

3MHz QPSK										3MHz 16QAM									
UL Verification Services, Inc. High Frequency Substitution Measurement										UL Verification Services, Inc. High Frequency Substitution Measurement									
Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 10/19/2023 Test Engineer: 32990 JS Configuration: EUT Only Location: 03-RDE-A Mode: LTE_QPSK Band 66 Fundamentals, 3MHz Bandwidth										Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 10/19/2023 Test Engineer: 32990 JS Configuration: EUT Only Location: 03-RDE-A Mode: LTE_16QAM Band 66 Fundamentals, 3MHz Bandwidth									
Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables										Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch										Low Ch									
1711.50	19.40	V	6.3	5.6	18.73	30.0	-11.3			1711.50	19.15	V	6.3	5.6	18.48	30.0	-11.5		
1711.50	17.39	H	6.3	5.6	16.72	30.0	-13.3			1711.50	17.24	H	6.3	5.6	16.57	30.0	-13.4		
Mid Ch										Mid Ch									
1745.00	21.66	V	6.3	5.3	20.63	30.0	-9.4			1745.00	21.35	V	6.3	5.3	20.32	30.0	-9.7		
1745.00	19.38	H	6.3	5.3	18.35	30.0	-11.6			1745.00	19.02	H	6.3	5.3	17.99	30.0	-12.0		
High Ch										High Ch									
1778.50	21.49	V	6.4	5.1	20.20	30.0	-9.8			1778.50	20.99	V	6.4	5.1	19.70	30.0	-10.3		
1778.50	18.59	H	6.4	5.1	17.30	30.0	-12.7			1778.50	17.76	H	6.4	5.1	16.47	30.0	-13.5		
1.4MHz QPSK										1.4MHz 16QAM									
UL Verification Services, Inc. High Frequency Substitution Measurement										UL Verification Services, Inc. High Frequency Substitution Measurement									
Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 10/19/2023 Test Engineer: 32990 JS Configuration: EUT Only Location: 03-RDE-A Mode: LTE_QPSK Band 66 Fundamentals, 1.4MHz Bandwidth										Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 10/19/2023 Test Engineer: 32990 JS Configuration: EUT Only Location: 03-RDE-A Mode: LTE_16QAM Band 66 Fundamentals, 1.4MHz Bandwidth									
Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables										Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch										Low Ch									
1710.70	18.94	V	6.2	5.6	18.28	30.0	-11.7			1710.70	18.49	V	6.2	5.6	17.83	30.0	-12.2		
1710.70	18.03	H	6.2	5.6	17.37	30.0	-12.6			1710.70	17.92	H	6.2	5.6	17.26	30.0	-12.7		
Mid Ch										Mid Ch									
1745.00	21.22	V	6.3	5.3	20.19	30.0	-9.8			1745.00	21.11	V	6.3	5.3	20.08	30.0	-9.9		
1745.00	18.49	H	6.3	5.3	17.46	30.0	-12.5			1745.00	18.31	H	6.3	5.3	17.28	30.0	-12.7		
High Ch										High Ch									
1779.30	20.85	V	6.4	5.1	19.56	30.0	-10.4			1779.30	20.41	V	6.4	5.1	19.12	30.0	-10.9		
1779.30	17.60	H	6.4	5.1	16.31	30.0	-13.7			1779.30	17.09	H	6.4	5.1	15.80	30.0	-14.2		

10.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

LIMIT

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/r02

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

RESULTS

10.2.1. GSM 850

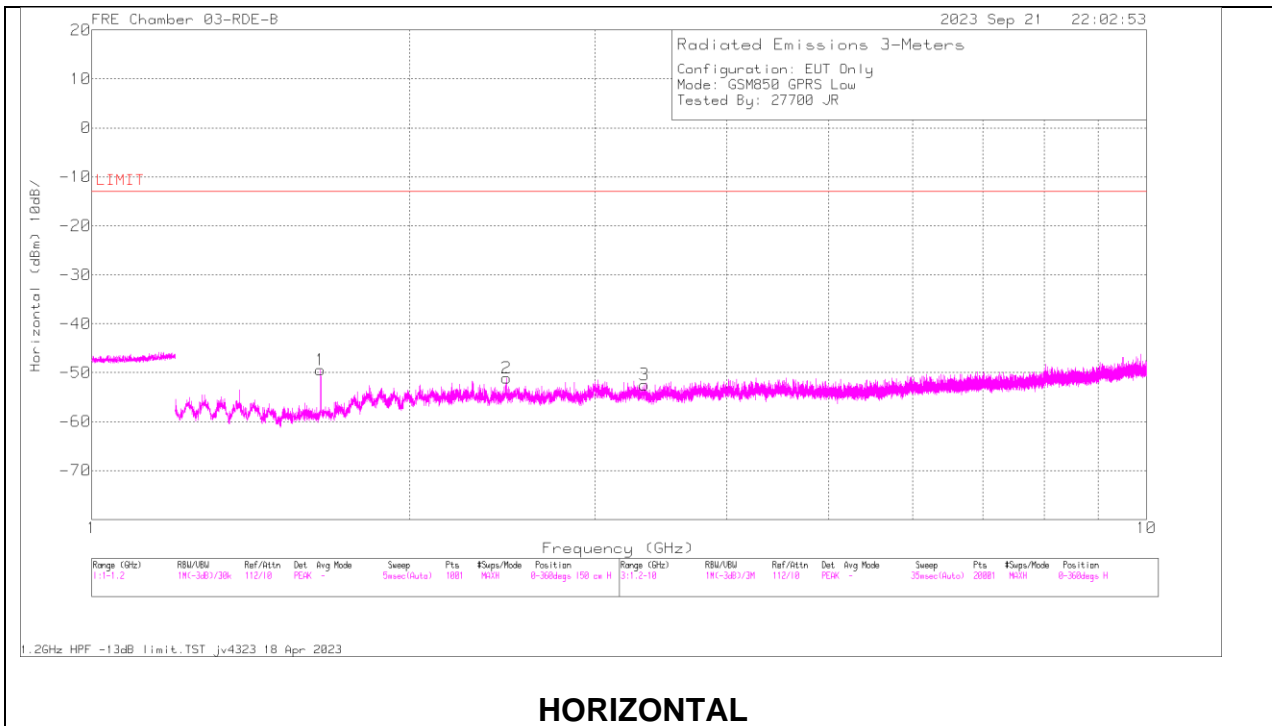
LIMITS

FCC: §22.917(a)

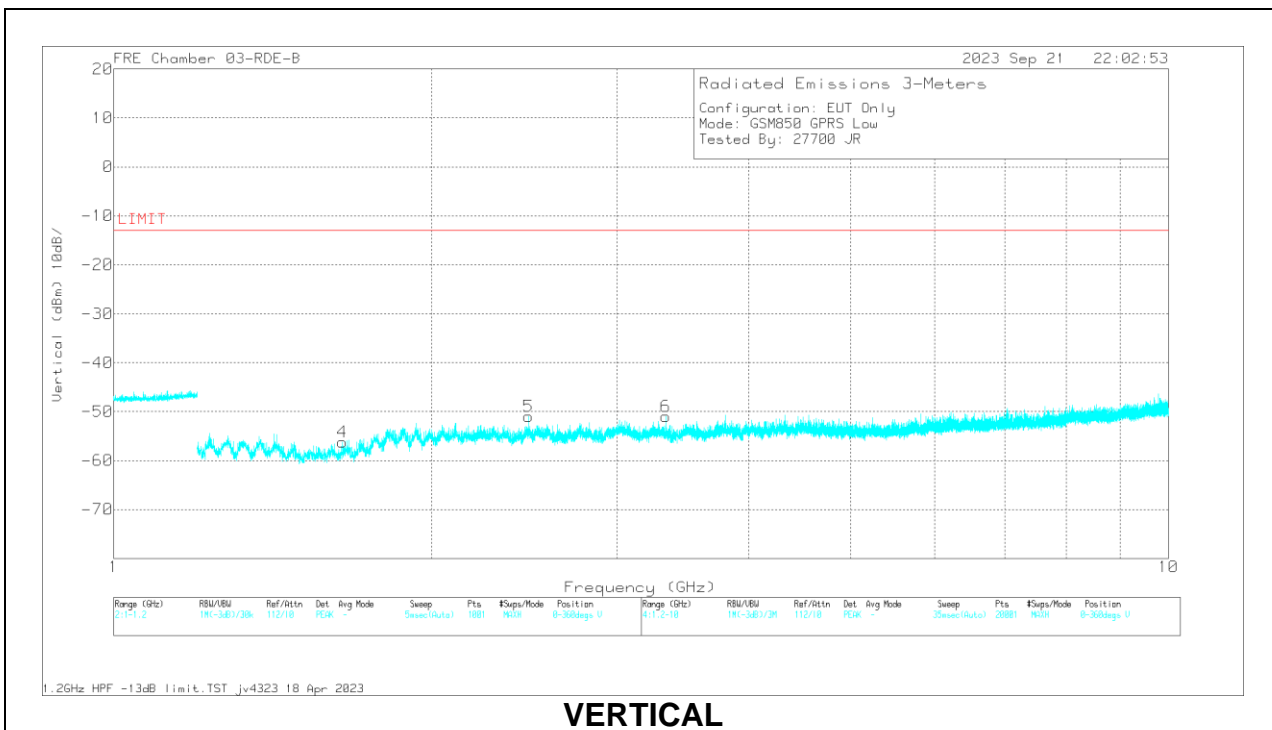
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

GPRS MODE

LOW CHANNEL RESULTS

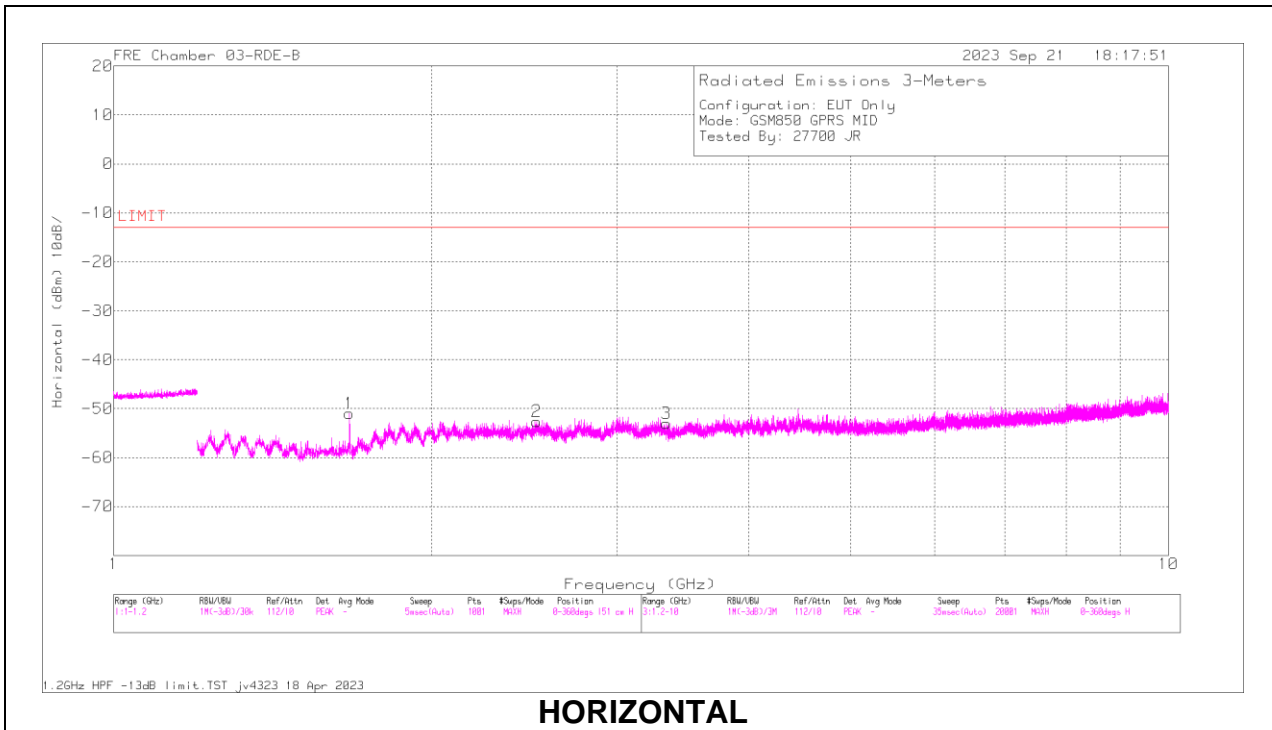


HORIZONTAL

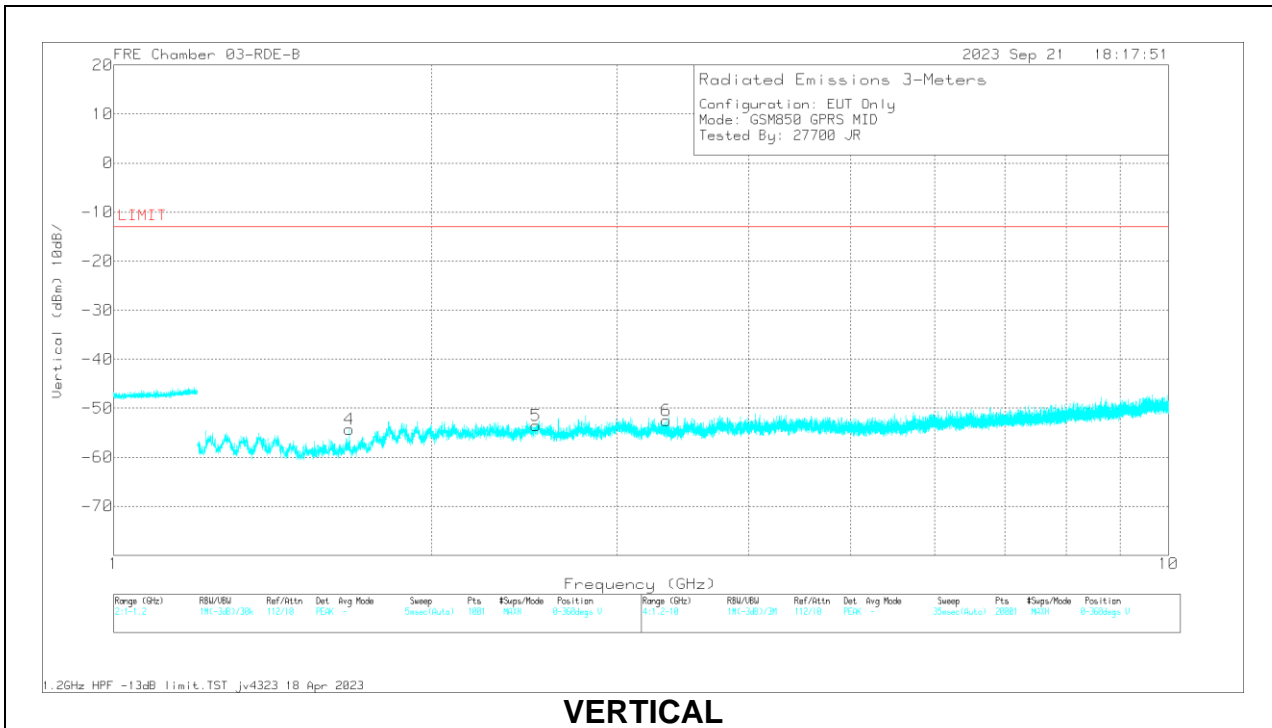


VERTICAL

MID CHANNEL RESULTS

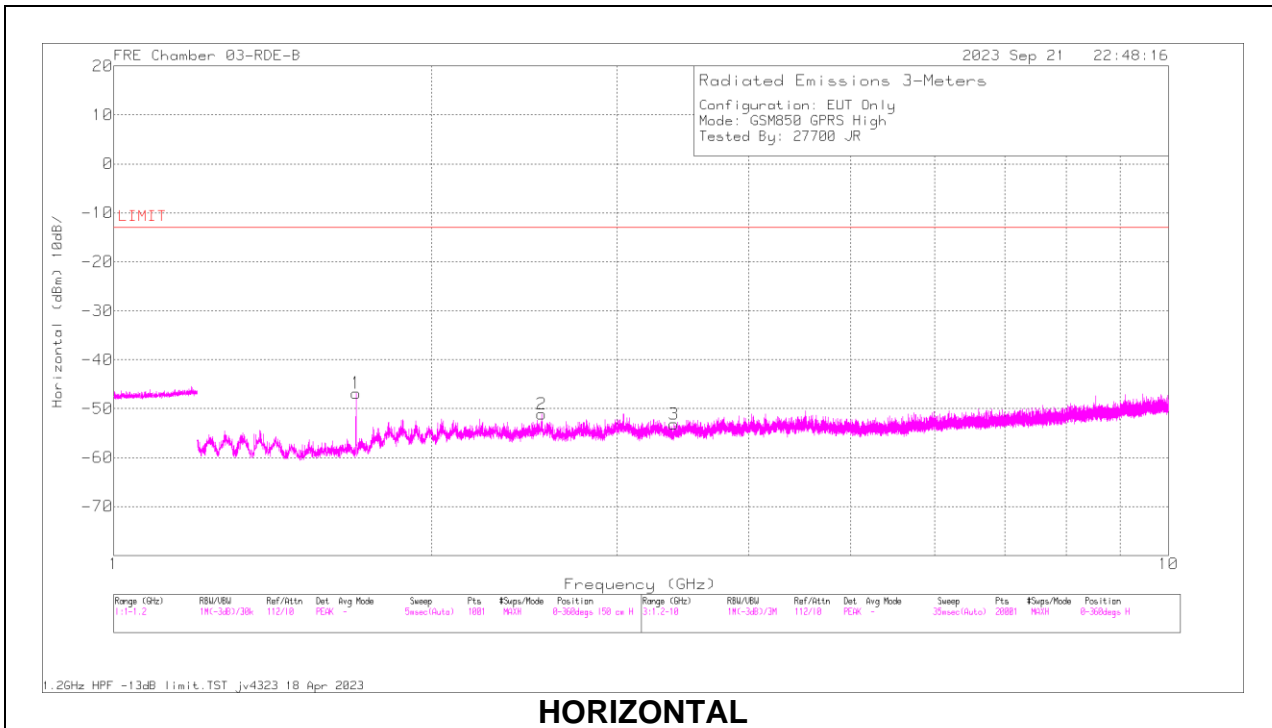


HORIZONTAL

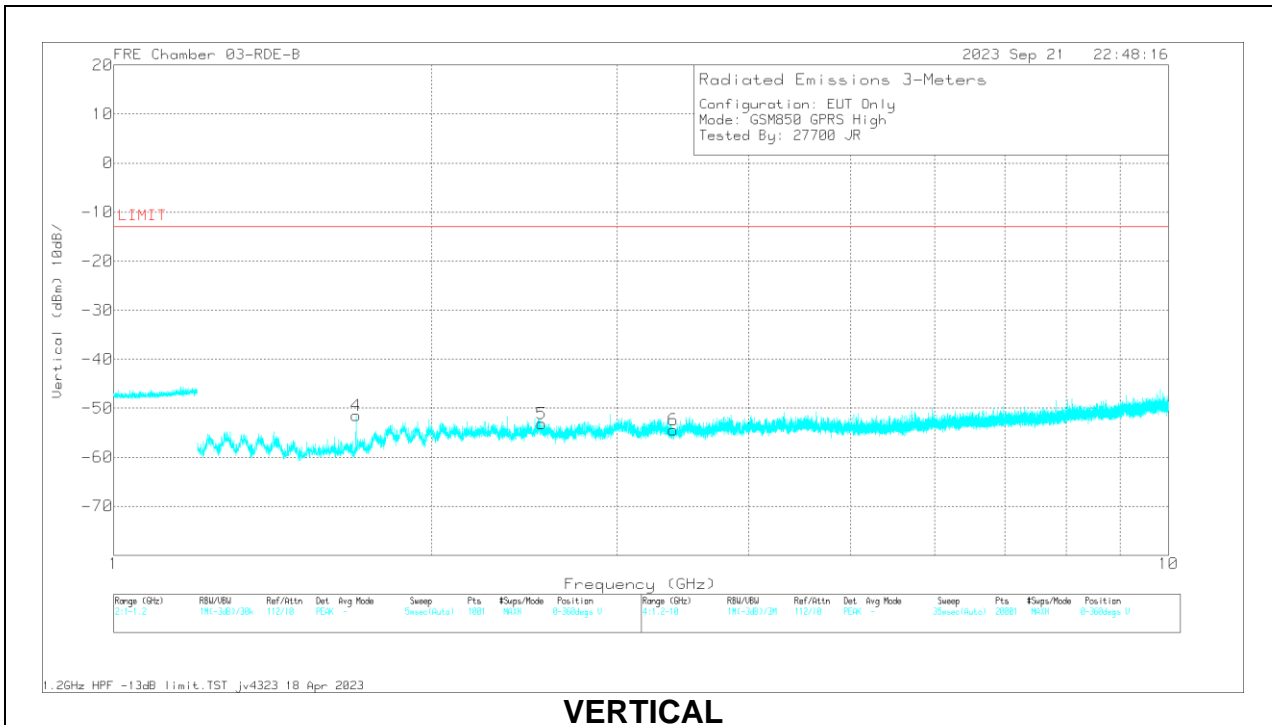


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

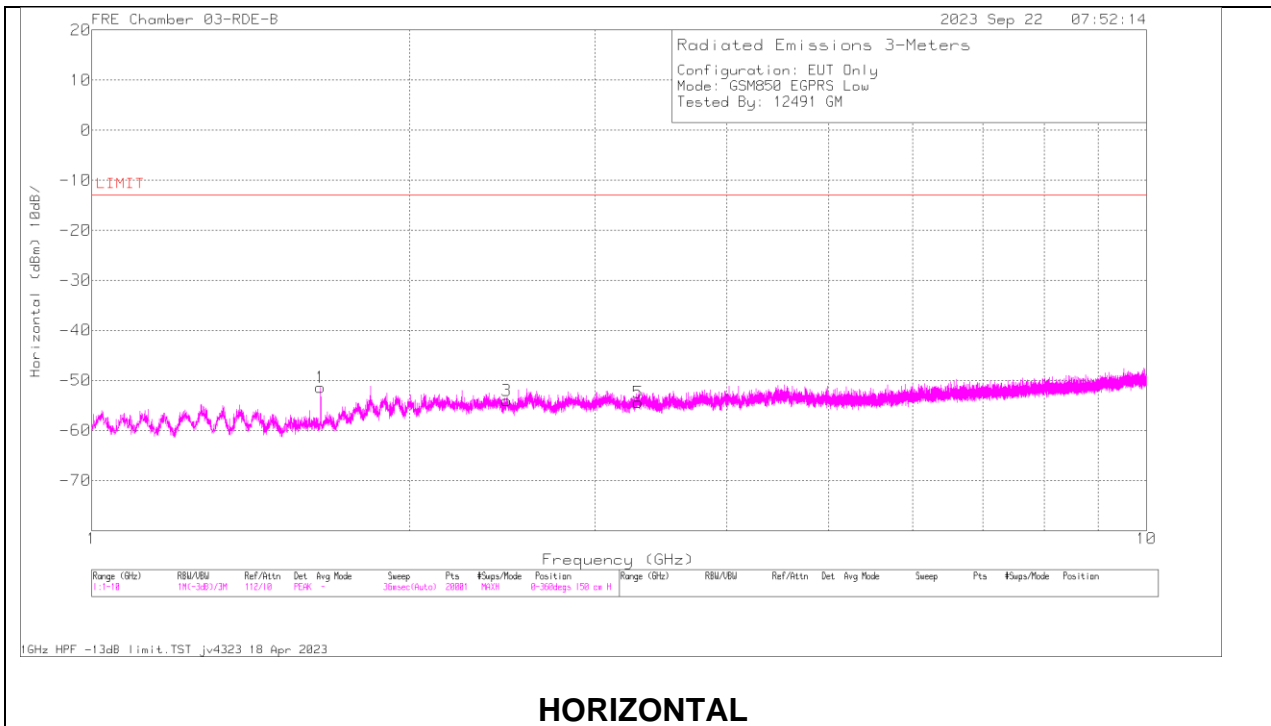
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 824.2 MHz												
4	1.648249	83.56	Pk	28.3	-95.2	-47.7	-31.04	-13	-18.04	283	333	H
2	1.659929	54.63	Pk	28.4	-95.2	-47.71	-59.88	-13	-46.88	97	309	V
1	2.472749	65.31	Pk	32.2	-95.2	-48	-45.69	-13	-32.69	197	261	H
6	2.472391	64.10	Pk	32.2	-95.2	-48	-46.9	-13	-33.9	38	140	V
5	3.283994	56.77	Pk	32.7	-95.2	-45.6	-51.33	-13	-38.33	176	256	H
3	3.247221	54.51	Pk	32.7	-95.2	-45.9	-53.89	-13	-40.89	142	217	V
MID CH 836.6 MHz												
1	* 1.67318	69.91	Pk	28.6	-95.2	-28.68	-25.37	-13	-12.37	152	144	H
4	* 1.673074	72.15	Pk	28.6	-95.2	-28.69	-23.14	-13	-10.14	141	327	V
5	2.514767	61.78	Pk	32.2	-95.2	-29.1	-30.32	-13	-17.32	196	379	H
2	2.519783	61.7	Pk	32.3	-95.2	-29	-30.2	-13	-17.2	182	287	V
3	3.343684	31.05	Pk	33.1	-95.2	-26.57	-57.62	-13	-44.62	90	255	V
6	3.344233	57.34	Pk	33.1	-95.2	-26.6	-31.36	-13	-18.36	44	337	H
HIGH CH 848.8 MHz												
1	* 1.697426	72.05	Pk	28.9	-95.2	-49.40	-43.65	-13	-30.65	334	203	H
4	* 1.698696	60.70	Pk	28.9	-95.2	-49.40	-55.00	-13	-42.00	159	339	V
2	2.546232	64.93	Pk	32.3	-95.2	-49.48	-47.45	-13	-34.45	180	288	H
5	2.544088	61.19	Pk	32.3	-95.2	-49.49	-51.20	-13	-38.20	221	247	V
3	3.393712	57.37	Pk	33.1	-95.2	-47.13	-51.86	-13	-38.86	72	385	H
6	3.392675	57.41	Pk	33.1	-95.2	-47.20	-51.89	-13	-38.89	181	105	V

