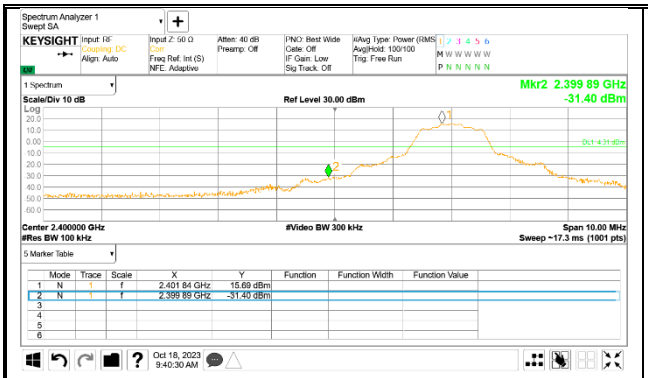
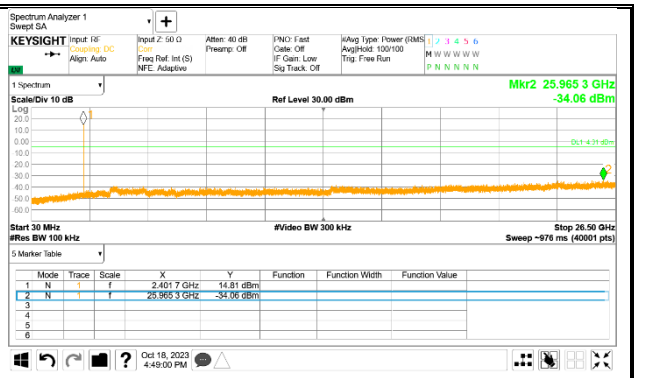
9.8.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

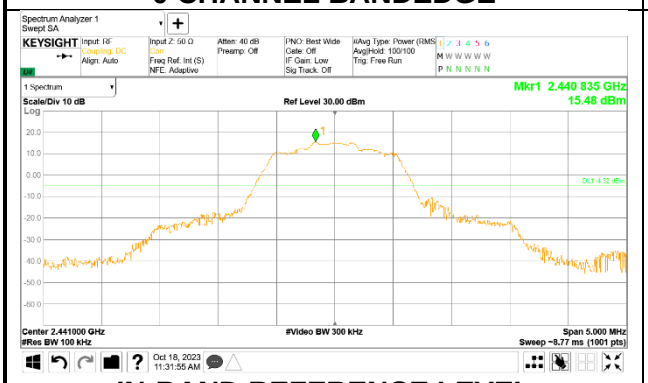
SPURIOUS EMISSIONS, NON-HOPPING – ANT1



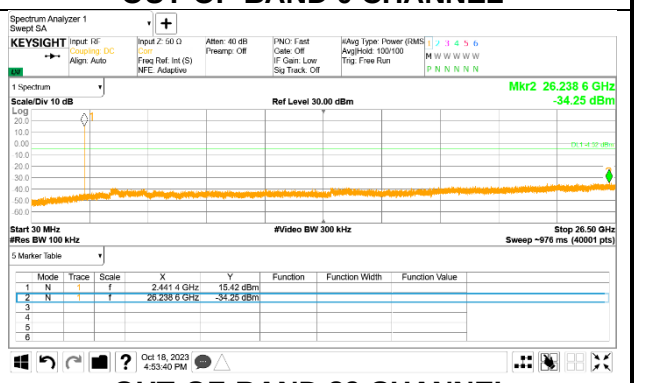
0 CHANNEL BANDEDGE



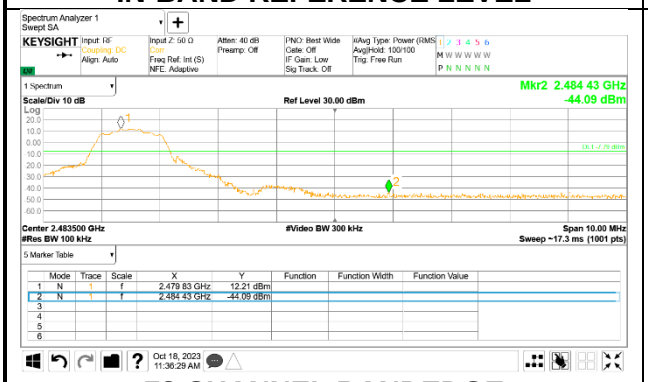
OUT-OF-BAND 0 CHANNEL



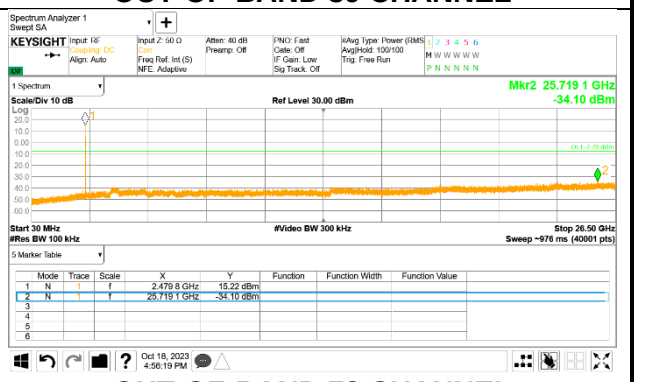
IN-BAND REFERENCE LEVEL



OUT-OF-BAND 39 CHANNEL

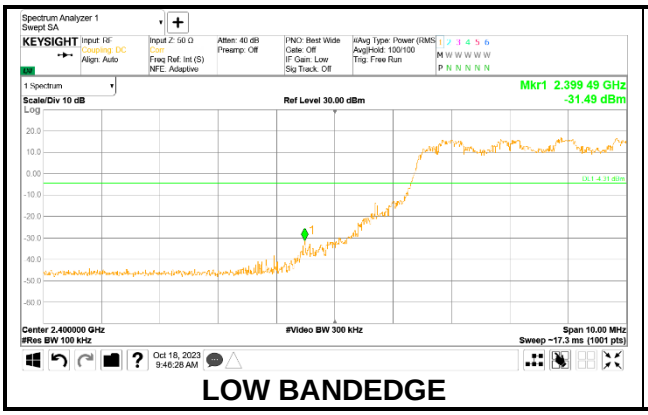


78 CHANNEL BANDEDGE

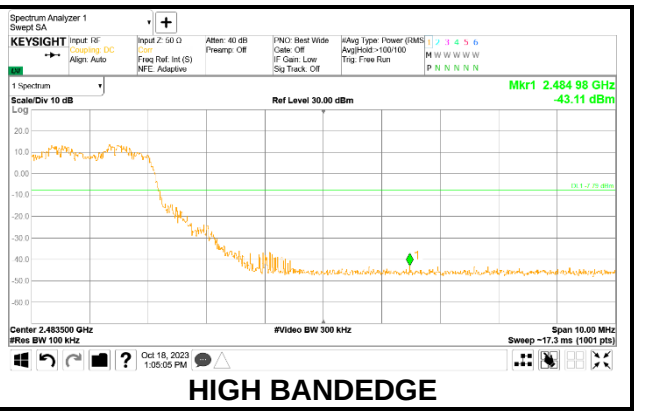


OUT-OF-BAND 78 CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT1

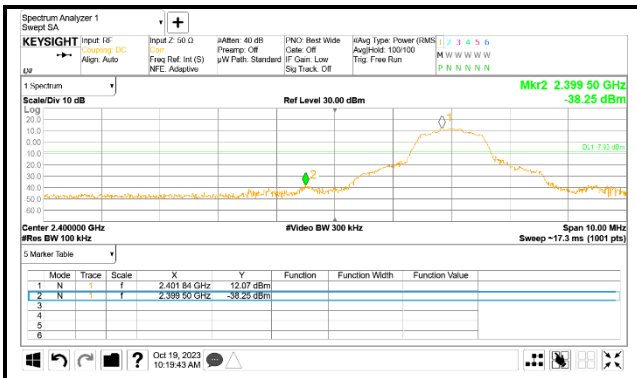


LOW BANDEDGE

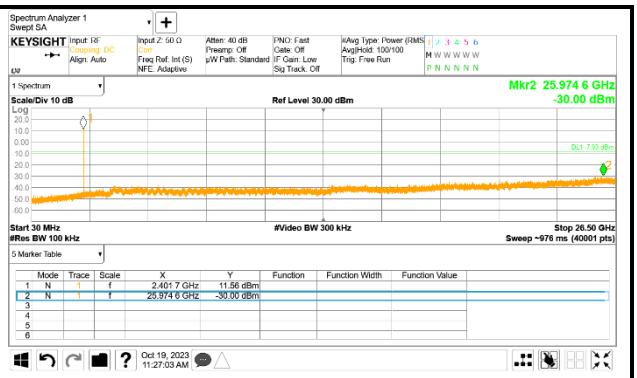


HIGH BANDEDGE

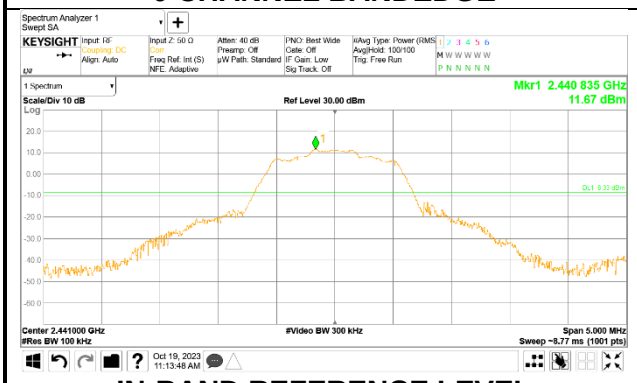
SPURIOUS EMISSIONS, NON-HOPPING – ANT2



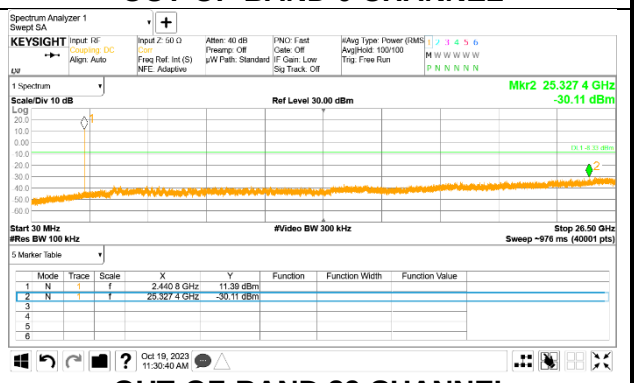
0 CHANNEL BANDEDGE



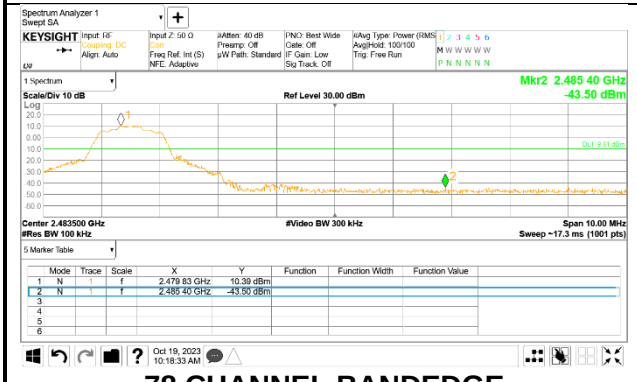
OUT-OF-BAND 0 CHANNEL



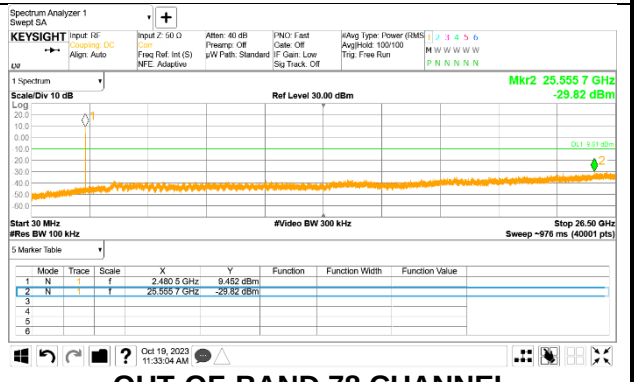
IN-BAND REFERENCE LEVEL



OUT-OF-BAND 39 CHANNEL

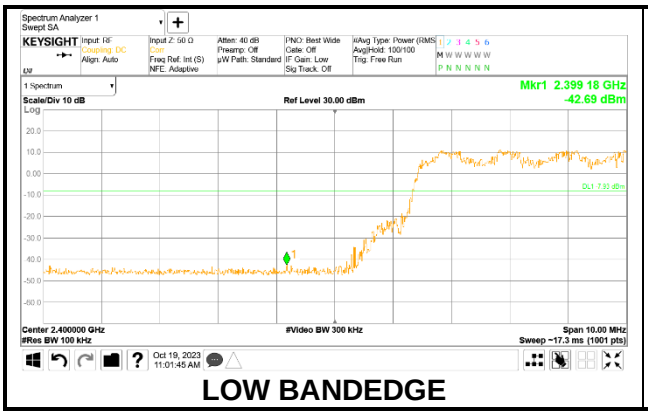


78 CHANNEL BANDEDGE

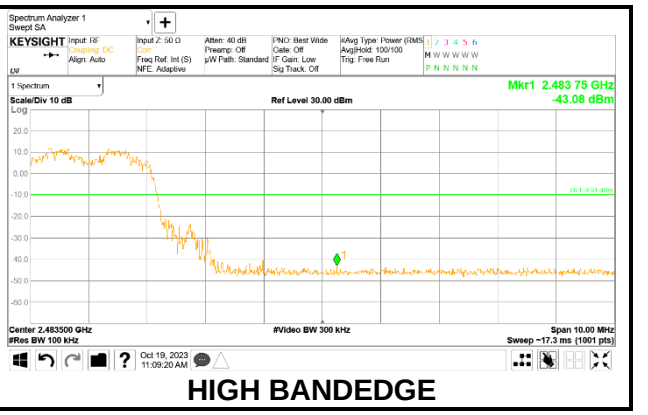


OUT-OF-BAND 78 CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT2



LOW BANDEDGE



HIGH BANDEDGE

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 = 347Hz.

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.

