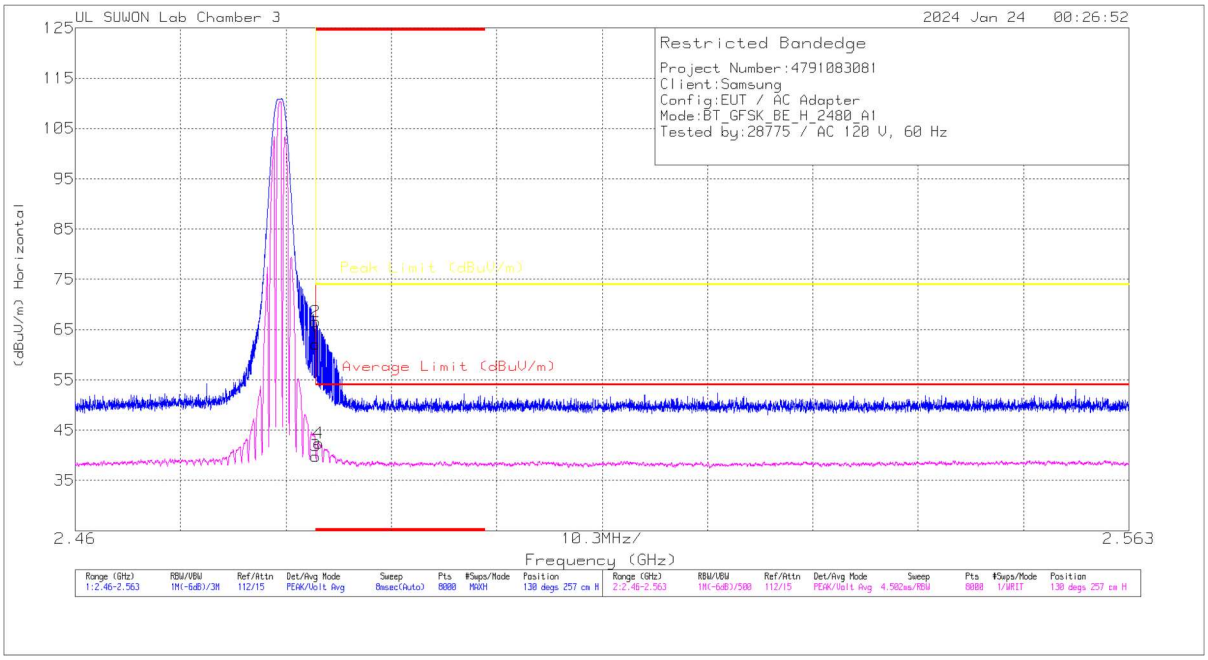
BANDEDGE (78 CHANNEL)

HORIZONTAL RESULT

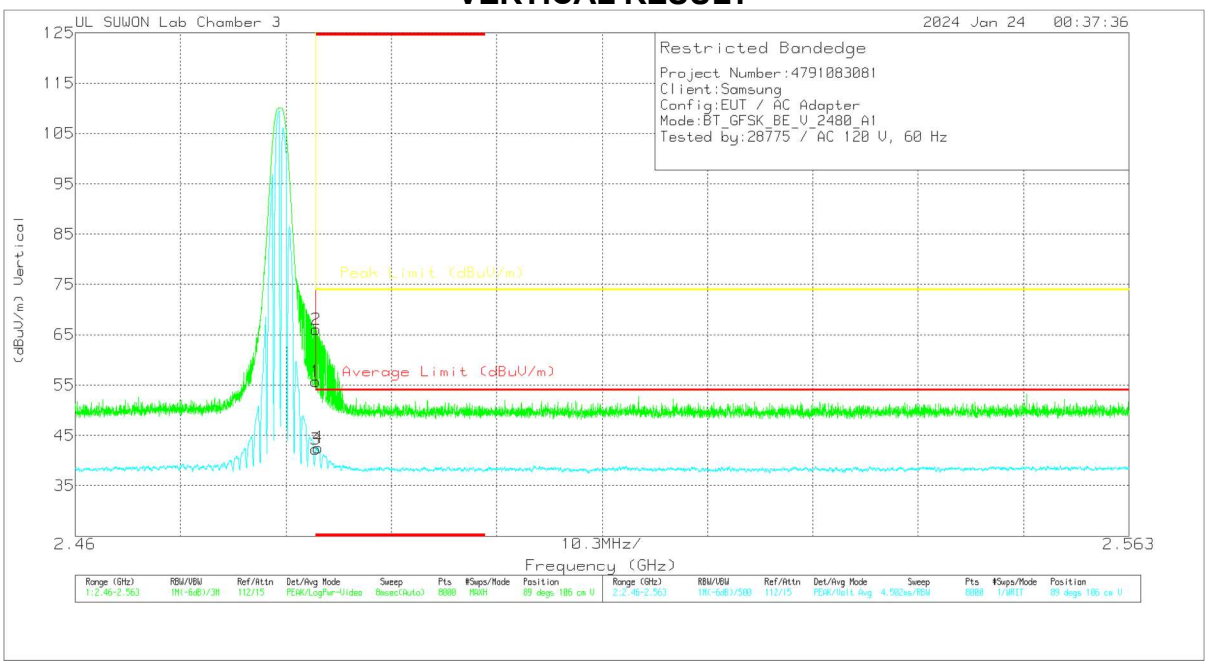


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	54.5	Pk	32.4	-24.8	62.1	-	-	74	-11.9	130	257	H
2	* 2.48351	59.02	Pk	32.4	-24.8	66.62	-	-	74	-7.38	130	257	H
3	* 2.4835	32.25	VA1T	32.4	-24.8	39.85	54	-14.15	-	-	130	257	H
4	* 2.48378	34.78	VA1T	32.4	-24.8	42.38	54	-11.62	-	-	130	257	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



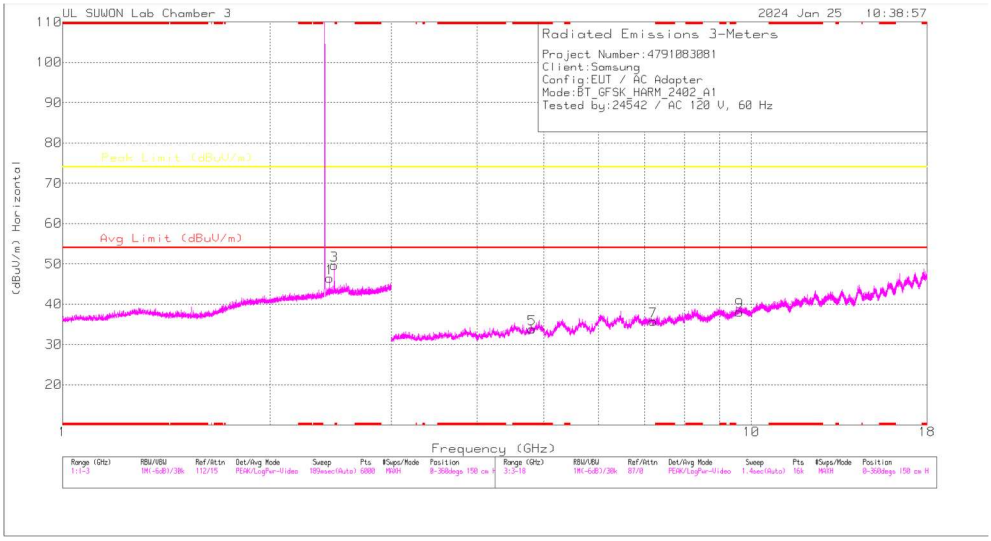
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	48.1	Pk	32.4	-24.8	55.7	-	-	74	-18.3	89	106	V
2	* 2.48358	58.44	Pk	32.4	-24.8	66.04	-	-	74	-7.96	89	106	V
3	* 2.4835	34.63	VA1T	32.4	-24.8	42.23	54	-11.77	-	-	89	106	V
4	* 2.48372	34.99	VA1T	32.4	-24.8	42.59	54	-11.41	-	-	89	106	V

