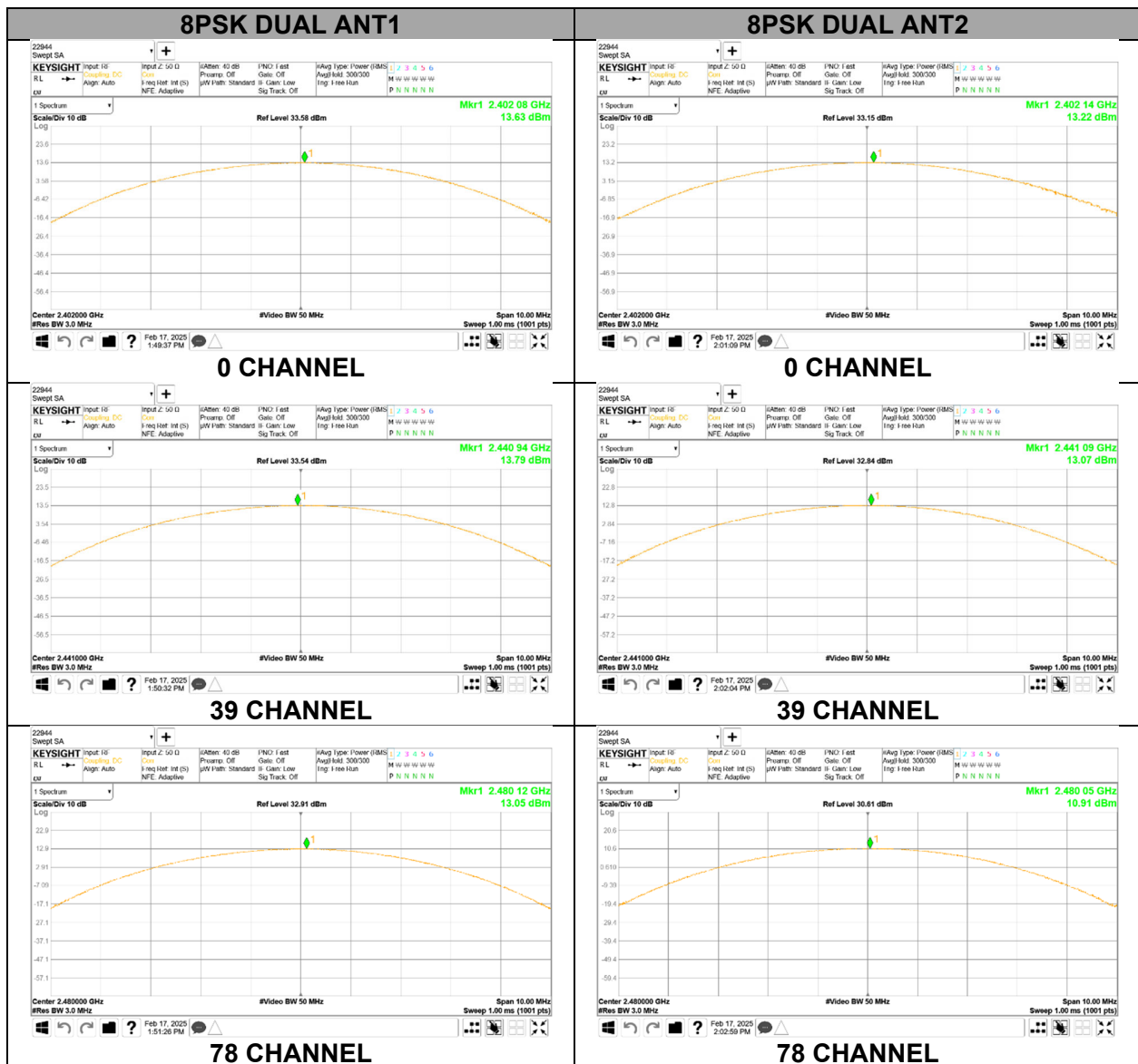




9.7. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.
The cable assembly insertion loss was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.7.1. BASIC DATA RATE GFSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	18.764	75.232
	39	2 441	18.434	69.727
	78	2 480	18.897	77.571
ANT2	0	2 402	17.798	60.228
	39	2 441	18.410	69.343
	78	2 480	18.680	73.790

9.7.2. ENHANCED DATA RATE PI/4-DQPSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	14.606	28.880
	39	2 441	14.472	28.003
	78	2 480	15.140	32.659
ANT2	0	2 402	14.540	28.445
	39	2 441	15.318	34.025
	78	2 480	15.153	32.757

9.7.3. ENHANCED DATA RATE 8PSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	14.642	29.121
	39	2 441	14.478	28.041
	78	2 480	15.155	32.772
ANT2	0	2 402	14.443	27.816
	39	2 441	15.403	34.698
	78	2 480	15.206	33.159

9.7.4. BASIC DATA RATE GFSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	12.860	
	39	2 441	13.492	
	78	2 480	12.957	
DUAL ANT2	0	2 402	12.829	
	39	2 441	12.802	
	78	2 480	11.194	
DUAL ANT1+2	0	2 402	15.855	38.502
	39	2 441	16.171	41.409
	78	2 480	15.175	32.920

9.7.5. ENHANCED DATA RATE PI/4-DQPSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	10.171	
	39	2 441	10.300	
	78	2 480	10.024	
DUAL ANT2	0	2 402	9.971	
	39	2 441	10.255	
	78	2 480	8.821	
DUAL ANT1+2	0	2 402	13.082	20.334
	39	2 441	13.288	21.320
	78	2 480	12.474	17.678

9.7.6. ENHANCED DATA RATE 8PSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	10.200	
	39	2 441	10.317	
	78	2 480	10.061	
DUAL ANT2	0	2 402	10.107	
	39	2 441	10.281	
	78	2 480	8.831	
DUAL ANT1+2	0	2 402	13.164	20.721
	39	2 441	13.309	21.426
	78	2 480	12.500	17.782

9.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

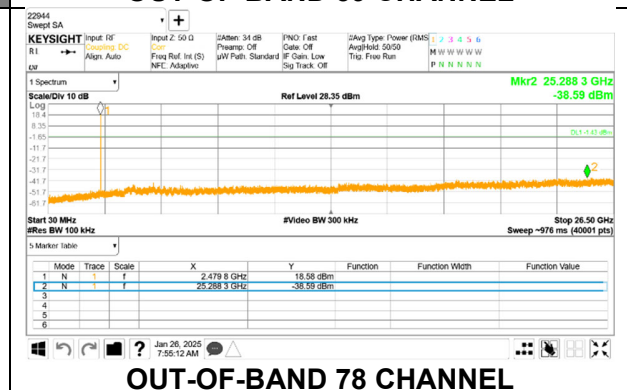
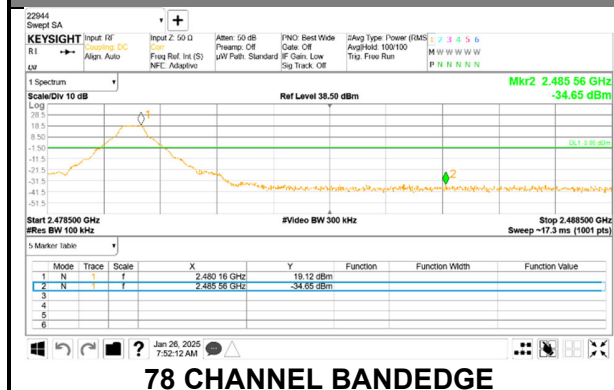
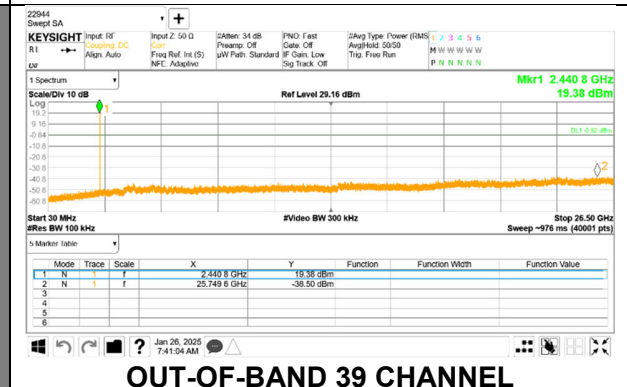
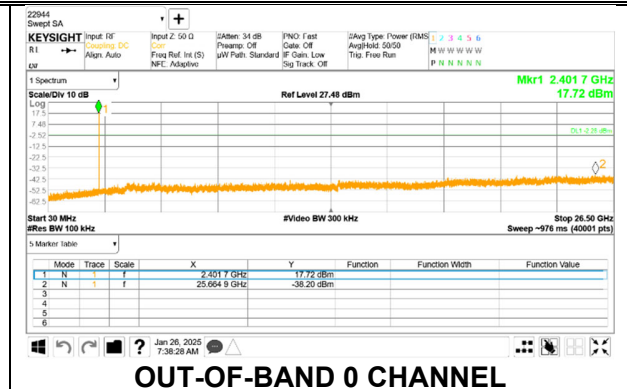
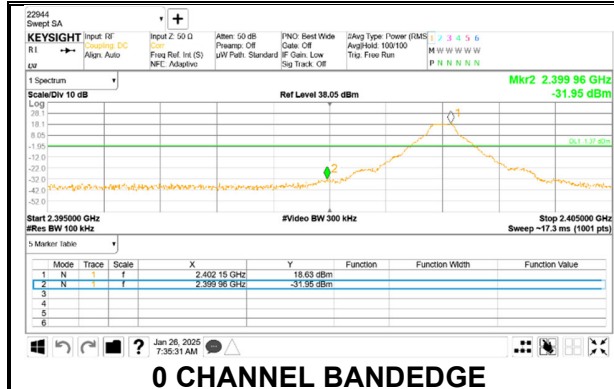
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The band-edges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

