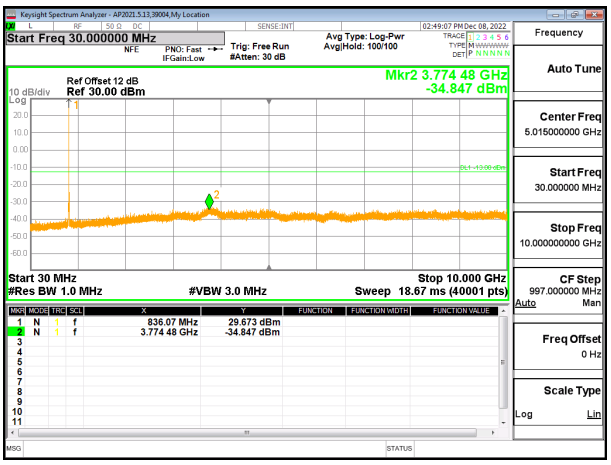
9.3.1. LTE BAND 5

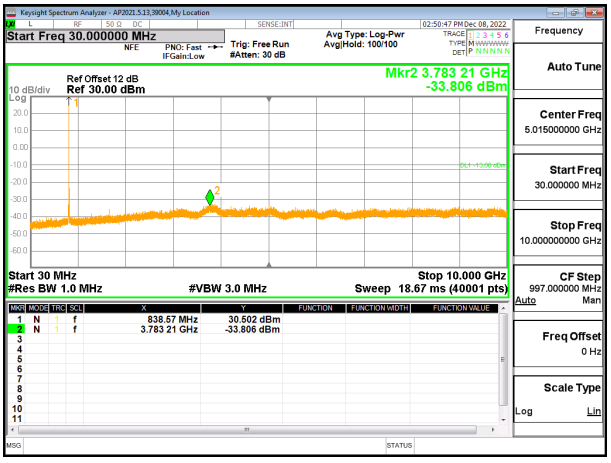
LIMITS

FCC: §22.917
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

LTE B5 10MHz + 10MHz QPSK Low Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz QPSK Middle Ch RB1-49 + RB1-0



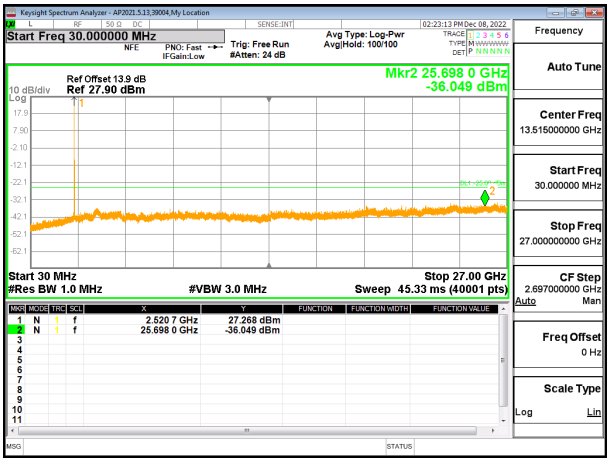
LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-0

Intentionally Blank

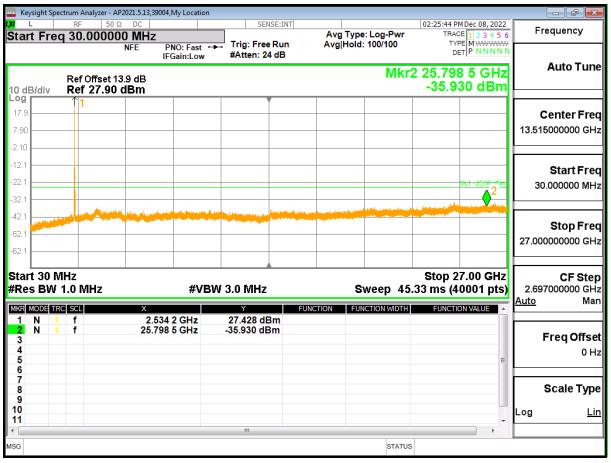
9.3.2. LTE BAND 7

LIMITS

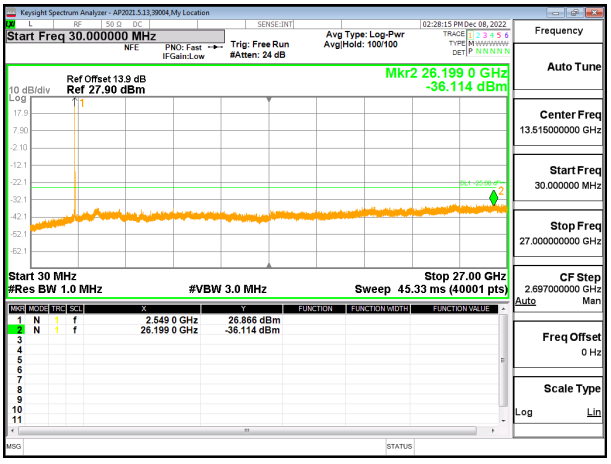
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B7 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



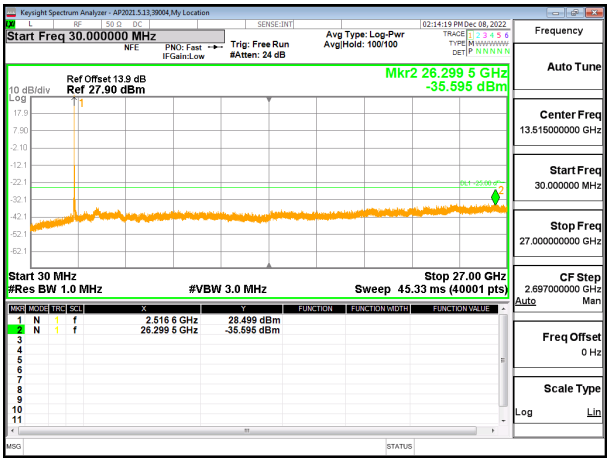
LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

Intentionally Blank

9.3.3. LTE BAND 41

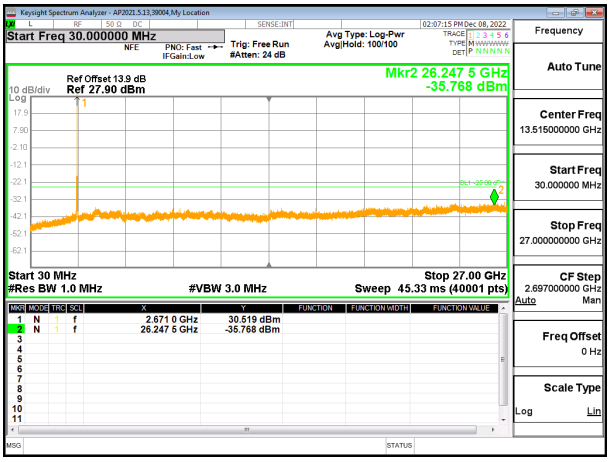
LIMITS

FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B41 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0

LTE B41 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



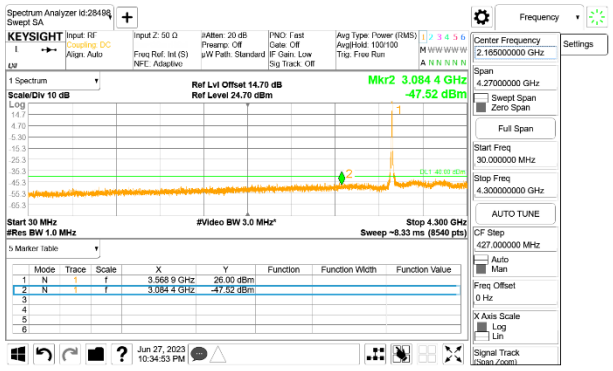
LTE B41 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

