

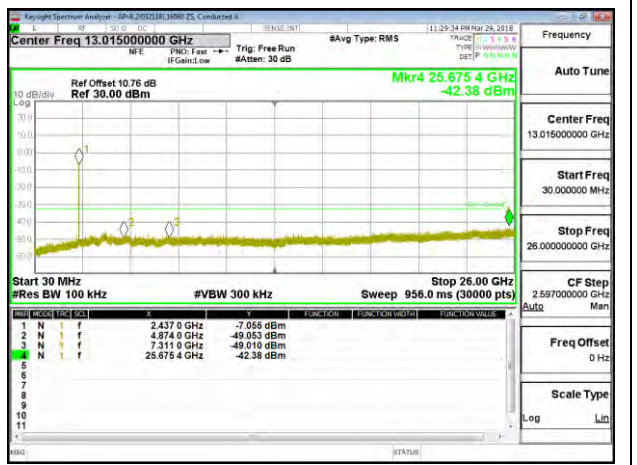
LOW CHANNEL 1 BANDEDGE CHAIN 1



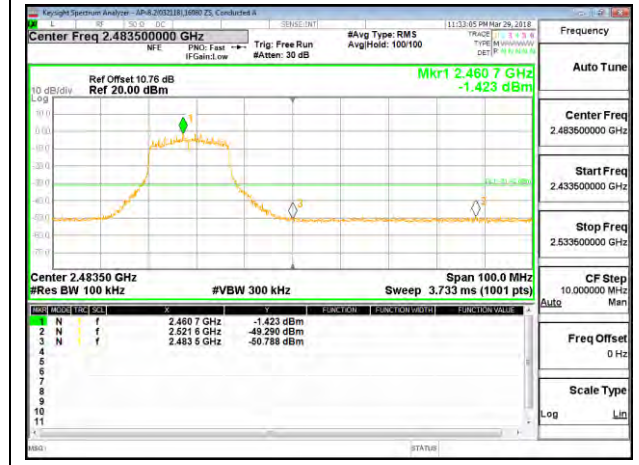
OUT-OF-BAND LOW CHANNEL 1 CHAIN 1



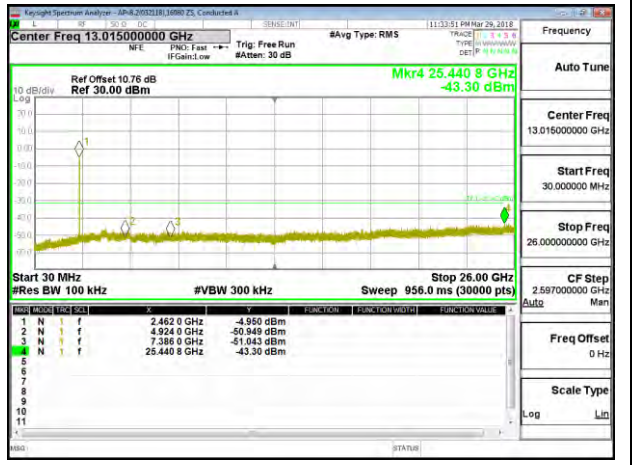
IN-BAND REFERENCE LEVEL CHAIN 1



OUT-OF-BAND MID CHANNEL 1 CHAIN 1



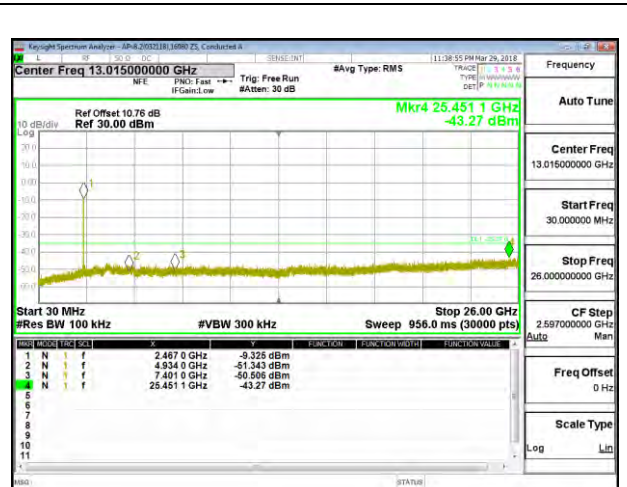
HIGH CHANNEL 11 BANDEDGE CHAIN 1



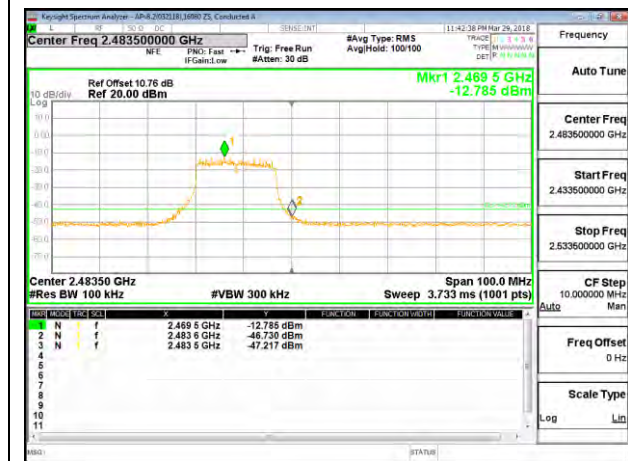
OUT-OF-BAND HIGH CHANNEL 11 CHAIN 1



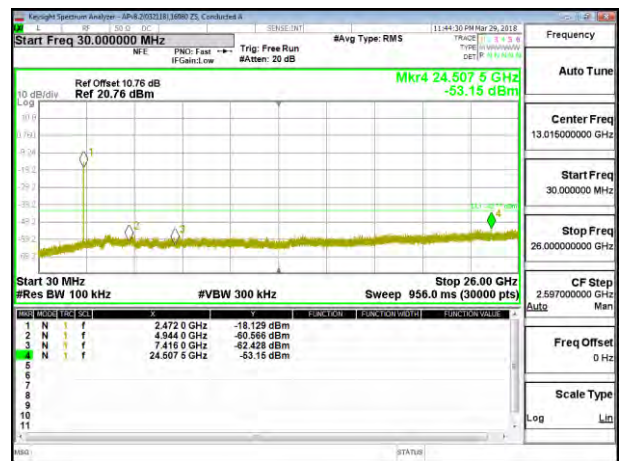
**HIGH CHANNEL 12 BANDEDGE CHAIN 1**



**OUT-OF-BAND HIGH CHANNEL 12 CHAIN 1**



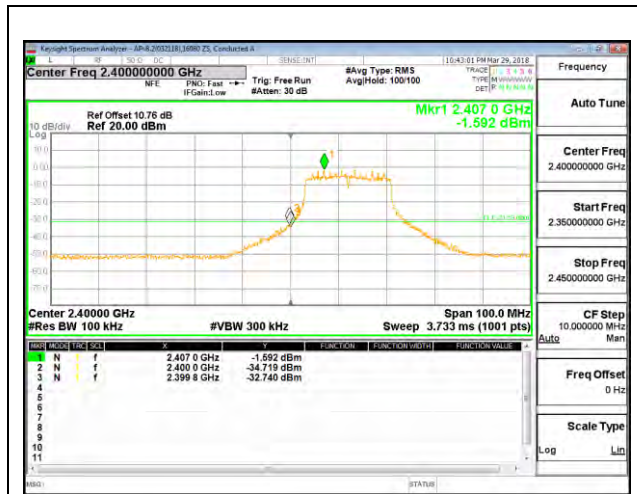
**HIGH CHANNEL 13 BANDEDGE CHAIN 1**



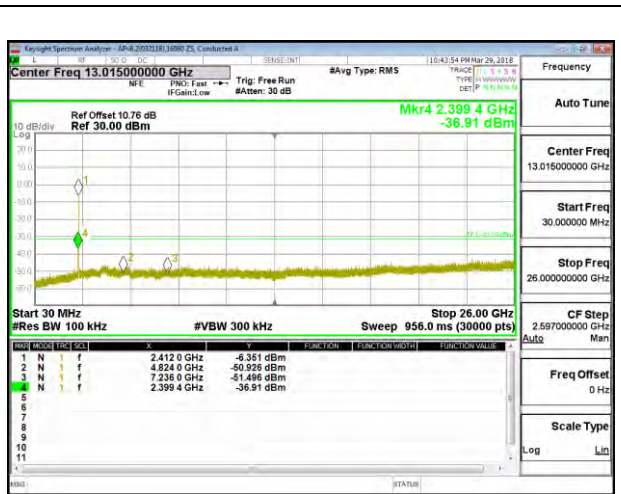
**OUT-OF-BAND HIGH CHANNEL 13 CHAIN 1**



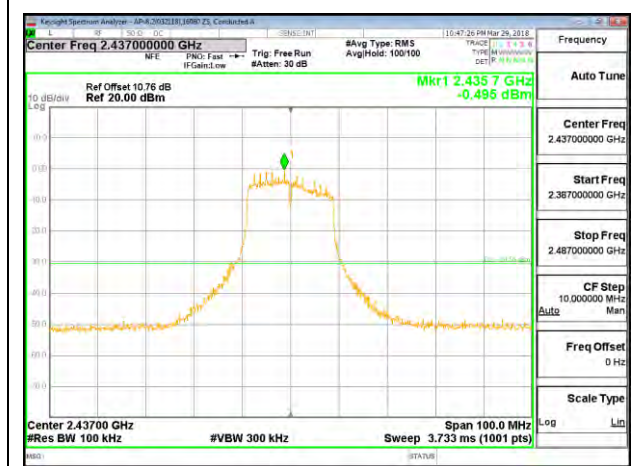
### 8.5.3. 802.11n HT20 MODE



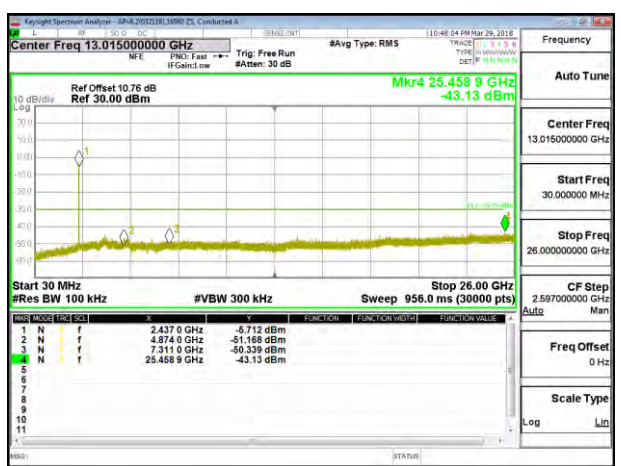
**LOW CHANNEL 1 BANDEDGE CHAIN 0**



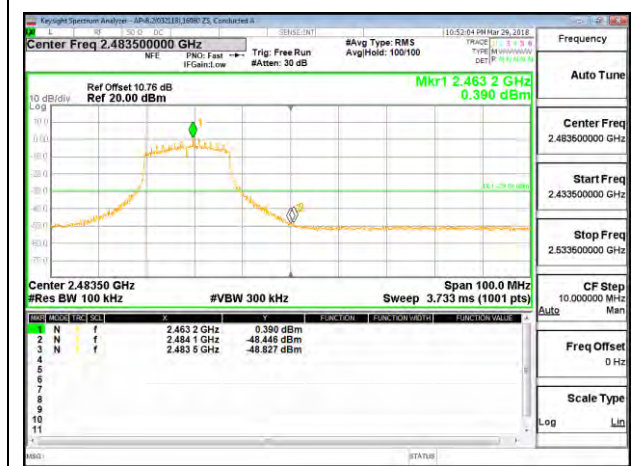
**OUT-OF-BAND LOW CHANNEL 1 CHAIN 0**



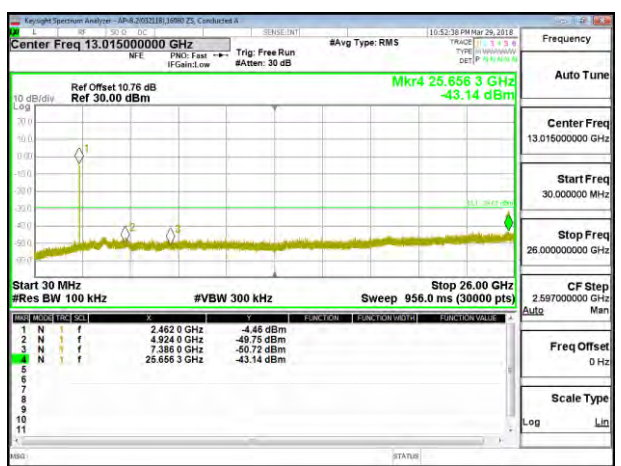
**IN-BAND REFERENCE LEVEL CHAIN 0**



**OUT-OF-BAND MID CHANNEL CHAIN 0**



**HIGH CHANNEL 11 BANDEDGE CHAIN 0**



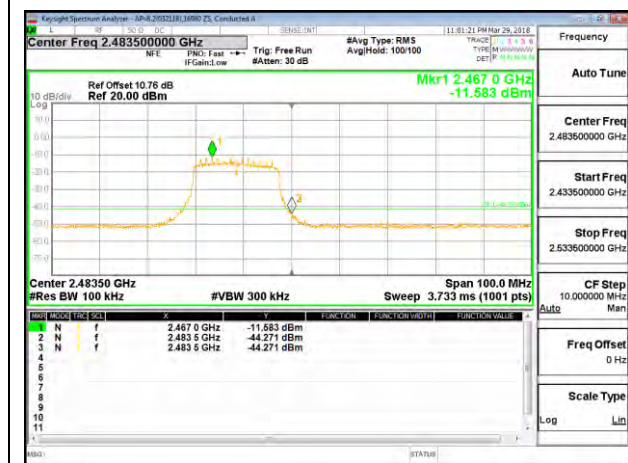
**OUT-OF-BAND HIGH CHANNEL 11 CHAIN 0**



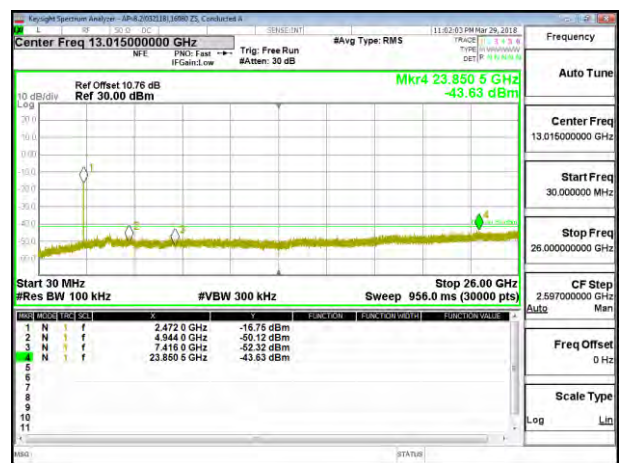
**HIGH CHANNEL 12 BANDEDGE CHAIN 0**



**OUT-OF-BAND HIGH CHANNEL 12 CHAIN 0**

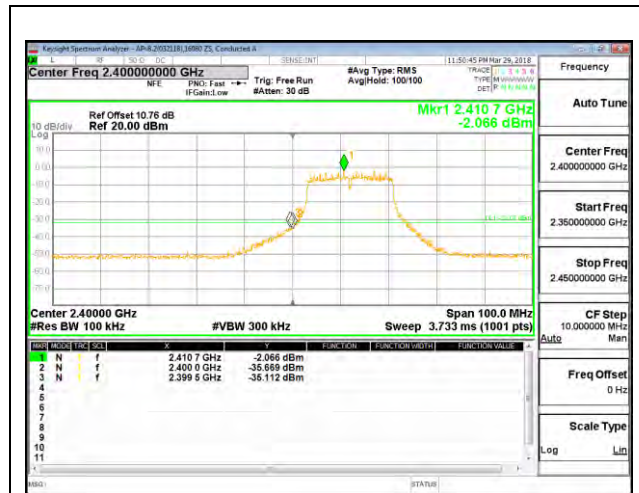


**HIGH CHANNEL 13 BANDEDGE CHAIN 0**

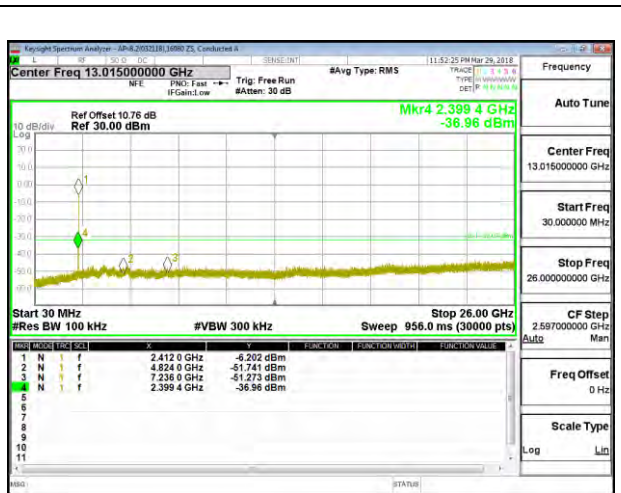


**OUT-OF-BAND HIGH CHANNEL 13 CHAIN 0**

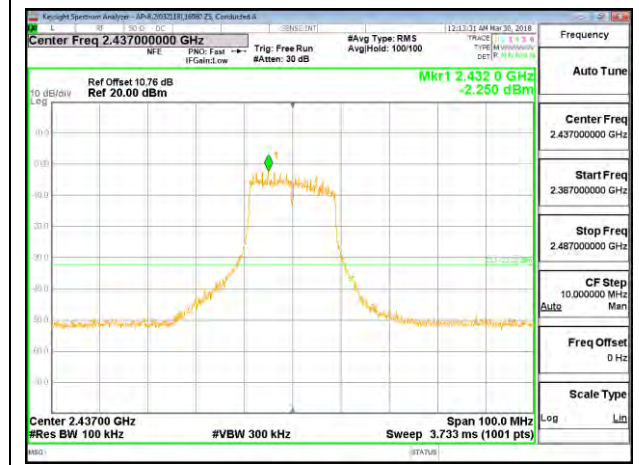




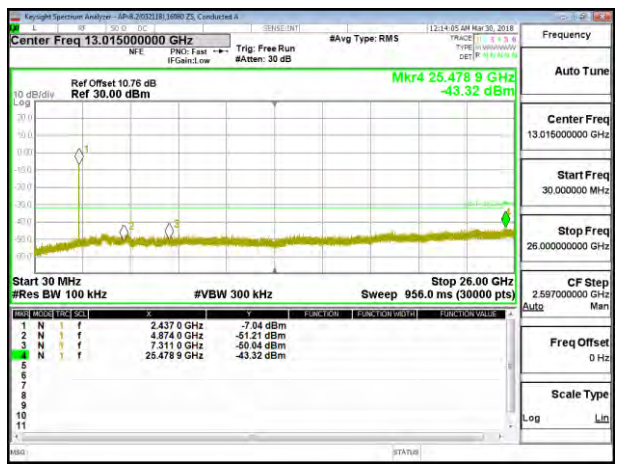
LOW CHANNEL 1 BANDEDGE CHAIN 1



OUT-OF-BAND LOW CHANNEL 1 CHAIN 1



IN-BAND REFERENCE LEVEL CHAIN 1



OUT-OF-BAND MID CHANNEL CHAIN 1



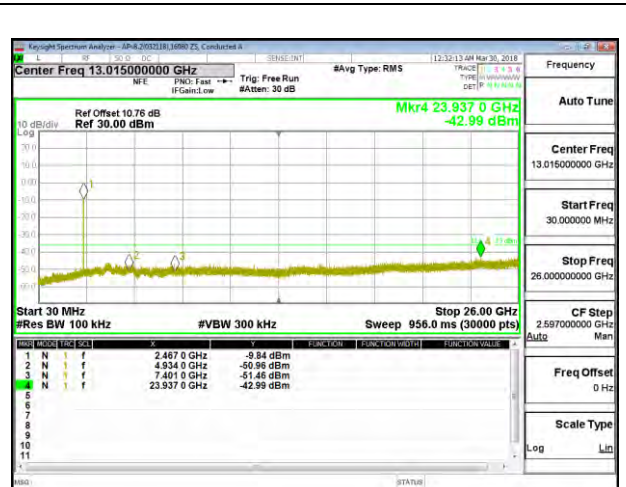
HIGH CHANNEL 11 BANDEDGE CHAIN 1



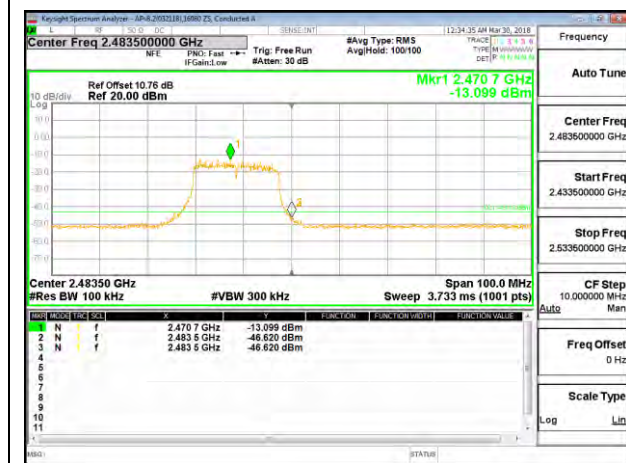
OUT-OF-BAND HIGH CHANNEL 11 CHAIN 1



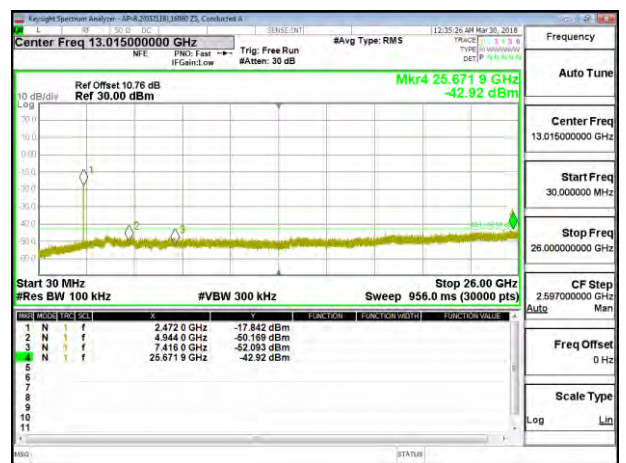
**HIGH CHANNEL 12 BANDEDGE CHAIN 1**



**OUT-OF-BAND HIGH CHANNEL 12 CHAIN 1**



**HIGH CHANNEL 13 BANDEDGE CHAIN 1**



**OUT-OF-BAND HIGH CHANNEL 13 CHAIN 1**

## 9. RADIATED TEST RESULTS

### 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
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
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 for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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 pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

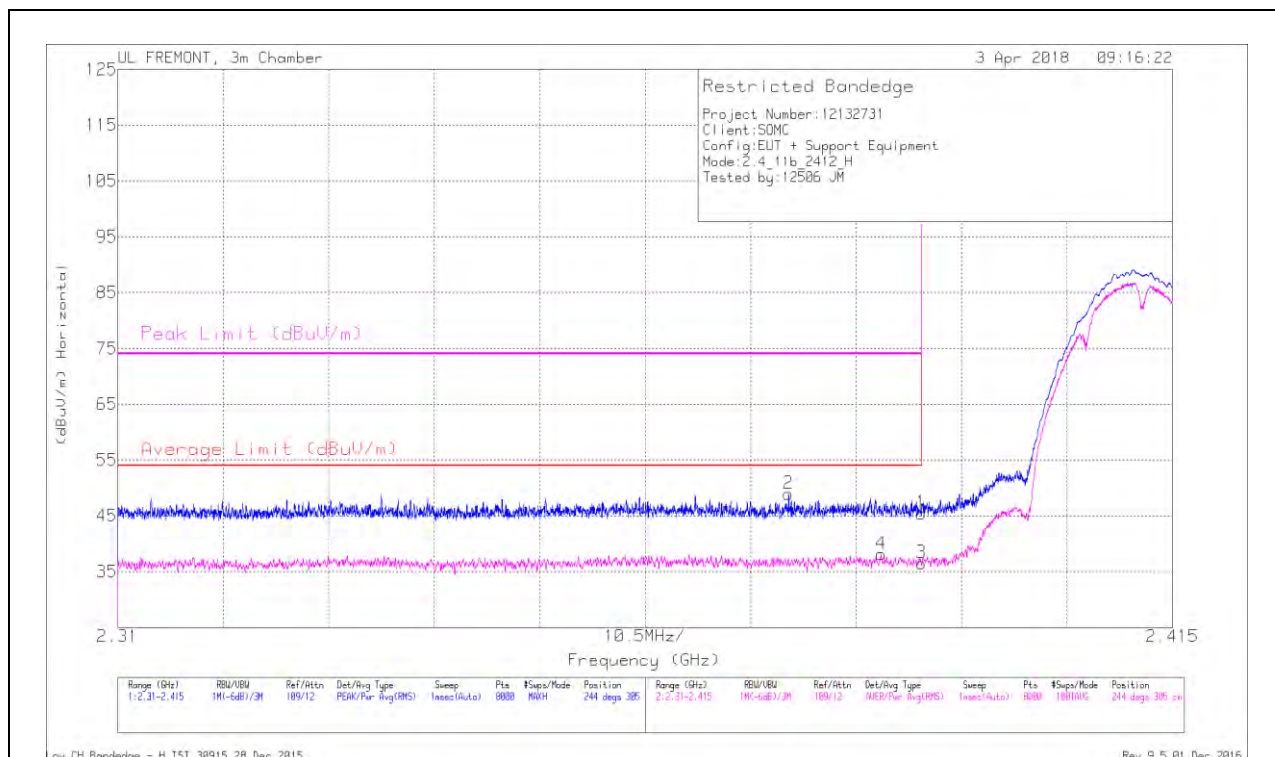
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

