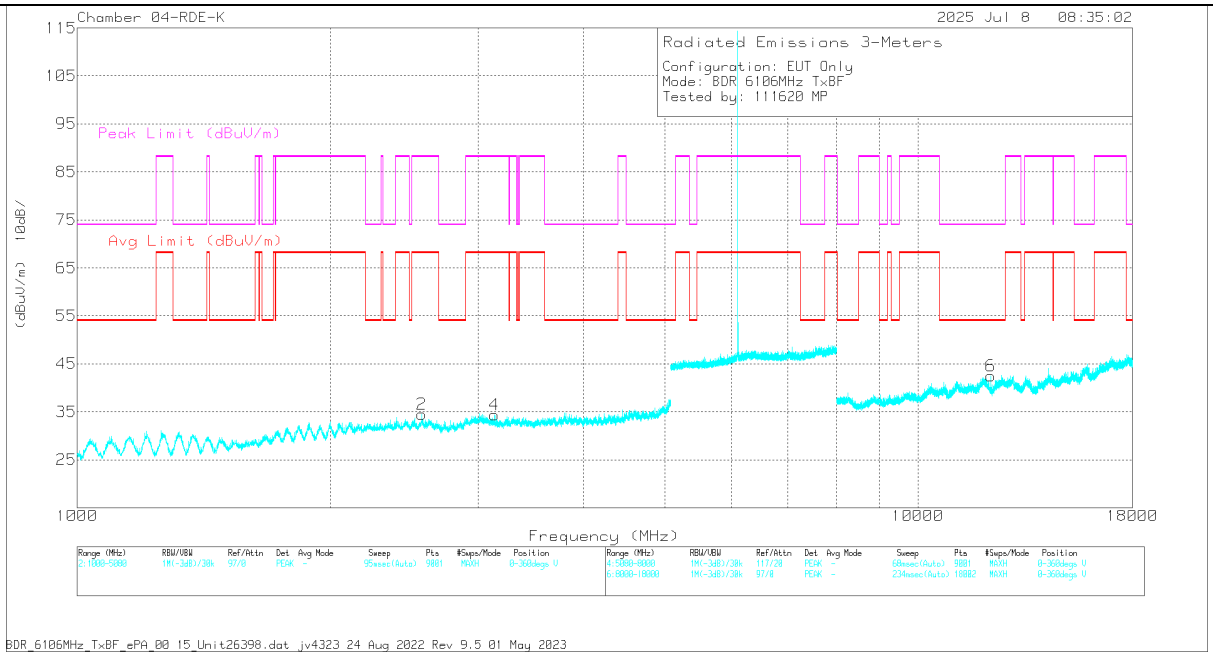
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL / 6106MHz)



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

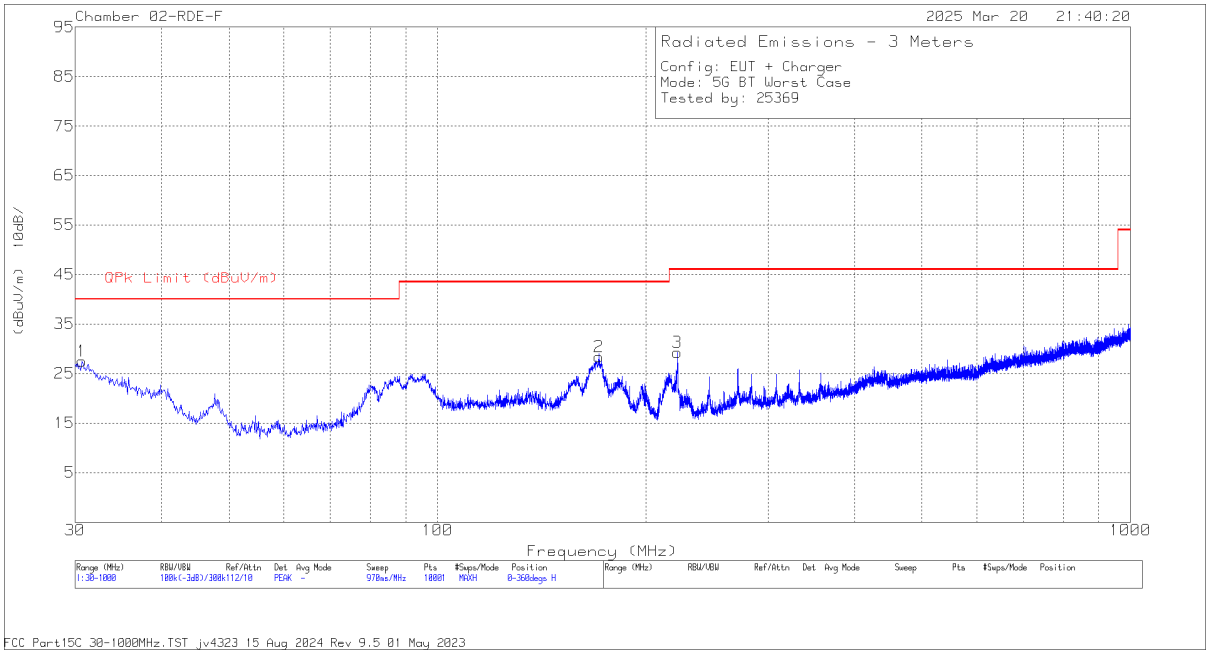
Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206808 ACF (dB/m)	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2568.56	55.01	PK-U	32.4	-43.9	0	43.51	-	-	88.2	-44.69	330	270	H
	2568.457	43.44	ADR	32.4	-43.9	1.15	33.09	68.2	-35.11	-	-	330	270	H
2	2568.064	55.04	PK-U	32.4	-43.9	0	43.54	-	-	88.2	-44.66	200	318	V
	2570.179	43.43	ADR	32.4	-43.9	1.15	33.08	68.2	-35.12	-	-	200	318	V
3	3137.063	52.27	PK-U	33.2	-41.9	0	43.57	-	-	88.2	-44.63	271	108	H
	3139.308	40.27	ADR	33.2	-41.9	1.15	32.72	68.2	-35.48	-	-	271	108	H
4	3133.751	51.95	PK-U	33.2	-41.9	0	43.25	-	-	88.2	-44.95	168	173	V
	3133.805	40.76	ADR	33.2	-41.9	1.15	33.21	68.2	-34.99	-	-	168	173	V
5	* 12211.181	46.16	PK-U	38.8	-34.6	0	50.36	-	-	74	-23.64	130	124	H
	* 12210.972	34.19	ADR	38.8	-34.6	1.15	39.54	54	-14.46	-	-	130	124	H
6	* 12213.275	45.72	PK-U	38.8	-34.6	0	49.92	-	-	74	-24.08	172	221	V
	* 12211.371	34.27	ADR	38.8	-34.6	1.15	39.62	54	-14.38	-	-	172	221	V