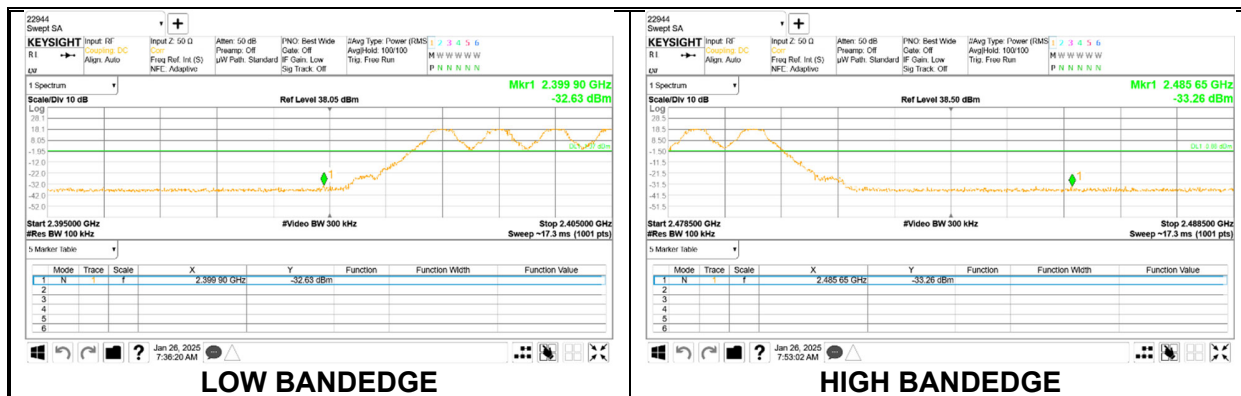
RESULTS

9.8.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

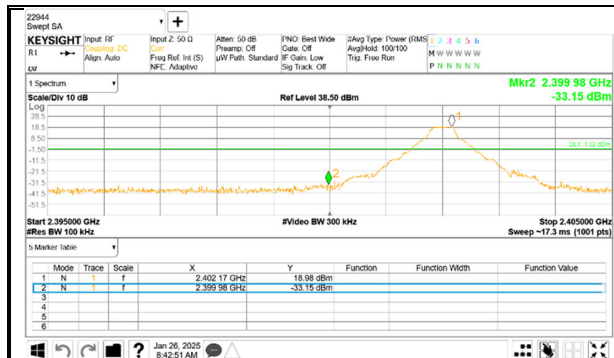
SPURIOUS EMISSIONS, NON-HOPPING – ANT1



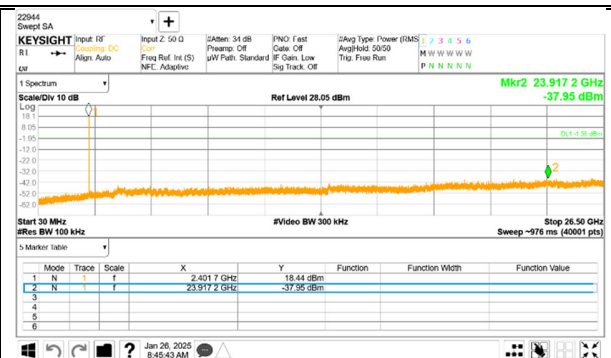
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT1



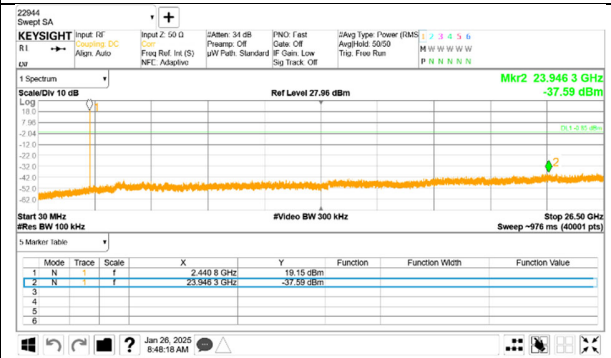
SPURIOUS EMISSIONS, NON-HOPPING – ANT2



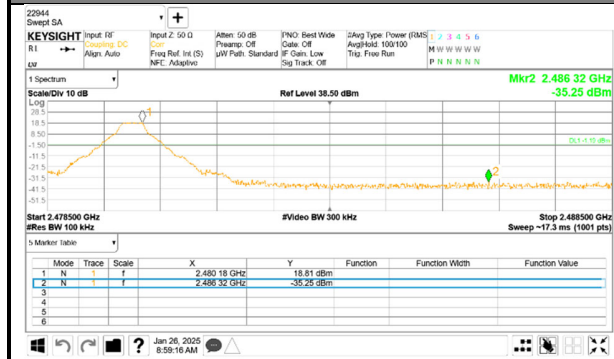
0 CHANNEL BANDEDGE



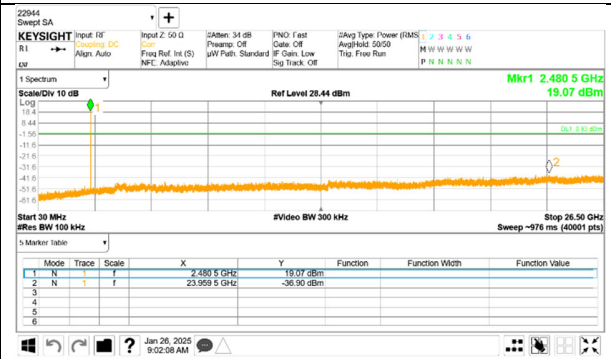
OUT-OF-BAND 0 CHANNEL



OUT-OF-BAND 39 CHANNEL

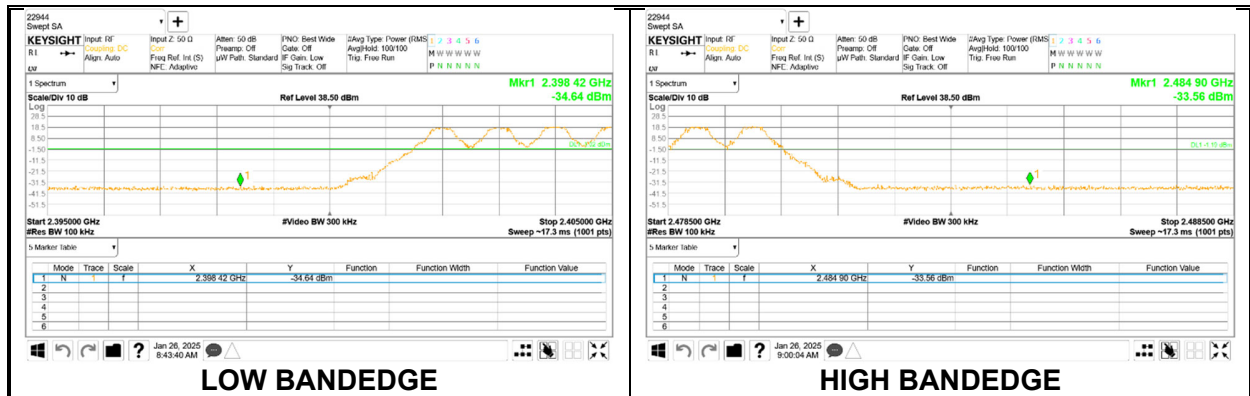


78 CHANNEL BANDEDGE



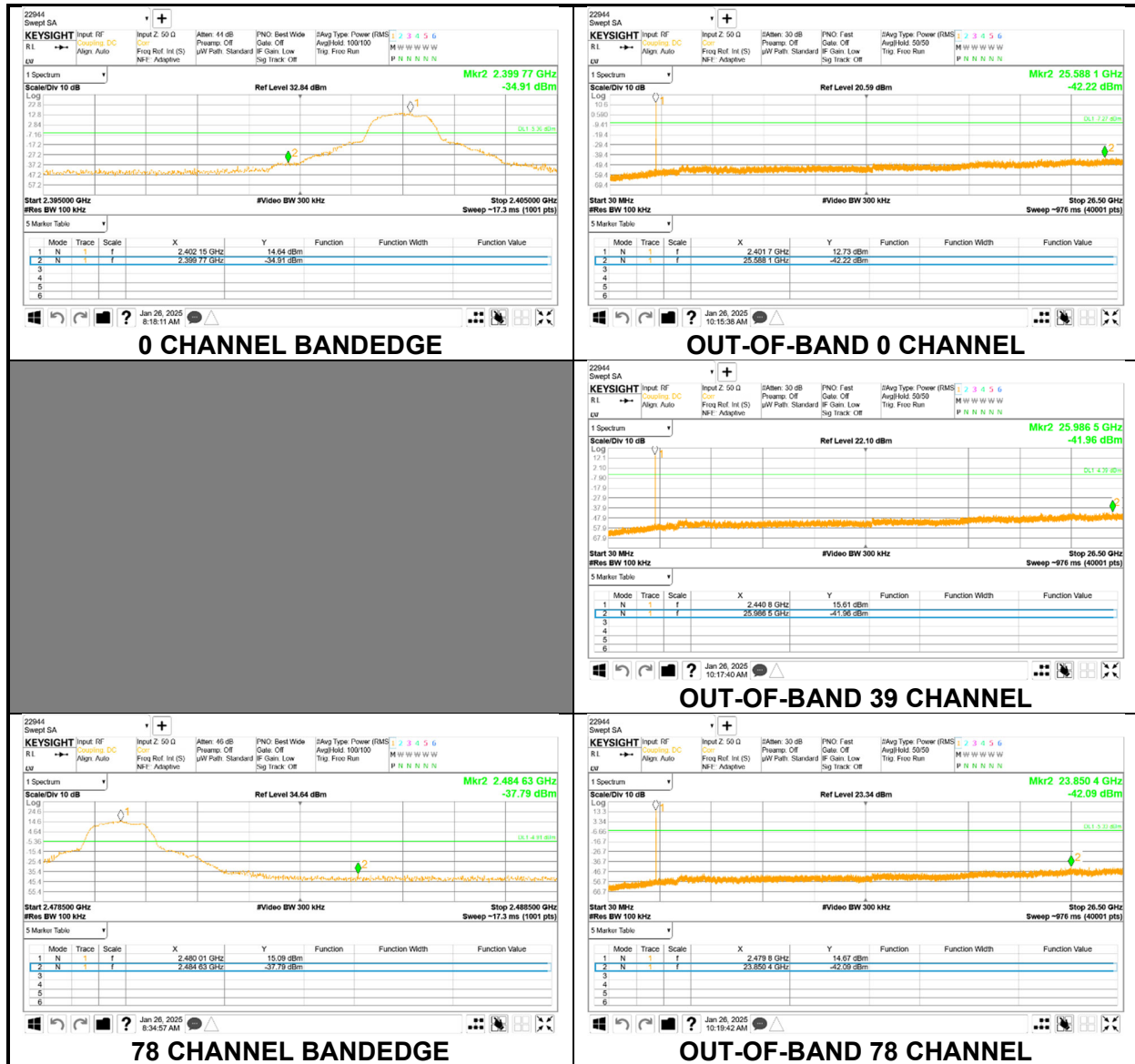
OUT-OF-BAND 78 CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT2



9.8.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, NON-HOPPING – ANT1



The figure consists of two side-by-side screenshots of a Keysight Spectrum Analyzer interface, illustrating low and high bandedge measurements.