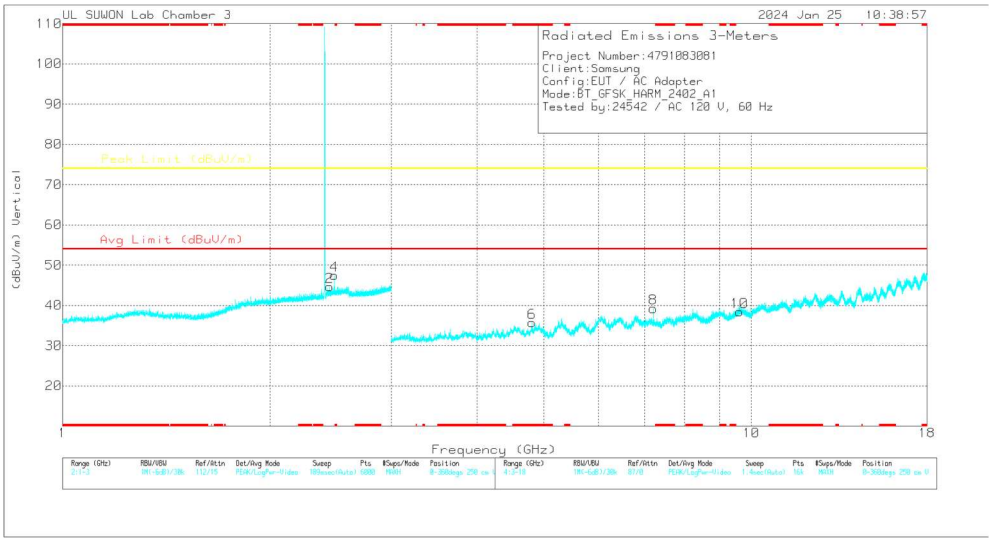
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

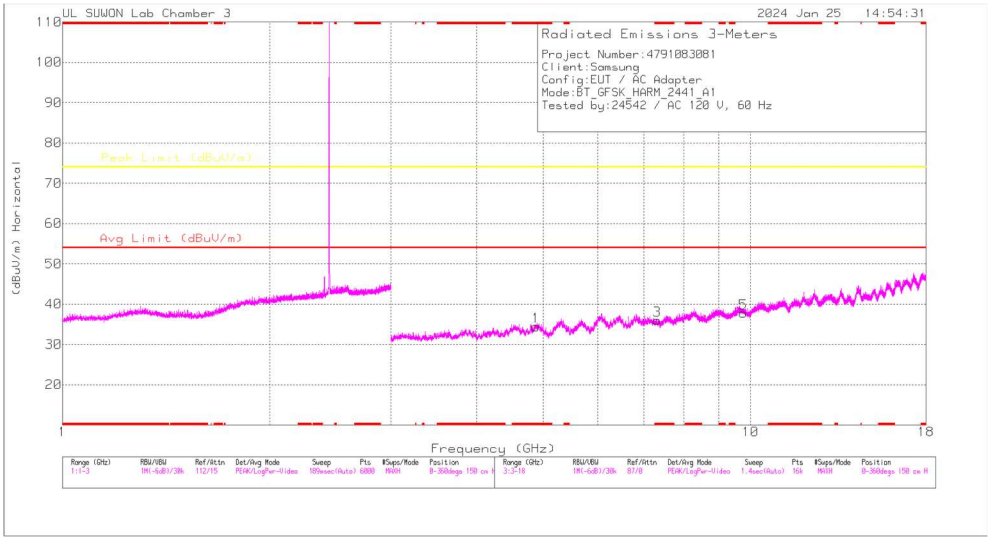
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

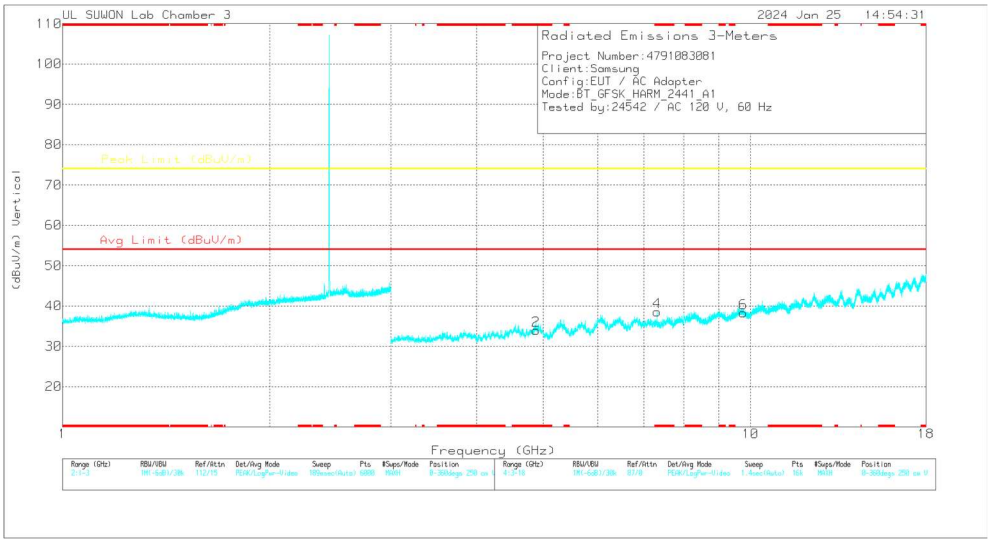
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80077	38.1	PKFH	34.3	-30.1	42.3	-	-	74	-31.7	119	123	H
* 4.80463	25.89	VA1T	34.3	-30.1	30.09	54	-23.91	-	-	119	123	H
* 4.804	39.02	PKFH	34.3	-30.1	43.22	-	-	74	-30.78	10	394	V
* 4.80397	29.03	VA1T	34.3	-30.1	33.23	54	-20.77	-	-	10	394	V
7.20632	35.16	PKFH	35.8	-25.9	45.06	-	-	74	-28.94	208	103	H
7.20587	36.26	PKFH	35.8	-25.9	46.16	-	-	74	-27.84	161	255	V
9.60789	30.89	PKFH	36.7	-21.7	45.89	-	-	74	-28.11	0	100	H
9.60547	31.52	PKFH	36.7	-21.8	46.42	-	-	74	-27.58	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
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration
Mkr1 and 2, 3, 4 in above pre-scan graph were confirmed as in-band emissions.

