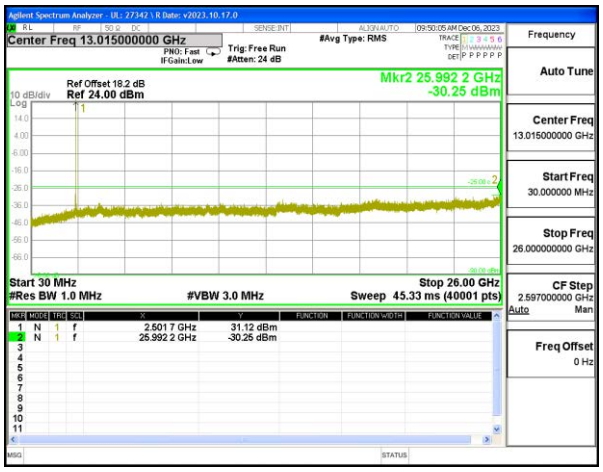
9.3.1. LTE BAND 7 AND 5G NR n7

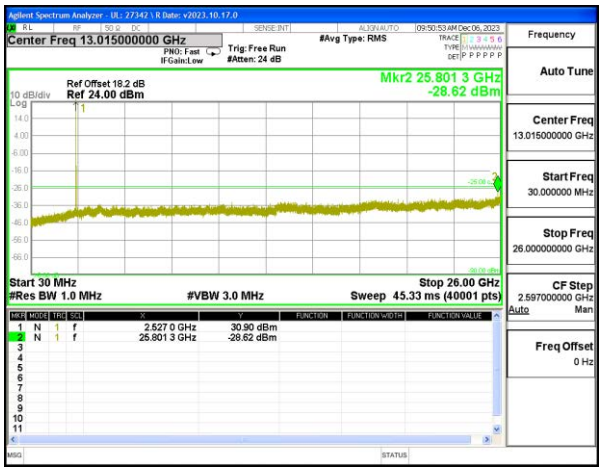
LIMITS

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.

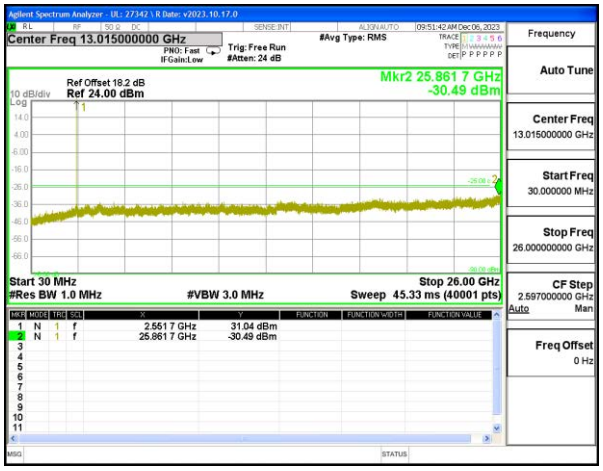
LTE BAND 7



LTE B7 20MHz QPSK Low Channel RB1-0



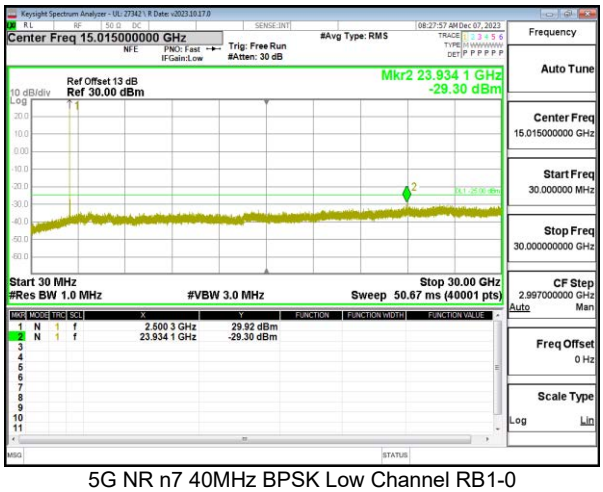
LTE B7 20MHz QPSK Middle Channel RB1-0



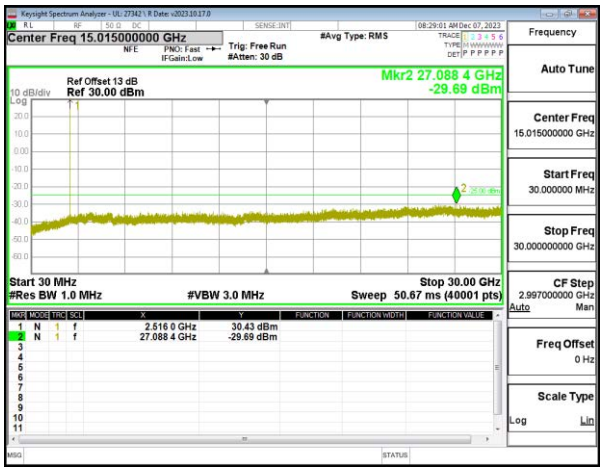
LTE B7 20MHz QPSK High Channel RB1-0

Intentionally Blank

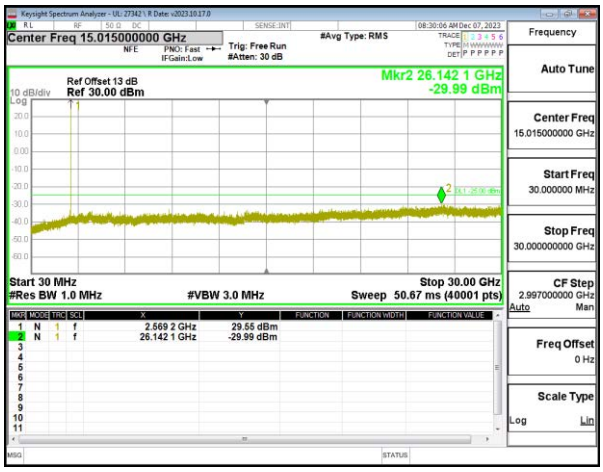
5G NR n7



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

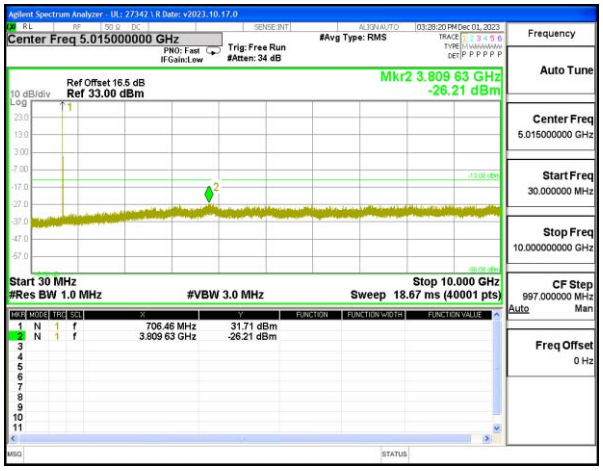
LIMITS

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

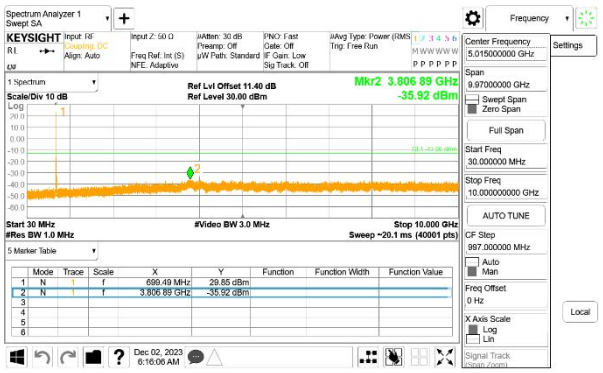
LTE B12 10MHz QPSK Middle Channel RB1-0



LTE B12 10MHz QPSK High Channel RB1-0

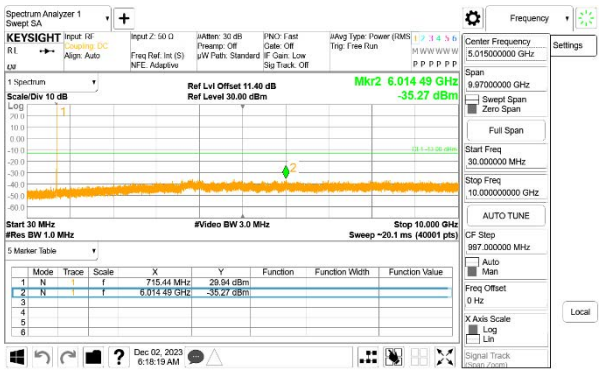
Intentionally Blank

5G NR n12



5G NR n12 15MHz BPSK Low Channel RB1-0 ID: 27957

5G NR n12 15MHz BPSK Middle Channel RB1-1 ID: 27957



5G NR n12 15MHz BPSK High Channel RB1-78 ID: 27957

Intentionally Blank

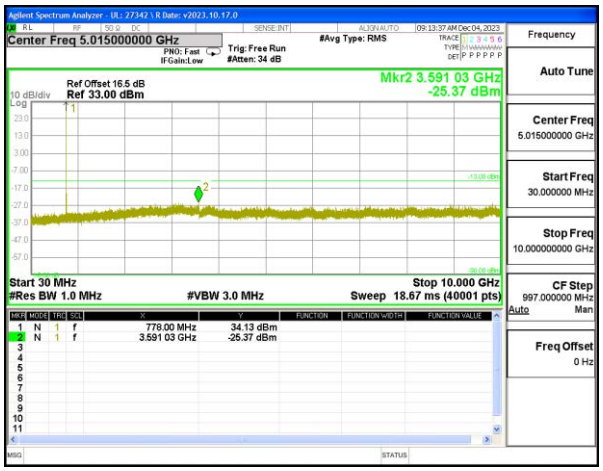
9.3.3. LTE BAND 13

LIMITS

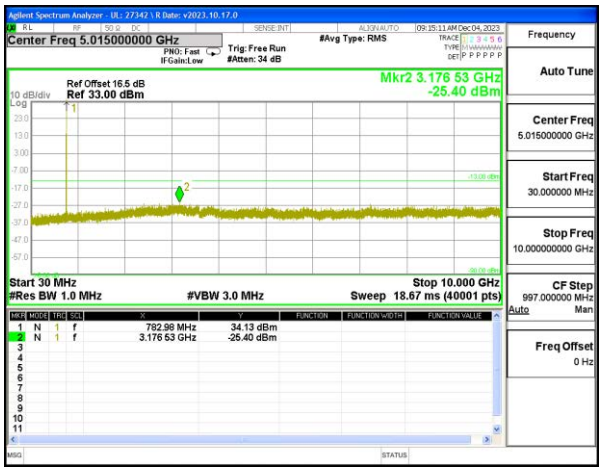
FCC: §27.53 (c), (f)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Note: Radiated data in section 9.1.6 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40dBm/MHz limit was used.

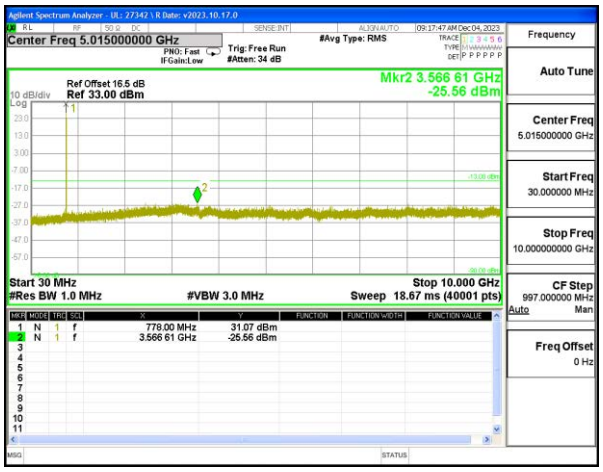
LTE BAND 13



LTE B13 5MHz QPSK Low Channel RB1-0



LTE B13 5MHz QPSK High Channel RB1-0



LTE B13 10MHz QPSK Middle Channel RB1-0

Intentionally Blank

Note: Radiated data in section 9.1.6 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

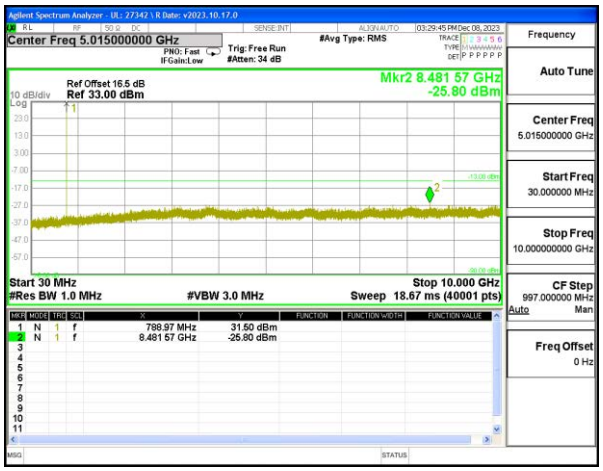
9.3.4. LTE BAND 14 AND 5G NR n14

LIMITS

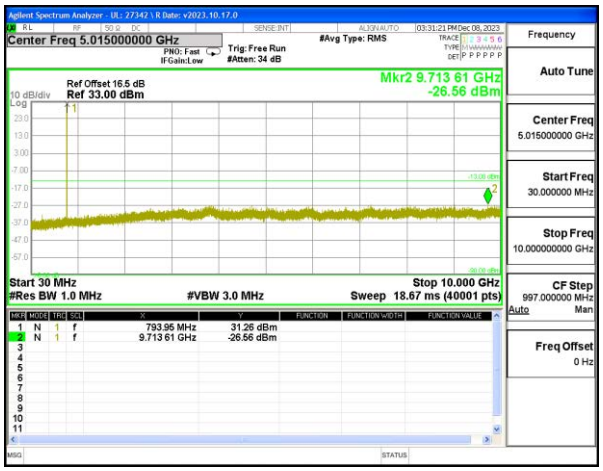
FCC: §90.543 (e), (f)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts. The band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

Note: Radiated data in section 9.1.7 confirms a compliance for the emissions in GPS 1559-1610 MHz band were wideband emissions therefore the -40dBm/MHz limit was used.

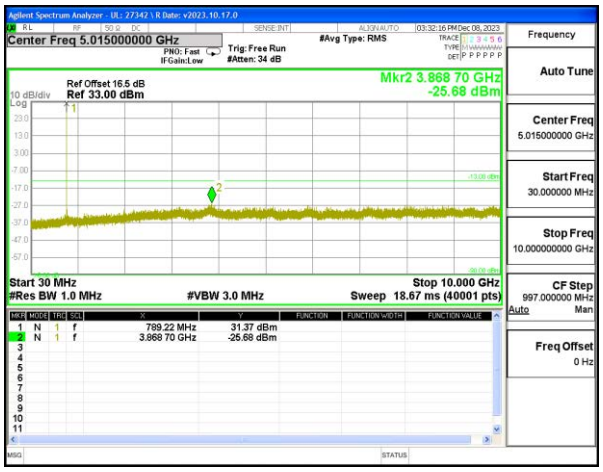
LTE BAND 14



LTE B14 5MHz QPSK Low Channel RB1-0



LTE B14 5MHz QPSK High Channel RB1-0

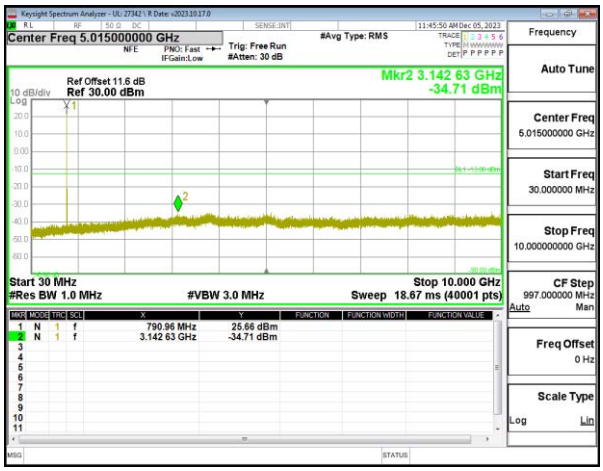


LTE B14 10MHz QPSK Middle Channel RB1-0

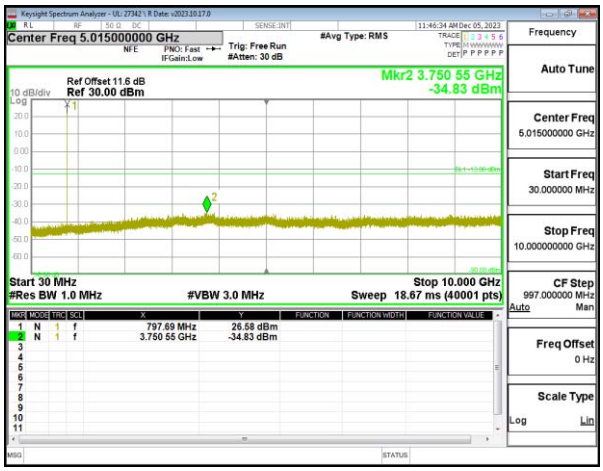
Intentionally Blank

Note: Radiated data in section 9.1.7 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

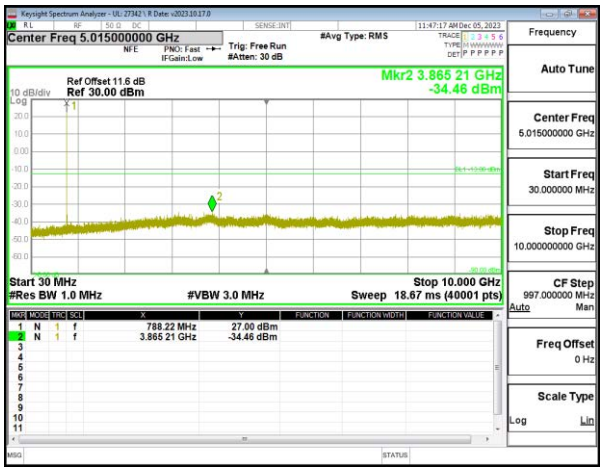
5G NR n14



5G NR n14 5MHz BPSK Middle Channel RB1-1



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



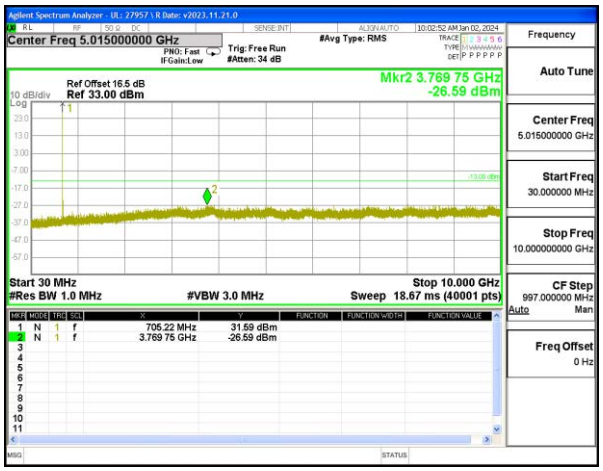
5G NR n14 10MHz BPSK Middle Channel RB1-0

Intentionally Blank

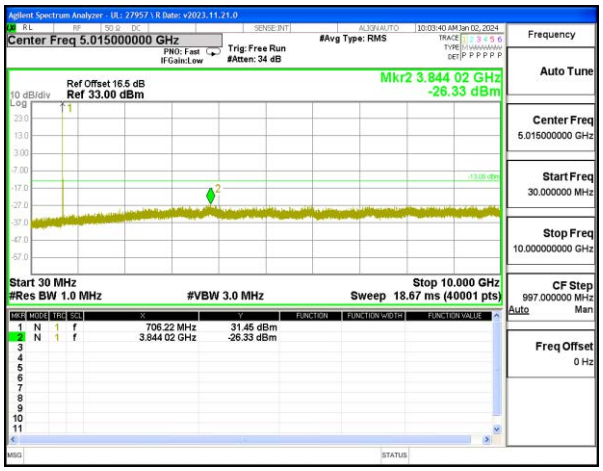
9.3.5. LTE BAND 17

LIMITS

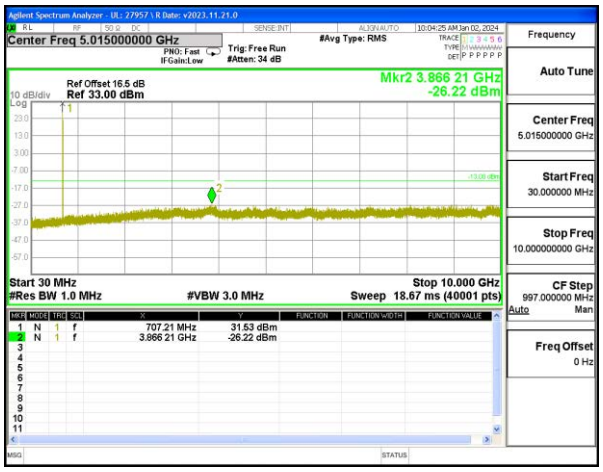
FCC: §27.53 (g)
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B17 10MHz QPSK Low Channel RB1-0



LTE B17 10MHz QPSK Middle Channel RB1-0



LTE B17 10MHz QPSK High Channel RB1-0

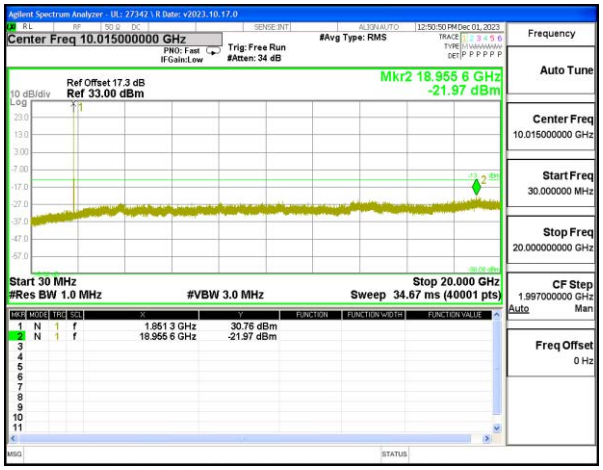
Intentionally Blank

9.3.6. LTE BAND 25 AND 5G NR n25

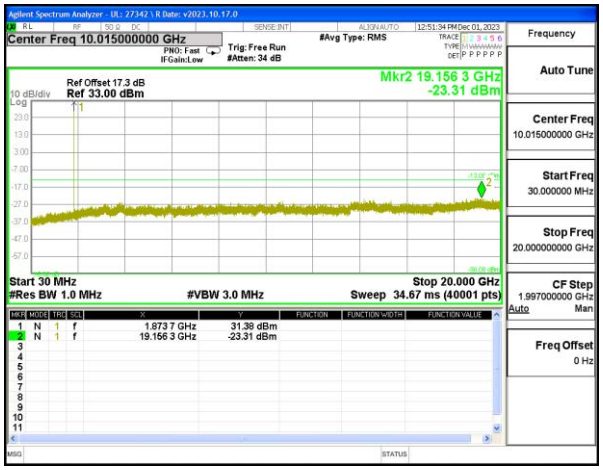
LIMITS

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.

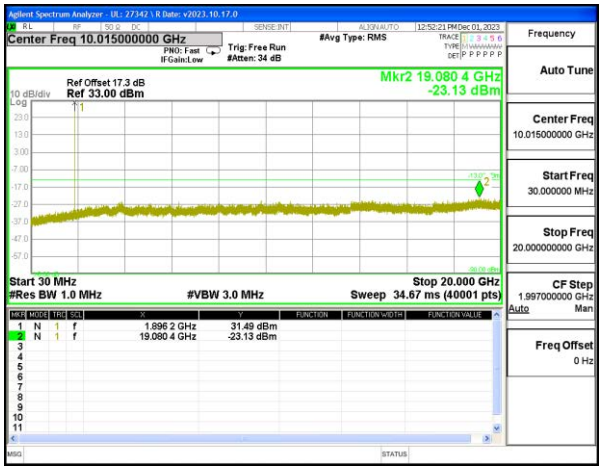
LTE BAND 25



LTE B25 20MHz QPSK Low Channel RB1-0



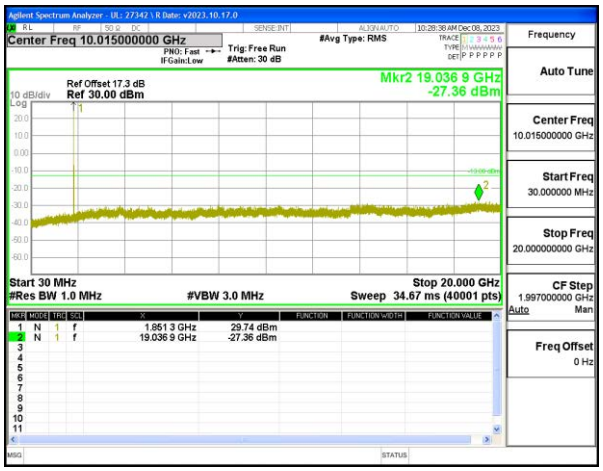
LTE B25 20MHz QPSK Middle Channel RB1-0



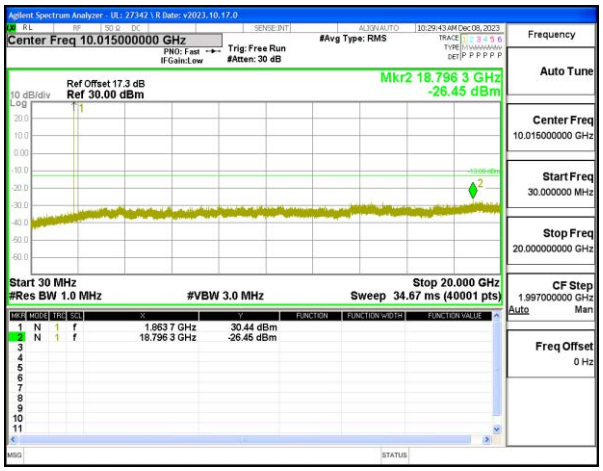
LTE B25 20MHz QPSK High Channel RB1-0

Intentionally Blank

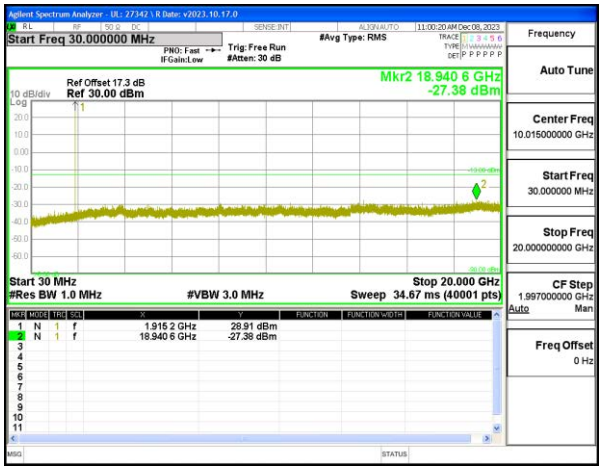
5G NR n25



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

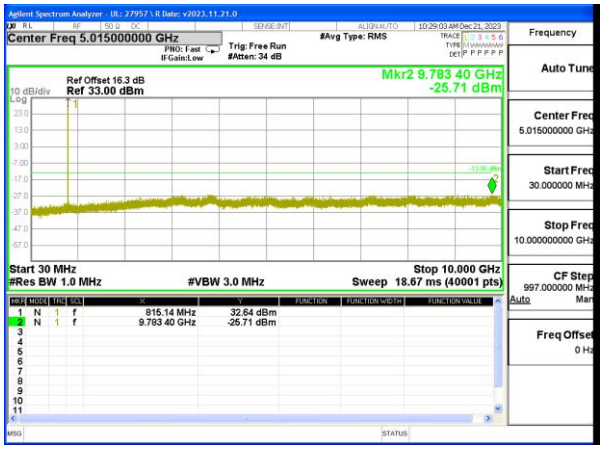
Intentionally Blank

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.