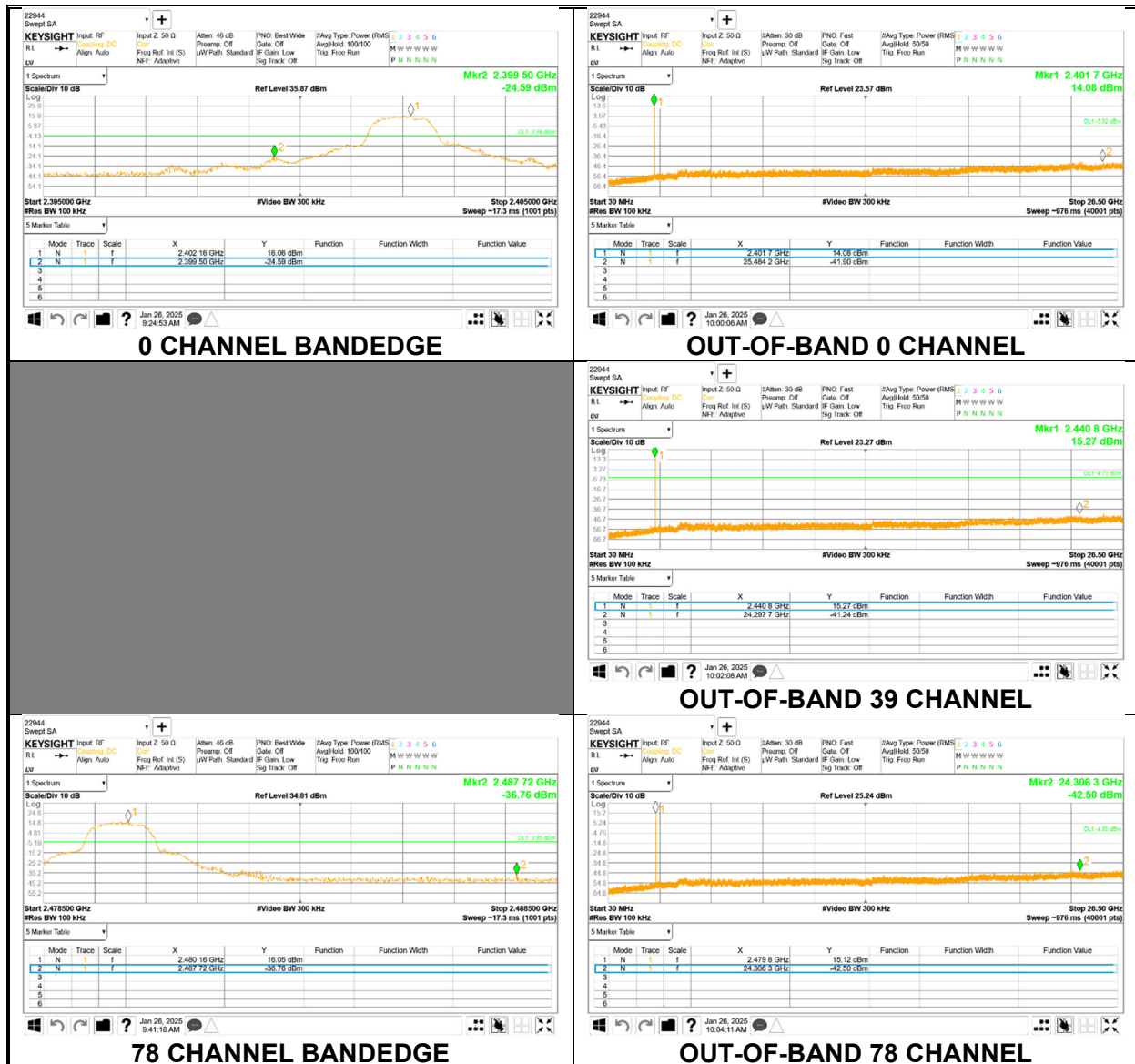
Left Screenshot (Low Bandedge):

- Frequency:** 2.399 57 GHz
- Power:** -34.18 dBm
- Bandwidth:** BW 300 kHz
- Resolution Bandwidth (RBW):** RBW 100 kHz
- Marker:** Mkr1 2.399 57 GHz -34.18 dBm
- Scale:** Scale/Div 10 dB
- Reference Level:** Ref Level 32.84 dBm
- Marker Value:** 65.13 dB

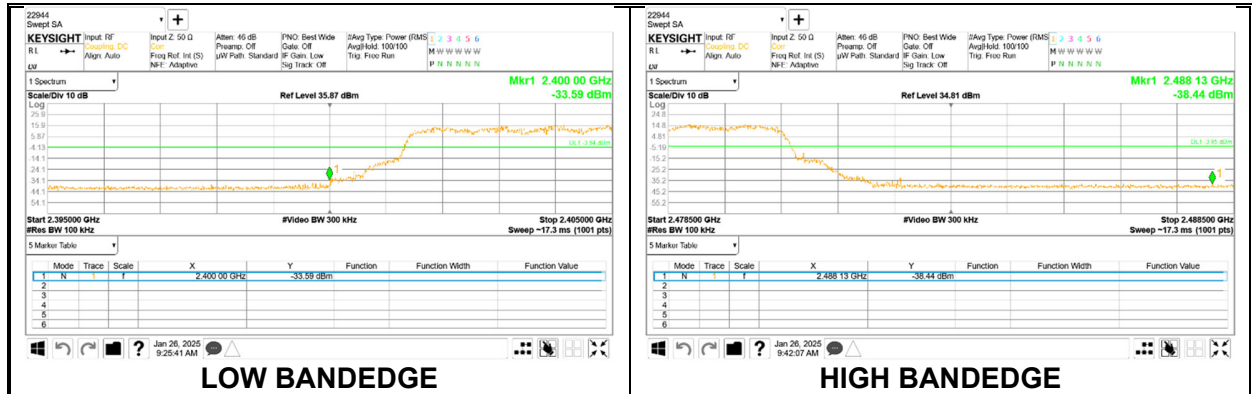
Right Screenshot (High Bandedge):

- Frequency:** 2.487 78 GHz
- Power:** -37.40 dBm
- Bandwidth:** BW 300 kHz
- Resolution Bandwidth (RBW):** RBW 100 kHz
- Marker:** Mkr1 2.487 78 GHz -37.40 dBm
- Scale:** Scale/Div 10 dB
- Reference Level:** Ref Level 34.64 dBm
- Marker Value:** 62.43 dB

SPURIOUS EMISSIONS, NON-HOPPING – ANT2



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT2



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

FCC Part 15.205 (a) : Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	162.0125 ~	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	167.17	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	167.72 ~ 173.2	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	240 ~ 285	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	322 ~ 335.4	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	399.90 ~ 410	3345.8 ~ 3358		
		608 ~ 614	3600 ~ 4400		
		960 ~ 1240			

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for above 1GHz. 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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements. (Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.)

For band edge measurements 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/T (on time) for average measurement.

$GFSK = 1/T = 1 / 0.00288s = 0.35 \text{ kHz}$.

The minimum VBW was 347Hz, but test receiver(ESU40) couldn't set value 347Hz. Due to this reason, testing VBW was set to 500Hz(Worst cases).

The spectrum from 1GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

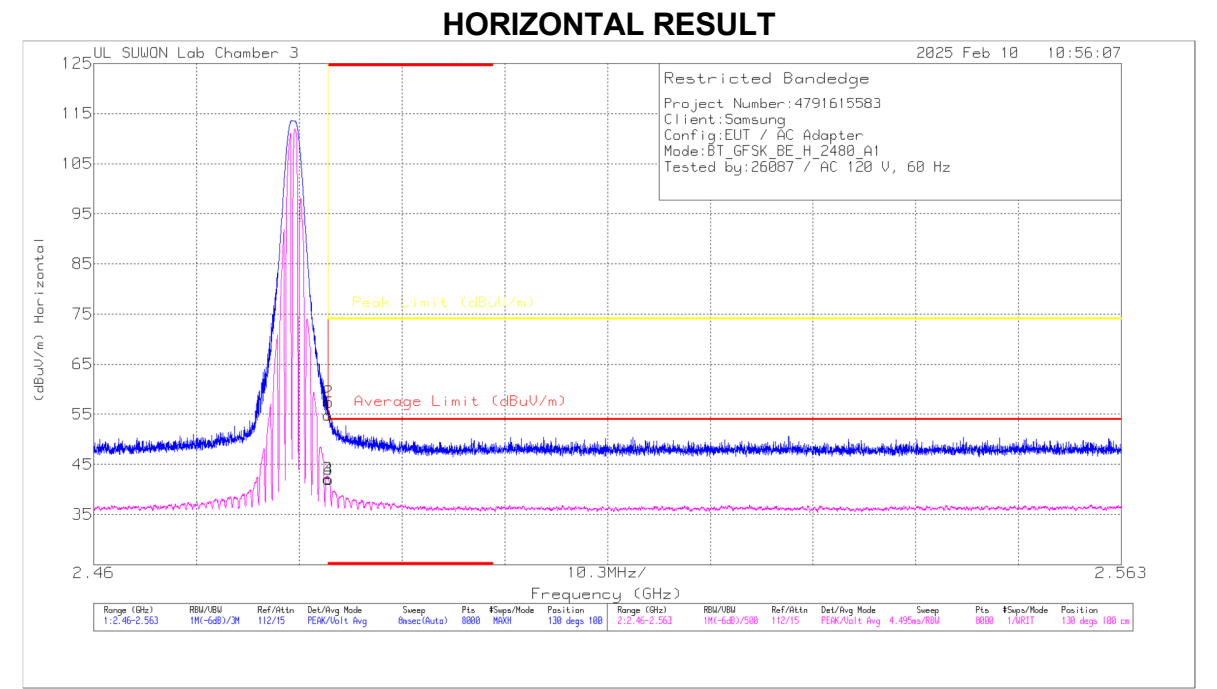
Note : Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

BANDEDGE (WORST CASE: 78 CHANNEL, ANT1)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_F actor(dBm)	10dB_Path 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	47.32	Pk	32.4	-24.9	54.82	-	-	74	-19.18	130	100	H
2	* 2.48351	49.96	Pk	32.4	-24.9	57.46	-	-	74	-16.54	130	100	H
3	* 2.4835	34.6	VA1T	32.4	-24.9	42.1	54	-11.9	-	-	130	100	H
4	* 2.48354	34.48	VA1T	32.4	-24.9	41.98	54	-12.02	-	-	130	100	H

* - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE TEST DATA

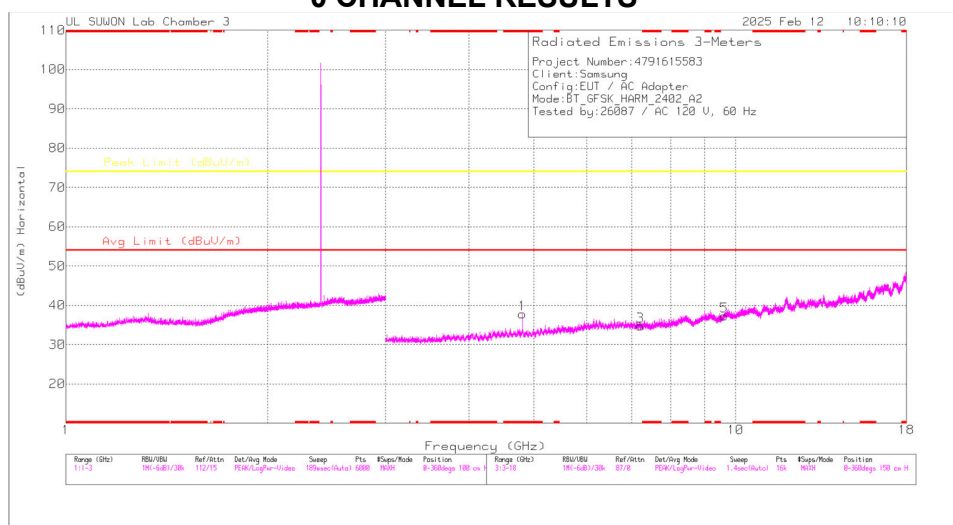
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 2.39	40.76	Pk	32.10	-24.90	47.96	-	-	74.00	-26.04	129	103	H
		* 2.36747	42.81	Pk	32.00	-25.00	49.81	-	-	74.00	-24.19	129	103	H
		* 2.39	28.27	VA1T	32.10	-24.90	35.47	54.00	-18.53	-	-	129	103	H
		* 2.38981	28.91	VA1T	32.10	-24.90	36.11	54.00	-17.89	-	-	129	103	H
		* 2.39	40.27	Pk	32.10	-24.90	47.47	-	-	74.00	-26.53	189	302	V
		* 2.37587	42.89	Pk	32.10	-25.00	49.99	-	-	74.00	-24.01	189	302	V
		* 2.39	28.57	VA1T	32.10	-24.90	35.77	54.00	-18.23	-	-	189	302	V
2480	ANT1	* 2.38954	28.97	VA1T	32.10	-25.00	36.07	54.00	-17.93	-	-	189	302	V
		* 2.4835	47.32	Pk	32.40	-24.90	54.82	-	-	74.00	-19.18	130	100	H
		* 2.48351	49.96	Pk	32.40	-24.90	57.46	-	-	74.00	-16.54	130	100	H
		* 2.4835	34.60	VA1T	32.40	-24.90	42.10	54.00	-11.90	-	-	130	100	H
		* 2.48354	34.48	VA1T	32.40	-24.90	41.98	54.00	-12.02	-	-	130	100	H
		* 2.4835	44.94	Pk	32.40	-24.90	52.44	-	-	74.00	-21.56	198	362	V
		* 2.48351	46.76	Pk	32.40	-24.90	54.26	-	-	74.00	-19.74	198	362	V
2402	ANT2	* 2.4835	32.90	VA1T	32.40	-24.90	40.40	54.00	-13.60	-	-	198	362	V
		* 2.48354	32.93	VA1T	32.40	-24.90	40.43	54.00	-13.57	-	-	198	362	V
		* 2.39	40.56	Pk	32.10	-24.90	47.76	-	-	74.00	-26.24	24	389	H
		* 2.35949	43.84	Pk	32.00	-25.10	50.74	-	-	74.00	-23.26	24	389	H
		* 2.39	28.47	VA1T	32.10	-24.90	35.67	54.00	-18.33	-	-	24	389	H
		* 2.32825	29.19	VA1T	31.90	-25.00	36.09	54.00	-17.91	-	-	24	389	H
		* 2.39	40.35	Pk	32.10	-24.90	47.55	-	-	74.00	-26.45	97	297	V
2480	ANT2	* 2.38275	43.01	Pk	32.10	-25.00	50.11	-	-	74.00	-23.89	97	297	V
		* 2.39	28.27	VA1T	32.10	-24.90	35.47	54.00	-18.53	-	-	97	297	V
		* 2.38976	28.82	VA1T	32.10	-24.90	36.02	54.00	-17.98	-	-	97	297	V
		* 2.4835	41.43	Pk	32.40	-24.90	48.93	-	-	74.00	-25.07	236	156	H
		* 2.48394	46.64	Pk	32.40	-24.90	54.14	-	-	74.00	-19.86	236	156	H
		* 2.4835	30.33	VA1T	32.40	-24.90	37.83	54.00	-16.17	-	-	236	156	H
		* 2.516	30.34	VA1T	32.40	-24.70	38.04	54.00	-15.96	-	-	236	156	H
2402	Dual	* 2.4835	50.31	Pk	32.40	-24.90	57.81	-	-	74.00	-16.19	94	318	V
		* 2.48354	53.03	Pk	32.40	-24.90	60.53	-	-	74.00	-13.47	94	318	V
		* 2.4835	30.36	VA1T	32.40	-24.90	37.86	54.00	-16.14	-	-	94	318	V
		* 2.48371	31.61	VA1T	32.40	-24.90	39.11	54.00	-14.89	-	-	94	318	V
		* 2.39	39.95	Pk	32.10	-24.90	47.15	-	-	74.00	-26.85	168	127	H
		* 2.38553	43.03	Pk	32.10	-25.00	50.13	-	-	74.00	-23.87	168	127	H
		* 2.39	28.65	VA1T	32.10	-24.90	35.85	54.00	-18.15	-	-	168	127	H
2480	Dual	* 2.3899	29.04	VA1T	32.10	-24.90	36.24	54.00	-17.76	-	-	168	127	H
		* 2.39	41.19	Pk	32.10	-24.90	48.39	-	-	74.00	-25.61	189	304	V
		* 2.31696	43.02	Pk	31.90	-25.00	49.92	-	-	74.00	-24.08	189	304	V
		* 2.39	28.29	VA1T	32.10	-24.90	35.49	54.00	-18.51	-	-	189	304	V
		* 2.38925	28.73	VA1T	32.10	-25.00	35.83	54.00	-18.17	-	-	189	304	V
		* 2.4835	47.50	Pk	32.40	-24.90	55.00	-	-	74.00	-19.00	177	159	H
		* 2.48353	48.90	Pk	32.40	-24.90	56.40	-	-	74.00	-17.60	177	159	H
2402	Dual	* 2.4835	34.11	VA1T	32.40	-24.90	41.61	54.00	-12.39	-	-	177	159	H
		* 2.48356	34.16	VA1T	32.40	-24.90	41.66	54.00	-12.34	-	-	177	159	H
		* 2.4835	46.07	Pk	32.40	-24.90	53.57	-	-	74.00	-20.43	207	400	V
		* 2.48355	46.28	Pk	32.40	-24.90	53.78	-	-	74.00	-20.22	207	400	V
		* 2.4835	33.78	VA1T	32.40	-24.90	41.28	54.00	-12.72	-	-	207	400	V
		* 2.48381	31.81	VA1T	32.40	-24.90	39.31	54.00	-14.69	-	-	207	400	V

Note1. Pk - Peak detector, VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

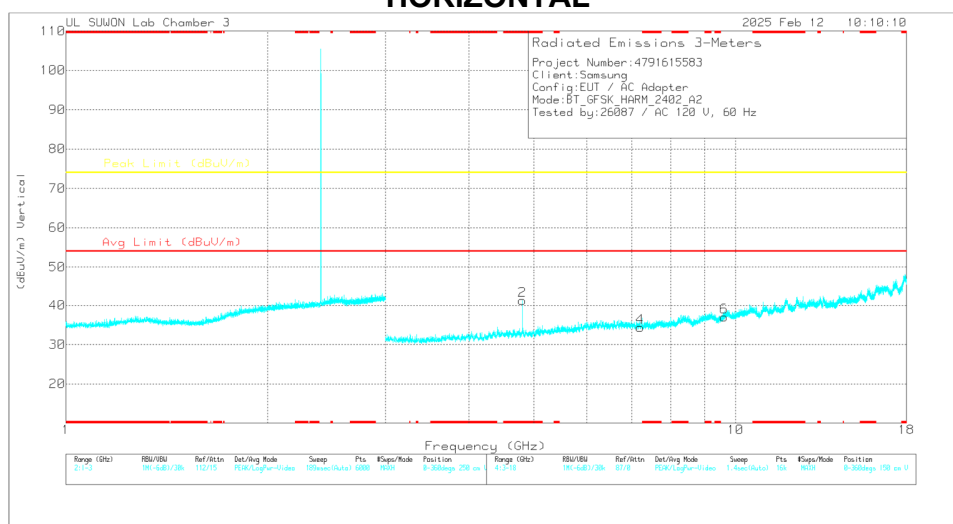
Note2. * - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE – ANT2)

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_Factor(dB/m)	3GHz_HP_Pat h Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80367	43.67	PKFH	34.3	-29.8	48.17	-	-	74	-25.83	170	394	H
* 4.80406	39.01	VA1T	34.3	-29.8	43.51	54	-10.49	-	-	170	394	H
* 4.80439	43.09	PKFH	34.3	-29.8	47.59	-	-	74	-26.41	264	103	V
* 4.80401	37.76	VA1T	34.3	-29.8	42.26	54	-11.74	-	-	264	103	V
7.20747	32.91	PKFH	35.8	-25.7	43.01	-	-	74	-30.99	63	110	H
7.20764	33.54	PKFH	35.8	-25.7	43.64	-	-	74	-30.36	288	103	V
9.60527	31.2	PKFH	36.7	-21.6	46.3	-	-	74	-27.7	0	100	H
9.60612	30.43	PKFH	36.7	-21.6	45.53	-	-	74	-28.47	0	100	V

* - indicates frequency in 47 CFR 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