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

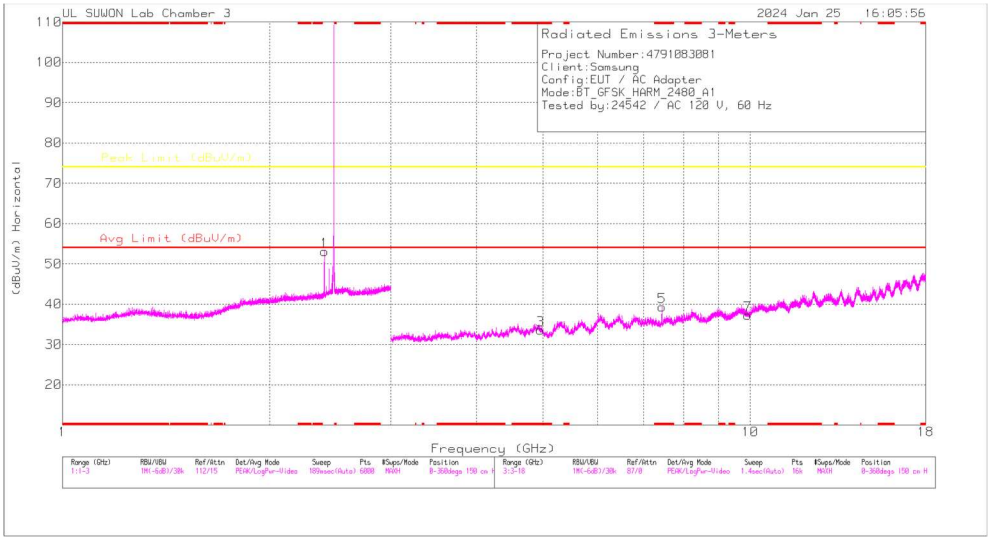
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

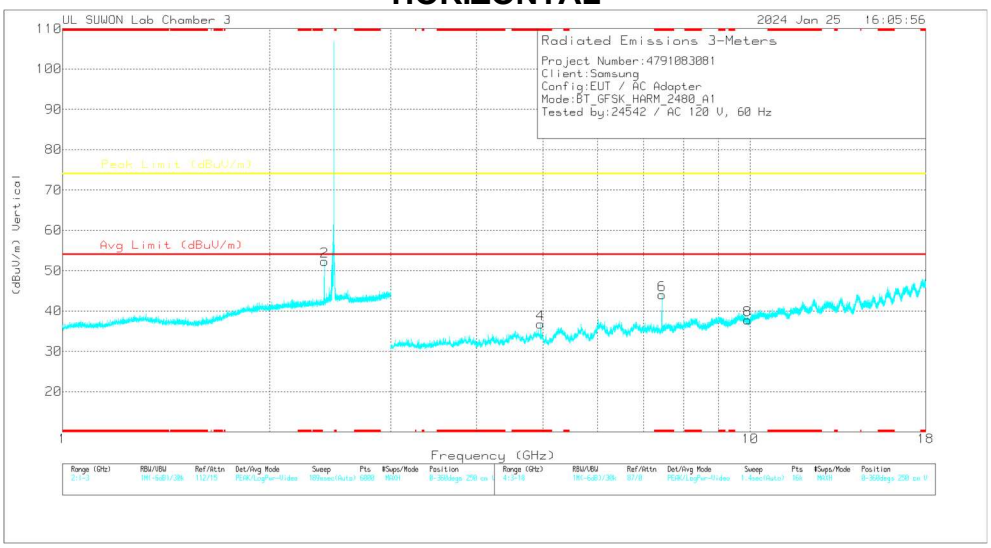
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87881	39	PKFH	34.2	-29.9	43.3	-	-	74	-30.7	114	144	H
* 4.88229	25.68	VA1T	34.2	-30	29.88	54	-24.12	-	-	114	144	H
* 4.88181	38.95	PKFH	34.2	-30	43.15	-	-	74	-30.85	11	380	V
* 4.88184	28.1	VA1T	34.2	-30	32.3	54	-21.7	-	-	11	380	V
* 7.32329	34.02	PKFH	35.8	-25.5	44.32	-	-	74	-29.68	209	103	H
* 7.3234	22.21	VA1T	35.8	-25.5	32.51	54	-21.49	-	-	209	103	H
* 7.32336	34.77	PKFH	35.8	-25.5	45.07	-	-	74	-28.93	161	271	V
* 7.32303	24.93	VA1T	35.8	-25.5	35.23	54	-18.77	-	-	161	271	V
9.76173	30.89	PKFH	36.9	-21.5	46.29	-	-	74	-27.71	0	100	H
9.75954	31.08	PKFH	36.9	-21.5	46.48	-	-	74	-27.52	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
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

78 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

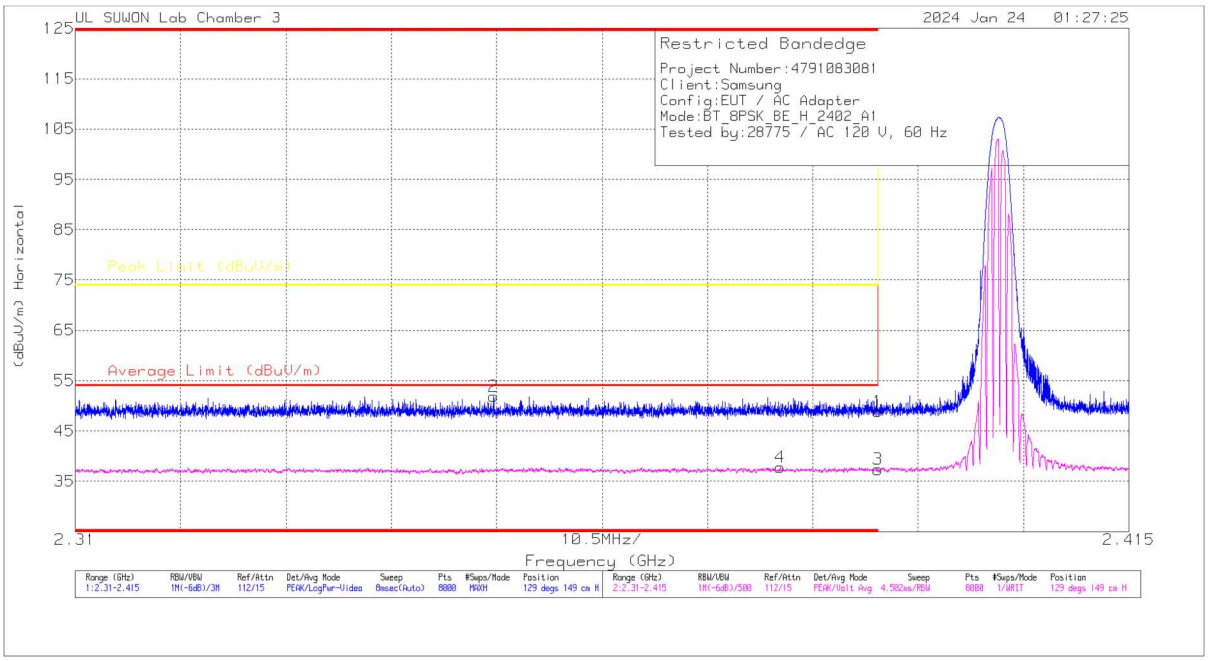
Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96483	37.36	PKFH	34.3	-30.1	41.56	-	-	74	-32.44	307	375	H
* 4.95997	25.54	VA1T	34.3	-30	29.84	54	-24.16	-	-	307	375	H
* 4.9604	38.96	PKFH	34.3	-30	43.26	-	-	74	-30.74	14	129	V
* 4.95993	30.21	VA1T	34.3	-30	34.51	54	-19.49	-	-	14	129	V
* 7.43953	35.37	PKFH	35.7	-25.2	45.87	-	-	74	-28.13	222	242	H
* 7.43998	25.48	VA1T	35.7	-25.2	35.98	54	-18.02	-	-	222	242	H
* 7.44032	39.19	PKFH	35.7	-25.2	49.69	-	-	74	-24.31	152	349	V
* 7.44013	30.63	VA1T	35.7	-25.2	41.13	54	-12.87	-	-	152	349	V
9.91539	30.76	PKFH	37.1	-21.4	46.46	-	-	74	-27.54	0	100	H
9.91924	30.39	PKFH	37.1	-21.4	46.09	-	-	74	-27.91	182	296	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.
Mkr1 and 2 in above pre-scan graph were confirmed as in-band emissions.