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

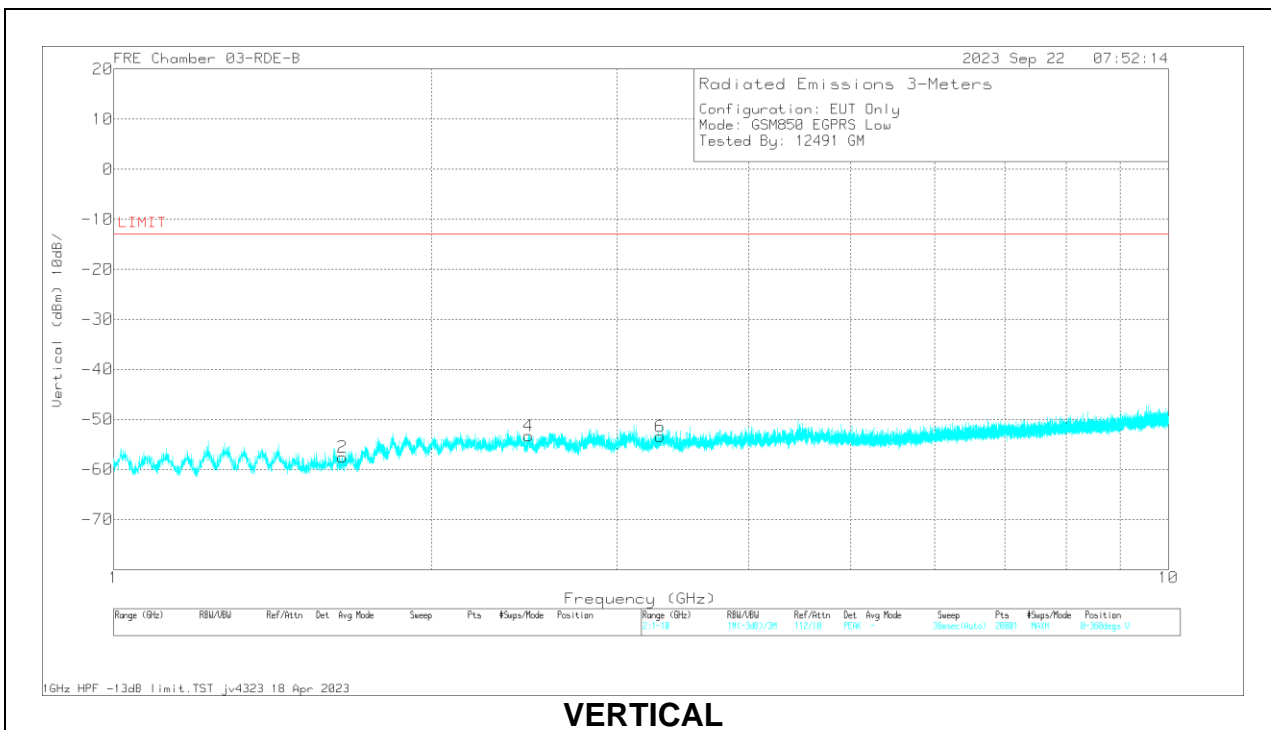
Pk - Peak detector

EGPRS MODE

LOW CHANNEL RESULTS

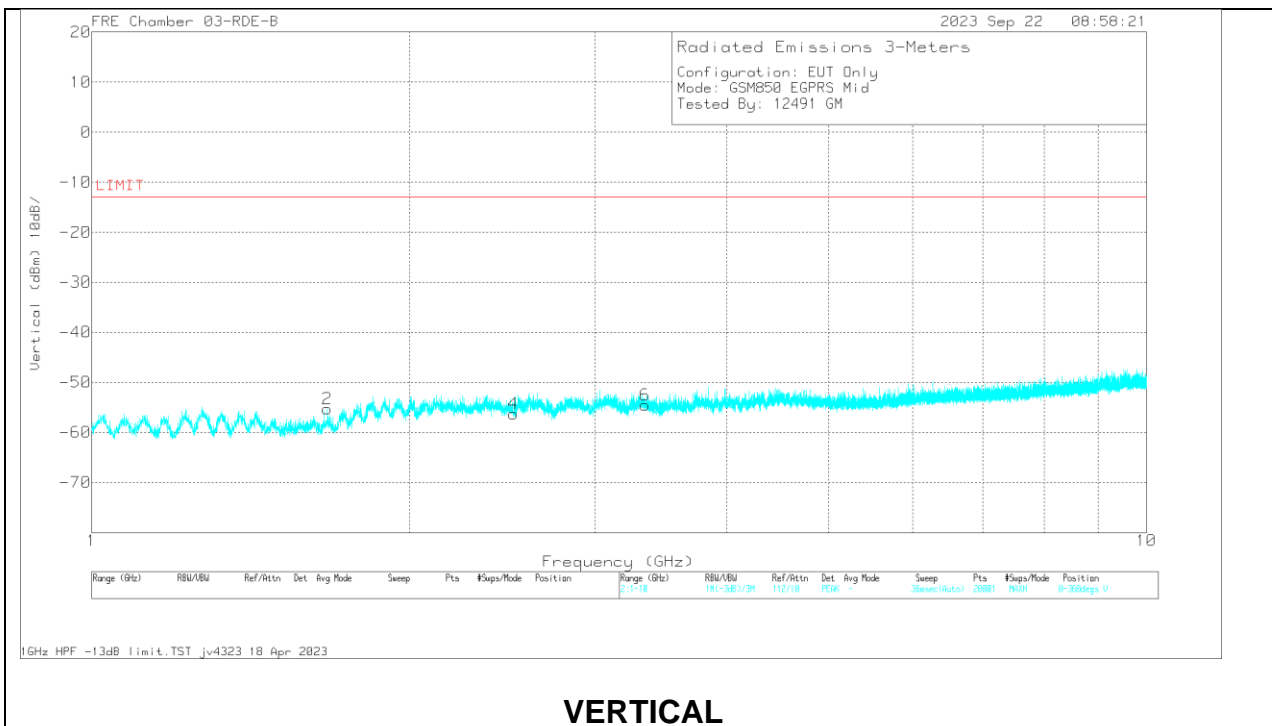
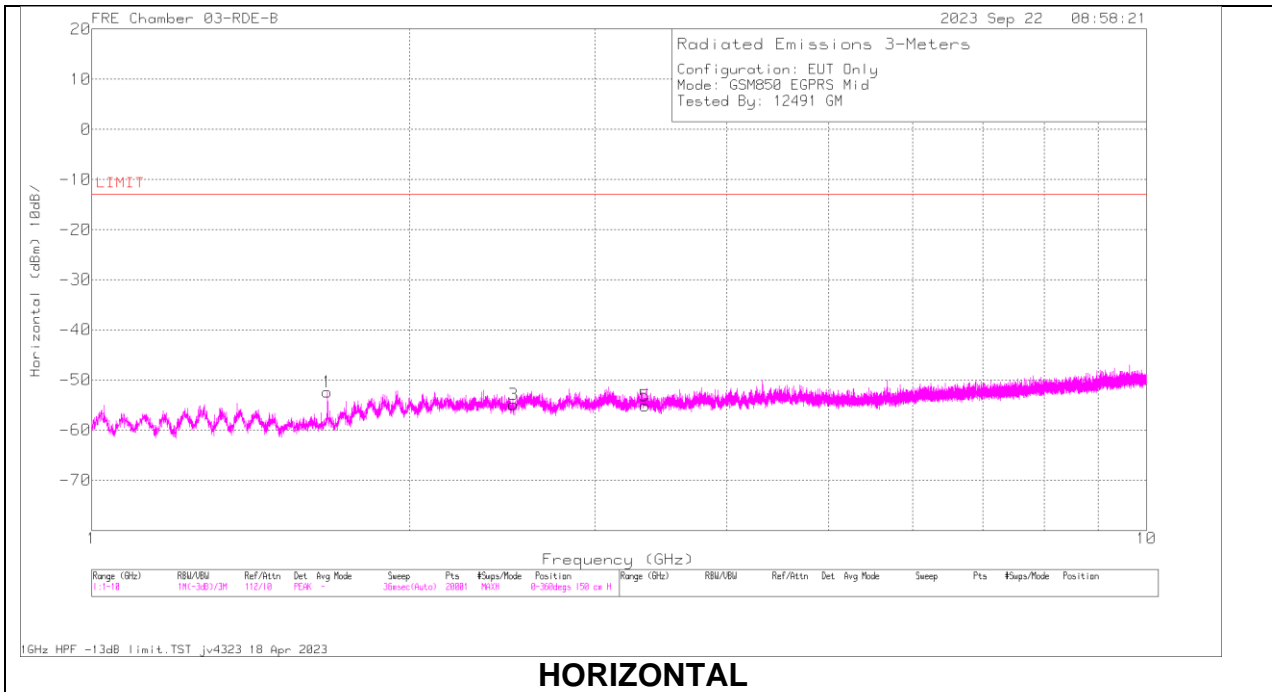


HORIZONTAL

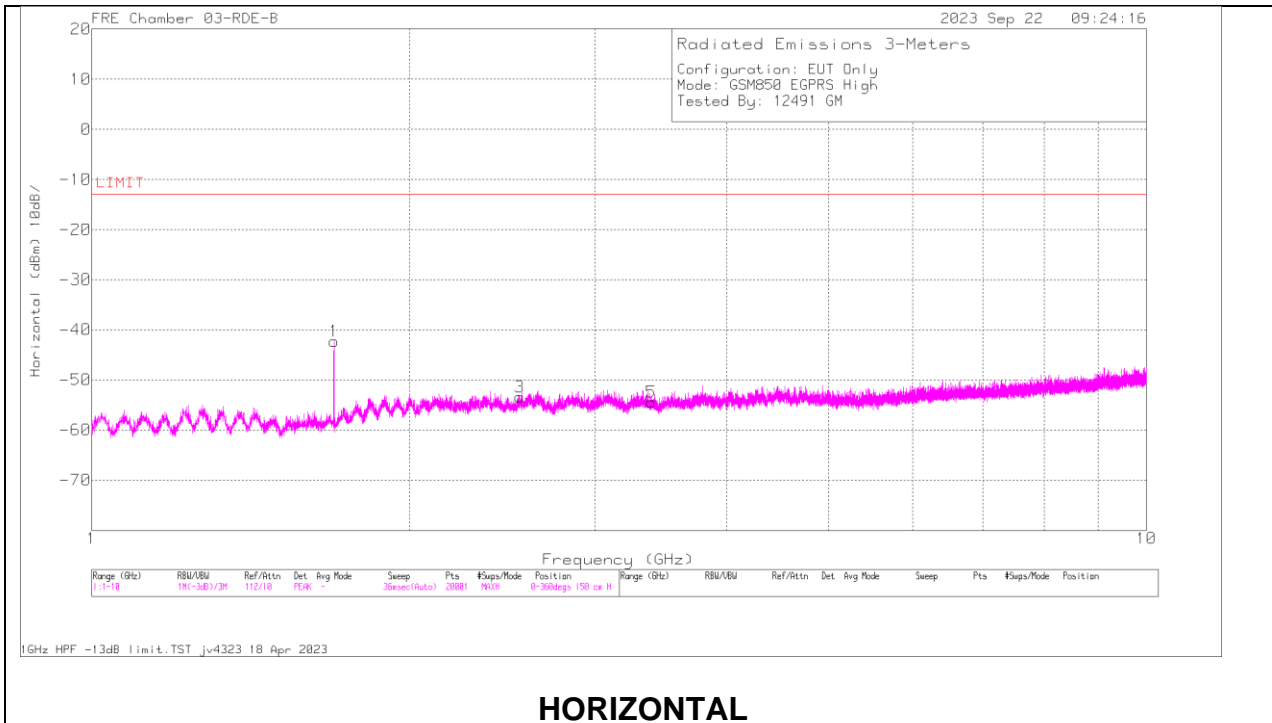


VERTICAL

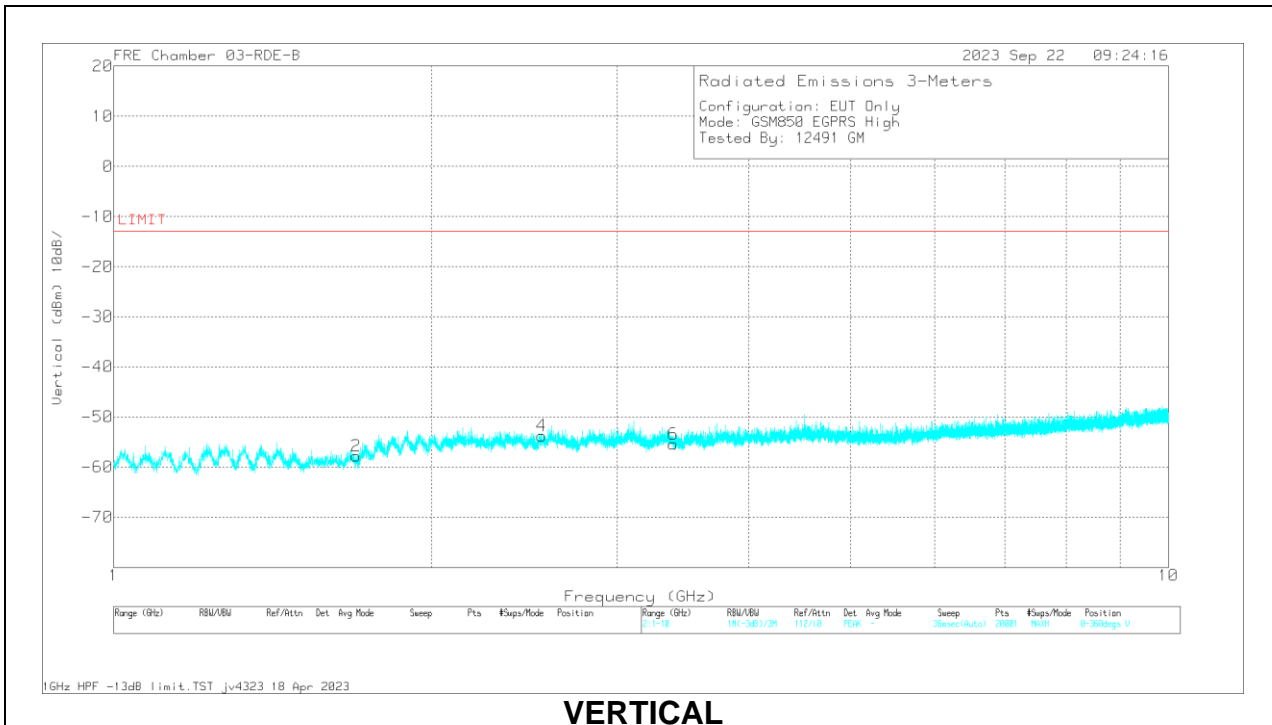
MID CHANNEL RESULTS



HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading & (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 824.2 MHz												
1	1.648372	72.69	Pk	28.3	-95.2	-49.50	-43.71	-13	-30.71	225	385	H
2	1.648371	74.57	Pk	28.3	-95.2	-49.50	-41.83	-13	-28.83	223	329	V
3	2.474825	60.85	Pk	32.3	-95.2	-49.68	-51.73	-13	-38.73	89	274	H
4	2.472921	63.33	Pk	32.3	-95.2	-49.70	-49.27	-13	-36.27	237	134	V
5	3.293988	59.2	Pk	33	-95.2	-47.90	-50.9	-13	-37.90	64	181	H
6	3.294958	58.74	Pk	33	-95.2	-47.90	-51.36	-13	-38.36	182	188	V
MID CH 836.6 MHz												
1	* 1.673201	69.15	Pk	28.6	-95.2	-49.5	-46.95	-13	-33.95	191	320	H
2	* 1.673148	73.23	Pk	28.6	-95.2	-49.5	-42.87	-13	-29.87	169	320	V
3	2.508345	60.73	Pk	32.2	-95.2	-49.9	-52.17	-13	-39.17	330	222	H
4	2.50994	63.76	Pk	32.2	-95.2	-49.9	-49.14	-13	-36.14	211	101	V
5	* 3.346004	58.84	Pk	33.1	-95.2	-47.2	-50.46	-13	-37.46	146	158	H
6	* 3.346226	58.14	Pk	33.1	-95.2	-47.2	-51.16	-13	-38.16	299	155	V
HIGH CH 848.8 MHz												
1	* 1.697592	77.72	Pk	28.9	-95.2	-49.60	-38.18	-13	-25.18	248	135	H
2	* 1.697557	73.19	Pk	28.9	-95.2	-49.60	-42.71	-13	-29.71	312	399	V
3	2.546241	61.38	Pk	32.3	-95.2	-49.90	-51.42	-13	-38.42	158	356	H
4	2.545297	61.31	Pk	32.3	-95.2	-49.90	-51.49	-13	-38.49	57	126	V
5	3.396524	57.58	Pk	33.2	-95.2	-47.05	-51.47	-13	-38.47	115	183	H
6	3.392459	57.37	Pk	33.1	-95.2	-47.20	-51.93	-13	-38.93	107	389	V

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

Pk - Peak detector

10.2.2. GSM 1900

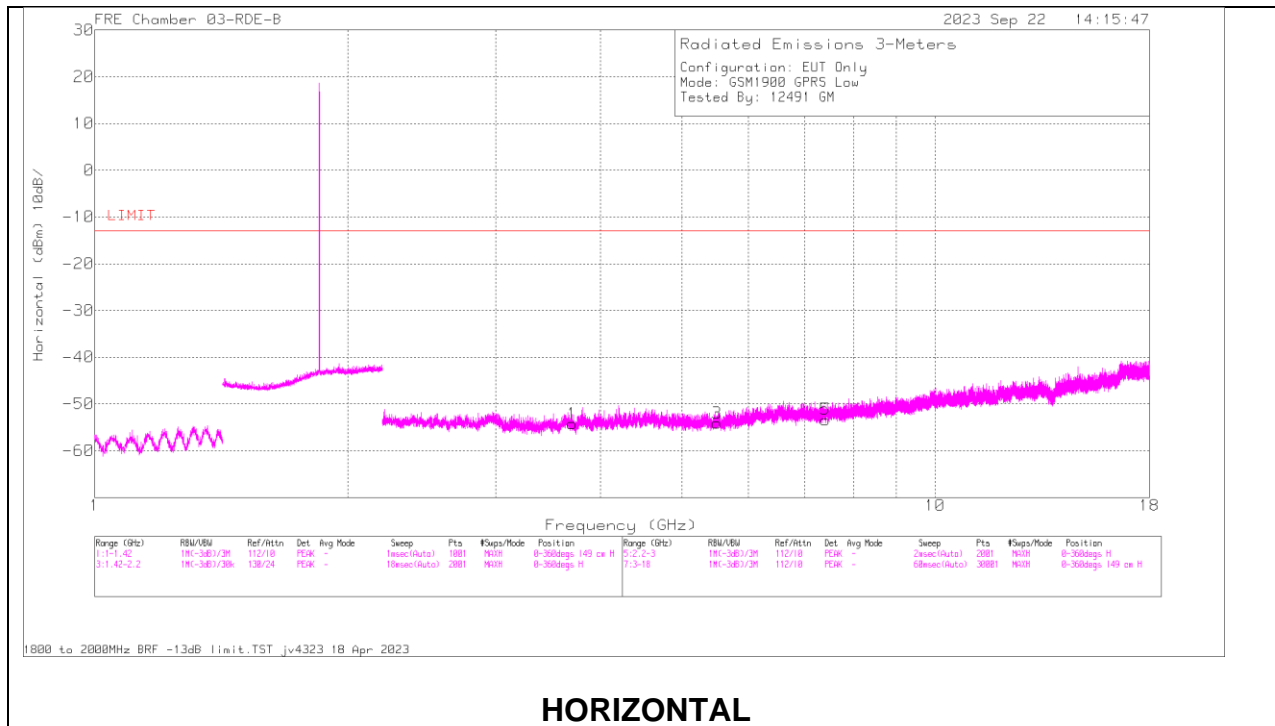
LIMITS

FCC: §24.238(a)

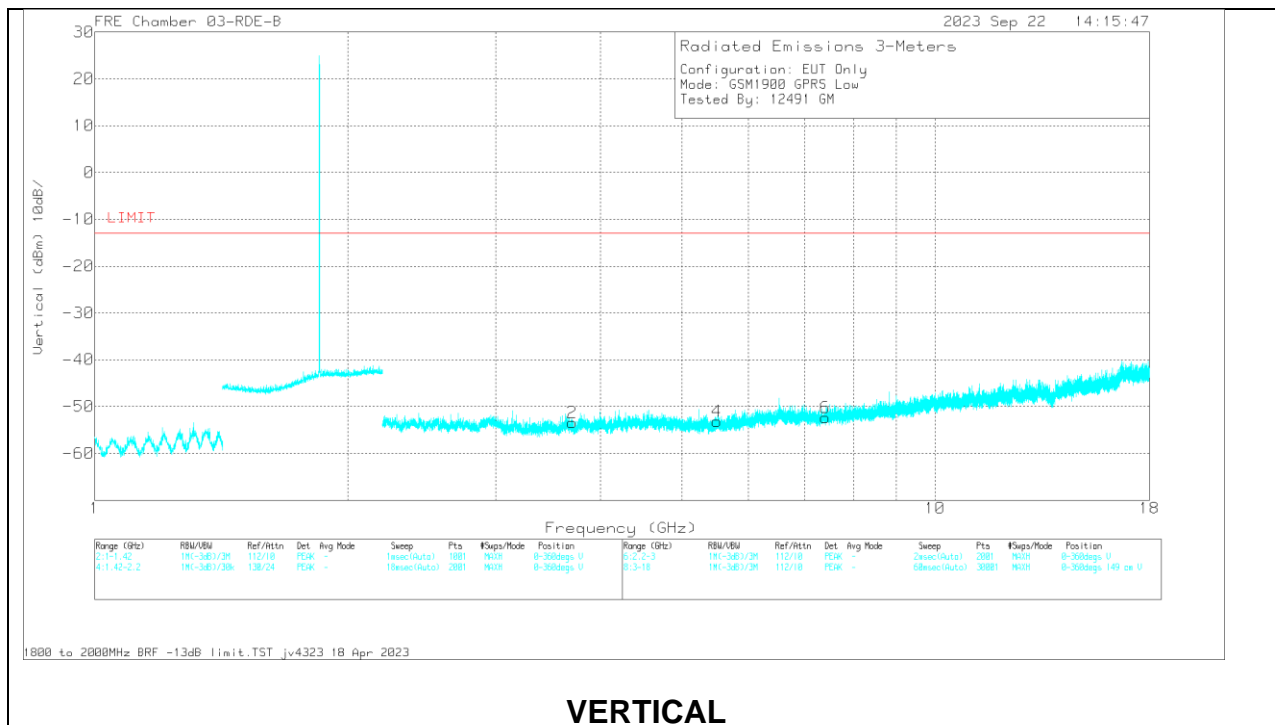
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

GPRS MODE

LOW CHANNEL RESULTS

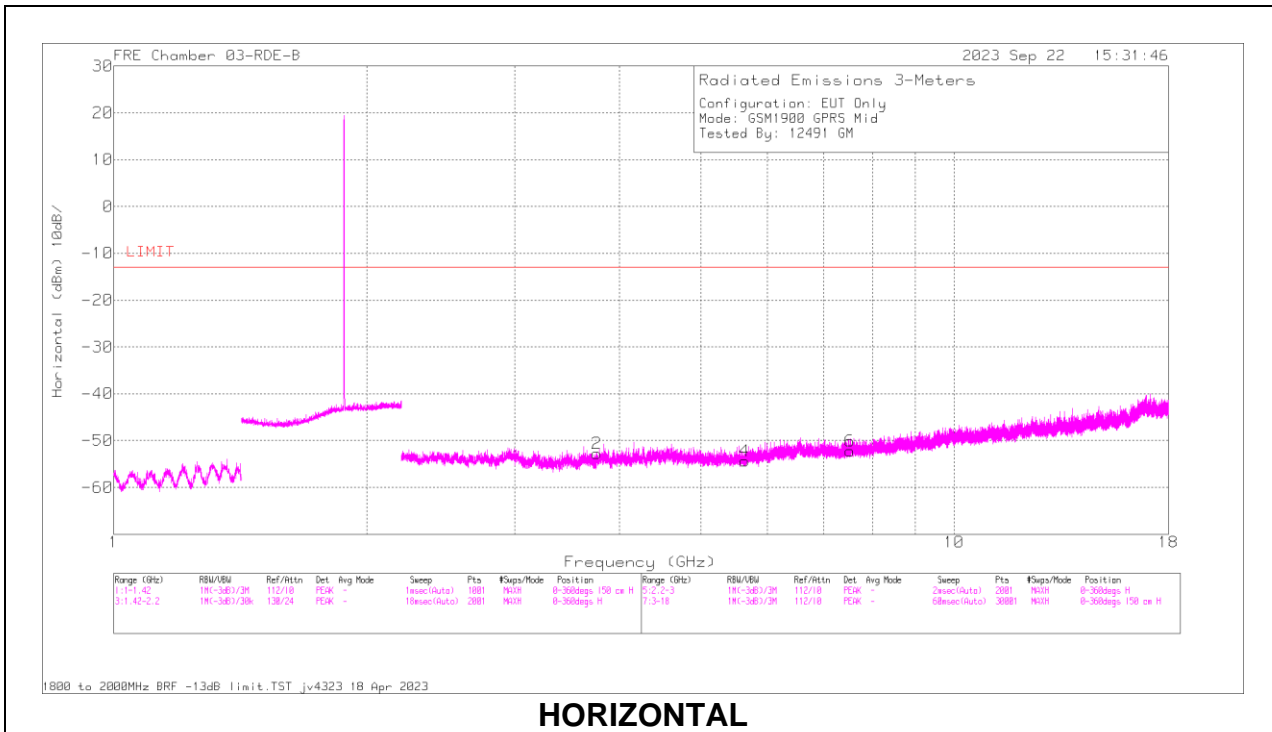


HORIZONTAL

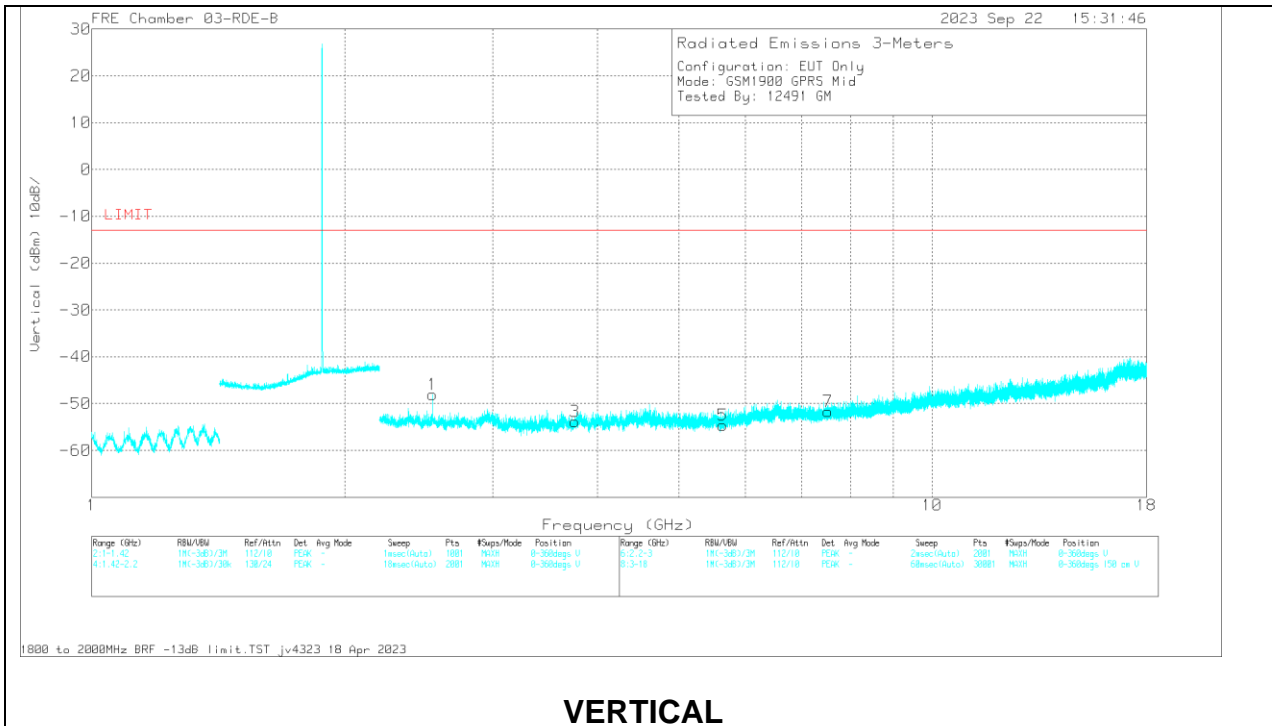


VERTICAL

MID CHANNEL RESULTS

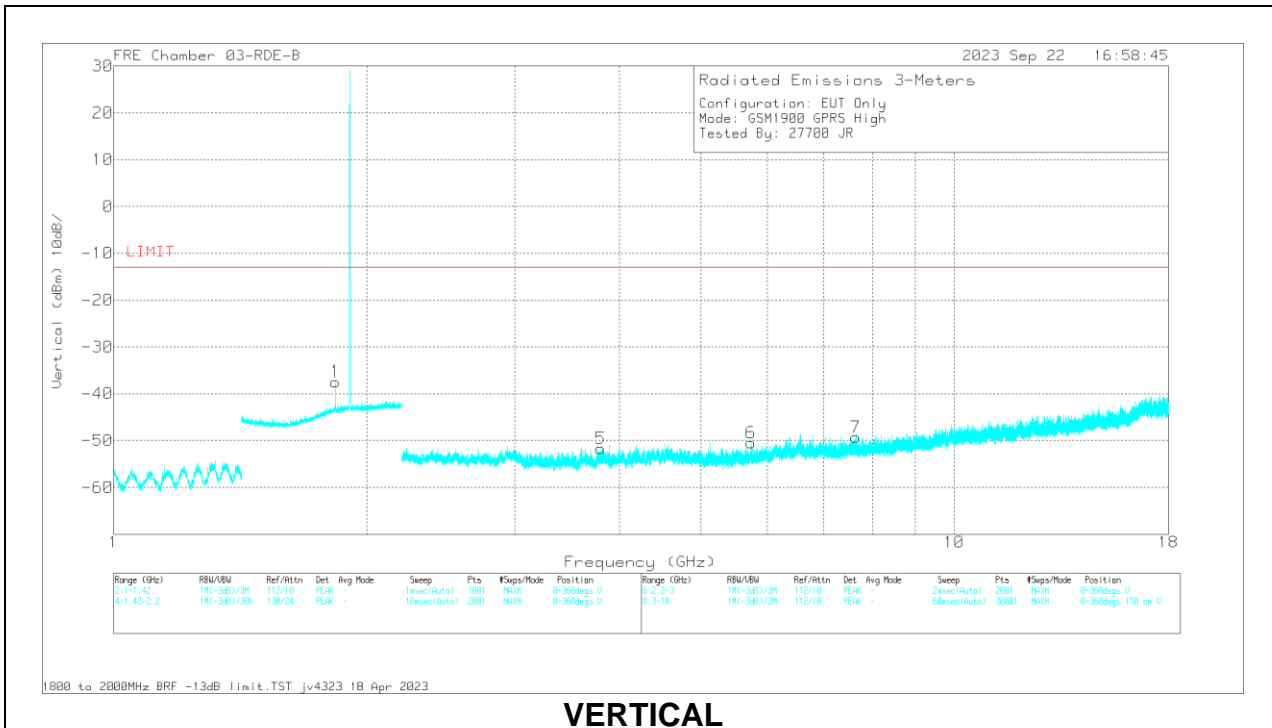
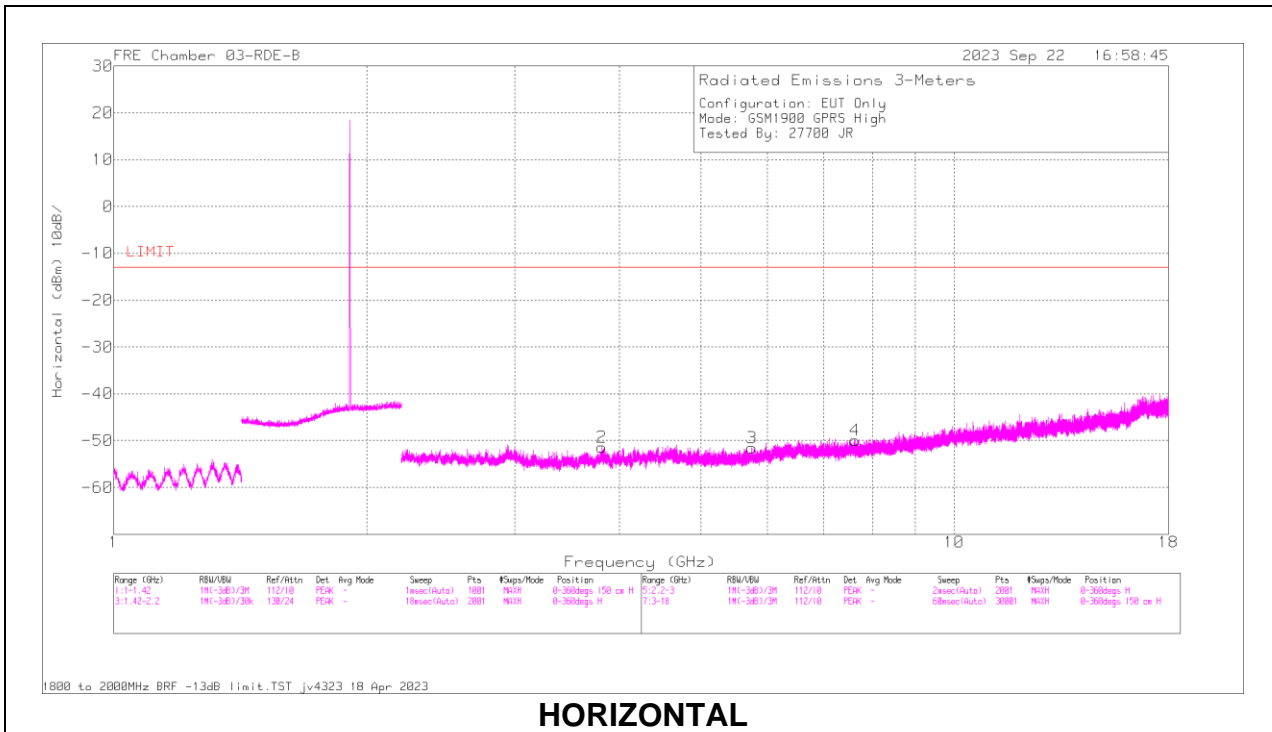


