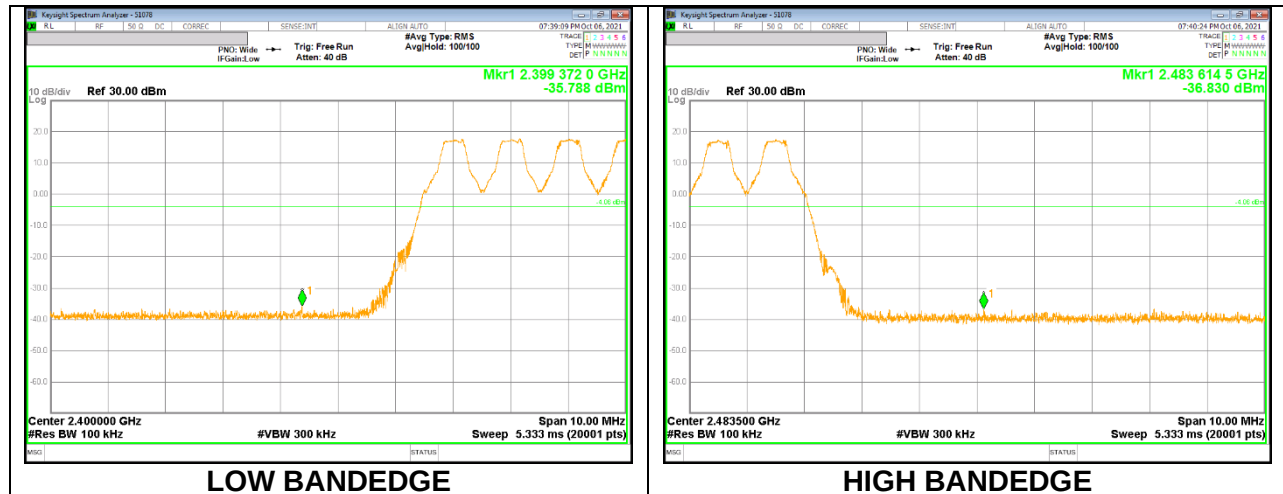
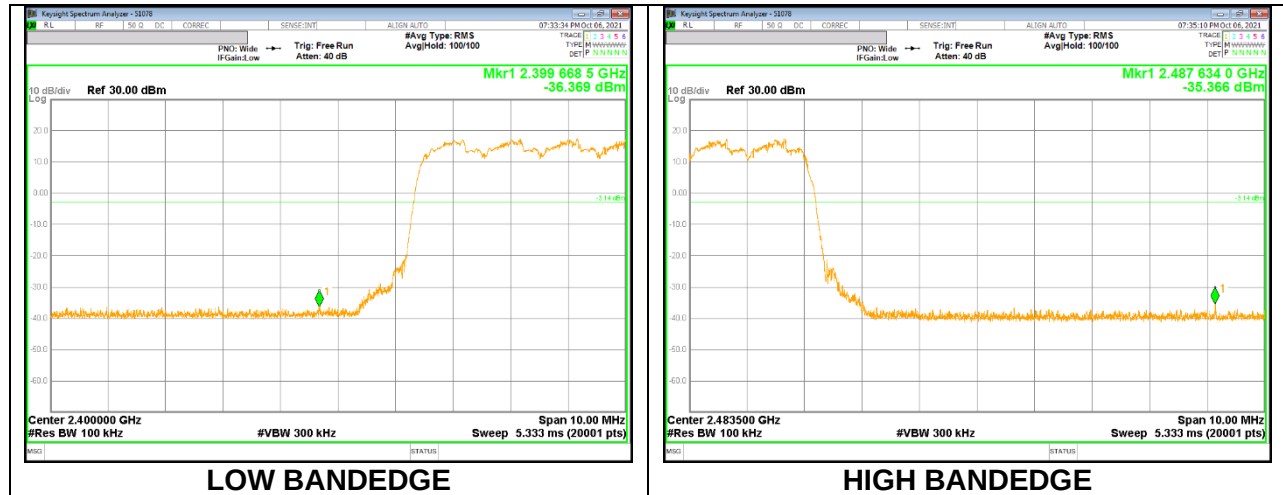


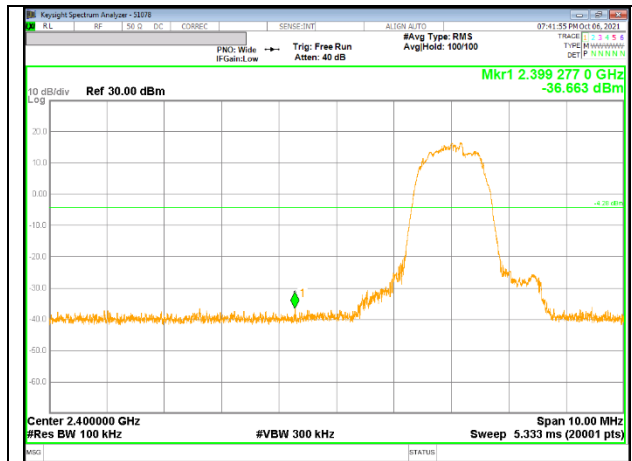
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



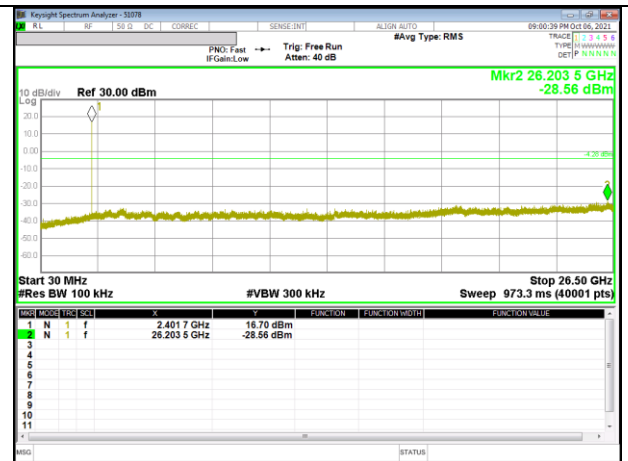
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



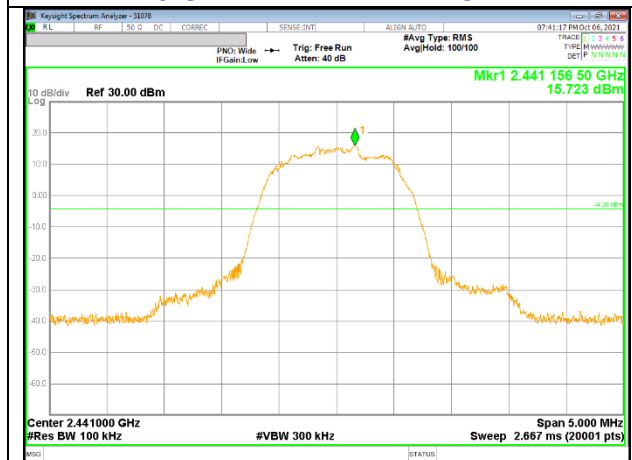
SPURIOUS EMISSIONS, NON-HOPPING - ANT2



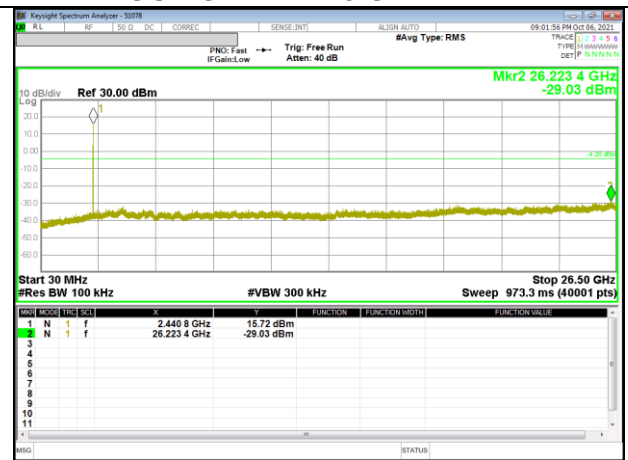
0 CHANNEL BANDEDGE



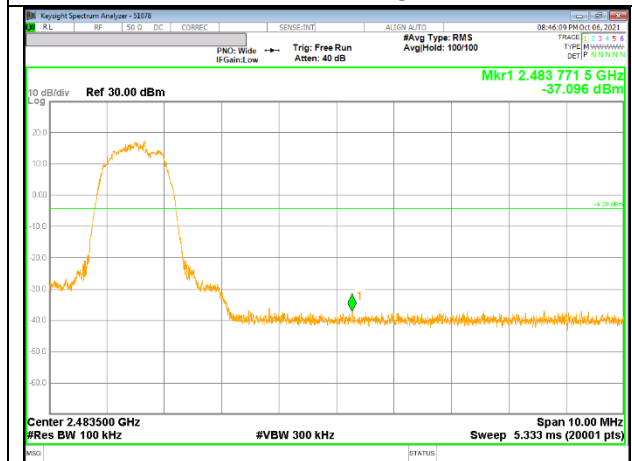
OUT-OF-BAND 0 CHANNEL



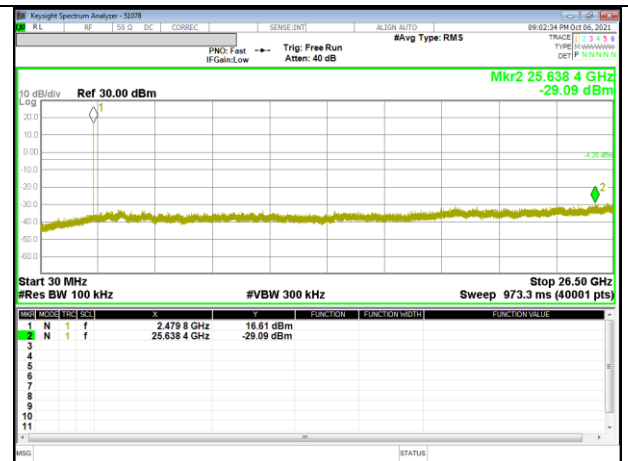
IN-BAND REFERENCE LEVEL



OUT-OF-BAND 39 CHANNEL

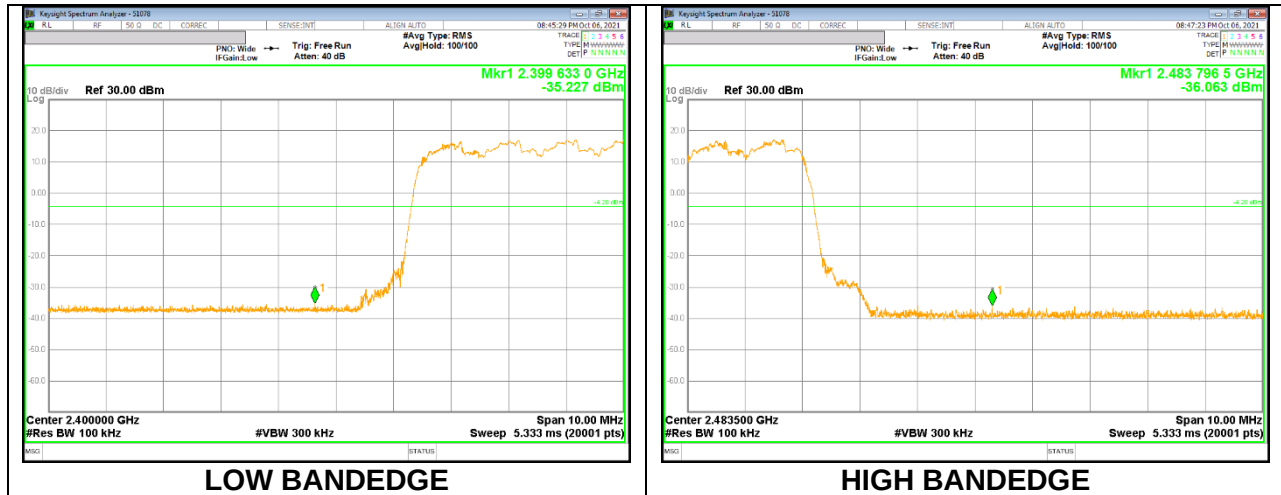


78 CHANNEL BANDEDGE



OUT-OF-BAND 78 CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



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.

$$\text{GFSK} = 1/T = 1 / 0.00289\text{s} = 347\text{Hz}.$$

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.

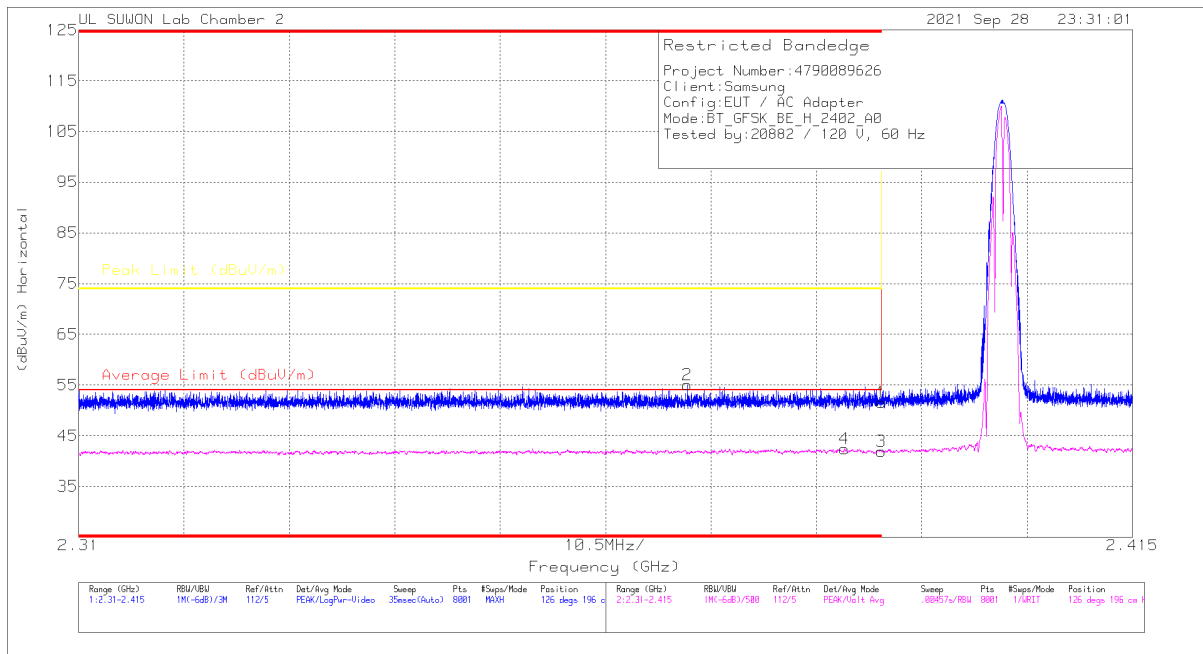
Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open are test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field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

