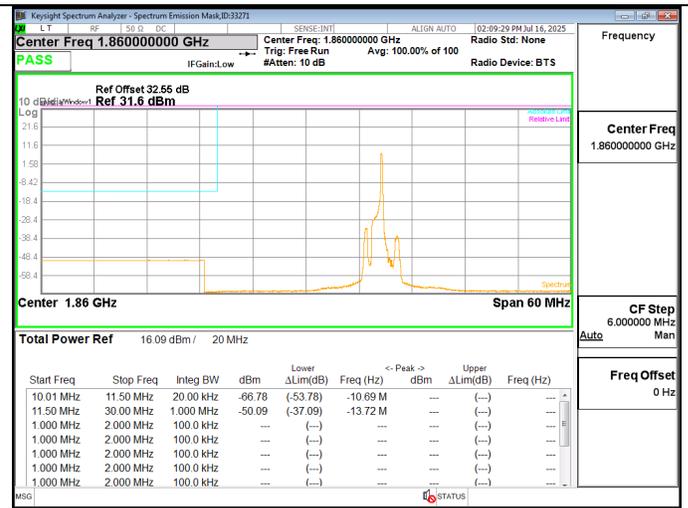
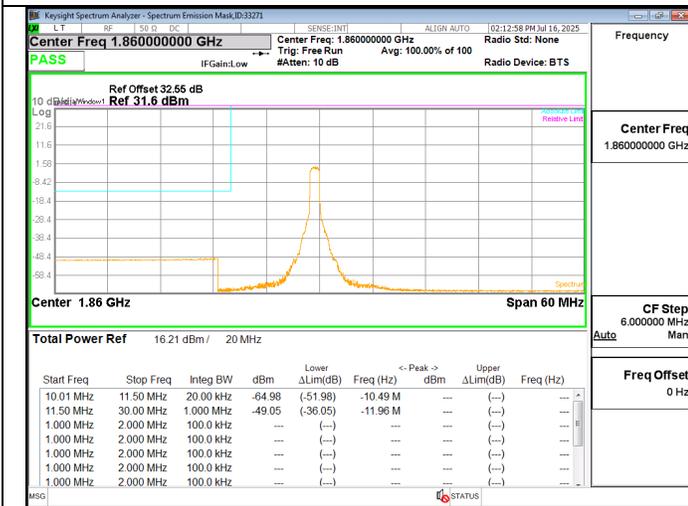


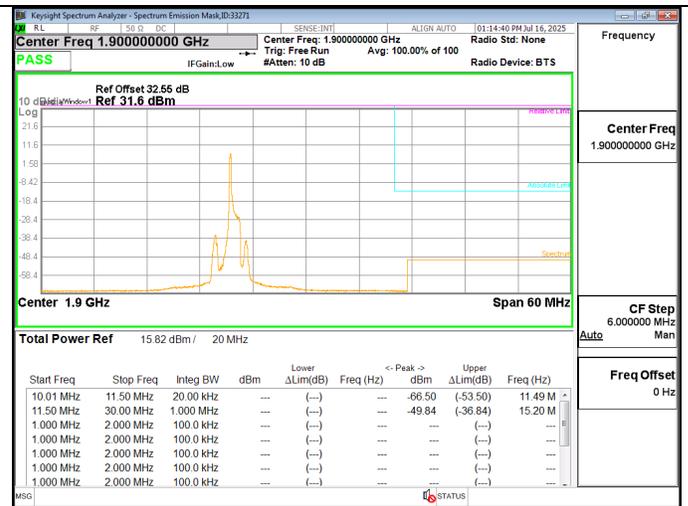
LTE2 20MHz QPSK LOW Ch RB1-0



LTE2 20MHz QPSK LOW Ch RB1-5



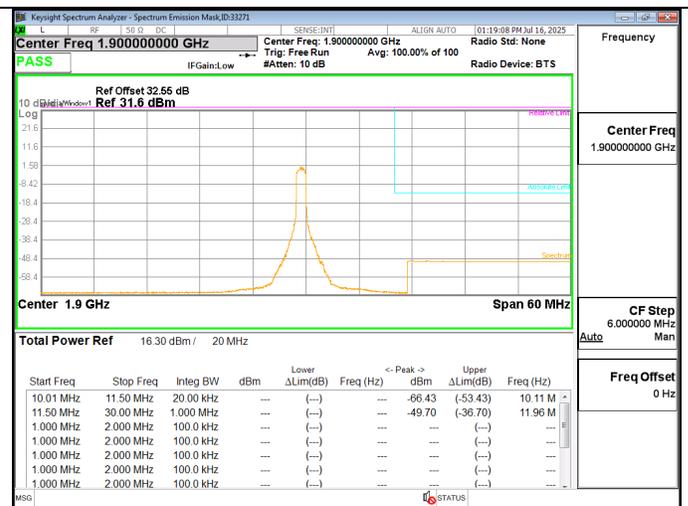
LTE2 20MHz QPSK LOW Ch RB6-0



LTE2 20MHz QPSK HIGH Ch RB1-0



LTE2 20MHz QPSK HIGH Ch RB1-5



LTE2 20MHz QPSK HIGH Ch RB6-0

9.4.1. LTE4

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.

ISED: RSS139§5.6

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Unwanted emission limits	
Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
≤1 MHz	-13 dBm/(1% of B*)
>1 MHz	-13 dBm/MHz

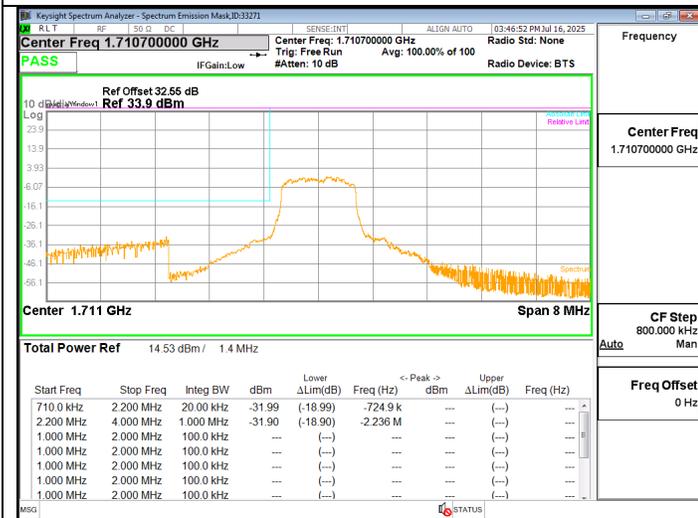
*B is the frequency block or frequency block group.



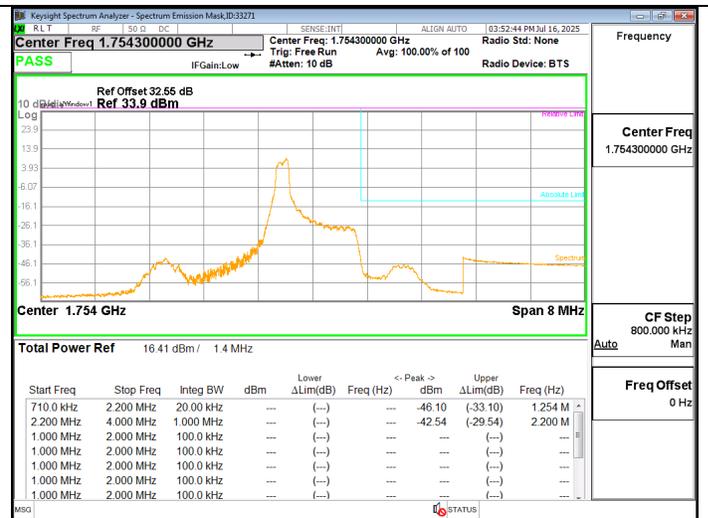
LTE4 1.4MHz QPSK LOW Ch RB1-0



LTE4 1.4MHz QPSK LOW Ch RB1-5



LTE4 1.4MHz QPSK LOW Ch RB6-0



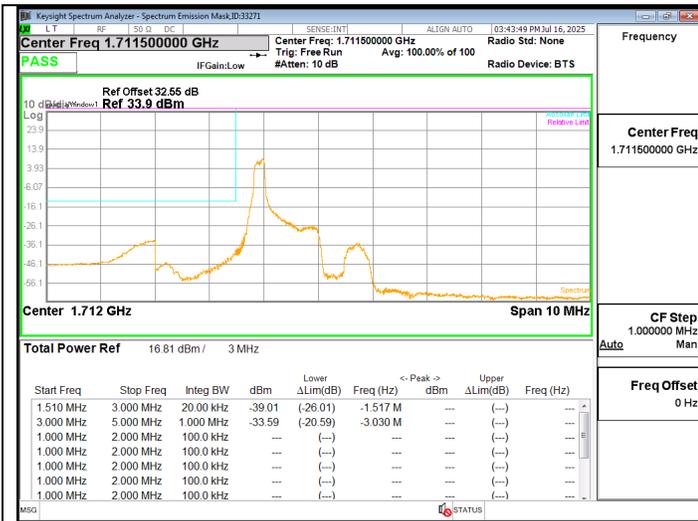
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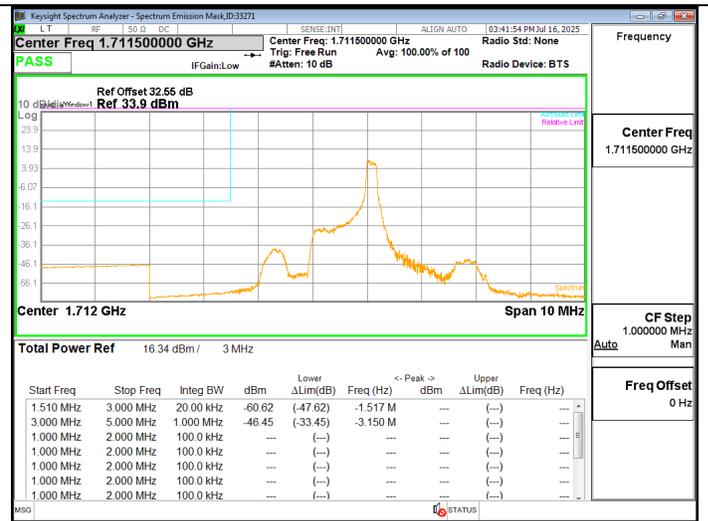
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LTE4 1.4MHz QPSK HIGH Ch RB6-0



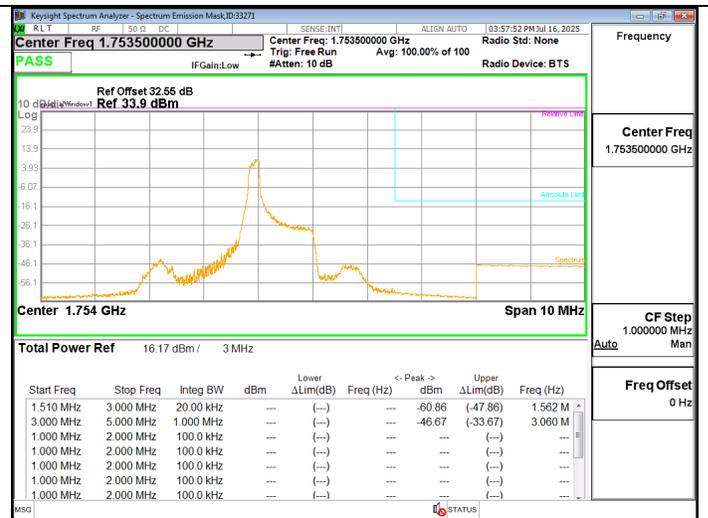
LTE4 3MHz QPSK LOW Ch RB1-0



LTE4 3MHz QPSK LOW Ch RB1-5



LTE4 3MHz QPSK LOW Ch RB6-0



LTE4 3MHz QPSK HIGH Ch RB1-0



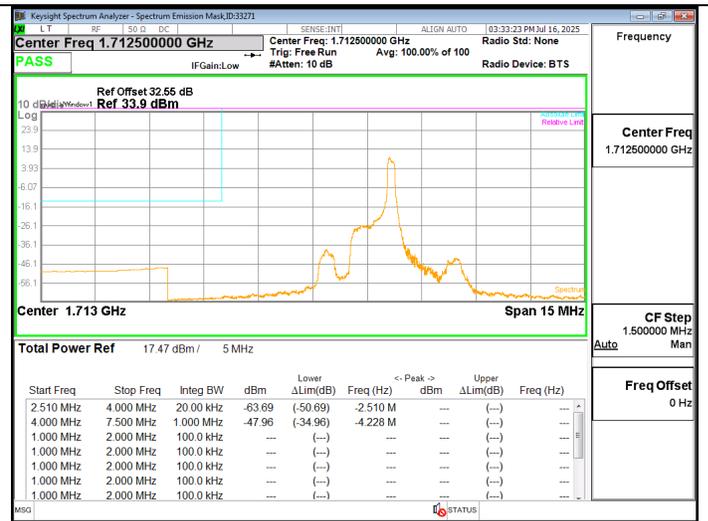
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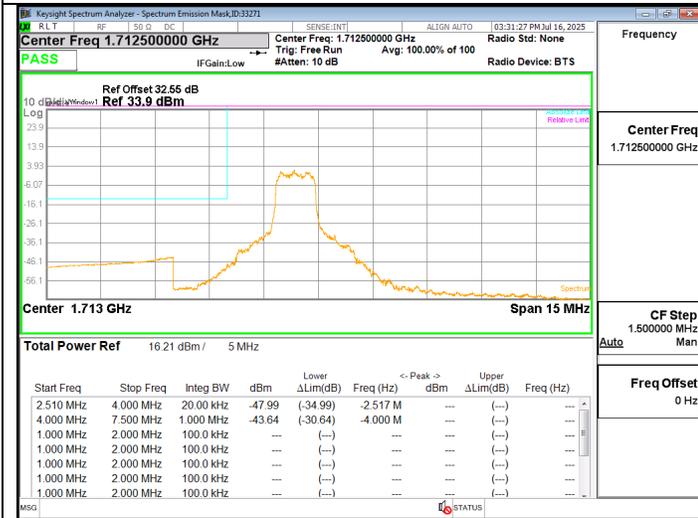
LTE4 3MHz QPSK HIGH Ch RB6-0



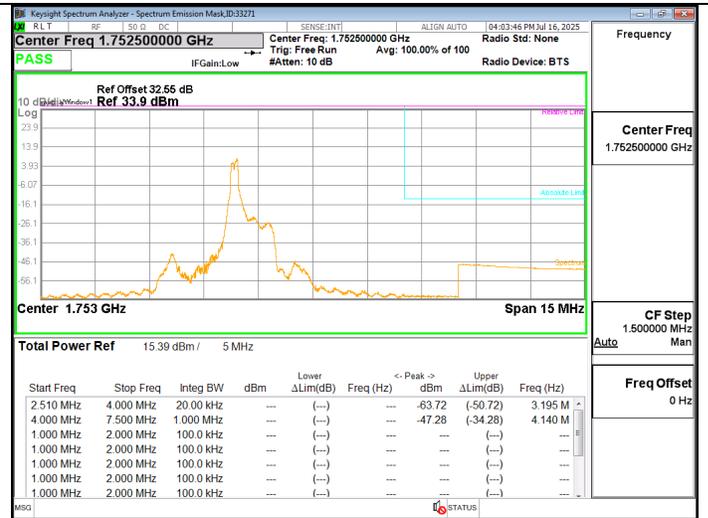
LTE4 5MHz QPSK LOW Ch RB1-0



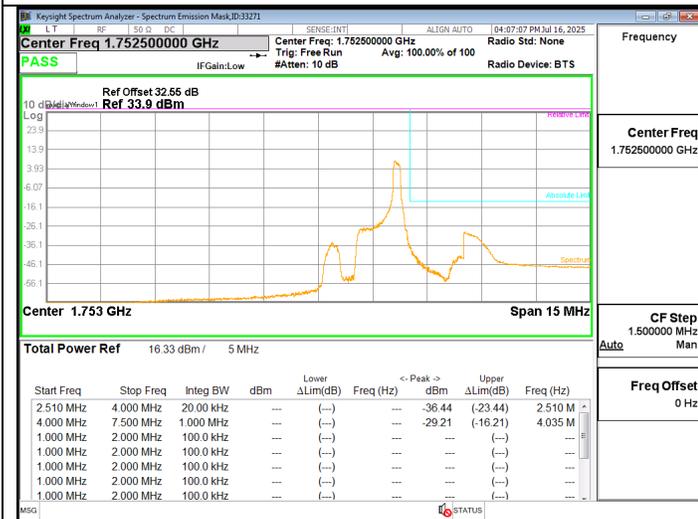
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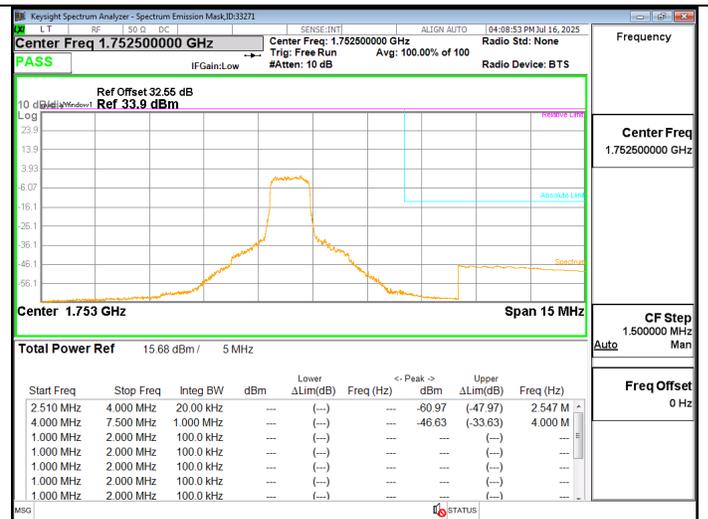
LTE4 5MHz QPSK LOW Ch RB6-0



LTE4 5MHz QPSK HIGH Ch RB1-0



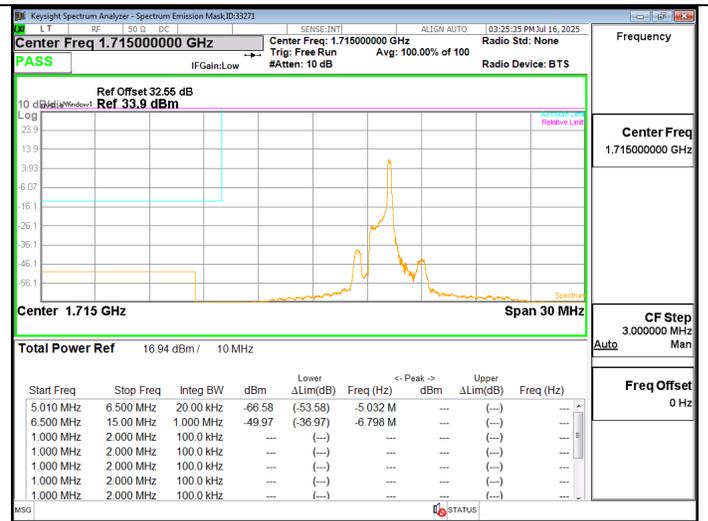
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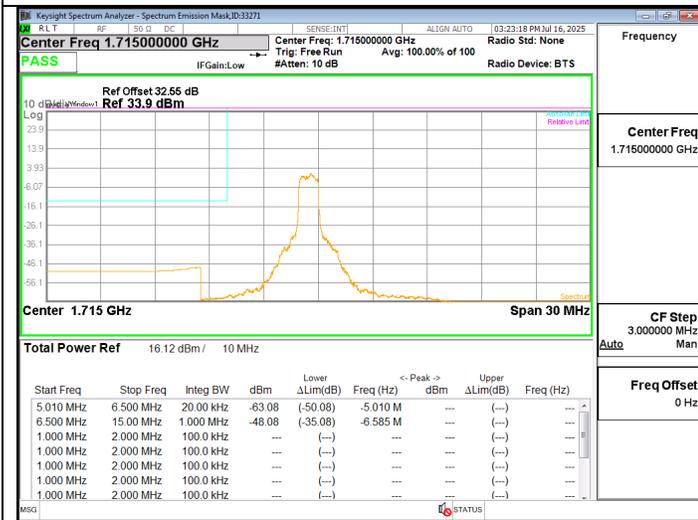
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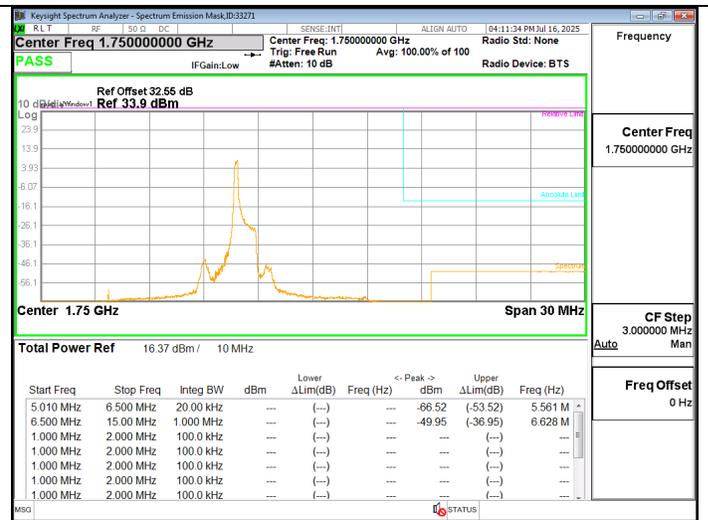
LTE4 10MHz QPSK LOW Ch RB1-0



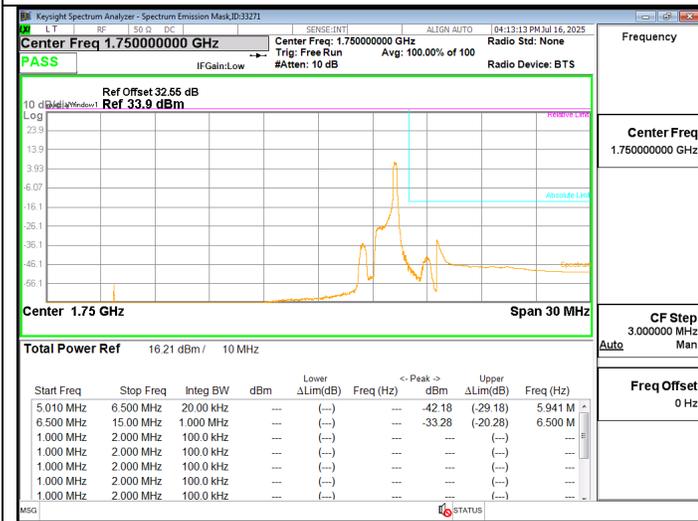
LTE4 10MHz QPSK LOW Ch RB1-5



LTE4 10MHz QPSK LOW Ch RB6-0



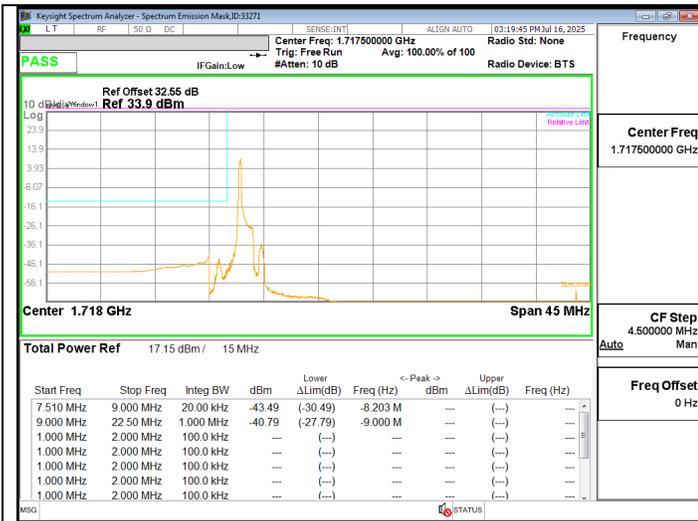
LTE4 10MHz QPSK HIGH Ch RB1-0



LTE4 10MHz QPSK HIGH Ch RB1-5



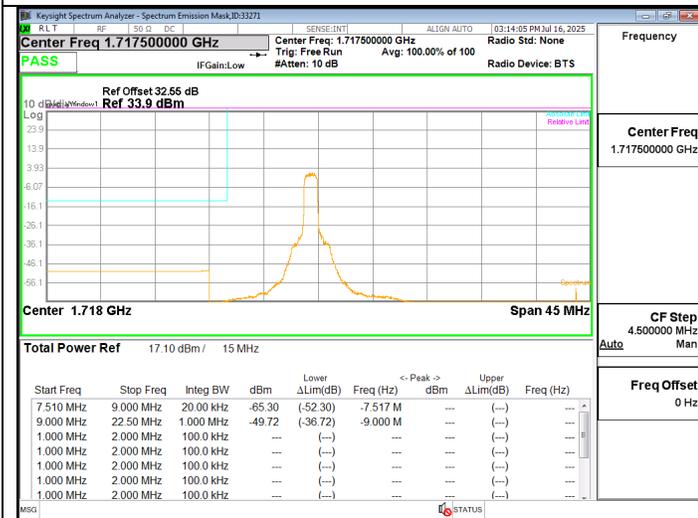
LTE4 10MHz QPSK HIGH Ch RB6-0



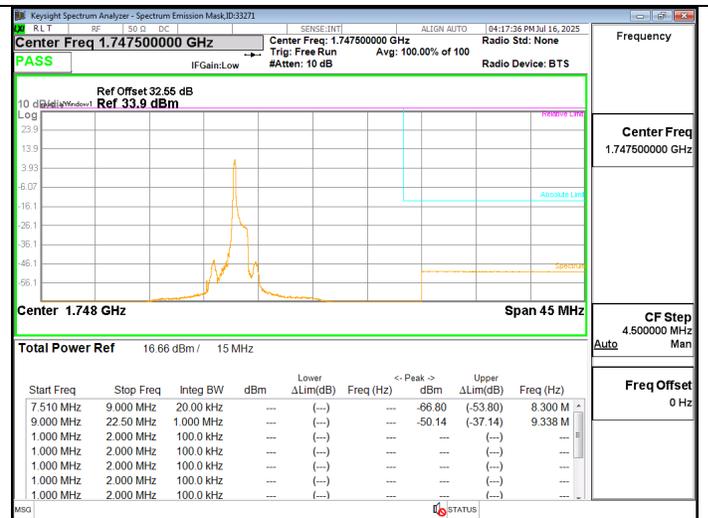
LTE4 15MHz QPSK LOW Ch RB1-0



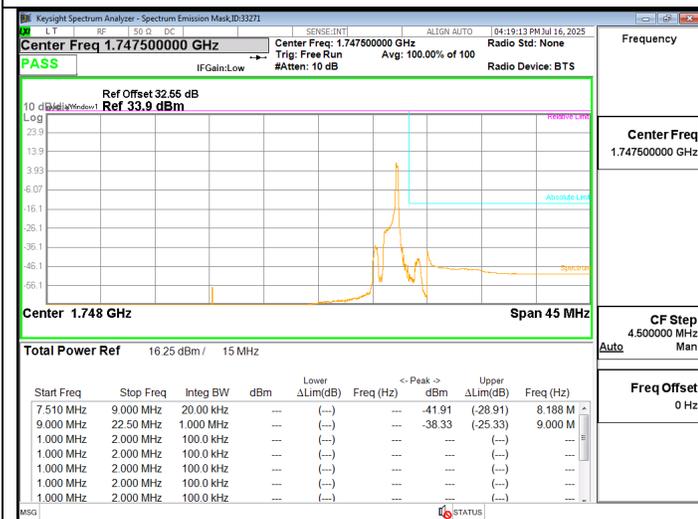
LTE4 15MHz QPSK LOW Ch RB1-5



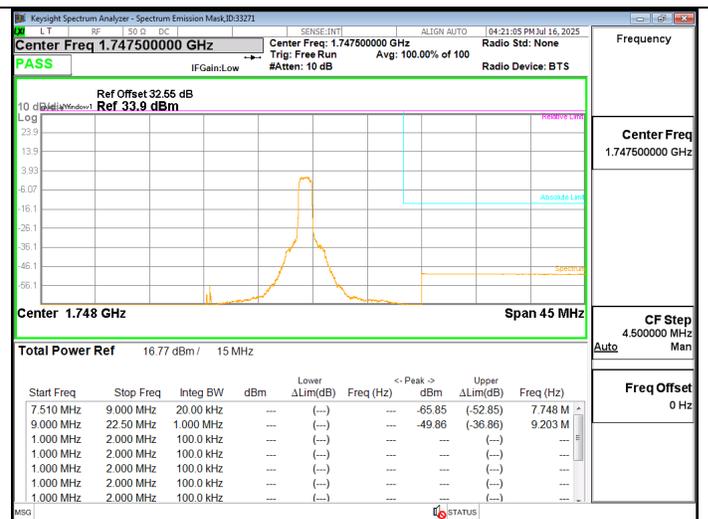
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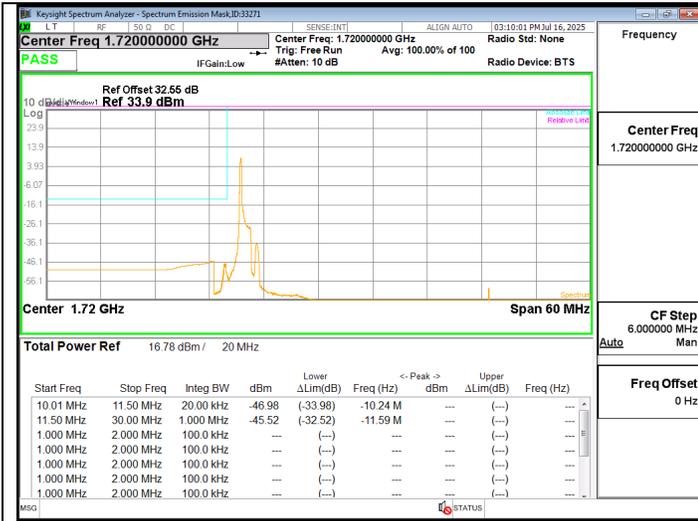
LTE4 15MHz QPSK HIGH Ch RB1-0



