

UL Verification Services, Inc. High Frequency Substitution Measurement								
Company: Samsung Project #: 13094578 Date: 11/7/2019 Test Engineer: 19480 Configuration: EUT Only Location: Chamber I Mode: LTE_QPSK Band 66 Fundamentals, 3MHz Bandwidth								
Test Equipment: Receiving: Horn T862, and Chamber I SMA Cables Substitution: T120, Chamber I Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	19.75	V	5.4	5.8	20.09	30.0	-9.9	
1711.50	11.73	H	5.4	5.8	12.07	30.0	-17.9	
Mid Ch								
1745.00	19.86	V	5.5	5.4	19.77	30.0	-10.2	
1745.00	12.84	H	5.5	5.4	12.75	30.0	-17.2	
High Ch								
1778.50	20.39	V	5.6	5.1	19.90	30.0	-10.1	
1778.50	12.18	H	5.6	5.1	11.69	30.0	-18.3	

UL Verification Services, Inc. High Frequency Substitution Measurement								
Company: Samsung Project #: 13094578 Date: 11/7/2019 Test Engineer: 19480 Configuration: EUT Only Location: Chamber I Mode: LTE_16QAM Band 66 Fundamentals, 3MHz Bandwidth								
Test Equipment: Receiving: Horn T862, and Chamber I SMA Cables Substitution: T120, Chamber I Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	18.98	V	5.4	5.8	19.32	30.0	-10.7	
1711.50	10.83	H	5.4	5.8	11.17	30.0	-18.8	
Mid Ch								
1745.00	19.03	V	5.5	5.4	18.94	30.0	-11.1	
1745.00	12.03	H	5.5	5.4	11.94	30.0	-18.1	
High Ch								
1778.50	19.71	V	5.6	5.1	19.22	30.0	-10.8	
1778.50	11.50	H	5.6	5.1	11.01	30.0	-19.0	

1.4MHz QPSK

UL Verification Services, Inc. High Frequency Substitution Measurement								
Company: Samsung Project #: 13094578 Date: 11/3/2019 Test Engineer: 19480 Configuration: EUT Only Location: Chamber I Mode: LTE_QPSK Band 66 Fundamentals, 1.4MHz Bandwidth								
Test Equipment: Receiving: Horn T862, and Chamber I SMA Cables Substitution: T120, Chamber I Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	19.36	V	5.4	5.8	19.71	30.0	-10.3	
1710.70	13.33	H	5.4	5.8	13.68	30.0	-16.3	
Mid Ch								
1745.00	19.80	V	5.5	5.4	19.71	30.0	-10.3	
1745.00	12.12	H	5.5	5.4	12.03	30.0	-18.0	
High Ch								
1779.30	20.46	V	5.6	5.1	19.95	30.0	-10.1	
1779.30	12.65	H	5.6	5.1	12.14	30.0	-17.9	

1.4Hz 16QAM

UL Verification Services, Inc. High Frequency Substitution Measurement								
Company: Samsung Project #: 13094578 Date: 11/7/2019 Test Engineer: 19480 Configuration: EUT Only Location: Chamber I Mode: LTE_16QAM Band 66 Fundamentals, 1.4MHz Bandwidth								
Test Equipment: Receiving: Horn T862, and Chamber I SMA Cables Substitution: T120, Chamber I Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	18.52	V	5.4	5.8	18.87	30.0	-11.1	
1710.70	12.56	H	5.4	5.8	12.91	30.0	-17.1	
Mid Ch								
1745.00	19.04	V	5.5	5.4	18.95	30.0	-11.0	
1745.00	11.34	H	5.5	5.4	11.25	30.0	-18.7	
High Ch								
1779.30	19.75	V	5.6	5.1	19.24	30.0	-10.8	
1779.30	11.95	H	5.6	5.1	11.44	30.0	-18.6	

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## **9.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **RULE PART(S)**

FCC: §2.1053, §22.917, §24.238 and §27.53

### **LIMITS**

FCC: §22.917(a), §24.238(a), §27.53 (g), (h)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

FCC: §27.53 (Band 13)

(c) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

(f) Emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals. ( $-70$  dBW/MHz =  $-40$  dBm/MHz).

FCC: §27.53 (m) (Band 41)

At least  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

### **TEST PROCEDURE**

KDB 971168 D01 v03r01/D02 v02/r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

### **RESULTS**

9.2.1. GSM

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	GPRS 850
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
824.2 MHz												
1	1.64813	-56.92	Pk	28.5	-31.7	12.5	-47.62	-13	-34.62	0-360	148	H
2	2.47209	-62.68	Pk	32.3	-30.4	11.3	-49.48	-13	-36.48	0-360	148	H
3	3.29766	-78.31	Pk	32.7	-29.2	11.9	-62.91	-13	-49.91	0-360	148	H
4	1.64759	-59.98	Pk	28.5	-31.7	11.4	-51.78	-13	-38.78	0-360	148	V
5	2.47263	-68.1	Pk	32.3	-30.4	11.6	-54.6	-13	-41.6	0-360	148	V
6	3.29819	-77.05	Pk	32.7	-29.2	12	-61.55	-13	-48.55	0-360	148	V
836.6 MHz												
1	1.67309	-62.88	Pk	28.8	-31.6	11.6	-54.08	-13	-41.08	0-360	149	H
2	2.50981	-68.89	Pk	32.3	-30.1	11.4	-55.29	-13	-42.29	0-360	149	H
3	3.346	-76.58	Pk	32.7	-29.3	11.4	-61.78	-13	-48.78	0-360	149	H
4	1.67309	-61.5	Pk	28.8	-31.6	10.9	-53.4	-13	-40.4	0-360	149	V
5	2.50928	-65.85	Pk	32.3	-30.2	11.4	-52.35	-13	-39.35	0-360	149	V
6	3.34653	-76.34	Pk	32.7	-29.3	12	-60.94	-13	-47.94	0-360	149	V
848.8 MHz												
1	1.697	-59	Pk	29.2	-31.5	11.2	-50.1	-13	-37.1	0-360	148	H
2	2.54594	-72.16	Pk	32.3	-30.1	12	-57.96	-13	-44.96	0-360	148	H
3	3.39594	-77.38	Pk	32.7	-29.2	11.8	-62.08	-13	-49.08	0-360	148	H
4	1.697	-58.76	Pk	29.2	-31.5	12.2	-48.86	-13	-35.86	0-360	148	V
5	2.54594	-69.4	Pk	32.3	-30.1	11.8	-55.4	-13	-42.4	0-360	148	V
6	3.39434	-76.76	Pk	32.6	-29.3	11.8	-61.66	-13	-48.66	0-360	148	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	EGPRS 850
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
824.2 MHz												
1	1.64813	-67.11	Pk	28.5	-31.7	12.5	-57.81	-13	-44.81	0-360	149	H
2	2.46944	-75.27	Pk	32.3	-30.4	11.3	-62.07	-13	-49.07	0-360	149	H
3	3.29872	-76.08	Pk	32.7	-29.2	11.8	-60.78	-13	-47.78	0-360	149	H
4	1.64813	-67.51	Pk	28.5	-31.7	11.4	-59.31	-13	-46.31	0-360	149	V
5	2.47263	-72.64	Pk	32.3	-30.4	11.6	-59.14	-13	-46.14	0-360	149	V
6	3.30191	-75.92	Pk	32.7	-29.2	11.9	-60.52	-13	-47.52	0-360	149	V
836.6 MHz												
1	1.67256	-72.12	Pk	28.8	-31.6	11.6	-63.32	-13	-50.32	0-360	149	H
2	2.50928	-69.7	Pk	32.3	-30.2	11.4	-56.2	-13	-43.2	0-360	149	H
3	3.34919	-75.59	Pk	32.7	-29.2	11.4	-60.69	-13	-47.69	0-360	149	H
4	1.67309	-73.52	Pk	28.8	-31.6	10.9	-65.42	-13	-52.42	0-360	149	V
5	2.50769	-74.96	Pk	32.3	-30.2	11.5	-61.36	-13	-48.36	0-360	149	V
6	3.346	-75.93	Pk	32.7	-29.3	12	-60.53	-13	-47.53	0-360	149	V
848.8 MHz												
1	1.69753	-69.57	Pk	29.2	-31.5	11.2	-60.67	-13	-47.67	0-360	149	H
2	2.54647	-69.12	Pk	32.3	-30.1	12	-54.92	-13	-41.92	0-360	149	H
3	3.39541	-75.24	Pk	32.6	-29.2	11.8	-60.04	-13	-47.04	0-360	149	H
4	1.697	-64.99	Pk	29.2	-31.5	12.2	-55.09	-13	-42.09	0-360	149	V
5	2.54594	-72.15	Pk	32.3	-30.1	11.8	-58.15	-13	-45.15	0-360	149	V
6	3.39541	-77.62	Pk	32.6	-29.2	11.8	-62.42	-13	-49.42	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	GPRS 1900
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1850.2 MHz												
1	3.69875	-75.03	Pk	33	-28.8	11.9	-58.93	-13	-45.93	0-360	149	H
2	5.55175	-76.18	Pk	35.1	-26.8	12	-55.88	-13	-42.88	0-360	149	H
3	7.40263	-77.86	Pk	35.6	-24.3	11.7	-54.86	-13	-41.86	0-360	149	H
4	3.70034	-74.79	Pk	33	-28.7	12.1	-58.39	-13	-45.39	0-360	149	V
5	5.55069	-76.91	Pk	35.1	-26.8	12.2	-56.41	-13	-43.41	0-360	149	V
6	7.39678	-78.72	Pk	35.5	-24.3	11.9	-55.62	-13	-42.62	0-360	149	V
1880 MHz												
1	3.75347	-75.42	Pk	32.9	-28.3	11.7	-59.12	-13	-46.12	0-360	149	H
2	5.64525	-75.68	Pk	35.1	-26.5	11.9	-55.18	-13	-42.18	0-360	149	H
3	7.53756	-76.92	Pk	35.5	-23.9	11.6	-53.72	-13	-40.72	0-360	149	H
4	3.75453	-75.47	Pk	32.9	-28.3	11.8	-59.07	-13	-46.07	0-360	149	V
5	5.63994	-74.49	Pk	35.1	-26.6	11.9	-54.09	-13	-41.09	0-360	149	V
6	7.51313	-77.18	Pk	35.6	-23.9	12.2	-53.28	-13	-40.28	0-360	149	V
1909.8 MHz												
1	3.81616	-74.25	Pk	32.9	-28.3	11.7	-57.95	-13	-44.95	0-360	149	H
2	5.72334	-76.12	Pk	34.9	-26.6	12	-55.82	-13	-42.82	0-360	149	H
3	7.64966	-77.89	Pk	35.6	-24.1	11.6	-54.79	-13	-41.79	0-360	149	H
4	3.81563	-75.1	Pk	32.9	-28.3	11.5	-59	-13	-46	0-360	149	V
5	5.72281	-75.97	Pk	35	-26.6	11.7	-55.87	-13	-42.87	0-360	149	V
6	7.63478	-77.9	Pk	35.6	-24.1	12	-54.4	-13	-41.4	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	EGPRS 1900
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1850.2 MHz												
1	3.69238	-74.23	Pk	33	-28.9	11.9	-58.23	-13	-45.23	0-360	148	H
2	5.54856	-76.2	Pk	35.1	-26.8	12	-55.9	-13	-42.9	0-360	148	H
3	7.38563	-78.59	Pk	35.6	-24.2	12	-55.19	-13	-42.19	0-360	148	H
4	3.69981	-76.49	Pk	33	-28.7	12.1	-60.09	-13	-47.09	0-360	148	V
5	5.54431	-77.34	Pk	35.1	-26.8	12.4	-56.64	-13	-43.64	0-360	148	V
6	7.39359	-78.57	Pk	35.5	-24.3	12.1	-55.27	-13	-42.27	0-360	148	V
1880 MHz												
1	3.75134	-75.59	Pk	33	-28.4	11.7	-59.29	-13	-46.29	0-360	149	H
2	5.64313	-75.75	Pk	35.1	-26.6	11.8	-55.45	-13	-42.45	0-360	149	H
3	7.53172	-77.25	Pk	35.6	-23.9	11.5	-54.05	-13	-41.05	0-360	149	H
4	3.75772	-76.32	Pk	32.9	-28.4	11.8	-60.02	-13	-47.02	0-360	149	V
5	5.64419	-76.75	Pk	35.1	-26.6	12	-56.25	-13	-43.25	0-360	149	V
6	7.52375	-78.57	Pk	35.6	-23.9	11.8	-55.07	-13	-42.07	0-360	149	V
1909.8 MHz												
1	3.8135	-74.77	Pk	32.9	-28.3	11.7	-58.47	-13	-45.47	0-360	149	H
2	5.73663	-75.44	Pk	35	-26.5	11.6	-55.34	-13	-42.34	0-360	149	H
3	7.65763	-77.62	Pk	35.7	-24.1	11.7	-54.32	-13	-41.32	0-360	149	H
4	3.81616	-76.12	Pk	32.9	-28.3	11.4	-60.12	-13	-47.12	0-360	149	V
5	5.73344	-75.6	Pk	35	-26.5	11.4	-55.7	-13	-42.7	0-360	149	V
6	7.64647	-77.85	Pk	35.6	-24.1	11.6	-54.75	-13	-41.75	0-360	149	V

**9.2.2. WCDMA**

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL99 B5
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.65078	-69.6	Pk	28.5	-31.7	12.4	-60.4	-13	-47.4	0-360	149	H
2	2.47794	-71.18	Pk	32.3	-30.5	11.3	-58.08	-13	-45.08	0-360	149	H
3	3.30138	-71.36	Pk	32.7	-29.2	11.7	-56.16	-13	-43.16	0-360	149	H
4	1.65078	-72.08	Pk	28.5	-31.7	11.4	-63.88	-13	-50.88	0-360	149	V
5	2.47741	-69.23	Pk	32.3	-30.5	11.3	-56.13	-13	-43.13	0-360	149	V
6	3.30934	-70.53	Pk	32.7	-29.3	11.9	-55.23	-13	-42.23	0-360	149	V
836.6 MHz												
1	1.67416	-72.6	Pk	28.9	-31.6	11.6	-63.7	-13	-50.7	0-360	149	H
2	2.51141	-75.51	Pk	32.3	-30.1	11.5	-61.81	-13	-48.81	0-360	149	H
3	3.34228	-69.57	Pk	32.7	-29.3	11.6	-54.57	-13	-41.57	0-360	149	H
4	1.67522	-72.14	Pk	28.9	-31.5	10.8	-63.94	-13	-50.94	0-360	149	V
5	2.50875	-74.29	Pk	32.3	-30.2	11.4	-60.79	-13	-47.79	0-360	149	V
6	3.34334	-69.04	Pk	32.7	-29.3	12	-53.64	-13	-40.64	0-360	149	V
846.6 MHz												
1	1.69009	-71.81	Pk	29.2	-31.6	11.4	-62.81	-13	-49.81	0-360	148	H
2	2.53584	-74.55	Pk	32.2	-30.2	12.7	-59.85	-13	-46.85	0-360	148	H
3	3.38266	-68.24	Pk	32.7	-29.3	11.4	-53.44	-13	-40.44	0-360	148	H
4	1.69488	-69.68	Pk	29.1	-31.6	12.4	-59.78	-13	-46.78	0-360	148	V
5	2.54063	-75.09	Pk	32.2	-30.1	11.6	-61.39	-13	-48.39	0-360	148	V
6	3.38159	-66.52	Pk	32.7	-29.2	12	-51.02	-13	-38.02	0-360	148	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B5
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.65078	-71.51	Pk	28.5	-31.7	12.4	-62.31	-13	-49.31	0-360	148	H
2	2.47581	-72.16	Pk	32.3	-30.4	11.3	-58.96	-13	-45.96	0-360	148	H
3	3.30934	-72	Pk	32.7	-29.3	11.6	-57	-13	-44	0-360	148	H
4	1.65397	-71.61	Pk	28.6	-31.7	11.3	-63.41	-13	-50.41	0-360	148	V
5	2.47528	-69.8	Pk	32.3	-30.4	11.4	-56.5	-13	-43.5	0-360	148	V
6	3.30934	-70.95	Pk	32.7	-29.3	11.9	-55.65	-13	-42.65	0-360	148	V
836.6 MHz												
1	1.67469	-72.31	Pk	28.9	-31.5	11.7	-63.21	-13	-50.21	0-360	149	H
2	2.51088	-75.27	Pk	32.3	-30.1	11.4	-61.67	-13	-48.67	0-360	149	H
3	3.34281	-70.73	Pk	32.7	-29.3	11.5	-55.83	-13	-42.83	0-360	149	H
4	1.67734	-73.64	Pk	28.9	-31.6	11	-65.34	-13	-52.34	0-360	149	V
5	2.51141	-76.35	Pk	32.3	-30.1	11.4	-62.75	-13	-49.75	0-360	149	V
6	3.34972	-70.44	Pk	32.7	-29.2	11.9	-55.04	-13	-42.04	0-360	149	V
846.6 MHz												
1	1.69488	-73.35	Pk	29.1	-31.6	11.3	-64.55	-13	-51.55	0-360	149	H
2	2.54116	-75.33	Pk	32.2	-30.1	12.4	-60.83	-13	-47.83	0-360	149	H
3	3.38213	-68.79	Pk	32.7	-29.2	11.4	-53.89	-13	-40.89	0-360	149	H
4	1.69434	-73.35	Pk	29.1	-31.6	12.4	-63.45	-13	-50.45	0-360	149	V
5	2.54222	-76.35	Pk	32.2	-30.1	11.7	-62.55	-13	-49.55	0-360	149	V
6	3.38213	-67.2	Pk	32.7	-29.2	12.1	-51.6	-13	-38.6	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL99 B2
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1852.4 MHz												
1	3.70725	-74.52	Pk	33	-28.6	11.8	-58.32	-13	-45.32	0-360	149	H
2	5.56078	-76.47	Pk	35.1	-26.8	11.9	-56.27	-13	-43.27	0-360	149	H
3	7.38988	-77.87	Pk	35.5	-24.1	12.1	-54.37	-13	-41.37	0-360	149	H
4	3.70088	-76.15	Pk	33	-28.7	12.1	-59.75	-13	-46.75	0-360	149	V
5	5.55759	-76.69	Pk	35.1	-26.8	12	-56.39	-13	-43.39	0-360	149	V
6	7.409	-78.69	Pk	35.5	-24.3	11.6	-55.89	-13	-42.89	0-360	149	V
1880 MHz												
1	3.76356	-75.79	Pk	33	-28.3	11.7	-59.39	-13	-46.39	0-360	148	H
2	5.65534	-75.76	Pk	35	-26.7	12.3	-55.16	-13	-42.16	0-360	148	H
3	7.51419	-77.97	Pk	35.6	-23.9	12	-54.27	-13	-41.27	0-360	148	H
4	3.75559	-75.38	Pk	32.9	-28.3	11.8	-58.98	-13	-45.98	0-360	148	V
5	5.64206	-75.68	Pk	35.1	-26.6	11.9	-55.28	-13	-42.28	0-360	148	V
6	7.51153	-78.94	Pk	35.6	-23.8	12.2	-54.94	-13	-41.94	0-360	148	V
1907.6 MHz												
1	3.81297	-75.79	Pk	32.9	-28.3	11.7	-59.49	-13	-46.49	0-360	149	H
2	5.73875	-76.86	Pk	34.9	-26.5	11.6	-56.86	-13	-43.86	0-360	149	H
3	7.63266	-78.36	Pk	35.6	-24.1	11.9	-54.96	-13	-41.96	0-360	149	H
4	3.81881	-76.32	Pk	32.9	-28.4	11.3	-60.52	-13	-47.52	0-360	149	V
5	5.71431	-76.83	Pk	35	-26.7	11.9	-56.63	-13	-43.63	0-360	149	V
6	7.62894	-78.78	Pk	35.7	-24.1	12	-55.18	-13	-42.18	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B2
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1852.4 MHz												
1	3.703	-75.68	Pk	33	-28.7	11.9	-59.48	-13	-46.48	0-360	148	H
2	5.54697	-76.26	Pk	35.1	-26.9	12	-56.06	-13	-43.06	0-360	148	H
3	7.40263	-78.15	Pk	35.6	-24.3	11.7	-55.15	-13	-42.15	0-360	148	H
4	3.70619	-75.39	Pk	33	-28.6	12	-58.99	-13	-45.99	0-360	148	V
5	5.56131	-75.77	Pk	35.1	-26.8	12	-55.47	-13	-42.47	0-360	148	V
6	7.4175	-78.6	Pk	35.6	-24.4	11.5	-55.9	-13	-42.9	0-360	148	V
1880 MHz												
1	3.75613	-75.9	Pk	32.9	-28.3	11.8	-59.5	-13	-46.5	0-360	149	H
2	5.63675	-76.18	Pk	35	-26.6	11.8	-55.98	-13	-42.98	0-360	149	H
3	7.52322	-78.28	Pk	35.6	-23.9	11.8	-54.78	-13	-41.78	0-360	149	H
4	3.75666	-75.62	Pk	32.9	-28.3	11.8	-59.22	-13	-46.22	0-360	149	V
5	5.63781	-76.75	Pk	35	-26.4	12	-56.15	-13	-43.15	0-360	149	V
6	7.51047	-78.54	Pk	35.6	-23.9	12.3	-54.54	-13	-41.54	0-360	149	V
1907.6 MHz												
1	3.81881	-75.99	Pk	32.9	-28.4	11.6	-59.89	-13	-46.89	0-360	149	H
2	5.71909	-76.62	Pk	35	-26.7	12	-56.32	-13	-43.32	0-360	149	H
3	7.60716	-77.01	Pk	35.7	-24.2	11.8	-53.71	-13	-40.71	0-360	149	H
4	3.81881	-75.06	Pk	32.9	-28.4	11.3	-59.26	-13	-46.26	0-360	149	V
5	5.726	-76.91	Pk	34.9	-26.7	11.8	-56.91	-13	-43.91	0-360	149	V
6	7.61991	-78.65	Pk	35.7	-24.1	12	-55.05	-13	-42.05	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL99 B4
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	3.431	-75.38	Pk	32.8	-29.2	11.8	-59.98	-13	-46.98	0-360	148	H
2	5.14163	-76.19	Pk	34.4	-27	11.8	-56.99	-13	-43.99	0-360	148	H
3	6.83047	-76.41	Pk	35.5	-25.1	11.6	-54.41	-13	-41.41	0-360	148	H
4	3.42675	-75.09	Pk	32.7	-29.3	11.8	-59.89	-13	-46.89	0-360	148	V
5	5.14216	-76.97	Pk	34.4	-27	12	-57.57	-13	-44.57	0-360	148	V
6	6.84375	-77.51	Pk	35.5	-25.3	11.6	-55.71	-13	-42.71	0-360	148	V
1732.6 MHz												
1	3.45438	-75.05	Pk	32.8	-29.1	11.9	-59.45	-13	-46.45	0-360	149	H
2	5.20166	-77.1	Pk	34.4	-26.9	12.3	-57.3	-13	-44.3	0-360	149	H
3	6.94522	-76.59	Pk	35.6	-24.6	11.5	-54.09	-13	-41.09	0-360	149	H
4	3.45438	-75.05	Pk	32.8	-29.1	11.9	-59.45	-13	-46.45	0-360	149	H
5	5.20166	-77.1	Pk	34.4	-26.9	12.3	-57.3	-13	-44.3	0-360	149	H
6	6.94522	-76.59	Pk	35.6	-24.6	11.5	-54.09	-13	-41.09	0-360	149	H
1752.6 MHz												
1	3.50272	-75.15	Pk	32.9	-28.7	11.9	-59.05	-13	-46.05	0-360	149	H
2	5.26647	-76.2	Pk	34.5	-26.7	12	-56.4	-13	-43.4	0-360	149	H
3	6.98772	-77.47	Pk	35.7	-24.8	11.8	-54.77	-13	-41.77	0-360	149	H
4	3.50697	-74.6	Pk	32.9	-28.9	11.8	-58.8	-13	-45.8	0-360	149	V
5	5.26116	-77.12	Pk	34.5	-26.8	12.3	-57.12	-13	-44.12	0-360	149	V
6	7.01003	-77.2	Pk	35.7	-24.8	11.7	-54.6	-13	-41.6	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B4
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	3.42463	-73.8	Pk	32.7	-29.3	11.9	-58.5	-13	-45.5	0-360	149	H
2	5.12781	-75.11	Pk	34.4	-27.1	11.7	-56.11	-13	-43.11	0-360	149	H
3	6.85863	-77.19	Pk	35.6	-25.2	11.7	-55.09	-13	-42.09	0-360	149	H
4	3.41719	-73.63	Pk	32.7	-29.3	11.6	-58.63	-13	-45.63	0-360	149	V
5	5.14056	-76.82	Pk	34.4	-27	12	-57.42	-13	-44.42	0-360	149	V
6	6.85544	-77.79	Pk	35.5	-25.3	11.7	-55.89	-13	-42.89	0-360	149	V
1732.6 MHz												
1	3.46447	-75.2	Pk	32.8	-29.2	12	-59.6	-13	-46.6	0-360	149	H
2	5.21016	-75.5	Pk	34.4	-26.8	12.1	-55.8	-13	-42.8	0-360	149	H
3	6.94788	-76.95	Pk	35.6	-24.6	11.4	-54.55	-13	-41.55	0-360	149	H
4	3.46553	-75.3	Pk	32.8	-29.2	11.6	-60.1	-13	-47.1	0-360	149	V
5	5.18997	-76.5	Pk	34.4	-27.1	12.2	-57	-13	-44	0-360	149	V
6	6.93459	-77.43	Pk	35.7	-24.7	11.8	-54.63	-13	-41.63	0-360	149	V
1752.6 MHz												
1	3.49475	-75.9	Pk	32.9	-28.8	12.1	-59.7	-13	-46.7	0-360	149	H
2	5.24628	-76.76	Pk	34.5	-26.9	12.1	-57.06	-13	-44.06	0-360	149	H
3	7.01163	-77	Pk	35.7	-24.8	11.6	-54.5	-13	-41.5	0-360	149	H
4	3.50325	-76.2	Pk	32.9	-28.7	11.8	-60.2	-13	-47.2	0-360	149	V
5	5.26169	-76.9	Pk	34.5	-26.8	12.4	-56.8	-13	-43.8	0-360	149	V
6	6.99409	-77.36	Pk	35.6	-24.8	11.9	-54.66	-13	-41.66	0-360	149	V

