

**RADIATED EMISSIONS**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Filter (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	4.452	32.52	Pk	33.8	-28.8	3	40.52	-	-	-	-	0-360	102	H
2	4.452	31.97	Pk	33.8	-28.8	1	37.97	-	-	-	-	0-360	199	V

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

Pk - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 10.6	28.44	Pk	37.7	-23.1	43.04	-	-	74	-30.96	0-360	103	H
6	* 10.602	29.41	Pk	37.7	-23	44.11	-	-	74	-29.89	0-360	102	V
4	6.352	33.19	Pk	35.7	-27.6	41.29	-	-	-	-	0-360	102	V
3	6.357	31.81	Pk	35.7	-27.8	39.71	-	-	-	-	0-360	199	H

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

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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
* 10.605	35.62	PK-U	37.7	-23	0	50.32	-	-	74	-23.68	65	120	H
* 10.601	24.28	ADR	37.7	-23.1	.29	39.17	54	-14.83	-	-	65	120	H
* 10.602	36.74	PK-U	37.7	-23.1	0	51.34	-	-	74	-22.66	20	111	V
* 10.601	25.28	ADR	37.7	-23.1	.29	40.17	54	-13.83	-	-	20	111	V

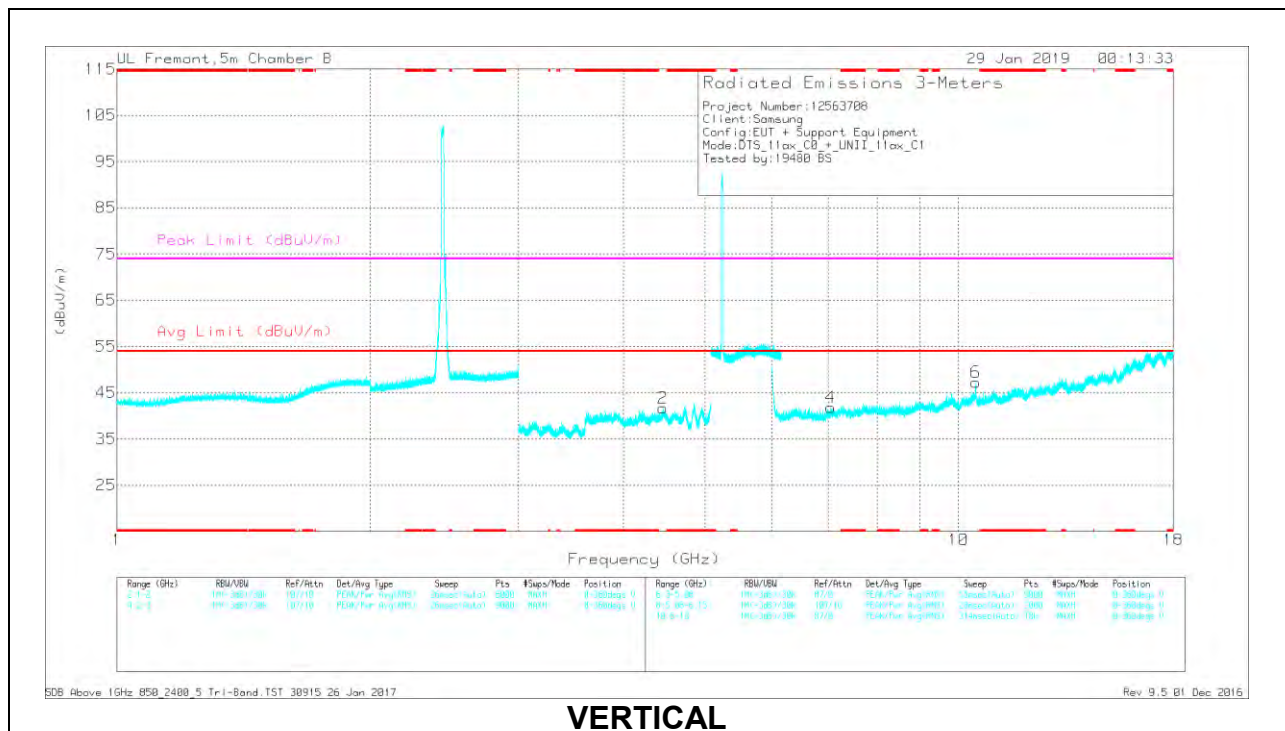
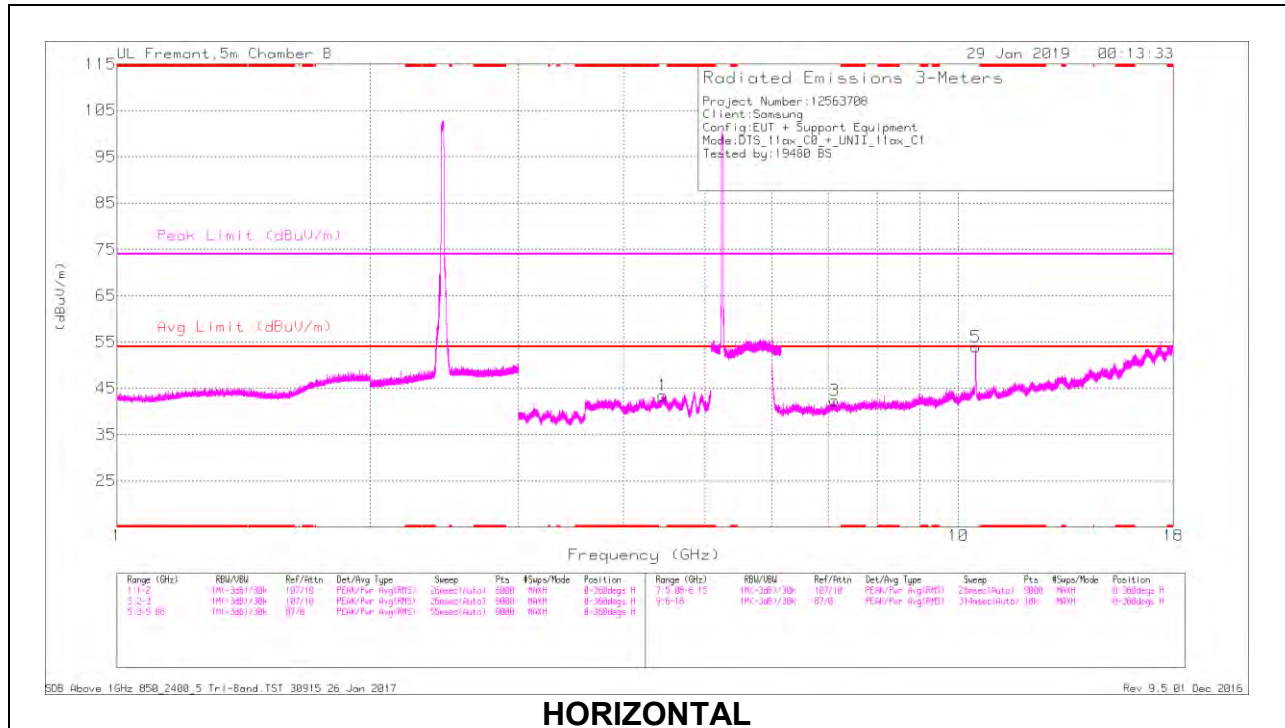
\* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**9.3.3. TEST CASE 3**