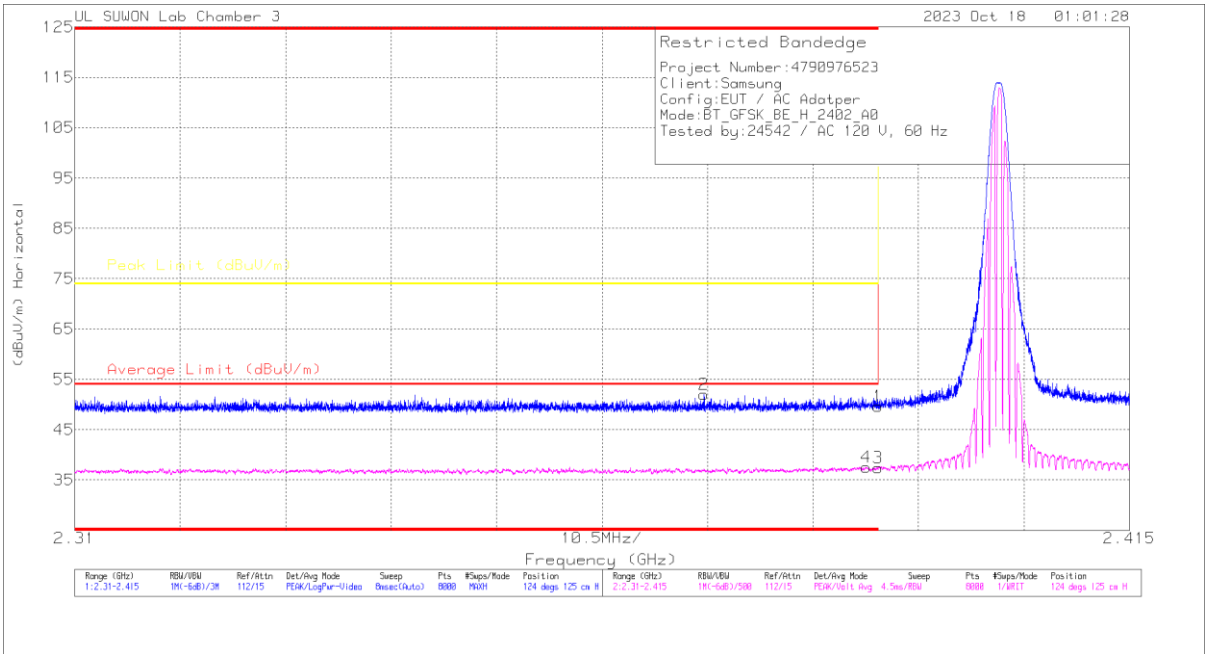
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field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

10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

ANT1
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

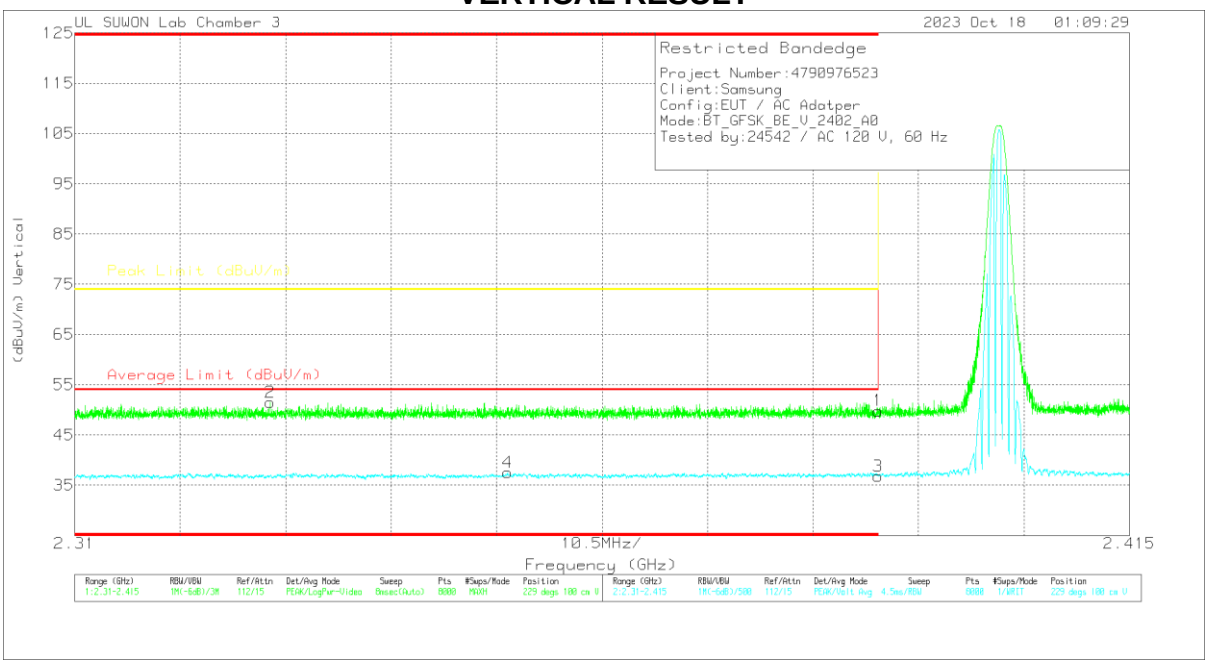


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.35	Pk	32.1	-24.8	49.65	-	-	74	-24.35	124	125	H
2	* 2.37266	44.92	Pk	32	-24.9	52.02	-	-	74	-21.98	124	125	H
3	* 2.39	30.14	VA1T	32.1	-24.8	37.44	54	-16.56	-	-	124	125	H
4	* 2.3888	30.28	VA1T	32.1	-24.8	37.58	54	-16.42	-	-	124	125	H

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

VERTICAL RESULT



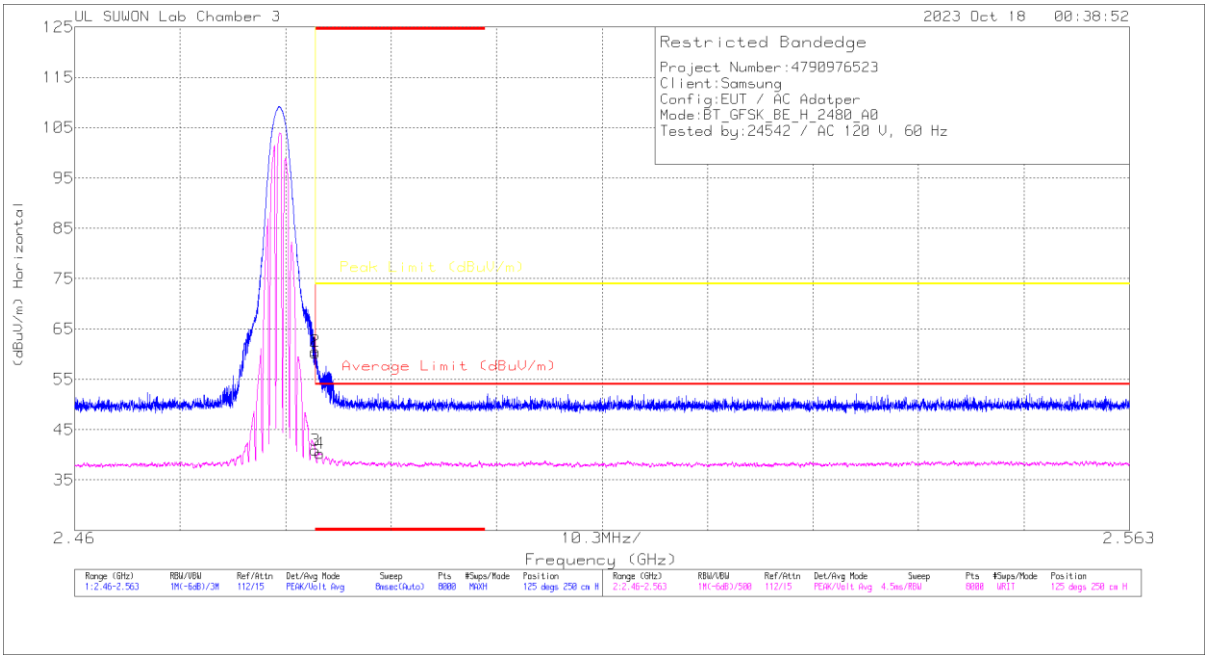
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.52	Pk	32.1	-24.8	49.82	-	-	74	-24.18	229	100	V
2	* 2.32947	44.47	Pk	31.9	-24.9	51.47	-	-	74	-22.53	229	100	V
3	* 2.39	29.52	VA1T	32.1	-24.8	36.82	54	-17.18	-	-	229	100	V
4	* 2.35311	30.33	VA1T	32	-24.8	37.53	54	-16.47	-	-	229	100	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

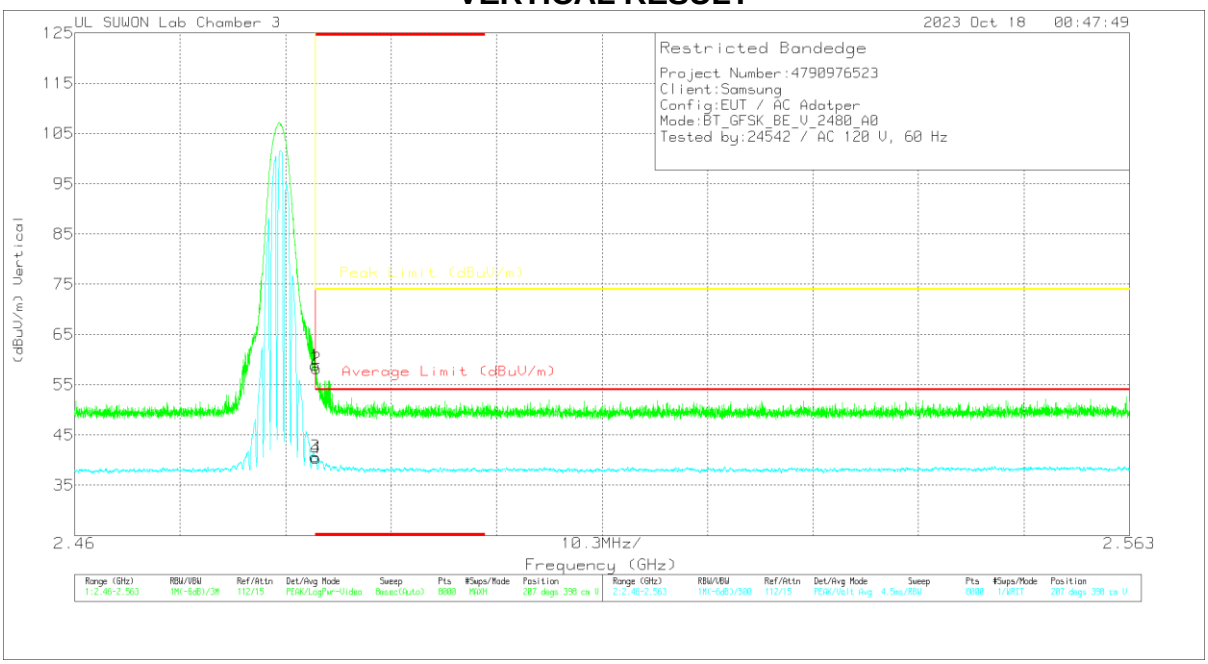


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	52.58	Pk	32.4	-24.8	60.18	-	-	74	-13.82	125	250	H
2	* 2.48351	52.98	Pk	32.4	-24.8	60.58	-	-	74	-13.42	125	250	H
3	* 2.4835	33.28	VA1T	32.4	-24.8	40.88	54	-13.12	-	-	125	250	H
4	* 2.48391	32.72	VA1T	32.4	-24.8	40.32	54	-13.68	-	-	125	250	H

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

VERTICAL RESULT



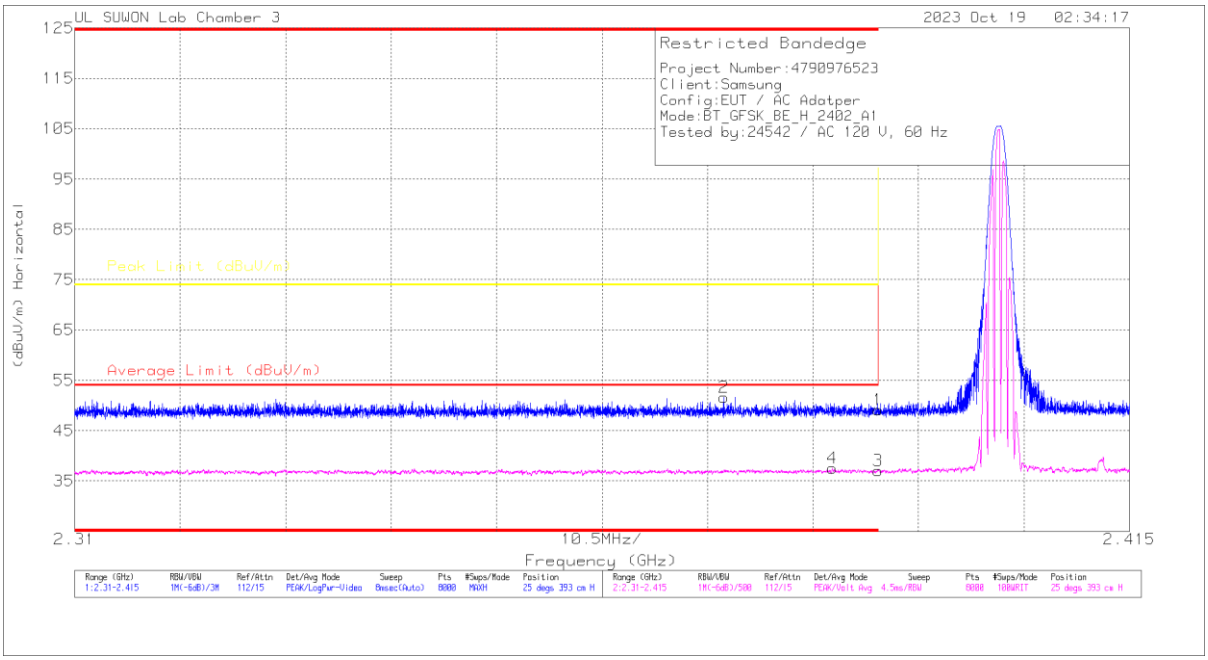
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	51.25	Pk	32.4	-24.8	58.85	-	-	74	-15.15	207	398	V
2	* 2.48362	50.59	Pk	32.4	-24.8	58.19	-	-	74	-15.81	207	398	V
3	* 2.4835	33.12	VA1T	32.4	-24.8	40.72	54	-13.28	-	-	207	398	V
4	* 2.48356	32.81	VA1T	32.4	-24.8	40.41	54	-13.59	-	-	207	398	V

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

ANT2
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

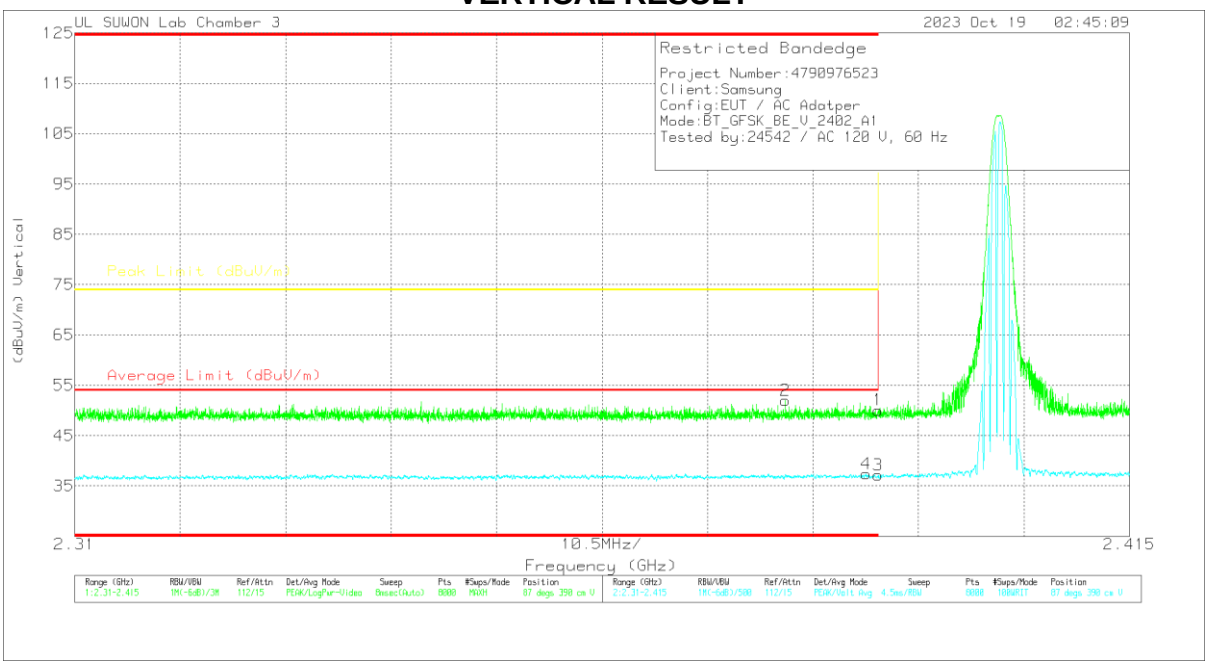


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	41.79	Pk	32.1	-24.8	49.09	-	-	74	-24.91	25	393	H
2	* 2.37462	44.57	Pk	32	-24.9	51.67	-	-	74	-22.33	25	393	H
3	* 2.39	29.79	VA1T	32.1	-24.8	37.09	54	-16.91	-	-	25	393	H
4	* 2.38541	30.37	VA1T	32.1	-24.9	37.57	54	-16.43	-	-	25	393	H