10.1.2. BLUETOOTH ENHANCED DATA RATE 8PSK MODULATION

ANT1
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

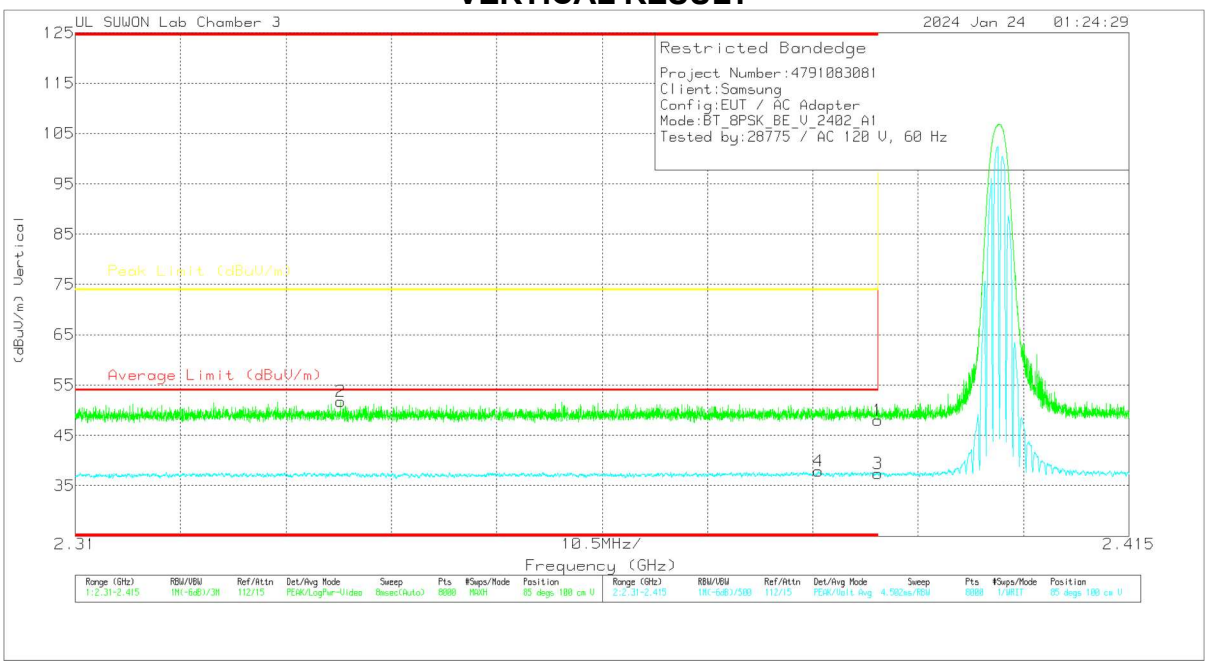


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	41.61	Pk	32.1	-24.8	48.91	-	-	74	-25.09	129	149	H
2	* 2.35169	44.62	Pk	32	-24.8	51.82	-	-	74	-22.18	129	149	H
3	* 2.39	30.06	VA1T	32.1	-24.8	37.36	54	-16.64	-	-	129	149	H
4	* 2.38027	30.57	VA1T	32.1	-24.9	37.77	54	-16.23	-	-	129	149	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



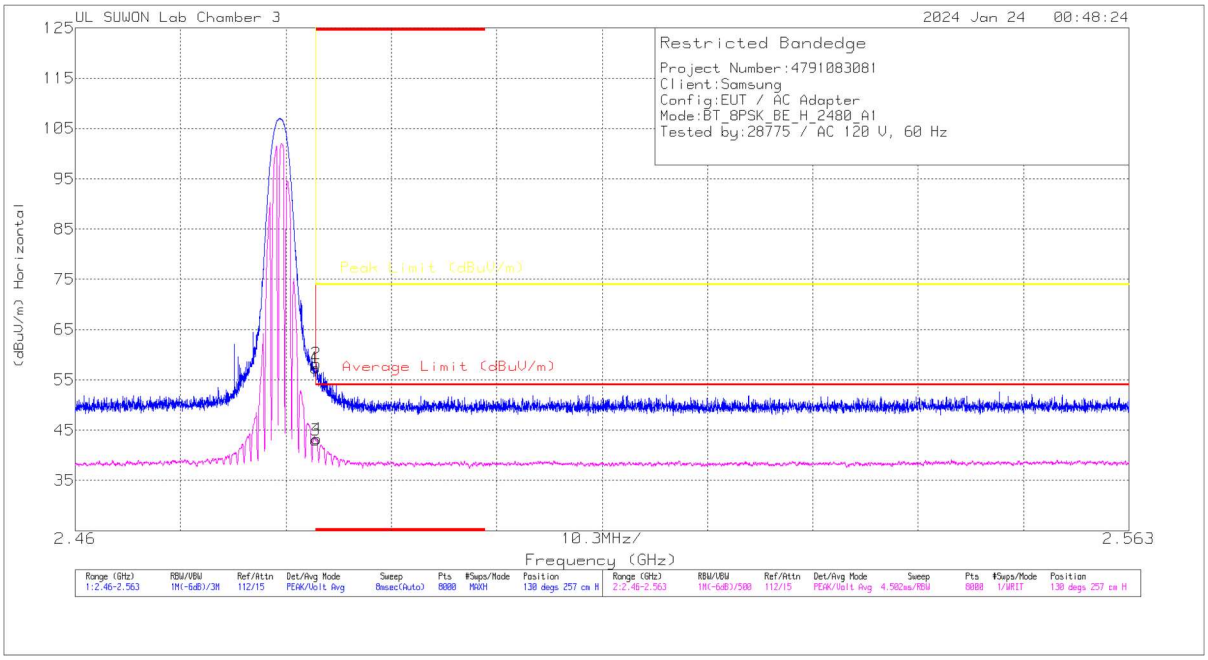
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	40.73	Pk	32.1	-24.8	48.03	-	-	74	-25.97	85	100	V
2	* 2.33644	44.78	Pk	31.9	-24.9	51.78	-	-	74	-22.22	85	100	V
3	* 2.39	30.09	VA1T	32.1	-24.8	37.39	54	-16.61	-	-	85	100	V
4	* 2.38406	30.68	VA1T	32.1	-24.9	37.88	54	-16.12	-	-	85	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