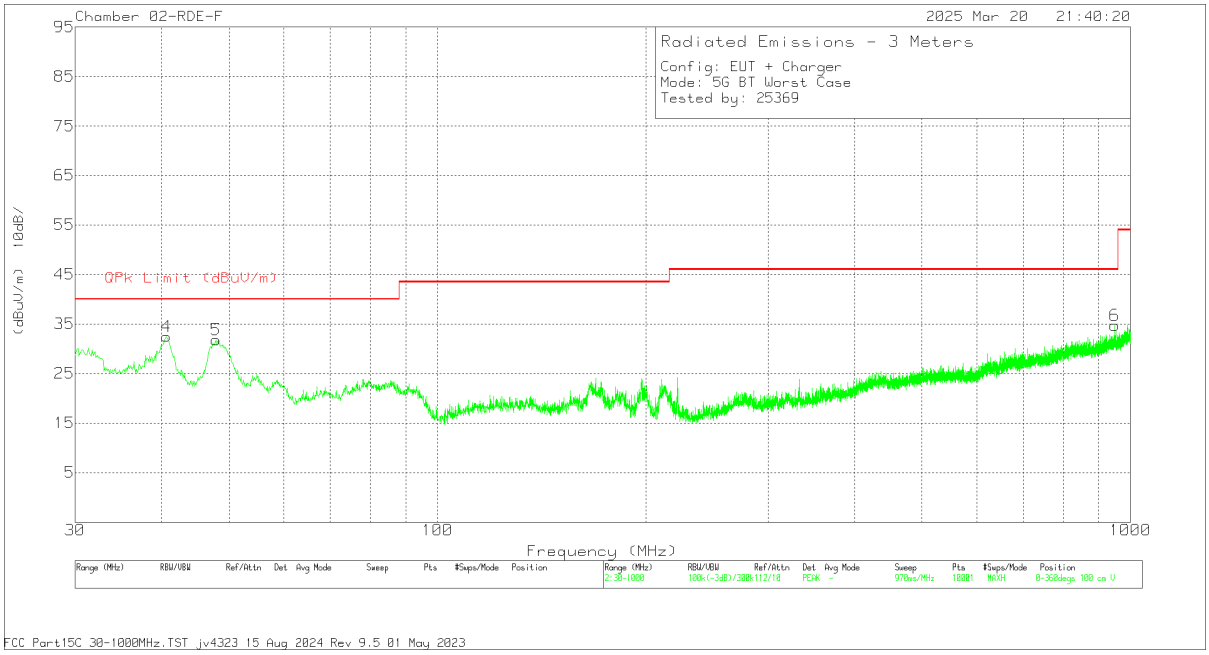
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.2. WORST CASE BELOW 1 GHz – HIGH POWER