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

VERTICAL RESULT



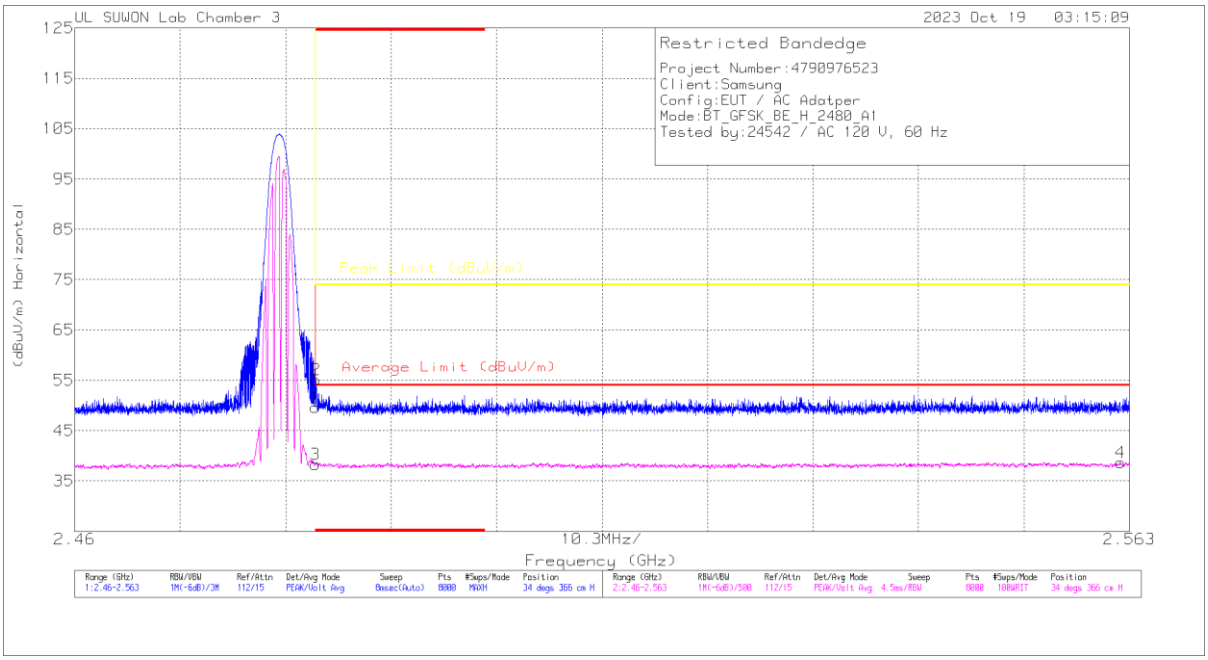
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.77	Pk	32.1	-24.8	50.07	-	-	74	-23.93	87	390	V
2	* 2.38077	44.78	Pk	32.1	-24.9	51.98	-	-	74	-22.02	87	390	V
3	* 2.39	29.86	VA1T	32.1	-24.8	37.16	54	-16.84	-	-	87	390	V
4	* 2.3888	30.13	VA1T	32.1	-24.8	37.43	54	-16.57	-	-	87	390	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

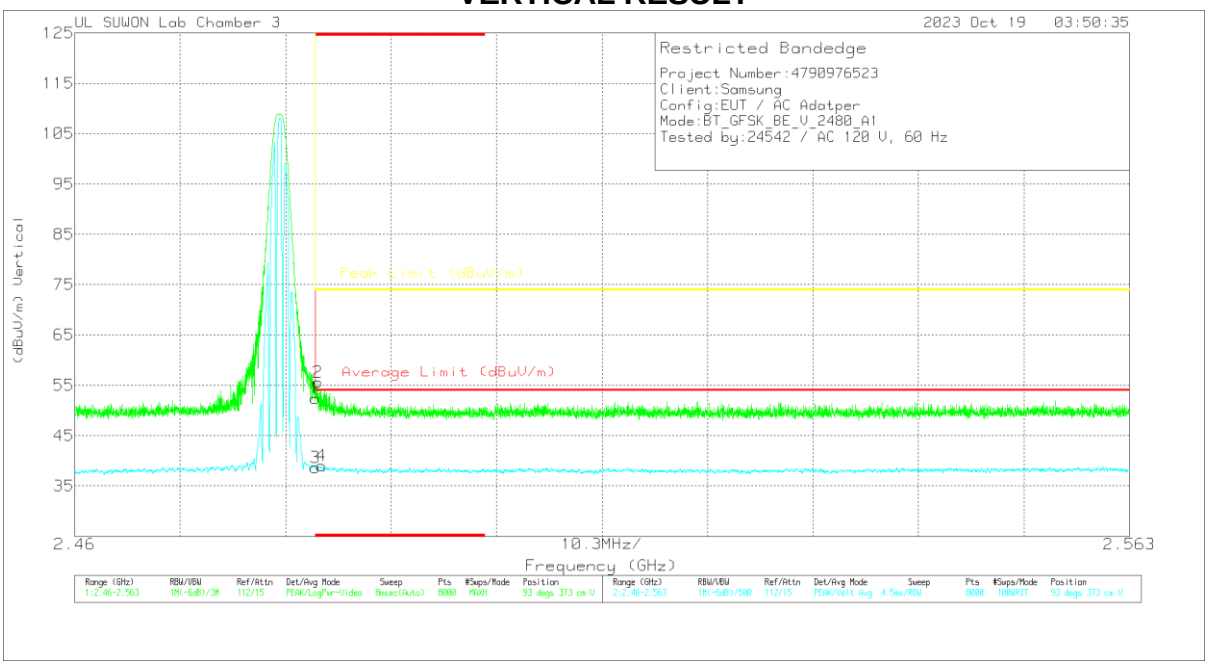


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	41.99	Pk	32.4	-24.8	49.59	-	-	74	-24.41	34	366	H
2	* 2.48358	47.5	Pk	32.4	-24.8	55.1	-	-	74	-18.9	34	366	H
3	* 2.4835	30.7	VA1T	32.4	-24.8	38.3	54	-15.7	-	-	34	366	H
4	2.56213	31.12	VA1T	32.4	-24.8	38.72	54	-15.28	-	-	34	366	H

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

VERTICAL RESULT



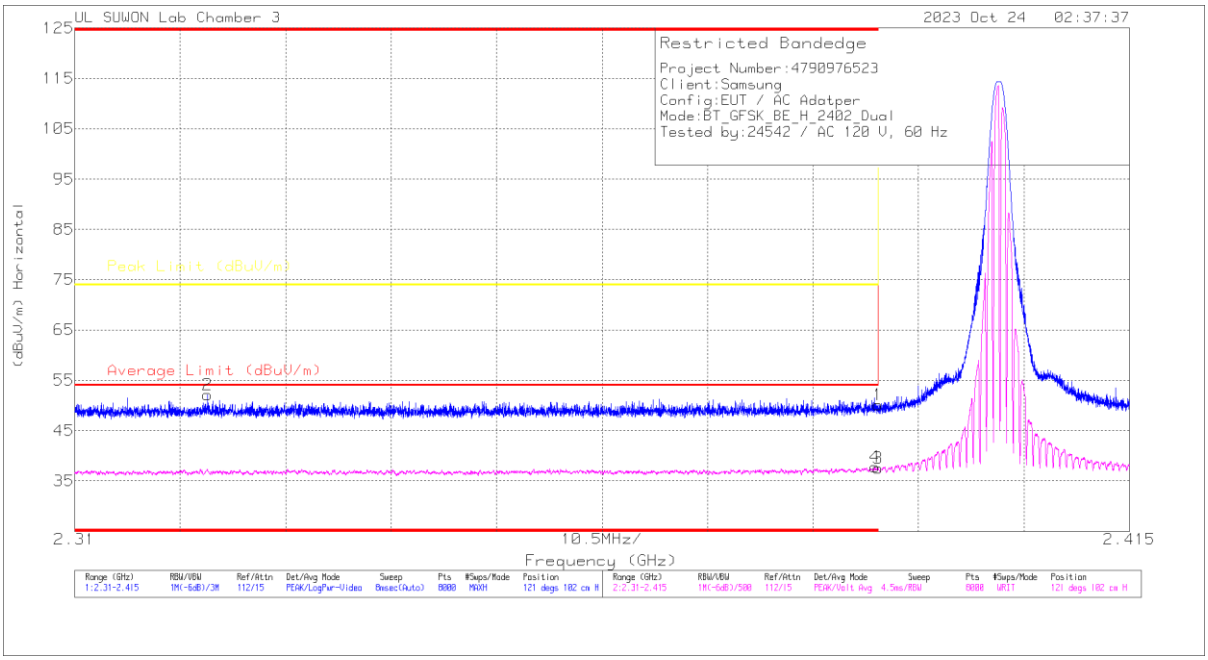
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	44.82	Pk	32.4	-24.8	52.42	-	-	74	-21.58	93	373	V
2	* 2.48373	48.07	Pk	32.4	-24.8	55.67	-	-	74	-18.33	93	373	V
3	* 2.4835	31.03	VA1T	32.4	-24.8	38.63	54	-15.37	-	-	93	373	V
4	* 2.48412	31.48	VA1T	32.4	-24.8	39.08	54	-14.92	-	-	93	373	V

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

DUAL
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

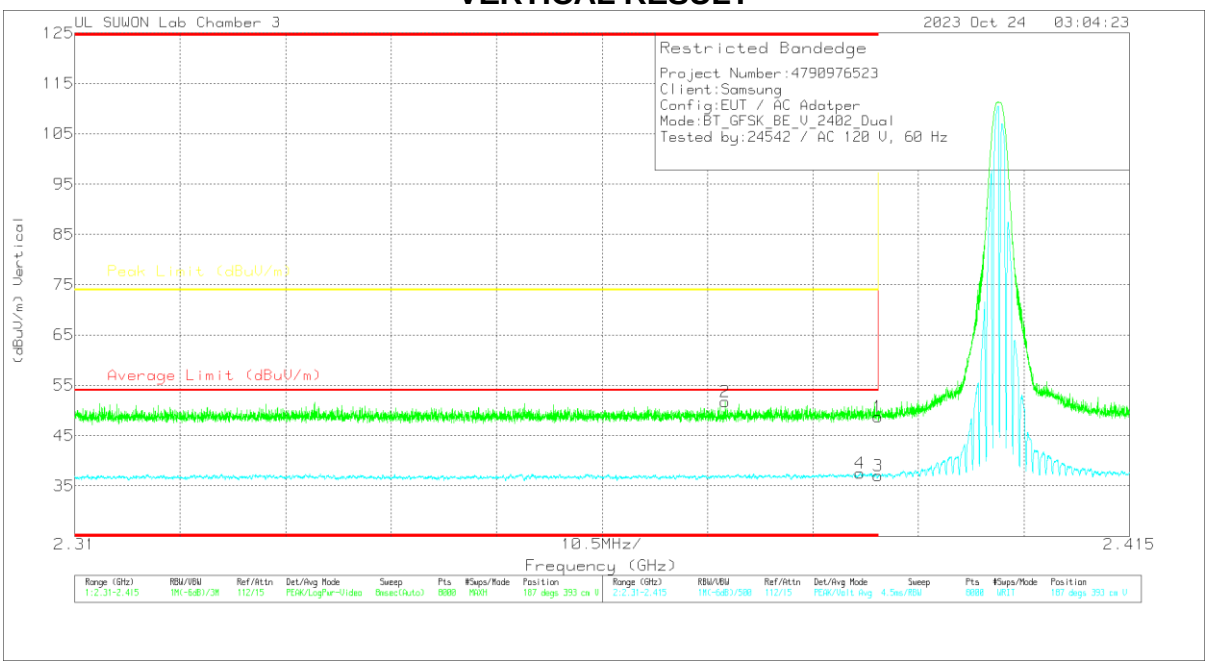


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.79	Pk	32.1	-24.8	50.09	-	-	74	-23.91	121	102	H
2	* 2.32323	45.07	Pk	31.9	-24.8	52.17	-	-	74	-21.83	121	102	H
3	* 2.39	30.29	VA1T	32.1	-24.8	37.59	54	-16.41	-	-	121	102	H
4	* 2.38964	30.46	VA1T	32.1	-24.8	37.76	54	-16.24	-	-	121	102	H

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

VERTICAL RESULT



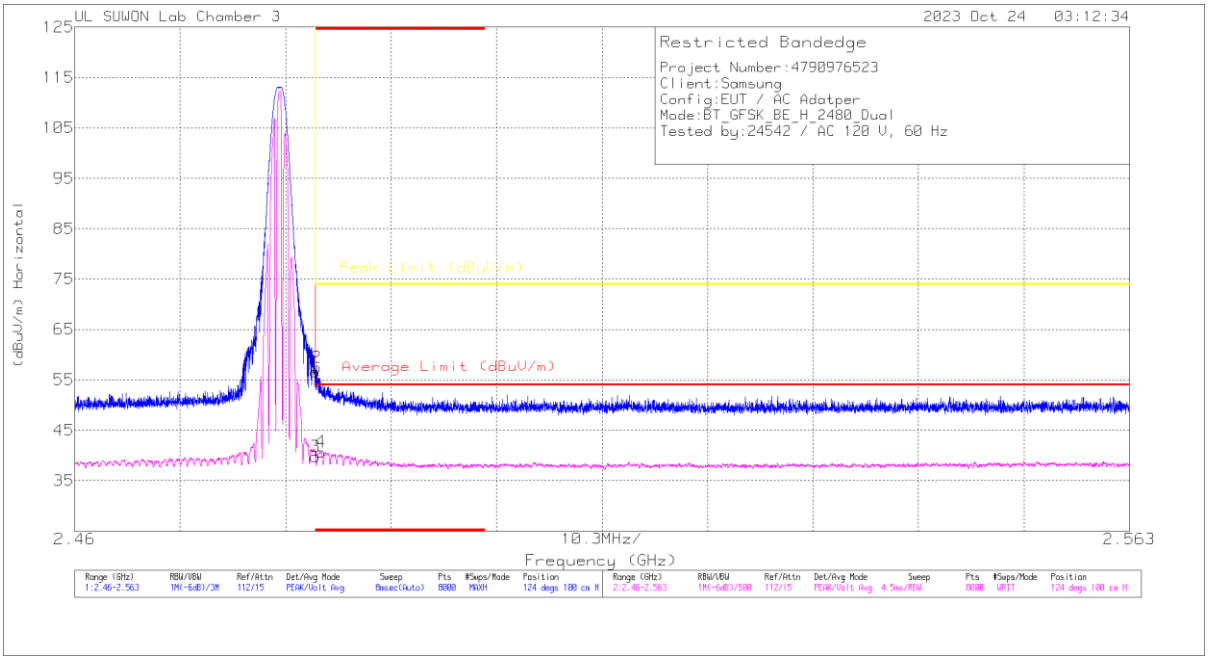
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	41.43	Pk	32.1	-24.8	48.73	-	-	74	-25.27	187	393	V
2	* 2.37476	44.63	Pk	32	-24.9	51.73	-	-	74	-22.27	187	393	V
3	* 2.39	29.78	VA1T	32.1	-24.8	37.08	54	-16.92	-	-	187	393	V
4	* 2.38817	30.26	VA1T	32.1	-24.8	37.56	54	-16.44	-	-	187	393	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