Intentionally Blank

9.3.4. LTE BAND 48

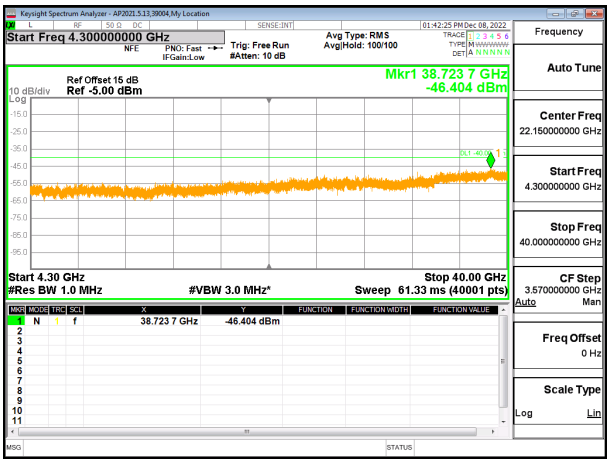
LIMITS

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.



LTE B48 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0

(30MHz to 4.5GHz)

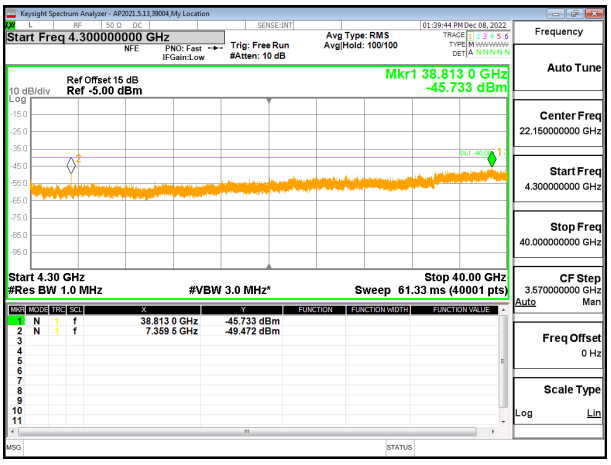


LTE B48 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0

(4.5GHz to 40GHz)

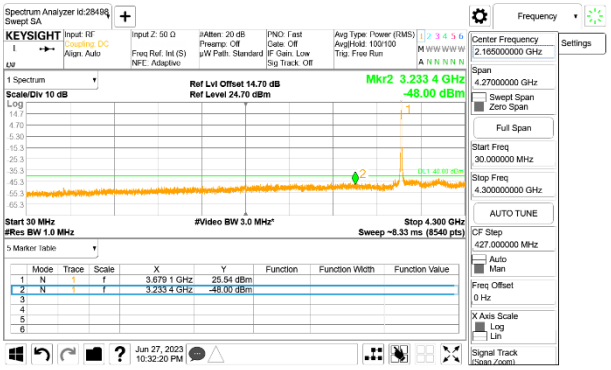
LTE B48 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0

(30MHz to 4.5GHz)



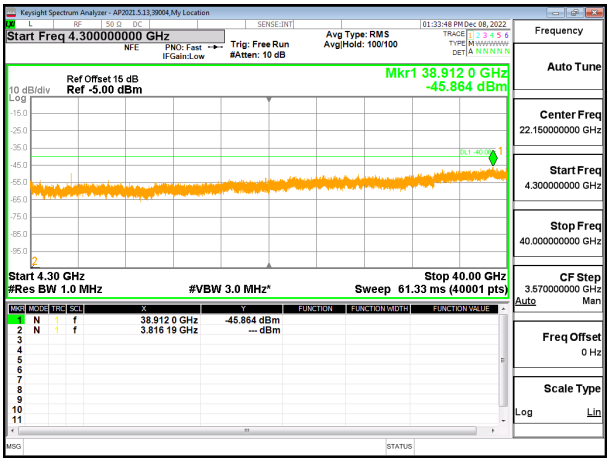
LTE B48 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0

(4.5GHz to 40GHz)



LTE B48 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

(30MHz to 4.5GHz)



LTE B48 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

(4.5GHz to 40GHz)

9.4. FREQUENCY STABILITY

TEST PROCEDRE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30°C to +50°C
- Voltage = (85% - 115%)

  Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
  End Voltage, 2.95VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC 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 +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

RESULTS

See the following pages.

9.4.1. LTE BAND 5

LIMITS

FCC §22.355
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

Test Engineer ID:	39004	Test Date:	1/26/2023

QPSK (10MHz + 10MHz BANDWIDTH)

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)		824.7070	848.2575			
Extreme (50°C)		824.7070	848.2575	42.7	0.051	Yes
Extreme (40°C)		824.7070	848.2575	38.6	0.046	Yes
Extreme (30°C)		824.7070	848.2575	33.4	0.040	Yes
Extreme (10°C)	Normal	824.7070	848.2575	7.5	0.009	Yes
Extreme (0°C)		824.7070	848.2575	6.8	0.008	Yes
Extreme (-10°C)		824.7070	848.2575	-18.5	-0.022	Yes
Extreme (-20°C)		824.7070	848.2575	-20.6	-0.025	Yes
Extreme (-30°C)		824.7070	848.2575	-27.2	-0.033	Yes
20°C	15%	824.7070	848.2575	22.6	0.027	Yes
	-15%	824.7070	848.2575	24.5	0.029	Yes
	End Point Voltage	824.7070	848.2575	24.3	0.029	Yes

9.4.2. LTE BAND 7

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	39004	Test Date:	1/26/2023

QPSK (20MHz + 20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2500.4700	2569.4300			
Extreme (50°C)		2500.4701	2569.4301	86.4	0.034	Yes
Extreme (40°C)		2500.4701	2569.4301	72.4	0.029	Yes
Extreme (30°C)		2500.4701	2569.4301	63.0	0.025	Yes
Extreme (10°C)		2500.4700	2569.4300	12.7	0.005	Yes
Extreme (0°C)		2500.4700	2569.4300	-23.1	-0.009	Yes
Extreme (-10°C)		2500.4700	2569.4300	-41.3	-0.016	Yes
Extreme (-20°C)		2500.4700	2569.4300	-43.5	-0.017	Yes
Extreme (-30°C)		2500.4699	2569.4299	-53.2	-0.021	Yes
20°C	15%	2500.4701	2569.4301	61.3	0.024	Yes
	-15%	2500.4701	2569.4301	53.5	0.021	Yes
	End Point Voltage	2500.4701	2569.4301	54.4	0.021	Yes

9.4.3. LTE BAND 41

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	39004	Test Date:	1/26/2023

QPSK (20MHz + 20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2496.5200	2689.4600			
Extreme (50°C)		2496.5200	2689.4600	-10.0	-0.004	Yes
Extreme (40°C)		2496.5200	2689.4600	-20.0	-0.008	Yes
Extreme (30°C)		2496.5200	2689.4600	-44.0	-0.017	Yes
Extreme (10°C)		2496.5200	2689.4600	-8.0	-0.003	Yes
Extreme (0°C)		2496.5200	2689.4600	-10.2	-0.004	Yes
Extreme (-10°C)		2496.5200	2689.4600	-18.5	-0.007	Yes
Extreme (-20°C)		2496.5200	2689.4600	-22.7	-0.009	Yes
Extreme (-30°C)		2496.5200	2689.4600	-31.6	-0.012	Yes
20°C	15%	2496.5199	2689.4599	-56.0	-0.022	Yes
	-15%	2496.5199	2689.4599	-54.0	-0.021	Yes
	End Point Voltage	2496.5199	2689.4599	-55.0	-0.021	Yes