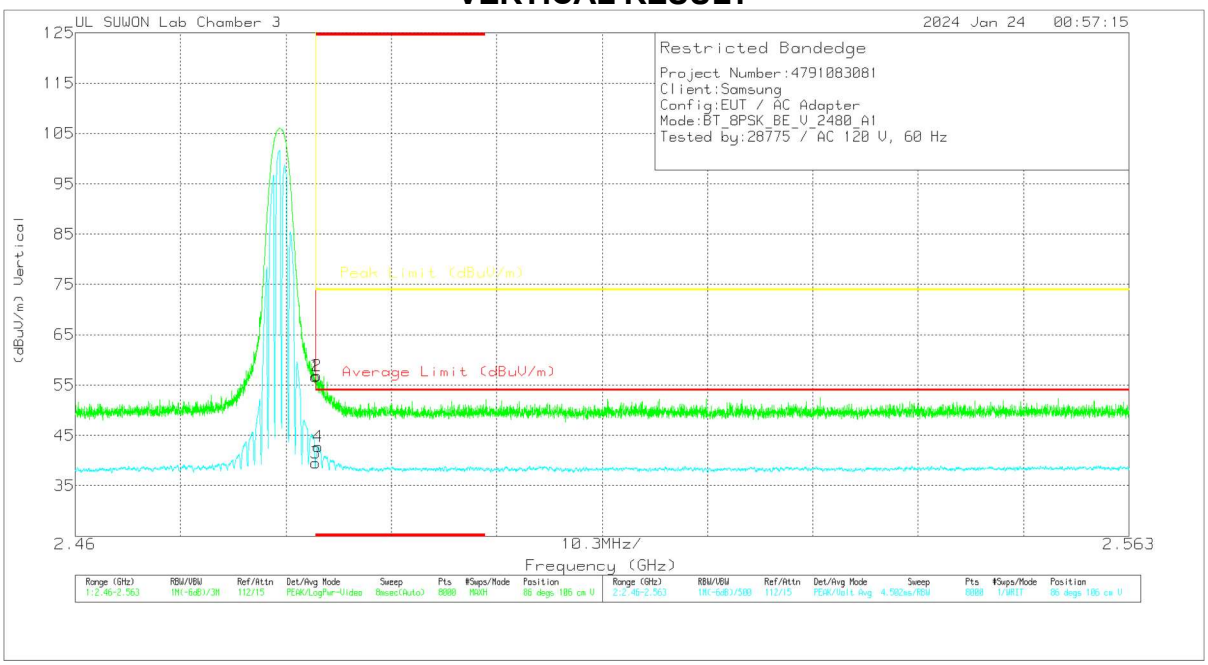


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	49.8	Pk	32.4	-24.8	57.4	-	-	74	-16.6	130	257	H
2	* 2.48358	50.68	Pk	32.4	-24.8	58.28	-	-	74	-15.72	130	257	H
3	* 2.4835	35.48	VA1T	32.4	-24.8	43.08	54	-10.92	-	-	130	257	H
4	* 2.48364	35.7	VA1T	32.4	-24.8	43.3	54	-10.7	-	-	130	257	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



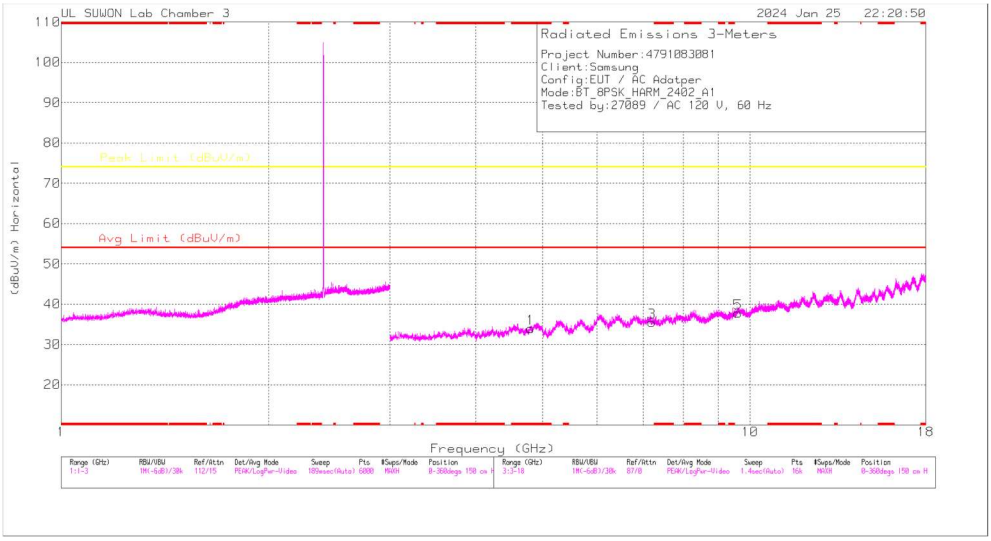
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	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	49.09	Pk	32.4	-24.8	56.69	-	-	74	-17.31	86	106	V
2	* 2.48364	49.31	Pk	32.4	-24.8	56.91	-	-	74	-17.09	86	106	V
3	* 2.4835	31.9	VA1T	32.4	-24.8	39.5	54	-14.5	-	-	86	106	V
4	* 2.48375	35.18	VA1T	32.4	-24.8	42.78	54	-11.22	-	-	86	106	V

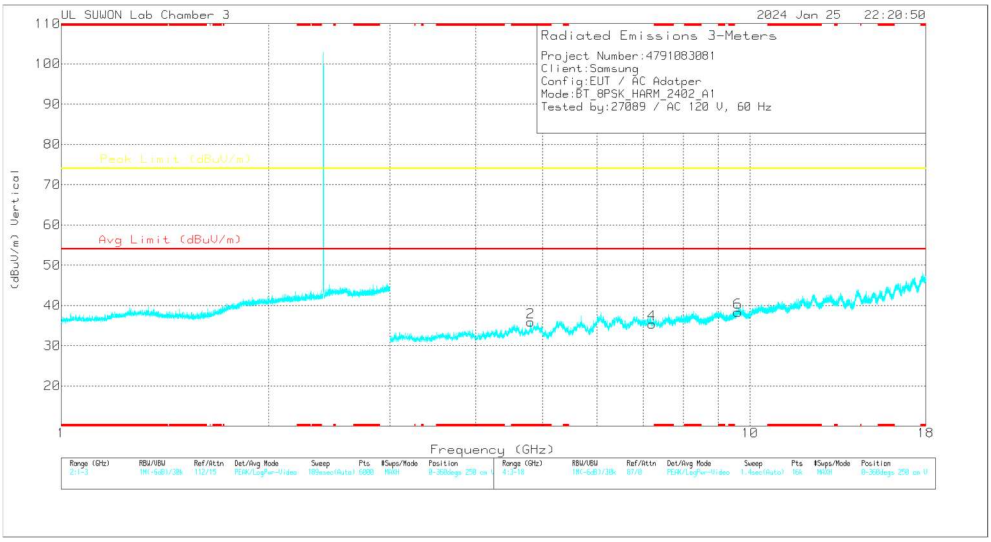
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