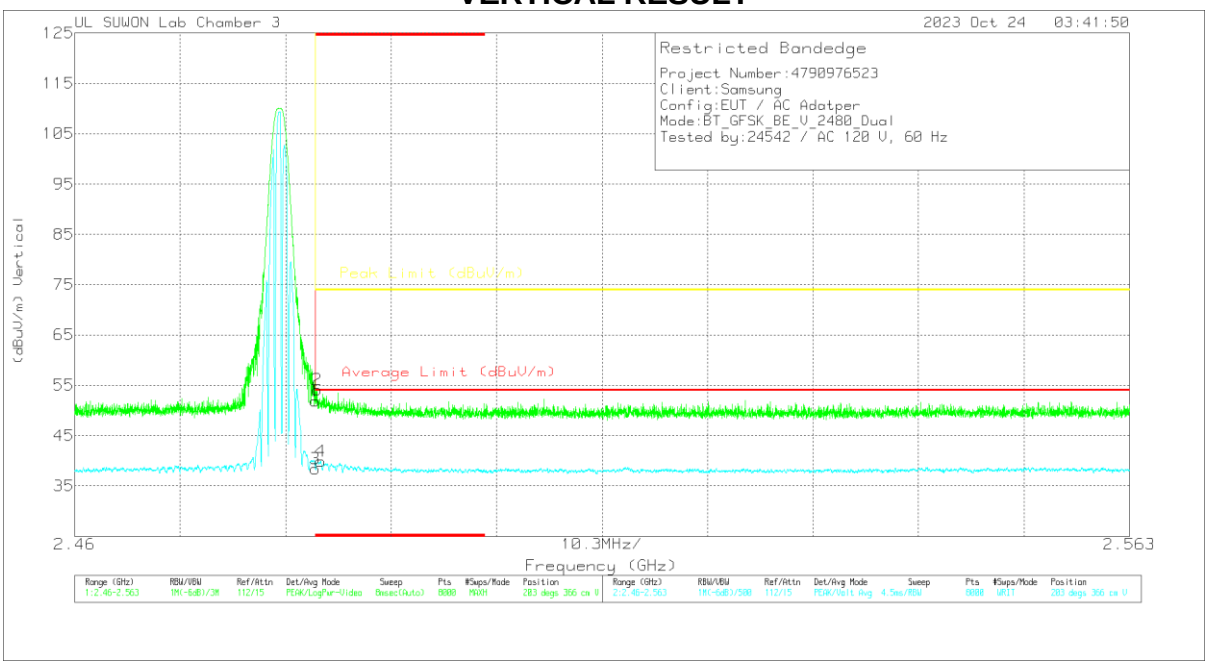


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	48.97	Pk	32.4	-24.8	56.57	-	-	74	-17.43	124	100	H
2	* 2.4836	49.89	Pk	32.4	-24.8	57.49	-	-	74	-16.51	124	100	H
3	* 2.4835	32.19	VA1T	32.4	-24.8	39.79	54	-14.21	-	-	124	100	H
4	* 2.48403	33.12	VA1T	32.4	-24.8	40.72	54	-13.28	-	-	124	100	H

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

VERTICAL RESULT



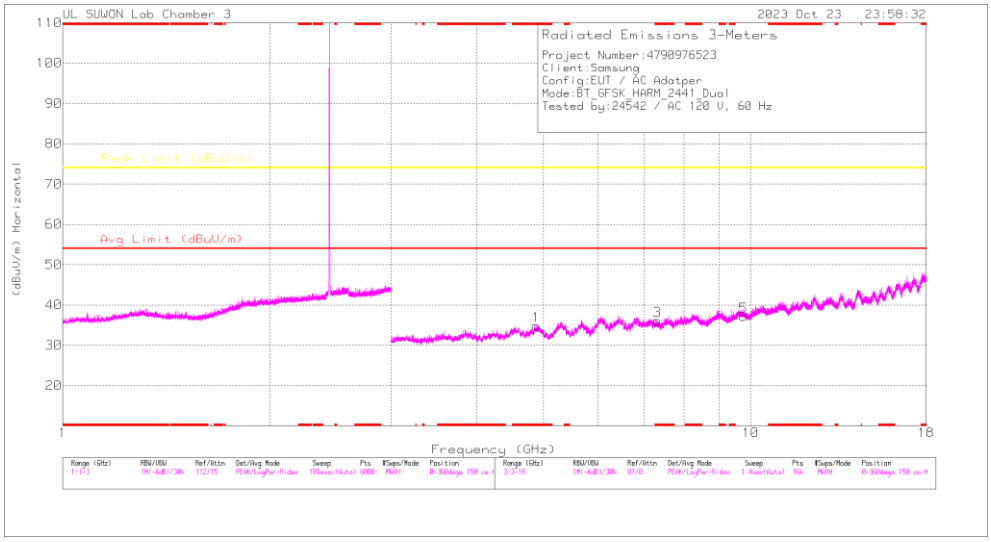
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	44.29	Pk	32.4	-24.8	51.89	-	-	74	-22.11	203	366	V
2	* 2.48366	46.51	Pk	32.4	-24.8	54.11	-	-	74	-19.89	203	366	V
3	* 2.4835	30.76	VA1T	32.4	-24.8	38.36	54	-15.64	-	-	203	366	V
4	* 2.48402	32.34	VA1T	32.4	-24.8	39.94	54	-14.06	-	-	203	366	V

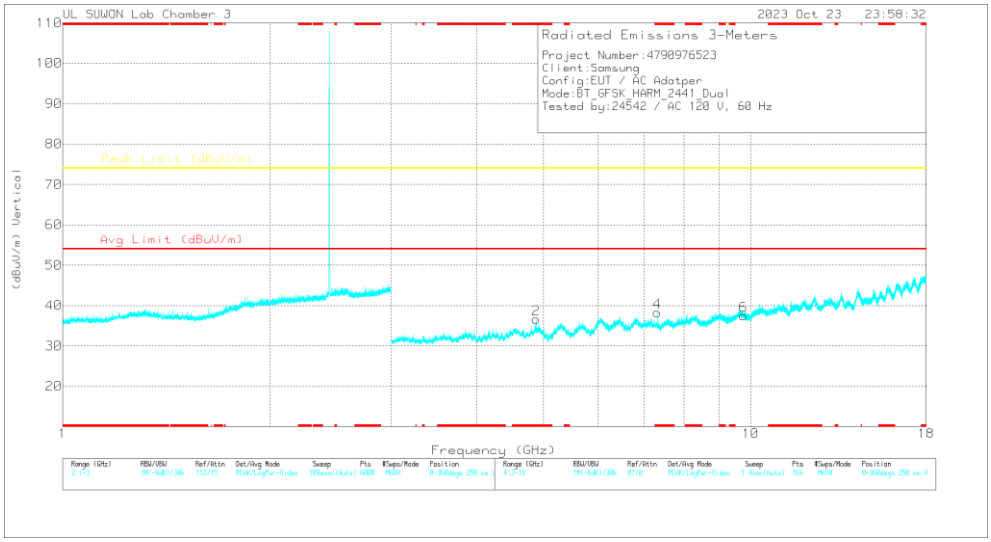
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE – DUAL MODE)

39 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 Correction Factor[dB(1/m)]	Path Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.88194	38.26	PKFH	34.2	-30	42.46	-	-	74	-31.54	245	100	H
* 4.88213	27.3	VA1T	34.2	-30	31.5	54	-22.5	-	-	245	100	H
* 4.88169	39.87	PKFH	34.2	-29.9	44.17	-	-	74	-29.83	106	100	V
* 4.88189	30.3	VA1T	34.2	-30	34.5	54	-19.5	-	-	106	100	V
* 7.32313	33.62	PKFH	35.8	-25.5	43.92	-	-	74	-30.08	162	107	H
* 7.32303	23.5	VA1T	35.8	-25.5	33.8	54	-20.2	-	-	162	107	H
* 7.32294	35.72	PKFH	35.8	-25.5	46.02	-	-	74	-27.98	260	100	V
* 7.3229	26.86	VA1T	35.8	-25.5	37.16	54	-16.84	-	-	260	100	V
9.76009	30.63	PKFH	36.9	-21.5	46.03	-	-	74	-27.97	0	100	H
9.76235	30.78	PKFH	36.9	-21.5	46.18	-	-	74	-27.82	40	113	V

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

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	* 4.80745	37.47	PKFH	34.30	-30.00	41.77	-	-	74.00	-32.23	0	100	H
		* 4.80425	38.07	PKFH	34.30	-30.10	42.27	-	-	74.00	-31.73	0	100	V
		7.211	33.62	PKFH	35.80	-25.90	43.52	-	-	74.00	-30.48	0	100	H
		7.208	33.43	PKFH	35.80	-25.90	43.33	-	-	74.00	-30.67	0	100	V
		9.609	31.54	PKFH	36.70	-21.70	46.54	-	-	74.00	**-27.46**	0	100	H
		9.612	31.31	PKFH	36.70	-21.80	46.21	-	-	74.00	-27.79	0	100	V
2441	ANT1	* 4.8868	37.91	PKFH	34.20	-29.80	42.31	-	-	74.00	-31.69	0	100	H
		* 4.88728	38.13	PKFH	34.20	-29.90	42.43	-	-	74.00	-31.57	0	100	V
		* 7.32141	33.16	PKFH	35.80	-25.50	43.46	-	-	74.00	-30.54	0	100	H
		* 7.3228	33.65	PKFH	35.80	-25.50	43.95	-	-	74.00	-30.05	0	100	V
		9.762	30.20	PKFH	36.90	-21.50	45.60	-	-	74.00	-28.40	0	100	H
		9.768	30.35	PKFH	36.90	-21.50	45.75	-	-	74.00	-28.25	0	100	V
2480	ANT1	* 4.95961	37.28	PKFH	34.30	-30.00	41.58	-	-	74.00	-32.42	0	100	H
		* 4.96047	37.53	PKFH	34.30	-30.00	41.83	-	-	74.00	-32.17	0	100	V
		* 7.4415	33.01	PKFH	35.70	-25.20	43.51	-	-	74.00	-30.49	0	100	H
		* 7.44	32.99	PKFH	35.70	-25.20	43.49	-	-	74.00	-30.51	0	100	V
		9.916	30.69	PKFH	37.10	-21.40	46.39	-	-	74.00	-27.61	0	100	H
		9.923	29.61	PKFH	37.10	-21.40	45.31	-	-	74.00	-28.69	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	* 4.80384	37.87	PKFH	34.30	-30.10	42.07	-	-	74.00	-31.93	0	100	H
		* 4.80642	37.79	PKFH	34.30	-30.00	42.09	-	-	74.00	-31.91	0	100	V
		7.207	34.91	PKFH	35.80	-25.90	44.81	-	-	74.00	-29.19	0	100	H
		7.202	34.01	PKFH	35.80	-25.80	44.01	-	-	74.00	-29.99	0	100	V
		9.609	31.58	PKFH	36.70	-21.70	46.58	-	-	74.00	**-27.42**	0	100	H
		9.607	30.92	PKFH	36.70	-21.80	45.82	-	-	74.00	-28.18	0	100	V
2441	ANT2	* 4.87939	37.70	PKFH	34.20	-29.90	42.00	-	-	74.00	-32.00	0	100	H
		* 4.87983	38.85	PKFH	34.20	-29.90	43.15	-	-	74.00	-30.85	0	100	V
		* 7.32566	32.68	PKFH	35.80	-25.50	42.98	-	-	74.00	-31.02	0	100	H
		* 7.32471	33.96	PKFH	35.80	-25.50	44.26	-	-	74.00	-29.74	0	100	V
		9.762	30.65	PKFH	36.90	-21.50	46.05	-	-	74.00	-27.95	0	100	H
		9.762	30.26	PKFH	36.90	-21.50	45.66	-	-	74.00	-28.34	0	100	V
2480	ANT2	* 4.95938	37.74	PKFH	34.30	-30.00	42.04	-	-	74.00	-31.96	0	100	H
		* 4.96191	37.60	PKFH	34.30	-30.10	41.80	-	-	74.00	-32.20	0	100	V
		* 7.43887	33.47	PKFH	35.70	-25.20	43.97	-	-	74.00	-30.03	0	100	H
		* 7.43896	34.02	PKFH	35.70	-25.20	44.52	-	-	74.00	-29.48	0	100	V
		9.917	30.60	PKFH	37.10	-21.30	46.40	-	-	74.00	-27.60	0	100	H
		9.920	29.34	PKFH	37.10	-21.40	45.04	-	-	74.00	-28.96	0	100	V

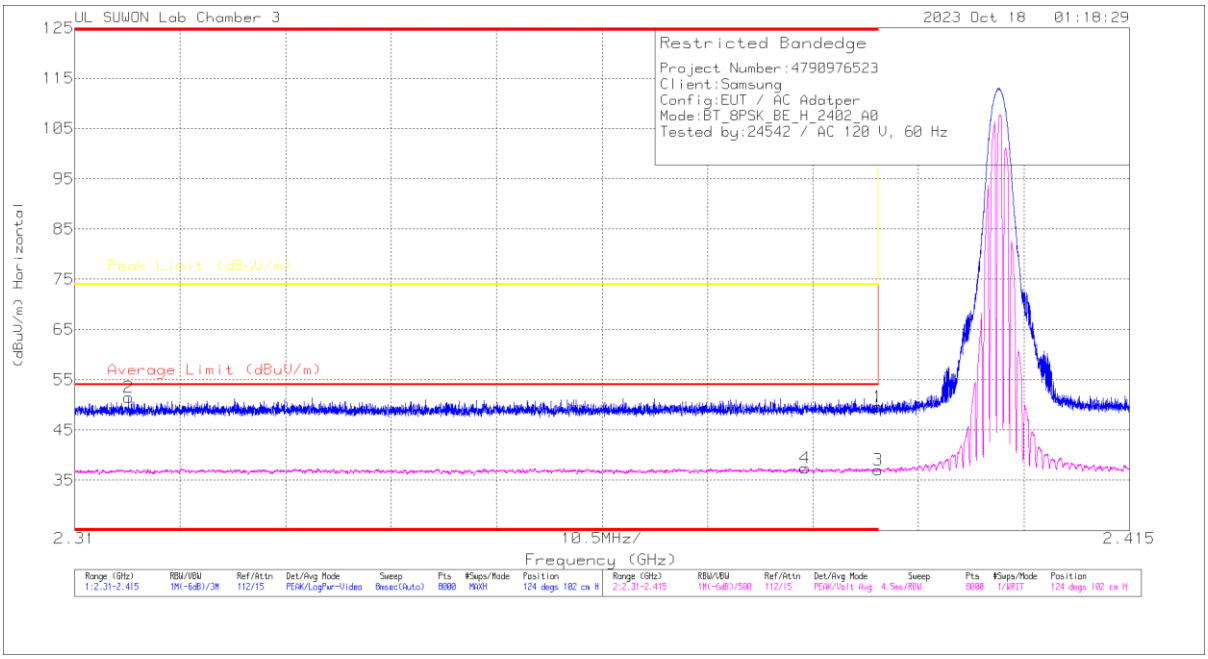
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	DUAL	* 4.80297	38.28	PKFH	34.30	-30.10	42.48	-	-	74.00	-31.52	207	241	H
		* 4.80388	27.28	VA1T	34.30	-30.10	31.48	54.00	-22.52	-	-	207	241	H
		* 4.8038	40.08	PKFH	34.30	-30.10	44.28	-	-	74.00	-29.72	263	100	V
		* 4.80405	30.83	VA1T	34.30	-30.10	35.03	54.00	-18.97	-	-	263	100	V
		7.205	34.12	PKFH	35.80	-25.90	44.02	-	-	74.00	-29.98	161	103	H
		7.206	35.64	PKFH	35.80	-25.90	45.54	-	-	74.00	-28.46	258	100	V
		9.608	31.37	PKFH	36.70	-21.70	46.37	-	-	74.00	-27.63	0	100	H
		9.608	32.31	PKFH	36.70	-21.70	47.31	-	-	74.00	**-26.69**	46	106	V
2441	DUAL	* 4.88194	38.26	PKFH	34.20	-30.00	42.46	-	-	74.00	-31.54	245	100	H
		* 4.88213	27.30	VA1T	34.20	-30.00	31.50	54.00	-22.50	-	-	245	100	H
		* 4.88169	39.87	PKFH	34.20	-29.90	44.17	-	-	74.00	-29.83	106	100	V
		* 4.88189	30.30	VA1T	34.20	-30.00	34.50	54.00	-19.50	-	-	106	100	V
		* 7.32313	33.62	PKFH	35.80	-25.50	43.92	-	-	74.00	-30.08	162	107	H
		* 7.32303	23.50	VA1T	35.80	-25.50	33.80	54.00	-20.20	-	-	162	107	H
		* 7.32294	35.72	PKFH	35.80	-25.50	46.02	-	-	74.00	-27.98	260	100	V
		* 7.3229	26.86	VA1T	35.80	-25.50	37.16	54.00	**-16.84**	-	-	260	100	V
		9.760	30.63	PKFH	36.90	-21.50	46.03	-	-	74.00	-27.97	0	100	H
		9.762	30.78	PKFH	36.90	-21.50	46.18	-	-	74.00	-27.82	40	113	V
2480	DUAL	* 4.96016	39.14	PKFH	34.30	-30.00	43.44	-	-	74.00	-30.56	250	382	H
		* 4.96001	29.09	VA1T	34.30	-30.00	33.39	54.00	-20.61	-	-	250	382	H
		* 4.96035	39.04	PKFH	34.30	-30.00	43.34	-	-	74.00	-30.66	209	100	V
		* 4.95995	30.68	VA1T	34.30	-30.00	34.98	54.00	-19.02	-	-	209	100	V
		* 7.4394	33.54	PKFH	35.70	-25.20	44.04	-	-	74.00	-29.96	157	104	H
		* 7.43988	21.53	VA1T	35.70	-25.20	32.03	54.00	-21.97	-	-	157	104	H
		* 7.44056	33.85	PKFH	35.70	-25.20	44.35	-	-	74.00	-29.65	277	106	V
		* 7.44009	23.64	VA1T	35.70	-25.20	34.14	54.00	-19.86	-	-	277	106	V
		9.919	29.24	PKFH	37.10	-21.30	45.04	-	-	74.00	-28.96	0	100	H
		9.920	29.66	PKFH	37.10	-21.40	45.36	-	-	74.00	-28.64	82	100	V

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

10.1.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

ANT1
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

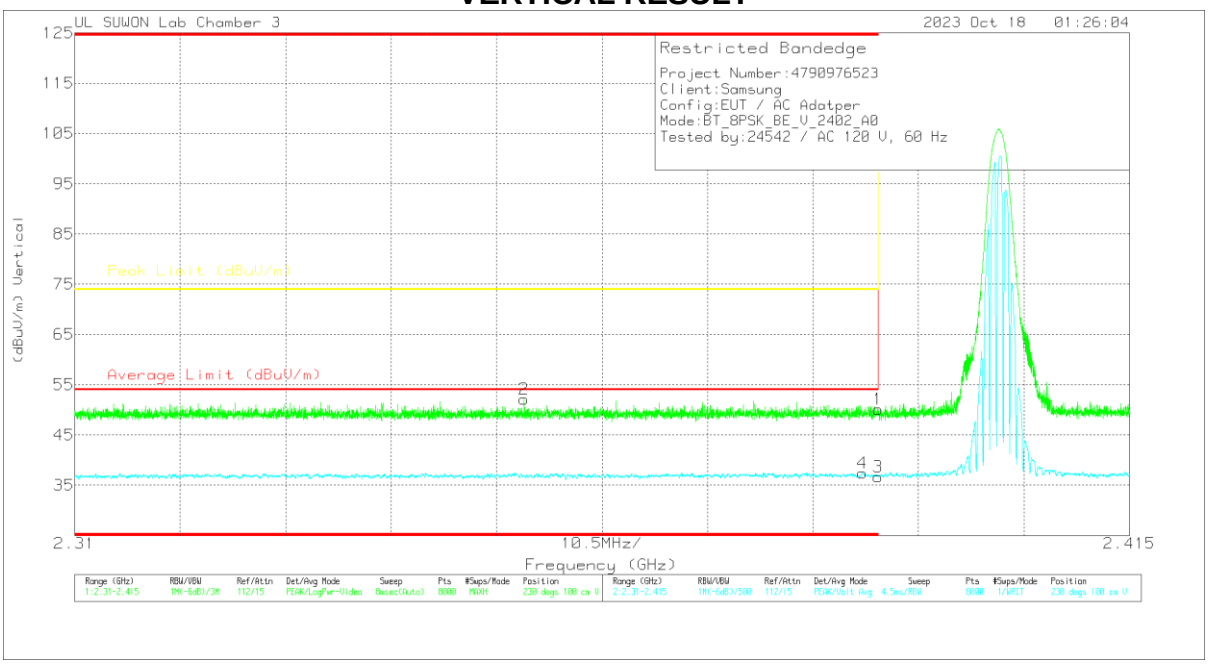


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.29	Pk	32.1	-24.8	49.59	-	-	74	-24.41	124	102	H
2	* 2.31537	44.37	Pk	31.9	-24.8	51.47	-	-	74	-22.53	124	102	H
3	* 2.39	29.72	VA1T	32.1	-24.8	37.02	54	-16.98	-	-	124	102	H
4	* 2.38271	30.26	VA1T	32.1	-24.9	37.46	54	-16.54	-	-	124	102	H

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

VERTICAL RESULT



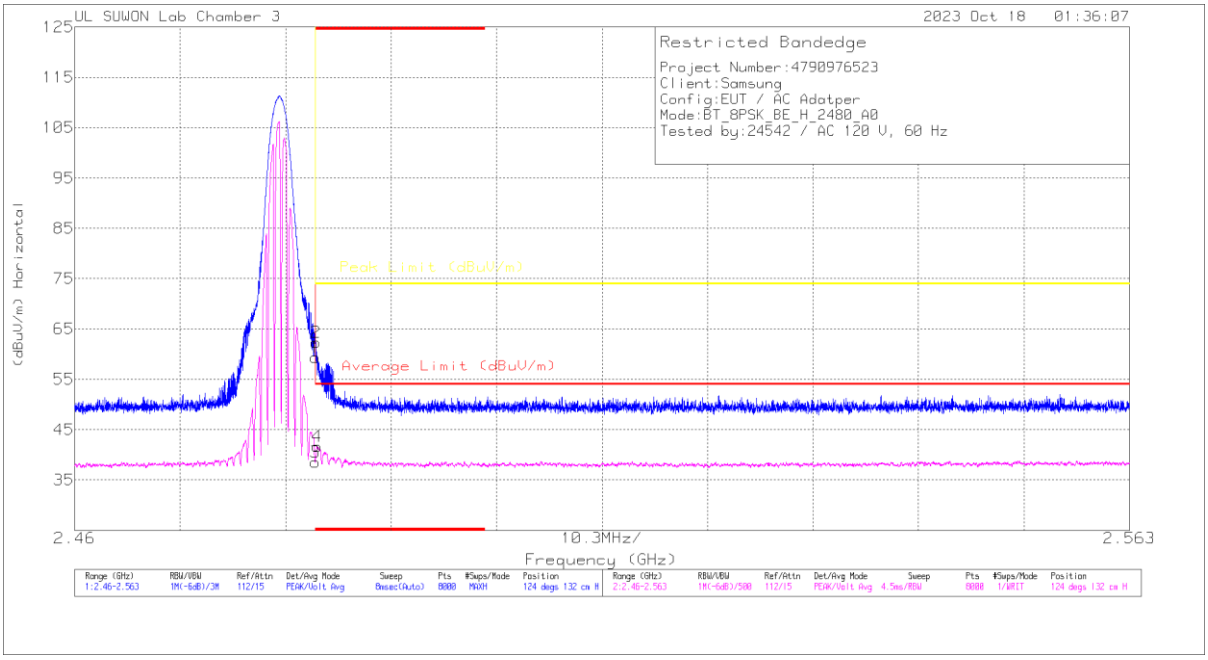
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.87	Pk	32.1	-24.8	50.17	-	-	74	-23.83	230	100	V
2	* 2.35475	44.89	Pk	32	-24.8	52.09	-	-	74	-21.91	230	100	V
3	* 2.39	29.35	VA1T	32.1	-24.8	36.65	54	-17.35	-	-	230	100	V
4	* 2.38841	30.16	VA1T	32.1	-24.8	37.46	54	-16.54	-	-	230	100	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

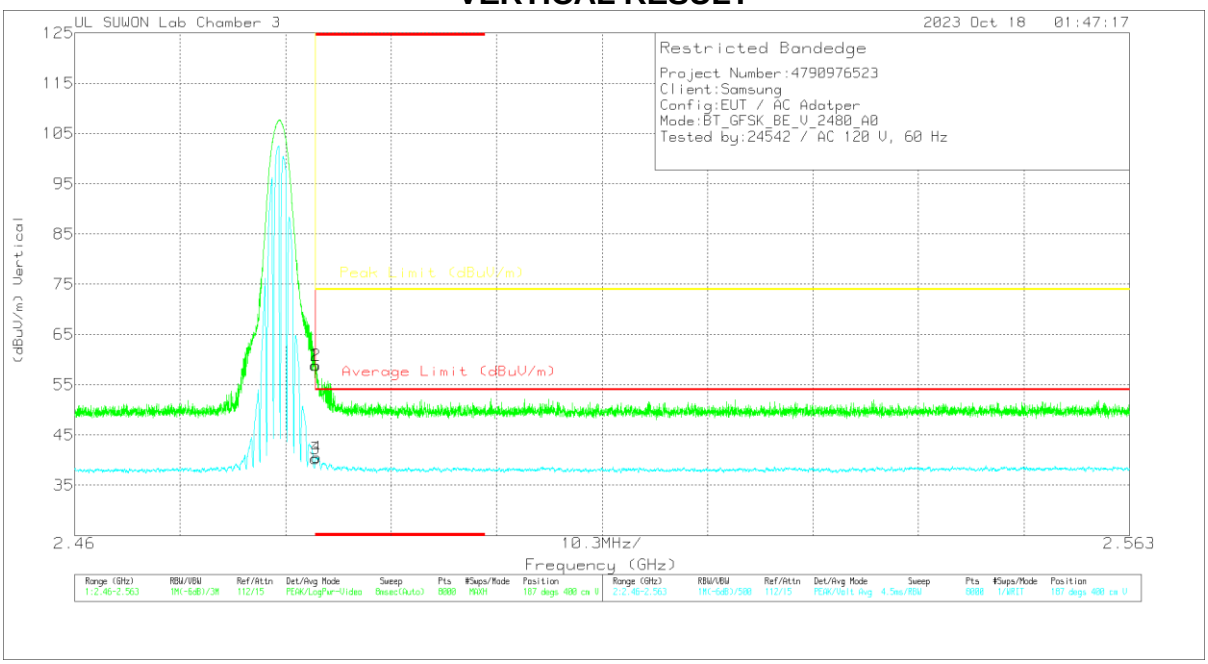


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	51.77	Pk	32.4	-24.8	59.37	-	-	74	-14.63	124	132	H
2	* 2.48354	54.74	Pk	32.4	-24.8	62.34	-	-	74	-11.66	124	132	H
3	* 2.4835	30.96	VA1T	32.4	-24.8	38.56	54	-15.44	-	-	124	132	H
4	* 2.48366	34.1	VA1T	32.4	-24.8	41.7	54	-12.3	-	-	124	132	H

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

VERTICAL RESULT



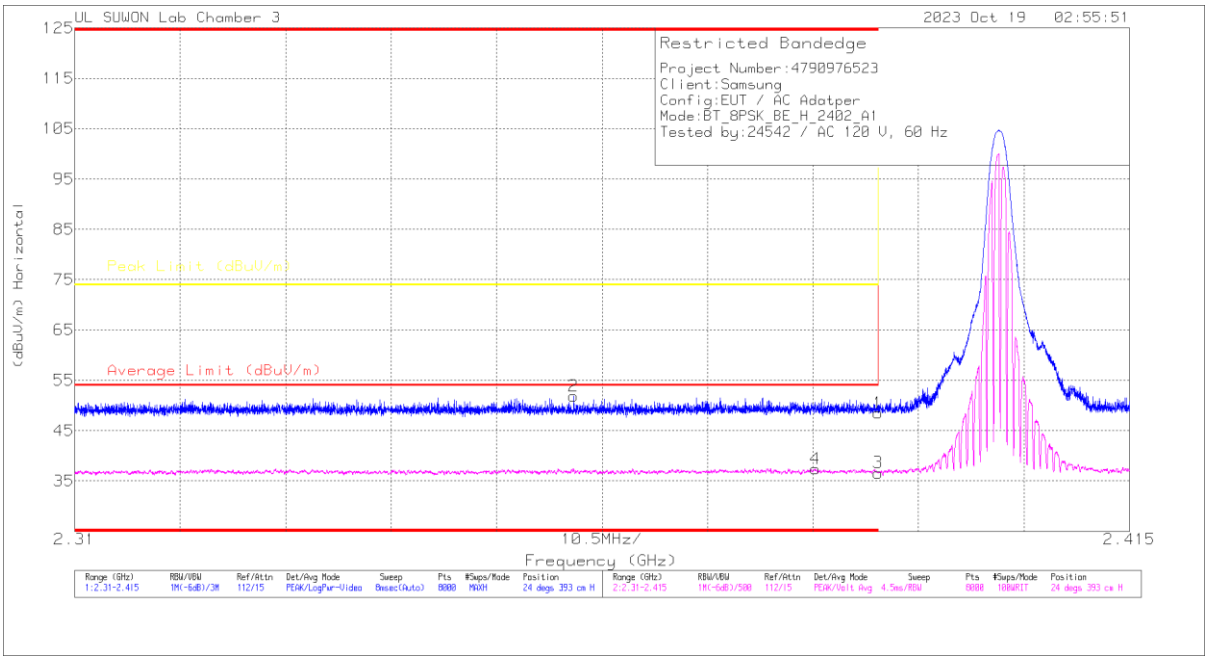
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	51.26	Pk	32.4	-24.8	58.86	-	-	74	-15.14	187	400	V
2	* 2.48355	51.21	Pk	32.4	-24.8	58.81	-	-	74	-15.19	187	400	V
3	* 2.4835	32.72	VA1T	32.4	-24.8	40.32	54	-13.68	-	-	187	400	V
4	* 2.48363	32.98	VA1T	32.4	-24.8	40.58	54	-13.42	-	-	187	400	V

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

ANT2
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

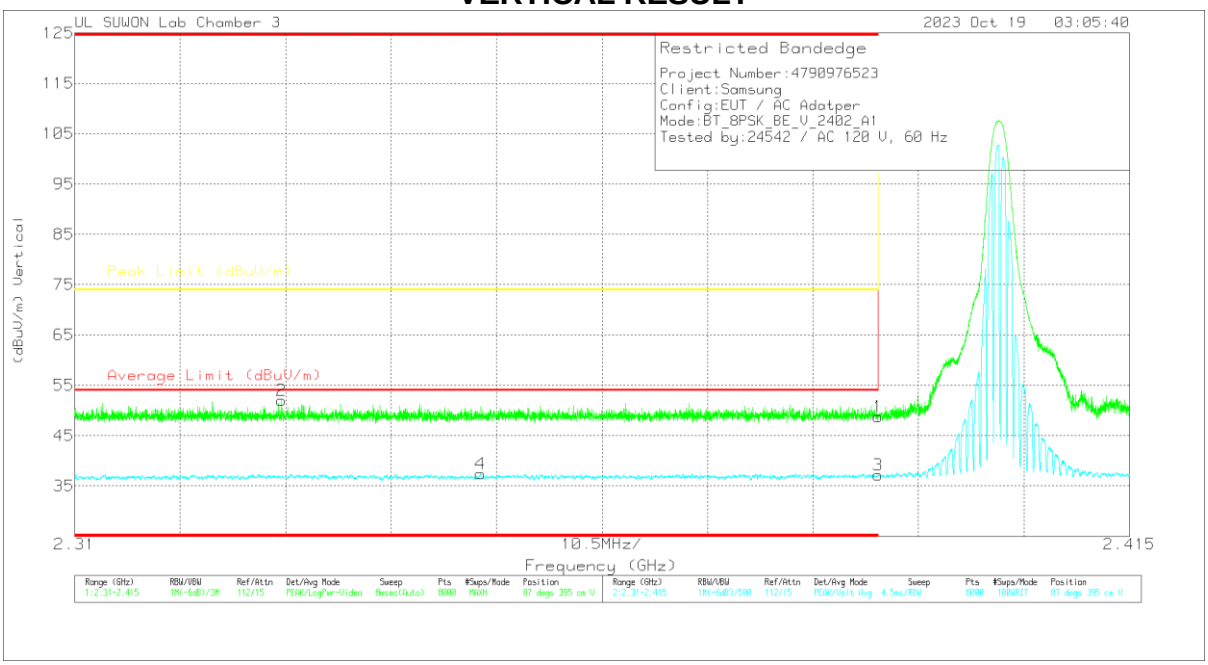


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	41.23	Pk	32.1	-24.8	48.53	-	-	74	-25.47	24	393	H
2	* 2.35967	44.7	Pk	32	-24.8	51.9	-	-	74	-22.1	24	393	H
3	* 2.39	29.31	VA1T	32.1	-24.8	36.61	54	-17.39	-	-	24	393	H
4	* 2.38372	30.26	VA1T	32.1	-24.9	37.46	54	-16.54	-	-	24	393	H

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

VERTICAL RESULT



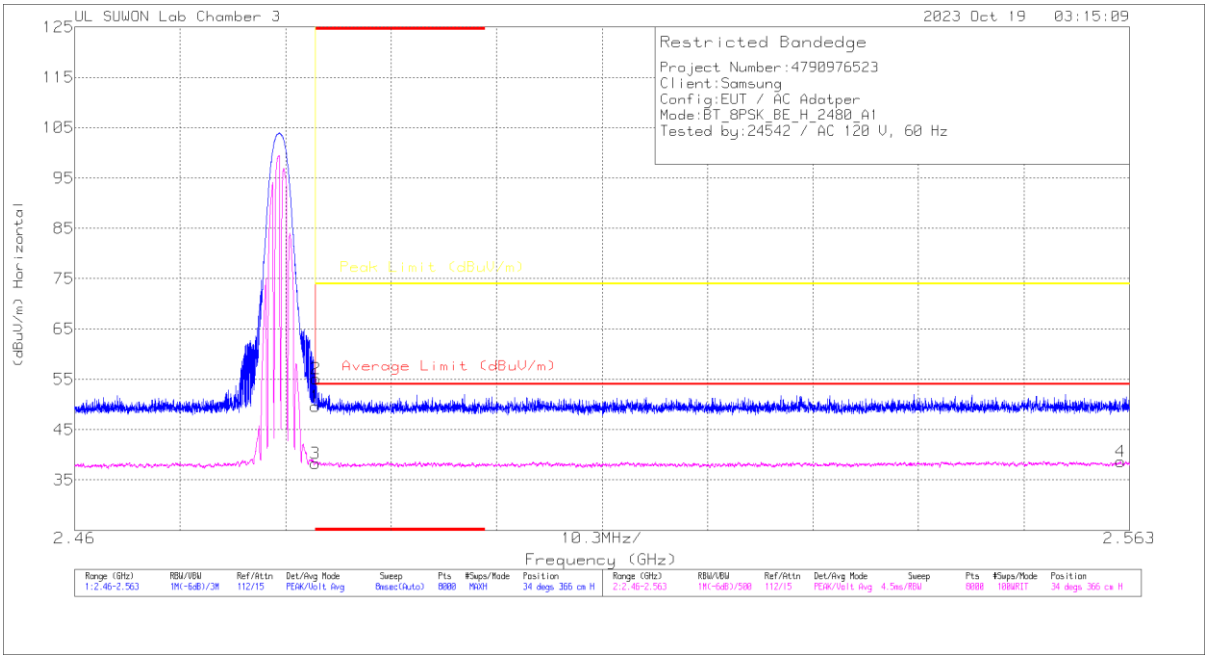
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	41.5	Pk	32.1	-24.8	48.8	-	-	74	-25.2	87	395	V
2	* 2.33061	44.91	Pk	31.9	-24.8	52.01	-	-	74	-21.99	87	395	V
3	* 2.39	29.84	VA1T	32.1	-24.8	37.14	54	-16.86	-	-	87	395	V
4	* 2.35039	30.35	VA1T	32	-24.9	37.45	54	-16.55	-	-	87	395	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

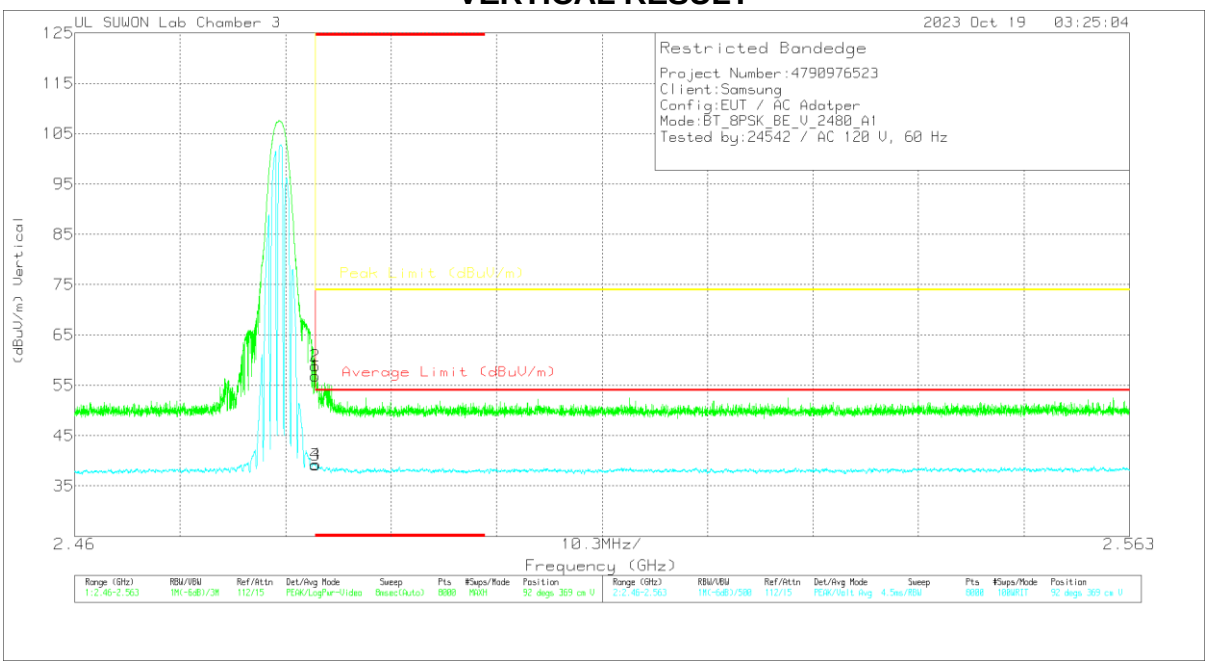


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	41.99	Pk	32.4	-24.8	49.59	-	-	74	-24.41	34	366	H
2	* 2.48358	47.5	Pk	32.4	-24.8	55.1	-	-	74	-18.9	34	366	H
3	* 2.4835	30.7	VA1T	32.4	-24.8	38.3	54	-15.7	-	-	34	366	H
4	2.56213	31.12	VA1T	32.4	-24.8	38.72	54	-15.28	-	-	34	366	H

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

VERTICAL RESULT



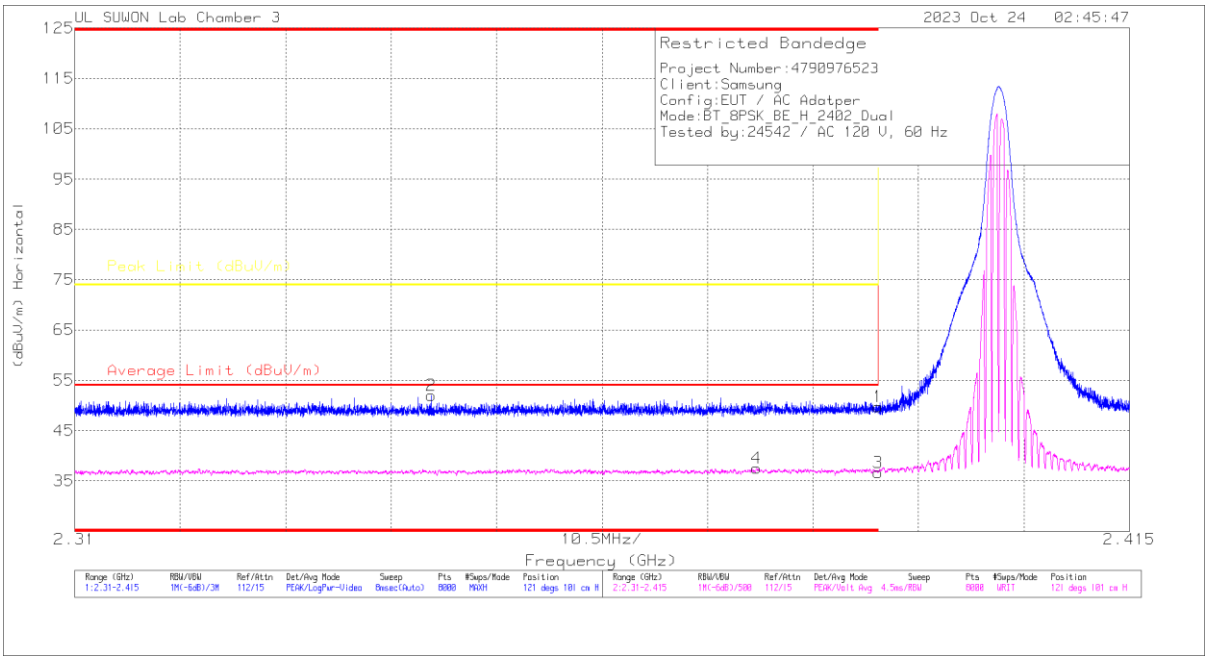
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	49.23	Pk	32.4	-24.8	56.83	-	-	74	-17.17	92	369	V
2	* 2.48351	51.31	Pk	32.4	-24.8	58.91	-	-	74	-15.09	92	369	V
3	* 2.4835	31.59	VA1T	32.4	-24.8	39.19	54	-14.81	-	-	92	369	V
4	* 2.48353	31.69	VA1T	32.4	-24.8	39.29	54	-14.71	-	-	92	369	V

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

DUAL
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

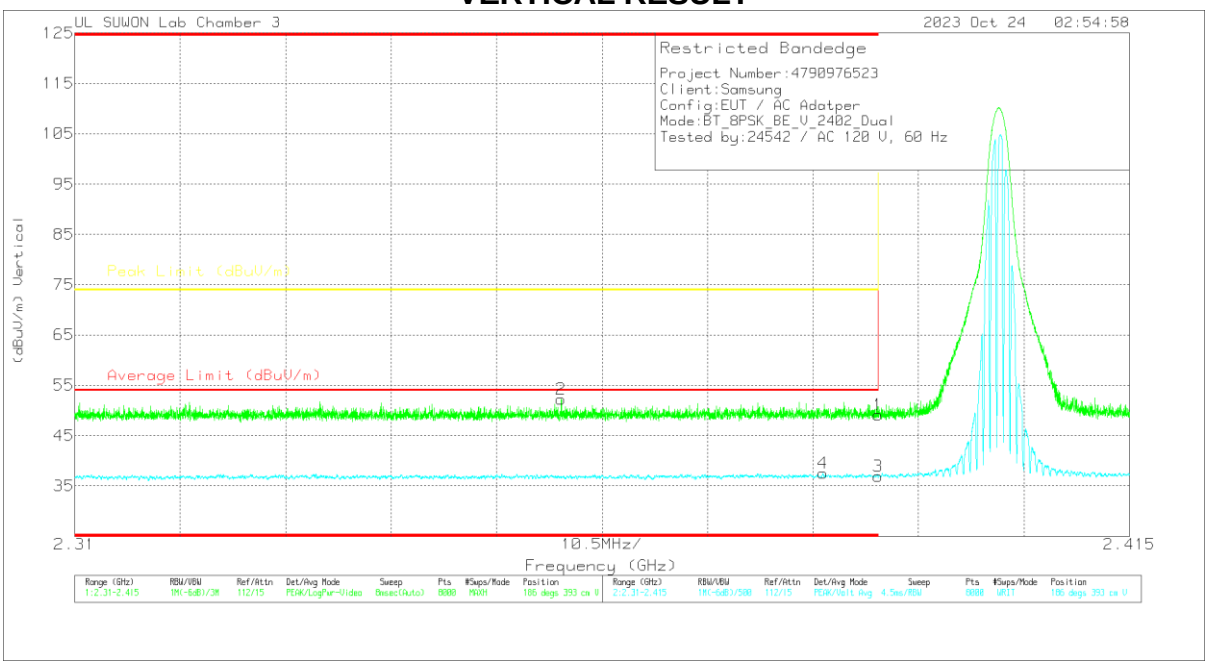


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	42.47	Pk	32.1	-24.8	49.77	-	-	74	-24.23	121	101	H
2	* 2.34551	44.86	Pk	32	-24.9	51.96	-	-	74	-22.04	121	101	H
3	* 2.39	29.37	VA1T	32.1	-24.8	36.67	54	-17.33	-	-	121	101	H
4	* 2.37788	30.2	VA1T	32.1	-24.8	37.5	54	-16.5	-	-	121	101	H