9.4.4. LTE BAND 48

Test Engineer ID:	39004	Test Date:	1/26/2023

QPSK (20MHz + 20MHz BANDWIDTH)

Band	48	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3550	3700			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	3550.5100	3699.5000			
Extreme (50°C)		3550.5101	3699.5001	82.9	0.023	Yes
Extreme (40°C)		3550.5101	3699.5001	66.3	0.018	Yes
Extreme (30°C)		3550.5100	3699.5000	45.8	0.013	Yes
Extreme (10°C)		3550.5100	3699.5000	-6.4	-0.002	Yes
Extreme (0°C)		3550.5100	3699.5000	30.6	0.008	Yes
Extreme (-10°C)		3550.5100	3699.5000	-44.9	-0.012	Yes
Extreme (-20°C)		3550.5100	3699.5000	-49.2	-0.014	Yes
Extreme (-30°C)		3550.5100	3699.5000	-37.5	-0.010	Yes
20°C	15%	3550.5100	3699.5000	43.2	0.012	Yes
	-15%	3550.5100	3699.5000	47.8	0.013	Yes
	End Point Voltage	3550.5101	3699.5001	68.9	0.019	Yes

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on Antenna 1; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

9.5.1. LTE BAND 5

Test Engineer ID:	39004	**Test Date:**	12/1/2022

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	3MHz / 5MHz	834.0	837.9	QPSK	32.69	24.61	8.08
				16QAM	32.68	23.85	8.83
	5 MHz / 3MHz	835.0	838.9	QPSK	32.68	23.85	8.83
				16QAM	32.64	23.85	8.79
	5MHz / 10MHz	831.6	838.8	QPSK	32.66	24.88	7.78
				16QAM	32.68	23.89	8.79
	10MHz / 5MHz	834.3	841.5	QPSK	32.64	24.88	7.76
				16QAM	32.64	23.89	8.75
	10MHz / 10MHz	831.5	841.4	QPSK	32.64	24.89	7.75
				16QAM	32.62	23.9	8.72
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.2. LTE BAND 7

Test Engineer ID:	39004	Test Date:	12/1/2022

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	31.01	24.25	6.76
				16QAM	31.75	23.79	7.96
	20MHz / 10MHz	2530.1	2544.5	QPSK	31.67	24.79	6.88
				16QAM	31.60	23.78	7.82
	15 MHz / 15MHz	2527.5	2542.5	QPSK	31.61	24.79	6.82
				16QAM	31.59	23.77	7.82
	15MHz / 20MHz	2525.3	2542.4	QPSK	31.63	24.76	6.87
				16QAM	31.59	23.76	7.83
	20MHz / 15MHz	2527.6	2544.7	QPSK	31.63	24.76	6.87
				16QAM	31.62	23.74	7.88
	20MHz / 20MHz	2525.1	2544.9	QPSK	31.61	24.77	6.84
				16QAM	31.63	23.75	7.88
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.3. LTE BAND 41

Test Engineer ID:	39004	Test Date:	12/1/2022

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	34.12	20.09	7.04
				16QAM	34.07	19.07	8.01
	20MHz / 5MHz	2590.5	2602.2	QPSK	34.13	20.11	7.03
				16QAM	34.09	19.09	8.01
	10MHz / 20MHz	2583.6	2598.0	QPSK	34.09	20.11	6.99
				16QAM	34.07	19.1	7.98
	20MHz / 10MHz	2588.1	2602.5	QPSK	34.13	20.1	7.04
				16QAM	34.11	19.1	8.02
	15MHz / 15MHz	2585.5	2600.5	QPSK	34.11	20.11	7.01
				16QAM	34.05	19.09	7.97
	15MHz / 20MHz	2583.3	2600.4	QPSK	34.11	20.10	7.02
				16QAM	34.13	19.11	8.03
	20MHz / 15MHz	2585.6	2602.7	QPSK	34.17	20.10	7.08
				16QAM	34.13	19.10	8.04
	20MHz / 20MHz	2583.1	2602.9	QPSK	34.13	20.12	7.02
				16QAM	34.11	19.11	8.01
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.4. LTE BAND 48

Test Engineer ID:	39004	Test Date:	12/1/2022

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	3615.8	3627.5	QPSK	31.90	17.21	7.70
				16QAM	31.98	16.23	8.76
	20MHz / 5MHz	3622.5	3634.2	QPSK	32.14	17.29	7.86
				16QAM	31.92	16.22	8.71
	10MHz / 20MHz	3615.6	3630.0	QPSK	31.92	17.19	7.74
				16QAM	31.95	16.22	8.74
	20MHz / 10MHz	3620.1	3634.5	QPSK	32.14	17.29	7.86
				16QAM	32.15	16.29	8.87
	15MHz / 20MHz	3615.3	3632.4	QPSK	31.91	17.23	7.69
				16QAM	31.90	16.22	8.69
	20MHz / 15MHz	3617.6	3634.7	QPSK	32.12	17.28	7.85
				16QAM	31.93	16.21	8.73
	20MHz / 20MHz	3615.1	3634.9	QPSK	32.11	17.25	7.87
				16QAM	32.11	16.24	8.88
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

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.

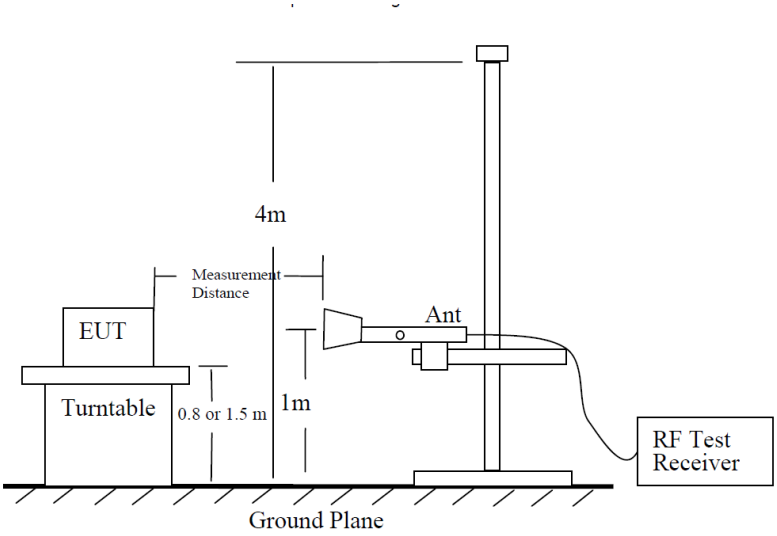


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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

a) E (dBμV/m) = Measured amplitude level (dBμV) + Cable Loss (dB) + Antenna Factor (dB/m).

b) E (dBμV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m).

c) E (dBμV/m) = EIRP (dBm) − 20log(D) + 104.8; where D is the measurement distance (in the far field region) in m.