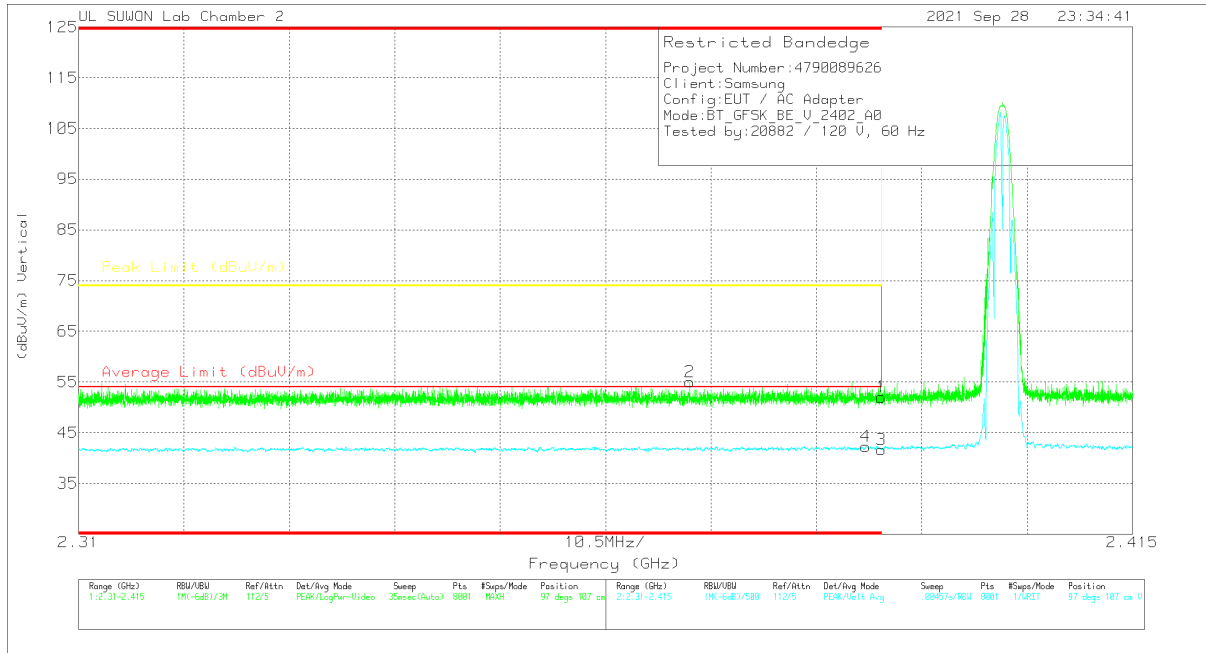
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.28	Pk	31.9	-20.6	51.58	-	-	74	-22.42	126	196	H
2	* 2.37066	43.82	Pk	31.8	-20.6	55.02	-	-	74	-18.98	126	196	H
3	* 2.39	30.64	VA1T	31.9	-20.6	41.94	54	-12.06	-	-	126	196	H
4	* 2.38631	31.09	VA1T	31.9	-20.6	42.39	54	-11.61	-	-	126	196	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



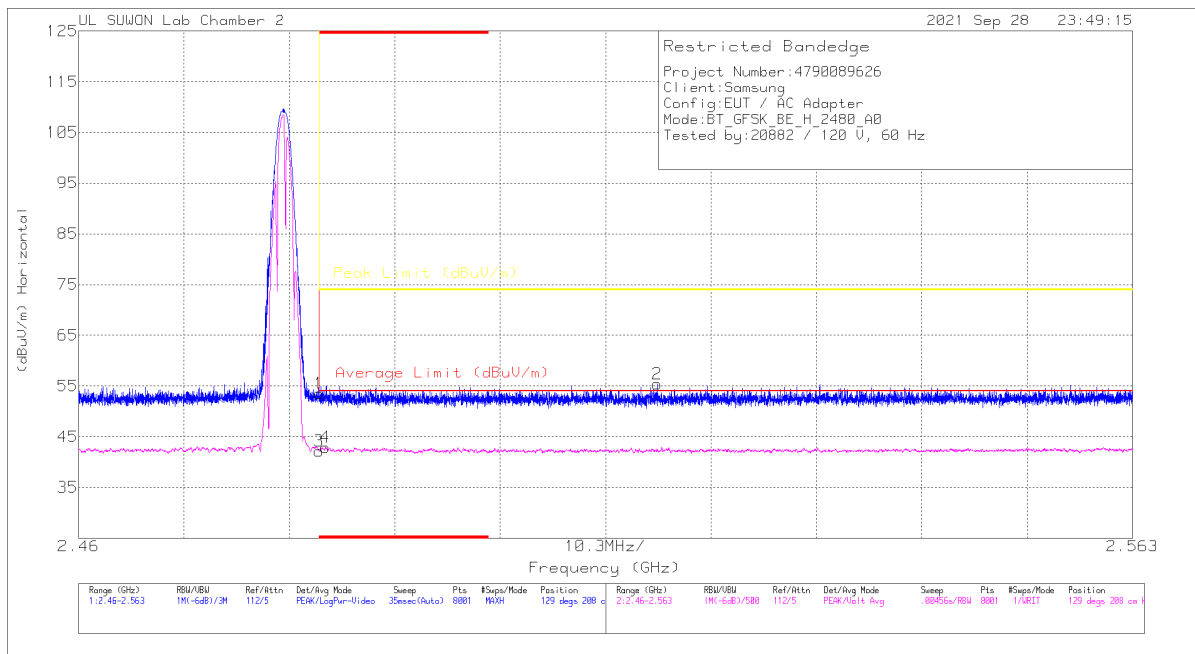
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[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	40.7	Pk	31.9	-20.6	52	-	-	74	-22	97	107	V
2	* 2.37087	43.87	Pk	31.8	-20.6	55.07	-	-	74	-18.93	97	107	V
3	* 2.39	30.34	VA1T	31.9	-20.6	41.64	54	-12.36	-	-	97	107	V
4	* 2.38841	30.98	VA1T	31.9	-20.6	42.28	54	-11.72	-	-	97	107	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**

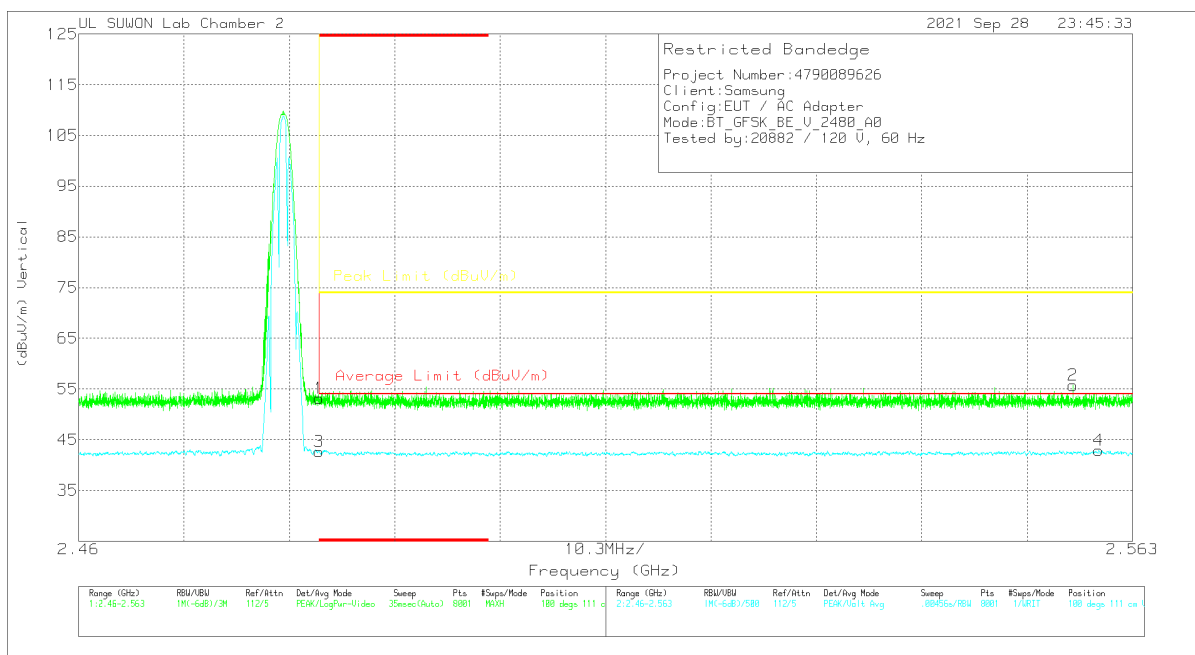
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	41.94	PK	32	-20.4	53.54	-	-	74	-20.46	129	208	H
2	2.51656	43.69	PK	32.1	-20.4	55.39	-	-	74	-18.61	129	208	H
3	* 2.48351	30.56	VA1T	32	-20.4	42.16	54	-11.84	-	-	129	208	H
4	* 2.48413	31.32	VA1T	32	-20.4	42.92	54	-11.08	-	-	129	208	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	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	41.59	Pk	32	-20.4	53.19	-	-	74	-20.81	100	111	V
2	2.55719	43.91	Pk	32.2	-20.4	55.71	-	-	74	-18.29	100	111	V
3	* 2.48351	31.07	VA1T	32	-20.4	42.67	54	-11.33	-	-	100	111	V
4	2.55969	30.94	VA1T	32.2	-20.2	42.94	54	-11.06	-	-	100	111	V

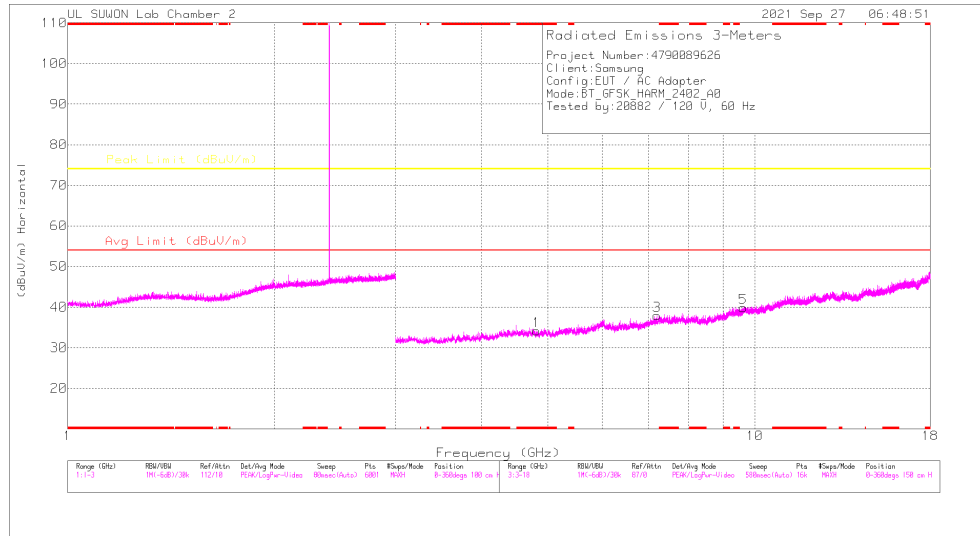
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

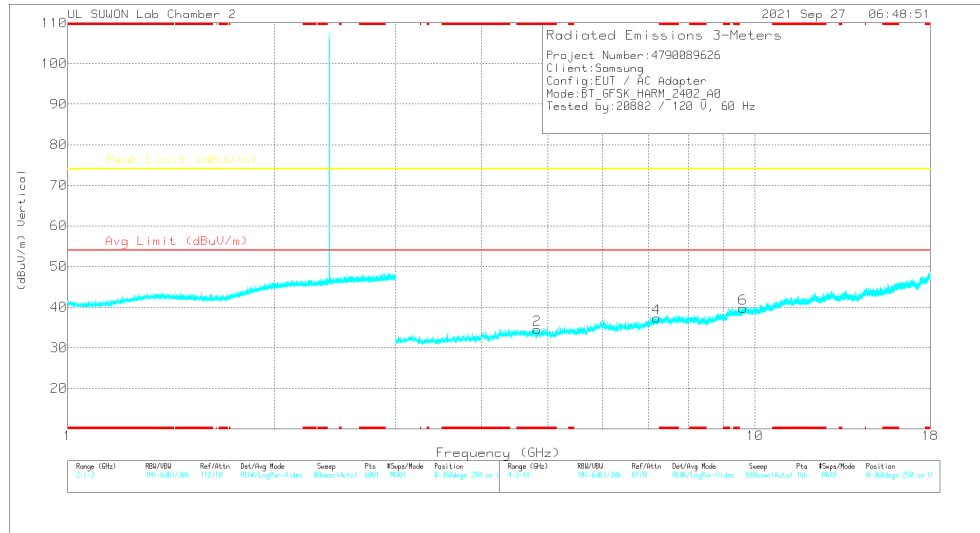
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

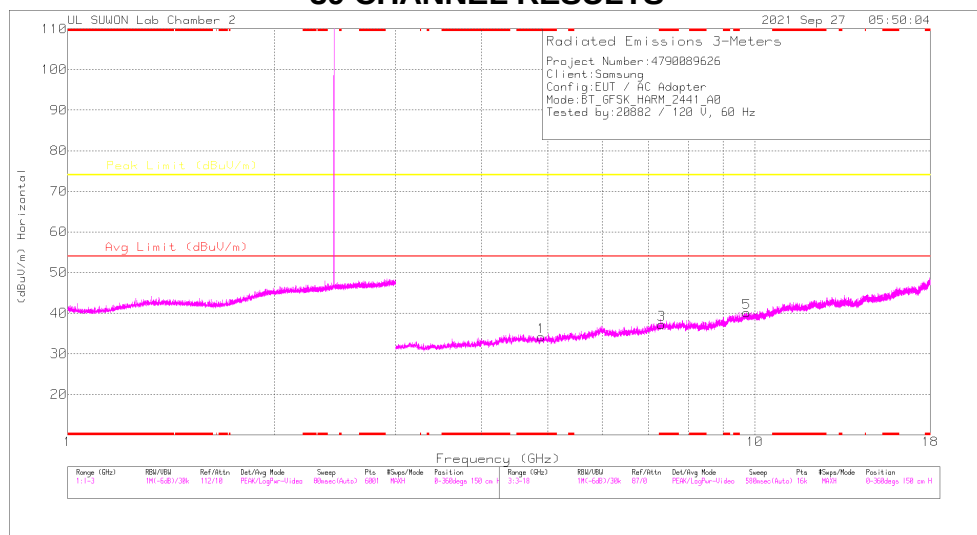
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.81116	35.85	PKFH	34.1	-28	41.95	-	-	74	-32.05	0	100	H
* 4.81149	34.37	PKFH	34.1	-28	40.47	-	-	74	-33.53	0	100	V
7.2026	33.58	PKFH	36.2	-25.3	44.48	-	-	74	-29.52	0	100	H
7.19897	34.97	PKFH	36.2	-25.3	45.87	-	-	74	-28.13	0	100	V
9.61577	31.22	PKFH	37	-21.7	46.52	-	-	74	-27.48	0	100	H
9.61604	32.1	PKFH	37	-21.7	47.4	-	-	74	-26.6	0	100	V