## 9.1. TRANSMITTER ABOVE 1 GHz

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

#### BANDEDGE (LOW CHANNEL, CH 1)

#### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/P ad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.377	38.54	PK	31.8	-21.4	48.94	-	-	74	-25.06	244	305	H
4	2.386	27.4	RMS	31.9	-21.2	38.1	54	-15.9	-	-	244	305	H
1	2.39	34.97	PK	31.9	-21.4	45.47	-	-	74	-28.53	244	305	H
3	2.39	25.97	RMS	31.9	-21.4	36.47	54	-17.53	-	-	244	305	H

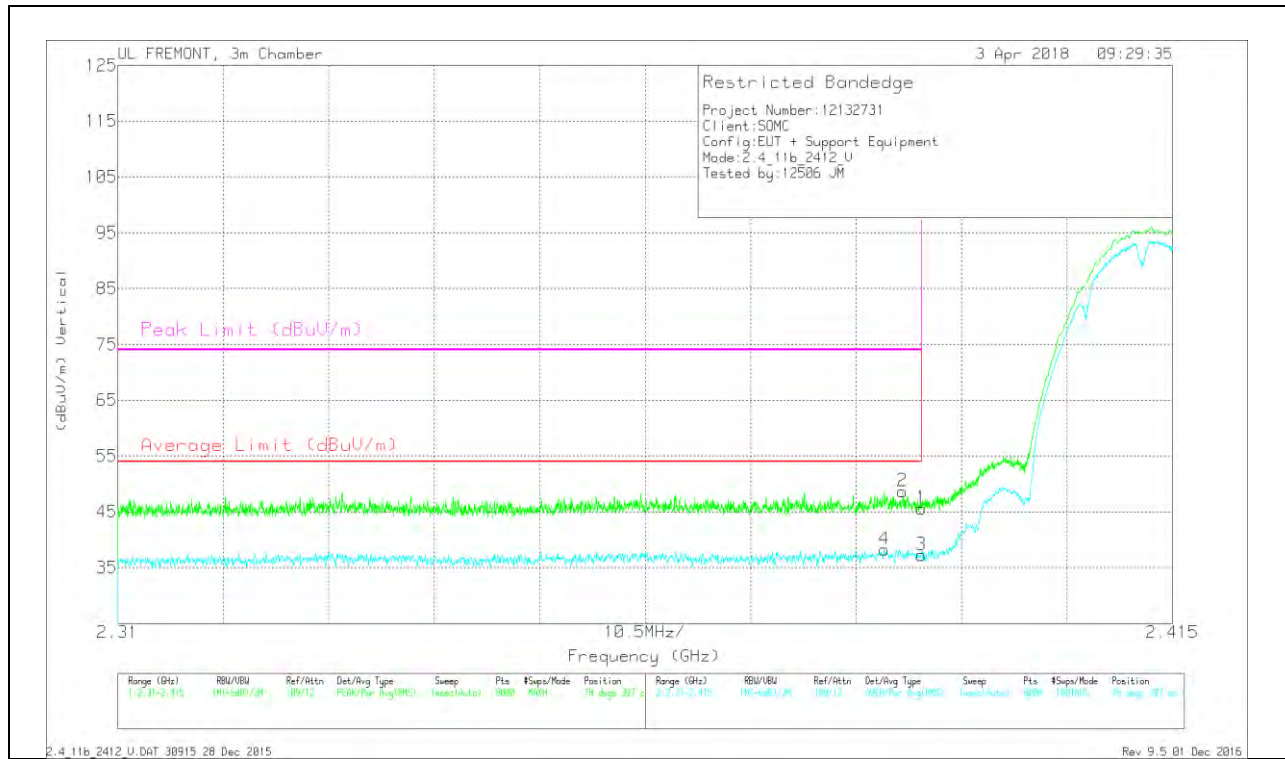
\* - indicates frequency in CFR47 Pt 15 Restricted Band

PK - Peak detector

RMS - RMS detection



### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.386	27.6	RMS	31.9	-21.2	38.3	54	-15.7	-	-	78	397	V
2	2.386	38.08	Pk	31.9	-21.3	48.68	-	-	74	-25.32	78	397	V
1	2.39	35.11	Pk	31.9	-21.4	45.61	-	-	74	-28.39	78	397	V
3	2.39	26.77	RMS	31.9	-21.4	37.27	54	-16.73	-	-	78	397	V

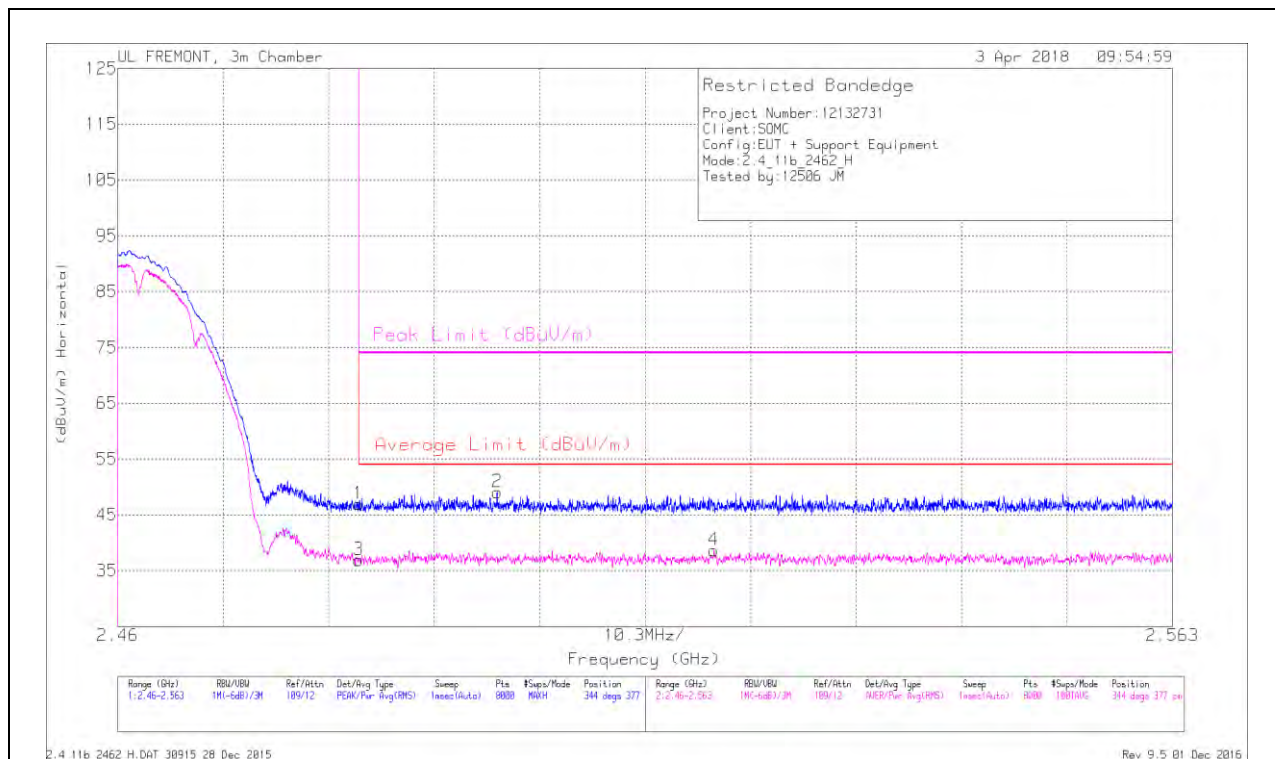
\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### BANDEGE (HIGH CHANNEL, CH 11)

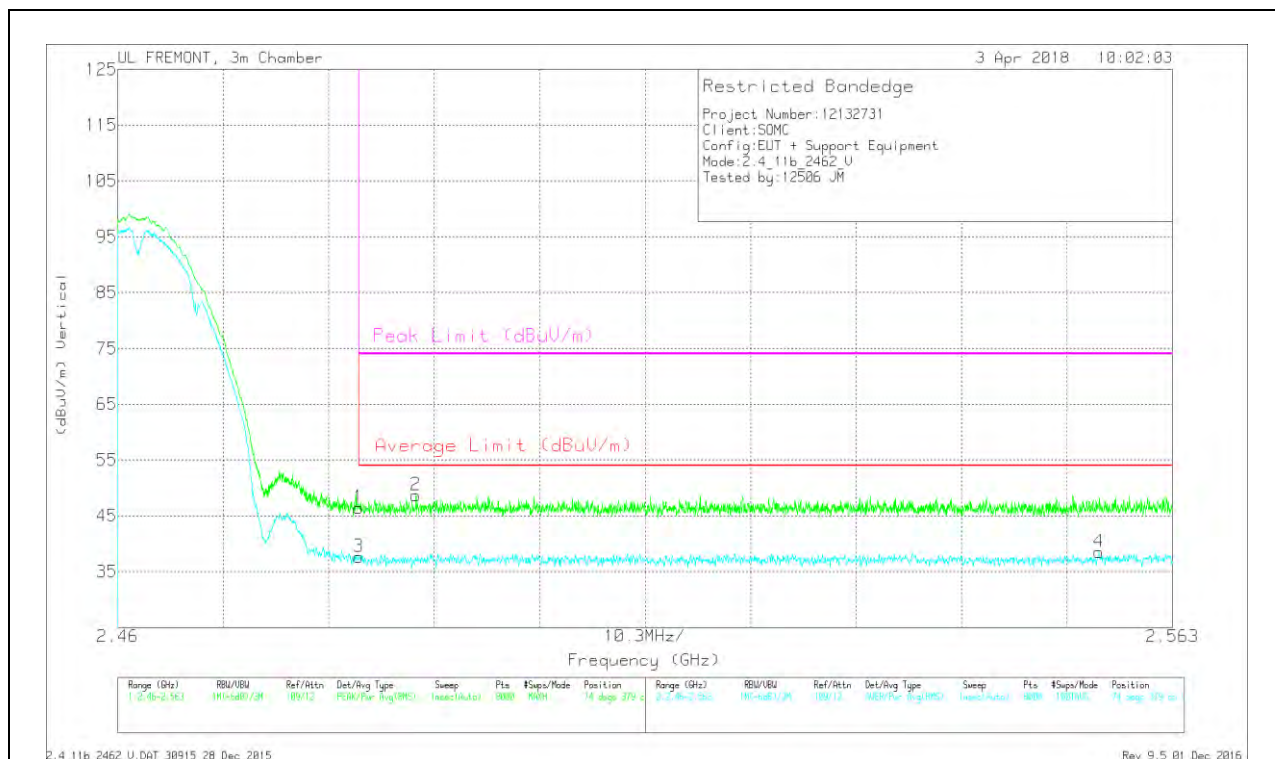
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	36.5	Pk	32.2	-21.8	46.9	-	-	74	-27.1	344	377	H
3	2.484	26.48	RMS	32.2	-21.8	36.88	54	-17.12	-	-	344	377	H
2	2.497	38.57	Pk	32.3	-21.8	49.07	-	-	74	-24.93	344	377	H
4	2.518	28	RMS	32.3	-21.7	38.6	54	-15.4	-	-	344	377	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	36.09	Pk	32.2	-21.8	46.49	-	-	74	-27.51	74	379	V
3	2.484	27.18	RMS	32.2	-21.8	37.58	54	-16.42	-	-	74	379	V
2	2.489	38.33	Pk	32.2	-21.8	48.73	-	-	74	-25.27	74	379	V
4	2.556	28.03	RMS	32.3	-21.8	38.53	54	-15.47	-	-	74	379	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

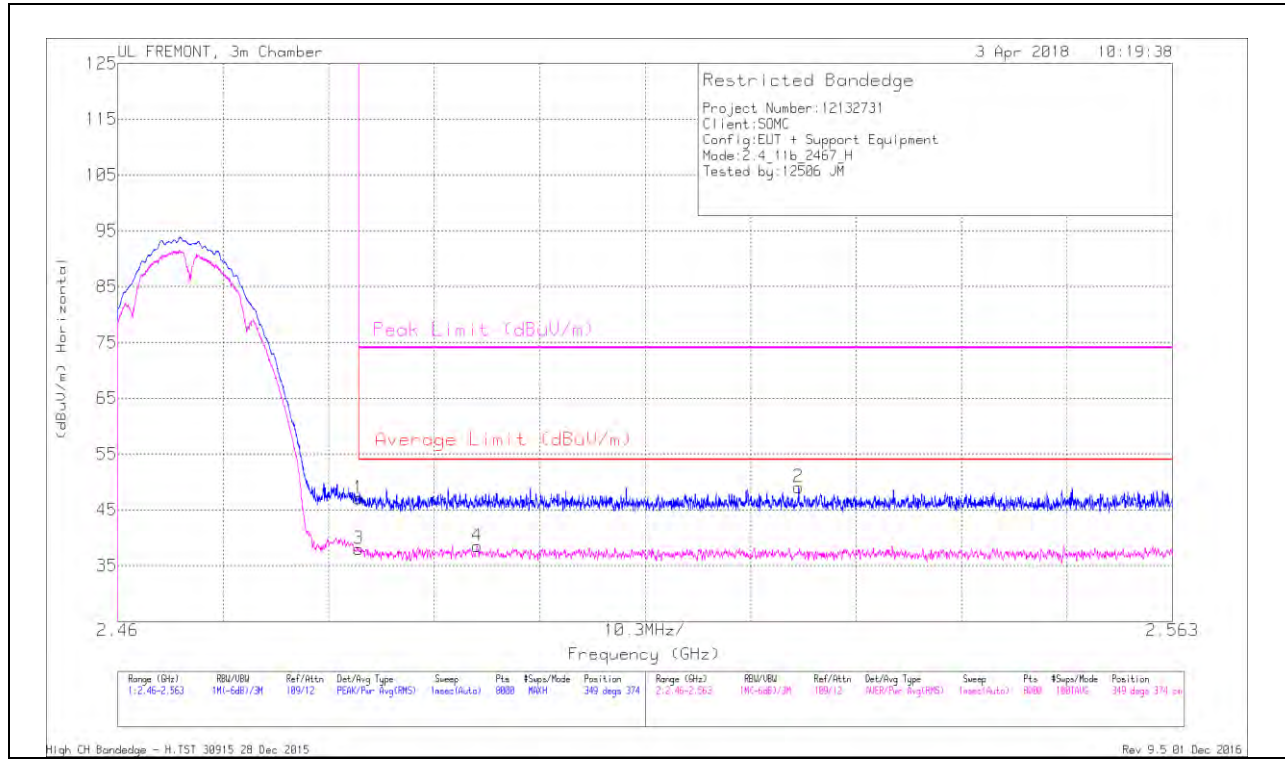
Pk - Peak detector

RMS - RMS detection



### BANDEGE (HIGH CHANNEL, CH 12)

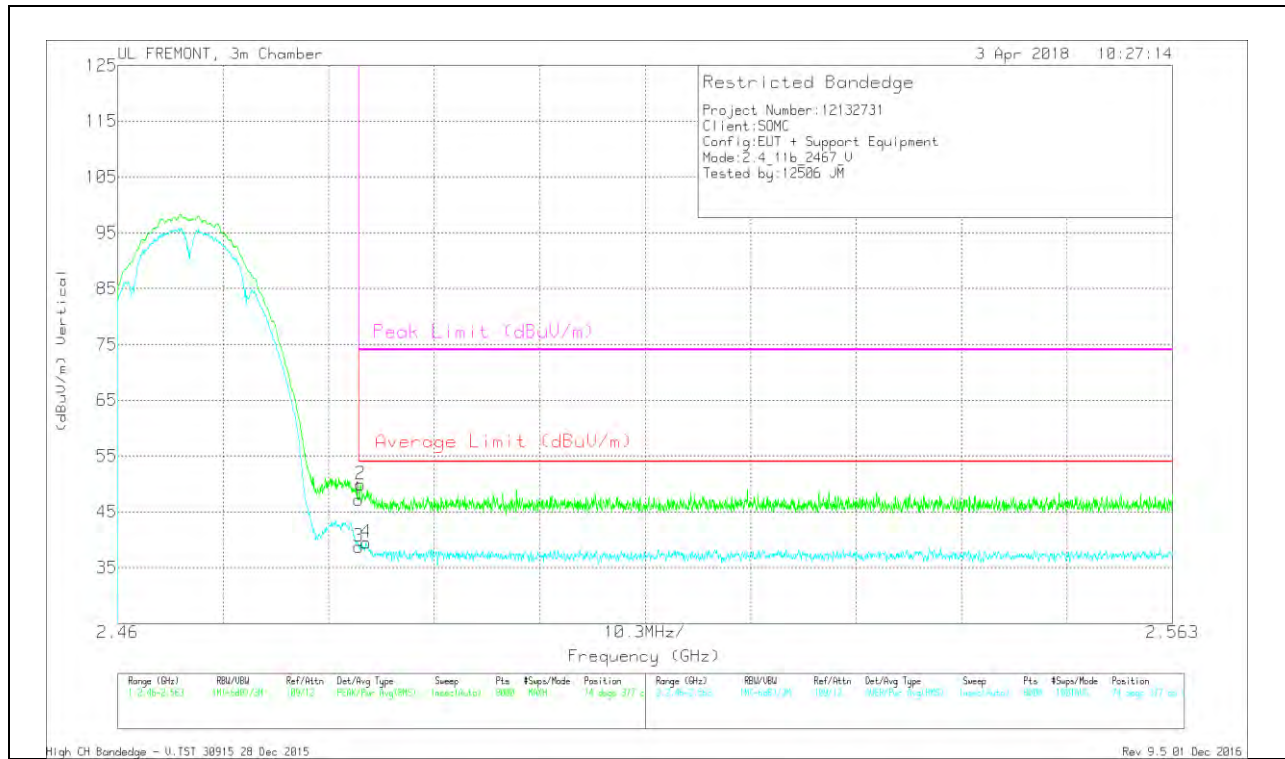
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	36.7	Pk	32.2	-21.8	47.1	-	-	74	-26.9	349	374	H
3	2.484	27.55	RMS	32.2	-21.8	37.95	54	-16.05	-	-	349	374	H
4	2.495	28.01	RMS	32.2	-21.7	38.51	54	-15.49	-	-	349	374	H
2	2.526	38.58	Pk	32.3	-21.8	49.08	-	-	74	-24.92	349	374	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	36.83	Pk	32.2	-21.8	47.23	-	-	74	-26.77	74	377	V
2	2.484	39.56	Pk	32.2	-21.8	49.96	-	-	74	-24.04	74	377	V
3	2.484	28.39	RMS	32.2	-21.8	38.79	54	-15.21	-	-	74	377	V
4	2.484	29.09	RMS	32.2	-21.8	39.49	54	-14.51	-	-	74	377	V

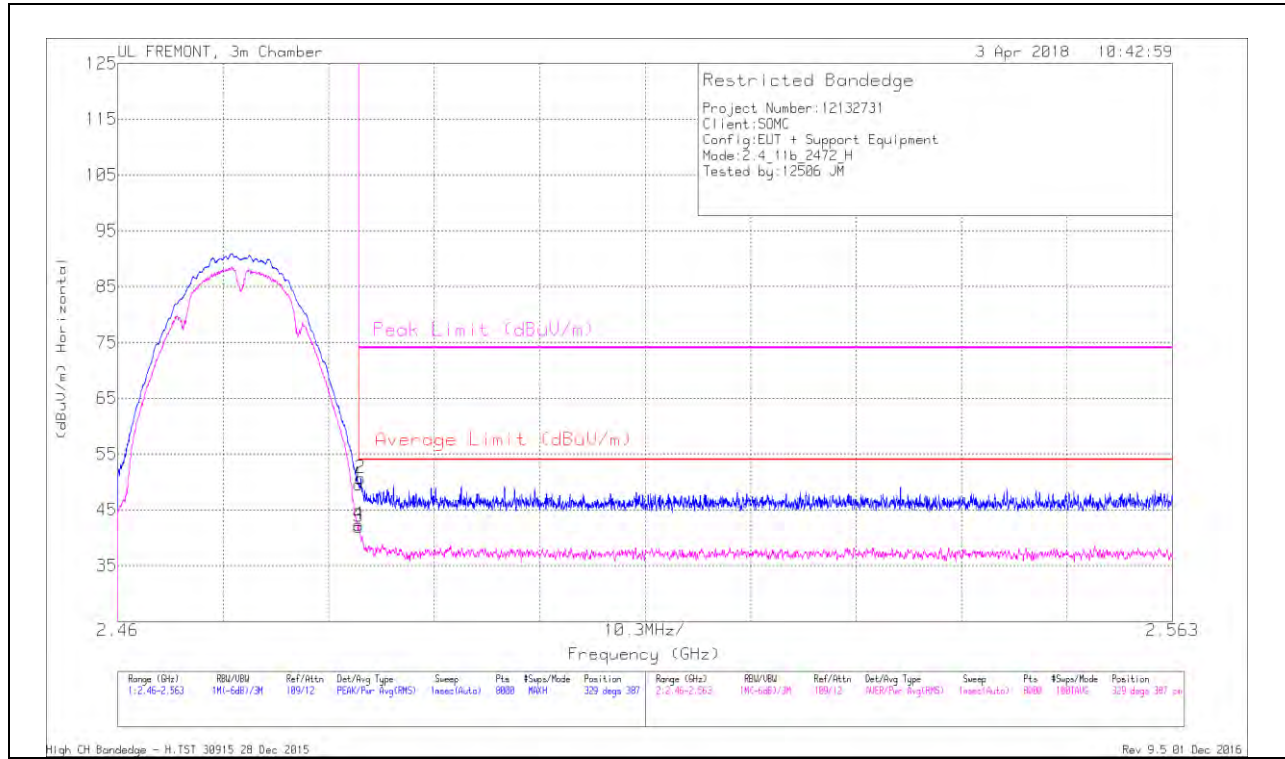
\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### BANDEGE (HIGH CHANNEL, CH 13)

