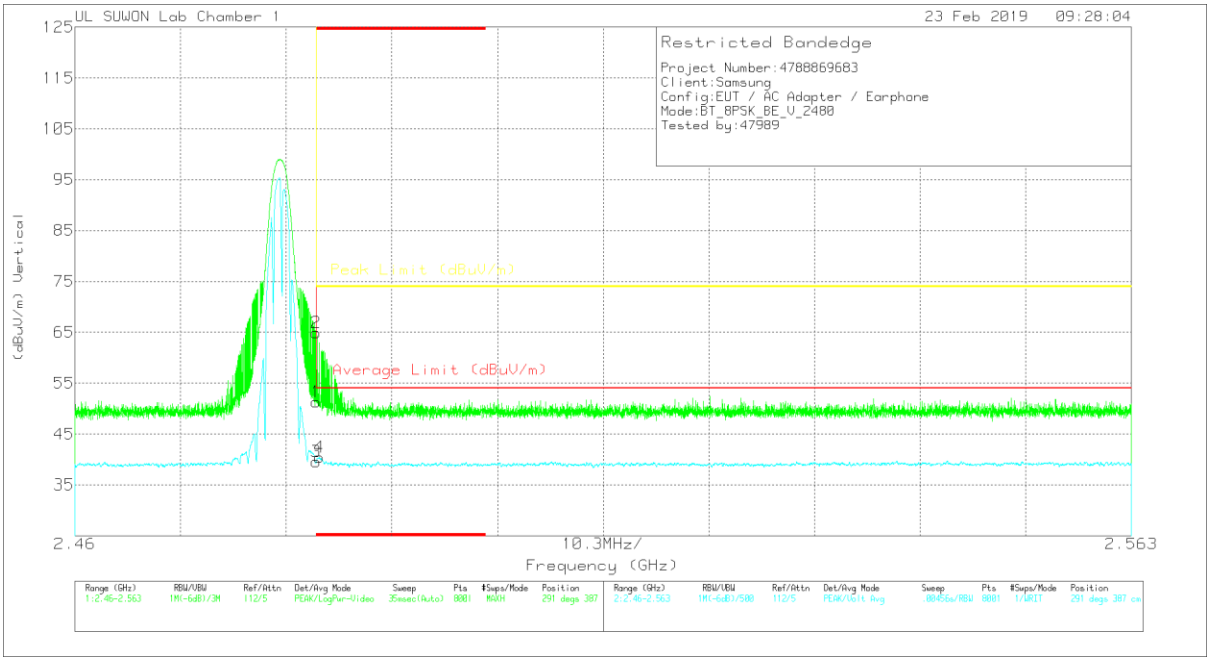
VERTICAL PEAK AND AVERAGE PLOT



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	10dB[dB]	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	44.74	Pk	31.9	-25.3	51.34	-	-	74	-22.66	291	387	V
2	* 2.484	58.27	Pk	31.9	-25.3	64.87	-	-	74	-9.13	291	387	V
3	* 2.484	32.99	VA1T	31.9	-25.3	39.59	54	-14.41	-	-	291	387	V
4	* 2.484	33.8	VA1T	31.9	-25.3	40.4	54	-13.6	-	-	291	387	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

