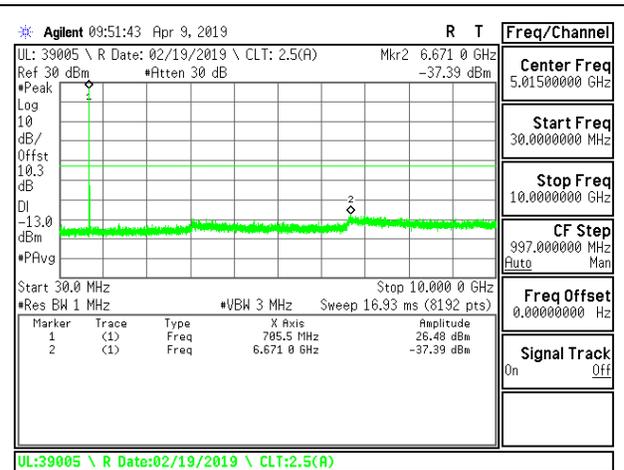
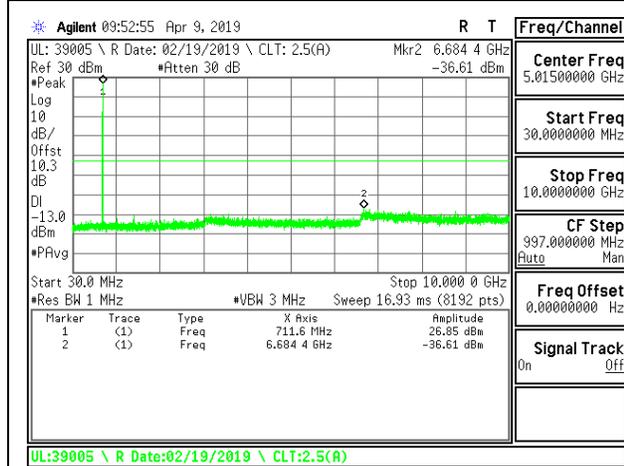


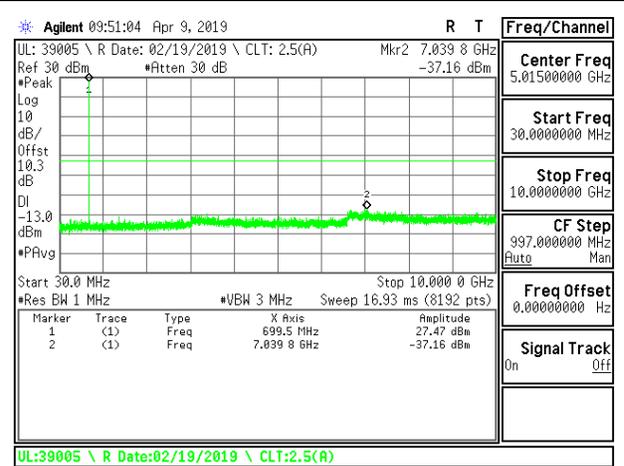
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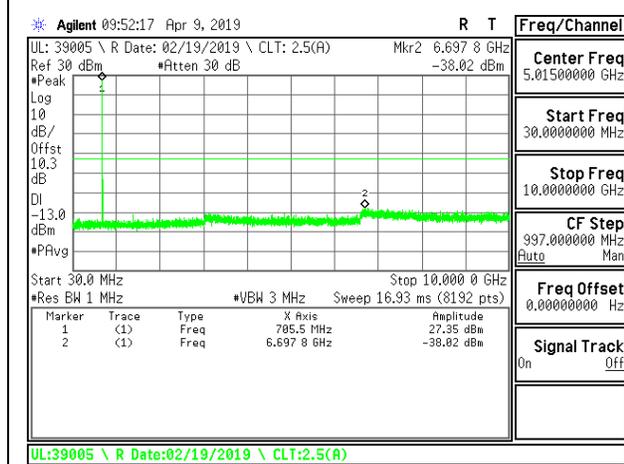
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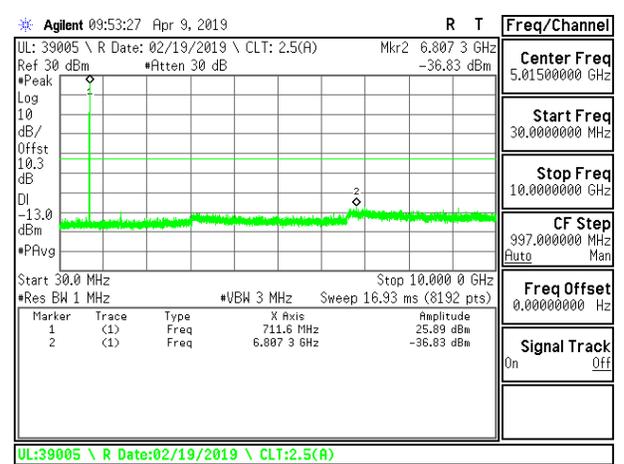
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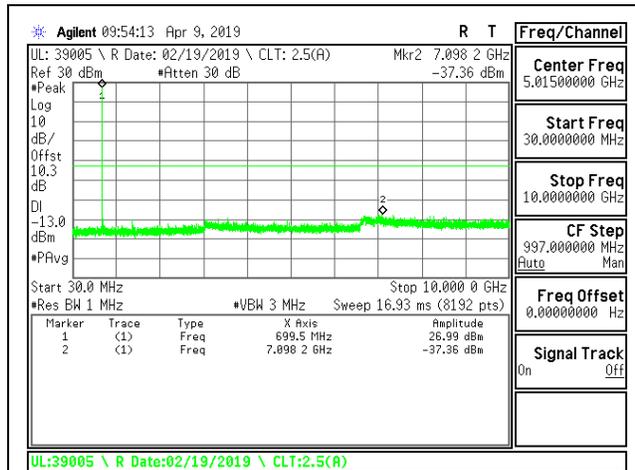
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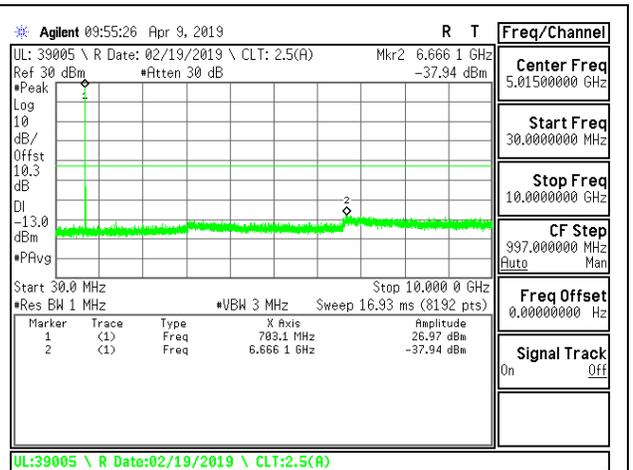
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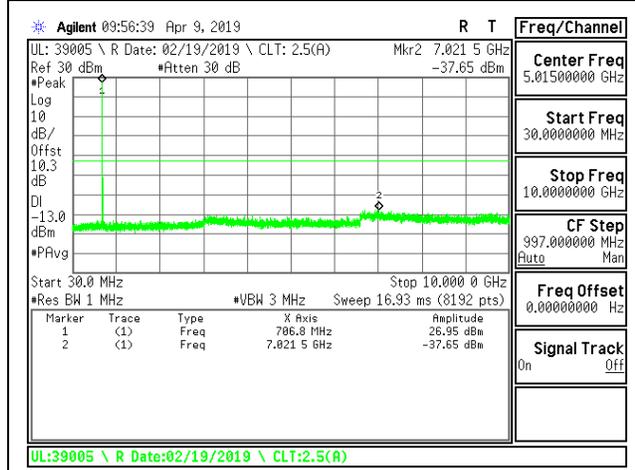
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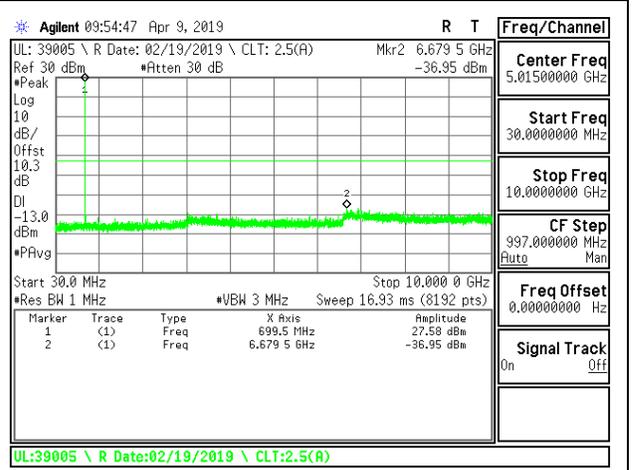
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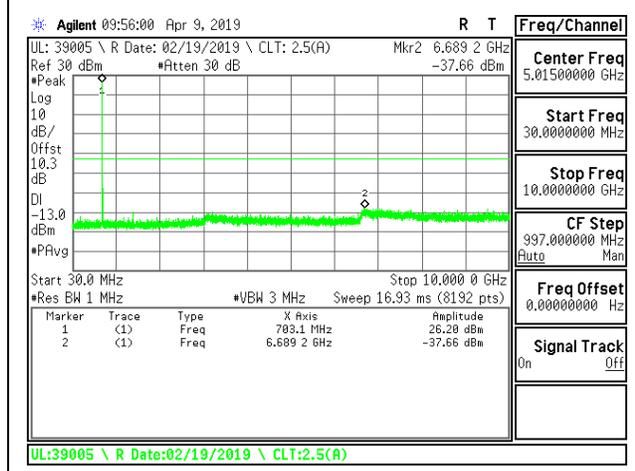
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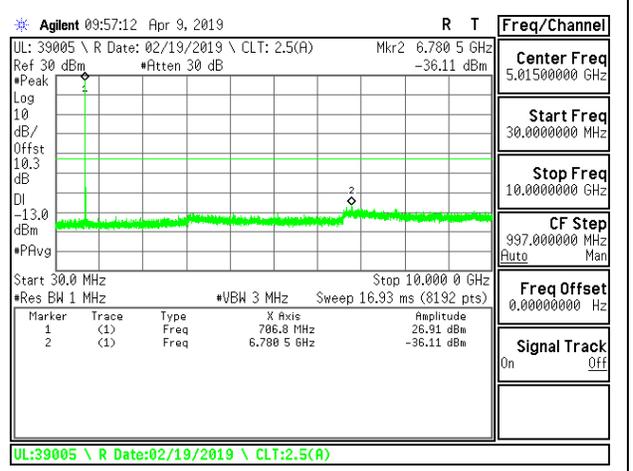
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LTE B12 10MHz 16QAM Low Channel RB1-0

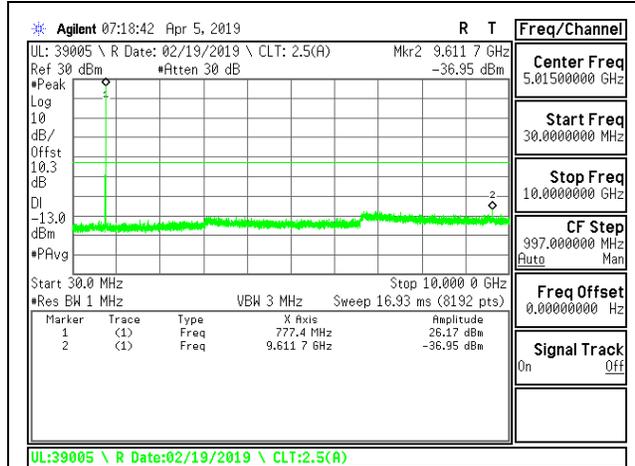


LTE B12 10MHz 16QAM Mid Channel RB1-0

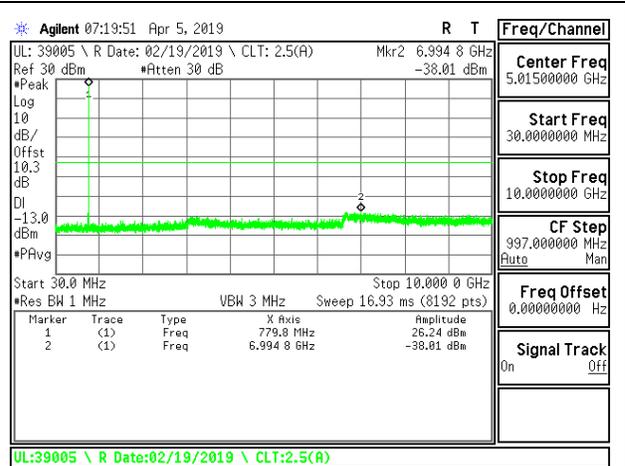


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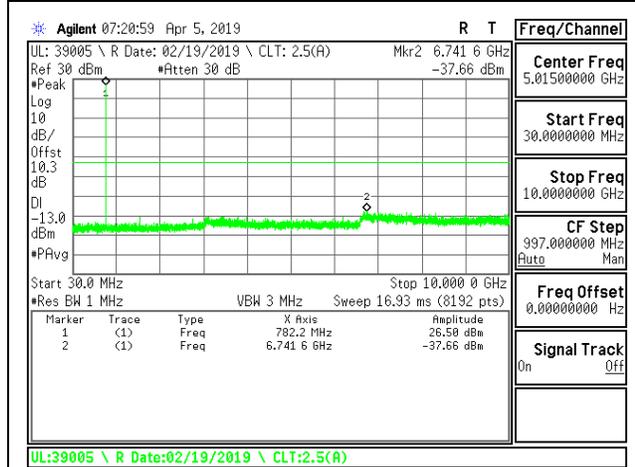
8.3.11. LTE BAND 13



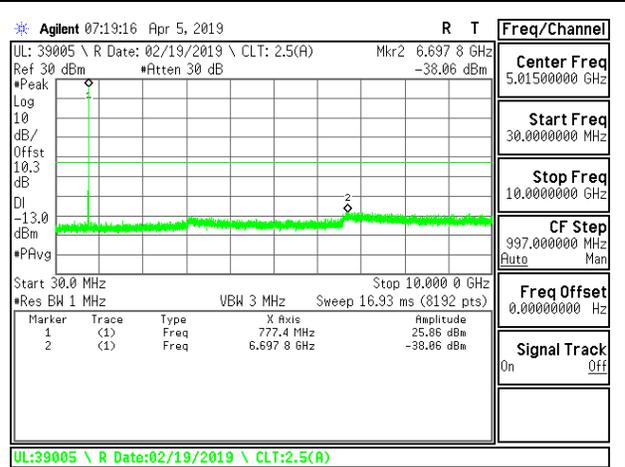
LTE B13 5MHz QPSK Low Channel RB1-0



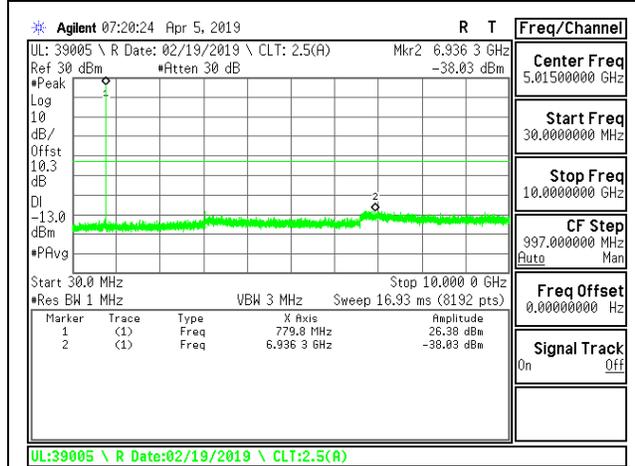
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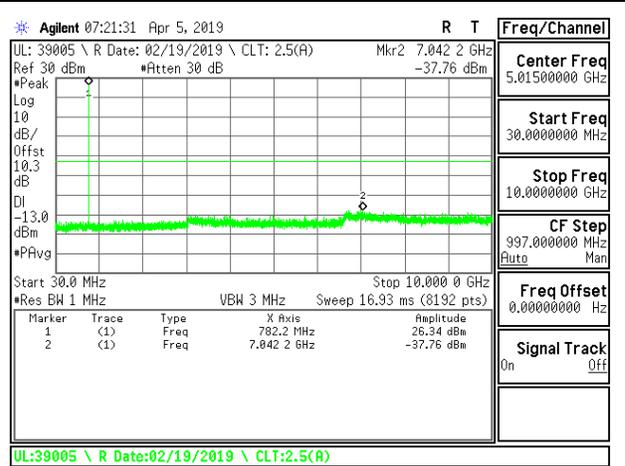
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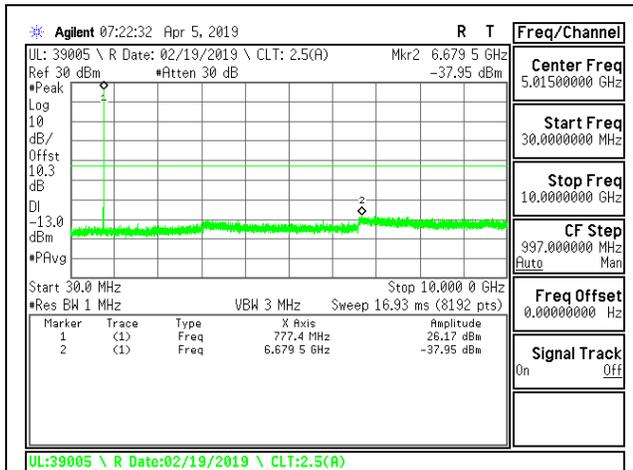
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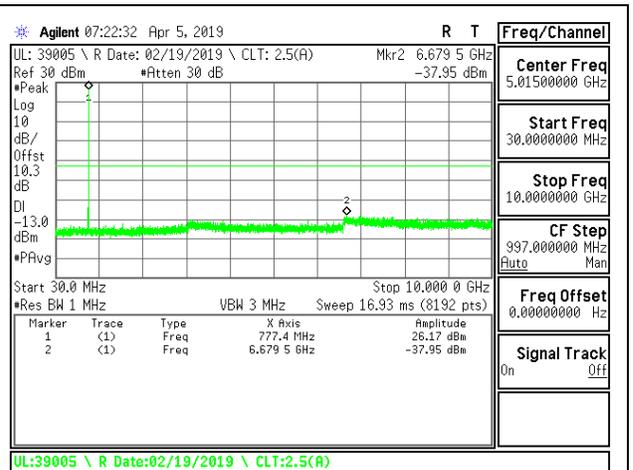
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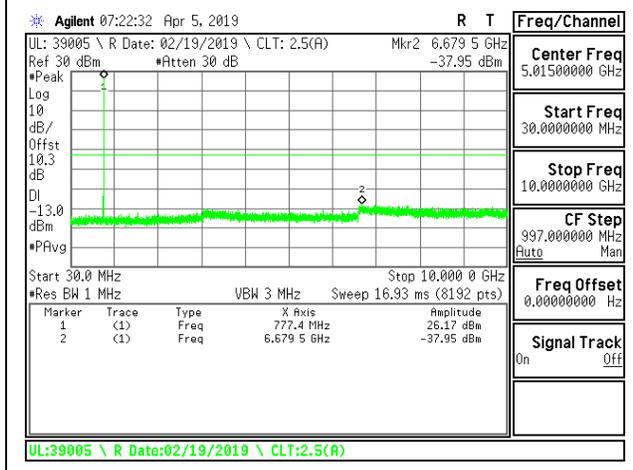
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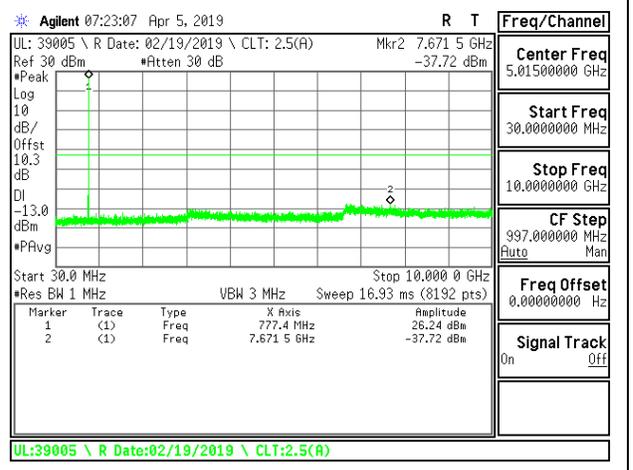
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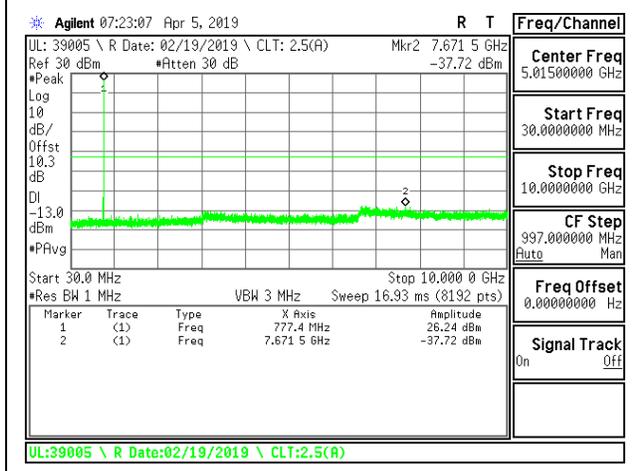
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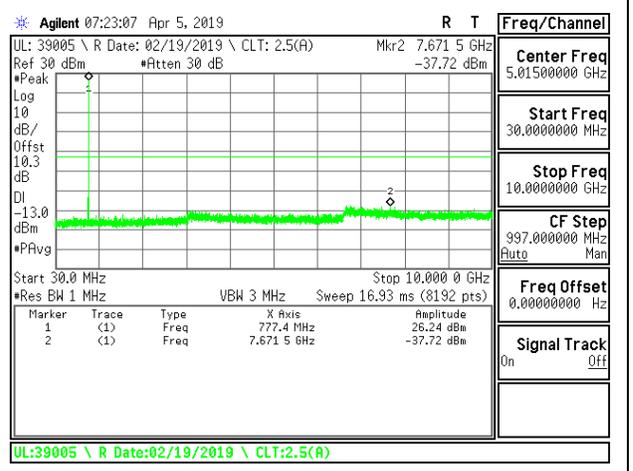
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LTE B13 10MHz 16QAM Low Channel RB1-0



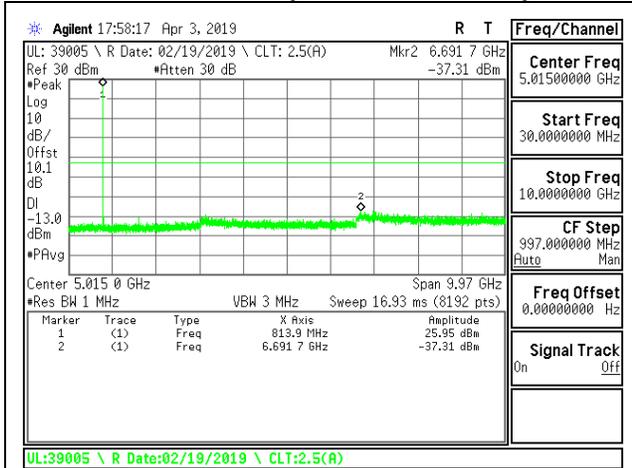
LTE B13 10MHz 16QAM Mid Channel RB1-0



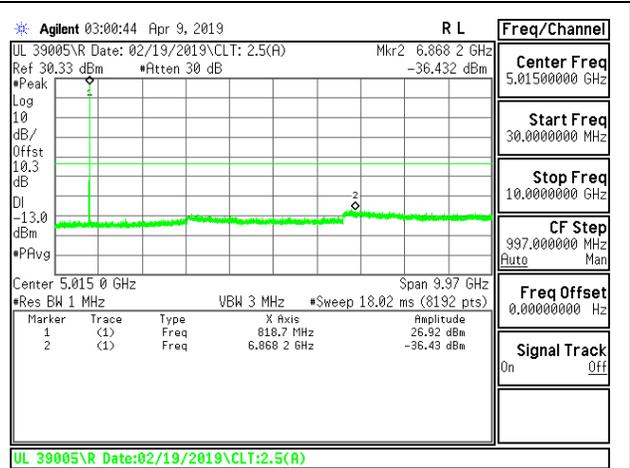
LTE B13 10MHz 16QAM High Channel RB1-0

Note: Radiated data in section 9.2.8 confirms a compliance with narrowband limits for GPS1559-1610 MHz band.