**Antenna 1 802.11ax HE20 242T – RU61 Channel 6 + Antenna 2 802.11ax HE20 242T – RU61 Channel 48**



**RADIATED EMISSIONS**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Filter (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	4.456	35.29	Pk	33.8	-28.4	1	41.69	-	-	-	-	0-360	200	V
1	4.458	35.03	Pk	33.8	-28.4	3	43.43	-	-	-	-	0-360	199	H

Pk - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	7.045	32.69	Pk	35.9	-26.8	41.79	-	-	-	-	0-360	200	V
3	7.12	34.29	Pk	36	-27.9	42.39	-	-	-	-	0-360	102	H
5	10.48	38.5	Pk	37.8	-22.3	54	-	-	-	-	0-360	102	H
6	10.485	31.9	Pk	37.8	-22.4	47.3	-	-	-	-	0-360	102	V

Pk - Peak detector

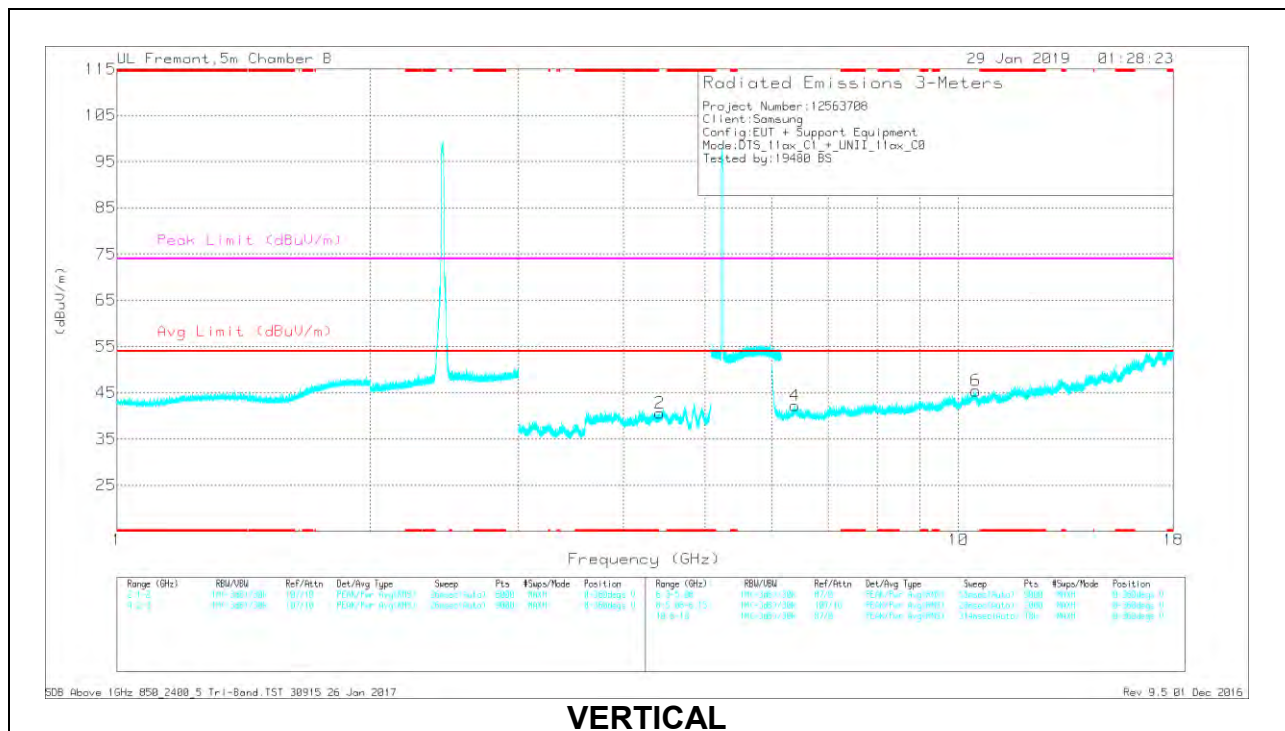
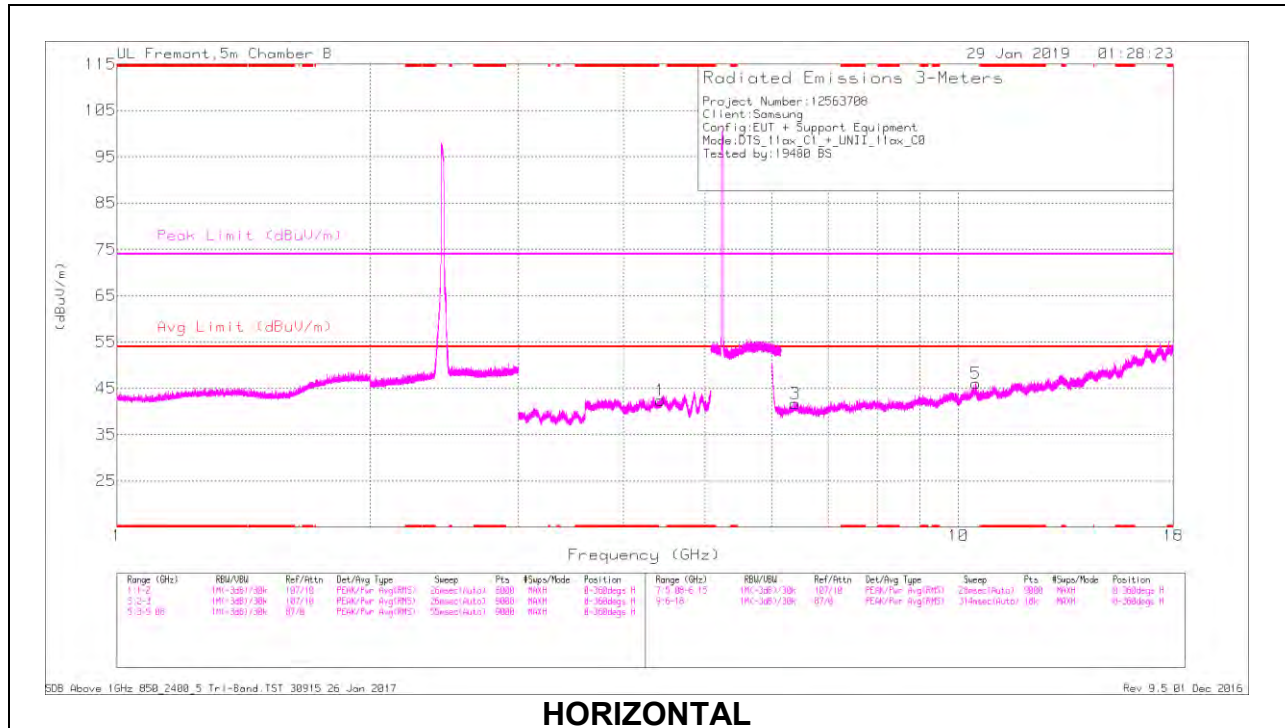
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.482	45.27	PK-U	37.8	-22.4	60.67	-	-	-	-	313	128	H
10.482	40.09	PK-U	37.8	-22.4	55.49	-	-	-	-	252	139	V