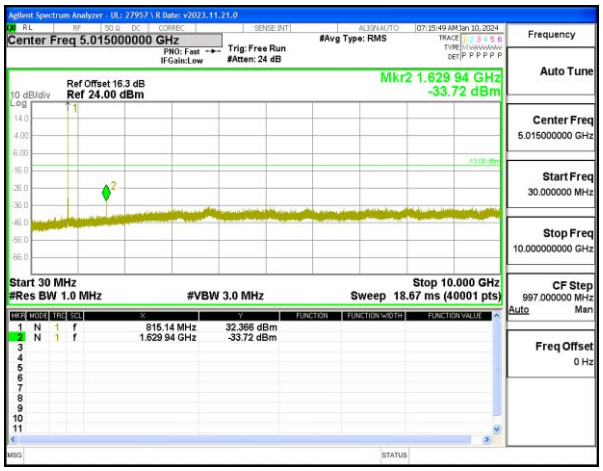
LTE BAND 26



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)

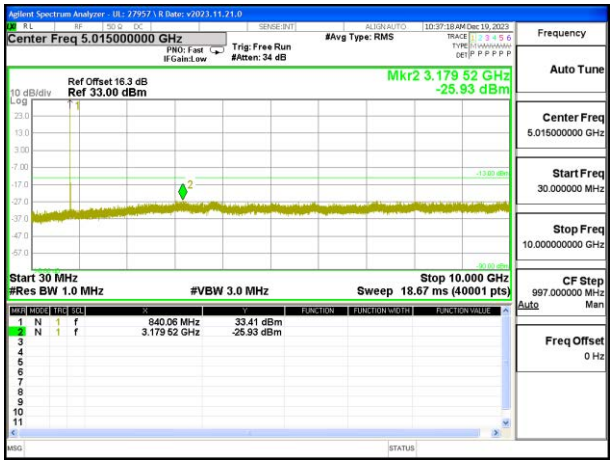
LIMITS

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

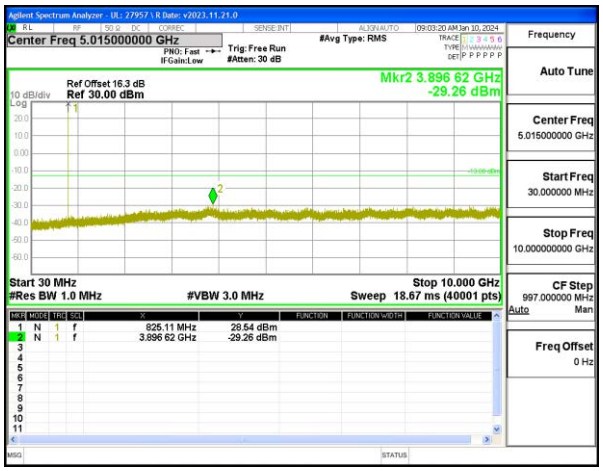
LTE B26 10MHz QPSK Middle Channel RB1-0



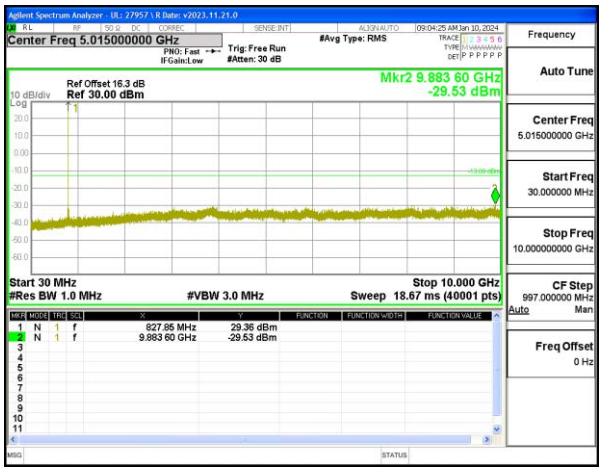
LTE B26 10MHz QPSK High Channel RB1-0

Intentionally Blank

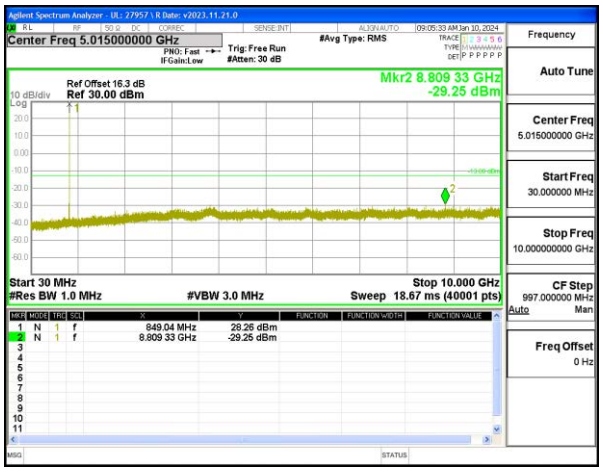
5G NR n26



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

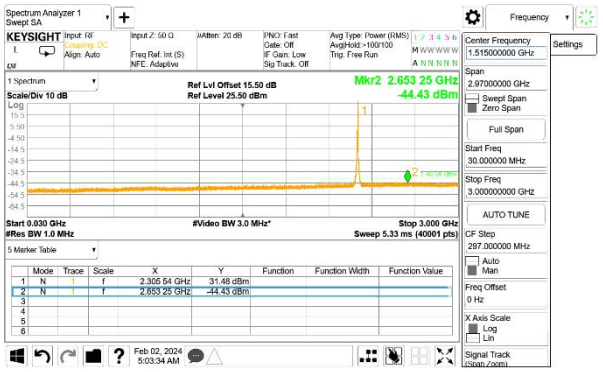
Intentionally Blank

9.3.9. LTE BAND 30 AND 5G NR n30

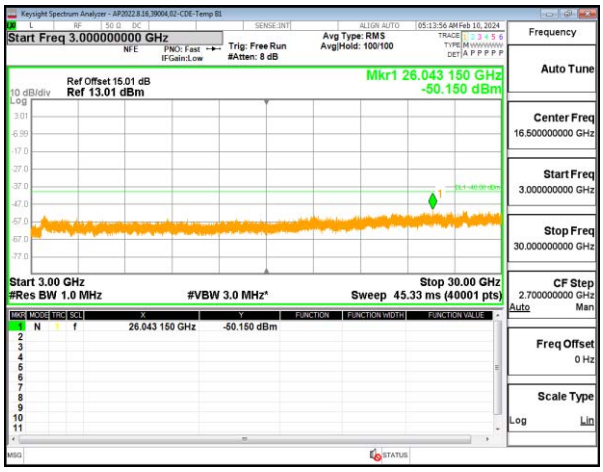
LIMITS

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), ID: 39004



LTE B30 10MHz QPSK Middle Channel RB1-0 (3G to 26G), ID: 39004

5G NR n30

5G NR n30 10MHz BPSK Middle Channel RB1-0 (30MHz to 3GHz) ID: 27342

5G NR n30 10MHz BPSK Middle Channel RB1-0 (3HHz to 30GHz) ID: 27342

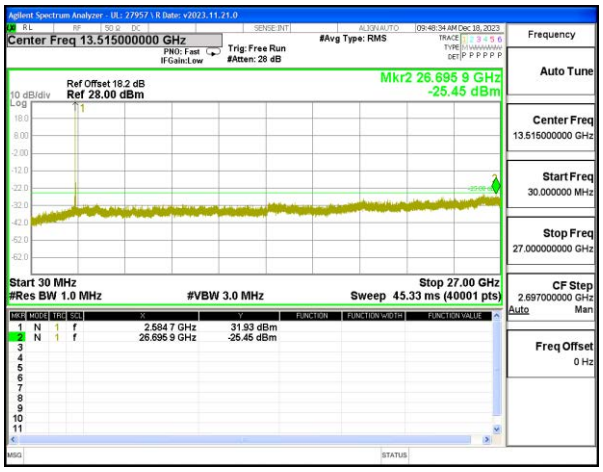
9.3.10. LTE BAND 41 AND 5G NR n41

LIMITS

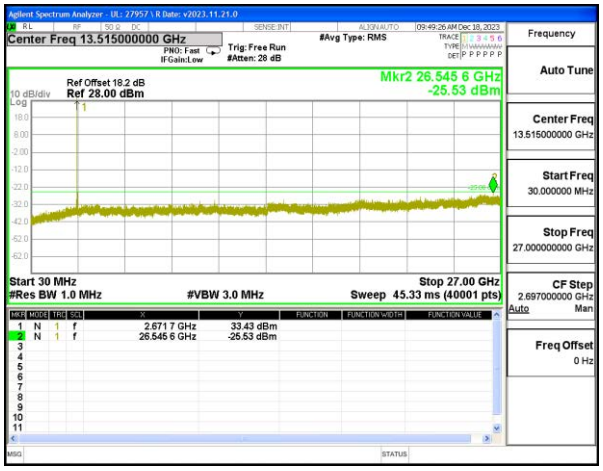
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.

LTE BAND 41

LTE B41 20MHz QPSK Low Channel RB1-0



LTE B41 20MHz QPSK Middle Channel RB1-0

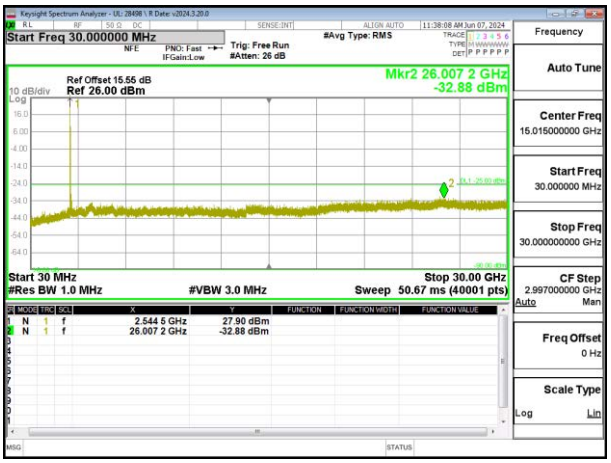


LTE B41 20MHz QPSK High Channel RB1-0

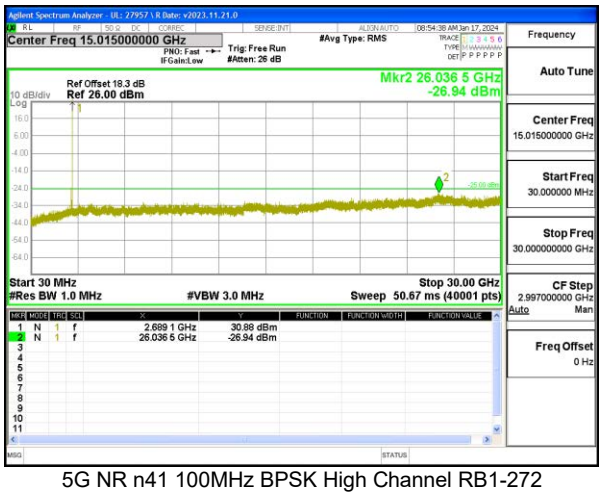
Intentionally Blank

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

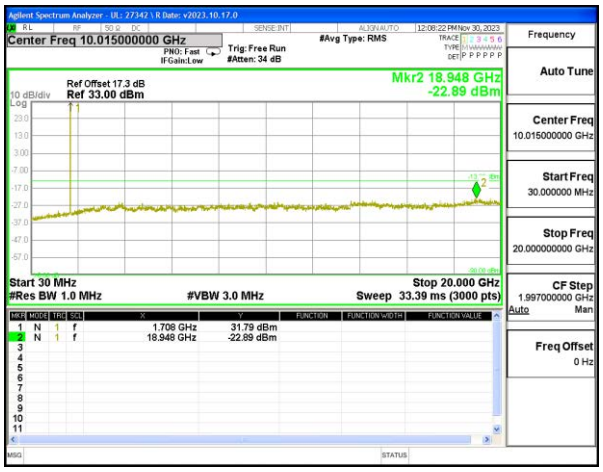
Intentionally Blank

9.3.11. LTE BAND 66 AND 5G NR n66

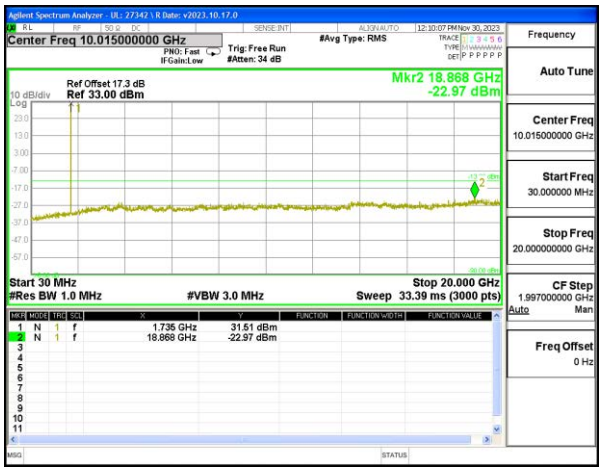
LIMITS

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.

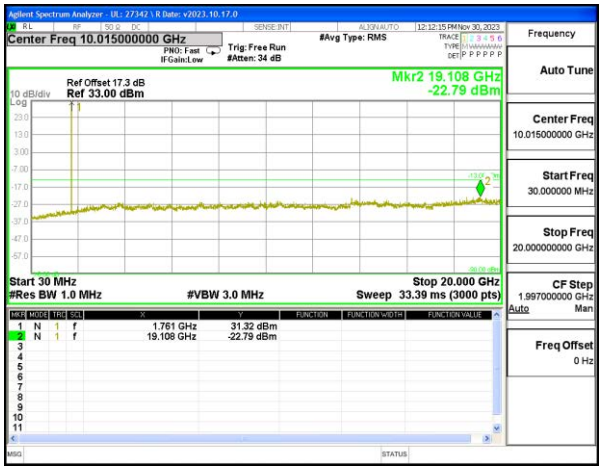
LTE BAND 66



LTE B66 20MHz QPSK Low Channel RB1-0



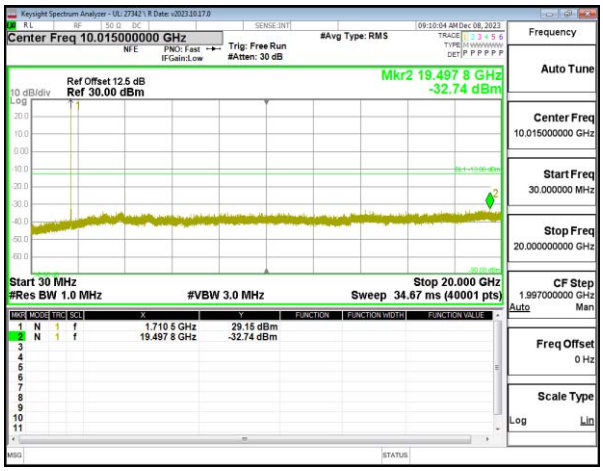
LTE B66 20MHz QPSK Middle Channel RB1-0



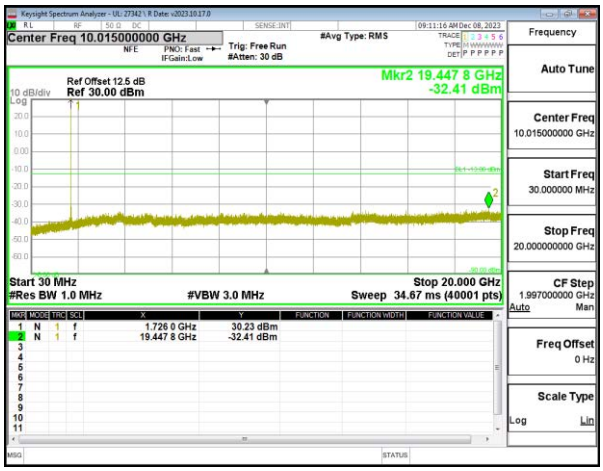
LTE B66 20MHz QPSK High Channel RB1-0

Intentionally Blank

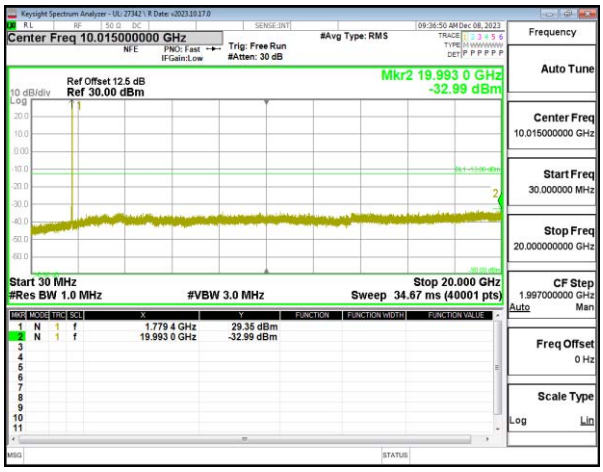
5G NR n66



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

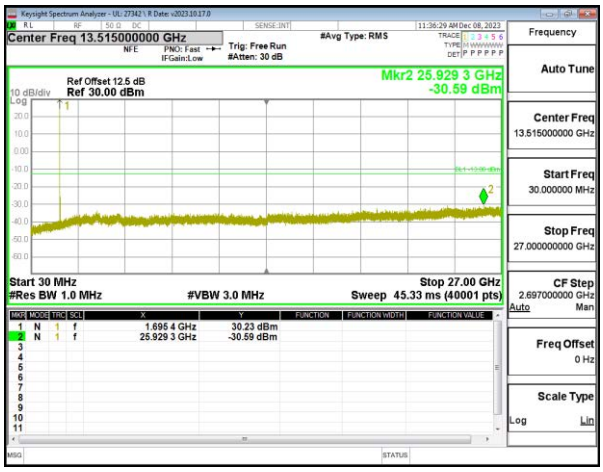
Intentionally Blank

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

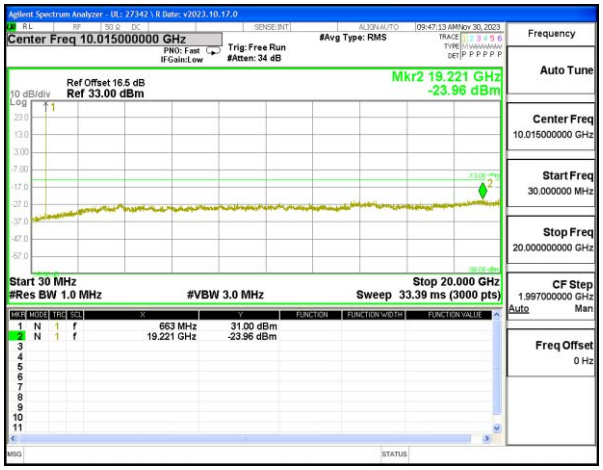
Intentionally Blank

9.3.13. LTE BAND 71 AND 5G NR n71.

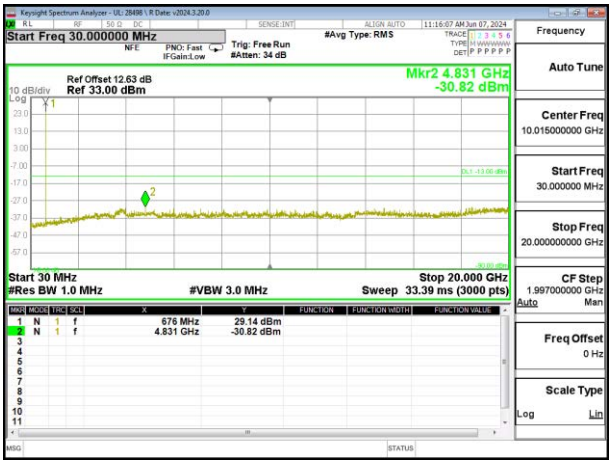
LIMITS

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.

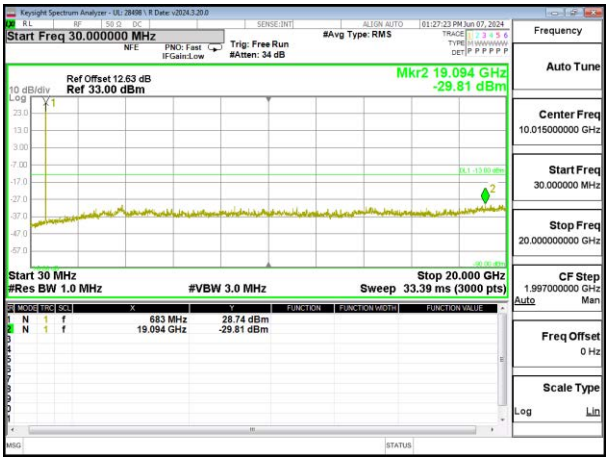
LTE BAND 71



LTE B71 20MHz QPSK Low Channel RB1-0



LTE B71 20MHz QPSK Middle Channel RB1-0



LTE B71 20MHz QPSK High Channel RB1-0

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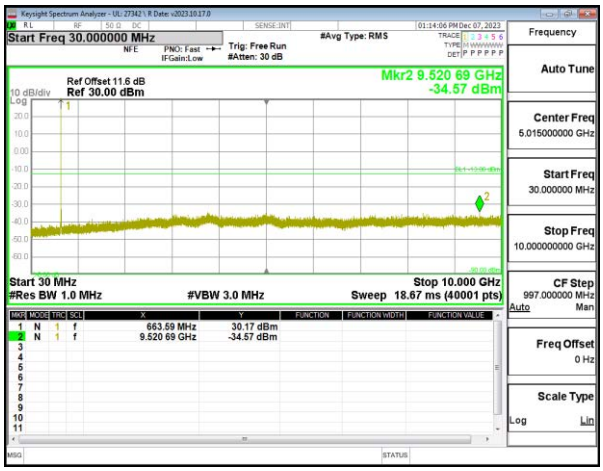
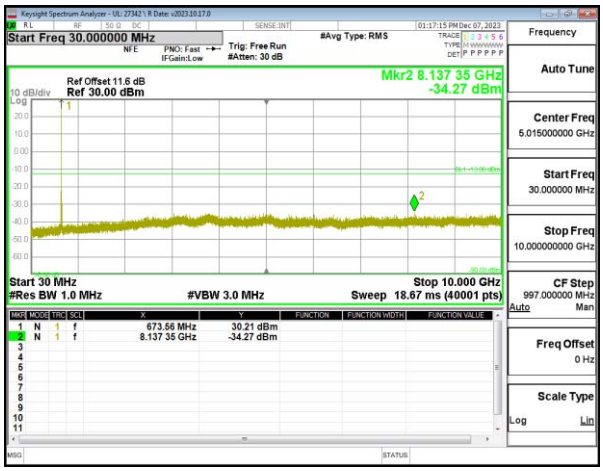
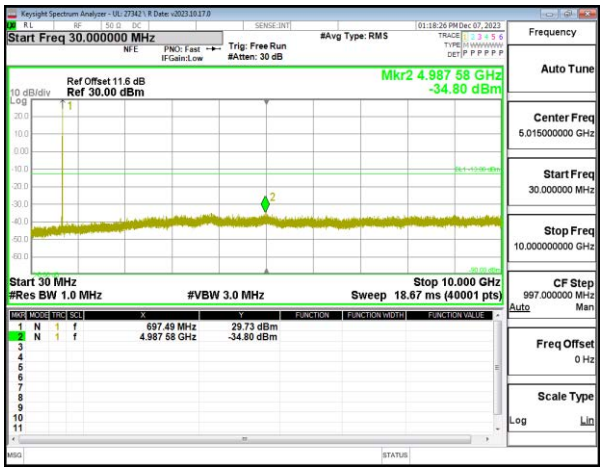
5G NR n71



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

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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 ID: 27957

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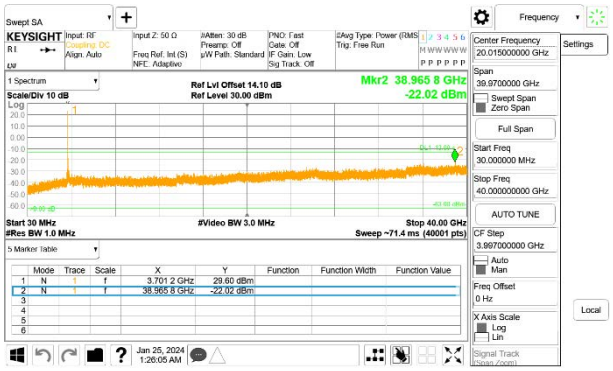
9.3.15. 5G NR n77 (FCC Part 27 3700-3980MHz)

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 ID: 26857

5G NR n77 100MHz BPSK Mid Channel RB1-1 ID: 26857

5G NR n77 100MHz BPSK High Channel RB1-272 ID: 26857

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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:	39004	Test Date:	2024-01-12

LTE BAND 7 QPSK (20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2501.0195	2568.9256			
Extreme (50°C)		2501.0195	2568.9256	-1.2	0.000	Yes
Extreme (40°C)		2501.0195	2568.9256	-0.7	0.000	Yes
Extreme (30°C)		2501.0195	2568.9256	-1.2	0.000	Yes
Extreme (10°C)		2501.0195	2568.9256	-1.8	-0.001	Yes
Extreme (0°C)		2501.0195	2568.9256	-0.7	0.000	Yes
Extreme (-10°C)		2501.0195	2568.9256	1.8	0.001	Yes
Extreme (-20°C)		2501.0195	2568.9256	1.1	0.000	Yes
Extreme (-30°C)		2501.0195	2568.9256	-1.0	0.000	Yes
20°C	15%	2501.0195	2568.9256	3.4	0.001	Yes
	-15%	2501.0195	2568.9256	4.9	0.002	Yes
	End Point Voltage	2501.0195	2568.9256	3.0	0.001	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	2500.6388	2569.3522			
Extreme (50°C)		2500.6388	2569.3522	1.49	0.001	Yes
Extreme (40°C)		2500.6388	2569.3522	2.38	0.001	Yes
Extreme (30°C)		2500.6388	2569.3522	1.88	0.001	Yes
Extreme (10°C)		2500.6388	2569.3522	2.06	0.001	Yes
Extreme (0°C)		2500.6388	2569.3522	-1.89	-0.001	Yes
Extreme (-10°C)		2500.6388	2569.3522	-1.61	-0.001	Yes
Extreme (-20°C)		2500.6388	2569.3522	2.38	0.001	Yes
Extreme (-30°C)		2500.6388	2569.3522	-3.42	-0.001	Yes
20°C	15%	2500.6388	2569.3522	-2.03	-0.001	Yes
	-15%	2500.6388	2569.3522	-1.87	-0.001	Yes
	End Point Voltage	2500.6388	2569.3522	-1.15	0.000	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:	39004	Test Date:	2024-01-12

LTE BAND 12 QPSK (10MHz 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	699.5231	715.4698			
Extreme (50°C)		699.5231	715.4698	-1.0	-0.001	Yes
Extreme (40°C)		699.5231	715.4698	-0.5	-0.001	Yes
Extreme (30°C)		699.5231	715.4698	0.5	0.001	Yes
Extreme (10°C)		699.5231	715.4698	1.1	0.002	Yes
Extreme (0°C)		699.5231	715.4698	0.5	0.001	Yes
Extreme (-10°C)		699.5231	715.4698	2.0	0.003	Yes
Extreme (-20°C)		699.5231	715.4698	2.7	0.004	Yes
Extreme (-30°C)		699.5231	715.4698	1.1	0.002	Yes
20°C	15%	699.5231	715.4698	2.7	0.004	Yes
	-15%	699.5231	715.4698	3.2	0.005	Yes
	End Point Voltage	699.5231	715.4698	1.9	0.003	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	699.4357	714.8431			
Extreme (50°C)		699.4357	714.8431	-1.45	-0.002	Yes
Extreme (40°C)		699.4357	714.8431	-0.618	-0.001	Yes
Extreme (30°C)		699.4357	714.8431	-0.501	-0.001	Yes
Extreme (10°C)		699.4357	714.8431	0.841	0.001	Yes
Extreme (0°C)		699.4357	714.8431	-0.988	-0.001	Yes
Extreme (-10°C)		699.4357	714.8431	-1.06	-0.001	Yes
Extreme (-20°C)		699.4357	714.8431	0.517	0.001	Yes
Extreme (-30°C)		699.4357	714.8431	-1.16	-0.002	Yes
20°C	15%	699.4357	714.8431	-1.1	-0.002	Yes
	-15%	699.4357	714.8431	0.68	0.001	Yes
	End Point Voltage	699.4357	714.8431	-0.433	-0.001	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:	39004	Test Date:	2024-01-12

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	777.5316	786.4894			
Extreme (50°C)		777.5316	786.4894	2.2	0.003	Yes
Extreme (40°C)		777.5316	786.4894	1.4	0.002	Yes
Extreme (30°C)		777.5316	786.4894	2.3	0.003	Yes
Extreme (10°C)		777.5316	786.4894	1.4	0.002	Yes
Extreme (0°C)		777.5316	786.4894	1.0	0.001	Yes
Extreme (-10°C)		777.5316	786.4894	0.5	0.001	Yes
Extreme (-20°C)		777.5316	786.4894	2.2	0.003	Yes
Extreme (-30°C)		777.5316	786.4894	1.5	0.002	Yes
20°C	15%	777.5316	786.4894	3.7	0.005	Yes
	-15%	777.5316	786.4894	2.8	0.004	Yes
	End Point Voltage	777.5316	786.4894	4.4	0.006	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:	39004	Test Date:	2024-01-12

LTE BAND 14 QPSK (10MHz BANDWIDTH)

Band	14	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		788	798			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	788.5217	797.5384			
Extreme (50°C)		788.5217	797.5384	2.2	0.003	Yes
Extreme (40°C)		788.5217	797.5384	1.1	0.001	Yes
Extreme (30°C)		788.5217	797.5384	2.7	0.003	Yes
Extreme (10°C)		788.5217	797.5384	1.2	0.002	Yes
Extreme (0°C)		788.5217	797.5384	1.7	0.002	Yes
Extreme (-10°C)		788.5217	797.5384	2.0	0.003	Yes
Extreme (-20°C)		788.5217	797.5384	2.4	0.003	Yes
Extreme (-30°C)		788.5217	797.5384	1.8	0.002	Yes
20°C	15%	788.5217	797.5384	3.0	0.004	Yes
	-15%	788.5217	797.5384	2.9	0.004	Yes
	End Point Voltage	788.5217	797.5384	3.2	0.004	Yes

5G NR n14 BPSK (10MHz BANDWIDTH)

Band	14	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		788	798			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	788.3062	797.3061			
Extreme (50°C)		788.3062	797.3061	-0.609	-0.001	Yes
Extreme (40°C)		788.3062	797.3061	-1.01	-0.001	Yes
Extreme (30°C)		788.3062	797.3061	-1.44	-0.002	Yes
Extreme (10°C)		788.3062	797.3061	-1.22	-0.002	Yes
Extreme (0°C)		788.3062	797.3061	-0.786	-0.001	Yes
Extreme (-10°C)		788.3062	797.3061	-0.597	-0.001	Yes
Extreme (-20°C)		788.3062	797.3061	-0.864	-0.001	Yes
Extreme (-30°C)		788.3062	797.3061	0.466	0.001	Yes
20°C	15%	788.3062	797.3061	-1.12	-0.001	Yes
	-15%	788.3062	797.3061	-1.01	-0.001	Yes
	End Point Voltage	788.3062	797.3061	-0.898	-0.001	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:	39004	Test Date:	2024-01-12

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)		704.5180	715.4877			
Extreme (50°C)		704.5180	715.4877	-0.8	-0.001	Yes
Extreme (40°C)		704.5180	715.4877	1.5	0.002	Yes
Extreme (30°C)		704.5180	715.4877	-1.0	-0.001	Yes
Extreme (10°C)	Normal	704.5180	715.4877	-1.5	-0.002	Yes
Extreme (0°C)		704.5180	715.4877	-2.3	-0.003	Yes
Extreme (-10°C)		704.5180	715.4877	1.0	0.001	Yes
Extreme (-20°C)		704.5180	715.4877	0.2	0.000	Yes
Extreme (-30°C)		704.5180	715.4877	0.8	0.001	Yes
20°C	15%	704.5180	715.4877	-2.5	-0.004	Yes
	-15%	704.5180	715.4877	-3.0	-0.004	Yes
	End Point Voltage	704.5180	715.4877	-3.4	-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:	39004	Test Date:	2024-01-12

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	1851.0770	1913.9160			
Extreme (50°C)		1851.0770	1913.9160	2.5	0.001	Yes
Extreme (40°C)		1851.0770	1913.9160	1.7	0.001	Yes
Extreme (30°C)		1851.0770	1913.9160	2.1	0.001	Yes
Extreme (10°C)		1851.0770	1913.9160	-0.4	0.000	Yes
Extreme (0°C)		1851.0770	1913.9160	-2.1	-0.001	Yes
Extreme (-10°C)		1851.0770	1913.9160	-1.0	-0.001	Yes
Extreme (-20°C)		1851.0770	1913.9160	-2.0	-0.001	Yes
Extreme (-30°C)		1851.0770	1913.9160	-2.5	-0.001	Yes
20°C	15%	1851.0770	1913.9160	2.8	0.001	Yes
	-15%	1851.0770	1913.9160	3.2	0.002	Yes
	End Point Voltage	1851.0770	1913.9160	2.9	0.002	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	1850.6377	1914.5367			
Extreme (50°C)		1850.6377	1914.5367	2.29	0.001	Yes
Extreme (40°C)		1850.6377	1914.5367	1.01	0.001	Yes
Extreme (30°C)		1850.6377	1914.5367	0.982	0.001	Yes
Extreme (10°C)		1850.6377	1914.5366	-1.31	-0.001	Yes
Extreme (0°C)		1850.6377	1914.5367	1.9	0.001	Yes
Extreme (-10°C)		1850.6377	1914.5367	0.948	0.001	Yes
Extreme (-20°C)		1850.6377	1914.5367	1.01	0.001	Yes
Extreme (-30°C)		1850.6377	1914.5366	-2.28	-0.001	Yes
20°C	15%	1850.6377	1914.5367	0.798	0.000	Yes
	-15%	1850.6377	1914.5367	1.31	0.001	Yes
	End Point Voltage	1850.6377	1914.5366	-1.23	-0.001	Yes

9.4.7. LTE BAND 26 (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:	39004	Test Date:	2024-01-12

LTE BAND 26 QPSK (10MHz 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	814.5265	823.4767			
Extreme (50°C)		814.5265	823.4767	0.4	0.000	Yes
Extreme (40°C)		814.5265	823.4767	2.4	0.003	Yes
Extreme (30°C)		814.5265	823.4767	1.0	0.001	Yes
Extreme (10°C)		814.5265	823.4767	1.8	0.002	Yes
Extreme (0°C)		814.5265	823.4767	-1.0	-0.001	Yes
Extreme (-10°C)		814.5265	823.4767	1.3	0.002	Yes
Extreme (-20°C)		814.5265	823.4767	0.5	0.001	Yes
Extreme (-30°C)		814.5265	823.4767	-1.2	-0.001	Yes
20°C	15%	814.5265	823.4767	4.5	0.005	Yes
	-15%	814.5265	823.4767	3.9	0.005	Yes
	End Point Voltage	814.5265	823.4767	2.5	0.003	Yes

5G NR n26 BPSK (10MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		814	824		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	814.5126				
Extreme (50°C)		814.5126	0.0000	1.36	0.002	Yes
Extreme (40°C)		814.5126	0.0000	1.01	0.001	Yes
Extreme (30°C)		814.5126	0.0000	1.31	0.002	Yes
Extreme (10°C)		814.5126	0.0000	1.28	0.002	Yes
Extreme (0°C)		814.5126	0.0000	1.26	0.002	Yes
Extreme (-10°C)		814.5126	0.0000	1.89	0.002	Yes
Extreme (-20°C)		814.5126	0.0000	1.36	0.002	Yes
Extreme (-30°C)		814.5126	0.0000	1.69	0.002	Yes
20°C	15%	814.5126	0.0000	1.37	0.002	Yes
	-15%	814.5126	0.0000	1.12	0.001	Yes
	End Point Voltage	814.5126	0.0000	1.34	0.002	Yes

9.4.8. LTE BAND 26 (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:	39004	Test Date:	2024-01-12

LTE BAND 26 QPSK (10MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	824.7790	848.1893			
Extreme (50°C)		824.7790	848.1893	1.0	0.001	Yes
Extreme (40°C)		824.7790	848.1893	1.6	0.002	Yes
Extreme (30°C)		824.7790	848.1893	0.7	0.001	Yes
Extreme (10°C)		824.7790	848.1893	1.5	0.002	Yes
Extreme (0°C)		824.7790	848.1893	-0.5	-0.001	Yes
Extreme (-10°C)		824.7790	848.1893	1.7	0.002	Yes
Extreme (-20°C)		824.7790	848.1893	0.9	0.001	Yes
Extreme (-30°C)		824.7790	848.1893	-0.8	-0.001	Yes
20°C	15%	824.7790	848.1893	1.1	0.001	Yes
	-15%	824.7790	848.1893	2.3	0.003	Yes
	End Point Voltage	824.7790	848.1893	3.1	0.004	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)	Normal	824.4557	847.3874			
Extreme (50°C)		824.4557	847.3874	0.808	0.001	Yes
Extreme (40°C)		824.4557	847.3874	1.92	0.002	Yes
Extreme (30°C)		824.4557	847.3874	2.15	0.003	Yes
Extreme (10°C)		824.4557	847.3874	2.19	0.003	Yes
Extreme (0°C)		824.4557	847.3874	1.57	0.002	Yes
Extreme (-10°C)		824.4557	847.3874	0.699	0.001	Yes
Extreme (-20°C)		824.4557	847.3874	0.799	0.001	Yes
Extreme (-30°C)		824.4557	847.3874	1.42	0.002	Yes
20°C	15%	824.4557	847.3874	0.796	0.001	Yes
	-15%	824.4557	847.3874	1.01	0.001	Yes
	End Point Voltage	824.4557	847.3874	1.32	0.002	Yes

9.4.9. LTE BAND 30 and 5G 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:	39004	Test Date:	2024-01-12

LTE BAND 30 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	2305.5213	2314.5281			
Extreme (50°C)		2305.5213	2314.5281	-2.0	-0.001	Yes
Extreme (40°C)		2305.5213	2314.5281	-1.5	-0.001	Yes
Extreme (30°C)		2305.5213	2314.5281	-0.5	0.000	Yes
Extreme (10°C)		2305.5213	2314.5281	-1.2	-0.001	Yes
Extreme (0°C)		2305.5213	2314.5281	-1.8	-0.001	Yes
Extreme (-10°C)		2305.5213	2314.5281	-1.5	-0.001	Yes
Extreme (-20°C)		2305.5213	2314.5281	-0.8	0.000	Yes
Extreme (-30°C)		2305.5213	2314.5281	1.3	0.001	Yes
20°C	15%	2305.5213	2314.5281	4.0	0.002	Yes
	-15%	2305.5213	2314.5281	4.4	0.002	Yes
	End Point Voltage	2305.5213	2314.5281	3.7	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	2305.3536	2314.2850			
Extreme (50°C)		2305.3536	2314.2850	-1.07	0.000	Yes
Extreme (40°C)		2305.3536	2314.2850	-1.65	-0.001	Yes
Extreme (30°C)		2305.3536	2314.2850	-2.03	-0.001	Yes
Extreme (10°C)		2305.3536	2314.2850	-1.6	-0.001	Yes
Extreme (0°C)		2305.3536	2314.2850	-1.84	-0.001	Yes
Extreme (-10°C)		2305.3536	2314.2850	-1.51	-0.001	Yes
Extreme (-20°C)		2305.3536	2314.2850	-1.43	-0.001	Yes
Extreme (-30°C)		2305.3536	2314.2850	-1.35	-0.001	Yes
20°C	15%	2305.3536	2314.2850	-1.23	-0.001	Yes
	-15%	2305.3536	2314.2850	-1.42	-0.001	Yes
	End Point Voltage	2305.3536	2314.2850	-1.5	-0.001	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:	39004	Test Date:	2024-01-12

LTE BAND 41 QPSK (20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2497.0508	2688.9330			
Extreme (50°C)		2497.0508	2688.9330	-2.7	-0.001	Yes
Extreme (40°C)		2497.0508	2688.9330	-2.4	-0.001	Yes
Extreme (30°C)		2497.0508	2688.9330	-2.2	-0.001	Yes
Extreme (10°C)		2497.0508	2688.9330	-3.0	-0.001	Yes
Extreme (0°C)		2497.0508	2688.9330	-3.7	-0.001	Yes
Extreme (-10°C)		2497.0508	2688.9330	-3.2	-0.001	Yes
Extreme (-20°C)		2497.0508	2688.9330	-2.7	-0.001	Yes
Extreme (-30°C)		2497.0508	2688.9330	-4.0	-0.002	Yes
20°C	15%	2497.0508	2688.9330	-4.2	-0.002	Yes
	-15%	2497.0508	2688.9330	-4.0	-0.002	Yes
	End Point Voltage	2497.0508	2688.9330	-3.7	-0.001	Yes

5G NR n41 BPSK (100MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2497.1054	2687.7619			
Extreme (50°C)		2497.1054	2687.7619	-1.63	-0.001	Yes
Extreme (40°C)		2497.1054	2687.7619	-1.88	-0.001	Yes
Extreme (30°C)		2497.1054	2687.7619	-2.55	-0.001	Yes
Extreme (10°C)		2497.1054	2687.7619	-1.34	-0.001	Yes
Extreme (0°C)		2497.1054	2687.7619	-2.06	-0.001	Yes
Extreme (-10°C)		2497.1054	2687.7619	-2.01	-0.001	Yes
Extreme (-20°C)		2497.1054	2687.7619	-2.72	-0.001	Yes
Extreme (-30°C)		2497.1054	2687.7619	-2.68	-0.001	Yes
20°C	15%	2497.1054	2687.7619	-2.01	-0.001	Yes
	-15%	2497.1054	2687.7619	-3.62	-0.001	Yes
	End Point Voltage	2497.1054	2687.7619	-1.5	-0.001	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:	39004	Test Date:	2024-01-12

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	1711.0591	1778.9511			
Extreme (50°C)		1711.0591	1778.9511	1.2	0.001	Yes
Extreme (40°C)		1711.0591	1778.9511	-1.2	-0.001	Yes
Extreme (30°C)		1711.0591	1778.9511	2.0	0.001	Yes
Extreme (10°C)		1711.0591	1778.9511	-1.0	-0.001	Yes
Extreme (0°C)		1711.0591	1778.9511	-3.1	-0.002	Yes
Extreme (-10°C)		1711.0591	1778.9511	1.2	0.001	Yes
Extreme (-20°C)		1711.0591	1778.9511	2.2	0.001	Yes
Extreme (-30°C)		1711.0591	1778.9511	3.1	0.002	Yes
20°C	15%	1711.0591	1778.9511	3.0	0.002	Yes
	-15%	1711.0591	1778.9511	2.8	0.002	Yes
	End Point Voltage	1711.0591	1778.9511	4.2	0.002	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	1710.5984	1779.6200			
Extreme (50°C)		1710.5984	1779.6200	-1.09	-0.001	Yes
Extreme (40°C)		1710.5984	1779.6200	-2.9	-0.002	Yes
Extreme (30°C)		1710.5984	1779.6200	-2.11	-0.001	Yes
Extreme (10°C)		1710.5984	1779.6200	-3.64	-0.002	Yes
Extreme (0°C)		1710.5984	1779.6200	-2.03	-0.001	Yes
Extreme (-10°C)		1710.5984	1779.6200	-1.78	-0.001	Yes
Extreme (-20°C)		1710.5984	1779.6200	-1.81	-0.001	Yes
Extreme (-30°C)		1710.5984	1779.6200	-3.58	-0.002	Yes
20°C	15%	1710.5984	1779.6200	-1.23	-0.001	Yes
	-15%	1710.5984	1779.6200	-2.83	-0.002	Yes
	End Point Voltage	1710.5984	1779.6200	-2.04	-0.001	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:	37342	Test Date:	2024-03-14

5G NR n70 BPSK (15MHz BANDWIDTH)

Band	70	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1695	1710			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	1695.4294	1708.8224			
Extreme (50°C)		1695.4294	1708.8224	-1.48	-0.001	Yes
Extreme (40°C)		1695.4294	1708.8224	-1.85	-0.001	Yes
Extreme (30°C)		1695.4294	1708.8224	-2.32	-0.001	Yes
Extreme (10°C)		1695.4294	1708.8224	-1.15	-0.001	Yes
Extreme (0°C)		1695.4294	1708.8224	-2.33	-0.001	Yes
Extreme (-10°C)		1695.4294	1708.8224	-1.8	-0.001	Yes
Extreme (-20°C)		1695.4294	1708.8224	-1.93	-0.001	Yes
Extreme (-30°C)		1695.4294	1708.8224	-1.81	-0.001	Yes
20°C	15%	1695.4294	1708.8224	-1.32	-0.001	Yes
	-15%	1695.4294	1708.8224	-1.81	-0.001	Yes
	End Point Voltage	1695.4294	1708.8224	-1.94	-0.001	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:	39004	Test Date:	2024-01-12

LTE BAND 71 QPSK (20MHz BANDWIDTH)

Band	71	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		663	698			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)		664.0540	696.9446			
Extreme (50°C)		664.0540	696.9446	1.7	0.002	Yes
Extreme (40°C)		664.0540	696.9446	0.5	0.001	Yes
Extreme (30°C)		664.0540	696.9446	-1.2	-0.002	Yes
Extreme (10°C)	Normal	664.0540	696.9446	-1.0	-0.001	Yes
Extreme (0°C)		664.0540	696.9446	-2.2	-0.003	Yes
Extreme (-10°C)		664.0540	696.9446	-1.2	-0.002	Yes
Extreme (-20°C)		664.0540	696.9446	-0.5	-0.001	Yes
Extreme (-30°C)		664.0540	696.9446	1.0	0.001	Yes
20°C	15%	664.0540	696.9446	-2.5	-0.004	Yes
	-15%	664.0540	696.9446	-3.7	-0.005	Yes
	End Point Voltage	664.0540	696.9446	-3.3	-0.005	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	663.4808	696.4332			
Extreme (50°C)		663.4808	696.4332	0.696	0.001	Yes
Extreme (40°C)		663.4808	696.4332	-0.687	-0.001	Yes
Extreme (30°C)		663.4808	696.4332	0.356	0.001	Yes
Extreme (10°C)		663.4808	696.4332	-1.23	-0.002	Yes
Extreme (0°C)		663.4808	696.4332	-1.09	-0.002	Yes
Extreme (-10°C)		663.4808	696.4332	-0.515	-0.001	Yes
Extreme (-20°C)		663.4808	696.4332	-1.35	-0.002	Yes
Extreme (-30°C)		663.4808	696.4332	0.906	0.001	Yes
20°C	15%	663.4808	696.4332	0.431	0.001	Yes
	-15%	663.4808	696.4332	-1.12	-0.002	Yes
	End Point Voltage	663.4808	696.4332	-0.873	-0.001	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:	27342	Test Date:	2024-03-28

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3450.01	3549.98			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	3451.1755	3547.7559			
Extreme (50°C)		3451.1755	3547.7559	2.85	0.001	Yes
Extreme (40°C)		3451.1755	3547.7559	-3.03	-0.001	Yes
Extreme (30°C)		3451.1755	3547.7559	2.01	0.001	Yes
Extreme (10°C)		3451.1755	3547.7559	1.05	0.000	Yes
Extreme (0°C)		3451.1755	3547.7559	-2.69	-0.001	Yes
Extreme (-10°C)		3451.1755	3547.7559	-1.88	-0.001	Yes
Extreme (-20°C)		3451.1755	3547.7559	2.69	0.001	Yes
Extreme (-30°C)		3451.1755	3547.7559	-1.1	0.000	Yes
20°C	15%	3451.1755	3547.7559	-2.77	-0.001	Yes
	-15%	3451.1755	3547.7559	-2.1	-0.001	Yes
	End Point Voltage	3451.1755	3547.7559	-1.22	0.000	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:	27342	Test Date:	2024-02-15

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3700	3980			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	3701.1312	3977.7546			
Extreme (50°C)		3701.1312	3977.7546	2.63	0.001	Yes
Extreme (40°C)		3701.1312	3977.7546	2.48	0.001	Yes
Extreme (30°C)		3701.1312	3977.7546	2.68	0.001	Yes
Extreme (10°C)		3701.1312	3977.7546	2.26	0.001	Yes
Extreme (0°C)		3701.1313	3977.7546	5.25	0.001	Yes
Extreme (-10°C)		3701.1312	3977.7546	2.67	0.001	Yes
Extreme (-20°C)		3701.1313	3977.7546	5.79	0.002	Yes
Extreme (-30°C)		3701.1312	3977.7546	2.59	0.001	Yes
20°C	15%	3701.1312	3977.7546	2.78	0.001	Yes
	-15%	3701.1312	3977.7546	-2.64	-0.001	Yes
	End Point Voltage	3701.1312	3977.7546	-1.89	0.000	Yes

9.5. PEAK-TO-AVERAGE POWER RATIO

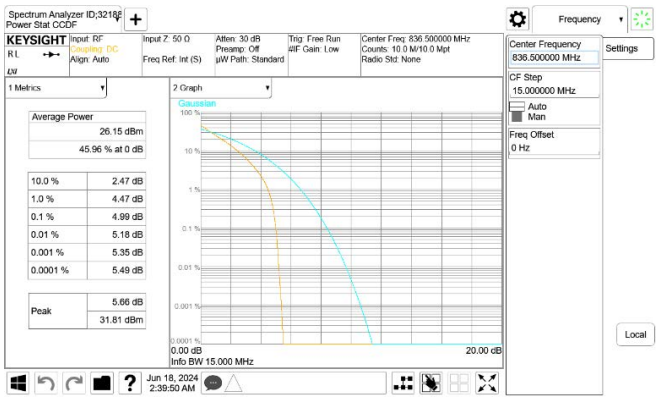
LIMIT

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

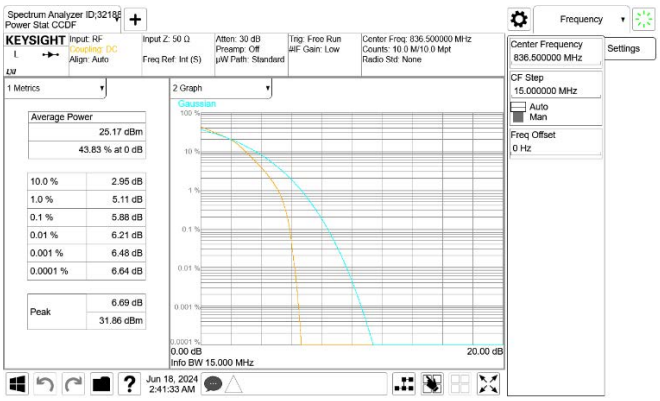
RESULT

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.

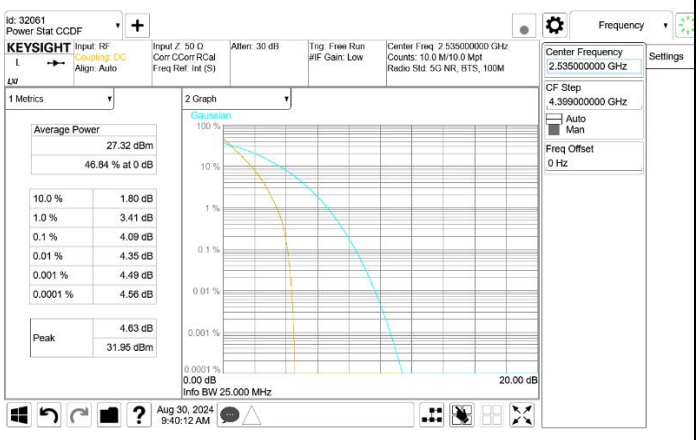
Example Plots: FULL RB



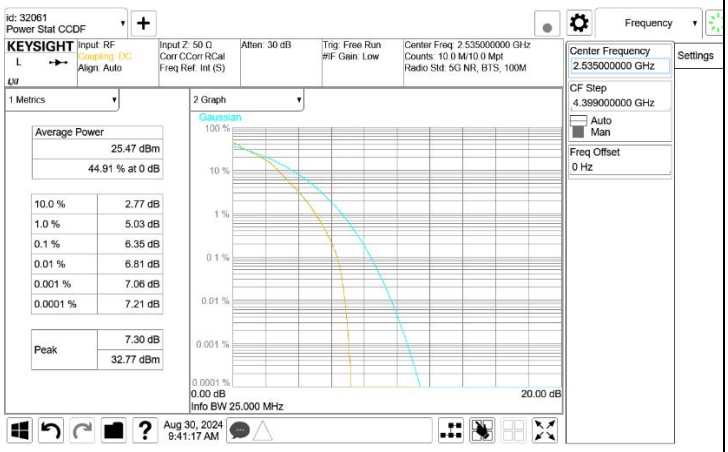
LTE B26 15MHz QPSK Middle Channel



LTE B26 15MHz 16QAM Middle Channel



5G NR n7 40MHz BPSK Middle Channel



5G NR n7 40MHz 16QAM Middle Channel

9.5.1. LTE BAND 7 AND 5G NR n7

Test Engineer ID:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	32.32	27.51	4.81
					16QAM	31.83	27.67	4.16
	10MHz		50	0	QPSK	30.55	27.06	3.49
					16QAM	30.50	26.04	4.46
	15MHz		75	0	QPSK	30.31	26.82	3.49
					16QAM	30.38	26.02	4.36
	20MHz		100	0	QPSK	30.47	27.00	3.47
					16QAM	30.78	26.18	4.60
5G NR Band n7	5MHz		25	0	BPSK	30.90	26.81	4.09
					16QAM	32.15	25.40	6.75
	10MHz		50	0	BPSK	31.41	26.94	4.47
					16QAM	32.19	25.54	6.65
	15MHz		75	0	BPSK	31.46	27.12	4.34
					16QAM	32.26	25.56	6.70
	20MHz		100	0	BPSK	31.44	27.03	4.41
					16QAM	32.42	25.62	6.80
	25MHz		128	0	BPSK	31.23	27.05	4.18
					16QAM	32.41	25.77	6.64
	30MHz		160	0	BPSK	32.00	27.28	4.72
					16QAM	32.89	25.79	7.10
	35MHz		180	0	BPSK	31.23	26.7	4.53
					16QAM	32.82	25.21	7.61
	40MHz		216	0	BPSK	31.95	27.32	4.63
					16QAM	32.77	25.47	7.30
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:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	30.45	27.07	3.38
					16QAM	30.48	26.27	4.21
	3MHz		15	0	QPSK	30.76	27.03	3.73
					16QAM	31.11	26.62	4.49
	5MHz		25	0	QPSK	30.78	27.09	3.69
					16QAM	30.87	26.58	4.29
	10MHz		50	0	QPSK	30.63	27.01	3.62
					16QAM	30.75	26.48	4.27
5G NR Band n12	5MHz		25	0	BPSK	31.66	27.66	4.00
					16QAM	32.85	26.25	6.60
	10MHz		50	0	BPSK	31.81	27.64	4.17
					16QAM	32.69	26.2	6.49
	15MHz		75	0	BPSK	31.76	27.67	4.09
					16QAM	32.75	26.2	6.55
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:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	30.69	27.21	3.48
					16QAM	31.04	26.86	4.18
	10MHz		50	0	QPSK	30.68	27.13	3.55
					16QAM	31.00	26.72	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:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	30.89	27.18	3.71
					16QAM	31.25	26.77	4.48
	10MHz		50	0	QPSK	30.91	27.09	3.82
					16QAM	31.31	26.67	4.64
5G NR Band n14	5MHz		25	0	BPSK	30.29	26.14	4.15
					16QAM	31.27	24.73	6.54
	10MHz		50	0	BPSK	30.55	26.12	4.43
					16QAM	31.35	24.69	6.66
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:	39004	Test Date:	2024-01-15 and 2024-01-04

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	30.14	26.83	3.31
					16QAM	30.29	26.19	4.10
	10MHz		50	0	QPSK	30.11	26.75	3.36
					16QAM	30.12	25.98	4.14
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:	39004 & 52275	Test Date:	2024-06-10 and 2024-02-08

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	31.04	27.38	3.66
					16QAM	31.69	27.07	4.62
	3MHz		15	0	QPSK	31.19	27.39	3.80
					16QAM	32.08	27.03	5.05
	5MHz		25	0	QPSK	31.56	27.56	4.00
					16QAM	31.88	27.03	4.85
	10MHz		50	0	QPSK	31.15	27.38	3.77
					16QAM	31.95	27.01	4.94
	15MHz		75	0	QPSK	31.48	27.26	4.22
					16QAM	32.25	27.06	5.19
	20MHz		100	0	QPSK	31.41	27.32	4.09
					16QAM	32.31	26.96	5.35
5G NR Band n25	5MHz		25	0	BPSK	30.36	26.3	4.06
					16QAM	31.75	24.99	6.76
	10MHz		50	0	BPSK	30.98	26.32	4.66
					16QAM	31.67	24.98	6.69
	15MHz		75	0	BPSK	30.72	26.4	4.32
					16QAM	31.66	24.96	6.70
	20MHz		100	0	BPSK	30.98	26.45	4.53
					16QAM	31.83	25.12	6.71
	25MHz		128	0	BPSK	30.97	26.60	4.37
					16QAM	32.86	25.38	7.48
	30MHz		160	0	BPSK	31.32	26.93	4.39
					16QAM	32.86	25.38	7.48
	35MHz		180	0	BPSK	31.37	26.76	4.61
					16QAM	32.83	25.28	7.55
	40MHz		216	0	BPSK	30.73	26.03	4.70
					16QAM	32.11	24.47	7.64
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:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	31.25	26.87	4.38
					16QAM	31.27	26.18	5.09
	3MHz		15	0	QPSK	30.58	26.86	3.72
					16QAM	31.15	26.57	4.58
	5MHz		25	0	QPSK	30.93	26.94	3.99
					16QAM	31.05	26.64	4.41
	10MHz		50	0	QPSK	30.50	26.90	3.60
					16QAM	30.81	26.42	4.39
5G NR Band n26 (FCC Part 90s)	5MHz		25	0	BPSK	30.37	26.27	4.10
					16QAM	31.39	24.8	6.59
	10MHz		50	0	BPSK	30.79	26.33	4.46
					16QAM	31.62	24.92	6.70
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:	39004 & 52275	Test Date:	1/4/2024 and 2024-02-08

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	31.34	26.85	4.49
					16QAM	31.43	26.26	5.17
	3MHz		15	0	QPSK	30.42	26.82	3.60
					16QAM	31.04	26.45	4.59
	5MHz		25	0	QPSK	30.62	26.91	3.71
					16QAM	31.26	26.63	4.63
	10MHz		50	0	QPSK	30.41	26.82	3.59
					16QAM	31.23	26.46	4.77
5G NR Band n26 (FCC Part 22)	5MHz		25	0	BPSK	30.57	26.46	4.11
					16QAM	31.70	25.10	6.60
	10MHz		50	0	BPSK	31.21	26.58	4.63
					16QAM	31.71	25.09	6.62
	15MHz		75	0	BPSK	31.02	26.49	4.53
					16QAM	32.04	25.12	6.92
	20MHz		100	0	BPSK	31.11	26.53	4.58
					16QAM	32.06	25.06	7.00
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:	39004 & 32545	Test Date:	1/4/2024 and 2024-02-09

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	31.09	27.36	3.73
					16QAM	31.63	27.10	4.53
	10MHz		50	0	QPSK	31.29	27.25	4.04
					16QAM	32.01	26.90	5.11
5G NR Band n30	5MHz		25	0	BPSK	29.76	25.68	4.08
					16QAM	30.78	24.22	6.56
	10MHz		50	0	BPSK	30.20	25.69	4.51
					16QAM	30.99	24.20	6.79
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:	27342	Test Date:	2024-02-13

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	34.98	23.15	*4.84
					16QAM	36.70	21.57	*8.14
	10MHz		50	0	QPSK	33.43	23.29	*3.15
					16QAM	33.65	20.68	*5.98
	15MHz		75	0	QPSK	33.75	22.66	*4.1
					16QAM	33.51	21.86	*4.66
	20MHz		100	0	QPSK	34.69	21.72	*5.98
					16QAM	35.37	22.17	*6.21
5G NR Band n41	10MHz		24	0	BPSK	34.15	27.15	7.00
					16QAM	34.15	27.15	7.00
	15MHz		36	0	BPSK	32.99	28.76	4.23
					16QAM	33.79	27.1	6.69
	20MHz		50	0	BPSK	32.67	28.63	4.04
					16QAM	33.26	26.97	6.29
	30MHz		75	0	BPSK	33.95	30.02	3.93
					16QAM	34.89	28.54	6.35
	40MHz		100	0	BPSK	32.98	28.45	4.53
					16QAM	33.94	26.83	7.11
	50MHz		128	0	BPSK	33.57	27.66	5.91
					16QAM	34.23	26.58	7.65
	60MHz		162	0	BPSK	33.23	26.95	6.28
					16QAM	33.49	25.23	8.26
	70MHz		180	0	BPSK	32.39	26.17	6.22
					16QAM	32.92	24.61	8.31
	80MHz		216	0	BPSK	32.56	25.70	6.86
					16QAM	32.37	23.67	8.70
	90MHz		243	0	BPSK	31.88	24.92	6.96
					16QAM	32.52	23.20	9.32
	100MHz		270	0	BPSK	31.30	24.05	7.25
					16QAM	31.82	22.76	9.06

Duty Cycle Correction Factor (dB) = 6.99

Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor

* Duty Cycle Correction Factor is Applied

9.5.11. LTE BAND 66 AND 5G NR n66

Test Engineer ID:	39004 and 27957	Test Date:	1/4/2024 and 2024-02-14

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	31.56	27.93	3.63
					16QAM	32.07	27.52	4.55
	3MHz		15	0	QPSK	31.60	27.81	3.79
					16QAM	32.15	27.53	4.62
	5MHz		25	0	QPSK	31.73	27.94	3.79
					16QAM	32.36	27.64	4.72
	10MHz		50	0	QPSK	31.76	27.86	3.90
					16QAM	32.31	27.50	4.81
	15MHz		75	0	QPSK	31.90	27.73	4.17
					16QAM	32.11	27.40	4.71
	20MHz		100	0	QPSK	32.23	27.81	4.42
					16QAM	32.29	27.6	4.69
5G NR Band n66	5MHz		25	0	BPSK	29.82	25.64	4.18
					16QAM	30.87	23.99	6.88
	10MHz		50	0	BPSK	30.14	25.56	4.58
					16QAM	30.96	24.02	6.94
	15MHz		75	0	BPSK	30.05	25.59	4.46
					16QAM	30.94	24.11	6.83
	20MHz		100	0	BPSK	30.19	25.61	4.58
					16QAM	30.99	24.23	6.76
	25MHz		128	0	BPSK	29.87	25.73	4.14
					16QAM	30.90	24.22	6.68
	30MHz		160	0	BPSK	32.21	27.77	4.44
					16QAM	33.26	26.28	6.98
	35MHz		180	0	BPSK	31.79	27.27	4.52
					16QAM	33.11	25.81	7.30
	40MHz		216	0	BPSK	31.05	26.42	4.63
					16QAM	33.20	24.92	8.28
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:	27957	Test Date:	2/14/2024 and 2024-02-14

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	30.31	26.03	4.28
					16QAM	31.52	24.65	6.87
	10MHz		50	0	BPSK	30.67	26.12	4.55
					16QAM	31.55	24.62	6.93
	15MHz		75	0	BPSK	30.44	25.84	4.60
					16QAM	31.18	24.15	7.03
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:	39004 & 27957	Test Date:	1/4/2024 and 2024-02-14

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 71	5MHz	680.3/683	25	0	QPSK	30.95	27.21	3.74
					16QAM	31.31	26.88	4.43
	10MHz		50	0	QPSK	30.90	27.04	3.86
					16QAM	31.28	26.62	4.66
	15MHz		75	0	QPSK	30.87	26.87	4.00
					16QAM	31.14	26.45	4.69
	20MHz		100	0	QPSK	30.72	26.88	3.84
					16QAM	31.88	26.85	5.03
5G NR Band n71	5MHz		24	0	BPSK	29.91	25.89	4.02
					16QAM	31.39	24.50	6.89
	10MHz		36	0	BPSK	30.11	25.98	4.13
					16QAM	31.37	24.51	6.86
	15MHz		50	0	BPSK	30.56	26.01	4.55
					16QAM	31.41	24.53	6.88
	20MHz		75	0	BPSK	30.57	26.11	4.46
					16QAM	31.56	24.67	6.89
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:	27342	Test Date:	2024-02-15

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band n77	10MHz	3500.0	24	0	BPSK	33.76	29.36	4.40
					16QAM	34.66	27.78	6.88
	15MHz		36	0	BPSK	33.87	29.52	4.35
					16QAM	34.77	27.91	6.86
	20MHz		50	0	BPSK	33.92	29.53	4.39
					16QAM	34.94	28.05	6.89
	30MHz		75	0	BPSK	34.53	30.08	4.45
					16QAM	35.73	28.55	7.18
	40MHz		100	0	BPSK	33.63	29.02	4.61
					16QAM	35.00	27.53	7.47
	50MHz		128	0	BPSK	33.73	27.77	5.96
					16QAM	34.78	26.34	8.44
	60MHz		162	0	BPSK	32.66	26.84	5.82
					16QAM	33.66	25.32	8.34
	70MHz		180	0	BPSK	32.45	26.23	6.22
					16QAM	33.45	24.73	8.72
	80MHz		216	0	BPSK	31.84	25.44	6.40
					16QAM	33.08	23.95	9.13
	90MHz		243	0	BPSK	32.04	25.00	7.04
					16QAM	32.97	23.36	9.61
	100MHz		270	0	BPSK	31.56	24.48	7.08
					16QAM	31.76	23.03	8.73
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

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

Test Engineer ID:	27342	Test Date:	2024-02-15

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band n77	10MHz	3840.0	24	0	BPSK	33.72	29.33	4.39
					16QAM	34.63	27.77	6.86
	15MHz		36	0	BPSK	33.83	29.42	4.41
					16QAM	34.72	27.94	6.78
	20MHz		50	0	BPSK	33.70	29.44	4.26
					16QAM	34.72	27.82	6.90
	30MHz		75	0	BPSK	33.28	28.54	4.74
					16QAM	33.94	27.06	6.88
	40MHz		100	0	BPSK	32.07	27.54	4.53
					16QAM	33.44	25.95	7.49
	50MHz		128	0	BPSK	32.04	26.31	5.73
					16QAM	32.51	24.70	7.81
	60MHz		162	0	BPSK	31.29	25.15	6.14
					16QAM	32.32	23.66	8.66
	70MHz		180	0	BPSK	30.49	24.63	5.86
					16QAM	32.00	23.12	8.88
	80MHz		216	0	BPSK	30.19	23.74	6.45
					16QAM	31.65	22.15	9.50
	90MHz		243	0	BPSK	30.11	23.22	6.89
					16QAM	30.88	21.68	9.20
	100MHz		270	0	BPSK	31.04	24.01	7.03
					16QAM	32.53	23.38	9.15

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.

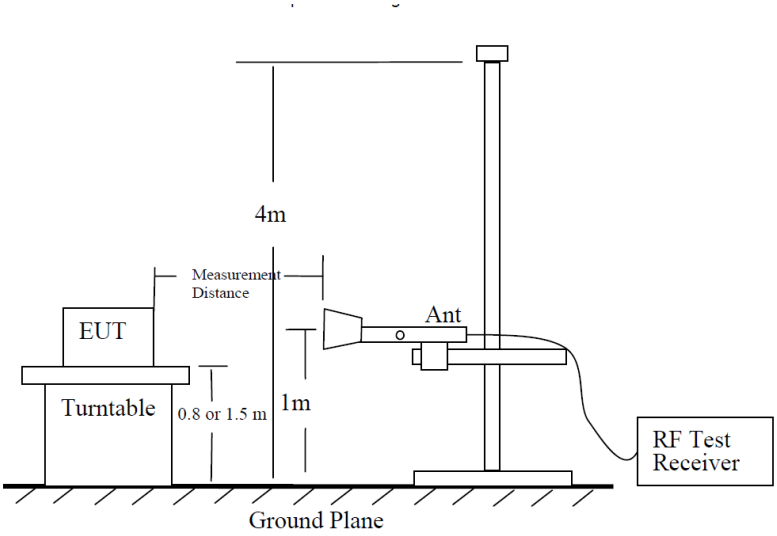


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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.

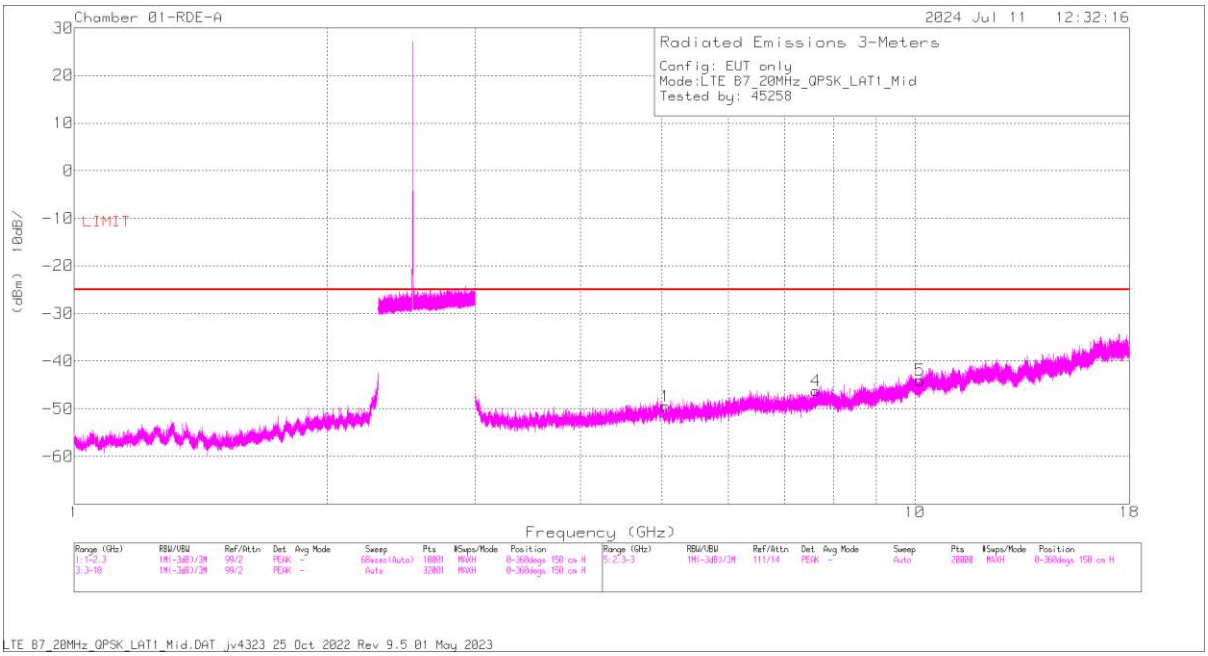
So, from d)

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

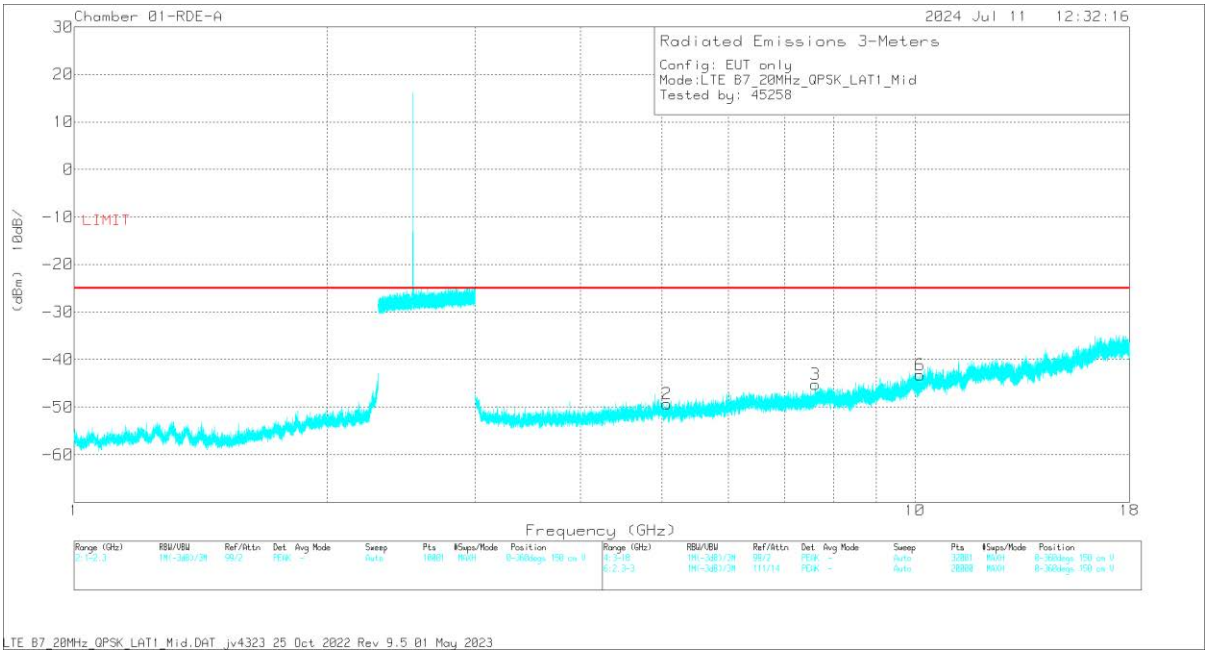
Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

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

Example Plot



Horizontal Polarity



Vertical Polarity

Trace Markers

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
5.054531	33.00	Pk	34.1	.6	-95.2	-22.0	-49.50	-25	-24.50	H
5.070469	32.90	Pk	34.2	.7	-95.2	-21.9	-49.30	-25	-24.30	V
7.619063	31.55	Pk	35.8	.4	-95.2	-17.8	-45.25	-25	-20.25	V
7.627031	30.59	Pk	35.8	.4	-95.2	-17.8	-46.21	-25	-21.21	H
10.140938	29.53	Pk	37.6	.6	-95.2	-15.8	-43.27	-25	-18.27	V
10.146563	28.66	Pk	37.6	.6	-95.2	-15.7	-44.04	-25	-19.04	H

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

TEST PROCEDURE

KDB 971168 D01 /D02

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

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 #:	14982436
Date:	7/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B7 QPSK 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz										
5.010000	33.51	Pk	34.2	.8	-95.2	-22.40	-49.09	-25	-24.09	V
5.022188	32.09	Pk	34.1	.7	-95.2	-22.12	-50.43	-25	-25.43	H
7.530938	30.01	Pk	35.7	.3	-95.2	-18.30	-47.49	-25	-22.49	V
7.536094	31.01	Pk	35.7	.3	-95.2	-18.31	-46.50	-25	-21.50	H
10.027969	30.28	Pk	37.5	.7	-95.2	-15.80	-42.52	-25	-17.52	H
10.059844	29.91	Pk	37.5	.7	-95.2	-15.88	-42.97	-25	-17.97	V
Mid Channel, 2535MHz										
5.054531	33.00	Pk	34.1	.6	-95.2	-22.00	-49.50	-25	-24.50	H
5.070469	32.90	Pk	34.2	.7	-95.2	-21.90	-49.30	-25	-24.30	V
7.619063	31.55	Pk	35.8	.4	-95.2	-17.80	-45.25	-25	-20.25	V
7.627031	30.59	Pk	35.8	.4	-95.2	-17.80	-46.21	-25	-21.21	H
10.140938	29.53	Pk	37.6	.6	-95.2	-15.80	-43.27	-25	-18.27	V
10.146563	28.66	Pk	37.6	.6	-95.2	-15.70	-44.04	-25	-19.04	H
High Channel, 2560MHz										
5.117344	32.31	Pk	34.2	.8	-95.2	-21.93	-49.82	-25	-24.82	V
5.122031	32.79	Pk	34.2	.8	-95.2	-21.90	-49.31	-25	-24.31	H
7.680469	29.9	Pk	35.8	.5	-95.2	-17.80	-46.80	-25	-21.80	V
7.683281	29.66	Pk	35.8	.5	-95.2	-17.73	-46.97	-25	-21.97	H
10.230938	30.39	Pk	37.6	.8	-95.2	-15.40	-41.81	-25	-16.81	V
10.238438	29.06	Pk	37.6	.8	-95.2	-15.34	-43.08	-25	-18.08	H

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	FR1 n7 BPSK 40MHz
Chamber #:	03-RDE-C

Frequency (MHz)	Meter Reading (dBuV)	Det	223084 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.000000	54.61	Pk	33.8	-95.2	-47.20	-53.99	-25	-28.99	H
5.000000	53.97	Pk	33.8	-95.2	-47.20	-54.63	-25	-29.63	V
7.574000	56.26	Pk	35.7	-95.2	-45.40	-48.64	-25	-23.64	H
7.573500	52.47	Pk	35.7	-95.2	-45.40	-52.43	-25	-27.43	V
10.000000	54.88	Pk	37.3	-95.2	-45.30	-48.32	-25	-23.32	H
10.000000	53.43	Pk	37.3	-95.2	-45.30	-49.77	-25	-24.77	V
Mid Channel, 2535MHz									
5.050000	55.36	Pk	33.9	-95.2	-47.10	-53.04	-25	-28.04	H
5.051500	55.12	Pk	33.9	-95.2	-47.05	-53.23	-25	-28.23	V
7.778000	56.10	Pk	35.8	-95.2	-45.40	-48.70	-25	-23.70	H
7.777500	53.15	Pk	35.8	-95.2	-45.40	-51.65	-25	-26.65	V
10.100500	53.63	Pk	37.4	-95.2	-44.55	-48.72	-25	-23.72	H
10.100500	52.62	Pk	37.4	-95.2	-44.55	-49.73	-25	-24.73	V
High Channel, 2550MHz									
5.059000	54.01	Pk	33.9	-95.2	-47.20	-54.49	-25	-29.49	H
5.059000	53.46	Pk	33.9	-95.2	-47.20	-55.04	-25	-30.04	V
7.589500	52.47	Pk	35.7	-95.2	-45.40	-52.43	-25	-27.43	H
7.589500	51.79	Pk	35.7	-95.2	-45.40	-53.11	-25	-28.11	V
10.120000	55.62	Pk	37.4	-95.2	-44.60	-46.78	-25	-21.78	H
10.120000	54.29	Pk	37.4	-95.2	-44.60	-48.11	-25	-23.11	V

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 #:	14982436
Date:	3/11/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTE B12 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									
1.409950	59.00	Pk	28.1	-95.2	-49.11	-57.21	-13	-44.21	H
1.409050	59.61	Pk	28.1	-95.2	-49.15	-56.64	-13	-43.64	V
2.098450	67.89	Pk	31.4	-95.2	-49.71	-45.62	-13	-32.62	H
2.098450	63.77	Pk	31.4	-95.2	-49.71	-49.74	-13	-36.74	V
2.818450	56.38	Pk	32.2	-95.2	-48.22	-54.84	-13	-41.84	H
2.831050	56.96	Pk	32.2	-95.2	-48.30	-54.34	-13	-41.34	V
Mid Channel, 707.5MHz									
1.405900	64.72	Pk	28.2	-95.2	-49.19	-51.47	-13	-38.47	H
1.405900	58.72	Pk	28.2	-95.2	-49.19	-57.47	-13	-44.47	V
2.108800	68.86	Pk	31.4	-95.2	-49.93	-44.87	-13	-31.87	H
2.108800	64.00	Pk	31.4	-95.2	-49.93	-49.73	-13	-36.73	V
2.829700	56.59	Pk	32.2	-95.2	-48.20	-54.61	-13	-41.61	H
2.832400	56.84	Pk	32.2	-95.2	-48.45	-54.61	-13	-41.61	V
High Channel, 711MHz									
1.413100	64.75	Pk	28.1	-95.2	-49.13	-51.48	-13	-38.48	H
1.418500	59.12	Pk	28.1	-95.2	-49.23	-57.21	-13	-44.21	V
2.119600	71.91	Pk	31.5	-95.2	-49.94	-41.73	-13	-28.73	H
2.120050	64.85	Pk	31.5	-95.2	-49.92	-48.77	-13	-35.77	V
2.840050	56.94	Pk	32.2	-95.2	-48.43	-54.49	-13	-41.49	H
2.829250	58.00	Pk	32.2	-95.2	-48.20	-53.20	-13	-40.20	V

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/5/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	FR1 n12 15MHz
Chamber #:	03-RDE-C

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									
1.399150	60.28	Pk	28.9	-95.2	-46.70	-52.72	-13	-39.72	H
1.399150	62.34	Pk	28.9	-95.2	-46.70	-50.66	-13	-37.66	V
2.098450	60.60	Pk	31.6	-95.2	-47.35	-50.35	-13	-37.35	H
2.098450	60.53	Pk	31.6	-95.2	-47.35	-50.42	-13	-37.42	V
2.864350	55.20	Pk	32.3	-95.2	-46.30	-54.00	-13	-41.00	H
2.857150	54.75	Pk	32.3	-95.2	-46.20	-54.35	-13	-41.35	V
Mid Channel, 707.5MHz									
1.400500	59.47	Pk	28.9	-95.2	-46.85	-53.68	-13	-40.68	H
1.400950	62.42	Pk	28.9	-95.2	-46.81	-50.69	-13	-37.69	V
2.101600	60.85	Pk	31.6	-95.2	-47.60	-50.35	-13	-37.35	H
2.101600	58.79	Pk	31.6	-95.2	-47.60	-52.41	-13	-39.41	V
2.813050	56.97	Pk	32.3	-95.2	-46.80	-52.73	-13	-39.73	H
2.824300	56.18	Pk	32.3	-95.2	-46.67	-53.39	-13	-40.39	V
High Channel, 708.5MHz									
1.403200	58.49	Pk	28.9	-95.2	-46.90	-54.71	-13	-41.71	H
1.402750	64.08	Pk	28.9	-95.2	-46.93	-49.15	-13	-36.15	V
2.104750	64.56	Pk	31.6	-95.2	-47.60	-46.64	-13	-33.64	H
2.105200	61.94	Pk	31.6	-95.2	-47.60	-49.26	-13	-36.26	V
2.811700	56.72	Pk	32.3	-95.2	-46.90	-53.08	-13	-40.08	H
2.799100	55.95	Pk	32.3	-95.2	-47.10	-54.05	-13	-41.05	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 #:	14982436
Date:	6/10/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B13 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										
1.564222	36.65	Pk	28.2	0.9	-95.2	-27.88	-57.33	-40	-17.33	H
1.564222	37.70	Pk	28.2	0.9	-95.2	-27.88	-56.28	-40	-16.28	V
2.332756	45.46	Pk	32.0	0.6	-95.2	-26.30	-43.44	-13	-30.44	H
2.332756	46.41	Pk	32.0	0.6	-95.2	-26.30	-42.49	-13	-29.49	V
3.128178	33.46	Pk	32.9	0.6	-95.2	-25.40	-53.64	-13	-40.64	H
3.128178	33.76	Pk	32.9	0.6	-95.2	-25.40	-53.34	-13	-40.34	V

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 #:	14982436
Date:	6/10/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B14 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 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										
1.586222	38.36	Pk	28.3	0.8	-95.2	-27.88	-55.62	-40	-15.62	H
1.586222	37.79	Pk	28.3	0.8	-95.2	-27.88	-56.19	-40	-16.19	V
2.3792	35.15	Pk	32.1	0.5	-95.2	-25.98	-53.43	-13	-40.43	H
2.3792	35.67	Pk	32.1	0.5	-95.2	-25.98	-52.91	-13	-39.91	V
3.182445	33.73	Pk	33	0.5	-95.2	-25.1	-53.07	-13	-40.07	H
3.182445	34.88	Pk	33	0.5	-95.2	-25.1	-51.92	-13	-38.92	V

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

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n14 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										
1.586222	37.12	Pk	28.3	0.8	-95.2	-27.88	-56.86	-40	-16.86	H
1.586222	37.22	Pk	28.3	0.8	-95.2	-27.88	-56.76	-40	-16.76	V
2.365511	42.09	Pk	32.1	0.5	-95.2	-25.95	-46.46	-13	-33.46	H
2.365511	41.14	Pk	32.1	0.5	-95.2	-25.95	-47.41	-13	-34.41	V
3.172667	33.11	Pk	33	0.5	-95.2	-25.33	-53.92	-13	-40.92	H
3.172667	32.92	Pk	33	0.5	-95.2	-25.33	-54.11	-13	-41.11	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 #:	14982436
Date:	3/12/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTE B17 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz									
1.408600	64.62	Pk	28.1	-95.2	-49.15	-51.63	-13	-38.63	H
1.409500	59.40	Pk	28.1	-95.2	-49.13	-56.83	-13	-43.83	V
2.113300	69.60	Pk	31.4	-95.2	-49.74	-43.94	-13	-30.94	H
2.113300	63.22	Pk	31.4	-95.2	-49.74	-50.32	-13	-37.32	V
2.818450	57.93	Pk	32.2	-95.2	-48.22	-53.29	-13	-40.29	H
2.818450	57.83	Pk	32.2	-95.2	-48.22	-53.39	-13	-40.39	V
Mid Channel, 710MHz									
1.411300	63.72	Pk	28.1	-95.2	-49.06	-52.44	-13	-39.44	H
1.405900	59.24	Pk	28.2	-95.2	-49.19	-56.95	-13	-43.95	V
2.116900	70.40	Pk	31.5	-95.2	-49.94	-43.24	-13	-30.24	H
2.116450	66.87	Pk	31.4	-95.2	-49.90	-46.83	-13	-33.83	V
2.851300	57.13	Pk	32.3	-95.2	-48.73	-54.50	-13	-41.50	H
2.849050	56.27	Pk	32.3	-95.2	-48.50	-55.13	-13	-42.13	V
High Channel, 711MHz									
1.412200	63.85	Pk	28.1	-95.2	-49.08	-52.33	-13	-39.33	H
1.405900	59.68	Pk	28.2	-95.2	-49.19	-56.51	-13	-43.51	V
2.119600	70.60	Pk	31.5	-95.2	-49.94	-43.04	-13	-30.04	H
2.114650	60.28	Pk	31.4	-95.2	-49.77	-53.29	-13	-40.29	V
2.854000	57.17	Pk	32.3	-95.2	-48.67	-54.40	-13	-41.40	H
2.858500	56.40	Pk	32.3	-95.2	-48.64	-55.14	-13	-42.14	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 #:	14982436
Date:	7/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B25 20MHz
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, 1860MHz									
3.709219	35.33	Pk	33	-95.2	-23.8	-50.67	-13	-37.67	H
3.724219	34.34	Pk	33.1	-95.2	-23.6	-51.36	-13	-38.36	V
5.587969	31.89	Pk	34.5	-95.2	-20.2	-49.01	-13	-36.01	V
5.589844	32.24	Pk	34.5	-95.2	-20.2	-48.66	-13	-35.66	H
7.422656	31.14	Pk	35.6	-95.2	-18.5	-46.93	-13	-33.93	H
7.444688	30.67	Pk	35.6	-95.2	-18.7	-47.63	-13	-34.63	V
Mid Channel, 1882.5MHz									
3.747188	35.03	Pk	33.1	-95.2	-23.52	-50.59	-13	-37.59	H
3.770625	35.15	Pk	33.2	-95.2	-23.7	-50.55	-13	-37.55	V
5.637656	31.95	Pk	34.6	-95.2	-20.0	-48.68	-13	-35.68	H
5.640000	33.94	Pk	34.6	-95.2	-20.1	-46.76	-13	-33.76	V
7.549219	30.41	Pk	35.7	-95.2	-17.5	-46.59	-13	-33.59	H
7.566094	30.06	Pk	35.7	-95.2	-17.4	-46.84	-13	-33.84	V
High Channel, 1905MHz									
3.742969	34.67	Pk	33.1	-95.2	-23.5	-50.93	-13	-37.93	H
3.781875	35.64	Pk	33.2	-95.2	-23.8	-50.16	-13	-37.16	V
5.654063	32.04	Pk	34.6	-95.2	-20.4	-48.96	-13	-35.96	V
5.66625	31.96	Pk	34.6	-95.2	-20.6	-49.22	-13	-36.22	H
7.552969	29.83	Pk	35.7	-95.2	-17.5	-47.17	-13	-34.17	V
7.567031	30.79	Pk	35.7	-95.2	-17.4	-46.11	-13	-33.11	H

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/1/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n25 BPSK 40MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.740000	55.41	Pk	33.1	-95.2	-46.10	-52.79	-13	-39.79	H
3.714000	55.34	Pk	33.0	-95.2	-46.10	-52.96	-13	-39.96	V
5.552500	67.08	Pk	34.6	-95.2	-46.35	-39.87	-13	-26.87	H
5.551500	59.70	Pk	34.6	-95.2	-46.30	-47.20	-13	-34.20	V
7.467000	54.87	Pk	35.7	-95.2	-46.20	-50.83	-13	-37.83	H
7.462500	55.03	Pk	35.7	-95.2	-46.20	-50.67	-13	-37.67	V
Mid Channel, 1882.5MHz									
3.810000	54.85	Pk	33.4	-95.2	-45.60	-52.55	-13	-39.55	H
3.815500	53.46	Pk	33.4	-95.2	-45.65	-53.99	-13	-40.99	V
5.590000	66.48	Pk	34.6	-95.2	-46.60	-40.72	-13	-27.72	H
5.589500	65.5	Pk	34.6	-95.2	-46.65	-41.75	-13	-28.75	V
7.568500	54.05	Pk	35.7	-95.2	-45.55	-51.00	-13	-38.00	H
7.544500	54.67	Pk	35.7	-95.2	-45.65	-50.48	-13	-37.48	V
High Channel, 1895MHz									
3.760500	54.14	Pk	33.2	-95.2	-45.85	-53.71	-13	-40.71	H
3.733500	54.90	Pk	33.1	-95.2	-46.05	-53.25	-13	-40.25	V
5.627000	66.81	Pk	34.6	-95.2	-46.70	-40.49	-13	-27.49	H
5.627500	65.18	Pk	34.6	-95.2	-46.65	-42.07	-13	-29.07	V
7.503500	54.85	Pk	35.7	-95.2	-45.90	-50.55	-13	-37.55	H
7.463500	54.99	Pk	35.7	-95.2	-46.20	-50.71	-13	-37.71	V

10.1.7. LTE BAND 26 AND 5G NR n26 (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 #:	14982436
Date:	3/12/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTE B26 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
Mid Channel, 819MHz									
1.629100	60.85	Pk	28.5	-95.2	-49.48	-55.33	-13	-42.33	H
1.628650	67.83	Pk	28.5	-95.2	-49.45	-48.32	-13	-35.32	V
2.443600	67.53	Pk	32.1	-95.2	-49.45	-45.02	-13	-32.02	H
2.443600	73.37	Pk	32.1	-95.2	-49.45	-39.18	-13	-26.18	V
3.271150	55.46	Pk	32.7	-95.2	-46.44	-53.48	-13	-40.48	H
3.258100	55.14	Pk	32.7	-95.2	-46.82	-54.18	-13	-41.18	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n26 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
Mid Channel, 819MHz									
1.639450	59.01	Pk	28.6	-95.2	-49.56	-57.15	-13	-44.15	H
1.628650	66.68	Pk	28.5	-95.2	-49.45	-49.47	-13	-36.47	V
2.443600	64.32	Pk	32.1	-95.2	-49.45	-48.23	-13	-35.23	H
2.456200	59.18	Pk	32.1	-95.2	-49.25	-53.17	-13	-40.17	V
3.282400	54.92	Pk	32.7	-95.2	-46.40	-53.98	-13	-40.98	H
3.275200	55.82	Pk	32.7	-95.2	-46.59	-53.27	-13	-40.27	V

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 #:	14982436
Date:	3/13/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	LTE B26 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	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz										
1.662978	37.28	Pk	29.0	.8	-95.2	-27.8	-55.92	-13	-42.92	V
1.663467	36.49	Pk	29.0	.8	-95.2	-27.8	-56.71	-13	-43.71	H
2.494089	35.41	Pk	32.5	.6	-95.2	-26.2	-52.89	-13	-39.89	H
2.494089	35.65	Pk	32.5	.6	-95.2	-26.2	-52.65	-13	-39.65	V
3.326178	34.79	Pk	32.9	.6	-95.2	-25.0	-51.91	-13	-38.91	H
3.326178	34.17	Pk	32.9	.6	-95.2	-25.0	-52.53	-13	-39.53	V
Mid Channel, 836.5MHz										
1.683022	37.01	Pk	29.2	.7	-95.2	-27.5	-55.79	-13	-42.79	H
1.683022	38.89	Pk	29.2	.7	-95.2	-27.5	-53.91	-13	-40.91	V
2.5244	36.27	Pk	32.5	.8	-95.2	-26	-51.63	-13	-38.63	H
2.5244	37.18	Pk	32.5	.8	-95.2	-26	-50.72	-13	-37.72	V
3.366267	33.15	Pk	32.8	.6	-95.2	-25.03	-53.68	-13	-40.68	H
3.366267	33.77	Pk	32.8	.6	-95.2	-25.03	-53.06	-13	-40.06	V
High Channel, 844MHz										
1.683022	37.66	Pk	29.2	.7	-95.2	-27.5	-55.14	-13	-42.14	H
1.684000	37.02	Pk	29.2	.7	-95.2	-27.6	-55.88	-13	-42.88	V
2.523911	36.31	Pk	32.5	.8	-95.2	-26.0	-51.59	-13	-38.59	H
2.524400	35.53	Pk	32.5	.8	-95.2	-26.0	-52.37	-13	-39.37	V
3.366267	34.34	Pk	32.8	.6	-95.2	-25.0	-52.49	-13	-39.49	H
3.366756	34.49	Pk	32.8	.6	-95.2	-25.1	-52.39	-13	-39.39	V

BPSK 5G NR n26 (20.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n26 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, 834MHz									
1.675900	59.10	Pk	29.0	-95.2	-49.61	-56.71	-13	-43.71	H
1.648900	64.75	Pk	28.7	-95.2	-49.61	-51.36	-13	-38.36	V
2.505250	58.85	Pk	32.2	-95.2	-48.61	-52.76	-13	-39.76	H
2.496700	58.02	Pk	32.2	-95.2	-48.79	-53.77	-13	-40.77	V
3.331000	55.33	Pk	32.6	-95.2	-47.09	-54.36	-13	-41.36	H
3.352150	55.36	Pk	32.6	-95.2	-46.90	-54.14	-13	-41.14	V
Mid Channel, 836.5MHz									
1.685350	58.50	Pk	29.1	-95.2	-49.63	-57.23	-13	-44.23	H
1.654300	63.78	Pk	28.7	-95.2	-49.49	-52.21	-13	-39.21	V
2.495800	59.12	Pk	32.2	-95.2	-48.78	-52.66	-13	-39.66	H
2.492200	58.55	Pk	32.2	-95.2	-48.90	-53.35	-13	-40.35	V
3.325150	55.67	Pk	32.6	-95.2	-46.86	-53.79	-13	-40.79	H
3.337300	55.71	Pk	32.6	-95.2	-46.95	-53.84	-13	-40.84	V
Mid Channel, 839.0MHz									
1.683100	60.52	Pk	29.1	-95.2	-49.55	-55.13	-13	-42.13	H
1.659250	62.59	Pk	28.8	-95.2	-49.57	-53.38	-13	-40.38	V
2.528200	57.96	Pk	32.2	-95.2	-48.51	-53.55	-13	-40.55	H
2.519200	57.38	Pk	32.2	-95.2	-48.54	-54.16	-13	-41.16	V
3.369250	56.30	Pk	32.6	-95.2	-47.12	-53.42	-13	-40.42	H
3.349900	55.17	Pk	32.6	-95.2	-47.11	-54.54	-13	-41.54	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 #:	14982436
Date:	6/10/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B30 QPSK 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									
4.620469	21.98	RMS	34.0	-95.2	-23.2	-62.42	-40	-22.42	H
4.620469	21.67	RMS	34.0	-95.2	-23.2	-62.73	-40	-22.73	V
6.930938	18.64	RMS	35.7	-95.2	-19.0	-59.86	-40	-19.86	H
6.930938	19.25	RMS	35.7	-95.2	-19.0	-59.25	-40	-19.25	V
9.240938	18.67	RMS	36.1	-95.2	-16.7	-57.13	-40	-17.13	H
9.240938	18.81	RMS	36.1	-95.2	-16.7	-56.99	-40	-16.99	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n30 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									
4.620469	21.36	RMS	34.0	-95.2	-23.2	-63.04	-40	-23.04	H
4.620469	21.60	RMS	34.0	-95.2	-23.2	-62.80	-40	-22.80	V
6.930469	17.54	RMS	35.7	-95.2	-19.0	-60.96	-40	-20.96	H
6.930469	17.76	RMS	35.7	-95.2	-19.0	-60.74	-40	-20.74	V
9.240469	18.98	RMS	36.1	-95.2	-16.7	-56.82	-40	-16.82	H
9.240469	18.11	RMS	36.1	-95.2	-16.7	-57.69	-40	-17.69	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 #:	14982436
Date:	3/13/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	LTE B41 20MHz
Chamber #:	03-RDE-A

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									
4.991750	54.03	Pk	33.9	-95.2	-47.49	-54.76	-25	-29.76	H
4.992000	53.79	Pk	33.9	-95.2	-47.52	-55.03	-25	-30.03	V
7.488000	52.64	Pk	35.7	-95.2	-45.40	-52.26	-25	-27.26	H
7.488000	51.46	Pk	35.7	-95.2	-45.40	-53.44	-25	-28.44	V
9.984000	53.61	Pk	37.2	-95.2	-45.87	-50.26	-25	-25.26	H
9.984000	54.18	Pk	37.2	-95.2	-45.87	-49.69	-25	-24.69	V
Mid Channel, 2593MHz									
5.166000	53.90	Pk	34.1	-95.2	-47.44	-54.64	-25	-29.64	H
5.166000	54.01	Pk	34.1	-95.2	-47.44	-54.53	-25	-29.53	V
7.749000	51.92	Pk	35.8	-95.2	-44.90	-52.38	-25	-27.38	H
7.749000	52.06	Pk	35.8	-95.2	-44.90	-52.24	-25	-27.24	V
10.332000	52.40	Pk	37.5	-95.2	-45.25	-50.55	-25	-25.55	H
10.332000	55.05	Pk	37.5	-95.2	-45.25	-47.90	-25	-22.90	V
High Channel, 2680MHz									
5.340000	54.84	Pk	34.4	-95.2	-47.41	-53.37	-25	-28.37	H
5.340000	55.16	Pk	34.4	-95.2	-47.41	-53.05	-25	-28.05	V
8.013000	52.33	Pk	35.7	-95.2	-44.79	-51.96	-25	-26.96	H
8.013000	55.76	Pk	35.7	-95.2	-44.79	-48.53	-25	-23.53	V
10.680000	52.92	Pk	37.7	-95.2	-44.83	-49.41	-25	-24.41	H
10.680000	51.94	Pk	37.7	-95.2	-44.83	-50.39	-25	-25.39	V

BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982436
Date:	5/23/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n41 BPSK 100MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 (dB) 1-18GHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.092500	33.67	Pk	34.2	0.8	-95.2	-21.8	-48.33	-25	-23.33	H
5.092500	31.87	Pk	34.2	0.8	-95.2	-21.8	-50.13	-25	-25.13	V
7.504219	32.08	Pk	35.7	0.3	-95.2	-18.2	-45.32	-25	-20.32	H
7.504219	35.25	Pk	35.7	0.3	-95.2	-18.2	-42.15	-25	-17.15	V
10.184063	26.90	Pk	37.6	0.6	-95.2	-15.6	-45.70	-25	-20.70	H
10.184063	27.48	Pk	37.6	0.6	-95.2	-15.6	-45.12	-25	-20.12	V
Mid Channel, 2593MHz										
5.185781	34.39	Pk	34.1	0.8	-95.2	-21.9	-47.81	-25	-22.81	H
5.185781	32.17	Pk	34.1	0.8	-95.2	-21.9	-50.03	-25	-25.03	V
7.779375	28.59	Pk	35.8	0.3	-95.2	-17.9	-48.41	-25	-23.41	H
7.779375	29.16	Pk	35.8	0.3	-95.2	-17.9	-47.84	-25	-22.84	V
10.372031	27.90	Pk	37.8	0.8	-95.2	-15.1	-43.80	-25	-18.80	H
10.372031	28.57	Pk	37.8	0.8	-95.2	-15.1	-43.13	-25	-18.13	V
High Channel, 2640MHz										
5.280000	31.65	Pk	34.3	0.3	-95.2	-22.10	-51.05	-25	-26.05	H
5.280469	32.52	Pk	34.3	0.3	-95.2	-22.10	-50.18	-25	-25.18	V
7.774688	30.59	Pk	35.8	0.3	-95.2	-17.80	-46.31	-25	-21.31	H
7.773750	36.97	Pk	35.8	0.3	-95.2	-17.80	-39.93	-25	-14.93	V
10.560000	28.21	Pk	37.9	0.7	-95.2	-15.20	-43.59	-25	-18.59	H
10.560469	27.33	Pk	37.9	0.7	-95.2	-15.15	-44.42	-25	-19.42	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 #:	14982436
Date:	3/13/2024
Test Engineer:	32145
Configuration:	EUT ONLY
Mode	LTE B66 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, 1720MHz									
3.422000	56.34	Pk	32.7	-95.2	-46.87	-53.03	-13	-40.03	H
3.400500	55.13	Pk	32.6	-95.2	-46.64	-54.11	-13	-41.11	V
5.133000	61.32	Pk	34.1	-95.2	-47.47	-47.25	-13	-34.25	H
5.133500	63.50	Pk	34.1	-95.2	-47.48	-45.08	-13	-32.08	V
6.884500	54.37	Pk	35.7	-95.2	-45.50	-50.63	-13	-37.63	H
6.893000	54.35	Pk	35.7	-95.2	-45.51	-50.66	-13	-37.66	V
Mid Channel, 1745MHz									
3.495500	55.56	Pk	32.7	-95.2	-46.73	-53.67	-13	-40.67	H
3.504500	55.45	Pk	32.8	-95.2	-46.73	-53.68	-13	-40.68	V
5.208000	63.11	Pk	34.2	-95.2	-47.61	-45.50	-13	-32.50	H
5.208000	63.65	Pk	34.2	-95.2	-47.61	-44.96	-13	-31.96	V
6.978500	54.43	Pk	35.7	-95.2	-45.87	-50.94	-13	-37.94	H
6.992000	54.12	Pk	35.7	-95.2	-45.77	-51.15	-13	-38.15	V
High Channel, 1770MHz									
3.445000	55.26	Pk	32.7	-95.2	-46.47	-53.71	-13	-40.71	H
3.452000	55.78	Pk	32.7	-95.2	-46.66	-53.38	-13	-40.38	V
5.283000	68.33	Pk	34.4	-95.2	-47.67	-40.14	-13	-27.14	H
5.283000	66.56	Pk	34.4	-95.2	-47.67	-41.91	-13	-28.91	V
6.882000	54.58	Pk	35.7	-95.2	-45.38	-50.30	-13	-37.30	H
6.902000	54.11	Pk	35.7	-95.2	-45.65	-51.04	-13	-38.04	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/1/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n66 40MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.469500	54.57	Pk	32.7	-95.2	-45.95	-53.88	-13	-40.88	H
3.464000	54.84	Pk	32.7	-95.2	-46.20	-53.86	-13	-40.86	V
5.132000	59.15	Pk	34.0	-95.2	-47.40	-49.45	-13	-36.45	H
5.158500	55.71	Pk	34.1	-95.2	-47.35	-52.74	-13	-39.74	V
6.911500	55.06	Pk	35.7	-95.2	-46.10	-50.54	-13	-37.54	H
6.945000	54.90	Pk	35.7	-95.2	-46.20	-50.80	-13	-37.80	V
Mid Channel, 1745MHz									
3.514000	55.42	Pk	32.7	-95.2	-46.20	-53.28	-13	-40.28	H
3.508500	54.83	Pk	32.7	-95.2	-46.10	-53.77	-13	-40.77	V
5.177000	59.91	Pk	34.1	-95.2	-47.40	-48.59	-13	-35.59	H
5.177500	57.66	Pk	34.1	-95.2	-47.40	-50.84	-13	-37.84	V
6.956000	54.76	Pk	35.7	-95.2	-46.30	-51.04	-13	-38.04	H
6.937500	55.87	Pk	35.7	-95.2	-46.30	-49.93	-13	-36.93	V
High Channel, 1760MHz									
3.543000	55.05	Pk	32.8	-95.2	-46.00	-53.35	-13	-40.35	H
3.521000	54.97	Pk	32.8	-95.2	-46.10	-53.53	-13	-40.53	V
5.270500	55.64	Pk	34.3	-95.2	-46.70	-51.96	-13	-38.96	H
5.256000	55.07	Pk	34.3	-95.2	-46.90	-52.73	-13	-39.73	V
7.027000	55.07	Pk	35.7	-95.2	-46.10	-50.53	-13	-37.53	H
6.975000	55.32	Pk	35.7	-95.2	-46.30	-50.48	-13	-37.48	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 #:	14982436
Date:	3/1/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n70 15MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084_ACF (dB/m) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.398000	55.38	Pk	32.7	-95.2	-45.90	-53.02	-13	-40.02	H
3.384000	53.84	Pk	32.7	-95.2	-45.90	-54.56	-13	-41.56	V
5.087000	57.81	Pk	33.9	-95.2	-47.30	-50.79	-13	-37.79	H
5.087000	65.15	Pk	33.9	-95.2	-47.30	-43.45	-13	-30.45	V
6.797000	54.59	Pk	35.6	-95.2	-45.90	-50.91	-13	-37.91	H
6.729500	54.00	Pk	35.5	-95.2	-45.70	-51.40	-13	-38.40	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 #:	14982436
Date:	3/14/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTE B71 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									
1.353700	59.36	Pk	28.6	-95.2	-49.32	-56.56	-13	-43.56	H
1.355950	59.35	Pk	28.6	-95.2	-49.33	-56.58	-13	-43.58	V
2.028700	57.67	Pk	31.4	-95.2	-49.51	-55.64	-13	-42.64	H
2.000800	59.53	Pk	31.2	-95.2	-49.85	-54.32	-13	-41.32	V
2.682550	58.12	Pk	32.2	-95.2	-48.97	-53.85	-13	-40.85	H
2.679850	58.43	Pk	32.2	-95.2	-49.15	-53.72	-13	-40.72	V
Low Channel, 680.5MHz									
1.360900	60.14	Pk	28.5	-95.2	-49.35	-55.91	-13	-42.91	H
1.364950	59.16	Pk	28.5	-95.2	-49.37	-56.91	-13	-43.91	V
2.057500	58.88	Pk	31.4	-95.2	-49.43	-54.35	-13	-41.35	H
2.057050	58.69	Pk	31.4	-95.2	-49.46	-54.57	-13	-41.57	V
2.782000	57.07	Pk	32.1	-95.2	-48.34	-54.37	-13	-41.37	H
2.777950	56.98	Pk	32.2	-95.2	-48.30	-54.32	-13	-41.32	V
Low Channel, 688MHz									
1.368550	58.67	Pk	28.5	-95.2	-49.38	-57.41	-13	-44.41	H
1.359550	59.99	Pk	28.6	-95.2	-49.38	-55.99	-13	-42.99	V
2.058850	59.36	Pk	31.4	-95.2	-49.34	-53.78	-13	-40.78	H
2.064250	59.17	Pk	31.4	-95.2	-49.58	-54.21	-13	-41.21	V
2.772100	58.14	Pk	32.2	-95.2	-48.31	-53.17	-13	-40.17	H
2.761750	57.24	Pk	32.2	-95.2	-48.23	-53.99	-13	-40.99	V

BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n71 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF (dB/m) 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.353700	59.16	Pk	28.6	-95.2	-49.32	-56.76	-13	-43.76	H
1.355050	59.34	Pk	28.6	-95.2	-49.35	-56.61	-13	-43.61	V
2.016100	58.12	Pk	31.3	-95.2	-49.48	-55.26	-13	-42.26	H
2.003950	59.99	Pk	31.2	-95.2	-49.62	-53.63	-13	-40.63	V
2.680750	59.24	Pk	32.2	-95.2	-49.12	-52.88	-13	-39.88	H
2.690650	58.29	Pk	32.2	-95.2	-48.97	-53.68	-13	-40.68	V
Mid Channel, 680.5MHz									
1.354600	58.83	Pk	28.6	-95.2	-49.34	-57.11	-13	-44.11	H
1.342000	59.60	Pk	28.7	-95.2	-49.43	-56.33	-13	-43.33	V
2.057950	58.88	Pk	31.4	-95.2	-49.40	-54.32	-13	-41.32	H
2.053450	58.93	Pk	31.4	-95.2	-49.49	-54.36	-13	-41.36	V
2.719450	58.16	Pk	32.2	-95.2	-48.42	-53.26	-13	-40.26	H
2.714050	58.29	Pk	32.2	-95.2	-48.56	-53.27	-13	-40.27	V
High Channel, 688MHz									
1.370800	59.14	Pk	28.4	-95.2	-49.36	-57.02	-13	-44.02	H
1.370350	59.16	Pk	28.5	-95.2	-49.37	-56.91	-13	-43.91	V
2.035900	62.17	Pk	31.4	-95.2	-49.50	-51.13	-13	-38.13	H
2.055250	59.12	Pk	31.4	-95.2	-49.54	-54.22	-13	-41.22	V
2.770300	57.22	Pk	32.2	-95.2	-48.34	-54.12	-13	-41.12	H
2.766700	56.84	Pk	32.2	-95.2	-47.94	-54.10	-13	-41.10	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 2

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 #:	14982436
Date:	6/25/2024
Test Engineer:	32545
Configuration:	EUT Only
Mode	LTE B7 20MHz
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, 2510MHz									
5.000000	55.60	Pk	34.1	-95.2	-49.4	-54.90	-25	-29.90	H
5.000500	55.08	Pk	34.1	-95.2	-49.45	-55.47	-25	-30.47	V
7.500500	53.13	Pk	36.0	-95.2	-48.10	-54.17	-25	-29.17	H
7.500500	53.75	Pk	36.0	-95.2	-48.10	-53.55	-25	-28.55	V
10.000500	56.86	Pk	37.5	-95.2	-48.10	-48.94	-25	-23.94	H
9.999500	55.45	Pk	37.5	-95.2	-48.05	-50.3	-25	-25.3	V
Mid Channel, 2535MHz									
5.050000	54.52	Pk	34.2	-95.2	-49.5	-55.98	-25	-30.98	H
5.050000	54.97	Pk	34.2	-95.2	-49.5	-55.53	-25	-30.53	V
7.575500	54.02	Pk	36.0	-95.2	-48.3	-53.48	-25	-28.48	H
7.575000	54.34	Pk	36.0	-95.2	-48.3	-53.16	-25	-28.16	V
10.101000	55.41	Pk	37.6	-95.2	-48.4	-50.59	-25	-25.59	H
10.101000	54.01	Pk	37.6	-95.2	-48.4	-51.99	-25	-26.99	V
High Channel, 2560MHz									
5.100500	55.63	Pk	34.2	-95.2	-49.6	-54.97	-25	-29.97	H
5.100000	55.38	Pk	34.2	-95.2	-49.6	-55.22	-25	-30.22	V
7.650500	54.52	Pk	35.9	-95.2	-48.1	-52.88	-25	-27.88	H
7.6505000	54.27	Pk	35.9	-95.2	-48.1	-53.13	-25	-28.13	V
10.201000	54.85	Pk	37.7	-95.2	-48.4	-51.05	-25	-26.05	H
10.200500	54.35	Pk	37.7	-95.2	-48.4	-51.55	-25	-26.55	V

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	6/25/2024
Test Engineer:	32545
Configuration:	EUT Only
Mode	FR1 n7 40MHz
Chamber #:	03-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	230300 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.000500	55.43	Pk	34.1	-95.2	-49.45	-55.12	-25	-30.12	H
5.000500	57.57	Pk	34.1	-95.2	-49.45	-52.98	-25	-27.98	V
7.500000	54.40	Pk	36.0	-95.2	-48.1	-52.90	-25	-27.90	H
7.500000	54.00	Pk	36.0	-95.2	-48.1	-53.30	-25	-28.30	V
10.000000	56.37	Pk	37.5	-95.2	-48.1	-49.43	-25	-24.43	H
10.000000	55.97	Pk	37.5	-95.2	-48.1	-49.83	-25	-24.83	V
Mid Channel, 2535MHz									
5.050500	55.26	Pk	34.2	-95.2	-49.5	-55.24	-25	-30.24	H
5.050500	56.37	Pk	34.2	-95.2	-49.5	-54.13	-25	-29.13	V
7.575500	54.56	Pk	36.0	-95.2	-48.3	-52.94	-25	-27.94	H
7.575500	55.53	Pk	36.0	-95.2	-48.3	-51.97	-25	-26.97	V
10.100500	54.05	Pk	37.6	-95.2	-48.4	-51.95	-25	-26.95	H
10.098000	58.26	Pk	37.6	-95.2	-48.5	-47.84	-25	-22.84	V
High Channel, 2550MHz									
5.060000	55.31	Pk	34.2	-95.2	-49.6	-55.29	-25	-30.29	H
5.060000	55.36	Pk	34.2	-95.2	-49.6	-55.24	-25	-30.24	V
7.590500	54.58	Pk	35.9	-95.2	-48.35	-53.07	-25	-28.07	H
7.590500	53.39	Pk	35.9	-95.2	-48.35	-54.26	-25	-29.26	V
10.120000	56.20	Pk	37.6	-95.2	-48.7	-50.10	-25	-25.10	H
10.119500	55.91	Pk	37.6	-95.2	-48.7	-50.39	-25	-25.39	V

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 #:	14982436
Date:	3/12/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	LTE B12 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									
1.398250	57.32	Pk	28.2	-95.2	-49.13	-58.81	-13	-45.81	H
1.398250	57.25	Pk	28.2	-95.2	-49.13	-58.88	-13	-45.88	V
2.097100	56.09	Pk	31.4	-95.2	-49.60	-57.31	-13	-44.31	H
2.097100	56.90	Pk	31.4	-95.2	-49.60	-56.50	-13	-43.50	V
2.795950	55.80	Pk	32.2	-95.2	-48.33	-55.53	-13	-42.53	H
2.795950	54.21	Pk	32.2	-95.2	-48.33	-57.12	-13	-44.12	V
Mid Channel, 707.5MHz									
1.405000	58.00	Pk	28.2	-95.2	-49.22	-58.22	-13	-45.22	H
1.405000	57.96	Pk	28.2	-95.2	-49.22	-58.26	-13	-45.26	V
2.107450	58.10	Pk	31.4	-95.2	-49.85	-55.55	-13	-42.55	H
2.107450	56.83	Pk	31.4	-95.2	-49.85	-56.82	-13	-43.82	V
2.809900	54.75	Pk	32.2	-95.2	-48.14	-56.39	-13	-43.39	H
2.809900	54.15	Pk	32.2	-95.2	-48.14	-56.99	-13	-43.99	V
High Channel, 711MHz									
1.412200	58.90	Pk	28.1	-95.2	-49.08	-57.28	-13	-44.28	H
1.412200	58.17	Pk	28.1	-95.2	-49.08	-58.01	-13	-45.01	V
2.118250	56.88	Pk	31.5	-95.2	-49.99	-56.81	-13	-43.81	H
2.118250	57.16	Pk	31.5	-95.2	-49.99	-56.53	-13	-43.53	V
2.824300	54.99	Pk	32.2	-95.2	-48.43	-56.44	-13	-43.44	H
2.824300	54.16	Pk	32.2	-95.2	-48.43	-57.27	-13	-44.27	V

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n12 15MHz
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, 706.5MHz									
1.397800	57.04	Pk	28.2	-95.2	-49.14	-59.10	-13	-46.10	H
1.397800	55.17	Pk	28.2	-95.2	-49.14	-60.97	-13	-47.97	V
2.097100	56.46	Pk	31.4	-95.2	-49.60	-56.94	-13	-43.94	H
2.096875	56.82	Pk	31.4	-95.2	-49.58	-56.56	-13	-43.56	V
2.796400	55.38	Pk	32.2	-95.2	-48.37	-55.99	-13	-42.99	H
2.796400	58.40	Pk	32.2	-95.2	-48.37	-52.97	-13	-39.97	V
Mid Channel, 707.5MHz									
1.395100	55.18	Pk	28.2	-95.2	-49.24	-61.06	-13	-48.06	H
1.395100	56.14	Pk	28.2	-95.2	-49.24	-60.10	-13	-47.10	V
2.092600	57.23	Pk	31.4	-95.2	-49.66	-56.23	-13	-43.23	H
2.092600	57.42	Pk	31.4	-95.2	-49.66	-56.04	-13	-43.04	V
2.790100	56.37	Pk	32.2	-95.2	-48.44	-55.07	-13	-42.07	H
2.790100	56.45	Pk	32.2	-95.2	-48.44	-54.99	-13	-41.99	V
High Channel, 708.5MHz									
1.402300	58.41	Pk	28.2	-95.2	-49.10	-57.69	-13	-44.69	H
1.402300	57.32	Pk	28.2	-95.2	-49.10	-58.78	-13	-45.78	V
2.102950	57.16	Pk	31.4	-95.2	-49.71	-56.35	-13	-43.35	H
2.102950	58.71	Pk	31.4	-95.2	-49.71	-54.80	-13	-41.80	V
2.804050	54.40	Pk	32.2	-95.2	-48.18	-56.78	-13	-43.78	H
2.804050	54.85	Pk	32.2	-95.2	-48.18	-56.33	-13	-43.33	V

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 #:	14982436
Date:	3/13/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	LTE B13 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
Mid Channel, 782MHz									
1.554850	62.25	Pk	27.9	-95.2	-49.8	-54.85	-40	-14.85	H
1.554850	59.14	Pk	27.9	-95.2	-49.8	-57.96	-40	-17.96	V
2.291050	60.63	Pk	32.0	-95.2	-50.2	-52.77	-13	-39.77	H
2.404000	60.58	Pk	32.2	-95.2	-49.9	-52.32	-13	-39.32	V
3.187000	57.57	Pk	33.1	-95.2	-47.9	-52.43	-13	-39.43	H
3.176200	57.55	Pk	33.1	-95.2	-47.9	-52.45	-13	-39.45	V

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 #:	14982436
Date:	03/13/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	LTE 14 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
Mid Channel, 793MHz									
1.576900	61.37	Pk	27.9	-95.2	-49.7	-55.63	-40	-15.63	H
1.576900	60.15	Pk	27.9	-95.2	-49.7	-56.85	-40	-16.85	V
2.430550	57.23	Pk	32.2	-95.2	-49.8	-55.57	-13	-42.57	H
2.431000	61.06	Pk	32.2	-95.2	-49.8	-51.74	-13	-38.74	V
3.327400	55.93	Pk	33.0	-95.2	-47.9	-54.17	-13	-41.17	H
3.327850	58.36	Pk	33.0	-95.2	-47.9	-51.74	-13	-38.74	V

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

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/7/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n14 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
Mid Channel, 793MHz									
1.576900	58.41	Pk	28.0	-95.2	-49.58	-58.37	-40	-18.37	H
1.576900	62.54	Pk	28.0	-95.2	-49.58	-54.24	-40	-14.24	V
2.363950	57.21	Pk	31.8	-95.2	-49.76	-55.95	-13	-42.95	H
2.363950	56.20	Pk	31.8	-95.2	-49.76	-56.96	-13	-43.96	V
3.151900	54.63	Pk	32.9	-95.2	-47.77	-55.44	-13	-42.44	H
3.151900	55.09	Pk	32.9	-95.2	-47.77	-54.98	-13	-41.98	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 #:	14982436
Date:	3/13/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	LTE B17 10MHz QPSK
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, 709MHz									
1.408150	58.13	Pk	28.1	-95.2	-49.15	-58.12	-13	-45.12	H
1.408150	57.48	Pk	28.1	-95.2	-49.15	-58.77	-13	-45.77	V
2.111950	58.34	Pk	31.4	-95.2	-49.77	-55.23	-13	-42.23	H
2.111950	57.17	Pk	31.4	-95.2	-49.77	-56.40	-13	-43.40	V
2.816200	56.01	Pk	32.2	-95.2	-48.40	-55.39	-13	-42.39	H
2.816200	54.74	Pk	32.2	-95.2	-48.40	-56.66	-13	-43.66	V
Mid Channel, 710MHz									
1.4099500	57.50	Pk	28.1	-95.2	-49.11	-58.71	-13	-45.71	H
1.4099500	57.65	Pk	28.1	-95.2	-49.11	-58.56	-13	-45.56	V
2.115100	59.00	Pk	31.4	-95.2	-49.79	-54.59	-13	-41.59	H
2.115100	56.60	Pk	31.4	-95.2	-49.79	-56.99	-13	-43.99	V
2.820250	55.25	Pk	32.2	-95.2	-48.06	-55.81	-13	-42.81	H
2.820250	53.87	Pk	32.2	-95.2	-48.06	-57.19	-13	-44.19	V
High Channel, 711MHz									
1.412650	56.88	Pk	28.6	-95.2	-49.8	-59.52	-13	-46.52	H
1.413100	63.43	Pk	28.6	-95.2	-49.8	-52.97	-13	-39.97	V
2.118250	59.83	Pk	31.7	-95.2	-50.1	-53.77	-13	-40.77	H
2.118250	58.91	Pk	31.7	-95.2	-50.1	-54.69	-13	-41.69	V
2.824300	57.47	Pk	32.5	-95.2	-49.4	-54.63	-13	-41.63	H
2.824300	57.16	Pk	32.5	-95.2	-49.4	-54.94	-13	-41.94	V

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 #:	14982436
Date:	5/22/2024
Test Engineer:	104996
Configuration:	EUT Only
Mode	LTE B25 20MHz QPSK
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, 1860MHz									
3.700000	53.45	Pk	33.5	-95.2	-47.2	-55.45	-13	-42.45	H
3.700000	53.93	Pk	33.5	-95.2	-47.2	-54.97	-13	-41.97	V
7.401000	54.62	Pk	35.9	-95.2	-47.8	-52.48	-13	-39.48	H
7.401000	54.08	Pk	35.9	-95.2	-47.8	-53.02	-13	-40.02	V
5.550000	54.50	Pk	34.4	-95.2	-48.6	-54.90	-13	-41.90	H
5.550000	55.19	Pk	34.4	-95.2	-48.6	-54.21	-13	-41.21	V
Mid Channel, 1882.5MHz									
3.746000	53.12	Pk	33.6	-95.2	-47.7	-56.18	-13	-43.18	H
3.746000	53.54	Pk	33.6	-95.2	-47.7	-55.76	-13	-42.76	V
5.617000	55.15	Pk	34.4	-95.2	-48.5	-54.15	-13	-41.15	H
5.617000	53.30	Pk	34.4	-95.2	-48.5	-56.00	-13	-43.00	V
7.490500	54.26	Pk	35.9	-95.2	-48.2	-53.24	-13	-40.24	H
7.490500	54.76	Pk	35.9	-95.2	-48.2	-52.74	-13	-39.74	V
High Channel, 1905MHz									
3.790000	54.71	Pk	33.6	-95.2	-47.9	-54.79	-13	-41.79	H
3.790000	55.95	Pk	33.6	-95.2	-47.9	-53.55	-13	-40.55	V
5.685000	54.06	Pk	34.4	-95.2	-48.3	-55.04	-13	-42.04	H
5.685000	54.66	Pk	34.4	-95.2	-48.3	-54.44	-13	-41.44	V
7.580000	54.31	Pk	36.0	-95.2	-47.4	-52.29	-13	-39.29	H
7.580000	53.35	Pk	36.0	-95.2	-47.4	-53.25	-13	-40.25	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/42024
Test Engineer:	12501
Configuration:	EUT Only
Mode	FR1 n25 40MHz BPSK
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.734000	55.35	Pk	33.1	-95.2	-46.00	-52.75	-13	-39.75	H
3.710000	54.15	Pk	33.1	-95.2	-46.00	-53.95	-13	-40.95	V
5.595500	54.21	Pk	34.6	-95.2	-46.70	-53.09	-13	-40.09	H
5.590000	53.93	Pk	34.6	-95.2	-46.60	-53.27	-13	-40.27	V
7.468500	54.84	Pk	35.7	-95.2	-46.15	-50.81	-13	-37.81	H
7.528000	54.41	Pk	35.7	-95.2	-45.70	-50.79	-13	-37.79	V
Mid Channel, 1882.5MHz									
3.760500	55.31	Pk	33.2	-95.2	-45.85	-52.54	-13	-39.54	H
3.751000	54.43	Pk	33.2	-95.2	-45.90	-53.47	-13	-40.47	V
5.636000	54.35	Pk	34.6	-95.2	-46.60	-52.85	-13	-39.85	H
5.653500	54.43	Pk	34.6	-95.2	-46.50	-52.67	-13	-39.67	V
7.512500	55.00	Pk	35.7	-95.2	-45.80	-50.30	-13	-37.30	H
7.525000	54.56	Pk	35.7	-95.2	-45.80	-50.74	-13	-37.74	V
High Channel, 1895MHz									
3.802500	53.41	Pk	33.4	-95.2	-45.6	-53.99	-13	-40.99	H
3.808500	54.32	Pk	33.4	-95.2	-45.5	-52.98	-13	-39.98	V
5.703500	54.91	Pk	34.7	-95.2	-46.0	-51.59	-13	-38.59	H
5.750000	55.33	Pk	34.7	-95.2	-45.8	-50.97	-13	-37.97	V
7.605500	54.29	Pk	35.7	-95.2	-45.45	-50.66	-13	-37.66	H
7.586000	53.76	Pk	35.7	-95.2	-45.4	-51.14	-13	-38.14	V

10.2.7. LTE BAND 26 AND 5G NR n26 (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 #:	14982436
Date:	3/13/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	LTE B26 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
Mid Channel, 819MHz									
1.629100	58.42	Pk	28.1	-95.2	-49.7	-58.38	-13	-45.38	H
1.629100	56.53	Pk	28.1	-95.2	-49.7	-60.27	-13	-47.27	V
2.442700	57.80	Pk	32.2	-95.2	-49.8	-55.00	-13	-42.00	H
2.442700	57.28	Pk	32.2	-95.2	-49.8	-55.52	-13	-42.52	V
3.256300	54.81	Pk	33.1	-95.2	-48.4	-55.69	-13	-42.69	H
3.256300	56.07	Pk	33.1	-95.2	-48.4	-54.43	-13	-41.43	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/7/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n26 10MHz BPSK
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
Mid Channel, 819MHz									
1.628200	57.76	Pk	28.4	-95.2	-49.41	-58.45	-13	-45.45	H
1.628200	62.27	Pk	28.4	-95.2	-49.41	-53.94	-13	-40.94	V
2.442250	60.34	Pk	32.1	-95.2	-49.41	-52.17	-13	-39.17	H
2.442250	57.74	Pk	32.1	-95.2	-49.41	-54.77	-13	-41.77	V
3.256300	54.77	Pk	32.7	-95.2	-46.66	-54.39	-13	-41.39	H
3.256300	53.61	Pk	32.7	-95.2	-46.66	-55.55	-13	-42.55	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 #:	14982436
Date:	3/13/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	LTE 26 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, 829MHz									
1.649350	56.64	Pk	28.3	-95.2	-49.7	-59.96	-13	-46.96	H
1.649350	56.88	Pk	28.3	-95.2	-49.7	-59.72	-13	-46.72	V
2.473750	57.26	Pk	32.3	-95.2	-49.9	-55.54	-13	-42.54	H
2.473750	57.45	Pk	32.3	-95.2	-49.9	-55.35	-13	-42.35	V
3.295450	54.84	Pk	33.0	-95.2	-48.2	-55.56	-13	-42.56	H
3.295450	54.25	Pk	33.0	-95.2	-48.2	-56.15	-13	-43.15	V
Mid Channel, 836.5MHz									
1.663300	57.36	Pk	28.4	-95.2	-49.7	-59.14	-13	-46.14	H
1.663300	57.50	Pk	28.4	-95.2	-49.7	-59.00	-13	-46.00	V
2.496250	60.46	Pk	32.2	-95.2	-50.0	-52.54	-13	-39.54	H
2.495800	56.83	Pk	32.2	-95.2	-50.0	-56.17	-13	-43.17	V
3.326050	54.86	Pk	33.0	-95.2	-47.9	-55.24	-13	-42.24	H
3.326050	55.36	Pk	33.0	-95.2	-47.9	-54.74	-13	-41.74	V
High Channel, 844MHz									
1.679500	61.00	Pk	28.6	-95.2	-49.70	-55.30	-13	-42.30	H
1.679500	58.97	Pk	28.6	-95.2	-49.70	-57.33	-13	-44.33	V
2.516950	57.22	Pk	32.2	-95.2	-50.10	-55.88	-13	-42.88	H
2.516950	56.44	Pk	32.2	-95.2	-50.10	-56.66	-13	-43.66	V
3.354850	55.34	Pk	33.1	-95.2	-47.52	-54.28	-13	-41.28	H
3.354850	53.98	Pk	33.1	-95.2	-47.52	-55.64	-13	-42.64	V

BPSK 5G NR n26 (20.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/7/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n26 20MHz BPSK
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, 834MHz									
1.648000	56.96	Pk	28.7	-95.2	-49.64	-59.18	-13	-46.18	H
1.648000	57.69	Pk	28.7	-95.2	-49.64	-58.45	-13	-45.45	V
2.471950	57.65	Pk	32.1	-95.2	-49.24	-54.69	-13	-41.69	H
2.471950	56.58	Pk	32.1	-95.2	-49.24	-55.76	-13	-42.76	V
3.295900	53.00	Pk	32.7	-95.2	-46.62	-56.12	-13	-43.12	H
3.295900	52.70	Pk	32.7	-95.2	-46.62	-56.42	-13	-43.42	V
Mid Channel, 836.5MHz									
1.652950	55.42	Pk	28.7	-95.2	-49.51	-60.59	-13	-47.59	H
1.652950	56.62	Pk	28.7	-95.2	-49.51	-59.39	-13	-46.39	V
2.479150	56.93	Pk	32.1	-95.2	-49.07	-55.24	-13	-42.24	H
2.479150	56.82	Pk	32.1	-95.2	-49.07	-55.35	-13	-42.35	V
3.306250	53.30	Pk	32.7	-95.2	-46.66	-55.86	-13	-42.86	H
3.306250	53.87	Pk	32.7	-95.2	-46.66	-55.29	-13	-42.29	V
Mid Channel, 839.0MHz									
1.657900	56.27	Pk	28.8	-95.2	-49.64	-59.77	-13	-46.77	H
1.657900	57.38	Pk	28.8	-95.2	-49.64	-58.66	-13	-45.66	V
2.487250	57.40	Pk	32.2	-95.2	-48.94	-54.54	-13	-41.54	H
2.487250	55.74	Pk	32.2	-95.2	-48.94	-56.20	-13	-43.20	V
3.316150	52.74	Pk	32.6	-95.2	-46.74	-56.60	-13	-43.60	H
3.316150	52.87	Pk	32.6	-95.2	-46.74	-56.47	-13	-43.47	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 #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B30 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									
4.620469	21.34	RMS	34.0	-95.2	-23.20	-63.06	-40	-23.06	H
4.620469	21.13	RMS	34.0	-95.2	-23.20	-63.27	-40	-23.27	V
6.930000	17.64	RMS	35.7	-95.2	-19.00	-60.86	-40	-20.86	H
6.930000	18.28	RMS	35.7	-95.2	-19.00	-60.22	-40	-20.22	V
9.239531	19.00	RMS	36.1	-95.2	-16.75	-56.85	-40	-16.85	H
9.240000	18.32	RMS	36.1	-95.2	-16.70	-57.48	-40	-17.48	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	5/24/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n30 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									
4.620000	22.61	RMS	34.0	-95.2	-23.20	-61.79	-40	-21.79	H
4.620000	22.71	RMS	34.0	-95.2	-23.20	-61.69	-40	-21.69	V
6.916406	20.97	RMS	35.6	-95.2	-19.14	-57.77	-40	-17.77	H
6.916875	24.22	RMS	35.6	-95.2	-19.19	-54.57	-40	-14.57	V
9.240000	19.37	RMS	36.1	-95.2	-16.70	-56.43	-40	-16.43	H
9.240000	19.04	RMS	36.1	-95.2	-16.70	-56.76	-40	-16.76	V

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 #:	14982436
Date:	5/21/2024
Test Engineer:	104996
Configuration:	EUT Only
Mode	LTE 41FCC 20MHz QPSK
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									
4.993000	56.71	Pk	34.1	-95.2	-49.20	-53.59	-25	-28.59	H
4.993000	55.01	Pk	34.1	-95.2	-49.20	-55.29	-25	-30.29	V
7.488500	53.58	Pk	35.9	-95.2	-48.10	-53.82	-25	-28.82	H
7.488500	54.93	Pk	35.9	-95.2	-48.10	-52.47	-25	-27.47	V
9.984500	54.40	Pk	37.5	-95.2	-48.05	-51.35	-25	-26.35	H
9.984500	55.46	Pk	37.5	-95.2	-48.05	-50.29	-25	-25.29	V
Mid Channel, 2593MHz									
5.167000	55.47	Pk	34.3	-95.2	-49.30	-54.73	-25	-29.73	H
5.167000	54.96	Pk	34.3	-95.2	-49.30	-55.24	-25	-30.24	V
7.749500	54.09	Pk	35.9	-95.2	-47.40	-52.61	-25	-27.61	H
7.749500	52.70	Pk	35.9	-95.2	-47.40	-54.00	-25	-29.00	V
10.333000	56.34	Pk	37.8	-95.2	-48.30	-49.36	-25	-24.36	H
10.333000	55.47	Pk	37.8	-95.2	-48.30	-50.23	-25	-25.23	V
High Channel, 2680MHz									
5.341000	55.61	Pk	34.4	-95.2	-49.30	-54.49	-25	-29.49	H
5.341000	55.30	Pk	34.4	-95.2	-49.30	-54.80	-25	-29.80	V
8.010500	53.37	Pk	36.1	-95.2	-47.10	-52.83	-25	-27.83	H
8.010500	54.68	Pk	36.1	-95.2	-47.10	-51.52	-25	-26.52	V
10.681000	54.36	Pk	37.9	-95.2	-47.30	-50.24	-25	-25.24	H
10.681000	53.64	Pk	37.9	-95.2	-47.30	-50.96	-25	-25.96	V

BPSK 5G NR BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/5/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n41 100MHz BPSK
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, 2546MHz									
4.992	54.96	Pk	33.9	-95.2	-47.52	-53.86	-25	-28.86	H
4.992	54.07	Pk	33.9	-95.2	-47.52	-54.75	-25	-29.75	V
7.488	52.85	Pk	35.7	-95.2	-45.40	-52.05	-25	-27.05	H
7.488	53.4	Pk	35.7	-95.2	-45.40	-51.50	-25	-26.50	V
9.984	53.23	Pk	37.2	-95.2	-45.87	-50.64	-25	-25.64	H
9.984	53.62	Pk	37.2	-95.2	-45.87	-50.25	-25	-25.25	V
Mid Channel, 2593MHz									
5.086000	55.30	Pk	33.9	-95.2	-47.97	-53.97	-25	-28.97	H
5.086000	54.31	Pk	33.9	-95.2	-47.97	-54.96	-25	-29.96	V
7.629000	52.91	Pk	35.7	-95.2	-45.78	-52.37	-25	-27.37	H
7.629000	51.91	Pk	35.7	-95.2	-45.78	-53.37	-25	-28.37	V
10.172000	53.05	Pk	37.5	-95.2	-45.51	-50.16	-25	-25.16	H
10.172000	53.08	Pk	37.5	-95.2	-45.51	-50.13	-25	-25.13	V
High Channel, 2640MHz									
5.180000	53.85	Pk	34.1	-95.2	-47.36	-54.61	-25	-29.61	H
5.180000	54.79	Pk	34.1	-95.2	-47.36	-53.67	-25	-28.67	V
7.770000	52.24	Pk	35.8	-95.2	-45.16	-52.32	-25	-27.32	H
7.770000	53.02	Pk	35.8	-95.2	-45.16	-51.54	-25	-26.54	V
10.360000	52.24	Pk	37.5	-95.2	-45.32	-50.78	-25	-25.78	H
10.360000	53.59	Pk	37.5	-95.2	-45.32	-49.43	-25	-24.43	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 #:	14982436
Date:	5/22/2024
Test Engineer:	104996
Configuration:	EUT Only
Mode	LTE 66 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, 1720MHz									
3.420000	54.68	Pk	33.2	-95.2	-47.80	-55.12	-13	-42.12	H
3.420000	55.89	Pk	33.2	-95.2	-47.80	-53.91	-13	-40.91	V
5.130500	55.27	Pk	34.3	-95.2	-49.40	-55.03	-13	-42.03	H
5.130500	55.31	Pk	34.3	-95.2	-49.40	-54.99	-13	-41.99	V
6.841000	54.17	Pk	35.7	-95.2	-47.50	-52.83	-13	-39.83	H
6.841000	53.82	Pk	35.7	-95.2	-47.50	-53.18	-13	-40.18	V
Mid Channel, 1745MHz									
3.470500	52.95	Pk	33.2	-95.2	-47.40	-56.45	-13	-43.45	H
3.470500	54.32	Pk	33.2	-95.2	-47.40	-55.08	-13	-42.08	V
5.205500	53.22	Pk	34.4	-95.2	-49.10	-56.68	-13	-43.68	H
5.205500	56.26	Pk	34.4	-95.2	-49.10	-53.64	-13	-40.64	V
6.940000	53.55	Pk	35.7	-95.2	-46.80	-52.75	-13	-39.75	H
6.940000	52.53	Pk	35.7	-95.2	-46.80	-53.77	-13	-40.77	V
High Channel, 1770MHz									
3.520500	53.76	Pk	33.3	-95.2	-47.05	-55.19	-13	-42.19	H
3.520500	52.37	Pk	33.3	-95.2	-47.05	-56.58	-13	-43.58	V
5.280500	54.99	Pk	34.4	-95.2	-49.10	-54.91	-13	-41.91	H
5.280500	53.80	Pk	34.4	-95.2	-49.10	-56.10	-13	-43.10	V
7.041000	54.65	Pk	35.8	-95.2	-47.50	-52.25	-13	-39.25	H
7.041000	55.42	Pk	35.8	-95.2	-47.50	-51.48	-13	-38.48	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/5/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n66 40MHz BPSK
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, 1730MHz									
3.420000	54.15	Pk	32.7	-95.2	-46.74	-55.09	-13	-42.09	H
3.420000	54.05	Pk	32.7	-95.2	-46.74	-55.19	-13	-42.19	V
5.131500	61.40	Pk	34.1	-95.2	-47.54	-47.24	-13	-34.24	H
5.131500	63.39	Pk	34.1	-95.2	-47.54	-45.25	-13	-32.25	V
6.840000	53.10	Pk	35.6	-95.2	-45.07	-51.57	-13	-38.57	H
6.840000	51.33	Pk	35.6	-95.2	-45.07	-53.34	-13	-40.34	V
Mid Channel, 1745MHz									
3.450000	53.79	Pk	32.7	-95.2	-46.76	-55.47	-13	-42.47	H
3.450000	53.47	Pk	32.7	-95.2	-46.76	-55.79	-13	-42.79	V
5.176500	63.91	Pk	34.1	-95.2	-47.40	-44.59	-13	-31.59	H
5.176500	67.31	Pk	34.1	-95.2	-47.40	-41.19	-13	-28.19	V
6.900000	53.39	Pk	35.7	-95.2	-45.62	-51.73	-13	-38.73	H
6.900000	52.44	Pk	35.7	-95.2	-45.62	-52.68	-13	-39.68	V
High Channel, 1760MHz									
3.480000	54.46	Pk	32.7	-95.2	-46.59	-54.63	-13	-41.63	H
3.480000	53.28	Pk	32.7	-95.2	-46.59	-55.81	-13	-42.81	V
5.222000	64.98	Pk	34.2	-95.2	-47.50	-43.52	-13	-30.52	H
5.222000	65.14	Pk	34.2	-95.2	-47.50	-43.36	-13	-30.36	V
6.960000	52.65	Pk	35.7	-95.2	-45.92	-52.77	-13	-39.77	H
6.960000	52.48	Pk	35.7	-95.2	-45.92	-52.94	-13	-39.94	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 #:	14982436
Date:	5/23/2024
Test Engineer:	45258
Configuration:	EUT only
Mode	FR1 n70 15MHz BPSK
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, 1702.5MHz									
3.406406	35.48	Pk	32.8	-95.2	-24.84	-51.76	-13	-38.76	H
3.405938	34.59	Pk	32.8	-95.2	-24.80	-52.61	-13	-39.61	V
5.107500	31.49	Pk	34.2	-95.2	-21.05	-50.56	-13	-37.56	H
5.107500	31.08	Pk	34.2	-95.2	-21.05	-50.97	-13	-37.97	V
6.810469	29.86	Pk	35.6	-95.2	-18.70	-48.44	-13	-35.44	H
6.810469	31.15	Pk	35.6	-95.2	-18.70	-47.15	-13	-34.15	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 #:	14982436
Date:	3/14/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTE B71 20MHz QPSK
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									
1.352800	58.42	Pk	28.6	-95.2	-49.34	-57.52	-13	-44.52	H
1.351000	57.69	Pk	28.6	-95.2	-49.43	-58.34	-13	-45.34	V
2.011600	56.87	Pk	31.3	-95.2	-49.62	-56.65	-13	-43.65	H
2.017450	56.67	Pk	31.3	-95.2	-49.56	-56.79	-13	-43.79	V
2.699650	57.29	Pk	32.2	-95.2	-48.88	-54.59	-13	-41.59	H
2.714500	57.15	Pk	32.2	-95.2	-48.60	-54.45	-13	-41.45	V
Mid Channel, 680.5MHz									
1.365850	57.62	Pk	28.5	-95.2	-49.33	-58.41	-13	-45.41	H
1.356850	57.56	Pk	28.6	-95.2	-49.30	-58.34	-13	-45.34	V
2.042200	57.45	Pk	31.4	-95.2	-49.33	-55.68	-13	-42.68	H
2.048050	55.92	Pk	31.4	-95.2	-49.48	-57.36	-13	-44.36	V
2.722150	56.57	Pk	32.2	-95.2	-48.35	-54.78	-13	-41.78	H
2.718550	57.20	Pk	32.2	-95.2	-48.51	-54.31	-13	-41.31	V
High Channel, 688MHz									
1.282600	57.60	Pk	28.8	-95.2	-49.72	-58.52	-13	-45.52	H
1.296550	56.23	Pk	28.9	-95.2	-49.66	-59.73	-13	-46.73	V
2.067400	57.58	Pk	31.4	-95.2	-49.39	-55.61	-13	-42.61	H
2.081800	56.32	Pk	31.4	-95.2	-49.61	-57.09	-13	-44.09	V
2.759500	56.22	Pk	32.2	-95.2	-48.05	-54.83	-13	-41.83	H
2.774800	56.62	Pk	32.2	-95.2	-48.09	-54.47	-13	-41.47	V

BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/8/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	FR1 n71 20MHz BPSK
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.326250	54.74	Pk	29.1	-95.2	-47.05	-58.41	-13	-45.41	H
1.326250	53.70	Pk	29.1	-95.2	-47.05	-59.45	-13	-46.45	V
1.989100	54.30	Pk	31.7	-95.2	-47.40	-56.60	-13	-43.60	H
1.989100	56.53	Pk	31.7	-95.2	-47.40	-54.37	-13	-41.37	V
2.651950	54.11	Pk	32.3	-95.2	-47.11	-55.90	-13	-42.90	H
2.651950	53.99	Pk	32.3	-95.2	-47.11	-56.02	-13	-43.02	V
Mid Channel, 680.5MHz									
1.346950	56.29	Pk	29.1	-95.2	-46.80	-56.61	-13	-43.61	H
1.346950	54.63	Pk	29.1	-95.2	-46.80	-58.27	-13	-45.27	V
2.018800	55.03	Pk	31.7	-95.2	-47.68	-56.15	-13	-43.15	H
2.018800	54.93	Pk	31.7	-95.2	-47.68	-56.25	-13	-43.25	V
2.69290	53.91	Pk	32.3	-95.2	-47.20	-56.19	-13	-43.19	H
2.692900	53.89	Pk	32.3	-95.2	-47.20	-56.21	-13	-43.21	V
High Channel, 688MHz									
1.356400	57.32	Pk	29.1	-95.2	-46.9	-55.68	-13	-42.68	H
1.355950	55.81	Pk	29.1	-95.2	-46.9	-57.19	-13	-44.19	V
2.035000	55.83	Pk	31.7	-95.2	-47.7	-55.37	-13	-42.37	H
2.035000	55.59	Pk	31.7	-95.2	-47.7	-55.61	-13	-42.61	V
2.712250	54.36	Pk	32.3	-95.2	-47.4	-55.94	-13	-42.94	H
2.712250	55.75	Pk	32.3	-95.2	-47.4	-54.55	-13	-41.55	V

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 3

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 #:	14982436
Date:	3/13/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	LTE 7 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	55.72	Pk	34.2	-95.2	-49.60	-54.88	-25	-29.88	H
5.007000	55.32	Pk	34.1	-95.2	-49.40	-55.18	-25	-30.18	V
7.535000	53.84	Pk	36.0	-95.2	-48.00	-53.36	-25	-28.36	H
7.561000	54.41	Pk	36.0	-95.2	-48.20	-52.99	-25	-27.99	V
10.055000	54.28	Pk	37.6	-95.2	-48.20	-51.52	-25	-26.52	H
10.072500	55.03	Pk	37.6	-95.2	-48.35	-50.92	-25	-25.92	V
Mid Channel, 2535MHz									
5.050500	58.14	Pk	34.2	-95.2	-49.50	-52.36	-25	-27.36	H
5.050500	55.17	Pk	34.2	-95.2	-49.50	-55.33	-25	-30.33	V
7.575500	54.08	Pk	36.0	-95.2	-48.30	-53.42	-25	-28.42	H
7.575500	55.00	Pk	36.0	-95.2	-48.30	-52.50	-25	-27.50	V
10.100500	55.75	Pk	37.6	-95.2	-48.40	-50.25	-25	-25.25	H
10.100500	55.10	Pk	37.6	-95.2	-48.40	-50.90	-25	-25.90	V
High Channel, 2560MHz									
5.120500	57.15	Pk	34.3	-95.2	-49.60	-53.35	-25	-28.35	H
5.123000	57.39	Pk	34.3	-95.2	-49.60	-53.11	-25	-28.11	V
7.692000	55.18	Pk	35.9	-95.2	-47.60	-51.72	-25	-26.72	H
7.786500	56.39	Pk	36.0	-95.2	-47.40	-50.21	-25	-25.21	V
10.237000	57.26	Pk	37.7	-95.2	-48.20	-48.44	-25	-23.44	H
10.178500	57.91	Pk	37.7	-95.2	-48.50	-48.09	-25	-23.09	V

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/8/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n7 BPSK 40MHz
Chamber #:	03-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.044000	55.38	Pk	33.9	-95.2	-47.73	-53.65	-25	-28.65	H
5.065500	54.35	Pk	33.9	-95.2	-47.68	-54.63	-25	-29.63	V
7.558000	52.61	Pk	35.7	-95.2	-45.48	-52.37	-25	-27.37	H
7.510000	51.75	Pk	35.7	-95.2	-45.17	-52.92	-25	-27.92	V
10.0710000	53.07	Pk	37.3	-95.2	-45.51	-50.34	-25	-25.34	H
10.14700	53.46	Pk	37.5	-95.2	-45.58	-49.82	-25	-24.82	V
Mid Channel, 2535MHz									
5.076000	55.5	Pk	33.9	-95.2	-47.77	-53.57	-25	-28.57	H
5.092500	55.15	Pk	34.0	-95.2	-47.75	-53.80	-25	-28.80	V
7.606500	53.94	Pk	35.7	-95.2	-46.00	-51.56	-25	-26.56	H
7.566000	51.83	Pk	35.7	-95.2	-45.50	-53.17	-25	-28.17	V
10.190000	53.60	Pk	37.5	-95.2	-45.51	-49.61	-25	-24.61	H
10.234000	53.65	Pk	37.5	-95.2	-44.56	-48.61	-25	-23.61	V
High Channel, 2550MHz									
5.098000	56.33	Pk	34.0	-95.2	-47.99	-52.86	-25	-27.86	H
5.109000	56.00	Pk	34.0	-95.2	-47.79	-52.99	-25	-27.99	V
7.655500	53.73	Pk	35.7	-95.2	-45.66	-51.43	-25	-26.43	H
7.582500	52.01	Pk	35.7	-95.2	-45.70	-53.19	-25	-28.19	V
10.190000	52.85	Pk	37.5	-95.2	-45.51	-50.36	-25	-25.36	H
10.136000	54.95	Pk	37.4	-95.2	-45.70	-48.55	-25	-23.55	V

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 #:	14982436
Date:	3/13/2024
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	Gain/Loss (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.720000	54.70	Pk	33.5	-95.2	-47.40	-54.40	-13	-41.40	H
3.713500	52.55	Pk	33.5	-95.2	-47.30	-56.45	-13	-43.45	V
5.588500	54.27	Pk	34.4	-95.2	-48.70	-55.23	-13	-42.23	H
5.579000	54.82	Pk	34.4	-95.2	-48.70	-54.68	-13	-41.68	V
7.445000	54.62	Pk	35.9	-95.2	-48.00	-52.68	-13	-39.68	H
7.483500	55.22	Pk	35.9	-95.2	-48.20	-52.28	-13	-39.28	V
Mid Channel, 1882.5MHz									
3.771500	54.25	Pk	33.6	-95.2	-47.85	-55.20	-13	-42.20	H
3.713500	52.55	Pk	33.5	-95.2	-47.30	-56.45	-13	-43.45	V
5.656000	53.64	Pk	34.4	-95.2	-48.30	-55.46	-13	-42.46	H
5.695000	54.12	Pk	34.5	-95.2	-48.20	-54.78	-13	-41.78	V
7.522000	54.44	Pk	36.0	-95.2	-48.00	-52.76	-13	-39.76	H
7.509000	54.60	Pk	36.0	-95.2	-48.20	-52.80	-13	-39.80	V
High Channel, 1905MHz									
3.817000	54.54	Pk	33.6	-95.2	-47.90	-54.96	-13	-41.96	H
3.797500	54.13	Pk	33.6	-95.2	-47.85	-55.32	-13	-42.32	V
5.715000	55.01	Pk	34.5	-95.2	-48.10	-53.79	-13	-40.79	H
5.705000	56.20	Pk	34.5	-95.2	-48.20	-52.70	-13	-39.70	V
7.626000	55.03	Pk	35.9	-95.2	-47.30	-51.57	-13	-38.57	H
7.626000	53.44	Pk	35.9	-95.2	-47.30	-53.16	-13	-40.16	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/11/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	FR1 N25 BPSK 40MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.741000	53.04	Pk	33.1	-95.2	-46.00	-55.06	-13	-42.06	H
3.741000	52.52	Pk	33.1	-95.2	-46.00	-55.58	-13	-42.58	V
5.552500	53.97	Pk	34.6	-95.2	-46.35	-52.98	-13	-39.98	H
5.552500	57.12	Pk	34.6	-95.2	-46.35	-49.83	-13	-36.83	V
7.411500	57.36	Pk	35.7	-95.2	-46.10	-48.24	-13	-35.24	H
7.400500	55.27	Pk	35.7	-95.2	-46.05	-50.28	-13	-37.28	V
Mid Channel, 1882.5MHz									
3.766000	52.52	Pk	33.3	-95.2	-45.80	-55.18	-13	-42.18	H
3.76600	53.26	Pk	33.3	-95.2	-45.80	-54.44	-13	-41.44	V
5.591000	53.66	Pk	34.6	-95.2	-46.70	-53.64	-13	-40.64	H
5.589500	58.03	Pk	34.6	-95.2	-46.65	-49.22	-13	-36.22	V
7.573500	53.58	Pk	35.7	-95.2	-45.40	-51.32	-13	-38.32	H
7.57500	55.87	Pk	35.7	-95.2	-45.40	-49.03	-13	-36.03	V
High Channel, 1895MHz									
3.790000	51.29	Pk	33.3	-95.2	-45.70	-56.31	-13	-43.31	H
3.789500	52.56	Pk	33.3	-95.2	-45.70	-55.04	-13	-42.04	V
5.686000	53.03	Pk	34.7	-95.2	-46.10	-53.57	-13	-40.57	H
5.686000	51.78	Pk	34.7	-95.2	-46.10	-54.82	-13	-41.82	V
7.579000	51.67	Pk	35.7	-95.2	-45.50	-53.33	-13	-40.33	H
7.579000	53.44	Pk	35.7	-95.2	-45.50	-51.56	-13	-38.56	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 #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B30 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									
4.620938	21.21	RMS	34	-95.2	-23.2	-63.19	-40	-23.19	H
4.620938	21.07	RMS	34	-95.2	-23.2	-63.33	-40	-23.33	V
6.930938	18.02	RMS	35.7	-95.2	-19	-60.48	-40	-20.48	H
6.930938	18.81	RMS	35.7	-95.2	-19	-59.69	-40	-19.69	V
9.239531	18.35	RMS	36.1	-95.2	-16.75	-57.50	-40	-17.50	H
9.239531	18.93	RMS	36.1	-95.2	-16.75	-56.92	-40	-16.92	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n30 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									
4.620469	21.37	RMS	34.0	-95.2	-23.2	-63.03	-40	-23.03	H
4.620000	21.6	RMS	34.0	-95.2	-23.2	-62.80	-40	-22.80	V
6.930469	18.50	RMS	35.7	-95.2	-19.0	-60.00	-40	-20.00	H
6.930469	18.89	RMS	35.7	-95.2	-19.0	-59.61	-40	-19.61	V
9.240000	17.95	RMS	36.1	-95.2	-16.7	-57.85	-40	-17.85	H
9.240000	18.32	RMS	36.1	-95.2	-16.7	-57.48	-40	-17.48	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 #:	14982436
Date:	3/14/2024
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									
5.001500	57.07	Pk	34.1	-95.2	-49.45	-53.48	-25	-28.48	H
4.972500	57.29	Pk	34.1	-95.2	-49.20	-53.01	-25	-28.01	V
7.511000	56.41	Pk	36.0	-95.2	-48.00	-50.79	-25	-25.79	H
7.499500	56.26	Pk	36.0	-95.2	-48.10	-51.04	-25	-26.04	V
10.026000	56.70	Pk	37.5	-95.2	-47.90	-48.90	-25	-23.90	H
10.001000	58.30	Pk	37.5	-95.2	-48.10	-47.50	-25	-22.50	V
Mid Channel, 2593MHz									
5.171500	58.00	Pk	34.4	-95.2	-49.35	-52.15	-25	-27.15	H
5.208500	56.29	Pk	34.4	-95.2	-49.15	-53.66	-25	-28.66	V
7.777000	55.91	Pk	36.0	-95.2	-47.40	-50.69	-25	-25.69	H
7.829500	56.06	Pk	36.0	-95.2	-47.90	-51.04	-25	-26.04	V
10.369500	57.26	Pk	37.8	-95.2	-48.05	-48.19	-25	-23.19	H
10.468000	56.49	Pk	37.9	-95.2	-47.40	-48.21	-25	-23.21	V
High Channel, 2680MHz									
5.355500	57.21	Pk	34.4	-95.2	-49.20	-52.79	-25	-27.79	H
5.342000	56.83	Pk	34.4	-95.2	-49.30	-53.27	-25	-28.27	V
8.049500	55.97	Pk	36.1	-95.2	-47.40	-50.53	-25	-25.53	H
8.034500	56.20	Pk	36.1	-95.2	-47.30	-50.20	-25	-25.20	V
10.723500	55.77	Pk	37.9	-95.2	-47.20	-48.73	-25	-23.73	H
10.745500	55.48	Pk	37.9	-95.2	-47.40	-49.22	-25	-24.22	V

BPSK n41 (100.0MHZ BANDWIDTH)

Project #:	14982436
Date:	5/24/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n41 BPSK 100MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 (dB) 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.092969	31.21	Pk	34.2	0.8	-95.2	-21.80	-50.79	-25	-25.79	H
5.092500	31.24	Pk	34.2	0.8	-95.2	-21.80	-50.76	-25	-25.76	V
7.638750	28.89	Pk	35.8	0.4	-95.2	-17.80	-47.91	-25	-22.91	H
7.638750	29.18	Pk	35.8	0.4	-95.2	-17.80	-47.62	-25	-22.62	V
10.185000	28.60	Pk	37.6	0.6	-95.2	-15.60	-44.00	-25	-19.00	H
10.185000	27.49	Pk	37.6	0.6	-95.2	-15.60	-45.11	-25	-20.11	V
Mid Channel, 2593MHz										
5.196094	33.12	Pk	34.2	0.8	-95.2	-21.70	-48.78	-25	-23.78	H
5.196563	31.94	Pk	34.2	0.8	-95.2	-21.70	-49.96	-25	-24.96	V
7.778906	29.10	Pk	35.8	0.3	-95.2	-17.90	-47.90	-25	-22.90	H
7.778906	28.79	Pk	35.8	0.3	-95.2	-17.90	-48.21	-25	-23.21	V
10.372031	27.92	Pk	37.8	0.8	-95.2	-15.10	-43.78	-25	-18.78	H
10.372031	27.01	Pk	37.8	0.8	-95.2	-15.10	-44.69	-25	-19.69	V
High Channel, 2640MHz										
5.280469	31.57	Pk	34.3	0.3	-95.2	-22.10	-51.13	-25	-26.13	H
5.280938	32.19	Pk	34.3	0.3	-95.2	-22.10	-50.51	-25	-25.51	V
7.920938	28.23	Pk	35.9	0.2	-95.2	-17.70	-48.57	-25	-23.57	H
7.920469	28.93	Pk	35.9	0.2	-95.2	-17.70	-47.87	-25	-22.87	V
10.560469	27.71	Pk	37.9	0.7	-95.2	-15.15	-44.04	-25	-19.04	H
10.560469	26.00	Pk	37.9	0.7	-95.2	-15.15	-45.75	-25	-20.75	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 #:	14982436
Date:	3/13/2024
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	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.449000	54.96	Pk	33.2	-95.2	-47.50	-54.54	-13	-41.54	H
3.443500	54.48	Pk	33.2	-95.2	-47.70	-55.22	-13	-42.22	V
5.155000	55.12	Pk	34.3	-95.2	-49.40	-55.18	-13	-42.18	H
5.155000	56.62	Pk	34.3	-95.2	-49.40	-53.68	-13	-40.68	V
6.879500	53.56	Pk	35.7	-95.2	-47.25	-53.19	-13	-40.19	H
6.891500	53.48	Pk	35.7	-95.2	-47.10	-53.12	-13	-40.12	V
Mid Channel, 1745MHz									
3.497000	54.65	Pk	33.2	-95.2	-47.10	-54.45	-13	-41.45	H
3.497000	53.31	Pk	33.2	-95.2	-47.10	-55.79	-13	-42.79	V
5.244500	54.61	Pk	34.4	-95.2	-49.10	-55.29	-13	-42.29	H
5.253500	55.30	Pk	34.4	-95.2	-49.10	-54.60	-13	-41.60	V
6.986500	52.86	Pk	35.8	-95.2	-47.00	-53.54	-13	-40.54	H
6.962500	53.27	Pk	35.7	-95.2	-46.80	-53.03	-13	-40.03	V
High Channel, 1770MHz									
3.539000	53.31	Pk	33.3	-95.2	-47.00	-55.59	-13	-42.59	H
3.527000	53.11	Pk	33.3	-95.2	-47.10	-55.89	-13	-42.89	V
5.308000	55.27	Pk	34.4	-95.2	-49.00	-54.53	-13	-41.53	H
5.299000	54.70	Pk	34.4	-95.2	-49.10	-55.20	-13	-42.20	V
7.083500	53.76	Pk	35.8	-95.2	-47.80	-53.44	-13	-40.44	H
7.083500	54.71	Pk	35.8	-95.2	-47.80	-52.49	-13	-39.49	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/11/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n66 BPSK 40MHz
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, 1730MHz									
3.420000	54.32	Pk	32.7	-95.2	-46.74	-54.92	-13	-41.92	H
3.420000	53.81	Pk	32.7	-95.2	-46.74	-55.43	-13	-42.43	V
5.130000	53.15	Pk	34.1	-95.2	-47.68	-55.63	-13	-42.63	H
5.130000	54.62	Pk	34.1	-95.2	-47.68	-54.16	-13	-41.16	V
6.840000	52.13	Pk	35.6	-95.2	-45.07	-52.54	-13	-39.54	H
6.840000	52.26	Pk	35.6	-95.2	-45.07	-52.41	-13	-39.41	V
Mid Channel, 1745MHz									
3.450000	52.97	Pk	32.7	-95.2	-46.76	-56.29	-13	-43.29	H
3.450000	53.63	Pk	32.7	-95.2	-46.76	-55.63	-13	-42.63	V
5.175000	54.10	Pk	34.1	-95.2	-47.54	-54.54	-13	-41.54	H
5.175000	54.88	Pk	34.1	-95.2	-47.54	-53.76	-13	-40.76	V
6.900000	53.21	Pk	35.7	-95.2	-45.62	-51.91	-13	-38.91	H
6.900000	52.04	Pk	35.7	-95.2	-45.62	-53.08	-13	-40.08	V
High Channel, 1760MHz									
3.480000	54.00	Pk	32.7	-95.2	-46.59	-55.09	-13	-42.09	H
3.480000	52.70	Pk	32.7	-95.2	-46.59	-56.39	-13	-43.39	V
5.221500	55.23	Pk	34.2	-95.2	-47.55	-53.32	-13	-40.32	H
5.221500	58.84	Pk	34.2	-95.2	-47.55	-49.71	-13	-36.71	V
6.960000	52.02	Pk	35.7	-95.2	-45.92	-53.40	-13	-40.40	H
6.960000	53.68	Pk	35.7	-95.2	-45.92	-51.74	-13	-38.74	V

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 #:	14982436
Date:	3/11/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n70 BPSK 15MHz
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
Mid Channel, 1702.5MHz									
3.390000	55.59	Pk	32.6	-95.2	-46.73	-53.74	-13	-40.74	H
3.390000	53.92	Pk	32.6	-95.2	-46.73	-55.41	-13	-42.41	V
5.086000	54.24	Pk	33.9	-95.2	-47.62	-54.68	-13	-41.68	H
5.086000	59.40	Pk	33.9	-95.2	-47.62	-49.52	-13	-36.52	V
6.780000	52.27	Pk	35.6	-95.2	-44.70	-52.03	-13	-39.03	H
6.780000	52.52	Pk	35.6	-95.2	-44.70	-51.78	-13	-38.78	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 4

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 #:	14982436
Date:	5/23/2024
Test Engineer:	104996
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									
5.001000	56.37	Pk	34.1	-95.2	-49.50	-54.23	-25	-29.23	H
5.001000	53.85	Pk	34.1	-95.2	-49.50	-56.75	-25	-31.75	V
7.500000	53.14	Pk	36.0	-95.2	-48.10	-54.16	-25	-29.16	H
7.500000	55.09	Pk	36.0	-95.2	-48.10	-52.21	-25	-27.21	V
9.999750	55.40	Pk	37.5	-95.2	-48.08	-50.38	-25	-25.38	H
10.000000	55.82	Pk	37.5	-95.2	-48.10	-49.98	-25	-24.98	V
Mid Channel, 2535MHz									
5.051000	55.31	Pk	34.2	-95.2	-49.5	-55.19	-25	-30.19	H
5.051000	57.14	Pk	34.2	-95.2	-49.5	-53.36	-25	-28.36	V
7.575500	57.27	Pk	36.0	-95.2	-48.3	-50.23	-25	-25.23	H
7.575500	54.36	Pk	36.0	-95.2	-48.3	-53.14	-25	-28.14	V
10.101000	58.10	Pk	37.6	-95.2	-48.4	-47.90	-25	-22.90	H
10.101000	55.73	Pk	37.6	-95.2	-48.4	-50.27	-25	-25.27	V
High Channel, 2560MHz									
5.100500	55.98	Pk	34.2	-95.2	-49.6	-54.62	-25	-29.62	H
5.100500	55.92	Pk	34.2	-95.2	-49.6	-54.68	-25	-29.68	V
7.651000	54.84	Pk	35.9	-95.2	-48.1	-52.56	-25	-27.56	H
7.651000	54.17	Pk	35.9	-95.2	-48.1	-53.23	-25	-28.23	V
10.200500	55.18	Pk	37.7	-95.2	-48.4	-50.72	-25	-25.72	H
10.200500	55.61	Pk	37.7	-95.2	-48.4	-50.29	-25	-25.29	V

BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/7/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n7 BPSK 40MHz
Chamber #:	03-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz									
5.030000	53.99	Pk	33.9	-95.2	-47.38	-54.69	-25	-29.69	H
5.030000	54.36	Pk	33.9	-95.2	-47.38	-54.32	-25	-29.32	V
7.545000	51.93	Pk	35.7	-95.2	-45.46	-53.03	-25	-28.03	H
7.545000	52.97	Pk	35.7	-95.2	-45.46	-51.99	-25	-26.99	V
10.060000	53.86	Pk	37.3	-95.2	-45.44	-49.48	-25	-24.48	H
10.060000	53.07	Pk	37.3	-95.2	-45.44	-50.27	-25	-25.27	V
Mid Channel, 2535MHz									
5.001000	53.89	Pk	33.9	-95.2	-47.30	-54.71	-25	-29.71	H
5.001000	54.86	Pk	33.9	-95.2	-47.30	-53.74	-25	-28.74	V
7.501500	52.83	Pk	35.7	-95.2	-45.26	-51.93	-25	-26.93	H
7.501500	52.18	Pk	35.7	-95.2	-45.26	-52.58	-25	-27.58	V
10.002000	52.91	Pk	37.3	-95.2	-45.74	-50.73	-25	-25.73	H
10.002000	53.54	Pk	37.3	-95.2	-45.74	-50.10	-25	-25.10	V
High Channel, 2550MHz									
5.060000	54.76	Pk	33.9	-95.2	-47.83	-54.37	-25	-29.37	H
5.060000	53.98	Pk	33.9	-95.2	-47.83	-55.15	-25	-30.15	V
7.590000	53.11	Pk	35.7	-95.2	-45.93	-52.32	-25	-27.32	H
7.590000	52.75	Pk	35.7	-95.2	-45.93	-52.68	-25	-27.68	V
10.120000	54.39	Pk	37.4	-95.2	-45.74	-49.15	-25	-24.15	H
10.120000	53.71	Pk	37.4	-95.2	-45.74	-49.83	-25	-24.83	V

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 #:	14982436
Date:	3/14/2024
Test Engineer:	32894
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									
3.700000	53.16	Pk	33.0	-95.2	-47.12	-56.16	-13	-43.16	H
3.700000	53.64	Pk	33.0	-95.2	-47.12	-55.68	-13	-42.68	V
7.400000	53.56	Pk	35.6	-95.2	-45.71	-51.75	-13	-38.75	H
7.400000	52.41	Pk	35.6	-95.2	-45.71	-52.90	-13	-39.90	V
5.550000	54.66	Pk	34.4	-95.2	-46.93	-53.07	-13	-40.07	H
5.550000	54.65	Pk	34.4	-95.2	-46.93	-53.08	-13	-40.08	V
Mid Channel, 1882.5MHz									
3.745000	53.6	Pk	33.1	-95.2	-47.07	-55.57	-13	-42.57	H
3.745000	53.01	Pk	33.1	-95.2	-47.07	-56.16	-13	-43.16	V
7.490000	53.21	Pk	35.7	-95.2	-45.91	-52.20	-13	-39.20	H
7.490000	52.86	Pk	35.7	-95.2	-45.91	-52.55	-13	-39.55	V
5.617500	53.77	Pk	34.3	-95.2	-46.86	-53.99	-13	-40.99	H
5.617500	51.97	Pk	34.3	-95.2	-46.86	-55.79	-13	-42.79	V
High Channel, 1905MHz									
3.790000	53.72	Pk	33.2	-95.2	-46.65	-54.93	-13	-41.93	H
3.790000	54.83	Pk	33.2	-95.2	-46.65	-53.82	-13	-40.82	V
7.580000	52.57	Pk	35.7	-95.2	-44.53	-51.46	-13	-38.46	H
7.580000	51.56	Pk	35.7	-95.2	-44.53	-52.47	-13	-39.47	V
5.68500	54.15	Pk	34.4	-95.2	-46.60	-53.25	-13	-40.25	H
5.68500	54.18	Pk	34.4	-95.2	-46.60	-53.22	-13	-40.22	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/6/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	FR1 n25 BPSK 40MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.745500	52.65	Pk	33.2	-95.2	-45.95	-55.30	-13	-42.30	H
3.732500	55.05	Pk	33.1	-95.2	-46.10	-53.15	-13	-40.15	V
7.483500	51.30	Pk	35.7	-95.2	-46.10	-54.30	-13	-41.30	H
7.496500	52.88	Pk	35.7	-95.2	-46.00	-52.62	-13	-39.62	V
5.608000	52.15	Pk	34.6	-95.2	-46.70	-55.15	-13	-42.15	H
5.608000	54.45	Pk	34.6	-95.2	-46.70	-52.85	-13	-39.85	V
Mid Channel, 1882.5MHz									
3.726500	53.08	Pk	33.1	-95.2	-46.10	-55.12	-13	-42.12	H
3.726500	52.9	Pk	33.1	-95.2	-46.10	-55.30	-13	-42.30	V
7.574000	52.51	Pk	35.7	-95.2	-45.40	-52.39	-13	-39.39	H
7.587000	52.85	Pk	35.7	-95.2	-45.40	-52.05	-13	-39.05	V
5.695000	53.23	Pk	34.7	-95.2	-46.10	-53.37	-13	-40.37	H
5.695000	53.42	Pk	34.7	-95.2	-46.10	-53.18	-13	-40.18	V
High Channel, 1895MHz									
3.809000	53.87	Pk	33.4	-95.2	-45.40	-53.33	-13	-40.33	H
3.768500	54.20	Pk	33.3	-95.2	-45.75	-53.45	-13	-40.45	V
7.611000	54.19	Pk	35.7	-95.2	-45.60	-50.91	-13	-37.91	H
7.581500	54.62	Pk	35.7	-95.2	-45.40	-50.28	-13	-37.28	V
5.685500	55.29	Pk	34.7	-95.2	-46.10	-51.31	-13	-38.31	H
5.660500	54.09	Pk	34.7	-95.2	-46.40	-52.81	-13	-39.81	V

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 #:	14982436
Date:	6/11/2024
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE B30 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									
4.620469	22.06	RMS	34.0	-95.2	-23.2	-62.34	-40	-22.34	H
4.620469	21.43	RMS	34.0	-95.2	-23.2	-62.97	-40	-22.97	V
6.930000	18.37	RMS	35.7	-95.2	-19.0	-60.13	-40	-20.13	H
6.930000	18.14	RMS	35.7	-95.2	-19.0	-60.36	-40	-20.36	V
9.240469	18.22	RMS	36.1	-95.2	-16.7	-57.58	-40	-17.58	H
9.240469	19.01	RMS	36.1	-95.2	-16.7	-56.79	-40	-16.79	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14982436
Date:	6/11/2024
Test Engineer:	28567
Configuration:	EUT Only
Mode	FR1 n30 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									
4.620469	27.05	RMS	34.1	-95.2	-28.8	-62.85	-40	-22.85	H
4.618594	26.37	RMS	34.1	-95.2	-28.8	-63.53	-40	-23.53	V
6.922031	24.1	RMS	35.6	-95.2	-26.3	-61.80	-40	-21.80	H
6.920625	23.8	RMS	35.6	-95.2	-26.33	-62.13	-40	-22.13	V
9.24	21.98	RMS	36.3	-95.2	-23.7	-60.62	-40	-20.62	H
9.24	21.54	RMS	36.3	-95.2	-23.7	-61.06	-40	-21.06	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 #:	14982436
Date:	3/14/2024
Test Engineer:	32894
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									
4.992000	54.75	Pk	33.9	-95.2	-47.52	-54.07	-25	-29.07	H
4.992000	54.23	Pk	33.9	-95.2	-47.52	-54.59	-25	-29.59	V
7.488000	52.49	Pk	35.7	-95.2	-45.40	-52.41	-25	-27.41	H
7.488000	52.17	Pk	35.7	-95.2	-45.40	-52.73	-25	-27.73	V
9.984000	52.84	Pk	37.2	-95.2	-45.87	-51.03	-25	-26.03	H
9.984000	54.36	Pk	37.2	-95.2	-45.87	-49.51	-25	-24.51	V
Mid Channel, 2593MHz									
5.166000	53.93	Pk	34.1	-95.2	-47.44	-54.61	-25	-29.61	H
5.166000	54.53	Pk	34.1	-95.2	-47.44	-54.01	-25	-29.01	V
7.749000	51.75	Pk	35.8	-95.2	-44.90	-52.55	-25	-27.55	H
7.749000	54.70	Pk	35.8	-95.2	-44.90	-49.60	-25	-24.60	V
10.332000	51.79	Pk	37.5	-95.2	-45.25	-51.16	-25	-26.16	H
10.332000	52.55	Pk	37.5	-95.2	-45.25	-50.40	-25	-25.40	V
High Channel, 2680MHz									
5.340000	55.52	Pk	34.4	-95.2	-47.41	-52.69	-25	-27.69	H
5.340000	54.09	Pk	34.4	-95.2	-47.41	-54.12	-25	-29.12	V
8.010000	52.84	Pk	35.7	-95.2	-44.77	-51.43	-25	-26.43	H
8.010000	52.29	Pk	35.7	-95.2	-44.77	-51.98	-25	-26.98	V
10.680000	51.47	Pk	37.7	-95.2	-44.83	-50.86	-25	-25.86	H
10.680000	52.37	Pk	37.7	-95.2	-44.83	-49.96	-25	-24.96	V

BPSK 5G NR n41 (100.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/7/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n41 BPSK 100MHz
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, 2546MHz									
4.992000	53.62	Pk	33.9	-95.2	-47.52	-55.20	-25	-30.20	H
4.992000	54.81	Pk	33.9	-95.2	-47.52	-54.01	-25	-29.01	V
7.488000	51.92	Pk	35.7	-95.2	-45.40	-52.98	-25	-27.98	H
7.488000	51.66	Pk	35.7	-95.2	-45.40	-53.24	-25	-28.24	V
9.984000	53.32	Pk	37.2	-95.2	-45.87	-50.55	-25	-25.55	H
9.984000	54.50	Pk	37.2	-95.2	-45.87	-49.37	-25	-24.37	V
Mid Channel, 2593MHz									
5.086000	54.98	Pk	33.9	-95.2	-47.97	-54.29	-25	-29.29	H
5.086000	54.30	Pk	33.9	-95.2	-47.97	-54.97	-25	-29.97	V
7.629000	52.64	Pk	35.7	-95.2	-45.78	-52.64	-25	-27.64	H
7.629000	52.5	Pk	35.7	-95.2	-45.78	-52.78	-25	-27.78	V
10.172000	54.37	Pk	37.5	-95.2	-45.51	-48.84	-25	-23.84	H
10.172000	54.07	Pk	37.5	-95.2	-45.51	-49.14	-25	-24.14	V
High Channel, 2640MHz									
5.180000	54.96	Pk	34.1	-95.2	-47.36	-53.50	-25	-28.50	H
5.180000	53.86	Pk	34.1	-95.2	-47.36	-54.60	-25	-29.60	V
7.770500	51.83	Pk	35.8	-95.2	-45.16	-52.73	-25	-27.73	H
7.770500	52.40	Pk	35.8	-95.2	-45.16	-52.16	-25	-27.16	V
10.360000	52.10	Pk	37.5	-95.2	-45.32	-50.92	-25	-25.92	H
10.360000	52.71	Pk	37.5	-95.2	-45.32	-50.31	-25	-25.31	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 #:	14982436
Date:	3/14/2024
Test Engineer:	32894
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	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.420000	52.81	Pk	32.7	-95.2	-46.74	-56.43	-13	-43.43	H
3.420000	53.18	Pk	32.7	-95.2	-46.74	-56.06	-13	-43.06	V
5.133500	53.84	Pk	34.1	-95.2	-47.48	-54.74	-13	-41.74	H
5.133500	61.03	Pk	34.1	-95.2	-47.48	-47.55	-13	-34.55	V
6.840000	53.62	Pk	35.6	-95.2	-45.07	-51.05	-13	-38.05	H
6.840000	52.21	Pk	35.6	-95.2	-45.07	-52.46	-13	-39.46	V
Mid Channel, 1745MHz									
3.470000	53.77	Pk	32.7	-95.2	-46.76	-55.49	-13	-42.49	H
3.470000	55.07	Pk	32.7	-95.2	-46.76	-54.19	-13	-41.19	V
5.205000	53.95	Pk	34.2	-95.2	-47.45	-54.50	-13	-41.50	H
5.205000	54.61	Pk	34.2	-95.2	-47.45	-53.84	-13	-40.84	V
6.940000	52.74	Pk	35.7	-95.2	-45.95	-52.71	-13	-39.71	H
6.940000	51.49	Pk	35.7	-95.2	-45.95	-53.96	-13	-40.96	V
High Channel, 1770MHz									
3.520000	53.25	Pk	32.8	-95.2	-46.75	-55.90	-13	-42.90	H
3.520000	53.36	Pk	32.8	-95.2	-46.75	-55.79	-13	-42.79	V
5.280000	54.34	Pk	34.4	-95.2	-47.66	-54.12	-13	-41.12	H
5.280000	54.74	Pk	34.4	-95.2	-47.66	-53.72	-13	-40.72	V
7.040000	51.01	Pk	35.6	-95.2	-45.16	-53.75	-13	-40.75	H
7.040000	52.67	Pk	35.6	-95.2	-45.16	-52.09	-13	-39.09	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14982436
Date:	3/8/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n66 BPSK 40MHz
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, 1730MHz									
3.420000	53.29	Pk	32.7	-95.2	-46.74	-55.95	-13	-42.95	H
3.420000	53.34	Pk	32.7	-95.2	-46.74	-55.90	-13	-42.90	V
5.130000	53.39	Pk	34.1	-95.2	-47.68	-55.39	-13	-42.39	H
5.130000	53.17	Pk	34.1	-95.2	-47.68	-55.61	-13	-42.61	V
6.840000	52.10	Pk	35.6	-95.2	-45.07	-52.57	-13	-39.57	H
6.840000	52.39	Pk	35.6	-95.2	-45.07	-52.28	-13	-39.28	V
Mid Channel, 1745MHz									
3.497000	52.57	Pk	32.7	-95.2	-46.20	-56.13	-13	-43.13	H
3.503000	53.15	Pk	32.7	-95.2	-46.20	-55.55	-13	-42.55	V
5.235500	53.11	Pk	34.2	-95.2	-46.90	-54.79	-13	-41.79	H
5.235500	54.63	Pk	34.2	-95.2	-46.90	-53.27	-13	-40.27	V
6.986500	52.25	Pk	35.7	-95.2	-46.25	-53.50	-13	-40.50	H
6.986500	52.21	Pk	35.7	-95.2	-46.25	-53.54	-13	-40.54	V
High Channel, 1760MHz									
3.480500	52.46	Pk	32.7	-95.2	-46.56	-56.60	-13	-43.60	H
3.480500	52.72	Pk	32.7	-95.2	-46.56	-56.34	-13	-43.34	V
5.220500	53.93	Pk	34.2	-95.2	-47.63	-54.70	-13	-41.70	H
5.220500	54.26	Pk	34.2	-95.2	-47.63	-54.37	-13	-41.37	V
6.960000	52.89	Pk	35.7	-95.2	-45.92	-52.53	-13	-39.53	H
6.960000	51.84	Pk	35.7	-95.2	-45.92	-53.58	-13	-40.58	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 #:	14982436
Date:	3/8/2024
Test Engineer:	32894
Configuration:	EUT ONLY
Mode	FR1 N70 15MHz
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
Mid Channel, 1702.5MHz									
3.365000	53.99	Pk	32.6	-95.2	-46.90	-55.51	-13	-42.51	H
3.365000	53.60	Pk	32.6	-95.2	-46.90	-55.90	-13	-42.90	V
5.047500	55.80	Pk	33.9	-95.2	-47.87	-53.37	-13	-40.37	H
5.047500	54.19	Pk	33.9	-95.2	-47.87	-54.98	-13	-41.98	V
6.730000	52.84	Pk	35.6	-95.2	-45.52	-52.28	-13	-39.28	H
6.730000	52.79	Pk	35.6	-95.2	-45.52	-52.33	-13	-39.33	V

10.4.7. 5G NR n77A (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 #:	14982436
Date:	3/8/2024
Test Engineer:	32894
Configuration:	EUT Only
Mode	FR1 n77A BPSK 100MHz
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
Mid Channel, 3500MHz									
6.899869	45.06	Pk	35.7	-95.2	-45.99	-60.43	-13	-47.43	H
6.899869	45.60	Pk	35.7	-95.2	-45.99	-59.89	-13	-46.89	V
10.350405	45.37	Pk	37.5	-95.2	-45.39	-57.72	-13	-44.72	H
10.350405	45.74	Pk	37.5	-95.2	-45.39	-57.35	-13	-44.35	V
13.800474	45.32	Pk	38.6	-95.2	-43.02	-54.30	-13	-41.30	H
13.800474	45.28	Pk	38.6	-95.2	-43.02	-54.34	-13	-41.34	V

10.4.8. 5G NR n77C (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 #:	14982436
Date:	3/7/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	FR1 N77C FCC 100MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.509094	53.36	Pk	35.7	-95.2	-46.08	-52.22	-13	-39.22	H
7.509094	52.25	Pk	35.7	-95.2	-46.08	-53.33	-13	-40.33	V
11.242669	52.09	Pk	37.8	-95.2	-43.90	-49.21	-13	-36.21	H
11.300826	53.00	Pk	37.7	-95.2	-43.50	-48.00	-13	-35.00	V
15.002933	56.07	Pk	40.0	-95.2	-44.09	-43.22	-13	-30.22	H
14.926054	53.85	Pk	40.0	-95.2	-44.11	-45.46	-13	-32.46	V
Mid Channel, 3840MHz									
7.691929	52.67	Pk	35.7	-95.2	-45.09	-51.92	-13	-38.92	H
7.665639	51.58	Pk	35.7	-95.2	-45.30	-53.22	-13	-40.22	V
11.516324	52.24	Pk	37.8	-95.2	-43.30	-48.46	-13	-35.46	H
11.496407	54.46	Pk	37.8	-95.2	-43.40	-46.34	-13	-33.34	V
15.368204	55.08	Pk	40.2	-95.2	-44.20	-44.12	-13	-31.12	H
15.341914	55.35	Pk	40.1	-95.2	-44.21	-43.96	-13	-30.96	V
High Channel, 3930MHz									
7.879145	51.71	Pk	35.8	-95.2	-45.30	-52.99	-13	-39.99	H
7.879145	53.57	Pk	35.8	-95.2	-45.30	-51.13	-13	-38.13	V
11.644189	56.53	Pk	38.0	-95.2	-43.30	-43.97	-13	-30.97	H
11.644189	57.85	Pk	38.0	-95.2	-43.30	-42.65	-13	-29.65	V
15.752994	54.74	Pk	40.3	-95.2	-44.10	-44.26	-13	-31.26	H
15.715152	55.50	Pk	40.3	-95.2	-44.28	-43.68	-13	-30.68	V

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 n77A (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 #:	14982436
Date:	3/7/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	FR1 n77 BPSK 100MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084_ACF (dB/m) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz									
6.900286	45.66	Pk	35.7	-95.2	-45.70	-59.54	-13	-46.54	H
6.900286	45.53	Pk	35.7	-95.2	-45.70	-59.67	-13	-46.67	V
10.348577	46.15	Pk	37.6	-95.2	-44.44	-55.89	-13	-42.89	H
10.348577	46.80	Pk	37.6	-95.2	-44.44	-55.24	-13	-42.24	V
13.800578	46.91	Pk	38.7	-95.2	-43.46	-53.05	-13	-40.05	H
13.800578	46.96	Pk	38.7	-95.2	-43.46	-53.00	-13	-40.00	V

10.5.2. 5G NR n77C (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 #:	14982436
Date:	3/8/2024
Test Engineer:	12491
Configuration:	EUT Only
Mode	FR1 n77 BPSK 100MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
6.979709	53.98	Pk	35.7	-95.2	-46.17	-51.69	-13	-38.69	H
6.979709	52.08	Pk	35.7	-95.2	-46.17	-53.59	-13	-40.59	V
10.469903	53.78	Pk	37.7	-95.2	-44.32	-48.04	-13	-35.04	H
10.469903	52.77	Pk	37.7	-95.2	-44.32	-49.05	-13	-36.05	V
13.958902	54.50	Pk	38.9	-95.2	-44.20	-46.00	-13	-33.00	H
13.958902	54.26	Pk	38.9	-95.2	-44.20	-46.24	-13	-33.24	V
Mid Channel, 3840MHz									
7.579997	54.58	Pk	35.7	-95.2	-45.80	-50.72	-13	-37.72	H
7.579599	53.06	Pk	35.7	-95.2	-45.80	-52.24	-13	-39.24	V
11.371331	52.53	Pk	37.7	-95.2	-43.47	-48.44	-13	-35.44	H
11.372127	55.67	Pk	37.7	-95.2	-43.43	-45.26	-13	-32.26	V
15.160672	54.92	Pk	40.0	-95.2	-44.13	-44.41	-13	-31.41	H
15.160672	54.52	Pk	40.0	-95.2	-44.13	-44.81	-13	-31.81	V
High Channel, 3930MHz									
7.760044	53.73	Pk	35.8	-95.2	-45.30	-50.97	-13	-37.97	H
7.760442	52.42	Pk	35.8	-95.2	-45.30	-52.28	-13	-39.28	V
11.640604	51.57	Pk	38.0	-95.2	-43.40	-49.03	-13	-36.03	H
11.640604	52.81	Pk	38.0	-95.2	-43.40	-47.79	-13	-34.79	V
15.520765	56.42	Pk	40.2	-95.2	-43.85	-42.43	-13	-29.43	H
15.520765	53.83	Pk	40.2	-95.2	-43.85	-45.02	-13	-32.02	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 n77A (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 #:	14982436
Date:	3/8/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	FR1 n77A 100MHz BPSK
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
Mid Channel, 3500MHz									
7.001135	45.06	Pk	35.6	-95.2	-45.48	-60.02	-13	-47.02	H
6.988535	44.93	Pk	35.7	-95.2	-45.49	-60.06	-13	-47.06	V
10.495538	45.97	Pk	37.7	-95.2	-45.01	-56.54	-13	-43.54	H
10.458205	45.42	Pk	37.7	-95.2	-45.11	-57.19	-13	-44.19	V
13.98014	44.21	Pk	38.7	-95.2	-43.12	-55.41	-13	-42.41	H
13.917607	44.25	Pk	38.6	-95.2	-43.29	-55.64	-13	-42.64	V

10.6.2. 5G NR n77C (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 #:	14982436
Date:	3/8/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	Fr1 n77C 100MHz BPSK
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.496347	52.39	Pk	35.7	-95.2	-46.10	-53.21	-13	-40.21	H
7.522239	52.68	Pk	35.7	-95.2	-45.98	-52.80	-13	-39.80	V
11.262187	52.04	Pk	37.8	-95.2	-43.80	-49.16	-13	-36.16	H
11.262187	52.68	Pk	37.8	-95.2	-43.80	-48.52	-13	-35.52	V
15.002933	54.47	Pk	40.0	-95.2	-44.09	-44.82	-13	-31.82	H
14.977439	54.33	Pk	40.0	-95.2	-44.26	-45.13	-13	-32.13	V
Mid Channel, 3840MHz									
7.675597	54.44	Pk	35.7	-95.2	-45.20	-50.26	-13	-37.26	H
7.658867	54.42	Pk	35.7	-95.2	-45.21	-50.29	-13	-37.29	V
11.524689	53.31	Pk	37.9	-95.2	-43.10	-47.09	-13	-34.09	H
11.498399	53.77	Pk	37.8	-95.2	-43.40	-47.03	-13	-34.03	V
15.360237	56.33	Pk	40.2	-95.2	-44.30	-42.97	-13	-29.97	H
15.348287	57.51	Pk	40.1	-95.2	-44.44	-42.03	-13	-29.03	V
High Channel, 3930MHz									
7.866000	54.10	Pk	35.8	-95.2	-45.40	-50.70	-13	-37.70	H
7.862813	54.86	Pk	35.8	-95.2	-45.38	-49.92	-13	-36.92	V
11.797945	54.22	Pk	38.2	-95.2	-43.50	-46.28	-13	-33.28	H
11.762494	54.92	Pk	38.2	-95.2	-43.50	-45.58	-13	-32.58	V
15.72033	57.20	Pk	40.3	-95.2	-44.10	-41.80	-13	-28.80	H
15.735467	57.96	Pk	40.3	-95.2	-44.00	-40.94	-13	-27.94	V

10.7. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 9

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 n77A (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 #:	14982436
Date:	3/8/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	Fr1 N77 BPSK 100MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz									
6.998033	54.94	Pk	35.7	-95.2	-46.10	-50.66	-13	-37.66	H
6.994049	54.82	Pk	35.7	-95.2	-46.20	-50.88	-13	-37.88	V
10.492608	55.54	Pk	37.7	-95.2	-44.00	-45.96	-13	-32.96	H
10.469903	55.17	Pk	37.7	-95.2	-44.32	-46.65	-13	-33.65	V
14.010685	55.28	Pk	39.0	-95.2	-44.00	-44.92	-13	-31.92	H
13.976827	55.48	Pk	38.9	-95.2	-44.18	-45.00	-13	-32.00	V

10.7.2. 5G NR n77C (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 #:	14982436
Date:	3/8/2024
Test Engineer:	12501
Configuration:	EUT Only
Mode	FR1 N77 BPSK 100MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.511484	55.05	Pk	35.7	-95.2	-46.00	-50.45	-13	-37.45	H
7.502322	54.84	Pk	35.7	-95.2	-46.10	-50.76	-13	-37.76	V
11.257806	54.29	Pk	37.8	-95.2	-43.80	-46.91	-13	-33.91	H
11.239881	54.11	Pk	37.8	-95.2	-43.81	-47.10	-13	-34.10	V
15.004924	57.37	Pk	40.0	-95.2	-44.10	-41.93	-13	-28.93	H
15.051927	56.19	Pk	40.0	-95.2	-43.51	-42.52	-13	-29.52	V
Mid Channel, 3840MHz									
7.696709	54.46	Pk	35.7	-95.2	-45.07	-50.11	-13	-37.11	H
7.657672	53.95	Pk	35.7	-95.2	-45.30	-50.85	-13	-37.85	V
11.517519	54.38	Pk	37.8	-95.2	-43.30	-46.32	-13	-33.32	H
11.542215	54.68	Pk	37.9	-95.2	-43.20	-45.82	-13	-32.82	V
15.372586	57.62	Pk	40.1	-95.2	-44.14	-41.62	-13	-28.62	H
15.401266	57.60	Pk	40.1	-95.2	-43.80	-41.30	-13	-28.30	V
High Channel, 3930MHz									
7.868788	53.82	Pk	35.8	-95.2	-45.30	-50.88	-13	-37.88	H
7.859627	54.07	Pk	35.8	-95.2	-45.30	-50.63	-13	-37.63	V
11.786792	54.11	Pk	38.2	-95.2	-43.42	-46.31	-13	-33.31	H
11.735407	56.24	Pk	38.1	-95.2	-43.20	-44.06	-13	-31.06	V
15.724314	57.49	Pk	40.3	-95.2	-43.96	-41.37	-13	-28.37	H
15.747815	57.25	Pk	40.3	-95.2	-44.02	-41.67	-13	-28.67	V

11. SETUP PHOTOS

Please refer to 14982436-EP1V1 for Setup Photo Report for setup photos.

END OF REPORT