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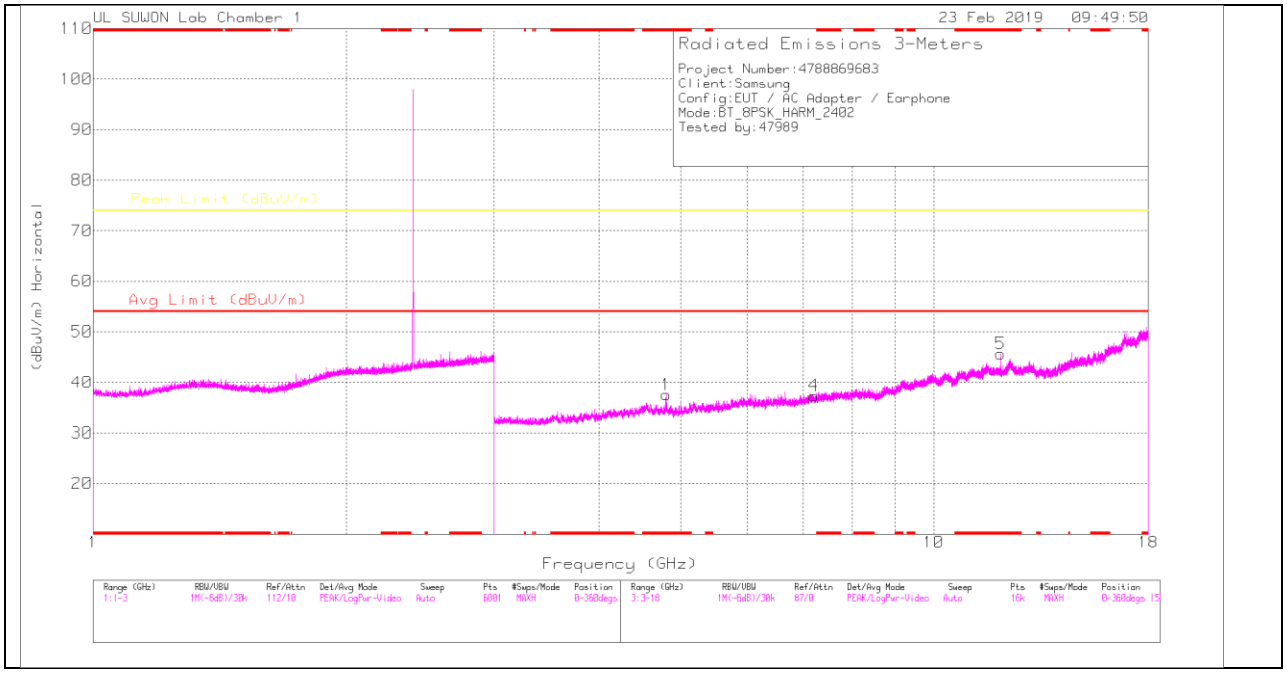
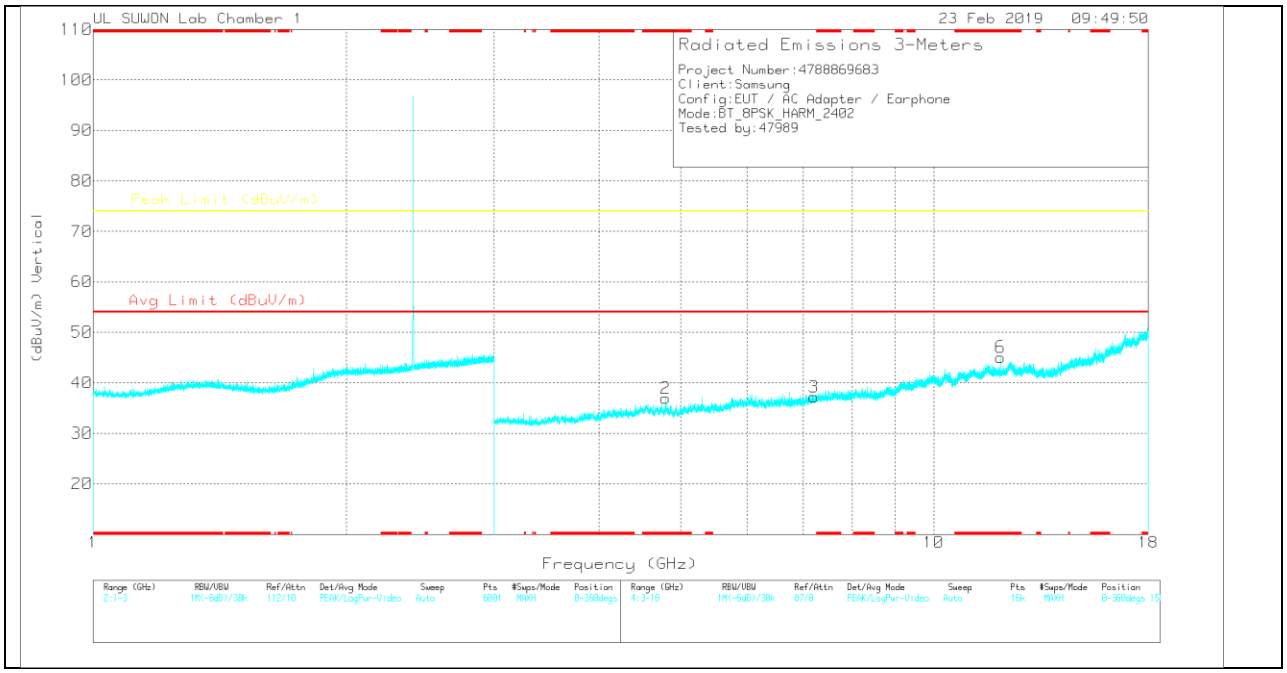
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL 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.

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LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.804	34.75	PK	34.2	-31.4	37.55	-	-	74	-36.45	0-360	250	H
4	7.199	29.46	PK	35.8	-27.9	37.36	-	-	74	-36.64	0-360	150	H
5	* 12.011	28.87	PK	39	-22.2	45.67	-	-	74	-28.33	0-360	150	H
2	* 4.801	34.11	PK	34.2	-31.4	36.91	-	-	74	-37.09	0-360	150	V
3	7.203	29.26	PK	35.8	-27.9	37.16	-	-	74	-36.84	0-360	250	V
6	* 12.011	28.25	PK	39	-22.2	45.05	-	-	74	-28.95	0-360	250	V

