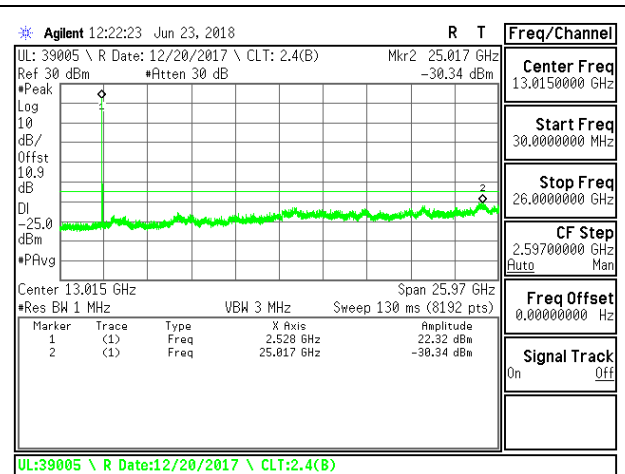
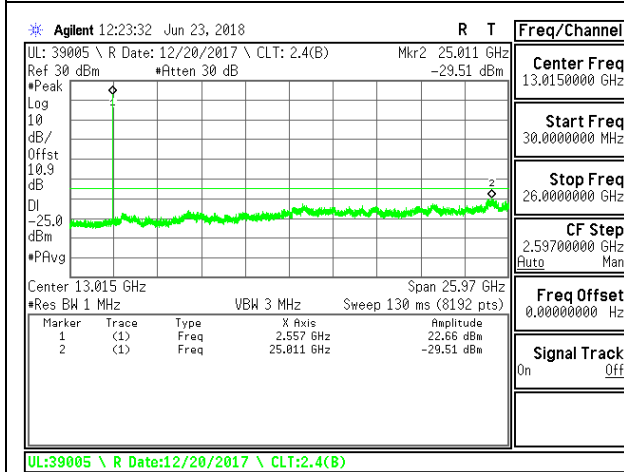


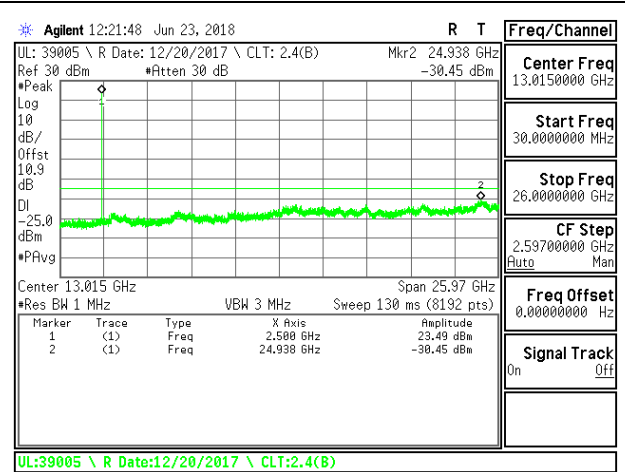
LTE B7 15MHz QPSK Low Channel RB1-0



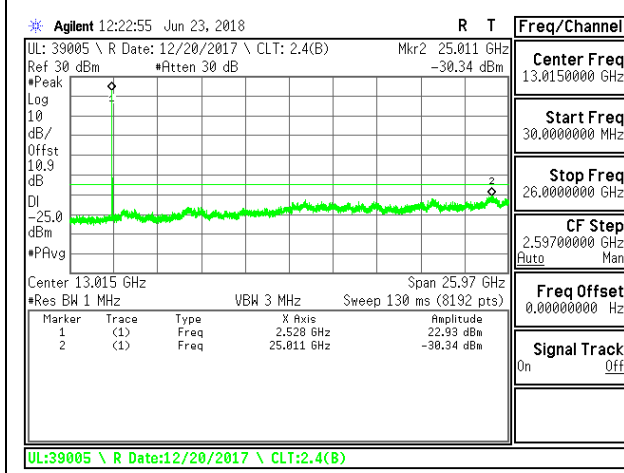
LTE B7 15MHz QPSK Mid Channel RB1-0



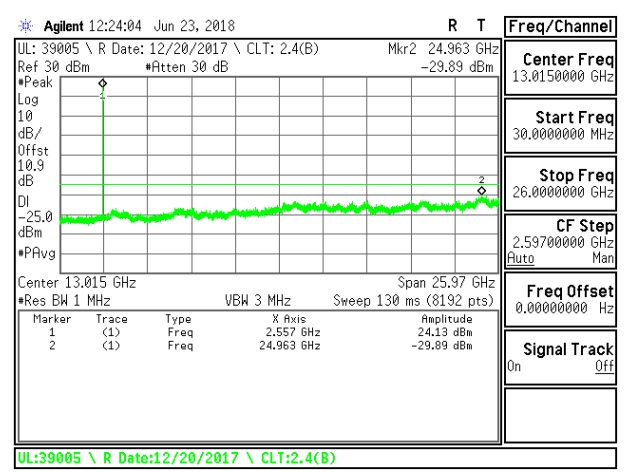
LTE B7 15MHz QPSK High Channel RB1-0



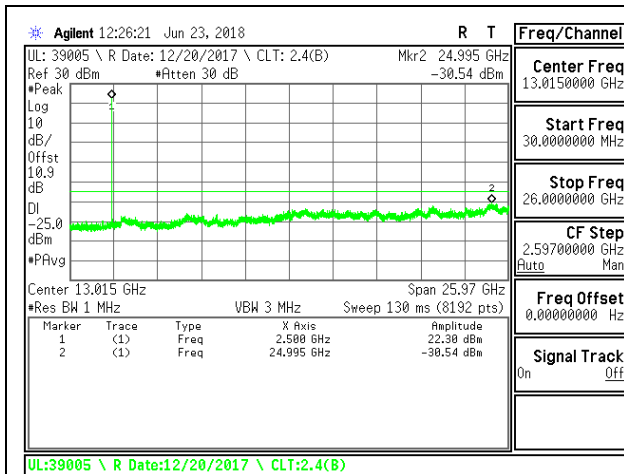
LTE B7 15MHz 16QAM Low Channel RB1-0



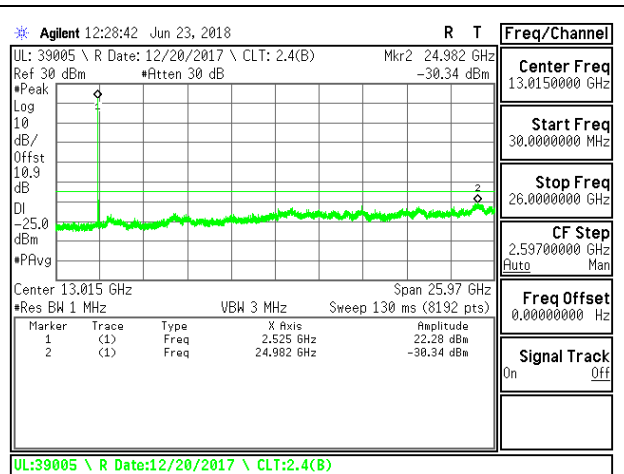
LTE B7 15MHz 16QAM Mid Channel RB1-0



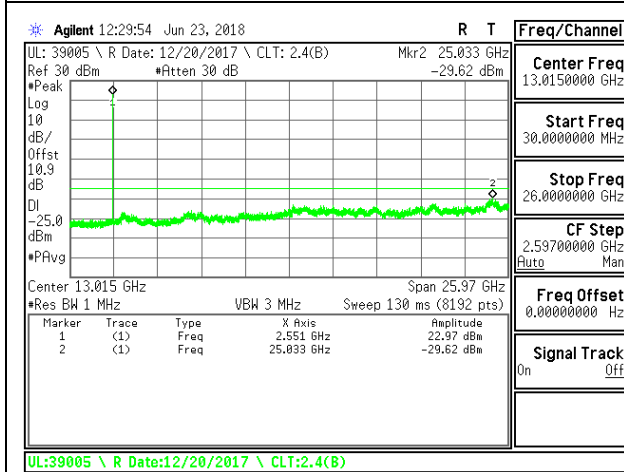
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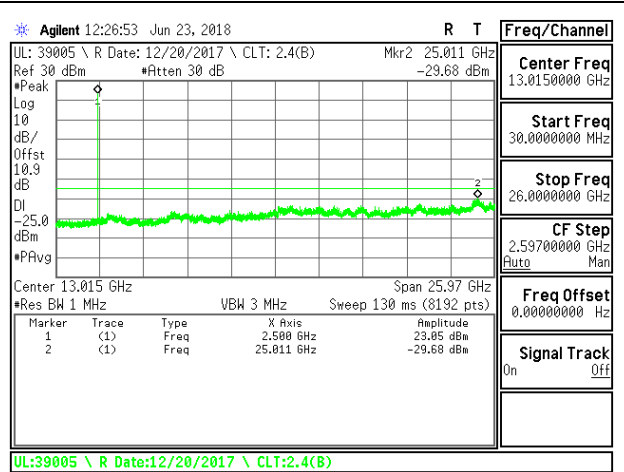
LTE B7 20MHz QPSK Low Channel RB1-0



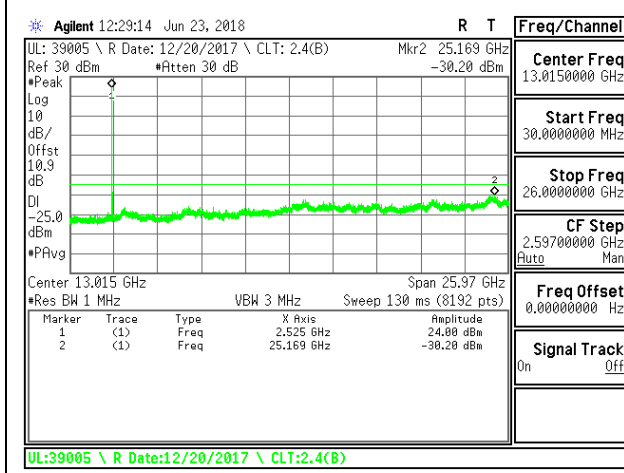
LTE B7 20MHz QPSK Mid Channel RB1-0



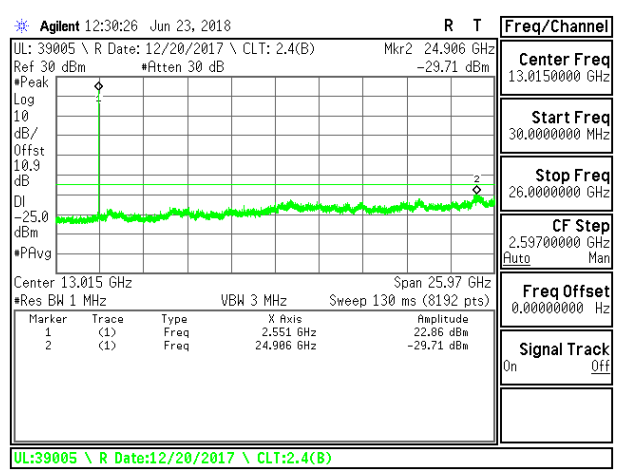
LTE B7 20MHz QPSK High Channel RB1-0



LTE B7 20MHz 16QAM Low Channel RB1-0

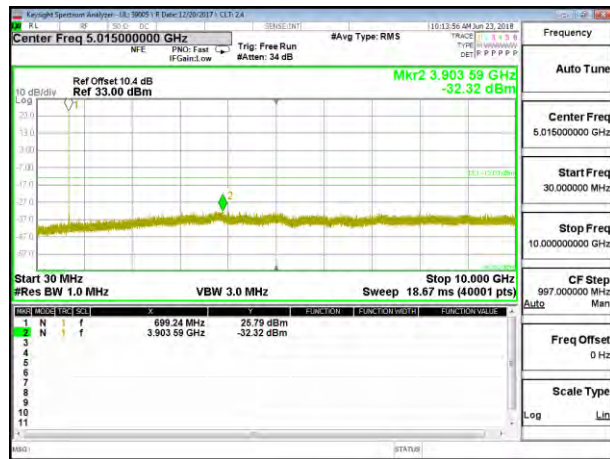


LTE B7 20MHz 16QAM Mid Channel RB1-0

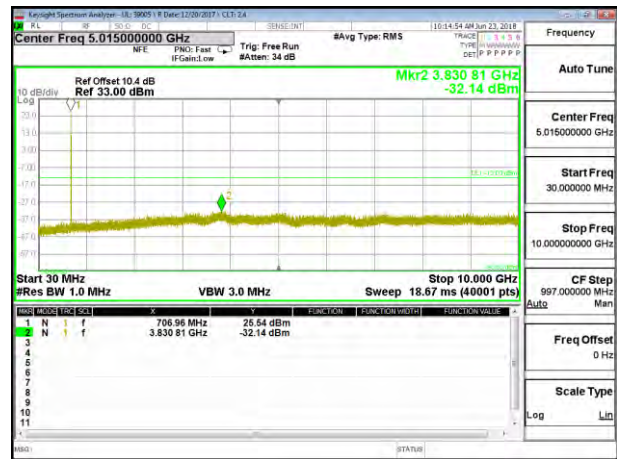


LTE B7 20MHz 16QAM High Channel RB1-0

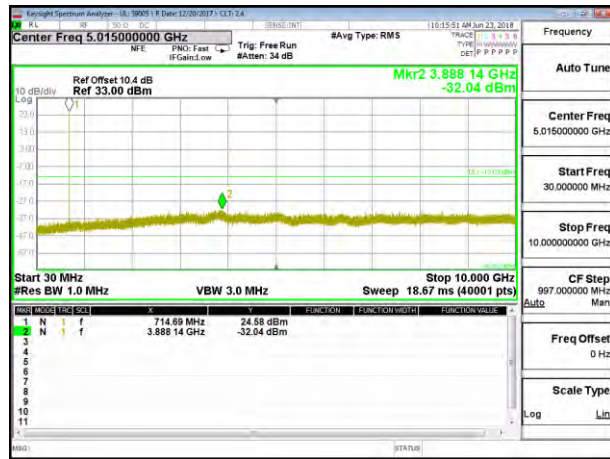
8.3.9. LTE BAND 12



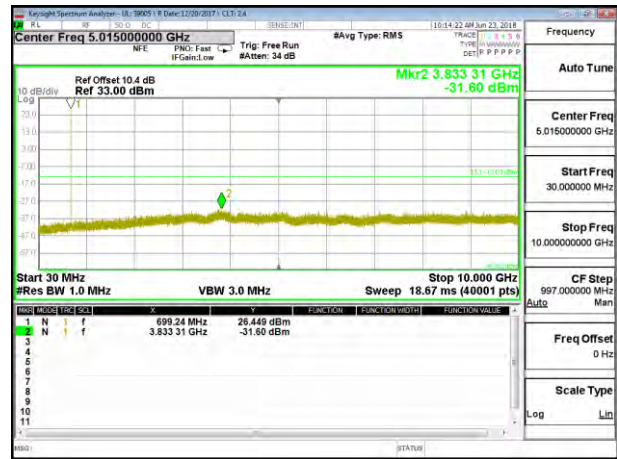
LTE B12 1.4MHz QPSK Low Channel RB1-0



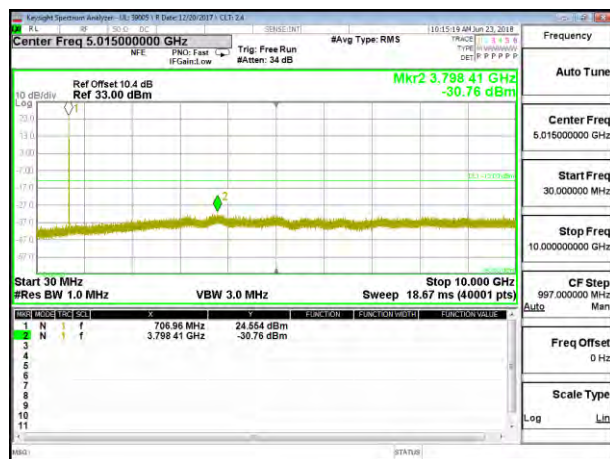
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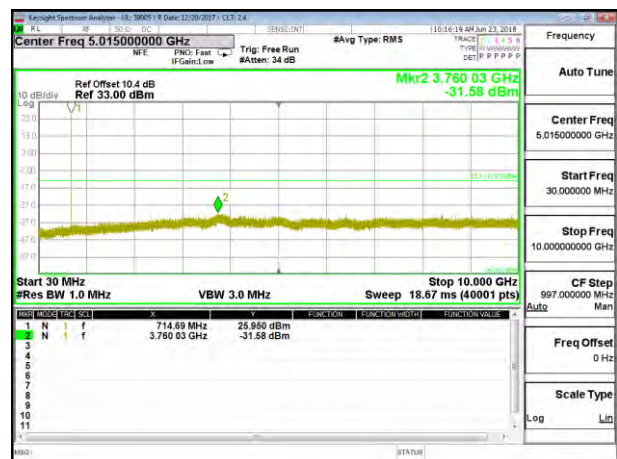
LTE B12 1.4MHz QPSK High Channel RB1-0



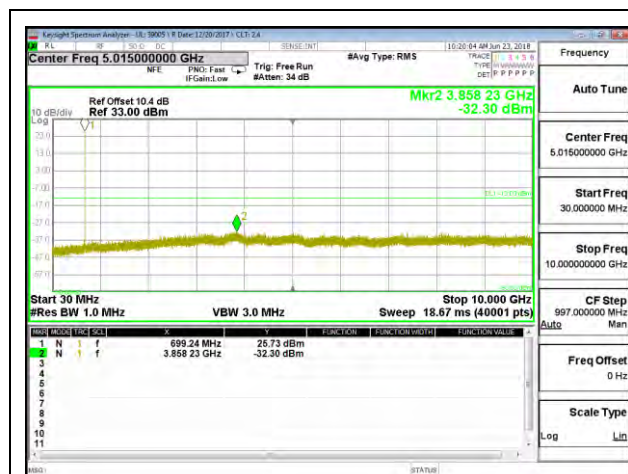
LTE B12 1.4MHz 16QAM Low Channel RB1-0



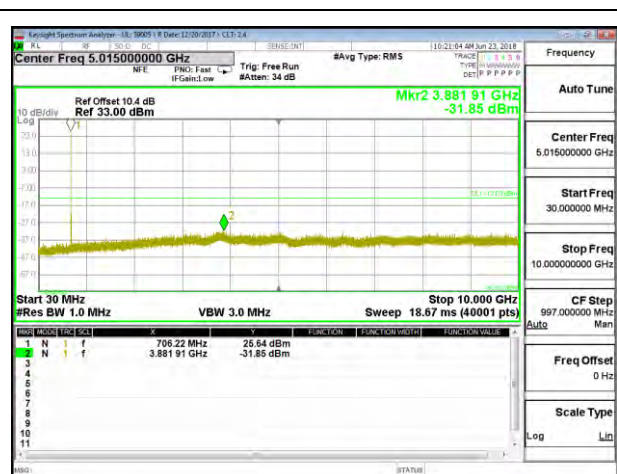
LTE B12 1.4MHz 16QAM Mid Channel RB1-0



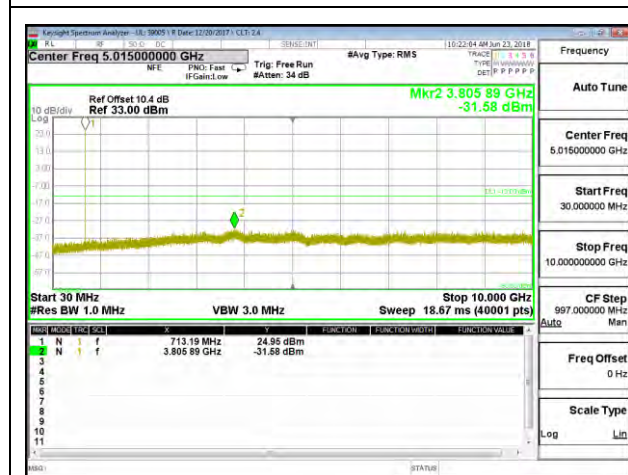
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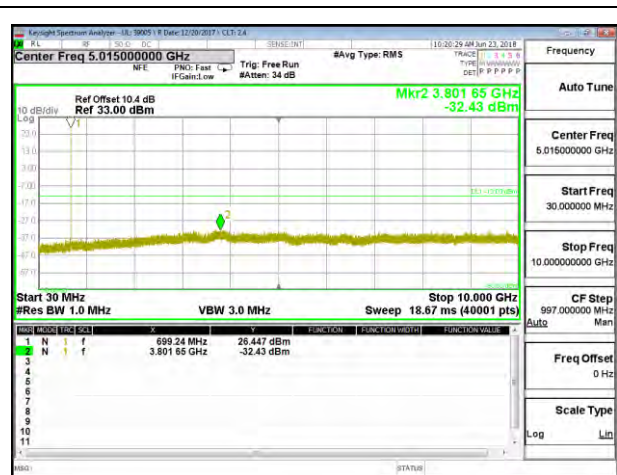
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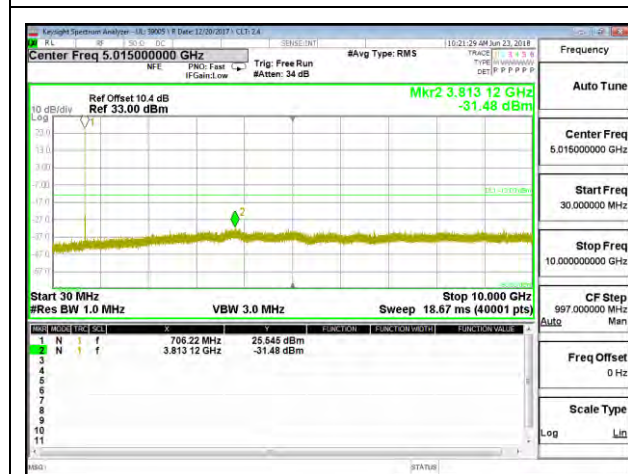
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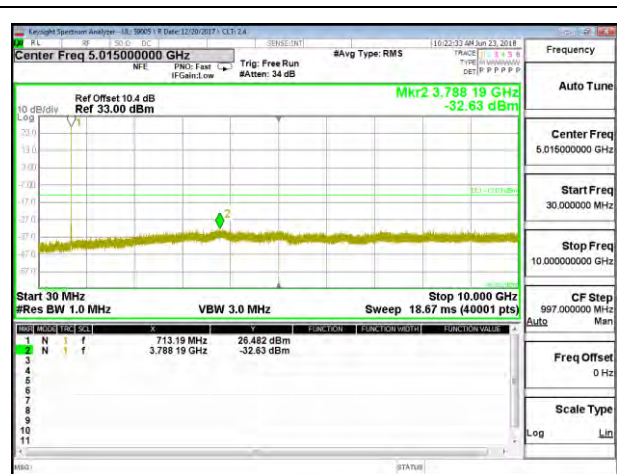
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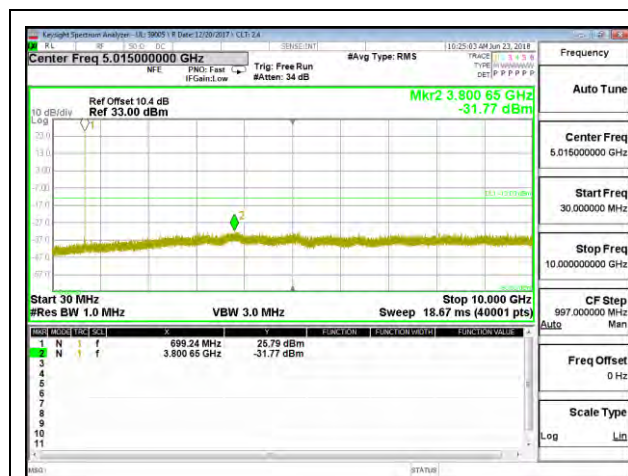
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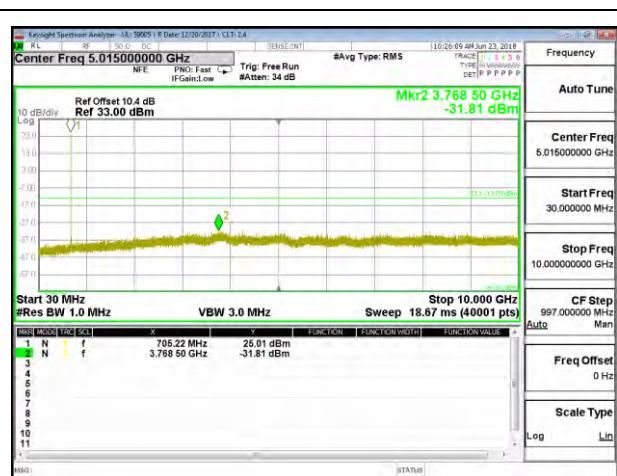
LTE B12 3MHz 16QAM Mid Channel RB1-0



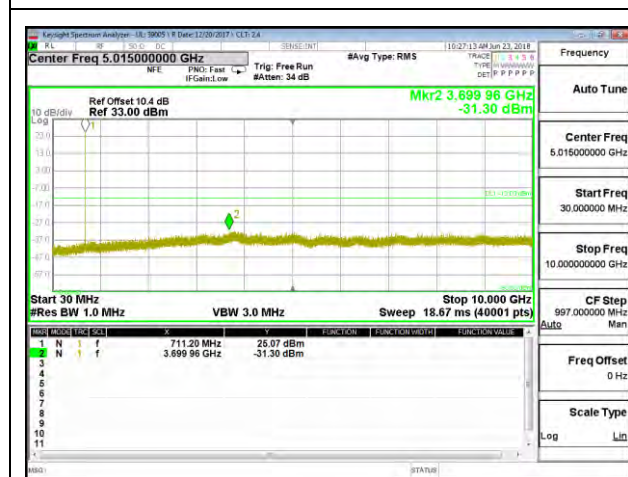
LTE B12 3MHz 16QAM High Channel RB1-0



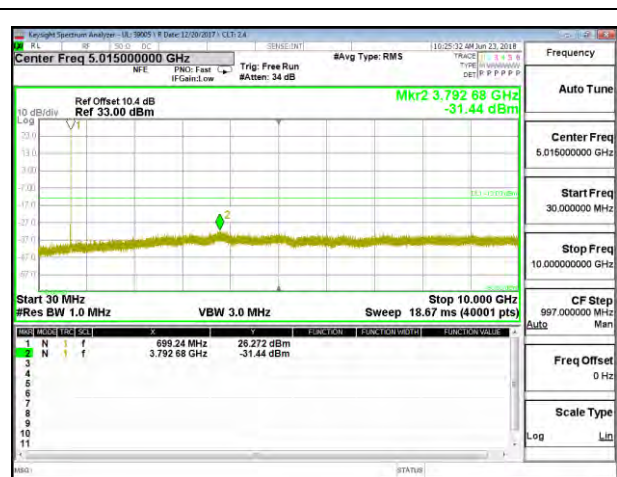
LTE B12 5MHz QPSK Low Channel RB1-0



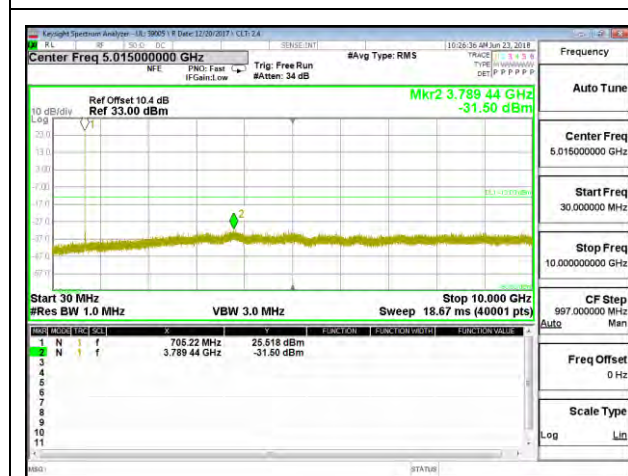
LTE B12 5MHz QPSK Mid Channel RB1-0



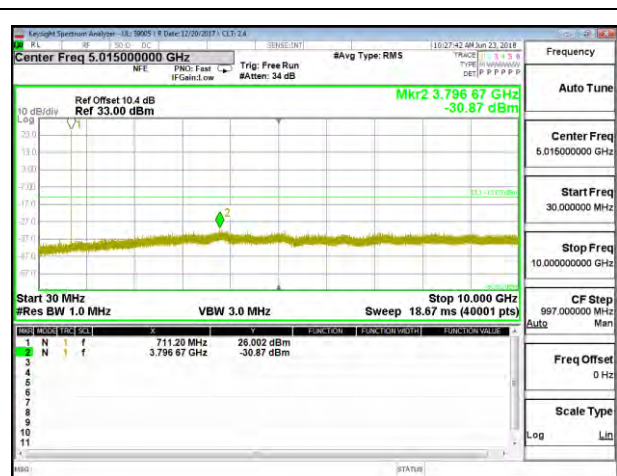
LTE B12 5MHz QPSK High Channel RB1-0



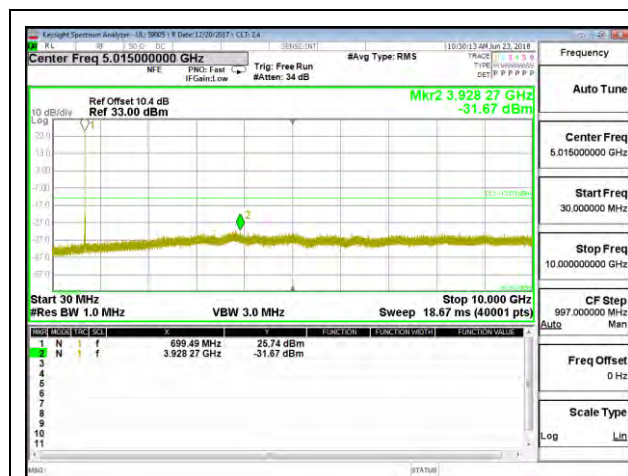
LTE B12 5MHz 16QAM Low Channel RB1-0



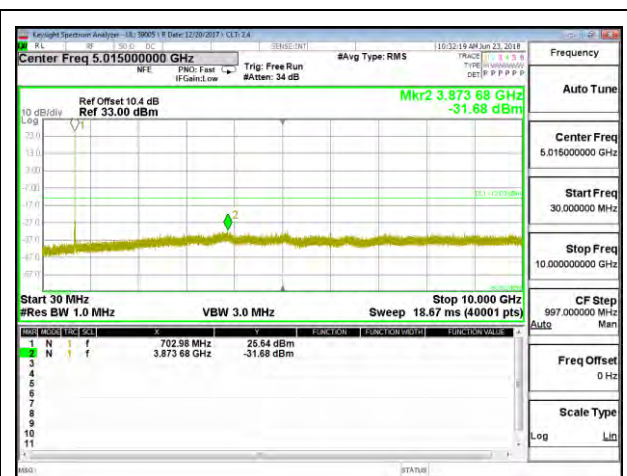
LTE B12 5MHz 16QAM Mid Channel RB1-0



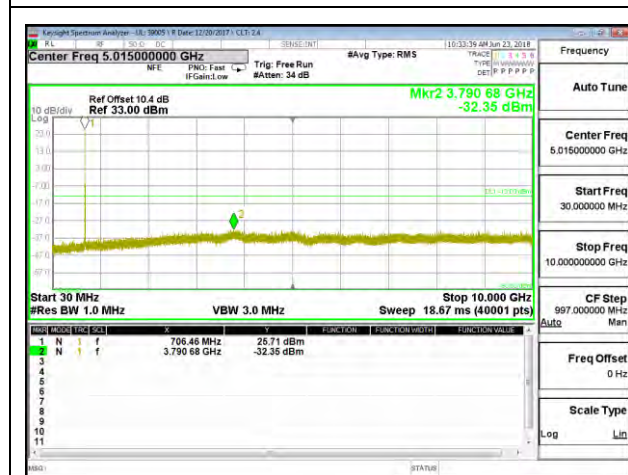
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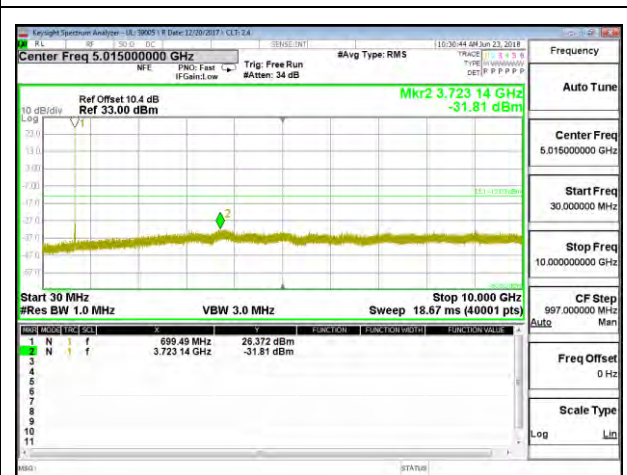
LTE B12 10MHz QPSK Low Channel RB1-0