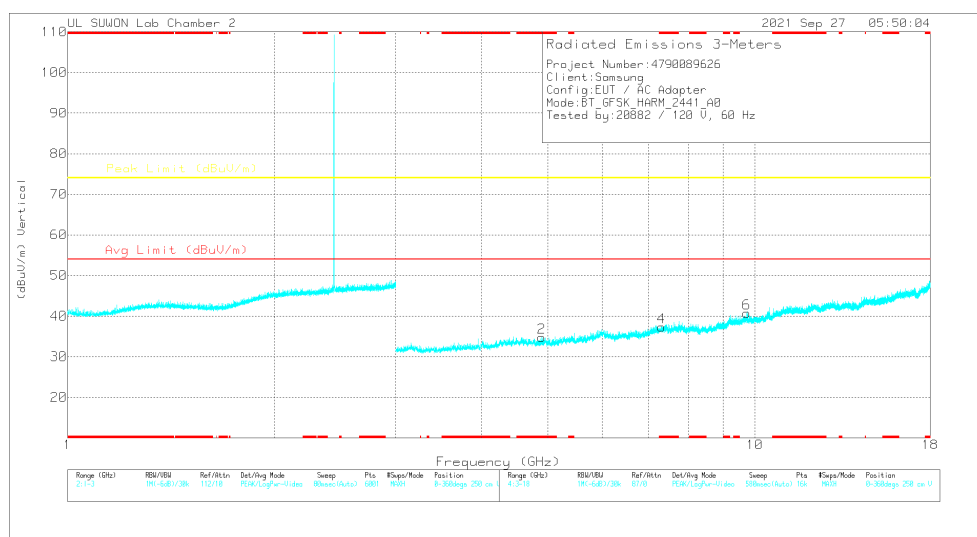
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

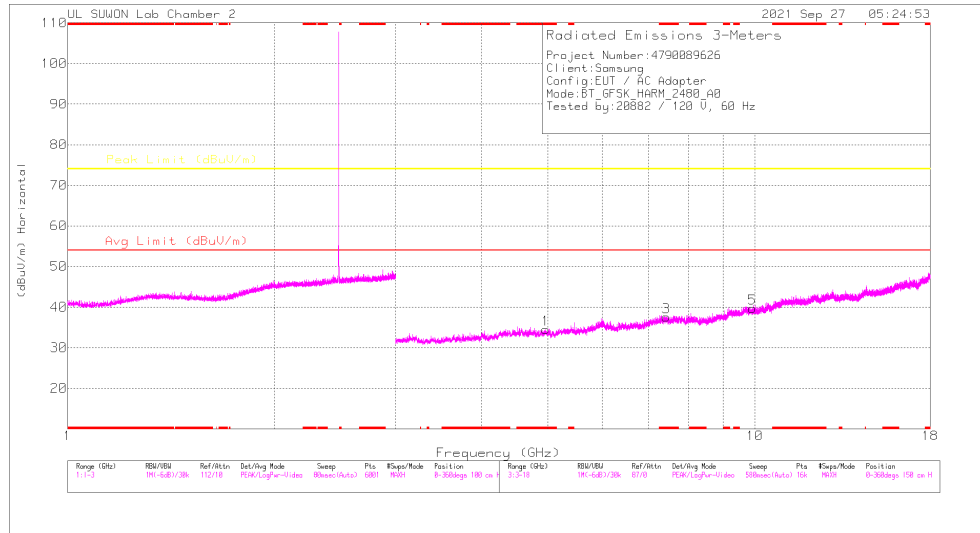
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.89128	35.28	PKFH	34.1	-27.7	41.68	-	-	74	-32.32	0	100	H
* 4.88942	35.34	PKFH	34.1	-27.7	41.74	-	-	74	-32.26	0	100	V
* 7.32067	33.4	PKFH	36.1	-24.8	44.7	-	-	74	-29.3	0	100	H
* 7.3204	33.94	PKFH	36.1	-24.8	45.24	-	-	74	-28.76	0	100	V
9.73043	30.66	PKFH	37.1	-21.3	46.46	-	-	74	-27.54	0	100	H
9.73073	30.4	PKFH	37.1	-21.3	46.2	-	-	74	-27.8	0	100	V

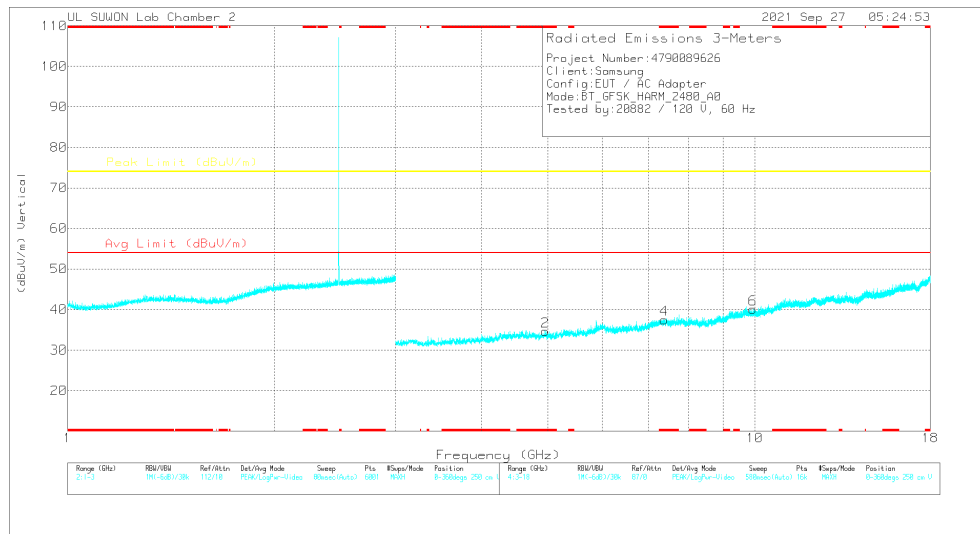
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

78 CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

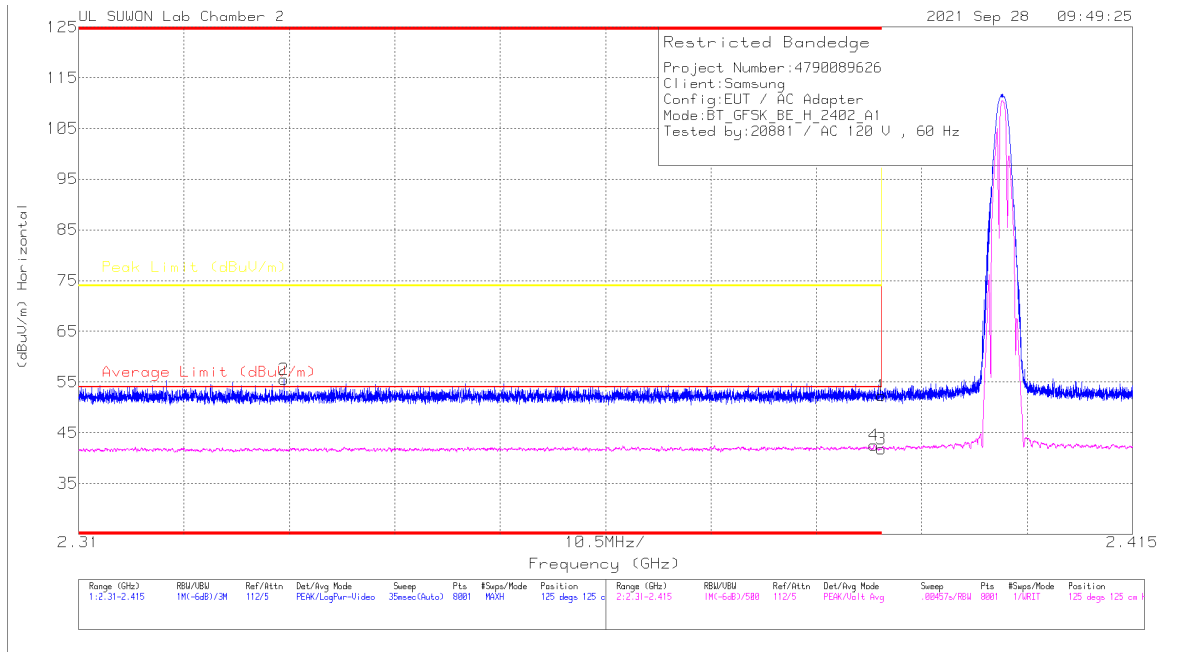
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96148	34.87	PKFH	34.1	-27.2	41.77	-	-	74	-32.23	0	100	H
* 4.96249	34.79	PKFH	34.1	-27.2	41.69	-	-	74	-32.31	0	100	V
* 7.43944	32.65	PKFH	36	-24.1	44.55	-	-	74	-29.45	0	100	H
* 7.43764	32.61	PKFH	36	-24.1	44.51	-	-	74	-29.49	0	100	V
9.91878	30.81	PKFH	37.4	-21.3	46.91	-	-	74	-27.09	0	100	H
9.92077	30.73	PKFH	37.4	-21.2	46.93	-	-	74	-27.07	0	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

- ANT2
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT



Trace Markers

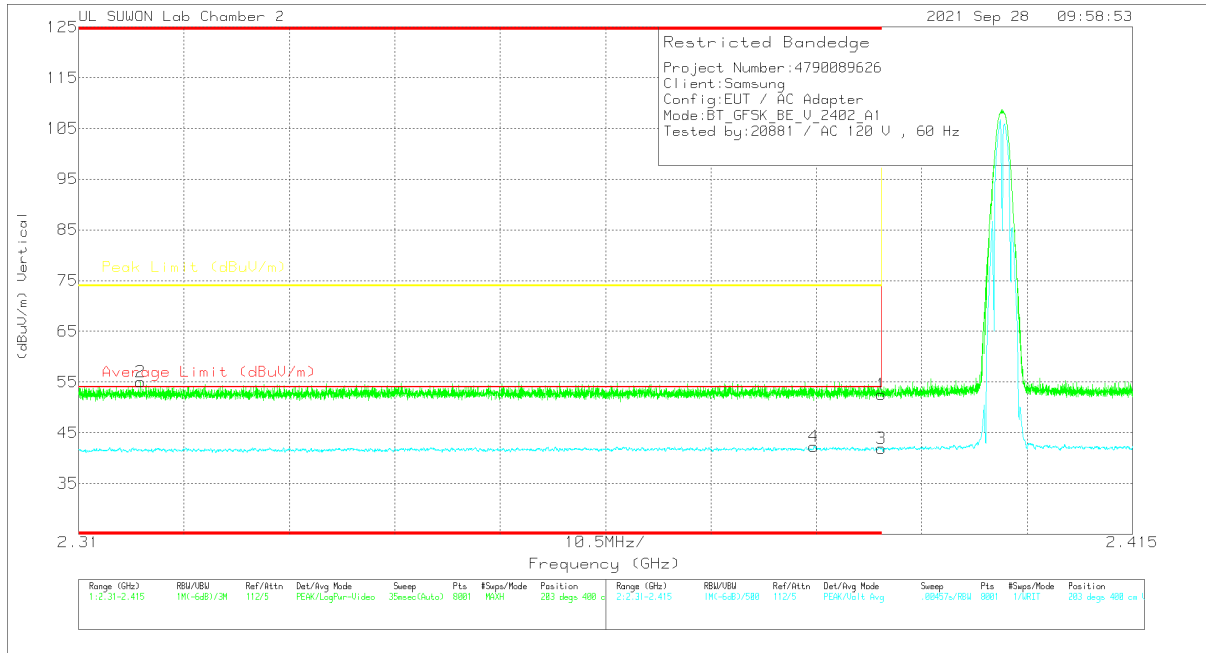
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	41.02	Pk	31.9	-20.6	52.32	-	-	74	-21.68	125	125	H
2	* 2.33048	44.37	Pk	31.8	-20.7	55.47	-	-	74	-18.53	125	125	H
3	* 2.39	30.53	VA1T	31.9	-20.6	41.83	54	-12.17	-	-	125	125	H
4	* 2.38925	31.2	VA1T	31.9	-20.6	42.5	54	-11.5	-	-	125	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



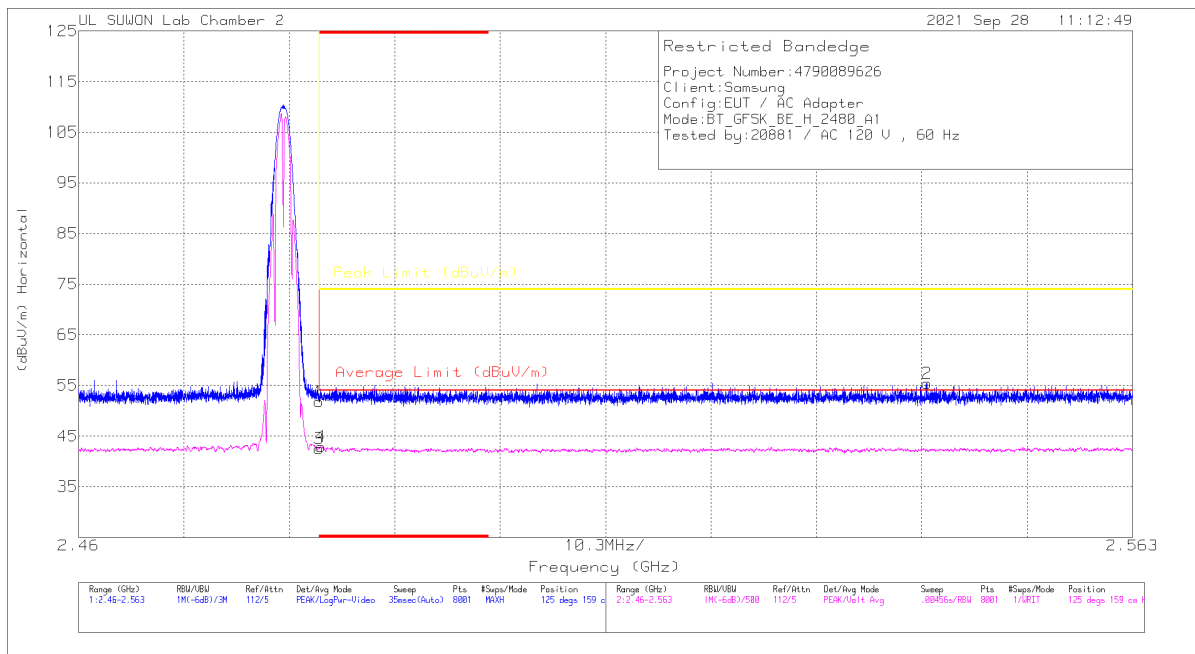
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[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	31.9	-20.6	52.53	-	-	74	-21.47	203	400	V
2	* 2.31616	43.94	Pk	31.7	-20.6	55.04	-	-	74	-18.96	203	400	V
3	* 2.39	30.61	VA1T	31.9	-20.6	41.91	54	-12.09	-	-	203	400	V
4	* 2.38325	31	VA1T	31.9	-20.6	42.3	54	-11.7	-	-	203	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