### HORIZONTAL RESULT

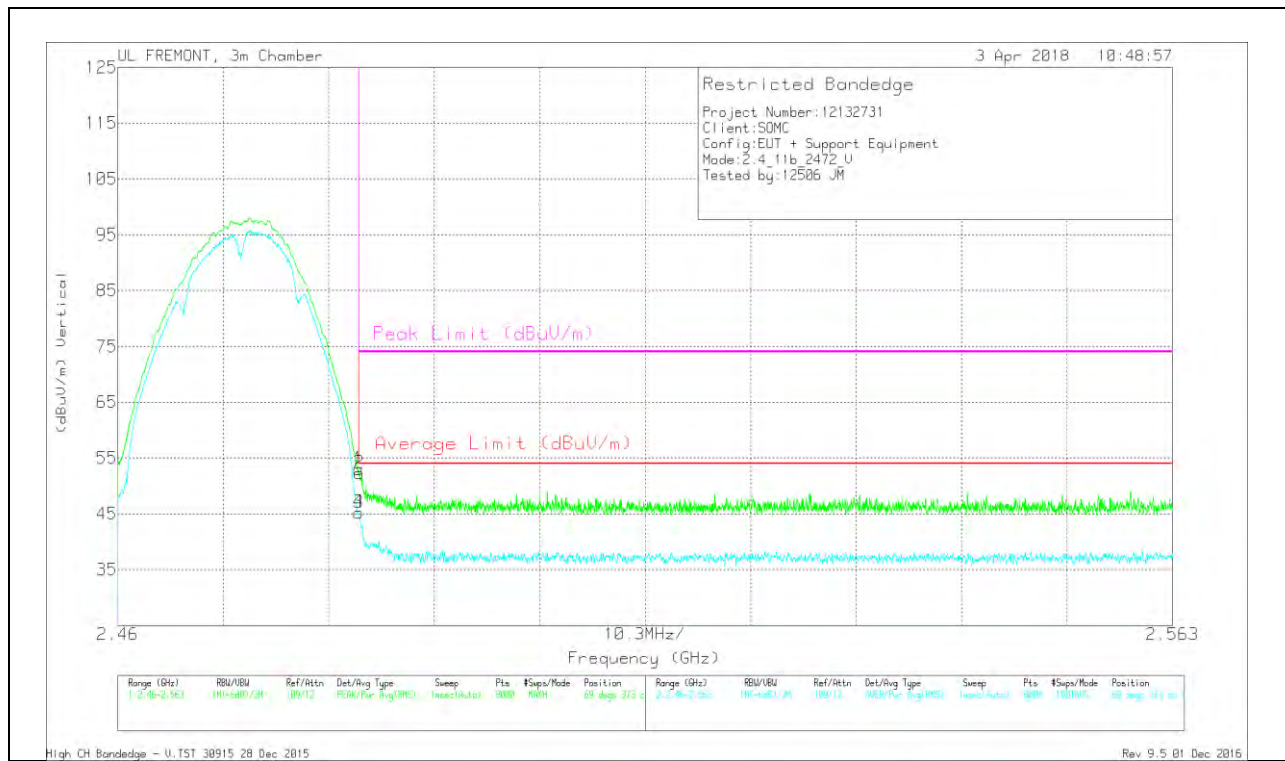


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	39.16	Pk	32.2	-21.8	49.56	-	-	74	-24.44	329	387	H
2	2.484	40.23	Pk	32.2	-21.8	50.63	-	-	74	-23.37	329	387	H
3	2.484	31.58	RMS	32.2	-21.8	41.98	54	-12.02	-	-	329	387	H
4	2.484	31.94	RMS	32.2	-21.8	42.34	54	-11.66	-	-	329	387	H

Pk - Peak detector  
 RMS - RMS detection



### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	42.6	Pk	32.2	-21.8	53	-	-	74	-21	69	373	V
2	2.484	41.88	Pk	32.2	-21.8	52.28	-	-	74	-21.72	69	373	V
3	2.484	34.81	RMS	32.2	-21.8	45.21	54	-8.79	-	-	69	373	V
4	2.484	34.84	RMS	32.2	-21.8	45.24	54	-8.76	-	-	69	373	V

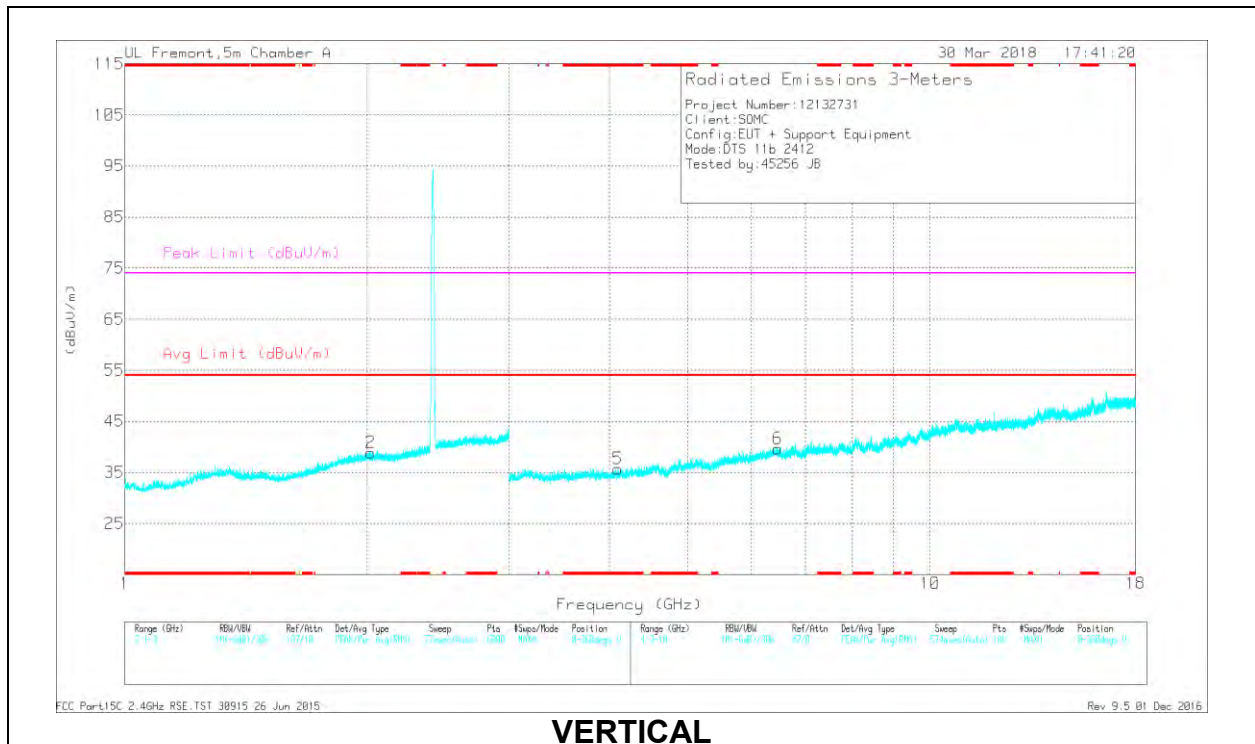
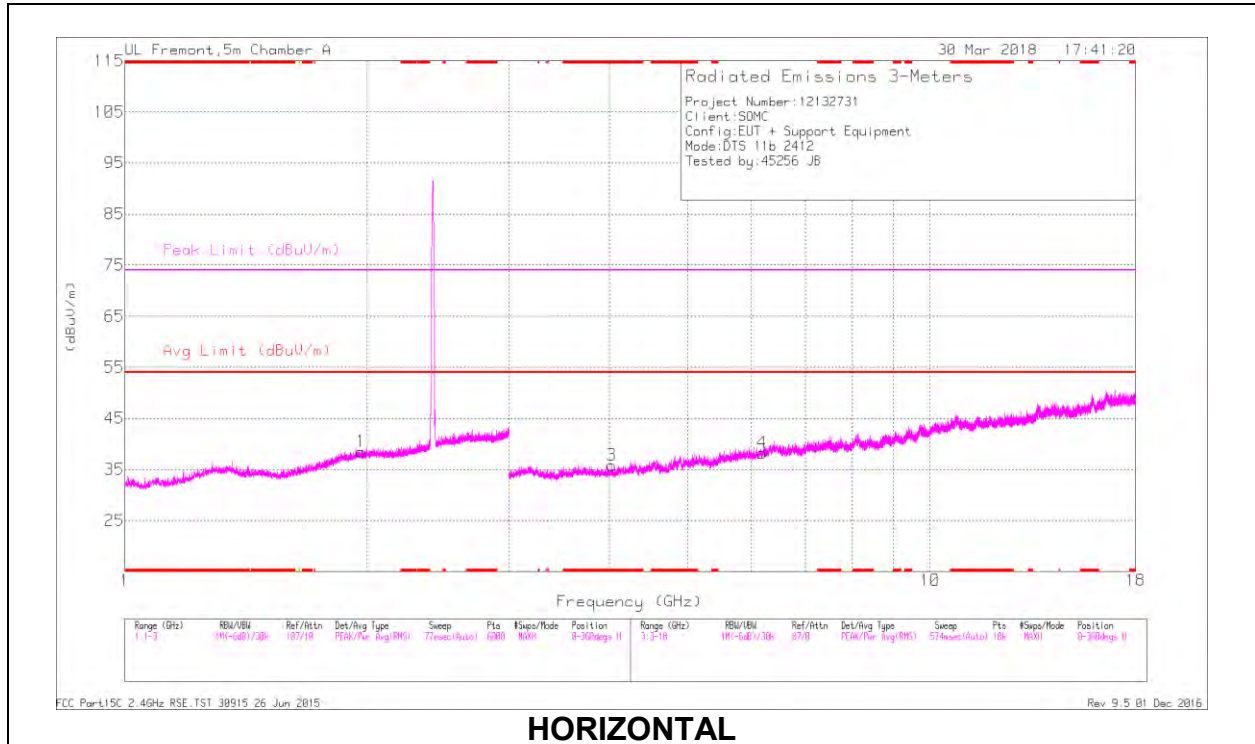
\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL, CH 1 RESULTS



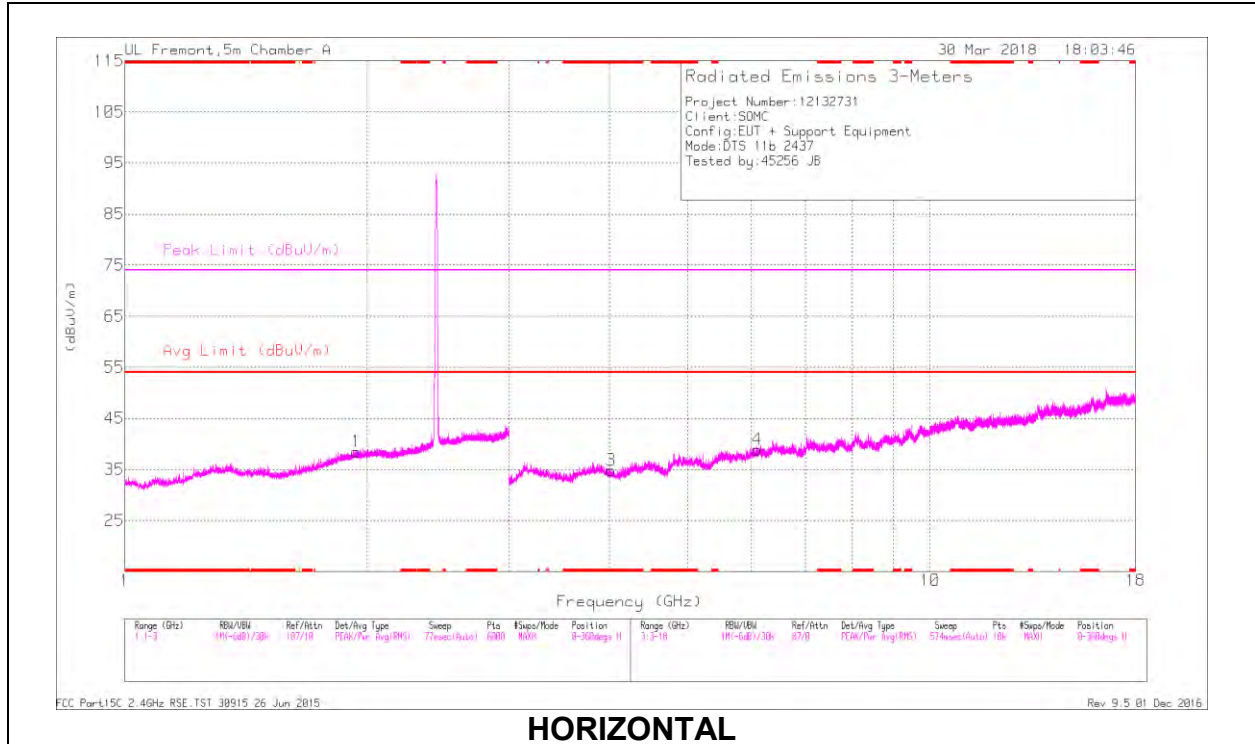
**RADIATED EMISSIONS**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.021	37.07	PK2	33.4	-28.7	0	41.77	-	-	74	-32.23	318	385	H
* 4.024	25.2	MAv1	33.4	-28.7	0	29.9	54	-24.1	-	-	318	385	H
* 4.094	35.89	PK2	33.4	-28.6	0	40.69	-	-	74	-33.31	53	127	V
* 4.094	24.61	MAv1	33.4	-28.6	0	29.41	54	-24.59	-	-	53	127	V

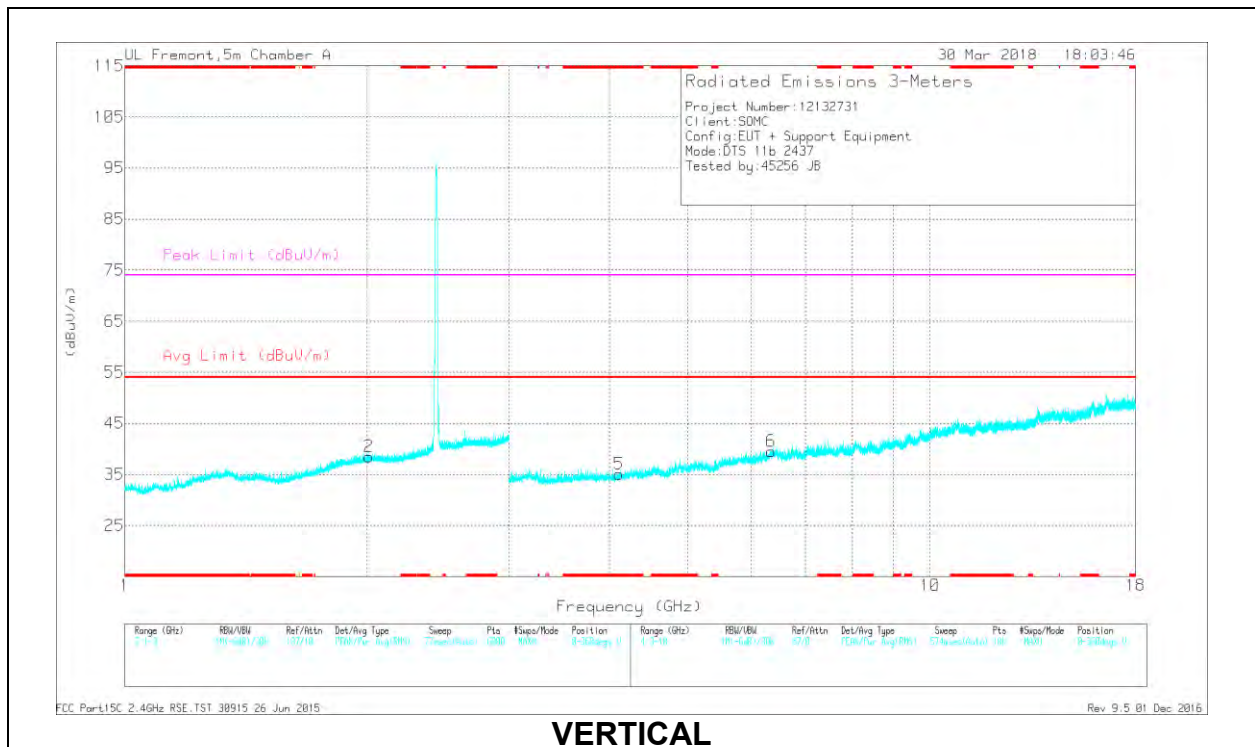
\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average



**MID CHANNEL, CH 6 RESULTS**



**HORIZONTAL**



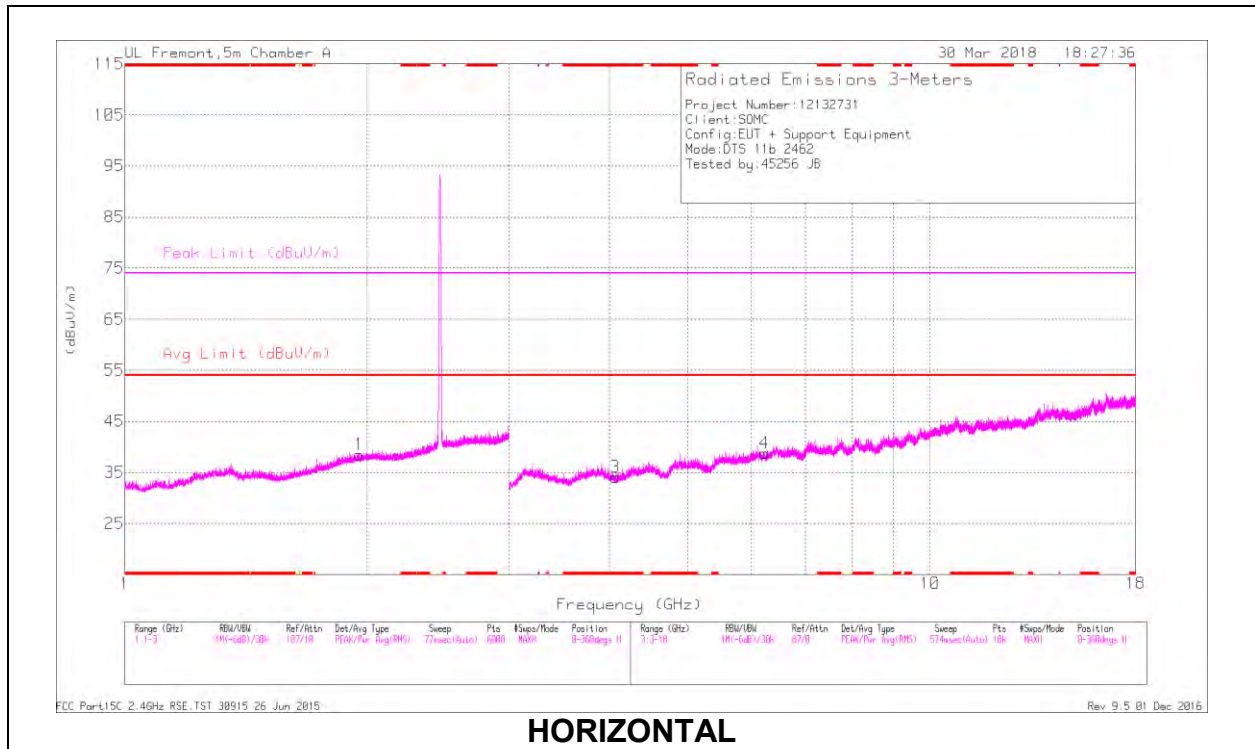
**VERTICAL**

**RADIATED EMISSIONS**

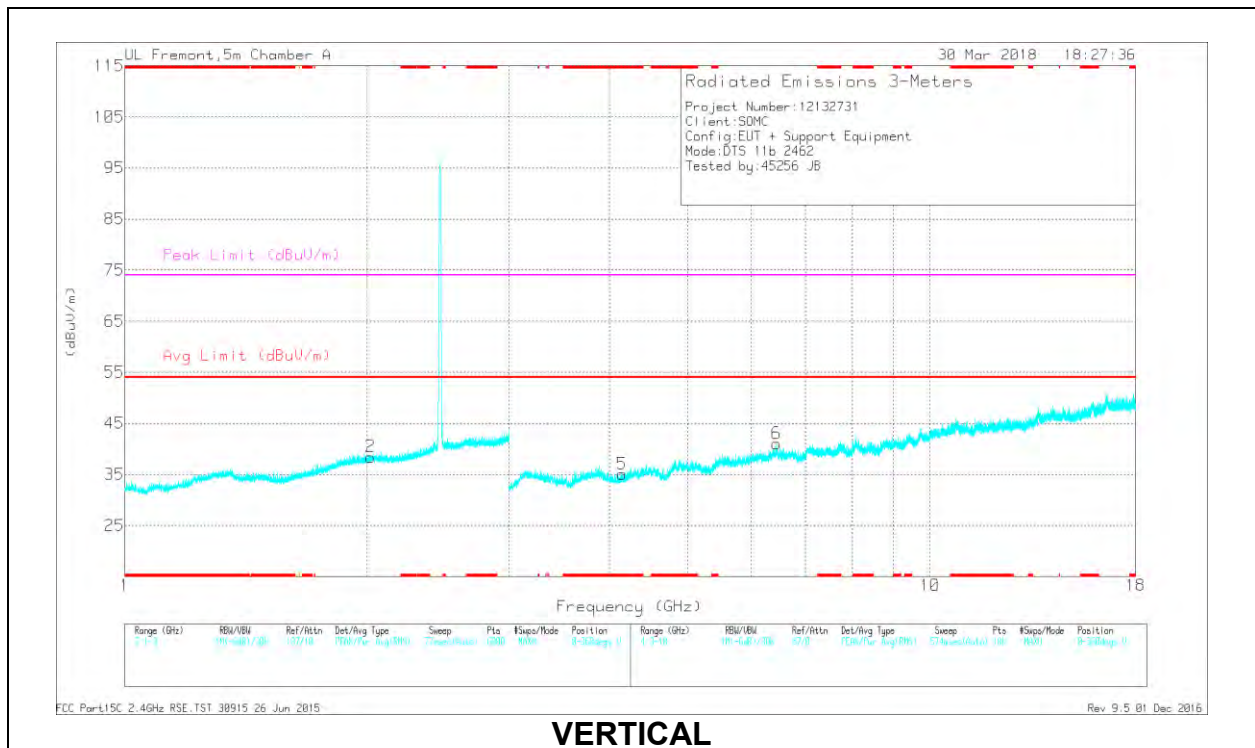
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.017	36.34	PK2	33.4	-28.6	0	41.14	-	-	74	-32.86	15	193	H
* 4.017	24.95	MAv1	33.4	-28.6	0	29.75	54	-24.25	-	-	15	193	H
* 4.11	36.16	PK2	33.4	-28.4	0	41.16	-	-	74	-32.84	278	147	V
* 4.111	24.81	MAv1	33.4	-28.4	0	29.81	54	-24.19	-	-	278	147	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### HIGH CHANNEL, CH 11 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.066	36.42	PK2	33.4	-28.6	0	41.22	-	-	74	-32.78	261	182	H
* 4.066	24.47	MAv1	33.4	-28.6	0	29.27	54	-24.73	-	-	261	182	H
* 4.144	37.4	PK2	33.4	-28.5	0	42.3	-	-	74	-31.7	228	252	V
* 4.144	25.34	MAv1	33.4	-28.5	0	30.24	54	-23.76	-	-	228	252	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

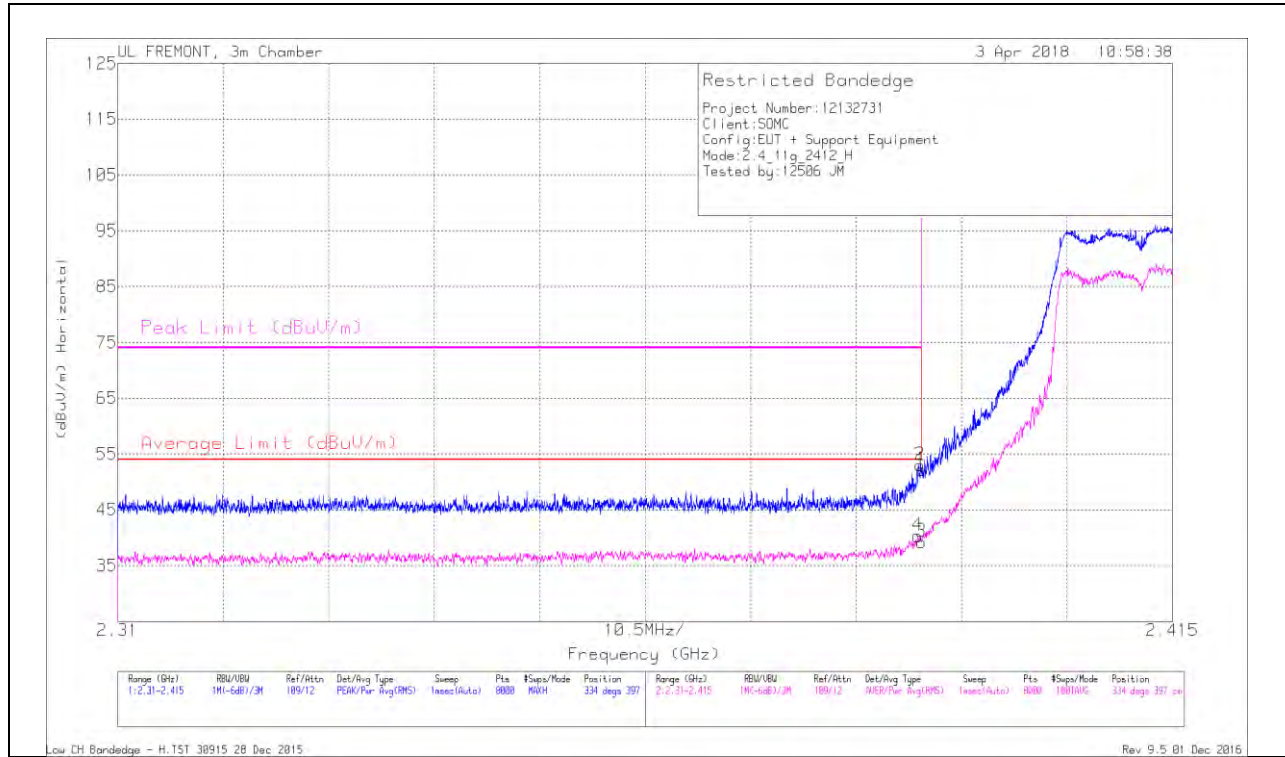
MAv1 - KDB558074 Option 1 Maximum RMS Average