PK-U - U-NII: Maximum Peak

**9.3.4. TEST CASE 4**

**Antenna 1 802.11ax HE20 242T – RU61 Channel 48 + Antenna 2 802.11ax HE20 242T – RU61 Channel 6**



**RADIATED EMISSIONS**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Filter (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	4.416	34.86	Pk	33.8	-29	1	40.66	-	-	-	-	0-360	101	V
1	4.425	34.54	Pk	33.8	-29	3	42.34	-	-	-	-	0-360	102	H

Pk - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	6.395	33.69	Pk	35.8	-27.3	42.19	-	-	-	-	0-360	200	V
3	6.397	33.23	Pk	35.8	-27.3	41.73	-	-	-	-	0-360	199	H
5	10.481	30.59	Pk	37.8	-22.3	46.09	-	-	-	-	0-360	102	H
6	10.481	29.94	Pk	37.8	-22.3	45.44	-	-	-	-	0-360	102	V

Pk - Peak detector

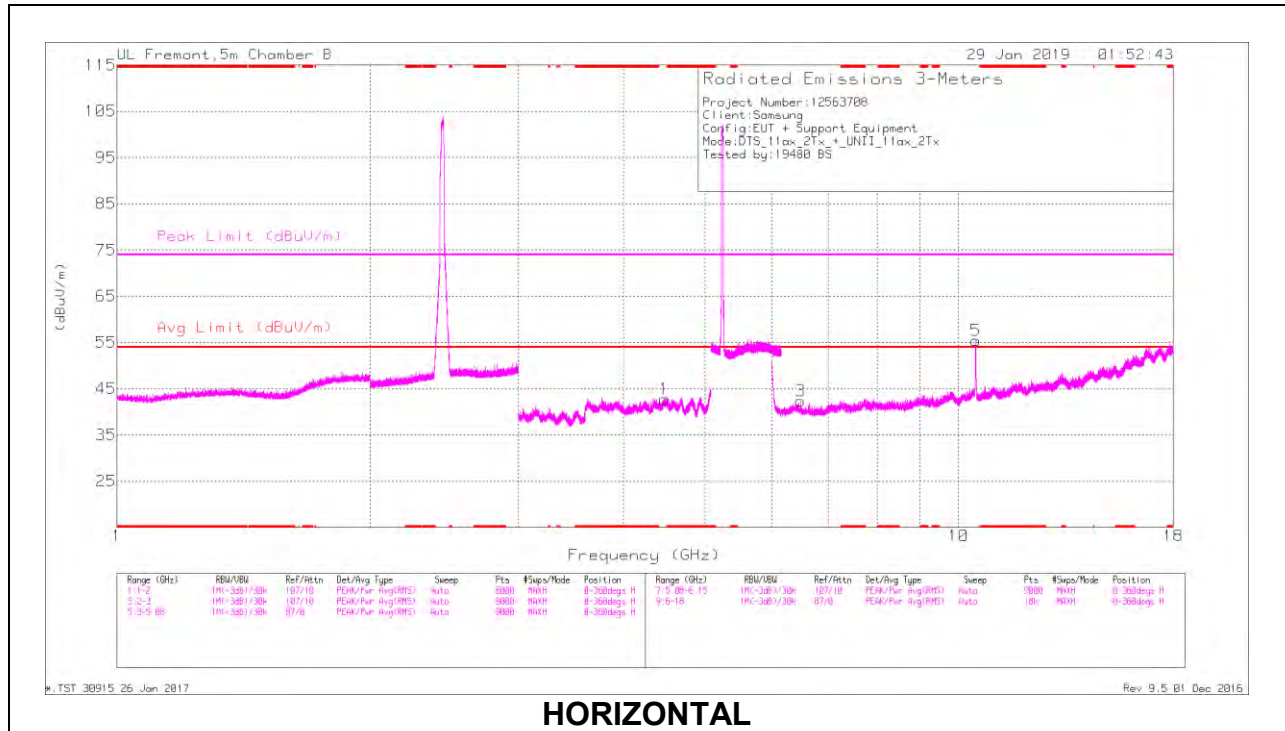
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.477	36.86	PK-U	37.8	-22.3	52.36	-	-	-	-	252	103	V
10.483	38.19	PK-U	37.8	-22.4	53.59	-	-	-	-	349	171	H

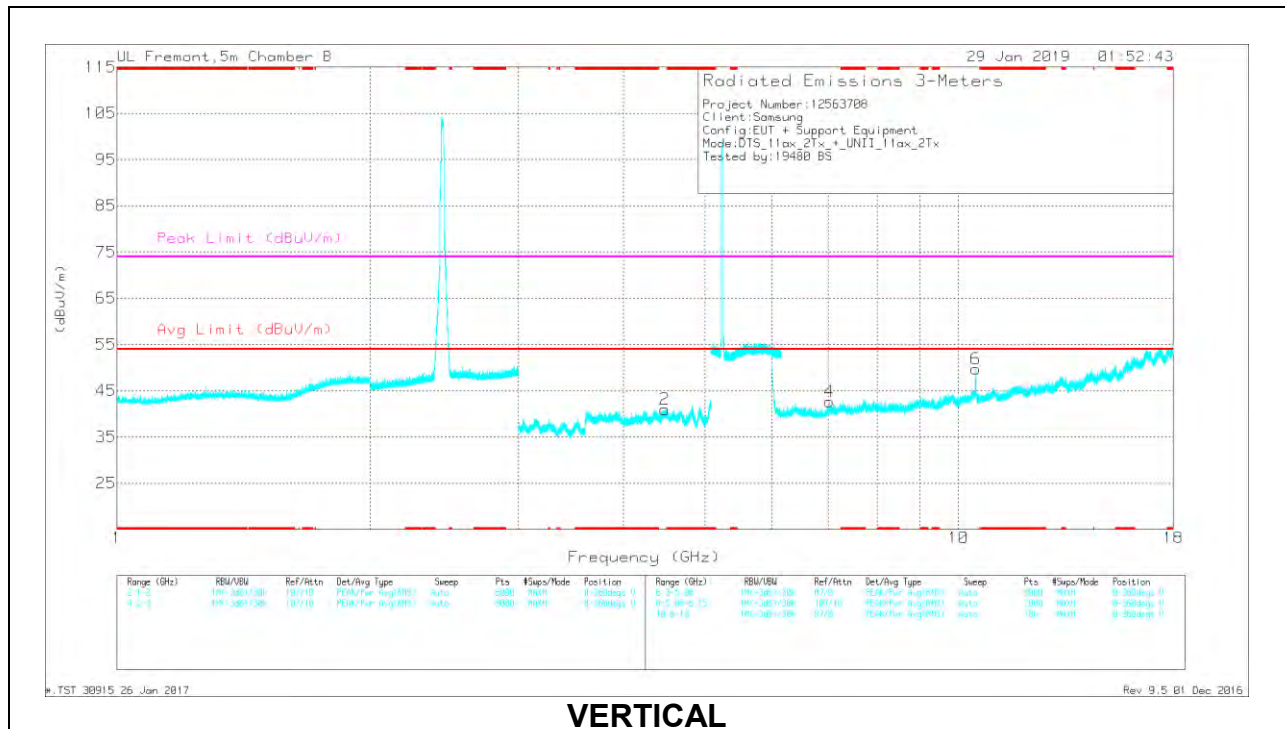
PK-U - U-NII: Maximum Peak

**9.3.5. TEST CASE 5**

**2TX 802.11ax HE20 242T – RU61 Channel 6 + 2TX 802.11ax HE20 242T – RU61 Channel 48**



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Filter (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	4.472	34.92	Pk	33.8	-29	3	42.72	-	-	-	-	0-360	199	H
2	4.481	35.15	Pk	33.8	-29	1	40.95	-	-	-	-	0-360	200	V