HORIZONTAL



VERTICAL

HIGH CHANNEL RESULTS



Trace Markers

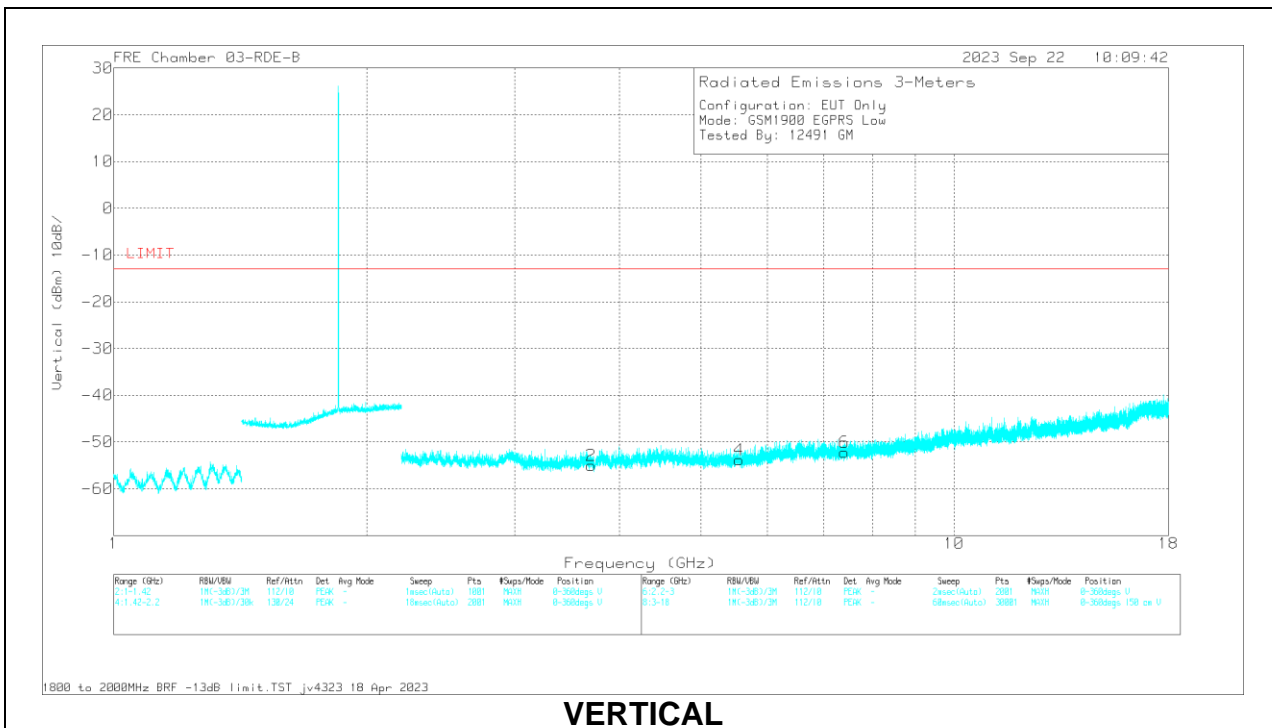
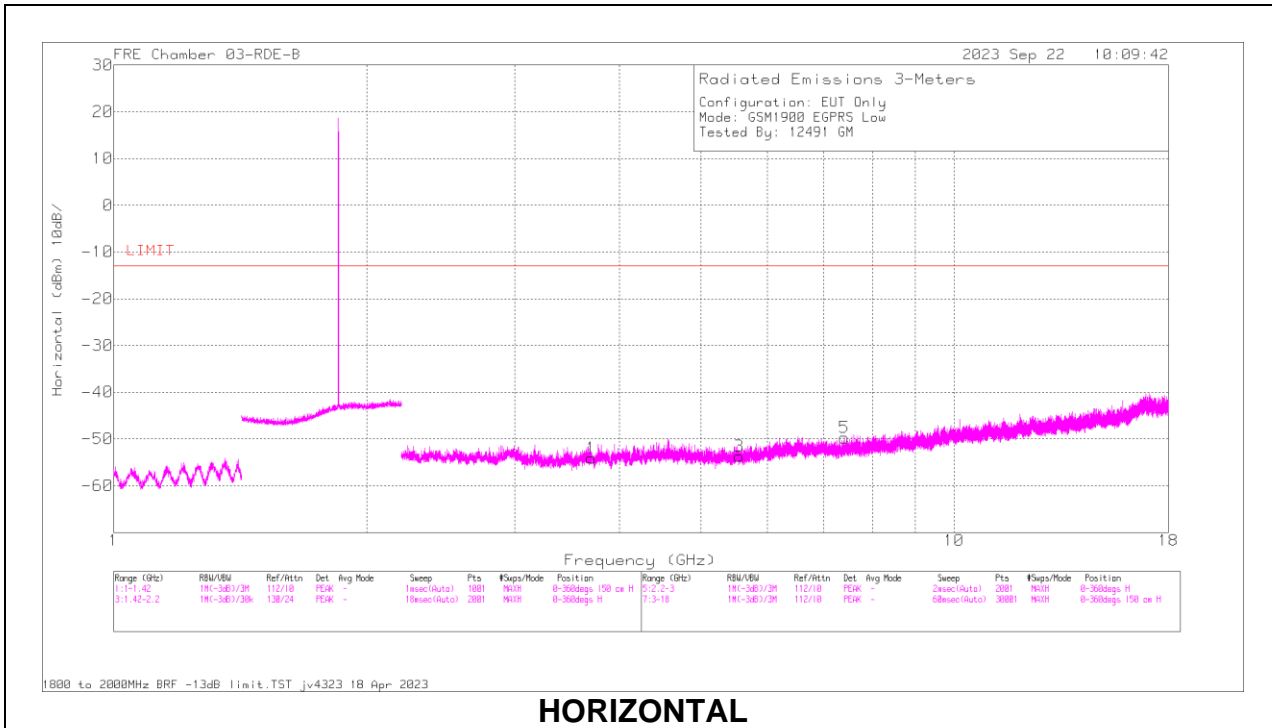
Marker	Frequency (GHz)	Meter Reading & (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 1850.2 MHz												
1	* 3.700543	58.54	Pk	33.5	-95.2	-46.60	-49.76	-13	-36.76	312	273	H
2	* 3.700178	57.52	Pk	33.5	-95.2	-46.60	-50.78	-13	-37.78	291	365	V
3	5.502711	58.26	Pk	34.4	-95.2	-48.40	-50.94	-13	-37.94	156	249	H
4	5.502071	58.70	Pk	34.4	-95.2	-48.40	-50.50	-13	-37.50	5	362	V
5	* 7.401486	57.05	Pk	35.9	-95.2	-47.70	-49.95	-13	-36.95	351	131	H
6	* 7.402389	57.35	Pk	35.9	-95.2	-47.70	-49.65	-13	-36.65	5	345	V
MID CH 1880 MHz												
2	* 3.759887	60.06	Pk	33.6	-95.2	-47.20	-48.74	-13	-35.74	344	291	H
3	* 3.759892	58.54	Pk	33.6	-95.2	-47.20	-50.26	-13	-37.26	297	264	V
4	5.642419	58.76	Pk	34.4	-95.2	-48.14	-50.18	-13	-37.18	268	133	H
5	5.640703	58.23	Pk	34.4	-95.2	-48.17	-50.74	-13	-37.74	127	189	V
6	* 7.520104	57.88	Pk	36	-95.2	-47.71	-49.03	-13	-36.03	74	102	H
7	* 7.522264	58.18	Pk	36	-95.2	-47.87	-48.89	-13	-35.89	112	232	V
HIGH CH 1909.8 MHz												
2	* 3.811158	59.32	Pk	33.6	-95.2	-47.30	-49.58	-13	-36.58	178	224	H
5	* 3.799173	58.78	Pk	33.6	-95.2	-47.32	-50.14	-13	-37.14	172	343	V
3	5.749283	58.83	Pk	34.5	-95.2	-47.90	-49.77	-13	-36.77	246	150	H
6	5.739800	58.66	Pk	34.5	-95.2	-47.98	-50.02	-13	-37.02	251	299	V
4	* 7.628717	58.29	Pk	35.9	-95.2	-47.20	-48.21	-13	-35.21	24	339	H
7	* 7.636574	57.81	Pk	35.9	-95.2	-47.20	-48.69	-13	-35.69	236	353	V

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

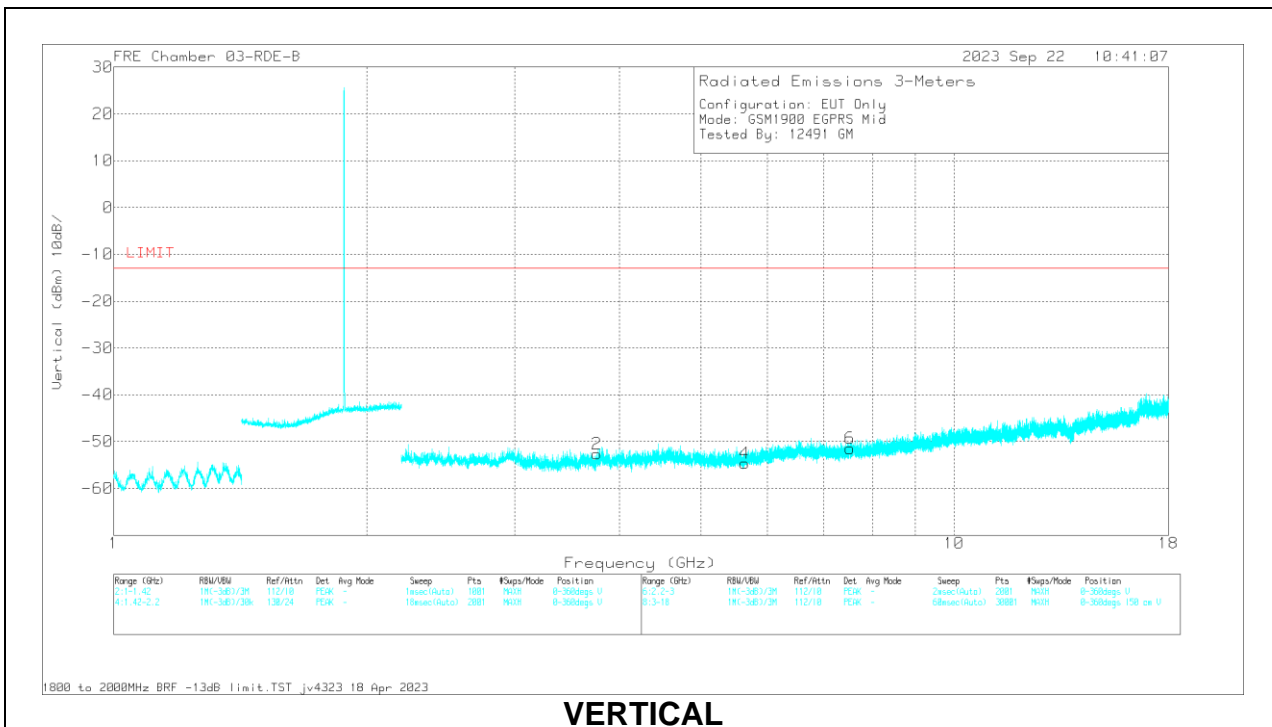
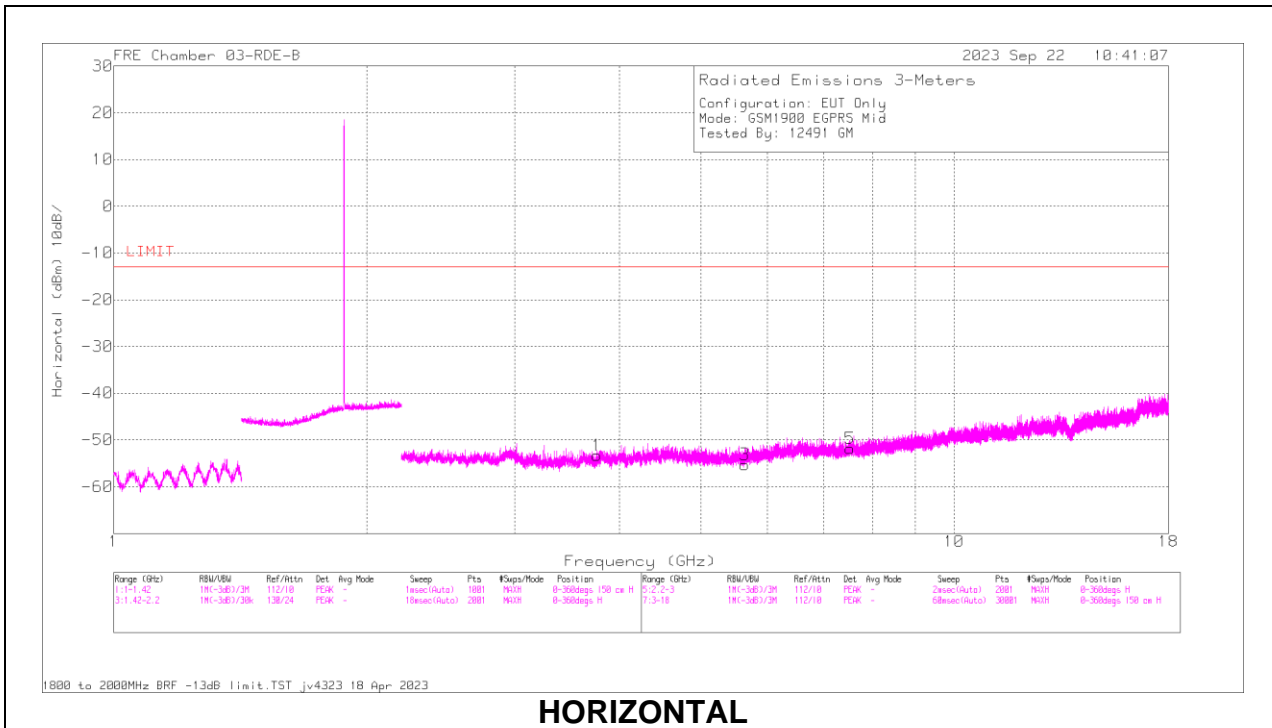
Pk - Peak detector

EGPRS MODE

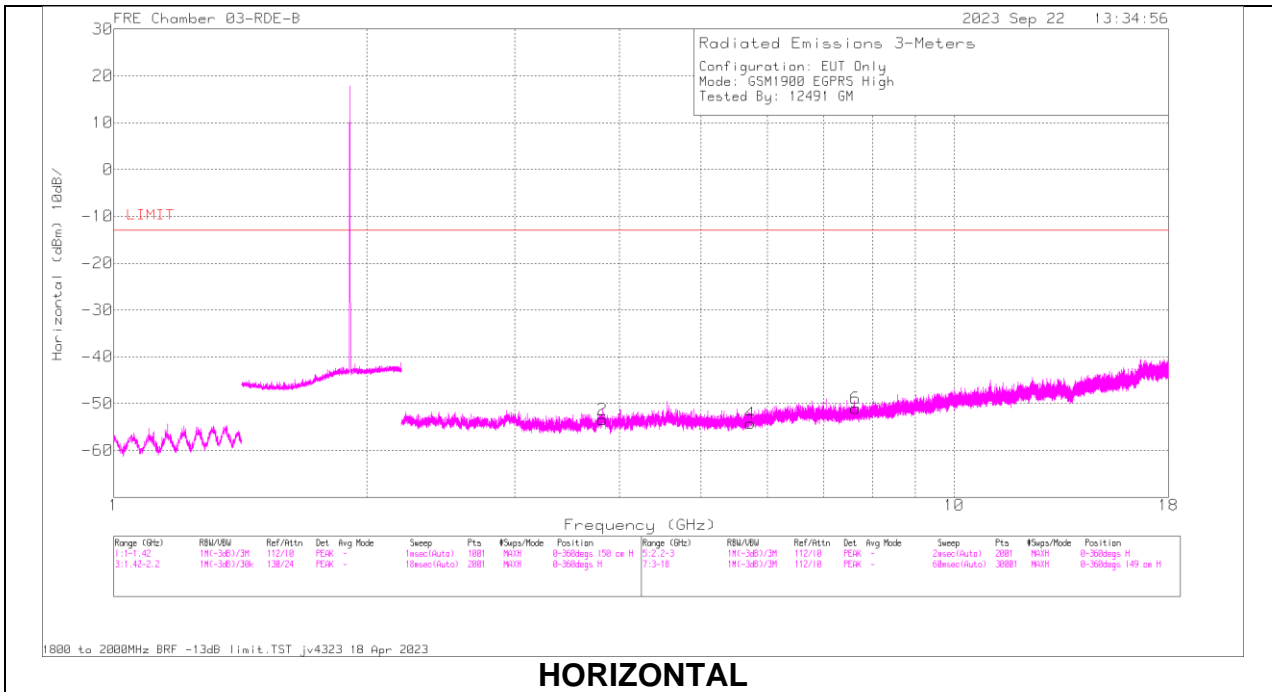
LOW CHANNEL RESULTS



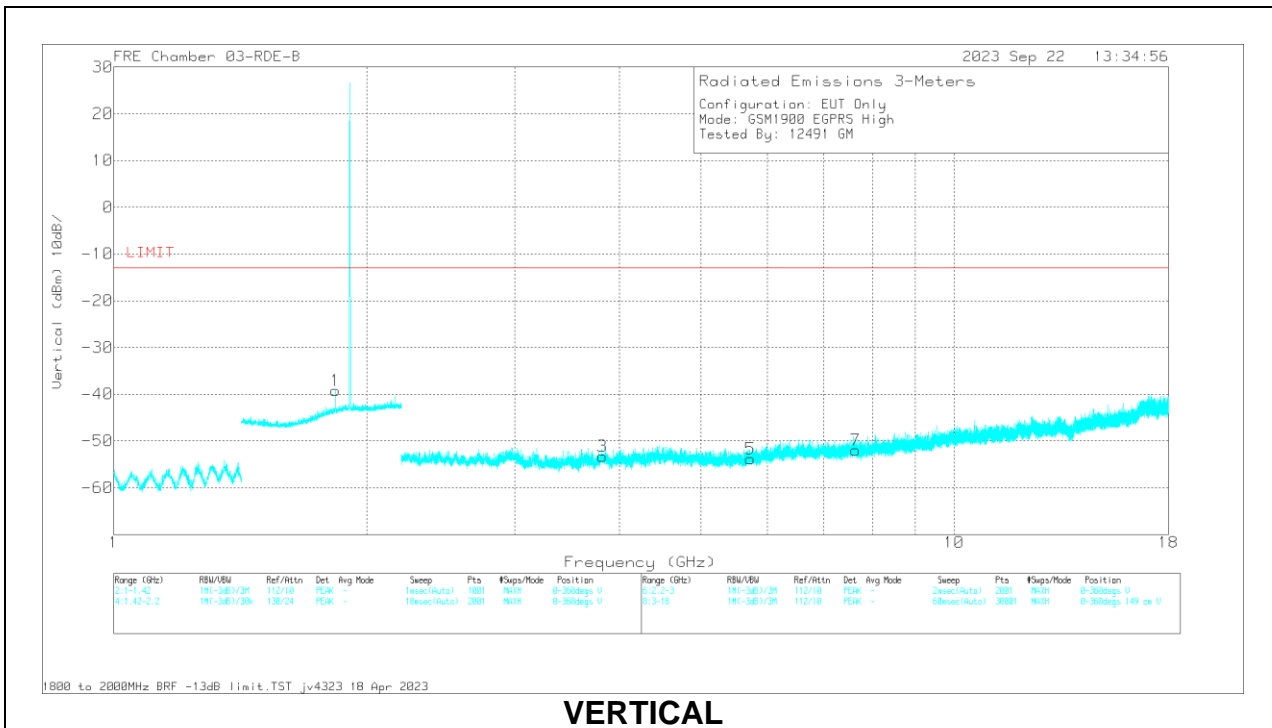
MID CHANNEL RESULTS



HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 1850.2 MHz												
1	* 3.700516	57.75	Pk	33.5	-95.2	-46.6	-50.55	-13	-37.55	127	154	H
2	* 3.700414	57.44	Pk	33.5	-95.2	-46.6	-50.86	-13	-37.86	260	234	V
3	5.548007	58.39	Pk	34.4	-95.2	-48.4	-50.81	-13	-37.81	344	366	H
4	5.549044	58.97	Pk	34.4	-95.2	-48.3	-50.13	-13	-37.13	327	250	V
5	* 7.399997	57.72	Pk	35.9	-95.2	-47.7	-49.28	-13	-36.28	173	324	H
6	* 7.400603	57.79	Pk	35.9	-95.2	-47.7	-49.21	-13	-36.21	173	107	V
MID CH 1880 MHz												
1	* 3.760169	59.2	Pk	33.6	-95.2	-47.2	-49.6	-13	-36.6	170	268	H
2	* 3.759992	58.64	Pk	33.6	-95.2	-47.2	-50.16	-13	-37.16	166	387	V
3	5.644980	58.04	Pk	34.4	-95.2	-48.1	-50.86	-13	-37.86	329	347	H
4	5.640194	57.67	Pk	34.4	-95.2	-48.12	-51.25	-13	-38.25	322	241	V
5	* 7.515274	58.64	Pk	36	-95.2	-47.83	-48.39	-13	-35.39	239	102	H
6	* 7.518938	58.08	Pk	36	-95.2	-47.9	-49.02	-13	-36.02	360	382	V
HIGH CH 1909.8 MHz												
2	* 3.818123	59.06	Pk	33.6	-95.2	-47.49	-50.03	-13	-37.03	339	148	H
3	* 3.817261	58.49	Pk	33.6	-95.2	-47.5	-50.61	-13	-37.61	351	376	V
4	5.724178	58.91	Pk	34.5	-95.2	-47.88	-49.67	-13	-36.67	14	244	H
5	5.728285	58.29	Pk	34.5	-95.2	-47.8	-50.21	-13	-37.21	230	151	V
6	* 7.633087	57.62	Pk	35.9	-95.2	-47.11	-48.79	-13	-35.79	360	289	H
7	* 7.635739	57.27	Pk	35.9	-95.2	-47.2	-49.23	-13	-36.23	136	270	V

Pk - Peak detector

10.2.3. WCDMA BAND 5

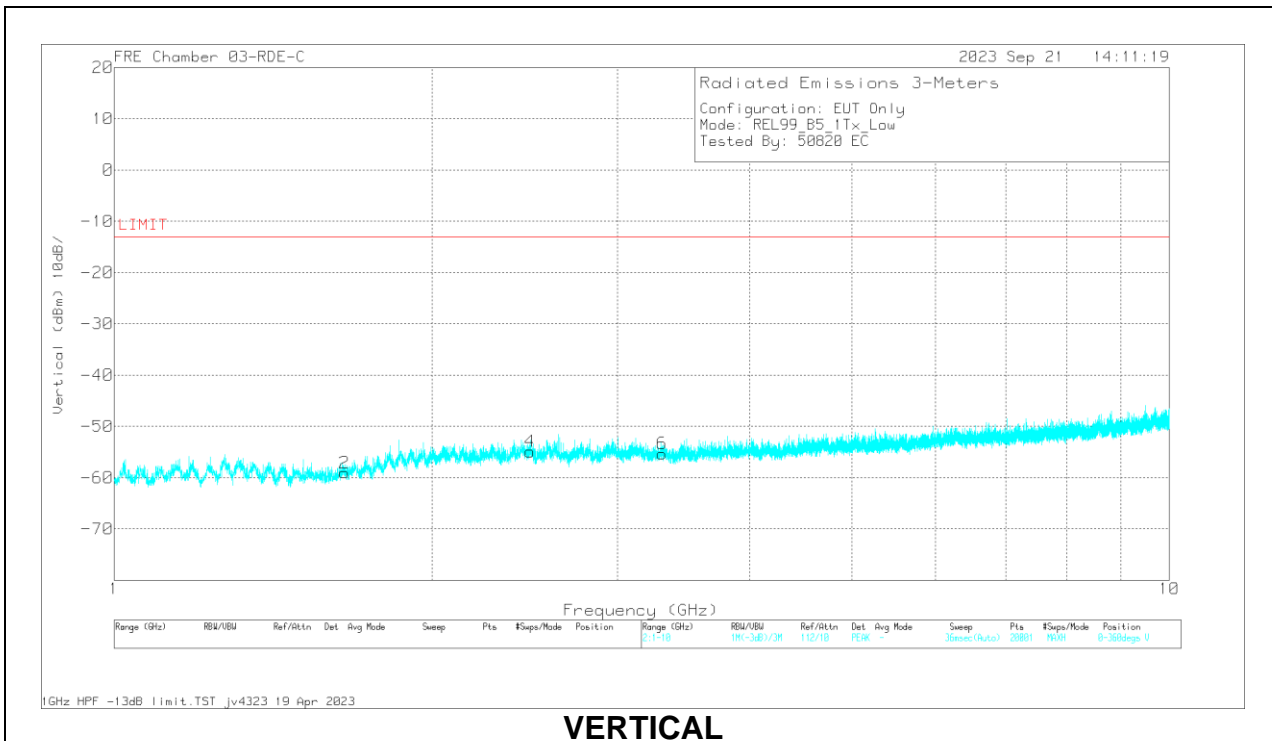
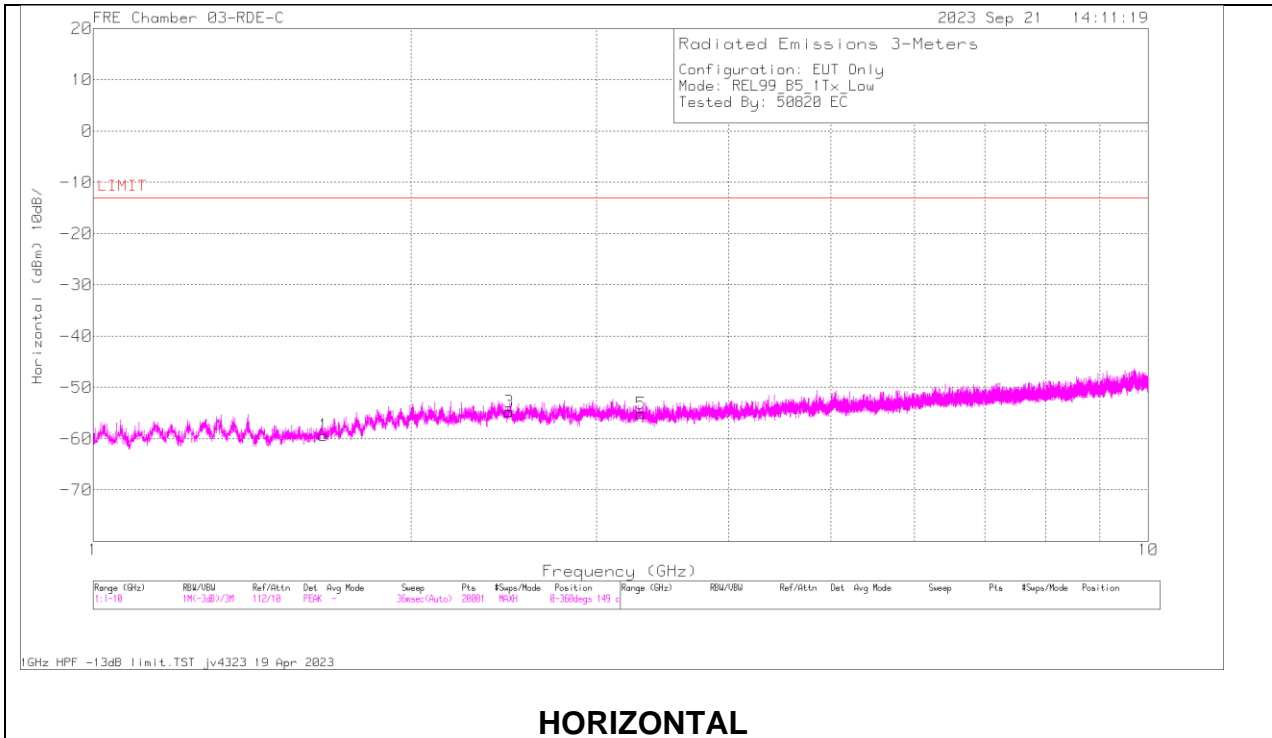
LIMITS