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

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.804	42.5	PKFH	34.2	-31.4	45.3	-	-	74	-28.7	178	100	H
* 4.804	33.34	VA1T	34.2	-31.4	36.14	54	-17.86	-	-	178	100	H
* 4.804	41.69	PKFH	34.2	-31.4	44.49	-	-	74	-29.51	202	100	V
* 4.804	32.04	VA1T	34.2	-31.4	34.84	54	-19.16	-	-	202	100	V
* 12.01	39.17	PKFH	39	-22.2	55.97	-	-	74	-18.03	87	105	V
* 12.01	21.8	VA1T	39	-22.2	38.6	54	-15.4	-	-	87	105	V
* 12.01	39.61	PKFH	39	-22.2	56.41	-	-	74	-17.59	167	272	H
* 12.01	27.07	VA1T	39	-22.2	43.87	54	-10.13	-	-	167	272	H

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

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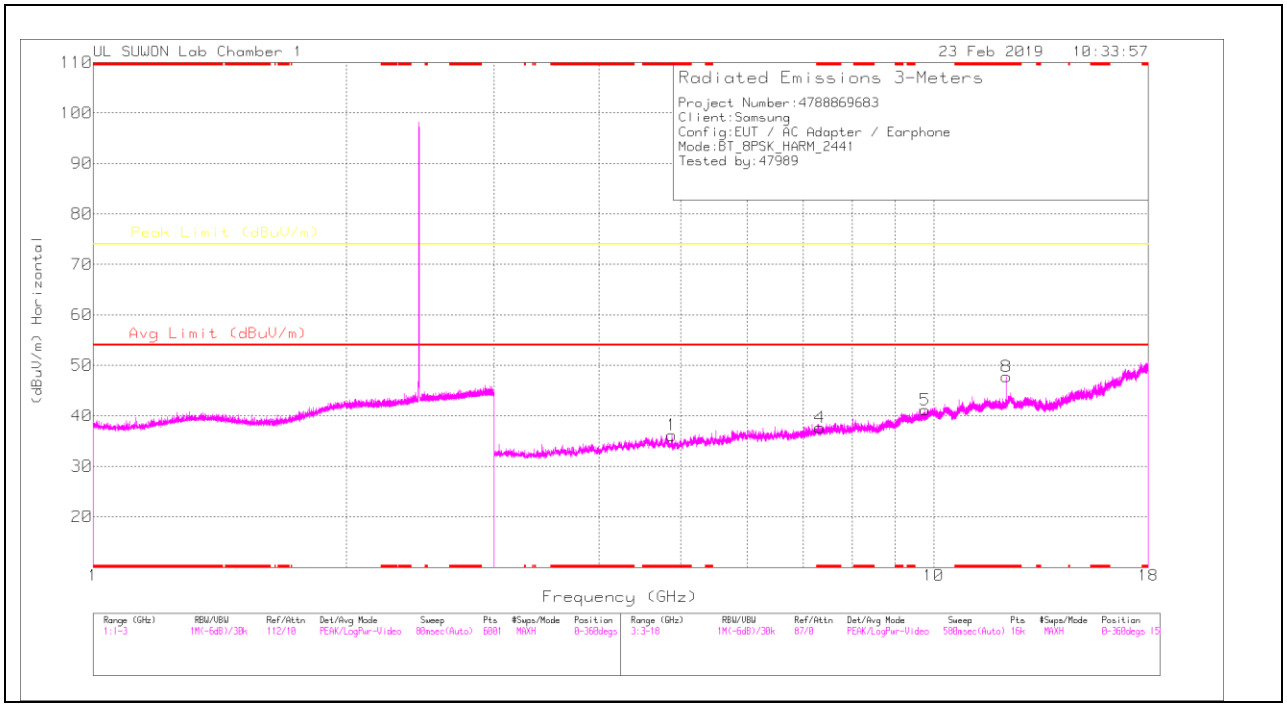
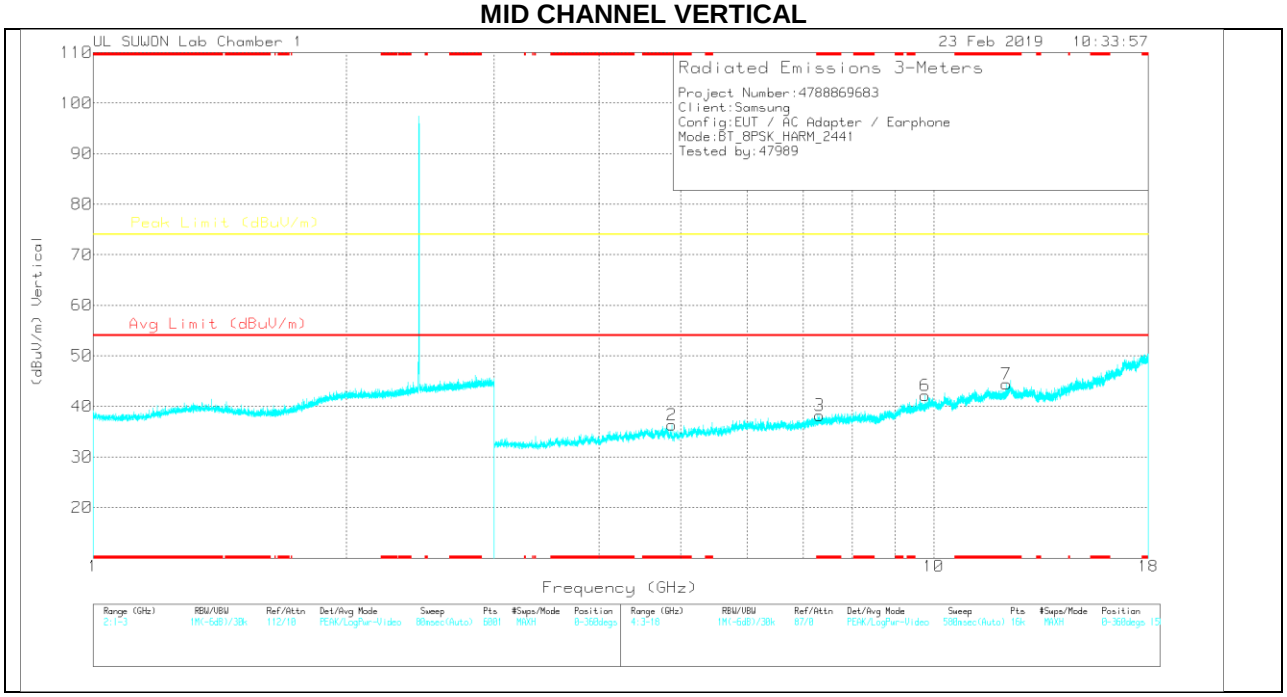
MID CHANNEL HORIZONTAL