Pk - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	6.493	35.24	Pk	35.7	-28.6	42.34	-	-	-	-	0-360	102	H
4	7.031	33.68	Pk	35.9	-26.9	42.68	-	-	-	-	0-360	200	V
5	10.481	39.92	Pk	37.8	-22.3	55.42	-	-	-	-	0-360	102	H
6	10.482	34.33	Pk	37.8	-22.4	49.73	-	-	-	-	0-360	200	V

Pk - Peak detector

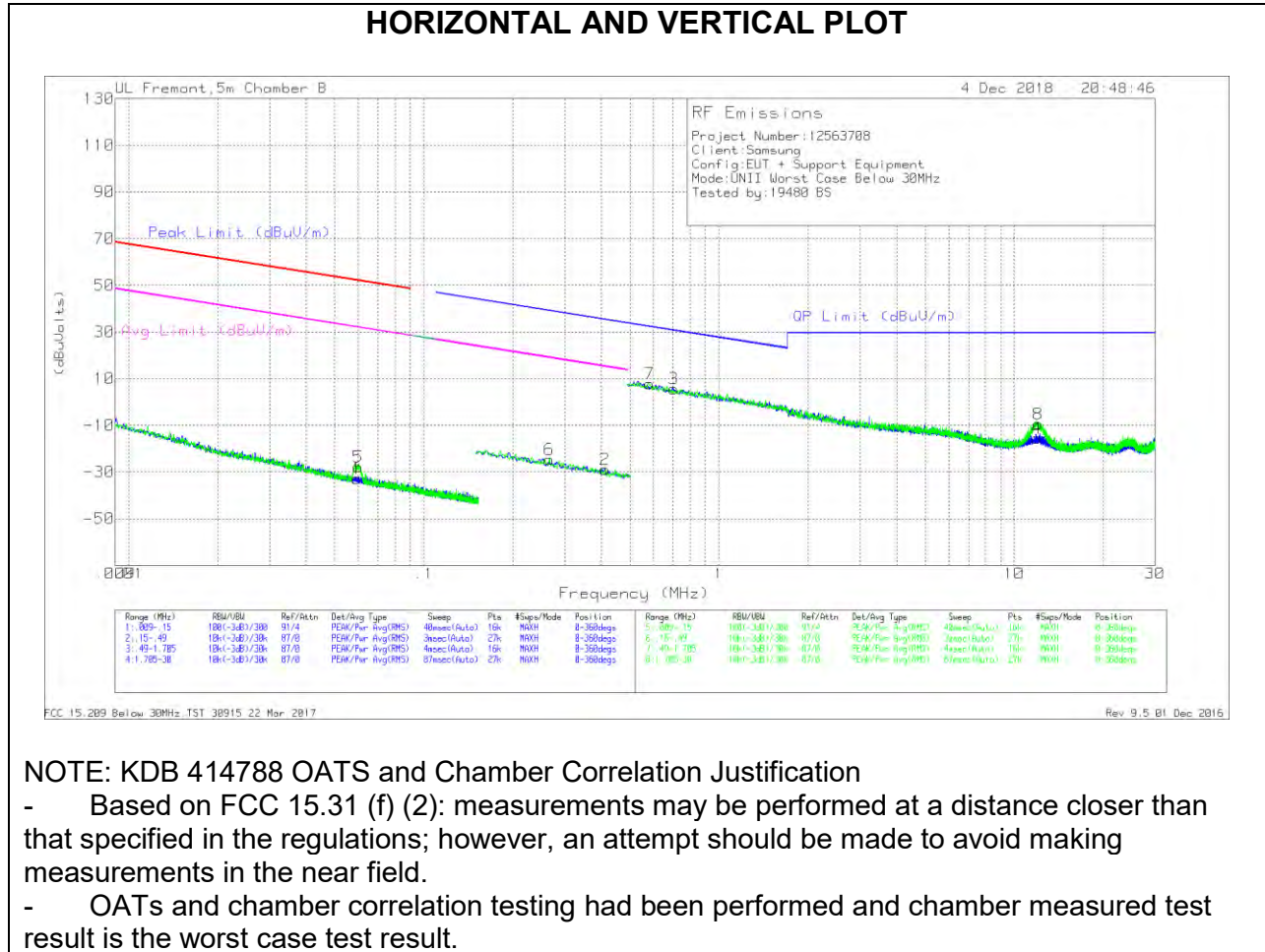
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.475	46.01	PK-U	37.8	-22.2	61.61	-	-	-	-	315	104	H
10.486	41.19	PK-U	37.8	-22.4	56.59	-	-	-	-	334	211	V