FCC: §22.917(a)

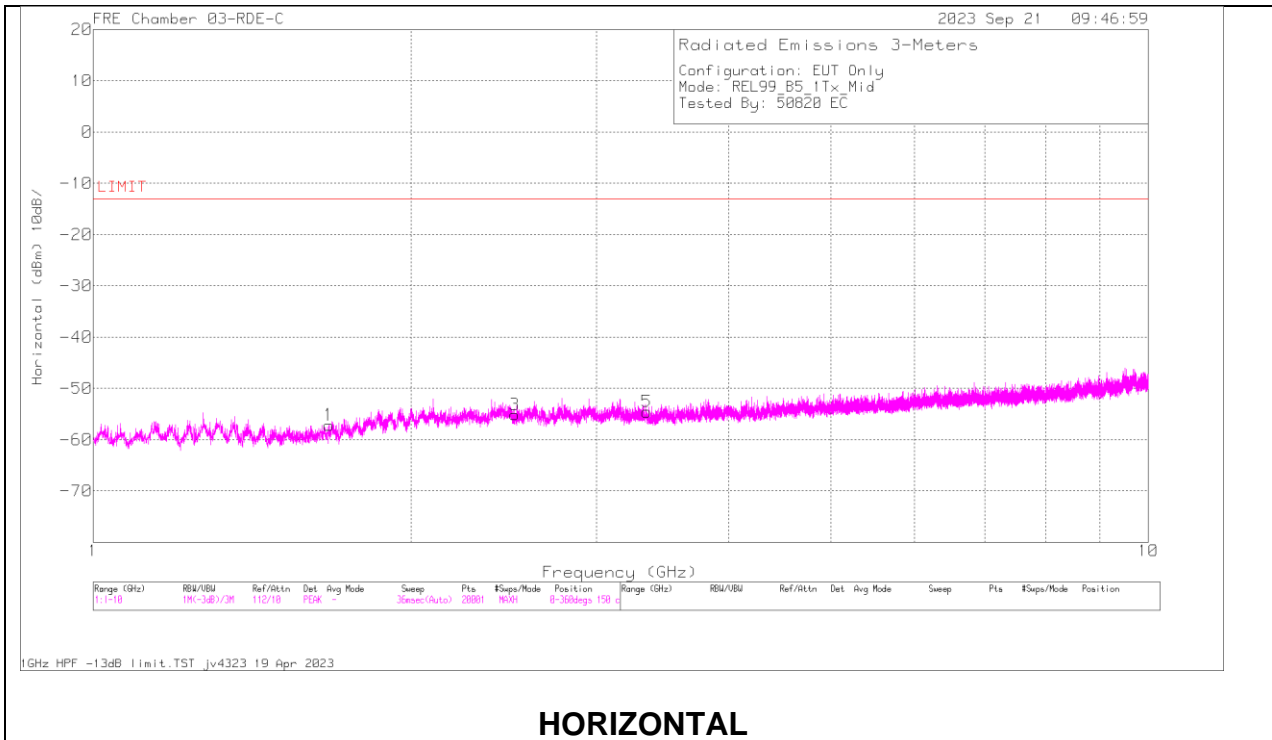
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

REL 99 MODE

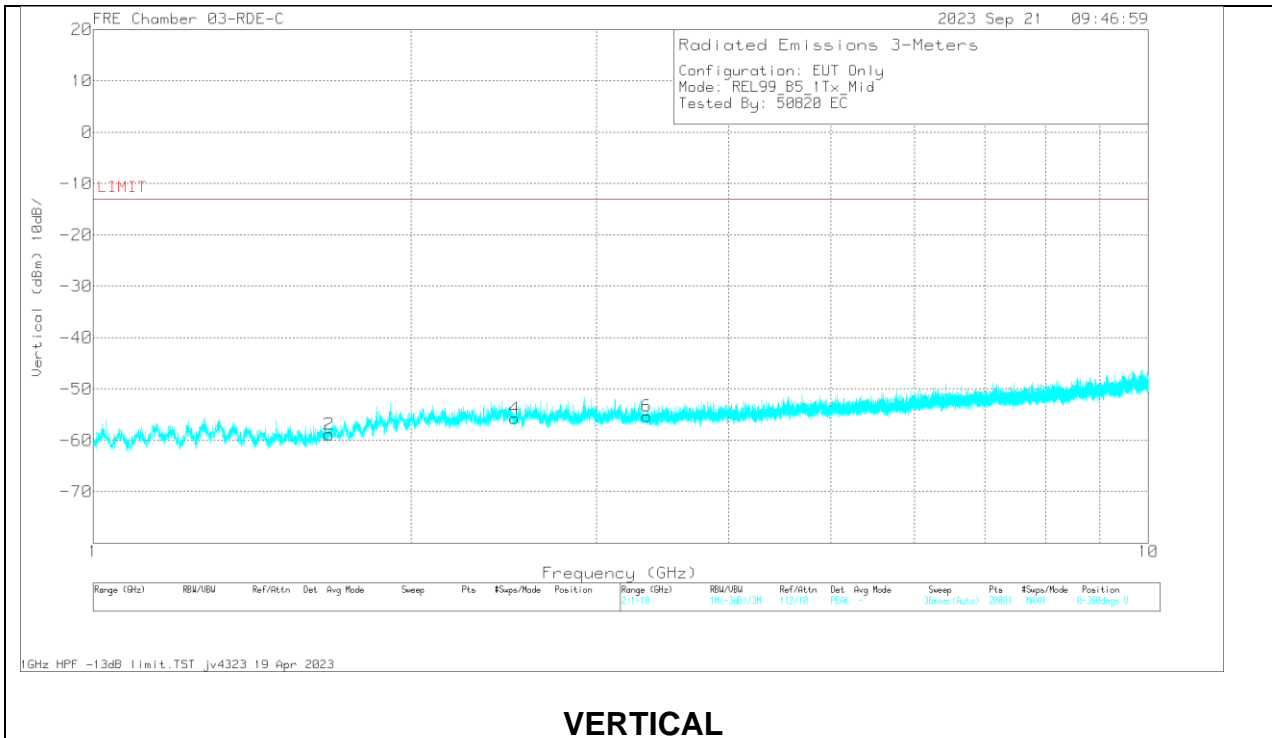
LOW CHANNEL RESULTS



MID CHANNEL RESULTS

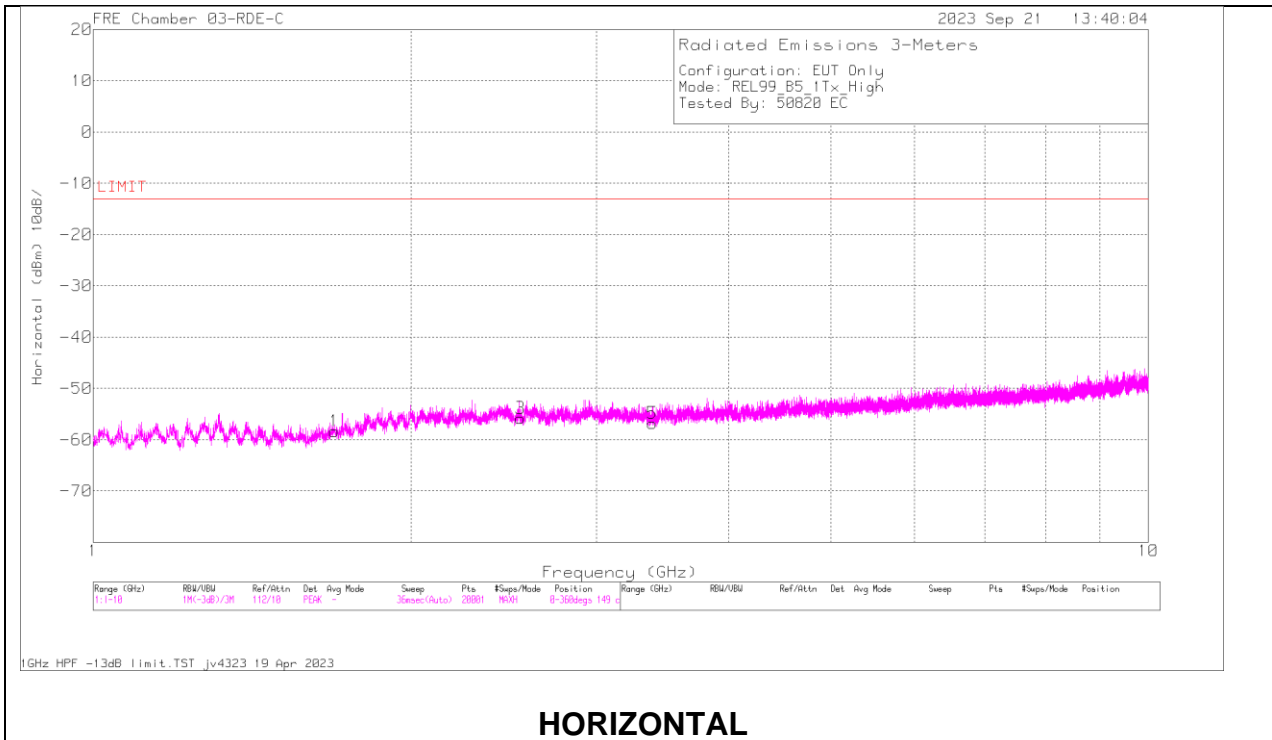


HORIZONTAL

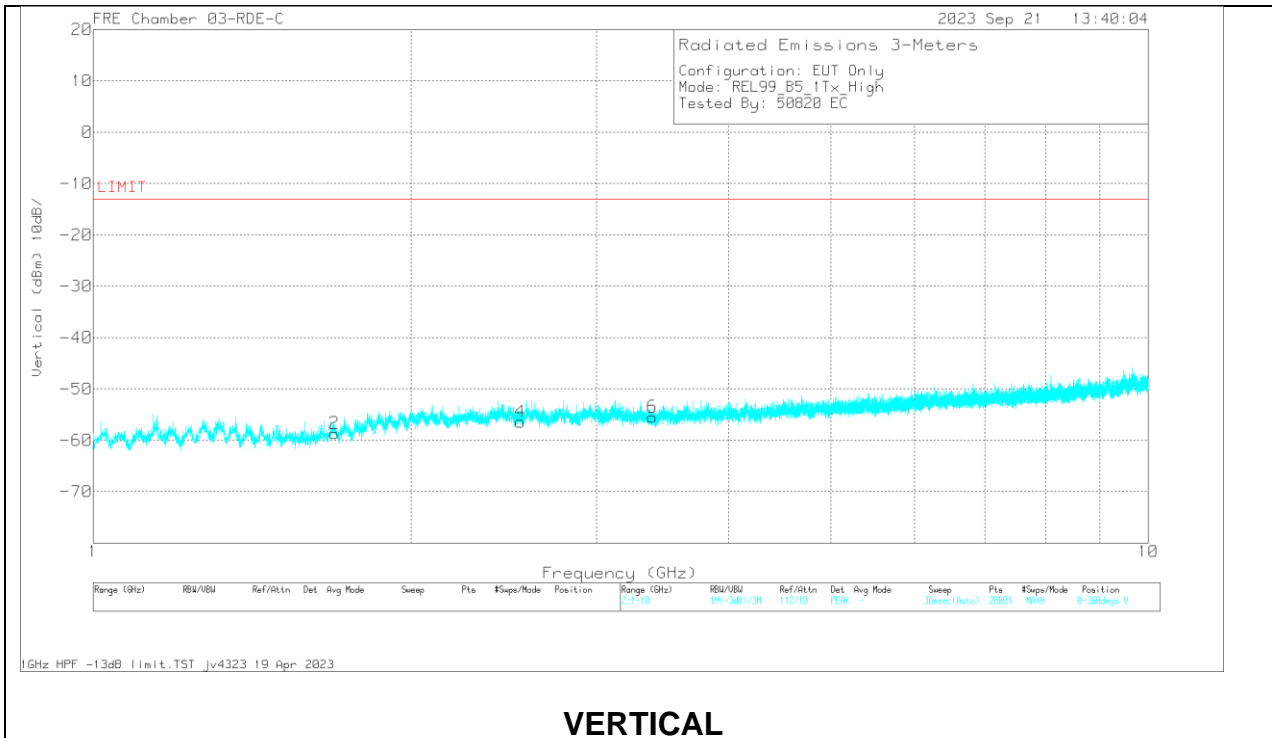


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

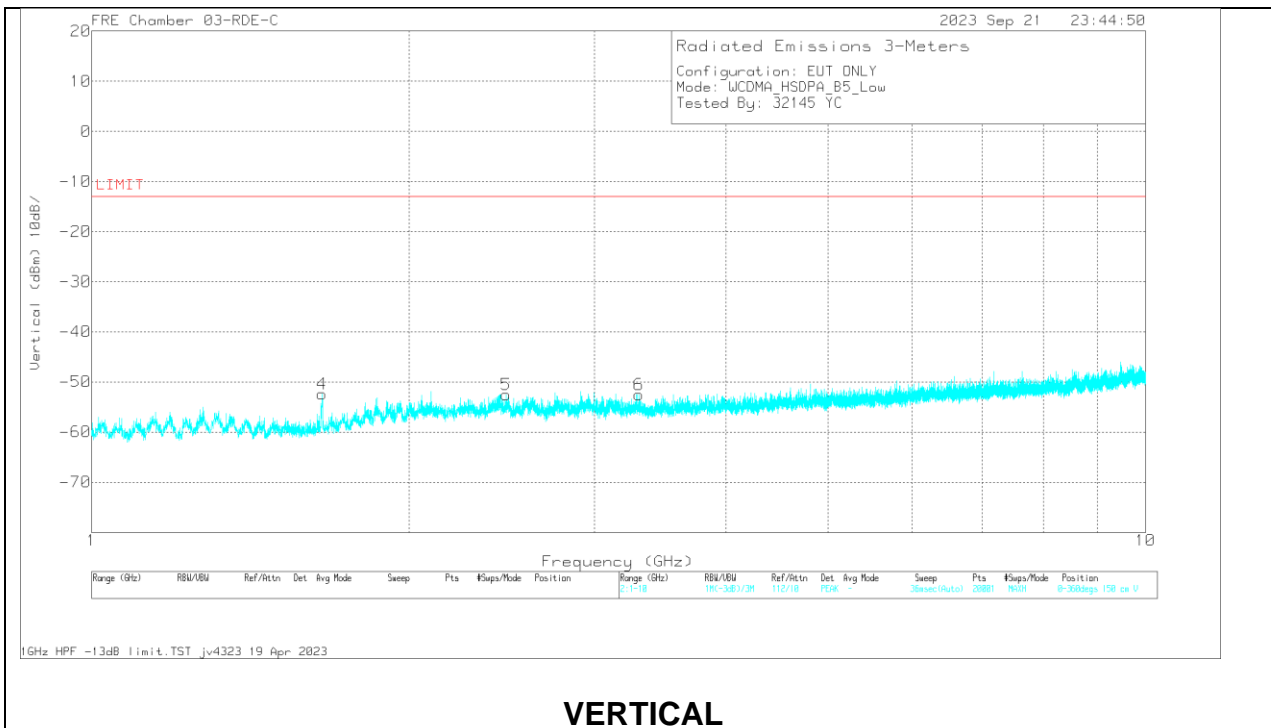
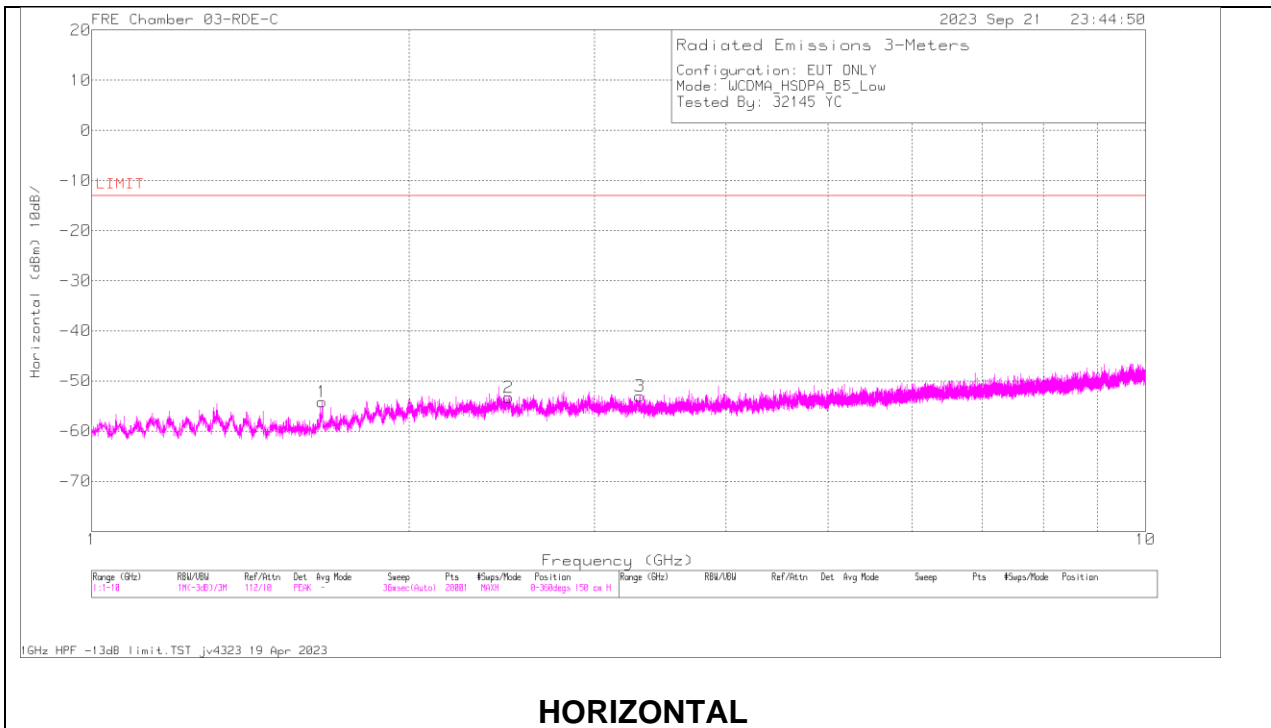
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.652406	59.12	Pk	28.3	-95.2	-47.50	-55.28	-13	-42.28	15	205	H
2	1.651765	59.01	Pk	28.3	-95.2	-47.50	-55.39	-13	-42.39	107	121	V
3	2.478733	58.36	Pk	32.2	-95.2	-47.20	-51.84	-13	-38.84	90	320	H
4	2.480300	58.76	Pk	32.2	-95.2	-47.27	-51.51	-13	-38.51	289	243	V
5	3.306941	56.41	Pk	32.7	-95.2	-45.80	-51.89	-13	-38.89	217	219	H
6	3.303053	56.62	Pk	32.7	-95.2	-45.89	-51.77	-13	-38.77	309	302	V
836.6 MHz												
1	* 1.673175	58.2	Pk	28.6	-95.2	-47.42	-55.82	-13	-42.82	276	156	H
2	* 1.675147	58.18	Pk	28.6	-95.2	-47.5	-55.92	-13	-42.92	43	149	V
3	2.509448	58.28	Pk	32.3	-95.2	-47.14	-51.76	-13	-38.76	8	377	H
4	2.514441	57.22	Pk	32.3	-95.2	-47.16	-52.84	-13	-39.84	8	122	V
5	* 3.347346	55.75	Pk	32.7	-95.2	-45.6	-52.35	-13	-39.35	249	371	H
6	* 3.345977	55.62	Pk	32.7	-95.2	-45.6	-52.48	-13	-39.48	48	368	V
846.6 MHz												
1	* 1.692419	58.75	Pk	28.8	-95.2	-47.36	-55.01	-13	-42.01	278	115	H
2	* 1.694764	58.35	Pk	28.8	-95.2	-47.38	-55.43	-13	-42.43	278	349	V
3	2.539287	58.06	Pk	32.3	-95.2	-47.40	-52.24	-13	-39.24	55	227	H
4	2.542349	57.93	Pk	32.3	-95.2	-47.43	-52.40	-13	-39.40	54	280	V
5	3.385749	55.18	Pk	32.6	-95.2	-45.37	-52.79	-13	-39.79	218	154	H
6	3.386288	55.28	Pk	32.6	-95.2	-45.40	-52.72	-13	-39.72	39	221	V

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

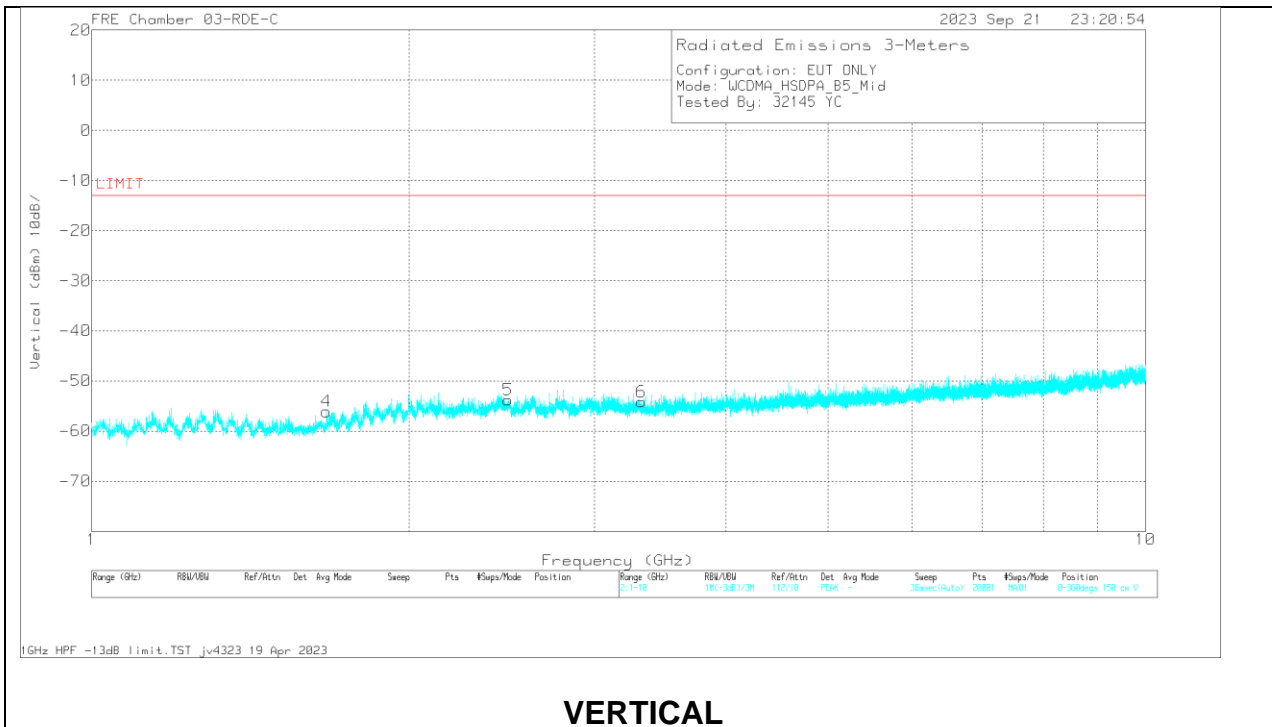
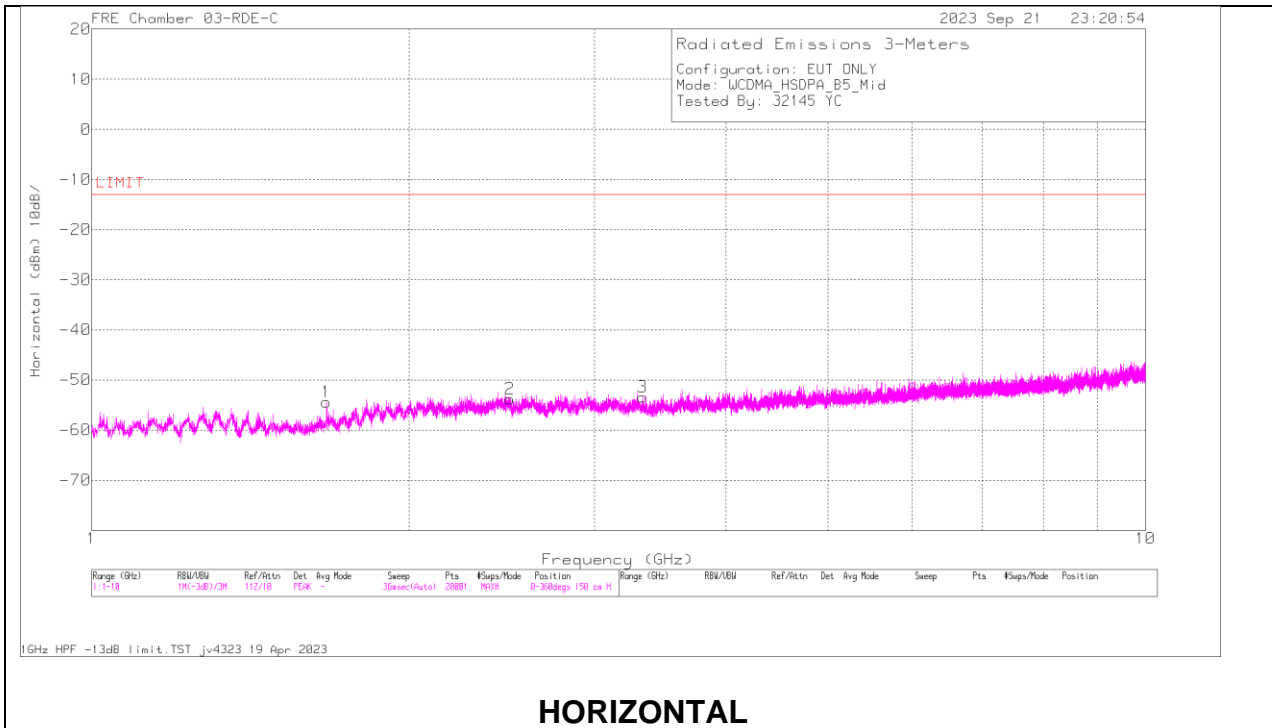
Pk - Peak detector