**9.2.3. LTE BAND 2**

Company:	Samsung
Project #:	13094578
Date:	11/07/19
Test Engineer:	43575
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 QPSK 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1860MHz												
1	3.70327	-76.19	Pk	33	-28.7	11.9	-59.99	-13	-46.99	0-360	149	H
2	5.47897	-77.2	Pk	34.9	-26.5	12.2	-56.6	-13	-43.6	0-360	149	H
3	7.50888	-78.74	Pk	35.6	-23.9	12.1	-54.94	-13	-41.94	0-360	149	H
4	3.69822	-76.44	Pk	33	-28.8	12.1	-60.14	-13	-47.14	0-360	149	V
5	5.54166	-75.84	Pk	35	-26.8	12.3	-55.34	-13	-42.34	0-360	149	V
6	7.44884	-77.81	Pk	35.6	-24.3	12	-54.51	-13	-41.51	0-360	149	V
1880MHz												
1	3.65731	-65.92	Pk	33	-33.7	11.9	-54.72	-13	-41.72	0-360	148	H
2	5.85138	-68.81	Pk	35	-29.9	12.1	-51.61	-13	-38.61	0-360	148	H
3	7.27566	-70.71	Pk	35.5	-27.7	12.2	-50.71	-13	-37.71	0-360	148	H
4	3.74019	-66.61	Pk	33.3	-33.4	11.8	-54.91	-13	-41.91	0-360	149	V
5	5.74459	-68.9	Pk	34.8	-30.5	12.2	-52.4	-13	-39.4	0-360	149	V
6	7.43663	-70.76	Pk	35.6	-27.8	12	-50.96	-13	-37.96	0-360	149	V
1900MHz												
1	3.74125	-75.92	Pk	32.9	-28.4	11.7	-59.72	-13	-46.72	0-360	149	H
2	5.67341	-70.35	Pk	35	-26.8	11.9	-50.25	-13	-37.25	0-360	149	H
3	7.53597	-77.83	Pk	35.5	-23.9	11.5	-54.73	-13	-41.73	0-360	149	H
4	3.76622	-76.19	Pk	33	-28.3	11.6	-59.89	-13	-46.89	0-360	149	V
5	5.67341	-75.11	Pk	35	-26.8	11.8	-55.11	-13	-42.11	0-360	149	V
6	7.511	-79.11	Pk	35.6	-23.8	12.2	-55.11	-13	-42.11	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/07/19
Test Engineer:	43575
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 16QAM 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1860MHz												
1	3.73966	-74.06	Pk	32.9	-28.4	11.6	-57.96	-13	-44.96	0-360	149	H
2	5.55281	-68.13	Pk	35.1	-26.8	12	-47.83	-13	-34.83	0-360	149	H
3	7.34047	-78.68	Pk	35.6	-24	11.9	-55.18	-13	-42.18	0-360	149	H
4	3.7115	-75.45	Pk	33	-28.4	11.7	-59.15	-13	-46.15	0-360	149	V
5	5.55281	-65.11	Pk	35.1	-26.8	12.1	-44.71	-13	-31.71	0-360	149	V
6	7.44088	-78.73	Pk	35.6	-24.3	11.9	-55.53	-13	-42.53	0-360	149	V
1880MHz												
1	3.91656	-65.81	Pk	33.5	-32.9	11.4	-53.81	-13	-40.81	0-360	148	H
2	5.89972	-68.88	Pk	35.1	-29.7	11.8	-51.68	-13	-38.68	0-360	148	H
3	7.88978	-70.62	Pk	35.8	-27.6	12	-50.42	-13	-37.42	0-360	148	H
4	3.69025	-65.91	Pk	33.1	-33.5	11.9	-54.41	-13	-41.41	0-360	148	V
5	5.57725	-67.82	Pk	34.6	-30.6	12	-51.82	-13	-38.82	0-360	148	V
6	7.613	-71.5	Pk	35.6	-27.6	12.2	-51.3	-13	-38.3	0-360	148	V
1900MHz												
1	3.76356	-75.56	Pk	33	-28.3	11.7	-59.16	-13	-46.16	0-360	149	H
2	5.67288	-70.37	Pk	35	-26.8	11.9	-50.27	-13	-37.27	0-360	149	H
3	7.54872	-78.11	Pk	35.6	-23.9	11.9	-54.51	-13	-41.51	0-360	149	H
4	3.76197	-76.85	Pk	33	-28.3	11.8	-60.35	-13	-47.35	0-360	149	V
5	5.67288	-73.24	Pk	35	-26.8	11.8	-53.24	-13	-40.24	0-360	149	V
6	7.55616	-78.68	Pk	35.6	-23.8	12.2	-54.68	-13	-41.68	0-360	149	V

**9.2.4. LTE BAND 4**

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 QPSK 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1720MHz												
1	3.44747	-75.98	Pk	32.8	-29.2	12	-60.38	-13	-47.38	0-360	149	H
2	5.20431	-77.7	Pk	34.3	-26.8	12.3	-57.9	-13	-44.9	0-360	149	H
3	6.94416	-77.86	Pk	35.6	-24.6	11.5	-55.36	-13	-42.36	0-360	149	H
4	3.40975	-75.74	Pk	32.7	-29.3	11.5	-60.84	-13	-47.84	0-360	149	V
5	5.10709	-77.3	Pk	34.4	-26.8	11.7	-58	-13	-45	0-360	149	V
6	6.82675	-77.49	Pk	35.6	-25.2	11.6	-55.49	-13	-42.49	0-360	149	V
1732.5MHz												
1	3.44534	-75.24	Pk	32.8	-29.3	12	-59.74	-13	-46.74	0-360	149	H
2	5.11772	-76.69	Pk	34.4	-27	11.5	-57.79	-13	-44.79	0-360	149	H
3	6.97072	-77.34	Pk	35.8	-24.8	11.6	-54.74	-13	-41.74	0-360	149	H
4	3.43844	-76.05	Pk	32.7	-29.3	11.5	-61.15	-13	-48.15	0-360	149	V
5	5.14428	-77.3	Pk	34.4	-27	12	-57.9	-13	-44.9	0-360	149	V
6	6.94522	-77.61	Pk	35.6	-24.6	11.6	-55.01	-13	-42.01	0-360	149	V
1745MH												
1	3.48625	-76.33	Pk	32.9	-28.9	11.8	-60.53	-13	-47.53	0-360	149	H
2	5.25744	-77.38	Pk	34.5	-26.7	12	-57.58	-13	-44.58	0-360	149	H
3	7.03872	-76.41	Pk	35.6	-24.9	11.8	-53.91	-13	-40.91	0-360	149	H
4	3.46553	-75.76	Pk	32.8	-29.2	11.6	-60.56	-13	-47.56	0-360	149	V
5	5.19103	-77.17	Pk	34.4	-27	12.3	-57.47	-13	-44.47	0-360	149	V
6	6.91759	-77.96	Pk	35.6	-24.8	12.1	-55.06	-13	-42.06	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 16QAM 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1720MHz												
1	3.40816	-75.78	Pk	32.7	-29.3	12.1	-60.28	-13	-47.28	0-360	149	H
2	5.16022	-77.1	Pk	34.4	-26.9	11.8	-57.8	-13	-44.8	0-360	149	H
3	6.92131	-78.04	Pk	35.5	-24.8	11.8	-55.54	-13	-42.54	0-360	149	H
4	3.42834	-75.4	Pk	32.7	-29.3	11.7	-60.3	-13	-47.3	0-360	149	V
5	5.10391	-76.82	Pk	34.4	-26.9	11.7	-57.62	-13	-44.62	0-360	149	V
6	6.80019	-78.31	Pk	35.6	-25.1	11.7	-56.11	-13	-43.11	0-360	149	V
1732.5MHz												
1	3.44534	-75.82	Pk	32.8	-29.3	12	-60.32	-13	-47.32	0-360	149	H
2	5.10444	-76.73	Pk	34.4	-26.8	11.7	-57.43	-13	-44.43	0-360	149	H
3	6.88731	-76.86	Pk	35.5	-24.9	11.4	-54.86	-13	-41.86	0-360	149	H
4	3.4735	-75.01	Pk	32.8	-29	11.7	-59.51	-13	-46.51	0-360	149	V
5	5.19688	-77.66	Pk	34.4	-27	12.4	-57.86	-13	-44.86	0-360	149	V
6	6.9415	-78.29	Pk	35.6	-24.6	11.7	-55.59	-13	-42.59	0-360	149	V
1745MH												
1	3.50963	-74.59	Pk	32.8	-28.7	11.7	-58.79	-13	-45.79	0-360	149	H
2	5.27072	-76.8	Pk	34.5	-26.8	12.1	-57	-13	-44	0-360	149	H
3	6.94097	-77.36	Pk	35.6	-24.6	11.6	-54.76	-13	-41.76	0-360	149	H
4	3.47934	-75.65	Pk	32.8	-28.9	11.5	-60.25	-13	-47.25	0-360	149	V
5	5.19953	-77.7	Pk	34.4	-26.9	12.5	-57.7	-13	-44.7	0-360	149	V
6	6.92928	-77.42	Pk	35.6	-24.7	12	-54.52	-13	-41.52	0-360	149	V

**9.2.5. LTE BAND 5**

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 QPSK 10MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
829 MHz												
1	1.64866	-69.45	Pk	28.5	-31.7	12.5	-60.15	-13	-47.15	0-360	149	H
2	2.47316	-73.29	Pk	32.3	-30.4	11.3	-60.09	-13	-47.09	0-360	149	H
3	3.29819	-66.28	Pk	32.7	-29.2	11.9	-50.88	-13	-37.88	0-360	149	H
4	1.64866	-68.66	Pk	28.5	-31.7	11.4	-60.46	-13	-47.46	0-360	149	V
5	2.47369	-69.97	Pk	32.3	-30.4	11.5	-56.57	-13	-43.57	0-360	149	V
6	3.29819	-67.96	Pk	32.7	-29.2	12	-52.46	-13	-39.46	0-360	149	V
836.5 MHz												
1	1.66406	-69.94	Pk	28.7	-31.6	11.6	-61.24	-13	-48.24	0-360	148	H
2	2.496	-73.31	Pk	32.3	-30.3	11.3	-60.01	-13	-47.01	0-360	148	H
3	3.32794	-58.71	Pk	32.7	-29.2	11.6	-43.61	-13	-30.61	0-360	148	H
4	1.66406	-69.56	Pk	28.7	-31.6	11.3	-61.16	-13	-48.16	0-360	148	V
5	2.496	-72.3	Pk	32.3	-30.3	11.4	-58.9	-13	-45.9	0-360	148	V
6	3.32794	-58.43	Pk	32.7	-29.2	11.8	-43.13	-13	-30.13	0-360	148	V
844 MHz												
1	1.67894	-69.13	Pk	28.9	-31.6	12	-59.83	-13	-46.83	0-360	149	H
2	2.51831	-73.06	Pk	32.3	-30.2	11.9	-59.06	-13	-46.06	0-360	149	H
3	3.35822	-64.36	Pk	32.6	-29.1	11.6	-49.26	-13	-36.26	0-360	149	H
4	1.67841	-72.23	Pk	28.9	-31.7	11.2	-63.83	-13	-50.83	0-360	149	V
5	2.51831	-73.41	Pk	32.3	-30.2	11.5	-59.81	-13	-46.81	0-360	149	V
6	3.35769	-62.91	Pk	32.6	-29.1	11.7	-47.71	-13	-34.71	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/08/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 16QAM 10MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
829 MHz												
1	1.64919	-69.78	Pk	28.5	-31.7	12.5	-60.48	-13	-47.48	0-360	149	H
2	2.47316	-71.96	Pk	32.3	-30.4	11.3	-58.76	-13	-45.76	0-360	149	H
3	3.29819	-69.48	Pk	32.7	-29.2	11.9	-54.08	-13	-41.08	0-360	149	H
4	1.64866	-69.76	Pk	28.5	-31.7	11.4	-61.56	-13	-48.56	0-360	149	V
5	2.47316	-68.68	Pk	32.3	-30.4	11.5	-55.28	-13	-42.28	0-360	149	V
6	3.29819	-66.88	Pk	32.7	-29.2	12	-51.38	-13	-38.38	0-360	149	V
836.5 MHz												
1	1.66406	-69.28	Pk	28.7	-31.6	11.6	-60.58	-13	-47.58	0-360	149	H
2	2.496	-73.92	Pk	32.3	-30.3	11.3	-60.62	-13	-47.62	0-360	149	H
3	3.32847	-60.46	Pk	32.7	-29.2	11.6	-45.36	-13	-32.36	0-360	149	H
4	1.66353	-70.09	Pk	28.7	-31.6	11.4	-61.59	-13	-48.59	0-360	149	V
5	2.496	-73.34	Pk	32.3	-30.3	11.4	-59.94	-13	-46.94	0-360	149	V
6	3.32794	-59.12	Pk	32.7	-29.2	11.8	-43.82	-13	-30.82	0-360	149	V
844 MHz												
1	1.67894	-65.32	Pk	28.9	-31.6	12	-56.02	-13	-43.02	0-360	149	H
2	2.51884	-72.38	Pk	32.3	-30.2	11.9	-58.38	-13	-45.38	0-360	149	H
3	3.35822	-65.66	Pk	32.6	-29.1	11.6	-50.56	-13	-37.56	0-360	149	H
4	1.68159	-73.27	Pk	28.9	-31.5	11.5	-64.37	-13	-51.37	0-360	149	V
5	2.51831	-73.67	Pk	32.3	-30.2	11.5	-60.07	-13	-47.07	0-360	149	V
6	3.35822	-63.3	Pk	32.6	-29.1	11.8	-48	-13	-35	0-360	149	V

**9.2.6. LTE BAND 12**

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 QPSK 10MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
704 MHz												
1	1.39897	-64.59	Pk	28.9	-32.2	10.4	-57.49	-13	-44.49	0-360	149	H
2	2.09809	-73.79	Pk	31.1	-30.9	11.8	-61.79	-13	-48.79	0-360	149	H
3	2.79775	-75.61	Pk	32.4	-29.8	11.8	-61.21	-13	-48.21	0-360	149	H
4	1.3987	-68.55	Pk	28.9	-32.2	10.3	-61.55	-13	-48.55	0-360	149	V
5	2.10075	-74.31	Pk	31.1	-30.8	11.5	-62.51	-13	-49.51	0-360	149	V
6	2.79509	-74.64	Pk	32.3	-29.9	11.9	-60.34	-13	-47.34	0-360	149	V
707.5 MHz												
1	1.40588	-66.72	Pk	28.8	-32.3	11.3	-58.92	-13	-45.92	0-360	148	H
2	2.11297	-74.15	Pk	31.2	-30.8	12.2	-61.55	-13	-48.55	0-360	148	H
3	2.81316	-74.59	Pk	32.2	-29.8	12.1	-60.09	-13	-47.09	0-360	148	H
4	1.40588	-70.54	Pk	28.8	-32.3	11	-63.04	-13	-50.04	0-360	148	V
5	2.10925	-74.79	Pk	31.1	-30.9	11.7	-62.89	-13	-49.89	0-360	148	V
6	2.80944	-75.56	Pk	32.3	-29.8	11.8	-61.26	-13	-48.26	0-360	148	V
711 MHz												
1	1.41278	-64.85	Pk	28.8	-32.2	11.9	-56.35	-13	-43.35	0-360	149	H
2	2.11456	-75.16	Pk	31.2	-31	12.2	-62.76	-13	-49.76	0-360	149	H
3	2.82644	-74.52	Pk	32.2	-29.9	12	-60.22	-13	-47.22	0-360	149	H
4	1.41278	-72.36	Pk	28.8	-32.2	11.7	-64.06	-13	-51.06	0-360	149	V
5	2.11563	-75.39	Pk	31.2	-31	11.6	-63.59	-13	-50.59	0-360	149	V
6	2.82644	-74.96	Pk	32.2	-29.9	12	-60.66	-13	-47.66	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 16QAM 10MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
704 MHz												
1	1.39844	-64.05	Pk	28.9	-32.2	10.4	-56.95	-13	-43.95	0-360	149	H
2	2.10075	-75	Pk	31.1	-30.8	11.7	-63	-13	-50	0-360	149	H
3	2.7935	-75.47	Pk	32.3	-29.9	11.9	-61.17	-13	-48.17	0-360	149	H
4	1.39897	-68.15	Pk	28.9	-32.2	10.3	-61.15	-13	-48.15	0-360	149	V
5	2.10234	-74.84	Pk	31.1	-30.9	11.7	-62.94	-13	-49.94	0-360	149	V
6	2.79403	-76.4	Pk	32.3	-29.8	12	-61.9	-13	-48.9	0-360	149	V
707.5 MHz												
1	1.40588	-64.24	Pk	28.8	-32.3	11.3	-56.44	-13	-43.44	0-360	149	H
2	2.11191	-74.22	Pk	31.1	-31	12.2	-61.92	-13	-48.92	0-360	149	H
3	2.8105	-75.37	Pk	32.3	-29.8	12	-60.87	-13	-47.87	0-360	149	H
4	1.40534	-70.82	Pk	28.8	-32.2	11	-63.22	-13	-50.22	0-360	149	V
5	2.11084	-74.77	Pk	31.1	-31	11.6	-63.07	-13	-50.07	0-360	149	V
6	2.80413	-75.1	Pk	32.3	-29.9	11.8	-60.9	-13	-47.9	0-360	149	V
711 MHz												
1	1.41278	-66.77	Pk	28.8	-32.2	11.9	-58.27	-13	-45.27	0-360	149	H
2	2.12094	-74.17	Pk	31.1	-31	12.4	-61.67	-13	-48.67	0-360	149	H
3	2.82591	-75.26	Pk	32.2	-29.9	12	-60.96	-13	-47.96	0-360	149	H
4	1.41331	-72.47	Pk	28.8	-32.2	11.7	-64.17	-13	-51.17	0-360	149	V
5	2.11775	-73.78	Pk	31.2	-31.1	11.6	-62.08	-13	-49.08	0-360	149	V
6	2.82591	-74.04	Pk	32.2	-29.9	12	-59.74	-13	-46.74	0-360	149	V

**9.2.7. LTE BAND 13**

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 QPSK 10MHz
Chamber #:	Chamber I

Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
782MHz											
1.56400	-70.62	Pk	28.1	-31.8	11.5	-62.82	-40	-22.82	0-360	149	H
2.33238	-74.12	Pk	31.5	-30.6	12.1	-61.12	-13	-48.12	0-360	149	H
3.10959	-65.15	Pk	32.7	-29.3	11.6	-50.15	-13	-37.15	0-360	149	H
1.56400	-73.3	Pk	28.1	-31.8	12.2	-64.8	-40	-24.8	0-360	149	V
2.33238	-73.94	Pk	31.5	-30.6	11.8	-61.24	-13	-48.24	0-360	149	V
3.11013	-67.15	Pk	32.7	-29.3	12.2	-51.55	-13	-38.55	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 16QAM 10MHz
Chamber #:	Chamber I

Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
782MHz											
1.56400	-71.45	Pk	28.1	-31.8	11.5	-63.65	-40	-23.65	0-360	149	H
2.33025	-75.73	Pk	31.5	-30.5	12.2	-62.53	-13	-49.53	0-360	149	H
3.11013	-63.85	Pk	32.7	-29.3	11.6	-48.85	-13	-35.85	0-360	149	H
1.56400	-73.04	Pk	28	-31.8	12.1	-64.74	-40	-24.74	0-360	149	V
2.32706	-74.56	Pk	31.5	-30.6	12	-61.66	-13	-48.66	0-360	149	V
3.11013	-67.75	Pk	32.7	-29.3	12.2	-52.15	-13	-39.15	0-360	149	V

**9.2.8. LTE BAND 41 (FCC)**

Company:	Samsung
Project #:	13094578
Date:	11/12/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 QPSK 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2506 MHz												
1	4.98597	-69.03	Pk	34.1	-30.9	10.5	-55.33	-25	-30.33	0-360	150	H
2	7.42706	-72.65	Pk	35.6	-26.8	10.4	-53.45	-25	-28.45	0-360	150	H
3	10.00522	-74.85	Pk	37.1	-24	10.3	-51.45	-25	-26.45	0-360	150	H
4	5.00084	-69.69	Pk	34.2	-30.8	10.7	-55.59	-25	-30.59	0-360	150	V
5	7.46903	-72.61	Pk	35.6	-26.8	10.7	-53.11	-25	-28.11	0-360	150	V
6	10.04081	-74.81	Pk	37.1	-23.8	10.6	-50.91	-25	-25.91	0-360	150	V
2593 MHz												
1	5.15863	-69	Pk	34.3	-30.6	10.5	-54.8	-25	-29.8	0-360	150	H
2	7.75113	-72.89	Pk	35.9	-26.4	10.4	-52.99	-25	-27.99	0-360	150	H
3	10.33619	-72.86	Pk	37.5	-23.6	10.6	-48.36	-25	-23.36	0-360	150	H
4	5.16447	-68.4	Pk	34.2	-30.5	10.8	-53.9	-25	-28.9	0-360	150	V
5	7.75219	-65.84	Pk	35.9	-26.4	10.6	-45.74	-25	-20.74	0-360	150	V
6	10.33619	-74.41	Pk	37.5	-23.6	10.8	-49.71	-25	-24.71	0-360	150	V
2680 MHz												
1	5.36156	-69.91	Pk	34.4	-30	10.6	-54.91	-25	-29.91	0-360	150	H
2	8.01303	-71.65	Pk	35.8	-26.1	10.2	-51.75	-25	-26.75	0-360	150	H
3	10.62784	-75.39	Pk	37.8	-23	9.9	-50.69	-25	-25.69	0-360	150	H
4	5.34191	-69.32	Pk	34.3	-30.3	10.9	-54.42	-25	-29.42	0-360	150	V
5	8.01303	-59.74	Pk	35.8	-26.1	10.5	-39.54	-25	-14.54	0-360	150	V
6	10.68416	-73.12	Pk	37.9	-23	10.2	-48.02	-25	-23.02	0-360	150	V

Company:	Samsung
Project #:	13094578
Date:	11/12/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 16QAM 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2506 MHz												
1	4.95675	-68.33	Pk	34.1	-30.9	10.2	-54.93	-25	-29.93	0-360	150	H
2	7.56784	-72.92	Pk	35.7	-26.7	10.5	-53.42	-25	-28.42	0-360	150	H
3	9.98238	-74.19	Pk	36.9	-24	10.5	-50.79	-25	-25.79	0-360	150	H
4	5.00031	-69.04	Pk	34.2	-30.8	10.7	-54.94	-25	-29.94	0-360	150	V
5	7.51206	-73.03	Pk	35.7	-26.8	10.8	-53.33	-25	-28.33	0-360	150	V
6	9.99725	-75.09	Pk	37	-24	10.6	-51.49	-25	-26.49	0-360	150	V
2593 MHz												
1	5.16766	-69.21	Pk	34.2	-30.5	10.5	-55.01	-25	-30.01	0-360	151	H
2	7.75325	-72.98	Pk	35.9	-26.4	10.3	-53.18	-25	-28.18	0-360	151	H
3	10.35319	-74.18	Pk	37.5	-23.5	10.5	-49.68	-25	-24.68	0-360	151	H
4	5.14694	-69.42	Pk	34.2	-30.6	10.5	-55.32	-25	-30.32	0-360	151	V
5	7.75219	-63.04	Pk	35.9	-26.4	10.6	-42.94	-25	-17.94	0-360	151	V
6	10.33672	-64.72	Pk	37.5	-23.6	10.8	-40.02	-25	-15.02	0-360	151	V
2680 MHz												
1	5.34191	-69.16	Pk	34.3	-30.3	10.9	-54.26	-25	-29.26	0-360	150	H
2	8.07678	-72.32	Pk	35.8	-26.1	10.5	-52.12	-25	-27.12	0-360	150	H
3	10.68416	-72.35	Pk	37.9	-23	9.9	-47.55	-25	-22.55	0-360	150	H
4	5.34191	-69.6	Pk	34.3	-30.3	10.9	-54.7	-25	-29.7	0-360	150	V
5	8.01303	-62.43	Pk	35.8	-26.1	10.5	-42.23	-25	-17.23	0-360	150	V
6	10.68469	-73.84	Pk	37.9	-23.1	10.2	-48.84	-25	-23.84	0-360	150	V

**9.2.9. LTE BAND 66**

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 QPSK 20MHz
Chamber #:	Chamber I

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1720 MHz												
1	3.43897	-75.76	Pk	32.7	-29.3	12	-60.36	-13	-47.36	0-360	149	H
2	5.06725	-75.7	Pk	34.3	-27	11.6	-56.8	-13	-43.8	0-360	149	H
3	6.916	-77.17	Pk	35.6	-24.8	11.8	-54.57	-13	-41.57	0-360	149	H
4	3.44588	-75.95	Pk	32.8	-29.2	11.4	-60.95	-13	-47.95	0-360	149	V
5	5.11984	-76.8	Pk	34.4	-27	11.4	-58	-13	-45	0-360	149	V
6	6.79541	-77.83	Pk	35.6	-25.1	11.7	-55.63	-13	-42.63	0-360	149	V
1745 MHz												
1	3.42463	-75.71	Pk	32.7	-29.3	11.9	-60.41	-13	-47.41	0-360	148	H
2	5.27178	-77.05	Pk	34.5	-26.7	12.1	-57.15	-13	-44.15	0-360	148	H
3	6.94788	-77.49	Pk	35.6	-24.6	11.4	-55.09	-13	-42.09	0-360	148	H
4	3.45384	-75.46	Pk	32.8	-29.1	11.5	-60.26	-13	-47.26	0-360	148	V
5	5.18625	-77.6	Pk	34.4	-27	12.2	-58	-13	-45	0-360	148	V
6	6.97869	-77.93	Pk	35.6	-24.9	12.1	-55.13	-13	-42.13	0-360	148	V
1770 MHz												
1	3.49369	-75.75	Pk	32.9	-28.9	12.1	-59.65	-13	-46.65	0-360	149	H
2	5.21972	-75.98	Pk	34.4	-26.8	11.8	-56.58	-13	-43.58	0-360	149	H
3	7.14869	-77.86	Pk	35.6	-24.5	11.9	-54.86	-13	-41.86	0-360	149	H
4	3.53141	-76.84	Pk	32.9	-28.4	11.7	-60.64	-13	-47.64	0-360	149	V
5	5.24309	-76.78	Pk	34.5	-26.9	12.2	-56.98	-13	-43.98	0-360	149	V
6	7.07538	-77.42	Pk	35.6	-24.7	11.6	-54.92	-13	-41.92	0-360	149	V

Company:	Samsung
Project #:	13094578
Date:	11/09/19
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 16QAM 20MHz
Chamber #:	Chamber I

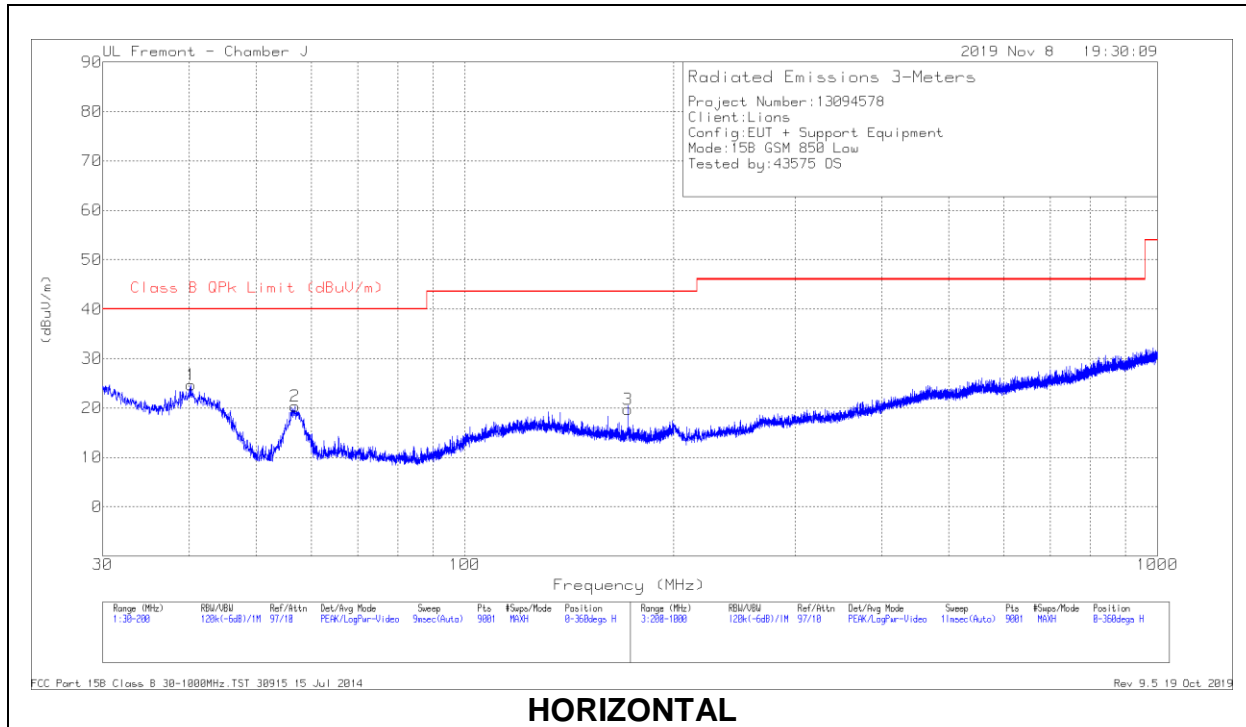
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	WWAN Harmonics Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1720 MHz												
1	3.47244	-75.8	Pk	32.8	-29	11.8	-60.2	-13	-47.2	0-360	149	H
2	5.17084	-76.64	Pk	34.4	-27	11.6	-57.64	-13	-44.64	0-360	149	H
3	6.91759	-77.06	Pk	35.6	-24.8	11.8	-54.46	-13	-41.46	0-360	149	H
4	3.431	-75.09	Pk	32.8	-29.2	11.7	-59.79	-13	-46.79	0-360	149	V
5	5.12463	-76.69	Pk	34.4	-27	11.6	-57.69	-13	-44.69	0-360	149	V
6	6.79169	-76.99	Pk	35.6	-25.1	11.6	-54.89	-13	-41.89	0-360	149	V
1745 MHz												
1	3.44534	-75.86	Pk	32.8	-29.3	12	-60.36	-13	-47.36	0-360	149	H
2	5.19581	-75.93	Pk	34.4	-27	12.1	-56.43	-13	-43.43	0-360	149	H
3	6.97709	-77.95	Pk	35.7	-24.8	11.8	-55.25	-13	-42.25	0-360	149	H
4	3.47509	-75.83	Pk	32.8	-29	11.7	-60.33	-13	-47.33	0-360	149	V
5	5.233	-77.05	Pk	34.5	-26.9	12.1	-57.35	-13	-44.35	0-360	149	V
6	6.9245	-77.82	Pk	35.6	-24.8	12.1	-54.92	-13	-41.92	0-360	149	V
1770 MHz												
1	3.49794	-76.3	Pk	32.9	-28.8	12.1	-60.1	-13	-47.1	0-360	149	H
2	5.28506	-76.71	Pk	34.6	-26.7	11.7	-57.11	-13	-44.11	0-360	149	H
3	6.93459	-77.36	Pk	35.7	-24.7	11.7	-54.66	-13	-41.66	0-360	149	H
4	3.51228	-74.34	Pk	32.8	-28.6	11.9	-58.24	-13	-45.24	0-360	149	V
5	5.31216	-77.3	Pk	34.6	-26.9	12.4	-57.2	-13	-44.2	0-360	149	V
6	7.03553	-77.11	Pk	35.6	-25	11.9	-54.61	-13	-41.61	0-360	149	V

# 10. APPENDIX A: PRE-SCAN DATA FOR 15B RECEIVER MODE

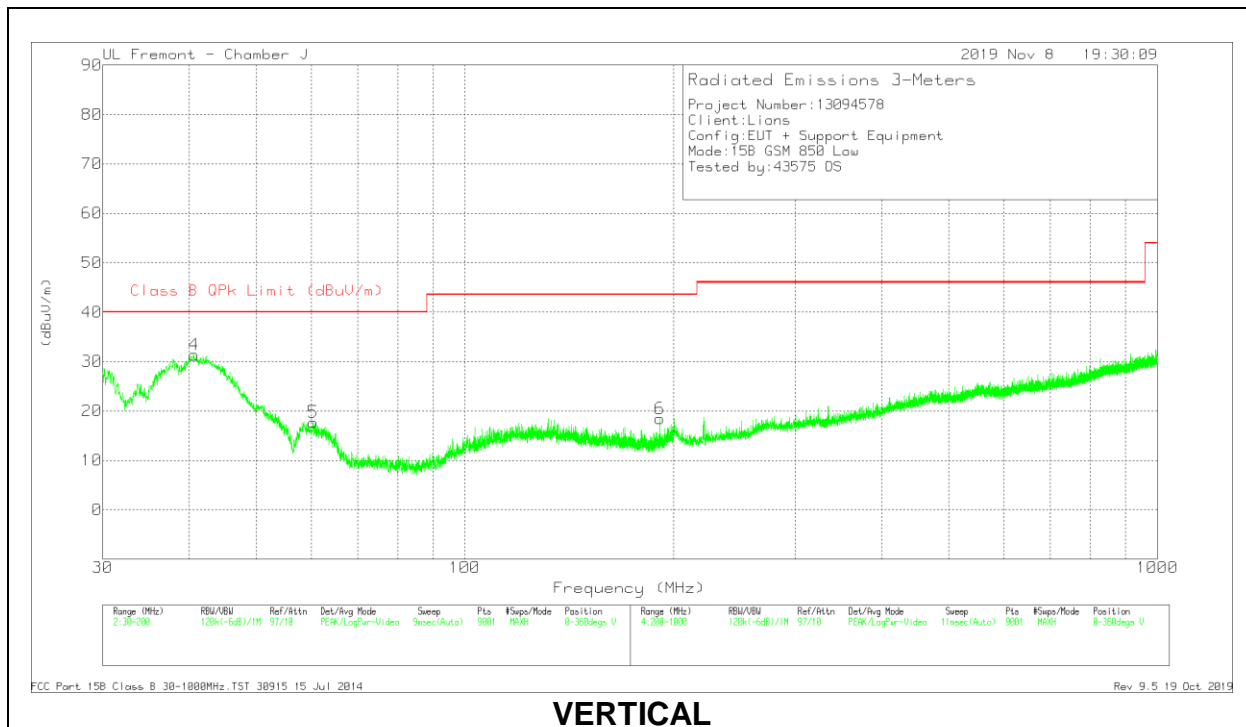
## 10.1. GSM 850

### 10.1.1. BELOW 1GHz

#### LOW CHANNEL



**HORIZONTAL**



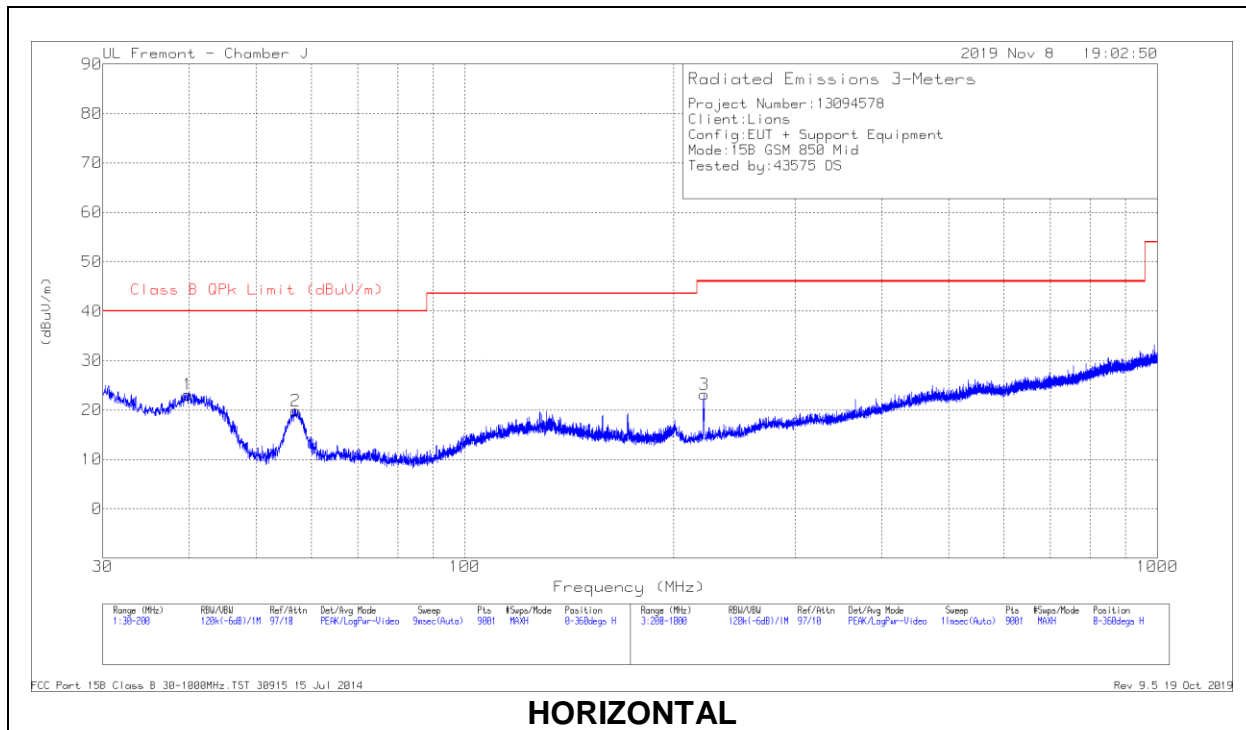
**VERTICAL**

**RADIATED EMISSIONS**

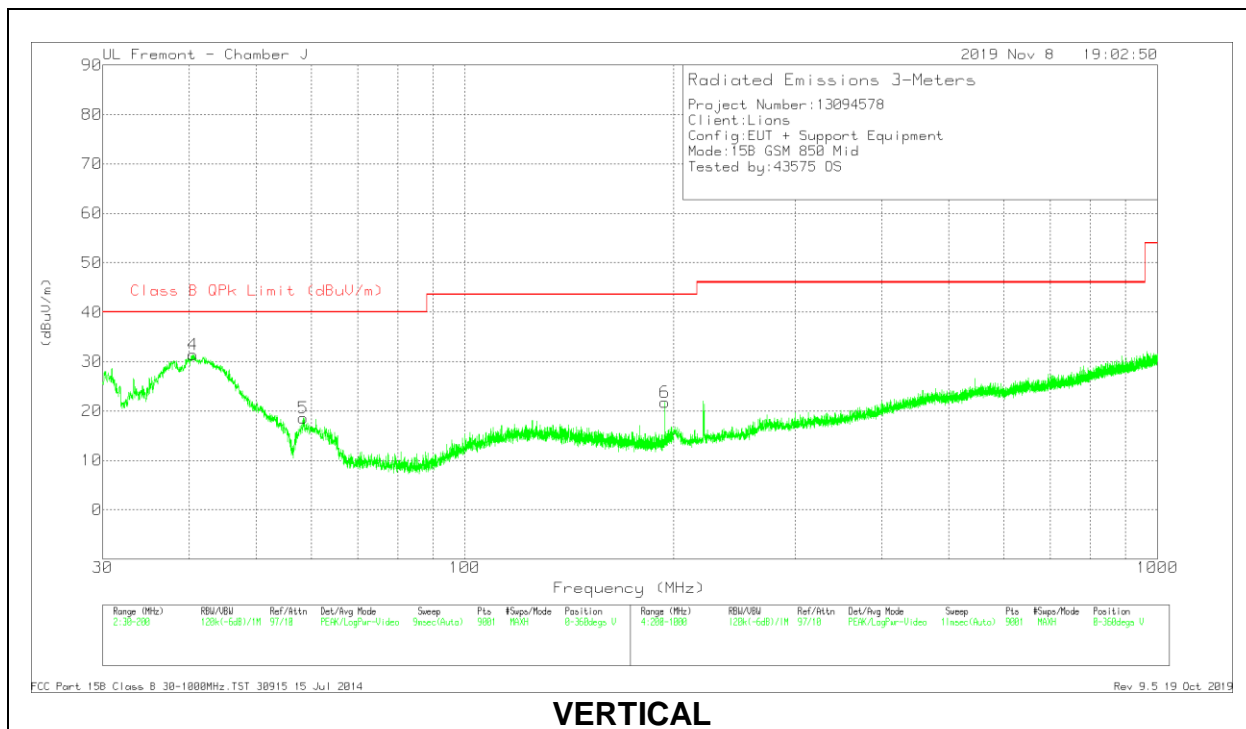
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.2189	36.18	Pk	20	-31.5	24.68	40	-15.32	0-360	298	H
2	56.879	38.45	Pk	13.3	-31.4	20.35	40	-19.65	0-360	398	H
3	171.9131	32.58	Pk	17.7	-30.6	19.68	43.52	-23.84	0-360	99	H
4	40.6534	43.13	Pk	19.7	-31.5	31.33	40	-8.67	0-360	101	V
5	60.3546	35.34	Pk	13.7	-31.3	17.74	40	-22.26	0-360	101	V
6	191.1609	31.59	Pk	17.4	-30.5	18.49	43.52	-25.03	0-360	101	V