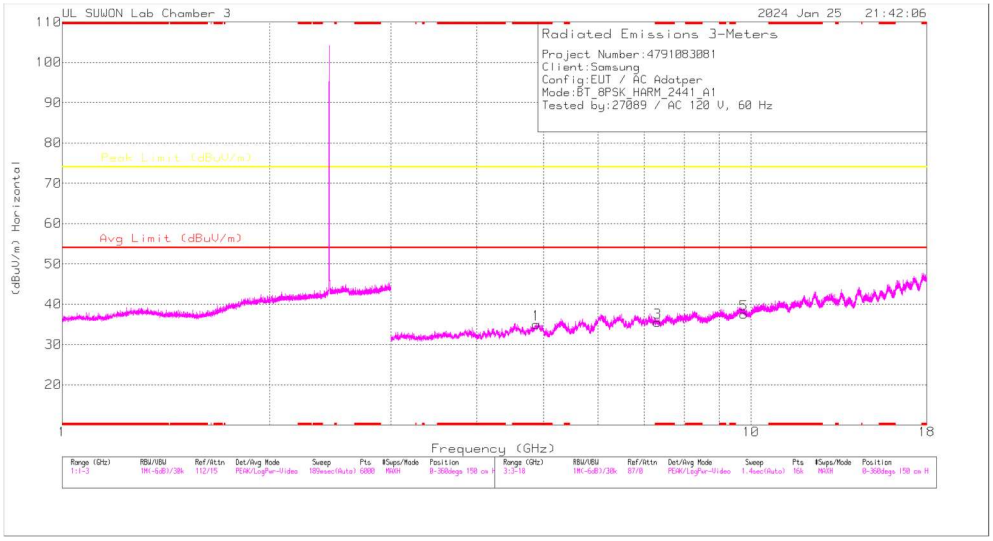
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

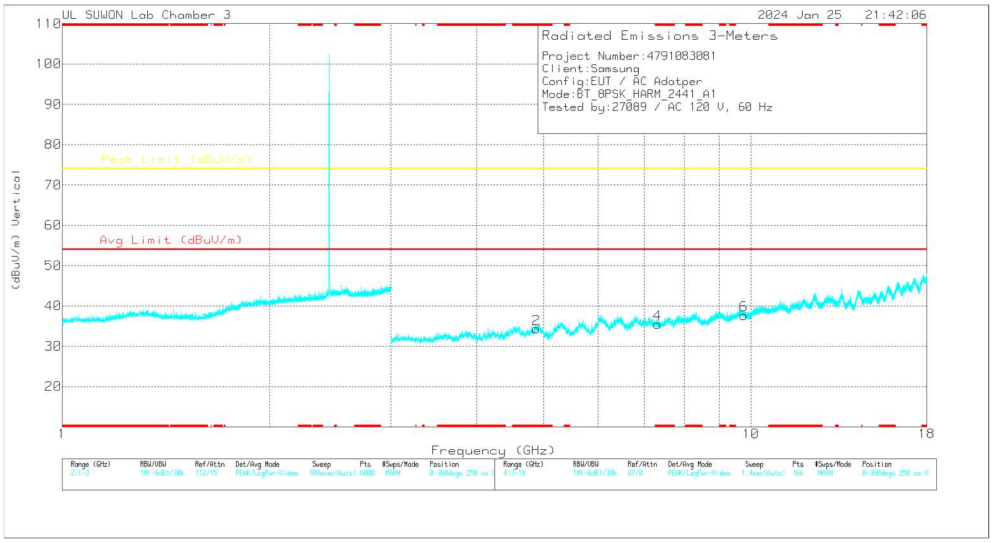
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.80386	29.8	PK	34.3	-30.1	34	-	-	74	-40	0-360	150	H
3	7.20589	25.57	PK	35.8	-25.9	35.47	-	-	74	-38.53	0-360	150	H
5	9.60792	22.8	PK	36.7	-21.7	37.8	-	-	74	-36.2	0-360	150	H
2	* 4.80105	31.63	PK	34.3	-30.1	35.83	-	-	74	-38.17	0-360	250	V
4	7.20589	25.51	PK	35.8	-25.9	35.41	-	-	74	-38.59	0-360	250	V
6	9.60792	23.25	PK	36.7	-21.7	38.25	-	-	74	-35.75	0-360	250	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

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

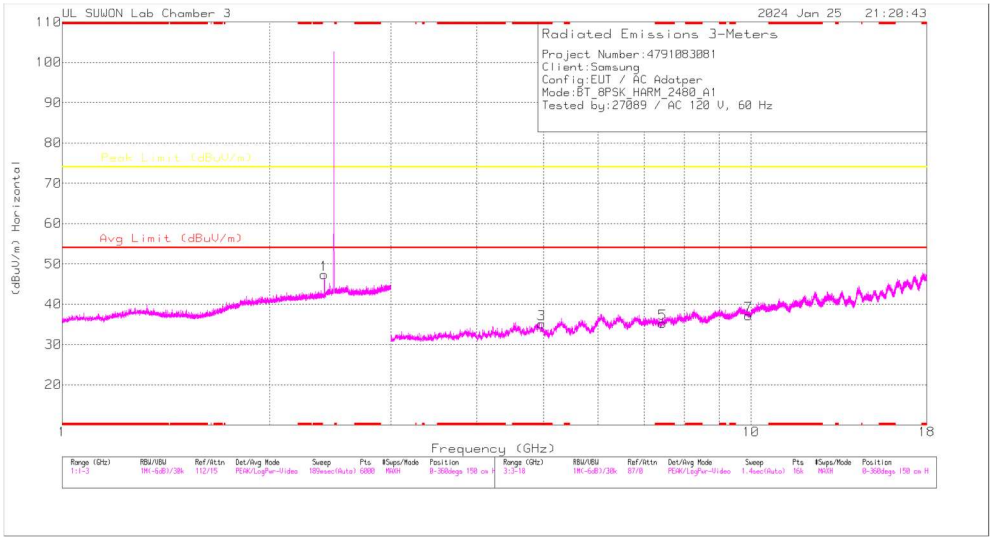
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

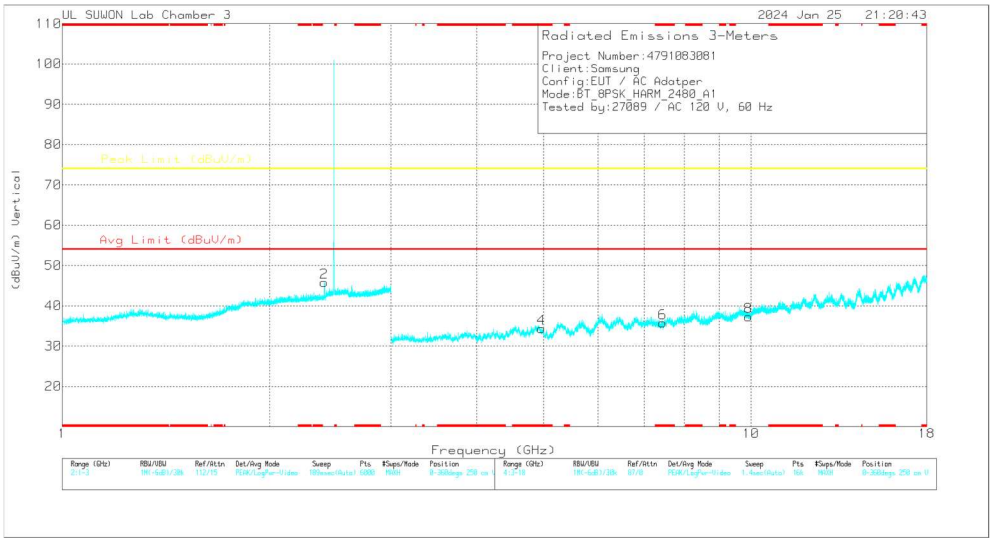
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.88168	30.74	PK	34.2	-29.9	35.04	-	-	74	-38.96	0-360	150	H
3	* 7.32308	25.19	PK	35.8	-25.5	35.49	-	-	74	-38.51	0-360	150	H
5	9.76449	22.12	PK	36.9	-21.5	37.52	-	-	74	-36.48	0-360	150	H
2	* 4.88168	29.99	PK	34.2	-29.9	34.29	-	-	74	-39.71	0-360	250	V
4	* 7.32308	25.13	PK	35.8	-25.5	35.43	-	-	74	-38.57	0-360	250	V
6	9.76449	22.32	PK	36.9	-21.5	37.72	-	-	74	-36.28	0-360	250	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

78 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.