### 9.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

#### BANDEDGE (LOW CHANNEL, CH 1)

#### HORIZONTAL RESULT



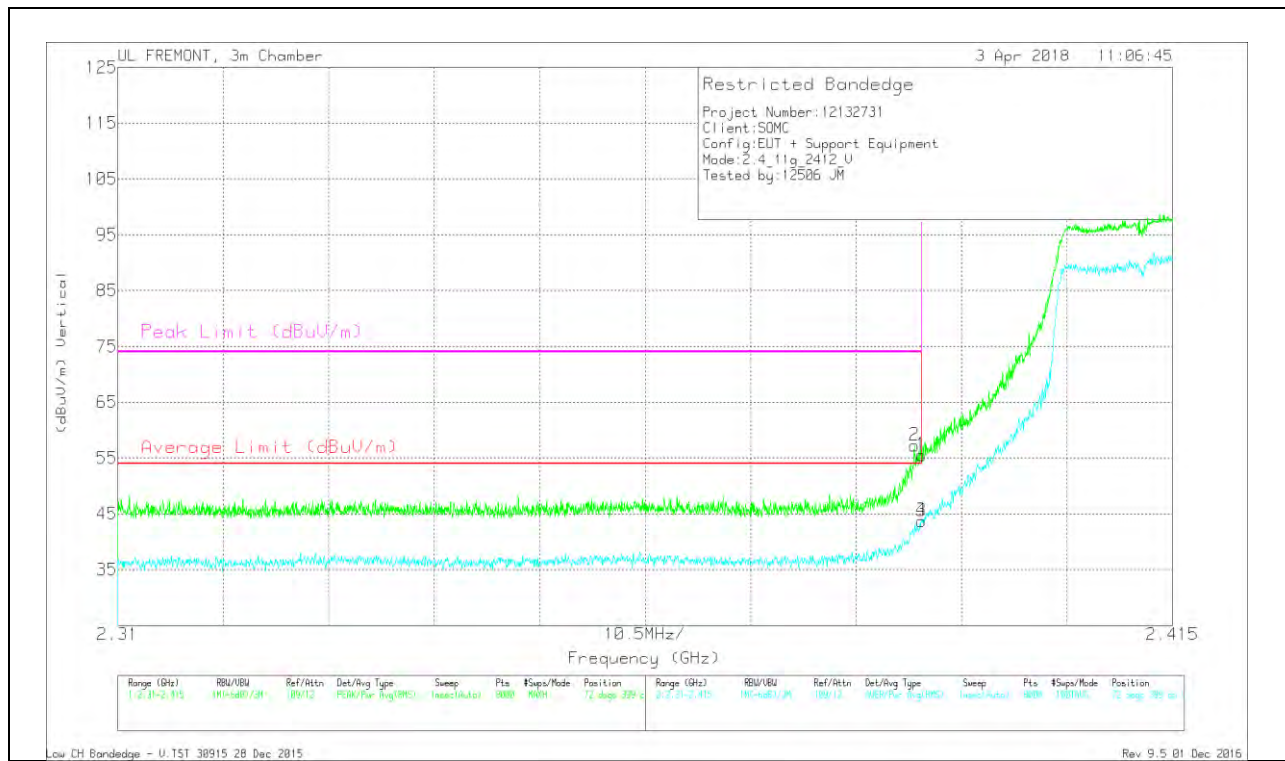
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.39	41.61	Pk	31.9	-21.4	52.11	-	-	74	-21.89	334	397	H
2	2.39	42.53	Pk	31.9	-21.4	53.03	-	-	74	-20.97	334	397	H
3	2.39	28.8	RMS	31.9	-21.4	39.3	54	-14.7	-	-	334	397	H
4	2.39	29.8	RMS	31.9	-21.4	40.3	54	-13.7	-	-	334	397	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.389	46.71	Pk	31.9	-21.4	57.21	-	-	74	-16.79	72	399	V
1	2.39	44.96	Pk	31.9	-21.4	55.46	-	-	74	-18.54	72	399	V
3	2.39	33.23	RMS	31.9	-21.4	43.73	54	-10.27	-	-	72	399	V
4	2.39	33.23	RMS	31.9	-21.4	43.73	54	-10.27	-	-	72	399	V

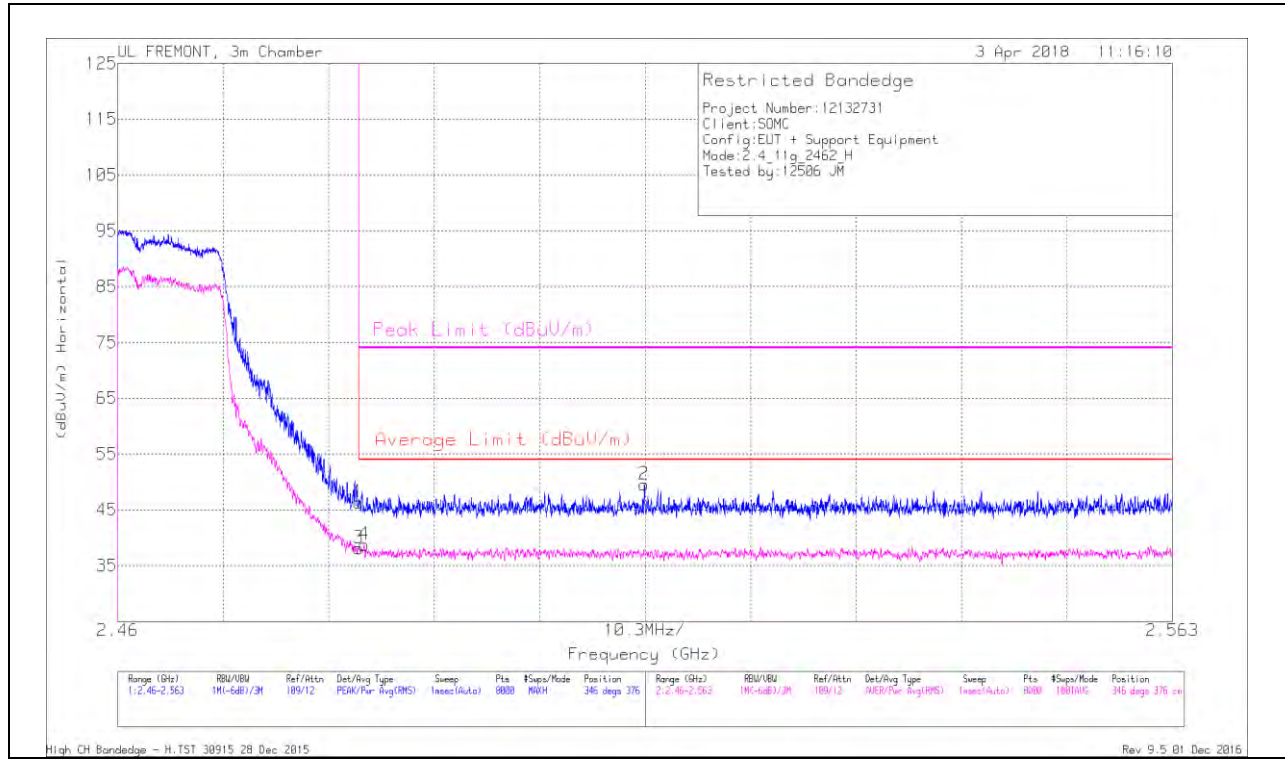
\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### BANDEGE (HIGH CHANNEL, CH 11)

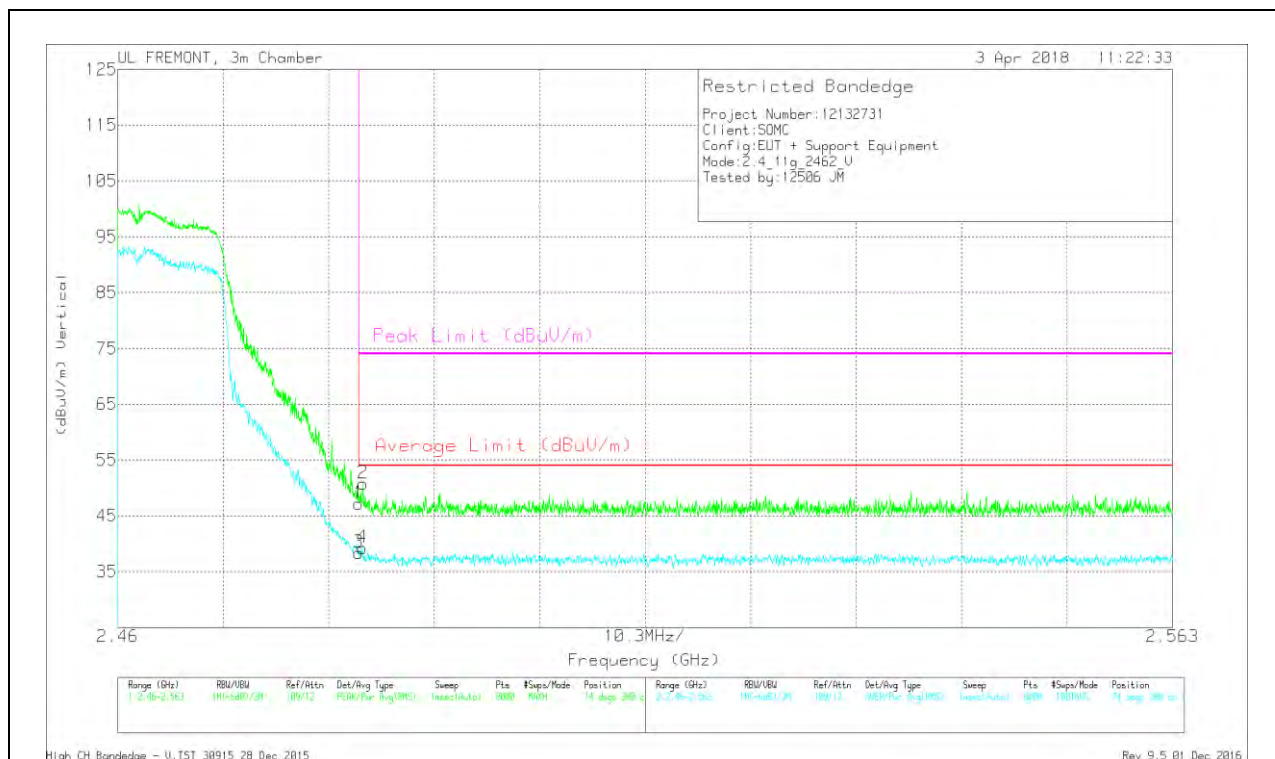
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	35.88	Pk	32.2	-21.8	46.28	-	-	74	-27.72	346	376	H
3	2.484	27.69	RMS	32.2	-21.8	38.09	54	-15.91	-	-	346	376	H
4	2.484	28.31	RMS	32.2	-21.8	38.71	54	-15.29	-	-	346	376	H
2	2.511	39.02	Pk	32.3	-21.8	49.52	-	-	74	-24.48	346	376	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	36.8	Pk	32.2	-21.8	47.2	-	-	74	-26.8	74	380	V
2	2.484	40.36	Pk	32.2	-21.8	50.76	-	-	74	-23.24	74	380	V
3	2.484	28	RMS	32.2	-21.8	38.4	54	-15.6	-	-	74	380	V
4	2.484	28.84	RMS	32.2	-21.8	39.24	54	-14.76	-	-	74	380	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

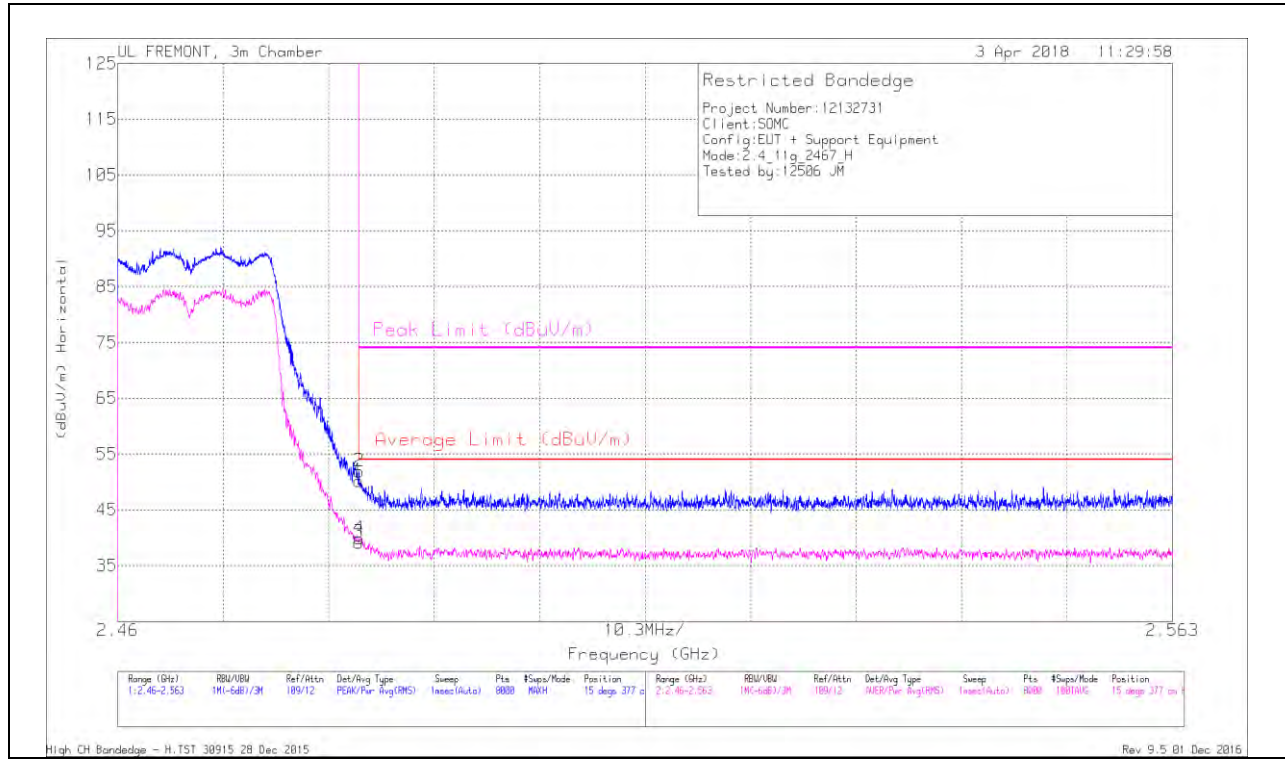
Pk - Peak detector

RMS - RMS detection



### BANDEDGE (HIGH CHANNEL, CH 12)

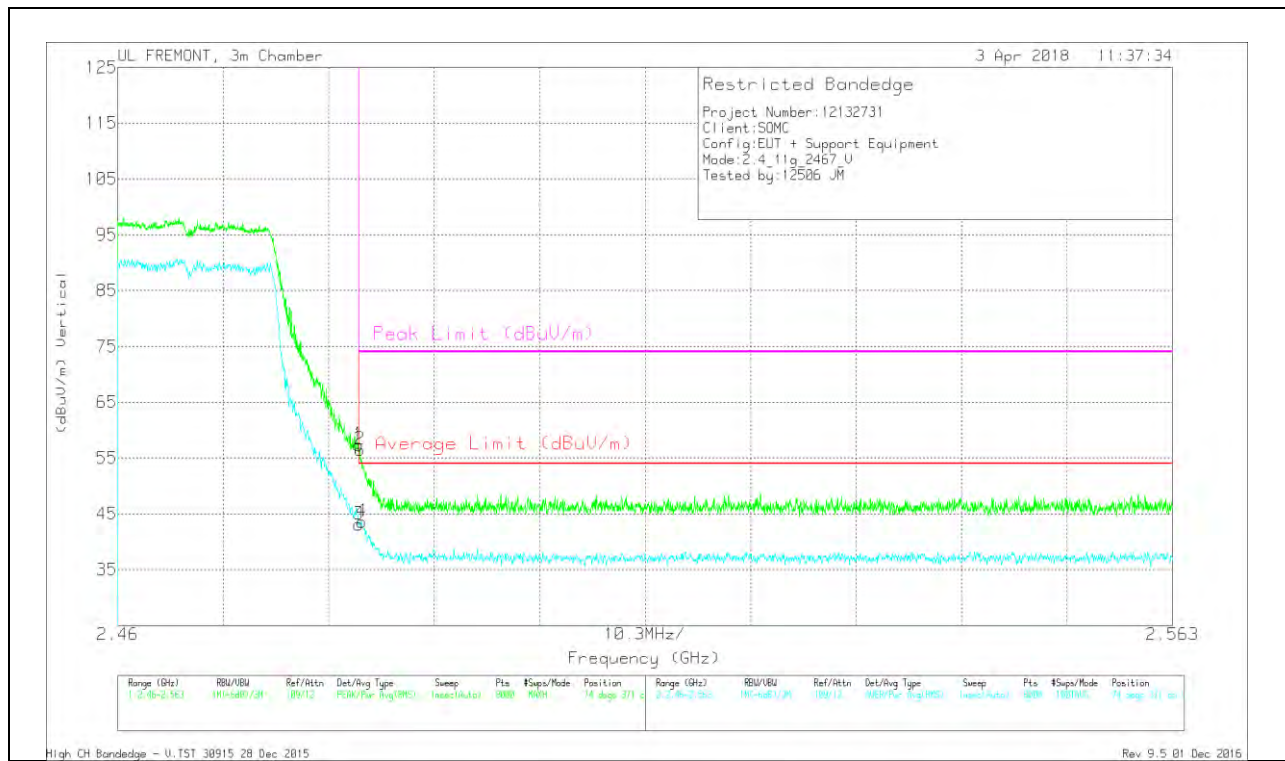
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	39.75	Pk	32.2	-21.8	50.15	-	-	74	-23.85	15	377	H
2	2.484	41.53	Pk	32.2	-21.8	51.93	-	-	74	-22.07	15	377	H
3	2.484	28.77	RMS	32.2	-21.8	39.17	54	-14.83	-	-	15	377	H
4	2.484	29.42	RMS	32.2	-21.8	39.82	54	-14.18	-	-	15	377	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	46.92	Pk	32.2	-21.8	57.32	-	-	74	-16.68	74	371	V
2	2.484	46.13	Pk	32.2	-21.8	56.53	-	-	74	-17.47	74	371	V
3	2.484	32.73	RMS	32.2	-21.8	43.13	54	-10.87	-	-	74	371	V
4	2.484	33.21	RMS	32.2	-21.8	43.61	54	-10.39	-	-	74	371	V

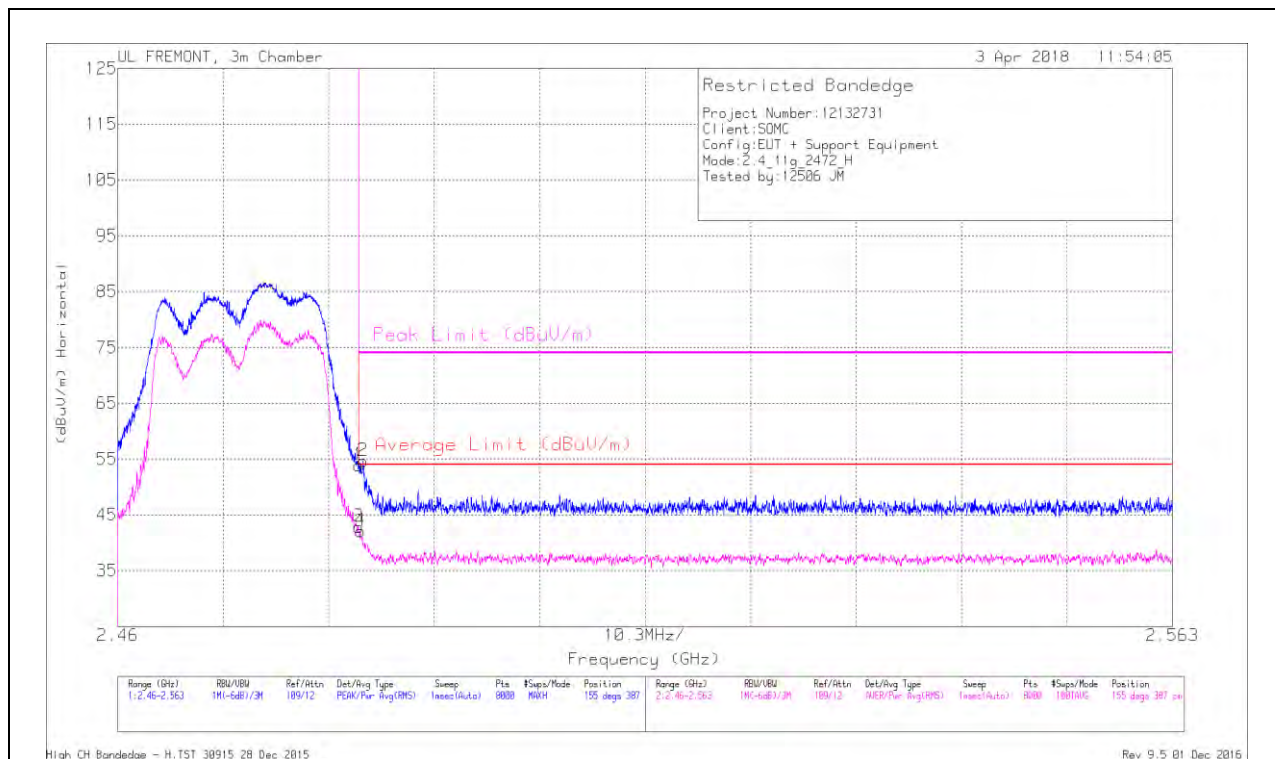
\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### BANDEGE (HIGH CHANNEL, CH 13)