MID CHANNEL 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.

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MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.881	33.44	PK	34.2	-31.5	36.14	-	-	74	-37.86	0-360	150	H
4	* 7.323	29.15	PK	35.8	-27.3	37.65	-	-	74	-36.35	0-360	150	H
5	9.764	27.87	PK	37.2	-23.9	41.17	-	-	74	-32.83	0-360	150	H
8	* 12.206	31.17	PK	39	-22.4	47.77	-	-	74	-26.23	0-360	250	H
2	* 4.881	33.58	PK	34.2	-31.5	36.28	-	-	74	-37.72	0-360	250	V
3	* 7.315	29.8	PK	35.8	-27.4	38.2	-	-	74	-35.8	0-360	250	V
6	9.764	28.83	PK	37.2	-23.9	42.13	-	-	74	-31.87	0-360	250	V
7	* 12.206	27.79	PK	39	-22.4	44.39	-	-	74	-29.61	0-360	250	V

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

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 12.205	40.67	PKFH	39	-22.4	57.27	-	-	74	-16.73	167	227	H
* 12.205	28.85	VA1T	39	-22.4	45.45	54	-8.55	-	-	167	227	H
* 12.206	39.08	PKFH	39	-22.4	55.68	-	-	74	-18.32	181	107	V
* 12.205	26.79	VA1T	39	-22.4	43.39	54	-10.61	-	-	181	107	V