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

VERTICAL RESULT



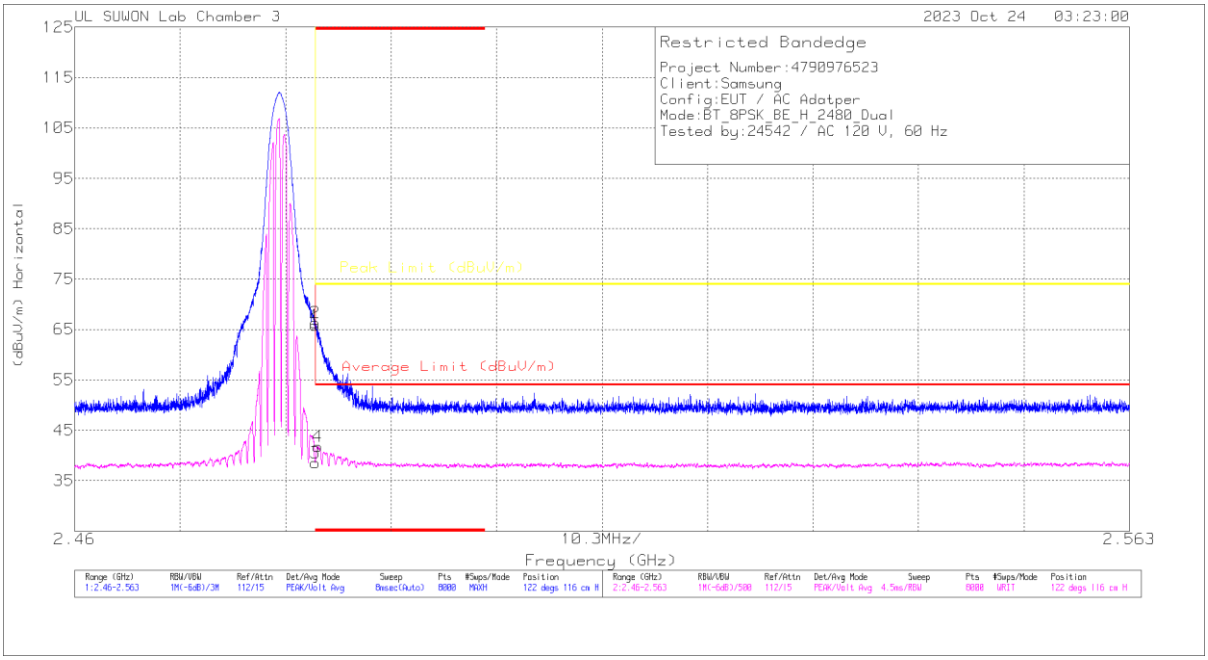
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	* 2.39	41.85	Pk	32.1	-24.8	49.15	-	-	74	-24.85	186	393	V
2	* 2.35844	45	Pk	32	-24.8	52.2	-	-	74	-21.8	186	393	V
3	* 2.39	29.66	VA1T	32.1	-24.8	36.96	54	-17.04	-	-	186	393	V
4	* 2.38451	30.37	VA1T	32.1	-24.9	37.57	54	-16.43	-	-	186	393	V

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

BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

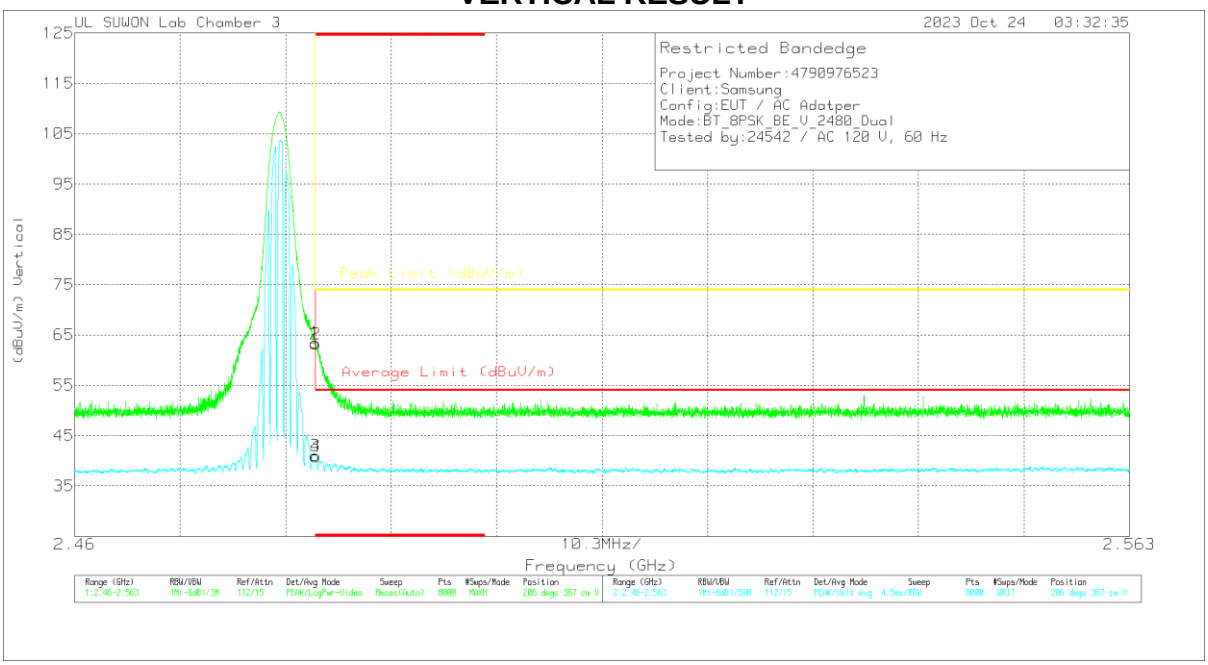


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	58.27	Pk	32.4	-24.8	65.87	-	-	74	-8.13	122	116	H
2	* 2.48351	58.7	Pk	32.4	-24.8	66.3	-	-	74	-7.7	122	116	H
3	* 2.4835	30.91	VA1T	32.4	-24.8	38.51	54	-15.49	-	-	122	116	H
4	* 2.48373	34.22	VA1T	32.4	-24.8	41.82	54	-12.18	-	-	122	116	H

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

VERTICAL RESULT



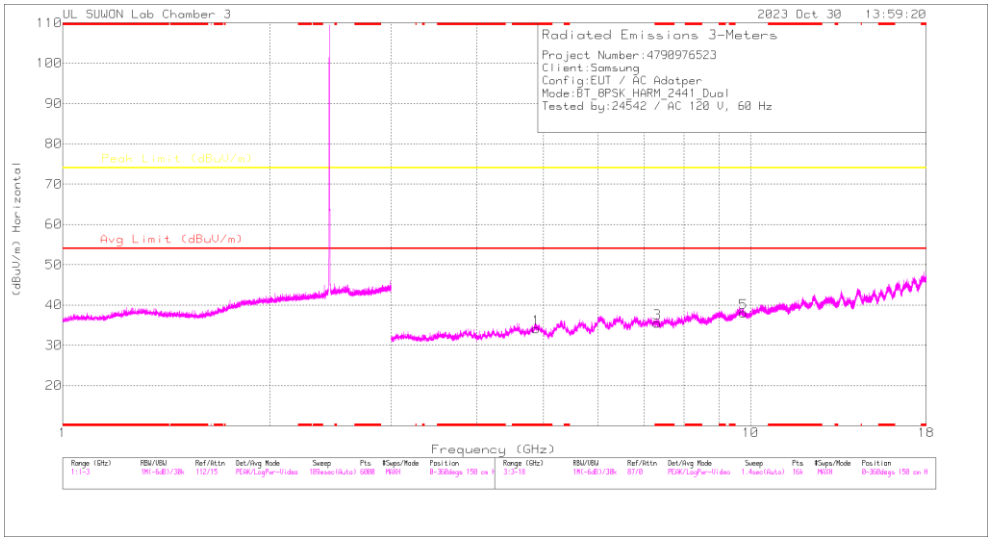
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	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	55.89	Pk	32.4	-24.8	63.49	-	-	74	-10.51	206	367	V
2	* 2.48353	55.66	Pk	32.4	-24.8	63.26	-	-	74	-10.74	206	367	V
3	* 2.4835	33.47	VA1T	32.4	-24.8	41.07	54	-12.93	-	-	206	367	V
4	* 2.48354	33.25	VA1T	32.4	-24.8	40.85	54	-13.15	-	-	206	367	V

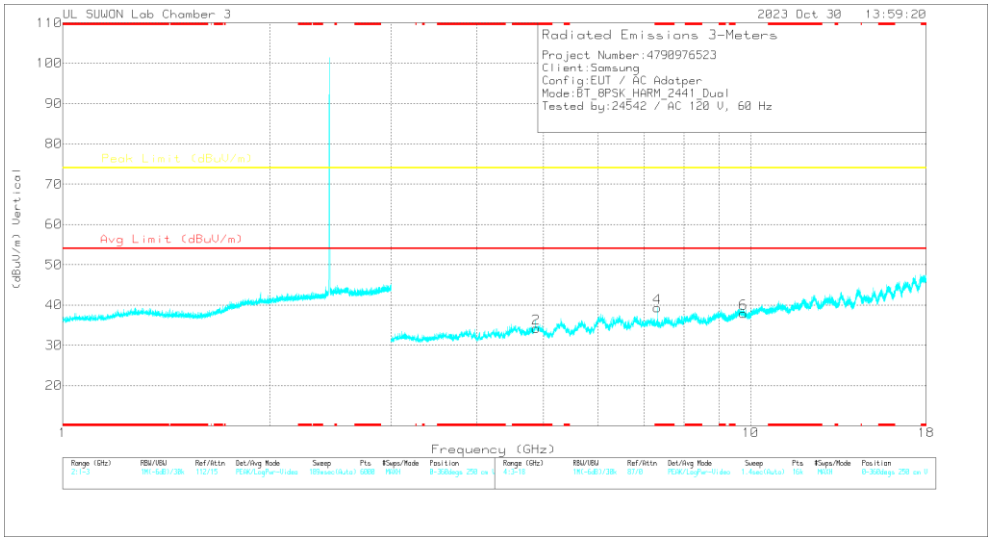
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS(WORST CASE – DUAL MODE)

39 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	3117_0021895 7	3GHz_HP(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87839	37.74	PKFH	34.2	-29.9	42.04	-	-	74	-31.96	245	100	H
* 4.88193	26.15	VA1T	34.2	-30	30.35	54	-23.65	-	-	245	100	H
* 4.88186	39.04	PKFH	34.2	-30	43.24	-	-	74	-30.76	106	100	V
* 4.88182	27.71	VA1T	34.2	-30	31.91	54	-22.09	-	-	106	100	V
* 7.32352	34.17	PKFH	35.8	-25.5	44.47	-	-	74	-29.53	162	107	H
* 7.32253	20.54	VA1T	35.8	-25.5	30.84	54	-23.16	-	-	162	107	H
* 7.32272	34.29	PKFH	35.8	-25.5	44.59	-	-	74	-29.41	260	100	V
* 7.32282	21.57	VA1T	35.8	-25.5	31.87	54	-22.13	-	-	260	100	V
9.76914	30.23	PKFH	36.9	-21.5	45.63	-	-	74	-28.37	0	100	H
9.76407	30.98	PKFH	36.9	-21.5	46.38	-	-	74	-27.62	40	113	V

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

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	* 4.80206	37.83	PKFH	34.30	-30.10	42.03	-	-	74.00	-31.97	0	100	H
		* 4.80662	38.60	PKFH	34.30	-30.00	42.90	-	-	74.00	-31.10	0	100	V
		7.206	34.64	PKFH	35.80	-25.90	44.54	-	-	74.00	-29.46	0	100	H
		7.208	33.31	PKFH	35.80	-25.90	43.21	-	-	74.00	-30.79	0	100	V
		9.609	31.34	PKFH	36.70	-21.70	46.34	-	-	74.00	-27.66	0	100	H
		9.610	30.71	PKFH	36.70	-21.70	45.71	-	-	74.00	-28.29	0	100	V
2441	ANT1	* 4.88673	38.43	PKFH	34.20	-29.80	42.83	-	-	74.00	-31.17	0	100	H
		* 4.88583	37.94	PKFH	34.20	-29.80	42.34	-	-	74.00	-31.66	0	100	V
		* 7.32166	32.71	PKFH	35.80	-25.50	43.01	-	-	74.00	-30.99	0	100	H
		* 7.32454	34.03	PKFH	35.80	-25.50	44.33	-	-	74.00	-29.67	0	100	V
		9.762	31.21	PKFH	36.90	-21.50	46.61	-	-	74.00	**-27.39**	0	100	H
		9.759	30.32	PKFH	36.90	-21.50	45.72	-	-	74.00	-28.28	0	100	V
2480	ANT1	* 4.96264	38.29	PKFH	34.30	-30.10	42.49	-	-	74.00	-31.51	0	100	H
		* 4.95831	38.96	PKFH	34.30	-30.10	43.16	-	-	74.00	-30.84	0	100	V
		* 7.44083	33.13	PKFH	35.70	-25.20	43.63	-	-	74.00	-30.37	0	100	H
		* 7.44086	32.91	PKFH	35.70	-25.20	43.41	-	-	74.00	-30.59	0	100	V
		9.921	30.02	PKFH	37.10	-21.30	45.82	-	-	74.00	-28.18	0	100	H
		9.921	30.20	PKFH	37.10	-21.40	45.90	-	-	74.00	-28.10	0	100	V

