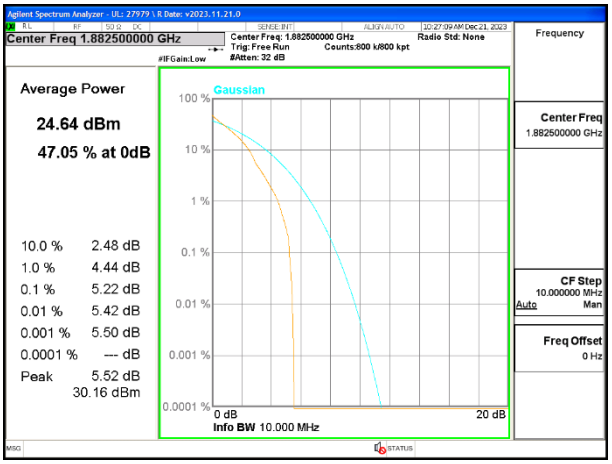
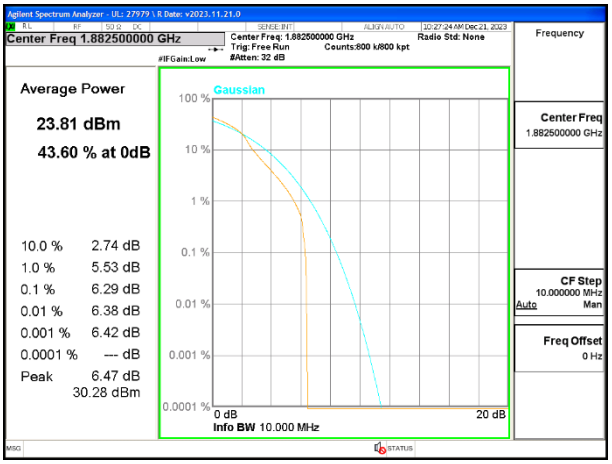
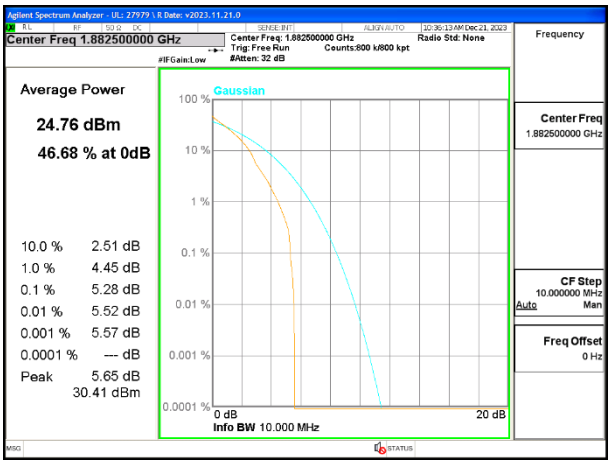


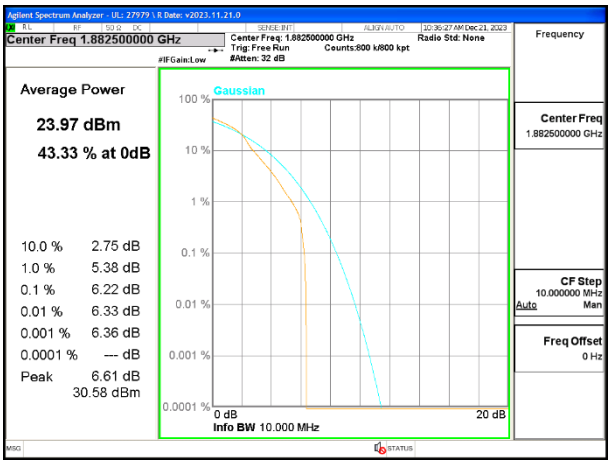
LTE B25 10MHz QPSK Middle Channel



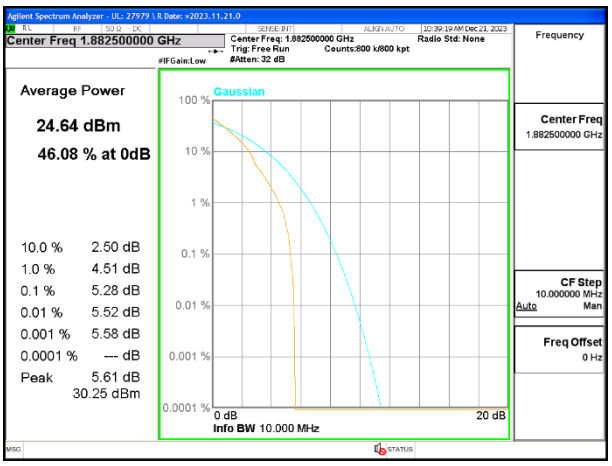
LTE B25 10MHz 16QAM Middle Channel



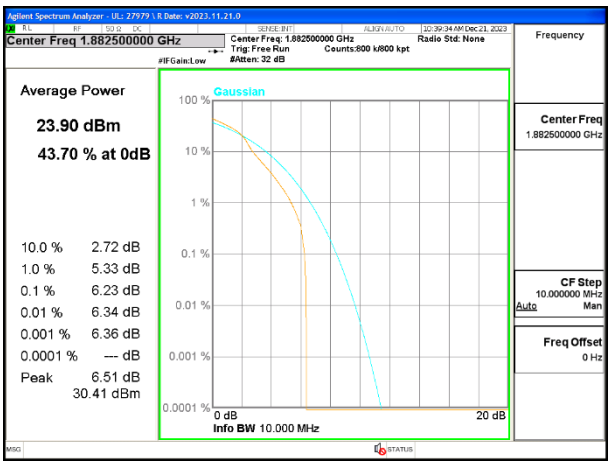
LTE B25 15MHz QPSK Middle Channel



LTE B25 15MHz 16QAM Middle Channel

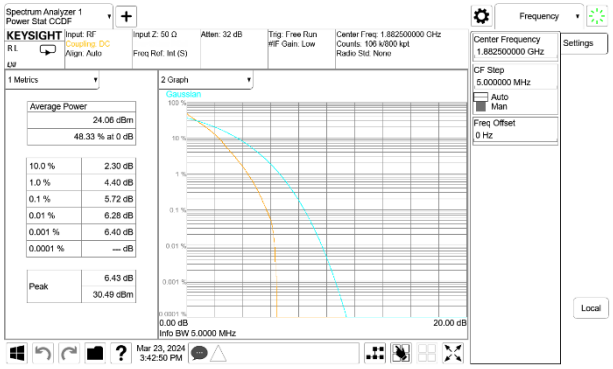


LTE B25 20MHz QPSK Middle Channel

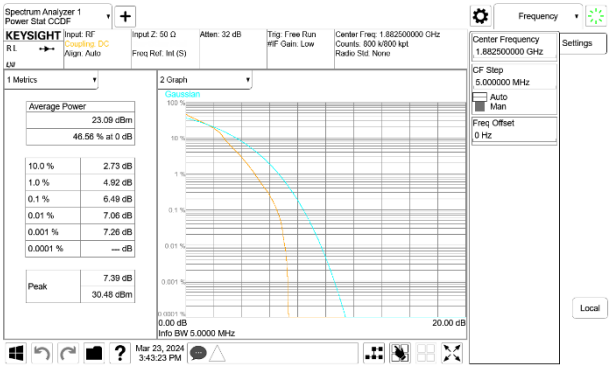


LTE B25 20MHz 16QAM Middle Channel

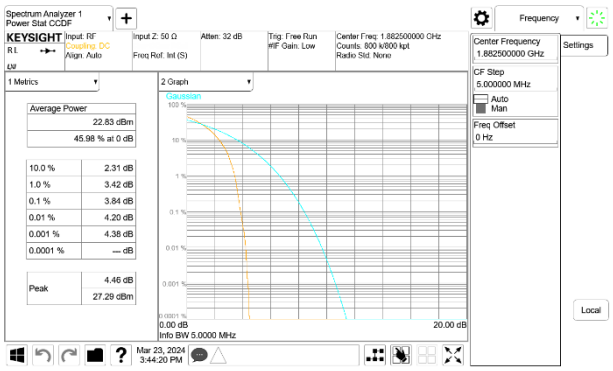
5G NR n25



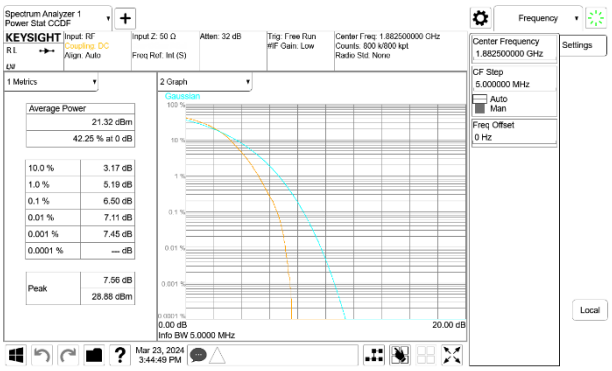
5G NR n25 5MHz BPSK Middle Channel, ID:50822



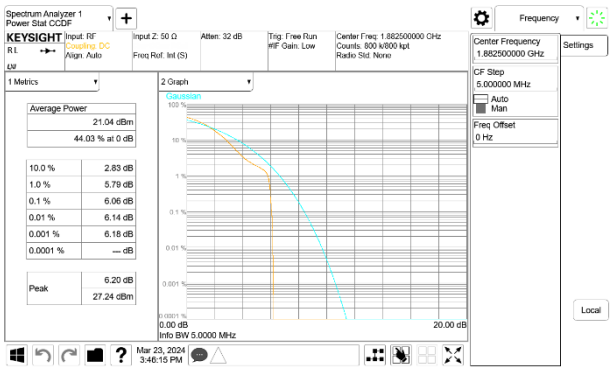
5G NR n25 5MHz 16QAM Middle Channel, ID:50822



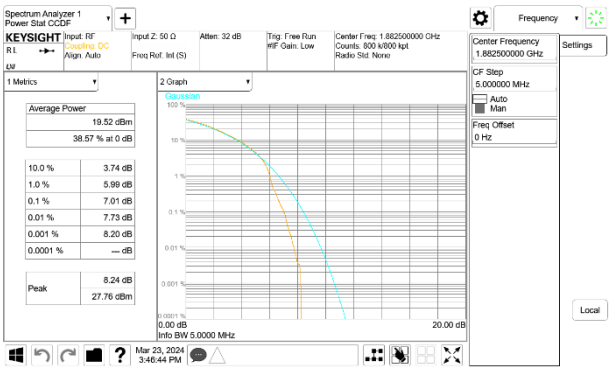
5G NR n25 10MHz BPSK Middle Channel, ID:50822



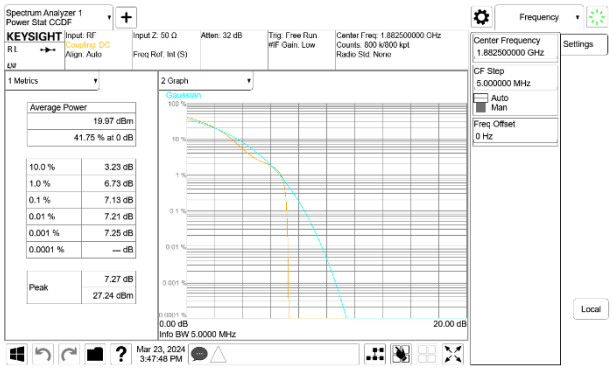
5G NR n25 10MHz 16QAM Middle Channel, ID:50822



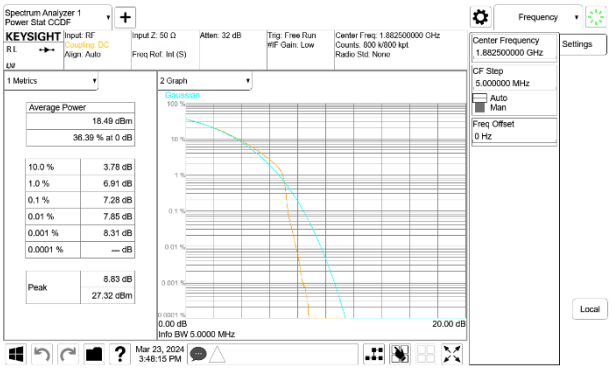
5G NR n25 15MHz BPSK Middle Channel, ID:50822



5G NR n25 15MHz 16QAM Middle Channel, ID:50822



5G NR n25 20MHz BPSK Middle Channel, ID:50822



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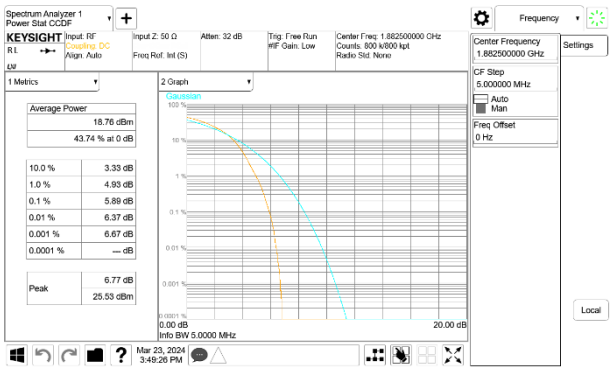
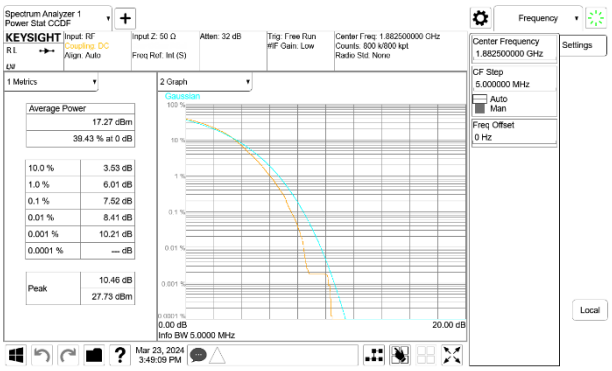


5G NR n25 25MHz BPSK Middle Channel, ID:50822



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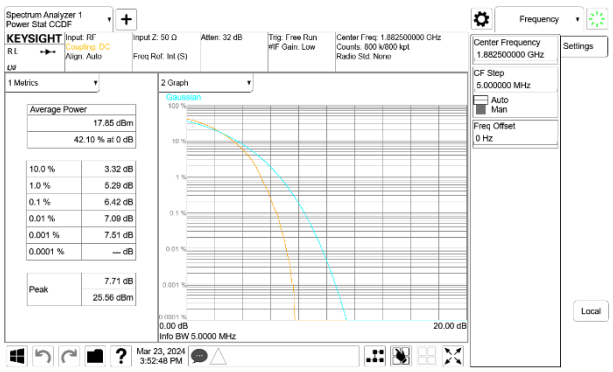
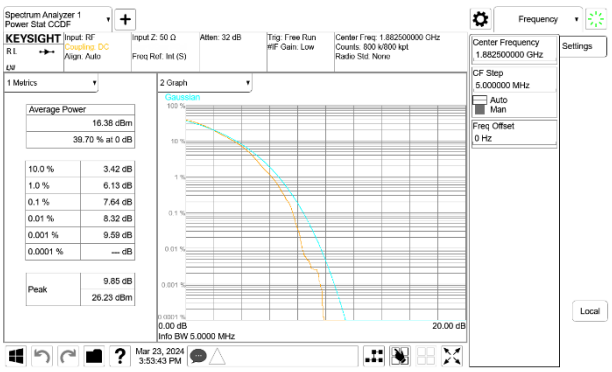
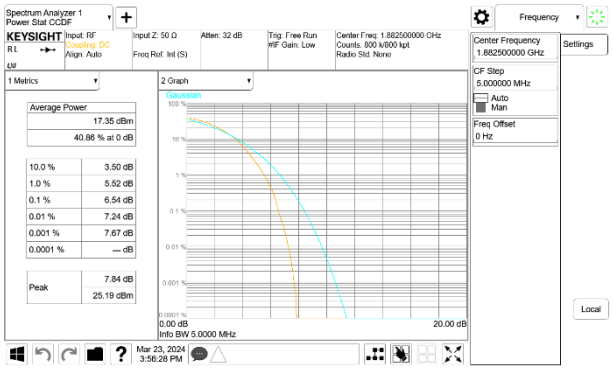


5G NR n25 30MHz BPSK Middle Channel, ID:50822



5G NR n25 30MHz 16QAM Middle Channel, ID:50822



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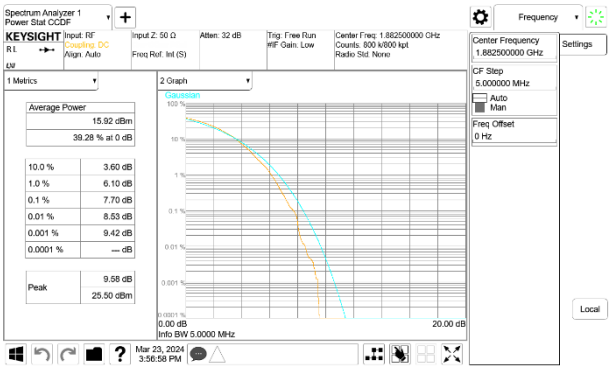
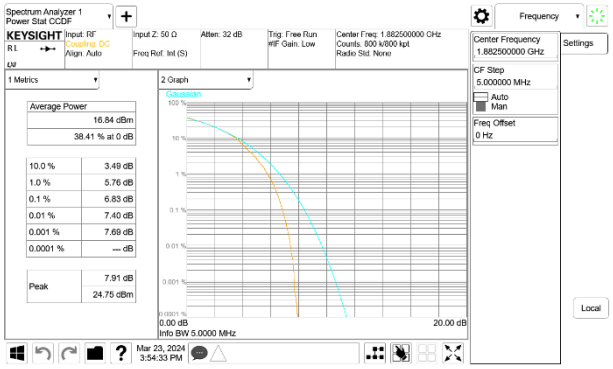
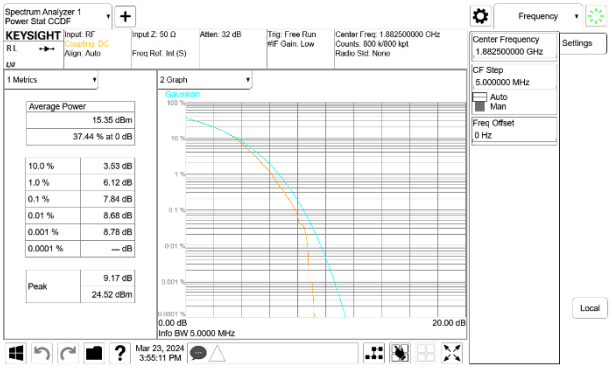


5G NR n25 35MHz 16QAM Middle Channel, ID:50822



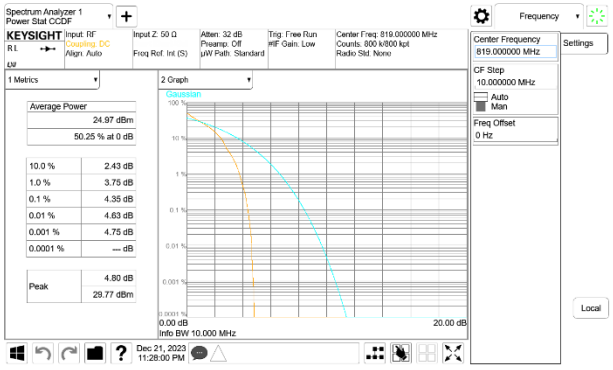
5G NR n25 40MHz BPSK Middle Channel, ID:50822