PK-U - U-NII: Maximum Peak

### 9.4. WORST CASE BELOW 30 MHz

#### SPURIOUS EMISSIONS 9 kHz TO 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.



**Below 30 MHz Data**

Trace Markers

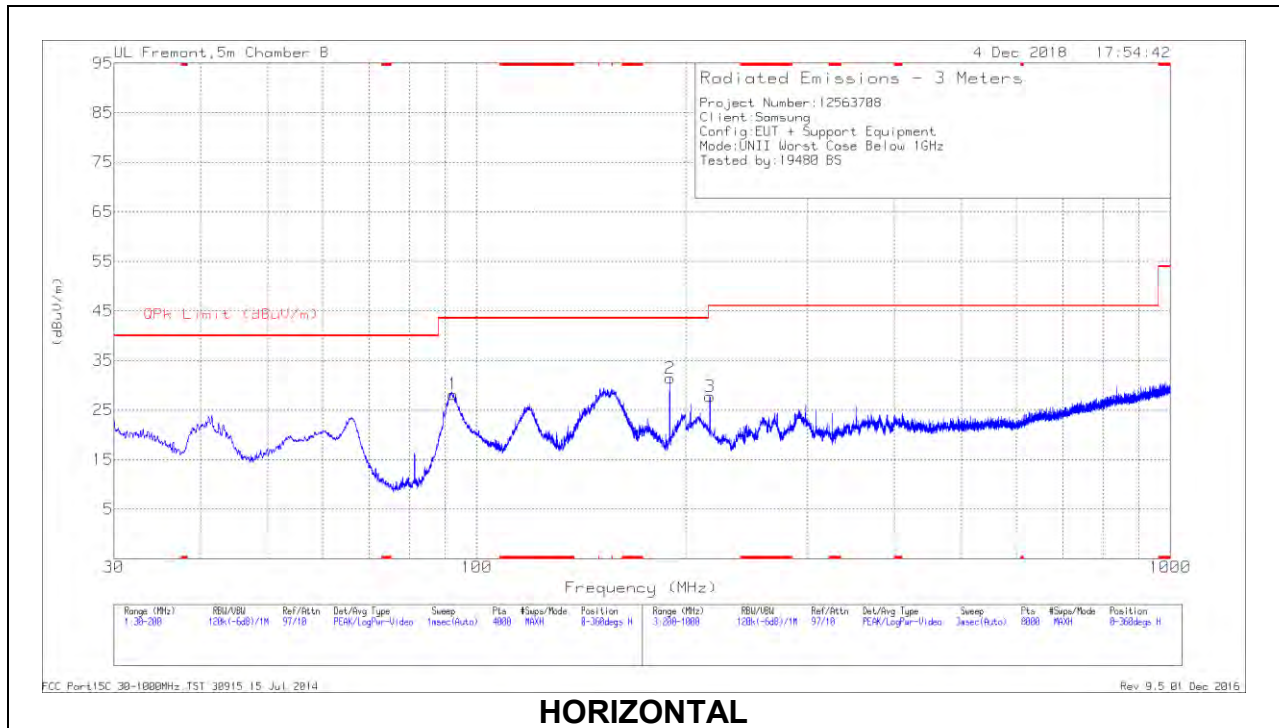
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.05937	35.46	Pk	11.8	0	-80	-32.74	52.11	-84.85	32.11	-64.85	-	-	-	-	0-360
5	.05994	40.3	Pk	11.8	0	-80	-27.9	52.03	-79.93	32.03	-59.93	-	-	-	-	0-360
6	.26626	44.42	Pk	10.9	.1	-80	-24.58	-	-	-	-	39.11	-63.69	19.11	-43.69	0-360
2	.4109	40.18	Pk	10.9	.1	-80	-28.82	-	-	-	-	35.33	-64.15	15.33	-44.15	0-360

Pk - Peak detector

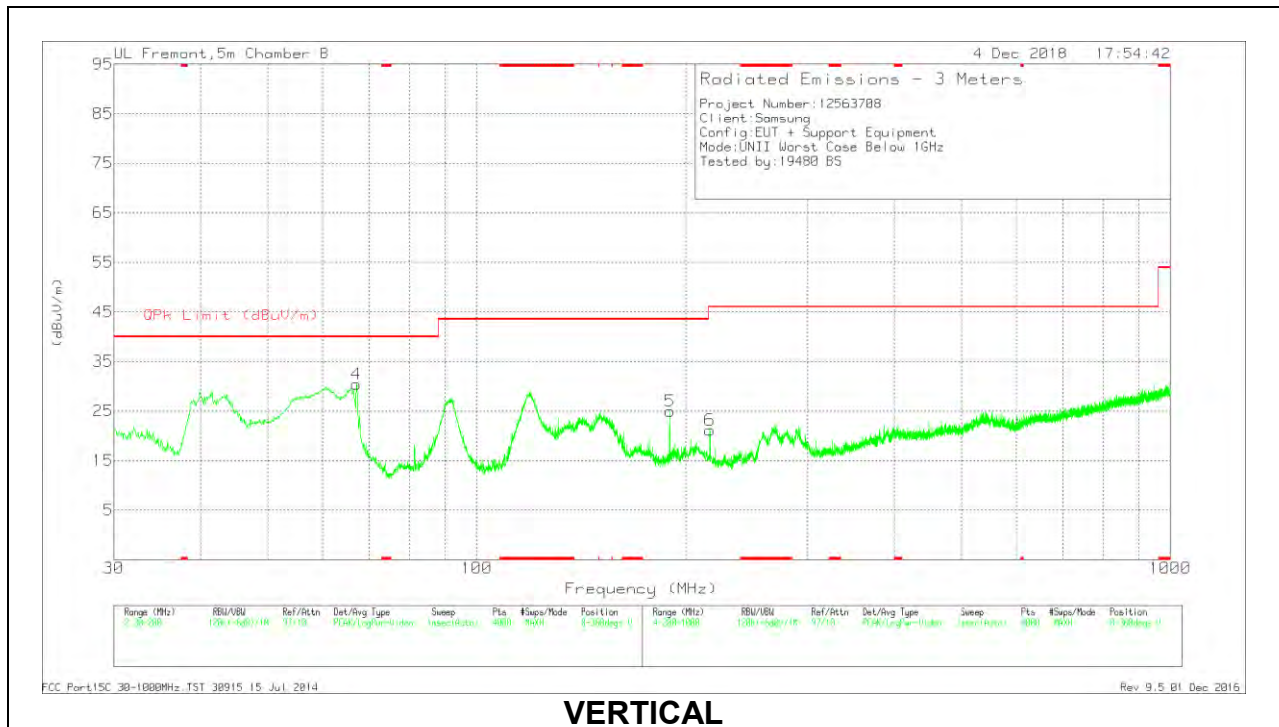
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cables (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
7	.58128	36.51	Pk	11.1	.1	-40	7.71	32.32	-24.61	-	-	-	-	0-360
3	.70177	34.52	Pk	11	.1	-40	5.62	30.69	-25.07	-	-	-	-	0-360
4	11.93086	12.95	Pk	11	.5	-40	-15.55	29.5	-45.05	-	-	-	-	0-360
8	12.04195	19.03	Pk	11	.5	-40	-9.47	29.5	-38.97	-	-	-	-	0-360