HSDPA MODE

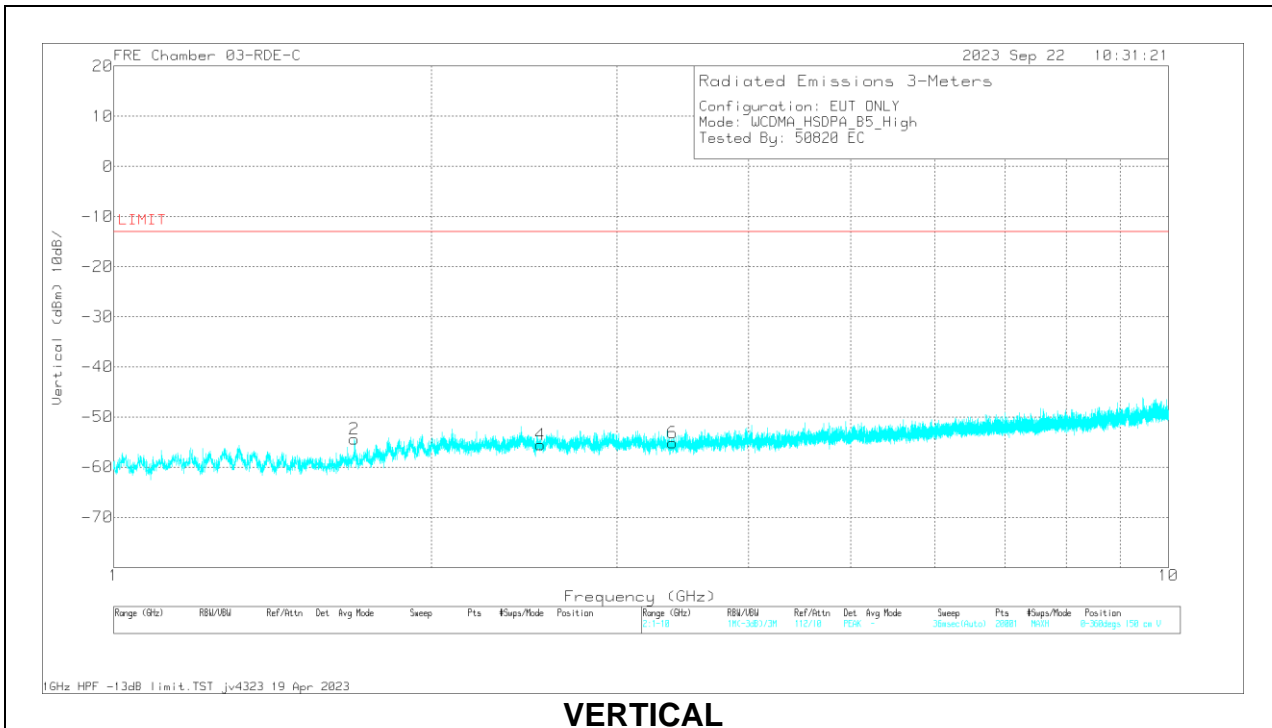
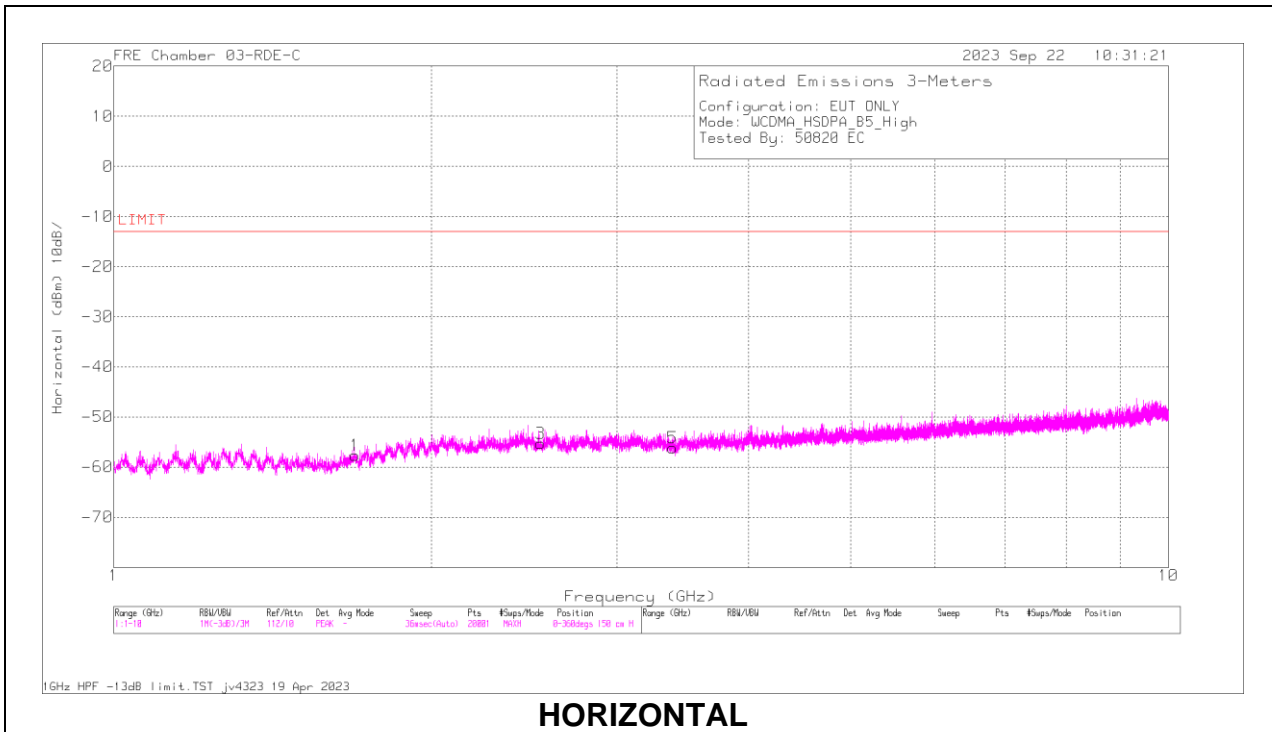
LOW CHANNEL RESULTS



MID CHANNEL RESULTS



HIGH CHANNEL RESULTS



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.655200	60.04	Pk	28.4	-95.2	-47.42	-54.18	-13	-41.18	0-360	150	H
4	1.654300	61.9	Pk	28.4	-95.2	-47.47	-52.37	-13	-39.37	0-360	150	V
2	2.488600	56.73	Pk	32.3	-95.2	-47.16	-53.33	-13	-40.33	0-360	150	H
5	2.472400	57.82	Pk	32.2	-95.2	-47.30	-52.48	-13	-39.48	0-360	150	V
3	3.312550	55.24	Pk	32.7	-95.2	-45.76	-53.02	-13	-40.02	0-360	150	H
6	3.306700	55.72	Pk	32.7	-95.2	-45.80	-52.58	-13	-39.58	0-360	150	V
836.6 MHz												
1	* 1.670500	59.6	Pk	28.6	-95.2	-47.40	-54.40	-13	-41.40	0-360	150	H
4	* 1.670500	57.91	Pk	28.6	-95.2	-47.40	-56.09	-13	-43.09	0-360	150	V
2	* 2.494450	56.23	Pk	32.3	-95.2	-47.06	-53.73	-13	-40.73	0-360	150	H
5	2.482300	56.48	Pk	32.2	-95.2	-47.23	-53.75	-13	-40.75	0-360	150	V
3	* 3.334150	54.73	Pk	32.7	-95.2	-45.59	-53.36	-13	-40.36	0-360	150	H
6	3.323350	54.09	Pk	32.7	-95.2	-45.77	-54.18	-13	-41.18	0-360	150	V
846.6 MHz												
1	* 1.693450	56.05	Pk	28.8	-95.2	-47.30	-57.65	-13	-44.65	0-360	150	H
2	* 1.690750	59.37	Pk	28.8	-95.2	-47.33	-54.36	-13	-41.36	0-360	150	V
3	2.539900	55.02	Pk	32.3	-95.2	-47.40	-55.28	-13	-42.28	0-360	150	H
4	2.539900	54.74	Pk	32.3	-95.2	-47.40	-55.56	-13	-42.56	0-360	150	V
5	3.386350	51.85	Pk	32.6	-95.2	-45.40	-56.15	-13	-43.15	0-360	150	H
6	3.386800	52.9	Pk	32.6	-95.2	-45.40	-55.10	-13	-42.10	0-360	150	V

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

Pk - Peak detector

10.2.4. WCDMA BAND 2

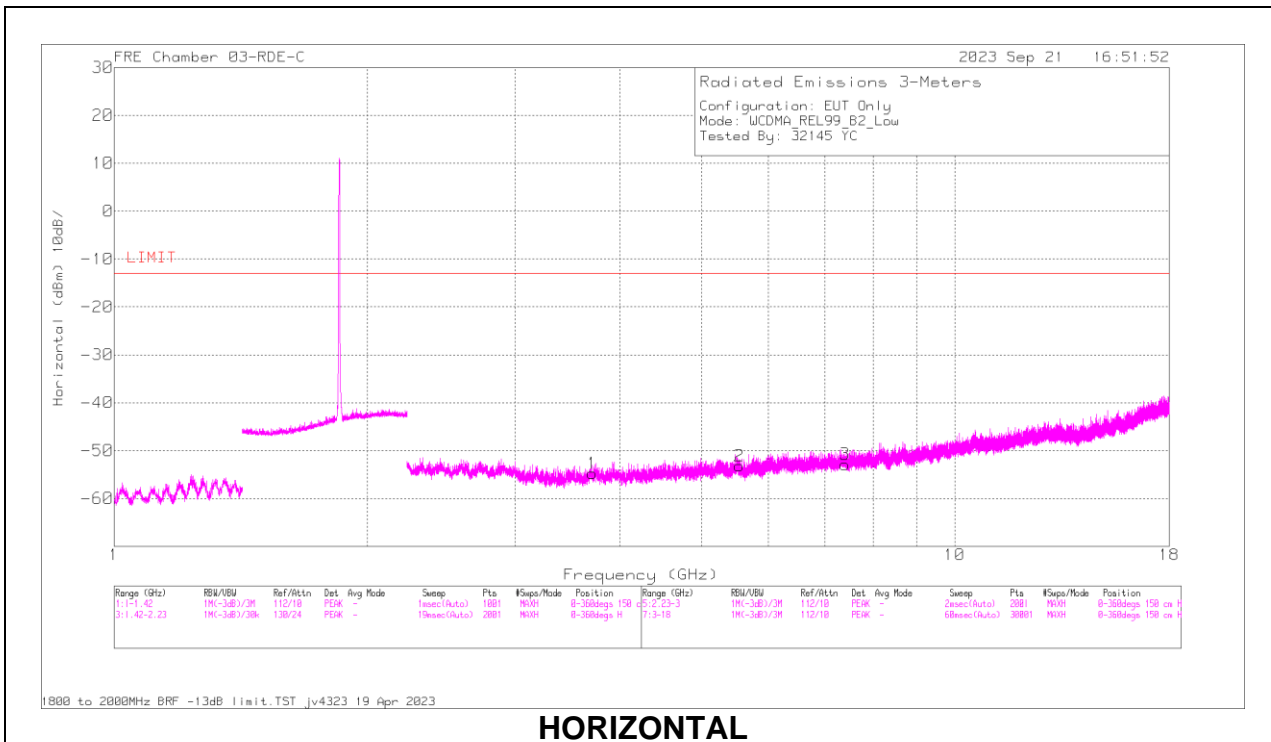
LIMITS

FCC: §24.238(a)

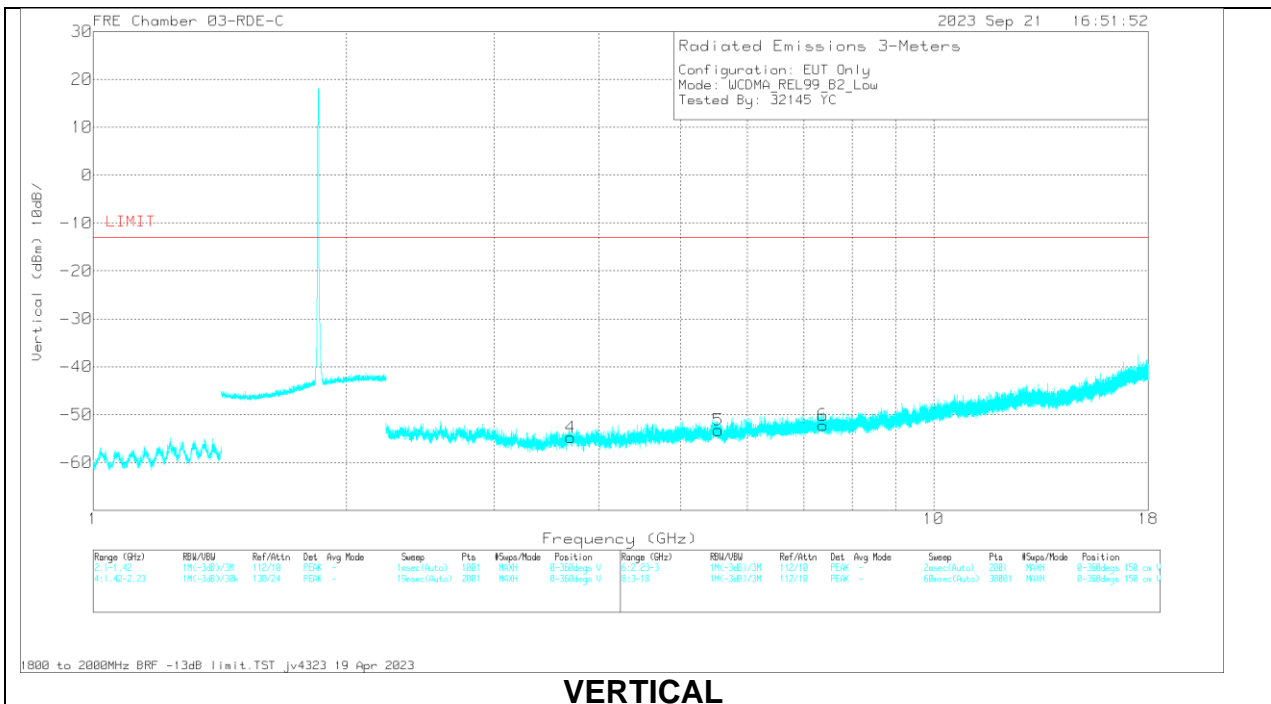
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