BANDEDGE (78 CHANNEL)**HORIZONTAL RESULT****Trace Markers**

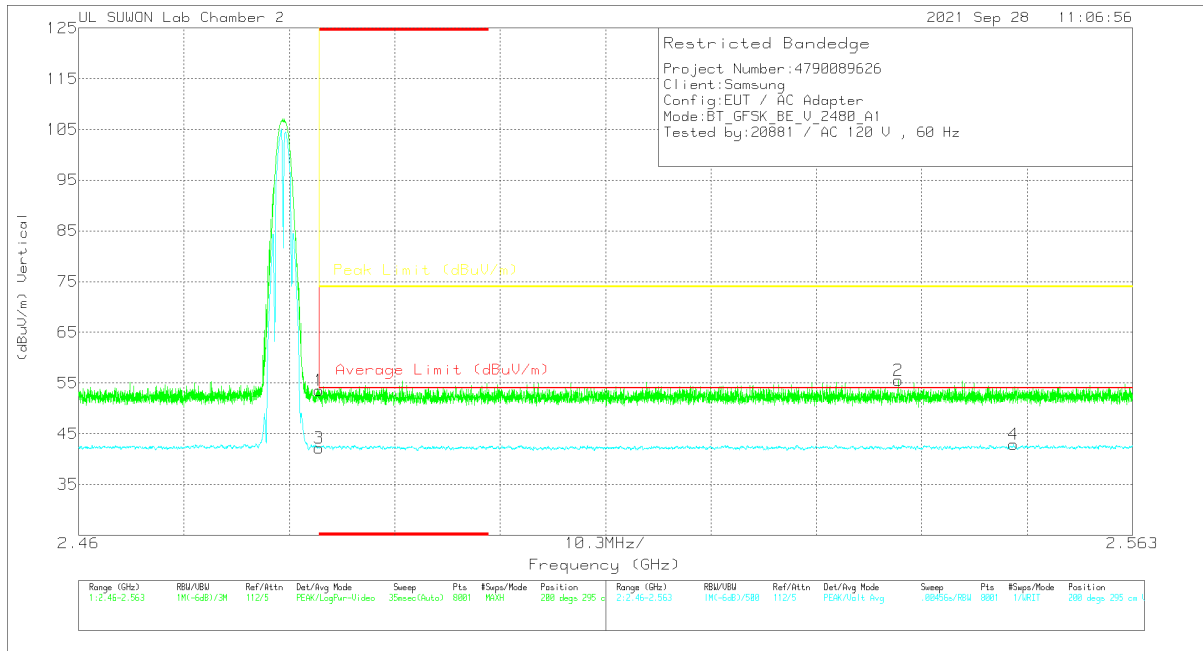
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	40.25	Pk	32	-20.4	51.85	-	-	74	-22.15	125	159	H
2	2.5429	43.71	Pk	32.1	-20.4	55.41	-	-	74	-18.59	125	159	H
3	* 2.48351	30.96	VA1T	32	-20.4	42.56	54	-11.44	-	-	125	159	H
4	* 2.48365	31.3	VA1T	32	-20.4	42.9	54	-11.1	-	-	125	159	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	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	41.9	Pk	32	-20.4	53.5	-	-	74	-20.5	200	295	V
2	2.54011	43.75	Pk	32.1	-20.3	55.55	-	-	74	-18.45	200	295	V
3	* 2.48351	30.56	VA1T	32	-20.4	42.16	54	-11.84	-	-	200	295	V
4	2.55136	30.95	VA1T	32.2	-20.3	42.85	54	-11.15	-	-	200	295	V

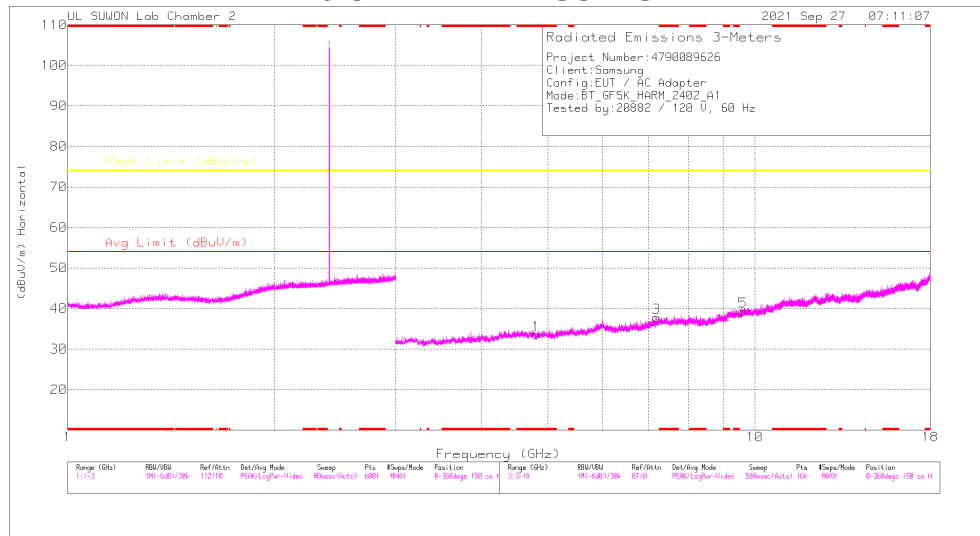
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

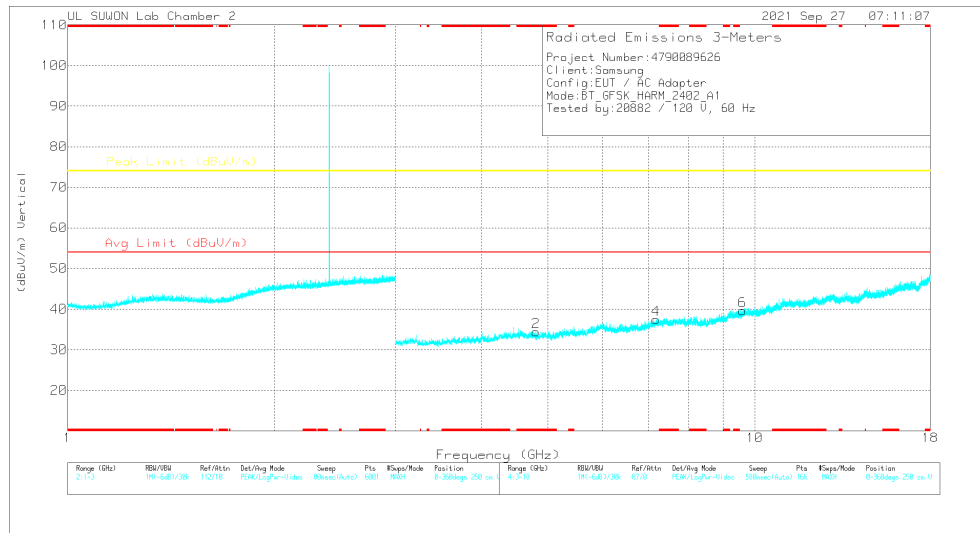
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

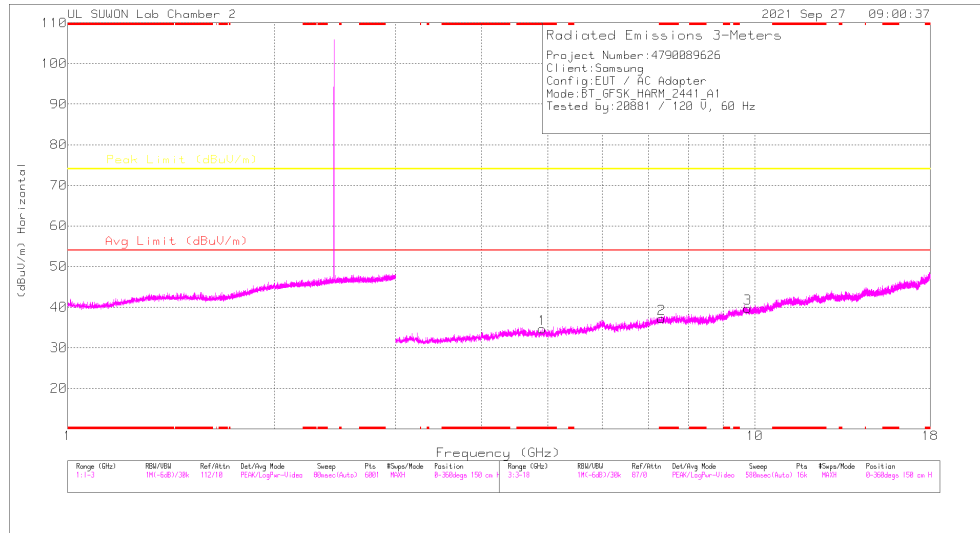
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80712	35.4	PKFH	34.1	-28	41.5	-	-	74	-32.5	0	100	H
7.19007	32.73	PKFH	36.2	-25.2	43.73	-	-	74	-30.27	0	100	H
9.60964	30.73	PKFH	37	-21.7	46.03	-	-	74	-27.97	0	100	H
9.60651	30.7	PKFH	37	-21.8	45.9	-	-	74	-28.1	0	100	V
7.1899	32.99	PKFH	36.2	-25.2	43.99	-	-	74	-30.01	0	100	V
* 4.80472	34.47	PKFH	34.1	-28	40.57	-	-	74	-33.43	0	100	V

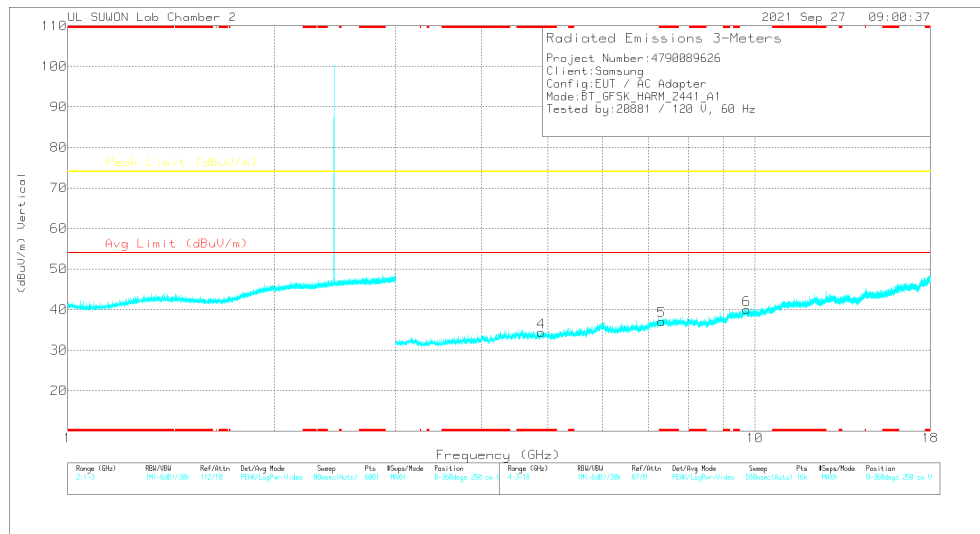
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

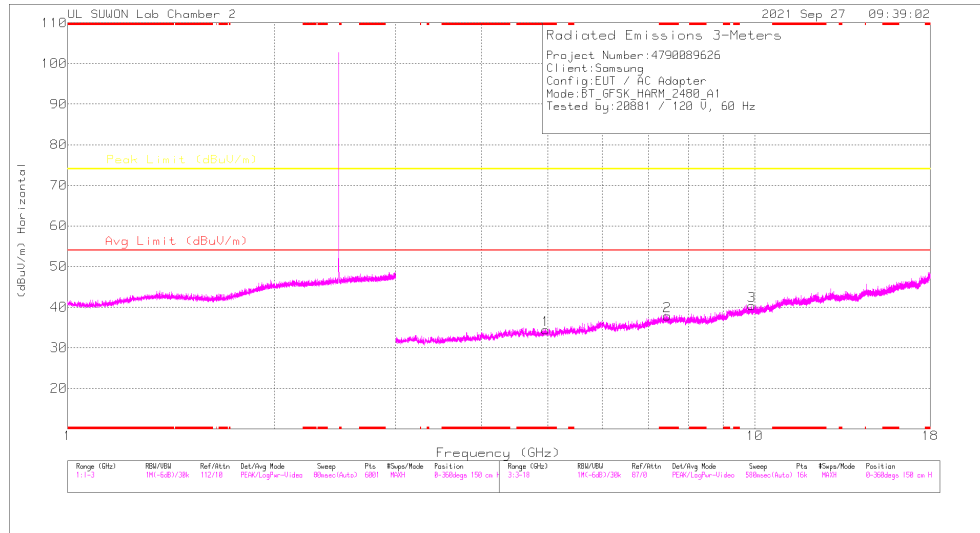
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87744	35.63	PKFH	34.1	-27.9	0	41.83	-	-	74	-32.17	0	100	H
* 4.87259	35.63	PKFH	34.1	-27.9	0	41.83	-	-	74	-32.17	0	100	V
* 7.33281	33.82	PKFH	36.1	-24.8	0	45.12	-	-	74	-28.88	0	100	H
* 7.32471	33.97	PKFH	36.1	-24.8	0	45.27	-	-	74	-28.73	0	100	V
9.75827	30.9	PKFH	37.2	-21.5	0	46.6	-	-	74	-27.4	0	100	H
9.76424	30.62	PKFH	37.2	-21.5	0	46.32	-	-	74	-27.68	0	100	V

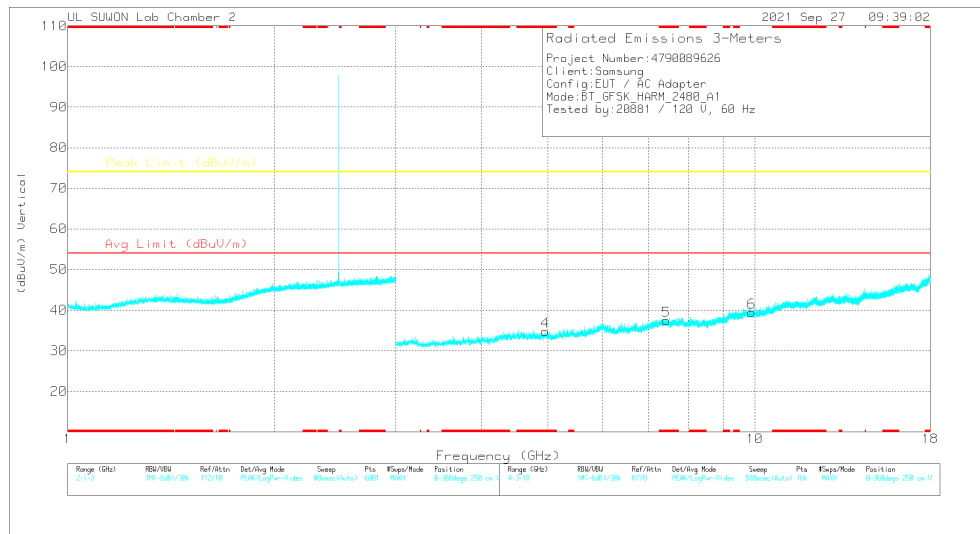
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

78 CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96419	35.04	PKFH	34.1	-27.2	0	41.94	-	-	74	-32.06	0	100	H
* 4.95888	34.75	PKFH	34.1	-27.2	0	41.65	-	-	74	-32.35	0	100	V
* 7.4367	34.07	PKFH	36	-24	0	46.07	-	-	74	-27.93	0	100	H
* 7.439	33.03	PKFH	36	-24.1	0	44.93	-	-	74	-29.07	0	100	V
9.92898	30.46	PKFH	37.4	-21.2	0	46.66	-	-	74	-27.34	0	100	H
9.92311	30.93	PKFH	37.4	-21.2	0	47.13	-	-	74	-26.87	0	100	V