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

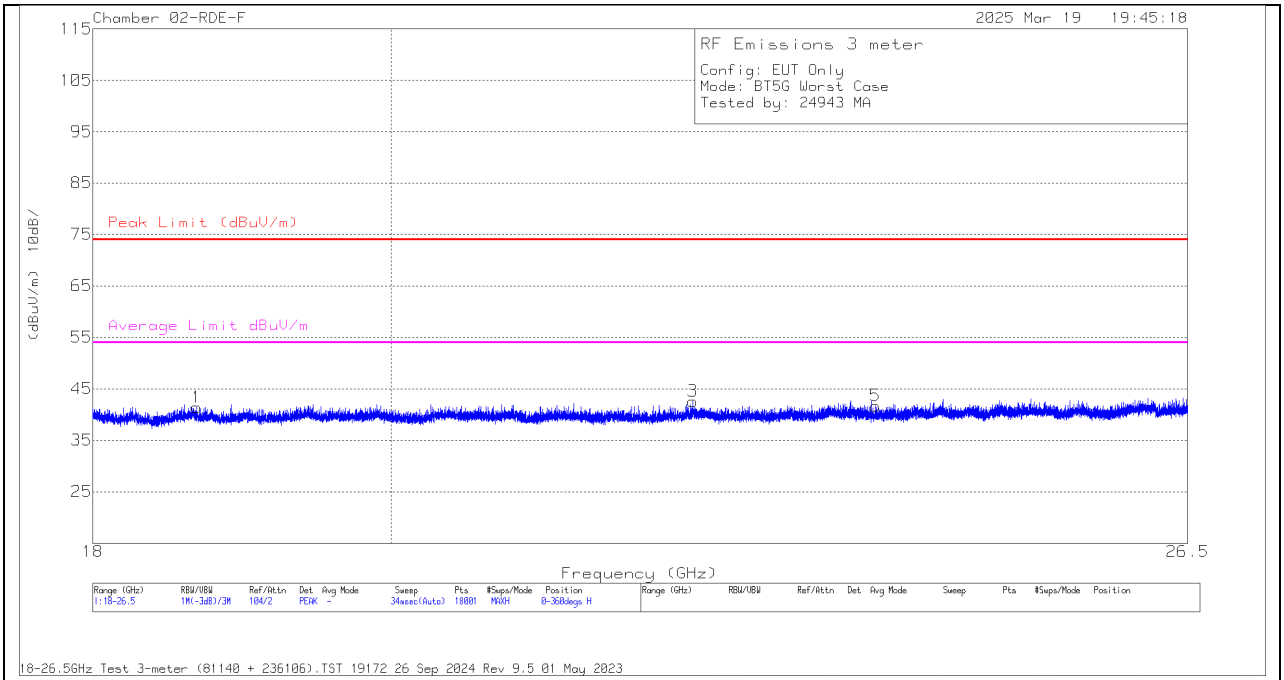
Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 171.148	33.15	Qp	17.4	-30.5	20.05	43.52	-23.47	125	159	H
30.2462	22.67	Qp	26.8	-31.4	18.07	40	-21.93	86	187	H
40.696	40.46	Qp	19	-31.4	28.06	40	-11.94	120	130	V
47.9523	46.35	Qp	14.2	-31.6	28.95	40	-11.05	98	106	V
222.178	39.34	Qp	16.6	-30.4	25.54	46.02	-20.48	71	140	H
948.377	19.99	Qp	28.2	-26.5	21.69	46.02	-24.33	347	371	V

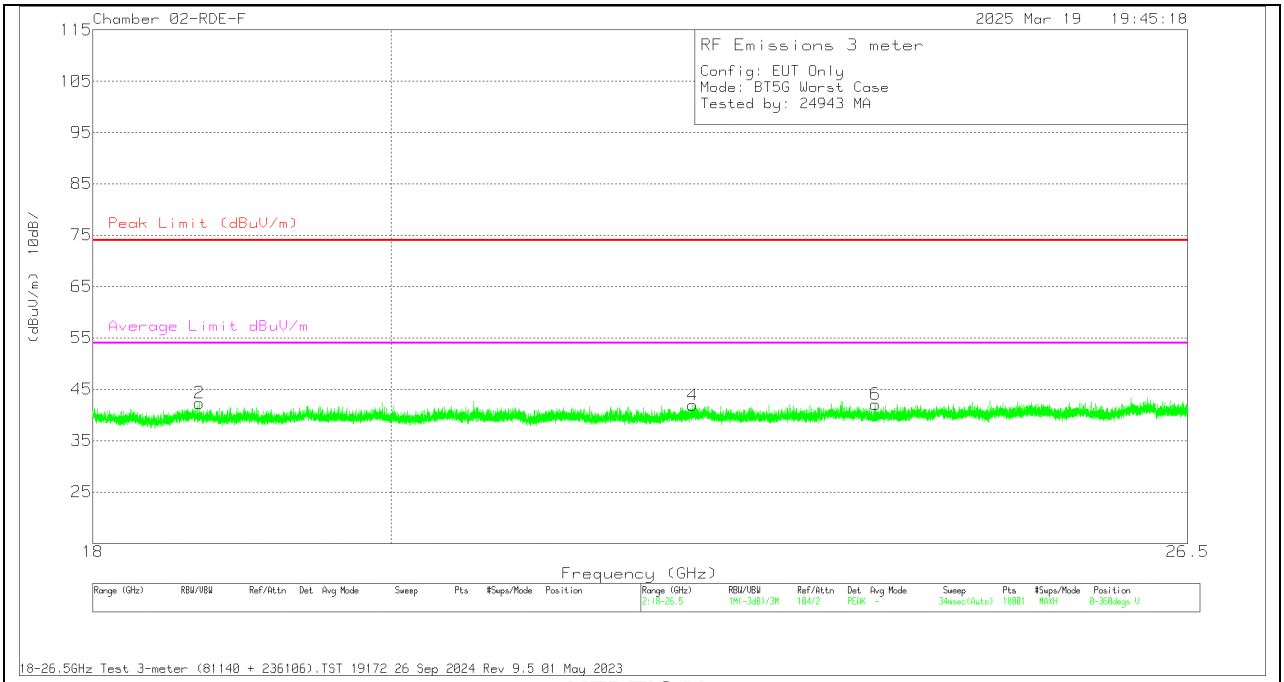
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Qp - Quasi-Peak detector

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.3. WORST CASE 18-26 GHz – HIGH POWER



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81140 ACF (dB/m)	AMP (dB)	CBL (dB)	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 18.6715	54.78	Pk	32.4	-63.2	17.4	41.38	74	-32.62	-	-	0-360	101	H
3	* 22.249998	53.21	Pk	33.3	-62.9	19	42.61	74	-31.39	-	-	0-360	101	H
5	* 23.730886	51.95	Pk	33.7	-63.7	19.7	41.65	74	-32.35	-	-	0-360	200	H
2	* 18.688972	55.62	Pk	32.4	-63.1	17.4	42.32	74	-31.68	-	-	0-360	101	V
4	* 22.248109	52.48	Pk	33.3	-62.9	19	41.88	74	-32.12	-	-	0-360	200	V
6	* 23.734664	52.32	Pk	33.7	-63.7	19.7	42.02	74	-31.98	-	-	0-360	200	V

