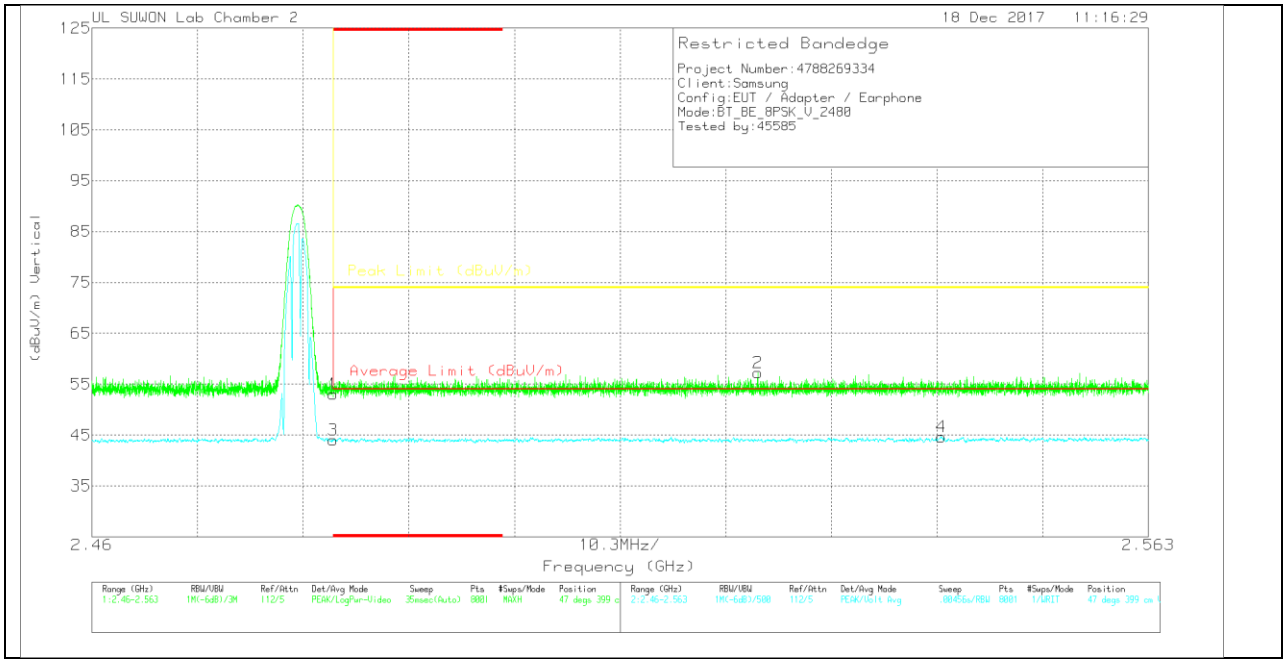
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	170531_3117[00168724]	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	39.49	Pk	31.6	-18	53.09	-	-	74	-20.91	47	399	V
2	2.525	43.62	Pk	31.6	-18	57.22	-	-	74	-16.78	47	399	V
3	* 2.484	30.37	VA1T	31.6	-18	43.97	54	-10.03	-	-	47	399	V
4	2.543	30.98	VA1T	31.7	-18	44.68	54	-9.32	-	-	47	399	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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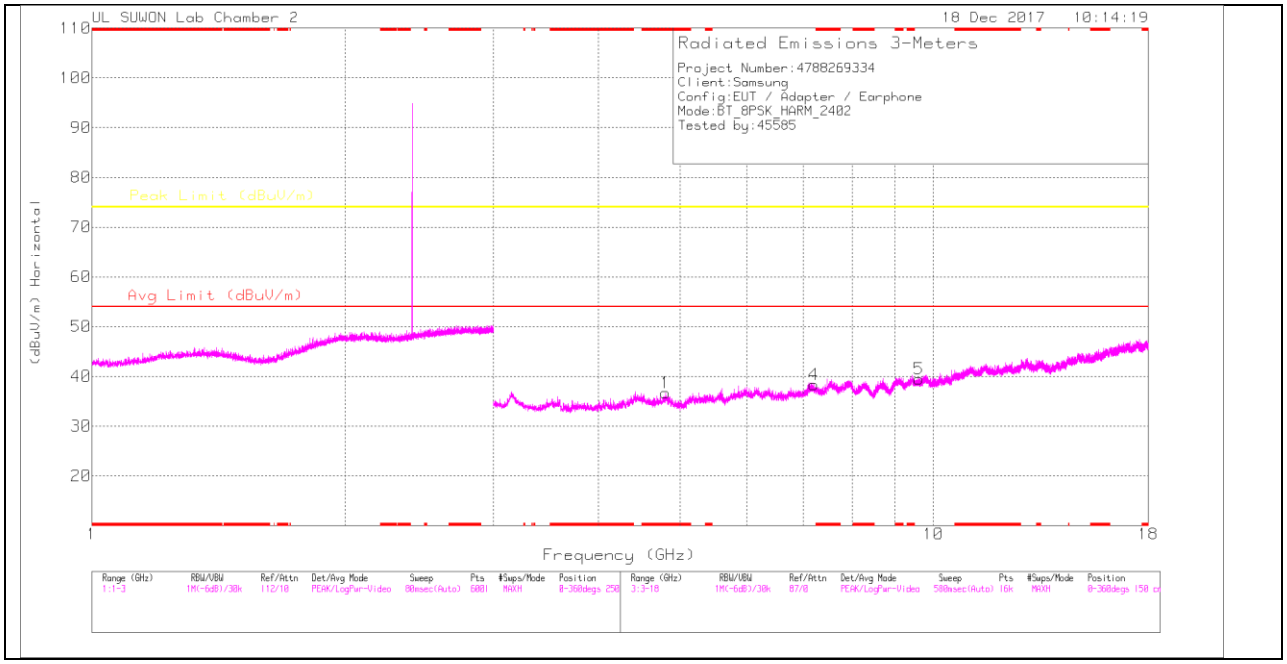
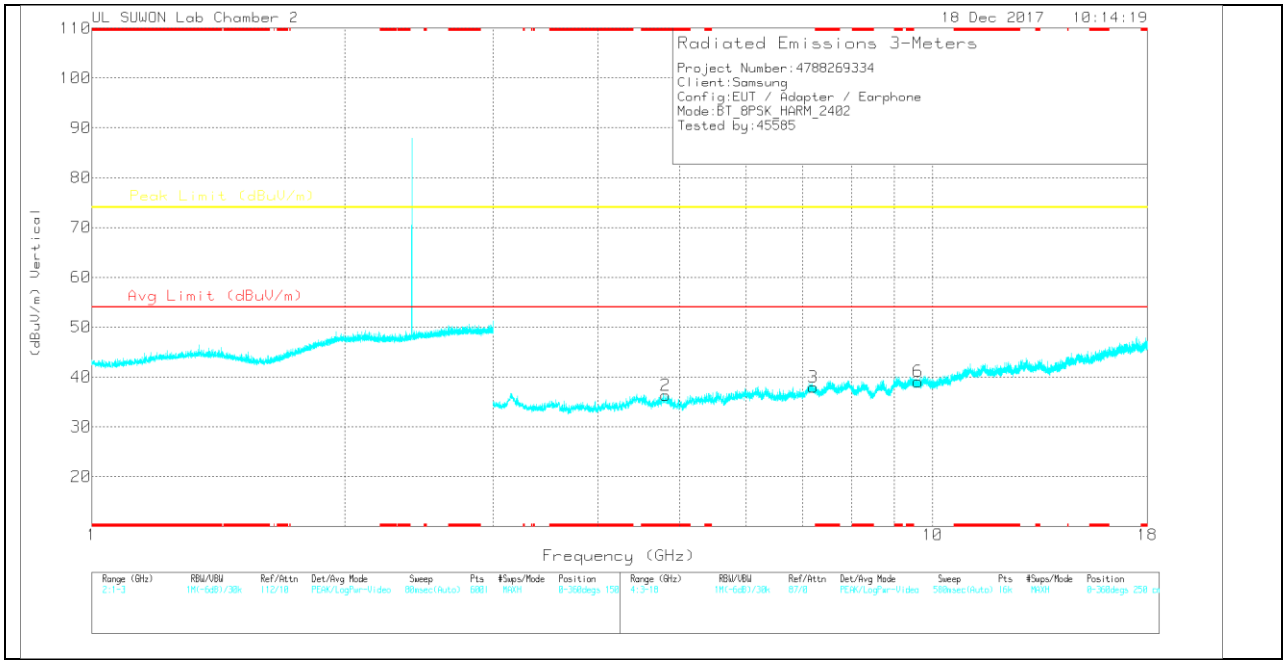
HARMONICS AND SPURIOUS EMISSIONS

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	170531_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
1	* 4.807	27.2	PK	33.8	-24.3	36.7	-	-	74	-37.3	0-360	150	H
4	7.204	24.09	PK	35.9	-21.7	38.29	-	-	74	-35.71	0-360	250	H
5	9.601	21.21	PK	36.7	-18.4	39.51	-	-	74	-34.49	0-360	250	H
2	* 4.809	26.78	PK	33.8	-24.3	36.28	-	-	74	-37.72	0-360	150	V
3	7.211	23.71	PK	35.9	-21.7	37.91	-	-	74	-36.09	0-360	150	V
6	9.606	20.74	PK	36.7	-18.4	39.04	-	-	74	-34.96	0-360	250	V

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

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

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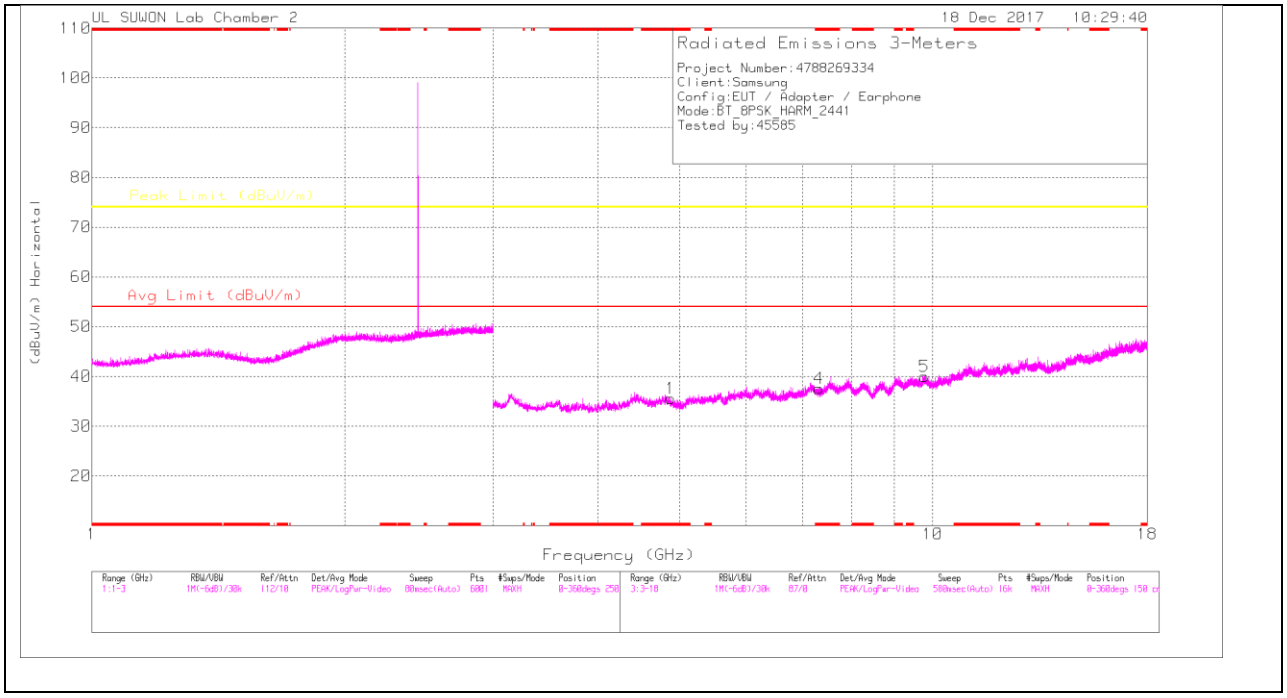
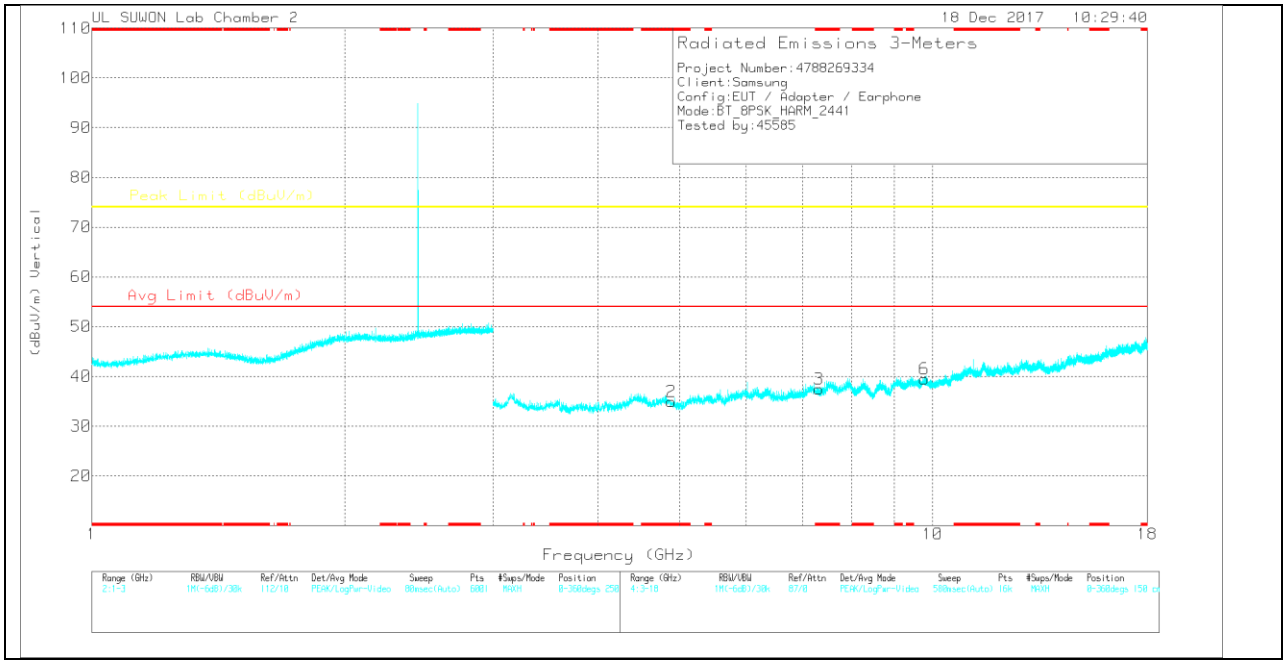
MID CHANNEL HORIZONTAL



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	170531_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
1	* 4.882	26.32	PK	33.8	-24.6	35.52	-	-	74	-38.48	0-360	250	H
4	* 7.322	23.53	PK	35.9	-21.9	37.53	-	-	74	-36.47	0-360	150	H
5	9.773	21.12	PK	36.9	-18	40.02	-	-	74	-33.98	0-360	150	H
2	* 4.885	25.68	PK	33.8	-24.6	34.88	-	-	74	-39.12	0-360	250	V
3	* 7.323	23.46	PK	35.9	-21.9	37.46	-	-	74	-36.54	0-360	250	V
6	9.771	20.59	PK	36.9	-18	39.49	-	-	74	-34.51	0-360	150	V

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

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

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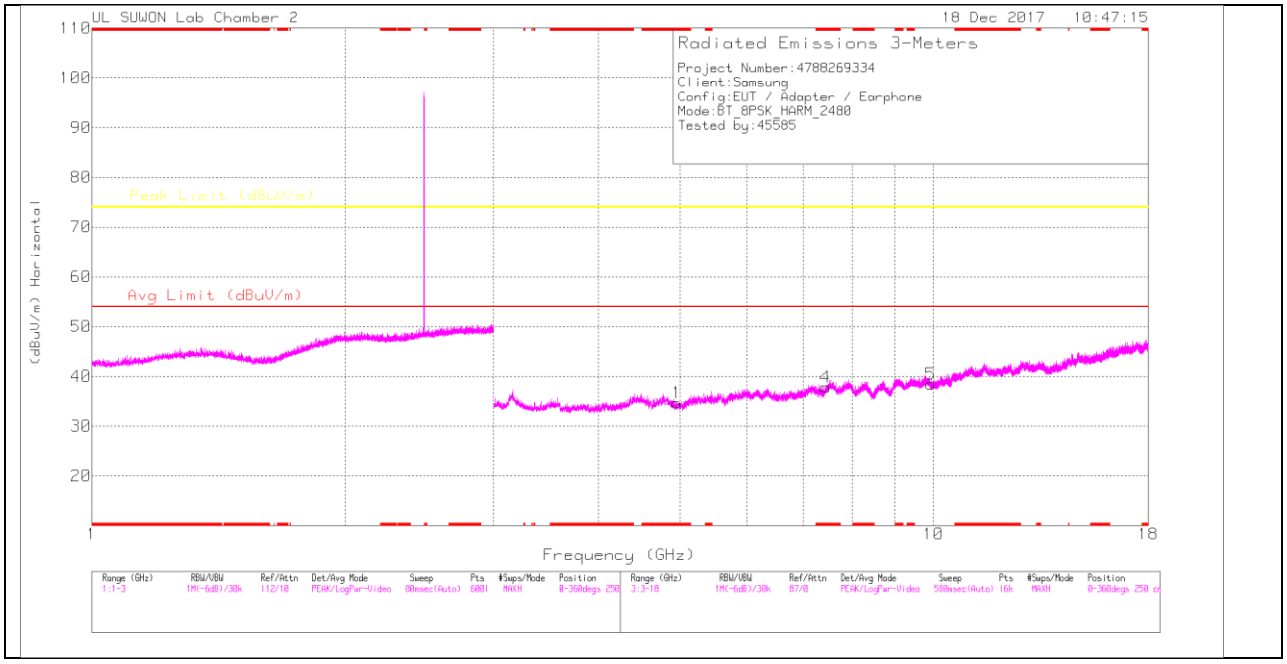
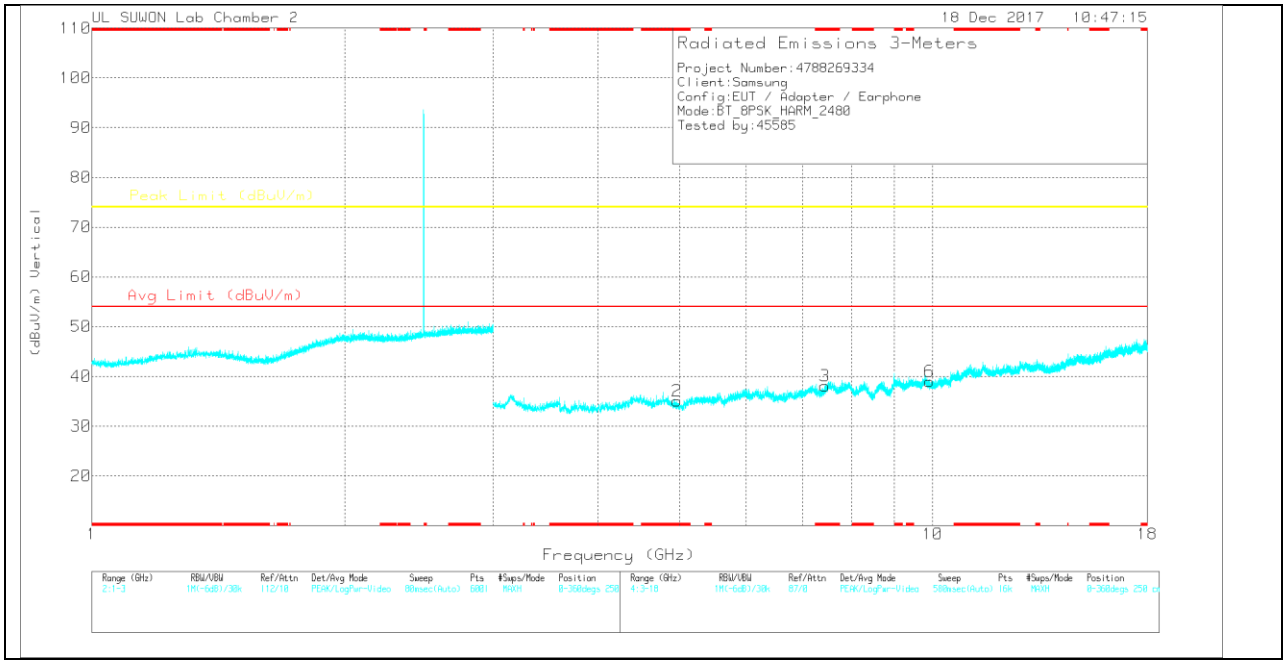
HIGH CHANNEL HORIZONTAL



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	170531_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
1	* 4.956	25.59	PK	33.8	-24.7	34.69	-	-	74	-39.31	0-360	150	H
4	* 7.443	22.9	PK	35.9	-21	37.8	-	-	74	-36.2	0-360	250	H
5	9.918	19.42	PK	37.1	-18	38.52	-	-	74	-35.48	0-360	250	H
2	* 4.964	25.94	PK	33.8	-24.7	35.04	-	-	74	-38.96	0-360	250	V
3	* 7.443	23.16	PK	35.9	-21	38.06	-	-	74	-35.94	0-360	150	V
6	9.917	19.88	PK	37.1	-18	38.98	-	-	74	-35.02	0-360	250	V

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

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

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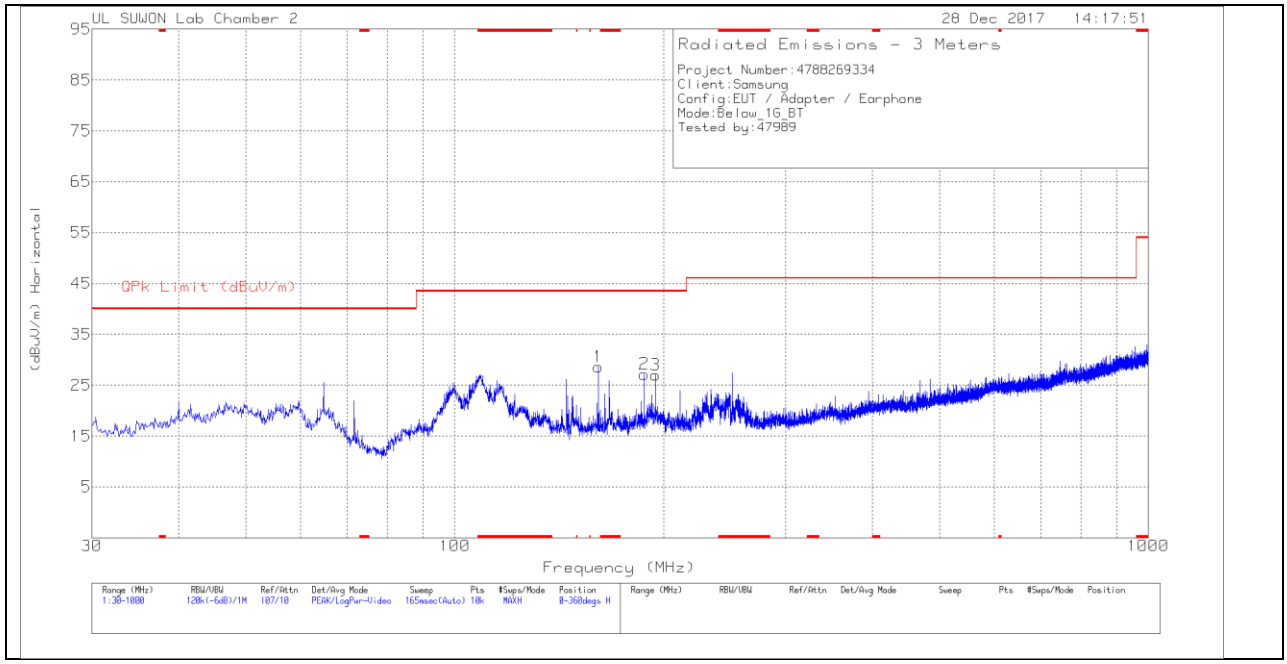
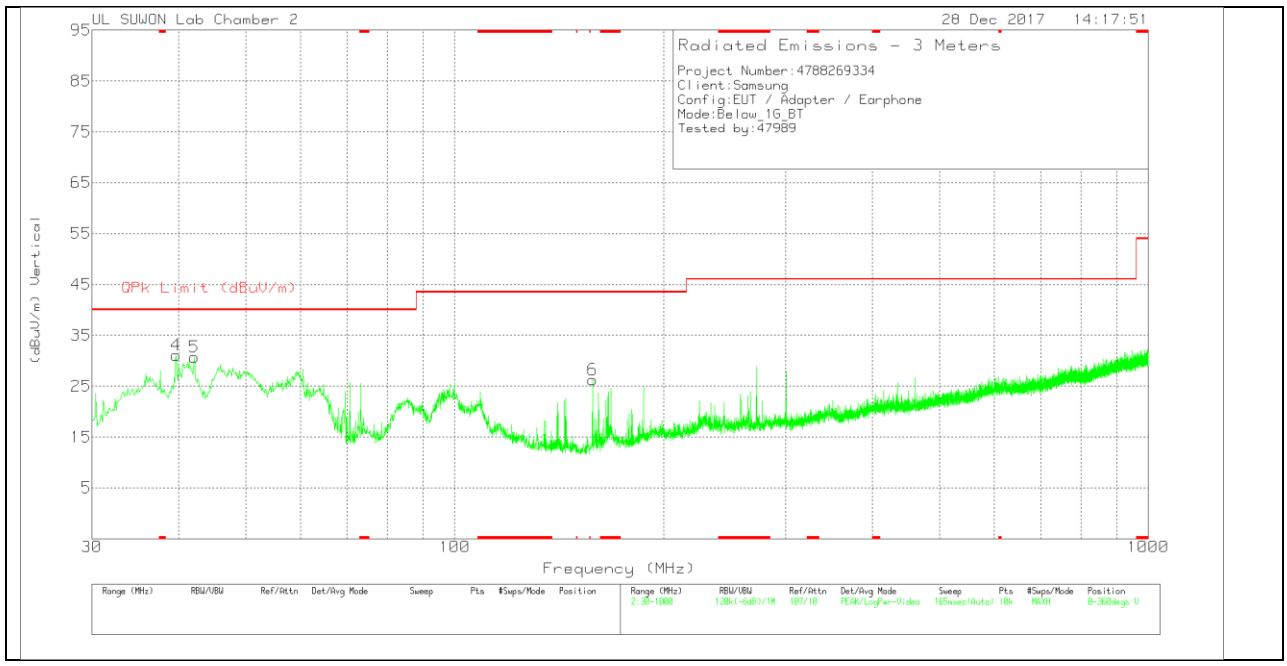
10.3. WORST-CASE BELOW 1 GHz

GFSK SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



VERTICAL PLOT



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BELOW 1 GHz TABLE

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-749	30-1000MHz[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	161.144	44.99	Pk	14.3	-30.7	28.59	43.52	-14.93	0-360	100	H
2	187.722	41.79	Pk	16	-30.6	27.19	43.52	-16.33	0-360	200	H
3	194.9	40.64	Pk	16.9	-30.5	27.04	43.52	-16.48	0-360	100	H
4	39.7	43.64	Pk	18.9	-31.5	31.04	40	-8.96	0-360	100	V
5	42.125	42.85	Pk	19.4	-31.5	30.75	40	-9.25	0-360	100	V
6	158.04	42.91	Pk	14.1	-30.7	26.31	43.52	-17.21	0-360	200	V

Pk - Peak detector

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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.

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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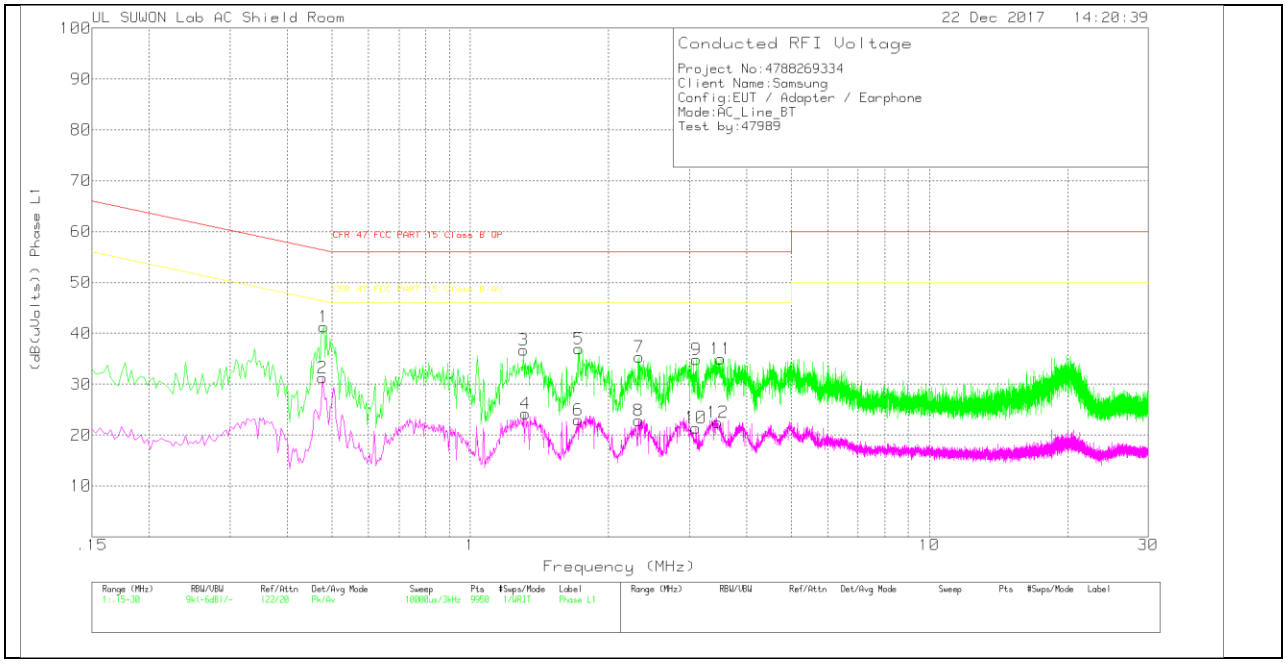
RESULTS

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	101837_L1_with extension	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	.48	31.36	Pk	9.7	.2	41.26	56.34	-15.08	-	-
2	.477	21.39	Av	9.7	.2	31.29	-	-	46.39	-15.1
3	1.308	26.51	Pk	9.9	.3	36.71	56	-19.29	-	-
4	1.32	14.04	Av	9.9	.3	24.24	-	-	46	-21.76
5	1.725	26.73	Pk	9.9	.3	36.93	56	-19.07	-	-
6	1.719	12.72	Av	9.9	.3	22.92	-	-	46	-23.08
7	2.337	25.27	Pk	9.8	.3	35.37	56	-20.63	-	-
8	2.328	12.75	Av	9.8	.3	22.85	-	-	46	-23.15
9	3.111	24.7	Pk	9.8	.3	34.8	56	-21.2	-	-
10	3.102	11.33	Av	9.8	.3	21.43	-	-	46	-24.57
11	3.513	24.89	Pk	9.8	.3	34.99	56	-21.01	-	-
12	3.462	12.39	Av	9.8	.3	22.49	-	-	46	-23.51

Pk - Peak detector
Av - Average detection

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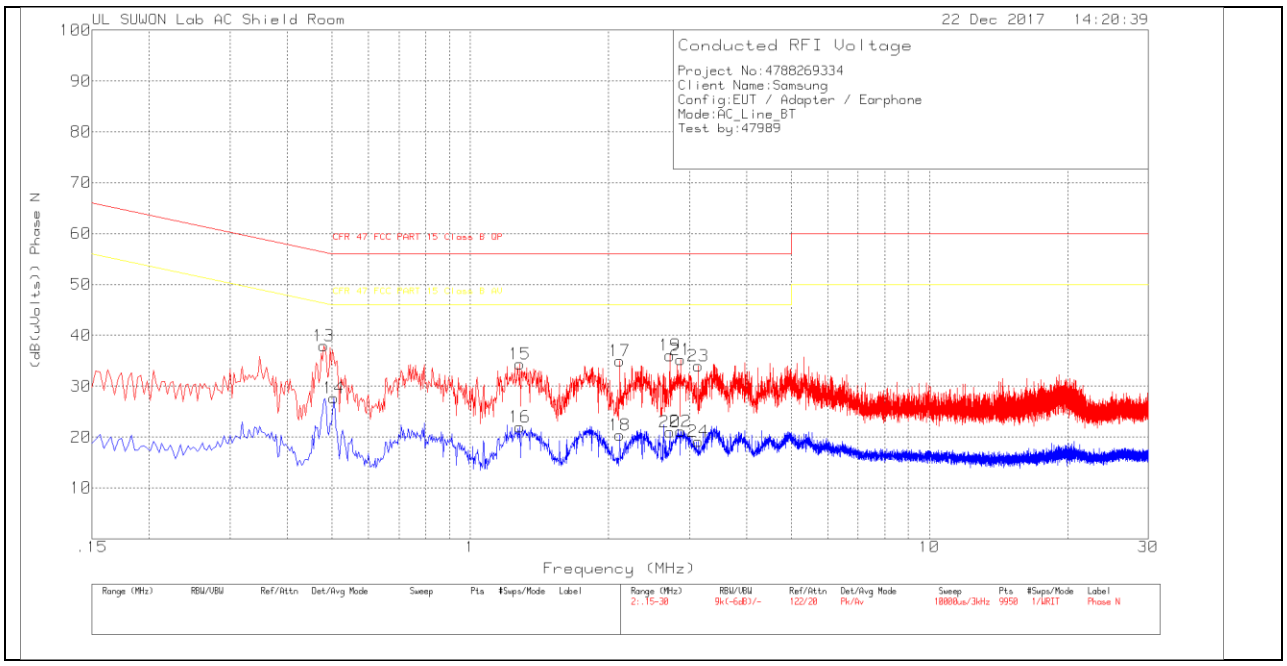
LINE 2 PLOT



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LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_N_with extension	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	.48	27.92	Pk	9.8	.2	37.92	56.34	-18.42	-	-
14	.504	17.65	Av	9.8	.2	27.65	-	-	46	-18.35
15	1.284	24.18	Pk	9.9	.3	34.38	56	-21.62	-	-
16	1.284	11.84	Av	9.9	.3	22.04	-	-	46	-23.96
17	2.118	24.8	Pk	9.9	.3	35	56	-21	-	-
18	2.118	10.16	Av	9.9	.3	20.36	-	-	46	-25.64
19	2.721	25.83	Pk	9.9	.3	36.03	56	-19.97	-	-
20	2.721	10.79	Av	9.9	.3	20.99	-	-	46	-25.01
21	2.874	25.06	Pk	9.9	.3	35.26	56	-20.74	-	-
22	2.877	10.93	Av	9.9	.3	21.13	-	-	46	-24.87
23	3.138	23.93	Pk	9.8	.3	34.03	56	-21.97	-	-
24	3.141	9	Av	9.8	.3	19.1	-	-	46	-26.9

Pk - Peak detector
Av - Average detection

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