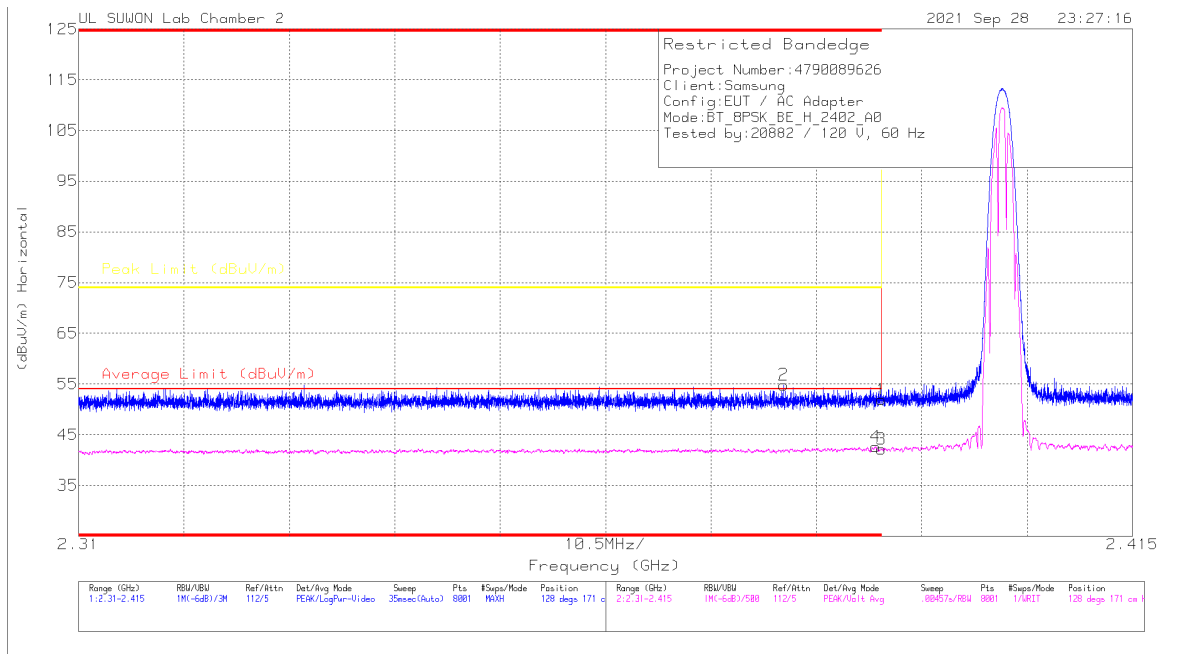
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

10.1.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

- ANT1 BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT



Trace Markers

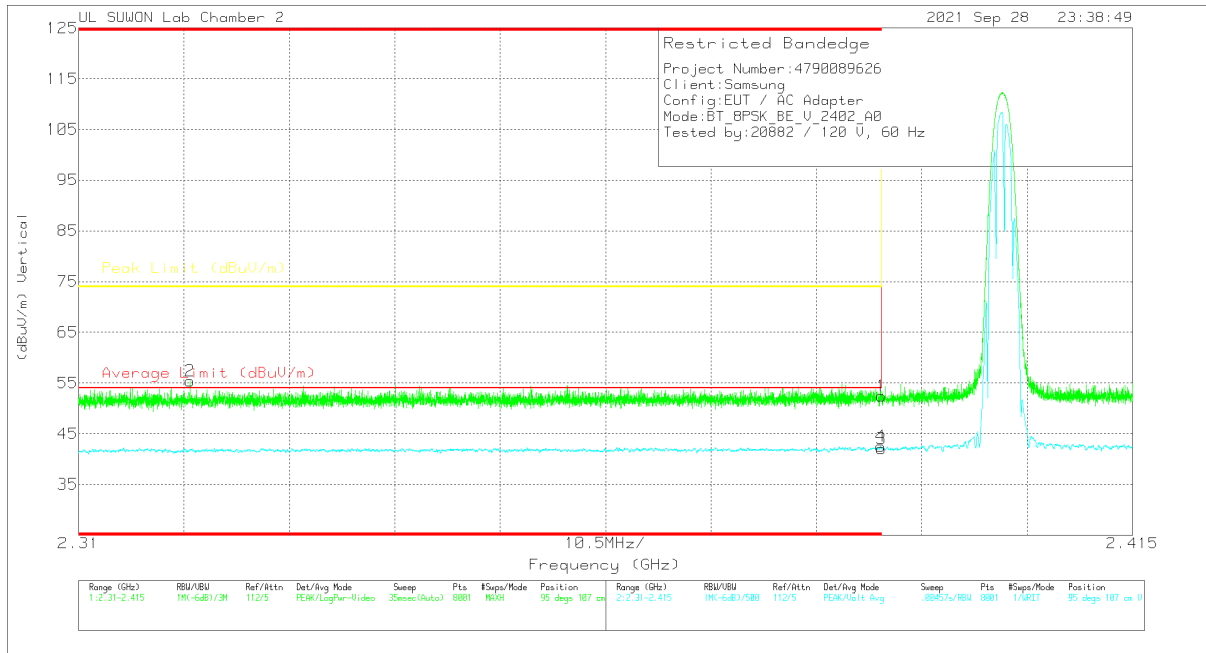
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.69	Pk	31.9	-20.6	51.99	-	-	74	-22.01	128	171	H
2	* 2.38025	43.54	Pk	31.9	-20.6	54.84	-	-	74	-19.16	128	171	H
3	* 2.39	30.81	VA1T	31.9	-20.6	42.11	54	-11.89	-	-	128	171	H
4	* 2.38945	31.32	VA1T	31.9	-20.6	42.62	54	-11.38	-	-	128	171	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



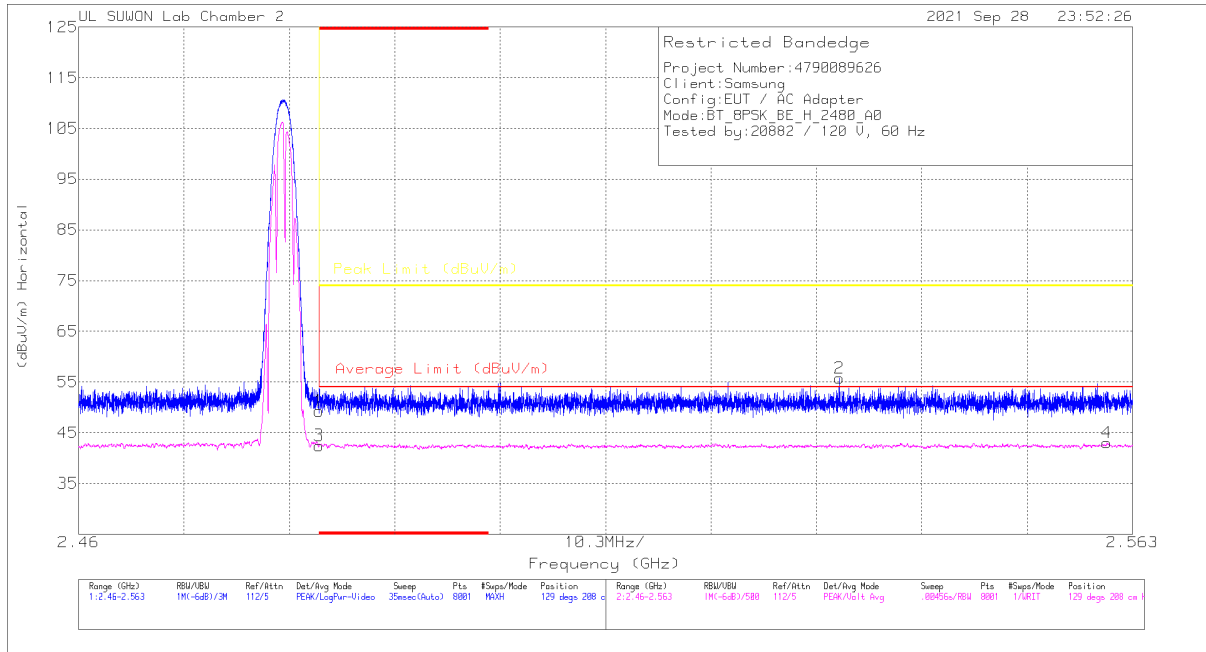
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[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	41.09	Pk	31.9	-20.6	52.39	-	-	74	-21.61	95	107	V
2	* 2.32109	44.21	Pk	31.8	-20.6	55.41	-	-	74	-18.59	95	107	V
3	* 2.39	30.72	VA1T	31.9	-20.6	42.02	54	-11.98	-	-	95	107	V
4	* 2.38993	31.2	VA1T	31.9	-20.6	42.5	54	-11.5	-	-	95	107	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**

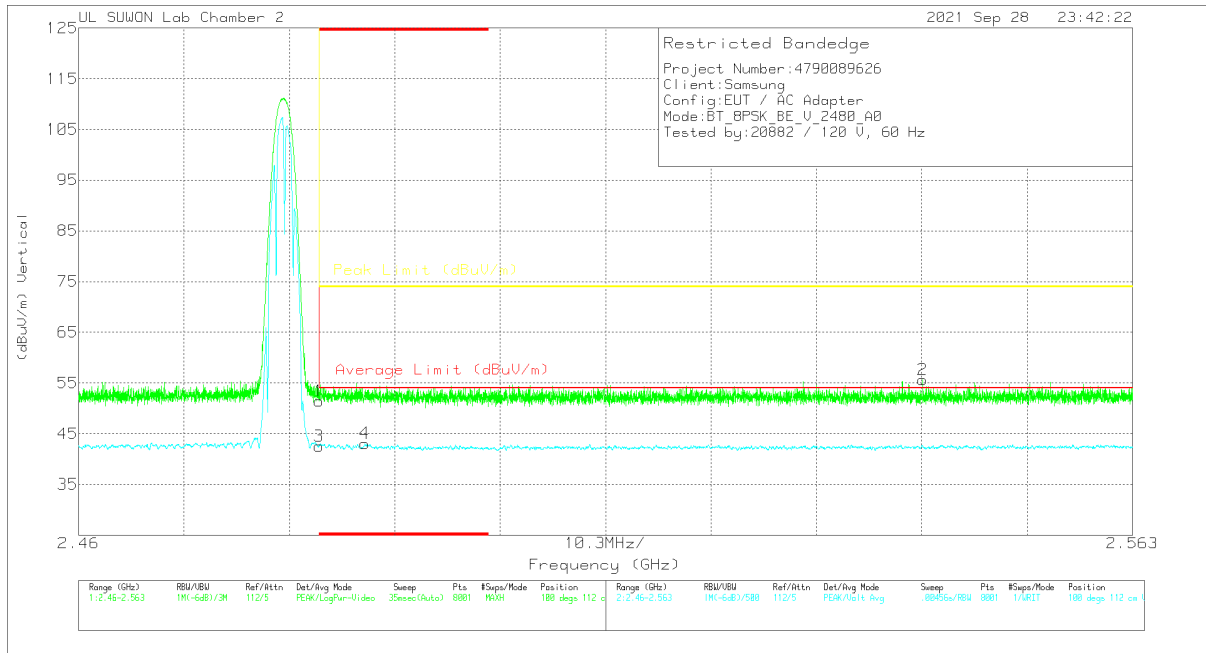
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	37.68	PK	32	-20.4	49.28	-	-	74	-24.72	129	208	H
2	2.53438	43.92	PK	32.1	-20.3	55.72	-	-	74	-18.28	129	208	H
3	* 2.48351	30.87	VA1T	32	-20.4	42.47	54	-11.53	-	-	129	208	H
4	2.5605	31.05	VA1T	32.2	-20.2	43.05	54	-10.95	-	-	129	208	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	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	39.84	Pk	32	-20.4	51.44	-	-	74	-22.56	100	112	V
2	2.54249	43.9	Pk	32.1	-20.4	55.6	-	-	74	-18.4	100	112	V
3	* 2.48351	30.95	VA1T	32	-20.4	42.55	54	-11.45	-	-	100	112	V
4	* 2.48798	31.39	VA1T	32.1	-20.4	43.09	54	-10.91	-	-	100	112	V

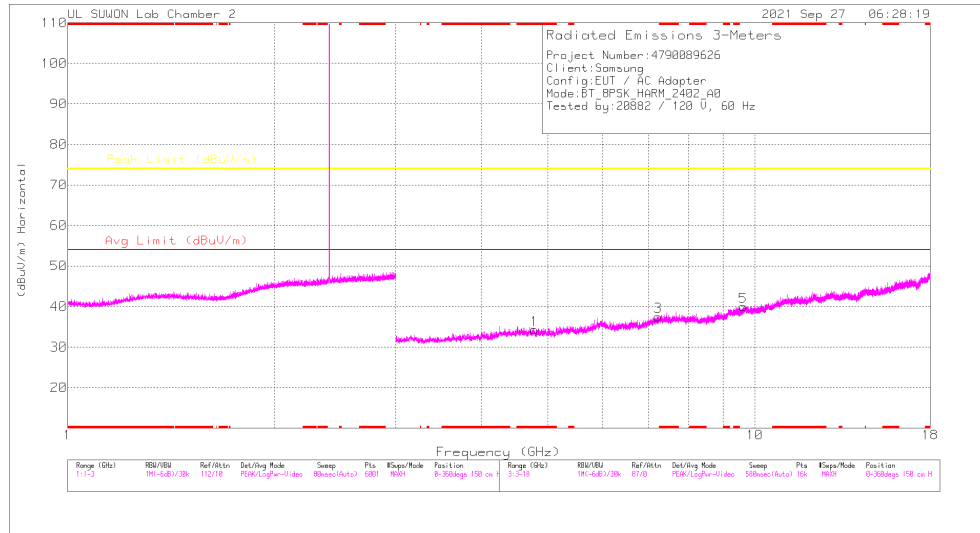
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

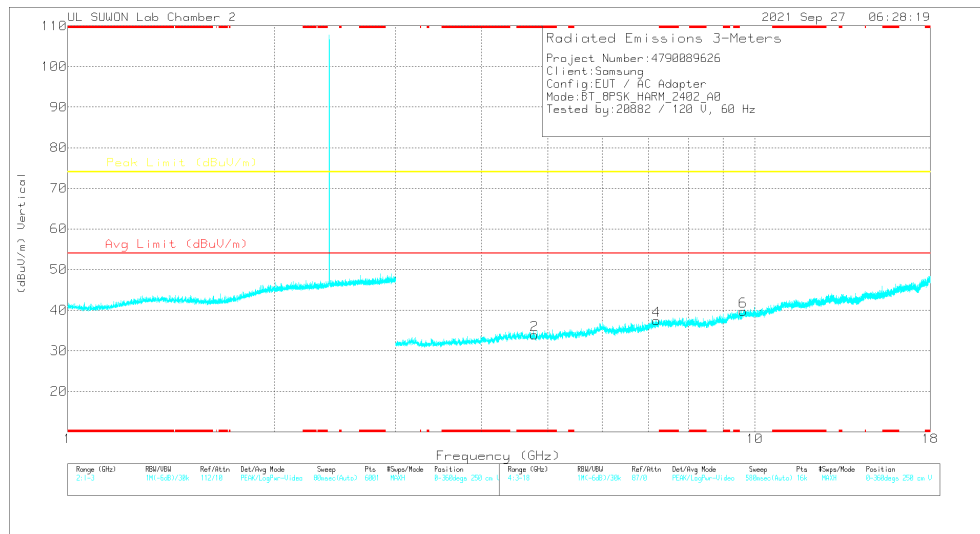
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