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

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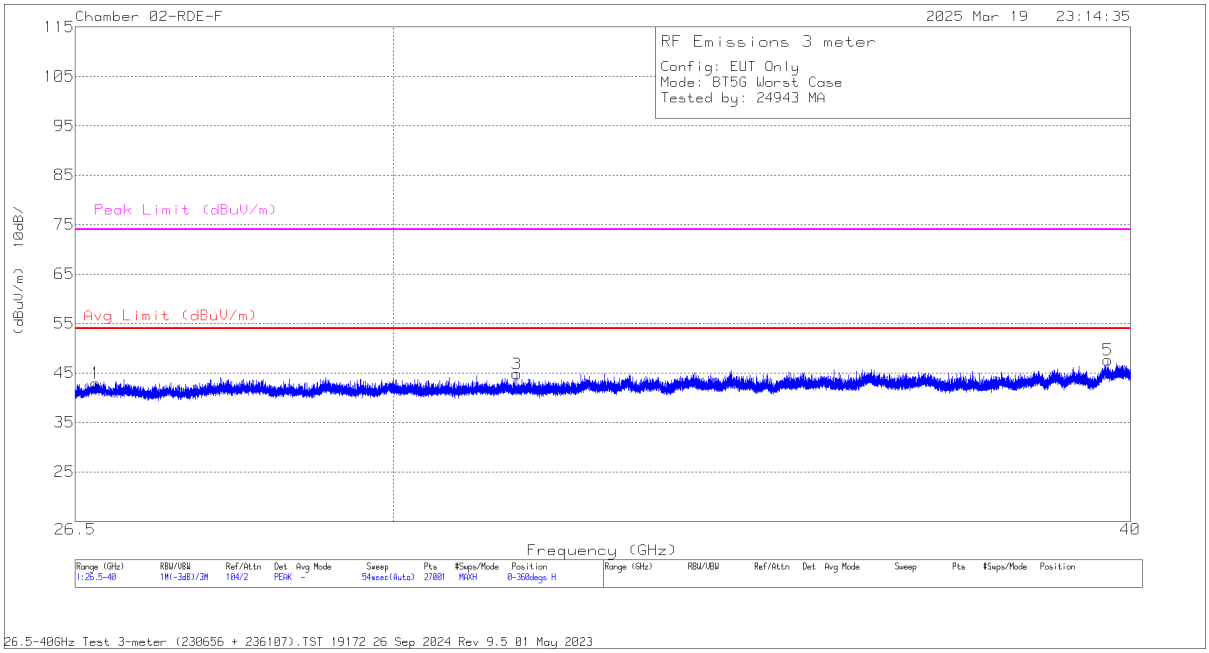
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

11.4. WORST CASE 26-40 GHz – HIGH POWER



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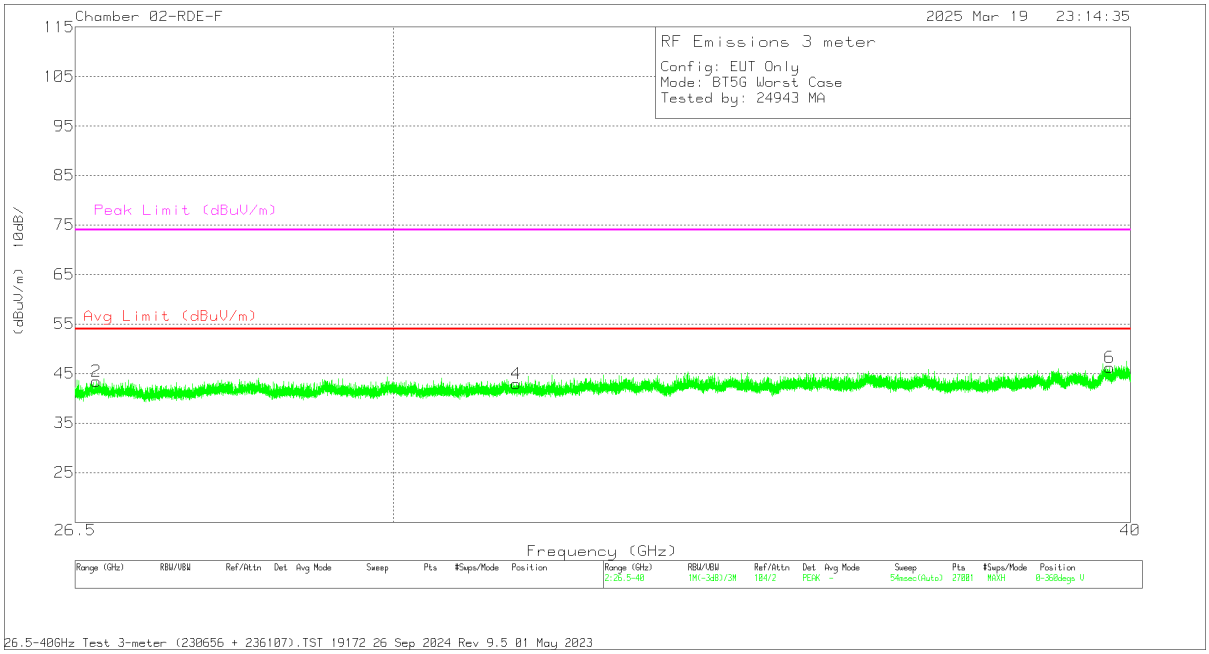

VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230656 ACF (dB/m)	AMP (dB)	CBL (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 31.482	47.6	Pk	36.4	-62.2	23	44.8	-	-	74	-29.2	0-360	101	H
5	* 39.6515	48.58	Pk	38.3	-65.7	26.5	47.68	-	-	74	-26.32	0-360	200	H
4	* 31.4775	45.8	Pk	36.4	-62.2	23	43	-	-	74	-31	0-360	200	V
6	* 39.681	47.24	Pk	38.3	-65.5	26.2	46.24	-	-	74	-27.76	0-360	101	V
1	26.7125	51.32	Pk	35.7	-65.1	21	42.92	-	-	74	-31.08	0-360	200	H
2	26.72	51.89	Pk	35.7	-65.1	21	43.49	-	-	74	-30.51	0-360	101	V

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

UL VERIFICATION SERVICES INC.
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12. 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.