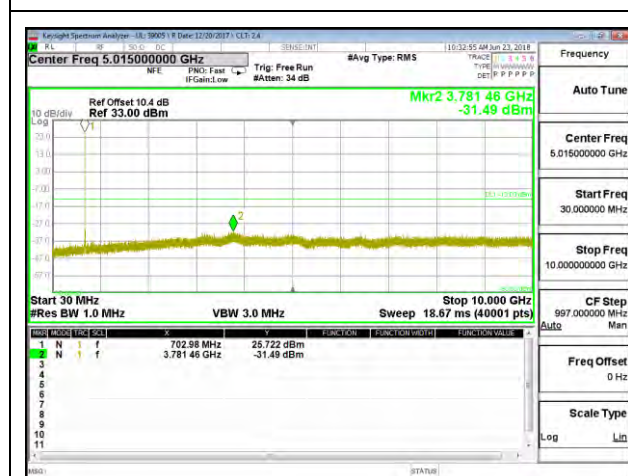
LTE B12 10MHz QPSK Mid Channel RB1-0



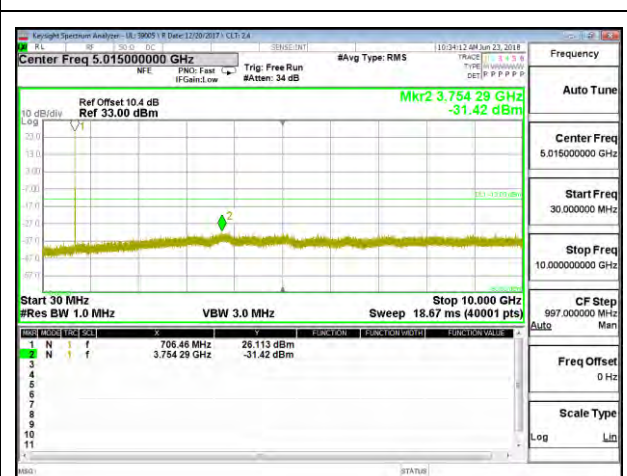
LTE B12 10MHz QPSK High Channel RB1-0



LTE B12 10MHz 16QAM Low Channel RB1-0

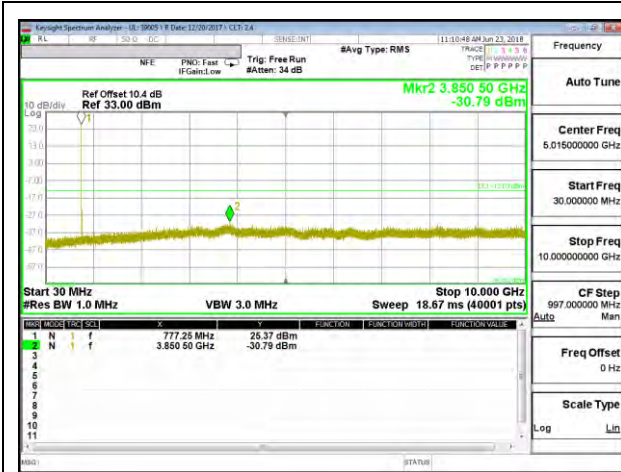


LTE B12 10MHz 16QAM Mid Channel RB1-0

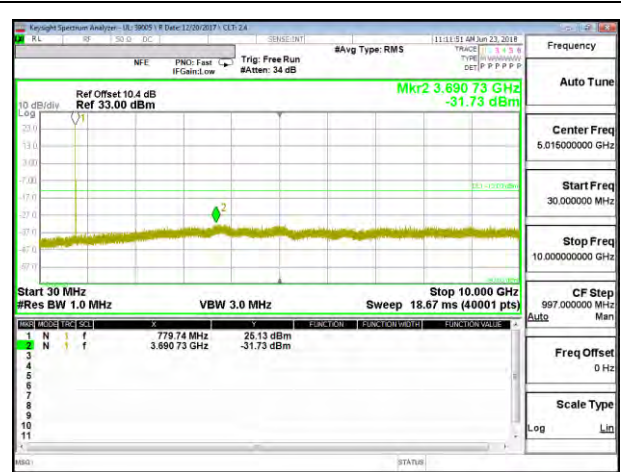


LTE B12 10MHz 16QAM High Channel RB1-0

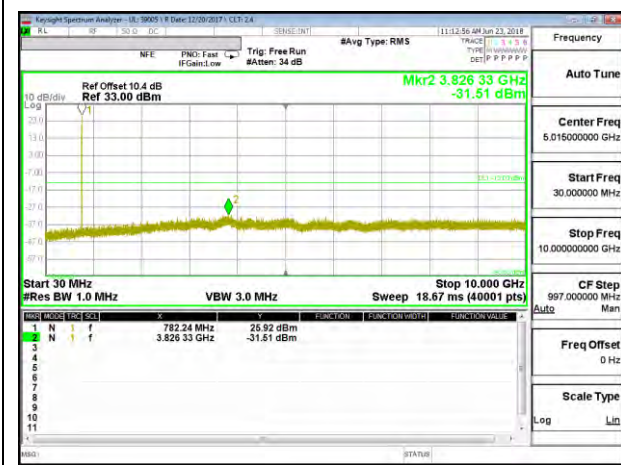
8.3.10. LTE BAND 13



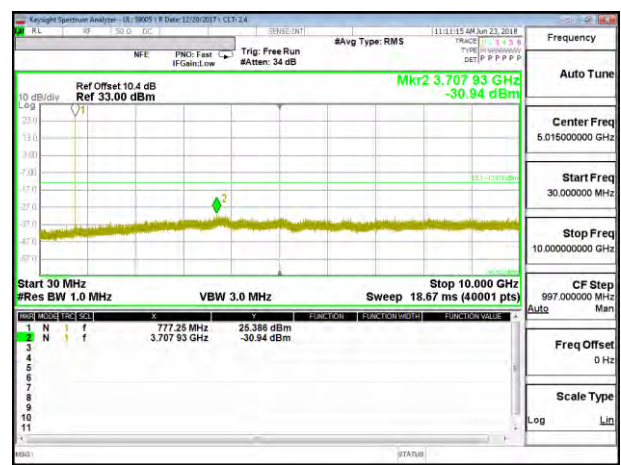
LTE B13 5MHz QPSK Low Channel RB1-0



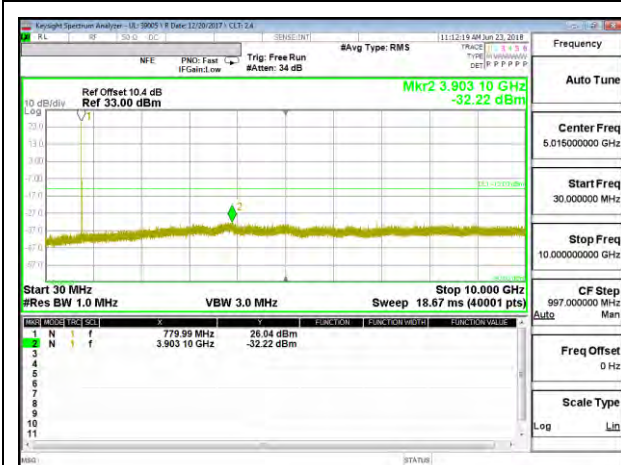
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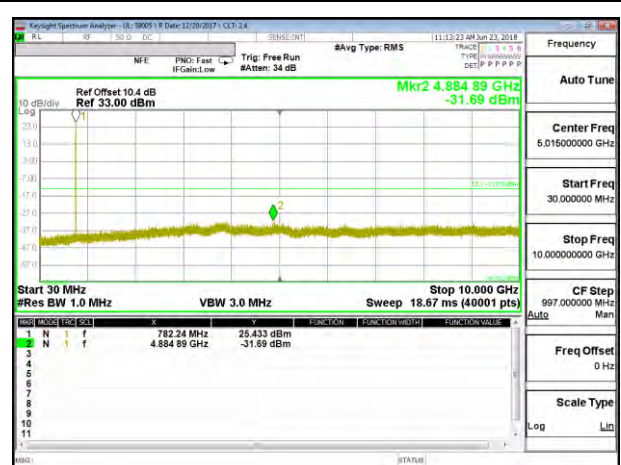
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LTE B13 5MHz 16QAM Low Channel RB1-0



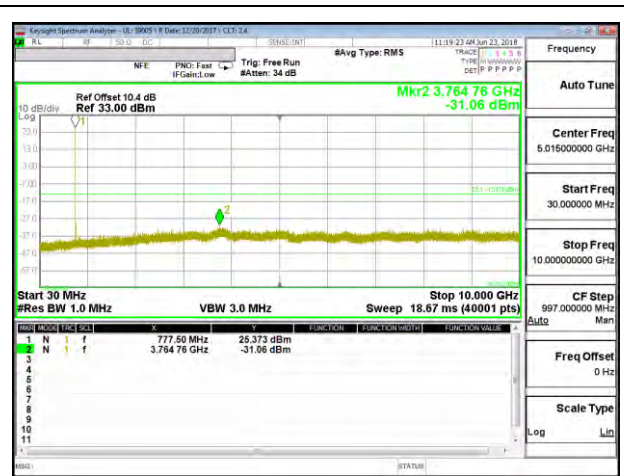
LTE B13 5MHz 16QAM Mid Channel RB1-0



LTE B13 5MHz 16QAM High Channel RB1-0

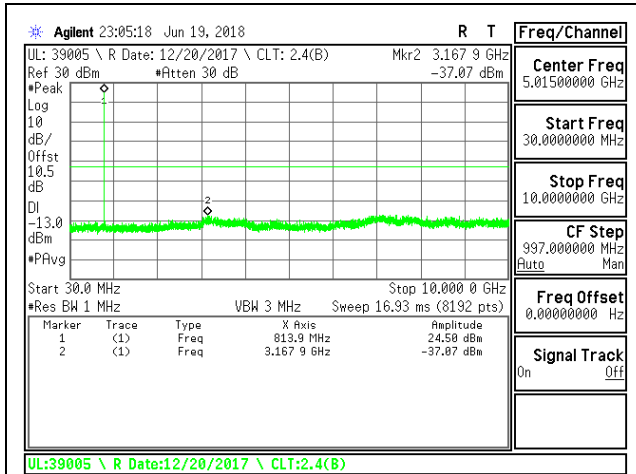


LTE B13 10MHz QPSK Mid Channel RB1-0

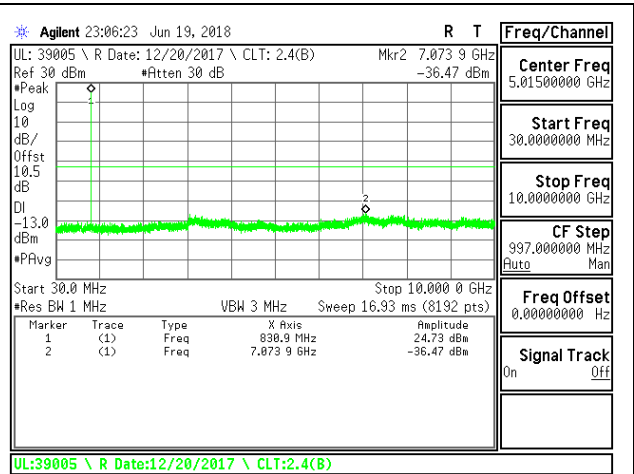


LTE B13 10MHz 16QAM Mid Channel RB1-0

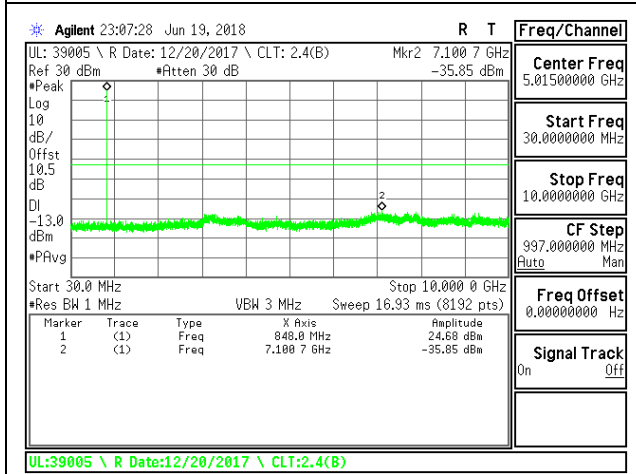
8.3.11. LTE BAND 26



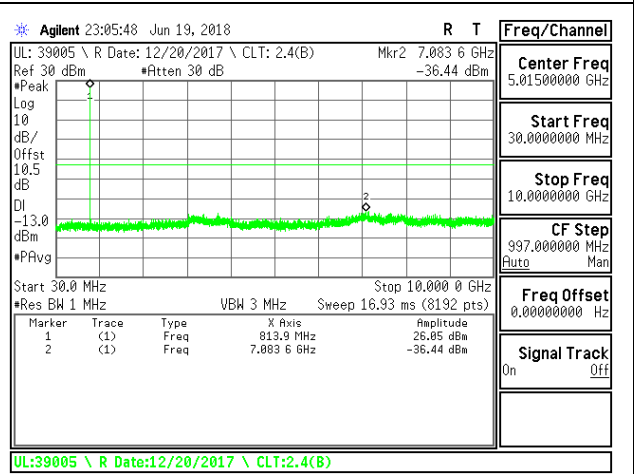
LTE B26 1.4MHz QPSK Low Channel RB1-0



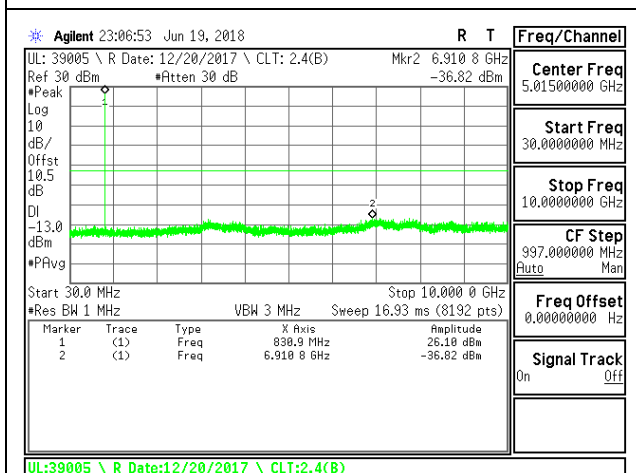
LTE B26 1.4MHz QPSK Mid Channel RB1-0



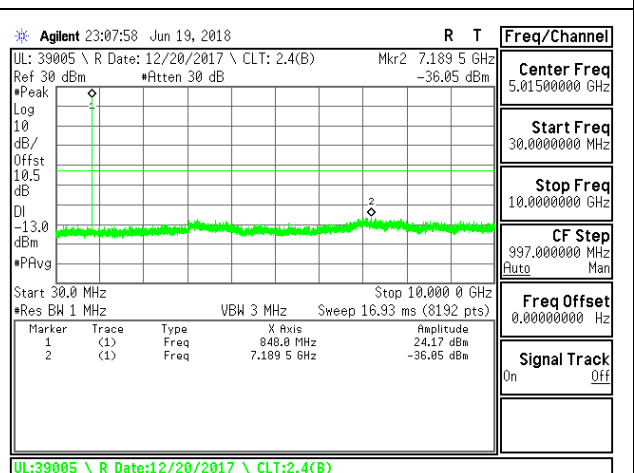
LTE B26 1.4MHz QPSK High Channel RB1-0



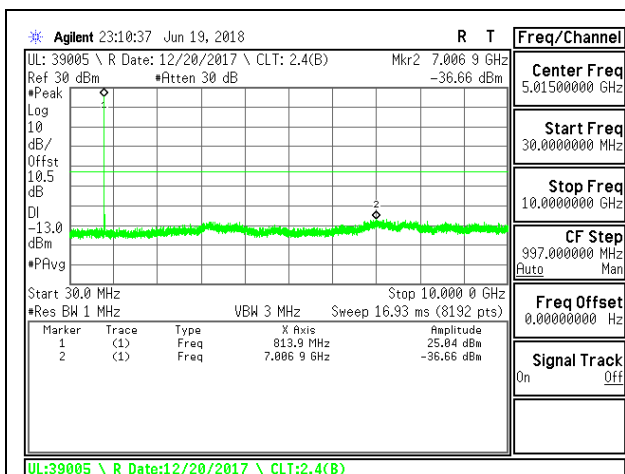
LTE B26 1.4MHz 16QAM Low Channel RB1-0



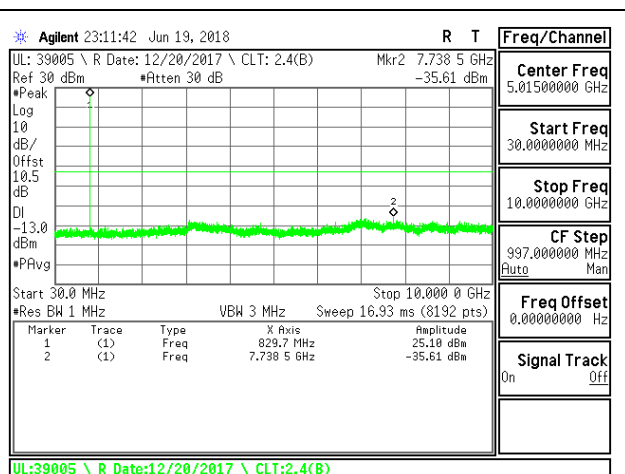
LTE B26 1.4MHz 16QAM Mid Channel RB1-0



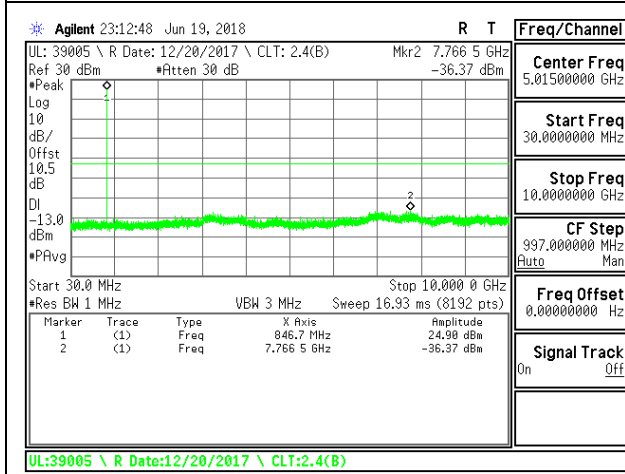
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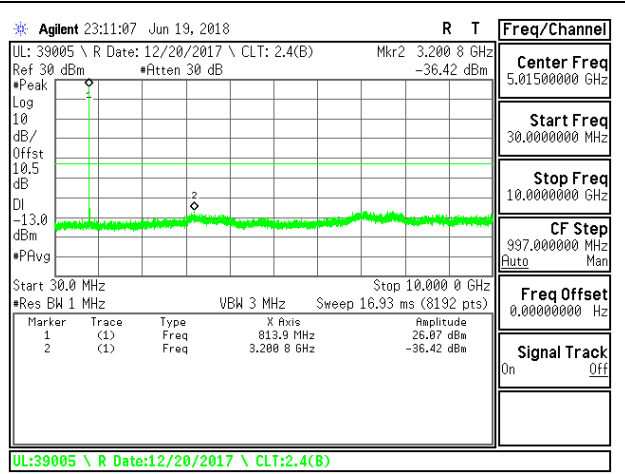
LTE B26 3MHz QPSK Low Channel RB1-0



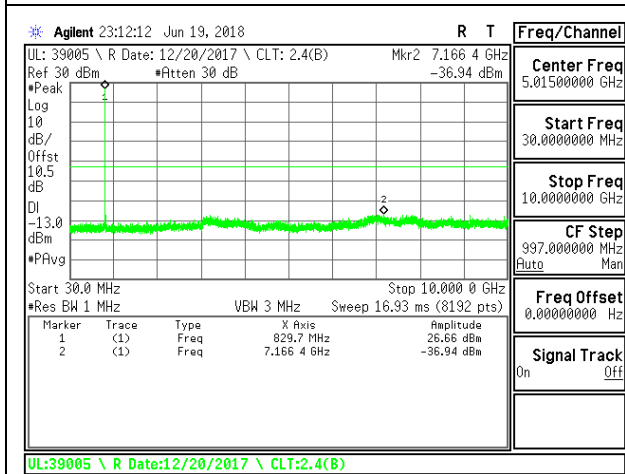
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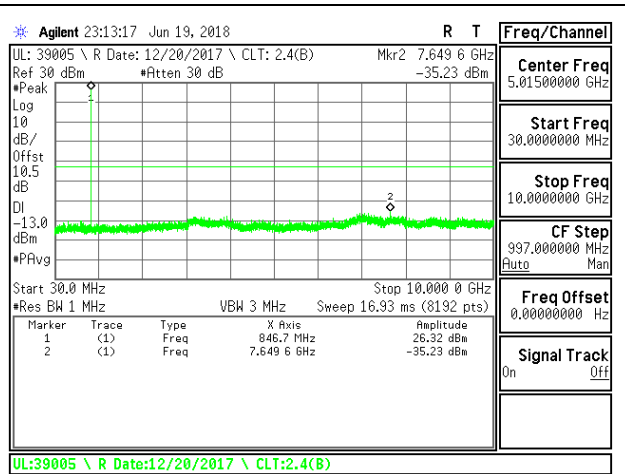
LTE B26 3MHz QPSK High Channel RB1-0



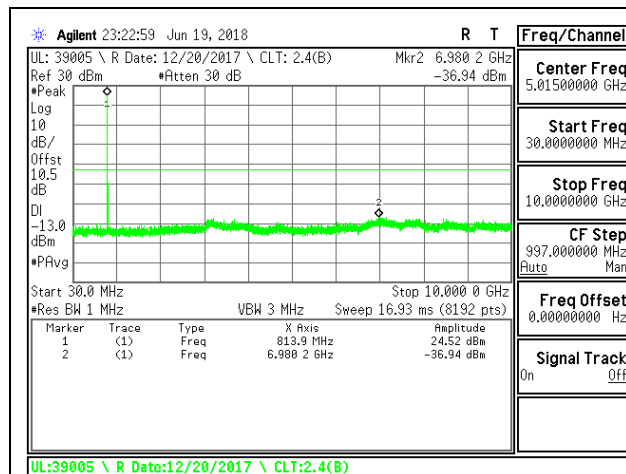
LTE B26 3MHz 16QAM Low Channel RB1-0



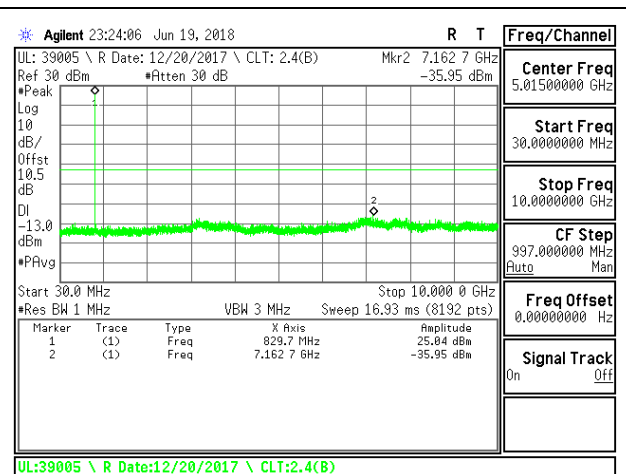
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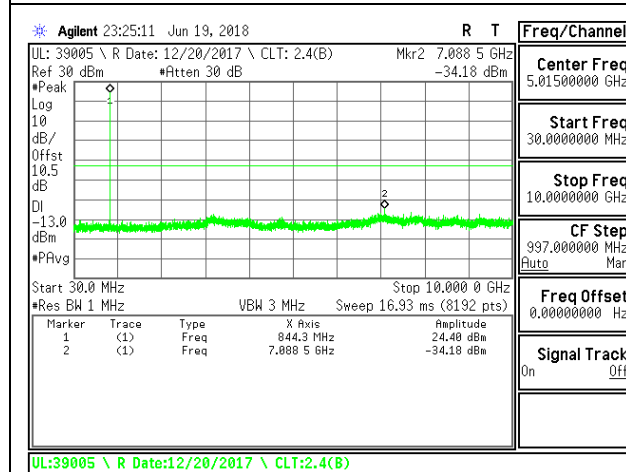
LTE B26 3MHz 16QAM High Channel RB1-0



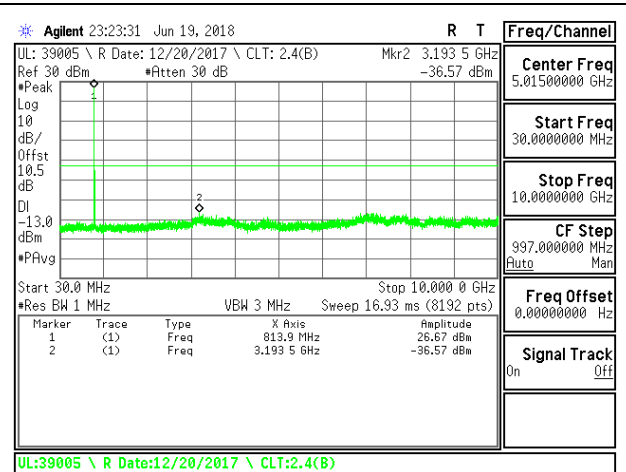
LTE B26 5MHz QPSK Low Channel RB1-0



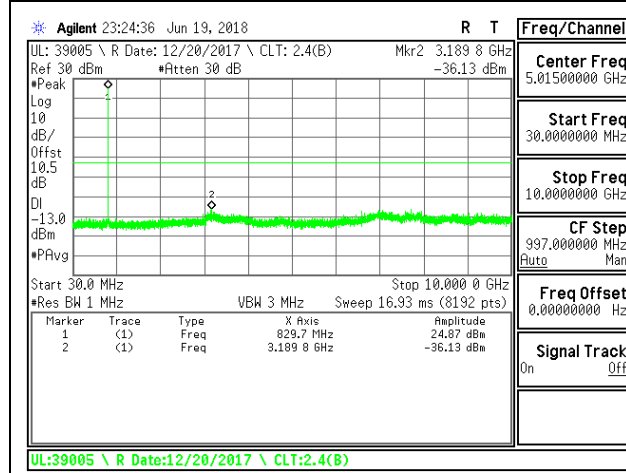
LTE B26 5MHz QPSK Mid Channel RB1-0



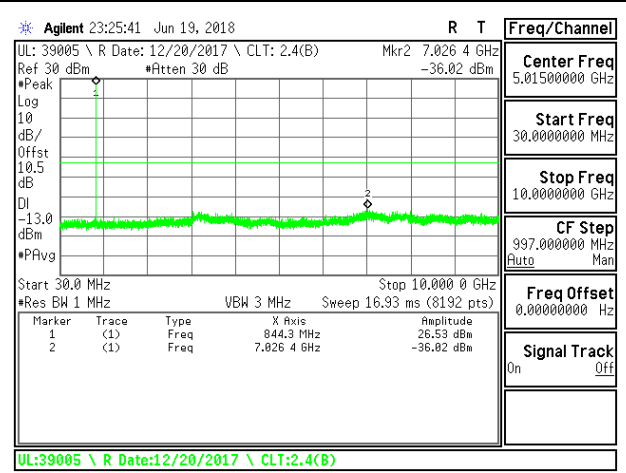
LTE B26 5MHz QPSK High Channel RB1-0



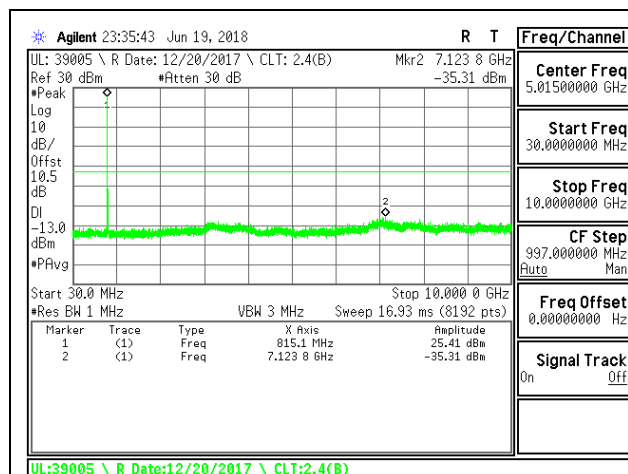
LTE B26 5MHz 16QAM Low Channel RB1-0



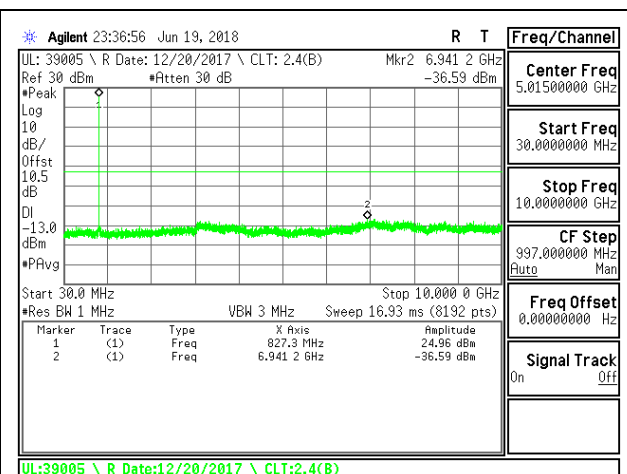
LTE B26 5MHz 16QAM Mid Channel RB1-0



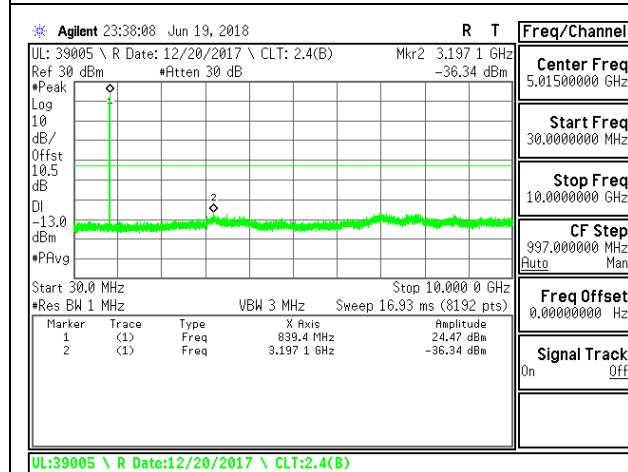
LTE B26 5MHz 16QAM High Channel RB1-0



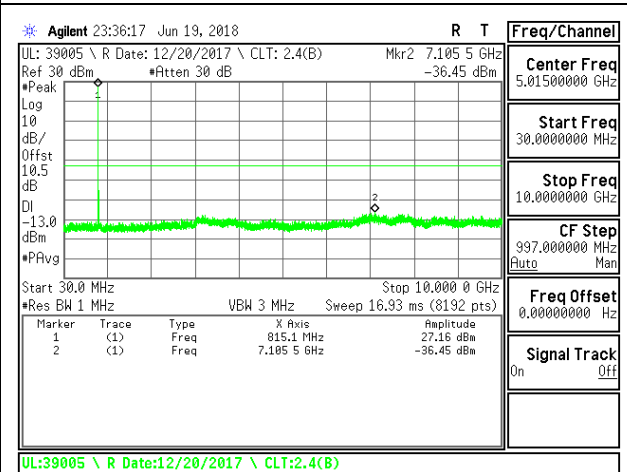
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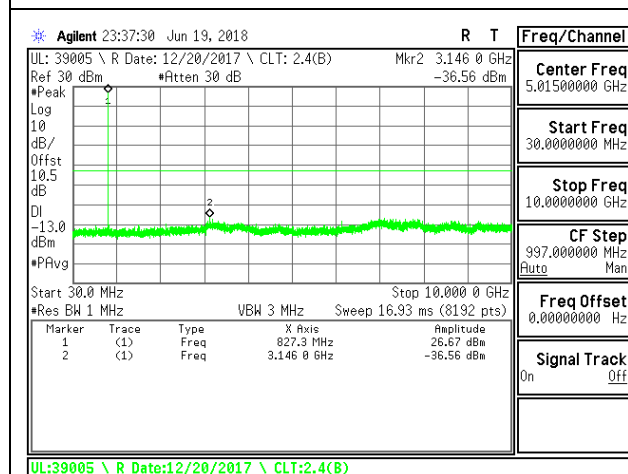
LTE B26 10MHz QPSK Mid Channel RB1-0



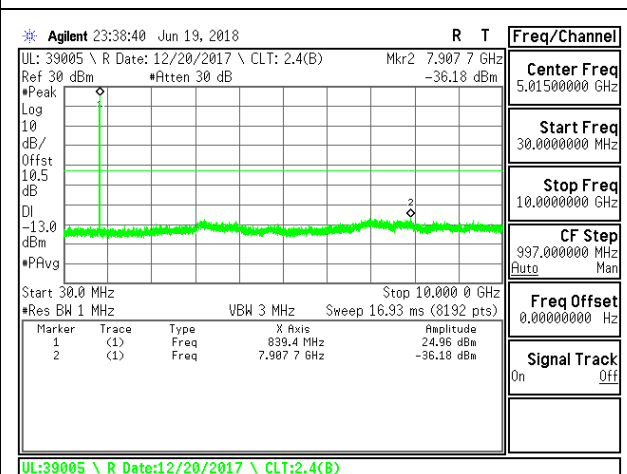
LTE B26 10MHz QPSK High Channel RB1-0



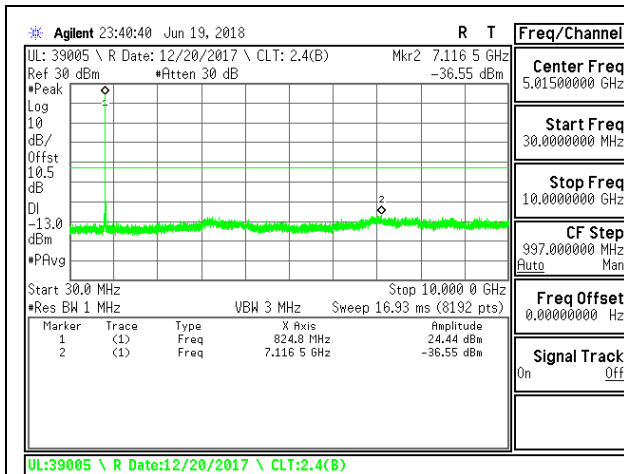
LTE B26 10MHz 16QAM Low Channel RB1-0



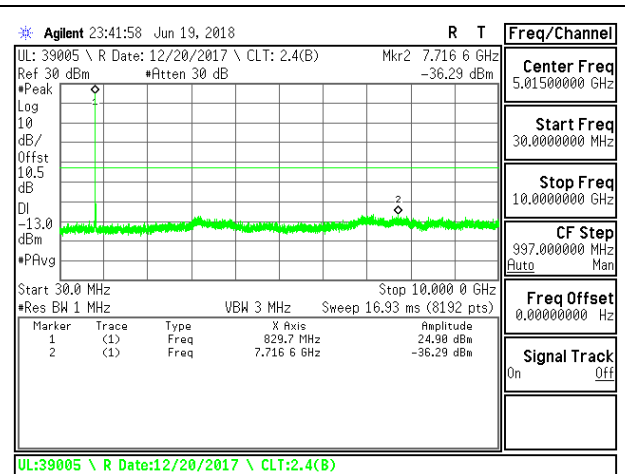
LTE B26 10MHz 16QAM Mid Channel RB1-0



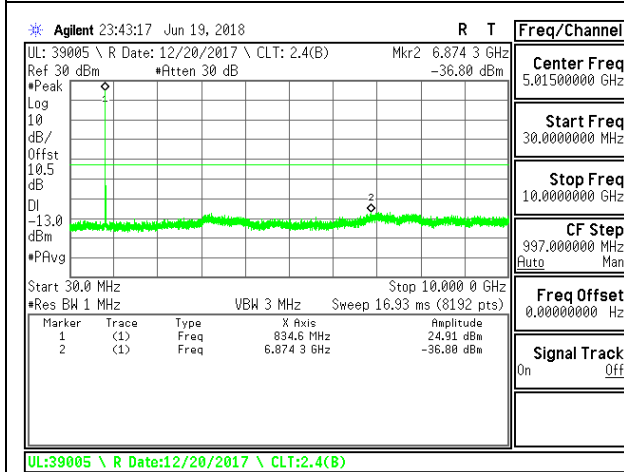
LTE B26 10MHz 16QAM High Channel RB1-0



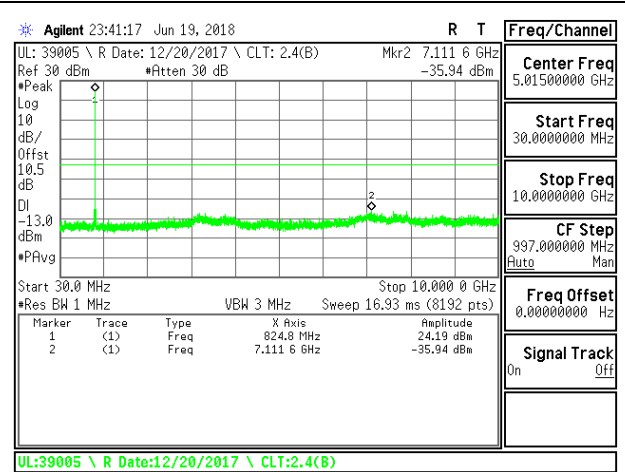
LTE B26 15MHz QPSK Low Channel RB1-0



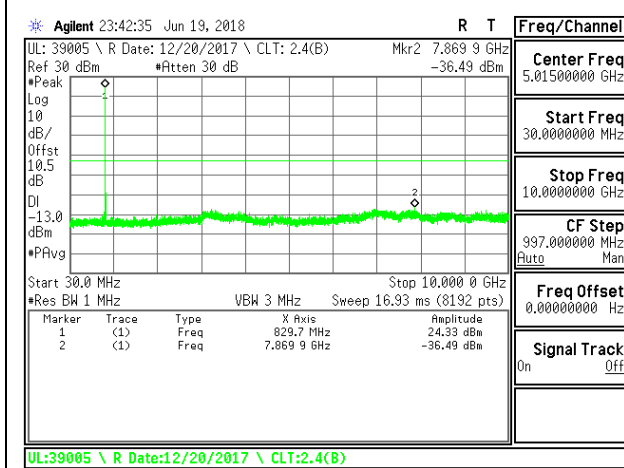
LTE B26 15MHz QPSK Mid Channel RB1-0



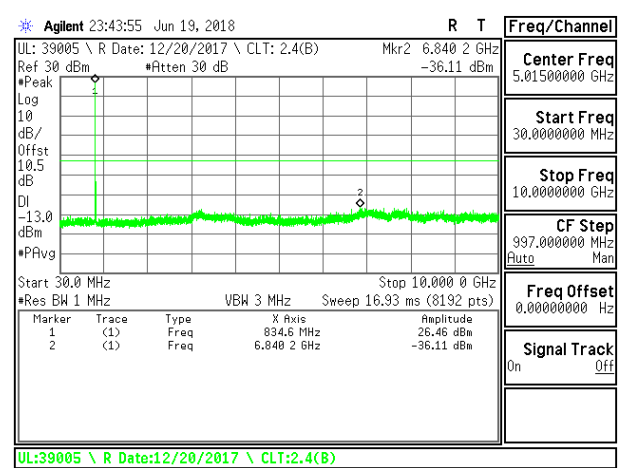
LTE B26 15MHz QPSK High Channel RB1-0



LTE B26 15MHz 16QAM Low Channel RB1-0

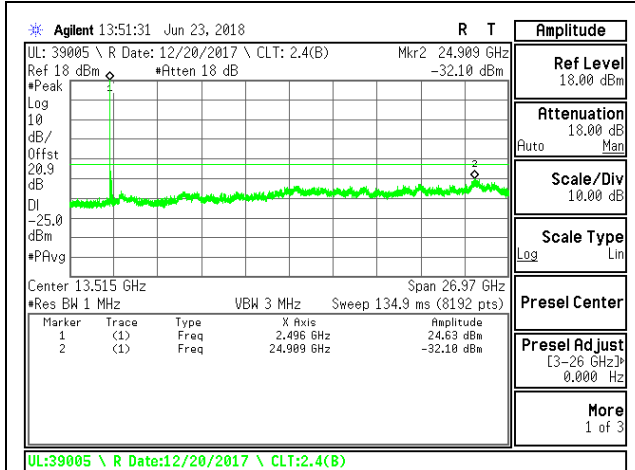


LTE B26 15MHz 16QAM Mid Channel RB1-0

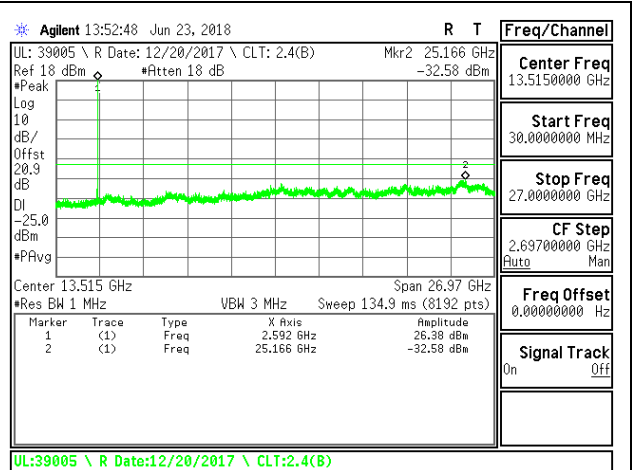


LTE B26 15MHz 16QAM High Channel RB1-0

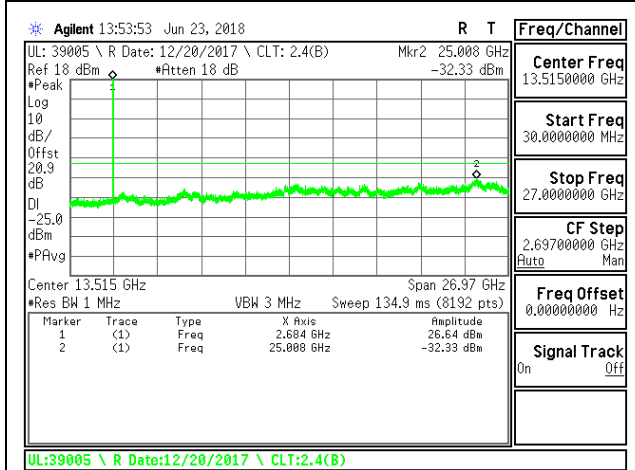
8.3.12. LTE BAND 41



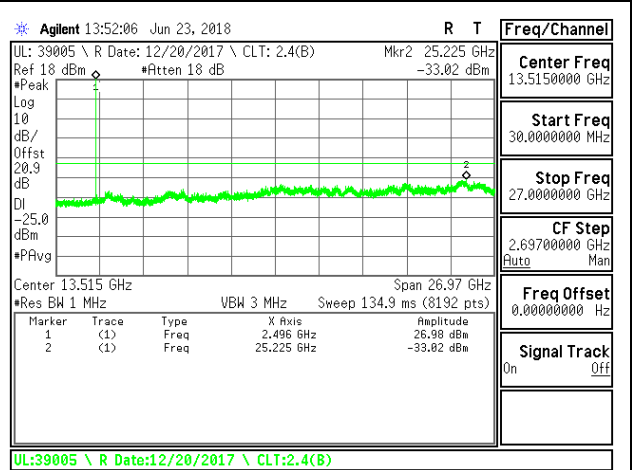
LTE B41 5MHz QPSK Low Channel RB1-0



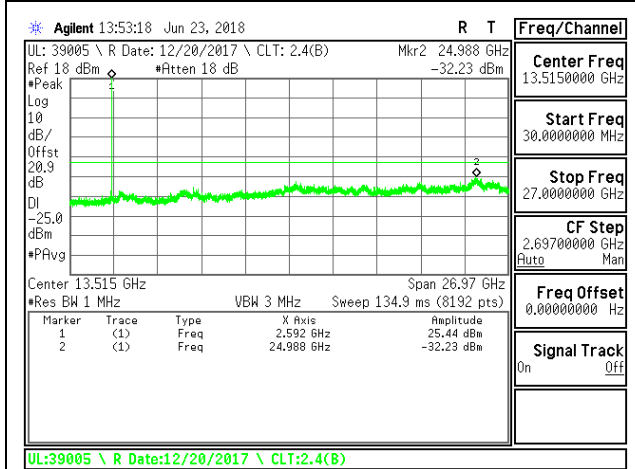
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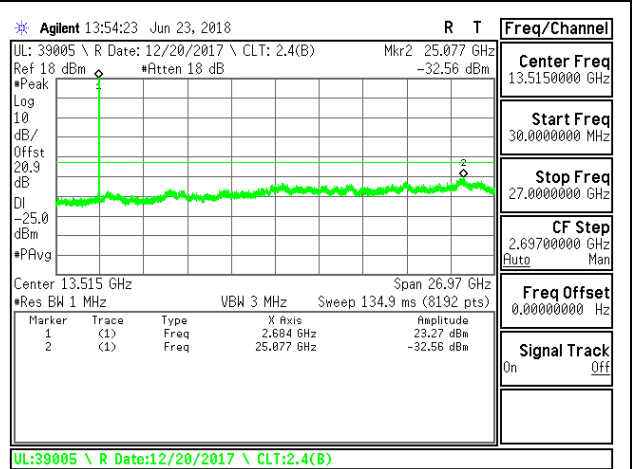
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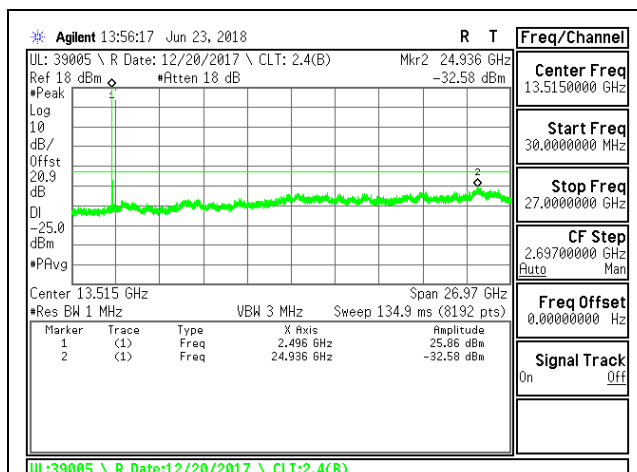
LTE B41 5MHz 16QAM Low Channel RB1-0



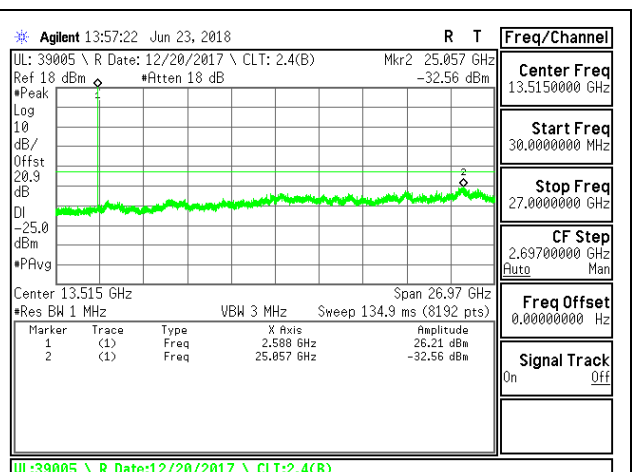
LTE B41 5MHz 16QAM Mid Channel RB1-0



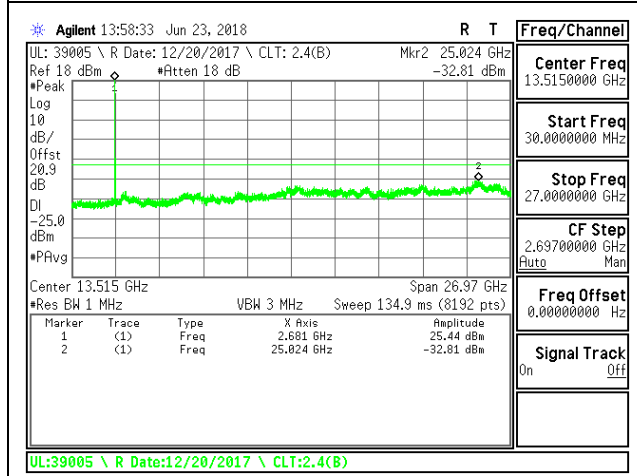
LTE B41 5MHz 16QAM High Channel RB1-0



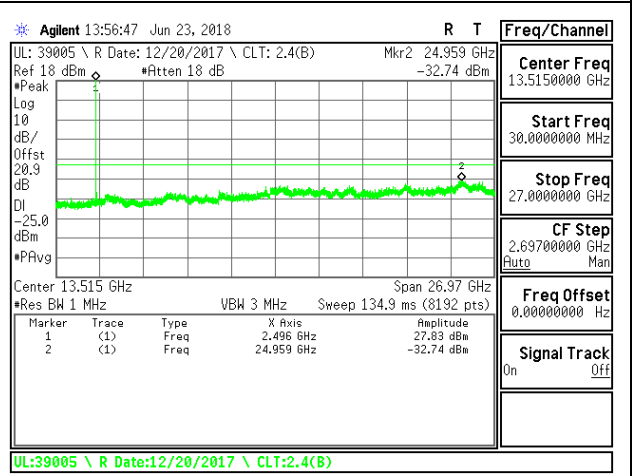
LTE B41 10MHz QPSK Low Channel RB1-0



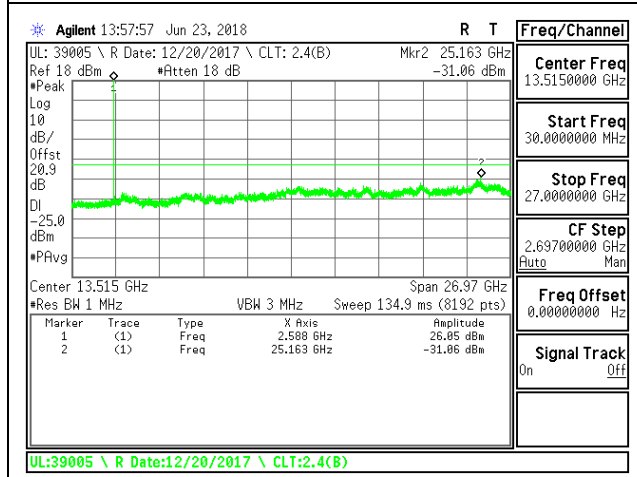
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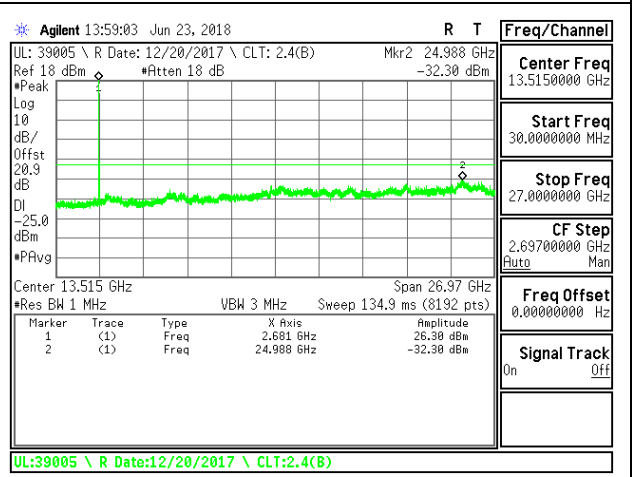
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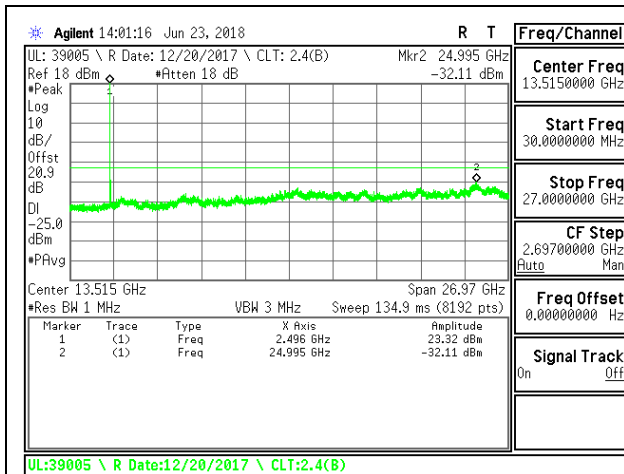
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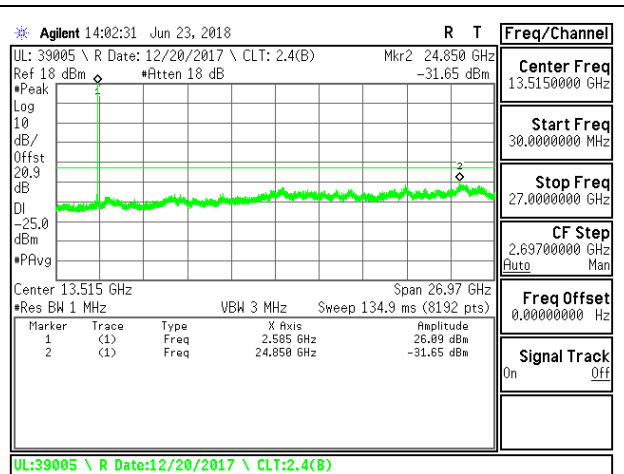
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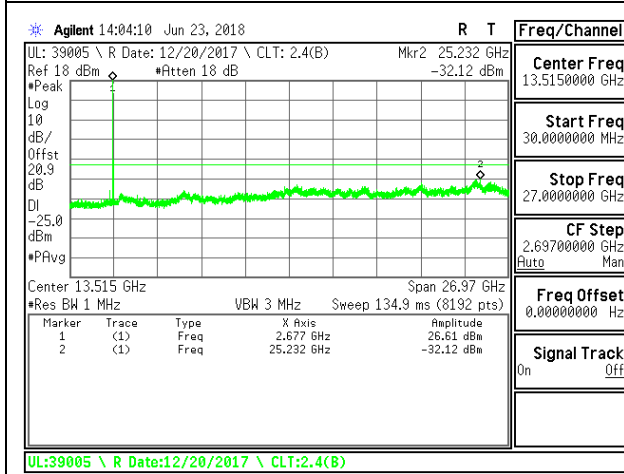
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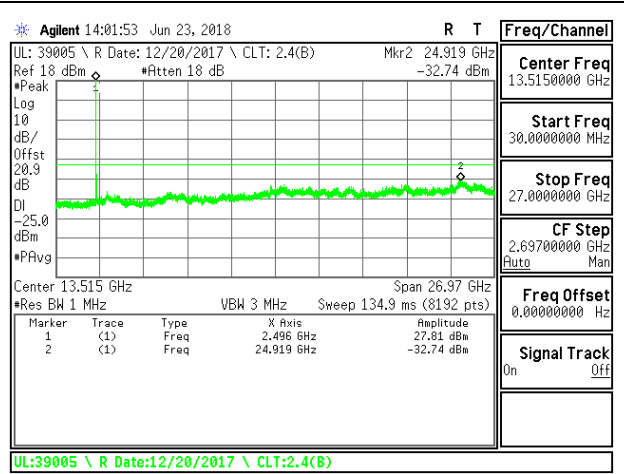
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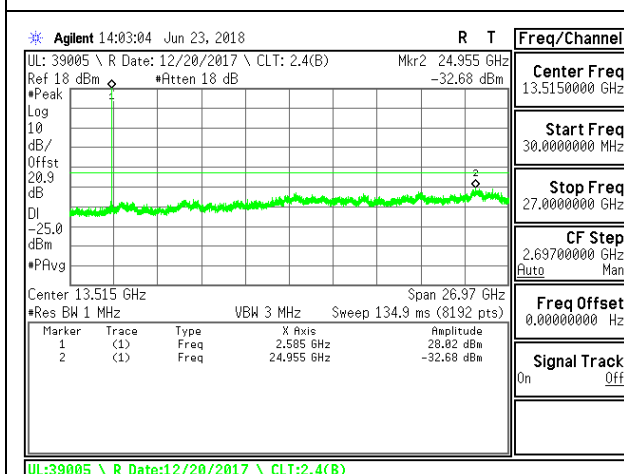
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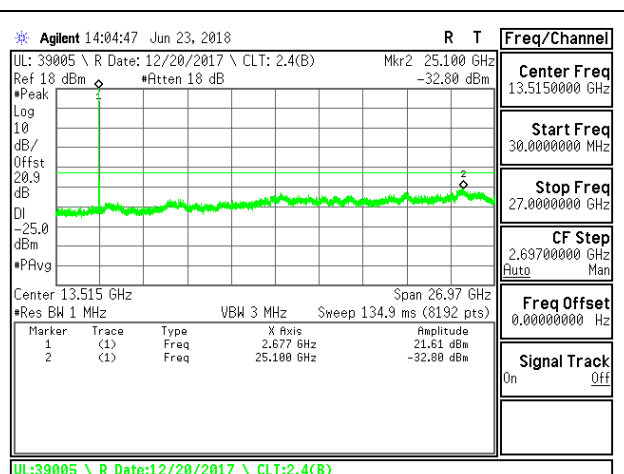
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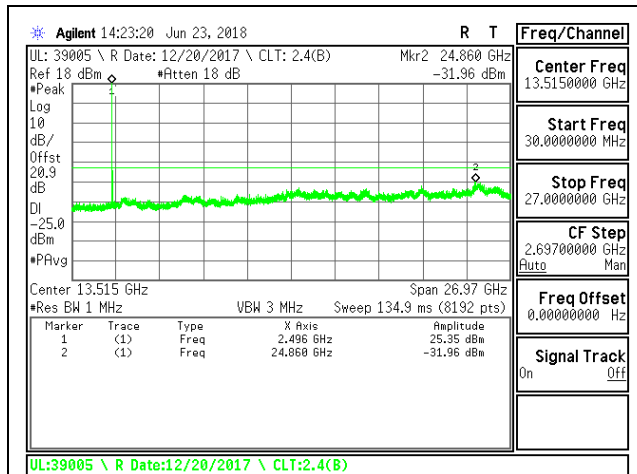
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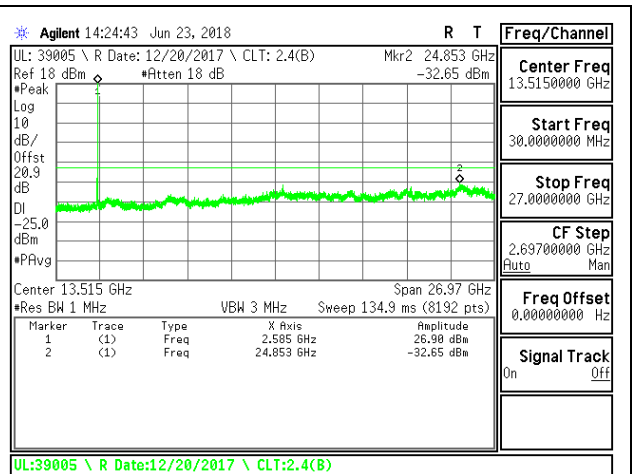
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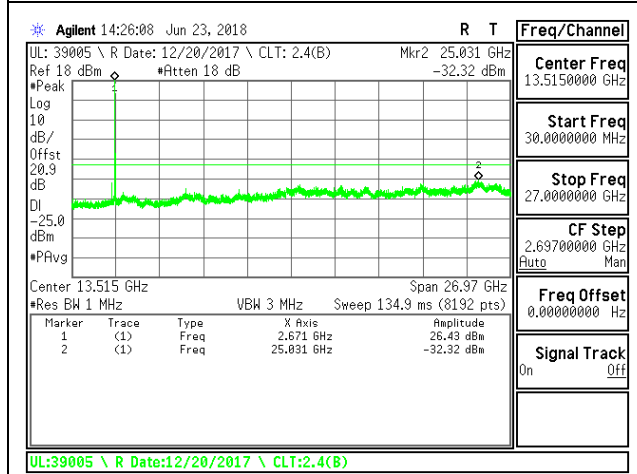
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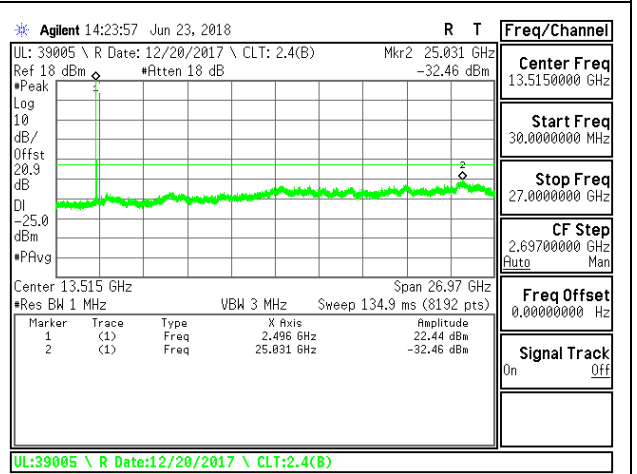
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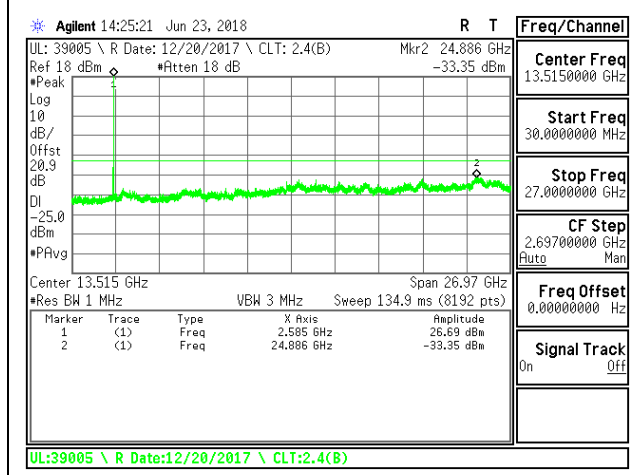
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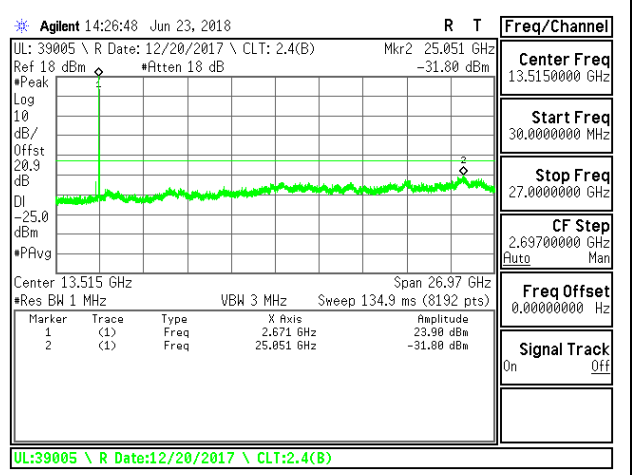
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LTE B41 20MHz 16QAM Low Channel RB1-0

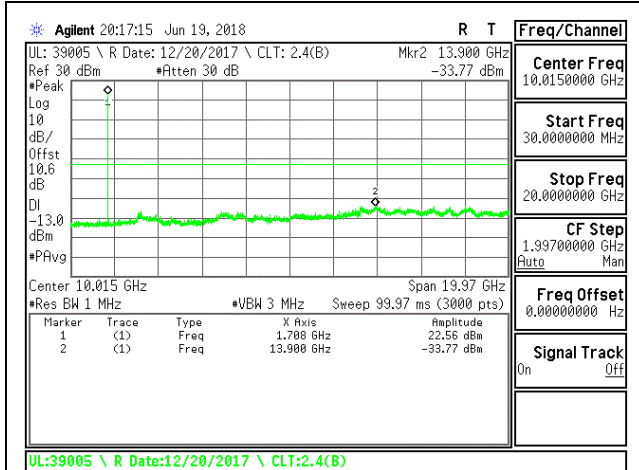


LTE B41 20MHz 16QAM Mid Channel RB1-0

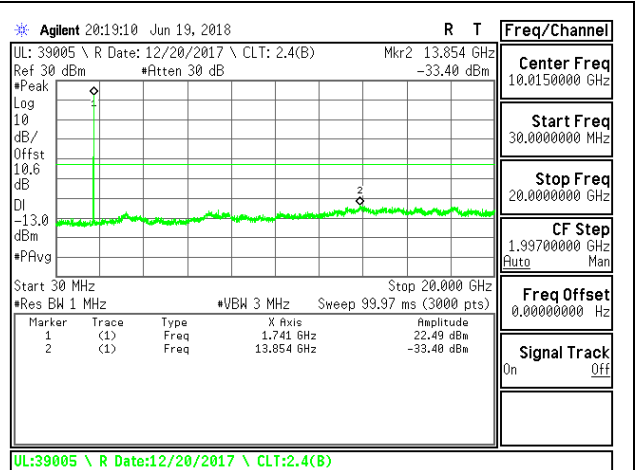


LTE B41 20MHz 16QAM High Channel RB1-0

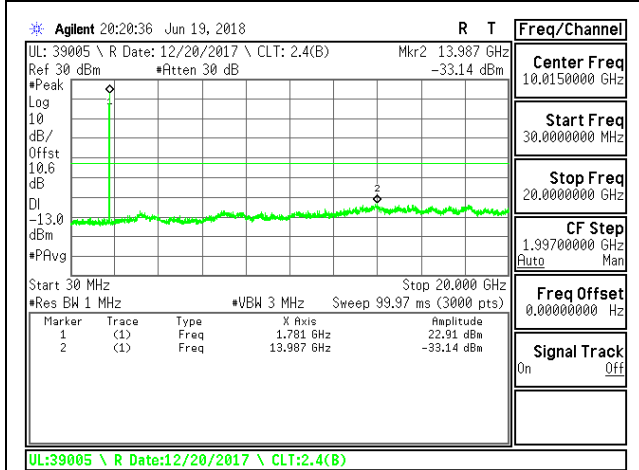
8.3.13. LTE BAND 66



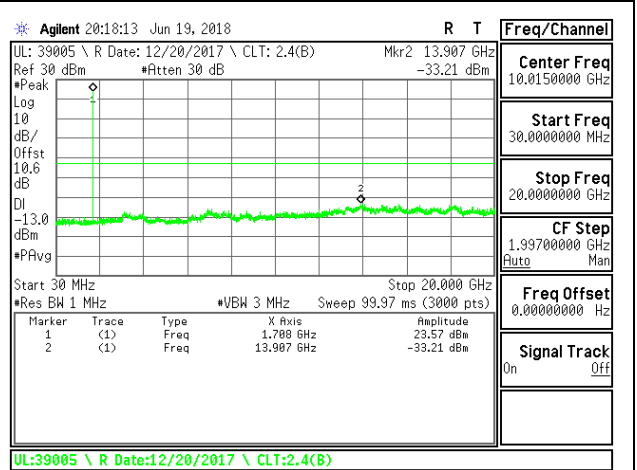
LTE B66 1.4MHz QPSK Low Channel RB1-0



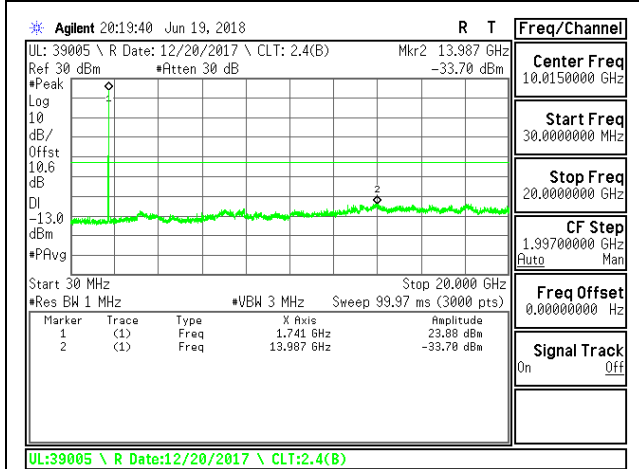
LTE B66 1.4MHz QPSK Mid Channel RB1-0



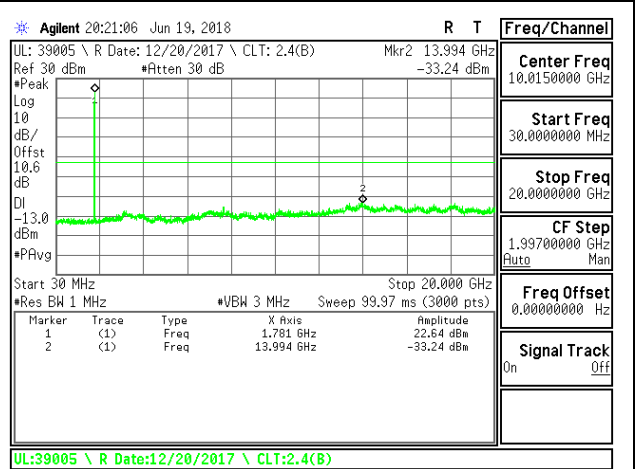
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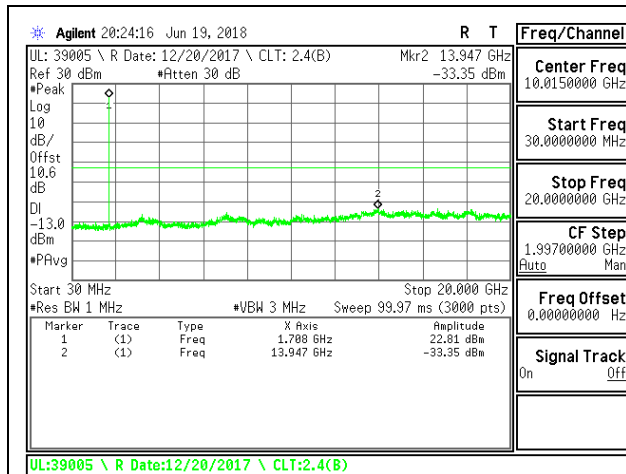
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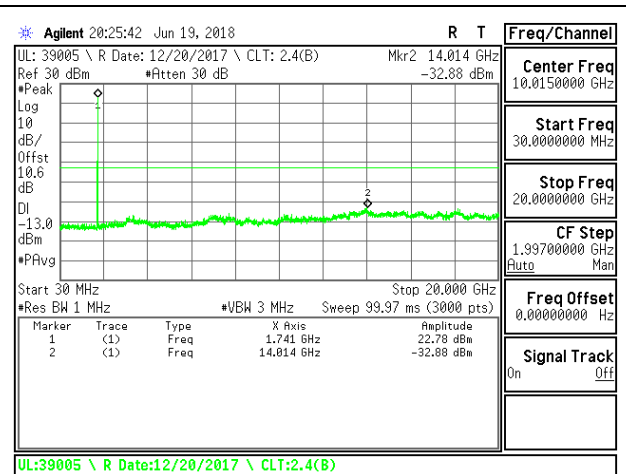
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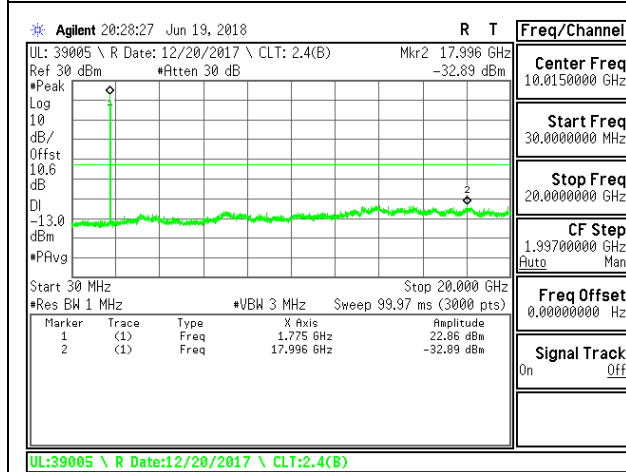
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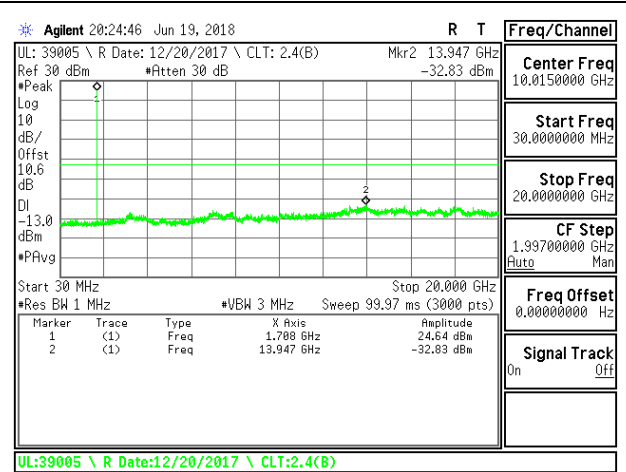
LTE B66 3MHz QPSK Low Channel RB1-0



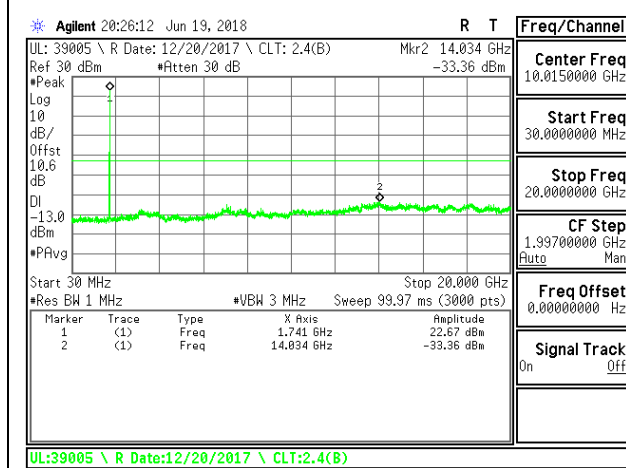
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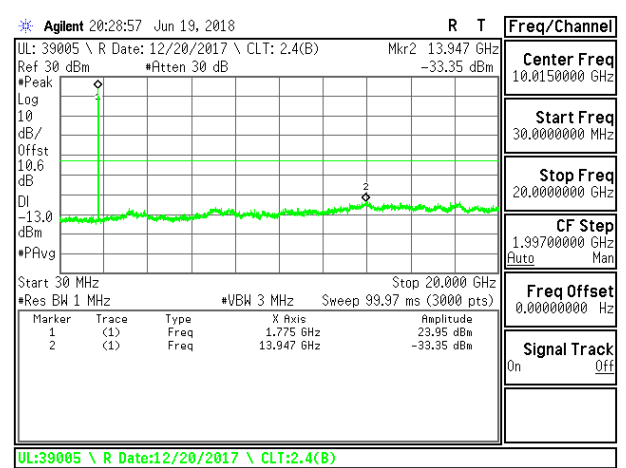
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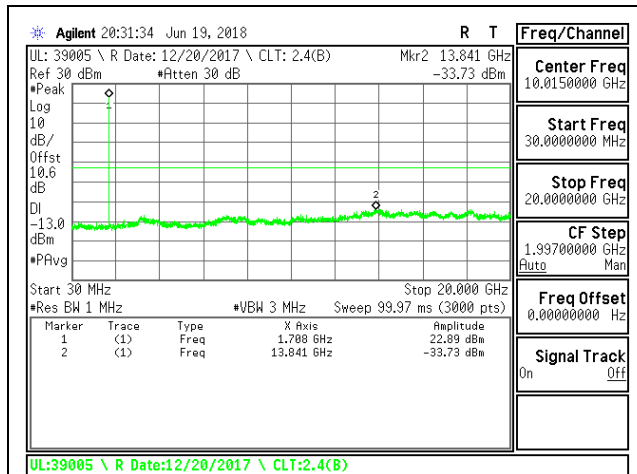
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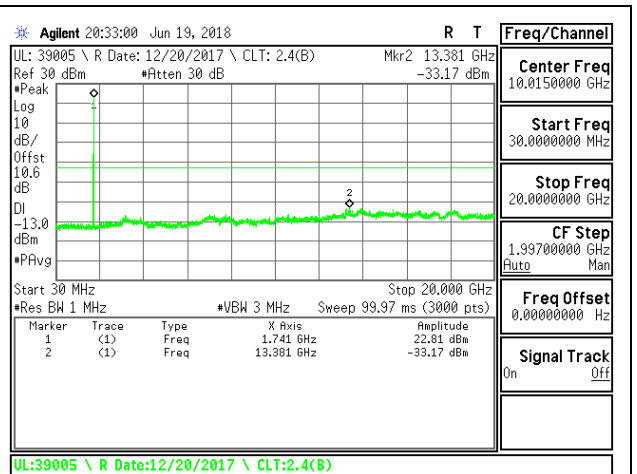
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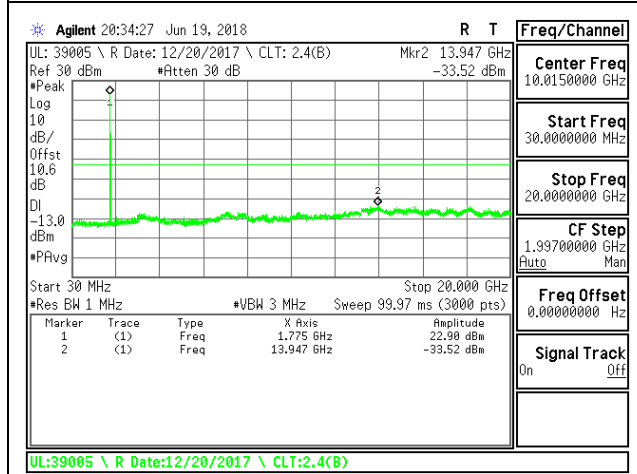
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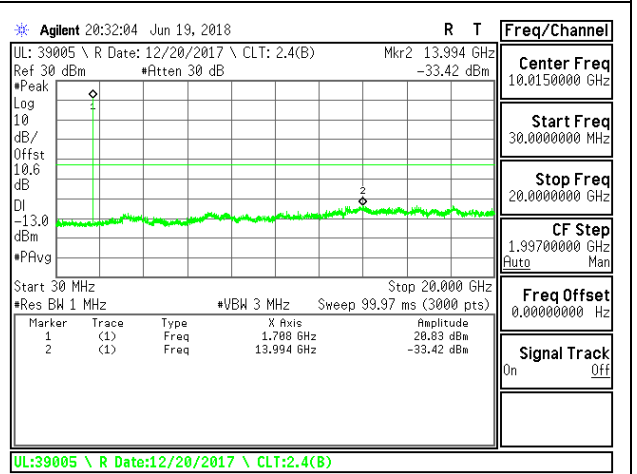
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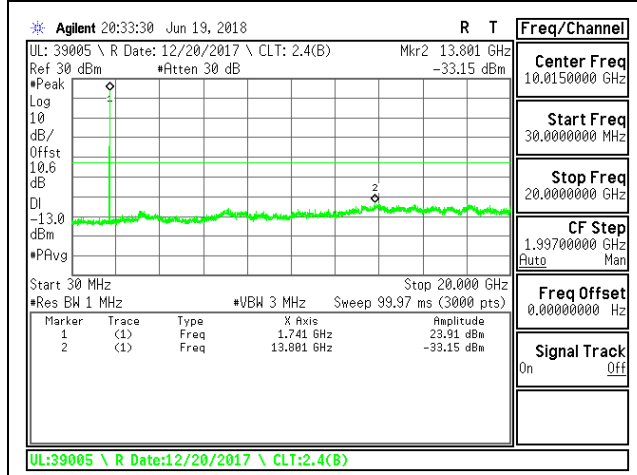
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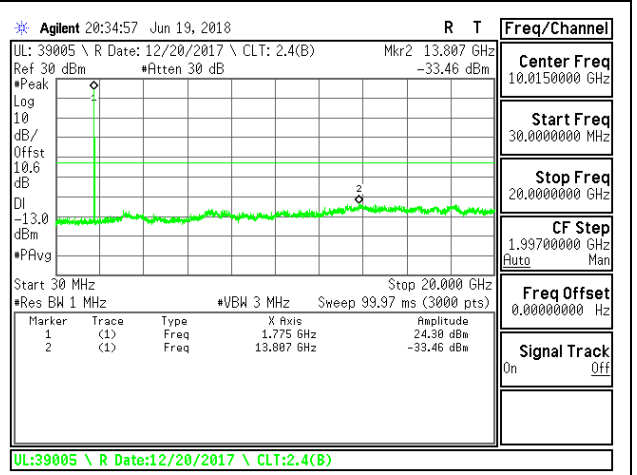
LTE B66 5MHz QPSK High Channel RB1-0



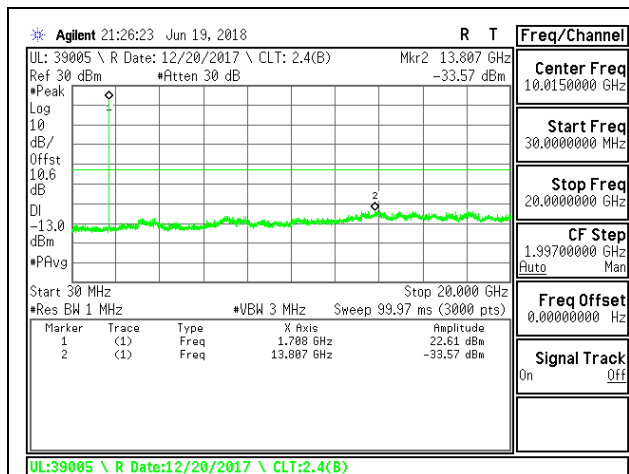
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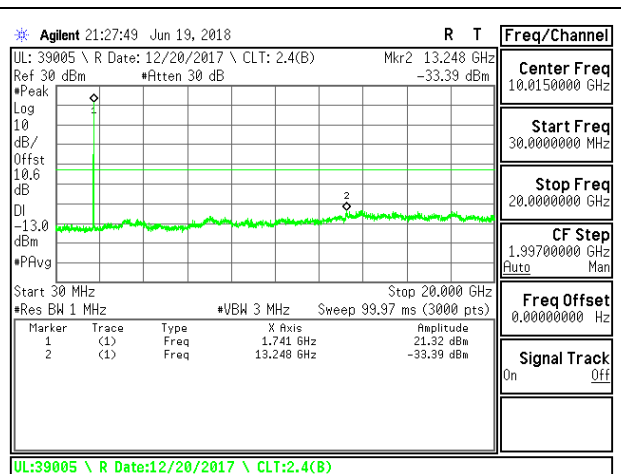
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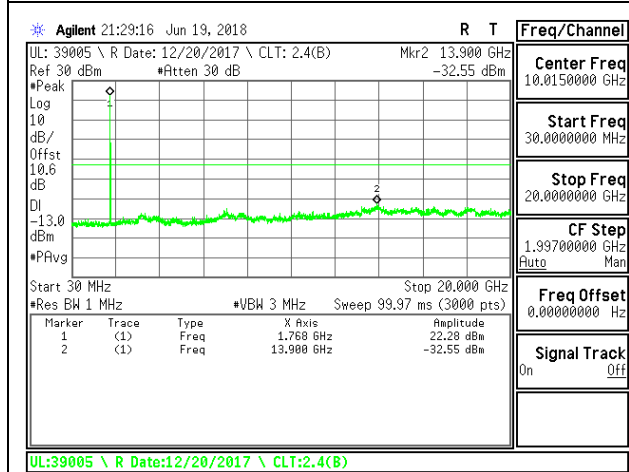
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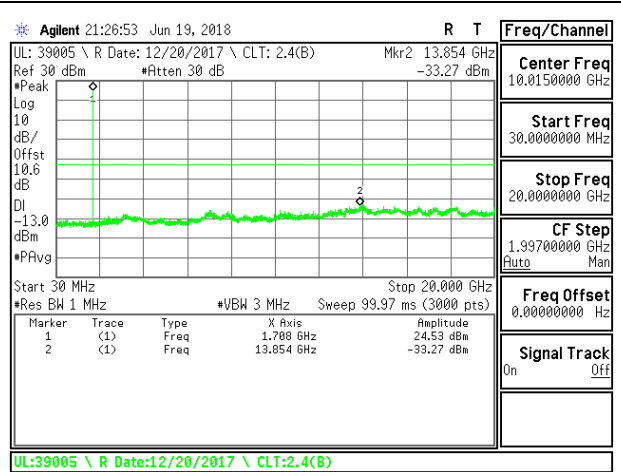
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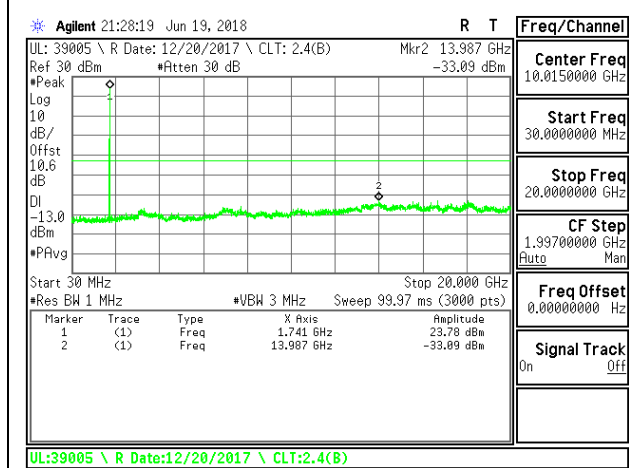
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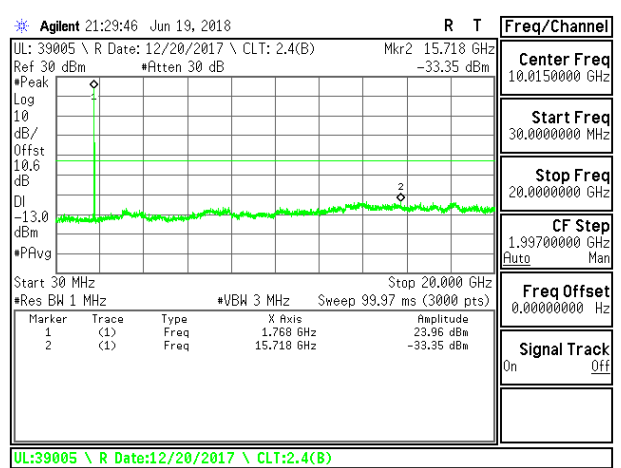
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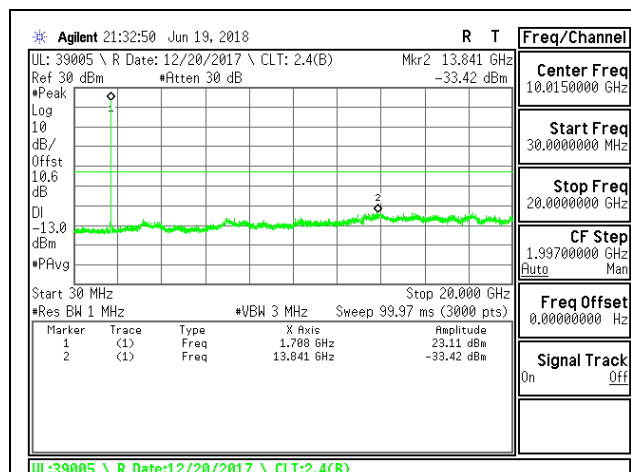
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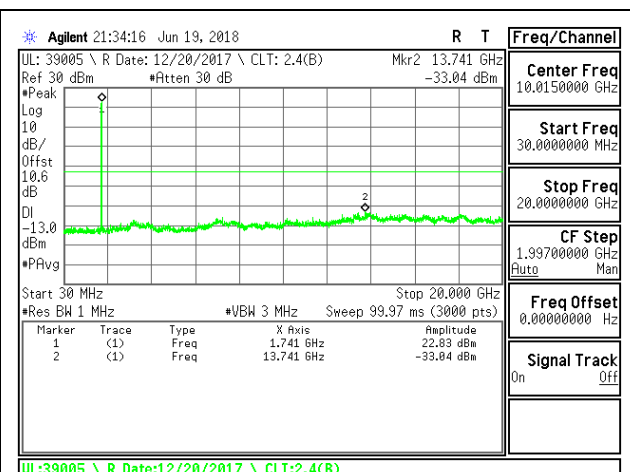
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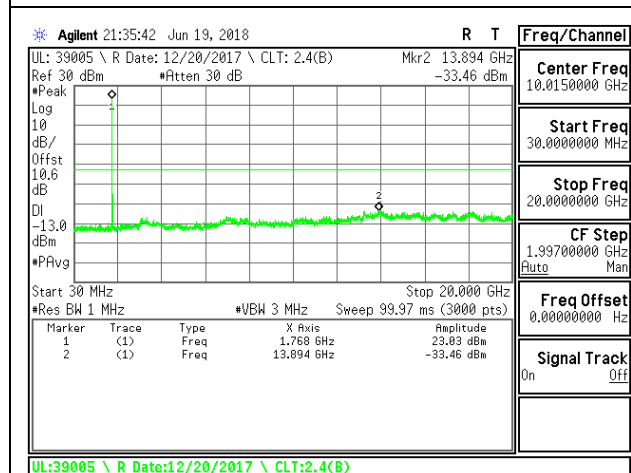
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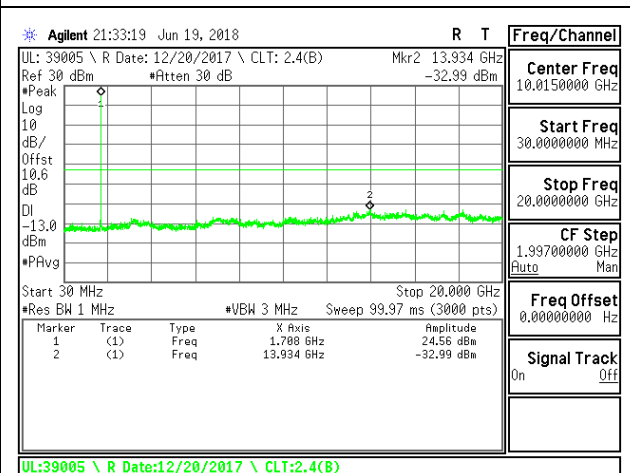
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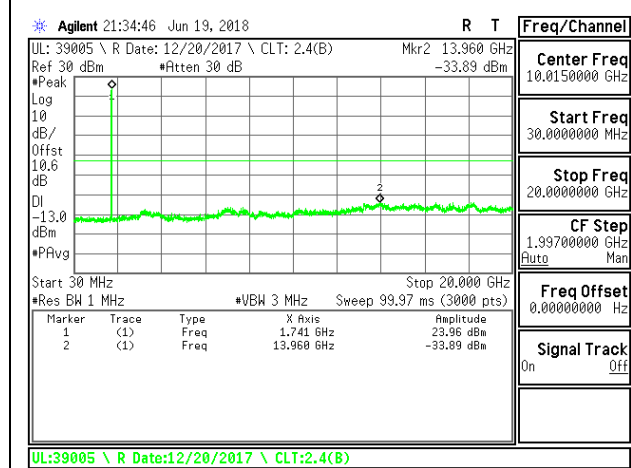
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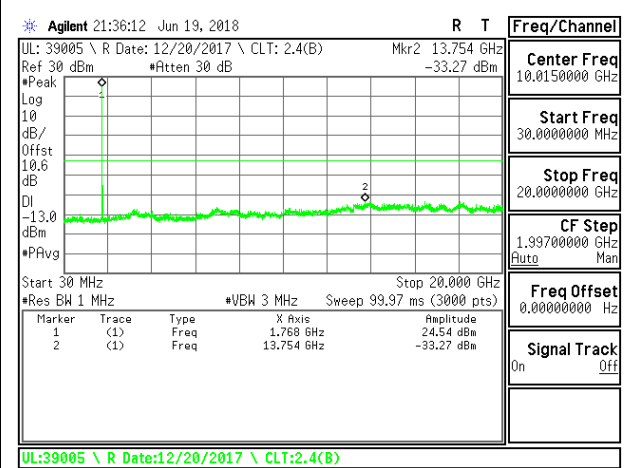
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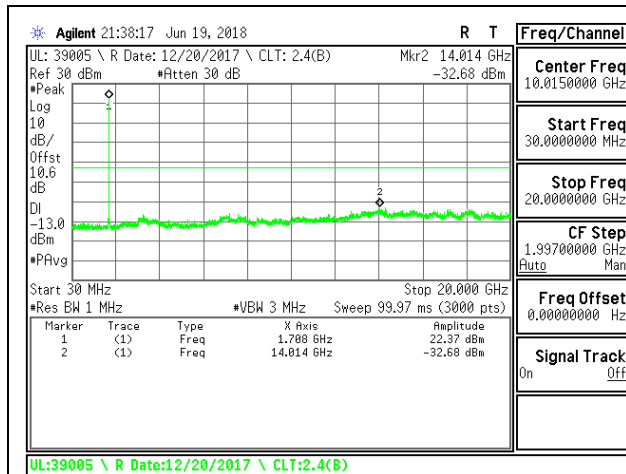
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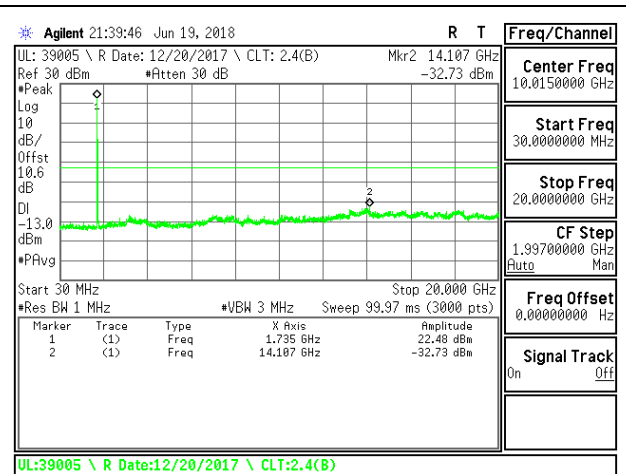
LTE B66 15MHz 16QAM Mid Channel RB1-0



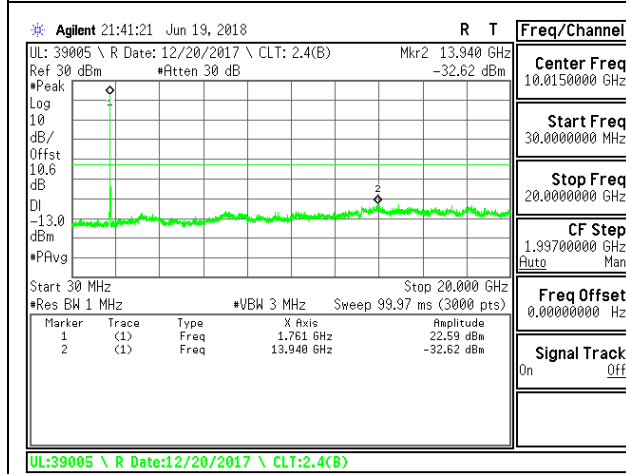
LTE B66 15MHz 16QAM High Channel RB1-0



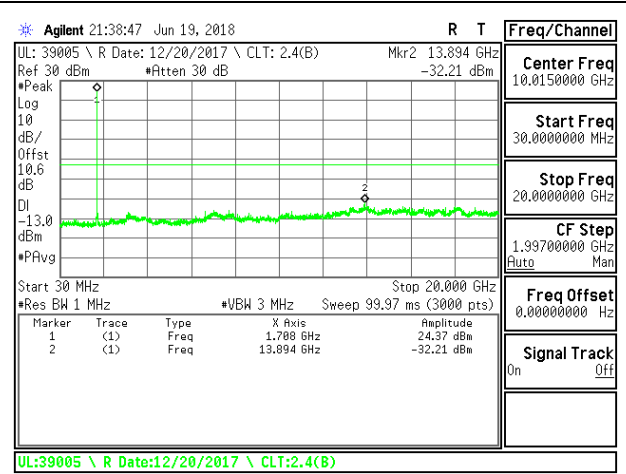
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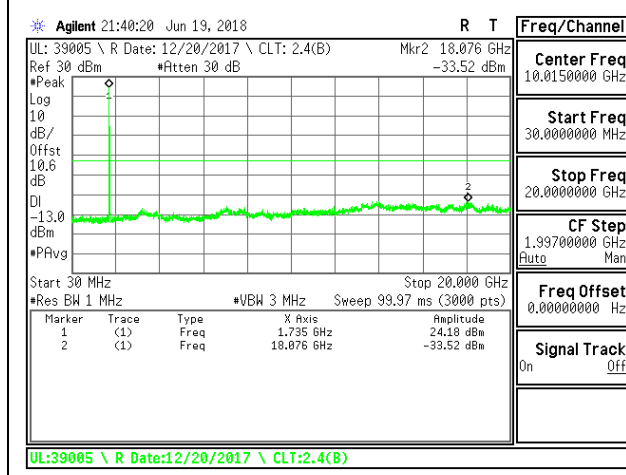
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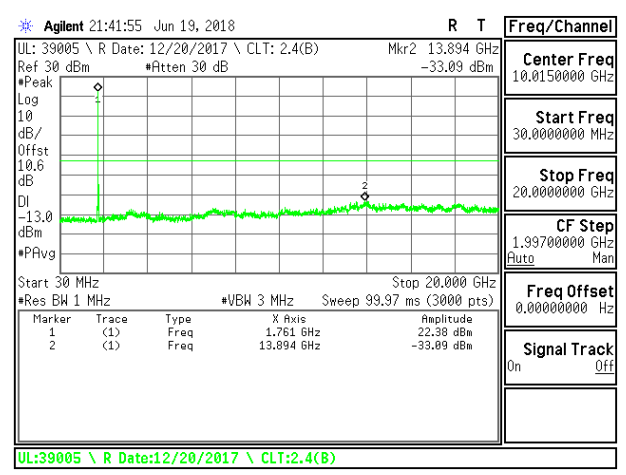
LTE B66 20MHz QPSK High Channel RB1-0



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, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
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
- WCDM Band 2
- WCDM Band 4
- WCDM Band 5
- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 26
- LTE Band 41
- LTE Band 66

RESULTS

8.4.1. GSM 850MHz

ID:	39005	Date:	6/28/18
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Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.0261	848.9733		
Extreme (50C)		824.0261	848.9733	22.4	0.03
Extreme (40C)		824.0261	848.9733	22.0	0.03
Extreme (30C)		824.0261	848.9733	20.2	0.02
Extreme (10C)		824.0261	848.9733	21.0	0.03
Extreme (0C)		824.0261	848.9733	19.9	0.02
Extreme (-10C)		824.0261	848.9733	23.2	0.03
Extreme (-20C)		824.0261	848.9733	24.4	0.03
Extreme (-30C)		824.0261	848.9733	25.5	0.03
20C		15%	824.0261	848.9733	22.6
	-15%	824.0261	848.9733	23.2	0.03
	End Point	824.0261	848.9733	21.8	0.03

8.4.2. GSM 1900MHz

ID:	39005	Date:	6/28/18
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Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.0261	1909.9725		
Extreme (50C)		1850.0261	1909.9726	25.0	0.01
Extreme (40C)		1850.0261	1909.9726	24.3	0.01
Extreme (30C)		1850.0261	1909.9726	24.3	0.01
Extreme (10C)		1850.0261	1909.9726	25.2	0.01
Extreme (0C)		1850.0261	1909.9726	23.6	0.01
Extreme (-10C)		1850.0261	1909.9726	27.3	0.01
Extreme (-20C)		1850.0261	1909.9726	26.2	0.01
Extreme (-30C)		1850.0261	1909.9726	29.3	0.02
20C		15%	1850.0261	1909.9726	24.9
	-15%	1850.0261	1909.9726	25.1	0.01
	End Point	1850.0261	1909.9726	24.8	0.01

8.4.3. WCDMA BAND 5

ID:	39005	Date:	6/28/18
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Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.1330	848.8580		
Extreme (50C)		824.1330	848.8580	11.3	0.01
Extreme (40C)		824.1330	848.8580	11.5	0.01
Extreme (30C)		824.1330	848.8580	10.5	0.01
Extreme (10C)		824.1330	848.8580	9.9	0.01
Extreme (0C)		824.1330	848.8580	9.6	0.01
Extreme (-10C)		824.1330	848.8580	11.0	0.01
Extreme (-20C)		824.1330	848.8580	11.3	0.01
Extreme (-30C)		824.1330	848.8580	11.2	0.01
20C		15%	824.1330	848.8580	10.8
	-15%	824.1330	848.8580	11.2	0.01
	End Point	824.1330	848.8580	12.5	0.01

8.4.4. WCDMA BAND 2

ID:	39005	Date:	6/28/18
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Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.1592	1909.8283		
Extreme (50C)		1850.1592	1909.8283	10.5	0.01
Extreme (40C)		1850.1592	1909.8283	9.6	0.01
Extreme (30C)		1850.1592	1909.8283	10.2	0.01
Extreme (10C)		1850.1592	1909.8283	12.5	0.01
Extreme (0C)		1850.1592	1909.8283	15.3	0.01
Extreme (-10C)		1850.1592	1909.8283	16.4	0.01
Extreme (-20C)		1850.1592	1909.8283	16.7	0.01
Extreme (-30C)		1850.1592	1909.8283	16.2	0.01
20C		15%	1850.1592	1909.8283	15.8
	-15%	1850.1592	1909.8283	13.5	0.01
	End Point	1850.1592	1909.8283	13.9	0.01

8.4.5. WCDMA BAND 4

ID:	39005	Date:	6/28/18
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Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.1667	1754.8366		
Extreme (50C)		1710.1667	1754.8366	10.2	0.01
Extreme (40C)		1710.1667	1754.8366	10.0	0.01
Extreme (30C)		1710.1667	1754.8366	9.9	0.01
Extreme (10C)		1710.1667	1754.8366	9.6	0.01
Extreme (0C)		1710.1667	1754.8366	9.8	0.01
Extreme (-10C)		1710.1667	1754.8366	9.3	0.01
Extreme (-20C)		1710.1667	1754.8366	8.5	0.00
Extreme (-30C)		1710.1667	1754.8366	10.2	0.01
20C	15%	1710.1667	1754.8366	10.5	0.01
	-15%	1710.1667	1754.8366	11.1	0.01
	End Point	1710.1667	1754.8366	12.4	0.01

8.4.6. LTE BAND 2

ID:	39005	Date:	6/26/18
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Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.7000	1909.1500		
Extreme (50C)		1850.7000	1909.1500	10.0	0.005
Extreme (40C)		1850.7000	1909.1500	9.6	0.005
Extreme (30C)		1850.7000	1909.1500	9.9	0.005
Extreme (10C)		1850.7000	1909.1500	10.4	0.006
Extreme (0C)		1850.7000	1909.1500	9.0	0.005
Extreme (-10C)		1850.7000	1909.1500	8.8	0.005
Extreme (-20C)		1850.7000	1909.1500	9.3	0.005
Extreme (-30C)		1850.7000	1909.1500	9.0	0.005
20C	15%	1850.7000	1909.1500	10.3	0.005
	-15%	1850.7000	1909.1500	9.9	0.005
	End Point	1850.7000	1909.1500	8.6	0.005

8.4.7. LTE BAND 5

ID:	39005	Date:	6/26/18
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Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.4120	848.5810		
Extreme (50C)		824.4120	848.5810	-7.9	-0.009
Extreme (40C)		824.4120	848.5810	-7.3	-0.009
Extreme (30C)		824.4120	848.5810	-7.3	-0.009
Extreme (10C)		824.4120	848.5810	-8.3	-0.010
Extreme (0C)		824.4120	848.5810	-8.2	-0.010
Extreme (-10C)		824.4120	848.5810	-6.3	-0.007
Extreme (-20C)		824.4120	848.5810	-6.8	-0.008
Extreme (-30C)		824.4120	848.5810	-8.0	-0.010
20C	15%	824.4120	848.5810	-7.6	-0.009
	-15%	824.4120	848.5810	-6.8	-0.008
	End Point	824.4120	848.5810	-8.1	-0.010

8.4.8. LTE BAND 7

ID:	39005	Date:	6/27/18
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Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2500.8700	2569.1500		
Extreme (50C)		2500.8700	2569.1500	10.3	0.004
Extreme (40C)		2500.8700	2569.1500	10.9	0.004
Extreme (30C)		2500.8700	2569.1500	12.6	0.005
Extreme (10C)		2500.8700	2569.1500	11.6	0.005
Extreme (0C)		2500.8700	2569.1500	10.6	0.004
Extreme (-10C)		2500.8700	2569.1500	11.5	0.005
Extreme (-20C)		2500.8700	2569.1500	10.3	0.004
Extreme (-30C)		2500.8700	2569.1500	10.1	0.004
20C	15%	2500.8700	2569.1500	11.3	0.004
	-15%	2500.8700	2569.1500	12.1	0.005
	End Point	2500.8700	2569.1500	10.9	0.004

8.4.9. LTE BAND 12

ID:	39005	Date:	6/26/18
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Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	699.4120	715.5810		
Extreme (50C)		699.4120	715.5810	-2.1	0.00
Extreme (40C)		699.4120	715.5810	-2.0	0.00
Extreme (30C)		699.4120	715.5810	1.9	0.00
Extreme (10C)		699.4120	715.5810	-3.3	0.00
Extreme (0C)		699.4120	715.5810	-1.6	0.00
Extreme (-10C)		699.4120	715.5810	-3.5	0.00
Extreme (-20C)		699.4120	715.5810	-2.9	0.00
Extreme (-30C)		699.4120	715.5810	-2.5	0.00
20C		15%	699.4120	715.5810	-3.0
	-15%	699.4120	715.5810	-2.7	0.00
	End Point	699.4120	715.5810	-2.1	0.00

8.4.10. LTE BAND 13

ID:	39005	Date:	6/26/18
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Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	777.1510	786.8510		
Extreme (50C)		777.1510	786.8510	-3.9	-0.005
Extreme (40C)		777.1510	786.8510	-3.4	-0.004
Extreme (30C)		777.1510	786.8510	-3.5	-0.004
Extreme (10C)		777.1510	786.8510	-2.6	-0.003
Extreme (0C)		777.1510	786.8510	-3.0	-0.004
Extreme (-10C)		777.1510	786.8510	-3.0	-0.004
Extreme (-20C)		777.1510	786.8510	-3.2	-0.004
Extreme (-30C)		777.1510	786.8510	2.3	0.003
20C		15%	777.1510	786.8510	1.8
	-15%	777.1510	786.8510	2.0	0.003
	End Point	777.1510	786.8510	1.4	0.002

8.4.11. LTE BAND 26(FCC PART 90S)

ID:	39003	Date:	6/27/18
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Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	814.1530	823.8470		
Extreme (50C)		814.1530	823.8470	5.0	0.006
Extreme (40C)		814.1530	823.8470	5.2	0.006
Extreme (30C)		814.1530	823.8470	4.9	0.006
Extreme (10C)		814.1530	823.8470	4.5	0.005
Extreme (0C)		814.1530	823.8470	4.6	0.006
Extreme (-10C)		814.1530	823.8470	5.1	0.006
Extreme (-20C)		814.1530	823.8470	4.9	0.006
Extreme (-30C)		814.1530	823.8470	5.5	0.007
20C	15%	814.1530	823.8470	4.6	0.006
	-15%	814.1530	823.8470	5.3	0.006
	End Point	814.1530	823.8470	5.5	0.007

8.4.12. LTE BAND 26(FCC PART 22)

ID:	39003	Date:	6/27/18
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Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.6750	848.3170		
Extreme (50C)		824.6750	848.3170	-8.6	-0.010
Extreme (40C)		824.6750	848.3170	-7.6	-0.009
Extreme (30C)		824.6750	848.3170	-8.0	-0.010
Extreme (10C)		824.6750	848.3170	-7.6	-0.009
Extreme (0C)		824.6750	848.3170	-7.3	-0.009
Extreme (-10C)		824.6750	848.3170	-7.8	-0.009
Extreme (-20C)		824.6750	848.3170	-7.6	-0.009
Extreme (-30C)		824.6750	848.3170	-7.8	-0.009
20C	15%	824.6750	848.3170	-7.6	-0.009
	-15%	824.6750	848.3170	-8.0	-0.010
	End Point	824.6750	848.3170	-8.3	-0.010

8.4.13. LTE BAND 41

ID:	39005	Date:	6/27/18
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Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2496.7900	2689.2900		
Extreme (50C)		2496.7900	2689.2900	12.6	0.005
Extreme (40C)		2496.7900	2689.2900	10.3	0.004
Extreme (30C)		2496.7900	2689.2900	12.3	0.005
Extreme (10C)		2496.7900	2689.2900	13.9	0.005
Extreme (0C)		2496.7900	2689.2900	8.9	0.003
Extreme (-10C)		2496.7900	2689.2900	7.6	0.003
Extreme (-20C)		2496.7900	2689.2900	12.3	0.005
Extreme (-30C)		2496.7900	2689.2900	11.7	0.004
20C	15%	2496.7900	2689.2900	10.6	0.004
	-15%	2496.7900	2689.2900	11.4	0.004
	End Point	2496.7900	2689.2900	11.2	0.004

8.4.14. LTE BAND 66

ID:	39003	Date:	6/28/18
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Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.8600	1779.1400		
Extreme (50C)		1710.8600	1779.1400	5.3	0.003
Extreme (40C)		1710.8600	1779.1400	4.4	0.003
Extreme (30C)		1710.8600	1779.1400	5.3	0.003
Extreme (10C)		1710.8600	1779.1400	5.0	0.003
Extreme (0C)		1710.8600	1779.1400	6.0	0.003
Extreme (-10C)		1710.8600	1779.1400	5.0	0.003
Extreme (-20C)		1710.8600	1779.1400	5.4	0.003
Extreme (-30C)		1710.8600	1779.1400	4.3	0.002
20C	15%	1710.8600	1779.1400	4.9	0.003
	-15%	1710.8600	1779.1400	5.1	0.003
	End Point	1710.8600	1779.1400	6.0	0.003

8.5. PEAK TO AVERAGE RATIO

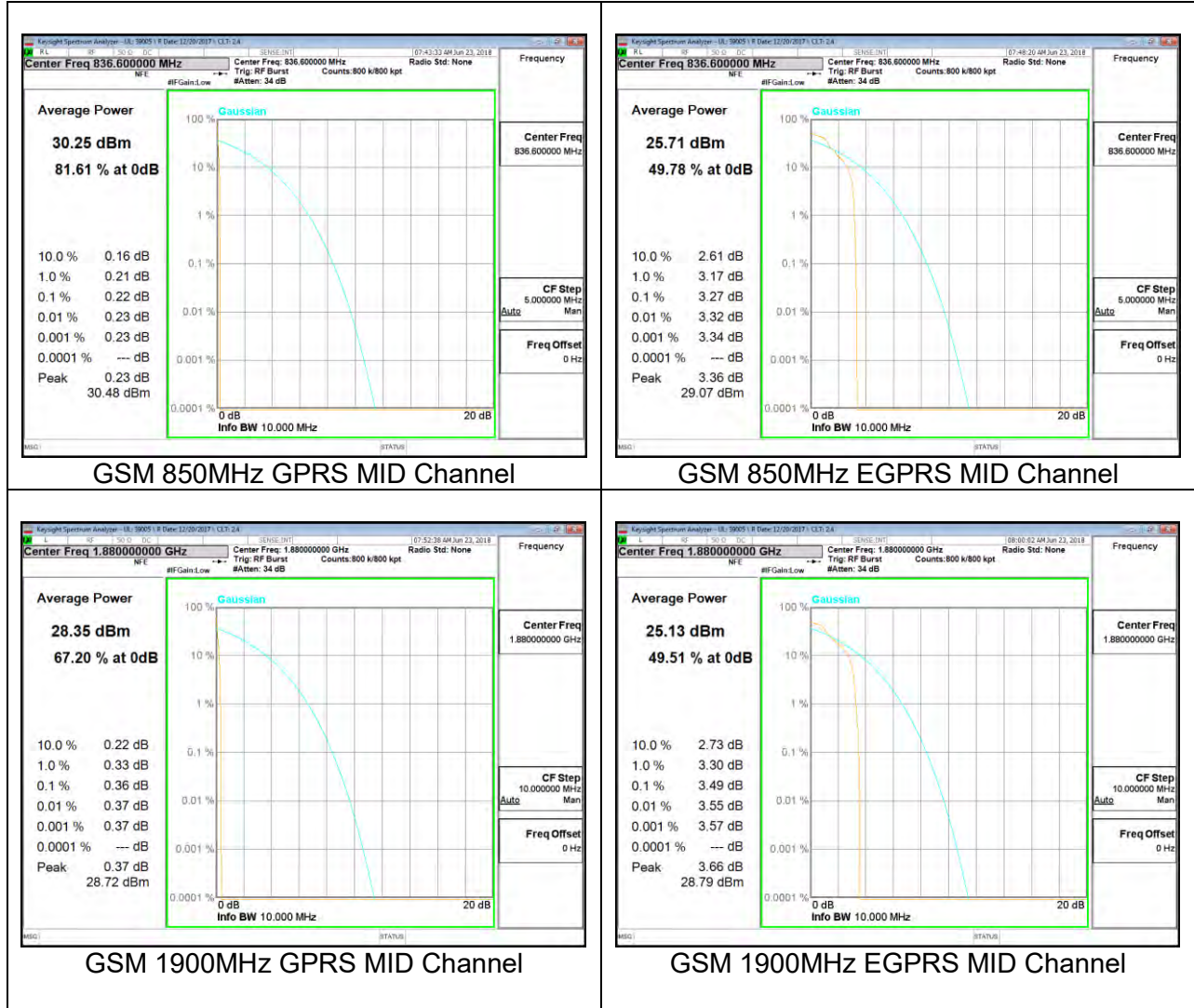
LIMIT

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.

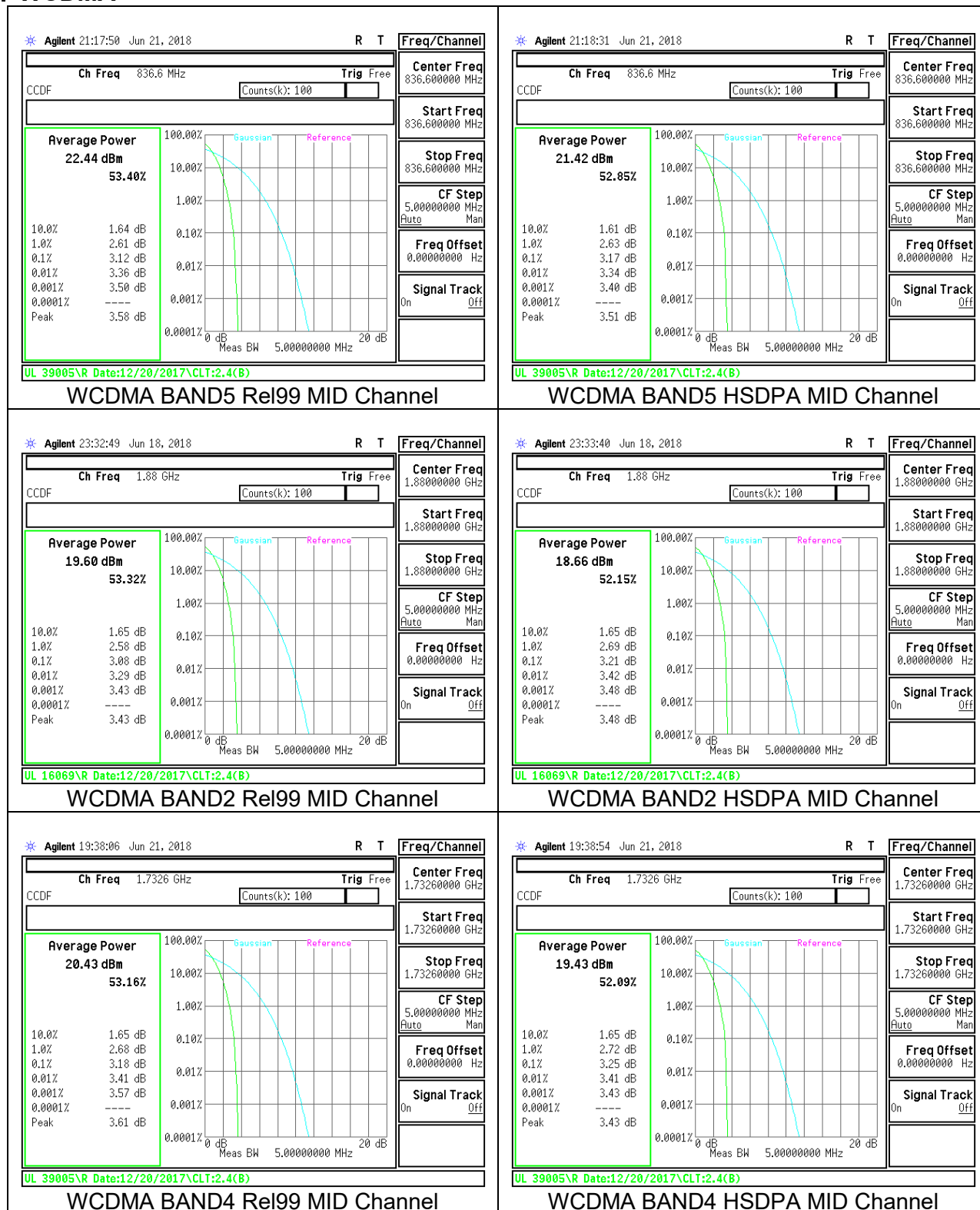
RESULT

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.

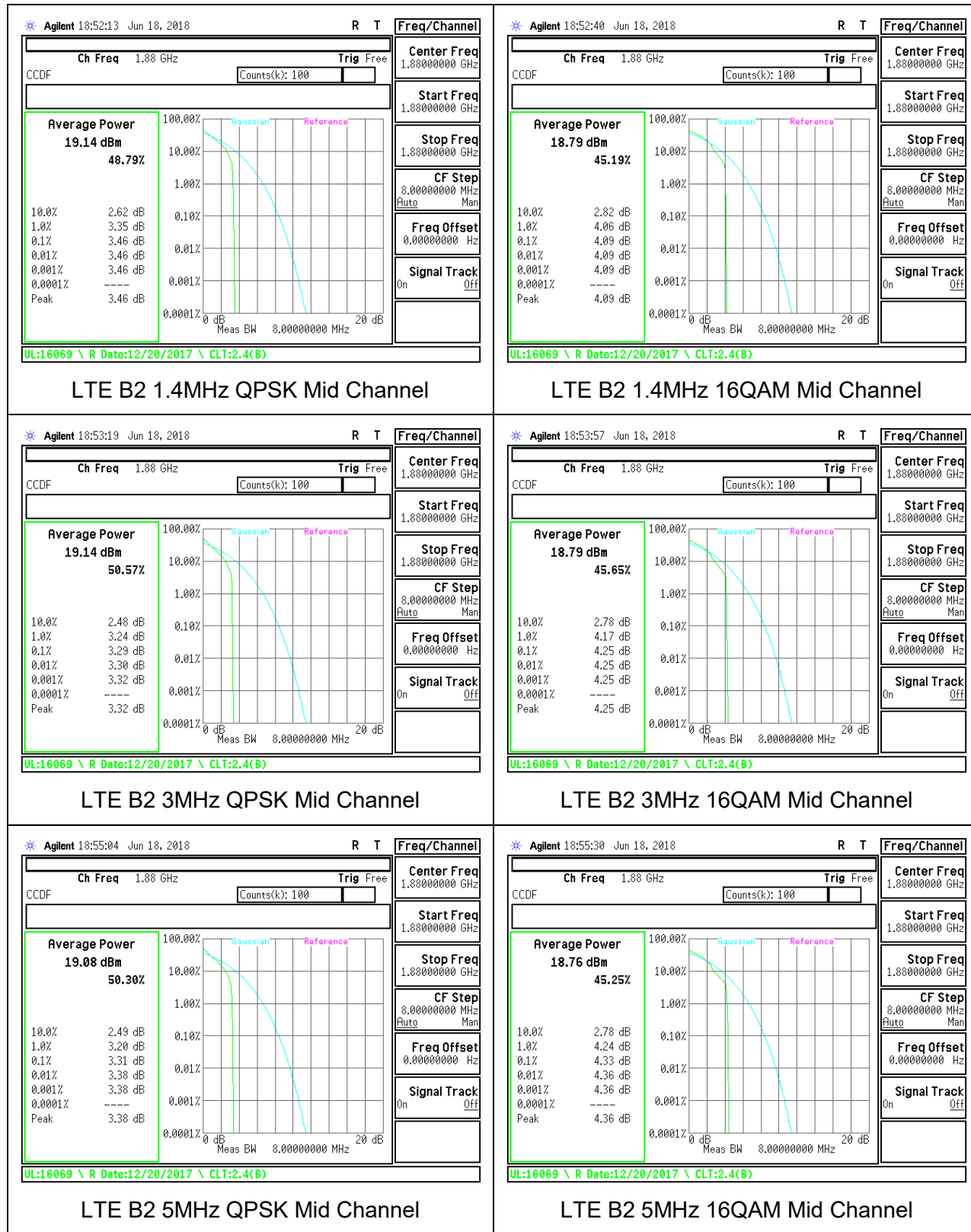
8.5.1. GSM

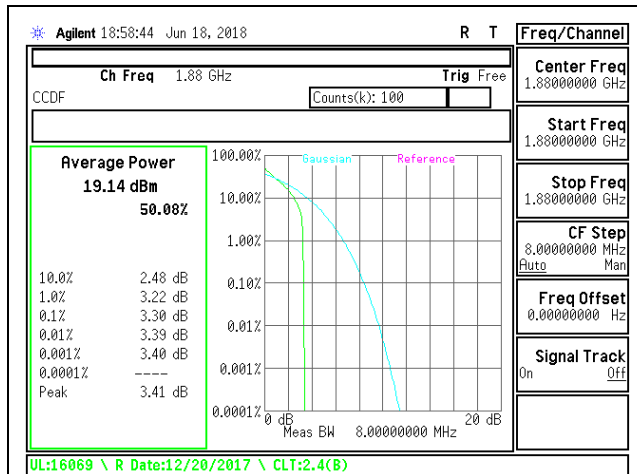


8.5.2. WCDMA

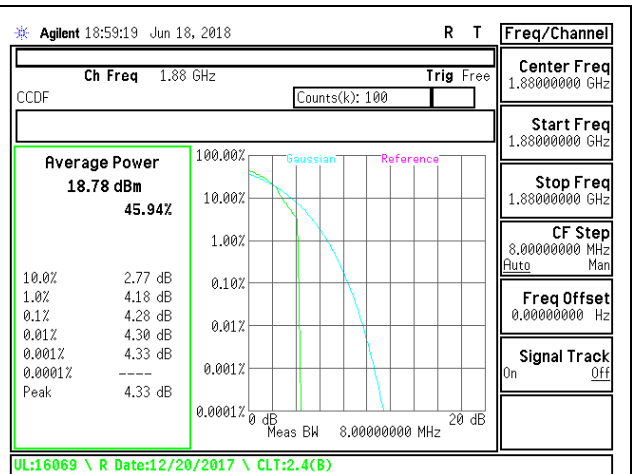


8.5.3. LTE BAND 2

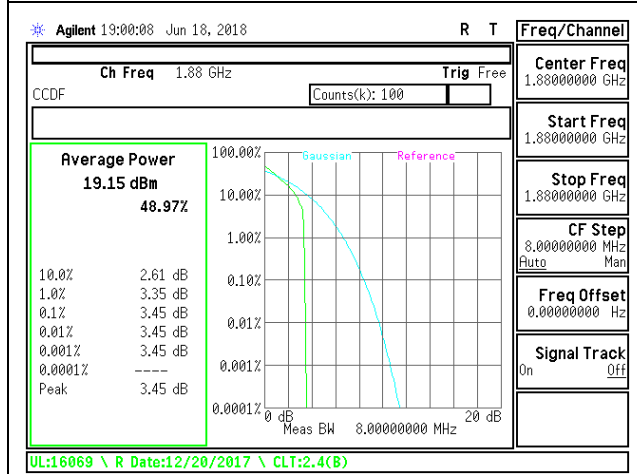




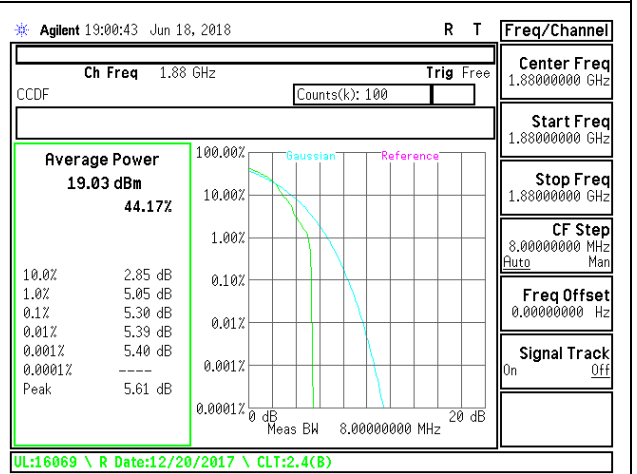
LTE B2 10MHz QPSK Mid Channel



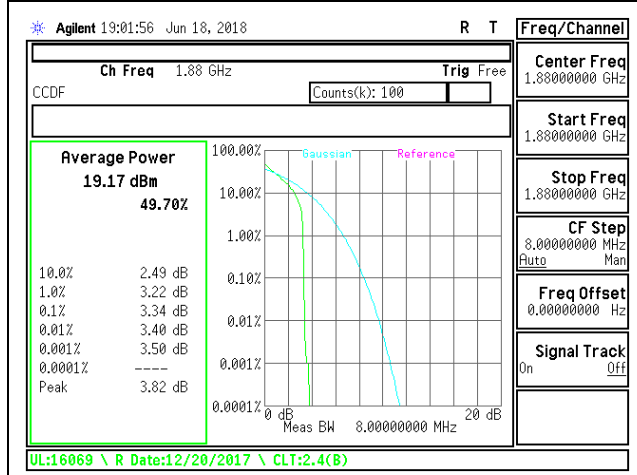
LTE B2 10MHz 16QAM Mid Channel



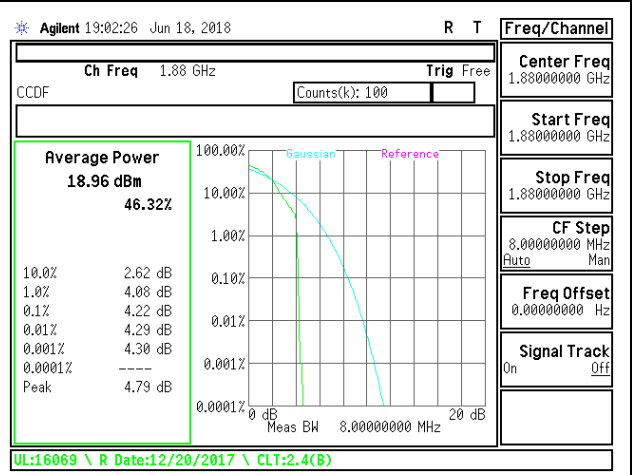
LTE B2 15MHz QPSK Mid Channel



LTE B2 15MHz 16QAM Mid Channel

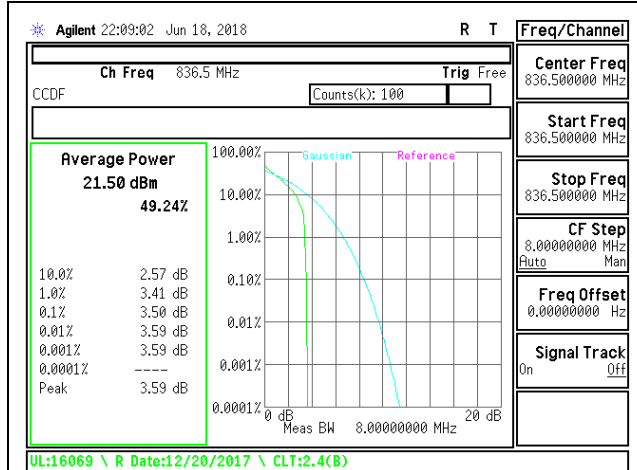


LTE B2 20MHz QPSK Mid Channel

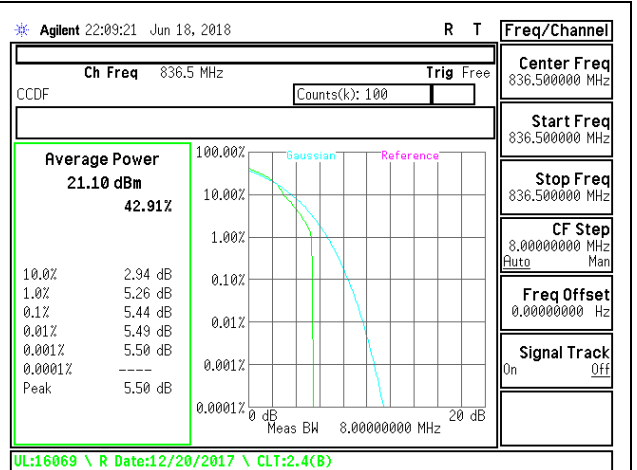


LTE B2 20MHz 16QAM Mid Channel

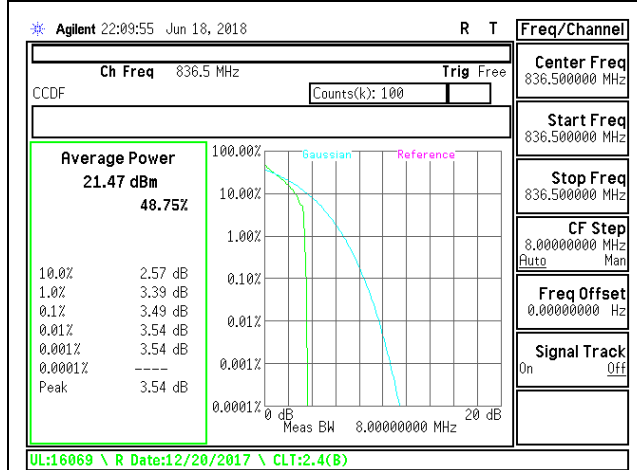
8.5.4. LTE BAND 5



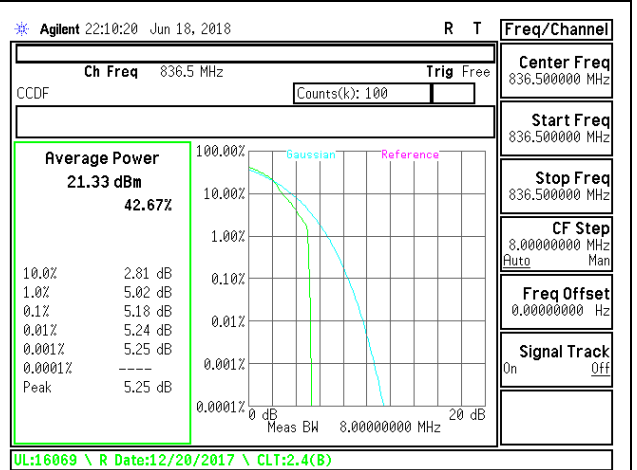
LTE B5 1.4MHz QPSK Mid Channel



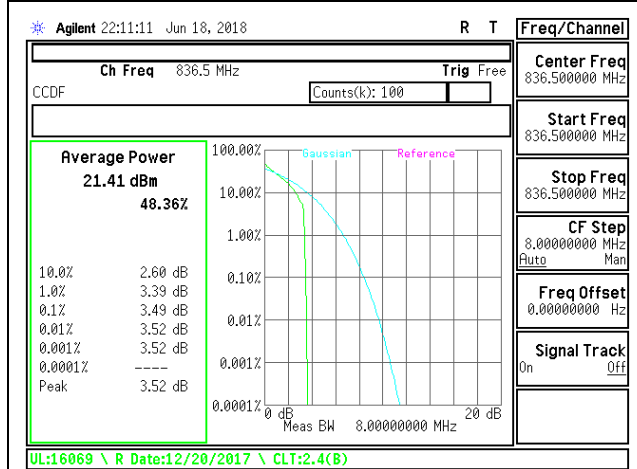
LTE B5 1.4MHz 16QAM Mid Channel



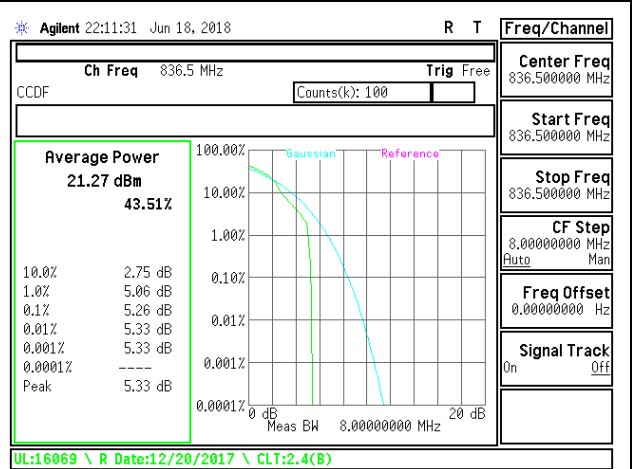
LTE B5 3MHz QPSK Mid Channel



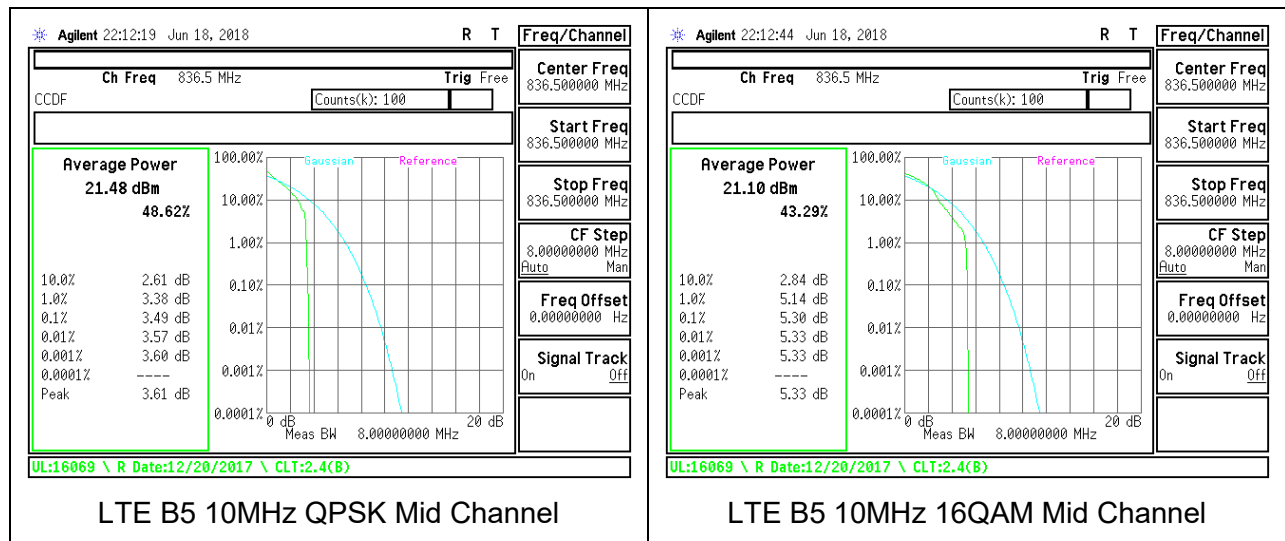
LTE B5 3MHz 16QAM Mid Channel



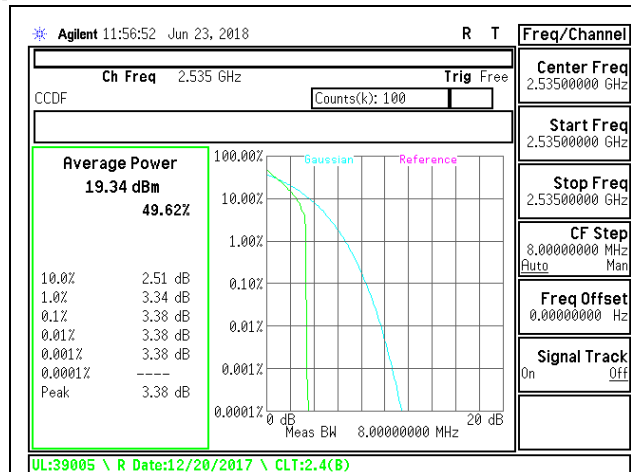
LTE B5 5MHz QPSK Mid Channel



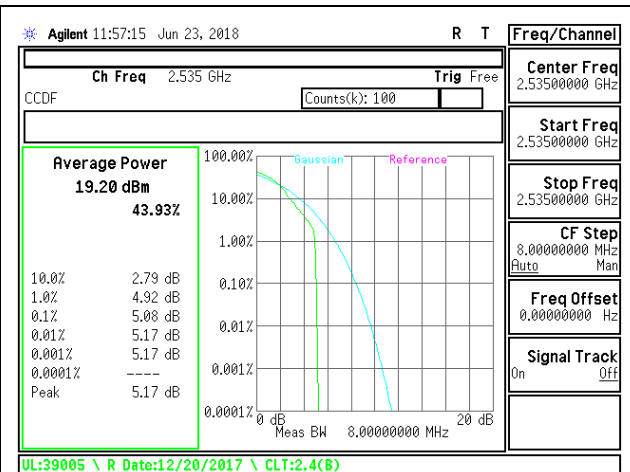
LTE B5 5MHz 16QAM Mid Channel



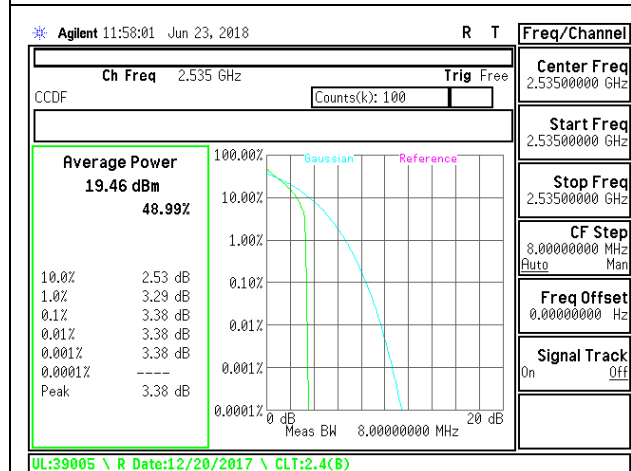
8.5.5. LTE BAND 7



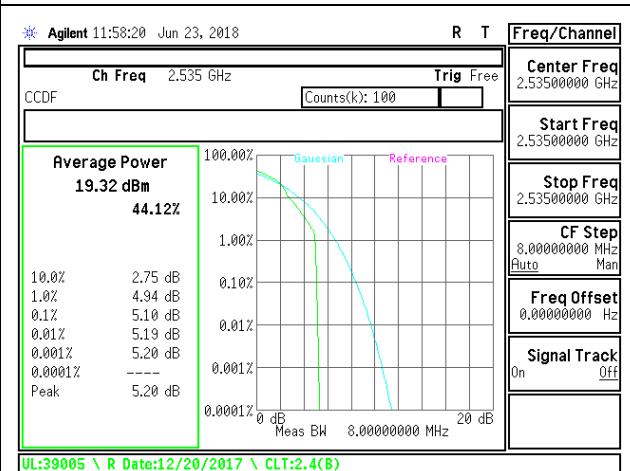
LTE B7 5MHz QPSK Mid Channel



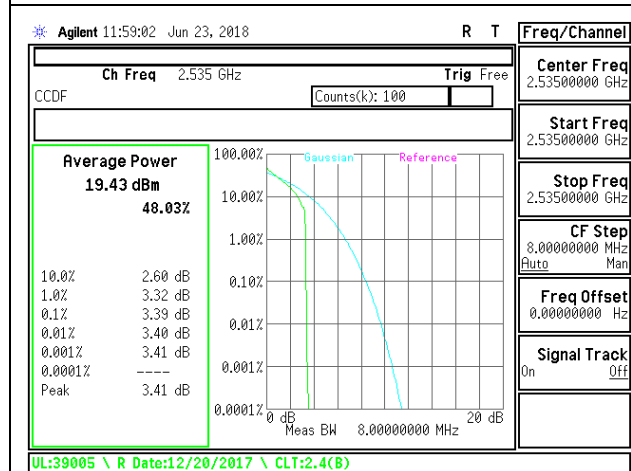
LTE B7 5MHz 16QAM Mid Channel



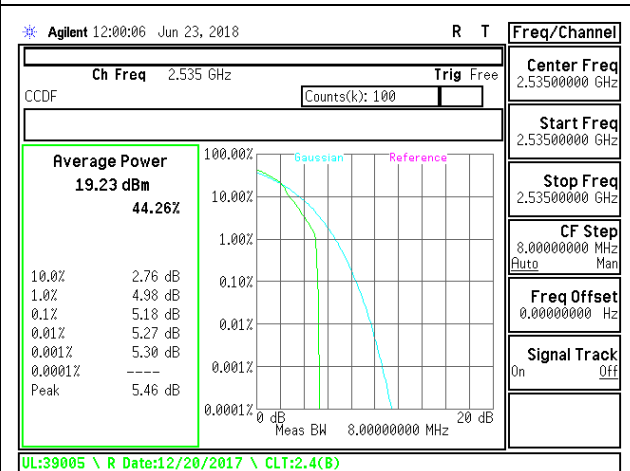
LTE B7 10MHz QPSK Mid Channel



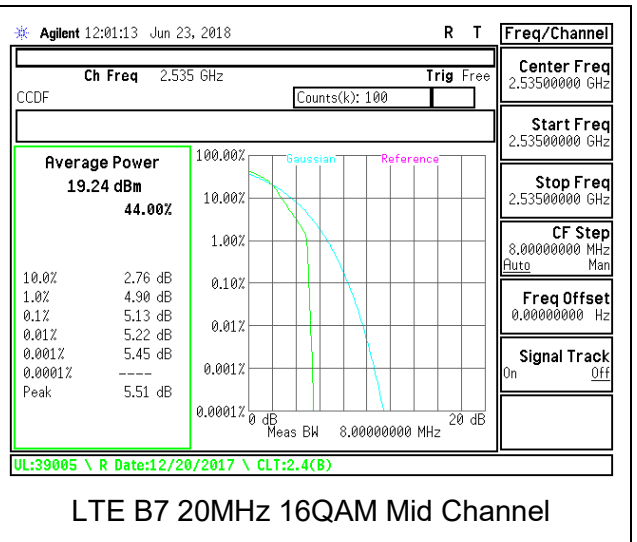
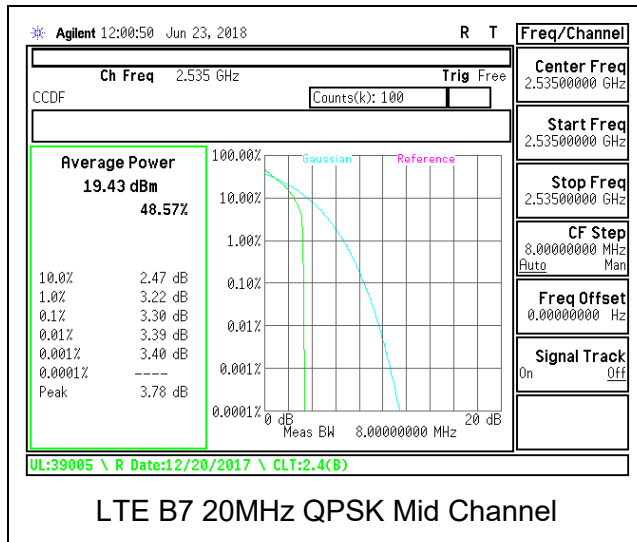
LTE B7 10MHz 16QAM Mid Channel