d) EIRP (dBm) = E (dBμV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

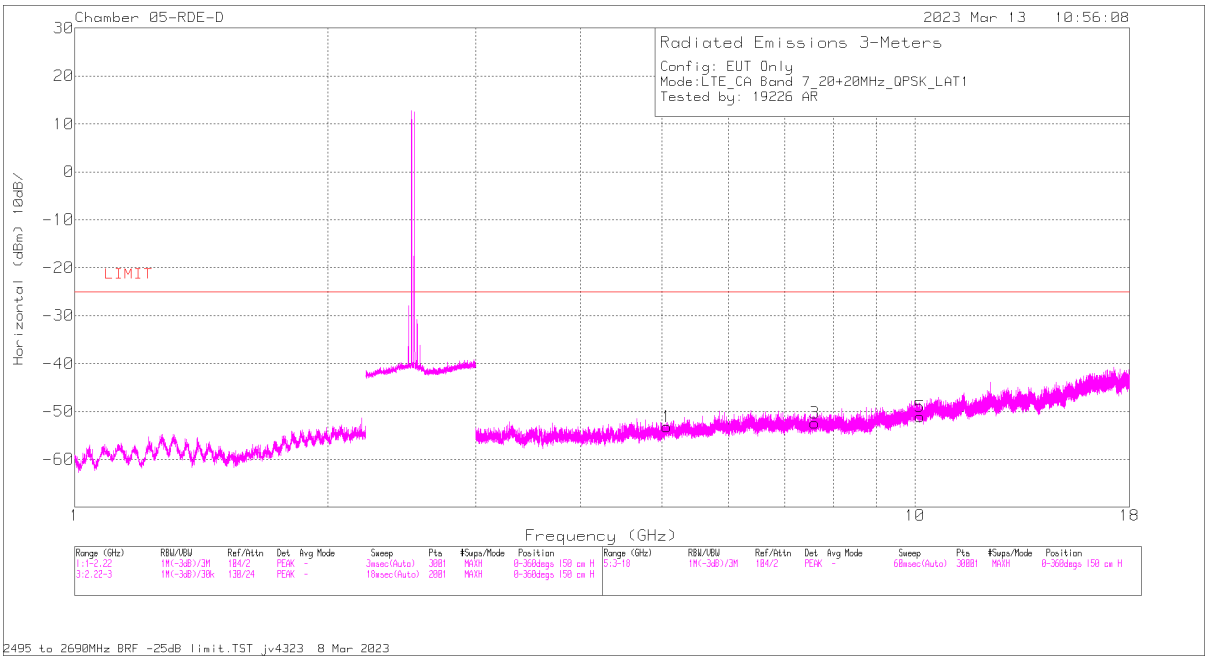
So, from d)

The measuring distance is usually at 3m, then 20*Log(3)=9.5424

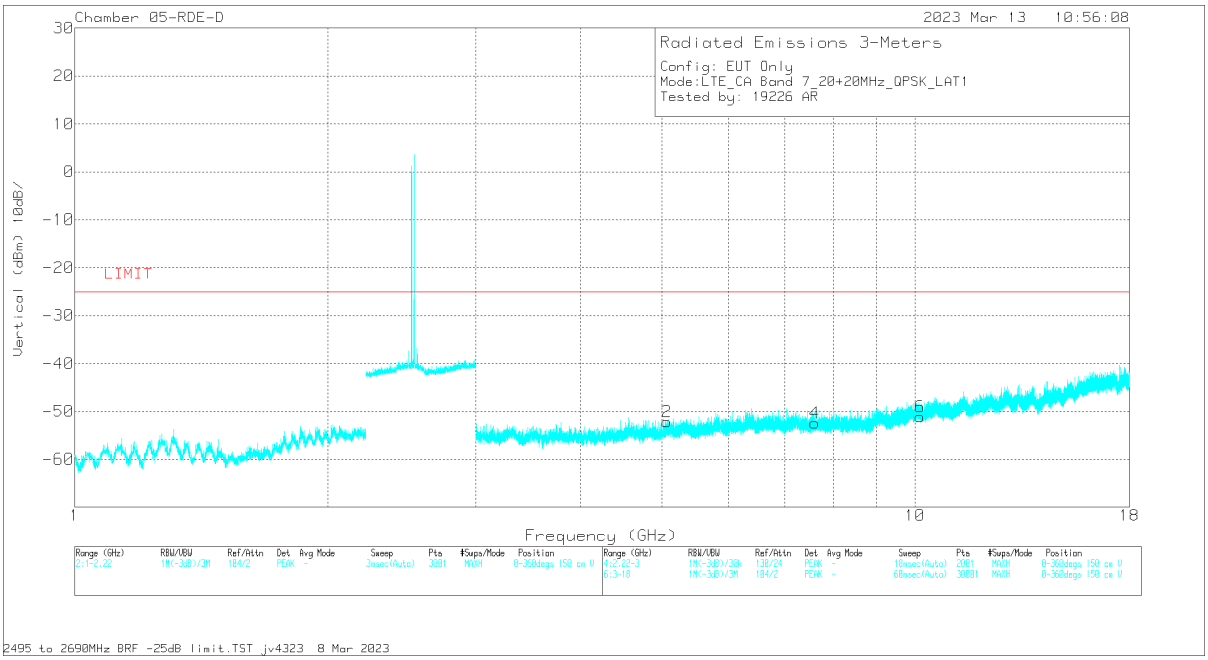
Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

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.

Example Plot



Horizontal Polarity



Vertical Polarity

Trace Markers

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
5.070500	56.32	Pk	34.5	-95.2	-48.81	-53.19	-25	-28.19	H
5.070500	57.30	Pk	34.5	-95.2	-48.81	-52.21	-25	-27.21	V
7.605500	54.20	Pk	35.7	-95.2	-47.15	-52.45	-25	-27.45	H
7.605500	54.20	Pk	35.7	-95.2	-47.15	-52.45	-25	-27.45	V
10.140500	53.29	Pk	37.5	-95.2	-46.74	-51.15	-25	-26.15	H
10.140500	53.34	Pk	37.5	-95.2	-46.74	-51.10	-25	-26.10	V

Pk - Peak detector

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.1.1. LTE BAND 5

LIMIT

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.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/10/2023
Test Engineer:	19226
Configuration:	EUT Only
Mode	LTE CA Band 5 10+10MHz QPSK
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBm)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.667597	60.49	Pk	28.3	-95.2	-49.68	-56.09	-13	-43.09	H
1.667874	60.18	Pk	28.3	-95.2	-49.68	-56.40	-13	-43.40	V
2.503068	59.99	Pk	32.6	-95.2	-49.04	-51.65	-13	-38.65	H
2.503563	59.84	Pk	32.6	-95.2	-49.05	-51.81	-13	-38.81	V
3.335181	56.85	Pk	32.9	-95.2	-46.92	-52.37	-13	-39.37	H
3.338035	57.08	Pk	32.9	-95.2	-46.81	-52.03	-13	-39.03	V
Mid Channel, 831.6MHz + 841.5MHz									
1.673214	60.7	Pk	28.4	-95.2	-49.69	-55.79	-13	-42.79	H
1.67536	60.17	Pk	28.4	-95.2	-49.76	-56.39	-13	-43.39	V
2.510667	59.14	Pk	32.6	-95.2	-49.09	-52.55	-13	-39.55	H
2.510997	59.94	Pk	32.6	-95.2	-49.09	-51.75	-13	-38.75	V
3.349474	56.68	Pk	32.9	-95.2	-46.84	-52.46	-13	-39.46	H
3.349285	56.94	Pk	32.9	-95.2	-46.84	-52.2	-13	-39.2	V
High Channel, 834.1MHz + 844MHz									
1.677401	60.74	Pk	28.5	-95.2	-49.74	-55.70	-13	-42.70	H
1.676706	60.1	Pk	28.5	-95.2	-49.75	-56.35	-13	-43.35	V
2.516737	60.81	Pk	32.6	-95.2	-48.96	-50.75	-13	-37.75	H
2.518646	58.8	Pk	32.6	-95.2	-48.99	-52.79	-13	-39.79	V
3.356391	56.48	Pk	32.9	-95.2	-46.91	-52.73	-13	-39.73	H
3.356064	56.49	Pk	32.9	-95.2	-46.91	-52.72	-13	-39.72	V

