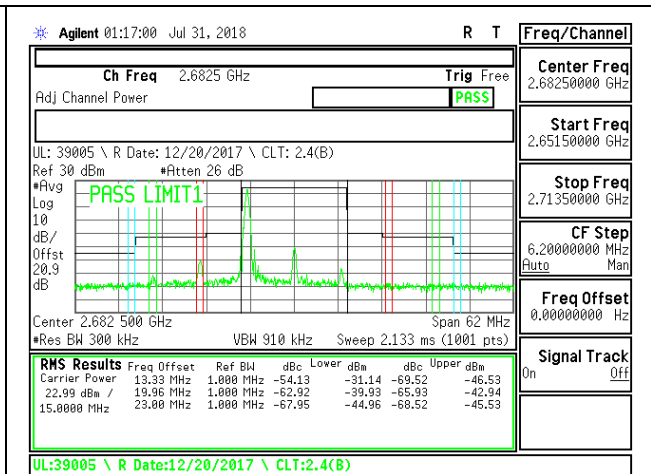
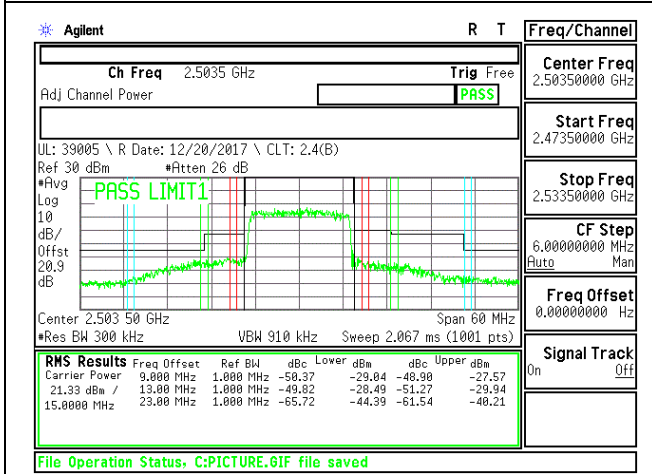


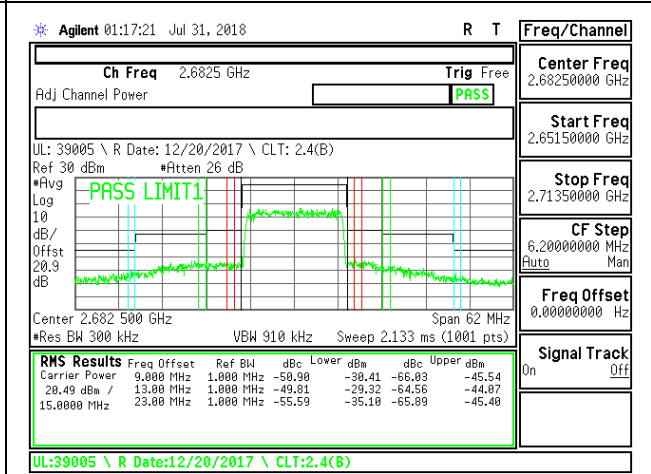
LTE B41 15MHz 16QAM Low Channel RB1-0



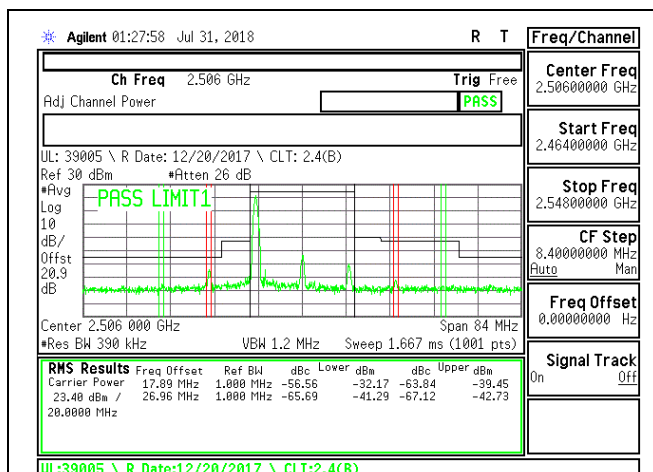
LTE B41 15MHz 16QAM High Channel RB1-0



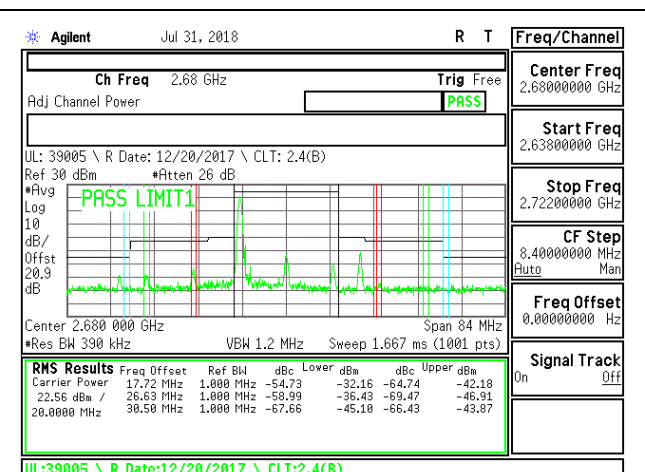
LTE B41 15MHz 16QAM Low Channel RB75-0



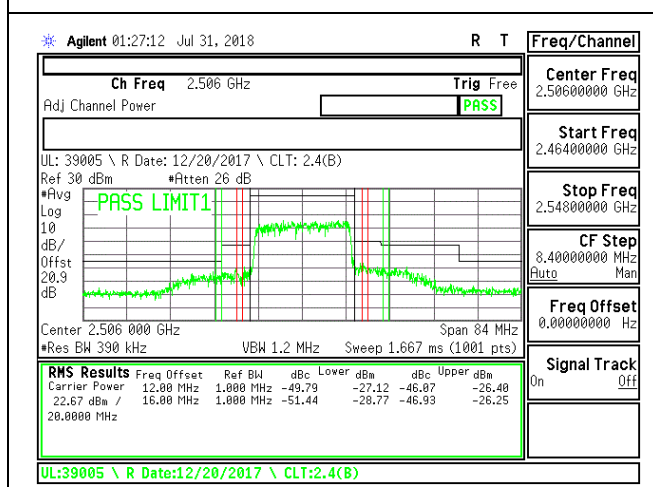
LTE B41 15MHz 16QAM High Channel RB75-0



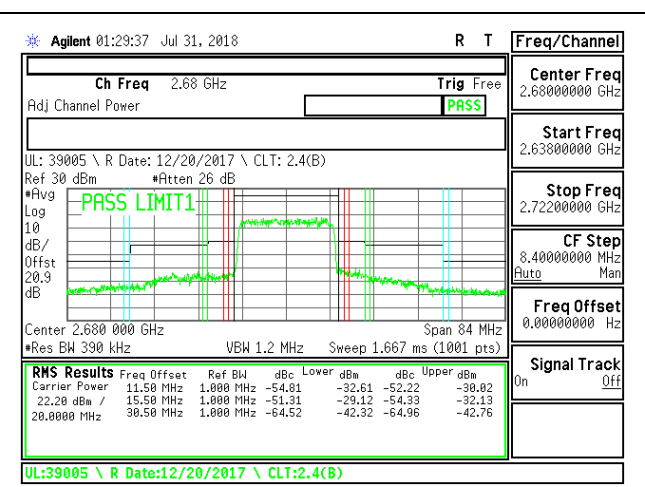
LTE B41 20MHz QPSK Low Channel RB1-0



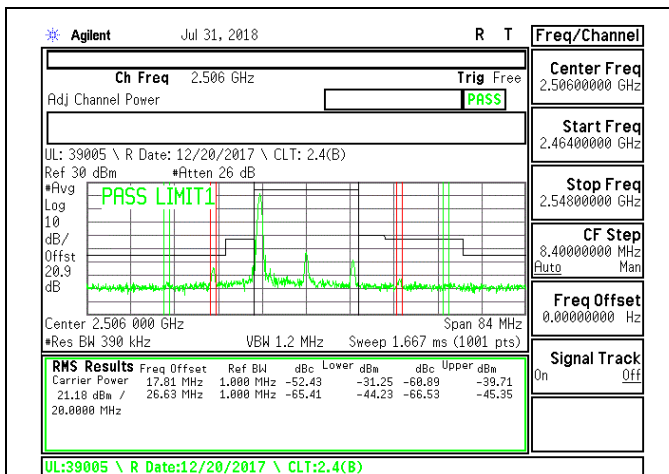
LTE B41 20MHz QPSK High Channel RB1-0



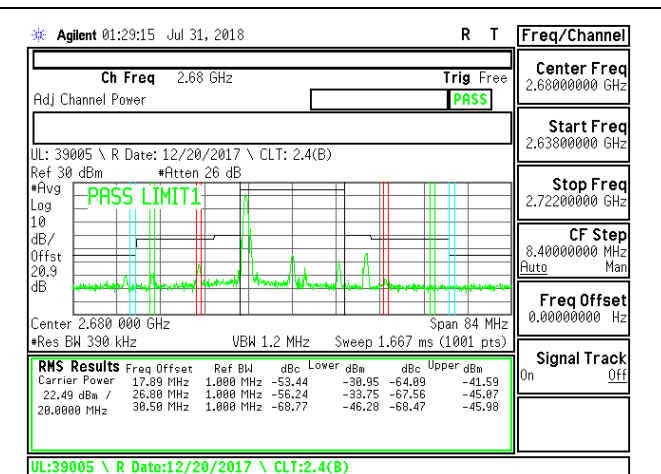
LTE B41 20MHz QPSK Low Channel RB100-0



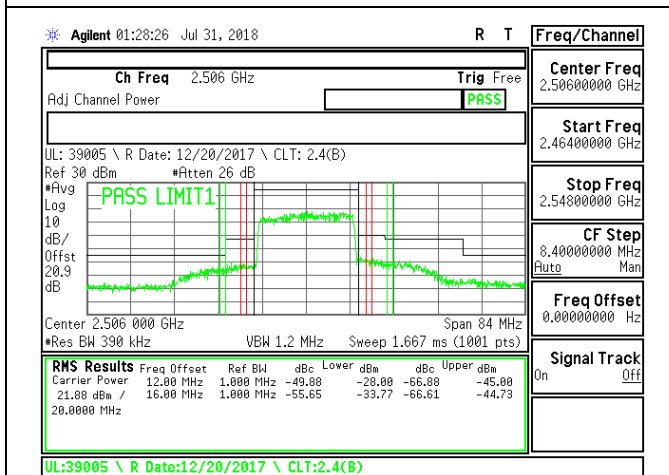
LTE B41 20MHz QPSK High Channel RB100-0



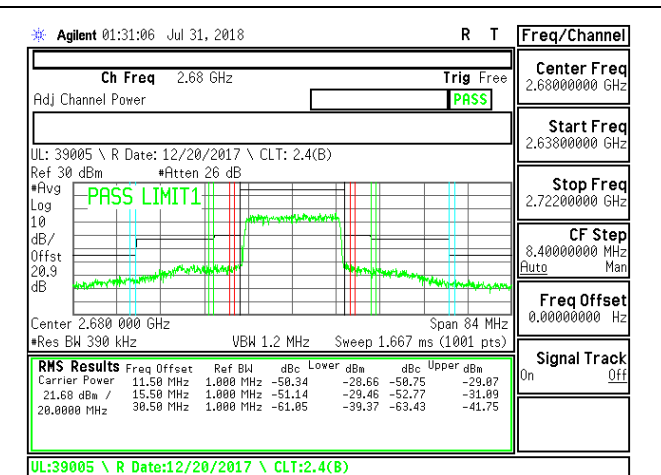
LTE B41 20MHz 16QAM Low Channel RB1-0



LTE B41 20MHz 16QAM High Channel RB1-0



LTE B41 20MHz 16QAM Low Channel RB100-0



LTE B41 20MHz 16QAM High Channel RB100-0

8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53

LIMITS

FCC: §22.917, §24.238, §27.53 (c), (g), (h)

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

FCC: §27.53 (m) (Band 7, 41)

The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm, -25dBm and -40dBm according to the band Limit
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz. (NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

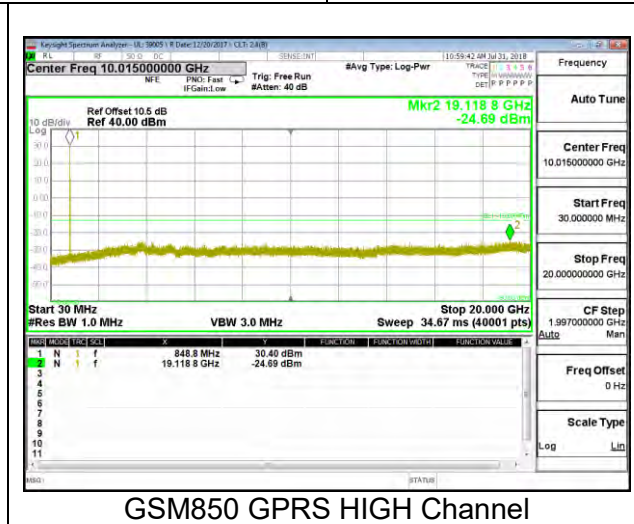
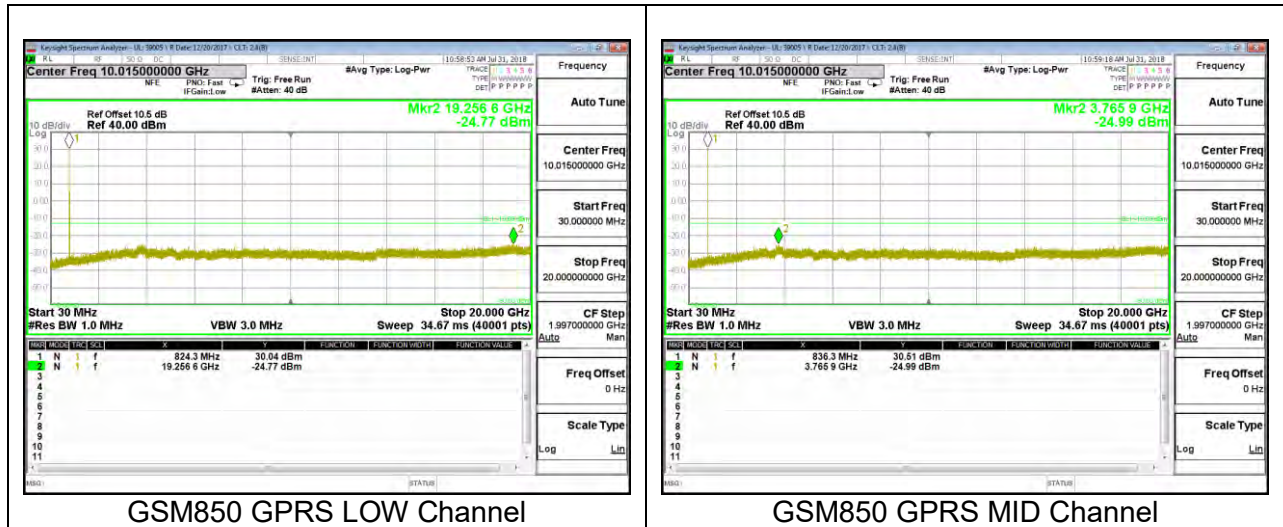
MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 2
- WCDMA Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 12
- LTE Band 41

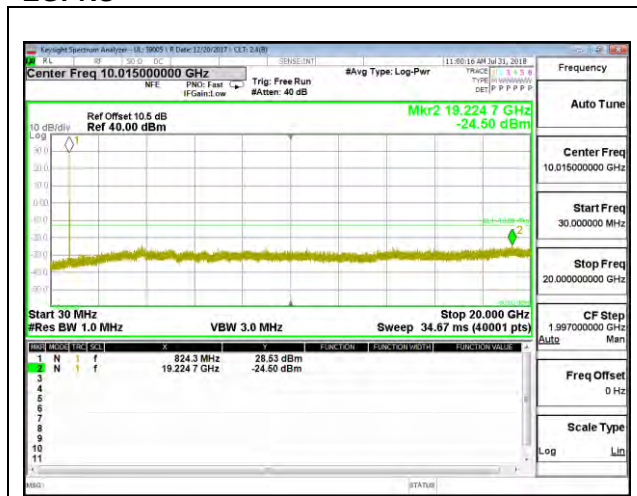
RESULTS

8.3.1. GSM850

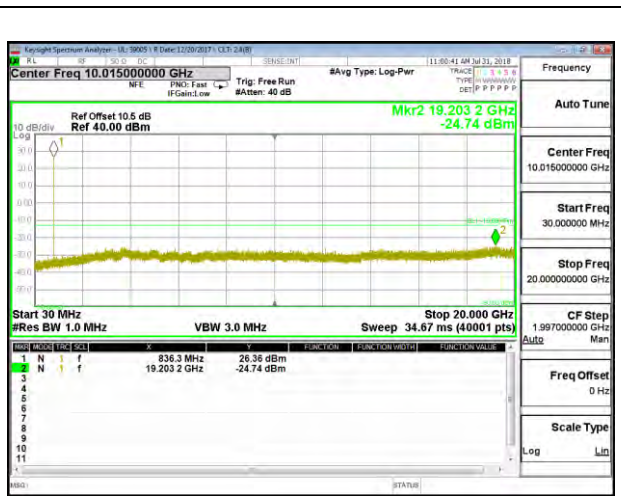
GPRS



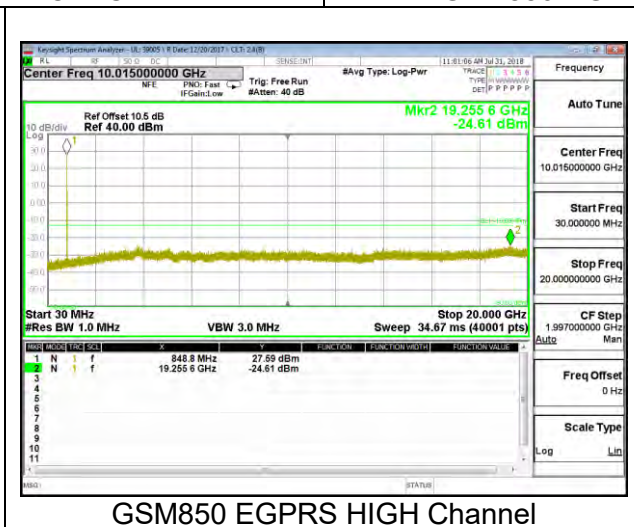
EGPRS



GSM850 EGPRS LOW Channel



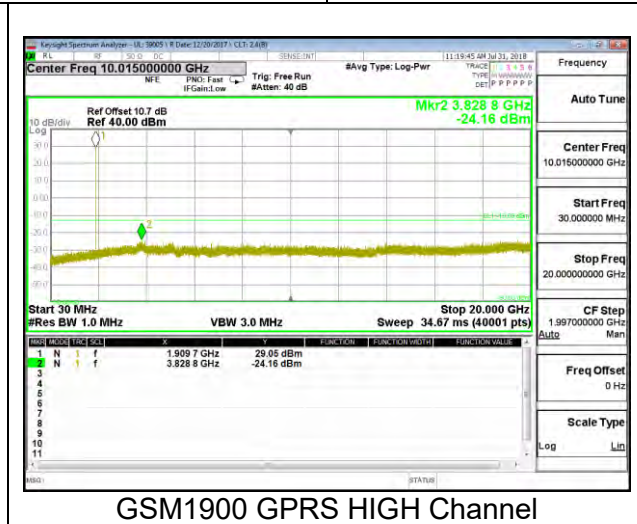
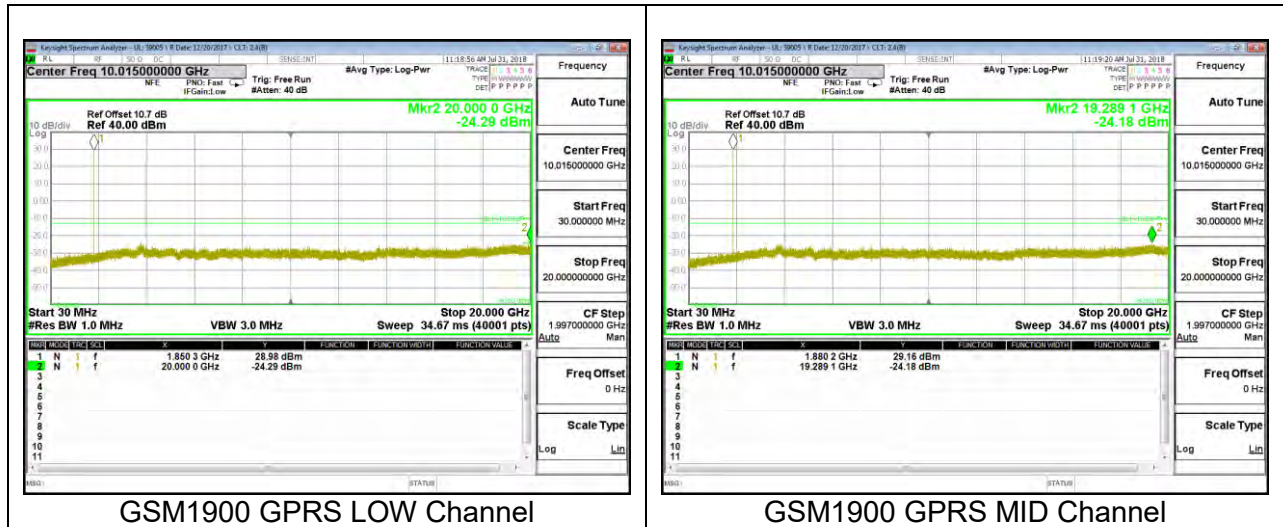
GSM850 EGPRS MID Channel



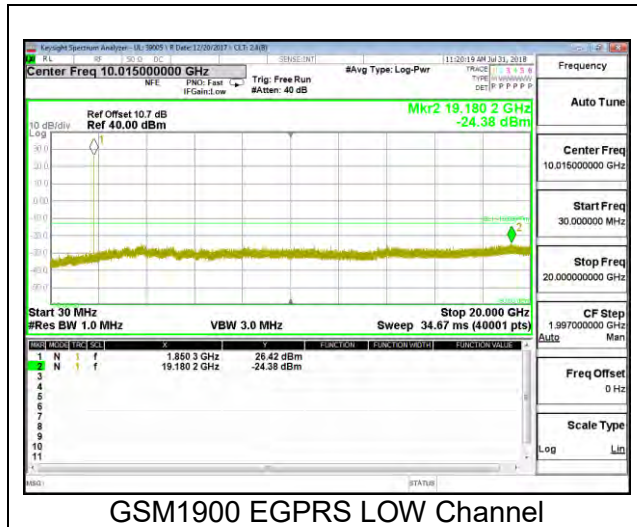
GSM850 EGPRS HIGH Channel

8.3.2. GSM1900

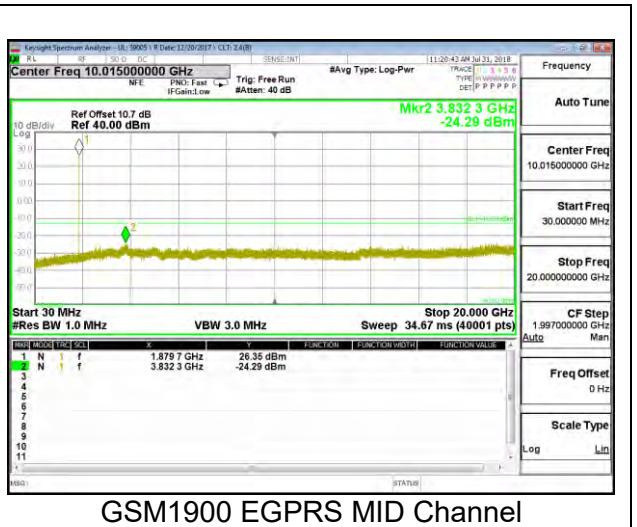
GPRS



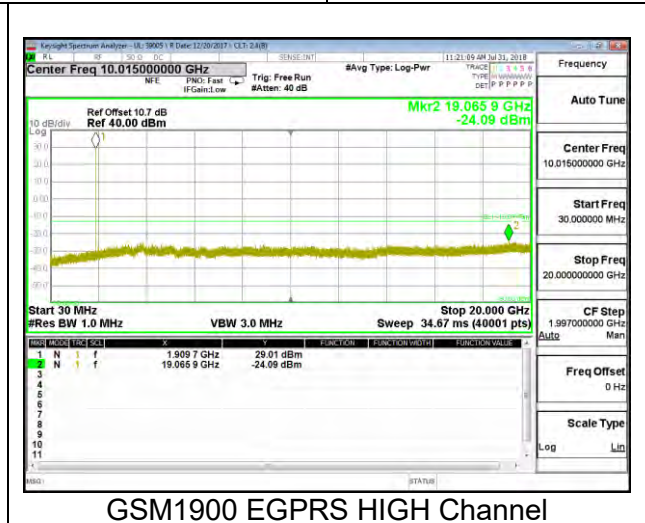
EGPRS



GSM1900 EGPRS LOW Channel



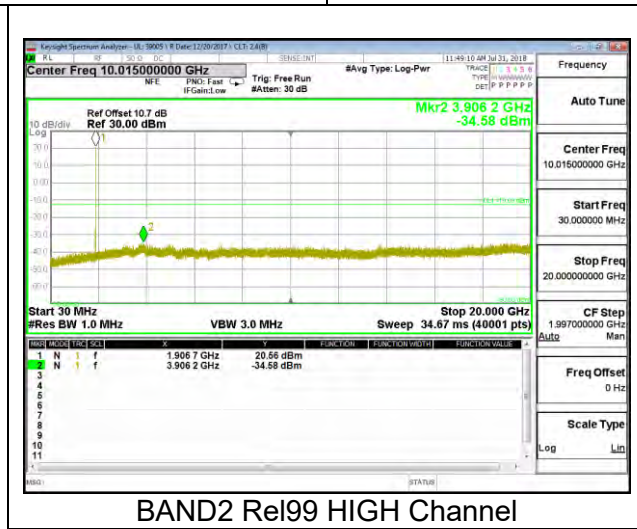
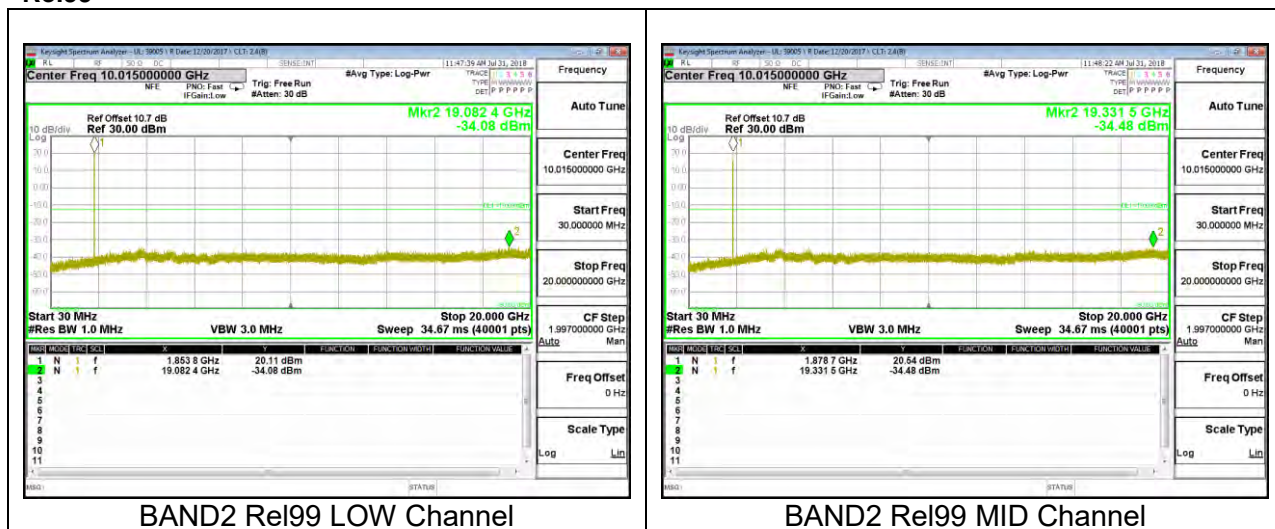
GSM1900 EGPRS MID Channel



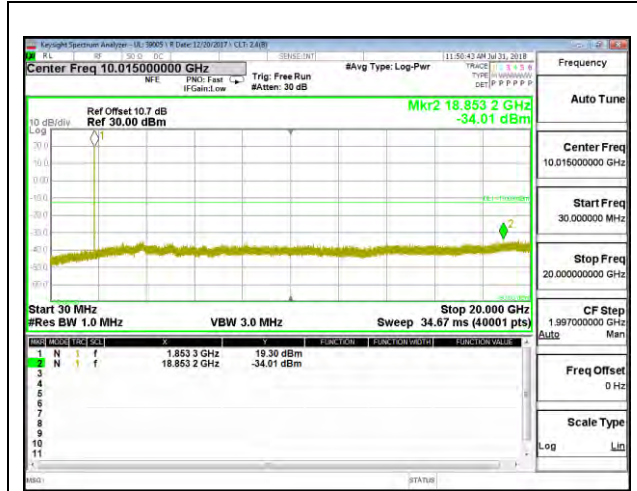
GSM1900 EGPRS HIGH Channel

8.3.3. WCDMA BAND2

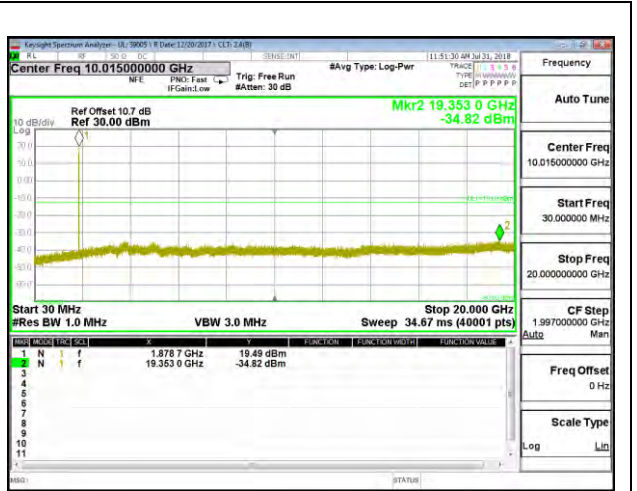
Rel99



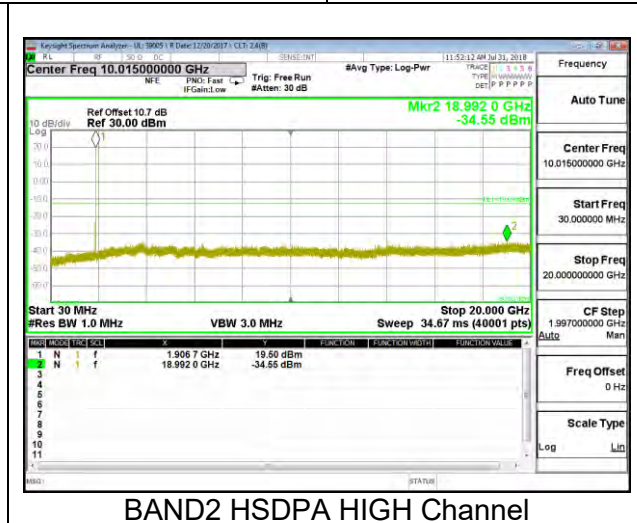
HSDPA



BAND2 HSDPA LOW Channel



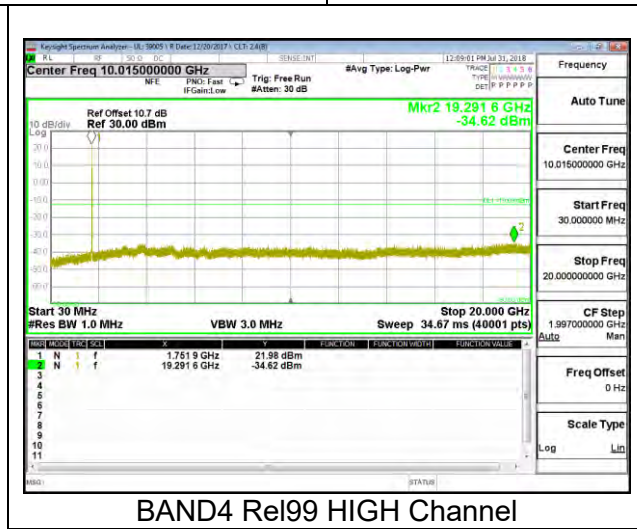
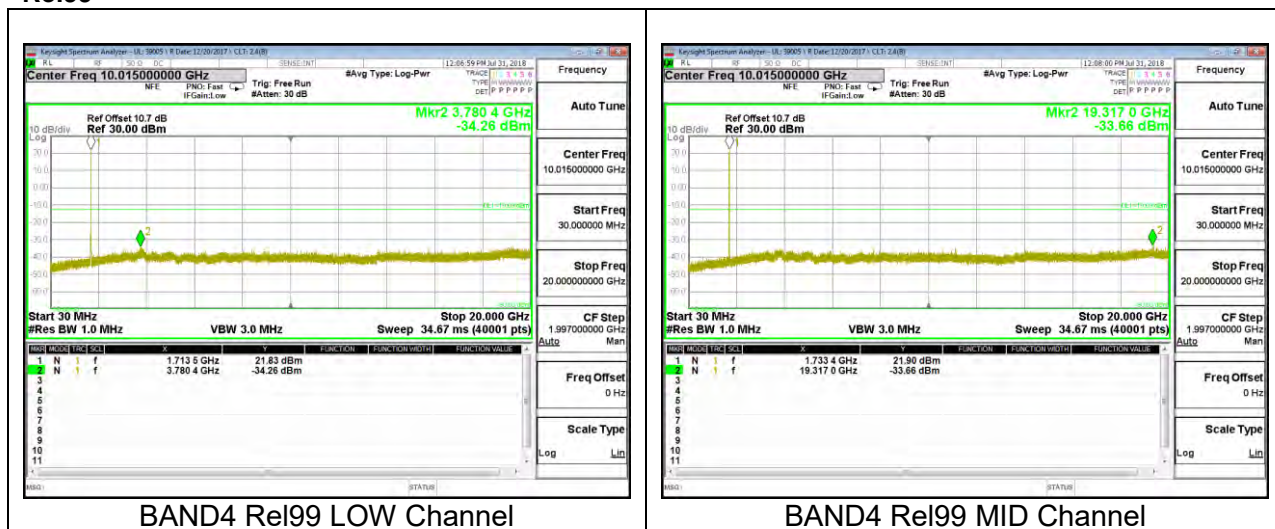
BAND2 HSDPA MID Channel