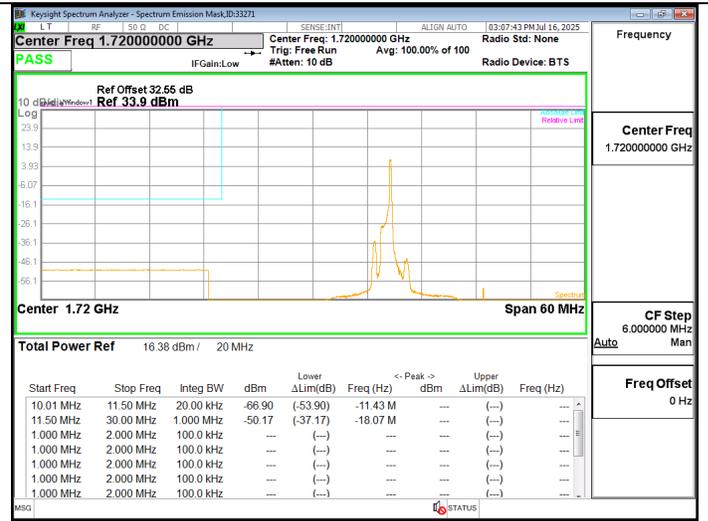
LTE4 15MHz QPSK HIGH Ch RB1-5



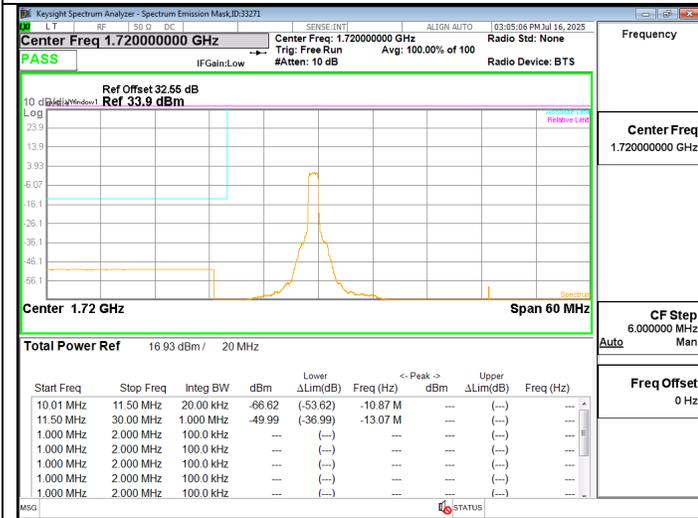
LTE4 15MHz QPSK HIGH Ch RB6-0



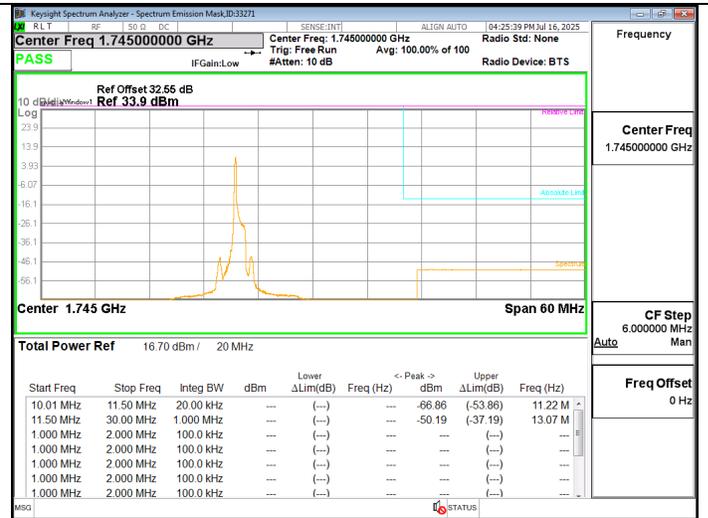
LTE4 20MHz QPSK LOW Ch RB1-0



LTE4 20MHz QPSK LOW Ch RB1-5



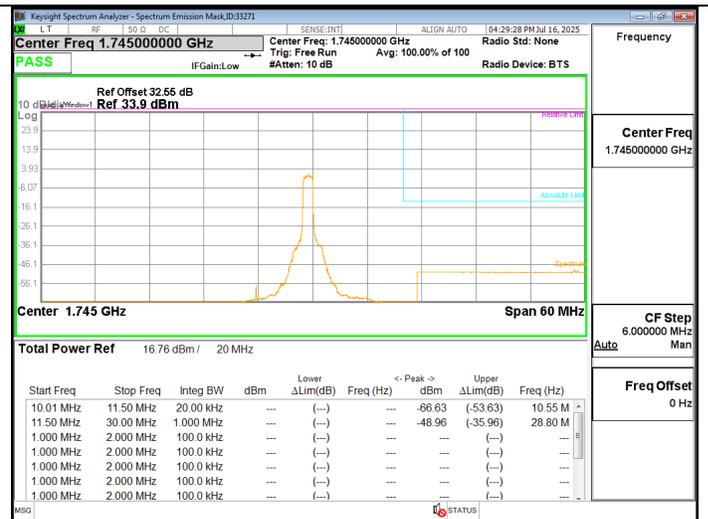
LTE4 20MHz QPSK LOW Ch RB6-0



LTE4 20MHz QPSK HIGH Ch RB1-0



LTE4 20MHz QPSK HIGH Ch RB1-5



LTE4 20MHz QPSK HIGH Ch RB6-0

9.4.2. LTE12

LIMITS

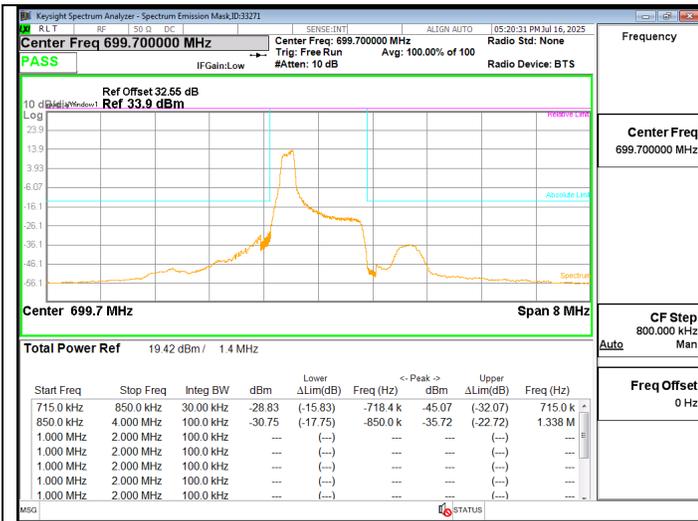
FCC: §27.53

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

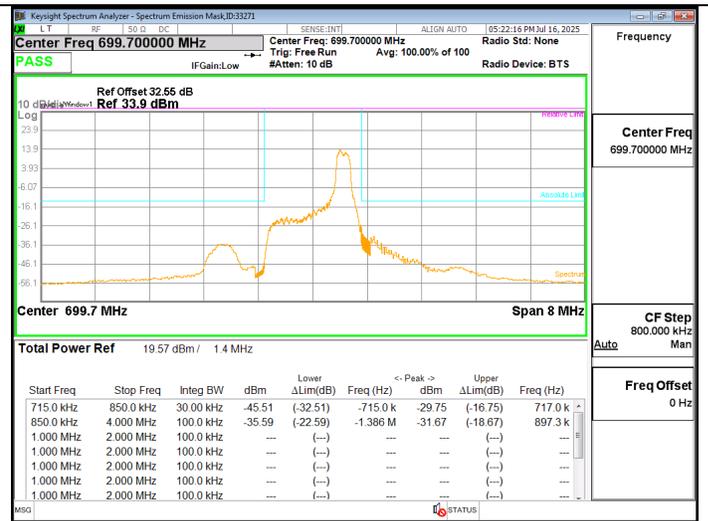
ISED: RSS130§4.7

4.7.1 General unwanted emissions limits

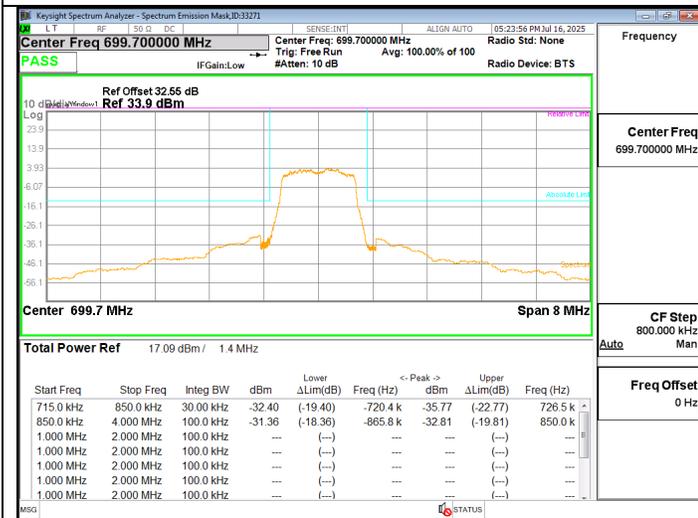
The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} P$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.



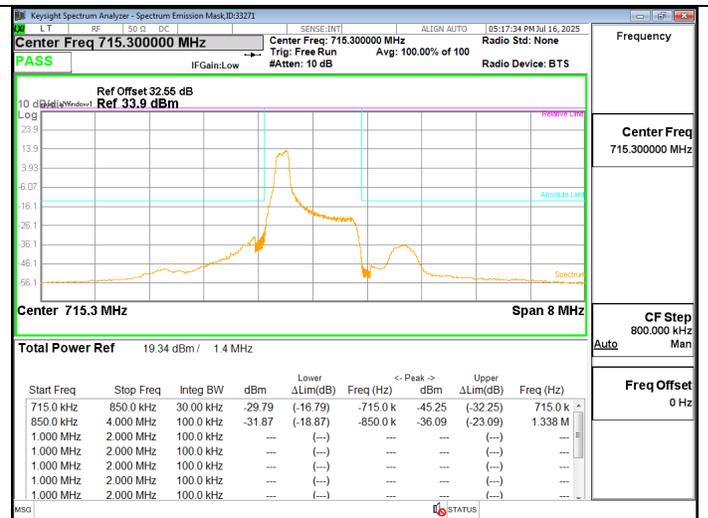
LTE12 1.4MHz QPSK LOW Ch RB1-0



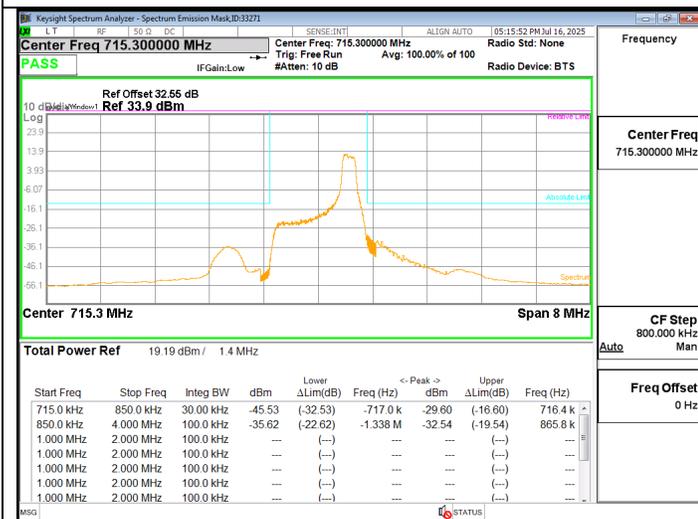
LTE12 1.4MHz QPSK LOW Ch RB1-5



LTE12 1.4MHz QPSK LOW Ch RB6-0



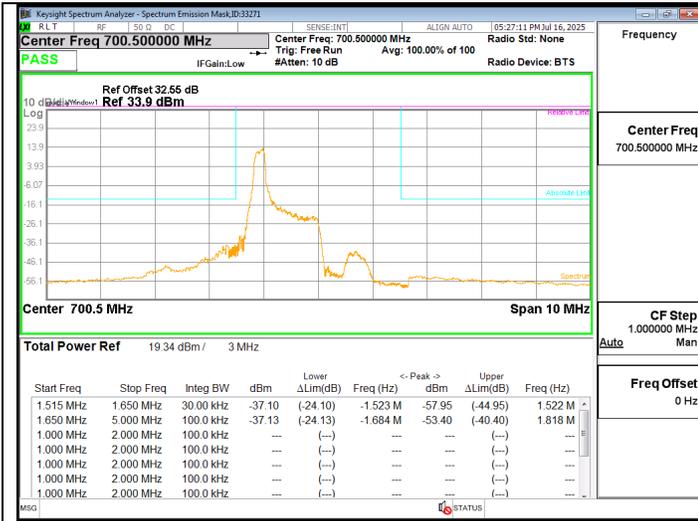
LTE12 1.4MHz QPSK HIGH Ch RB1-0



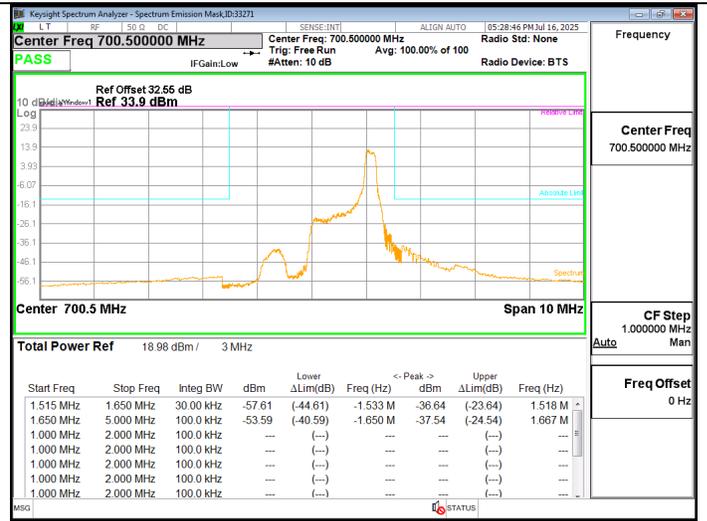
LTE12 1.4MHz QPSK HIGH Ch RB1-5



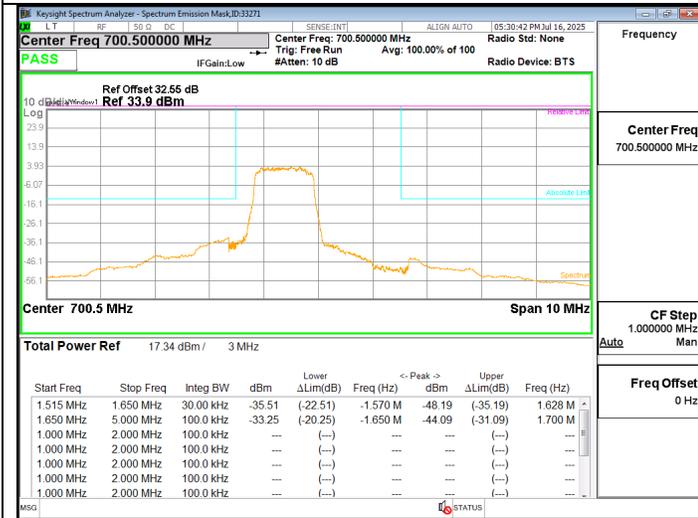
LTE12 1.4MHz QPSK HIGH Ch RB6-0



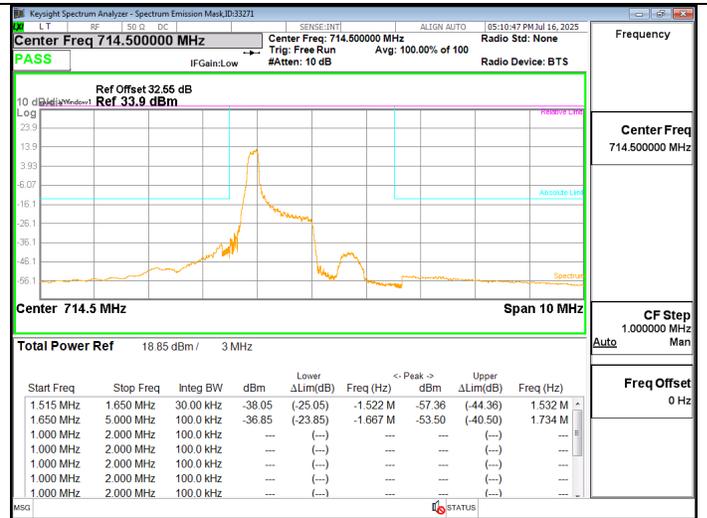
LTE12 3MHz QPSK LOW Ch RB1-0



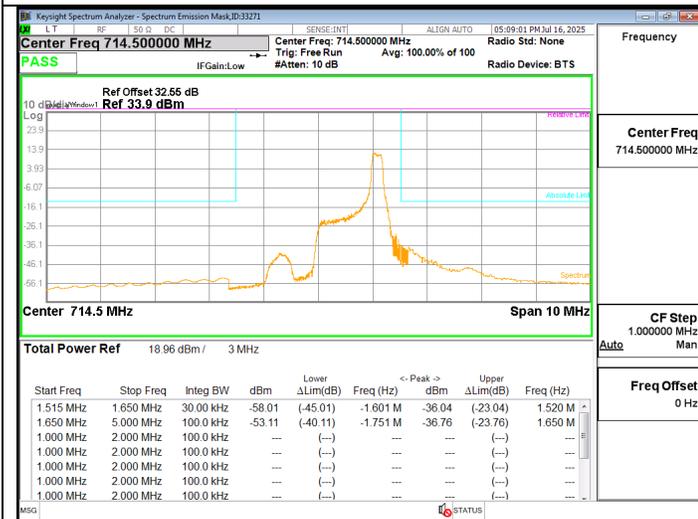
LTE12 3MHz QPSK LOW Ch RB1-5



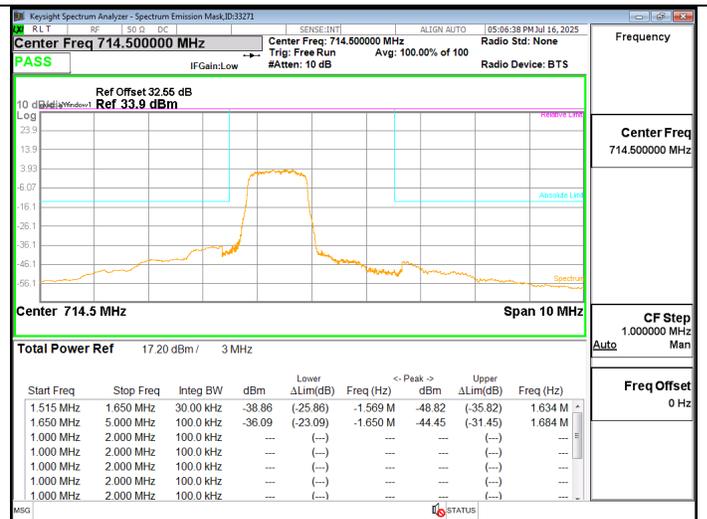
LTE12 3MHz QPSK LOW Ch RB6-0



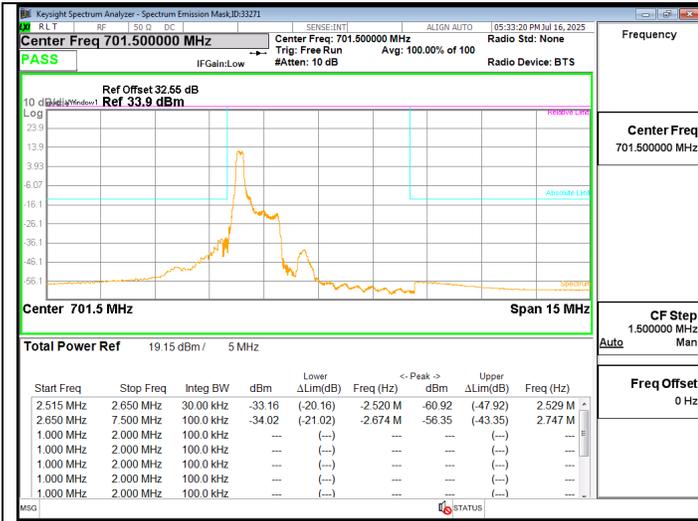
LTE12 3MHz QPSK HIGH Ch RB1-0



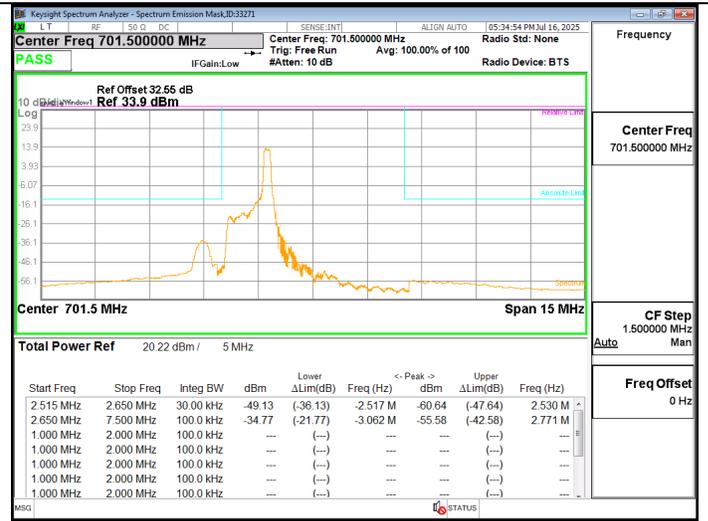
LTE12 3MHz QPSK HIGH Ch RB1-5



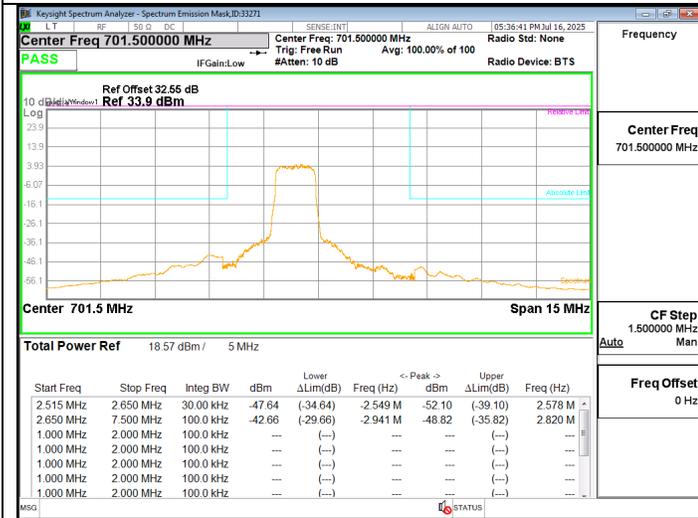
LTE12 3MHz QPSK HIGH Ch RB15-0



LTE12 5MHz QPSK LOW Ch RB1-0



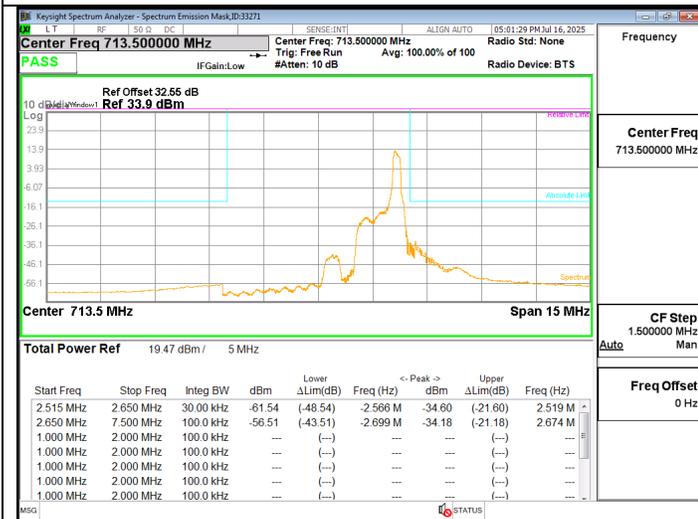
LTE12 5MHz QPSK LOW Ch RB1-5



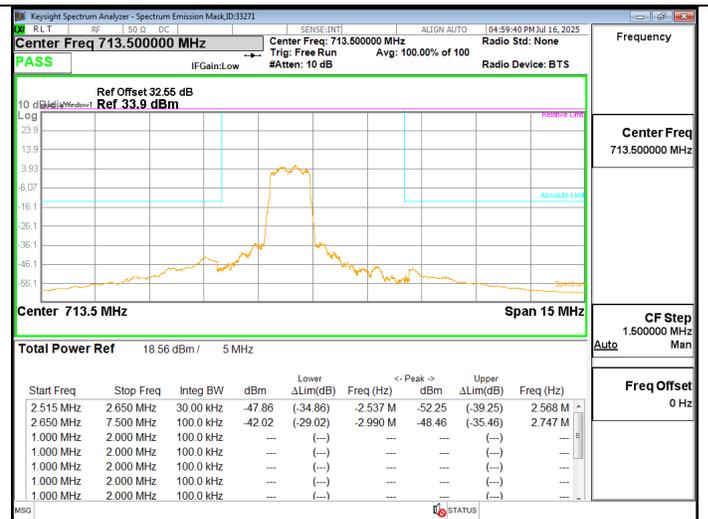
LTE12 5MHz QPSK LOW Ch RB6-0



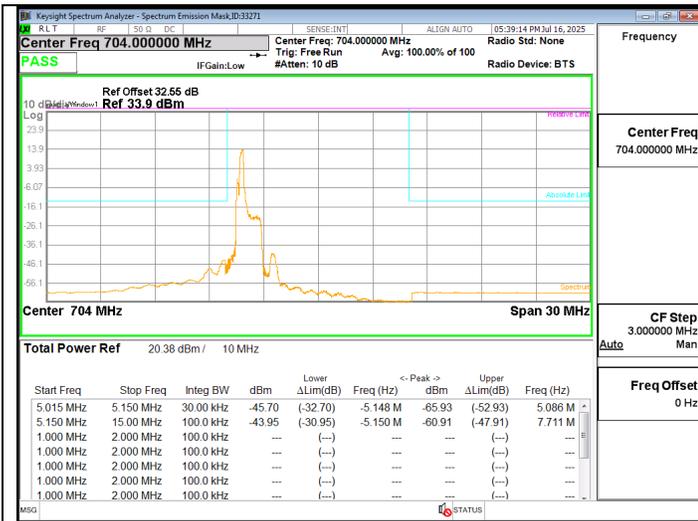
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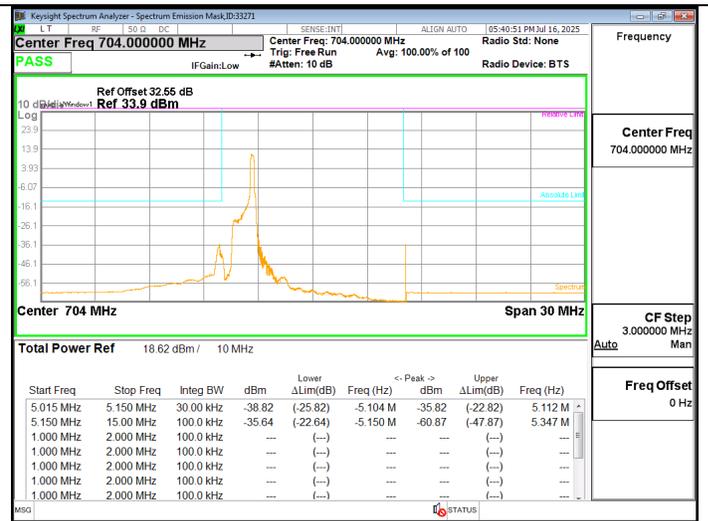
LTE12 5MHz QPSK HIGH Ch RB1-5