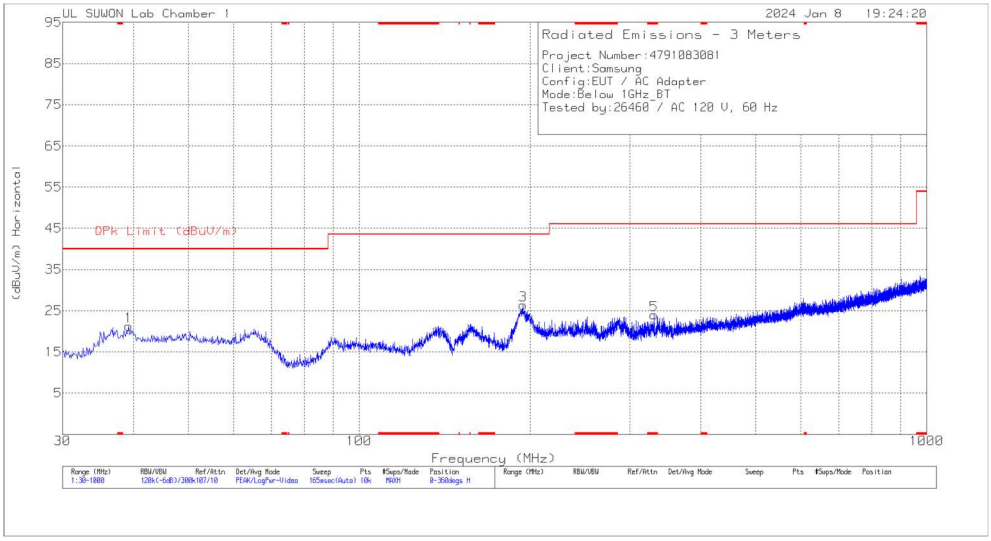
Radiated Emissions

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Antenna Correction Factor(dB/m)	Loss(dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.96137	30.86	PK	34.3	-30.1	35.06	-	-	74	-38.94	0-360	150	H
5	* 7.44028	24.79	PK	35.7	-25.2	35.29	-	-	74	-38.71	0-360	150	H
7	9.92012	21.49	PK	37.1	-21.4	37.19	-	-	74	-36.81	0-360	150	H
4	* 4.96044	30.09	PK	34.3	-30	34.39	-	-	74	-39.61	0-360	250	V
6	* 7.44028	25.22	PK	35.7	-25.2	35.72	-	-	74	-38.28	0-360	250	V
8	9.92012	21.59	PK	37.1	-21.4	37.29	-	-	74	-36.71	0-360	250	V

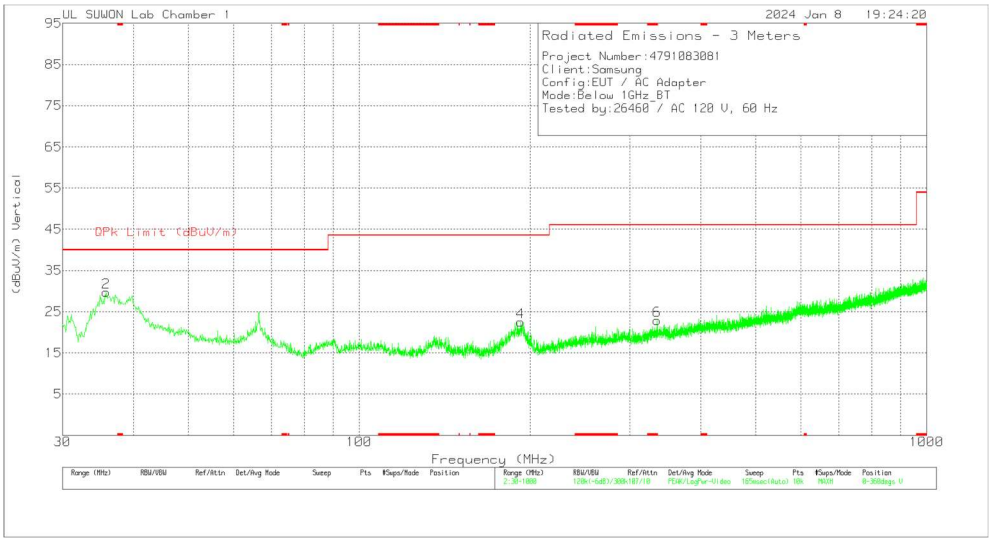
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration
Mkr1 and 2 in above pre-scan graph were confirmed as in-band emissions.

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/m)	Loss(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	39.215	34.19	Pk	18.2	-31.1	21.29	40	-18.71	0-360	100	H
3	194.221	38.66	Pk	16.9	-29.2	26.36	43.52	-17.16	0-360	100	H
5	* 330.991	32.66	Pk	19.7	-28.4	23.96	46.02	-22.06	0-360	100	H
2	35.82	43.99	Pk	16.8	-31.1	29.69	40	-10.31	0-360	200	V
4	192.475	35.06	Pk	16.7	-29.3	22.46	43.52	-21.06	0-360	300	V
6	* 334.871	31.39	Pk	19.9	-28.4	22.89	46.02	-23.13	0-360	300	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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 C63.10:2013.