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 4.80351	38.38	PKFH	34.30	-29.80	42.88	-	-	74.00	-31.12	326	115	H
		* 4.804	29.72	VA1T	34.30	-29.80	34.22	54.00	-19.78	-	-	326	115	H
		* 4.8039	40.95	PKFH	34.30	-29.80	45.45	-	-	74.00	-28.55	192	357	V
		* 4.80391	32.80	VA1T	34.30	-29.80	37.30	54.00	-16.70	-	-	192	357	V
		7.202	32.91	PKFH	35.80	-25.70	43.01	-	-	74.00	-30.99	164	106	H
		7.206	32.61	PKFH	35.80	-25.70	42.71	-	-	74.00	-31.29	163	108	V
		9.604	31.06	PKFH	36.70	-21.70	46.06	-	-	74.00	-27.94	0	100	H
		9.605	31.03	PKFH	36.70	-21.60	46.13	-	-	74.00	-27.87	0	100	V
2441	ANT1	* 4.88224	39.60	PKFH	34.20	-30.60	43.20	-	-	74.00	-30.80	319	100	H
		* 4.88208	31.08	VA1T	34.20	-30.60	34.68	54.00	-19.32	-	-	319	100	H
		* 4.88235	41.42	PKFH	34.20	-30.60	45.02	-	-	74.00	-28.98	178	366	V
		* 4.882	34.76	VA1T	34.20	-30.60	38.36	54.00	-15.64	-	-	178	366	V
		* 7.31822	33.72	PKFH	35.80	-25.20	44.32	-	-	74.00	-29.68	163	110	H
		* 7.32282	20.29	VA1T	35.80	-25.00	31.09	54.00	-22.91	-	-	163	110	H
		* 7.32231	33.43	PKFH	35.80	-25.00	44.23	-	-	74.00	-29.77	140	100	V
		* 7.32332	21.50	VA1T	35.80	-25.00	32.30	54.00	-21.70	-	-	140	100	V
		9.761	30.17	PKFH	36.90	-21.20	45.87	-	-	74.00	-28.13	0	100	H
		9.764	29.87	PKFH	36.90	-21.20	45.57	-	-	74.00	-28.43	0	100	V
2480	ANT1	* 4.9604	40.62	PKFH	34.30	-30.30	44.62	-	-	74.00	-29.38	327	117	H
		* 4.95988	32.21	VA1T	34.30	-30.40	36.11	54.00	-17.89	-	-	327	117	H
		* 4.95978	41.04	PKFH	34.30	-30.40	44.94	-	-	74.00	-29.06	183	330	V
		* 4.95996	34.31	VA1T	34.30	-30.40	38.21	54.00	-15.79	-	-	183	330	V
		* 7.44494	33.37	PKFH	35.70	-25.10	43.97	-	-	74.00	-30.03	139	103	H
		* 7.44046	20.57	VA1T	35.70	-25.00	31.27	54.00	-22.73	-	-	139	103	H
		* 7.44044	33.36	PKFH	35.70	-25.00	44.06	-	-	74.00	-29.94	145	100	V
		* 7.44012	22.35	VA1T	35.70	-25.00	33.05	54.00	-20.95	-	-	145	100	V
		9.916	30.62	PKFH	37.10	-21.30	46.42	-	-	74.00	-27.58	0	100	H
		9.920	29.76	PKFH	37.10	-21.30	45.56	-	-	74.00	-28.44	0	100	V
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT2	* 4.80367	43.67	PKFH	34.30	-29.80	48.17	-	-	74.00	-25.83	170	394	H
		* 4.80406	39.01	VA1T	34.30	-29.80	43.51	54.00	-10.49	-	-	170	394	H
		* 4.80439	43.09	PKFH	34.30	-29.80	47.59	-	-	74.00	-26.41	264	103	V
		* 4.80401	37.76	VA1T	34.30	-29.80	42.26	54.00	-11.74	-	-	264	103	V
		7.207	32.91	PKFH	35.80	-25.70	43.01	-	-	74.00	-30.99	63	110	H
		7.208	33.54	PKFH	35.80	-25.70	43.64	-	-	74.00	-30.36	288	103	V
		9.605	31.20	PKFH	36.70	-21.60	46.30	-	-	74.00	-27.70	0	100	H
		9.606	30.43	PKFH	36.70	-21.60	45.53	-	-	74.00	-28.47	0	100	V
2441	ANT2	* 4.88172	41.53	PKFH	34.20	-30.60	45.13	-	-	74.00	-28.87	181	359	H
		* 4.88202	34.67	VA1T	34.20	-30.60	38.27	54.00	-15.73	-	-	181	359	H
		* 4.88208	43.72	PKFH	34.20	-30.60	47.32	-	-	74.00	-26.68	275	108	V
		* 4.88188	38.16	VA1T	34.20	-30.60	41.76	54.00	-12.24	-	-	275	108	V
		* 7.3196	34.15	PKFH	35.80	-25.20	44.75	-	-	74.00	-29.25	34	397	H
		* 7.3231	20.94	VA1T	35.80	-25.00	31.74	54.00	-22.26	-	-	34	397	H
		* 7.32334	33.15	PKFH	35.80	-25.00	43.95	-	-	74.00	-30.05	308	100	V
		* 7.32328	22.05	VA1T	35.80	-25.00	32.85	54.00	-21.15	-	-	308	100	V
		9.762	30.54	PKFH	36.90	-21.20	46.24	-	-	74.00	-27.76	0	100	H
2480	ANT2	9.762	31.24	PKFH	36.90	-21.20	46.94	-	-	74.00	-27.06	0	100	V
		* 4.95962	38.38	PKFH	34.30	-30.40	42.28	-	-	74.00	-31.72	325	248	H
		* 4.96	28.69	VA1T	34.30	-30.40	32.59	54.00	-21.41	-	-	325	248	H
		* 4.96023	43.25	PKFH	34.30	-30.30	47.25	-	-	74.00	-26.75	271	104	V
		* 4.96025	36.45	VA1T	34.30	-30.30	40.45	54.00	-13.55	-	-	271	104	V
		* 7.44357	32.97	PKFH	35.70	-25.00	43.67	-	-	74.00	-30.33	57	100	H
		* 7.44021	20.76	VA1T	35.70	-25.00	31.46	54.00	-22.54	-	-	57	100	H
		* 7.4394	34.04	PKFH	35.70	-25.00	44.74	-	-	74.00	-29.26	291	100	V
		* 7.44007	24.21	VA1T	35.70	-25.00	34.91	54.00	-19.09	-	-	291	100	V
2480	ANT2	9.922	30.95	PKFH	37.10	-21.30	46.75	-	-	74.00	-27.25	0	100	H
		9.923	29.49	PKFH	37.10	-21.40	45.19	-	-	74.00	-28.81	0	100	V

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	DUAL	* 4.8036	38.83	PKFH	34.30	-29.80	43.33	-	-	74.00	-30.67	323	142	H
		* 4.80408	28.84	VA1T	34.30	-29.80	33.34	54.00	-20.66	-	-	323	142	H
		* 4.80442	40.75	PKFH	34.30	-29.80	45.25	-	-	74.00	-28.75	186	379	V
		* 4.80414	32.40	VA1T	34.30	-29.80	36.90	54.00	-17.10	-	-	186	379	V
		7.206	33.39	PKFH	35.80	-25.70	43.49	-	-	74.00	-30.51	30	103	H
		7.207	36.87	PKFH	35.80	-25.70	46.97	-	-	74.00	-27.03	87	100	V
		9.605	29.81	PKFH	36.70	-21.60	44.91	-	-	74.00	-29.09	0	100	H
		9.612	29.84	PKFH	36.70	-21.70	44.84	-	-	74.00	-29.16	0	100	V
2441	DUAL	* 4.88184	40.65	PKFH	34.20	-30.60	44.25	-	-	74.00	-29.75	323	125	H
		* 4.88199	31.34	VA1T	34.20	-30.60	34.94	54.00	-19.06	-	-	323	125	H
		* 4.88239	42.33	PKFH	34.20	-30.60	45.93	-	-	74.00	-28.07	183	370	V
		* 4.88199	35.09	VA1T	34.20	-30.60	38.69	54.00	-15.31	-	-	183	370	V
		* 7.32299	34.50	PKFH	35.80	-25.00	45.30	-	-	74.00	-28.70	28	118	H
		* 7.3231	22.41	VA1T	35.80	-25.00	33.21	54.00	-20.79	-	-	28	118	H
		* 7.32251	36.64	PKFH	35.80	-25.00	47.44	-	-	74.00	-26.56	291	100	V
		* 7.32297	27.60	VA1T	35.80	-25.00	38.40	54.00	-15.60	-	-	291	100	V
		9.763	30.27	PKFH	36.90	-21.20	45.97	-	-	74.00	-28.03	67	386	H
		9.763	30.99	PKFH	36.90	-21.20	46.69	-	-	74.00	-27.31	137	100	V
2480	DUAL	* 4.95989	39.78	PKFH	34.30	-30.40	43.68	-	-	74.00	-30.32	328	399	H
		* 4.96002	31.40	VA1T	34.30	-30.40	35.30	54.00	-18.70	-	-	328	399	H
		* 4.9597	42.97	PKFH	34.30	-30.40	46.87	-	-	74.00	-27.13	253	101	V
		* 4.96007	36.95	VA1T	34.30	-30.40	40.85	54.00	-13.15	-	-	253	101	V
		* 7.43897	32.89	PKFH	35.70	-25.00	43.59	-	-	74.00	-30.41	24	395	H
		* 7.44007	20.77	VA1T	35.70	-25.00	31.47	54.00	-22.53	-	-	24	395	H
		* 7.44033	32.96	PKFH	35.70	-25.00	43.66	-	-	74.00	-30.34	60	400	V
		* 7.43986	21.69	VA1T	35.70	-25.00	32.39	54.00	-21.61	-	-	60	400	V
		9.919	29.70	PKFH	37.10	-21.30	45.50	-	-	74.00	-28.50	0	100	H
		9.924	30.21	PKFH	37.10	-21.40	45.91	-	-	74.00	-28.09	0	100	V

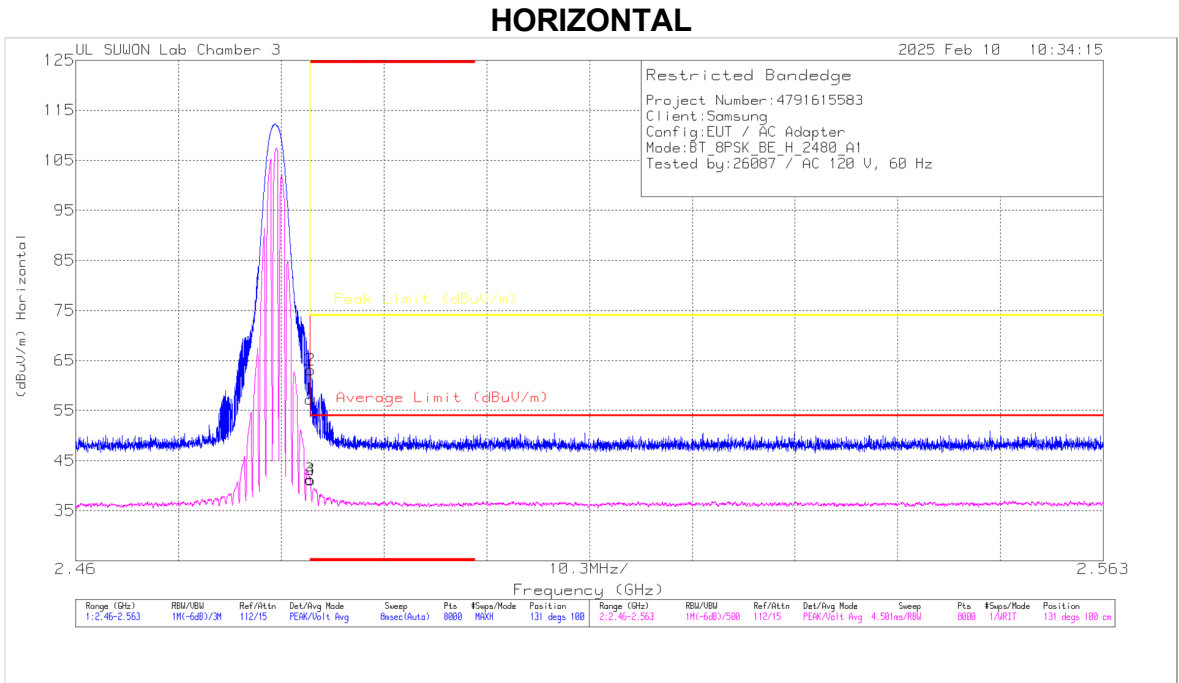
* - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band