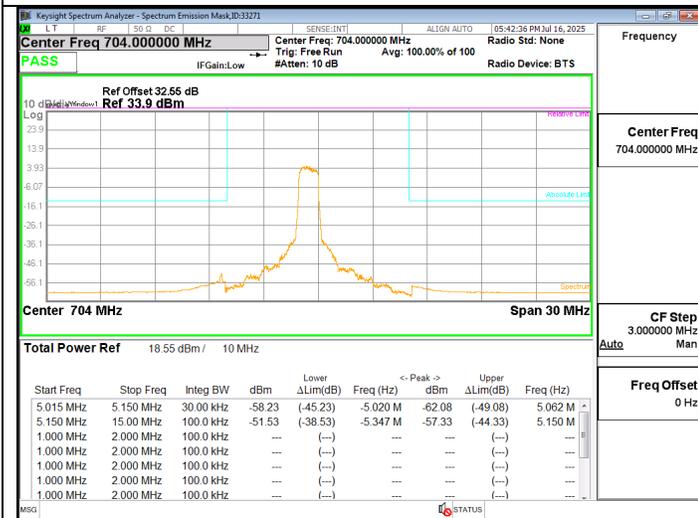
LTE12 5MHz QPSK HIGH Ch RB6-0



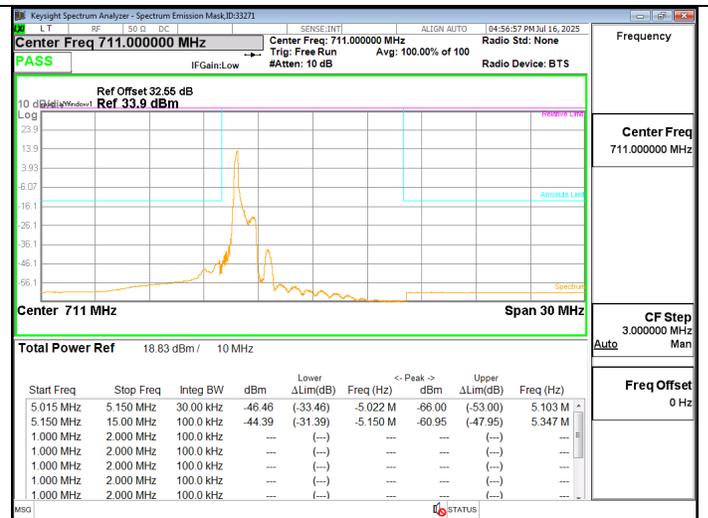
LTE12 10MHz QPSK LOW Ch RB1-0



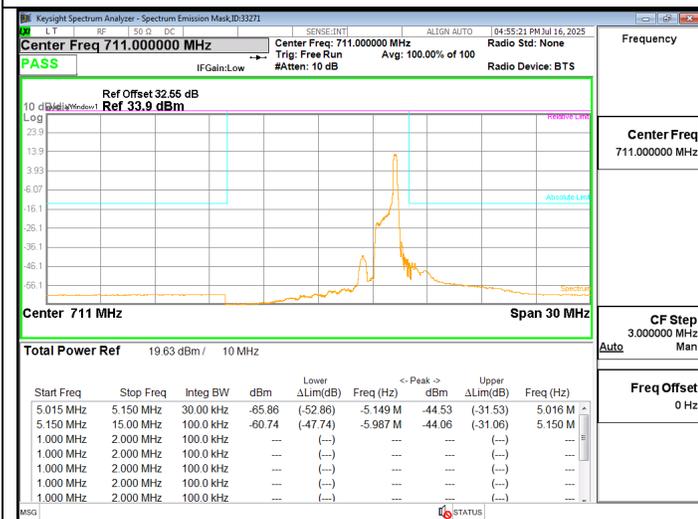
LTE12 10MHz QPSK LOW Ch RB1-5



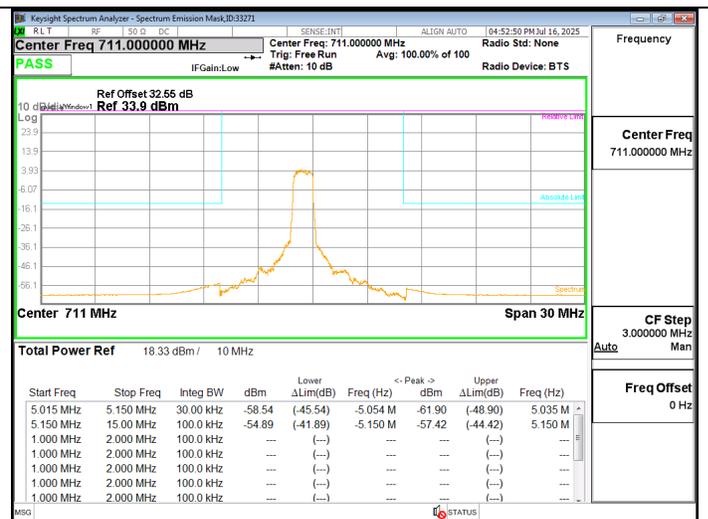
LTE12 10MHz QPSK LOW Ch RB6-0



LTE12 10MHz QPSK HIGH Ch RB1-0



LTE12 10MHz QPSK HIGH Ch RB1-5



LTE12 10MHz QPSK HIGH Ch RB6-0

9.5. FREQUENCY STABILITY

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- (vii) Temp. = -30°C to +50°C
- (viii) Voltage = (85% - 100%)
Normal, 3.91VDC
End Voltage, 3.6VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize, and soak, and then the measurement is repeated. This is repeated until +50°C is reached.

Frequency Stability vs Voltage:

FCC 2.1055 (d)(2):

For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

LIMITS

FCC: §27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

ISED: RSS133§5.4, RSS139§5.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

ISED: RSS130§4.5

For equipment that is capable of transmitting numerous channels simultaneously for different applications (e.g. LTE and narrowband – Internet of Things (IoT)), the occupied bandwidth shall be the bandwidth representing the sum of the occupied bandwidths of these channels.

The frequency stability shall be sufficient to ensure that the occupied bandwidth remains within each frequency block range when tested at the temperature and supply voltage variations specified in RSS-Gen.

RESULTS

The peak frequency error is recorded (worst-case).

Test Engineer ID:	22797	Test Date:	7/15/25 – 7/18/25
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9.5.1. LTE2

Band	2	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1850	1910		2.5	Within Authorized Frequency Block (Hz)
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	
Normal (20°C)	Normal	1860.0000	1900.0000			
Extreme (50°C)		1860.0000	1900.0000	3.65	0.002	Yes
Extreme (40°C)		1860.0000	1900.0000	-2.36	-0.001	Yes
Extreme (30°C)		1860.0000	1900.0000	11.74	0.006	Yes
Extreme (10°C)		1860.0000	1900.0000	11.96	0.006	Yes
Extreme (0°C)		1860.0000	1900.0000	9.28	0.005	Yes
Extreme (-10°C)		1860.0000	1900.0000	16.32	0.009	Yes
Extreme (-20°C)		1860.0000	1900.0000	7.69	0.004	Yes
Extreme (-30°C)		1860.0000	1900.0000	8.3	0.004	Yes
20°C		End Point Voltage	1860.0000	1900.0000	-8.58	-0.005

9.5.1. LTE4

Band	4	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1710	1755		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)			
Normal (20°C)	Normal	1720.0000	1745.0000			
Extreme (50°C)		1720.0000	1745.0000	12.22	0.007	Yes
Extreme (40°C)		1720.0000	1745.0000	-10.45	-0.006	Yes
Extreme (30°C)		1720.0000	1745.0000	-18.42	-0.011	Yes
Extreme (10°C)		1720.0000	1745.0000	-17.07	-0.010	Yes
Extreme (0°C)		1720.0000	1745.0000	-27.54	-0.016	Yes
Extreme (-10°C)		1720.0000	1745.0000	15.19	0.009	Yes
Extreme (-20°C)		1720.0000	1745.0000	18.26	0.011	Yes
Extreme (-30°C)		1720.0000	1745.0000	-24.54	-0.014	Yes
20°C		End Point Voltage	1719.9993	1744.9993	-686.42	-0.396

9.5.2. LTE12

Band		12		Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		699	716	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage							
Normal (20°C)	Normal	704.0000	711.0000					
Extreme (50°C)		704.0000	711.0000	10.69	0.015	Yes		
Extreme (40°C)		704.0000	711.0000	-9.74	-0.014	Yes		
Extreme (30°C)		704.0000	711.0000	8.07	0.011	Yes		
Extreme (10°C)		704.0000	711.0000	5.1	0.007	Yes		
Extreme (0°C)		704.0000	711.0000	14.93	0.021	Yes		
Extreme (-10°C)		704.0000	711.0000	1.25	0.002	Yes		
Extreme (-20°C)		704.0000	711.0000	-16.54	-0.023	Yes		
Extreme (-30°C)		704.0000	711.0000	12.57	0.018	Yes		
20°C		End Point Voltage	703.9993	710.9993	-660.21	-0.933	Yes	

10. RADIATED TEST RESULTS

Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

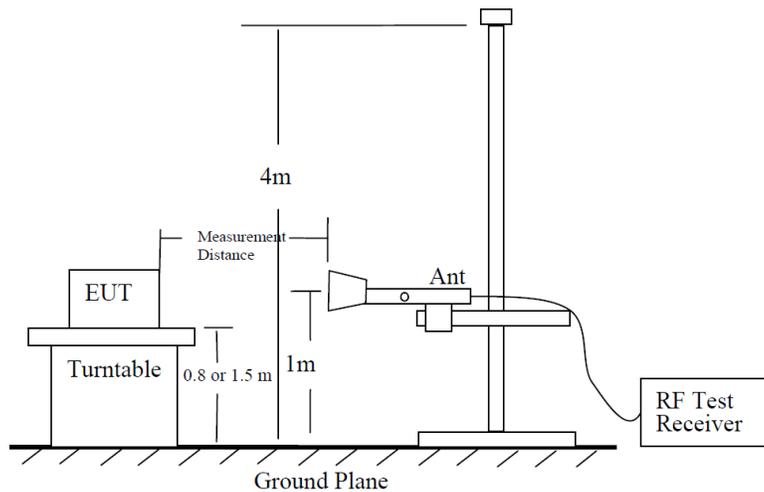


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

Radiated Power Measurement Calculation According to ANSI C63.26-2015

- a) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$.
- b) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$.
- c) $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m.
- d) $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.

So, from d)

The measuring distance is usually at 3m, then $20 \cdot \log(3) = 9.5424$

Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz

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

10.1.1. LTE BAND 2

LIMITS

FCC: §24.238 (a)

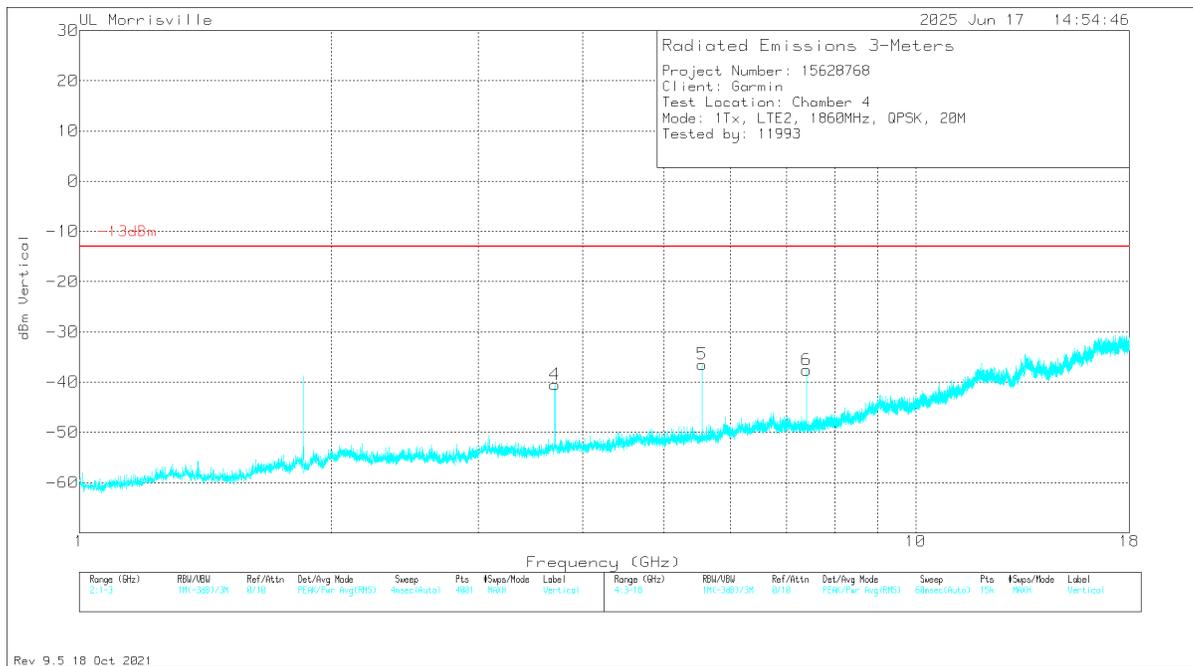
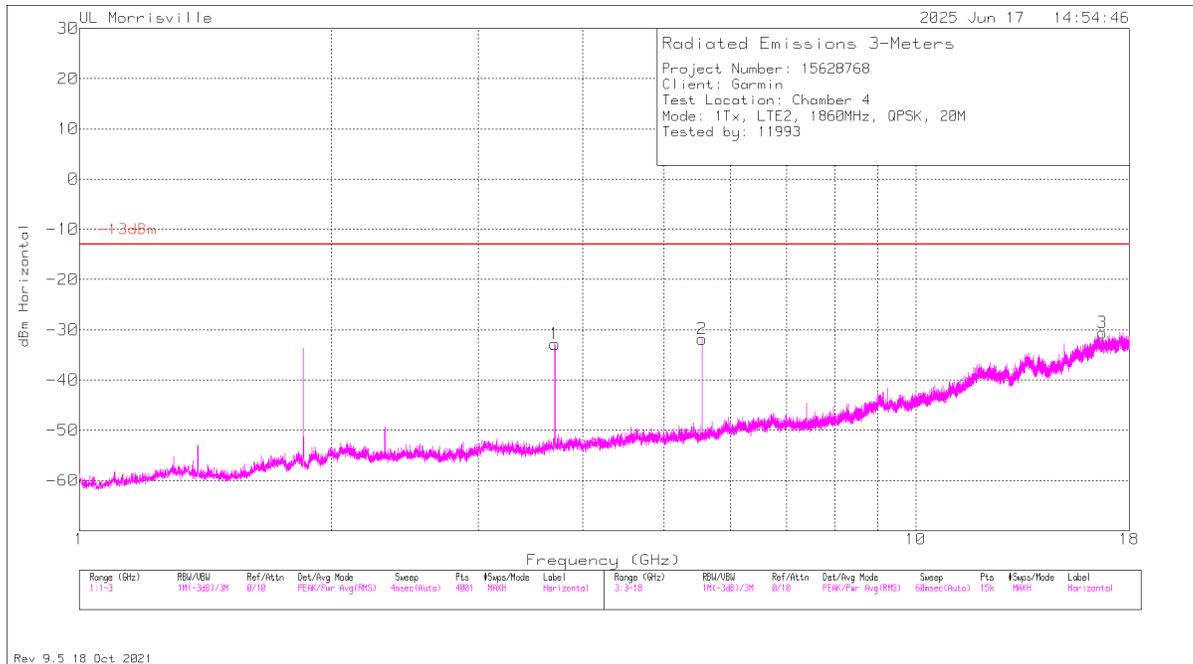
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

ISED: RSS133§5.6

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in the table 3.

Table 3: Unwanted emission limits for all equipment	
Offset frequency from the edge of the frequency block group (MHz)	Unwanted emission limit
≤ 1	-13 dBm/(1% of OBW)
> 1	-13 dBm/MHz

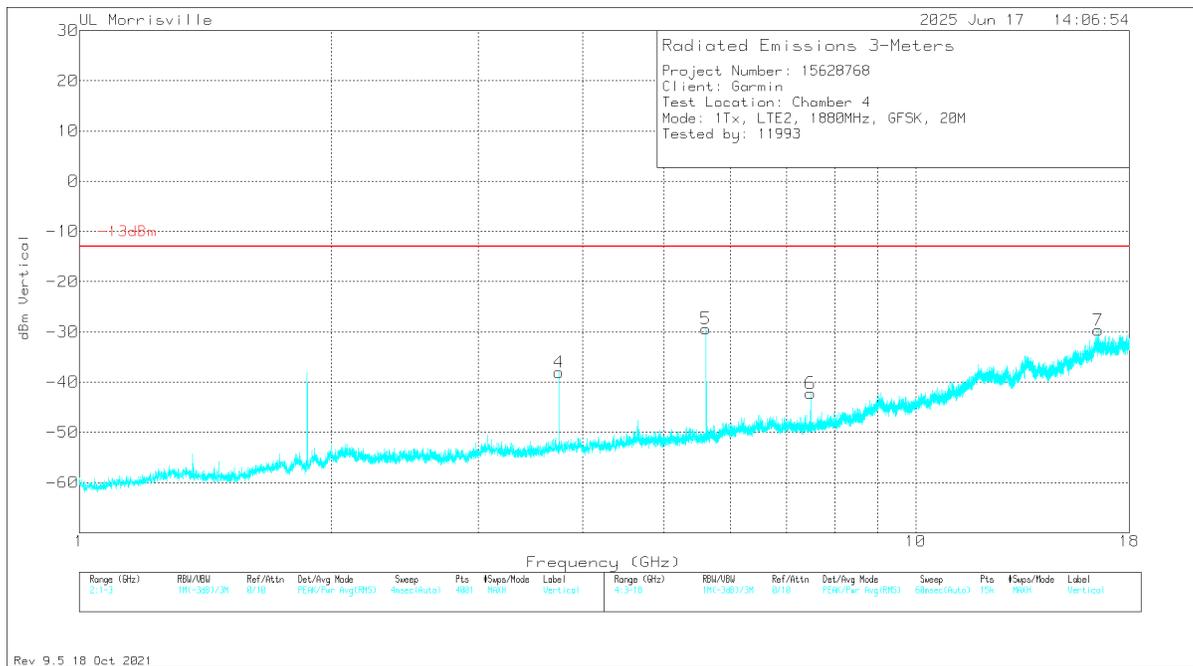
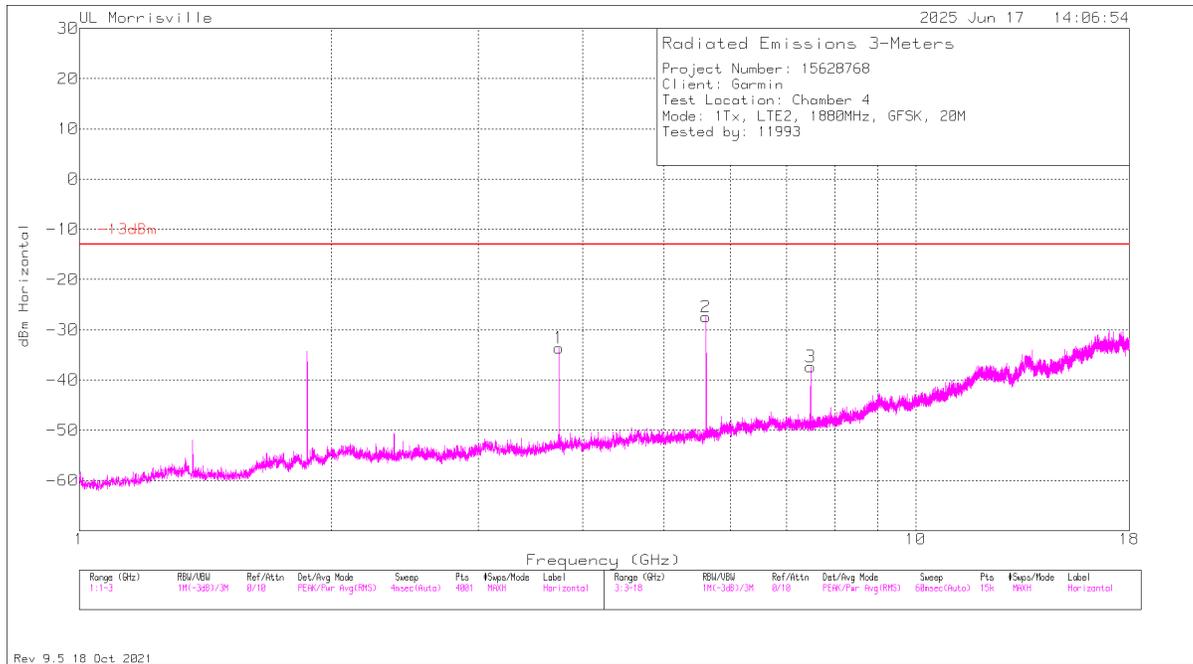
QPSK LTE2 (20MHz, Low Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.702	-45.21	Pk	33.2	-32.6	11.8	0	-32.81	-13	-19.81	0-360	100	H
4	3.703	-52.97	Pk	33.2	-32.5	11.8	0	-40.47	-13	-27.47	0-360	300	V
2	5.554	-47.02	Pk	34.4	-31	11.8	0	-31.82	-13	-18.82	0-360	100	H
5	5.555	-51.66	Pk	34.4	-31	11.8	0	-36.46	-13	-23.46	0-360	300	V
6	7.406	-57.15	Pk	35.5	-27.7	11.8	0	-37.55	-13	-24.55	0-360	200	V
3	16.715	-66.69	Pk	41.6	-17.3	11.8	0	-30.59	-13	-17.59	0-360	100	H

Pk - Peak detector

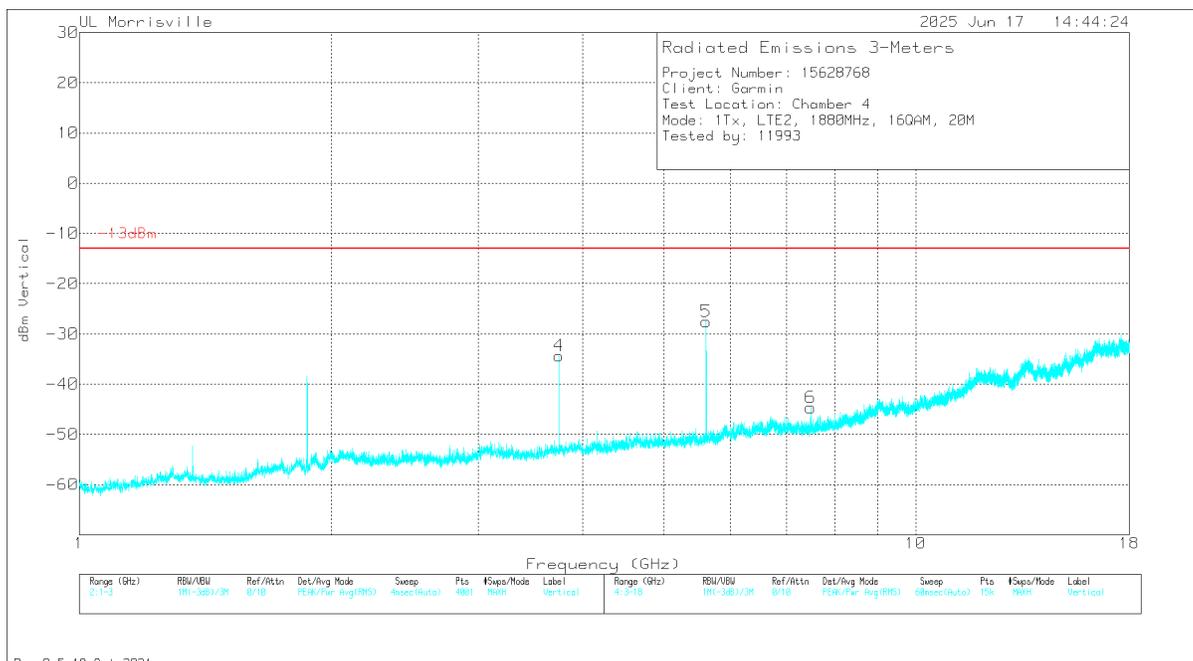
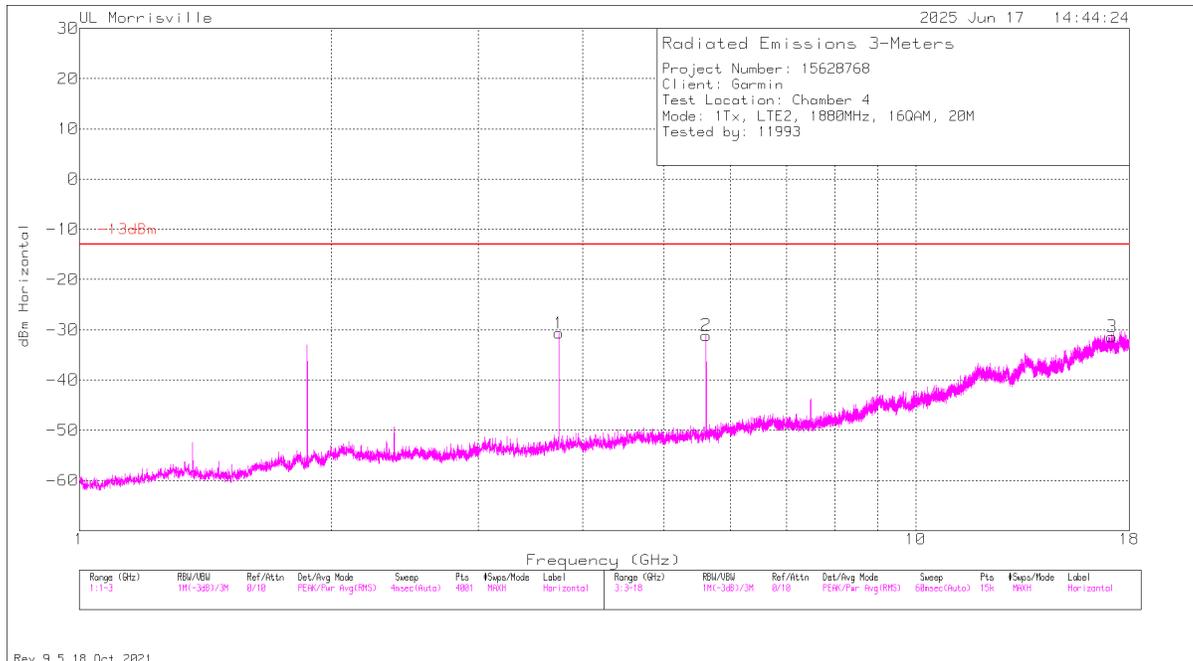
QPSK LTE2 (20MHz, Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	3.742	-50.64	Pk	33.2	-32.4	11.8	0	-38.04	-13	-25.04	0-360	300	V
1	3.743	-46.21	Pk	33.2	-32.4	11.8	0	-33.61	-13	-20.61	0-360	100	H
2	5.614	-43.33	Pk	34.3	-30.2	11.8	0	-27.43	-13	-14.43	0-360	100	H
5	5.614	-45.3	Pk	34.3	-30.2	11.8	0	-29.4	-13	-16.4	0-360	300	V
3	7.486	-56.97	Pk	35.6	-27.8	11.8	0	-37.37	-13	-24.37	0-360	100	H
6	7.486	-61.83	Pk	35.6	-27.8	11.8	0	-42.23	-13	-29.23	0-360	300	V
7	16.526	-64.99	Pk	41.3	-17.8	11.8	0	-29.69	-13	-16.69	0-360	300	V

