

LTE Band 7

**High Frequency Substitution Measurement
UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 5MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2502.5MHz) | | | | | | | | | | |
| 5.01 | 43.4 | H | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | -25.0 | -25.1 | |
| 7.51 | 46.7 | H | 3.0 | -10.2 | 38.9 | 1.0 | -49.2 | -25.0 | -23.2 | |
| 10.01 | 47.1 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| 5.01 | 43.4 | V | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | -25.0 | -25.1 | |
| 7.51 | 46.4 | V | 3.0 | -10.2 | 38.9 | 1.0 | -48.1 | -25.0 | -23.1 | |
| 10.01 | 47.2 | V | 3.0 | -8.0 | 38.3 | 1.0 | -45.3 | -25.0 | -20.3 | |
| Mid Channel (2335MHz) | | | | | | | | | | |
| 5.07 | 42.8 | H | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.61 | 45.6 | H | 3.0 | -9.1 | 38.9 | 1.0 | -47.0 | -25.0 | -22.0 | |
| 10.14 | 47.1 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| 5.07 | 43.0 | V | 3.0 | -10.4 | 40.3 | 1.0 | -49.7 | -25.0 | -24.7 | |
| 7.61 | 45.2 | V | 3.0 | -8.9 | 38.9 | 1.0 | -46.8 | -25.0 | -21.8 | |
| 10.14 | 47.2 | V | 3.0 | -7.8 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| High Channel (2567.5MHz) | | | | | | | | | | |
| 5.14 | 43.6 | H | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | -25.0 | -25.1 | |
| 7.70 | 45.6 | H | 3.0 | -9.2 | 38.9 | 1.0 | -46.8 | -25.0 | -21.8 | |
| 10.27 | 46.7 | H | 3.0 | -7.2 | 38.3 | 1.0 | -44.6 | -25.0 | -19.6 | |
| 5.14 | 44.1 | V | 3.0 | -11.4 | 40.3 | 1.0 | -50.7 | -25.0 | -25.7 | |
| 7.70 | 45.5 | V | 3.0 | -8.9 | 38.9 | 1.0 | -47.0 | -25.0 | -22.0 | |
| 10.27 | 47.2 | V | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |

Rev: 10.28.15

LTE B7 5MHz QPSK

**High Frequency Substitution Measurement
UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 5MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2502.5MHz) | | | | | | | | | | |
| 5.01 | 43.3 | H | 3.0 | -10.6 | 40.3 | 1.0 | -49.0 | -25.0 | -24.0 | |
| 7.51 | 46.6 | H | 3.0 | -10.2 | 38.9 | 1.0 | -48.1 | -25.0 | -23.1 | |
| 10.01 | 47.3 | H | 3.0 | -8.1 | 38.3 | 1.0 | -45.5 | -25.0 | -20.5 | |
| 5.01 | 43.0 | V | 3.0 | -10.4 | 40.3 | 1.0 | -49.7 | -25.0 | -24.7 | |
| 7.51 | 46.0 | V | 3.0 | -9.8 | 38.9 | 1.0 | -47.8 | -25.0 | -22.8 | |
| 10.01 | 47.4 | V | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | -25.0 | -20.5 | |
| Mid Channel (2335MHz) | | | | | | | | | | |
| 5.07 | 43.2 | H | 3.0 | -10.4 | 40.3 | 1.0 | -49.7 | -25.0 | -24.7 | |
| 7.61 | 45.8 | H | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.14 | 46.8 | H | 3.0 | -7.4 | 38.3 | 1.0 | -44.8 | -25.0 | -19.8 | |
| 5.07 | 42.8 | V | 3.0 | -10.2 | 40.3 | 1.0 | -49.5 | -25.0 | -24.5 | |
| 7.61 | 45.7 | V | 3.0 | -9.4 | 38.9 | 1.0 | -47.3 | -25.0 | -22.3 | |
| 10.14 | 47.2 | V | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| High Channel (2567.5MHz) | | | | | | | | | | |
| 5.14 | 42.8 | H | 3.0 | -10.0 | 40.3 | 1.0 | -49.3 | -25.0 | -24.3 | |
| 7.70 | 45.9 | H | 3.0 | -9.3 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.27 | 47.3 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| 5.14 | 43.8 | V | 3.0 | -11.0 | 40.3 | 1.0 | -50.4 | -25.0 | -25.4 | |
| 7.70 | 45.7 | V | 3.0 | -9.3 | 38.9 | 1.0 | -47.2 | -25.0 | -22.2 | |
| 10.27 | 47.1 | V | 3.0 | -7.6 | 38.3 | 1.0 | -44.9 | -25.0 | -19.9 | |

Rev: 10.28.15

LTE B7 5MHz 16QAM

**High Frequency Substitution Measurement
UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 10MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2505MHz) | | | | | | | | | | |
| 5.01 | 42.8 | H | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.52 | 46.0 | H | 3.0 | -8.6 | 38.9 | 1.0 | -47.5 | -25.0 | -22.5 | |
| 10.02 | 47.3 | H | 3.0 | -8.1 | 38.3 | 1.0 | -45.4 | -25.0 | -20.4 | |
| 5.01 | 43.4 | V | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | -25.0 | -25.1 | |
| 7.52 | 46.2 | V | 3.0 | -10.0 | 38.9 | 1.0 | -47.9 | -25.0 | -22.9 | |
| 10.02 | 47.5 | V | 3.0 | -8.3 | 38.3 | 1.0 | -45.6 | -25.0 | -20.6 | |
| Mid Channel (2335MHz) | | | | | | | | | | |
| 5.07 | 43.4 | H | 3.0 | -10.6 | 40.3 | 1.0 | -49.9 | -25.0 | -24.9 | |
| 7.61 | 46.1 | H | 3.0 | -9.6 | 38.9 | 1.0 | -48.0 | -25.0 | -23.0 | |
| 10.14 | 46.7 | H | 3.0 | -7.3 | 38.3 | 1.0 | -44.7 | -25.0 | -19.7 | |
| 5.07 | 43.2 | V | 3.0 | -10.5 | 40.3 | 1.0 | -49.8 | -25.0 | -24.8 | |
| 7.61 | 45.8 | V | 3.0 | -9.2 | 38.9 | 1.0 | -46.6 | -25.0 | -21.6 | |
| 10.14 | 47.6 | V | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | -25.0 | -20.5 | |
| High Channel (2565MHz) | | | | | | | | | | |
| 5.13 | 43.0 | H | 3.0 | -10.2 | 40.3 | 1.0 | -49.5 | -25.0 | -24.5 | |
| 7.70 | 46.2 | H | 3.0 | -9.6 | 38.9 | 1.0 | -47.5 | -25.0 | -22.5 | |
| 10.26 | 47.4 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| 5.13 | 44.0 | V | 3.0 | -11.3 | 40.3 | 1.0 | -50.6 | -25.0 | -25.6 | |
| 7.70 | 46.2 | V | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | -25.0 | -22.7 | |
| 10.26 | 47.6 | V | 3.0 | -7.5 | 38.3 | 1.0 | -44.8 | -25.0 | -19.8 | |