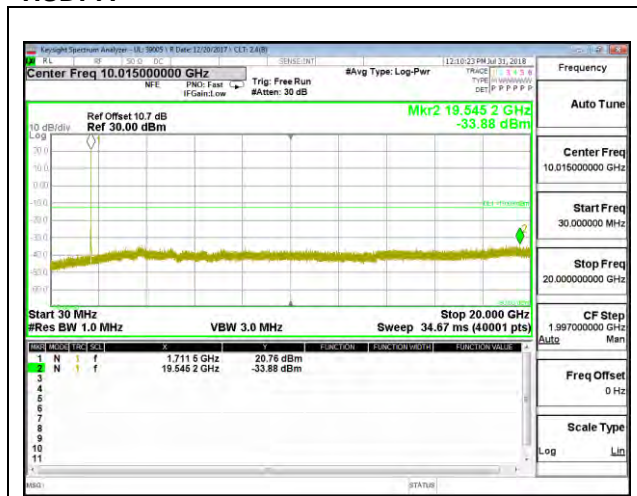
BAND2 HSDPA HIGH Channel

8.3.4. WCDMA BAND4

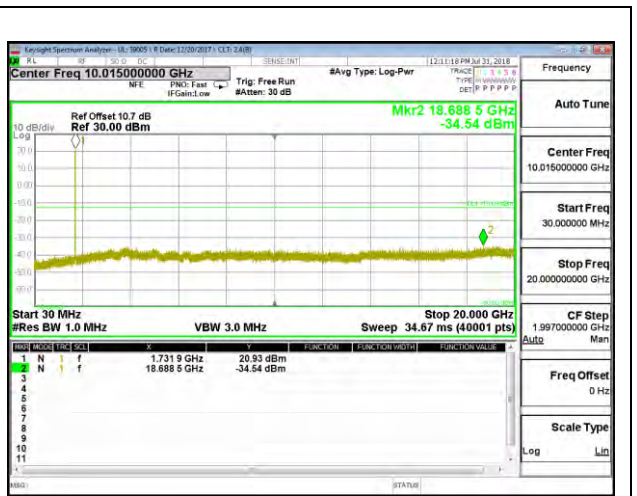
Rel99



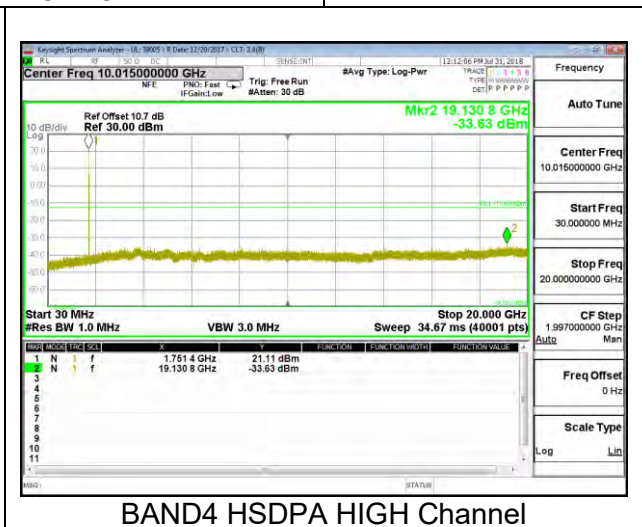
HSDPA



BAND4 HSDPA LOW Channel

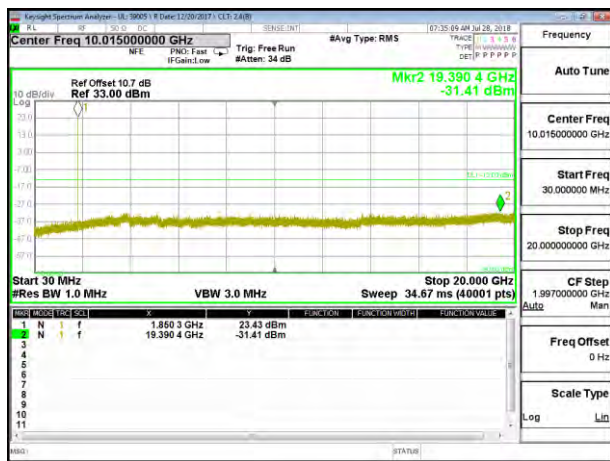


BAND4 HSDPA MID Channel

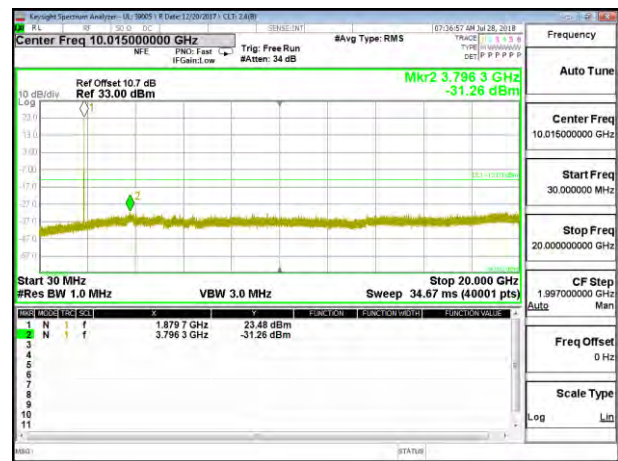


BAND4 HSDPA HIGH Channel

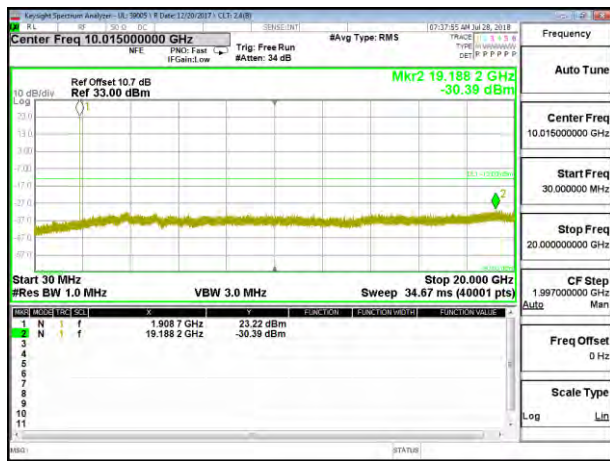
8.3.5. LTE BAND 2



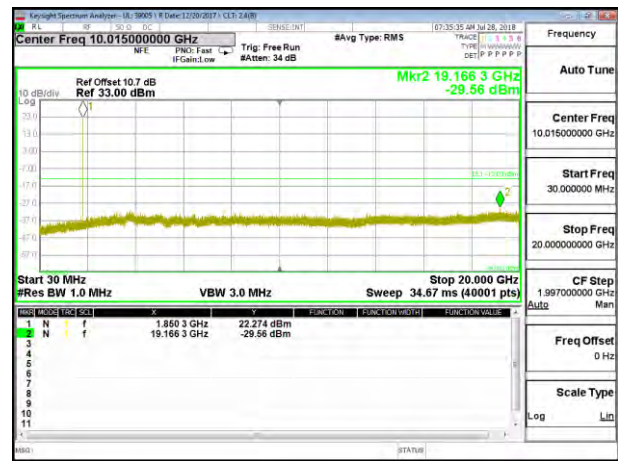
LTE B2 1.4MHz QPSK Low Channel RB1-0



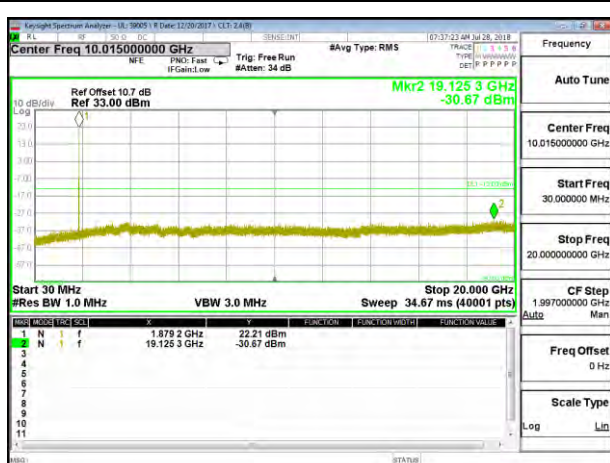
LTE B2 1.4MHz QPSK Mid Channel RB1-0



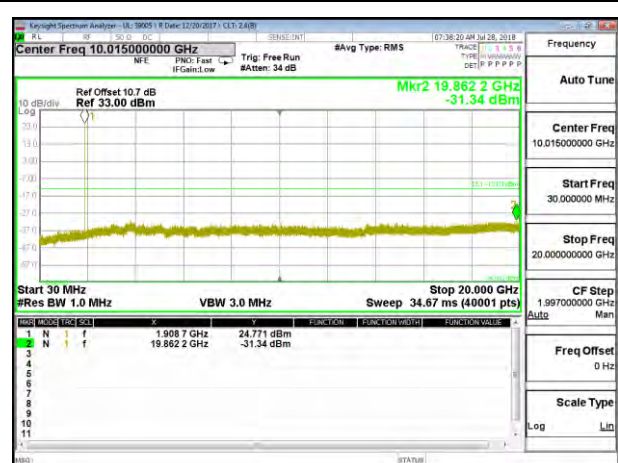
LTE B2 1.4MHz QPSK High Channel RB1-0



LTE B2 1.4MHz 16QAM Low Channel RB1-0



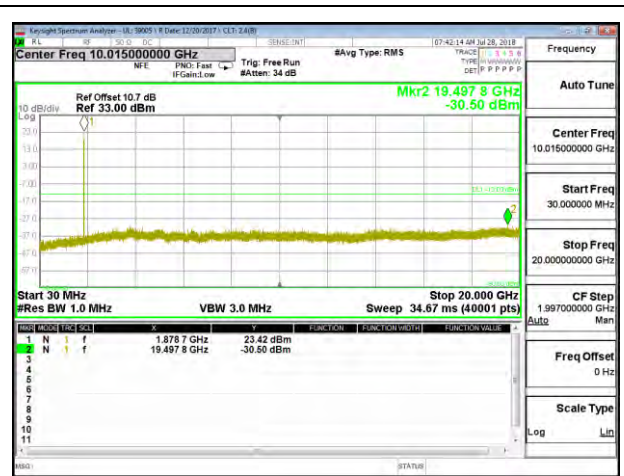
LTE B2 1.4MHz 16QAM Mid Channel RB1-0



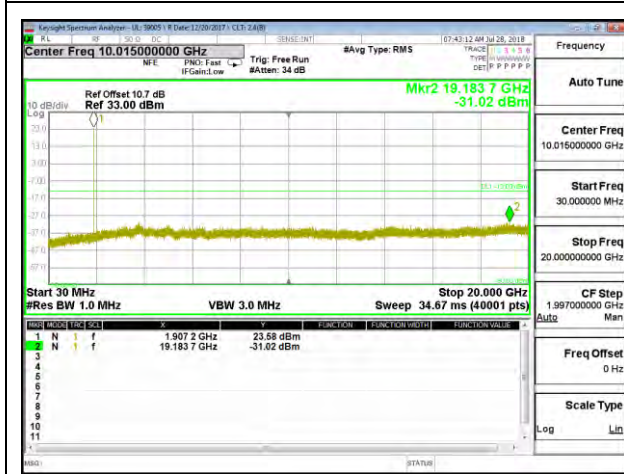
LTE B2 1.4MHz 16QAM High Channel RB1-0



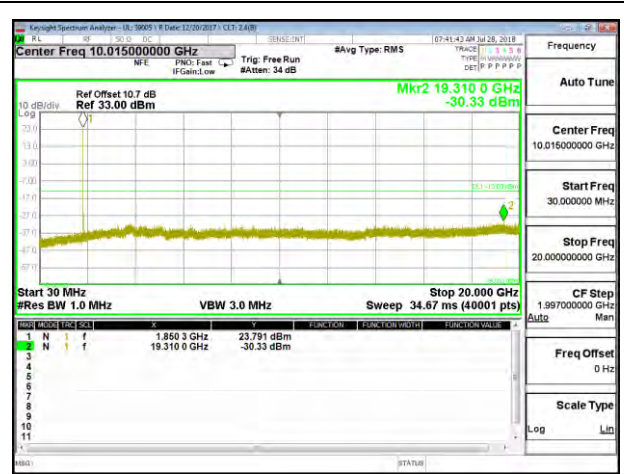
LTE B2 3MHz QPSK Low Channel RB1-0



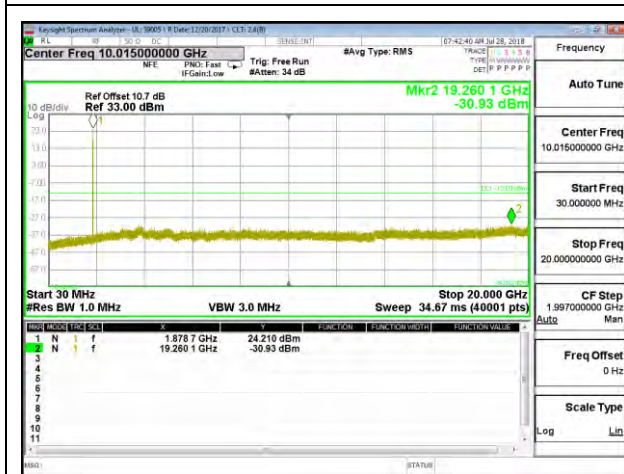
LTE B2 3MHz QPSK Mid Channel RB1-0



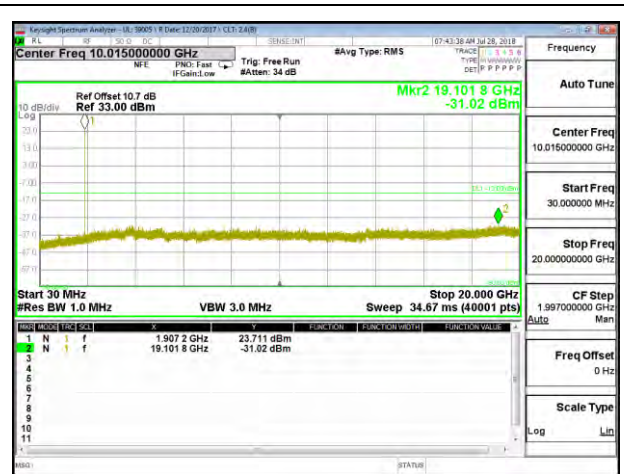
LTE B2 3MHz QPSK High Channel RB1-0



LTE B2 3MHz 16QAM Low Channel RB1-0



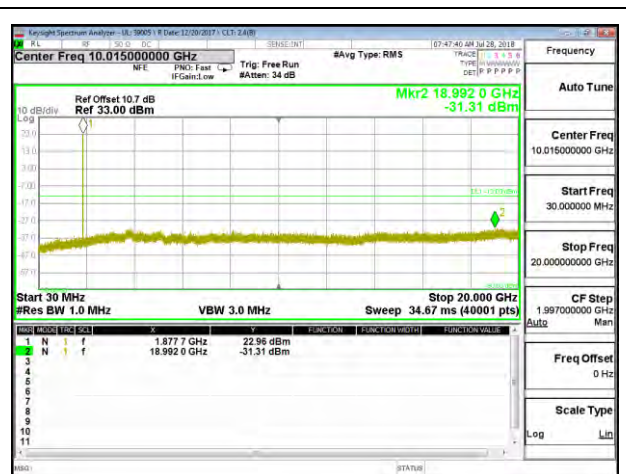
LTE B2 3MHz 16QAM Mid Channel RB1-0



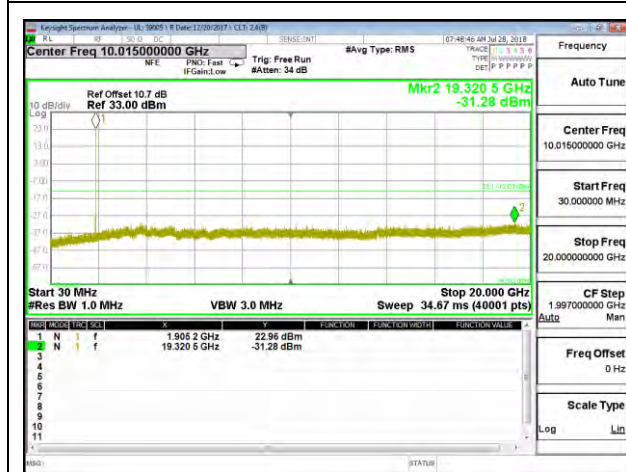
LTE B2 3MHz 16QAM High Channel RB1-0



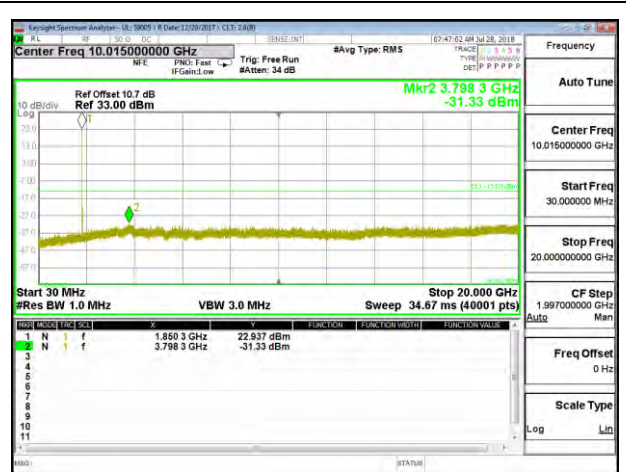
LTE B2 5MHz QPSK Low Channel RB1-0



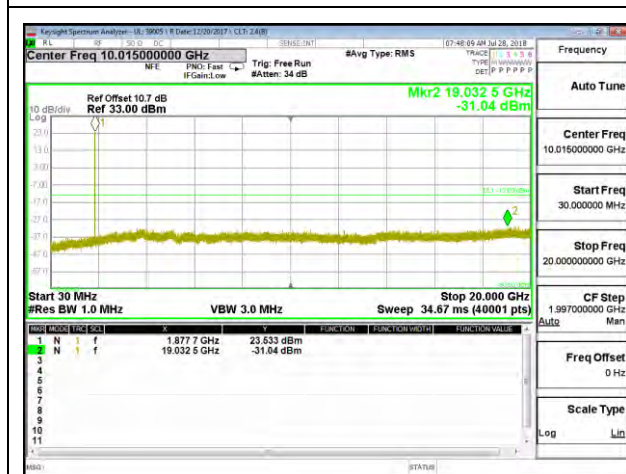
LTE B2 5MHz QPSK Mid Channel RB1-0



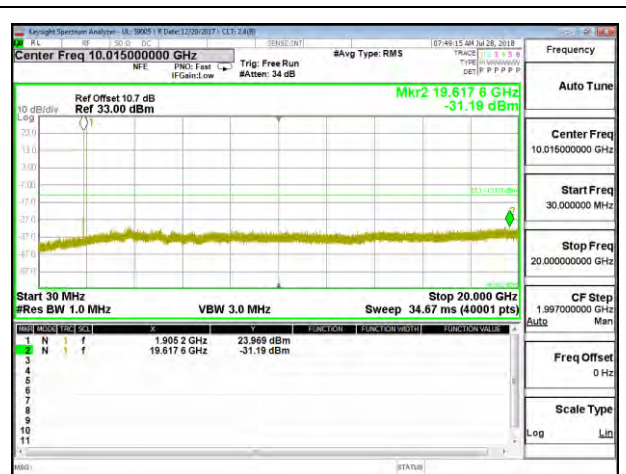
LTE B2 5MHz QPSK High Channel RB1-0



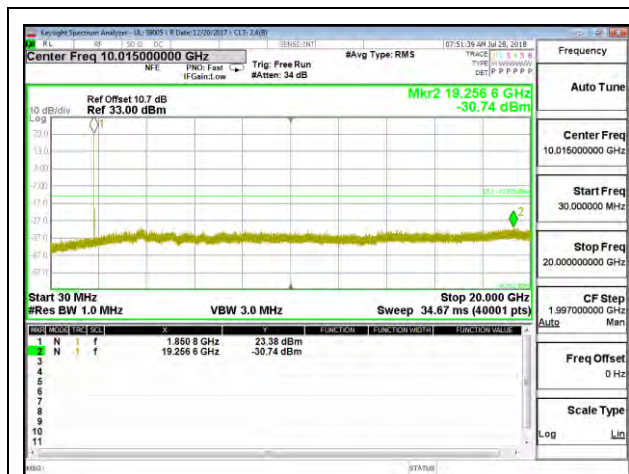
LTE B2 5MHz 16QAM Low Channel RB1-0



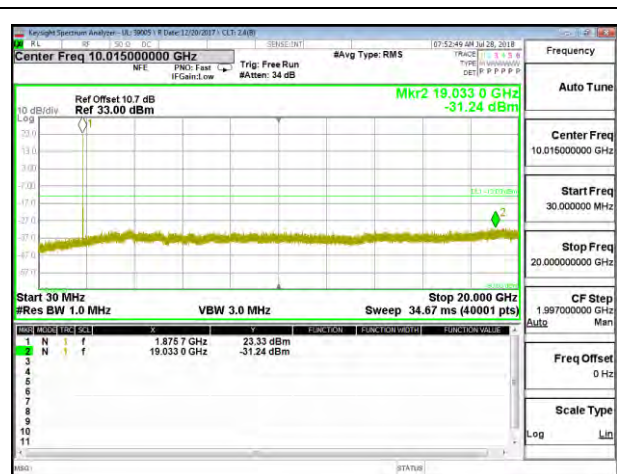
LTE B2 5MHz 16QAM Mid Channel RB1-0



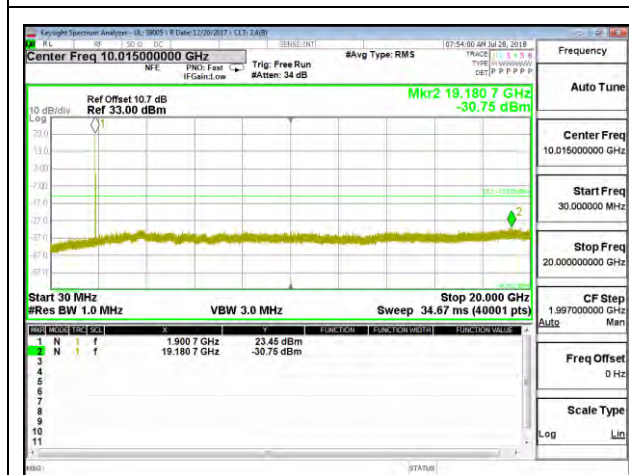
LTE B2 5MHz 16QAM High Channel RB1-0



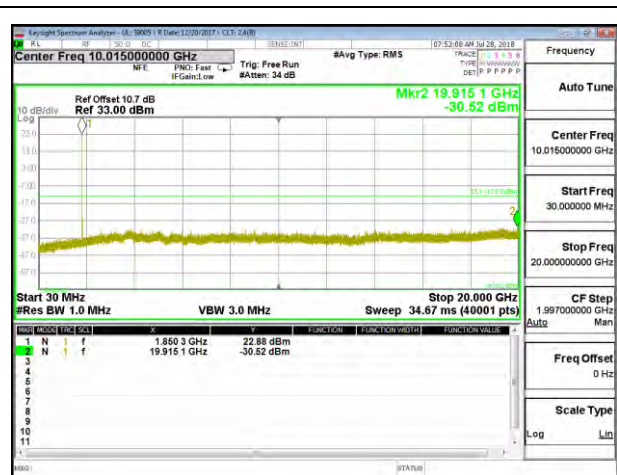
LTE B2 10MHz QPSK Low Channel RB1-0



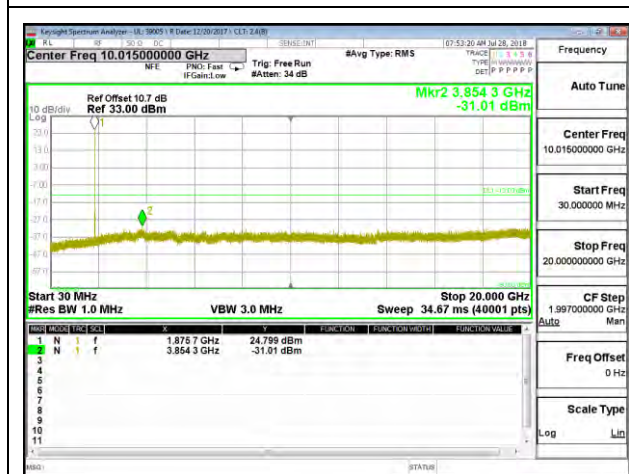
LTE B2 10MHz QPSK Mid Channel RB1-0



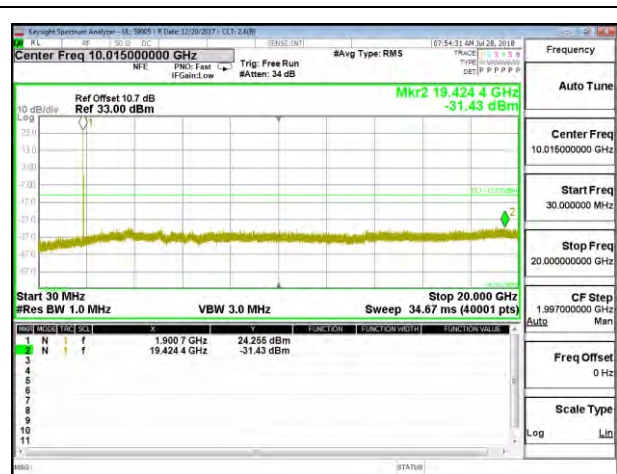
LTE B2 10MHz QPSK High Channel RB1-0



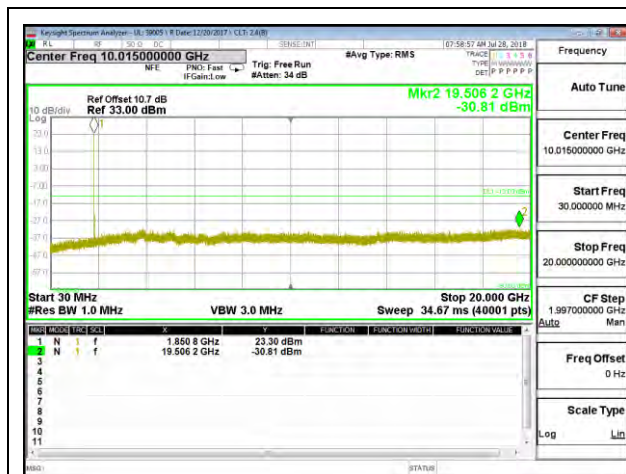
LTE B2 10MHz 16QAM Low Channel RB1-0



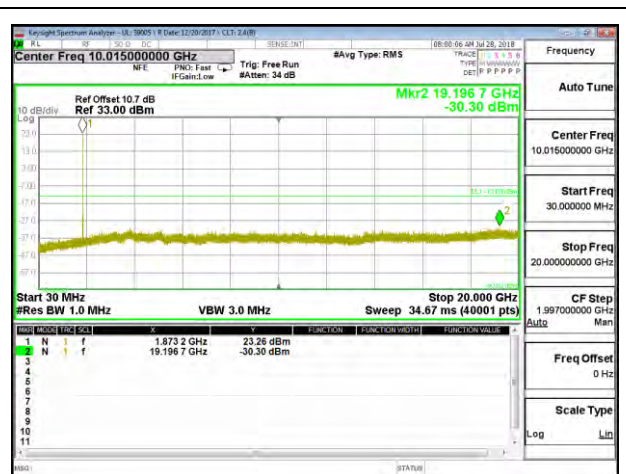
LTE B2 10MHz 16QAM Mid Channel RB1-0



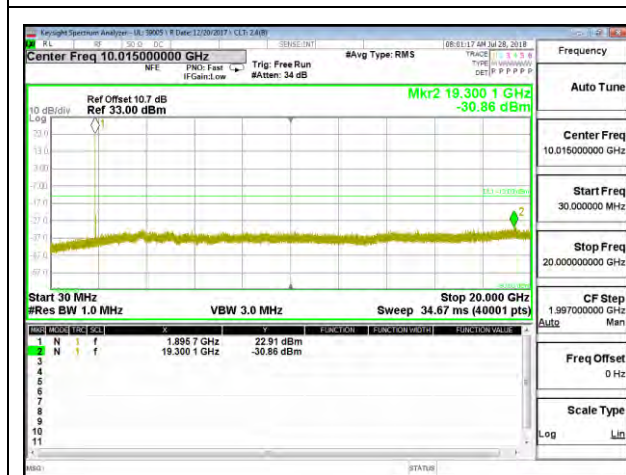
LTE B2 10MHz 16QAM High Channel RB1-0



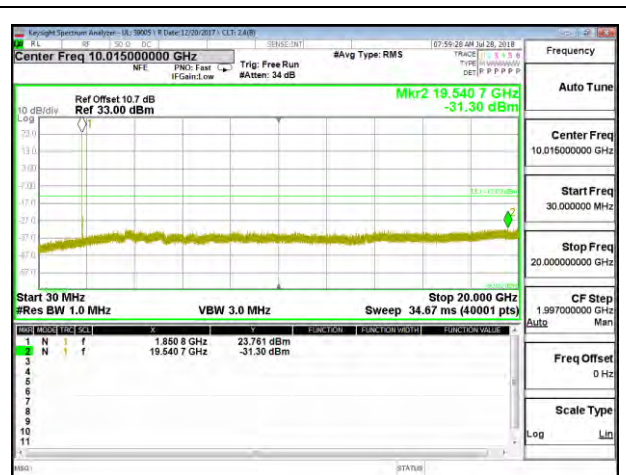
LTE B2 15MHz QPSK Low Channel RB1-0



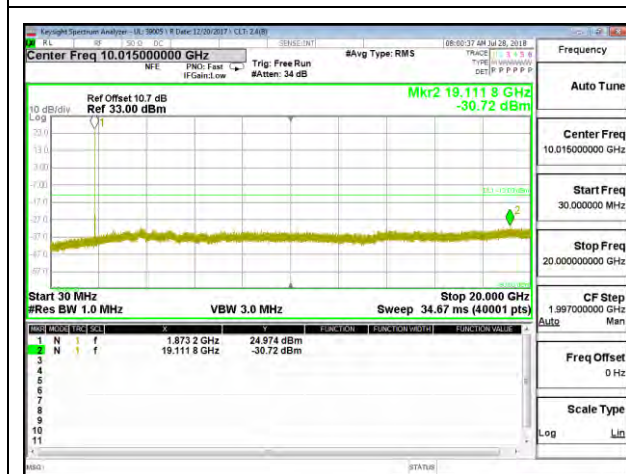
LTE B2 15MHz QPSK Mid Channel RB1-0



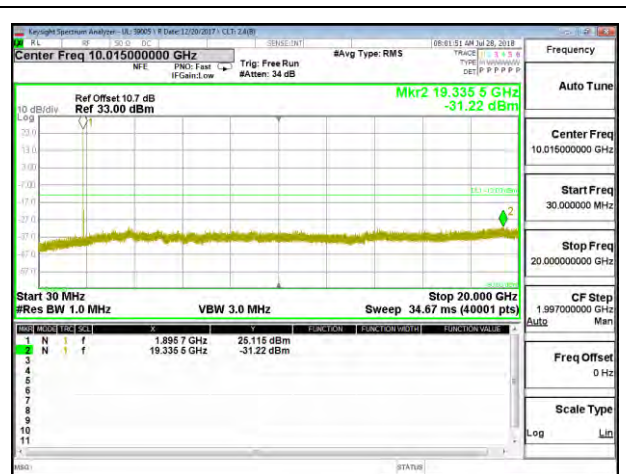
LTE B2 15MHz QPSK High Channel RB1-0



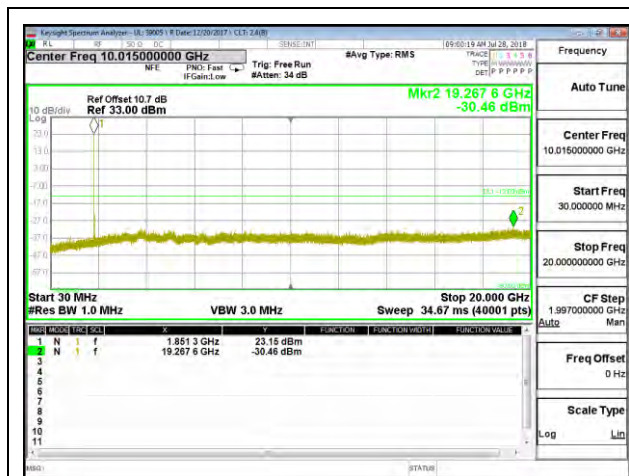
LTE B2 15MHz 16QAM Low Channel RB1-0



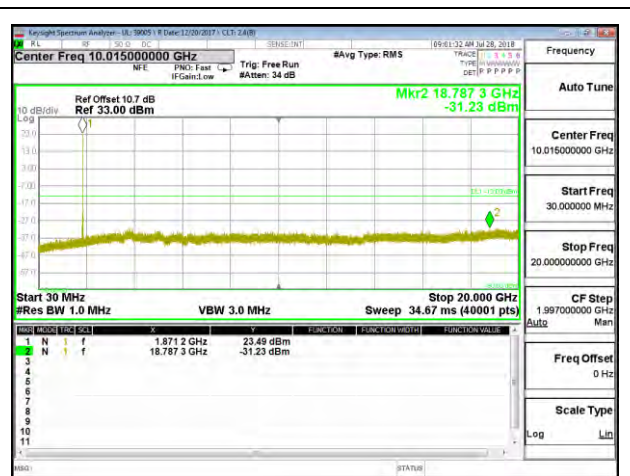
LTE B2 15MHz 16QAM Mid Channel RB1-0



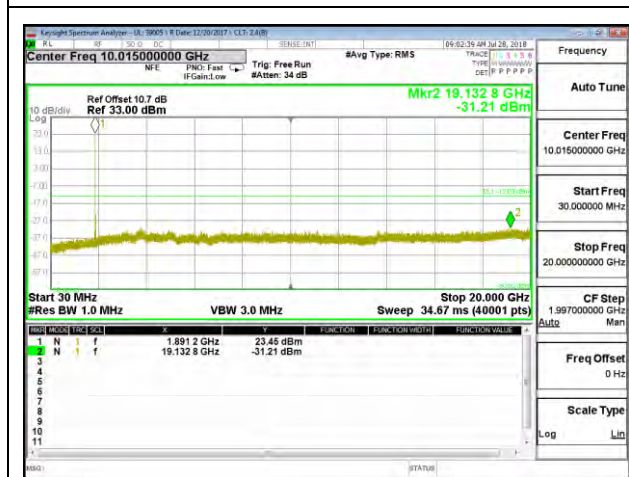
LTE B2 15MHz 16QAM High Channel RB1-0



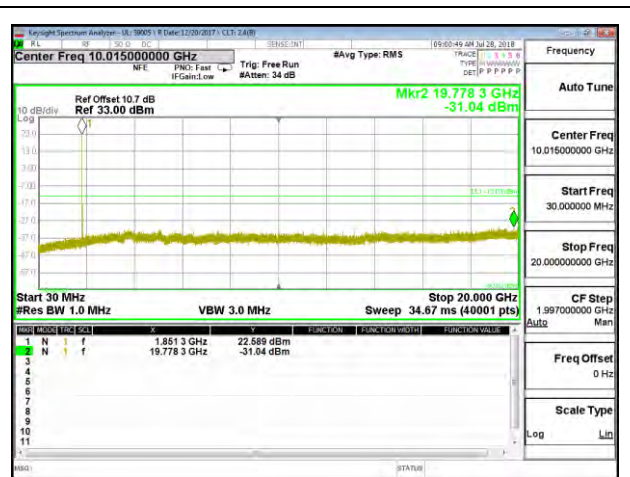
LTE B2 20MHz QPSK Low Channel RB1-0



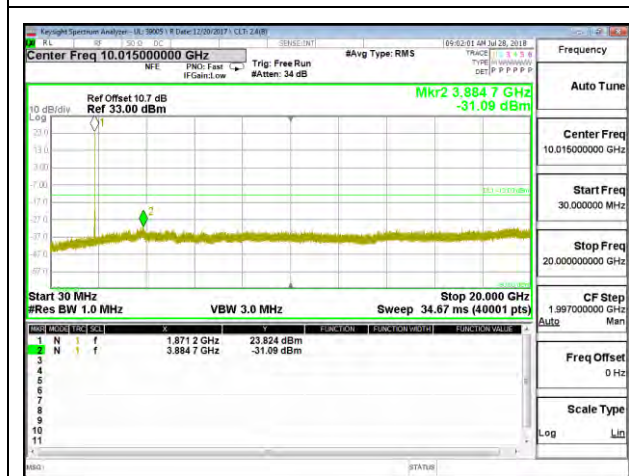
LTE B2 20MHz QPSK Mid Channel RB1-0



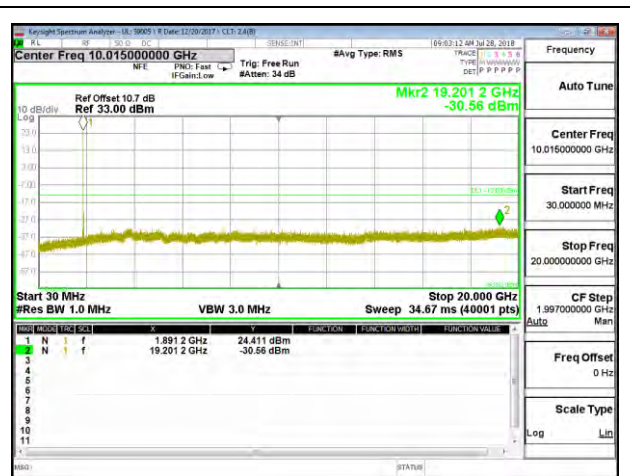
LTE B2 20MHz QPSK High Channel RB1-0



LTE B2 20MHz 16QAM Low Channel RB1-0

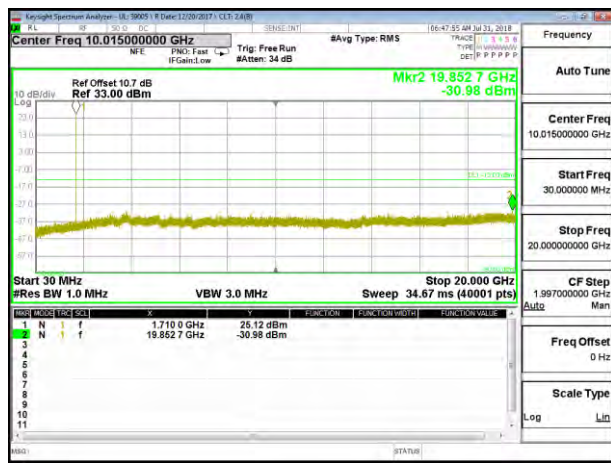


LTE B2 20MHz 16QAM Mid Channel RB1-0

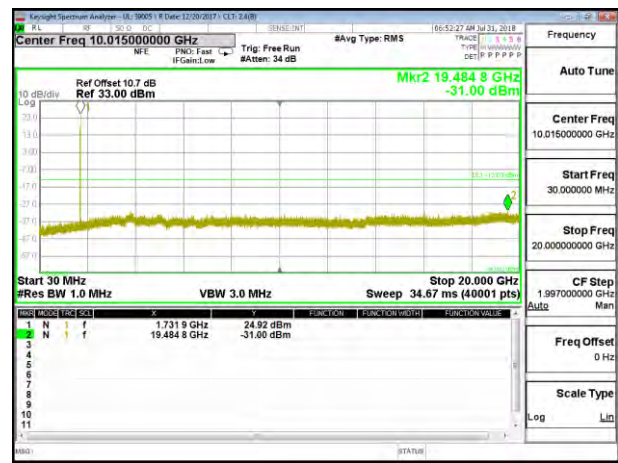


LTE B2 20MHz 16QAM High Channel RB1-0

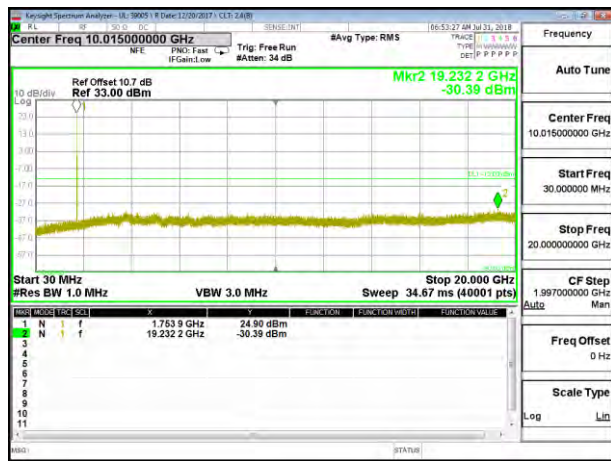
8.3.6. LTE BAND 4



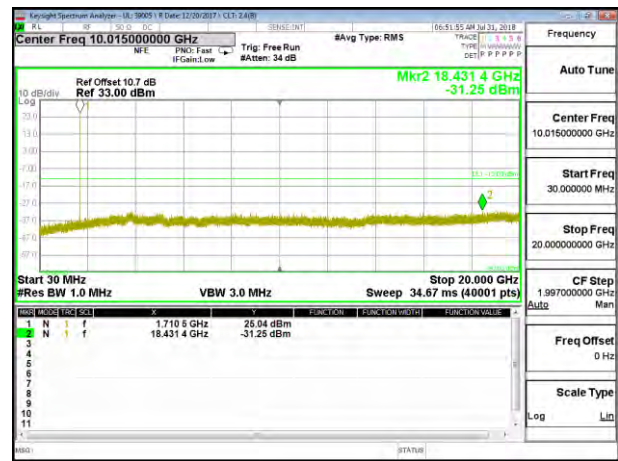
LTE B4 1.4MHz QPSK Low Channel RB1-0



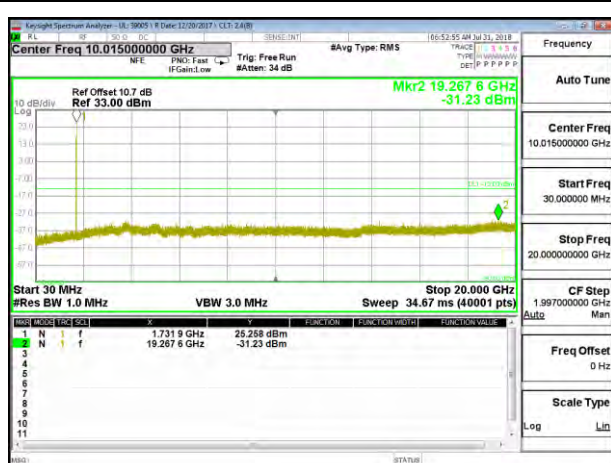
LTE B4 1.4MHz QPSK Mid Channel RB1-0



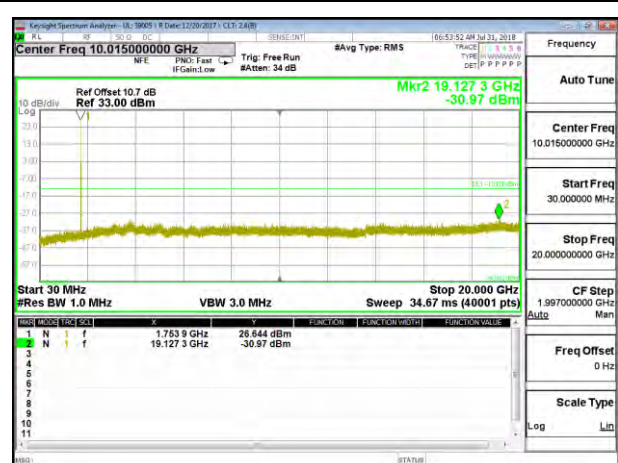
LTE B4 1.4MHz QPSK High Channel RB1-0



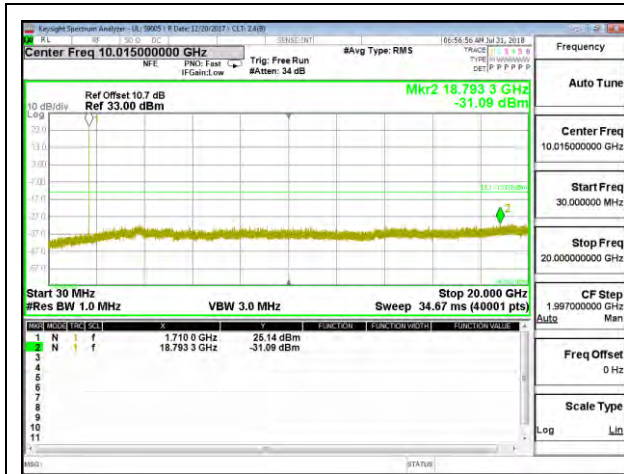
LTE B4 1.4MHz 16QAM Low Channel RB1-0



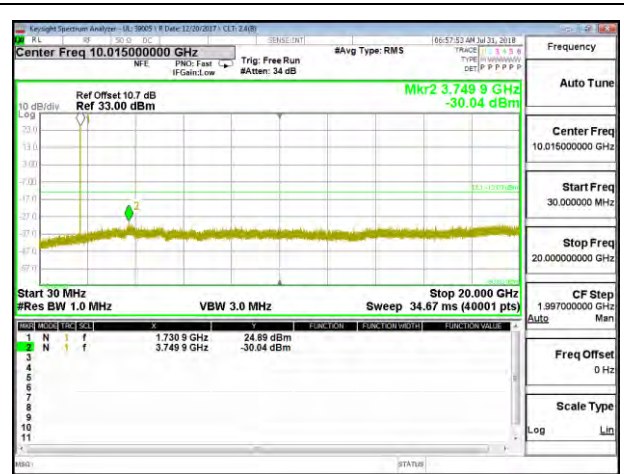
LTE B4 1.4MHz 16QAM Mid Channel RB1-0



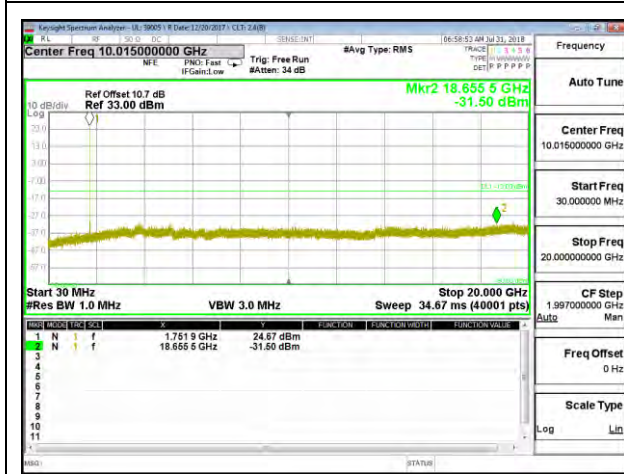
LTE B4 1.4MHz 16QAM High Channel RB1-0



LTE B4 3MHz QPSK Low Channel RB1-0



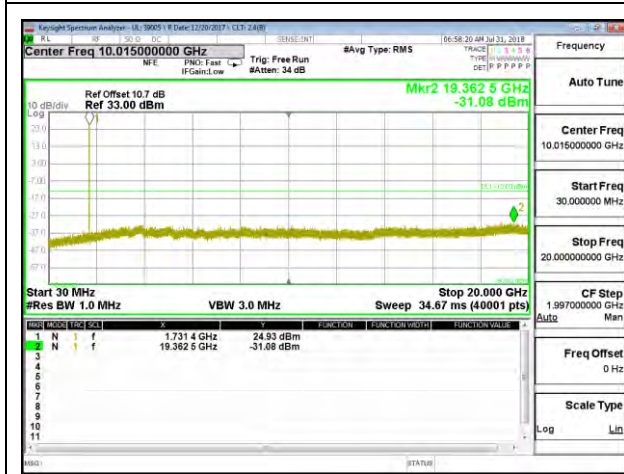
LTE B4 3MHz QPSK Mid Channel RB1-0



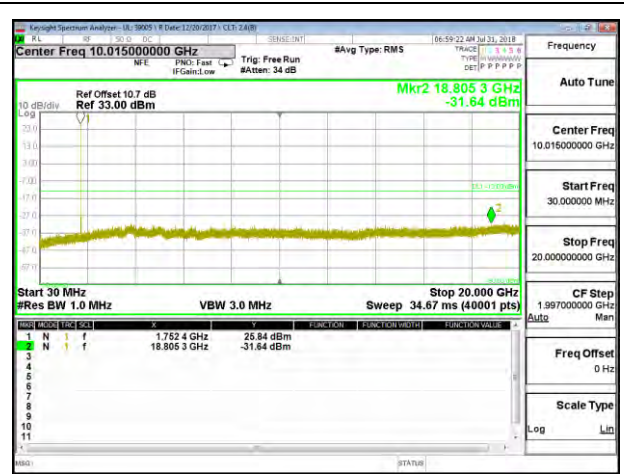
LTE B4 3MHz QPSK High Channel RB1-0



LTE B4 3MHz 16QAM Low Channel RB1-0



LTE B4 3MHz 16QAM Mid Channel RB1-0



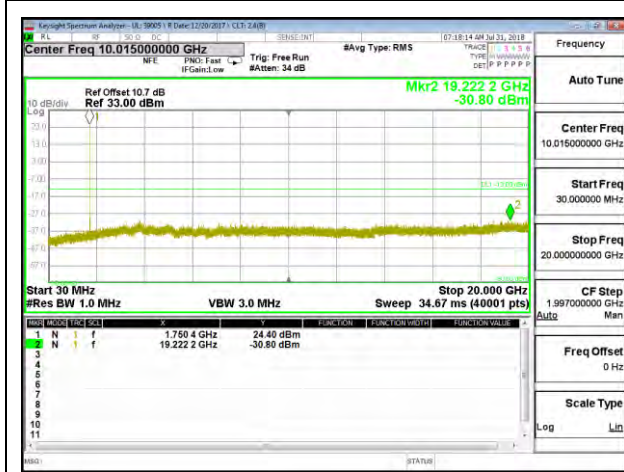
LTE B4 3MHz 16QAM High Channel RB1-0



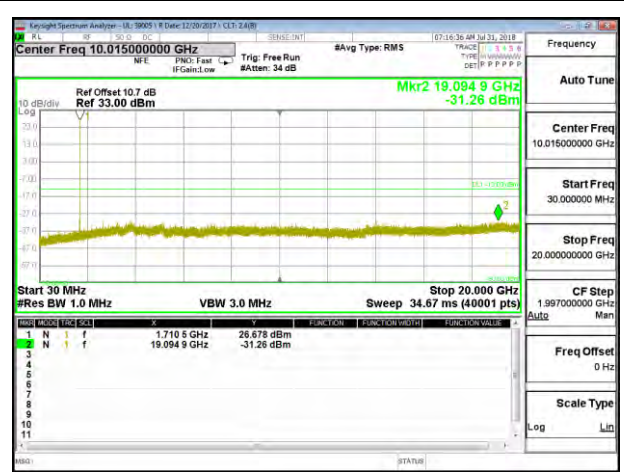
LTE B4 5MHz QPSK Low Channel RB1-0



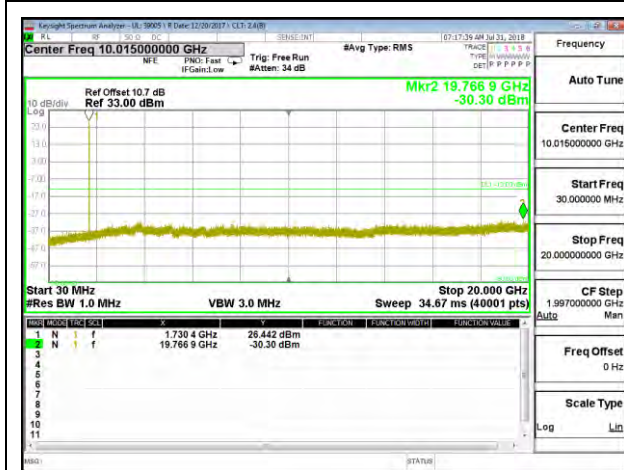
LTE B4 5MHz QPSK Mid Channel RB1-0



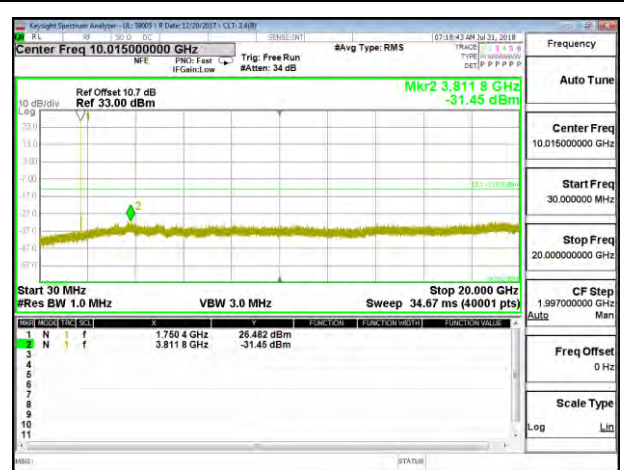
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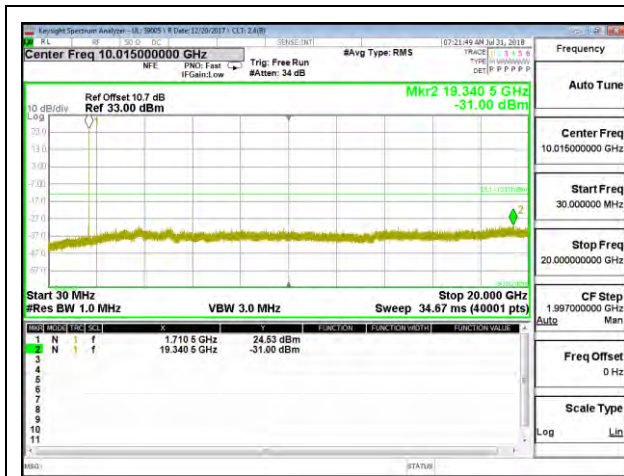
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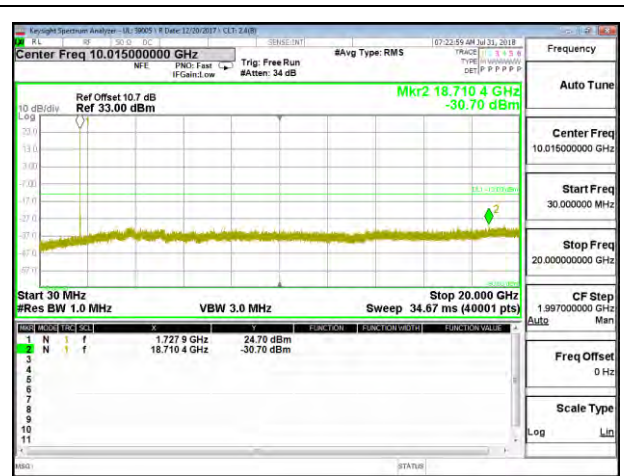
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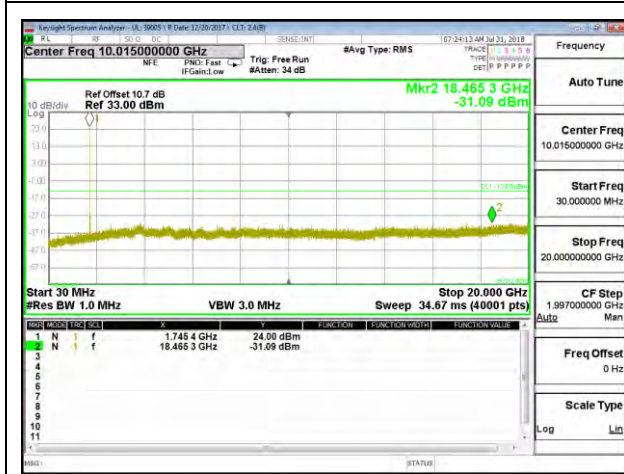
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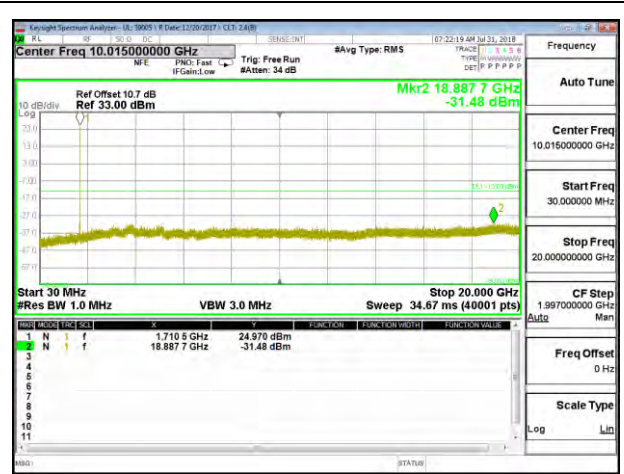
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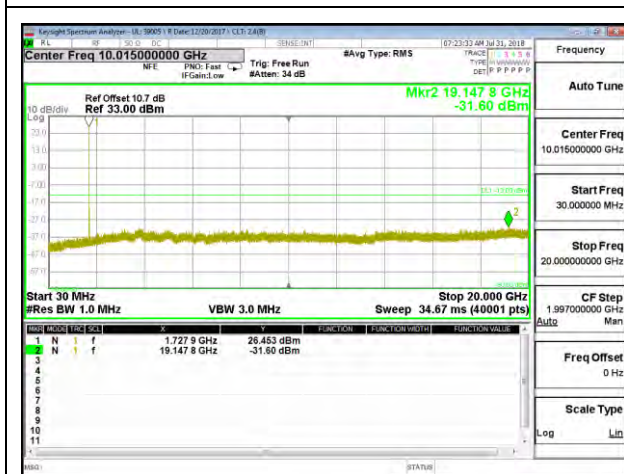
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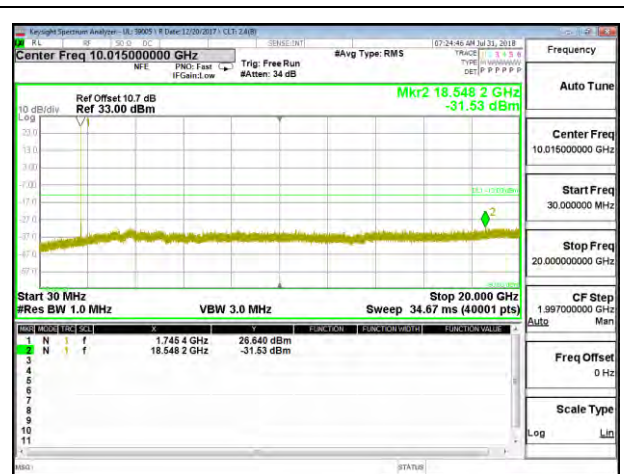
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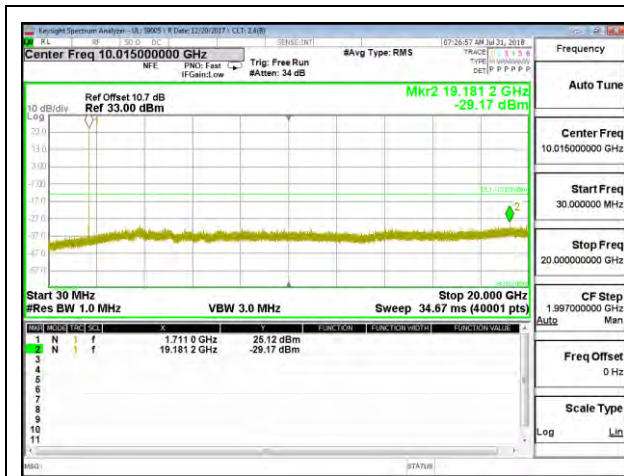
LTE B4 10MHz 16QAM Low Channel RB1-0



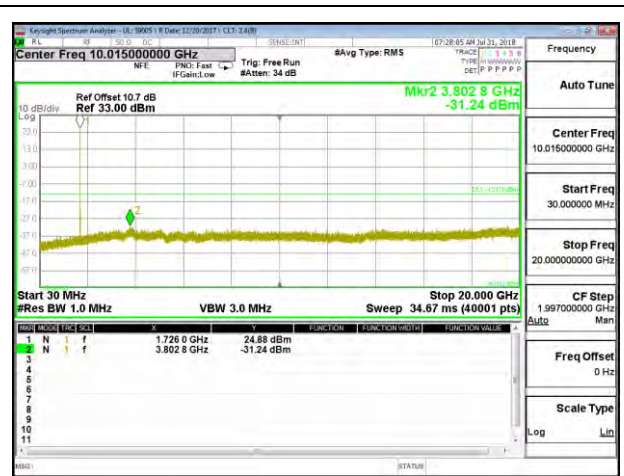
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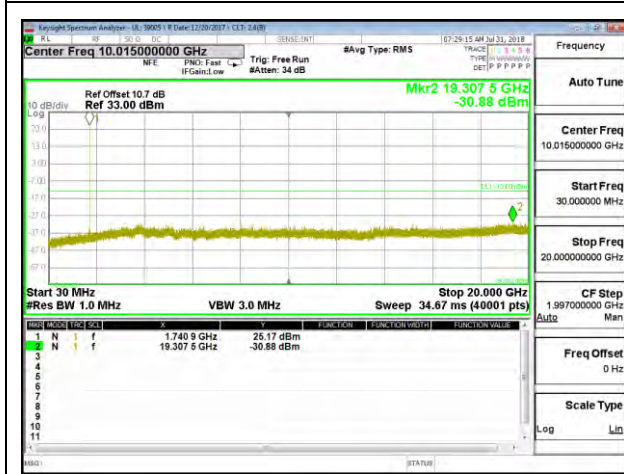
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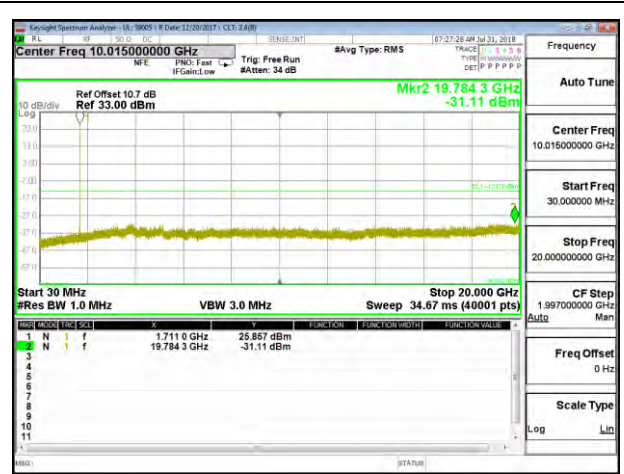
LTE B4 15MHz QPSK Low Channel RB1-0



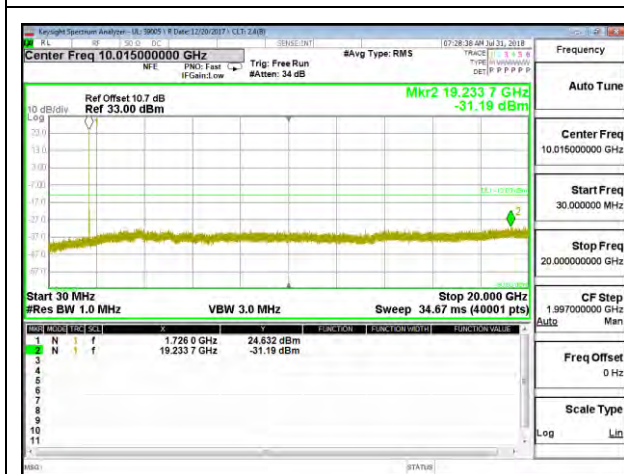
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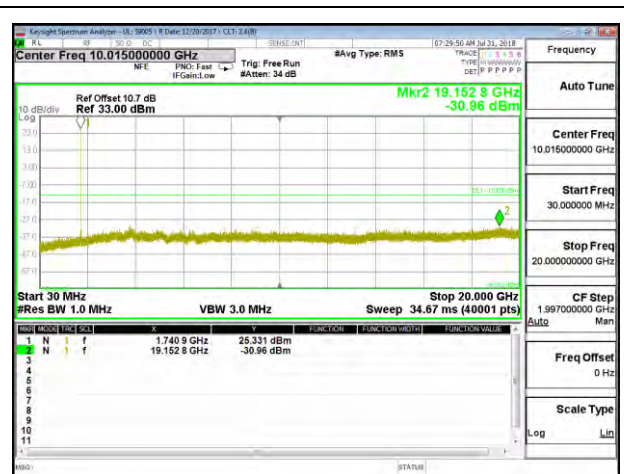
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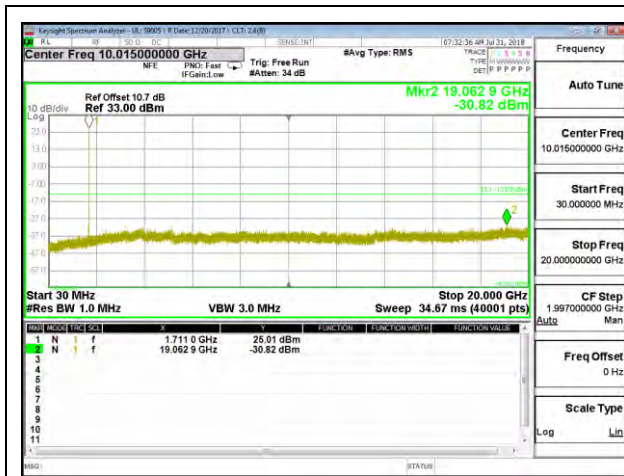
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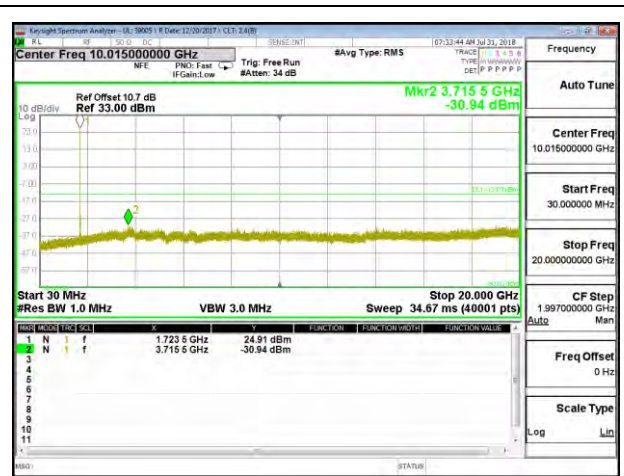
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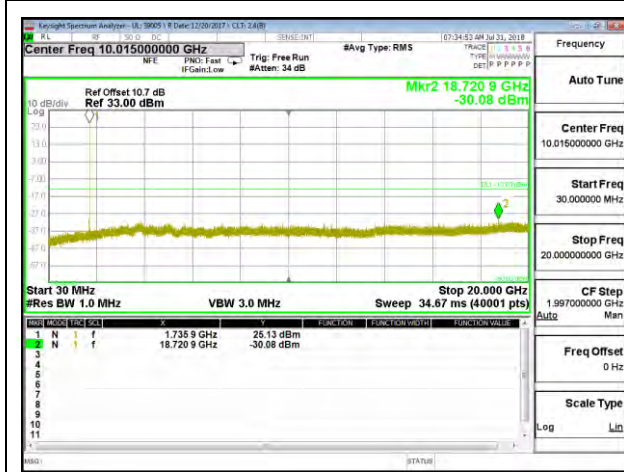
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LTE B4 20MHz QPSK Low Channel RB1-0



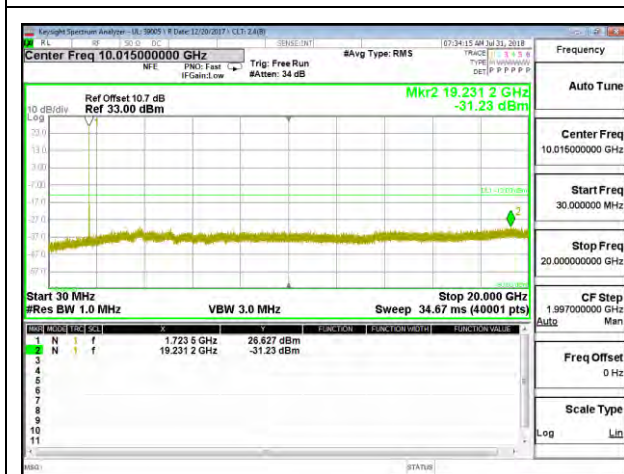
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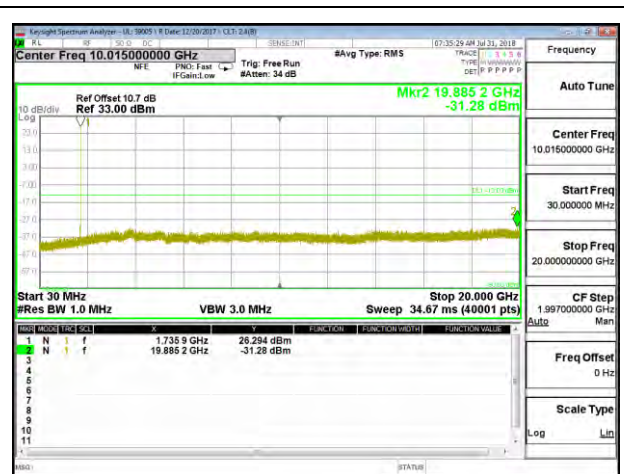
LTE B4 20MHz QPSK High Channel RB1-0



LTE B4 20MHz 16QAM Low Channel RB1-0

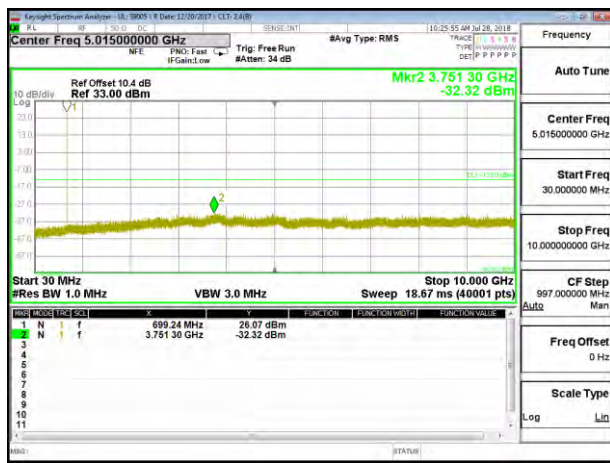


LTE B4 20MHz 16QAM Mid Channel RB1-0

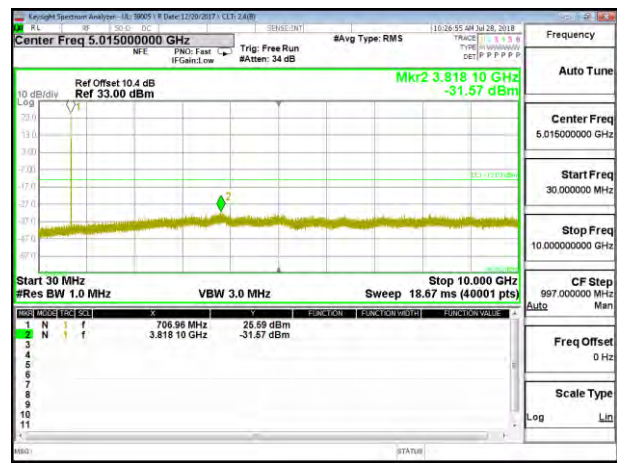


LTE B4 20MHz 16QAM High Channel RB1-0

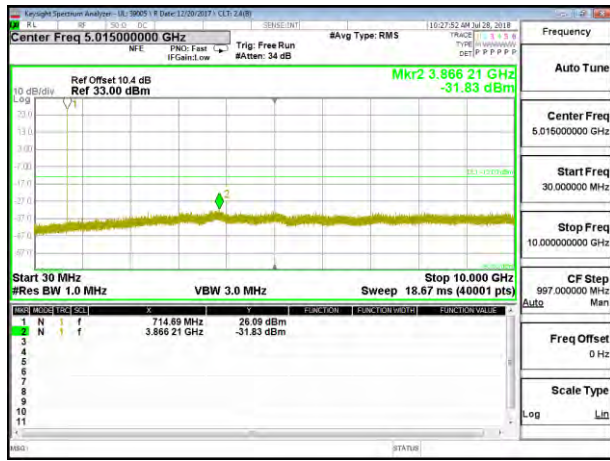
8.3.7. LTE BAND 12



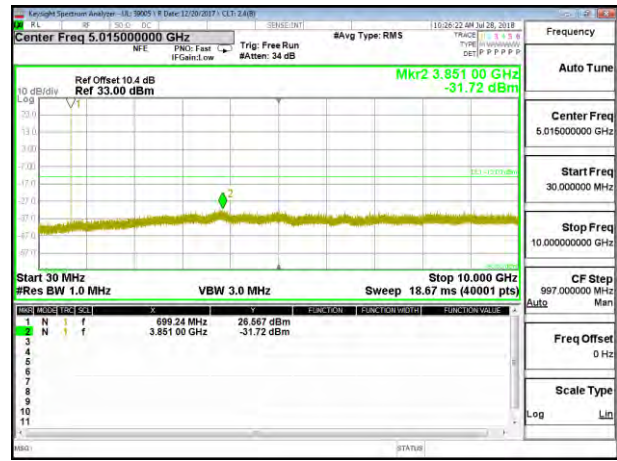
LTE B12 1.4MHz QPSK Low Channel RB1-0



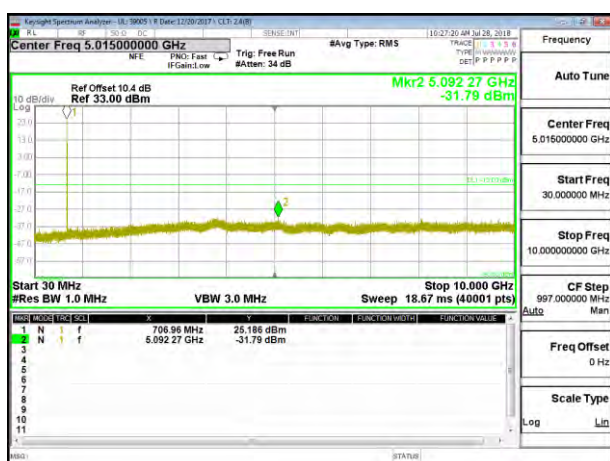
LTE B12 1.4MHz QPSK Mid Channel RB1-0



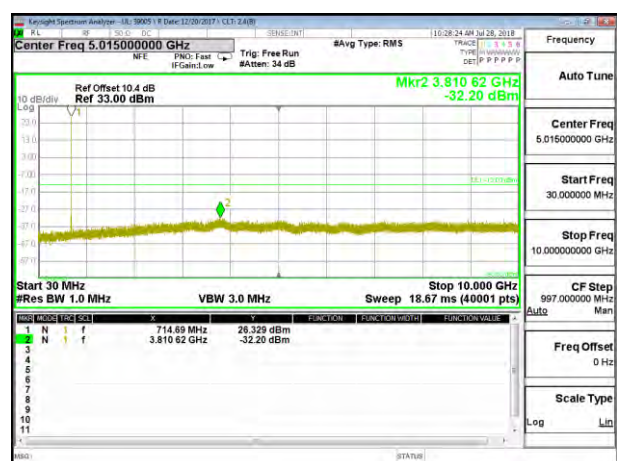
LTE B12 1.4MHz QPSK High Channel RB1-0



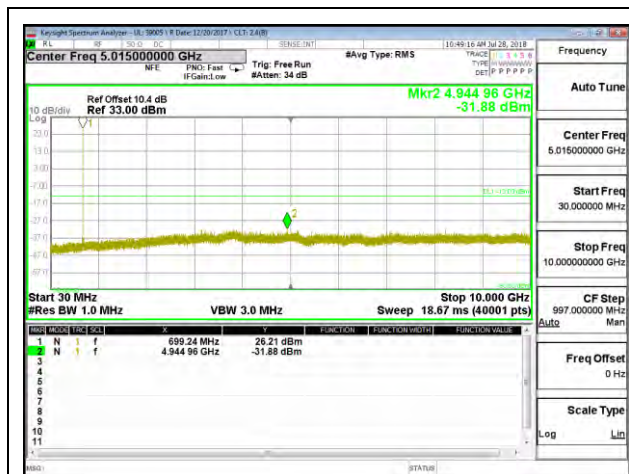
LTE B12 1.4MHz 16QAM Low Channel RB1-0



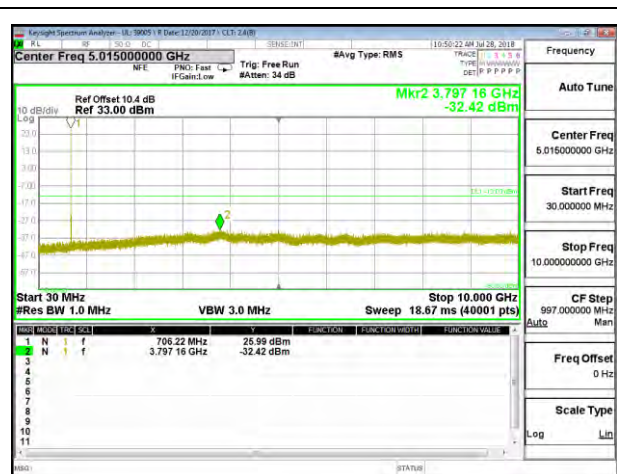
LTE B12 1.4MHz 16QAM Mid Channel RB1-0



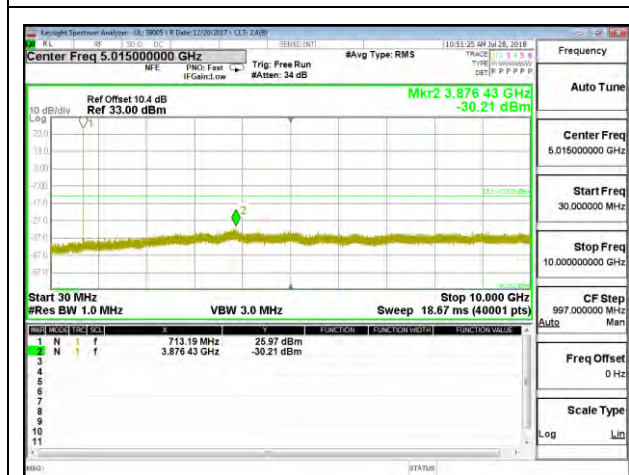
LTE B12 1.4MHz 16QAM High Channel RB1-0



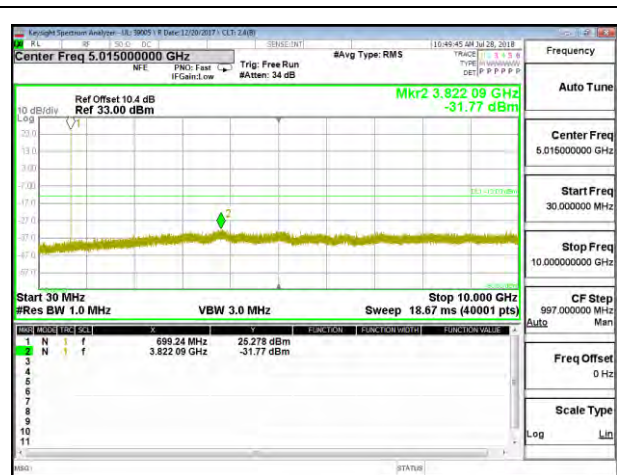
LTE B12 3MHz QPSK Low Channel RB1-0



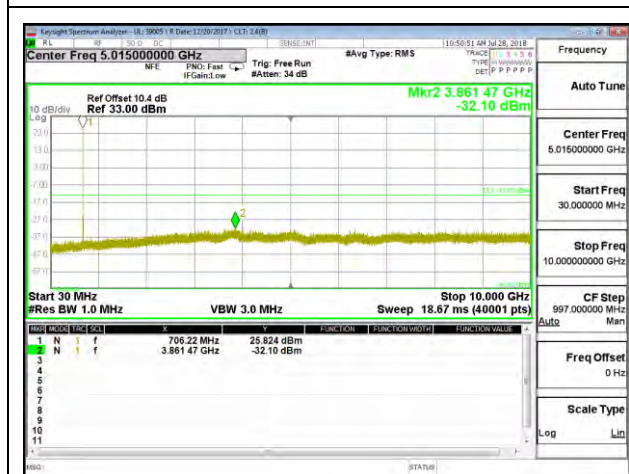
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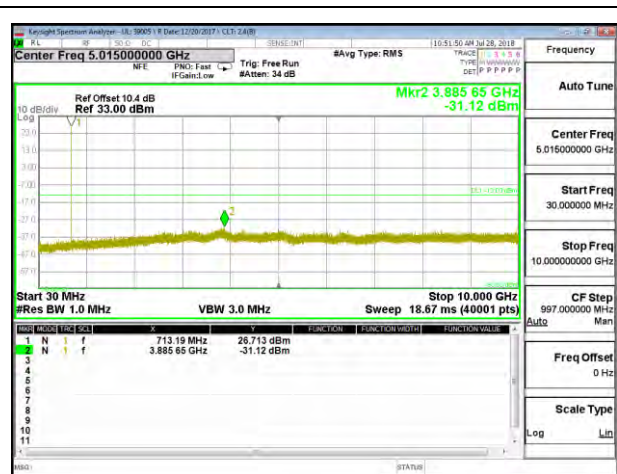
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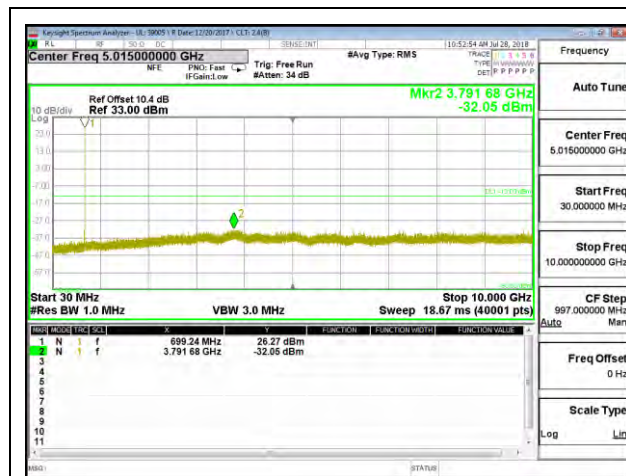
LTE B12 3MHz 16QAM Low Channel RB1-0



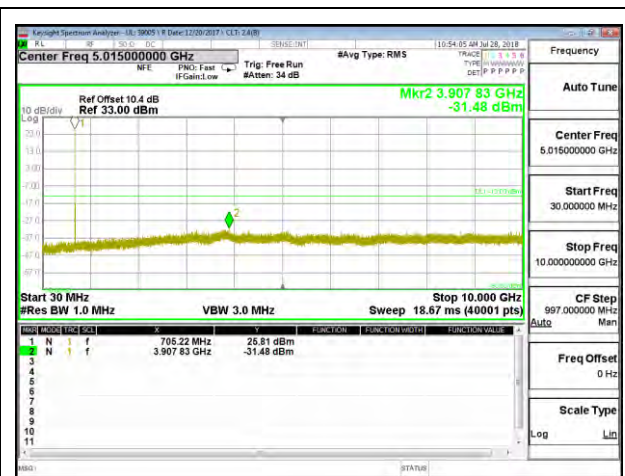
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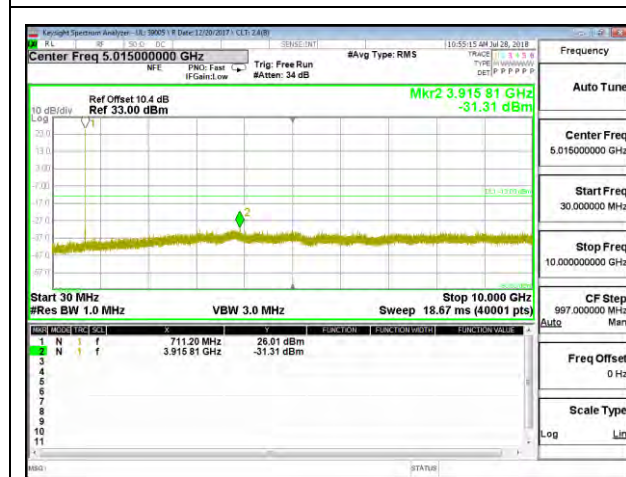
LTE B12 3MHz 16QAM High Channel RB1-0



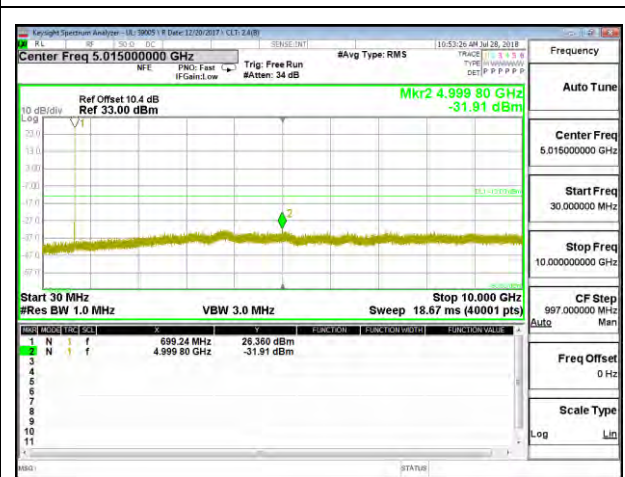
LTE B12 5MHz QPSK Low Channel RB1-0



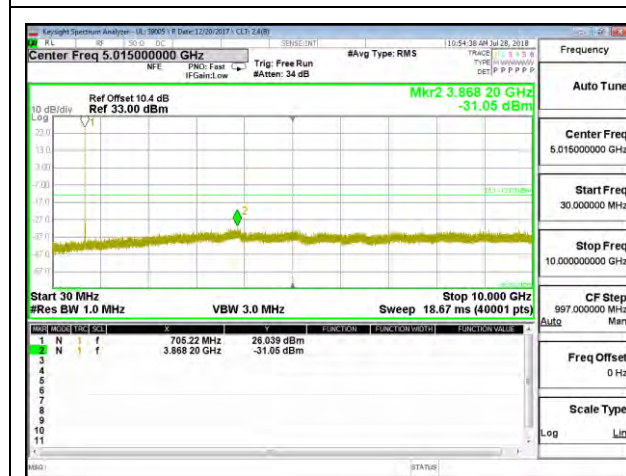
LTE B12 5MHz QPSK Mid Channel RB1-0



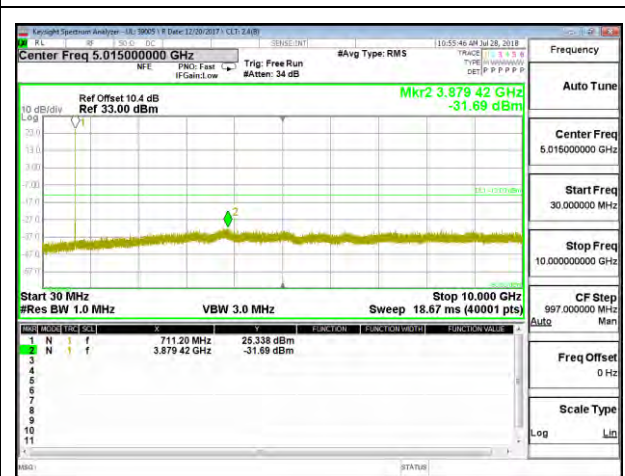
LTE B12 5MHz QPSK High Channel RB1-0



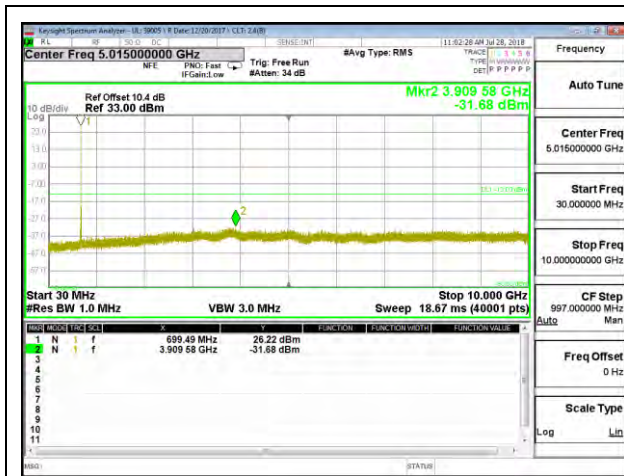
LTE B12 5MHz 16QAM Low Channel RB1-0



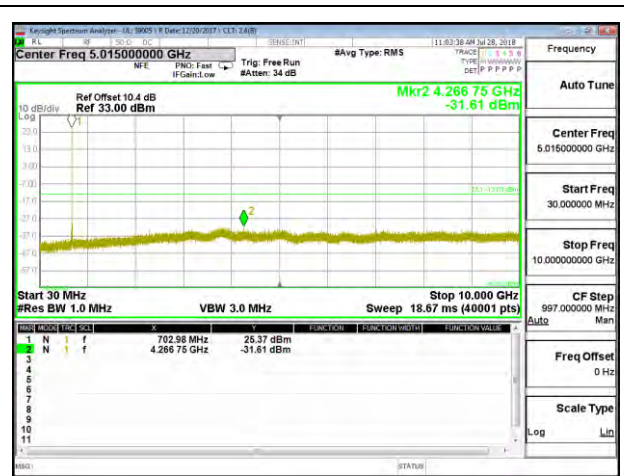
LTE B12 5MHz 16QAM Mid Channel RB1-0



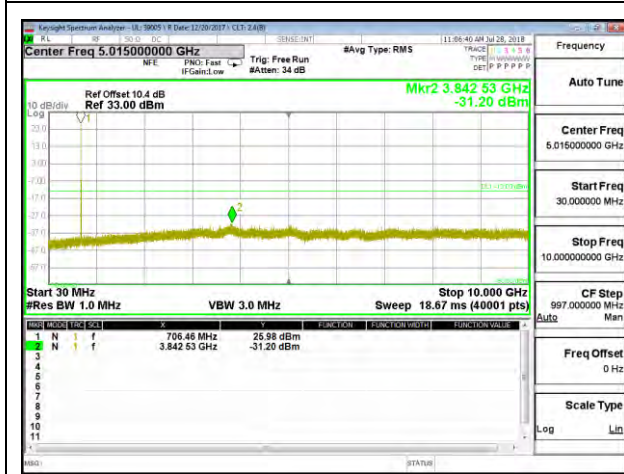
LTE B12 5MHz 16QAM High Channel RB1-0



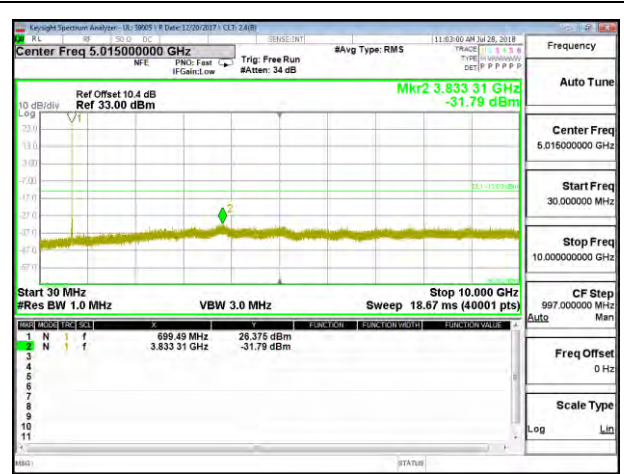
LTE B12 10MHz QPSK Low Channel RB1-0



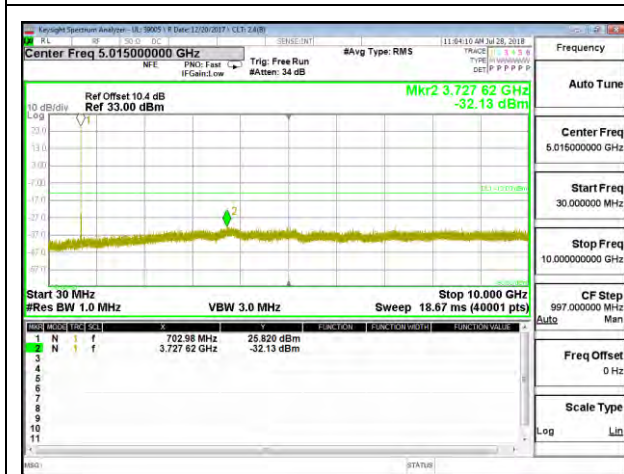
LTE B12 10MHz QPSK Mid Channel RB1-0



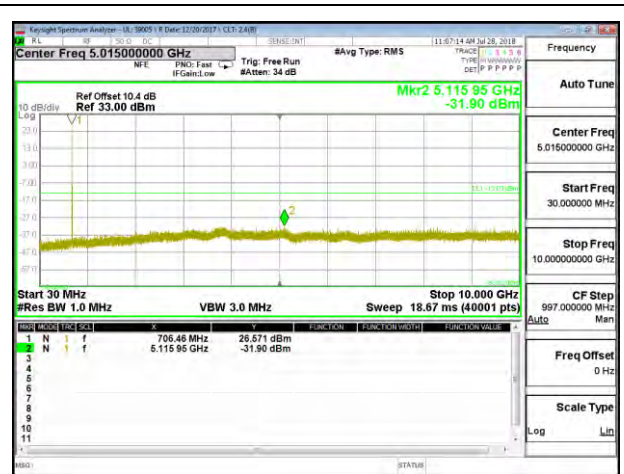
LTE B12 10MHz QPSK High Channel RB1-0



LTE B12 10MHz 16QAM Low Channel RB1-0

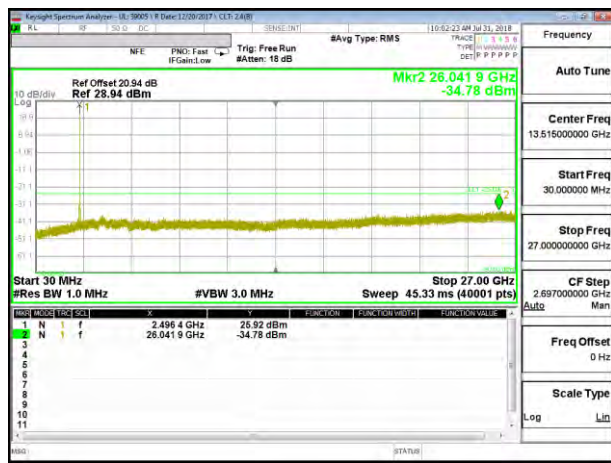


LTE B12 10MHz 16QAM Mid Channel RB1-0

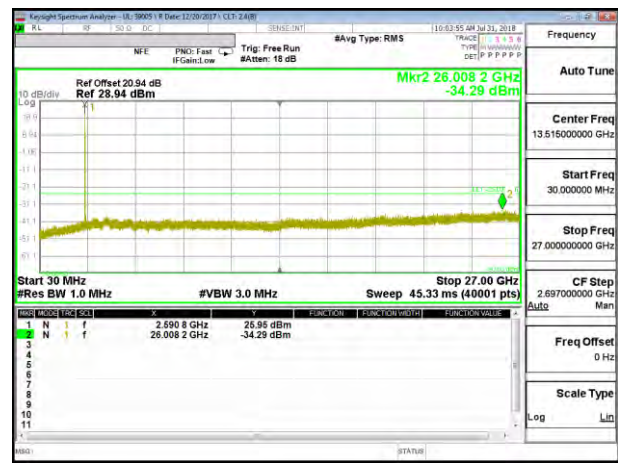


LTE B12 10MHz 16QAM High Channel RB1-0

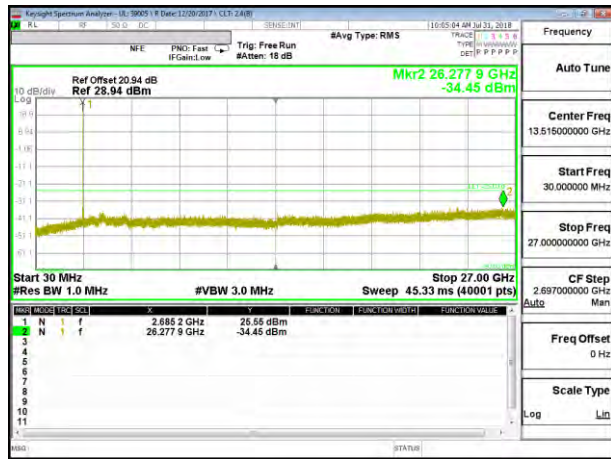
8.3.8. LTE BAND 41



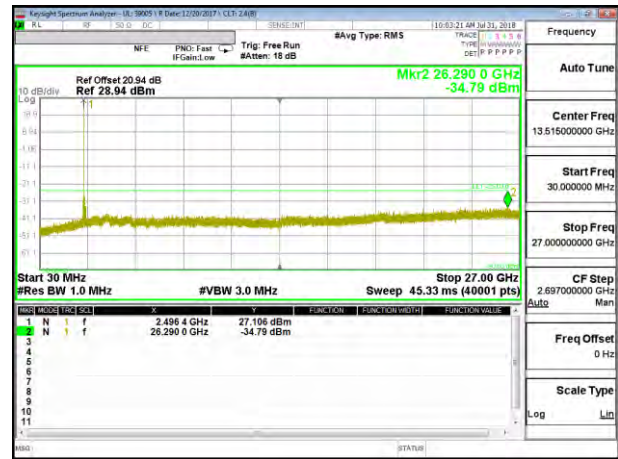
LTE B41 5MHz QPSK Low Channel RB1-0



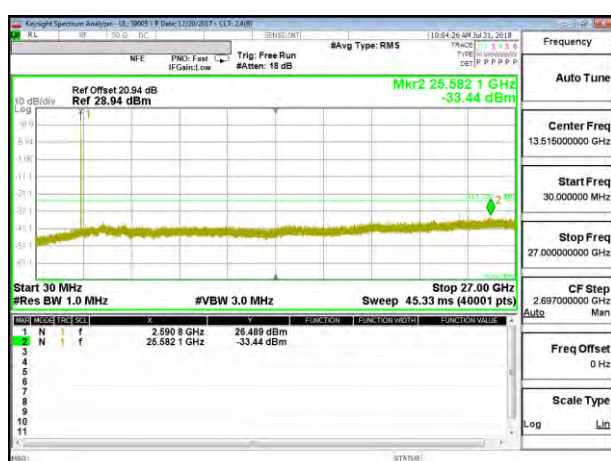
LTE B41 5MHz QPSK Mid Channel RB1-0



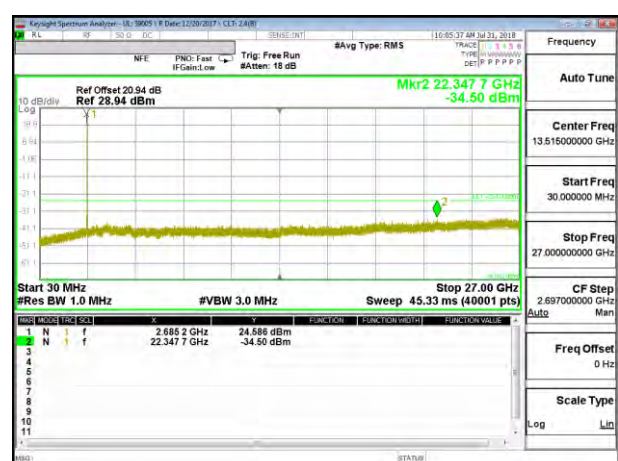
LTE B41 5MHz QPSK High Channel RB1-0



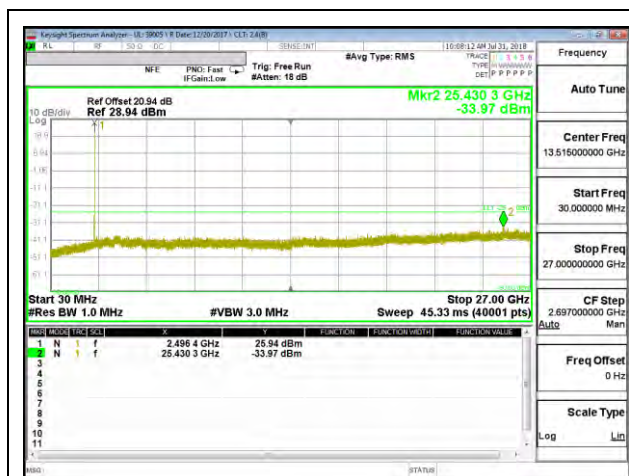
LTE B41 5MHz 16QAM Low Channel RB1-0



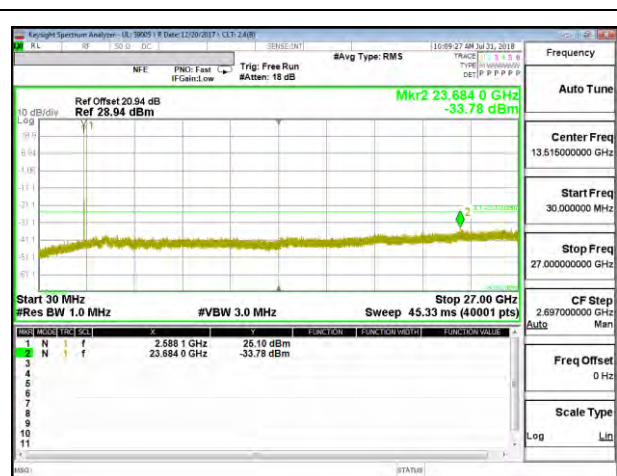
LTE B41 5MHz 16QAM Mid Channel RB1-0



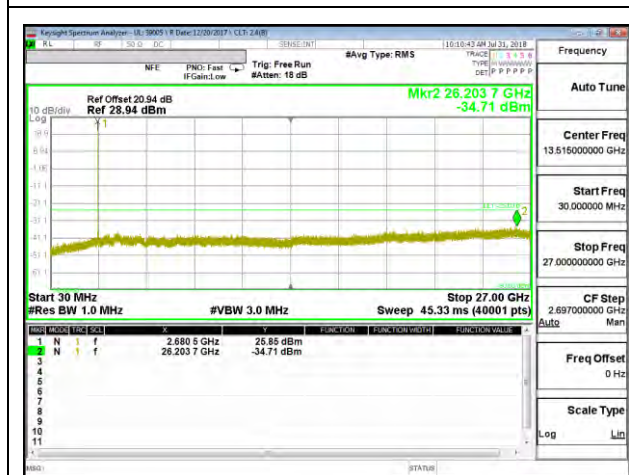
LTE B41 5MHz 16QAM High Channel RB1-0



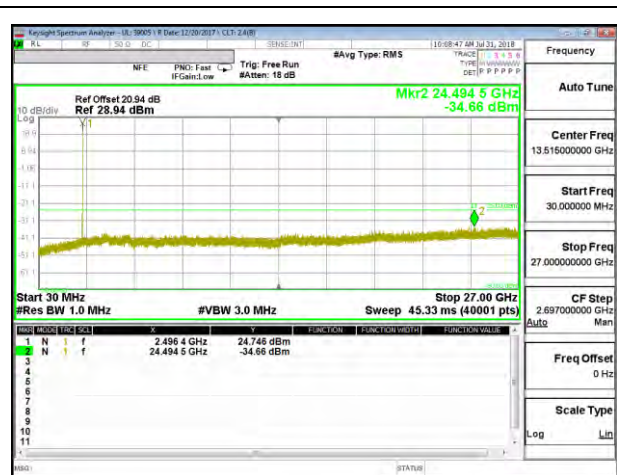
LTE B41 10MHz QPSK Low Channel RB1-0



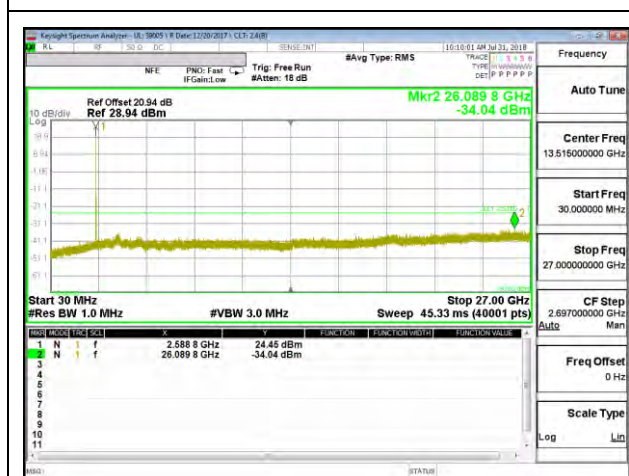
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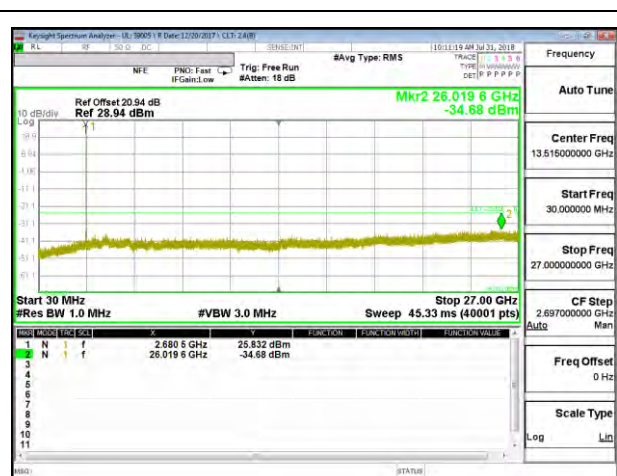
LTE B41 10MHz QPSK High Channel RB1-0



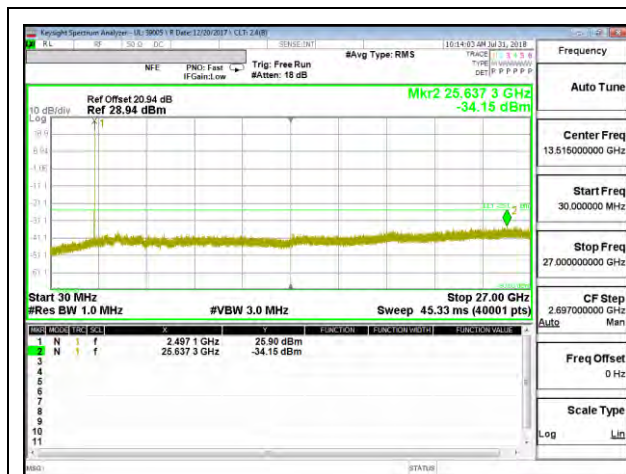
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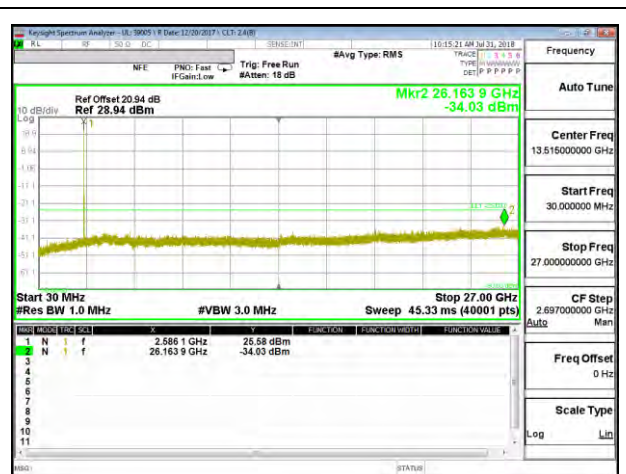
LTE B41 10MHz 16QAM Mid Channel RB1-0



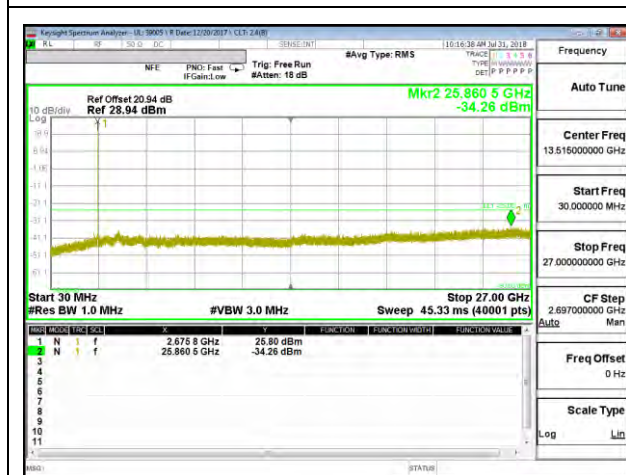
LTE B41 10MHz 16QAM High Channel RB1-0



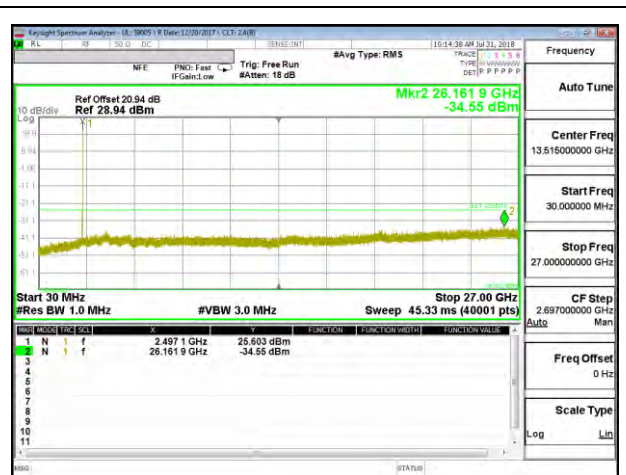
LTE B41 15MHz QPSK Low Channel RB1-0



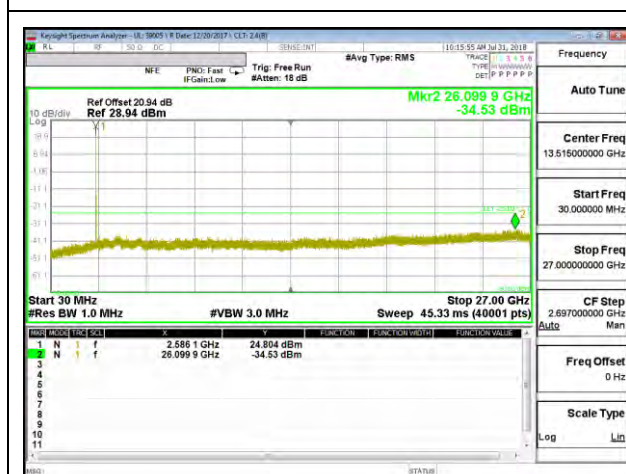
LTE B41 15MHz QPSK Mid Channel RB1-0



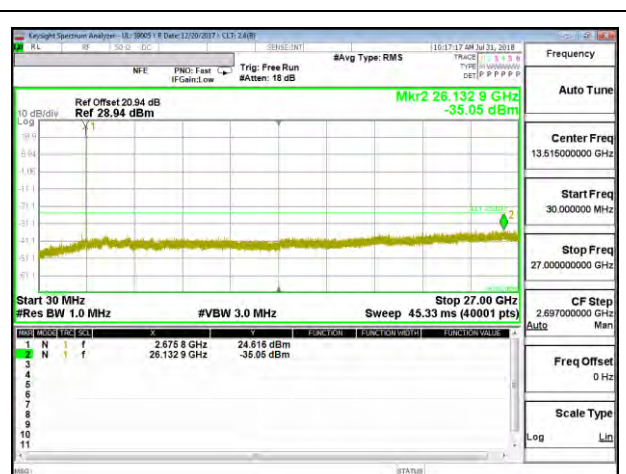
LTE B41 15MHz QPSK High Channel RB1-0



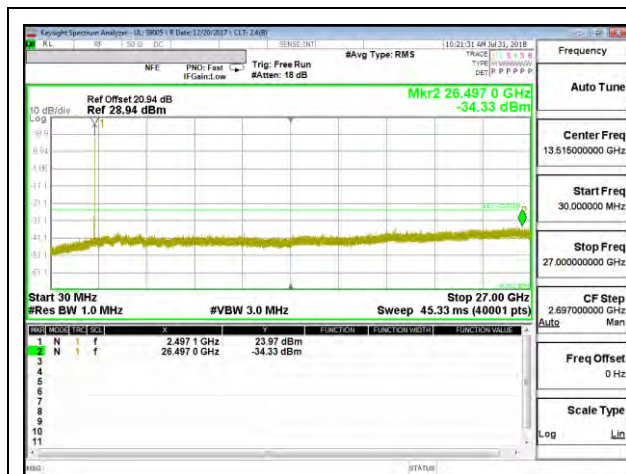
LTE B41 15MHz 16QAM Low Channel RB1-0



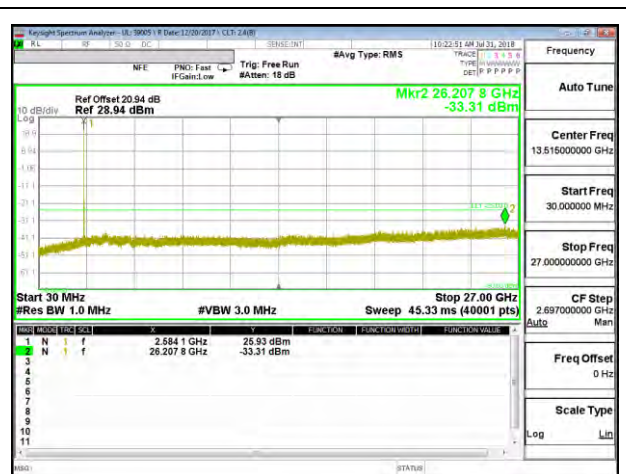
LTE B41 15MHz 16QAM Mid Channel RB1-0



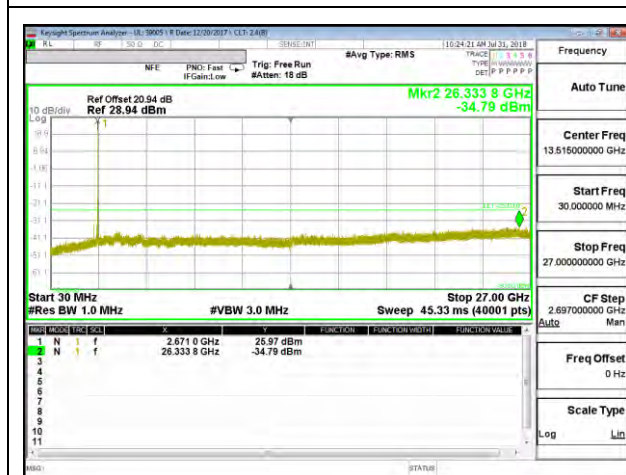
LTE B41 15MHz 16QAM High Channel RB1-0



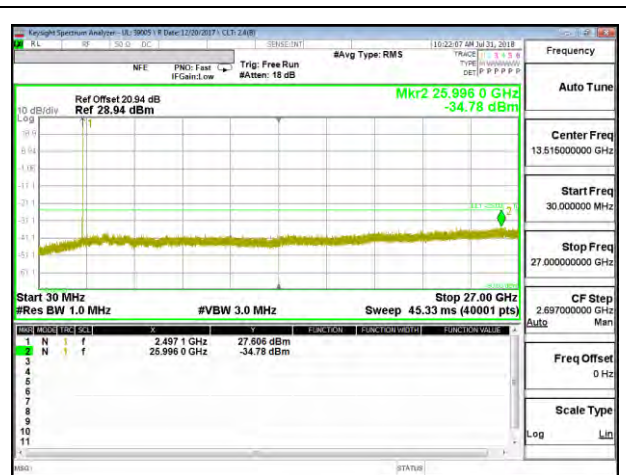
LTE B41 20MHz QPSK Low Channel RB1-0



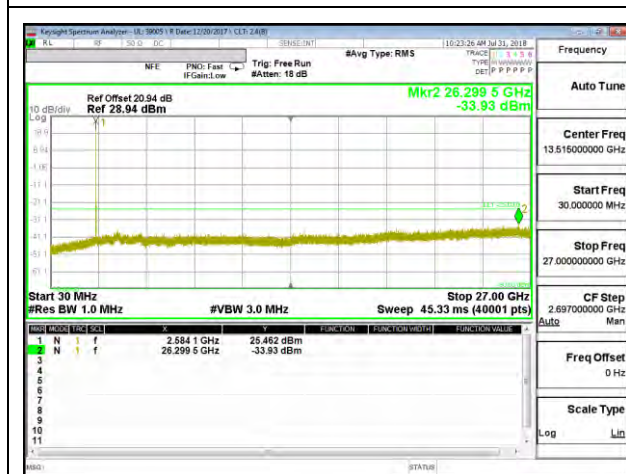
LTE B41 20MHz QPSK Mid Channel RB1-0



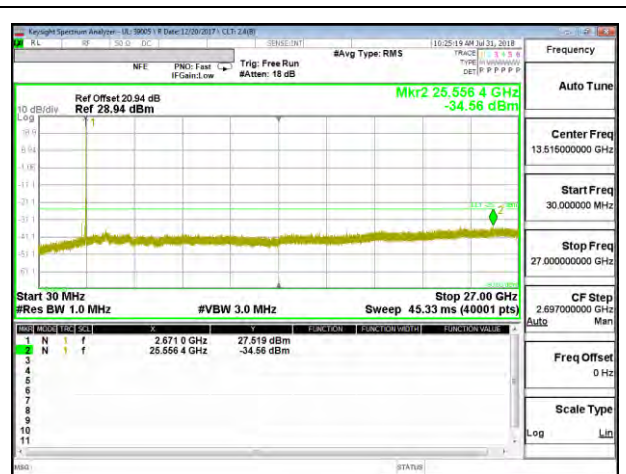
LTE B41 20MHz QPSK High Channel RB1-0



LTE B41 20MHz 16QAM Low Channel RB1-0



LTE B41 20MHz 16QAM Mid Channel RB1-0



LTE B41 20MHz 16QAM High Channel RB1-0

8.4. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

FCC: §22.355

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, 3.0VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

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

MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 2
- WCDMA Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 12
- LTE Band 41

RESULTS

See the following pages.

8.4.1. GSM

ID:	39005	Date:	8/1/18
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GPRS GSM850

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.0490	848.9555		
Extreme (50C)		824.0490	848.9555	10.6	0.01
Extreme (40C)		824.0490	848.9555	11.3	0.01
Extreme (30C)		824.0490	848.9555	11.7	0.01
Extreme (10C)		824.0490	848.9555	11.5	0.01
Extreme (0C)		824.0490	848.9555	12.5	0.01
Extreme (-10C)		824.0490	848.9555	9.7	0.01
Extreme (-20C)		824.0490	848.9555	9.5	0.01
Extreme (-30C)		824.0490	848.9555	9.6	0.01
20C	15%	824.0490	848.9555	11.0	0.01
	-15%	824.0490	848.9555	10.5	0.01
	End Point	824.0490	848.9555	12.0	0.01

GPRS GSM1900

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.0267	1909.9723		
Extreme (50C)		1850.0267	1909.9723	15.6	0.01
Extreme (40C)		1850.0267	1909.9723	16.0	0.01
Extreme (30C)		1850.0267	1909.9723	16.3	0.01
Extreme (10C)		1850.0267	1909.9723	16.0	0.01
Extreme (0C)		1850.0267	1909.9723	15.9	0.01
Extreme (-10C)		1850.0267	1909.9723	16.4	0.01
Extreme (-20C)		1850.0267	1909.9723	15.5	0.01
Extreme (-30C)		1850.0267	1909.9723	15.6	0.01
20C	15%	1850.0267	1909.9723	16.3	0.01
	-15%	1850.0267	1909.9723	15.1	0.01
	End Point	1850.0267	1909.9723	15.7	0.01

8.4.2. WCDMA

ID:	39005	Date:	8/1/18
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WCDMA Rel99 BAND2

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.1551	1909.8433		
Extreme (50C)		1850.1551	1909.8433	10.7	0.01
Extreme (40C)		1850.1551	1909.8433	9.9	0.01
Extreme (30C)		1850.1551	1909.8433	12.2	0.01
Extreme (10C)		1850.1551	1909.8433	13.0	0.01
Extreme (0C)		1850.1551	1909.8433	15.3	0.01
Extreme (-10C)		1850.1551	1909.8433	13.2	0.01
Extreme (-20C)		1850.1551	1909.8433	13.3	0.01
Extreme (-30C)		1850.1551	1909.8433	12.4	0.01
20C		15%	1850.1551	1909.8433	12.4
	-15%	1850.1551	1909.8433	13.4	0.01
	End Point	1850.1551	1909.8433	12.2	0.01

WCDMA Rel99 BAND4

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.1334	1754.8716		
Extreme (50C)		1710.1334	1754.8716	9.2	0.01
Extreme (40C)		1710.1334	1754.8716	8.4	0.00
Extreme (30C)		1710.1334	1754.8716	8.5	0.00
Extreme (10C)		1710.1334	1754.8716	9.2	0.01
Extreme (0C)		1710.1334	1754.8716	9.5	0.01
Extreme (-10C)		1710.1334	1754.8716	9.3	0.01
Extreme (-20C)		1710.1334	1754.8716	8.4	0.00
Extreme (-30C)		1710.1334	1754.8716	8.0	0.00
20C		15%	1710.1334	1754.8716	8.1
	-15%	1710.1334	1754.8716	8.2	0.00
	End Point	1710.1334	1754.8716	8.3	0.00

8.4.3. LTE BAND 2

QPSK (20MHz BANDWIDTH)

ID:	39005	Date:	7/31/18		
Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.8400	1909.1800		
Extreme (50C)		1850.8400	1909.1800	15.2	0.008
Extreme (40C)		1850.8400	1909.1800	13.8	0.007
Extreme (30C)		1850.8400	1909.1800	14.5	0.008
Extreme (10C)		1850.8400	1909.1800	14.9	0.008
Extreme (0C)		1850.8400	1909.1800	12.5	0.007
Extreme (-10C)		1850.8400	1909.1800	11.9	0.006
Extreme (-20C)		1850.8400	1909.1800	12.5	0.007
Extreme (-30C)		1850.8400	1909.1800	13.5	0.007
20C	15%	1850.8400	1909.1800	11.4	0.006
	-15%	1850.8400	1909.1800	13.2	0.007
	End Point	1850.8400	1909.1800	13.5	0.007

8.4.4. LTE BAND 4

QPSK (20MHz BANDWIDTH)

ID:	39005	Date:	7/31/18		
Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.8200	1754.1600		
Extreme (50C)		1710.8200	1754.1600	11.1	0.006
Extreme (40C)		1710.8200	1754.1600	11.2	0.006
Extreme (30C)		1710.8200	1754.1600	10.9	0.006
Extreme (10C)		1710.8200	1754.1600	10.6	0.006
Extreme (0C)		1710.8200	1754.1600	10.3	0.006
Extreme (-10C)		1710.8200	1754.1600	10.5	0.006
Extreme (-20C)		1710.8200	1754.1600	9.9	0.006
Extreme (-30C)		1710.8200	1754.1600	9.7	0.006
20C	15%	1710.8200	1754.1600	9.7	0.006
	-15%	1710.8200	1754.1600	10.6	0.006
	End Point	1710.8200	1754.1600	9.8	0.006

8.4.5. LTE BAND 12

QPSK (10MHz BANDWIDTH)

ID:	39005	Date:	7/31/18		
Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	699.4000	715.5800		
Extreme (50C)		699.4000	715.5800	2.6	0.00
Extreme (40C)		699.4000	715.5800	2.3	0.00
Extreme (30C)		699.4000	715.5800	2.4	0.00
Extreme (10C)		699.4000	715.5800	2.7	0.00
Extreme (0C)		699.4000	715.5800	2.2	0.00
Extreme (-10C)		699.4000	715.5800	3.2	0.00
Extreme (-20C)		699.4000	715.5800	3.5	0.00
Extreme (-30C)		699.4000	715.5800	3.9	0.01
20C	15%	699.4000	715.5800	3.7	0.01
	-15%	699.4000	715.5800	2.3	0.00
	End Point	699.4000	715.5800	2.0	0.00

8.4.6. LTE BAND 41

QPSK (20MHz BANDWIDTH)

ID:	39005	Date:	7/30/18		
Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2496.7000	2689.3200		
Extreme (50C)		2496.7000	2689.3200	7.7	0.003
Extreme (40C)		2496.7000	2689.3200	8.3	0.003
Extreme (30C)		2496.7000	2689.3200	5.9	0.002
Extreme (10C)		2496.7000	2689.3200	6.5	0.002
Extreme (0C)		2496.7000	2689.3200	7.4	0.003
Extreme (-10C)		2496.7000	2689.3200	8.4	0.003
Extreme (-20C)		2496.7000	2689.3200	6.7	0.003
Extreme (-30C)		2496.7000	2689.3200	7.4	0.003
20C	15%	2496.7000	2689.3200	6.0	0.002
	-15%	2496.7000	2689.3200	5.5	0.002
	End Point	2496.7000	2689.3200	5.7	0.002

8.5. PEAK TO AVERAGE RATIO

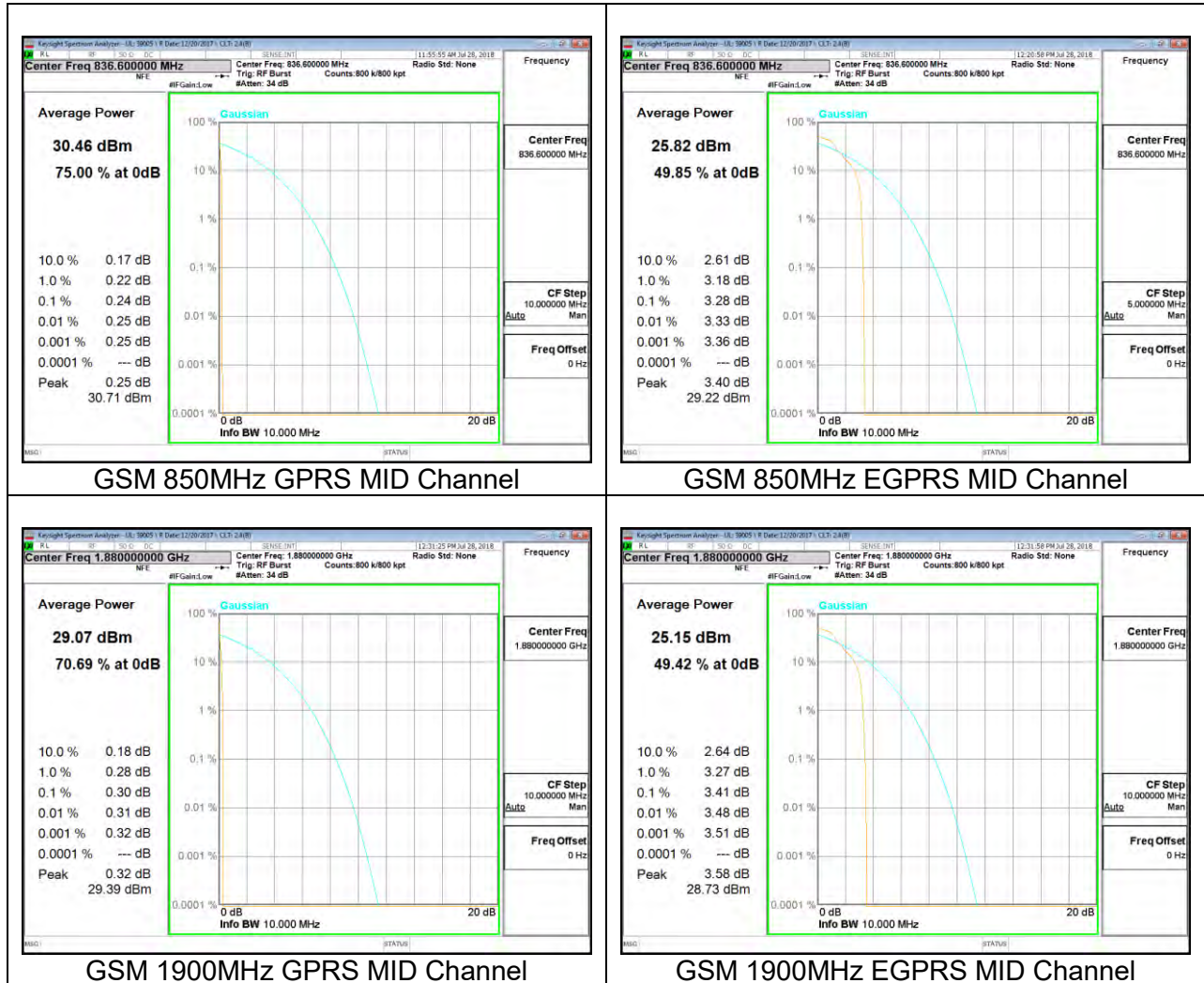
LIMIT

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.

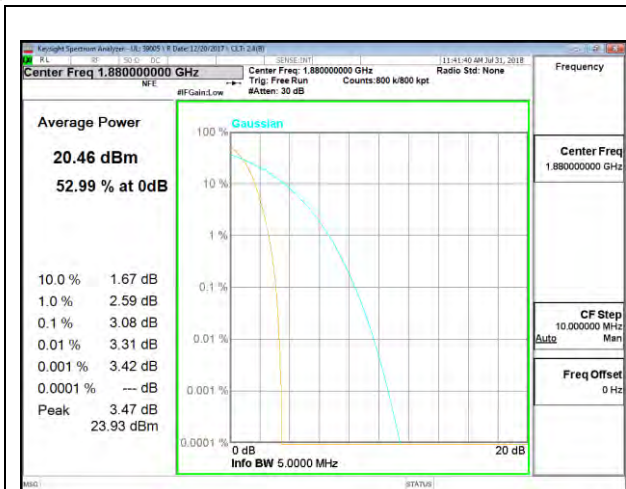
RESULT

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.

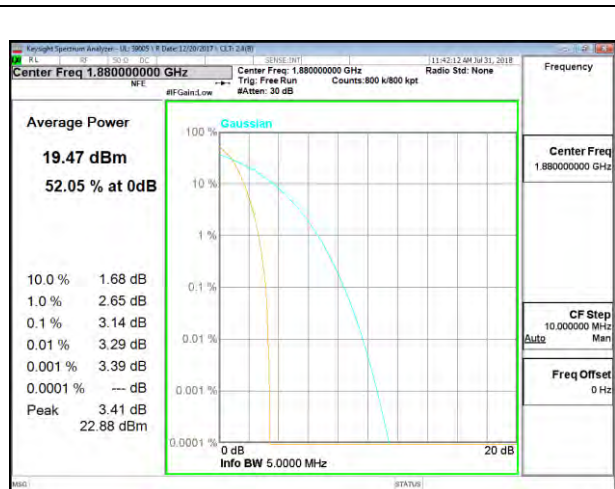
8.5.1. GSM



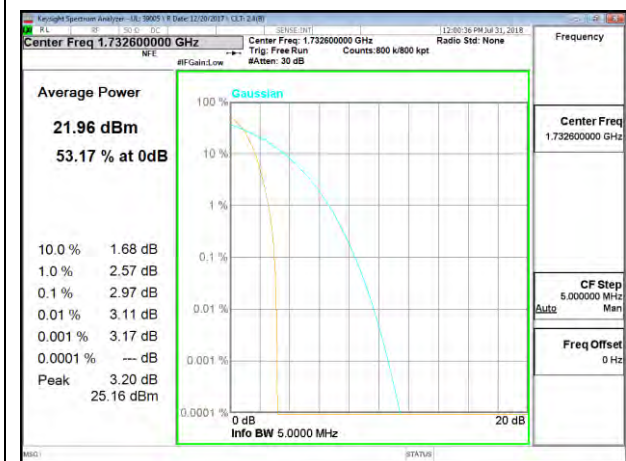
8.5.2. WCDMA



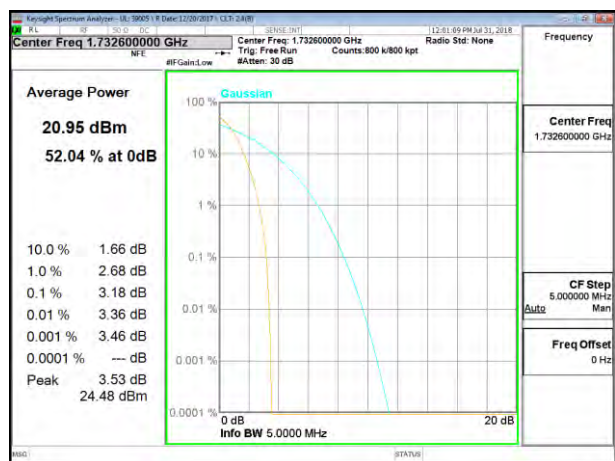
WCDMA BAND2 Rel99 MID Channel



WCDMA BAND2 HSDPA MID Channel

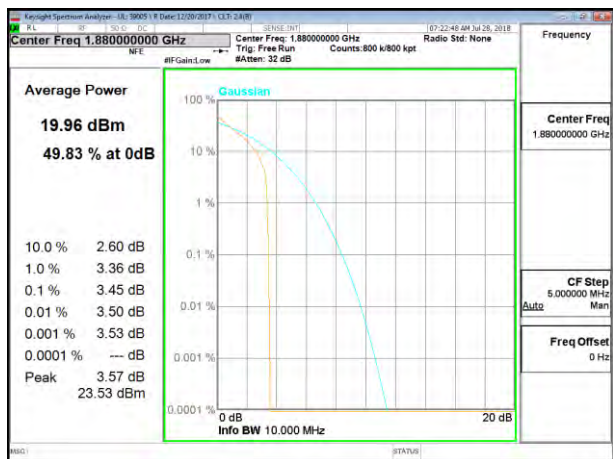


WCDMA BAND4 Rel99 MID Channel

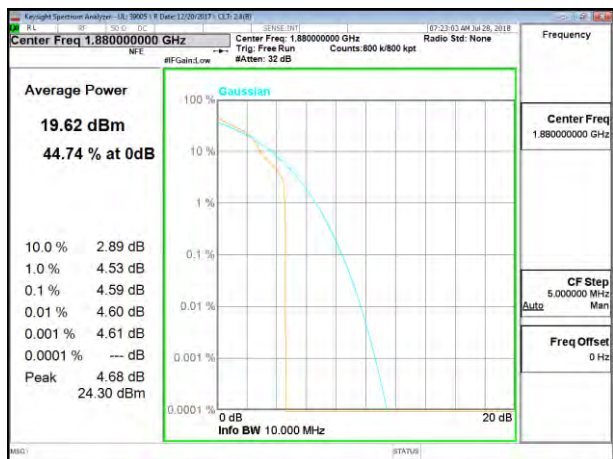


WCDMA BAND4 HSDPA MID Channel

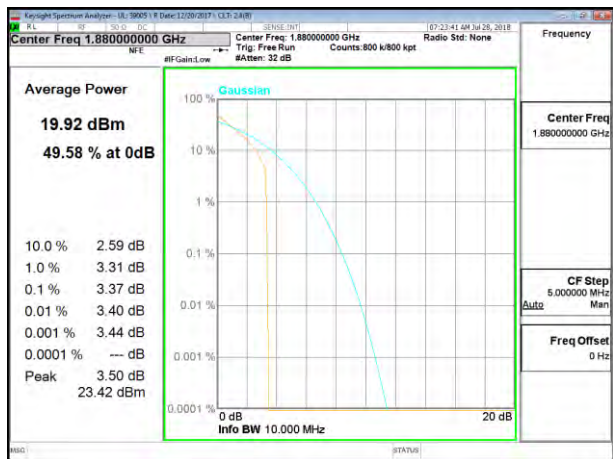
8.5.3. LTE BAND 2



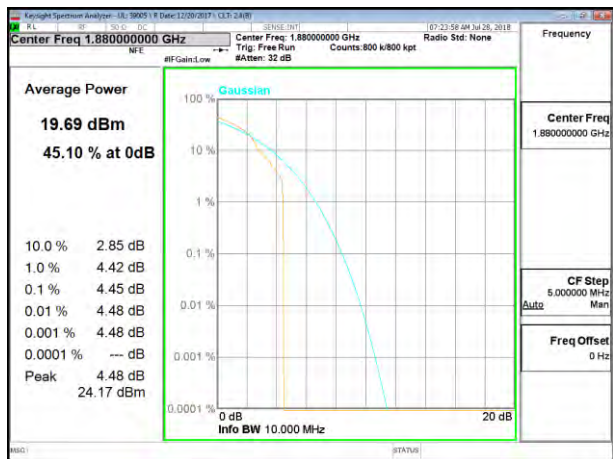
LTE B2 1.4MHz QPSK Mid Channel



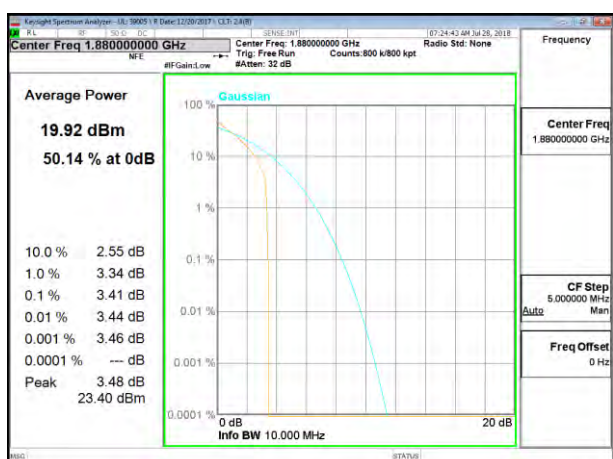
LTE B2 1.4MHz 16QAM Mid Channel



LTE B2 3MHz QPSK Mid Channel



LTE B2 3MHz 16QAM Mid Channel



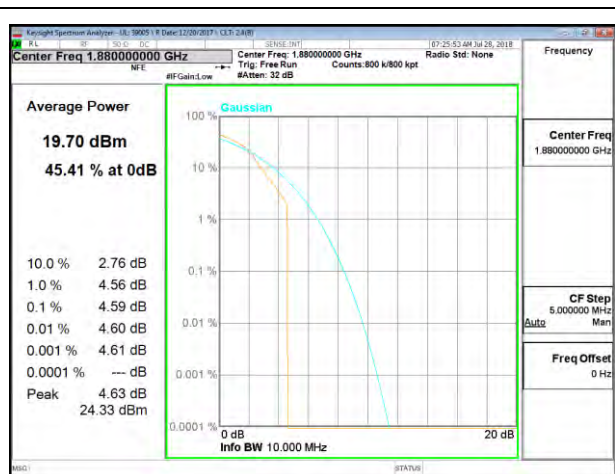
LTE B2 5MHz QPSK Mid Channel



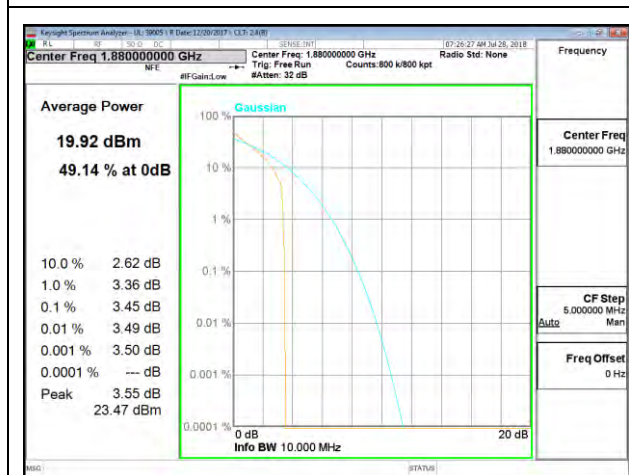
LTE B2 5MHz 16QAM Mid Channel



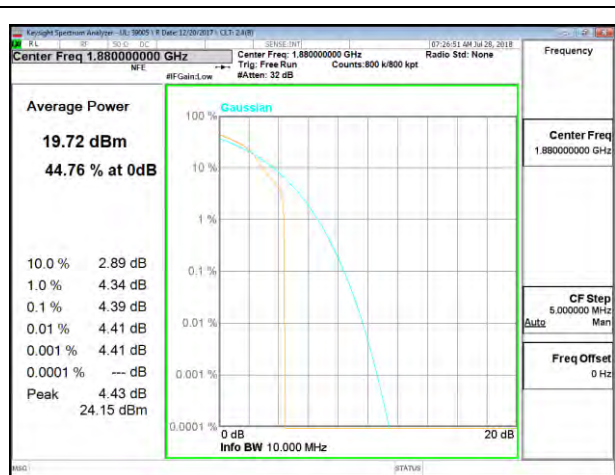
LTE B2 10MHz QPSK Mid Channel



LTE B2 10MHz 16QAM Mid Channel



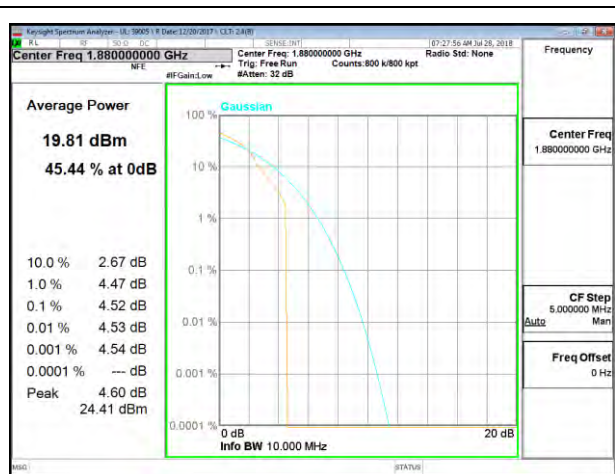
LTE B2 15MHz QPSK Mid Channel



LTE B2 15MHz 16QAM Mid Channel



LTE B2 20MHz QPSK Mid Channel



LTE B2 20MHz 16QAM Mid Channel

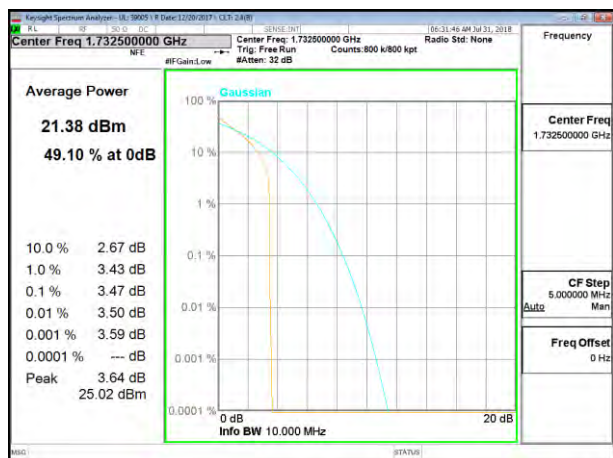
8.5.4. LTE BAND 4



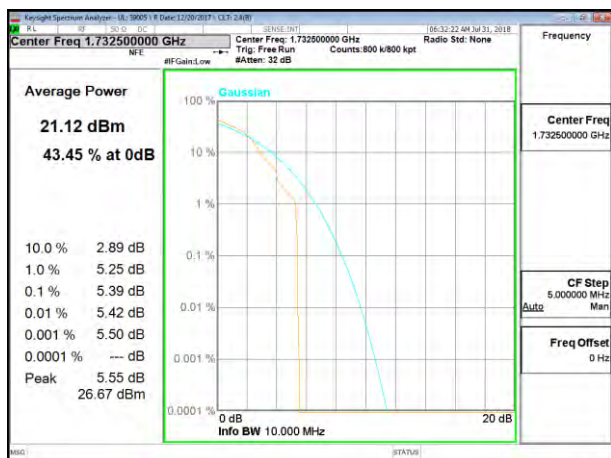
LTE B4 1.4MHz QPSK Mid Channel



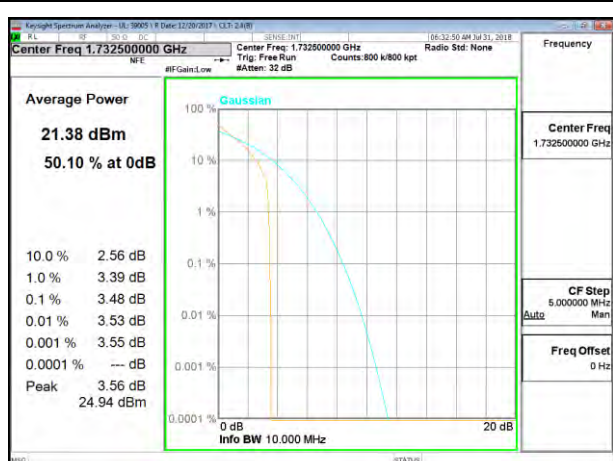
LTE B4 1.4MHz 16QAM Mid Channel



LTE B4 3MHz QPSK Mid Channel



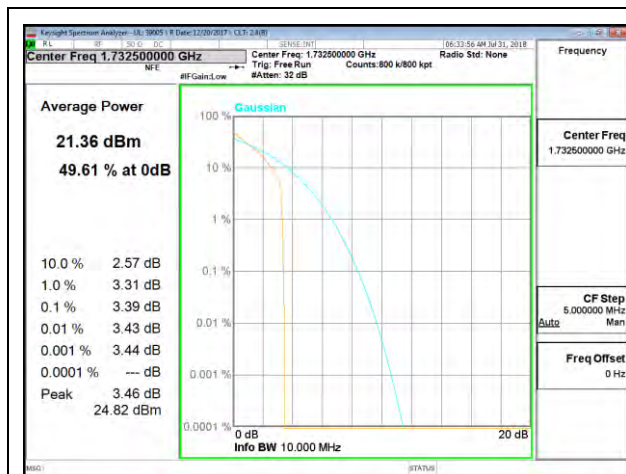
LTE B4 3MHz 16QAM Mid Channel



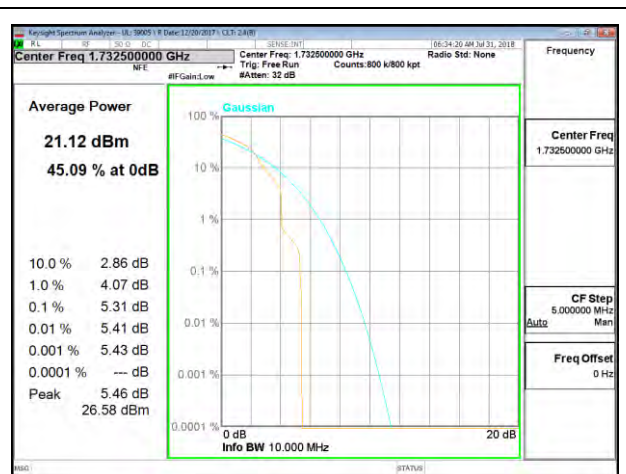
LTE B4 5MHz QPSK Mid Channel



LTE B4 5MHz 16QAM Mid Channel



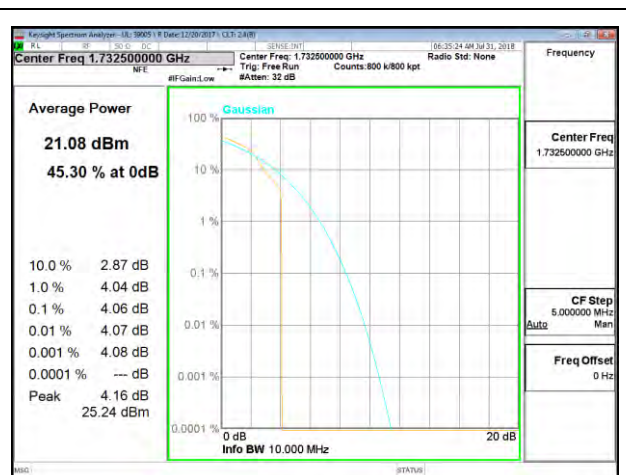
LTE B4 10MHz QPSK Mid Channel



LTE B4 10MHz 16QAM Mid Channel



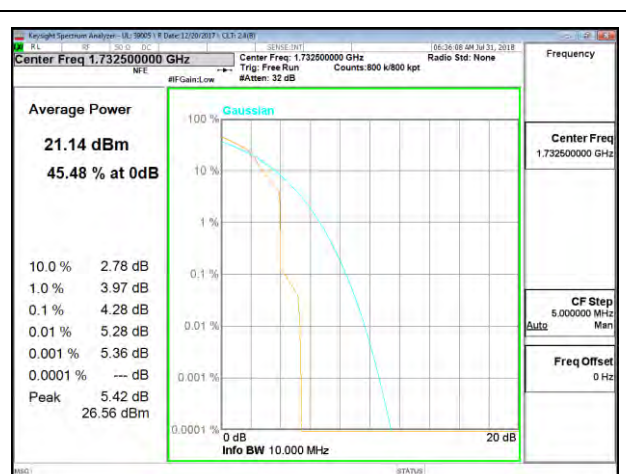
LTE B4 15MHz QPSK Mid Channel



LTE B4 15MHz 16QAM Mid Channel

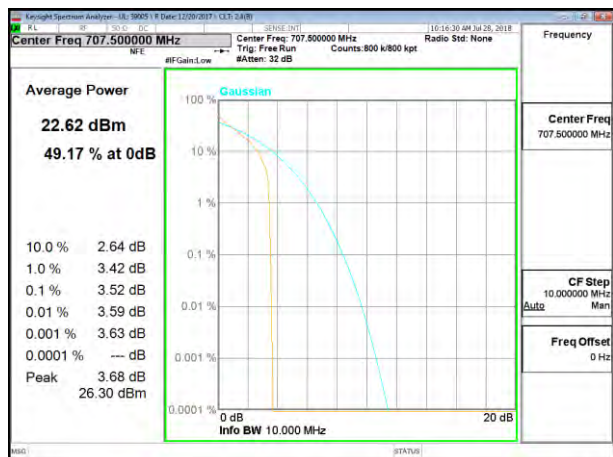


LTE B4 20MHz QPSK Mid Channel

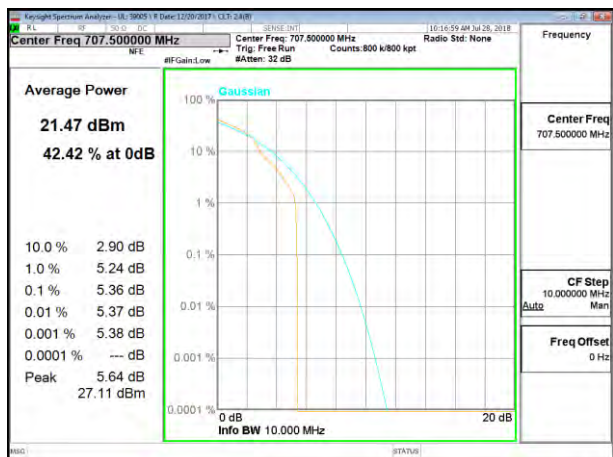


LTE B4 20MHz 16QAM Mid Channel

8.5.5. LTE BAND 12



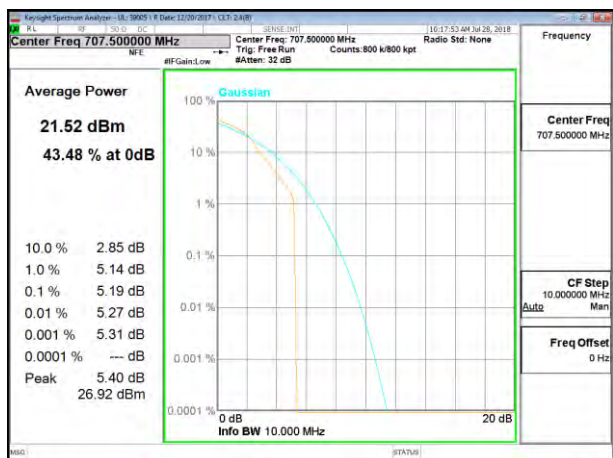
LTE B12 1.4MHz QPSK Mid Channel



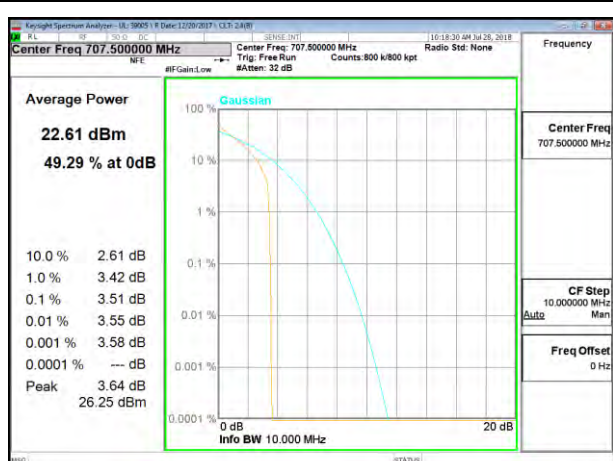
LTE B12 1.4MHz 16QAM Mid Channel



LTE B12 3MHz QPSK Mid Channel



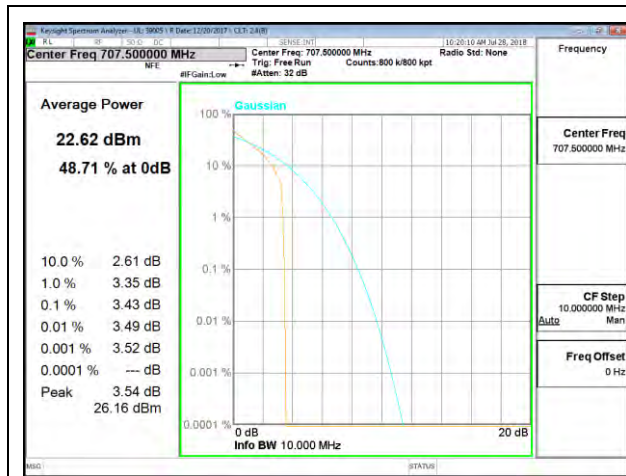
LTE B12 3MHz 16QAM Mid Channel



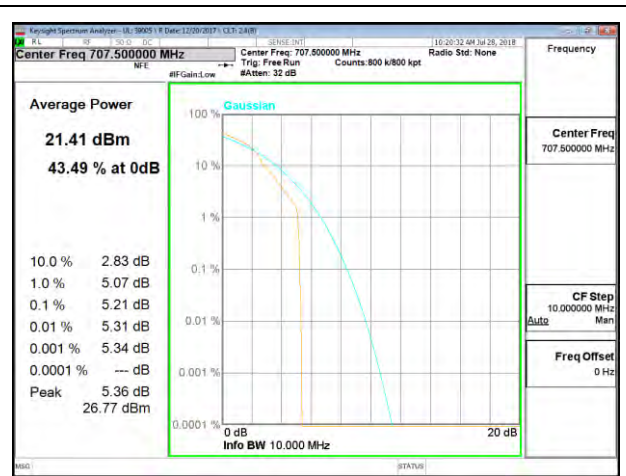
LTE B12 5MHz QPSK Mid Channel



LTE B12 5MHz 16QAM Mid Channel

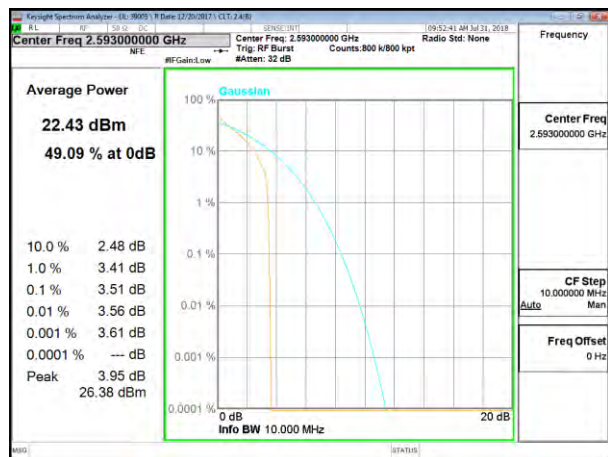


LTE B12 10MHz QPSK Mid Channel

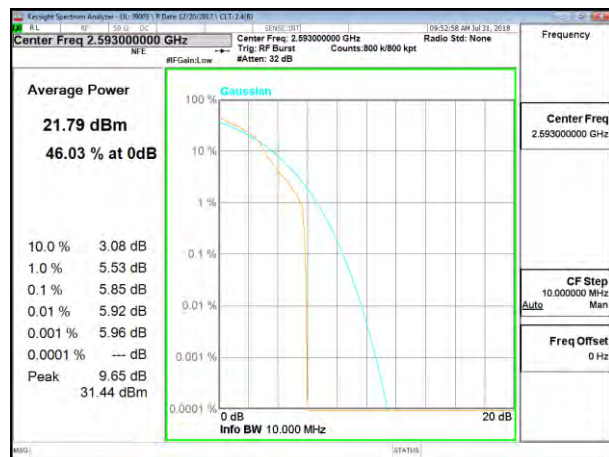


LTE B12 10MHz 16QAM Mid Channel

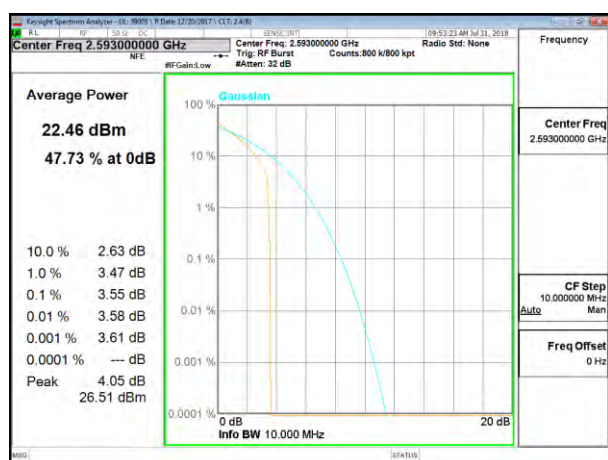
8.5.6. LTE BAND 41



LTE B41 5MHz QPSK Mid Channel



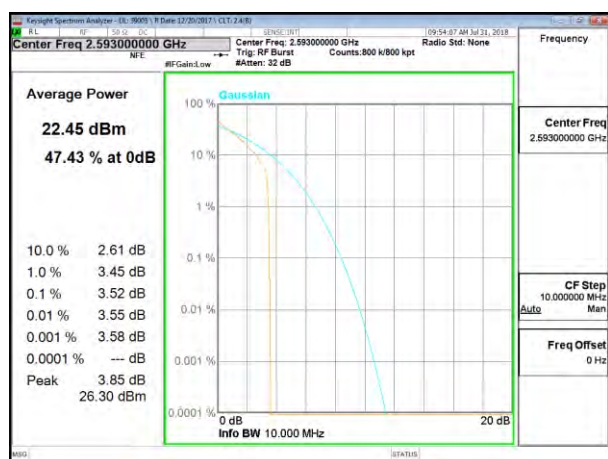
LTE B41 5MHz 16QAM Mid Channel



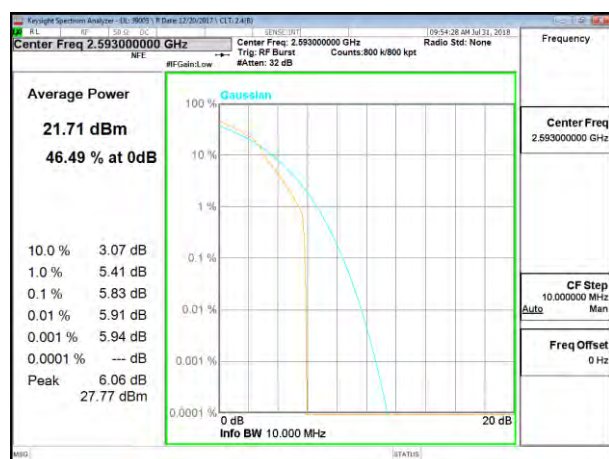
LTE B41 10MHz QPSK Mid Channel



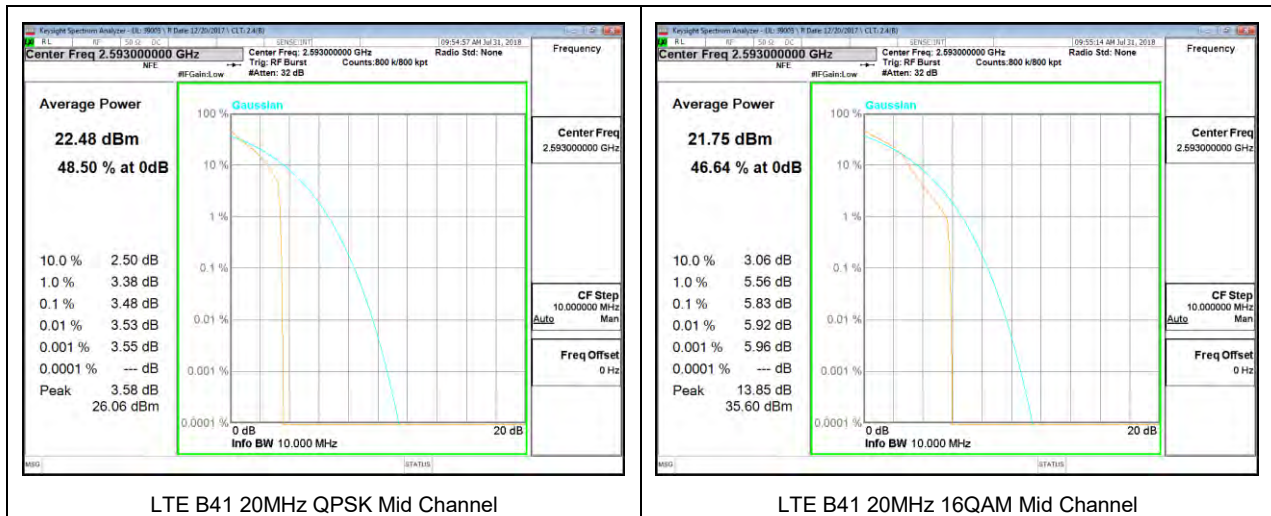
LTE B41 10MHz 16QAM Mid Channel



LTE B41 15MHz QPSK Mid Channel



LTE B41 15MHz 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

LIMIT

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

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

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.

TEST PROCEDURE

KDB 971168 D01 v02r02/D02 v01
TIA-603-E, Section 2.2.12.

MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 2
- WCDMA Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 12
- LTE Band 41

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

RESULTS

9.1.1. GSM

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		GPRS 850										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
1.648	-66.81	Pk	28.6	-34.3	10.1	-62.41	-13	-49.41	0-360	150	H	
2.472	-67.36	Pk	32.3	-32.7	11	-56.76	-13	-43.76	0-360	150	H	
3.291	-70.46	Pk	32.9	-31.3	10.8	-58.06	-13	-45.06	0-360	150	H	
1.648	-67.14	Pk	28.6	-34.3	10.9	-61.94	-13	-48.94	0-360	150	V	
2.472	-68.06	Pk	32.3	-32.7	11.1	-57.36	-13	-44.36	0-360	150	V	
3.291	-70.62	Pk	32.9	-31.3	10.9	-58.12	-13	-45.12	0-360	150	V	
Mid Channel												
1.671	-67.86	Pk	28.8	-34.1	10	-63.16	-13	-50.16	0-360	150	H	
2.51	-69.35	Pk	32.3	-32.7	10.1	-59.65	-13	-46.65	0-360	150	H	
3.344	-69.04	Pk	32.9	-31.5	10.6	-57.04	-13	-44.04	0-360	150	H	
1.672	-67.8	Pk	28.8	-34.1	11.3	-61.8	-13	-48.8	0-360	150	V	
2.509	-68.89	Pk	32.3	-32.7	11.5	-57.79	-13	-44.79	0-360	150	V	
3.347	-70.17	Pk	32.9	-31.4	10.7	-57.97	-13	-44.97	0-360	150	V	
High Channel												
1.699	-68.6	Pk	28.9	-34.1	11.5	-62.3	-13	-49.3	0-360	150	H	
2.544	-68.27	Pk	32.3	-32.7	10	-58.67	-13	-45.67	0-360	150	H	
3.399	-69.23	Pk	32.8	-31.6	10.9	-57.13	-13	-44.13	0-360	150	H	
1.697	-66.84	Pk	28.9	-34.1	11.7	-60.34	-13	-47.34	0-360	150	V	
2.547	-68.47	Pk	32.3	-32.7	11	-57.87	-13	-44.87	0-360	150	V	
3.393	-70.17	Pk	32.8	-31.7	11.1	-57.97	-13	-44.97	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		EGPRS 850										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
1.647	-67.57	Pk	28.6	-34.3	10.1	-63.17	-13	-50.17	0-360	150	H	
2.472	-66.57	Pk	32.3	-32.7	11	-55.97	-13	-42.97	0-360	150	H	
3.292	-70.82	Pk	32.9	-31.3	10.8	-58.42	-13	-45.42	0-360	150	H	
1.648	-65.46	Pk	28.6	-34.3	10.9	-60.26	-13	-47.26	0-360	150	V	
2.473	-67.55	Pk	32.3	-32.7	11.1	-56.85	-13	-43.85	0-360	150	V	
3.298	-70.38	Pk	32.9	-31.4	10.8	-58.08	-13	-45.08	0-360	150	V	
Mid Channel												
1.681	-67.47	Pk	28.8	-34.1	10.1	-62.67	-13	-49.67	0-360	150	H	
2.509	-68.9	Pk	32.3	-32.7	10.1	-59.2	-13	-46.2	0-360	150	H	
3.355	-70.26	Pk	32.9	-31.5	10.6	-58.26	-13	-45.26	0-360	150	H	
1.674	-68.34	Pk	28.8	-34.1	11.3	-62.34	-13	-49.34	0-360	150	V	
2.508	-69.17	Pk	32.3	-32.7	11.4	-58.17	-13	-45.17	0-360	150	V	
3.342	-69.3	Pk	32.9	-31.5	10.8	-57.1	-13	-44.1	0-360	150	V	
High Channel												
1.701	-68.56	Pk	29	-34.1	11.6	-62.06	-13	-49.06	0-360	150	H	
2.555	-68.3	Pk	32.4	-32.6	10.3	-58.2	-13	-45.2	0-360	150	H	
3.403	-69.18	Pk	32.8	-31.6	10.7	-57.28	-13	-44.28	0-360	150	H	
1.699	-67.59	Pk	28.9	-34.1	11.7	-61.09	-13	-48.09	0-360	150	V	
2.546	-68.88	Pk	32.3	-32.6	10.9	-58.28	-13	-45.28	0-360	150	V	
3.392	-70.14	Pk	32.8	-31.7	11.1	-57.94	-13	-44.94	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		GPRS 1900										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.682	-70.95	Pk	33.2	-30.9	11.1	-57.55	-13	-44.55	0-360	150	H	
5.543	-71.52	Pk	34.6	-28.3	10.5	-54.72	-13	-41.72	0-360	150	H	
7.397	-74.06	Pk	35.7	-26	10.6	-53.76	-13	-40.76	0-360	150	H	
3.701	-70.09	Pk	33.1	-30.9	11	-56.89	-13	-43.89	0-360	150	V	
5.546	-72.49	Pk	34.6	-28.3	11	-55.19	-13	-42.19	0-360	150	V	
7.411	-74.47	Pk	35.7	-26	10.6	-54.17	-13	-41.17	0-360	150	V	
Mid Channel												
3.759	-70.43	Pk	33.5	-30.7	10.4	-57.23	-13	-44.23	0-360	150	H	
5.624	-71.58	Pk	34.8	-28.3	10.5	-54.58	-13	-41.58	0-360	150	H	
7.489	-74.89	Pk	35.7	-25.6	10.5	-54.29	-13	-41.29	0-360	150	H	
3.755	-70.62	Pk	33.5	-30.7	10.8	-57.02	-13	-44.02	0-360	150	V	
5.638	-73.25	Pk	34.8	-28.5	10.6	-56.35	-13	-43.35	0-360	150	V	
7.504	-74.43	Pk	35.7	-25.5	10.8	-53.43	-13	-40.43	0-360	150	V	
High Channel												
3.84	-70.59	Pk	33.7	-30.5	10.6	-56.79	-13	-43.79	0-360	150	H	
5.74	-72.62	Pk	35	-28.6	10.4	-55.82	-13	-42.82	0-360	150	H	
7.599	-73.98	Pk	35.7	-25.4	10.4	-53.28	-13	-40.28	0-360	150	H	
3.816	-69.69	Pk	33.7	-30.8	10.3	-56.49	-13	-43.49	0-360	150	V	
5.728	-73.03	Pk	34.9	-28.6	10.6	-56.13	-13	-43.13	0-360	150	V	
7.659	-75.2	Pk	35.8	-25.3	10.6	-54.1	-13	-41.1	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		EGPRS 1900										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.69	-70.92	Pk	33.1	-30.9	11	-57.72	-13	-44.72	0-360	150	H	
5.526	-71.49	Pk	34.6	-28.6	10.6	-54.89	-13	-41.89	0-360	150	H	
7.404	-74.02	Pk	35.7	-26	10.4	-53.92	-13	-40.92	0-360	150	H	
3.691	-71.1	Pk	33.1	-30.9	11.2	-57.7	-13	-44.7	0-360	150	V	
5.537	-71.71	Pk	34.6	-28.4	10.7	-54.81	-13	-41.81	0-360	150	V	
7.389	-74.19	Pk	35.7	-25.9	10.9	-53.49	-13	-40.49	0-360	150	V	
Mid Channel												
3.773	-70.09	Pk	33.6	-30.8	10.5	-56.79	-13	-43.79	0-360	150	H	
5.668	-71.56	Pk	34.8	-28.6	10.6	-54.76	-13	-41.76	0-360	150	H	
7.494	-74.83	Pk	35.7	-25.5	10.4	-54.23	-13	-41.23	0-360	150	H	
3.757	-71.33	Pk	33.5	-30.7	10.7	-57.83	-13	-44.83	0-360	150	V	
5.633	-73.12	Pk	34.8	-28.3	10.7	-55.92	-13	-42.92	0-360	150	V	
7.517	-74.42	Pk	35.7	-25.4	10.7	-53.42	-13	-40.42	0-360	150	V	
High Channel												
3.806	-70.18	Pk	33.7	-30.9	10.2	-57.18	-13	-44.18	0-360	150	H	
5.709	-72.19	Pk	34.9	-28.5	9.9	-55.89	-13	-42.89	0-360	150	H	
7.652	-74.7	Pk	35.8	-25.3	10.4	-53.8	-13	-40.8	0-360	150	H	
3.828	-71.69	Pk	33.7	-30.3	10.6	-57.69	-13	-44.69	0-360	150	V	
5.715	-73.05	Pk	34.9	-28.6	10.4	-56.35	-13	-43.35	0-360	150	V	
7.65	-74.99	Pk	35.8	-25.4	10.4	-54.19	-13	-41.19	0-360	150	V	

9.1.2. WCDMA

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		REL99 B2										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.688	-70.41	Pk	33.1	-30.9	11.1	-57.11	-13	-44.11	0-360	150	H	
5.552	-72.83	Pk	34.6	-28.2	10.7	-55.73	-13	-42.73	0-360	150	H	
7.395	-73.24	Pk	35.7	-26	10.7	-52.84	-13	-39.84	0-360	150	H	
3.697	-71.11	Pk	33.1	-30.9	11.1	-57.81	-13	-44.81	0-360	150	V	
5.55	-72.85	Pk	34.6	-28.2	10.9	-55.55	-13	-42.55	0-360	150	V	
7.412	-73.89	Pk	35.7	-26	10.6	-53.59	-13	-40.59	0-360	150	V	
Mid Channel												
3.738	-69.89	Pk	33.4	-31.1	10.4	-57.19	-13	-44.19	0-360	150	H	
5.611	-71.8	Pk	34.8	-28.4	10.5	-54.9	-13	-41.9	0-360	150	H	
7.504	-74.6	Pk	35.7	-25.5	10.6	-53.8	-13	-40.8	0-360	150	H	
3.752	-70.71	Pk	33.5	-30.8	10.8	-57.21	-13	-44.21	0-360	150	V	
5.657	-72.13	Pk	34.8	-28.6	10.5	-55.43	-13	-42.43	0-360	150	V	
7.532	-74.16	Pk	35.7	-25.5	10.6	-53.36	-13	-40.36	0-360	150	V	
High Channel												
3.802	-70.23	Pk	33.7	-31	10.3	-57.23	-13	-44.23	0-360	150	H	
5.725	-71.94	Pk	34.9	-28.6	10.4	-55.24	-13	-42.24	0-360	150	H	
7.643	-73.18	Pk	35.8	-25.4	10.3	-52.48	-13	-39.48	0-360	150	H	
3.807	-70.33	Pk	33.7	-30.9	10.3	-57.23	-13	-44.23	0-360	150	V	
5.724	-72.59	Pk	34.9	-28.6	10.4	-55.89	-13	-42.89	0-360	150	V	
7.643	-74.57	Pk	35.8	-25.4	10.5	-53.67	-13	-40.67	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		HSDPA B2										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.69	-70.27	Pk	33.1	-30.9	11	-57.07	-13	-44.07	0-360	150	H	
5.551	-72.68	Pk	34.6	-28.2	10.7	-55.58	-13	-42.58	0-360	150	H	
7.389	-74.29	Pk	35.7	-25.9	10.6	-53.89	-13	-40.89	0-360	150	H	
3.706	-71.3	Pk	33.2	-31	11	-58.1	-13	-45.1	0-360	150	V	
5.549	-71.86	Pk	34.6	-28.3	10.9	-54.66	-13	-41.66	0-360	150	V	
7.407	-74.39	Pk	35.7	-26	10.7	-53.99	-13	-40.99	0-360	150	V	
Mid Channel												
3.779	-70.36	Pk	33.6	-30.8	10.8	-56.76	-13	-43.76	0-360	150	H	
5.611	-71.77	Pk	34.8	-28.4	10.5	-54.87	-13	-41.87	0-360	150	H	
7.525	-73.82	Pk	35.7	-25.4	10.4	-53.12	-13	-40.12	0-360	150	H	
3.749	-70.59	Pk	33.5	-30.8	10.8	-57.09	-13	-44.09	0-360	150	V	
5.628	-72.05	Pk	34.8	-28.3	10.6	-54.95	-13	-41.95	0-360	150	V	
7.512	-74.6	Pk	35.7	-25.4	10.8	-53.5	-13	-40.5	0-360	150	V	
High Channel												
3.838	-71.25	Pk	33.7	-30.4	10.6	-57.35	-13	-44.35	0-360	150	H	
5.721	-72.47	Pk	34.9	-28.6	10.2	-55.97	-13	-42.97	0-360	150	H	
7.596	-74.61	Pk	35.7	-25.4	10.3	-54.01	-13	-41.01	0-360	150	H	
3.816	-70.26	Pk	33.7	-30.8	10.3	-57.06	-13	-44.06	0-360	150	V	
5.704	-71.96	Pk	34.9	-28.5	10.2	-55.36	-13	-42.36	0-360	150	V	
7.62	-74.97	Pk	35.7	-25.5	10.5	-54.27	-13	-41.27	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		REL99 B4										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.425	-69.86	Pk	32.9	-31.4	11	-57.36	-13	-44.36	0-360	150	H	
5.107	-71.51	Pk	34.4	-29.6	10.6	-56.11	-13	-43.11	0-360	150	H	
6.826	-71.81	Pk	35.6	-26.9	10.4	-52.71	-13	-39.71	0-360	150	H	
3.425	-70.58	Pk	32.9	-31.4	11.1	-57.98	-13	-44.98	0-360	150	V	
5.129	-71.96	Pk	34.4	-29.2	10.6	-56.16	-13	-43.16	0-360	150	V	
6.837	-73.85	Pk	35.6	-26.7	10.4	-54.55	-13	-41.55	0-360	150	V	
Mid Channel												
3.484	-69.61	Pk	33	-30.9	11	-56.51	-13	-43.51	0-360	150	H	
5.217	-72.15	Pk	34.3	-29.2	11	-56.05	-13	-43.05	0-360	150	H	
6.968	-73.43	Pk	35.7	-26.7	10.1	-54.33	-13	-41.33	0-360	150	H	
3.456	-70	Pk	32.9	-31.4	11.2	-57.3	-13	-44.3	0-360	150	V	
5.205	-71.2	Pk	34.4	-29	10.7	-55.1	-13	-42.1	0-360	150	V	
6.922	-73.14	Pk	35.7	-26.4	10.5	-53.34	-13	-40.34	0-360	150	V	
High Channel												
3.486	-70	Pk	33	-30.9	11	-56.9	-13	-43.9	0-360	150	H	
5.283	-72.31	Pk	34.4	-28.9	10.9	-55.91	-13	-42.91	0-360	150	H	
6.999	-73.73	Pk	35.8	-26.4	10.3	-54.03	-13	-41.03	0-360	150	H	
3.503	-70.5	Pk	33	-31	10.8	-57.7	-13	-44.7	0-360	150	V	
5.265	-72.8	Pk	34.4	-29	11	-56.4	-13	-43.4	0-360	150	V	
6.998	-73.43	Pk	35.8	-26.4	10.7	-53.33	-13	-40.33	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		HSDPA B4										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.429	-69.83	Pk	32.9	-31.5	11	-57.43	-13	-44.43	0-360	150	H	
5.164	-71.25	Pk	34.4	-29.5	10.6	-55.75	-13	-42.75	0-360	150	H	
6.819	-73.37	Pk	35.6	-26.9	10.6	-54.07	-13	-41.07	0-360	150	H	
3.421	-70.52	Pk	32.8	-31.4	11.2	-57.92	-13	-44.92	0-360	150	V	
5.126	-71.93	Pk	34.4	-29.2	10.6	-56.13	-13	-43.13	0-360	150	V	
6.852	-73.62	Pk	35.6	-26.5	10.5	-54.02	-13	-41.02	0-360	150	V	
Mid Channel												
3.46	-69.45	Pk	32.9	-31.3	11	-56.85	-13	-43.85	0-360	150	H	
5.203	-72.3	Pk	34.4	-29.1	10.8	-56.2	-13	-43.2	0-360	150	H	
6.926	-74.23	Pk	35.7	-26.4	10.4	-54.53	-13	-41.53	0-360	150	H	
3.472	-71.02	Pk	33	-31.1	10.9	-58.22	-13	-45.22	0-360	150	V	
5.195	-72.24	Pk	34.4	-29.1	10.3	-56.64	-13	-43.64	0-360	150	V	
6.911	-73.66	Pk	35.7	-26.5	10.4	-54.06	-13	-41.06	0-360	150	V	
High Channel												
3.51	-69.17	Pk	33.1	-31.1	10.8	-56.37	-13	-43.37	0-360	150	H	
5.269	-72.38	Pk	34.4	-29	10.7	-56.28	-13	-43.28	0-360	150	H	
7.017	-73.7	Pk	35.7	-26.5	10	-54.5	-13	-41.5	0-360	150	H	
3.502	-70.58	Pk	33	-30.9	10.8	-57.68	-13	-44.68	0-360	150	V	
5.268	-73.4	Pk	34.4	-29	11	-57	-13	-44	0-360	150	V	
7.013	-73.92	Pk	35.8	-26.5	10.4	-54.22	-13	-41.22	0-360	150	V	

9.1.3. LTE BAND 2

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 2 QPSK 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.7	-70.84	Pk	33.1	-30.9	10.8	-57.84	-13	-44.84	0-360	150	H	
5.553	-73.07	Pk	34.6	-28.2	10.7	-55.97	-13	-42.97	0-360	150	H	
7.44	-72.92	Pk	35.7	-25.9	10.4	-52.72	-13	-39.72	0-360	150	H	
3.728	-71.33	Pk	33.3	-31.2	10.7	-58.53	-13	-45.53	0-360	150	V	
5.563	-72.99	Pk	34.7	-28.3	11	-55.59	-13	-42.59	0-360	150	V	
7.44	-72.72	Pk	35.7	-25.8	10.6	-52.22	-13	-39.22	0-360	150	V	
Mid Channel												
3.759	-70.62	Pk	33.5	-30.7	10.4	-57.42	-13	-44.42	0-360	150	H	
5.655	-71.57	Pk	34.8	-28.6	10.2	-55.17	-13	-42.17	0-360	150	H	
7.487	-73.51	Pk	35.7	-25.6	10.5	-52.91	-13	-39.91	0-360	150	H	
3.723	-71.33	Pk	33.3	-31.2	10.7	-58.53	-13	-45.53	0-360	150	V	
5.561	-72.99	Pk	34.7	-28.3	11	-55.59	-13	-42.59	0-360	150	V	
7.441	-72.72	Pk	35.7	-25.8	10.6	-52.22	-13	-39.22	0-360	150	V	
High Channel												
3.802	-70.21	Pk	33.7	-31	10.3	-57.21	-13	-44.21	0-360	150	H	
5.722	-71.35	Pk	34.9	-28.6	10.2	-54.85	-13	-41.85	0-360	150	H	
7.6	-74.49	Pk	35.7	-25.5	10.3	-53.99	-13	-40.99	0-360	150	H	
3.799	-69.53	Pk	33.7	-31	10.4	-56.43	-13	-43.43	0-360	150	V	
5.688	-72.44	Pk	34.9	-28.4	10.5	-55.44	-13	-42.44	0-360	150	V	
7.58	-74.63	Pk	35.7	-25.4	10.5	-53.83	-13	-40.83	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 2 16QAM 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.738	-70.43	Pk	33.4	-31.1	10.4	-57.73	-13	-44.73	0-360	150	H	
5.61	-72.94	Pk	34.8	-28.4	10.5	-56.04	-13	-43.04	0-360	150	H	
7.44	-73.76	Pk	35.7	-25.9	10.4	-53.56	-13	-40.56	0-360	150	H	
3.726	-71.26	Pk	33.3	-31.2	10.7	-58.46	-13	-45.46	0-360	150	V	
5.578	-72.93	Pk	34.7	-28.4	10.7	-55.93	-13	-42.93	0-360	150	V	
7.44	-69.75	Pk	35.7	-25.9	10.6	-49.35	-13	-36.35	0-360	150	V	
Mid Channel												
3.776	-70.7	Pk	33.6	-30.8	10.7	-57.2	-13	-44.2	0-360	150	H	
5.628	-71.81	Pk	34.8	-28.3	10.4	-54.91	-13	-41.91	0-360	150	H	
7.52	-73.06	Pk	35.7	-25.4	10.5	-52.26	-13	-39.26	0-360	150	H	
3.769	-70.35	Pk	33.6	-30.8	10.4	-57.15	-13	-44.15	0-360	150	V	
5.626	-72.8	Pk	34.8	-28.3	10.6	-55.7	-13	-42.7	0-360	150	V	
7.526	-74.09	Pk	35.7	-25.4	10.6	-53.19	-13	-40.19	0-360	150	V	
High Channel												
3.794	-70.21	Pk	33.7	-31	10.6	-56.91	-13	-43.91	0-360	150	H	
5.671	-71.14	Pk	34.8	-28.6	10.5	-54.44	-13	-41.44	0-360	150	H	
7.622	-74.34	Pk	35.7	-25.5	10.4	-53.74	-13	-40.74	0-360	150	H	
3.801	-69.83	Pk	33.7	-31	10.4	-56.73	-13	-43.73	0-360	150	V	
5.684	-71.42	Pk	34.8	-28.5	10.6	-54.52	-13	-41.52	0-360	150	V	
7.628	-73.54	Pk	35.8	-25.4	10.6	-52.54	-13	-39.54	0-360	150	V	

9.1.4. LTE BAND 4

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 4 QPSK 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.452	-69.71	Pk	32.9	-31.5	11.2	-57.11	-13	-44.11	0-360	150	H	
5.137	-71.39	Pk	34.4	-29.2	10.1	-56.09	-13	-43.09	0-360	150	H	
6.844	-73.23	Pk	35.6	-26.6	10.4	-53.83	-13	-40.83	0-360	150	H	
3.432	-70.61	Pk	32.9	-31.4	11.1	-58.01	-13	-45.01	0-360	150	V	
5.148	-71.32	Pk	34.4	-29.3	10.6	-55.62	-13	-42.62	0-360	150	V	
6.876	-73.85	Pk	35.7	-26.8	10.7	-54.25	-13	-41.25	0-360	150	V	
Mid Channel												
3.479	-70.39	Pk	33	-30.9	10.9	-57.39	-13	-44.39	0-360	150	H	
5.214	-72.15	Pk	34.3	-29.2	10.9	-56.15	-13	-43.15	0-360	150	H	
6.956	-72.95	Pk	35.7	-26.7	9.9	-54.05	-13	-41.05	0-360	150	H	
3.471	-69.52	Pk	32.9	-31.1	10.9	-56.82	-13	-43.82	0-360	150	V	
5.212	-72.09	Pk	34.4	-29.2	10.8	-56.09	-13	-43.09	0-360	150	V	
6.91	-72.54	Pk	35.7	-26.5	10.4	-52.94	-13	-39.94	0-360	150	V	
High Channel												
3.483	-69.53	Pk	33	-30.9	11	-56.43	-13	-43.43	0-360	150	H	
5.214	-72.42	Pk	34.3	-29.2	10.9	-56.42	-13	-43.42	0-360	150	H	
6.938	-73.88	Pk	35.7	-26.5	10.4	-54.28	-13	-41.28	0-360	150	H	
3.498	-69.56	Pk	33	-30.9	11	-56.46	-13	-43.46	0-360	150	V	
5.219	-70.14	Pk	34.3	-29.2	10.8	-54.24	-13	-41.24	0-360	150	V	
6.959	-73.29	Pk	35.7	-26.7	10.3	-53.99	-13	-40.99	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 4 16QAM 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
3.457	-70.21	Pk	32.9	-31.4	11.1	-57.61	-13	-44.61	0-360	150	H	
5.146	-70.72	Pk	34.4	-29.2	10.2	-55.32	-13	-42.32	0-360	150	H	
6.878	-74.02	Pk	35.7	-26.8	10.4	-54.72	-13	-41.72	0-360	150	H	
3.447	-70.4	Pk	32.9	-31.6	11.3	-57.8	-13	-44.8	0-360	150	V	
5.172	-70.8	Pk	34.4	-29.5	10.5	-55.4	-13	-42.4	0-360	150	V	
6.872	-73.77	Pk	35.6	-26.7	10.6	-54.27	-13	-41.27	0-360	150	V	
Mid Channel												
3.444	-68.97	Pk	32.9	-31.6	10.8	-56.87	-13	-43.87	0-360	150	H	
5.18	-70.85	Pk	34.4	-29.3	10.4	-55.35	-13	-42.35	0-360	150	H	
6.887	-73.31	Pk	35.7	-26.9	10.4	-54.11	-13	-41.11	0-360	150	H	
3.465	-70.06	Pk	32.9	-31.2	10.9	-57.46	-13	-44.46	0-360	150	V	
5.207	-72.64	Pk	34.4	-29	10.7	-56.54	-13	-43.54	0-360	150	V	
6.916	-73.5	Pk	35.7	-26.4	10.4	-53.8	-13	-40.8	0-360	150	V	
High Channel												
3.465	-70.06	Pk	32.9	-31.2	10.9	-57.46	-13	-44.46	0-360	150	V	
5.207	-72.64	Pk	34.4	-29	10.7	-56.54	-13	-43.54	0-360	150	V	
6.916	-73.5	Pk	35.7	-26.4	10.4	-53.8	-13	-40.8	0-360	150	V	
3.49	-70.55	Pk	33	-30.9	11.1	-57.35	-13	-44.35	0-360	150	V	
5.223	-72.21	Pk	34.3	-29.3	10.7	-56.51	-13	-43.51	0-360	150	V	
6.962	-73.22	Pk	35.7	-26.7	10.3	-53.92	-13	-40.92	0-360	150	V	

9.1.5. LTE BAND 12

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 12 QPSK 10MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
1.415	-67.66	Pk	28.9	-34.7	11.1	-62.36	-13	-49.36	0-360	150	H	
2.12	-68.71	Pk	31.4	-33.2	10.3	-60.21	-13	-47.21	0-360	150	H	
2.82	-69.54	Pk	32.5	-32.4	10.8	-58.64	-13	-45.64	0-360	150	H	
1.406	-67.42	Pk	29	-34.6	11.2	-61.82	-13	-48.82	0-360	150	V	
2.117	-68.89	Pk	31.4	-33.3	10.9	-59.89	-13	-46.89	0-360	150	V	
2.821	-69.22	Pk	32.5	-32.4	11	-58.12	-13	-45.12	0-360	150	V	
Mid Channel												
1.413	-67.66	Pk	28.9	-34.7	11	-62.46	-13	-49.46	0-360	151	H	
2.125	-67.46	Pk	31.3	-33.3	10.2	-59.26	-13	-46.26	0-360	151	H	
2.83	-69.6	Pk	32.5	-32.3	10.8	-58.6	-13	-45.6	0-360	151	H	
1.412	-68.34	Pk	28.9	-34.7	11.9	-62.24	-13	-49.24	0-360	150	V	
2.119	-68.34	Pk	31.4	-33.2	11	-59.14	-13	-46.14	0-360	150	V	
2.829	-69.74	Pk	32.5	-32.3	11.1	-58.44	-13	-45.44	0-360	150	V	
High Channel												
1.423	-67.79	Pk	28.8	-34.8	11.1	-62.69	-13	-49.69	0-360	150	H	
2.128	-67.39	Pk	31.3	-33.3	10.3	-59.09	-13	-46.09	0-360	150	H	
2.847	-69.77	Pk	32.4	-32.3	11.2	-58.47	-13	-45.47	0-360	150	H	
1.42	-68.85	Pk	28.8	-34.8	12.2	-62.65	-13	-49.65	0-360	150	V	
2.128	-68.87	Pk	31.3	-33.3	11.2	-59.67	-13	-46.67	0-360	150	V	
2.843	-69.56	Pk	32.4	-32.3	11.4	-58.06	-13	-45.06	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		8/01/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 12 16QAM 10MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
1.4	-66.5	Pk	29	-34.6	10.6	-61.5	-13	-48.5	0-360	150	H	
2.12	-68.82	Pk	31.4	-33.2	10.3	-60.32	-13	-47.32	0-360	150	H	
2.815	-69.08	Pk	32.6	-32.4	10.7	-58.18	-13	-45.18	0-360	150	H	
1.412	-68.67	Pk	28.9	-34.7	11.9	-62.57	-13	-49.57	0-360	150	V	
2.116	-68.34	Pk	31.4	-33.3	10.8	-59.44	-13	-46.44	0-360	150	V	
2.813	-69.64	Pk	32.6	-32.4	11	-58.44	-13	-45.44	0-360	150	V	
Mid Channel												
1.414	-66.67	Pk	28.9	-34.7	11	-61.47	-13	-48.47	0-360	150	H	
2.126	-67.82	Pk	31.3	-33.3	10.3	-59.52	-13	-46.52	0-360	150	H	
2.831	-69.65	Pk	32.5	-32.3	10.9	-58.55	-13	-45.55	0-360	150	H	
1.411	-66.65	Pk	28.9	-34.7	11.7	-60.75	-13	-47.75	0-360	150	V	
2.12	-68.97	Pk	31.4	-33.2	11.1	-59.67	-13	-46.67	0-360	150	V	
2.829	-69.49	Pk	32.5	-32.3	11.1	-58.19	-13	-45.19	0-360	150	V	
High Channel												
1.422	-68.25	Pk	28.8	-34.8	11.1	-63.15	-13	-50.15	0-360	150	H	
2.126	-68.41	Pk	31.3	-33.3	10.3	-60.11	-13	-47.11	0-360	150	H	
2.838	-69.64	Pk	32.4	-32.3	11.2	-58.34	-13	-45.34	0-360	150	H	
1.417	-67.43	Pk	28.8	-34.7	12.2	-61.13	-13	-48.13	0-360	150	V	
2.132	-68.11	Pk	31.3	-33.4	11.2	-59.01	-13	-46.01	0-360	150	V	
2.846	-70.43	Pk	32.4	-32.3	11.5	-58.83	-13	-45.83	0-360	150	V	

9.1.6. LTE BAND 41

Company:		SOMC										
Project #:		12393500										
Date:		7/31/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 41 QPSK 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
* 5.003	-73.11	Pk	34.4	-28.7	10.4	-57.01	-25	-32.01	0-360	150	H	
* 7.516	-74.74	Pk	35.7	-25.4	10.5	-53.94	-25	-28.94	0-360	150	H	
10.011	-77.79	Pk	37.2	-21.7	10.5	-51.79	-25	-26.79	0-360	150	H	
* 5.007	-73.96	Pk	34.4	-28.8	10.7	-57.66	-25	-32.66	0-360	150	V	
* 7.515	-74.94	Pk	35.7	-25.4	10.8	-53.84	-25	-28.84	0-360	150	V	
10.034	-77.52	Pk	37.2	-21.8	10.5	-51.62	-25	-26.62	0-360	150	V	
Mid Channel												
5.193	-72.11	Pk	34.4	-29.1	10.3	-56.51	-25	-31.51	0-360	150	H	
7.762	-75.32	Pk	35.8	-25.3	10.4	-54.42	-25	-29.42	0-360	150	H	
10.37	-76.89	Pk	37.5	-21.3	10.3	-50.39	-25	-25.39	0-360	150	H	
5.188	-73.07	Pk	34.4	-29.1	10.6	-57.17	-25	-32.17	0-360	150	V	
7.78	-75.87	Pk	35.8	-25.3	10.4	-54.97	-25	-29.97	0-360	150	V	
10.368	-75.89	Pk	37.5	-21.3	10.6	-49.09	-25	-24.09	0-360	150	V	
High Channel												
* 5.368	-73.06	Pk	34.4	-28.7	10.6	-56.76	-25	-31.76	0-360	150	H	
* 8.042	-74.4	Pk	35.8	-24.8	10.5	-52.9	-25	-27.9	0-360	150	H	
* 10.724	-76.52	Pk	37.7	-22	9.9	-50.92	-25	-25.92	0-360	150	H	
* 5.358	-73.76	Pk	34.5	-28.6	11	-56.86	-25	-31.86	0-360	150	V	
* 8.032	-75.29	Pk	35.8	-24.9	10.7	-53.69	-25	-28.69	0-360	150	V	
* 10.728	-77.32	Pk	37.7	-22	10.1	-51.52	-25	-26.52	0-360	150	V	

Company:		SOMC										
Project #:		12393500										
Date:		7/31/18										
Test Engineer:		43575										
Configuration:		EUT+ Support Equipment										
Mode:		LTE 41 16QAM 20MHz										
Chamber #:		Chamber L										
Frequency (MHz)	Meter Reading (dBm)	Det	AF T4942 (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												
* 5.004	-72.99	Pk	34.4	-28.7	10.4	-56.89	-25	-31.89	0-360	150	H	
* 7.501	-73.99	Pk	35.7	-25.5	10.6	-53.19	-25	-28.19	0-360	150	H	
10.023	-77.67	Pk	37.2	-21.7	10.5	-51.67	-25	-26.67	0-360	150	H	
* 5.008	-72.41	Pk	34.4	-28.9	10.7	-56.21	-25	-31.21	0-360	150	V	
* 7.514	-74.86	Pk	35.7	-25.4	10.7	-53.86	-25	-28.86	0-360	150	V	
10.024	-77.6	Pk	37.2	-21.7	10.7	-51.4	-25	-26.4	0-360	150	V	
Mid Channel												
5.181	-72.01	Pk	34.4	-29.3	10.4	-56.51	-25	-31.51	0-360	150	H	
7.767	-74.3	Pk	35.8	-25.3	10.3	-53.5	-25	-28.5	0-360	150	H	
10.363	-77.15	Pk	37.5	-21.4	10.4	-50.65	-25	-25.65	0-360	150	H	
5.186	-73.41	Pk	34.4	-29.1	10.6	-57.51	-25	-32.51	0-360	150	V	
7.78	-75.56	Pk	35.8	-25.3	10.4	-54.66	-25	-29.66	0-360	150	V	
10.362	-77.4	Pk	37.5	-21.4	10.6	-50.7	-25	-25.7	0-360	150	V	
High Channel												
* 5.355	-72.26	Pk	34.5	-28.6	10.7	-55.66	-25	-30.66	0-360	150	H	
* 8.054	-74.4	Pk	35.8	-24.7	10.4	-52.9	-25	-27.9	0-360	150	H	
* 10.704	-77.18	Pk	37.6	-21.9	10	-51.48	-25	-26.48	0-360	150	H	
* 5.362	-73.05	Pk	34.5	-28.5	10.9	-56.15	-25	-31.15	0-360	150	V	
* 8.035	-74.35	Pk	35.8	-24.9	10.8	-52.65	-25	-27.65	0-360	150	V	
* 10.711	-77.58	Pk	37.6	-21.9	10.2	-51.68	-25	-26.68	0-360	150	V	