Pk - Peak detector

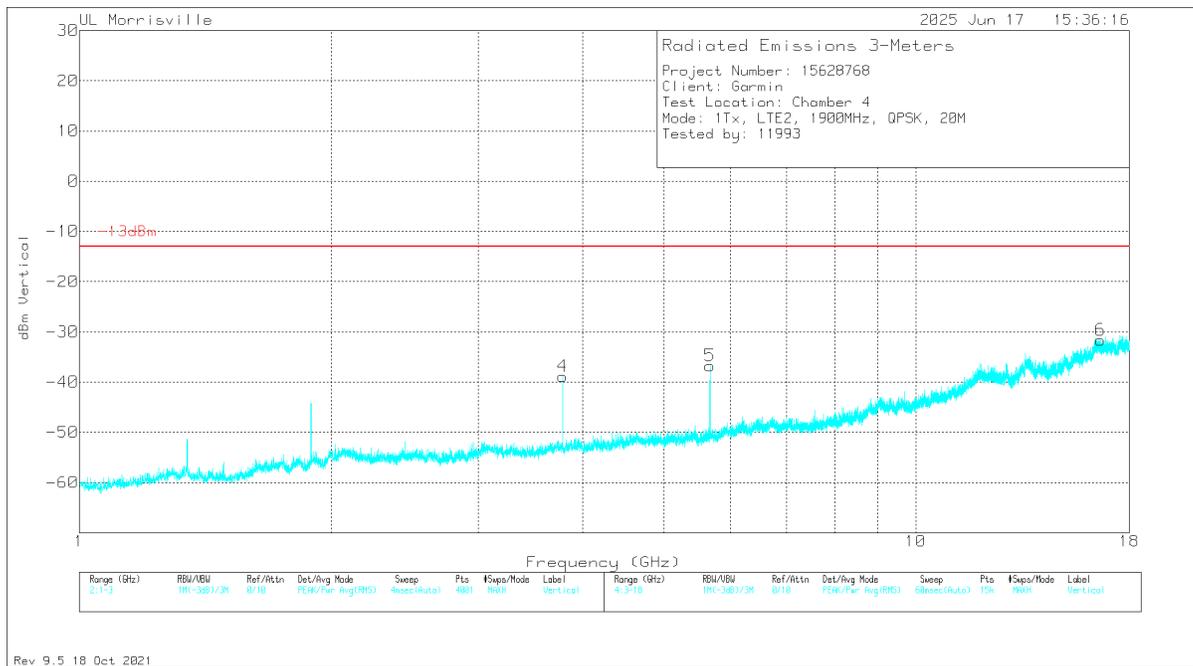
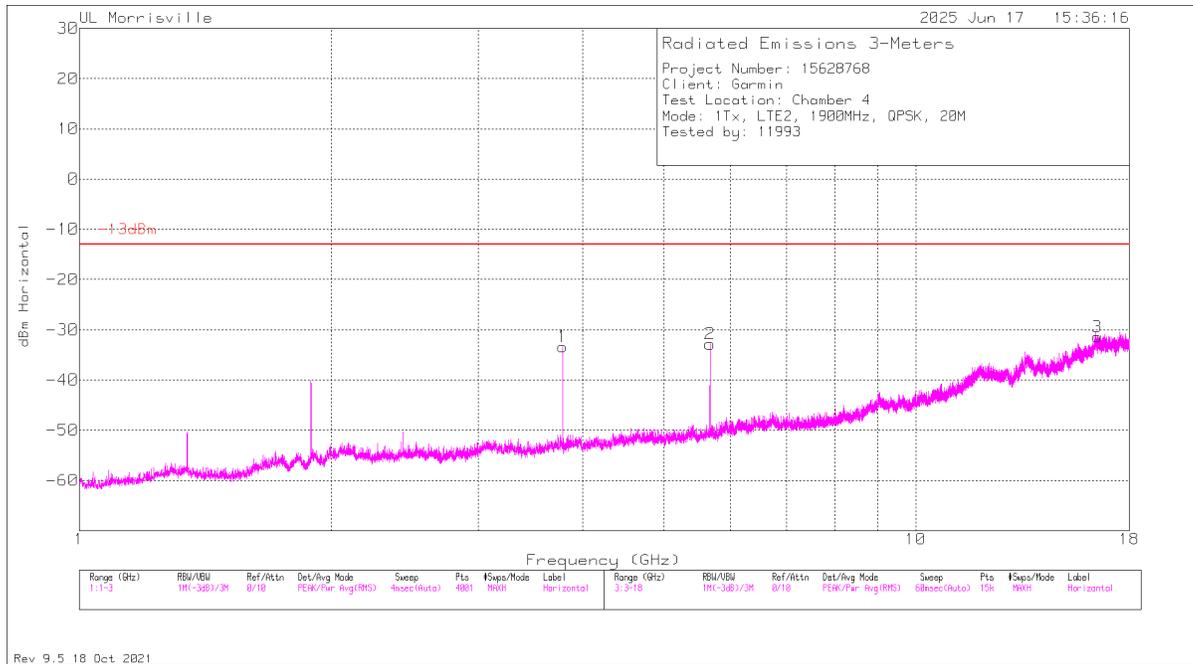
16QAM LTE2 (20MHz, Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.743	-43.26	Pk	33.2	-32.4	11.8	0	-30.66	-13	-17.66	0-360	100	H
4	3.743	-46.95	Pk	33.2	-32.4	11.8	0	-34.35	-13	-21.35	0-360	300	V
2	5.615	-47.01	Pk	34.3	-30.2	11.8	0	-31.11	-13	-18.11	0-360	100	H
5	5.615	-43.44	Pk	34.3	-30.2	11.8	0	-27.54	-13	-14.54	0-360	200	V
6	7.486	-64.25	Pk	35.6	-27.8	11.8	0	-44.65	-13	-31.65	0-360	300	V
3	17.166	-67.09	Pk	41.1	-17.2	11.8	0	-31.39	-13	-18.39	0-360	100	H

Pk - Peak detector

QPSK LTE2 (20MHz, High Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.783	-45.98	Pk	33.3	-32.5	11.8	0	-33.38	-13	-20.38	0-360	100	H
4	3.783	-51.43	Pk	33.3	-32.5	11.8	0	-38.83	-13	-25.83	0-360	300	V
2	5.675	-50.02	Pk	34.5	-29.1	11.8	0	-32.82	-13	-19.82	0-360	100	H
5	5.675	-53.93	Pk	34.5	-29.1	11.8	0	-36.73	-13	-23.73	0-360	200	V
3	16.487	-66.73	Pk	41.2	-17.7	11.8	0	-31.43	-13	-18.43	0-360	200	H
6	16.634	-67.22	Pk	41.5	-17.7	11.8	0	-31.62	-13	-18.62	0-360	200	V

Pk - Peak detector

10.1.1. LTE 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.

ISED: RSS139§5.6

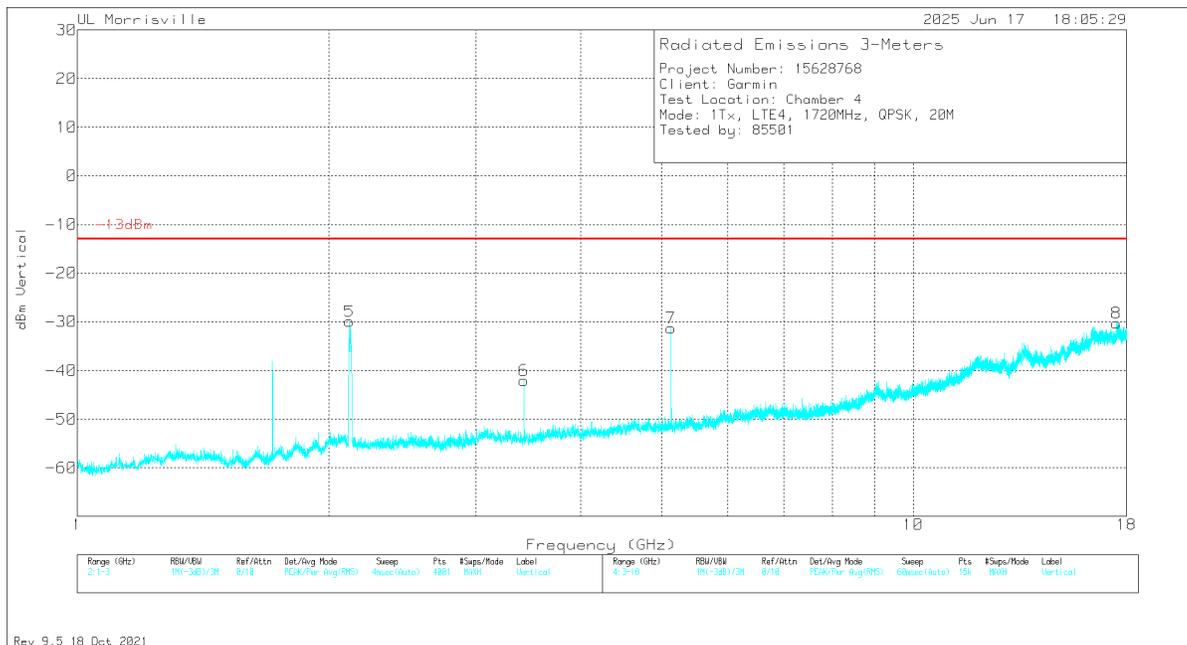
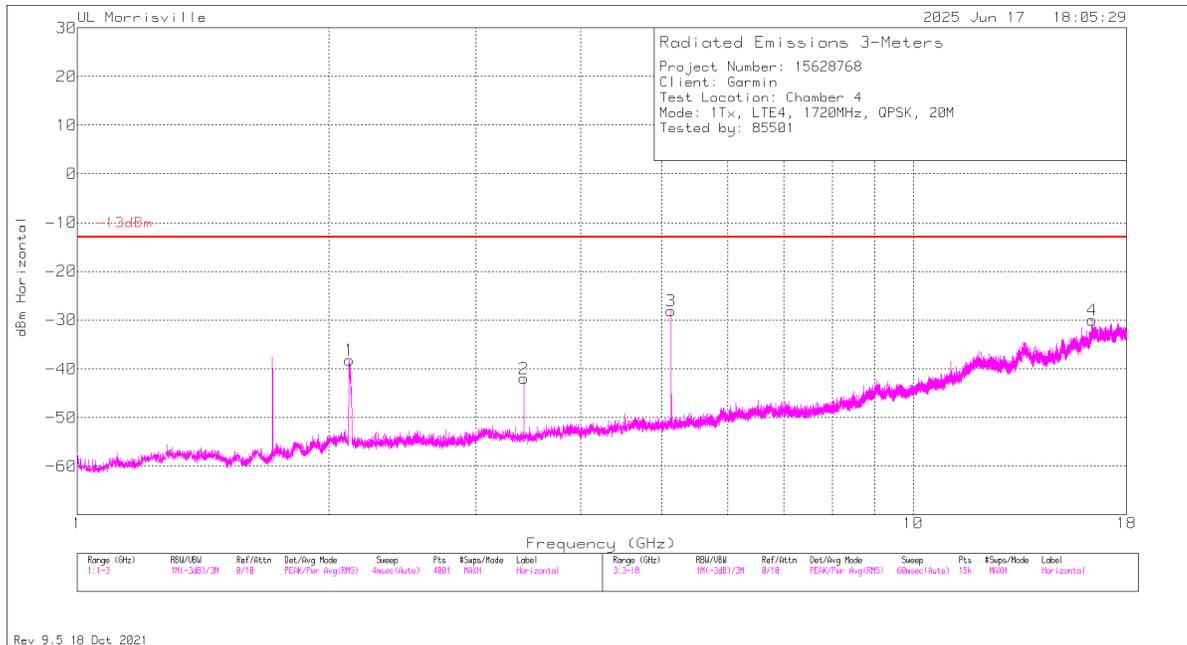
Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 4.

Table 6: Unwanted emission limits	
Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
≤1 MHz	-13 dBm/(1% of B*)
>1 MHz	-13 dBm/MHz

*B is the frequency block or frequency block group.

QPSK LTE4 (20MHz, Low Channel)

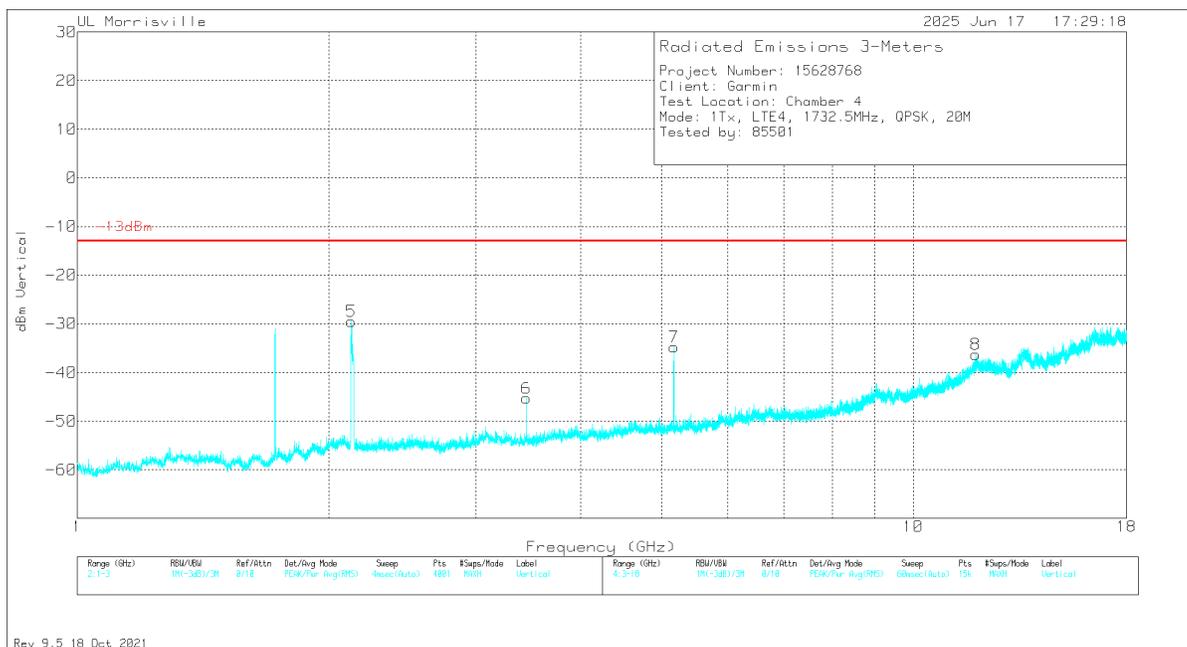
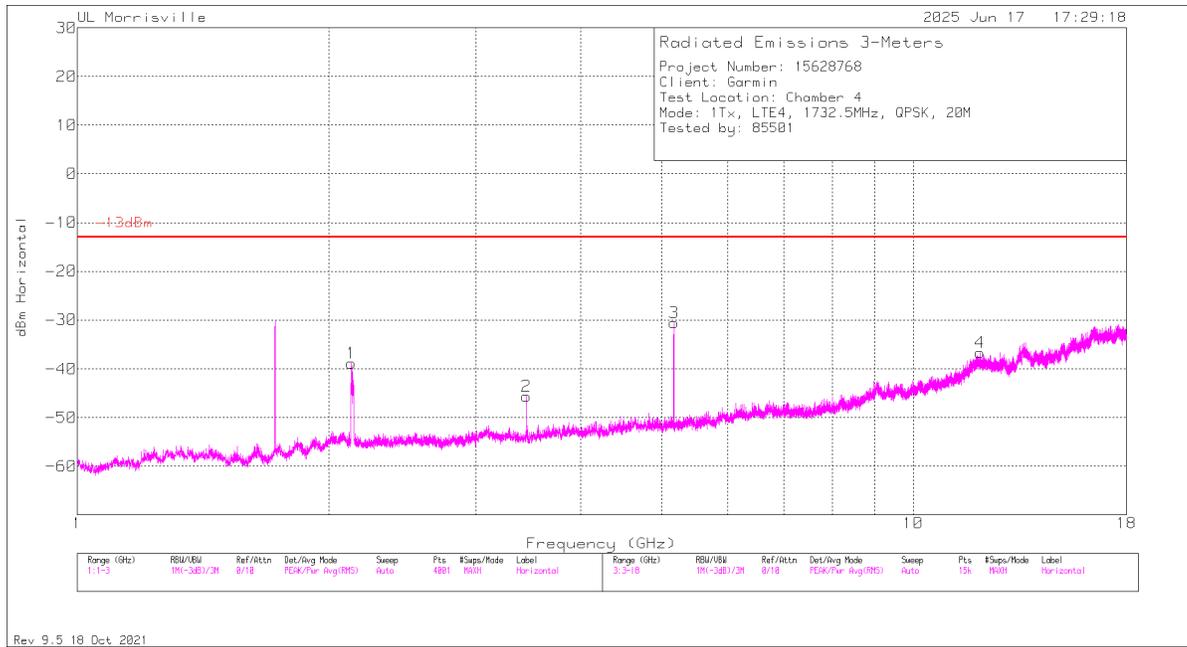


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5(DL)	2.116	-38.64	Pk	31.5	-36	11.8	1.4	-29.94	-13	-16.94	0-360	200	V
1(DL)	2.1165	-46.94	Pk	31.5	-36	11.8	1.4	-38.24	-13	-25.24	0-360	200	H
2	3.423	-52.38	Pk	32.6	-34	11.8	0	-41.98	-13	-28.98	0-360	100	H
6	3.423	-52.48	Pk	32.6	-34	11.8	0	-42.08	-13	-29.08	0-360	200	V
7	5.133	-46.2	Pk	34.1	-31	11.8	0	-31.3	-13	-18.3	0-360	300	V
3	5.135	-42.87	Pk	34.1	-31.1	11.8	0	-28.07	-13	-15.07	0-360	100	H
4	16.388	-65.22	Pk	41.1	-17.7	11.8	0	-30.02	-13	-17.02	0-360	200	H
8	17.524	-66.53	Pk	41	-16.5	11.8	0	-30.23	-13	-17.23	0-360	200	V

Pk - Peak detector

DL – Downlink from Callbox

QPSK LTE4 (20MHz, Mid Channel)

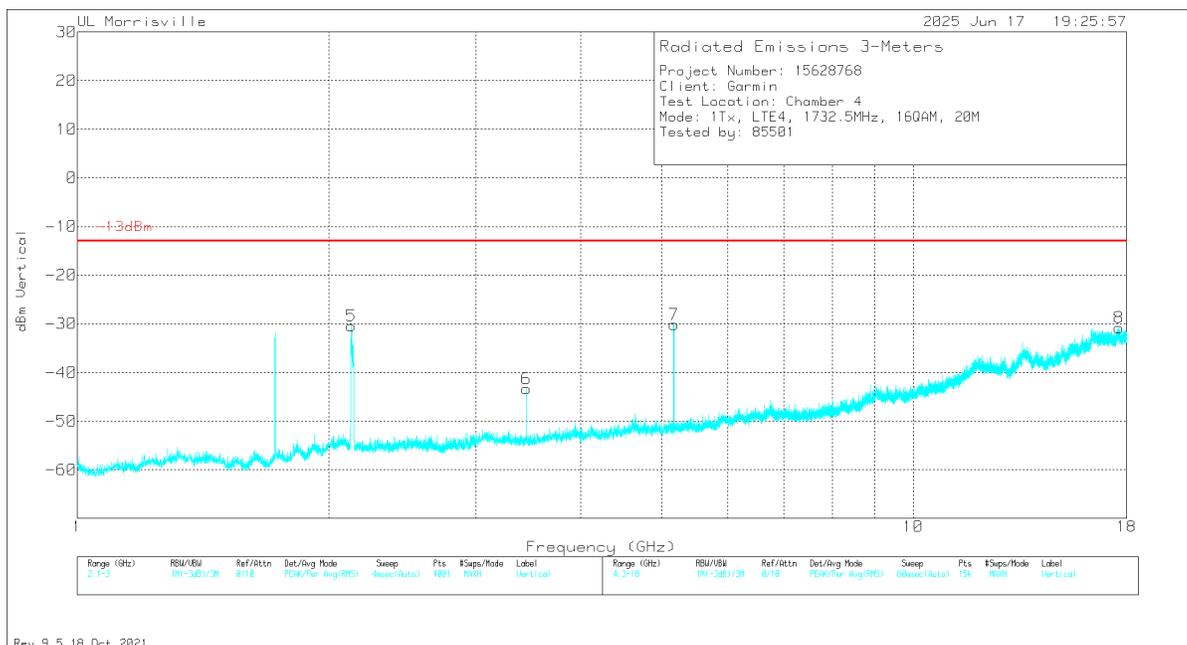
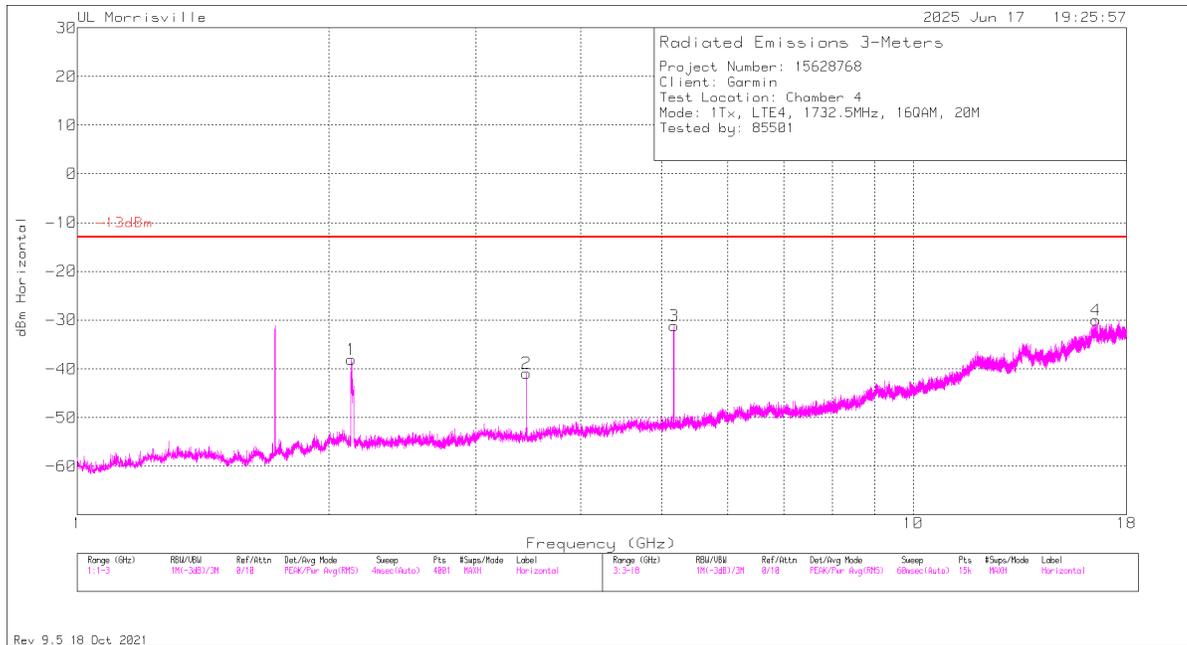


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.1285 (DL)	-47.3	Pk	31.4	-36	11.8	1.3	-	-	-	0-360	100	H
5	2.129 (DL)	-38	Pk	31.4	-36	11.8	1.3	-	-	-	0-360	200	V
6	3.447	-56	Pk	32.6	-33.7	11.8	0	-45.3	-13	-32.3	0-360	100	V
2	3.448	-56.34	Pk	32.6	-33.7	11.8	0	-45.64	-13	-32.64	0-360	100	H
3	5.172	-45.78	Pk	34.1	-30.6	11.8	0	-30.48	-13	-17.48	0-360	100	H
7	5.172	-50	Pk	34.1	-30.6	11.8	0	-34.7	-13	-21.7	0-360	200	V
8	11.876	-65.58	Pk	38.5	-21	11.8	0	-36.28	-13	-23.28	0-360	200	V
4	12.023	-66	Pk	38.6	-21.1	11.8	0	-36.7	-13	-23.7	0-360	100	H

Pk - Peak detector

DL - Downlink from Callbox

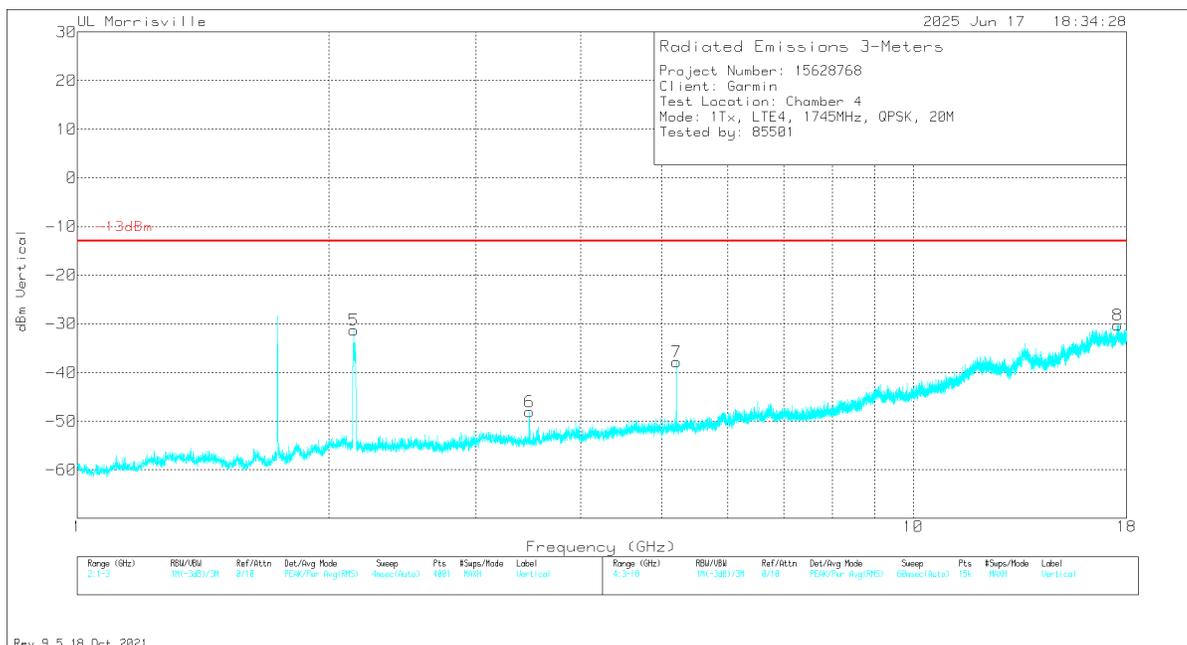
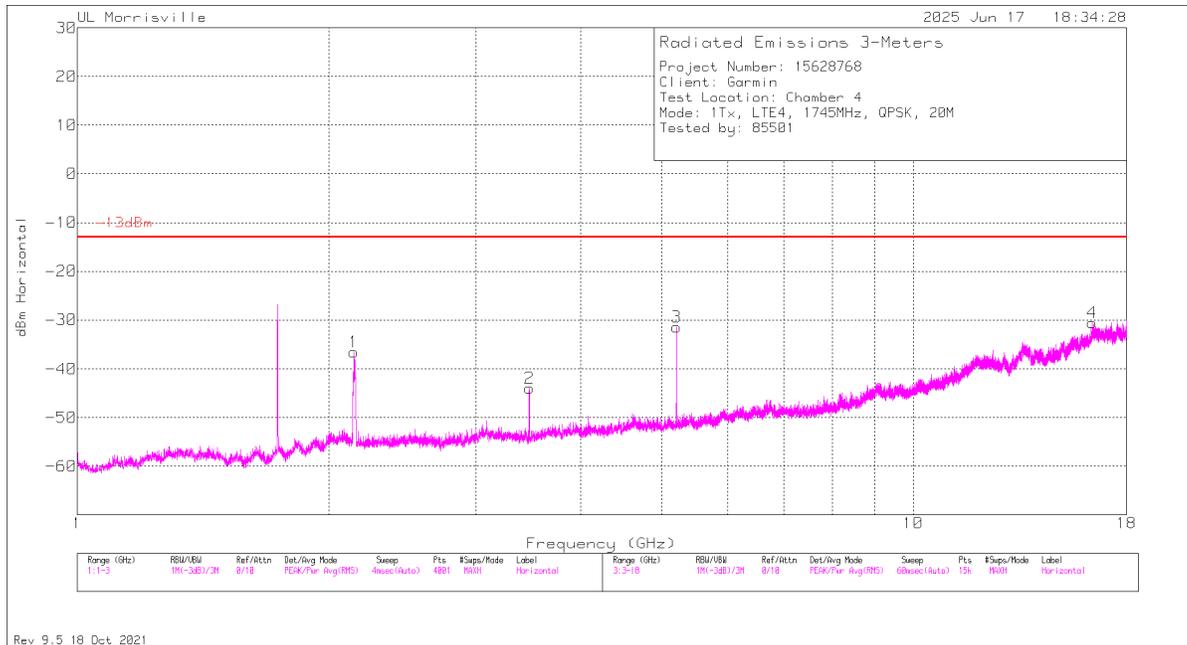
16QAM LTE4 (20MHz, Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.129 (DL)	-46.53	Pk	31.4	-36	11.8	1.3	-	-	-	0-360	100	H
5	2.129 (DL)	-38.88	Pk	31.4	-36	11.8	1.3	-	-	-	0-360	300	V
2	3.448	-51.58	Pk	32.6	-33.7	11.8	0	-40.88	-13	-27.88	0-360	100	H
6	3.448	-54.05	Pk	32.6	-33.7	11.8	0	-43.35	-13	-30.35	0-360	300	V
3	5.172	-46.5	Pk	34.1	-30.6	11.8	0	-31.2	-13	-18.2	0-360	100	H
7	5.172	-45.42	Pk	34.1	-30.6	11.8	0	-30.12	-13	-17.12	0-360	200	V
4	16.536	-65.54	Pk	41.3	-17.6	11.8	0	-30.04	-13	-17.04	0-360	100	H
8	17.632	-66.67	Pk	41.2	-17.1	11.8	0	-30.77	-13	-17.77	0-360	300	V