Pk - Peak detector

**MID CHANNEL**



**HORIZONTAL**



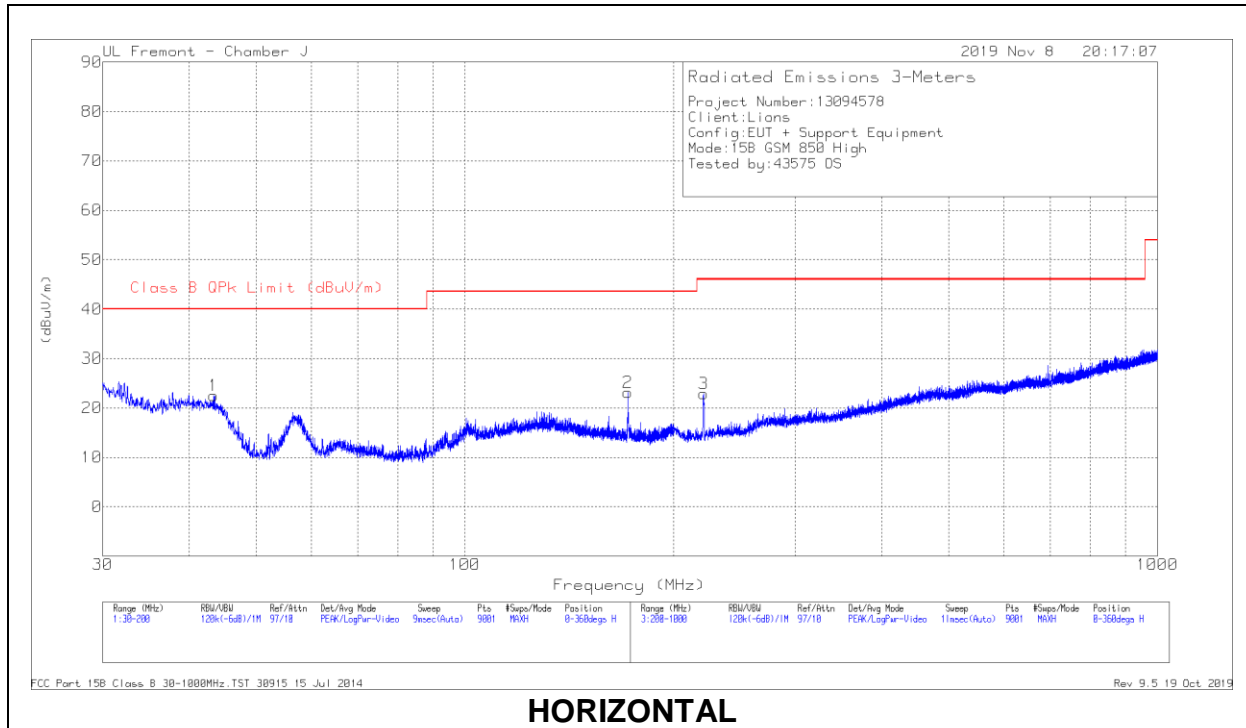
**VERTICAL**

**RADIATED EMISSIONS**

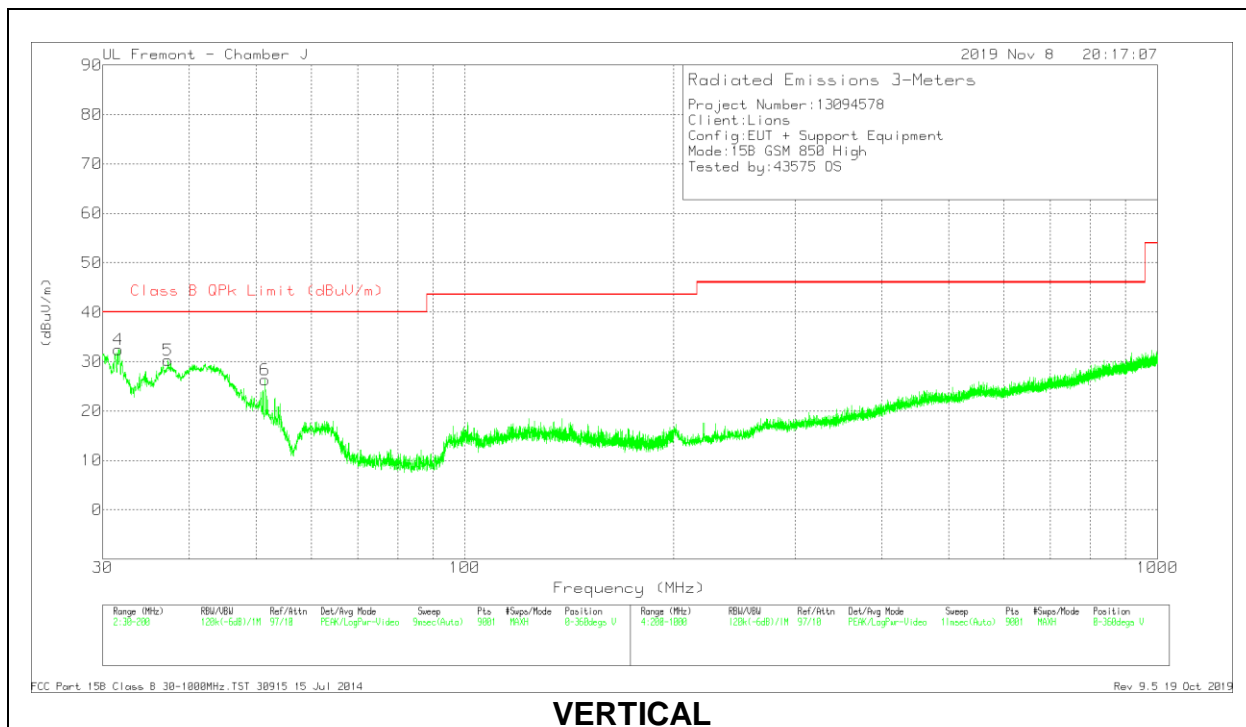
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	39.7845	34.18	Pk	20.4	-31.5	23.08	40	-16.92	0-360	398	H
2	56.9924	37.98	Pk	13.3	-31.4	19.88	40	-20.12	0-360	398	H
4	40.4834	42.94	Pk	19.9	-31.5	31.34	40	-8.66	0-360	101	V
5	58.4657	36.32	Pk	13.5	-31.3	18.52	40	-21.48	0-360	101	V
6	194.2965	34.44	Pk	17.8	-30.5	21.74	43.52	-21.78	0-360	101	V
3	221.6889	37.05	Pk	16.5	-30.4	23.15	46.02	-22.87	0-360	298	H

Pk - Peak detector

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

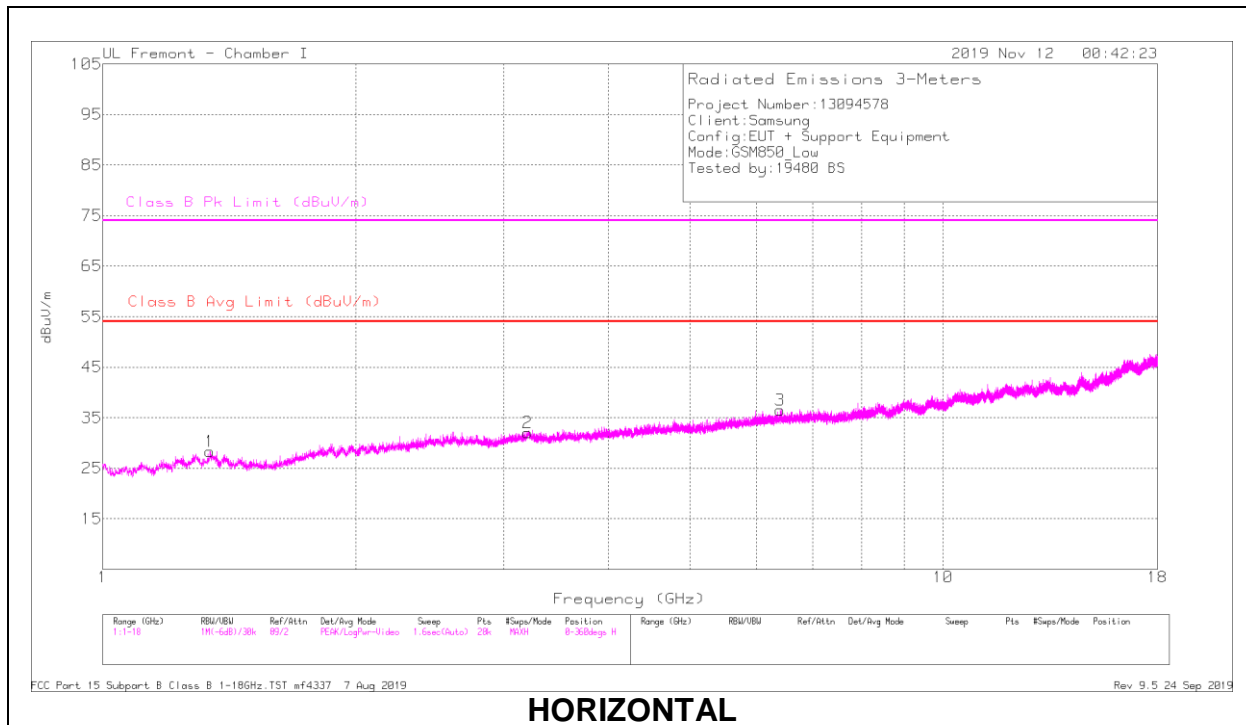
**RADIATED EMISSIONS**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	43.3545	36.35	Pk	17.6	-31.5	22.45	40	-17.55	0-360	398	H
2	171.8564	36	Pk	17.7	-30.6	23.1	43.52	-20.42	0-360	99	H
4	31.6245	37.94	Pk	26.1	-31.6	32.44	40	-7.56	0-360	101	V
5	37.2628	39.4	Pk	22.3	-31.5	30.2	40	-9.8	0-360	101	V
6	51.4579	44.58	Pk	13.1	-31.4	26.28	40	-13.72	0-360	101	V
3	221.2445	36.78	Pk	16.5	-30.4	22.88	46.02	-23.14	0-360	199	H

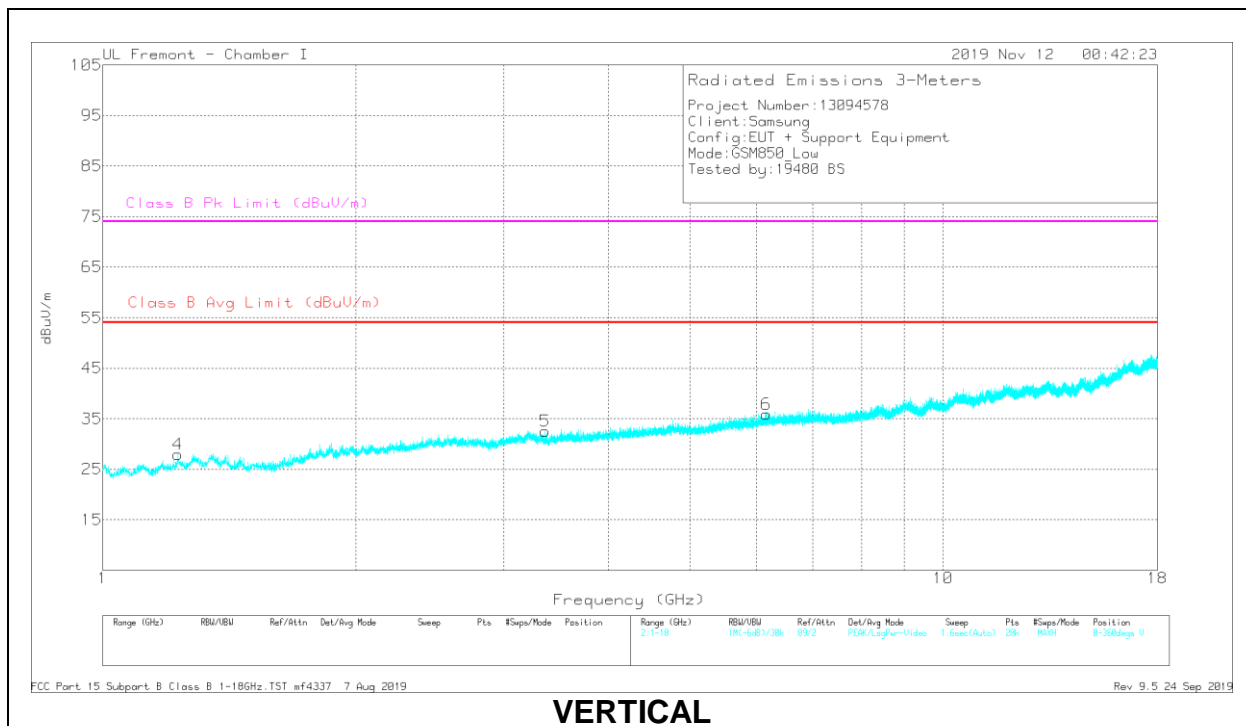
Pk - Peak detector

10.1.2. ABOVE 1GHz

**LOW CHANNEL**



**HORIZONTAL**



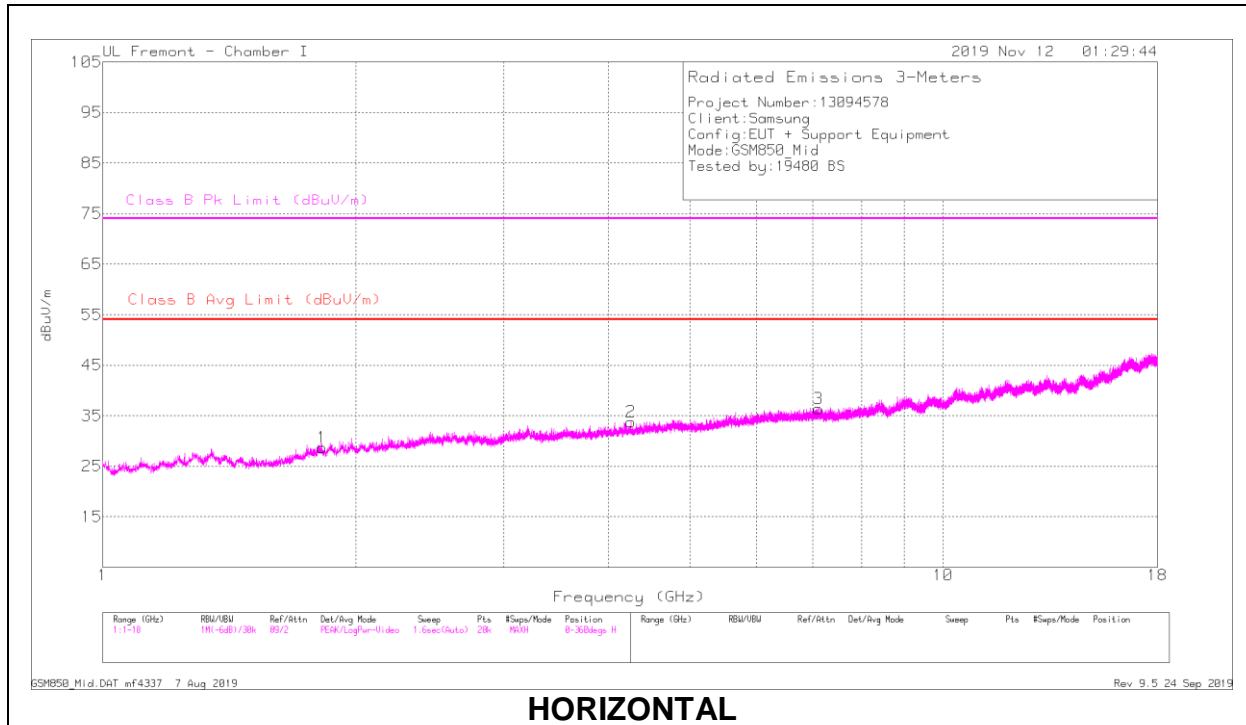
**VERTICAL**

**RADIATED EMISSIONS**

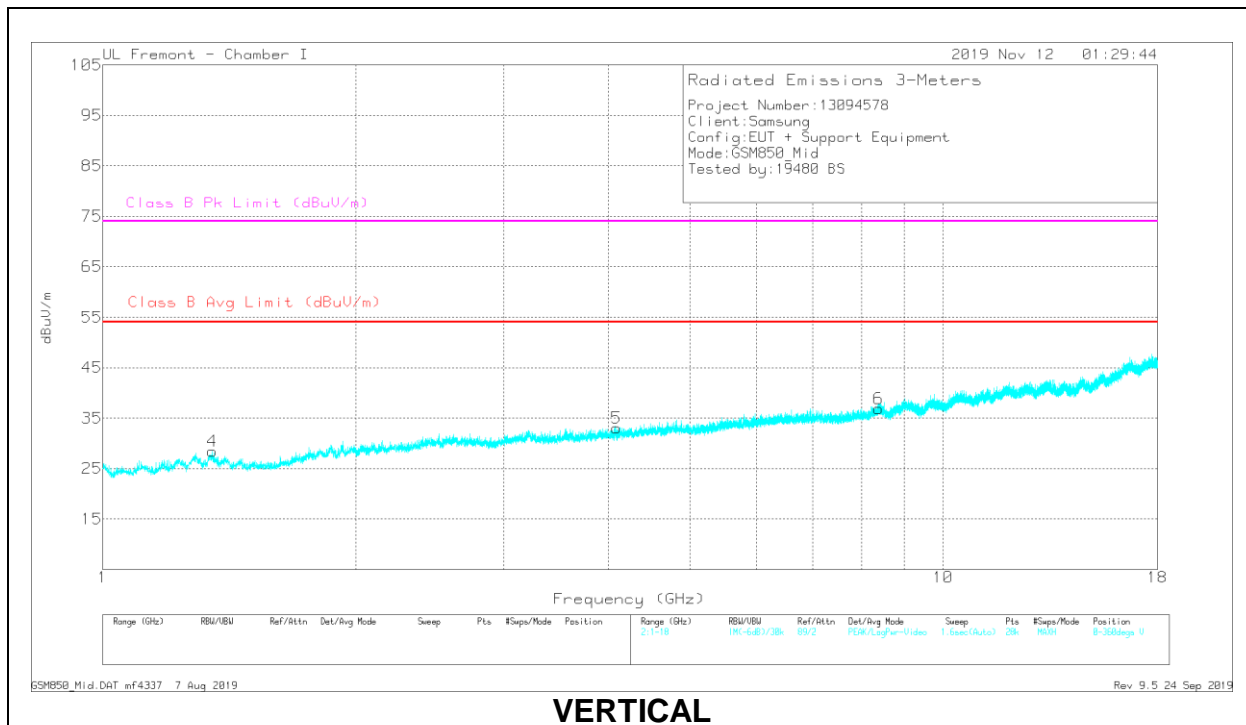
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.34261	40.6	Pk	29.5	-32.3	37.8	-	-	74	-36.2	202	222	H
	1.34261	27.02	Av	29.5	-32.3	24.22	54	-29.78	-	-	202	222	H
2	3.20398	37.69	Pk	33.3	-28.9	42.09	-	-	74	-31.91	246	148	H
	3.20398	24.14	Av	33.3	-28.9	28.54	54	-25.46	-	-	246	148	H
3	6.39934	34.75	Pk	35.6	-25.2	45.15	-	-	74	-28.85	313	254	H
	6.39934	21.07	Av	35.6	-25.2	31.47	54	-22.53	-	-	313	254	H
4	1.2266	40.82	Pk	28.6	-32.5	36.92	-	-	74	-37.08	99	120	V
	1.2266	27	Av	28.6	-32.5	23.1	54	-30.9	-	-	99	120	V
5	3.36202	37.53	Pk	32.7	-29.2	41.03	-	-	74	-32.97	148	173	V
	3.36202	24.34	Av	32.7	-29.2	27.84	54	-26.16	-	-	148	173	V
6	6.16525	35.41	Pk	35.6	-25.6	45.41	-	-	74	-28.59	180	104	V
	6.16525	21.62	Av	35.6	-25.6	31.62	54	-22.38	-	-	180	104	V