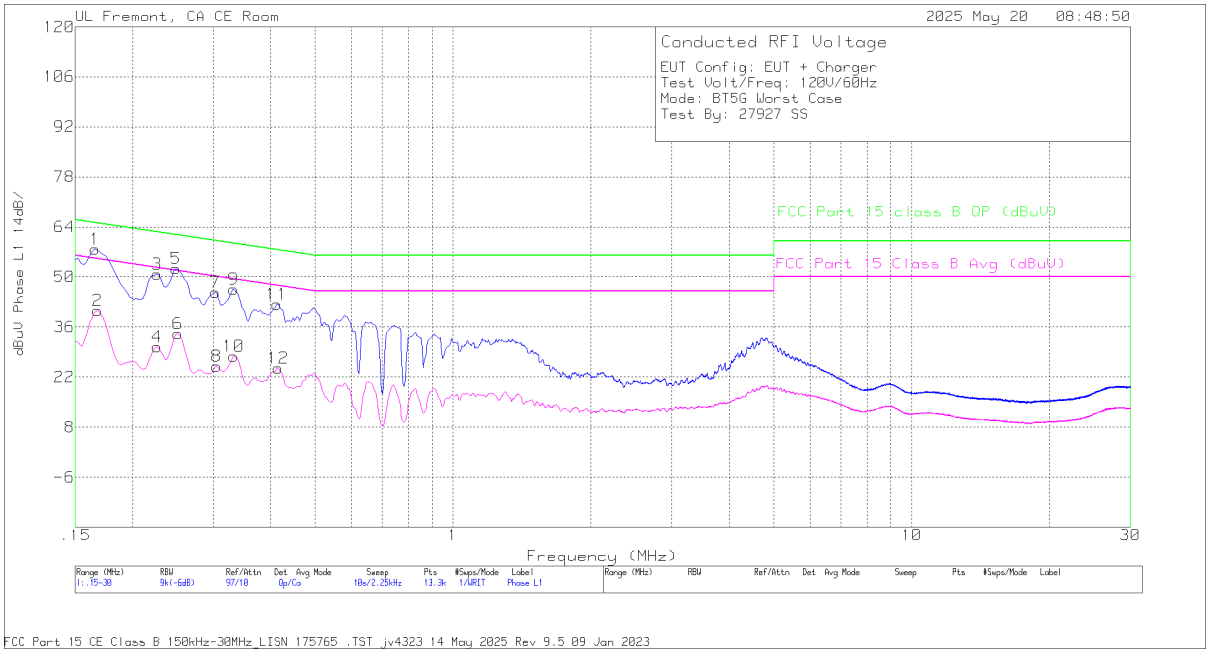
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

12.1. EUT WITH AC ADAPTER

LINE 1 RESULTS



Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 1 C3_C1_Limiter no Pad_UL(dB)	LISN (dB)	10dB Atten (dB)	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.168	19.92	Ca	9.4	.1	10	1.16	40.58	55.06	-14.48	-	-
4	.2265	9.84	Ca	9.4	0	10	1.16	30.4	52.58	-22.18	-	-
6	.2513	13.62	Ca	9.4	0	10	1.16	34.18	51.72	-17.54	-	-
8	.3053	4.48	Ca	9.4	0	10	1.16	25.04	50.1	-25.06	-	-
10	.3323	7.31	Ca	9.4	0	10	1.16	27.87	49.39	-21.52	-	-
12	.4155	3.99	Ca	9.4	0	10	1.16	24.55	47.54	-22.99	-	-
1	.1658	37.13	Qp	9.4	.1	10	1.16	57.79	-	-	65.17	-7.38
3	.2265	30.21	Qp	9.4	0	10	1.16	50.77	-	-	62.58	-11.81
5	.249	31.78	Qp	9.4	0	10	1.16	52.34	-	-	61.79	-9.45
7	.303	25.12	Qp	9.4	0	10	1.16	45.68	-	-	60.16	-14.48
9	.3323	26.08	Qp	9.4	0	10	1.16	46.64	-	-	59.39	-12.75
11	.4133	21.88	Qp	9.4	0	10	1.16	42.44	-	-	57.58	-15.14

