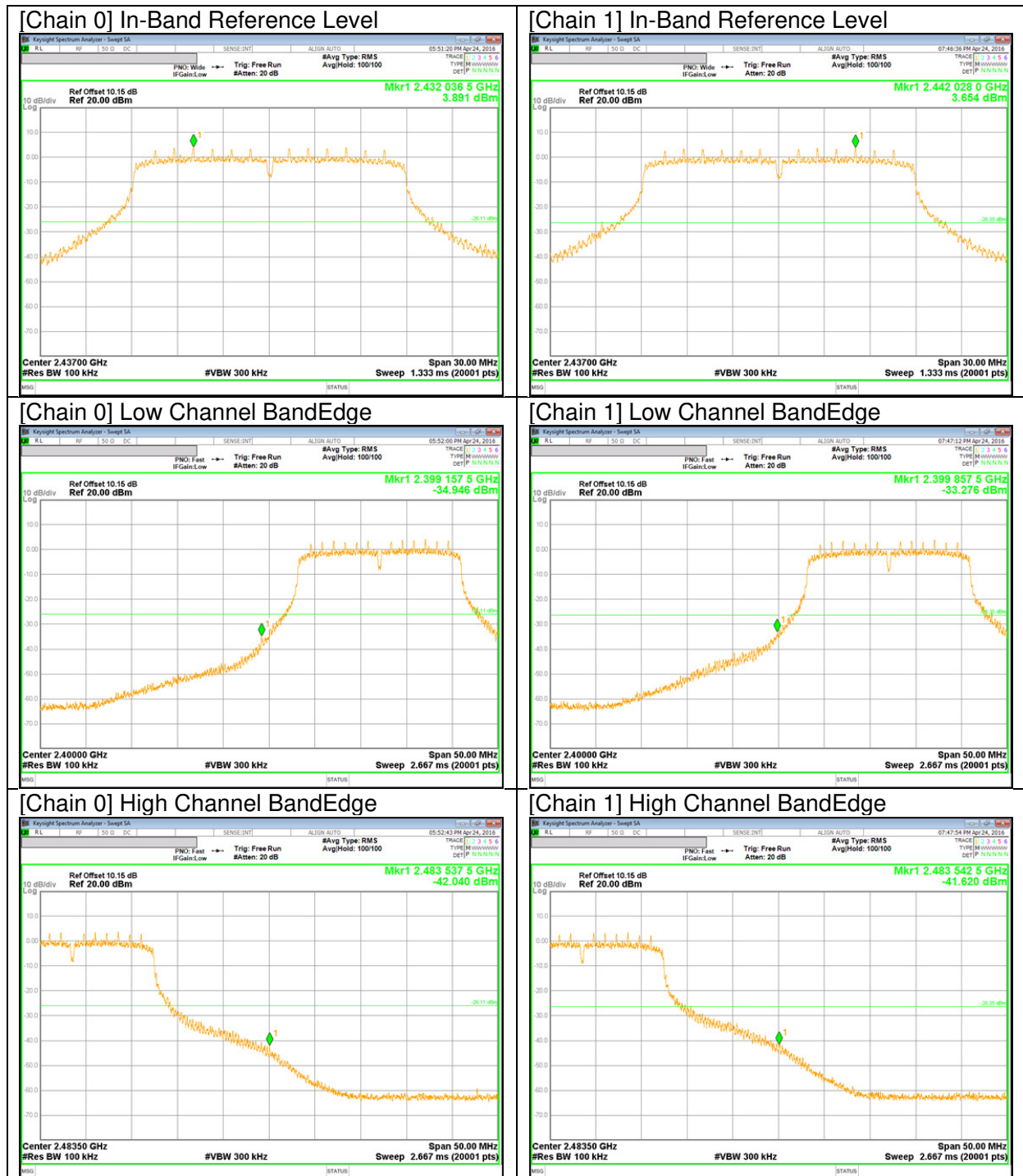
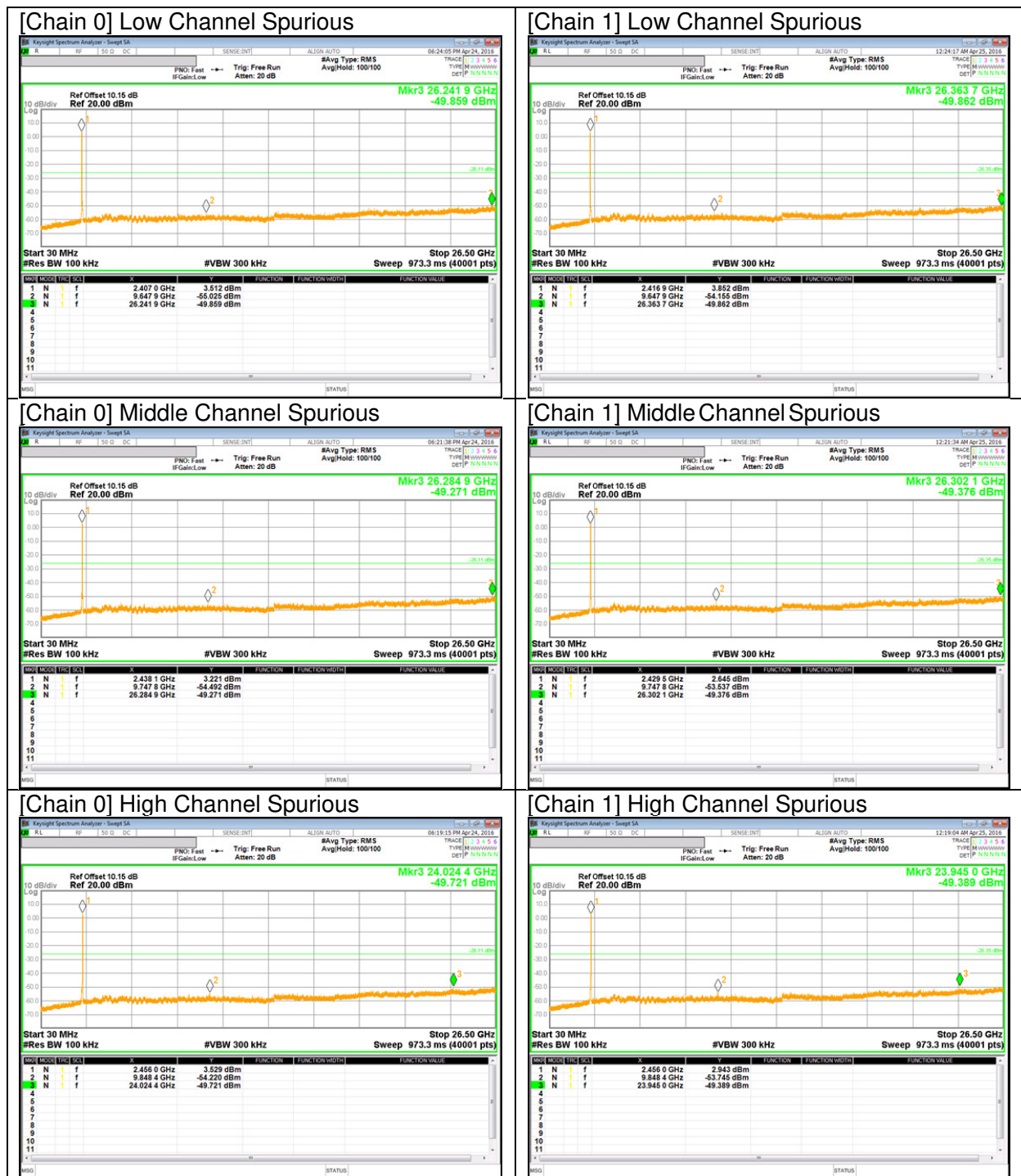


10.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND





11. RADIATED TEST RESULTS

11.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

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 and add duty cycle factor for average measurements. Duty cycle factor = $10\log(1/x)$ For this sample B mode = 0dB (duty cycle >98%); G mode = 0.31dB; N mode = 0.33dB.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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.

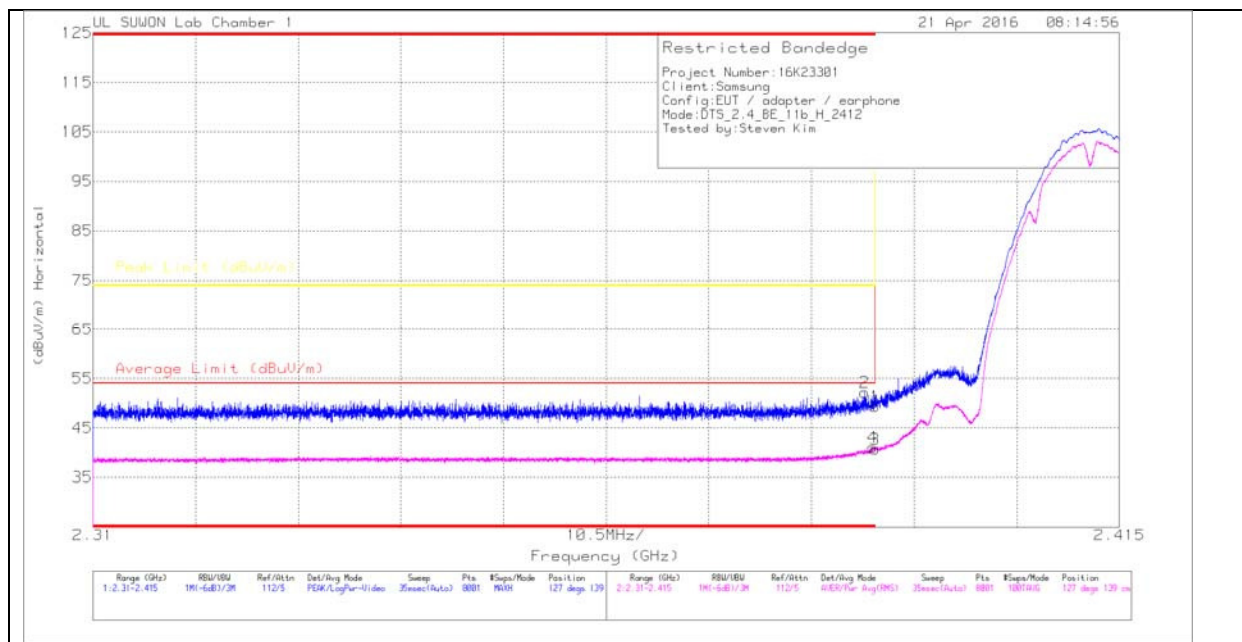
Note : Emission was pre-scanned from 9KHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit. Per FCC part 15.31(o), test results were not reported.

11.2. TRANSMITTER ABOVE 1 GHz

11.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

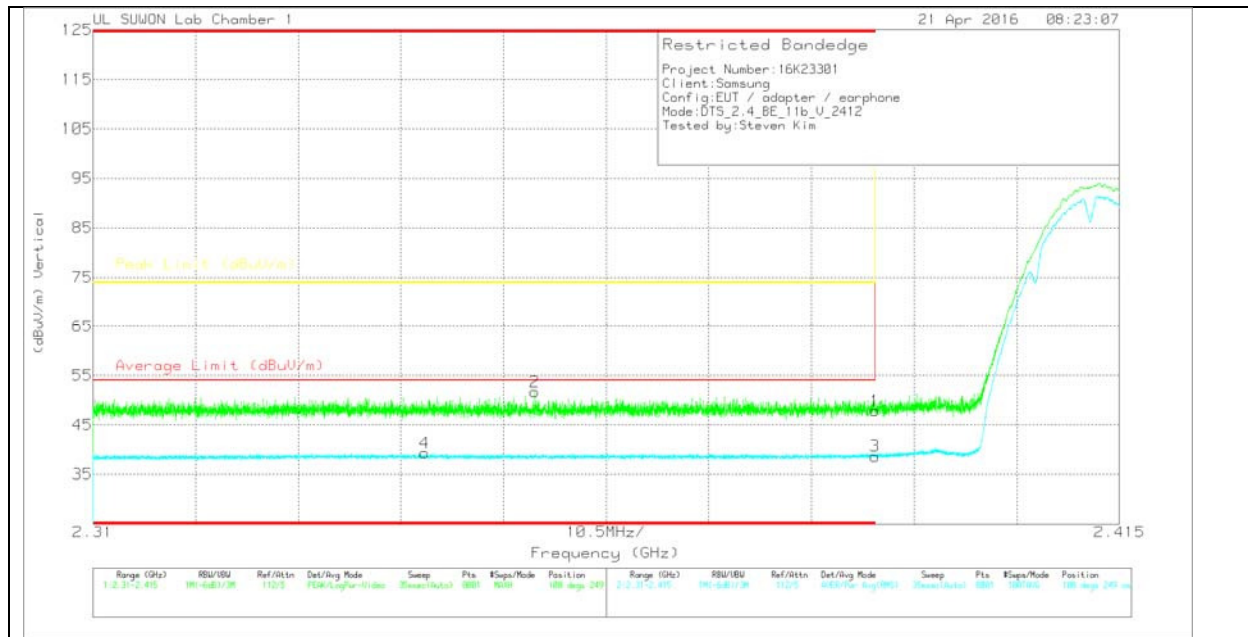
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	46.55	Pk	31.8	-29	0	49.35	-	-	74	-24.65	127	139	H
2	* 2.389	49.33	Pk	31.8	-29	0	52.13	-	-	74	-21.87	127	139	H
3	* 2.39	37.86	RMS	31.8	-29	0	40.66	54	-13.34	-	-	127	139	H
4	* 2.39	38.21	RMS	31.8	-29	0	41.01	54	-12.99	-	-	127	139	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	Path_2	DC Corr (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	45.07	Pk	31.8	-29	0	47.87	-	-	74	-26.13	108	249	V
2	* 2.355	49.01	Pk	31.7	-29	0	51.71	-	-	74	-22.29	108	249	V
3	* 2.39	35.84	RMS	31.8	-29	0	38.64	54	-15.36	-	-	108	249	V
4	* 2.344	36.62	RMS	31.7	-29	0	39.32	54	-14.68	-	-	108	249	V

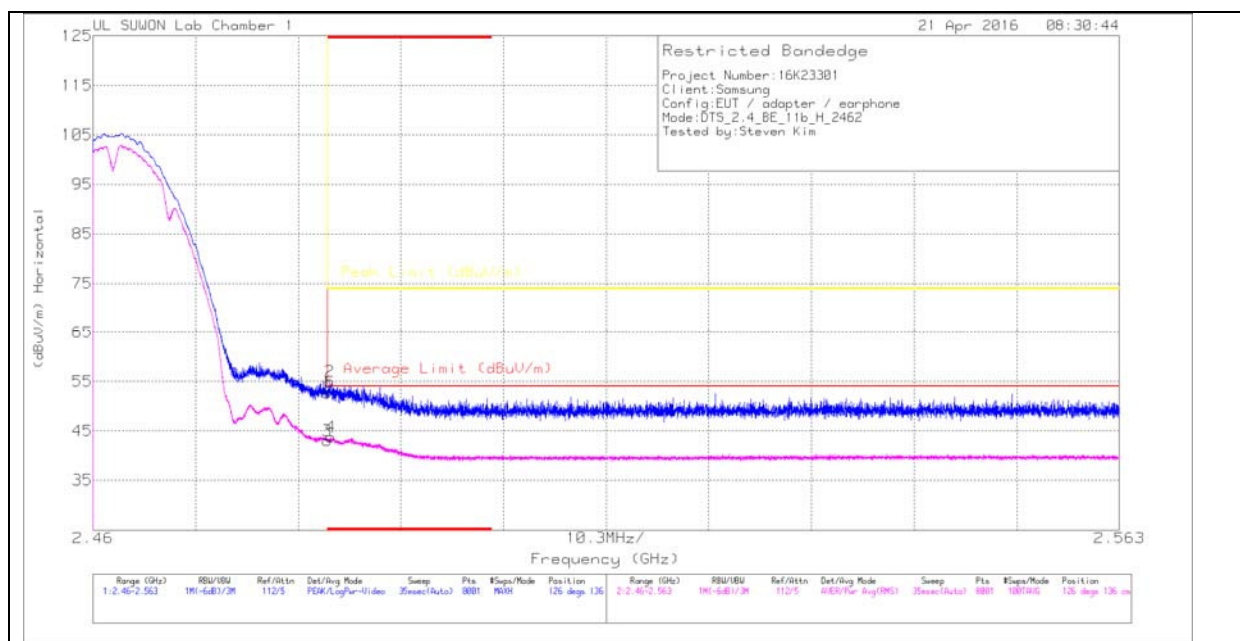
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

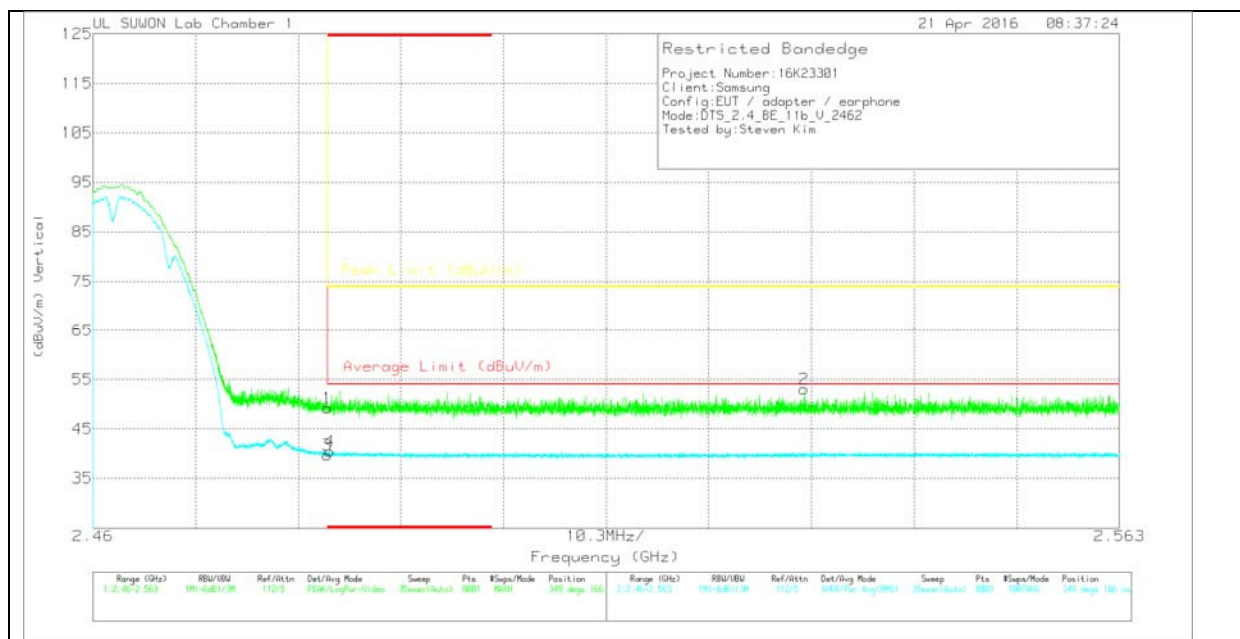
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_150 619	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.484	48.98	PK	32	-28.3	0	52.68	-	-	74	-21.32	126	136	H
2	* 2.484	51.27	PK	32	-28.3	0	54.97	-	-	74	-19.03	126	136	H
3	* 2.484	39.36	RMS	32	-28.3	0	43.06	54	-10.94	-	-	126	136	H
4	* 2.484	40.02	RMS	32	-28.3	0	43.72	54	-10.28	-	-	126	136	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168717)_1 50619	Path_2	DC Corr (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	45.54	Pk	32	-28.3	0	49.24	-	-	74	-24.76	349	166	V
2	2.531	49.39	Pk	32	-28.3	0	53.09	-	-	74	-20.91	349	166	V
3	* 2.484	36	RMS	32	-28.3	0	39.7	54	-14.3	-	-	349	166	V
4	* 2.484	36.69	RMS	32	-28.3	0	40.39	54	-13.61	-	-	349	166	V

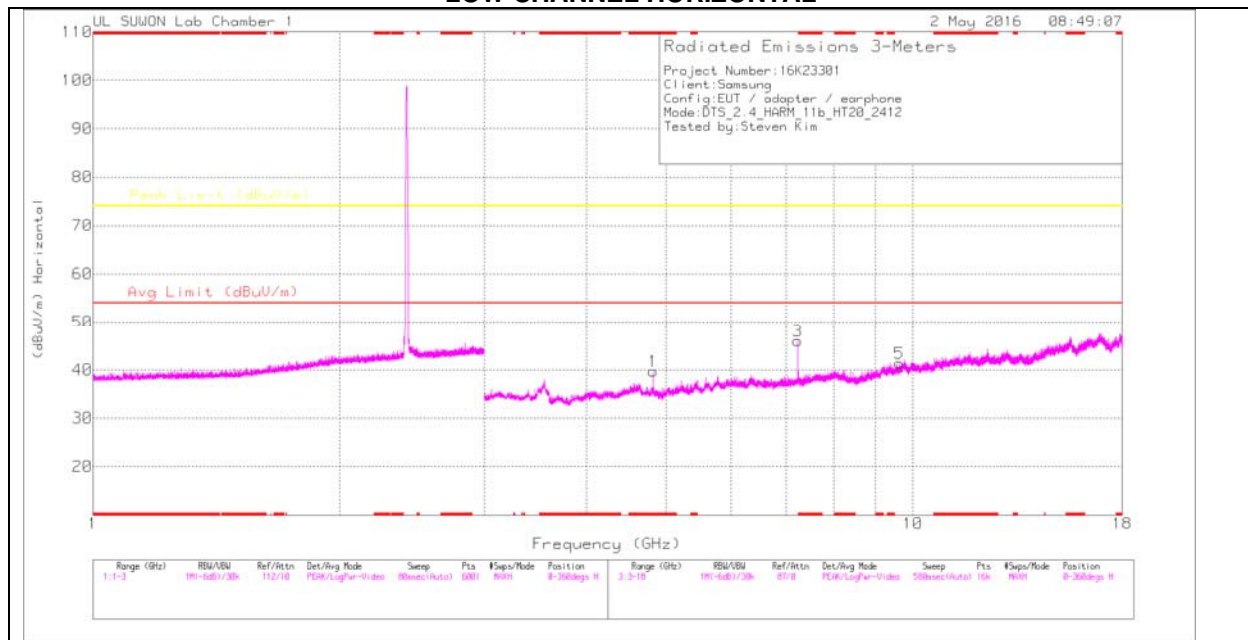
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

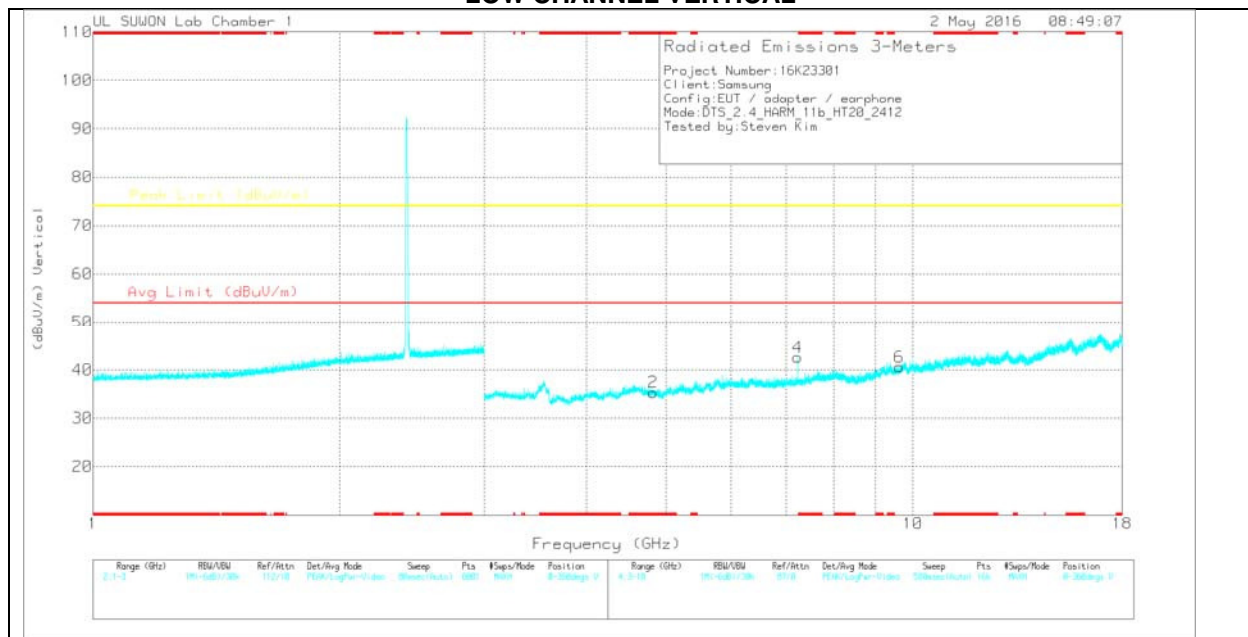
RMS - RMS detection

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.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.823	39.52	PK	34	-33.8	0	39.72	-	-	74	-34.28	0-360	100	H
3	7.235	41.27	PK	35.7	-30.9	0	46.07	-	-	74	-27.93	0-360	200	H
5	9.631	31.72	PK	37	-27.3	0	41.42	-	-	74	-32.58	0-360	200	H
2	* 4.823	35.17	PK	34	-33.8	0	35.37	-	-	74	-38.63	0-360	100	V
4	7.236	37.89	PK	35.7	-30.9	0	42.69	-	-	74	-31.31	0-360	100	V
6	9.627	30.79	PK	37	-27.2	0	40.59	-	-	74	-33.41	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

Radiated Emissions

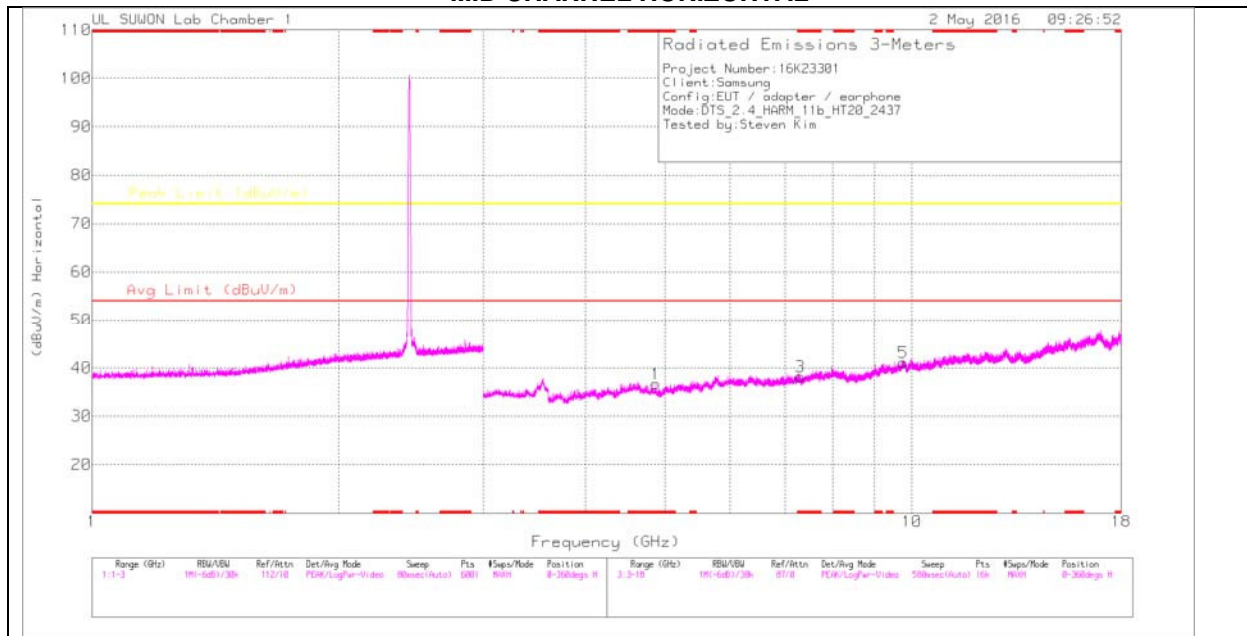
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	48.93	PK2	34	-33.8	0	49.13	-	-	74	-24.87	118	101	H
* 4.824	39.91	MAv1	34	-33.8	0	40.11	54	-13.89	-	-	118	101	H
* 4.824	47.72	PK2	34	-33.8	0	47.92	-	-	74	-26.08	245	167	V
* 4.824	34.94	MAv1	34	-33.8	0	35.14	54	-18.86	-	-	245	167	V
7.234	43.92	PK2	35.7	-30.9	0	48.72	-	-	74	-25.28	160	389	H
7.233	44.36	PK2	35.7	-30.9	0	49.16	-	-	74	-24.84	105	380	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

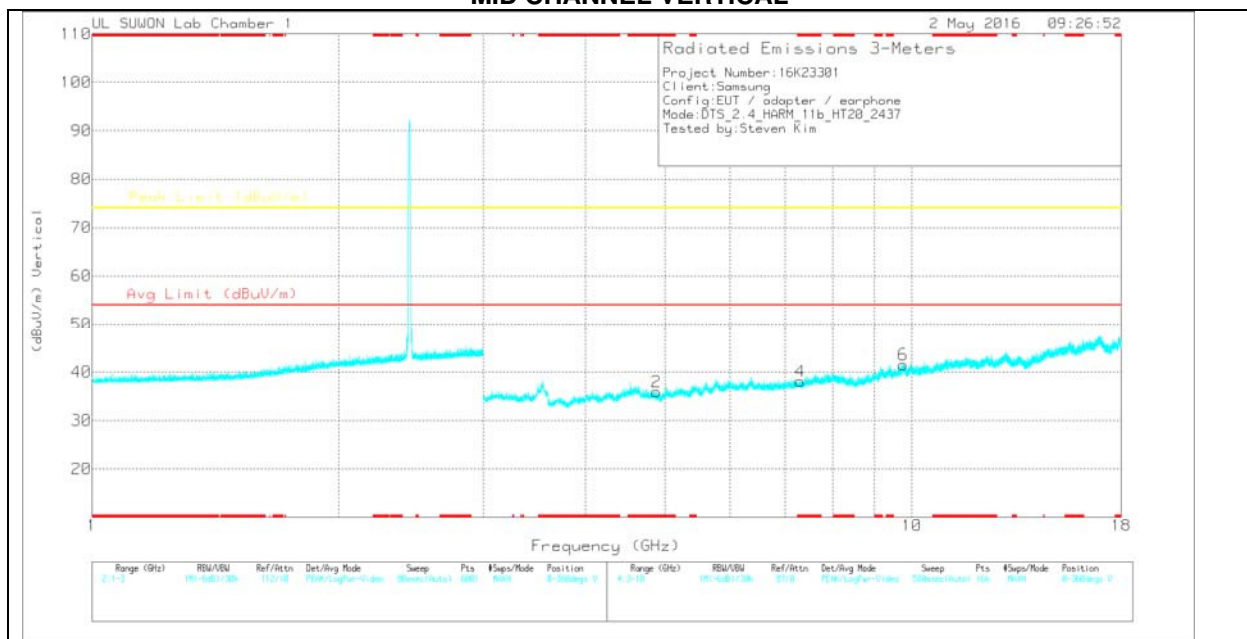
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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.

MID CHANNEL DATA

TRACE MARKERS

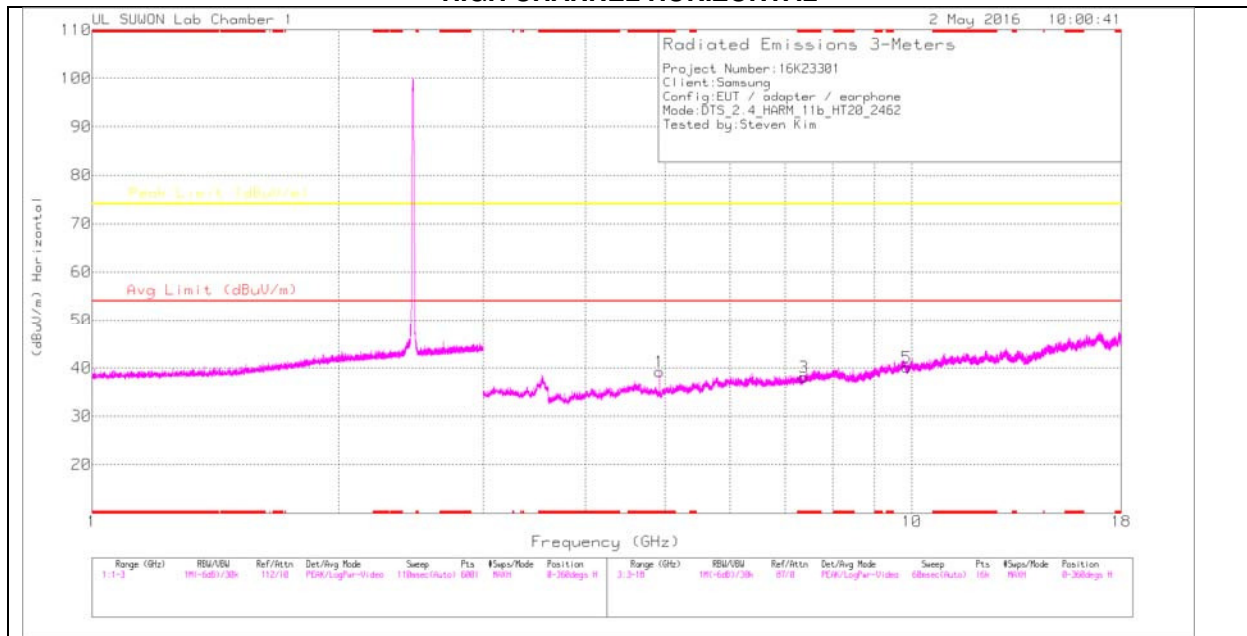
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.874	36.71	PK	34	-34	0	36.71	-	-	74	-37.29	0-360	100	H
3	* 7.307	33.38	PK	35.7	-30.9	0	38.18	-	-	74	-35.82	0-360	100	H
5	9.756	30.57	PK	37.2	-26.7	0	41.07	-	-	74	-32.93	0-360	200	H
2	* 4.876	35.96	PK	34	-34	0	35.96	-	-	74	-38.04	0-360	100	V
4	* 7.308	33.3	PK	35.7	-30.9	0	38.1	-	-	74	-35.9	0-360	200	V
6	9.761	30.96	PK	37.2	-26.6	0	41.56	-	-	74	-32.44	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

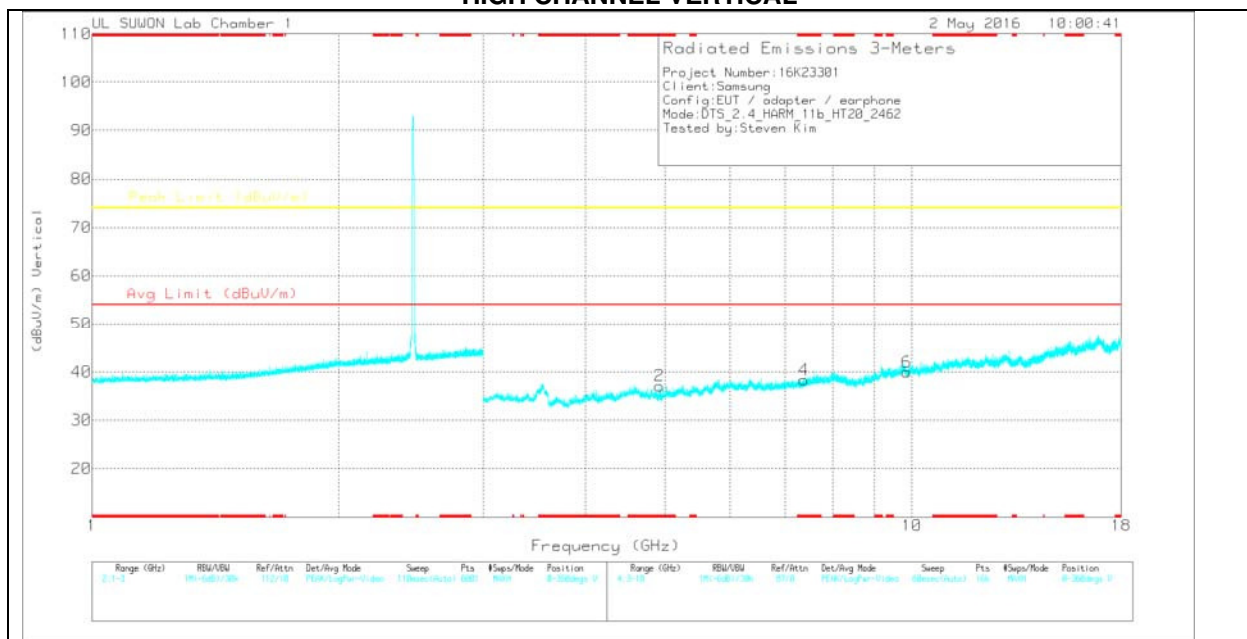
PK – Peak detector

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

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.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.924	39.2	PK	34	-34	0	39.2	-	-	74	-34.8	0-360	100	H
3	* 7.387	33	PK	35.8	-30.7	0	38.1	-	-	74	-35.9	0-360	100	H
5	9.854	30.47	PK	37.3	-27.7	0	40.07	-	-	74	-33.93	0-360	200	H
2	* 4.924	37.14	PK	34	-34	0	37.14	-	-	74	-36.86	0-360	100	V
4	* 7.391	33.3	PK	35.8	-30.7	0	38.4	-	-	74	-35.6	0-360	100	V
6	9.859	30.52	PK	37.3	-27.8	0	40.02	-	-	74	-33.98	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016 8717)_150 619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.924	48.78	PK2	34	-34	0	48.78	-	-	74	-25.22	118	100	H
* 4.924	40.01	MAv1	34	-34	0	40.01	54	-13.99	-	-	118	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

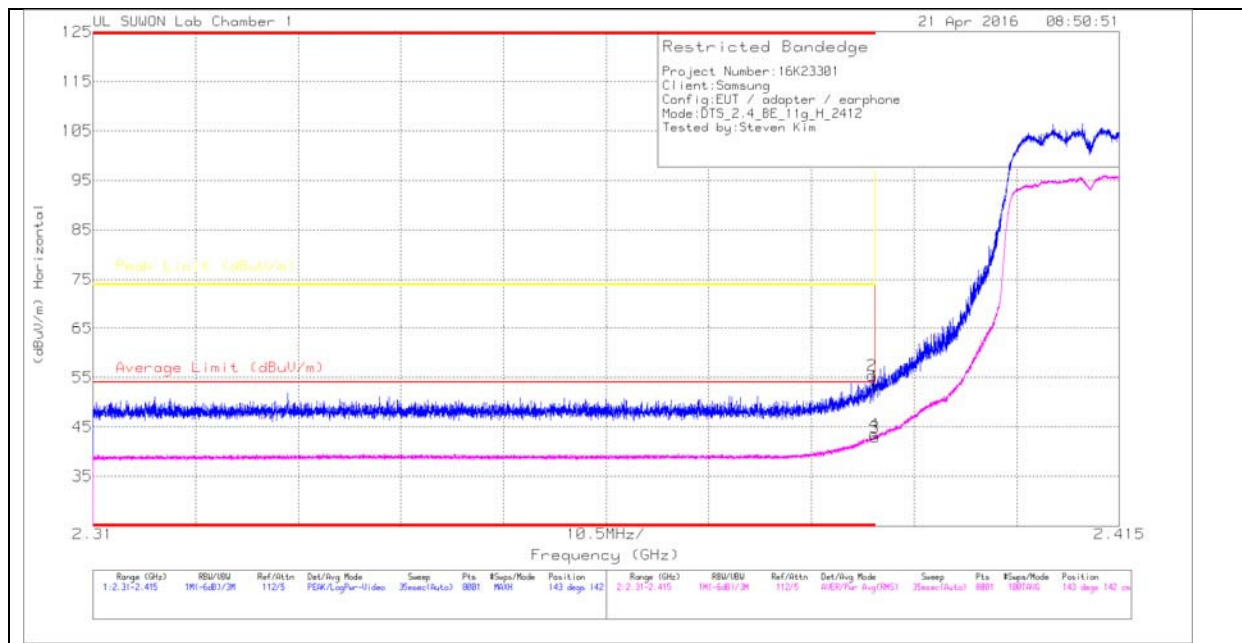
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

11.2.2. TX ABOVE 1 GHz 802.11g 2TX CDD MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

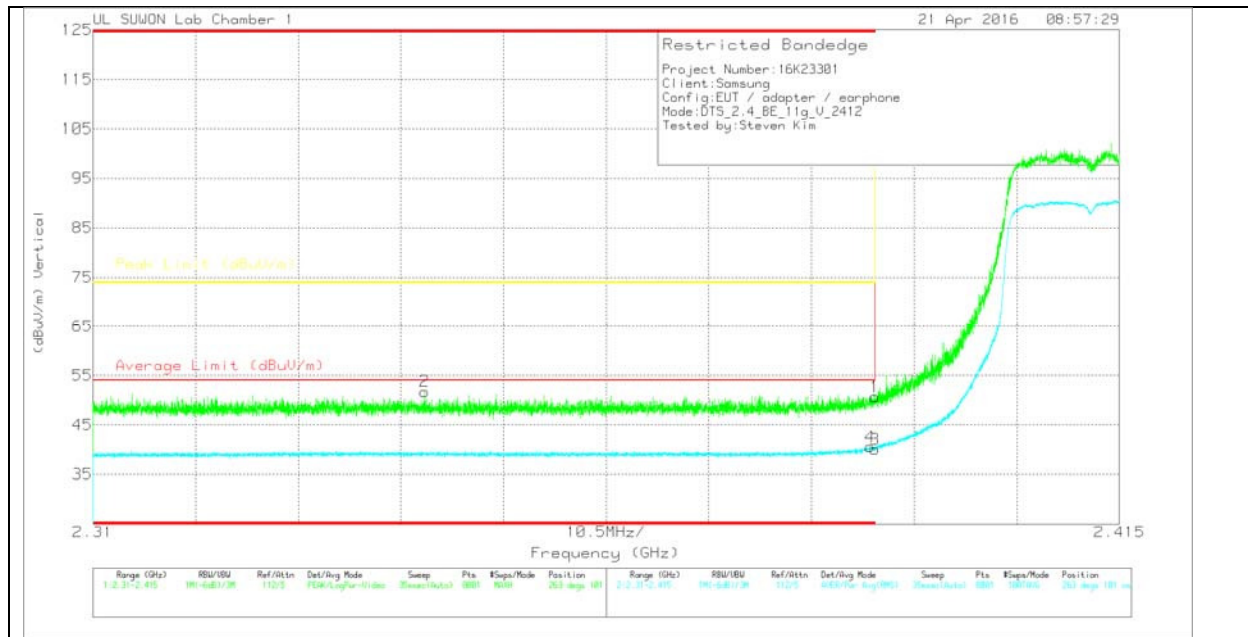
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17_150619)	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.38	PK	31.8	-29	0	53.18	-	-	74	-20.82	143	142	H
2	* 2.39	52.6	PK	31.8	-29	0	55.4	-	-	74	-18.6	143	142	H
3	* 2.39	39.74	RMS	31.8	-29	.31	42.85	54	-11.15	-	-	143	142	H
4	* 2.39	40.4	RMS	31.8	-29	.31	43.51	54	-10.49	-	-	143	142	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	Path_2	DC Corr (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	47.95	Pk	31.8	-29	0	50.75	-	-	74	-23.25	263	101	V
2	* 2.344	49.05	Pk	31.7	-29	0	51.75	-	-	74	-22.25	263	101	V
3	* 2.39	36.93	RMS	31.8	-29	.31	40.04	54	-13.96	-	-	263	101	V
4	* 2.389	37.4	RMS	31.8	-29	.31	40.51	54	-13.49	-	-	263	101	V

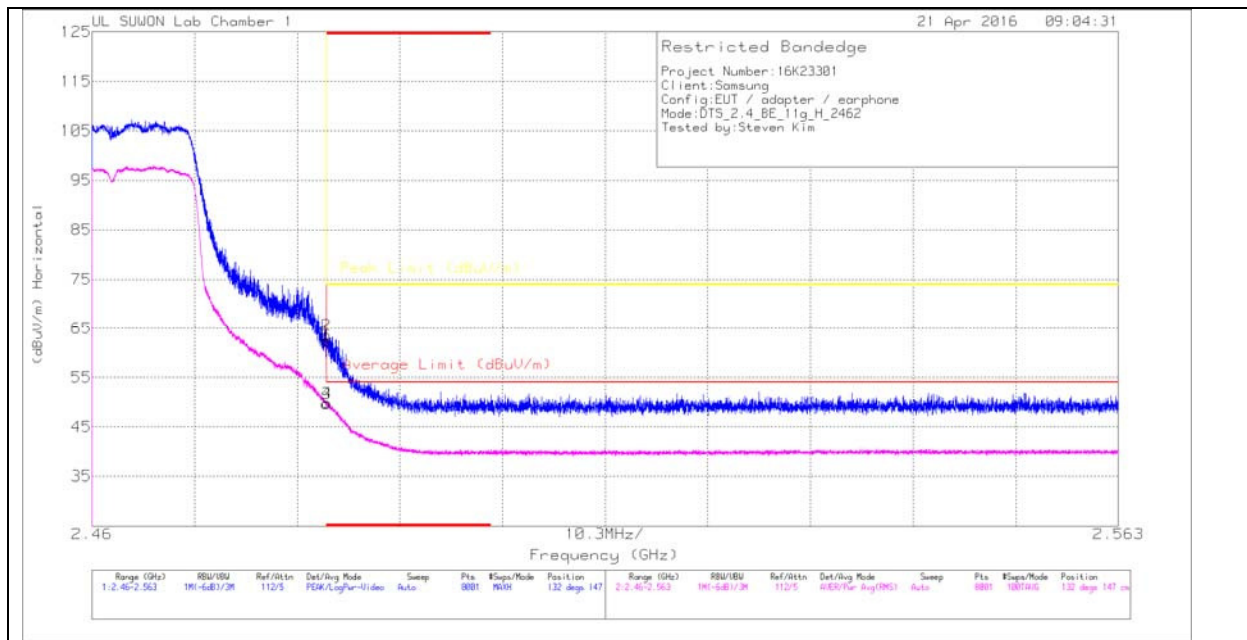
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

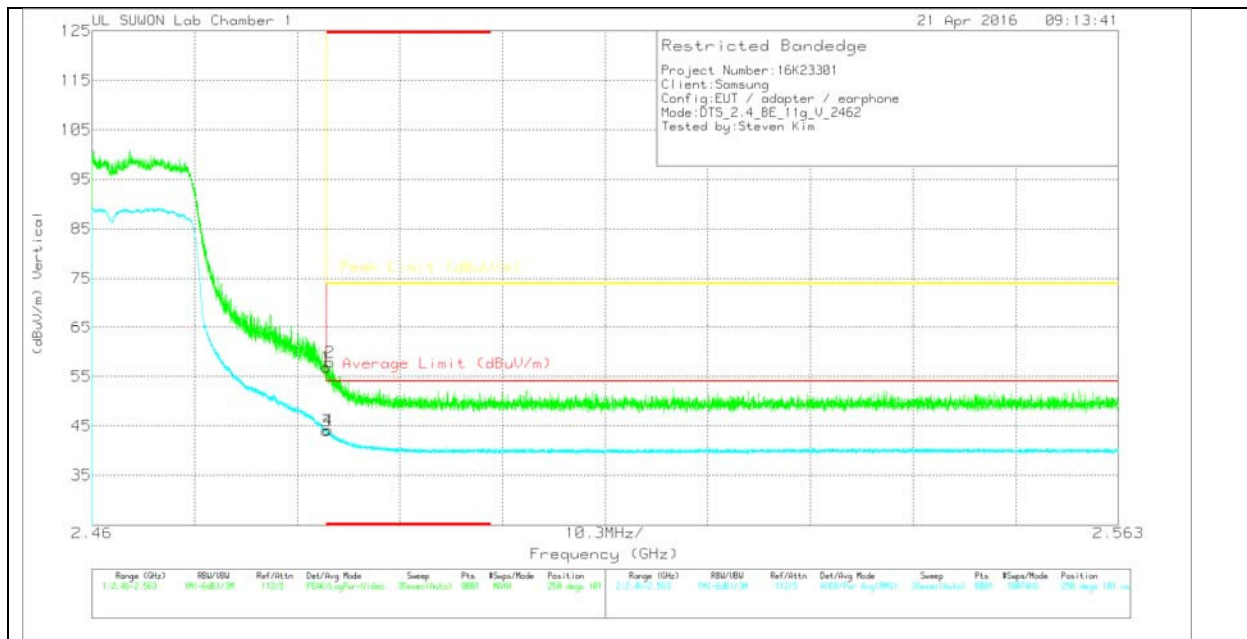
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.484	58.62	Pk	32	-28.3	0	62.32	-	-	74	-11.68	132	147	H
2	* 2.484	59.93	Pk	32	-28.3	0	63.63	-	-	74	-10.37	132	147	H
3	* 2.484	45.73	RMS	32	-28.3	.31	49.74	54	-4.26	-	-	132	147	H
4	* 2.484	45.82	RMS	32	-28.3	.31	49.83	54	-4.17	-	-	132	147	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	Path_2	DC Corr (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	53.24	Pk	32	-28.3	0	56.94	-	-	74	-17.06	258	101	V
2	* 2.484	54.17	Pk	32	-28.3	0	57.87	-	-	74	-16.13	258	101	V
3	* 2.484	40.03	RMS	32	-28.3	.31	44.04	54	-9.96	-	-	258	101	V
4	* 2.484	40.08	RMS	32	-28.3	.31	44.09	54	-9.91	-	-	258	101	V

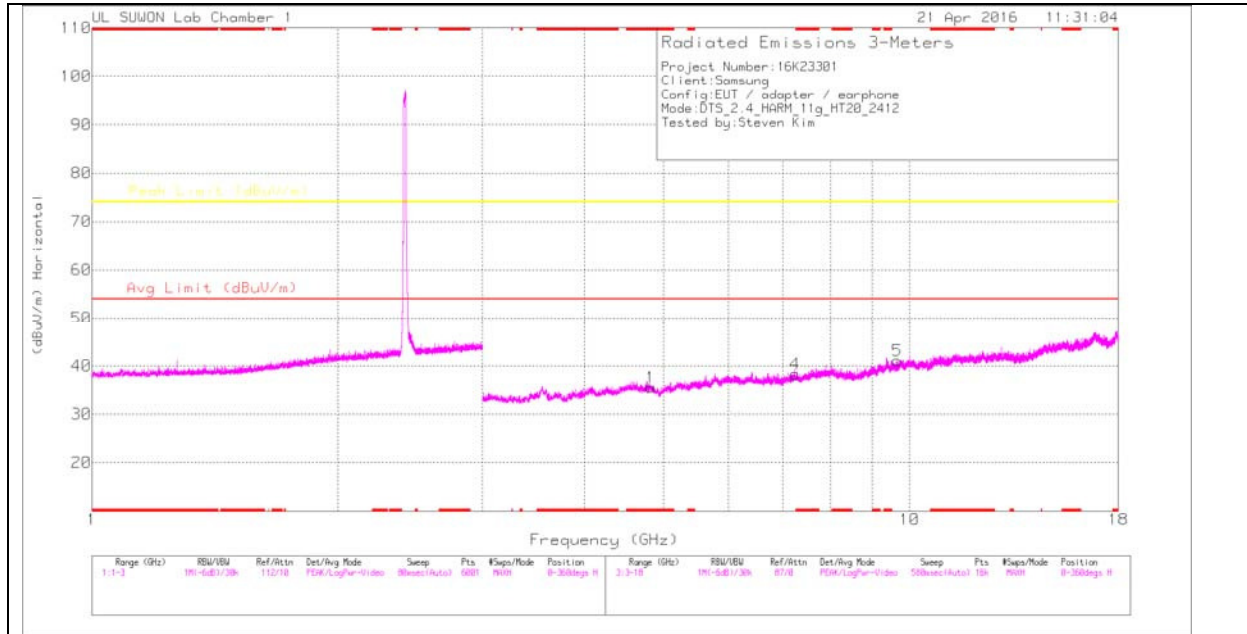
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

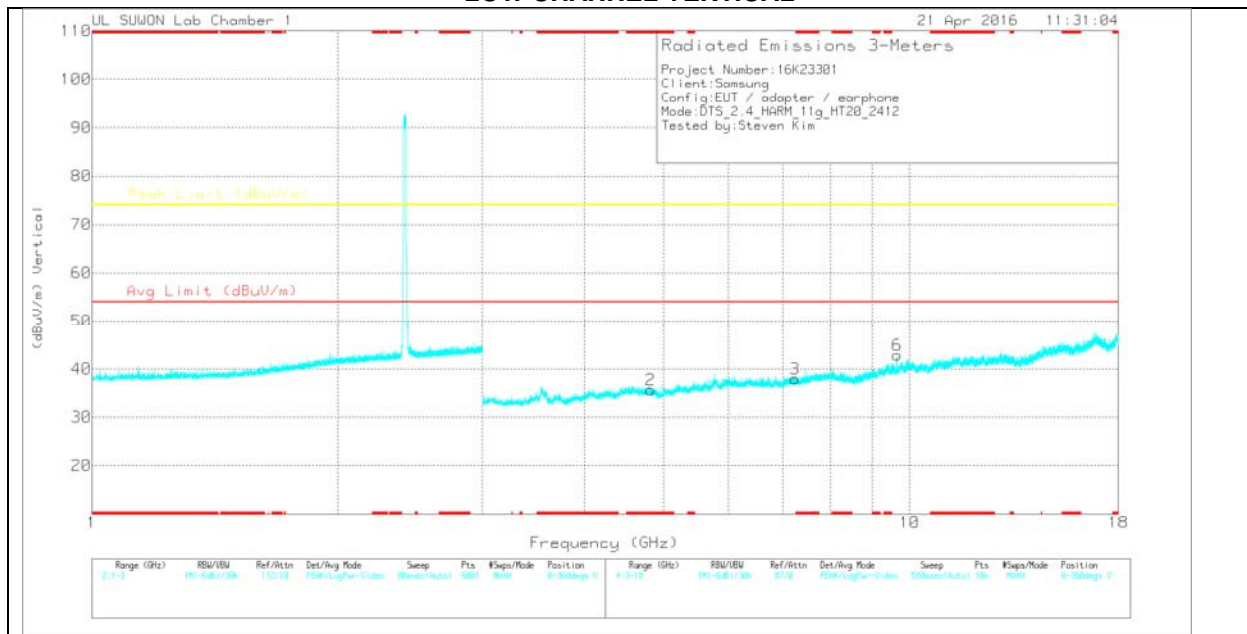
RMS - RMS detection

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.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.821	35.33	Pk	34	-33.8	0	35.53	-	-	74	-38.47	0-360	100	H
4	7.238	33.48	Pk	35.7	-30.9	0	38.28	-	-	74	-35.72	0-360	200	H
5	9.648	31.37	Pk	37.1	-27.4	0	41.07	-	-	74	-32.93	0-360	200	H
2	* 4.818	35.54	Pk	34	-33.8	0	35.74	-	-	74	-38.26	0-360	200	V
3	7.236	33.16	Pk	35.7	-30.9	0	37.96	-	-	74	-36.04	0-360	100	V
6	9.648	33.24	Pk	37.1	-27.4	0	42.94	-	-	74	-31.06	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

Radiated Emissions

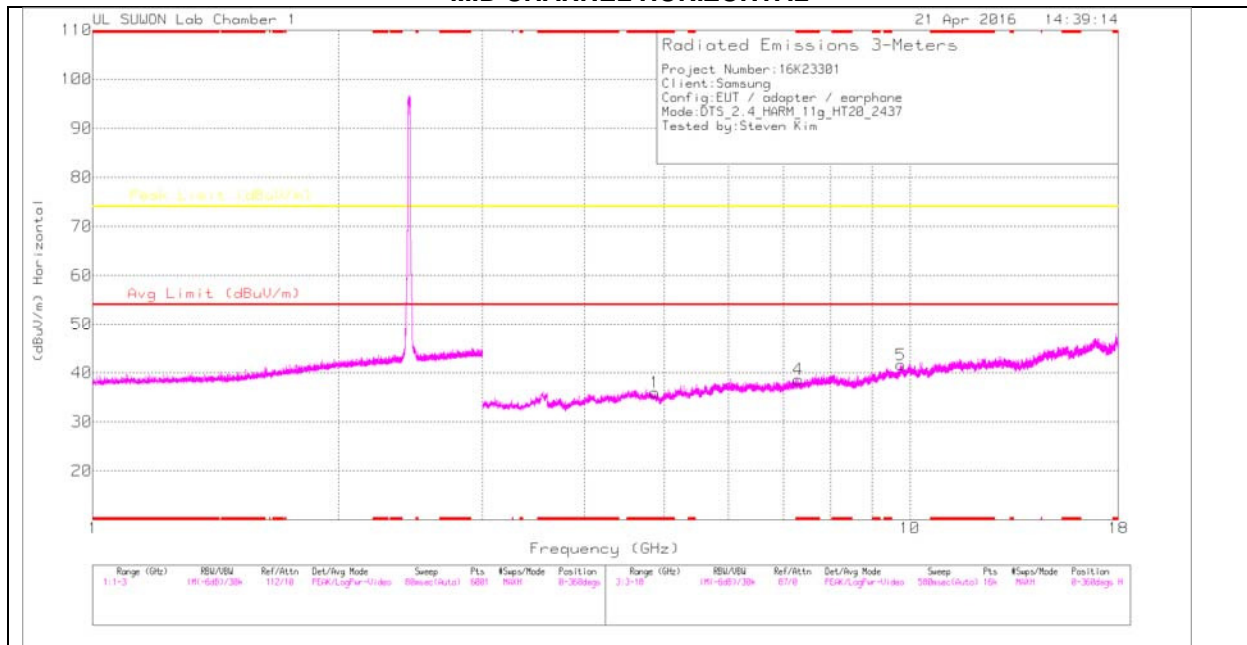
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.649	42.64	PK2	37.1	-27.4	0	52.34	-	-	74	-21.66	21	125	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

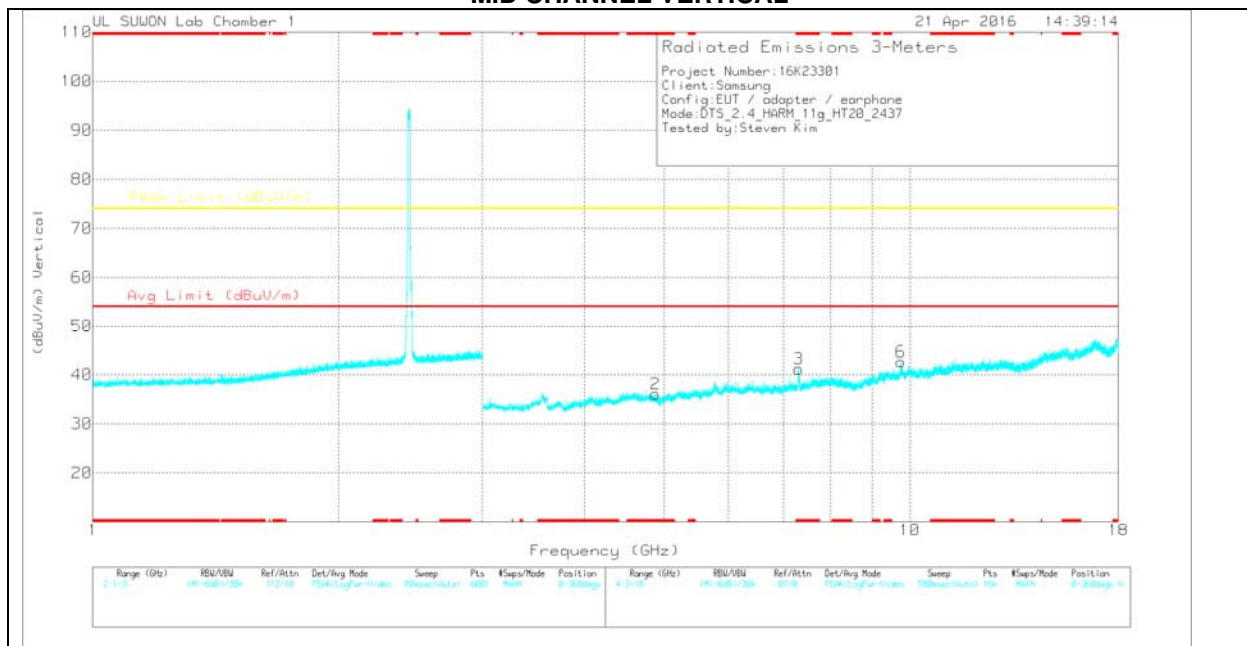
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

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.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.874	36.02	PK	34	-34	0	36.02	-	-	74	-37.98	0-360	200	H
4	* 7.305	33.86	PK	35.7	-30.9	0	38.66	-	-	74	-35.34	0-360	200	H
5	9.748	31.22	PK	37.2	-26.8	0	41.62	-	-	74	-32.38	0-360	200	H
2	* 4.881	36.07	PK	34	-34	0	36.07	-	-	74	-37.93	0-360	200	V
3	* 7.309	36.39	PK	35.7	-30.9	0	41.19	-	-	74	-32.81	0-360	100	V
6	9.748	32.26	PK	37.2	-26.8	0	42.66	-	-	74	-31.34	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

Radiated Emissions

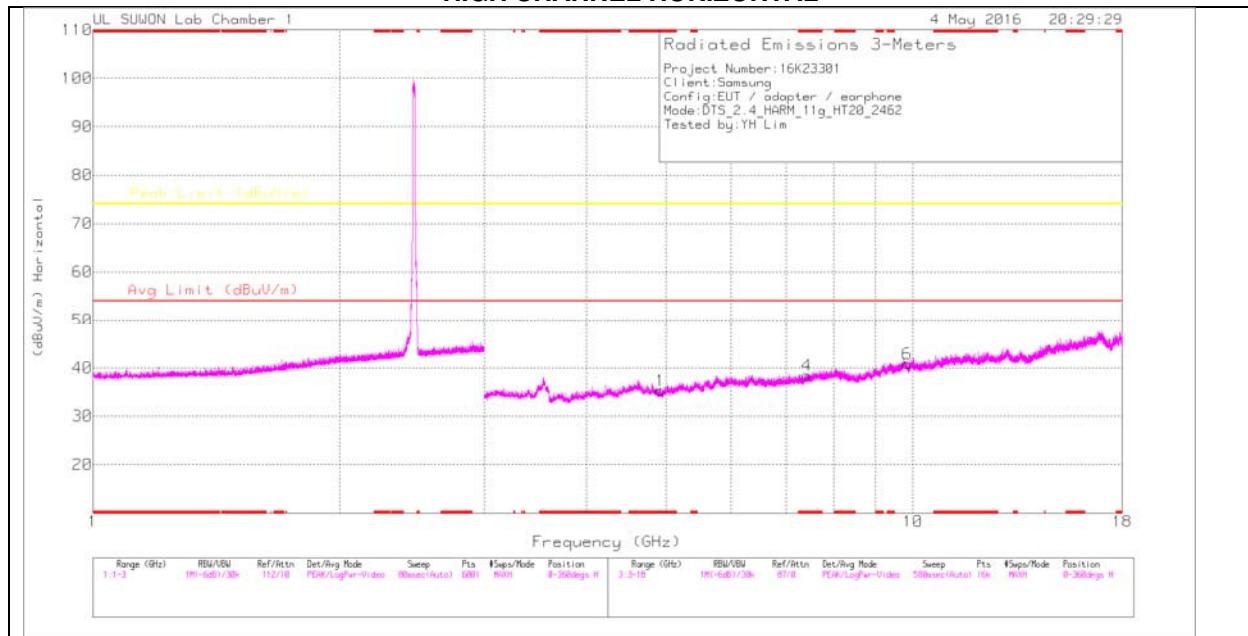
Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001 68717)_1 50619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.309	48.8	PK2	35.7	-30.9	0	53.6	-	-	74	-20.4	44	272	H
* 7.312	34.83	MAv1	35.7	-30.9	.31	39.94	54	-14.06	-	-	44	272	H
* 7.311	52.26	PK2	35.7	-30.9	0	57.06	-	-	74	-16.94	194	100	V
* 7.311	37.93	MAv1	35.7	-30.9	.31	43.04	54	-10.96	-	-	194	100	V
9.747	41.2	PK2	37.2	-26.8	0	51.6	-	-	74	-22.4	218	128	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

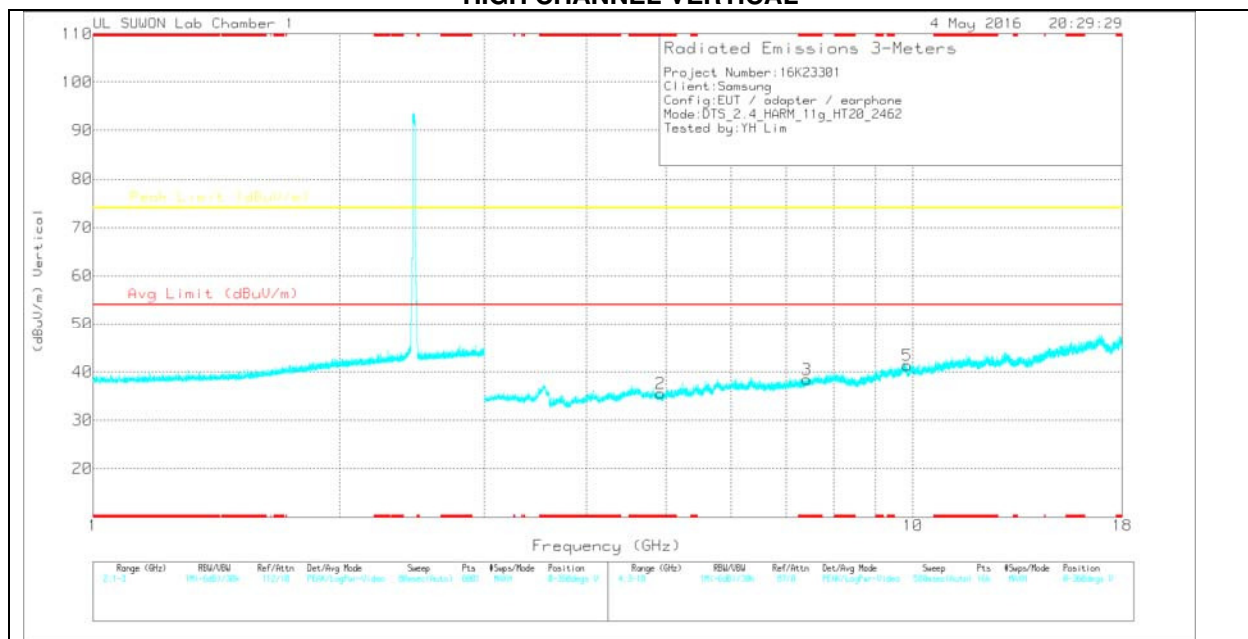
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.924	35.35	Pk	34	-34	0	35.35	-	-	74	-38.65	0-360	200	H
4	* 7.425	33.52	Pk	35.8	-30.8	0	38.52	-	-	74	-35.48	0-360	100	H
6	9.848	31.14	Pk	37.3	-27.6	0	40.84	-	-	74	-33.16	0-360	100	H
2	* 4.918	35.53	Pk	34	-34	0	35.53	-	-	74	-38.47	0-360	100	V
3	* 7.418	33.41	Pk	35.8	-30.7	0	38.51	-	-	74	-35.49	0-360	200	V
5	9.848	31.62	Pk	37.3	-27.6	0	41.32	-	-	74	-32.68	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

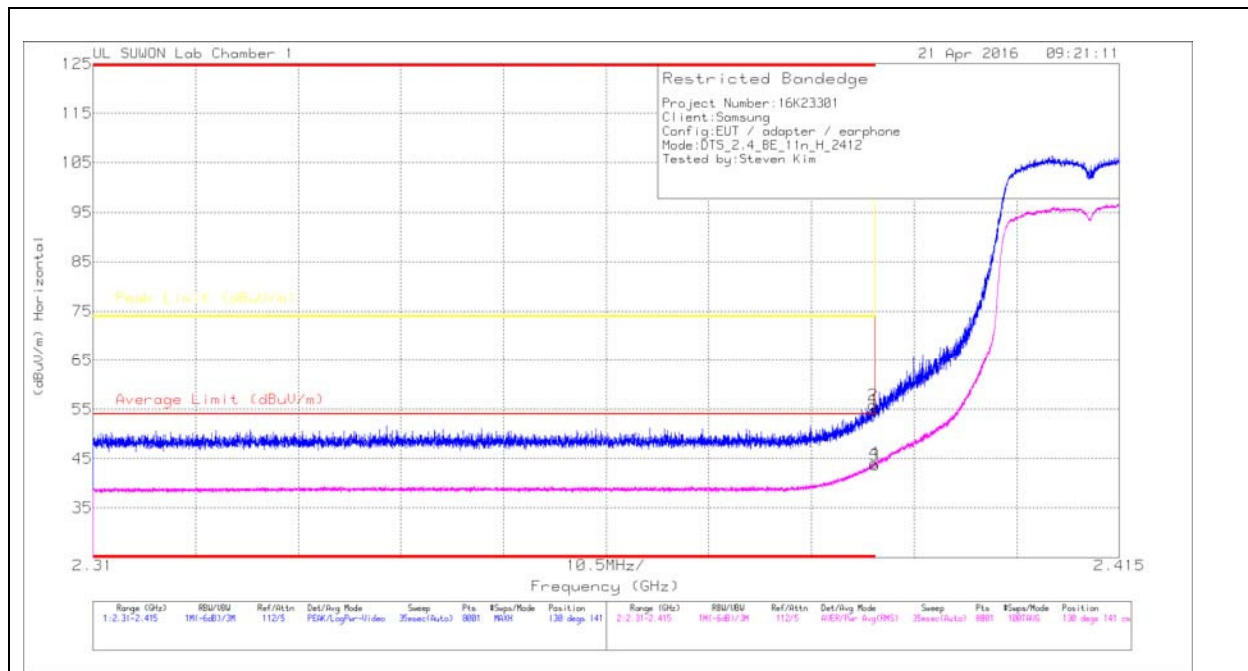
PK – Peak detector

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

11.2.3. TX ABOVE 1 GHz 802.11n HT20 2TX CDD MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

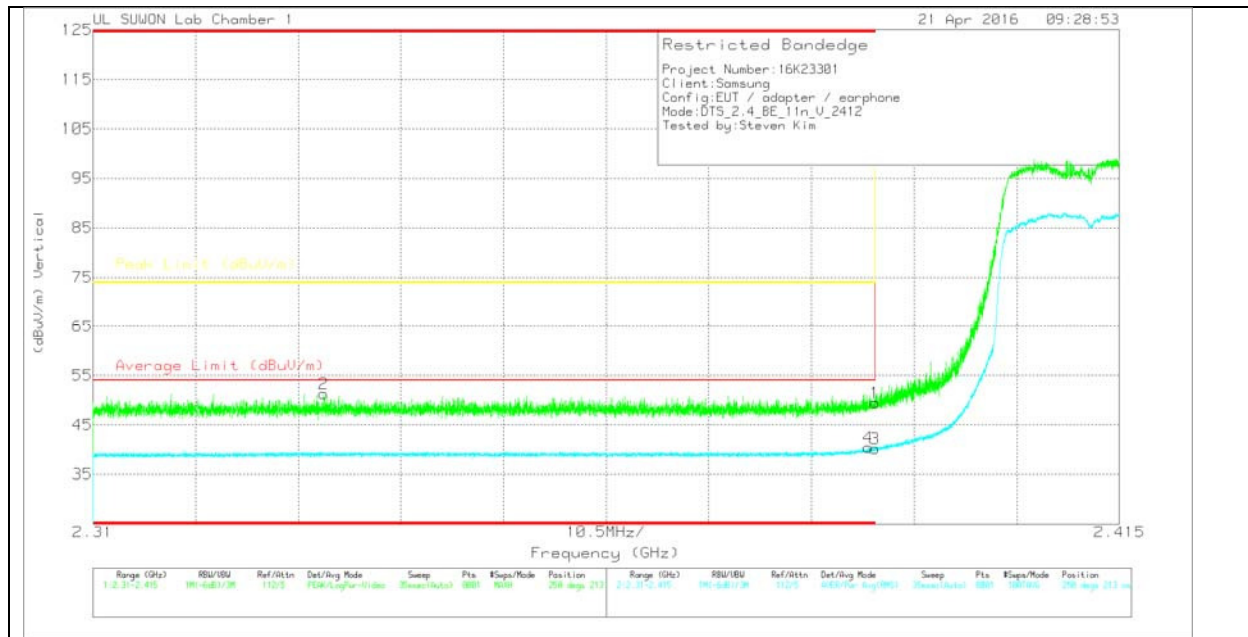
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/00168 717/_15061 9	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	52.14	Pk	31.8	-29	0	54.94	-	-	74	-19.06	130	141	H
2	* 2.39	53.04	Pk	31.8	-29	0	55.84	-	-	74	-18.16	130	141	H
3	* 2.39	40.57	RMS	31.8	-29	.33	43.7	54	-10.3	-	-	130	141	H
4	* 2.39	40.95	RMS	31.8	-29	.33	44.08	54	-9.92	-	-	130	141	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(00168 717)_15061 9	Path_2	DC Corr (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	46.71	Pk		-29	0	49.51	-	-	74	-24.49	258	213	V
2	* 2.334	48.59	Pk		-29	0	51.29	-	-	74	-22.71	258	213	V
3	* 2.39	37.1	RMS		-29	.33	40.23	54	-13.77	-	-	258	213	V
4	* 2.389	37.35	RMS		-29	.33	40.48	54	-13.52	-	-	258	213	V

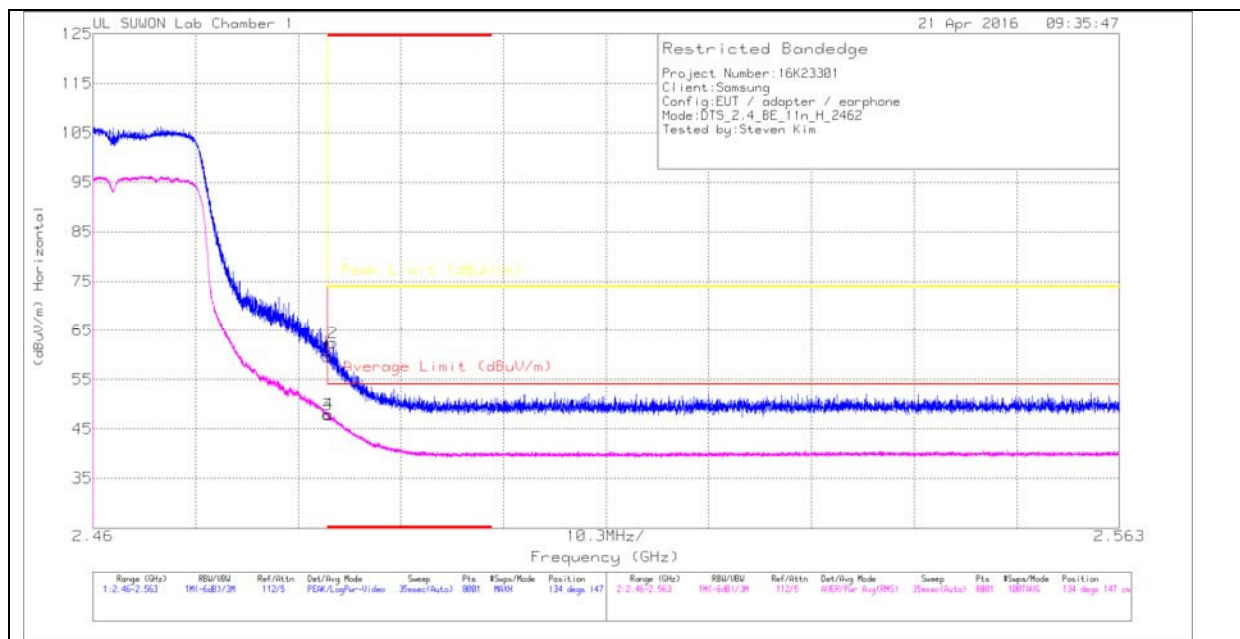
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

TRACE MARKERS

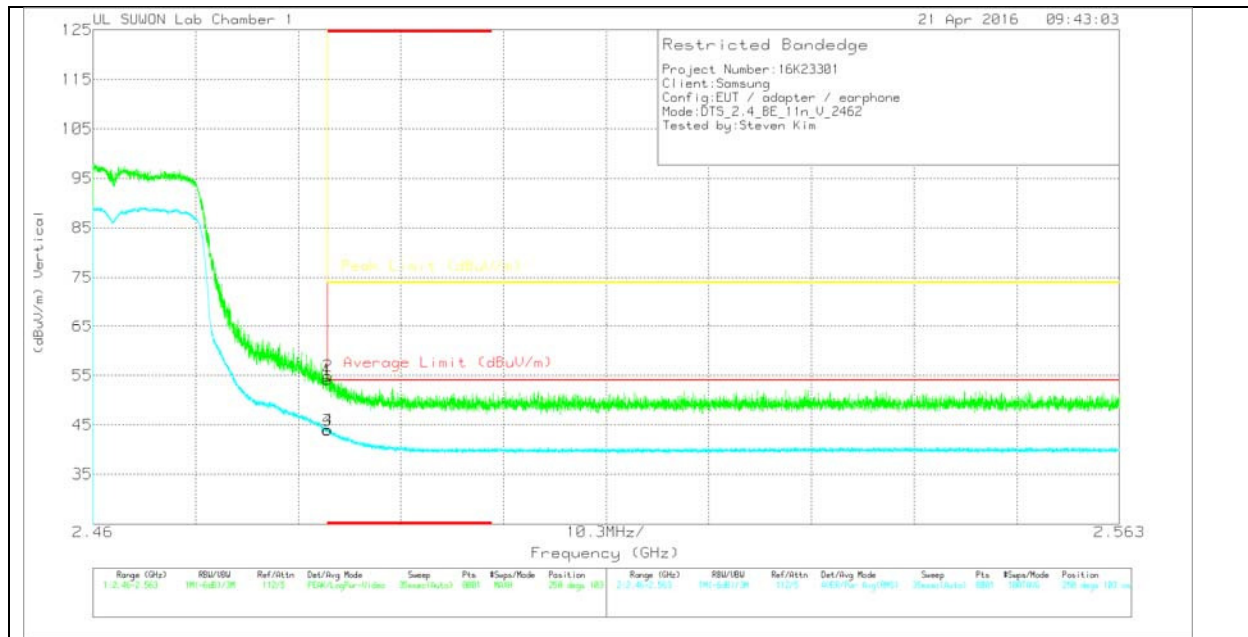
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	55.96	Pk	32	-28.3	0	59.66	-	-	74	-14.34	134	147	H
2	* 2.484	58.71	Pk	32	-28.3	0	62.41	-	-	74	-11.59	134	147	H
3	* 2.484	43.79	RMS	32	-28.3	.33	47.82	54	-6.18	-	-	134	147	H
4	* 2.484	43.99	RMS	32	-28.3	.33	48.02	54	-5.98	-	-	134	147	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117/00168 717_15061 9	Path_2	DC Corr (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	50.5	Pk	32	-28.3	0	54.2	-	-	74	-19.8	258	103	V
2	* 2.484	51.25	Pk	32	-28.3	0	54.95	-	-	74	-19.05	258	103	V
3	* 2.484	39.83	RMS	32	-28.3	.33	43.86	54	-10.14	-	-	258	103	V
4	* 2.484	39.99	RMS	32	-28.3	.33	44.02	54	-9.98	-	-	258	103	V

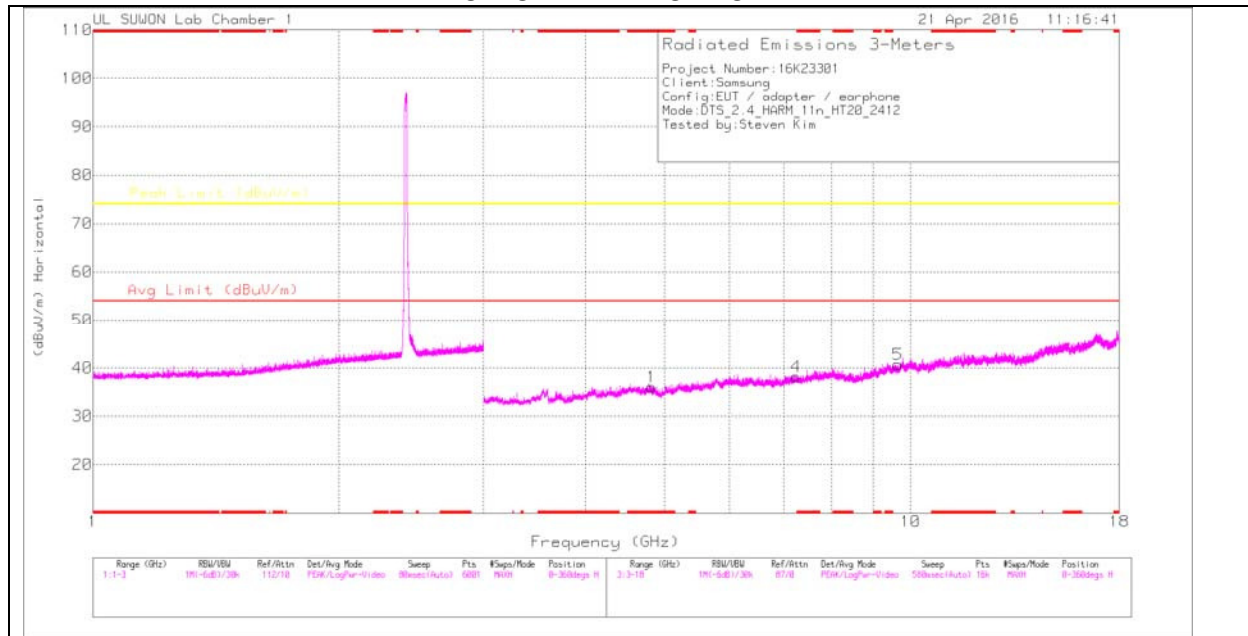
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

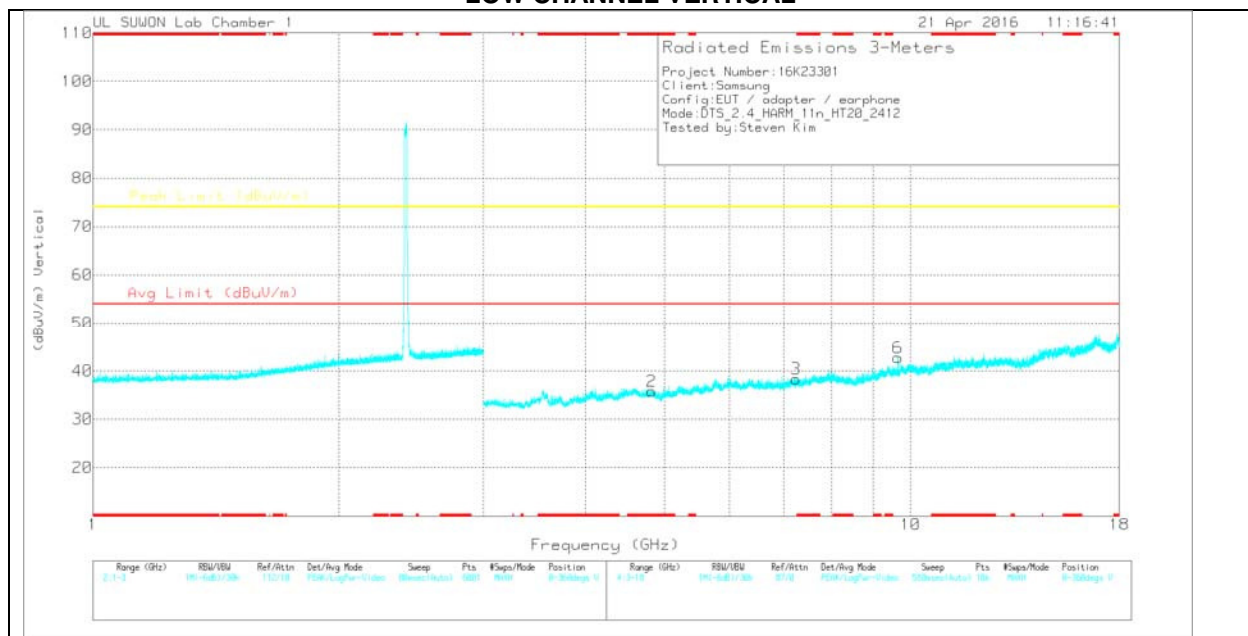
RMS - RMS detection

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.

LOW CHANNEL DATA

TRACE MARKERS

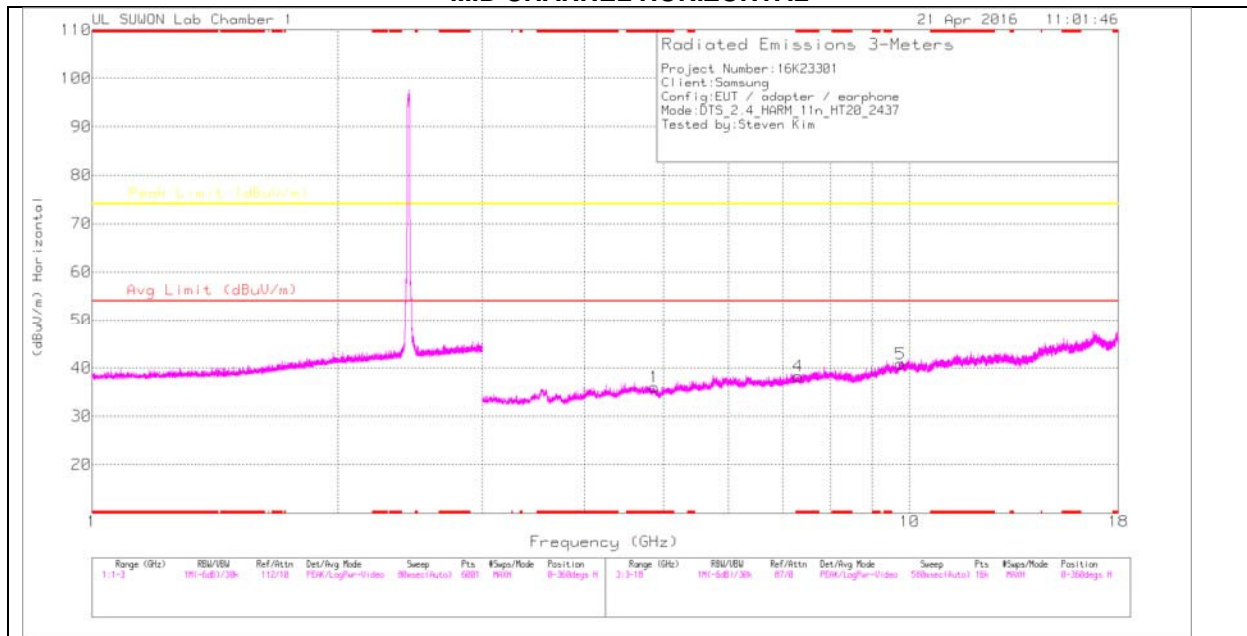
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.823	35.84	PK	34	-33.8	0	36.04	-	-	74	-37.96	0-360	200	H
4	7.236	33.37	PK	35.7	-30.9	0	38.17	-	-	74	-35.83	0-360	100	H
5	9.647	31.03	PK	37.1	-27.4	0	40.73	-	-	74	-33.27	0-360	100	H
2	* 4.823	35.63	PK	34	-33.8	0	35.83	-	-	74	-38.17	0-360	100	V
3	7.235	33.6	PK	35.7	-30.9	0	38.4	-	-	74	-35.6	0-360	100	V
6	9.647	33.1	PK	37.1	-27.4	0	42.8	-	-	74	-31.2	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

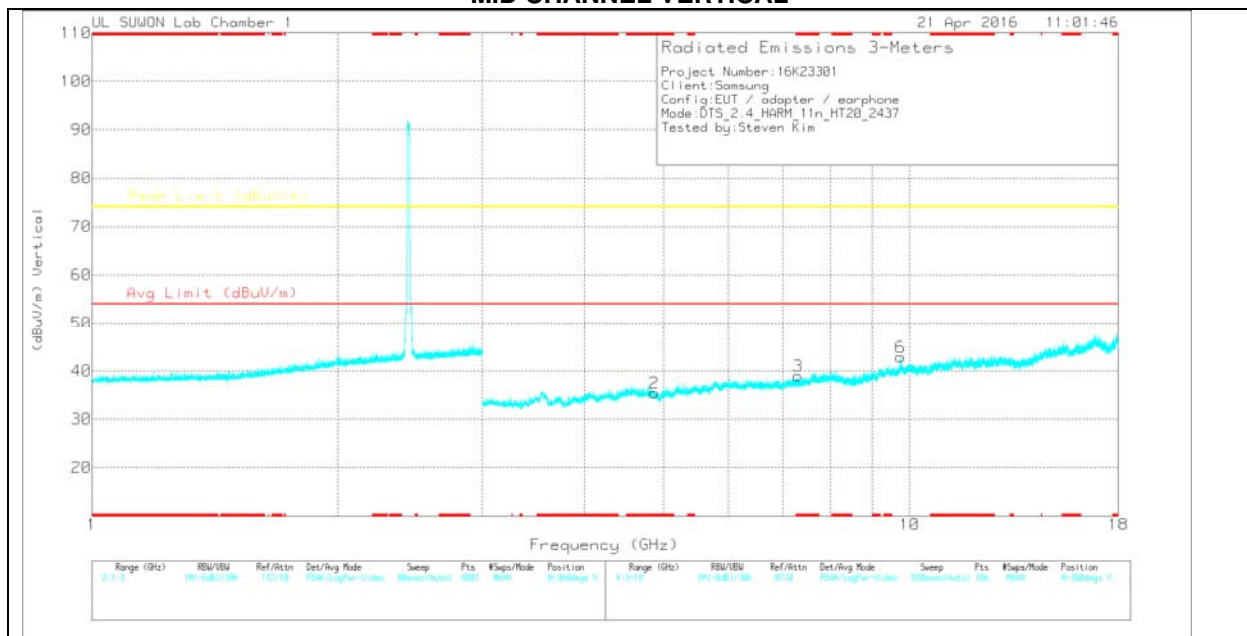
PK – Peak detector

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

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.

MID CHANNEL DATA

TRACE MARKERS

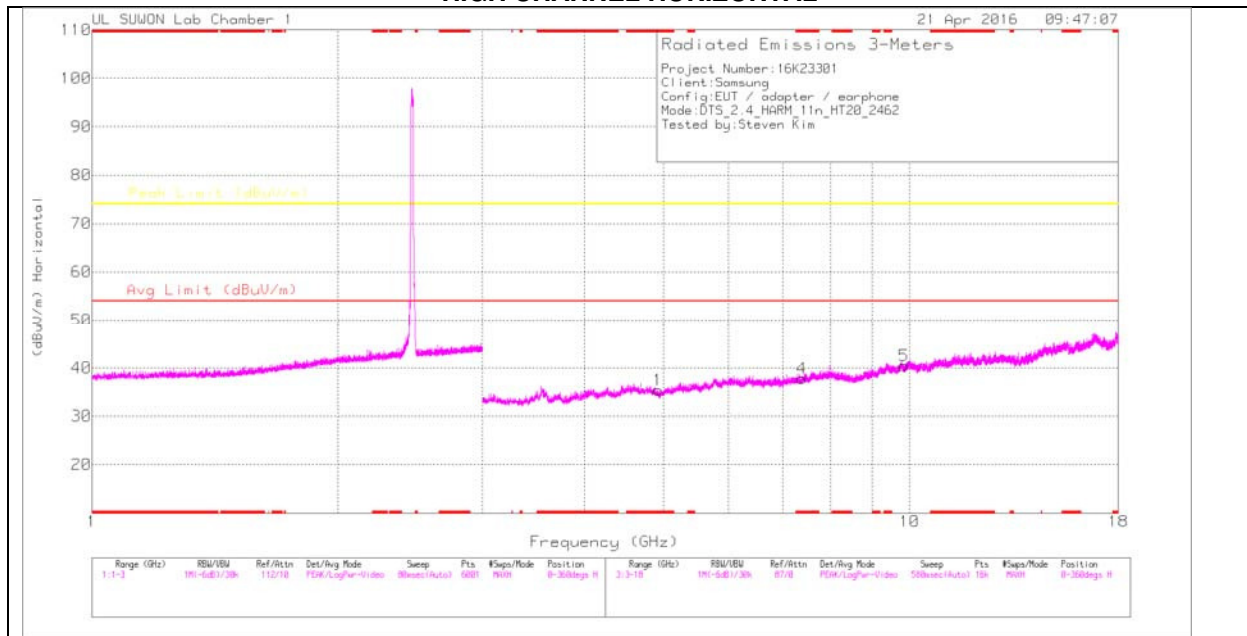
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(001687 17)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.874	36.06	PK	34	-34	0	36.06	-	-	74	-37.94	0-360	200	H
4	* 7.306	33.48	PK	35.7	-30.9	0	38.28	-	-	74	-35.72	0-360	200	H
5	9.748	30.44	PK	37.2	-26.8	0	40.84	-	-	74	-33.16	0-360	100	H
2	* 4.87	35.4	PK	34	-34	0	35.4	-	-	74	-38.6	0-360	100	V
3	* 7.307	34.2	PK	35.7	-30.9	0	39	-	-	74	-35	0-360	200	V
6	9.748	32.45	PK	37.2	-26.8	0	42.85	-	-	74	-31.15	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

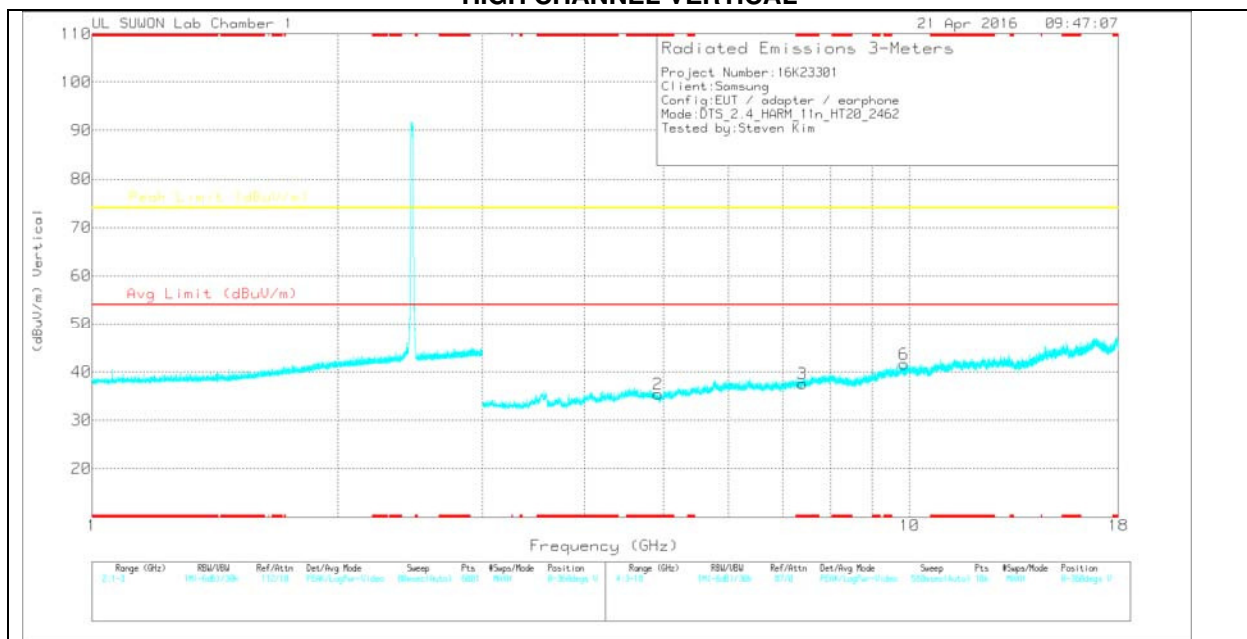
PK – Peak detector

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

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.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117(0016871 7)_150619	Path_3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.924	35.42	PK	34	-34	0	35.42	-	-	74	-38.58	0-360	100	H
4	* 7.382	32.89	PK	35.8	-30.8	0	37.89	-	-	74	-36.11	0-360	100	H
5	9.848	30.81	PK	37.3	-27.6	0	40.51	-	-	74	-33.49	0-360	100	H
2	* 4.919	35.4	PK	34	-34	0	35.4	-	-	74	-38.6	0-360	100	V
3	* 7.387	32.5	PK	35.8	-30.7	0	37.6	-	-	74	-36.4	0-360	200	V
6	9.848	31.93	PK	37.3	-27.6	0	41.63	-	-	74	-32.37	0-360	100	V

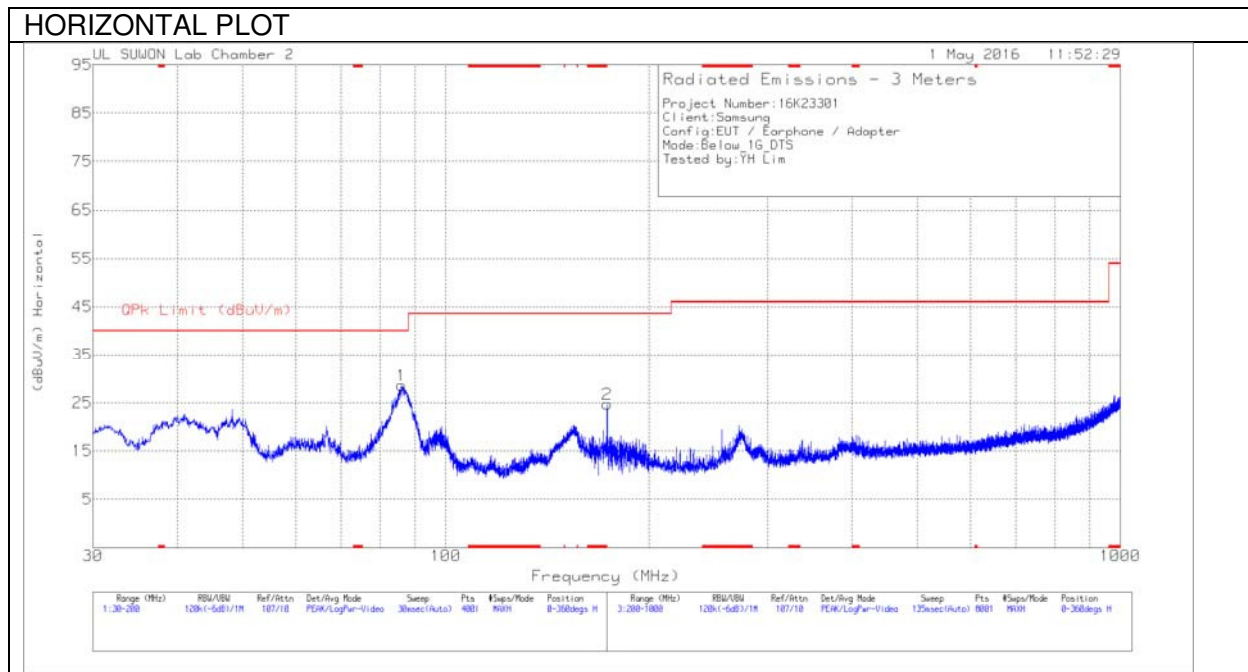
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK – Peak detector

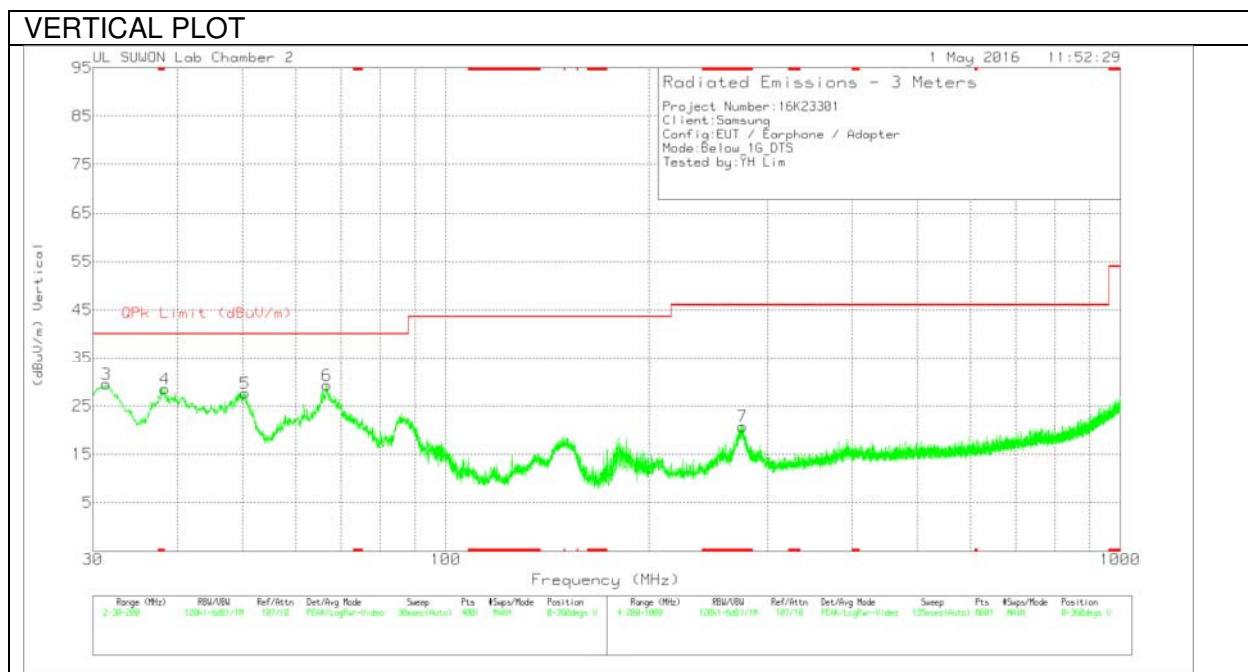
Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

11.3. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-749	Below_1G	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	86.0575	50.69	Pk	8.6	-30.6	28.69	40	-11.31	0-360	200	H
2	173.5225	45.94	Pk	9.2	-30.4	24.74	43.52	-18.78	0-360	200	H
3	31.4025	49.9	Pk	10.4	-30.8	29.5	40	-10.5	0-360	100	V
4	38.33	47.19	Pk	12.1	-30.8	28.49	40	-11.51	0-360	100	V
5	50.4425	44.25	Pk	14.1	-30.7	27.65	40	-12.35	0-360	100	V
6	66.635	49.18	Pk	10.7	-30.6	29.28	40	-10.72	0-360	100	V
7	* 275.5	37.85	Pk	12.9	-30	20.75	46.02	-25.27	0-360	200	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

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 2009.

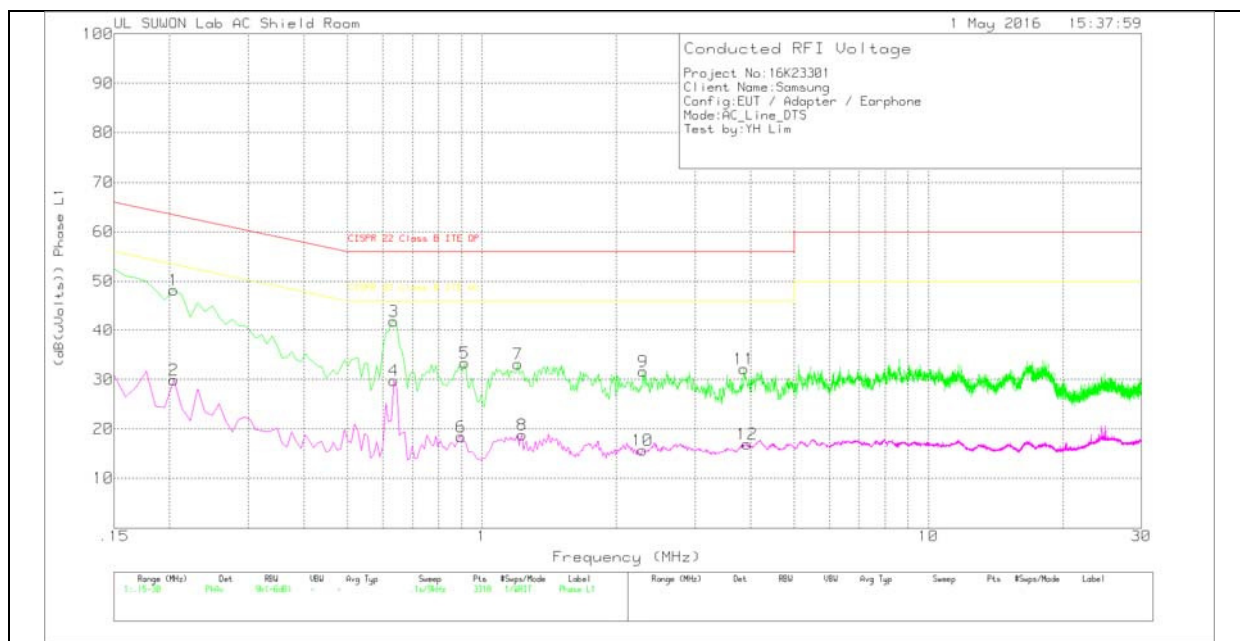
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

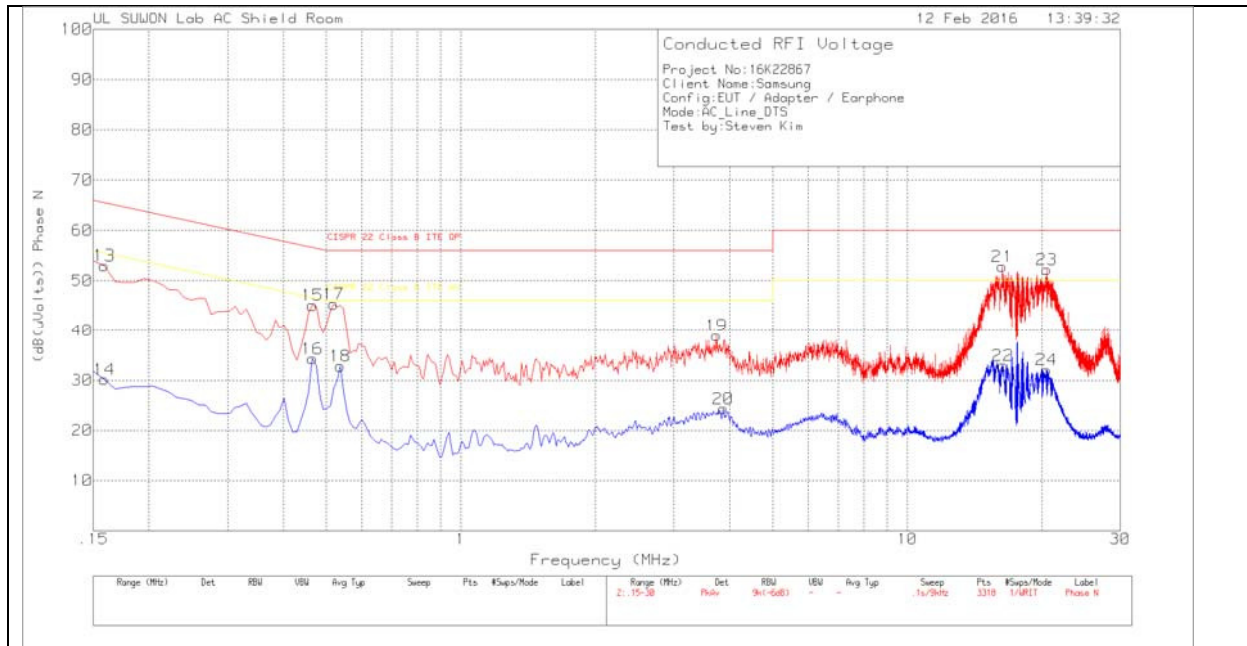
Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_wit h ex-cord_L1	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
1	.204	38.33	Pk	9.9	0	48.23	63.45	-15.22	-	-
2	.204	19.95	Av	9.9	0	29.85	-	-	53.45	-23.6
3	.636	31.82	Pk	10.1	0	41.92	56	-14.08	-	-
4	.636	19.7	Av	10.1	0	29.8	-	-	46	-16.2
5	.915	23.45	Pk	9.9	0	33.35	56	-22.65	-	-
6	.897	8.41	Av	10	0	18.41	-	-	46	-27.59
7	1.203	23.12	Pk	9.9	.1	33.12	56	-22.88	-	-
8	1.23	8.74	Av	9.9	.1	18.74	-	-	46	-27.26
9	2.301	21.7	Pk	9.8	.1	31.6	56	-24.4	-	-
10	2.292	5.73	Av	9.8	.1	15.63	-	-	46	-30.37
11	3.867	22.18	Pk	9.8	.1	32.08	56	-23.92	-	-
12	3.921	7.03	Av	9.8	.1	16.93	-	-	46	-29.07

Pk - Peak detector

Av - Average detection

LINE 2 PLOT



LINE 2 RESULTS

Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_w ith ex-cord_N	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
13	.177	34.07	Pk	10.1	0	44.17	64.63	-20.46	-	-
14	.177	16.33	Av	10.1	0	26.43	-	-	54.63	-28.2
15	.636	32.59	Pk	10.1	0	42.69	56	-13.31	-	-
16	.636	18.29	Av	10.1	0	28.39	-	-	46	-17.61
17	.771	23.65	Pk	10	0	33.65	56	-22.35	-	-
18	.753	8.57	Av	10	0	18.57	-	-	46	-27.43
19	1.104	23.64	Pk	9.9	0	33.54	56	-22.46	-	-
20	1.104	8.22	Av	9.9	0	18.12	-	-	46	-27.88
21	2.418	23.08	Pk	9.8	.1	32.98	56	-23.02	-	-
22	2.445	6.93	Av	9.8	.1	16.83	-	-	46	-29.17
23	3.885	23.16	Pk	9.8	.1	33.06	56	-22.94	-	-
24	3.867	7.28	Av	9.8	.1	17.18	-	-	46	-28.82

Pk - Peak detector

Av - Average detection