REL 99 MODE

LOW CHANNEL RESULTS

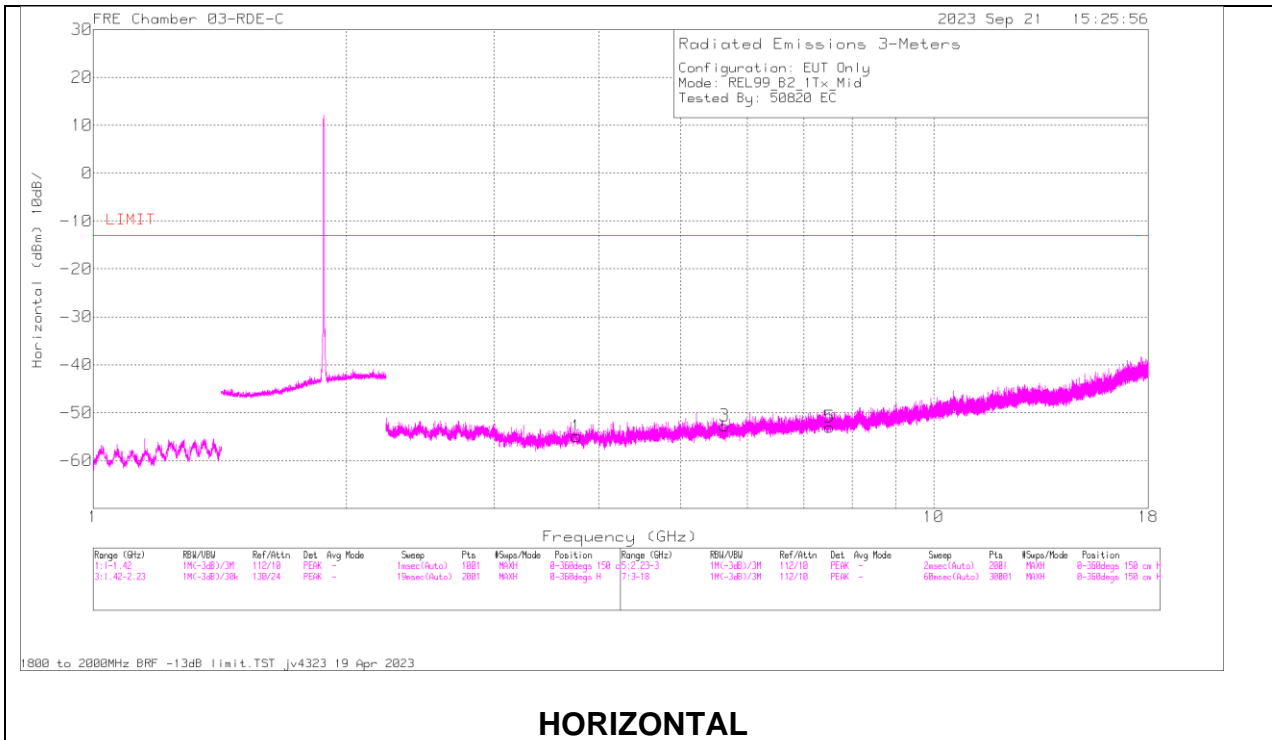


HORIZONTAL

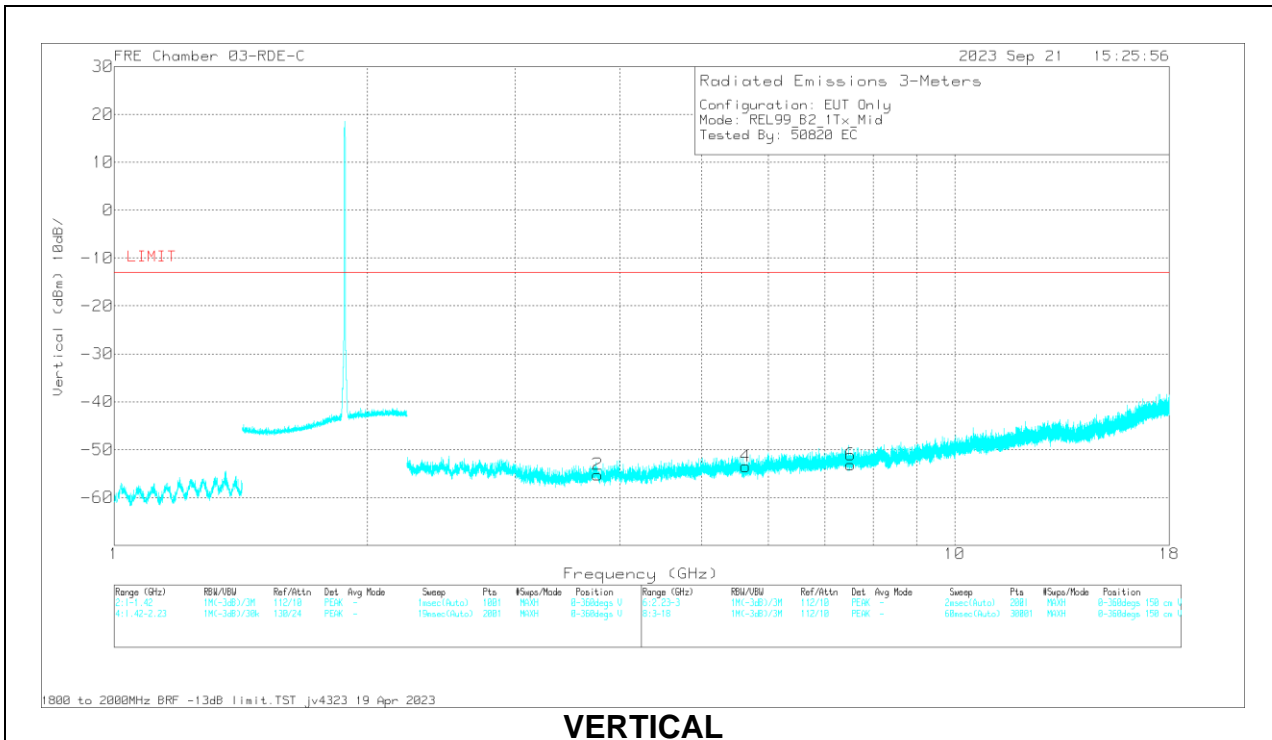


VERTICAL

MID CHANNEL RESULTS

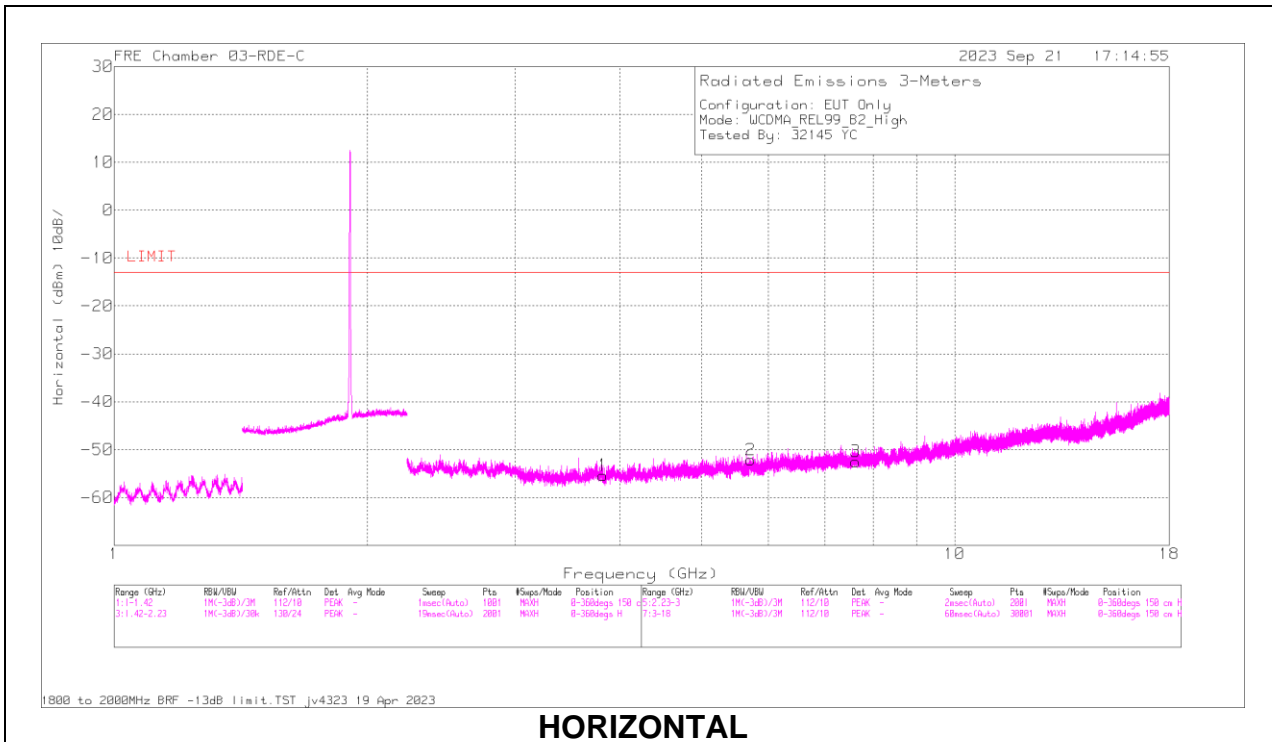


HORIZONTAL

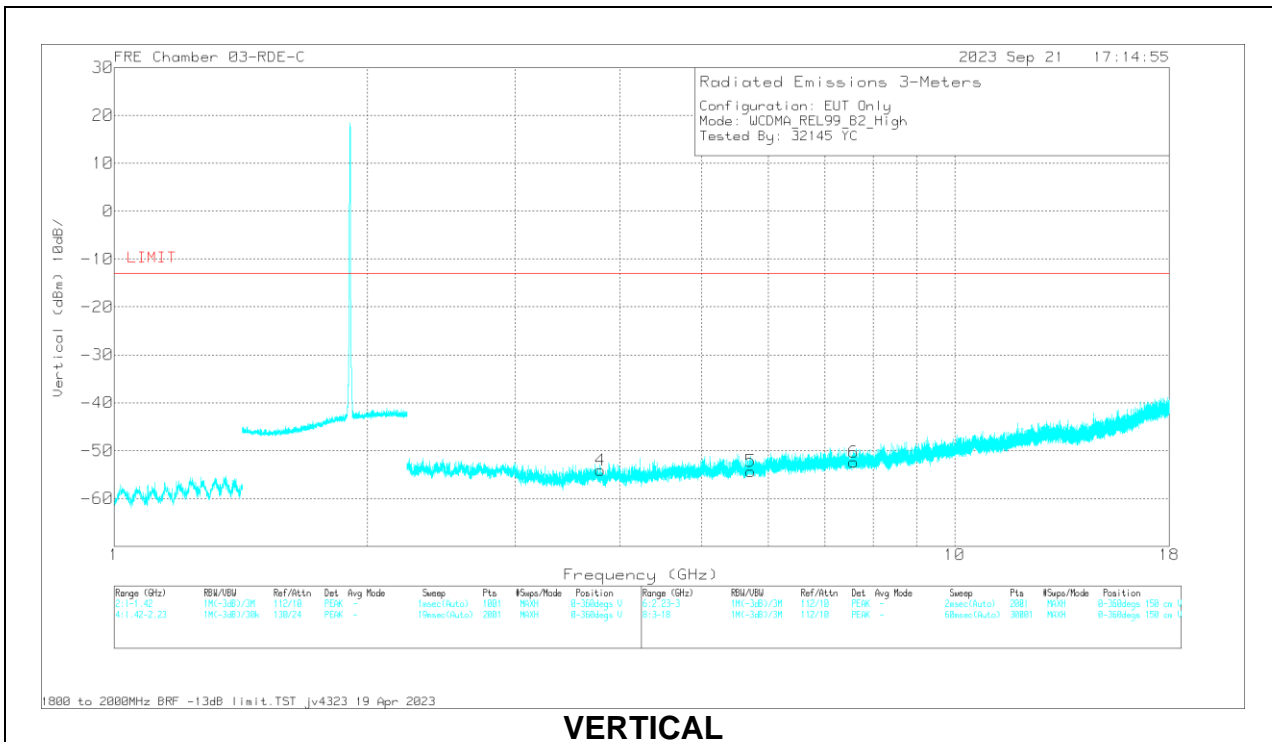


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

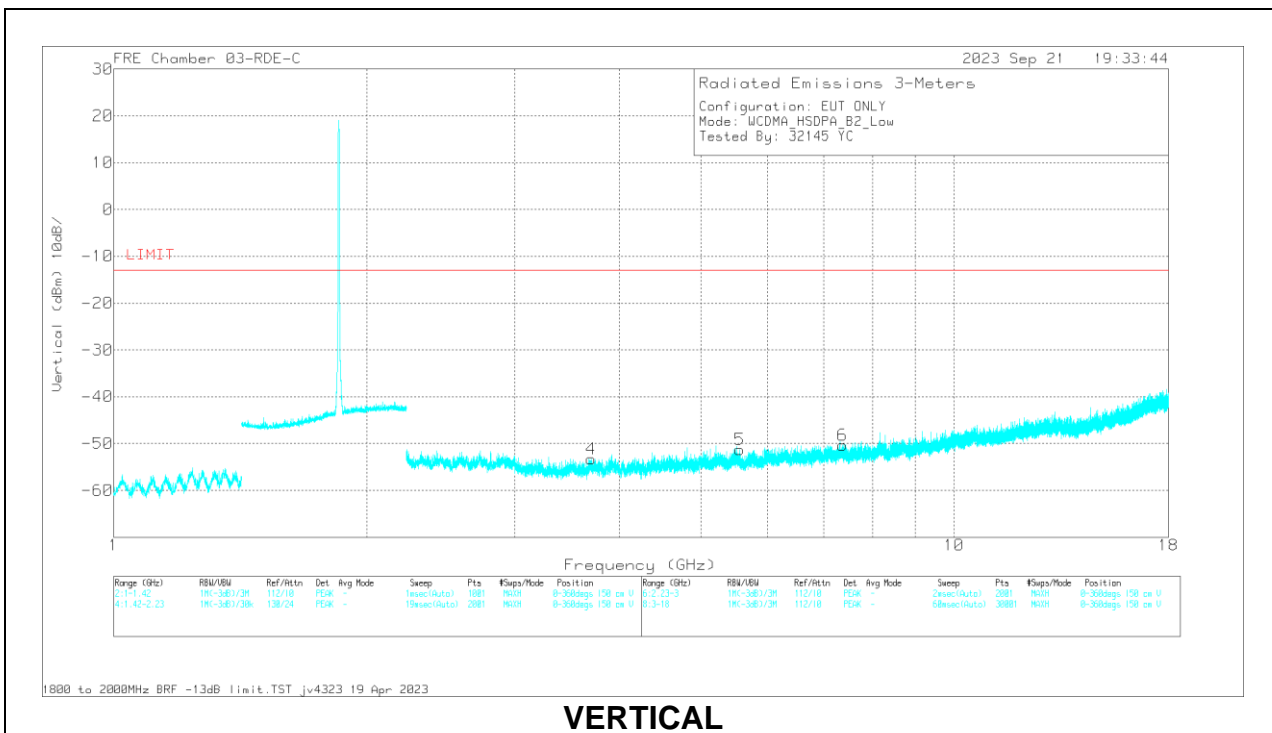
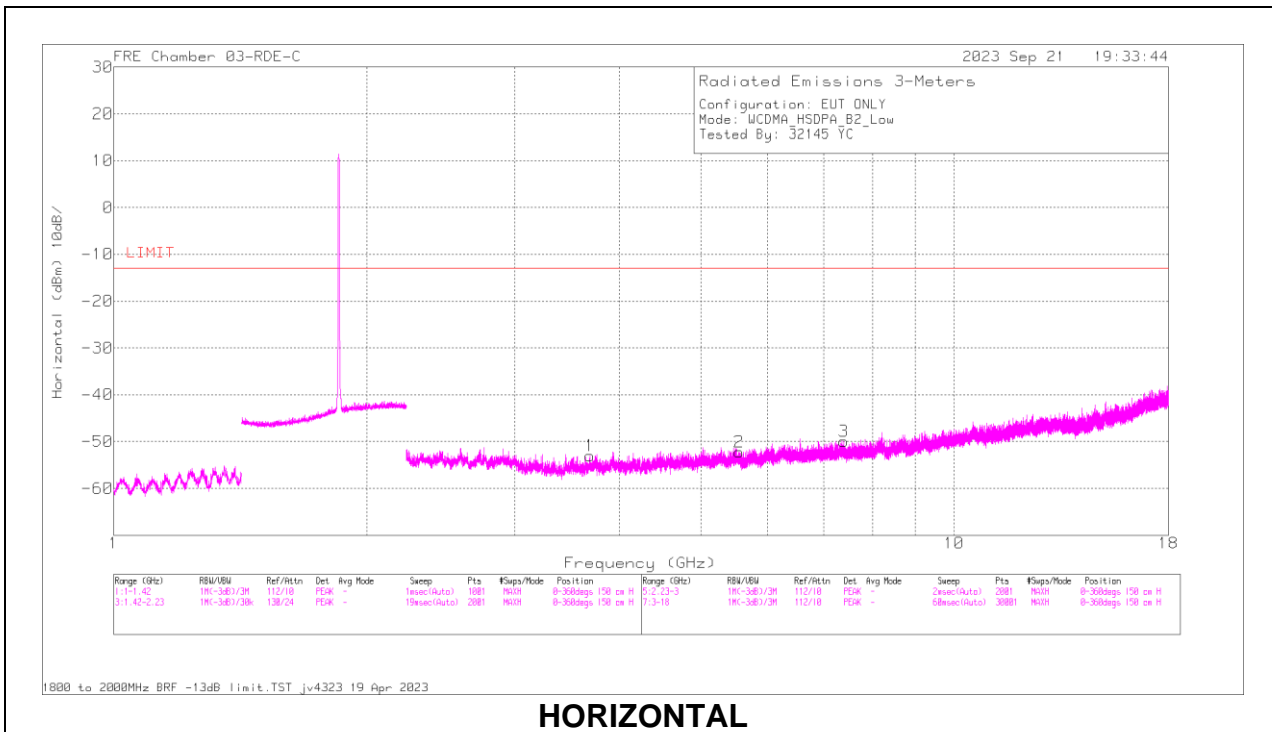
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 1852.4 MHz												
1	* 3.705000	53.21	Pk	33.2	-95.2	-46.00	-54.79	-13	-41.79	0-360	150	H
4	* 3.697500	53.23	Pk	33.2	-95.2	-46.00	-54.77	-13	-41.77	0-360	150	V
2	5.546500	53.69	Pk	34.6	-95.2	-46.30	-53.21	-13	-40.21	0-360	150	H
5	5.546500	53.66	Pk	34.6	-95.2	-46.30	-53.24	-13	-40.24	0-360	150	V
3	* 7.398500	52.72	Pk	35.7	-95.2	-46.10	-52.88	-13	-39.88	0-360	150	H
6	* 7.382500	53.29	Pk	35.7	-95.2	-46.05	-52.26	-13	-39.26	0-360	150	V
MID CH 1880 MHz												
1	* 3.760000	52.86	Pk	33.3	-95.2	-45.90	-54.94	-13	-41.94	0-360	150	H
2	* 3.760000	52.56	Pk	33.3	-95.2	-45.90	-55.24	-13	-42.24	0-360	150	V
3	5.640000	54.45	Pk	34.6	-95.2	-46.60	-52.75	-13	-39.75	0-360	150	H
4	5.640000	53.69	Pk	34.6	-95.2	-46.60	-53.51	-13	-40.51	0-360	150	V
5	* 7.520000	52.07	Pk	35.8	-95.2	-45.70	-53.03	-13	-40.03	0-360	150	H
6	* 7.520000	51.91	Pk	35.8	-95.2	-45.70	-53.19	-13	-40.19	0-360	150	V
HIGH CH 1907.6 MHz												
1	* 3.813500	52.16	Pk	33.3	-95.2	-45.65	-55.39	-13	-42.39	0-360	150	H
4	* 3.789000	53.47	Pk	33.3	-95.2	-45.70	-54.13	-13	-41.13	0-360	150	V
2	5.720500	54.44	Pk	34.6	-95.2	-46.00	-52.16	-13	-39.16	0-360	150	H
5	5.720500	52.26	Pk	34.6	-95.2	-46.00	-54.34	-13	-41.34	0-360	150	V
3	* 7.623000	52.51	Pk	35.8	-95.2	-45.60	-52.49	-13	-39.49	0-360	150	H
6	* 7.582500	52.37	Pk	35.8	-95.2	-45.40	-52.43	-13	-39.43	0-360	150	V

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

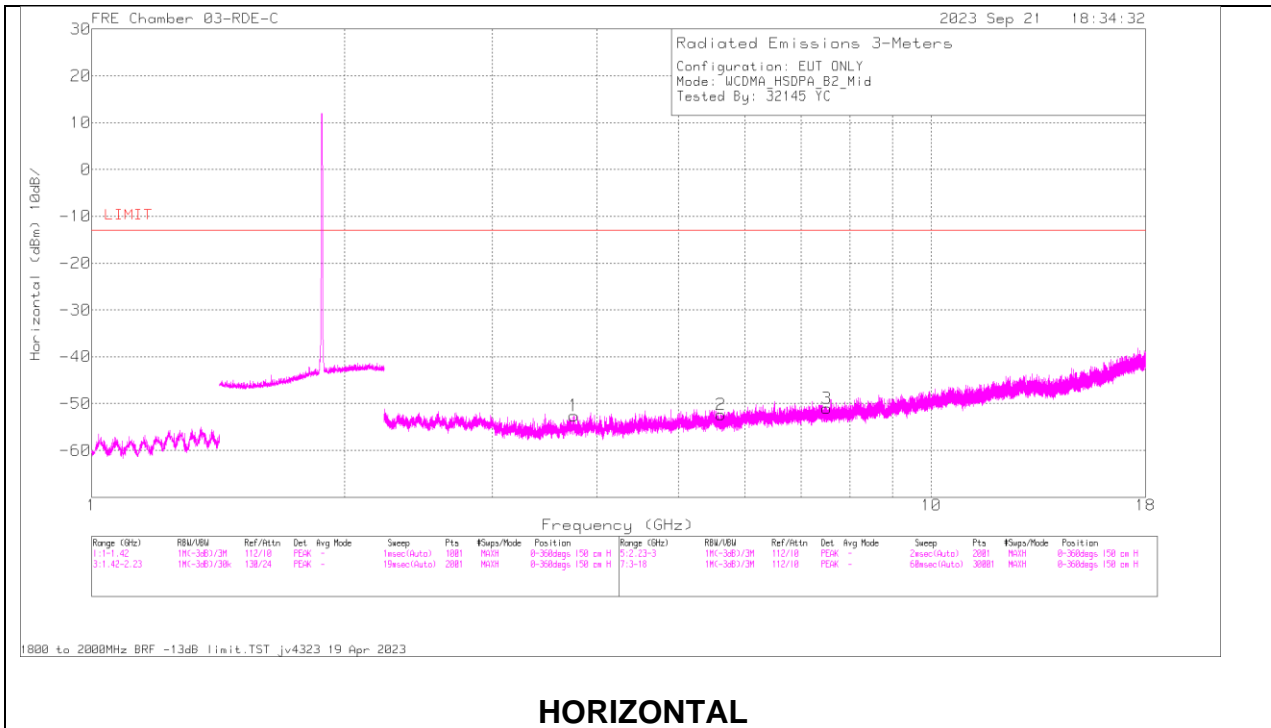
Pk - Peak detector

HSDPA MODE

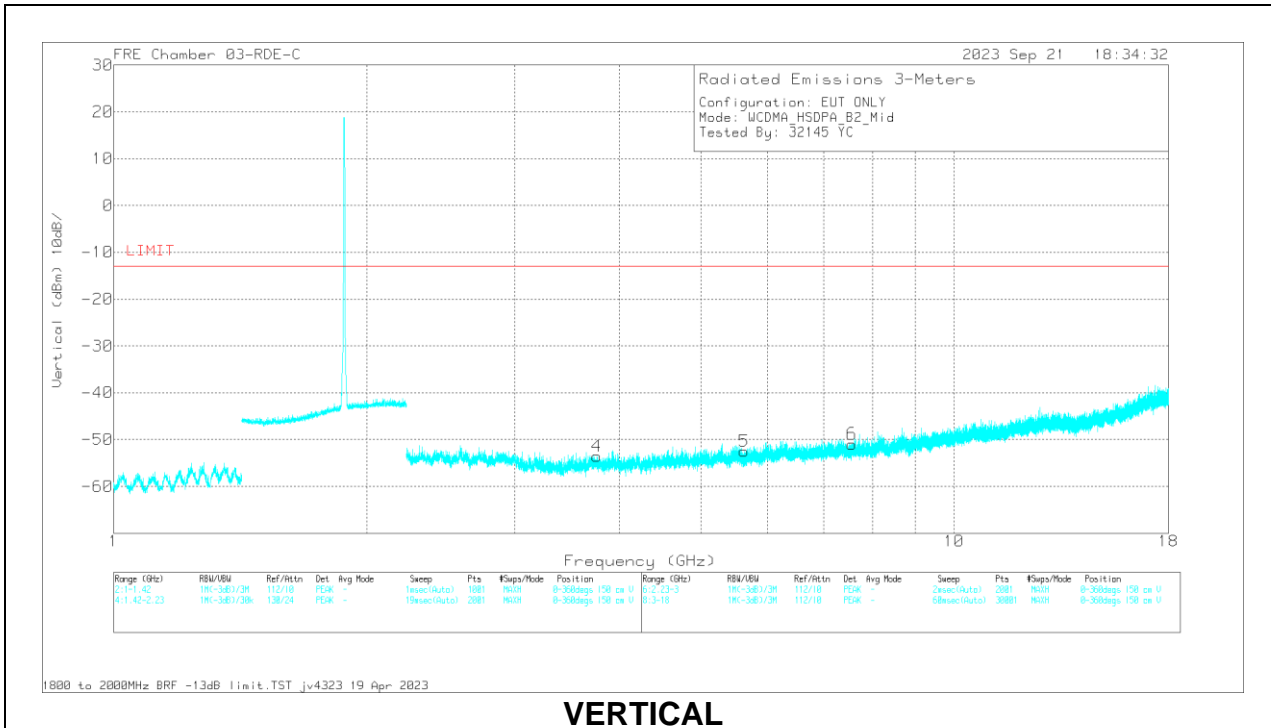
LOW CHANNEL RESULTS



MID CHANNEL RESULTS

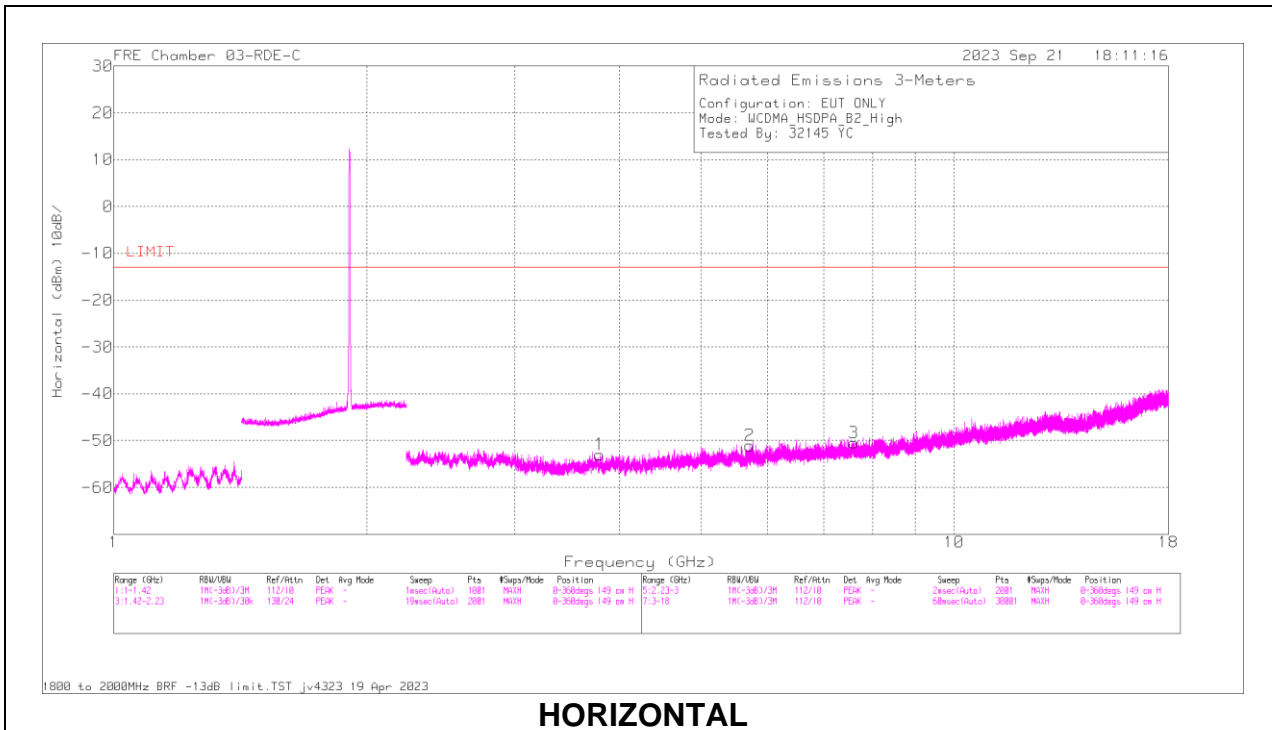


HORIZONTAL

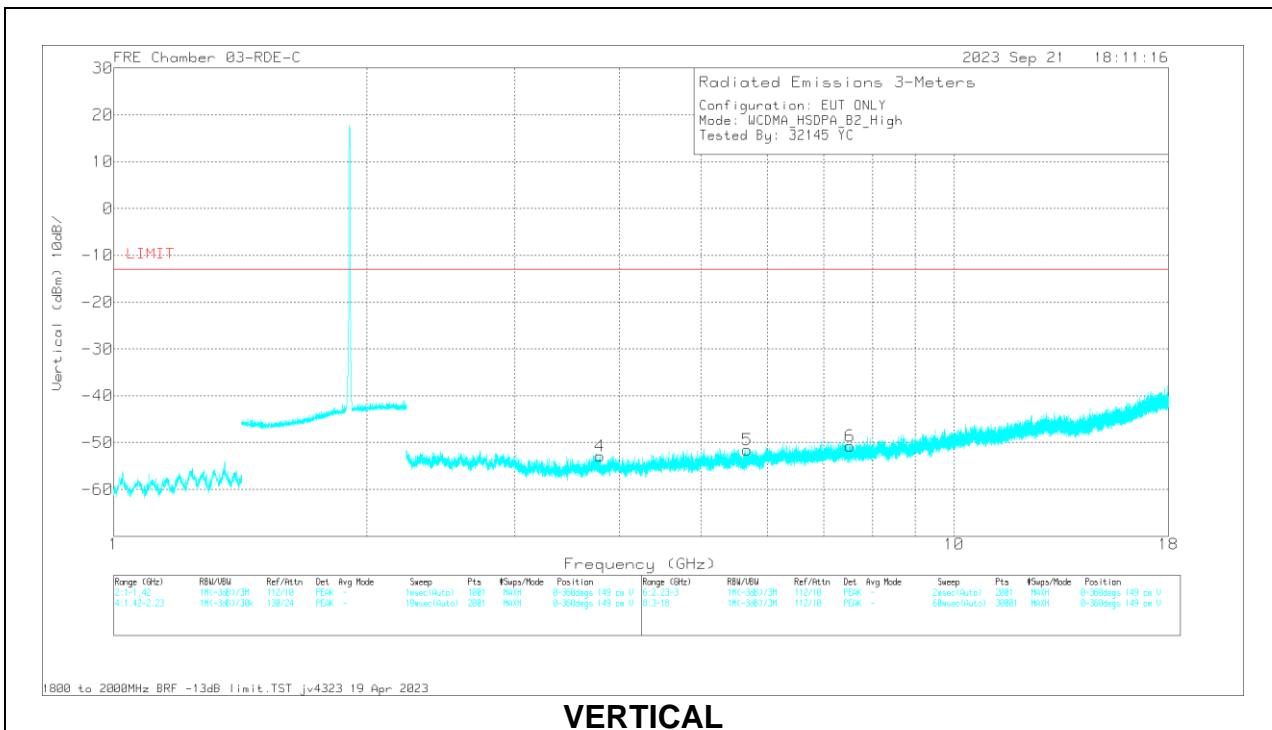


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 1852.4 MHz												
1	* 3.690500	54.98	Pk	33.2	-95.2	-46	-53.02	-13	-40.02	0-360	150	H
4	* 3.699000	54.84	Pk	33.2	-95.2	-46.1	-53.26	-13	-40.26	0-360	150	V
2	* 5.552000	54.72	Pk	34.6	-95.2	-46.3	-52.18	-13	-39.18	0-360	150	H
5	* 5.556000	55.76	Pk	34.6	-95.2	-46.4	-51.24	-13	-38.24	0-360	150	V
3	* 7.393000	55.66	Pk	35.7	-95.2	-46.1	-49.94	-13	-36.94	0-360	150	H
6	* 7.373000	55.1	Pk	35.7	-95.2	-45.9	-50.30	-13	-37.30	0-360	150	V
MID CH 1880 MHz												
1	* 3.755000	55.34	Pk	33.2	-95.2	-45.9	-52.56	-13	-39.56	0-360	150	H
4	* 3.757000	54.37	Pk	33.3	-95.2	-46	-53.53	-13	-40.53	0-360	150	V
2	* 5.615000	55	Pk	34.6	-95.2	-46.7	-52.30	-13	-39.30	0-360	150	H
5	* 5.624500	54.79	Pk	34.6	-95.2	-46.7	-52.51	-13	-39.51	0-360	150	V
3	* 7.509000	54.27	Pk	35.8	-95.2	-45.9	-51.03	-13	-38.03	0-360	150	H
6	* 7.556500	54.05	Pk	35.8	-95.2	-45.6	-50.95	-13	-37.95	0-360	150	V
HIGH CH 1907.6 MHz												
1	* 3.787500	54.59	Pk	33.3	-95.2	-45.65	-52.96	-13	-39.96	0-360	149	H
4	* 3.793500	54.55	Pk	33.3	-95.2	-45.5	-52.85	-13	-39.85	0-360	149	V
2	* 5.713000	55.52	Pk	34.6	-95.2	-46	-51.08	-13	-38.08	0-360	149	H
5	* 5.673000	55.3	Pk	34.6	-95.2	-46.3	-51.60	-13	-38.60	0-360	149	V
3	* 7.605500	54.42	Pk	35.8	-95.2	-45.45	-50.43	-13	-37.43	0-360	149	H
6	* 7.523500	54.4	Pk	35.8	-95.2	-45.7	-50.70	-13	-37.70	0-360	149	V

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

Pk - Peak detector

10.2.5. WCDMA BAND 4

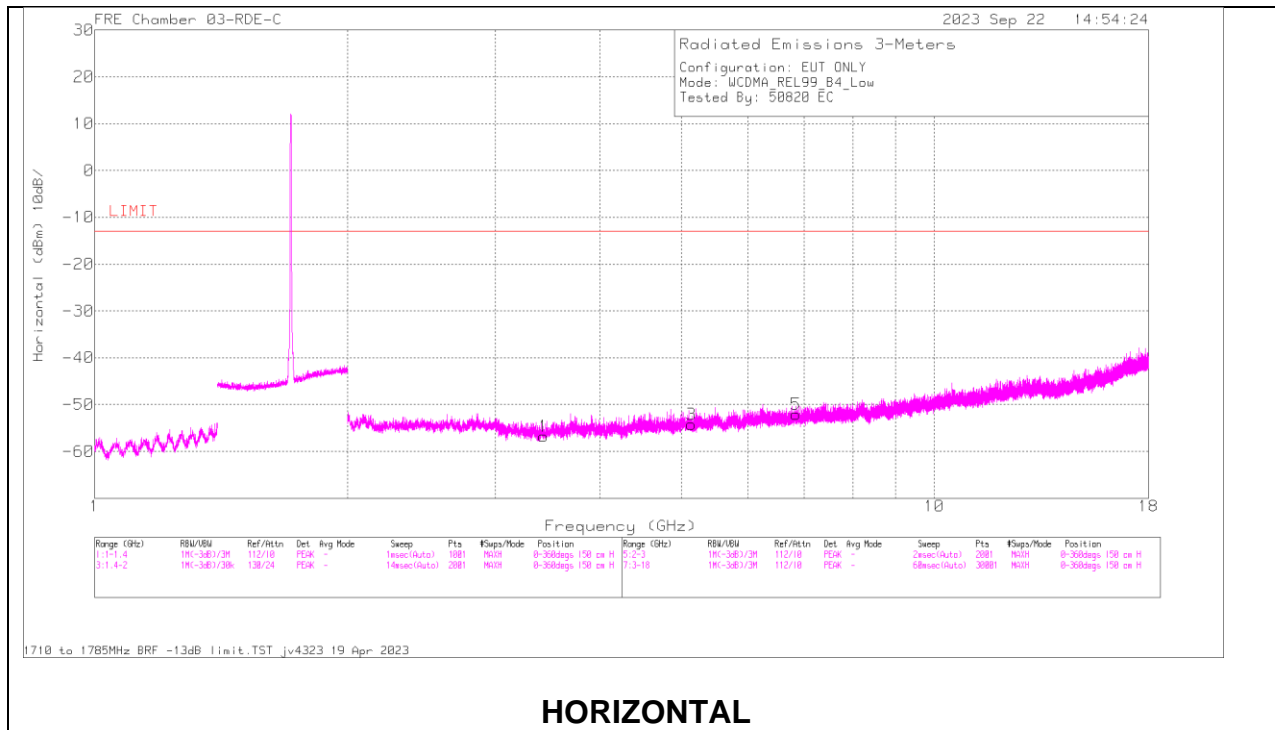
LIMITS

FCC: §27.53 (h)

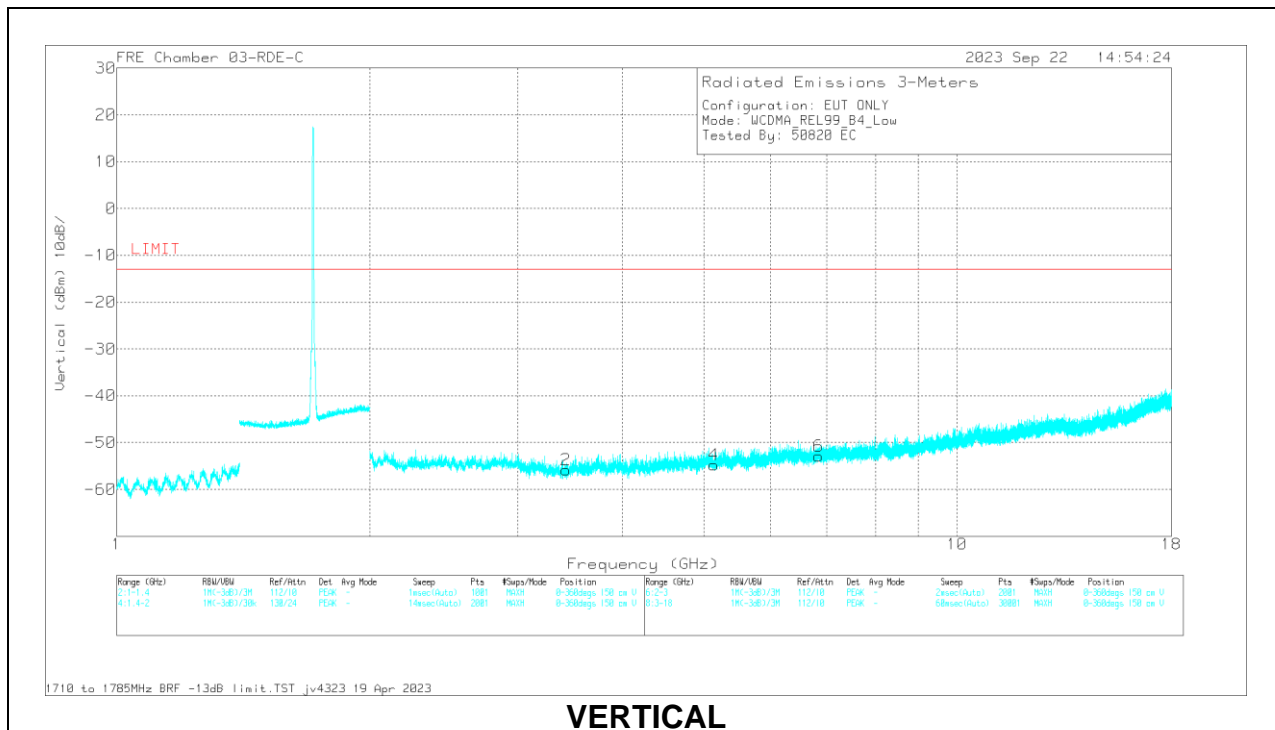
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