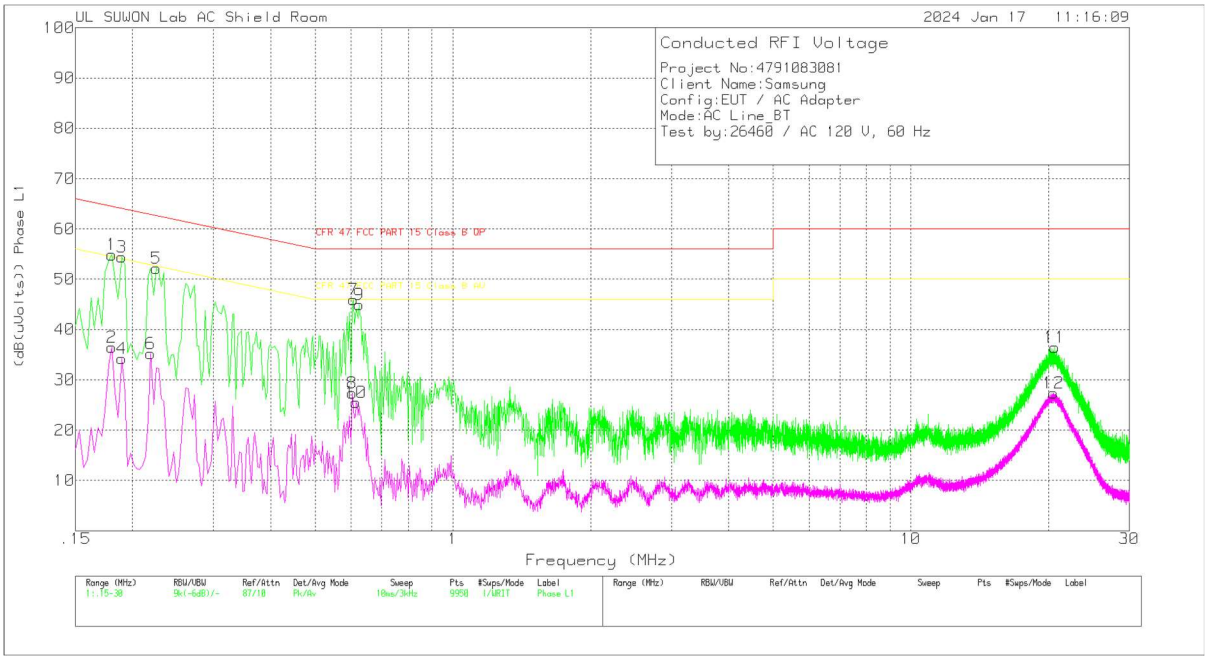
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
1	.18	45.16	Pk	9.5	.2	54.86	64.49	-9.63	-	-
2	.18	26.74	Av	9.5	.2	36.44	-	-	54.49	-18.05
3	.189	44.7	Pk	9.5	.2	54.4	64.08	-9.68	-	-
4	.189	24.57	Av	9.5	.2	34.27	-	-	54.08	-19.81
5	.225	42.46	Pk	9.5	.2	52.16	62.63	-10.47	-	-
6	.219	25.47	Av	9.5	.2	35.17	-	-	52.86	-17.69
7	.606	36.09	Pk	9.6	.2	45.89	56	-10.11	-	-
8	.603	17.54	Av	9.6	.2	27.34	-	-	46	-18.66
9	.624	35.17	Pk	9.6	.2	44.97	56	-11.03	-	-
10	.615	15.66	Av	9.6	.2	25.46	-	-	46	-20.54
11	20.634	26.43	Pk	9.6	.4	36.43	60	-23.57	-	-
12	20.523	17.33	Av	9.6	.4	27.33	-	-	50	-22.67

Pk - Peak detector
Av - Average detection

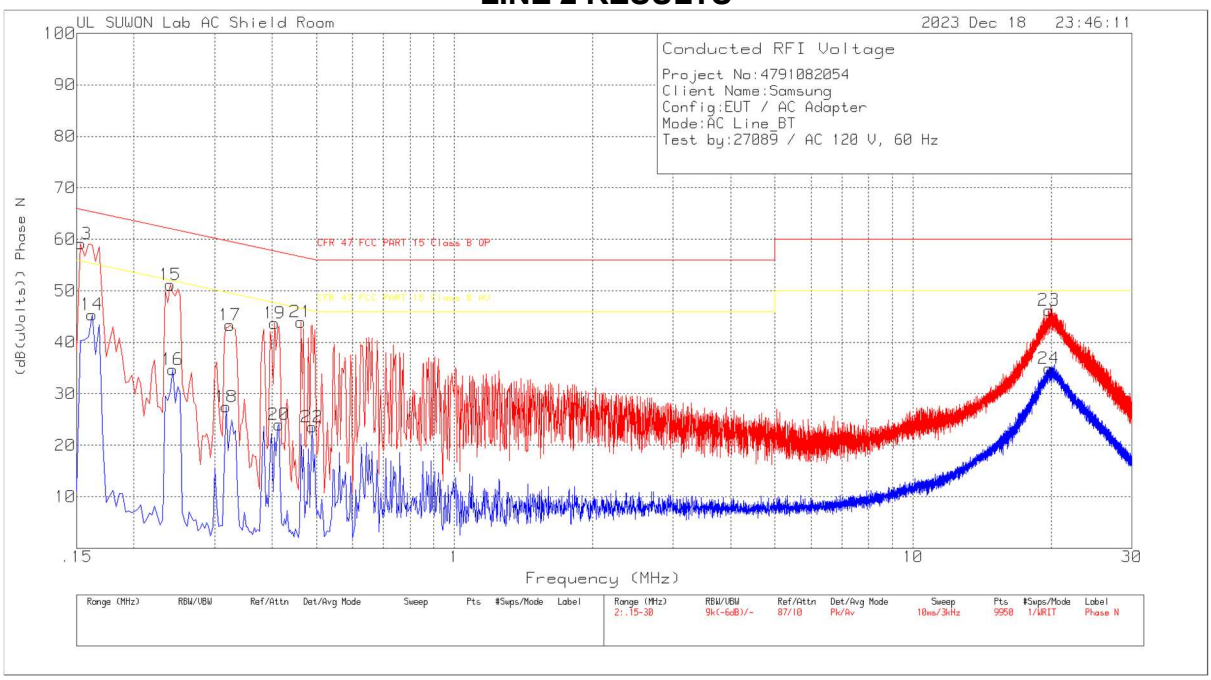
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AUTO_With EX_L1[dB]	CABLELOSS [dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV dB(uVolts))	Margin (dB)
.17925	43.55	Qp	9.5	.2	53.25	64.52	-11.27	-	-
.18825	42.81	Qp	9.5	.2	52.51	64.11	-11.6	-	-

Qp - Quasi-Peak detector

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))	47 CFR FCC PART 15 Class B QP (dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV (dB(uVolts))	Margin (dB)
13	.153	49.55	Pk	9.5	.1	59.15	65.84	-6.69	-	-
14	.162	35.78	Av	9.5	.1	45.38	-	-	55.36	-9.98
15	.24	41.47	Pk	9.5	.2	51.17	62.1	-10.93	-	-
16	.243	25.01	Av	9.5	.2	34.71	-	-	51.99	-17.28
17	.324	33.64	Pk	9.5	.2	43.34	59.6	-16.26	-	-
18	.318	17.76	Av	9.5	.2	27.46	-	-	49.76	-22.3
19	.405	34	Pk	9.5	.2	43.7	57.75	-14.05	-	-
20	.414	14.31	Av	9.5	.2	24.01	-	-	47.57	-23.56
21	.462	34.24	Pk	9.5	.2	43.94	56.66	-12.72	-	-
22	.489	13.85	Av	9.5	.2	23.55	-	-	46.18	-22.63
23	19.773	36.24	Pk	9.6	.4	46.24	60	-13.76	-	-
24	19.773	24.92	Av	9.6	.4	34.92	-	-	50	-15.08

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_AUTO_With EX_N[dB]	CABLELOSS[dB]	Corrected Reading (dB(uVolts))	47 CFR FCC PART 15 Class B QP dB(uVolts))	Margin (dB)	47 CFR FCC PART 15 Class B AV dB(uVolts))	Margin (dB)
.15375	43.31	Qp	9.5	.1	52.91	65.79	-12.88	-	-
.16125	43.35	Qp	9.5	.1	52.95	65.4	-12.45	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT