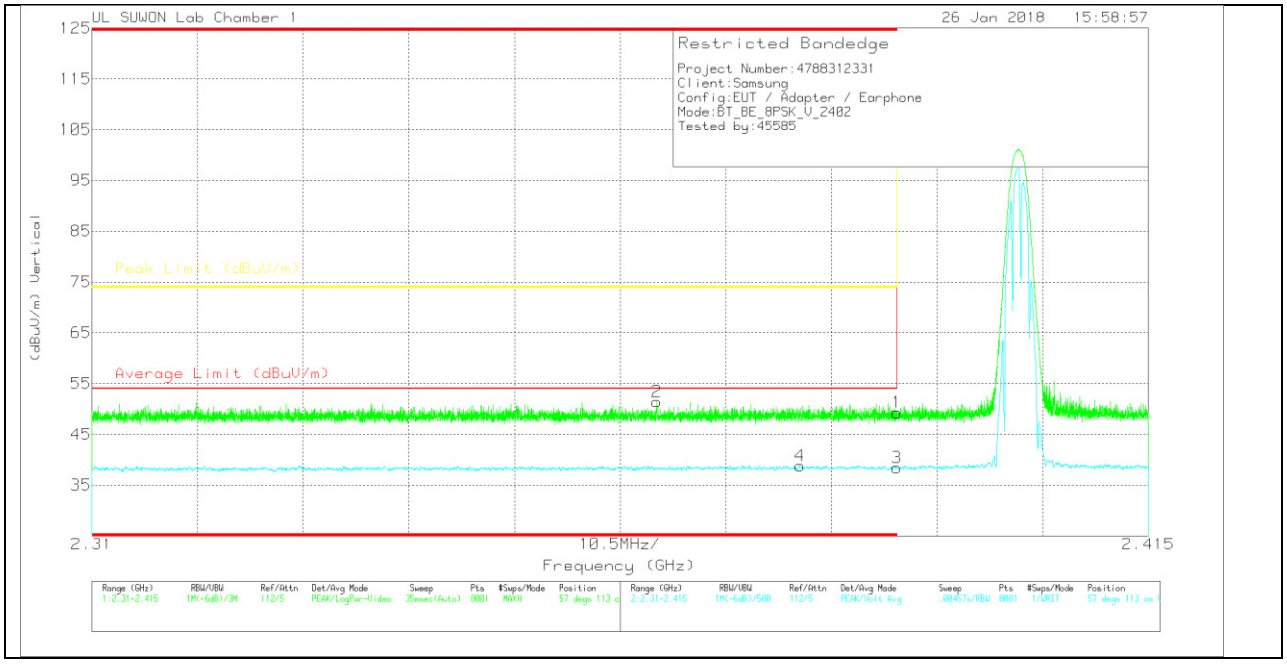
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168717	10dB_ATT(dB)_170809	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	43.68	Pk	31.3	-25.7	49.28	-	-	74	-24.72	57	113	V
2	* 2.366	46.07	Pk	31.2	-25.8	51.47	-	-	74	-22.53	57	113	V
3	* 2.39	32.81	VA1T	31.3	-25.7	38.41	54	-15.59	-	-	57	113	V
4	* 2.38	33.36	VA1T	31.3	-25.8	38.86	54	-15.14	-	-	57	113	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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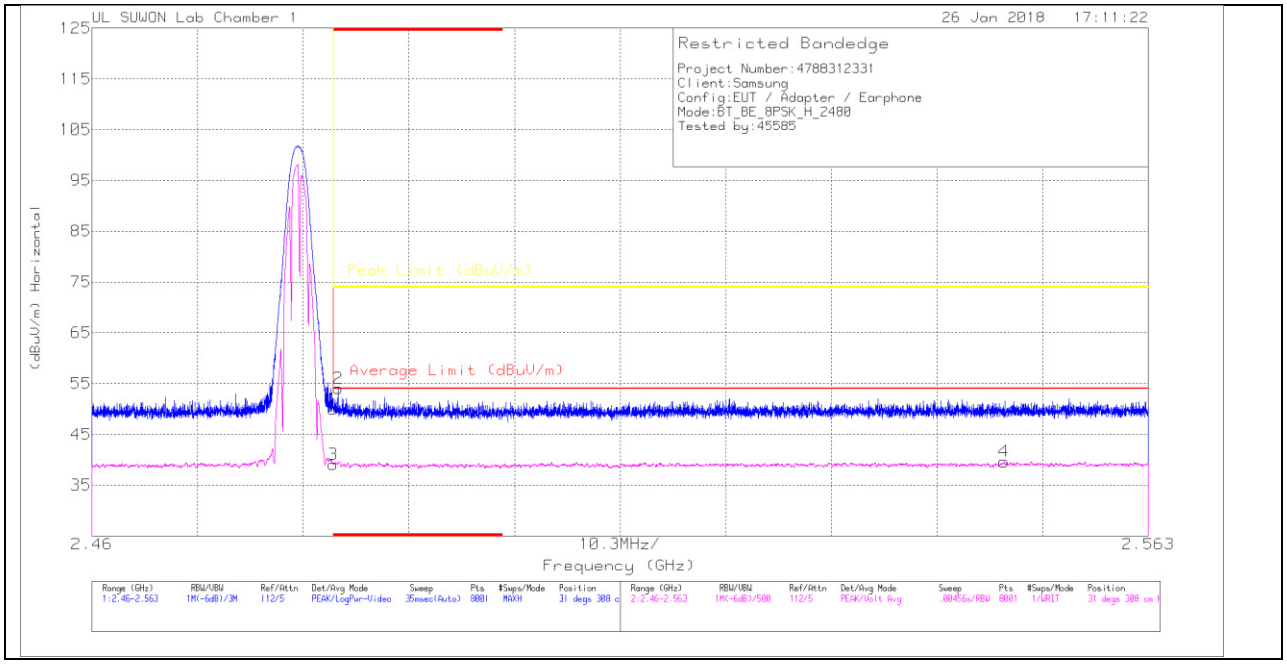
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168717	10dB_ATT(dB)_170809	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	43.88	Pk	31.6	-25.5	49.98	-	-	74	-24.02	31	308	H
2	* 2.484	47.95	Pk	31.6	-25.5	54.05	-	-	74	-19.95	31	308	H
3	* 2.484	32.96	VA1T	31.6	-25.5	39.06	54	-14.94	-	-	31	308	H
4	2.549	33.23	VA1T	31.7	-25.3	39.63	54	-14.37	-	-	31	308	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

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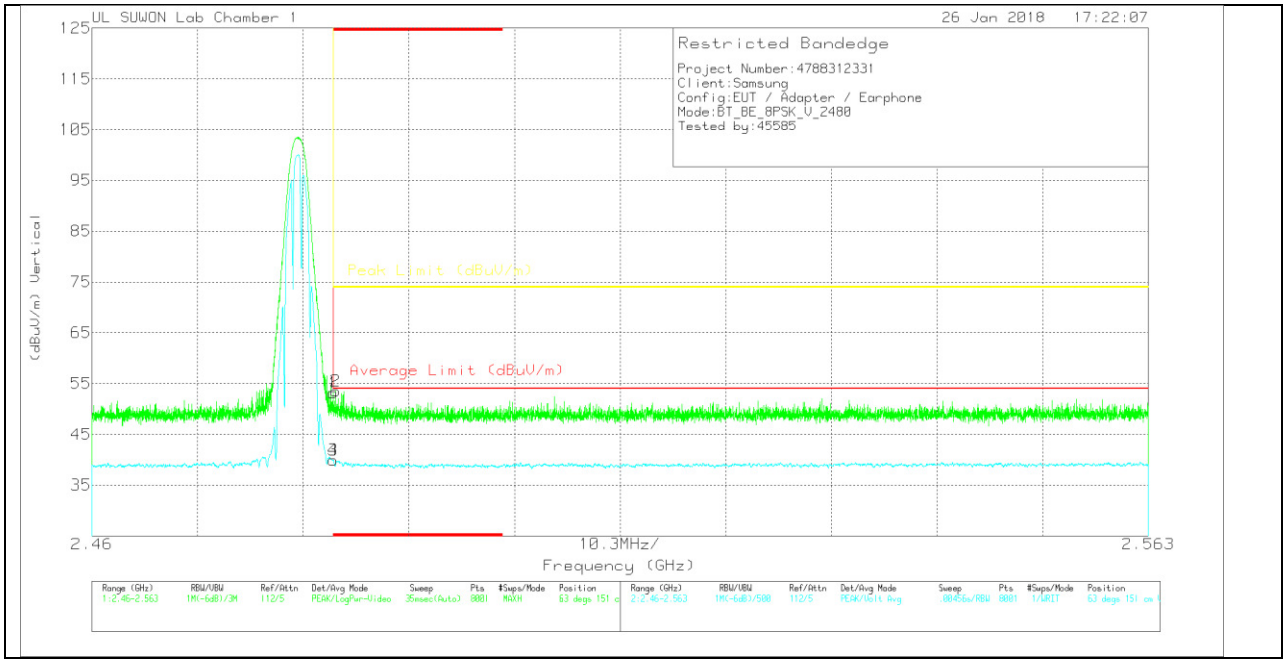
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	20170531_3117_00168717	10dB_ATT(dB)_170809	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	47.05	Pk	31.6	-25.5	53.15	-	-	74	-20.85	63	151	V
2	* 2.484	47.4	Pk	31.6	-25.5	53.5	-	-	74	-20.5	63	151	V
3	* 2.484	33.84	VA1T	31.6	-25.5	39.94	54	-14.06	-	-	63	151	V
4	* 2.484	33.86	VA1T	31.6	-25.5	39.96	54	-14.04	-	-	63	151	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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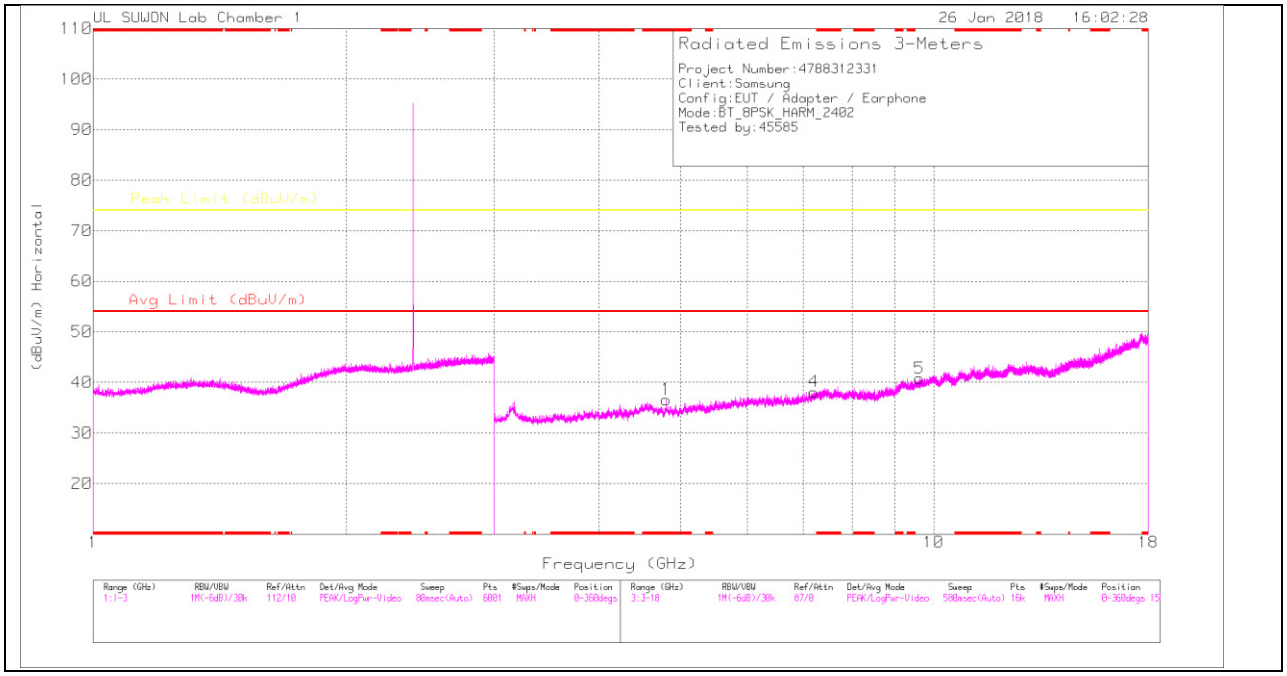
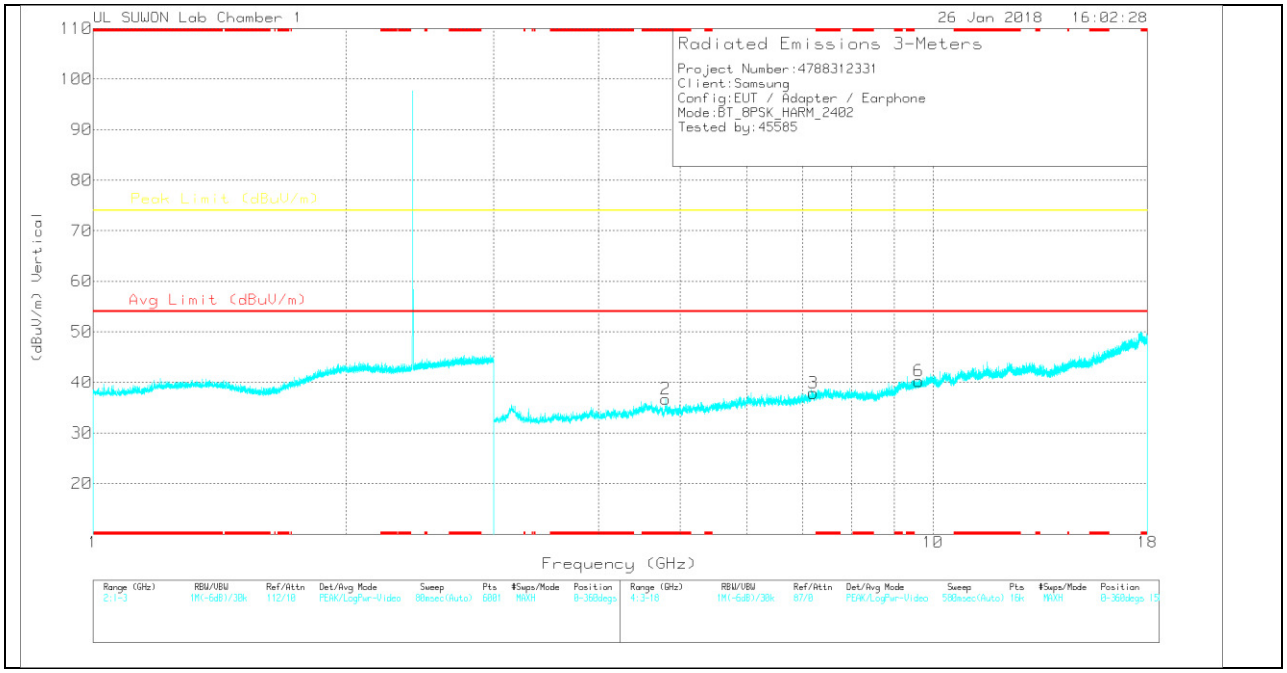
HARMONICS AND SPURIOUS EMISSIONS

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	20170531_3117_0 0168717	3GHz_HP(dB)_170 809	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.804	34.5	PK	33.8	-31.7	36.6	-	-	74	-37.4	0-360	250	H
4	7.205	30.32	PK	35.9	-28.1	38.12	-	-	74	-35.88	0-360	250	H
5	9.613	27.7	PK	36.7	-23.6	40.8	-	-	74	-33.2	0-360	150	H
2	* 4.805	34.51	PK	33.8	-31.6	36.71	-	-	74	-37.29	0-360	250	V
3	7.203	30.09	PK	35.9	-28.1	37.89	-	-	74	-36.11	0-360	150	V
6	9.615	27.05	PK	36.7	-23.5	40.25	-	-	74	-33.75	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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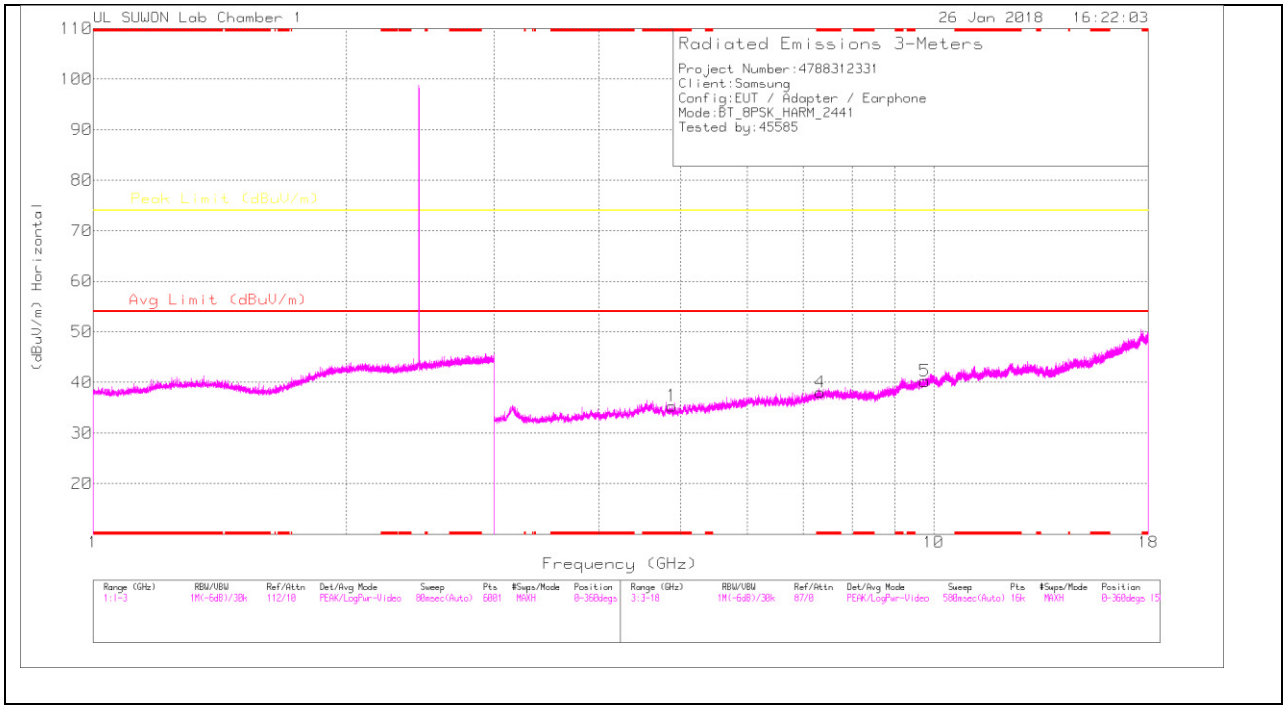
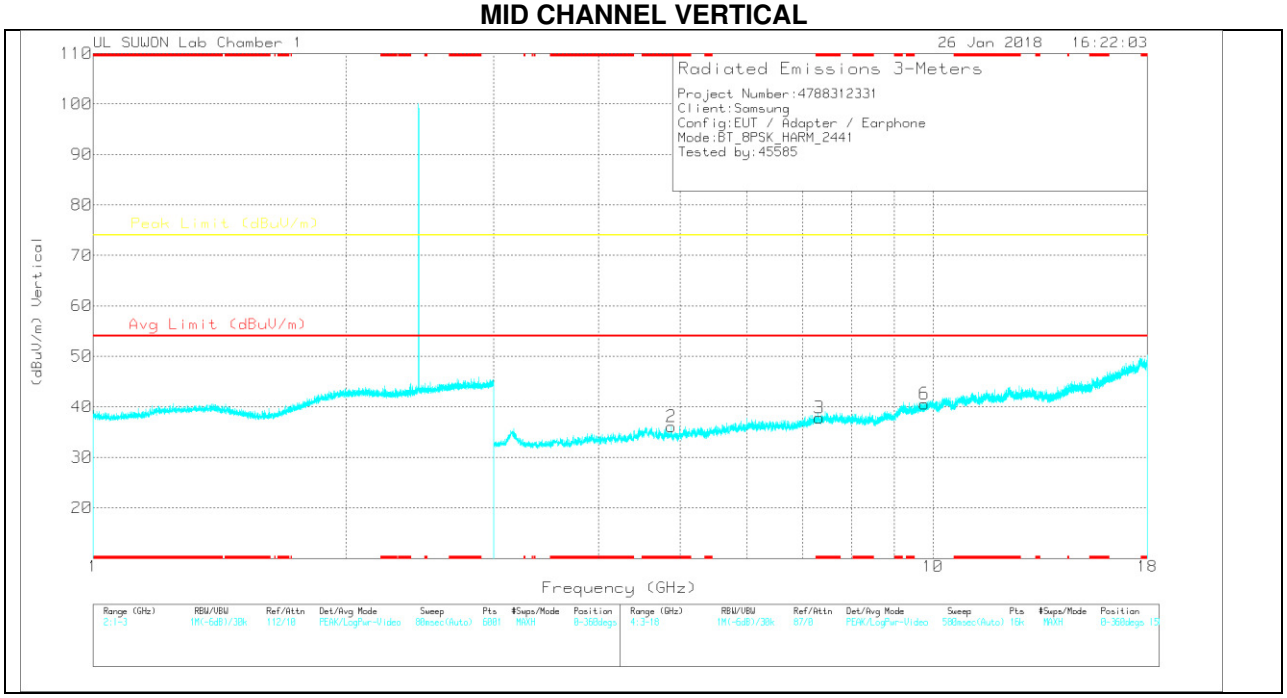
MID CHANNEL HORIZONTAL



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	20170531_3117_0 0168717	3GHz_HP(dB)_170 809	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.881	33.26	PK	33.8	-31.7	35.36	-	-	74	-38.64	0-360	250	H
4	* 7.33	29.66	PK	35.9	-27.5	38.06	-	-	74	-35.94	0-360	250	H
5	9.76	27.55	PK	36.9	-24.2	40.25	-	-	74	-33.75	0-360	150	H
2	* 4.881	33.98	PK	33.8	-31.7	36.08	-	-	74	-37.92	0-360	250	V
3	* 7.322	29.53	PK	35.9	-27.6	37.83	-	-	74	-36.17	0-360	150	V
6	9.766	27.88	PK	36.9	-24.2	40.58	-	-	74	-33.42	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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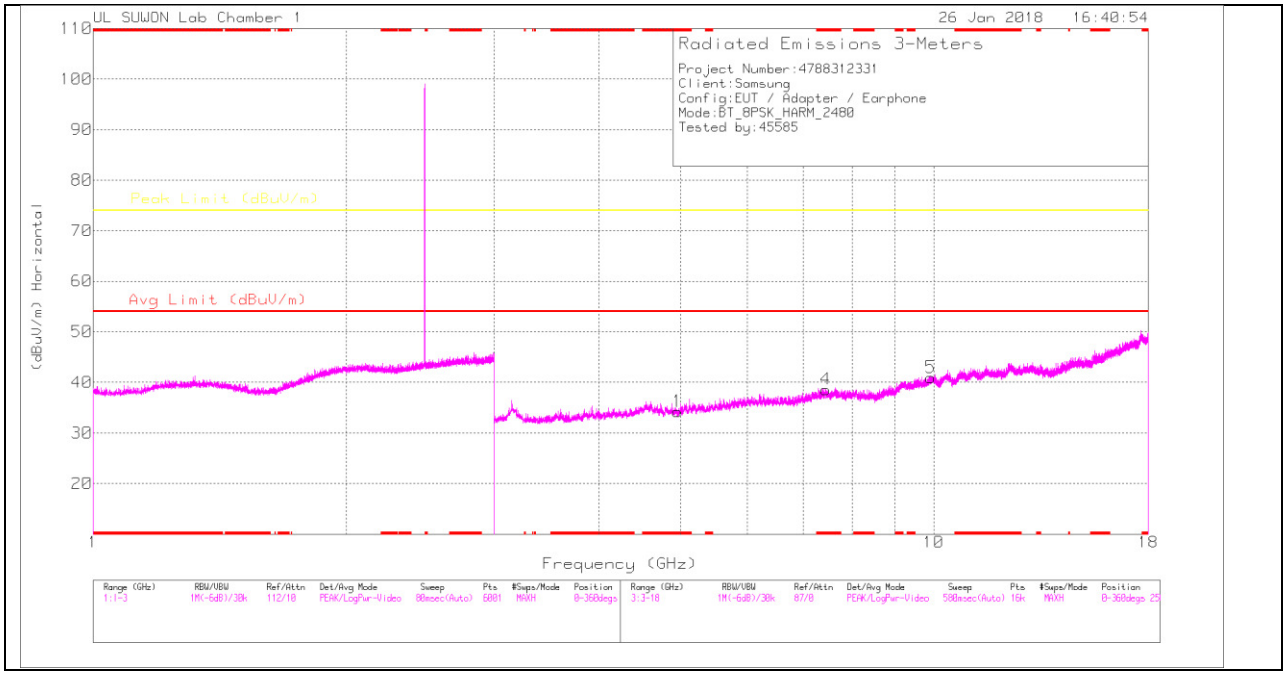
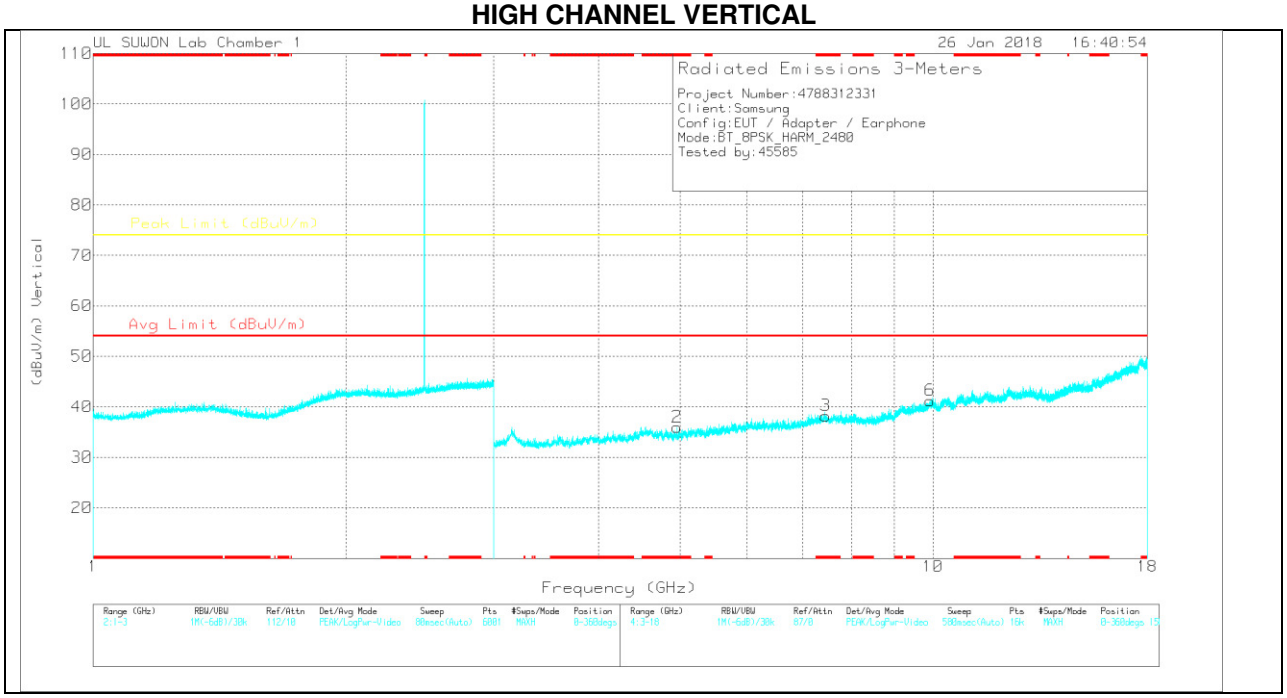
HIGH CHANNEL HORIZONTAL



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	20170531_3117_0 0168717	3GHz_HP(dB)_170 809	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.959	32.14	PK	33.8	-31.7	34.24	-	-	74	-39.76	0-360	250	H
4	* 7.44	29.91	PK	35.9	-27.2	38.61	-	-	74	-35.39	0-360	250	H
5	9.918	26.25	PK	37.1	-22.4	40.95	-	-	74	-33.05	0-360	250	H
2	* 4.96	33.77	PK	33.8	-31.6	35.97	-	-	74	-38.03	0-360	250	V
3	* 7.45	29.54	PK	35.9	-27.2	38.24	-	-	74	-35.76	0-360	150	V
6	9.924	26.33	PK	37.1	-22.2	41.23	-	-	74	-32.77	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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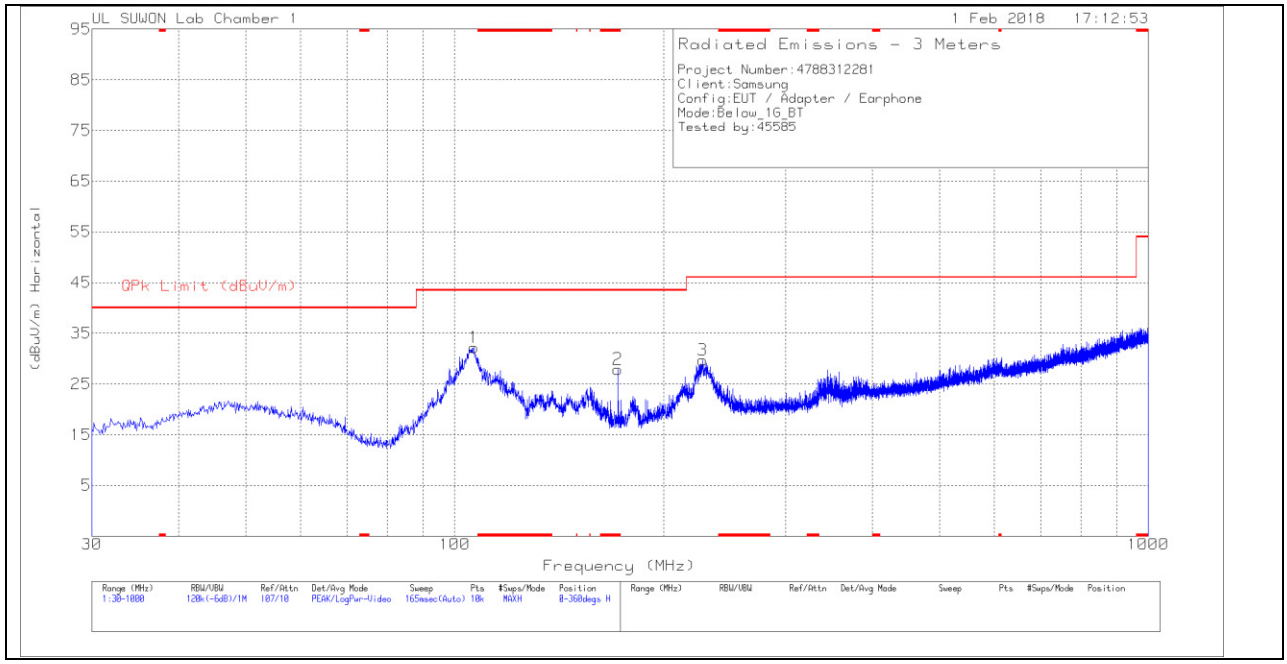
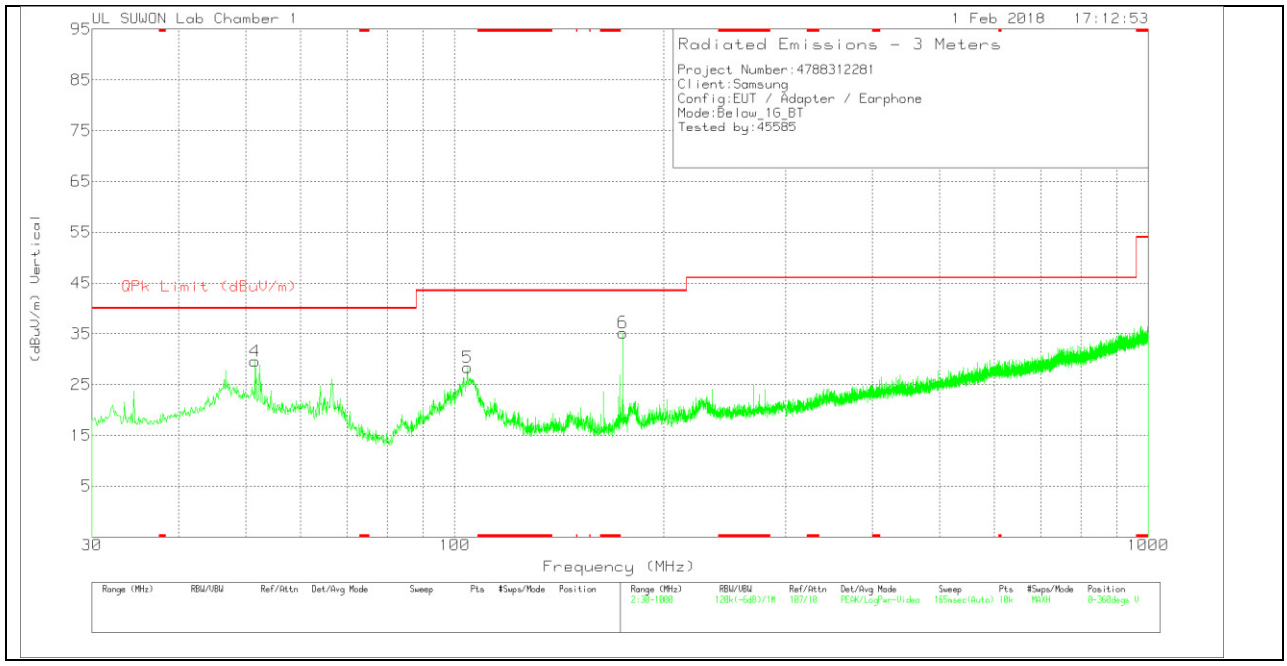
10.3. WORST-CASE BELOW 1 GHz

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	750_20170831	30-1000MHz[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	106.533	43.04	Pk	17.4	-28.2	32.24	43.52	-11.28	0-360	300	H
2	* 171.911	40.83	Pk	14.8	-27.7	27.93	43.52	-15.59	0-360	300	H
3	227.977	39.45	Pk	17.7	-27.4	29.75	46.02	-16.27	0-360	100	H
4	51.534	39.06	Pk	19.7	-29.2	29.56	40	-10.44	0-360	100	V
5	104.399	39.11	Pk	17.6	-28.4	28.31	43.52	-15.21	0-360	300	V
6	174.724	47.93	Pk	15	-27.7	35.23	43.52	-8.29	0-360	300	V

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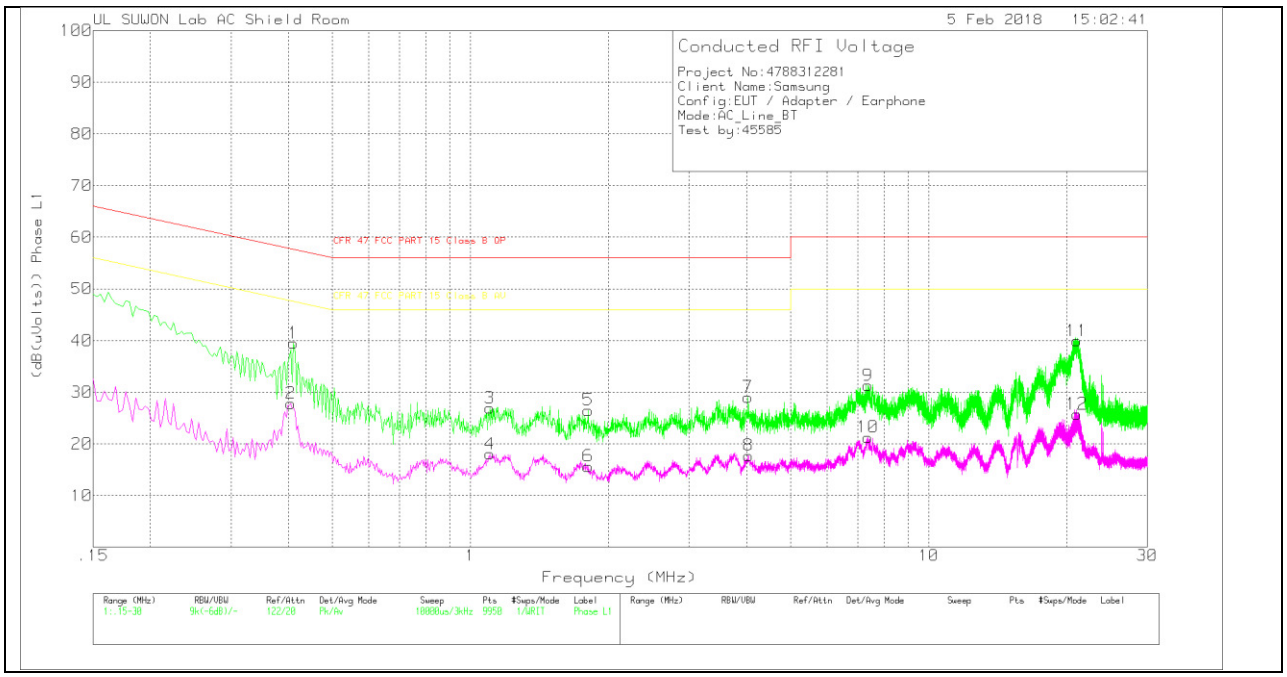
RESULTS

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	.411	29.5	Pk	9.8	.2	39.5	57.63	-18.13	-	-
2	.405	17.86	Av	9.8	.2	27.86	-	-	47.75	-19.89
3	1.101	16.85	Pk	9.8	.3	26.95	56	-29.05	-	-
4	1.101	7.97	Av	9.8	.3	18.07	-	-	46	-27.93
5	1.806	16.31	Pk	9.9	.3	26.51	56	-29.49	-	-
6	1.806	5.48	Av	9.9	.3	15.68	-	-	46	-30.32
7	4.035	19.06	Pk	9.7	.3	29.06	56	-26.94	-	-
8	4.044	7.75	Av	9.7	.3	17.75	-	-	46	-28.25
9	7.371	21.31	Pk	9.7	.3	31.31	60	-28.69	-	-
10	7.359	11.28	Av	9.7	.3	21.28	-	-	50	-28.72
11	21.063	29.45	Pk	10.1	.4	39.95	60	-20.05	-	-
12	21.066	15.26	Av	10.1	.4	25.76	-	-	50	-24.24

Pk - Peak detector
Av - Average detection

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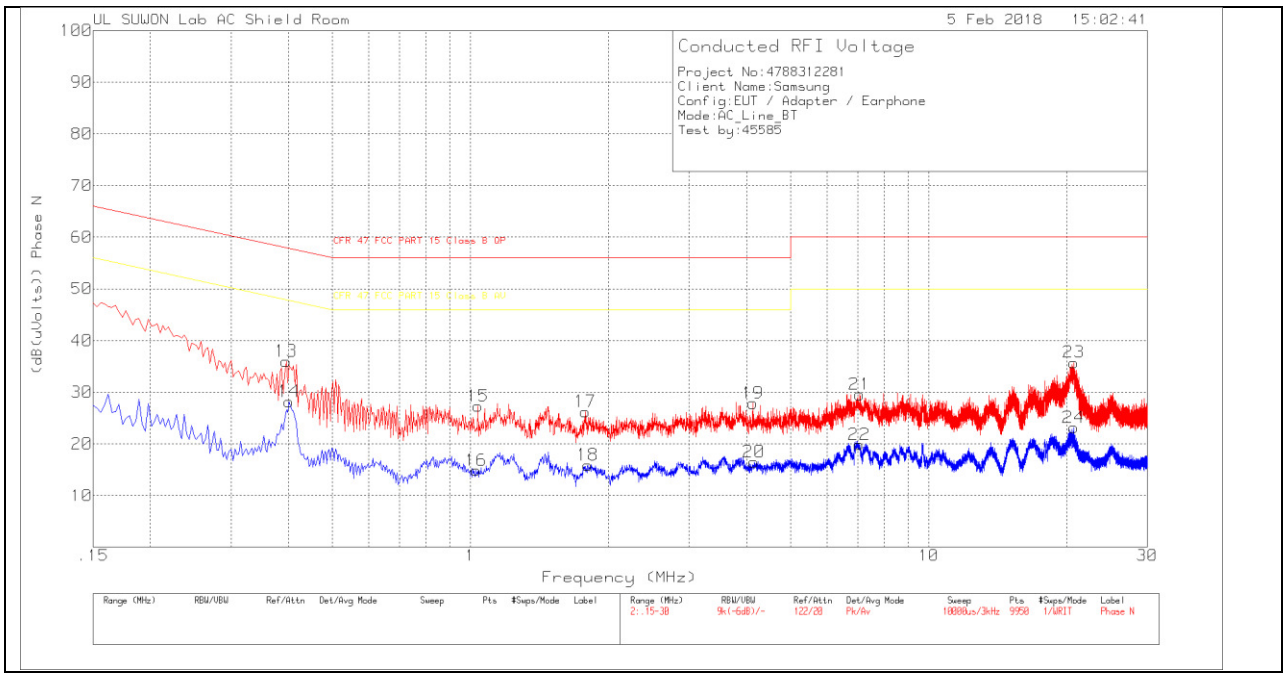
LINE 2 PLOT



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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	.396	25.99	Pk	9.8	.2	35.99	57.94	-21.95	-	-
14	.402	18.21	Av	9.8	.2	28.21	-	-	47.81	-19.6
15	1.038	17.1	Pk	9.9	.3	27.3	56	-28.7	-	-
16	1.029	4.66	Av	9.9	.3	14.86	-	-	46	-31.14
17	1.779	16.04	Pk	9.9	.3	26.24	56	-29.76	-	-
18	1.803	5.7	Av	9.9	.3	15.9	-	-	46	-30.1
19	4.131	17.78	Pk	9.8	.3	27.88	56	-28.12	-	-
20	4.155	6.4	Av	9.8	.3	16.5	-	-	46	-29.5
21	7.068	19.47	Pk	9.8	.3	29.57	60	-30.43	-	-
22	7.053	9.75	Av	9.8	.3	19.85	-	-	50	-30.15
23	20.739	25.26	Pk	10.1	.4	35.76	60	-24.24	-	-
24	20.712	12.66	Av	10.1	.4	23.16	-	-	50	-26.84

Pk - Peak detector
Av - Average detection

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