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

10.1.2. BLUETOOTH ENHANCED DATA RATE 8PSK
MODULATION

ANT1
BANDEDGE (WORST CASE: 78 CHANNEL, ANT1)



RESULT

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957 Factor(dBm)	10dB_Path 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	49.81	Pk	32.4	-24.9	57.31	-	-	74	-16.69	131	100	H
2	* 2.48351	55.65	Pk	32.4	-24.9	63.15	-	-	74	-10.85	131	100	H
3	* 2.4835	33.77	VA1T	32.4	-24.9	41.27	54	-12.73	-	-	131	100	H
4	* 2.48353	33.65	VA1T	32.4	-24.9	41.15	54	-12.85	-	-	131	100	H

* - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE TEST DATA

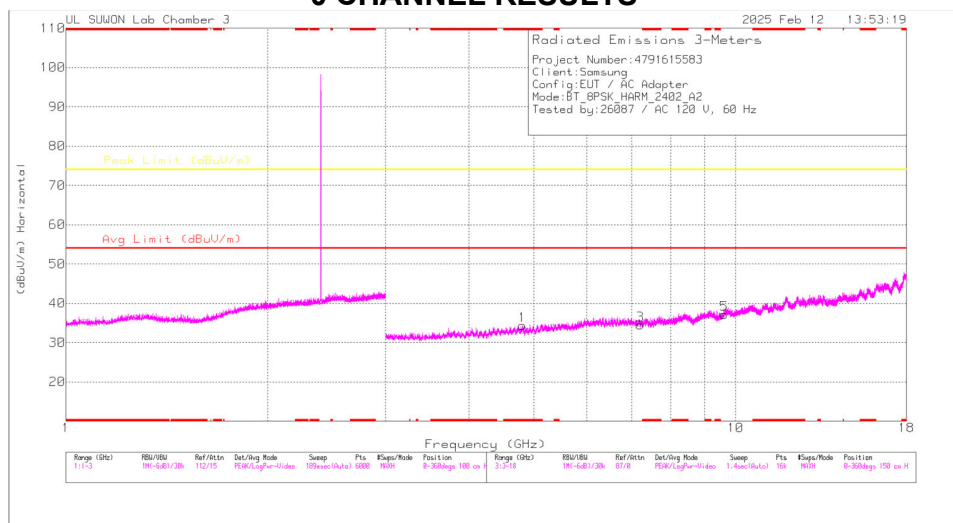
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 2.39	40.06	Pk	32.10	-24.90	47.26	-	-	74.00	-26.74	128	104	H
		* 2.31427	42.82	Pk	31.90	-25.00	49.72	-	-	74.00	-24.28	128	104	H
		* 2.39	28.41	VA1T	32.10	-24.90	35.61	54.00	-18.39	-	-	128	104	H
		* 2.33969	29.08	VA1T	32.00	-25.10	35.98	54.00	-18.02	-	-	128	104	H
		* 2.39	40.13	Pk	32.10	-24.90	47.33	-	-	74.00	-26.67	189	303	V
		* 2.37479	43.37	Pk	32.00	-25.00	50.37	-	-	74.00	-23.63	189	303	V
		* 2.39	28.57	VA1T	32.10	-24.90	35.77	54.00	-18.23	-	-	189	303	V
2480	ANT1	* 2.37609	28.92	VA1T	32.10	-25.00	36.02	54.00	-17.98	-	-	189	303	V
		* 2.4835	49.81	Pk	32.40	-24.90	57.31	-	-	74.00	-16.69	131	100	H
		* 2.48351	55.65	Pk	32.40	-24.90	63.15	-	-	74.00	-10.85	131	100	H
		* 2.4835	33.77	VA1T	32.40	-24.90	41.27	54.00	-12.73	-	-	131	100	H
		* 2.48353	33.65	VA1T	32.40	-24.90	41.15	54.00	-12.85	-	-	131	100	H
		* 2.4835	45.93	Pk	32.40	-24.90	53.43	-	-	74.00	-20.57	199	363	V
		* 2.48358	53.53	Pk	32.40	-24.90	61.03	-	-	74.00	-12.97	199	363	V
2402	ANT2	* 2.4835	30.31	VA1T	32.40	-24.90	37.81	54.00	-16.19	-	-	199	363	V
		* 2.48362	32.25	VA1T	32.40	-24.90	39.75	54.00	-14.25	-	-	199	363	V
		* 2.39	40.50	Pk	32.10	-24.90	47.70	-	-	74.00	-26.30	23	389	H
		* 2.33635	43.72	Pk	31.90	-25.00	50.62	-	-	74.00	-23.38	23	389	H
		* 2.39	28.42	VA1T	32.10	-24.90	35.62	54.00	-18.38	-	-	23	389	H
		* 2.37528	29.27	VA1T	32.10	-25.00	36.37	54.00	-17.63	-	-	23	389	H
		* 2.39	40.81	Pk	32.10	-24.90	48.01	-	-	74.00	-25.99	105	295	V
2480	ANT2	* 2.35324	43.21	Pk	32.00	-25.00	50.21	-	-	74.00	-23.79	105	295	V
		* 2.39	28.32	VA1T	32.10	-24.90	35.52	54.00	-18.48	-	-	105	295	V
		* 2.34693	29.21	VA1T	32.00	-25.00	36.21	54.00	-17.79	-	-	105	295	V
		* 2.4835	45.99	Pk	32.40	-24.90	53.49	-	-	74.00	-20.51	236	156	H
		* 2.48358	47.39	Pk	32.40	-24.90	54.89	-	-	74.00	-19.11	236	156	H
		* 2.4835	29.10	VA1T	32.40	-24.90	36.60	54.00	-17.40	-	-	236	156	H
		* 2.48384	29.55	VA1T	32.40	-24.90	37.05	54.00	-16.95	-	-	236	156	H
2402	Dual	* 2.4835	54.18	Pk	32.40	-24.90	61.68	-	-	74.00	-12.32	94	318	V
		* 2.48356	53.23	Pk	32.40	-24.90	60.73	-	-	74.00	-13.27	94	318	V
		* 2.4835	33.32	VA1T	32.40	-24.90	40.82	54.00	-13.18	-	-	94	318	V
		* 2.48354	33.28	VA1T	32.40	-24.90	40.78	54.00	-13.22	-	-	94	318	V
		* 2.39	39.64	Pk	32.10	-24.90	46.84	-	-	74.00	-27.16	167	127	H
		* 2.3726	42.98	Pk	32.00	-25.00	49.98	-	-	74.00	-24.02	167	127	H
		* 2.39	27.96	VA1T	32.10	-24.90	35.16	54.00	-18.84	-	-	167	127	H
2480	Dual	* 2.3756	28.78	VA1T	32.10	-25.00	35.88	54.00	-18.12	-	-	167	127	H
		* 2.39	39.57	Pk	32.10	-24.90	46.77	-	-	74.00	-27.23	189	304	V
		* 2.35537	42.93	Pk	32.00	-25.10	49.83	-	-	74.00	-24.17	189	304	V
		* 2.39	28.27	VA1T	32.10	-24.90	35.47	54.00	-18.53	-	-	189	304	V
		* 2.38011	29.06	VA1T	32.10	-25.00	36.16	54.00	-17.84	-	-	189	304	V
		* 2.4835	55.39	Pk	32.40	-24.90	62.89	-	-	74.00	-11.11	177	158	H
		* 2.48354	54.44	Pk	32.40	-24.90	61.94	-	-	74.00	-12.06	177	158	H
2402	Dual	* 2.4835	28.82	VA1T	32.40	-24.90	36.32	54.00	-17.68	-	-	177	158	H
		* 2.48367	33.43	VA1T	32.40	-24.90	40.93	54.00	-13.07	-	-	177	158	H
		* 2.4835	52.63	Pk	32.40	-24.90	60.13	-	-	74.00	-13.87	207	400	V
		* 2.48353	53.42	Pk	32.40	-24.90	60.92	-	-	74.00	-13.08	207	400	V
		* 2.4835	33.81	VA1T	32.40	-24.90	41.31	54.00	-12.69	-	-	207	400	V
		* 2.48351	33.83	VA1T	32.40	-24.90	41.33	54.00	-12.67	-	-	207	400	V

Note1. Pk - Peak detector, VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

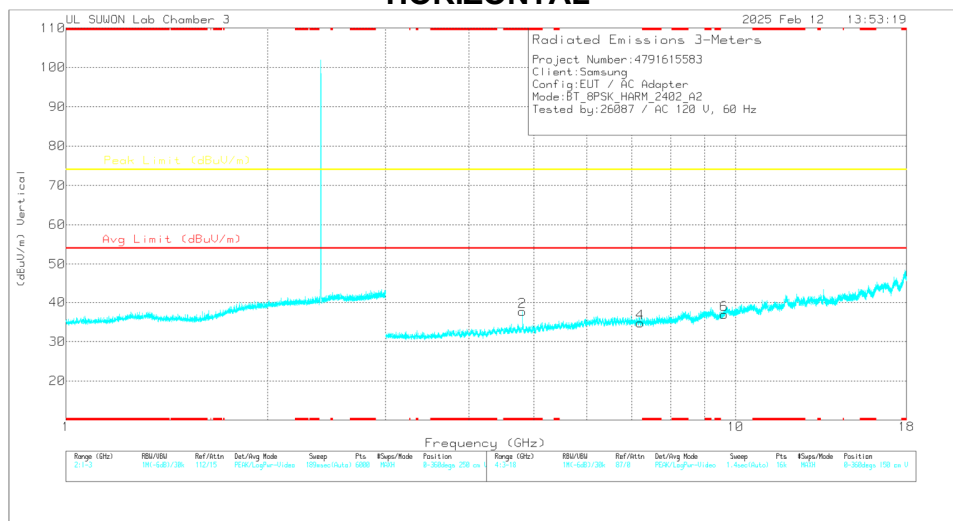
Note2. * - indicates frequency in 47 CFR Pt 15 / IC RSS-Restricted Band

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE – ANT2)

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna_957_Factor(dB/m)	3GHz_HP_Pat h Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80387	42.29	PKFH	34.3	-29.8	46.79	-	-	74	-27.21	170	394	H
* 4.80389	33.91	VA1T	34.3	-29.8	38.41	54	-15.59	-	-	170	394	H
* 4.80354	42.26	PKFH	34.3	-29.8	46.76	-	-	74	-27.24	264	103	V
* 4.8041	32.92	VA1T	34.3	-29.8	37.42	54	-16.58	-	-	264	103	V
7.20639	33.11	PKFH	35.8	-25.7	43.21	-	-	74	-30.79	63	110	H
7.20202	33.33	PKFH	35.8	-25.7	43.43	-	-	74	-30.57	288	103	V
9.60687	30.51	PKFH	36.7	-21.7	45.51	-	-	74	-28.49	0	100	H
9.60874	29.78	PKFH	36.7	-21.7	44.78	-	-	74	-29.22	0	100	V

* - indicates frequency in 47 CFR 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

HARMONICS AND SPURIOUS EMISSIONS TEST DATA

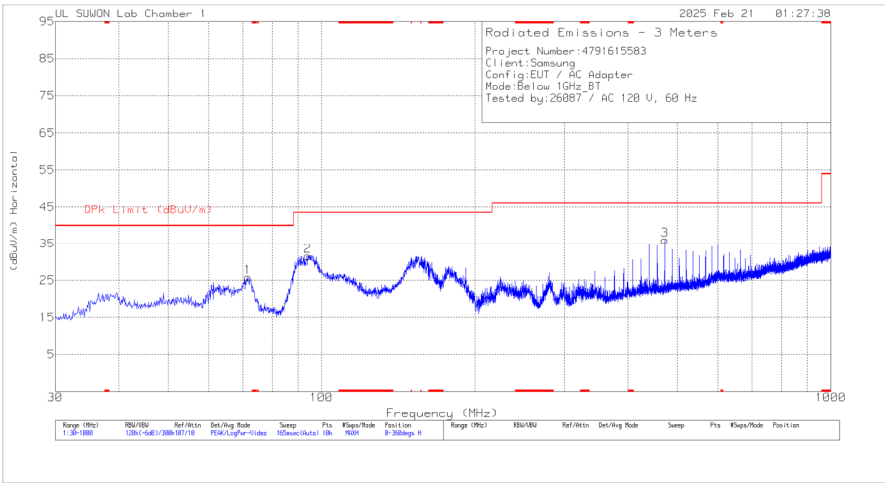
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT1	* 4.80423	37.68	PKFH	34.30	-29.80	42.18	-	-	74.00	-31.82	326	115	H
		* 4.80377	26.34	VA1T	34.30	-29.80	30.84	54.00	-23.16	-	-	326	115	H
		* 4.80413	38.28	PKFH	34.30	-29.80	42.78	-	-	74.00	-31.22	163	357	V
		* 4.80427	25.45	VA1T	34.30	-29.80	29.95	54.00	-24.05	-	-	163	357	V
		7.206	32.74	PKFH	35.80	-25.70	42.84	-	-	74.00	-31.16	164	100	H
		7.206	33.36	PKFH	35.80	-25.70	43.46	-	-	74.00	-30.54	163	108	V
		9.605	30.22	PKFH	36.70	-21.70	45.22	-	-	74.00	-28.78	0	100	H
2441	ANT1	9.603	31.86	PKFH	36.70	-21.70	46.86	-	-	74.00	-27.14	0	100	V
		* 4.88143	38.46	PKFH	34.20	-30.60	42.06	-	-	74.00	-31.94	319	100	H
		* 4.88206	26.86	VA1T	34.20	-30.60	30.46	54.00	-23.54	-	-	319	100	H
		* 4.8819	40.91	PKFH	34.20	-30.60	44.51	-	-	74.00	-29.49	178	366	V
		* 4.88182	29.89	VA1T	34.20	-30.60	33.49	54.00	-20.51	-	-	178	366	V
		* 7.32107	32.60	PKFH	35.80	-25.10	43.30	-	-	74.00	-30.70	163	110	H
		* 7.31827	19.96	VA1T	35.80	-25.20	30.56	54.00	-23.44	-	-	163	110	H
		* 7.32161	33.24	PKFH	35.80	-25.00	44.04	-	-	74.00	-29.96	140	100	V
		* 7.32287	20.36	VA1T	35.80	-25.00	31.16	54.00	-22.84	-	-	140	100	V
		9.763	30.05	PKFH	36.90	-21.20	45.75	-	-	74.00	-28.25	0	100	H
2480	ANT1	9.768	29.81	PKFH	36.90	-21.30	45.41	-	-	74.00	-28.59	0	100	V
		* 4.95977	37.95	PKFH	34.30	-30.40	41.85	-	-	74.00	-32.15	327	117	H
		* 4.95978	27.66	VA1T	34.30	-30.40	31.56	54.00	-22.44	-	-	327	117	H
		* 4.95922	39.00	PKFH	34.30	-30.40	42.90	-	-	74.00	-31.10	183	330	V
		* 4.9601	29.72	VA1T	34.30	-30.40	33.62	54.00	-20.38	-	-	183	330	V
		* 7.43728	32.14	PKFH	35.70	-25.00	42.84	-	-	74.00	-31.16	139	103	H
		* 7.43924	20.03	VA1T	35.70	-25.00	30.73	54.00	-23.27	-	-	139	103	H
		* 7.44002	32.44	PKFH	35.70	-25.00	43.14	-	-	74.00	-30.86	145	100	V
		* 7.44006	20.67	VA1T	35.70	-25.00	31.37	54.00	-22.63	-	-	145	100	V
		9.920	30.09	PKFH	37.10	-21.30	45.89	-	-	74.00	-28.11	0	100	H
2480	ANT1	9.920	29.73	PKFH	37.10	-21.30	45.53	-	-	74.00	-28.47	0	100	V
		* 4.80387	42.29	PKFH	34.30	-29.80	46.79	-	-	74.00	-27.21	170	394	H
		* 4.80389	33.91	VA1T	34.30	-29.80	38.41	54.00	-15.59	-	-	170	394	H
		* 4.80354	42.26	PKFH	34.30	-29.80	46.76	-	-	74.00	-27.24	264	103	V
		* 4.8041	32.92	VA1T	34.30	-29.80	37.42	54.00	-16.58	-	-	264	103	V
		7.206	33.11	PKFH	35.80	-25.70	43.21	-	-	74.00	-30.79	63	110	H
		7.202	33.33	PKFH	35.80	-25.70	43.43	-	-	74.00	-30.57	288	103	V
		9.607	30.51	PKFH	36.70	-21.70	45.51	-	-	74.00	-28.49	0	100	H
		9.609	29.78	PKFH	36.70	-21.70	44.78	-	-	74.00	-29.22	0	100	V
		* 4.88243	39.84	PKFH	34.20	-30.60	43.44	-	-	74.00	-30.56	181	359	H
2441	ANT2	* 4.88187	29.51	VA1T	34.20	-30.60	33.11	54.00	-20.89	-	-	181	359	H
		* 4.88166	42.00	PKFH	34.20	-30.60	45.60	-	-	74.00	-28.40	275	108	V
		* 4.88177	33.30	VA1T	34.20	-30.60	36.90	54.00	-17.10	-	-	275	108	V
		* 7.31994	32.28	PKFH	35.80	-25.20	42.88	-	-	74.00	-31.12	34	397	H
		* 7.32259	20.43	VA1T	35.80	-25.00	31.23	54.00	-22.77	-	-	34	397	H
		* 7.32439	32.80	PKFH	35.80	-25.00	43.60	-	-	74.00	-30.40	308	100	V
		* 7.3231	20.77	VA1T	35.80	-25.00	31.57	54.00	-22.43	-	-	308	100	V
		9.761	29.73	PKFH	36.90	-21.20	45.43	-	-	74.00	-28.57	0	100	H
		9.760	30.74	PKFH	36.90	-21.30	46.34	-	-	74.00	-27.66	0	100	V
		* 4.9599	36.86	PKFH	34.30	-30.40	40.76	-	-	74.00	-33.24	325	248	H
2480	ANT2	* 4.96005	25.92	VA1T	34.30	-30.40	29.82	54.00	-24.18	-	-	325	248	H
		* 4.96008	41.79	PKFH	34.30	-30.40	45.69	-	-	74.00	-28.31	271	104	V
		* 4.9599	32.39	VA1T	34.30	-30.40	36.29	54.00	-17.71	-	-	271	104	V
		* 7.44009	33.34	PKFH	35.70	-25.00	44.04	-	-	74.00	-29.96	57	100	H
		* 7.44076	20.30	VA1T	35.70	-25.00	31.00	54.00	-23.00	-	-	57	100	H
		* 7.44011	32.96	PKFH	35.70	-25.00	43.66	-	-	74.00	-30.34	291	100	V
		* 7.43995	21.81	VA1T	35.70	-25.00	32.51	54.00	-21.49	-	-	291	100	V
		9.920	30.27	PKFH	37.10	-21.30	46.07	-	-	74.00	-27.93	0	100	H
		9.916	30.01	PKFH	37.10	-21.30	45.81	-	-	74.00	-28.19	0	100	V