Pk - Peak detector
 DL - Downlink from Callbox

QPSK LTE4 (20MHz, High Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	2.142 (DL)	-39.78	Pk	31.4	-36	11.8	1.3	-	-	-	0-360	300	V
1	2.1435 (DL)	-44.94	Pk	31.4	-36	11.8	1.2	-	-	-	0-360	200	H
2	3.473	-54.76	Pk	32.6	-33.6	11.8	0	-43.96	-13	-30.96	0-360	100	H
6	3.473	-58.81	Pk	32.6	-33.6	11.8	0	-48.01	-13	-35.01	0-360	200	V
7	5.209	-53.68	Pk	34.2	-30.1	11.8	0	-37.78	-13	-24.78	0-360	300	V
3	5.21	-47.18	Pk	34.2	-30.2	11.8	0	-31.38	-13	-18.38	0-360	100	H
4	16.374	-65.52	Pk	41	-17.8	11.8	0	-30.52	-13	-17.52	0-360	100	H
8	17.576	-66.82	Pk	41.2	-16.5	11.8	0	-30.32	-13	-17.32	0-360	300	V

Pk - Peak detector
 DL - Downlink from Callbox

10.1.2. LTE BAND 12

LIMITS

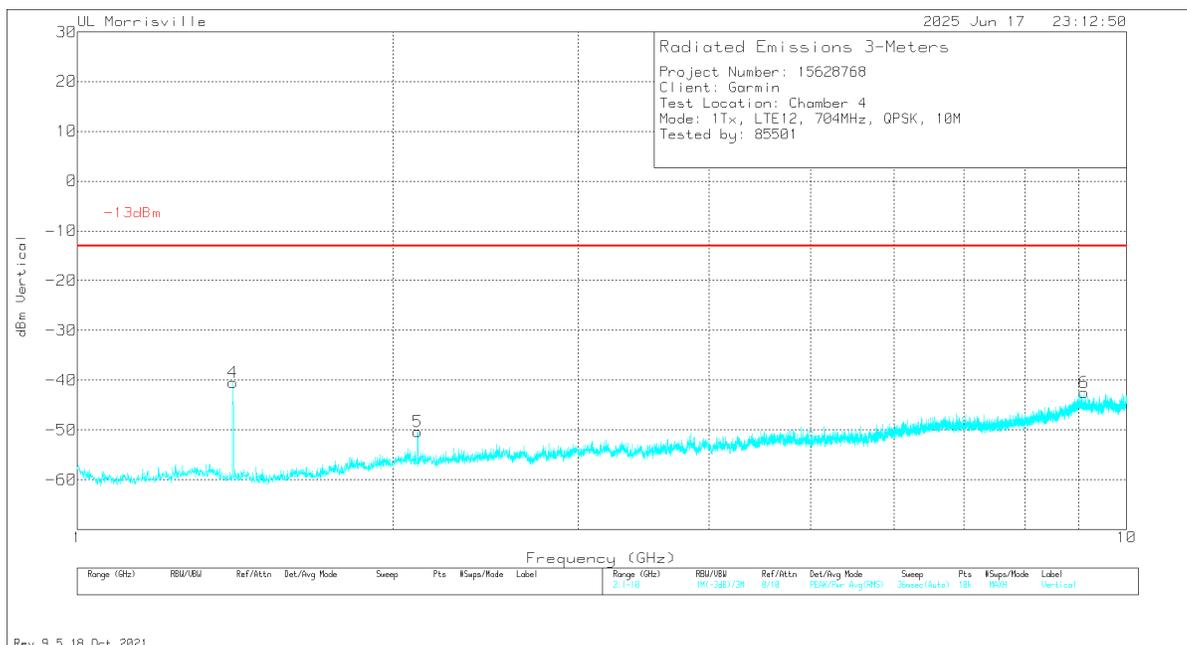
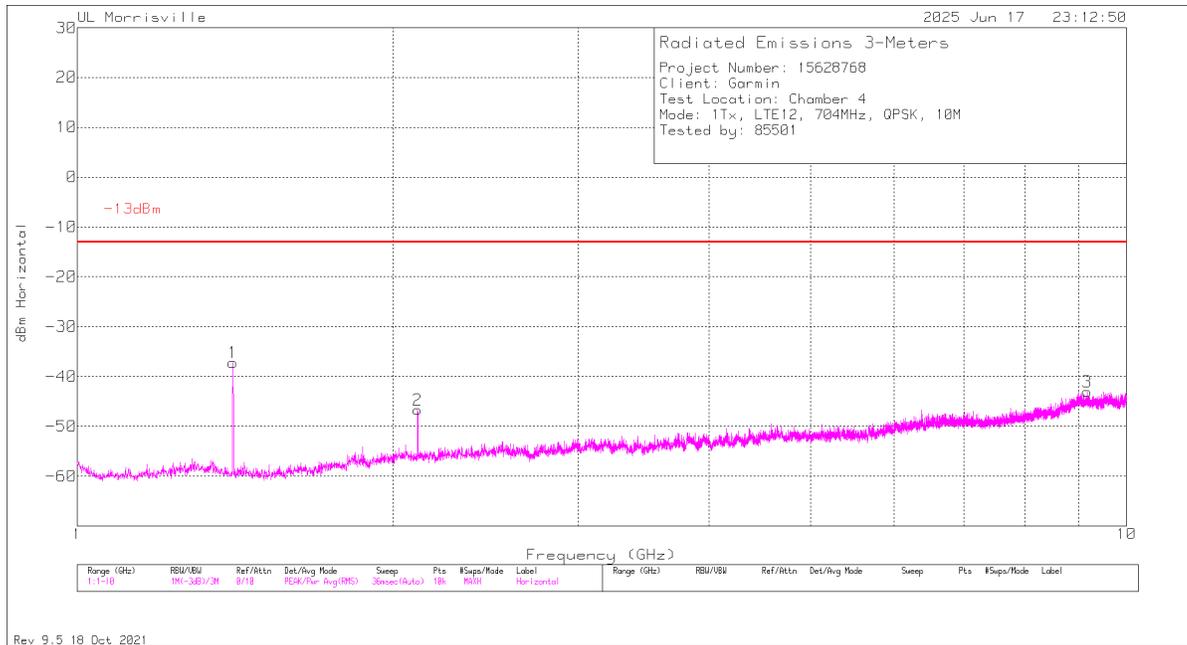
FCC: §27.53 (g)

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.

ISED: RSS130§4.7

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

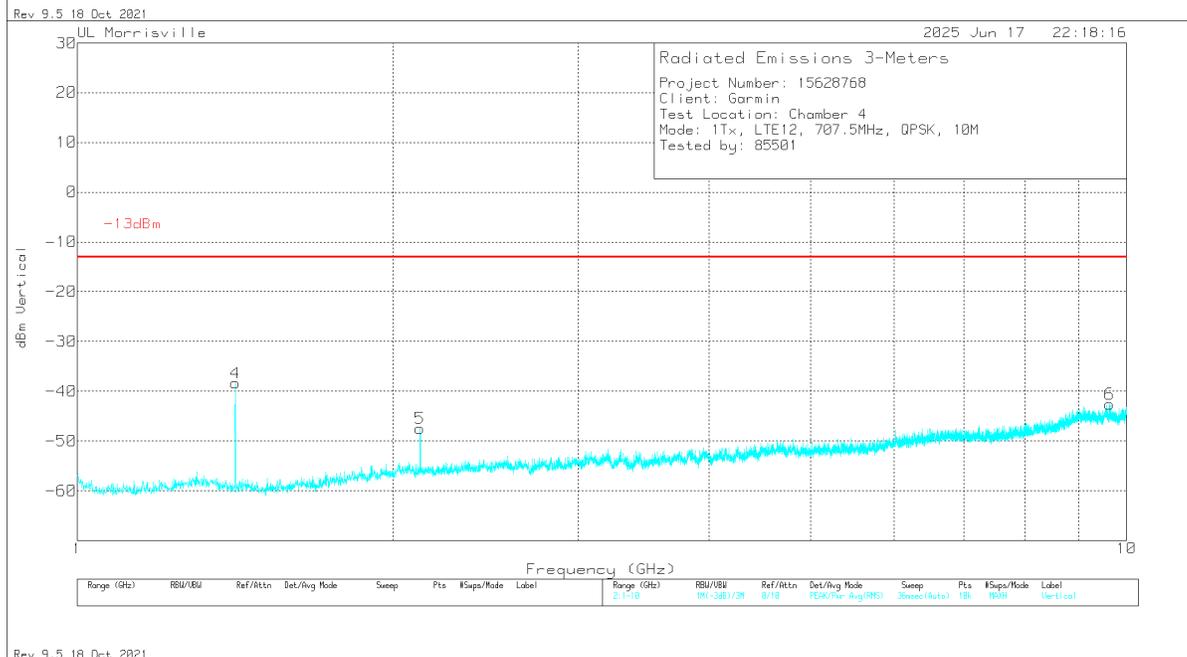
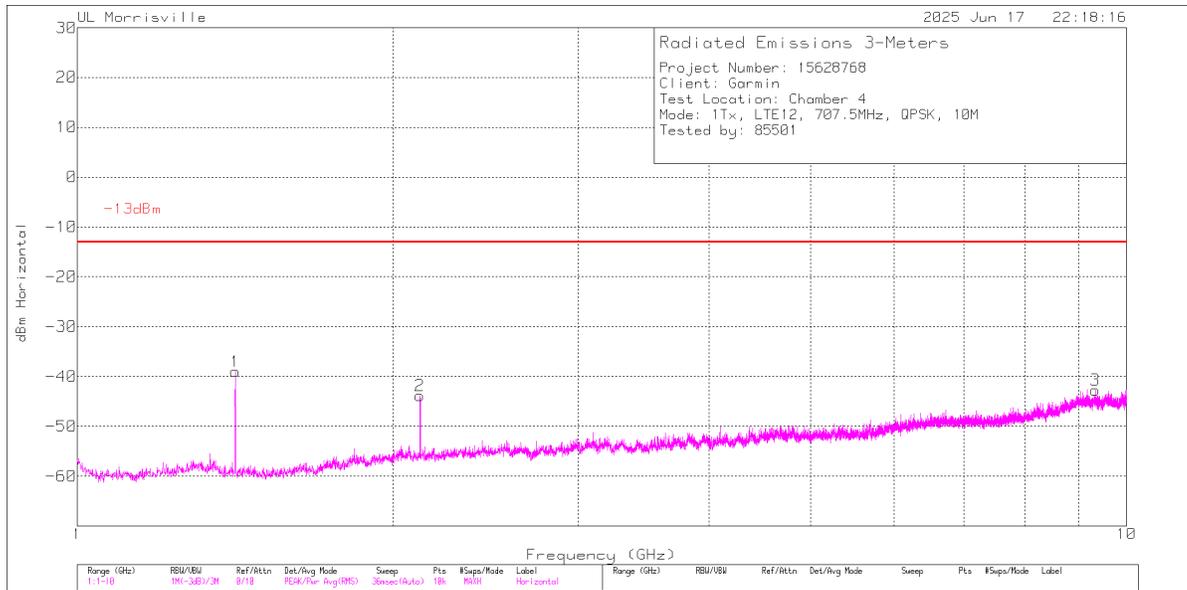
QPSK LTE12 (10MHz, Low Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.4068	-42.06	Pk	28.4	-35.9	.5	11.8	-37.26	-13	-24.26	0-360	100	H
4	1.4068	-45.25	Pk	28.4	-35.9	.5	11.8	-40.45	-13	-27.45	0-360	300	V
2	2.1106	-54.47	Pk	31.6	-36	.4	11.8	-46.67	-13	-33.67	0-360	100	H
5	2.1106	-58.14	Pk	31.6	-36	.4	11.8	-50.34	-13	-37.34	0-360	300	V
6	9.1072	-65	Pk	36	-25.6	.3	11.8	-42.5	-13	-29.5	0-360	300	V
3	9.1702	-65.74	Pk	36.2	-25.8	.5	11.8	-43.04	-13	-30.04	0-360	100	H

Pk - Peak detector

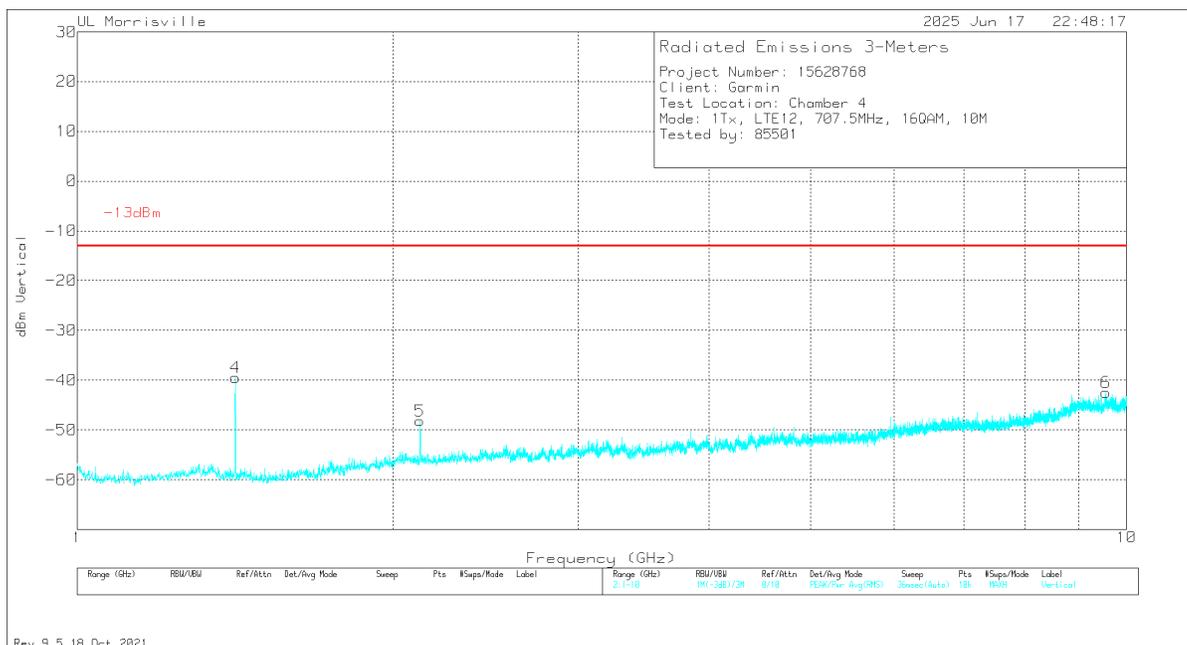
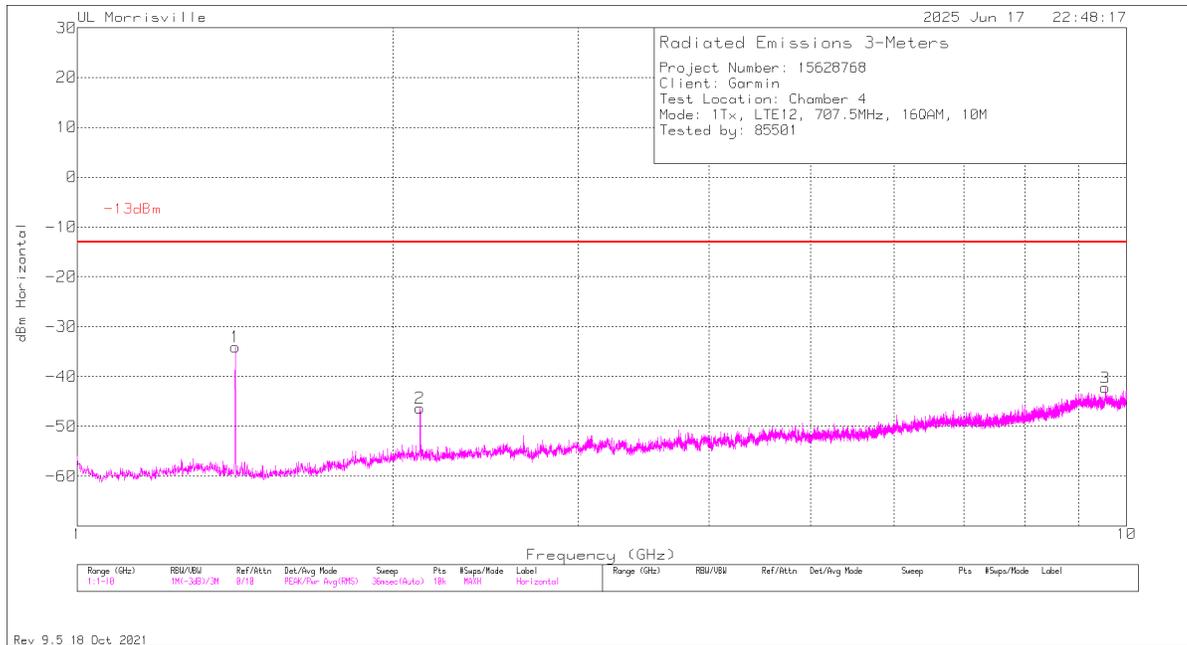
QPSK LTE12 (10MHz, Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.414	-43.19	Pk	28.4	-35.9	.5	11.8	-38.39	-13	-25.39	0-360	300	V
1	1.4149	-43.82	Pk	28.4	-35.9	.5	11.8	-39.02	-13	-26.02	0-360	200	H
2	2.1214	-51.68	Pk	31.5	-36	.5	11.8	-43.88	-13	-30.88	0-360	100	H
5	2.1214	-55.23	Pk	31.5	-36	.5	11.8	-47.43	-13	-34.43	0-360	200	V
3	9.3331	-65.98	Pk	36.4	-25.2	.3	11.8	-42.68	-13	-29.68	0-360	200	H
6	9.6409	-65.68	Pk	36.6	-25.6	.3	11.8	-42.58	-13	-29.58	0-360	300	V

Pk - Peak detector

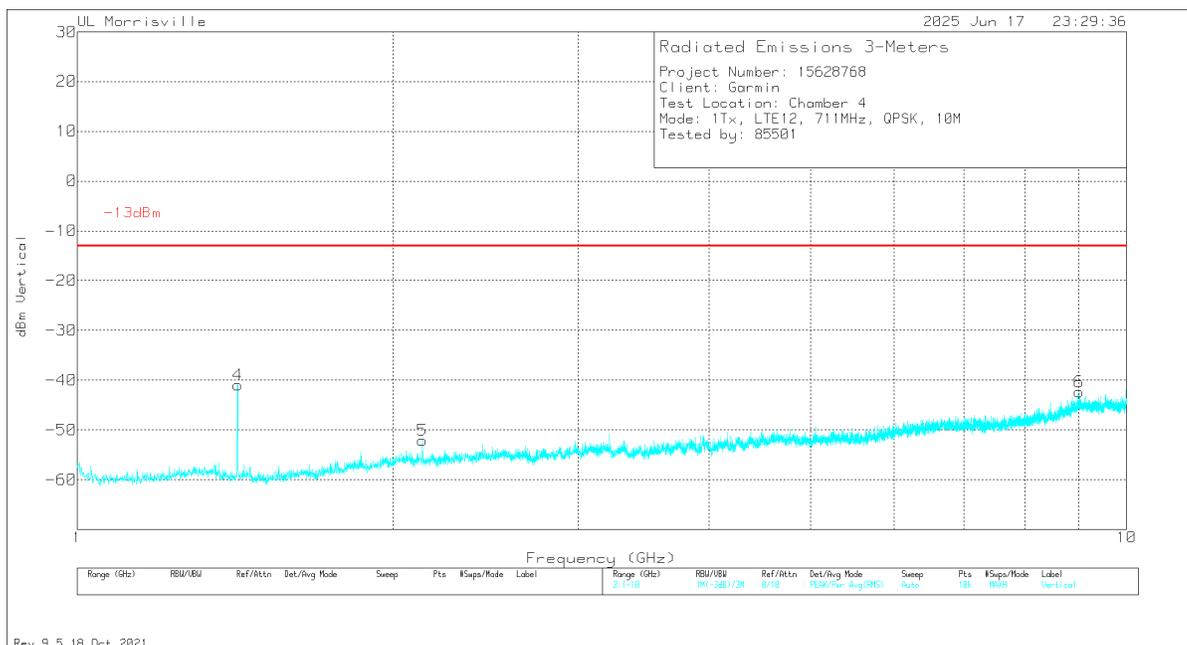
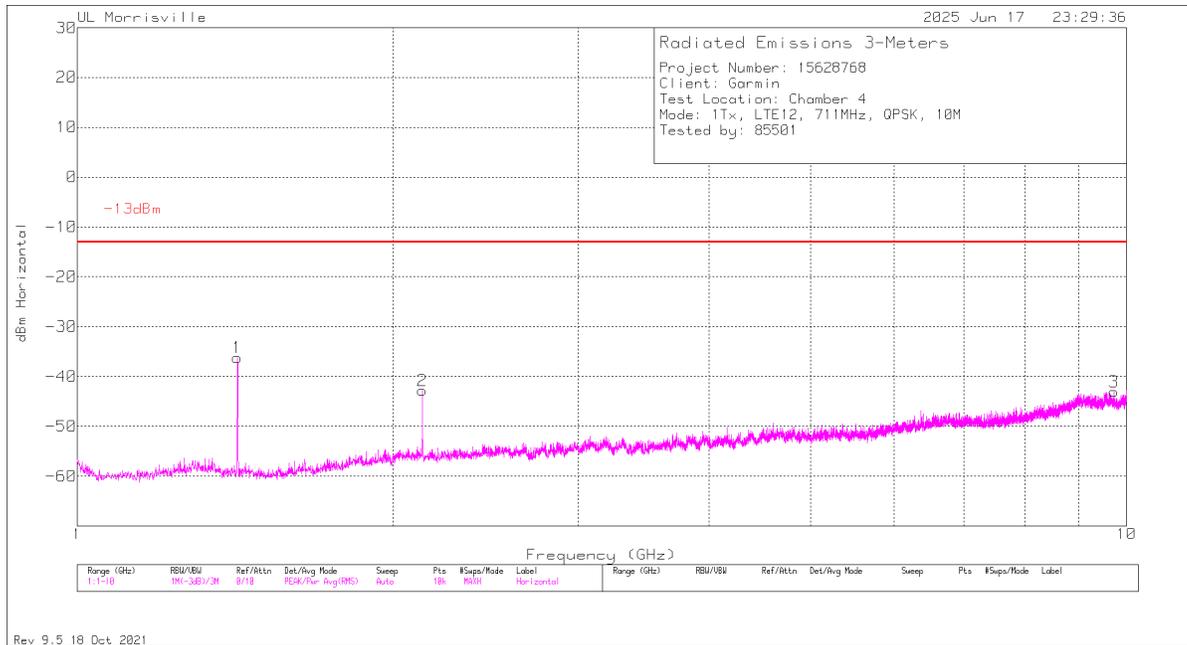
16QAM LTE12 (10MHz, Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.414	-38.88	Pk	28.4	-35.9	.5	11.8	-34.08	-13	-21.08	0-360	200	H
4	1.414	-44.27	Pk	28.4	-35.9	.5	11.8	-39.47	-13	-26.47	0-360	300	V
2	2.1214	-54.16	Pk	31.5	-36	.5	11.8	-46.36	-13	-33.36	0-360	100	H
5	2.1214	-55.97	Pk	31.5	-36	.5	11.8	-48.17	-13	-35.17	0-360	200	V
3	9.5482	-66.18	Pk	36.7	-25.1	.5	11.8	-42.28	-13	-29.28	0-360	100	H
6	9.5518	-66.25	Pk	36.7	-25.2	.5	11.8	-42.45	-13	-29.45	0-360	300	V

Pk - Peak detector

QPSK LTE12 (10MHz, High Channel)



	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.4212	-41	Pk	28.4	-35.9	.5	11.8	-36.2	-13	-23.2	0-360	100	H
4	1.4221	-45.73	Pk	28.4	-35.9	.5	11.8	-40.93	-13	-27.93	0-360	300	V
2	2.1322	-50.39	Pk	31.4	-36	.4	11.8	-42.79	-13	-29.79	0-360	100	H
5	2.1322	-59.66	Pk	31.4	-36	.4	11.8	-52.06	-13	-39.06	0-360	300	V
6	9.0109	-65.27	Pk	36	-25.4	.5	11.8	-42.37	-13	-29.37	0-360	300	V
3	9.7318	-66.44	Pk	36.8	-25.6	.4	11.8	-43.04	-13	-30.04	0-360	100	H

Pk - Peak detector

10.1.3. NTN Band 23

LIMITS

FCC 47 CFR 25.202(f)

Except for SDARS terrestrial repeaters and as provided for in paragraph (i), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the schedule set forth in [paragraphs \(f\)\(1\)](#) through [\(f\)\(4\)](#) of this section. The out-of-band emissions of SDARS terrestrial repeaters shall be attenuated in accordance with the schedule set forth in [paragraph \(h\)](#) of this section.

(1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: 25 dB;

(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: 35 dB;

(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts;

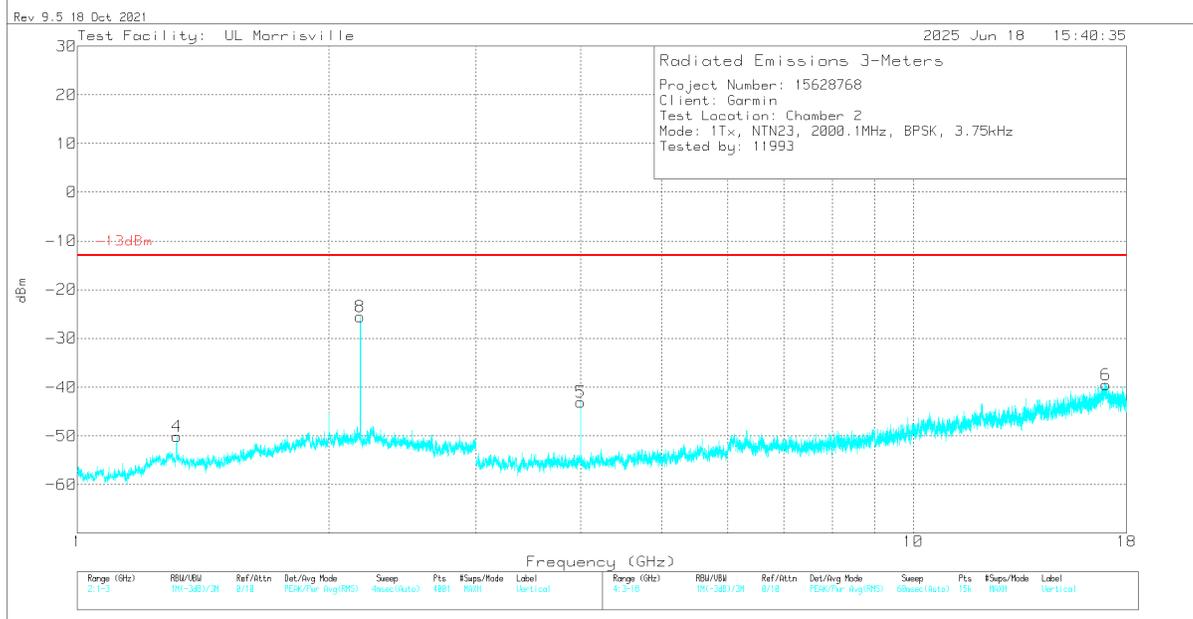
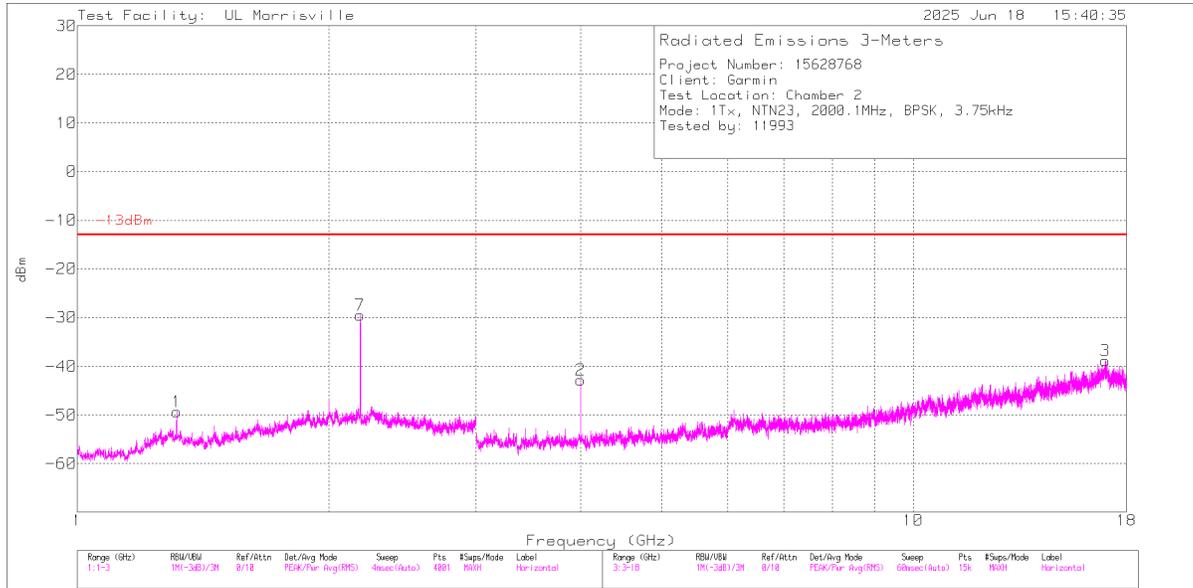
(4) In any event, when an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in [paragraphs \(f\) \(1\), \(2\) and \(3\)](#) of this section.