Rev: 10.28.15

LTE B7 10MHz QPSK

**High Frequency Substitution Measurement
UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 10MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2505MHz) | | | | | | | | | | |
| 5.01 | 42.7 | H | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.52 | 46.4 | H | 3.0 | -9.9 | 38.9 | 1.0 | -47.8 | -25.0 | -22.8 | |
| 10.02 | 46.6 | H | 3.0 | -7.4 | 38.3 | 1.0 | -44.8 | -25.0 | -19.8 | |
| 5.01 | 43.2 | V | 3.0 | -10.6 | 40.3 | 1.0 | -49.8 | -25.0 | -24.8 | |
| 7.52 | 46.2 | V | 3.0 | -10.0 | 38.9 | 1.0 | -47.9 | -25.0 | -22.9 | |
| 10.02 | 47.4 | V | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | -25.0 | -20.5 | |
| Mid Channel (2335MHz) | | | | | | | | | | |
| 5.07 | 42.9 | H | 3.0 | -10.2 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.61 | 45.8 | H | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.14 | 47.3 | H | 3.0 | -8.0 | 38.3 | 1.0 | -45.3 | -25.0 | -20.3 | |
| 5.07 | 43.0 | V | 3.0 | -10.3 | 40.3 | 1.0 | -49.6 | -25.0 | -24.6 | |
| 7.61 | 45.8 | V | 3.0 | -9.5 | 38.9 | 1.0 | -47.4 | -25.0 | -22.4 | |
| 10.14 | 47.3 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| High Channel (2565MHz) | | | | | | | | | | |
| 5.13 | 43.7 | H | 3.0 | -10.9 | 40.3 | 1.0 | -50.2 | -25.0 | -25.2 | |
| 7.70 | 46.6 | H | 3.0 | -9.9 | 38.9 | 1.0 | -48.0 | -25.0 | -23.0 | |
| 10.26 | 47.3 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| 5.13 | 43.7 | V | 3.0 | -11.0 | 40.3 | 1.0 | -50.3 | -25.0 | -25.3 | |
| 7.70 | 46.9 | V | 3.0 | -9.4 | 38.9 | 1.0 | -47.3 | -25.0 | -22.3 | |
| 10.26 | 47.1 | V | 3.0 | -7.6 | 38.3 | 1.0 | -44.9 | -25.0 | -19.9 | |

Rev: 10.28.15

LTE B7 10MHz 16QAM

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 15MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2507.5MHz) | | | | | | | | | | |
| 5.02 | -57.7 | H | 3.0 | -30.0 | 40.3 | 1.0 | -49.3 | -25.0 | -24.3 | |
| 7.52 | -66.3 | H | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | -25.0 | -22.7 | |
| 10.03 | -65.9 | H | 3.0 | -7.7 | 38.3 | 1.0 | -49.0 | -25.0 | -20.0 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.02 | -62.8 | V | 3.0 | -10.3 | 40.3 | 1.0 | -49.5 | -25.0 | -24.5 | |
| 7.52 | -66.3 | V | 3.0 | -10.1 | 38.9 | 1.0 | -48.0 | -25.0 | -23.0 | |
| 10.03 | -67.4 | V | 3.0 | -8.1 | 38.3 | 1.0 | -45.5 | -25.0 | -20.5 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (2535MHz) | | | | | | | | | | |
| 5.07 | -63.2 | H | 3.0 | -10.5 | 40.3 | 1.0 | -49.8 | -25.0 | -24.8 | |
| 7.61 | -65.7 | H | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.14 | -66.9 | H | 3.0 | -7.5 | 38.3 | 1.0 | -44.8 | -25.0 | -19.8 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.07 | -63.0 | V | 3.0 | -10.4 | 40.3 | 1.0 | -49.7 | -25.0 | -24.7 | |
| 7.61 | -66.0 | V | 3.0 | -9.6 | 38.9 | 1.0 | -47.5 | -25.0 | -22.5 | |
| 10.14 | -67.4 | V | 3.0 | -8.1 | 38.3 | 1.0 | -45.4 | -25.0 | -20.4 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| High Channel (2562.5MHz) | | | | | | | | | | |
| 5.13 | -64.0 | H | 3.0 | -11.2 | 40.3 | 1.0 | -50.5 | -25.0 | -25.5 | |
| 7.69 | -65.7 | H | 3.0 | -9.1 | 38.9 | 1.0 | -46.9 | -25.0 | -21.9 | |
| 10.25 | -67.2 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.13 | -63.9 | V | 3.0 | -11.1 | 40.3 | 1.0 | -50.4 | -25.0 | -25.4 | |
| 7.69 | -65.4 | V | 3.0 | -9.0 | 38.9 | 1.0 | -46.9 | -25.0 | -21.9 | |
| 10.25 | -67.2 | V | 3.0 | -7.7 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10/28/15