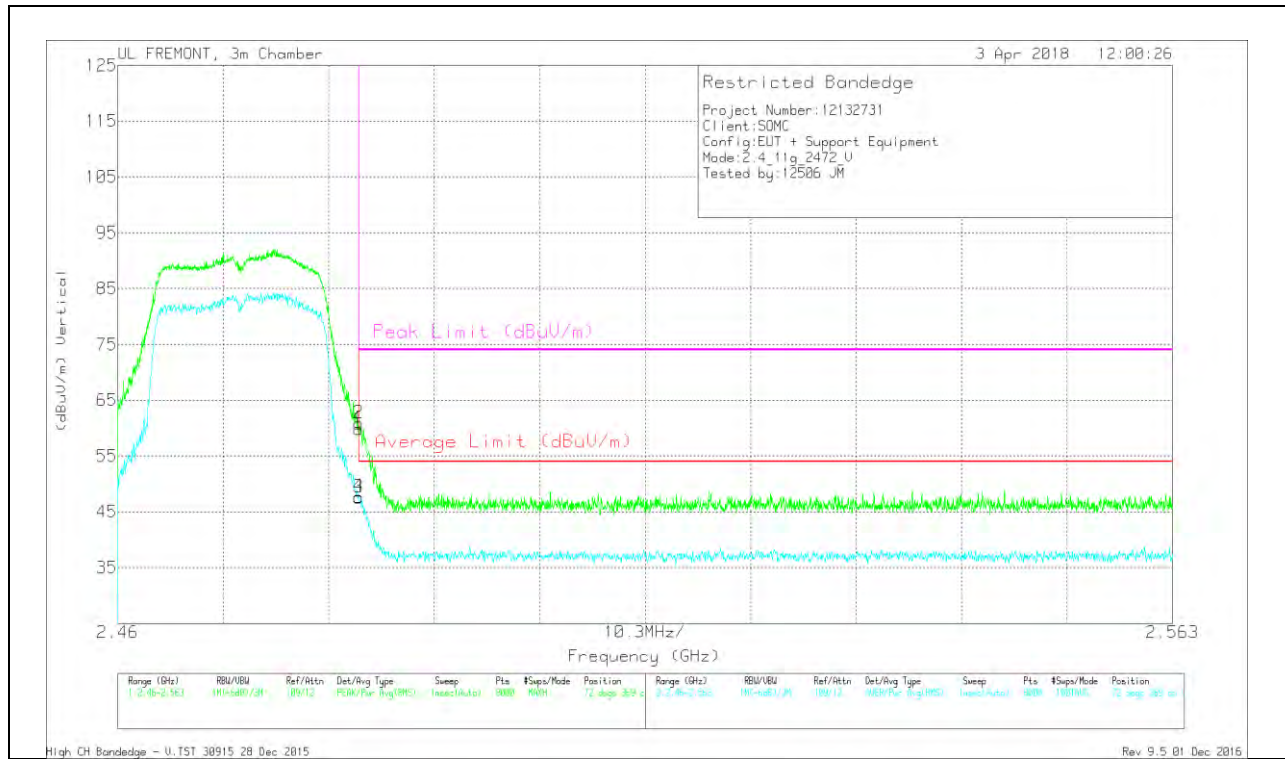
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	43.53	Pk	32.2	-21.8	53.93	-	-	74	-20.07	155	387	H
2	2.484	44.21	Pk	32.2	-21.8	54.61	-	-	74	-19.39	155	387	H
3	2.484	32.43	RMS	32.2	-21.8	42.83	54	-11.17	-	-	155	387	H
4	2.484	31.68	RMS	32.2	-21.8	42.08	54	-11.92	-	-	155	387	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (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	49.45	Pk	32.2	-21.8	59.85	-	-	74	-14.15	72	369	V
2	2.484	50.41	Pk	32.2	-21.8	60.81	-	-	74	-13.19	72	369	V
3	2.484	37.14	RMS	32.2	-21.8	47.54	54	-6.46	-	-	72	369	V
4	2.484	37.31	RMS	32.2	-21.8	47.71	54	-6.29	-	-	72	369	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

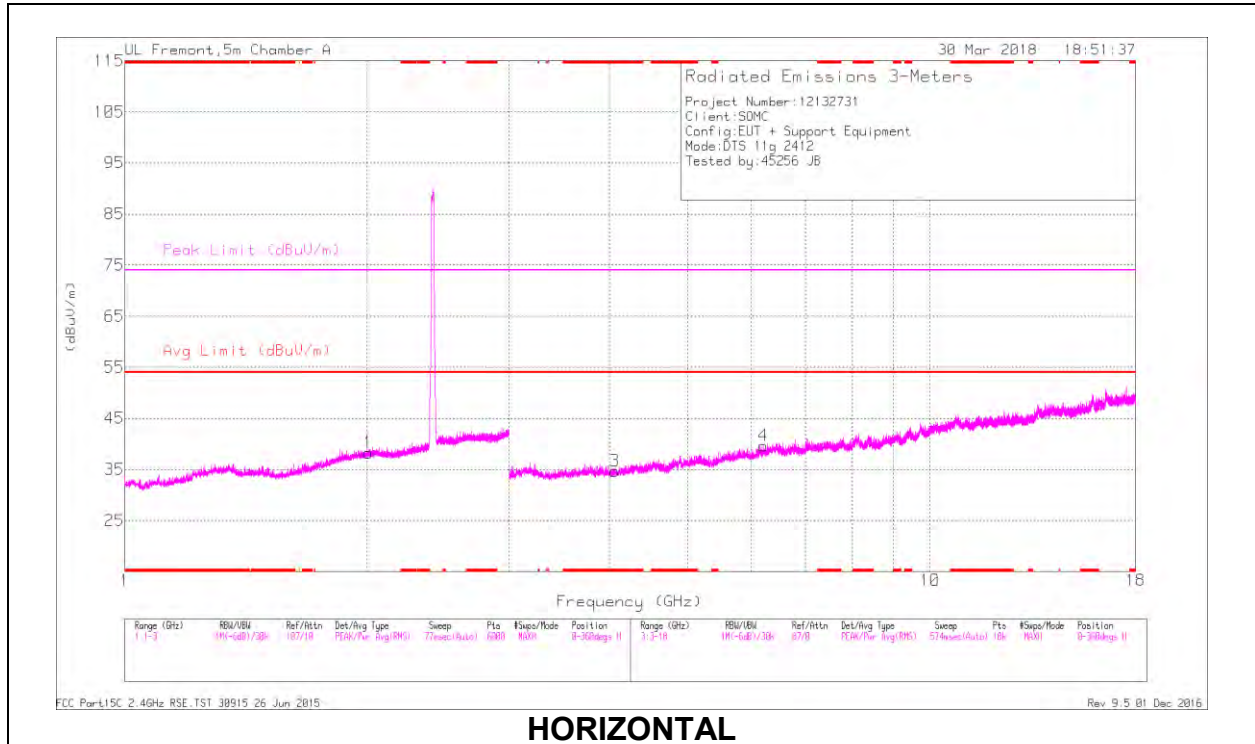
Pk - Peak detector

RMS - RMS detection

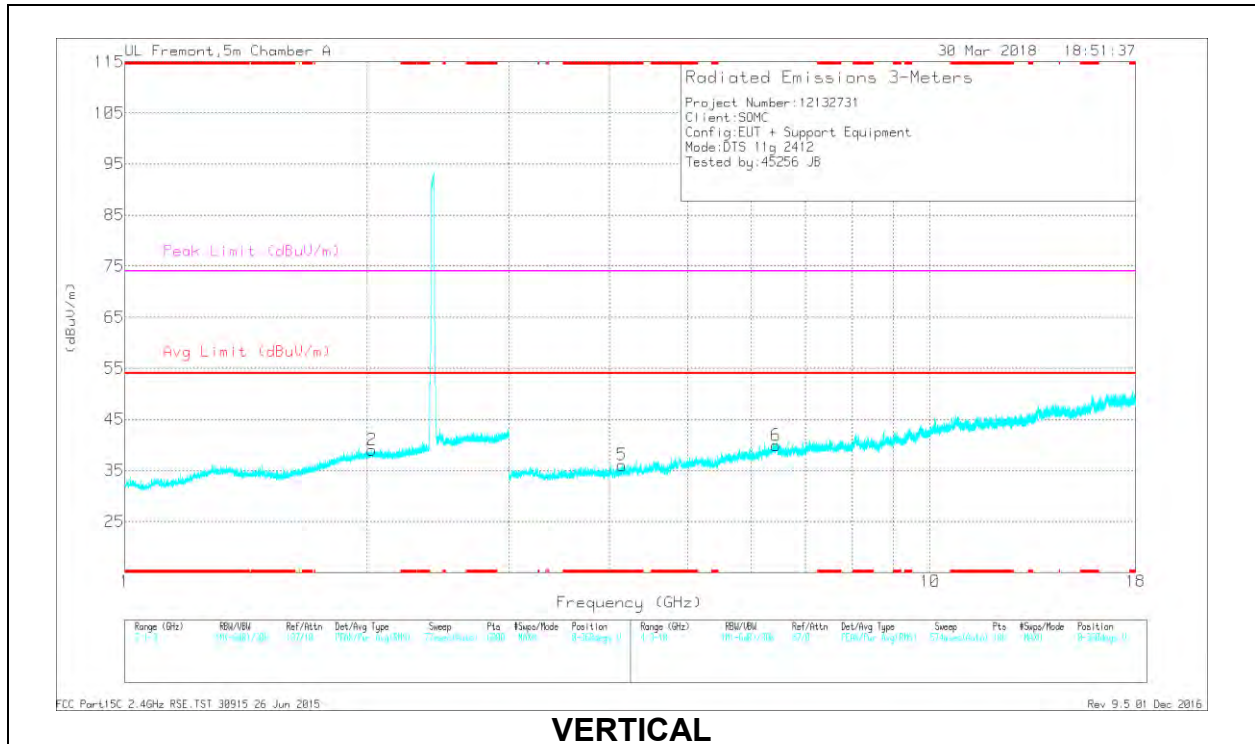


## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL, CH 1 RESULTS



**HORIZONTAL**



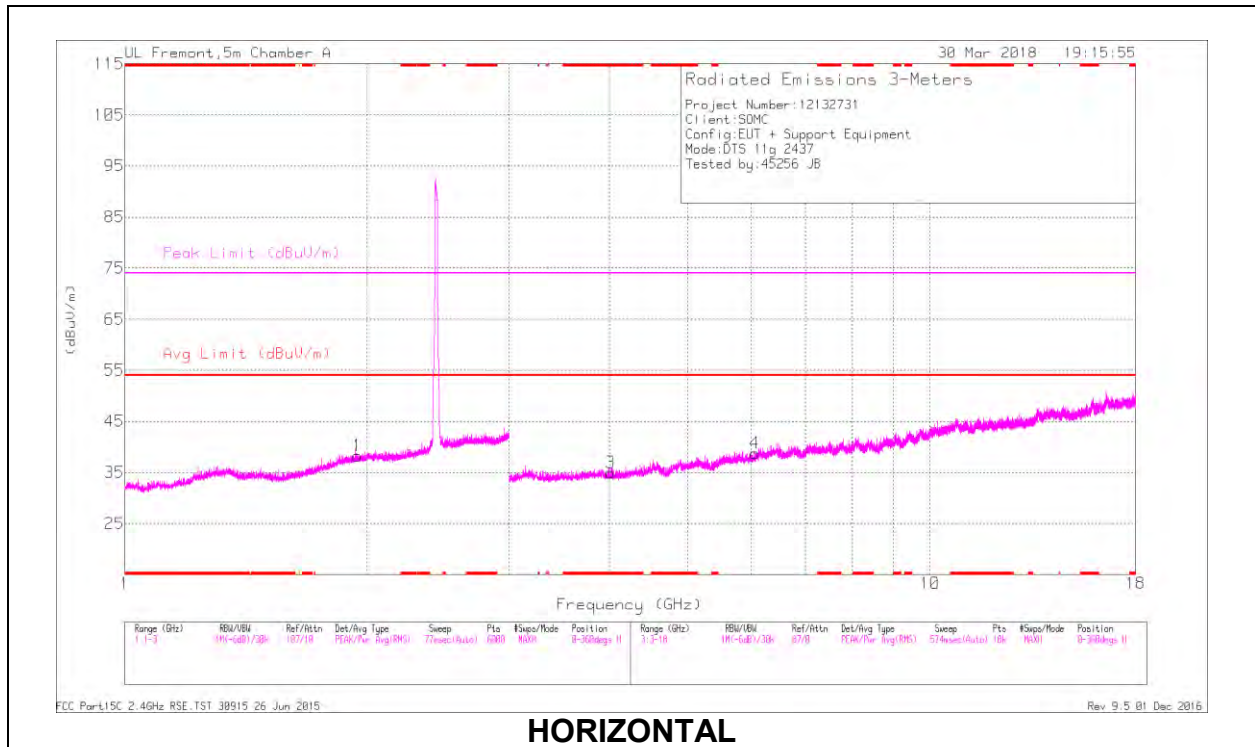
**VERTICAL**

**RADIATED EMISSIONS**

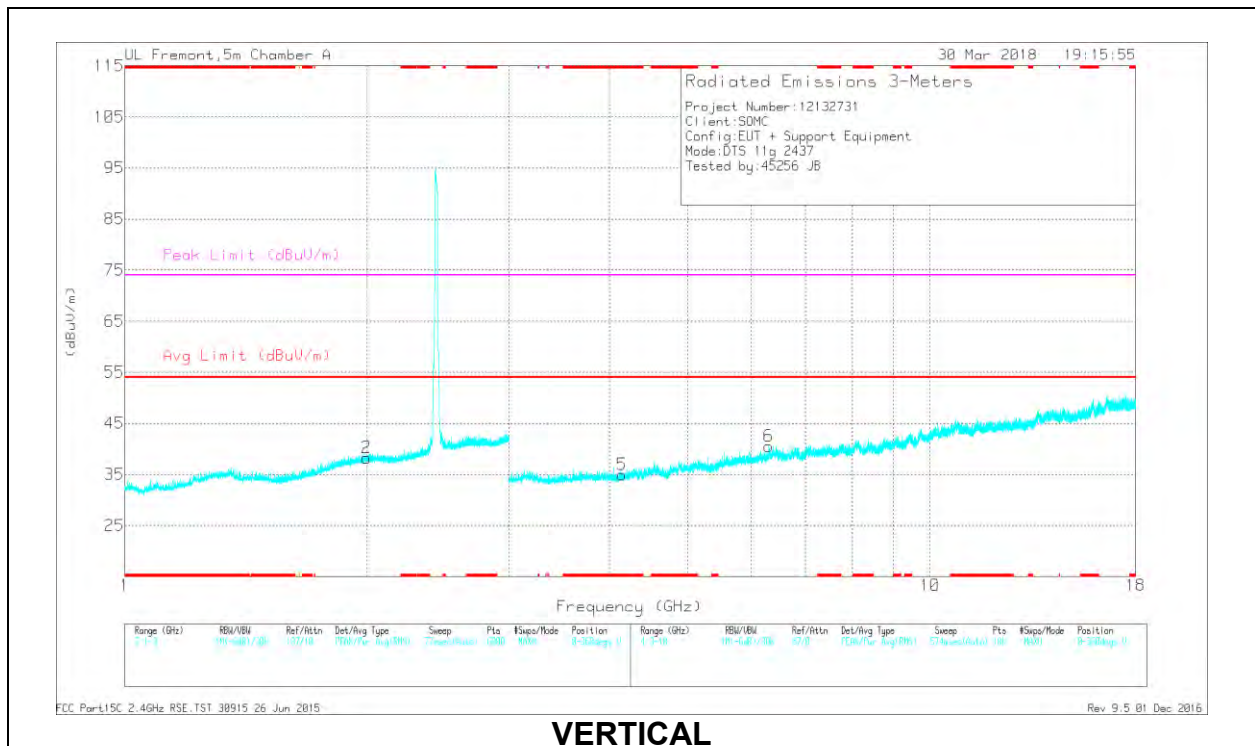
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.063	37.23	PK2	33.4	-28.6	0	42.03	-	-	74	-31.97	282	172	H
* 4.064	25.01	MAv1	33.4	-28.6	0	29.81	54	-24.19	-	-	282	172	H
* 4.143	36.38	PK2	33.4	-28.5	0	41.28	-	-	74	-32.72	65	356	V
* 4.144	25.09	MAv1	33.4	-28.5	0	29.99	54	-24.01	-	-	65	356	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.015	36.99	PK2	33.4	-28.6	0	41.79	-	-	74	-32.21	309	108	H
* 4.014	24.95	MAv1	33.4	-28.6	0	29.75	54	-24.25	-	-	309	108	H
* 4.145	36.36	PK2	33.4	-28.5	0	41.26	-	-	74	-32.74	308	147	V
* 4.145	24.9	MAv1	33.4	-28.5	0	29.8	54	-24.2	-	-	308	147	V

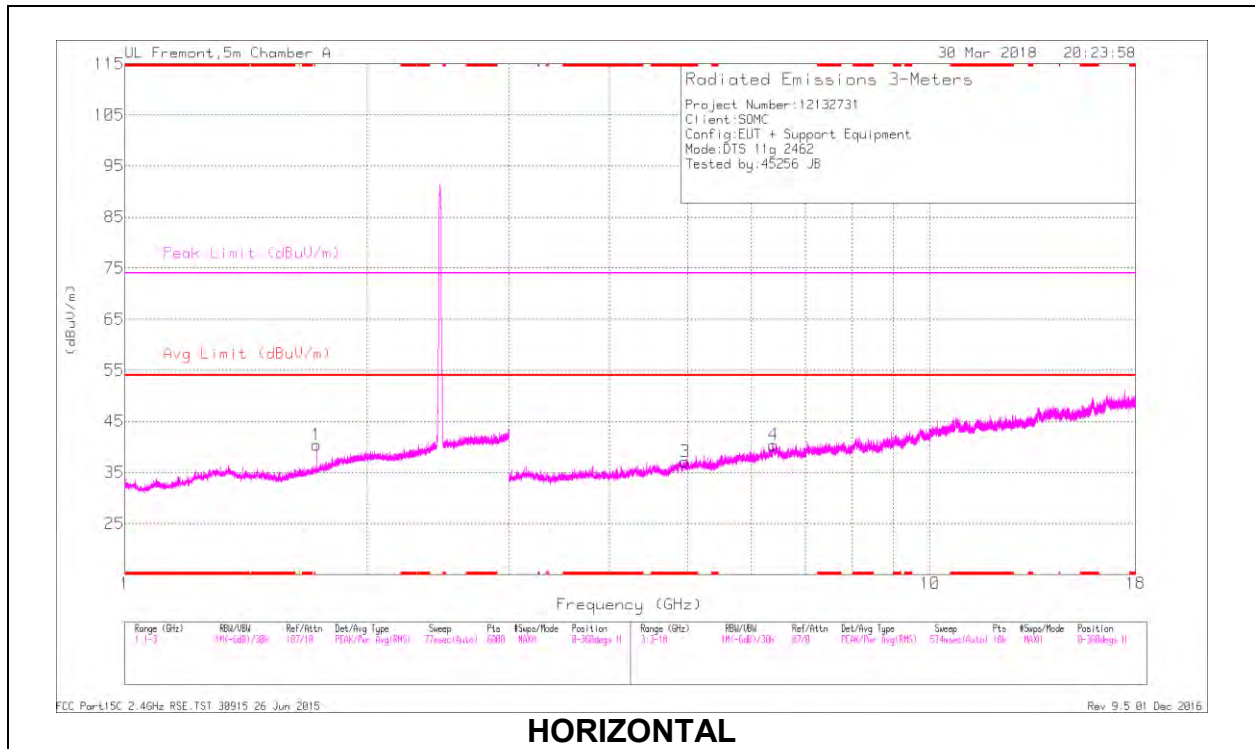
\* - indicates frequency in CFR47 Pt 15 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

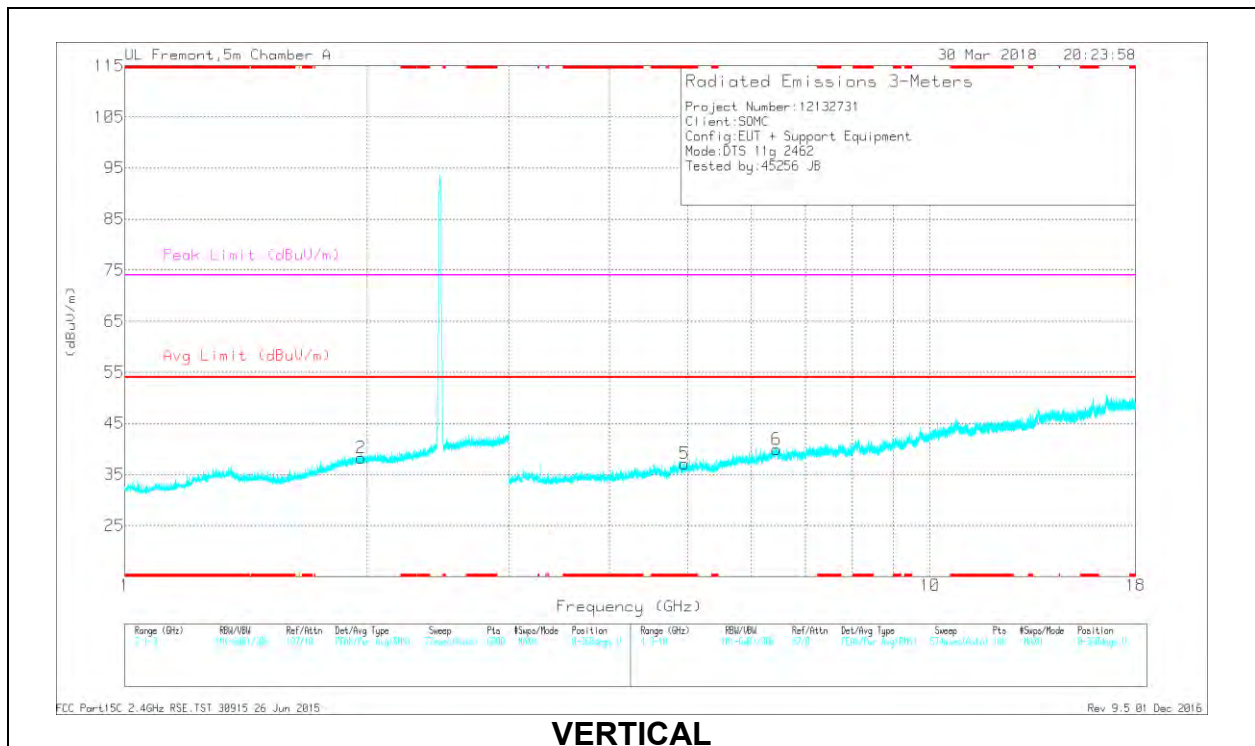
MAv1 - KDB558074 Option 1 Maximum RMS Average



### HIGH CHANNEL, CH 11 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

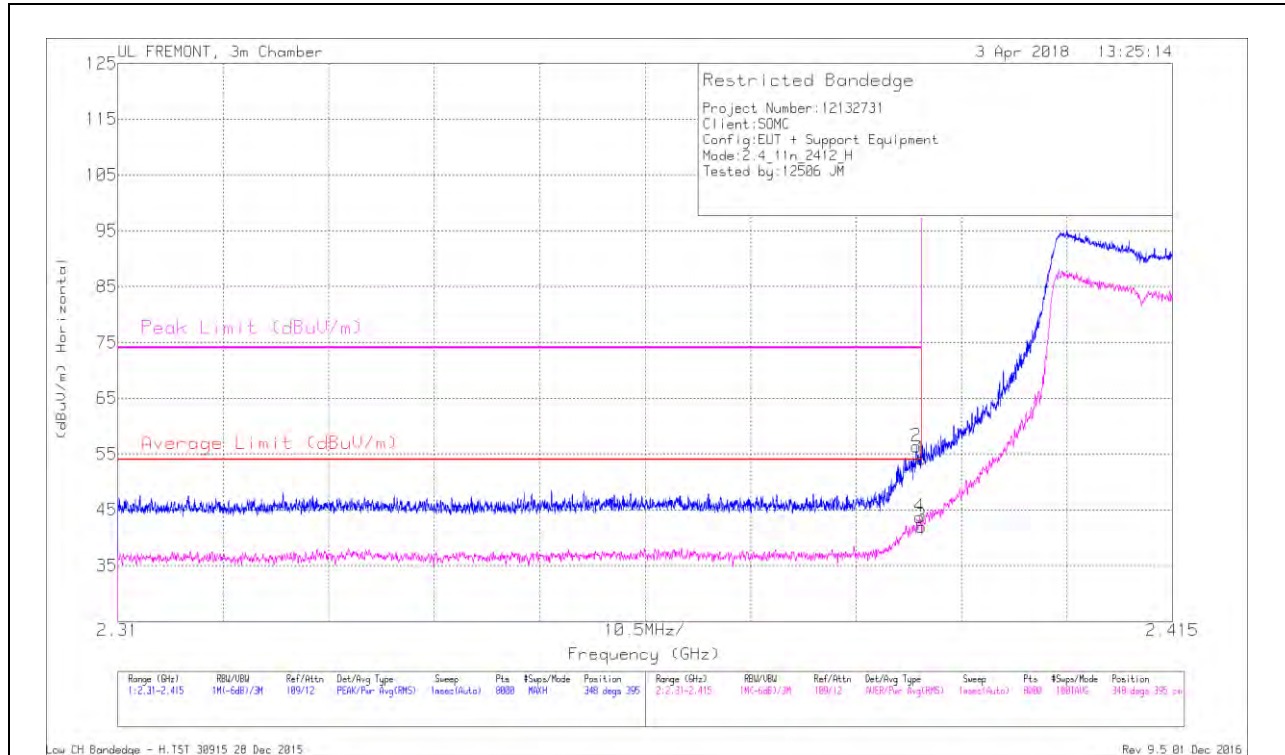
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.966	37.67	PK2	34.2	-27.6	0	44.27	-	-	74	-29.73	238	298	H
* 4.967	25.59	MAv1	34.2	-27.6	0	32.19	54	-21.81	-	-	238	298	H
* 4.952	37.68	PK2	34.2	-27.3	0	44.58	-	-	74	-29.42	159	154	V
* 4.956	25.71	MAv1	34.2	-27.4	0	32.51	54	-21.49	-	-	159	154	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 PK2 - KDB558074 Method: Maximum Peak  
 MAv1 - KDB558074 Option 1 Maximum RMS Average