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

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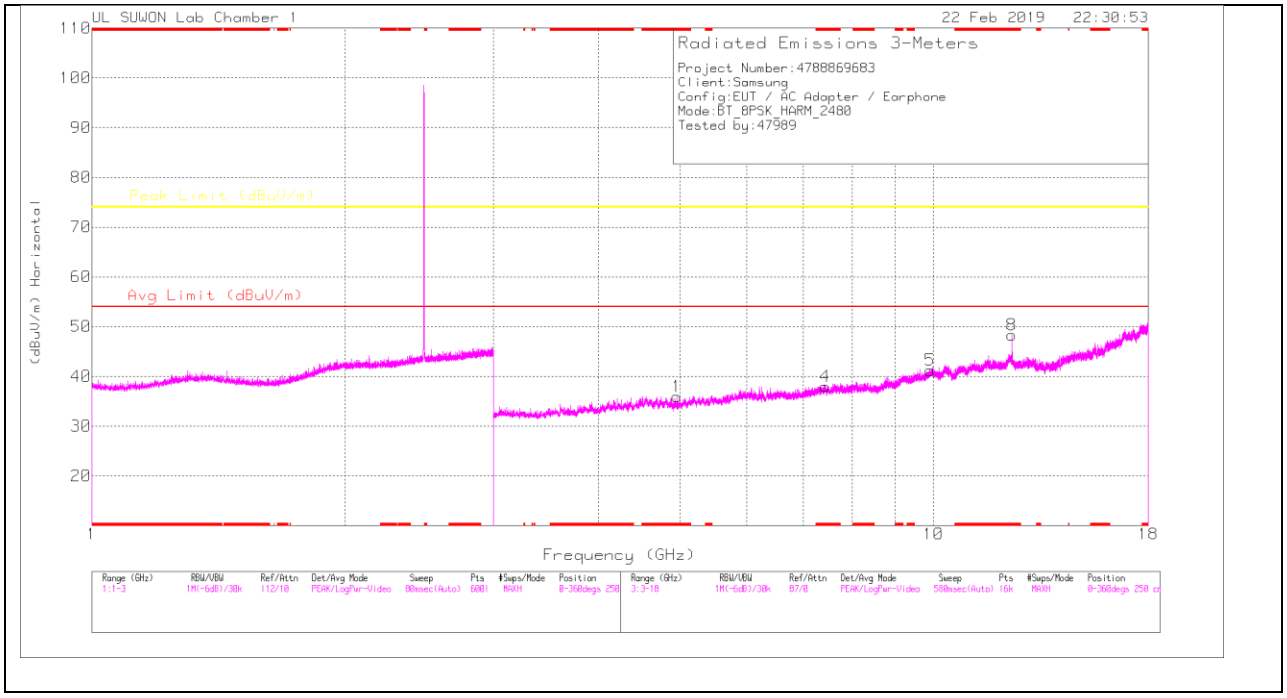
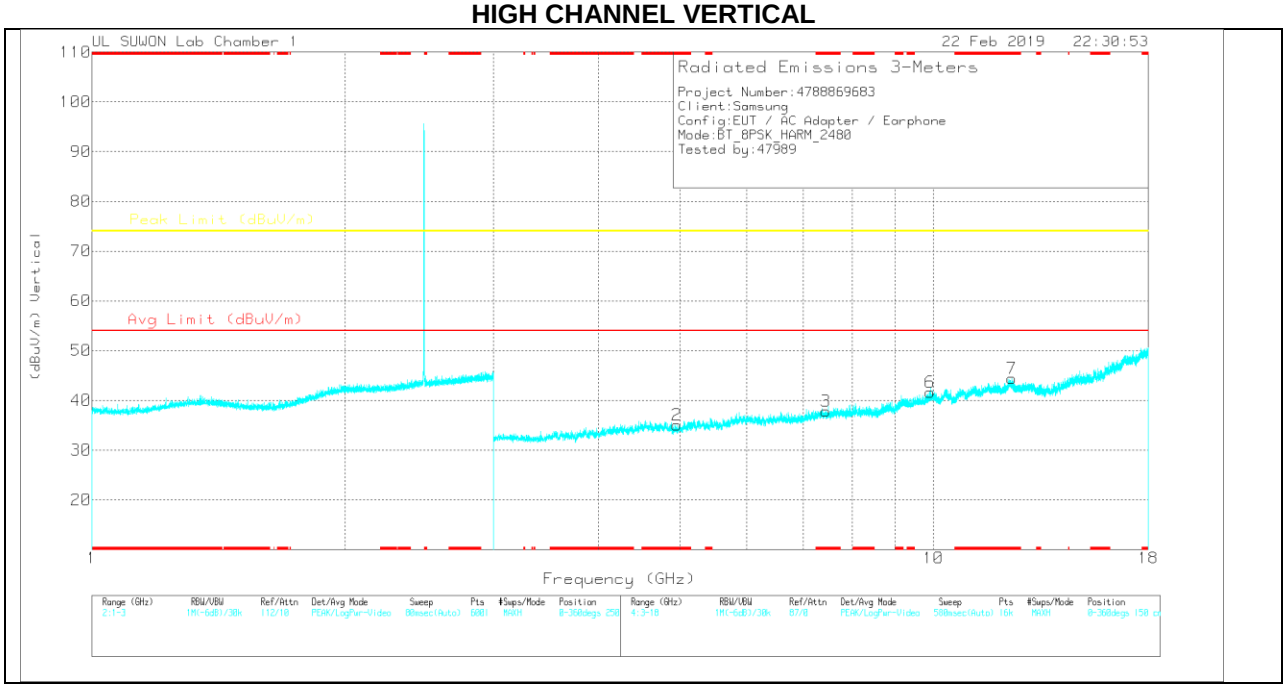
HIGH CHANNEL HORIZONTAL



HIGH CHANNEL 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.

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HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.956	33.09	PK	34.2	-31.4	35.89	-	-	74	-38.11	0-360	250	H
4	* 7.441	29.13	PK	35.8	-27	37.93	-	-	74	-36.07	0-360	150	H
5	9.908	26.19	PK	37.4	-22.4	41.19	-	-	74	-32.81	0-360	150	H
8	* 12.401	30.57	PK	38.8	-21	48.37	-	-	74	-25.63	0-360	250	H
2	* 4.953	32.33	PK	34.2	-31.5	35.03	-	-	74	-38.97	0-360	150	V
3	* 7.446	29.17	PK	35.8	-27.1	37.87	-	-	74	-36.13	0-360	250	V
6	9.916	26.47	PK	37.5	-22.3	41.67	-	-	74	-32.33	0-360	250	V
7	* 12.401	26.56	PK	38.8	-21	44.36	-	-	74	-29.64	0-360	250	V