LTE B7 15MHz QPSK

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 15MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2507.5MHz) | | | | | | | | | | |
| 5.02 | -63.1 | H | 3.0 | -10.4 | 40.3 | 1.0 | -49.7 | -25.0 | -24.7 | |
| 7.52 | -66.0 | H | 3.0 | -9.5 | 38.9 | 1.0 | -47.5 | -25.0 | -22.5 | |
| 10.03 | -67.1 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.3 | -25.0 | -20.3 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.02 | -62.6 | V | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.52 | -66.5 | V | 3.0 | -10.3 | 38.9 | 1.0 | -48.2 | -25.0 | -23.2 | |
| 10.03 | -67.1 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (2535MHz) | | | | | | | | | | |
| 5.07 | -63.5 | H | 3.0 | -10.7 | 40.3 | 1.0 | -50.0 | -25.0 | -25.0 | |
| 7.61 | -65.8 | H | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.14 | -66.3 | H | 3.0 | -6.9 | 38.3 | 1.0 | -44.2 | -25.0 | -19.2 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.07 | -63.1 | V | 3.0 | -9.5 | 40.3 | 1.0 | -48.8 | -25.0 | -23.8 | |
| 7.61 | -65.4 | V | 3.0 | -9.0 | 38.9 | 1.0 | -46.9 | -25.0 | -21.9 | |
| 10.14 | -67.3 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| High Channel (2562.5MHz) | | | | | | | | | | |
| 5.13 | -63.5 | H | 3.0 | -10.7 | 40.3 | 1.0 | -50.0 | -25.0 | -25.0 | |
| 7.69 | -65.6 | H | 3.0 | -8.9 | 38.9 | 1.0 | -46.8 | -25.0 | -21.8 | |
| 10.25 | -66.8 | H | 3.0 | -7.3 | 38.3 | 1.0 | -44.4 | -25.0 | -19.4 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.13 | -63.9 | V | 3.0 | -11.2 | 40.3 | 1.0 | -50.5 | -25.0 | -25.5 | |
| 7.69 | -65.2 | V | 3.0 | -8.8 | 38.9 | 1.0 | -46.7 | -25.0 | -21.7 | |
| 10.25 | -67.4 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10/28/15

LTE B7 15MHz 16QAM

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 20MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2510MHz) | | | | | | | | | | |
| 5.02 | -63.3 | H | 3.0 | -10.7 | 40.3 | 1.0 | -49.9 | -25.0 | -24.9 | |
| 7.52 | -66.5 | H | 3.0 | -10.0 | 38.9 | 1.0 | -47.9 | -25.0 | -22.9 | |
| 10.04 | -66.8 | H | 3.0 | -7.6 | 38.3 | 1.0 | -44.9 | -25.0 | -19.9 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.02 | -63.2 | V | 3.0 | -10.7 | 40.3 | 1.0 | -49.9 | -25.0 | -24.9 | |
| 7.52 | -66.0 | V | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | -25.0 | -22.7 | |
| 10.04 | -67.1 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (2535MHz) | | | | | | | | | | |
| 5.07 | -62.7 | H | 3.0 | -10.0 | 40.3 | 1.0 | -49.3 | -25.0 | -24.3 | |
| 7.61 | -65.8 | H | 3.0 | -8.4 | 38.9 | 1.0 | -46.3 | -25.0 | -21.3 | |
| 10.14 | -67.2 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.07 | -62.7 | V | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.61 | -66.1 | V | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | -25.0 | -22.7 | |
| 10.14 | -67.3 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.3 | -25.0 | -20.3 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| High Channel (2560MHz) | | | | | | | | | | |
| 5.12 | -63.3 | H | 3.0 | -10.5 | 40.3 | 1.0 | -49.8 | -25.0 | -24.8 | |
| 7.68 | -65.1 | H | 3.0 | -8.5 | 38.9 | 1.0 | -46.4 | -25.0 | -21.4 | |
| 10.24 | -67.2 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.12 | -63.4 | V | 3.0 | -10.6 | 40.3 | 1.0 | -50.0 | -25.0 | -25.0 | |
| 7.68 | -66.5 | V | 3.0 | -10.0 | 38.9 | 1.0 | -47.9 | -25.0 | -22.9 | |
| 10.24 | -67.1 | V | 3.0 | -7.7 | 38.3 | 1.0 | -45.0 | -25.0 | -20.0 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10/28/15

LTE B7 20MHz QPSK

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/17/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 7, 20MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| Chamber | Pre-amplifier | Filter | Limit |
|------------------|------------------|--------|--------|
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B7 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2510MHz) | | | | | | | | | | |
| 5.02 | -63.2 | H | 3.0 | -10.6 | 40.3 | 1.0 | -49.8 | -25.0 | -24.8 | |
| 7.52 | -66.3 | H | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | -25.0 | -22.7 | |
| 10.04 | -67.6 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.2 | -25.0 | -20.2 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.02 | -63.4 | V | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | -25.0 | -25.1 | |
| 7.52 | -65.7 | V | 3.0 | -9.5 | 38.9 | 1.0 | -47.4 | -25.0 | -22.4 | |
| 10.04 | -67.2 | V | 3.0 | -7.9 | 38.3 | 1.0 | -45.3 | -25.0 | -20.3 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (2535MHz) | | | | | | | | | | |
| 5.07 | -62.9 | H | 3.0 | -10.1 | 40.3 | 1.0 | -49.4 | -25.0 | -24.4 | |
| 7.61 | -66.6 | H | 3.0 | -9.0 | 38.9 | 1.0 | -47.0 | -25.0 | -22.0 | |
| 10.14 | -67.1 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | -25.0 | -20.1 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.07 | -62.9 | V | 3.0 | -10.3 | 40.3 | 1.0 | -49.5 | -25.0 | -24.5 | |
| 7.61 | -66.4 | V | 3.0 | -9.1 | 38.9 | 1.0 | -47.0 | -25.0 | -22.0 | |
| 10.14 | -67.6 | V | 3.0 | -7.7 | 38.3 | 1.0 | -45.0 | -25.0 | -20.0 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| High Channel (2560MHz) | | | | | | | | | | |
| 5.12 | -63.9 | H | 3.0 | -11.1 | 40.3 | 1.0 | -50.4 | -25.0 | -25.4 | |
| 7.68 | -65.9 | H | 3.0 | -9.3 | 38.9 | 1.0 | -47.2 | -25.0 | -22.2 | |
| 10.24 | -68.1 | H | 3.0 | -6.7 | 38.3 | 1.0 | -44.0 | -25.0 | -19.0 | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| 5.12 | -63.6 | V | 3.0 | -10.9 | 40.3 | 1.0 | -50.2 | -25.0 | -25.2 | |
| 7.68 | -65.6 | V | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | -25.0 | -22.1 | |
| 10.24 | -68.7 | V | 3.0 | -7.2 | 38.3 | 1.0 | -44.5 | -25.0 | -19.5 | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10/28/15

LTE B7 20MHz 16QAM

LTE Band 13

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 13, 5MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B13 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (775.5MHz) | | | | | | | | | | |
| 1.56 | -61.1 | H | 3.0 | -18.3 | 39.7 | 1.0 | -57.1 | -48.0 | -17.1 | |
| 2.34 | -64.3 | H | 3.0 | -18.1 | 39.6 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 3.12 | -64.7 | H | 3.0 | -15.8 | 39.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| Mid Channel (782MHz) | | | | | | | | | | |
| 1.56 | -62.0 | V | 3.0 | -17.6 | 39.7 | 1.0 | -56.4 | -48.0 | -16.4 | |
| 2.34 | -63.8 | V | 3.0 | -16.4 | 39.6 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 3.12 | -64.8 | V | 3.0 | -14.6 | 39.4 | 1.0 | -52.4 | -13.0 | -39.4 | |
| High Channel (784.5MHz) | | | | | | | | | | |
| 1.57 | -68.4 | H | 3.0 | -17.6 | 39.8 | 1.0 | -56.4 | -48.0 | -16.4 | |
| 2.35 | -63.8 | H | 3.0 | -17.7 | 39.6 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 3.14 | -64.1 | H | 3.0 | -15.2 | 39.4 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 1.57 | -61.8 | V | 3.0 | -17.3 | 39.8 | 1.0 | -56.1 | -48.0 | -16.1 | |
| 2.35 | -63.9 | V | 3.0 | -16.5 | 39.6 | 1.0 | -55.1 | -13.0 | -42.1 | |
| 3.14 | -64.4 | V | 3.0 | -14.3 | 39.4 | 1.0 | -52.7 | -13.0 | -39.7 | |

Rev: 10.28.15

LTE B13 5MHz QPSK

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 13, 5MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B13 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (779.5MHz) | | | | | | | | | | |
| 1.56 | -61.2 | H | 3.0 | -18.4 | 39.7 | 1.0 | -57.2 | -48.0 | -17.2 | |
| 2.34 | -64.8 | H | 3.0 | -17.9 | 39.5 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 3.12 | -64.3 | H | 3.0 | -15.4 | 39.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| Mid Channel (782MHz) | | | | | | | | | | |
| 1.56 | -61.1 | V | 3.0 | -16.7 | 39.7 | 1.0 | -55.5 | -48.0 | -15.5 | |
| 2.34 | -63.7 | V | 3.0 | -16.3 | 39.6 | 1.0 | -54.9 | -13.0 | -41.9 | |
| 3.12 | -64.3 | V | 3.0 | -14.2 | 39.4 | 1.0 | -52.6 | -13.0 | -39.6 | |
| High Channel (784.5MHz) | | | | | | | | | | |
| 1.57 | -66.6 | H | 3.0 | -17.8 | 39.8 | 1.0 | -56.6 | -48.0 | -16.6 | |
| 2.35 | -63.4 | H | 3.0 | -17.2 | 39.6 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 3.14 | -64.9 | H | 3.0 | -15.9 | 39.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 1.57 | -62.8 | V | 3.0 | -17.6 | 39.8 | 1.0 | -56.4 | -48.0 | -16.4 | |
| 2.35 | -63.3 | V | 3.0 | -15.9 | 39.6 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.14 | -64.5 | V | 3.0 | -14.5 | 39.4 | 1.0 | -52.8 | -13.0 | -39.8 | |

Rev: 10.28.15

LTE B13 5MHz 16QAM

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 13, 10MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B13 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|----------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel () | | | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (782MHz) | | | | | | | | | | |
| 1.56 | -66.6 | H | 3.0 | -17.9 | 39.8 | 1.0 | -56.6 | -48.0 | -16.6 | |
| 2.35 | -64.1 | H | 3.0 | -17.9 | 39.6 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 3.13 | -64.3 | H | 3.0 | -15.4 | 39.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 1.56 | -66.5 | V | 3.0 | -16.1 | 39.8 | 1.0 | -54.8 | -48.0 | -14.8 | |
| 2.35 | -63.8 | V | 3.0 | -16.4 | 39.6 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 3.13 | -64.6 | V | 3.0 | -14.6 | 39.4 | 1.0 | -52.9 | -13.0 | -39.9 | |
| High Channel () | | | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10.28.15

LTE B13 10MHz QPSK

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 13, 10MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B13 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|----------------------|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel () | | | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| Mid Channel (782MHz) | | | | | | | | | | |
| 1.56 | -66.4 | H | 3.0 | -17.8 | 39.8 | 1.0 | -56.3 | -48.0 | -16.3 | |
| 2.35 | -63.2 | H | 3.0 | -17.1 | 39.6 | 1.0 | -55.6 | -13.0 | -42.6 | |
| 3.13 | -65.0 | H | 3.0 | -16.1 | 39.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 1.56 | -66.8 | V | 3.0 | -16.4 | 39.8 | 1.0 | -55.2 | -48.0 | -15.2 | |
| 2.35 | -63.5 | V | 3.0 | -16.1 | 39.6 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 3.13 | -64.3 | V | 3.0 | -14.2 | 39.4 | 1.0 | -52.6 | -13.0 | -39.6 | |
| High Channel () | | | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | H | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |
| | | V | | | | | | | | |