### 9.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

#### BANDEDGE (LOW CHANNEL, CH 1)

#### HORIZONTAL RESULT



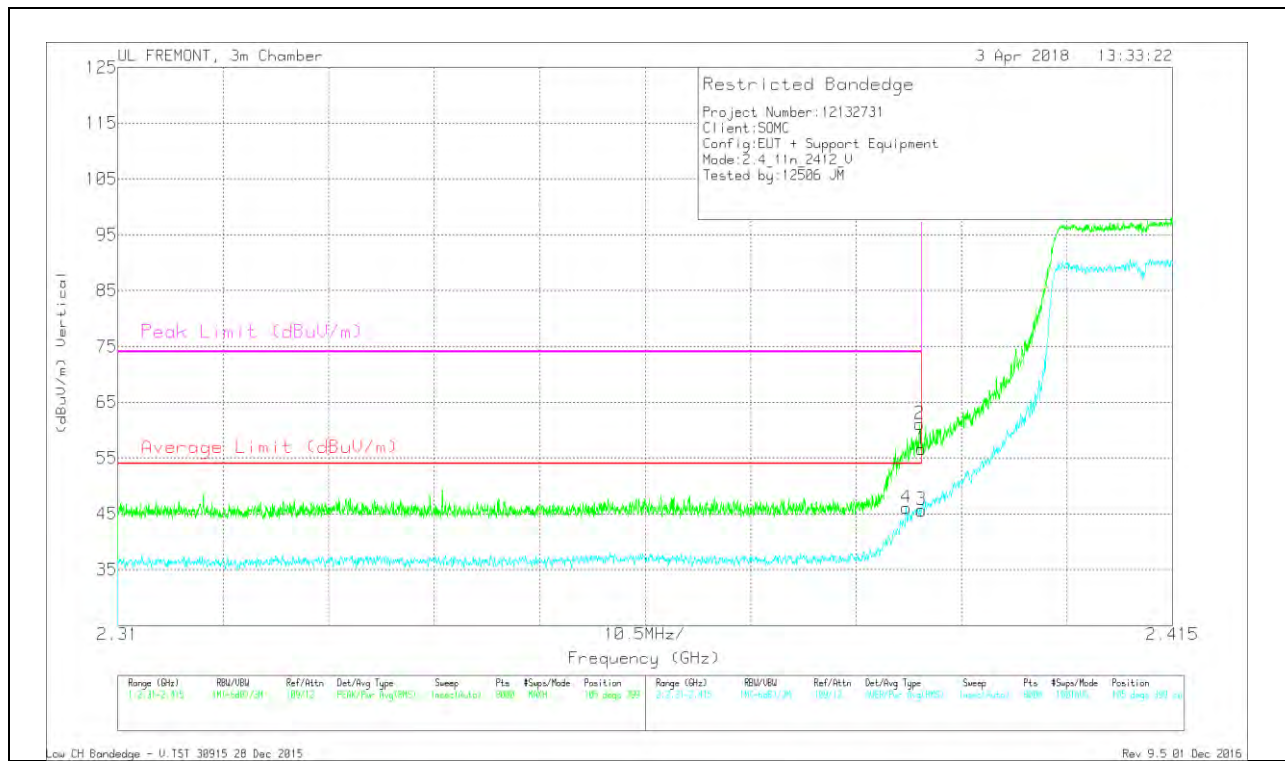
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.39	43.67	Pk	31.9	-21.4	0	54.17	-	-	74	-19.83	348	395	H
2	2.39	45.9	Pk	31.9	-21.4	0	56.4	-	-	74	-17.6	348	395	H
3	2.39	31.42	RMS	31.9	-21.4	.11	42.03	54	-11.97	-	-	348	395	H
4	2.39	33.12	RMS	31.9	-21.4	.11	43.73	54	-10.27	-	-	348	395	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT



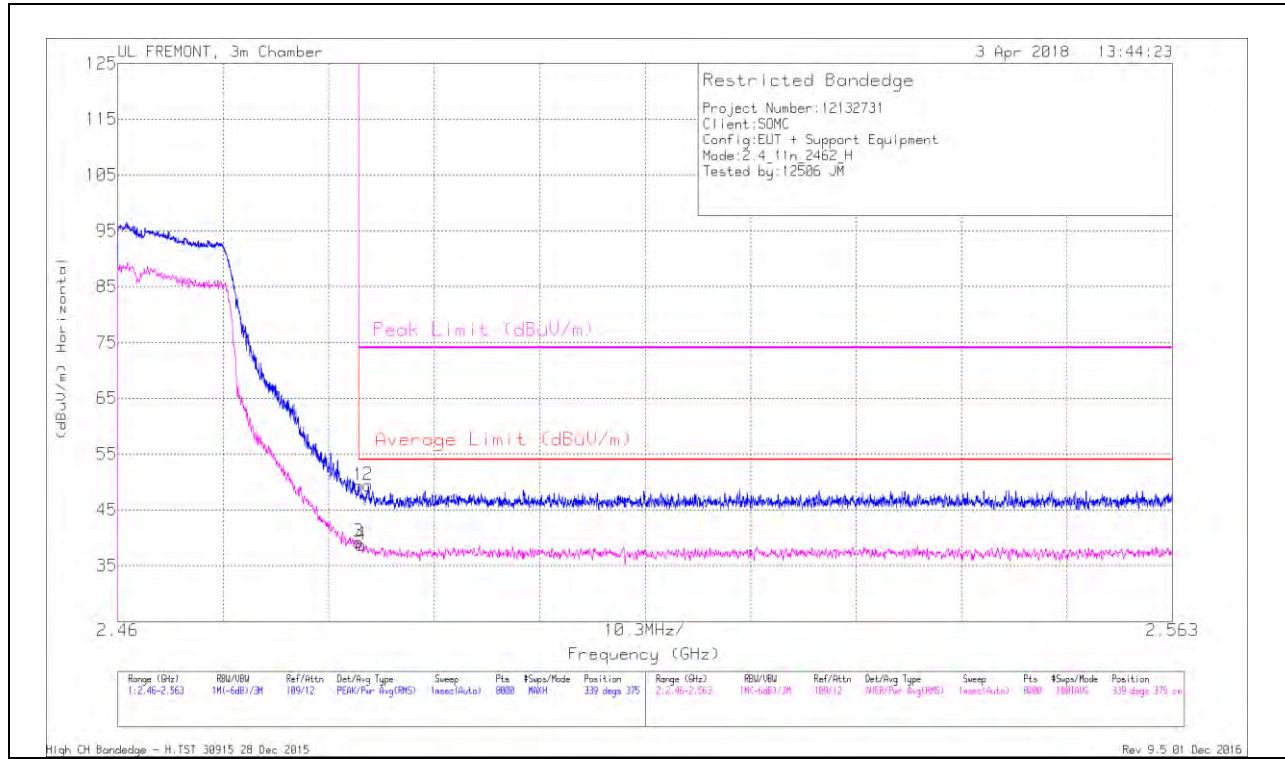
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/CbI/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.388	35.4	RMS	31.9	-21.3	.11	46.11	54	-7.89	-	-	105	399	V
1	2.39	46.12	Pk	31.9	-21.4	0	56.62	-	-	74	-17.38	105	399	V
2	2.39	50.55	Pk	31.9	-21.4	0	61.05	-	-	74	-12.95	105	399	V
3	2.39	35.03	RMS	31.9	-21.4	.11	45.64	54	-8.36	-	-	105	399	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection



### BANDEGE (HIGH CHANNEL, CH 11)

### HORIZONTAL RESULT



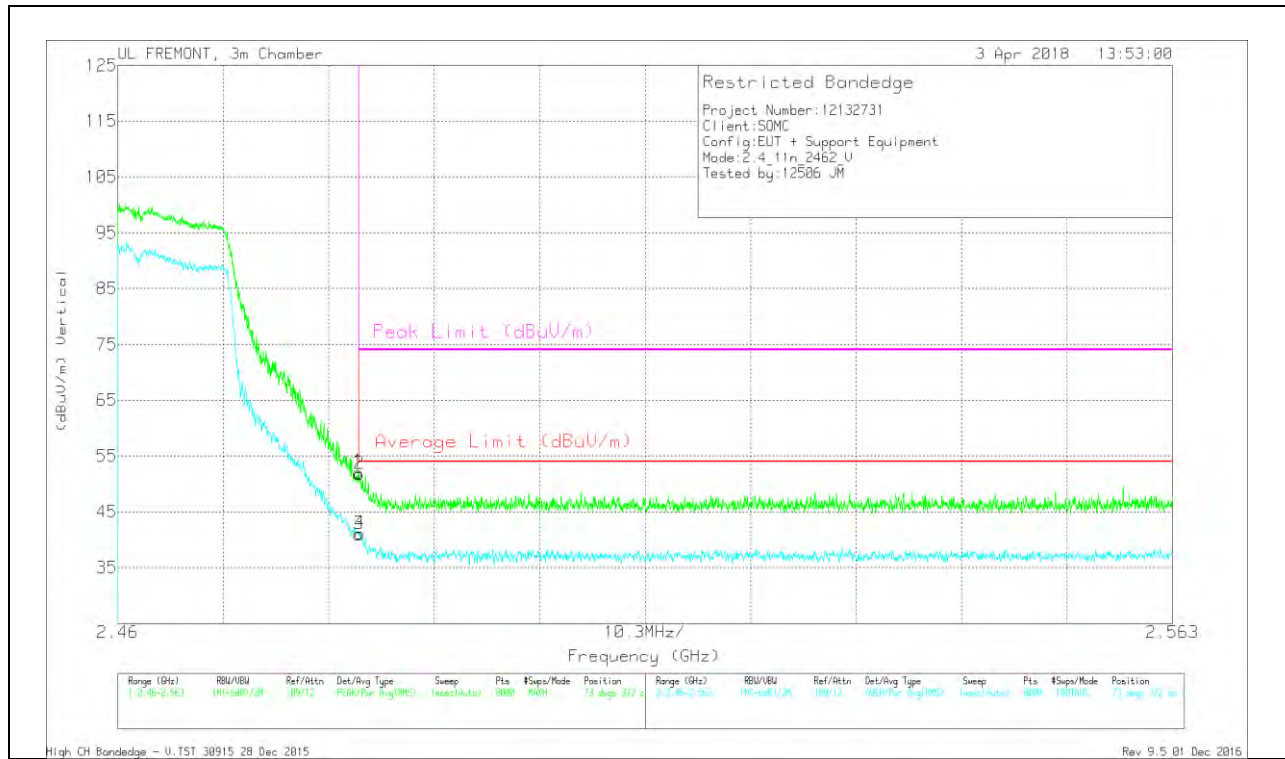
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/Cb/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	38.88	Pk	32.2	-21.8	0	49.28	-	-	74	-24.72	339	375	H
2	2.484	38.99	Pk	32.2	-21.8	0	49.39	-	-	74	-24.61	339	375	H
3	2.484	28.76	RMS	32.2	-21.8	.11	39.27	54	-14.73	-	-	339	375	H
4	2.484	28.24	RMS	32.2	-21.8	.11	38.75	54	-15.25	-	-	339	375	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band

Pk - Peak detector

RMS - RMS detection

### VERTICAL RESULT

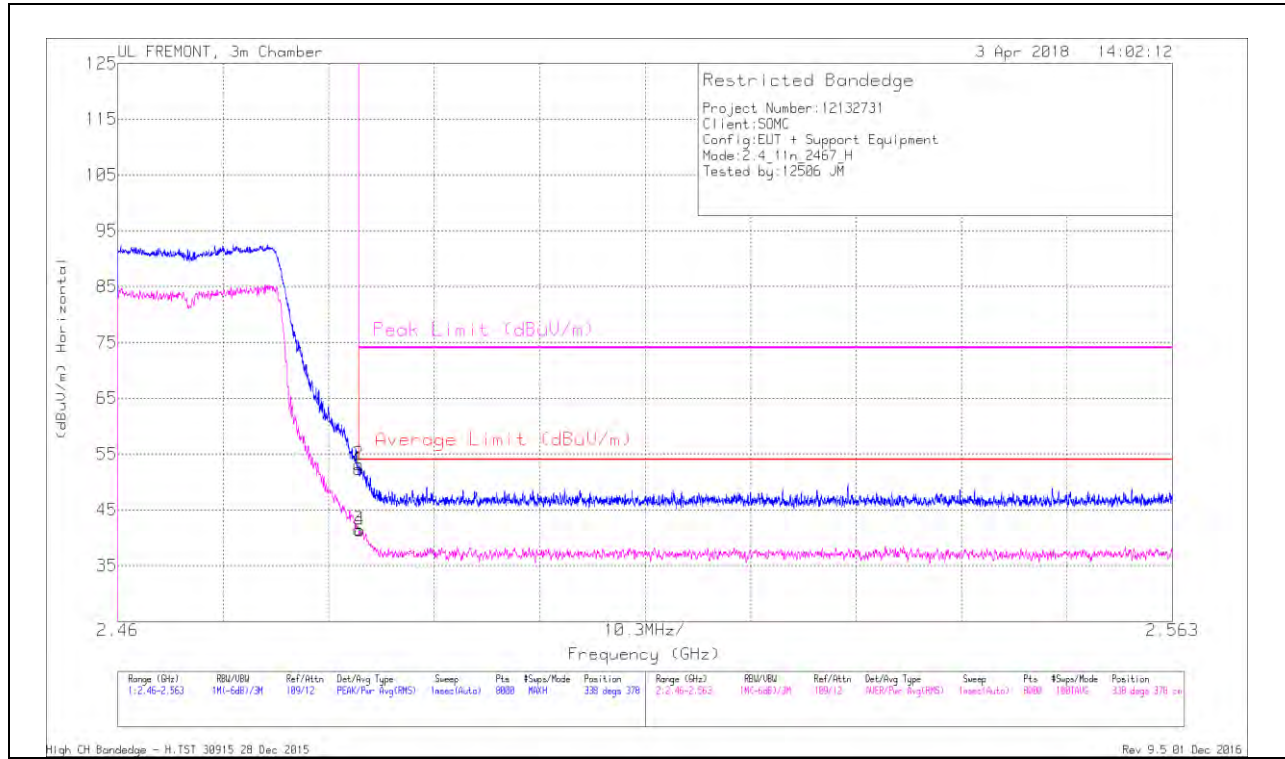


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/CbIFtrn/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	41.69	Pk	32.2	-21.8	0	52.09	-	-	74	-21.91	73	372	V
2	2.484	41.37	Pk	32.2	-21.8	0	51.77	-	-	74	-22.23	73	372	V
3	2.484	30.51	RMS	32.2	-21.8	.11	41.02	54	-12.98	-	-	73	372	V
4	2.484	30.84	RMS	32.2	-21.8	.11	41.15	54	-12.85	-	-	73	372	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### BANDEGE (HIGH CHANNEL, CH 12)

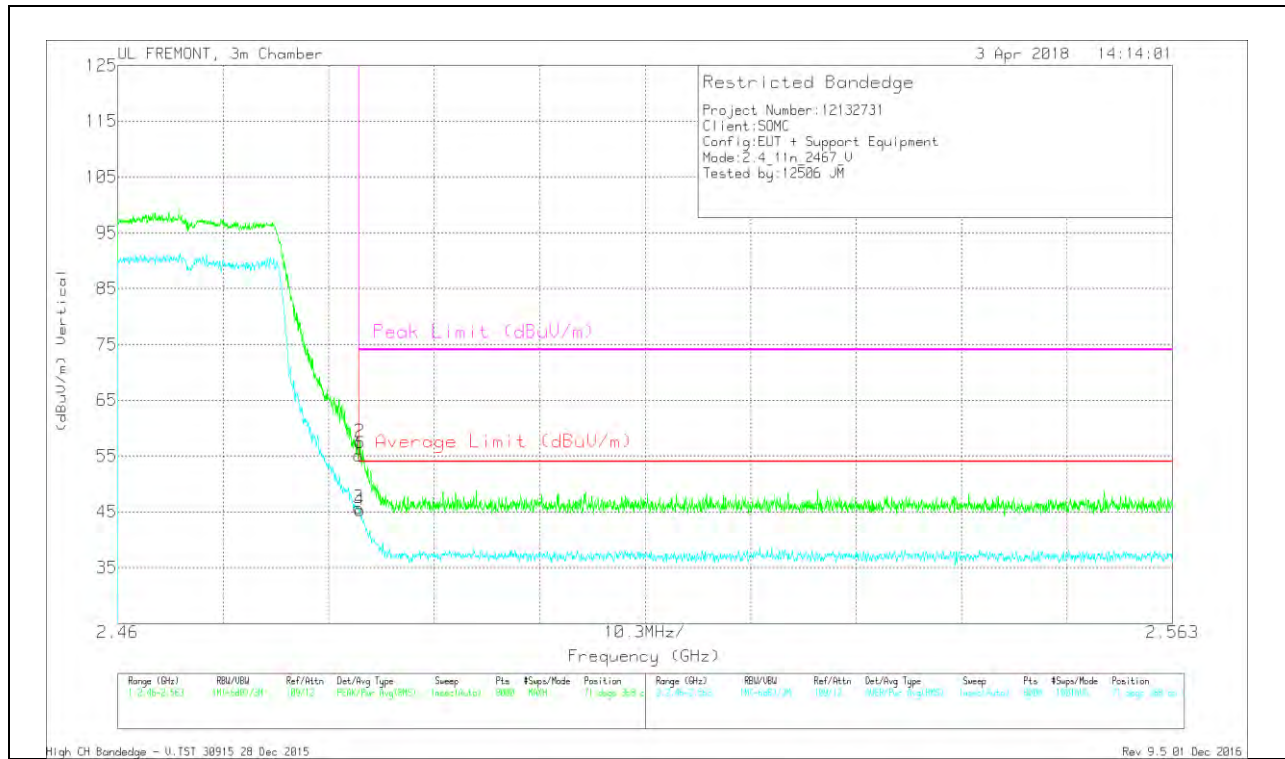
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/Cb/Filt/Pad (dB)	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	41.89	Pk	32.2	-21.8	0	52.29	-	-	74	-21.71	338	378	H
2	2.484	42.78	Pk	32.2	-21.8	0	53.18	-	-	74	-20.82	338	378	H
3	2.484	30.92	RMS	32.2	-21.8	.11	41.43	54	-12.57	-	-	338	378	H
4	2.484	30.8	RMS	32.2	-21.8	.11	41.31	54	-12.69	-	-	338	378	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT



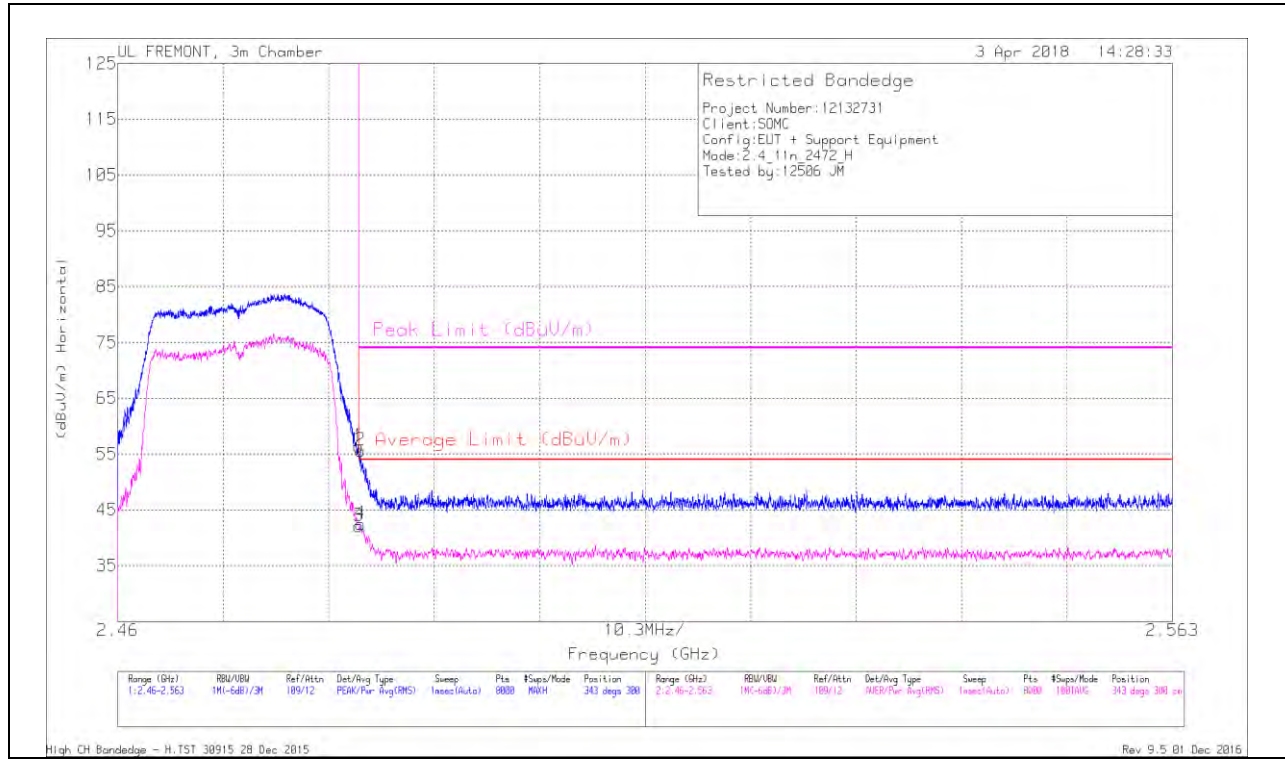
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/CbI/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	44.74	Pk	32.2	-21.8	0	55.14	-	-	74	-18.86	71	368	V
2	2.484	47.09	Pk	32.2	-21.8	0	57.49	-	-	74	-16.51	71	368	V
3	2.484	35.24	RMS	32.2	-21.8	.11	45.75	54	-8.25	-	-	71	368	V
4	2.484	34.83	RMS	32.2	-21.8	.11	45.34	54	-8.66	-	-	71	368	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection



### BANDEDGE (HIGH CHANNEL, CH 13)

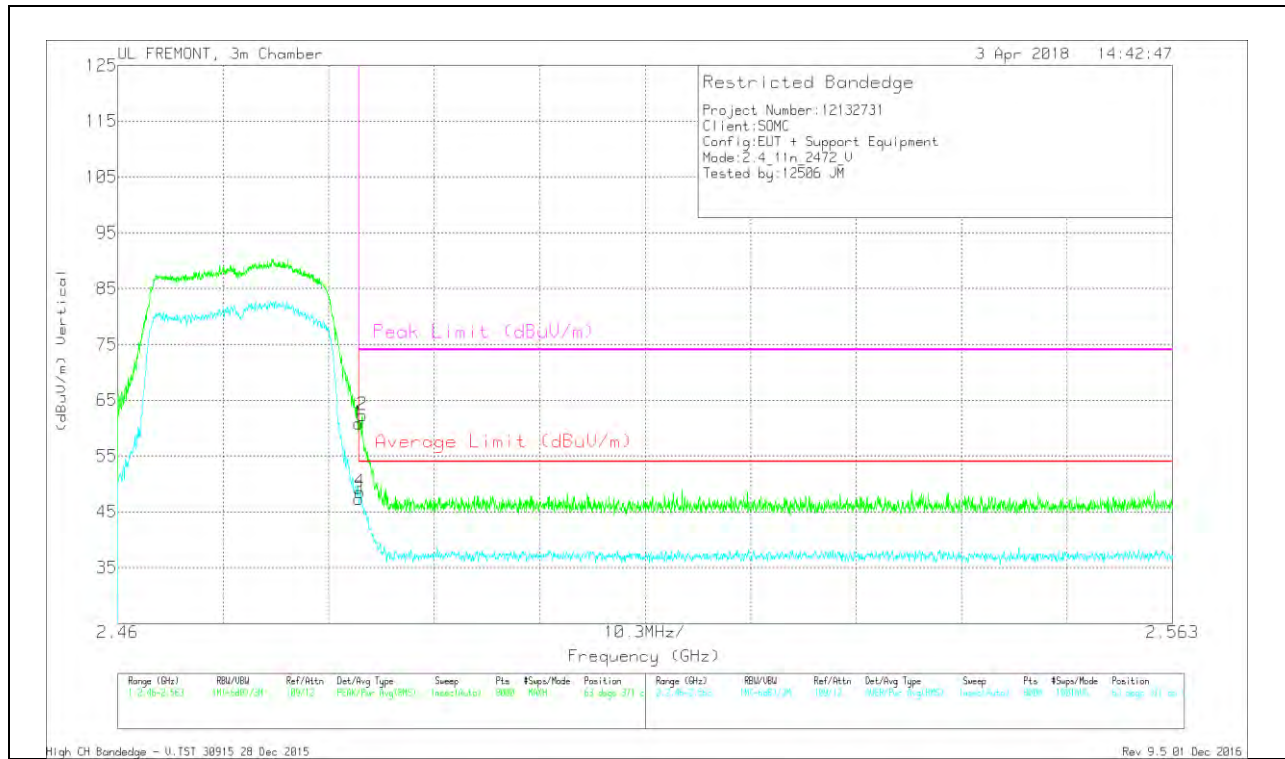
### HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/Cb/Filt/Pad (dB)	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	46.02	Pk	32.2	-21.8	0	56.42	-	-	74	-17.58	343	300	H
2	2.484	45.28	Pk	32.2	-21.8	0	55.68	-	-	74	-18.32	343	300	H
3	2.484	31.54	RMS	32.2	-21.8	.11	42.05	54	-11.95	-	-	343	300	H
4	2.484	31.94	RMS	32.2	-21.8	.11	42.45	54	-11.55	-	-	343	300	H