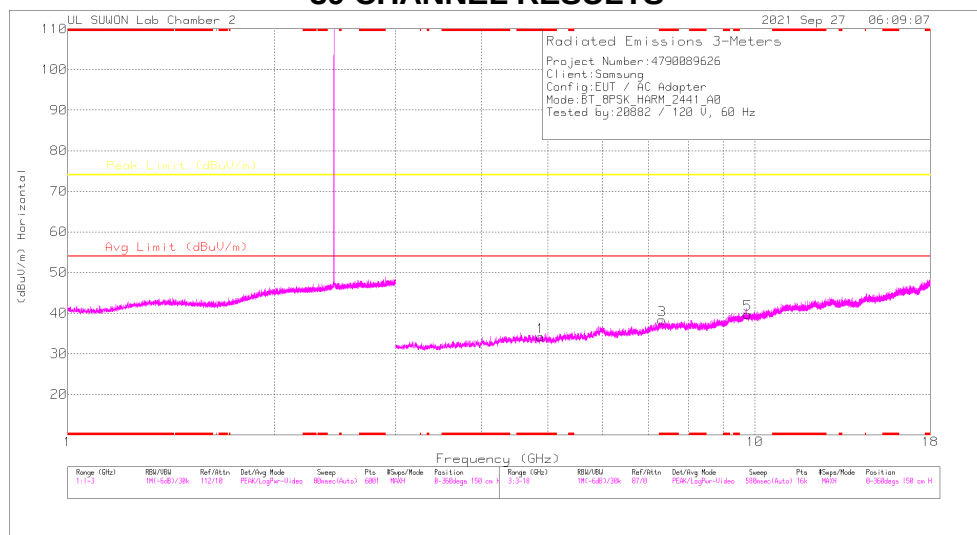
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.77555	34.57	PKFH	34.1	-27.8	40.87	-	-	74	-33.13	0	100	H
* 4.77555	34.85	PKFH	34.1	-27.8	41.15	-	-	74	-32.85	0	100	V
7.22872	33.35	PKFH	36.2	-25.5	44.05	-	-	74	-29.95	0	100	H
7.22849	33.5	PKFH	36.2	-25.5	44.2	-	-	74	-29.8	0	100	V
9.61786	31.8	PKFH	37	-21.7	47.1	-	-	74	-26.9	0	100	H
9.61896	30.69	PKFH	37	-21.7	45.99	-	-	74	-28.01	0	100	V

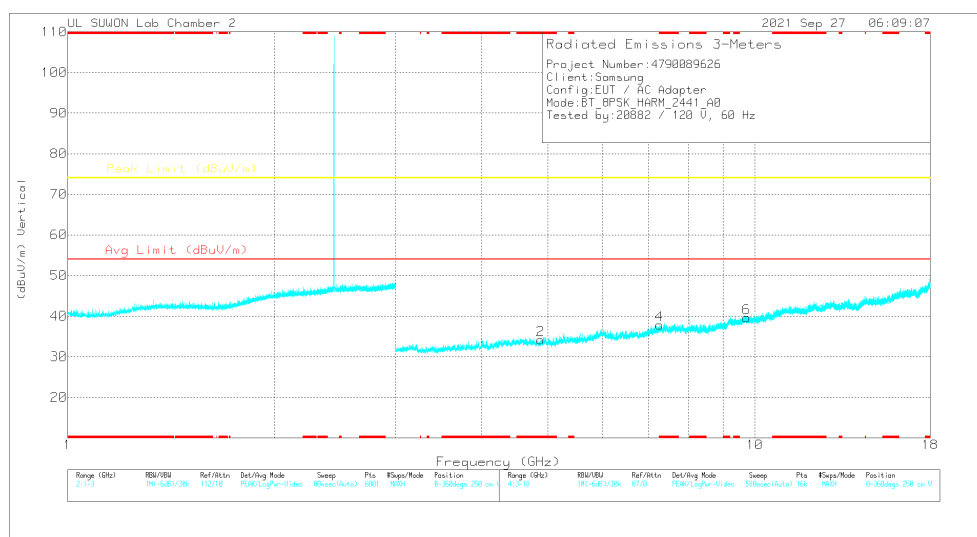
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

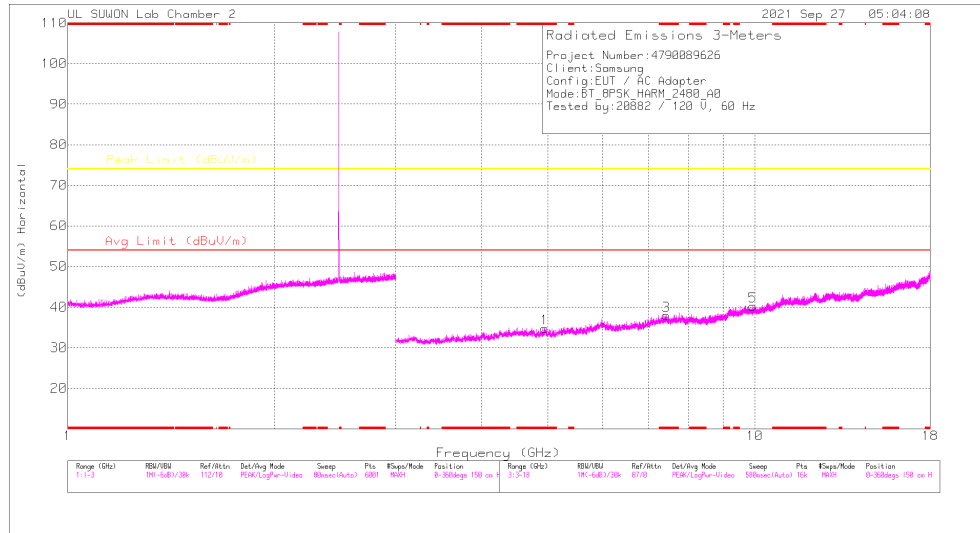
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87483	35.19	PKFH	34.1	-27.9	41.39	-	-	74	-32.61	0	100	H
* 4.87583	35.13	PKFH	34.1	-27.9	41.33	-	-	74	-32.67	0	100	V
* 7.32245	32.83	PKFH	36.1	-24.9	44.03	-	-	74	-29.97	0	100	H
* 7.32288	33.34	PKFH	36.1	-24.9	44.54	-	-	74	-29.46	0	100	V
9.75947	31.85	PKFH	37.2	-21.5	47.55	-	-	74	-26.45	0	100	H
9.75662	31.89	PKFH	37.2	-21.4	47.69	-	-	74	-26.31	0	100	V

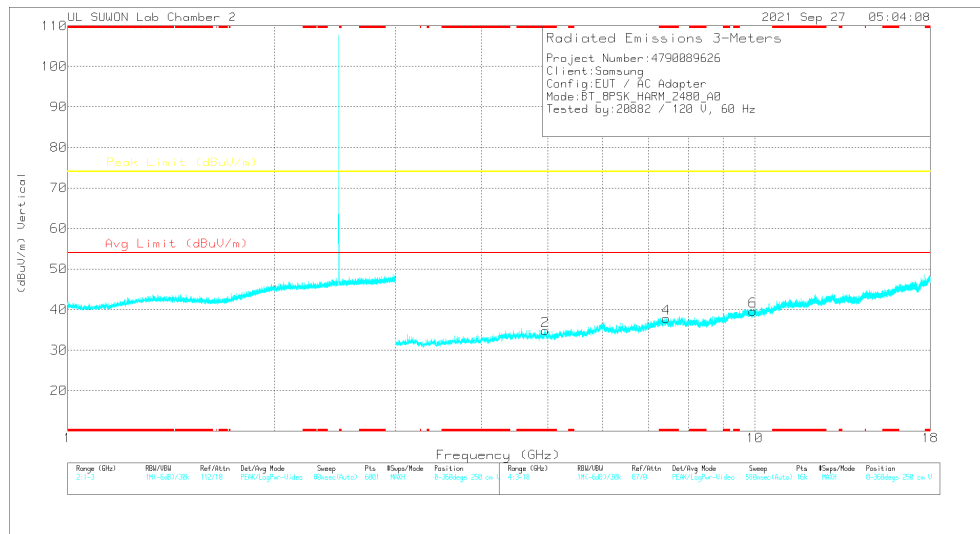
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

78 CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

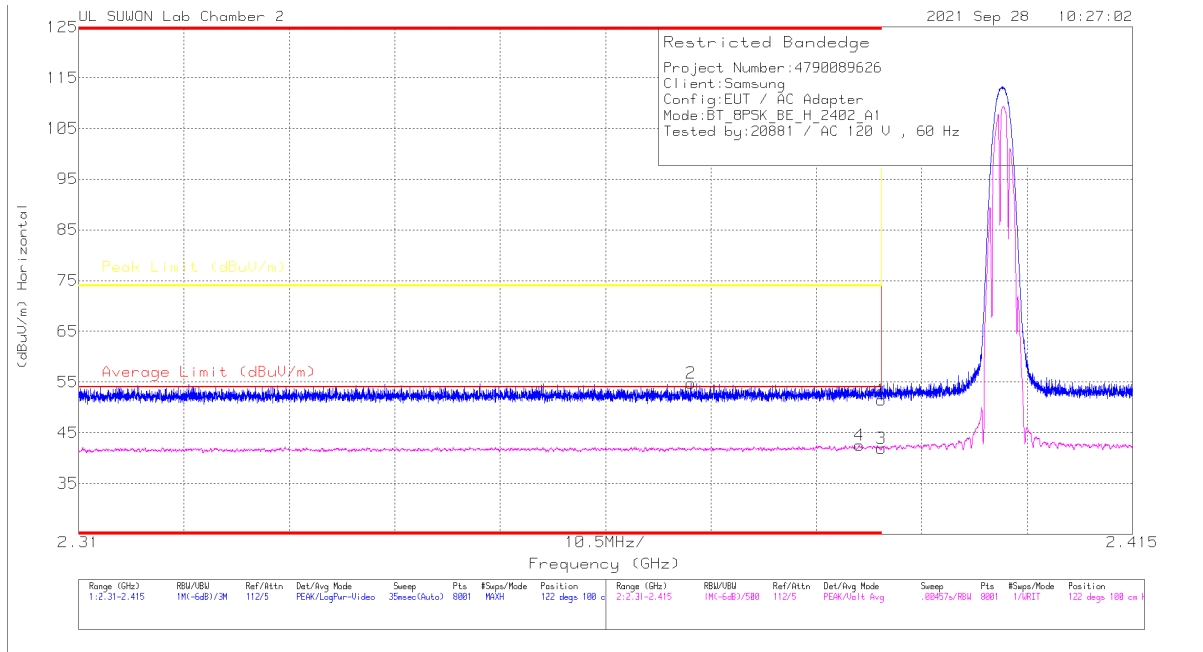
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.94444	34.21	PKFH	34.1	-27.2	41.11	-	-	74	-32.89	0	100	H
* 4.94237	34.98	PKFH	34.1	-27.2	41.88	-	-	74	-32.12	0	100	V
* 7.43572	32.37	PKFH	36	-24	44.37	-	-	74	-29.63	0	100	H
* 7.43293	32.5	PKFH	36	-24.1	44.4	-	-	74	-29.6	0	100	V
9.94212	30.52	PKFH	37.4	-21.1	46.82	-	-	74	-27.18	0	100	H
9.94244	30.52	PKFH	37.4	-21.1	46.82	-	-	74	-27.18	0	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

- ANT2
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT



Trace Markers

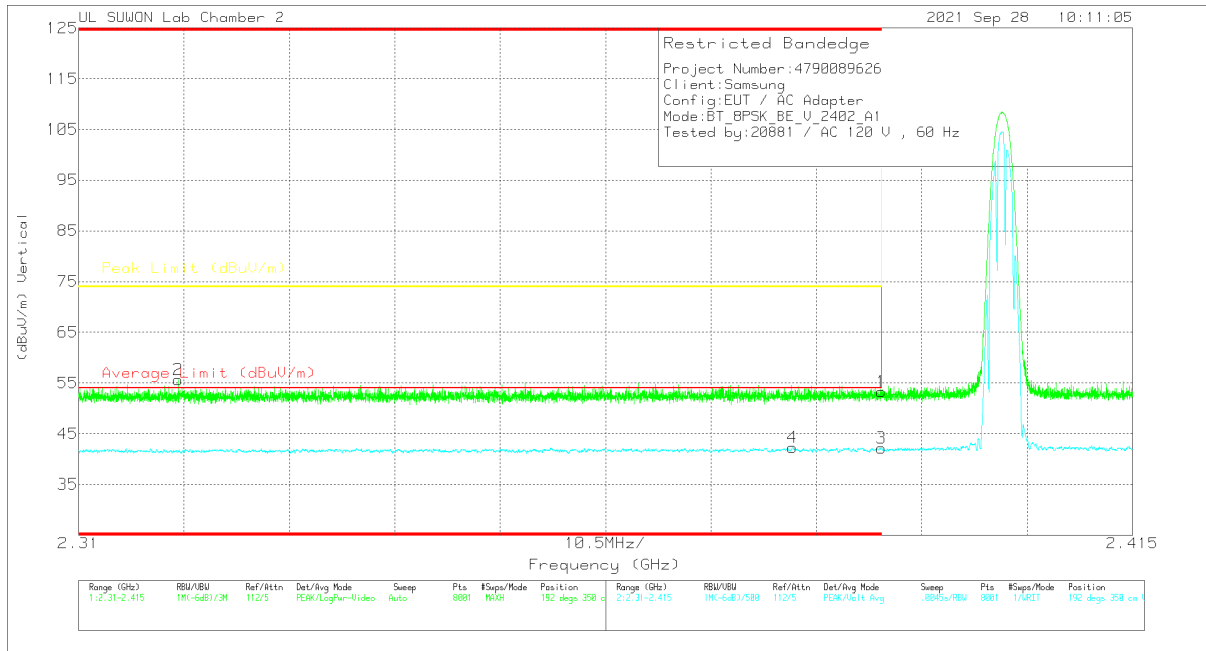
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.14	Pk	31.9	-20.6	51.44	-	-	74	-22.56	122	100	H
2	* 2.37099	43.62	Pk	31.8	-20.6	54.82	-	-	74	-19.18	122	100	H
3	* 2.39	30.56	VA1T	31.9	-20.6	41.86	54	-12.14	-	-	122	100	H
4	* 2.38778	31.18	VA1T	31.9	-20.6	42.48	54	-11.52	-	-	122	100	H

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

Pk - Peak detector

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

VERTICAL RESULT



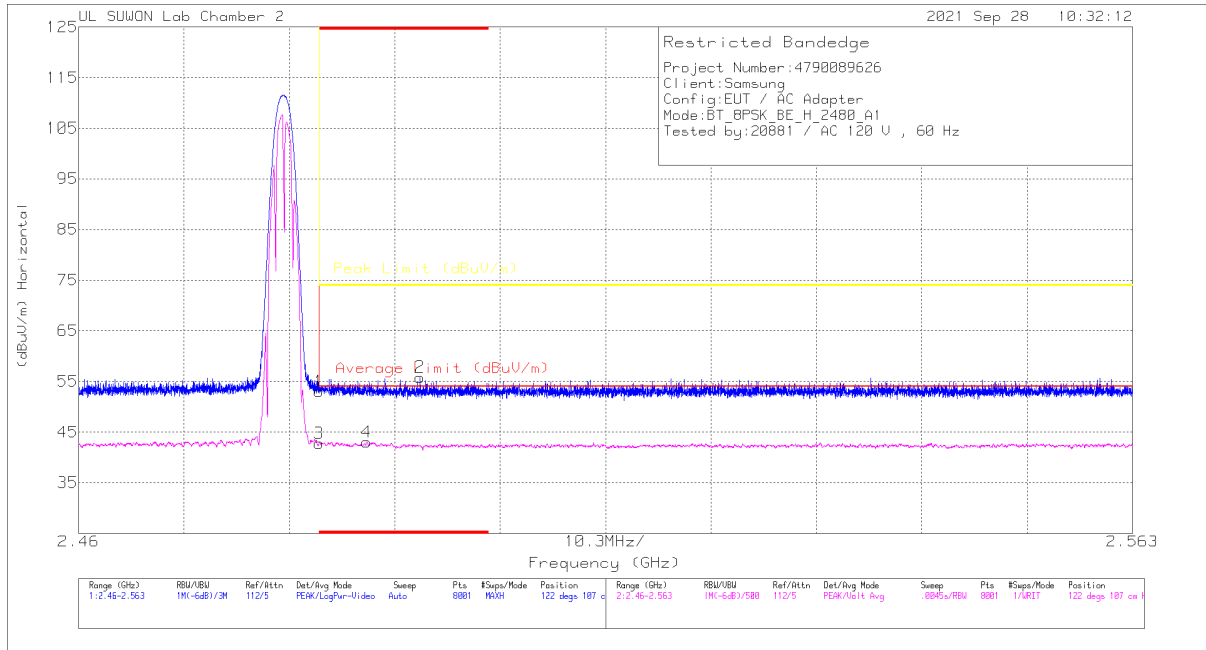
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[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	41.97	Pk	31.9	-20.6	53.27	-	-	74	-20.73	192	350	V
2	* 2.3199	44.64	Pk	31.7	-20.7	55.64	-	-	74	-18.36	192	350	V
3	* 2.39	30.85	VA1T	31.9	-20.6	42.15	54	-11.85	-	-	192	350	V
4	* 2.38114	30.89	VA1T	31.9	-20.5	42.29	54	-11.71	-	-	192	350	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**

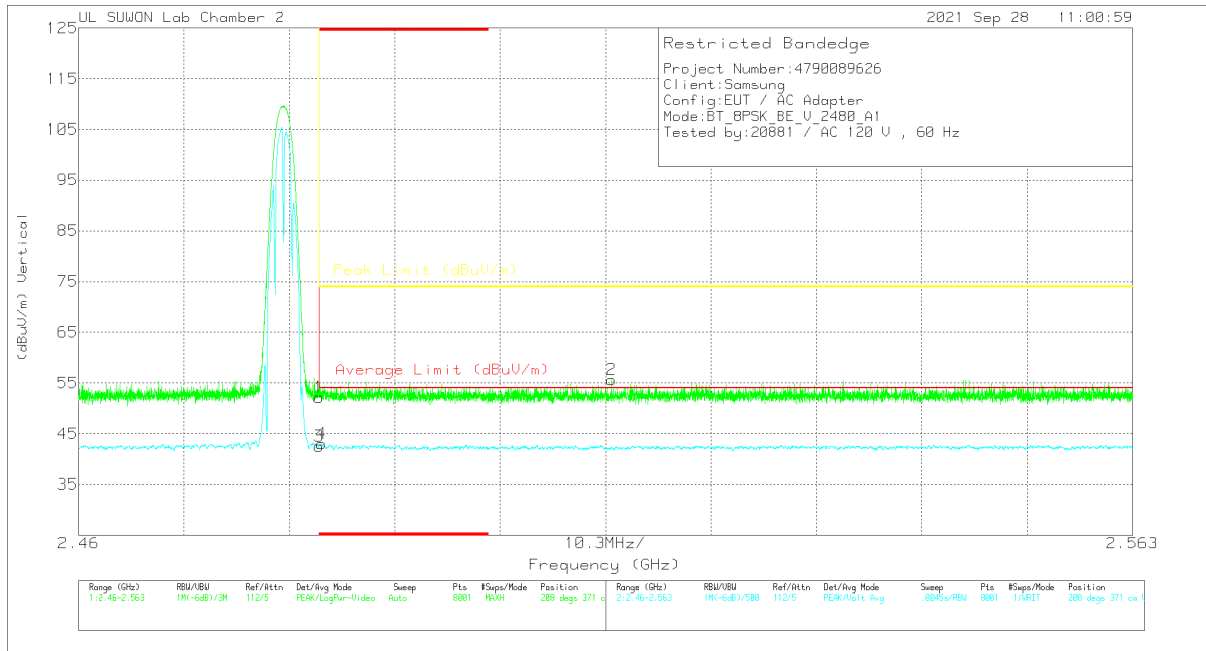
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	41.44	Pk	32	-20.4	53.04	-	-	74	-20.96	122	107	H
2	* 2.49337	44.13	Pk	32.1	-20.4	55.83	-	-	74	-18.17	122	107	H
3	* 2.48351	31.18	VA1T	32	-20.4	42.78	54	-11.22	-	-	122	107	H
4	* 2.48814	31.37	VA1T	32.1	-20.4	43.07	54	-10.93	-	-	122	107	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	3117_00168724	10dB_ATT[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	40.63	Pk	32	-20.4	52.23	-	-	74	-21.77	208	371	V
2	2.51207	43.91	Pk	32.1	-20.4	55.61	-	-	74	-18.39	208	371	V
3	* 2.48351	30.94	VA1T	32	-20.4	42.54	54	-11.46	-	-	208	371	V
4	* 2.48372	31.39	VA1T	32	-20.4	42.99	54	-11.01	-	-	208	371	V

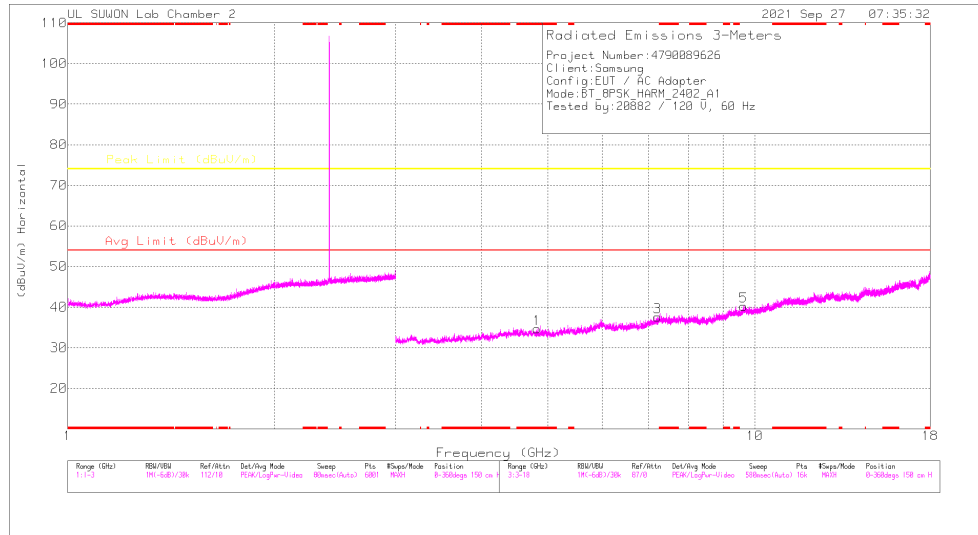
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

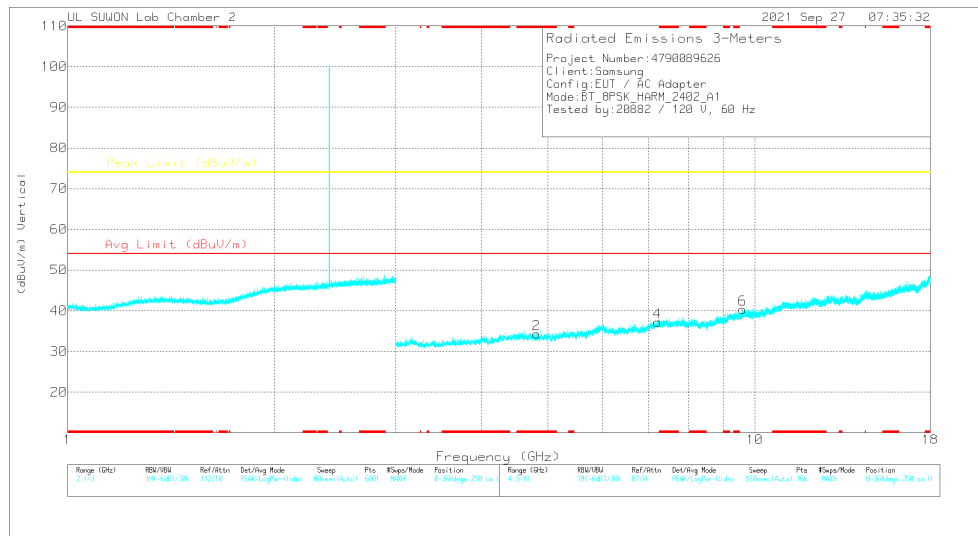
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

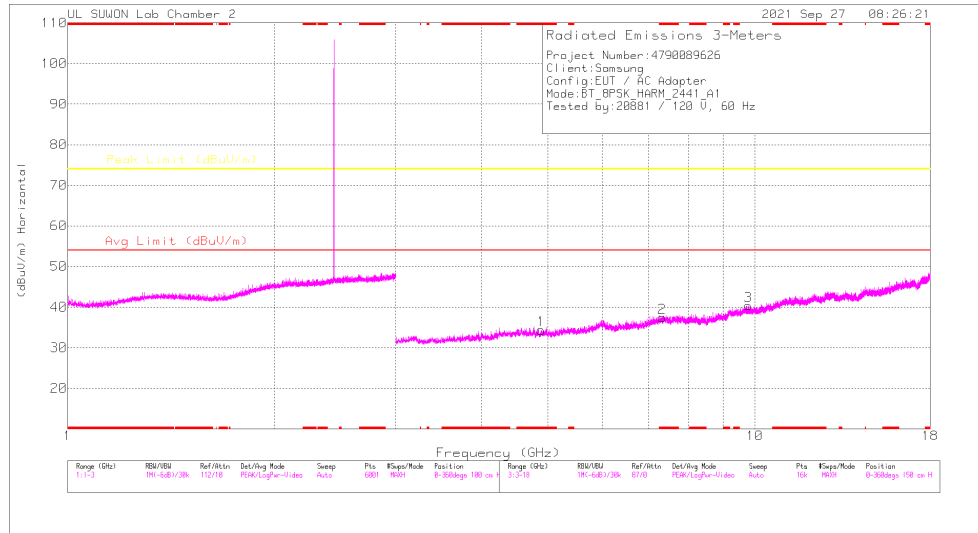
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.82615	35.33	PKFH	34.1	-28.1	41.33	-	-	74	-32.67	0	100	H
* 4.82474	34.97	PKFH	34.1	-28.1	40.97	-	-	74	-33.03	0	100	V
7.22001	32.78	PKFH	36.2	-25.4	43.58	-	-	74	-30.42	0	100	H
7.22118	33.06	PKFH	36.2	-25.4	43.86	-	-	74	-30.14	0	100	V
9.62781	31.12	PKFH	37	-21.6	46.52	-	-	74	-27.48	0	100	H
9.62942	31.29	PKFH	37	-21.6	46.69	-	-	74	-27.31	0	100	V

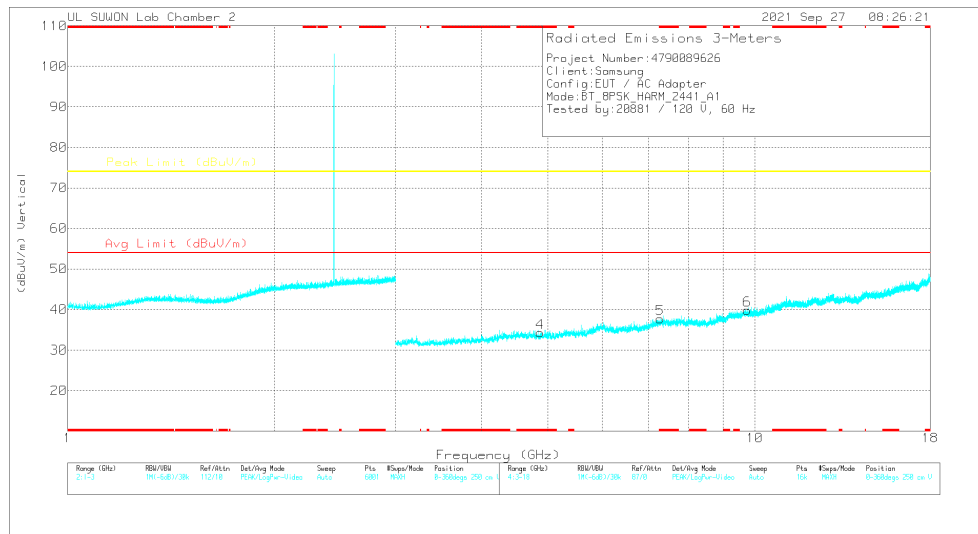
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

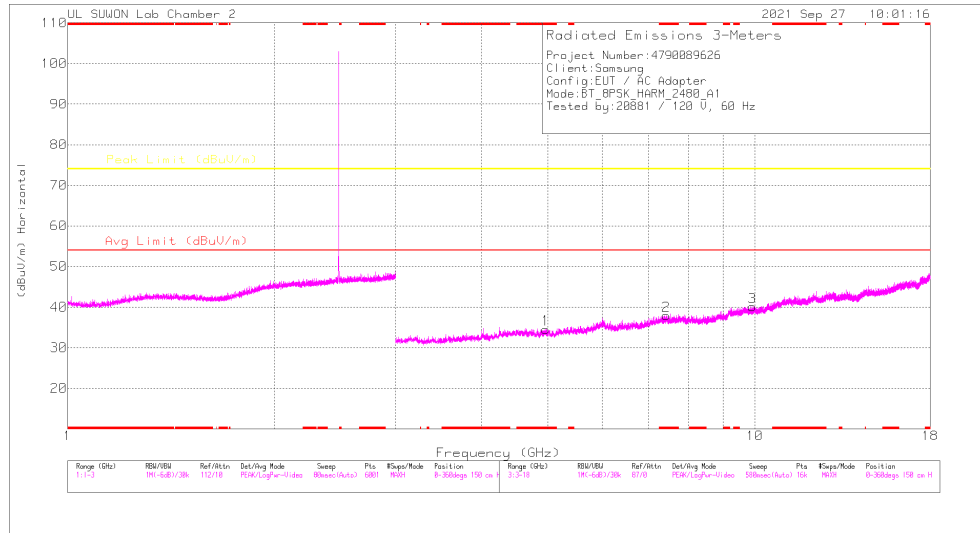
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.89115	36.16	PKFH	34.1	-27.7	0	42.56	-	-	74	-31.44	0	100	H
* 4.87617	35.04	PKFH	34.1	-27.9	0	41.24	-	-	74	-32.76	0	100	V
* 7.32291	33.88	PKFH	36.1	-24.9	0	45.08	-	-	74	-28.92	0	100	H
* 7.31507	34.6	PKFH	36.1	-24.9	0	45.8	-	-	74	-28.2	0	100	V
9.75486	30.65	PKFH	37.2	-21.4	0	46.45	-	-	74	-27.55	0	100	H
9.77112	31.61	PKFH	37.2	-21.6	0	47.21	-	-	74	-26.79	0	100	V