10.1.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/13/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.0405	57.06	Pk	34.4	-95.2	-48.79	-52.53	-25	-27.53	H
5.0405	56.02	Pk	34.4	-95.2	-48.79	-53.57	-25	-28.57	V
7.5605	52.48	Pk	35.8	-95.2	-47.01	-53.93	-25	-28.93	H
7.5605	53.01	Pk	35.8	-95.2	-47.01	-53.4	-25	-28.4	V
10.0805	53.33	Pk	37.5	-95.2	-47.03	-51.4	-25	-26.4	H
10.0805	56	Pk	37.5	-95.2	-47.03	-48.73	-25	-23.73	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.0705	56.32	Pk	34.5	-95.2	-48.81	-53.19	-25	-28.19	H
5.0705	57.3	Pk	34.5	-95.2	-48.81	-52.21	-25	-27.21	V
7.6055	54.2	Pk	35.7	-95.2	-47.15	-52.45	-25	-27.45	H
7.6055	54.2	Pk	35.7	-95.2	-47.15	-52.45	-25	-27.45	V
10.1405	53.29	Pk	37.5	-95.2	-46.74	-51.15	-25	-26.15	H
10.1405	53.34	Pk	37.5	-95.2	-46.74	-51.10	-25	-26.10	V
High Channel, 2540.2MHz+2560MHz									
5.1005	56.53	Pk	34.5	-95.2	-48.89	-53.06	-25	-28.06	H
5.1005	54.49	Pk	34.5	-95.2	-48.89	-55.1	-25	-30.1	V
7.6505	54.5	Pk	35.7	-95.2	-46.81	-51.81	-25	-26.81	H
7.6505	53.53	Pk	35.7	-95.2	-46.81	-52.78	-25	-27.78	V
10.2005	52.17	Pk	37.5	-95.2	-46.56	-52.09	-25	-27.09	H
10.2005	52.05	Pk	37.5	-95.2	-46.56	-52.21	-25	-27.21	V

10.1.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/13/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.030753	59.2	Pk	34.4	-95.2	-48.82	-50.42	-25	-25.42	V
5.033178	58.97	Pk	34.4	-95.2	-48.72	-50.55	-25	-25.55	H
7.548904	56.3	Pk	35.8	-95.2	-47.03	-50.13	-25	-25.13	H
7.550258	56.8	Pk	35.8	-95.2	-47.05	-49.65	-25	-24.65	V
11.224315	54.55	Pk	38	-95.2	-44.42	-47.07	-25	-22.07	V
11.225762	55.42	Pk	38	-95.2	-44.39	-46.17	-25	-21.17	H
Mid Channel, 2583.1MHz + 2602.9MHz									
5.188267	57.4	Pk	34.5	-95.2	-48.23	-51.53	-25	-26.53	H
5.189900	58.13	Pk	34.5	-95.2	-48.22	-50.79	-25	-25.79	V
7.779330	56.97	Pk	35.8	-95.2	-46.73	-49.16	-25	-24.16	H
7.780481	56.93	Pk	35.8	-95.2	-46.71	-49.18	-25	-24.18	V
10.372429	56.73	Pk	37.6	-95.2	-46.52	-47.39	-25	-22.39	V
10.373237	56.97	Pk	37.6	-95.2	-46.56	-47.19	-25	-22.19	H
High Channel, 2660.2MHz + 2680MHz									
5.3405	54.37	Pk	34.2	-95.2	-46.32	-52.95	-25	-27.95	H
5.3405	53.32	Pk	34.2	-95.2	-46.32	-54	-25	-29	V
8.011	50.92	Pk	35.7	-95.2	-44.66	-53.24	-25	-28.24	H
8.0115	51.58	Pk	35.7	-95.2	-44.65	-52.57	-25	-27.57	V
10.68	54.45	Pk	37.7	-95.2	-45.05	-48.1	-25	-23.1	H
10.6805	52.52	Pk	37.7	-95.2	-45.07	-50.05	-25	-25.05	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.2.1. LTE BAND 5

LIMIT

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.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/13/2023
Test Engineer:	12501
Configuration:	EUT Only
Mode	LTE CA Band 5 10+10MHz QPSK
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBm)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.671850	58.3	Pk	28.4	-95.2	-49.67	-58.17	-13	-45.17	H
1.678600	58.07	Pk	28.5	-95.2	-49.72	-58.35	-13	-45.35	V
2.486800	58.31	Pk	32.5	-95.2	-49.07	-53.46	-13	-40.46	V
2.492650	58.33	Pk	32.5	-95.2	-49.06	-53.43	-13	-40.43	H
3.317050	55.55	Pk	32.9	-95.2	-47.09	-53.84	-13	-40.84	V
3.323800	55.77	Pk	32.9	-95.2	-47.08	-53.61	-13	-40.61	H
Mid Channel, 831.6MHz + 841.5MHz									
1.666450	58.35	Pk	28.3	-95.2	-49.65	-58.20	-13	-45.20	H
1.657900	58.62	Pk	28.2	-95.2	-49.72	-58.10	-13	-45.10	V
2.502100	58.46	Pk	32.6	-95.2	-49.07	-53.21	-13	-40.21	H
2.505700	58.81	Pk	32.6	-95.2	-49.03	-52.82	-13	-39.82	V
3.323800	56.73	Pk	32.9	-95.2	-47.08	-52.65	-13	-39.65	H
3.321100	55.91	Pk	32.9	-95.2	-47.03	-53.42	-13	-40.42	V
High Channel, 834.1MHz + 844MHz									
1.669150	58.4	Pk	28.3	-95.2	-49.67	-58.17	-13	-45.17	H
1.663300	58.62	Pk	28.2	-95.2	-49.67	-58.05	-13	-45.05	V
2.498950	58.43	Pk	32.6	-95.2	-49.05	-53.22	-13	-40.22	H
2.493100	58.22	Pk	32.5	-95.2	-49.04	-53.52	-13	-40.52	V
3.343600	55.59	Pk	32.9	-95.2	-46.87	-53.58	-13	-40.58	H
3.3413500	56.27	Pk	32.9	-95.2	-46.83	-52.86	-13	-39.86	V