Rev: 10.28.15

LTE B13 10MHz 16QAM

LTE Band 17

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 17, 5MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|-------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (706.5MHz) | | | | | | | | | | |
| 1.41 | 42.0 | H | 3.0 | -20.1 | 39.9 | 1.0 | -59.0 | -13.0 | -46.0 | |
| 2.12 | 42.4 | H | 3.0 | -16.3 | 40.1 | 1.0 | -55.4 | -13.0 | -42.4 | |
| 2.83 | 43.6 | H | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| Mid Channel (710MHz) | | | | | | | | | | |
| 1.41 | 41.5 | V | 3.0 | -18.1 | 39.9 | 1.0 | -57.0 | -13.0 | -44.0 | |
| 2.12 | 41.7 | V | 3.0 | -14.3 | 40.1 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 2.83 | 43.9 | V | 3.0 | -14.7 | 39.3 | 1.0 | -53.0 | -13.0 | -40.0 | |
| High Channel (713.5) | | | | | | | | | | |
| 1.43 | 42.3 | H | 3.0 | -20.3 | 39.9 | 1.0 | -59.1 | -13.0 | -46.1 | |
| 2.14 | 43.4 | H | 3.0 | -17.3 | 40.1 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 2.85 | 44.2 | H | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 1.43 | 42.9 | V | 3.0 | -19.4 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2.14 | 43.8 | V | 3.0 | -16.3 | 40.1 | 1.0 | -55.4 | -13.0 | -42.4 | |
| 2.85 | 44.8 | V | 3.0 | -15.5 | 39.3 | 1.0 | -53.8 | -13.0 | -40.8 | |

Rev: 10.28.15

LTE B17 5MHz QPSK

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 17, 5MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|-------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (706.5MHz) | | | | | | | | | | |
| 1.41 | 42.0 | H | 3.0 | -20.1 | 39.9 | 1.0 | -59.0 | -13.0 | -46.0 | |
| 2.12 | 42.9 | H | 3.0 | -16.9 | 40.1 | 1.0 | -56.9 | -13.0 | -43.0 | |
| 2.83 | 43.3 | H | 3.0 | -15.3 | 39.3 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Mid Channel (710MHz) | | | | | | | | | | |
| 1.41 | 41.8 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 2.12 | 41.8 | V | 3.0 | -14.3 | 40.1 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 2.83 | 43.6 | V | 3.0 | -14.4 | 39.3 | 1.0 | -52.7 | -13.0 | -39.7 | |
| High Channel (713.5) | | | | | | | | | | |
| 1.43 | 42.6 | H | 3.0 | -20.6 | 39.9 | 1.0 | -59.4 | -13.0 | -46.4 | |
| 2.14 | 43.1 | H | 3.0 | -17.1 | 40.1 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 2.85 | 43.9 | H | 3.0 | -15.8 | 39.3 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 1.43 | 42.8 | V | 3.0 | -19.2 | 39.9 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2.14 | 44.1 | V | 3.0 | -16.7 | 40.1 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 2.85 | 44.9 | V | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |

Rev: 10.28.15

LTE B17 5MHz 16QAM

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 17, 10MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|-------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-----------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (709MHz) | | | | | | | | | | |
| 1.42 | 42.5 | H | 3.0 | -20.3 | 39.9 | 1.0 | -59.2 | -13.0 | -46.2 | |
| 2.13 | 43.4 | H | 3.0 | -17.3 | 40.1 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 2.84 | 43.4 | H | 3.0 | -15.4 | 39.3 | 1.0 | -53.7 | -13.0 | -40.7 | |
| Mid Channel (710MHz) | | | | | | | | | | |
| 1.42 | 42.4 | V | 3.0 | -18.9 | 39.9 | 1.0 | -57.8 | -13.0 | -44.8 | |
| 2.13 | 42.7 | V | 3.0 | -15.2 | 40.1 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 2.84 | 44.0 | V | 3.0 | -14.8 | 39.3 | 1.0 | -53.1 | -13.0 | -40.1 | |
| High Channel (711) | | | | | | | | | | |
| 1.42 | 41.2 | H | 3.0 | -19.3 | 39.9 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2.13 | 43.4 | H | 3.0 | -17.4 | 40.1 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 2.84 | 43.5 | H | 3.0 | -15.4 | 39.3 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 1.42 | 42.2 | V | 3.0 | -18.7 | 39.9 | 1.0 | -57.5 | -13.0 | -44.5 | |
| 2.13 | 42.4 | V | 3.0 | -15.0 | 40.1 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 2.84 | 44.0 | V | 3.0 | -14.8 | 39.3 | 1.0 | -53.1 | -13.0 | -40.1 | |

Rev: 10.28.15

LTE B17 10MHz QPSK

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 17, 10MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|-------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (709MHz) | | | | | | | | | | |
| 1.42 | 42.0 | H | 3.0 | -20.0 | 39.9 | 1.0 | -59.0 | -13.0 | -46.0 | |
| 2.13 | 42.9 | H | 3.0 | -16.8 | 40.1 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 2.84 | 43.2 | H | 3.0 | -15.1 | 39.3 | 1.0 | -53.4 | -13.0 | -40.4 | |
| Mid Channel (710MHz) | | | | | | | | | | |
| 1.42 | 41.7 | V | 3.0 | -18.3 | 39.9 | 1.0 | -57.1 | -13.0 | -44.1 | |
| 2.13 | 42.5 | V | 3.0 | -15.0 | 40.1 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 2.84 | 43.4 | V | 3.0 | -14.2 | 39.3 | 1.0 | -52.5 | -13.0 | -39.5 | |
| High Channel (711MHz) | | | | | | | | | | |
| 1.42 | 41.3 | H | 3.0 | -19.3 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2.13 | 43.1 | H | 3.0 | -17.1 | 40.1 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 2.84 | 44.3 | H | 3.0 | -16.2 | 39.3 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 1.42 | 42.5 | V | 3.0 | -19.0 | 39.9 | 1.0 | -57.9 | -13.0 | -44.9 | |
| 2.13 | 43.4 | V | 3.0 | -15.9 | 40.1 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 2.84 | 43.5 | V | 3.0 | -14.3 | 39.3 | 1.0 | -52.6 | -13.0 | -39.6 | |