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

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168717	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 12.4	39.76	PKFH	38.8	-21	57.56	-	-	74	-16.44	166	274	H
* 12.4	28.97	VA1T	38.8	-21	46.77	54	-7.23	-	-	166	274	H
* 12.4	37.31	PKFH	38.9	-21	55.21	-	-	74	-18.79	180	111	V
* 12.4	25.77	VA1T	38.8	-21	43.57	54	-10.43	-	-	180	111	V

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

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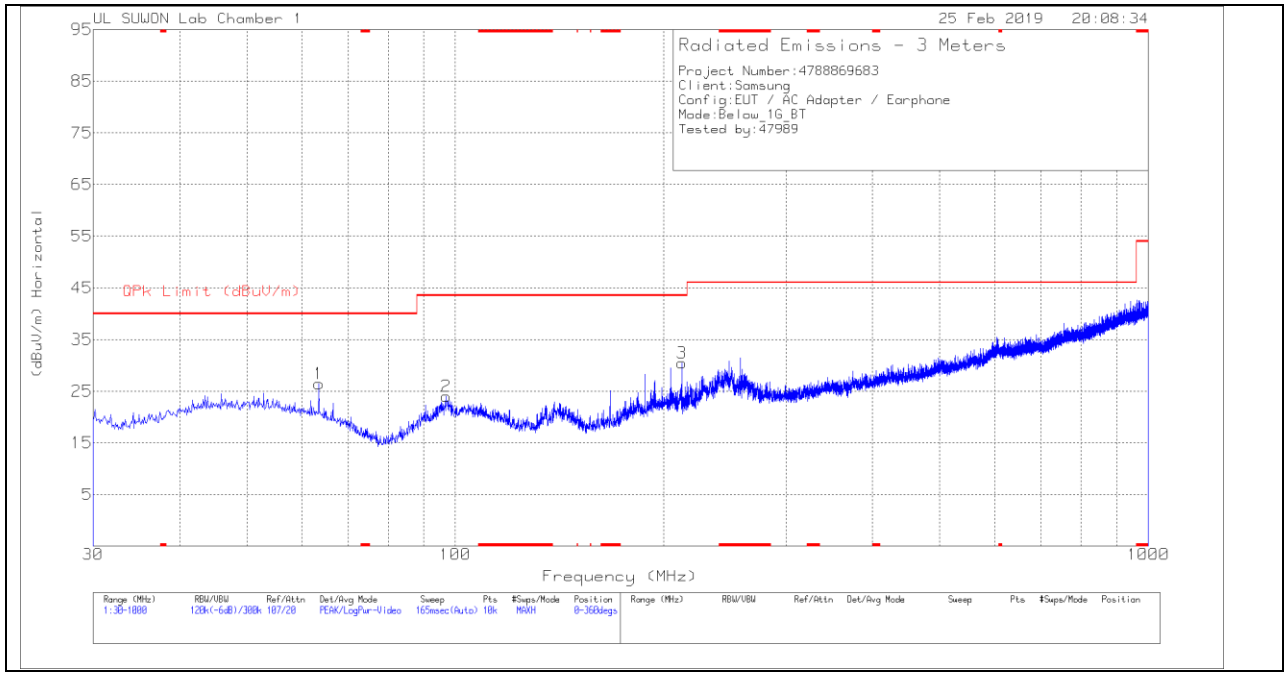
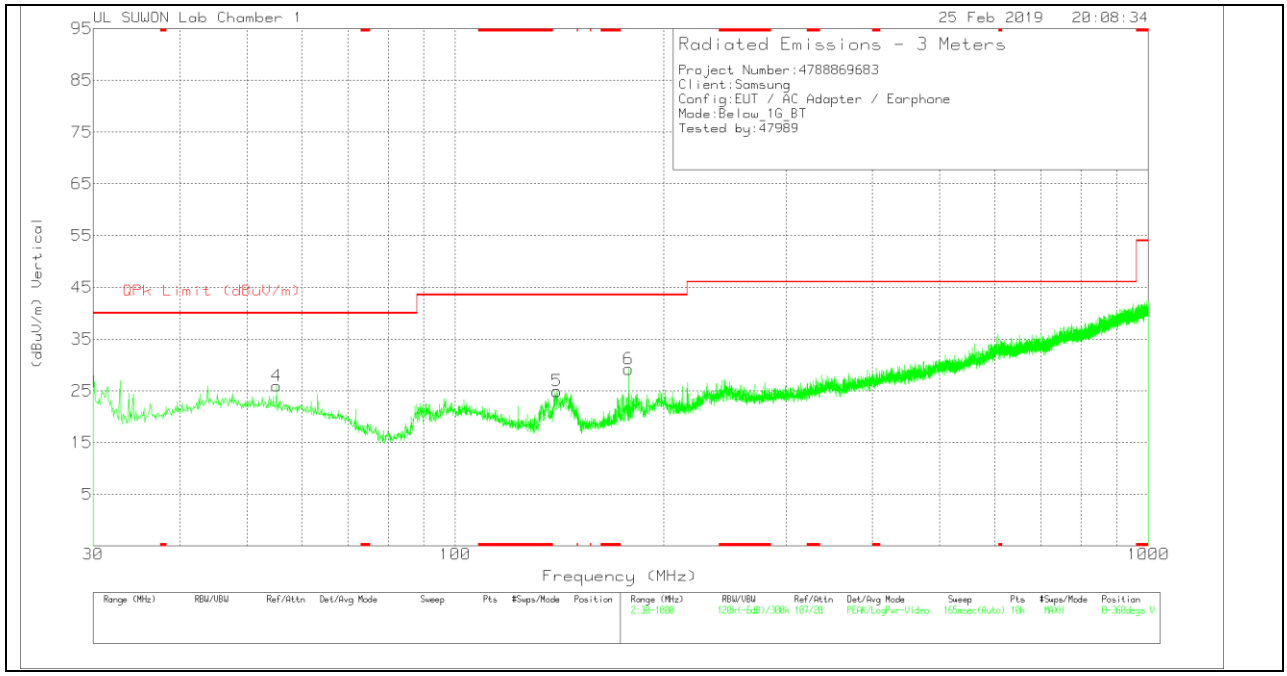
11.2. WORST-CASE BELOW 1 GHz