REL 99 MODE

LOW CHANNEL RESULTS

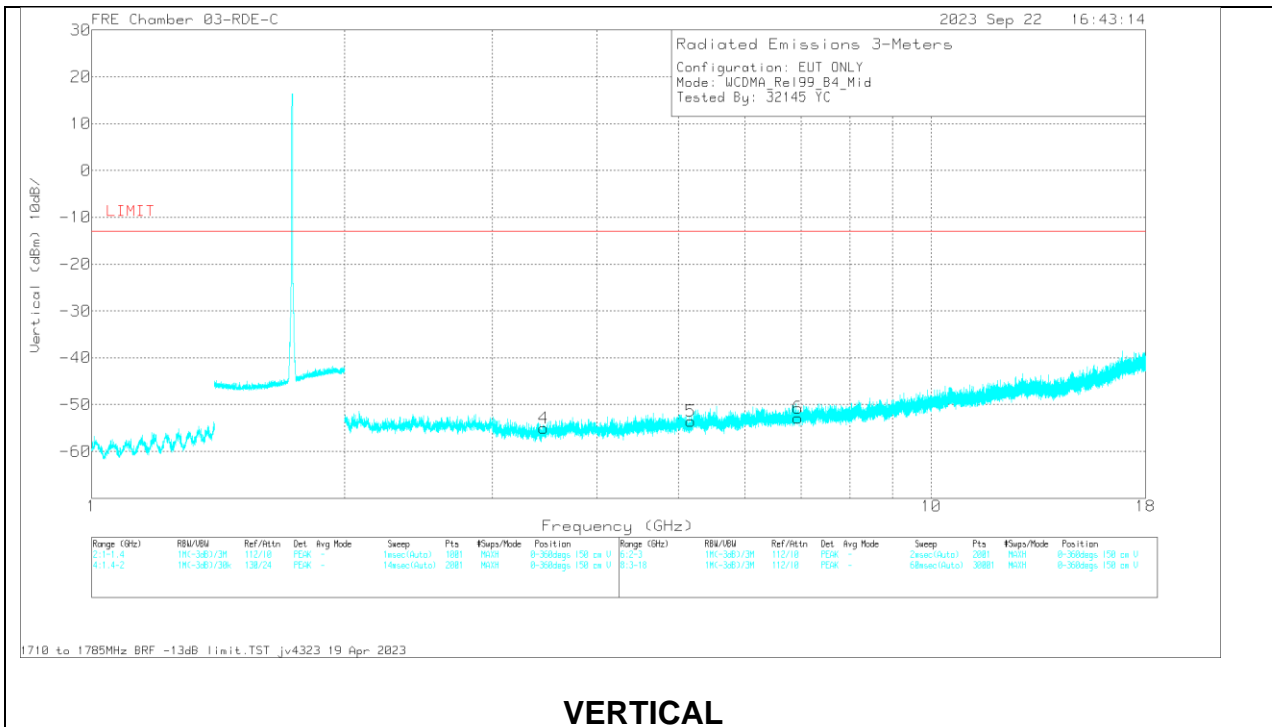
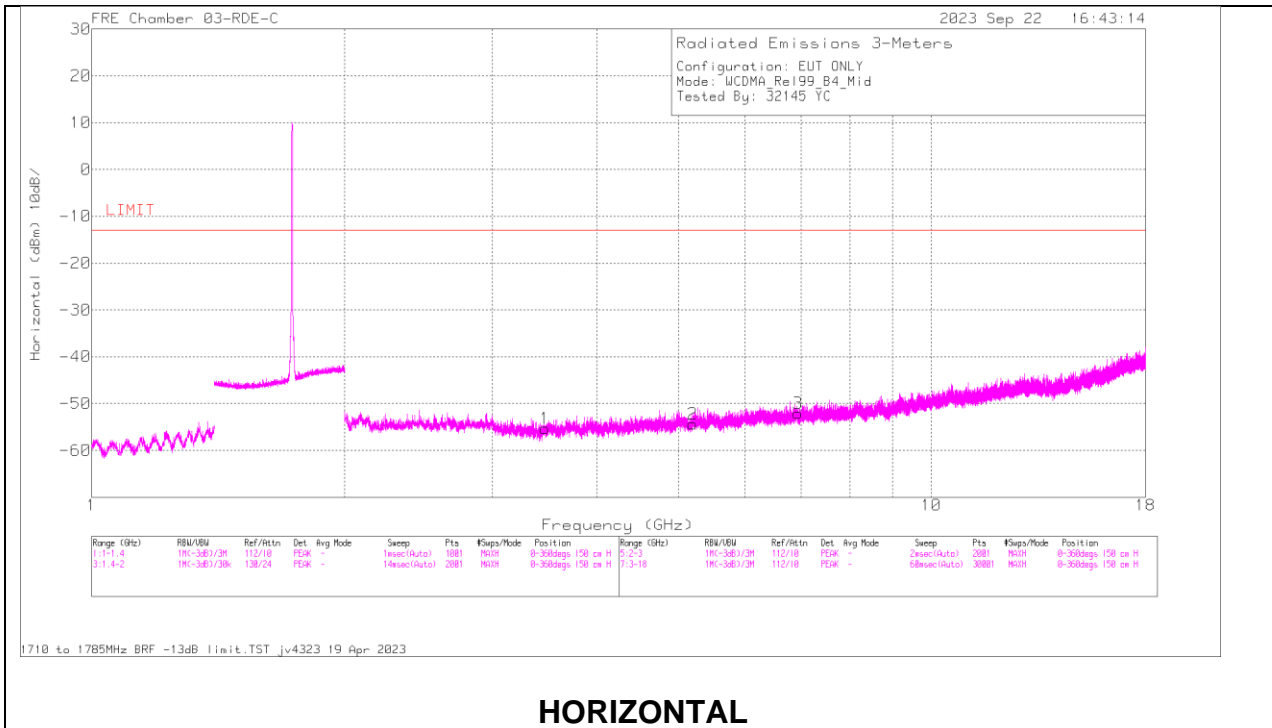


HORIZONTAL

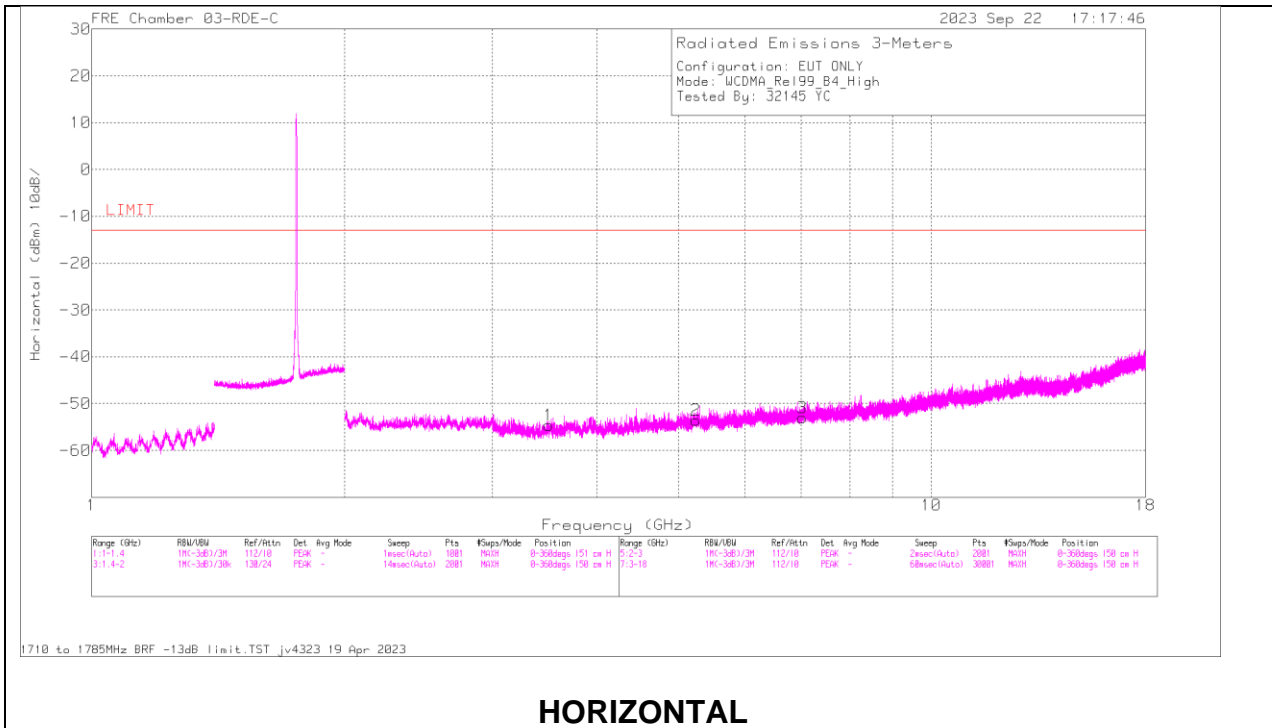


VERTICAL

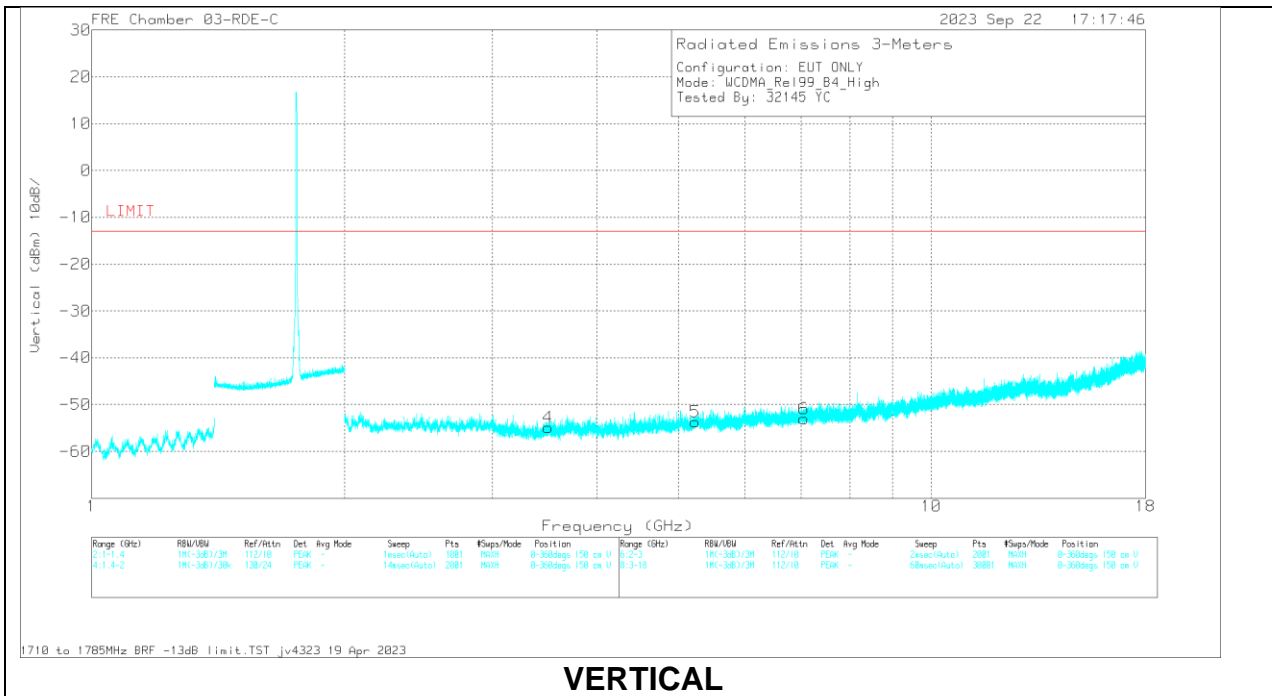
MID CHANNEL RESULTS



HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

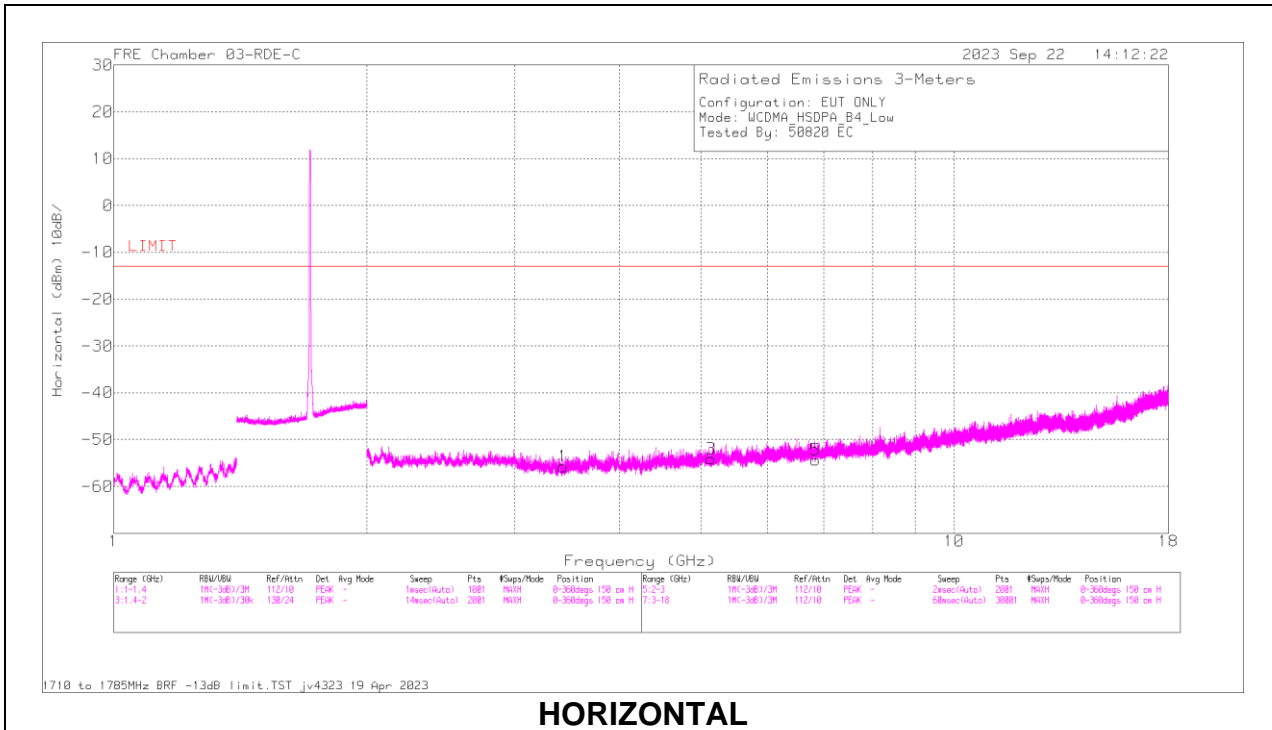
Marker	Frequency (GHz)	Meter Reading (dBUV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	3.425000	51.7	Pk	32.6	-95.2	-45.9	-56.80	-13	-43.80	0-360	150	H
2	3.425000	52.7	Pk	32.6	-95.2	-45.9	-55.80	-13	-42.80	0-360	150	V
3	* 5.137000	54.07	Pk	34.3	-95.2	-47.4	-54.23	-13	-41.23	0-360	150	H
4	* 5.137000	53.48	Pk	34.3	-95.2	-47.4	-54.82	-13	-41.82	0-360	150	V
5	6.849500	53.41	Pk	35.6	-95.2	-45.9	-52.09	-13	-39.09	0-360	150	H
6	6.849500	52.64	Pk	35.6	-95.2	-45.9	-52.86	-13	-39.86	0-360	150	V
1732.6 MHz												
1	3.467000	53.29	Pk	32.7	-95.2	-46.1	-55.31	-13	-42.31	0-360	150	H
4	3.456000	53.52	Pk	32.7	-95.2	-46.1	-55.08	-13	-42.08	0-360	150	V
2	5.196000	53.48	Pk	34.4	-95.2	-47.1	-54.42	-13	-41.42	0-360	150	H
5	5.174000	54.54	Pk	34.4	-95.2	-47.3	-53.56	-13	-40.56	0-360	150	V
3	6.934000	53.72	Pk	35.7	-95.2	-46.3	-52.08	-13	-39.08	0-360	150	H
6	6.941000	52.87	Pk	35.7	-95.2	-46.2	-52.83	-13	-39.83	0-360	150	V
1752.6 MHz												
1	* 3.504000	53.92	Pk	32.8	-95.2	-46.2	-54.68	-13	-41.68	0-360	150	H
4	3.497000	53.65	Pk	32.8	-95.2	-46.2	-54.95	-13	-41.95	0-360	150	V
2	5.246000	53.96	Pk	34.5	-95.2	-46.8	-53.54	-13	-40.54	0-360	150	H
5	5.235000	53.87	Pk	34.5	-95.2	-46.9	-53.73	-13	-40.73	0-360	150	V
3	7.023000	52.53	Pk	35.7	-95.2	-46	-52.97	-13	-39.97	0-360	150	H
6	7.053000	52.42	Pk	35.7	-95.2	-46	-53.08	-13	-40.08	0-360	150	V

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

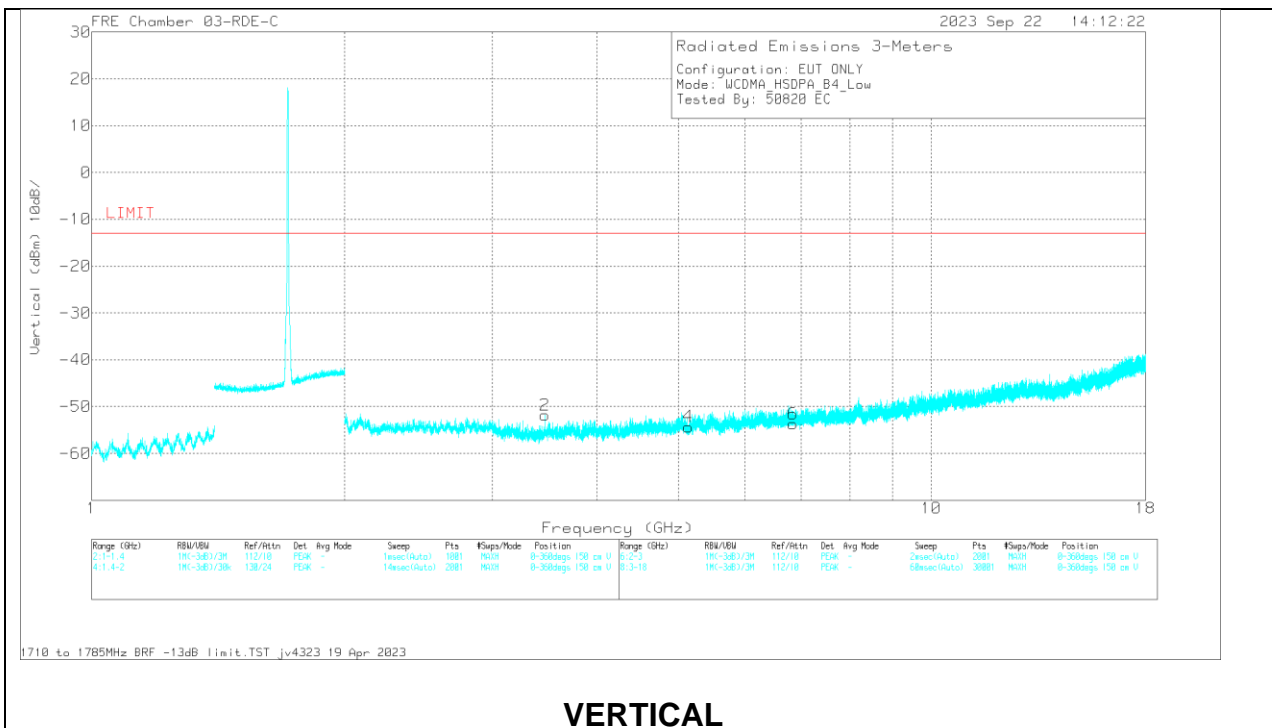
Pk - Peak detector

HSDPA MODE

LOW CHANNEL RESULTS

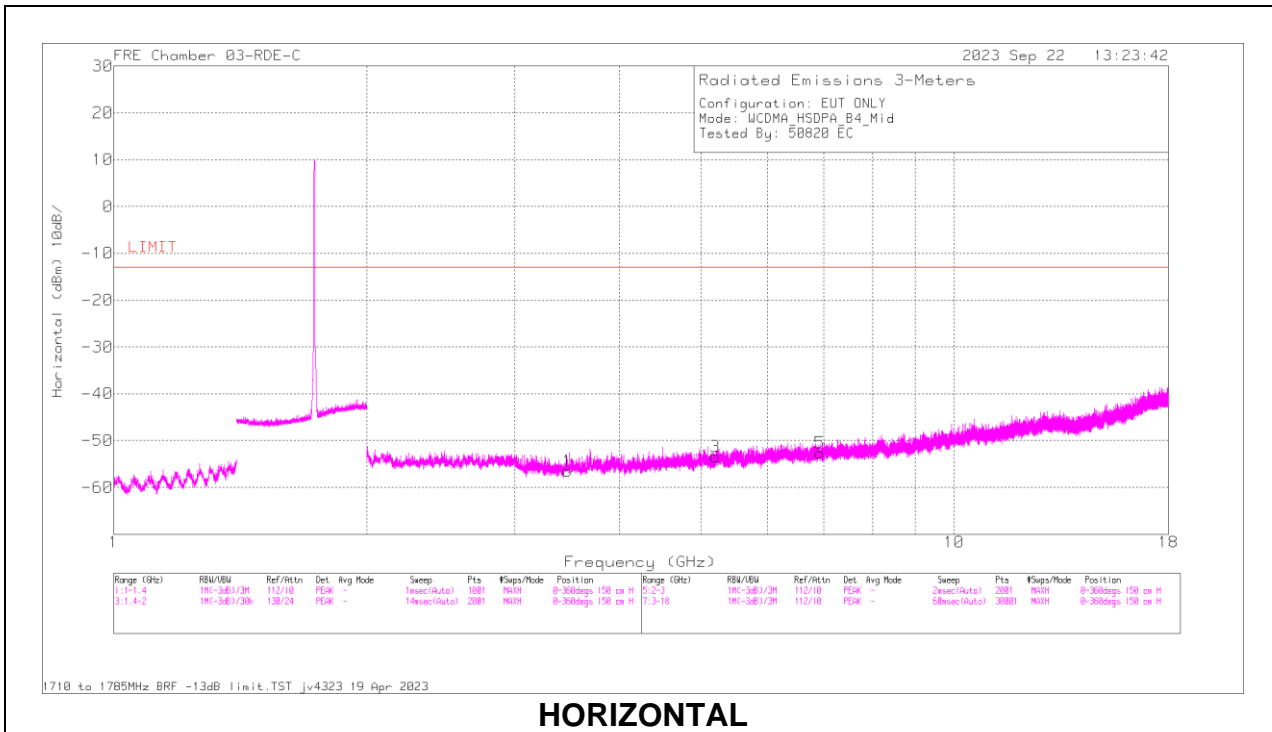


HORIZONTAL

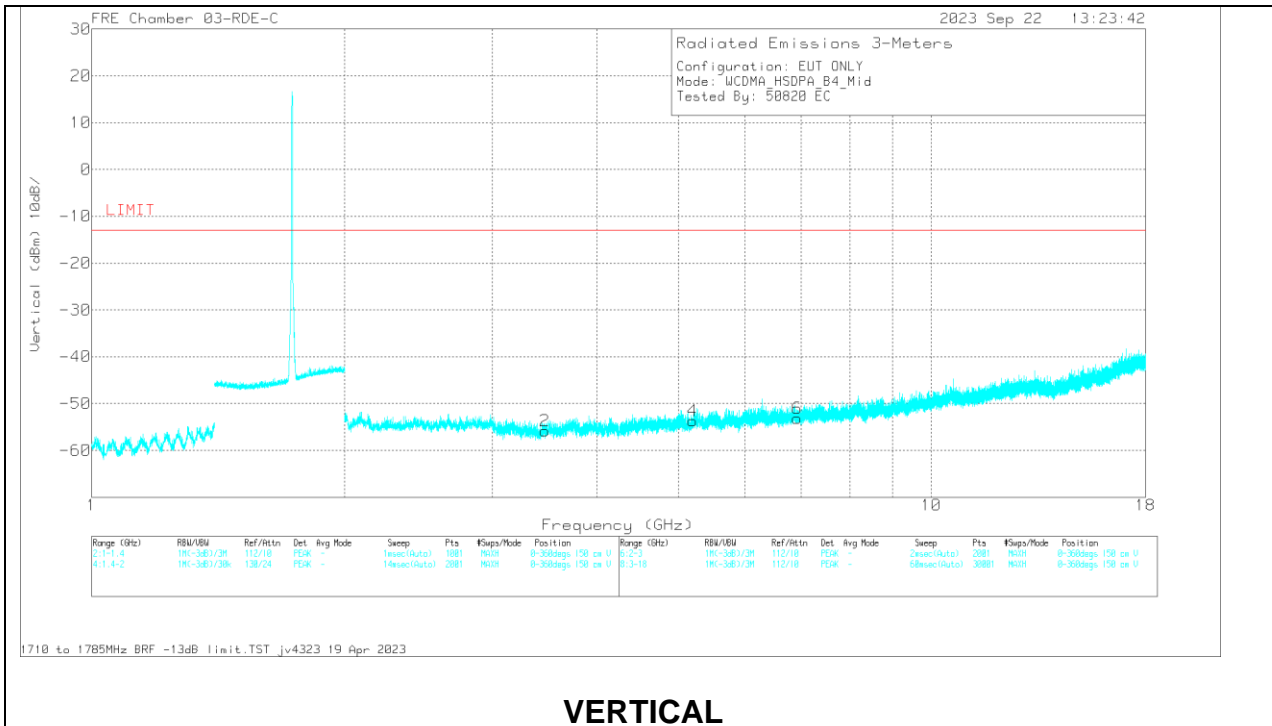


VERTICAL

MID CHANNEL RESULTS

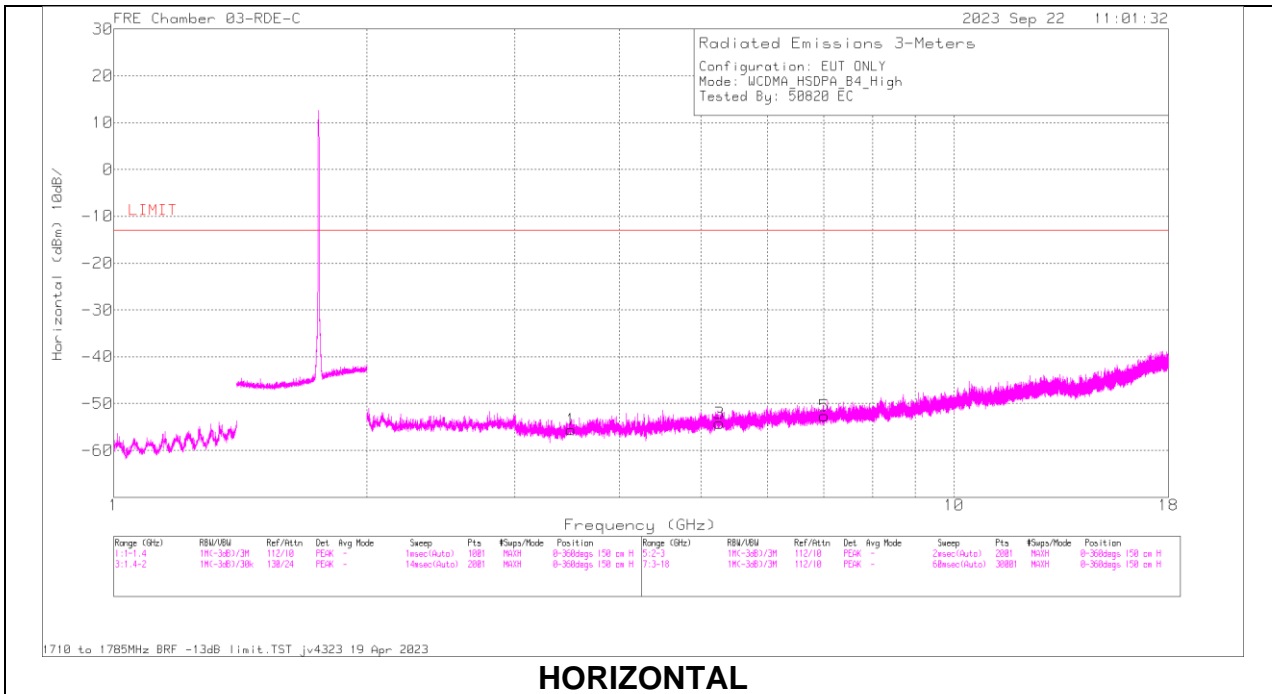


HORIZONTAL

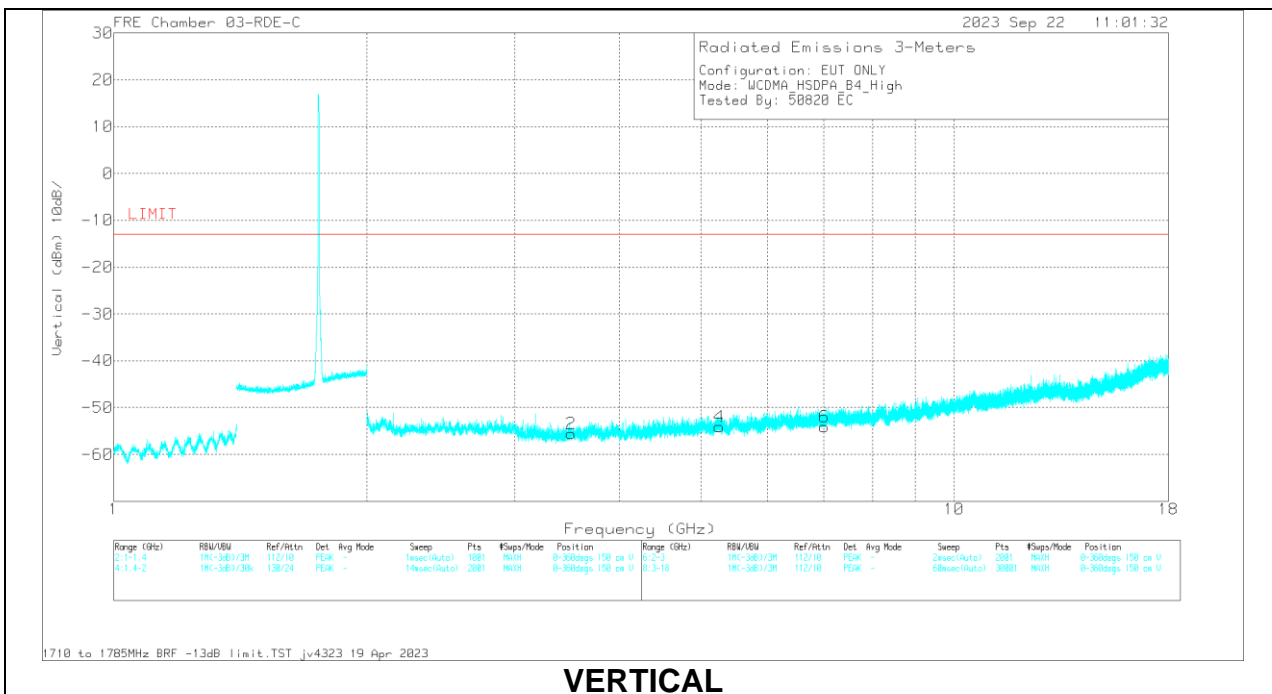


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	3.425000	52.73	Pk	32.6	-95.2	-45.9	-55.77	-13	-42.77	0-360	150	H
2	3.468500	56.7	Pk	32.7	-95.2	-46	-51.80	-13	-38.80	0-360	150	V
3	* 5.137500	54.14	Pk	34.3	-95.2	-47.35	-54.11	-13	-41.11	0-360	150	H
4	* 5.137500	53.95	Pk	34.3	-95.2	-47.35	-54.30	-13	-41.30	0-360	150	V
5	6.849500	51.17	Pk	35.6	-95.2	-45.9	-54.33	-13	-41.33	0-360	150	H
6	6.849500	51.86	Pk	35.6	-95.2	-45.9	-53.64	-13	-40.64	0-360	150	V
1732.6 MHz												
1	3.465500	52.09	Pk	32.7	-95.2	-46.15	-56.56	-13	-43.56	0-360	150	H
2	3.465500	52.81	Pk	32.7	-95.2	-46.15	-55.84	-13	-42.84	0-360	150	V
3	5.198000	54.48	Pk	34.4	-95.2	-47.1	-53.42	-13	-40.42	0-360	150	H
4	5.198000	54.25	Pk	34.4	-95.2	-47.1	-53.65	-13	-40.65	0-360	150	V
5	6.930500	53.02	Pk	35.7	-95.2	-46.2	-52.68	-13	-39.68	0-360	150	H
6	6.930500	52.5	Pk	35.7	-95.2	-46.2	-53.20	-13	-40.20	0-360	150	V
1752.6 MHz												
1	* 3.505500	53.07	Pk	32.8	-95.2	-46.2	-55.53	-13	-42.53	0-360	150	H
2	* 3.505500	52.97	Pk	32.8	-95.2	-46.2	-55.63	-13	-42.63	0-360	150	V
3	5.258000	53.31	Pk	34.5	-95.2	-46.8	-54.19	-13	-41.19	0-360	150	H
4	5.258000	53.37	Pk	34.5	-95.2	-46.8	-54.13	-13	-41.13	0-360	150	V
5	7.010500	53.02	Pk	35.7	-95.2	-46.1	-52.58	-13	-39.58	0-360	150	H
6	7.010500	51.56	Pk	35.7	-95.2	-46.1	-54.04	-13	-41.04	0-360	150	V