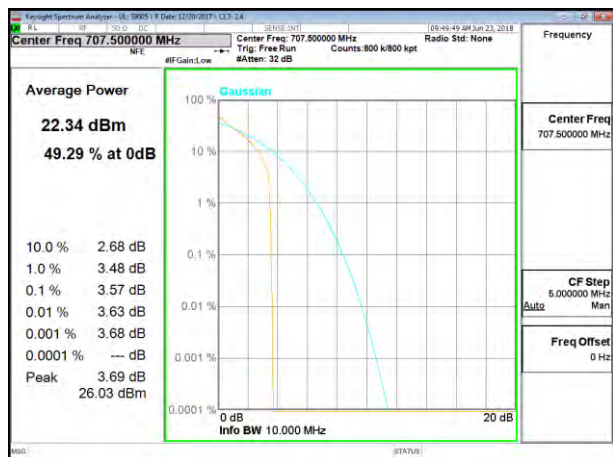
LTE B7 15MHz QPSK Mid Channel



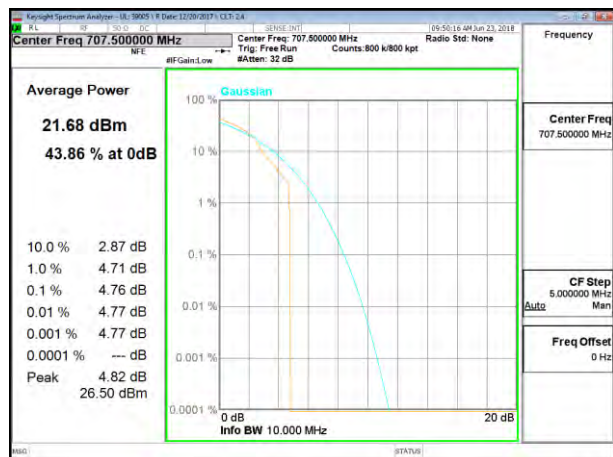
LTE B7 15MHz 16QAM Mid Channel



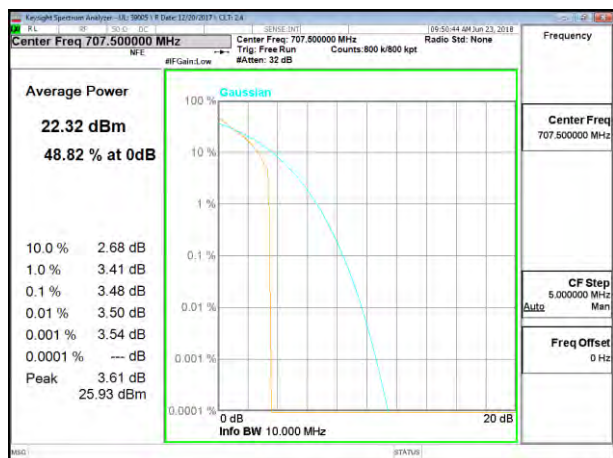
8.5.6. LTE BAND 12



LTE B12 1.4MHz QPSK Mid Channel



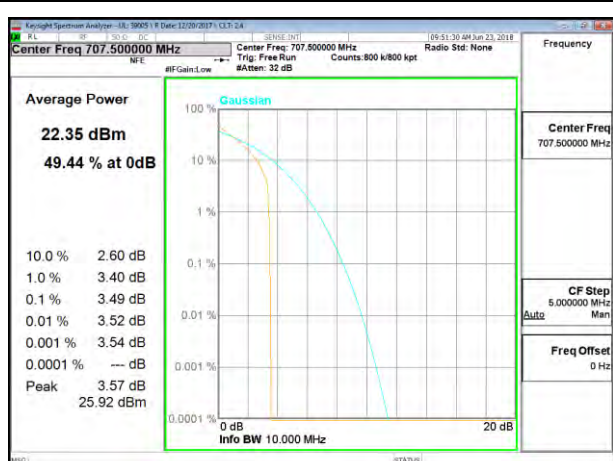
LTE B12 1.4MHz 16QAM Mid Channel



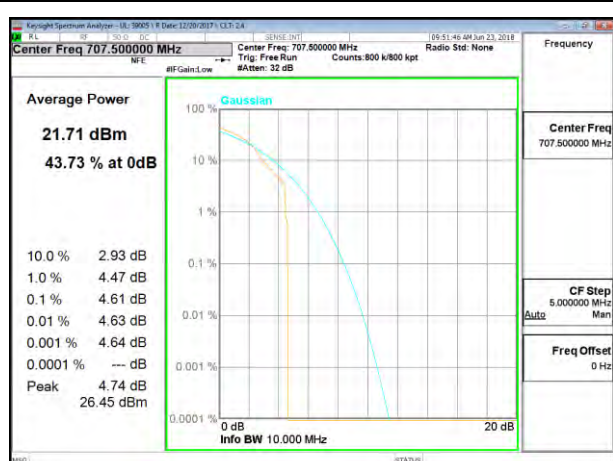
LTE B12 3MHz QPSK Mid Channel



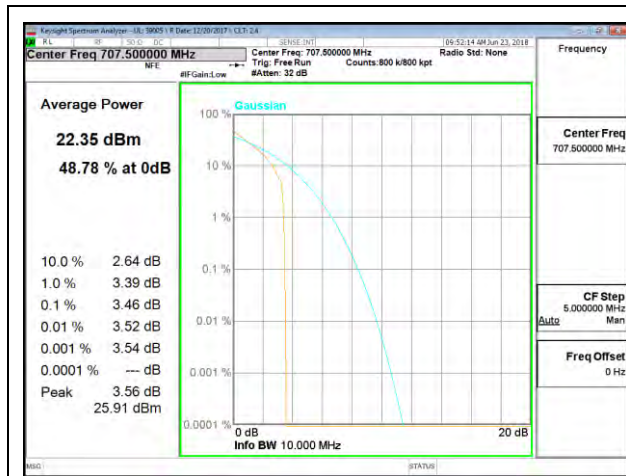
LTE B12 3MHz 16QAM Mid Channel



LTE B12 5MHz QPSK Mid Channel



LTE B12 5MHz 16QAM Mid Channel



LTE B12 10MHz QPSK Mid Channel

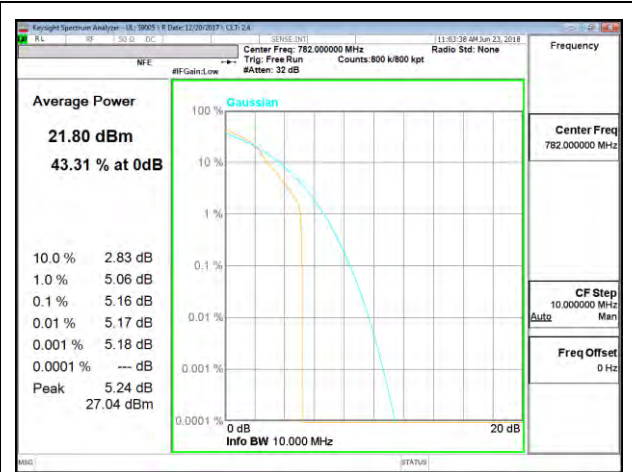


LTE B12 10MHz 16QAM Mid Channel

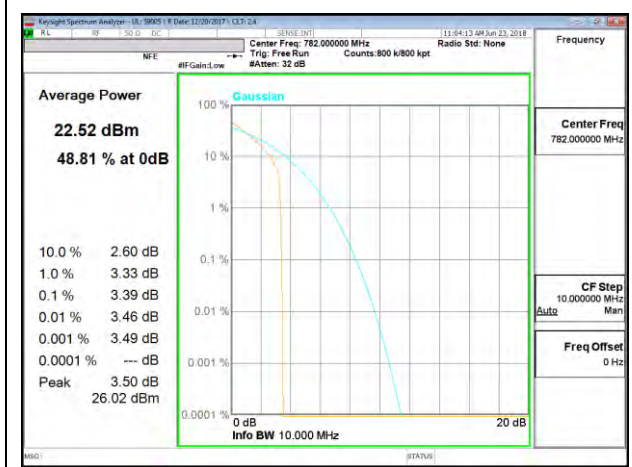
8.5.7. LTE BAND 13



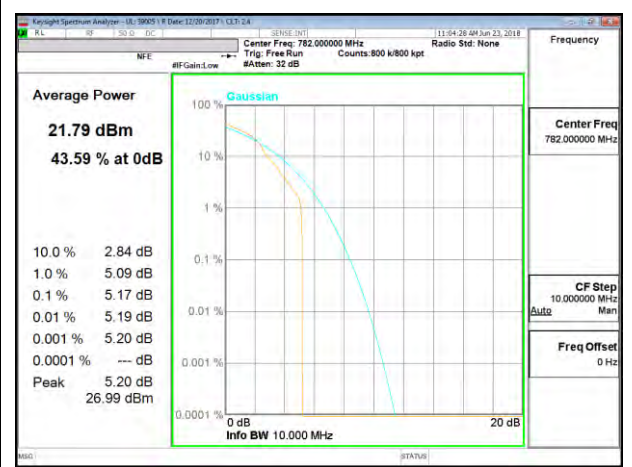
LTE B13 5MHz QPSK Mid Channel



LTE B13 5MHz 16QAM Mid Channel

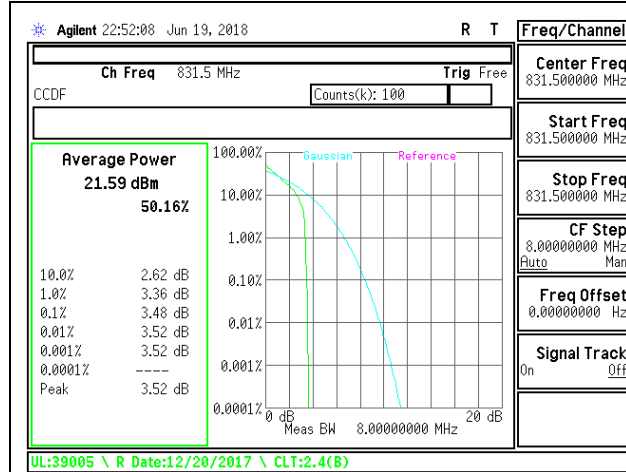


LTE B13 10MHz QPSK Mid Channel

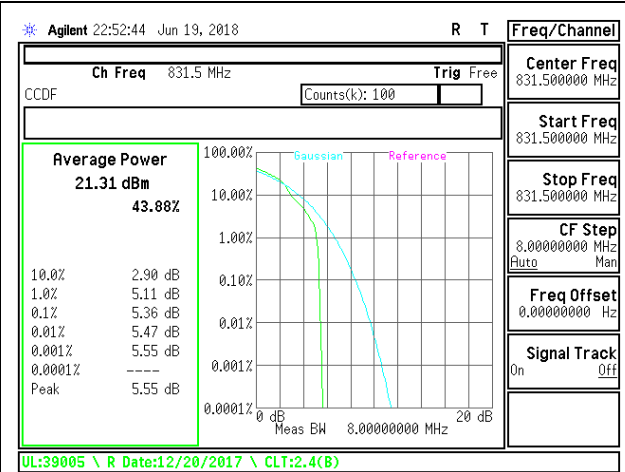


LTE B13 10MHz 16QAM Mid Channel

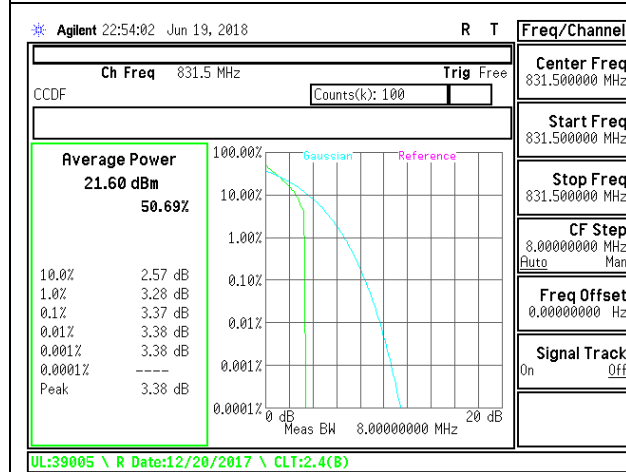
8.5.8. LTE BAND 26



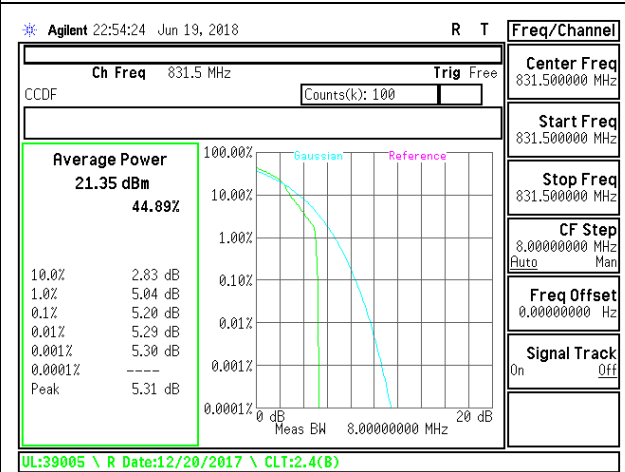
LTE B26 1.4MHz QPSK Mid Channel



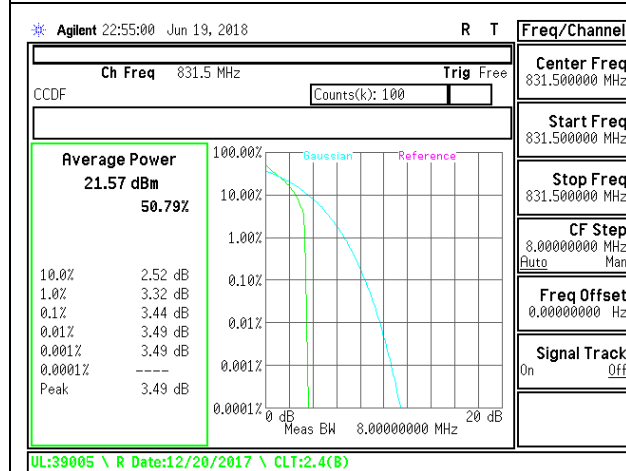
LTE B26 1.4MHz 16QAM Mid Channel



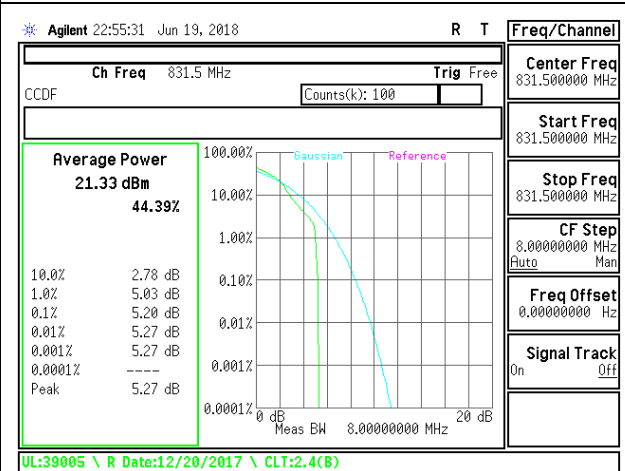
LTE B26 3MHz QPSK Mid Channel



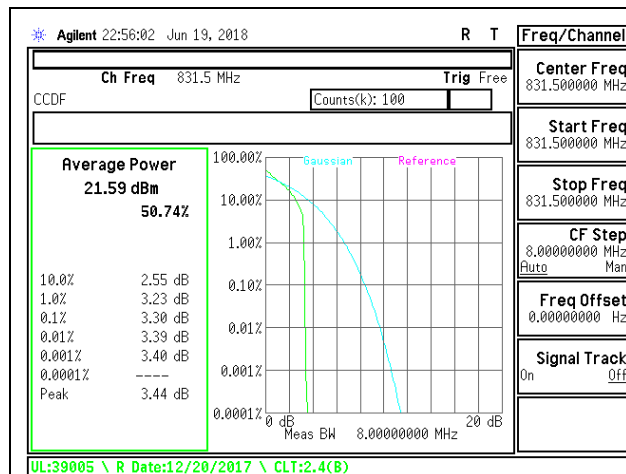
LTE B26 3MHz 16QAM Mid Channel



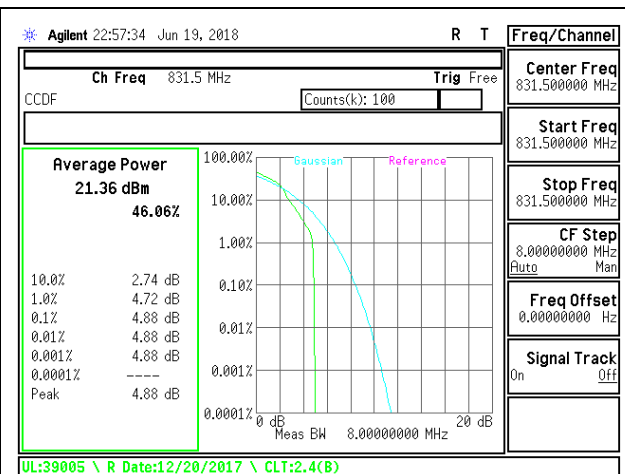
LTE B26 5MHz QPSK Mid Channel



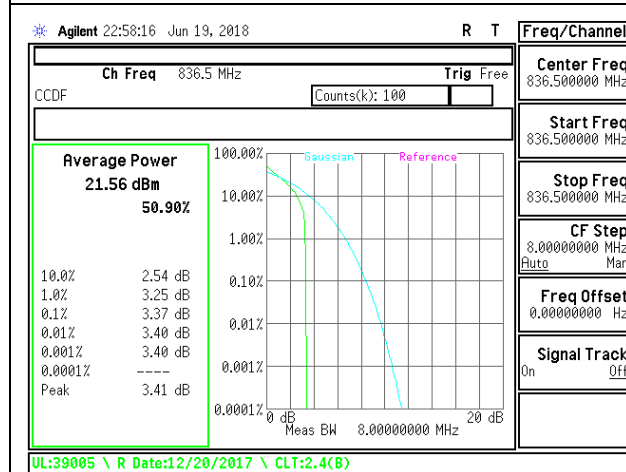
LTE B26 5MHz 16QAM Mid Channel



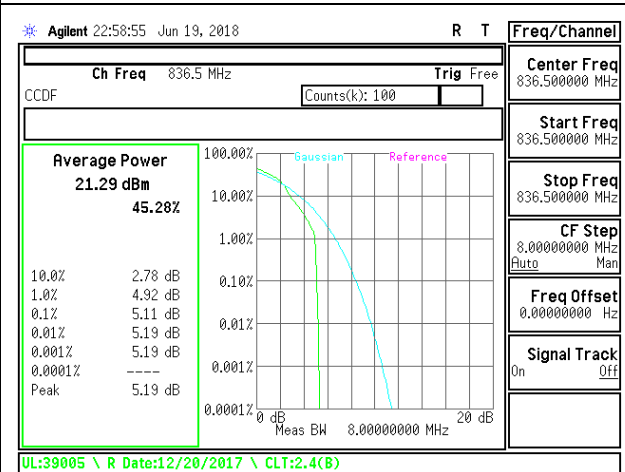
LTE B26 10MHz QPSK Mid Channel



LTE B26 10MHz 16QAM Mid Channel

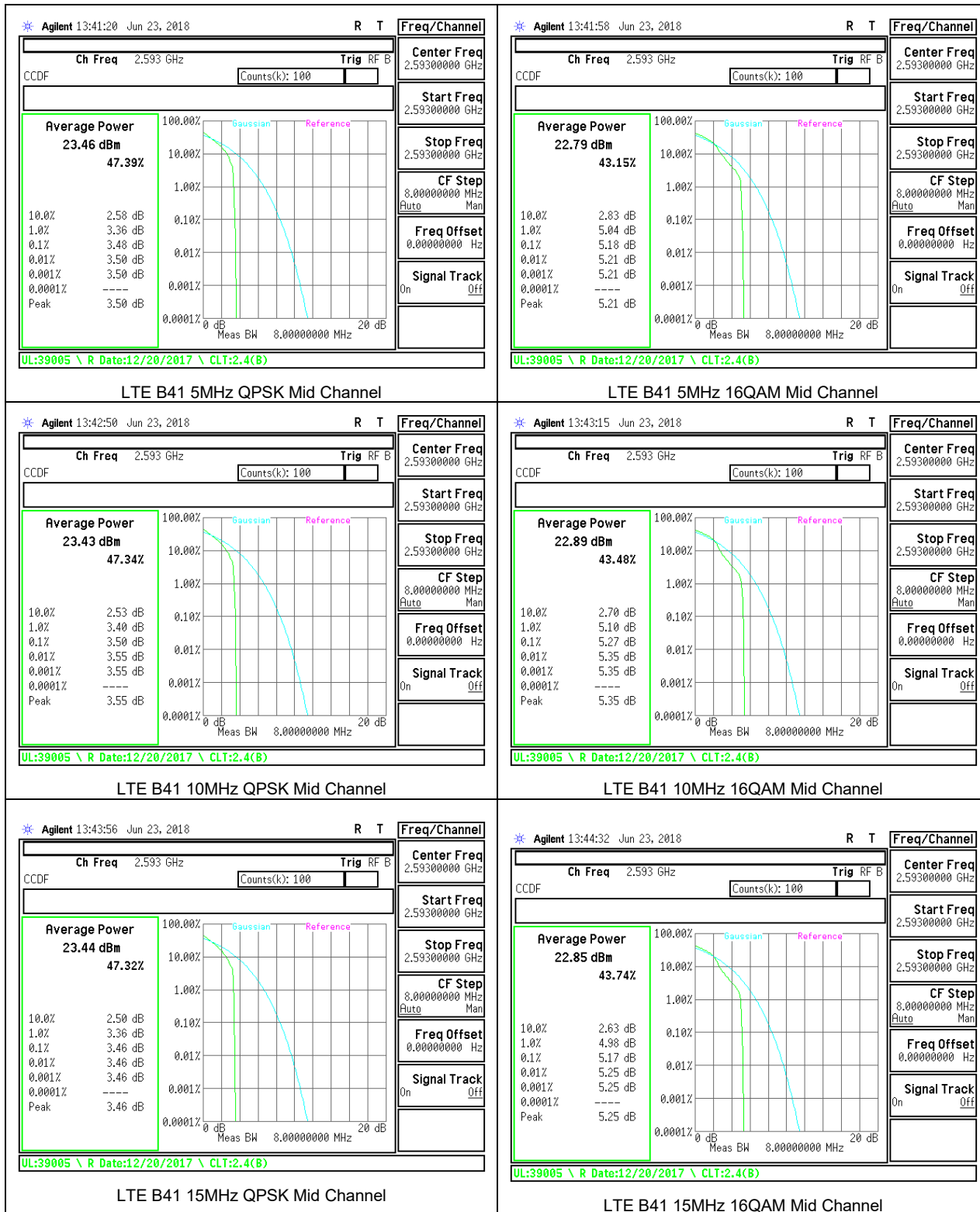


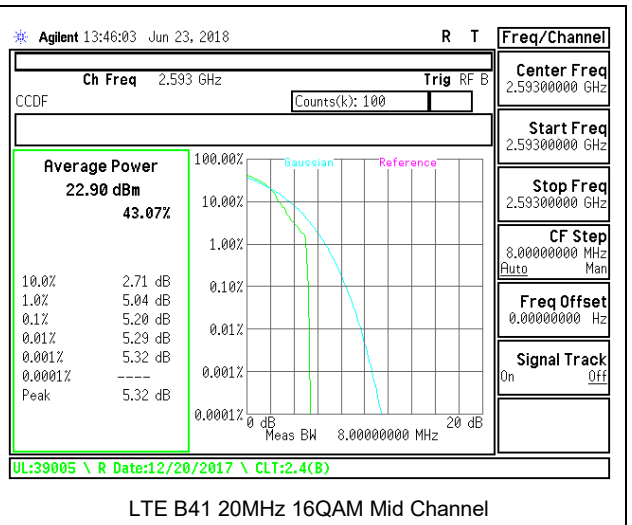
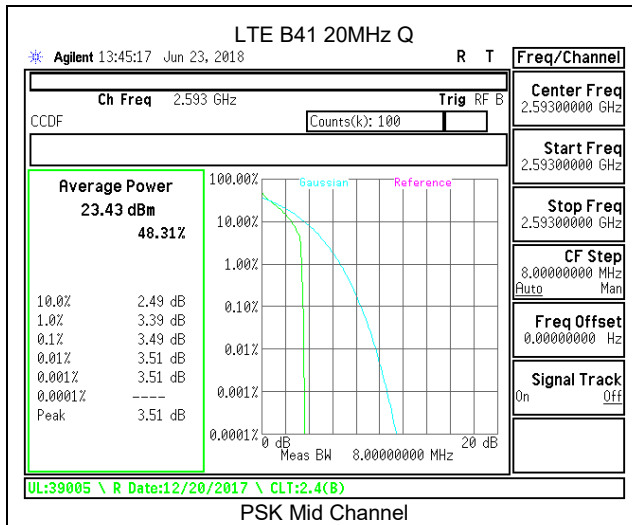
LTE B26 15MHz QPSK Mid Channel



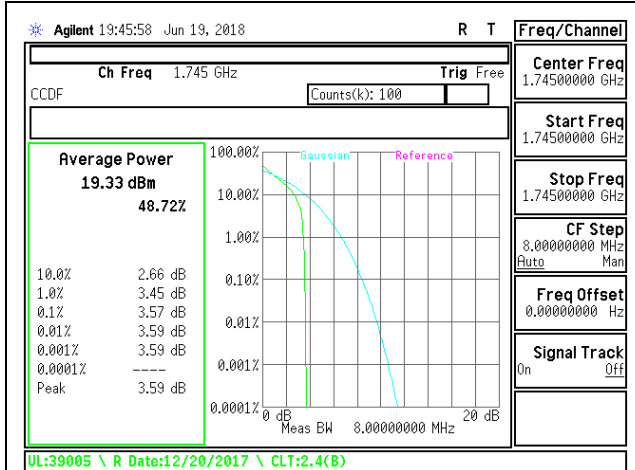
LTE B26 15MHz 16QAM Mid Channel

8.5.9. LTE BAND 41

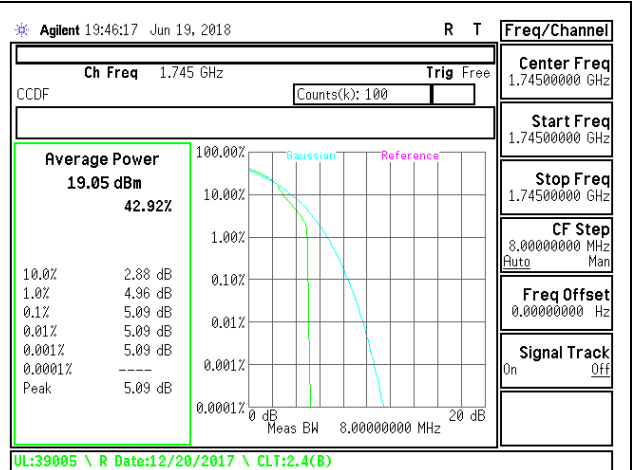




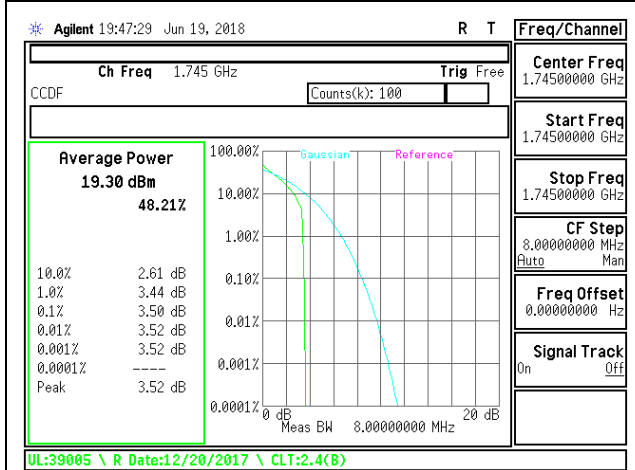
8.5.10. LTE BAND 66



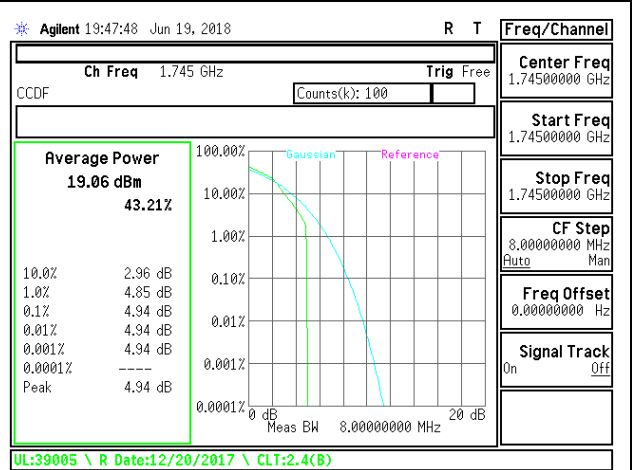
LTE B66 1.4MHz QPSK Mid Channel



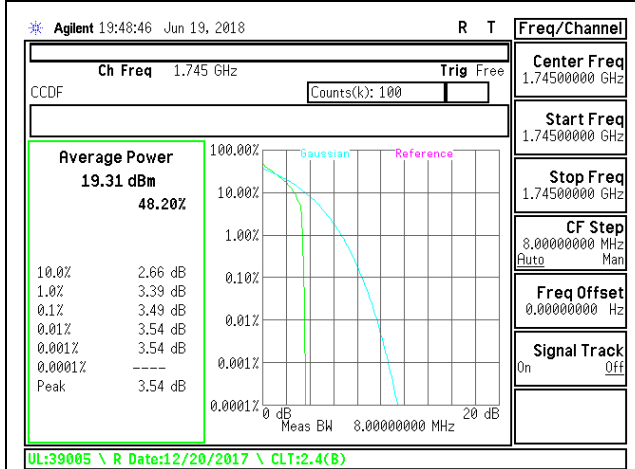
LTE B66 1.4MHz 16QAM Mid Channel



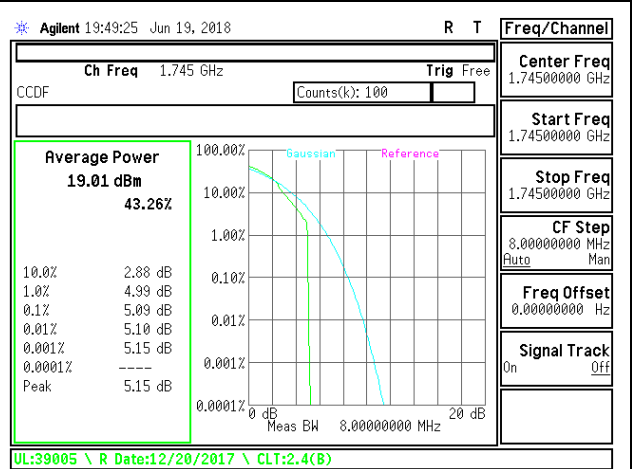
LTE B66 3MHz QPSK Mid Channel



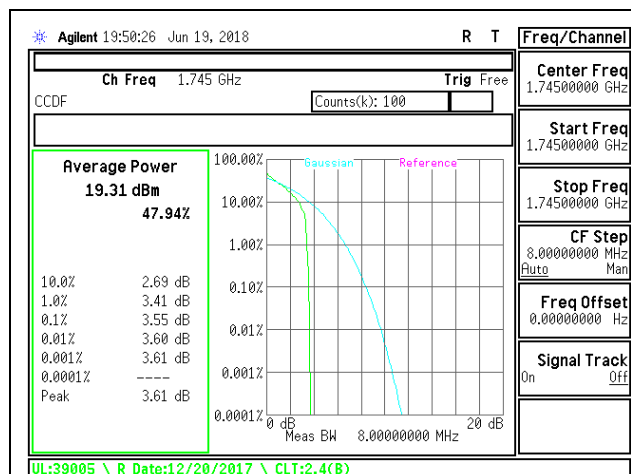
LTE B66 3MHz 16QAM Mid Channel



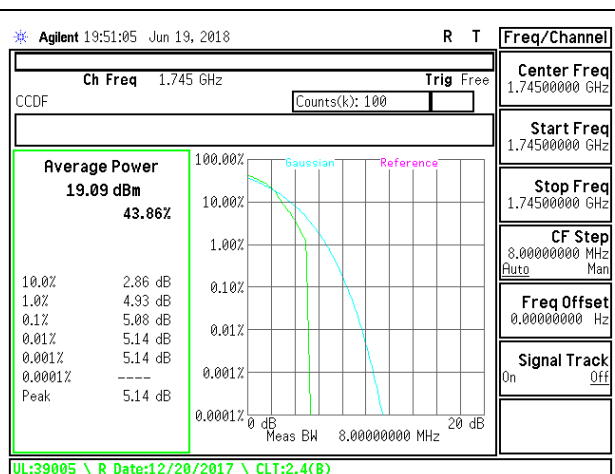
LTE B66 5MHz QPSK Mid Channel



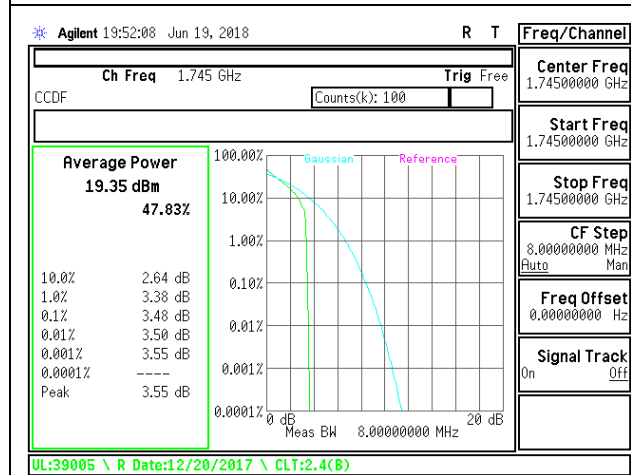
LTE B66 5MHz 16QAM Mid Channel



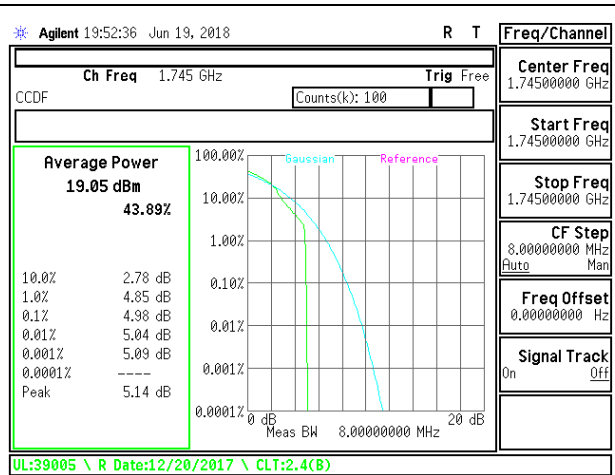
LTE B66 10MHz QPSK Mid Channel



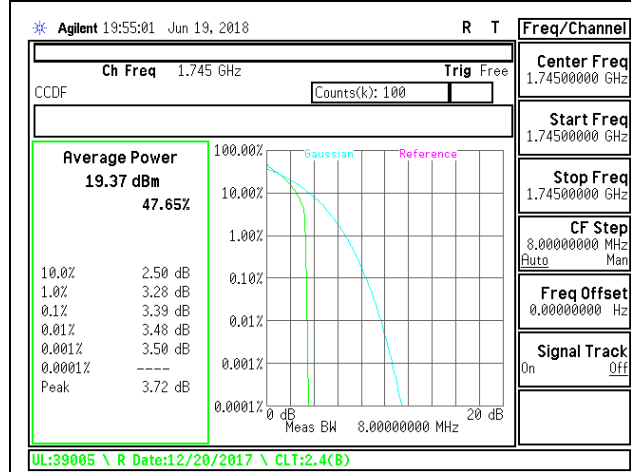
LTE B66 10MHz 16QAM Mid Channel



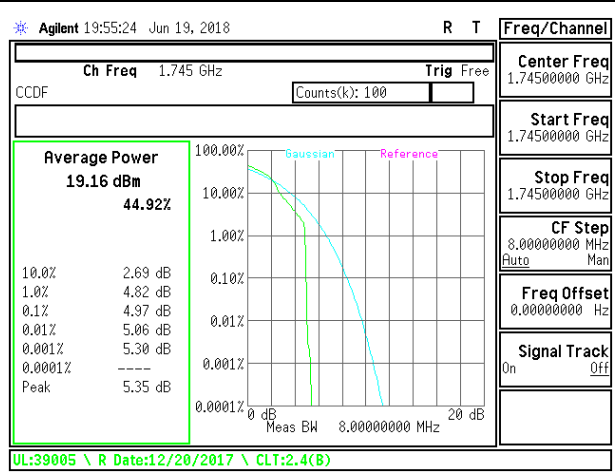
LTE B66 15MHz QPSK Mid Channel



LTE B66 15MHz 16QAM Mid Channel



LTE B66 20MHz QPSK Mid Channel



LTE B66 20MHz 16QAM Mid Channel

9. RADIATED TEST RESULTS

9.1. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53, §90.691

LIMIT

FCC: §22.917(a), §24.238(a), §27.53 (g), (h), §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.

FCC: §27.53 (Band 13)

(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. (-70 dBW/MHz = -40 dBm/MHz).

FCC: §27.53 (m) (Band 7, 41)

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.

FCC: §96.41 (Band 42)

(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 -40 dBm/MHz.

TEST PROCEDURE

KDB 971168 D01 v02r02/D02 v01

TIA-603-E, Section 2.2.12.

MODES TESTED

- GSM 850
- GSM 1900
- WCDM Band 2
- WCDM Band 4
- WCDM Band 5
- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 26
- LTE Band 41
- LTE Band 66

NOTE: All bandwidths were tested but only highest bandwidth recorded on the report as worst case.

RESULTS

9.1.1. GSM

Company:		SOMC										
Project #:		12371351										
Date:		06/28/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		GPRS 850										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 824.2 MHz												
1.648	-58.93	Pk	28.5	-35.8	10.1	-56.13	-13	-43.13	0-360	150	H	
2.472	-59.15	Pk	32.2	-35.7	11	-51.65	-13	-38.65	0-360	150	H	
3.3	-66.61	Pk	32.8	-34	10.6	-57.21	-13	-44.21	0-360	150	H	
1.648	-50.42	Pk	28.5	-35.8	10.9	-46.82	-13	-33.82	0-360	150	V	
2.471	-65.79	Pk	32.2	-35.7	11.1	-58.19	-13	-45.19	0-360	150	V	
3.286	-66.08	Pk	32.9	-34	10.8	-56.38	-13	-43.38	0-360	150	V	
Mid Channel 836.6MHz												
* 1.673	-61.51	Pk	28.6	-35.8	9.9	-58.81	-13	-45.81	0-360	150	H	
2.509	-62.54	Pk	32.3	-35.7	10.1	-55.84	-13	-42.84	0-360	150	H	
3.345	-66.76	Pk	32.8	-33.9	10.6	-57.26	-13	-44.26	0-360	150	H	
* 1.673	-58.11	Pk	28.6	-35.8	11.3	-54.01	-13	-41.01	0-360	150	V	
2.509	-66.23	Pk	32.3	-35.7	11.5	-58.13	-13	-45.13	0-360	150	V	
* 3.348	-68.01	Pk	32.8	-33.9	10.7	-58.41	-13	-45.41	0-360	150	V	
High Channel 848.8MHz												
* 1.697	-61.43	Pk	28.7	-35.8	11.5	-57.03	-13	-44.03	0-360	150	H	
2.546	-65.16	Pk	32.3	-35.7	10.1	-58.46	-13	-45.46	0-360	150	H	
3.392	-67.4	Pk	32.6	-33.8	11.1	-57.5	-13	-44.5	0-360	150	H	
* 1.697	-63.27	Pk	28.7	-35.8	11.7	-58.67	-13	-45.67	0-360	150	V	
2.544	-65.36	Pk	32.3	-35.7	10.7	-58.06	-13	-45.06	0-360	150	V	
3.394	-67.51	Pk	32.6	-33.8	11.2	-57.51	-13	-44.51	0-360	150	V	

Company:		SOMC										
Project #:		12371351										
Date:		06/28/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		EGPRS 850										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 824.2 MHz												
1.648	-62.6	Pk	28.5	-35.8	10.1	-59.8	-13	-46.8	0-360	150	H	
2.471	-64.58	Pk	32.2	-35.7	10.9	-57.18	-13	-44.18	0-360	150	H	
3.298	-66.37	Pk	32.8	-34	10.5	-57.07	-13	-44.07	0-360	150	H	
1.648	-58.82	Pk	28.5	-35.8	10.9	-55.22	-13	-42.22	0-360	150	V	
2.494	-63.7	Pk	32.3	-35.7	10.8	-56.3	-13	-43.3	0-360	150	V	
3.306	-66.33	Pk	32.8	-34	11.3	-56.23	-13	-43.23	0-360	150	V	
Mid Channel 836.6MHz												
1.673	-62.44	Pk	28.6	-35.8	9.9	-59.74	-13	-46.74	0-360	150	H	
2.514	-65.44	Pk	32.3	-35.7	10.3	-58.54	-13	-45.54	0-360	150	H	
3.347	-67.22	Pk	32.8	-33.9	10.6	-57.72	-13	-44.72	0-360	150	H	
1.673	-65.24	Pk	28.6	-35.8	11.3	-61.14	-13	-48.14	0-360	150	V	
2.512	-64.93	Pk	32.3	-35.7	11.4	-56.93	-13	-43.93	0-360	150	V	
3.343	-67.12	Pk	32.8	-33.9	10.8	-57.42	-13	-44.42	0-360	150	V	
High Channel 848.8MHz												
1.701	-65.66	Pk	28.8	-35.8	11.6	-61.06	-13	-48.06	0-360	150	H	
2.547	-65.27	Pk	32.3	-35.7	10.1	-58.57	-13	-45.57	0-360	150	H	
3.402	-66.33	Pk	32.6	-33.8	10.7	-56.83	-13	-43.83	0-360	150	H	
1.7	-65.3	Pk	28.7	-35.8	11.7	-60.7	-13	-47.7	0-360	150	V	
2.55	-66.54	Pk	32.3	-35.7	11	-58.94	-13	-45.94	0-360	150	V	
3.395	-67.53	Pk	32.6	-33.8	11.2	-57.53	-13	-44.53	0-360	150	V	

Company:		SOMC									
Project #:		12371351									
Date:		06/28/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		GPRS 1900									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1850.2MHz											
3.7	-68.43	Pk	33.2	-33	10.8	-57.43	-13	-44.43	0-360	150	H
5.558	-69.64	Pk	34.6	-30.6	10.9	-54.74	-13	-41.74	0-360	150	H
7.388	-70.33	Pk	35.5	-27.5	10.6	-51.73	-13	-38.73	0-360	150	H
3.696	-68.02	Pk	33.2	-33	11.2	-56.62	-13	-43.62	0-360	150	V
5.557	-69.21	Pk	34.6	-30.6	10.9	-54.31	-13	-41.31	0-360	150	V
7.393	-71.5	Pk	35.5	-27.6	10.9	-52.7	-13	-39.7	0-360	150	V
Mid Channel 1880MHz											
3.759	-68	Pk	33.3	-33	10.4	-57.3	-13	-44.3	0-360	150	H
5.647	-70.85	Pk	34.6	-30	10.1	-56.15	-13	-43.15	0-360	150	H
7.518	-72.21	Pk	35.6	-27.4	10.5	-53.51	-13	-40.51	0-360	150	H
3.76	-67.81	Pk	33.3	-33	10.6	-56.91	-13	-43.91	0-360	150	V
5.632	-70.31	Pk	34.6	-30.1	10.6	-55.21	-13	-42.21	0-360	150	V
7.523	-72.81	Pk	35.6	-27.4	10.7	-53.91	-13	-40.91	0-360	150	V
High Channel 1909.8MHz											
3.816	-66.89	Pk	33.4	-32.8	10.1	-56.19	-13	-43.19	0-360	150	H
5.732	-70.21	Pk	34.9	-29.9	10.4	-54.81	-13	-41.81	0-360	150	H
7.64	-72.82	Pk	35.6	-27.2	10.3	-54.12	-13	-41.12	0-360	150	H
3.815	-68.16	Pk	33.4	-32.8	10.3	-57.26	-13	-44.26	0-360	150	V
5.723	-69.81	Pk	34.9	-30	10.4	-54.51	-13	-41.51	0-360	150	V
7.634	-71.99	Pk	35.6	-27.2	10.6	-52.99	-13	-39.99	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		06/28/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		EGPRS 1900									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1850.2MHz											
3.702	-67.04	Pk	33.2	-33.1	10.7	-56.24	-13	-43.24	0-360	150	H
5.547	-68.91	Pk	34.6	-30.5	10.7	-54.11	-13	-41.11	0-360	150	H
7.405	-72.09	Pk	35.6	-27.5	10.4	-53.59	-13	-40.59	0-360	150	H
3.689	-68.01	Pk	33.1	-33	11.2	-56.71	-13	-43.71	0-360	150	V
5.548	-69.65	Pk	34.6	-30.5	11	-54.55	-13	-41.55	0-360	150	V
7.379	-72.23	Pk	35.5	-27.6	10.7	-53.63	-13	-40.63	0-360	150	V
Mid Channel 1880MHz											
3.775	-67.64	Pk	33.4	-33	10.6	-56.64	-13	-43.64	0-360	150	H
5.666	-70.39	Pk	34.7	-30	10.6	-55.09	-13	-42.09	0-360	150	H
7.485	-71.41	Pk	35.6	-27.4	10.5	-52.71	-13	-39.71	0-360	150	H
3.766	-67.26	Pk	33.4	-33	10.4	-56.46	-13	-43.46	0-360	150	V
5.625	-70.57	Pk	34.6	-30.2	10.7	-55.47	-13	-42.47	0-360	150	V
7.513	-72.33	Pk	35.6	-27.4	10.8	-53.33	-13	-40.33	0-360	150	V
High Channel 1909.8MHz											
3.809	-67.52	Pk	33.4	-32.9	10.2	-56.82	-13	-43.82	0-360	150	H
5.739	-70.68	Pk	34.9	-29.9	10.5	-55.18	-13	-42.18	0-360	150	H
7.626	-71.67	Pk	35.6	-27.2	10.4	-52.87	-13	-39.87	0-360	150	H
3.81	-67.21	Pk	33.4	-32.9	10.2	-56.51	-13	-43.51	0-360	150	V
5.724	-70.06	Pk	34.9	-30	10.5	-54.66	-13	-41.66	0-360	150	V
7.642	-72.23	Pk	35.6	-27.2	10.5	-53.33	-13	-40.33	0-360	150	V

9.1.2. WCDMA

Company:		SOMC										
Project #:		12371351										
Date:		06/28/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		REL99 B5										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 826.4MHz												
1.659	-66.17	Pk	28.5	-35.8	10.3	-63.17	-13	-50.17	0-360	150	H	
2.484	-64.83	Pk	32.3	-35.7	10.3	-57.93	-13	-44.93	0-360	150	H	
3.303	-67.13	Pk	32.8	-34	10.7	-57.63	-13	-44.63	0-360	150	H	
1.656	-65.54	Pk	28.5	-35.8	11.1	-61.74	-13	-48.74	0-360	150	V	
2.476	-66.23	Pk	32.3	-35.7	10.9	-58.73	-13	-45.73	0-360	150	V	
3.304	-66.97	Pk	32.8	-34	11.2	-56.97	-13	-43.97	0-360	150	V	
Mid Channel 836.6MHz												
1.678	-65.42	Pk	28.6	-35.8	9.9	-62.72	-13	-49.72	0-360	150	H	
2.511	-65.48	Pk	32.3	-35.7	10.2	-58.68	-13	-45.68	0-360	150	H	
3.345	-67.89	Pk	32.8	-33.9	10.6	-58.39	-13	-45.39	0-360	150	H	
1.674	-65.84	Pk	28.6	-35.8	11.3	-61.74	-13	-48.74	0-360	150	V	
2.51	-66.01	Pk	32.3	-35.7	11.5	-57.91	-13	-44.91	0-360	150	V	
3.341	-67.15	Pk	32.8	-33.9	10.8	-57.45	-13	-44.45	0-360	150	V	
High Channel 846.6MHz												
1.706	-64.32	Pk	28.8	-35.8	11.4	-59.92	-13	-46.92	0-360	150	H	
2.544	-65.58	Pk	32.3	-35.7	10	-58.98	-13	-45.98	0-360	150	H	
3.38	-67.08	Pk	32.7	-33.8	11	-57.18	-13	-44.18	0-360	150	H	
1.697	-65.18	Pk	28.7	-35.8	11.7	-60.58	-13	-47.58	0-360	150	V	
2.544	-65.17	Pk	32.3	-35.7	10.7	-57.87	-13	-44.87	0-360	150	V	
3.378	-66.61	Pk	32.7	-33.9	11.2	-56.61	-13	-43.61	0-360	150	V	

Company:		SOMC										
Project #:		12371351										
Date:		06/28/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		HSDPA B5										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 826.4MHz												
1.654	-65.67	Pk	28.5	-35.8	10.2	-62.77	-13	-49.77	0-360	150	H	
2.474	-65.97	Pk	32.3	-35.7	10.9	-58.47	-13	-45.47	0-360	150	H	
3.307	-68.02	Pk	32.8	-34	10.8	-58.42	-13	-45.42	0-360	150	H	
1.657	-65.55	Pk	28.5	-35.8	11	-61.85	-13	-48.85	0-360	150	V	
2.478	-66.37	Pk	32.3	-35.7	10.6	-59.17	-13	-46.17	0-360	150	V	
3.305	-67.43	Pk	32.8	-34	11.3	-57.33	-13	-44.33	0-360	150	V	
Mid Channel 836.6MHz												
1.678	-65.88	Pk	28.6	-35.8	9.9	-63.18	-13	-50.18	0-360	150	H	
2.51	-64.33	Pk	32.3	-35.7	10.1	-57.63	-13	-44.63	0-360	150	H	
3.341	-66.57	Pk	32.8	-33.9	10.6	-57.07	-13	-44.07	0-360	150	H	
1.679	-64.6	Pk	28.6	-35.8	11.2	-60.6	-13	-47.6	0-360	150	V	
2.51	-65.96	Pk	32.3	-35.7	11.5	-57.86	-13	-44.86	0-360	150	V	
3.344	-66.76	Pk	32.8	-33.9	10.8	-57.06	-13	-44.06	0-360	150	V	
High Channel 846.6MHz												
1.69	-64.89	Pk	28.7	-35.8	10.8	-61.19	-13	-48.19	0-360	150	H	
2.542	-65.18	Pk	32.3	-35.7	9.9	-58.68	-13	-45.68	0-360	150	H	
3.393	-66.83	Pk	32.6	-33.8	11.1	-56.93	-13	-43.93	0-360	150	H	
1.689	-66.06	Pk	28.7	-35.8	11.8	-61.36	-13	-48.36	0-360	150	V	
2.54	-64.14	Pk	32.3	-35.7	10.5	-57.04	-13	-44.04	0-360	150	V	
3.387	-66.93	Pk	32.6	-33.9	11.1	-57.13	-13	-44.13	0-360	150	V	

Company:		SOMC									
Project #:		12371351									
Date:		07/03/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		REL99 B4									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1712.4MHz											
3.426	-66.81	Pk	32.6	-33.8	11	-57.01	-13	-44.01	0-360	150	H
5.138	-68.67	Pk	34.4	-31.2	10.1	-55.37	-13	-42.37	0-360	150	H
6.834	-72.08	Pk	35.5	-28	10.5	-54.08	-13	-41.08	0-360	150	H
3.418	-68.15	Pk	32.6	-33.8	11.2	-58.15	-13	-45.15	0-360	150	V
5.129	-69.34	Pk	34.4	-31.1	10.6	-55.44	-13	-42.44	0-360	150	V
6.826	-71.34	Pk	35.5	-28.1	10.6	-53.34	-13	-40.34	0-360	150	V
Mid Channel 1732.6MHz											
3.464	-66.51	Pk	32.6	-33.7	11	-56.61	-13	-43.61	0-360	150	H
5.191	-69.21	Pk	34.4	-30.9	10.4	-55.31	-13	-42.31	0-360	150	H
6.927	-71.08	Pk	35.5	-27.9	10.4	-53.08	-13	-40.08	0-360	150	H
3.452	-66.55	Pk	32.6	-33.6	11.2	-56.35	-13	-43.35	0-360	150	V
5.183	-69.35	Pk	34.4	-31	10.5	-55.45	-13	-42.45	0-360	150	V
6.928	-71.06	Pk	35.5	-27.9	10.4	-53.06	-13	-40.06	0-360	150	V
High Channel 1752.6MHz											
3.493	-66.06	Pk	32.6	-33.7	11.2	-55.96	-13	-42.96	0-360	150	H
5.253	-69.65	Pk	34.4	-30.8	10.6	-55.45	-13	-42.45	0-360	150	H
6.995	-71.65	Pk	35.5	-27.9	10.2	-53.85	-13	-40.85	0-360	150	H
3.514	-66.65	Pk	32.7	-33.6	10.5	-57.05	-13	-44.05	0-360	150	V
5.24	-68.8	Pk	34.4	-30.8	10.7	-54.5	-13	-41.5	0-360	150	V
6.986	-72.03	Pk	35.5	-27.9	10.5	-53.93	-13	-40.93	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/03/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		HSDPA B4									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1712.4MHz											
3.426	-66.77	Pk	32.6	-33.8	11	-56.97	-13	-43.97	0-360	150	H
5.124	-68.9	Pk	34.4	-31.1	10.3	-55.3	-13	-42.3	0-360	150	H
6.841	-71.2	Pk	35.5	-28	10.3	-53.4	-13	-40.4	0-360	150	H
3.42	-67.67	Pk	32.6	-33.8	11.2	-57.67	-13	-44.67	0-360	150	V
5.117	-69.49	Pk	34.4	-31.1	10.7	-55.49	-13	-42.49	0-360	150	V
6.834	-71.44	Pk	35.5	-28	10.6	-53.34	-13	-40.34	0-360	150	V
Mid Channel 1732.6MHz											
3.471	-66.57	Pk	32.6	-33.7	11	-56.67	-13	-43.67	0-360	150	H
5.203	-69.2	Pk	34.4	-31	10.8	-55	-13	-42	0-360	150	H
6.974	-71.36	Pk	35.5	-27.9	10.1	-53.66	-13	-40.66	0-360	150	H
3.462	-66.97	Pk	32.6	-33.7	10.9	-57.17	-13	-44.17	0-360	150	V
5.211	-69.72	Pk	34.4	-31.1	10.8	-55.62	-13	-42.62	0-360	150	V
6.943	-70.83	Pk	35.5	-28	10.5	-52.83	-13	-39.83	0-360	150	V
High Channel 1752.6MHz											
3.498	-67.65	Pk	32.6	-33.7	11.3	-57.45	-13	-44.45	0-360	150	H
5.244	-69.33	Pk	34.4	-30.9	10.5	-55.33	-13	-42.33	0-360	150	H
6.999	-72.14	Pk	35.5	-27.9	10.3	-54.24	-13	-41.24	0-360	150	H
3.497	-66.11	Pk	32.6	-33.7	11	-56.21	-13	-43.21	0-360	150	V
5.251	-68.97	Pk	34.4	-30.8	10.6	-54.77	-13	-41.77	0-360	150	V
6.995	-71.55	Pk	35.5	-27.9	10.6	-53.35	-13	-40.35	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/03/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		REL99 B2									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1852.4MHz											
3.684	-68.14	Pk	33.1	-33	11.2	-56.84	-13	-43.84	0-360	150	H
5.581	-67.85	Pk	34.6	-30.2	10.1	-53.35	-13	-40.35	0-360	150	H
7.433	-70.7	Pk	35.5	-27.4	10.5	-52.1	-13	-39.1	0-360	150	H
3.696	-68.24	Pk	33.2	-33	11.2	-56.84	-13	-43.84	0-360	150	V
5.566	-69.54	Pk	34.6	-30.4	10.9	-54.44	-13	-41.44	0-360	150	V
7.393	-71.95	Pk	35.5	-27.5	10.9	-53.05	-13	-40.05	0-360	150	V
Mid Channel 1880MHz											
3.748	-67.92	Pk	33.3	-33	10.5	-57.12	-13	-44.12	0-360	150	H
5.645	-69.75	Pk	34.6	-30	10.1	-55.05	-13	-42.05	0-360	150	H
7.535	-71.55	Pk	35.6	-27.4	10.3	-53.05	-13	-40.05	0-360	150	H
3.756	-68.18	Pk	33.3	-33	10.8	-57.08	-13	-44.08	0-360	150	V
5.632	-69.93	Pk	34.6	-30.1	10.6	-54.83	-13	-41.83	0-360	150	V
7.524	-72.19	Pk	35.6	-27.4	10.7	-53.29	-13	-40.29	0-360	150	V
High Channel 1907.6MHz											
3.813	-67.05	Pk	33.4	-32.8	10.2	-56.25	-13	-43.25	0-360	150	H
5.741	-70.57	Pk	34.9	-29.9	10.4	-55.17	-13	-42.17	0-360	150	H
7.645	-71.21	Pk	35.6	-27.2	10.2	-52.61	-13	-39.61	0-360	150	H
3.804	-66.83	Pk	33.4	-32.9	10.3	-56.03	-13	-43.03	0-360	150	V
5.71	-69.81	Pk	34.9	-29.9	10.3	-54.51	-13	-41.51	0-360	150	V
7.616	-72.26	Pk	35.6	-27.2	10.6	-53.26	-13	-40.26	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/03/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		HSDPA B2									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1852.4MHz											
3.706	-67.85	Pk	33.2	-33.1	10.6	-57.15	-13	-44.15	0-360	150	H
5.563	-69.29	Pk	34.6	-30.5	10.7	-54.49	-13	-41.49	0-360	150	H
7.422	-71.67	Pk	35.5	-27.5	10.4	-53.27	-13	-40.27	0-360	150	H
3.696	-67.3	Pk	33.2	-33	11.2	-55.9	-13	-42.9	0-360	150	V
5.545	-68.98	Pk	34.6	-30.5	10.9	-53.98	-13	-40.98	0-360	150	V
7.399	-71.93	Pk	35.6	-27.5	10.6	-53.23	-13	-40.23	0-360	150	V
Mid Channel 1880 MHz											
3.749	-67.91	Pk	33.3	-33	10.5	-57.11	-13	-44.11	0-360	150	H
5.624	-69.53	Pk	34.6	-30.2	10.5	-54.63	-13	-41.63	0-360	150	H
7.506	-72.44	Pk	35.6	-27.4	10.5	-53.74	-13	-40.74	0-360	150	H
3.764	-66.75	Pk	33.4	-33	10.5	-55.85	-13	-42.85	0-360	150	V
5.629	-67.62	Pk	34.6	-30.1	10.6	-52.52	-13	-39.52	0-360	150	V
7.506	-71.93	Pk	35.6	-27.4	10.8	-52.93	-13	-39.93	0-360	150	V
High Channel 1907.6MHz											
3.815	-67.41	Pk	33.4	-32.8	10.2	-56.61	-13	-43.61	0-360	150	H
5.713	-69.15	Pk	34.9	-30	10	-54.25	-13	-41.25	0-360	150	H
7.627	-71.37	Pk	35.6	-27.2	10.4	-52.57	-13	-39.57	0-360	150	H
3.826	-67.62	Pk	33.4	-32.7	10.5	-56.42	-13	-43.42	0-360	150	V
5.725	-70.21	Pk	34.9	-30	10.5	-54.81	-13	-41.81	0-360	150	V
7.631	-71.97	Pk	35.6	-27.2	10.6	-52.97	-13	-39.97	0-360	150	V

9.1.3. LTE BAND 2

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 2 QPSK 20MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1860MHz											
* 3.727	-67.07	Pk	33.3	-33.1	10.3	-56.57	-13	-43.57	0-360	150	H
5.6	-70.3	Pk	34.6	-30.2	10.3	-55.6	-13	-42.6	0-360	150	H
* 7.442	-72.05	Pk	35.5	-27.4	10.5	-53.45	-13	-40.45	0-360	150	H
* 3.726	-67.74	Pk	33.3	-33.1	10.7	-56.84	-13	-43.84	0-360	150	V
5.579	-68.47	Pk	34.6	-30.2	10.6	-53.47	-13	-40.47	0-360	150	V
* 7.452	-71.83	Pk	35.5	-27.4	10.8	-52.93	-13	-39.93	0-360	150	V
Mid Channel 1880MHz											
* 3.777	-68.32	Pk	33.4	-33	10.7	-57.22	-13	-44.22	0-360	150	H
5.656	-68.11	Pk	34.6	-30	10.2	-53.31	-13	-40.31	0-360	150	H
* 7.543	-71.34	Pk	35.6	-27.4	10.2	-52.94	-13	-39.94	0-360	150	H
* 3.763	-66.5	Pk	33.3	-33	10.5	-55.7	-13	-42.7	0-360	150	V
5.65	-69.83	Pk	34.6	-30	10.6	-54.63	-13	-41.63	0-360	150	V
* 7.51	-71.63	Pk	35.6	-27.4	10.8	-52.63	-13	-39.63	0-360	150	V
High Channel 1900MHz											
* 3.798	-68.53	Pk	33.4	-32.8	10.5	-57.43	-13	-44.43	0-360	150	H
5.71	-69.6	Pk	34.9	-29.9	9.9	-54.7	-13	-41.7	0-360	150	H
* 7.612	-71.94	Pk	35.6	-27.2	10.4	-53.14	-13	-40.14	0-360	150	H
* 3.796	-67.68	Pk	33.4	-32.8	10.5	-56.58	-13	-43.58	0-360	150	V
5.689	-69.88	Pk	34.8	-30	10.5	-54.58	-13	-41.58	0-360	150	V
* 7.59	-71.15	Pk	35.6	-27.3	10.4	-52.45	-13	-39.45	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 2 16QAM 20MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1860MHz											
* 3.709	-67.61	Pk	33.2	-33.1	10.5	-57.01	-13	-44.01	0-360	150	H
5.565	-69.72	Pk	34.6	-30.4	10.6	-54.92	-13	-41.92	0-360	150	H
* 7.419	-71.14	Pk	35.5	-27.5	10.4	-52.74	-13	-39.74	0-360	150	H
* 3.71	-68.21	Pk	33.2	-33.1	10.9	-57.21	-13	-44.21	0-360	150	V
5.563	-69.95	Pk	34.6	-30.5	11	-54.85	-13	-41.85	0-360	150	V
* 7.439	-71.88	Pk	35.5	-27.4	10.6	-53.18	-13	-40.18	0-360	150	V
Mid Channel 1880MHz											
* 3.756	-67.82	Pk	33.3	-33	10.4	-57.12	-13	-44.12	0-360	150	H
5.642	-69.25	Pk	34.6	-30	10.1	-54.55	-13	-41.55	0-360	150	H
* 7.532	-72.16	Pk	35.6	-27.4	10.2	-53.76	-13	-40.76	0-360	150	H
* 3.753	-68.3	Pk	33.3	-33	10.8	-57.2	-13	-44.2	0-360	150	V
5.637	-70.51	Pk	34.6	-30.1	10.7	-55.31	-13	-42.31	0-360	150	V
* 7.503	-72.36	Pk	35.6	-27.4	10.8	-53.36	-13	-40.36	0-360	150	V
High Channel 1900MHz											
* 3.792	-68.54	Pk	33.4	-32.8	10.7	-57.24	-13	-44.24	0-360	150	H
5.687	-70.01	Pk	34.8	-30	10.1	-55.11	-13	-42.11	0-360	150	H
* 7.617	-71.99	Pk	35.6	-27.2	10.4	-53.19	-13	-40.19	0-360	150	H
* 3.79	-67.52	Pk	33.4	-32.8	10.6	-56.32	-13	-43.32	0-360	150	V
5.701	-69.38	Pk	34.9	-29.8	10.3	-53.98	-13	-40.98	0-360	150	V
* 7.597	-72.36	Pk	35.5	-27.3	10.6	-53.56	-13	-40.56	0-360	150	V