GFSK SPURIOUS EMISSIONS 30 TO 1000 MHz

HORIZONTAL PLOT



VERTICAL PLOT



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BELOW 1 GHz TABLE

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_750	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	63.562	38.96	Pk	17.7	-30.2	26.46	40	-13.54	0-360	200	H
2	97.027	36.12	Pk	17.6	-29.7	24.02	43.52	-19.5	0-360	300	H
3	212.166	41.87	Pk	17	-28.4	30.47	43.52	-13.05	0-360	100	H
4	55.22	37.13	Pk	19.3	-30.5	25.93	40	-14.07	0-360	100	V
5	140.095	39.93	Pk	14.1	-29.1	24.93	43.52	-18.59	0-360	100	V
6	177.925	42.61	Pk	15.3	-28.7	29.21	43.52	-14.31	0-360	100	V

Pk - Peak detector

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12. 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.

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.

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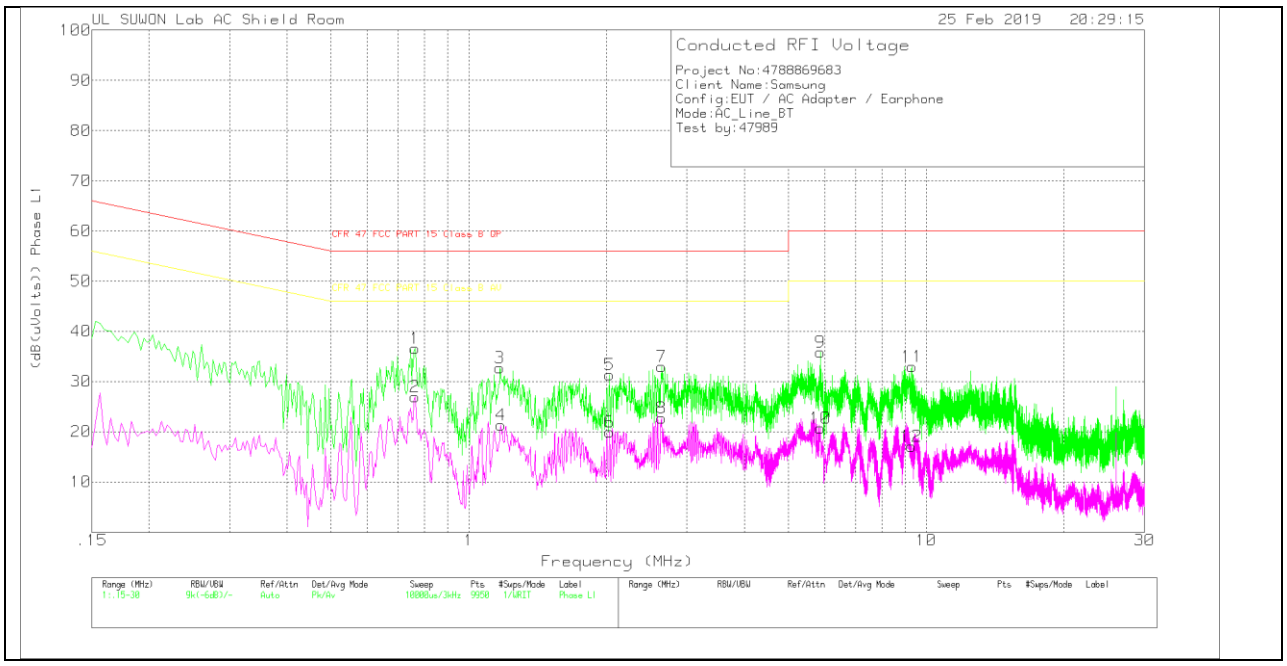
RESULTS