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

Pk - Peak detector

10.2.6. LTE BAND 2

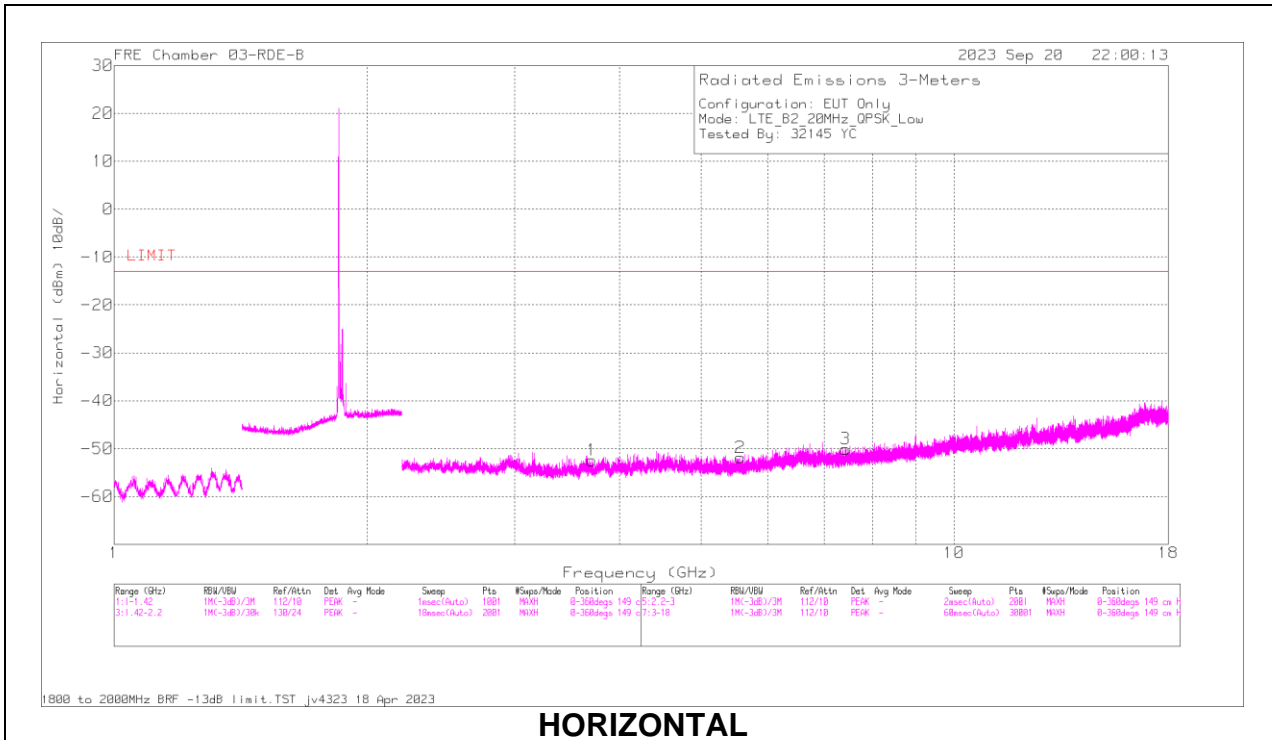
LIMITS

FCC: §24.238(a)

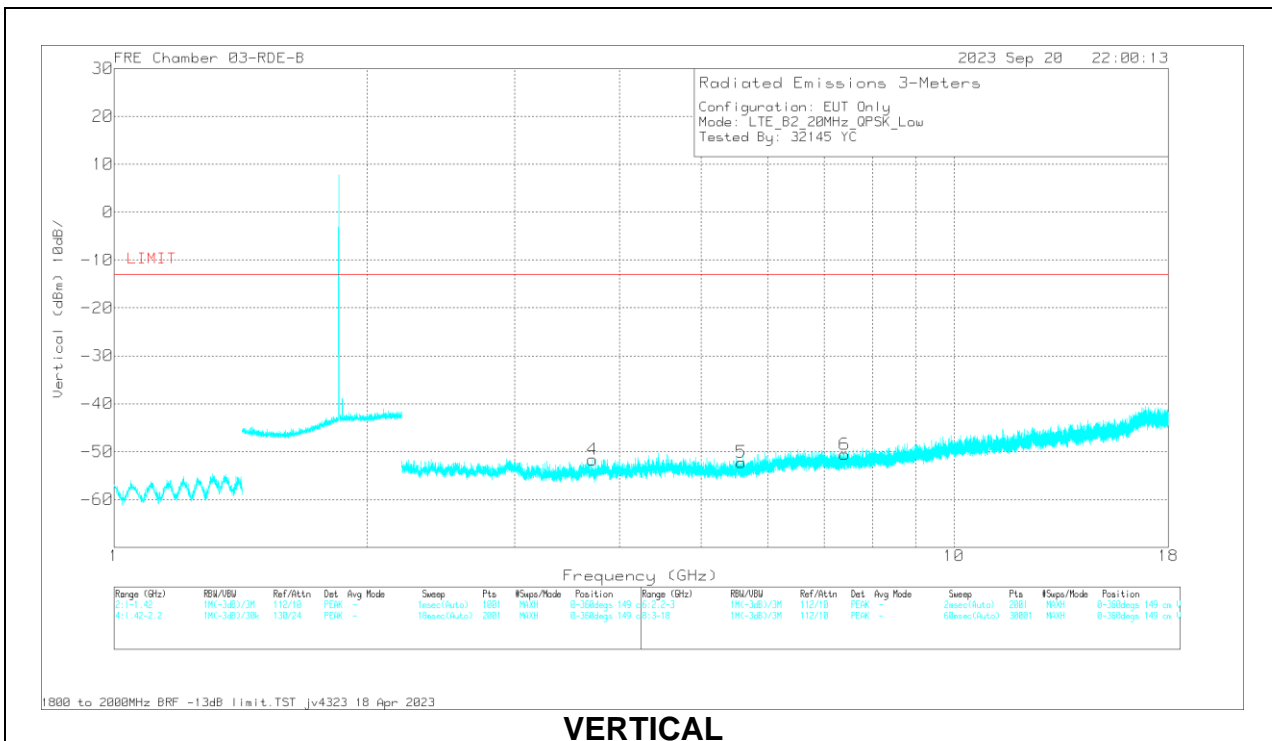
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

QPSK LTE BAND 2 (20.0MHZ BANDWIDTH)

LOW CHANNEL RESULTS

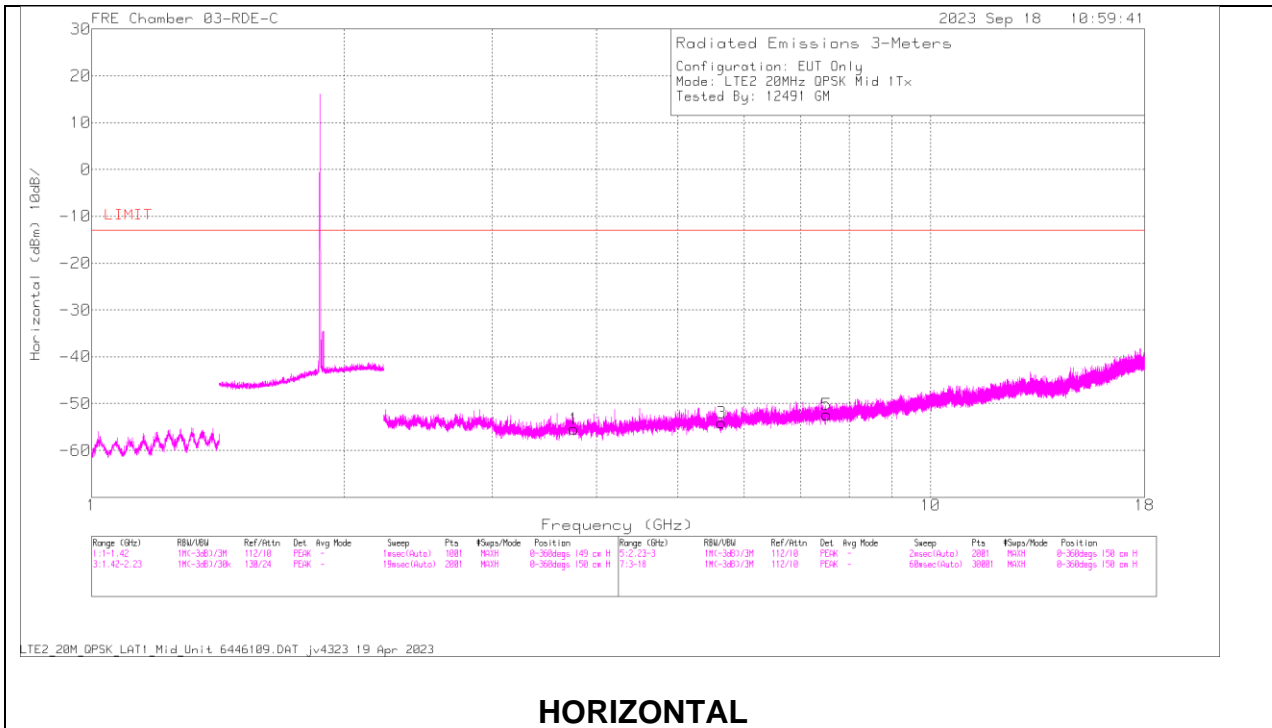


HORIZONTAL

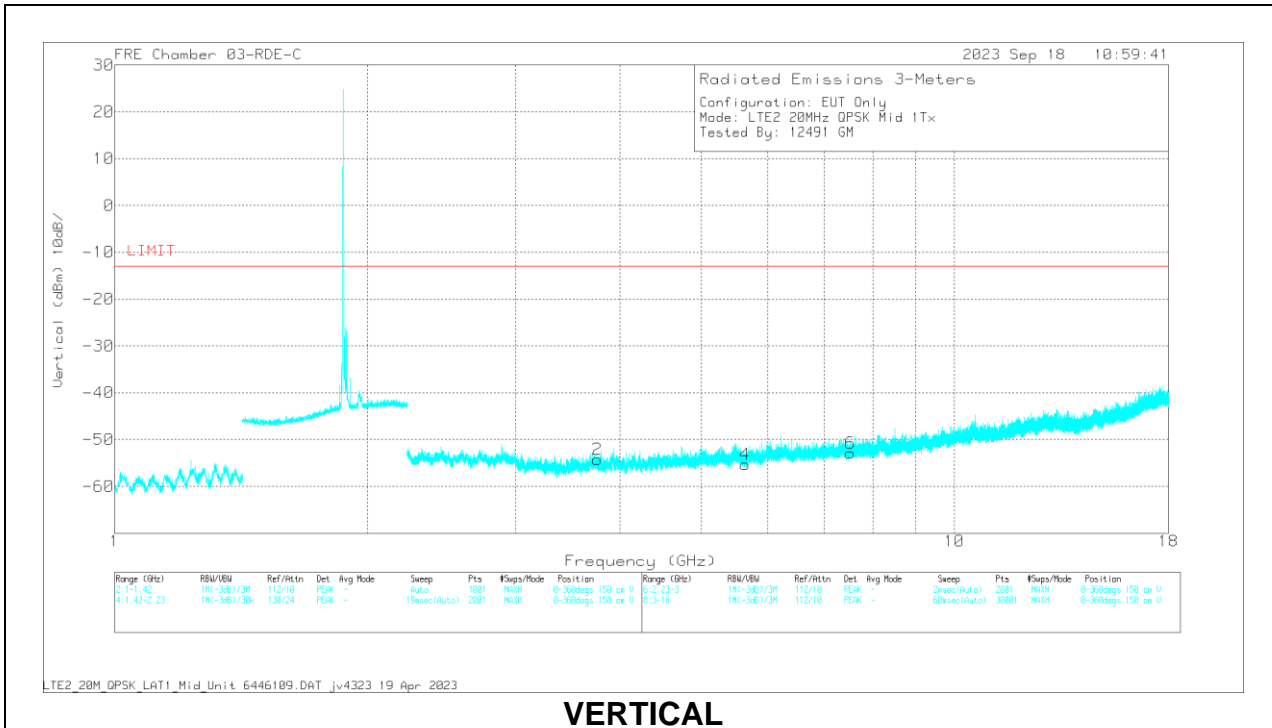


VERTICAL

MID CHANNEL RESULTS

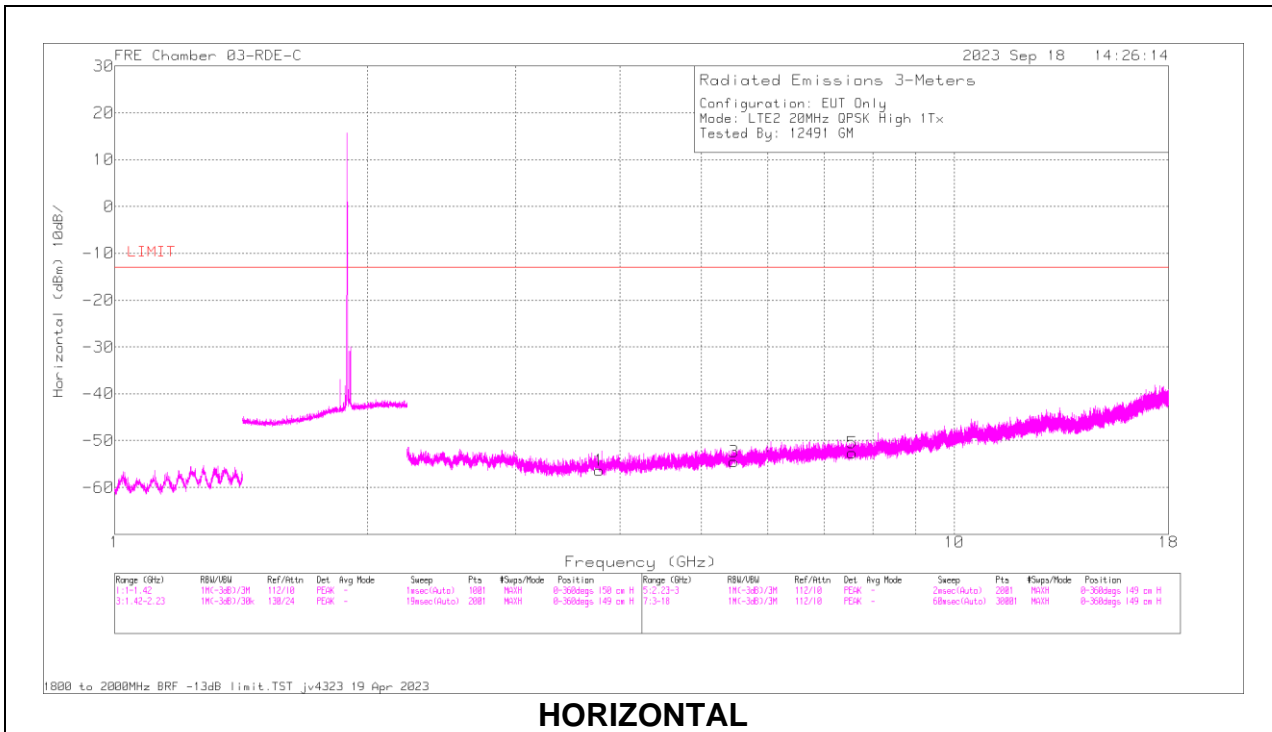


HORIZONTAL

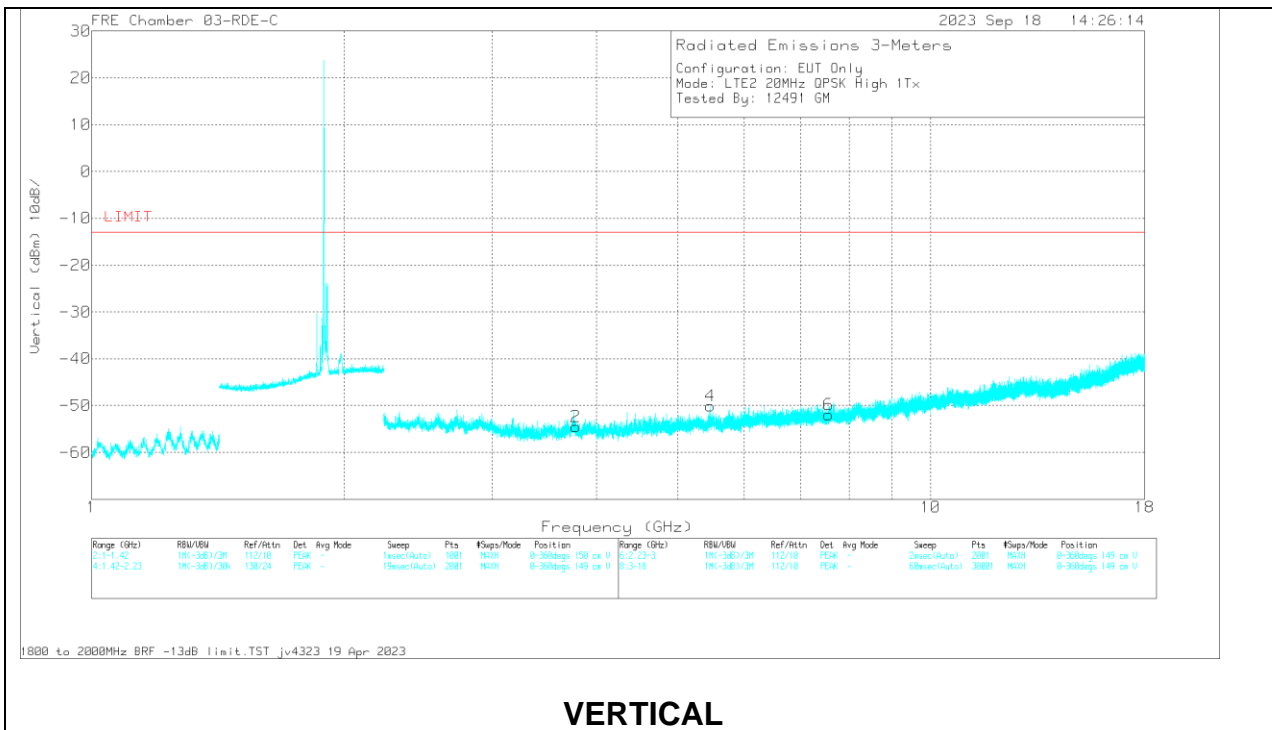


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

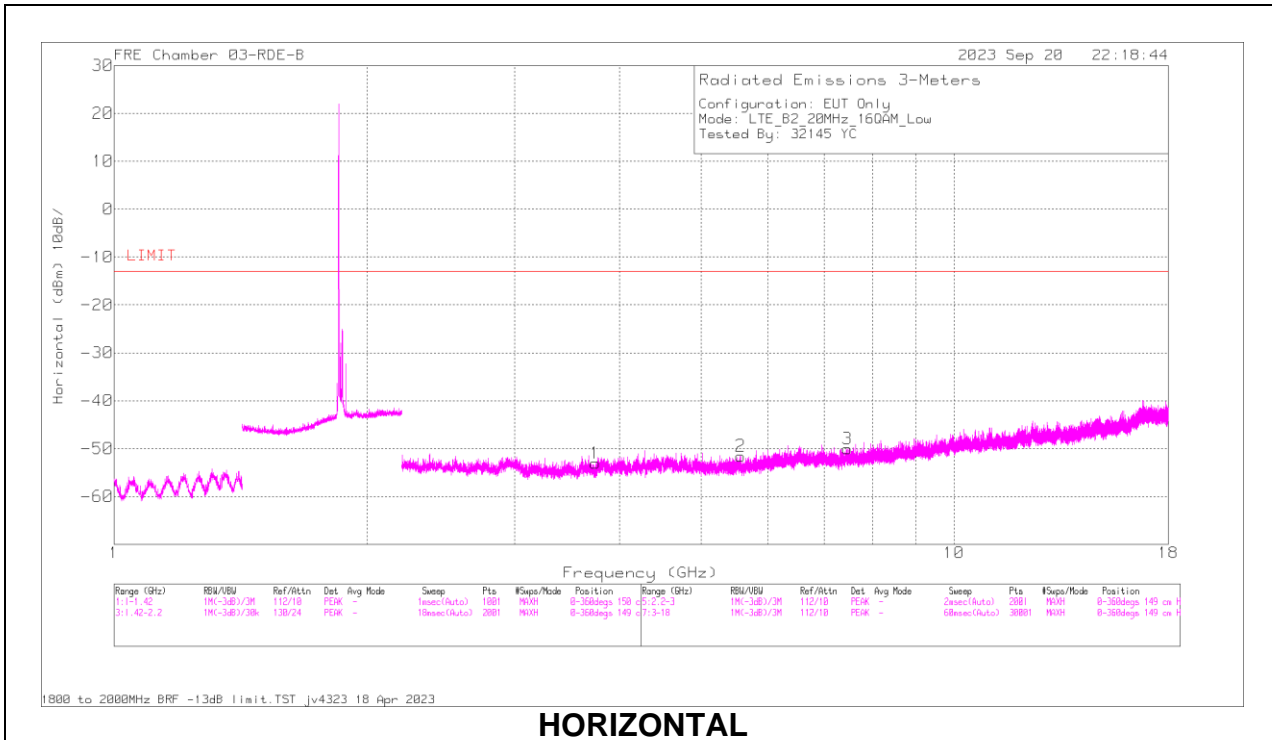
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
LOW CH 1860 MHz												
1	* 3.705000	55.85	Pk	33.5	-95.2	-46.60	-52.45	-13	-39.45	0-360	149	H
4	* 3.714000	56.93	Pk	33.5	-95.2	-46.90	-51.67	-13	-38.67	0-360	149	V
2	5.566500	57.20	Pk	34.4	-95.2	-48.30	-51.90	-13	-38.90	0-360	149	H
5	5.583500	56.87	Pk	34.4	-95.2	-48.30	-52.23	-13	-39.23	0-360	149	V
3	* 7.431000	56.72	Pk	35.9	-95.2	-47.50	-50.08	-13	-37.08	0-360	149	H
6	* 7.408500	56.38	Pk	35.9	-95.2	-47.65	-50.57	-13	-37.57	0-360	149	V
MID CH 1880 MHz												
1	* 3.759663	56.32	Pk	33.3	-95.2	-45.90	-51.48	-13	-38.48	120	132	H
2	* 3.755358	56.07	Pk	33.2	-95.2	-45.90	-51.83	-13	-38.83	16	270	V
3	5.635529	57.21	Pk	34.6	-95.2	-46.60	-49.99	-13	-36.99	351	177	H
4	5.639822	56.12	Pk	34.6	-95.2	-46.60	-51.08	-13	-38.08	115	115	V
5	* 7.522128	56.06	Pk	35.8	-95.2	-45.70	-49.04	-13	-36.04	125	222	H
6	* 7.518112	56.25	Pk	35.8	-95.2	-45.80	-48.95	-13	-35.95	237	131	V
HIGH CH 1900 MHz												
1	* 3.780034	54.97	Pk	33.3	-95.2	-45.70	-52.63	-13	-39.63	338	137	H
2	* 3.779775	54.78	Pk	33.3	-95.2	-45.68	-52.80	-13	-39.80	196	117	V
3	5.463702	57.08	Pk	34.6	-95.2	-46.40	-49.92	-13	-36.92	284	104	H
4	5.461480	56.96	Pk	34.6	-95.2	-46.40	-50.04	-13	-37.04	110	232	V
5	* 7.559197	55.89	Pk	35.8	-95.2	-45.60	-49.11	-13	-36.11	26	122	H
6	* 7.560686	55.49	Pk	35.8	-95.2	-45.53	-49.44	-13	-36.44	13	162	V

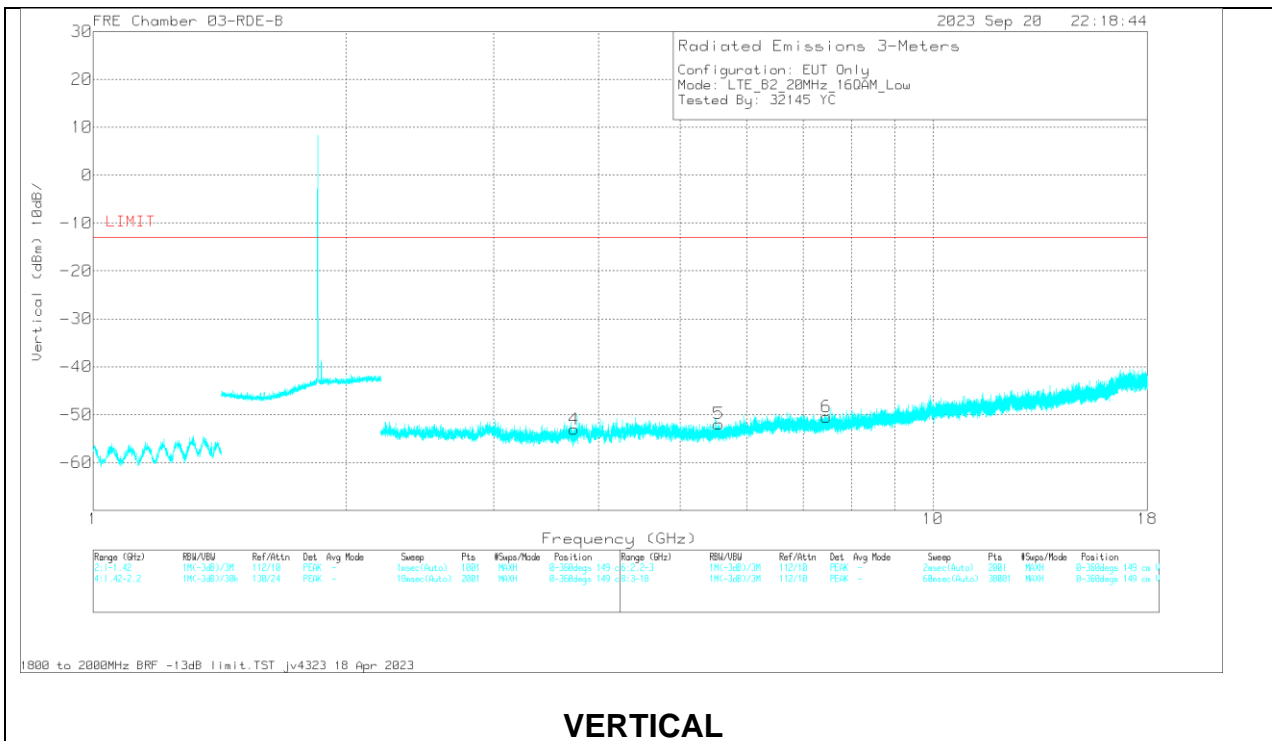
Pk - Peak detector

16QAM LTE BAND 2 (20.0MHZ BANDWIDTH)

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL