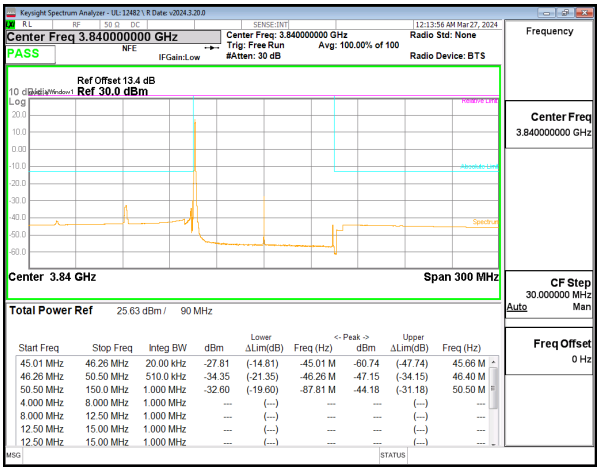
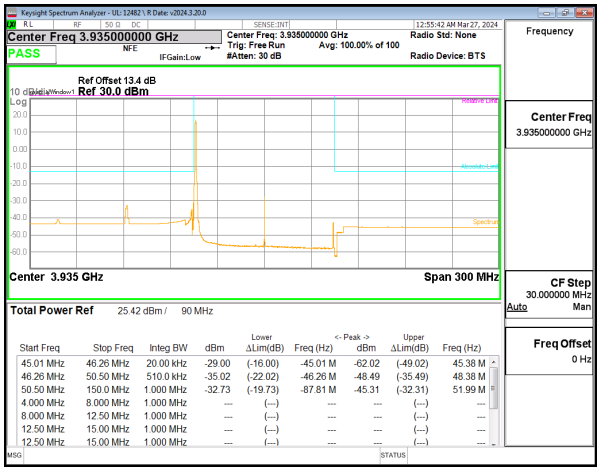
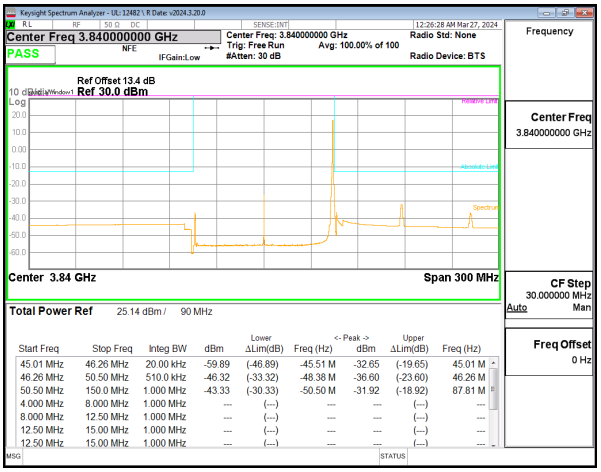


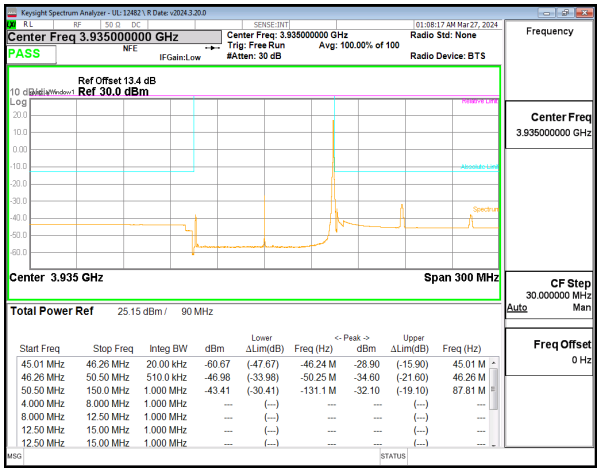
5G NR n77 90MHz BPSK Middle Channel RB1-0



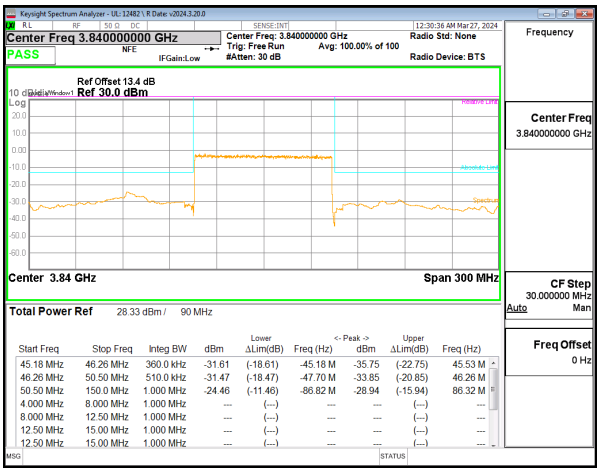
5G NR n77 90MHz BPSK High Channel RB1-0



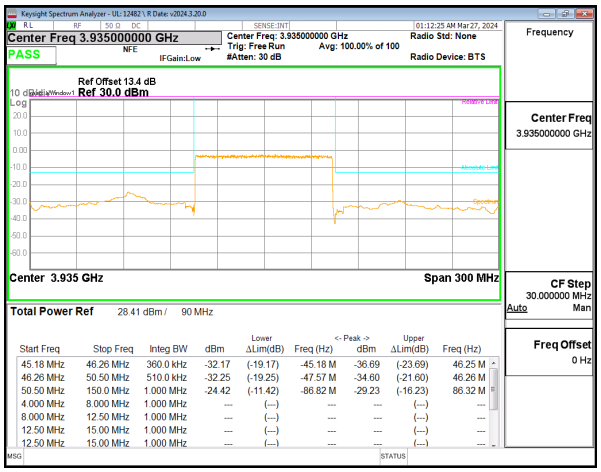
5G NR n77 90MHz BPSK Middle Channel RB1-244



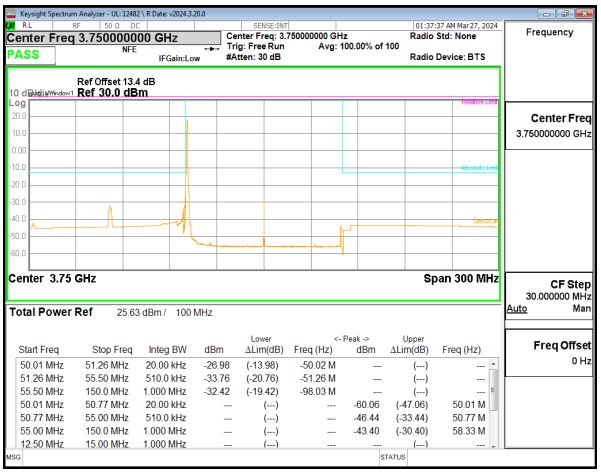
5G NR n77 90MHz BPSK High Channel RB1-244



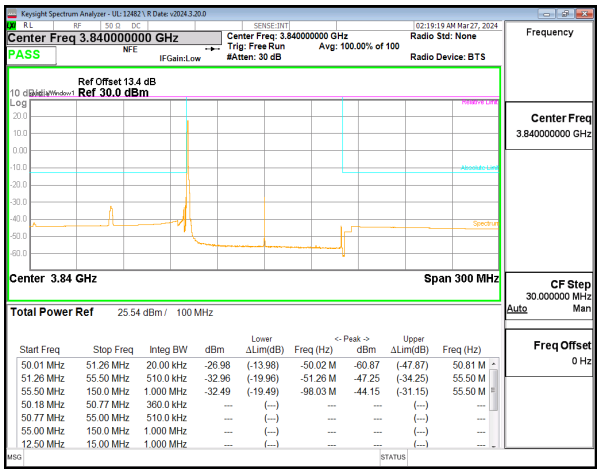
5G NR n77 90MHz BPSK Middle Channel RB243-0



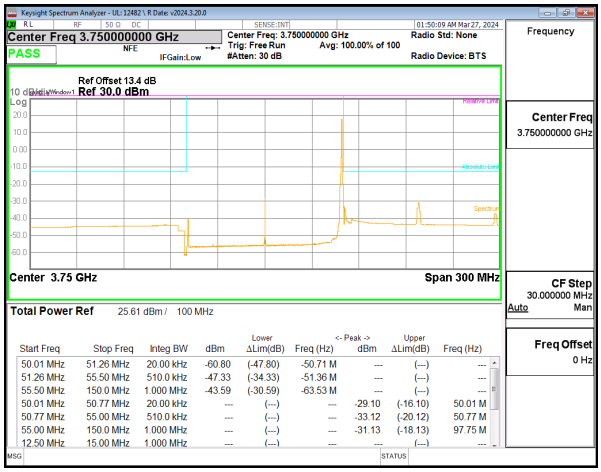
5G NR n77 90MHz BPSK High Channel RB243-0



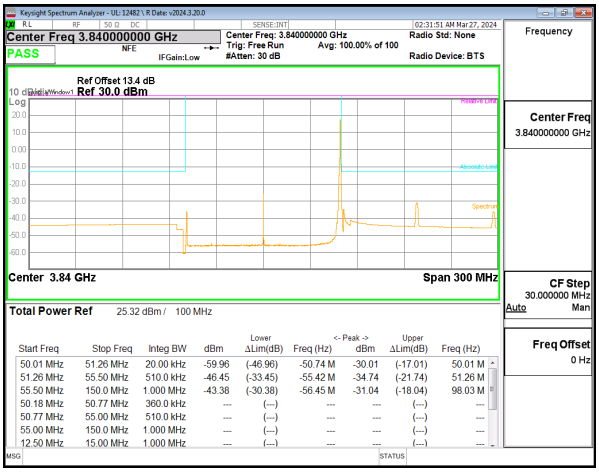
5G NR n77 100MHz BPSK Low Channel RB1-0



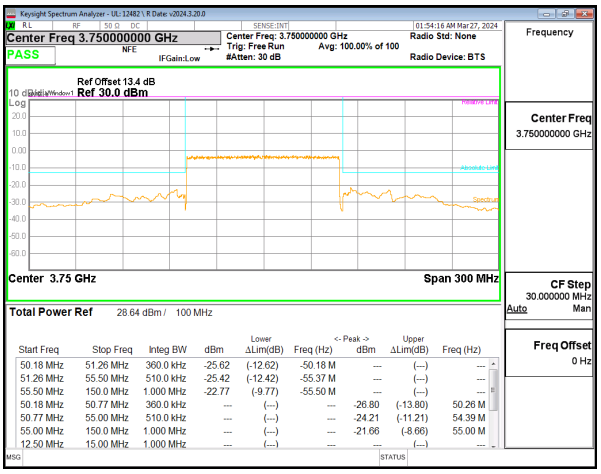
5G NR n77 100MHz BPSK Mid Channel RB1-0



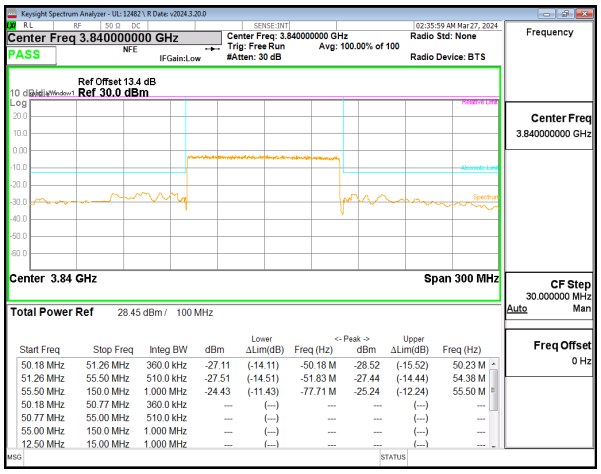
5G NR n77 100MHz BPSK Low Channel RB1-272



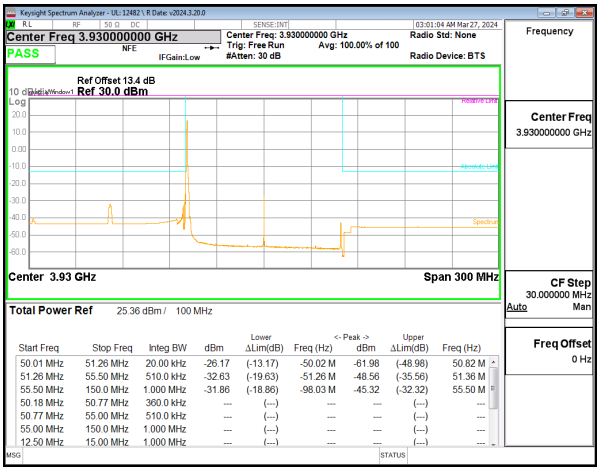
5G NR n77 100MHz BPSK Mid Channel RB1-272



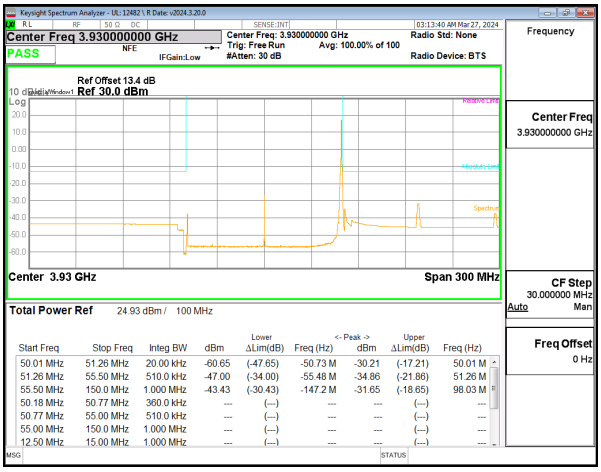
5G NR n77 100MHz BPSK Low Channel RB270-0



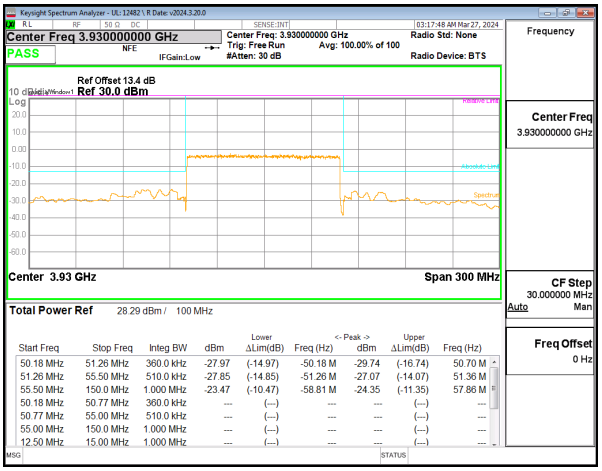
5G NR n77 100MHz BPSK Mid Channel RB270-0



5G NR n77 100MHz BPSK High Channel RB1-0



5G NR n77 100MHz BPSK High Channel RB1-272



5G NR n77 100MHz BPSK High Channel RB270-0

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9.3. OUT OF BAND EMISSIONS

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm, -25dBm and -40dBm according to the band Limit
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz. (NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

RESULTS

QPSK with 1RB is the highest power and PSD to all bandwidth. 1RB has the same frequency and power to all bandwidth. Therefore, QPSK with 1RB and wider bandwidths results are reported as worst case for LTE bands.

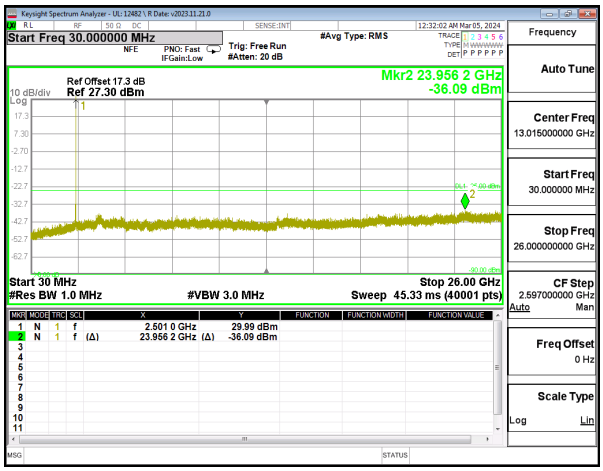
BPSK with 1RB is the highest power and PSD to all bandwidth. 1RB has the same frequency and power to all bandwidth. Therefore, BPSK with 1RB and wider bandwidths results are reported as worst case for 5G NRs.

9.3.1. LTE BAND 7 AND 5G NR n7

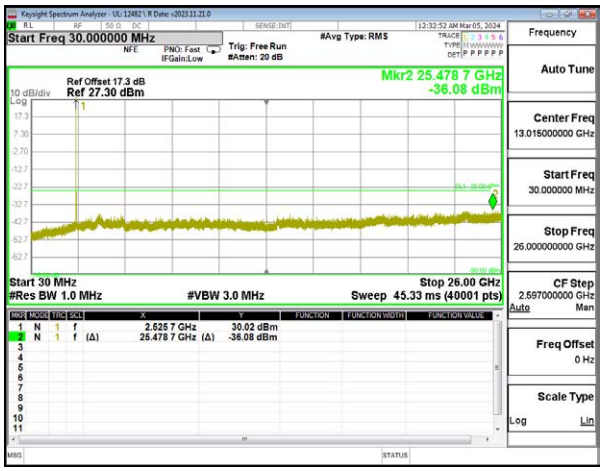
LIMITS

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.

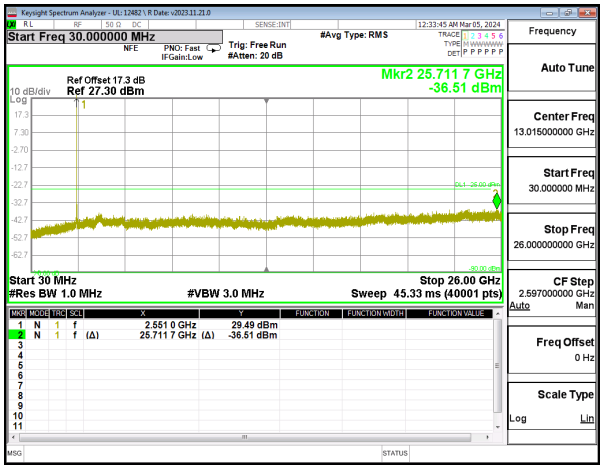
LTE BAND 7



LTE B7 20MHz QPSK Low Channel RB1-0



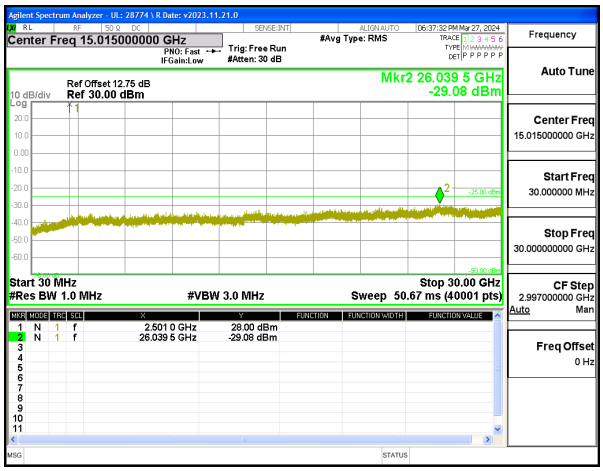
LTE B7 20MHz QPSK Middle Channel RB1-0



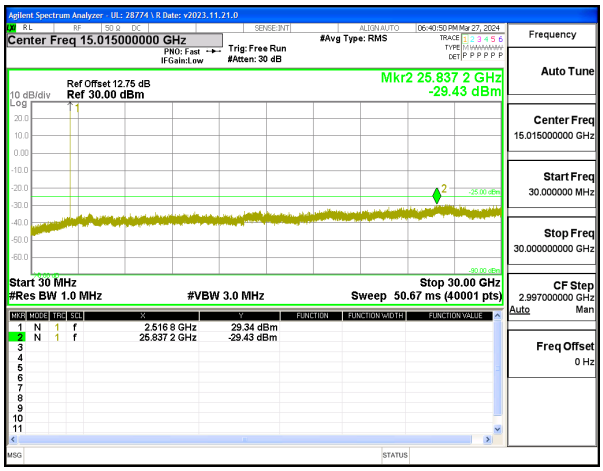
LTE B7 20MHz QPSK High Channel RB1-0

Intentionally Blank

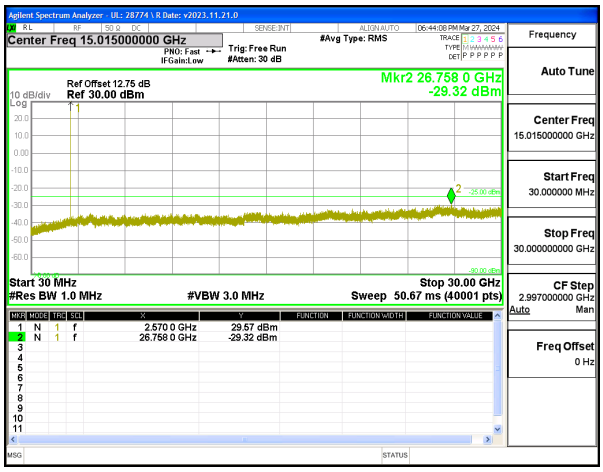
5G NR n7



5G NR n7 40MHz BPSK Low Channel RB1-0



5G NR n7 40MHz BPSK Middle Channel RB1-1



5G NR n7 40MHz BPSK High Channel RB1-215

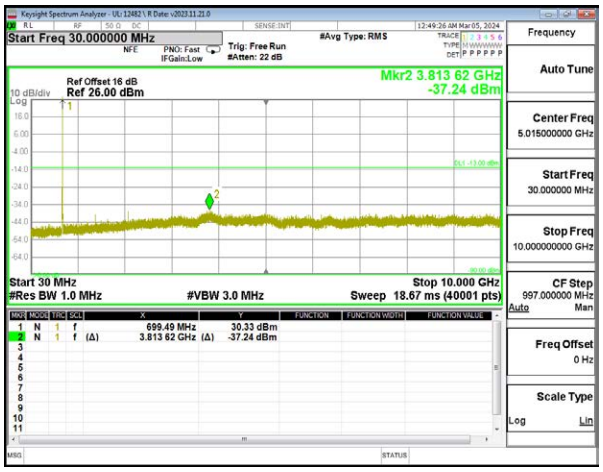
Intentionally Blank

9.3.2. LTE BAND 12 AND 5G NR n12

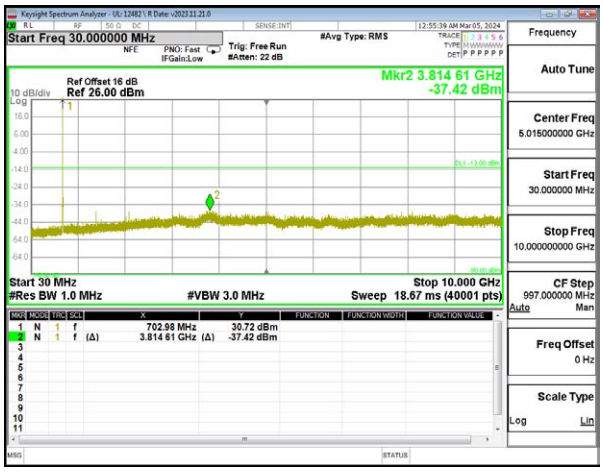
LIMITS

FCC: §27.53 (g)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

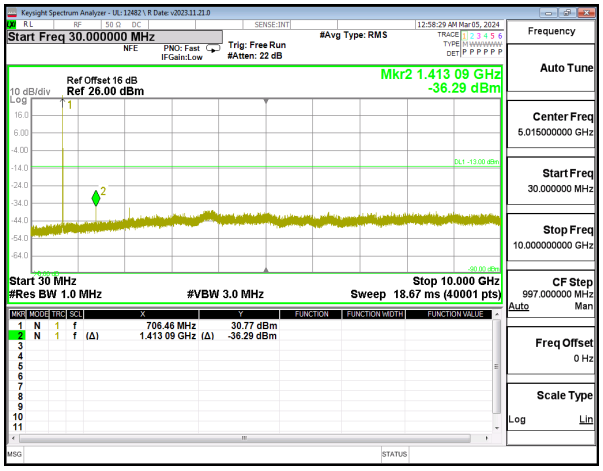
LTE BAND 12



LTE B12 10MHz QPSK Low Channel RB1-0



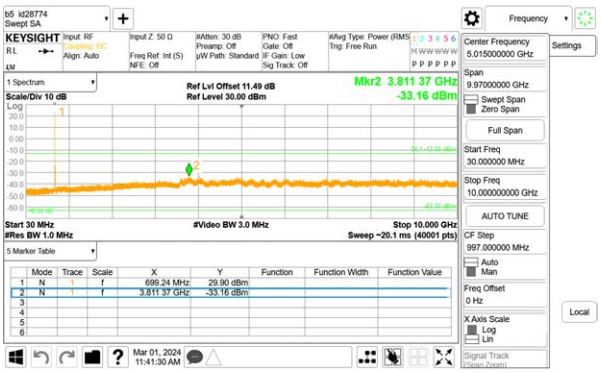
LTE B12 10MHz QPSK Middle Channel RB1-0



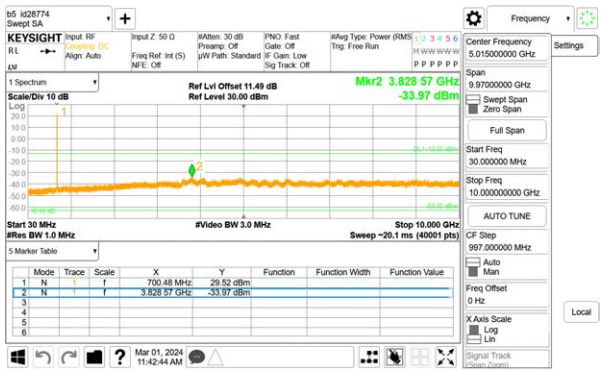
LTE B12 10MHz QPSK High Channel RB1-0

Intentionally Blank

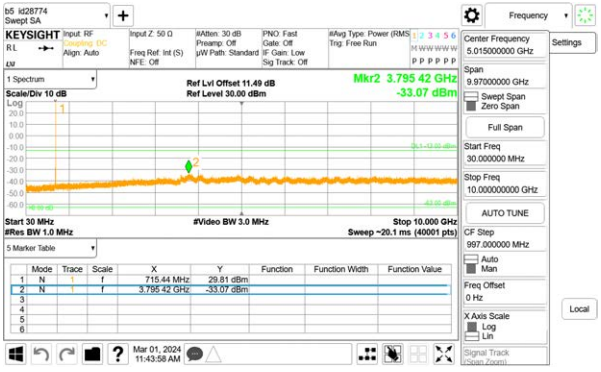
5G NR n12



5G NR n12 15MHz BPSK Low Channel RB1-0



5G NR n12 15MHz BPSK Middle Channel RB1-1



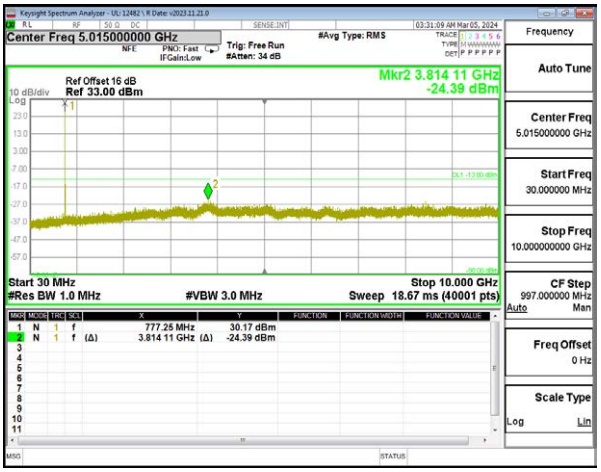
5G NR n12 15MHz BPSK High Channel RB1-78

Intentionally Blank

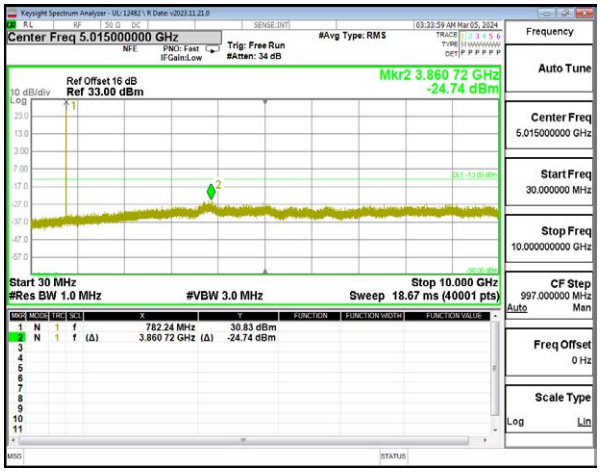
9.3.3. LTE BAND 13

LIMITS

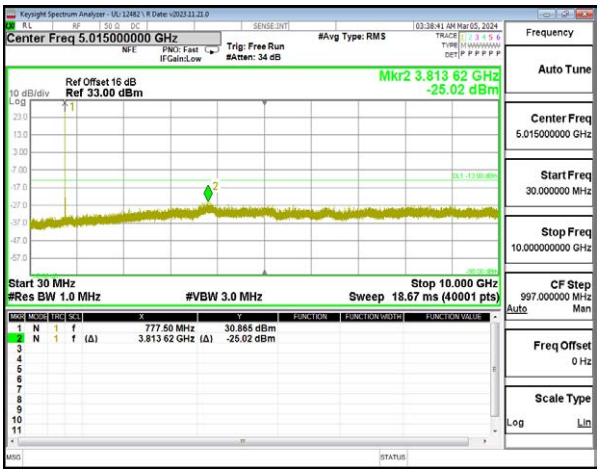
FCC: §27.53 (c), (f)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.
Note: Radiated data in section 10.1.3 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40dBm/MHz limit was used.



LTE B13 5MHz QPSK Low Channel RB1-0



LTE B13 5MHz QPSK High Channel RB1-0



LTE B13 10MHz QPSK Middle Channel RB1-0

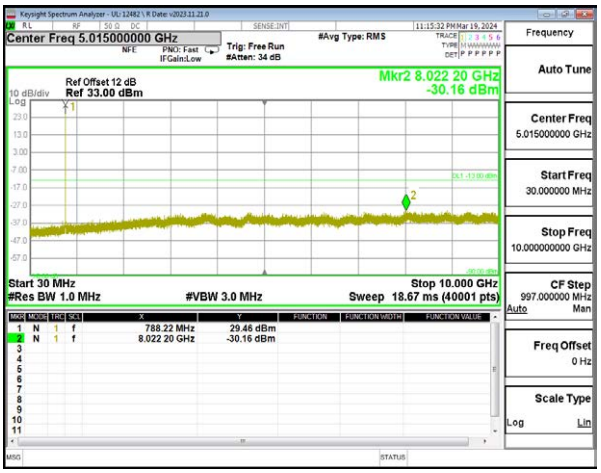
Note: Radiated data in section 10.1.3 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

9.3.4. LTE BAND 14 AND 5G NR n14

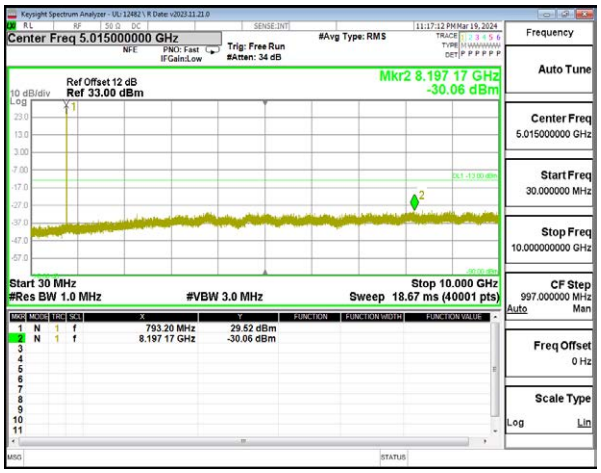
LIMITS

FCC: §90.543 (e), (f)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.
Note: Radiated data in section 10.1.4 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40dBm/MHz limit was used.

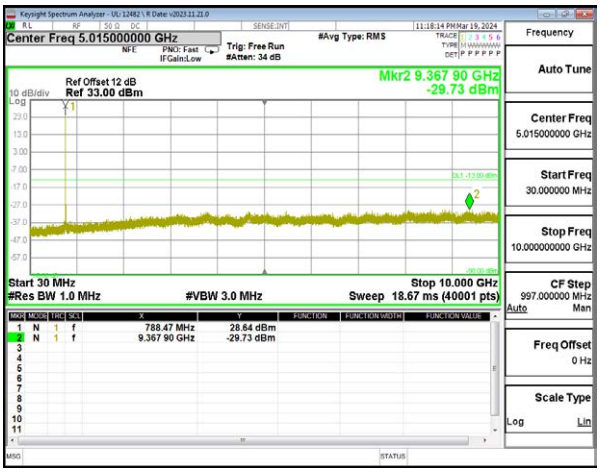
LTE BAND 14



LTE B14 5MHz QPSK Low Channel RB1-0



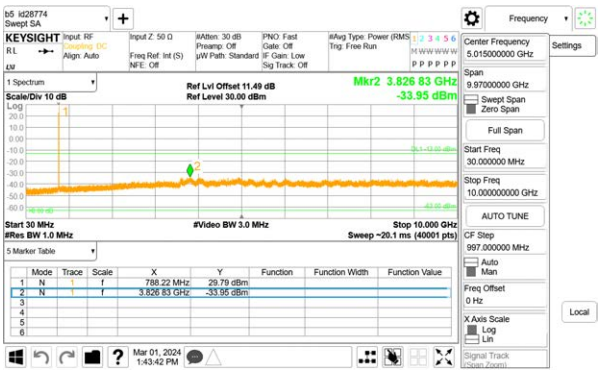
LTE B14 5MHz QPSK High Channel RB1-0



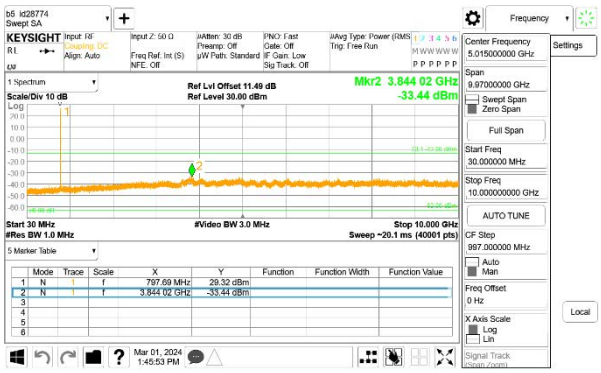
LTE B14 10MHz QPSK Middle Channel RB1-0

Note: Radiated data in section 10.1.4 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

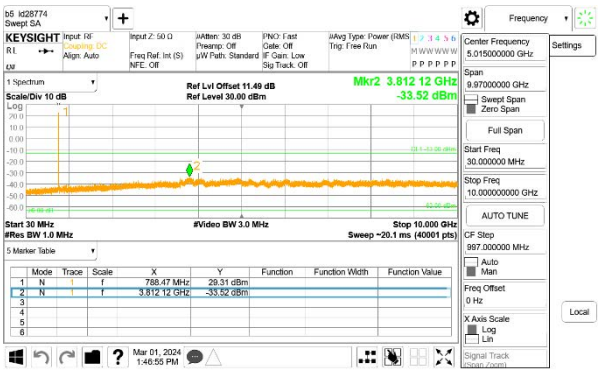
5G NR n14



5G NR n14 5MHz BPSK Low Channel RB1-0



5G NR n14 5MHz BPSK High Channel RB1-24



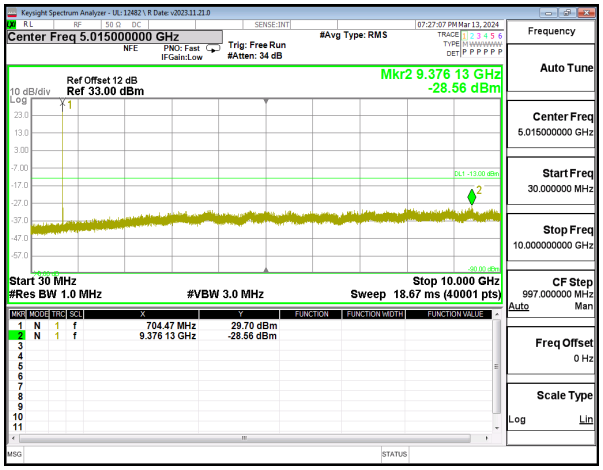
5G NR n14 10MHz BPSK Middle Channel RB1-0

Intentionally Blank

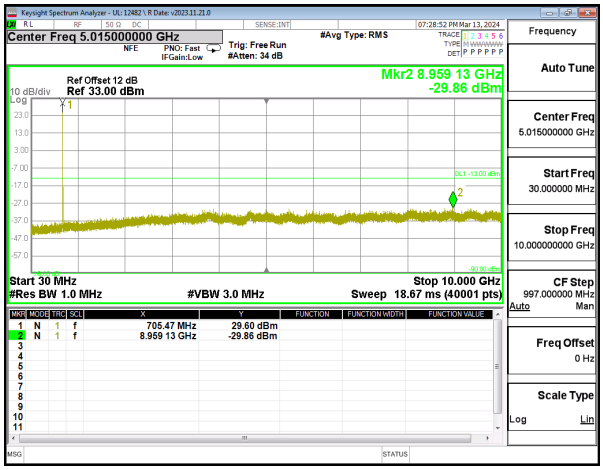
9.3.5. LTE BAND 17

LIMITS

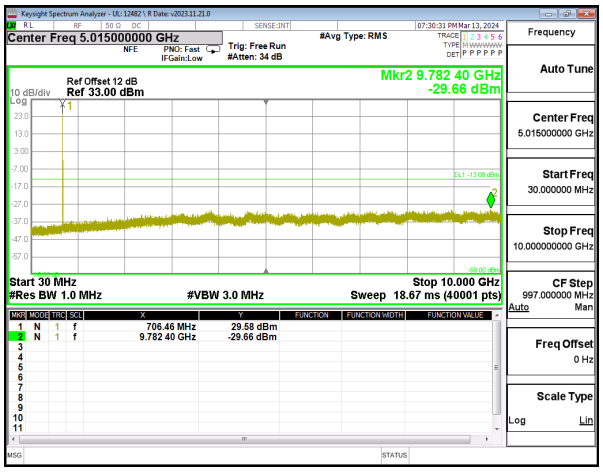
FCC: §27.53 (g)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B17 10MHz QPSK Low Channel RB1-0



LTE B17 10MHz QPSK Middle Channel RB1-0



LTE B17 10MHz QPSK High Channel RB1-0

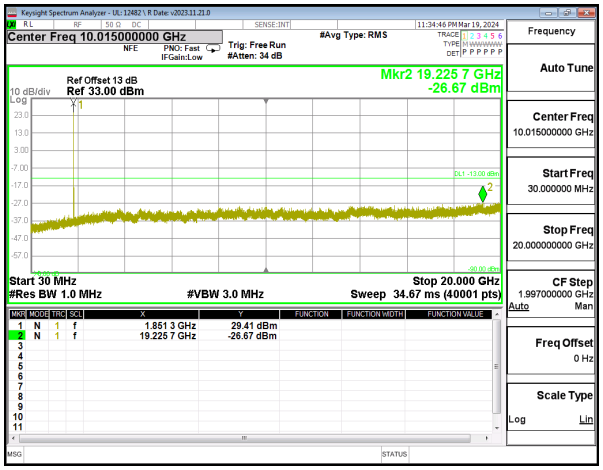
Intentionally Blank

9.3.6. LTE BAND 25 AND 5G NR n25

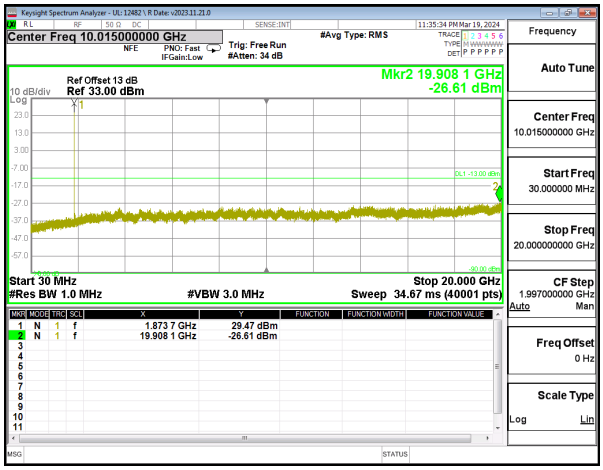
LIMITS

FCC: §24.238 (a)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

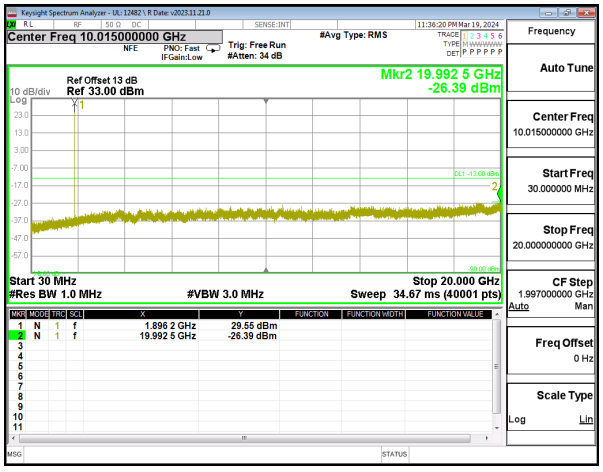
LTE BAND 25



LTE B25 20MHz QPSK Low Channel RB1-0



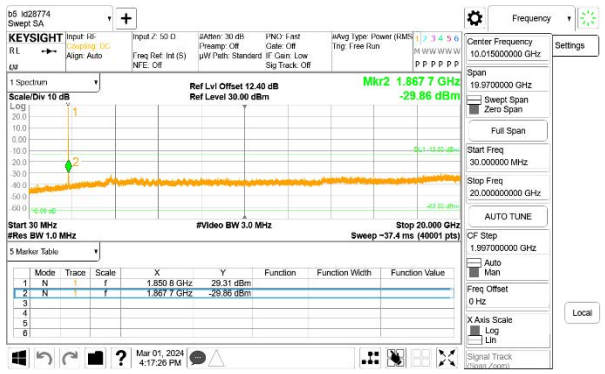
LTE B25 20MHz QPSK Middle Channel RB1-0



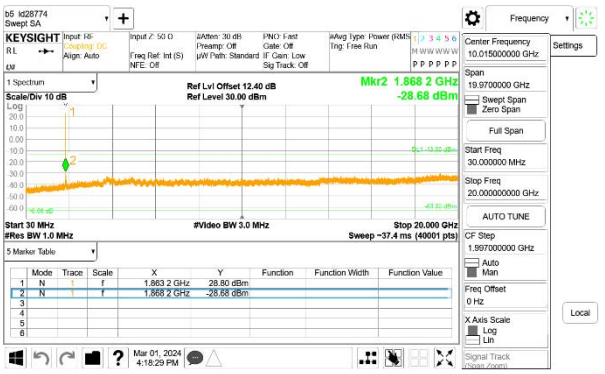
LTE B25 20MHz QPSK High Channel RB1-0

Intentionally Blank

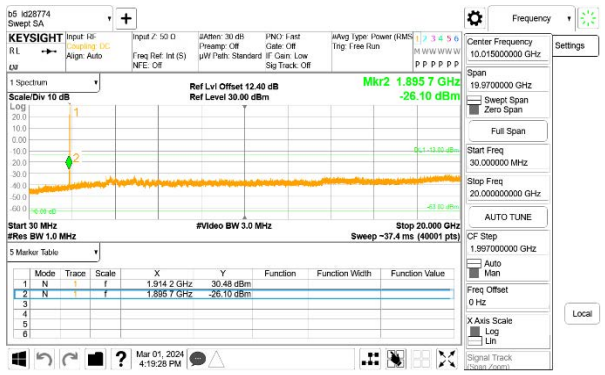
5G NR n25



5G NR n25 40MHz BPSK Low Channel RB1-0



5G NR n25 40MHz BPSK Middle Channel RB1-1



5G NR n25 40MHz BPSK High Channel RB1-215

Intentionally Blank

9.3.7. LTE BAND 26 AND 5G NR n26(FCC PART 90S)

LIMITS

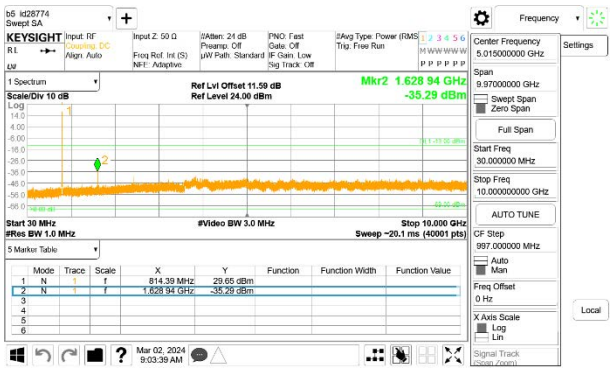
FCC: §90.691
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

LTE BAND 26

LTE B26 10MHz QPSK Middle Channel RB1-0

Intentionally Blank

5G NR n26

 5G NR n26 10MHz BPSK Middle Channel RB1-0	Intentionally Blank

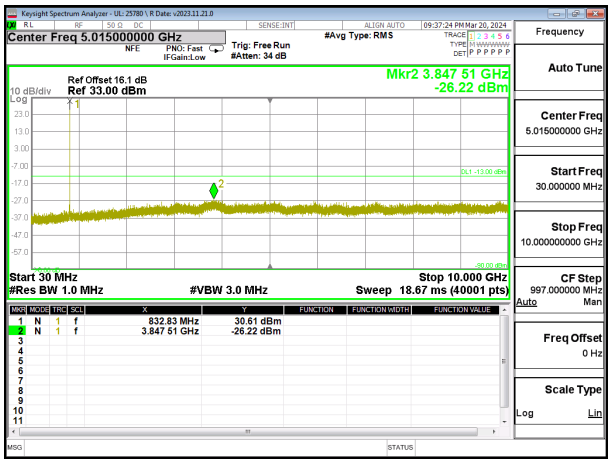
9.3.8. LTE BAND 26 AND 5G NR n26 (FCC PART 22)

LIMITS

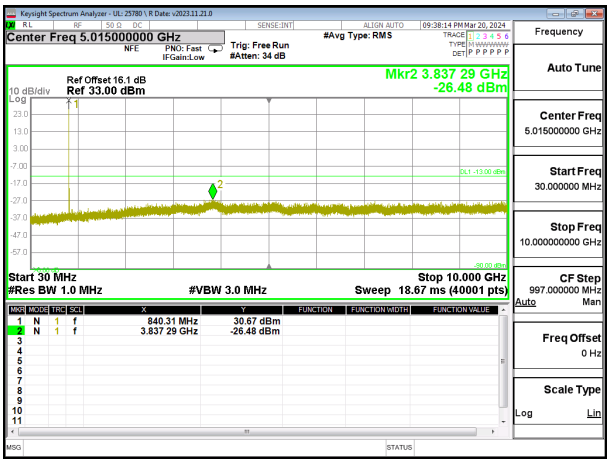
FCC: §22.917 (a)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

LTE BAND 26

LTE B26 10MHz QPSK Low Channel RB1-0



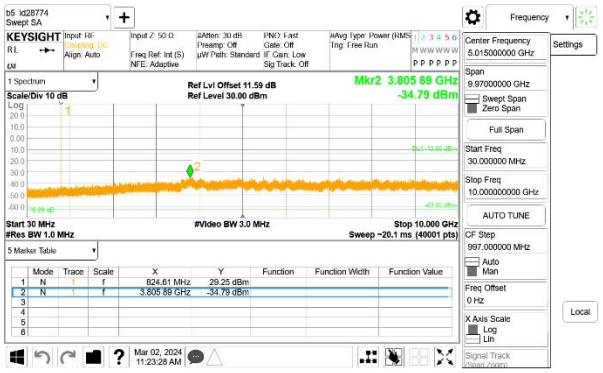
LTE B26 10MHz QPSK Middle Channel RB1-0



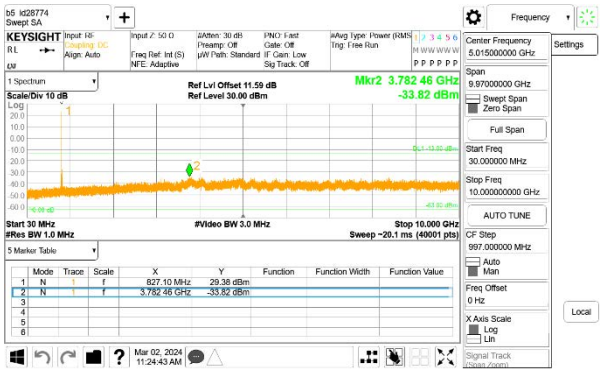
LTE B26 10MHz QPSK Mid Channel RB1-0

Intentionally Blank

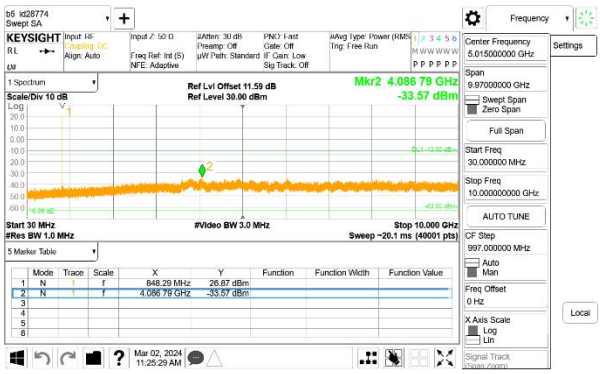
5G NR n26



5G NR n26 20MHz BPSK Low Channel RB1-0



5G NR n26 20MHz BPSK Middle Channel RB1-1



5G NR n26 20MHz BPSK High Channel RB1-105

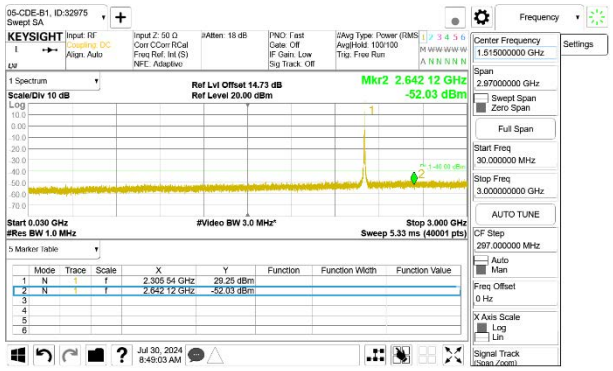
Intentionally Blank

9.3.9. LTE BAND 30 AND 5G NR n30

LIMITS

FCC: §27.53 (a)
The minimum permissible attenuation level of any spurious emissions is 70 + 10 log (P) dB where transmitting power (P) in Watts.

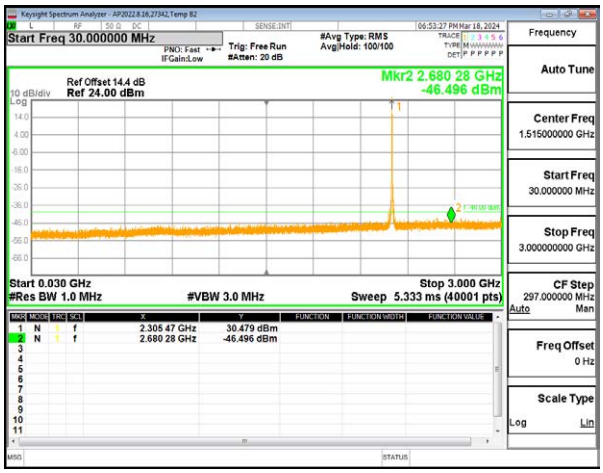
LTE BAND 30



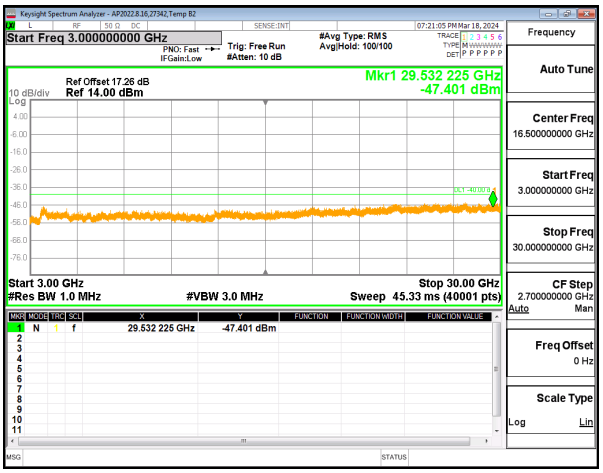
LTE B30 10MHz QPSK Mid Channel RB1-0 (30MHz to 3GHz)

LTE B30 10MHz QPSK Middle Channel RB1-0 (3G to 26G)

5G NR n30



5G NR n30 10MHz BPSK Middle Channel RB1-0 (30MHz to 3GHz)



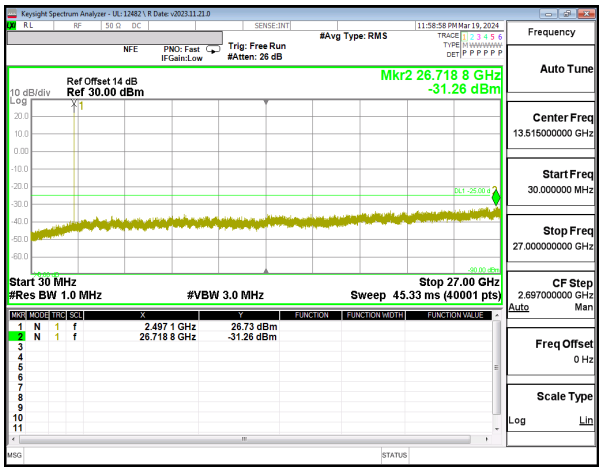
5G NR n30 10MHz BPSK Middle Channel RB1-0 (3HHz to 30GHz)

9.3.10. LTE BAND 41 AND 5G NR n41

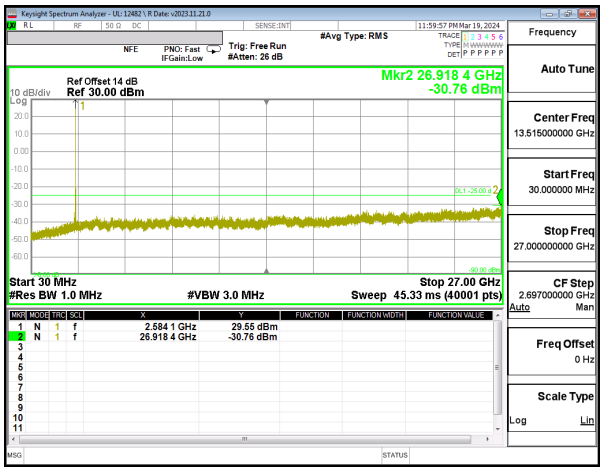
LIMITS

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.

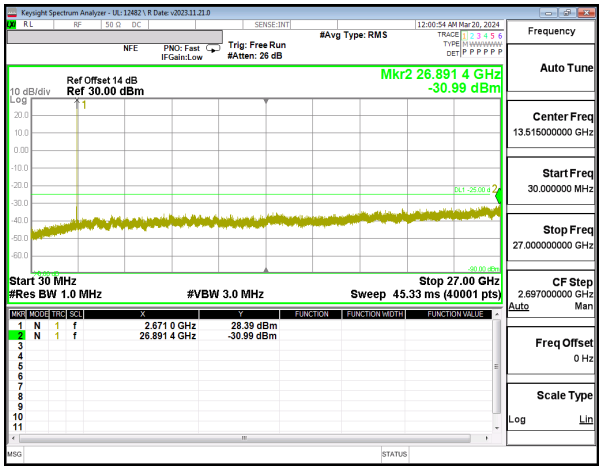
LTE BAND 41



LTE B41 20MHz QPSK Low Channel RB1-0



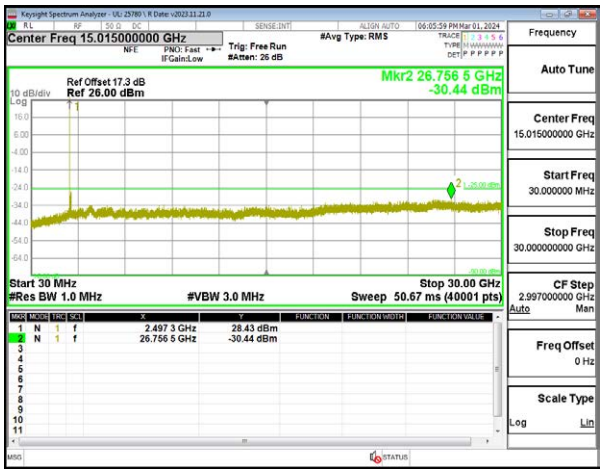
LTE B41 20MHz QPSK Middle Channel RB1-0



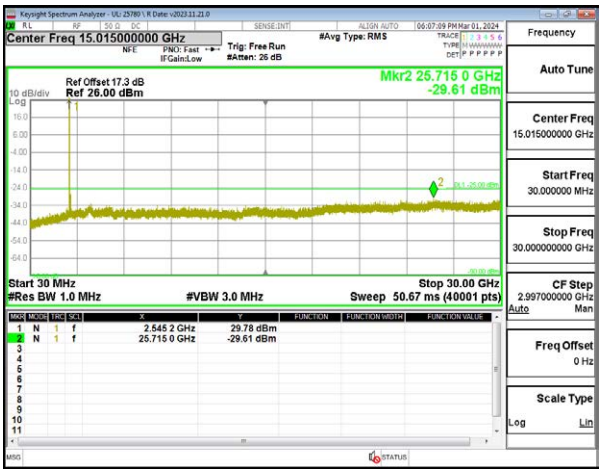
LTE B41 20MHz QPSK High Channel RB1-0

Intentionally Blank

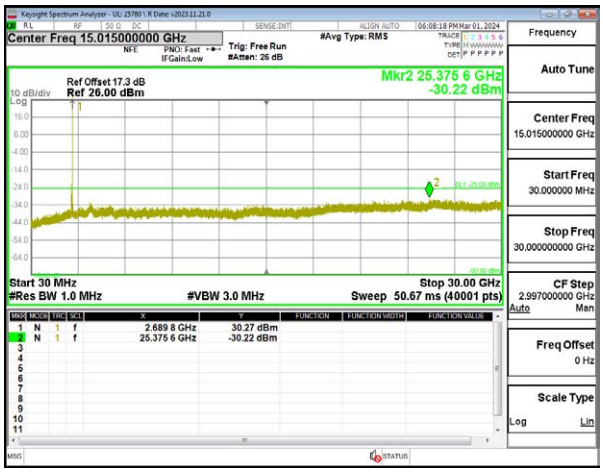
5G NR n41



5G NR n41 100MHz BPSK Low Channel RB1-0



5G NR n41 100MHz BPSK Middle Channel RB1-1



5G NR n41 100MHz BPSK High Channel RB1-272

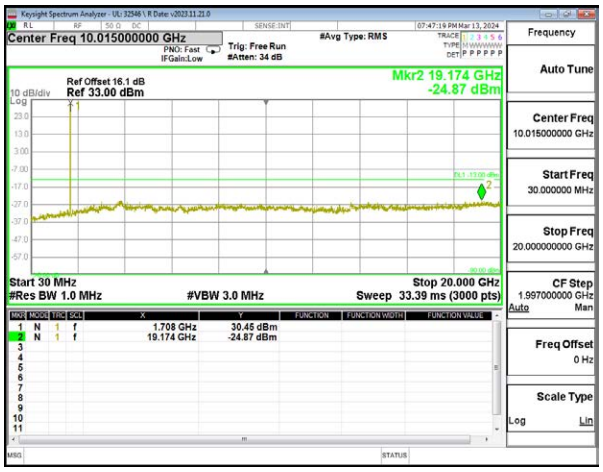
Intentionally Blank

9.3.11. LTE BAND 66 AND 5G NR n66

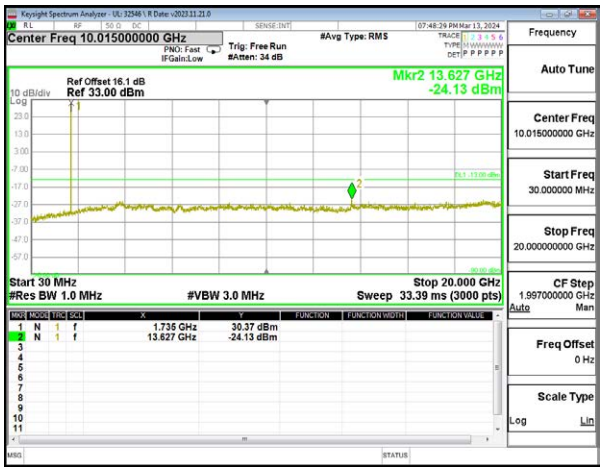
LIMITS

FCC: §27.53 (h)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

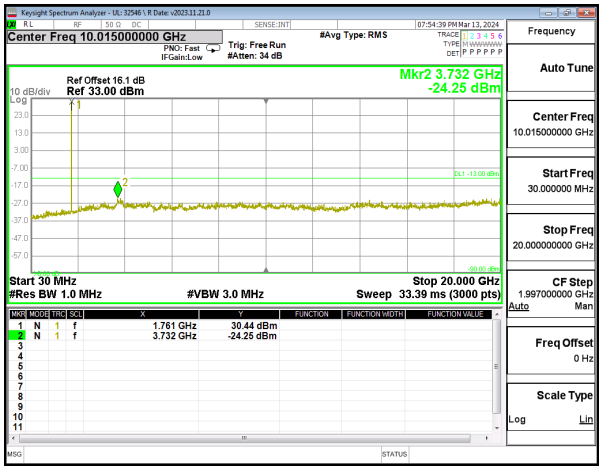
LTE BAND 66



LTE B66 20MHz QPSK Low Channel RB1-0



LTE B66 20MHz QPSK Middle Channel RB1-0

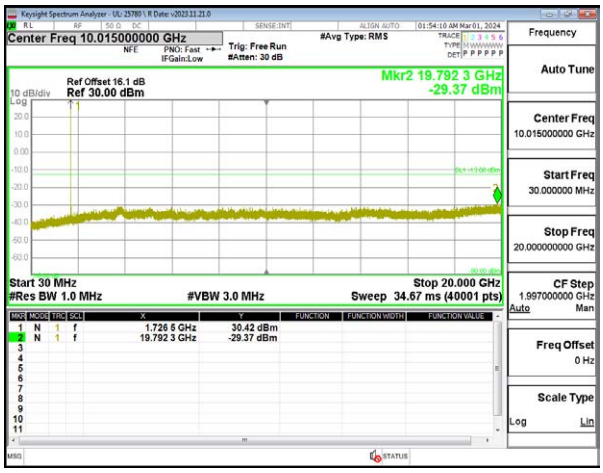


LTE B66 20MHz QPSK High Channel RB1-0

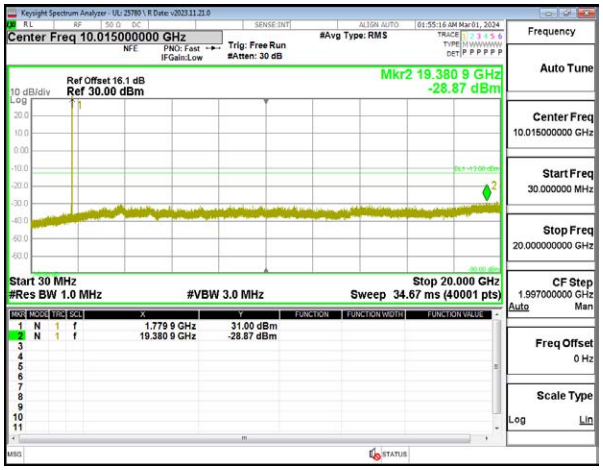
Intentionally Blank

5G NR n66

5G NR n66 40MHz BPSK Low Channel RB1-0



5G NR n66 40MHz BPSK Middle Channel RB1-1



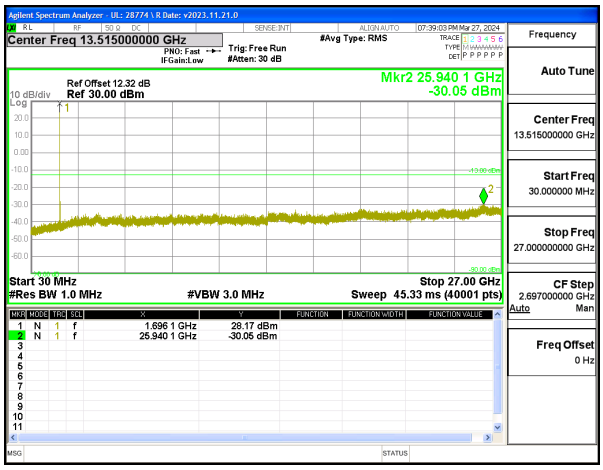
5G NR n66 40MHz BPSK High Channel RB1-215

9.3.12. 5G NR n70

LIMITS

FCC: §27.53 (h)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

5G NR n70



5G NR n70 15MHz BPSK Middle Channel RB1-0

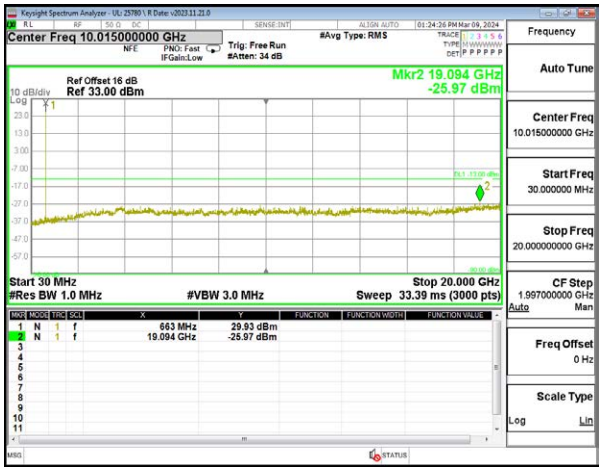
Intentionally Blank

9.3.13. LTE BAND 71 AND 5G NR n71

LIMITS

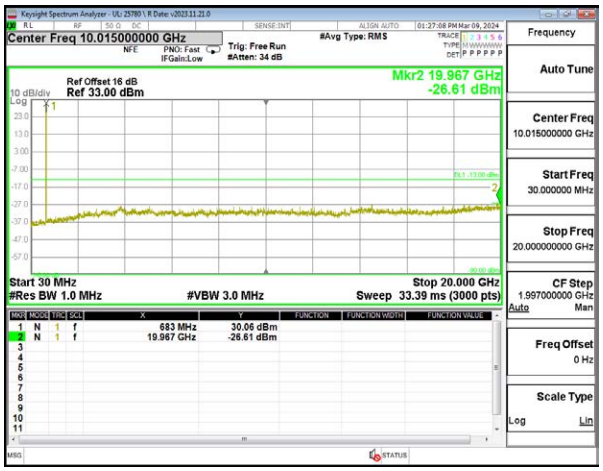
FCC: §27.53 (g)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

LTE BAND 71



LTE B71 20MHz QPSK Low Channel RB1-0

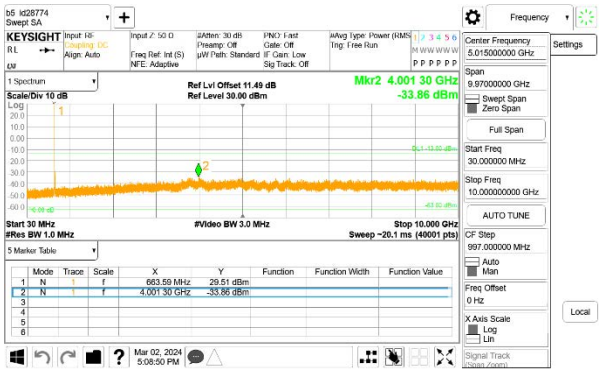
LTE B71 20MHz QPSK Middle Channel RB1-0



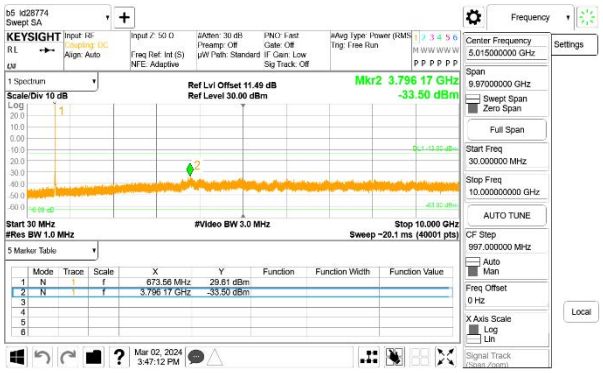
LTE B71 20MHz QPSK High Channel RB1-0

Intentionally Blank

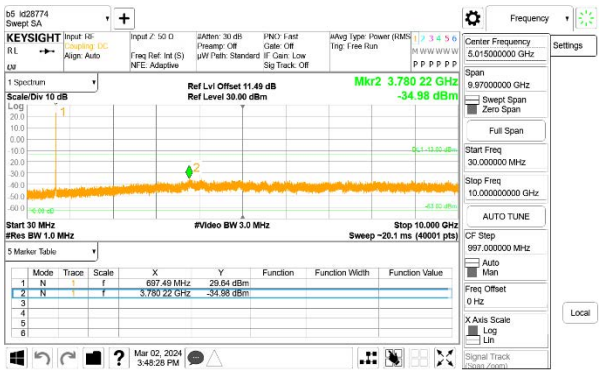
5G NR n71



5G NR n71 20MHz BPSK Low Channel RB1-0



5G NR n71 20MHz BPSK Middle Channel RB1-1



5G NR n71 20MHz BPSK High Channel RB1-105

Intentionally Blank

9.3.14. 5G NR n77 (FCC Part 27 3450-3550MHz)

LIMITS

FCC: §27.53
Emission limits
(n) 3.45 GHz Service. The following emission limits apply to stations transmitting in the 3450-3550 MHz band:
(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

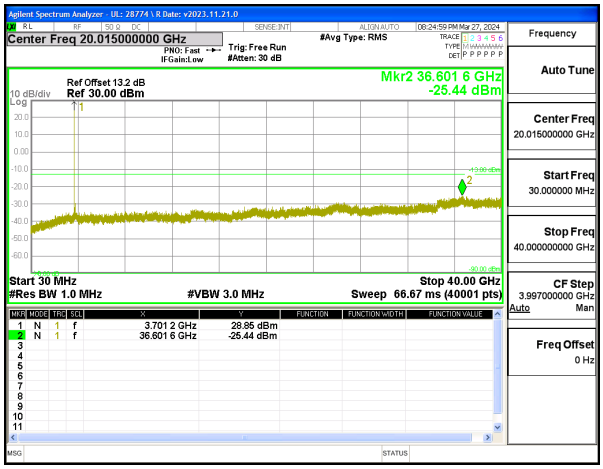
5G NR n77 100MHz BPSK Mid Channel RB1-1

Intentionally Blank

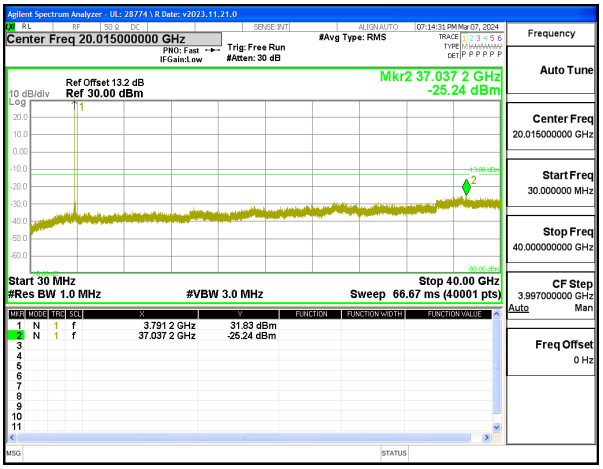
9.3.15. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

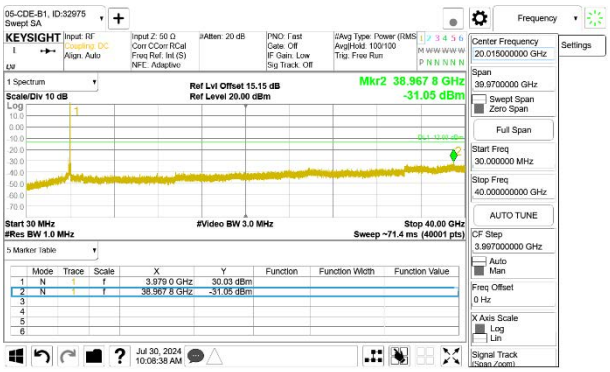
FCC: §27.53
Emission limits
(l) 3.7 GHz Service. The following emission limits apply to stations transmitting in the 3700-3980 MHz band:
(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.



5G NR n77 100MHz BPSK Low Channel RB1-0



5G NR n77 100MHz BPSK Mid Channel RB1-1



5G NR n77 100MHz BPSK High Channel RB1-272

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9.4. FREQUENCY STABILITY

TEST PROCEDURE

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, 3.2VDC.

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 7 AND 5G NR n7

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:	25780	Test Date:	3/26/2024

LTE BAND 7 QPSK (20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2501.0617	2568.9435			
Extreme (50°C)		2501.0617	2568.9435	-6.8	-0.003	Yes
Extreme (40°C)		2501.0617	2568.9436	7.6	0.003	Yes
Extreme (30°C)		2501.0617	2568.9435	-7.2	-0.003	Yes
Extreme (10°C)		2501.0617	2568.9435	-7.3	-0.003	Yes
Extreme (0°C)		2501.0617	2568.9436	6.5	0.003	Yes
Extreme (-10°C)		2501.0617	2568.9435	-6.2	-0.002	Yes
Extreme (-20°C)		2501.0617	2568.9436	7.5	0.003	Yes
Extreme (-30°C)		2501.0617	2568.9436	7.0	0.003	Yes
20°C	15%	2501.0617	2568.9435	6.1	0.002	Yes
	-15%	2501.0617	2568.9436	8.1	0.003	Yes
	End Point Voltage	2501.0617	2568.9436	8.0	0.003	Yes

5G NR n7 BPSK (40MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2500.6742	2659.2780			
Extreme (50°C)		2500.6742	2659.2780	3.4	0.001	Yes
Extreme (40°C)		2500.6742	2659.2780	-7.5	-0.003	Yes
Extreme (30°C)		2500.6742	2659.2780	-7.9	-0.003	Yes
Extreme (10°C)		2500.6742	2659.2780	-7.4	-0.003	Yes
Extreme (0°C)		2500.6742	2659.2780	-7.3	-0.003	Yes
Extreme (-10°C)		2500.6742	2659.2780	-7.2	-0.003	Yes
Extreme (-20°C)		2500.6742	2659.2780	-10.2	-0.004	Yes
Extreme (-30°C)		2500.6742	2659.2780	-8.8	-0.003	Yes
20°C	15%	2500.6742	2659.2780	-7.1	-0.003	Yes
	-15%	2500.6742	2659.2780	-7.1	-0.003	Yes
	End Point Voltage	2500.6742	2659.2780	-7.4	-0.003	Yes

9.4.2. LTE BAND 12 AND 5G NR n12

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:	25780	Test Date:	3/26/2024

LTE BAND 12 QPSK (10MHz BANDWIDTH)

Band	12	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		699	716			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	699.5191	715.4679			
Extreme (50°C)		699.5190	715.4679	-2.7	-0.004	Yes
Extreme (40°C)		699.5191	715.4679	3.0	0.004	Yes
Extreme (30°C)		699.5190	715.4679	-3.5	-0.005	Yes
Extreme (10°C)		699.5191	715.4679	4.3	0.006	Yes
Extreme (0°C)		699.5191	715.4679	4.6	0.006	Yes
Extreme (-10°C)		699.5191	715.4679	5.1	0.007	Yes
Extreme (-20°C)		699.5191	715.4679	2.9	0.004	Yes
Extreme (-30°C)		699.5191	715.4679	3.3	0.005	Yes
20°C	15%	699.5191	715.4679	4.0	0.006	Yes
	-15%	699.5191	715.4679	5.2	0.007	Yes
	End Point Voltage	699.5190	715.4679	-3.0	-0.004	Yes

5G NR n12 BPSK (15MHz BANDWIDTH)

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	699.4261	714.8401			
Extreme (50°C)		699.4261	714.8401	-1.9	-0.003	Yes
Extreme (40°C)		699.4261	714.8401	1.7	0.002	Yes
Extreme (30°C)		699.4261	714.8401	2.6	0.004	Yes
Extreme (10°C)		699.4261	714.8401	-2.2	-0.003	Yes
Extreme (0°C)		699.4261	714.8401	-2.7	-0.004	Yes
Extreme (-10°C)		699.4261	714.8401	3.1	0.004	Yes
Extreme (-20°C)		699.4261	714.8401	2.1	0.003	Yes
Extreme (-30°C)		699.4261	714.8401	-1.9	-0.003	Yes
20°C	15%	699.4261	714.8401	3.7	0.005	Yes
	-15%	699.4261	714.8401	-2.7	-0.004	Yes
	End Point Voltage	699.4261	714.8401	-2.9	-0.004	Yes

9.4.3. LTE BAND 13

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:	25780	Test Date:	3/26/2024

QPSK (10MHz BANDWIDTH)

Band	13	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		777	787			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	777.5221	786.4718			
Extreme (50°C)		777.5221	786.4718	2.8	0.004	Yes
Extreme (40°C)		777.5221	786.4718	-4.3	-0.005	Yes
Extreme (30°C)		777.5221	786.4718	4.6	0.006	Yes
Extreme (10°C)		777.5221	786.4718	5.5	0.007	Yes
Extreme (0°C)		777.5221	786.4718	5.3	0.007	Yes
Extreme (-10°C)		777.5221	786.4718	5.4	0.007	Yes
Extreme (-20°C)		777.5221	786.4718	4.7	0.006	Yes
Extreme (-30°C)		777.5221	786.4718	3.0	0.004	Yes
20°C	15%	777.5221	786.4718	4.9	0.006	Yes
	-15%	777.5221	786.4718	4.2	0.005	Yes
	End Point Voltage	777.5221	786.4718	-4.2	-0.005	Yes

9.4.4. LTE BAND 14 AND 5G NR n14

LIMITS

FCC: §90.539
(e) The frequency stability of mobile, portable and control transmitters operating in the wideband segment must be 1.25 ppm or better when AFC is locked to a base station, and 5 ppm or better when AFC is not locked.

Test Engineer ID:	25780	Test Date:	3/26/2024

LTE BAND 14 QPSK (10MHz BANDWIDTH)

Band	14	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		788	798			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	788.5260	797.4749			
Extreme (50°C)		788.5260	797.4749	3.5	0.004	Yes
Extreme (40°C)		788.5260	797.4749	-4.0	-0.005	Yes
Extreme (30°C)		788.5260	797.4749	3.7	0.005	Yes
Extreme (10°C)		788.5260	797.4749	3.9	0.005	Yes
Extreme (0°C)		788.5260	797.4749	3.7	0.005	Yes
Extreme (-10°C)		788.5260	797.4749	4.4	0.005	Yes
Extreme (-20°C)		788.5260	797.4749	4.2	0.005	Yes
Extreme (-30°C)		788.5260	797.4749	3.8	0.005	Yes
20°C	15%	788.5260	797.4749	3.9	0.005	Yes
	-15%	788.5260	797.4749	5.0	0.006	Yes
	End Point Voltage	788.5260	797.4749	3.6	0.005	Yes

Test Engineer ID:	25780	Test Date:	2/21/2024

5G NR n14 BPSK (10MHz BANDWIDTH)

Band	14	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		788	798			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	788.3326	797.2745			
Extreme (50°C)		788.3326	797.2745	1.9	0.002	Yes
Extreme (40°C)		788.3326	797.2745	1.7	0.002	Yes
Extreme (30°C)		788.3326	797.2745	2.1	0.003	Yes
Extreme (10°C)		788.3326	797.2745	2.2	0.003	Yes
Extreme (0°C)		788.3326	797.2745	2.0	0.003	Yes
Extreme (-10°C)		788.3326	797.2745	2.2	0.003	Yes
Extreme (-20°C)		788.3326	797.2745	2.8	0.003	Yes
Extreme (-30°C)		788.3326	797.2745	2.4	0.003	Yes
20°C	15%	788.3326	797.2745	2.5	0.003	Yes
	-15%	788.3326	797.2745	2.5	0.003	Yes
	End Point Voltage	788.3326	797.2745	2.8	0.004	Yes

9.4.5. LTE BAND 17

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:	25780	Test Date:	3/26/2024

QPSK (10MHz BANDWIDTH)

Band	17	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		704	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	704.5220	713.4766			
Extreme (50°C)		704.5220	713.4766	3.0	0.004	Yes
Extreme (40°C)		704.5220	713.4766	-3.6	-0.005	Yes
Extreme (30°C)		704.5220	713.4766	4.6	0.007	Yes
Extreme (10°C)		704.5220	713.4766	3.2	0.005	Yes
Extreme (0°C)		704.5220	713.4766	4.3	0.006	Yes
Extreme (-10°C)		704.5220	713.4766	5.0	0.007	Yes
Extreme (-20°C)		704.5220	713.4766	4.4	0.006	Yes
Extreme (-30°C)		704.5220	713.4766	4.1	0.006	Yes
20°C	15%	704.5220	713.4766	3.8	0.005	Yes
	-15%	704.5220	713.4766	4.2	0.006	Yes
	End Point Voltage	704.5220	713.4766	3.6	0.005	Yes

9.4.6. LTE BAND 25 AND 5G NR n25

LIMITS

FCC: §24.235
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	25780	Test Date:	3/26/2024

LTE BAND 25 QPSK (20MHz BANDWIDTH)

Band	25	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1850	1915		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)	Normal	1851.0654	1913.9359			
Extreme (50°C)		1851.0654	1913.9359	-5.5	-0.003	Yes
Extreme (40°C)		1851.0654	1913.9359	-6.0	-0.003	Yes
Extreme (30°C)		1851.0654	1913.9359	-6.5	-0.003	Yes
Extreme (10°C)		1851.0654	1913.9359	-7.1	-0.004	Yes
Extreme (0°C)		1851.0654	1913.9359	-5.9	-0.003	Yes
Extreme (-10°C)		1851.0654	1913.9359	-6.4	-0.003	Yes
Extreme (-20°C)		1851.0654	1913.9359	-7.0	-0.004	Yes
Extreme (-30°C)		1851.0654	1913.9359	-5.2	-0.003	Yes
20°C	15%	1851.0654	1913.9359	-5.2	-0.003	Yes
	-15%	1851.0655	1913.9359	5.5	0.003	Yes
	End Point Voltage	1851.0655	1913.9359	6.6	0.004	Yes

5G NR n25 BPSK (40MHz BANDWIDTH)

Band	25	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1850	1915		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)	Normal	1850.6525	1914.3001			
Extreme (50°C)		1850.6525	1914.3001	3.9	0.002	Yes
Extreme (40°C)		1850.6525	1914.3001	-2.7	-0.001	Yes
Extreme (30°C)		1850.6525	1914.3001	-3.8	-0.002	Yes
Extreme (10°C)		1850.6525	1914.3001	3.3	0.002	Yes
Extreme (0°C)		1850.6525	1914.3001	-3.3	-0.002	Yes
Extreme (-10°C)		1850.6525	1914.3001	-3.1	-0.002	Yes
Extreme (-20°C)		1850.6525	1914.3001	-4.4	-0.002	Yes
Extreme (-30°C)		1850.6525	1914.3001	-4.5	-0.002	Yes
20°C	15%	1850.6525	1914.3001	-5.0	-0.003	Yes
	-15%	1850.6525	1914.3001	-4.0	-0.002	Yes
	End Point Voltage	1850.6525	1914.3001	-3.5	-0.002	Yes

9.4.7. LTE BAND 26 AND 5G NR n26(FCC PART 90S)

LIMITS

FCC: §90.213
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

Test Engineer ID:	12482	Test Date:	3/26/2024

LTE QPSK (5MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		814	824		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)	Normal	814.5188	823.4717			
Extreme (50°C)		814.5188	823.4717	4.0	0.005	Yes
Extreme (40°C)		814.5188	823.4717	4.6	0.006	Yes
Extreme (30°C)		814.5188	823.4717	4.1	0.005	Yes
Extreme (10°C)		814.5188	823.4717	5.0	0.006	Yes
Extreme (0°C)		814.5188	823.4717	4.4	0.005	Yes
Extreme (-10°C)		814.5188	823.4717	4.2	0.005	Yes
Extreme (-20°C)		814.5188	823.4717	4.5	0.006	Yes
Extreme (-30°C)		814.5188	823.4717	5.5	0.007	Yes
20°C	15%	814.5188	823.4717	-4.3	-0.005	Yes
	-15%	814.5188	823.4717	-5.5	-0.007	Yes
	End Point Voltage	814.5188	823.4717	4.6	0.006	Yes

5G NR n26 BPSK (20MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		814	824		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)	Normal	814.3416	823.2891			
Extreme (50°C)		814.3416	823.2891	-3.7	-0.004	Yes
Extreme (40°C)		814.3416	823.2891	-4.7	-0.006	Yes
Extreme (30°C)		814.3416	823.2891	-3.9	-0.005	Yes
Extreme (10°C)		814.3416	823.2891	-4.4	-0.005	Yes
Extreme (0°C)		814.3416	823.2891	4.2	0.005	Yes
Extreme (-10°C)		814.3416	823.2891	-3.9	-0.005	Yes
Extreme (-20°C)		814.3416	823.2891	-4.4	-0.005	Yes
Extreme (-30°C)		814.3416	823.2891	-4.0	-0.005	Yes
20°C	15%	814.3416	823.2891	2.7	0.003	Yes
	-15%	814.3416	823.2891	3.1	0.004	Yes
	End Point Voltage	814.3416	823.2891	2.5	0.003	Yes

9.4.8. LTE BAND 26 AND 5G NR n26(FCC PART 22)

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:	12482	Test Date:	3/26/2024

LTE BAND 26 QPSK (10MHz BANDWIDTH)

Band	26	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)	Normal	824.2940	848.2103			
Extreme (50°C)		824.2940	848.2103	-3.1	-0.004	Yes
Extreme (40°C)		824.2940	848.2103	5.3	0.006	Yes
Extreme (30°C)		824.2940	848.2103	-4.0	-0.005	Yes
Extreme (10°C)		824.2940	848.2103	-3.4	-0.004	Yes
Extreme (0°C)		824.2940	848.2103	4.8	0.006	Yes
Extreme (-10°C)		824.2940	848.2103	-3.4	-0.004	Yes
Extreme (-20°C)		824.2940	848.2103	4.1	0.005	Yes
Extreme (-30°C)		824.2940	848.2103	4.5	0.005	Yes
20°C	15%	824.2940	848.2103	-3.4	-0.004	Yes
	-15%	824.2940	848.2103	-3.6	-0.004	Yes
	End Point Voltage	824.2940	848.2103	4.7	0.006	Yes

5G NR n26 BPSK (20MHz BANDWIDTH)

Band	26	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)		824.5316	847.3781			
Extreme (50°C)		824.5316	847.3781	2.8	0.003	Yes
Extreme (40°C)		824.5316	847.3781	1.7	0.002	Yes
Extreme (30°C)		824.5316	847.3781	2.3	0.003	Yes
Extreme (10°C)	Normal	824.5316	847.3781	3.4	0.004	Yes
Extreme (0°C)		824.5316	847.3781	2.2	0.003	Yes
Extreme (-10°C)		824.5316	847.3781	2.2	0.003	Yes
Extreme (-20°C)		824.5316	847.3781	2.3	0.003	Yes
Extreme (-30°C)		824.5316	847.3781	-2.2	-0.003	Yes
20°C	15%	824.5316	847.3781	-2.0	-0.002	Yes
	-15%	824.5316	847.3781	2.2	0.003	Yes
	End Point Voltage	824.5316	847.3781	2.7	0.003	Yes

9.4.9. LTE BAND 30 AND 5G NR n30

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:	12482	Test Date:	3/26/2024

QPSK (10MHz BANDWIDTH)

Band	30	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2305	2315			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2305.5200	2314.4763			
Extreme (50°C)		2305.5199	2314.4763	-4.9	-0.002	Yes
Extreme (40°C)		2305.5199	2314.4763	-6.4	-0.003	Yes
Extreme (30°C)		2305.5199	2314.4763	-5.6	-0.002	Yes
Extreme (10°C)		2305.5200	2314.4763	6.0	0.003	Yes
Extreme (0°C)		2305.5199	2314.4763	-5.8	-0.003	Yes
Extreme (-10°C)		2305.5200	2314.4763	4.9	0.002	Yes
Extreme (-20°C)		2305.5199	2314.4763	-4.8	-0.002	Yes
Extreme (-30°C)		2305.5200	2314.4763	5.1	0.002	Yes
20°C	15%	2305.5199	2314.4763	-5.1	-0.002	Yes
	-15%	2305.5199	2314.4763	-4.5	-0.002	Yes
	End Point Voltage	2305.5199	2314.4763	-5.4	-0.002	Yes

5G NR n30 BPSK (10MHz BANDWIDTH)

Band	30	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2305	2315			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2305.3451	2314.2925			
Extreme (50°C)		2305.3451	2314.2925	-8.1	-0.004	Yes
Extreme (40°C)		2305.3451	2314.2925	-8.0	-0.003	Yes
Extreme (30°C)		2305.3451	2314.2925	-8.3	-0.004	Yes
Extreme (10°C)		2305.3451	2314.2925	-8.2	-0.004	Yes
Extreme (0°C)		2305.3451	2314.2925	-9.0	-0.004	Yes
Extreme (-10°C)		2305.3451	2314.2925	-8.8	-0.004	Yes
Extreme (-20°C)		2305.3451	2314.2925	-10.4	-0.004	Yes
Extreme (-30°C)		2305.3451	2314.2925	-9.3	-0.004	Yes
20°C	15%	2305.3451	2314.2925	-10.7	-0.005	Yes
	-15%	2305.3451	2314.2925	-7.7	-0.003	Yes
	End Point Voltage	2305.3451	2314.2925	-8.5	-0.004	Yes

9.4.10. LTE BAND 41 AND 5G NR n41

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:	32546	Test Date:	3/22/2024

LTE BAND 41 QPSK (20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)		2496.7079	2689.0375			
Extreme (50°C)		2496.7079	2689.0375	-13.3	-0.005	Yes
Extreme (40°C)		2496.7079	2689.0375	-12.8	-0.005	Yes
Extreme (30°C)		2496.7079	2689.0375	-13.1	-0.005	Yes
Extreme (10°C)	Normal	2496.7079	2689.0375	-12.5	-0.005	Yes
Extreme (0°C)		2496.7079	2689.0375	-12.1	-0.005	Yes
Extreme (-10°C)		2496.7079	2689.0375	-13.1	-0.005	Yes
Extreme (-20°C)		2496.7079	2689.0375	-13.8	-0.005	Yes
Extreme (-30°C)		2496.7079	2689.0375	-14.1	-0.005	Yes
20°C	15%	2496.7079	2689.0375	-11.9	-0.005	Yes
	-15%	2496.7079	2689.0375	-12.1	-0.005	Yes
	End Point Voltage	2496.7079	2689.0375	-11.1	-0.004	Yes

5G NR n41 BPSK (100MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2497.1158	2687.7994			
Extreme (50°C)		2497.1158	2687.7994	-17.4	-0.007	Yes
Extreme (40°C)		2497.1158	2687.7994	-14.3	-0.006	Yes
Extreme (30°C)		2497.1158	2687.7994	-13.3	-0.005	Yes
Extreme (10°C)		2497.1158	2687.7994	-18.6	-0.007	Yes
Extreme (0°C)		2497.1158	2687.7994	-16.0	-0.006	Yes
Extreme (-10°C)		2497.1158	2687.7994	-12.6	-0.005	Yes
Extreme (-20°C)		2497.1158	2687.7994	-12.1	-0.005	Yes
Extreme (-30°C)		2497.1158	2687.7994	-14.0	-0.005	Yes
20°C	15%	2497.1158	2687.7994	-18.9	-0.007	Yes
	-15%	2497.1158	2687.7994	-14.4	-0.006	Yes
	End Point Voltage	2497.1158	2687.7994	-17.4	-0.007	Yes

9.4.11. LTE BAND 66 AND 5G NR n66

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:	12482	Test Date:	3/27/2024

LTE BAND 66 QPSK (20MHz BANDWIDTH)

Band	66	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1710	1780			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	1711.0498	1778.9449			
Extreme (50°C)		1711.0498	1778.9449	-5.1	-0.003	Yes
Extreme (40°C)		1711.0498	1778.9449	-5.6	-0.003	Yes
Extreme (30°C)		1711.0498	1778.9449	-4.2	-0.002	Yes
Extreme (10°C)		1711.0498	1778.9449	-5.1	-0.003	Yes
Extreme (0°C)		1711.0498	1778.9449	4.4	0.003	Yes
Extreme (-10°C)		1711.0498	1778.9449	-4.0	-0.002	Yes
Extreme (-20°C)		1711.0498	1778.9449	4.5	0.003	Yes
Extreme (-30°C)		1711.0498	1778.9449	4.7	0.003	Yes
20°C	15%	1711.0498	1778.9449	-5.6	-0.003	Yes
	-15%	1711.0498	1778.9449	-5.1	-0.003	Yes
	End Point Voltage	1711.0498	1778.9449	-5.5	-0.003	Yes

5G NR n66 BPSK (40MHz BANDWIDTH)

Band	66	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1710	1780			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	1710.6619	1779.2854			
Extreme (50°C)		1710.6619	1779.2854	-7.7	-0.004	Yes
Extreme (40°C)		1710.6619	1779.2854	-7.3	-0.004	Yes
Extreme (30°C)		1710.6619	1779.2854	-8.6	-0.005	Yes
Extreme (10°C)		1710.6619	1779.2854	-7.6	-0.004	Yes
Extreme (0°C)		1710.6619	1779.2854	-7.8	-0.004	Yes
Extreme (-10°C)		1710.6619	1779.2854	-8.0	-0.005	Yes
Extreme (-20°C)		1710.6619	1779.2854	-8.1	-0.005	Yes
Extreme (-30°C)		1710.6619	1779.2854	-7.4	-0.004	Yes
20°C	15%	1710.6619	1779.2854	-7.1	-0.004	Yes
	-15%	1710.6619	1779.2854	6.2	0.004	Yes
	End Point Voltage	1710.6619	1779.2854	6.7	0.004	Yes

9.4.12. 5G NR n70

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:	25780	Test Date:	2/21/2024

5G NR n70 BPSK (15MHz BANDWIDTH)

Band	70	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1695	1710			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	1695.4200	1708.8452			
Extreme (50°C)		1695.4200	1708.8452	-6.9	-0.004	Yes
Extreme (40°C)		1695.4200	1708.8452	-7.2	-0.004	Yes
Extreme (30°C)		1695.4200	1708.8452	-7.5	-0.004	Yes
Extreme (10°C)		1695.4200	1708.8452	-7.3	-0.004	Yes
Extreme (0°C)		1695.4200	1708.8452	-6.9	-0.004	Yes
Extreme (-10°C)		1695.4200	1708.8452	-6.6	-0.004	Yes
Extreme (-20°C)		1695.4200	1708.8452	-7.0	-0.004	Yes
Extreme (-30°C)		1695.4200	1708.8452	-8.4	-0.005	Yes
20°C	15%	1695.4200	1708.8452	3.5	0.002	Yes
	-15%	1695.4200	1708.8452	4.4	0.003	Yes
	End Point Voltage	1695.4200	1708.8452	3.4	0.002	Yes

9.4.13. LTE BAND 71 AND 5G NR n71

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:	12482	Test Date:	3/27/2024

LTE BAND 71 QPSK (20MHz BANDWIDTH)

Band	71	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		663	698			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	664.0501	696.9343			
Extreme (50°C)		664.0501	696.9343	-3.8	-0.006	Yes
Extreme (40°C)		664.0501	696.9343	-3.2	-0.005	Yes
Extreme (30°C)		664.0501	696.9343	-3.1	-0.005	Yes
Extreme (10°C)		664.0501	696.9343	-3.7	-0.005	Yes
Extreme (0°C)		664.0501	696.9343	3.4	0.005	Yes
Extreme (-10°C)		664.0501	696.9343	3.7	0.005	Yes
Extreme (-20°C)		664.0501	696.9343	3.5	0.005	Yes
Extreme (-30°C)		664.0501	696.9343	3.5	0.005	Yes
20°C	15%	664.0501	696.9343	4.1	0.006	Yes
	-15%	664.0501	696.9343	4.4	0.006	Yes
	End Point Voltage	664.0501	696.9343	4.6	0.007	Yes

5G NR n71 BPSK (20MHz BANDWIDTH)

Band	71	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		663	698			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	663.5270	696.3778			
Extreme (50°C)		663.5270	696.3779	2.9	0.004	Yes
Extreme (40°C)		663.5270	696.3779	3.1	0.005	Yes
Extreme (30°C)		663.5270	696.3778	2.1	0.003	Yes
Extreme (10°C)		663.5270	696.3778	2.5	0.004	Yes
Extreme (0°C)		663.5270	696.3778	2.6	0.004	Yes
Extreme (-10°C)		663.5270	696.3778	2.3	0.003	Yes
Extreme (-20°C)		663.5270	696.3778	-5.1	-0.007	Yes
Extreme (-30°C)		663.5270	696.3779	5.7	0.008	Yes
20°C	15%	663.5270	696.3779	3.3	0.005	Yes
	-15%	663.5270	696.3778	2.4	0.004	Yes
	End Point Voltage	663.5270	696.3779	4.1	0.006	Yes

9.4.14. 5G NR n77 (FCC Part 27 3450-3550MHz)

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:	25780	Test Date:	1/24/2023

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3450	3550			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	3451.1256	3547.7228			
Extreme (50°C)		3451.1255	3547.7228	-17.3	-0.005	Yes
Extreme (40°C)		3451.1255	3547.7228	-15.1	-0.004	Yes
Extreme (30°C)		3451.1255	3547.7228	-16.2	-0.005	Yes
Extreme (10°C)		3451.1255	3547.7228	-17.2	-0.005	Yes
Extreme (0°C)		3451.1255	3547.7228	-13.9	-0.004	Yes
Extreme (-10°C)		3451.1255	3547.7228	-16.8	-0.005	Yes
Extreme (-20°C)		3451.1255	3547.7228	-13.8	-0.004	Yes
Extreme (-30°C)		3451.1255	3547.7228	-12.7	-0.004	Yes
20°C	15%	3451.1255	3547.7228	-11.6	-0.003	Yes
	-15%	3451.1255	3547.7228	-13.2	-0.004	Yes
	End Point Voltage	3451.1255	3547.7228	-14.7	-0.004	Yes

9.4.15. 5G NR n77 (FCC Part 27 3700-3980MHz)

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:	25780	Test Date:	1/24/2023

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3700	3980			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	3701.0762	3977.6741			
Extreme (50°C)		3701.0762	3977.6741	-17.9	-0.005	Yes
Extreme (40°C)		3701.0762	3977.6741	-15.1	-0.004	Yes
Extreme (30°C)		3701.0762	3977.6741	-16.1	-0.004	Yes
Extreme (10°C)		3701.0762	3977.6741	-13.7	-0.004	Yes
Extreme (0°C)		3701.0762	3977.6741	-14.8	-0.004	Yes
Extreme (-10°C)		3701.0762	3977.6741	-22.0	-0.006	Yes
Extreme (-20°C)		3701.0762	3977.6741	-17.7	-0.005	Yes
Extreme (-30°C)		3701.0762	3977.6741	-16.5	-0.004	Yes
20°C	15%	3701.0762	3977.6741	-16.8	-0.004	Yes
	-15%	3701.0762	3977.6741	-16.0	-0.004	Yes
	End Point Voltage	3701.0762	3977.6741	-14.9	-0.004	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.

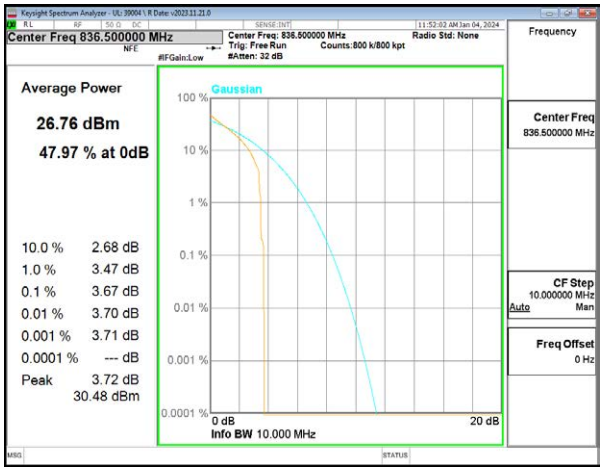
TEST PROCEDURES

- Set resolution/measurement bandwidth ≥ Signal's OBW
- Set the number of counts to a value that stabilizes the measured CCDF curves;

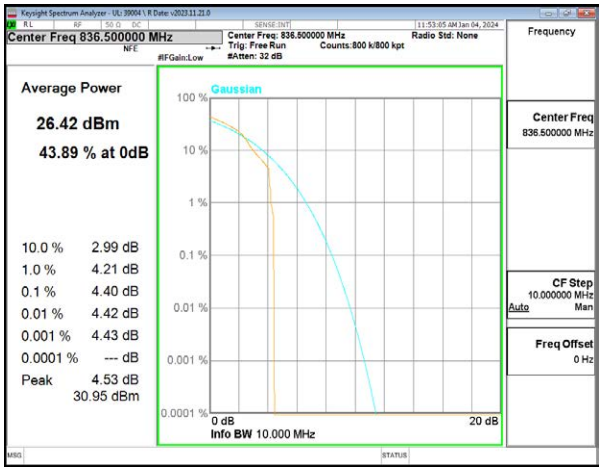
RESULT

The worst-case antenna port for conducted power shown in section 6.5. was used to measure as the worst case; 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 power ratio criteria.

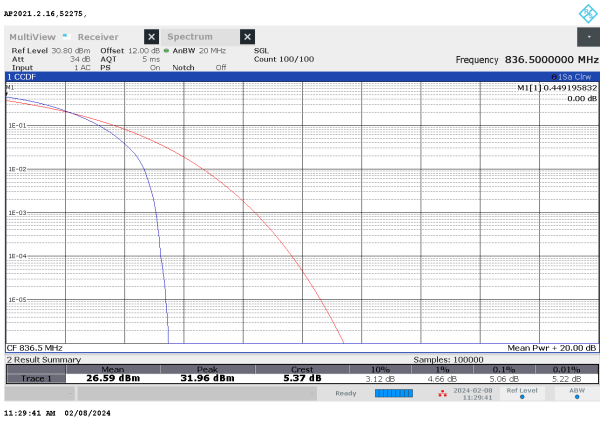
Example Plots: FULL RB



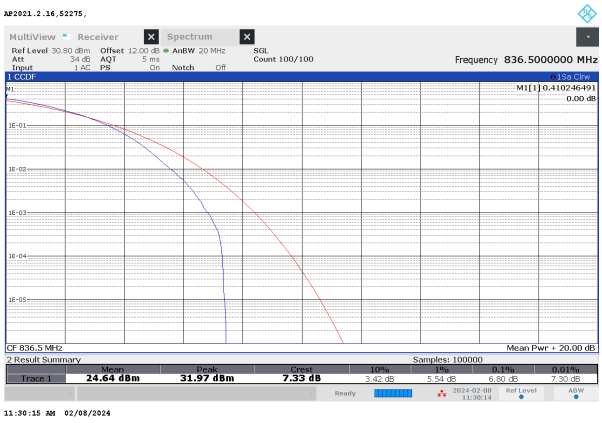
LTE B5 10MHz QPSK Middle Channel



LTE B5 10MHz 16QAM Middle Channel



5G NR n5 20MHz BPSK Middle Channel



5G NR n5 20MHz 16QAM Middle Channel

9.5.1. LTE BAND 7 AND 5G NR n7

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 7	5MHz	2535.0	25	0	QPSK	31.16	27.32	3.84
					16QAM	32.12	27.57	4.55
	10MHz		50	0	QPSK	30.89	27.19	3.70
					16QAM	31.94	27.50	4.44
	15MHz		75	0	QPSK	30.55	27.01	3.54
					16QAM	31.71	27.32	4.39
	20MHz		100	0	QPSK	30.52	26.97	3.55
					16QAM	32.88	27.63	5.25
5G NR Band n7	5MHz		25	0	BPSK	30.49	26.24	4.25
					16QAM	32.05	25.15	6.90
	10MHz		50	0	BPSK	30.69	26.24	4.45
					16QAM	32.00	25.19	6.81
	15MHz		75	0	BPSK	30.77	26.32	4.45
					16QAM	32.09	25.37	6.72
	20MHz		100	0	BPSK	30.68	26.36	4.32
					16QAM	32.08	25.36	6.72
	25MHz		128	0	BPSK	30.41	26.39	4.02
					16QAM	31.93	25.37	6.56
	30MHz		160	0	BPSK	30.43	26.02	4.41
					16QAM	31.63	24.51	7.12
	35MHz		180	0	BPSK	30.04	25.59	4.45
					16QAM	32.00	24.12	7.88
	40MHz		216	0	BPSK	30.59	25.75	4.84
					16QAM	32.15	24.34	7.81
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 12 AND 5G NR n12

Test Engineer ID:	25780	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 12	1.4MHz	705.5	6	0	QPSK	31.32	27.65	3.67
					16QAM	32.03	27.61	4.42
	3MHz		15	0	QPSK	31.38	27.64	3.74
					16QAM	31.97	27.56	4.41
	5MHz		25	0	QPSK	31.29	27.64	3.65
					16QAM	31.99	27.62	4.37
	10MHz		50	0	QPSK	31.28	27.55	3.73
					16QAM	31.98	27.49	4.49
5G NR Band n12	5MHz		25	0	BPSK	30.25	26.05	4.20
					16QAM	31.45	24.68	6.77
	10MHz		50	0	BPSK	30.60	26.1	4.50
					16QAM	31.25	24.55	6.70
	15MHz		75	0	BPSK	38.71	33.27	5.44
					16QAM	31.03	24.28	6.75
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 13

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 13	5MHz	782.0	25	0	QPSK	31.32	27.79	3.53
					16QAM	32.08	27.7	4.38
	10MHz		50	0	QPSK	31.24	27.65	3.59
					16QAM	31.84	27.56	4.28
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.4. LTE BAND 14 AND 5G NR n14

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 14	5MHz	793.0	25	0	QPSK	31.51	27.73	3.78
					16QAM	32.22	27.65	4.57
	10MHz		50	0	QPSK	31.38	27.65	3.73
					16QAM	31.98	27.49	4.49
5G NR Band n14	5MHz		25	0	BPSK	30.26	26.07	4.19
					16QAM	31.45	24.70	6.75
	10MHz		50	0	BPSK	30.44	26.04	4.40
					16QAM	31.43	24.70	6.73
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.5. LTE BAND 17

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 17	5MHz	710.0	25	0	QPSK	31.29	27.72	3.57
					16QAM	31.39	27.36	4.03
	10MHz		50	0	QPSK	31.05	27.60	3.45
					16QAM	31.52	27.43	4.09
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.6. LTE BAND 25 AND 5G NR n25

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 25	1.4MHz	1882.5	6	0	QPSK	30.60	27.13	3.47
					16QAM	31.19	26.98	4.21
	3MHz		15	0	QPSK	30.63	27.08	3.55
					16QAM	31.54	27.04	4.50
	5MHz		25	0	QPSK	30.81	27.19	3.62
					16QAM	31.97	27.16	4.81
	10MHz		50	0	QPSK	30.80	27.10	3.70
					16QAM	31.34	26.95	4.39
	15MHz		75	0	QPSK	30.71	26.92	3.79
					16QAM	31.17	26.82	4.35
	20MHz		100	0	QPSK	30.86	26.90	3.96
					16QAM	32.39	27.10	5.29
5G NR Band n25	5MHz		25	0	BPSK	30.82	25.98	4.84
					16QAM	39.67	31.72	7.95
	10MHz		50	0	BPSK	30.88	26.20	4.68
					16QAM	31.84	24.81	7.03
	15MHz		75	0	BPSK	30.93	26.24	4.69
					16QAM	31.80	24.87	6.93
	20MHz		100	0	BPSK	30.99	26.26	4.73
					16QAM	31.74	24.88	6.86
	25MHz		128	0	BPSK	30.70	26.30	4.40
					16QAM	31.81	24.95	6.86
	30MHz		160	0	BPSK	30.29	25.54	4.75
					16QAM	30.85	23.93	6.92
	35MHz		180	0	BPSK	29.50	24.96	4.54
					16QAM	31.01	22.71	8.30
	40MHz		216	0	BPSK	29.92	24.98	4.94
					16QAM	31.59	23.49	8.10
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.7. LTE BAND 26 AND 5G NR n26 (FCC PART 90S)

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 26 (FCC Part 90S)	1.4MHz	819.0	6	0	QPSK	32.97	27.57	5.40
					16QAM	32.21	27.74	4.47
	3MHz		15	0	QPSK	31.30	27.78	3.52
					16QAM	31.88	27.68	4.20
	5MHz		25	0	QPSK	31.25	27.78	3.47
					16QAM	32.14	27.79	4.35
	10MHz		50	0	QPSK	31.27	27.74	3.53
					16QAM	32.03	27.64	4.39
5G NR Band n26 (FCC Part 90S)	5MHz		25	0	BPSK	30.28	25.92	4.36
					16QAM	31.40	24.59	6.81
	10MHz		50	0	BPSK	30.72	25.97	4.75
					16QAM	31.73	24.59	7.14
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.8. LTE BAND 26 AND 5G NR n26 (FCC PART 22)

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 26 (FCC Part 22)	1.4MHz	836.5	6	0	QPSK	32.30	27.82	4.48
					16QAM	33.05	27.73	5.32
	3MHz		15	0	QPSK	31.28	27.78	3.50
					16QAM	32.21	27.74	4.47
	5MHz		25	0	QPSK	31.49	27.89	3.60
					16QAM	32.16	27.86	4.30
	10MHz		50	0	QPSK	31.33	27.80	3.53
					16QAM	32.13	27.71	4.42
5G NR Band n26 (FCC Part 22)	5MHz		25	0	BPSK	38.27	33.03	5.24
					16QAM	31.39	24.60	6.79
	10MHz		50	0	BPSK	30.64	25.9	4.74
					16QAM	31.31	24.51	6.80
	15MHz		75	0	BPSK	30.76	25.99	4.77
					16QAM	31.57	24.56	7.01
	20MHz		100	0	BPSK	30.82	25.98	4.84
					16QAM	31.81	24.61	7.20
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.9. LTE BAND 30 AND 5G NR N30

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 30	5MHz	2310.0	25	0	QPSK	30.41	26.9	3.51
					16QAM	31.43	26.84	4.59
	10MHz		50	0	QPSK	30.29	26.75	3.54
					16QAM	30.98	26.67	4.31
5G NR Band n30	5MHz		25	0	BPSK	30.88	26.66	4.22
					16QAM	32.13	25.24	6.89
	10MHz		50	0	BPSK	31.27	26.62	4.65
					16QAM	32.24	25.25	6.99
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.10. LTE BAND 41 AND 5G NR n41

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 41	5MHz	2593.0	25	0	QPSK	33.23	29.65	*3.58
					16QAM	34.37	30.01	*4.36
	10MHz		50	0	QPSK	33.20	29.62	*3.58
					16QAM	34.48	29.81	*4.67
	15MHz		75	0	QPSK	33.13	29.46	*3.67
					16QAM	34.11	29.72	*4.39
	20MHz		100	0	QPSK	33.02	29.46	*3.56
					16QAM	35.20	30.02	*5.18
5G NR Band n41	10MHz		24	0	BPSK	32.81	29.25	3.56
					16QAM	33.56	27.8	5.76
	15MHz		36	0	BPSK	33.15	29.44	3.71
					16QAM	33.84	28.08	5.76
	20MHz		50	0	BPSK	32.96	29.48	3.48
					16QAM	33.45	27.69	5.76
	30MHz		75	0	BPSK	34.05	29.69	4.36
					16QAM	35.02	28.07	6.95
	40MHz		100	0	BPSK	33.09	28.53	4.56
					16QAM	34.49	27.03	7.46
	50MHz		128	0	BPSK	33.32	27.28	6.04
					16QAM	33.78	25.29	8.49
	60MHz		162	0	BPSK	32.24	26.24	6.00
					16QAM	32.97	24.44	8.53
	70MHz		180	0	BPSK	31.96	25.91	6.05
					16QAM	33.19	23.98	9.21
	80MHz		216	0	BPSK	31.49	24.9	6.59
					16QAM	31.75	23.23	8.52
	90MHz		243	0	BPSK	31.45	24.63	6.82
					16QAM	32.18	22.76	9.42
	100MHz		270	0	BPSK	32.10	24.74	7.36
					16QAM	32.40	23.18	9.22
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.11. LTE BAND 66 AND 5G NR n66

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 66	1.4MHz	1745.0	6	0	QPSK	30.77	27.30	3.47
					16QAM	31.50	27.19	4.31
	3MHz		15	0	QPSK	30.81	27.28	3.53
					16QAM	31.63	27.23	4.40
	5MHz		25	0	QPSK	30.99	27.36	3.63
					16QAM	31.85	27.37	4.48
	10MHz		50	0	QPSK	30.85	27.32	3.53
					16QAM	31.37	27.20	4.17
	15MHz		75	0	QPSK	30.96	27.14	3.82
					16QAM	31.29	26.89	4.40
	20MHz		100	0	QPSK	30.62	27.06	3.56
					16QAM	32.18	27.10	5.08
5G NR Band n66	5MHz		25	0	BPSK	30.55	26.27	4.28
					16QAM	31.77	24.95	6.82
	10MHz		50	0	BPSK	30.93	26.35	4.58
					16QAM	31.78	24.99	6.79
	15MHz		75	0	BPSK	30.76	26.33	4.43
					16QAM	31.79	24.97	6.82
	20MHz		100	0	BPSK	30.89	26.31	4.58
					16QAM	31.73	24.94	6.79
	25MHz		128	0	BPSK	30.54	26.41	4.13
					16QAM	31.71	25.03	6.68
	30MHz		160	0	BPSK	30.23	25.76	4.47
					16QAM	31.46	24.29	7.17
	35MHz		180	0	BPSK	29.85	25.26	4.59
					16QAM	31.76	23.75	8.01
	40MHz		216	0	BPSK	29.89	25.23	4.66
					16QAM	31.46	23.78	7.68
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.12. 5G NR n70

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
5G NR Band n70	5MHz	1702.5	25	0	BPSK	30.55	26.36	4.19
					16QAM	31.90	25.01	6.89
	10MHz		50	0	BPSK	30.80	26.37	4.43
					16QAM	31.87	25.05	6.82
	15MHz		75	0	BPSK	31.07	26.45	4.62
					16QAM	31.96	25.06	6.90
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.13. LTE BAND 71 AND 5G NR n71

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 71	5MHz	680.5/683	25	0	QPSK	31.12	27.43	3.69
					16QAM	31.99	27.41	4.58
	10MHz		50	0	QPSK	30.89	27.37	3.52
					16QAM	31.60	27.24	4.36
	15MHz		75	0	QPSK	31.06	27.19	3.87
					16QAM	31.41	26.99	4.42
	20MHz		100	0	QPSK	31.01	27.23	3.78
					16QAM	32.23	27.34	4.89
5G NR Band n71	5MHz		24	0	BPSK	30.44	26.04	4.40
					16QAM	31.54	24.52	7.02
	10MHz		36	0	BPSK	29.97	25.8	4.17
					16QAM	31.54	24.52	7.02
	15MHz		50	0	BPSK	30.28	25.86	4.42
					16QAM	31.42	24.49	6.93
	20MHz		75	0	BPSK	30.00	25.9	4.10
					16QAM	31.46	24.51	6.95
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.14. 5G NR n77 (FCC Part 27 3450-3550MHz)

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
5G NR n77 (FCC Part 27 3450-3550MHz)	10MHz	3500.0	24	0	BPSK	33.95	29.7	4.25
					16QAM	34.92	28.09	6.83
	15MHz		36	0	BPSK	33.98	29.72	4.26
					16QAM	34.89	28.13	6.76
	20MHz		50	0	BPSK	33.87	29.71	4.16
					16QAM	35.02	28.28	6.74
	25MHz		64	0	BPSK	33.93	29.77	4.16
					16QAM	35.03	28.25	6.78
	30MHz		75	0	BPSK	33.63	29.24	4.39
					16QAM	34.79	27.7	7.09
	40MHz		100	0	BPSK	32.83	28.27	4.56
					16QAM	34.28	26.75	7.53
	50MHz		128	0	BPSK	32.90	26.98	5.92
					16QAM	33.62	25.11	8.51
	60MHz		162	0	BPSK	31.75	25.96	5.79
					16QAM	33.09	24.53	8.56
	70MHz		180	0	BPSK	32.14	25.38	6.76
					16QAM	32.85	23.88	8.97
	80MHz		216	0	BPSK	31.11	24.56	6.55
					16QAM	32.33	23.09	9.24
	90MHz		243	0	BPSK	31.18	24.12	7.06
					16QAM	32.00	22.53	9.47
	100MHz		270	0	BPSK	31.61	24.94	6.67
					16QAM	32.56	23.39	9.17

9.5.15. 5G NR n77 (FCC Part 27 3700-3980MHz)

Test Engineer ID:	32061	Test Date:	2024-03-12

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
5G NR n77 (FCC Part 27 3700-3980MHz)	10MHz	3840.0	24	0	BPSK	33.76	29.47	4.29
					16QAM	34.82	27.94	6.88
	15MHz		36	0	BPSK	33.96	29.68	4.28
					16QAM	34.86	28.04	6.82
	20MHz		50	0	BPSK	33.79	29.65	4.14
					16QAM	34.86	28.04	6.82
	25MHz		64	0	BPSK	33.71	29.61	4.10
					16QAM	34.99	28.09	6.90
	30MHz		75	0	BPSK	31.80	27.23	4.57
					16QAM	32.59	25.75	6.84
	40MHz		100	0	BPSK	30.57	26.12	4.45
					16QAM	32.14	24.58	7.56
	50MHz		128	0	BPSK	30.64	24.8	5.84
					16QAM	31.35	23.29	8.06
	60MHz		162	0	BPSK	30.14	23.76	6.38
					16QAM	30.71	22.24	8.47
	70MHz		180	0	BPSK	29.14	23.25	5.89
					16QAM	30.29	21.72	8.57
	80MHz		216	0	BPSK	28.58	22.43	6.15
					16QAM	30.54	20.98	9.56
	90MHz		243	0	BPSK	28.42	21.99	6.43
					16QAM	29.54	20.44	9.10
	100MHz		270	0	BPSK	29.85	22.92	6.93
					16QAM	30.71	21.35	9.36
Duty Cycle Correction Factor (dB) =			0.00					
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.

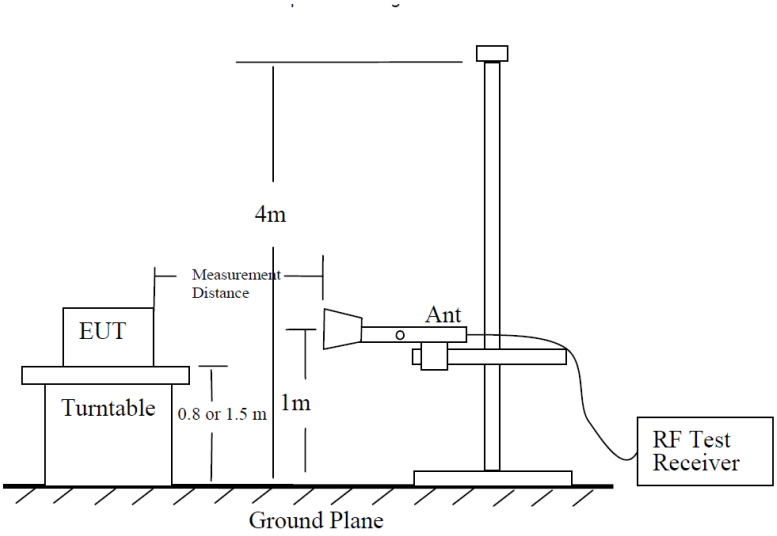


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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.

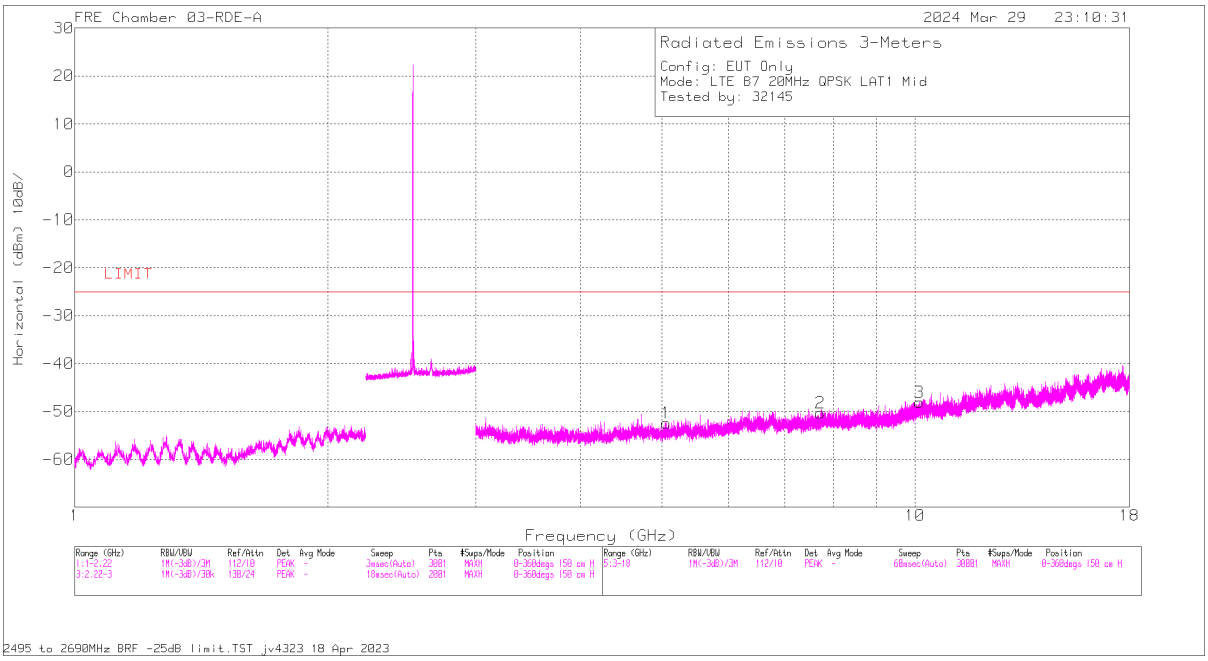
So, from d)

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

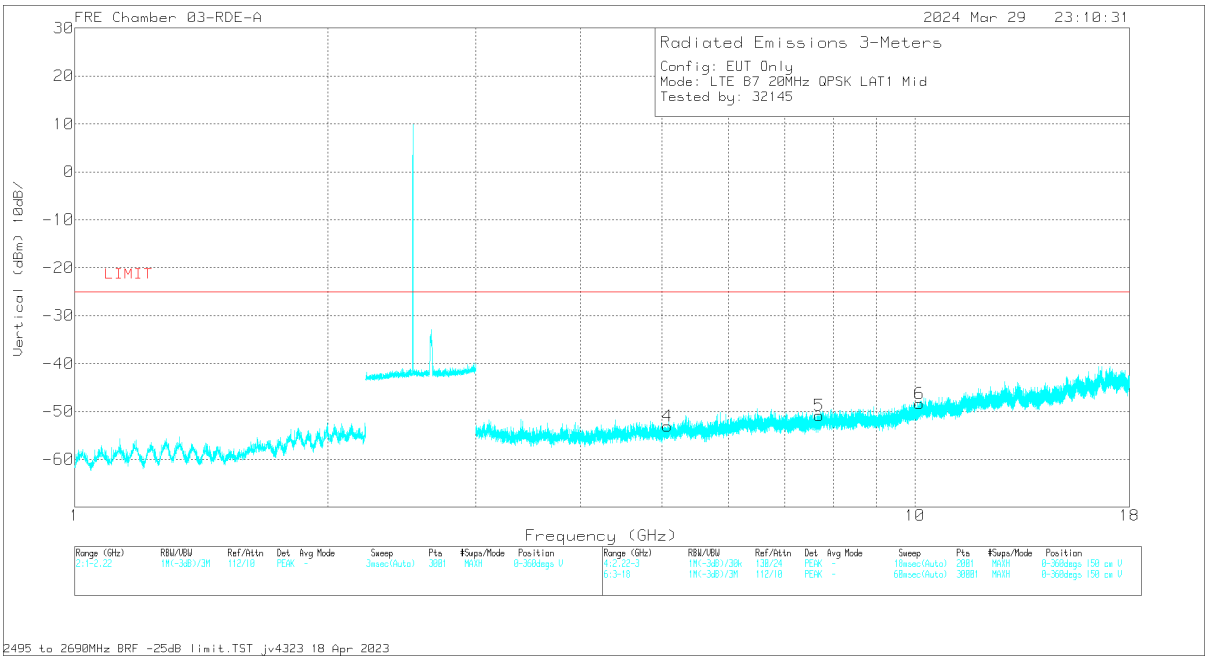
Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

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

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1	5.059000	56.69	Pk	33.9	-95.2	-47.76	-52.37	-25	-27.37	H
4	5.077000	56.13	Pk	33.9	-95.2	-47.87	-53.04	-25	-28.04	V
5	7.687500	54.10	Pk	35.7	-95.2	-45.43	-50.83	-25	-25.83	V
2	7.713500	54.38	Pk	35.8	-95.2	-45.36	-50.38	-25	-25.38	H
3	10.124500	55.59	Pk	37.4	-95.2	-45.83	-48.04	-25	-23.04	H
6	10.129000	55.34	Pk	37.4	-95.2	-45.86	-48.32	-25	-23.32	V

Pk - Peak detector

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT1

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.1.1. LTE BAND 7 AND 5G NR n7

LIMITS

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 BANDWIDTH)

Project #:	14982489

Date:	2024-03-29
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B7 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.010000	56.30	Pk	33.9	-95.2	-47.37	-52.37	-25	-27.37	H
5.013000	55.53	Pk	33.9	-95.2	-47.38	-53.15	-25	-28.15	V
7.496500	53.34	Pk	35.7	-95.2	-45.30	-51.46	-25	-26.46	V
7.506500	55.11	Pk	35.7	-95.2	-45.26	-49.65	-25	-24.65	H
10.057500	55.46	Pk	37.3	-95.2	-45.47	-47.91	-25	-22.91	H
10.066500	54.92	Pk	37.3	-95.2	-45.65	-48.63	-25	-23.63	V
Mid Channel, 2535MHz									
5.059000	56.69	Pk	33.9	-95.2	-47.76	-52.37	-25	-27.37	H
5.077000	56.13	Pk	33.9	-95.2	-47.87	-53.04	-25	-28.04	V
7.687500	54.10	Pk	35.7	-95.2	-45.43	-50.83	-25	-25.83	V
7.713500	54.38	Pk	35.8	-95.2	-45.36	-50.38	-25	-25.38	H
10.124500	55.59	Pk	37.4	-95.2	-45.83	-48.04	-25	-23.04	H
10.129000	55.34	Pk	37.4	-95.2	-45.86	-48.32	-25	-23.32	V
High Channel, 2560MHz									
5.123000	56.97	Pk	34.1	-95.2	-48.04	-52.17	-25	-27.17	V
5.141000	56.40	Pk	34.1	-95.2	-47.88	-52.58	-25	-27.58	H
7.599500	55.58	Pk	35.7	-95.2	-45.95	-49.87	-25	-24.87	V
7.622500	55.13	Pk	35.7	-95.2	-45.90	-50.27	-25	-25.27	H
10.228500	54.91	Pk	37.5	-95.2	-44.68	-47.47	-25	-22.47	V
10.241500	54.65	Pk	37.5	-95.2	-44.50	-47.55	-25	-22.55	H

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-04
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n7 BPSK 40MHz
Chamber #:	02-RDE-E

Frequency (MHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.040000	54.36	Pk	34.0	-95.2	-47.47	-54.31	-25	-29.31	H
7.560000	52.25	Pk	35.7	-95.2	-45.55	-52.80	-25	-27.80	H
5.040000	53.31	Pk	34.0	-95.2	-47.47	-55.36	-25	-30.36	V
7.560000	51.35	Pk	35.7	-95.2	-45.55	-53.70	-25	-28.70	V
10.080500	51.59	Pk	37.4	-95.2	-45.28	-51.49	-25	-26.49	H
10.080500	54.77	Pk	37.4	-95.2	-45.28	-48.31	-25	-23.31	V
Mid Channel, 2535MHz									
5.070000	54.29	Pk	34.1	-95.2	-47.60	-54.41	-25	-29.41	H
7.605500	53.16	Pk	35.8	-95.2	-45.54	-51.78	-25	-26.78	H
10.875000	49.85	Pk	37.8	-95.2	-42.10	-49.65	-25	-24.65	H
5.070000	53.75	Pk	34.1	-95.2	-47.60	-54.95	-25	-29.95	V
7.605500	53.19	Pk	35.8	-95.2	-45.54	-51.75	-25	-26.75	V
10.875000	50.19	Pk	37.8	-95.2	-42.10	-49.31	-25	-24.31	V
High Channel, 2550MHz									
5.100500	54.23	Pk	34.2	-95.2	-47.50	-54.27	-25	-29.27	H
7.651000	51.39	Pk	35.8	-95.2	-45.61	-53.62	-25	-28.62	H
5.100500	55.15	Pk	34.2	-95.2	-47.50	-53.35	-25	-28.35	V
7.651000	53.01	Pk	35.8	-95.2	-45.61	-52.00	-25	-27.00	V
14.499000	50.46	Pk	39.3	-95.2	-42.71	-48.15	-25	-23.15	V
14.501000	50.89	Pk	39.3	-95.2	-42.74	-47.75	-25	-22.75	H

10.1.2. LTE BAND 12 AND 5G NR n12

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.

QPSK LTE BAND 12 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-03-26
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B12 QPSK 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz									
1.4162500	58.98	Pk	28.1	-95.2	-49.16	-57.28	-13	-44.28	V
1.416700	62.00	Pk	28.1	-95.2	-49.16	-54.26	-13	-41.26	H
2.105200	59.14	Pk	31.4	-95.2	-49.67	-54.33	-13	-41.33	H
2.125000	62.32	Pk	31.5	-95.2	-49.94	-51.32	-13	-38.32	V
2.817550	57.03	Pk	32.2	-95.2	-48.32	-54.29	-13	-41.29	V
2.822050	56.63	Pk	32.2	-95.2	-48.16	-54.53	-13	-41.53	H
Mid Channel, 707.5MHz									
1.423000	62.04	Pk	28.0	-95.2	-49.27	-54.43	-13	-41.43	V
1.423900	60.67	Pk	28.0	-95.2	-49.25	-55.78	-13	-42.78	H
2.108350	58.45	Pk	31.4	-95.2	-49.91	-55.26	-13	-42.26	H
2.111500	58.50	Pk	31.4	-95.2	-49.81	-55.11	-13	-42.11	V
2.821600	55.89	Pk	32.2	-95.2	-48.12	-55.23	-13	-42.23	V
2.825200	56.05	Pk	32.2	-95.2	-48.47	-55.42	-13	-42.42	H
High Channel, 711MHz									
1.415350	58.76	Pk	28.1	-95.2	-49.16	-57.50	-13	-44.50	H
1.430875	71.07	Pk	28.0	-95.2	-49.30	-45.43	-13	-32.43	V
2.145700	60.40	Pk	31.5	-95.2	-50.06	-53.36	-13	-40.36	V
2.146600	59.66	Pk	31.5	-95.2	-50.04	-54.08	-13	-41.08	H
2.82925	56.57	Pk	32.2	-95.2	-48.20	-54.63	-13	-41.63	V
2.846800	58.13	Pk	32.2	-95.2	-48.45	-53.32	-13	-40.32	H

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-04
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n12 BPSK 15MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	41112 ACF (dB/m) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz									
1.414000	56.26	Pk	28.6	-95.2	-48.82	-59.16	-13	-46.16	H
2.826550	55.44	Pk	32.3	-95.2	-48.46	-55.92	-13	-42.92	H
1.414000	56.42	Pk	28.6	-95.2	-48.82	-59.00	-13	-46.00	V
2.826550	55.11	Pk	32.3	-95.2	-48.46	-56.25	-13	-43.25	V
2.119600	54.61	Pk	31.7	-95.2	-48.82	-57.71	-13	-44.71	H
2.119600	57.47	Pk	31.7	-95.2	-48.82	-54.85	-13	-41.85	V
Mid Channel, 707.5MHz									
1.415350	55.64	Pk	28.6	-95.2	-48.83	-59.79	-13	-46.79	H
2.830150	54.95	Pk	32.3	-95.2	-48.55	-56.50	-13	-43.50	H
1.415350	55.38	Pk	28.6	-95.2	-48.83	-60.05	-13	-47.05	V
2.829700	56.86	Pk	32.3	-95.2	-48.55	-54.59	-13	-41.59	V
2.122300	54.82	Pk	31.7	-95.2	-48.82	-57.50	-13	-44.50	H
2.122300	56.03	Pk	31.7	-95.2	-48.82	-56.29	-13	-43.29	V
High Channel, 708.5MHz									
1.418050	56.36	Pk	28.6	-95.2	-48.84	-59.08	-13	-46.08	H
2.834200	56.07	Pk	32.3	-95.2	-48.49	-55.32	-13	-42.32	H
1.418050	54.85	Pk	28.6	-95.2	-48.84	-60.59	-13	-47.59	V
2.834200	54.39	Pk	32.3	-95.2	-48.49	-57.00	-13	-44.00	V
2.125450	54.40	Pk	31.7	-95.2	-48.76	-57.86	-13	-44.86	H
2.125450	55.09	Pk	31.7	-95.2	-48.76	-57.17	-13	-44.17	V

10.1.3. LTE BAND 13

LIMITS

FCC: §27.53
(c) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.
(f) Emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

QPSK LTE BAND 13 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-26
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE B13 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB) (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz										
1.579867	40.75	Pk	28.3	.8	-95.2	-27.81	-53.16	-40	-13.16	V
1.581333	40.85	Pk	28.3	.8	-95.2	-27.87	-53.12	-40	-13.12	H
2.351334	38.26	Pk	32.0	.5	-95.2	-26.03	-50.47	-13	-37.47	V
2.352800	38.56	Pk	32.0	.5	-95.2	-26.02	-50.16	-13	-37.16	H
3.118400	37.64	Pk	32.9	.7	-95.2	-25.24	-49.20	-13	-36.20	V
3.125734	38.08	Pk	32.9	.6	-95.2	-25.37	-48.99	-13	-35.99	H

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

10.1.4. LTE BAND 14 AND 5G NR n14

LIMITS

FCC: §90.543 Emission Limitations. (Band 14)
(e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the 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, in accordance with the following:
(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation

QPSK LTE BAND 14 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-26
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE B14 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.585245	40.69	Pk	28.3	.8	-95.2	-27.98	-53.39	-40	-13.39	H
1.589156	41.12	Pk	28.4	.8	-95.2	-27.92	-52.80	-40	-12.80	V
2.374311	38.33	Pk	32.1	.5	-95.2	-25.93	-50.20	-13	-37.20	H
2.376756	39.53	Pk	32.1	.5	-95.2	-25.98	-49.05	-13	-36.05	V
3.107645	38.74	Pk	32.9	.7	-95.2	-25.10	-47.96	-13	-34.96	V
3.178534	37.52	Pk	33.0	.5	-95.2	-25.25	-49.43	-13	-36.43	H

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-28
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n14 BPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.584756	40.41	Pk	28.3	.8	-95.2	-28.00	-53.69	-40	-13.69	V
1.588178	40.24	Pk	28.4	.8	-95.2	-27.82	-53.58	-40	-13.58	H
2.287289	39.07	Pk	31.7	.5	-95.2	-26.43	-50.36	-13	-37.36	H
2.301467	38.72	Pk	31.8	.6	-95.2	-26.25	-50.33	-13	-37.33	V
3.164845	36.87	Pk	33.0	.5	-95.2	-25.40	-50.23	-13	-37.23	H
3.173645	37.36	Pk	33.0	.5	-95.2	-25.24	-49.58	-13	-36.58	V

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

10.1.5. LTE BAND 17

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.

QPSK LTE BAND 17 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-03-28
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B17 QPSK 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB/m) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz									
1.426931	71.76	Pk	28.0	-95.2	-49.27	-44.71	-13	-31.71	V
1.427050	59.33	Pk	28.0	-95.2	-49.27	-57.14	-13	-44.14	H
2.140300	60.72	Pk	31.5	-95.2	-49.87	-52.85	-13	-39.85	H
2.158750	59.32	Pk	31.4	-95.2	-49.90	-54.38	-13	-41.38	V
2.828800	56.64	Pk	32.2	-95.2	-48.21	-54.57	-13	-41.57	H
2.833750	56.56	Pk	32.2	-95.2	-48.57	-55.01	-13	-42.01	V
Mid Channel, 710MHz									
1.415800	58.70	Pk	28.1	-95.2	-49.15	-57.55	-13	-44.55	H
1.428829	71.84	Pk	28.0	-95.2	-49.24	-44.60	-13	-31.60	V
2.143000	59.59	Pk	31.5	-95.2	-49.94	-54.05	-13	-41.05	H
2.143000	60.17	Pk	31.5	-95.2	-49.94	-53.47	-13	-40.47	V
2.828350	56.62	Pk	32.2	-95.2	-48.23	-54.61	-13	-41.61	V
2.839600	56.82	Pk	32.2	-95.2	-48.39	-54.57	-13	-41.57	H
High Channel, 711MHz									
1.421200	58.51	Pk	28.0	-95.2	-49.18	-57.87	-13	-44.87	H
1.430828	69.67	Pk	28.0	-95.2	-49.30	-46.83	-13	-33.83	V
2.146150	61.45	Pk	31.5	-95.2	-50.05	-52.3	-13	-39.30	V
2.147950	59.03	Pk	31.5	-95.2	-49.95	-54.62	-13	-41.62	H
2.836450	57.37	Pk	32.2	-95.2	-48.45	-54.08	-13	-41.08	H
2.863450	57.61	Pk	32.3	-95.2	-48.65	-53.94	-13	-40.94	V

10.1.6. LTE BAND 25 AND 5G NR n25

LIMITS

FCC: §24.238(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-07-31
Test Engineer:	106018
Configuration:	EUT only
Mode	LTE 25 QPSK 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.741563	35.14	Pk	33.1	-95.2	-23.46	-50.42	-13	-37.42	H
3.745781	34.91	Pk	33.1	-95.2	-23.4	-50.59	-13	-37.59	V
5.553281	32.86	Pk	34.5	-95.2	-20.77	-48.61	-13	-35.61	V
5.565938	32.82	Pk	34.5	-95.2	-20.41	-48.29	-13	-35.29	H
7.380469	31.33	Pk	35.6	-95.2	-17.65	-45.92	-13	-32.92	H
7.491094	32.01	Pk	35.7	-95.2	-18.50	-45.99	-13	-32.99	V
Mid Channel, 1882.5MHz									
3.780000	35.34	Pk	33.2	-95.2	-23.8	-50.46	-13	150	V
3.803438	36.39	Pk	33.2	-95.2	-23.9	-49.51	-13	150	H
5.655000	32.58	Pk	34.6	-95.2	-20.4	-48.42	-13	150	V
5.662031	33.36	Pk	34.6	-95.2	-20.6	-47.84	-13	150	H
7.542188	30.71	Pk	35.7	-95.2	-17.6	-46.39	-13	150	H
7.561406	30.39	Pk	35.7	-95.2	-17.5	-46.61	-13	150	V
High Channel, 1905MHz									
3.777188	35.15	Pk	33.2	-95.2	-23.8	-50.65	-13	-37.65	V
3.789375	35.52	Pk	33.2	-95.2	-23.9	-50.38	-13	-37.38	H
5.655938	32.9	Pk	34.6	-95.2	-20.4	-48.10	-13	-35.10	V
5.688281	33.97	Pk	34.6	-95.2	-21	-47.63	-13	-34.63	H
7.627969	30.64	Pk	35.8	-95.2	-16.8	-45.56	-13	-32.56	H
7.644844	30.33	Pk	35.8	-95.2	-17.08	-46.15	-13	-33.15	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-04-04
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n25 BPSK 40MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.700500	53.44	Pk	33.5	-95.2	-45.79	-54.05	-13	-41.05	H
7.401000	52.75	Pk	35.6	-95.2	-45.61	-52.46	-13	-39.46	H
3.700000	52.67	Pk	33.5	-95.2	-45.8	-54.83	-13	-41.83	V
7.405500	52.49	Pk	35.6	-95.2	-45.74	-52.85	-13	-39.85	V
5.500500	54.53	Pk	34.4	-95.2	-46.81	-53.08	-13	-40.08	H
5.500500	51.98	Pk	34.4	-95.2	-46.81	-55.63	-13	-42.63	V
Mid Channel, 1882.5MHz									
3.725500	51.64	Pk	33.3	-95.2	-45.86	-56.12	-13	-43.12	H
3.725500	52.26	Pk	33.3	-95.2	-45.86	-55.50	-13	-42.50	V
7.449500	52.01	Pk	35.6	-95.2	-45.43	-53.02	-13	-40.02	V
7.450000	53.12	Pk	35.6	-95.2	-45.42	-51.90	-13	-38.90	H
5.587000	51.91	Pk	34.5	-95.2	-46.59	-55.38	-13	-42.38	H
5.587000	53.76	Pk	34.5	-95.2	-46.59	-53.53	-13	-40.53	V
High Channel, 1895MHz									
3.791000	51.89	Pk	33.4	-95.2	-45.64	-55.55	-13	-42.55	H
7.580500	51.04	Pk	35.7	-95.2	-45.38	-53.84	-13	-40.84	H
3.791000	52.33	Pk	33.4	-95.2	-45.64	-55.11	-13	-42.11	V
7.580500	52.89	Pk	35.7	-95.2	-45.38	-51.99	-13	-38.99	V
5.685500	52.19	Pk	34.5	-95.2	-46.43	-54.94	-13	-41.94	H
5.685500	52.53	Pk	34.5	-95.2	-46.43	-54.60	-13	-41.60	V

10.1.7. LTE BAND 26 (FCC PART 90S)

LIMITS

FCC: §90.691
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 26 (10.0MHZ BANDWIDTH)

Project #:	149828484
Date:	2024-04-28
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B26 QPSK 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz									
1.646834	70.22	Pk	28.7	-95.2	-49.55	-45.83	-13	-32.83	V
1.646901	66.13	Pk	28.7	-95.2	-49.55	-49.92	-13	-36.92	H
2.454850	59.57	Pk	32.1	-95.2	-49.34	-52.87	-13	-39.87	V
2.470150	60.13	Pk	32.1	-95.2	-49.15	-52.12	-13	-39.12	H
3.264400	55.78	Pk	32.7	-95.2	-46.55	-53.27	-13	-40.27	H
3.281050	54.92	Pk	32.7	-95.2	-46.34	-53.92	-13	-40.92	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	1482484
Date:	2024-03-13
Test Engineer:	19226
Configuration:	EUT only
Mode	5G NR n26 BPSK 10MHz
Chamber #:	04-RDE-R

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz									
1.629087	68.06	Pk	28.5	-95.2	-49.48	-48.12	-13	-35.12	H
1.629207	72.78	Pk	28.5	-95.2	-49.48	-43.40	-13	-30.40	V
2.462500	59.95	Pk	32.1	-95.2	-49.25	-52.40	-13	-39.40	H
2.468800	58.36	Pk	32.1	-95.2	-49.08	-53.82	-13	-40.82	V
3.245500	55.01	Pk	32.7	-95.2	-46.47	-53.96	-13	-40.96	V
3.252700	55.55	Pk	32.7	-95.2	-46.57	-53.52	-13	-40.52	H

10.1.8. LTE BAND 26 AND 5G NR n26 (FCC PART 22)

LIMITS

FCC: §22.917(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 26 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-08-01
Test Engineer:	106018
Configuration:	EUT only
Mode	LTE B26 QPSK 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 829.0MHz										
1.689867	39.99	Pk	29.3	.7	-95.2	-27.39	-52.60	-13	-39.60	H
1.698178	39.50	Pk	29.4	.6	-95.2	-27.62	-53.32	-13	-40.32	V
2.473556	38.97	Pk	32.5	.5	-95.2	-26.14	-49.37	-13	-36.37	H
2.480400	39.30	Pk	32.5	.5	-95.2	-26.10	-49.00	-13	-36.00	V
3.277289	37.78	Pk	33.0	.8	-95.2	-24.73	-48.35	-13	-35.35	H
3.281200	36.88	Pk	33.0	.8	-95.2	-24.80	-49.32	-13	-36.32	V
Mid Channel, 836.5MHz										
1.688400	40.23	Pk	29.3	.7	-95.2	-27.42	-52.39	-13	-39.39	H
1.689867	40.09	Pk	29.3	.7	-95.2	-27.39	-52.50	-13	-39.50	V
2.529778	37.94	Pk	32.5	.8	-95.2	-26.00	-49.96	-13	-36.96	V
2.534667	38.24	Pk	32.5	.7	-95.2	-25.90	-49.66	-13	-36.66	H
3.329600	37.95	Pk	32.8	.6	-95.2	-25.10	-48.95	-13	-35.95	H
3.339378	37.18	Pk	32.8	.5	-95.2	-25.10	-49.82	-13	-36.82	V
High Channel, 844.0MHz										
1.669490	44.06	Pk	29.1	.7	-95.2	-27.65	-48.99	-13	-35.99	H
1.676178	39.39	Pk	29.1	.7	-95.2	-27.5	-53.51	-13	-40.51	V
2.543467	37.89	Pk	32.5	.6	-95.2	-25.8	-50.01	-13	-37.01	V
2.545911	38.50	Pk	32.5	.6	-95.2	-25.9	-49.50	-13	-36.50	H
3.372134	36.78	Pk	32.8	.6	-95.2	-24.91	-49.93	-13	-36.93	H
3.372623	36.46	Pk	32.8	.6	-95.2	-24.96	-50.30	-13	-37.30	V

BPSK 5G NR n26 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-03-28
Test Engineer:	32145
Configuration:	EUT only
Mode	5G NR n25 BPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz									
1.676235	68.07	Pk	29.0	-95.2	-49.60	-47.73	-13	-34.73	H
1.676286	70.86	Pk	29.0	-95.2	-49.60	-44.94	-13	-31.94	V
2.514441	64.14	Pk	32.2	-95.2	-48.51	-47.37	-13	-34.37	H
2.514525	62.63	Pk	32.2	-95.2	-48.51	-48.88	-13	-35.88	V
3.327400	55.16	Pk	32.6	-95.2	-46.85	-54.29	-13	-41.29	H
3.32785	55.83	Pk	32.6	-95.2	-46.88	-53.65	-13	-40.65	V
Mid Channel, 836.5MHz									
1.658800	57.88	Pk	28.8	-95.2	-49.59	-58.11	-13	-45.11	V
1.661950	59.29	Pk	28.8	-95.2	-49.50	-56.61	-13	-43.61	H
2.498950	58.19	Pk	32.2	-95.2	-48.88	-53.69	-13	-40.69	V
2.508850	58.55	Pk	32.2	-95.2	-48.71	-53.16	-13	-40.16	H
3.344950	56.02	Pk	32.6	-95.2	-46.82	-53.40	-13	-40.40	H
3.344950	54.96	Pk	32.6	-95.2	-46.82	-54.46	-13	-41.46	V
Mid Channel, 839.0MHz									
1.696150	62.58	Pk	29.3	-95.2	-49.53	-52.85	-13	-39.85	H
1.696150	62.00	Pk	29.3	-95.2	-49.53	-53.43	-13	-40.43	V
2.544400	60.31	Pk	32.2	-95.2	-48.59	-51.28	-13	-38.28	H
2.544400	58.84	Pk	32.2	-95.2	-48.59	-52.75	-13	-39.75	V
3.373750	56.24	Pk	32.6	-95.2	-47.15	-53.51	-13	-40.51	H
3.389050	56.52	Pk	32.6	-95.2	-47.03	-53.11	-13	-40.11	V

10.1.9. LTE BAND 30 AND 5G NR n30

LIMITS

FCC: §27.53 (a)
For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-19
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B30 QPSK 10MHz
Chamber #:	05-RDE-F

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.633628	45.97	RMS	34.0	-95.2	-48.90	-64.13	-40	-24.13	H
6.921736	44.13	RMS	35.6	-95.2	-46.73	-62.20	-40	-22.20	H
9.235178	43.00	RMS	36.3	-95.2	-45.50	-61.40	-40	-21.40	H
4.637681	45.97	RMS	34.0	-95.2	-48.89	-64.12	-40	-24.12	V
6.914643	44.03	RMS	35.6	-95.2	-46.75	-62.32	-40	-22.32	V
9.268111	43.06	RMS	36.3	-95.2	-45.81	-61.65	-40	-21.65	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-27
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n30 BPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.607813	24.02	RMS	34.0	-95.2	-23.2	-60.38	-40	-20.38	V
4.626563	24.14	RMS	34.0	-95.2	-23.2	-60.26	-40	-20.26	H
6.930469	20.36	RMS	35.7	-95.2	-19.0	-58.14	-40	-18.14	H
6.939844	20.41	RMS	35.7	-95.2	-19.0	-58.09	-40	-18.09	V
9.224531	20.27	RMS	36.1	-95.2	-16.9	-55.73	-40	-15.73	H
9.234375	20.30	RMS	36.1	-95.2	-16.8	-55.60	-40	-15.60	V

10.1.10. LTE BAND 41 AND 5G NR n41

LIMITS

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 BANDWIDTH)

Project #:	14982484
Date:	2024-04-01
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B41 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m(dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz									
5.011500	55.72	Pk	33.9	-95.2	-47.33	-52.91	-25	-27.91	H
7.527500	54.86	Pk	35.7	-95.2	-45.30	-49.94	-25	-24.94	H
4.990000	56.04	Pk	33.9	-95.2	-47.34	-52.60	-25	-27.60	V
7.472500	53.52	Pk	35.7	-95.2	-45.54	-51.52	-25	-26.52	V
10.045000	54.89	Pk	37.3	-95.2	-45.38	-48.39	-25	-23.39	V
10.046000	55.79	Pk	37.3	-95.2	-45.39	-47.50	-25	-22.50	H
Mid Channel, 2593MHz									
5.183500	56.20	Pk	34.1	-95.2	-47.26	-52.16	-25	-27.16	V
5.196250	56.33	Pk	34.1	-95.2	-47.46	-52.23	-25	-27.23	H
7.775500	54.60	Pk	35.8	-95.2	-45.20	-50.00	-25	-25.00	H
7.818000	54.29	Pk	35.8	-95.2	-45.29	-50.40	-25	-25.40	V
10.364000	54.46	Pk	37.5	-95.2	-45.23	-48.47	-25	-23.47	V
10.382000	54.75	Pk	37.6	-95.2	-45.08	-47.93	-25	-22.93	H
High Channel, 2680MHz									
5.376000	54.44	Pk	34.4	-95.2	-47.48	-53.84	-25	-28.84	H
8.039500	51.24	Pk	35.7	-95.2	-44.66	-52.92	-25	-27.92	H
10.717000	51.35	Pk	37.7	-95.2	-44.67	-50.82	-25	-25.82	H
5.376000	52.85	Pk	34.4	-95.2	-47.48	-55.43	-25	-30.43	V
10.706000	51.46	Pk	37.7	-95.2	-44.62	-50.66	-25	-25.66	V
8.022500	52.00	Pk	35.7	-95.2	-44.71	-52.21	-25	-27.21	V

BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-04
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n41 BPSK 100MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF 3m(dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz									
5.186500	53.56	Pk	34.4	-95.2	-47.27	-54.51	-25	-29.51	H
5.188000	53.81	Pk	34.4	-95.2	-47.29	-54.28	-25	-29.28	V
7.778500	52.54	Pk	35.9	-95.2	-45.38	-52.14	-25	-27.14	V
7.779000	51.93	Pk	35.9	-95.2	-45.37	-52.74	-25	-27.74	H
10.372000	51.14	Pk	37.6	-95.2	-44.22	-50.68	-25	-25.68	H
10.372000	52.33	Pk	37.6	-95.2	-44.22	-49.49	-25	-24.49	V
Mid Channel, 2593MHz									
5.186500	53.10	Pk	34.4	-95.2	-47.27	-54.97	-25	-29.97	H
5.186500	52.69	Pk	34.4	-95.2	-47.27	-55.38	-25	-30.38	V
7.779000	52.03	Pk	35.9	-95.2	-45.37	-52.64	-25	-27.64	H
7.779000	51.86	Pk	35.9	-95.2	-45.37	-52.81	-25	-27.81	V
10.373000	51.61	Pk	37.6	-95.2	-44.21	-50.20	-25	-25.20	H
10.373000	52.10	Pk	37.6	-95.2	-44.21	-49.71	-25	-24.71	V
High Channel, 2640MHz									
10.875500	49.85	Pk	37.8	-95.2	-42.10	-49.65	-25	-24.65	H
10.875500	49.14	Pk	37.8	-95.2	-42.10	-50.36	-25	-25.36	V
5.280000	53.48	Pk	34.5	-95.2	-47.13	-54.35	-25	-29.35	V
5.280500	53.81	Pk	34.5	-95.2	-47.14	-54.03	-25	-29.03	H
14.501000	51.56	Pk	39.3	-95.2	-42.74	-47.08	-25	-22.08	H
14.501000	50.71	Pk	39.3	-95.2	-42.74	-47.93	-25	-22.93	V

10.1.11. LTE BAND 66 AND 5G NR n66

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.

QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-03-29
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B66 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m(dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.464000	55.06	Pk	32.6	-95.2	-46.55	-54.09	-13	-41.09	H
3.472500	55.82	Pk	32.7	-95.2	-46.62	-53.30	-13	-40.30	V
5.133147	71.38	Pk	34.1	-95.2	-47.47	-37.19	-13	-24.19	V
5.133227	70.87	Pk	34.1	-95.2	-47.47	-37.70	-13	-24.70	H
6.810000	54.12	Pk	35.6	-95.2	-44.86	-50.34	-13	-37.34	V
6.836000	54.33	Pk	35.6	-95.2	-44.96	-50.23	-13	-37.23	H
Mid Channel, 1745MHz									
3.493000	55.57	Pk	32.7	-95.2	-46.62	-53.55	-13	-40.55	H
3.498500	55.32	Pk	32.8	-95.2	-46.56	-53.64	-13	-40.64	V
5.236000	56.18	Pk	34.2	-95.2	-47.71	-52.53	-13	-39.53	V
5.249000	55.95	Pk	34.3	-95.2	-47.49	-52.44	-13	-39.44	H
6.957500	54.78	Pk	35.7	-95.2	-45.98	-50.70	-13	-37.70	H
6.978000	54.46	Pk	35.7	-95.2	-45.88	-50.92	-13	-37.92	V
High Channel, 1770MHz									
3.555000	55.36	Pk	32.9	-95.2	-46.74	-53.68	-13	-40.68	V
3.568000	56.35	Pk	32.9	-95.2	-46.99	-52.94	-13	-39.94	H
5.306000	55.10	Pk	34.4	-95.2	-47.52	-53.22	-13	-40.22	V
5.325000	56.06	Pk	34.4	-95.2	-47.45	-52.19	-13	-39.19	H
7.068500	54.29	Pk	35.6	-95.2	-45.01	-50.32	-13	-37.32	H
7.077500	53.73	Pk	35.6	-95.2	-44.97	-50.84	-13	-37.84	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-05
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n66 BPSK 40MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807_ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1730MHz									
5.130000	53.04	Pk	34.2	-95.2	-47.23	-55.19	-13	-42.19	H
5.1300000	53.50	Pk	34.2	-95.2	-47.23	-54.73	-13	-41.73	V
3.420500	54.48	Pk	32.8	-95.2	-45.53	-53.45	-13	-40.45	H
3.420500	53.39	Pk	32.8	-95.2	-45.53	-54.54	-13	-41.54	V
6.840500	49.71	Pk	35.6	-95.2	-44.38	-54.27	-13	-41.27	H
6.840500	50.94	Pk	35.6	-95.2	-44.38	-53.04	-13	-40.04	V
Mid Channel, 1745MHz									
3.450500	51.97	Pk	32.8	-95.2	-45.47	-55.90	-13	-42.90	V
3.451000	52.13	Pk	32.8	-95.2	-45.50	-55.77	-13	-42.77	H
5.175000	55.13	Pk	34.3	-95.2	-47.19	-52.96	-13	-39.96	H
5.175000	53.52	Pk	34.3	-95.2	-47.19	-54.57	-13	-41.57	V
6.901000	51.33	Pk	35.7	-95.2	-44.52	-52.69	-13	-39.69	H
6.901000	50.35	Pk	35.7	-95.2	-44.52	-53.67	-13	-40.67	V
High Channel, 1760MHz									
3.480000	52.35	Pk	32.8	-95.2	-45.27	-55.32	-13	-42.32	H
3.480000	52.28	Pk	32.8	-95.2	-45.27	-55.39	-13	-42.39	V
5.220500	55.39	Pk	34.5	-95.2	-47.18	-52.49	-13	-39.49	H
5.220500	53.03	Pk	34.5	-95.2	-47.18	-54.85	-13	-41.85	V
6.960500	51.02	Pk	35.7	-95.2	-44.57	-53.05	-13	-40.05	H
6.960500	51.46	Pk	35.7	-95.2	-44.57	-52.61	-13	-39.61	V

10.1.12. 5G NR n70

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.

BPSK 5G NR n70 (15.0MHZ BANDWIDTH based on 5G NR n70 maximum frequency range)

Project #:	14982484
Date:	2024-04-09
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n70 BPSK 15MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
5.085500	54.65	Pk	34.1	-95.2	-47.32	-53.77	-13	-40.77	H
5.086000	55.68	Pk	34.1	-95.2	-47.32	-52.74	-13	-39.74	V
3.391000	53.19	Pk	32.9	-95.2	-46.01	-55.12	-13	-42.12	H
3.391000	53.59	Pk	32.9	-95.2	-46.01	-54.72	-13	-41.72	V
6.780500	52.08	Pk	35.5	-95.2	-44.23	-51.85	-13	-38.85	H
6.780500	50.93	Pk	35.5	-95.2	-44.23	-53.00	-13	-40.00	V

10.1.13. LTE BAND 71 AND 5G NR n71

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.

QPSK LTE BAND 71 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-3
Test Engineer:	45258
Configuration:	EUT only
Mode	LTE B71 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.317700	59.90	Pk	28.8	-95.2	-49.64	-56.14	-13	-43.14	V
1.328050	62.36	Pk	28.8	-95.2	-49.66	-53.70	-13	-40.700	H
2.067850	58.80	Pk	31.4	-95.2	-49.36	-54.36	-13	-41.36	V
2.084950	57.64	Pk	31.4	-95.2	-49.47	-55.63	-13	-42.63	H
2.667700	58.93	Pk	32.2	-95.2	-49.03	-53.10	-13	-40.10	V
2.679400	58.12	Pk	32.2	-95.2	-49.14	-54.02	-13	-41.02	H
Low Channel, 683MHz									
1.362250	60.29	Pk	28.5	-95.2	-49.35	-55.76	-13	-42.76	V
1.366300	59.28	Pk	28.5	-95.2	-49.32	-56.74	-13	-43.74	H
2.035900	58.04	Pk	31.4	-95.2	-49.5	-55.26	-13	-42.26	V
2.039050	58.25	Pk	31.4	-95.2	-49.42	-54.97	-13	-41.97	H
2.724850	58.92	Pk	32.2	-95.2	-48.54	-52.62	-13	-39.62	V
2.728900	59.09	Pk	32.2	-95.2	-48.19	-52.10	-13	-39.10	H
Low Channel, 688MHz									
1.350550	59.13	Pk	28.6	-95.2	-49.43	-56.90	-13	-43.90	V
1.358650	60.92	Pk	28.6	-95.2	-49.36	-55.04	-13	-42.04	H
2.060200	58.88	Pk	31.4	-95.2	-49.35	-54.27	-13	-41.27	V
2.068750	57.97	Pk	31.4	-95.2	-49.34	-55.17	-13	-42.17	H
2.746900	58.25	Pk	32.2	-95.2	-47.97	-52.72	-13	-39.72	H
2.755450	56.64	Pk	32.2	-95.2	-47.94	-54.30	-13	-41.30	V

BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	149822484
Date:	2024-04-08
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n71 BPSK 20MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m) 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.323550	54.15	Pk	29.0	-95.2	-48.99	-61.04	-13	-48.04	H
1.323550	53.57	Pk	29.0	-95.2	-48.99	-61.62	-13	-48.62	V
1.990450	58.32	Pk	31.1	-95.2	-48.83	-54.61	-13	-41.61	H
1.990450	56.57	Pk	31.1	-95.2	-48.83	-56.36	-13	-43.36	V
2.652850	56.64	Pk	32.2	-95.2	-48.23	-54.59	-13	-41.59	H
2.653300	56.48	Pk	32.2	-95.2	-48.20	-54.72	-13	-41.72	V
Mid Channel, 683MHz									
1.341100	56.92	Pk	28.9	-95.2	-48.98	-58.36	-13	-45.36	H
1.341100	57.19	Pk	28.9	-95.2	-48.98	-58.09	-13	-45.09	V
2.683000	55.64	Pk	32.2	-95.2	-47.93	-55.29	-13	-42.29	H
2.683000	54.52	Pk	32.2	-95.2	-47.93	-56.41	-13	-43.41	V
2.011150	54.88	Pk	31.2	-95.2	-48.84	-57.96	-13	-44.96	V
2.011600	55.83	Pk	31.2	-95.2	-48.85	-57.02	-13	-44.02	H
High Channel, 688MHz									
1.336150	55.09	Pk	28.9	-95.2	-49.01	-60.22	-13	-47.22	H
2.713150	55.04	Pk	32.1	-95.2	-47.69	-55.75	-13	-42.75	H
1.337500	55.20	Pk	28.9	-95.2	-49.01	-60.11	-13	-47.11	V
2.712700	55.26	Pk	32.1	-95.2	-47.69	-55.53	-13	-42.53	V
2.035000	56.68	Pk	31.3	-95.2	-48.95	-56.17	-13	-43.17	H
2.035000	55.97	Pk	31.3	-95.2	-48.95	-56.88	-13	-43.88	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.2.1. LTE BAND 7 AND 5G NR n7

LIMITS

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 BANDWIDTH)

Project #:	14982489
Date:	2024-04-02
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B7 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.011500	56.58	Pk	33.9	-95.2	-47.33	-52.05	-25	-27.05	H
7.538500	54.54	Pk	35.7	-95.2	-45.32	-50.28	-25	-25.28	H
5.046500	56.38	Pk	33.9	-95.2	-47.47	-52.39	-25	-27.39	V
7.535500	54.22	Pk	35.7	-95.2	-45.33	-50.61	-25	-25.61	V
10.041000	54.71	Pk	37.3	-95.2	-45.69	-48.88	-25	-23.88	V
10.044000	54.58	Pk	37.3	-95.2	-45.42	-48.74	-25	-23.74	H
Mid Channel, 2535MHz									
5.051500	56.78	Pk	33.9	-95.2	-47.81	-52.33	-25	-27.33	H
7.617500	54.38	Pk	35.7	-95.2	-45.90	-51.02	-25	-26.02	H
5.056000	56.22	Pk	33.9	-95.2	-47.62	-52.70	-25	-27.70	V
7.583000	54.03	Pk	35.7	-95.2	-45.70	-51.17	-25	-26.17	V
10.147500	54.61	Pk	37.5	-95.2	-45.56	-48.65	-25	-23.65	V
10.152000	55.61	Pk	37.4	-95.2	-45.53	-47.72	-25	-22.72	H
High Channel, 2560MHz									
5.117000	57.03	Pk	34.0	-95.2	-47.93	-52.10	-25	-27.10	H
7.698000	54.69	Pk	35.7	-95.2	-45.43	-50.24	-25	-25.24	H
5.136500	56.12	Pk	34.1	-95.2	-47.72	-52.70	-25	-27.70	V
7.669500	54.06	Pk	35.7	-95.2	-45.55	-50.99	-25	-25.99	V
10.256000	54.43	Pk	37.5	-95.2	-44.58	-47.85	-25	-22.85	H
10.303000	54.52	Pk	37.5	-95.2	-44.63	-47.81	-25	-22.81	V

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-04-08
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n7 BPSK 40MHz
Chamber #:	02-RDE-E

Frequency (MHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.020500	53.13	Pk	34.0	-95.2	-47.36	-55.43	-25	-30.43	H
5.020500	54.37	Pk	34.0	-95.2	-47.36	-54.19	-25	-29.19	V
7.530000	51.60	Pk	35.7	-95.2	-45.56	-53.46	-25	-28.46	H
7.530500	52.69	Pk	35.7	-95.2	-45.57	-52.38	-25	-27.38	V
10.040500	54.12	Pk	37.4	-95.2	-44.97	-48.65	-25	-23.65	H
5.020500	53.13	Pk	34.0	-95.2	-47.36	-55.43	-25	-30.43	H
Mid Channel, 2535MHz									
5.051000	53.75	Pk	34.1	-95.2	-47.67	-55.02	-25	-30.02	H
5.051000	54.11	Pk	34.1	-95.2	-47.67	-54.66	-25	-29.66	V
7.575500	52.41	Pk	35.7	-95.2	-45.59	-52.68	-25	-27.68	H
7.576000	52.07	Pk	35.7	-95.2	-45.59	-53.02	-25	-28.02	V
10.099500	54.29	Pk	37.5	-95.2	-45.03	-48.44	-25	-23.44	V
10.100000	55.60	Pk	37.5	-95.2	-45.09	-47.19	-25	-22.19	H
High Channel, 2550MHz									
5.060000	53.39	Pk	34.1	-95.2	-47.61	-55.32	-25	-30.32	H
7.590500	51.58	Pk	35.8	-95.2	-45.59	-53.41	-25	-28.41	H
5.060000	55.85	Pk	34.1	-95.2	-47.61	-52.86	-25	-27.86	V
7.590500	52.73	Pk	35.8	-95.2	-45.59	-52.26	-25	-27.26	V
10.117000	52.14	Pk	37.5	-95.2	-45.03	-50.59	-25	-25.59	V
10.120000	51.78	Pk	37.5	-95.2	-44.93	-50.85	-25	-25.85	H

10.2.2. LTE BAND 12 AND 5G NR n12

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.

QPSK LTE BAND 12 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-10
Test Engineer:	104996
Configuration:	EUT only
Mode	LTE B12 QPSK 10MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz									
1.395012	60.59	Pk	28.7	-95.2	-49.8	-55.71	-13	-42.71	H
2.791166	60.48	Pk	32.5	-95.2	-49.6	-51.82	-13	-38.82	H
1.392830	62.11	Pk	28.7	-95.2	-49.9	-54.27	-13	-41.27	V
2.794073	60.29	Pk	32.5	-95.2	-49.6	-52.01	-13	-39.01	V
2.092215	60.92	Pk	31.6	-95.2	-50.1	-52.78	-13	-39.78	V
2.094078	61.56	Pk	31.6	-95.2	-50.0	-52.05	-13	-39.05	H
Mid Channel, 707.5MHz									
1.406226	69.28	Pk	28.7	-95.2	-49.8	-47.02	-13	-34.02	V
2.109484	69.25	Pk	31.6	-95.2	-50.1	-44.45	-13	-31.45	H
2.109601	62.29	Pk	31.6	-95.2	-50.1	-51.41	-13	-38.41	V
1.420750	60.02	Pk	28.6	-95.2	-49.7	-56.28	-13	-43.28	H
2.827000	58.70	Pk	32.5	-95.2	-49.4	-53.40	-13	-40.40	H
2.838700	58.95	Pk	32.5	-95.2	-49.2	-52.95	-13	-39.95	V
High Channel, 711MHz									
1.411945	60.02	Pk	28.7	-95.2	-49.8	-56.28	-13	-43.28	H
2.821167	60.75	Pk	32.5	-95.2	-49.4	-51.35	-13	-38.35	H
1.414871	69.90	Pk	28.6	-95.2	-49.7	-46.41	-13	-33.41	V
2.819942	60.34	Pk	32.5	-95.2	-49.4	-51.77	-13	-38.77	V
2.113584	61.62	Pk	31.7	-95.2	-50.1	-51.98	-13	-38.98	H
2.118252	62.28	Pk	31.7	-95.2	-50.1	-51.32	-13	-38.32	V

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n12 BPSK 15MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz									
1.398700	58.64	Pk	28.7	-95.2	-48.86	-56.72	-13	-43.72	H
2.796850	54.03	Pk	32.2	-95.2	-48.15	-57.12	-13	-44.12	H
1.398700	57.07	Pk	28.7	-95.2	-48.86	-58.29	-13	-45.29	V
2.796850	54.77	Pk	32.2	-95.2	-48.15	-56.38	-13	-43.38	V
2.097100	56.75	Pk	31.7	-95.2	-48.91	-55.66	-13	-42.66	H
2.097100	57.18	Pk	31.7	-95.2	-48.91	-55.23	-13	-42.23	V
Mid Channel, 707.5MHz									
1.400050	56.89	Pk	28.7	-95.2	-48.86	-58.47	-13	-45.47	H
2.800450	55.75	Pk	32.2	-95.2	-48.30	-55.55	-13	-42.55	H
1.400050	56.93	Pk	28.7	-95.2	-48.86	-58.43	-13	-45.43	V
2.800450	54.85	Pk	32.2	-95.2	-48.30	-56.45	-13	-43.45	V
2.100700	57.28	Pk	31.7	-95.2	-48.92	-55.14	-13	-42.14	H
2.100700	56.93	Pk	31.7	-95.2	-48.92	-55.49	-13	-42.49	V
High Channel, 708.5MHz									
1.402750	56.38	Pk	28.7	-95.2	-48.91	-59.03	-13	-46.03	H
2.804500	53.65	Pk	32.2	-95.2	-48.33	-57.68	-13	-44.68	H
1.402300	56.36	Pk	28.7	-95.2	-48.90	-59.04	-13	-46.04	V
2.805850	55.62	Pk	32.2	-95.2	-48.32	-55.70	-13	-42.70	V
2.101600	56.36	Pk	31.7	-95.2	-48.94	-56.08	-13	-43.08	V
2.102950	56.83	Pk	31.7	-95.2	-48.94	-55.61	-13	-42.61	H

10.2.3. LTE BAND 13

LIMITS

FCC: §27.53
(c) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.
(f) Emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

QPSK LTE BAND 13 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-26
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE B13 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz										
1.581333	41.10	Pk	28.3	.8	-95.2	-27.87	-52.87	-40	-12.87	H
1.587200	41.96	Pk	28.3	.8	-95.2	-27.80	-51.94	-40	-11.94	V
2.350356	38.68	Pk	32.0	.5	-95.2	-26.06	-50.08	-13	-37.08	H
2.350845	38.59	Pk	32.0	.5	-95.2	-26.02	-50.13	-13	-37.13	V
3.117423	37.53	Pk	32.9	.7	-95.2	-25.20	-49.27	-13	-36.27	V
3.123778	37.57	Pk	32.9	.6	-95.2	-25.30	-49.43	-13	-36.43	H

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

10.2.4. LTE BAND 14 AND 5G NR n14

LIMITS

FCC: §90.543 Emission Limitations. (Band 14)
(e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the 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, in accordance with the following:
(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation

QPSK LTE BAND 14 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-26
Test Engineer:	25369
Configuration:	EUT only
Mode	LTE B14 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.584756	41.45	Pk	28.3	.8	-95.2	-28.00	-52.65	-40	-12.65	H
1.589645	40.98	Pk	28.4	.8	-95.2	-27.96	-52.98	-40	-12.98	V
2.386045	39.26	Pk	32.2	.5	-95.2	-26.10	-49.34	-13	-36.34	H
2.388978	39.35	Pk	32.2	.5	-95.2	-26.10	-49.25	-13	-36.25	V
3.174623	36.95	Pk	33.0	.5	-95.2	-25.20	-49.95	-13	-36.95	H
3.176578	37.75	Pk	33.0	.5	-95.2	-25.30	-49.25	-13	-36.25	V

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-28
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n14 BPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.588667	41.13	Pk	28.4	.8	-95.2	-27.87	-52.74	-40	-12.74	V
1.596000	40.95	Pk	28.4	.8	-95.2	-27.80	-52.85	-40	-12.85	H
2.365022	38.35	Pk	32.1	.5	-95.2	-26.00	-50.25	-13	-37.25	H
2.366978	37.92	Pk	32.1	.5	-95.2	-25.90	-50.58	-13	-37.58	V
3.190267	36.51	Pk	33.0	.6	-95.2	-25.03	-50.12	-13	-37.12	H
3.201512	37.56	Pk	33.0	.5	-95.2	-25.00	-49.14	-13	-36.14	V

Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

10.2.5. LTE BAND 17

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.

QPSK LTE BAND 17 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-10
Test Engineer:	104996
Configuration:	EUT only
Mode	LTE B17 QPSK 10MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz									
1.399586	59.77	Pk	28.7	-95.2	-49.8	-56.53	-13	-43.53	H
2.805103	60.01	Pk	32.5	-95.2	-49.5	-52.19	-13	-39.19	H
1.397278	60.74	Pk	28.7	-95.2	-49.8	-55.56	-13	-42.56	V

2.801494	60.05	Pk	32.5	-95.2	-49.6	-52.25	-13	-39.25	V
2.105521	61.70	Pk	31.6	-95.2	-50.1	-52.00	-13	-39.00	V
2.105680	61.70	Pk	31.6	-95.2	-50.1	-52.00	-13	-39.00	H
Mid Channel, 710MHz									
1.402507	59.55	Pk	28.7	-95.2	-49.85	-56.8	-13	-43.8	H
2.807840	59.84	Pk	32.5	-95.2	-49.5	-52.36	-13	-39.36	H
1.402001	60.23	Pk	28.7	-95.2	-49.9	-56.17	-13	-43.17	V
2.807602	60.86	Pk	32.5	-95.2	-49.5	-51.34	-13	-38.34	V
2.107875	61.69	Pk	31.6	-95.2	-50.1	-52.01	-13	-39.01	V
2.107895	61.69	Pk	31.6	-95.2	-50.1	-52.01	-13	-39.01	H
High Channel, 711MHz									
1.414935	66.61	Pk	28.6	-95.2	-49.71	-49.70	-13	-36.70	H
2.809573	60.44	Pk	32.5	-95.2	-49.56	-51.82	-13	-38.82	H
1.413560	69.25	Pk	28.6	-95.2	-49.8	-47.15	-13	-34.15	V
2.811294	59.78	Pk	32.5	-95.2	-49.5	-52.42	-13	-39.42	V
2.104630	61.39	Pk	31.6	-95.2	-50.1	-52.31	-13	-39.31	V
2.109808	61.85	Pk	31.6	-95.2	-50.1	-51.85	-13	-38.85	H

10.2.6. LTE BAND 25 AND 5G NR n25

LIMITS

FCC: §24.238(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-04-03
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B25 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.725500	55.81	Pk	33.1	-95.2	-47.02	-53.31	-13	-40.31	H
7.445000	54.71	Pk	35.7	-95.2	-45.91	-50.70	-13	-37.70	H
3.705500	55.72	Pk	33.0	-95.2	-47.15	-53.63	-13	-40.63	V
7.450500	54.26	Pk	35.7	-95.2	-45.82	-51.06	-13	-38.06	V
5.533000	55.36	Pk	34.4	-95.2	-47.07	-52.51	-13	-39.51	V
5.563500	55.44	Pk	34.3	-95.2	-46.95	-52.41	-13	-39.41	H
Mid Channel, 1882.5MHz									
3.777500	56.55	Pk	33.6	-95.2	-47.9	-52.95	-13	-39.95	H
7.534000	56.16	Pk	36	-95.2	-47.9	-50.94	-13	-37.94	H
3.761000	55.54	Pk	33.6	-95.2	-47.8	-53.86	-13	-40.86	V
7.570000	55.57	Pk	36	-95.2	-47.5	-51.13	-13	-38.13	V
5.637000	55.84	Pk	34.4	-95.2	-48.4	-53.36	-13	-40.36	V
5.638500	57.76	Pk	34.4	-95.2	-48.35	-51.39	-13	-38.39	H
High Channel, 1905MHz									
3.809000	56.83	Pk	33.6	-95.2	-47.9	-52.67	-13	-39.67	H
7.609000	56.46	Pk	35.9	-95.2	-47.1	-49.94	-13	-36.94	H
3.817500	56.91	Pk	33.6	-95.2	-47.9	-52.54	-13	-39.54	V
7.609000	55.00	Pk	35.9	-95.2	-47.1	-51.40	-13	-38.40	V
5.688181	69.90	Pk	34.4	-95.2	-48.2	-39.10	-13	-26.10	H
5.688214	63.00	Pk	34.4	-95.2	-48.2	-46.00	-13	-33.00	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-09
Test Engineer:	32545
Configuration:	EUT only

Mode	5G NR n25 BPSK 40MHz
Chamber #:	04-RDE-R

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.700000	52.93	Pk	33.5	-95.2	-45.8	-54.57	-13	-41.57	H
7.400500	51.61	Pk	35.6	-95.2	-45.6	-53.59	-13	-40.59	H
3.700000	53.51	Pk	33.5	-95.2	-45.8	-53.99	-13	-40.99	V
7.400500	50.99	Pk	35.6	-95.2	-45.6	-54.21	-13	-41.21	V
5.550500	52.48	Pk	34.4	-95.2	-46.5	-54.85	-13	-41.85	H
5.550500	53.72	Pk	34.4	-95.2	-46.5	-53.61	-13	-40.61	V
Mid Channel, 1882.5MHz									
3.725500	52.66	Pk	33.3	-95.2	-45.86	-55.10	-13	-42.10	H
7.450000	51.28	Pk	35.6	-95.2	-45.42	-53.74	-13	-40.74	H
3.725500	52.34	Pk	33.3	-95.2	-45.86	-55.42	-13	-42.42	V
7.449500	52.25	Pk	35.6	-95.2	-45.43	-52.78	-13	-39.78	V
5.587500	55.41	Pk	34.5	-95.2	-46.59	-51.88	-13	-38.88	H
5.588000	52.70	Pk	34.5	-95.2	-46.58	-54.58	-13	-41.58	V
High Channel, 1895MHz									
3.751000	52.32	Pk	33.3	-95.2	-45.73	-55.31	-13	-42.31	H
7.500500	51.55	Pk	35.7	-95.2	-45.18	-53.13	-13	-40.13	H
3.751000	51.87	Pk	33.3	-95.2	-45.73	-55.76	-13	-42.76	V
7.501500	52.17	Pk	35.7	-95.2	-45.19	-52.52	-13	-39.52	V
5.625000	53.14	Pk	34.5	-95.2	-46.47	-54.03	-13	-41.03	V
5.626000	52.79	Pk	34.5	-95.2	-46.48	-54.39	-13	-41.39	H

10.2.7. LTE BAND 26 (FCC PART 90S)

LIMITS

FCC: §90.691
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 26 (10.0MHZ BANDWIDTH)

Project #:	149828484
Date:	2024-07-12
Test Engineer:	106018
Configuration:	EUT only
Mode	LTE B26 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.630711	40.05	Pk	28.7	.7	-95.2	-27.7	-53.5	-13	-40.45	V
1.636578	38.80	Pk	28.8	.7	-95.2	-27.8	-54.7	-13	-41.70	H
2.439823	37.59	Pk	32.4	.5	-95.2	-26.1	-50.81	-13	-37.81	V
2.445689	37.90	Pk	32.4	.5	-95.2	-26.2	-50.6	-13	-37.60	H
3.273378	36.02	Pk	33.0	.7	-95.2	-24.9	-50.34	-13	-37.34	H
3.277778	36.43	Pk	33.0	.8	-95.2	-24.8	-49.75	-13	-36.75	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	1482484
Date:	2024-03-15
Test Engineer:	25369
Configuration:	EUT only
Mode	5G NR n25 BPSK 10MHz
Chamber #:	04-RDE-R

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.648311	39.24	Pk	28.9	.7	-95.2	-27.83	-54.19	-13	-41.19	V
1.658578	39.05	Pk	29	.8	-95.2	-27.74	-54.09	-13	-41.09	H
2.488223	37.89	Pk	32.5	.5	-95.2	-26.1	-50.41	-13	-37.41	V
2.498978	38.14	Pk	32.5	.6	-95.2	-26.2	-50.16	-13	-37.16	H
3.296845	35.9	Pk	33	.8	-95.2	-24.9	-50.4	-13	-37.4	H
3.311512	36.51	Pk	32.9	.6	-95.2	-25.1	-50.29	-13	-37.29	V

10.2.8. LTE BAND 26 AND 5G NR n26 (FCC PART 22)

LIMITS

FCC: §22.917(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 26 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-06
Test Engineer:	106018
Configuration:	EUT only
Mode	LTE B25 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz (dB)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 829.0MHz										
1.662978	39.47	Pk	29.0	.8	-95.2	-27.80	-53.73	-13	-40.73	H
1.666400	39.76	Pk	29.0	.7	-95.2	-27.66	-53.40	-13	-40.40	V
2.474357	48.20	Pk	32.5	.5	-95.2	-26.10	-40.10	-13	-27.10	H
2.484800	38.18	Pk	32.5	.5	-95.2	-26.08	-50.10	-13	-37.10	V
3.321289	35.92	Pk	32.9	.6	-95.2	-25.00	-50.78	-13	-37.78	V
3.326667	36.85	Pk	32.8	.6	-95.2	-25.00	-49.95	-13	-36.95	H
Mid Channel, 836.5MHz										
1.663467	39.08	Pk	29.0	.8	-95.2	-27.80	-54.12	-13	-41.12	V
1.679111	38.59	Pk	29.2	.7	-95.2	-27.59	-54.30	-13	-41.30	H
2.489274	48.13	Pk	32.5	.6	-95.2	-26.10	-40.07	-13	-27.07	H
2.489391	47.88	Pk	32.5	.6	-95.2	-26.10	-40.32	-13	-27.32	V
3.355023	34.64	Pk	32.8	.6	-95.2	-25.00	-52.16	-13	-39.16	H
3.356978	35.17	Pk	32.8	.6	-95.2	-24.90	-51.53	-13	-38.53	V
High Channel, 844.0MHz										
1.687422	39.35	Pk	29.2	.7	-95.2	-27.5	-53.45	-13	-40.45	V
1.723890	40.75	Pk	29.6	.7	-95.2	-27.5	-51.65	-13	-38.65	H
2.504511	47.54	Pk	32.5	.7	-95.2	-26.2	-40.66	-13	-27.66	H
2.504560	49.18	Pk	32.5	.7	-95.2	-26.2	-39.02	-13	-26.02	V
3.353556	36.40	Pk	32.8	.6	-95.2	-25.1	-50.50	-13	-37.50	H
3.366267	36.71	Pk	32.8	.6	-95.2	-25.0	-50.12	-13	-37.12	V

BPSK 5G NR n26 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-12
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n26 BPSK 40MHz
Chamber #:	04-RDE-R

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz									
1.648000	55.69	Pk	28.4	-95.2	-49.02	-60.13	-13	-47.13	V
1.648450	56.06	Pk	28.4	-95.2	-49.02	-59.76	-13	-46.76	H
2.472400	54.00	Pk	32.3	-95.2	-48.37	-57.27	-13	-44.27	H
2.472400	54.44	Pk	32.3	-95.2	-48.37	-56.83	-13	-43.83	V
3.296350	51.43	Pk	32.8	-95.2	-46.21	-57.18	-13	-44.18	H
3.296350	51.69	Pk	32.8	-95.2	-46.21	-56.92	-13	-43.92	V
Mid Channel, 836.5MHz									
3.266200	52.13	Pk	32.9	-95.2	-46.08	-56.25	-13	-43.25	H
3.266200	51.23	Pk	32.9	-95.2	-46.08	-57.15	-13	-44.15	V
1.633600	55.61	Pk	28.3	-95.2	-48.96	-60.25	-13	-47.25	H
1.633600	57.05	Pk	28.3	-95.2	-48.96	-58.81	-13	-45.81	V
2.449000	54.50	Pk	32.4	-95.2	-48.08	-56.38	-13	-43.38	H
2.449000	56.10	Pk	32.4	-95.2	-48.08	-54.78	-13	-41.78	V
Mid Channel, 839.0MHz									
2.484550	55.13	Pk	32.3	-95.2	-48.26	-56.03	-13	-43.03	H
1.658800	58.40	Pk	28.5	-95.2	-48.99	-57.29	-13	-44.29	H
1.658800	55.73	Pk	28.5	-95.2	-48.99	-59.96	-13	-46.96	V
2.483200	55.35	Pk	32.3	-95.2	-48.24	-55.79	-13	-42.79	V
3.316600	52.10	Pk	32.8	-95.2	-46.43	-56.73	-13	-43.73	H
3.317050	51.86	Pk	32.8	-95.2	-46.43	-56.97	-13	-43.97	V

10.2.9. LTE BAND 30 AND 5G NR n30

LIMITS

FCC: §27.53 (a)
For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-07-12
Test Engineer:	106018
Configuration:	EUT only
Mode	LTE B30 QPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.621875	23.19	RMS	34.0	-95.2	-23.29	-61.30	-40	-21.30	H
6.916644	24.54	RMS	35.6	-95.2	-19.16	-54.22	-40	-14.22	H
9.240469	19.38	RMS	36.1	-95.2	-16.7	-56.42	-40	-16.42	H
4.622344	22.90	RMS	34,0	-95.2	-23.27	-61.57	-40	-21.57	V
6.916575	22.06	RMS	35.6	-95.2	-19.16	-56.70	-40	-16.70	V
9.239063	19.33	RMS	36.1	-95.2	-16.79	-56.56	-40	-16.56	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-07-19
Test Engineer:	32145
Configuration:	EUT only
Mode	5G NR n30 BPSK 10MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.626094	26.98	RMS	34.1	-95.2	-28.69	-62.81	-40	-22.81	V
4.631719	26.80	RMS	34.1	-95.2	-28.70	-63.00	-40	-23.00	H
6.967500	24.75	RMS	35.6	-95.2	-26.40	-61.25	-40	-21.25	V
6.973125	24.68	RMS	35.6	-95.2	-26.50	-61.42	-40	-21.42	H
9.209063	22.65	RMS	36.3	-95.2	-23.50	-59.75	-40	-19.75	V
9.211406	22.64	RMS	36.3	-95.2	-23.54	-59.80	-40	-19.80	H

10.2.10. LTE BAND 41 AND 5G NR n41

LIMITS

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 BANDWIDTH)

Project #:	14982484
Date:	2024-04-02
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE 41 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz									
5.000500	56.39	Pk	33.9	-95.2	-47.34	-52.25	-25	-27.25	H
7.530000	54.25	Pk	35.7	-95.2	-45.29	-50.54	-25	-25.54	H
5.012500	55.62	Pk	33.9	-95.2	-47.36	-53.04	-25	-28.04	V
7.537000	54.04	Pk	35.7	-95.2	-45.34	-50.80	-25	-25.80	V
10.013500	54.39	Pk	37.3	-95.2	-45.76	-49.27	-25	-24.27	V
10.014000	54.85	Pk	37.3	-95.2	-45.75	-48.80	-25	-23.80	H
Mid Channel, 2593MHz									
5.150500	56.69	Pk	34.1	-95.2	-47.73	-52.14	-25	-27.14	V
5.171000	56.65	Pk	34.1	-95.2	-47.47	-51.92	-25	-26.92	H
7.769000	54.17	Pk	35.8	-95.2	-45.14	-50.37	-25	-25.37	H
7.775000	54.08	Pk	35.8	-95.2	-45.18	-50.50	-25	-25.50	V
10.366500	54.17	Pk	37.5	-95.2	-45.11	-48.64	-25	-23.64	V
10.399500	54.56	Pk	37.6	-95.2	-45.14	-48.18	-25	-23.18	H
High Channel, 2680MHz									
5.351000	56.07	Pk	34.4	-95.2	-47.38	-52.11	-25	-27.11	H
8.067000	57.01	Pk	35.7	-95.2	-44.99	-47.48	-25	-22.48	H
10.699000	54.53	Pk	37.7	-95.2	-44.70	-47.67	-25	-22.67	H
5.360000	55.83	Pk	34.4	-95.2	-47.38	-52.35	-25	-27.35	V
8.066500	54.26	Pk	35.7	-95.2	-44.99	-50.23	-25	-25.23	V
10.683500	53.76	Pk	37.7	-95.2	-44.83	-48.57	-25	-23.57	V

BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-12
Test Engineer:	32545
Configuration:	EUT only
Mode	N41 BPSK 100MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz									
5.086000	53.00	Pk	34.1	-95.2	-47.55	-55.65	-25	-30.65	H
7.628000	52.52	Pk	35.8	-95.2	-45.60	-52.48	-25	-27.48	H
5.086000	52.02	Pk	34.1	-95.2	-47.55	-56.63	-25	-31.63	V
7.628500	52.22	Pk	35.8	-95.2	-45.62	-52.80	-25	-27.80	V
10.172000	53.46	Pk	37.5	-95.2	-44.97	-49.21	-25	-24.21	H
10.172000	53.61	Pk	37.5	-95.2	-44.97	-49.06	-25	-24.06	V
Mid Channel, 2593MHz									
5.181000	52.61	Pk	34.4	-95.2	-47.26	-55.45	-25	-30.45	H
5.181000	53.69	Pk	34.4	-95.2	-47.26	-54.37	-25	-29.37	V
7.770500	51.96	Pk	35.9	-95.2	-45.31	-52.65	-25	-27.65	H
7.771000	53.01	Pk	35.9	-95.2	-45.33	-51.62	-25	-26.62	V
10.361000	53.47	Pk	37.6	-95.2	-44.03	-48.16	-25	-23.16	H
10.361000	51.87	Pk	37.6	-95.2	-44.03	-49.76	-25	-24.76	V
High Channel, 2640MHz									
4.992500	53.21	Pk	34.0	-95.2	-47.39	-55.38	-25	-30.38	H
7.488000	52.00	Pk	35.7	-95.2	-45.99	-53.49	-25	-28.49	H
4.993000	53.07	Pk	34.0	-95.2	-47.41	-55.54	-25	-30.54	V
7.488000	53.13	Pk	35.7	-95.2	-45.99	-52.36	-25	-27.36	V
9.985000	52.05	Pk	37.2	-95.2	-45.35	-51.30	-25	-26.30	H
9.985000	54.98	Pk	37.2	-95.2	-45.35	-48.37	-25	-23.37	V

10.2.11. LTE BAND 66 AND 5G NR n66

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.

QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-07-18
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE 66 QPSK 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.427031	41.56	Pk	32.8	-95.2	-33.00	-53.84	-13	-40.84	V
3.430313	40.78	Pk	32.8	-95.2	-33.10	-54.72	-13	-41.72	H
5.123906	39.80	Pk	34.1	-95.2	-30.09	-51.39	-13	-38.39	H
5.149219	38.75	Pk	34.2	-95.2	-29.70	-51.95	-13	-38.95	V
6.858281	35.80	Pk	35.6	-95.2	-26.83	-50.63	-13	-37.63	H
6.885469	35.68	Pk	35.6	-95.2	-26.70	-50.62	-13	-37.62	V
Mid Channel, 1745MHz									
3.463594	41.09	Pk	32.9	-95.2	-33.04	-54.25	-13	-41.25	V
3.479531	41.57	Pk	32.9	-95.2	-33.00	-53.73	-13	-40.73	H
5.327344	38.67	Pk	34.5	-95.2	-30.23	-52.26	-13	-39.26	H
5.351719	39.31	Pk	34.5	-95.2	-30.30	-51.69	-13	-38.69	V
6.967969	35.88	Pk	35.6	-95.2	-26.40	-50.12	-13	-37.12	H
6.982500	34.47	Pk	35.6	-95.2	-26.50	-51.63	-13	-38.63	V
High Channel, 1770MHz									
3.510000	41.46	Pk	33.0	-95.2	-33.00	-53.74	-13	-40.74	H
3.511406	40.67	Pk	33.0	-95.2	-33.00	-54.53	-13	-41.53	V
5.295000	37.70	Pk	34.4	-95.2	-29.40	-52.50	-13	-39.50	V
5.321250	39.38	Pk	34.5	-95.2	-29.93	-51.25	-13	-38.25	H
7.054688	35.73	Pk	35.6	-95.2	-26.80	-50.67	-13	-37.67	V
7.060781	36.27	Pk	35.6	-95.2	-26.80	-50.13	-13	-37.13	H

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-07-09
Test Engineer:	106018
Configuration:	EUT only
Mode	N66 BPSK 40MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886_ACF (dB/m) - 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.487500	35.36	Pk	32.8	-95.2	-24.40	-51.44	-13	-38.44	V
3.494063	36.01	Pk	32.8	-95.2	-24.30	-50.69	-13	-37.69	H
5.132407	37.83	Pk	34.2	-95.2	-21.56	-44.73	-13	-31.73	V
5.132599	37.28	Pk	34.2	-95.2	-21.54	-45.26	-13	-32.26	H
6.901875	32.27	Pk	35.6	-95.2	-19.29	-46.62	-13	-33.62	H
6.931875	30.97	Pk	35.7	-95.2	-19.00	-47.53	-13	-34.53	V
Mid Channel, 1745MHz									
3.491719	35.66	Pk	32.8	-95.2	-24.30	-51.04	-13	-38.04	V
3.525938	35.93	Pk	32.9	-95.2	-24.01	-50.38	-13	-37.38	H
5.280938	33.79	Pk	34.3	-95.2	-21.51	-48.62	-13	-35.62	H
5.281406	33.09	Pk	34.3	-95.2	-21.54	-49.35	-13	-36.35	V
6.984375	30.44	Pk	35.7	-95.2	-18.54	-47.60	-13	-34.60	V
7.017188	30.37	Pk	35.6	-95.2	-18.30	-47.53	-13	-34.53	H
High Channel, 1760MHz									
3.520313	34.98	Pk	32.9	-95.2	-24.17	-51.49	-13	-38.49	H
3.532031	35.63	Pk	32.9	-95.2	-24.00	-50.67	-13	-37.67	V
5.222289	35.08	Pk	34.2	-95.2	-22.20	-48.12	-13	-35.12	V
5.222457	41.30	Pk	34.2	-95.2	-22.20	-41.90	-13	-28.90	H
7.021875	30.63	Pk	35.6	-95.2	-18.39	-47.36	-13	-34.36	H
7.044844	29.93	Pk	35.6	-95.2	-17.98	-47.65	-13	-34.65	V

10.2.12. 5G NR n70

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.

BPSK 5G NR n70 (15.0MHZ BANDWIDTH based on 5G NR n70 maximum frequency range)

Project #:	14982484
Date:	2024-04-15
Test Engineer:	104996
Configuration:	EUT only
Mode	N70 BPSK 15MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
5.084721	59.04	Pk	34.2	-95.2	-49.3	-51.26	-13	-38.26	H
5.082127	58.60	Pk	34.2	-95.2	-49.3	-51.70	-13	-38.70	V
3.387361	57.11	Pk	33.1	-95.2	-47.7	-52.69	-13	-39.69	V
3.392467	57.78	Pk	33.1	-95.2	-47.7	-52.02	-13	-39.02	H
6.779655	56.42	Pk	35.7	-95.2	-46.7	-49.78	-13	-36.78	H
6.781593	56.71	Pk	35.7	-95.2	-46.8	-49.59	-13	-36.59	V

10.2.13. LTE BAND 71 AND 5G NR n71

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.

QPSK LTE BAND 71 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-09
Test Engineer:	104996
Configuration:	EUT only
Mode	LTE 71 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF 3m (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.275254	62.40	Pk	28.9	-95.2	-49.8	-53.70	-13	-40.70	H
1.274274	62.33	Pk	28.9	-95.2	-49.8	-53.77	-13	-40.77	V
1.911920	60.83	Pk	31.4	-95.2	-49.8	-52.77	-13	-39.77	H
1.912100	60.34	Pk	31.4	-95.2	-49.8	-53.26	-13	-40.26	V
2.546931	61.00	Pk	32.3	-95.2	-50.2	-52.10	-13	-39.10	V
2.548095	61.33	Pk	32.3	-95.2	-50.19	-51.76	-13	-38.76	H
Low Channel, 680.5MHz									
1.286666	61.20	Pk	28.9	-95.2	-49.8	-54.90	-13	-41.90	H
1.286823	60.82	Pk	28.9	-95.2	-49.8	-55.28	-13	-42.28	V
1.935695	60.80	Pk	31.4	-95.2	-49.8	-52.80	-13	-39.80	V
1.937425	61.01	Pk	31.4	-95.2	-49.8	-52.59	-13	-39.59	H
2.581649	61.28	Pk	32.2	-95.2	-50.0	-51.68	-13	-38.68	H
2.584829	60.64	Pk	32.2	-95.2	-49.9	-52.26	-13	-39.26	V
Low Channel, 688MHz									
1.309572	59.47	Pk	28.9	-95.2	-49.7	-56.53	-13	-43.53	H
1.308856	59.22	Pk	28.9	-95.2	-49.7	-56.78	-13	-43.78	V
1.955499	61.92	Pk	31.4	-95.2	-49.7	-51.58	-13	-38.58	V
1.955987	61.81	Pk	31.4	-95.2	-49.7	-51.69	-13	-38.69	H
2.60705	61.60	Pk	32.2	-95.2	-49.6	-51.00	-13	-38.00	H
2.612774	60.81	Pk	32.2	-95.2	-49.5	-51.69	-13	-38.69	V

BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	149822484
Date:	2024-04-15
Test Engineer:	104996
Configuration:	EUT only
Mode	N71 BPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m) 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.326446	61.95	Pk	28.9	-95.2	-49.7	-54.09	-13	-41.09	H
1.329057	62.05	Pk	28.9	-95.2	-49.8	-54.05	-13	-41.05	V
1.992496	60.49	Pk	31.4	-95.2	-49.8	-53.11	-13	-40.11	V
1.992546	60.94	Pk	31.4	-95.2	-49.8	-52.66	-13	-39.66	H
2.650595	60.49	Pk	32.3	-95.2	-49.1	-51.51	-13	-38.51	V
2.651751	60.72	Pk	32.3	-95.2	-49.1	-51.28	-13	-38.28	H
Mid Channel, 680.5MHz									
1.342476	63.71	Pk	28.9	-95.2	-49.8	-52.39	-13	-39.39	H
2.684772	59.30	Pk	32.3	-95.2	-48.82	-52.42	-13	-39.42	H
1.342212	66.88	Pk	28.9	-95.2	-49.8	-49.22	-13	-36.22	V
2.679235	59.30	Pk	32.3	-95.2	-48.9	-52.50	-13	-39.50	V
2.009539	61.44	Pk	31.4	-95.2	-49.8	-52.11	-13	-39.11	H
2.011284	61.45	Pk	31.5	-95.2	-49.8	-52.05	-13	-39.05	V
High Channel, 688MHz									
1.000000	60.04	Pk	27.6	-95.2	-48.5	-56.06	-13	-43.06	H
2.712509	59.58	Pk	32.3	-95.2	-49.1	-52.37	-13	-39.37	H
1.360375	59.37	Pk	28.8	-95.2	-49.9	-56.93	-13	-43.93	V
2.711606	59.87	Pk	32.3	-95.2	-49.0	-52.03	-13	-39.03	V
2.034786	59.84	Pk	31.5	-95.2	-49.9	-53.76	-13	-40.76	H
2.035359	59.98	Pk	31.5	-95.2	-49.9	-53.58	-13	-40.58	V

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.3.1. LTE BAND 7 AND 5G NR n7

LIMITS

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 BANDWIDTH)

Project #:	14982489
Date:	2024-03-19
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE B7 QPSK 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.010000	56.30	Pk	33.9	-95.2	-47.37	-52.37	-25	-27.37	H
5.013000	55.53	Pk	33.9	-95.2	-47.38	-53.15	-25	-28.15	V
7.496500	53.34	Pk	35.7	-95.2	-45.30	-51.46	-25	-26.46	V
7.506500	55.11	Pk	35.7	-95.2	-45.26	-49.65	-25	-24.65	H
10.057500	55.46	Pk	37.3	-95.2	-45.47	-47.91	-25	-22.91	H
10.066500	54.92	Pk	37.3	-95.2	-45.65	-48.63	-25	-23.63	V
Mid Channel, 2535MHz									
5.059000	56.69	Pk	33.9	-95.2	-47.76	-52.37	-25	-27.37	H
5.077000	56.13	Pk	33.9	-95.2	-47.87	-53.04	-25	-28.04	V
7.687500	54.10	Pk	35.7	-95.2	-45.43	-50.83	-25	-25.83	V
7.713500	54.38	Pk	35.8	-95.2	-45.36	-50.38	-25	-25.38	H
10.124500	55.59	Pk	37.4	-95.2	-45.83	-48.04	-25	-23.04	H
10.129000	55.34	Pk	37.4	-95.2	-45.86	-48.32	-25	-23.32	V
High Channel, 2560MHz									
5.123000	56.97	Pk	34.1	-95.2	-48.04	-52.17	-25	-27.17	V
5.141000	56.40	Pk	34.1	-95.2	-47.88	-52.58	-25	-27.58	H
7.599500	55.58	Pk	35.7	-95.2	-45.95	-49.87	-25	-24.87	V
7.622500	55.13	Pk	35.7	-95.2	-45.90	-50.27	-25	-25.27	H
10.228500	54.91	Pk	37.5	-95.2	-44.68	-47.47	-25	-22.47	V
10.2415	54.65	Pk	37.5	-95.2	-44.50	-47.55	-25	-22.55	H

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-12
Test Engineer:	104996
Configuration:	EUT only
Mode	5G NR n7 BPSK 40MHz
Chamber #:	03-RDE-B

Frequency (MHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.001268	58.79	Pk	34.1	-95.2	-49.47	-51.78	-25	-26.78	H
7.501889	57.47	Pk	36.0	-95.2	-48.10	-49.83	-25	-24.83	H
5.002467	58.58	Pk	34.1	-95.2	-49.40	-51.92	-25	-26.92	V
7.502061	57.81	Pk	36.0	-95.2	-48.09	-49.48	-25	-24.48	V
9.999474	58.30	Pk	37.5	-95.2	-48.05	-47.45	-25	-22.45	V
10.001736	58.64	Pk	37.5	-95.2	-48.10	-47.16	-25	-22.16	H
Mid Channel, 2535MHz									
5.030500	55.17	Pk	34.2	-95.2	-49.45	-55.28	-25	-30.28	H
7.545500	53.50	Pk	36.0	-95.2	-48.10	-53.80	-25	-28.80	H
5.030500	56.07	Pk	34.2	-95.2	-49.45	-54.38	-25	-29.38	V
7.545500	54.97	Pk	36.0	-95.2	-48.10	-52.33	-25	-27.33	V
10.060500	56.10	Pk	37.6	-95.2	-48.35	-49.85	-25	-24.85	H
10.060500	56.54	Pk	37.6	-95.2	-48.35	-49.41	-25	-24.41	V
High Channel, 2550MHz									
5.061085	59.58	Pk	34.2	-95.2	-49.51	-50.93	-25	-25.93	H
7.590408	57.77	Pk	35.9	-95.2	-48.36	-49.89	-25	-24.89	H
5.063891	59.17	Pk	34.2	-95.2	-49.60	-51.43	-25	-26.43	V
7.589120	57.92	Pk	35.9	-95.2	-48.40	-49.78	-25	-24.78	V
10.117921	58.62	Pk	37.6	-95.2	-48.69	-47.67	-25	-22.67	V
10.119569	59.46	Pk	37.6	-95.2	-48.70	-46.84	-25	-21.84	H

10.3.2. LTE BAND 25 AND 5G NR n25

LIMITS

FCC: §24.238(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-05
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B25 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.707500	54.99	Pk	33.5	-95.2	-47.15	-53.86	-13	-40.86	H
7.437500	56.56	Pk	35.9	-95.2	-47.90	-50.64	-13	-37.64	H
3.700500	55.62	Pk	33.5	-95.2	-47.20	-53.28	-13	-40.28	V
7.438000	56.54	Pk	35.9	-95.2	-47.90	-50.66	-13	-37.66	V
5.553500	58.26	Pk	34.4	-95.2	-48.60	-51.14	-13	-38.14	H
5.553294	61.74	Pk	34.4	-95.2	-48.60	-47.66	-13	-34.66	V
Mid Channel, 1882.5MHz									
3.766500	56.24	Pk	33.6	-95.2	-47.8	-53.16	-13	-40.16	H
7.541000	56.16	Pk	36.0	-95.2	-47.8	-50.84	-13	-37.84	H
3.764500	56.33	Pk	33.6	-95.2	-47.7	-52.97	-13	-39.97	V
7.511000	56.21	Pk	36.0	-95.2	-48.2	-51.19	-13	-38.19	V
5.620500	56.31	Pk	34.4	-95.2	-48.5	-52.99	-13	-39.99	H
5.621000	60.24	Pk	34.4	-95.2	-48.5	-49.06	-13	-36.06	V
High Channel, 1905MHz									
3.820000	57.36	Pk	33.6	-95.2	-47.8	-52.04	-13	-39.04	H
7.616500	55.33	Pk	35.9	-95.2	-47.2	-51.17	-13	-38.17	H
3.801250	56.32	Pk	33.6	-95.2	-47.9	-53.18	-13	-40.18	V
7.605500	55.24	Pk	35.9	-95.2	-47.2	-51.26	-13	-38.26	V
5.688500	57.18	Pk	34.4	-95.2	-48.2	-51.82	-13	-38.82	H
5.688812	57.79	Pk	34.4	-95.2	-48.2	-51.21	-13	-38.21	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-12
Test Engineer:	104996
Configuration:	EUT only
Mode	5G NR n25 BPSK 40MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.696821	57.11	Pk	33.5	-95.2	-47.2	-51.79	-13	-38.79	H
7.398131	57.64	Pk	35.9	-95.2	-47.8	-49.46	-13	-36.46	H
3.700595	57.41	Pk	33.5	-95.2	-47.2	-51.49	-13	-38.49	V
7.400627	57.10	Pk	35.9	-95.2	-47.8	-50.00	-13	-37.00	V
5.547311	58.46	Pk	34.4	-95.2	-48.7	-51.04	-13	-38.04	V
5.551410	58.71	Pk	34.4	-95.2	-48.6	-50.69	-13	-37.69	H
Mid Channel, 1882.5MHz									
3.726289	56.38	Pk	33.5	-95.2	-47.4	-52.75	-13	-39.75	H
7.448084	58.06	Pk	35.9	-95.2	-48.0	-49.24	-13	-36.24	H
3.723763	56.68	Pk	33.5	-95.2	-47.4	-52.42	-13	-39.42	V
7.448564	58.23	Pk	35.9	-95.2	-48.0	-49.07	-13	-36.07	V
5.586440	58.02	Pk	34.4	-95.2	-48.7	-51.48	-13	-38.48	H
5.587856	57.64	Pk	34.4	-95.2	-48.7	-51.86	-13	-38.86	V
High Channel, 1895MHz									
3.748693	56.97	Pk	33.6	-95.2	-47.7	-52.33	-13	-39.33	H
7.500900	58.06	Pk	36.0	-95.2	-48.2	-49.34	-13	-36.34	H
3.752267	57.05	Pk	33.6	-95.2	-47.7	-52.25	-13	-39.25	V
7.498557	58.48	Pk	36.0	-95.2	-48.2	-48.92	-13	-35.92	V
5.526041	58.67	Pk	34.4	-95.2	-48.7	-50.83	-13	-37.83	H
5.526939	58.3	Pk	34.4	-95.2	-48.7	-51.20	-13	-38.20	V

10.3.3. LTE BAND 30 AND 5G NR n30

LIMITS

FCC: §27.53 (a)
For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-19
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE B30 QPSK 10MHz
Chamber #:	05-RDE-F

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.640721	45.99	RMS	34.0	-95.2	-48.93	-64.14	-40	-24.14	H
6.941496	44.11	RMS	35.6	-95.2	-46.82	-62.31	-40	-22.31	H
9.236191	42.93	RMS	36.3	-95.2	-45.50	-61.47	-40	-21.47	H
4.611335	46.21	RMS	34.0	-95.2	-48.89	-63.88	-40	-23.88	V
6.940483	44.11	RMS	35.6	-95.2	-46.83	-62.32	-40	-22.32	V
9.214404	42.92	RMS	36.3	-95.2	-45.67	-61.65	-40	-21.65	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-27
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n30 BPSK 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.612500	23.57	RMS	34.0	-95.2	-23.2	-60.83	-40	-20.83	H
6.412969	20.38	RMS	35.6	-95.2	-19.2	-58.42	-40	-18.42	H
9.233906	20.36	RMS	36.1	-95.2	-16.8	-55.54	-40	-15.54	H
4.632656	23.61	RMS	34.0	-95.2	-23.2	-60.79	-40	-20.79	V
6.389531	21.09	RMS	35.6	-95.2	-19.4	-57.91	-40	-17.91	V
9.248906	20.11	RMS	36.1	-95.2	-16.7	-55.69	-40	-15.69	V

10.3.4. LTE BAND 41 AND 5G NR n41

LIMITS

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 BANDWIDTH)

Project #:	14982484
Date:	2024-04-15
Test Engineer:	32545
Configuration:	EUT only
Mode	LTE B41 QPSK 20MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz									
5.180000	53.93	Pk	34.4	-95.2	-47.26	-54.13	-25	-29.13	H
5.180000	54.78	Pk	34.4	-95.2	-47.26	-53.28	-25	-28.28	V
7.770500	51.63	Pk	35.9	-95.2	-45.31	-52.98	-25	-27.98	H
7.770500	52.30	Pk	35.9	-95.2	-45.31	-52.31	-25	-27.31	V
10.359500	53.53	Pk	37.6	-95.2	-44.11	-48.18	-25	-23.18	V
10.361000	53.17	Pk	37.6	-95.2	-44.03	-48.46	-25	-23.46	H
Mid Channel, 2593MHz									
5.087000	54.20	Pk	34.2	-95.2	-47.53	-54.33	-25	-29.33	H
7.629000	52.82	Pk	35.8	-95.2	-45.63	-52.21	-25	-27.21	H
5.087000	53.55	Pk	34.2	-95.2	-47.53	-54.98	-25	-29.98	V
7.629000	52.65	Pk	35.8	-95.2	-45.63	-52.38	-25	-27.38	V
10.172500	53.32	Pk	37.5	-95.2	-44.96	-49.34	-25	-24.34	H
10.173000	53.06	Pk	37.5	-95.2	-44.95	-49.59	-25	-24.59	V
High Channel, 2680MHz									
5.180500	52.41	Pk	34.4	-95.2	-47.26	-55.65	-25	-30.65	H
5.180500	52.65	Pk	34.4	-95.2	-47.26	-55.41	-25	-30.41	V
7.770250	51.77	Pk	35.9	-95.2	-45.30	-52.83	-25	-27.83	H
7.770500	51.98	Pk	35.9	-95.2	-45.31	-52.63	-25	-27.63	V
10.360500	53.00	Pk	37.6	-95.2	-44.05	-48.65	-25	-23.65	H
10.360500	53.67	Pk	37.6	-95.2	-44.05	-47.98	-25	-22.98	V

BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-15
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n41 BPSK 100MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz									
5.180000	53.93	Pk	34.4	-95.2	-47.26	-54.13	-25	-29.13	H
5.180000	54.78	Pk	34.4	-95.2	-47.26	-53.28	-25	-28.28	V
7.770500	51.63	Pk	35.9	-95.2	-45.31	-52.98	-25	-27.98	H
7.770500	52.30	Pk	35.9	-95.2	-45.31	-52.31	-25	-27.31	V
10.359500	53.53	Pk	37.6	-95.2	-44.11	-48.18	-25	-23.18	V
10.361000	53.17	Pk	37.6	-95.2	-44.03	-48.46	-25	-23.46	H
Mid Channel, 2593MHz									
5.087000	54.20	Pk	34.2	-95.2	-47.53	-54.33	-25	-29.33	H
7.629000	52.82	Pk	35.8	-95.2	-45.63	-52.21	-25	-27.21	H
5.087000	53.55	Pk	34.2	-95.2	-47.53	-54.98	-25	-29.98	V
7.629000	52.65	Pk	35.8	-95.2	-45.63	-52.38	-25	-27.38	V
10.172500	53.32	Pk	37.5	-95.2	-44.96	-49.34	-25	-24.34	H
10.173000	53.06	Pk	37.5	-95.2	-44.95	-49.59	-25	-24.59	V
High Channel, 2640MHz									
5.180500	52.41	Pk	34.4	-95.2	-47.26	-55.65	-25	-30.65	H
5.180500	52.65	Pk	34.4	-95.2	-47.26	-55.41	-25	-30.41	V
7.770250	51.77	Pk	35.9	-95.2	-45.30	-52.83	-25	-27.83	H
7.770500	51.98	Pk	35.9	-95.2	-45.31	-52.63	-25	-27.63	V
10.360500	53.00	Pk	37.6	-95.2	-44.05	-48.65	-25	-23.65	H
10.360500	53.67	Pk	37.6	-95.2	-44.05	-47.98	-25	-22.98	V

10.3.5. LTE BAND 66 AND 5G NR n66

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.

QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14982484

Date:	2024-03-25
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B66 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
5.148000	57.16	Pk	34.3	-95.2	-49.4	-53.14	-13	-40.14	H
3.422000	56.10	Pk	33.2	-95.2	-47.8	-53.70	-13	-40.70	V
3.426500	57.27	Pk	33.2	-95.2	-47.7	-52.43	-13	-39.43	H
5.151000	57.65	Pk	34.3	-95.2	-49.5	-52.75	-13	-39.75	V
6.863000	55.64	Pk	35.7	-95.2	-47.4	-51.26	-13	-38.26	H
6.878000	55.79	Pk	35.7	-95.2	-47.3	-51.01	-13	-38.01	V
Mid Channel, 1745MHz									
3.483000	55.25	Pk	33.2	-95.2	-47.2	-53.95	-13	-40.95	H
3.486500	55.93	Pk	33.2	-95.2	-47.3	-53.37	-13	-40.37	V
5.208311	60.79	Pk	34.4	-95.2	-49.2	-49.21	-13	-36.21	V
5.208330	63.16	Pk	34.4	-95.2	-49.2	-46.84	-13	-33.84	H
7.015000	55.30	Pk	35.8	-95.2	-47.3	-51.40	-13	-38.40	H
7.048000	56.40	Pk	35.8	-95.2	-47.6	-50.60	-13	-37.60	V
High Channel, 1770MHz									
3.552000	54.98	Pk	33.3	-95.2	-47.2	-54.12	-13	-41.12	H
3.539000	55.96	Pk	33.3	-95.2	-47.0	-52.94	-13	-39.94	V
5.283303	61.64	Pk	34.4	-95.2	-49.1	-48.26	-13	-35.26	H
5.283751	59.08	Pk	34.4	-95.2	-49.1	-50.82	-13	-37.82	V
7.074000	55.98	Pk	35.8	-95.2	-47.8	-51.22	-13	-38.22	V
7.088500	55.98	Pk	35.8	-95.2	-47.8	-51.22	-13	-38.22	H

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-16
Test Engineer:	104996
Configuration:	EUT only
Mode	5G NR n66 BPSK 40MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300_ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMT	Margin (dB)	Polarity
Low Channel, 1730MHz									
5.126617	58.91	Pk	34.3	-95.2	-49.5	-51.45	-13	-38.45	H
5.131353	58.75	Pk	34.3	-95.2	-49.4	-51.55	-13	-38.55	V
3.420257	58.32	Pk	33.2	-95.2	-47.8	-51.48	-13	-38.48	V
3.423271	57.69	Pk	33.2	-95.2	-47.77	-52.08	-13	-39.08	H
6.841426	56.99	Pk	35.7	-95.2	-47.5	-50.01	-13	-37.01	H
6.843283	56.82	Pk	35.7	-95.2	-47.6	-50.28	-13	-37.28	V
Mid Channel, 1745MHz									
3.450639	58.39	Pk	33.2	-95.2	-47.6	-51.17	-13	-38.17	V
3.455324	58.28	Pk	33.2	-95.2	-47.6	-51.32	-13	-38.32	H
5.179377	59.06	Pk	34.4	-95.2	-49.4	-51.14	-13	-38.14	H
5.181245	58.94	Pk	34.4	-95.2	-49.4	-51.26	-13	-38.26	V
6.900717	57.03	Pk	35.7	-95.2	-47.0	-49.47	-13	-36.47	H
6.900938	56.68	Pk	35.7	-95.2	-47.0	-49.82	-13	-36.82	V
High Channel, 1760MHz									
3.479062	58.30	Pk	33.2	-95.2	-47.3	-51.00	-13	-38.00	V
3.480864	57.72	Pk	33.2	-95.2	-47.2	-51.49	-13	-38.49	H
5.220921	58.26	Pk	34.4	-95.2	-49.1	-51.64	-13	-38.64	V
5.22148	58.46	Pk	34.4	-95.2	-49.1	-51.44	-13	-38.44	H
6.960536	57.71	Pk	35.7	-95.2	-46.8	-48.59	-13	-35.59	V
6.961594	56.84	Pk	35.7	-95.2	-46.8	-49.46	-13	-36.46	H

10.3.6. 5G NR n70

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.