Qp - Quasi-Peak detector
Ca - CISPR average detection

UL VERIFICATION SERVICES INC.
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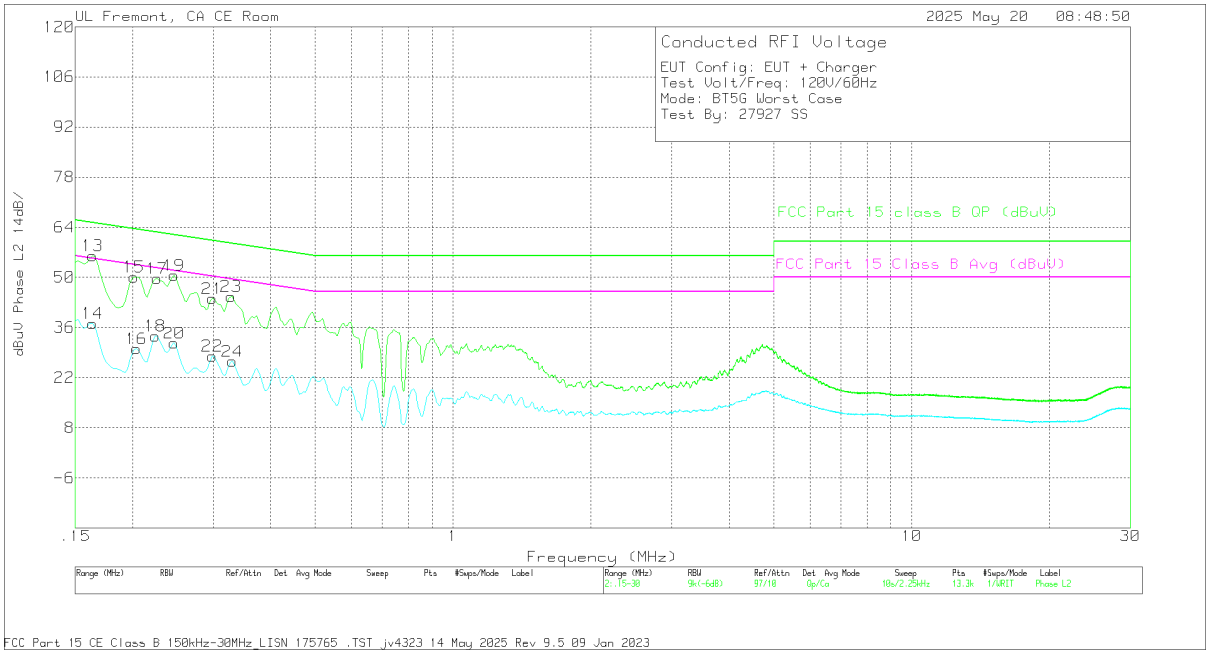
LINE 2 RESULTS



Trace Markers

Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Line 2 C3_C2_Limiter no Pad_UL(dB)	LISN (dB)	10dB Atten (dB)	DCCF (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1635	16.53	Ca	9.4	.1	10	1.16	37.19	55.28	-18.09	-	-
16	.204	9.47	Ca	9.4	0	10	1.16	30.03	53.45	-23.42	-	-
18	.2243	13.1	Ca	9.4	0	10	1.16	33.66	52.66	-19	-	-
20	.2468	11.05	Ca	9.4	0	10	1.16	31.61	51.87	-20.26	-	-
22	.2985	7.48	Ca	9.3	0	10	1.16	27.94	50.28	-22.34	-	-
24	.33	6.06	Ca	9.3	0	10	1.16	26.52	49.45	-22.93	-	-
13	.1635	35.36	Qp	9.4	.1	10	1.16	56.02	-	-	65.28	-9.26
15	.2018	29.58	Qp	9.4	0	10	1.16	50.14	-	-	63.54	-13.4
17	.2265	29.09	Qp	9.4	0	10	1.16	49.65	-	-	62.58	-12.93
19	.2468	29.98	Qp	9.4	0	10	1.16	50.54	-	-	61.87	-11.33
21	.2985	23.59	Qp	9.3	0	10	1.16	44.05	-	-	60.28	-16.23
23	.3278	24.23	Qp	9.3	0	10	1.16	44.69	-	-	59.51	-14.82

Qp - Quasi-Peak detector
Ca - CISPR average detection

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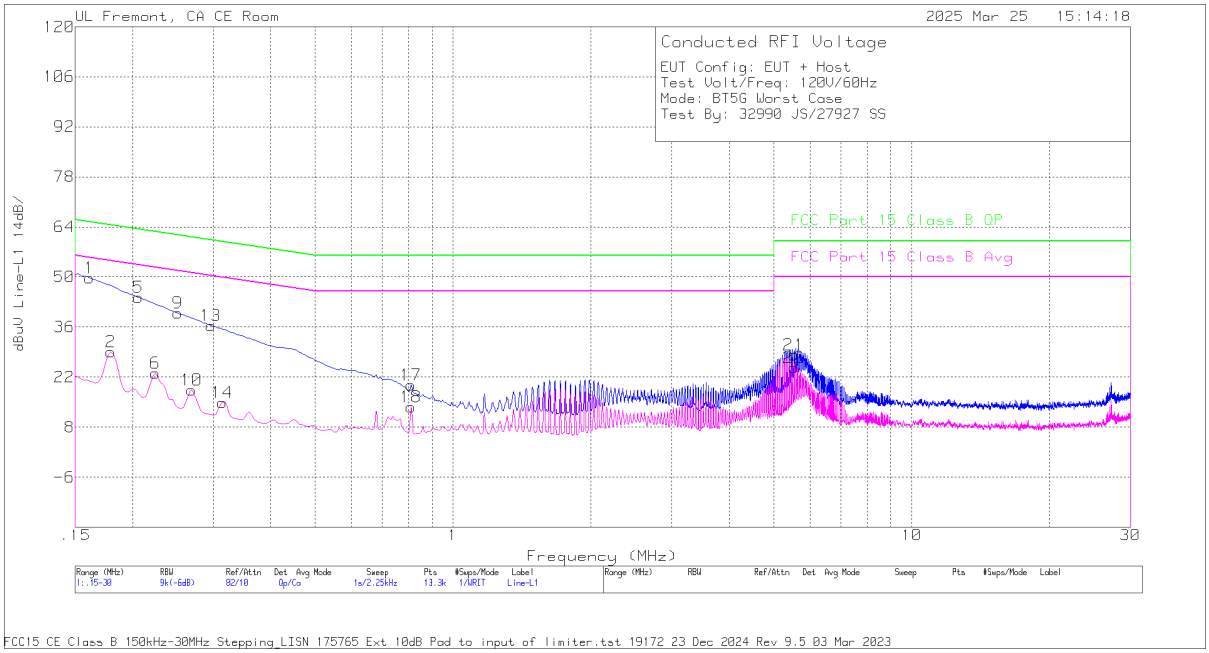
12.2. EUT WITH LAPTOP