Pk - Peak detector

### 9.5. WORST CASE BELOW 1 GHz



**HORIZONTAL**



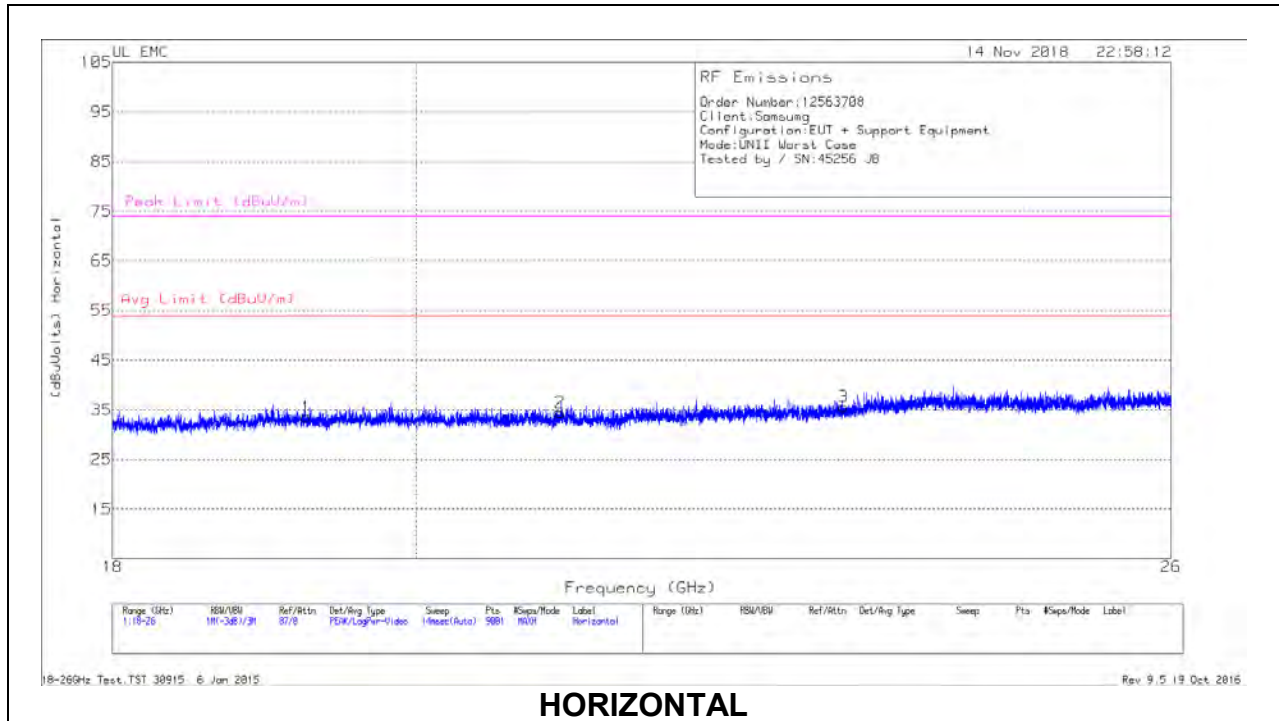
**VERTICAL**

**Below 1GHz DATA**

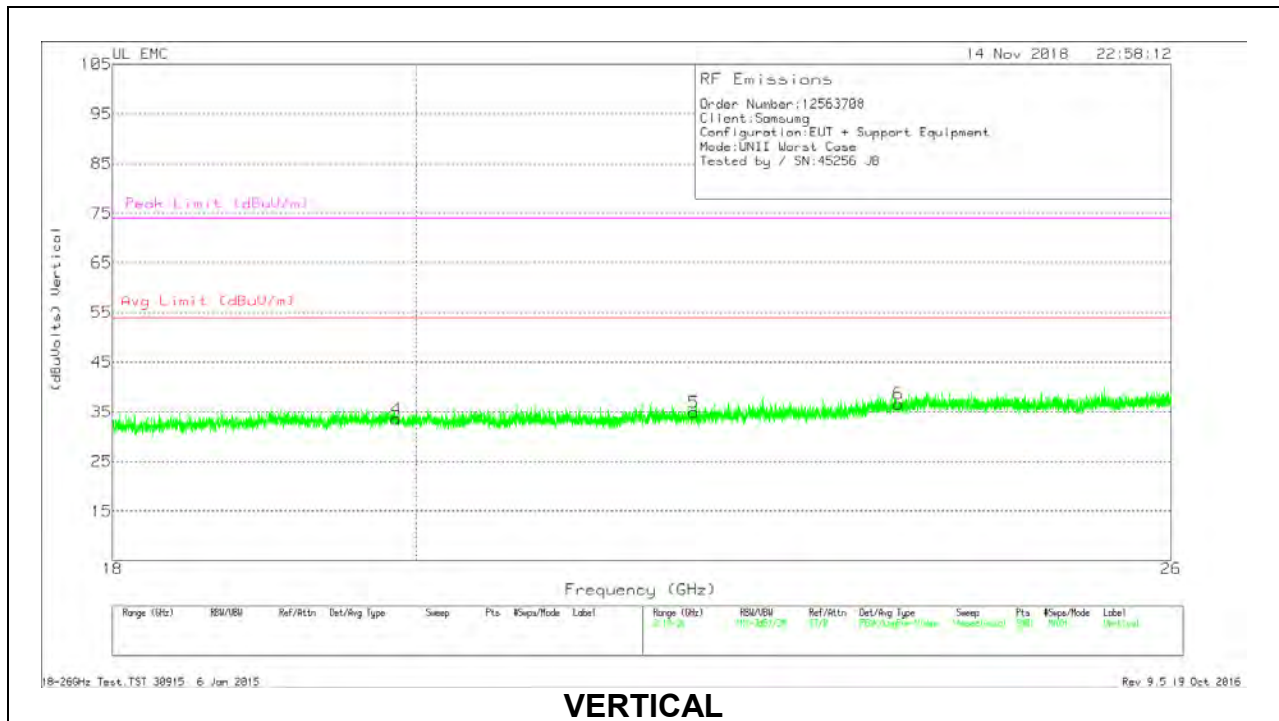
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AFT407 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	67.1546	49.35	Pk	12.1	-31	30.45	40	-9.55	0-360	100	V
1	92.4912	46.7	Pk	12.2	-30.7	28.2	43.52	-15.32	0-360	300	H
2	189.8414	46.38	Pk	15.3	-30.2	31.48	43.52	-12.04	0-360	200	H
5	189.8414	39.87	Pk	15.3	-30.2	24.97	43.52	-18.55	0-360	100	V
3	216.9022	43.12	Pk	14.6	-30	27.72	46.02	-18.3	0-360	200	H
6	216.9022	36.6	Pk	14.6	-30	21.2	46.02	-24.82	0-360	200	V

Pk - Peak detector

### 9.6. WORST CASE 18-26 GHz



**HORIZONTAL**



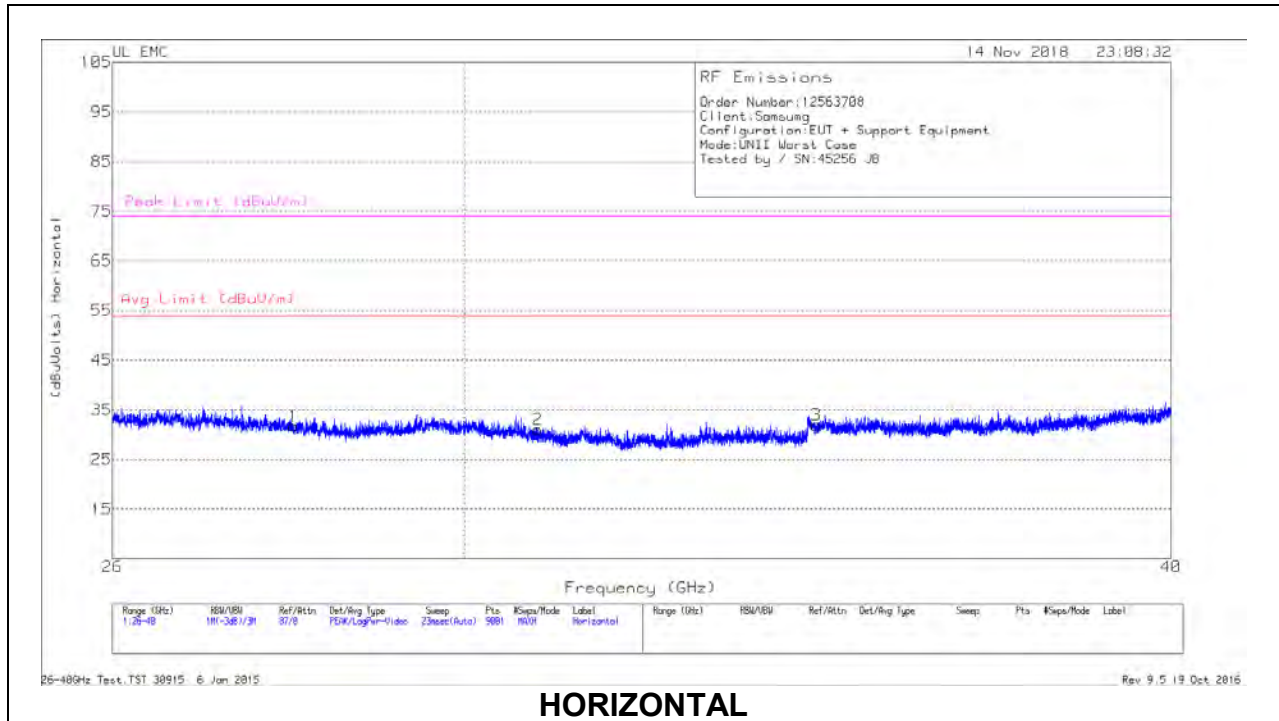
**VERTICAL**

**18 – 26GHz DATA**

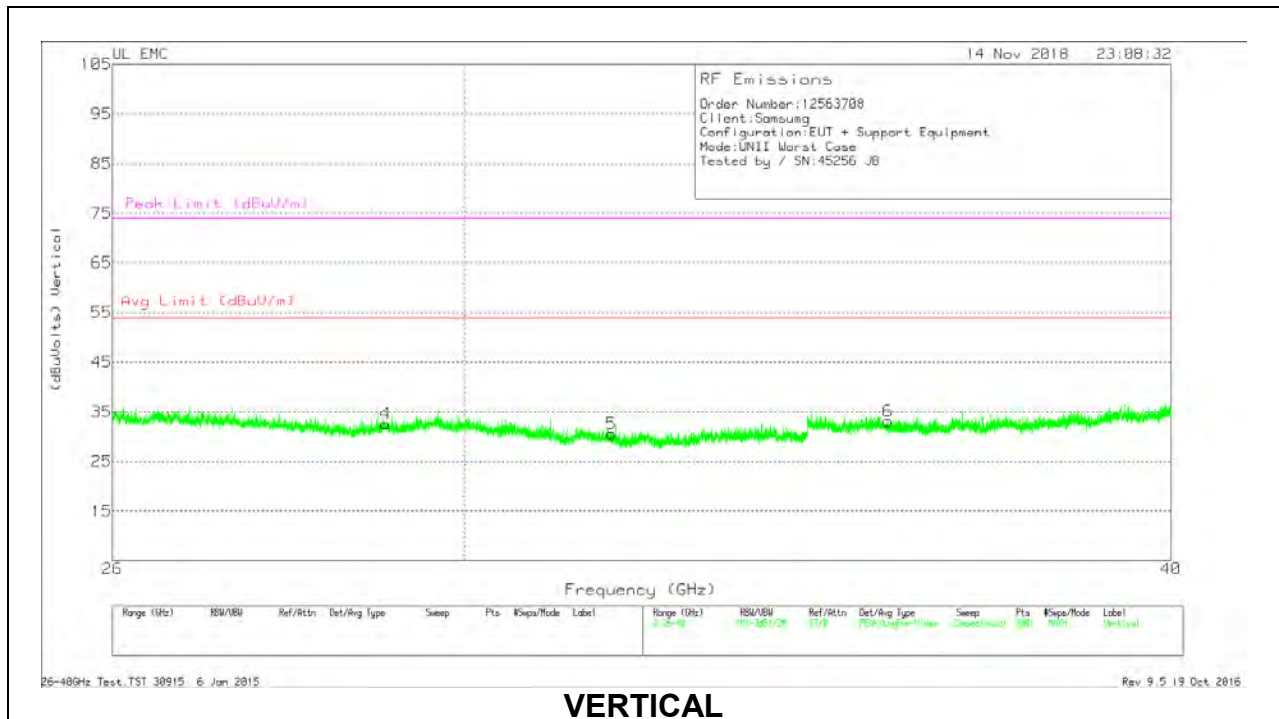
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.255	35.52	Pk	32.7	-25.1	-9.5	33.62	54	-20.38	74	-40.38
2	21.028	36.16	Pk	33.1	-25.3	-9.5	34.46	54	-19.54	74	-39.54
3	23.203	36.42	Pk	33.7	-25	-9.5	35.62	54	-18.38	74	-38.38
4	19.865	35.27	Pk	32.7	-24.9	-9.5	33.57	54	-20.43	74	-40.43
5	22.028	36.14	Pk	33.3	-25	-9.5	34.94	54	-19.06	74	-39.06
6	23.652	36.53	Pk	34.1	-24.5	-9.5	36.63	54	-17.37	74	-37.37

Pk - Peak detector

### 9.7. WORST CASE 26-40 GHz



**HORIZONTAL**



**VERTICAL**

**26 – 40GHz DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 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	27.99	37.2	Pk	35.8	-31.8	-9.5	31.7	54	-22.3	74	-42.3
2	30.912	37.31	Pk	36	-32.8	-9.5	31.01	54	-22.99	74	-42.99
3	34.616	37.12	Pk	37.3	-33	-9.5	31.92	54	-22.08	74	-42.08
4	29.058	38.39	Pk	35.9	-32.2	-9.5	32.59	54	-21.41	74	-41.41
5	31.857	36.75	Pk	36.3	-33	-9.5	30.55	54	-23.45	74	-43.45
6	35.646	38.43	Pk	37.5	-33.3	-9.5	33.13	54	-20.87	74	-40.87