WORST EMISSIONS

LINE 1 PLOT



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LINE 1 RESULTS

Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_L1	CABLELOSS(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	.762	26.52	Pk	9.9	.2	36.62	56	-19.38	-	-
2	.762	16.91	Av	9.9	.2	27.01	-	-	46	-18.99
3	1.17	22.61	Pk	9.8	.3	32.71	56	-23.29	-	-
4	1.176	11.29	Av	9.8	.3	21.39	-	-	46	-24.61
5	2.031	21.26	Pk	9.8	.3	31.36	56	-24.64	-	-
6	2.031	9.91	Av	9.8	.3	20.01	-	-	46	-25.99
7	2.637	22.72	Pk	10	.3	33.02	56	-22.98	-	-
8	2.64	12.39	Av	10	.3	22.69	-	-	46	-23.31
9	5.862	25.72	Pk	9.8	.3	35.82	60	-24.18	-	-
10	5.862	10.57	Av	9.8	.3	20.67	-	-	50	-29.33
11	9.297	22.56	Pk	10	.4	32.96	60	-27.04	-	-
12	9.273	6.73	Av	10	.4	17.13	-	-	50	-32.87

Pk - Peak detector
Av - Average detection

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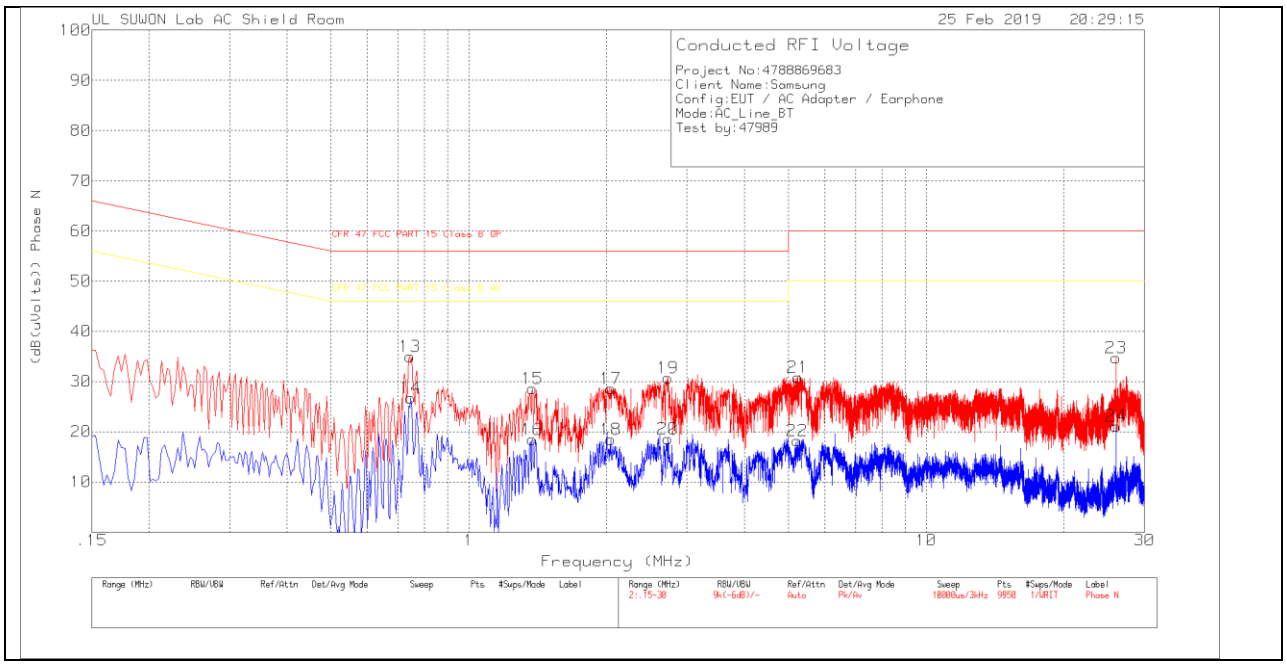
LINE 2 PLOT



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LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_N	CABLELOSS(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	.744	24.85	Pk	9.9	.2	34.95	56	-21.05	-	-
14	.747	16.67	Av	9.9	.2	26.77	-	-	46	-19.23
15	1.377	18.63	Pk	9.7	.3	28.63	56	-27.37	-	-
16	1.377	8.52	Av	9.7	.3	18.52	-	-	46	-27.48
17	2.043	18.63	Pk	9.7	.3	28.63	56	-27.37	-	-
18	2.043	8.47	Av	9.7	.3	18.47	-	-	46	-27.53
19	2.721	20.75	Pk	9.7	.3	30.75	56	-25.25	-	-
20	2.724	8.56	Av	9.7	.3	18.56	-	-	46	-27.44
21	5.247	20.73	Pk	9.8	.3	30.83	60	-29.17	-	-
22	5.22	8.13	Av	9.8	.3	18.23	-	-	50	-31.77
23	26.001	23.58	Pk	10.8	.3	34.68	60	-25.32	-	-
24	26.001	10.05	Av	10.8	.3	21.15	-	-	50	-28.85

Pk - Peak detector
Av - Average detection

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