Pk - Peak detector  
 Av - Average detection

**MID CHANNEL**



**HORIZONTAL**



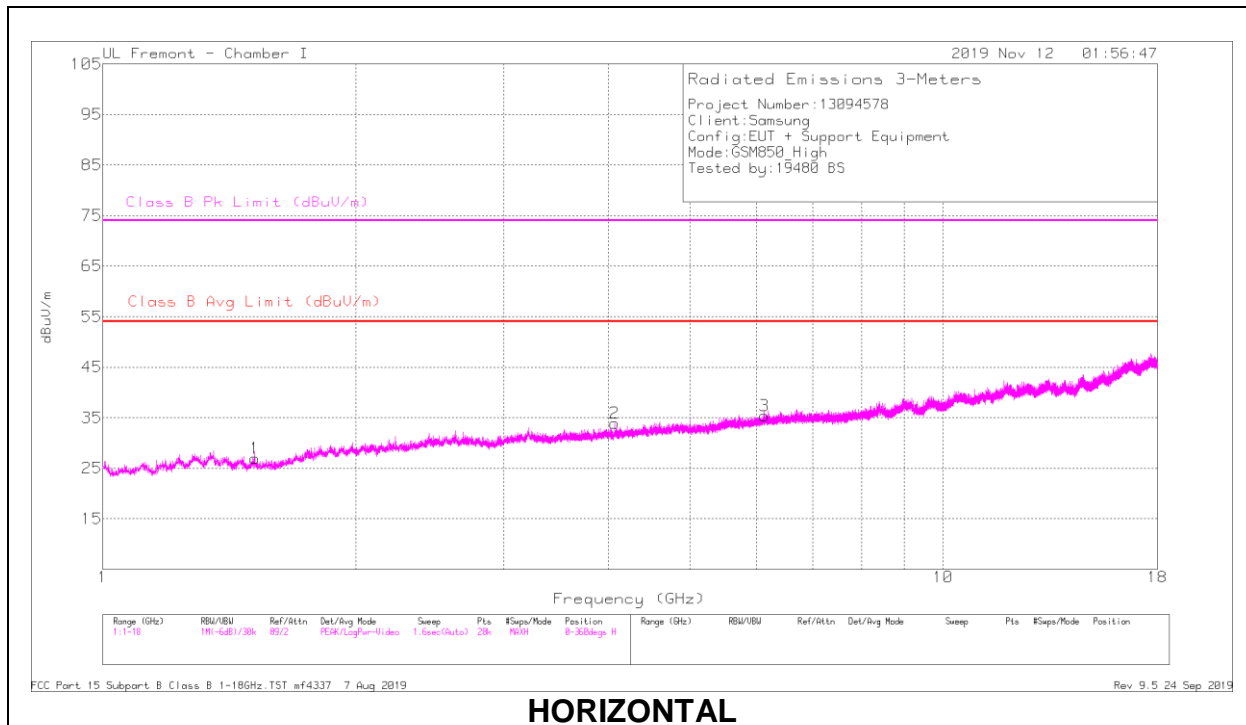
**VERTICAL**

**RADIATED EMISSIONS**

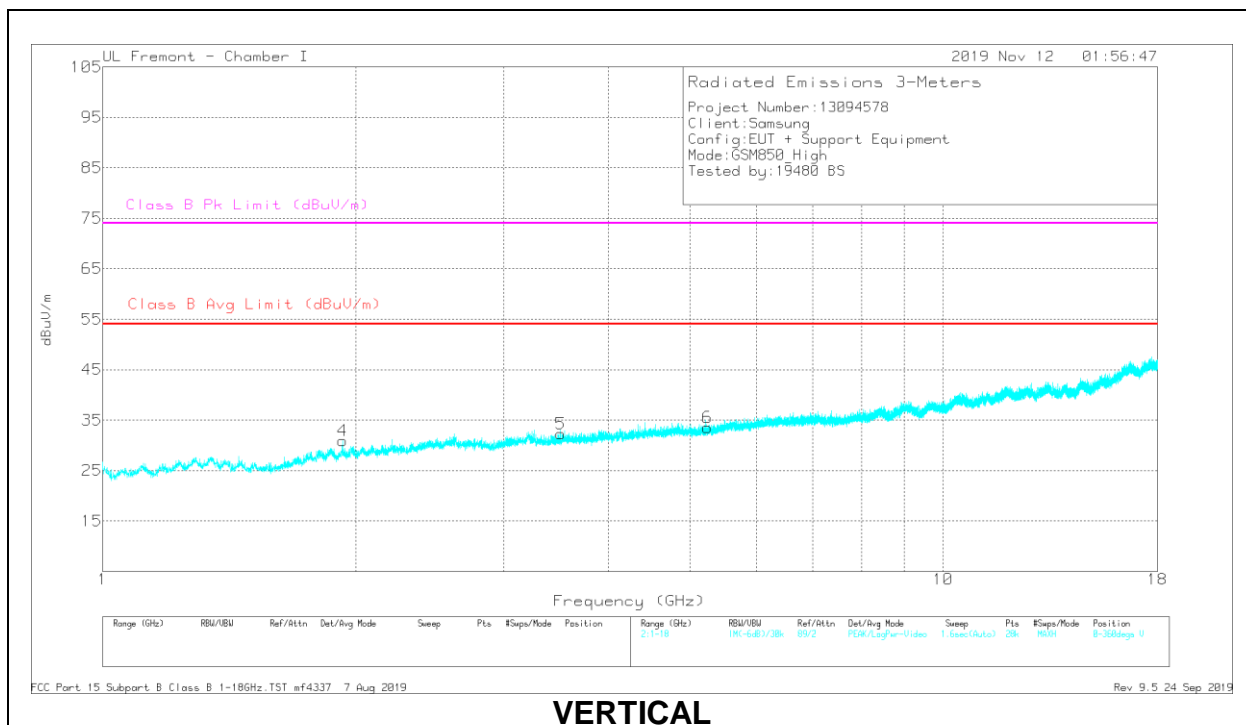
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.82265	39.67	Pk	30.7	-31.5	38.87	-	-	74	-35.13	165	101	H
	1.82265	26.05	Av	30.7	-31.5	25.25	54	-28.75	-	-	165	101	H
3	7.10692	34.65	Pk	35.6	-24.4	45.85	-	-	74	-28.15	2	101	H
	7.10692	20.89	Av	35.6	-24.4	32.09	54	-21.91	-	-	2	101	H
2	4.25366	36.68	Pk	33.4	-27.8	42.28	-	-	74	-31.72	15	232	H
	4.25366	23.14	Av	33.4	-27.8	28.74	54	-25.26	-	-	15	232	H
4	1.3479	40.77	Pk	29.6	-32.3	38.07	-	-	74	-35.93	244	168	V
	1.3479	27.1	Av	29.6	-32.3	24.4	54	-29.6	-	-	244	168	V
5	4.08667	36.58	Pk	33.4	-28.2	41.78	-	-	74	-32.22	200	259	V
	4.08667	23.38	Av	33.4	-28.2	28.58	54	-25.42	-	-	200	259	V
6	8.38573	33.87	Pk	35.8	-22.5	47.17	-	-	74	-26.83	54	140	V
	8.38573	20.64	Av	35.8	-22.5	33.94	54	-20.06	-	-	54	140	V

Pk - Peak detector  
 Av - Average detection

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

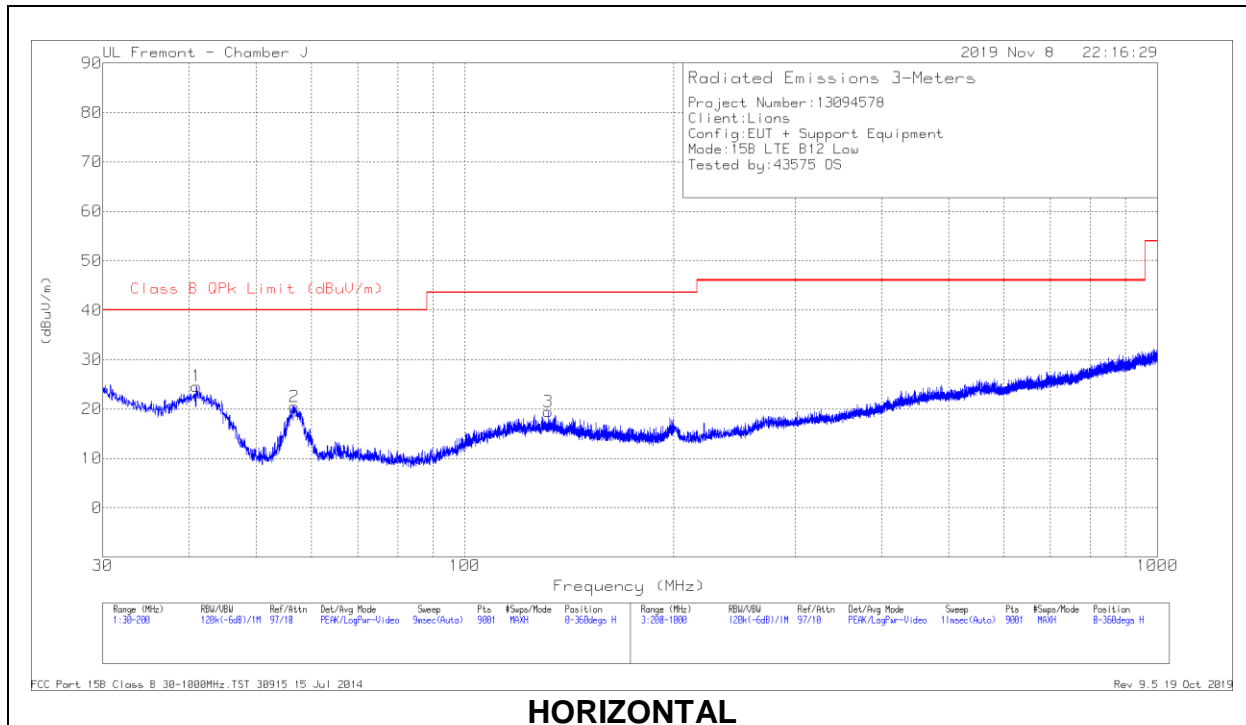
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.51721	39.83	Pk	28	-31.9	35.93	-	-	74	-38.07	207	231	H
	1.51721	26.33	Av	28	-31.9	22.43	54	-31.57	-	-	207	231	H
2	4.066	36.84	Pk	33.3	-28.4	41.74	-	-	74	-32.26	347	116	H
	4.066	23.84	Av	33.3	-28.4	28.74	54	-25.26	-	-	347	116	H
3	6.12823	34.69	Pk	35.5	-26	44.19	-	-	74	-29.81	130	276	H
	6.12823	21.89	Av	35.5	-26	31.39	54	-22.61	-	-	130	276	H
4	1.93143	39.37	Pk	30.7	-31.2	38.87	-	-	74	-35.13	49	102	V
	1.93143	26.35	Av	30.7	-31.2	25.85	54	-28.15	-	-	49	102	V
5	3.50784	36.78	Pk	32.9	-28.8	40.88	-	-	74	-33.12	122	137	V
	3.50784	23.93	Av	32.9	-28.8	28.03	54	-25.97	-	-	122	137	V
6	5.24389	35.25	Pk	34.5	-27	42.75	-	-	74	-31.25	127	363	V
	5.24389	22.32	Av	34.5	-27	29.82	54	-24.18	-	-	127	363	V

Pk - Peak detector  
 Av - Average detection

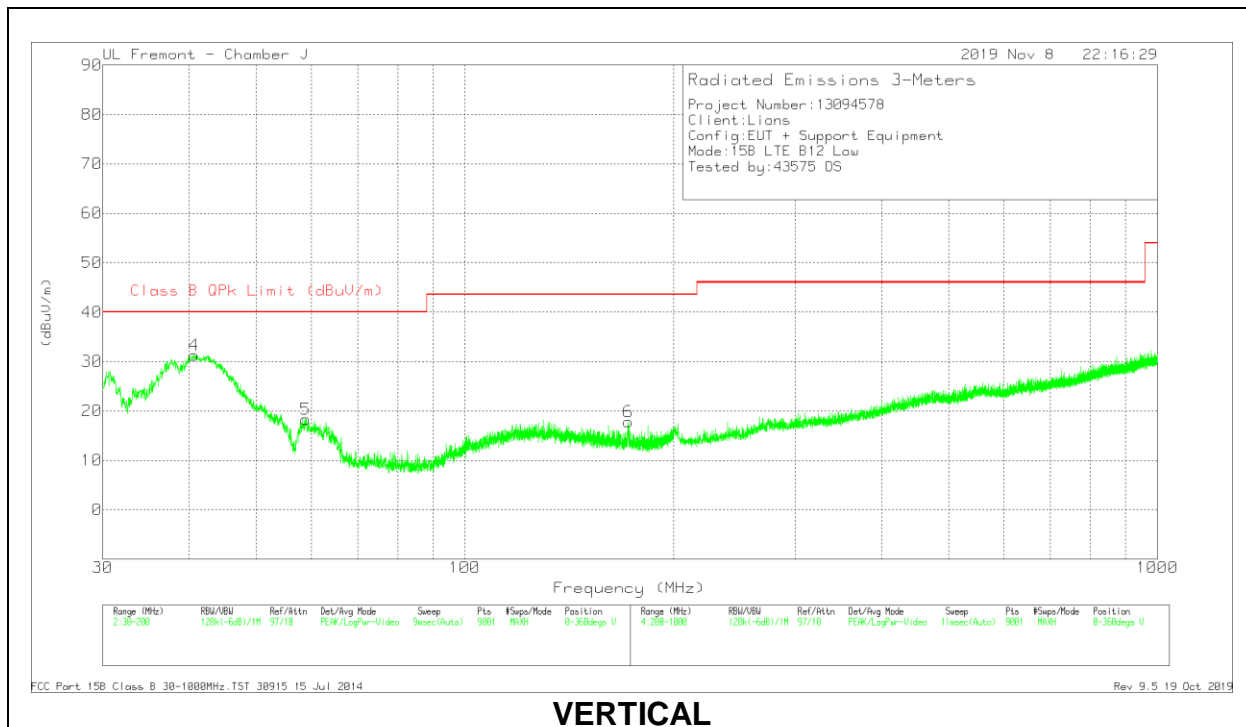
## 10.2. LTE Band 12

### 10.2.1. BELOW 1GHz

#### LOW CHANNEL



**HORIZONTAL**



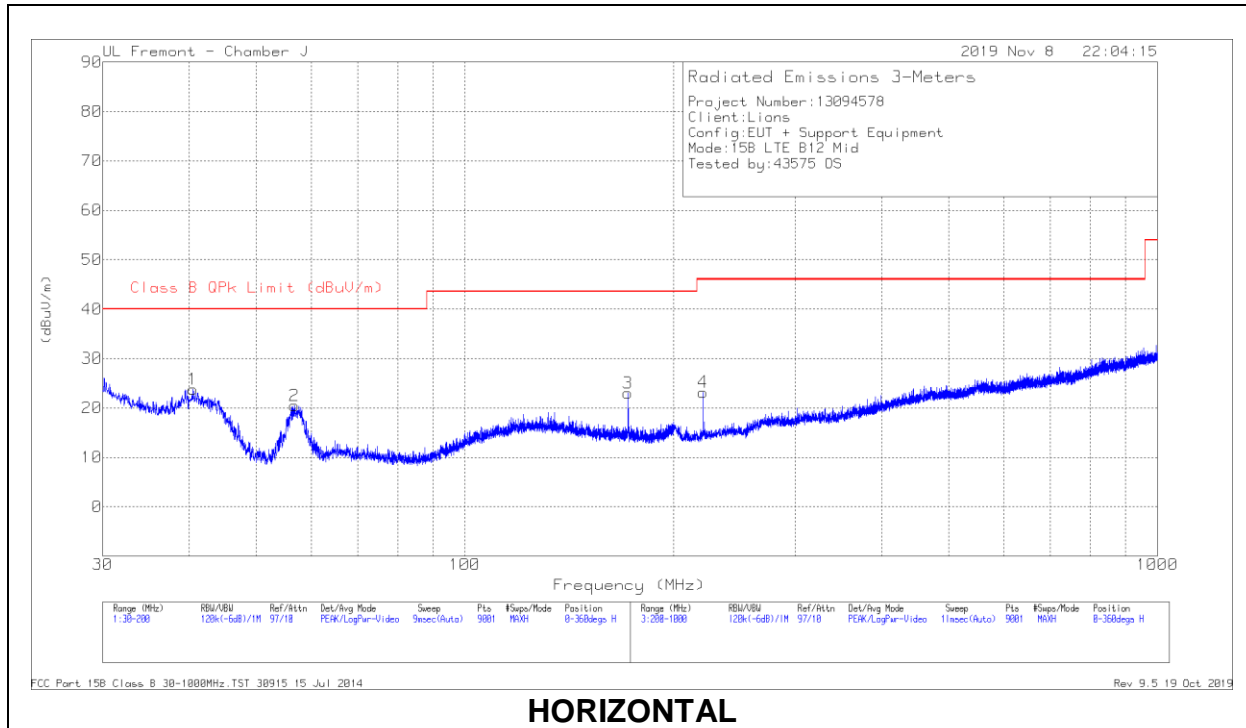
**VERTICAL**

### RADIATED EMISSIONS

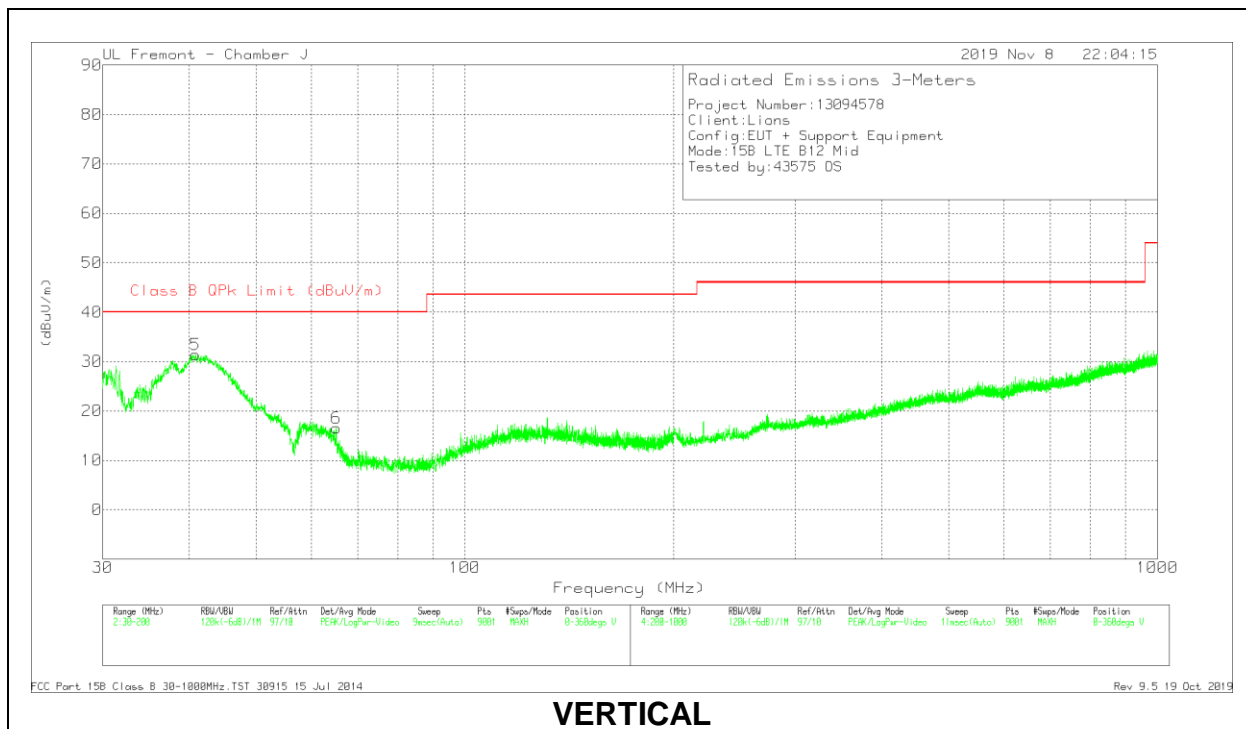
arker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.9556	36.6	Pk	19.5	-31.5	24.6	40	-15.4	0-360	398	H
2	56.7846	38.55	Pk	13.3	-31.4	20.45	40	-19.55	0-360	398	H
3	132.0195	30.81	Pk	19.5	-30.8	19.51	43.52	-24.01	0-360	299	H
4	40.6345	42.99	Pk	19.8	-31.5	31.29	40	-8.71	0-360	101	V
5	58.8624	36.07	Pk	13.6	-31.3	18.37	40	-21.63	0-360	101	V
6	172.1397	30.68	Pk	17.7	-30.6	17.78	43.52	-25.74	0-360	101	V