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

### VERTICAL RESULT

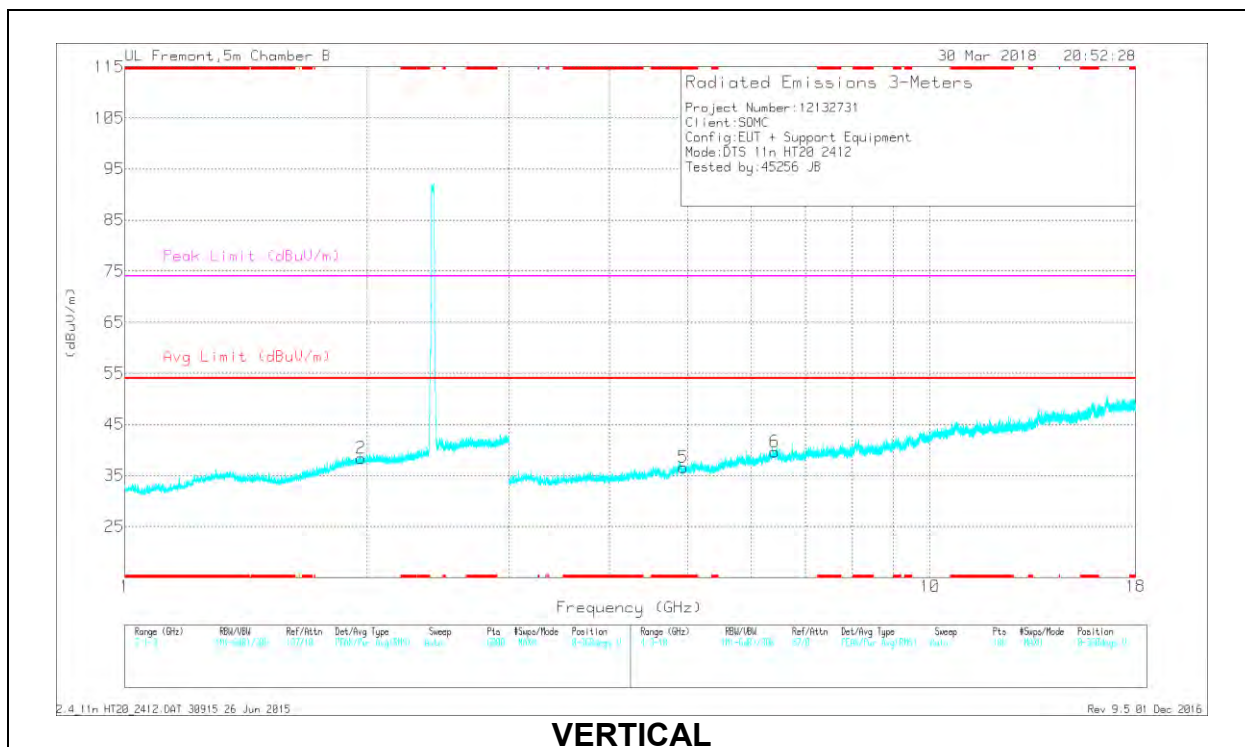
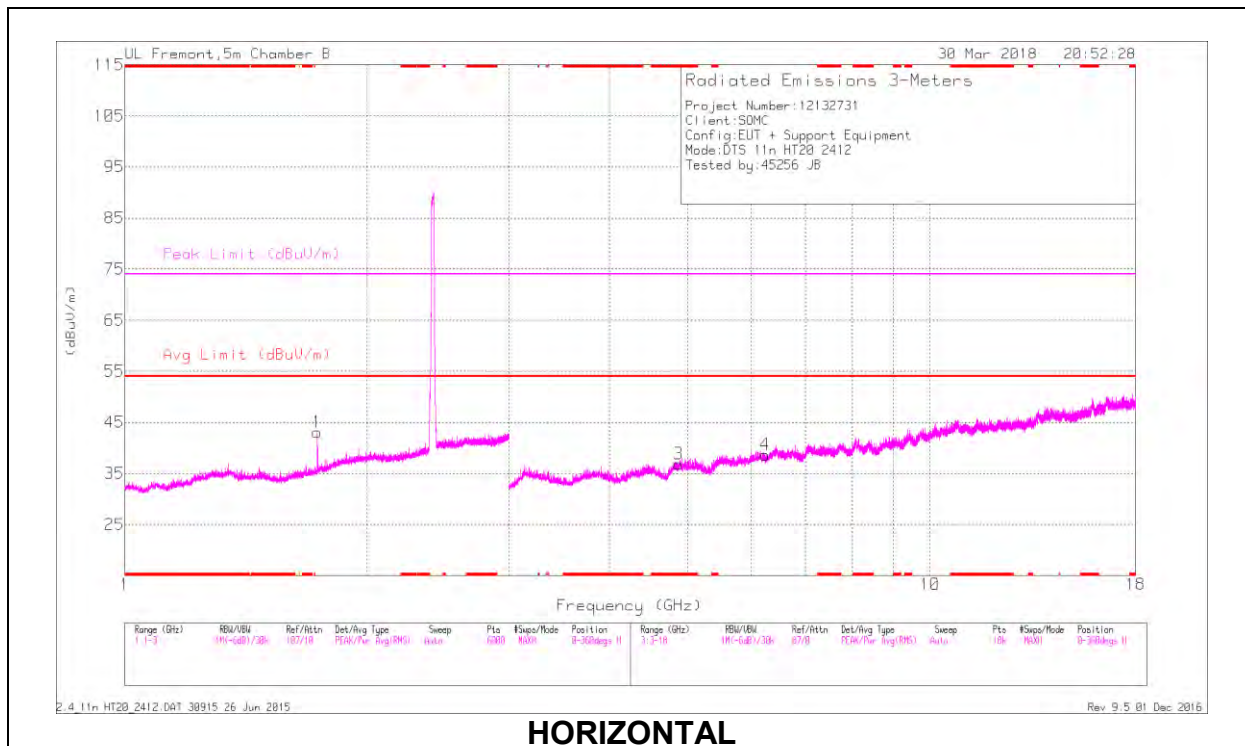


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dBm)	Amp/CbIFtrn/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	50.43	Pk	32.2	-21.8	0	60.83	-	-	74	-13.17	63	371	V
2	2.484	51.94	Pk	32.2	-21.8	0	62.34	-	-	74	-11.66	63	371	V
3	2.484	36.78	RMS	32.2	-21.8	.11	47.29	54	-6.71	-	-	63	371	V
4	2.484	37.99	RMS	32.2	-21.8	.11	48.5	54	-5.5	-	-	63	371	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band  
 Pk - Peak detector  
 RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL, CH 1 RESULTS



**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.87	35.48	PK2	34.1	-26.6	0	42.98	-	-	74	-31.02	237	287	H
	* 4.873	24.52	MAv1	34.1	-26.4	.11	32.33	54	-21.67	-	-	237	287	H
5	* 4.939	36.68	PK2	34.2	-27.3	0	43.58	-	-	74	-30.42	195	226	V
	* 4.94	24.83	MAv1	34.2	-27.3	.11	31.84	54	-22.16	-	-	195	226	V

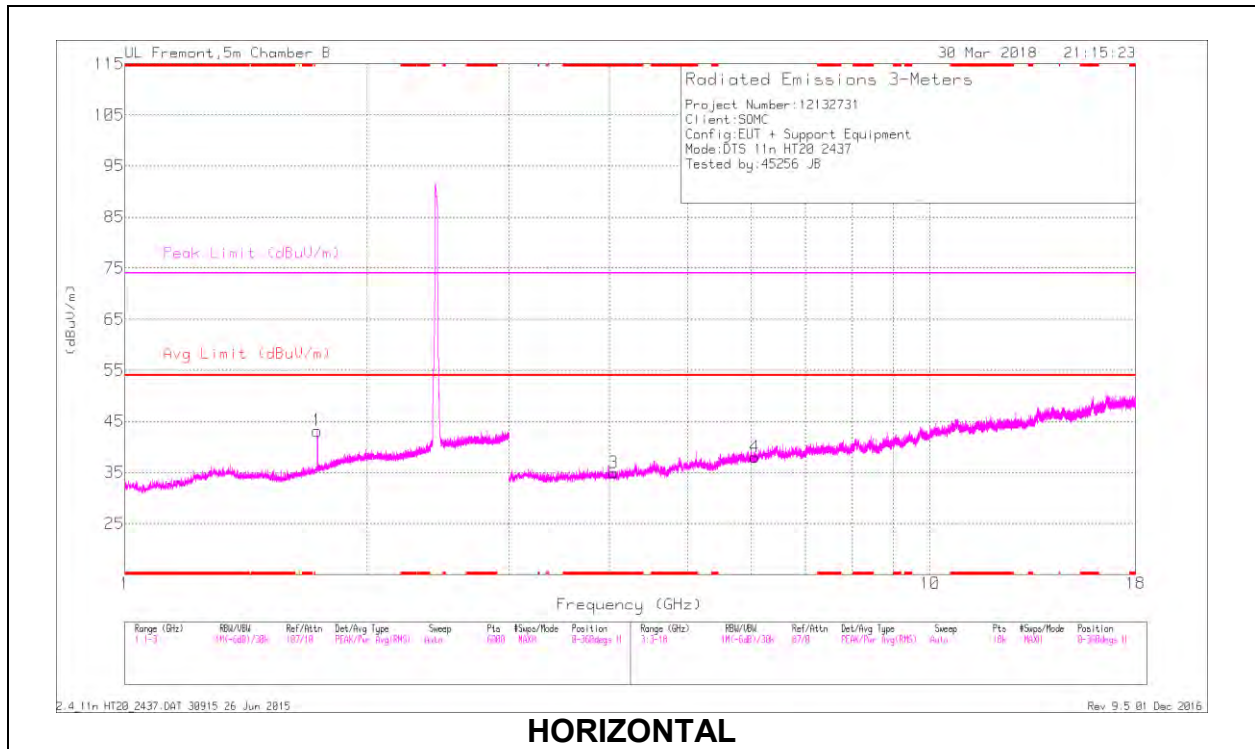
\* - indicates frequency in CFR47 Pt 15 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

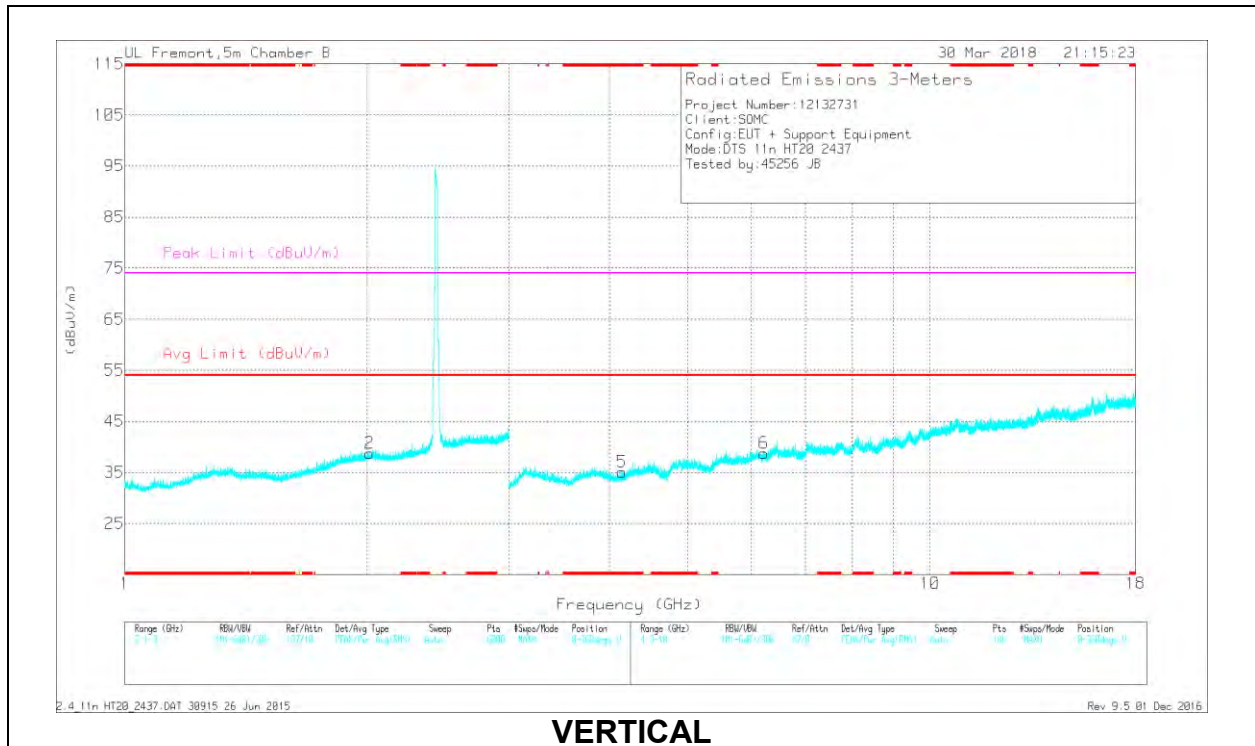
MAv1 - KDB558074 Option 1 Maximum RMS Average



### MID CHANNEL, CH 6 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

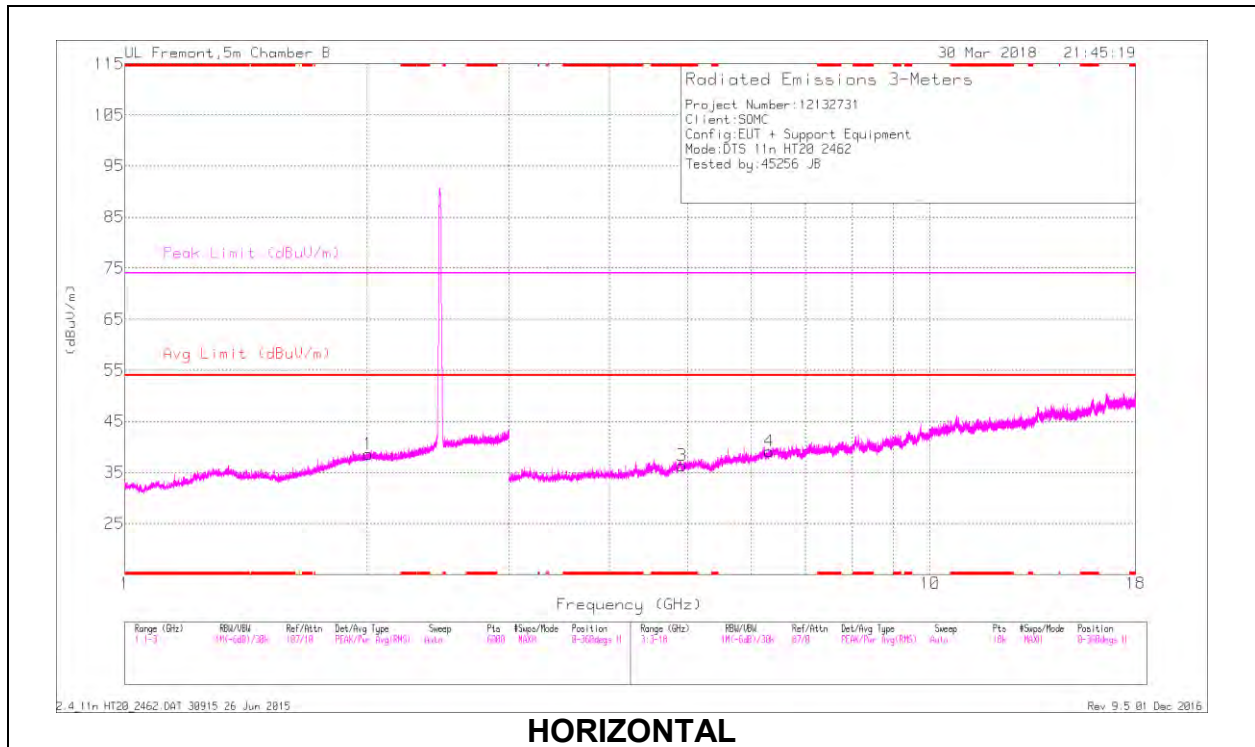
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.042	37.43	PK2	33.4	-28.6	0	42.23	-	-	74	-31.77	172	356	H
	* 4.043	24.53	MAv1	33.4	-28.6	.11	29.44	54	-24.56	-	-	172	356	H
5	* 4.143	36.7	PK2	33.4	-28.5	0	41.6	-	-	74	-32.4	78	162	V
	* 4.145	25.3	MAv1	33.4	-28.5	.11	30.31	54	-23.69	-	-	78	162	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

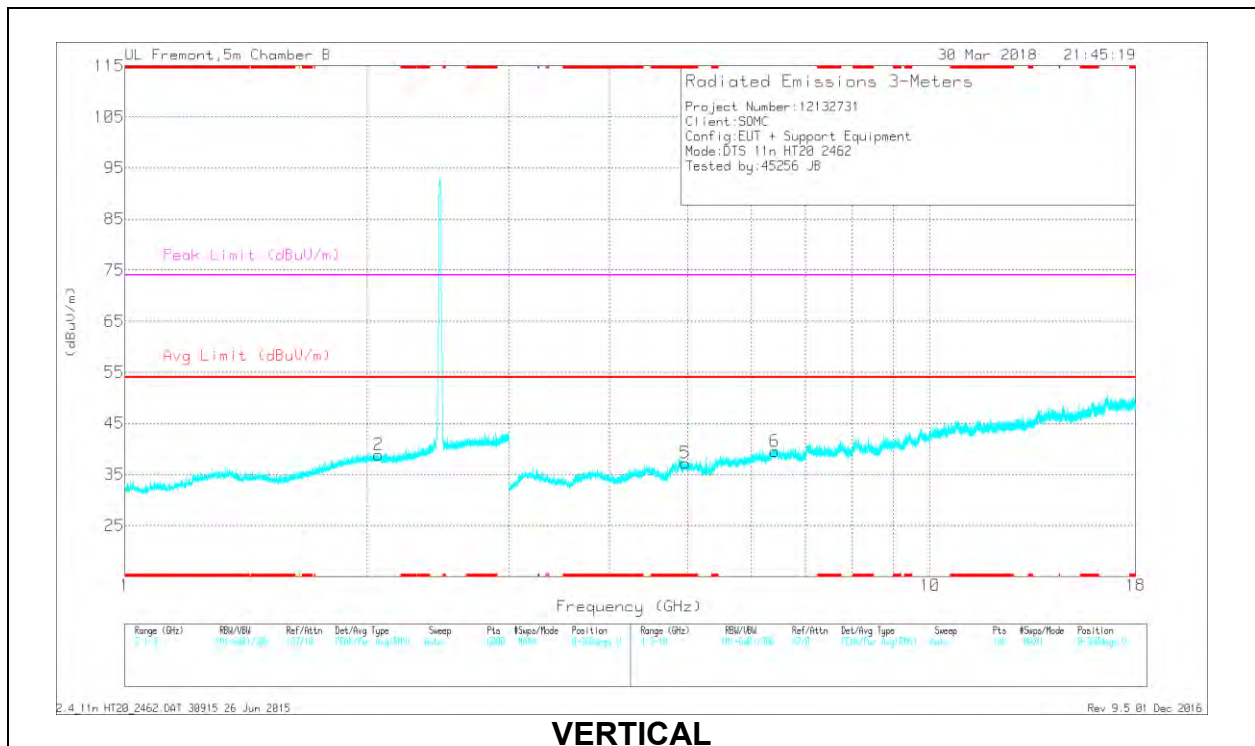
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

### HIGH CHANNEL, CH 11 RESULTS



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.918	36.36	PK2	34.1	-27.3	0	43.16	-	-	74	-30.84	171	144	H
	* 4.918	24.77	MAv1	34.1	-27.3	.11	31.68	54	-22.32	-	-	171	144	H
5	* 4.967	37.27	PK2	34.2	-27.6	0	43.87	-	-	74	-30.13	225	306	V
	* 4.97	25.67	MAv1	34.3	-27.7	.11	32.38	54	-21.62	-	-	225	306	V

\* - indicates frequency in CFR47 Pt 15 Restricted Band

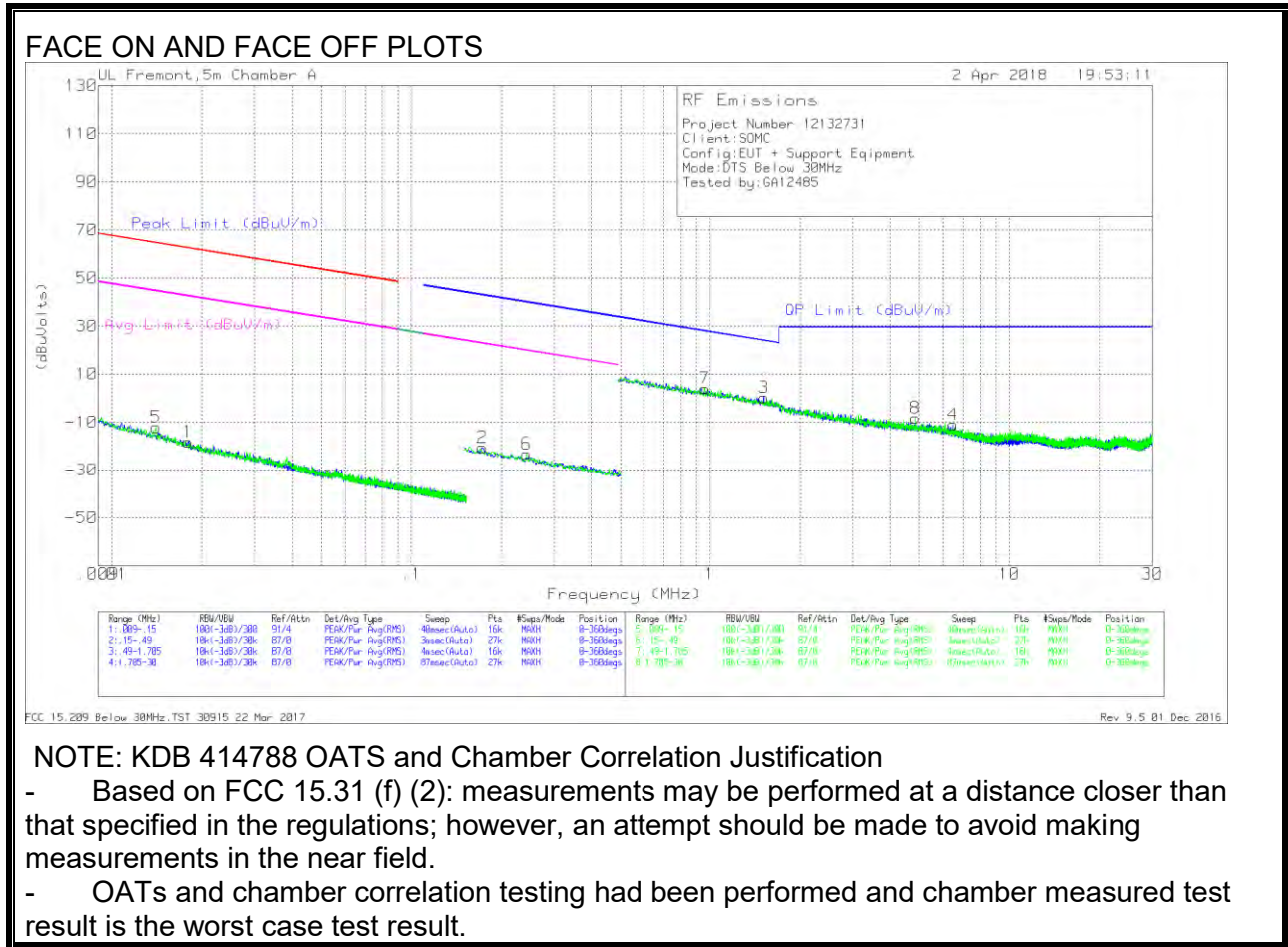
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



