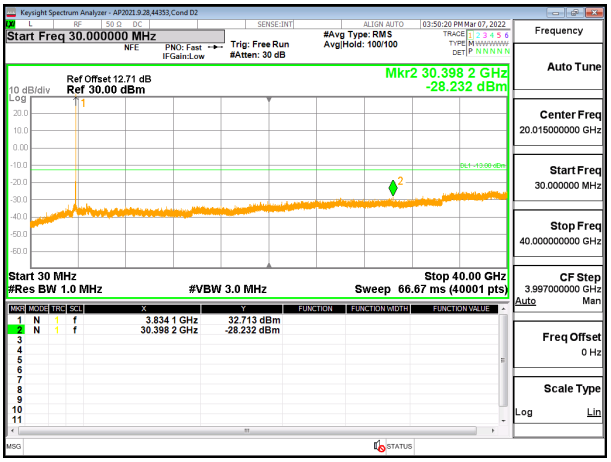
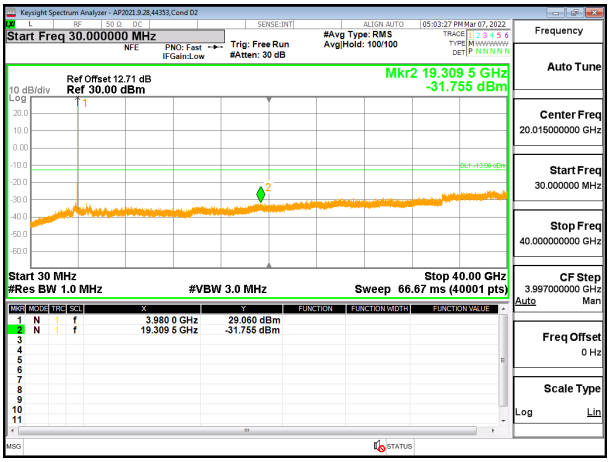
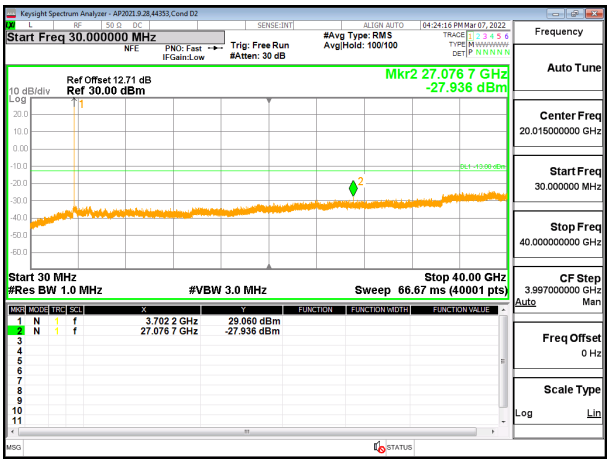


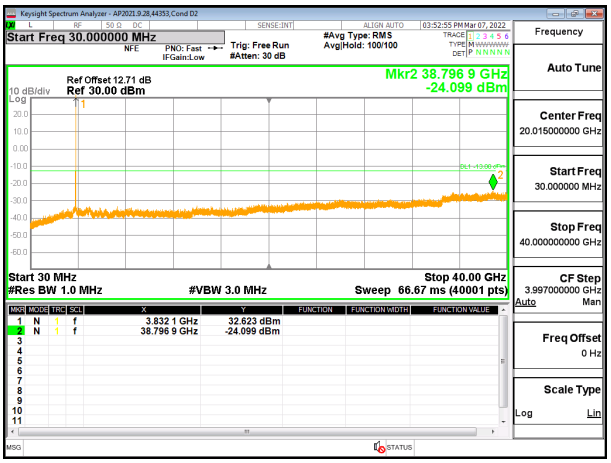
5G NR n77 15MHz BPSK Middle Channel RB1-1



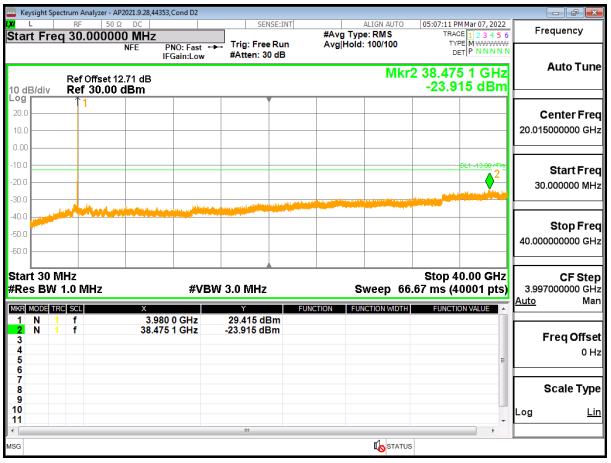
5G NR n77 15MHz BPSK High Channel RB1-37



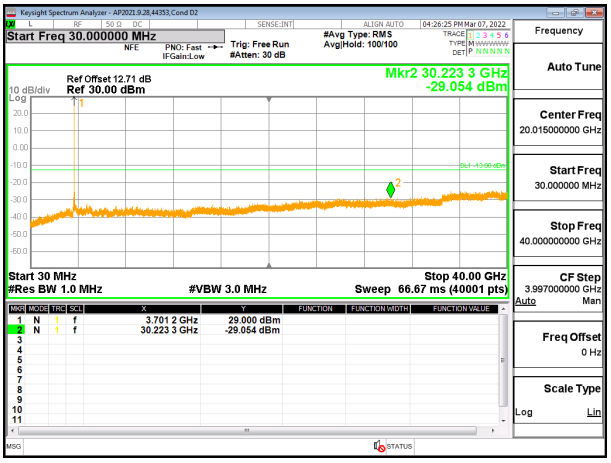
5G NR n77 20MHz BPSK Low Channel RB1-0



5G NR n77 20MHz BPSK Middle Channel RB1-1



5G NR n77 20MHz BPSK High Channel RB1-50



5G NR n77 30MHz BPSK Low Channel RB1-0

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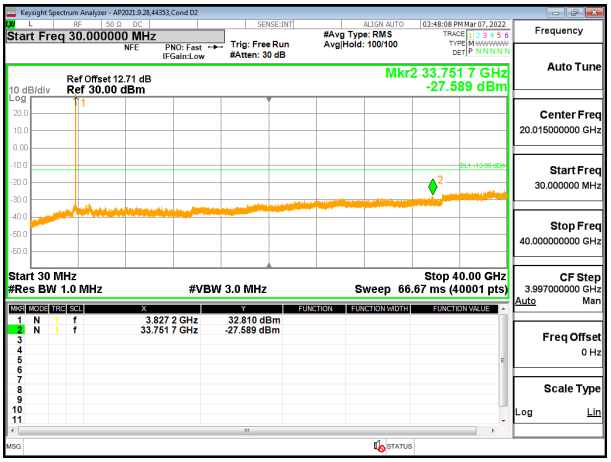
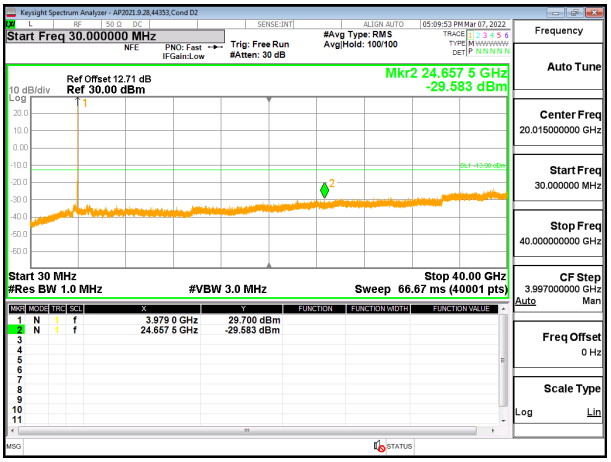
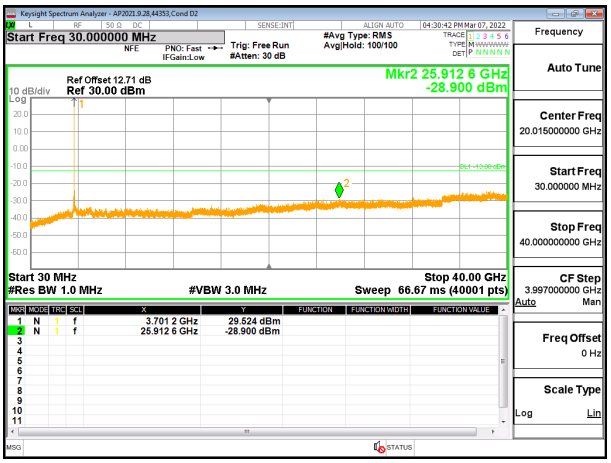


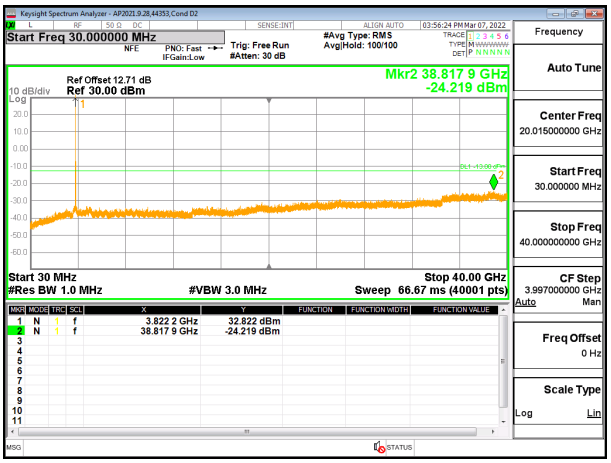
5G NR n77 30MHz BPSK Middle Channel RB1-1



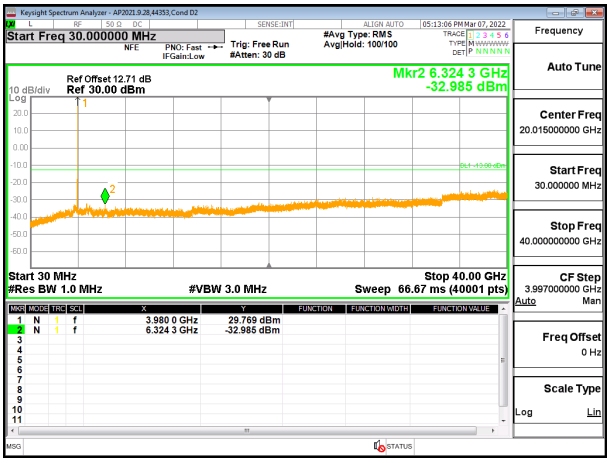
5G NR n77 30MHz BPSK High Channel RB1-77



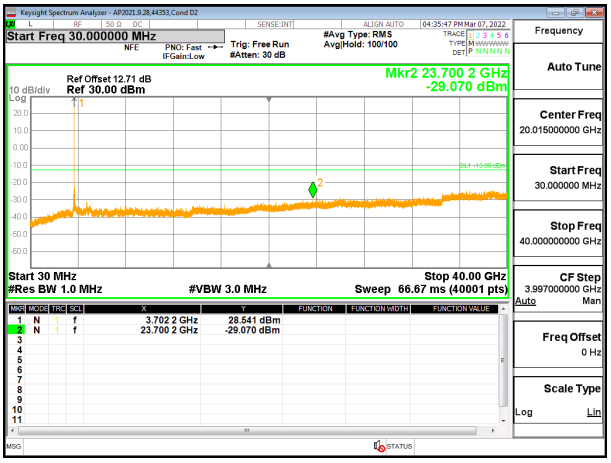
5G NR n77 40MHz BPSK Low Channel RB1-0



5G NR n77 40MHz BPSK Middle Channel RB1-1



5G NR n77 40MHz BPSK High Channel RB1-105



5G NR n77 50MHz BPSK Low Channel RB1-0

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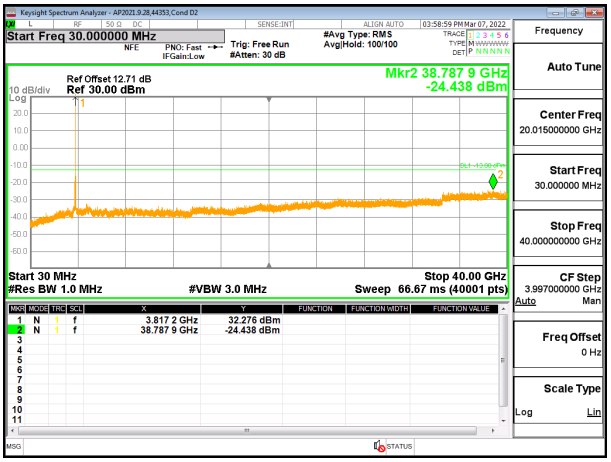
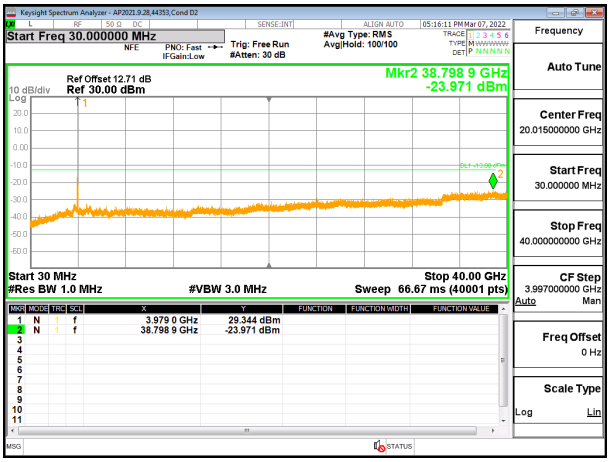
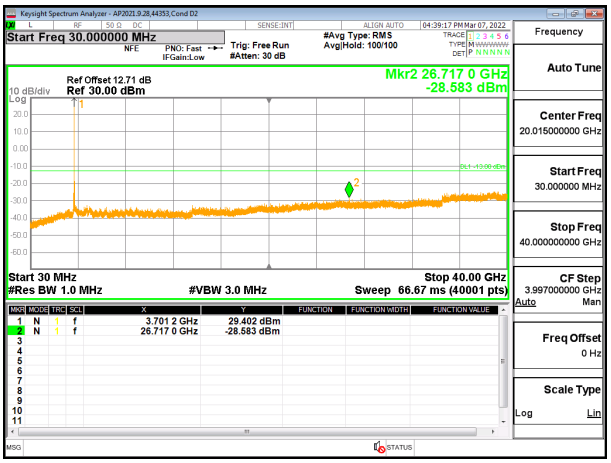


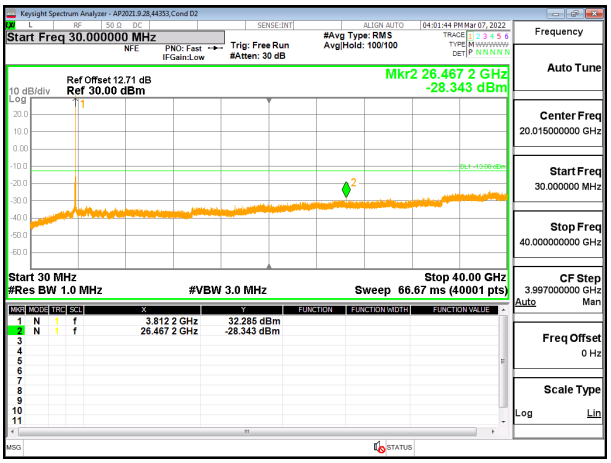
5G NR n77 50MHz BPSK Middle Channel RB1-1



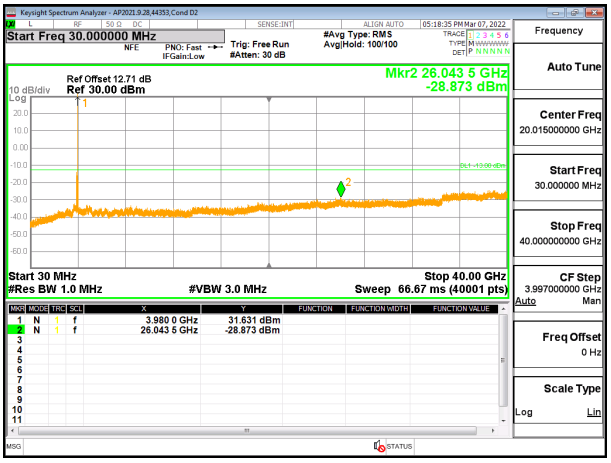
5G NR n77 50MHz BPSK High Channel RB1-32



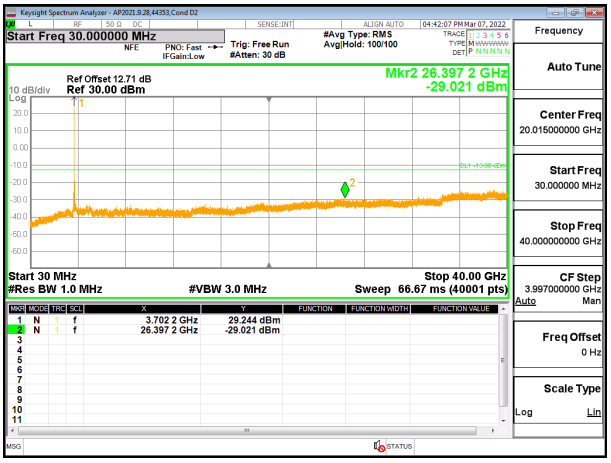
5G NR n77 60MHz BPSK Low Channel RB1-0



5G NR n77 60MHz BPSK Middle Channel RB1-1



5G NR n77 60MHz BPSK High Channel RB1-162



5G NR n77 70MHz BPSK Low Channel RB1-0

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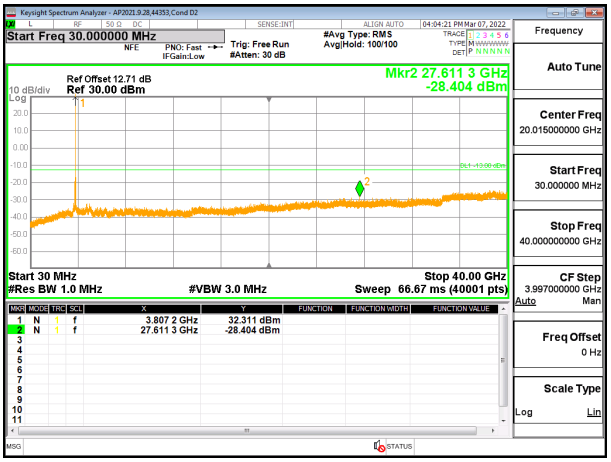
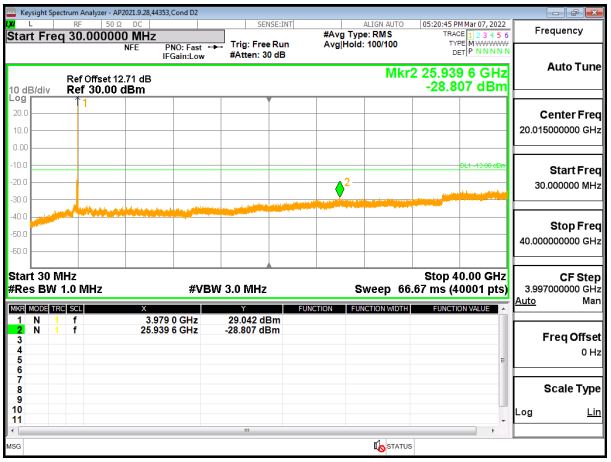
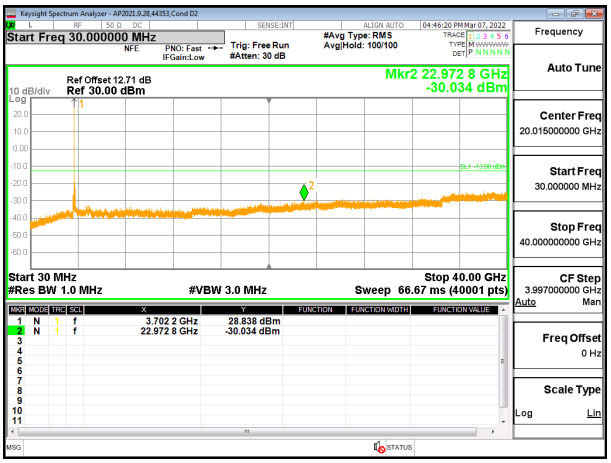


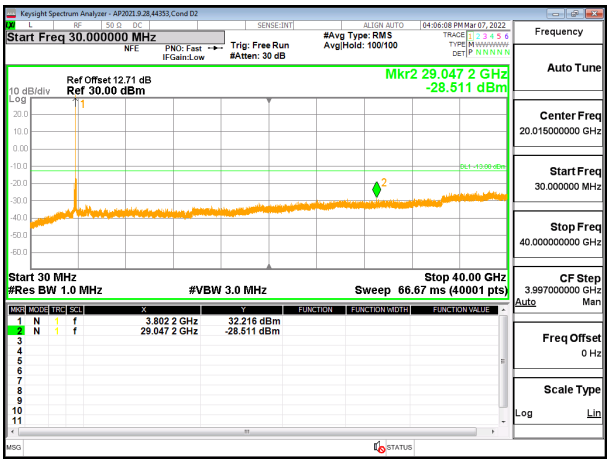
5G NR n77 70MHz BPSK Middle Channel RB1-1



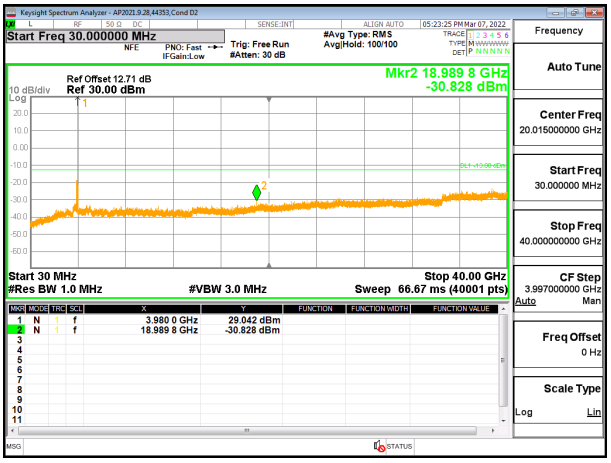
5G NR n77 70MHz BPSK High Channel RB1-188



5G NR n77 80MHz BPSK Low Channel RB1-0



5G NR n77 80MHz BPSK Middle Channel RB1-1



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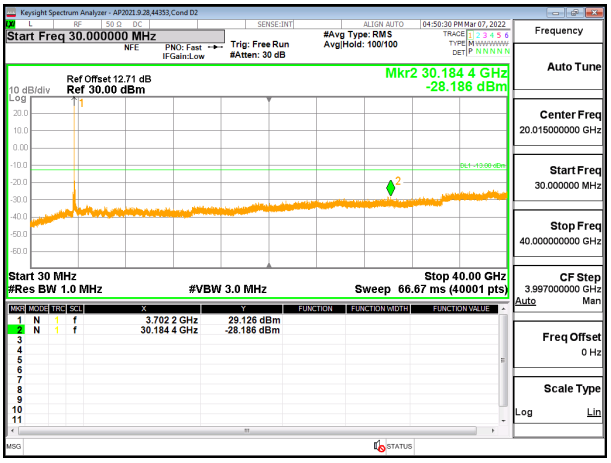

5G NR n77 90MHz BPSK Low Channel RB1-0

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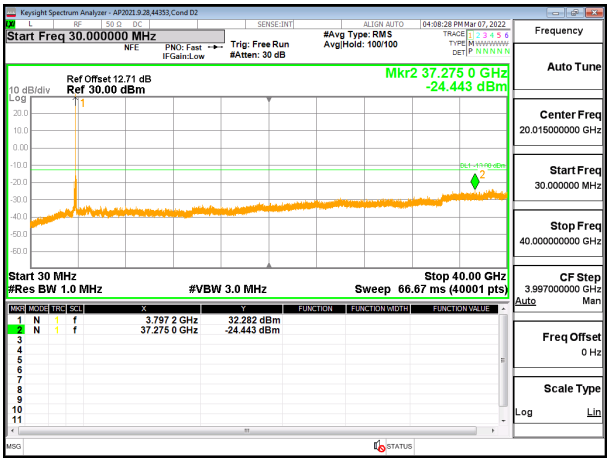
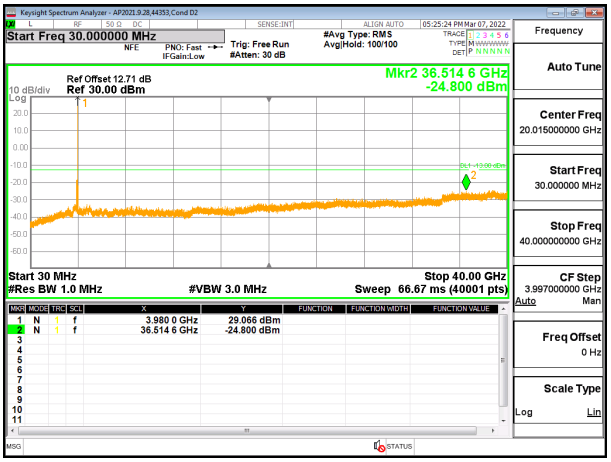
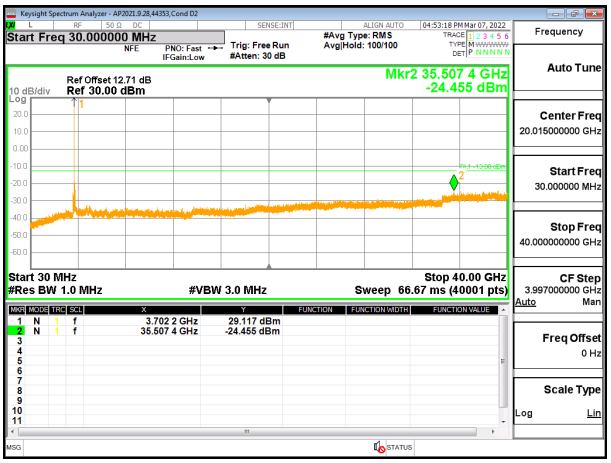


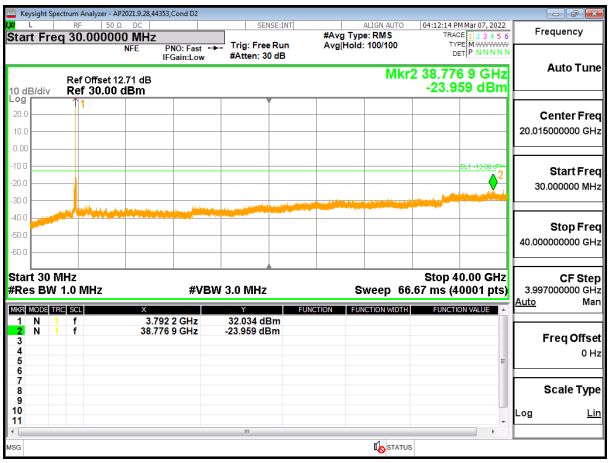
5G NR n77 90MHz BPSK Middle Channel RB1-1



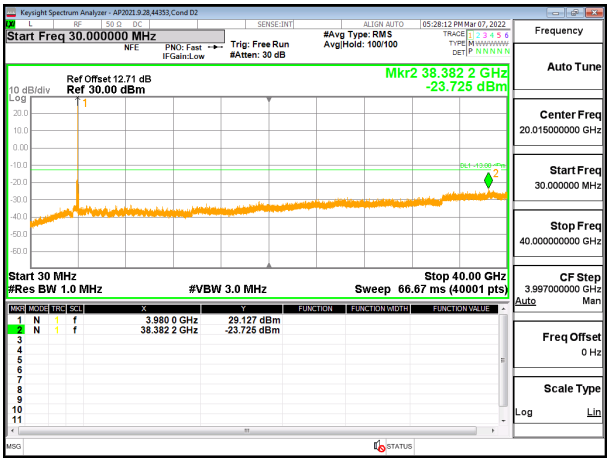
5G NR n77 90MHz BPSK High Channel RB1-244



5G NR n77 1000MHz BPSK Low Channel RB1-1



5G NR n77 1000MHz BPSK Middle Channel RB1-1



5G NR n77 1000MHz BPSK High Channel RB1-272

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9.4. FREQUENCY STABILITY

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

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

  Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
  End Voltage, 3.2VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

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

RESULTS

See the following pages.

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9.4.1. LTE BAND 5 AND 5G NR n5

LIMITS

FCC: §22.355

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

LTE BAND 5 QPSK (10MHz BANDWIDTH)

Test Engineer ID:	44366	Test Date:	6/29/2022

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	824.5810	848.4730			
Extreme (50°C)		824.5810	848.4730	0.4	0.000	Yes
Extreme (40°C)		824.5810	848.4730	0.7	0.001	Yes
Extreme (30°C)		824.5810	848.4730	-0.1	0.000	Yes
Extreme (10°C)		824.5810	848.4730	-0.7	-0.001	Yes
Extreme (0°C)		824.5810	848.4730	0.6	0.001	Yes
Extreme (-10°C)		824.5810	848.4730	-0.4	0.000	Yes
Extreme (-20°C)		824.5810	848.4730	-0.8	-0.001	Yes
Extreme (-30°C)		824.5810	848.4730	-0.6	-0.001	Yes
20°C	15%	824.5810	848.4730	0.1	0.000	Yes
	-15%	824.5810	848.4730	-0.1	0.000	Yes
	End Point Voltage	824.5810	848.4730	-0.4	0.000	Yes

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Test Engineer ID: 38602 **Test Date:** 3/8/2022

5G NR n5 BPSK (20MHz BANDWIDTH)

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	824.5255	847.3943			
Extreme (50°C)		824.5255	847.3943	-2.32	-0.003	Yes
Extreme (40°C)		824.5255	847.3943	-3.42	-0.004	Yes
Extreme (30°C)		824.5255	847.3943	-7.66	-0.009	Yes
Extreme (10°C)		824.5255	847.3943	-4.32	-0.005	Yes
Extreme (0°C)		824.5255	847.3943	-6.51	-0.008	Yes
Extreme (-10°C)		824.5255	847.3943	-4.23	-0.005	Yes
Extreme (-20°C)		824.5255	847.3943	-3.01	-0.004	Yes
Extreme (-30°C)		824.5255	847.3943	-5.37	-0.006	Yes
20°C	15%	824.5255	847.3943	-6.37	-0.008	Yes
	-15%	824.5255	847.3943	-4.58	-0.005	Yes
	End Point Voltage	824.5255	847.3943	-2.49	-0.003	Yes

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9.4.2. 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: 38602 **Test Date:** 3/8/2022

LTE BAND 7 QPSK (20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2500.8080	2568.9393			
Extreme (50°C)		2500.8080	2568.9393	-13.4	-0.005	Yes
Extreme (40°C)		2500.8080	2568.9393	-16.5	-0.007	Yes
Extreme (30°C)		2500.8080	2568.9393	-12.1	-0.005	Yes
Extreme (10°C)		2500.8080	2568.9393	2.1	0.001	Yes
Extreme (0°C)		2500.8080	2568.9393	-1.3	-0.001	Yes
Extreme (-10°C)		2500.8080	2568.9393	4.7	0.002	Yes
Extreme (-20°C)		2500.8080	2568.9393	5.5	0.002	Yes
Extreme (-30°C)		2500.8080	2568.9393	4.4	0.002	Yes
20°C	15%	2500.8080	2568.9393	-4.7	-0.002	Yes
	-15%	2500.8080	2568.9393	2.1	0.001	Yes
	End Point Voltage	2500.8080	2568.9393	5.5	0.002	Yes

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5G NR n7 BPSK (40MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2500.5146	2570.1889			
Extreme (50°C)		2500.5146	2570.1889	-1.3	-0.001	Yes
Extreme (40°C)		2500.5146	2570.1889	-3.2	-0.001	Yes
Extreme (30°C)		2500.5146	2570.1889	1.4	0.001	Yes
Extreme (10°C)		2500.5146	2570.1889	1.1	0.000	Yes
Extreme (0°C)		2500.5146	2570.1889	-1.0	0.000	Yes
Extreme (-10°C)		2500.5146	2570.1889	-1.6	-0.001	Yes
Extreme (-20°C)		2500.5146	2570.1889	-1.7	-0.001	Yes
Extreme (-30°C)		2500.5146	2570.1889	-1.4	-0.001	Yes
20°C	15%	2500.5146	2570.1889	-3.0	-0.001	Yes
	-15%	2500.5146	2570.1889	2.7	0.001	Yes
	End Point Voltage	2500.5146	2570.1889	1.5	0.001	Yes

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9.4.3. 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: 38602 **Test Date:** 3/8/2022

LTE BAND 12 QPSK (10MHz BANDWIDTH)

Band	12	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		699	716			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	699.5364	715.4535			
Extreme (50°C)		699.5364	715.4535	-0.6	-0.001	Yes
Extreme (40°C)		699.5364	715.4535	-0.7	-0.001	Yes
Extreme (30°C)		699.5364	715.4535	-0.4	-0.001	Yes
Extreme (10°C)		699.5364	715.4535	-0.7	-0.001	Yes
Extreme (0°C)		699.5364	715.4535	0.9	0.001	Yes
Extreme (-10°C)		699.5364	715.4535	1.0	0.001	Yes
Extreme (-20°C)		699.5364	715.4535	1.1	0.002	Yes
Extreme (-30°C)		699.5364	715.4535	1.3	0.002	Yes
20°C	15%	699.5364	715.4535	0.5	0.001	Yes
	-15%	699.5364	715.4535	0.4	0.001	Yes
	End Point Voltage	699.5364	715.4535	0.8	0.001	Yes

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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	699.4430	714.8527			
Extreme (50°C)		699.4430	714.8527	1.1	0.001	Yes
Extreme (40°C)		699.4430	714.8527	1.0	0.001	Yes
Extreme (30°C)		699.4430	714.8527	1.1	0.001	Yes
Extreme (10°C)		699.4430	714.8527	1.8	0.003	Yes
Extreme (0°C)		699.4430	714.8527	1.6	0.002	Yes
Extreme (-10°C)		699.4430	714.8527	1.1	0.002	Yes
Extreme (-20°C)		699.4430	714.8527	1.5	0.002	Yes
Extreme (-30°C)		699.4430	714.8527	1.5	0.002	Yes
20°C	15%	699.4430	714.8527	1.2	0.002	Yes
	-15%	699.4430	714.8527	1.5	0.002	Yes
	End Point Voltage	699.4430	714.8527	1.1	0.002	Yes

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9.4.4. 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: 38602 **Test Date:** 3/21/2022

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	777.4597	786.4789			
Extreme (50°C)		777.4597	786.4789	1.6	0.002	Yes
Extreme (40°C)		777.4597	786.4789	1.2	0.002	Yes
Extreme (30°C)		777.4597	786.4789	0.6	0.001	Yes
Extreme (10°C)		777.4597	786.4789	0.7	0.001	Yes
Extreme (0°C)		777.4597	786.4789	1.2	0.002	Yes
Extreme (-10°C)		777.4597	786.4789	1.7	0.002	Yes
Extreme (-20°C)		777.4597	786.4789	1.8	0.002	Yes
Extreme (-30°C)		777.4597	786.4789	2.4	0.003	Yes
20°C	15%	777.4597	786.4789	1.5	0.002	Yes
	-15%	777.4597	786.4789	0.5	0.001	Yes
	End Point Voltage	777.4597	786.4789	1.1	0.001	Yes

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9.4.5. 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: 38602 **Test Date:** 3/15/2022

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	788.5219	797.4731			
Extreme (50°C)		788.5219	797.4731	-0.5	-0.001	Yes
Extreme (40°C)		788.5219	797.4731	-0.3	0.000	Yes
Extreme (30°C)		788.5219	797.4731	-0.7	-0.001	Yes
Extreme (10°C)		788.5219	797.4731	-0.7	-0.001	Yes
Extreme (0°C)		788.5219	797.4731	-0.6	-0.001	Yes
Extreme (-10°C)		788.5219	797.4731	0.6	0.001	Yes
Extreme (-20°C)		788.5219	797.4731	0.7	0.001	Yes
Extreme (-30°C)		788.5219	797.4731	0.5	0.001	Yes
20°C	15%	788.5219	797.4731	-0.5	-0.001	Yes
	-15%	788.5219	797.4731	-0.9	-0.001	Yes
	End Point Voltage	788.5219	797.4731	0.7	0.001	Yes

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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	788.3280	797.2790			
Extreme (50°C)		788.3280	797.2790	-0.3	0.000	Yes
Extreme (40°C)		788.3280	797.2790	-0.1	0.000	Yes
Extreme (30°C)		788.3280	797.2790	-0.1	0.000	Yes
Extreme (10°C)		788.3280	797.2790	-0.2	0.000	Yes
Extreme (0°C)		788.3280	797.2790	-0.2	0.000	Yes
Extreme (-10°C)		788.3280	797.2790	-0.3	0.000	Yes
Extreme (-20°C)		788.3280	797.2790	-0.5	-0.001	Yes
Extreme (-30°C)		788.3280	797.2790	-0.3	0.000	Yes
20°C	15%	788.3280	797.2790	-0.4	-0.001	Yes
	-15%	788.3280	797.2790	-0.3	0.000	Yes
	End Point Voltage	788.3280	797.2790	-0.3	0.000	Yes

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9.4.6. 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: 38602 **Test Date:** 3/15/2022

QPSK (10MHz BANDWIDTH)

Band	17	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		704	716			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	704.5259	715.4678			
Extreme (50°C)		704.5259	715.4678	0.8	0.001	Yes
Extreme (40°C)		704.5259	715.4678	-0.6	-0.001	Yes
Extreme (30°C)		704.5259	715.4678	0.3	0.000	Yes
Extreme (10°C)		704.5259	715.4678	-0.8	-0.001	Yes
Extreme (0°C)		704.5259	715.4678	0.4	0.001	Yes
Extreme (-10°C)		704.5259	715.4678	0.6	0.001	Yes
Extreme (-20°C)		704.5259	715.4678	1.0	0.001	Yes
Extreme (-30°C)		704.5259	715.4678	0.9	0.001	Yes
20°C	15%	704.5259	715.4678	0.8	0.001	Yes
	-15%	704.5259	715.4678	-0.5	-0.001	Yes
	End Point Voltage	704.5259	715.4678	1.1	0.002	Yes

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9.4.7. 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: 38602 **Test Date:** 3/10/2022

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	1851.0597	1914.2005			
Extreme (50°C)		1851.0597	1914.2005	-2.3	-0.001	Yes
Extreme (40°C)		1851.0597	1914.2005	-2.6	-0.001	Yes
Extreme (30°C)		1851.0597	1914.2005	-2.8	-0.001	Yes
Extreme (10°C)		1851.0597	1914.2005	-1.8	-0.001	Yes
Extreme (0°C)		1851.0597	1914.2005	-1.5	-0.001	Yes
Extreme (-10°C)		1851.0597	1914.2005	-2.0	-0.001	Yes
Extreme (-20°C)		1851.0597	1914.2005	-1.3	-0.001	Yes
Extreme (-30°C)		1851.0597	1914.2005	-1.0	-0.001	Yes
20°C	15%	1851.0597	1914.2005	-2.1	-0.001	Yes
	-15%	1851.0597	1914.2005	-1.8	-0.001	Yes
	End Point Voltage	1851.0597	1914.2005	-1.3	-0.001	Yes

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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	1850.5092	1915.1936			
Extreme (50°C)		1850.5092	1915.1936	-1.8	-0.001	Yes
Extreme (40°C)		1850.5092	1915.1936	-1.9	-0.001	Yes
Extreme (30°C)		1850.5092	1915.1936	2.6	0.001	Yes
Extreme (10°C)		1850.5092	1915.1936	-1.1	-0.001	Yes
Extreme (0°C)		1850.5092	1915.1936	-1.7	-0.001	Yes
Extreme (-10°C)		1850.5092	1915.1936	-1.1	-0.001	Yes
Extreme (-20°C)		1850.5092	1915.1936	-1.8	-0.001	Yes
Extreme (-30°C)		1850.5092	1915.1936	-1.1	-0.001	Yes
20°C	15%	1850.5092	1915.1936	-1.6	-0.001	Yes
	-15%	1850.5092	1915.1936	-1.8	-0.001	Yes
	End Point Voltage	1850.5092	1915.1936	-2.4	-0.001	Yes

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9.4.8. LTE BAND 26 (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: 38602 **Test Date:** 3/9/2022

QPSK (5MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		814	824		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	814.5215	823.4750			
Extreme (50°C)		814.5215	823.4750	1.4	0.002	Yes
Extreme (40°C)		814.5215	823.4750	0.8	0.001	Yes
Extreme (30°C)		814.5215	823.4750	1.3	0.002	Yes
Extreme (10°C)		814.5215	823.4750	1.1	0.001	Yes
Extreme (0°C)		814.5215	823.4750	1.3	0.002	Yes
Extreme (-10°C)		814.5215	823.4750	1.0	0.001	Yes
Extreme (-20°C)		814.5215	823.4750	1.3	0.002	Yes
Extreme (-30°C)		814.5215	823.4750	1.1	0.001	Yes
20°C	15%	814.5215	823.4750	1.4	0.002	Yes
	-15%	814.5215	823.4750	0.8	0.001	Yes
	End Point Voltage	814.5215	823.4750	1.5	0.002	Yes

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5G NR n26 Part 90sBPSK (20MHz BANDWIDTH)

Band	26	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		814	824		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	814.3868	823.4352			
Extreme (50°C)		814.3868	823.4352	-4.2	-0.005	Yes
Extreme (40°C)		814.3868	823.4352	-1.8	-0.002	Yes
Extreme (30°C)		814.3868	823.4352	-3.0	-0.004	Yes
Extreme (10°C)		814.3868	823.4352	-4.5	-0.005	Yes
Extreme (0°C)		814.3868	823.4352	-4.2	-0.005	Yes
Extreme (-10°C)		814.3868	823.4352	-3.4	-0.004	Yes
Extreme (-20°C)		814.3868	823.4352	-2.8	-0.003	Yes
Extreme (-30°C)		814.3868	823.4352	-2.3	-0.003	Yes
20°C	15%	814.3868	823.4352	-3.6	-0.004	Yes
	-15%	814.3868	823.4352	-1.1	-0.001	Yes
	End Point Voltage	814.3868	823.4352	-3.0	-0.004	Yes

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9.4.9. LTE BAND 30

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: 38602 **Test Date:** 3/10/2022

QPSK (10MHz BANDWIDTH)

Band	30	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2305	2315			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2305.5249	2314.4757			
Extreme (50°C)		2305.5249	2314.4757	-2.2	-0.001	Yes
Extreme (40°C)		2305.5249	2314.4757	-2.7	-0.001	Yes
Extreme (30°C)		2305.5249	2314.4757	-2.3	-0.001	Yes
Extreme (10°C)		2305.5249	2314.4757	-3.9	-0.002	Yes
Extreme (0°C)		2305.5249	2314.4757	1.5	0.001	Yes
Extreme (-10°C)		2305.5249	2314.4757	-2.7	-0.001	Yes
Extreme (-20°C)		2305.5249	2314.4757	-2.4	-0.001	Yes
Extreme (-30°C)		2305.5249	2314.4757	-4.1	-0.002	Yes
20°C	15%	2305.5249	2314.4757	1.9	0.001	Yes
	-15%	2305.5249	2314.4757	-2.5	-0.001	Yes
	End Point Voltage	2305.5249	2314.4757	4.4	0.002	Yes

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5G NR n30 BPSK (10MHz BANDWIDTH)

Band	30	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2305	2315			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2305.1801	2314.5923			
Extreme (50°C)		2305.1801	2314.5923	-3.8	-0.002	Yes
Extreme (40°C)		2305.1801	2314.5923	-5.0	-0.002	Yes
Extreme (30°C)		2305.1801	2314.5923	-3.0	-0.001	Yes
Extreme (10°C)		2305.1801	2314.5923	-3.4	-0.001	Yes
Extreme (0°C)		2305.1801	2314.5923	-2.7	-0.001	Yes
Extreme (-10°C)		2305.1801	2314.5923	-4.2	-0.002	Yes
Extreme (-20°C)		2305.1801	2314.5923	-2.8	-0.001	Yes
Extreme (-30°C)		2305.1801	2314.5923	1.1	0.000	Yes
20°C	15%	2305.1801	2314.5923	-3.0	-0.001	Yes
	-15%	2305.1801	2314.5923	-1.5	-0.001	Yes
	End Point Voltage	2305.1801	2314.5923	-2.6	-0.001	Yes

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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: 38602 **Test Date:** 3/14/2022

LTE BAND 41 QPSK (20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2496.8982	2689.2638			
Extreme (50°C)		2496.8982	2689.2638	-3.5	-0.001	Yes
Extreme (40°C)		2496.8982	2689.2638	-1.9	-0.001	Yes
Extreme (30°C)		2496.8982	2689.2638	-3.2	-0.001	Yes
Extreme (10°C)		2496.8982	2689.2638	-2.5	-0.001	Yes
Extreme (0°C)		2496.8982	2689.2638	-3.0	-0.001	Yes
Extreme (-10°C)		2496.8982	2689.2638	-3.8	-0.001	Yes
Extreme (-20°C)		2496.8982	2689.2638	-4.9	-0.002	Yes
Extreme (-30°C)		2496.8982	2689.2638	-5.1	-0.002	Yes
20°C	15%	2496.8982	2689.2638	-3.7	-0.001	Yes
	-15%	2496.8982	2689.2638	-3.3	-0.001	Yes
	End Point Voltage	2496.8982	2689.2638	-5.3	-0.002	Yes

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5G NR n41 BPSK (100MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2497.1950	2687.8139			
Extreme (50°C)		2497.1950	2687.8139	-1.8	-0.001	Yes
Extreme (40°C)		2497.1950	2687.8139	-3.8	-0.001	Yes
Extreme (30°C)		2497.1950	2687.8139	-3.2	-0.001	Yes
Extreme (10°C)		2497.1950	2687.8139	-3.9	-0.001	Yes
Extreme (0°C)		2497.1950	2687.8139	-5.1	-0.002	Yes
Extreme (-10°C)		2497.1950	2687.8139	-8.5	-0.003	Yes
Extreme (-20°C)		2497.1950	2687.8139	-6.3	-0.002	Yes
Extreme (-30°C)		2497.1950	2687.8139	-2.1	-0.001	Yes
20°C	15%	2497.1950	2687.8139	-8.8	-0.003	Yes
	-15%	2497.1950	2687.8139	-6.3	-0.002	Yes
	End Point Voltage	2497.1950	2687.8139	-1.9	-0.001	Yes

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9.4.11. LTE BAND 48

Test Engineer ID: 38602 **Test Date:** 3/11/2022

LTE BAND 48 QPSK (20MHz BANDWIDTH)

Band	48	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3550	3700			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	3550.9921	2698.9289			
Extreme (50°C)		3550.9921	2698.9289	1.6	0.000	Yes
Extreme (40°C)		3550.9921	2698.9289	1.3	0.000	Yes
Extreme (30°C)		3550.9921	2698.9289	1.5	0.000	Yes
Extreme (10°C)		3550.9921	2698.9289	-1.1	0.000	Yes
Extreme (0°C)		3550.9921	2698.9289	-1.7	0.000	Yes
Extreme (-10°C)		3550.9921	2698.9289	-2.1	-0.001	Yes
Extreme (-20°C)		3550.9921	2698.9289	-1.6	0.000	Yes
Extreme (-30°C)		3550.9921	2698.9289	-1.5	0.000	Yes
20°C	15%	3550.9921	2698.9289	1.5	0.000	Yes
	-15%	3550.9921	2698.9289	-1.1	0.000	Yes
	End Point Voltage	3550.9921	2698.9289	-2.3	-0.001	Yes

9.4.12. 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: 38602 **Test Date:** 3/11/2022

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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	1711.0842	1778.9498			
Extreme (50°C)		1711.0842	1778.9498	-2.1	-0.001	Yes
Extreme (40°C)		1711.0842	1778.9498	1.0	0.001	Yes
Extreme (30°C)		1711.0842	1778.9498	-3.7	-0.002	Yes
Extreme (10°C)		1711.0842	1778.9498	-2.1	-0.001	Yes
Extreme (0°C)		1711.0842	1778.9498	-1.6	-0.001	Yes
Extreme (-10°C)		1711.0842	1778.9498	-1.9	-0.001	Yes
Extreme (-20°C)		1711.0842	1778.9498	-2.0	-0.001	Yes
Extreme (-30°C)		1711.0842	1778.9498	1.6	0.001	Yes
20°C	15%	1711.0842	1778.9498	-1.5	-0.001	Yes
	-15%	1711.0842	1778.9498	-1.1	-0.001	Yes
	End Point Voltage	1711.0842	1778.9498	2.0	0.001	Yes

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5G NR n66 QPSK (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	1710.5404	1779.5020			
Extreme (50°C)		1710.5404	1779.5020	-2.5	-0.001	Yes
Extreme (40°C)		1710.5404	1779.5020	-4.2	-0.002	Yes
Extreme (30°C)		1710.5404	1779.5020	-4.3	-0.002	Yes
Extreme (10°C)		1710.5404	1779.5020	-1.9	-0.001	Yes
Extreme (0°C)		1710.5404	1779.5020	-3.6	-0.002	Yes
Extreme (-10°C)		1710.5404	1779.5020	-2.1	-0.001	Yes
Extreme (-20°C)		1710.5404	1779.5020	-1.8	-0.001	Yes
Extreme (-30°C)		1710.5404	1779.5020	-1.2	-0.001	Yes
20°C	15%	1710.5404	1779.5020	-4.7	-0.003	Yes
	-15%	1710.5404	1779.5020	-2.1	-0.001	Yes
	End Point Voltage	1710.5404	1779.5020	-1.2	-0.001	Yes

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9.4.13. 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: 38602 **Test Date:** 3/15/2022

5G NR n70 BPSK (25MHz BANDWIDTH)

Band	70	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1695	1710			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	1710.5404	1779.5020			
Extreme (50°C)		1710.5404	1779.5020	-4.3	-0.003	Yes
Extreme (40°C)		1710.5404	1779.5020	-5.7	-0.003	Yes
Extreme (30°C)		1710.5404	1779.5020	-3.2	-0.002	Yes
Extreme (10°C)		1710.5404	1779.5020	-4.9	-0.003	Yes
Extreme (0°C)		1710.5404	1779.5020	-7.6	-0.004	Yes
Extreme (-10°C)		1710.5404	1779.5020	-2.7	-0.002	Yes
Extreme (-20°C)		1710.5404	1779.5020	-4.2	-0.002	Yes
Extreme (-30°C)		1710.5404	1779.5020	-5.3	-0.003	Yes
20°C	15%	1710.5404	1779.5020	-5.1	-0.003	Yes
	-15%	1710.5404	1779.5020	-8.3	-0.005	Yes
	End Point Voltage	1710.5404	1779.5020	-4.5	-0.003	Yes

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9.4.14. 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: 38602 **Test Date:** 3/15/2022

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)	Normal	664.0718	696.9399			
Extreme (50°C)		664.0718	696.9399	-0.5	-0.001	Yes
Extreme (40°C)		664.0718	696.9399	-0.6	-0.001	Yes
Extreme (30°C)		664.0718	696.9399	-0.7	-0.001	Yes
Extreme (10°C)		664.0718	696.9399	0.4	0.001	Yes
Extreme (0°C)		664.0718	696.9399	0.5	0.001	Yes
Extreme (-10°C)		664.0718	696.9399	0.7	0.001	Yes
Extreme (-20°C)		664.0718	696.9399	0.5	0.001	Yes
Extreme (-30°C)		664.0718	696.9399	0.4	0.001	Yes
20°C	15%	664.0718	696.9399	-0.6	-0.001	Yes
	-15%	664.0718	696.9399	-0.7	-0.001	Yes
	End Point Voltage	664.0718	696.9399	0.6	0.001	Yes

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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	663.5385	696.3905			
Extreme (50°C)		663.5385	696.3905	-4.6	-0.007	Yes
Extreme (40°C)		663.5385	696.3905	-4.4	-0.006	Yes
Extreme (30°C)		663.5385	696.3905	-4.1	-0.006	Yes
Extreme (10°C)		663.5385	696.3905	-2.9	-0.004	Yes
Extreme (0°C)		663.5385	696.3905	-3.6	-0.005	Yes
Extreme (-10°C)		663.5385	696.3905	-5.0	-0.007	Yes
Extreme (-20°C)		663.5385	696.3905	-4.2	-0.006	Yes
Extreme (-30°C)		663.5385	696.3905	-4.2	-0.006	Yes
20°C	15%	663.5385	696.3905	-2.4	-0.003	Yes
	-15%	663.5385	696.3905	-3.4	-0.005	Yes
	End Point Voltage	663.5385	696.3905	-3.9	-0.006	Yes

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9.4.15. 5G NR n77 (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: 38602 **Test Date:** 3/15/2022

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3450	3550			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	3451.1867	3547.8259			
Extreme (50°C)		3451.1867	3547.8259	-2.9	-0.001	Yes
Extreme (40°C)		3451.1867	3547.8259	-3.9	-0.001	Yes
Extreme (30°C)		3451.1867	3547.8259	-2.8	-0.001	Yes
Extreme (10°C)		3451.1867	3547.8259	-6.0	-0.002	Yes
Extreme (0°C)		3451.1867	3547.8259	2.7	0.001	Yes
Extreme (-10°C)		3451.1867	3547.8259	2.5	0.001	Yes
Extreme (-20°C)		3451.1867	3547.8259	-2.3	-0.001	Yes
Extreme (-30°C)		3451.1867	3547.8259	-5.6	-0.002	Yes
20°C	15%	3451.1867	3547.8259	-4.7	-0.001	Yes
	-15%	3451.1867	3547.8259	-3.2	-0.001	Yes
	End Point Voltage	3451.1867	3547.8259	-2.1	-0.001	Yes

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9.4.16. 5G NR n77 (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: 38602 **Test Date:** 3/15/2022

5G NR n77 BPSK (100MHz BANDWIDTH)

Band	77	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		3700	3980			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	3701.2553	3977.8426			
Extreme (50°C)		3701.2553	3977.8426	-4.1	-0.001	Yes
Extreme (40°C)		3701.2553	3977.8426	-4.1	-0.001	Yes
Extreme (30°C)		3701.2553	3977.8426	-6.0	-0.002	Yes
Extreme (10°C)		3701.2553	3977.8426	-4.3	-0.001	Yes
Extreme (0°C)		3701.2553	3977.8426	3.1	0.001	Yes
Extreme (-10°C)		3701.2553	3977.8426	-2.9	-0.001	Yes
Extreme (-20°C)		3701.2553	3977.8426	-5.9	-0.002	Yes
Extreme (-30°C)		3701.2553	3977.8426	-6.1	-0.002	Yes
20°C	15%	3701.2553	3977.8426	-2.9	-0.001	Yes
	-15%	3701.2553	3977.8426	-6.1	-0.002	Yes
	End Point Voltage	3701.2553	3977.8426	-4.2	-0.001	Yes

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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

Antenna 1 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.

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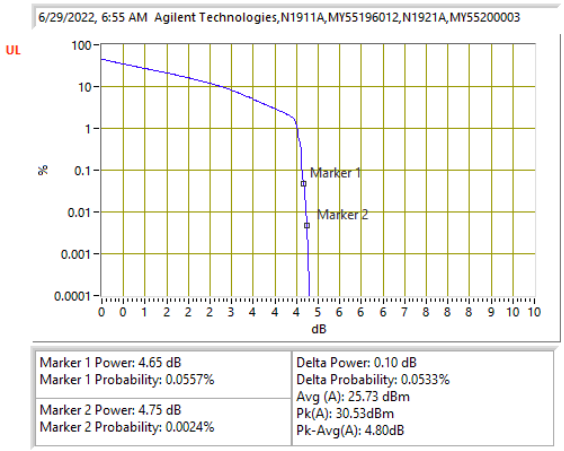
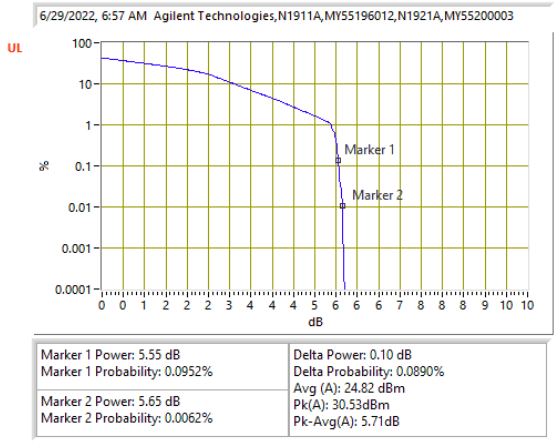
9.5.1. LTE BAND 5 AND 5G NR n5

LTE BAND 5

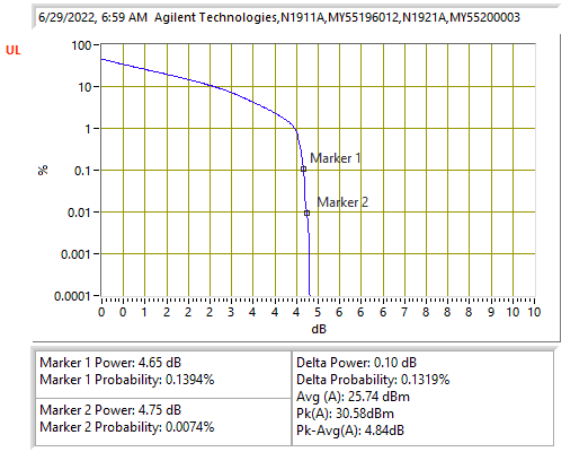
Test Engineer ID:	52275	Test Date:	6/29/2022



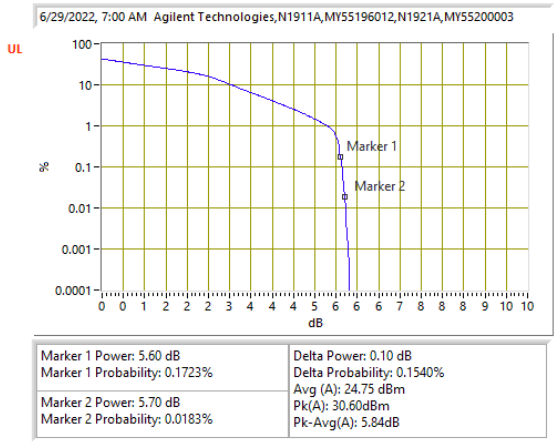
LTE B5 1.4MHz QPSK Middle Channel ID:52275



LTE B5 1.4MHz 16QAM Middle Channel ID:52275



LTE B5 3MHz QPSK Middle Channel ID:52275



LTE B5 3MHz 16QAM Middle Channel ID:52275

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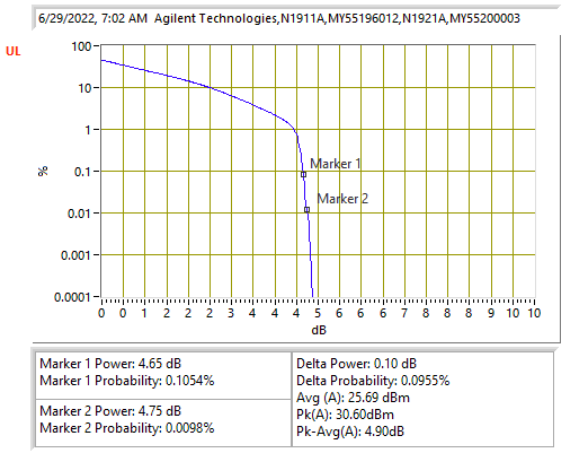
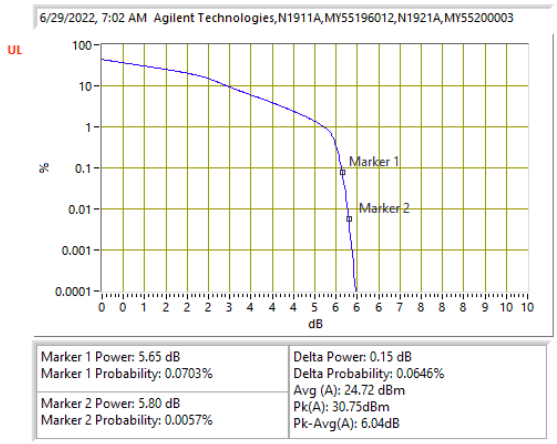
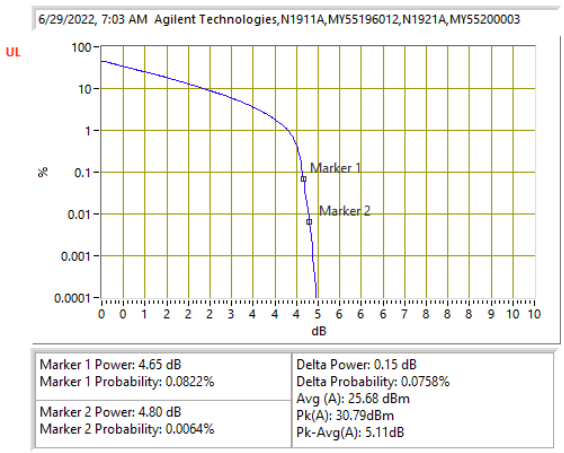


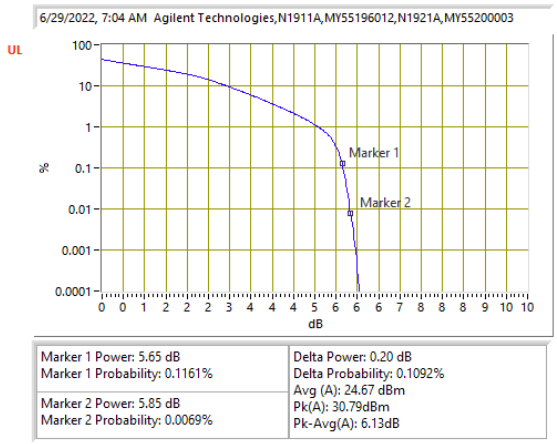
LTE B5 5MHz QPSK Middle Channel ID:52275



LTE B5 5MHz 16QAM Middle Channel ID:52275



LTE B5 10MHz QPSK Middle Channel ID:52275



LTE B5 10MHz 16QAM Middle Channel ID:52275

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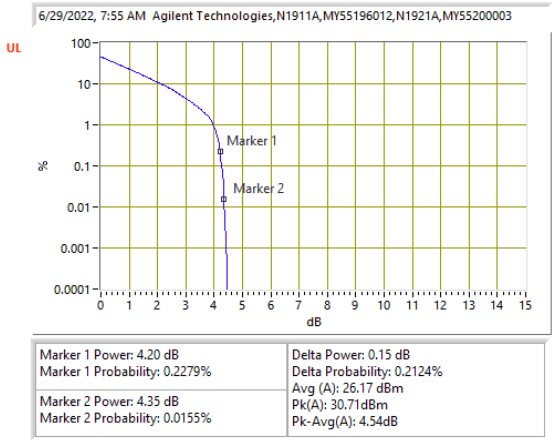
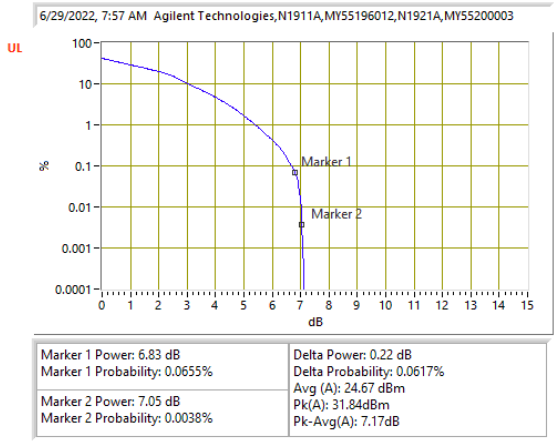
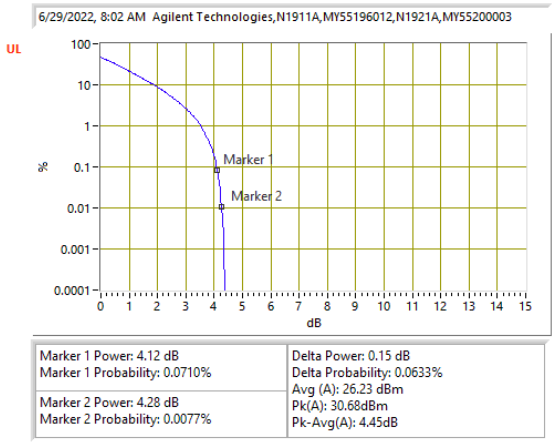
5G NR n5



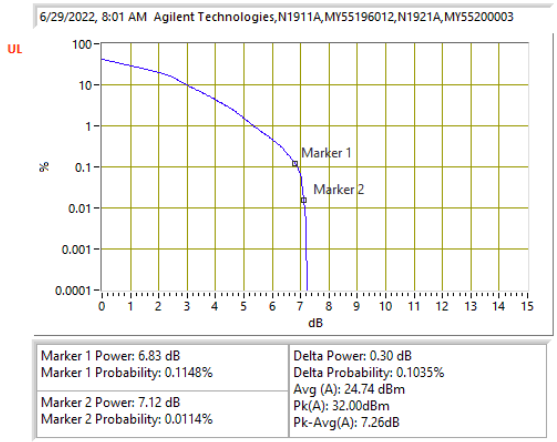
5G NR n26 5MHz BPSK Middle Channel ID:52275



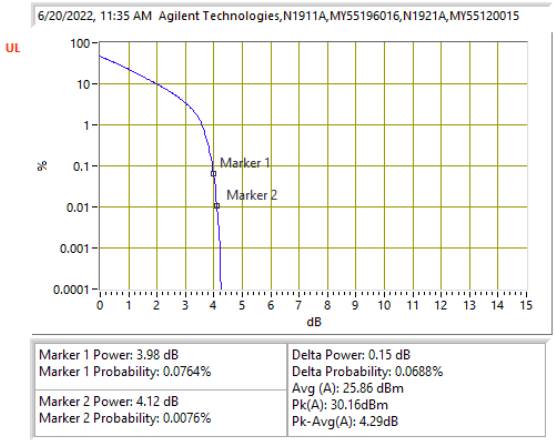
5G NR n26 5MHz 16QAM Middle Channel ID:52275



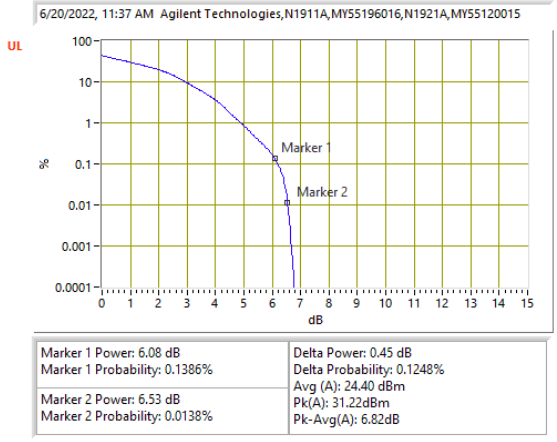
5G NR n26 10MHz BPSK Middle Channel ID:52275



5G NR n26 10MHz 16QAM Middle Channel ID:52275



5G NR n5 15MHz BPSK Middle Channel, ID:52275



5G NR n5 15MHz 16QAM Middle Channel, ID:52275

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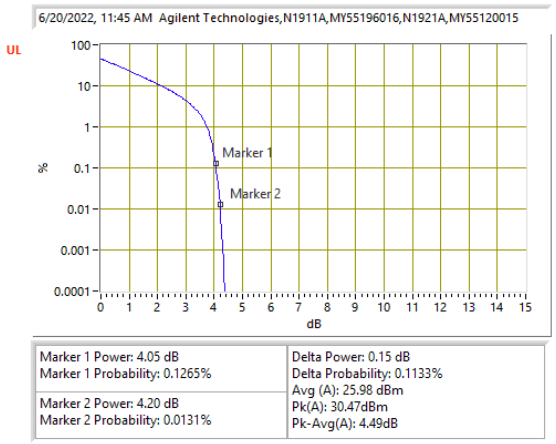
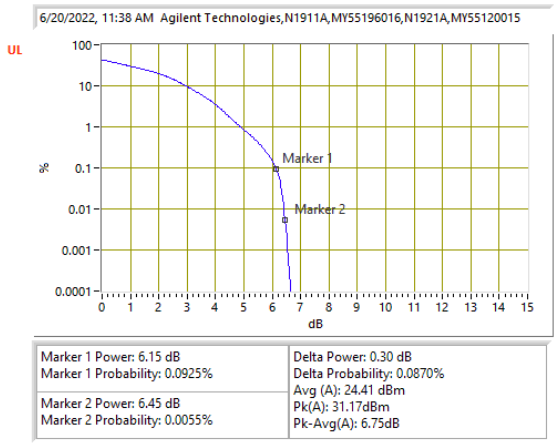


5G NR n5 20MHz BPSK Middle Channel, ID:52275



5G NR n5 20MHz 16QAM Middle Channel, ID:52275

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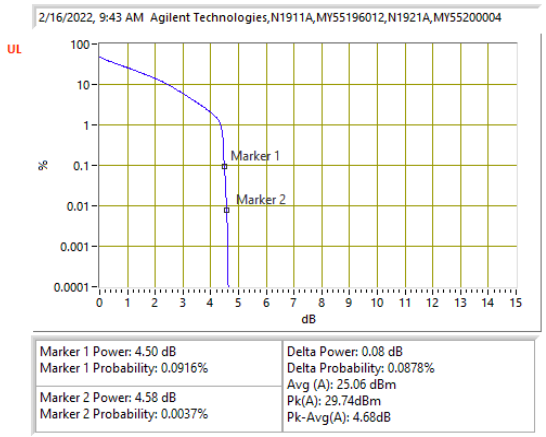
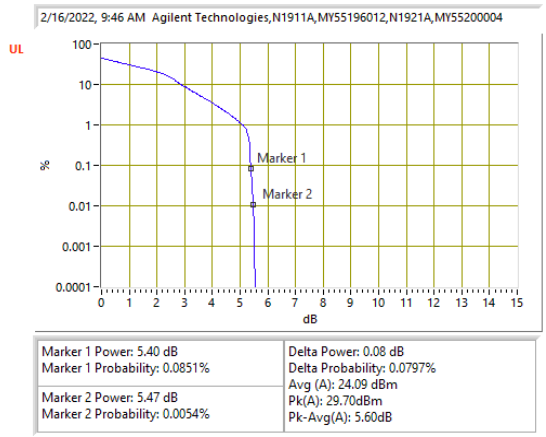
9.5.2. LTE BAND 7 AND 5G NR n7

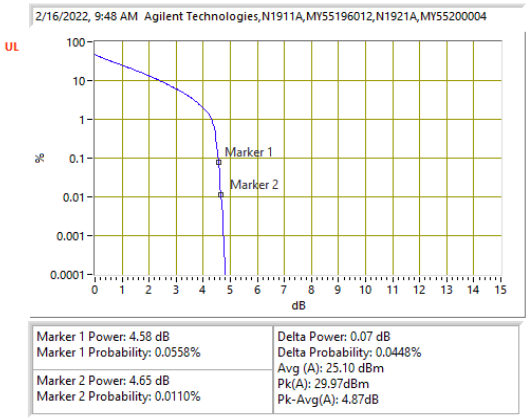
LTE BAND 7



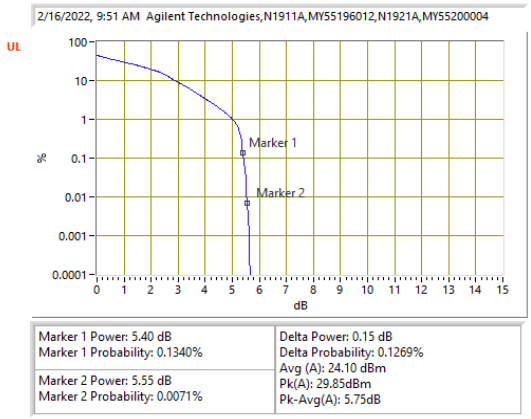
LTE B7 5MHz QPSK Middle Channel ID:52275



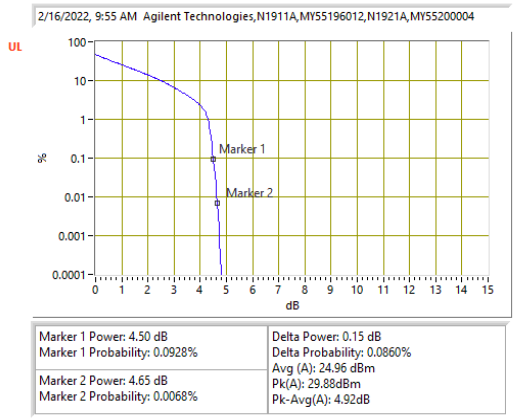
LTE B7 5MHz 16QAM Middle Channel ID:52275



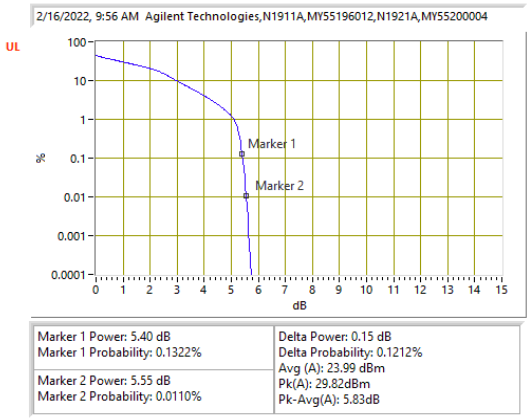
LTE B7 10MHz QPSK Middle Channel ID:52275



LTE B7 10MHz 16QAM Middle Channel ID:52275



LTE B7 15MHz QPSK Middle Channel ID:52275



LTE B7 15MHz 16QAM Middle Channel ID:52275

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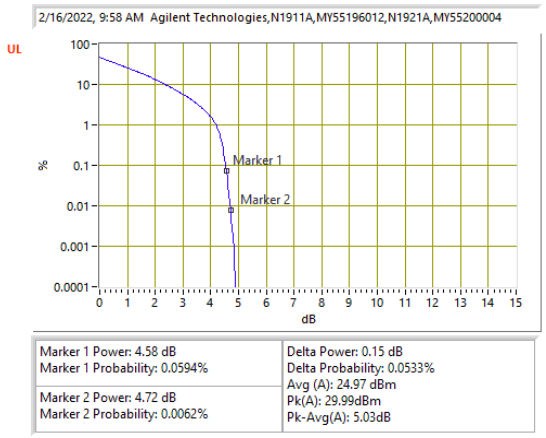
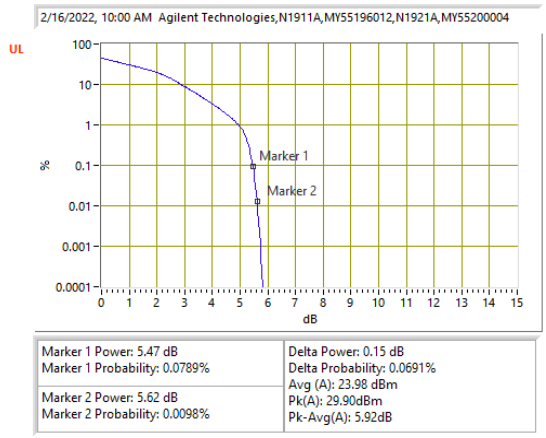


LTE B7 20MHz QPSK Middle Channel ID:52275



LTE B7 20MHz 16QAM Middle Channel ID:52275

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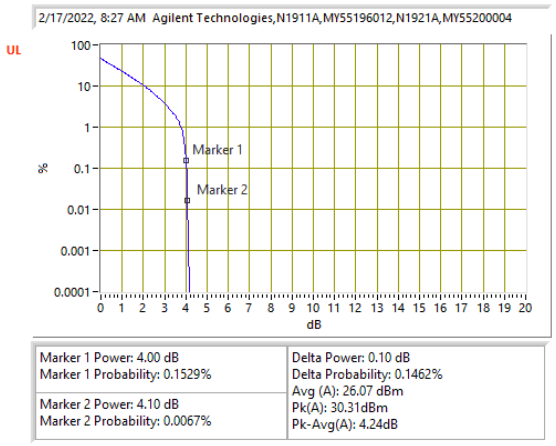
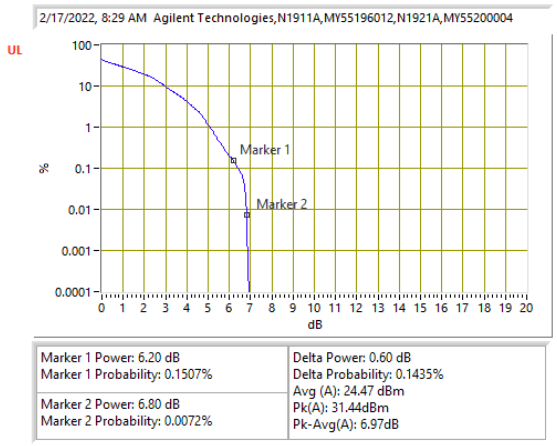
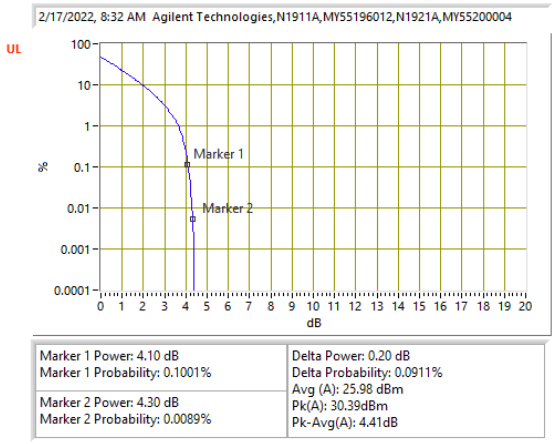
5G NR n7



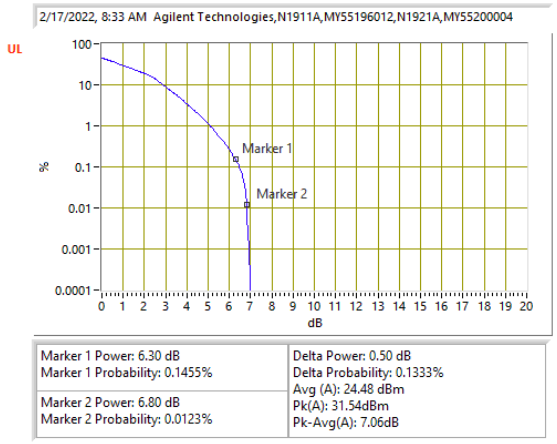
5G NR n7 5MHz BPSK Middle Channel ID:52275



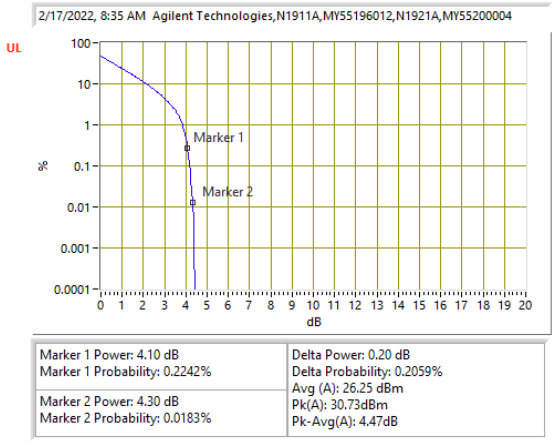
5G NR n7 5MHz 16QAM Middle Channel ID:52275



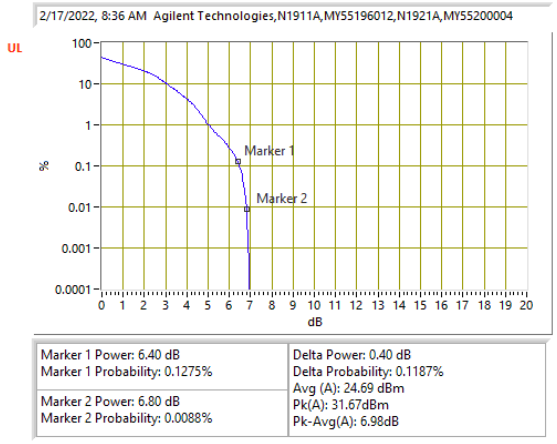
5G NR n7 10MHz BPSK Middle Channel ID:52275



5G NR n7 10MHz 16QAM Middle Channel ID:52275



5G NR n7 15MHz BPSK Middle Channel ID:52275



5G NR n7 15MHz 16QAM Middle Channel ID:52275

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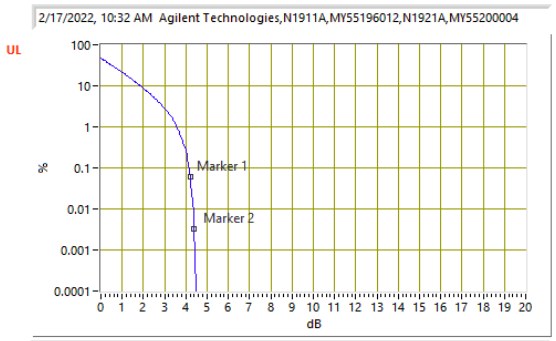
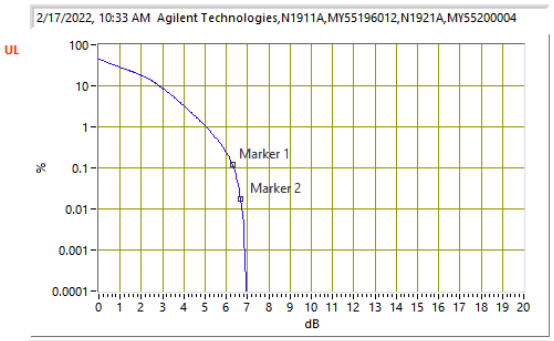


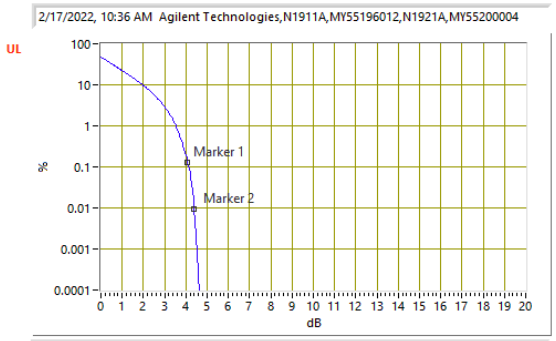
Marker 1 Power: 4.20 dB Marker 1 Probability: 0.0598%	Delta Power: 0.20 dB Delta Probability: 0.0565% Avg (A): 26.03 dBm Pk(A): 30.58dBm Pk-Avg(A): 4.54dB
Marker 2 Power: 4.40 dB Marker 2 Probability: 0.0033%	

5G NR n7 20MHz BPSK Middle Channel ID:52275



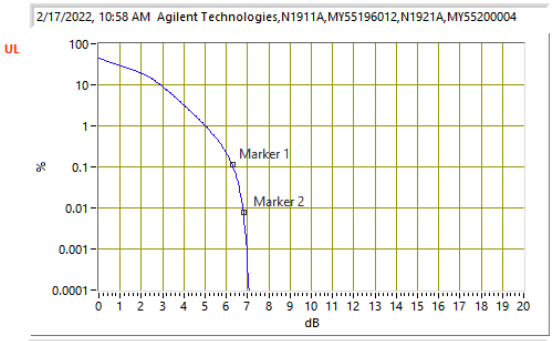
Marker 1 Power: 6.30 dB Marker 1 Probability: 0.1159%	Delta Power: 0.40 dB Delta Probability: 0.1014% Avg (A): 24.56 dBm Pk(A): 31.53dBm Pk-Avg(A): 6.97dB
Marker 2 Power: 6.70 dB Marker 2 Probability: 0.0144%	

5G NR n7 20MHz 16QAM Middle Channel ID:52275



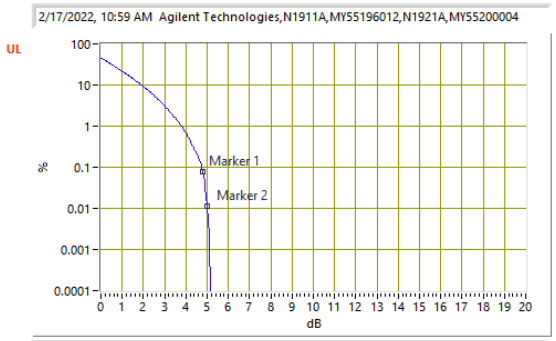
Marker 1 Power: 4.10 dB Marker 1 Probability: 0.1199%	Delta Power: 0.30 dB Delta Probability: 0.1103% Avg (A): 26.07 dBm Pk(A): 30.85dBm Pk-Avg(A): 4.78dB
Marker 2 Power: 4.40 dB Marker 2 Probability: 0.0096%	

5G NR n7 25MHz BPSK Middle Channel ID:52275



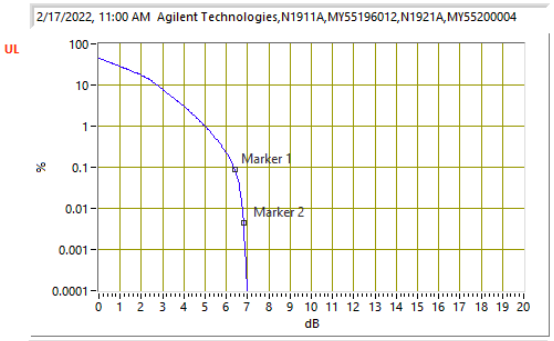
Marker 1 Power: 6.30 dB Marker 1 Probability: 0.1057%	Delta Power: 0.50 dB Delta Probability: 0.0978% Avg (A): 24.48 dBm Pk(A): 31.66dBm Pk-Avg(A): 7.17dB
Marker 2 Power: 6.80 dB Marker 2 Probability: 0.0079%	

5G NR n7 25MHz 16QAM Middle Channel ID:52275



Marker 1 Power: 4.80 dB Marker 1 Probability: 0.0788%	Delta Power: 0.20 dB Delta Probability: 0.0677% Avg (A): 33.13 dBm Pk(A): 38.38dBm Pk-Avg(A): 5.25dB
Marker 2 Power: 5.00 dB Marker 2 Probability: 0.0111%	

5G NR n7 30MHz BPSK Middle Channel ID:52275



Marker 1 Power: 6.40 dB Marker 1 Probability: 0.0903%	Delta Power: 0.40 dB Delta Probability: 0.0858% Avg (A): 24.62 dBm Pk(A): 31.65dBm Pk-Avg(A): 7.03dB
Marker 2 Power: 6.80 dB Marker 2 Probability: 0.0045%	

5G NR n7 30MHz 16QAM Middle Channel ID:52275

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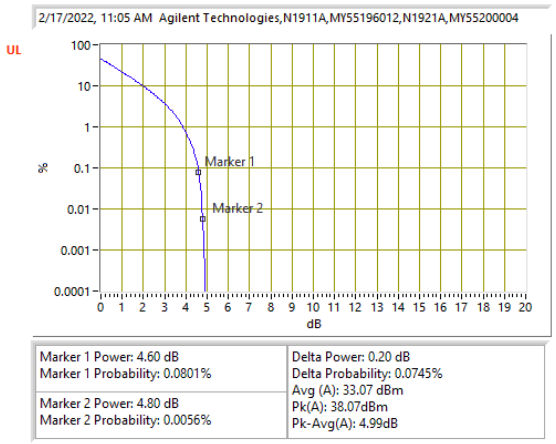
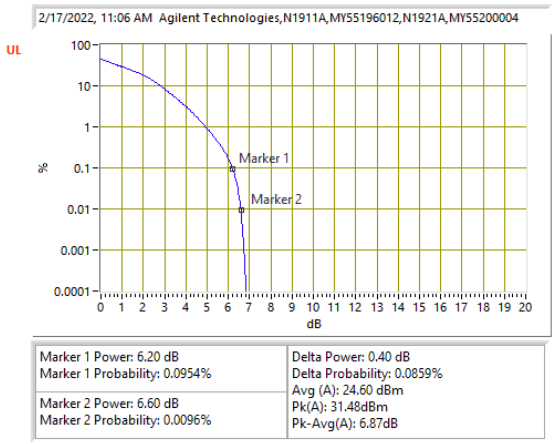


5G NR n7 40MHz BPSK Middle Channel ID:52275



5G NR n7 40MHz 16QAM Middle Channel ID:52275

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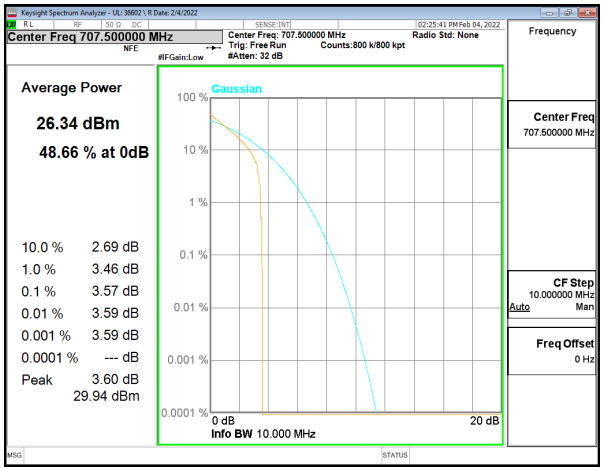
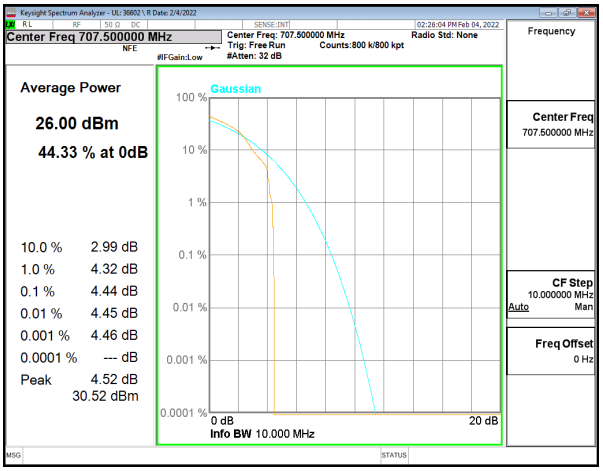
9.5.3. LTE BAND 12 AND 5G NR n12

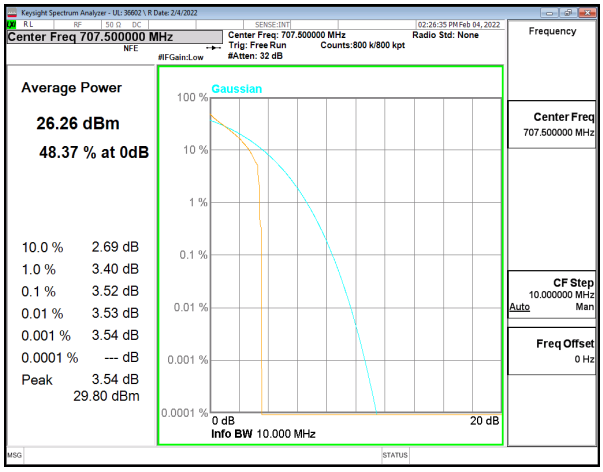
LTE BAND 12



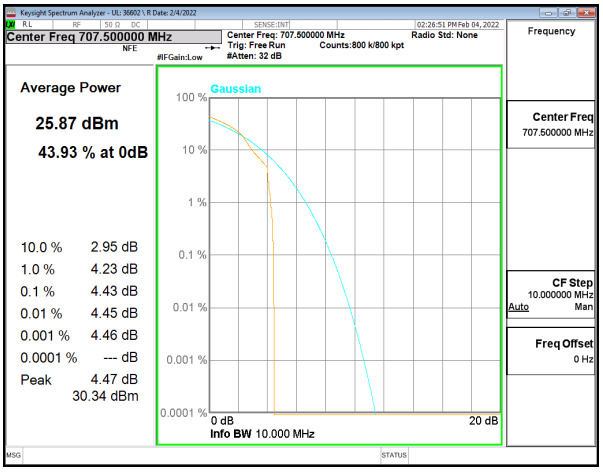
LTE B12 1.4MHz QPSK Middle Channel



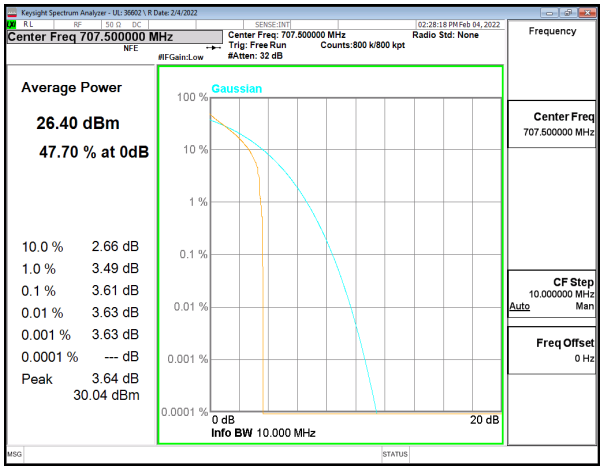
LTE B12 1.4MHz 16QAM Middle Channel



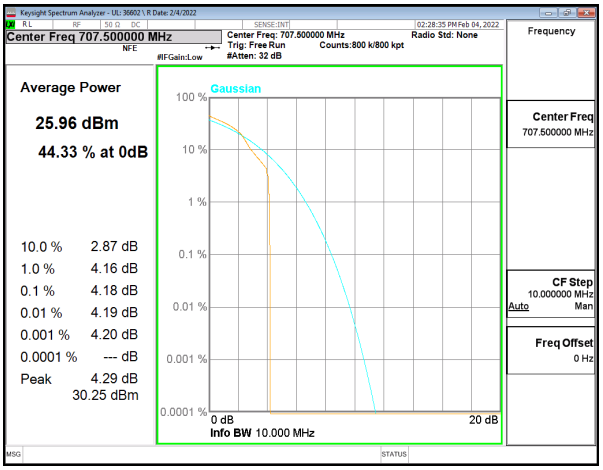
LTE B12 3MHz QPSK Middle Channel



LTE B12 3MHz 16QAM Middle Channel



LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel

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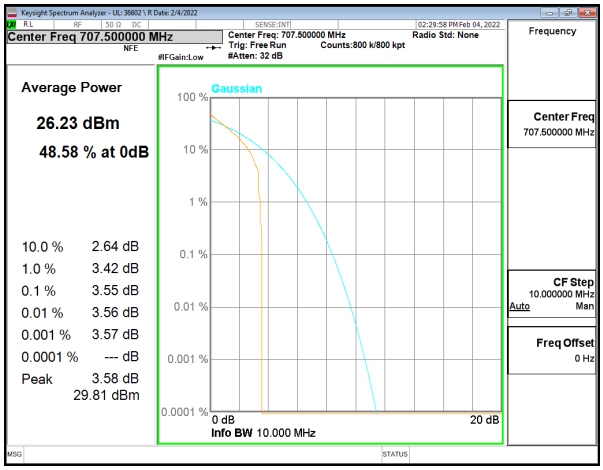
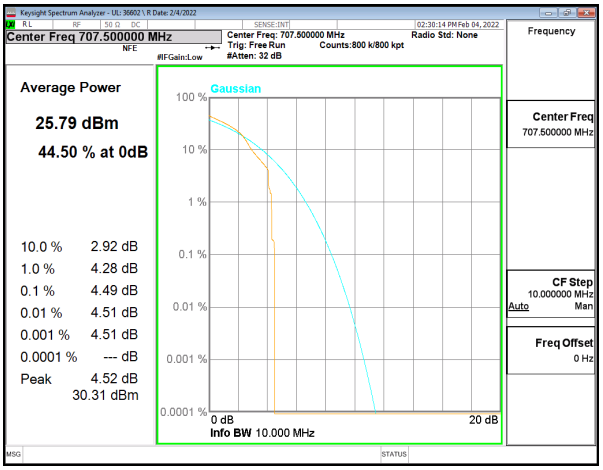


LTE B12 10MHz QPSK Middle Channel



LTE B12 10MHz 16QAM Middle Channel

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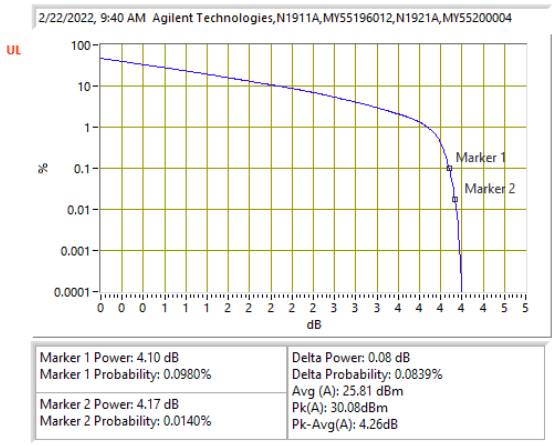
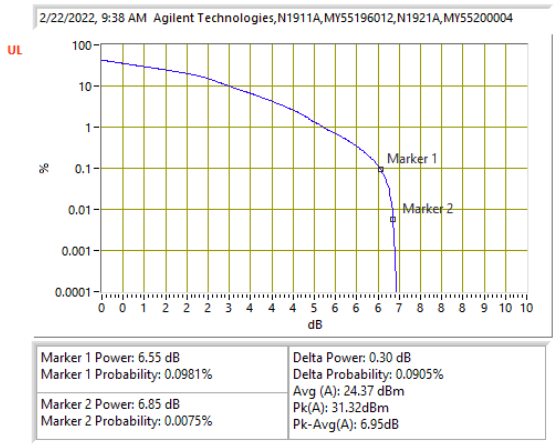
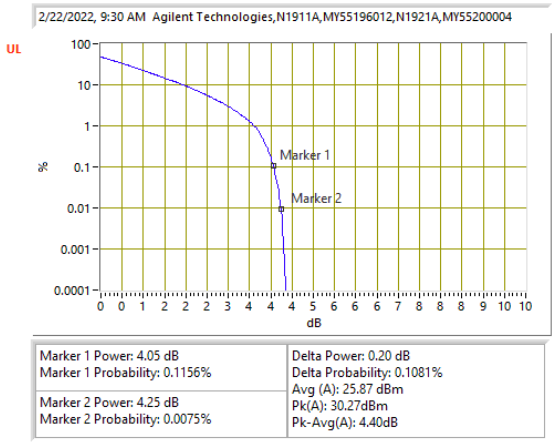
5G NR n12



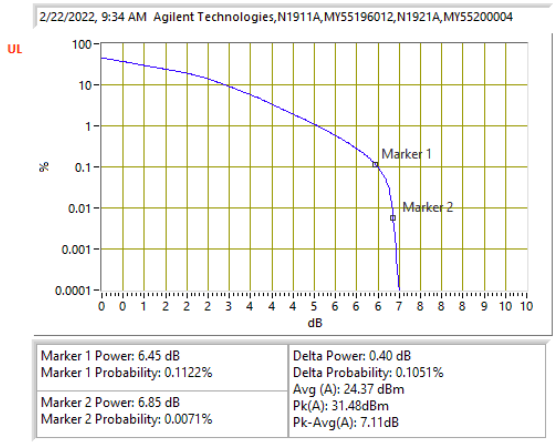
5G NR n12 5MHz BPSK Middle Channel ID:52275



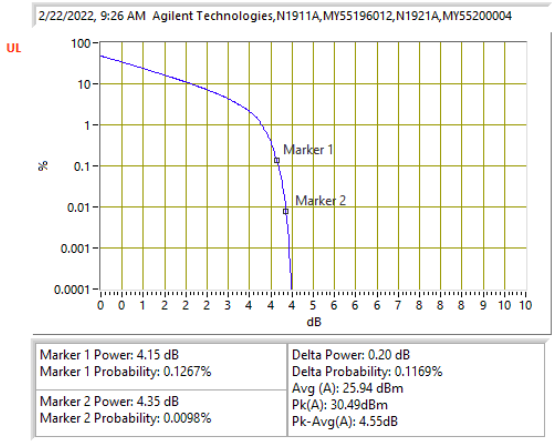
5G NR n12 5MHz 16QAM Middle Channel ID:52275



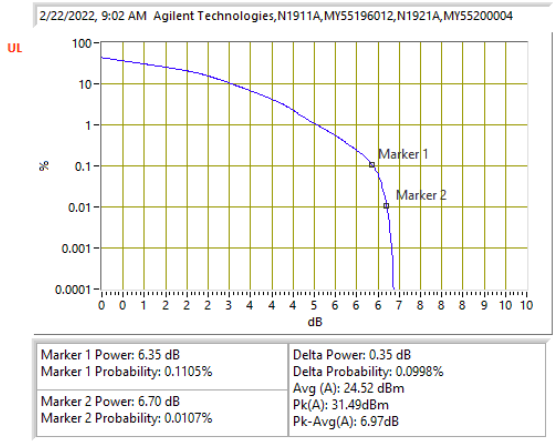
5G NR n12 10MHz BPSK Middle Channel ID:52275



5G NR n12 10MHz 16QAM Middle Channel ID:52275



5G NR n12 15MHz BPSK Middle Channel ID:52275



5G NR n12 15MHz 16QAM Middle Channel ID:52275

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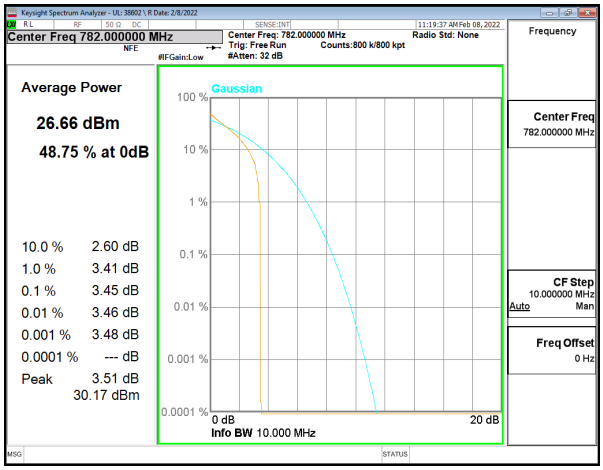
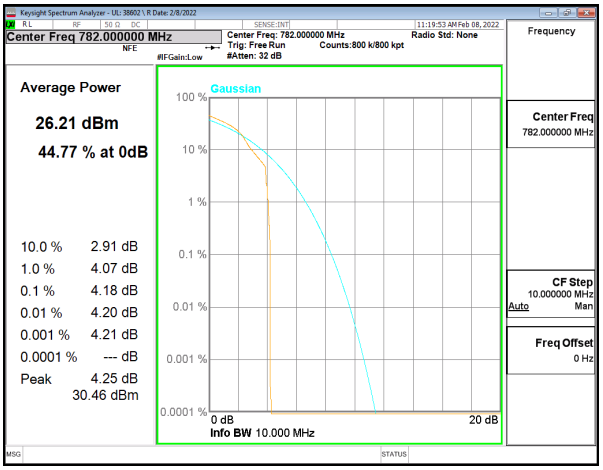
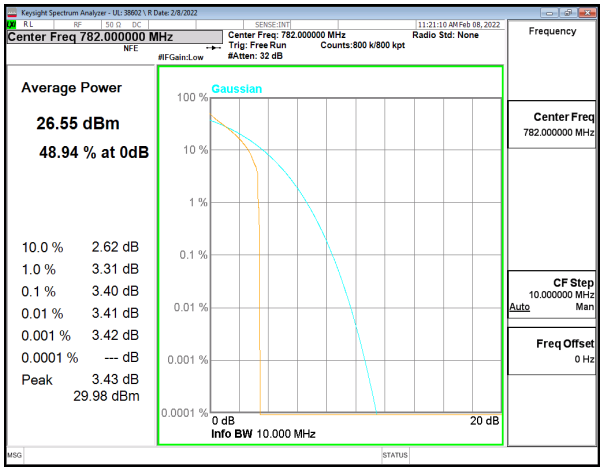
9.5.4. LTE BAND 13



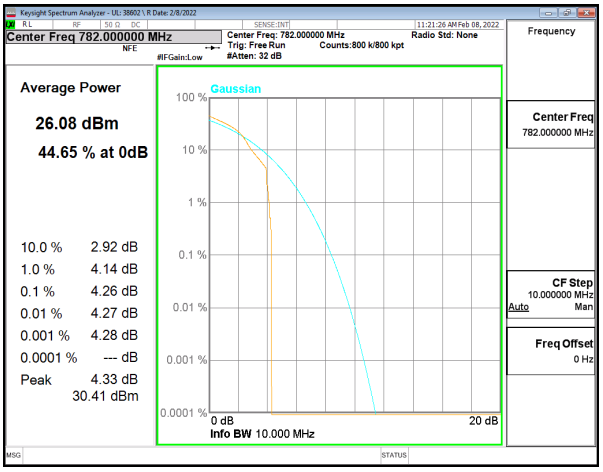
LTE B13 5MHz QPSK Middle Channel



LTE B13 5MHz 16QAM Middle Channel



LTE B13 10MHz QPSK Middle Channel



LTE B13 10MHz 16QAM Middle Channel

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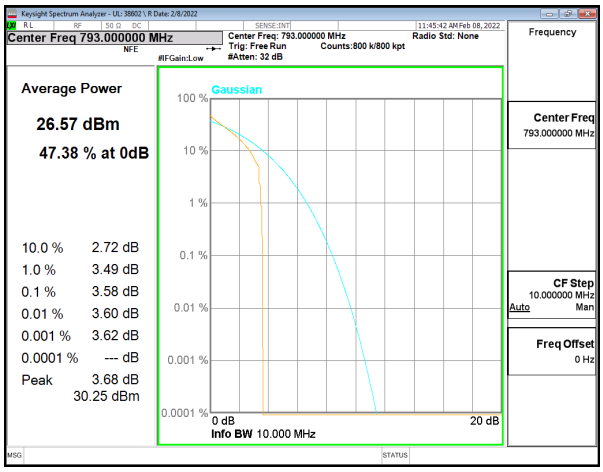
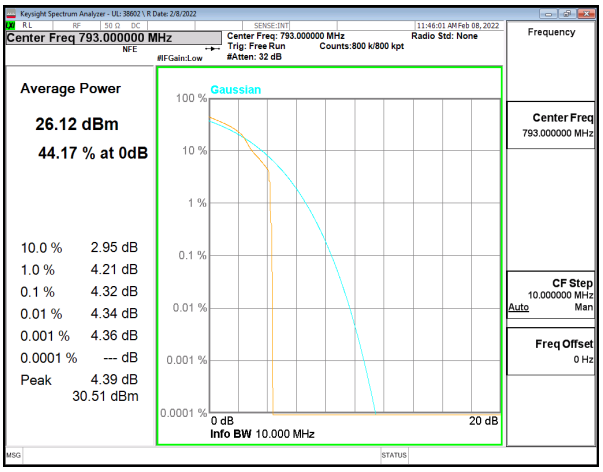
9.5.5. LTE BAND 14 AND 5G NR n14

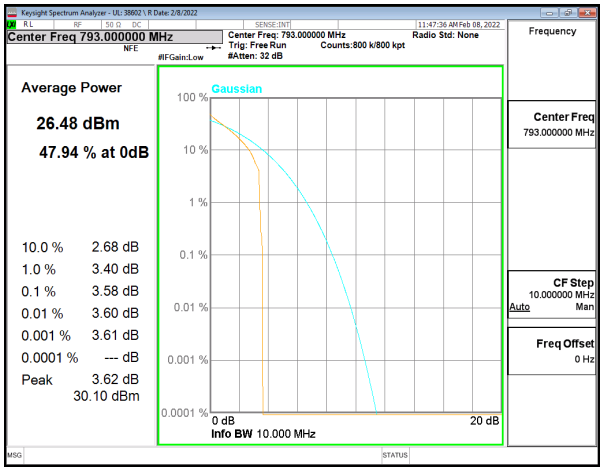
LTE BAND 14



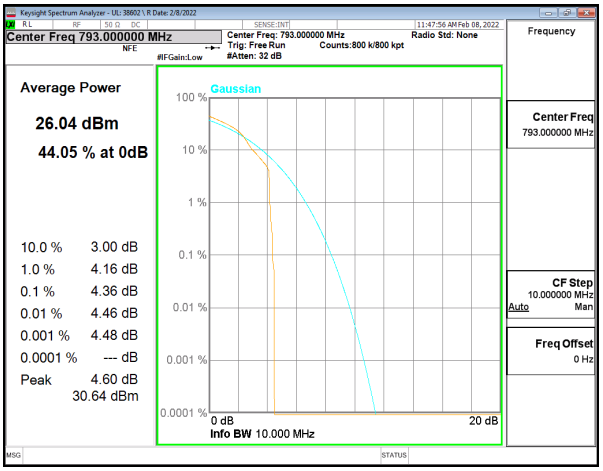
LTE B14 5MHz QPSK Middle Channel



LTE B14 5MHz 16QAM Middle Channel



LTE B14 10MHz QPSK Middle Channel



LTE B14 10MHz 16QAM Middle Channel

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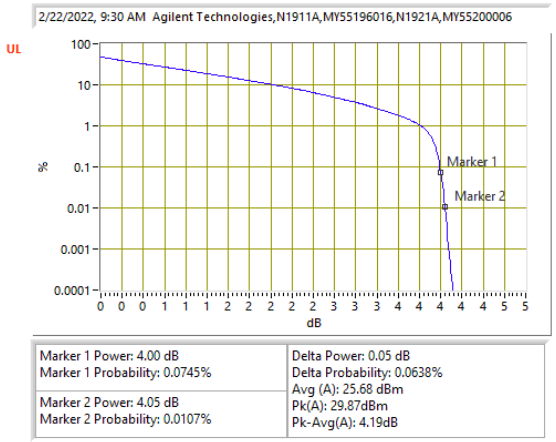
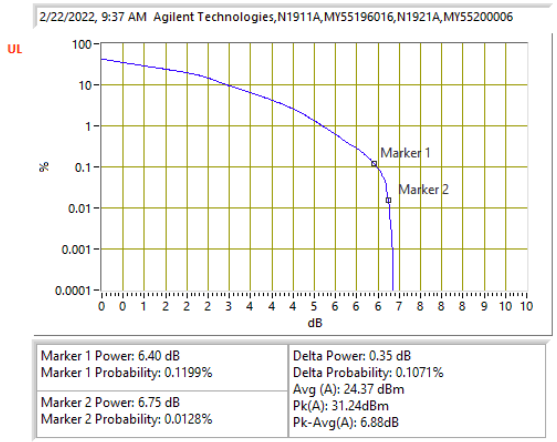
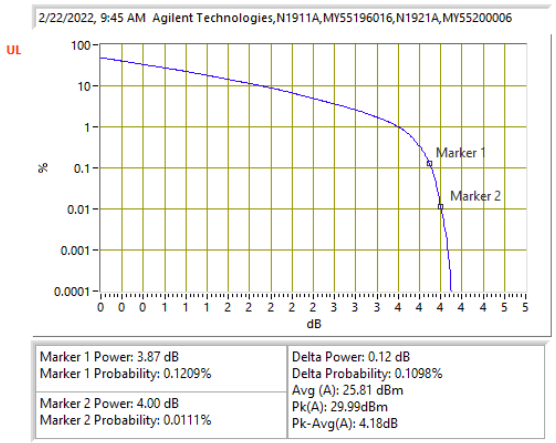
5G NR n14



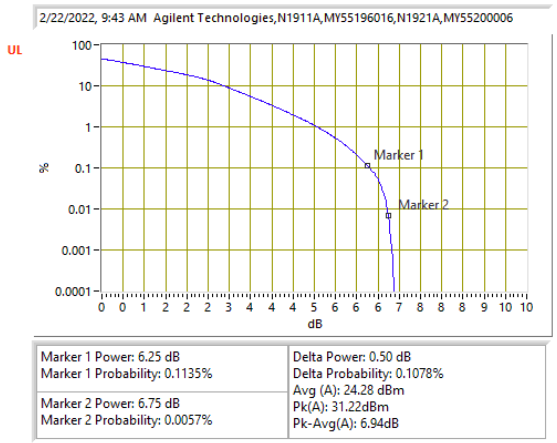
5G NR n14 5MHz BPSK Middle Channel ID:52275



5G NR n14 5MHz 16QAM Middle Channe ID:52275l



5G NR n14 10MHz BPSK Middle Channel ID:52275



5G NR n14 10MHz 16QAM Middle Channel ID:52275

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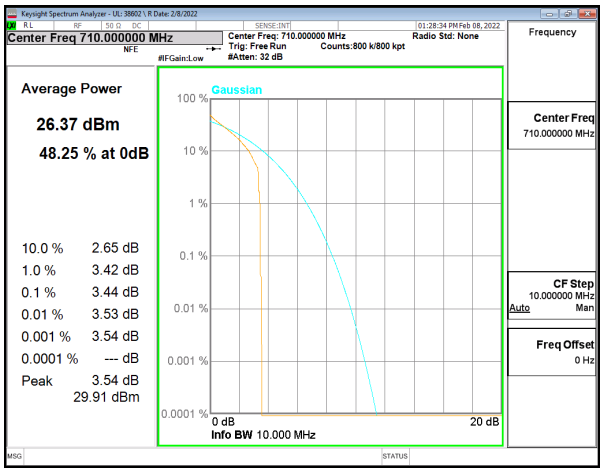
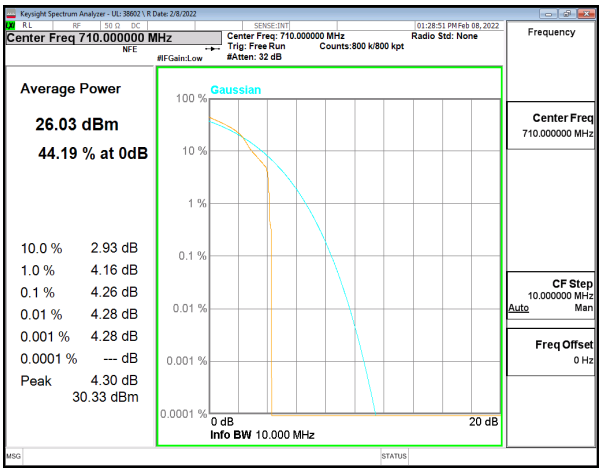
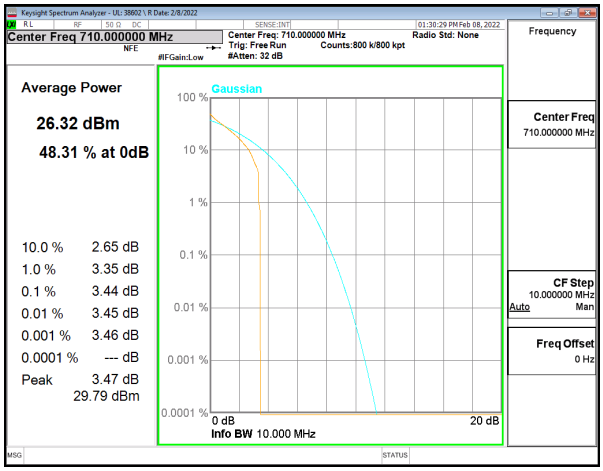
9.5.6. LTE BAND 17



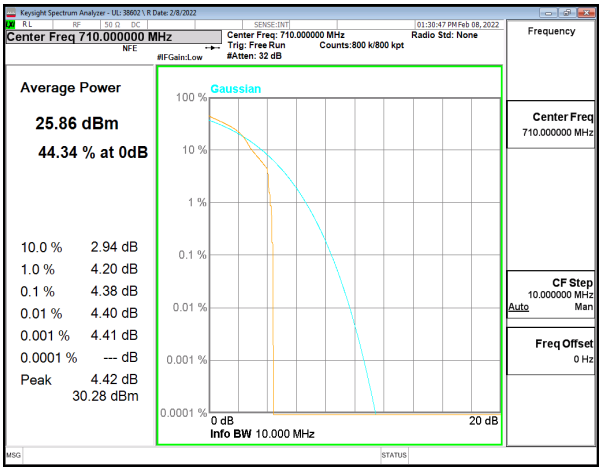
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



LTE B17 10MHz QPSK Middle Channel



LTE B17 10MHz 16QAM Middle Channel

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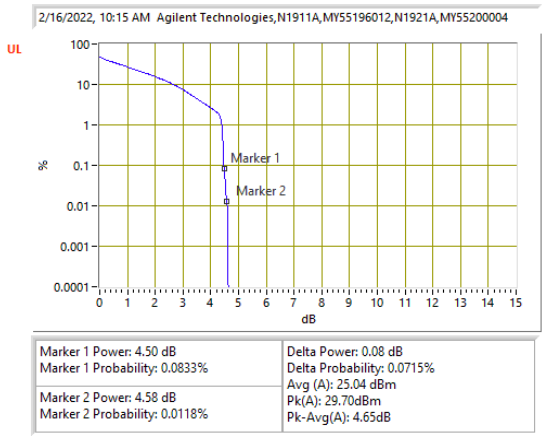
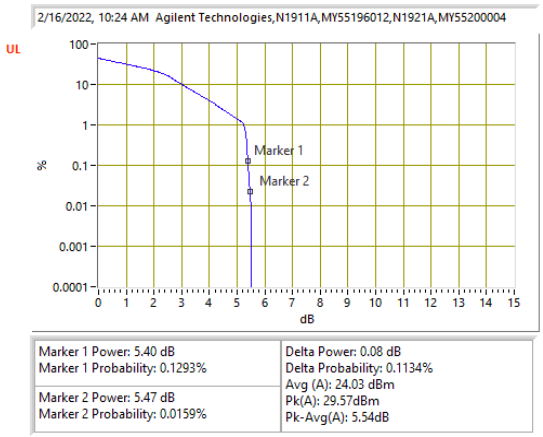
9.5.7. LTE BAND 25 AND 5G NR n25

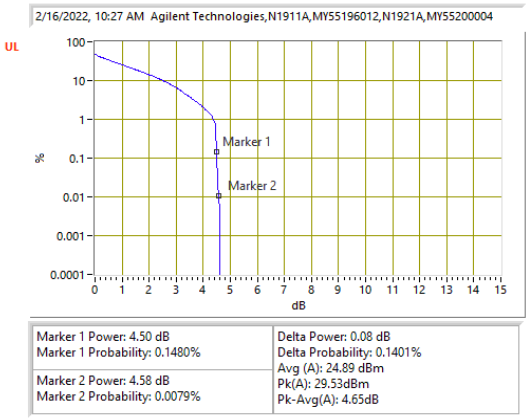
LTE BAND 25



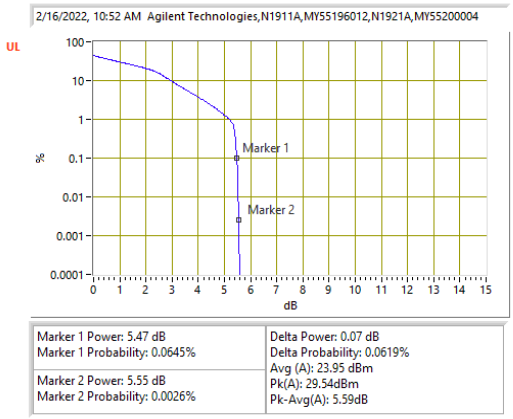
LTE B25 1.4MHz QPSK Middle Channel ID:52275



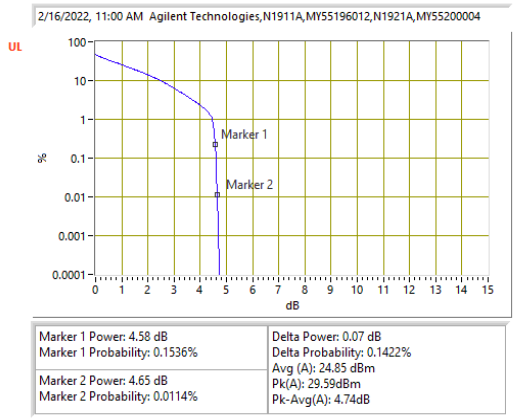
LTE B25 1.4MHz 16QAM Middle Channel ID:52275



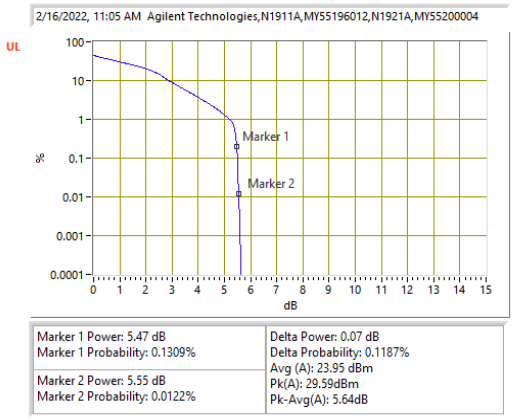
LTE B25 3MHz QPSK Middle Channel ID:52275



LTE B25 3MHz 16QAM Middle Channel ID:52275



LTE B2 5MHz QPSK Middle Channel ID:52275



LTE B2 5MHz 16QAM Middle Channel ID:52275l

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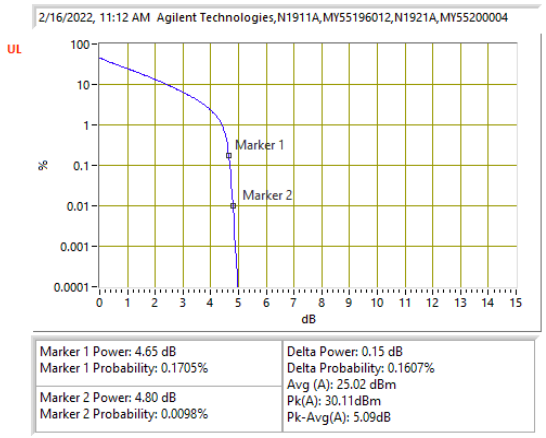
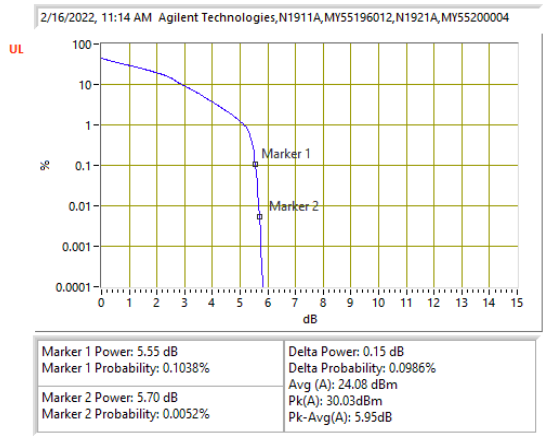
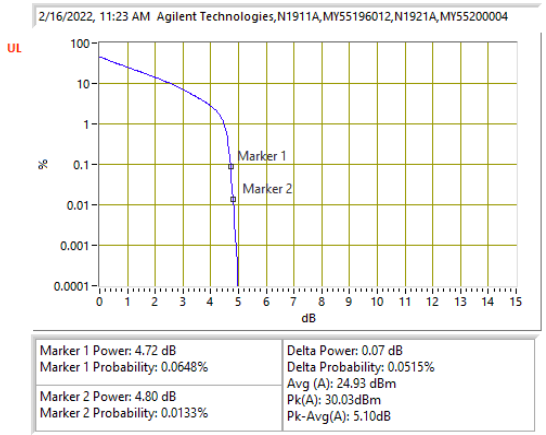


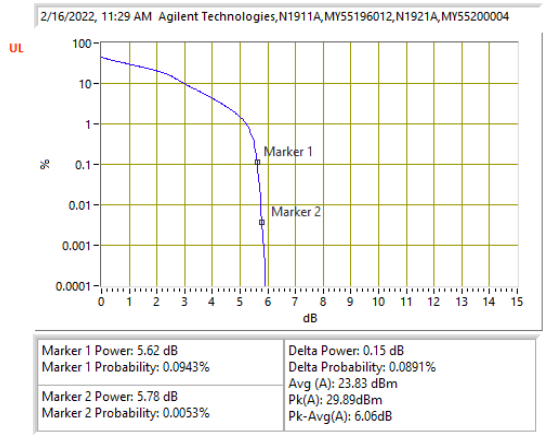
LTE B25 10MHz QPSK Middle Channel ID:52275



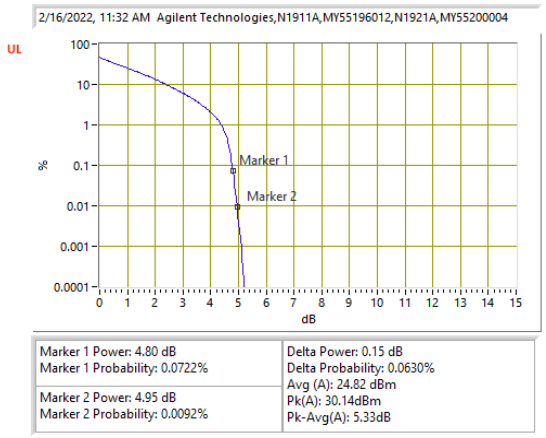
LTE B25 10MHz 16QAM Middle Channel ID:52275



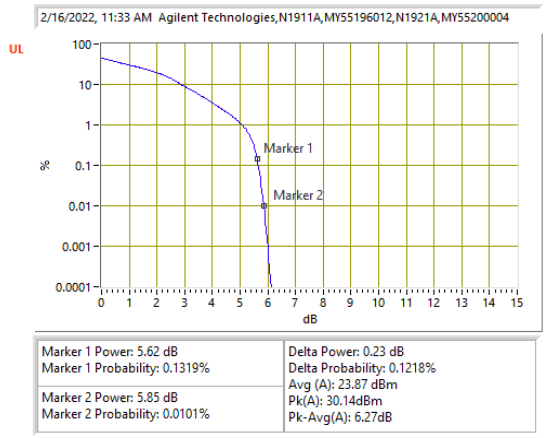
LTE B25 15MHz QPSK Middle Channel ID:52275



LTE B25 15MHz 16QAM Middle Channe ID:52275l



LTE B25 20MHz QPSK Middle Channel ID:52275



LTE B25 20MHz 16QAM Middle Channel ID:52275

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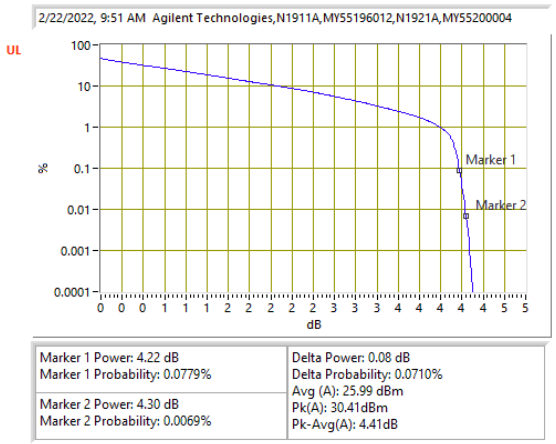
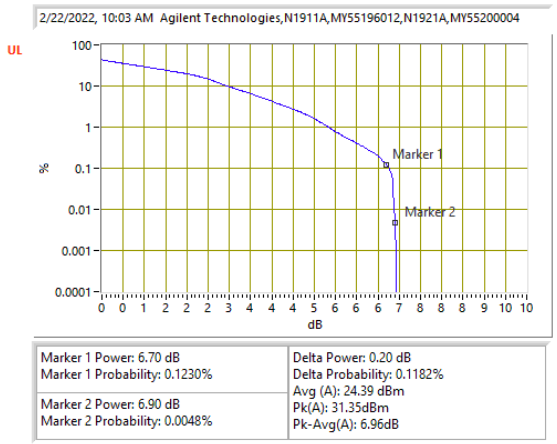
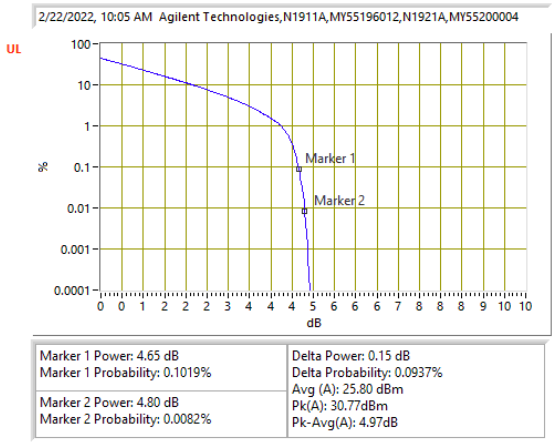
5G NR n25



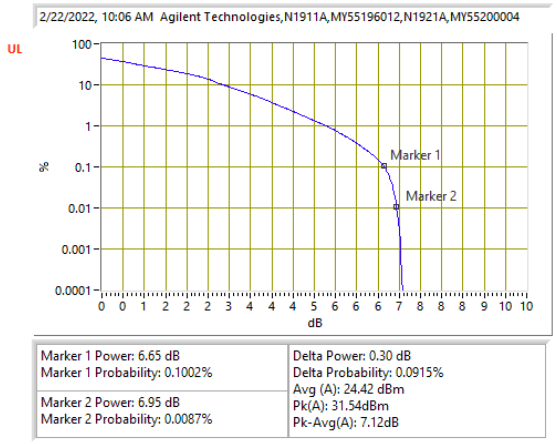
5G NR n25 5MHz BPSK Middle Channel ID:52275