Pk - Peak detector

## 10. 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.

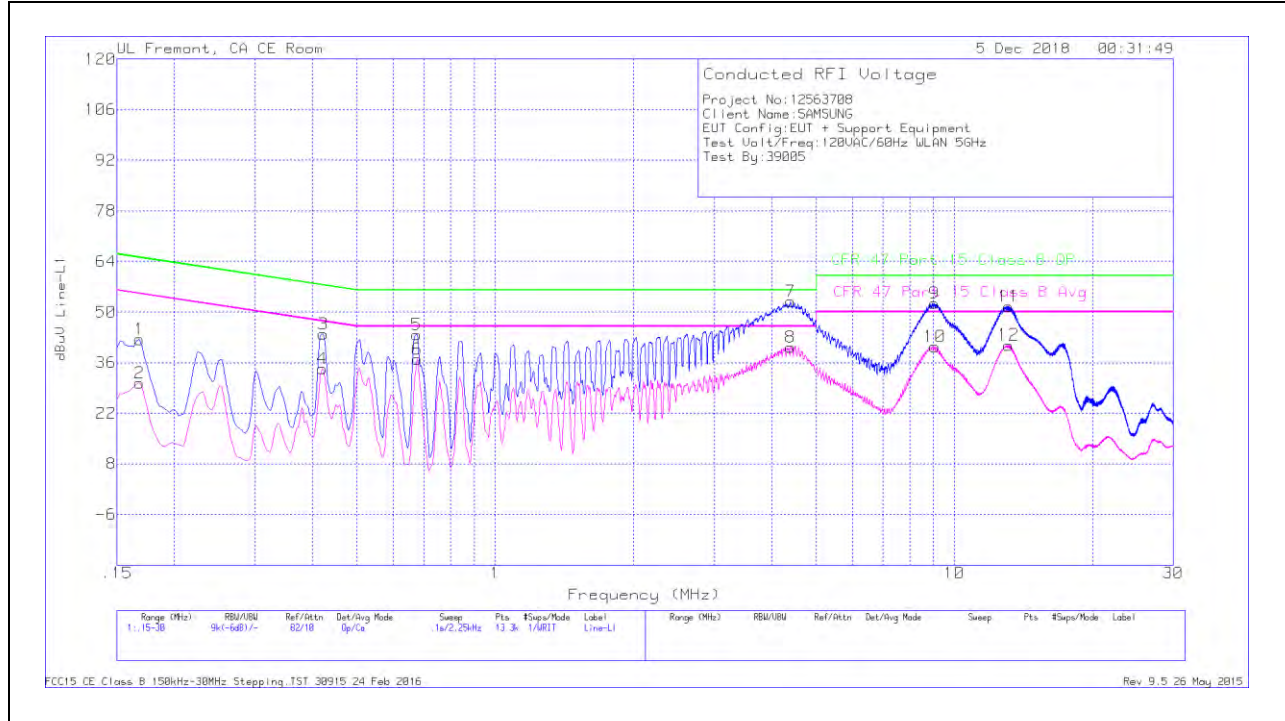
Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS



AC Power Line Norm

LINE 1 RESULTS

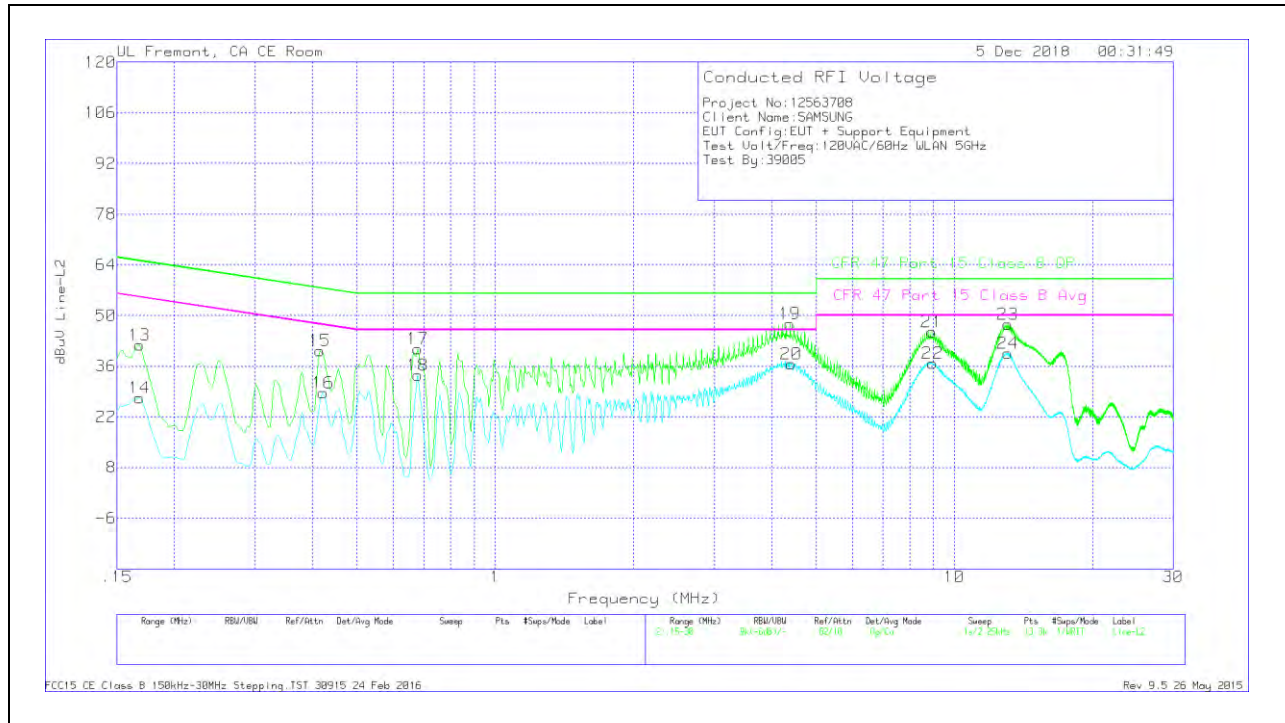


Trace Markers

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	.168	32.24	Qp	.1	0	10.1	42.44	65.06	-22.62	-	-
2	.168	20.16	Ca	.1	0	10.1	30.36	-	-	55.06	-24.7
3	.42225	33.87	Qp	0	0	10.1	43.97	57.4	-13.43	-	-
4	.42	24.32	Ca	0	0	10.1	34.42	-	-	47.45	-13.03
5	.67425	33.67	Qp	0	0	10.1	43.77	56	-12.23	-	-
6	.6765	26.79	Ca	0	0	10.1	36.89	-	-	46	-9.11
7	4.4025	42.74	Qp	0	.1	10.1	52.94	56	-3.06	-	-
8	4.4025	30.12	Ca	0	.1	10.1	40.32	-	-	46	-5.68
9	9.05775	42.07	Qp	0	.2	10.2	52.47	60	-7.53	-	-
10	9.06675	30.09	Ca	0	.2	10.2	40.49	-	-	50	-9.51
11	13.1145	41.12	Qp	.1	.2	10.2	51.62	60	-8.38	-	-
12	13.11225	30.37	Ca	.1	.2	10.2	40.87	-	-	50	-9.13

Qp - Quasi-Peak detector  
 Ca - CISPR average detection

**LINE 2 RESULTS**



**Trace Markers**

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	.168	31.57	Qp	.1	0	10.1	41.77	65.06	-23.29	-	-
14	.168	16.99	Ca	.1	0	10.1	27.19	-	-	55.06	-27.87
15	.4155	30.19	Qp	0	0	10.1	40.29	57.54	-17.25	-	-
16	.42225	18.48	Ca	0	0	10.1	28.58	-	-	47.4	-18.82
17	.67875	30.74	Qp	0	0	10.1	40.84	56	-15.16	-	-
18	.67875	23.39	Ca	0	0	10.1	33.49	-	-	46	-12.51
19	4.389	37.49	Qp	0	.1	10.1	47.69	56	-8.31	-	-
20	4.407	26.48	Ca	0	.1	10.1	36.68	-	-	46	-9.32
21	8.943	35.1	Qp	0	.2	10.2	45.5	60	-14.5	-	-
22	8.979	26.38	Ca	0	.2	10.2	36.78	-	-	50	-13.22
23	13.0875	37.1	Qp	.1	.2	10.2	47.6	60	-12.4	-	-
24	13.092	29.09	Ca	.1	.2	10.2	39.59	-	-	50	-10.41

Qp - Quasi-Peak detector  
 Ca - CISPR average detection