LINE 1 RESULTS



Trace Markers

Range 1: Line-L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	CBL(dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP	QP Margin (dB)	FCC Part 15 Class B Avg	Av(CISPR) Margin (dB)
2	.1793	10.28	Ca	.1	.3	8.4	10	29.08	-	-	54.52	-25.44
6	.2243	4.74	Ca	0	0	8.3	10	23.04	-	-	52.66	-29.62
10	.2693	.37	Ca	0	-.1	8.1	10	18.37	-	-	51.14	-32.77
14	.3143	-3.08	Ca	0	-.1	8.1	10	14.92	-	-	49.86	-34.94
18	.8093	-4.39	Ca	0	.1	7.9	10	13.61	-	-	46	-32.39
22	5.541	6.4	Ca	0	.1	8.1	10	24.6	-	-	50	-25.4
1	.1613	30.78	Qp	.1	.4	8.5	10	49.78	65.4	-15.62	-	-
5	.2063	25.78	Qp	0	.1	8.4	10	44.28	63.35	-19.07	-	-
9	.2513	21.77	Qp	0	-.1	8.2	10	39.87	61.72	-21.85	-	-
13	.2963	18.47	Qp	0	0	8	10	36.47	60.35	-23.88	-	-
17	.8093	1.74	Qp	0	.1	7.9	10	19.74	56	-36.26	-	-
21	5.541	10.03	Qp	0	.1	8.1	10	28.23	60	-31.77	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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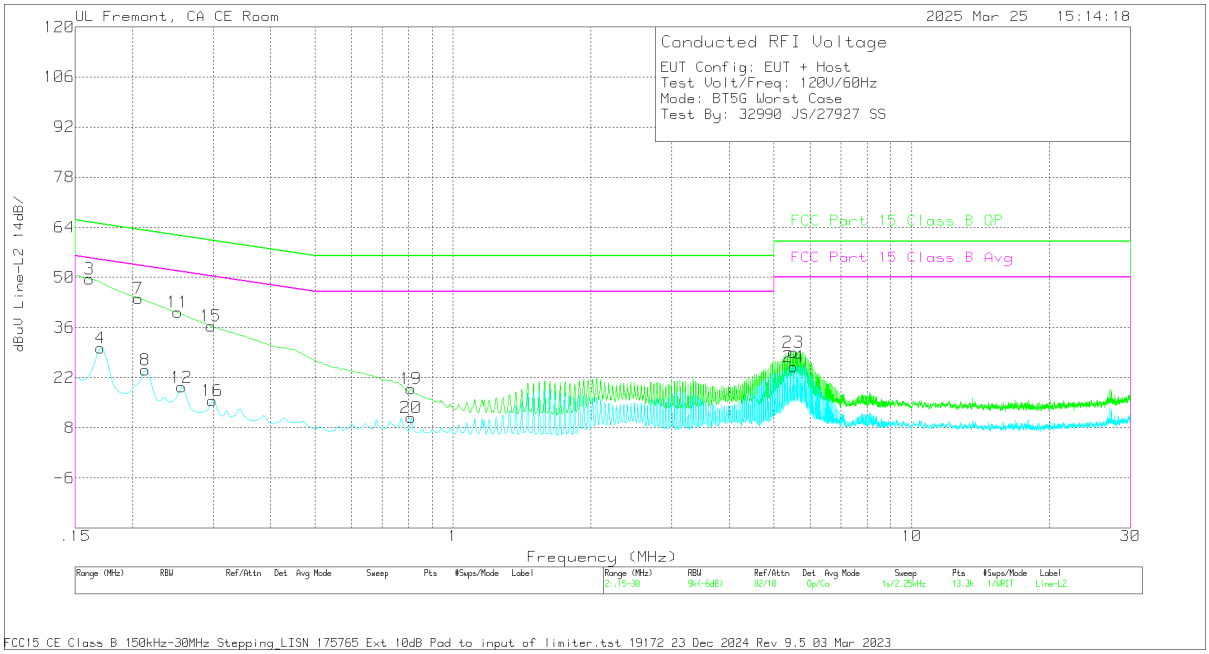
LINE 2 RESULTS



Trace Markers

Range 2: Line-L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	CBL(dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP	QP Margin (dB)	FCC Part 15 Class B Avg	Av(CISPR) Margin (dB)
4	.1703	11.55	Ca	0	.2	8.5	10	30.25	-	-	54.95	-24.7
8	.213	5.79	Ca	0	.1	8.3	10	24.19	-	-	53.09	-28.9
12	.2558	.93	Ca	0	.2	8.2	10	19.33	-	-	51.57	-32.24
16	.2985	-2.46	Ca	0	0	8	10	15.54	-	-	50.28	-34.74
20	.8093	-7.09	Ca	0	0	7.9	10	10.81	-	-	46	-35.19
24	5.5275	6.52	Ca	0	.2	8.3	10	25.02	-	-	50	-24.98
3	.1613	30.83	Qp	.1	.2	8.5	10	49.63	65.4	-15.77	-	-
7	.2063	25.8	Qp	0	0	8.4	10	44.2	63.35	-19.15	-	-
11	.2513	21.82	Qp	0	.2	8.2	10	40.22	61.72	-21.5	-	-
15	.2963	18.45	Qp	0	0	8	10	36.45	60.35	-23.9	-	-
19	.8093	1.02	Qp	0	0	7.9	10	18.92	56	-37.08	-	-
23	5.5253	10.57	Qp	0	.2	8.3	10	29.07	60	-30.93	-	-

Qp - Quasi-Peak detector
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13. SETUP PHOTOS

Refer to 15496282-EP1V1 FCC IC Setup_Photo for setup photos.