Pk - Peak detector

**MID CHANNEL**



**HORIZONTAL**



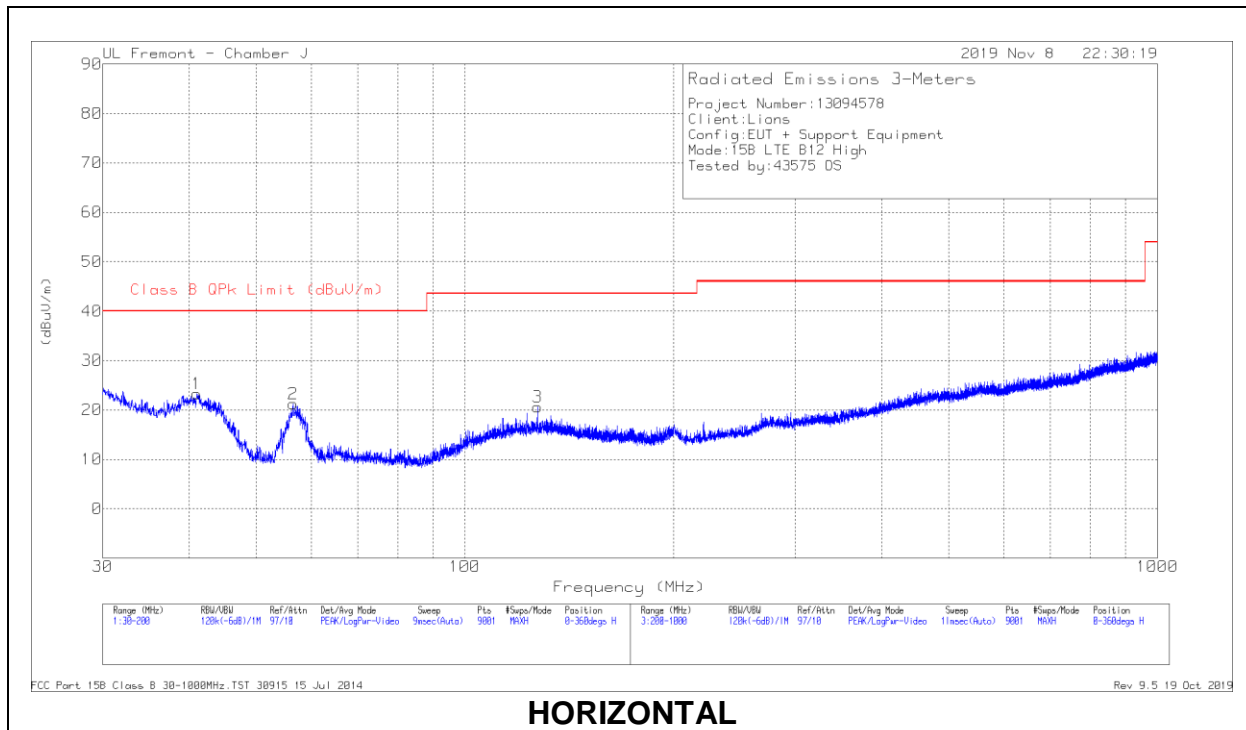
**VERTICAL**

**RADIATED EMISSIONS**

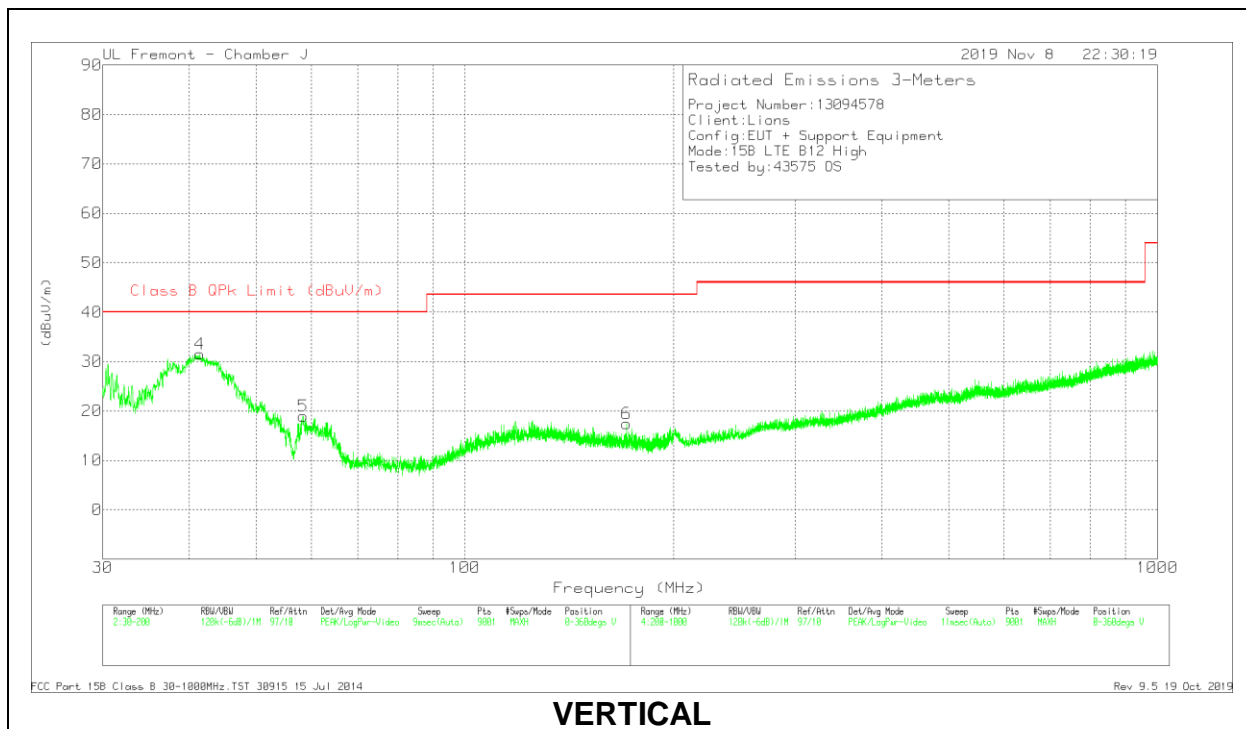
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.5023	35.51	Pk	19.8	-31.5	23.81	40	-16.19	0-360	398	H
2	56.709	38.6	Pk	13.3	-31.4	20.5	40	-19.5	0-360	398	H
3	171.8564	35.88	Pk	17.7	-30.6	22.98	43.52	-20.54	0-360	198	H
5	40.8045	43.25	Pk	19.6	-31.5	31.35	40	-8.65	0-360	101	V
6	65.1902	33.64	Pk	14.1	-31.2	16.54	40	-23.46	0-360	101	V
4	220.8	37.1	Pk	16.5	-30.4	23.2	46.02	-22.82	0-360	198	H

Pk - Peak detector

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

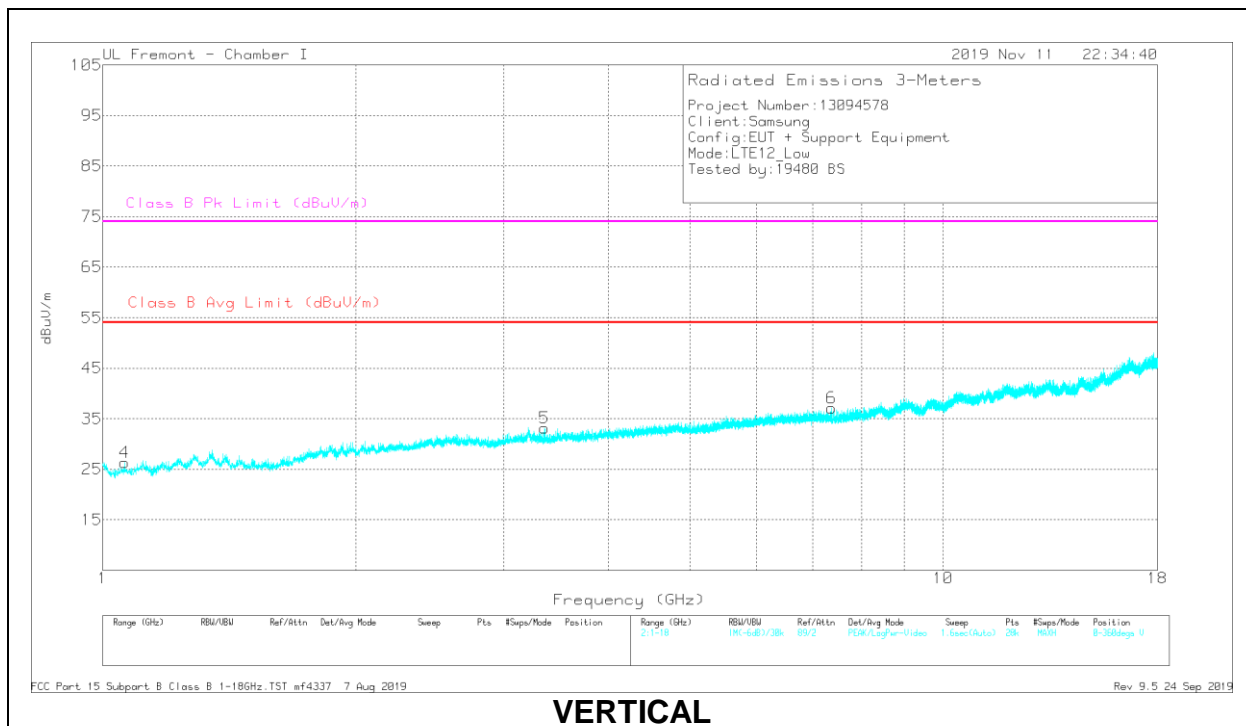
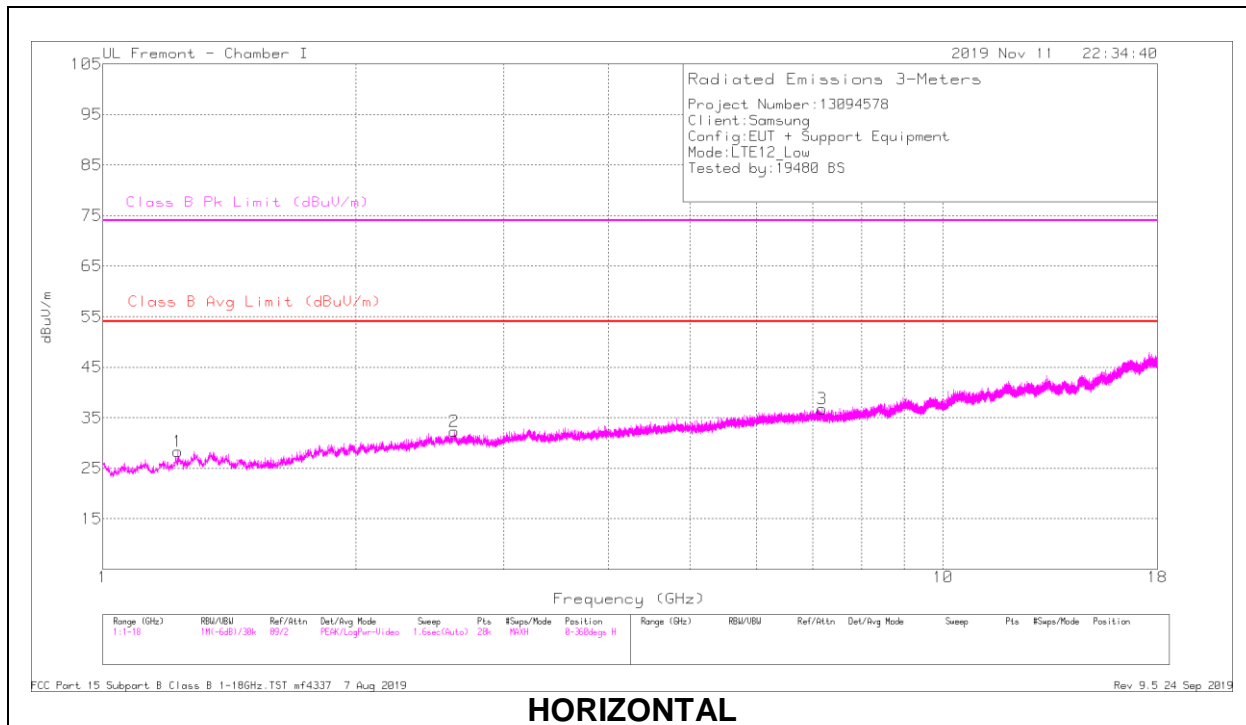
**RADIATED EMISSIONS**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	41.0123	35.21	Pk	19.5	-31.5	23.21	40	-16.79	0-360	298	H
2	56.5202	39.28	Pk	13.3	-31.4	21.18	40	-18.82	0-360	398	H
3	127.4295	31.89	Pk	19.6	-30.9	20.59	43.52	-22.93	0-360	199	H
4	41.409	43.86	Pk	19.2	-31.5	31.56	40	-8.44	0-360	101	V
5	58.3713	36.73	Pk	13.5	-31.3	18.93	40	-21.07	0-360	101	V
6	171.2897	30.3	Pk	17.7	-30.6	17.4	43.52	-26.12	0-360	101	V

Pk - Peak detector

10.2.2. ABOVE 1GHz

**LOW CHANNEL**

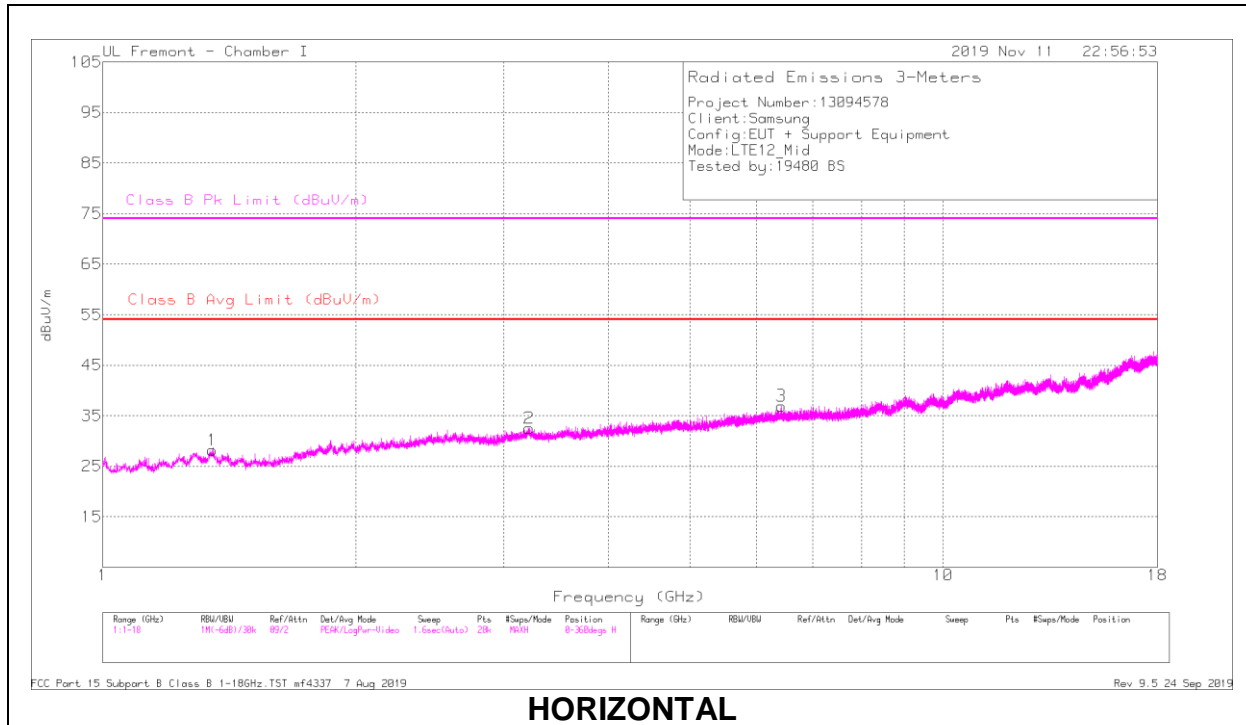


**RADIATED EMISSIONS**

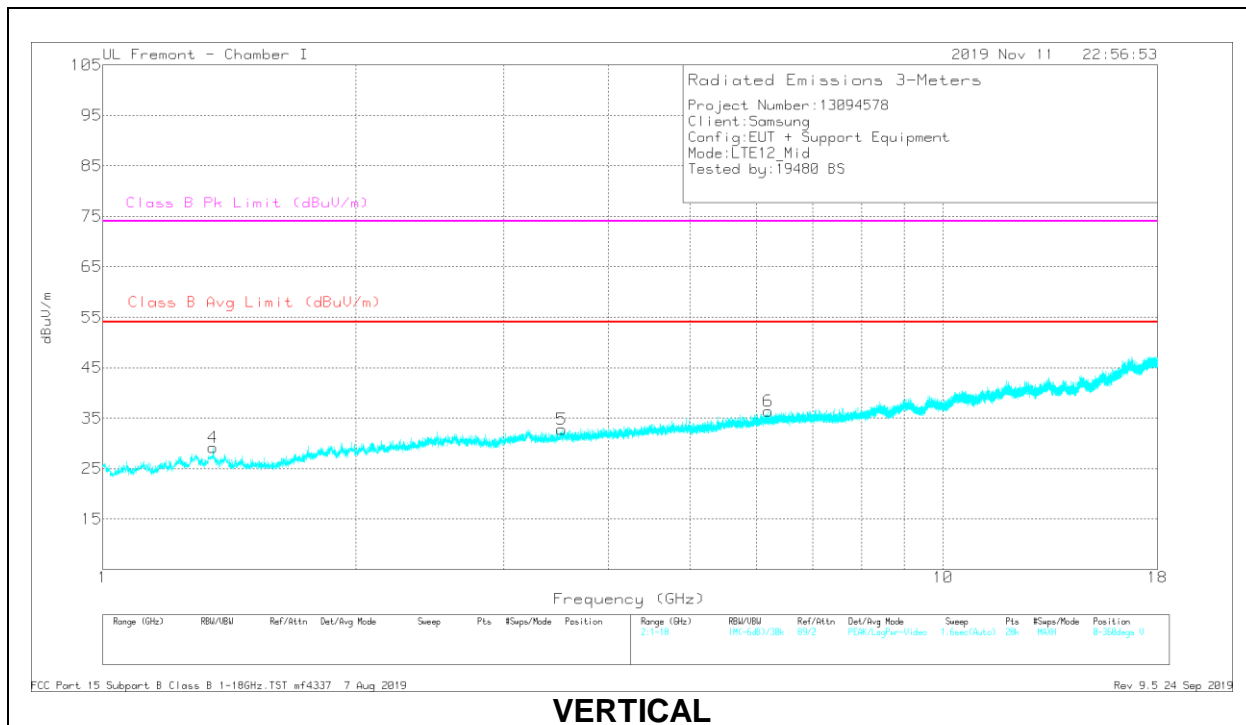
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.23096	40.76	Pk	28.8	-32.5	37.06	-	-	74	-36.94	61	130	H
	1.23096	27.33	Av	28.8	-32.5	23.63	54	-30.37	-	-	61	130	H
2	2.62053	38.97	Pk	32.5	-29.7	41.77	-	-	74	-32.23	288	213	H
	2.62053	25	Av	32.5	-29.7	27.8	54	-26.2	-	-	288	213	H
3	7.17716	34.52	Pk	35.7	-24.5	45.72	-	-	74	-28.28	339	171	H
	7.17716	21.17	Av	35.7	-24.5	32.37	54	-21.63	-	-	339	171	H
4	1.06314	41.17	Pk	27.1	-32.9	35.37	-	-	74	-38.63	215	160	V
	1.06314	27.99	Av	27.1	-32.9	22.19	54	-31.81	-	-	215	160	V
5	3.35503	37.64	Pk	32.6	-29.2	41.04	-	-	74	-32.96	267	293	V
	3.35503	24.14	Av	32.6	-29.2	27.54	54	-26.46	-	-	267	293	V
6	7.36763	34.17	Pk	35.6	-24.2	45.57	-	-	74	-28.43	121	114	V
	7.36763	20.52	Av	35.6	-24.2	31.92	54	-22.08	-	-	121	114	V

Pk - Peak detector  
 Av - Average detection

**MID CHANNEL**



**HORIZONTAL**



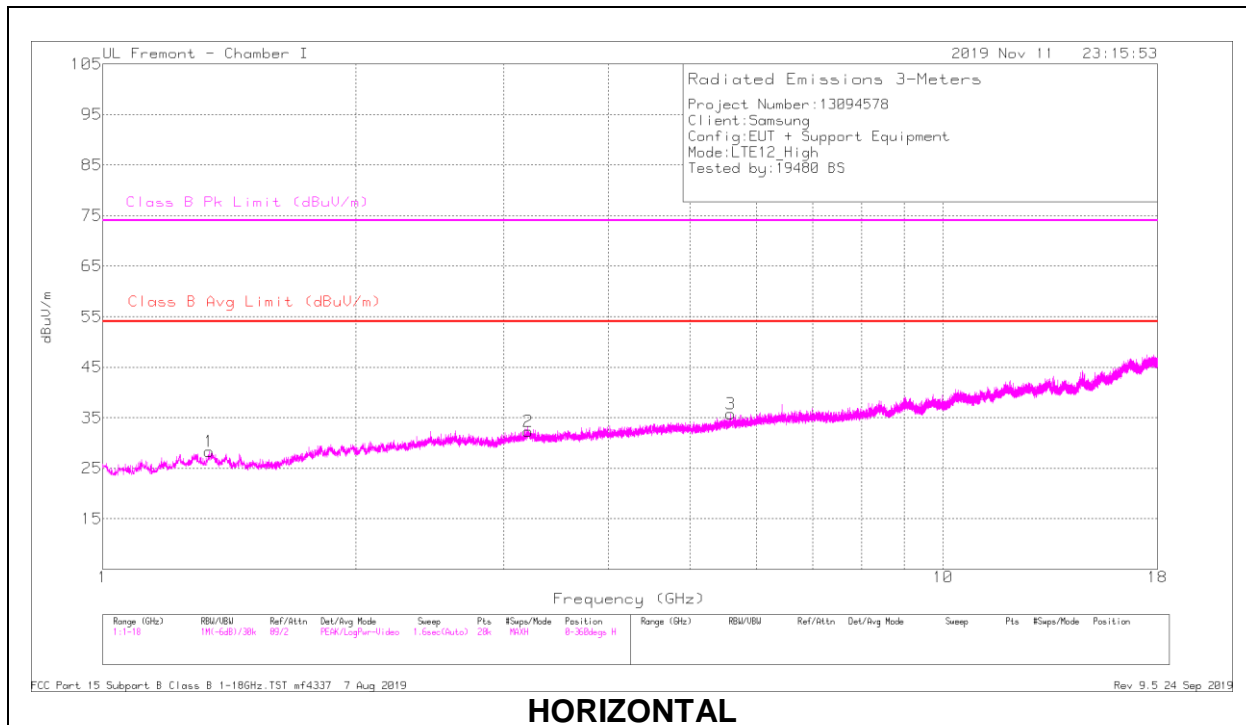
**VERTICAL**

**RADIATED EMISSIONS**

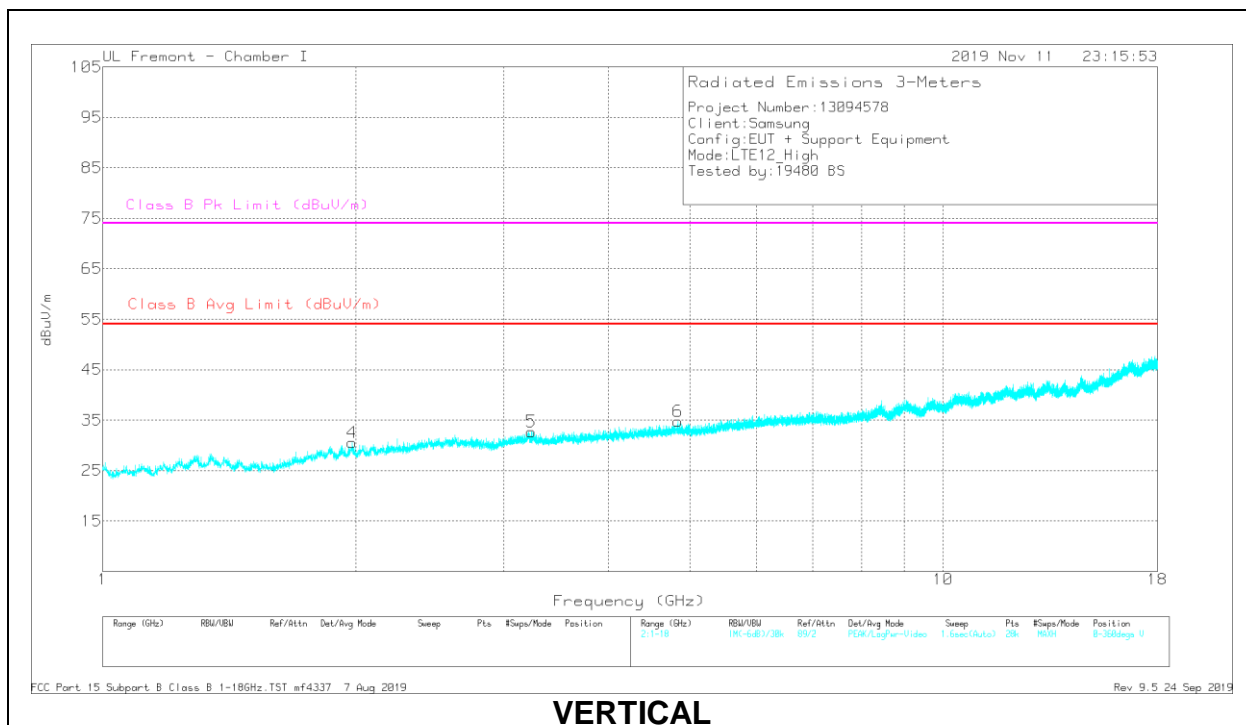
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.351	40.19	Pk	29.7	-32.3	37.59	-	-	74	-36.41	197	198	H
	1.351	26.95	Av	29.7	-32.3	24.35	54	-29.65	-	-	197	198	H
2	3.2175	37.92	Pk	33.4	-28.9	42.42	-	-	74	-31.58	138	227	H
	3.2175	23.91	Av	33.4	-28.9	28.41	54	-25.59	-	-	138	227	H
3	6.42264	35.07	Pk	35.6	-25.4	45.27	-	-	74	-28.73	303	132	H
	6.42264	21.5	Av	35.6	-25.4	31.7	54	-22.3	-	-	303	132	H
4	1.3546	39.84	Pk	29.7	-32.3	37.24	-	-	74	-36.76	13	182	V
	1.3546	26.71	Av	29.7	-32.3	24.11	54	-29.89	-	-	13	182	V
5	3.51843	37.33	Pk	32.8	-28.6	41.53	-	-	74	-32.47	255	313	V
	3.51843	23.68	Av	32.8	-28.6	27.88	54	-26.12	-	-	256	313	V
6	6.19896	35.6	Pk	35.5	-25.9	45.2	-	-	74	-28.8	106	223	V
	6.19896	21.81	Av	35.5	-25.9	31.41	54	-22.59	-	-	106	223	V