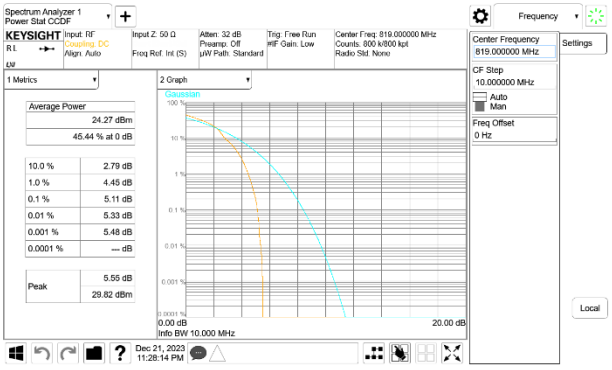
5G NR n25 40MHz 16QAM Middle Channel, ID:50822

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

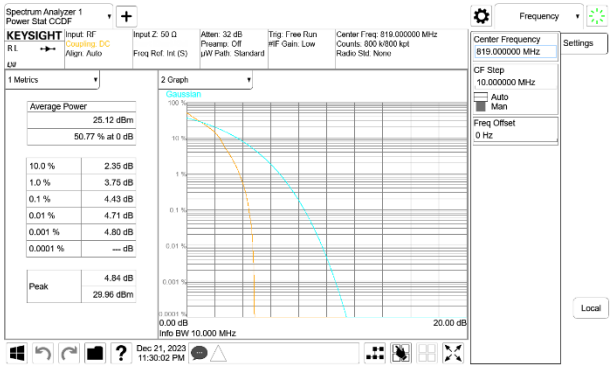
LTE BAND 26



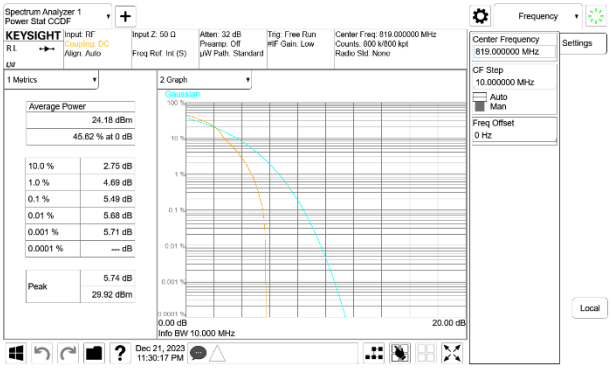
LTE B26 1.4MHz QPSK Middle Channel, ID:27979



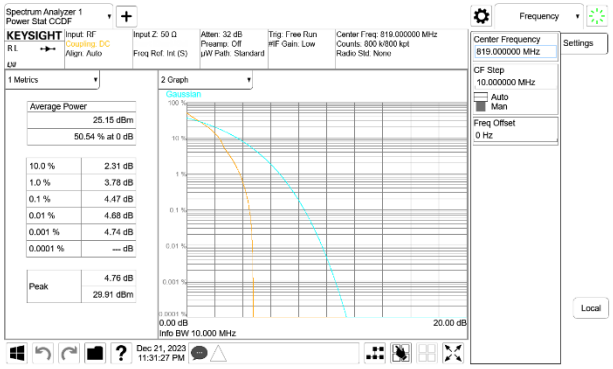
LTE B26 1.4MHz 16QAM Middle Channel, ID:27979



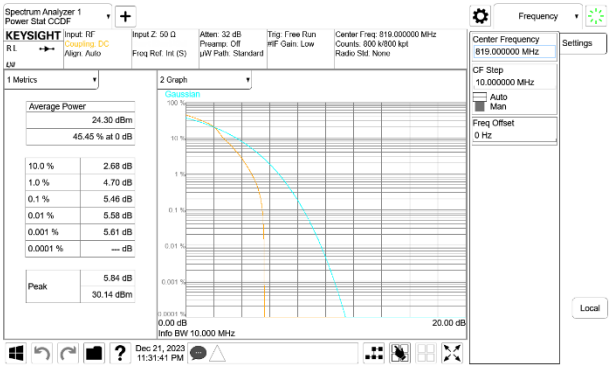
LTE B26 3MHz QPSK Middle Channel, ID:27979



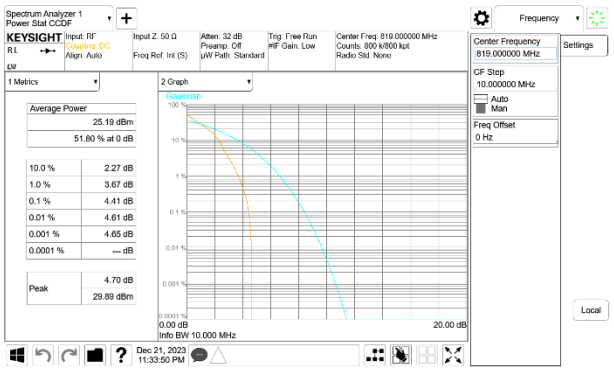
LTE B26 3MHz 16QAM Middle Channel, ID:27979



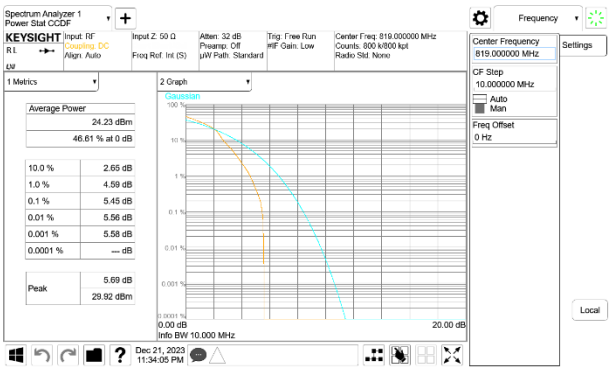
LTE B26 5MHz QPSK Middle Channel, ID:27979



LTE B26 5MHz 16QAM Middle Channel, ID:27979

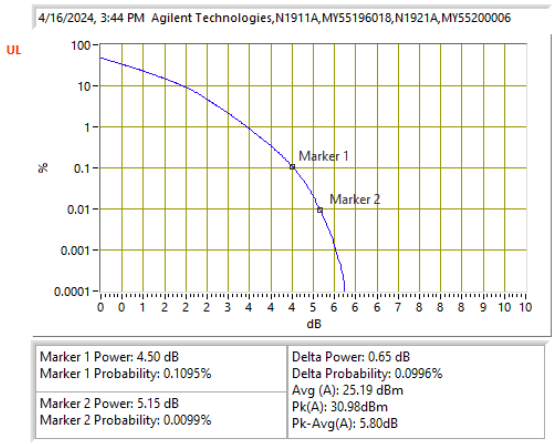


LTE B26 10MHz QPSK Middle Channel, ID:27979

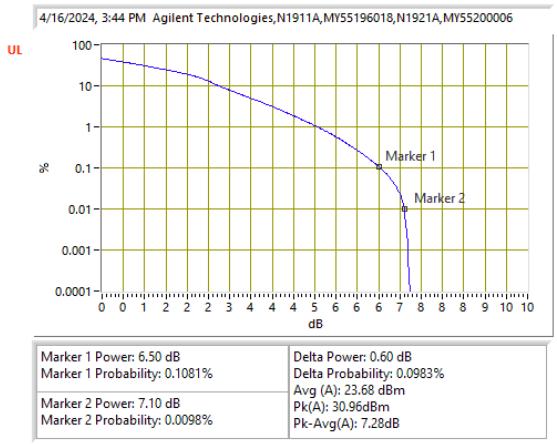


LTE B26 10MHz 16QAM Middle Channel, ID:27979

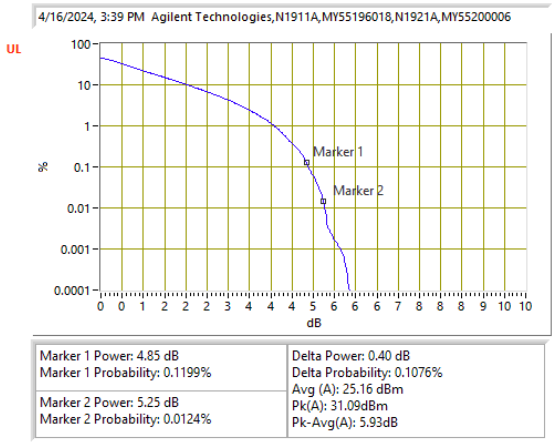
5G NR n26



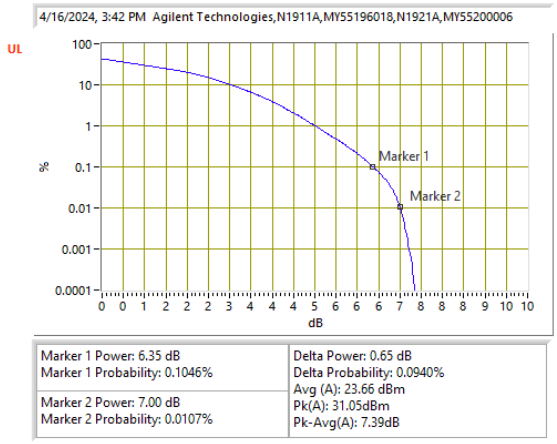
5G NR n26 5MHz BPSK Middle Channel, ID:19210



5G NR n26 5MHz 16QAM Middle Channel, ID:19210



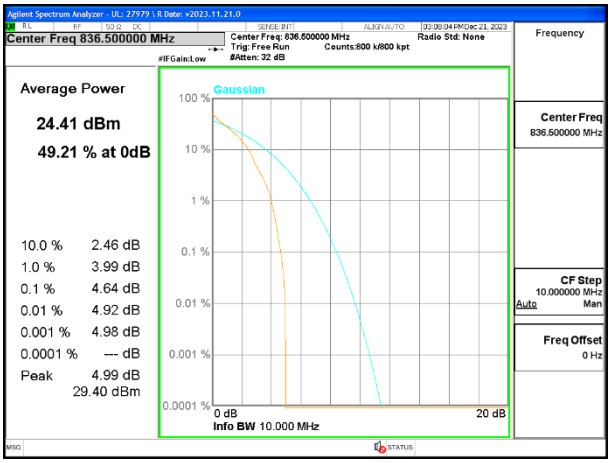
5G NR n26 10MHz BPSK Middle Channel, ID:19210



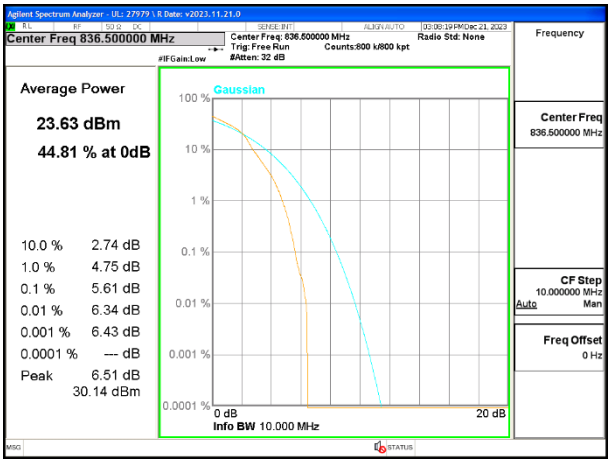
5G NR n26 10MHz 16QAM Middle Channel, ID:19210

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

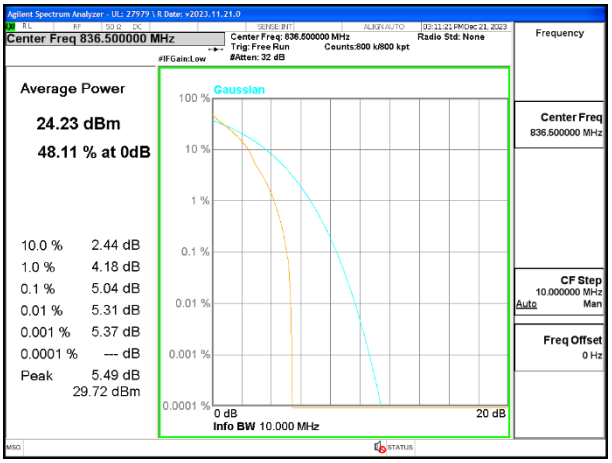
LTE BAND 26



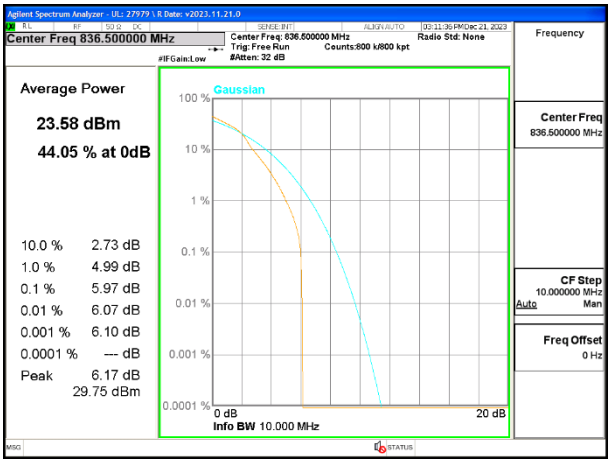
LTE B26 1.4MHz QPSK Middle Channel



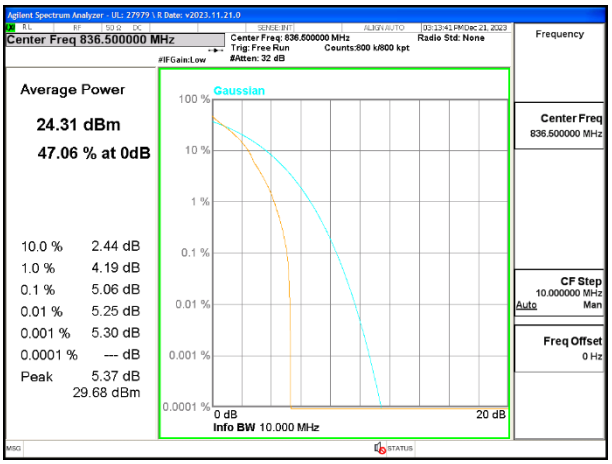
LTE B26 1.4MHz 16QAM Middle Channel



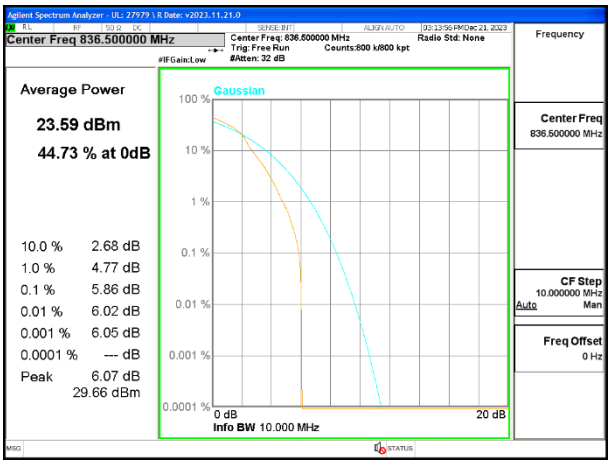
LTE B26 3MHz QPSK Middle Channel



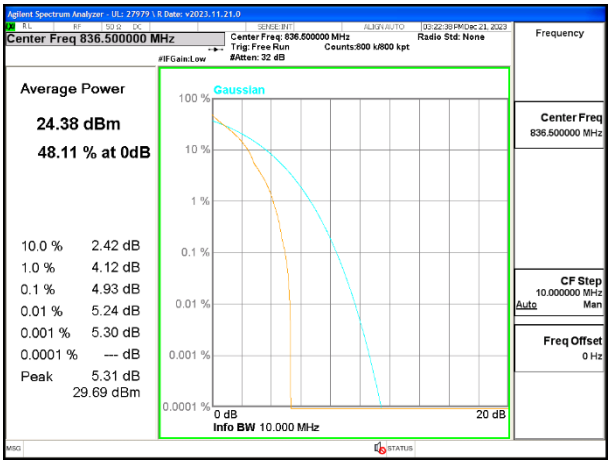
LTE B26 3MHz 16QAM Middle Channel



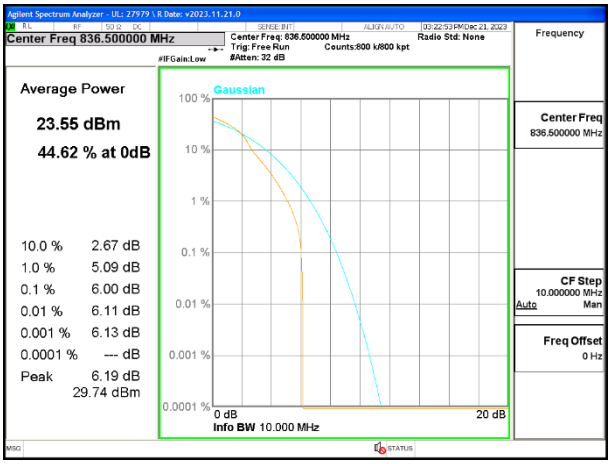
LTE B26 5MHz QPSK Middle Channel



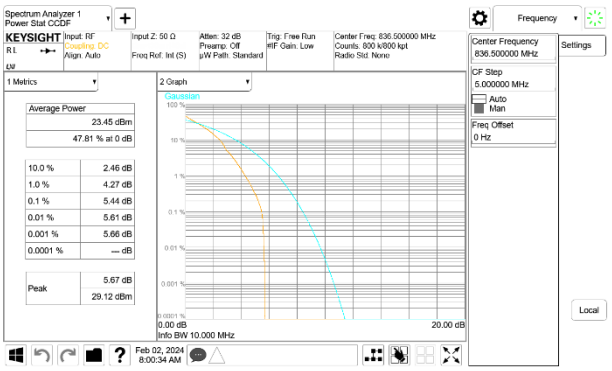
LTE B26 5MHz 16QAM Middle Channel



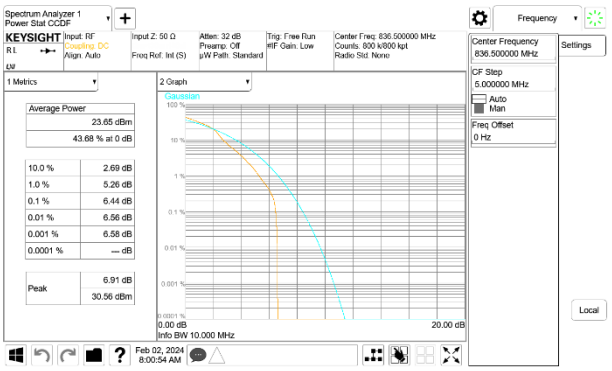
LTE B26 10MHz QPSK Middle Channel



LTE B26 10MHz 16QAM Middle Channel

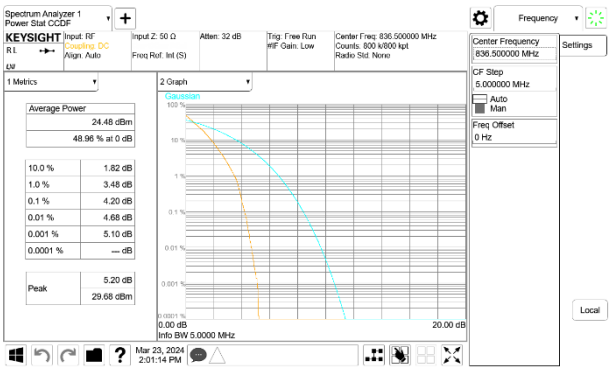


LTE B26 15MHz QPSK Middle Channel, ID:39005

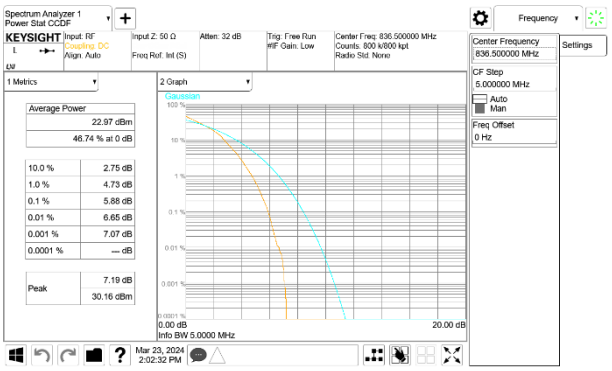


LTE B26 15MHz 16QAM Middle Channel, ID:39005

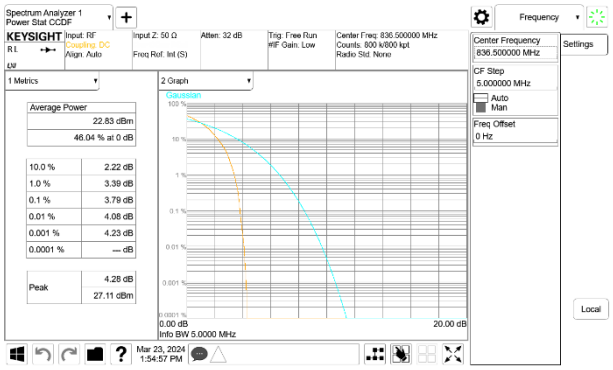
5G NR n26



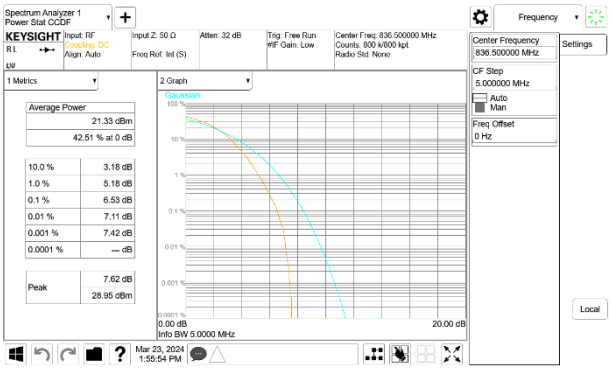
5G NR n26 5MHz BPSK Middle Channel, ID:50822



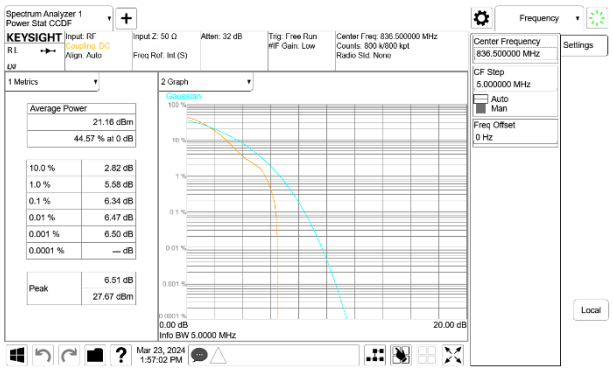
5G NR n26 5MHz 16QAM Middle Channel, ID:50822



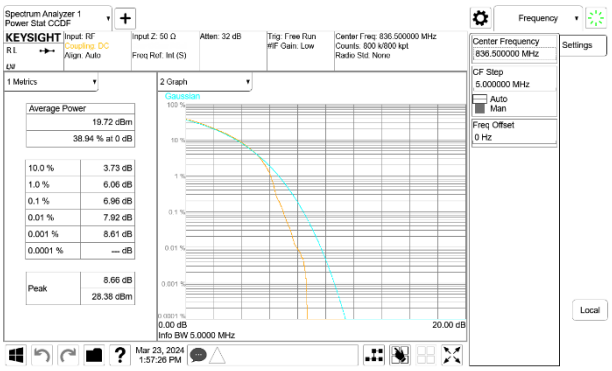
5G NR n26 10MHz BPSK Middle Channel, ID:50822



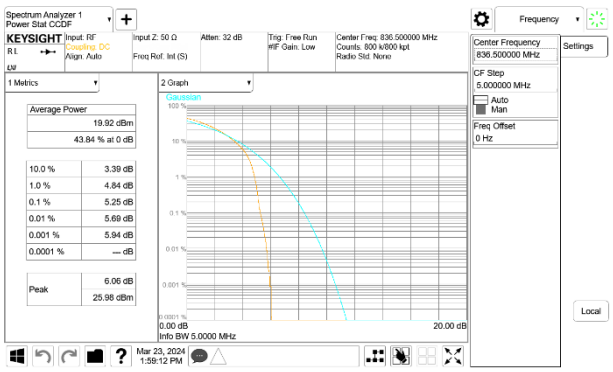
5G NR n26 10MHz 16QAM Middle Channel, ID:50822



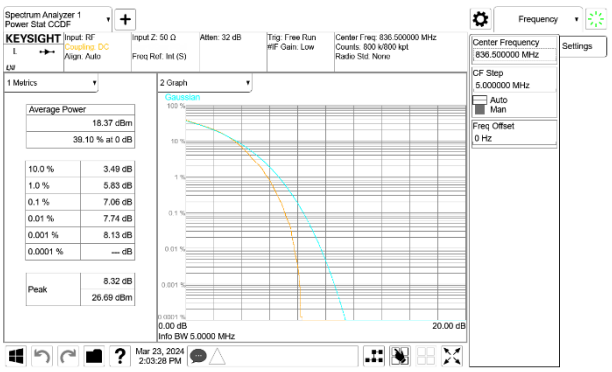
5G NR n26 15MHz BPSK Middle Channel, ID:50822



5G NR n26 15MHz 16QAM Middle Channel, ID:50822



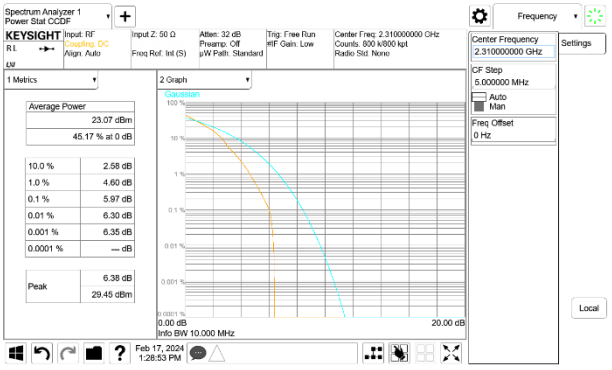
5G NR n26 20MHz BPSK Middle Channel, ID:50822



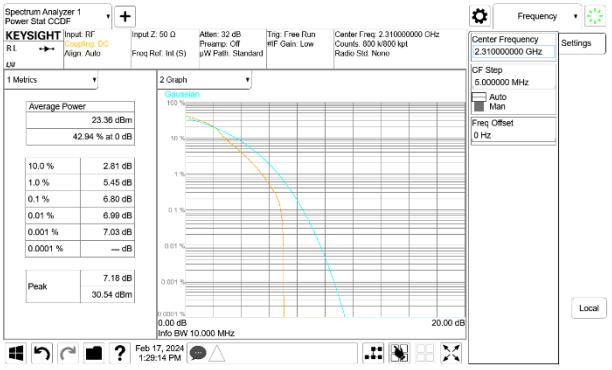
5G NR n26 20MHz 16QAM Middle Channel, ID:50822

9.5.10. LTE BAND 30 AND 5G NR n30

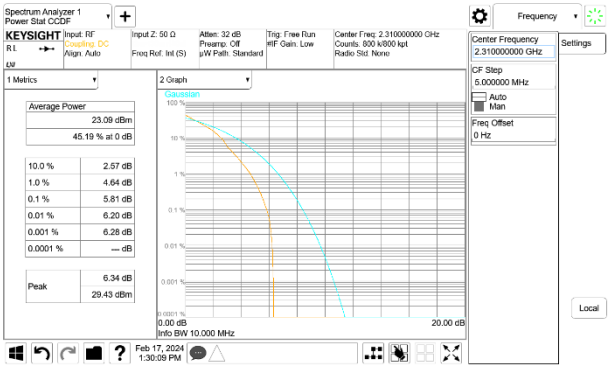
LTE BAND 30



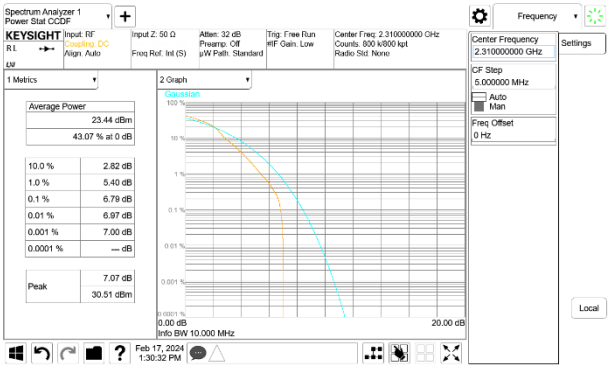
LTE B30 5MHz QPSK Middle Channel, ID:39005



LTE B30 5MHz 16QAM Middle Channel, ID:39005

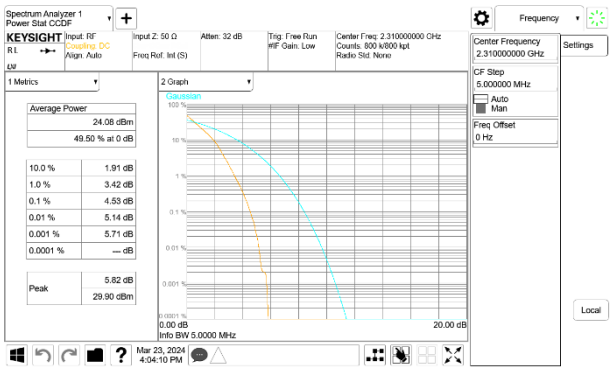


LTE B30 10MHz QPSK Middle Channel, ID:39005

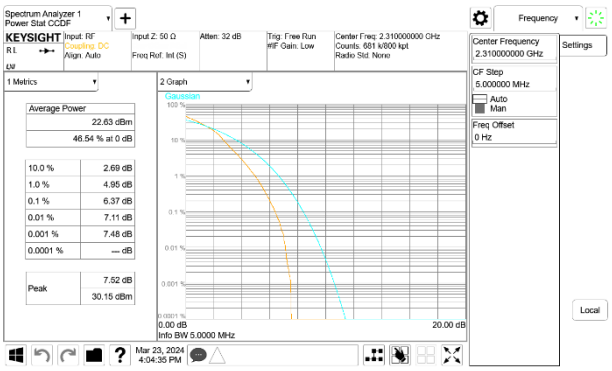


LTE B30 10MHz 16QAM Middle Channel, ID:39005

5G NR n30



5G NR n30 5MHz BPSK Middle Channel, ID:19210



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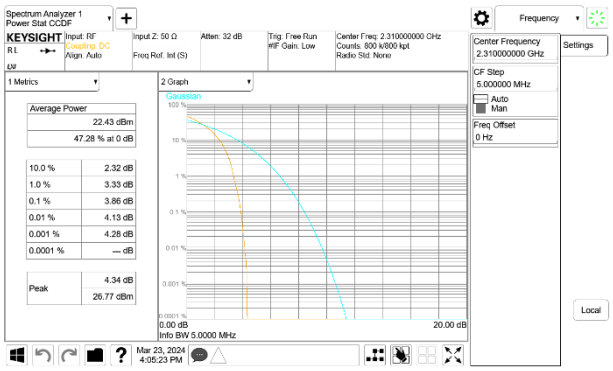
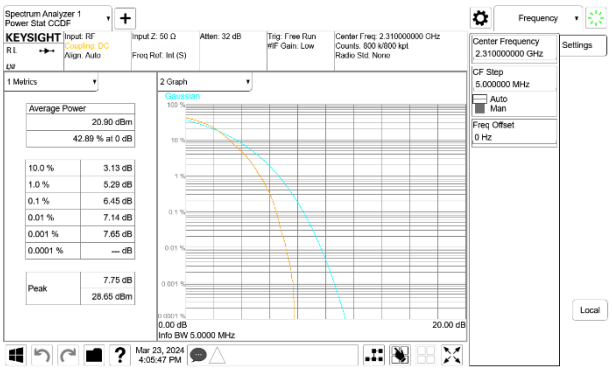


5G NR n30 10MHz BPSK Middle Channel, ID:19210



5G NR n30 10MHz 16QAM Middle Channel, ID:19210

9.5.11. LTE BAND 41 AND 5G NR n41 HPUE

Test Engineer ID:	50822	Test Date:	2024-03-01 and 2024-04-30

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	32.23	25.69	*2.52
					16QAM	32.51	25.53	*2.96
	10MHz		50	0	QPSK	32.09	26.40	*1.67
					16QAM	31.54	25.22	*2.3
	15MHz		75	0	QPSK	31.93	25.99	*1.92
					16QAM	33.75	25.33	*4.4
	20MHz		100	0	QPSK	31.53	26.47	*1.04
					16QAM	34.24	25.28	*4.94
5G NR Band n41	10MHz		24	0	BPSK	30.29	17.26	**6.03
					16QAM	30.09	15.76	**7.33
	15MHz		36	0	BPSK	30.13	17.26	**5.87
					16QAM	30.00	15.79	**7.21
	20MHz		50	0	BPSK	30.02	17.24	**5.78
					16QAM	29.97	15.75	**7.22
	25MHz		64	0	BPSK	30.69	17.27	**6.42
					16QAM	29.50	15.12	**7.38
	30MHz		75	0	BPSK	30.23	17.24	**5.99
					16QAM	29.94	15.76	**7.18
	40MHz		100	0	BPSK	30.09	17.24	**5.85
					16QAM	29.89	15.71	**7.18
	50MHz		128	0	BPSK	29.65	17.20	**5.45
					16QAM	29.74	15.69	**7.05
	60MHz		162	0	BPSK	30.11	17.26	**5.85
					16QAM	29.32	15.62	**6.7
	70MHz		180	0	BPSK	29.87	17.19	**5.68
					16QAM	29.56	15.61	**6.95
	80MHz		216	0	BPSK	29.47	17.21	**5.26
					16QAM	29.32	15.62	**6.7
	90MHz		243	0	BPSK	29.35	17.19	**5.16
					16QAM	29.12	15.57	**6.55
	100MHz		270	0	BPSK	29.20	17.20	**5
					16QAM	29.08	15.58	**6.5
* LTE DCCF (dB) =			4.02					
** 5G NR DCCF (dB) =			7.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

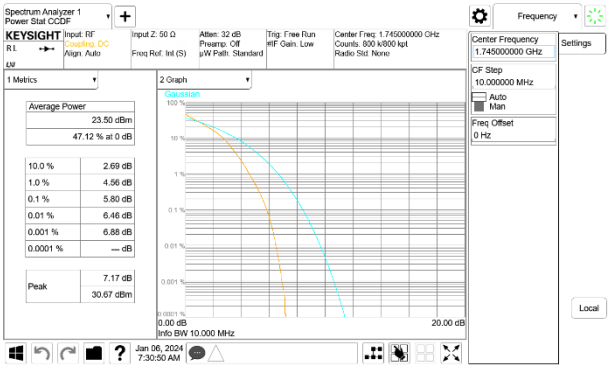
9.5.12. LTE BAND 48 AND 5G NR n48

Test Engineer ID:	39005 and 27966	Test Date:	2024-03-05 and 2024-03-25

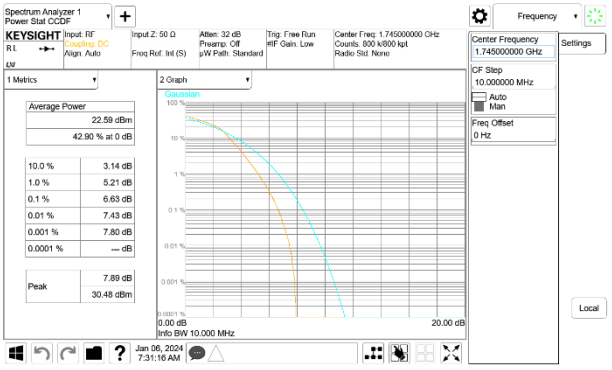
Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band 48	5MHz	3625.0	25	0	QPSK	30.86	21.86	*4.96
					16QAM	32.11	21.11	*6.96
	10MHz		50	0	QPSK	30.81	21.86	*4.91
					16QAM	31.67	21.31	*6.32
	15MHz		75	0	QPSK	30.73	21.78	*4.91
					16QAM	31.37	21.45	*5.88
	20MHz		100	0	QPSK	31.83	21.89	*5.9
					16QAM	32.36	21.28	*7.04
5G NR Band n48	10MHz		24	0	BPSK	27.40	14.50	**5.9
					16QAM	28.61	14.48	**7.13
	15MHz		36	0	BPSK	27.58	14.49	**6.09
					16QAM	28.66	14.48	**7.18
	20MHz		50	0	BPSK	27.38	14.49	**5.89
					16QAM	28.63	14.46	**7.17
	30MHz		75	0	BPSK	27.65	14.50	**6.15
					16QAM	28.73	14.51	**7.22
	40MHz		100	0	BPSK	27.59	14.51	**6.08
					16QAM	28.65	14.48	**7.17
* LTE DCCF (dB) =			4.04					
** 5G NR DCCF (dB) =			7.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.13. LTE BAND 66 AND 5G NR n66

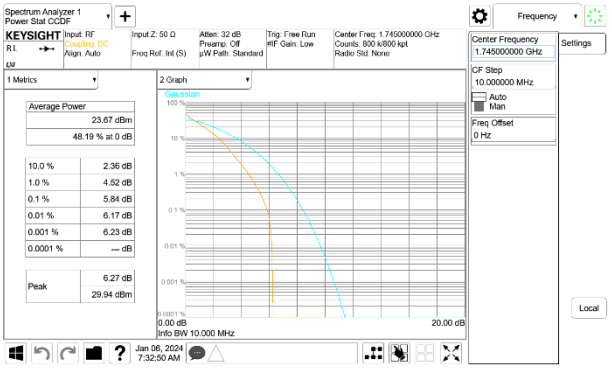
LTE BAND 66



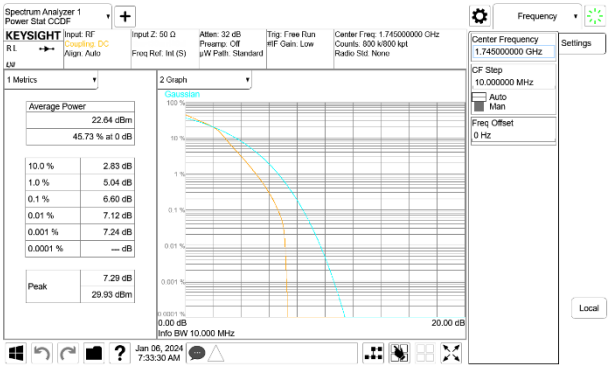
LTE B66 1.4MHz QPSK Middle Channel, ID:39005



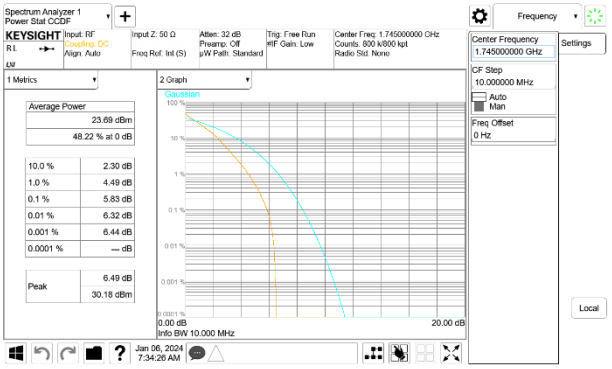
LTE B66 1.4MHz 16QAM Middle Channel, ID:39005



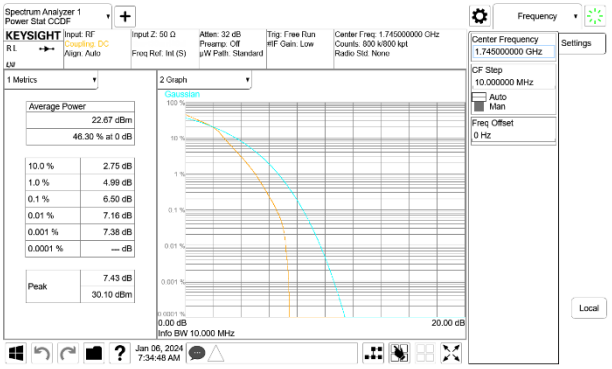
LTE B66 3MHz QPSK Middle Channel, ID:39005



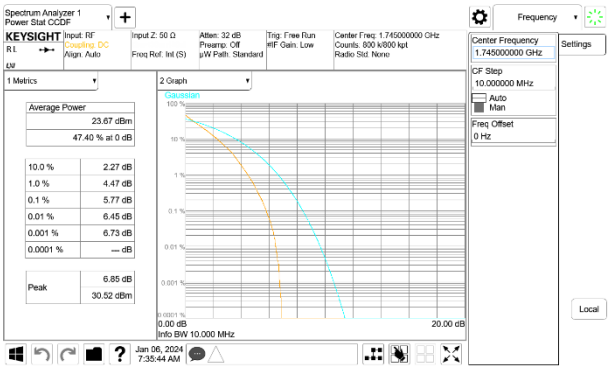
LTE B66 3MHz 16QAM Middle Channel, ID:39005



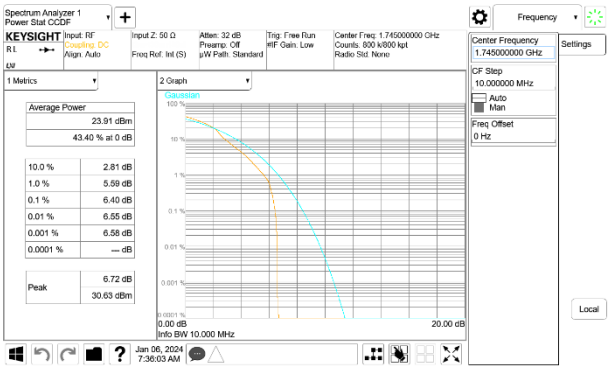
LTE B66 5MHz QPSK Middle Channel, ID:39005



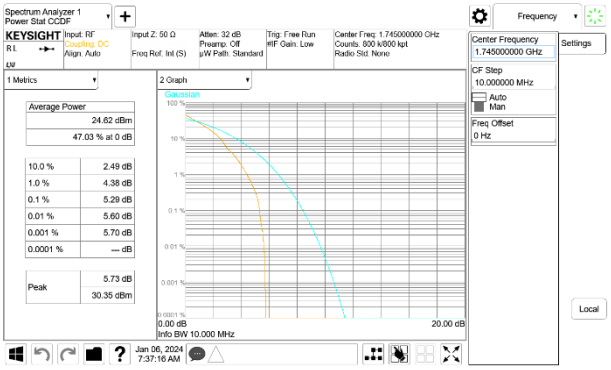
LTE B66 5MHz 16QAM Middle Channel, ID:39005



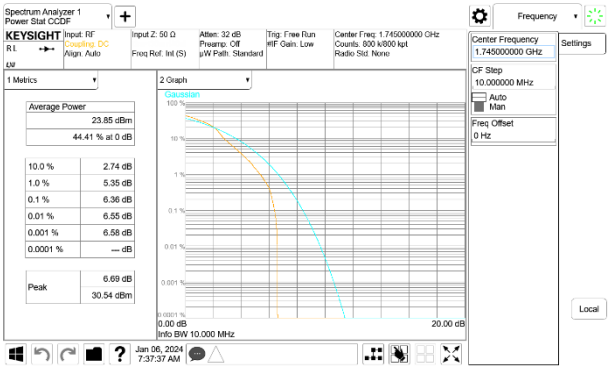
LTE B66 10MHz QPSK Middle Channel, ID:39005



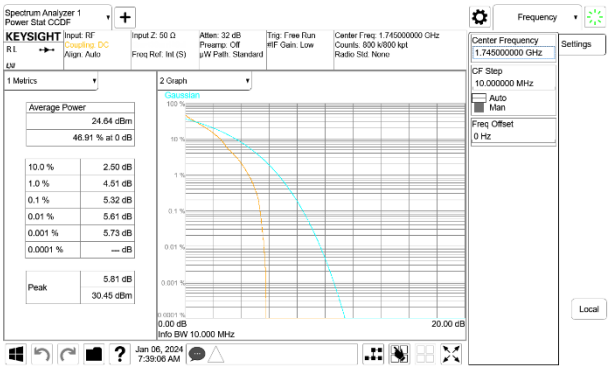
LTE B66 10MHz 16QAM Middle Channel, ID:39005



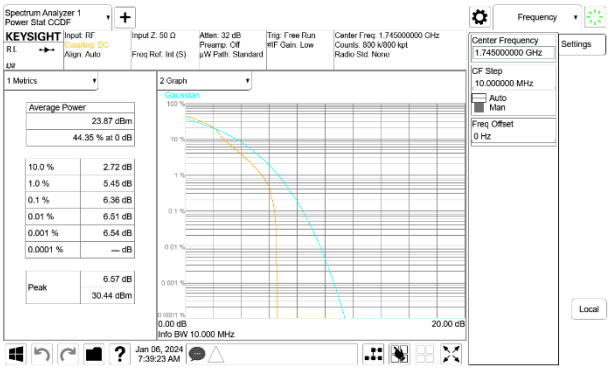
LTE B66 15MHz QPSK Middle Channel, ID:39005



LTE B66 15MHz 16QAM Middle Channel, ID:39005

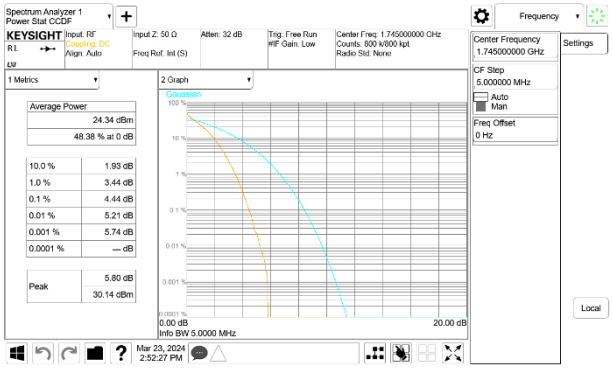


LTE B66 20MHz QPSK Middle Channel, ID:39005

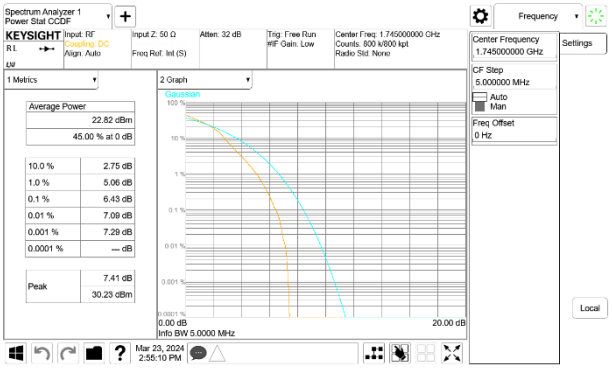


LTE B66 20MHz 16QAM Middle Channel, ID:39005

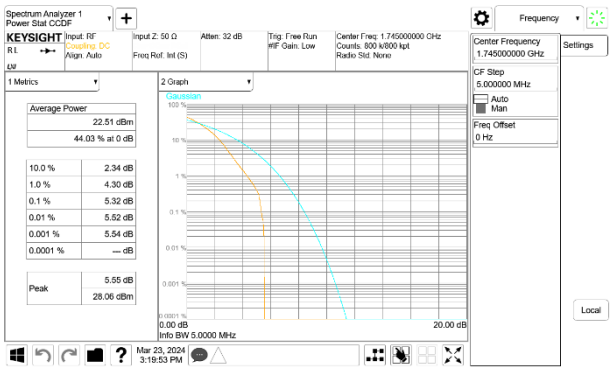
5G NR n66



5G NR n66 5MHz BPSK Middle Channel, ID:50822



5G NR n66 5MHz 16QAM Middle Channel, ID:50822



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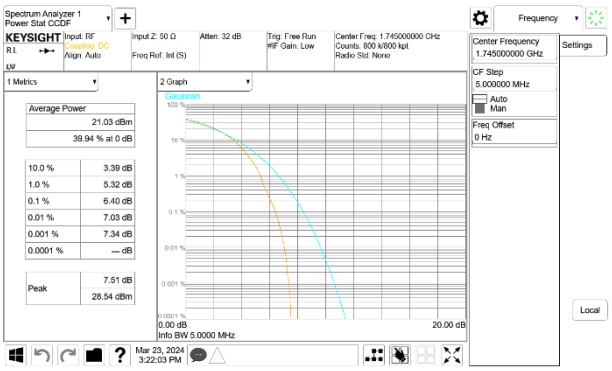
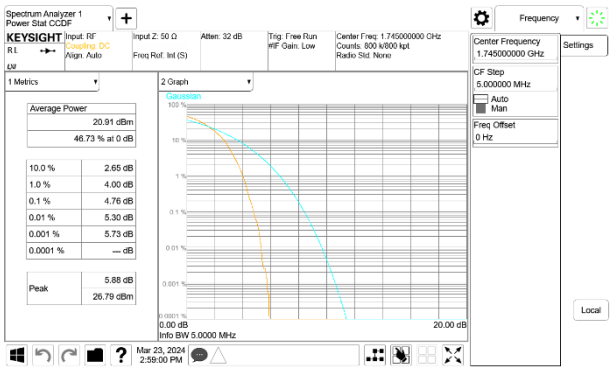
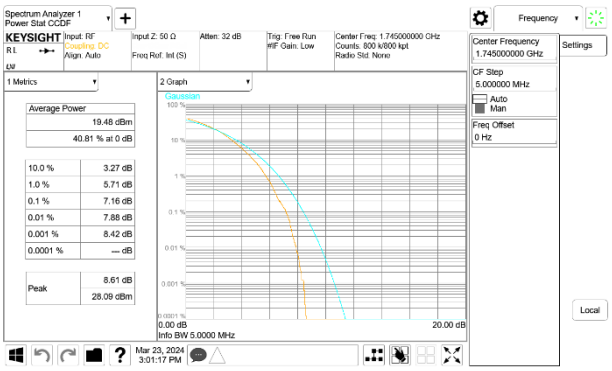


5G NR n66 10MHz 16QAM Middle Channel, ID:50822



5G NR n66 15MHz BPSK Middle Channel, ID:50822



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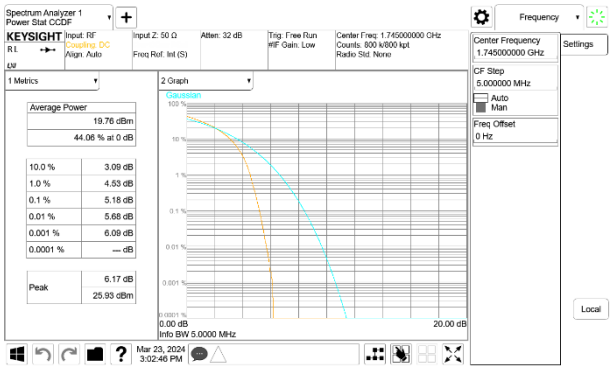
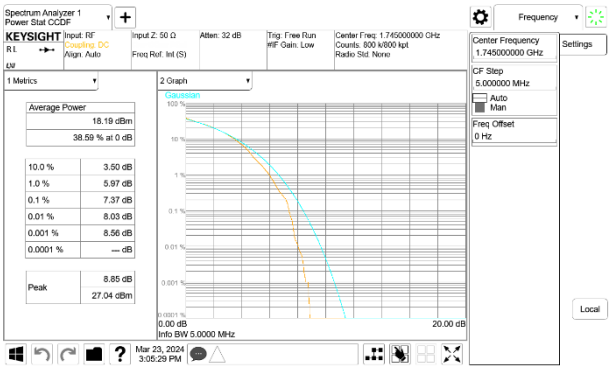
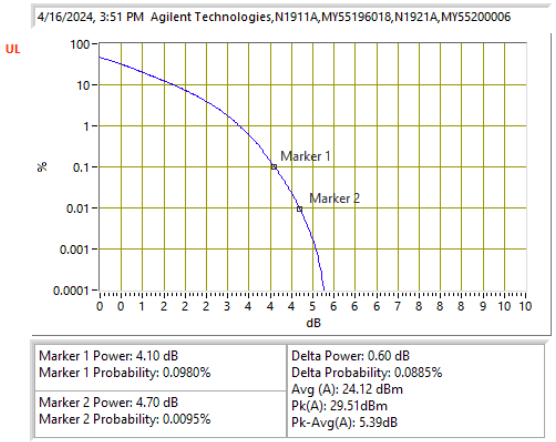


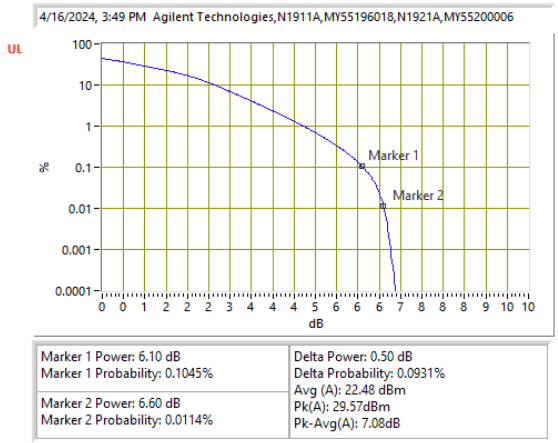
5G NR n66 20MHz BPSK Middle Channel, ID:50822



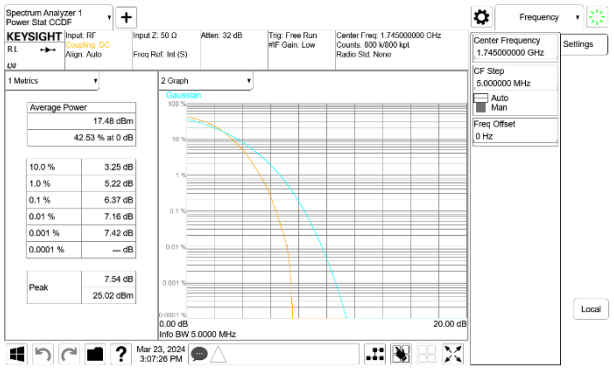
5G NR n66 20MHz 16QAM Middle Channel, ID:50822



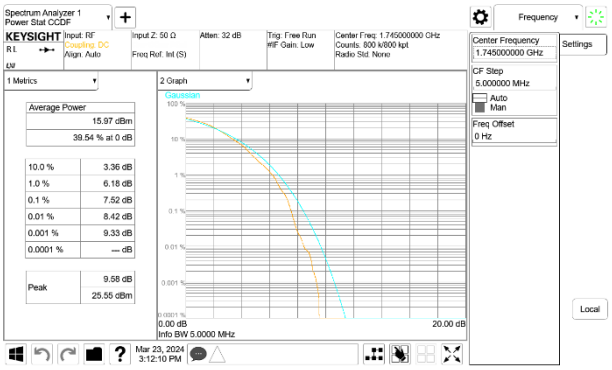
5G NR n66 25MHz BPSK Middle Channel, ID:19210



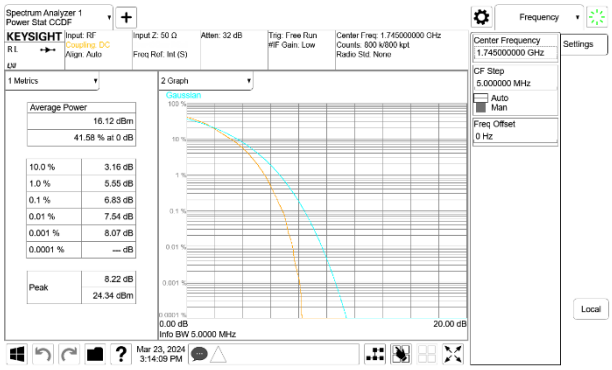
5G NR n66 25MHz 16QAM Middle Channel, ID:19210



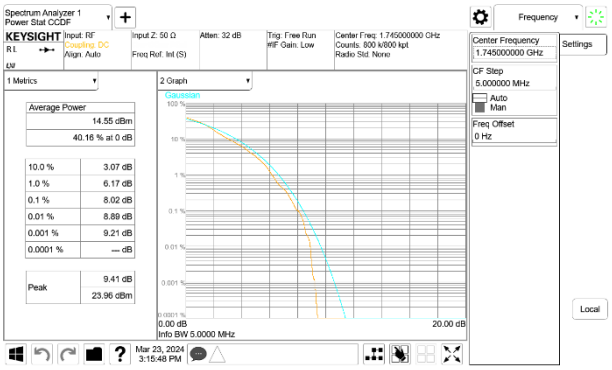
5G NR n66 30MHz BPSK Middle Channel, ID:50822



5G NR n66 30MHz 16QAM Middle Channel, ID:50822



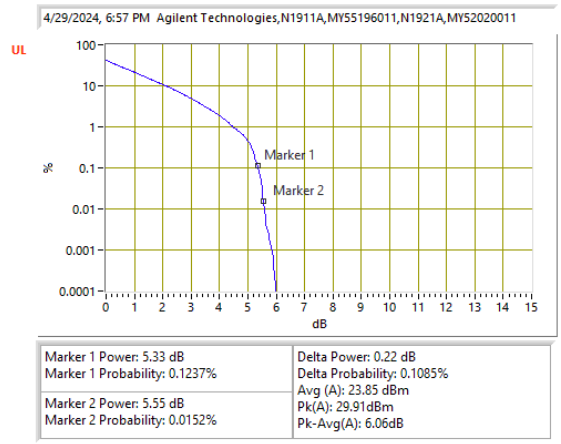
5G NR n66 40MHz BPSK Middle Channel, ID:50822



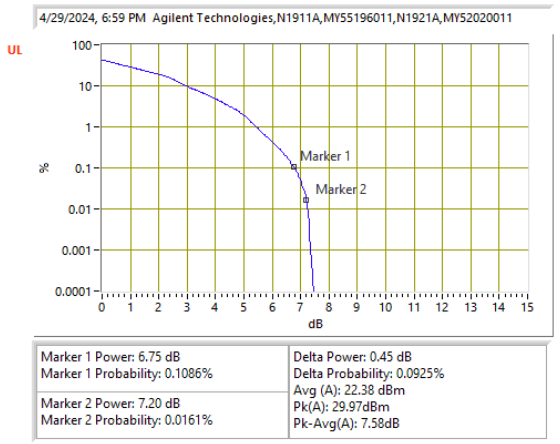
5G NR n66 40MHz 16QAM Middle Channel, ID:50822

9.5.14. 5G NR n70

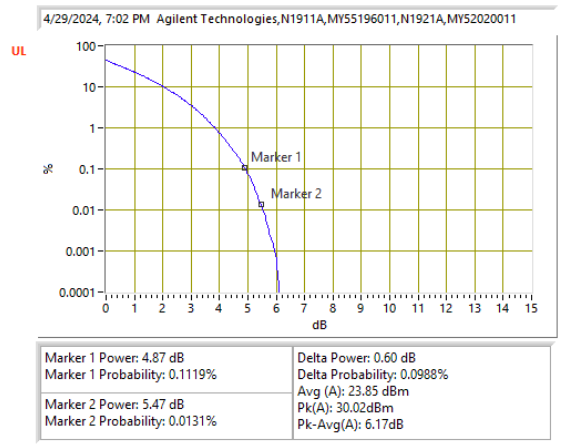
5G NR n70



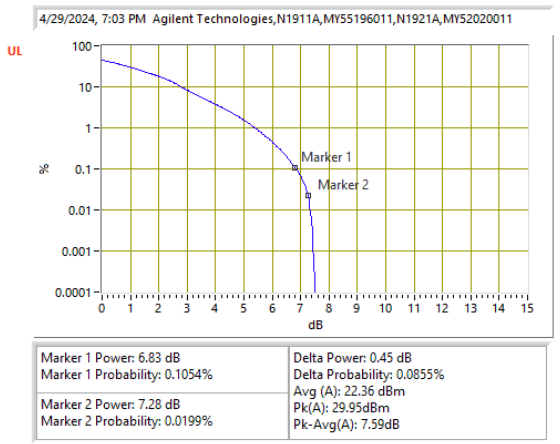
5G NR n70 5MHz BPSK Middle Channel, ID:50822



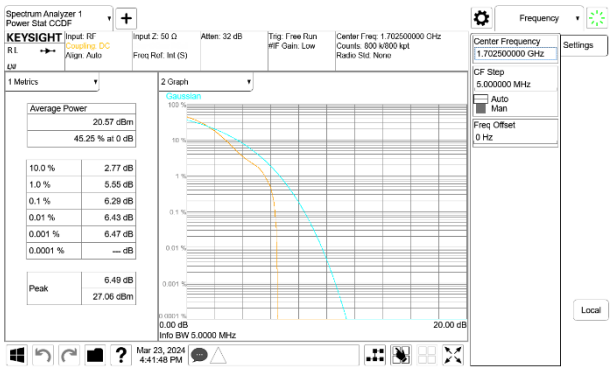
5G NR n70 5MHz 16QAM Middle Channel, ID:50822



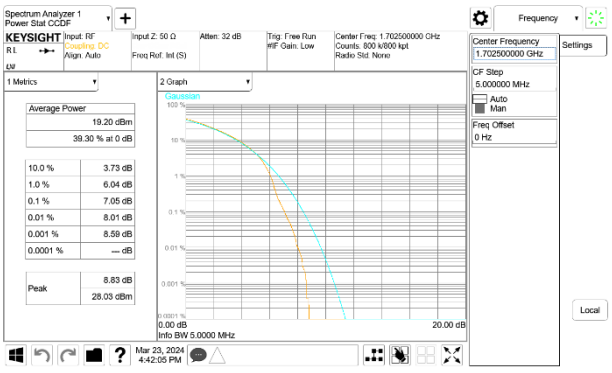
5G NR n70 10MHz BPSK Middle Channel, ID:50822



5G NR n70 10MHz 16QAM Middle Channel, ID:50822



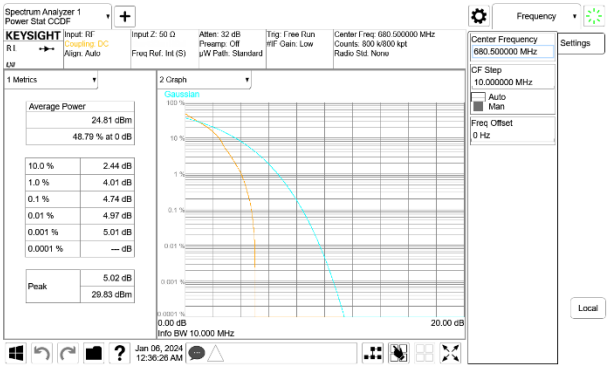
5G NR n70 15MHz BPSK Middle Channel, ID:50822



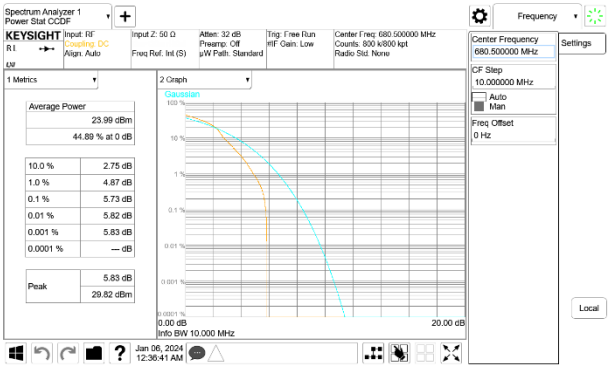
5G NR n70 15MHz 16QAM Middle Channel, ID:50822

9.5.15. LTE BAND 71 AND 5G NR n71

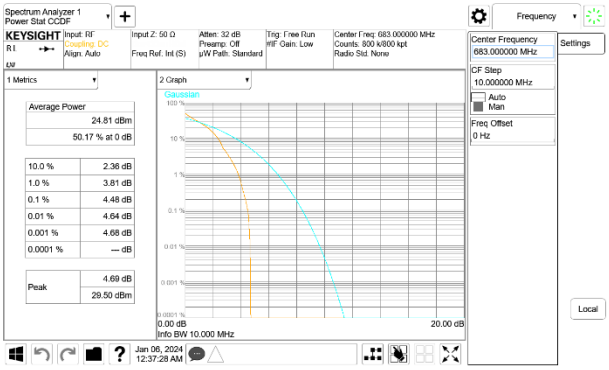
LTE BAND 71



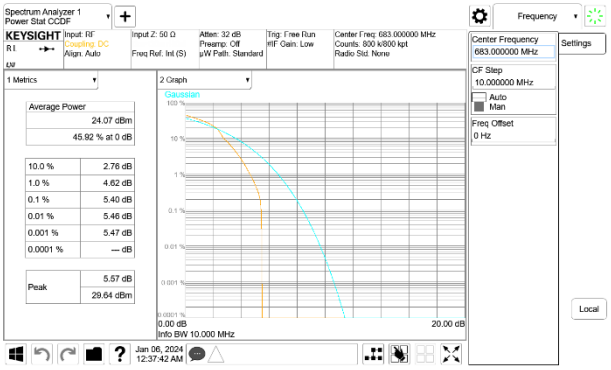
LTE B71 5MHz QPSK Middle Channel, ID:19210



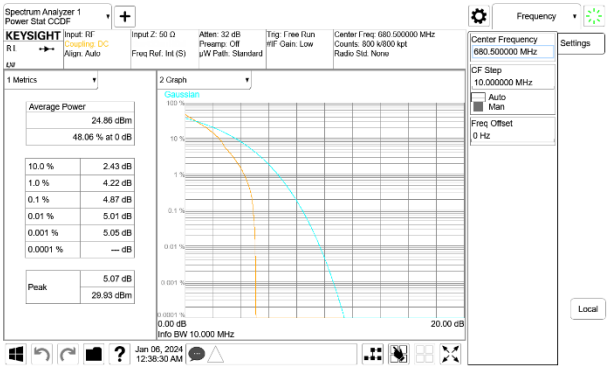
LTE B71 5MHz 16QAM Middle Channel, ID:19210



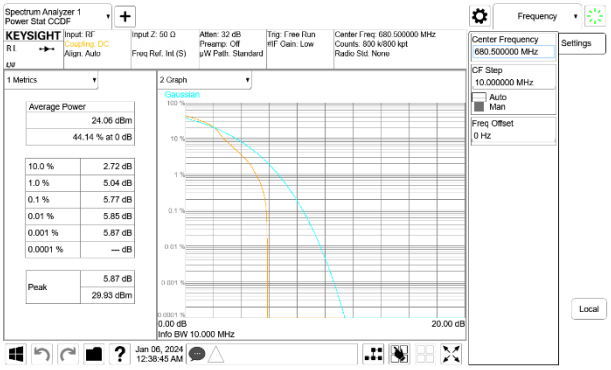
LTE B71 10MHz QPSK Middle Channel, ID:19210



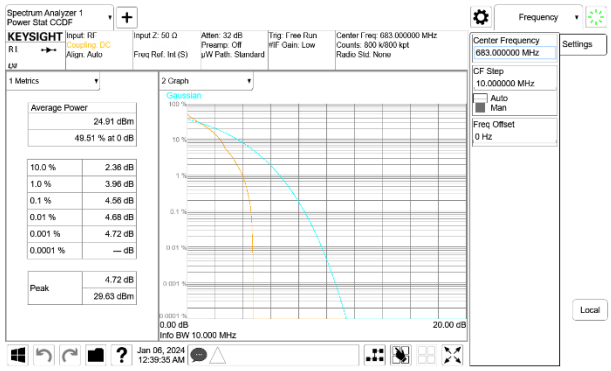
LTE B71 10MHz 16QAM Middle Channel, ID:19210



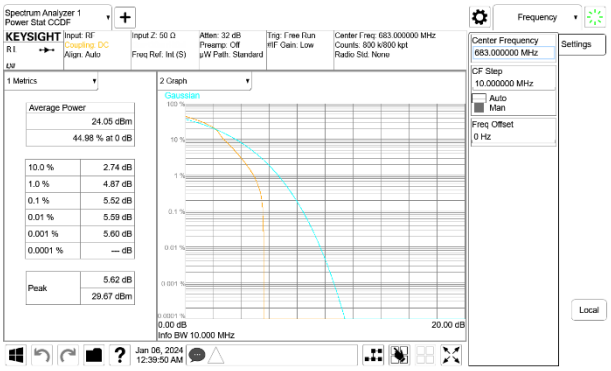
LTE B71 15MHz QPSK Middle Channel, ID:19210



LTE B71 15MHz 16QAM Middle Channel, ID:19210

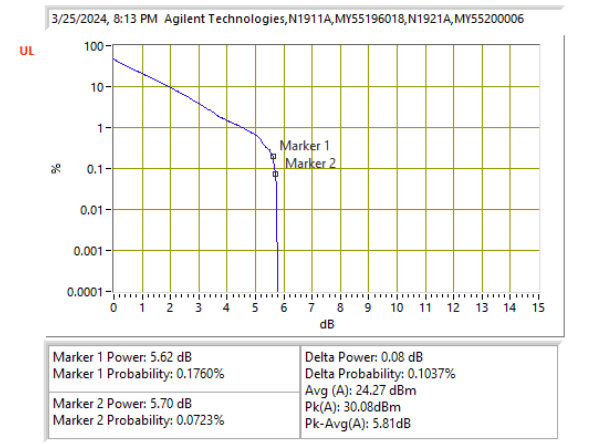


LTE B71 20MHz QPSK Middle Channel, ID:19210

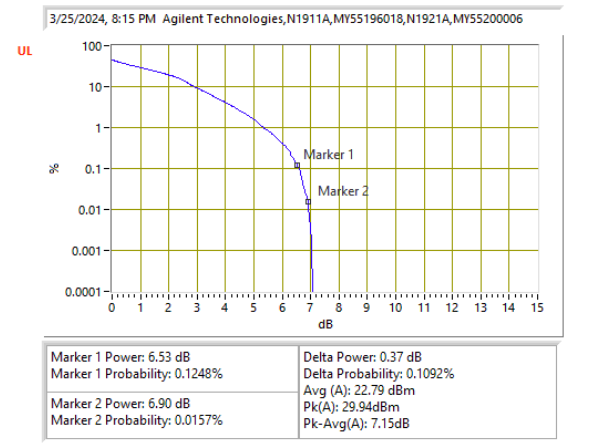


LTE B71 20MHz 16QAM Middle Channel, ID:19210

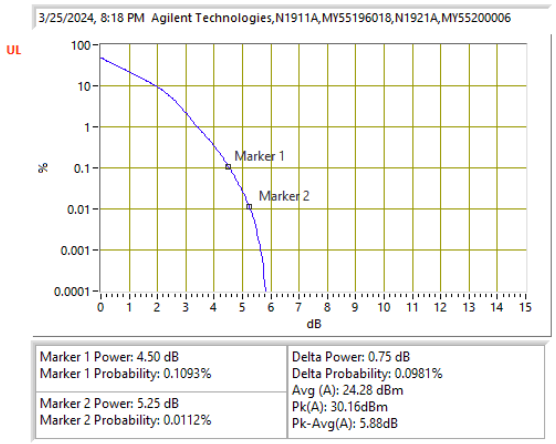
5G NR n71



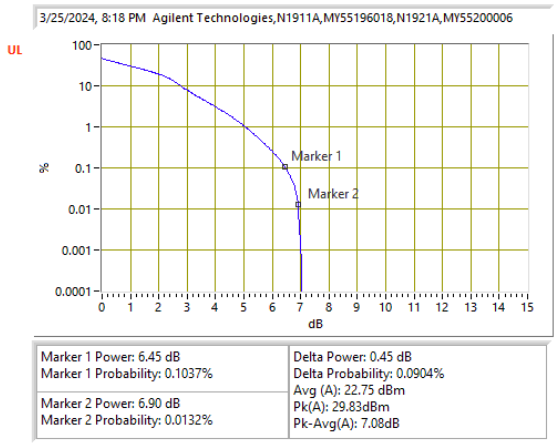
5G NR n71 5MHz BPSK Middle Channel, ID:50822



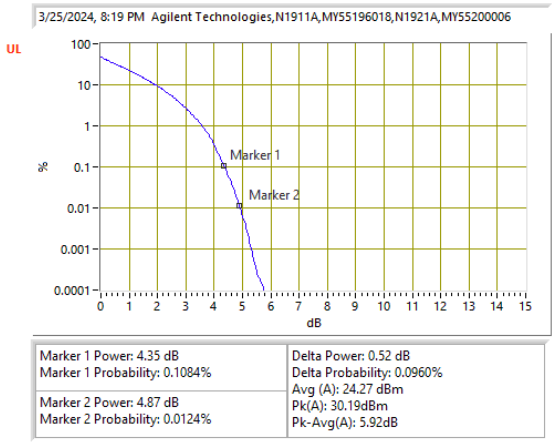
5G NR n71 5MHz 16QAM Middle Channel, ID:50822



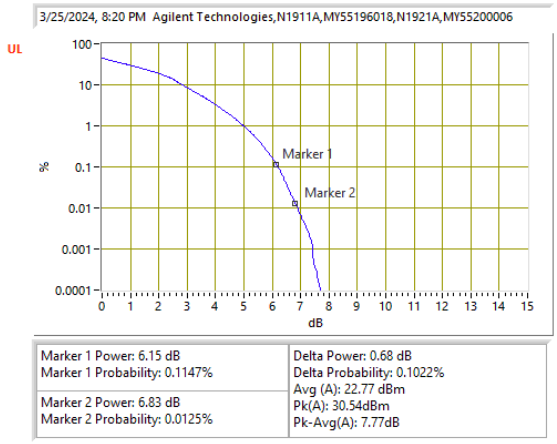
5G NR n71 10MHz BPSK Middle Channel, ID:50822



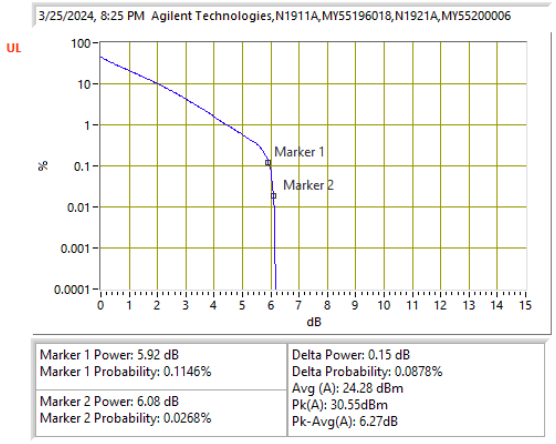
5G NR n71 10MHz 16QAM Middle Channel, ID:50822



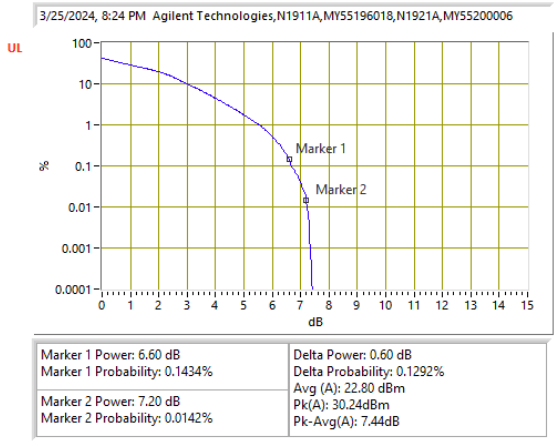
5G NR n71 15MHz BPSK Middle Channel, ID:50822



5G NR n71 15MHz 16QAM Middle Channel, ID:50822



5G NR n71 20MHz BPSK Middle Channel, ID:50822



5G NR n71 20MHz 16QAM Middle Channel, ID:50822

9.5.16. 5G NR n77 (Part 27 3450-3550MHz) HPUE

Test Engineer ID:	50822 and 27966	Test Date:	2024-03-25 to 2024-04-29

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band n77 (FCC Part 27 3450-3550MHz)	10MHz	3500.0	24	0	BPSK	29.99	17.08	*5.92
					16QAM	29.85	15.59	*7.27
	15MHz		36	0	BPSK	30.11	17.07	*6.05
					16QAM	29.93	15.59	*7.35
	20MHz		50	0	BPSK	30.20	17.06	*6.15
					16QAM	29.86	15.55	*7.32
	25MHz		64	0	BPSK	30.64	17.49	*6.16
					16QAM	30.31	15.91	*7.41
	30MHz		75	0	BPSK	30.09	17.07	*6.03
					16QAM	29.85	15.53	*7.33
	40MHz		100	0	BPSK	30.09	17.06	*6.04
					16QAM	29.77	15.55	*7.23
	50MHz		128	0	BPSK	29.81	17.04	*5.78
					16QAM	29.61	15.51	*7.11
	60MHz		162	0	BPSK	29.65	17.02	*5.64
					16QAM	29.32	15.45	*6.88
	70MHz		180	0	BPSK	29.43	17.03	*5.41
					16QAM	29.24	15.46	*6.79
	80MHz		216	0	BPSK	29.24	16.98	*5.27
					16QAM	28.92	15.37	*6.56
	90MHz		243	0	BPSK	29.01	16.99	*5.03
					16QAM	28.76	15.38	*6.39
	100MHz		270	0	BPSK	28.97	17.22	*4.76
					16QAM	28.90	15.60	*6.31
* Duty Cycle Correction Factor (dB) =			6.99					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9.5.17. 5G NR n77 (Part 27 3700-3980MHz) HPUE

Test Engineer ID:	50802 and 27966	Test Date:	2024-03-25 to 2024-04-29

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
Band n77 (FCC Part 27 3700-3980MHz)	10MHz	3840.0	24	0	BPSK	30.22	17.34	*5.83
					16QAM	30.09	15.85	*7.19
	15MHz		36	0	BPSK	30.63	17.61	*5.97
					16QAM	30.59	16.12	*7.42
	20MHz		50	0	BPSK	30.69	17.62	*6.02
					16QAM	30.59	16.13	*7.41
	25MHz		64	0	BPSK	30.95	17.57	*6.33
					16QAM	30.69	16.06	*7.58
	30MHz		75	0	BPSK	30.89	17.63	*6.21
					16QAM	30.60	16.11	*7.44
	40MHz		100	0	BPSK	30.66	17.61	*6
					16QAM	30.41	16.09	*7.27
	50MHz		128	0	BPSK	30.43	17.61	*5.77
					16QAM	30.31	16.07	*7.19
	60MHz		162	0	BPSK	30.45	17.57	*5.83
					16QAM	30.10	16.01	*7.04
	70MHz		180	0	BPSK	30.19	17.56	*5.58
					16QAM	29.90	15.99	*6.86
	80MHz		216	0	BPSK	29.79	17.55	*5.19
					16QAM	29.70	15.97	*6.68
	90MHz		243	0	BPSK	29.24	17.23	*4.96
					16QAM	29.17	15.61	*6.51
	100MHz		270	0	BPSK	29.29	17.52	*4.72
					16QAM	29.26	15.90	*6.31
* Duty Cycle Correction Factor (dB) =			7.05					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

10. RADIATED TEST RESULTS

Radiated measurement using the Field Strength Method

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

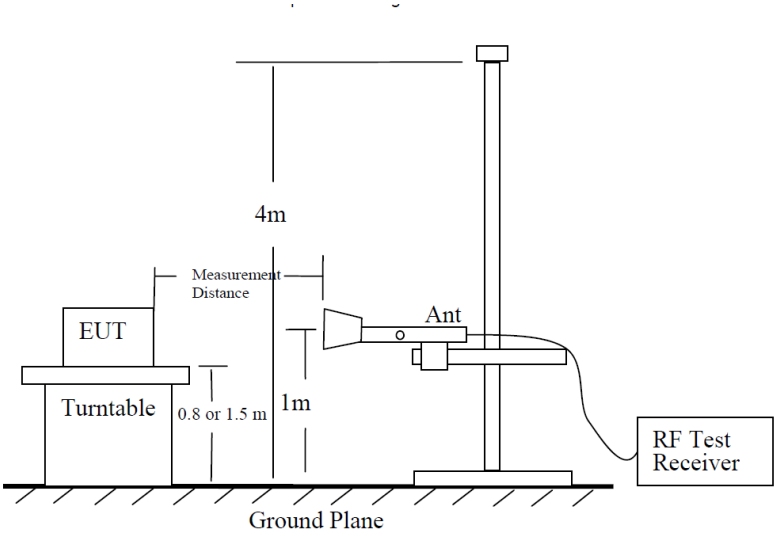


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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

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

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

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

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

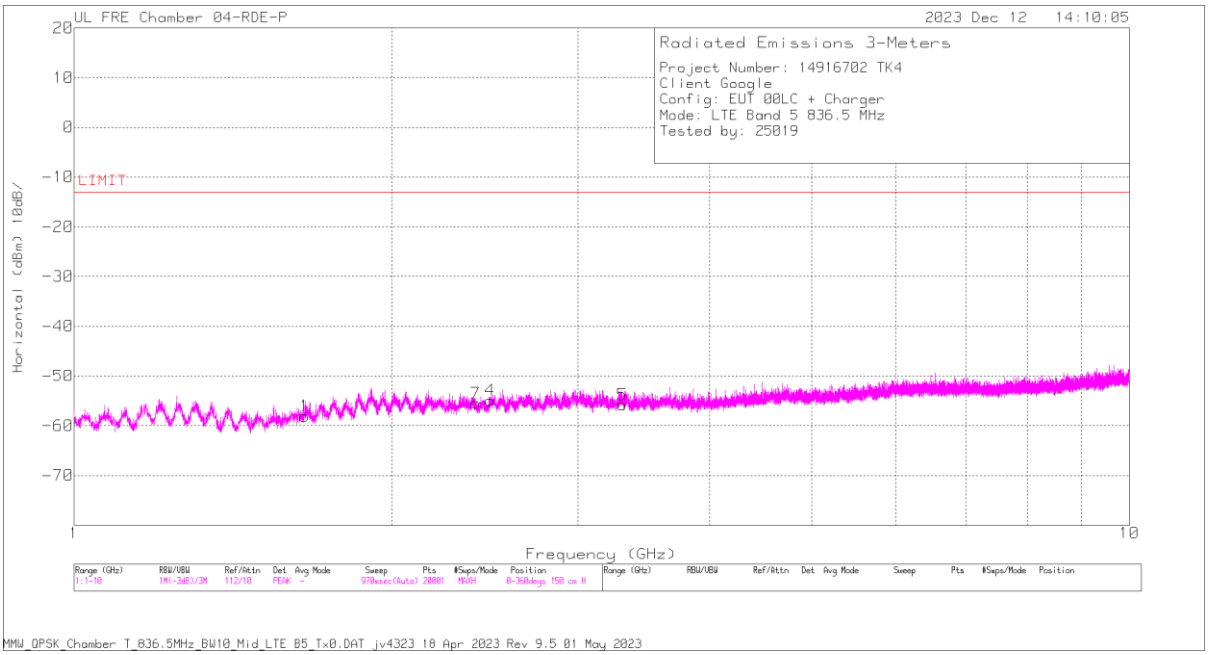
So, from d)

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

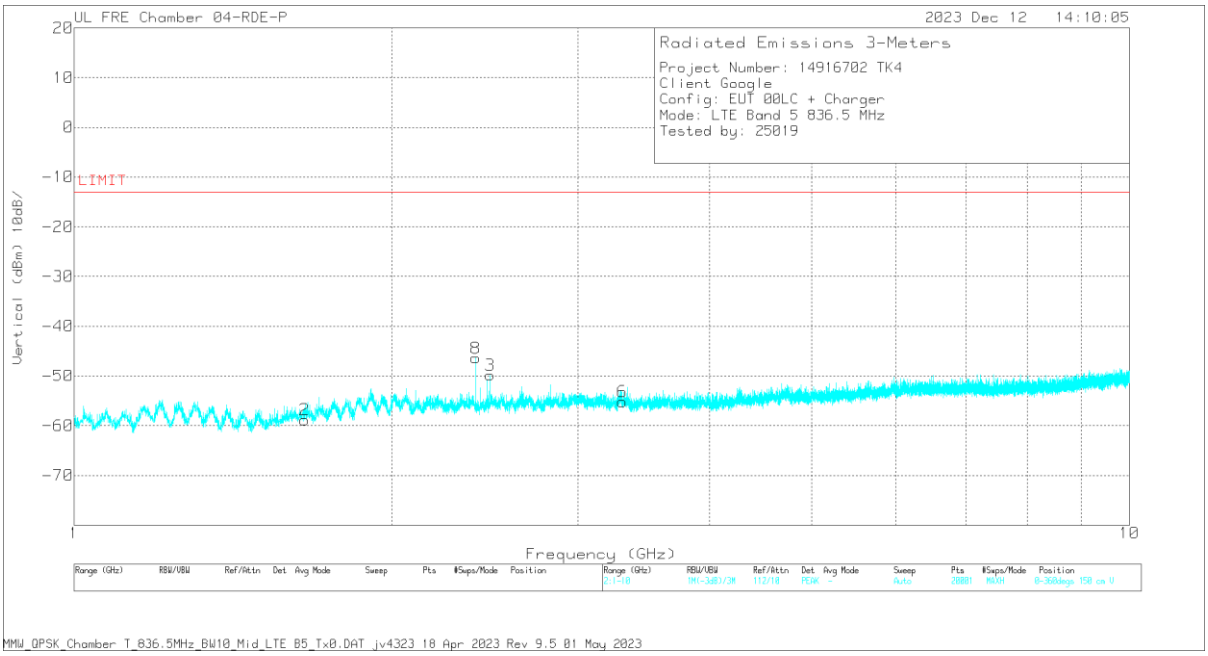
Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

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

Example Plot



Horizontal Polarity



Vertical Polarity

Trace Markers

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1.65385	56.74	Pk	29.9	-95.2	-49.52	-58.08	-13	-45.08	H
2.47960	58.61	Pk	32.2	-95.2	-50.48	-54.87	-13	-41.87	H
3.30625	54.05	Pk	32.9	-95.2	-47.55	-55.80	-13	-42.80	H
1.65385	55.94	Pk	29.9	-95.2	-49.52	-58.88	-13	-45.88	V
2.47960	63.66	Pk	32.2	-95.2	-50.48	-49.82	-13	-36.82	V
3.30625	54.69	Pk	32.9	-95.2	-47.55	-55.16	-13	-42.16	V

Pk - Peak detector

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 0

TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v02r02

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

RESULTS

10.1.1. LTE BAND 5 AND 5G NR n5

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 5 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2023-12-12
Test Engineer:	25019 VK
Configuration:	EUT only
Mode	LTE5 QPSK 10MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz									
1.648900	58.21	Pk	29.8	-95.2	-49.52	-56.71	-13	-43.71	H
2.476500	56.44	Pk	32.2	-95.2	-50.49	-57.05	-13	-44.05	H
3.296400	54.53	Pk	32.9	-95.2	-47.57	-55.34	-13	-42.34	H
1.648900	59.68	Pk	29.8	-95.2	-49.52	-55.24	-13	-42.24	V
2.475600	75.35	Pk	32.2	-95.2	-50.49	-38.14	-13	-25.14	V
3.296400	54.69	Pk	32.9	-95.2	-47.57	-55.18	-13	-42.18	V
Mid Channel, 836.5MHz									
1.653900	56.74	Pk	29.9	-95.2	-49.52	-58.08	-13	-45.08	H
2.479600	58.61	Pk	32.2	-95.2	-50.48	-54.87	-13	-41.87	H
3.306300	54.05	Pk	32.9	-95.2	-47.55	-55.80	-13	-42.8	H
1.653900	55.94	Pk	29.9	-95.2	-49.52	-58.88	-13	-45.88	V
2.479600	63.66	Pk	32.2	-95.2	-50.48	-49.82	-13	-36.82	V
3.306300	54.69	Pk	32.9	-95.2	-47.55	-55.16	-13	-42.16	V
High Channel, 844MHz									
1.678600	64.83	Pk	30.1	-95.2	-49.59	-49.86	-13	-36.86	H
2.518300	66.01	Pk	32.3	-95.2	-50.03	-46.92	-13	-33.92	H
3.356200	53.95	Pk	32.7	-95.2	-47.10	-55.65	-13	-42.65	H
1.678600	57.33	Pk	30.1	-95.2	-49.59	-57.36	-13	-44.36	V
2.518800	64.10	Pk	32.3	-95.2	-50.02	-48.82	-13	-35.82	V
3.356200	54.08	Pk	32.7	-95.2	-47.10	-55.52	-13	-42.52	V

BPSK 5G NR n5 (20.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-18
Test Engineer:	25019 VK
Configuration:	EUT + Support Equipment
Mode	n5 BPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz									
1.648500	58.44	Pk	29.8	-95.2	-49.53	-56.49	-13	-43.49	H
2.472400	57.69	Pk	32.2	-95.2	-50.48	-55.79	-13	-42.79	H
3.292300	53.96	Pk	32.9	-95.2	-47.63	-55.97	-13	-42.97	H
1.648500	56.6	Pk	29.8	-95.2	-49.53	-58.33	-13	-45.33	V
2.472400	57.62	Pk	32.2	-95.2	-50.48	-55.86	-13	-42.86	V
3.292300	54.3	Pk	32.9	-95.2	-47.63	-55.63	-13	-42.63	V
Mid Channel, 836.5MHz									
1.653400	58.97	Pk	29.9	-95.2	-49.51	-55.84	-13	-42.84	H
2.479600	57.61	Pk	32.2	-95.2	-50.48	-55.87	-13	-42.87	H
3.306300	53.96	Pk	32.9	-95.2	-47.55	-55.89	-13	-42.89	H
1.653400	57.68	Pk	29.9	-95.2	-49.51	-57.13	-13	-44.13	V
2.479600	57.71	Pk	32.2	-95.2	-50.48	-55.77	-13	-42.77	V
3.306300	54.51	Pk	32.9	-95.2	-47.55	-55.34	-13	-42.34	V
High Channel, 839MHz									
1.658900	65.94	Pk	29.9	-95.2	-49.57	-48.93	-13	-35.93	H
2.507100	58.59	Pk	32.3	-95.2	-50.22	-54.53	-13	-41.53	H
3.384600	55.28	Pk	32.7	-95.2	-47.1	-54.32	-13	-41.32	H
1.671000	58.78	Pk	30.1	-95.2	-49.59	-55.91	-13	-42.91	V
2.508000	58.65	Pk	32.3	-95.2	-50.2	-54.45	-13	-41.45	V
3.496800	56.87	Pk	32.9	-95.2	-47.15	-52.58	-13	-39.58	V

10.1.2. 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 #:	15107843
Date:	2023-12-11
Test Engineer:	25196 CC
Configuration:	EUT + Support Equipment
Mode	LTE7 QPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.034000	57.35	Pk	34.3	-95.2	-49.54	-53.09	-25	-28.09	H
7.517000	57.34	Pk	35.6	-95.2	-48.01	-50.27	-25	-25.27	H
10.032500	57.56	Pk	37.5	-95.2	-48.59	-48.73	-25	-23.73	H
5.004000	58.23	Pk	34.2	-95.2	-49.41	-52.18	-25	-27.18	V
7.499000	56.90	Pk	35.6	-95.2	-47.91	-50.61	-25	-25.61	V
10.042500	57.36	Pk	37.5	-95.2	-48.71	-49.05	-25	-24.05	V
Mid Channel, 2535MHz									
5.065500	58.66	Pk	34.3	-95.2	-49.6	-51.84	-25	-26.84	H
7.611000	56.12	Pk	35.7	-95.2	-48.04	-51.42	-25	-26.42	H
10.135500	57.21	Pk	37.6	-95.2	-48.14	-48.53	-25	-23.53	H
5.040500	57.84	Pk	34.3	-95.2	-49.57	-52.63	-25	-27.63	V
7.624500	56.65	Pk	35.7	-95.2	-47.95	-50.80	-25	-25.80	V
10.106500	57.88	Pk	37.6	-95.2	-48.39	-48.11	-25	-23.11	V
High Channel, 2560MHz									
5.112000	57.97	Pk	34.4	-95.2	-49.45	-52.28	-25	-27.28	H
7.687000	56.22	Pk	35.7	-95.2	-47.77	-51.05	-25	-26.05	H
10.237000	56.75	Pk	37.7	-95.2	-47.29	-48.04	-25	-23.04	H
5.115000	57.43	Pk	34.4	-95.2	-49.45	-52.82	-25	-27.82	V
7.990000	57.19	Pk	35.8	-95.2	-46.93	-49.14	-25	-24.14	V
10.236500	57.30	Pk	37.7	-95.2	-47.29	-47.49	-25	-22.49	V

BPSK 5G NR n7 (50.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-30
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	n7 BPSK 50MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2525MHz									
5.047000	57.65	Pk	34.3	-95.2	-49.59	-52.84	-25	-27.84	H
7.569500	55.90	Pk	35.7	-95.2	-48.03	-51.63	-25	-26.63	H
10.082500	58.18	Pk	37.5	-95.2	-48.52	-48.04	-25	-23.04	H
5.032500	57.84	Pk	34.2	-95.2	-49.53	-52.69	-25	-27.69	V
7.562500	55.92	Pk	35.6	-95.2	-48.13	-51.81	-25	-26.81	V
10.089500	57.64	Pk	37.6	-95.2	-48.44	-48.40	-25	-23.4	V
Mid Channel, 2535MHz									
5.058000	57.74	Pk	34.3	-95.2	-49.62	-52.78	-25	-27.78	H
7.603000	56.91	Pk	35.7	-95.2	-47.98	-50.57	-25	-25.57	H
10.155500	57.24	Pk	37.6	-95.2	-47.89	-48.25	-25	-23.25	H
5.056000	57.81	Pk	34.3	-95.2	-49.62	-52.71	-25	-27.71	V
7.608000	55.55	Pk	35.7	-95.2	-48.08	-52.03	-25	-27.03	V
10.184500	57.51	Pk	37.6	-95.2	-47.61	-47.70	-25	-22.7	V
High Channel, 2545MHz									
5.121500	58.77	Pk	34.4	-95.2	-49.38	-51.41	-25	-26.41	H
7.659000	55.66	Pk	35.7	-95.2	-47.75	-51.59	-25	-26.59	H
10.198500	57.36	Pk	37.6	-95.2	-47.27	-47.51	-25	-22.51	H
5.094000	57.81	Pk	34.3	-95.2	-49.5	-52.59	-25	-27.59	V
7.647000	56.22	Pk	35.7	-95.2	-47.75	-51.03	-25	-26.03	V
10.171000	57.88	Pk	37.6	-95.2	-47.77	-47.49	-25	-22.49	V

10.1.3. 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 #:	15107843
Date:	2023-12-12
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE12 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz									
1.409000	56.89	Pk	28.3	-95.2	-47.17	-57.18	-13	-44.18	H
2.149500	57.30	Pk	31.5	-95.2	-48.54	-54.94	-13	-41.94	H
2.810800	56.23	Pk	32.3	-95.2	-47.29	-53.96	-13	-40.96	H
1.410300	55.72	Pk	28.3	-95.2	-47.07	-58.25	-13	-45.25	V
2.145120	58.19	Pk	31.5	-95.2	-48.38	-53.89	-13	-40.89	V
2.806400	55.98	Pk	32.3	-95.2	-47.46	-54.38	-13	-41.38	V
Mid Channel, 707.5MHz									
1.416900	57.34	Pk	28.2	-95.2	-47.13	-56.79	-13	-43.79	H
2.122700	57.43	Pk	31.5	-95.2	-48.61	-54.88	-13	-41.88	H
2.829800	55.64	Pk	32.3	-95.2	-47.25	-54.51	-13	-41.51	H
1.416000	56.87	Pk	28.2	-95.2	-47.15	-57.28	-13	-44.28	V
2.123600	56.43	Pk	31.5	-95.2	-48.62	-55.89	-13	-42.89	V
2.818800	55.23	Pk	32.3	-95.2	-47.18	-54.85	-13	-41.85	V
High Channel, 711MHz									
1.416500	57.38	Pk	28.2	-95.2	-47.14	-56.76	-13	-43.76	H
2.136800	56.92	Pk	31.5	-95.2	-48.33	-55.11	-13	-42.11	H
2.837200	55.50	Pk	32.3	-95.2	-47.13	-54.53	-13	-41.53	H
1.417400	56.33	Pk	28.2	-95.2	-47.12	-57.79	-13	-44.79	V
2.126600	56.83	Pk	31.5	-95.2	-48.61	-55.48	-13	-42.48	V
2.841600	55.58	Pk	32.3	-95.2	-47.09	-54.41	-13	-41.41	V

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-31
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N12 BPSK 15MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz									
1.409100	57.28	Pk	28.7	-95.2	-49.14	-58.36	-13	-45.36	H
2.130500	63.37	Pk	31.9	-95.2	-49.97	-49.90	-13	-36.90	H
2.831500	57.03	Pk	32.7	-95.2	-49.40	-54.87	-13	-41.87	H
1.400500	58.08	Pk	28.8	-95.2	-49.15	-57.47	-13	-44.47	V
2.125900	58.00	Pk	31.9	-95.2	-49.9	-55.20	-13	-42.20	V
2.827000	57.22	Pk	32.7	-95.2	-49.48	-54.76	-13	-41.76	V
Mid Channel, 707.5MHz									
1.400500	60.61	Pk	28.8	-95.2	-49.15	-54.94	-13	-41.94	H
2.101300	64.05	Pk	31.9	-95.2	-49.52	-48.77	-13	-35.77	H
2.829300	57.52	Pk	32.7	-95.2	-49.45	-54.43	-13	-41.43	H
1.401100	70.14	Pk	28.8	-95.2	-49.14	-45.40	-13	-32.4	V
2.110200	58.06	Pk	31.9	-95.2	-49.64	-54.88	-13	-41.88	V
2.798700	59.57	Pk	32.7	-95.2	-49.76	-52.69	-13	-39.69	V
High Channel, 708.5MHz									
1.428900	60.10	Pk	28.5	-95.2	-49.11	-55.71	-13	-42.71	H
2.131300	58.64	Pk	31.9	-95.2	-49.99	-54.65	-13	-41.65	H
2.853100	57.34	Pk	32.7	-95.2	-49.14	-54.30	-13	-41.30	H
1.428400	58.71	Pk	28.5	-95.2	-49.11	-57.10	-13	-44.10	V
2.130400	57.76	Pk	31.9	-95.2	-49.97	-55.51	-13	-42.51	V
2.845500	56.81	Pk	32.7	-95.2	-49.23	-54.92	-13	-41.92	V

10.1.4. 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 #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE13 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz									
1.563400	57.69	Pk	27.8	-95.2	-48.03	-57.74	-40	-17.74	H
2.352300	57.03	Pk	32.0	-95.2	-48.16	-54.33	-13	-41.33	H
3.118200	54.40	Pk	32.9	-95.2	-45.29	-53.19	-13	-40.19	H
1.562700	59.70	Pk	27.8	-95.2	-47.95	-55.65	-40	-15.65	V
2.347300	56.57	Pk	31.9	-95.2	-48.18	-54.91	-13	-41.91	V
3.105100	54.79	Pk	32.9	-95.2	-45.73	-53.24	-13	-40.24	V

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

10.1.5. 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 #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE14 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz									
1.588200	57.86	Pk	27.9	-95.2	-48.13	-57.57	-40	-17.57	H
2.378800	56.07	Pk	32.1	-95.2	-48.08	-55.11	-13	-42.11	H
3.171700	53.10	Pk	32.8	-95.2	-44.77	-54.07	-13	-41.07	H
1.583700	57.67	Pk	27.9	-95.2	-48.04	-57.67	-40	-17.67	V
2.373000	56.06	Pk	32.1	-95.2	-48.12	-55.16	-13	-42.16	V
3.170800	52.62	Pk	32.8	-95.2	-44.73	-54.51	-13	-41.51	V

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-03-19
Test Engineer:	32188AC
Configuration:	EUT + Support Equipment
Mode	N14 BPSK 10MHz
Chamber #:	04-RDE-Q

Frequency (GHz)	Meter Reading (dBuV)	Det	84796 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz									
1.576700	68.81	Pk	27.8	-95.2	-47.47	-46.06	-40	-6.06	H
2.364000	54.95	Pk	31.6	-95.2	-47.73	-56.38	-13	-43.38	H
3.152400	52.90	Pk	32.9	-95.2	-46.29	-55.69	-13	-42.69	H
1.576800	60.25	Pk	27.8	-95.2	-47.48	-54.63	-40	-14.63	V
2.364000	55.88	Pk	31.6	-95.2	-47.73	-55.45	-13	-42.45	V
3.151900	53.52	Pk	32.9	-95.2	-46.27	-55.05	-13	-42.05	V

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

10.1.6. 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 #:	15107843
Date:	2023-12-12
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE17 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz									
1.419600	57.71	Pk	28.2	-95.2	-47.1	-56.39	-13	-43.39	H
2.128400	58.03	Pk	31.5	-95.2	-48.51	-54.18	-13	-41.18	H
2.852600	57.46	Pk	32.3	-95.2	-47.00	-52.44	-13	-39.44	H
1.419600	57.50	Pk	28.2	-95.2	-47.1	-56.60	-13	-43.60	V
2.135400	57.30	Pk	31.5	-95.2	-48.43	-54.83	-13	-41.83	V
2.850900	56.05	Pk	32.3	-95.2	-46.88	-53.73	-13	-40.73	V
Mid Channel, 710MHz									
1.421800	57.27	Pk	28.2	-95.2	-47.06	-56.79	-13	-43.79	H
2.127100	57.71	Pk	31.5	-95.2	-48.58	-54.57	-13	-41.57	H
2.841600	55.33	Pk	32.3	-95.2	-47.09	-54.66	-13	-41.66	H
1.410800	56.68	Pk	28.3	-95.2	-47.06	-57.28	-13	-44.28	V
2.128800	57.64	Pk	31.5	-95.2	-48.5	-54.56	-13	-41.56	V
2.826200	56.08	Pk	32.3	-95.2	-47.15	-53.97	-13	-40.97	V
High Channel, 711MHz									
1.420400	57.79	Pk	28.2	-95.2	-47.11	-56.32	-13	-43.32	H
2.139800	57.65	Pk	31.5	-95.2	-48.47	-54.52	-13	-41.52	H
2.849100	55.17	Pk	32.3	-95.2	-46.86	-54.59	-13	-41.59	H
1.419600	56.81	Pk	28.2	-95.2	-47.10	-57.29	-13	-44.29	V
2.140300	58.38	Pk	31.5	-95.2	-48.46	-53.78	-13	-40.78	V
2.835000	55.10	Pk	32.3	-95.2	-46.99	-54.79	-13	-41.79	V

10.1.7. 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 #:	15107843
Date:	2023-12-12
Test Engineer:	25019 VK
Configuration:	EUT + Support Equipment
Mode	LTE 25 QPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.700500	53.54	Pk	33.1	-95.2	-46.77	-55.33	-13	-42.33	H
5.550000	53.62	Pk	34.7	-95.2	-48.34	-55.22	-13	-42.22	H
7.401000	54.08	Pk	35.5	-95.2	-47.88	-53.50	-13	-40.5	H
3.700500	53.34	Pk	33.1	-95.2	-46.77	-55.53	-13	-42.53	V
5.550000	54.58	Pk	34.7	-95.2	-48.34	-54.26	-13	-41.26	V
7.401000	53.66	Pk	35.5	-95.2	-47.88	-53.92	-13	-40.92	V
Mid Channel, 1882.5MHz									
3.745500	54.67	Pk	33	-95.2	-46.73	-54.26	-13	-41.26	H
5.717000	55.01	Pk	34.9	-95.2	-47.95	-53.24	-13	-40.24	H
7.490000	55.92	Pk	35.6	-95.2	-47.93	-51.61	-13	-38.61	H
3.745500	52.18	Pk	33.0	-95.2	-46.73	-56.75	-13	-43.75	V
5.717000	55.65	Pk	34.9	-95.2	-47.95	-52.60	-13	-39.6	V
7.490500	57.00	Pk	35.6	-95.2	-47.92	-50.52	-13	-37.52	V
High Channel, 1905MHz									
3.790000	54.24	Pk	33.0	-95.2	-46.91	-54.87	-13	-41.87	H
5.685000	53.95	Pk	34.9	-95.2	-47.96	-54.31	-13	-41.31	H
7.580500	54.62	Pk	35.7	-95.2	-47.78	-52.66	-13	-39.66	H
3.790000	53.89	Pk	33.0	-95.2	-46.91	-55.22	-13	-42.22	V
5.685000	56.24	Pk	34.9	-95.2	-47.96	-52.02	-13	-39.02	V
7.580500	54.38	Pk	35.7	-95.2	-47.78	-52.90	-13	-39.9	V

BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-18
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N25 BPSK 40MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.733000	55.27	Pk	33.0	-95.2	-46.65	-53.58	-13	-40.58	H
5.552100	63.51	Pk	34.7	-95.2	-48.33	-45.32	-13	-32.32	H
7.473500	56.19	Pk	35.6	-95.2	-47.86	-51.27	-13	-38.27	H
3.705500	54.34	Pk	33.1	-95.2	-46.77	-54.53	-13	-41.53	V
5.551800	63.37	Pk	34.7	-95.2	-48.33	-45.46	-13	-32.46	V
7.478000	57.38	Pk	35.6	-95.2	-47.85	-50.07	-13	-37.07	V
Mid Channel, 1882.5MHz									
3.777500	54.16	Pk	33.0	-95.2	-46.89	-54.93	-13	-41.93	H
5.606000	56.29	Pk	34.8	-95.2	-48.11	-52.22	-13	-39.22	H
7.553500	55.36	Pk	35.6	-95.2	-47.8	-52.04	-13	-39.04	H
3.750500	54.60	Pk	33	-95.2	-46.86	-54.46	-13	-41.46	V
5.589500	61.73	Pk	34.8	-95.2	-48.22	-46.89	-13	-33.89	V
7.539000	56.47	Pk	35.6	-95.2	-47.88	-51.01	-13	-38.01	V
High Channel, 1895MHz									
3.780500	55.39	Pk	33	-95.2	-46.96	-53.77	-13	-40.77	H
5.626900	61.63	Pk	34.8	-95.2	-48.04	-46.81	-13	-33.81	H
7.584000	56.12	Pk	35.7	-95.2	-47.72	-51.10	-13	-38.10	H
3.750500	54.82	Pk	33	-95.2	-46.86	-54.24	-13	-41.24	V
5.627100	65.31	Pk	34.8	-95.2	-48.04	-43.13	-13	-30.13	V
7.611000	55.73	Pk	35.7	-95.2	-47.8	-51.57	-13	-38.57	V

10.1.8. LTE BAND 26 AND 5G NR n26 (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 #:	15107843
Date:	2023-12-12
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE 26 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz									
1.639600	57.85	Pk	28.3	-95.2	-47.71	-56.76	-13	-43.76	H
2.462800	57.76	Pk	32.2	-95.2	-48.35	-53.59	-13	-40.59	H
3.276800	52.80	Pk	32.7	-95.2	-45.06	-54.76	-13	-41.76	H
1.637800	57.43	Pk	28.3	-95.2	-47.8	-57.27	-13	-44.27	V
2.459300	56.91	Pk	32.2	-95.2	-48.42	-54.51	-13	-41.51	V
3.277700	52.71	Pk	32.7	-95.2	-45.06	-54.85	-13	-41.85	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-22
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N26 BPSK 10MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 824MHz									
1.628700	63.77	Pk	29.6	-95.2	-49.57	-51.40	-13	-38.4	H
2.487700	59.62	Pk	32.2	-95.2	-50.43	-53.81	-13	-40.81	H
3.295000	56.54	Pk	32.9	-95.2	-47.61	-53.37	-13	-40.37	H
1.633200	58.96	Pk	29.6	-95.2	-49.58	-56.22	-13	-43.22	V
2.493600	58.28	Pk	32.3	-95.2	-50.39	-55.01	-13	-42.01	V
3.298600	56.24	Pk	32.9	-95.2	-47.51	-53.57	-13	-40.57	V

10.1.9. LTE BAND 26 AND 5G NR n26 (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 (15.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2023-12-12
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE 26 QPSK 15MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 831.5MHz									
1.665100	56.95	Pk	28.6	-95.2	-47.63	-57.28	-13	-44.28	H
2.501500	56.35	Pk	32.3	-95.2	-48.24	-54.79	-13	-41.79	H
3.321700	53.67	Pk	32.7	-95.2	-45.18	-54.01	-13	-41.01	H
1.652300	57.17	Pk	28.5	-95.2	-47.84	-57.37	-13	-44.37	V
2.500200	56.95	Pk	32.3	-95.2	-48.30	-54.25	-13	-41.25	V
3.298400	55.57	Pk	32.7	-95.2	-44.87	-51.80	-13	-38.8	V
Mid Channel, 836.5MHz									
1.680900	56.44	Pk	28.8	-95.2	-47.78	-57.74	-13	-44.74	H
2.508100	56.42	Pk	32.3	-95.2	-48.25	-54.73	-13	-41.73	H
3.350300	53.98	Pk	32.7	-95.2	-45.33	-53.85	-13	-40.85	H
1.674300	56.54	Pk	28.7	-95.2	-47.76	-57.72	-13	-44.72	V
2.492300	56.85	Pk	32.3	-95.2	-48.45	-54.50	-13	-41.5	V
3.243400	55.71	Pk	32.7	-95.2	-45.22	-52.01	-13	-39.01	V
High Channel, 841.5MHz									
1.677400	56.98	Pk	28.7	-95.2	-47.78	-57.30	-13	-44.3	H
2.526600	56.72	Pk	32.3	-95.2	-47.95	-54.13	-13	-41.13	H
3.365200	54.34	Pk	32.7	-95.2	-45.47	-53.63	-13	-40.63	H
1.675600	56.97	Pk	28.7	-95.2	-47.88	-57.41	-13	-44.41	V
2.536300	56.64	Pk	32.3	-95.2	-48	-54.26	-13	-41.26	V
3.360800	53.31	Pk	32.7	-95.2	-45.33	-54.52	-13	-41.52	V

BPSK 5G NR n26 (20.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-22
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N26 BPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz									
1.665100	58.17	Pk	30	-95.2	-49.58	-56.61	-13	-43.61	H
2.491800	58.73	Pk	32.2	-95.2	-50.41	-54.68	-13	-41.68	H
3.335500	56.39	Pk	32.8	-95.2	-47.27	-53.28	-13	-40.28	H
1.663800	58.39	Pk	30	-95.2	-49.57	-56.38	-13	-43.38	V
2.502600	59.40	Pk	32.3	-95.2	-50.25	-53.75	-13	-40.75	V
3.344500	56.02	Pk	32.8	-95.2	-47.17	-53.55	-13	-40.55	V
Mid Channel, 836.5MHz									
1.653700	60.57	Pk	29.9	-95.2	-49.51	-54.24	-13	-41.24	H
2.505300	59.3	Pk	32.3	-95.2	-50.22	-53.82	-13	-40.82	H
3.350400	56.38	Pk	32.8	-95.2	-47.22	-53.24	-13	-40.24	H
1.664700	58.8	Pk	30	-95.2	-49.58	-55.98	-13	-42.98	V
2.489500	59.23	Pk	32.2	-95.2	-50.41	-54.18	-13	-41.18	V
3.343200	56.61	Pk	32.8	-95.2	-47.15	-52.94	-13	-39.94	V
High Channel, 839MHz									
1.664200	57.77	Pk	30.0	-95.2	-49.57	-57.00	-13	-44.00	H
2.530900	58.22	Pk	32.4	-95.2	-49.92	-54.50	-13	-41.50	H
3.351300	55.44	Pk	32.8	-95.2	-47.21	-54.17	-13	-41.17	H
1.666500	58.35	Pk	30.0	-95.2	-49.57	-56.42	-13	-43.42	V
2.534500	59.62	Pk	32.4	-95.2	-49.89	-53.07	-13	-40.07	V
3.336000	56.34	Pk	32.8	-95.2	-47.27	-53.33	-13	-40.33	V

10.1.10. 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 #:	15107843
Date:	2023-12-12
Test Engineer:	25019 VK
Configuration:	EUT + Support Equipment
Mode	LTE 30 QPSK 10MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.609800	47.75	RMS	34.2	-95.2	-49.09	-62.34	-40	-22.34	H
6.916800	47.01	RMS	35.6	-95.2	-46.56	-59.15	-40	-19.15	H
9.220300	45.45	RMS	36.0	-95.2	-45.34	-59.09	-40	-19.09	H
4.609800	47.94	RMS	34.2	-95.2	-49.09	-62.15	-40	-22.15	V
6.916800	48.82	RMS	35.6	-95.2	-46.56	-57.34	-40	-17.34	V
9.220300	45.14	RMS	36.0	-95.2	-45.34	-59.40	-40	-19.40	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-24
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N30 BPSK 10MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.638700	48.81	RMS	34.3	-95.2	-49.16	-61.25	-40	-21.25	H
6.929000	46.96	RMS	35.6	-95.2	-46.54	-59.18	-40	-19.18	H
9.253600	46.35	RMS	36.1	-95.2	-45.45	-58.20	-40	-18.20	H
4.669100	48.90	RMS	34.3	-95.2	-49.35	-61.35	-40	-21.35	V
6.894200	46.91	RMS	35.6	-95.2	-46.45	-59.14	-40	-19.14	V
9.268800	47.44	RMS	36.1	-95.2	-45.55	-57.21	-40	-17.21	V

10.1.11. LTE BAND 41 AND 5G NR n41 HPUE

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 HPUE (20.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-03
Test Engineer:	32188 AC
Configuration:	EUT + Support Equipment
Mode	LTE 41 QPSK 20MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 2506MHz									
4.992000	52.94	Pk	34.0	-95.2	-46.40	-54.66	-25	-29.66	H
7.488000	51.93	Pk	35.7	-95.2	-44.18	-51.75	-25	-26.75	H
9.984000	51.53	Pk	37.1	-95.2	-42.99	-49.56	-25	-24.56	H
4.992000	53.54	Pk	34.0	-95.2	-46.40	-54.06	-25	-29.06	V
7.488000	52.61	Pk	35.7	-95.2	-44.18	-51.07	-25	-26.07	V
9.984000	51.74	Pk	37.1	-95.2	-42.99	-49.35	-25	-24.35	V
Mid Channel, 2593MHz									
5.166000	52.56	Pk	34.2	-95.2	-46.11	-54.55	-25	-29.55	H
7.749000	50.98	Pk	35.8	-95.2	-43.95	-52.37	-25	-27.37	H
10.332000	52.21	Pk	37.4	-95.2	-42.82	-48.41	-25	-23.41	H
5.166000	54.89	Pk	34.2	-95.2	-46.11	-52.22	-25	-27.22	V
7.749000	51.26	Pk	35.8	-95.2	-43.95	-52.09	-25	-27.09	V
10.332000	51.68	Pk	37.4	-95.2	-42.82	-48.94	-25	-23.94	V
High Channel, 2680MHz									
5.340000	51.97	Pk	34.5	-95.2	-46.02	-54.75	-25	-29.75	H
8.010000	51.20	Pk	35.8	-95.2	-43.58	-51.78	-25	-26.78	H
10.680000	52.73	Pk	37.7	-95.2	-42.32	-47.09	-25	-22.09	H
5.340000	52.24	Pk	34.5	-95.2	-46.02	-54.48	-25	-29.48	V
8.010000	51.36	Pk	35.8	-95.2	-43.58	-51.62	-25	-26.62	V
10.680000	51.62	Pk	37.7	-95.2	-42.32	-48.20	-25	-23.20	V

BPSK 5G NR n41 HPUE (100.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-31
Test Engineer:	25019 VK
Configuration:	EUT + Support Equipment
Mode	N41 BPSK 100MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz									
4.992000	54.64	Pk	34.2	-95.2	-49.43	-55.79	-25	-30.79	H
7.488500	54.15	Pk	35.6	-95.2	-47.97	-53.42	-25	-28.42	H
9.984500	55.44	Pk	37.4	-95.2	-47.99	-50.35	-25	-25.35	H
4.992000	54.58	Pk	34.2	-95.2	-49.43	-55.85	-25	-30.85	V
7.488500	53.09	Pk	35.6	-95.2	-47.97	-54.48	-25	-29.48	V
9.984000	54.53	Pk	37.4	-95.2	-47.98	-51.25	-25	-26.25	V
Mid Channel, 2593MHz									
5.086500	55.29	Pk	34.3	-95.2	-49.54	-55.15	-25	-30.15	H
7.629000	54.17	Pk	35.7	-95.2	-47.85	-53.18	-25	-28.18	H
10.172500	55.21	Pk	37.6	-95.2	-47.79	-50.18	-25	-25.18	H
5.086500	55.29	Pk	34.3	-95.2	-49.54	-55.15	-25	-30.15	V
7.629000	54.75	Pk	35.7	-95.2	-47.85	-52.60	-25	-27.60	V
10.172500	55.11	Pk	37.6	-95.2	-47.79	-50.28	-25	-25.28	V
High Channel, 2640MHz									
5.180000	55.42	Pk	34.5	-95.2	-49.19	-54.47	-25	-29.47	H
7.770000	54.93	Pk	35.8	-95.2	-47.81	-52.28	-25	-27.28	H
10.361000	56.36	Pk	37.7	-95.2	-47.72	-48.86	-25	-23.86	H
5.180000	54.77	Pk	34.5	-95.2	-49.19	-55.12	-25	-30.12	V
7.770000	53.55	Pk	35.8	-95.2	-47.81	-53.66	-25	-28.66	V
10.361000	55.18	Pk	37.7	-95.2	-47.72	-50.04	-25	-25.04	V

10.1.12. 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 #:	15107843
Date:	2023-12-11
Test Engineer:	25196 CC
Configuration:	EUT + Support Equipment
Mode	LTE 66 QPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.437500	55.06	Pk	32.8	-95.2	-46.94	-54.28	-13	-41.28	H
5.133400	78.56	Pk	34.4	-95.2	-49.18	-31.42	-13	-18.42	H
6.889000	54.46	Pk	35.6	-95.2	-46.51	-51.65	-13	-38.65	H
3.421500	55.32	Pk	32.8	-95.2	-46.9	-53.98	-13	-40.98	V
5.133300	76.21	Pk	34.4	-95.2	-49.18	-33.77	-13	-20.77	V
6.854000	55.13	Pk	35.6	-95.2	-46.59	-51.06	-13	-38.06	V
Mid Channel, 1745MHz									
3.507000	55.15	Pk	32.9	-95.2	-47.15	-54.30	-13	-41.30	H
5.208300	82.96	Pk	34.5	-95.2	-49.20	-26.94	-13	-13.94	H
6.992500	55.06	Pk	35.7	-95.2	-46.64	-51.08	-13	-38.08	H
3.506500	56.81	Pk	32.9	-95.2	-47.14	-52.63	-13	-39.63	V
5.209000	90.22	Pk	34.5	-95.2	-49.20	-19.68	-13	-6.68	V
6.927500	54.94	Pk	35.6	-95.2	-46.66	-51.32	-13	-38.32	V
High Channel, 1770MHz									
3.531000	56.16	Pk	33.0	-95.2	-47.09	-53.13	-13	-40.13	H
5.283200	74.28	Pk	34.6	-95.2	-49.19	-35.51	-13	-22.51	H
7.092000	56.22	Pk	35.7	-95.2	-46.95	-50.23	-13	-37.23	H
3.537000	55.23	Pk	33.0	-95.2	-47.23	-54.20	-13	-41.20	V
5.283300	77.98	Pk	34.6	-95.2	-49.19	-31.81	-13	-18.81	V
7.085000	56.54	Pk	35.7	-95.2	-47.04	-50.00	-13	-37.00	V

BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-23
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N66 BPSK 40MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.421100	63.11	Pk	32.8	-95.2	-46.90	-46.19	-13	-33.19	H
5.131700	76.90	Pk	34.4	-95.2	-49.19	-33.09	-13	-20.09	H
6.915000	54.56	Pk	35.6	-95.2	-46.63	-51.67	-13	-38.67	H
3.411000	55.40	Pk	32.7	-95.2	-46.83	-53.93	-13	-40.93	V
5.131400	71.29	Pk	34.4	-95.2	-49.2	-38.71	-13	-25.71	V
6.922000	54.86	Pk	35.6	-95.2	-46.61	-51.35	-13	-38.35	V
Mid Channel, 1745MHz									
3.421200	63.11	Pk	32.8	-95.2	-46.9	-46.19	-13	-33.19	H
5.131700	76.90	Pk	34.4	-95.2	-49.19	-33.09	-13	-20.09	H
6.915000	54.56	Pk	35.6	-95.2	-46.63	-51.67	-13	-38.67	H
3.411000	55.40	Pk	32.7	-95.2	-46.83	-53.93	-13	-40.93	V
5.131400	71.29	Pk	34.4	-95.2	-49.2	-38.71	-13	-25.71	V
6.922000	54.86	Pk	35.6	-95.2	-46.61	-51.35	-13	-38.35	V
High Channel, 1760MHz									
3.636500	54.85	Pk	33.0	-95.2	-47.03	-54.38	-13	-41.38	H
5.281500	57.71	Pk	34.6	-95.2	-49.18	-52.07	-13	-39.07	H
7.029000	54.50	Pk	35.7	-95.2	-46.59	-51.59	-13	-38.59	H
3.650100	56.29	Pk	33.0	-95.2	-46.93	-52.84	-13	-39.84	V
5.293500	56.98	Pk	34.6	-95.2	-49.18	-52.80	-13	-39.80	V
7.011500	54.68	Pk	35.7	-95.2	-46.64	-51.46	-13	-38.46	V

10.1.13. 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 #:	15107843
Date:	2024-02-02
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N70 BPSK 15MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.390800	63.73	Pk	32.7	-95.2	-46.98	-45.75	-13	-32.75	H
5.086400	87.35	Pk	34.3	-95.2	-49.42	-22.97	-13	-9.97	H
8.477400	70.19	Pk	35.8	-95.2	-45.14	-34.35	-13	-21.35	H
3.390900	60.69	Pk	32.7	-95.2	-46.98	-48.79	-13	-35.79	V
5.086400	84.98	Pk	34.3	-95.2	-49.42	-25.34	-13	-12.34	V
8.477300	72.02	Pk	35.8	-95.2	-45.14	-32.52	-13	-19.52	V

10.1.14. 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 #:	15107843
Date:	2023-12-18
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE 71 QPSK 20MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Amp/Cbl (dB)	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673MHz									
1.328100	67.05	Pk	28.6	-95.2	-47.22	-46.77	-13	-33.77	H
2.014900	56.52	Pk	31.3	-95.2	-48.09	-55.47	-13	-42.47	H
2.697300	55.78	Pk	32.2	-95.2	-47.59	-54.81	-13	-41.81	H
1.328200	61.52	Pk	28.6	-95.2	-47.22	-52.30	-13	-39.3	V
2.008300	56.18	Pk	31.3	-95.2	-48.21	-55.93	-13	-42.93	V
2.689400	56.83	Pk	32.2	-95.2	-47.61	-53.78	-13	-40.78	V
Mid Channel, 680.5MHz									
1.365400	57.03	Pk	28.5	-95.2	-47.23	-56.9	-13	-43.90	H
2.041700	57.23	Pk	31.4	-95.2	-48.21	-54.78	-13	-41.78	H
2.722400	56.40	Pk	32.2	-95.2	-47.76	-54.36	-13	-41.36	H
1.361900	55.95	Pk	28.6	-95.2	-47.31	-57.96	-13	-44.96	V
2.045200	57.74	Pk	31.4	-95.2	-48.18	-54.24	-13	-41.24	V
2.711800	54.98	Pk	32.2	-95.2	-47.44	-55.46	-13	-42.46	V
High Channel, 688MHz									
1.358320	66.93	Pk	28.6	-95.2	-47.28	-46.95	-13	-33.95	H
2.069000	56.80	Pk	31.4	-95.2	-48.48	-55.48	-13	-42.48	H
2.761100	55.81	Pk	32.2	-95.2	-47.59	-54.78	-13	-41.78	H
1.358200	66.87	Pk	28.6	-95.2	-47.28	-47.01	-13	-34.01	V
2.055400	56.50	Pk	31.4	-95.2	-48.33	-55.63	-13	-42.63	V
2.748800	56.11	Pk	32.2	-95.2	-47.47	-54.36	-13	-41.36	V

BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-02-07
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N71 BPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 673MHz									
1.327000	70.86	Pk	29.4	-95.2	-47.50	-42.44	-13	-29.44	H
1.990600	68.09	Pk	32.2	-95.2	-48.12	-43.03	-13	-30.03	H
2.691100	58.56	Pk	32.5	-95.2	-47.4	-51.54	-13	-38.54	H
1.326700	58.20	Pk	29.4	-95.2	-47.51	-55.11	-13	-42.11	V
1.990500	58.17	Pk	32.2	-95.2	-48.11	-52.94	-13	-39.94	V
2.695600	56.85	Pk	32.5	-95.2	-47.66	-53.51	-13	-40.51	V
Mid Channel, 680.5MHz									
1.348800	59.81	Pk	29.2	-95.2	-49.17	-55.36	-13	1.34875	H
2.046300	58.18	Pk	32.1	-95.2	-49.72	-54.64	-13	2.04625	H
2.716300	57.49	Pk	32.5	-95.2	-49.39	-54.6	-13	2.7163	H
1.342000	73.05	Pk	29.2	-95.2	-49.21	-42.16	-13	1.342115	V
2.025100	59.95	Pk	32.2	-95.2	-49.87	-52.92	-13	2.0251	V
2.696500	58.63	Pk	32.5	-95.2	-49.48	-53.55	-13	2.6965	V
High Channel, 688MHz									
1.360900	58.12	Pk	29.1	-95.2	-49.15	-57.13	-13	-44.13	H
1.659000	67.36	Pk	29.9	-95.2	-49.57	-47.51	-13	-34.51	H
2.760900	58.44	Pk	32.6	-95.2	-49.66	-53.82	-13	-40.82	H
1.344700	60.01	Pk	29.2	-95.2	-49.18	-55.17	-13	-42.17	V
1.659100	68.41	Pk	29.9	-95.2	-49.57	-46.46	-13	-33.46	V
2.762200	58.85	Pk	32.6	-95.2	-49.67	-53.42	-13	-40.42	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v02r02

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

RESULTS

10.2.1. LTE BAND 5 AND 5G NR n5

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 5 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE5 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz									
1.655400	56.69	Pk	28.5	-95.2	-47.63	-57.64	-13	-44.64	H
2.490500	57.69	Pk	32.3	-95.2	-48.46	-53.67	-13	-40.67	H
3.308500	53.11	Pk	32.7	-95.2	-45.14	-54.53	-13	-41.53	H
1.652800	58.28	Pk	28.5	-95.2	-47.79	-56.21	-13	-43.21	V
2.480400	56.70	Pk	32.2	-95.2	-48.38	-54.68	-13	-41.68	V
3.301400	53.26	Pk	32.7	-95.2	-44.96	-54.20	-13	-41.20	V
Mid Channel, 836.5MHz									
1.669900	57.15	Pk	28.7	-95.2	-47.69	-57.04	-13	-44.04	H
2.513400	56.43	Pk	32.3	-95.2	-48.36	-54.83	-13	-41.83	H
3.351600	54.01	Pk	32.7	-95.2	-45.27	-53.76	-13	-40.76	H
1.667700	56.69	Pk	28.6	-95.2	-47.82	-57.73	-13	-44.73	V
2.502800	57.07	Pk	32.3	-95.2	-48.19	-54.02	-13	-41.02	V
3.378000	55.53	Pk	32.7	-95.2	-45.39	-52.36	-13	-39.36	V
High Channel, 844MHz									
1.695000	57.96	Pk	29	-95.2	-47.70	-55.94	-13	-42.94	H
2.527000	57.80	Pk	32.3	-95.2	-47.91	-53.01	-13	-40.01	H
3.327800	55.85	Pk	32.7	-95.2	-45.27	-51.92	-13	-38.92	H
1.683100	57.81	Pk	28.8	-95.2	-47.89	-56.48	-13	-43.48	V
2.525700	56.82	Pk	32.3	-95.2	-48.03	-54.11	-13	-41.11	V
3.321200	53.62	Pk	32.7	-95.2	-45.22	-54.1	-13	-41.10	V

BPSK 5G NR n5 (20.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-18
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	n5 BPSK 20MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz									
1.658400	58.31	Pk	29.9	-95.2	-49.56	-56.55	-13	-43.55	H
2.496700	58.84	Pk	32.3	-95.2	-50.36	-54.42	-13	-41.42	H
3.348600	55.87	Pk	32.8	-95.2	-47.2	-53.73	-13	-40.73	H
1.661500	58.73	Pk	30	-95.2	-49.55	-56.02	-13	-43.02	V
2.503000	59.31	Pk	32.3	-95.2	-50.24	-53.83	-13	-40.83	V
3.337300	55.53	Pk	32.8	-95.2	-47.23	-54.10	-13	-41.10	V
Mid Channel, 836.5MHz									
1.654000	66.15	Pk	29.9	-95.2	-49.52	-48.67	-13	-35.67	H
2.482300	60.86	Pk	32.2	-95.2	-50.48	-52.62	-13	-39.62	H
3.347200	56.58	Pk	32.8	-95.2	-47.21	-53.03	-13	-40.03	H
1.645750	59.11	Pk	29.8	-95.2	-49.52	-55.81	-13	-42.81	V
2.485500	60.57	Pk	32.2	-95.2	-50.46	-52.89	-13	-39.89	V
3.339100	56.03	Pk	32.8	-95.2	-47.18	-53.55	-13	-40.55	V
High Channel, 839MHz									
1.659000	67.10	Pk	29.9	-95.2	-49.57	-47.77	-13	-34.77	H
2.512900	58.64	Pk	32.3	-95.2	-50.11	-54.37	-13	-41.37	H
3.349900	55.09	Pk	32.8	-95.2	-47.22	-54.53	-13	-41.53	H
1.658800	58.50	Pk	29.9	-95.2	-49.57	-56.37	-13	-43.37	V
2.507100	58.98	Pk	32.3	-95.2	-50.22	-54.14	-13	-41.14	V
3.354400	55.93	Pk	32.7	-95.2	-47.12	-53.69	-13	-40.69	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 #:	15107843
Date:	2023-12-12
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE12 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz									
1.413400	56.34	Pk	28.3	-95.2	-47.13	-57.69	-13	-44.69	H
2.111200	56.56	Pk	31.4	-95.2	-48.29	-55.53	-13	-42.53	H
2.815700	55.45	Pk	32.3	-95.2	-47.45	-54.90	-13	-41.90	H
1.398900	58.39	Pk	28.4	-95.2	-47.13	-55.54	-13	-42.54	V
2.096300	57.24	Pk	31.4	-95.2	-48.38	-54.94	-13	-41.94	V
2.807300	56.05	Pk	32.3	-95.2	-47.52	-54.37	-13	-41.37	V
Mid Channel, 707.5MHz									
1.405900	58.37	Pk	28.3	-95.2	-47.09	-55.62	-13	-42.62	H
2.091900	58.93	Pk	31.4	-95.2	-48.29	-53.16	-13	-40.16	H
2.834600	55.05	Pk	32.3	-95.2	-47.05	-54.90	-13	-41.9	H
1.405900	56.54	Pk	28.3	-95.2	-47.09	-57.45	-13	-44.45	V
1.992000	58.66	Pk	31.2	-95.2	-48.03	-53.37	-13	-40.37	V
2.830200	55.67	Pk	32.3	-95.2	-47.26	-54.49	-13	-41.49	V
High Channel, 711MHz									
1.421800	57.01	Pk	28.2	-95.2	-47.06	-57.05	-13	-44.05	H
2.132400	57.44	Pk	31.5	-95.2	-48.63	-54.89	-13	-41.89	H
2.83640	55.28	Pk	32.3	-95.2	-47.03	-54.65	-13	-41.65	H
1.422200	56.70	Pk	28.2	-95.2	-47.05	-57.35	-13	-44.35	V
2.118700	57.31	Pk	31.4	-95.2	-48.48	-54.97	-13	-41.97	V
2.829800	55.80	Pk	32.3	-95.2	-47.25	-54.35	-13	-41.35	V

BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-01-31
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	N12 BPSK 15MHz
Chamber #:	04-RDE-P

Frequency (GHz)	Meter Reading (dBuV)	Det	79834 ACF (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz									
1.407300	57.89	Pk	28.7	-95.2	-49.11	-57.72	-13	-44.72	H
2.115100	59.59	Pk	31.9	-95.2	-49.71	-53.42	-13	-40.42	H
2.831500	57.44	Pk	32.7	-95.2	-49.4	-54.46	-13	-41.46	H
1.398300	61.64	Pk	28.8	-95.2	-49.14	-53.90	-13	-40.9	V
2.107900	58.27	Pk	31.9	-95.2	-49.62	-54.65	-13	-41.65	V
2.835100	57.39	Pk	32.7	-95.2	-49.33	-54.44	-13	-41.44	V
Mid Channel, 707.5MHz									
1.401100	71.37	Pk	28.8	-95.2	-49.14	-44.17	-13	-31.17	H
2.124100	58.32	Pk	31.9	-95.2	-49.88	-54.86	-13	-41.86	H
2.837400	56.67	Pk	32.7	-95.2	-49.26	-55.09	-13	-42.09	H
1.401000	71.83	Pk	28.8	-95.2	-49.14	-43.71	-13	-30.71	V
2.118300	57.53	Pk	31.9	-95.2	-49.79	-55.56	-13	-42.56	V
2.828800	57.22	Pk	32.7	-95.2	-49.45	-54.73	-13	-41.73	V
High Channel, 708.5MHz									
1.423500	58.08	Pk	28.6	-95.2	-49.11	-57.63	-13	-44.63	H
2.129500	58.27	Pk	31.9	-95.2	-49.95	-54.98	-13	-41.98	H
2.840100	58.15	Pk	32.7	-95.2	-49.23	-53.58	-13	-40.58	H
1.425300	56.78	Pk	28.6	-95.2	-49.11	-58.93	-13	-45.93	V
2.130900	57.16	Pk	31.9	-95.2	-49.98	-56.12	-13	-43.12	V
2.836500	57.61	Pk	32.7	-95.2	-49.28	-54.17	-13	-41.17	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 #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE13 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz									
1.572400	57.62	Pk	27.9	-95.2	-47.88	-57.56	-40	-17.56	H
2.343700	56.64	Pk	31.9	-95.2	-48.11	-54.77	-13	-41.77	H
3.121800	54.19	Pk	32.9	-95.2	-45.41	-53.52	-13	-40.52	H
1.578300	57.26	Pk	27.9	-95.2	-47.98	-58.02	-40	-18.02	V
2.332900	56.63	Pk	31.9	-95.2	-47.88	-54.55	-13	-41.55	V
3.116400	54.01	Pk	32.9	-95.2	-45.18	-53.47	-13	-40.47	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 #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE14 QPSK 10MHz
Chamber #:	04-RDE-T

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz									
1.592200	57.37	Pk	27.9	-95.2	-47.89	-57.82	-40	-17.82	H
2.382400	55.89	Pk	32.1	-95.2	-48.10	-55.31	-13	-42.31	H
3.169500	52.49	Pk	32.8	-95.2	-44.8	-54.71	-13	-41.71	H
1.585900	63.46	Pk	27.9	-95.2	-47.99	-51.83	-40	-11.83	V
2.385100	57.42	Pk	32.1	-95.2	-48.2	-53.88	-13	-40.88	V
3.187900	52.94	Pk	32.8	-95.2	-44.76	-54.22	-13	-41.22	V

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	15107843
Date:	2024-03-19
Test Engineer:	32188AC
Configuration:	EUT + Support Equipment
Mode	N14 BPSK 10MHz
Chamber #:	04-RDE-Q

Frequency (GHz)	Meter Reading (dBuV)	Det	84796 ACF (dB) 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz									
1.576900	55.10	Pk	27.8	-95.2	-47.48	-59.78	-40	-19.78	H
2.364400	55.82	Pk	31.6	-95.2	-47.73	-55.51	-13	-42.51	H
3.152400	54.44	Pk	32.9	-95.2	-46.29	-54.15	-13	-41.15	H
1.576900	55.46	Pk	27.8	-95.2	-47.48	-59.42	-40	-19.42	V
2.364400	55.72	Pk	31.6	-95.2	-47.73	-55.61	-13	-42.61	V
3.152400	53.92	Pk	32.9	-95.2	-46.29	-54.67	-13	-41.67	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 #:	15107843
Date:	2023-12-11
Test Engineer:	32934 IG
Configuration:	EUT + Support Equipment
Mode	LTE17 QPSK 10MHz
Chamber #:	04-RDE-T