Rev: 10.28.15

LTE B17 10MHz 16QAM

LTE Band 26

| High Frequency Substitution Measurement UL RTP Radiated Chamber | | | | | | | | | | | | |
|---|------------------|------------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|--|--|
| Company: SOMC Project #: 16J23633N Date: 08/19/2016 Test Engineer: Brian Klewra / John Manser Configuration: Unit with ear-buds and charger (LTE #1) Mode: LTE Band 26 (90S), 1.4MHz QPSK Test Equipment: Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable | | | | | | | | | | | | |
| Chamber | | Pre-amplifier | | Filter | | Limit | | | | | | |
| 3m Chamber N-RTP | | 3m Chamber N-RTP | | Filter | | EIRP | | | | | | |
| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes | | |
| Low Channel (814.7MHz) (Part 90S) | | | | | | | | | | | | |
| 1.63 | 42.8 | H | 3.0 | -19.5 | 39.9 | 1.0 | -58.3 | -13.0 | -45.3 | | | |
| 2.44 | 43.4 | H | 3.0 | -17.0 | 39.4 | 1.0 | -55.3 | -13.0 | -42.3 | | | |
| 3.26 | 44.6 | H | 3.0 | -15.5 | 39.5 | 1.0 | -53.8 | -13.0 | -40.8 | | | |
| 1.63 | 42.7 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | | | |
| 2.44 | 42.7 | V | 3.0 | -14.7 | 39.4 | 1.0 | -53.0 | -13.0 | -40.0 | | | |
| 3.26 | 44.5 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | | | |
| Low Channel (824.7MHz) | | | | | | | | | | | | |
| 1.65 | 42.8 | H | 3.0 | -19.4 | 39.9 | 1.0 | -58.3 | -13.0 | -45.3 | | | |
| 2.47 | 43.3 | H | 3.0 | -16.7 | 39.3 | 1.0 | -55.0 | -13.0 | -42.0 | | | |
| 3.30 | 44.6 | H | 3.0 | -15.2 | 39.5 | 1.0 | -53.7 | -13.0 | -40.7 | | | |
| 1.65 | 42.0 | V | 3.0 | -17.0 | 39.9 | 1.0 | -55.9 | -13.0 | -42.9 | | | |
| 2.47 | 43.8 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | | | |
| 3.30 | 44.7 | V | 3.0 | -14.4 | 39.5 | 1.0 | -52.9 | -13.0 | -39.9 | | | |
| Mid Channel (831.5MHz) | | | | | | | | | | | | |
| 1.66 | 43.2 | H | 3.0 | -18.7 | 39.9 | 1.0 | -57.6 | -13.0 | -44.6 | | | |
| 2.49 | 43.4 | H | 3.0 | -16.6 | 39.3 | 1.0 | -54.9 | -13.0 | -41.9 | | | |
| 3.33 | 43.9 | H | 3.0 | -14.5 | 39.5 | 1.0 | -53.0 | -13.0 | -40.0 | | | |
| 1.66 | 42.4 | V | 3.0 | -17.3 | 39.9 | 1.0 | -56.2 | -13.0 | -43.2 | | | |
| 2.49 | 43.9 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | | | |
| 3.33 | 44.5 | V | 3.0 | -14.2 | 39.5 | 1.0 | -52.7 | -13.0 | -39.7 | | | |
| High Channel (848.3MHz) | | | | | | | | | | | | |
| 1.70 | 42.4 | H | 3.0 | -18.7 | 40.0 | 1.0 | -57.6 | -13.0 | -44.6 | | | |
| 2.54 | 43.2 | H | 3.0 | -16.3 | 39.2 | 1.0 | -54.5 | -13.0 | -41.5 | | | |
| 3.39 | 44.3 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.2 | -13.0 | -40.2 | | | |
| 1.70 | 43.3 | V | 3.0 | -18.0 | 40.0 | 1.0 | -57.0 | -13.0 | -44.0 | | | |
| 2.54 | 43.6 | V | 3.0 | -15.6 | 39.2 | 1.0 | -53.9 | -13.0 | -40.9 | | | |
| 3.39 | 44.5 | V | 3.0 | -14.1 | 39.5 | 1.0 | -52.7 | -13.0 | -39.7 | | | |
| Rev: 10/28/15 | | | | | | | | | | | | |
| LTE B26 1.4MHz QPSK | | | | | | | | | | | | |

| High Frequency Substitution Measurement UL RTP Radiated Chamber | | | | | | | | | | | | |
|--|------------------|------------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|--|--|
| Company: SOMC Project #: 16J23633N Date: 08/19/2016 Test Engineer: Brian Klewra / John Manser Configuration: Unit with ear-buds and charger (LTE #1) Mode: LTE Band 26 (90S), 1.4MHz 16QAM Test Equipment: Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable | | | | | | | | | | | | |
| Chamber | | Pre-amplifier | | Filter | | Limit | | | | | | |
| 3m Chamber N-RTP | | 3m Chamber N-RTP | | Filter | | EIRP | | | | | | |
| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes | | |
| Low Channel (814.7MHz) (Part 90S) | | | | | | | | | | | | |
| 1.63 | 42.6 | H | 3.0 | -19.3 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | | | |
| 2.44 | 43.4 | H | 3.0 | -17.0 | 39.4 | 1.0 | -55.3 | -13.0 | -42.3 | | | |
| 3.26 | 44.4 | H | 3.0 | -15.2 | 39.5 | 1.0 | -53.6 | -13.0 | -40.6 | | | |
| 1.63 | 42.9 | V | 3.0 | -18.0 | 39.9 | 1.0 | -56.8 | -13.0 | -43.8 | | | |
| 2.44 | 42.4 | V | 3.0 | -14.8 | 39.4 | 1.0 | -53.2 | -13.0 | -40.2 | | | |
| 3.26 | 45.0 | V | 3.0 | -14.8 | 39.5 | 1.0 | -53.2 | -13.0 | -40.2 | | | |
| Low Channel (824.7MHz) | | | | | | | | | | | | |
| 1.65 | 42.3 | H | 3.0 | -18.9 | 39.9 | 1.0 | -57.7 | -13.0 | -44.7 | | | |
| 2.47 | 43.7 | H | 3.0 | -17.0 | 39.3 | 1.0 | -55.3 | -13.0 | -42.3 | | | |
| 3.30 | 44.3 | H | 3.0 | -15.0 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | | | |
| 1.65 | 42.3 | V | 3.0 | -17.3 | 39.9 | 1.0 | -56.2 | -13.0 | -43.2 | | | |
| 2.47 | 43.3 | V | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | | | |
| 3.30 | 44.6 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | | | |
| Mid Channel (831.5MHz) | | | | | | | | | | | | |
| 1.66 | 43.8 | H | 3.0 | -18.3 | 39.9 | 1.0 | -57.2 | -13.0 | -44.2 | | | |
| 2.49 | 43.4 | H | 3.0 | -16.6 | 39.3 | 1.0 | -54.9 | -13.0 | -41.9 | | | |
| 3.33 | 44.3 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.4 | -13.0 | -40.4 | | | |
| 1.66 | 42.7 | V | 3.0 | -17.0 | 39.9 | 1.0 | -56.5 | -13.0 | -43.5 | | | |
| 2.49 | 43.8 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.3 | -13.0 | -41.3 | | | |
| 3.33 | 44.3 | V | 3.0 | -14.0 | 39.5 | 1.0 | -52.5 | -13.0 | -39.5 | | | |
| High Channel (848.3MHz) | | | | | | | | | | | | |
| 1.70 | 42.3 | H | 3.0 | -18.6 | 40.0 | 1.0 | -57.5 | -13.0 | -44.5 | | | |
| 2.54 | 43.5 | H | 3.0 | -16.5 | 39.2 | 1.0 | -54.8 | -13.0 | -41.8 | | | |
| 3.39 | 44.1 | H | 3.0 | -14.5 | 39.5 | 1.0 | -53.0 | -13.0 | -40.0 | | | |
| 1.70 | 43.4 | V | 3.0 | -18.0 | 40.0 | 1.0 | -57.0 | -13.0 | -44.0 | | | |
| 2.54 | 43.5 | V | 3.0 | -15.5 | 39.2 | 1.0 | -53.8 | -13.0 | -40.8 | | | |
| 3.39 | 44.9 | V | 3.0 | -14.5 | 39.5 | 1.0 | -53.0 | -13.0 | -40.0 | | | |
| Rev: 10/28/15 | | | | | | | | | | | | |
| LTE B26 1.4MHz 16QAM | | | | | | | | | | | | |

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (905), 3MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|----------------------|---------------|--------------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|--|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (815.5MHz) (Part 905) | | | | | | | | | | |
| 1.63 | 43.1 | H | 3.0 | -19.8 | 39.9 | 1.0 | -58.7 | -13.0 | 45.7 | |
| 2.45 | 63.4 | H | 3.0 | -17.0 | 39.4 | 1.0 | -55.3 | -13.0 | 42.3 | |
| 3.26 | 64.6 | H | 3.0 | -15.3 | 39.5 | 1.0 | -53.8 | -13.0 | 40.8 | |
| Low Channel (825.5MHz) | | | | | | | | | | |
| 1.63 | 63.2 | V | 3.0 | -18.3 | 39.9 | 1.0 | -57.2 | -13.0 | 44.2 | |
| 2.45 | 63.6 | V | 3.0 | -16.0 | 39.4 | 1.0 | -54.4 | -13.0 | 41.4 | |
| 3.26 | 64.5 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.7 | -13.0 | 39.7 | |
| Low Channel (831.5MHz) | | | | | | | | | | |
| 1.65 | 62.9 | H | 3.0 | -19.4 | 39.9 | 1.0 | -58.3 | -13.0 | 45.3 | |
| 2.47 | 63.4 | H | 3.0 | -16.8 | 39.3 | 1.0 | -55.1 | -13.0 | 42.1 | |
| 3.30 | 64.3 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.4 | -13.0 | 40.4 | |
| Low Channel (847.5MHz) | | | | | | | | | | |
| 1.65 | 62.9 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.8 | -13.0 | 43.8 | |
| 2.47 | 63.7 | V | 3.0 | -16.0 | 39.3 | 1.0 | -54.3 | -13.0 | 41.3 | |
| 3.30 | 64.9 | V | 3.0 | -14.6 | 39.5 | 1.0 | -53.1 | -13.0 | 40.1 | |
| Mid Channel (831.5MHz) | | | | | | | | | | |
| 1.66 | 62.8 | H | 3.0 | -19.2 | 39.9 | 1.0 | -58.2 | -13.0 | 45.2 | |
| 2.49 | 63.3 | H | 3.0 | -16.6 | 39.3 | 1.0 | -54.8 | -13.0 | 41.8 | |
| 3.33 | 64.1 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.2 | -13.0 | 40.2 | |
| Mid Channel (847.5MHz) | | | | | | | | | | |
| 1.66 | 63.2 | V | 3.0 | -18.1 | 39.9 | 1.0 | -57.0 | -13.0 | 44.0 | |
| 2.49 | 64.2 | V | 3.0 | -16.9 | 39.3 | 1.0 | -54.7 | -13.0 | 41.7 | |
| 3.33 | 64.8 | V | 3.0 | -14.5 | 39.5 | 1.0 | -53.0 | -13.0 | 40.0 | |
| High Channel (847.5MHz) | | | | | | | | | | |
| 1.70 | 61.9 | H | 3.0 | -18.1 | 40.0 | 1.0 | -57.1 | -13.0 | 44.1 | |
| 2.54 | 63.7 | H | 3.0 | -16.8 | 39.2 | 1.0 | -55.0 | -13.0 | 42.0 | |
| 3.39 | 64.7 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.6 | -13.0 | 40.6 | |
| High Channel (863.5MHz) | | | | | | | | | | |
| 1.70 | 62.1 | V | 3.0 | -16.7 | 40.0 | 1.0 | -55.7 | -13.0 | 42.7 | |
| 2.54 | 63.3 | V | 3.0 | -15.4 | 39.2 | 1.0 | -53.6 | -13.0 | 40.6 | |
| 3.39 | 64.3 | V | 3.0 | -13.9 | 39.5 | 1.0 | -52.5 | -13.0 | 39.5 | |