### 9.1. WORST-CASE BELOW 30 MHz

#### SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



NOTE: KDB 414788 OATS and Chamber Correlation Justification

- Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.
- OATs and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

#### Trace Markers

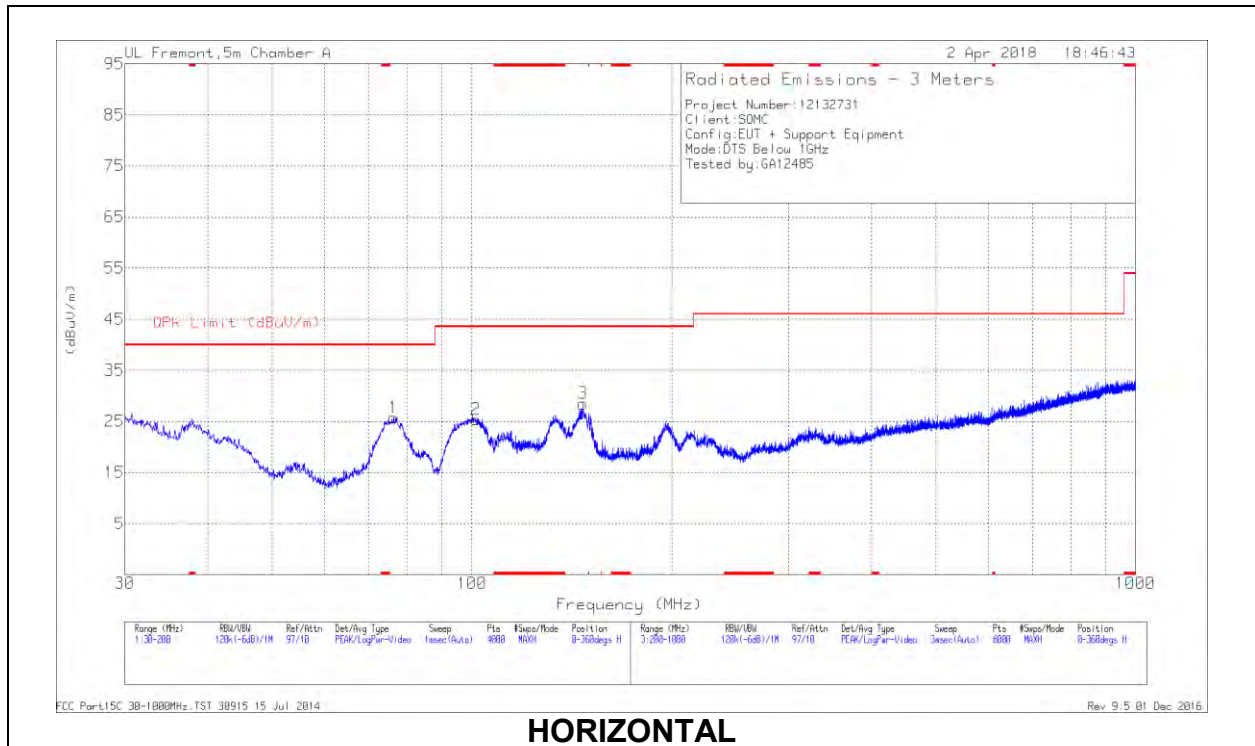
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cal (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.01403	50.86	Pk	16.9	.1	-80	-12.14	64.64	-76.78	44.64	-56.78	-	-	-	-	0-360
1	.01796	46.56	Pk	15.1	.1	-80	-18.24	62.5	-80.74	42.5	-60.74	-	-	-	-	0-360
2	.17281	48.29	Pk	11	.1	-80	-20.61	-	-	-	-	42.87	-63.48	22.87	-43.48	0-360
6	.24307	45.66	Pk	11	.1	-80	-23.24	-	-	-	-	39.9	-63.14	19.9	-43.14	0-360

#### Pk - Peak detector

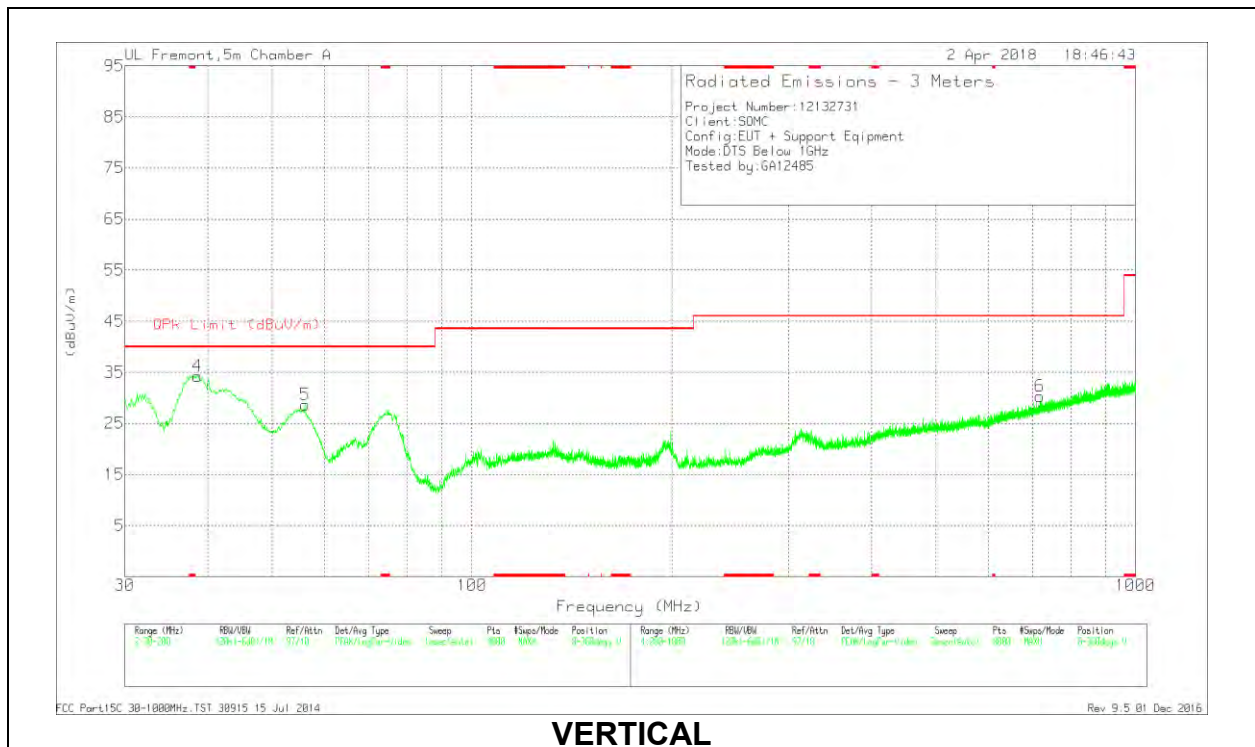
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cal (dB)	Dist Corr 30m	Corrected Reading (dBuVolts)	OP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
7	.96264	32.72	Pk	11.2	.1	-40	4.02	27.95	-23.93	0-360
3	1.51357	28.52	Pk	11.4	.2	-40	.12	24.03	-23.91	0-360
8	4.849	20.15	Pk	11.2	.3	-40	-8.35	29.5	-37.85	0-360
4	6.47812	17.41	Pk	11.1	.4	-40	-11.09	29.5	-40.59	0-360

#### Pk - Peak detector

## 9.2. Worst Case Below 1 GHz



**HORIZONTAL**



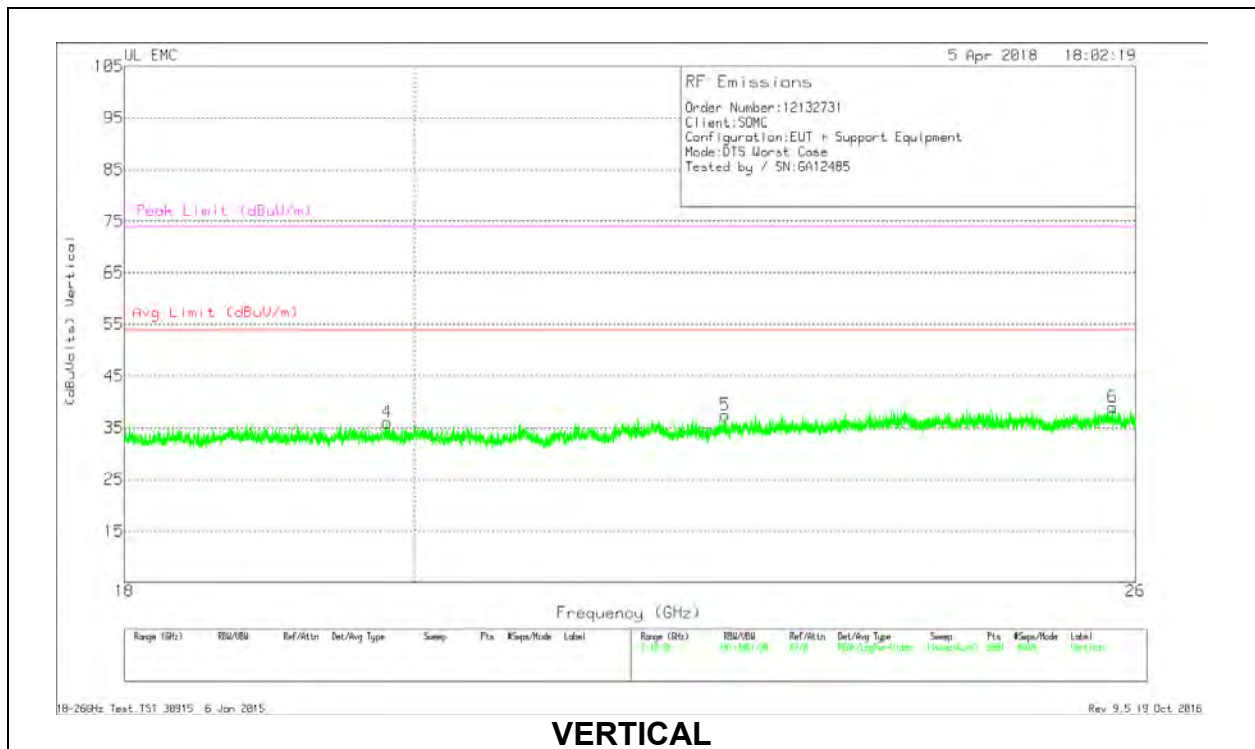
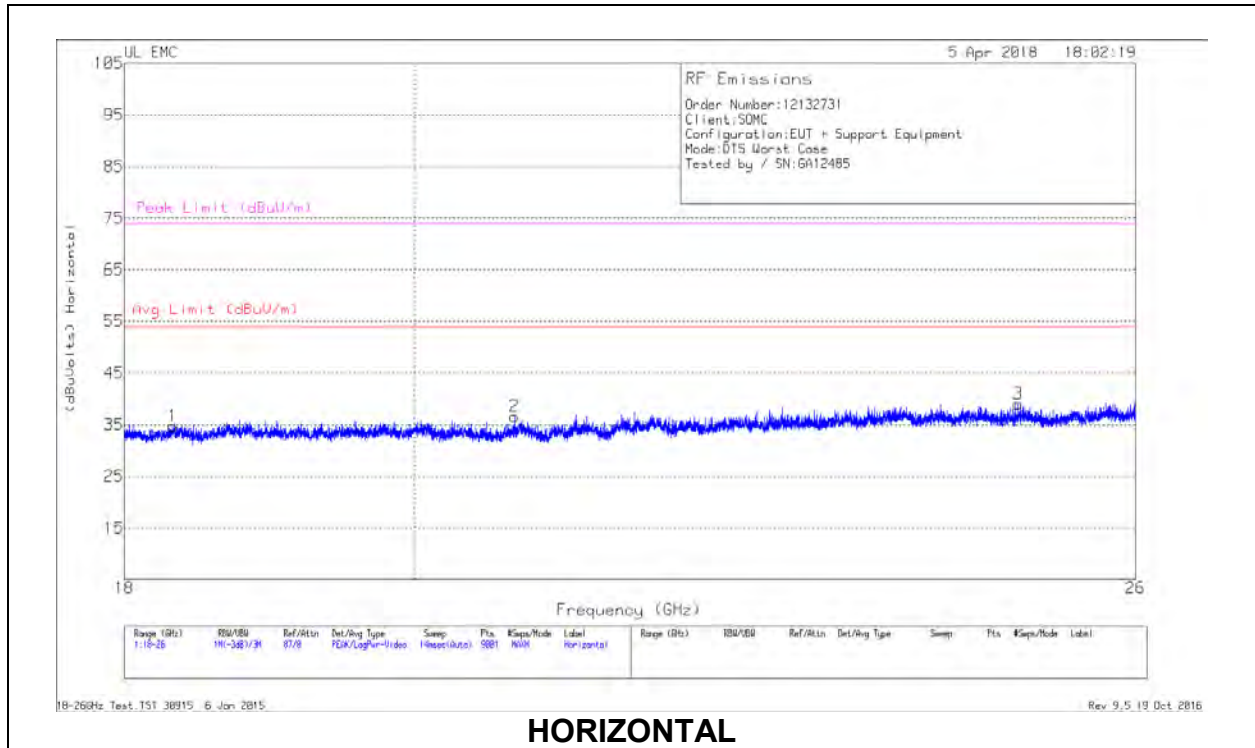
**VERTICAL**

**Below 1GHz DATA**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	38.5872	42.45	Pk	19	-27.2	34.25	40	-5.75	0-360	100	V
5	56.0805	44.47	Pk	11.1	-26.9	28.67	40	-11.33	0-360	100	V
1	76.252	40.54	Pk	11.9	-26.7	25.74	40	-14.26	0-360	200	H
2	101.3972	37.18	Pk	14.6	-26.4	25.38	43.52	-18.14	0-360	300	H
3	146.9053	37.76	Pk	16.6	-25.9	28.46	43.52	-15.06	0-360	200	H
6	718.1674	30.21	Pk	24.5	-24.4	30.31	46.02	-15.71	0-360	300	V

Pk - Peak detector

### 9.3. Worst Case 18-26 GHz



**18 – 26GHz DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	18.32	37.08	Pk	32.4	-25.3	-9.5	34.68	54	-19.32	74	-39.32
2	20.745	38.49	Pk	32.8	-25.2	-9.5	36.59	54	-17.41	74	-37.41
3	24.91	38.74	Pk	34	-24.2	-9.5	39.04	54	-14.96	74	-34.96
4	19.804	37.92	Pk	32.6	-25	-9.5	36.02	54	-17.98	74	-37.98
5	22.395	38.7	Pk	33.1	-24.9	-9.5	37.4	54	-16.6	74	-36.6
6	25.787	39.11	Pk	34.1	-24.7	-9.5	39.01	54	-14.99	74	-34.99

Pk - Peak detector



## 10. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

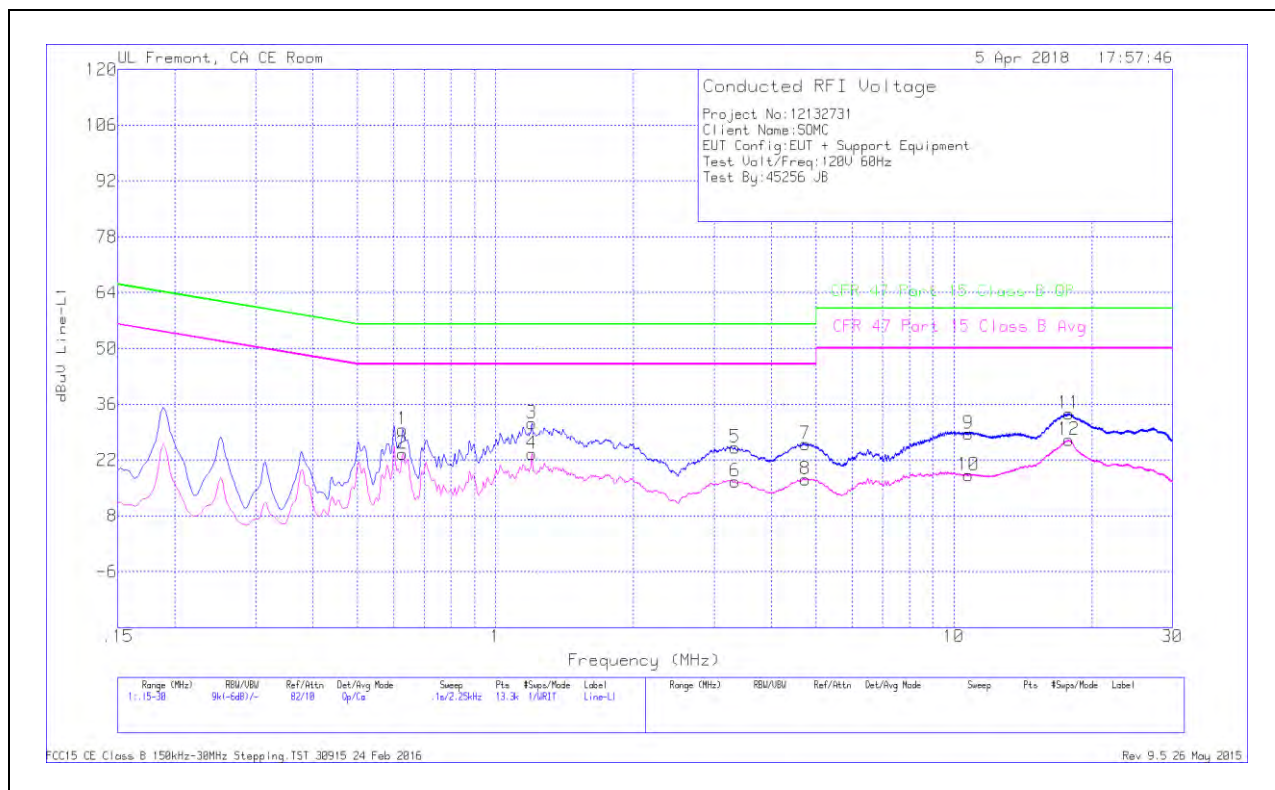
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

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.

### RESULTS

### LINE 1 RESULTS

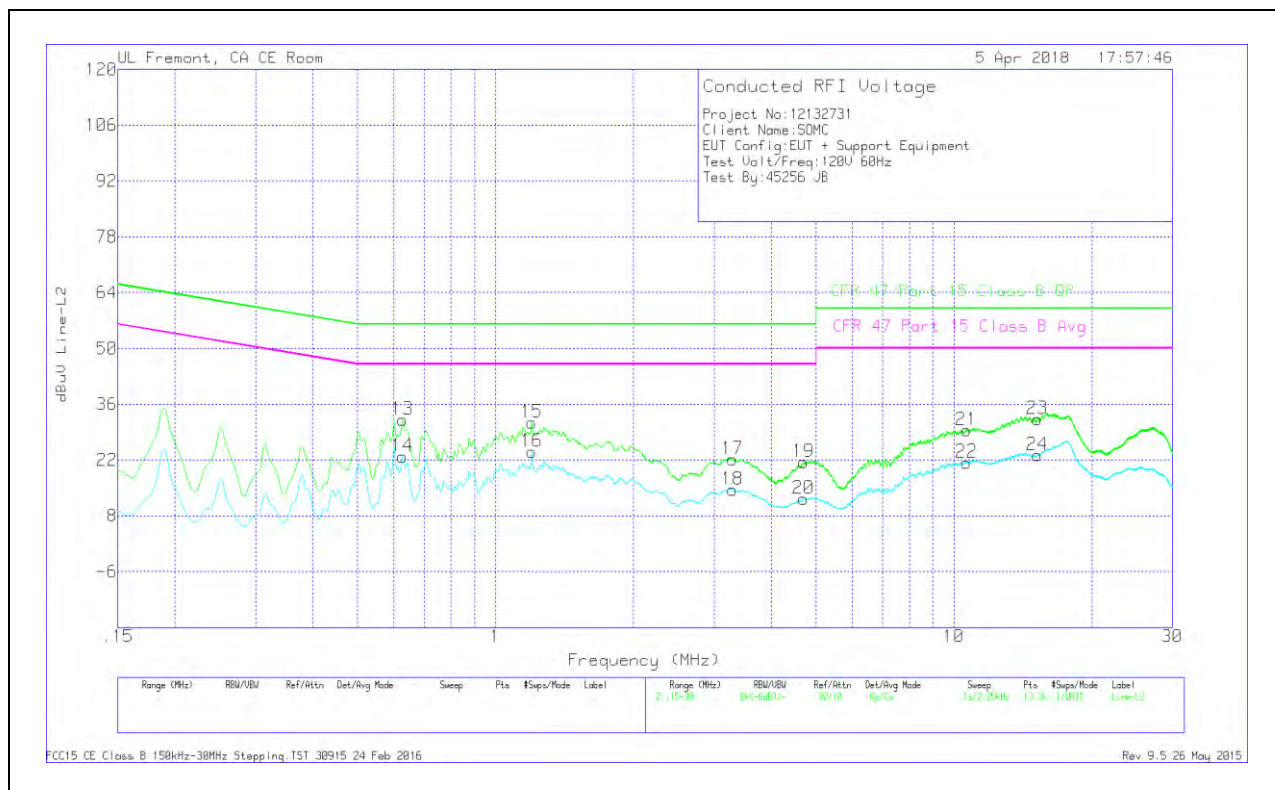


Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.627	19.48	Qp	0	0	10.1	29.58	56	-26.42	-	-
2	.627	13.52	Ca	0	0	10.1	23.62	-	-	46	-22.38
3	1.20075	20.97	Qp	0	.1	10.1	31.17	56	-24.83	-	-
4	1.20075	13.45	Ca	0	.1	10.1	23.65	-	-	46	-22.35
5	3.32925	14.92	Qp	0	.1	10.1	25.12	56	-30.88	-	-
6	3.3315	6.42	Ca	0	.1	10.1	16.62	-	-	46	-29.38
7	4.75125	15.88	Qp	0	.1	10.1	26.08	56	-29.92	-	-
8	4.75125	6.98	Ca	0	.1	10.1	17.18	-	-	46	-28.82
9	10.77225	18.17	Qp	0	.2	10.2	28.57	60	-31.43	-	-
10	10.75425	7.8	Ca	0	.2	10.2	18.2	-	-	50	-31.8
11	17.835	23.04	Qp	0	.3	10.3	33.64	60	-26.36	-	-
12	17.82825	16.38	Ca	0	.3	10.3	26.98	-	-	50	-23.02

Qp - Quasi-Peak detector

Ca - CISPR average detection

### LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.627	21.96	Qp	0	0	10.1	32.06	56	-23.94	-	-
14	.627	12.75	Ca	0	0	10.1	22.85	-	-	46	-23.15
15	1.20075	21.15	Qp	0	.1	10.1	31.35	56	-24.65	-	-
16	1.20075	13.87	Ca	0	.1	10.1	24.07	-	-	46	-21.93
17	3.29325	12.01	Qp	0	.1	10.1	22.21	56	-33.79	-	-
18	3.291	4.36	Ca	0	.1	10.1	14.56	-	-	46	-31.44
19	4.69725	11.23	Qp	0	.1	10.1	21.43	56	-34.57	-	-
20	4.70175	2	Ca	0	.1	10.1	12.2	-	-	46	-33.8
21	10.6755	19.11	Qp	0	.2	10.2	29.51	60	-30.49	-	-
22	10.67325	11	Ca	0	.2	10.2	21.4	-	-	50	-28.6
23	15.216	21.84	Qp	0	.3	10.2	32.34	60	-27.66	-	-
24	15.21713	12.77	Ca	0	.3	10.2	23.27	-	-	50	-26.73

Qp - Quasi-Peak detector

Ca - CISPR average detection