10.2.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/14/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.038989	58.97	Pk	34.4	-95.2	-48.78	-50.61	-25	-25.61	H
5.038645	59.23	Pk	34.4	-95.2	-48.79	-50.36	-25	-25.36	V
7.560196	56.99	Pk	35.8	-95.2	-46.99	-49.40	-25	-24.40	H
7.561633	56.54	Pk	35.8	-95.2	-47.04	-49.90	-25	-24.90	V
10.799923	55.05	Pk	37.8	-95.2	-45.25	-47.60	-25	-22.60	H
10.802738	55.65	Pk	37.8	-95.2	-45.31	-47.06	-25	-22.06	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.071975	59.05	Pk	34.5	-95.2	-48.82	-50.47	-25	-25.47	H
5.070973	59.03	Pk	34.5	-95.2	-48.83	-50.50	-25	-25.5	V
7.605792	56.78	Pk	35.7	-95.2	-47.15	-49.87	-25	-24.87	H
7.605218	56.71	Pk	35.7	-95.2	-47.14	-49.93	-25	-24.93	V
10.140953	57.16	Pk	37.5	-95.2	-46.72	-47.26	-25	-22.26	H
10.140461	57.08	Pk	37.5	-95.2	-46.74	-47.36	-25	-22.36	V
High Channel, 2540.2MHz+2560MHz									
5.100053	58.69	Pk	34.5	-95.2	-48.87	-50.88	-25	-25.88	H
5.099941	58.4	Pk	34.5	-95.2	-48.87	-51.17	-25	-26.17	V
7.649848	56.63	Pk	35.7	-95.2	-46.81	-49.68	-25	-24.68	H
7.651918	56.54	Pk	35.7	-95.2	-46.75	-49.71	-25	-24.71	V
10.202206	57.12	Pk	37.5	-95.2	-46.55	-47.13	-25	-22.13	H
10.200603	56.86	Pk	37.5	-95.2	-46.56	-47.4	-25	-22.40	V

10.2.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/13/2023
Test Engineer:	12501
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.033178	58.97	Pk	34.4	-95.2	-48.72	-50.55	-25	-25.55	H
5.030753	59.2	Pk	34.4	-95.2	-48.82	-50.42	-25	-25.42	V
7.548904	56.3	Pk	35.8	-95.2	-47.03	-50.13	-25	-25.13	H
7.550258	56.8	Pk	35.8	-95.2	-47.05	-49.65	-25	-24.65	V
11.225762	55.42	Pk	38	-95.2	-44.39	-46.17	-25	-21.17	H
11.224315	54.55	Pk	38	-95.2	-44.42	-47.07	-25	-22.07	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.188267	57.4	Pk	34.5	-95.2	-48.23	-51.53	-25	-26.53	H
5.189900	58.13	Pk	34.5	-95.2	-48.22	-50.79	-25	-25.79	V
7.779330	56.97	Pk	35.8	-95.2	-46.73	-49.16	-25	-24.16	H
7.780481	56.93	Pk	35.8	-95.2	-46.71	-49.18	-25	-24.18	V
10.372429	56.73	Pk	37.6	-95.2	-46.52	-47.39	-25	-22.39	V
10.373237	56.97	Pk	37.6	-95.2	-46.56	-47.19	-25	-22.19	H
High Channel, 2660.2MHz + 2680MHz									
5.100049	58.52	Pk	34	-95.2	-48.09	-50.77	-25	-25.77	H
5.099800	57.6	Pk	34	-95.2	-48.09	-51.69	-25	-26.69	V
7.650270	55.25	Pk	35.7	-95.2	-45.97	-50.22	-25	-25.22	H
7.648246	55.85	Pk	35.7	-95.2	-45.97	-49.62	-25	-24.62	V
10.200975	57.16	Pk	37.2	-95.2	-45.29	-46.13	-25	-21.13	H
10.196809	56.49	Pk	37.2	-95.2	-45.42	-46.93	-25	-21.93	V

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.3.1. LTE BAND 5

LIMIT

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.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/21/2023
Test Engineer:	19226
Configuration:	EUT Only
Mode	LTE CA Band 5 10+10MHz QPSK
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBm)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.668981	59.9	Pk	28.3	-95.2	-49.67	-56.67	-13	-43.67	H
1.668089	60.34	Pk	28.3	-95.2	-49.68	-56.24	-13	-43.24	V
2.502025	59.75	Pk	32.6	-95.2	-49.07	-51.92	-13	-38.92	H
2.502214	60.2	Pk	32.6	-95.2	-49.06	-51.46	-13	-38.46	V
3.336114	56.69	Pk	32.9	-95.2	-46.87	-52.48	-13	-39.48	H
3.337385	57.02	Pk	32.9	-95.2	-46.83	-52.11	-13	-39.11	V
Mid Channel, 831.6MHz + 841.5MHz									
1.677108	61.01	Pk	28.5	-95.2	-49.75	-55.44	-13	-42.44	H
1.673878	60.61	Pk	28.4	-95.2	-49.7	-55.89	-13	-42.89	V
2.509331	60.29	Pk	32.6	-95.2	-49.1	-51.41	-13	-38.41	H
2.508158	59.86	Pk	32.6	-95.2	-49.1	-51.84	-13	-38.84	V
3.34623	57.17	Pk	32.9	-95.2	-46.79	-51.92	-13	-38.92	H
3.349968	56.96	Pk	32.9	-95.2	-46.83	-52.17	-13	-39.17	V
High Channel, 834.1MHz + 844MHz									
1.682087	60.56	Pk	28.5	-95.2	-49.71	-55.85	-13	-42.85	H
1.679788	61.97	Pk	28.5	-95.2	-49.68	-54.41	-13	-41.41	V
2.516599	59.41	Pk	32.6	-95.2	-48.96	-52.15	-13	-39.15	H
2.5166	59.14	Pk	32.6	-95.2	-48.96	-52.42	-13	-39.42	V
3.356409	56.85	Pk	32.9	-95.2	-46.91	-52.36	-13	-39.36	H
3.353547	56.34	Pk	32.9	-95.2	-46.99	-52.95	-13	-39.95	V

10.3.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/15/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.04224	58.49	Pk	34.4	-95.2	-48.81	-51.12	-25	-26.12	H
5.0409	58.62	Pk	34.4	-95.2	-48.77	-50.95	-25	-25.95	V
7.561585	57.06	Pk	35.8	-95.2	-47.04	-49.38	-25	-24.38	H
7.561712	56.66	Pk	35.8	-95.2	-47.04	-49.78	-25	-24.78	V
10.079623	57.97	Pk	37.5	-95.2	-47	-46.73	-25	-21.73	H
10.079374	57.23	Pk	37.5	-95.2	-47	-47.47	-25	-22.47	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.069544	58.33	Pk	34.5	-95.2	-48.79	-51.16	-25	-26.16	H
5.069234	58.75	Pk	34.5	-95.2	-48.8	-50.75	-25	-25.75	V
7.606967	56.68	Pk	35.7	-95.2	-47.13	-49.95	-25	-24.95	H
7.604351	56.66	Pk	35.7	-95.2	-47.12	-49.96	-25	-24.96	V
10.142288	57.11	Pk	37.5	-95.2	-46.74	-47.33	-25	-22.33	H
10.140099	56.97	Pk	37.5	-95.2	-46.75	-47.48	-25	-22.48	V
High Channel, 2540.2MHz+2560MHz									
5.099758	58.88	Pk	34.5	-95.2	-48.85	-50.67	-25	-25.67	V
5.099838	58.66	Pk	34.5	-95.2	-48.86	-50.90	-25	-25.90	H
7.649148	56.4	Pk	35.7	-95.2	-46.8	-49.90	-25	-24.90	H
7.652224	56.41	Pk	35.7	-95.2	-46.75	-49.84	-25	-24.84	V
10.199857	57.38	Pk	37.5	-95.2	-46.56	-46.88	-25	-21.88	H
10.200105	56.76	Pk	37.5	-95.2	-46.57	-47.51	-25	-22.51	V