9.1.4. LTE BAND 5

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 5 QPSK 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 829MHz											
1.656	-66	Pk	28.5	-35.8	10.3	-63	-13	-50.0	0-360	150	H
* 2.485	-66.93	Pk	32.3	-35.7	10.3	-60.03	-13	-47.03	0-360	150	H
3.315	-68.47	Pk	32.8	-33.9	10.9	-58.67	-13	-45.67	0-360	150	H
1.645	-64.93	Pk	28.5	-35.8	10.9	-61.33	-13	-48.33	0-360	150	V
2.481	-66.64	Pk	32.3	-35.7	10.3	-59.74	-13	-46.74	0-360	150	V
3.303	-67.77	Pk	32.8	-34	11.2	-57.77	-13	-44.77	0-360	150	V
Mid Channel 836.5MHz											
* 1.668	-66.28	Pk	28.6	-35.8	10.1	-63.38	-13	-50.38	0-360	150	H
2.502	-65.77	Pk	32.3	-35.7	10	-59.17	-13	-46.17	0-360	150	H
* 3.336	-67.92	Pk	32.8	-33.9	10.8	-58.22	-13	-45.22	0-360	150	H
* 1.66	-66.05	Pk	28.5	-35.8	11	-62.35	-13	-49.35	0-360	150	V
* 2.495	-65.49	Pk	32.3	-35.7	10.8	-58.09	-13	-45.09	0-360	150	V
3.327	-67.51	Pk	32.8	-33.9	11	-57.61	-13	-44.61	0-360	150	V
High Channel 844MHz											
1.685	-65.52	Pk	28.7	-35.8	10.2	-62.42	-13	-49.42	0-360	150	H
2.532	-65.6	Pk	32.3	-35.7	9.9	-59.1	-13	-46.1	0-360	150	H
3.373	-67.04	Pk	32.7	-33.9	10.8	-57.44	-13	-44.44	0-360	150	H
1.689	-66.1	Pk	28.7	-35.8	11.7	-61.5	-13	-48.5	0-360	150	V
2.536	-66.86	Pk	32.3	-35.7	10.6	-59.66	-13	-46.66	0-360	150	V
3.39	-67.49	Pk	32.6	-33.8	11.1	-57.59	-13	-44.59	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 5 16QAM 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 829MHz											
1.679	-65.1	Pk	28.6	-35.8	10	-62.3	-13	-49.3	0-360	150	H
2.527	-65.92	Pk	32.3	-35.7	10.2	-59.12	-13	-46.12	0-360	150	H
3.357	-67.4	Pk	32.8	-34	10.6	-58	-13	-45	0-360	150	H
1.682	-66.6	Pk	28.7	-35.8	11.3	-62.4	-13	-49.4	0-360	150	V
2.522	-66.14	Pk	32.3	-35.8	11.2	-58.44	-13	-45.44	0-360	150	V
3.365	-67.7	Pk	32.7	-34	10.8	-58.2	-13	-45.2	0-360	150	V
Mid Channel 836.5MHz											
* 1.672	-66.81	Pk	28.6	-35.8	9.9	-64.11	-13	-51.11	0-360	150	H
2.511	-65.43	Pk	32.3	-35.7	10.2	-58.63	-13	-45.63	0-360	150	H
* 3.338	-67.48	Pk	32.8	-33.9	10.7	-57.88	-13	-44.88	0-360	150	H
* 1.667	-65.22	Pk	28.6	-35.8	11.1	-61.32	-13	-48.32	0-360	150	V
2.505	-65.89	Pk	32.3	-35.6	11.2	-57.99	-13	-44.99	0-360	150	V
3.325	-66.87	Pk	32.8	-33.9	11	-56.97	-13	-43.97	0-360	150	V
High Channel 844MHz											
1.688	-66.33	Pk	28.7	-35.8	10.5	-62.93	-13	-49.93	0-360	150	H
2.532	-65.99	Pk	32.3	-35.7	9.9	-59.49	-13	-46.49	0-360	150	H
3.368	-67.66	Pk	32.7	-33.9	10.8	-58.06	-13	-45.06	0-360	150	H
1.694	-66.5	Pk	28.7	-35.8	11.9	-61.7	-13	-48.7	0-360	150	V
2.534	-66.08	Pk	32.3	-35.7	10.7	-58.78	-13	-45.78	0-360	150	V
3.365	-66.18	Pk	32.7	-34	10.8	-56.68	-13	-43.68	0-360	150	V

9.1.5. LTE BAND 7

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		12506 JM										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 7 QPSK 20MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 2510MHz												
5.025	-70.16	Pk	34.3	-31.5	10.3	-57.06	-25	-32.06	0-360	150	H	
7.523	-72.57	Pk	35.6	-27.4	10.5	-53.87	-25	-28.87	0-360	150	H	
10.053	-74.75	Pk	37.1	-24.4	10.5	-51.55	-25	-26.55	0-360	150	H	
5.017	-69.83	Pk	34.3	-31.4	10.5	-56.43	-25	-31.43	0-360	150	V	
7.458	-72.31	Pk	35.5	-27.4	10.8	-53.41	-25	-28.41	0-360	150	V	
10.091	-73.86	Pk	37.2	-24.5	10.6	-50.56	-25	-25.56	0-360	150	V	
Mid Channel 2535MHz												
5.07	-69.94	Pk	34.3	-31.1	10.3	-56.44	-25	-31.44	0-360	150	H	
7.597	-72.03	Pk	35.5	-27.3	10.4	-53.43	-25	-28.43	0-360	150	H	
10.127	-75.83	Pk	37.2	-24.4	10.3	-52.73	-25	-27.73	0-360	150	H	
5.069	-70.84	Pk	34.3	-31.1	10.5	-57.14	-25	-32.14	0-360	150	V	
7.64	-73.07	Pk	35.6	-27.2	10.6	-54.07	-25	-29.07	0-360	150	V	
10.093	-73.25	Pk	37.2	-24.5	10.7	-49.85	-25	-24.85	0-360	150	V	
High Channel 2560MHz												
5.007	-69.93	Pk	34.3	-31.3	10.4	-56.53	-25	-31.53	0-360	150	H	
7.497	-72.64	Pk	35.6	-27.4	10.4	-54.04	-25	-29.04	0-360	150	H	
10.039	-73.55	Pk	37.1	-24.4	10.5	-50.35	-25	-25.35	0-360	150	H	
5.016	-70.33	Pk	34.3	-31.3	10.5	-56.83	-25	-31.83	0-360	150	V	
7.495	-72.74	Pk	35.6	-27.4	10.7	-53.84	-25	-28.84	0-360	150	V	
10.038	-72.64	Pk	37.1	-24.4	10.6	-49.34	-25	-24.34	0-360	150	V	

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		12506 JM										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 7 16QAM 20MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 2510MHz												
5.026	-69.16	Pk	34.3	-31.5	10.3	-56.06	-25	-31.06	0-360	150	H	
7.51	-73.21	Pk	35.6	-27.4	10.5	-54.51	-25	-29.51	0-360	150	H	
10.021	-73.72	Pk	37.1	-24.6	10.5	-50.72	-25	-25.72	0-360	150	H	
5.009	-69.12	Pk	34.3	-31.3	10.7	-55.42	-25	-30.42	0-360	150	V	
7.473	-72.76	Pk	35.5	-27.4	10.6	-54.06	-25	-29.06	0-360	150	V	
10.004	-74.1	Pk	37.1	-24.6	10.6	-51	-25	-26	0-360	150	V	
Mid Channel 2535MHz												
5.06	-70.76	Pk	34.3	-31.2	10.2	-57.46	-25	-32.46	0-360	150	H	
7.598	-72.7	Pk	35.5	-27.2	10.4	-54	-25	-29	0-360	150	H	
10.113	-74.66	Pk	37.2	-24.5	10.4	-51.56	-25	-26.56	0-360	150	H	
5.044	-69.89	Pk	34.3	-31.2	10.3	-56.49	-25	-31.49	0-360	150	V	
7.624	-73.04	Pk	35.6	-27.2	10.5	-54.14	-25	-29.14	0-360	150	V	
10.075	-74.59	Pk	37.2	-24.4	10.6	-51.19	-25	-26.19	0-360	150	V	
High Channel 2560MHz												
5.113	-69.86	Pk	34.4	-31.1	10.6	-55.96	-25	-30.96	0-360	150	H	
7.678	-72.68	Pk	35.6	-27.3	10.3	-54.08	-25	-29.08	0-360	150	H	
10.232	-73.97	Pk	37.3	-24.1	10.3	-50.47	-25	-25.47	0-360	150	H	
5.103	-68.97	Pk	34.4	-31.2	10.7	-55.07	-25	-30.07	0-360	150	V	
7.653	-72.46	Pk	35.6	-27.2	10.5	-53.56	-25	-28.56	0-360	150	V	
10.211	-74.42	Pk	37.3	-24.3	10.5	-50.92	-25	-25.92	0-360	150	V	

9.1.6. LTE BAND 12

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 12 QPSK 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 704MHz											
* 1.402	-65.72	Pk	28.9	-35.8	10.6	-62.02	-13	-49.02	0-360	150	H
2.103	-65.01	Pk	31.6	-35.8	10.2	-59.01	-13	-46.01	0-360	150	H
* 2.818	-64.15	Pk	32.3	-35.4	10.8	-56.45	-13	-43.45	0-360	150	H
* 1.405	-66.38	Pk	28.9	-35.7	11	-62.18	-13	-49.18	0-360	150	V
2.11	-65.51	Pk	31.6	-35.8	10.7	-59.01	-13	-46.01	0-360	150	V
* 2.821	-65.78	Pk	32.3	-35.4	11	-57.88	-13	-44.88	0-360	150	V
Mid Channel 707.5MHz											
* 1.415	-66.21	Pk	28.8	-35.7	11.1	-62.01	-13	-49.01	0-360	150	H
2.123	-64.04	Pk	31.6	-35.8	10.3	-57.94	-13	-44.94	0-360	150	H
* 2.825	-64.95	Pk	32.3	-35.4	10.9	-57.15	-13	-44.15	0-360	150	H
* 1.415	-66.08	Pk	28.8	-35.7	12.1	-60.88	-13	-47.88	0-360	150	V
2.127	-65.01	Pk	31.6	-35.8	11.2	-58.01	-13	-45.01	0-360	150	V
* 2.834	-65.92	Pk	32.3	-35.4	11.3	-57.72	-13	-44.72	0-360	150	V
High Channel 711MHz											
1.43	-65.01	Pk	28.6	-35.8	10.7	-61.51	-13	-48.51	0-360	150	H
2.134	-64.94	Pk	31.6	-35.7	10.5	-58.54	-13	-45.54	0-360	150	H
* 2.839	-65.45	Pk	32.3	-35.3	11.3	-57.15	-13	-44.15	0-360	150	H
* 1.425	-66.3	Pk	28.7	-35.8	11.7	-61.7	-13	-48.7	0-360	150	V
2.129	-66.22	Pk	31.6	-35.8	11.2	-59.22	-13	-46.22	0-360	150	V
* 2.84	-65.14	Pk	32.3	-35.4	11.5	-56.74	-13	-43.74	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		07/05/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 12 16QAM 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 704MHz											
* 1.418	-66.41	Pk	28.7	-35.7	11.2	-62.21	-13	-49.21	0-360	150	H
2.113	-64.92	Pk	31.6	-35.8	10	-59.12	-13	-46.12	0-360	150	H
* 2.827	-64.84	Pk	32.3	-35.4	10.9	-57.04	-13	-44.04	0-360	150	H
* 1.411	-67.27	Pk	28.8	-35.7	11.7	-62.47	-13	-49.47	0-360	150	V
2.111	-66.21	Pk	31.6	-35.8	10.7	-59.71	-13	-46.71	0-360	150	V
* 2.823	-64.71	Pk	32.3	-35.4	11	-56.81	-13	-43.81	0-360	150	V
Mid Channel 707.5MHz											
* 1.421	-65.32	Pk	28.7	-35.7	11.2	-61.12	-13	-48.12	0-360	150	H
2.129	-64.44	Pk	31.6	-35.8	10.4	-58.24	-13	-45.24	0-360	150	H
* 2.841	-65.94	Pk	32.3	-35.4	11.3	-57.74	-13	-44.74	0-360	150	H
* 1.414	-65.58	Pk	28.8	-35.7	12.1	-60.38	-13	-47.38	0-360	150	V
2.128	-64.44	Pk	31.6	-35.8	11.2	-57.44	-13	-44.44	0-360	150	V
* 2.834	-65.97	Pk	32.3	-35.4	11.3	-57.77	-13	-44.77	0-360	150	V
High Channel 711MHz											
1.429	-66.05	Pk	28.6	-35.8	10.8	-62.45	-13	-49.45	0-360	150	H
2.137	-64.59	Pk	31.6	-35.8	10.4	-58.39	-13	-45.39	0-360	150	H
* 2.842	-65.76	Pk	32.3	-35.4	11.3	-57.56	-13	-44.56	0-360	150	H
* 1.418	-66.11	Pk	28.7	-35.7	12.3	-60.81	-13	-47.81	0-360	150	V
2.13	-66.37	Pk	31.6	-35.8	11.2	-59.37	-13	-46.37	0-360	150	V
* 2.845	-65.28	Pk	32.3	-35.3	11.4	-56.88	-13	-43.88	0-360	150	V

9.1.7. LTE BAND 13

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 13 QPSK 10MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Mid Channel 782MHz												
* 1.559	-66.01	Pk	28.1	-35.8	11.7	-62.01	-40	-22.01	0-360	150	H	
* 2.344	-64.6	Pk	31.7	-35.7	10.9	-57.7	-13	-44.7	0-360	150	H	
3.125	-67.3	Pk	32.9	-34.6	10.7	-58.3	-13	-45.3	0-360	150	H	
* 1.564	-65.27	Pk	28.1	-35.8	11.6	-61.37	-40	-21.37	0-360	150	V	
* 2.346	-65.38	Pk	31.7	-35.7	11.7	-57.68	-13	-44.68	0-360	150	V	
3.123	-67	Pk	32.9	-34.6	11	-57.7	-13	-44.7	0-360	150	V	

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 13 16QAM 10MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Mid Channel 782MHz												
* 1.564	-64.7	Pk	28.1	-35.8	11.5	-60.9	-40	-20.9	0-360	150	H	
* 2.346	-62.48	Pk	31.7	-35.7	11	-55.48	-13	-42.48	0-360	150	H	
3.127	-66.78	Pk	32.9	-34.6	10.7	-57.78	-13	-44.78	0-360	150	H	
* 1.566	-65.23	Pk	28.1	-35.8	11.5	-61.43	-40	-21.43	0-360	150	V	
* 2.344	-65.6	Pk	31.7	-35.7	11.6	-58	-13	-45	0-360	150	V	
3.121	-65.05	Pk	32.9	-34.6	11.1	-55.65	-13	-42.65	0-360	150	V	

9.1.8. LTE BAND 26

Company:		SOMC									
Project #:		12371351									
Date:		06/30/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 26 QPSK 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 829MHz											
1.638	-65.21	Pk	28.4	-35.8	11.1	-61.51	-13	-48.51	0-360	150	H
2.461	-64.97	Pk	32.2	-35.8	10.8	-57.77	-13	-44.77	0-360	150	H
3.274	-66.08	Pk	32.9	-34	10.7	-56.48	-13	-43.48	0-360	150	H
1.638	-63.43	Pk	28.4	-35.8	11.8	-59.03	-13	-46.03	0-360	150	V
2.461	-64.79	Pk	32.2	-35.8	10.9	-57.49	-13	-44.49	0-360	150	V
3.276	-66.91	Pk	32.9	-34	11	-57.01	-13	-44.01	0-360	150	V
Mid Channel 836.5MHz											
1.664	-65.44	Pk	28.6	-35.8	10.3	-62.34	-13	-49.34	0-360	150	H
2.497	-65.63	Pk	32.3	-35.7	9.8	-59.23	-13	-46.23	0-360	150	H
3.33	-66.66	Pk	32.8	-33.9	11.2	-56.56	-13	-43.56	0-360	150	H
1.664	-64.17	Pk	28.6	-35.8	11	-60.37	-13	-47.37	0-360	150	V
2.497	-65.63	Pk	32.3	-35.7	11	-58.03	-13	-45.03	0-360	150	V
3.323	-67.66	Pk	32.8	-33.9	11	-57.76	-13	-44.76	0-360	150	V
High Channel 844 MHz											
1.697	-65.51	Pk	28.7	-35.8	11.5	-61.11	-13	-48.11	0-360	150	H
2.522	-65.9	Pk	32.3	-35.8	10.4	-59	-13	-46	0-360	150	H
3.384	-67.38	Pk	32.7	-33.9	11	-57.58	-13	-44.58	0-360	150	H
1.689	-65.77	Pk	28.7	-35.8	11.8	-61.07	-13	-48.07	0-360	150	V
2.53	-65.82	Pk	32.3	-35.7	10.8	-58.42	-13	-45.42	0-360	150	V
3.375	-67.24	Pk	32.7	-33.9	11.1	-57.34	-13	-44.34	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		06/30/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 26 16QAM 10MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 829MHz											
1.638	-65.05	Pk	28.4	-35.8	11.1	-61.35	-13	-48.35	0-360	150	H
2.448	-65.49	Pk	32.2	-35.7	10.8	-58.19	-13	-45.19	0-360	150	H
3.271	-66.75	Pk	32.9	-34	10.7	-57.15	-13	-44.15	0-360	150	H
1.638	-64.84	Pk	28.4	-35.8	11.8	-60.44	-13	-47.44	0-360	150	V
2.456	-65.64	Pk	32.2	-35.7	10.8	-58.34	-13	-45.34	0-360	150	V
3.275	-66.51	Pk	32.9	-34	11	-56.61	-13	-43.61	0-360	150	V
Mid Channel 836.5MHz											
1.672	-65.55	Pk	28.6	-35.8	9.9	-62.85	-13	-49.85	0-360	150	H
2.501	-65.26	Pk	32.3	-35.7	9.9	-58.76	-13	-45.76	0-360	150	H
3.329	-67.2	Pk	32.8	-33.9	11.2	-57.1	-13	-44.1	0-360	150	H
1.673	-64.24	Pk	28.6	-35.8	11.3	-60.14	-13	-47.14	0-360	150	V
2.5	-66.2	Pk	32.3	-35.7	11	-58.6	-13	-45.6	0-360	150	V
3.326	-67.32	Pk	32.8	-33.9	11	-57.42	-13	-44.42	0-360	150	V
High Channel 844 MHz											
1.69	-65.54	Pk	28.7	-35.8	10.9	-61.74	-13	-48.74	0-360	150	H
2.528	-65.88	Pk	32.3	-35.7	10.1	-59.18	-13	-46.18	0-360	150	H
3.376	-66.48	Pk	32.7	-33.9	10.9	-56.78	-13	-43.78	0-360	150	H
1.685	-65.9	Pk	28.7	-35.8	11.5	-61.5	-13	-48.5	0-360	150	V
2.538	-65.7	Pk	32.3	-35.7	10.5	-58.6	-13	-45.6	0-360	150	V
3.378	-67.99	Pk	32.7	-33.9	11.2	-57.99	-13	-44.99	0-360	150	V

9.1.9. LTE BAND 41

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 41 QPSK 20MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 2506 MHz												
* 5.007	-68.13	Pk	34.3	-31.3	10.4	-54.73	-25	-29.73	0-360	150	H	
* 7.547	-71.69	Pk	35.6	-27.4	10.2	-53.29	-25	-28.29	0-360	150	H	
9.991	-72.44	Pk	37	-24.6	10.3	-49.74	-25	-24.74	0-360	150	H	
* 5.01	-68.77	Pk	34.3	-31.3	10.7	-55.07	-25	-30.07	0-360	150	V	
* 7.512	-72.15	Pk	35.6	-27.4	10.8	-53.15	-25	-28.15	0-360	150	V	
10.03	-73.82	Pk	37.1	-24.5	10.6	-50.62	-25	-25.62	0-360	150	V	
Mid Channel 2593 MHz												
5.186	-69.73	Pk	34.4	-31	10.5	-55.83	-25	-30.83	0-360	150	H	
7.764	-72.16	Pk	35.7	-26.9	10.3	-53.06	-25	-28.06	0-360	150	H	
10.363	-73.18	Pk	37.4	-24.1	10.4	-49.48	-25	-24.48	0-360	150	H	
5.194	-67.83	Pk	34.4	-31	10.3	-54.13	-25	-29.13	0-360	150	V	
7.774	-72.13	Pk	35.7	-26.9	10.5	-52.83	-25	-27.83	0-360	150	V	
10.406	-72.83	Pk	37.4	-23.8	10.4	-48.83	-25	-23.83	0-360	150	V	
High Channel 2680MHz												
5.347	-68.84	Pk	34.5	-30.8	10.9	-54.24	-25	-29.24	0-360	150	H	
* 8.051	-72.13	Pk	35.7	-26.7	10.5	-52.63	-25	-27.63	0-360	150	H	
* 10.688	-73.73	Pk	37.8	-23.7	9.9	-49.73	-25	-24.73	0-360	150	H	
* 5.364	-68.67	Pk	34.5	-30.7	10.8	-54.07	-25	-29.07	0-360	150	V	
* 8.043	-71.23	Pk	35.7	-26.7	10.8	-51.43	-25	-26.43	0-360	150	V	
* 10.704	-73.76	Pk	37.9	-23.7	10.2	-49.36	-25	-24.36	0-360	150	V	

Company:		SOMC										
Project #:		12371351										
Date:		07/05/2018										
Test Engineer:		43575 OS										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 41 16QAM 20MHz										
Chamber #:		Chamber K										
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity	
Low Channel 2506 MHz												
* 5.021	-68.21	Pk	34.3	-31.5	10.4	-55.01	-25	-30.01	0-360	150	H	
* 7.534	-72.07	Pk	35.6	-27.4	10.3	-53.57	-25	-28.57	0-360	150	H	
10.019	-73.36	Pk	37.1	-24.6	10.5	-50.36	-25	-25.36	0-360	150	H	
* 5.023	-68.36	Pk	34.3	-31.5	10.6	-54.96	-25	-29.96	0-360	150	V	
* 7.53	-72.31	Pk	35.6	-27.4	10.6	-53.51	-25	-28.51	0-360	150	V	
10.02	-73.51	Pk	37.1	-24.6	10.6	-50.41	-25	-25.41	0-360	150	V	
Mid Channel 2593 MHz												
5.185	-69.81	Pk	34.4	-31	10.5	-55.91	-25	-30.91	0-360	150	H	
7.792	-72.61	Pk	35.7	-26.7	10.5	-53.11	-25	-28.11	0-360	150	H	
10.352	-73.76	Pk	37.4	-24.1	10.5	-49.96	-25	-24.96	0-360	150	H	
5.178	-68.36	Pk	34.4	-31	10.5	-54.46	-25	-29.46	0-360	150	V	
7.768	-72.44	Pk	35.7	-26.9	10.4	-53.24	-25	-28.24	0-360	150	V	
10.368	-72.88	Pk	37.4	-24.1	10.6	-48.98	-25	-23.98	0-360	150	V	
High Channel 2680MHz												
5.349	-69.55	Pk	34.5	-30.8	10.8	-55.05	-25	-30.05	0-360	150	H	
* 8.047	-72.57	Pk	35.7	-26.8	10.5	-53.17	-25	-28.17	0-360	150	H	
* 10.699	-74.77	Pk	37.9	-23.7	9.9	-50.67	-25	-25.67	0-360	150	H	
* 5.36	-69.96	Pk	34.5	-30.6	10.9	-55.16	-25	-30.16	0-360	150	V	
* 8.032	-72.28	Pk	35.7	-26.7	10.7	-52.58	-25	-27.58	0-360	150	V	
* 10.737	-74.21	Pk	37.9	-23.6	10	-49.91	-25	-24.91	0-360	150	V	

9.1.10. LTE BAND 66

Company:		SOMC									
Project #:		12371351									
Date:		06/30/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 66 QPSK 20MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1720MHz											
3.424	-67.43	Pk	32.6	-33.8	11	-57.63	-13	-44.63	0-360	150	H
5.143	-68.7	Pk	34.4	-31.2	10.2	-55.3	-13	-42.3	0-360	150	H
6.851	-72.37	Pk	35.5	-28	10.5	-54.37	-13	-41.37	0-360	150	H
3.424	-69.76	Pk	32.6	-33.8	11.1	-59.86	-13	-46.86	0-360	150	V
5.142	-69.43	Pk	34.4	-31.2	10.4	-55.83	-13	-42.83	0-360	150	V
6.848	-72.42	Pk	35.5	-28	10.5	-54.42	-13	-41.42	0-360	150	V
Mid Channel 1745MHz											
3.472	-67.86	Pk	32.6	-33.7	11	-57.96	-13	-44.96	0-360	150	H
5.208	-70.15	Pk	34.4	-31.1	10.9	-55.95	-13	-42.95	0-360	150	H
6.942	-71.66	Pk	35.5	-27.9	10.3	-53.76	-13	-40.76	0-360	150	H
3.472	-69.07	Pk	32.6	-33.7	10.9	-59.27	-13	-46.27	0-360	150	V
5.208	-71.35	Pk	34.4	-31.1	10.7	-57.35	-13	-44.35	0-360	150	V
6.943	-72.85	Pk	35.5	-28	10.5	-54.85	-13	-41.85	0-360	150	V
High Channel 1770MHz											
3.524	-68.07	Pk	32.8	-33.6	10.5	-58.37	-13	-45.37	0-360	150	H
5.285	-70.4	Pk	34.4	-30.6	10.7	-55.9	-13	-42.9	0-360	150	H
7.043	-73.04	Pk	35.6	-27.8	10.1	-55.14	-13	-42.14	0-360	150	H
3.525	-68.66	Pk	32.8	-33.6	10.3	-59.16	-13	-46.16	0-360	150	V
5.287	-69.05	Pk	34.4	-30.6	10.9	-54.35	-13	-41.35	0-360	150	V
7.042	-73.56	Pk	35.6	-27.8	10.4	-55.36	-13	-42.36	0-360	150	V

Company:		SOMC									
Project #:		12371351									
Date:		06/30/2018									
Test Engineer:		43575 OS									
Configuration:		EUT+ Support Equipment									
Mode:		LTE 66 16QAM 20MHz									
Chamber #:		Chamber K									
Frequency (MHz)	Meter Reading (dBm)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	ETSI 417 TX Below 1GHz	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
Low Channel 1720MHz											
3.424	-67.86	Pk	32.6	-33.8	11	-58.06	-13	-45.06	0-360	150	H
5.137	-69.39	Pk	34.4	-31.2	10.1	-56.09	-13	-43.09	0-360	150	H
6.85	-71.66	Pk	35.5	-28	10.5	-53.66	-13	-40.66	0-360	150	H
3.425	-66.17	Pk	32.6	-33.8	11.1	-56.27	-13	-43.27	0-360	150	V
5.138	-69.77	Pk	34.4	-31.2	10.4	-56.17	-13	-43.17	0-360	150	V
6.85	-73.67	Pk	35.5	-28	10.4	-55.77	-13	-42.77	0-360	150	V
Mid Channel 1745MHz											
3.472	-68.04	Pk	32.6	-33.7	11	-58.14	-13	-45.14	0-360	150	H
5.211	-69.48	Pk	34.4	-31.1	10.9	-55.28	-13	-42.28	0-360	150	H
6.948	-70.41	Pk	35.5	-28	10.1	-52.81	-13	-39.81	0-360	150	H
3.472	-69.77	Pk	32.6	-33.7	10.9	-59.97	-13	-46.97	0-360	150	V
5.209	-68.89	Pk	34.4	-31.1	10.7	-54.89	-13	-41.89	0-360	150	V
6.948	-72.26	Pk	35.5	-28	10.4	-54.36	-13	-41.36	0-360	150	V
High Channel 1770MHz											
3.52	-66.75	Pk	32.7	-33.7	10.6	-57.15	-13	-44.15	0-360	150	H
5.282	-70.62	Pk	34.4	-30.6	11	-55.82	-13	-42.82	0-360	150	H
7.045	-72.19	Pk	35.6	-27.8	10.1	-54.29	-13	-41.29	0-360	150	H
3.521	-67.71	Pk	32.7	-33.7	10.3	-58.41	-13	-45.41	0-360	150	V
5.281	-70.51	Pk	34.4	-30.6	11.2	-55.51	-13	-42.51	0-360	150	V
7.044	-71.55	Pk	35.6	-27.8	10.4	-53.35	-13	-40.35	0-360	150	V

10. VERIFICATION AND VALIDATION OF USING MOBILE COUNTRY CODE

RESULTS

- Appendix A

Appendix A

For this product when the Mobile Country Code (=MCC) is set to US MCC, the below bands will be disabled.

- LTE B19
- LTE B38
- LTE B40

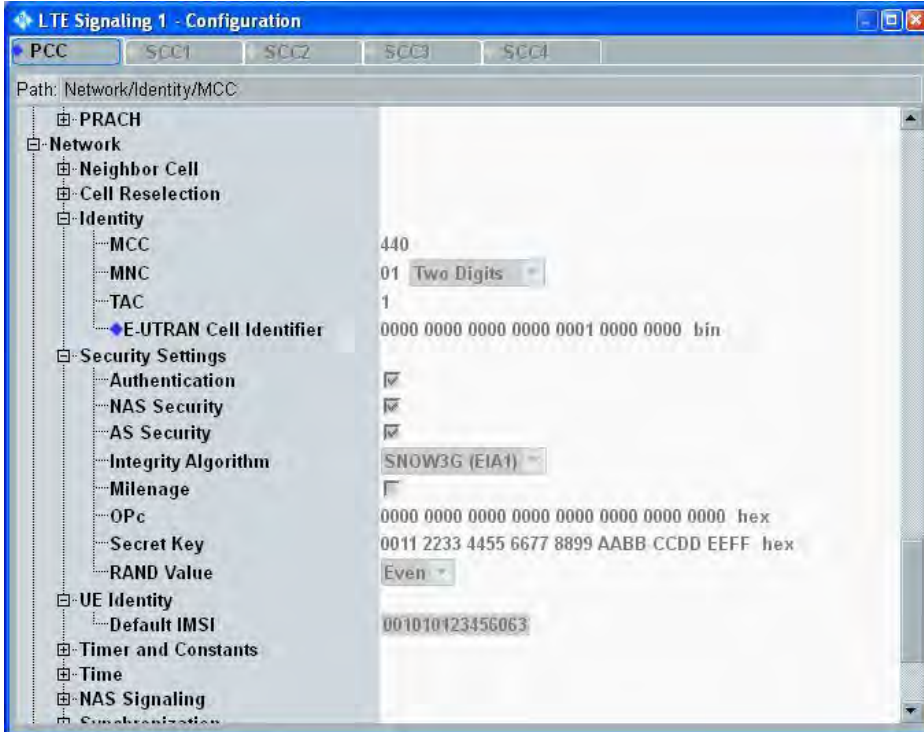
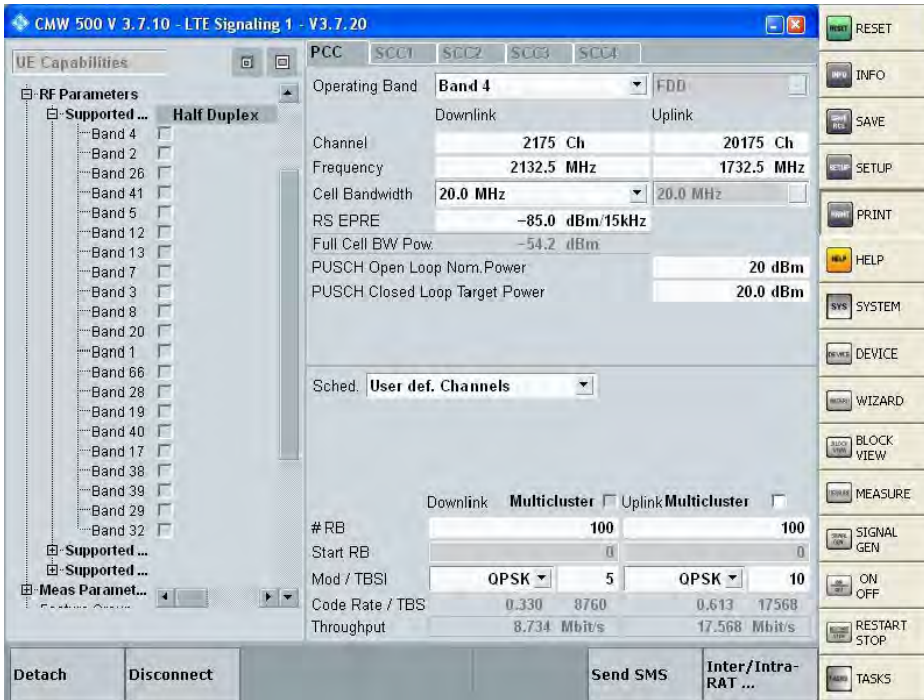
The following pages show that when US MCC is connected on the base station, LTE B19/38/40 cannot be registered and no capability (i.e. disabled). On the other hand, when non-US MCC is connected, the above bands are able to register and have capability.

UE don't show B19, B38 & B40 with US MCC (310)

The screenshot shows the 'UE Capabilities' configuration window in CMW 500 V 3.7.10. The 'RF Parameters' section is expanded to 'Supported ...' and 'Half Duplex'. The 'Operating Band' is set to 'Band 4'. The 'Channel' is '2175 Ch' for Downlink and '20175 Ch' for Uplink. The 'Frequency' is '2132.5 MHz' for Downlink and '1732.5 MHz' for Uplink. The 'Cell Bandwidth' is '20.0 MHz' for both. The 'RS EPRE' is '-85.0 dBm/15kHz' and 'Full Cell BW Pow.' is '-54.2 dBm'. The 'PUSCH Open Loop Norm. Power' and 'PUSCH Closed Loop Target Power' are both '20 dBm'. The 'Mod / TBSI' is 'QPSK' and '5'. The 'Code Rate / TBS' is '0.330 9760' for Downlink and '0.613 17568' for Uplink. The 'Throughput' is '8.734 Mbit/s' for Downlink and '17.568 Mbit/s' for Uplink. The 'Sched.' is 'User def. Channels'. The 'Multicluster' checkboxes are unchecked. The '# RB' is '100' and 'Start RB' is '0'. The 'Detach', 'Disconnect', 'Send SMS', and 'Inter/Intra-RAT ...' buttons are visible at the bottom.

The screenshot shows the 'LTE Signaling 1 - Configuration' window in CMW 500 V 3.7.10. The 'Network Identity' section is expanded to 'E-UTRAN Cell Identifier'. The 'MCC' is '310', 'MNC' is '01' (Two Digits), and 'TAC' is '1'. The 'E-UTRAN Cell Identifier' is '0000 0000 0000 0000 0001 0000 0000 bin'. The 'Security Settings' section is expanded to 'Authentication', 'NAS Security', and 'AS Security'. The 'Integrity Algorithm' is 'SNOW3G (EIA1)'. The 'Milenage' checkbox is unchecked. The 'OPc' is '0000 0000 0000 0000 0000 0000 0000 hex'. The 'Secret Key' is '0011 2233 4455 6677 8899 AABB CCDD EEFF hex'. The 'RAND Value' is 'Even'. The 'UE Identity' section is expanded to 'Default IMSI', which is '001010123456063'. The 'Timer and Constants', 'Time', and 'NAS Signaling' sections are also visible.

UE Shows B19, B38 & B40 with Non-US MCC (440)



END OF REPORT