Pk - Peak detector  
 Av - Average detection

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

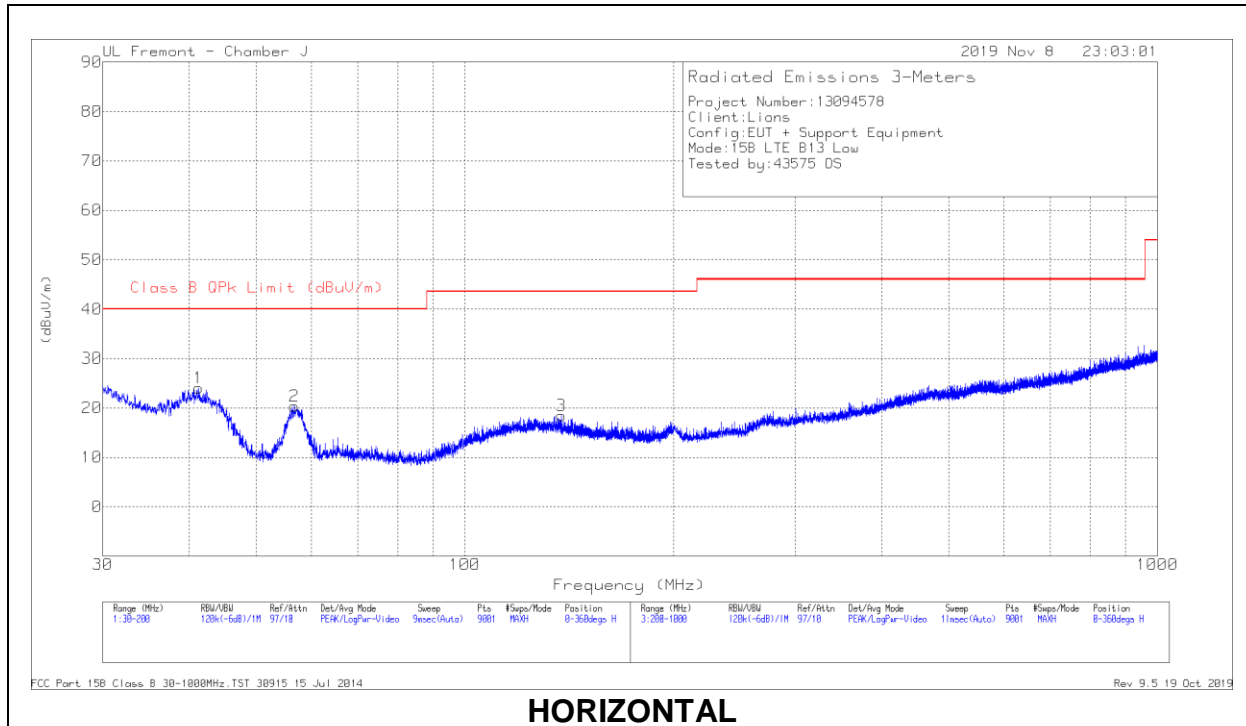
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.33861	40.43	Pk	29.5	-32.3	37.63	-	-	74	-36.37	21	180	H
	1.33861	27.03	Av	29.5	-32.3	24.23	54	-29.77	-	-	21	180	H
2	3.21046	37.75	Pk	33.6	-28.9	42.45	-	-	74	-31.55	224	339	H
	3.21046	24.03	Av	33.6	-28.9	28.73	54	-25.27	-	-	224	339	H
3	5.58877	35.46	Pk	35.2	-26.7	43.96	-	-	74	-30.04	33	160	H
	5.58877	22.32	Av	35.2	-26.7	30.82	54	-23.18	-	-	33	160	H
4	1.9786	40.33	Pk	31	-31	40.33	-	-	74	-33.67	172	102	V
	1.9786	26.01	Av	31	-31	26.01	54	-27.99	-	-	172	102	V
5	3.23567	37.44	Pk	33	-29.1	41.34	-	-	74	-32.66	223	201	V
	3.23567	23.93	Av	33	-29.1	27.83	54	-26.17	-	-	223	201	V
6	4.83771	36.55	Pk	34.1	-26.9	43.75	-	-	74	-30.25	356	176	V
	4.83771	22.49	Av	34.1	-26.9	29.69	54	-24.31	-	-	356	176	V

Pk - Peak detector  
 Av - Average detection

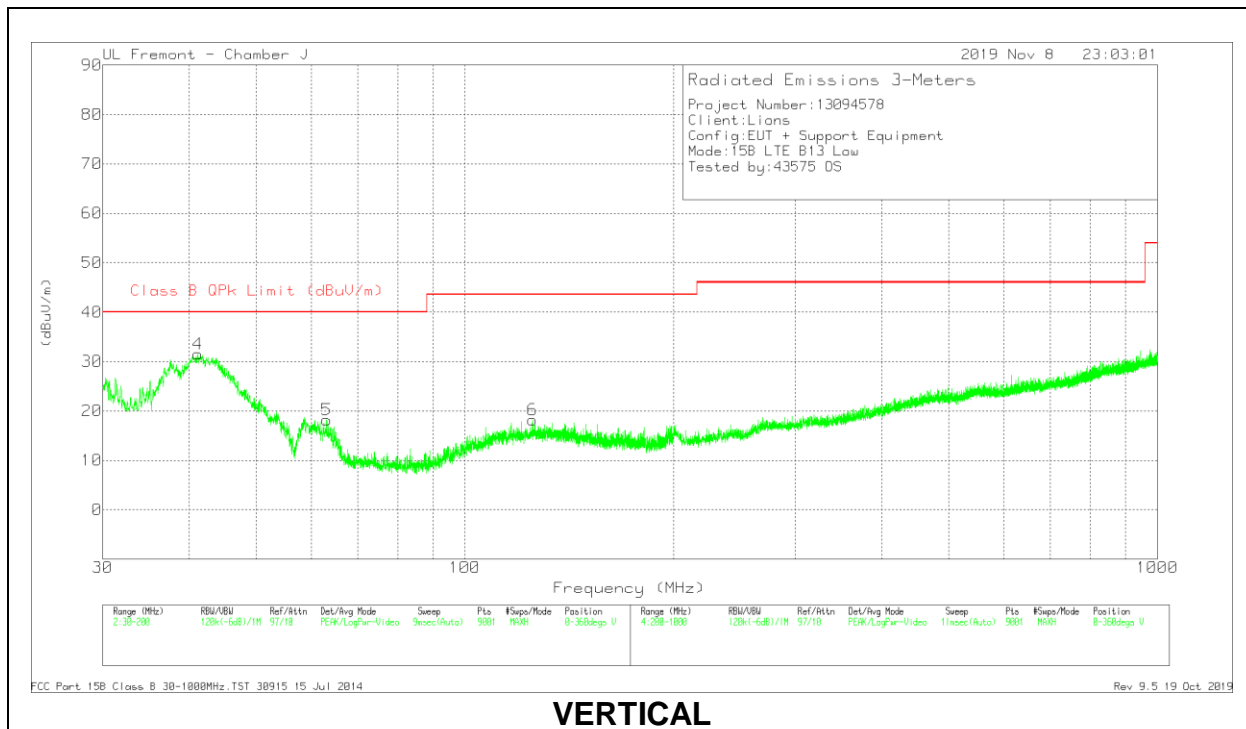
### 10.3. LTE Band 13

#### 10.3.1. BELOW 1GHz

#### LOW CHANNEL



**HORIZONTAL**



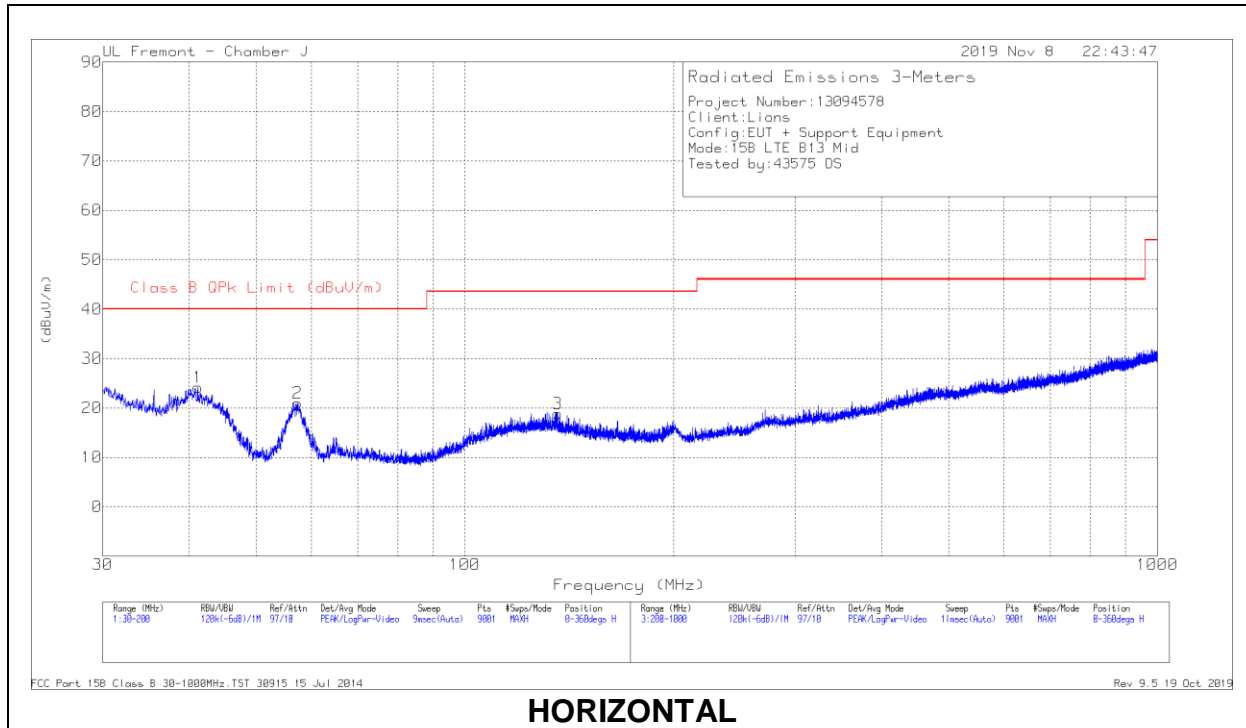
**VERTICAL**

**RADIATED EMISSIONS**

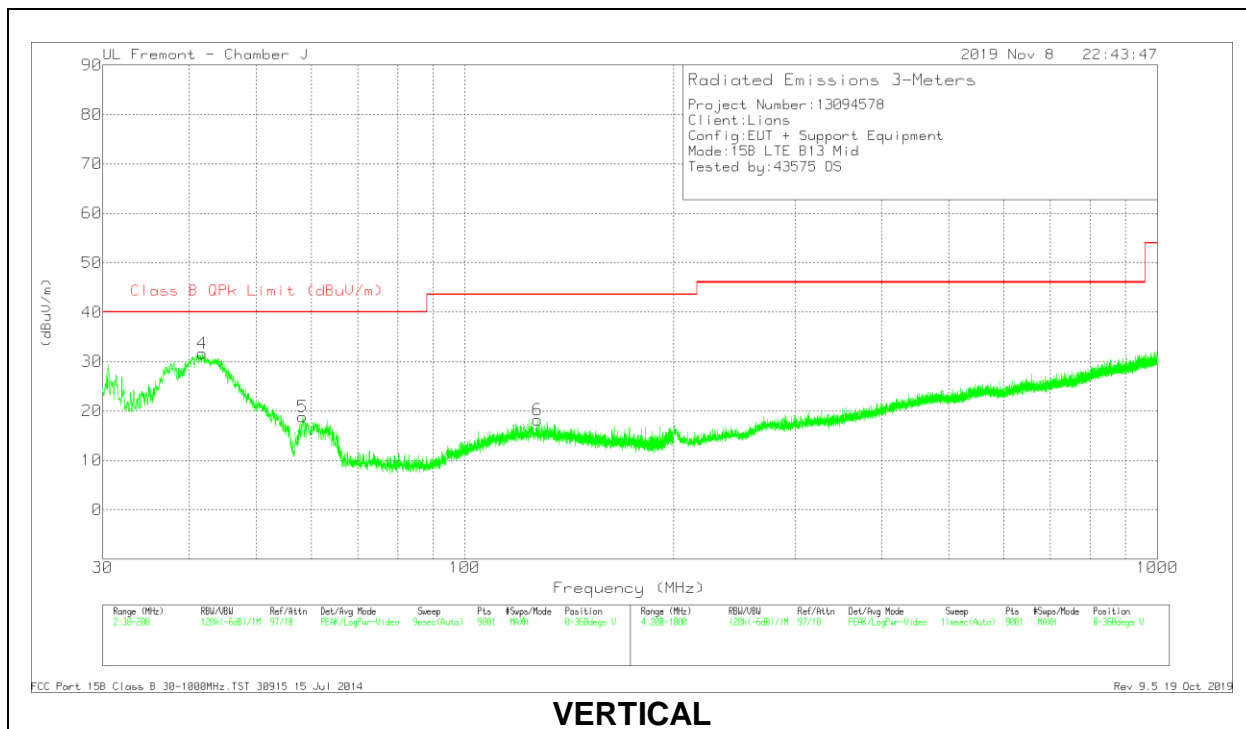
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	41.2767	36.21	Pk	19.3	-31.5	24.01	40	-15.99	0-360	398	H
2	56.7279	38.49	Pk	13.3	-31.4	20.39	40	-19.61	0-360	398	H
3	137.8184	29.94	Pk	19.3	-30.8	18.44	43.52	-25.08	0-360	198	H
4	41.1445	43.67	Pk	19.4	-31.5	31.57	40	-8.43	0-360	101	V
5	63.1691	35.45	Pk	14	-31.3	18.15	40	-21.85	0-360	101	V
6	125.1817	29.54	Pk	19.6	-30.9	18.24	43.52	-25.28	0-360	101	V

Pk - Peak detector

**MID CHANNEL**



**HORIZONTAL**



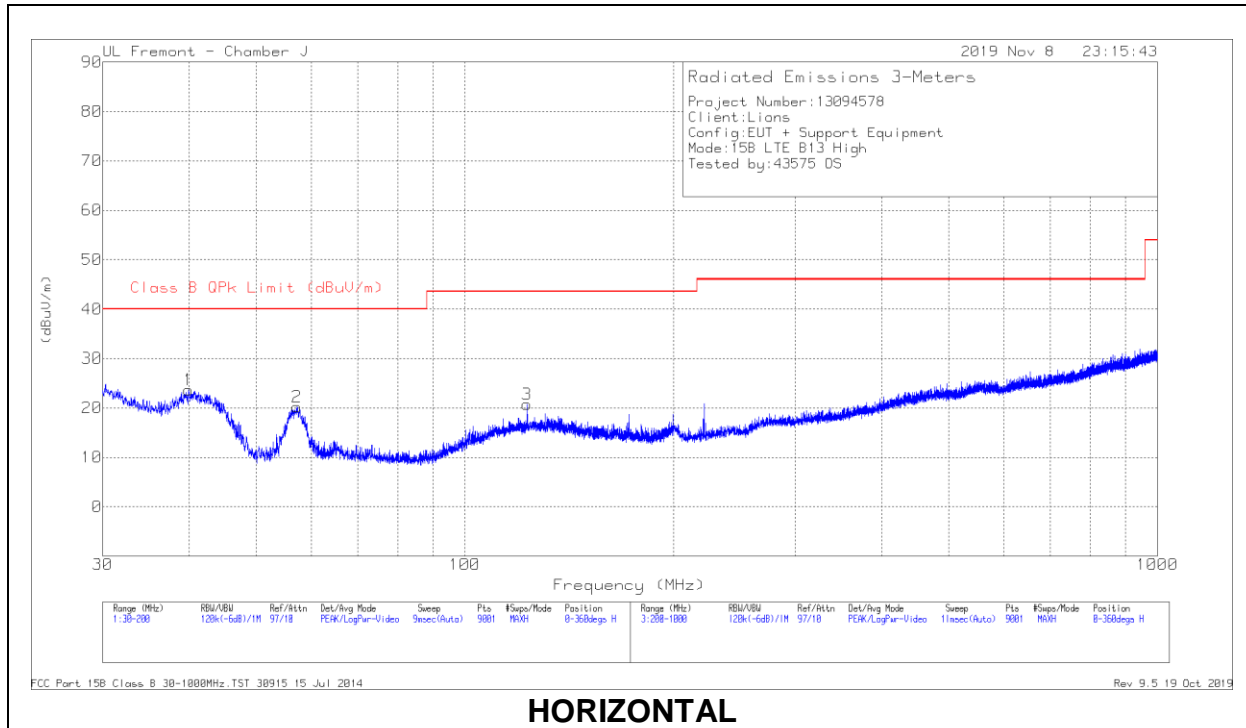
**VERTICAL**

**RADIATED EMISSIONS**

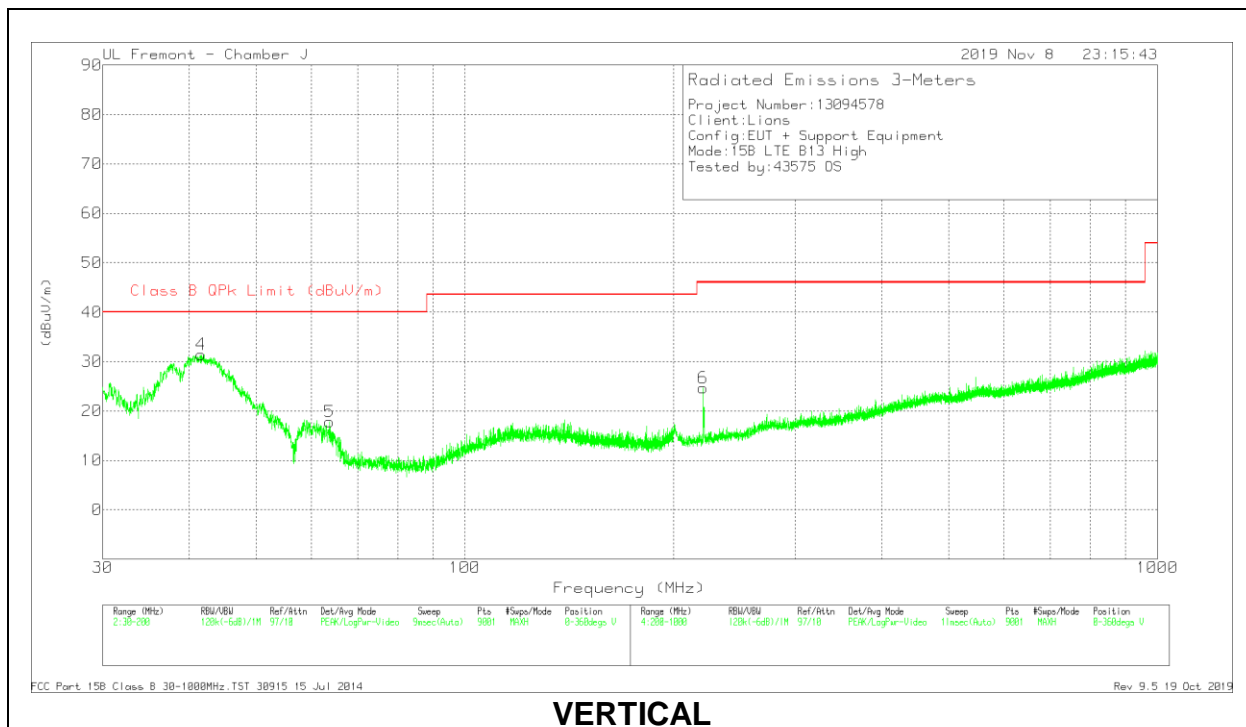
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	41.1445	36.2	Pk	19.4	-31.5	24.1	40	-15.9	0-360	298	H
2	57.3891	38.95	Pk	13.3	-31.3	20.95	40	-19.05	0-360	398	H
3	136.0051	30.32	Pk	19.3	-30.8	18.82	43.52	-24.7	0-360	199	H
4	41.7867	44.25	Pk	18.9	-31.5	31.65	40	-8.35	0-360	101	V
5	58.2957	36.57	Pk	13.5	-31.3	18.77	40	-21.23	0-360	101	V
6	127.3161	29.54	Pk	19.6	-30.9	18.24	43.52	-25.28	0-360	101	V