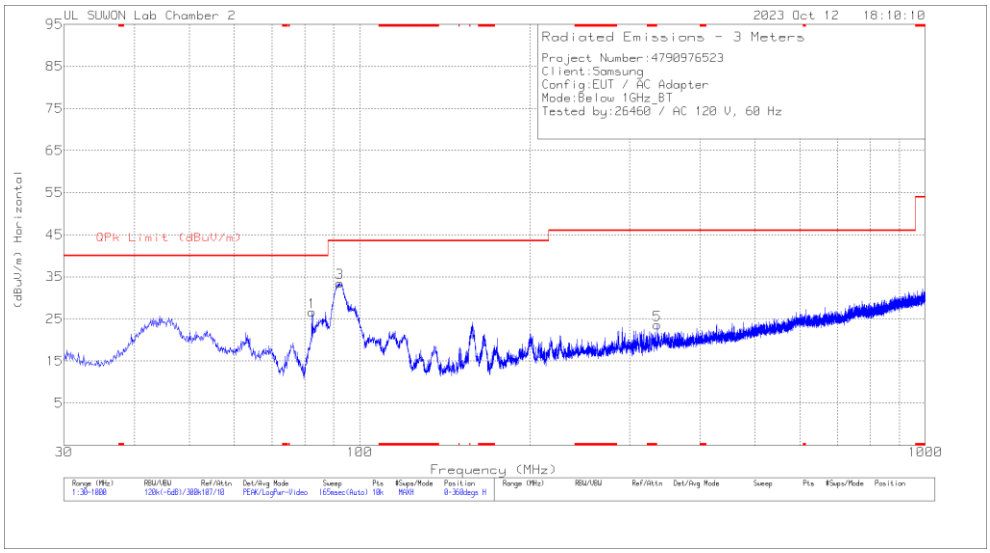
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB(1/m)]	Loss [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT2	* 4.80234	37.81	PKFH	34.30	-30.10	42.01	-	-	74.00	-31.99	0	100	H
		* 4.80239	38.42	PKFH	34.30	-30.10	42.62	-	-	74.00	-31.38	0	100	V
		7.202	33.72	PKFH	35.80	-25.80	43.72	-	-	74.00	-30.28	0	100	H
		7.203	33.75	PKFH	35.80	-25.80	43.75	-	-	74.00	-30.25	0	100	V
		9.612	30.96	PKFH	36.70	-21.80	45.86	-	-	74.00	-28.14	0	100	H
		9.613	31.32	PKFH	36.70	-21.70	46.32	-	-	74.00	**-27.68**	0	100	V
2441	ANT2	* 4.87822	38.63	PKFH	34.20	-29.90	42.93	-	-	74.00	-31.07	0	100	H
		* 4.8868	38.58	PKFH	34.20	-29.80	42.98	-	-	74.00	-31.02	0	100	V
		* 7.31859	33.79	PKFH	35.80	-25.40	44.19	-	-	74.00	-29.81	0	100	H
		* 7.32466	33.19	PKFH	35.80	-25.50	43.49	-	-	74.00	-30.51	0	100	V
		9.764	30.12	PKFH	36.90	-21.50	45.52	-	-	74.00	-28.48	0	100	H
		9.761	30.56	PKFH	36.90	-21.50	45.96	-	-	74.00	-28.04	0	100	V
2480	ANT2	* 4.95599	37.02	PKFH	34.30	-30.10	41.22	-	-	74.00	-32.78	0	100	H
		* 4.95618	37.35	PKFH	34.30	-30.10	41.55	-	-	74.00	-32.45	0	100	V
		* 7.43824	33.19	PKFH	35.70	-25.20	43.69	-	-	74.00	-30.31	0	100	H
		* 7.44242	32.46	PKFH	35.70	-25.20	42.96	-	-	74.00	-31.04	0	100	V
		9.920	29.91	PKFH	37.10	-21.40	45.61	-	-	74.00	-28.39	0	100	H
		9.918	29.54	PKFH	37.10	-21.30	45.34	-	-	74.00	-28.66	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	* 4.80182	38.43	PKFH	34.30	-30.10	42.63	-	-	74.00	-31.37	207	241	H
		* 4.80388	25.80	VA1T	34.30	-30.10	30.00	54.00	-24.00	-	-	207	241	H
		* 4.80337	39.70	PKFH	34.30	-30.10	43.90	-	-	74.00	-30.10	263	100	V
		* 4.80386	27.50	VA1T	34.30	-30.10	31.70	54.00	-22.30	-	-	263	100	V
		7.206	33.55	PKFH	35.80	-25.90	43.45	-	-	74.00	-30.55	161	103	H
		7.205	34.29	PKFH	35.80	-25.90	44.19	-	-	74.00	-29.81	258	100	V
		9.607	31.26	PKFH	36.70	-21.80	46.16	-	-	74.00	-27.84	0	100	H
		9.604	31.13	PKFH	36.70	-21.70	46.13	-	-	74.00	-27.87	46	106	V
2441	DUAL	* 4.87839	37.74	PKFH	34.20	-29.90	42.04	-	-	74.00	-31.96	245	100	H
		* 4.88193	26.15	VA1T	34.20	-30.00	30.35	54.00	-23.65	-	-	245	100	H
		* 4.88186	39.04	PKFH	34.20	-30.00	43.24	-	-	74.00	-30.76	106	100	V
		* 4.88182	27.71	VA1T	34.20	-30.00	31.91	54.00	**-22.09**	-	-	106	100	V
		* 7.32352	34.17	PKFH	35.80	-25.50	44.47	-	-	74.00	-29.53	162	107	H
		* 7.32253	20.54	VA1T	35.80	-25.50	30.84	54.00	-23.16	-	-	162	107	H
		* 7.32272	34.29	PKFH	35.80	-25.50	44.59	-	-	74.00	-29.41	260	100	V
		* 7.32282	21.57	VA1T	35.80	-25.50	31.87	54.00	-22.13	-	-	260	100	V
		9.769	30.23	PKFH	36.90	-21.50	45.63	-	-	74.00	-28.37	0	100	H
		9.764	30.98	PKFH	36.90	-21.50	46.38	-	-	74.00	**-27.62**	40	113	V
2480	DUAL	* 4.96	37.36	PKFH	34.30	-30.00	41.66	-	-	74.00	-32.34	250	382	H
		* 4.95998	26.72	VA1T	34.30	-30.00	31.02	54.00	-22.98	-	-	250	382	H
		* 4.95973	37.89	PKFH	34.30	-30.00	42.19	-	-	74.00	-31.81	209	100	V
		* 4.96008	27.20	VA1T	34.30	-30.00	31.50	54.00	-22.50	-	-	209	100	V
		* 7.43958	32.54	PKFH	35.70	-25.20	43.04	-	-	74.00	-30.96	157	104	H
		* 7.43959	20.46	VA1T	35.70	-25.20	30.96	54.00	-23.04	-	-	157	104	H
		* 7.43975	32.95	PKFH	35.70	-25.20	43.45	-	-	74.00	-30.55	277	106	V
		* 7.43997	21.35	VA1T	35.70	-25.20	31.85	54.00	-22.15	-	-	277	106	V
		9.922	30.27	PKFH	37.10	-21.30	46.07	-	-	74.00	-27.93	0	100	H
		9.919	29.71	PKFH	37.10	-21.30	45.51	-	-	74.00	-28.49	82	100	V

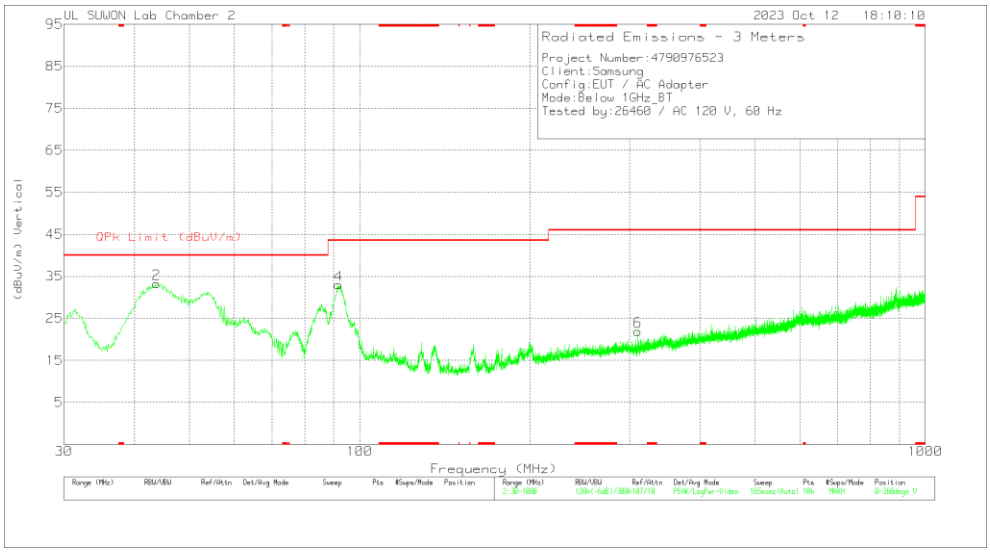
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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 Correction Factor[dB(1/m)]	Path Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	82.38	44.63	Pk	13.3	-31.3	26.63	40	-13.37	0-360	300	H
3	92.274	48.44	Pk	16.3	-31.2	33.54	43.52	-9.98	0-360	200	H
5	336.326	33.48	Pk	20.1	-30	23.58	46.02	-22.44	0-360	100	H
2	43.774	45.39	Pk	19.7	-31.8	33.29	40	-6.71	0-360	100	V
4	91.789	47.89	Pk	16.3	-31.2	32.99	43.52	-10.53	0-360	100	V
6	310.621	32.92	Pk	19.2	-30.2	21.92	46.02	-24.1	0-360	100	V

Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor[dB(1/m)]	Path Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
43.774	42.25	Qp	19.7	-31.8	30.15	40	-9.85	279	111	V

Qp - Quasi-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 C63.10:2013.

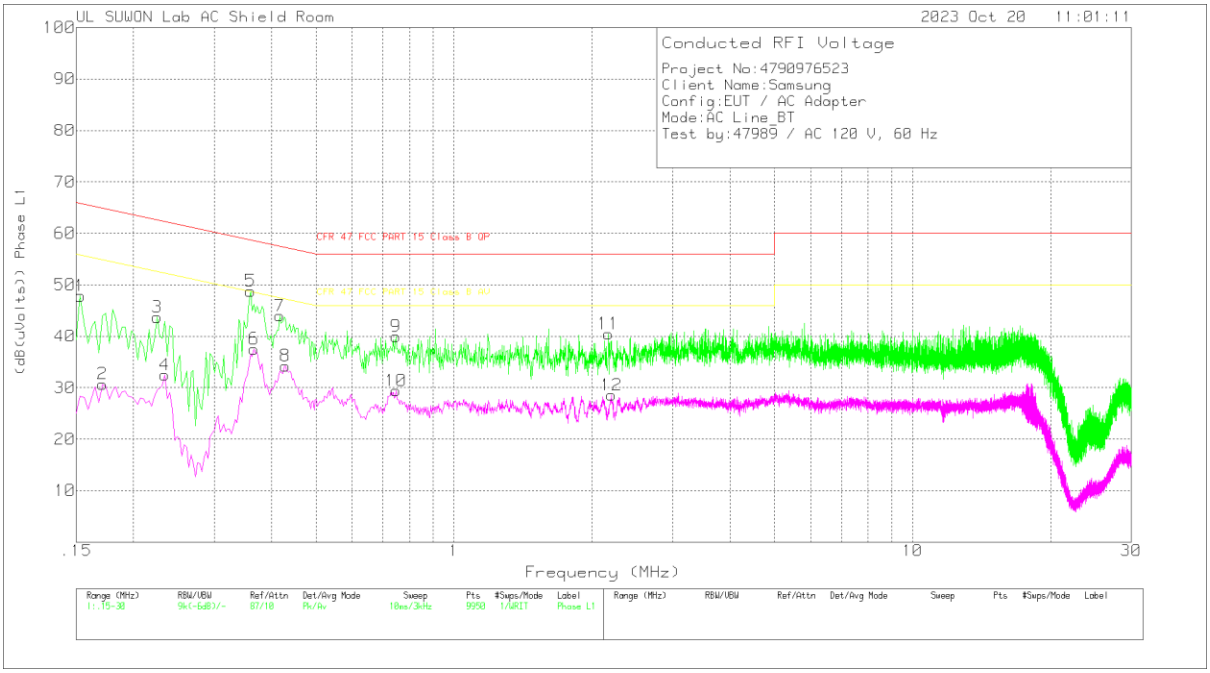
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1. AC Power Line

LINE 1 RESULTS

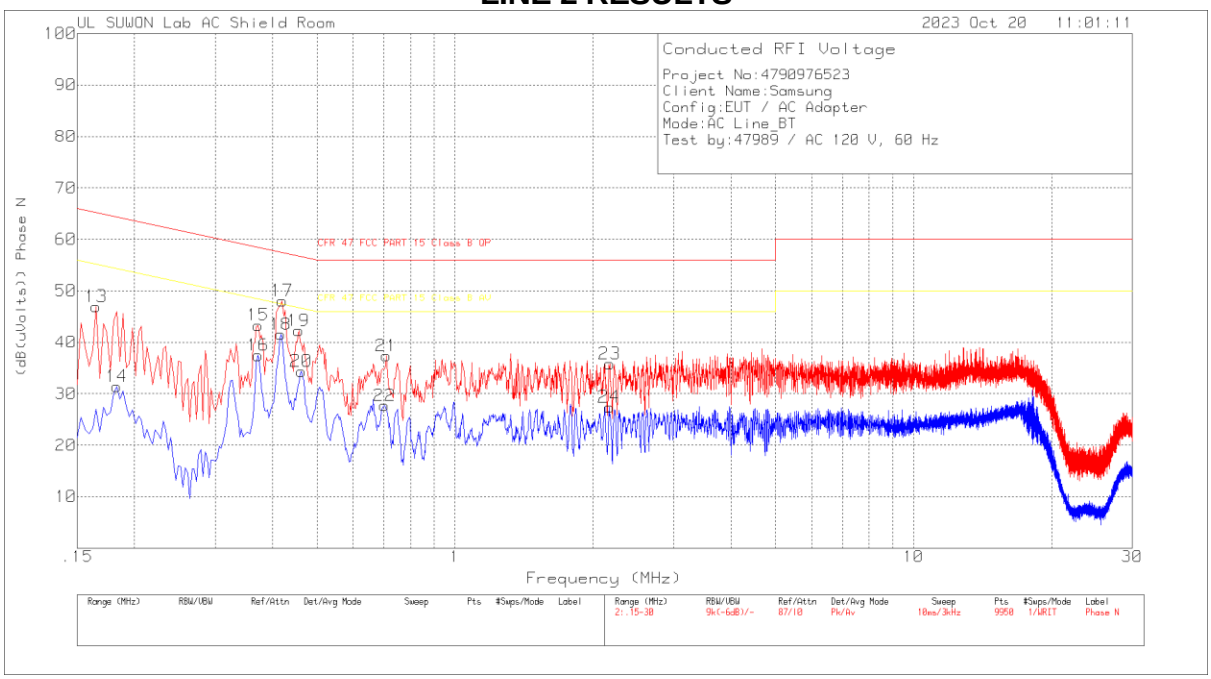


Trace Markers
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AUTO_With EX_L1[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	CFR 47 FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
1	.153	38.26	Pk	9.5	.1	47.86	65.84	-17.98	-	-
2	.171	21.02	Av	9.5	.2	30.72	-	-	54.91	-24.19
3	.225	34.01	Pk	9.5	.2	43.71	62.63	-18.92	-	-
4	.234	22.77	Av	9.5	.2	32.47	-	-	52.31	-19.84
5	.36	39.1	Pk	9.5	.2	48.8	58.73	-9.93	-	-
6	.366	27.84	Av	9.5	.2	37.54	-	-	48.59	-11.05
7	.417	34.26	Pk	9.5	.2	43.96	57.51	-13.55	-	-
8	.429	24.55	Av	9.5	.2	34.25	-	-	47.27	-13.02
9	.747	30.16	Pk	9.6	.2	39.96	56	-16.04	-	-
10	.747	19.62	Av	9.6	.2	29.42	-	-	46	-16.58
11	2.172	30.58	Pk	9.6	.3	40.48	56	-15.52	-	-
12	2.205	18.67	Av	9.6	.3	28.57	-	-	46	-17.43

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_AUTO_With EX_N[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	CFR 47 FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
13	.165	37.33	Pk	9.5	.1	46.93	65.21	-18.28	-	-
14	.183	21.71	Av	9.5	.2	31.41	-	-	54.35	-22.94
15	.372	33.62	Pk	9.5	.2	43.32	58.46	-15.14	-	-
16	.372	27.76	Av	9.5	.2	37.46	-	-	48.46	-11
17	.42	38.36	Pk	9.5	.2	48.06	57.45	-9.39	-	-
18	.417	31.84	Av	9.5	.2	41.54	-	-	47.51	-5.97
19	.456	32.57	Pk	9.5	.2	42.27	56.77	-14.5	-	-
20	.462	24.68	Av	9.5	.2	34.38	-	-	46.66	-12.28
21	.708	27.57	Pk	9.6	.2	37.37	56	-18.63	-	-
22	.702	17.92	Av	9.6	.2	27.72	-	-	46	-18.28
23	2.175	25.91	Pk	9.6	.3	35.81	56	-20.19	-	-
24	2.169	17.5	Av	9.6	.3	27.4	-	-	46	-18.6

Pk - Peak detector
Av - Average detection

END OF TEST REPORT