10.3.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/15/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.033508	58.83	Pk	34.4	-95.2	-48.72	-50.69	-25	-25.69	H
5.031198	58.8	Pk	34.4	-95.2	-48.81	-50.81	-25	-25.81	V
7.547243	57.34	Pk	35.8	-95.2	-47.06	-49.12	-25	-24.12	H
7.550161	56.86	Pk	35.8	-95.2	-47.05	-49.59	-25	-24.59	V
10.064314	57.87	Pk	37.5	-95.2	-47.13	-46.96	-25	-21.96	H
10.064539	57.77	Pk	37.5	-95.2	-47.11	-47.04	-25	-22.04	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.187117	58.25	Pk	34.5	-95.2	-48.28	-50.73	-25	-25.73	H
5.188054	58.37	Pk	34.5	-95.2	-48.23	-50.56	-25	-25.56	V
7.777917	56.23	Pk	35.8	-95.2	-46.67	-49.84	-25	-24.84	V
7.781481	56.28	Pk	35.8	-95.2	-46.72	-49.84	-25	-24.84	H
10.370625	56.75	Pk	37.6	-95.2	-46.48	-47.33	-25	-22.33	V
10.373455	56.87	Pk	37.6	-95.2	-46.59	-47.32	-25	-22.32	H
High Channel, 2660.2MHz + 2680MHz									
5.322000	58.82	Pk	34.7	-95.2	-48.23	-49.91	-25	-24.91	H
5.322000	59.25	Pk	34.7	-95.2	-48.23	-49.48	-25	-24.48	V
8.011000	52.42	Pk	35.8	-95.2	-46.07	-53.05	-25	-28.05	H
8.011000	53.39	Pk	35.8	-95.2	-46.07	-52.08	-25	-27.08	V
10.680500	52.25	Pk	37.9	-95.2	-45.52	-50.57	-25	-25.57	H
10.680500	51.95	Pk	37.9	-95.2	-45.52	-50.87	-25	-25.87	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

10.4.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/16/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.041125	58.59	Pk	34.4	-95.2	-48.77	-50.98	-25	-25.98	H
5.040733	58.98	Pk	34.4	-95.2	-48.77	-50.59	-25	-25.59	V
7.559592	56.64	Pk	35.8	-95.2	-46.97	-49.73	-25	-24.73	H
7.559040	56.05	Pk	35.8	-95.2	-46.96	-50.31	-25	-25.31	V
10.799462	54.7	Pk	37.8	-95.2	-45.25	-47.95	-25	-22.95	H
10.80148	54.81	Pk	37.8	-95.2	-45.33	-47.92	-25	-22.92	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.071151	59.02	Pk	34.5	-95.2	-48.83	-50.51	-25	-25.51	H
5.069749	58.5	Pk	34.5	-95.2	-48.79	-50.99	-25	-25.99	V
7.603737	56.48	Pk	35.7	-95.2	-47.11	-50.13	-25	-25.13	H
7.606215	57.22	Pk	35.7	-95.2	-47.15	-49.43	-25	-24.43	V
10.138943	56.98	Pk	37.5	-95.2	-46.76	-47.48	-25	-22.48	H
10.140746	56.72	Pk	37.5	-95.2	-46.73	-47.71	-25	-22.71	V
High Channel, 2540.2MHz+2560MHz									
5.099830	58.65	Pk	34.5	-95.2	-48.86	-50.91	-25	-25.91	H
5.098800	58.39	Pk	34.5	-95.2	-48.80	-51.11	-25	-26.11	V
7.650927	56.75	Pk	35.7	-95.2	-46.80	-49.55	-25	-24.55	H
7.648748	56.29	Pk	35.7	-95.2	-46.82	-50.03	-25	-25.03	V
10.201242	57.12	Pk	37.5	-95.2	-46.55	-47.13	-25	-22.13	H
10.199280	56.66	Pk	37.5	-95.2	-46.53	-47.57	-25	-22.57	V

10.4.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)
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.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	3/16/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.034402	58.3	Pk	34.4	-95.2	-48.74	-51.24	-25	-26.24	H
5.033466	58.82	Pk	34.4	-95.2	-48.72	-50.70	-25	-25.70	V
7.547870	56.74	Pk	35.8	-95.2	-47.05	-49.71	-25	-24.71	H
7.549089	56.33	Pk	35.8	-95.2	-47.03	-50.10	-25	-25.10	V
10.066417	57.92	Pk	37.5	-95.2	-47.11	-46.89	-25	-21.89	H
10.063213	57.18	Pk	37.5	-95.2	-47.17	-47.69	-25	-22.69	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.188012	62.26	Pk	34.5	-95.2	-48.23	-46.67	-25	-21.67	H
5.186324	57.77	Pk	34.5	-95.2	-48.28	-51.21	-25	-26.21	V
7.801528	56.69	Pk	35.7	-95.2	-46.77	-49.58	-25	-24.58	H
7.799418	55.99	Pk	35.8	-95.2	-46.76	-50.17	-25	-25.17	V
10.37235	56.73	Pk	37.6	-95.2	-46.52	-47.39	-25	-22.39	H
10.372346	56.57	Pk	37.6	-95.2	-46.52	-47.55	-25	-22.55	V
High Channel, 2660.2MHz + 2680MHz									
5.342273	58.39	Pk	34.7	-95.2	-48.18	-50.29	-25	-25.29	H
5.342153	61.94	Pk	34.7	-95.2	-48.19	-46.75	-25	-21.75	V
8.010174	55.32	Pk	35.8	-95.2	-46.04	-50.12	-25	-25.12	H
8.010558	55.33	Pk	35.8	-95.2	-46.05	-50.12	-25	-25.12	V
10.682493	55.85	Pk	37.9	-95.2	-45.45	-46.90	-25	-21.90	H
10.682691	56.11	Pk	37.9	-95.2	-45.44	-46.63	-25	-21.63	V

10.4.3. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	03/16/2023
Test Engineer:	12501
Configuration:	EUT only
Mode	Band 48 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz									
7.126092	47.18	Pk	35.8	-95.2	-46.93	-59.15	-40	-19.15	H
7.100126	47.34	Pk	35.9	-95.2	-46.58	-58.54	-40	-18.54	V
10.663407	46.89	Pk	37.9	-95.2	-45.74	-56.15	-40	-16.15	H
10.680099	46.75	Pk	37.9	-95.2	-45.81	-56.36	-40	-16.36	V
14.310148	47.33	Pk	39.2	-95.2	-45.09	-53.76	-40	-13.76	H
14.235961	46.76	Pk	39.1	-95.2	-45.42	-54.76	-40	-14.76	V
Mid Channel, 3615.1MHz + 3634.9MHz									
7.225316	47.94	Pk	35.8	-95.2	-47.37	-58.83	-40	-18.83	H
7.209552	47.82	Pk	35.7	-95.2	-47.36	-59.04	-40	-19.04	V
10.843774	49.73	Pk	37.9	-95.2	-45.86	-53.43	-40	-13.43	H
10.876694	46.12	Pk	37.9	-95.2	-45.74	-56.92	-40	-16.92	V
14.477068	46.51	Pk	39.5	-95.2	-45.05	-54.24	-40	-14.24	H
14.488196	46.35	Pk	39.5	-95.2	-45.01	-54.36	-40	-14.36	V
High Channel, 3670.2MHz + 3690MHz									
7.337987	47.82	Pk	35.7	-95.2	-47.14	-58.82	-40	-18.82	H
7.323614	47.31	Pk	35.7	-95.2	-47.00	-59.19	-40	-19.19	V
11.023213	45.83	Pk	37.9	-95.2	-45.10	-56.57	-40	-16.57	H
11.061233	45.36	Pk	37.9	-95.2	-45.26	-57.20	-40	-17.20	V
14.665317	46.71	Pk	39.6	-95.2	-44.75	-53.64	-40	-13.64	H
14.651871	46.86	Pk	39.6	-95.2	-44.78	-53.52	-40	-13.52	V