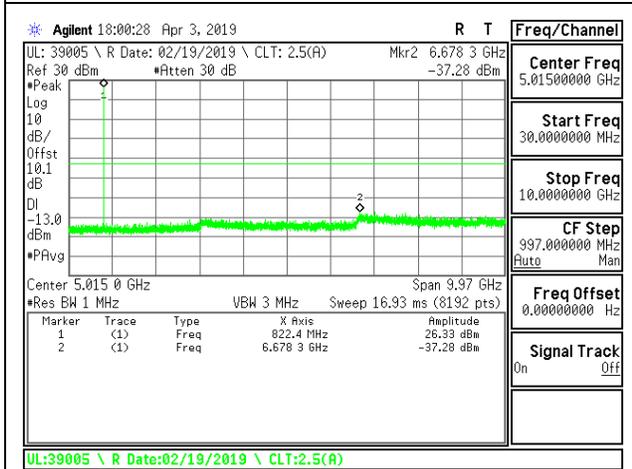
8.3.12. LTE BAND 26 (FCC PART 90S)



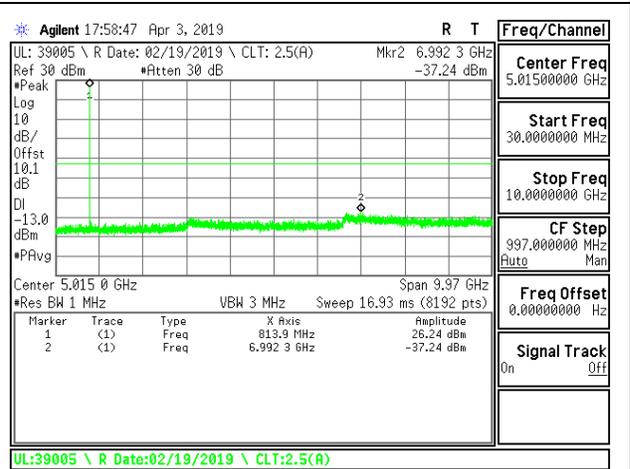
LTE B26 1.4MHz QPSK Low Channel RB1-0



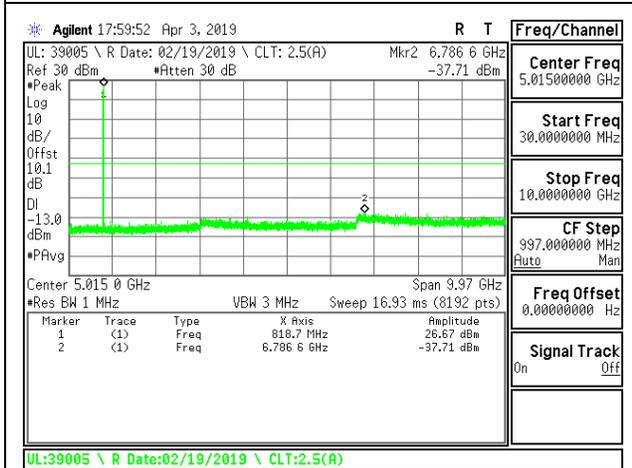
LTE B26 1.4MHz QPSK Mid Channel RB1-0



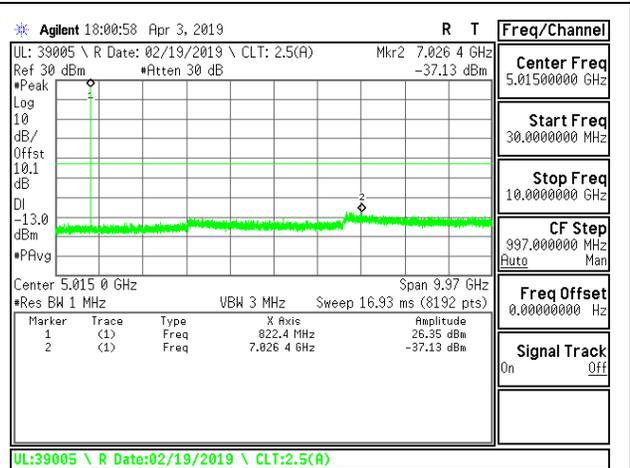
LTE B26 1.4MHz QPSK High Channel RB1-0



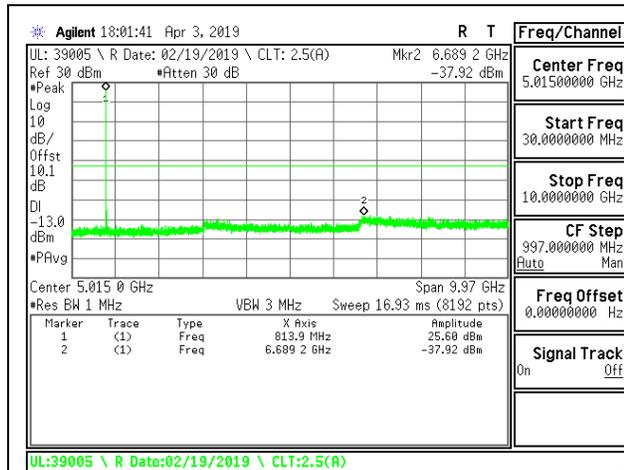
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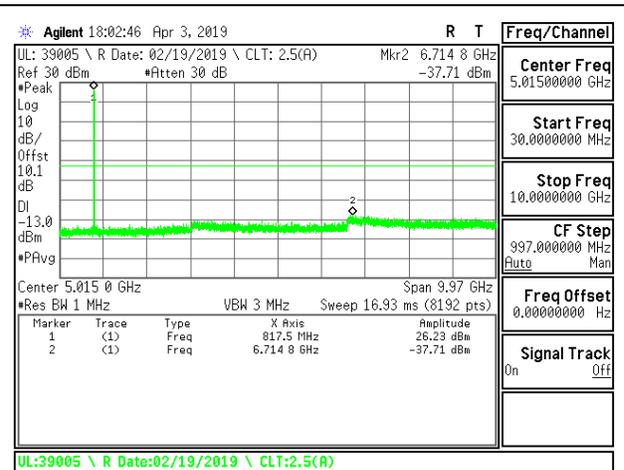
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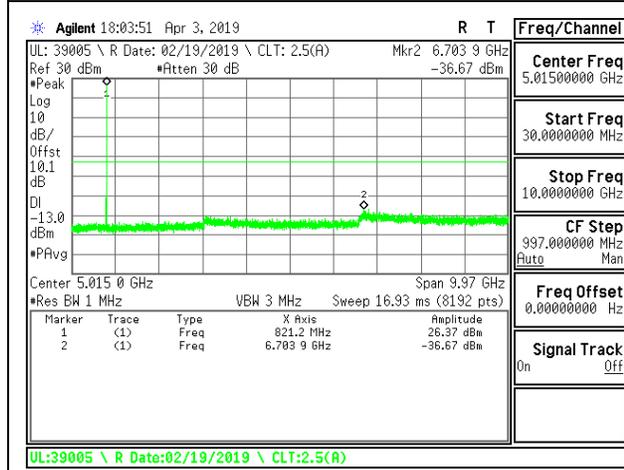
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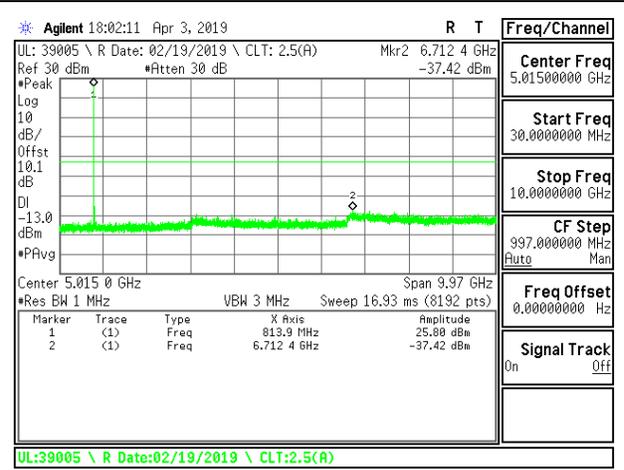
LTE B26 3MHz QPSK Low Channel RB1-0



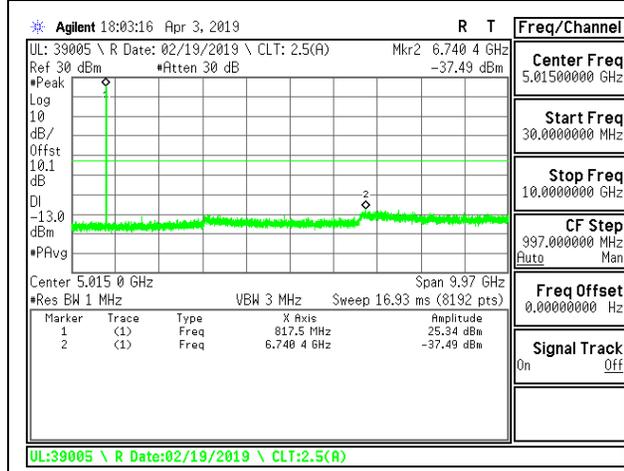
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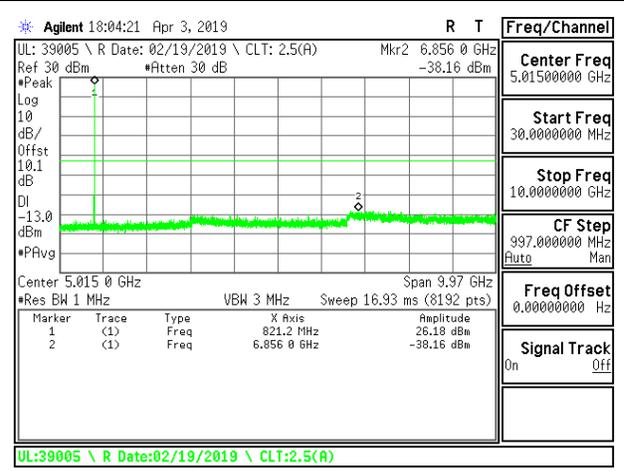
LTE B26 3MHz QPSK High Channel RB1-0



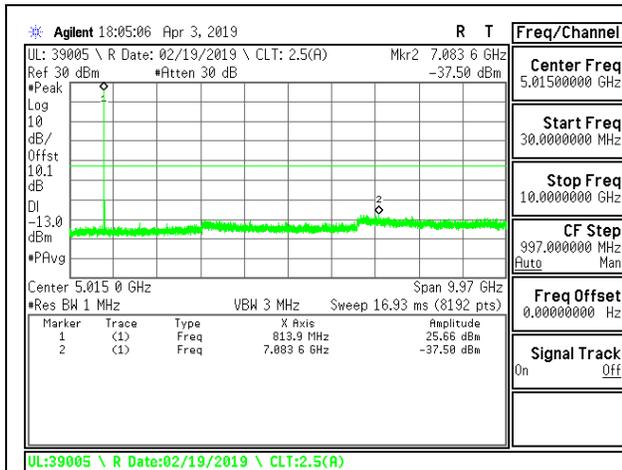
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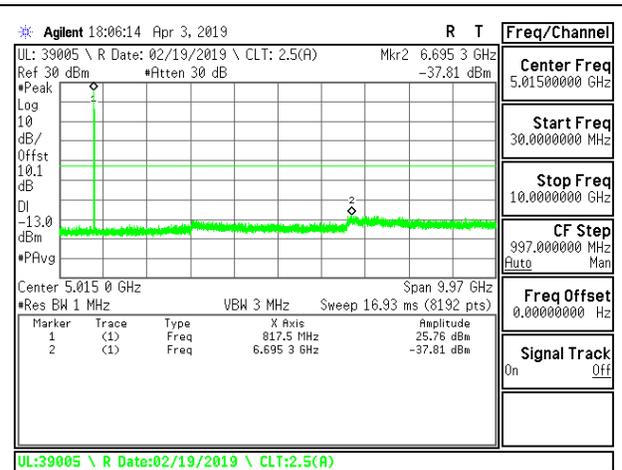
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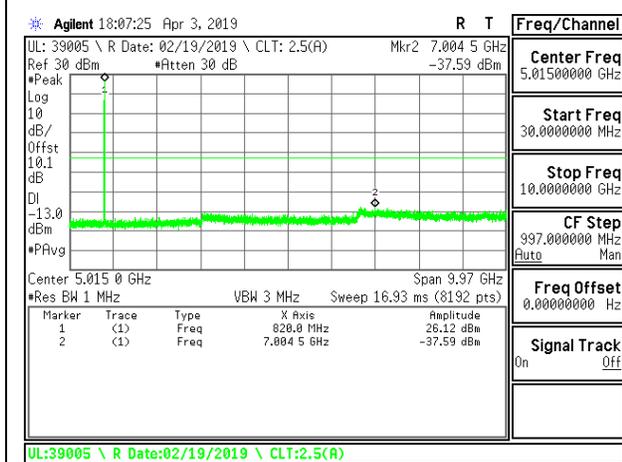
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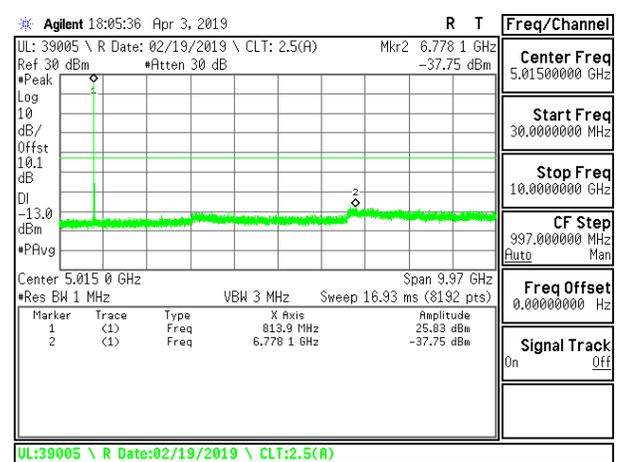
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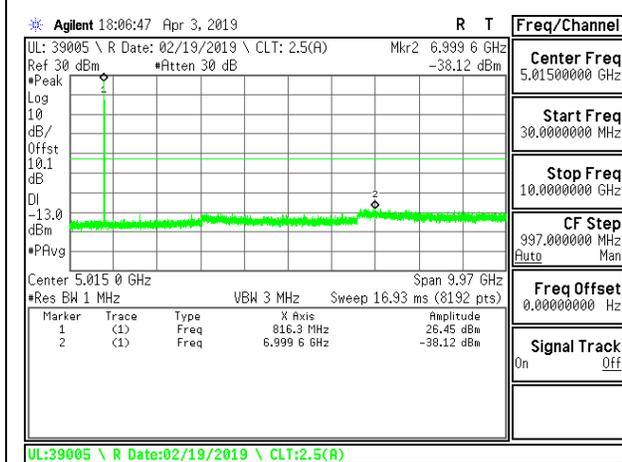
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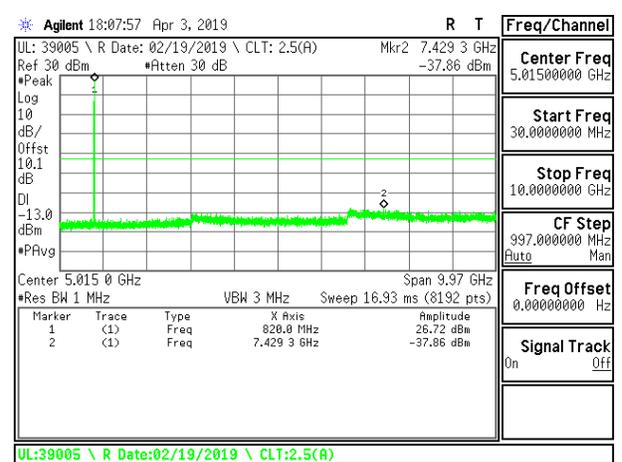
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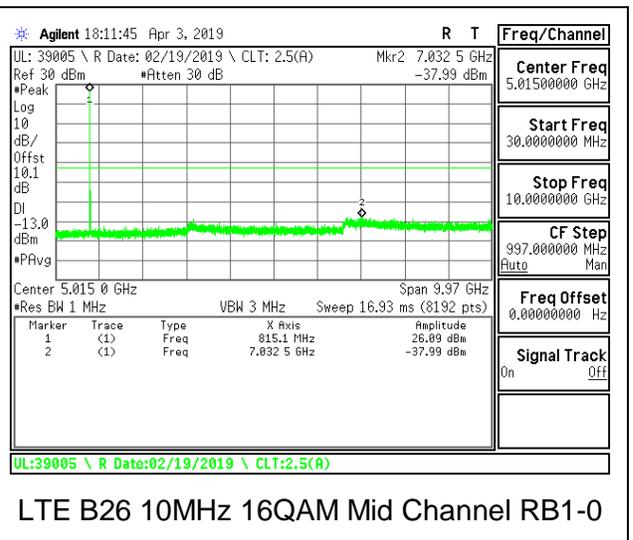
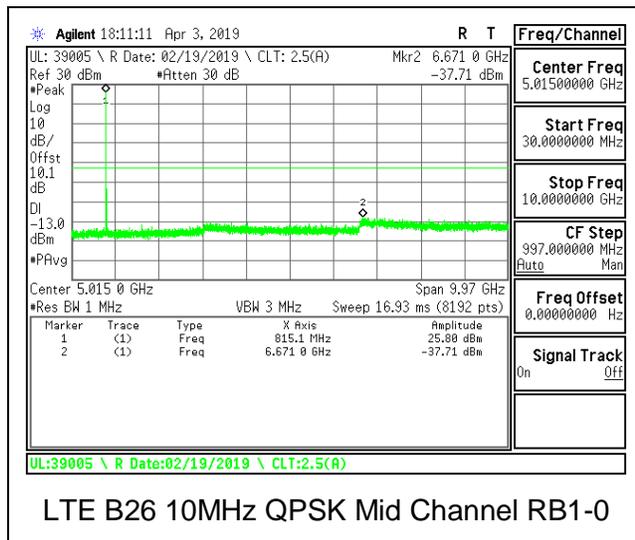
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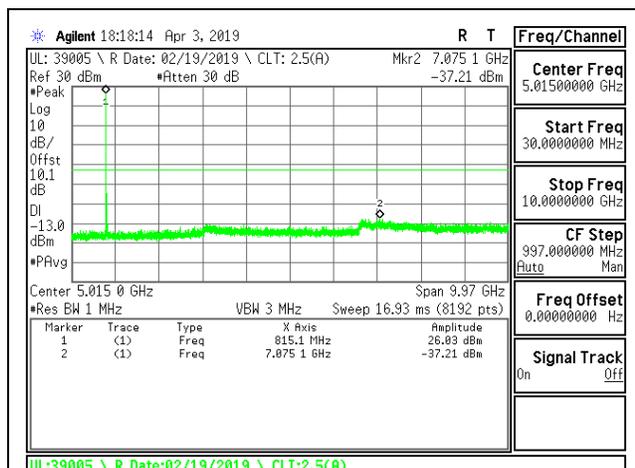


LTE B26 5MHz 16QAM Mid Channel RB1-0

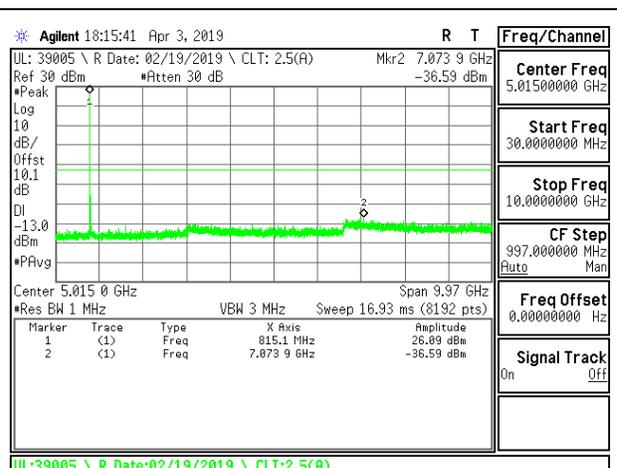


LTE B26 5MHz 16QAM High Channel RB1-0

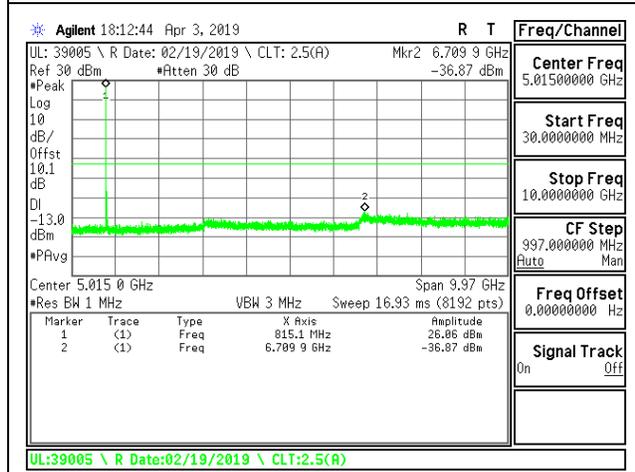




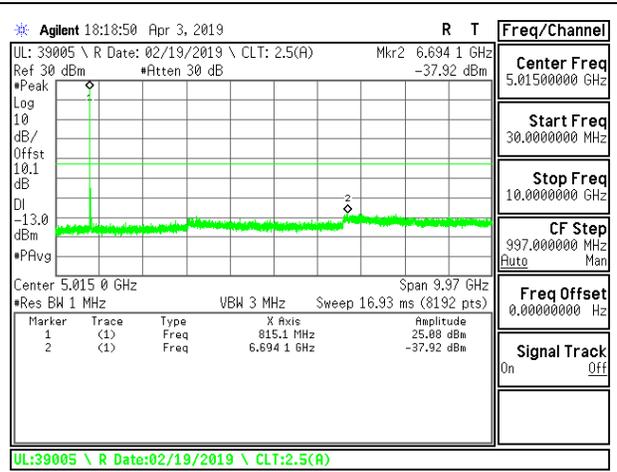
LTE B26 15MHz QPSK Low Channel RB1-0



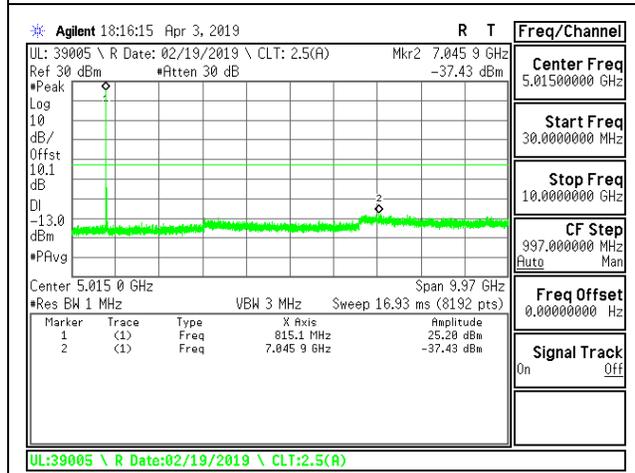
LTE B26 15MHz QPSK Mid Channel RB1-0



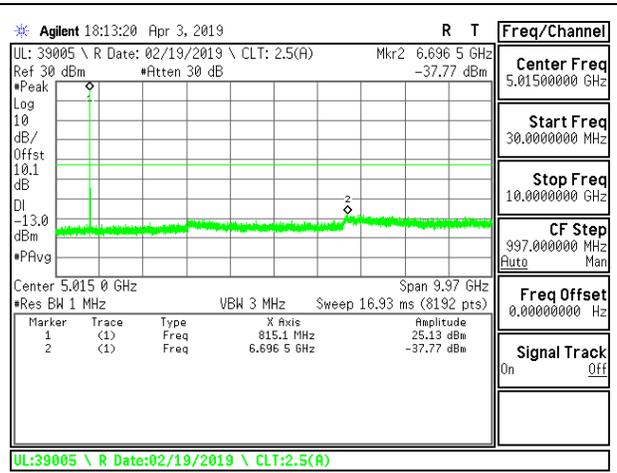
LTE B26 15MHz QPSK High Channel RB1-0



LTE B26 15MHz 16QAM Low Channel RB1-0

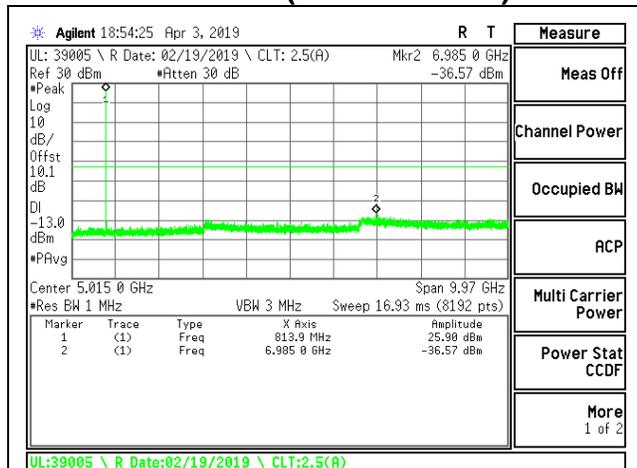


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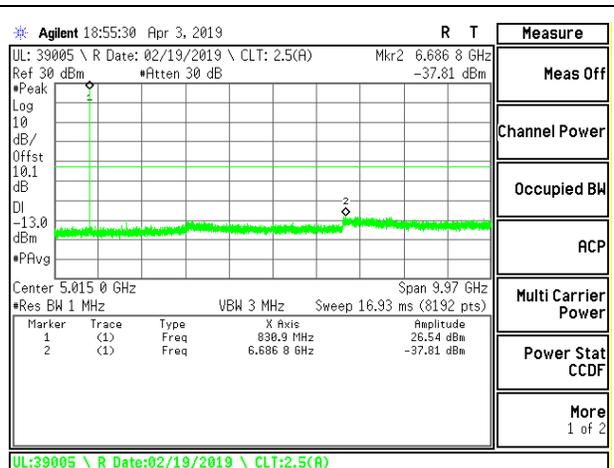


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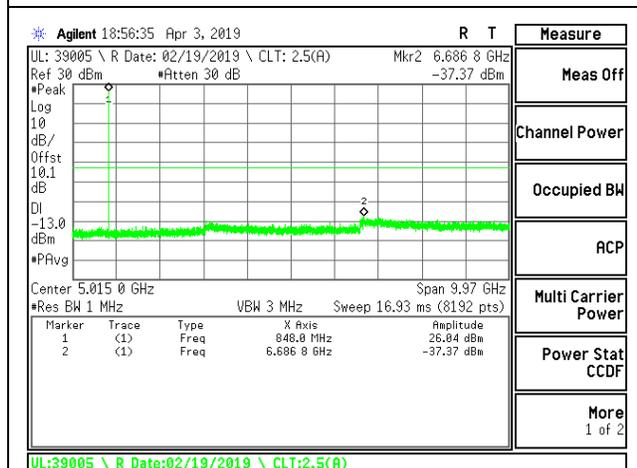
8.3.13. LTE BAND 26 (FCC PART 22)



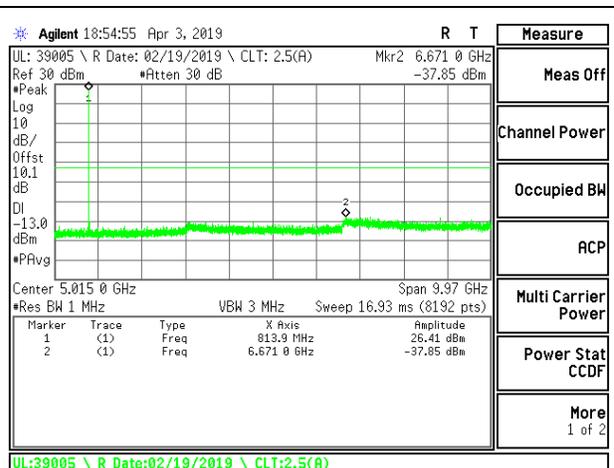
LTE B26 1.4MHz QPSK Low Channel RB1-0



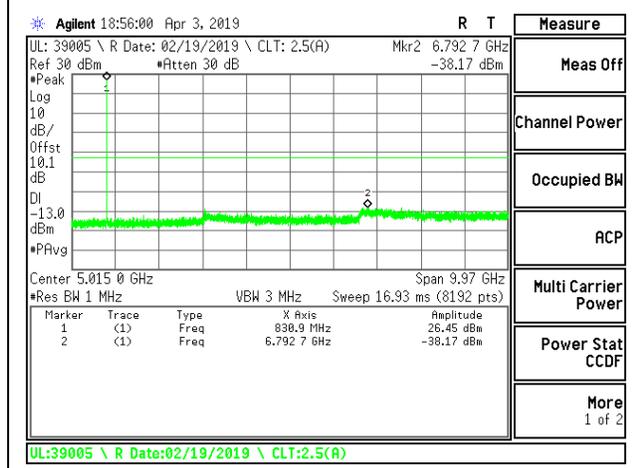
LTE B26 1.4MHz QPSK Mid Channel RB1-0



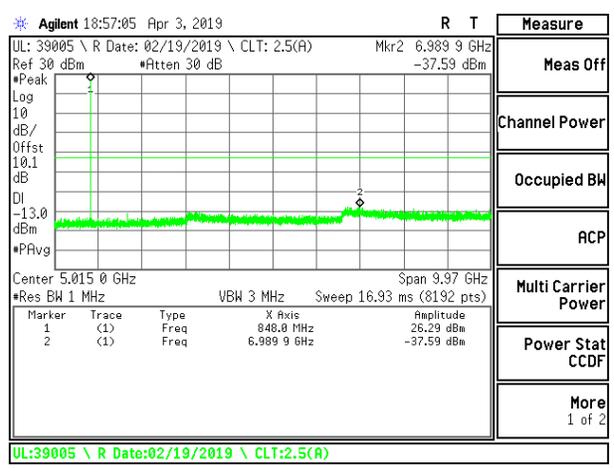
LTE B26 1.4MHz QPSK High Channel RB1-0



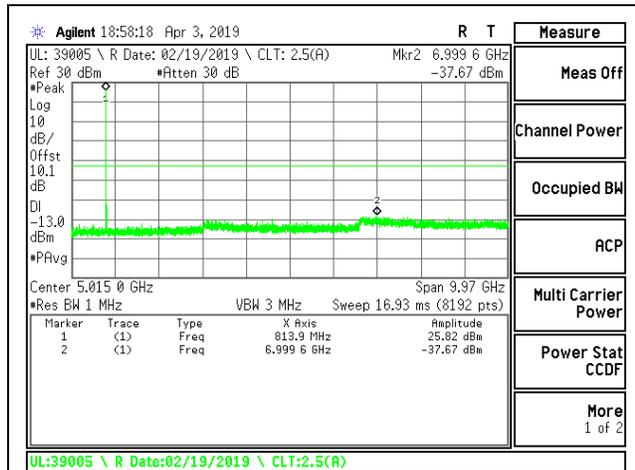
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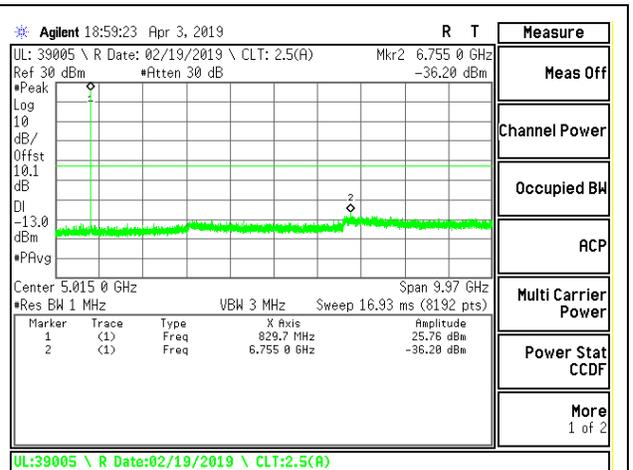
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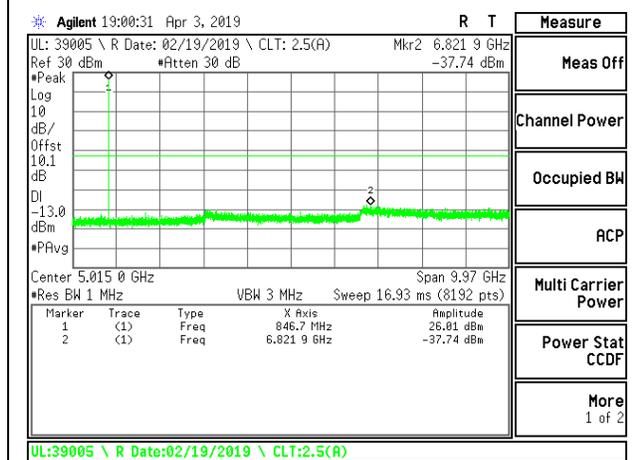
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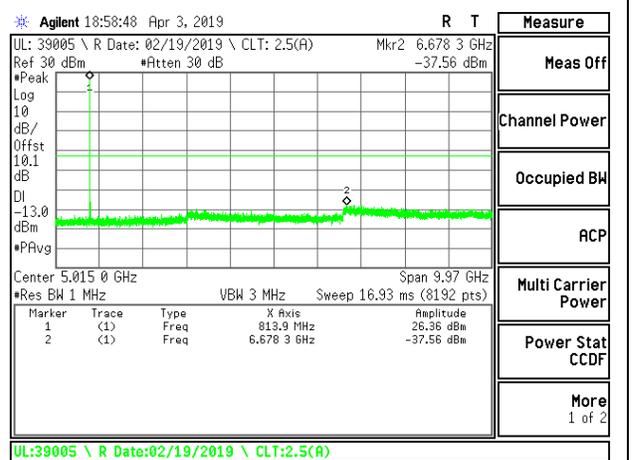
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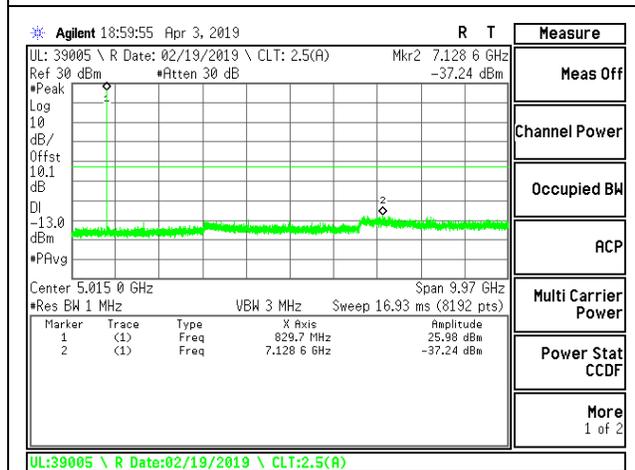
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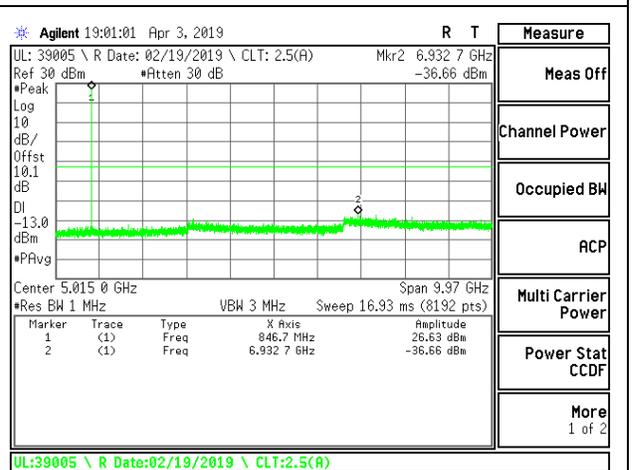
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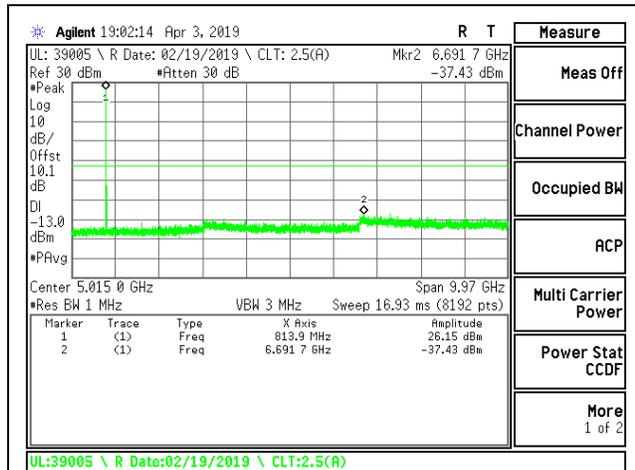
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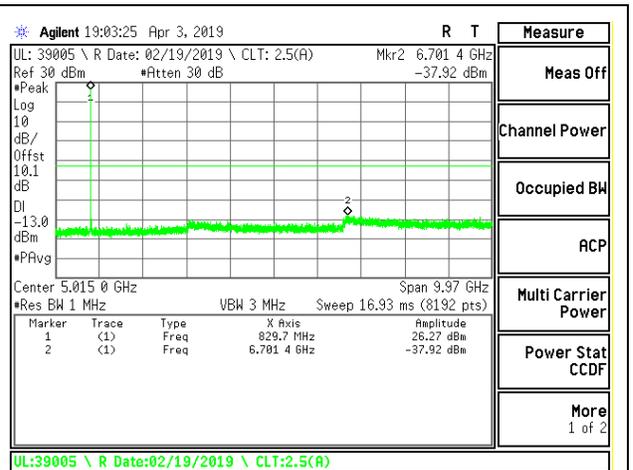
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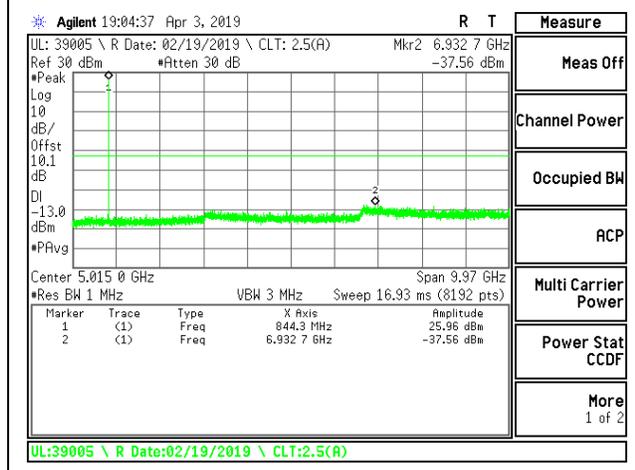
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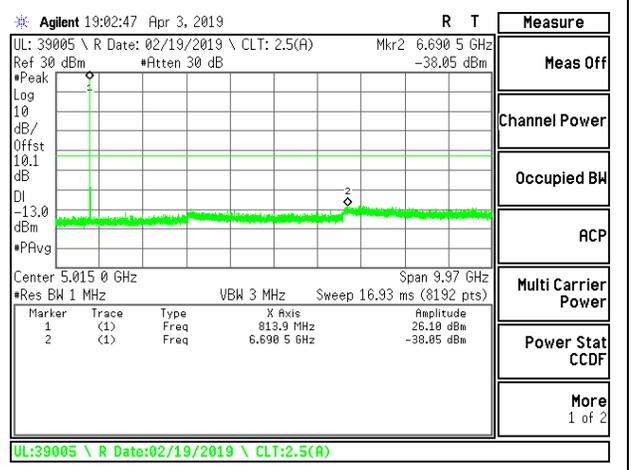
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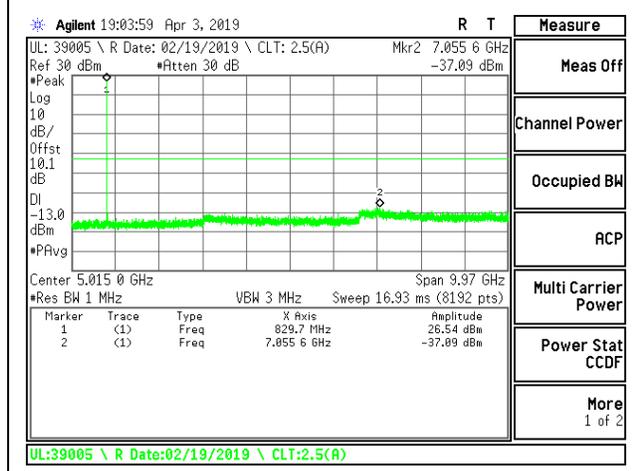
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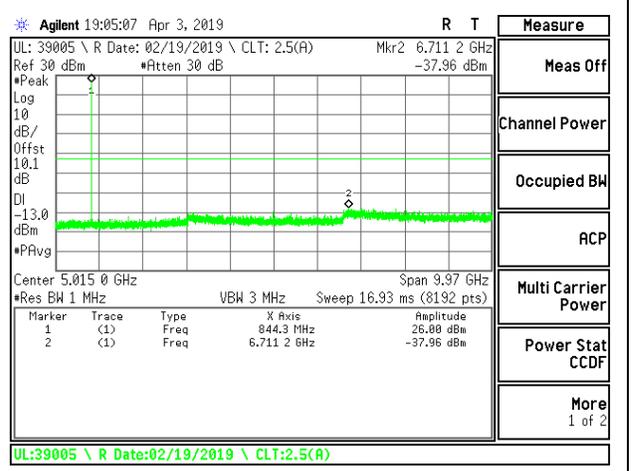
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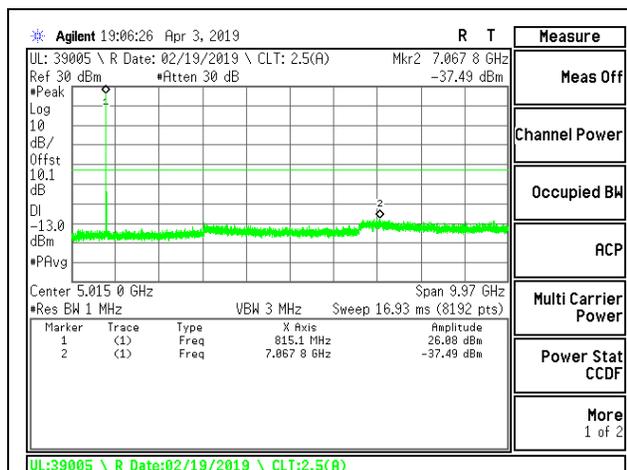
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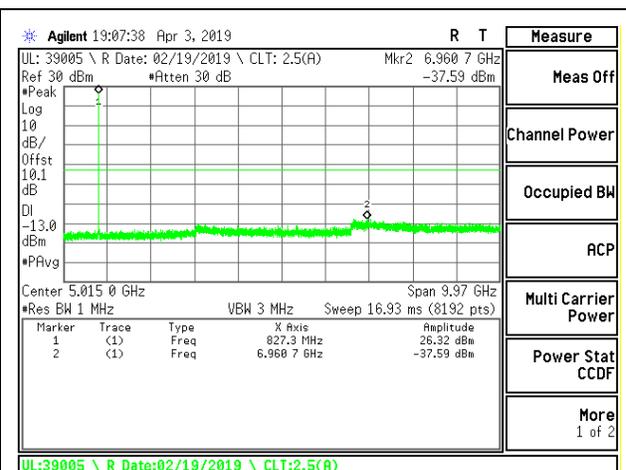
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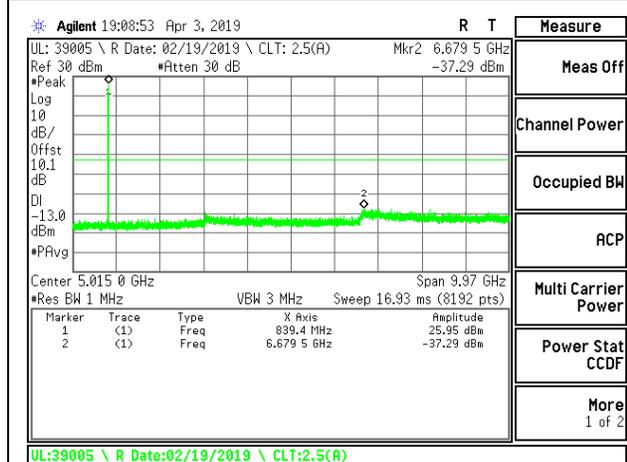
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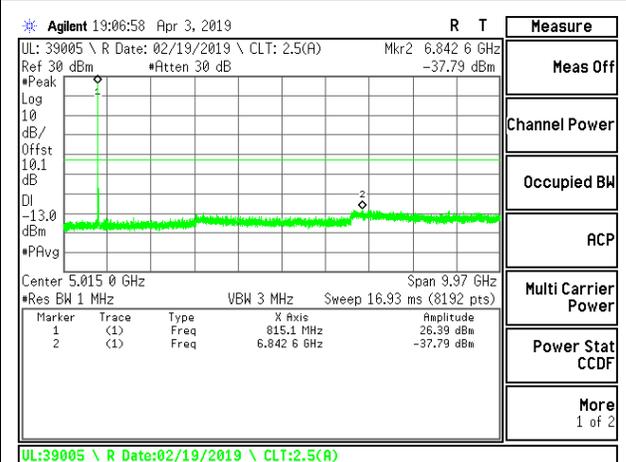
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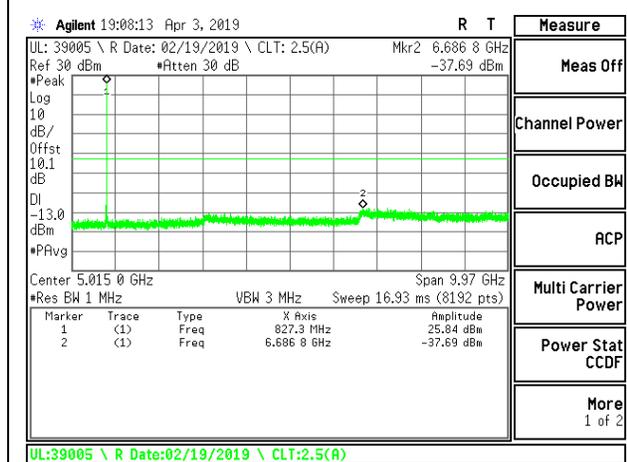
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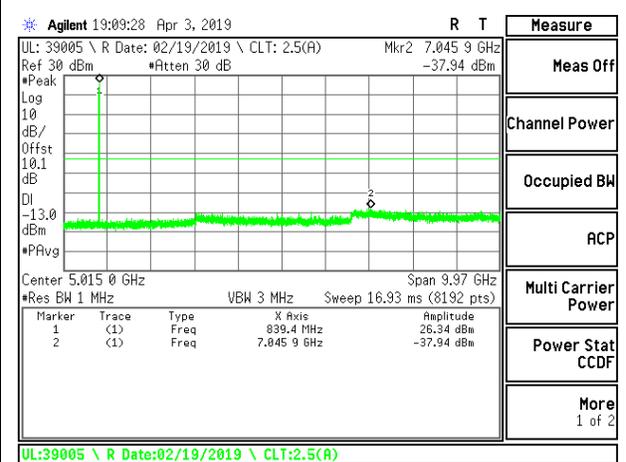
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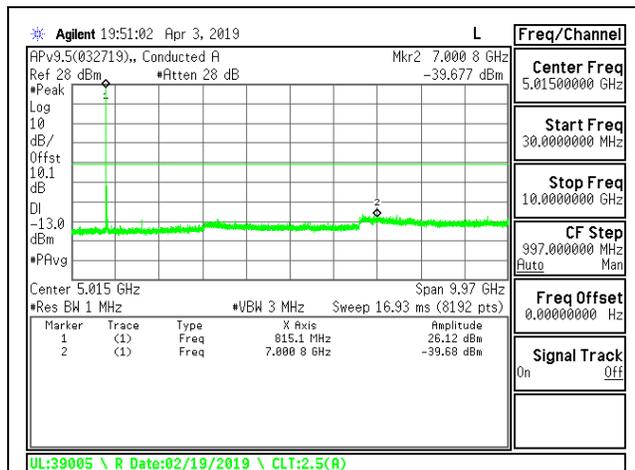
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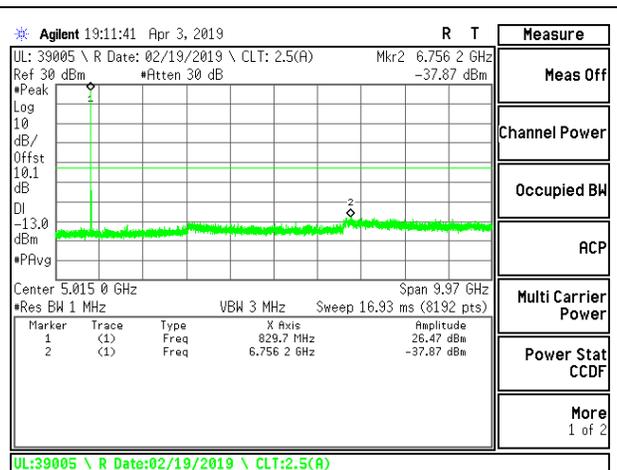
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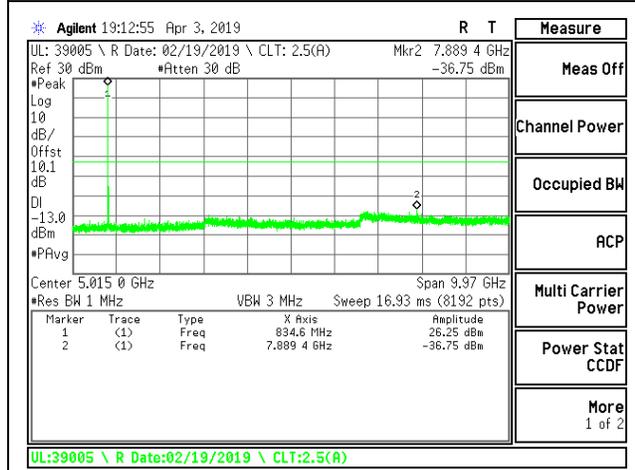
LTE B26 10MHz 16QAM High Channel RB1-0



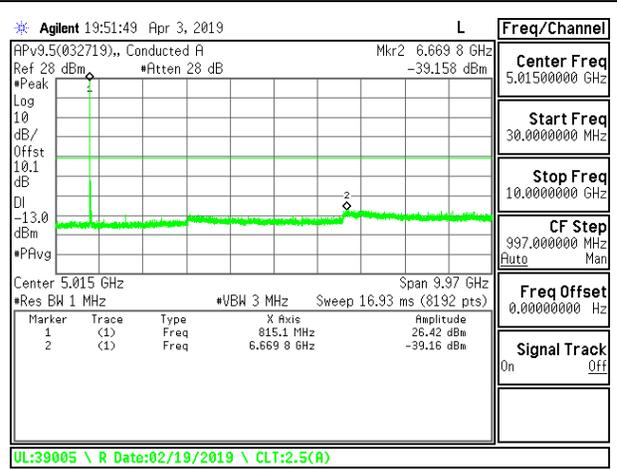
LTE B26 15MHz QPSK Low Channel RB1-0



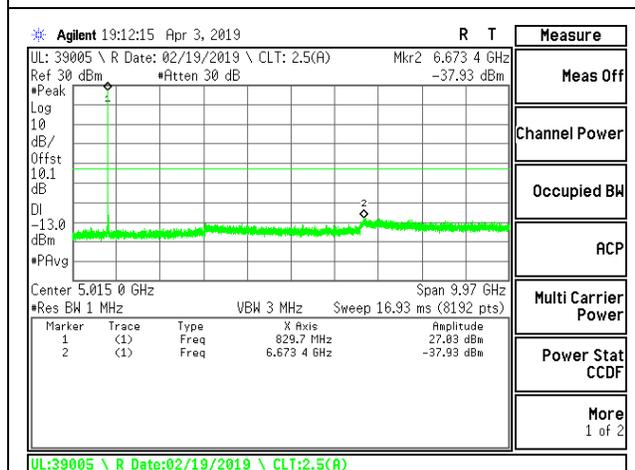
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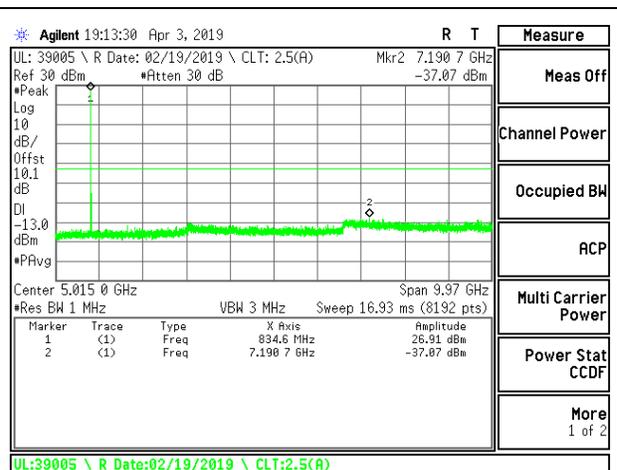
LTE B26 15MHz QPSK High Channel RB1-0



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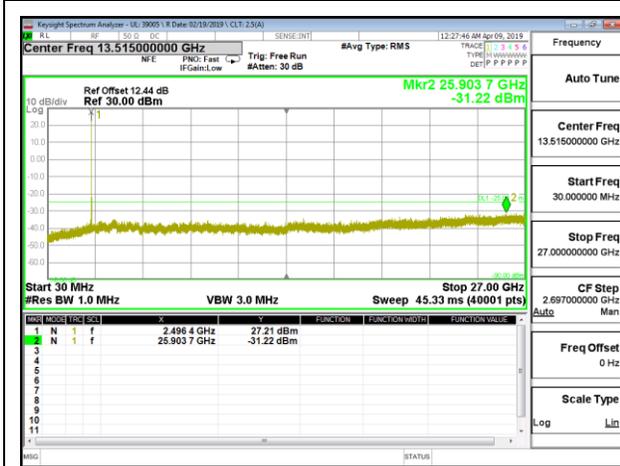


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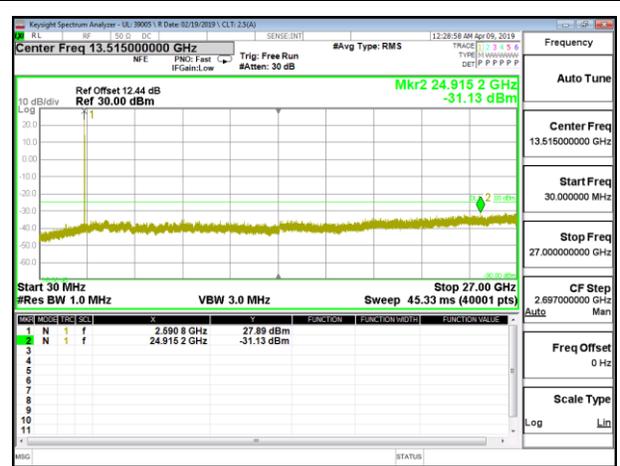


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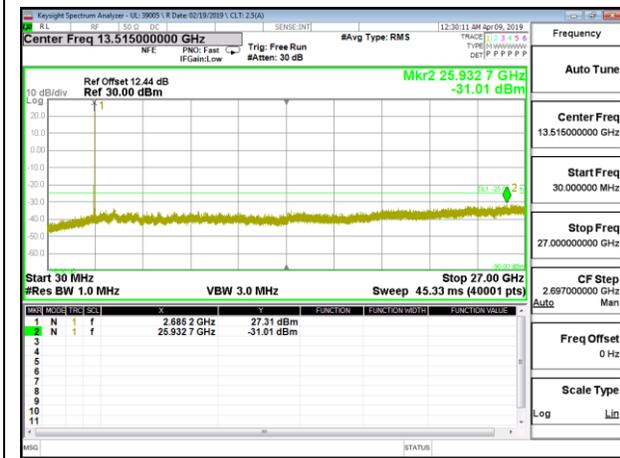
8.3.14. LTE BAND 41 (FCC)



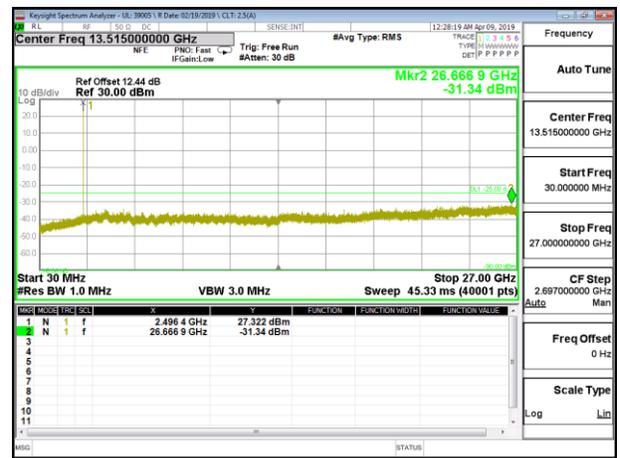
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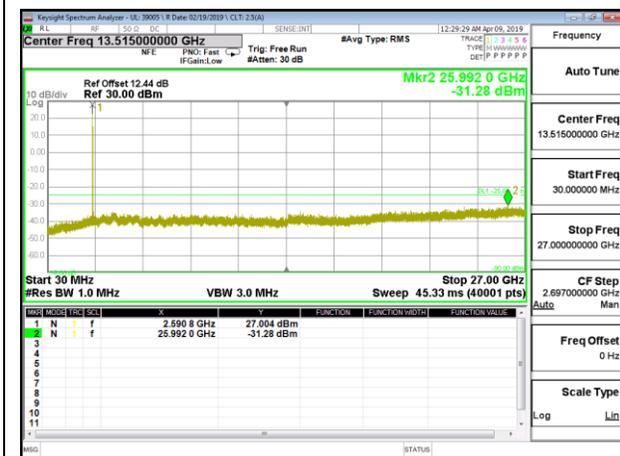
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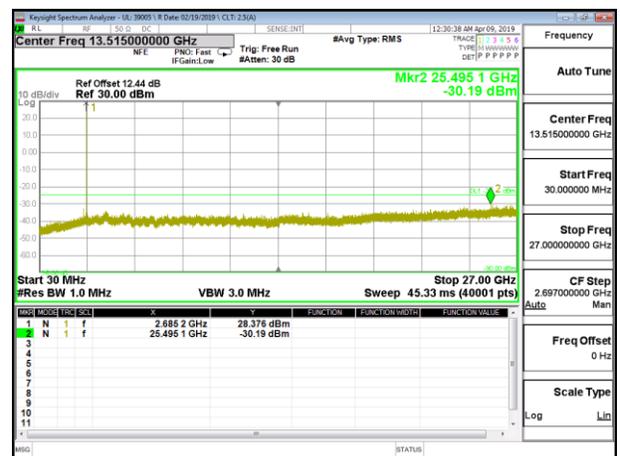
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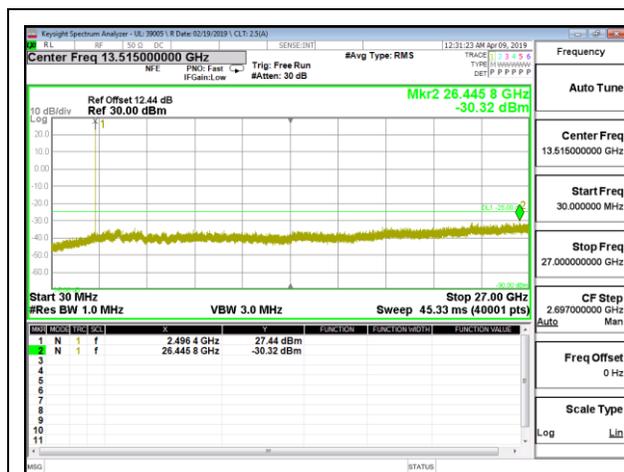
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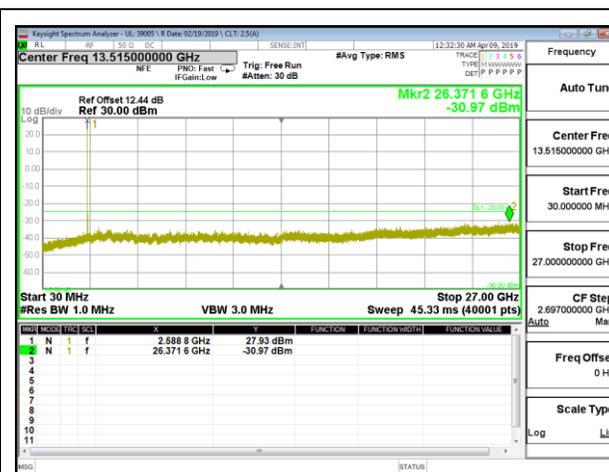
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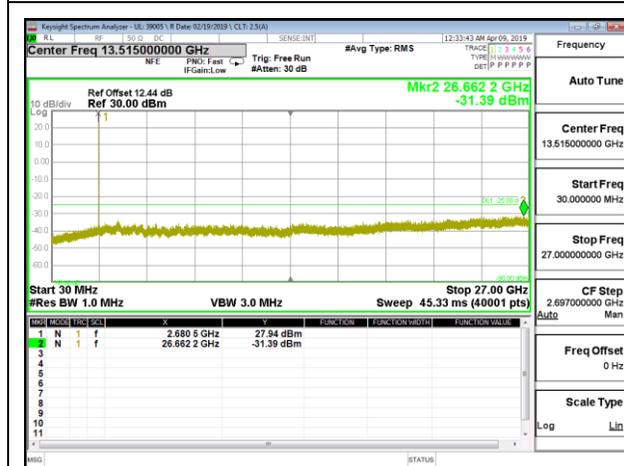
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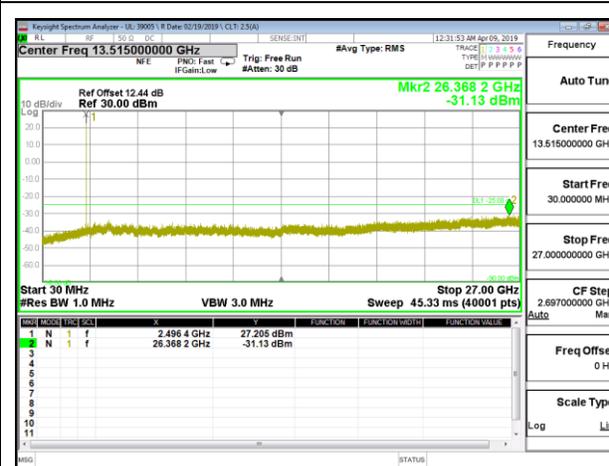
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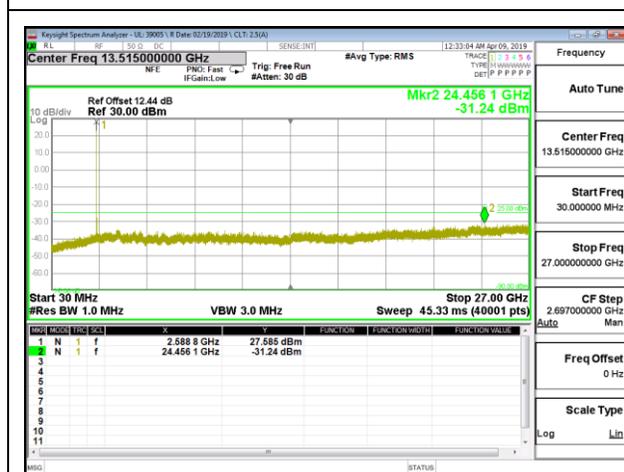
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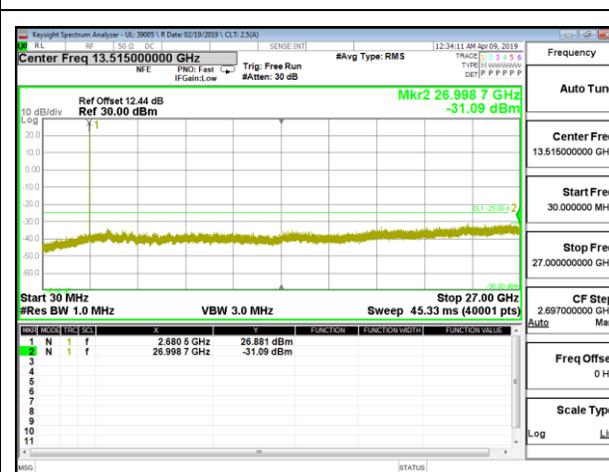
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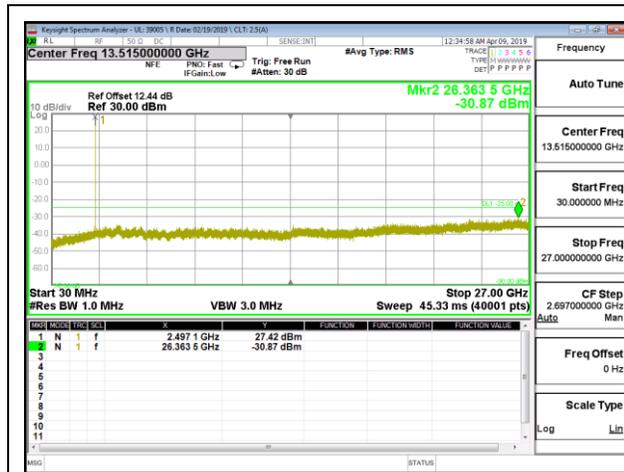
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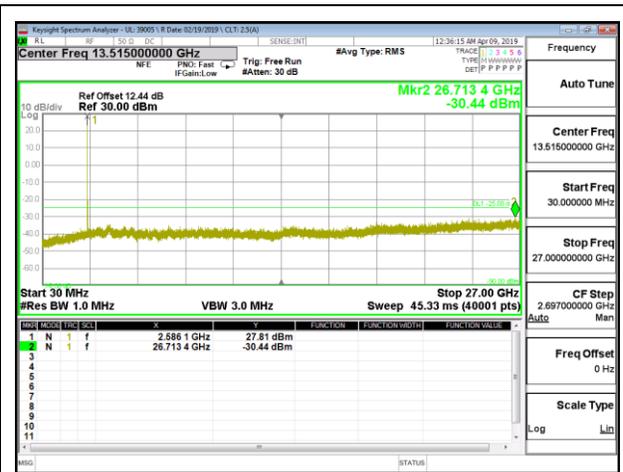
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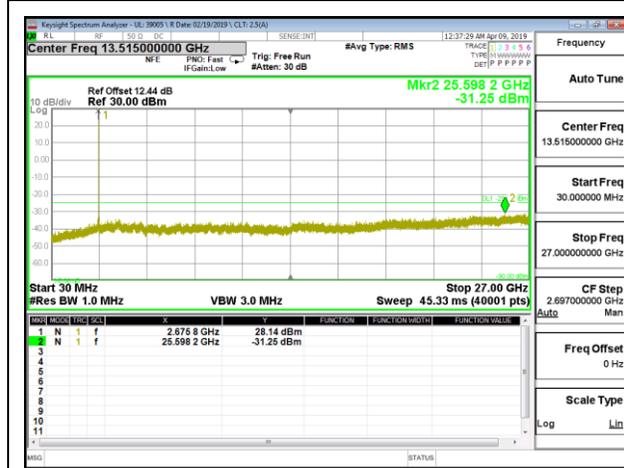
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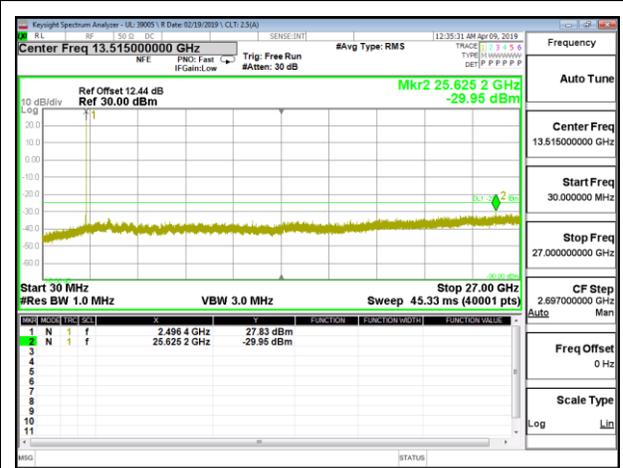
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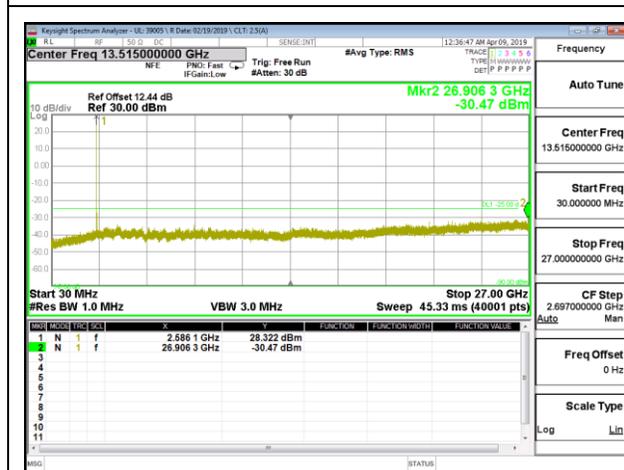
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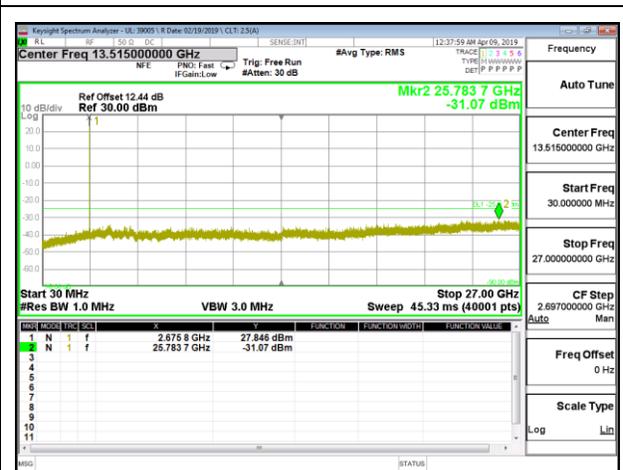
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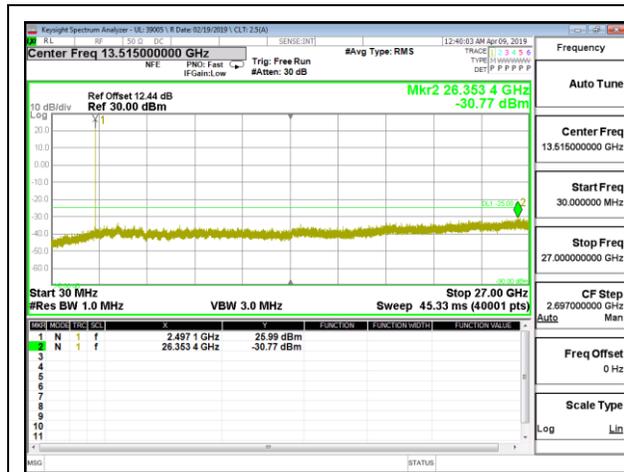
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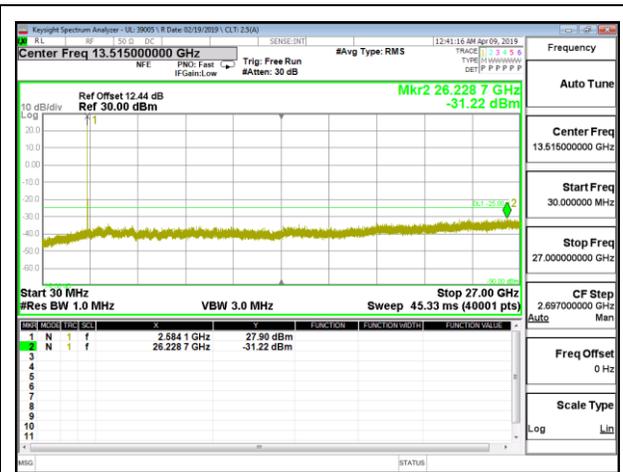
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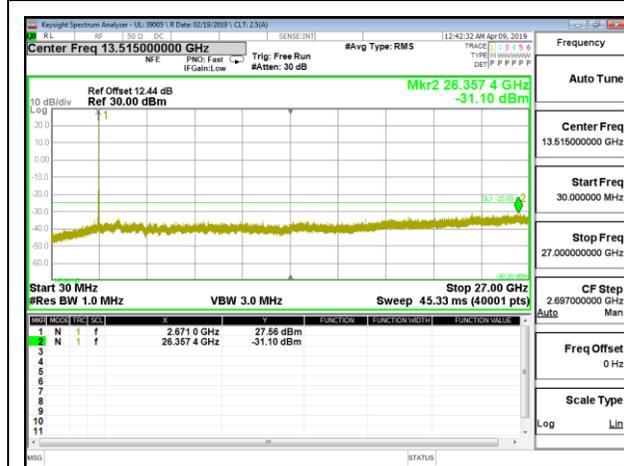
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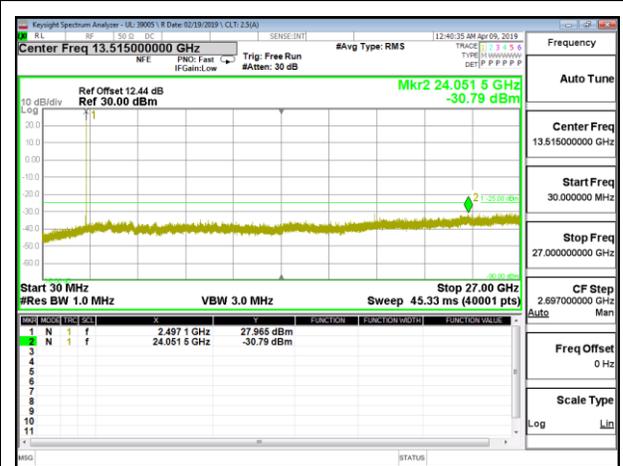
LTE B41 20MHz QPSK Low Channel RB1-0



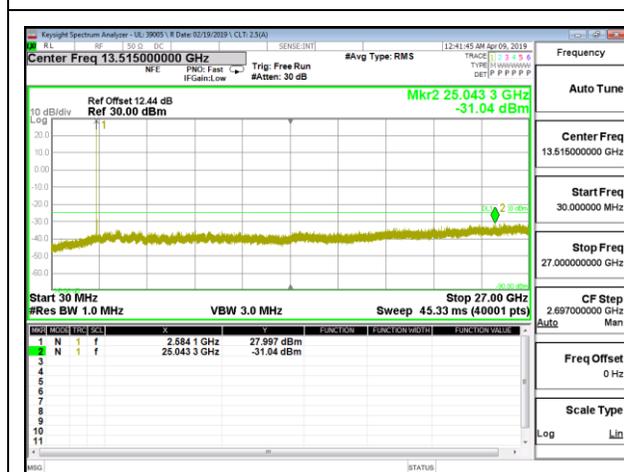
LTE B41 20MHz QPSK Mid Channel RB1-0



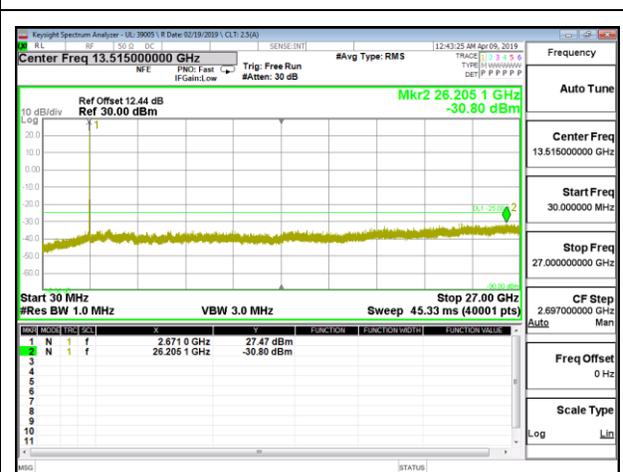
LTE B41 20MHz QPSK High Channel RB1-0



LTE B41 20MHz 16QAM Low Channel RB1-0

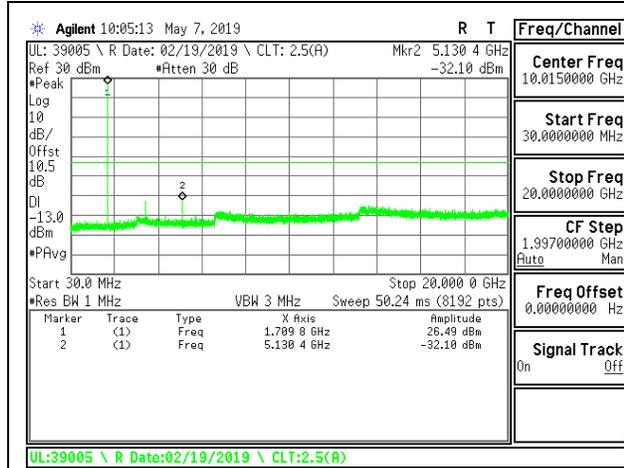


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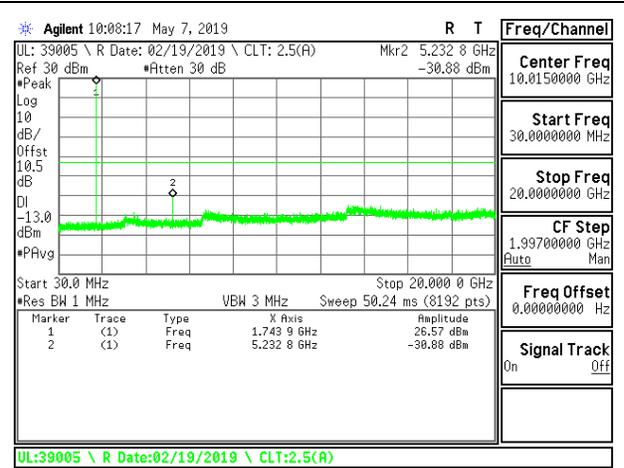


LTE B41 20MHz 16QAM High Channel RB1-0

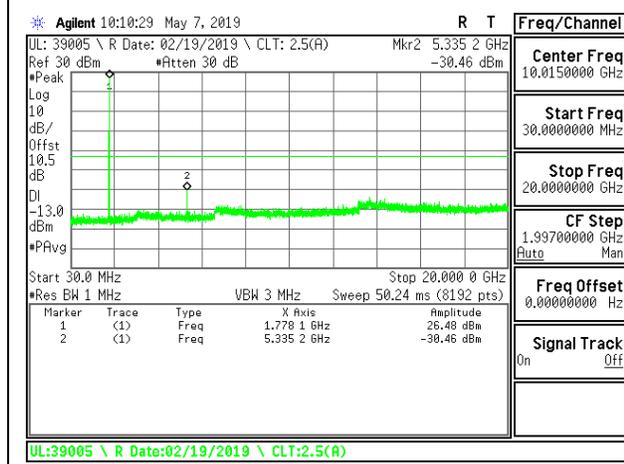
8.3.15. LTE BAND 66



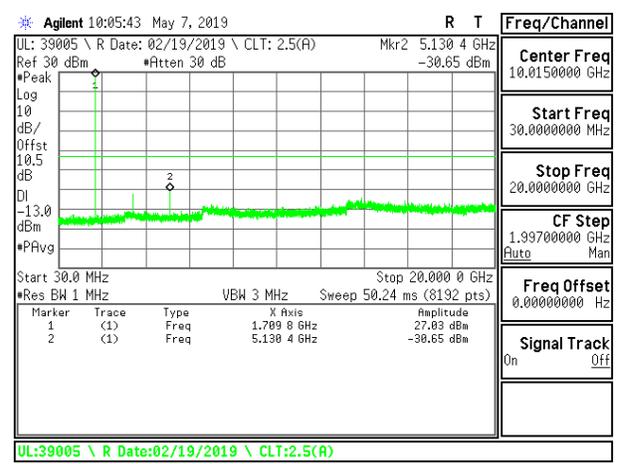
LTE B66 1.4MHz QPSK Low Channel RB1-0



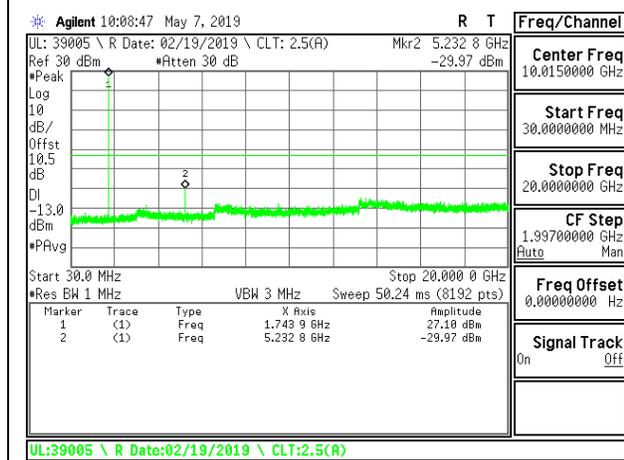
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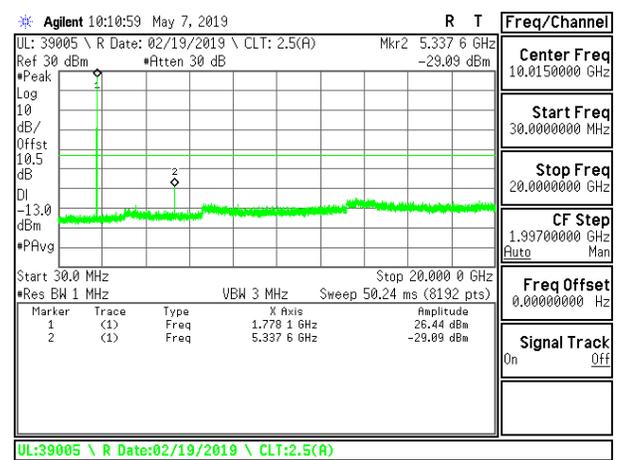
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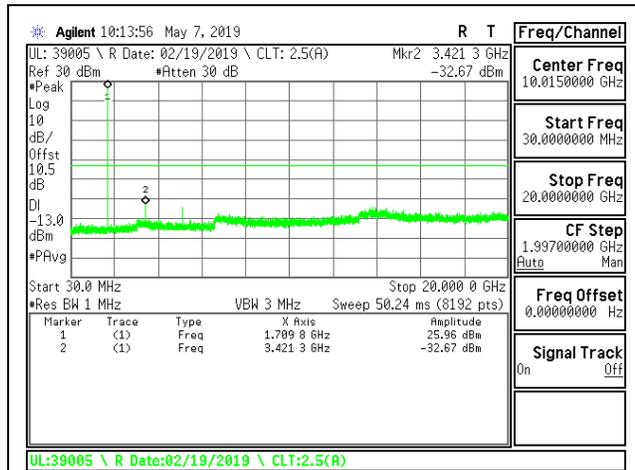
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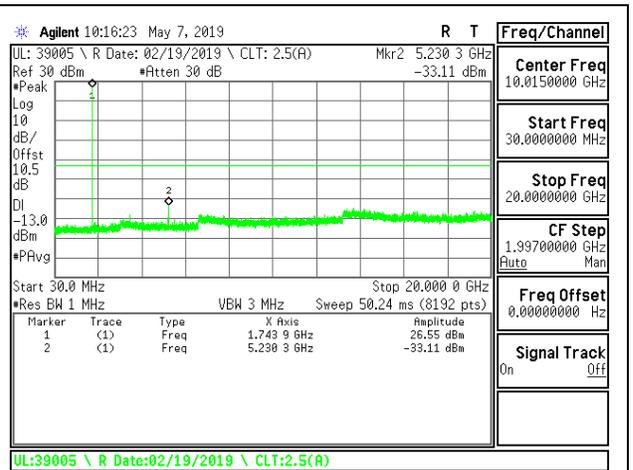
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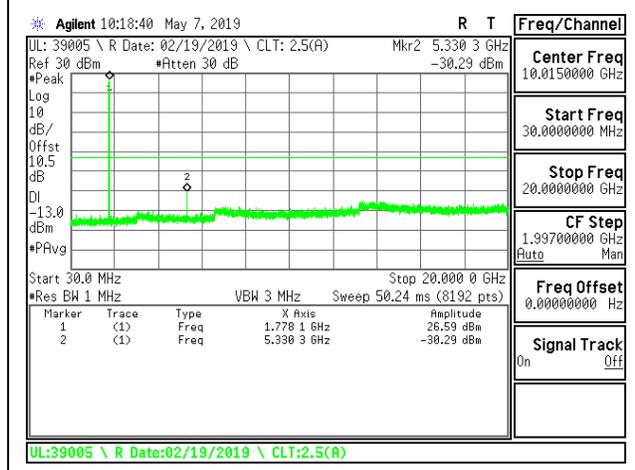
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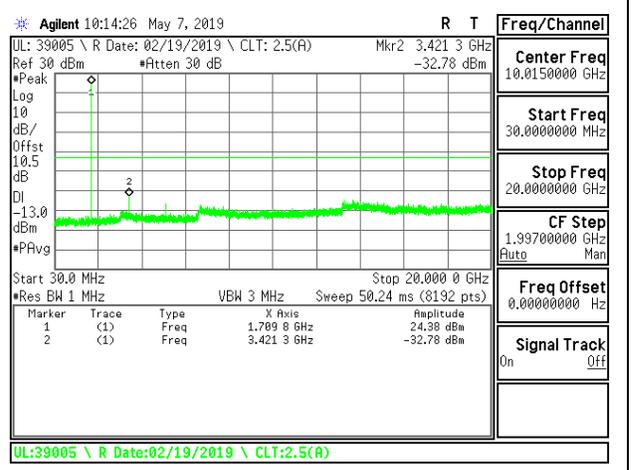
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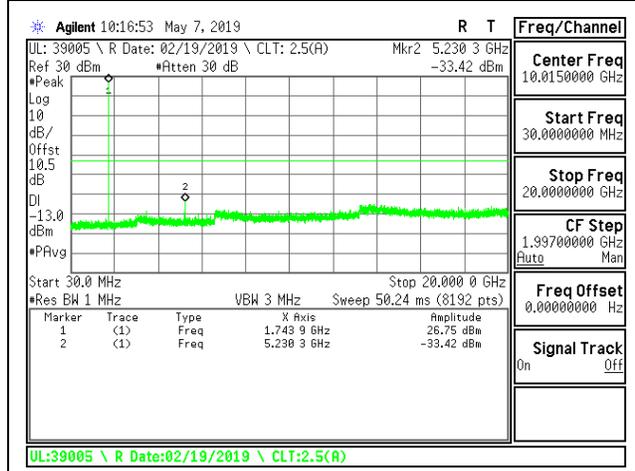
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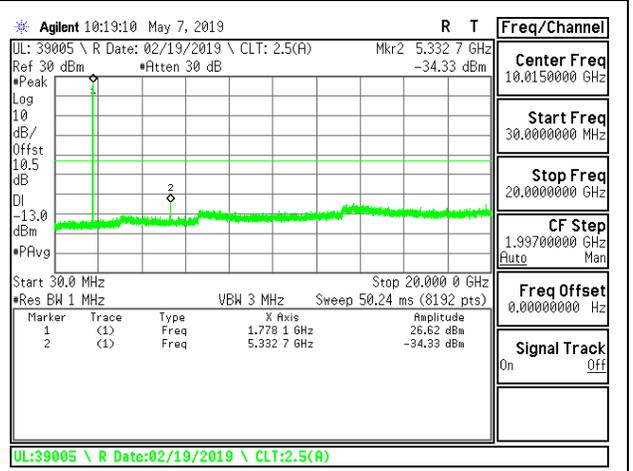
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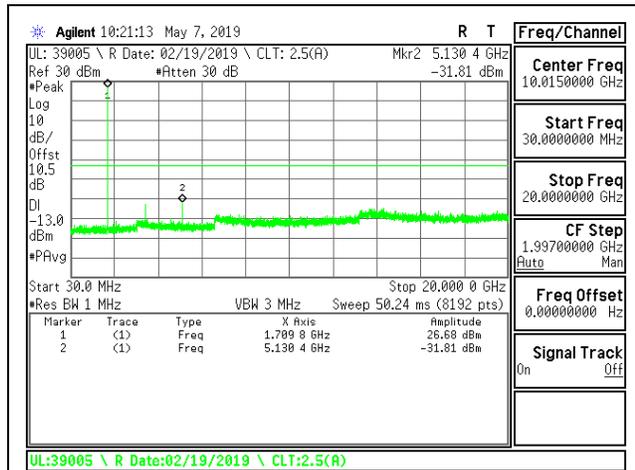
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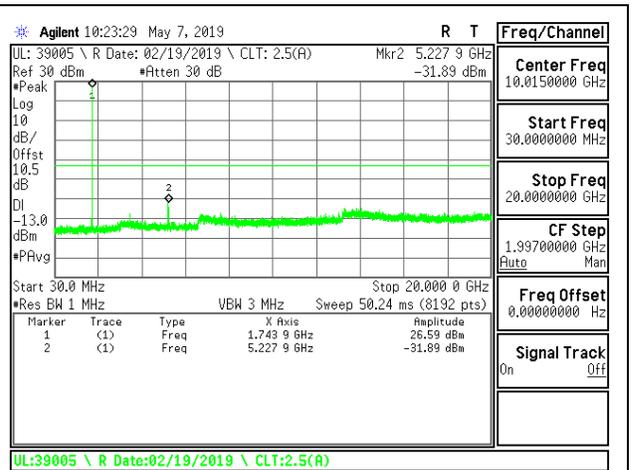
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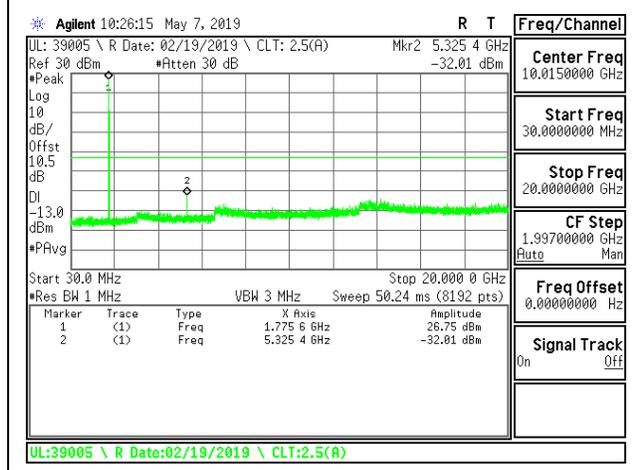
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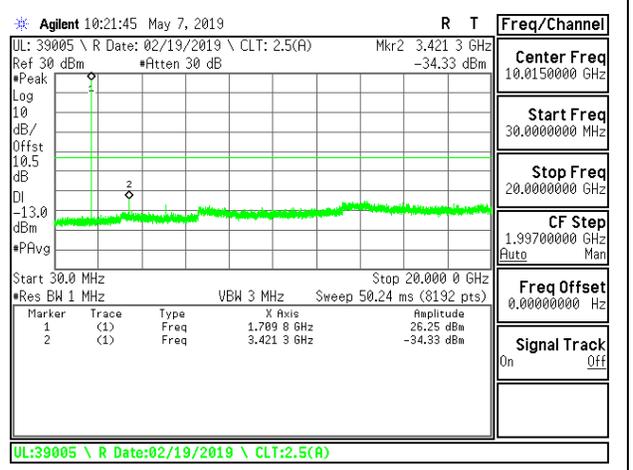
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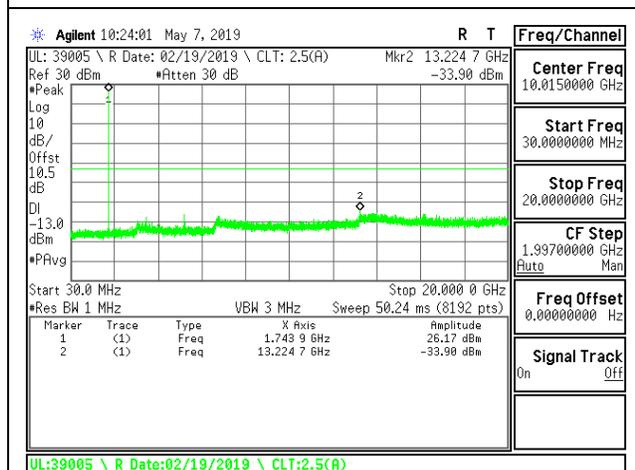
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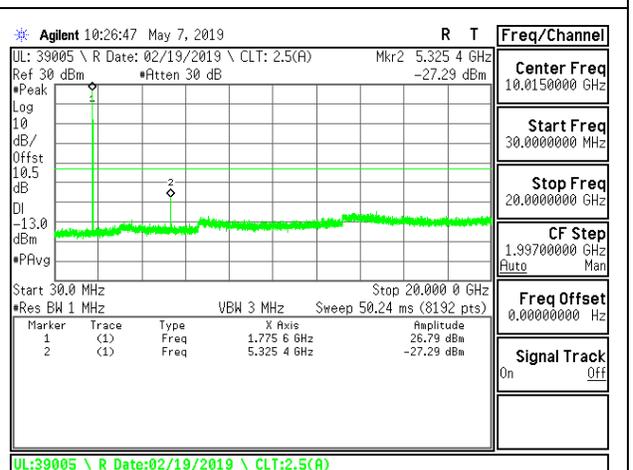
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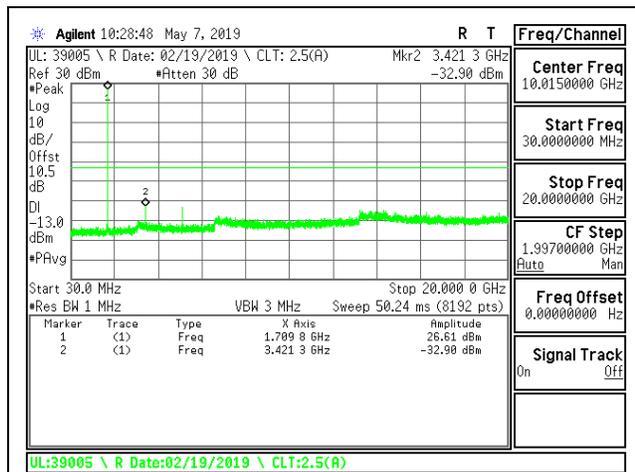
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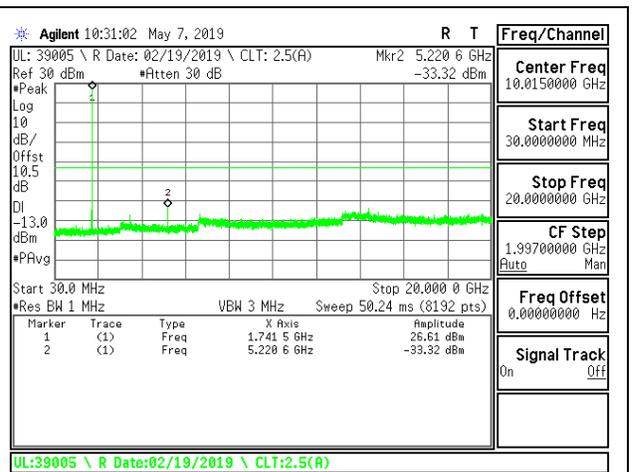
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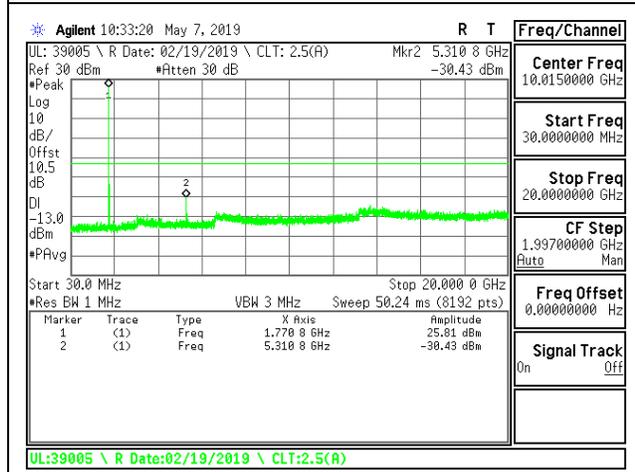
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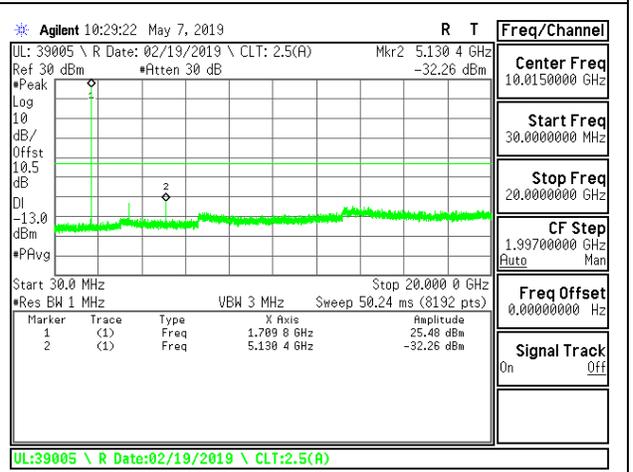
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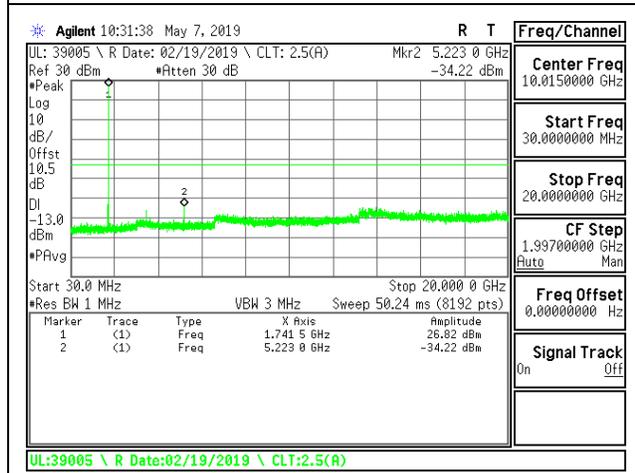
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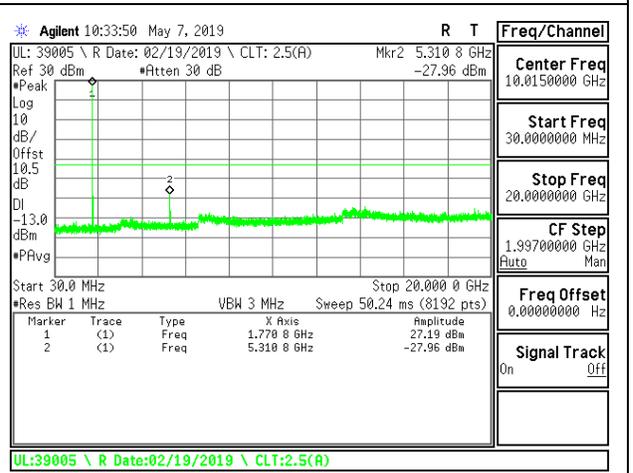
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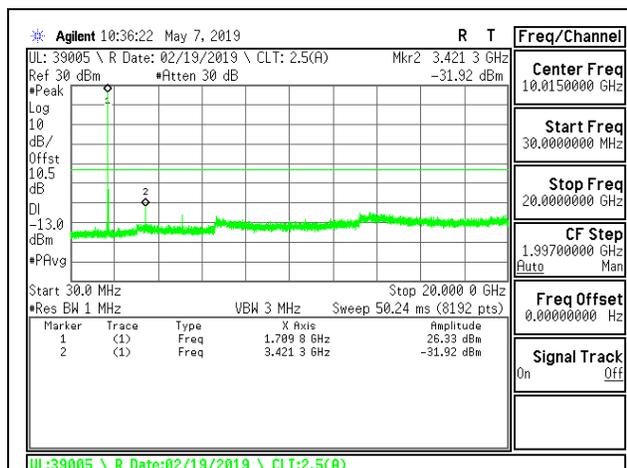
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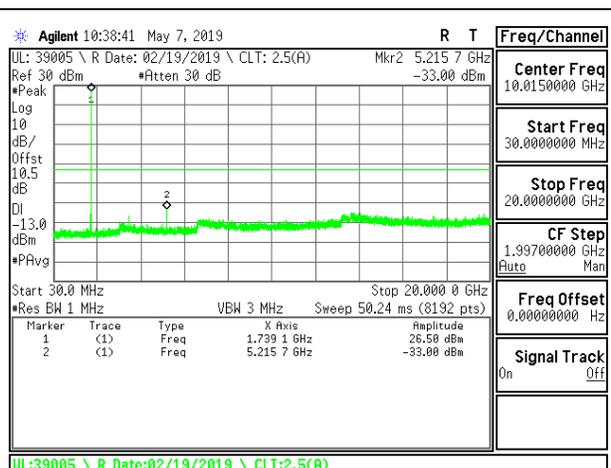
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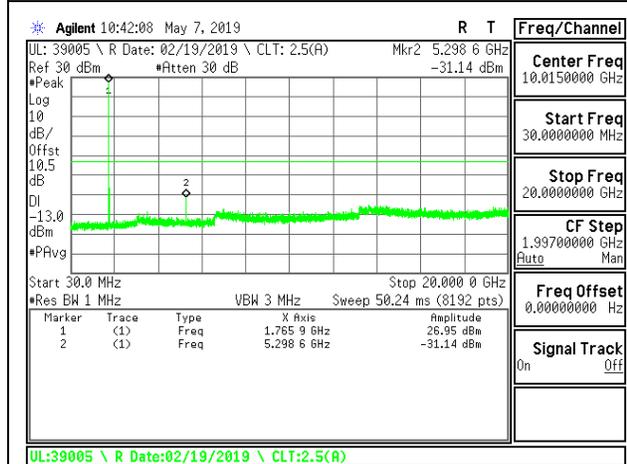
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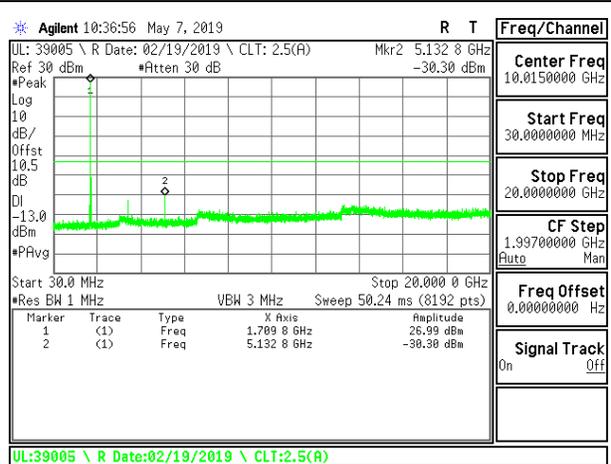
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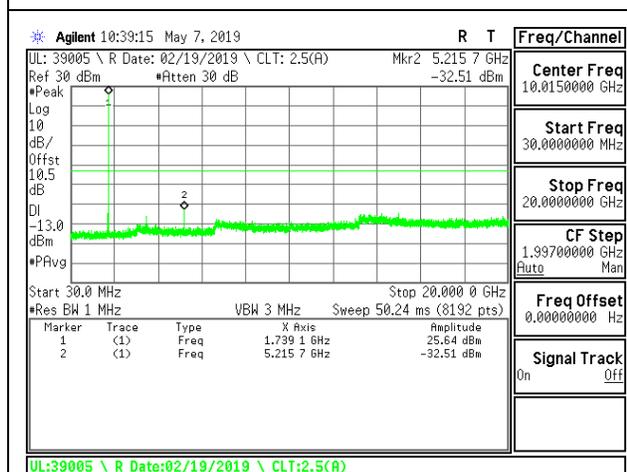
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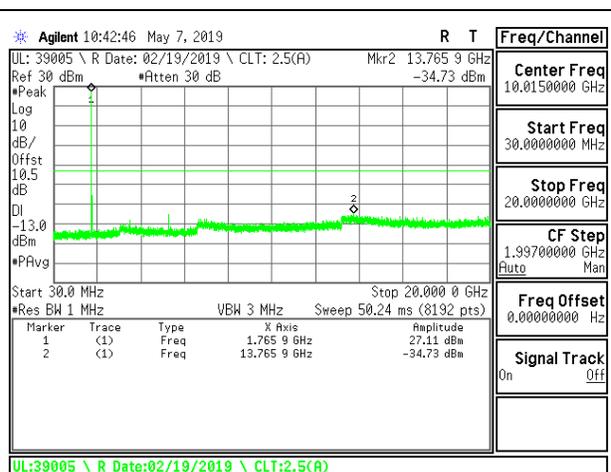
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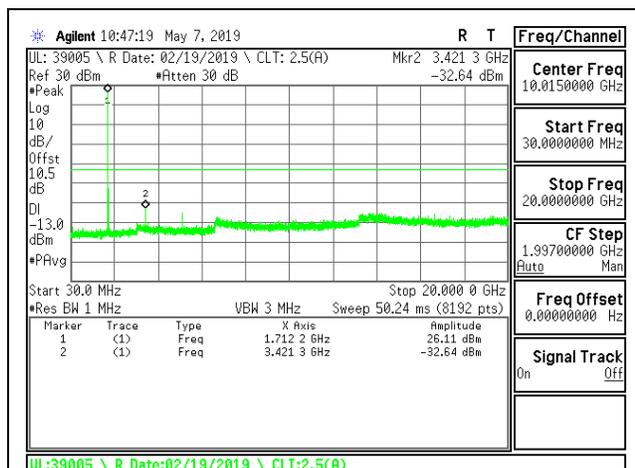
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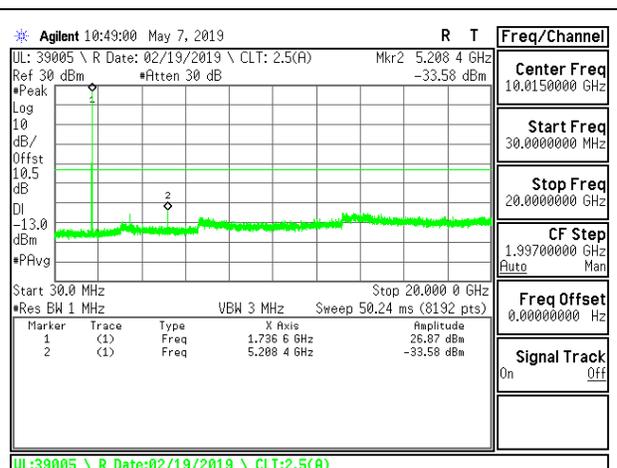
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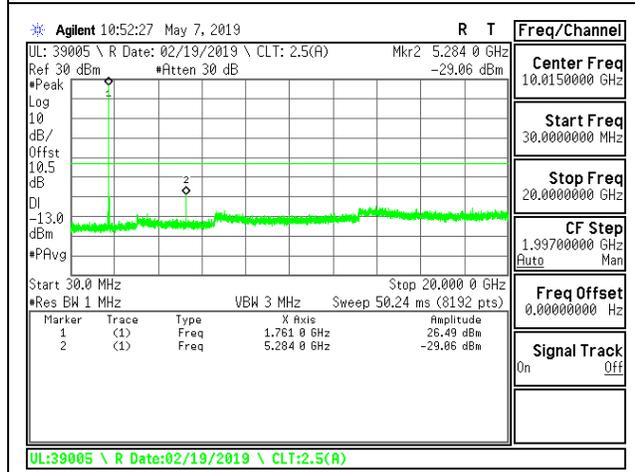
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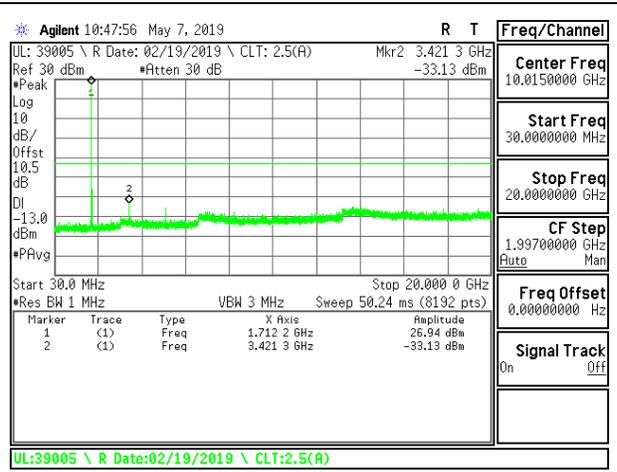
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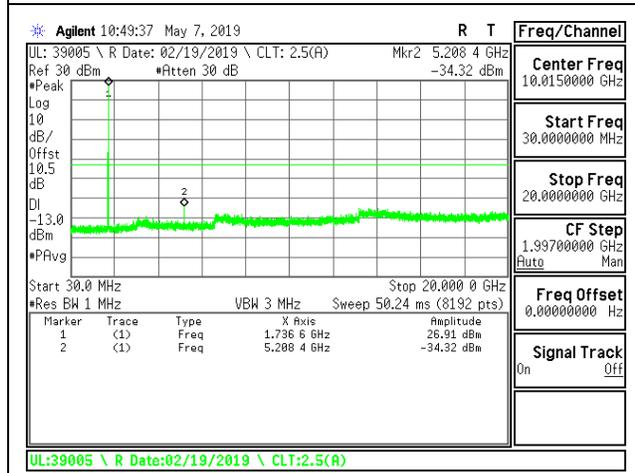
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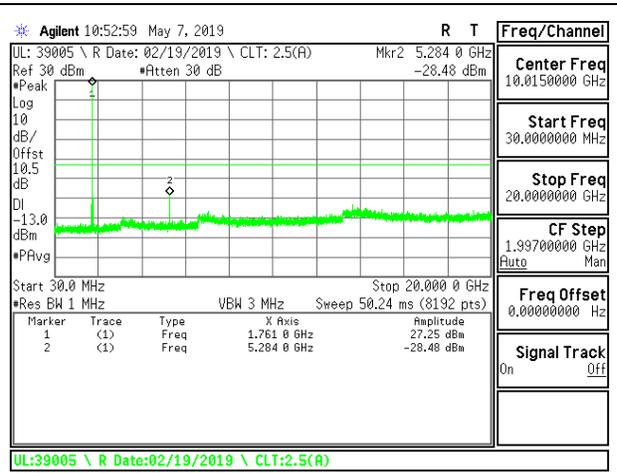
LTE B66 20MHz QPSK High Channel RB1-0



LTE B66 20MHz 16QAM Low Channel RB1-0



LTE B66 20MHz 16QAM Mid Channel RB1-0



LTE B66 20MHz 16QAM High Channel RB1-0

8.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

FCC: §22.355, §90.213

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

FCC: §24.235 & §27.54

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30°C to $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)
Low voltage, 3.3VDC, Normal, 3.85VDC and High voltage, 4.43VDC.
End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C 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 $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 5
- WCDMA Band 2
- WCDMA Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 26 (FCC PART 90S)
- LTE Band 26 (FCC PART 22)
- LTE Band 41 (FCC)
- LTE Band 66

RESULTS

See the following pages.

8.4.1. GSM

ID:	19497	Date:	4/8/19
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GPRS 850MHz

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.0299	848.9742		
Extreme (50C)		824.0299	848.9742	22.0	0.026
Extreme (40C)		824.0299	848.9742	20.5	0.025
Extreme (30C)		824.0299	848.9742	21.9	0.026
Extreme (10C)		824.0299	848.9742	19.5	0.023
Extreme (0C)		824.0299	848.9742	20.1	0.024
Extreme (-10C)		824.0299	848.9742	23.5	0.028
Extreme (-20C)		824.0299	848.9742	20.6	0.025
Extreme (-30C)		824.0299	848.9742	22.2	0.027
20C	15%	824.0299	848.9742	22.1	0.026
	-15%	824.0299	848.9742	22.2	0.026
	End Point	824.0299	848.9742	21.6	0.026

GPRS 1900MHz

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.0652	1909.9545		
Extreme (50C)		1850.0652	1909.9545	25.7	0.014
Extreme (40C)		1850.0652	1909.9545	24.6	0.013
Extreme (30C)		1850.0652	1909.9545	24.4	0.013
Extreme (10C)		1850.0652	1909.9545	21.5	0.011
Extreme (0C)		1850.0652	1909.9545	22.2	0.012
Extreme (-10C)		1850.0652	1909.9545	22.7	0.012
Extreme (-20C)		1850.0652	1909.9545	24.3	0.013
Extreme (-30C)		1850.0652	1909.9545	25.0	0.013
20C	15%	1850.0652	1909.9545	22.4	0.012
	-15%	1850.0652	1909.9545	22.6	0.012
	End Point	1850.0652	1909.9545	22.2	0.012

8.4.2. WCDMA

ID:	19497	Date:	4/8/19
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UMTS REL99 BAND 5

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.1887	848.8122		
Extreme (50C)		824.1887	848.8122	-3.2	-0.0038
Extreme (40C)		824.1887	848.8122	-2.2	-0.0027
Extreme (30C)		824.1887	848.8122	-2.6	-0.0031
Extreme (10C)		824.1887	848.8122	-2.8	-0.0033
Extreme (0C)		824.1887	848.8122	-3.5	-0.0042
Extreme (-10C)		824.1887	848.8122	-3.1	-0.0037
Extreme (-20C)		824.1887	848.8122	-2.9	-0.0035
Extreme (-30C)		824.1887	848.8122	-3.3	-0.0040
20C	15%	824.1887	848.8122	-3.2	-0.0038
	-15%	824.1887	848.8122	-2.8	-0.0033
	End Point	824.1887	848.8122	-2.9	-0.0034

UMTS REL99 BAND 2

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.2046	1909.8321		
Extreme (50C)		1850.2046	1909.8321	5.8	0.0031
Extreme (40C)		1850.2046	1909.8321	5.5	0.0029
Extreme (30C)		1850.2046	1909.8321	4.8	0.0026
Extreme (10C)		1850.2046	1909.8321	5.0	0.0027
Extreme (0C)		1850.2046	1909.8321	5.7	0.0030
Extreme (-10C)		1850.2046	1909.8321	6.3	0.0034
Extreme (-20C)		1850.2046	1909.8321	6.8	0.0036
Extreme (-30C)		1850.2046	1909.8321	5.3	0.0028
20C	15%	1850.2046	1909.8321	5.0	0.0027
	-15%	1850.2046	1909.8321	5.4	0.0029
	End Point	1850.2046	1909.8321	5.2	0.0028

UMTS REL99 BAND 4

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.1581	1754.8382		
Extreme (50C)		1710.1581	1754.8382	2.1	0.0012
Extreme (40C)		1710.1581	1754.8382	2.5	0.0015
Extreme (30C)		1710.1581	1754.8382	2.4	0.0014
Extreme (10C)		1710.1581	1754.8382	2.1	0.0012
Extreme (0C)		1710.1581	1754.8382	1.7	0.0010
Extreme (-10C)		1710.1581	1754.8382	2.4	0.0014
Extreme (-20C)		1710.1581	1754.8382	2.1	0.0012
Extreme (-30C)		1710.1581	1754.8382	2.7	0.0016
20C	15%	1710.1581	1754.8382	1.6	0.0009
	-15%	1710.1581	1754.8382	2.0	0.0012
	End Point	1710.1581	1754.8382	2.7	0.0015

8.4.3. LTE BAND 2

ID:	19497	Date:	4/5/19
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QPSK, (20MHz BANDWIDTH)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1851.1550	1908.8691		
Extreme (50C)		1851.1550	1908.8691	-12.4	-0.007
Extreme (40C)		1851.1550	1908.8691	-10.5	-0.006
Extreme (30C)		1851.1550	1908.8691	-13.2	-0.007
Extreme (10C)		1851.1550	1908.8691	-9.6	-0.005
Extreme (0C)		1851.1550	1908.8691	-10.1	-0.005
Extreme (-10C)		1851.1550	1908.8691	-11.1	-0.006
Extreme (-20C)		1851.1550	1908.8691	-12.3	-0.007
Extreme (-30C)		1851.1550	1908.8691	-8.3	-0.004
20C	15%	1851.1550	1908.8691	-9.2	-0.005
	-15%	1851.1550	1908.8691	-10.3	-0.005
	End Point	1851.1550	1908.8691	-9.9	-0.005

8.4.4. LTE BAND 4

ID:	19497	Date:	4/5/19
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QPSK, (20MHz BANDWIDTH)

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1711.0930	1753.9165		
Extreme (50C)		1711.0930	1753.9165	-6.0	-0.003
Extreme (40C)		1711.0930	1753.9165	-7.2	-0.004
Extreme (30C)		1711.0930	1753.9165	-7.3	-0.004
Extreme (10C)		1711.0930	1753.9165	-8.9	-0.005
Extreme (0C)		1711.0930	1753.9165	-7.8	-0.004
Extreme (-10C)		1711.0930	1753.9165	-6.3	-0.004
Extreme (-20C)		1711.0930	1753.9165	-7.2	-0.004
Extreme (-30C)		1711.0930	1753.9165	-8.8	-0.005
20C	15%	1711.0930	1753.9165	-6.2	-0.004
	-15%	1711.0930	1753.9165	-7.4	-0.004
	End Point	1711.0930	1753.9165	-6.9	-0.004

8.4.6. LTE BAND 5

ID:	19497	Date:	4/9/19
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QPSK, (10MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.5089	848.4629		
Extreme (50C)		824.5089	848.4629	-9.3	-0.011
Extreme (40C)		824.5089	848.4629	-8.5	-0.010
Extreme (30C)		824.5089	848.4629	-8.3	-0.010
Extreme (10C)		824.5089	848.4629	-7.2	-0.009
Extreme (0C)		824.5089	848.4629	-7.7	-0.009
Extreme (-10C)		824.5089	848.4629	-9.6	-0.011
Extreme (-20C)		824.5089	848.4629	-8.4	-0.010
Extreme (-30C)		824.5089	848.4629	-9.0	-0.011
20C	15%	824.5089	848.4629	-7.8	-0.009
	-15%	824.5089	848.4629	-8.0	-0.010
	End Point	824.5089	848.4629	-8.1	-0.010

8.4.7. LTE BAND 7

ID:	19497	Date:	4/3/19
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QPSK, (20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2501.0468	2568.8872		
Extreme (50C)		2501.0468	2568.8872	18.5	0.007
Extreme (40C)		2501.0468	2568.8872	15.2	0.006
Extreme (30C)		2501.0468	2568.8872	20.7	0.008
Extreme (10C)		2501.0468	2568.8872	14.5	0.006
Extreme (0C)		2501.0468	2568.8872	17.3	0.007
Extreme (-10C)		2501.0468	2568.8872	19.1	0.008
Extreme (-20C)		2501.0468	2568.8872	22.7	0.009
Extreme (-30C)		2501.0468	2568.8872	20.3	0.008
20C	15%	2501.0468	2568.8872	20.0	0.008
	-15%	2501.0468	2568.8872	20.1	0.008
	End Point	2501.0468	2568.8872	19.8	0.008

8.4.8. LTE BAND 12

ID:	19497	Date:	4/5/19
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QPSK, (10MHz BANDWIDTH)

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	699.5262	715.4587		
Extreme (50C)		699.5262	715.4587	16.0	0.023
Extreme (40C)		699.5262	715.4587	15.3	0.022
Extreme (30C)		699.5262	715.4587	15.7	0.022
Extreme (10C)		699.5263	715.4587	20.3	0.029
Extreme (0C)		699.5263	715.4587	17.4	0.025
Extreme (-10C)		699.5263	715.4587	18.7	0.026
Extreme (-20C)		699.5263	715.4587	17.9	0.025
Extreme (-30C)		699.5263	715.4587	18.5	0.026
20C	15%	699.5262	715.4587	16.2	0.023
	-15%	699.5263	715.4587	18.4	0.026
	End Point	699.5263	715.4587	18.3	0.026

8.4.9. LTE BAND 13

ID:	19497	Date:	4/5/19
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QPSK, (10MHz BANDWIDTH)

Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	777.5371	786.5347		
Extreme (50C)		777.5371	786.5347	17.2	0.022
Extreme (40C)		777.5371	786.5347	16.5	0.021
Extreme (30C)		777.5371	786.5347	16.8	0.021
Extreme (10C)		777.5371	786.5347	15.7	0.020
Extreme (0C)		777.5371	786.5347	16.7	0.021
Extreme (-10C)		777.5371	786.5347	17.0	0.022
Extreme (-20C)		777.5371	786.5347	18.9	0.024
Extreme (-30C)		777.5371	786.5347	16.9	0.022
20C	15%	777.5371	786.5347	15.8	0.020
	-15%	777.5371	786.5347	18.3	0.023
	End Point	777.5371	786.5347	17.7	0.023

8.4.10. LTE BAND 17

ID:	19497	Date:	4/9/19
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QPSK, (10MHz BANDWIDTH)

Limit		704	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	704.5103	715.4988		
Extreme (50C)		704.5103	715.4988	-7.9	-0.011
Extreme (40C)		704.5103	715.4988	-6.4	-0.009
Extreme (30C)		704.5103	715.4988	-7.0	-0.010
Extreme (10C)		704.5103	715.4988	-6.7	-0.009
Extreme (0C)		704.5103	715.4988	-6.2	-0.009
Extreme (-10C)		704.5103	715.4988	-8.5	-0.012
Extreme (-20C)		704.5103	715.4988	-7.3	-0.010
Extreme (-30C)		704.5103	715.4988	-7.4	-0.010
20C	15%	704.5103	715.4988	-7.4	-0.010
	-15%	704.5103	715.4988	-7.9	-0.011
	End Point	704.5103	715.4988	-8.2	-0.012

8.4.11. LTE BAND 26(FCC PART 90S)

ID:	19497	Date:	4/3/19
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QPSK, (10MHz BANDWIDTH)

Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	814.1513	823.7823		
Extreme (50C)		814.1513	823.7823	7.0	0.009
Extreme (40C)		814.1513	823.7823	4.6	0.006
Extreme (30C)		814.1513	823.7823	7.5	0.009
Extreme (10C)		814.1513	823.7823	8.5	0.010
Extreme (0C)		814.1513	823.7823	7.9	0.010
Extreme (-10C)		814.1513	823.7823	5.6	0.007
Extreme (-20C)		814.1513	823.7823	6.2	0.008
Extreme (-30C)		814.1513	823.7823	4.8	0.006
20C	15%	814.1513	823.7823	7.2	0.009
	-15%	814.1513	823.7823	7.4	0.009
	End Point	814.1513	823.7823	8.2	0.010

8.4.12. LTE BAND 26(FCC PART 22)

ID:	19497	Date:	4/3/19
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QPSK, (15MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.7796	848.1967		
Extreme (50C)		824.7796	848.1967	-7.2	-0.009
Extreme (40C)		824.7796	848.1967	-7.0	-0.008
Extreme (30C)		824.7796	848.1967	-6.7	-0.008
Extreme (10C)		824.7796	848.1967	-7.1	-0.009
Extreme (0C)		824.7796	848.1967	-6.2	-0.007
Extreme (-10C)		824.7796	848.1967	-6.4	-0.008
Extreme (-20C)		824.7796	848.1967	-8.4	-0.010
Extreme (-30C)		824.7796	848.1967	-8.5	-0.010
20C	15%	824.7796	848.1967	-7.3	-0.009
	-15%	824.7796	848.1967	-7.5	-0.009
	End Point	824.7796	848.1967	-7.1	-0.009

8.4.13. LTE BAND 41 (FCC)

ID:	19497	Date:	4/5/19
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QPSK, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2497.0574	2688.8664		
Extreme (50C)		2497.0574	2688.8664	18.2	0.007
Extreme (40C)		2497.0574	2688.8664	19.4	0.007
Extreme (30C)		2497.0574	2688.8664	17.3	0.007
Extreme (10C)		2497.0574	2688.8664	17.3	0.007
Extreme (0C)		2497.0574	2688.8664	18.2	0.007
Extreme (-10C)		2497.0574	2688.8664	19.1	0.007
Extreme (-20C)		2497.0574	2688.8664	16.6	0.006
Extreme (-30C)		2497.0574	2688.8664	18.7	0.007
20C	15%	2497.0574	2688.8664	18.3	0.007
	-15%	2497.0574	2688.8664	18.5	0.007
	End Point	2497.0574	2688.8664	17.5	0.007

8.4.14. LTE BAND 66

ID:	19497	Date:	4/5/19
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QPSK, (20MHz BANDWIDTH)

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1711.0593	1778.9149		
Extreme (50C)		1711.0593	1778.9149	12.2	0.007
Extreme (40C)		1711.0593	1778.9149	14.2	0.008
Extreme (30C)		1711.0593	1778.9149	11.6	0.007
Extreme (10C)		1711.0593	1778.9149	12.4	0.007
Extreme (0C)		1711.0593	1778.9149	13.4	0.008
Extreme (-10C)		1711.0593	1778.9149	13.7	0.008
Extreme (-20C)		1711.0593	1778.9149	15.6	0.009
Extreme (-30C)		1711.0593	1778.9149	13.8	0.008
20C	15%	1711.0593	1778.9149	14.4	0.008
	-15%	1711.0593	1778.9149	15.6	0.009
	End Point	1711.0593	1778.9149	14.7	0.008

8.5. PEAK TO AVERAGE RATIO

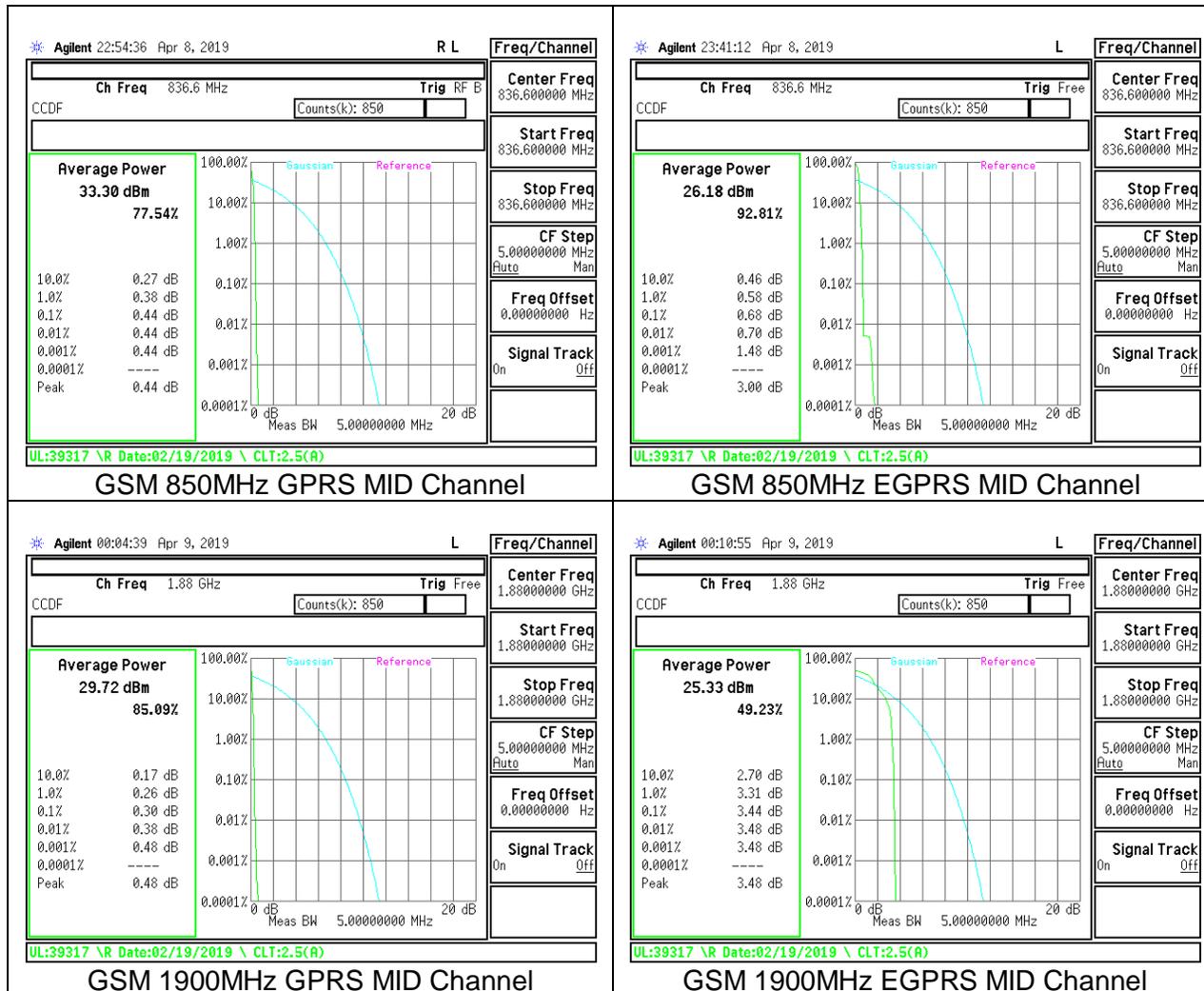
LIMITS

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

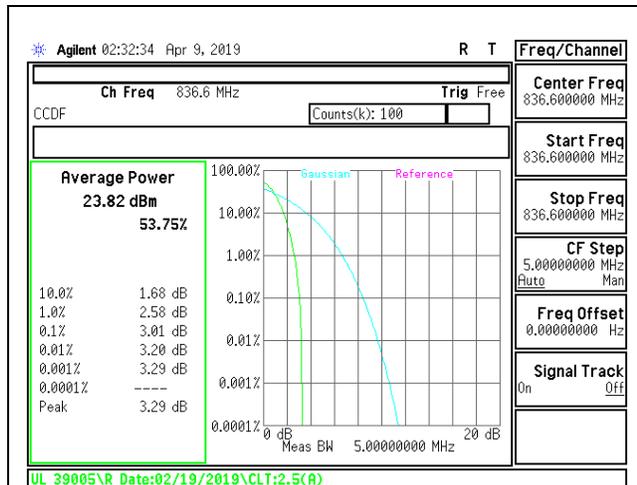
RESULT

The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

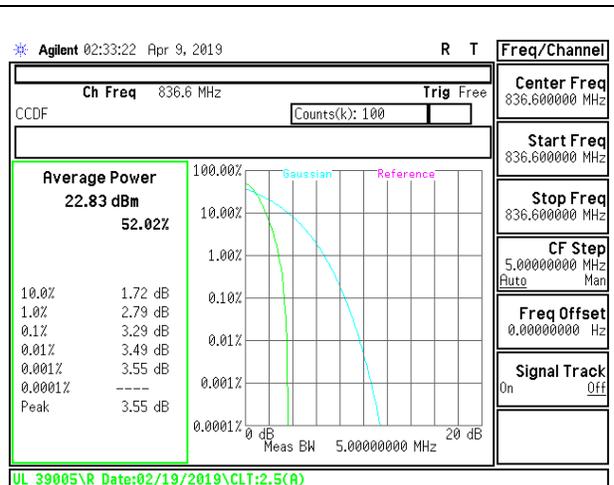
8.5.1. GSM



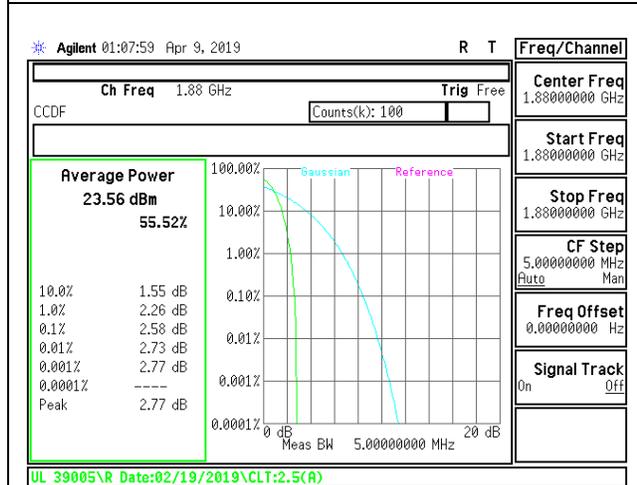
8.5.2. WCDMA



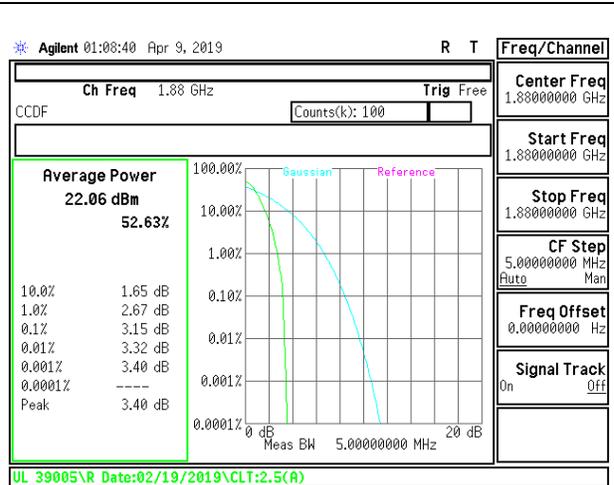
WCDMA BAND5 Rel99 MID Channel



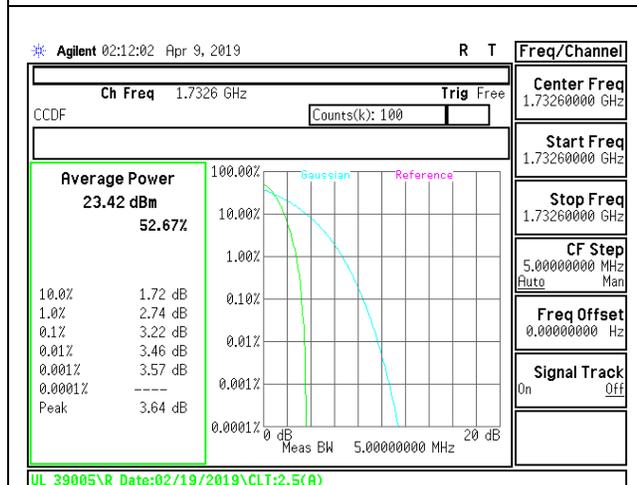
WCDMA BAND5 HSDPA MID Channel



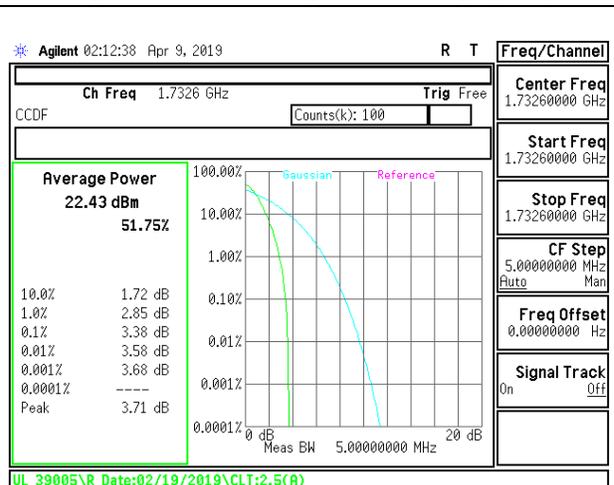
WCDMA BAND2 Rel99 MID Channel



WCDMA BAND2 HSDPA MID Channel

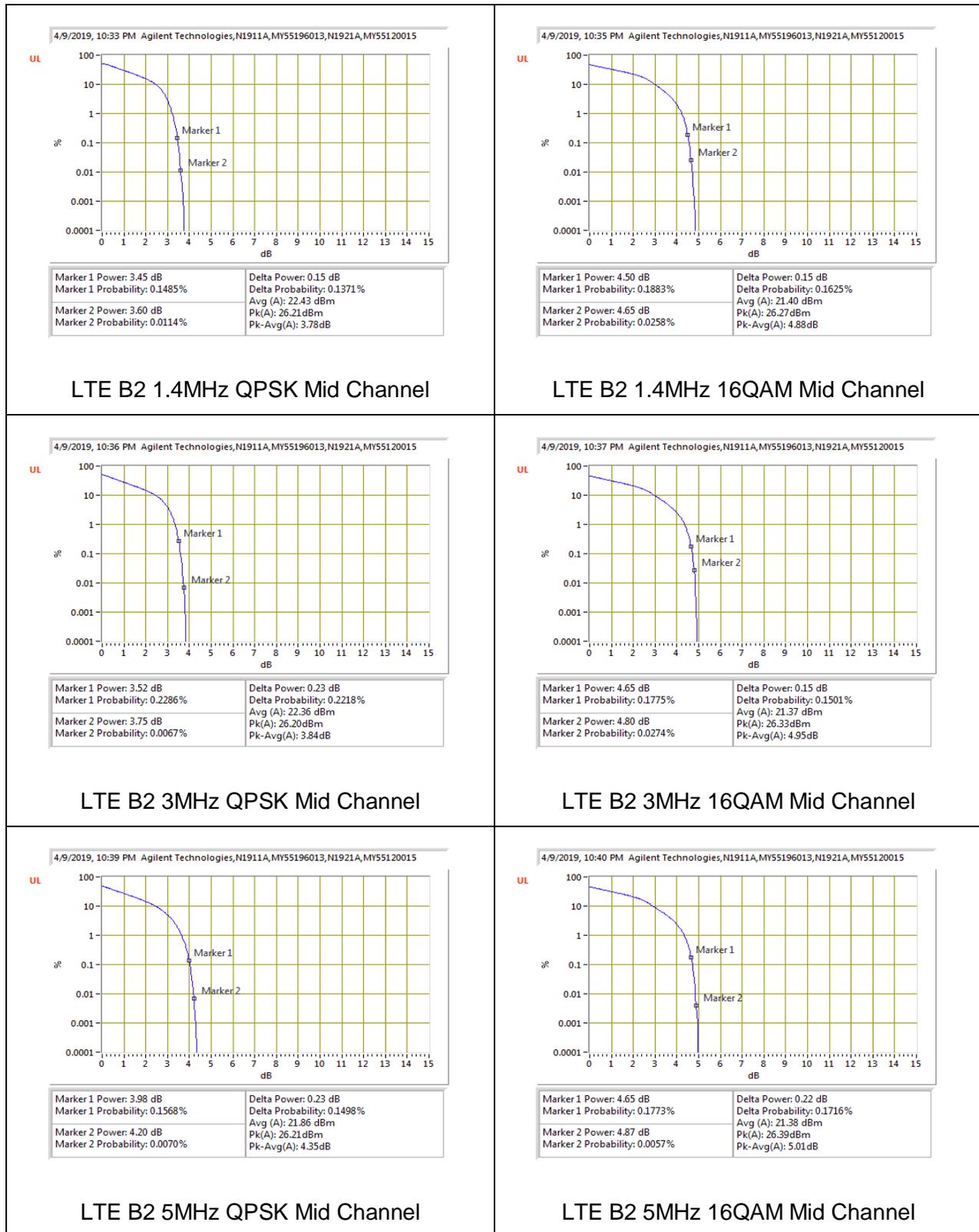


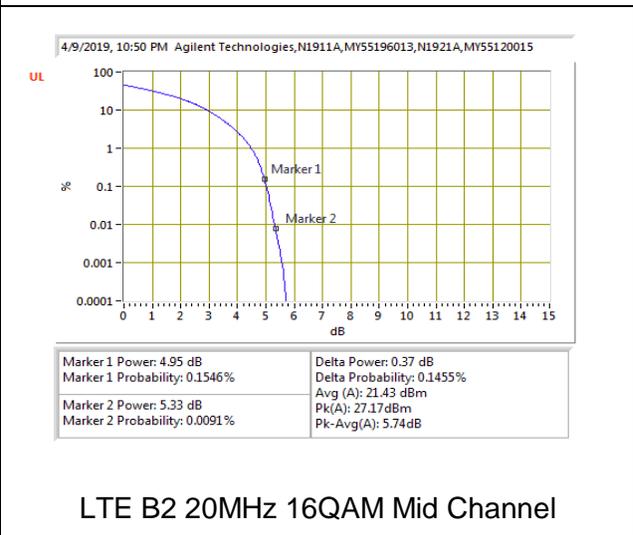
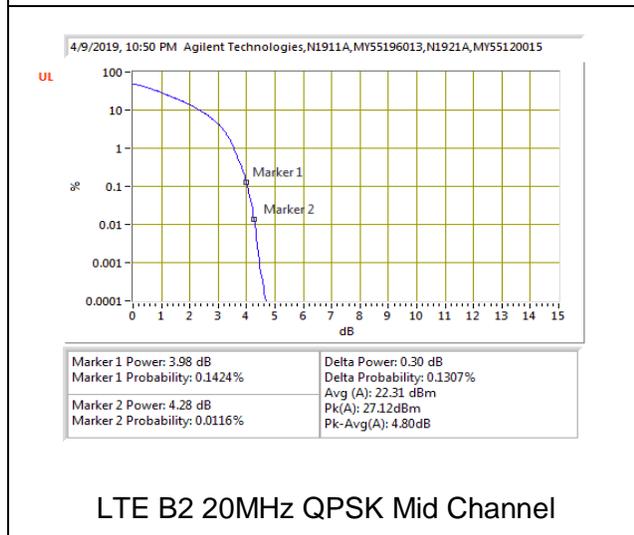
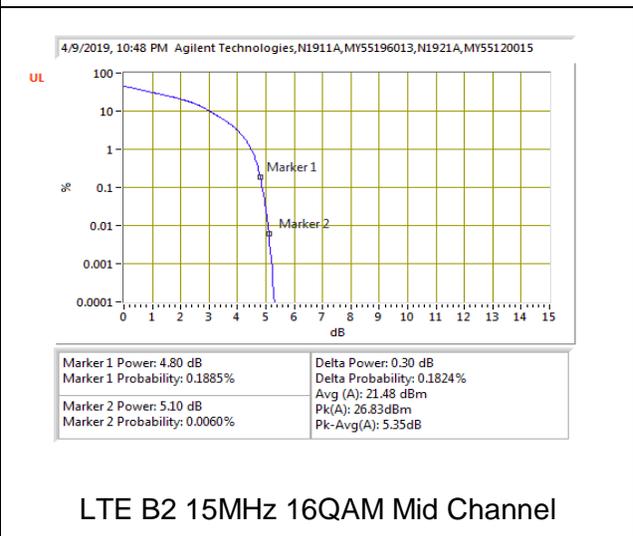
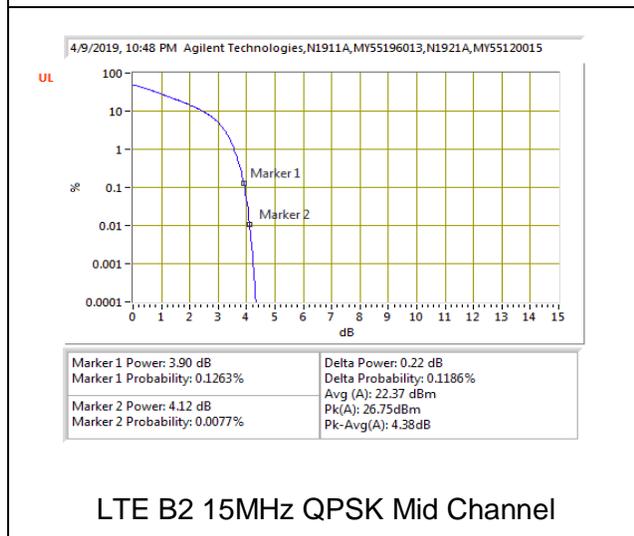
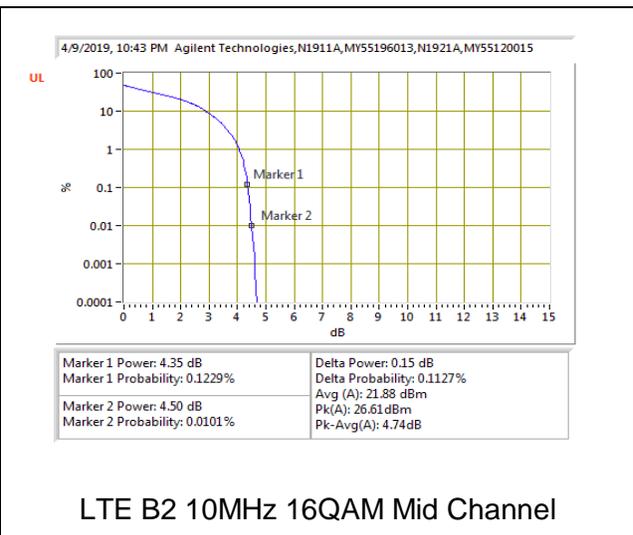
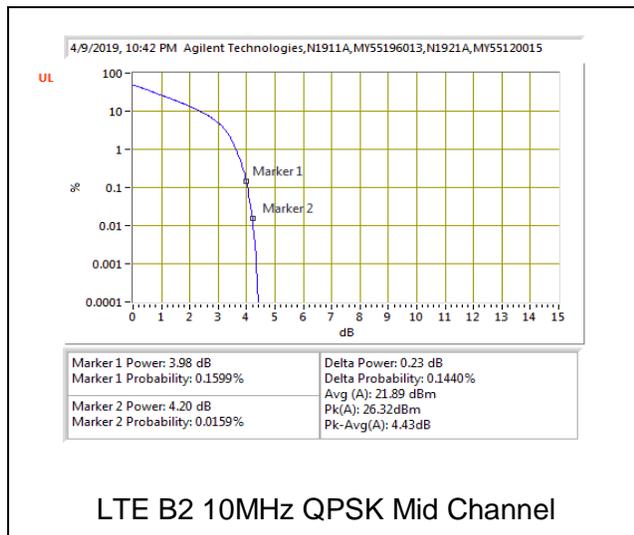
WCDMA BAND4 Rel99 MID Channel



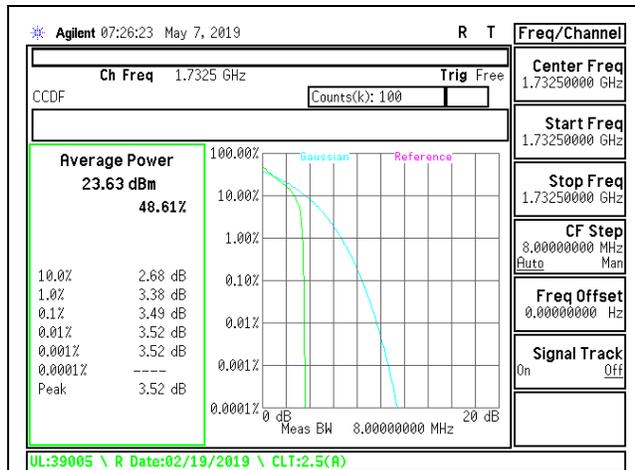
WCDMA BAND4 HSDPA MID Channel

8.5.3. LTE BAND 2

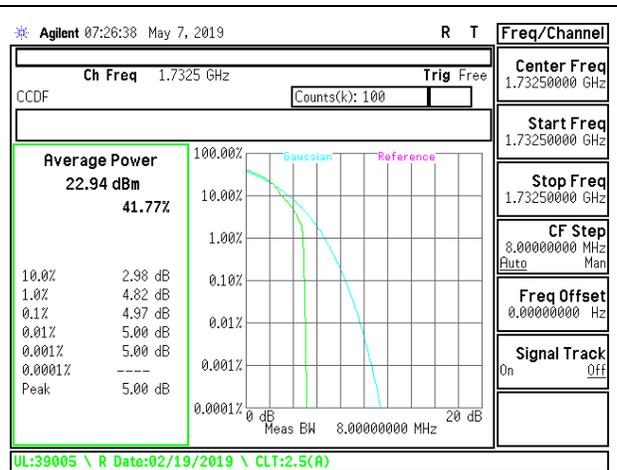




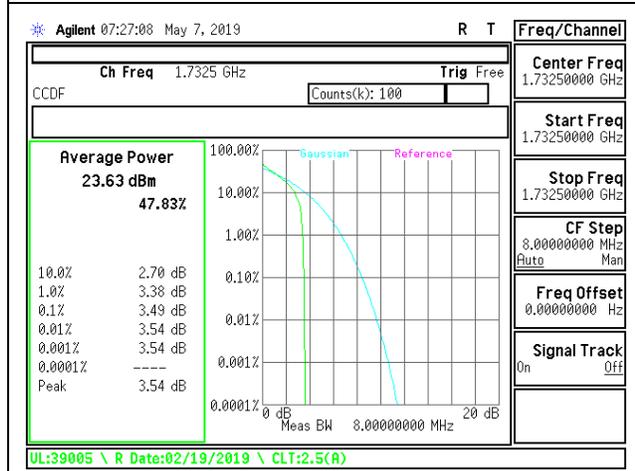
8.5.4. LTE BAND 4



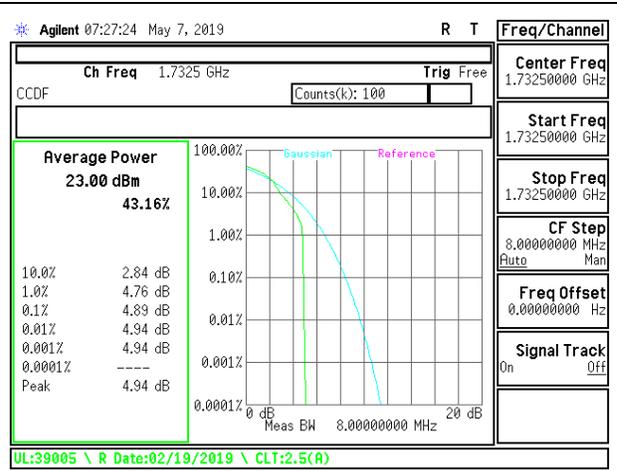
LTE B4 1.4MHz QPSK Mid Channel



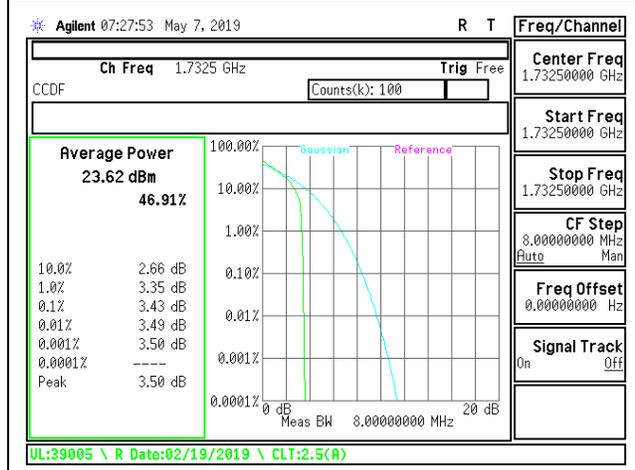
LTE B4 1.4MHz 16QAM Mid Channel



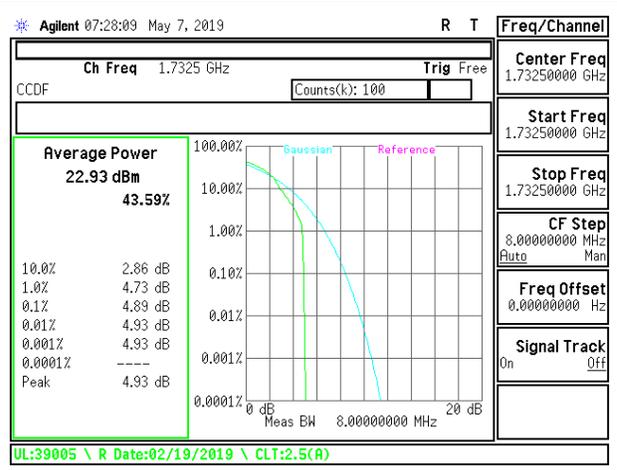
LTE B4 3MHz QPSK Mid Channel



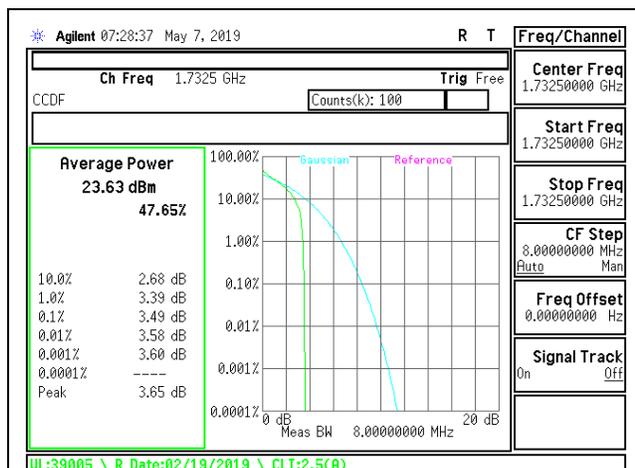
LTE B4 3MHz 16QAM Mid Channel



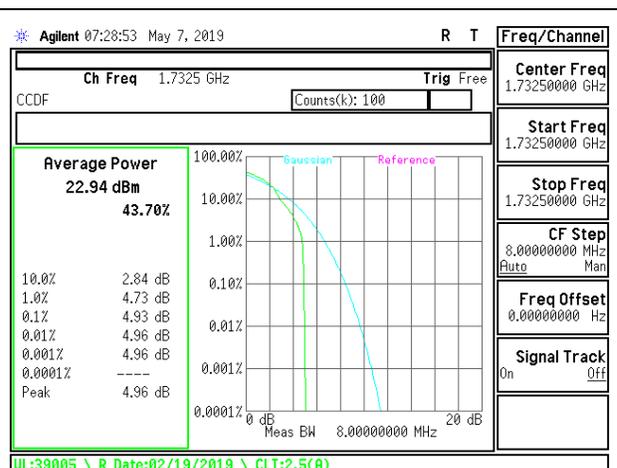
LTE B4 5MHz QPSK Mid Channel



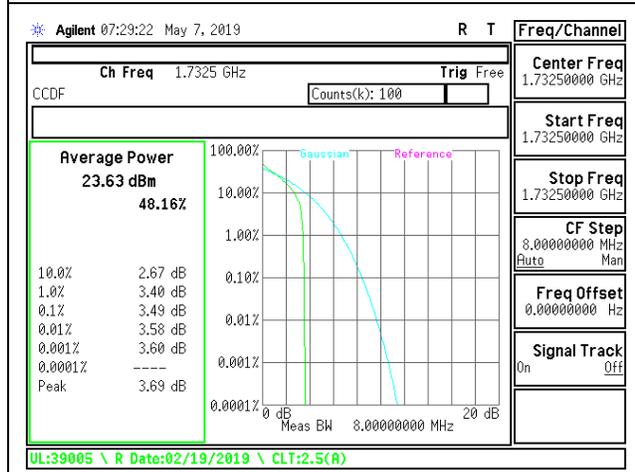
LTE B4 5MHz 16QAM Mid Channel



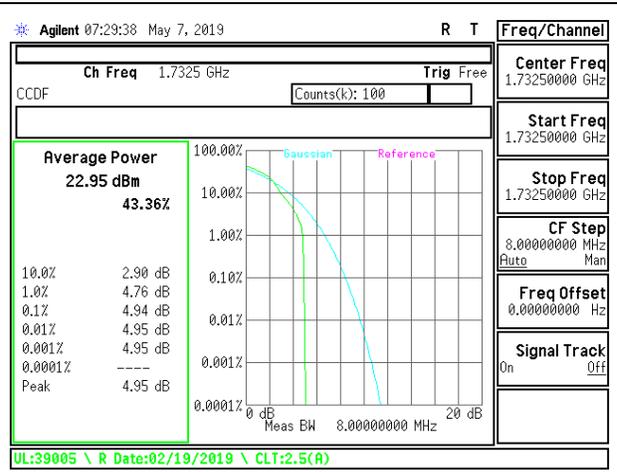
LTE B4 10MHz QPSK Mid Channel



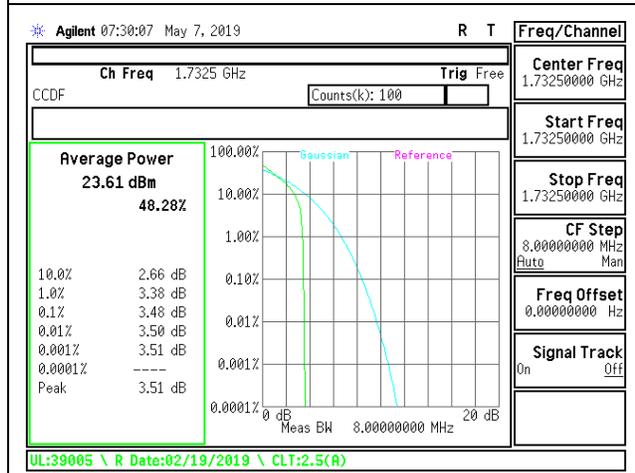
LTE B4 10MHz 16QAM Mid Channel



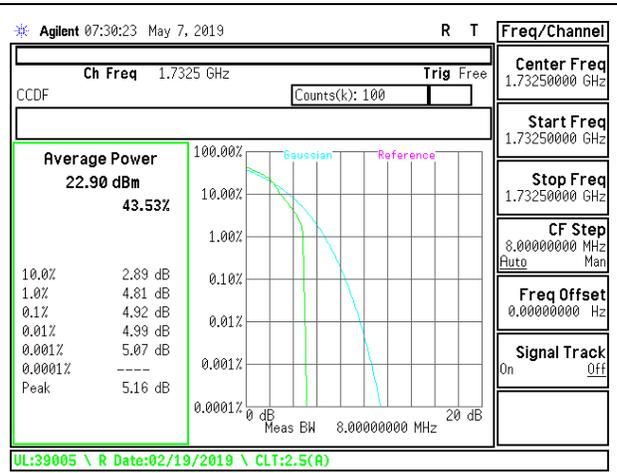
LTE B4 15MHz QPSK Mid Channel



LTE B4 15MHz 16QAM Mid Channel

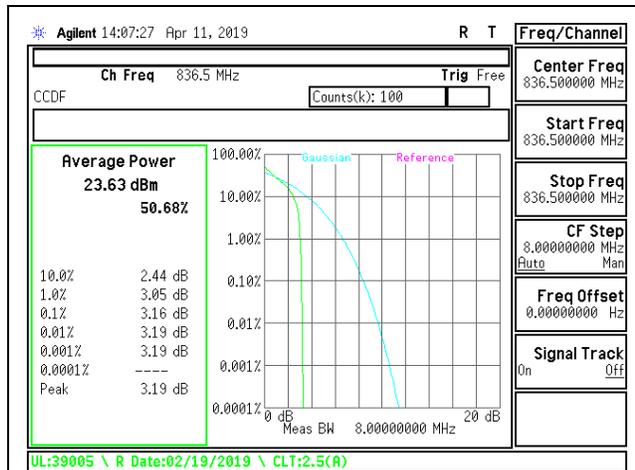


LTE B4 20MHz QPSK Mid Channel

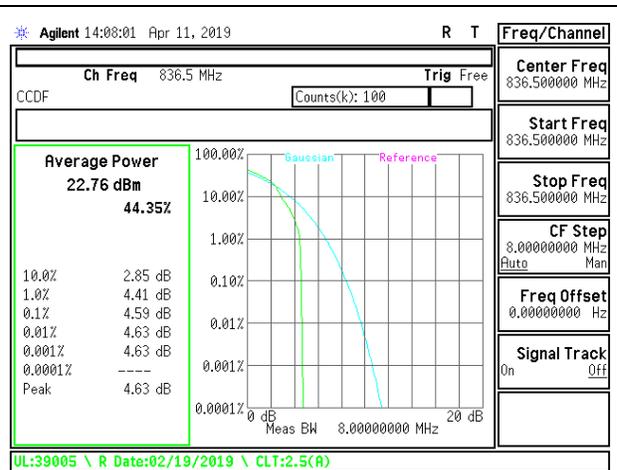


LTE B4 20MHz 16QAM Mid Channel

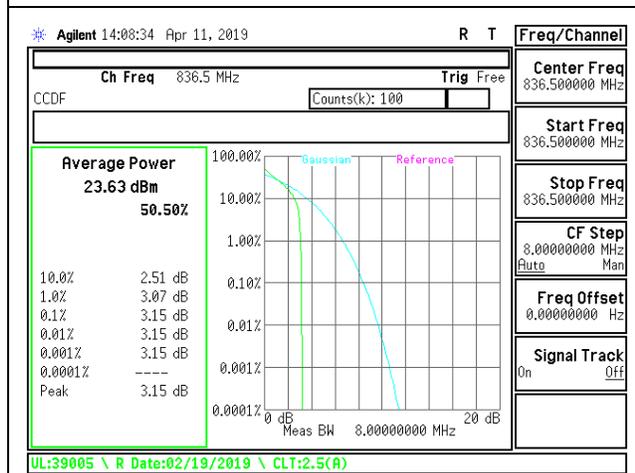
8.5.5. LTE BAND 5



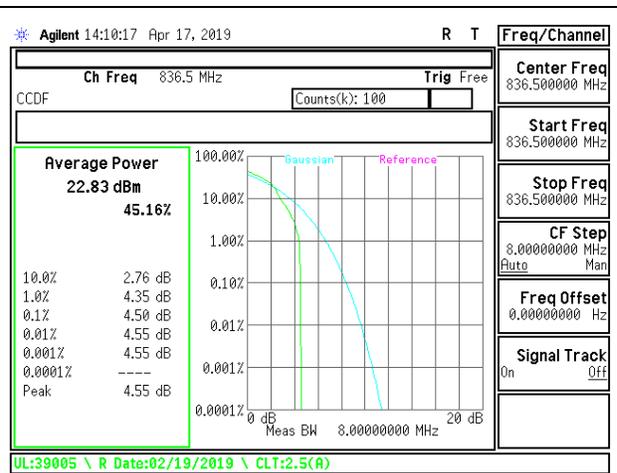