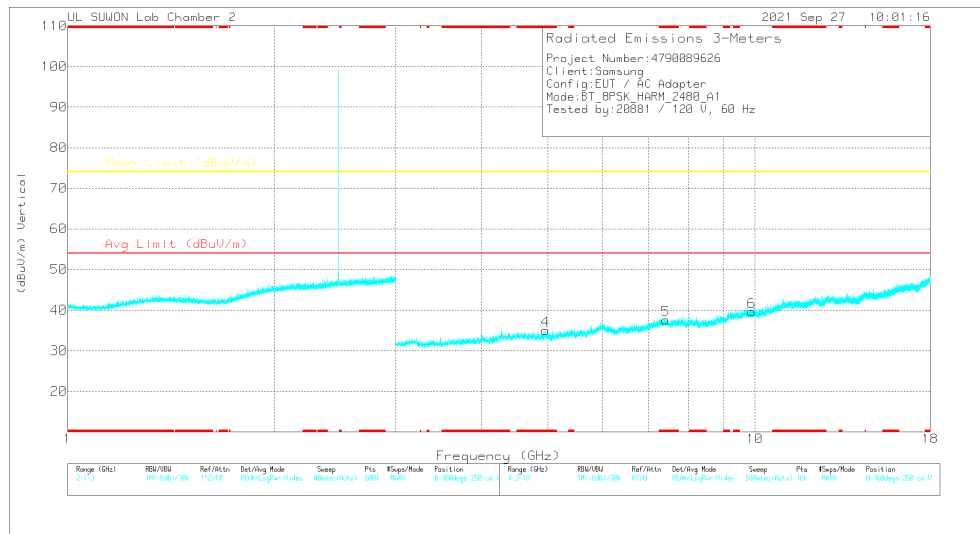
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

78 CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

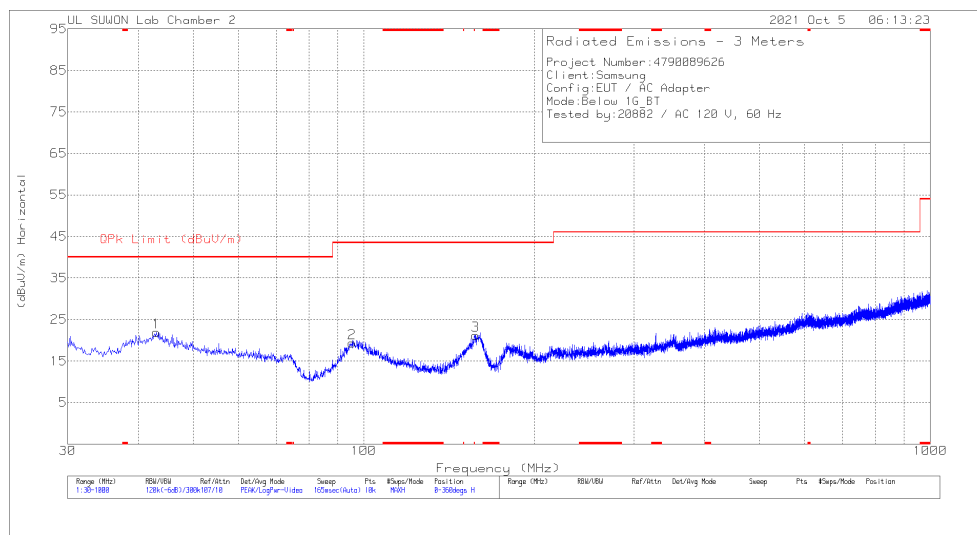
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_0016872 4	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.95724	34.72	PKFH	34.1	-27.2	0	41.62	-	-	74	-32.38	0	100	H
* 4.95906	34.73	PKFH	34.1	-27.2	0	41.63	-	-	74	-32.37	0	100	V
* 7.43664	32.85	PKFH	36	-24	0	44.85	-	-	74	-29.15	0	100	H
* 7.44792	33.08	PKFH	36	-24.1	0	44.98	-	-	74	-29.02	0	100	V
9.92141	30.72	PKFH	37.4	-21.2	0	46.92	-	-	74	-27.08	0	100	H
9.92777	30.47	PKFH	37.4	-21.2	0	46.67	-	-	74	-27.33	0	100	V

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

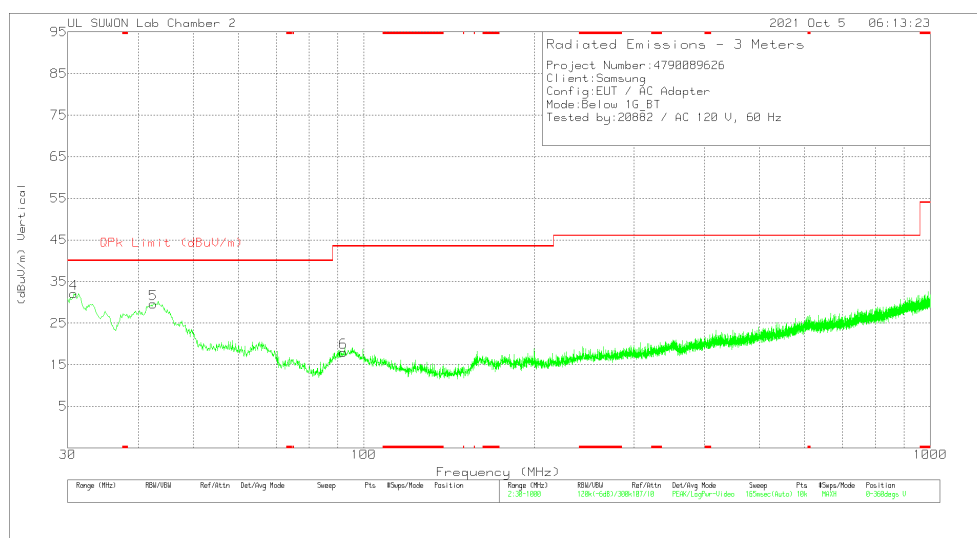
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

10.2. WORST CASE BELOW 1 GHZ

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



HORIZONTAL



VERTICAL

Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below 1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	42.998	34.31	Pk	19.3	-31.7	21.91	40	-18.09	0-360	200	H
2	95.378	34.06	Pk	16.6	-31.3	19.36	43.52	-24.16	0-360	200	H
3	157.361	38.14	Pk	14.1	-31	21.24	43.52	-22.28	0-360	100	H
4	30.776	48.44	Pk	15.5	-31.9	32.04	40	-7.96	0-360	100	V
5	42.513	42.23	Pk	19.2	-31.8	29.63	40	-10.37	0-360	100	V
6	92.08	33.29	Pk	16	-31.3	17.99	43.52	-25.53	0-360	100	V

Pk - Peak detector

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (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 C63.4.

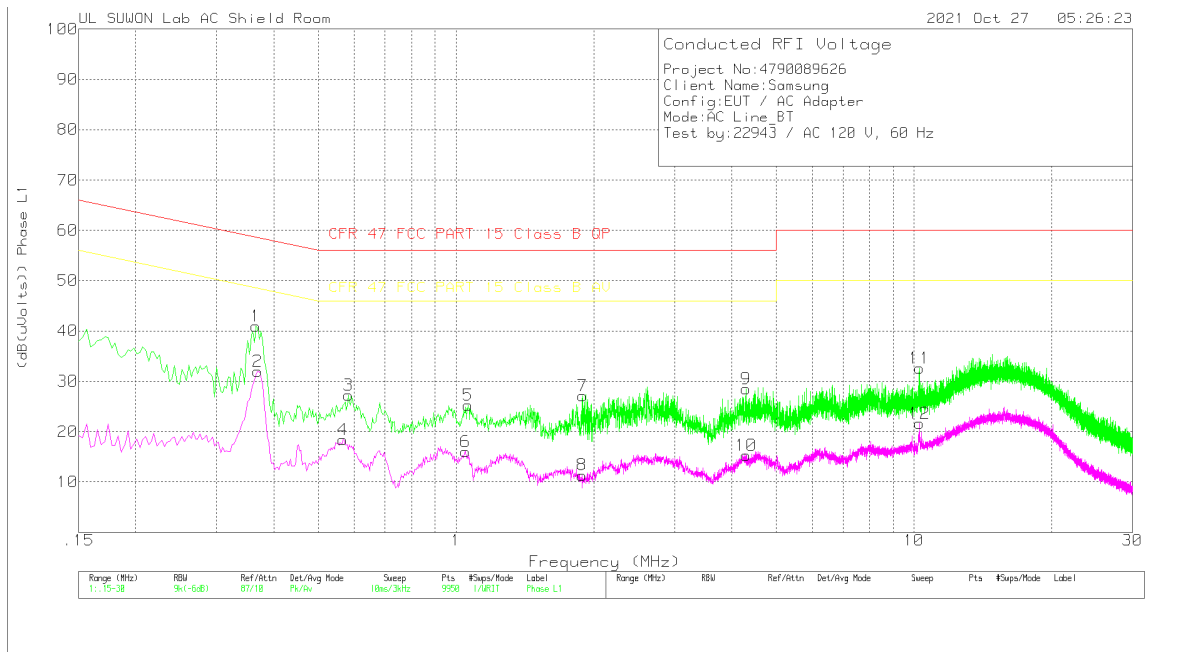
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

11.1.1. AC Power Line

LINE 1 RESULTS



Trace Markers

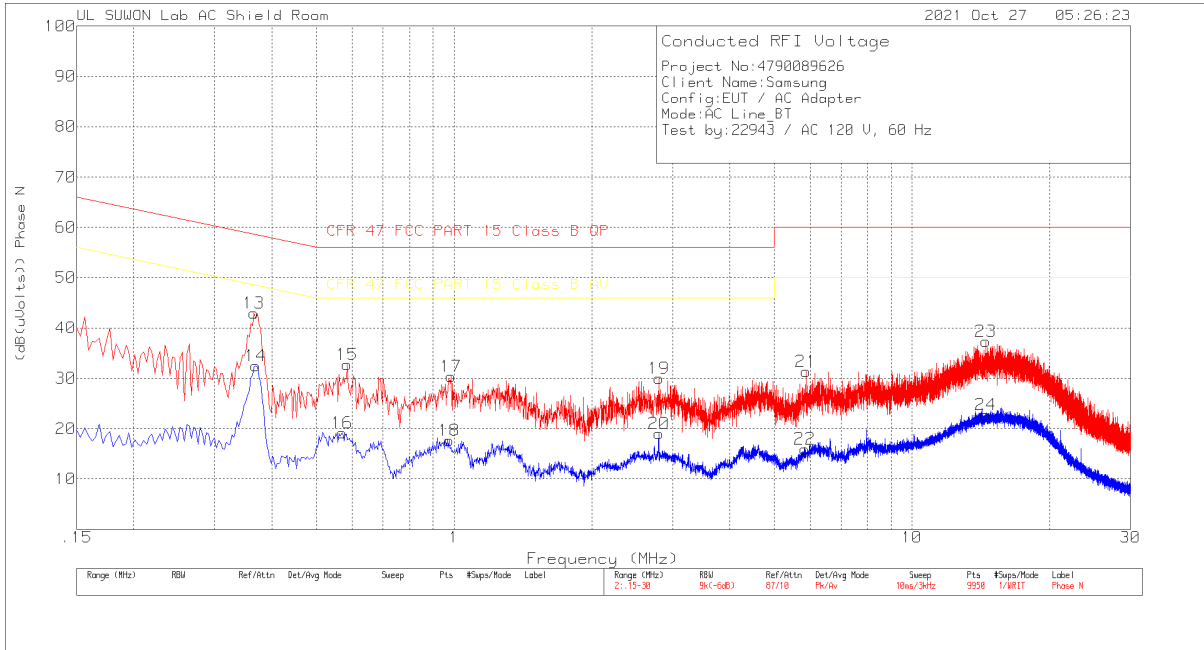
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_Wit h EX_L1[dB]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.366	30.93	Pk	9.8	.2	40.93	58.59	-17.66	-	-
2	.369	22.03	Av	9.8	.2	32.03	-	-	48.52	-16.49
3	.582	17.28	Pk	9.8	.2	27.28	56	-28.72	-	-
4	.567	8.37	Av	9.8	.2	18.37	-	-	46	-27.63
5	1.062	15.3	Pk	9.7	.3	25.3	56	-30.7	-	-
6	1.05	6.05	Av	9.7	.3	16.05	-	-	46	-29.95
7	1.893	17.09	Pk	9.7	.3	27.09	56	-28.91	-	-
8	1.884	1.36	Av	9.7	.3	11.36	-	-	46	-34.64
9	4.302	18.44	Pk	9.7	.3	28.44	56	-27.56	-	-
10	4.305	5.24	Av	9.7	.3	15.24	-	-	46	-30.76
11	10.275	22.28	Pk	9.9	.4	32.58	60	-27.42	-	-
12	10.275	11.39	Av	9.9	.4	21.69	-	-	50	-28.31

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]	CABLELOS S(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.366	32.92	Pk	9.8	.2	42.92	58.59	-15.67	-	-
14	.369	22.48	Av	9.8	.2	32.48	-	-	48.52	-16.04
15	.585	22.65	Pk	9.9	.2	32.75	-	-23.25	-	-
16	.57	9.09	Av	9.9	.2	19.19	-	-	46	-26.81
17	.984	20.37	Pk	9.7	.3	30.37	56	-25.63	-	-
18	.975	7.6	Av	9.7	.3	17.6	-	-	46	-28.4
19	2.799	19.96	Pk	9.7	.3	29.96	56	-26.04	-	-
20	2.799	8.97	Av	9.7	.3	18.97	-	-	46	-27.03
21	5.865	21.22	Pk	9.8	.3	31.32	60	-28.68	-	-
22	5.841	5.87	Av	9.8	.3	15.97	-	-	50	-34.03
23	14.484	26.86	Pk	10.1	.4	37.36	60	-22.64	-	-
24	14.514	12.32	Av	10.1	.4	22.82	-	-	50	-27.18

Pk - Peak detector

Av - Average detection

END OF TEST REPORT