10.5. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 7

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.5.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	03/14/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	Band 48 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz									
7.140465	46.24	Pk	35.8	-95.2	-46.96	-60.12	-40	-20.12	H
7.140465	45.6	Pk	35.8	-95.2	-46.96	-60.76	-40	-20.76	V
10.710701	45.71	Pk	37.9	-95.2	-45.63	-57.22	-40	-17.22	H
10.710701	44.7	Pk	37.9	-95.2	-45.63	-58.23	-40	-18.23	V
14.280473	45.96	Pk	39.2	-95.2	-45.17	-55.21	-40	-15.21	H
14.280473	45.27	Pk	39.2	-95.2	-45.17	-55.90	-40	-15.90	V
Mid Channel, 3615.1MHz + 3634.9MHz									
7.250818	46.36	Pk	35.8	-95.2	-47.02	-60.06	-40	-20.06	H
7.250818	46.34	Pk	35.8	-95.2	-47.02	-60.08	-40	-20.08	V
10.875303	44.53	Pk	37.9	-95.2	-45.82	-58.59	-40	-18.59	H
10.875303	45.1	Pk	37.9	-95.2	-45.82	-58.02	-40	-18.02	V
14.500251	45.78	Pk	39.5	-95.2	-45.16	-55.08	-40	-15.08	H
14.500251	46.9	Pk	39.5	-95.2	-45.16	-53.96	-40	-13.96	V
High Channel, 3670.2MHz + 3690MHz									
7.360243	46.27	Pk	35.8	-95.2	-47.29	-60.42	-40	-20.42	H
7.360012	46.37	Pk	35.8	-95.2	-47.28	-60.31	-40	-20.31	V
11.040368	44.17	Pk	37.9	-95.2	-45.19	-58.32	-40	-18.32	H
11.040368	45.01	Pk	37.9	-95.2	-45.19	-57.48	-40	-17.48	V
14.720493	46.26	Pk	39.7	-95.2	-44.94	-54.18	-40	-14.18	H
14.720493	45.37	Pk	39.7	-95.2	-44.94	-55.07	-40	-15.07	V

10.6. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 8

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.6.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	03/14/2022
Test Engineer:	12501
Configuration:	EUT only
Mode	Band 48 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz									
7.110327	47.13	Pk	35.9	-95.2	-46.72	-58.89	-40	-18.89	H
7.092244	47.01	Pk	35.9	-95.2	-46.47	-58.76	-40	-18.76	V
10.666653	46.52	Pk	37.9	-95.2	-45.83	-56.61	-40	-16.61	H
10.626314	47.01	Pk	37.9	-95.2	-45.93	-56.22	-40	-16.22	V
14.253581	47.43	Pk	39.1	-95.2	-45.24	-53.91	-40	-13.91	H
14.211387	46.84	Pk	39.1	-95.2	-45.39	-54.65	-40	-14.65	V
Mid Channel, 3615.1MHz + 3634.9MHz									
7.232271	47.76	Pk	35.8	-95.2	-47.23	-58.87	-40	-18.87	H
7.209088	47.2	Pk	35.7	-95.2	-47.37	-59.67	-40	-19.67	V
10.840992	46.16	Pk	37.9	-95.2	-45.82	-56.96	-40	-16.96	H
10.82059	45.96	Pk	37.8	-95.2	-45.65	-57.09	-40	-17.09	V
14.461767	46.1	Pk	39.4	-95.2	-44.87	-54.57	-40	-14.57	H
14.395463	46.57	Pk	39.4	-95.2	-44.8	-54.03	-40	-14.03	V
High Channel, 3670.2MHz + 3690MHz									
7.350043	47.79	Pk	35.7	-95.2	-47.21	-58.92	-40	-18.92	H
7.358852	47.23	Pk	35.8	-95.2	-47.24	-59.41	-40	-19.41	V
11.017649	45.86	Pk	37.9	-95.2	-45.23	-56.67	-40	-16.67	H
11.005593	45.76	Pk	37.9	-95.2	-45.26	-56.80	-40	-16.80	V
14.661608	47.03	Pk	39.6	-95.2	-44.79	-53.36	-40	-13.36	H
14.597158	47.26	Pk	39.6	-95.2	-45.05	-53.39	-40	-13.39	V

10.7. FIELD STRENGTH OF SPURIOUS RADIATION, ANT9

TEST PROCEDURE

KDB 971168 D01 v03r01 / D02 V02r02

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

RESULTS

10.7.1. LTE BAND 48

LIMIT

FCC: §96.41
(e) 3.5 GHz Emissions and Interference Limits—
(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

QPSK LTE BAND 48 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	4790592260
Date:	03/15/2022
Test Engineer:	12501
Configuration:	EUT only
Mode	Band 48 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBuV)	Det	80402 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3560MHz + 3579.8MHz									
7.137402	45.76	Pk	35.5	-95.2	-44.73	-58.67	-40	-18.67	H
7.137869	43.73	Pk	35.5	-95.2	-44.72	-60.69	-40	-20.69	V
10.710671	44.72	Pk	37.7	-95.2	-44.9	-57.68	-40	-17.68	H
10.710671	45.29	Pk	37.7	-95.2	-44.9	-57.11	-40	-17.11	V
14.280674	45.88	Pk	39.4	-95.2	-43.83	-53.75	-40	-13.75	H
14.280674	45.63	Pk	39.4	-95.2	-43.83	-54.00	-40	-14.00	V
Mid Channel, 3615.1MHz + 3634.9MHz									
7.250336	43.3	Pk	35.5	-95.2	-44.56	-60.96	-40	-20.96	H
7.250336	44.26	Pk	35.5	-95.2	-44.56	-60.00	-40	-20.00	V
10.874938	45.33	Pk	37.7	-95.2	-44.69	-56.86	-40	-16.86	H
10.874938	45	Pk	37.7	-95.2	-44.69	-57.19	-40	-17.19	V
14.500474	45.8	Pk	39.3	-95.2	-43.79	-53.89	-40	-13.89	H
14.500008	45.86	Pk	39.3	-95.2	-43.78	-53.82	-40	-13.82	V
High Channel, 3670.2MHz + 3690MHz									
7.360469	44.28	Pk	35.5	-95.2	-44.84	-60.26	-40	-20.26	H
7.360469	44.21	Pk	35.5	-95.2	-44.84	-60.33	-40	-20.33	V
11.040605	45.31	Pk	37.9	-95.2	-44.77	-56.76	-40	-16.76	H
11.040605	45.94	Pk	37.9	-95.2	-44.77	-56.13	-40	-16.13	V
14.720274	45.91	Pk	39	-95.2	-42.96	-53.25	-40	-13.25	H
14.719341	45.12	Pk	39	-95.2	-42.98	-54.06	-40	-14.06	V

11. SETUP PHOTOS

Please refer to 14523740-EP1V1 for Setup Photo Report for setup photos

END OF REPORT