BPSK 5G NR n70 (15.0MHZ BANDWIDTH based on 5G NR n70 maximum frequency range)

Project #:	14982484
Date:	2024-04-23
Test Engineer:	12491
Configuration:	EUT only
Mode	5G NR n70 BPSK 15MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.390469	38.76	Pk	32.8	-95.2	-33.09	-56.73	-13	-43.73	H
3.390469	40.14	Pk	32.8	-95.2	-33.09	-55.35	-13	-42.35	V
5.085469	36.36	Pk	34.1	-95.2	-30.55	-55.29	-13	-42.29	H
5.085469	36.32	Pk	34.1	-95.2	-30.55	-55.33	-13	-42.33	V
6.780000	33.69	Pk	35.6	-95.2	-27.00	-52.91	-13	-39.91	H
6.780000	32.92	Pk	35.6	-95.2	-27.00	-53.68	-13	-40.68	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.4.1. LTE BAND 7 AND 5G NR n7

LIMITS

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 BANDWIDTH)

Project #:	14982489
Date:	2024-04-05
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B7 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF(dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.024000	54.94	Pk	34.2	-95.2	-49.6	-55.66	-25	-30.66	H
7.535000	54.55	Pk	36.0	-95.2	-48.0	-52.65	-25	-27.65	H
5.033000	55.70	Pk	34.2	-95.2	-49.5	-54.80	-25	-29.80	V
7.548000	53.49	Pk	36.0	-95.2	-48.1	-53.81	-25	-28.81	V
10.038000	56.51	Pk	37.5	-95.2	-48.1	-49.29	-25	-24.29	H
10.055000	55.45	Pk	37.6	-95.2	-48.2	-50.35	-25	-25.35	V
Mid Channel, 2535MHz									
5.076000	55.69	Pk	34.2	-95.2	-49.6	-54.91	-25	-29.91	H
7.600000	56.02	Pk	36.0	-95.2	-48.4	-51.58	-25	-26.58	H
5.076000	54.96	Pk	34.2	-95.2	-49.6	-55.64	-25	-30.64	V
7.600000	54.86	Pk	36.0	-95.2	-48.4	-52.74	-25	-27.74	V
10.124500	55.99	Pk	37.6	-95.2	-48.7	-50.31	-25	-25.31	V
10.142000	56.26	Pk	37.6	-95.2	-48.6	-49.94	-25	-24.94	H
High Channel, 2560MHz									
5.120000	55.33	Pk	34.3	-95.2	-49.6	-55.17	-25	-30.17	H
7.679000	53.97	Pk	35.9	-95.2	-47.8	-53.13	-25	-28.13	H
5.120000	55.77	Pk	34.3	-95.2	-49.6	-54.73	-25	-29.73	V
7.692000	53.33	Pk	35.9	-95.2	-47.6	-53.57	-25	-28.57	V
10.247000	54.51	Pk	37.7	-95.2	-48.2	-51.19	-25	-26.19	H
10.300000	54.13	Pk	37.8	-95.2	-48.3	-51.57	-25	-26.57	V

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-22
Test Engineer:	32145
Configuration:	EUT only
Mode	5G NR n7 BPSK 40MHz
Chamber #:	03-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.043500	55.33	Pk	34.0	-95.2	-47.76	-53.63	-25	-28.63	H
7.534000	54.37	Pk	35.9	-95.2	-45.34	-50.27	-25	-25.27	H
5.006000	54.18	Pk	34.0	-95.2	-47.57	-54.59	-25	-29.59	V
7.462500	52.43	Pk	35.8	-95.2	-45.56	-52.53	-25	-27.53	V
10.011000	53.55	Pk	37.2	-95.2	-45.81	-50.26	-25	-25.26	V
10.054000	53.83	Pk	37.2	-95.2	-45.60	-49.77	-25	-24.77	H
Mid Channel, 2535MHz									
5.059500	55.02	Pk	34.0	-95.2	-47.80	-53.98	-25	-28.98	H
7.598500	54.52	Pk	35.9	-95.2	-45.96	-50.74	-25	-25.74	H
5.059500	54.26	Pk	34.0	-95.2	-47.80	-54.74	-25	-29.74	V
7.558500	51.93	Pk	35.9	-95.2	-45.51	-52.88	-25	-27.88	V
10.107500	53.01	Pk	37.3	-95.2	-45.66	-50.55	-25	-25.55	V
10.140000	53.81	Pk	37.3	-95.2	-45.79	-49.88	-25	-24.88	H
High Channel, 2550MHz									
5.103000	55.80	Pk	34.1	-95.2	-47.85	-53.15	-25	-28.15	H
7.663500	51.95	Pk	35.9	-95.2	-45.56	-52.91	-25	-27.91	H
5.075500	54.60	Pk	34.1	-95.2	-47.74	-54.24	-25	-29.24	V
7.663500	51.86	Pk	35.9	-95.2	-45.56	-53.00	-25	-28.00	V
10.194000	54.17	Pk	37.3	-95.2	-45.45	-49.18	-25	-24.18	V
10.216000	52.94	Pk	37.4	-95.2	-44.98	-49.84	-25	-24.84	H

10.4.2. LTE BAND 25 AND 5G NR n25

LIMITS

FCC: §24.238(a)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B25 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMT	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.737000	55.35	Pk	33.5	-95.2	-47.6	-53.95	-13	-40.95	H
7.446500	56.40	Pk	35.9	-95.2	-48.0	-50.9	-13	-37.90	H
3.754000	55.45	Pk	33.6	-95.2	-47.7	-53.85	-13	-40.85	V
7.469000	56.40	Pk	35.9	-95.2	-48.2	-51.10	-13	-38.10	V
5.566500	56.03	Pk	34.4	-95.2	-48.6	-53.37	-13	-40.37	H
5.569000	56.92	Pk	34.4	-95.2	-48.6	-52.48	-13	-39.48	V
Mid Channel, 1882.5MHz									
3.762000	57.43	Pk	33.6	-95.2	-47.8	-51.97	-13	-38.97	H
7.538000	56.11	Pk	36.0	-95.2	-47.8	-50.89	-13	-37.89	H
3.746000	55.49	Pk	33.6	-95.2	-47.7	-53.81	-13	-40.81	V
7.504000	55.89	Pk	36.0	-95.2	-48.2	-51.51	-13	-38.51	V
5.652500	56.46	Pk	34.4	-95.2	-48.3	-52.64	-13	-39.64	H
5.685000	56.43	Pk	34.4	-95.2	-48.3	-52.67	-13	-39.67	V
High Channel, 1905MHz									
3.799000	56.66	Pk	33.6	-95.2	-47.9	-52.84	-13	-39.84	H
7.607500	55.39	Pk	35.9	-95.2	-47.1	-51.01	-13	-38.01	H
3.784500	57.08	Pk	33.6	-95.2	-48	-52.52	-13	-39.52	V
7.616500	55.46	Pk	35.9	-95.2	-47.2	-51.04	-13	-38.04	V
5.704500	55.90	Pk	34.5	-95.2	-48.2	-53.00	-13	-40.00	H
5.726500	56.69	Pk	34.5	-95.2	-48	-52.01	-13	-39.01	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-29
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n25 BPSK 40MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	888188666 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.765469	35.94	Pk	33.2	-95.2	-23.7	-49.76	-13	-36.76	H
3.782813	36.23	Pk	33.2	-95.2	-23.8	-49.57	-13	-36.57	V
5.654531	33.11	Pk	34.6	-95.2	-20.4	-47.89	-13	-34.89	V
5.667188	33.24	Pk	34.6	-95.2	-20.5	-47.88	-13	-34.88	H
7.836094	31.41	Pk	35.8	-95.2	-17.2	-45.18	-13	-32.18	H
7.838906	30.27	Pk	35.8	-95.2	-17.1	-46.24	-13	-33.24	V
Mid Channel, 1882.5MHz									
3.768281	36.29	Pk	33.2	-95.2	-23.7	-49.41	-13	-36.41	V
3.786563	35.69	Pk	33.2	-95.2	-23.9	-50.21	-13	-37.21	H
5.676094	33.91	Pk	34.6	-95.2	-20.8	-47.48	-13	-34.48	V
5.677500	34.37	Pk	34.6	-95.2	-20.8	-46.98	-13	-33.98	H
7.531406	31.24	Pk	35.7	-95.2	-18.0	-46.26	-13	-33.26	V
7.538906	30.67	Pk	35.7	-95.2	-17.7	-46.53	-13	-33.53	H
High Channel, 1895MHz									
3.750469	35.55	Pk	33.1	-95.2	-23.6	-50.15	-13	-37.15	V
3.766406	35.71	Pk	33.2	-95.2	-23.7	-49.99	-13	-36.99	H
5.690625	32.60	Pk	34.6	-95.2	-21	-49.00	-13	-36.00	V
5.692969	33.24	Pk	34.6	-95.2	-21	-48.36	-13	-35.36	H
7.577344	30.29	Pk	35.7	-95.2	-17.27	-46.48	-13	-33.48	V
7.59375	30.44	Pk	35.7	-95.2	-17.13	-46.19	-13	-33.19	H

10.4.3. LTE BAND 30 AND 5G NR n30

LIMITS

FCC: §27.53 (a)
For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-19
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE B30 QPSK 10MHz
Chamber #:	05-RDE-F

Frequency (GHz)	Meter Reading (dBuV)	Det	226674 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
6.916653	47.01	RMS	35.6	-95.2	-46.71	-59.30	-40	-19.30	H
4.614375	45.49	RMS	34.0	-95.2	-48.90	-64.61	-40	-24.61	H
9.243791	42.81	RMS	36.3	-95.2	-45.62	-61.71	-40	-21.71	H
6.916666	49.25	RMS	35.6	-95.2	-46.71	-57.06	-40	-17.06	V
4.587521	45.90	RMS	33.9	-95.2	-48.86	-64.26	-40	-24.26	V
9.229604	42.92	RMS	36.3	-95.2	-45.60	-61.58	-40	-21.58	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-03-13
Test Engineer:	19226
Configuration:	EUT only
Mode	5G NR n30 BPSK 10MHz
Chamber #:	04-RDE-R

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.629375	24.14	RMS	34.0	-95.2	-23.20	-60.26	-40	-20.26	H
4.644844	23.76	RMS	34.0	-95.2	-23.30	-60.74	-40	-20.74	V
6.916875	23.32	RMS	35.6	-95.2	-19.19	-55.47	-40	-15.47	H
6.916875	20.73	RMS	35.6	-95.2	-19.19	-58.06	-40	-18.06	V
9.224531	20.19	RMS	36.1	-95.2	-16.90	-55.81	-40	-15.81	H
9.247500	20.22	RMS	36.1	-95.2	-16.70	-55.58	-40	-15.58	V

10.4.4. LTE BAND 41 AND 5G NR n41

LIMITS

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 BANDWIDTH)

Project #:	14982484
Date:	2024-04-05
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B41 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz									
5.015500	54.31	Pk	34.2	-95.2	-49.5	-56.19	-25	-31.19	H
7.491500	59.34	Pk	35.9	-95.2	-48.1	-48.06	-25	-23.06	H
5.007000	54.11	Pk	34.1	-95.2	-49.4	-56.39	-25	-31.39	V
7.491500	58.22	Pk	35.9	-95.2	-48.1	-49.18	-25	-24.18	V
10.020500	55.44	Pk	37.5	-95.2	-48.1	-50.36	-25	-25.36	H
10.038000	56.02	Pk	37.5	-95.2	-48.1	-49.78	-25	-24.78	V
Mid Channel, 2593MHz									
5.182000	56.14	Pk	34.4	-95.2	-49.3	-53.96	-25	-28.96	V
5.191000	54.99	Pk	34.4	-95.2	-49.2	-55.01	-25	-30.01	H
7.785000	54.07	Pk	36.0	-95.2	-47.4	-52.53	-25	-27.53	H
7.812000	55.27	Pk	36.0	-95.2	-47.7	-51.63	-25	-26.63	V
10.371000	55.36	Pk	37.8	-95.2	-48.0	-50.04	-25	-25.04	H
10.388500	55.75	Pk	37.8	-95.2	-47.8	-49.45	-25	-24.45	V
High Channel, 2680MHz									
5.363000	53.91	Pk	34.4	-95.2	-49.2	-56.09	-25	-31.09	H
8.043000	52.92	Pk	36.1	-95.2	-47.3	-53.48	-25	-28.48	H
10.715000	53.93	Pk	37.9	-95.2	-47.2	-50.57	-25	-25.57	H
5.363000	54.24	Pk	34.4	-95.2	-49.2	-55.76	-25	-30.76	V
8.043000	53.09	Pk	36.1	-95.2	-47.3	-53.31	-25	-28.31	V
10.715000	54.50	Pk	37.9	-95.2	-47.2	-50.00	-25	-25.00	V

BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-22
Test Engineer:	32990
Configuration:	EUT only
Mode	5G NR n41 BPSK 100MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz									
7.488500	52.25	Pk	35.8	-95.2	-45.40	-52.55	-25	-27.55	H
7.488500	51.97	Pk	35.8	-95.2	-45.40	-52.83	-25	-27.83	V
5.711000	54.58	Pk	34.6	-95.2	-46.56	-52.58	-25	-27.58	H
5.712000	57.63	Pk	34.6	-95.2	-46.53	-49.50	-25	-24.50	V
9.984000	55.31	Pk	37.2	-95.2	-45.87	-48.56	-25	-23.56	V
9.984000	55.31	Pk	37.2	-95.2	-45.87	-48.56	-25	-23.56	V
Mid Channel, 2593MHz									
7.629000	53.39	Pk	35.9	-95.2	-45.78	-51.69	-25	-26.69	H
7.629000	52.25	Pk	35.9	-95.2	-45.78	-52.83	-25	-27.83	V
5.236500	57.73	Pk	34.4	-95.2	-47.06	-50.13	-25	-25.13	V
5.237000	54.72	Pk	34.4	-95.2	-47.06	-53.14	-25	-28.14	H
10.172000	53.26	Pk	37.3	-95.2	-45.51	-50.15	-25	-25.15	H
10.172000	54.81	Pk	37.3	-95.2	-45.51	-48.60	-25	-23.60	V
High Channel, 2640MHz									
5.180000	53.90	Pk	34.3	-95.2	-47.36	-54.36	-25	-29.36	H
5.180000	53.75	Pk	34.3	-95.2	-47.36	-54.51	-25	-29.51	V
7.770000	52.79	Pk	35.9	-95.2	-45.16	-51.67	-25	-26.67	H
7.770000	51.90	Pk	35.9	-95.2	-45.16	-52.56	-25	-27.56	V
10.360500	53.09	Pk	37.5	-95.2	-45.32	-49.93	-25	-24.93	H
10.360500	53.72	Pk	37.5	-95.2	-45.32	-49.30	-25	-24.30	V

10.4.5. LTE BAND 66 AND 5G NR n66

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.

QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	12501
Configuration:	EUT only
Mode	LTE B66 QPSK 20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.599565	59.00	Pk	33.3	-95.2	-47.7	-50.60	-13	-37.60	H
5.133126	66.96	Pk	34.3	-95.2	-49.4	-43.34	-13	-30.34	H
3.600000	57.96	Pk	33.3	-95.2	-47.7	-51.64	-13	-38.64	V
5.133244	68.42	Pk	34.3	-95.2	-49.4	-41.88	-13	-28.88	V
6.840651	57.11	Pk	35.7	-95.2	-47.5	-49.89	-13	-36.89	V
6.841747	57.11	Pk	35.7	-95.2	-47.5	-49.89	-13	-36.89	H
Mid Channel, 1745MHz									
3.469613	58.39	Pk	33.2	-95.2	-47.4	-51.01	-13	-38.01	H
3.471579	58.00	Pk	33.2	-95.2	-47.4	-51.40	-13	-38.40	V
5.208105	62.85	Pk	34.4	-95.2	-49.2	-47.15	-13	-34.15	V
5.208518	59.22	Pk	34.4	-95.2	-49.2	-50.78	-13	-37.78	H
6.942166	57.61	Pk	35.7	-95.2	-46.7	-48.59	-13	-35.59	H
6.943567	57.24	Pk	35.7	-95.2	-46.7	-48.96	-13	-35.96	V
High Channel, 1770MHz									
3.531500	55.13	Pk	33.3	-95.2	-47.0	-53.77	-13	-40.77	H
3.537500	54.84	Pk	33.3	-95.2	-47.1	-54.11	-13	-41.11	V
5.283203	65.76	Pk	34.4	-95.2	-49.1	-44.14	-13	-31.14	H
5.283251	69.60	Pk	34.4	-95.2	-49.1	-40.30	-13	-27.30	V
7.085000	55.73	Pk	35.8	-95.2	-47.8	-51.47	-13	-38.47	H
7.107500	57.32	Pk	35.8	-95.2	-47.7	-49.78	-13	-36.78	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-07-10
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n66 BPSK 40MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886_ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.446719	36.33	Pk	32.7	-95.2	-24.90	-51.07	-13	-38.07	V
3.468281	36.79	Pk	32.7	-95.2	-24.77	-50.48	-13	-37.48	H
5.132032	36.83	Pk	34.2	-95.2	-21.60	-45.77	-13	-32.77	V
5.132692	38.41	Pk	34.2	-95.2	-21.53	-44.12	-13	-31.12	H
6.926719	31.46	Pk	35.7	-95.2	-19.00	-47.04	-13	-34.04	H
6.953906	30.84	Pk	35.7	-95.2	-18.91	-47.57	-13	-34.57	V
Mid Channel, 1745MHz									
3.492188	35.47	Pk	32.8	-95.2	-24.3	-51.23	-13	-38.23	V
3.500156	35.57	Pk	32.8	-95.2	-24.22	-51.05	-13	-38.05	H
5.177314	43.88	Pk	34.1	-95.2	-22.37	-39.59	-13	-26.59	H
5.177482	40.50	Pk	34.1	-95.2	-22.35	-42.95	-13	-29.95	V
6.977344	29.85	Pk	35.7	-95.2	-18.60	-48.25	-13	-35.25	V
7.004531	30.48	Pk	35.6	-95.2	-18.20	-47.32	-13	-34.32	H
High Channel, 1760MHz									
3.550781	34.74	Pk	32.9	-95.2	-23.78	-51.34	-13	-38.34	H
3.556875	34.95	Pk	32.9	-95.2	-23.61	-50.96	-13	-37.96	V
5.222327	37.61	Pk	34.2	-95.2	-22.2	-45.59	-13	-32.59	V
5.222485	46.22	Pk	34.2	-95.2	-22.2	-36.98	-13	-23.98	H
7.047188	29.78	Pk	35.6	-95.2	-18.0	-47.82	-13	-34.82	H
7.064063	30.03	Pk	35.6	-95.2	-18.3	-47.87	-13	-34.87	V

10.4.6. 5G NR n70

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.

BPSK 5G NR n70 (15.0MHZ BANDWIDTH based on 5G NR n70 maximum frequency range)

Project #:	14982484
Date:	2024-04-22
Test Engineer:	32145
Configuration:	EUT only
Mode	N70 BPSK 15MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
5.103000	54.14	Pk	34.1	-95.2	-47.58	-54.54	-13	-41.54	H
5.097500	53.93	Pk	34.1	-95.2	-47.48	-54.65	-13	-41.65	V
3.394000	54.04	Pk	32.8	-95.2	-46.92	-55.28	-13	-42.28	V
3.405000	54.73	Pk	32.8	-95.2	-46.92	-54.59	-13	-41.59	H
6.809500	53.73	Pk	35.8	-95.2	-44.85	-50.52	-13	-37.52	H
6.831000	53.39	Pk	35.8	-95.2	-45.01	-51.02	-13	-38.02	V

10.4.7. 5G NR n77 (FCC Part 27 3450-3550MHz)

LIMITS

FCC: §27.53
Emission limits
(n) 3.45 GHz Service. The following emission limits apply to stations transmitting in the 3450-3550 MHz band:
(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-22
Test Engineer:	12491
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz									
6.900000	33.14	Pk	35.6	-95.2	-26.6	-53.06	-13	-40.06	V
6.900500	34.91	Pk	35.6	-95.2	-26.6	-51.29	-13	-38.29	H
10.349500	29.89	Pk	37.5	-95.2	-24.7	-52.51	-13	-39.51	V
10.350000	32.20	Pk	37.5	-95.2	-24.7	-50.20	-13	-37.20	H
13.801000	28.43	Pk	38.8	-95.2	-19.7	-47.67	-13	-34.67	H
13.801000	28.48	Pk	38.8	-95.2	-19.7	-47.62	-13	-34.62	V

10.4.8. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

FCC: §27.53
(l) 3.7 GHz Service.The following emission limits apply to stations transmitting in the 3700-3980 MHz band:
(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-23
Test Engineer:	32145
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.511882	55.20	Pk	35.8	-95.2	-46.00	-50.20	-13	-37.20	H
11.251034	54.09	Pk	38.0	-95.2	-44.20	-47.31	-13	-34.31	H
7.519450	55.13	Pk	35.8	-95.2	-45.98	-50.25	-13	-37.25	V
11.213989	53.77	Pk	38.0	-95.2	-44.27	-47.70	-13	-34.70	V
14.998551	52.70	Pk	39.7	-95.2	-42.37	-45.17	-13	-32.17	V
15.010103	53.68	Pk	39.7	-95.2	-42.30	-44.12	-13	-31.12	H
Mid Channel, 3840MHz									
7.696310	55.6	Pk	35.9	-95.2	-45.15	-48.85	-13	-35.85	H
11.512340	54.14	Pk	38.2	-95.2	-43.49	-46.35	-13	-33.35	H
15.407241	52.04	Pk	40.2	-95.2	-41.66	-44.62	-13	-31.62	H
7.683165	54.16	Pk	35.9	-95.2	-45.07	-50.21	-13	-37.21	V
11.485254	54.15	Pk	38.2	-95.2	-43.64	-46.49	-13	-33.49	V
15.373781	51.64	Pk	40.1	-95.2	-41.57	-45.03	-13	-32.03	V
High Channel, 3930MHz									
11.805912	52.62	Pk	38.6	-95.2	-43.26	-47.24	-13	-34.24	H
15.739052	53.87	Pk	40.7	-95.2	-41.77	-42.40	-13	-29.40	H
11.772452	53.09	Pk	38.5	-95.2	-43.07	-46.68	-13	-33.68	V
15.716347	53.67	Pk	40.6	-95.2	-41.71	-42.64	-13	-29.64	V
7.826964	54.86	Pk	35.9	-95.2	-45.61	-50.05	-13	-37.05	V
7.867992	53.72	Pk	35.9	-95.2	-45.22	-50.80	-13	-37.80	H

10.5. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 7

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.5.1. 5G NR n77 (FCC Part 27 3450-3550MHz)

LIMITS

FCC: §27.53
Emission limits
(n) 3.45 GHz Service. The following emission limits apply to stations transmitting in the 3450-3550 MHz band:
(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-09
Test Engineer:	32545
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz									
6.900335	42.93	Pk	35.7	-95.2	-44.09	-60.66	-13	-47.66	V
6.900802	44.25	Pk	35.7	-95.2	-44.09	-59.34	-13	-46.34	H
10.350405	44.28	Pk	37.5	-95.2	-44.46	-57.88	-13	-44.88	H
10.350405	44.46	Pk	37.5	-95.2	-44.46	-57.70	-13	-44.70	V
13.800007	43.59	Pk	38.8	-95.2	-42.26	-55.07	-13	-42.07	H
13.800007	43.98	Pk	38.8	-95.2	-42.26	-54.68	-13	-41.68	V

10.5.2. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

FCC: §27.53
(l) 3.7 GHz Service.The following emission limits apply to stations transmitting in the 3700-3980 MHz band:
(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-16
Test Engineer:	12491
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.400000	33.60	Pk	35.5	-95.2	-26.1	-52.20	-13	-39.20	H
7.400000	32.94	Pk	35.5	-95.2	-26.1	-52.86	-13	-39.86	V
11.101000	30.55	Pk	37.8	-95.2	-22.9	-49.75	-13	-36.75	H
11.101000	29.91	Pk	37.8	-95.2	-22.9	-50.39	-13	-37.39	V
14.800000	28.03	Pk	39.4	-95.2	-19.8	-47.57	-13	-34.57	H
14.800000	28.75	Pk	39.4	-95.2	-19.8	-46.85	-13	-33.85	V
Mid Channel, 3840MHz									
7.582000	33.79	Pk	35.7	-95.2	-26.0	-51.71	-13	-38.71	H
7.582000	32.43	Pk	35.7	-95.2	-26.0	-53.07	-13	-40.07	V
11.370000	31.09	Pk	38.0	-95.2	-22.6	-48.71	-13	-35.71	H
11.370000	30.10	Pk	38.0	-95.2	-22.6	-49.70	-13	-36.70	V
15.160500	28.76	Pk	39.7	-95.2	-19.0	-45.74	-13	-32.74	H
15.160500	28.67	Pk	39.7	-95.2	-19.0	-45.83	-13	-32.83	V
High Channel, 3930MHz									
7.760500	34.31	Pk	35.8	-95.2	-26.6	-51.64	-13	-38.64	H
7.760500	34.02	Pk	35.8	-95.2	-26.6	-51.93	-13	-38.93	V
11.640500	30.39	Pk	38.4	-95.2	-22.1	-48.46	-13	-35.46	H
11.640500	30.41	Pk	38.4	-95.2	-22.1	-48.44	-13	-35.44	V
15.521000	28.71	Pk	40.4	-95.2	-18.3	-44.39	-13	-31.39	H
15.521000	28.45	Pk	40.4	-95.2	-18.3	-44.65	-13	-31.65	V

10.6. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 8

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.6.1. 5G NR n77 (FCC Part 27 3450-3550MHz)

LIMITS

FCC: §27.53
Emission limits
(n) 3.45 GHz Service. The following emission limits apply to stations transmitting in the 3450-3550 MHz band:
(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-25
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	T1792 3400-3800MHz BRF	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz										
6.997594	25.87	Pk	35.6	.5	-95.2	-18.9	-52.13	-13	-39.13	H
7.007288	25.57	Pk	35.6	.4	-95.2	-19.0	-52.63	-13	-39.63	V
10.496597	24.23	Pk	37.9	.6	-95.2	-15.2	-47.67	-13	-34.67	V
10.502766	24.53	Pk	37.9	.6	-95.2	-15.3	-47.47	-13	-34.47	H
13.992075	22.94	Pk	39.0	.7	-95.2	-13.2	-45.76	-13	-32.76	H
14.000006	23.02	Pk	39.0	.7	-95.2	-13.2	-45.68	-13	-32.68	V

10.6.2. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

FCC: §27.53
(l) 3.7 GHz Service.The following emission limits apply to stations transmitting in the 3700-3980 MHz band:
(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-19
Test Engineer:	12491
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.400500	33.22	Pk	35.5	-95.2	-26.15	-52.63	-13	-39.63	H
7.400500	33.20	Pk	35.5	-95.2	-26.15	-52.65	-13	-39.65	V
11.100500	31.08	Pk	37.8	-95.2	-22.85	-49.17	-13	-36.17	H
11.100500	31.34	Pk	37.8	-95.2	-22.85	-48.91	-13	-35.91	V
14.800000	28.02	Pk	39.4	-95.2	-19.80	-47.58	-13	-34.58	H
14.800000	29.59	Pk	39.4	-95.2	-19.80	-46.01	-13	-33.01	V
Mid Channel, 3840MHz									
7.581000	34.27	Pk	35.7	-95.2	-26	-51.23	-13	-38.23	H
7.581000	33.11	Pk	35.7	-95.2	-26	-52.39	-13	-39.39	V
11.369750	30.22	Pk	38	-95.2	-22.6	-49.58	-13	-36.58	H
11.370000	29.21	Pk	38	-95.2	-22.6	-50.59	-13	-37.59	V
15.160500	27.60	Pk	39.7	-95.2	-19.0	-46.90	-13	-33.90	H
15.160500	28.88	Pk	39.7	-95.2	-19.0	-45.62	-13	-32.62	V
High Channel, 3930MHz									
7.760500	33.66	Pk	35.8	-95.2	-26.55	-52.29	-13	-39.29	H
7.760500	33.05	Pk	35.8	-95.2	-26.55	-52.90	-13	-39.90	V
11.640000	29.66	Pk	38.4	-95.2	-22.00	-49.14	-13	-36.14	V
11.640500	30.64	Pk	38.4	-95.2	-22.05	-48.21	-13	-35.21	H
15.520500	29.08	Pk	40.4	-95.2	-18.45	-44.17	-13	-31.17	V
15.521000	29.69	Pk	40.4	-95.2	-18.30	-43.41	-13	-30.41	H

10.7. FIELD STRENGTH OF SPURIOUS RADIATION, ANT9

TEST PROCEDURE

KDB 971168 D01 /D02

All tests below 1GHz were done with a Resolution Bandwidth of 100kHz, and a Video Bandwidth of 300kHz.

RESULTS

10.7.1. 5G NR n77 (FCC Part 27 3450-3550MHz)

LIMITS

FCC: §27.53

Emission limits
(n) 3.45 GHz Service. The following emission limits apply to stations transmitting in the 3450-3550 MHz band:
(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-22
Test Engineer:	12491
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	200786 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz									
6.899500	33.70	Pk	35.6	-95.2	-26.65	-52.55	-13	-39.55	V
6.900000	33.26	Pk	35.6	-95.2	-26.60	-52.94	-13	-39.94	H
10.350500	31.17	Pk	37.5	-95.2	-24.70	-51.23	-13	-38.23	H
10.350500	30.91	Pk	37.5	-95.2	-24.70	-51.49	-13	-38.49	V
13.800500	28.90	Pk	38.8	-95.2	-19.65	-47.15	-13	-34.15	H
13.800500	29.18	Pk	38.8	-95.2	-19.65	-46.87	-13	-33.87	V

10.7.2. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

FCC: §27.53
(l) 3.7 GHz Service.The following emission limits apply to stations transmitting in the 3700-3980 MHz band:
(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-25
Test Engineer:	106018
Configuration:	EUT only
Mode	5G NR n77 BPSK 100MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.516500	29.71	Pk	35.7	-95.2	-17.5	-47.24	-13	-34.24	V
7.520500	29.85	Pk	35.7	-95.2	-17.5	-47.15	-13	-34.15	H
11.239500	28.77	Pk	37.8	-95.2	-14.2	-42.83	-13	-29.83	H
11.244000	29.13	Pk	37.8	-95.2	-14.1	-42.37	-13	-29.37	V
15.022500	28.71	Pk	39.9	-95.2	-13.0	-39.59	-13	-26.59	H
15.035500	28.18	Pk	39.9	-95.2	-12.8	-39.92	-13	-26.92	V
Mid Channel, 3840MHz									
7.708500	29.22	Pk	35.8	-95.2	-16.5	-46.68	-13	-33.68	V
7.715000	30.31	Pk	35.8	-95.2	-16.4	-45.49	-13	-32.49	H
11.528000	29.08	Pk	37.9	-95.2	-14.5	-42.72	-13	-29.72	H
11.536000	28.36	Pk	37.9	-95.2	-14.3	-43.24	-13	-30.24	V
15.345000	28.14	Pk	40.2	-95.2	-13.2	-40.06	-13	-27.06	H
15.350500	28.24	Pk	40.2	-95.2	-13.2	-39.96	-13	-26.96	V
High Channel, 3930MHz									
7.832500	29.89	Pk	35.8	-95.2	-17.75	-47.26	-13	-34.26	V
7.834000	31.00	Pk	35.8	-95.2	-17.7	-46.10	-13	-33.10	H
11.779500	28.36	Pk	38.3	-95.2	-13.9	-42.44	-13	-29.44	H
11.782000	29.05	Pk	38.3	-95.2	-13.9	-41.75	-13	-28.75	V
15.691000	28.44	Pk	40.5	-95.2	-11.8	-38.06	-13	-25.06	V
15.700500	27.59	Pk	40.4	-95.2	-12.0	-39.16	-13	-26.16	H

11. SETUP PHOTOS

Please refer to 14982489-EP1V1 Setup Photo Report for setup photos.

END OF REPORT