Pk - Peak detector

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

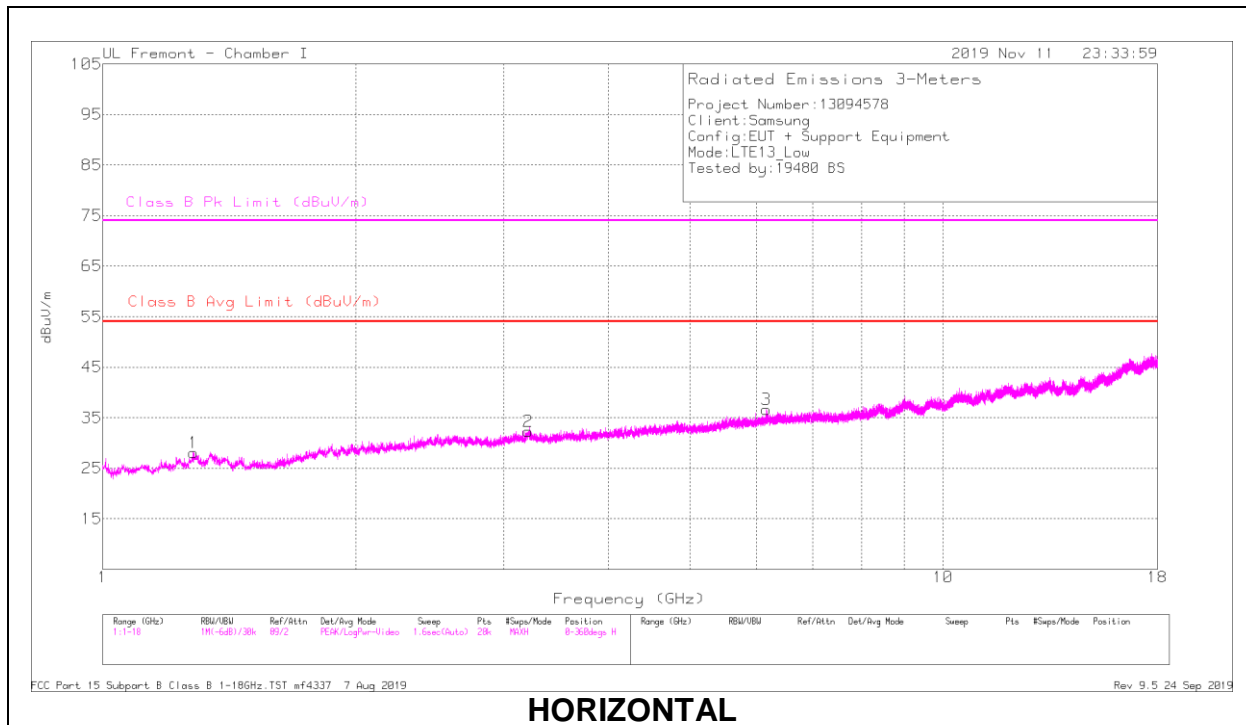
**RADIATED EMISSIONS**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	39.8789	34.86	Pk	20.3	-31.5	23.66	40	-16.34	0-360	299	H
2	57.2002	38.18	Pk	13.3	-31.3	20.18	40	-19.82	0-360	398	H
3	122.8961	32.01	Pk	19.6	-30.9	20.71	43.52	-22.81	0-360	98	H
4	41.6167	43.95	Pk	19	-31.5	31.45	40	-8.55	0-360	101	V
5	63.7924	35.14	Pk	14	-31.3	17.84	40	-22.16	0-360	101	V
6	220.7556	38.57	Pk	16.5	-30.4	24.67	46.02	-21.35	0-360	199	V

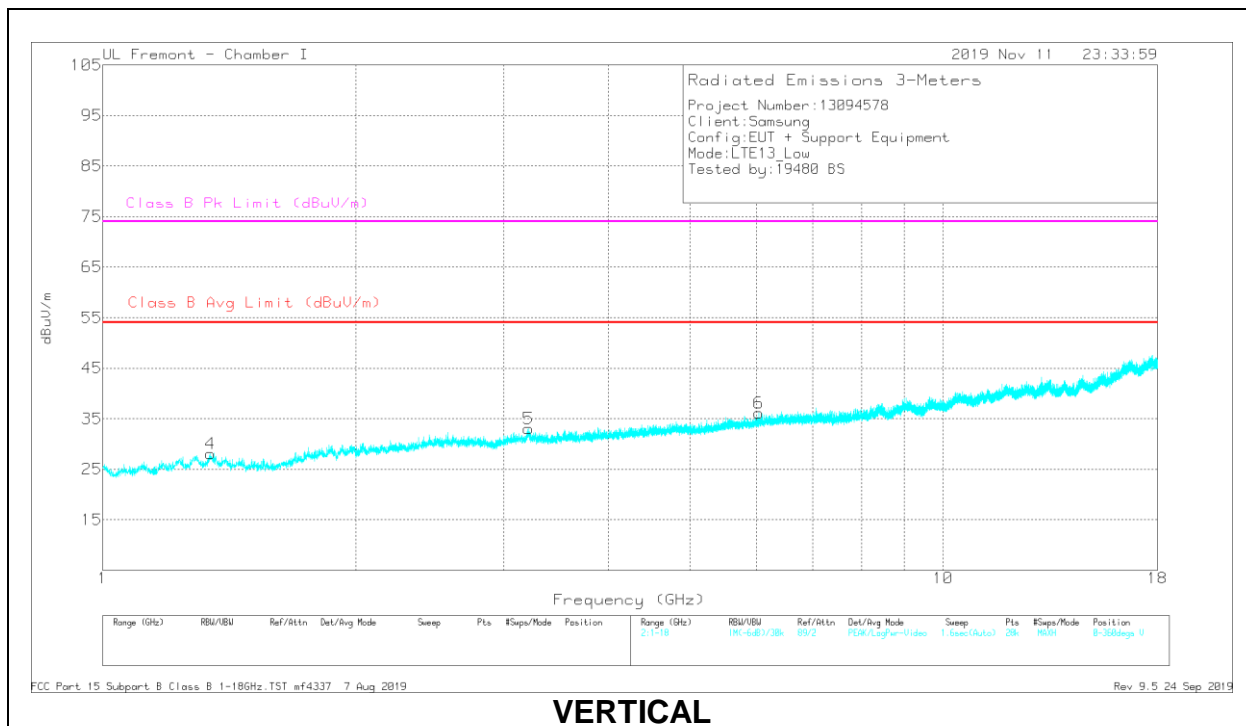
Pk - Peak detector

10.3.2. ABOVE 1GHz

**LOW CHANNEL**



**HORIZONTAL**



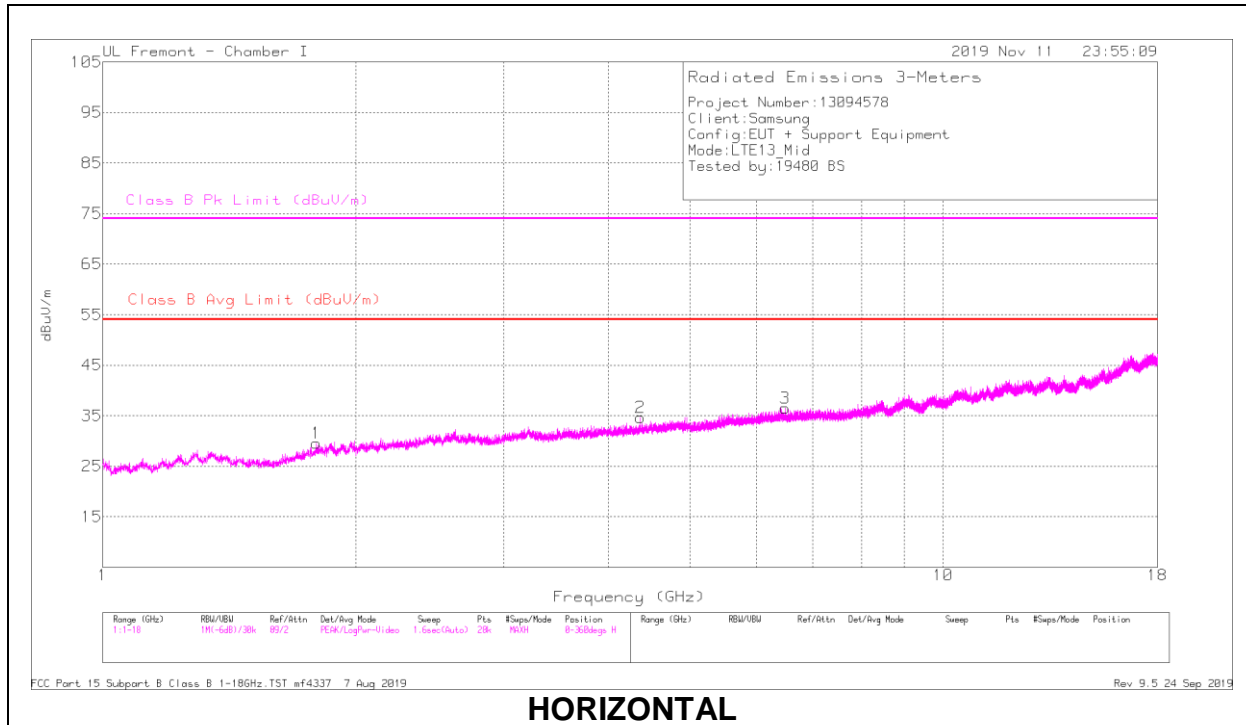
**VERTICAL**

**RADIATED EMISSIONS**

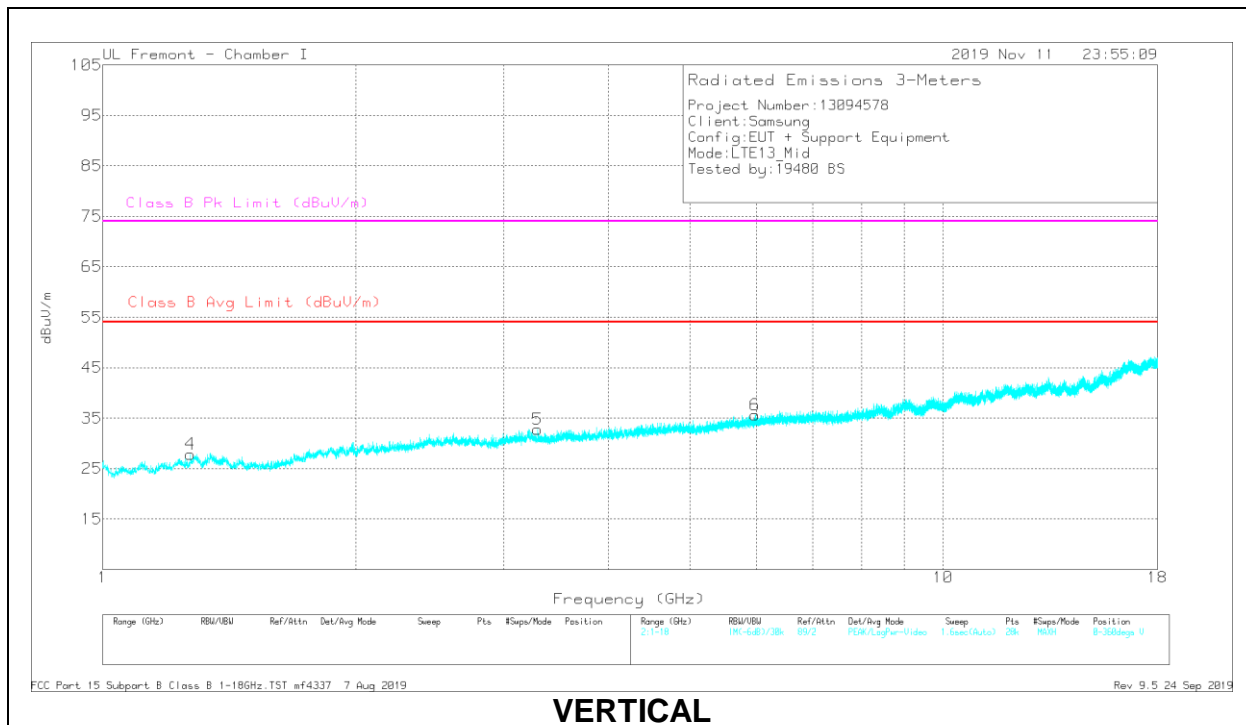
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.28163	41	Pk	29.3	-32.4	37.9	-	-	74	-36.1	295	198	H
	1.28163	26.95	Av	29.3	-32.4	23.85	54	-30.15	-	-	295	198	H
2	3.20978	37.7	Pk	33.6	-29	42.3	-	-	74	-31.7	336	102	H
	3.20978	24.29	Av	33.6	-29	28.89	54	-25.11	-	-	336	102	H
3	6.16699	34.63	Pk	35.6	-25.7	44.53	-	-	74	-29.47	320	253	H
	6.16699	21.41	Av	35.6	-25.7	31.31	54	-22.69	-	-	320	253	H
4	1.34444	40.69	Pk	29.5	-32.3	37.89	-	-	74	-36.11	173	114	V
	1.34444	27.17	Av	29.5	-32.3	24.37	54	-29.63	-	-	173	114	V
5	3.21119	37.7	Pk	33.6	-28.9	42.4	-	-	74	-31.6	246	296	V
	3.21119	24.06	Av	33.6	-28.9	28.76	54	-25.24	-	-	246	296	V
6	6.0327	35.3	Pk	35.3	-26.1	44.5	-	-	74	-29.5	59	201	V
	6.0327	21.95	Av	35.3	-26.1	31.15	54	-22.85	-	-	59	201	V

Pk - Peak detector  
 Av - Average detection

**MID CHANNEL**



**HORIZONTAL**



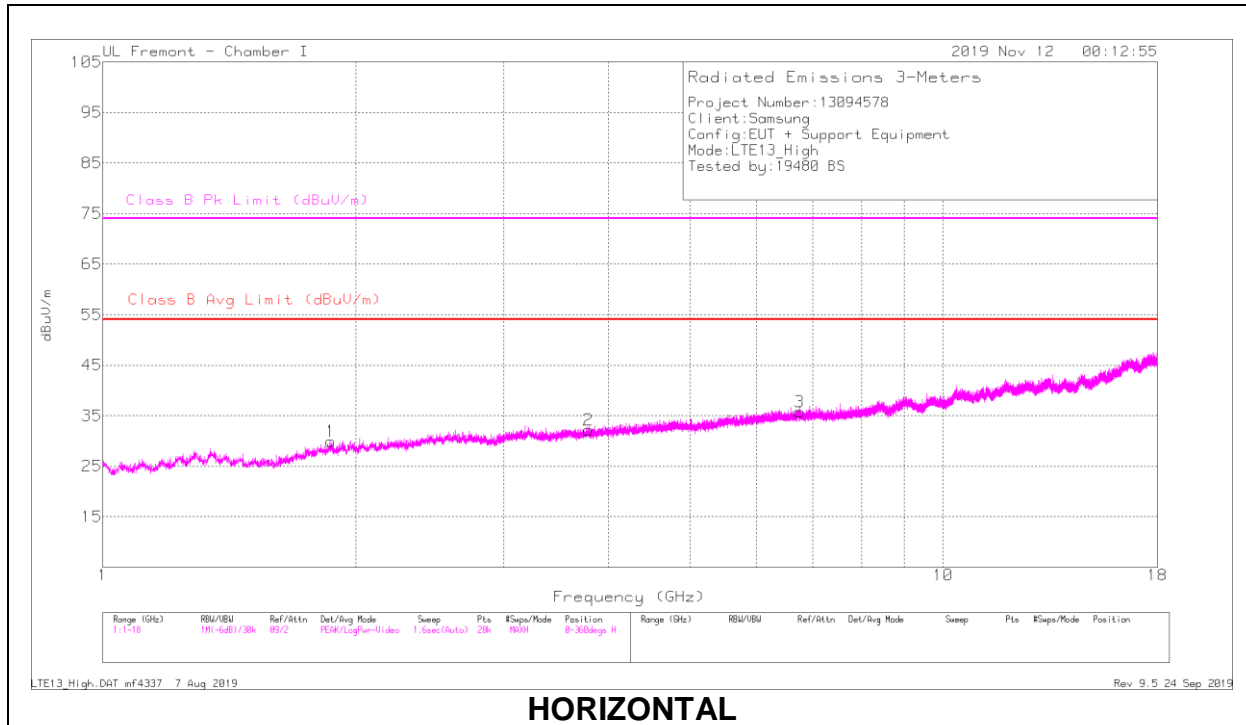
**VERTICAL**

**RADIATED EMISSIONS**

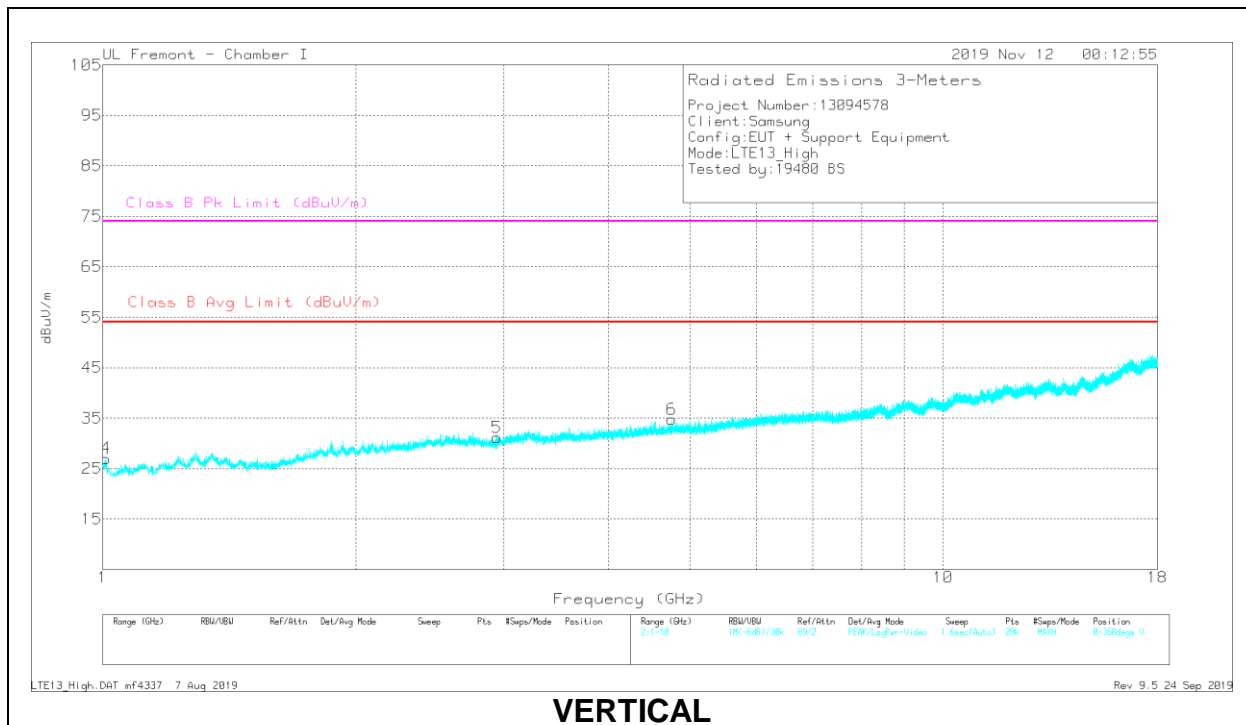
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.79567	39.37	Pk	30.4	-31.5	38.27	-	-	74	-35.73	6	153	H
	1.79567	25.74	Av	30.4	-31.5	24.64	54	-29.36	-	-	6	153	H
2	4.36162	37.06	Pk	33.6	-27.6	43.06	-	-	74	-30.94	187	191	H
	4.36162	23.25	Av	33.6	-27.6	29.25	54	-24.75	-	-	187	191	H
3	6.49157	35.17	Pk	35.6	-25.5	45.27	-	-	74	-28.73	290	216	H
	6.49157	21.6	Av	35.6	-25.5	31.7	54	-22.3	-	-	290	216	H
4	1.27051	39.74	Pk	29.2	-32.4	36.54	-	-	74	-37.46	124	163	V
	1.27051	26.26	Av	29.2	-32.4	23.06	54	-30.94	-	-	124	163	V
5	3.29671	37.91	Pk	32.7	-29.2	41.41	-	-	74	-32.59	169	103	V
	3.29671	24.33	Av	32.7	-29.2	27.83	54	-26.17	-	-	169	103	V
6	5.97328	35.72	Pk	35.2	-26	44.92	-	-	74	-29.08	86	198	V
	5.97328	22.19	Av	35.2	-26	31.39	54	-22.61	-	-	86	198	V

Pk - Peak detector  
 Av - Average detection

**HIGH CHANNEL**



**HORIZONTAL**



**VERTICAL**

**RADIATED EMISSIONS**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.86901	39.89	Pk	30.8	-31.3	39.39	-	-	74	-34.61	14	103	H
	1.86901	26.25	Av	30.8	-31.3	25.75	54	-28.25	-	-	14	103	H
2	3.7852	37.59	Pk	33	-28.3	42.29	-	-	74	-31.71	349	350	H
	3.7852	23.59	Av	33	-28.3	28.29	54	-25.71	-	-	349	350	H
3	6.74825	34.45	Pk	35.7	-25	45.15	-	-	74	-28.85	229	139	H
	6.74825	20.91	Av	35.7	-25	31.61	54	-22.39	-	-	229	139	H
5	2.94726	38.79	Pk	31.9	-29.7	40.99	-	-	74	-33.01	255	338	V
	2.94726	24.36	Av	31.9	-29.7	26.56	54	-27.44	-	-	255	338	V
6	4.7599	36.26	Pk	34	-27	43.26	-	-	74	-30.74	123	170	V
	4.7599	22.6	Av	34	-27	29.6	54	-24.4	-	-	123	170	V
4	1.00725	41.23	Pk	27.9	-33.1	36.03	-	-	74	-37.97	96	214	V
	1.00725	27.24	Av	27.9	-33.1	22.04	54	-31.96	-	-	96	214	V

Pk - Peak detector  
 Av - Average detection