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	DUAL	* 4.80395	37.12	PKFH	34.30	-29.80	41.62	-	-	74.00	-32.38	323	142	H
		* 4.80414	25.98	VA1T	34.30	-29.80	30.48	54.00	-23.52	-	-	323	142	H
		* 4.80384	39.27	PKFH	34.30	-29.80	43.77	-	-	74.00	-30.23	186	379	V
		* 4.80405	27.64	VA1T	34.30	-29.80	32.14	54.00	-21.86	-	-	186	379	V
		7.205	33.81	PKFH	35.80	-25.70	43.91	-	-	74.00	-30.09	30	103	H
		7.206	34.55	PKFH	35.80	-25.70	44.65	-	-	74.00	-29.35	87	100	V
		9.609	31.15	PKFH	36.70	-21.70	46.15	-	-	74.00	-27.85	0	100	H
		9.607	30.35	PKFH	36.70	-21.60	45.45	-	-	74.00	-28.55	0	100	V
2441	DUAL	* 4.88256	38.43	PKFH	34.20	-30.60	42.03	-	-	74.00	-31.97	339	399	H
		* 4.88208	25.38	VA1T	34.20	-30.60	28.98	54.00	-25.02	-	-	339	399	H
		* 4.88197	42.07	PKFH	34.20	-30.60	45.67	-	-	74.00	-28.33	308	120	V
		* 4.88192	32.78	VA1T	34.20	-30.60	36.38	54.00	-17.62	-	-	308	120	V
		* 7.32151	32.70	PKFH	35.80	-25.10	43.40	-	-	74.00	-30.60	291	273	H
		* 7.32052	20.39	VA1T	35.80	-25.10	31.09	54.00	-22.91	-	-	291	273	H
		* 7.32736	33.90	PKFH	35.80	-25.00	44.70	-	-	74.00	-29.30	54	111	V
		* 7.32298	21.32	VA1T	35.80	-25.00	32.12	54.00	-21.88	-	-	54	111	V
		9.767	30.36	PKFH	36.90	-21.20	46.06	-	-	74.00	-27.94	0	100	H
		9.763	30.66	PKFH	36.90	-21.20	46.36	-	-	74.00	-27.64	0	100	V
2480	DUAL	* 4.96	38.01	PKFH	34.30	-30.40	41.91	-	-	74.00	-32.09	303	360	H
		* 4.9598	25.80	VA1T	34.30	-30.40	29.70	54.00	-24.30	-	-	303	360	H
		* 4.95949	39.78	PKFH	34.30	-30.40	43.68	-	-	74.00	-30.32	178	357	V
		* 4.95989	30.66	VA1T	34.30	-30.40	34.56	54.00	-19.44	-	-	178	357	V
		* 7.44039	32.20	PKFH	35.70	-25.00	42.90	-	-	74.00	-31.10	28	100	H
		* 7.44004	20.35	VA1T	35.70	-25.00	31.05	54.00	-22.95	-	-	28	100	H
		* 7.44035	32.93	PKFH	35.70	-25.00	43.63	-	-	74.00	-30.37	39	111	V
		* 7.4401	21.20	VA1T	35.70	-25.00	31.90	54.00	-22.10	-	-	39	111	V
		9.922	30.36	PKFH	37.10	-21.30	46.16	-	-	74.00	-27.84	0	100	H
		9.920	30.32	PKFH	37.10	-21.30	46.12	-	-	74.00	-27.88	0	100	V

* - indicates frequency in 47 CFR 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

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



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Factor (dB/m)	Below 1G Path Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	71.613	41.45	Pk	14.9	-30.5	25.85	40	-14.15	0-360	200	H
2	93.923	45.55	Pk	16.4	-30.3	31.65	43.52	-11.87	0-360	200	H
3	471.932	41.43	Pk	22.2	-27.6	36.03	46.02	-9.99	0-360	100	H
4	61.816	45.28	Pk	18.1	-30.7	32.68	40	-7.32	0-360	200	V
5	91.498	45.08	Pk	16.2	-30.3	30.98	43.52	-12.54	0-360	200	V
6	600.069	34.97	Pk	25	-27.2	32.77	46.02	-13.25	0-360	200	V

PK - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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 C63.10:2020.

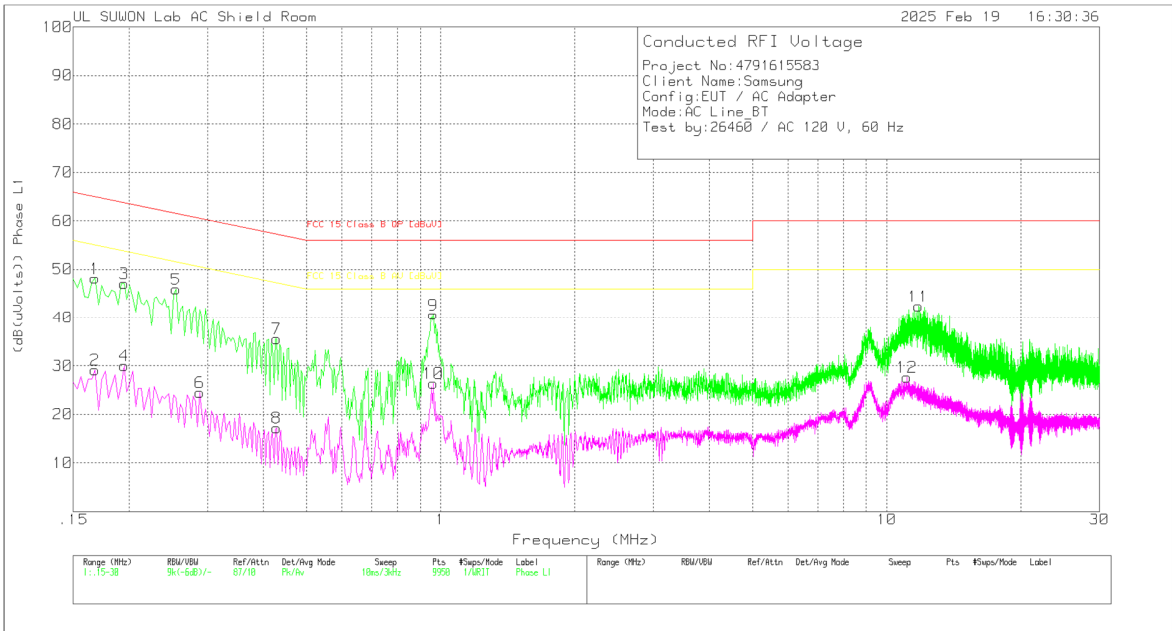
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line

LINE 1 RESULTS

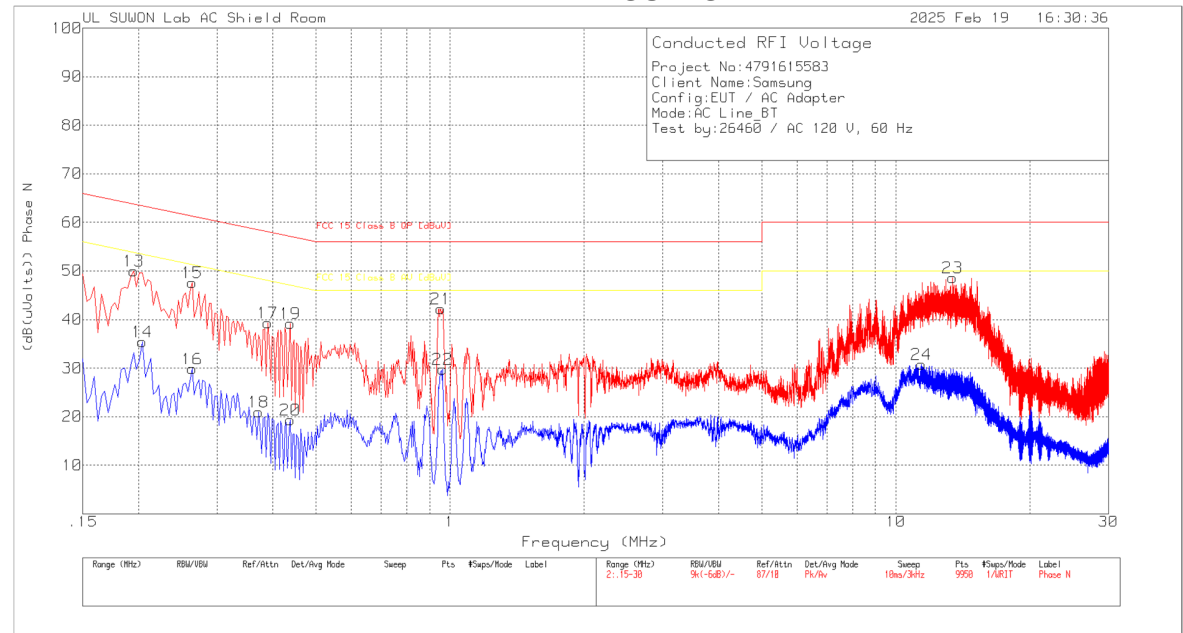


Trace Markers

Range 1: Phase L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836 With EX_L1 [dB]	Cable Loss [dB]	Corrected Reading [dBuV]	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
1	.168	38.07	Pk	10	.1	48.17	65.06	-16.89	-	-
2	.168	19.04	Av	10	.1	29.14	-	-	55.06	-25.92
3	.195	37.14	Pk	9.9	.1	47.14	63.82	-16.68	-	-
4	.195	20.05	Av	9.9	.1	30.05	-	-	53.82	-23.77
5	.255	36.22	Pk	9.6	.1	45.92	61.59	-15.67	-	-
6	.288	14.7	Av	9.7	.1	24.5	-	-	50.58	-26.08
7	.429	25.68	Pk	9.8	.1	35.58	57.27	-21.69	-	-
8	.429	7.31	Av	9.8	.1	17.21	-	-	47.27	-30.06
9	.963	30.73	Pk	9.8	.1	40.63	56	-15.37	-	-
10	.963	16.43	Av	9.8	.1	26.33	-	-	46	-19.67
11	11.766	32.3	Pk	9.9	.2	42.4	60	-17.6	-	-
12	11.1	17.57	Av	9.9	.2	27.67	-	-	50	-22.33

Pk - Peak detector
Av - Average detection

LINE 2 RESULTS



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_N [dB]	Cable Loss [dB]	Corrected Reading [dBuV]	FCC 15 Class B QP [dBuV]	Margin (dB)	FCC 15 Class B AV [dBuV]	Margin (dB)
13	.195	40.03	Pk	9.9	.1	50.03	63.82	-13.79	-	-
14	.204	25.53	Av	9.8	.1	35.43	-	-	53.45	-18.02
15	.264	37.9	Pk	9.6	.1	47.6	61.3	-13.7	-	-
16	.264	20.13	Av	9.6	.1	29.83	-	-	51.3	-21.47
17	.39	29.42	Pk	9.8	.1	39.32	58.06	-18.74	-	-
18	.372	11.1	Av	9.8	.1	21	-	-	48.46	-27.46
19	.438	29.3	Pk	9.8	.1	39.2	57.1	-17.9	-	-
20	.438	9.39	Av	9.8	.1	19.29	-	-	47.1	-27.81
21	.954	32.35	Pk	9.8	.1	42.25	56	-13.75	-	-
22	.963	19.89	Av	9.8	.1	29.79	-	-	46	-16.21
23	13.398	38.34	Pk	10	.3	48.64	60	-11.36	-	-
24	11.43	20.61	Av	10	.2	30.81	-	-	50	-19.19

Pk - Peak detector
Av - Average detection

END OF TEST REPORT