RSS-170 5.8: **Unwanted emission limits for MESs in all frequency bands**

The average power of unwanted emissions shall be attenuated below the average output power, P (dBW), of the transmitter, as specified below:

- a. 25 dB in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 50%, up to and including 100% of the occupied bandwidth or necessary bandwidth, whichever is greater
- b. 35 dB in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 100%, up to and including 250% of the occupied bandwidth or necessary bandwidth, whichever is greater
- c. $43 + 10 \log p$ (watts) in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 250% of the occupied bandwidth or necessary bandwidth, whichever is greater

BPSK NTN B23 (Low Channel)

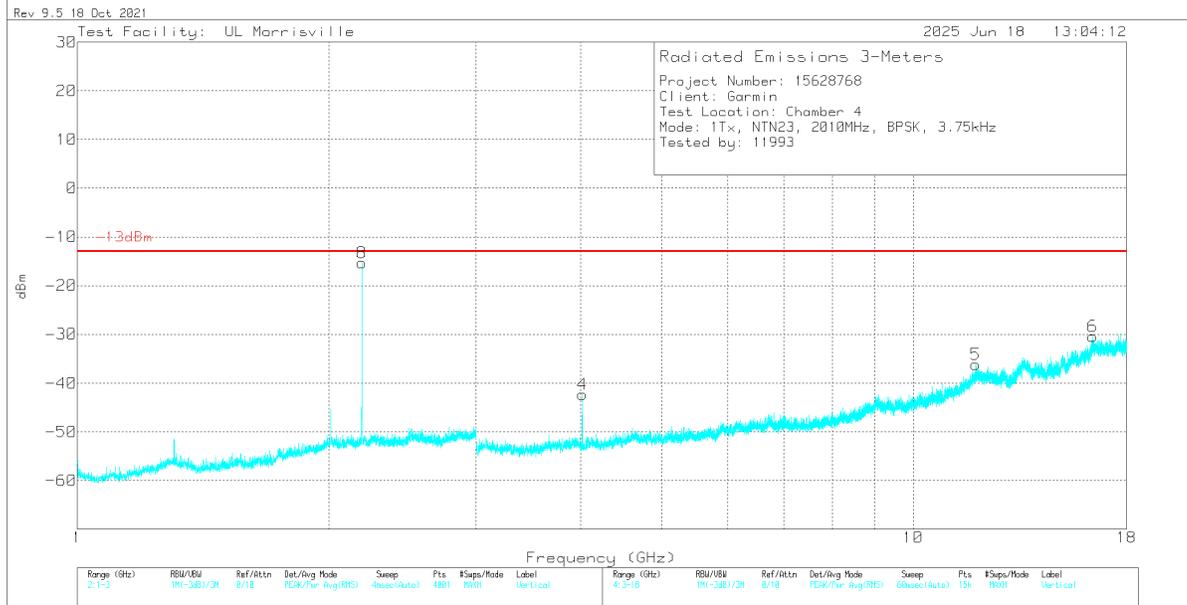
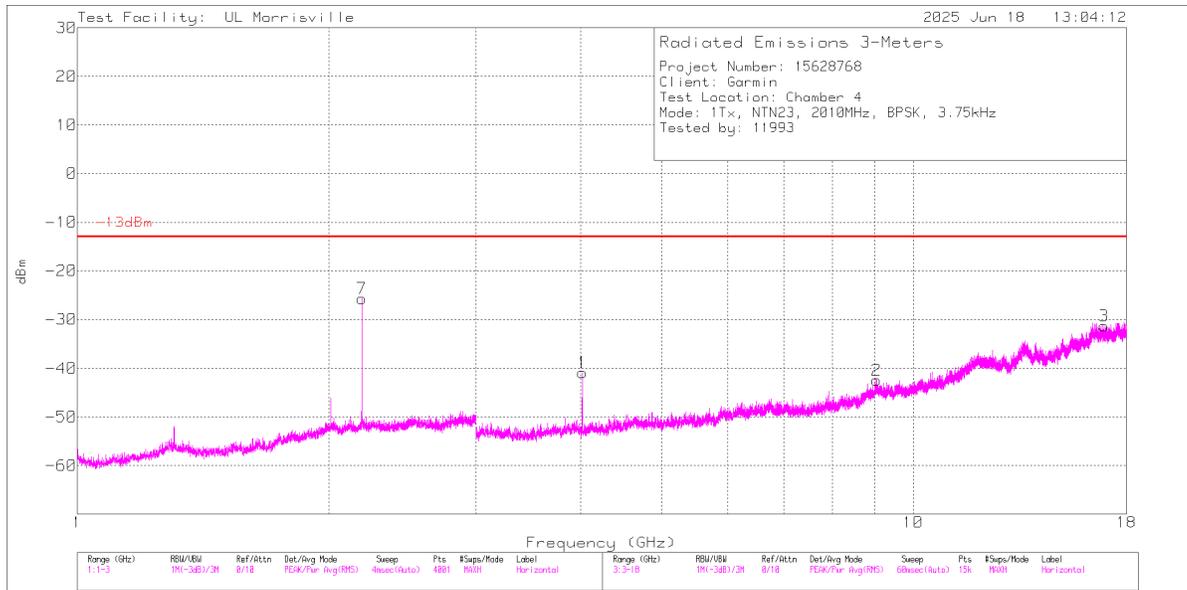


Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	86408 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.3145	-67.77	Pk	29.3	-24.2	11.8	.8	-50.07	-13	-37.07	0-360	101	V
1	1.315	-67.04	Pk	29.3	-24.2	11.8	.8	-49.34	-13	-36.34	0-360	300	H
7 (DL)	2.18025	-50.61	Pk	32	-24.6	11.8	1.9	-29.51	-	-	0-360	199	H
8 (DL)	2.1805	-46.6	Pk	32	-24.6	11.8	1.9	-25.5	-	-	0-360	300	V
2	3.999	-41.5	Pk	33.4	-46.5	11.8	0	-42.8	-13	-29.8	0-360	299	H
5	4	-41.83	Pk	33.4	-46.4	11.8	0	-43.03	-13	-30.03	0-360	101	V
3	16.976	-56.88	Pk	41.4	-35.2	11.8	0	-38.88	-13	-25.88	0-360	200	H
6	17.007	-58.44	Pk	41.4	-34.2	11.8	0	-39.44	-13	-26.44	0-360	299	V

Pk - Peak detector

BPSK NTN B23 (Mid Channel)

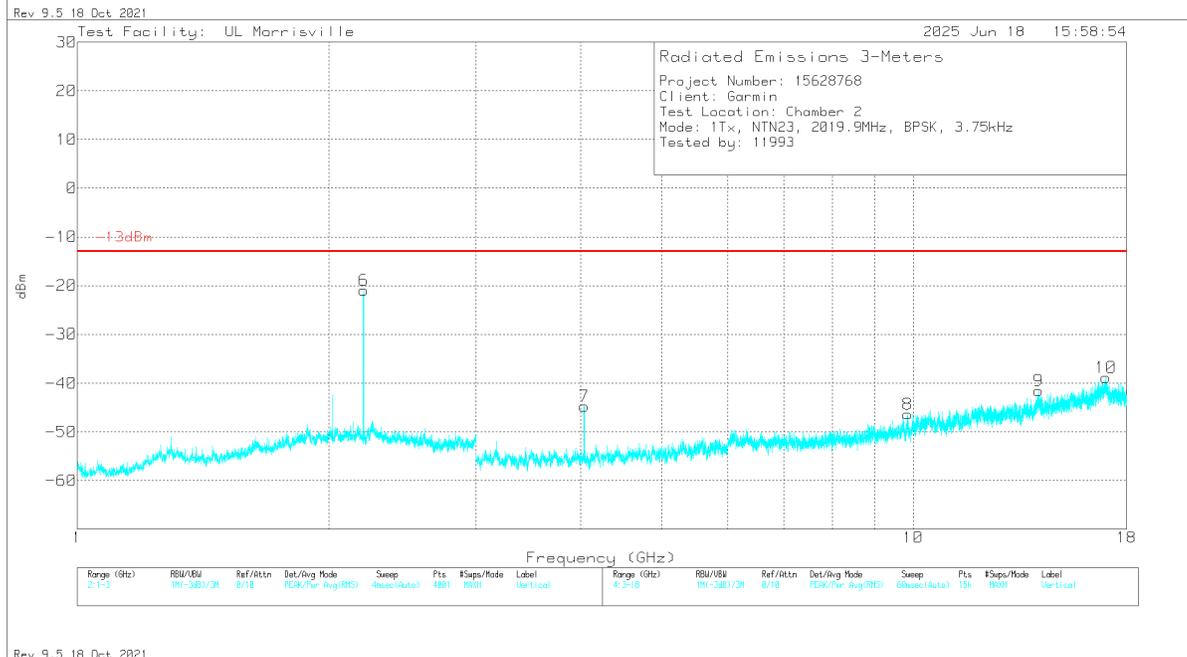


Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7 (DL)	2.19	-47.71	Pk	31.5	-23.2	11.8	1.9	-25.71	-	-	0-360	200	H
8 (DL)	2.19	-37.3	Pk	31.5	-23.2	11.8	1.9	-15.3	-	-	0-360	300	V
1	4.019	-54.13	Pk	33.4	-32	11.8	0	-40.93	-13	-27.93	0-360	300	H
4	4.02	-55.36	Pk	33.4	-32.1	11.8	0	-42.26	-13	-29.26	0-360	100	V
2	9.043	-66.28	Pk	36	-24	11.8	0	-42.48	-13	-29.48	0-360	300	H
5	11.877	-65.46	Pk	38.5	-21	11.8	0	-36.16	-13	-23.16	0-360	200	V
6	16.41	-65.3	Pk	41.1	-18	11.8	0	-30.4	-13	-17.4	0-360	100	V
3	16.919	-66.79	Pk	41.6	-17.9	11.8	0	-31.29	-13	-18.29	0-360	300	H

Pk - Peak detector

BPSK NTN B23 (High Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	86408 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.2 (DL)	-46.03	Pk	32	-25	11.8	1.9	-	-	-	0-360	299	H
6	2.2 (DL)	-41.62	Pk	32	-25	11.8	1.9	-	-	-	0-360	299	V
2	4.039	-42.57	Pk	33.3	-45.7	11.8	0	-43.17	-13	-30.17	0-360	299	H
7	4.04	-44.15	Pk	33.3	-45.7	11.8	0	-44.75	-13	-31.75	0-360	299	V
8	9.86	-55.04	Pk	37	-40.1	11.8	0	-46.34	-13	-33.34	0-360	101	V
3	10.466	-54.83	Pk	37.7	-39.3	11.8	0	-44.63	-13	-31.63	0-360	199	H
9	14.125	-54.88	Pk	39.2	-37.7	11.8	0	-41.58	-13	-28.58	0-360	299	V
4	14.599	-54.61	Pk	39.6	-37.1	11.8	0	-40.31	-13	-27.31	0-360	299	H
5	16.966	-57.31	Pk	41.4	-35.4	11.8	0	-39.51	-13	-26.51	0-360	299	H
10	17.007	-57.89	Pk	41.4	-34.2	11.8	0	-38.89	-13	-25.89	0-360	299	V

Pk - Peak detector

10.1.4. NTN Band 255

LIMITS

FCC 47 CFR 25.202(f)

Except for SDARS terrestrial repeaters and as provided for in paragraph (i), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the schedule set forth in [paragraphs \(f\)\(1\)](#) through [\(f\)\(4\)](#) of this section. The out-of-band emissions of SDARS terrestrial repeaters shall be attenuated in accordance with the schedule set forth in [paragraph \(h\)](#) of this section.

(1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: 25 dB;

(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: 35 dB;

(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts;

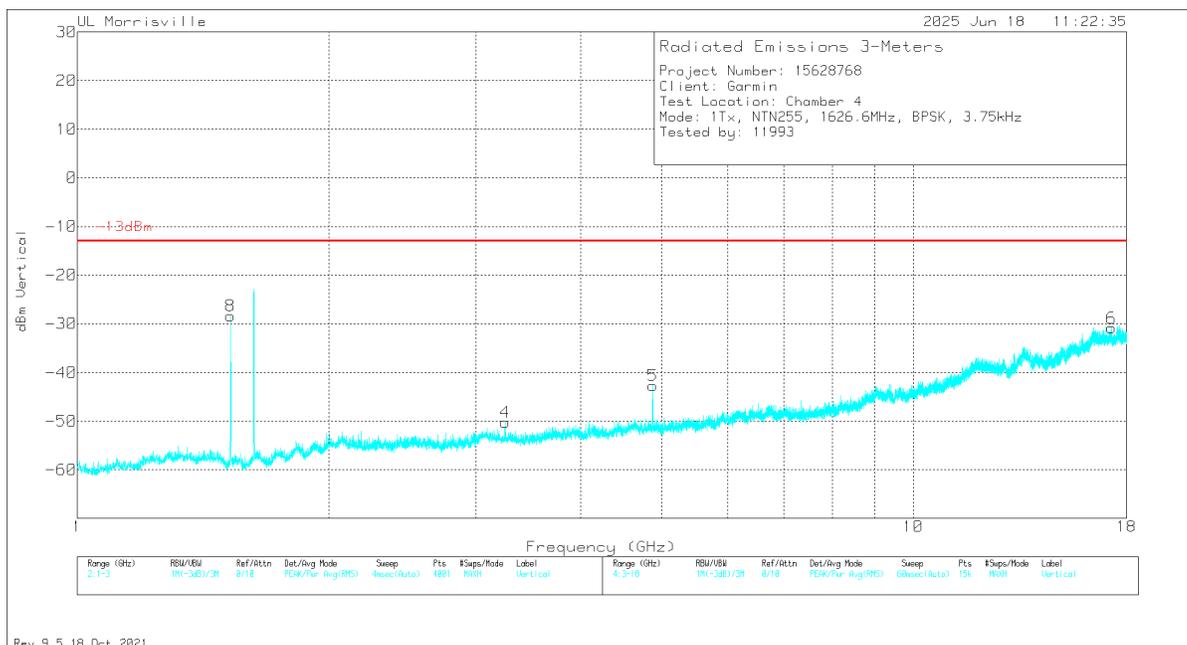
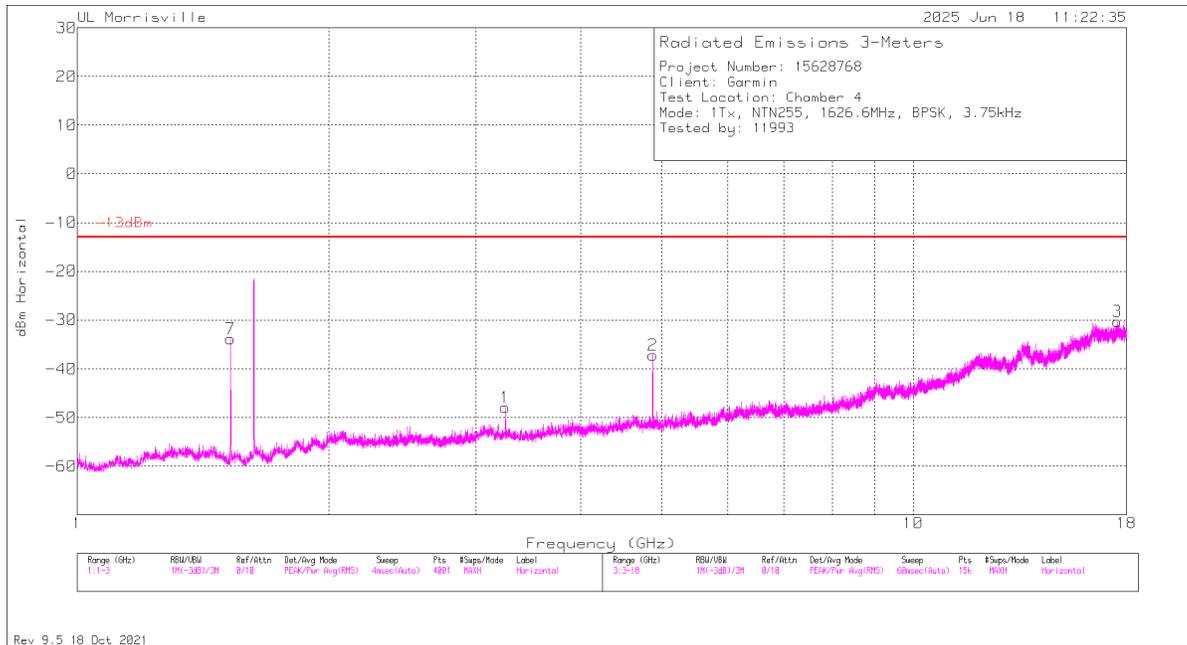
(4) In any event, when an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in [paragraphs \(f\) \(1\), \(2\) and \(3\)](#) of this section.

RSS-170 5.8: **Unwanted emission limits for MESs in all frequency bands**

The average power of unwanted emissions shall be attenuated below the average output power, P (dBW), of the transmitter, as specified below:

- a. 25 dB in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 50%, up to and including 100% of the occupied bandwidth or necessary bandwidth, whichever is greater
- b. 35 dB in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 100%, up to and including 250% of the occupied bandwidth or necessary bandwidth, whichever is greater
- c. $43 + 10 \log p$ (watts) in any 4 kHz, the frequency of which is offset from the channel centre frequency by more than 250% of the occupied bandwidth or necessary bandwidth, whichever is greater

BPSK NTN B255 (Low Channel)

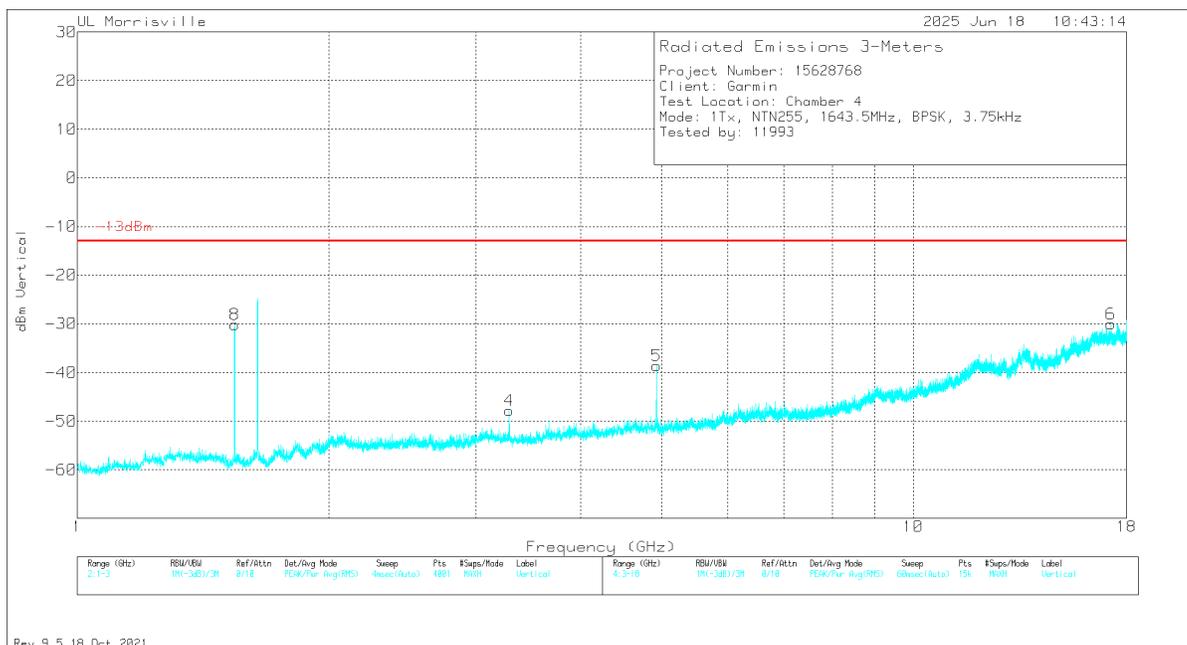
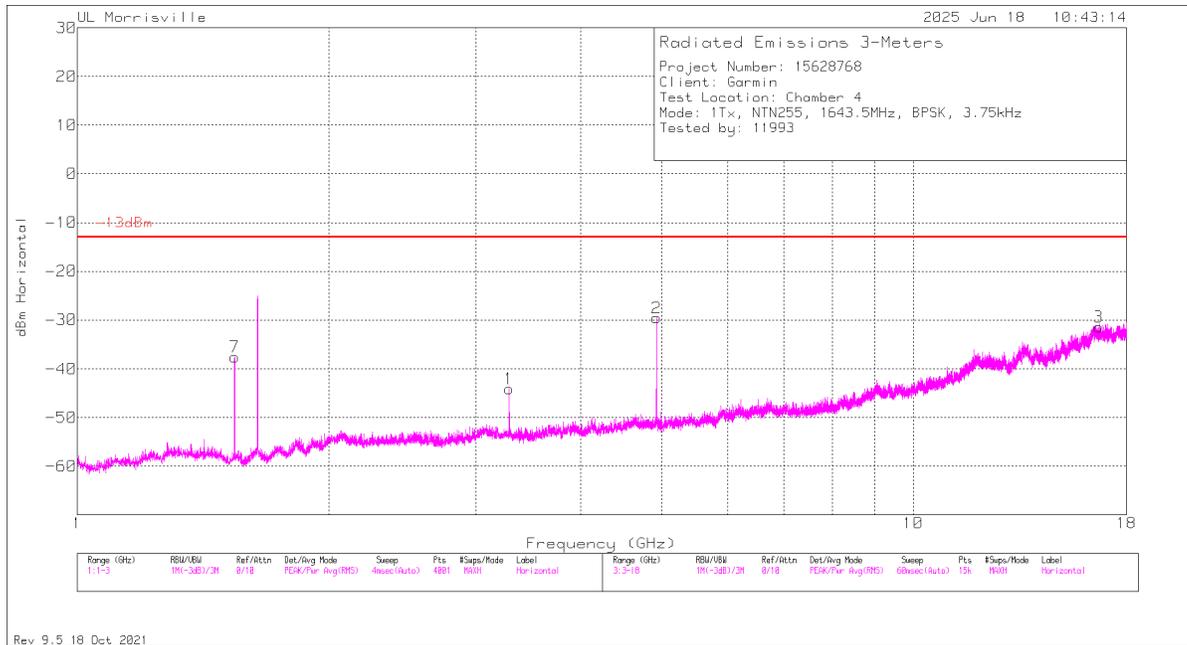


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7 (DL)	1.525	-39.64	Pk	27.9	-35.8	11.8	1.9	-33.84	-	-	0-360	100	H
8 (DL)	1.525	-34.14	Pk	27.9	-35.8	11.8	1.9	-28.34	-	-	0-360	200	V
1	3.252	-58.3	Pk	32.8	-34.2	11.8	0	-47.9	-13	-34.9	0-360	200	H
4	3.253	-60.69	Pk	32.8	-34.1	11.8	0	-50.19	-13	-37.19	0-360	300	V
2	4.879	-51.88	Pk	33.9	-31	11.8	0	-37.18	-13	-24.18	0-360	100	H
5	4.879	-57.42	Pk	33.9	-31	11.8	0	-42.72	-13	-29.72	0-360	300	V
6	17.258	-66.75	Pk	41	-16.9	11.8	0	-30.85	-13	-17.85	0-360	300	V
3	17.556	-66.39	Pk	41.1	-16.8	11.8	0	-30.29	-13	-17.29	0-360	100	H

Pk - Peak detector

DL - Downlink from Callbox

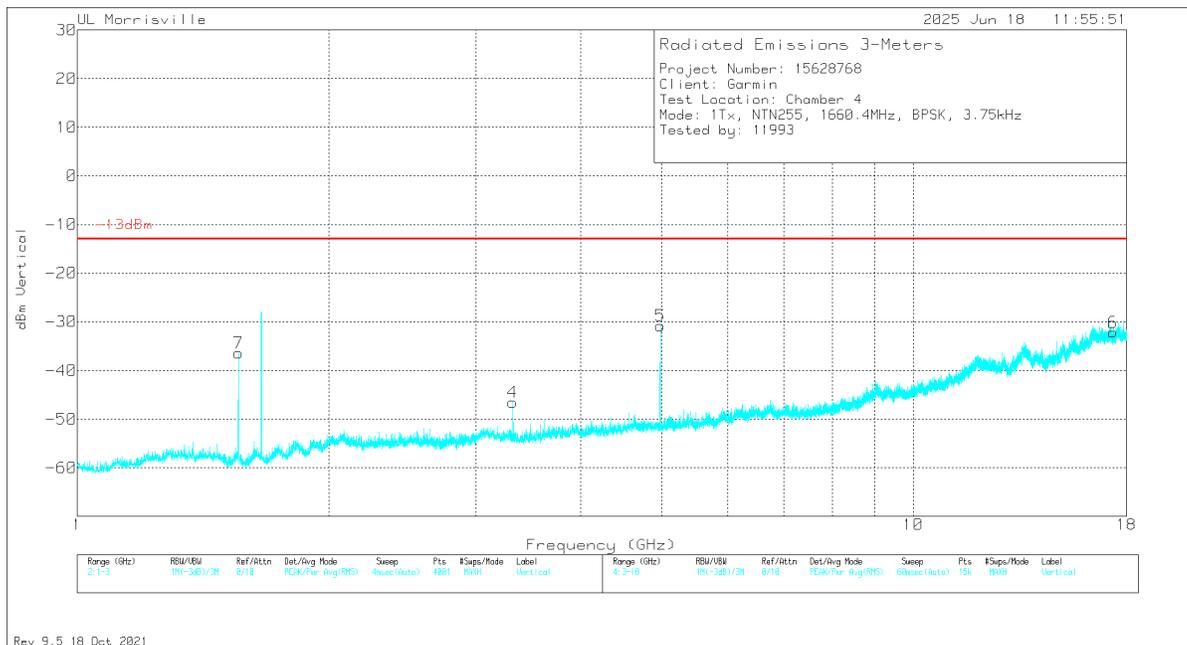
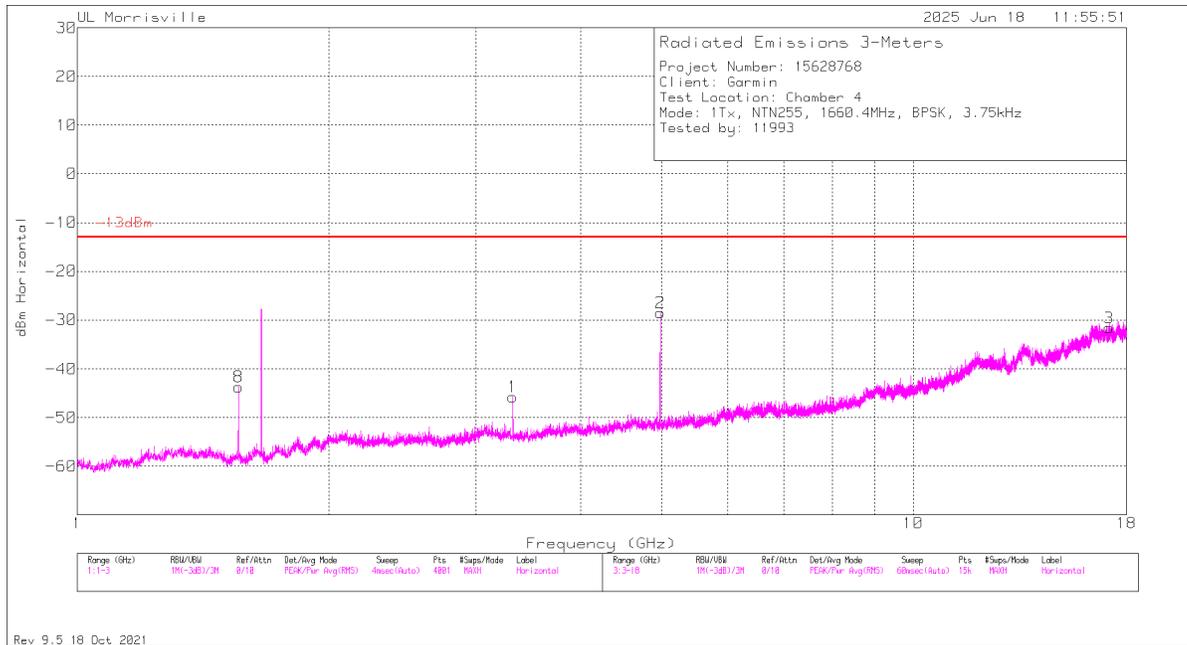
BPSK NTN B255 (Mid Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7 (DL)	1.542	-43.32	Pk	28	-35.9	11.8	1.9	-37.52	-	-	0-360	100	H
8 (DL)	1.542	-35.95	Pk	28	-35.9	11.8	1.9	-30.15	-	-	0-360	200	V
1	3.287	-54.95	Pk	32.9	-33.8	11.8	0	-44.05	-13	-31.05	0-360	100	H
4	3.287	-58.74	Pk	32.9	-33.8	11.8	0	-47.84	-13	-34.84	0-360	300	V
2	4.93	-44.16	Pk	33.8	-31	11.8	0	-29.56	-13	-16.56	0-360	100	H
5	4.93	-53.16	Pk	33.8	-31	11.8	0	-38.56	-13	-25.56	0-360	200	V
3	16.674	-66.6	Pk	41.5	-18.1	11.8	0	-31.4	-13	-18.4	0-360	100	H
6	17.24	-65.93	Pk	41	-16.9	11.8	0	-30.03	-13	-17.03	0-360	200	V

Pk - Peak detector
 DL – Downlink from Callbox

BPSK NTN B255 (High Channel)



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8 (DL)	1.559	-49.46	Pk	28.1	-35.9	11.8	1.8	-43.66	-	-	0-360	100	H
7 (DL)	1.559	-42.17	Pk	28.1	-35.9	11.8	1.8	-36.37	-	-	0-360	200	V
1	3.32	-56.49	Pk	32.8	-33.9	11.8	0	-45.79	-13	-32.79	0-360	200	H
4	3.32	-57.19	Pk	32.8	-33.9	11.8	0	-46.49	-13	-33.49	0-360	200	V
2	4.981	-42.91	Pk	33.9	-31.3	11.8	0	-28.51	-13	-15.51	0-360	100	H
5	4.981	-45.22	Pk	33.9	-31.3	11.8	0	-30.82	-13	-17.82	0-360	300	V
3	17.14	-66.81	Pk	41.1	-17.7	11.8	0	-31.61	-13	-18.61	0-360	100	H
6	17.345	-67.03	Pk	40.9	-17.8	11.8	0	-32.13	-13	-19.13	0-360	300	V

Pk - Peak detector
 DL - Downlink from Callbox

10.1.5. ADDITIONAL UNWANTED EMISSIONS (1559MHz – 1610MHz)

LIMITS

FCC 25.216

(c) The e.i.r.p. density of emissions from mobile earth stations placed in service after July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1660.5 MHz shall not exceed -70 dBW/MHz, averaged over any 2 millisecond active transmission interval, in the band 1559-1605 MHz. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed -80 dBW, averaged over any 2 millisecond active transmission interval, in the 1559-1605 MHz band.

(f) Mobile earth stations placed in service after July 21, 2002 with assigned uplink frequencies in the 1610-1660.5 MHz band shall suppress the power density of emissions in the 1605-1610 MHz band to an extent determined by linear interpolation from -70 dBW/MHz at 1605 MHz to -10 dBW/MHz at 1610 MHz.

(g) Mobile earth stations manufactured more than six months after Federal Register publication of the rule changes adopted in FCC 03-283 with assigned uplink frequencies in the 1610-1626.5 MHz band shall suppress the power density of emissions in the 1605-1610 MHz band-segment to an extent determined by linear interpolation from -70 dBW/MHz at 1605 MHz to -10 dBW/MHz at 1610 MHz averaged over any 2 millisecond active transmission interval. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed a level determined by linear interpolation from -80 dBW at 1605 MHz to -20 dBW at 1610 MHz, averaged over any 2 millisecond active transmission interval.

ISED RSS-170

5.9.2 Band 1626.5-1660.5 MHz

For MESs with transmitting frequencies between 1610 MHz and 1626.5 MHz, the e.i.r.p. density of unwanted emissions shall not exceed the limits shown below, which are the same as those for the band 1605-1610 MHz, averaged over any 2 ms active transmission interval:

- a. -70 dBW/MHz at 1605 MHz, linearly interpolated to -46 dBW/MHz at 1610 MHz, for broadband emissions
- b. -80 dBW/kHz at 1605 MHz, linearly interpolated to -56 dBW/kHz at 1610 MHz, for discrete emissions

TEST PROCEDURE

FCC KDB 971168 D01 v03r01/D02 v02r02

RBW = 1MHz

VBW = 3MHz

Detector = RMS

Sweep Time = $>$ Sweep Points *2ms (1001*.002) = 2 Seconds.

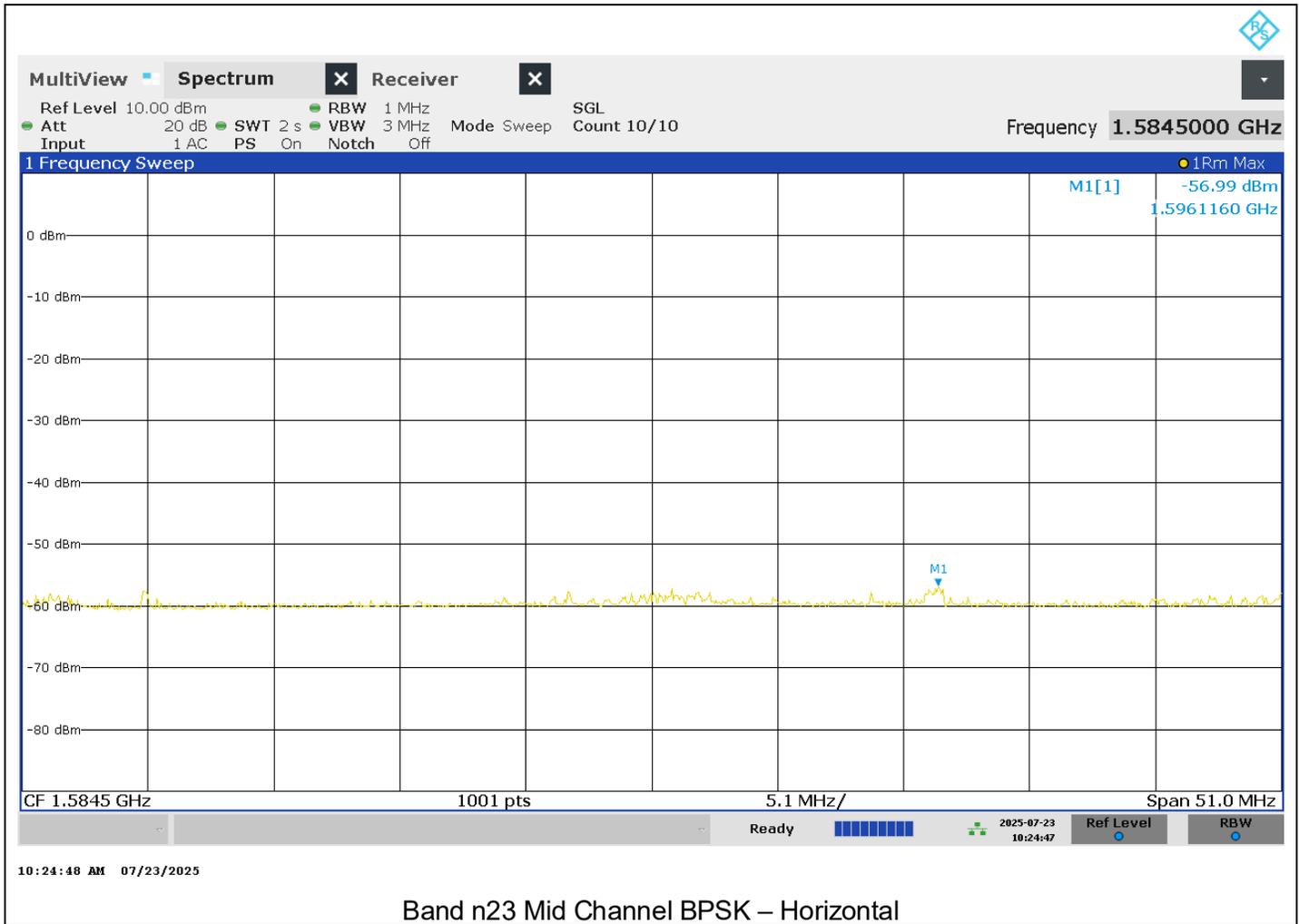
Sweep Points = 1001

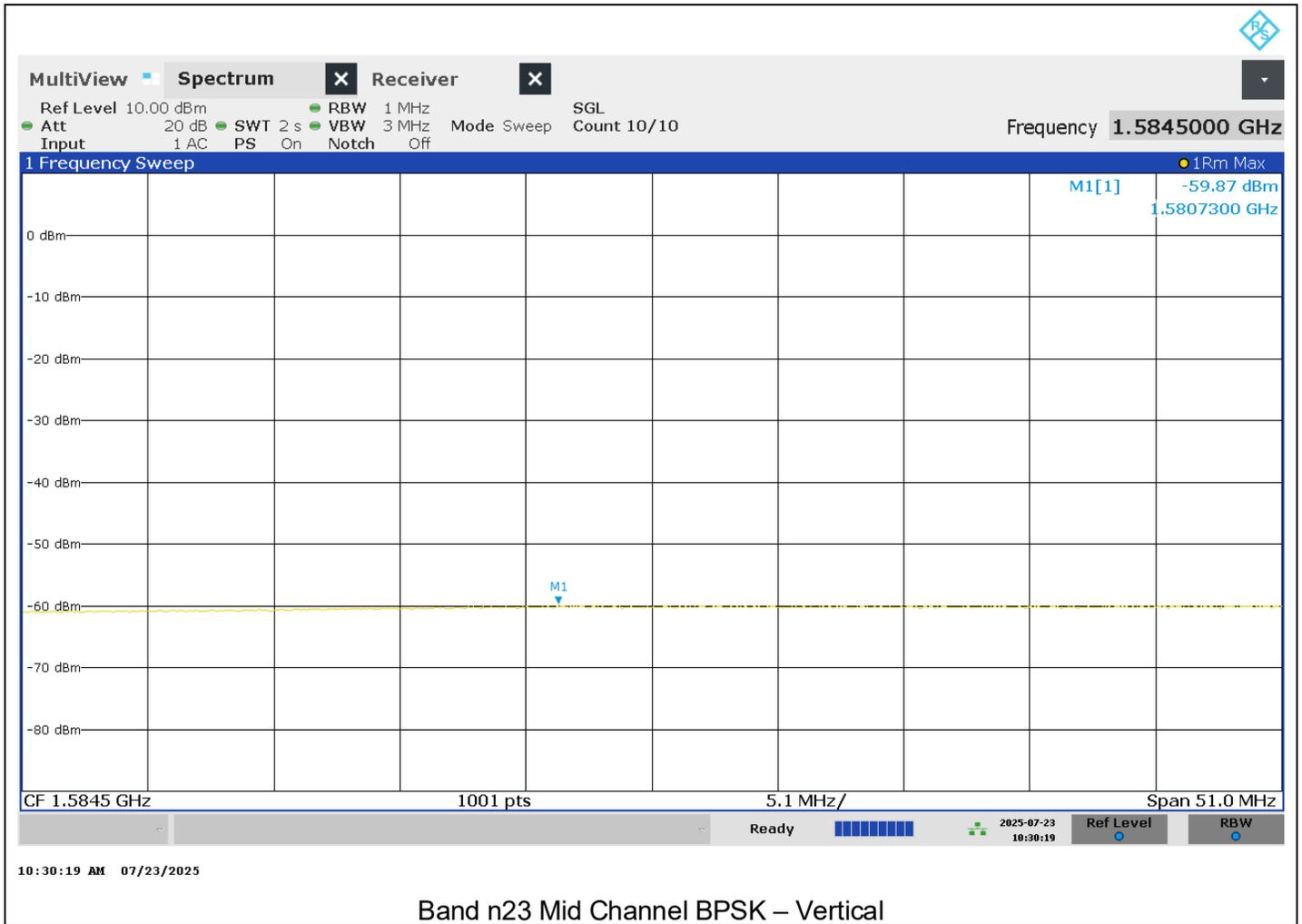
Trace Mode = Max Hold

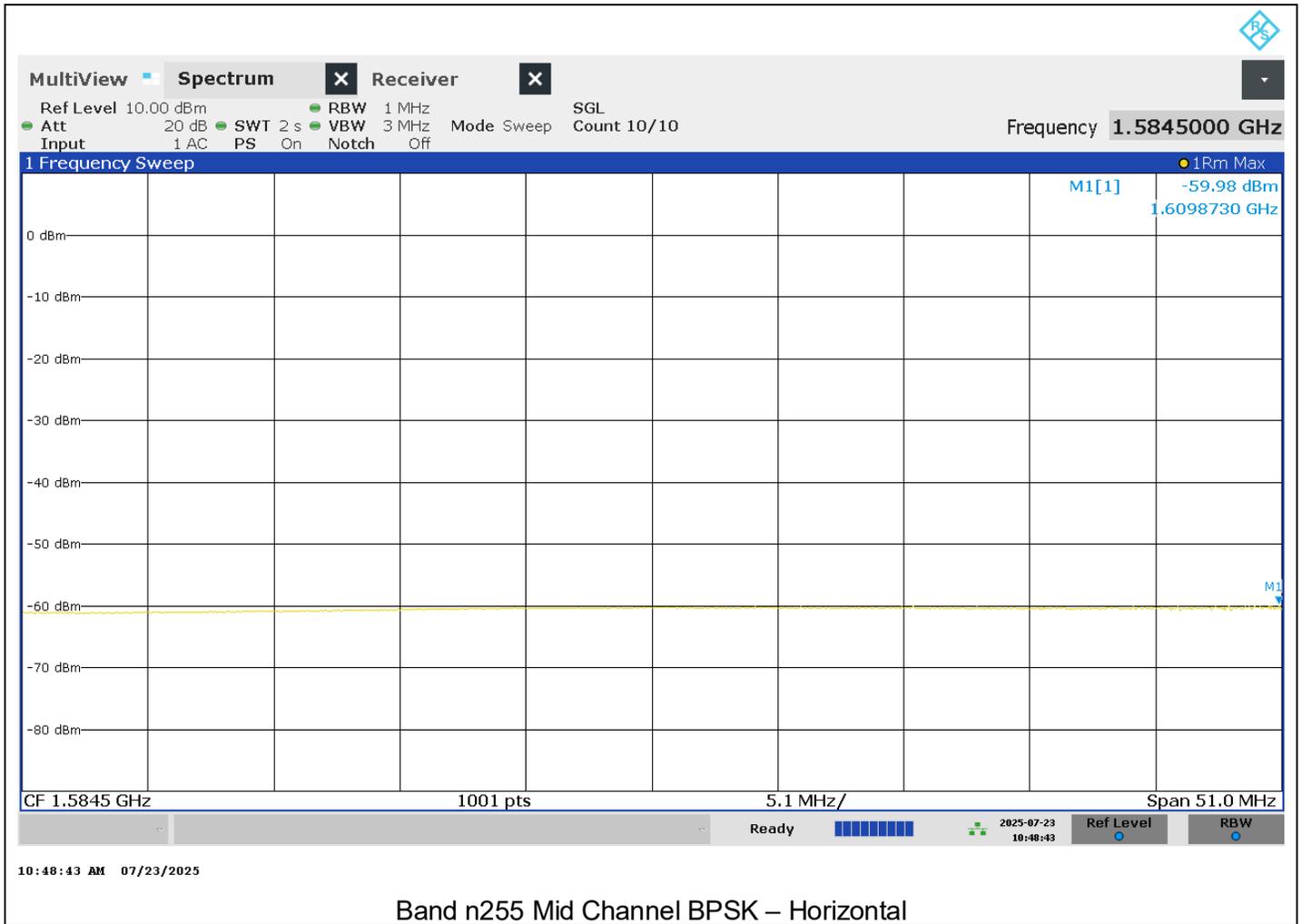
RESULTS

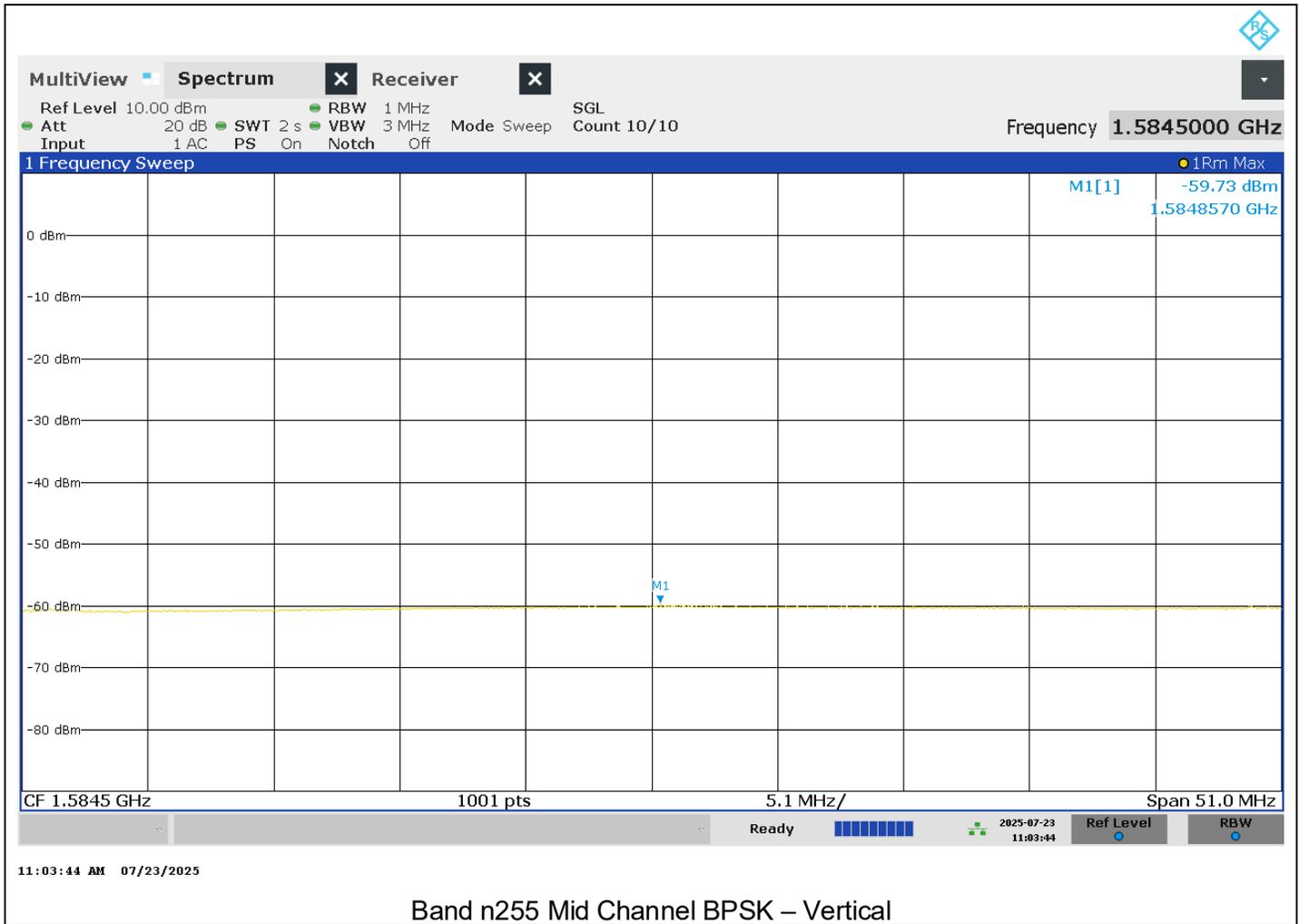
Tested By: 22797

Test Date: 7/23/25









10.2. CARRIER-OFF STATE EMISSIONS (1559MHz – 1610MHz)

LIMITS

FCC 25.216

(i) The e.i.r.p density of carrier-off state emissions from mobile earth stations manufactured more than six months after Federal Register publication of the rule changes adopted in FCC 03-283 with assigned uplink frequencies between 1 and 3 GHz shall not exceed -80 dBW/MHz in the 1559-1610 MHz band averaged over any two millisecond interval.

ISED RSS-170 5.10

5.10 Carrier-off state emissions

MESs with transmitting frequencies between 1 GHz and 3 GHz shall not exceed -80 dBW/MHz, which is the e.i.r.p. density of carrier-off state emissions in the band 1559-1610 MHz.

TEST PROCEDURE

FCC KDB 971168 D01 v03r01/D02 v02r02

RBW = 1MHz

VBW = 3MHz

Detector = RMS

Sweep Time = >Sweep Points *2ms (1001*.002) = 2 Seconds.

Sweep Points = 1001

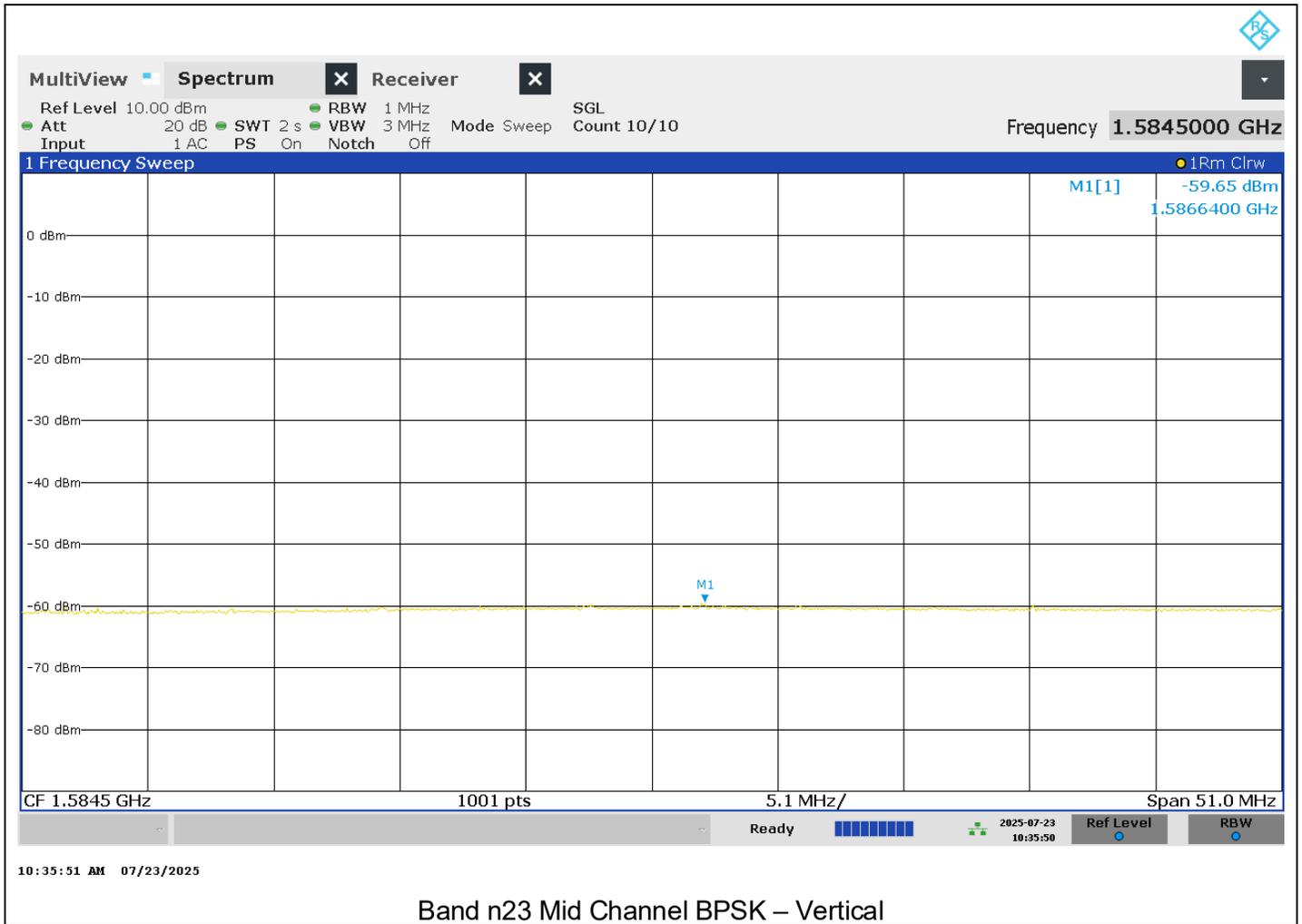
Trace Mode = Max Hold

RESULTS

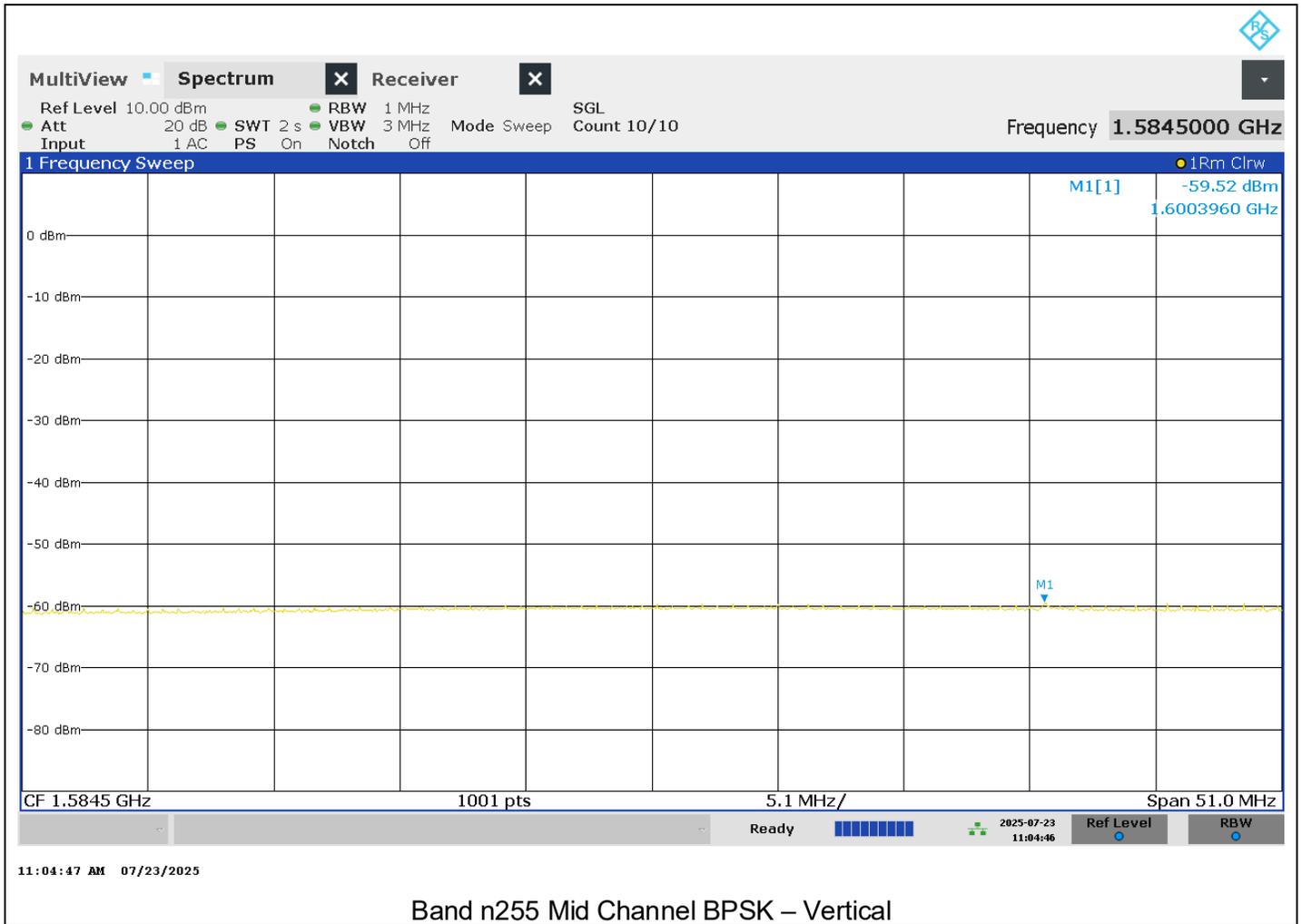
Tested By: 22797

Test Date: 7/23/25









10.3. WORST CASE EMISSIONS

RULE PART(S)

FCC: §2.1053, FCC: §27.53 (g)