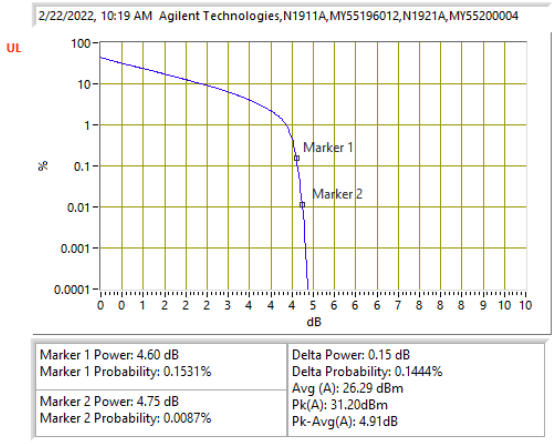
5G NR n25 5MHz 16QAM Middle Channel ID:52275



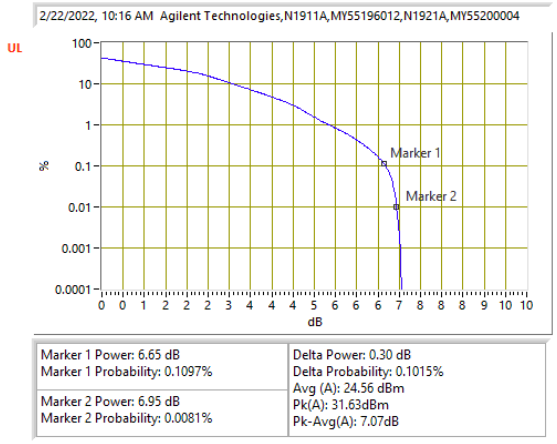
5G NR n25 10MHz BPSK Middle Channel



5G NR n25 10MHz 16QAM Middle Channel



5G NR n25 15MHz BPSK Middle Channel ID:52275



5G NR n25 15MHz 16QAM Middle Channel ID:52275

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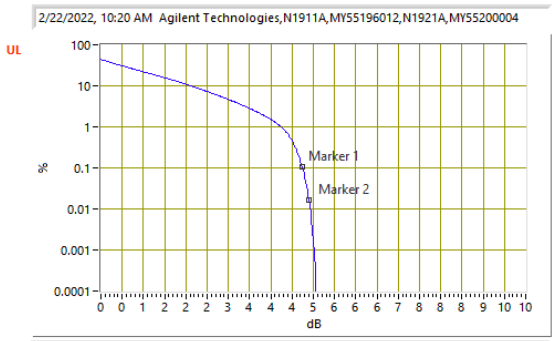
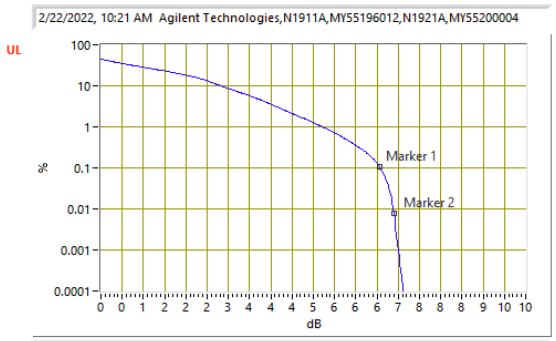


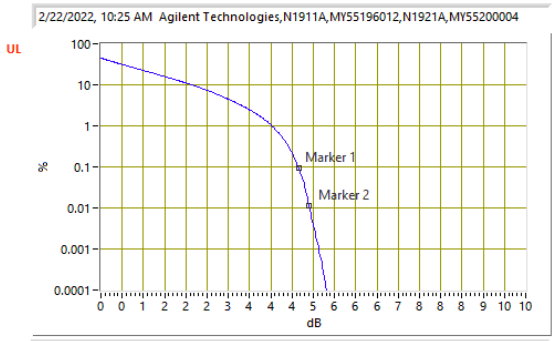
Marker 1 Power: 4.75 dB Marker 1 Probability: 0.0965%	Delta Power: 0.15 dB Delta Probability: 0.0798% Avg (A): 25.82 dBm Pk(A): 30.96dBm Pk-Avg(A): 5.14dB
Marker 2 Power: 4.90 dB Marker 2 Probability: 0.0166%	

5G NR n25 20MHz BPSK Middle Channel ID:52275



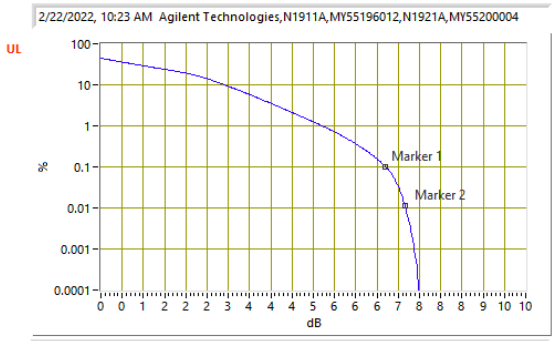
Marker 1 Power: 6.55 dB Marker 1 Probability: 0.1069%	Delta Power: 0.35 dB Delta Probability: 0.0989% Avg (A): 24.72 dBm Pk(A): 31.87dBm Pk-Avg(A): 7.15dB
Marker 2 Power: 6.90 dB Marker 2 Probability: 0.0080%	

5G NR n25 20MHz 16QAM Middle Channe ID:52275l



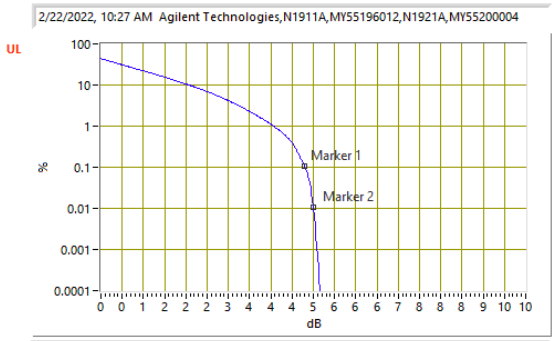
Marker 1 Power: 4.65 dB Marker 1 Probability: 0.0987%	Delta Power: 0.25 dB Delta Probability: 0.0874% Avg (A): 26.19 dBm Pk(A): 31.69dBm Pk-Avg(A): 5.50dB
Marker 2 Power: 4.90 dB Marker 2 Probability: 0.0113%	

5G NR n25 25MHz BPSK Middle Channel ID:52275



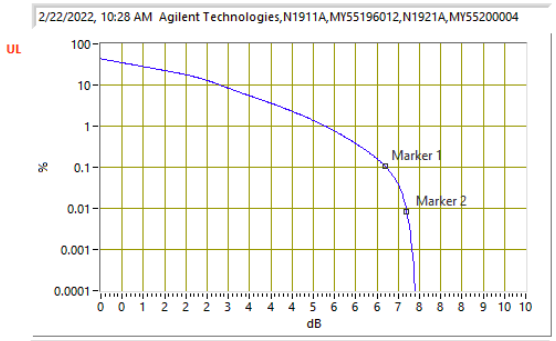
Marker 1 Power: 6.70 dB Marker 1 Probability: 0.1014%	Delta Power: 0.45 dB Delta Probability: 0.0888% Avg (A): 24.74 dBm Pk(A): 32.27dBm Pk-Avg(A): 7.53dB
Marker 2 Power: 7.15 dB Marker 2 Probability: 0.0126%	

5G NR n25 25MHz 16QAM Middle Channel ID:52275



Marker 1 Power: 4.80 dB Marker 1 Probability: 0.1042%	Delta Power: 0.20 dB Delta Probability: 0.0935% Avg (A): 25.89 dBm Pk(A): 31.15dBm Pk-Avg(A): 5.26dB
Marker 2 Power: 5.00 dB Marker 2 Probability: 0.0107%	

5G NR n25 30MHz BPSK Middle Channel ID:52275



Marker 1 Power: 6.70 dB Marker 1 Probability: 0.1033%	Delta Power: 0.50 dB Delta Probability: 0.0948% Avg (A): 24.74 dBm Pk(A): 32.22dBm Pk-Avg(A): 7.48dB
Marker 2 Power: 7.20 dB Marker 2 Probability: 0.0085%	

5G NR n25 30MHz 16QAM Middle Channel ID:52275

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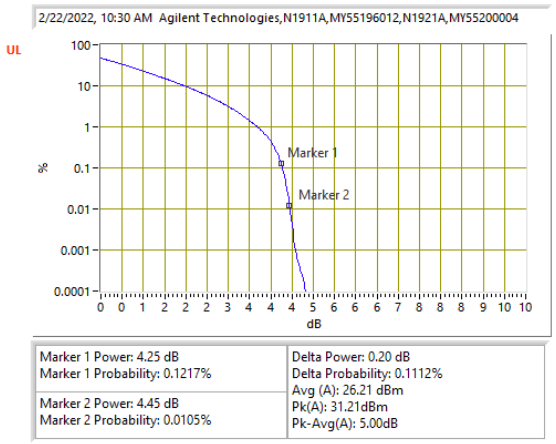
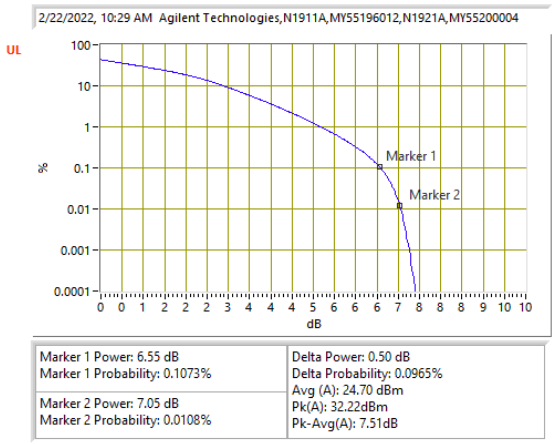


5G NR n25 40MHz BPSK Middle Channel ID:52275



5G NR n25 40MHz 16QAM Middle Channel ID:52275

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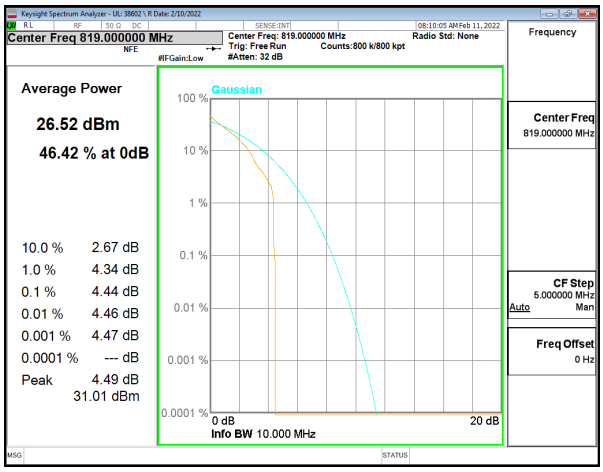
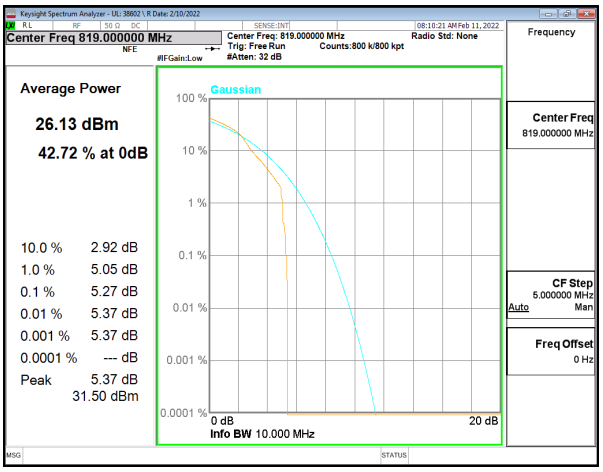
9.5.8. LTE BAND 26 AND 5G NR n26 (PART 90S)

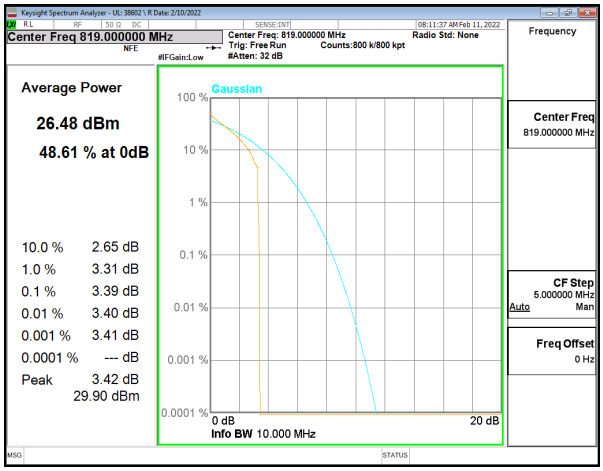
LTE BAND 26 (FCC PART 90S)



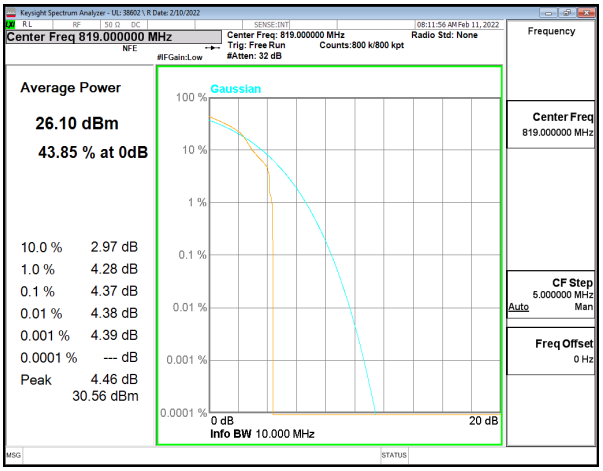
LTE B26 1.4MHz QPSK Middle Channel



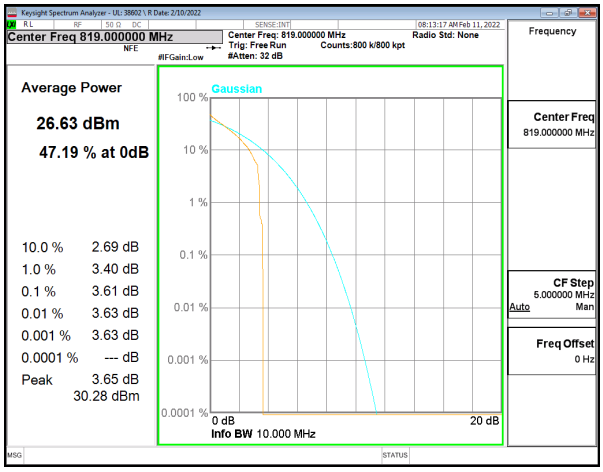
LTE B26 1.4MHz 16QAM Middle Channel



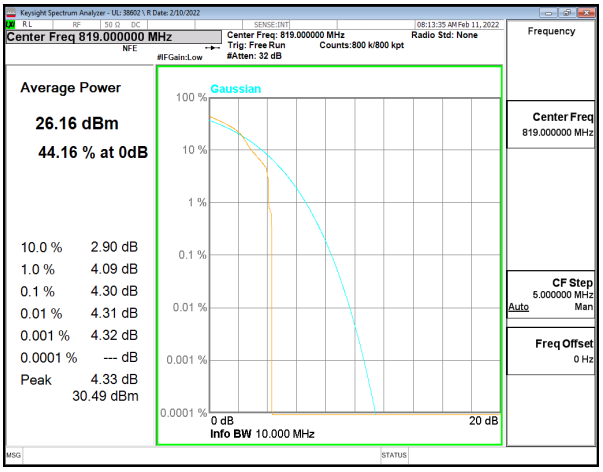
LTE B26 3MHz QPSK Middle Channel



LTE B26 3MHz 16QAM Middle Channel



LTE B26 5MHz QPSK Middle Channel



LTE B26 5MHz 16QAM Middle Channel

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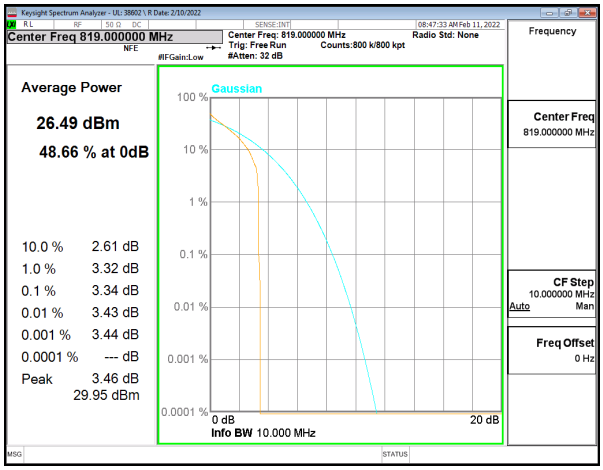
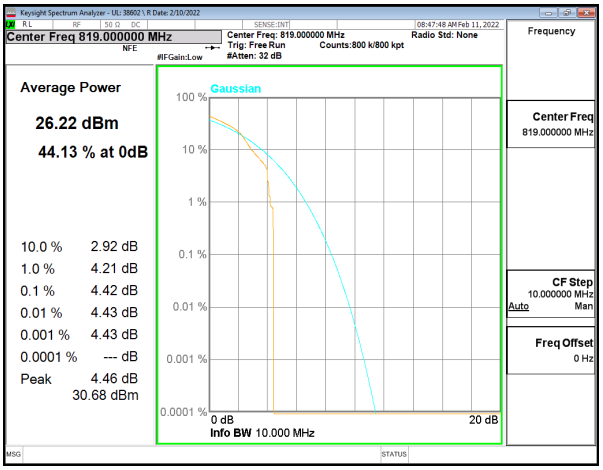


LTE B26 10MHz QPSK Middle Channel



LTE B26 10MHz 16QAM Middle Channel

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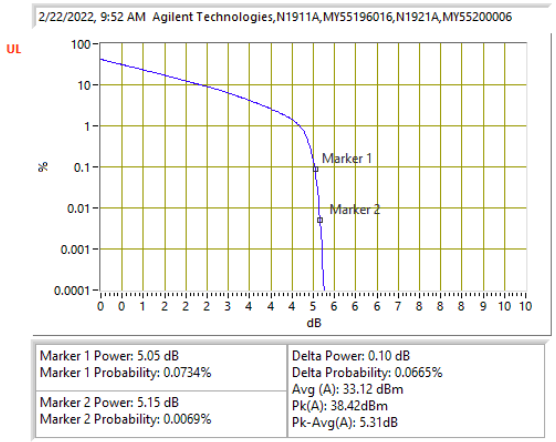
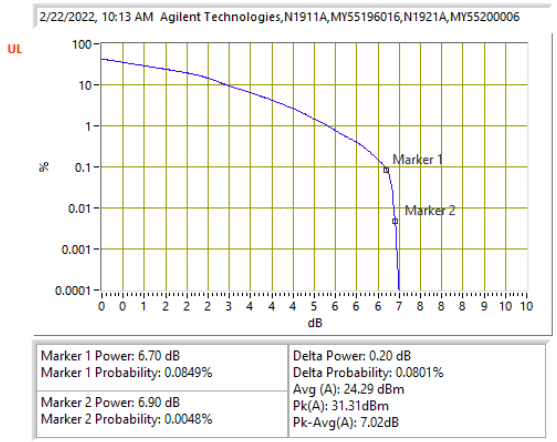
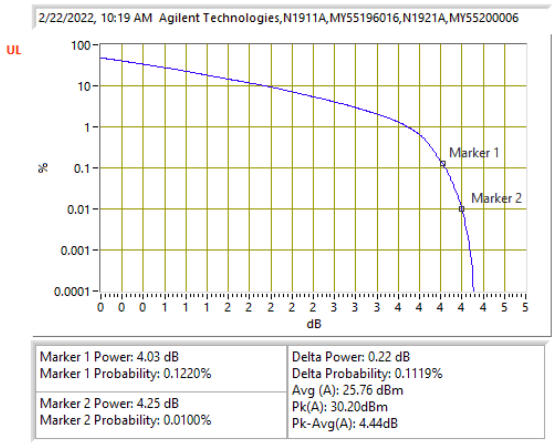
5G NR n26 (FCC PART 90S)



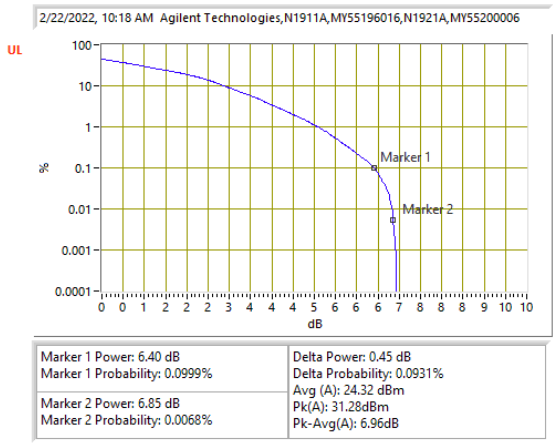
5G NR n26 5MHz BPSK Middle Channel ID:52275



5G NR n26 5MHz 16QAM Middle Channel ID:52275



5G NR n26 10MHz BPSK Middle Channel ID:52275



5G NR n26 10MHz 16QAM Middle Channel ID:52275

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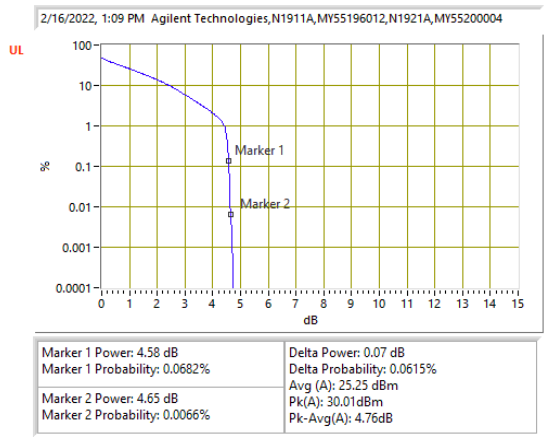
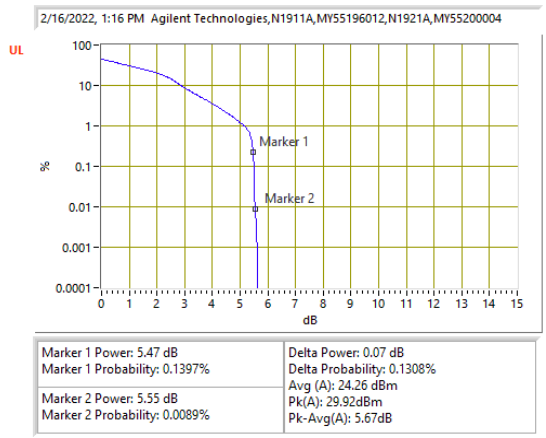
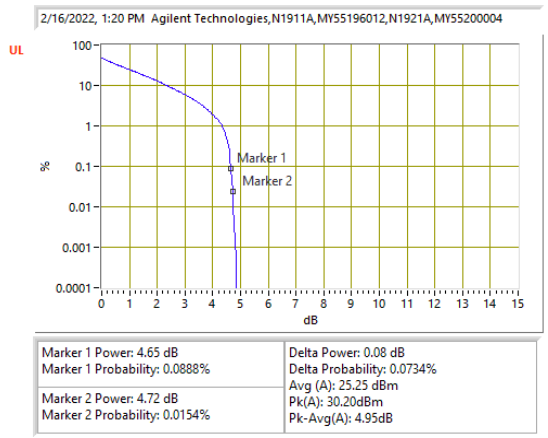
9.5.9. LTE BAND 30



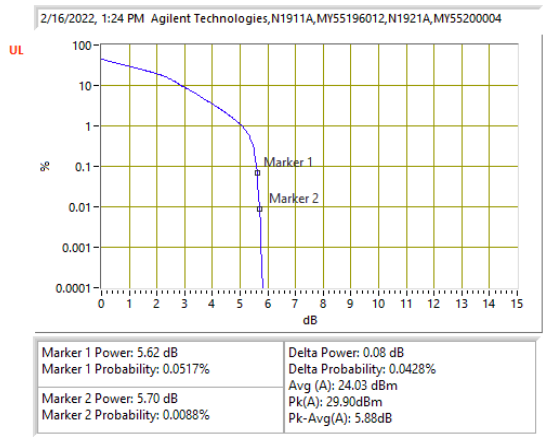
LTE B30 5MHz QPSK Middle Channel ID:52275l



LTE B30 5MHz 16QAM Middle Channel ID:52275



LTE B30 10MHz QPSK Middle Channel ID:52275



LTE B30 10MHz 16QAM Middle Channel ID:52275

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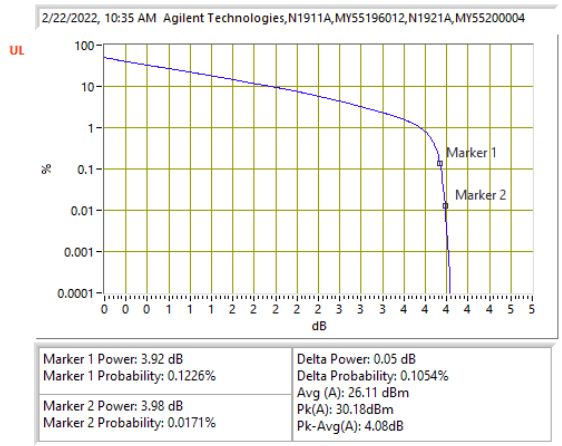
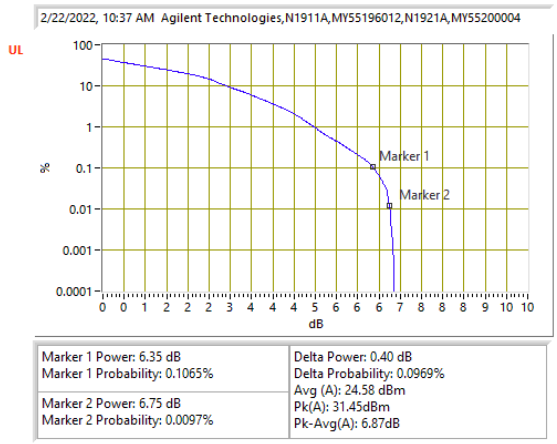
5G NR n30

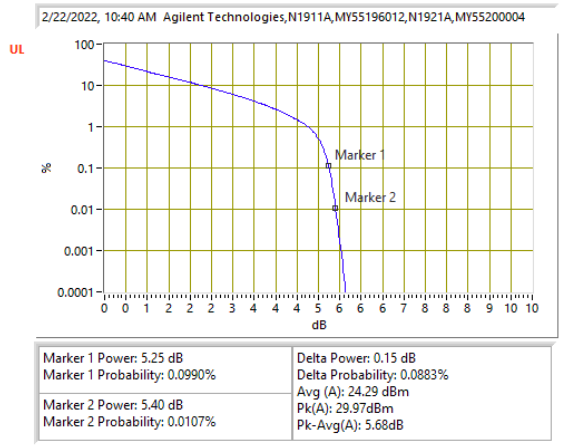
Test Engineer ID:	52275	Test Date:	2/1/2022



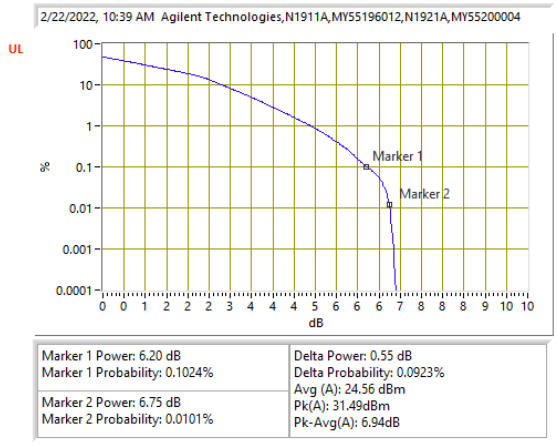
5G NR n30 5MHz BPSK Middle Channel



5G NR n30 5MHz 16QAM Middle Channel



5G NR n30 10MHz BPSK Middle Channel



5G NR n30 10MHz 16QAM Middle Channel

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9.5.10. LTE BAND 41 AND 5G NR n41

Test Engineer ID: 52275 **Test Date:** 2/18/2022

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	39.96	28.15	*4.81
					16QAM	39.92	27.19	*5.73
	10MHz		50	0	QPSK	39.90	28.21	*4.69
					16QAM	39.93	27.2	*5.73
	15MHz		75	0	QPSK	39.95	28.06	*4.89
					16QAM	39.98	27.09	*5.89
	20MHz		100	0	QPSK	40.04	28.05	*4.99
					16QAM	40.01	27.1	*5.91
5G NR Band n41	20MHz		50	0	BPSK	32.93	29.48	3.45
					16QAM	33.97	28.02	5.95
	30MHz		75	0	BPSK	32.88	29.53	3.35
					16QAM	34.00	27.97	6.03
	40MHz		100	0	BPSK	32.70	29.31	3.39
					16QAM	33.61	27.94	5.67
	50MHz		128	0	BPSK	32.79	29.41	3.38
					16QAM	33.53	27.81	5.72
	60MHz		162	0	BPSK	33.05	29.34	3.71
					16QAM	33.61	27.72	5.89
	70MHz		180	0	BPSK	32.47	29.06	3.41
					16QAM	33.46	27.45	6.01
	80MHz		216	0	BPSK	32.39	29.19	3.20
					16QAM	33.43	27.47	5.96
	90MHz		243	0	BPSK	32.47	29.01	3.46
					16QAM	32.93	27.38	5.55
	100MHz		270	0	BPSK	32.37	29.07	3.30
					16QAM	33.03	27.39	5.64
* Duty Cycle Correction Factor (dB) :			7.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

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9.5.11. LTE BAND 48

Test Engineer ID: 52275 **Test Date:** 3/25/2022

Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
						Peak	Average	
LTE Band 48	5MHz	3625.0	25	0	QPSK	36.32	24.71	*4.62
					16QAM	36.34	23.73	*5.62
	10MHz		50	0	QPSK	36.42	24.68	*4.75
					16QAM	36.37	23.74	*5.64
	15MHz		75	0	QPSK	36.18	24.54	*4.65
					16QAM	36.17	23.6	*5.58
	20MHz		100	0	QPSK	36.30	24.56	*4.75
					16QAM	36.28	23.59	*5.7
*Duty Cycle Correction Factor (dB) =			6.99					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

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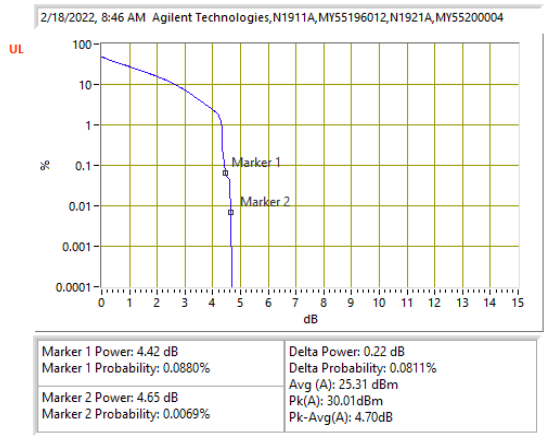
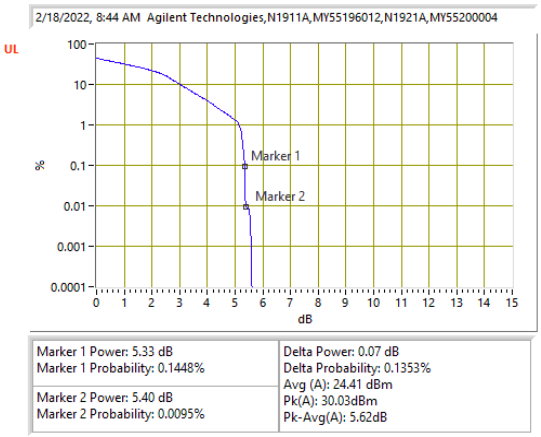
9.5.12. LTE BAND 66 AND 5G NR n66

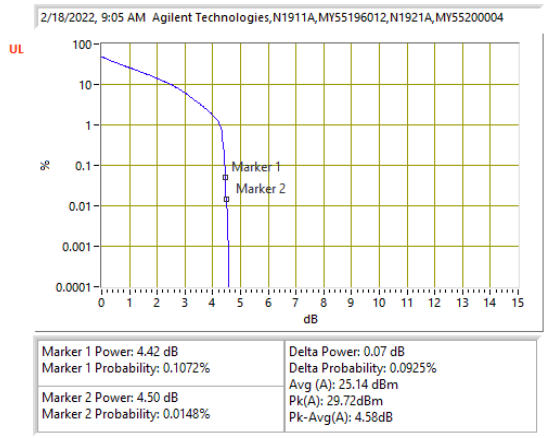
LTE BAND 66



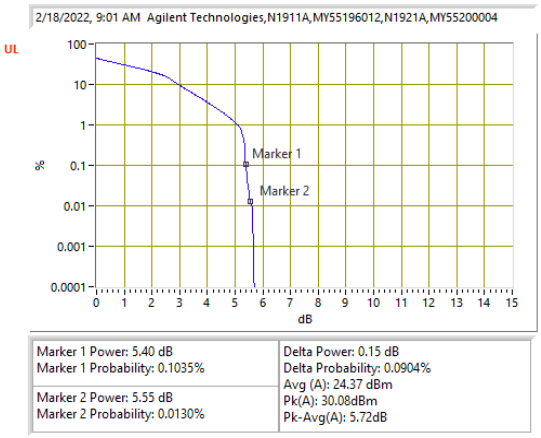
LTE B66 1.4MHz QPSK Middle Channel ID:52275



LTE B66 1.4MHz 16QAM Middle Channel ID:52275



LTE B66 3MHz QPSK Middle Channel ID:52275



LTE B66 3MHz 16QAM Middle Channel ID:52275

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FORM NO: CCSUP4031B
FAX: (510) 661-0888
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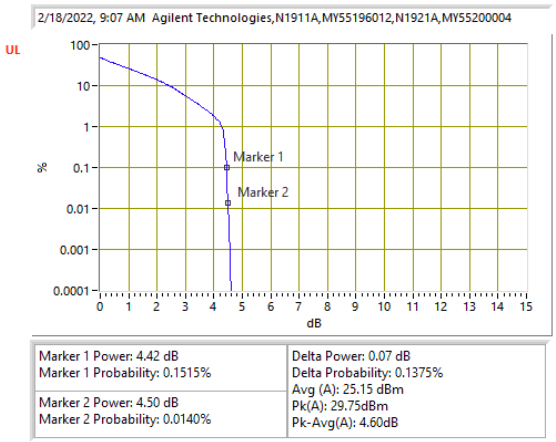
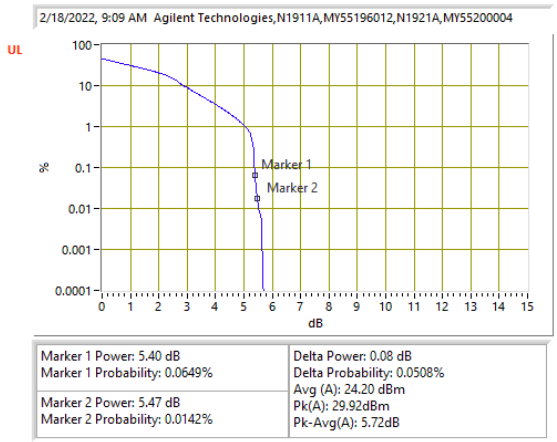
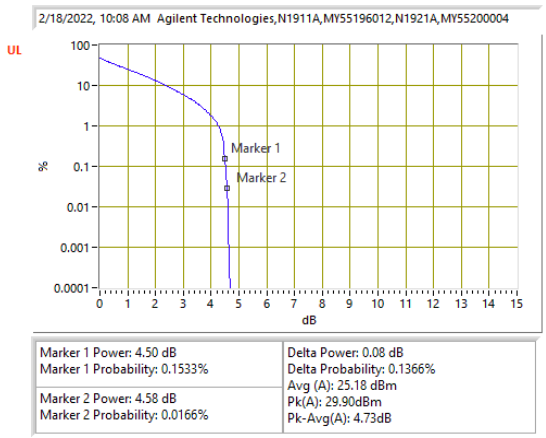


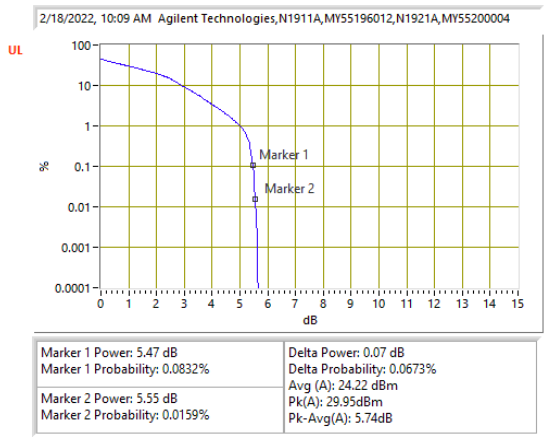
LTE B66 5MHz QPSK Middle Channel ID:52275



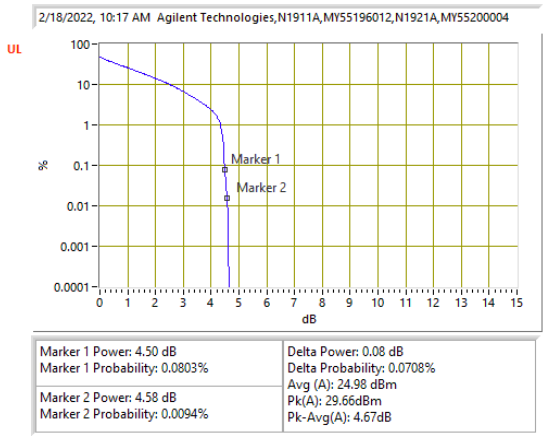
LTE B66 5MHz 16QAM Middle Channel ID:52275



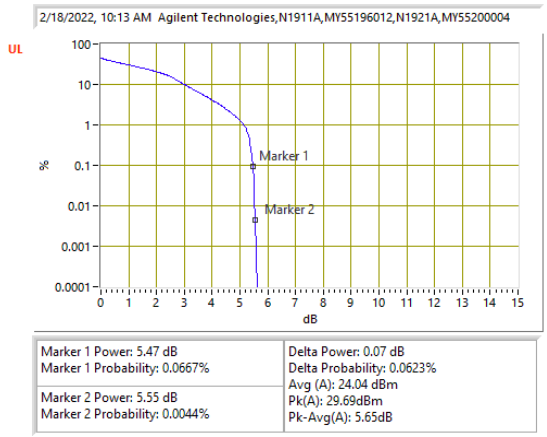
LTE B66 10MHz QPSK Middle Channel ID:52275



LTE B66 10MHz 16QAM Middle Channel ID:52275



LTE B66 15MHz QPSK Middle Channel ID:52275



LTE B66 15MHz 16QAM Middle Channel ID:52275

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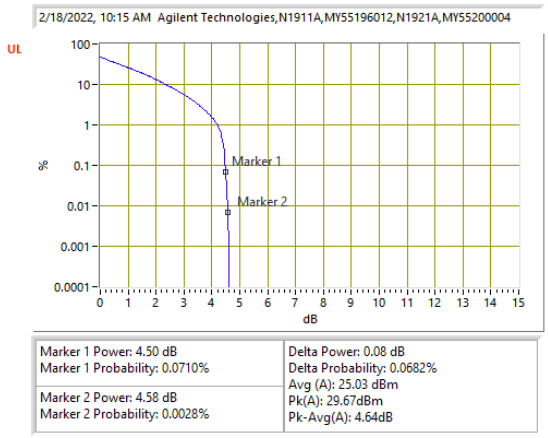
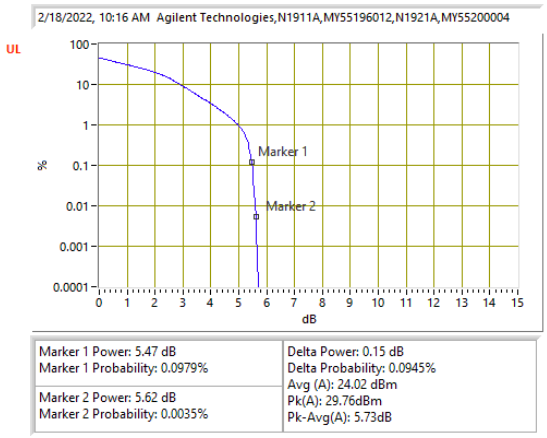


LTE B66 20MHz QPSK Middle Channel ID:52275



LTE B66 20MHz 16QAM Middle Channel ID:52275

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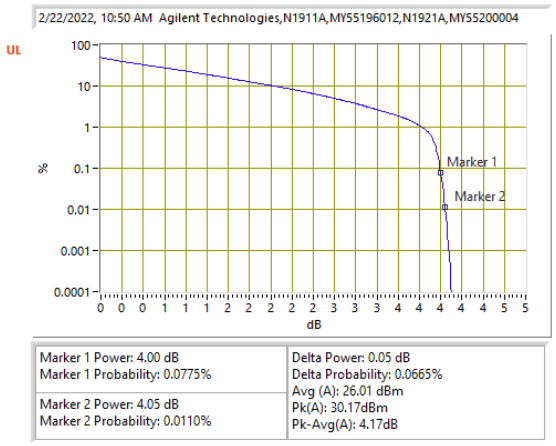
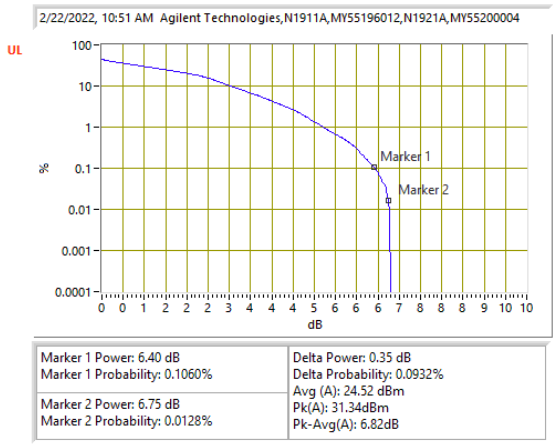
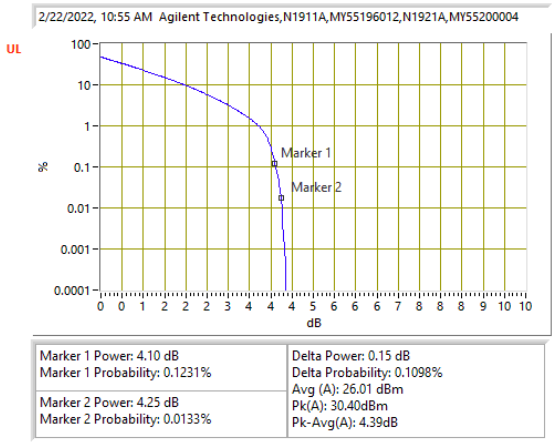
5G NR n66



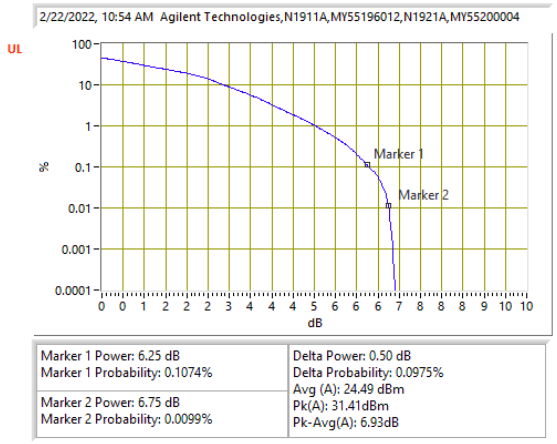
5G NR n66 5MHz BPSK Middle Channel ID:52275



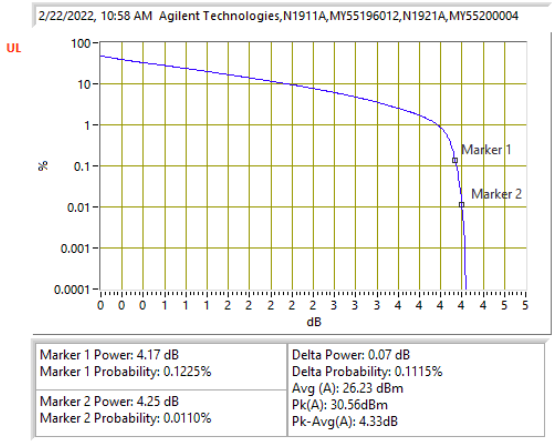
5G NR n66 5MHz 16QAM Middle Channel ID:52275



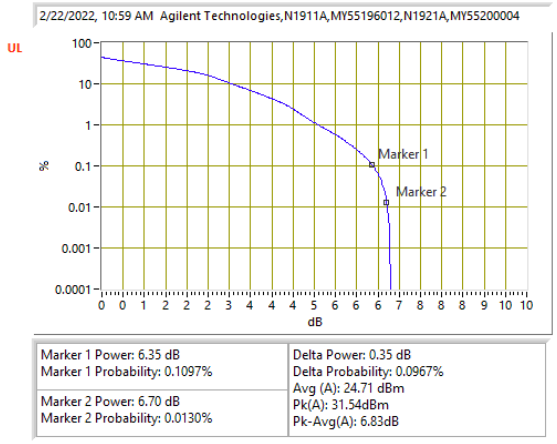
5G NR n66 10MHz BPSK Middle Channel ID:52275



5G NR n66 10MHz 16QAM Middle Channel ID:52275



5G NR n66 15MHz BPSK Middle Channel ID:52275



5G NR n66 15MHz 16QAM Middle Channel ID:52275

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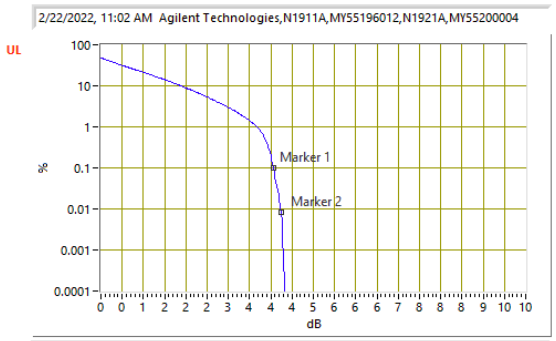
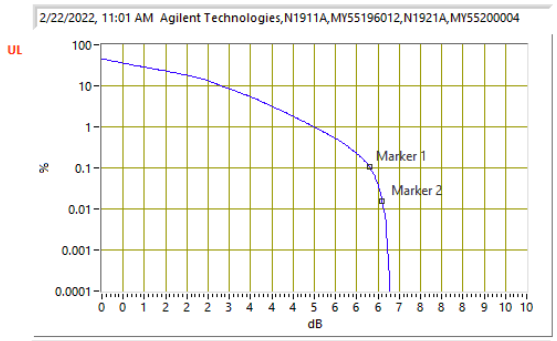


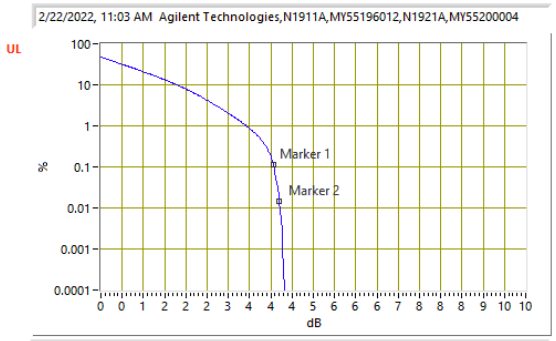
Marker 1 Power: 4.05 dB Marker 1 Probability: 0.1148%	Delta Power: 0.20 dB Delta Probability: 0.1084% Avg (A): 26.24 dBm Pk(A): 30.59dBm Pk-Avg(A): 4.35dB
Marker 2 Power: 4.25 dB Marker 2 Probability: 0.0064%	

5G NR n66 20MHz BPSK Middle Channel ID:52275



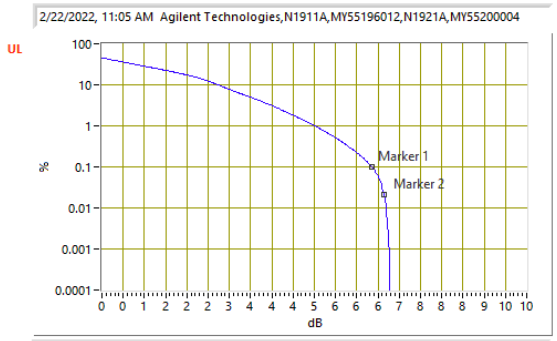
Marker 1 Power: 6.30 dB Marker 1 Probability: 0.1058%	Delta Power: 0.30 dB Delta Probability: 0.0905% Avg (A): 24.75 dBm Pk(A): 31.57dBm Pk-Avg(A): 6.82dB
Marker 2 Power: 6.60 dB Marker 2 Probability: 0.0153%	

5G NR n66 20MHz 16QAM Middle Channel ID:52275



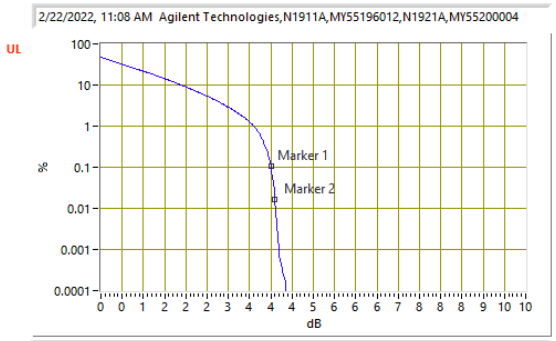
Marker 1 Power: 4.05 dB Marker 1 Probability: 0.1237%	Delta Power: 0.15 dB Delta Probability: 0.1097% Avg (A): 26.25 dBm Pk(A): 30.65dBm Pk-Avg(A): 4.40dB
Marker 2 Power: 4.20 dB Marker 2 Probability: 0.0141%	

5G NR n66 30MHz BPSK Middle Channel ID:52275



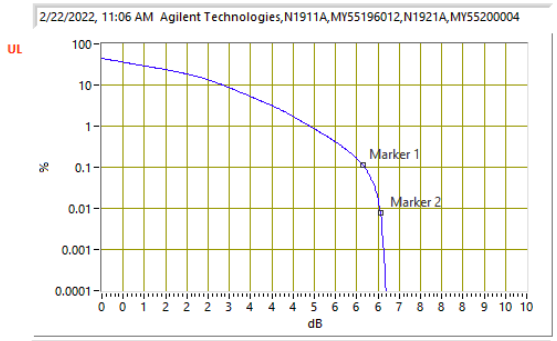
Marker 1 Power: 6.35 dB Marker 1 Probability: 0.1015%	Delta Power: 0.30 dB Delta Probability: 0.0834% Avg (A): 24.71 dBm Pk(A): 31.51dBm Pk-Avg(A): 6.80dB
Marker 2 Power: 6.65 dB Marker 2 Probability: 0.0181%	

5G NR n66 30MHz 16QAM Middle Channel ID:52275



Marker 1 Power: 4.00 dB Marker 1 Probability: 0.1041%	Delta Power: 0.10 dB Delta Probability: 0.0877% Avg (A): 26.17 dBm Pk(A): 30.67dBm Pk-Avg(A): 4.50dB
Marker 2 Power: 4.10 dB Marker 2 Probability: 0.0163%	

5G NR n66 40MHz BPSK Middle Channel ID:52275



Marker 1 Power: 6.15 dB Marker 1 Probability: 0.1083%	Delta Power: 0.40 dB Delta Probability: 0.0992% Avg (A): 24.71 dBm Pk(A): 31.41dBm Pk-Avg(A): 6.70dB
Marker 2 Power: 6.55 dB Marker 2 Probability: 0.0091%	

5G NR n66 40MHz 16QAM Middle Channel ID:52275

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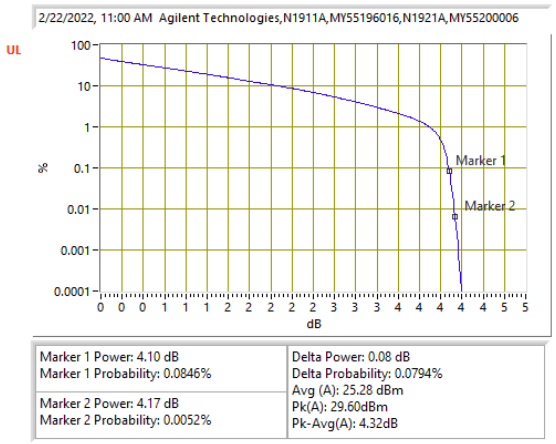
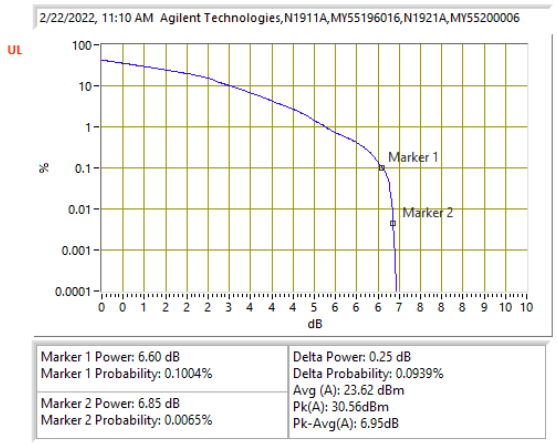
9.5.13. 5G NR n70

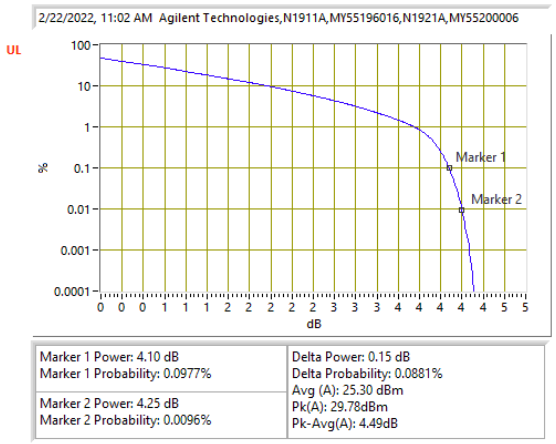
5G NR n70



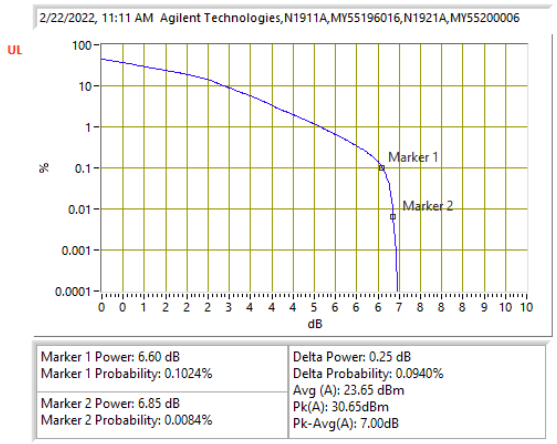
5G NR n70 5MHz BPSK Middle Channel ID 44353l



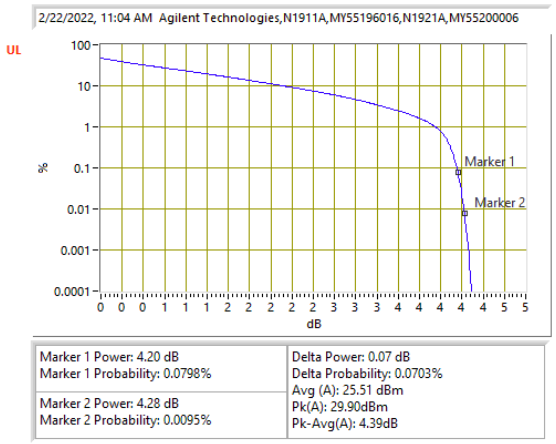
5G NR n70 5MHz 16QAM Middle Channel ID 44353

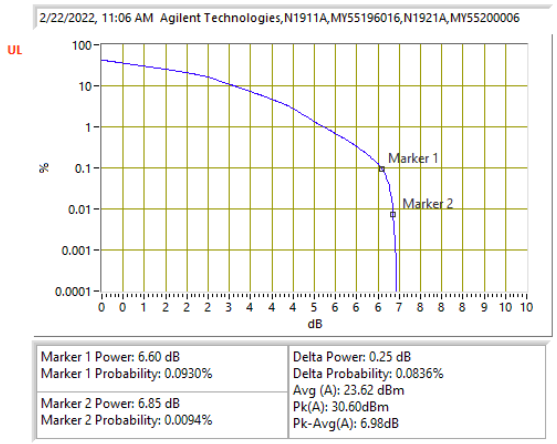


5G NR n70 10MHz BPSK Middle Channel ID 44353



5G NR n70 10MHz 16QAM Middle Channel ID 44353





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5G NR n70 15MHz BPSK Middle Channel ID 44353	5G NR n70 15MHz 16QAM Middle Channel ID 44353

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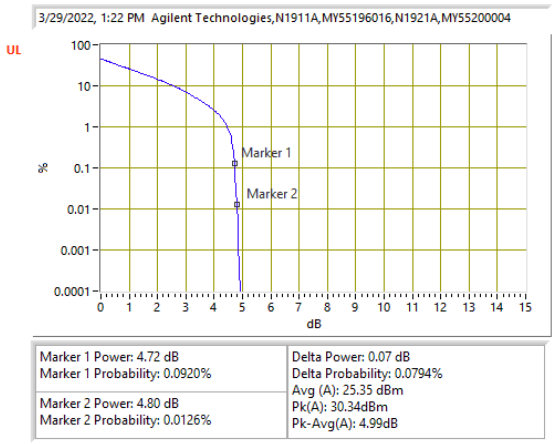
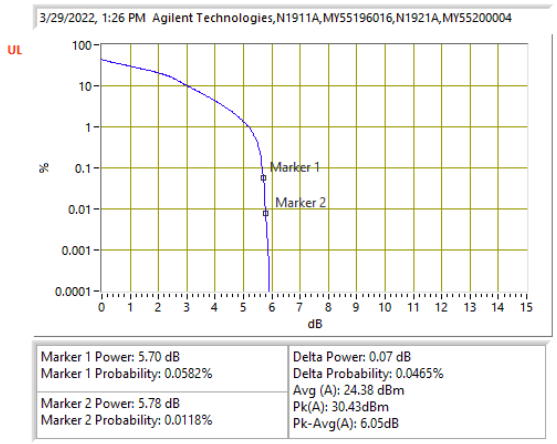
9.5.14. LTE BAND 71 AND 5G NR n71

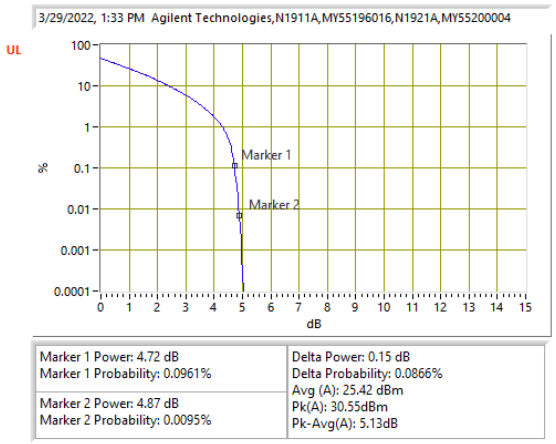
LTE BAND 71



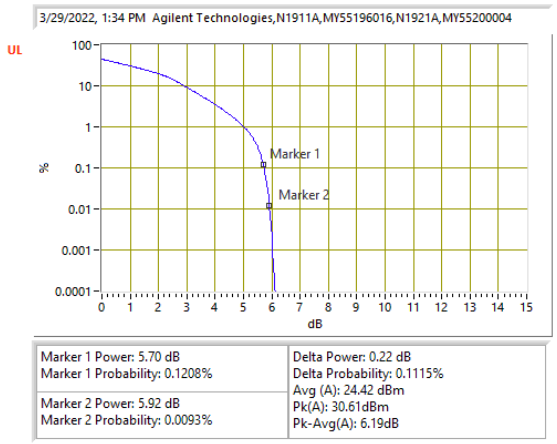
LTE B71 5MHz QPSK Middle Channel ID 44353



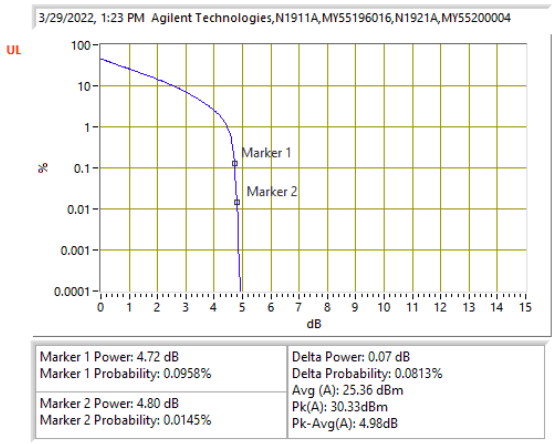
LTE B71 5MHz 16QAM Middle Channel ID 44353

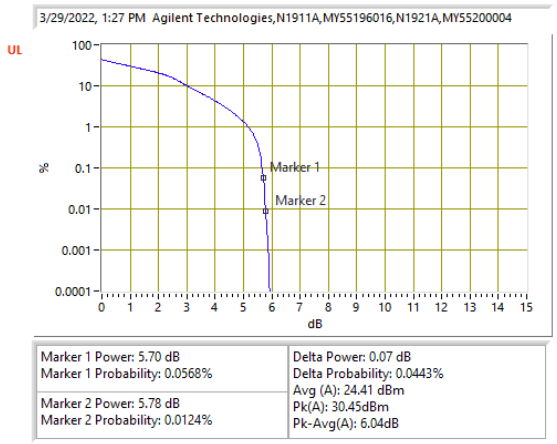


LTE B71 10MHz QPSK Middle Channel ID 44353



LTE B71 10MHz 16QAM Middle Channel ID 44353





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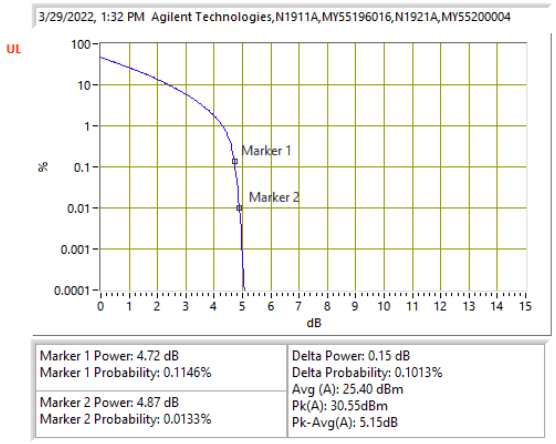
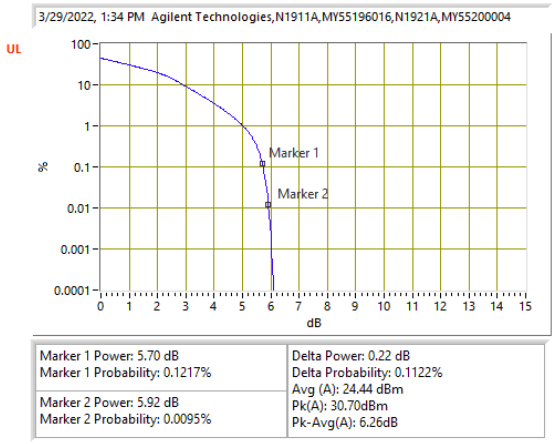
LTE B71 15MHz QPSK Middle Channel ID 44353	LTE B71 15MHz 16QAM Middle Channel ID 44353
 LTE B71 20MHz QPSK Middle Channel ID 44353	 LTE B71 20MHz 16QAM Middle Channel ID 44353

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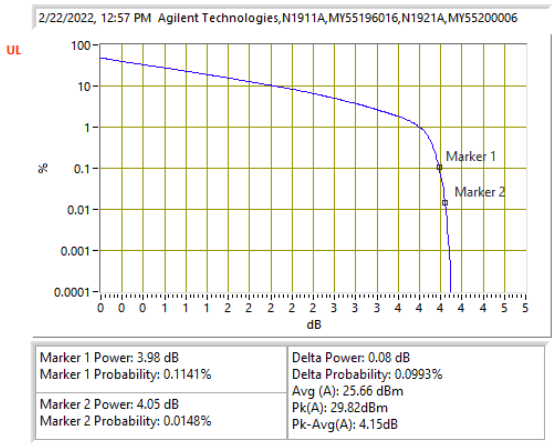
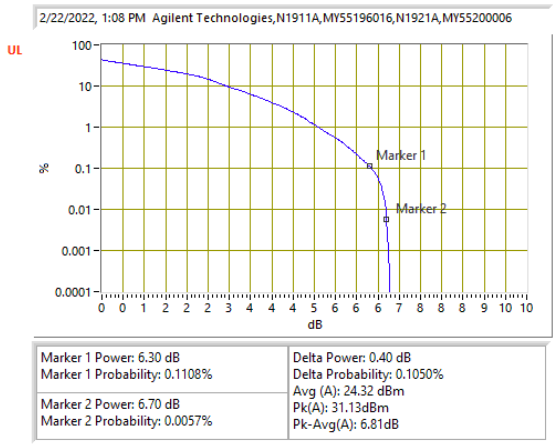
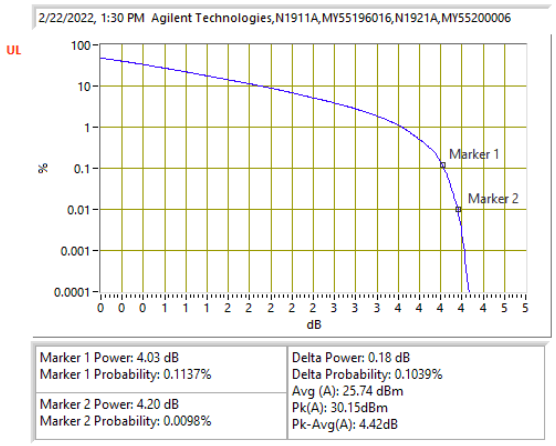
5G NR n71



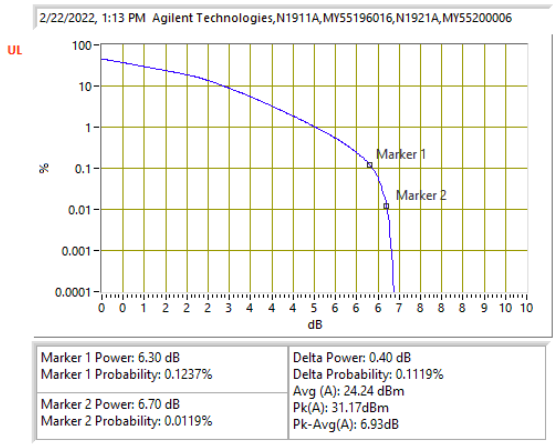
5G NR n71 5MHz BPSK Middle Channel ID 44353



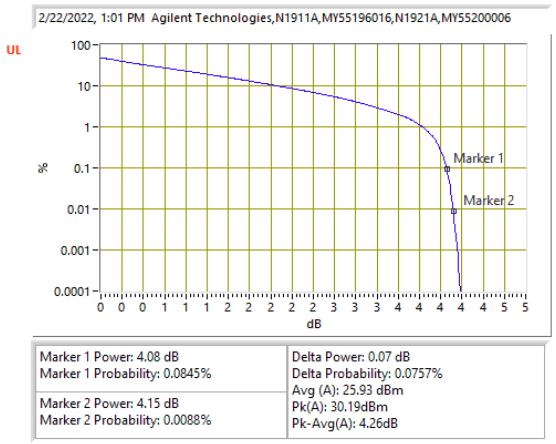
5G NR n71 5MHz 16QAM Middle Channel ID 44353



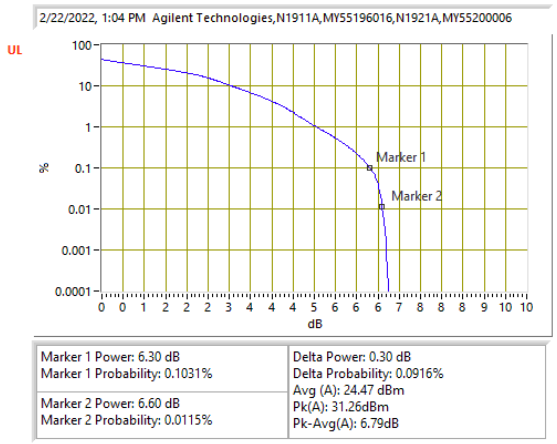
5G NR n71 10MHz BPSK Middle Channel ID 44353



5G NR n71 10MHz 16QAM Middle Channel ID 44353



5G NR n71 15MHz BPSK Middle Channel ID 44353



5G NR n71 15MHz 16QAM Middle Channel ID 44353

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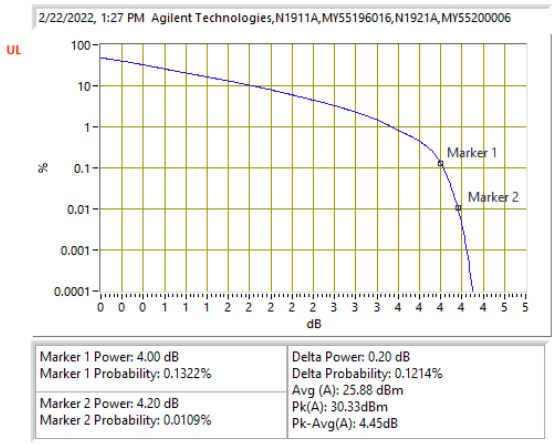
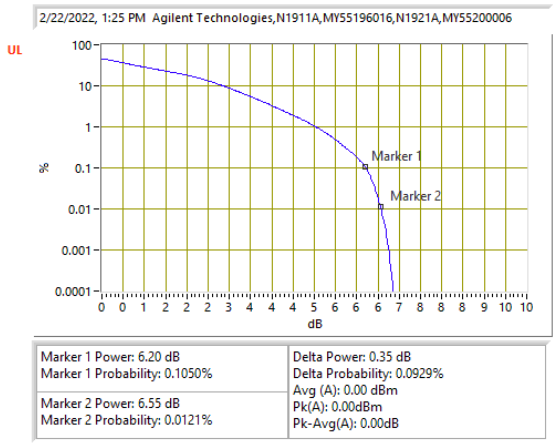


5G NR n71 20MHz BPSK Middle Channel ID 44353



5G NR n71 20MHz 16QAM Middle Channel ID 44353

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9.5.15. 5G NR n77 (Part 27 3450-3550MHz)

Test Engineer ID: 44353 **Test Date:** 3/30/2022

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	33.62	29.20	4.42
					16QAM	34.01	27.19	6.82
	15MHz		36	0	BPSK	33.59	29.29	4.30
					16QAM	34.02	27.25	6.77
	20MHz		50	0	BPSK	33.67	29.41	4.26
					16QAM	34.06	27.23	6.83
	30MHz		75	0	BPSK	33.60	29.36	4.24
					16QAM	34.03	27.20	6.83
	40MHz		100	0	BPSK	33.40	29.63	3.77
					16QAM	33.85	27.35	6.50
	50MHz		128	0	BPSK	33.14	29.42	3.72
					16QAM	33.51	27.29	6.22
	60MHz		162	0	BPSK	33.12	29.44	3.68
					16QAM	33.49	27.22	6.27
	70MHz		180	0	BPSK	32.91	29.14	3.77
					16QAM	33.57	27.13	6.44
	80MHz		216	0	BPSK	32.52	29.17	3.35
					16QAM	33.09	27.10	5.99
	90MHz		243	0	BPSK	32.39	29.16	3.23
					16QAM	33.03	27.10	5.93
	100MHz		270	0	BPSK	32.25	29.17	3.08
					16QAM	32.73	26.92	5.81
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

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9.5.16. 5G NR n77 (Part 27 3700-3980MHz)

Test Engineer ID: 44353 **Test Date:** 3/30/2022

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	33.80	29.49	4.31
					16QAM	34.38	27.62	6.76
	15MHz		36	0	BPSK	33.94	29.71	4.23
					16QAM	34.35	27.68	6.67
	20MHz		50	0	BPSK	33.67	29.44	4.23
					16QAM	34.19	27.44	6.75
	30MHz		75	0	BPSK	33.70	29.52	4.18
					16QAM	34.23	27.43	6.80
	40MHz		100	0	BPSK	33.62	29.54	4.08
					16QAM	34.10	27.35	6.75
	50MHz		128	0	BPSK	33.33	29.30	4.03
					16QAM	33.78	27.35	6.43
	60MHz		162	0	BPSK	33.15	29.33	3.82
					16QAM	33.73	27.30	6.43
	70MHz		180	0	BPSK	33.01	29.08	3.93
					16QAM	33.81	27.30	6.51
	80MHz		216	0	BPSK	32.61	29.12	3.49
					16QAM	33.29	27.21	6.08
	90MHz		243	0	BPSK	32.40	29.09	3.31
					16QAM	33.16	27.17	5.99
	100MHz		270	0	BPSK	32.20	29.10	3.10
					16QAM	32.99	27.08	5.91
Duty Cycle Correction Factor (dB) =			0.00					
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

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10. RADIATED TEST RESULTS

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.

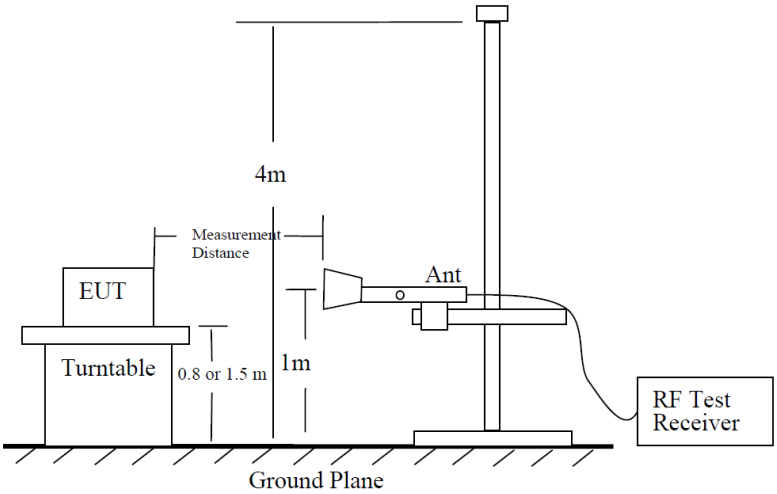

Figure 6 —Test site-up for radiated ERP and/or EIRP measurements

<u>Radiated Power Measurement Calculation According to ANSI C63.26-2015</u>

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.

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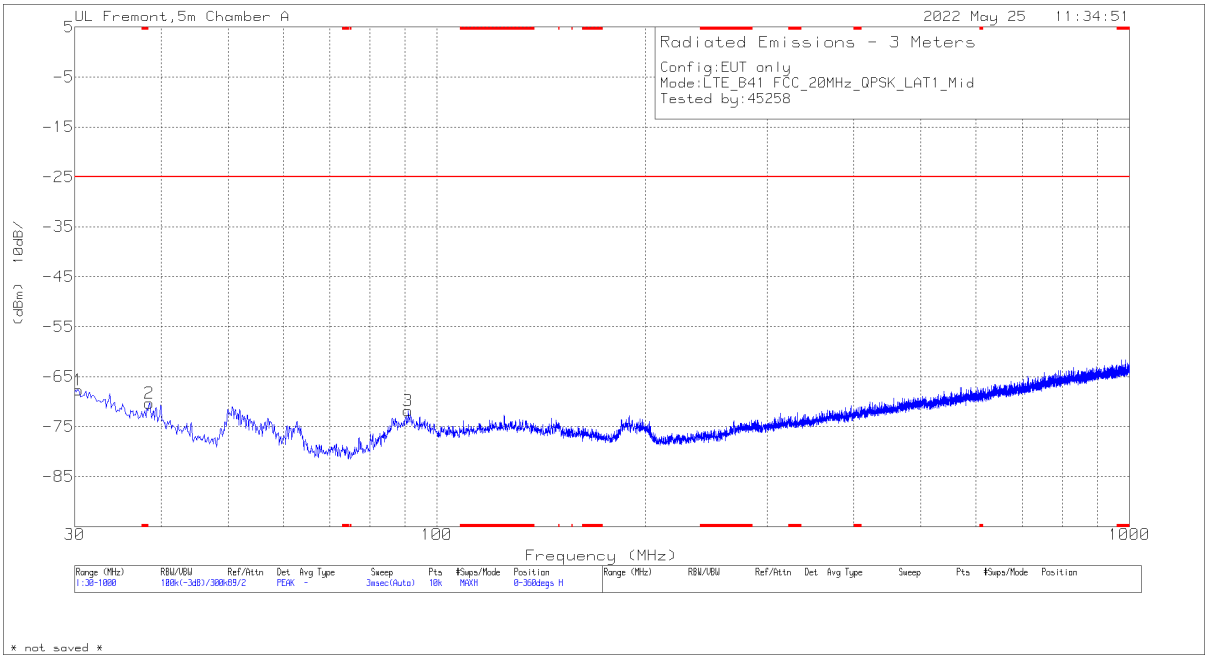
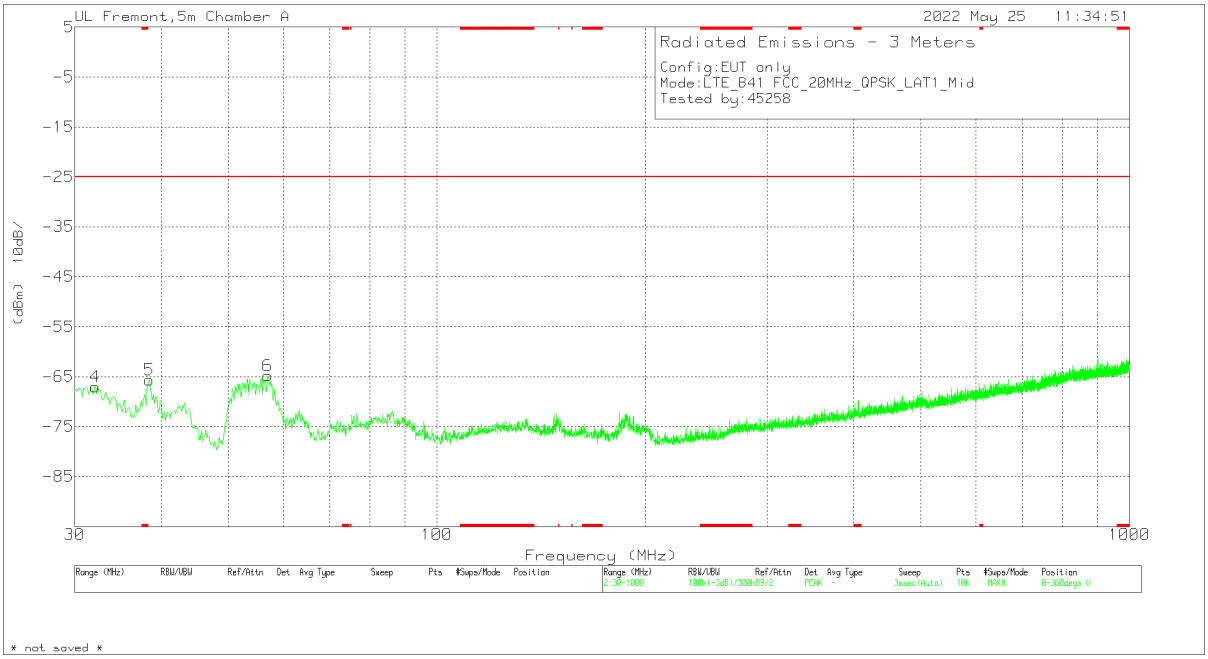
Example Plot Below 1GHz



Horizontal Polarity



Vertical Polarity

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Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T122 (dB/m)	Amp/Cbl (dB/m)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
1	30.388	27.08	Pk	27.7	-27.3	-95.2	-67.72	-25	-42.72	H
4	32.134	28.97	Pk	26.4	-27.2	-95.2	-67.03	-25	-42.03	V
2	38.439	30.53	Pk	21.5	-27.1	-95.2	-70.27	-25	-45.27	H
5	38.439	35.13	Pk	21.5	-27.1	-95.2	-65.67	-25	-40.67	V
6	56.966	43.76	Pk	13.5	-26.9	-95.2	-64.84	-25	-39.84	V
3	90.916	36.07	Pk	13.7	-26.4	-95.2	-71.83	-25	-46.83	H

Pk - Peak detector

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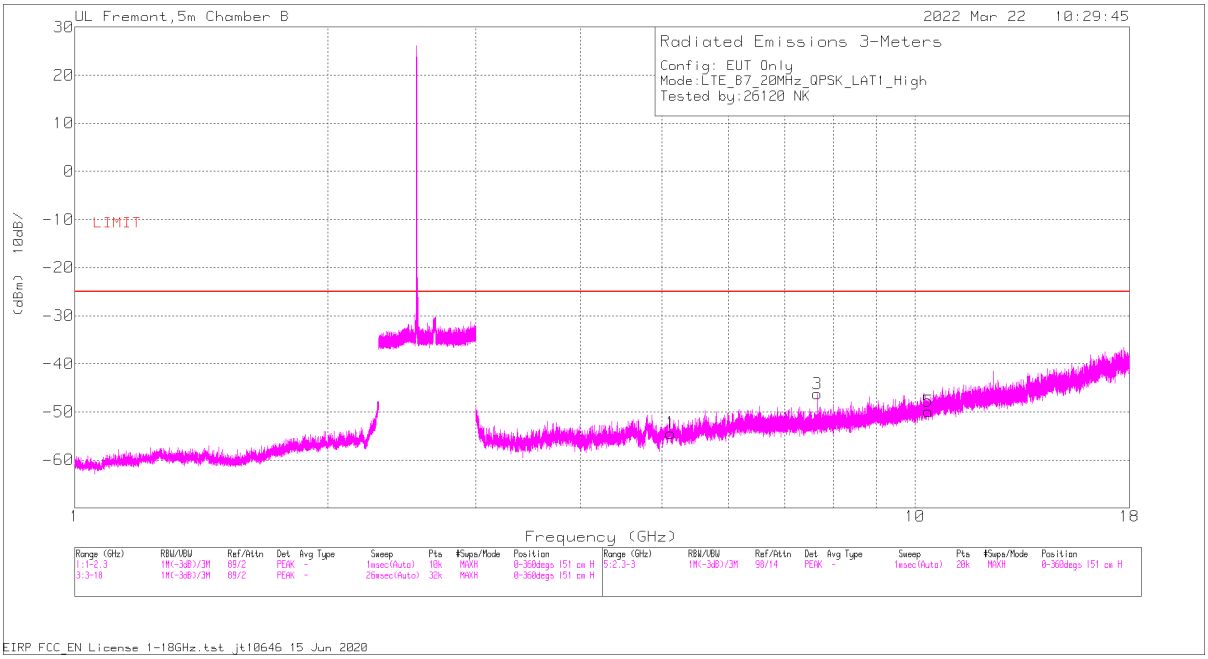
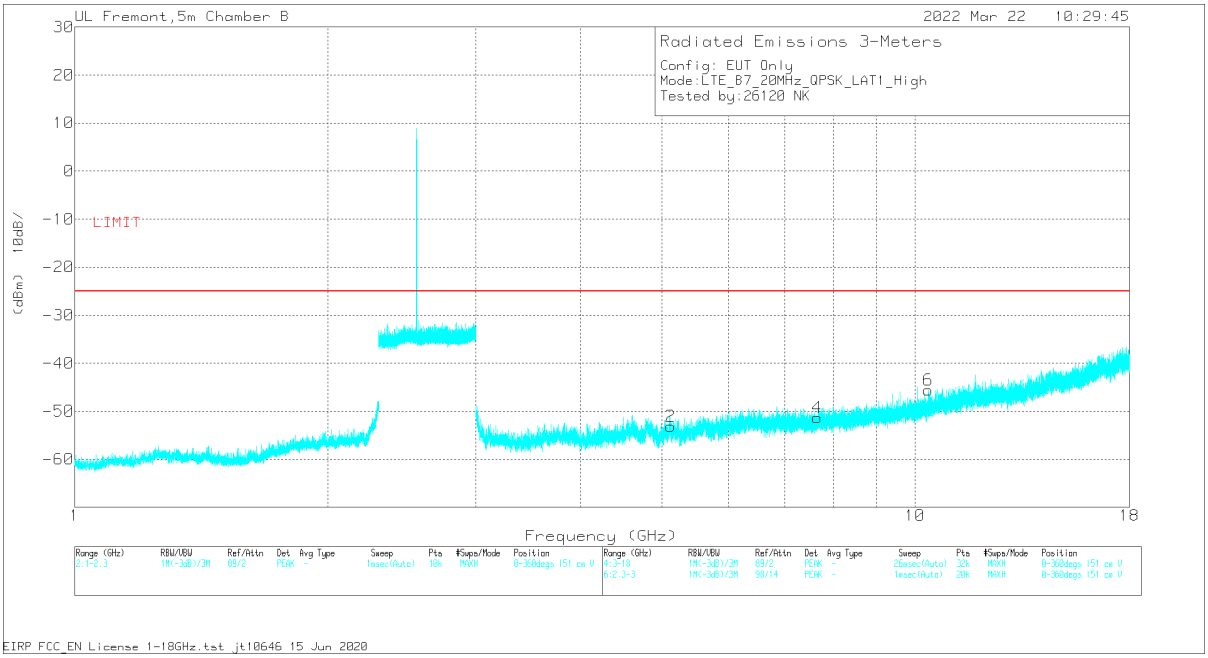
Example Plot Above 1GHz



Horizontal Polarity



Vertical Polarity

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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1	5.120156	36.53	Pk	34.2	-30.7	.8	-95.2	-54.37	-25	-29.37	H
2	5.120156	37.72	Pk	34.2	-30.7	.8	-95.2	-53.18	-25	-28.18	V
3	7.653281	39.74	Pk	35.8	-26.9	.3	-95.2	-46.26	-25	-21.26	H
4	7.65375	34.66	Pk	35.8	-26.9	.3	-95.2	-51.34	-25	-26.34	V
5	10.363125	31.82	Pk	37.6	-24.9	.8	-95.2	-49.88	-25	-24.88	H
6	10.363125	36.18	Pk	37.6	-24.9	.8	-95.2	-45.52	-25	-20.52	V

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10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

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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.

RSS132§5.5

Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least43 + 10 log10 p (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

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QPSK LTE BAND 5 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/31/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B5_10MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz										
1.647697	40.00	Pk	28.5	-29.4	0.7	-95.2	-55.4	-13	-42.4	H
1.649685	39.97	Pk	28.5	-29.4	0.8	-95.2	-55.33	-13	-42.33	V
2.473688	40.71	Pk	32.2	-28.1	0.5	-95.2	-49.89	-13	-36.89	H
2.47532	38.54	Pk	32.2	-28.1	0.5	-95.2	-52.06	-13	-39.06	V
3.298217	42.11	Pk	32.6	-26.4	0.8	-95.2	-46.09	-13	-33.09	V
3.298493	37.83	Pk	32.6	-26.4	0.8	-95.2	-50.37	-13	-37.37	H
Mid Channel, 836.5MHz										
1.663512	40.31	Pk	28.5	-29.4	0.8	-95.2	-54.99	-13	-41.99	V
1.665424	41.02	Pk	28.5	-29.4	0.7	-95.2	-54.38	-13	-41.38	H
2.496269	41.77	Pk	32.2	-28	0.6	-95.2	-48.63	-13	-35.63	H
2.497933	38.72	Pk	32.2	-28	0.6	-95.2	-51.68	-13	-38.68	V
3.121231	38.76	Pk	33.2	-26.6	0.6	-95.2	-49.24	-13	-36.24	V
3.121677	38.65	Pk	33.2	-26.6	0.6	-95.2	-49.35	-13	-36.35	H
High Channel, 844MHz										
1.678959	41.11	Pk	28.4	-29.3	0.7	-95.2	-54.29	-13	-41.29	V
1.679483	40.74	Pk	28.4	-29.3	0.7	-95.2	-54.66	-13	-41.66	H
2.518538	40.02	Pk	32.4	-28.1	0.8	-95.2	-50.08	-13	-37.08	V
2.51857	41.18	Pk	32.4	-28.1	0.8	-95.2	-48.92	-13	-35.92	H
3.3753	37.86	Pk	32.8	-26.6	0.6	-95.2	-50.54	-13	-37.54	V
3.376387	37.82	Pk	32.8	-26.5	0.6	-95.2	-50.48	-13	-37.48	H

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BPSK 5G NR n5 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/17/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n5_20MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 834MHz										
1.667867	38.75	Pk	28.3	-34.9	0.7	-95.2	-62.35	-13	-49.35	H
1.667867	39.3	Pk	28.3	-34.9	0.7	-95.2	-61.8	-13	-48.8	V
2.501911	39.73	Pk	32.7	-34.8	0.5	-95.2	-57.07	-13	-44.07	H
2.501911	40.33	Pk	32.7	-34.8	0.5	-95.2	-56.47	-13	-43.47	V
3.335956	38.1	Pk	32.6	-33.7	0.5	-95.2	-57.7	-13	-44.7	H
3.335956	38.07	Pk	32.6	-33.7	0.5	-95.2	-57.73	-13	-44.73	V
Mid Channel, 836.5MHz										
1.673245	37.66	Pk	28.4	-34.9	0.7	-95.2	-63.34	-13	-50.34	H
1.673245	37.74	Pk	28.4	-34.9	0.7	-95.2	-63.26	-13	-50.26	V
2.509245	38.92	Pk	32.7	-34.7	0.5	-95.2	-57.78	-13	-44.78	H
2.509245	41.25	Pk	32.7	-34.7	0.5	-95.2	-55.45	-13	-42.45	V
3.346223	39.03	Pk	32.5	-33.7	0.4	-95.2	-56.97	-13	-43.97	H
3.346223	38.43	Pk	32.5	-33.7	0.4	-95.2	-57.57	-13	-44.57	V
High Channel, 839MHz										
1.678133	40.11	Pk	28.5	-34.9	0.7	-95.2	-60.79	-13	-47.79	H
1.678133	38.53	Pk	28.5	-34.9	0.7	-95.2	-62.37	-13	-49.37	V
2.517067	39.43	Pk	32.7	-34.7	0.5	-95.2	-57.27	-13	-44.27	H
2.517067	38.25	Pk	32.7	-34.7	0.5	-95.2	-58.45	-13	-45.45	V
3.356	39.38	Pk	32.5	-33.7	0.4	-95.2	-56.62	-13	-43.62	H
3.356	40.36	Pk	32.5	-33.7	0.4	-95.2	-55.64	-13	-42.64	V

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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.

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QPSK LTE BAND 7 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/22/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B7_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz										
5.020313	36.42	Pk	34	-30.8	.8	-95.2	-54.78	-25	-29.78	H
5.020313	35.02	Pk	34	-30.8	.8	-95.2	-56.18	-25	-31.18	V
7.53	32.32	Pk	35.8	-27	.3	-95.2	-53.78	-25	-28.78	H
7.53	33.03	Pk	35.8	-27	.3	-95.2	-53.07	-25	-28.07	V
10.040156	32.26	Pk	37.1	-24.9	.7	-95.2	-50.04	-25	-25.04	H
10.040156	31.21	Pk	37.1	-24.9	.7	-95.2	-51.09	-25	-26.09	V
Mid Channel, 2535MHz										
5.07	35.51	Pk	34.1	-30.6	.7	-95.2	-55.49	-25	-30.49	H
5.07	35.04	Pk	34.1	-30.6	.7	-95.2	-55.96	-25	-30.96	V
7.605	35.29	Pk	35.9	-27	.4	-95.2	-50.61	-25	-25.61	H
7.605	33.22	Pk	35.9	-27	.4	-95.2	-52.68	-25	-27.68	V
10.14	32.7	Pk	37.2	-24.8	.7	-95.2	-49.40	-25	-24.40	H
10.14	32.58	Pk	37.2	-24.8	.7	-95.2	-49.52	-25	-24.52	V
High Channel, 2550MHz										
5.120156	36.53	Pk	34.2	-30.7	.8	-95.2	-54.37	-25	-29.37	H
5.120156	37.72	Pk	34.2	-30.7	.8	-95.2	-53.18	-25	-28.18	V
7.653281	39.74	Pk	35.8	-26.9	.3	-95.2	-46.26	-25	-21.26	H
7.65375	34.66	Pk	35.8	-26.9	.3	-95.2	-51.34	-25	-26.34	V
10.363125	31.82	Pk	37.6	-24.9	.8	-95.2	-49.88	-25	-24.88	H
10.363125	36.18	Pk	37.6	-24.9	.8	-95.2	-45.52	-25	-20.52	V

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BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1 n7_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz										
5.040469	36.29	Pk	34.3	-24.2	.6	-95.2	-48.21	-25	-23.21	H
5.040469	32.74	Pk	34.3	-24.2	.6	-95.2	-51.76	-25	-26.76	V
7.560469	29.07	Pk	35.6	-20	.3	-95.2	-50.23	-25	-25.23	H
7.560469	31.27	Pk	35.6	-20	.3	-95.2	-48.03	-25	-23.03	V
10.080938	31.09	Pk	37.1	-17.8	.6	-95.2	-44.21	-25	-19.21	H
10.080938	30.75	Pk	37.1	-17.8	.6	-95.2	-44.55	-25	-19.55	V
Mid Channel, 2535MHz										
5.070469	32.66	Pk	34.4	-23.7	.7	-95.2	-51.14	-25	-26.14	H
5.070469	33.4	Pk	34.4	-23.7	.7	-95.2	-50.40	-25	-25.40	V
7.605469	29.02	Pk	35.7	-20	.4	-95.2	-50.08	-25	-25.08	H
7.605469	31.06	Pk	35.7	-20	.4	-95.2	-48.04	-25	-23.04	V
10.14	28.32	Pk	37.3	-17.7	.7	-95.2	-46.58	-25	-21.58	H
10.14	29.86	Pk	37.3	-17.7	.7	-95.2	-45.04	-25	-20.04	V
High Channel, 2550MHz										
5.100938	34.94	Pk	34.4	-24	.8	-95.2	-49.06	-25	-24.06	H
5.100938	34.11	Pk	34.4	-24	.8	-95.2	-49.89	-25	-24.89	V
7.65	34.02	Pk	35.7	-19.7	.3	-95.2	-44.88	-25	-19.88	H
7.65	29.47	Pk	35.7	-19.7	.3	-95.2	-49.43	-25	-24.43	V
10.2	30.51	Pk	37.4	-17.5	.8	-95.2	-43.99	-25	-18.99	H
10.2	31.33	Pk	37.4	-17.5	.8	-95.2	-43.17	-25	-18.17	V

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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.

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QPSK LTE BAND 12 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B12_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz										
1.408267	40.19	Pk	28.8	-34.9	1	-95.2	-60.11	-13	-47.11	H
1.408267	39.12	Pk	28.8	-34.9	1	-95.2	-61.18	-13	-48.18	V
2.112267	38.7	Pk	31.2	-34.9	0.6	-95.2	-59.6	-13	-46.6	H
2.112267	39.73	Pk	31.2	-34.9	0.6	-95.2	-58.57	-13	-45.57	V
2.816267	37.91	Pk	32.3	-34.5	0.5	-95.2	-58.99	-13	-45.99	H
2.816267	38.32	Pk	32.3	-34.5	0.5	-95.2	-58.58	-13	-45.58	V
Mid Channel, 707.5MHz										
1.415111	39.97	Pk	28.9	-34.9	0.9	-95.2	-60.33	-13	-47.33	H
1.415111	39.85	Pk	28.9	-34.9	0.9	-95.2	-60.45	-13	-47.45	V
2.122534	39.84	Pk	31.2	-34.9	0.5	-95.2	-58.56	-13	-45.56	H
2.122534	39.46	Pk	31.2	-34.9	0.5	-95.2	-58.94	-13	-45.94	V
2.829956	39.64	Pk	32.3	-34.4	0.5	-95.2	-57.16	-13	-44.16	H
2.829956	40.2	Pk	32.3	-34.4	0.5	-95.2	-56.6	-13	-43.6	V
1.415111	39.97	Pk	28.9	-34.9	0.9	-95.2	-60.33	-13	-47.33	H
High Channel, 711MHz										
1.4156	43.01	Pk	28.9	-34.9	0.9	-95.2	-57.29	-13	-44.29	H
1.4156	40.47	Pk	28.9	-34.9	0.9	-95.2	-59.83	-13	-46.83	V
2.1328	38.59	Pk	31.2	-34.9	0.5	-95.2	-59.81	-13	-46.81	H
2.1328	39.85	Pk	31.2	-34.9	0.5	-95.2	-58.55	-13	-45.55	V
2.844134	39.31	Pk	32.2	-34.4	0.6	-95.2	-57.49	-13	-44.49	H
2.844134	39.35	Pk	32.2	-34.4	0.6	-95.2	-57.45	-13	-44.45	V

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BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/23/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	FR1_n12_15MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz										
1.398834	51.67	Pk	28.7	-34.9	1	-95.2	-48.73	-13	-35.73	V
1.398994	52.99	Pk	28.7	-34.9	1	-95.2	-47.41	-13	-34.41	H
2.098313	49.91	Pk	31.2	-34.9	0.6	-95.2	-48.39	-13	-35.39	V
2.098413	53.2	Pk	31.2	-34.9	0.6	-95.2	-45.1	-13	-32.1	H
2.826045	40.73	Pk	32.3	-34.4	0.5	-95.2	-56.07	-13	-43.07	H
2.826045	39.23	Pk	32.3	-34.4	0.5	-95.2	-57.57	-13	-44.57	V
Mid Channel, 707.5MHz										
1.400933	41.39	Pk	28.8	-34.9	1	-95.2	-58.91	-13	-45.91	V
1.401024	48.02	Pk	28.8	-34.9	1	-95.2	-52.28	-13	-39.28	H
2.101167	51.4	Pk	31.2	-34.9	0.6	-95.2	-46.9	-13	-33.9	H
2.101511	40.32	Pk	31.2	-34.9	0.6	-95.2	-57.98	-13	-44.98	V
2.829467	40.07	Pk	32.3	-34.4	0.5	-95.2	-56.73	-13	-43.73	H
2.829467	42.42	Pk	32.3	-34.4	0.5	-95.2	-54.38	-13	-41.38	V
High Channel, 708.5MHz										
1.403049	49.35	Pk	28.8	-34.9	1	-95.2	-50.95	-13	-37.95	H
1.403378	40.58	Pk	28.8	-34.9	1	-95.2	-59.72	-13	-46.72	V
2.104206	47.79	Pk	31.2	-34.9	0.6	-95.2	-50.51	-13	-37.51	H
2.104244	48.59	Pk	31.2	-34.9	0.6	-95.2	-49.71	-13	-36.71	V
2.834356	39.18	Pk	32.3	-34.4	0.5	-95.2	-57.62	-13	-44.62	H
2.834356	39.78	Pk	32.3	-34.4	0.5	-95.2	-57.02	-13	-44.02	V

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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.

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QPSK LTE BAND 13 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/10/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B13_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz										
1.577911	39.67	Pk	27.7	-34.9	.8	-95.2	-61.93	-40	-21.93	H
1.577911	41.01	Pk	27.7	-34.9	.8	-95.2	-60.59	-40	-20.59	V
2.025245	41.57	Pk	31.3	-34.8	.6	-95.2	-56.53	-13	-43.53	H
2.025245	40.84	Pk	31.3	-34.8	.6	-95.2	-57.26	-13	-44.26	V
2.859778	42.4	Pk	32.3	-34.4	.5	-95.2	-54.4	-13	-41.4	H
2.859778	40.75	Pk	32.3	-34.4	.5	-95.2	-56.05	-13	-43.05	V

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

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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

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QPSK LTE BAND 14 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B14_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.586222	40.00	Pk	27.8	-34.9	.8	-95.2	-61.5	-40	-21.5	H
1.586222	40.25	Pk	27.8	-34.9	.8	-95.2	-61.25	-40	-21.25	V
2.3792	41.99	Pk	31.9	-34.8	.6	-95.2	-55.51	-13	-42.51	H
2.3792	41.23	Pk	31.9	-34.8	.6	-95.2	-56.27	-13	-43.27	V
3.172178	40.72	Pk	32.7	-34	.5	-95.2	-55.28	-13	-42.28	H
3.172178	39.28	Pk	32.7	-34	.5	-95.2	-56.72	-13	-43.72	V

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

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/29/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n14_10MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.576445	45.66	Pk	27.7	-34.9	.8	-95.2	-55.94	-40	-15.94	H
1.576445	46.75	Pk	27.7	-34.9	.8	-95.2	-54.85	-40	-14.85	V
2.3792	40.97	Pk	31.9	-34.8	.6	-95.2	-56.53	-13	-43.53	H
2.3792	40.5	Pk	31.9	-34.8	.6	-95.2	-57.00	-13	-44.00	V
3.172178	40.29	Pk	32.7	-34	.5	-95.2	-55.71	-13	-42.71	H
3.172178	39.45	Pk	32.7	-34	.5	-95.2	-56.55	-13	-43.55	V

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

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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.

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QPSK LTE BAND 17 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B17_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz										
1.418044	40.65	Pk	29	-34.9	.9	-95.2	-59.55	-13	-46.55	H
1.418044	41.75	Pk	29	-34.9	.9	-95.2	-58.45	-13	-45.45	V
2.126934	40.75	Pk	31.2	-34.9	.5	-95.2	-57.65	-13	-44.65	H
2.126934	42.03	Pk	31.2	-34.9	.5	-95.2	-56.37	-13	-43.37	V
2.835823	39.61	Pk	32.2	-34.4	.5	-95.2	-57.29	-13	-44.29	H
2.835823	39.6	Pk	32.2	-34.4	.5	-95.2	-57.3	-13	-44.3	V
Mid Channel, 710MHz										
1.411071	54.88	Pk	28.8	-34.9	1	-95.2	-45.42	-13	-32.42	H
1.411252	54.98	Pk	28.8	-34.9	1	-95.2	-45.32	-13	-32.32	V
2.116451	47.87	Pk	31.2	-34.9	.5	-95.2	-50.53	-13	-37.53	V
2.116891	51.5	Pk	31.2	-34.8	.5	-95.2	-46.8	-13	-33.8	H
2.820578	41.77	Pk	32.3	-34.4	.5	-95.2	-55.03	-13	-42.03	H
2.822287	43.58	Pk	32.3	-34.4	.5	-95.2	-53.22	-13	-40.22	V
High Channel, 711MHz										
1.421956	41.36	Pk	29	-34.9	.9	-95.2	-58.84	-13	-45.84	H
1.421956	43.69	Pk	29	-34.9	.9	-95.2	-56.51	-13	-43.51	V
2.133289	41.16	Pk	31.2	-34.9	.5	-95.2	-57.24	-13	-44.24	H
2.133289	41.92	Pk	31.2	-34.9	.5	-95.2	-56.48	-13	-43.48	V
2.844134	40.45	Pk	32.2	-34.4	.6	-95.2	-56.35	-13	-43.35	H
2.844134	38.76	Pk	32.2	-34.4	.6	-95.2	-58.04	-13	-45.04	V

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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.

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QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/21/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B25_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.72	37.57	Pk	33.3	-32.2	-95.2	-56.53	-13	-43.53	H
3.72	38.73	Pk	33.3	-32.2	-95.2	-55.37	-13	-42.37	V
5.58	37.32	Pk	34.8	-29.6	-95.2	-52.68	-13	-39.68	H
5.58	37.3	Pk	34.8	-29.6	-95.2	-52.7	-13	-39.7	V
7.44	32.53	Pk	35.8	-26.3	-95.2	-53.17	-13	-40.17	H
7.44	32.39	Pk	35.8	-26.3	-95.2	-53.31	-13	-40.31	V
Mid Channel, 1882.5MHz									
3.765	37.06	Pk	33.5	-32	-95.2	-56.64	-13	-43.64	H
3.765	37.42	Pk	33.5	-32	-95.2	-56.28	-13	-43.28	V
5.647031	37.51	Pk	35	-30.1	-95.2	-52.79	-13	-39.79	H
5.647031	37.76	Pk	35	-30.1	-95.2	-52.54	-13	-39.54	V
7.53	33.03	Pk	35.8	-26.1	-95.2	-52.47	-13	-39.47	H
7.53	33.75	Pk	35.8	-26.1	-95.2	-51.75	-13	-38.75	V
High Channel, 1905MHz									
3.81	38.27	Pk	33.7	-31.8	-95.2	-55.03	-13	-42.03	H
3.81	39.02	Pk	33.7	-31.8	-95.2	-54.28	-13	-41.28	V
5.715	35.14	Pk	34.9	-29.2	-95.2	-54.36	-13	-41.36	H
5.715	37.25	Pk	34.9	-29.2	-95.2	-52.25	-13	-39.25	V
7.62	36.67	Pk	35.8	-26.5	-95.2	-49.23	-13	-36.23	H
7.62	34.37	Pk	35.8	-26.5	-95.2	-51.53	-13	-38.53	V

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BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/22/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	FR1_n25_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.739688	34.19	Pk	33.4	-25.1	-95.2	-52.71	-13	-39.71	H
3.739688	37.41	Pk	33.4	-25.1	-95.2	-49.49	-13	-36.49	V
5.610000	33.04	Pk	34.8	-21.8	-95.2	-49.16	-13	-36.16	H
5.610000	33.76	Pk	34.8	-21.8	-95.2	-48.44	-13	-35.44	V
7.480313	28.86	Pk	35.6	-20.2	-95.2	-50.94	-13	-37.94	H
7.480313	32.22	Pk	35.6	-20.2	-95.2	-47.58	-13	-34.58	V
Mid Channel, 1882.5MHz									
3.765469	36.03	Pk	33.4	-24.8	-95.2	-50.57	-13	-37.57	H
3.765469	36.62	Pk	33.4	-24.8	-95.2	-49.98	-13	-36.98	V
5.647500	34.11	Pk	34.8	-21.9	-95.2	-48.19	-13	-35.19	H
5.647500	32.66	Pk	34.8	-21.9	-95.2	-49.64	-13	-36.64	V
7.530469	31.67	Pk	35.6	-19.6	-95.2	-47.53	-13	-34.53	H
7.530469	29.26	Pk	35.6	-19.6	-95.2	-49.94	-13	-36.94	V
High Channel, 1895MHz									
3.790313	35.05	Pk	33.3	-25.1	-95.2	-51.95	-13	-38.95	H
3.790313	36.03	Pk	33.3	-25.1	-95.2	-50.97	-13	-37.97	V
5.685000	32.93	Pk	34.9	-22.6	-95.2	-49.97	-13	-36.97	H
5.685000	32.32	Pk	34.9	-22.6	-95.2	-50.58	-13	-37.58	V
7.580156	31.57	Pk	35.6	-18.5	-95.2	-46.53	-13	-33.53	H
7.580156	30.93	Pk	35.6	-18.5	-95.2	-47.17	-13	-34.17	V

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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.

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QPSK LTE BAND 26 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/10/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B26_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.638045	38.19	Pk	28.4	-34.9	0.7	-95.2	-62.81	-13	-49.81	H
1.638045	39.06	Pk	28.4	-34.9	0.7	-95.2	-61.94	-13	-48.94	V
2.452534	38.61	Pk	32.4	-34.8	0.6	-95.2	-58.39	-13	-45.39	H
2.452534	38.89	Pk	32.4	-34.8	0.6	-95.2	-58.11	-13	-45.11	V
3.275823	38.11	Pk	32.8	-33.8	0.5	-95.2	-57.59	-13	-44.59	H
3.275823	39.32	Pk	32.8	-33.8	0.5	-95.2	-56.38	-13	-43.38	V

BPSK 5G NR n26 Part 90s(10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/23/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	FR1_n26_10MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.638533	40.23	Pk	28.4	-34.9	0.7	-95.2	-60.77	-13	-47.77	H
1.638533	40.1	Pk	28.4	-34.9	0.7	-95.2	-60.90	-13	-47.90	V
2.457423	41.07	Pk	32.4	-34.8	0.6	-95.2	-55.93	-13	-42.93	V
2.457911	42.58	Pk	32.4	-34.8	0.6	-95.2	-54.42	-13	-41.42	H
3.276312	39.97	Pk	32.8	-33.8	0.5	-95.2	-55.73	-13	-42.73	H
3.276312	39.66	Pk	32.8	-33.8	0.5	-95.2	-56.04	-13	-43.04	V

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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.

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QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/29/2022
Test Engineer:	28567
Configuration:	EUT Only
Mode	LTE_B30_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.62	34.27	RMS	34.2	-29.1	-95.2	-55.83	-40	-15.83	V
4.620469	33.32	RMS	34.2	-29.1	-95.2	-56.78	-40	-16.78	H
6.93	31.62	RMS	35.8	-26	-95.2	-53.78	-40	-13.78	H
6.93	31.68	RMS	35.8	-26	-95.2	-53.72	-40	-13.72	V
9.24	29.79	RMS	36.3	-23.6	-95.2	-52.71	-40	-12.71	H
9.24	29.91	RMS	36.3	-23.6	-95.2	-52.59	-40	-12.59	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH

Project #:	14040867
Date:	3/3/2022
Test Engineer:	45258
Configuration:	FR1_n30_10MHz_BPSK
Mode	EUT Only
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.621406	28.5	RMS	34.1	-24.8	-95.2	-57.40	-40	-17.40	H
4.621406	26.29	RMS	34.1	-24.8	-95.2	-59.61	-40	-19.61	V
6.93	23.17	RMS	35.4	-20.7	-95.2	-57.33	-40	-17.33	H
6.93	21.5	RMS	35.4	-20.7	-95.2	-59.00	-40	-19.00	V
9.24	20.22	RMS	36.3	-18.4	-95.2	-57.08	-40	-17.08	H
9.24	21.35	RMS	36.3	-18.4	-95.2	-55.95	-40	-15.95	V

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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.

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QPSK LTE BAND 41 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/24/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B41FCC_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz										
5.012344	34.76	Pk	34.3	-24.3	.8	-95.2	-49.64	-25	-24.64	H
5.012344	32.78	Pk	34.3	-24.3	.8	-95.2	-51.62	-25	-26.62	V
7.51875	30.12	Pk	35.6	-20.1	.3	-95.2	-49.28	-25	-24.28	H
7.51875	29.41	Pk	35.6	-20.1	.3	-95.2	-49.99	-25	-24.99	V
10.024219	29.54	Pk	37.2	-17.6	.6	-95.2	-45.46	-25	-20.46	H
10.024219	29.57	Pk	37.2	-17.6	.6	-95.2	-45.43	-25	-20.43	V
Mid Channel, 2593MHz										
5.186719	34.63	Pk	34.4	-23.6	.8	-95.2	-48.97	-25	-23.97	H
5.186719	31.89	Pk	34.4	-23.6	.8	-95.2	-51.71	-25	-26.71	V
7.779375	29.98	Pk	35.7	-19.9	.3	-95.2	-49.12	-25	-24.12	H
7.779375	29.93	Pk	35.7	-19.9	.3	-95.2	-49.17	-25	-24.17	V
10.372969	28.24	Pk	37.5	-16.9	.8	-95.2	-45.56	-25	-20.56	H
10.372969	28.83	Pk	37.5	-16.9	.8	-95.2	-44.97	-25	-19.97	V
High Channel, 2680MHz										
5.360625	30.6	Pk	34.6	-23.9	.5	-95.2	-53.4	-25	-28.4	H
5.360625	32.49	Pk	34.6	-23.9	.5	-95.2	-51.51	-25	-26.51	V
8.040938	29.79	Pk	35.7	-19.3	.4	-95.2	-48.61	-25	-23.61	H
8.040938	30.45	Pk	35.7	-19.3	.4	-95.2	-47.95	-25	-22.95	V
10.720313	30.73	Pk	38	-17.1	.6	-95.2	-42.97	-25	-17.97	H
10.720313	30.19	Pk	38	-17.1	.6	-95.2	-43.51	-25	-18.51	V

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BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/1/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n41_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.092031	36.42	Pk	34.2	-30.5	.8	-95.2	-54.28	-25	-29.28	H
5.092031	35	Pk	34.2	-30.5	.8	-95.2	-55.70	-25	-30.70	V
7.638281	33.52	Pk	35.9	-26.9	.4	-95.2	-52.28	-25	-27.28	H
7.638281	33.02	Pk	35.9	-26.9	.4	-95.2	-52.78	-25	-27.78	V
10.184063	31.34	Pk	37.2	-25	.6	-95.2	-51.06	-25	-26.06	H
10.184063	31.97	Pk	37.2	-25	.6	-95.2	-50.43	-25	-25.43	V
Mid Channel, 2593MHz										
5.18625	36.32	Pk	34.2	-30.7	.8	-95.2	-54.58	-25	-29.58	H
5.18625	35.44	Pk	34.2	-30.7	.8	-95.2	-55.46	-25	-30.46	V
7.778906	33.6	Pk	35.9	-26.9	.3	-95.2	-52.30	-25	-27.30	H
7.778906	32.78	Pk	35.9	-26.9	.3	-95.2	-53.12	-25	-28.12	V
10.372031	31.85	Pk	37.6	-24.9	.8	-95.2	-49.85	-25	-24.85	H
10.372031	31.32	Pk	37.6	-24.9	.8	-95.2	-50.38	-25	-25.38	V
High Channel, 2640MHz										
5.28	34.2	Pk	34.3	-30.3	.3	-95.2	-56.70	-25	-31.70	H
5.28	35.5	Pk	34.3	-30.3	.3	-95.2	-55.40	-25	-30.40	V
7.92	33.9	Pk	35.9	-26.5	.2	-95.2	-51.70	-25	-26.70	H
7.92	33.33	Pk	35.9	-26.5	.2	-95.2	-52.27	-25	-27.27	V
10.56	32.59	Pk	37.8	-24.6	.7	-95.2	-48.71	-25	-23.71	H
10.56	32.78	Pk	37.8	-24.6	.7	-95.2	-48.52	-25	-23.52	V

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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.

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QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/24/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B66_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.421875	40.88	Pk	32.6	-33	-95.2	-54.72	-13	-41.72	H
3.422344	42.03	Pk	32.6	-33	-95.2	-53.57	-13	-40.57	V
5.132813	41.26	Pk	34.2	-30	-95.2	-49.74	-13	-36.74	V
5.133281	44.29	Pk	34.2	-30	-95.2	-46.71	-13	-33.71	H
6.880313	34.48	Pk	35.9	-26.6	-95.2	-51.42	-13	-38.42	H
6.880313	33.66	Pk	35.9	-26.6	-95.2	-52.24	-13	-39.24	V
Mid Channel, 1745MHz									
3.489844	37.24	Pk	32.9	-32.9	-95.2	-57.96	-13	-44.96	H
3.489844	37.95	Pk	32.9	-32.9	-95.2	-57.25	-13	-44.25	V
5.235	35.54	Pk	34.2	-28.8	-95.2	-54.26	-13	-41.26	H
5.235	35.48	Pk	34.2	-28.8	-95.2	-54.32	-13	-41.32	V
6.980156	34.14	Pk	35.8	-26.3	-95.2	-51.56	-13	-38.56	H
6.980156	33.43	Pk	35.8	-26.3	-95.2	-52.27	-13	-39.27	V
High Channel, 1770MHz									
3.54	39.45	Pk	33.1	-32.8	-95.2	-55.45	-13	-42.45	H
3.54	39.16	Pk	33.1	-32.8	-95.2	-55.74	-13	-42.74	V
5.28375	41.26	Pk	34.2	-29.3	-95.2	-49.04	-13	-36.04	H
5.28375	37.2	Pk	34.2	-29.3	-95.2	-53.1	-13	-40.1	V
7.08	32.68	Pk	35.7	-26.7	-95.2	-53.52	-13	-40.52	H
7.08	34.39	Pk	35.7	-26.7	-95.2	-51.81	-13	-38.81	V

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BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/28/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n66_40MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.459844	39.83	Pk	32.8	-33	-95.2	-55.57	-13	-42.57	H
3.459844	39.23	Pk	32.8	-33	-95.2	-56.17	-13	-43.17	V
5.19	37.99	Pk	34.2	-29.1	-95.2	-52.11	-13	-39.11	H
5.19	36.66	Pk	34.2	-29.1	-95.2	-53.44	-13	-40.44	V
6.920156	32.95	Pk	35.8	-26.2	-95.2	-52.65	-13	-39.65	H
6.920156	34.03	Pk	35.8	-26.2	-95.2	-51.57	-13	-38.57	V
Mid Channel, 1745MHz									
3.489844	37.38	Pk	32.9	-32.9	-95.2	-57.82	-13	-44.82	H
3.489844	38.78	Pk	32.9	-32.9	-95.2	-56.42	-13	-43.42	V
5.235	36.29	Pk	34.2	-28.8	-95.2	-53.51	-13	-40.51	H
5.235	35.83	Pk	34.2	-28.8	-95.2	-53.97	-13	-40.97	V
6.980156	35.51	Pk	35.8	-26.3	-95.2	-50.19	-13	-37.19	H
6.980156	33.82	Pk	35.8	-26.3	-95.2	-51.88	-13	-38.88	V
High Channel, 1760MHz									
3.519844	37.48	Pk	33.1	-32.8	-95.2	-57.42	-13	-44.42	H
3.519844	38.62	Pk	33.1	-32.8	-95.2	-56.28	-13	-43.28	V
5.28	35.54	Pk	34.3	-29.3	-95.2	-54.66	-13	-41.66	H
5.28	36.17	Pk	34.3	-29.3	-95.2	-54.03	-13	-41.03	V
7.040156	34.86	Pk	35.7	-26.8	-95.2	-51.44	-13	-38.44	H
7.040156	33.33	Pk	35.7	-26.8	-95.2	-52.97	-13	-39.97	V

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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.

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BPSK 5G NR n70 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/8/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n70_15MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.405000	38.25	Pk	32.5	-33	-95.2	-57.45	-13	-44.45	H
3.405000	37.32	Pk	32.5	-33	-95.2	-58.38	-13	-45.38	V
5.107031	36.93	Pk	34.1	-30.3	-95.2	-54.47	-13	-41.47	H
5.107031	36.16	Pk	34.1	-30.3	-95.2	-55.24	-13	-42.24	V
6.810000	33.3	Pk	35.7	-26.9	-95.2	-53.1	-13	-40.1	H
6.810000	34.11	Pk	35.7	-26.9	-95.2	-52.29	-13	-39.29	V

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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.

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QPSK LTE BAND 71 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/1/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B71_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 673MHz										
1.346178	37.19	Pk	29.1	-30.1	1.1	-95.2	-57.91	-13	-44.91	H
1.346178	37.57	Pk	29.1	-30.1	1.1	-95.2	-57.53	-13	-44.53	V
2.019378	36.94	Pk	30.8	-28.7	.5	-95.2	-55.66	-13	-42.66	H
2.019378	36.57	Pk	30.8	-28.7	.5	-95.2	-56.03	-13	-43.03	V
2.692578	35.36	Pk	32.2	-27.7	.5	-95.2	-54.84	-13	-41.84	H
2.692578	35.59	Pk	32.2	-27.7	.5	-95.2	-54.61	-13	-41.61	V
Mid Channel, 683MHz										
1.361333	40.64	Pk	29.4	-30.1	1	-95.2	-54.26	-13	-41.26	H
1.361333	39.07	Pk	29.4	-30.1	1	-95.2	-55.83	-13	-42.83	V
2.041867	36.78	Pk	30.8	-28.8	.5	-95.2	-55.92	-13	-42.92	H
2.041867	37.5	Pk	30.8	-28.8	.5	-95.2	-55.2	-13	-42.2	V
2.7224	36.45	Pk	32.1	-27.5	.5	-95.2	-53.65	-13	-40.65	H
2.7224	35.81	Pk	32.1	-27.5	.5	-95.2	-54.29	-13	-41.29	V
High Channel, 688MHz										
1.376489	38.33	Pk	29.3	-29.9	1	-95.2	-56.47	-13	-43.47	H
1.376489	38.1	Pk	29.3	-29.9	1	-95.2	-56.7	-13	-43.7	V
2.064356	35.52	Pk	31.2	-28.7	.5	-95.2	-56.68	-13	-43.68	H
2.064356	35.83	Pk	31.2	-28.7	.5	-95.2	-56.37	-13	-43.37	V
2.752223	35.9	Pk	32	-27.3	.5	-95.2	-54.1	-13	-41.1	H
2.752223	33.94	Pk	32	-27.3	.5	-95.2	-56.06	-13	-43.06	V

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BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/24/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	FR1_n71_20MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 673MHz										
1.346178	37.19	Pk	29.1	-30.1	1.1	-95.2	-57.91	-13	-44.91	H
1.346178	37.57	Pk	29.1	-30.1	1.1	-95.2	-57.53	-13	-44.53	V
2.019378	36.94	Pk	30.8	-28.7	.5	-95.2	-55.66	-13	-42.66	H
2.019378	36.57	Pk	30.8	-28.7	.5	-95.2	-56.03	-13	-43.03	V
2.692578	35.36	Pk	32.2	-27.7	.5	-95.2	-54.84	-13	-41.84	H
2.692578	35.59	Pk	32.2	-27.7	.5	-95.2	-54.61	-13	-41.61	V
Mid Channel, 683MHz										
1.360844	38.94	Pk	29.1	-34.9	1.1	-95.2	-60.96	-13	-47.96	H
1.360844	38.94	Pk	29.1	-34.9	1.1	-95.2	-60.96	-13	-47.96	H
2.041378	40.42	Pk	31.4	-34.8	0.6	-95.2	-57.58	-13	-44.58	H
2.041378	39.7	Pk	31.4	-34.8	0.6	-95.2	-58.3	-13	-45.3	V
2.7224	39.94	Pk	32.5	-34.6	0.5	-95.2	-56.86	-13	-43.86	H
2.7224	39.07	Pk	32.5	-34.6	0.5	-95.2	-57.73	-13	-44.73	V
High Channel, 688MHz										
1.376489	41.8	Pk	28.8	-34.9	1	-95.2	-58.5	-13	-45.5	H
1.376978	39.48	Pk	28.8	-34.9	1	-95.2	-60.82	-13	-47.82	V
2.035539	62.08	Pk	31.4	-34.8	0.6	-95.2	-35.92	-13	-22.92	H
2.035563	57.05	Pk	31.4	-34.8	0.6	-95.2	-40.95	-13	-27.95	V
2.714017	51.12	Pk	32.5	-34.6	0.6	-95.2	-45.58	-13	-32.58	V
2.714089	41.43	Pk	32.5	-34.6	0.6	-95.2	-55.27	-13	-42.27	H

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10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 2

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

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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.

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QPSK LTE BAND 5 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/31/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B5_10MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz										
1.658089	37.2	Pk	28.5	-29.4	0.8	-95.2	-58.1	-13	-45.1	H
1.658089	36.39	Pk	28.5	-29.4	0.8	-95.2	-58.91	-13	-45.91	V
2.487245	36.88	Pk	32.2	-28	0.5	-95.2	-53.62	-13	-40.62	H
2.487245	35.43	Pk	32.2	-28	0.5	-95.2	-55.07	-13	-42.07	V
3.316889	34.59	Pk	32.5	-26.6	0.6	-95.2	-54.11	-13	-41.11	H
3.316889	35.81	Pk	32.5	-26.6	0.6	-95.2	-52.89	-13	-39.89	V
Mid Channel, 836.5MHz										
1.673245	37.08	Pk	28.4	-29.3	0.7	-95.2	-58.32	-13	-45.32	H
1.673245	36.89	Pk	28.4	-29.3	0.7	-95.2	-58.51	-13	-45.51	V
2.509734	35.6	Pk	32.4	-28.1	0.7	-95.2	-54.6	-13	-41.6	H
2.509734	39.28	Pk	32.4	-28.1	0.7	-95.2	-50.92	-13	-37.92	V
3.346223	34.12	Pk	32.7	-26.5	0.5	-95.2	-54.38	-13	-41.38	H
3.346223	36.57	Pk	32.7	-26.5	0.5	-95.2	-51.93	-13	-38.93	V
High Channel, 844MHz										
1.687911	37.17	Pk	28.4	-29.2	0.7	-95.2	-58.13	-13	-45.13	H
1.687911	38.85	Pk	28.4	-29.2	0.7	-95.2	-56.45	-13	-43.45	V
2.532223	36.91	Pk	32.3	-27.9	0.7	-95.2	-53.19	-13	-40.19	H
2.532223	34.65	Pk	32.3	-27.9	0.7	-95.2	-55.45	-13	-42.45	V
3.376534	37.8	Pk	32.8	-26.5	0.6	-95.2	-50.5	-13	-37.5	H
3.376534	35.02	Pk	32.8	-26.5	0.6	-95.2	-53.28	-13	-40.28	V

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BPSK 5G NR n5 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/30/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n5_20MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 834MHz										
1.667867	40.41	Pk	28.3	-34.9	0.7	-95.2	-60.69	-13	-47.69	H
1.667867	40.61	Pk	28.3	-34.9	0.7	-95.2	-60.49	-13	-47.49	V
2.501911	39.94	Pk	32.7	-34.8	0.5	-95.2	-56.86	-13	-43.86	H
2.501911	40.45	Pk	32.7	-34.8	0.5	-95.2	-56.35	-13	-43.35	V
3.335956	38.93	Pk	32.6	-33.7	0.5	-95.2	-56.87	-13	-43.87	H
3.335956	39.23	Pk	32.6	-33.7	0.5	-95.2	-56.57	-13	-43.57	V
Mid Channel, 836.5MHz										
1.673245	40.9	Pk	28.4	-34.9	0.7	-95.2	-60.1	-13	-47.1	H
1.673245	40.88	Pk	28.4	-34.9	0.7	-95.2	-60.12	-13	-47.12	V
2.509245	39.97	Pk	32.7	-34.7	0.5	-95.2	-56.73	-13	-43.73	H
2.509245	41.01	Pk	32.7	-34.7	0.5	-95.2	-55.69	-13	-42.69	V
3.346223	39.53	Pk	32.5	-33.7	0.4	-95.2	-56.47	-13	-43.47	H
3.346223	39.38	Pk	32.5	-33.7	0.4	-95.2	-56.62	-13	-43.62	V
High Channel, 839MHz										
1.678133	40.21	Pk	28.5	-34.9	0.7	-95.2	-60.69	-13	-47.69	H
1.678133	42.02	Pk	28.5	-34.9	0.7	-95.2	-58.88	-13	-45.88	V
2.517067	40.22	Pk	32.7	-34.7	0.5	-95.2	-56.48	-13	-43.48	H
2.517067	39.59	Pk	32.7	-34.7	0.5	-95.2	-57.11	-13	-44.11	V
3.356	40.56	Pk	32.5	-33.7	0.4	-95.2	-55.44	-13	-42.44	H
3.356	39.33	Pk	32.5	-33.7	0.4	-95.2	-56.67	-13	-43.67	V

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10.2.2. 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.

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QPSK LTE BAND 7 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/24/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B7_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz										
5.020313	34.83	Pk	34.2	-24.2	.8	-95.2	-49.57	-25	-24.57	H
5.020313	33.45	Pk	34.2	-24.2	.8	-95.2	-50.95	-25	-25.95	V
7.530469	31.81	Pk	35.6	-20.2	.3	-95.2	-47.69	-25	-22.69	H
7.530469	27.91	Pk	35.6	-20.2	.3	-95.2	-51.59	-25	-26.59	V
10.401094	27.93	Pk	37.5	-17	.8	-95.2	-45.97	-25	-20.97	H
10.401094	30.99	Pk	37.5	-17	.8	-95.2	-42.91	-25	-17.91	V
Mid Channel, 2535MHz										
5.07	36.08	Pk	34.1	-30.6	.7	-95.2	-54.92	-25	-29.92	H
5.07	38.37	Pk	34.1	-30.6	.7	-95.2	-52.63	-25	-27.63	V
7.576677	37.24	Pk	35.8	-27	.5	-95.2	-48.66	-25	-23.66	V
7.578797	37.42	Pk	35.8	-27	.5	-95.2	-48.48	-25	-23.48	H
10.14	33.11	Pk	37.2	-24.8	.7	-95.2	-48.99	-25	-23.99	H
10.14	32.41	Pk	37.2	-24.8	.7	-95.2	-49.69	-25	-24.69	V
High Channel, 2560MHz										
5.120156	37.98	Pk	34.2	-30.7	.8	-95.2	-52.92	-25	-27.92	H
5.120156	35.2	Pk	34.2	-30.7	.8	-95.2	-55.7	-25	-30.7	V
7.653281	39.51	Pk	35.8	-26.9	.3	-95.2	-46.49	-25	-21.49	H
7.653281	38.09	Pk	35.8	-26.9	.3	-95.2	-47.91	-25	-22.91	V
10.239844	33.12	Pk	37.3	-25	.8	-95.2	-48.98	-25	-23.98	V
10.240313	32.29	Pk	37.3	-25	.8	-95.2	-49.81	-25	-24.81	H

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BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/1/2022 & 5/23/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	5G NR n7_40MHz_BPSK
Chamber #:	Chamber A & Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz										
5.04	35.57	Pk	34	-30.7	.6	-95.2	-55.73	-25	-30.73	H
5.04	37.27	Pk	34	-30.7	.6	-95.2	-54.03	-25	-29.03	V
7.501406	39.26	Pk	35.8	-26.8	.4	-95.2	-46.54	-25	-21.54	V
7.501875	35.48	Pk	35.8	-26.9	.4	-95.2	-50.42	-25	-25.42	H
10.08	31.42	Pk	37.1	-24.9	.6	-95.2	-50.98	-25	-25.98	H
10.08	31.77	Pk	37.1	-24.9	.6	-95.2	-50.63	-25	-25.63	V
Mid Channel, 2535MHz										
5.070469	36.45	Pk	34.1	-30.6	0.7	-95.2	-54.55	-25	-29.55	H
5.070469	34.73	Pk	34.1	-30.6	0.7	-95.2	-56.27	-25	-31.27	V
7.605	35.3	Pk	35.9	-27	0.4	-95.2	-50.6	-25	-25.6	H
7.605	33.94	Pk	35.9	-27	0.4	-95.2	-51.96	-25	-26.96	V
10.140469	34.34	Pk	37.2	-24.8	0.6	-95.2	-47.86	-25	-22.86	H
10.141406	32.94	Pk	37.2	-24.8	0.6	-95.2	-49.26	-25	-24.26	V
High Channel, 2550MHz										
5.1	34.31	Pk	34.4	-24	.8	-95.2	-49.69	-25	-24.69	H
5.1	33.1	Pk	34.4	-24	.8	-95.2	-50.9	-25	-25.9	V
7.650469	29.22	Pk	35.7	-19.7	.3	-95.2	-49.68	-25	-24.68	H
7.650469	30.76	Pk	35.7	-19.7	.3	-95.2	-48.14	-25	-23.14	V
10.200469	30.7	Pk	37.4	-17.5	.8	-95.2	-43.8	-25	-18.8	H
10.200469	28.97	Pk	37.4	-17.5	.8	-95.2	-45.53	-25	-20.53	V

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10.2.3. 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.

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QPSK LTE BAND 12 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/17/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B12_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 704MHz										
1.407778	40.84	Pk	28.9	-29.9	.9	-95.2	-54.46	-13	-41.46	H
1.407778	39.73	Pk	28.9	-29.9	.9	-95.2	-55.57	-13	-42.57	V
2.112756	37.42	Pk	31.4	-28.7	.5	-95.2	-54.58	-13	-41.58	H
2.112756	38.52	Pk	31.4	-28.7	.5	-95.2	-53.48	-13	-40.48	V
2.816267	35.48	Pk	32.2	-27.2	.6	-95.2	-54.12	-13	-41.12	H
2.816267	36.7	Pk	32.2	-27.2	.6	-95.2	-52.9	-13	-39.9	V
Mid Channel, 707.5MHz										
1.4156	40.28	Pk	28.8	-29.9	.9	-95.2	-55.12	-13	-42.12	H
1.4156	41.04	Pk	28.8	-29.9	.9	-95.2	-54.36	-13	-41.36	V
2.212489	38.44	Pk	31.7	-28.4	.5	-95.2	-52.96	-13	-39.96	H
2.212489	37.39	Pk	31.7	-28.4	.5	-95.2	-54.01	-13	-41.01	V
2.830445	36.02	Pk	32.2	-27.3	.7	-95.2	-53.58	-13	-40.58	H
2.830445	36.79	Pk	32.2	-27.3	.7	-95.2	-52.81	-13	-39.81	V
High Channel, 711MHz										
1.421956	40.85	Pk	28.7	-29.8	.9	-95.2	-54.55	-13	-41.55	H
1.421956	40.19	Pk	28.7	-29.8	.9	-95.2	-55.21	-13	-42.21	V
2.133778	38.56	Pk	31.6	-28.4	.5	-95.2	-52.94	-13	-39.94	H
2.133778	36.14	Pk	31.6	-28.4	.5	-95.2	-55.36	-13	-42.36	V
2.843156	36.32	Pk	32.2	-27.2	.7	-95.2	-53.18	-13	-40.18	H
2.843156	35.4	Pk	32.2	-27.2	.7	-95.2	-54.1	-13	-41.1	V

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BPSK 5G NR n12 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/17/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n12_15MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF80402 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 706.5MHz										
1.413156	40.37	Pk	28.8	-29.9	0.9	-95.2	-55.03	-13	-42.03	H
1.413156	42.13	Pk	28.8	-29.9	0.9	-95.2	-53.27	-13	-40.27	V
2.1196	36.81	Pk	31.4	-28.7	0.5	-95.2	-55.19	-13	-42.19	H
2.1196	37.14	Pk	31.4	-28.7	0.5	-95.2	-54.86	-13	-41.86	V
2.826534	36.2	Pk	32.2	-27.3	0.7	-95.2	-53.4	-13	-40.4	H
2.826534	35.55	Pk	32.2	-27.3	0.7	-95.2	-54.05	-13	-41.05	V
Mid Channel, 707.5MHz										
1.414622	42.67	Pk	28.8	-29.9	0.9	-95.2	-52.73	-13	-39.73	H
1.414622	41.06	Pk	28.8	-29.9	0.9	-95.2	-54.34	-13	-41.34	V
2.122534	37.26	Pk	31.5	-28.6	0.5	-95.2	-54.54	-13	-41.54	H
2.122534	37	Pk	31.5	-28.6	0.5	-95.2	-54.8	-13	-41.8	V
2.830445	36.79	Pk	32.2	-27.3	0.7	-95.2	-52.81	-13	-39.81	H
2.830445	35.02	Pk	32.2	-27.3	0.7	-95.2	-54.58	-13	-41.58	V
High Channel, 708.5MHz										
1.417556	41.27	Pk	28.8	-29.8	0.9	-95.2	-54.03	-13	-41.03	H
1.417556	38.8	Pk	28.8	-29.8	0.9	-95.2	-56.5	-13	-43.5	V
2.125467	39.41	Pk	31.5	-28.5	0.5	-95.2	-52.29	-13	-39.29	H
2.125467	35.67	Pk	31.5	-28.5	0.5	-95.2	-56.03	-13	-43.03	V
2.834356	35.35	Pk	32.3	-27.3	0.7	-95.2	-54.15	-13	-41.15	H
2.834356	36.34	Pk	32.3	-27.3	0.7	-95.2	-53.16	-13	-40.16	V

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10.2.4. 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.

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QPSK LTE BAND 13 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/11/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B13_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 782MHz										
1.564222	40	Pk	27.8	-34.9	.8	-95.2	-61.5	-40	-21.5	H
1.564222	41.5	Pk	27.8	-34.9	.8	-95.2	-60.0	-40	-20.0	V
2.33282	44.28	Pk	31.9	-34.8	.6	-95.2	-53.22	-13	-40.22	V
2.333031	44.46	Pk	31.9	-34.8	.6	-95.2	-53.04	-13	-40.04	H
6.925868	35.53	Pk	35.8	-27	.5	-95.2	-50.37	-13	-37.37	V
6.924044	37.66	Pk	35.8	-27	.5	-95.2	-48.24	-13	-35.24	H

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

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10.2.5. 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

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QPSK LTE BAND 14 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/5/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B14_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.586711	37.59	Pk	28	-29.6	.8	-95.2	-58.41	-40	-18.41	H
1.586711	37.92	Pk	28	-29.6	.8	-95.2	-58.08	-40	-18.08	V
2.3792	35.37	Pk	32	-28	.5	-95.2	-55.33	-13	-42.33	H
2.3792	36.51	Pk	32	-28	.5	-95.2	-54.19	-13	-41.19	V
3.172667	36.01	Pk	32.8	-26.6	.5	-95.2	-52.49	-13	-39.49	H
3.172667	33.72	Pk	32.8	-26.6	.5	-95.2	-54.78	-13	-41.78	V

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

BPSK 5G NR n14 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/31/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n14_10MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 793MHz										
1.586222	40.42	Pk	27.8	-34.9	.8	-95.2	-61.08	-40	-21.08	H
1.586222	40.34	Pk	27.8	-34.9	.8	-95.2	-61.16	-40	-21.16	V
2.3792	39.87	Pk	31.9	-34.8	.6	-95.2	-57.63	-13	-44.63	H
2.3792	39.22	Pk	31.9	-34.8	.6	-95.2	-58.28	-13	-45.28	V
3.172178	38.84	Pk	32.7	-34	.5	-95.2	-57.16	-13	-44.16	H
3.172178	39.47	Pk	32.7	-34	.5	-95.2	-56.53	-13	-43.53	V

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

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10.2.6. 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.

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QPSK LTE BAND 17 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/17/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B17_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 709MHz										
1.418044	39.7	Pk	28.8	-29.8	.9	-95.2	-55.6	-13	-42.6	H
1.418044	40.44	Pk	28.8	-29.8	.9	-95.2	-54.86	-13	-41.86	V
2.126934	36.49	Pk	31.5	-28.5	.5	-95.2	-55.21	-13	-42.21	H
2.126934	38.09	Pk	31.5	-28.5	.5	-95.2	-53.61	-13	-40.61	V
2.837289	38.42	Pk	32.3	-27.2	.7	-95.2	-50.98	-13	-37.98	H
2.837289	36.21	Pk	32.3	-27.2	.7	-95.2	-53.19	-13	-40.19	V
Mid Channel, 710MHz										
1.420489	40.47	Pk	28.7	-29.8	.9	-95.2	-54.93	-13	-41.93	H
1.420489	39.4	Pk	28.7	-29.8	.9	-95.2	-56.00	-13	-43.00	V
2.130356	35.85	Pk	31.6	-28.5	.5	-95.2	-55.75	-13	-42.75	H
2.130356	37.34	Pk	31.6	-28.5	.5	-95.2	-54.26	-13	-41.26	V
2.840711	37.1	Pk	32.2	-27.2	.7	-95.2	-52.40	-13	-39.40	H
2.840711	35.45	Pk	32.2	-27.2	.7	-95.2	-54.05	-13	-41.05	V
High Channel, 711MHz										
1.422445	40.04	Pk	28.7	-29.8	.9	-95.2	-55.36	-13	-42.36	H
1.422445	39.25	Pk	28.7	-29.8	.9	-95.2	-56.15	-13	-43.15	V
2.133289	39.23	Pk	31.6	-28.4	.5	-95.2	-52.27	-13	-39.27	H
2.133289	38.17	Pk	31.6	-28.4	.5	-95.2	-53.33	-13	-40.33	V
2.844134	36.71	Pk	32.2	-27.2	.7	-95.2	-52.79	-13	-39.79	H
2.844134	36.19	Pk	32.2	-27.2	.7	-95.2	-53.31	-13	-40.31	V

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10.2.7. 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.

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QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/30/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B25_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.720469	33.27	Pk	33.4	-24.9	-95.2	-53.43	-13	-40.43	H
3.720469	34.68	Pk	33.4	-24.9	-95.2	-52.02	-13	-39.02	V
5.580938	32.17	Pk	34.8	-22.2	-95.2	-50.43	-13	-37.43	H
5.580938	33.53	Pk	34.8	-22.2	-95.2	-49.07	-13	-36.07	V
7.440469	29.46	Pk	35.5	-20.2	-95.2	-50.44	-13	-37.44	H
7.440469	31.88	Pk	35.5	-20.2	-95.2	-48.02	-13	-35.02	V
Mid Channel, 1882.5MHz									
3.765469	34.59	Pk	33.4	-24.8	-95.2	-52.01	-13	-39.01	H
3.765469	36.61	Pk	33.4	-24.8	-95.2	-49.99	-13	-36.99	V
5.6475	33.74	Pk	34.8	-21.9	-95.2	-48.56	-13	-35.56	H
5.6475	31.9	Pk	34.8	-21.9	-95.2	-50.4	-13	-37.4	V
7.53	29.19	Pk	35.6	-19.6	-95.2	-50.01	-13	-37.01	H
7.53	31.46	Pk	35.6	-19.6	-95.2	-47.74	-13	-34.74	V
High Channel, 1905MHz									
3.810469	36.34	Pk	33.3	-25.3	-95.2	-50.86	-13	-37.86	H
3.810469	33.49	Pk	33.3	-25.3	-95.2	-53.71	-13	-40.71	V
5.715469	32.11	Pk	35	-23.1	-95.2	-51.19	-13	-38.19	H
5.715469	30.71	Pk	35	-23.1	-95.2	-52.59	-13	-39.59	V
7.62	31.21	Pk	35.7	-18.5	-95.2	-46.79	-13	-33.79	H
7.62	28.4	Pk	35.7	-18.5	-95.2	-49.6	-13	-36.6	V

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BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/22/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n25_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.740156	35.31	Pk	33.4	-25.1	-95.2	-51.59	-13	-38.59	H
3.740156	34.33	Pk	33.4	-25.1	-95.2	-52.57	-13	-39.57	V
5.610469	31.28	Pk	34.8	-21.8	-95.2	-50.92	-13	-37.92	H
5.610469	31.84	Pk	34.8	-21.8	-95.2	-50.36	-13	-37.36	V
7.480313	30.85	Pk	35.6	-20.2	-95.2	-48.95	-13	-35.95	H
7.480313	30.82	Pk	35.6	-20.2	-95.2	-48.98	-13	-35.98	V
Mid Channel, 1882.5MHz									
3.765469	37.03	Pk	33.4	-24.8	-95.2	-49.57	-13	-36.57	H
3.765469	34.15	Pk	33.4	-24.8	-95.2	-52.45	-13	-39.45	V
5.648438	33.59	Pk	34.8	-21.9	-95.2	-48.71	-13	-35.71	H
5.648438	33.37	Pk	34.8	-21.9	-95.2	-48.93	-13	-35.93	V
7.530469	31.15	Pk	35.6	-19.6	-95.2	-48.05	-13	-35.05	H
7.530469	30.61	Pk	35.6	-19.6	-95.2	-48.59	-13	-35.59	V
High Channel, 1895MHz									
3.790781	35.49	Pk	33.3	-25.1	-95.2	-51.51	-13	-38.51	H
3.790781	36.83	Pk	33.3	-25.1	-95.2	-50.17	-13	-37.17	V
5.685	33.76	Pk	34.9	-22.6	-95.2	-49.14	-13	-36.14	H
5.685	32.98	Pk	34.9	-22.6	-95.2	-49.92	-13	-36.92	V
7.580625	31.11	Pk	35.6	-18.5	-95.2	-46.99	-13	-33.99	H
7.580625	31.71	Pk	35.6	-18.5	-95.2	-46.39	-13	-33.39	V

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10.2.8. 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.

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QPSK LTE BAND 26 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/17/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B26_10MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.638045	41.49	Pk	28.5	-29.4	.7	-95.2	-53.91	-13	-40.91	H
1.638045	39.5	Pk	28.5	-29.4	.7	-95.2	-55.9	-13	-42.9	V
2.456934	37.6	Pk	32	-28.2	.5	-95.2	-53.3	-13	-40.3	H
2.456934	38.62	Pk	32	-28.2	.5	-95.2	-52.28	-13	-39.28	V
3.277289	37.77	Pk	32.6	-26.3	.8	-95.2	-50.33	-13	-37.33	H
3.277289	36.19	Pk	32.6	-26.3	.8	-95.2	-51.91	-13	-38.91	V

BPSK 5G NR n26 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/3/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n26_10MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 819MHz										
1.6268	37.28	Pk	28.5	-29.4	.6	-95.2	-58.22	-13	-45.22	H
1.6268	36.57	Pk	28.5	-29.4	.6	-95.2	-58.93	-13	-45.93	V
2.439823	37.01	Pk	31.9	-28.1	.5	-95.2	-53.89	-13	-40.89	H
2.439823	35.68	Pk	31.9	-28.1	.5	-95.2	-55.22	-13	-42.22	V
3.254312	34.77	Pk	32.7	-26.3	.4	-95.2	-53.63	-13	-40.63	H
3.254312	35.96	Pk	32.7	-26.3	.4	-95.2	-52.44	-13	-39.44	V

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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.

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QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/29/2022
Test Engineer:	28567
Configuration:	EUT Only
Mode	LTE_B30_10MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.62	34.45	RMS	34.2	-29.1	-95.2	-55.65	-40	-15.65	H
4.62	34.7	RMS	34.2	-29.1	-95.2	-55.4	-40	-15.4	V
6.93	31.33	RMS	35.8	-26	-95.2	-54.07	-40	-14.07	V
6.930469	31.69	RMS	35.8	-26	-95.2	-53.71	-40	-13.71	H
9.24	29.37	RMS	36.3	-23.6	-95.2	-53.13	-40	-13.13	H
9.24	29.61	RMS	36.3	-23.6	-95.2	-52.89	-40	-12.89	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/3/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n30_10MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.62	27	RMS	34.2	-24.8	-95.2	-58.8	-40	-18.8	H
4.62	26.28	RMS	34.2	-24.8	-95.2	-59.52	-40	-19.52	V
6.930469	23.65	RMS	35.4	-20.7	-95.2	-56.85	-40	-16.85	H
6.930469	22.24	RMS	35.4	-20.7	-95.2	-58.26	-40	-18.26	V
9.239531	22.26	RMS	36.3	-18.4	-95.2	-55.04	-40	-15.04	H
9.239531	20.78	RMS	36.3	-18.4	-95.2	-56.52	-40	-16.52	V

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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.

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QPSK LTE BAND 41 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/25/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B41_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz										
5.012813	32.48	Pk	34.3	-24.3	.8	-95.2	-51.92	-25	-26.92	H
5.012813	34.93	Pk	34.3	-24.3	.8	-95.2	-49.47	-25	-24.47	V
7.51875	30.47	Pk	35.6	-20.1	.3	-95.2	-48.93	-25	-23.93	H
7.51875	30.54	Pk	35.6	-20.1	.3	-95.2	-48.86	-25	-23.86	V
10.024219	29.64	Pk	37.2	-17.6	.6	-95.2	-45.36	-25	-20.36	H
10.024219	29.89	Pk	37.2	-17.6	.6	-95.2	-45.11	-25	-20.11	V
Mid Channel, 2593MHz										
5.186719	34.24	Pk	34.4	-23.6	.8	-95.2	-49.36	-25	-24.36	H
5.186719	32.04	Pk	34.4	-23.6	.8	-95.2	-51.56	-25	-26.56	V
7.779375	28.68	Pk	35.7	-19.9	.3	-95.2	-50.42	-25	-25.42	H
7.779375	29.35	Pk	35.7	-19.9	.3	-95.2	-49.75	-25	-24.75	V
10.720313	32.18	Pk	38	-17.1	.6	-95.2	-41.52	-25	-16.52	H
10.720313	27.51	Pk	38	-17.1	.6	-95.2	-46.19	-25	-21.19	V
High Channel, 2680MHz										
5.360625	33.61	Pk	34.6	-23.9	.5	-95.2	-50.39	-25	-25.39	H
5.360625	33.22	Pk	34.6	-23.9	.5	-95.2	-50.78	-25	-25.78	V
8.04	30.1	Pk	35.7	-19.3	.4	-95.2	-48.3	-25	-23.3	H
8.04	29.6	Pk	35.7	-19.3	.4	-95.2	-48.8	-25	-23.8	V
10.720313	31.14	Pk	38	-17.1	.6	-95.2	-42.56	-25	-17.56	H
10.720313	29.32	Pk	38	-17.1	.6	-95.2	-44.38	-25	-19.38	V

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BPSK 5G NR n41 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/1/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n41_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.092031	36.42	Pk	34.2	-30.5	.8	-95.2	-54.28	-25	-29.28	H
5.092031	35	Pk	34.2	-30.5	.8	-95.2	-55.7	-25	-30.7	V
7.638281	33.52	Pk	35.9	-26.9	.4	-95.2	-52.28	-25	-27.28	H
7.638281	33.02	Pk	35.9	-26.9	.4	-95.2	-52.78	-25	-27.78	V
10.184063	31.34	Pk	37.2	-25	.6	-95.2	-51.06	-25	-26.06	H
10.184063	31.97	Pk	37.2	-25	.6	-95.2	-50.43	-25	-25.43	V
Mid Channel, 2593MHz										
5.18625	36.32	Pk	34.2	-30.7	.8	-95.2	-54.58	-25	-29.58	H
5.18625	35.44	Pk	34.2	-30.7	.8	-95.2	-55.46	-25	-30.46	V
7.778906	33.6	Pk	35.9	-26.9	.3	-95.2	-52.3	-25	-27.3	H
7.778906	32.78	Pk	35.9	-26.9	.3	-95.2	-53.12	-25	-28.12	V
10.372031	31.85	Pk	37.6	-24.9	.8	-95.2	-49.85	-25	-24.85	H
10.372031	31.32	Pk	37.6	-24.9	.8	-95.2	-50.38	-25	-25.38	V
High Channel, 2640MHz										
5.28	34.2	Pk	34.3	-30.3	.3	-95.2	-56.7	-25	-31.7	H
5.28	35.5	Pk	34.3	-30.3	.3	-95.2	-55.4	-25	-30.4	V
7.92	33.9	Pk	35.9	-26.5	.2	-95.2	-51.7	-25	-26.7	H
7.92	33.33	Pk	35.9	-26.5	.2	-95.2	-52.27	-25	-27.27	V
10.56	32.59	Pk	37.8	-24.6	.7	-95.2	-48.71	-25	-23.71	H
10.56	32.78	Pk	37.8	-24.6	.7	-95.2	-48.52	-25	-23.52	V

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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.

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QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/24/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B66_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
44.23	Pk	32.6	-33	-95.2	-51.37	-13	-38.37	44.23	H
3.422344	40.31	Pk	32.6	-33	-95.2	-55.29	-13	-42.29	V
5.16	35.26	Pk	34.2	-29.6	-95.2	-55.34	-13	-42.34	H
5.16	37.52	Pk	34.2	-29.6	-95.2	-53.08	-13	-40.08	V
6.879844	35.77	Pk	35.9	-26.6	-95.2	-50.13	-13	-37.13	H
6.879844	32.78	Pk	35.9	-26.6	-95.2	-53.12	-13	-40.12	V
Mid Channel, 1745MHz									
3.489844	36.75	Pk	32.9	-32.9	-95.2	-58.45	-13	-45.45	H
3.489844	37.75	Pk	32.9	-32.9	-95.2	-57.45	-13	-44.45	V
5.235	35.95	Pk	34.2	-28.8	-95.2	-53.85	-13	-40.85	H
5.235	33.97	Pk	34.2	-28.8	-95.2	-55.83	-13	-42.83	V
6.980156	34.12	Pk	35.8	-26.3	-95.2	-51.58	-13	-38.58	H
6.980156	33.35	Pk	35.8	-26.3	-95.2	-52.35	-13	-39.35	V
High Channel, 1770MHz									
3.54	38.63	Pk	33.1	-32.8	-95.2	-56.27	-13	-43.27	H
3.54	38.33	Pk	33.1	-32.8	-95.2	-56.57	-13	-43.57	V
5.31	35.61	Pk	34.4	-29.7	-95.2	-54.89	-13	-41.89	H
5.31	34.55	Pk	34.4	-29.7	-95.2	-55.95	-13	-42.95	V
7.08	34.87	Pk	35.7	-26.7	-95.2	-51.33	-13	-38.33	H
7.08	33.37	Pk	35.7	-26.7	-95.2	-52.83	-13	-39.83	V

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BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/4/2022 & 5/23/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	5G NR n41_40MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.459844	40.18	Pk	32.8	-33	-95.2	-55.22	-13	-42.22	H
3.459844	38.83	Pk	32.8	-33	-95.2	-56.57	-13	-43.57	V
5.131875	40.97	Pk	34.2	-30	-95.2	-50.03	-13	-37.03	H
5.131875	42.39	Pk	34.2	-30	-95.2	-48.61	-13	-35.61	V
6.920156	32.98	Pk	35.8	-26.2	-95.2	-52.62	-13	-39.62	H
6.920156	34.8	Pk	35.8	-26.2	-95.2	-50.8	-13	-37.8	V
Mid Channel, 1745MHz									
3.490313	37.53	Pk	32.9	-32.9	-95.2	-57.67	-13	-44.67	H
3.490313	39.05	Pk	32.9	-32.9	-95.2	-56.15	-13	-43.15	V
5.235469	37.03	Pk	34.2	-28.9	-95.2	-52.87	-13	-39.87	H
5.235469	34.37	Pk	34.2	-28.9	-95.2	-55.53	-13	-42.53	V
6.980156	34.53	Pk	35.8	-26.3	-95.2	-51.17	-13	-38.17	H
6.980156	31.6	Pk	35.8	-26.3	-95.2	-54.1	-13	-41.1	V
High Channel, 1760MHz									
3.519844	38.59	Pk	33.1	-32.8	-95.2	-56.31	-13	-43.31	H
3.519844	39.02	Pk	33.1	-32.8	-95.2	-55.88	-13	-42.88	V
5.28	35.77	Pk	34.3	-29.3	-95.2	-54.43	-13	-41.43	H
5.28	34.63	Pk	34.3	-29.3	-95.2	-55.57	-13	-42.57	V
7.040156	33.13	Pk	35.7	-26.8	-95.2	-53.17	-13	-40.17	H
7.040156	32.01	Pk	35.7	-26.8	-95.2	-54.29	-13	-41.29	V

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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.

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BPSK 5G NR n70 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/8/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n70_15MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.38957	42.28	Pk	32.6	-33.1	-95.2	-53.42	-13	-40.42	H
3.390938	41.73	Pk	32.6	-33.1	-95.2	-53.97	-13	-40.97	V
5.1075	36.83	Pk	34.1	-30.2	-95.2	-54.47	-13	-41.47	H
5.1075	37.49	Pk	34.1	-30.2	-95.2	-53.81	-13	-40.81	V
6.810469	33.18	Pk	35.7	-26.9	-95.2	-53.22	-13	-40.22	H
6.810469	32.97	Pk	35.7	-26.9	-95.2	-53.43	-13	-40.43	V

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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.

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QPSK LTE BAND 71 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/1/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B71_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 673MHz										
1.346178	38.82	Pk	29.1	-30.1	1.1	-95.2	-56.28	-13	-43.28	H
1.346178	36.27	Pk	29.1	-30.1	1.1	-95.2	-58.83	-13	-45.83	V
2.019867	37.4	Pk	30.8	-28.7	.5	-95.2	-55.2	-13	-42.2	H
2.019867	37.1	Pk	30.8	-28.7	.5	-95.2	-55.5	-13	-42.5	V
2.692089	35.92	Pk	32.2	-27.7	.5	-95.2	-54.28	-13	-41.28	H
2.692089	35.16	Pk	32.2	-27.7	.5	-95.2	-55.04	-13	-42.04	V
Mid Channel, 683MHz										
1.361822	39.66	Pk	29.4	-30.1	1	-95.2	-55.24	-13	-42.24	H
1.361822	40.43	Pk	29.4	-30.1	1	-95.2	-54.47	-13	-41.47	V
2.041867	37.13	Pk	30.8	-28.8	.5	-95.2	-55.57	-13	-42.57	H
2.041867	38.58	Pk	30.8	-28.8	.5	-95.2	-54.12	-13	-41.12	V
2.723867	37.29	Pk	32.1	-27.5	.5	-95.2	-52.81	-13	-39.81	H
2.723867	35.42	Pk	32.1	-27.5	.5	-95.2	-54.68	-13	-41.68	V
High Channel, 688MHz										
1.376489	39.07	Pk	29.3	-29.9	1	-95.2	-55.73	-13	-42.73	H
1.376489	38.41	Pk	29.3	-29.9	1	-95.2	-56.39	-13	-43.39	V
2.064356	37.3	Pk	31.2	-28.7	.5	-95.2	-54.9	-13	-41.9	H
2.064356	35.99	Pk	31.2	-28.7	.5	-95.2	-56.21	-13	-43.21	V
2.752223	34.39	Pk	32	-27.3	.5	-95.2	-55.61	-13	-42.61	H
2.752223	36.25	Pk	32	-27.3	.5	-95.2	-53.75	-13	-40.75	V

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BPSK 5G NR n71 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/24/2022
Test Engineer:	28173 & 26120
Configuration:	EUT Only
Mode	5G NR n71_20MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	172654 HPF (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 673MHz										
1.346667	39.81	Pk	29.1	-34.8	1.3	-95.2	-59.79	-13	-46.79	H
1.346667	37.33	Pk	29.1	-34.8	1.3	-95.2	-62.27	-13	-49.27	V
2.019867	40.64	Pk	31.3	-34.8	.6	-95.2	-57.46	-13	-44.46	H
2.019867	41.47	Pk	31.3	-34.8	.6	-95.2	-56.63	-13	-43.63	V
2.692578	39.89	Pk	32.4	-34.6	.5	-95.2	-57.01	-13	-44.01	H
2.692578	39.38	Pk	32.4	-34.6	.5	-95.2	-57.52	-13	-44.52	V
Mid Channel, 683MHz										
1.361333	40.43	Pk	29.1	-34.9	1.1	-95.2	-59.47	-13	-46.47	H
1.361333	40.63	Pk	29.1	-34.9	1.1	-95.2	-59.27	-13	-46.27	V
2.012534	42.61	Pk	31.3	-34.8	0.6	-95.2	-55.49	-13	-42.49	V
2.012666	43.1	Pk	31.3	-34.8	0.6	-95.2	-55	-13	-42	H
2.527287	43.39	Pk	32.7	-34.7	0.5	-95.2	-53.31	-13	-40.31	V
2.5288	39.5	Pk	32.7	-34.7	0.5	-95.2	-57.2	-13	-44.2	H
High Channel, 688MHz										
1.376	39.73	Pk	28.8	-34.9	1	-95.2	-60.57	-13	-47.57	H
1.376	39.27	Pk	28.8	-34.9	1	-95.2	-61.03	-13	-48.03	V
2.035022	42.49	Pk	31.4	-34.8	0.6	-95.2	-55.51	-13	-42.51	V
2.035543	55.15	Pk	31.4	-34.8	0.6	-95.2	-42.85	-13	-29.85	H
2.752223	41.45	Pk	32.5	-34.5	0.6	-95.2	-55.15	-13	-42.15	H
2.752223	40.47	Pk	32.5	-34.5	0.6	-95.2	-56.13	-13	-43.13	V

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10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 3

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

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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.

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QPSK LTE BAND 7 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/22/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B7_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz										
5.019844	37.52	Pk	34	-30.8	.8	-95.2	-53.68	-25	-28.68	H
5.019844	34.62	Pk	34	-30.8	.8	-95.2	-56.58	-25	-31.58	V
7.53	34.17	Pk	35.8	-27	.3	-95.2	-51.93	-25	-26.93	H
7.53	32.5	Pk	35.8	-27	.3	-95.2	-53.6	-25	-28.6	V
10.040156	32.83	Pk	37.1	-24.9	.7	-95.2	-49.47	-25	-24.47	H
10.040156	32.89	Pk	37.1	-24.9	.7	-95.2	-49.41	-25	-24.41	V
Mid Channel, 2535MHz										
5.07	35.66	Pk	34.1	-30.6	.7	-95.2	-55.34	-25	-30.34	H
5.07	36.27	Pk	34.1	-30.6	.7	-95.2	-54.73	-25	-29.73	V
7.605	34.66	Pk	35.9	-27	.4	-95.2	-51.24	-25	-26.24	H
7.605	32.42	Pk	35.9	-27	.4	-95.2	-53.48	-25	-28.48	V
10.14	32.33	Pk	37.2	-24.8	.7	-95.2	-49.77	-25	-24.77	H
10.14	31.21	Pk	37.2	-24.8	.7	-95.2	-50.89	-25	-25.89	V
High Channel, 2560MHz										
5.120156	35.78	Pk	34.2	-30.7	.8	-95.2	-55.12	-25	-30.12	H
5.120156	35.65	Pk	34.2	-30.7	.8	-95.2	-55.25	-25	-30.25	V
7.680469	32.67	Pk	35.9	-26.7	.5	-95.2	-52.83	-25	-27.83	H
7.680469	33.93	Pk	35.9	-26.7	.5	-95.2	-51.57	-25	-26.57	V
10.240313	33.49	Pk	37.3	-25	.8	-95.2	-48.61	-25	-23.61	H
10.240313	32.21	Pk	37.3	-25	.8	-95.2	-49.89	-25	-24.89	V

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BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/4/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n7_40MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz										
5.04	36.4	Pk	34	-30.7	.6	-95.2	-54.90	-25	-29.90	H
5.04	37.59	Pk	34	-30.7	.6	-95.2	-53.71	-25	-28.71	V
7.560469	34.73	Pk	35.8	-27	.3	-95.2	-51.37	-25	-26.37	H
7.560469	33.13	Pk	35.8	-27	.3	-95.2	-52.97	-25	-27.97	V
10.08	31.97	Pk	37.1	-24.9	.6	-95.2	-50.43	-25	-25.43	H
10.08	32.92	Pk	37.1	-24.9	.6	-95.2	-49.48	-25	-24.48	V
Mid Channel, 2535MHz										
5.07	36.96	Pk	34.1	-30.6	.7	-95.2	-54.04	-25	-29.04	H
5.07	36.44	Pk	34.1	-30.6	.7	-95.2	-54.56	-25	-29.56	V
7.605	32.71	Pk	35.9	-27	.4	-95.2	-53.19	-25	-28.19	H
7.605	33.08	Pk	35.9	-27	.4	-95.2	-52.82	-25	-27.82	V
10.14	34.23	Pk	37.2	-24.8	.7	-95.2	-47.87	-25	-22.87	H
10.14	32.46	Pk	37.2	-24.8	.7	-95.2	-49.64	-25	-24.64	V
High Channel, 2550MHz										
5.1	38.81	Pk	34.1	-30.4	.8	-95.2	-51.89	-25	-26.89	H
5.1	36.73	Pk	34.1	-30.4	.8	-95.2	-53.97	-25	-28.97	V
7.65	34.08	Pk	35.8	-26.9	.3	-95.2	-51.92	-25	-26.92	H
7.65	33.8	Pk	35.8	-26.9	.3	-95.2	-52.20	-25	-27.20	V
10.2	33.28	Pk	37.3	-24.9	.8	-95.2	-48.72	-25	-23.72	H
10.2	31.69	Pk	37.3	-24.9	.8	-95.2	-50.31	-25	-25.31	V

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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.

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QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/24/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B25_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.72	36.03	Pk	33.4	-24.9	-95.2	-50.67	-13	-37.67	H
3.72	34.47	Pk	33.4	-24.9	-95.2	-52.23	-13	-39.23	V
5.580469	33.21	Pk	34.8	-22.2	-95.2	-49.39	-13	-36.39	H
5.580469	34.09	Pk	34.8	-22.2	-95.2	-48.51	-13	-35.51	V
7.440469	33.05	Pk	35.5	-20.2	-95.2	-46.85	-13	-33.85	H
7.440469	30.94	Pk	35.5	-20.2	-95.2	-48.96	-13	-35.96	V
Mid Channel, 1882.5MHz									
3.765	34.56	Pk	33.4	-24.8	-95.2	-52.04	-13	-39.04	H
3.765	35.66	Pk	33.4	-24.8	-95.2	-50.94	-13	-37.94	V
5.648906	31.69	Pk	34.8	-21.8	-95.2	-50.51	-13	-37.51	H
5.648906	33.62	Pk	34.8	-21.8	-95.2	-48.58	-13	-35.58	V
7.53	30.87	Pk	35.6	-19.6	-95.2	-48.33	-13	-35.33	H
7.53	32.04	Pk	35.6	-19.6	-95.2	-47.16	-13	-34.16	V
High Channel, 1905MHz									
3.81	36.45	Pk	33.3	-25.3	-95.2	-50.75	-13	-37.75	H
3.81	35.58	Pk	33.3	-25.3	-95.2	-51.62	-13	-38.62	V
5.715938	33.24	Pk	35	-23.1	-95.2	-50.06	-13	-37.06	H
5.715938	30.81	Pk	35	-23.1	-95.2	-52.49	-13	-39.49	V
7.620469	30.67	Pk	35.7	-18.5	-95.2	-47.33	-13	-34.33	H
7.620469	31.73	Pk	35.7	-18.5	-95.2	-46.27	-13	-33.27	V

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BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n25_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.740156	35.24	Pk	33.4	-25.1	-95.2	-51.66	-13	-38.66	H
3.740156	35.24	Pk	33.4	-25.1	-95.2	-51.66	-13	-38.66	V
5.61	32.85	Pk	34.8	-21.8	-95.2	-49.35	-13	-36.35	H
5.61	30.53	Pk	34.8	-21.8	-95.2	-51.67	-13	-38.67	V
7.480313	31.55	Pk	35.6	-20.2	-95.2	-48.25	-13	-35.25	H
7.480313	31.67	Pk	35.6	-20.2	-95.2	-48.13	-13	-35.13	V
Mid Channel, 1882.5MHz									
3.765	35.84	Pk	33.4	-24.8	-95.2	-50.76	-13	-37.76	H
3.765	34.25	Pk	33.4	-24.8	-95.2	-52.35	-13	-39.35	V
5.647031	33.21	Pk	34.8	-21.9	-95.2	-49.09	-13	-36.09	H
5.647031	32.5	Pk	34.8	-21.9	-95.2	-49.8	-13	-36.8	V
7.53	30.57	Pk	35.6	-19.6	-95.2	-48.63	-13	-35.63	H
7.53	29.21	Pk	35.6	-19.6	-95.2	-49.99	-13	-36.99	V
High Channel, 1895MHz									
3.79125	37.41	Pk	33.3	-25.2	-95.2	-49.69	-13	-36.69	H
3.79125	35.14	Pk	33.3	-25.2	-95.2	-51.96	-13	-38.96	V
5.684531	33.01	Pk	34.9	-22.6	-95.2	-49.89	-13	-36.89	H
5.684531	34.4	Pk	34.9	-22.6	-95.2	-48.5	-13	-35.5	V
7.580625	31.76	Pk	35.6	-18.5	-95.2	-46.34	-13	-33.34	H
7.580625	29.4	Pk	35.6	-18.5	-95.2	-48.7	-13	-35.7	V

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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.

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QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/27/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B30_10MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel 2310MHz									
4.620469	32.01	RMS	34.2	-24.8	-95.2	-53.79	-40	-13.79	H
4.620469	32.14	RMS	34.2	-24.8	-95.2	-53.66	-40	-13.66	V
6.93	29.04	RMS	35.4	-20.7	-95.2	-51.46	-40	-11.46	H
6.93	27.53	RMS	35.4	-20.7	-95.2	-52.97	-40	-12.97	V
9.24	28.22	RMS	36.3	-18.4	-95.2	-49.08	-40	-9.08	H
9.24	27.29	RMS	36.3	-18.4	-95.2	-50.01	-40	-10.01	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/3/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n30_10MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.620938	26.88	RMS	34.2	-24.8	-95.2	-58.92	-40	-18.92	H
4.620938	28.44	RMS	34.2	-24.8	-95.2	-57.36	-40	-17.36	V
6.930938	24.17	RMS	35.5	-20.7	-95.2	-56.23	-40	-16.23	H
6.930938	21.65	RMS	35.5	-20.7	-95.2	-58.75	-40	-18.75	V
9.240938	21.4	RMS	36.3	-18.4	-95.2	-55.9	-40	-15.9	H
9.240938	20.82	RMS	36.3	-18.4	-95.2	-56.48	-40	-16.48	V

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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.

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QPSK LTE BAND 41 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/25/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B41_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz										
5.012344	34.75	Pk	34.3	-24.3	.8	-95.2	-49.65	-25	-24.65	H
5.012344	36.46	Pk	34.3	-24.3	.8	-95.2	-47.94	-25	-22.94	V
7.518281	32.08	Pk	35.6	-20.1	.3	-95.2	-47.32	-25	-22.32	H
7.518281	29.43	Pk	35.6	-20.1	.3	-95.2	-49.97	-25	-24.97	V
10.372031	29.92	Pk	37.5	-16.9	.8	-95.2	-43.88	-25	-18.88	H
10.372031	31.07	Pk	37.5	-16.9	.8	-95.2	-42.73	-25	-17.73	V
Mid Channel, 2593MHz										
5.18625	31.27	Pk	34.4	-23.6	.8	-95.2	-52.33	-25	-27.33	H
5.18625	33.24	Pk	34.4	-23.6	.8	-95.2	-50.36	-25	-25.36	V
7.779844	29.47	Pk	35.7	-19.9	.3	-95.2	-49.63	-25	-24.63	H
7.779844	31.46	Pk	35.7	-19.9	.3	-95.2	-47.64	-25	-22.64	V
10.372969	28.18	Pk	37.5	-16.9	.8	-95.2	-45.62	-25	-20.62	H
10.372969	29.18	Pk	37.5	-16.9	.8	-95.2	-44.62	-25	-19.62	V
High Channel, 2680MHz										
5.360156	33.42	Pk	34.6	-23.9	.5	-95.2	-50.58	-25	-25.58	H
5.360156	30.96	Pk	34.6	-23.9	.5	-95.2	-53.04	-25	-28.04	V
8.040469	29.79	Pk	35.7	-19.3	.4	-95.2	-48.61	-25	-23.61	H
8.040469	31.73	Pk	35.7	-19.3	.4	-95.2	-46.67	-25	-21.67	V
10.720313	26.24	Pk	38	-17.1	.6	-95.2	-47.46	-25	-22.46	H
10.720313	30.51	Pk	38	-17.1	.6	-95.2	-43.19	-25	-18.19	V

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BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/25/2022
Test Engineer:	27661
Configuration:	EUT Only
Mode	5G NR n41_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.101875	39.68	Pk	34.1	-30.5	.8	-95.2	-51.12	-25	-26.12	H
5.102813	38.9	Pk	34.1	-30.5	.8	-95.2	-51.9	-25	-26.9	V
7.629844	35.73	Pk	35.8	-26.9	.4	-95.2	-50.17	-25	-25.17	V
7.64625	35.69	Pk	35.9	-26.9	.4	-95.2	-50.11	-25	-25.11	H
10.164844	35.11	Pk	37.2	-24.9	.5	-95.2	-47.29	-25	-22.29	H
10.175625	34.06	Pk	37.3	-25	.6	-95.2	-48.24	-25	-23.24	V
Mid Channel, 2593MHz										
5.190938	39.45	Pk	34.2	-30.6	.8	-95.2	-51.35	-25	-26.35	H
5.199844	39.15	Pk	34.2	-30.6	.9	-95.2	-51.55	-25	-26.55	V
7.8	36.53	Pk	35.9	-26.7	.4	-95.2	-49.07	-25	-24.07	H
7.802344	36.35	Pk	35.8	-26.7	.4	-95.2	-49.35	-25	-24.35	V
10.411406	34.55	Pk	37.6	-24.4	.8	-95.2	-46.65	-25	-21.65	H
10.430625	33.88	Pk	37.6	-24.6	.8	-95.2	-47.52	-25	-22.52	V
High Channel, 2640MHz										
5.280469	33.6	Pk	34.4	-24.3	.3	-95.2	-51.2	-25	-26.2	H
5.280469	29.96	Pk	34.4	-24.3	.3	-95.2	-54.84	-25	-29.84	V
7.920469	31.19	Pk	35.8	-19.7	.2	-95.2	-47.71	-25	-22.71	H
7.920469	29.17	Pk	35.8	-19.7	.2	-95.2	-49.73	-25	-24.73	V
10.560938	29.11	Pk	37.8	-17.2	.7	-95.2	-44.79	-25	-19.79	H
10.560938	30.58	Pk	37.8	-17.2	.7	-95.2	-43.32	-25	-18.32	V

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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.

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QPSK LTE BAND 66 (20.0MHZ BANDWIDTH

Project #:	14040867
Date:	3/24/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	LTE_B66_20MHz_QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.440156	40.38	Pk	32.7	-33	-95.2	-55.12	-13	-42.12	H
3.440156	37.93	Pk	32.7	-33	-95.2	-57.57	-13	-44.57	V
5.16	36.07	Pk	34.2	-29.6	-95.2	-54.53	-13	-41.53	H
5.16	36.37	Pk	34.2	-29.6	-95.2	-54.23	-13	-41.23	V
6.879844	32.82	Pk	35.9	-26.6	-95.2	-53.08	-13	-40.08	H
6.879844	33.6	Pk	35.9	-26.6	-95.2	-52.3	-13	-39.3	V
Mid Channel, 1745MHz									
3.489844	38.82	Pk	32.9	-32.9	-95.2	-56.38	-13	-43.38	H
3.490313	40.14	Pk	32.9	-32.9	-95.2	-55.06	-13	-42.06	V
5.235	34.51	Pk	34.2	-28.8	-95.2	-55.29	-13	-42.29	H
5.235	35.71	Pk	34.2	-28.8	-95.2	-54.09	-13	-41.09	V
6.980156	32.56	Pk	35.8	-26.3	-95.2	-53.14	-13	-40.14	H
6.980156	33.71	Pk	35.8	-26.3	-95.2	-51.99	-13	-38.99	V
High Channel, 1770MHz									
3.540469	39.2	Pk	33.1	-32.7	-95.2	-55.6	-13	-42.6	H
3.540469	38.58	Pk	33.1	-32.7	-95.2	-56.22	-13	-43.22	V
5.31	36.44	Pk	34.4	-29.7	-95.2	-54.06	-13	-41.06	H
5.31	34.79	Pk	34.4	-29.7	-95.2	-55.71	-13	-42.71	V
7.08	33.79	Pk	35.7	-26.7	-95.2	-52.41	-13	-39.41	H
7.08	34.36	Pk	35.7	-26.7	-95.2	-51.84	-13	-38.84	V

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BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/6/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n66_40MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.459844	39.05	Pk	32.8	-33	-95.2	-56.35	-13	-43.35	H
3.459844	37.77	Pk	32.8	-33	-95.2	-57.63	-13	-44.63	V
5.19	34.79	Pk	34.2	-29.1	-95.2	-55.31	-13	-42.31	H
5.19	36.04	Pk	34.2	-29.1	-95.2	-54.06	-13	-41.06	V
6.920156	34.15	Pk	35.8	-26.2	-95.2	-51.45	-13	-38.45	H
6.920156	33.09	Pk	35.8	-26.2	-95.2	-52.51	-13	-39.51	V
Mid Channel, 1745MHz									
3.489844	38.18	Pk	32.9	-32.9	-95.2	-57.02	-13	-44.02	H
3.489844	40.37	Pk	32.9	-32.9	-95.2	-54.83	-13	-41.83	V
5.235	36.92	Pk	34.2	-28.8	-95.2	-52.88	-13	-39.88	H
5.235	34.52	Pk	34.2	-28.8	-95.2	-55.28	-13	-42.28	V
6.980156	34.39	Pk	35.8	-26.3	-95.2	-51.31	-13	-38.31	H
6.980156	33.66	Pk	35.8	-26.3	-95.2	-52.04	-13	-39.04	V
High Channel, 1760MHz									
3.519844	39.28	Pk	33.1	-32.8	-95.2	-55.62	-13	-42.62	H
3.519844	38.91	Pk	33.1	-32.8	-95.2	-55.99	-13	-42.99	V
5.28	35.68	Pk	34.3	-29.3	-95.2	-54.52	-13	-41.52	H
5.28	33.46	Pk	34.3	-29.3	-95.2	-56.74	-13	-43.74	V
7.040156	34.33	Pk	35.7	-26.8	-95.2	-51.97	-13	-38.97	H
7.040156	33.74	Pk	35.7	-26.8	-95.2	-52.56	-13	-39.56	V

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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.

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BPSK 5G NR n70 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/12/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n70_15MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.404063	38.13	Pk	32.5	-33	-95.2	-57.57	-13	-44.57	V
3.40500	39.23	Pk	32.5	-33	-95.2	-56.47	-13	-43.47	H
5.107031	38.68	Pk	34.1	-30.3	-95.2	-52.72	-13	-39.72	H
5.107031	37.99	Pk	34.1	-30.3	-95.2	-53.41	-13	-40.41	V
6.81000	34.16	Pk	35.7	-26.9	-95.2	-52.24	-13	-39.24	H
6.81000	33.54	Pk	35.7	-26.9	-95.2	-52.86	-13	-39.86	V

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10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 4

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

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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.

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QPSK LTE BAND 7 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/24/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B7_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz										
5.020313	34.63	Pk	34.2	-24.2	.8	-95.2	-49.77	-25	-24.77	H
5.020313	33.05	Pk	34.2	-24.2	.8	-95.2	-51.35	-25	-26.35	V
7.530938	32.32	Pk	35.6	-20.2	.3	-95.2	-47.18	-25	-22.18	H
7.530938	28.93	Pk	35.6	-20.2	.3	-95.2	-50.57	-25	-25.57	V
10.040156	29.42	Pk	37.1	-17.8	.7	-95.2	-45.78	-25	-20.78	H
10.040156	26.71	Pk	37.1	-17.8	.7	-95.2	-48.49	-25	-23.49	V
Mid Channel, 2535MHz										
5.070469	32.16	Pk	34.4	-23.7	.7	-95.2	-51.64	-25	-26.64	H
5.070469	32.78	Pk	34.4	-23.7	.7	-95.2	-51.02	-25	-26.02	V
7.605469	30.7	Pk	35.7	-20	.4	-95.2	-48.40	-25	-23.40	H
7.605469	28.49	Pk	35.7	-20	.4	-95.2	-50.61	-25	-25.61	V
10.140469	29.61	Pk	37.3	-17.7	.6	-95.2	-45.39	-25	-20.39	H
10.140469	30.07	Pk	37.3	-17.7	.6	-95.2	-44.93	-25	-19.93	V
High Channel, 2560MHz										
5.120156	33	Pk	34.3	-24	.8	-95.2	-51.10	-25	-26.10	H
5.120156	31.26	Pk	34.3	-24	.8	-95.2	-52.84	-25	-27.84	V
7.680938	30.94	Pk	35.7	-19.5	.5	-95.2	-47.56	-25	-22.56	H
7.680938	29.52	Pk	35.7	-19.5	.5	-95.2	-48.98	-25	-23.98	V
10.239375	30.99	Pk	37.4	-17.3	.8	-95.2	-43.31	-25	-18.31	H
10.239375	29.41	Pk	37.4	-17.3	.8	-95.2	-44.89	-25	-19.89	V

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BPSK 5G NR n7 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/5/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n7_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2520MHz										
5.04	31.14	Pk	34.3	-24.2	.6	-95.2	-53.36	-25	-28.36	H
5.04	34.87	Pk	34.3	-24.2	.6	-95.2	-49.63	-25	-24.63	V
7.560469	29.47	Pk	35.6	-20	.3	-95.2	-49.83	-25	-24.83	H
7.560469	30.84	Pk	35.6	-20	.3	-95.2	-48.46	-25	-23.46	V
10.08	29.34	Pk	37.1	-17.8	.6	-95.2	-45.96	-25	-20.96	H
10.08	29.71	Pk	37.1	-17.8	.6	-95.2	-45.59	-25	-20.59	V
Mid Channel, 2535MHz										
5.07	34.65	Pk	34.1	-30.6	.7	-95.2	-56.35	-25	-31.35	H
5.07	35.59	Pk	34.1	-30.6	.7	-95.2	-55.41	-25	-30.41	V
7.605	32.66	Pk	35.9	-27	.4	-95.2	-53.24	-25	-28.24	H
7.605	33.91	Pk	35.9	-27	.4	-95.2	-51.99	-25	-26.99	V
10.14	34.28	Pk	37.2	-24.8	.7	-95.2	-47.82	-25	-22.82	H
10.14	32.63	Pk	37.2	-24.8	.7	-95.2	-49.47	-25	-24.47	V
High Channel, 2550MHz										
5.1	36.23	Pk	34.1	-30.4	.8	-95.2	-54.47	-25	-29.47	H
5.1	36.51	Pk	34.1	-30.4	.8	-95.2	-54.19	-25	-29.19	V
7.65	32.23	Pk	35.8	-26.9	.3	-95.2	-53.77	-25	-28.77	H
7.65	32.7	Pk	35.8	-26.9	.3	-95.2	-53.3	-25	-28.3	V
10.2	32.45	Pk	37.3	-24.9	.8	-95.2	-49.55	-25	-24.55	H
10.2	32.69	Pk	37.3	-24.9	.8	-95.2	-49.31	-25	-24.31	V

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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.

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QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/30/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B25_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.719063	37.55	Pk	33.4	-24.9	-95.2	-49.15	-13	-36.15	H
3.719063	34.85	Pk	33.4	-24.9	-95.2	-51.85	-13	-38.85	V
5.580469	32.53	Pk	34.8	-22.2	-95.2	-50.07	-13	-37.07	H
5.580469	30.16	Pk	34.8	-22.2	-95.2	-52.44	-13	-39.44	V
7.440469	31.27	Pk	35.5	-20.2	-95.2	-48.63	-13	-35.63	H
7.440469	30.4	Pk	35.5	-20.2	-95.2	-49.5	-13	-36.5	V
Mid Channel, 1882.5MHz									
3.765469	35.97	Pk	33.4	-24.8	-95.2	-50.63	-13	-37.63	H
3.765469	36.58	Pk	33.4	-24.8	-95.2	-50.02	-13	-37.02	V
5.647031	31.72	Pk	34.8	-21.9	-95.2	-50.58	-13	-37.58	H
5.647031	32.37	Pk	34.8	-21.9	-95.2	-49.93	-13	-36.93	V
7.530938	30.15	Pk	35.6	-19.6	-95.2	-49.05	-13	-36.05	H
7.530938	32.14	Pk	35.6	-19.6	-95.2	-47.06	-13	-34.06	V
High Channel, 1905MHz									
3.810938	34.9	Pk	33.3	-25.3	-95.2	-52.3	-13	-39.3	H
3.810938	36.12	Pk	33.3	-25.3	-95.2	-51.08	-13	-38.08	V
5.715469	30.51	Pk	35	-23.1	-95.2	-52.79	-13	-39.79	H
5.715469	32.43	Pk	35	-23.1	-95.2	-50.87	-13	-37.87	V
7.62	31.37	Pk	35.7	-18.5	-95.2	-46.63	-13	-33.63	H
7.62	28.87	Pk	35.7	-18.5	-95.2	-49.13	-13	-36.13	V

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BPSK 5G NR n25 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/23/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n25_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1870MHz									
3.740156	34.08	Pk	33.4	-25.1	-95.2	-52.82	-13	-39.82	H
3.740156	35.58	Pk	33.4	-25.1	-95.2	-51.32	-13	-38.32	V
5.610938	33.41	Pk	34.8	-21.8	-95.2	-48.79	-13	-35.79	H
5.610938	31.62	Pk	34.8	-21.8	-95.2	-50.58	-13	-37.58	V
7.480313	31	Pk	35.6	-20.2	-95.2	-48.8	-13	-35.8	H
7.480313	32.21	Pk	35.6	-20.2	-95.2	-47.59	-13	-34.59	V
Mid Channel, 1882.5MHz									
3.765469	34.21	Pk	33.4	-24.8	-95.2	-52.39	-13	-39.39	H
3.765469	38.1	Pk	33.4	-24.8	-95.2	-48.5	-13	-35.5	V
5.6475	33.13	Pk	34.8	-21.9	-95.2	-49.17	-13	-36.17	H
5.6475	30.86	Pk	34.8	-21.9	-95.2	-51.44	-13	-38.44	V
7.530469	31.54	Pk	35.6	-19.6	-95.2	-47.66	-13	-34.66	H
7.530469	31.34	Pk	35.6	-19.6	-95.2	-47.86	-13	-34.86	V
High Channel, 1895MHz									
3.790781	35.64	Pk	33.3	-25.1	-95.2	-51.36	-13	-38.36	H
3.790781	36.9	Pk	33.3	-25.1	-95.2	-50.1	-13	-37.1	V
5.685	32.96	Pk	34.9	-22.6	-95.2	-49.94	-13	-36.94	H
5.685	31.03	Pk	34.9	-22.6	-95.2	-51.87	-13	-38.87	V
7.580156	31.59	Pk	35.6	-18.5	-95.2	-46.51	-13	-33.51	H
7.580156	30.22	Pk	35.6	-18.5	-95.2	-47.88	-13	-34.88	V

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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.

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QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/27/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B30_10MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel 2310MHz									
4.62	33.14	RMS	34.2	-24.8	-95.2	-52.66	-40	-12.66	H
4.62	30	RMS	34.2	-24.8	-95.2	-55.8	-40	-15.8	V
6.93	28.93	RMS	35.4	-20.7	-95.2	-51.57	-40	-11.57	H
6.93	28.74	RMS	35.4	-20.7	-95.2	-51.76	-40	-11.76	V
9.240469	26.73	RMS	36.3	-18.4	-95.2	-50.57	-40	-10.57	H
9.240469	28.58	RMS	36.3	-18.4	-95.2	-48.72	-40	-8.72	V

BPSK 5G NR n30 (10.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/3/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	5G NR n30_10MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
4.615313	33.46	RMS	34.3	-29.2	-95.2	-56.64	-40	-16.64	H
4.615313	33.66	RMS	34.3	-29.2	-95.2	-56.44	-40	-16.44	V
6.93	32.25	RMS	35.8	-26	-95.2	-53.15	-40	-13.15	H
6.93	32.01	RMS	35.8	-26	-95.2	-53.39	-40	-13.39	V
9.230156	30.45	RMS	36.4	-23.5	-95.2	-51.85	-40	-11.85	H
9.230156	28.94	RMS	36.4	-23.5	-95.2	-53.36	-40	-13.36	V

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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.

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QPSK LTE BAND 41 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/28/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B41_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz										
5.012344	33.29	Pk	34.3	-24.3	.8	-95.2	-51.11	-25	-26.11	H
5.012344	35.65	Pk	34.3	-24.3	.8	-95.2	-48.75	-25	-23.75	V
7.51875	30.93	Pk	35.6	-20.1	.3	-95.2	-48.47	-25	-23.47	H
7.51875	30.42	Pk	35.6	-20.1	.3	-95.2	-48.98	-25	-23.98	V
10.024688	30.69	Pk	37.2	-17.6	.6	-95.2	-44.31	-25	-19.31	H
10.024688	29.53	Pk	37.2	-17.6	.6	-95.2	-45.47	-25	-20.47	V
Mid Channel, 2593MHz										
5.18625	33.02	Pk	34.4	-23.6	.8	-95.2	-50.58	-25	-25.58	H
5.18625	32.95	Pk	34.4	-23.6	.8	-95.2	-50.65	-25	-25.65	V
7.779375	31.15	Pk	35.7	-19.9	.3	-95.2	-47.95	-25	-22.95	H
7.779375	29.18	Pk	35.7	-19.9	.3	-95.2	-49.92	-25	-24.92	V
10.3725	30.48	Pk	37.5	-16.9	.8	-95.2	-43.32	-25	-18.32	H
10.3725	30.28	Pk	37.5	-16.9	.8	-95.2	-43.52	-25	-18.52	V
High Channel, 2680MHz										
5.360156	30.62	Pk	34.6	-23.9	.5	-95.2	-53.38	-25	-28.38	H
5.360156	31.94	Pk	34.6	-23.9	.5	-95.2	-52.06	-25	-27.06	V
8.04	30.44	Pk	35.7	-19.3	.4	-95.2	-47.96	-25	-22.96	H
8.04	32.59	Pk	35.7	-19.3	.4	-95.2	-45.81	-25	-20.81	V
10.720781	27.58	Pk	38	-17.1	.6	-95.2	-46.12	-25	-21.12	H
10.720781	28.44	Pk	38	-17.1	.6	-95.2	-45.26	-25	-20.26	V

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BPSK LTE BAND n41 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/25/2022
Test Engineer:	27661
Configuration:	EUT Only
Mode	5G NR n41_100MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	BRF 2495-2690MHz T1790 1-18GHz)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2546MHz										
5.099531	39.47	Pk	34.2	-30.4	.8	-95.2	-51.13	-25	-26.13	H
5.1075	39.23	Pk	34.1	-30.5	.8	-95.2	-51.57	-25	-26.57	V
7.600313	35.69	Pk	35.8	-27	.4	-95.2	-50.31	-25	-25.31	V
7.60875	35.91	Pk	35.8	-27	.4	-95.2	-50.09	-25	-25.09	H
10.199063	35.04	Pk	37.3	-24.9	.8	-95.2	-46.96	-25	-21.96	V
10.204688	34.78	Pk	37.3	-24.8	.8	-95.2	-47.12	-25	-22.12	H
Mid Channel, 2593MHz										
5.180625	38.4	Pk	34.2	-30.6	.7	-95.2	-52.5	-25	-27.5	H
5.182969	39.68	Pk	34.2	-30.6	.7	-95.2	-51.22	-25	-26.22	V
7.794375	35.93	Pk	35.9	-26.8	.4	-95.2	-49.77	-25	-24.77	H
7.799531	34.94	Pk	35.9	-26.7	.4	-95.2	-50.66	-25	-25.66	V
10.356094	33.84	Pk	37.5	-24.8	.8	-95.2	-47.86	-25	-22.86	V
10.366875	34.31	Pk	37.6	-24.9	.8	-95.2	-47.39	-25	-22.39	H
High Channel, 2640MHz										
5.286563	38.17	Pk	34.2	-30.2	.4	-95.2	-52.63	-25	-27.63	V
5.2875	37.59	Pk	34.2	-30.2	.4	-95.2	-53.21	-25	-28.21	H
7.952813	35.62	Pk	35.9	-26.5	.3	-95.2	-49.88	-25	-24.88	H
7.959844	34.85	Pk	35.9	-26.6	.3	-95.2	-50.75	-25	-25.75	V
10.537031	35.07	Pk	37.8	-24.4	.5	-95.2	-46.23	-25	-21.23	H
10.543125	36.01	Pk	37.9	-24.4	.5	-95.2	-45.19	-25	-20.19	V

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10.4.5. LTE BAND 48

LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

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QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/27/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B48_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3560MHz										
7.120528	26.97	RMS	35.6	-20.7	.5	-95.2	-52.83	-40	-12.83	H
7.120528	26.43	RMS	35.6	-20.7	.5	-95.2	-53.37	-40	-13.37	V
10.680778	25.58	RMS	38	-17.1	.6	-95.2	-48.12	-40	-8.12	H
10.680778	27.71	RMS	38	-17.1	.6	-95.2	-45.99	-40	-5.99	V
14.240147	25.63	RMS	39.1	-15.8	.8	-95.2	-45.47	-40	-5.47	H
14.240147	25.04	RMS	39.1	-15.8	.8	-95.2	-46.06	-40	-6.06	V
Mid Channel, 3620MHz										
7.250072	27.47	RMS	35.5	-20.5	.6	-95.2	-52.13	-40	-12.13	H
7.250072	26.19	RMS	35.5	-20.5	.6	-95.2	-53.41	-40	-13.41	V
10.875094	24.28	RMS	37.8	-16.7	.5	-95.2	-49.32	-40	-9.32	H
10.875094	24.84	RMS	37.8	-16.7	.5	-95.2	-48.76	-40	-8.76	V
14.499675	25.85	RMS	39.7	-16.5	.8	-95.2	-45.35	-40	-5.35	H
14.499675	24.36	RMS	39.7	-16.5	.8	-95.2	-46.84	-40	-6.84	V
High Channel, 3690MHz										
7.380056	27.8	RMS	35.6	-20.4	.7	-95.2	-51.5	-40	-11.5	H
7.380056	26.34	RMS	35.6	-20.4	.7	-95.2	-52.96	-40	-12.96	V
11.06985	26.36	RMS	37.8	-16.5	.6	-95.2	-46.94	-40	-6.94	H
11.06985	25.91	RMS	37.8	-16.5	.6	-95.2	-47.39	-40	-7.39	V
14.759203	25.05	RMS	39.9	-15.4	.8	-95.2	-44.85	-40	-4.85	V
14.760525	25.15	RMS	39.8	-15.4	.8	-95.2	-44.85	-40	-4.85	H

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10.4.6. 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.

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QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/4/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B66_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.440625	35.77	Pk	32.7	-26.1	-95.2	-52.83	-13	-39.83	H
3.440625	35.3	Pk	32.7	-26.1	-95.2	-53.30	-13	-40.30	V
5.160469	34.75	Pk	34.3	-23.7	-95.2	-49.85	-13	-36.85	H
5.160469	33.53	Pk	34.3	-23.7	-95.2	-51.07	-13	-38.07	V
6.880313	32.7	Pk	35.5	-20.8	-95.2	-47.80	-13	-34.80	H
6.880313	29.85	Pk	35.5	-20.8	-95.2	-50.65	-13	-37.65	V
Mid Channel, 1745MHz									
3.490313	32.9	Pk	32.6	-25.6	-95.2	-55.30	-13	-42.30	H
3.490313	34.96	Pk	32.6	-25.6	-95.2	-53.24	-13	-40.24	V
5.235938	34	Pk	34.5	-23.9	-95.2	-50.60	-13	-37.60	H
5.235938	31.81	Pk	34.5	-23.9	-95.2	-52.79	-13	-39.79	V
6.980156	30.91	Pk	35.5	-20	-95.2	-48.79	-13	-35.79	H
6.980156	31.34	Pk	35.5	-20	-95.2	-48.36	-13	-35.36	V
High Channel, 1770MHz									
3.539531	32.84	Pk	32.9	-25	-95.2	-54.46	-13	-41.46	H
3.539531	34.78	Pk	32.9	-25	-95.2	-52.52	-13	-39.52	V
5.31	33.46	Pk	34.5	-23	-95.2	-50.24	-13	-37.24	H
5.31	31.51	Pk	34.5	-23	-95.2	-52.19	-13	-39.19	V
7.08	30.11	Pk	35.5	-20.1	-95.2	-49.69	-13	-36.69	H
7.08	31.38	Pk	35.5	-20.1	-95.2	-48.42	-13	-35.42	V

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BPSK 5G NR n66 (40.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/6/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n66_40MHz_BPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1730MHz									
3.459844	38.66	Pk	32.8	-33	-95.2	-56.74	-13	-43.74	H
3.459844	38.54	Pk	32.8	-33	-95.2	-56.86	-13	-43.86	V
5.19	36.62	Pk	34.2	-29.1	-95.2	-53.48	-13	-40.48	H
5.19	36.45	Pk	34.2	-29.1	-95.2	-53.65	-13	-40.65	V
6.920156	32.82	Pk	35.8	-26.2	-95.2	-52.78	-13	-39.78	H
6.920156	34.5	Pk	35.8	-26.2	-95.2	-51.10	-13	-38.10	V
Mid Channel, 1745MHz									
3.489844	39.46	Pk	32.9	-32.9	-95.2	-55.74	-13	-42.74	H
3.489844	39.39	Pk	32.9	-32.9	-95.2	-55.81	-13	-42.81	V
5.235	34.7	Pk	34.2	-28.8	-95.2	-55.10	-13	-42.10	H
5.235	34.29	Pk	34.2	-28.8	-95.2	-55.51	-13	-42.51	V
6.980156	33.73	Pk	35.8	-26.3	-95.2	-51.97	-13	-38.97	H
6.980156	33.55	Pk	35.8	-26.3	-95.2	-52.15	-13	-39.15	V
High Channel, 1760MHz									
3.519844	39.77	Pk	33.1	-32.8	-95.2	-55.13	-13	-42.13	H
3.519844	40.3	Pk	33.1	-32.8	-95.2	-54.60	-13	-41.60	V
5.28	34.74	Pk	34.3	-29.3	-95.2	-55.46	-13	-42.46	H
5.28	36.52	Pk	34.3	-29.3	-95.2	-53.68	-13	-40.68	V
7.040156	33.67	Pk	35.7	-26.8	-95.2	-52.63	-13	-39.63	H
7.040156	34.22	Pk	35.7	-26.8	-95.2	-52.08	-13	-39.08	V

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10.4.7. 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.

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BPSK 5G NR n70 (15.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/12/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n70_15MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 1702.5MHz									
3.405	37.94	Pk	32.5	-33	-95.2	-57.76	-13	-44.76	H
3.405	38.92	Pk	32.5	-33	-95.2	-56.78	-13	-43.78	V
5.1075	38.17	Pk	34.1	-30.2	-95.2	-53.13	-13	-40.13	H
5.1075	37.16	Pk	34.1	-30.2	-95.2	-54.14	-13	-41.14	V
6.81	34.61	Pk	35.7	-26.9	-95.2	-51.79	-13	-38.79	H
6.81	32.5	Pk	35.7	-26.9	-95.2	-53.9	-13	-40.9	V

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10.4.9. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/12/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n77a_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Mid Channel, 3500MHz										
7.000238	26.76	RMS	35.7	-27.3	.5	-95.2	-59.54	-13	-46.54	H
7.000238	27.92	RMS	35.7	-27.3	.5	-95.2	-58.38	-13	-45.38	V
10.500122	24.55	RMS	37.8	-24.6	.6	-95.2	-56.85	-13	-43.85	H
10.500122	24.64	RMS	37.8	-24.6	.6	-95.2	-56.76	-13	-43.76	V
14.000006	22.62	RMS	38.6	-20.4	.7	-95.2	-53.68	-13	-40.68	H
14.000006	21.18	RMS	38.6	-20.4	.7	-95.2	-55.12	-13	-42.12	V

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10.4.10. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Company:	
Project #:	14040867
Date:	4/7/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n77c_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad)	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.5	34.7	Pk	35.8	-26.9	-95.2	-51.6	-13	-38.6	H
7.5	34.2	Pk	35.8	-26.9	-95.2	-52.10	-13	-39.10	V
11.25	31.29	Pk	38	-22.4	-95.2	-48.31	-13	-35.31	H
11.25	30.72	Pk	38	-22.4	-95.2	-48.88	-13	-35.88	V
15	30.4	Pk	39.6	-19.3	-95.2	-44.50	-13	-31.50	H
15	29.99	Pk	39.6	-19.3	-95.2	-44.91	-13	-31.91	V
Mid Channel, 3840MHz									
7.68	34.78	Pk	35.9	-26.6	-95.2	-51.12	-13	-38.12	H
7.68	34.14	Pk	35.9	-26.6	-95.2	-51.76	-13	-38.76	V
11.52	31.18	Pk	38.2	-22.2	-95.2	-48.02	-13	-35.02	H
11.52	33	Pk	38.2	-22.2	-95.2	-46.20	-13	-33.20	V
15.36	31.22	Pk	40.2	-19.6	-95.2	-43.38	-13	-30.38	H
15.36	31.56	Pk	40.2	-19.6	-95.2	-43.04	-13	-30.04	V
High Channel, 3930MHz									
7.86	32.71	Pk	35.9	-26.4	-95.2	-52.99	-13	-39.99	H
7.86	32.17	Pk	35.9	-26.4	-95.2	-53.53	-13	-40.53	V
11.79	28.86	Pk	38.4	-20.8	-95.2	-48.74	-13	-35.74	H
11.79	30.15	Pk	38.4	-20.8	-95.2	-47.45	-13	-34.45	V
15.72	30.15	Pk	40.4	-19	-95.2	-43.65	-13	-30.65	H
15.72	29.9	Pk	40.4	-19	-95.2	-43.90	-13	-30.90	V

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10.5. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 7

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

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10.5.1. LTE BAND 48

LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz

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QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/31/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B48_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Low Channel, 3560MHz										
7.120088	27.29	RMS	35.6	-20.7	.5	-95.2	-52.51	-40	-12.51	H
7.120088	25.45	RMS	35.6	-20.7	.5	-95.2	-54.35	-40	-14.35	V
10.679897	24.7	RMS	38	-17.1	.6	-95.2	-49	-40	-9	H
10.680338	24.43	RMS	38	-17.1	.6	-95.2	-49.27	-40	-9.27	V
14.239266	23.43	RMS	39.1	-15.8	.8	-95.2	-47.67	-40	-7.67	H
14.239266	22.47	RMS	39.1	-15.8	.8	-95.2	-48.63	-40	-8.63	V
Mid Channel, 3625MHz										
7.250513	28.45	RMS	35.5	-20.5	.6	-95.2	-51.15	-40	-11.15	H
7.250513	28.54	RMS	35.5	-20.5	.6	-95.2	-51.06	-40	-11.06	V
10.875094	25.17	RMS	37.8	-16.7	.5	-95.2	-48.43	-40	-8.43	V
10.875534	23.26	RMS	37.8	-16.7	.5	-95.2	-50.34	-40	-10.34	H
14.500556	25.34	RMS	39.7	-16.5	.8	-95.2	-45.86	-40	-5.86	H
14.500556	24.04	RMS	39.7	-16.5	.8	-95.2	-47.16	-40	-7.16	V
High Channel, 3690MHz										
7.380497	24.67	RMS	35.6	-20.4	.7	-95.2	-54.63	-40	-14.63	H
7.380497	25.35	RMS	35.6	-20.4	.7	-95.2	-53.95	-40	-13.95	V
11.070731	25.85	RMS	37.8	-16.5	.6	-95.2	-47.45	-40	-7.45	H
11.070731	25.85	RMS	37.8	-16.5	.6	-95.2	-47.45	-40	-7.45	V
14.761406	23.11	RMS	39.8	-15.4	.8	-95.2	-46.89	-40	-6.89	H
14.761406	24.53	RMS	39.8	-15.4	.8	-95.2	-45.47	-40	-5.47	V

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10.5.2. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/5/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n77_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 3500MHz										
7.000238	26.56	RMS	35.7	-27.3	.5	-95.2	-59.74	-13	-46.74	H
7.000238	27.28	RMS	35.7	-27.3	.5	-95.2	-59.02	-13	-46.02	V
10.500122	23.81	RMS	37.8	-24.6	.6	-95.2	-57.59	-13	-44.59	H
10.500122	24.62	RMS	37.8	-24.6	.6	-95.2	-56.78	-13	-43.78	V
14.000006	22.1	RMS	38.6	-20.4	.7	-95.2	-54.2	-13	-41.2	H
14.000006	22.21	RMS	38.6	-20.4	.7	-95.2	-54.09	-13	-41.09	V

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10.5.3. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/28/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	FR1_n77_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.5	34.32	Pk	35.8	-26.9	-95.2	-51.98	-13	-38.98	H
7.5	33.33	Pk	35.8	-26.9	-95.2	-52.97	-13	-39.97	V
11.25	30.97	Pk	38	-22.4	-95.2	-48.63	-13	-35.63	H
11.25	30.84	Pk	38	-22.4	-95.2	-48.76	-13	-35.76	V
15	29.91	Pk	39.6	-19.3	-95.2	-44.99	-13	-31.99	H
15	31.93	Pk	39.6	-19.3	-95.2	-42.97	-13	-29.97	V
Mid Channel, 3840MHz									
7.68	34.83	Pk	35.9	-26.6	-95.2	-51.07	-13	-38.07	H
7.68	33.69	Pk	35.9	-26.6	-95.2	-52.21	-13	-39.21	V
11.52	31.54	Pk	38.2	-22.2	-95.2	-47.66	-13	-34.66	H
11.52	31.17	Pk	38.2	-22.2	-95.2	-48.03	-13	-35.03	V
15.36	30.24	Pk	40.2	-19.6	-95.2	-44.36	-13	-31.36	H
15.36	30.6	Pk	40.2	-19.6	-95.2	-44	-13	-31	V
High Channel, 3930MHz									
7.86	32.54	Pk	35.9	-26.4	-95.2	-53.16	-13	-40.16	H
7.86	34.37	Pk	35.9	-26.4	-95.2	-51.33	-13	-38.33	V
11.79	30.14	Pk	38.4	-20.8	-95.2	-47.46	-13	-34.46	H
11.79	29.7	Pk	38.4	-20.8	-95.2	-47.9	-13	-34.9	V
15.72	29.86	Pk	40.4	-19	-95.2	-43.94	-13	-30.94	H
15.72	30.54	Pk	40.4	-19	-95.2	-43.26	-13	-30.26	V

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10.6. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 8

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
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10.6.1. LTE BAND 48

LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(2) Additional protection levels. Notwithstanding paragraph (d)(1) of this section, the conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

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QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/31/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B48_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 3560MHz										
7.120528	27.95	RMS	35.6	-20.7	.5	-95.2	-51.85	-40	-11.85	H
7.120528	27.6	RMS	35.6	-20.7	.5	-95.2	-52.2	-40	-12.2	V
10.679897	23.33	RMS	38	-17.1	.6	-95.2	-50.37	-40	-10.37	H
10.679897	24.21	RMS	38	-17.1	.6	-95.2	-49.49	-40	-9.49	V
14.241909	24.1	RMS	39.1	-15.8	.8	-95.2	-47	-40	-7	H
14.241909	23.38	RMS	39.1	-15.8	.8	-95.2	-47.72	-40	-7.72	V
Mid Channel, 3625MHz										
7.250072	26.6	RMS	35.5	-20.5	.6	-95.2	-53	-40	-13	H
7.250072	27.6	RMS	35.5	-20.5	.6	-95.2	-52	-40	-12	V
10.876416	24.01	RMS	37.9	-16.6	.5	-95.2	-49.39	-40	-9.39	H
10.876416	23.24	RMS	37.9	-16.6	.5	-95.2	-50.16	-40	-10.16	V
14.499675	24.45	RMS	39.7	-16.5	.8	-95.2	-46.75	-40	-6.75	V
14.500116	24.82	RMS	39.7	-16.5	.8	-95.2	-46.38	-40	-6.38	H
High Channel, 3690MHz										
7.380497	25	RMS	35.6	-20.4	.7	-95.2	-54.3	-40	-14.3	H
7.380497	24.83	RMS	35.6	-20.4	.7	-95.2	-54.47	-40	-14.47	V
11.070291	24.65	RMS	37.8	-16.5	.6	-95.2	-48.65	-40	-8.65	H
11.070291	25.86	RMS	37.8	-16.5	.6	-95.2	-47.44	-40	-7.44	V
14.758322	24.3	RMS	39.9	-15.4	.8	-95.2	-45.6	-40	-5.6	H
14.759644	23.73	RMS	39.9	-15.4	.8	-95.2	-46.17	-40	-6.17	V

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10.6.2. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/7/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n77a_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 3500MHz										
6.999797	27.43	RMS	35.7	-27.3	.5	-95.2	-58.87	-13	-45.87	H
6.999797	27.8	RMS	35.7	-27.3	.5	-95.2	-58.5	-13	-45.5	V
10.500122	25.75	RMS	37.8	-24.6	.6	-95.2	-55.65	-13	-42.65	H
10.500122	25.4	RMS	37.8	-24.6	.6	-95.2	-56	-13	-43	V
14.000006	21.6	RMS	38.6	-20.4	.7	-95.2	-54.7	-13	-41.7	H
14.000006	21.96	RMS	38.6	-20.4	.7	-95.2	-54.34	-13	-41.34	V

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10.6.3. 5G NR n77 (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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/5/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n77a_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.5	33.41	Pk	35.8	-26.9	-95.2	-52.89	-13	-39.89	H
7.5	33.85	Pk	35.8	-26.9	-95.2	-52.45	-13	-39.45	V
11.25	29.59	Pk	38	-22.4	-95.2	-50.01	-13	-37.01	H
11.25	31.4	Pk	38	-22.4	-95.2	-48.2	-13	-35.2	V
15	30.69	Pk	39.6	-19.3	-95.2	-44.21	-13	-31.21	H
15	30.79	Pk	39.6	-19.3	-95.2	-44.11	-13	-31.11	V
Mid Channel, 3840MHz									
7.68	33.66	Pk	35.9	-26.6	-95.2	-52.24	-13	-39.24	H
7.68	35.53	Pk	35.9	-26.6	-95.2	-50.37	-13	-37.37	V
11.52	31.15	Pk	38.2	-22.2	-95.2	-48.05	-13	-35.05	H
11.52	29.88	Pk	38.2	-22.2	-95.2	-49.32	-13	-36.32	V
15.36	30.03	Pk	40.2	-19.6	-95.2	-44.57	-13	-31.57	H
15.36	32.14	Pk	40.2	-19.6	-95.2	-42.46	-13	-29.46	V
High Channel, 3930MHz									
7.86	32.85	Pk	35.9	-26.4	-95.2	-52.85	-13	-39.85	H
7.86	33.6	Pk	35.9	-26.4	-95.2	-52.1	-13	-39.1	V
11.79	30.26	Pk	38.4	-20.8	-95.2	-47.34	-13	-34.34	H
11.79	32.26	Pk	38.4	-20.8	-95.2	-45.34	-13	-32.34	V
15.72	30.49	Pk	40.4	-19	-95.2	-43.31	-13	-30.31	H
15.72	30.92	Pk	40.4	-19	-95.2	-42.88	-13	-29.88	V

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10.7. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 9

TEST PROCEDURE
KDB 971168 D01 v03r01/D02 v02/r01

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

RESULTS

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 319-4000 FAX: (510) 661-0888
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10.7.1. LTE BAND 48

LIMITS

FCC: §96.41

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

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QPSK LTE BAND 48 (20.0MHZ BANDWIDTH)

Project #:	14040867
Date:	5/31/2022
Test Engineer:	45258
Configuration:	EUT Only
Mode	LTE_B48_20MHz_QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF 80402 (dB/m)	Amp/Cbl (dB)	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Low Channel, 3560MHz										
7.120088	27.49	RMS	35.6	-20.7	.5	-95.2	-52.31	-40	-12.31	H
7.120088	26.47	RMS	35.6	-20.7	.5	-95.2	-53.33	-40	-13.33	V
10.680338	24.21	RMS	38	-17.1	.6	-95.2	-49.49	-40	-9.49	V
10.680778	23.79	RMS	38	-17.1	.6	-95.2	-49.91	-40	-9.91	H
14.239266	23.09	RMS	39.1	-15.8	.8	-95.2	-48.01	-40	-8.01	V
14.239706	24.24	RMS	39.1	-15.8	.8	-95.2	-46.86	-40	-6.86	H
Mid Channel, 3625MHz										
7.250513	27.88	RMS	35.5	-20.5	.6	-95.2	-51.72	-40	-11.72	H
7.250513	27.57	RMS	35.5	-20.5	.6	-95.2	-52.03	-40	-12.03	V
10.875534	24.5	RMS	37.8	-16.7	.5	-95.2	-49.1	-40	-9.1	H
10.875534	25.36	RMS	37.8	-16.7	.5	-95.2	-48.24	-40	-8.24	V
14.502759	23.86	RMS	39.7	-16.5	.8	-95.2	-47.34	-40	-7.34	H
14.502759	24.71	RMS	39.7	-16.5	.8	-95.2	-46.49	-40	-6.49	V
High Channel, 3690MHz										
7.380497	27.39	RMS	35.6	-20.4	.7	-95.2	-51.91	-40	-11.91	H
7.380497	26.35	RMS	35.6	-20.4	.7	-95.2	-52.95	-40	-12.95	V
11.070731	25.6	RMS	37.8	-16.5	.6	-95.2	-47.7	-40	-7.7	H
11.070731	26.68	RMS	37.8	-16.5	.6	-95.2	-46.62	-40	-6.62	V
14.760525	25.08	RMS	39.8	-15.4	.8	-95.2	-44.92	-40	-4.92	H
14.760525	25.84	RMS	39.8	-15.4	.8	-95.2	-44.16	-40	-4.16	V

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10.7.2. 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.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	3/28/2022
Test Engineer:	27661
Configuration:	EUT Only
Mode	5G NR n77a_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB	T1792 3400-3800MHz BRF	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Mid Channel, 3500MHz										
7.0584	28.53	RMS	35.7	-26.9	.8	-95.2	-57.07	-13	-44.07	V
7.065891	28.48	RMS	35.7	-26.9	.7	-95.2	-57.22	-13	-44.22	H
10.503206	26.27	RMS	37.8	-24.6	.6	-95.2	-55.13	-13	-42.13	V
10.525678	27.03	RMS	37.8	-24.3	.6	-95.2	-54.07	-13	-41.07	H
13.988109	23.58	RMS	38.5	-20.4	.7	-95.2	-52.82	-13	-39.82	V
14.019834	24.2	RMS	38.6	-20.3	.7	-95.2	-52.00	-13	-39.00	H

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10.7.3. 5G NR n77 (FCC Part 27 3700-3980MHz)

LIMITS

FCC: §27.53

(l) 3.7 GHz Service.The following emission limits apply to stations transmitting in the 3700-3980 MHz band:

(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.

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BPSK 5G NR n77 (100.0MHZ BANDWIDTH)

Project #:	14040867
Date:	4/7/2022
Test Engineer:	26120
Configuration:	EUT Only
Mode	5G NR n77c_100MHz_BPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	limit	Margin (dB)	Polarity
Low Channel, 3750MHz									
7.5	34.7	Pk	35.8	-26.9	-95.2	-51.6	-13	-38.6	H
7.5	34.2	Pk	35.8	-26.9	-95.2	-52.10	-13	-39.10	V
11.25	31.29	Pk	38	-22.4	-95.2	-48.31	-13	-35.31	H
11.25	30.72	Pk	38	-22.4	-95.2	-48.88	-13	-35.88	V
15	30.4	Pk	39.6	-19.3	-95.2	-44.50	-13	-31.50	H
15	29.99	Pk	39.6	-19.3	-95.2	-44.91	-13	-31.91	V
Mid Channel, 3840MHz									
7.68	34.78	Pk	35.9	-26.6	-95.2	-51.12	-13	-38.12	H
7.68	34.14	Pk	35.9	-26.6	-95.2	-51.76	-13	-38.76	V
11.52	31.18	Pk	38.2	-22.2	-95.2	-48.02	-13	-35.02	H
11.52	33	Pk	38.2	-22.2	-95.2	-46.20	-13	-33.20	V
15.36	31.22	Pk	40.2	-19.6	-95.2	-43.38	-13	-30.38	H
15.36	31.56	Pk	40.2	-19.6	-95.2	-43.04	-13	-30.04	V
High Channel, 3930MHz									
7.86	32.71	Pk	35.9	-26.4	-95.2	-52.99	-13	-39.99	H
7.86	32.17	Pk	35.9	-26.4	-95.2	-53.53	-13	-40.53	V
11.79	28.86	Pk	38.4	-20.8	-95.2	-48.74	-13	-35.74	H
11.79	30.15	Pk	38.4	-20.8	-95.2	-47.45	-13	-34.45	V
15.72	30.15	Pk	40.4	-19	-95.2	-43.65	-13	-30.65	H
15.72	29.9	Pk	40.4	-19	-95.2	-43.90	-13	-30.90	V

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11. SETUP PHOTOS

Please refer to 14040867-EP1V1 for setup photos.

END OF REPORT

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