14. APPENDIX A – SPOT CHECK EVALUATION

14.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3260, A3516, A3517 and A3518.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for the cellular bands that are enabled/disabled by software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3260	BCG-E8948A	579C-E8948A	_No B11/21	eSIM	-
A3516	BCG-E8954A	579C-E8954A	_Added B11/21 _No B14/29/71		A3260
A3517	BCG-E8955A	579C-E8955A	_No B11/21/14/29/71		
A3518	BCG-E8956A	579C-E8956A	_No B11/21/14/29/71/53 _No MSS		

The spot check plan, approved by the FCC inquiry, allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 v03 equation (4).

$$d_{dBmax}(M_{dB}) = \begin{cases} (3 + M_{dB}/20)\ dB & \text{, for } 0 \le M_{dB} \le 60\ dB \\ 6\ \text{dB} & \text{, for } M_{dB} > 60\ \text{dB} \end{cases} \quad (4)$$

Where: d_{dBmax} is the maximum deviation d_{dB} allowed, M_{dB} is the margin in dB
d_{dB} deviation from Reference data, V_{dB} variant spot check level, and R_{dB} measurement level

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14.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3516

A3516 SPOT CHECK RESULTS												
Equipment Class	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3260 FCC ID : BCG-E8948A IC : 579C-E8948A	Sub Model: A3516 FCC ID : BCG-E8954A IC : 579C-E8954A	Delta (dB)	Margin	Remarks
VLP / NB UNII	5925 - 6425 UNII-5	BDR HP (ANT5)	BDR	Avg Power EIRP (dBm)	Fundamental	Low	6.106	-5.71	-6.00	-0.29	-19.71	Note 1
		BLE HP (ANT5)	HDT2	Avg Power EIRP (dBm)	Fundamental	Mid	6.265	-3.00	-3.46	-0.46	-17.00	Note 1
		HDR HP (ANT5)	HDRPL8	Avg Power EIRP (dBm)	Fundamental	Low	6.109	2.49	2.45	-0.04	-11.51	Note 1
		BLE HP (ANT5)	LE2M	Radiated Bandedge (dBm)	Vertical Low Bandedge	Low	5.83	-46.90	-47.68	-0.78	-19.90	Note 1
		HDR HP (TxBF)	HDR4	RSE (dBuV/m) Ave.	Horizontal 1 to 18	High	3.936003	43.59	44.15	0.56	-10.41	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

14.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3517

A3517 SPOT CHECK RESULTS												
Equipment Class	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3260 FCC ID : BCG-E8948A IC : 579C-E8948A	Sub Model: A3517 FCC ID : BCG-E8955A IC : 579C-E8955A	Delta (dB)	Margin	Remarks
VLP / NB UNII	5925 - 6425 UNII-5	BDR HP (ANT5)	BDR	Avg Power EIRP (dBm)	Fundamental	Low	6.106	-5.71	-5.88	-0.17	-19.71	Note 1
		BLE HP (ANT5)	HDT2	Avg Power EIRP (dBm)	Fundamental	Mid	6.265	-3.00	-3.35	-0.35	-17.00	Note 1
		HDR HP (ANT5)	HDRPL8	Avg Power EIRP (dBm)	Fundamental	Low	6.109	2.49	2.46	-0.03	-11.51	Note 1
		BLE HP (ANT5)	LE2M	Radiated Bandedge (dBm)	Vertical Low Bandedge	Low	5.83	-46.90	-47.56	-0.66	-19.90	Note 1
		HDR HP (TxBF)	HDR4	RSE (dBuV/m) Ave.	Horizontal 1 to 18	High	3.936003	43.59	44.04	0.45	-10.41	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

14.4. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3518

A3518 SPOT CHECK RESULTS												
Equipment Class	Frequency (GHz)	Mode	Data Rate	Test Item		Channel	Measured Frequency (GHz)	Original Model: A3260 FCC ID : BCG-E8948A IC : 579C-E8948A	Sub Model: A3518 FCC ID : BCG-E8956A IC : 579C-E8956A	Delta (dB)	Margin	Remarks
VLP / NB UNII	5925 - 6425 UNII-5	BDR HP (ANT5)	BDR	Avg Power EIRP (dBm)	Fundamental	Low	6.106	-5.71	-5.92	-0.21	-19.71	Note 1
		BLE HP (ANT5)	HDT2	Avg Power EIRP (dBm)	Fundamental	Mid	6.265	-3.00	-2.49	0.51	-17.00	Note 1
		HDR HP (ANT5)	HDRPL8	Avg Power EIRP (dBm)	Fundamental	Low	6.109	2.49	2.47	-0.02	-11.51	Note 1
		BLE HP (ANT5)	LE2M	Radiated Bandedge (dBm)	Vertical Low Bandedge	Low	5.83	-46.90	-47.57	-0.67	-19.90	Note 1
		HDR HP (TxBF)	HDR4	RSE (dBuV/m) Ave.	Horizontal 1 to 18	High	3.936003	43.59	42.60	-0.99	-10.41	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.
Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

END OF REPORT

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