LIMITS

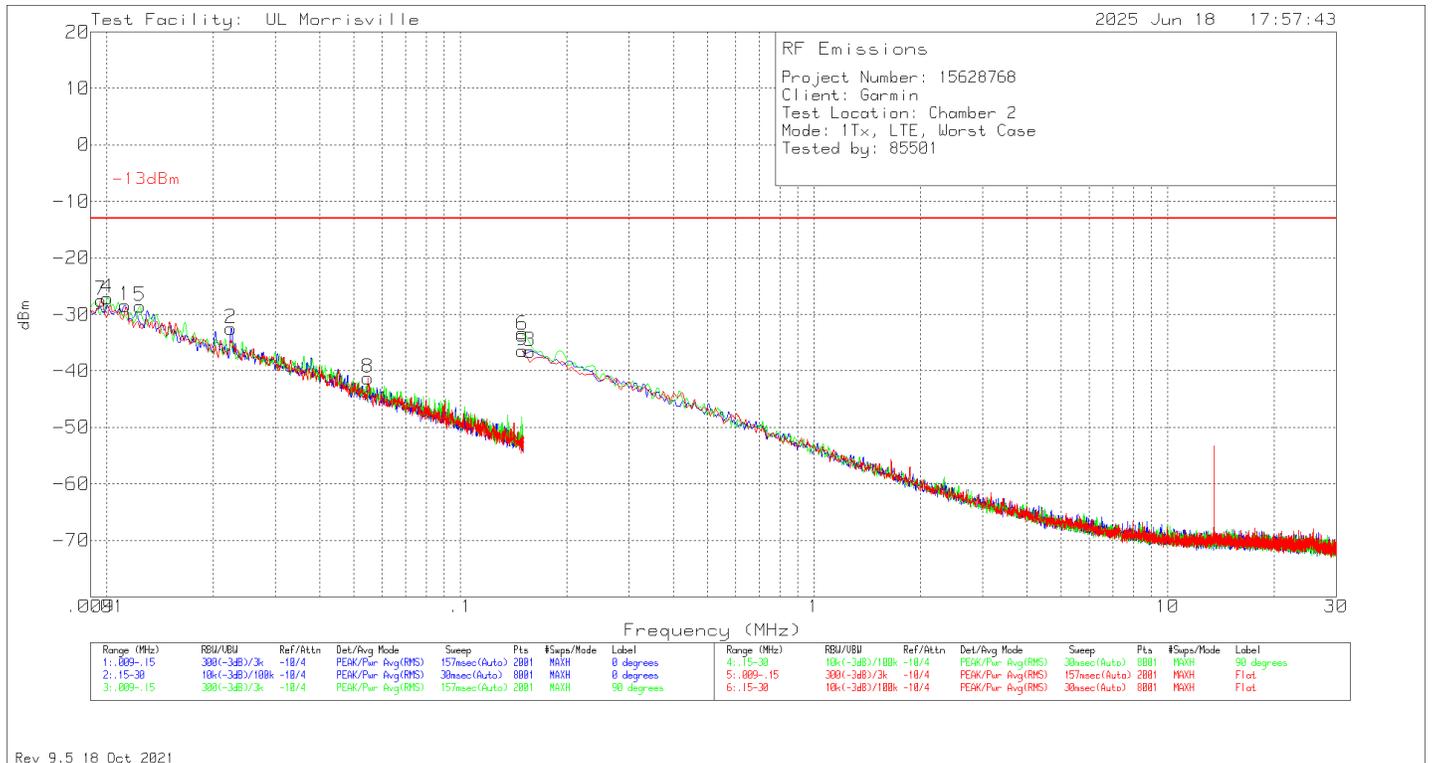
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

KDB 971168 D01 v02r02/D02 v01

RESULTS

10.3.1. 9kHz – 30MHz Worst-Case Emissions

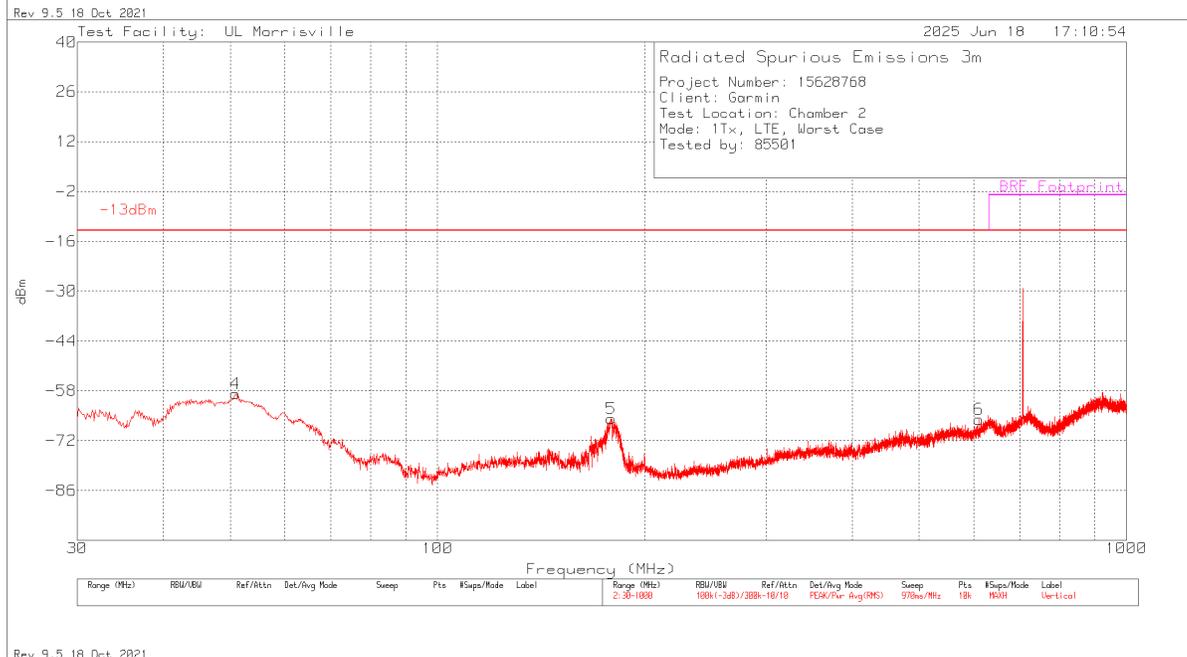
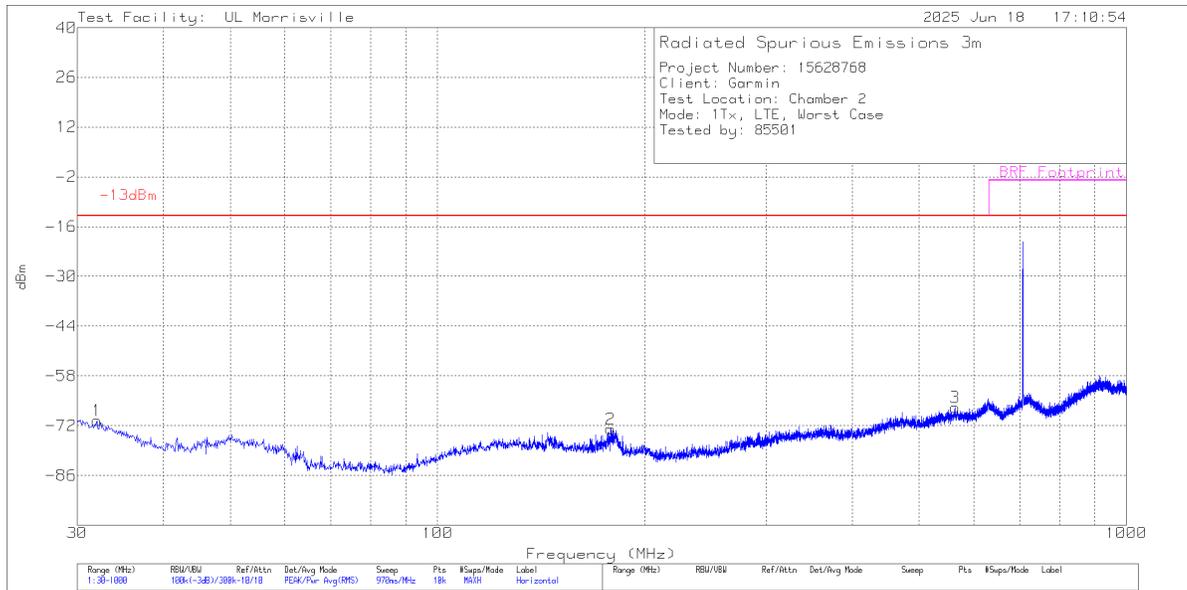


Marker	Frequency (MHz)	Meter Reading (dBm)	Det	ANT (dB/m)	Gain/Loss (dB)	Conversion Factor (dB)	Corrected Reading dBm	-13dBm	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
7	.00964	-58.64	Pk	19.2	.1	11.8	-27.54	-13	-14.54	0-360	401	Flat
4	.01007	-57.97	Pk	18.9	.1	11.8	-27.17	-13	-14.17	0-360	401	90 degs
1	.01127	-58.58	Pk	18.3	.1	11.8	-28.38	-13	-15.38	0-360	401	0 degs
5	.01241	-58.21	Pk	17.7	.1	11.8	-28.61	-13	-15.61	0-360	401	90 degs
2	.02249	-58.04	Pk	13.7	.1	11.8	-32.44	-13	-19.44	0-360	401	0 degs
8	.0548	-64.57	Pk	11.4	.1	11.8	-41.27	-13	-28.27	0-360	401	Flat
6	.15	-56.57	Pk	11	.1	11.8	-33.67	-13	-20.67	0-360	401	90 degs
9	.15	-59.36	Pk	11	.1	11.8	-36.46	-13	-23.46	0-360	401	Flat
3	.15746	-59.39	Pk	11	.1	11.8	-36.49	-13	-23.49	0-360	401	0 degs

Pk - Peak detector

Pk - Peak detector

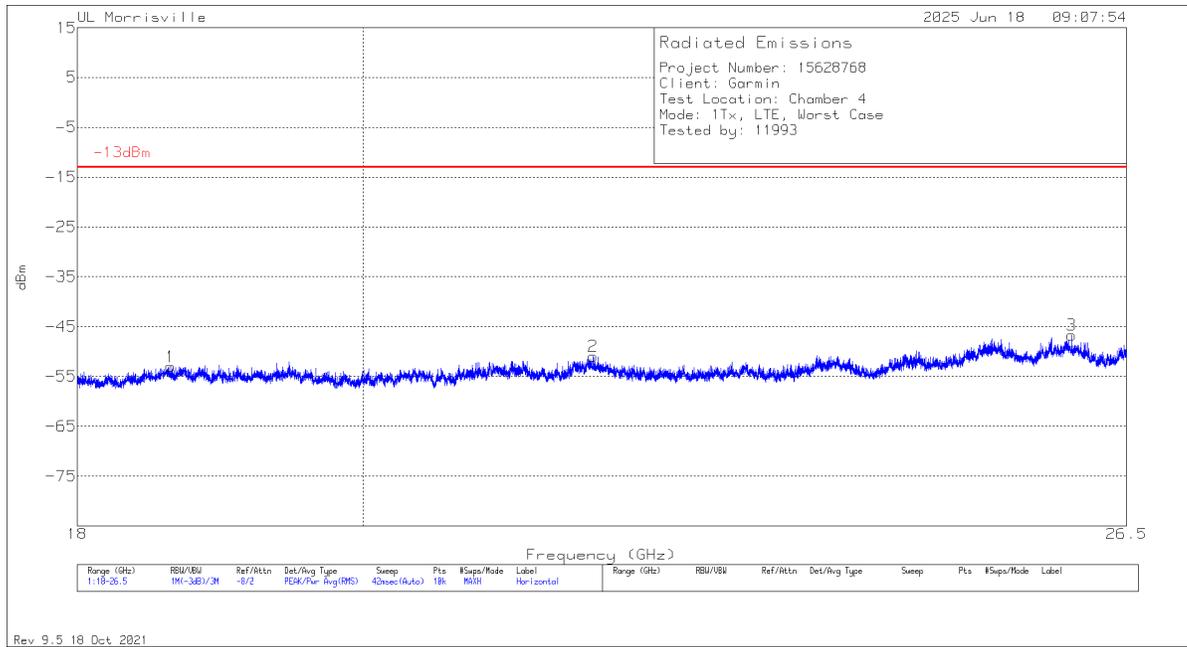
10.3.2. 30MHz – 1000MHz Worst-Case Emissions



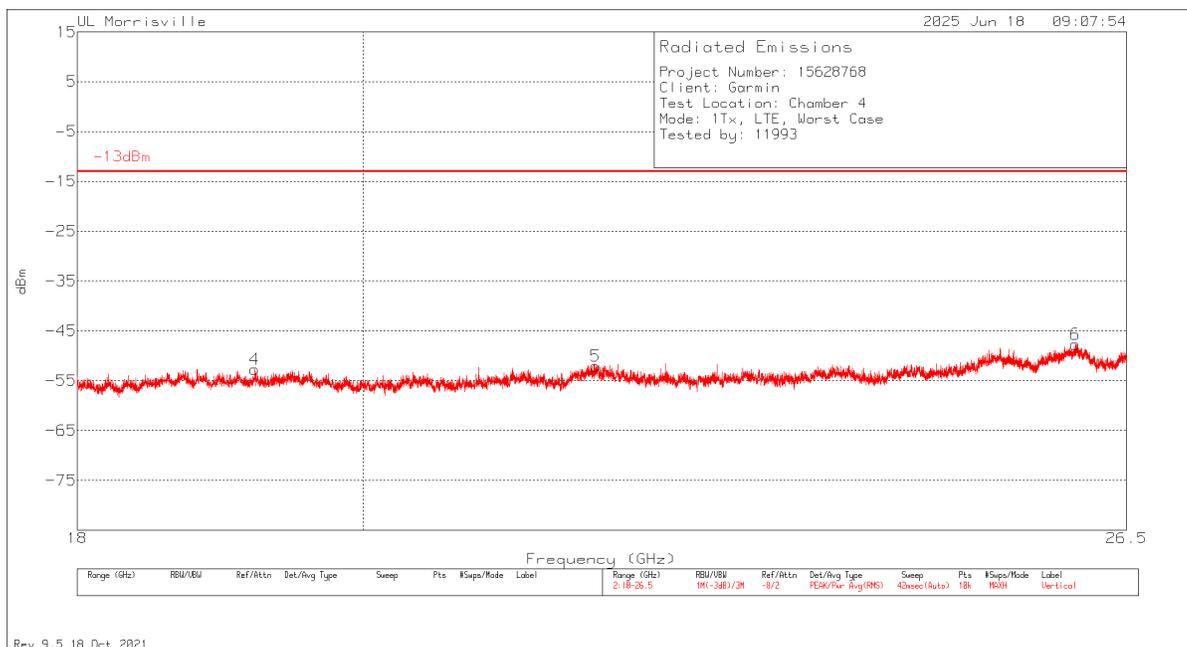
Marker	Frequency (MHz)	Meter Reading (dBm)	Det	159203 (dB/m)	Gain/Loss (dB)	Filter (dB)	Conversion Factor (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	BRF Footprint	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	32.037	-76.6	Pk	26	-31.8	0	11.8	-70.6	-13	-57.6	-	-	0-360	199	H
4	50.855	-53.85	Pk	14.1	-31.1	.2	11.8	-58.85	-13	-45.85	-	-	0-360	101	V
2	178.313	-73.04	Pk	17.8	-29.9	.4	11.8	-72.94	-13	-59.94	-	-	0-360	199	H
5	178.507	-66.11	Pk	17.8	-29.7	.4	11.8	-65.51	-13	-52.81	-	-	0-360	101	V
3	563.985	-76.53	Pk	25.1	-28.2	.9	11.8	-66.93	-13	-53.93	-	-	0-360	299	H
6	610.739	-77.01	Pk	25.5	-27.5	1.2	11.8	-66.01	-13	-53.01	-	-	0-360	101	V

PK - Peak detector

10.3.3. 18GHz – 26.5GHz Worst-Case Emissions



Rev 9.5 18 Oct 2021



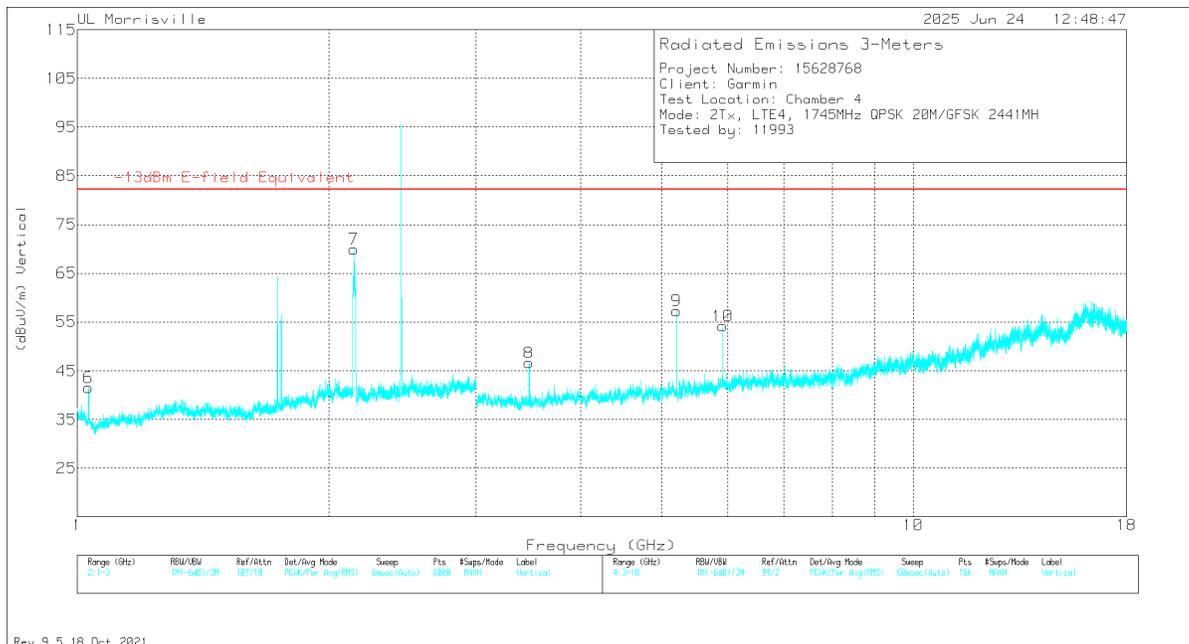
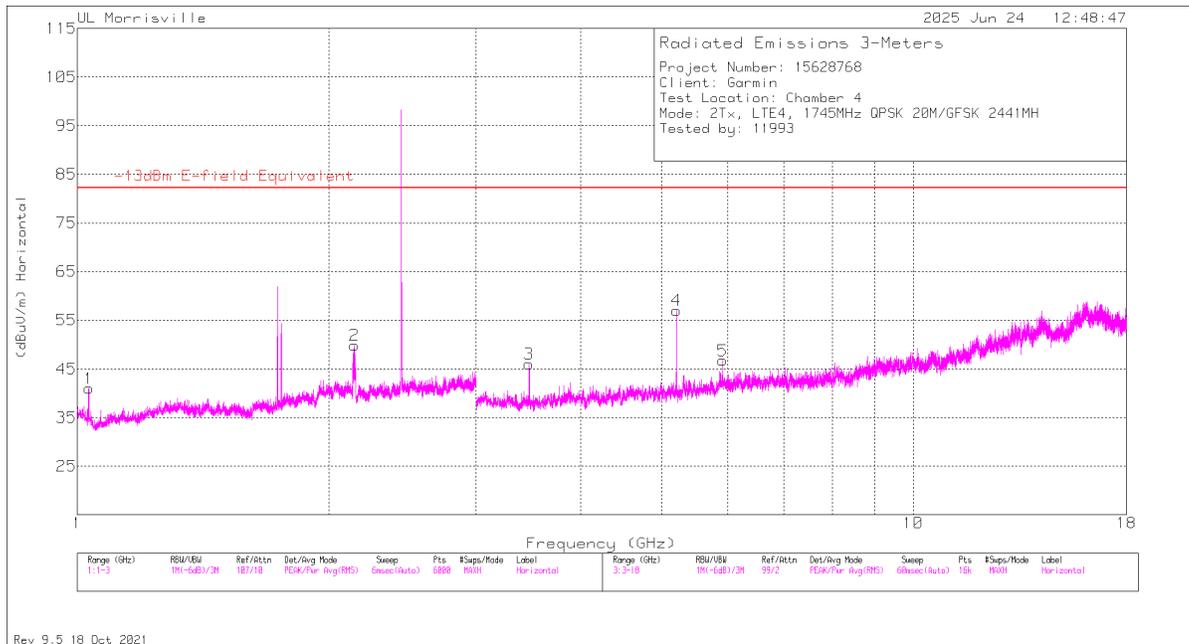
Rev 9.5 18 Oct 2021

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	91186 (dB/m)	Gain/Loss (dB)	Conversion Factor (dB)	Corrected Reading dBm	-13dBm	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.63064	-56.13	Pk	32.5	-41.2	11.8	-53.03	-13	-40.03	0-360	100	H
4	19.21708	-56.46	Pk	32.6	-40.7	11.8	-52.76	-13	-39.76	0-360	200	V
2	21.76937	-55.53	Pk	33.4	-40.6	11.8	-50.93	-13	-37.93	0-360	100	H
5	21.78807	-56.88	Pk	33.4	-40.4	11.8	-52.08	-13	-39.08	0-360	300	V
3	25.9688	-56.78	Pk	34.5	-36.2	11.8	-46.68	-13	-33.68	0-360	250	H
6	26.00535	-58.22	Pk	34.7	-36	11.8	-47.72	-13	-34.72	0-360	200	V

Pk - Peak detector

10.4. SIMULTAENEUS TRANSMISSION

SCAN 1: LTE4 1745 QPSK 20M RB2 + BT BDR GFSK 2441

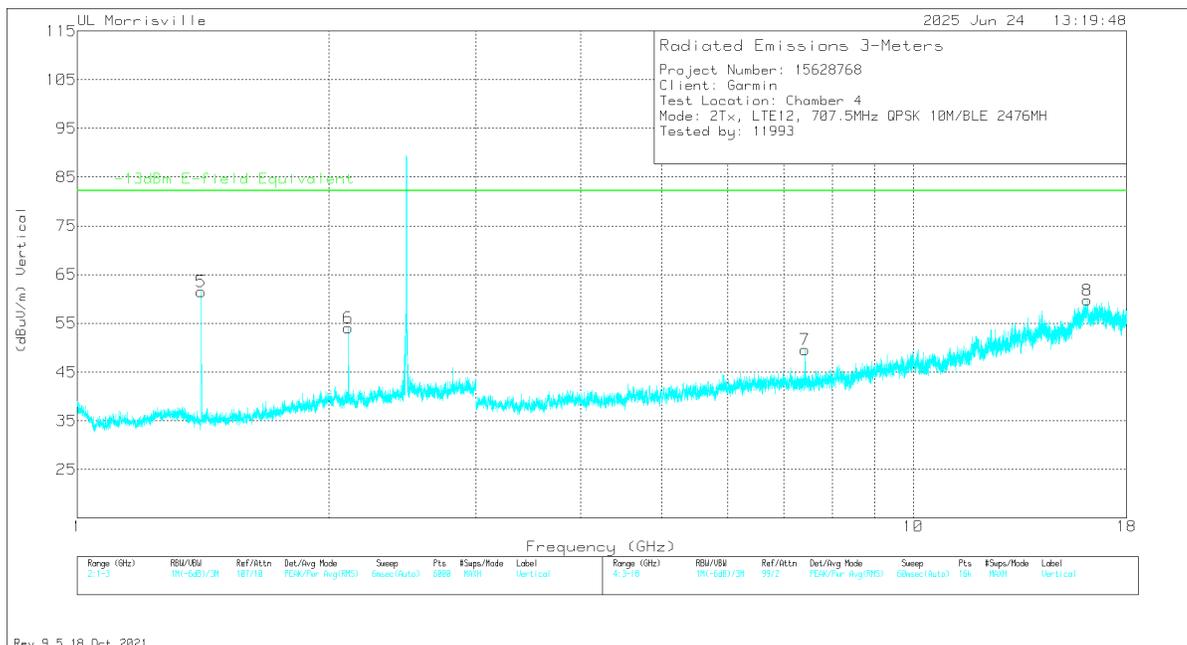
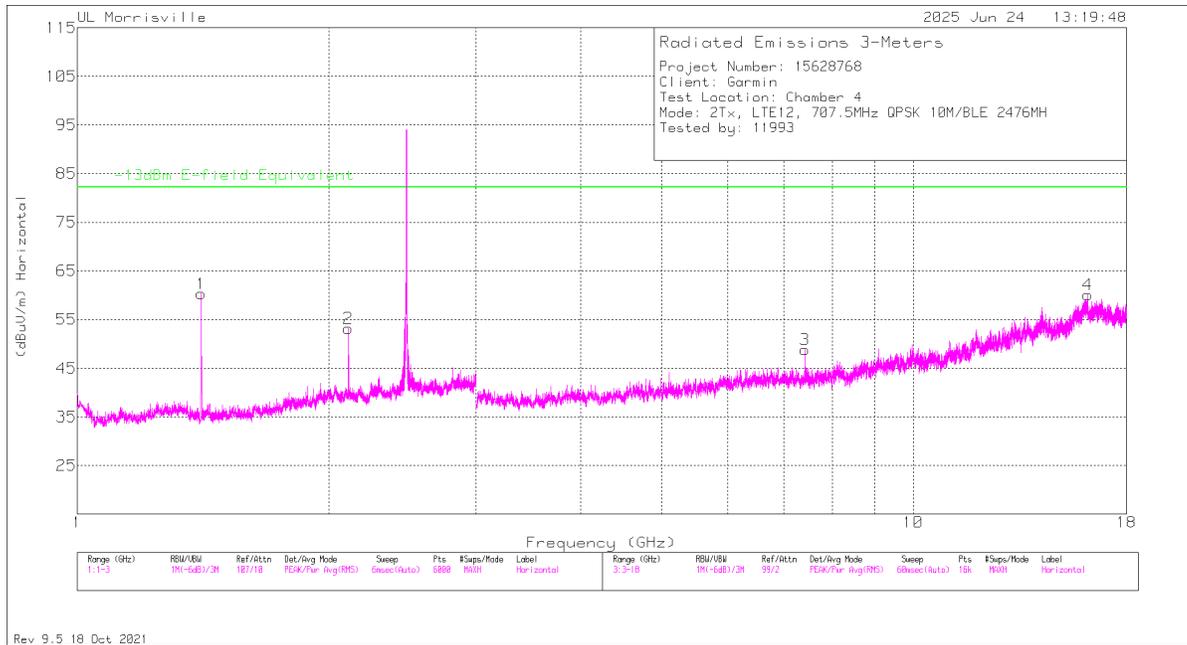


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	-13dBm E-field Equivalent	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	1.03167	39.01	Pk	26.8	-25.1	.8	41.51	82.2	-40.69	0-360	200	V
1	1.03201	38.48	Pk	26.8	-25.1	.8	40.98	82.2	-41.22	0-360	100	H
7 (DL)	2.14152	61.38	Pk	31.4	-24.1	1.3	69.98	-	-	0-360	200	V
2 (DL)	2.14519	41.42	Pk	31.4	-24.1	1.2	49.92	-	-	0-360	100	H
3	3.4725	47.87	Pk	32.6	-34.4	0	46.07	82.2	-36.13	0-360	200	H
8	3.4725	48.41	Pk	32.6	-34.4	0	46.61	82.2	-35.59	0-360	100	V
9	5.20875	54.5	Pk	34.2	-31.4	0	57.3	82.2	-24.9	0-360	100	V
4	5.20969	54.2	Pk	34.2	-31.4	0	57	82.2	-25.2	0-360	200	H
5	5.91375	40.73	Pk	35	-29	0	46.73	82.2	-35.47	0-360	200	H
10	5.91375	48.16	Pk	35	-29	0	54.16	82.2	-28.04	0-360	100	V

Pk - Peak detector

DL – Downlink from Callbox

SCAN 2: LTE12 707.5 QPSK 10M RB2-3 + BLE 2476 1Mbps



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	-13dBm E-field Equivalent	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.40673	56.8	Pk	28.4	-25.4	.5	60.3	82.2	-21.9	0-360	100	H
5	1.40707	58.03	Pk	28.4	-25.4	.5	61.53	82.2	-20.67	0-360	200	V
6	2.10985	45.55	Pk	31.6	-23.5	.4	54.05	82.2	-28.15	0-360	200	V
2	2.11052	44.69	Pk	31.6	-23.5	.4	53.19	82.2	-29.01	0-360	100	H
3	7.42688	40.68	Pk	35.6	-27.8	.4	48.88	82.2	-33.32	0-360	100	H
7	7.42688	41.45	Pk	35.6	-27.8	.4	49.65	82.2	-32.55	0-360	200	V
8	16.14656	33.48	Pk	40.8	-15.3	.8	59.78	82.2	-22.42	0-360	200	V
4	16.185	33.94	Pk	40.8	-15.3	.7	60.14	82.2	-22.06	0-360	100	H

Pk - Peak detector

11. SETUP PHOTOS

See R15628768-EP1 for Setup Photos and Setup Diagrams

END OF REPORT