LTE B5 1.4MHz QPSK Mid Channel



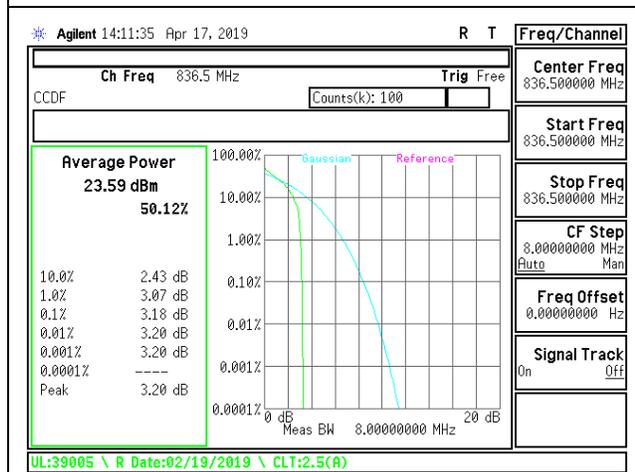
LTE B5 1.4MHz 16QAM Mid Channel



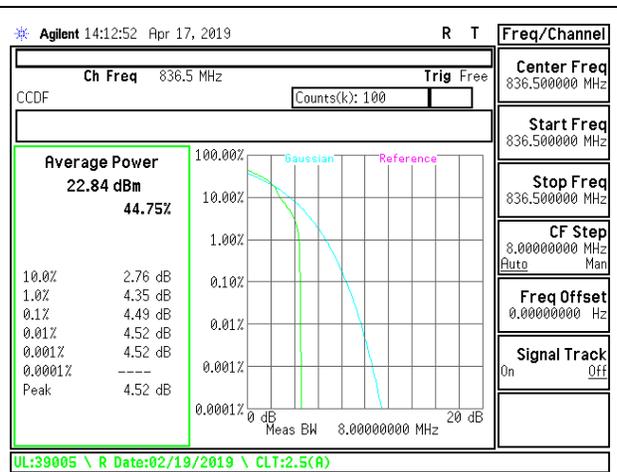
LTE B5 3MHz QPSK Mid Channel



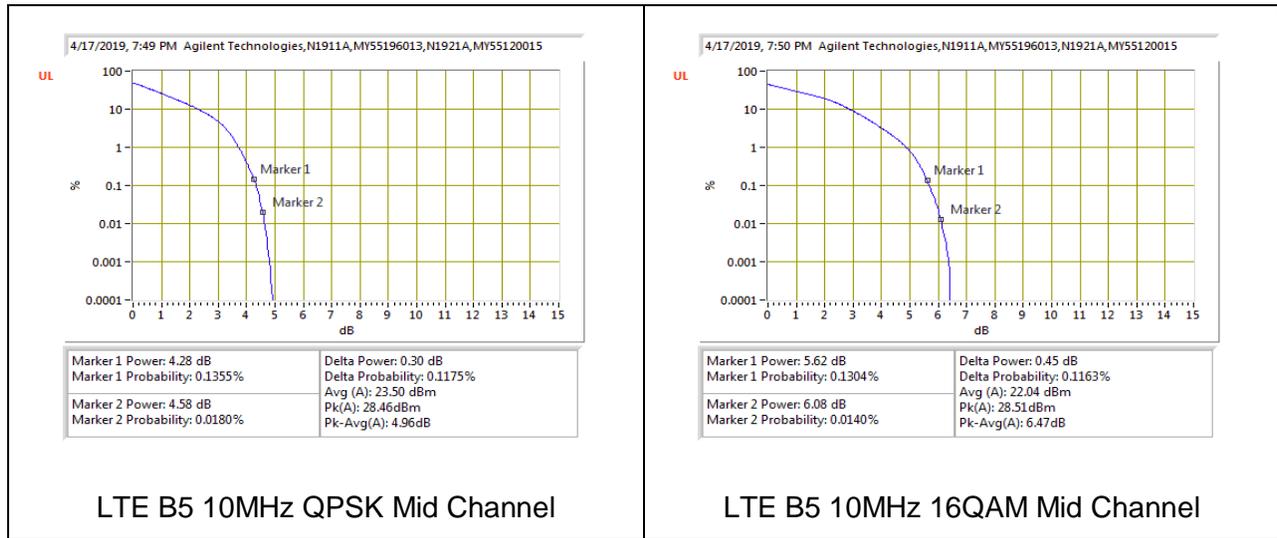
LTE B5 3MHz 16QAM Mid Channel



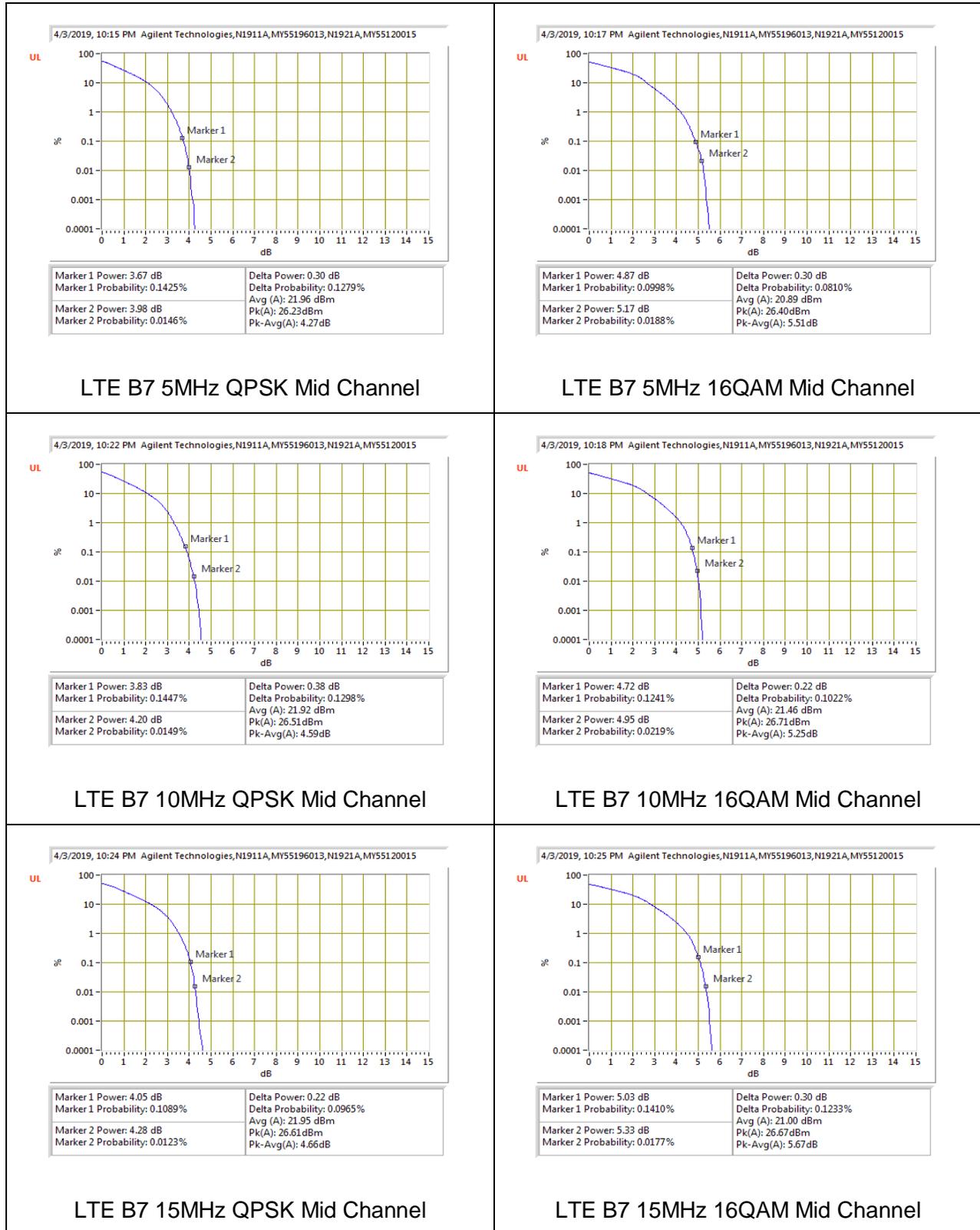
LTE B5 5MHz QPSK Mid Channel

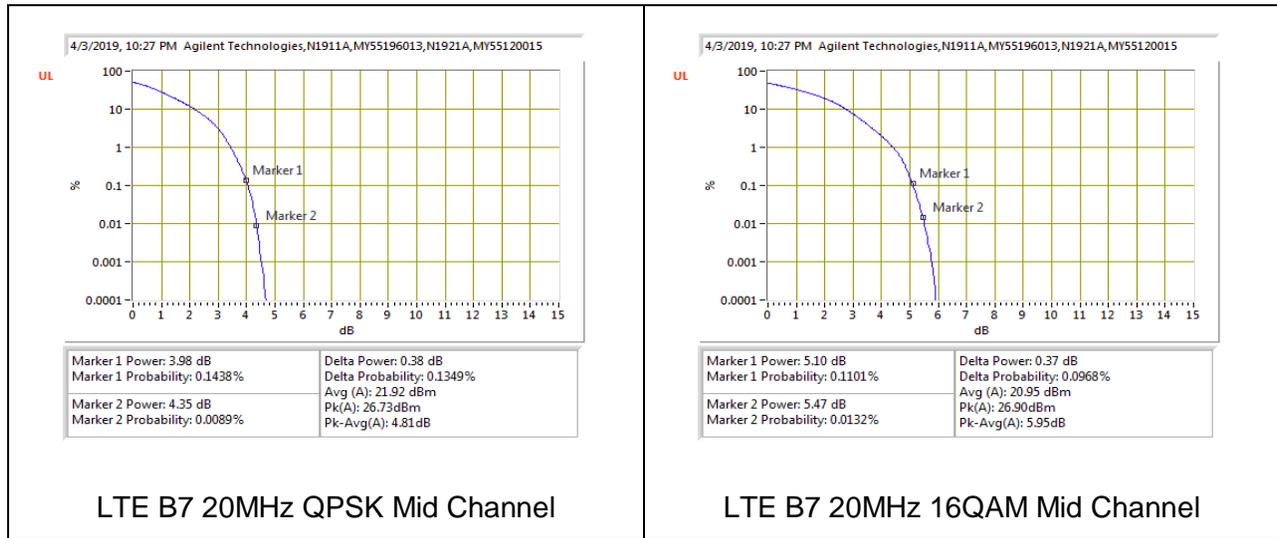


LTE B5 5MHz 16QAM Mid Channel

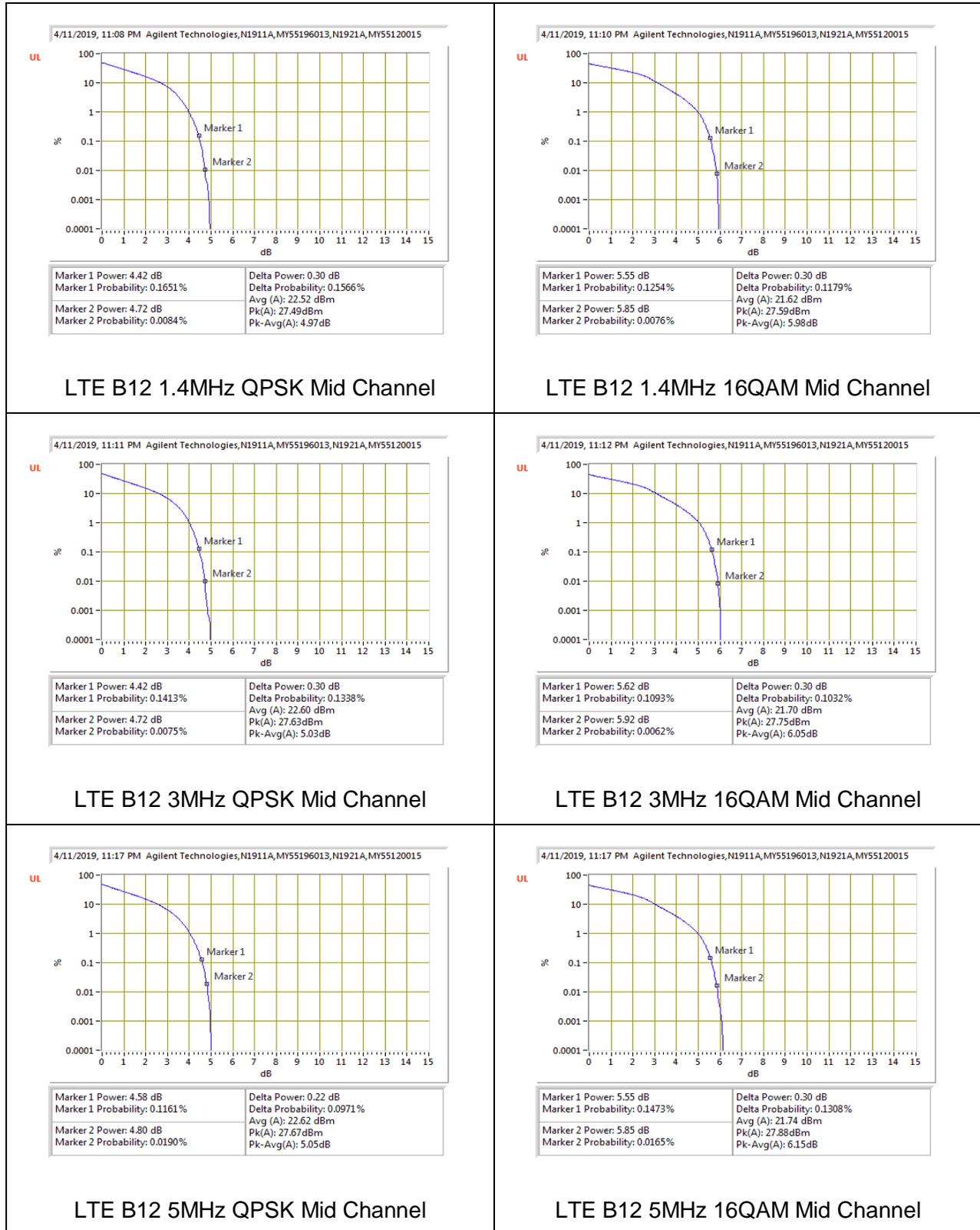


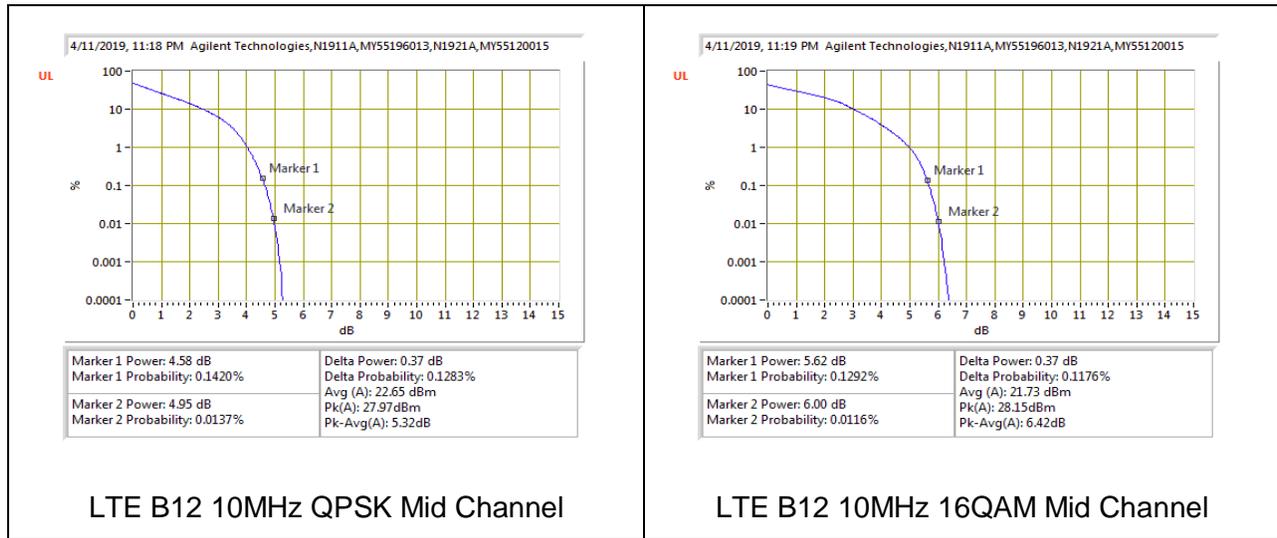
8.5.6. LTE BAND 7



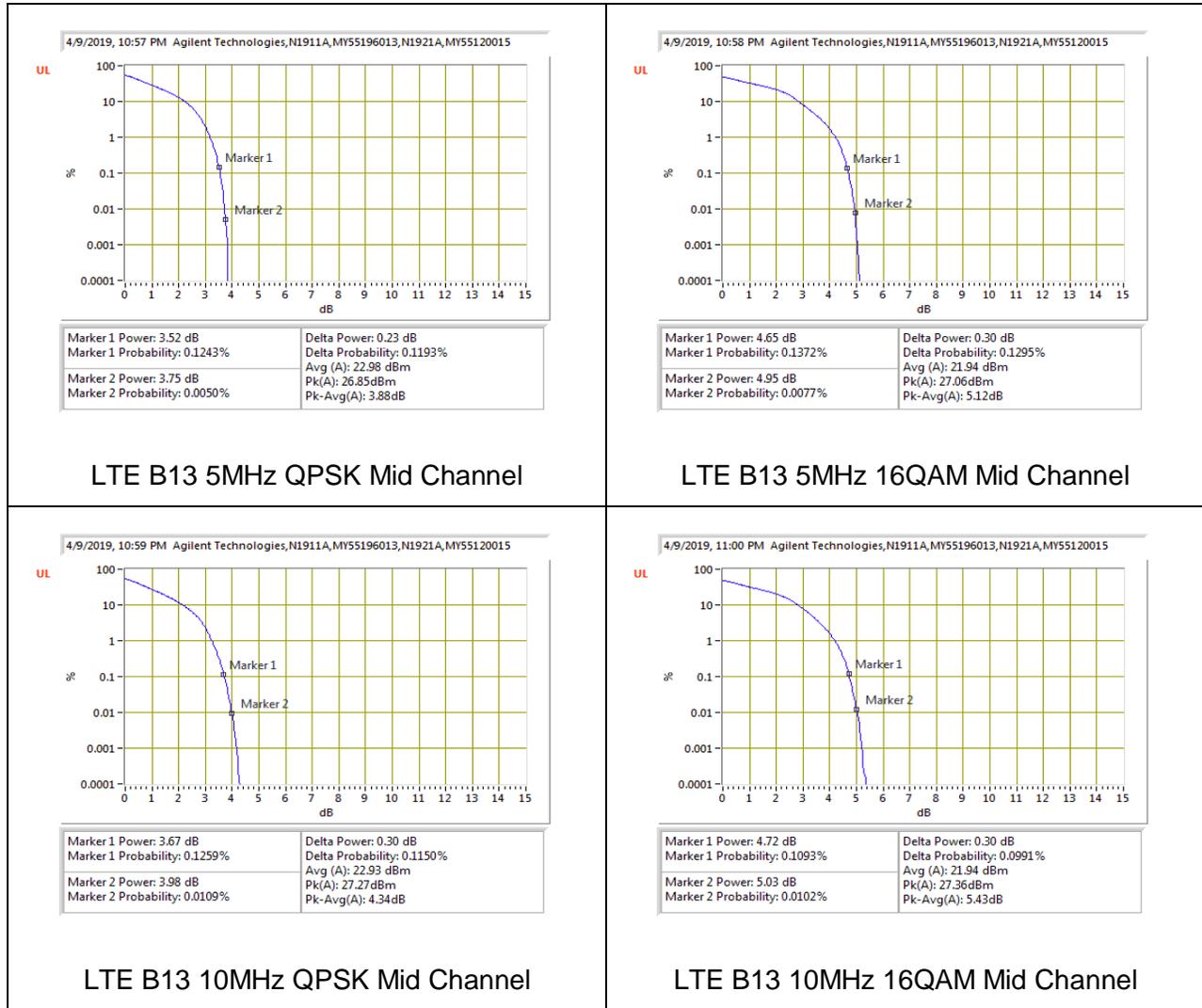


8.5.7. LTE BAND 12

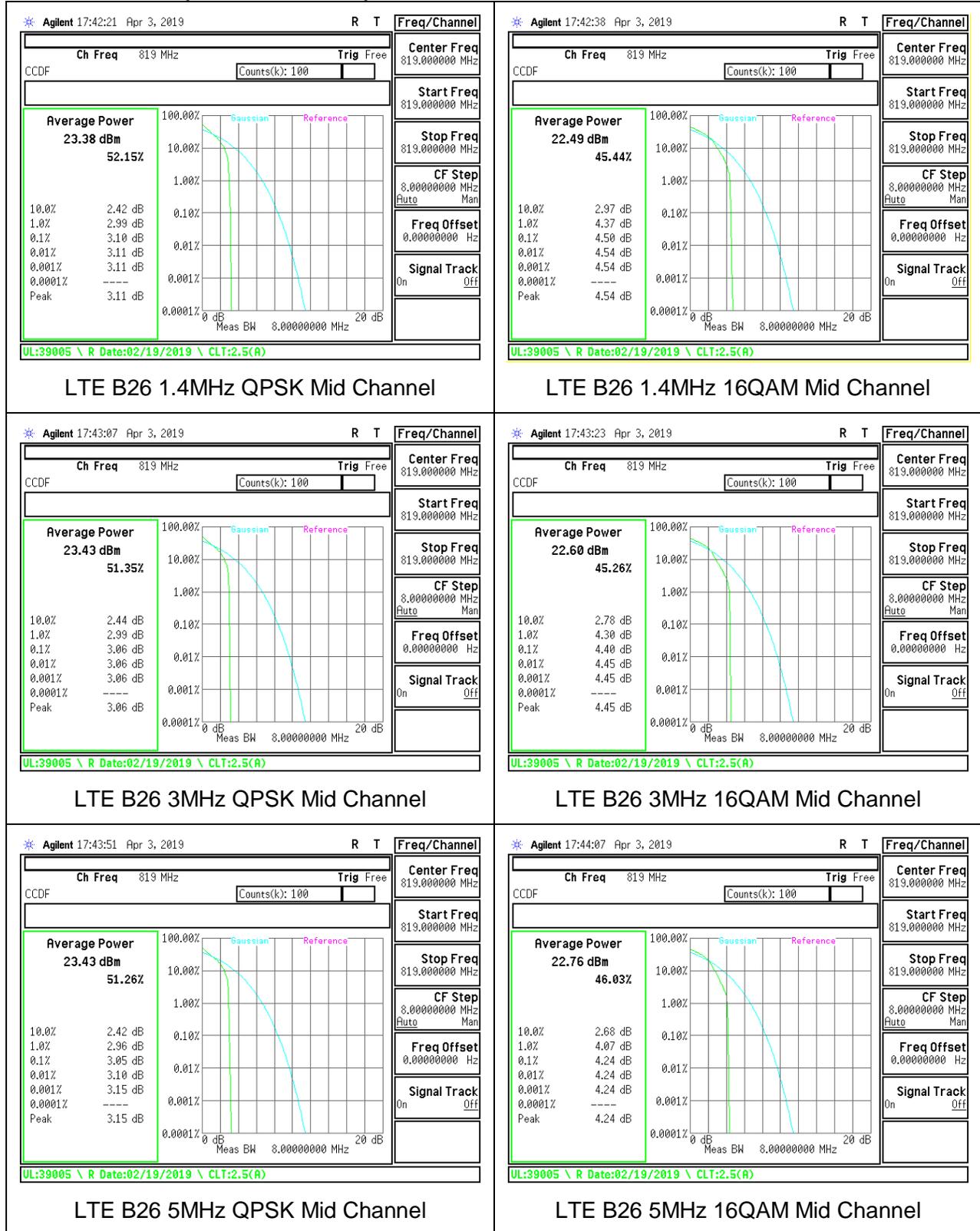


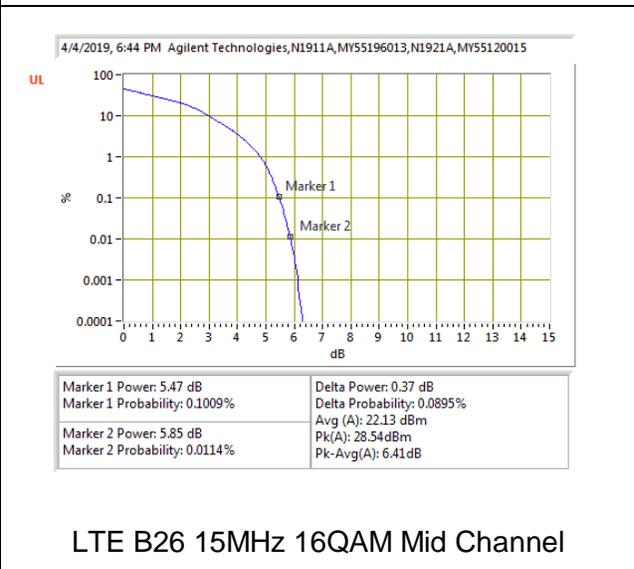
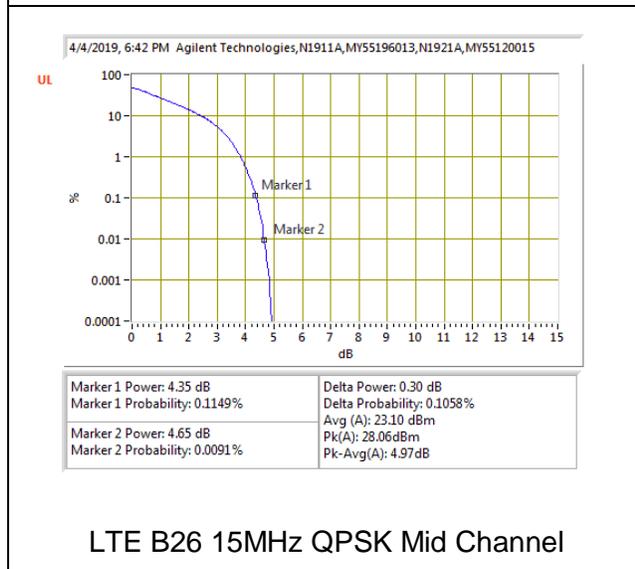
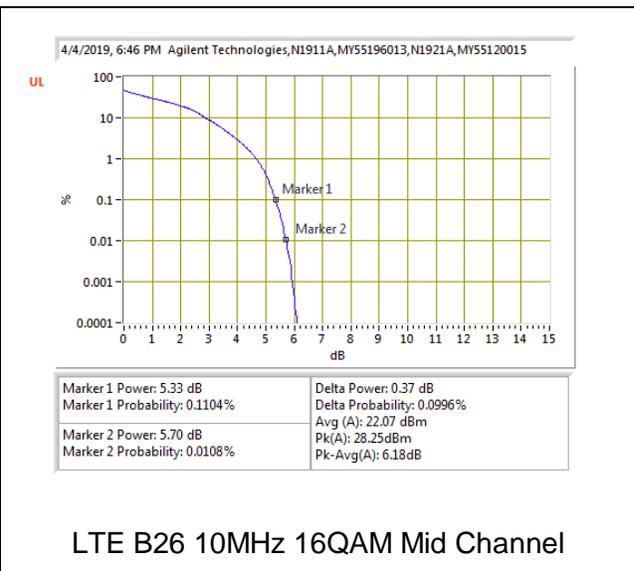
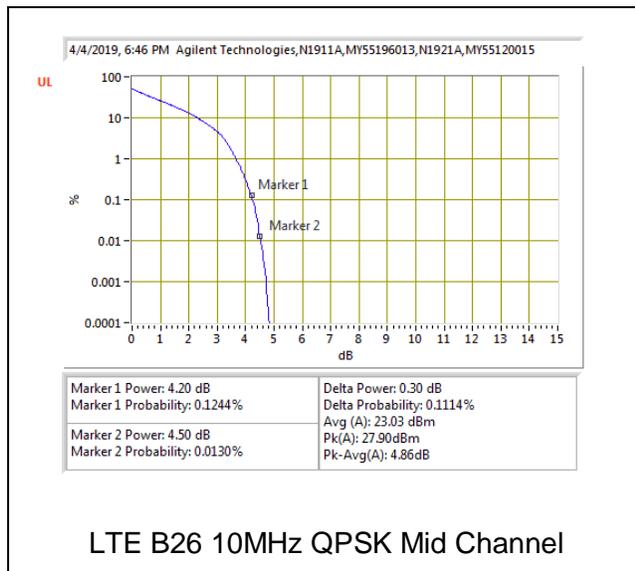


8.5.8. LTE BAND 13

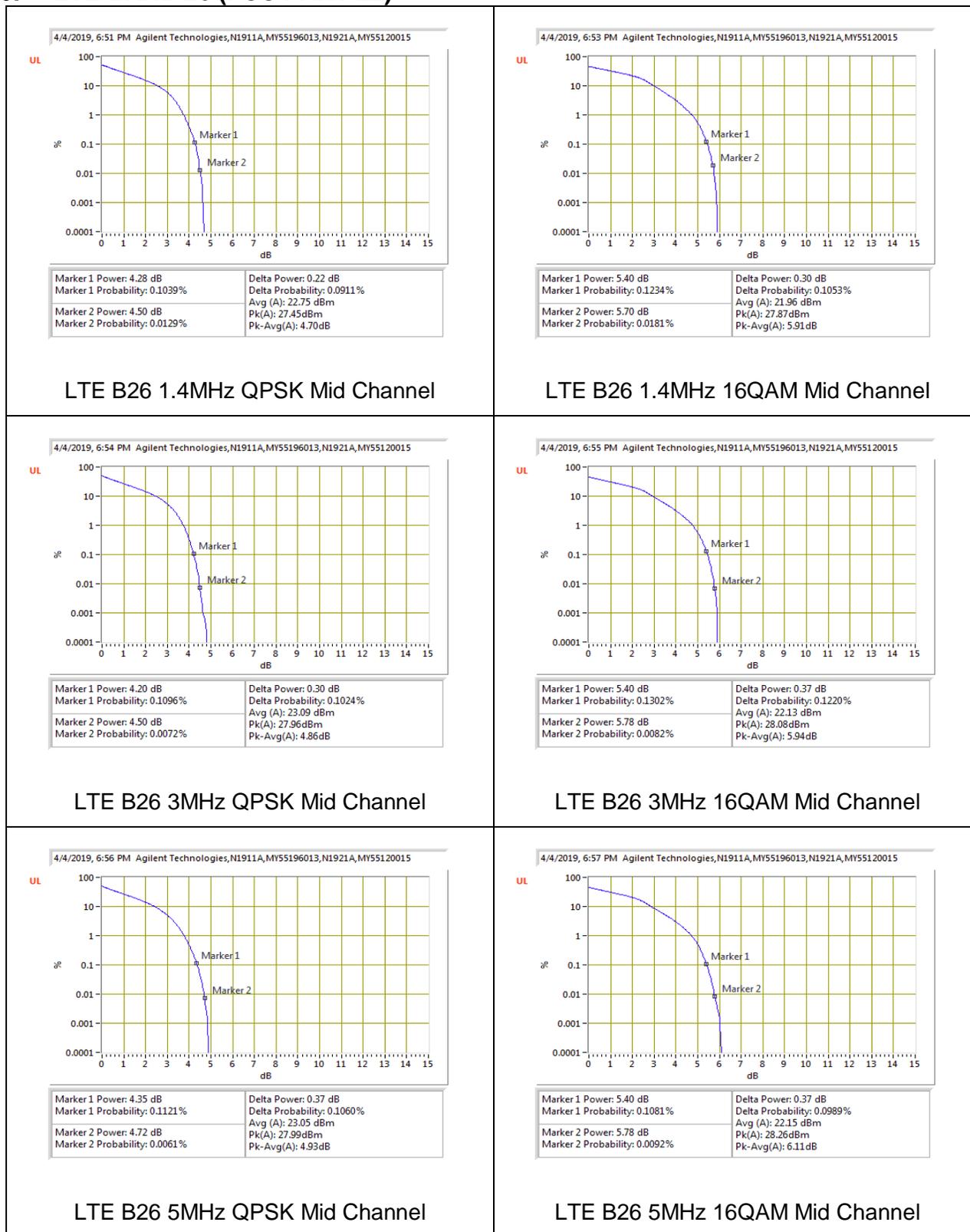


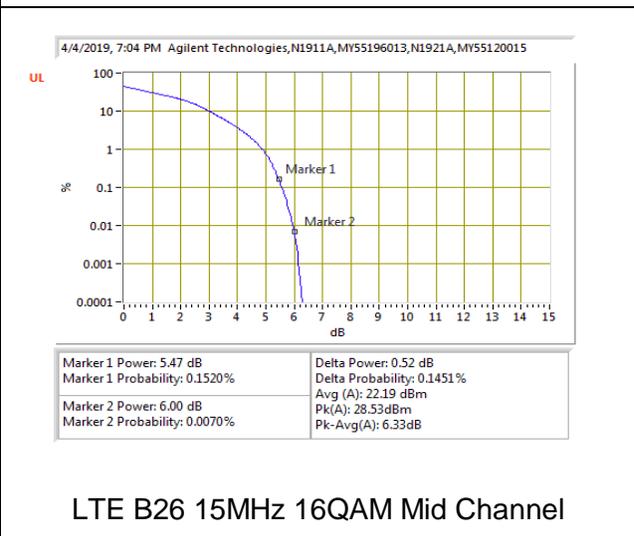
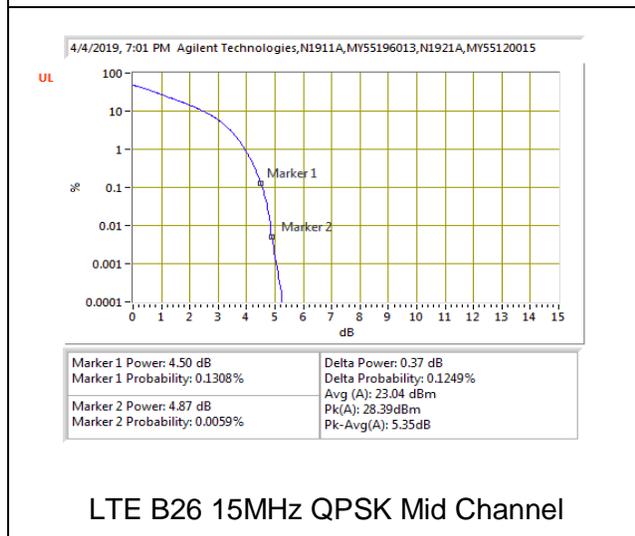
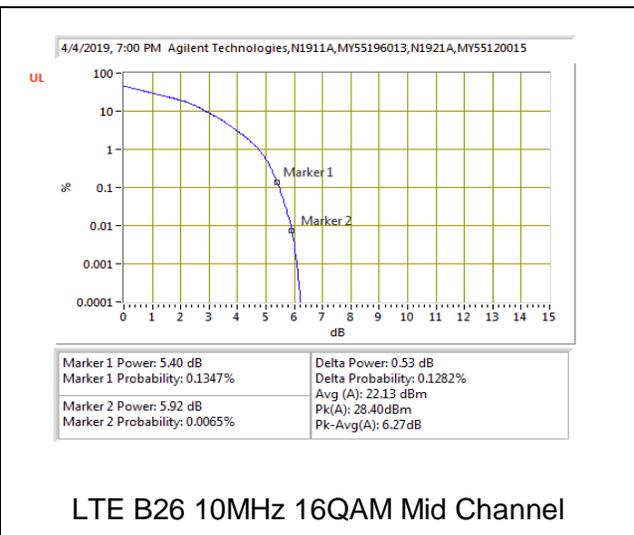
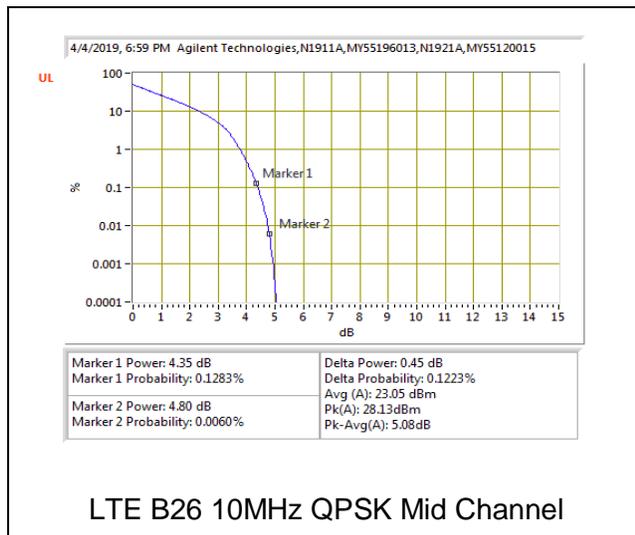
8.5.9. LTE BAND 26 (FCC PART 90S)





8.5.10. LTE BAND 26 (FCC PART 22)





8.5.11. LTE BAND 41 (FCC)