LTE B26 3MHz QPSK

High Frequency Substitution Measurement
 UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (905), 3MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|----------------------|---------------|--------------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | EIRP |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|--|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (815.5MHz) (Part 905) | | | | | | | | | | |
| 1.63 | 42.6 | H | 3.0 | -19.3 | 39.9 | 1.0 | -58.2 | -13.0 | 45.2 | |
| 2.45 | 63.3 | H | 3.0 | -16.9 | 39.4 | 1.0 | -55.2 | -13.0 | 42.2 | |
| 3.26 | 64.2 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.4 | -13.0 | 40.4 | |
| Low Channel (825.5MHz) | | | | | | | | | | |
| 1.63 | 63.0 | V | 3.0 | -18.2 | 39.9 | 1.0 | -57.0 | -13.0 | 44.0 | |
| 2.45 | 63.5 | V | 3.0 | -15.9 | 39.4 | 1.0 | -54.3 | -13.0 | 41.3 | |
| 3.26 | 64.1 | V | 3.0 | -13.9 | 39.5 | 1.0 | -52.3 | -13.0 | 39.3 | |
| Low Channel (831.5MHz) | | | | | | | | | | |
| 1.65 | 63.0 | H | 3.0 | -19.6 | 39.9 | 1.0 | -58.5 | -13.0 | 45.5 | |
| 2.47 | 63.5 | H | 3.0 | -16.8 | 39.3 | 1.0 | -55.1 | -13.0 | 42.1 | |
| 3.30 | 64.5 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.6 | -13.0 | 40.6 | |
| Low Channel (847.5MHz) | | | | | | | | | | |
| 1.65 | 63.4 | V | 3.0 | -18.3 | 39.9 | 1.0 | -57.2 | -13.0 | 44.2 | |
| 2.47 | 64.0 | V | 3.0 | -16.3 | 39.3 | 1.0 | -54.6 | -13.0 | 41.6 | |
| 3.30 | 64.6 | V | 3.0 | -14.4 | 39.5 | 1.0 | -52.8 | -13.0 | 39.8 | |
| Mid Channel (831.5MHz) | | | | | | | | | | |
| 1.66 | 62.9 | H | 3.0 | -18.5 | 39.9 | 1.0 | -57.4 | -13.0 | 44.4 | |
| 2.49 | 63.4 | H | 3.0 | -16.6 | 39.3 | 1.0 | -54.9 | -13.0 | 41.9 | |
| 3.33 | 64.0 | H | 3.0 | -14.6 | 39.5 | 1.0 | -53.1 | -13.0 | 40.1 | |
| Mid Channel (847.5MHz) | | | | | | | | | | |
| 1.66 | 63.3 | V | 3.0 | -18.2 | 39.9 | 1.0 | -57.1 | -13.0 | 44.1 | |
| 2.49 | 64.1 | V | 3.0 | -16.4 | 39.3 | 1.0 | -54.6 | -13.0 | 41.6 | |
| 3.33 | 64.3 | V | 3.0 | -14.0 | 39.5 | 1.0 | -52.6 | -13.0 | 39.6 | |
| High Channel (847.5MHz) | | | | | | | | | | |
| 1.70 | 61.7 | H | 3.0 | -17.9 | 40.0 | 1.0 | -56.9 | -13.0 | 43.9 | |
| 2.54 | 63.3 | H | 3.0 | -16.4 | 39.2 | 1.0 | -54.6 | -13.0 | 41.6 | |
| 3.39 | 63.9 | H | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | 39.8 | |
| High Channel (863.5MHz) | | | | | | | | | | |
| 1.70 | 62.7 | V | 3.0 | -17.3 | 40.0 | 1.0 | -56.3 | -13.0 | 43.3 | |
| 2.54 | 63.6 | V | 3.0 | -15.6 | 39.2 | 1.0 | -53.9 | -13.0 | 40.9 | |
| 3.39 | 64.1 | V | 3.0 | -13.8 | 39.5 | 1.0 | -52.3 | -13.0 | 39.3 | |

LTE B26 3MHz 16QAM

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (B26), 5MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

Chamber Pre-amplifier Filter Limit
3m Chamber N-RTP 3m Chamber N-RTP Filter EIRP

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (B16 5MHz) (Part 95) | | | | | | | | | | |
| 1.63 | -62.0 | H | 3.0 | -18.8 | 39.9 | 1.0 | -57.6 | -13.0 | -44.6 | |
| 2.45 | -62.8 | H | 3.0 | -16.3 | 39.3 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 3.27 | -64.2 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.4 | -13.0 | -40.4 | |
| Low Channel (B26 5MHz) | | | | | | | | | | |
| 1.63 | -62.6 | V | 3.0 | -17.7 | 39.9 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 2.45 | -62.8 | V | 3.0 | -15.3 | 39.3 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 3.27 | -64.7 | V | 3.0 | -14.5 | 39.5 | 1.0 | -53.0 | -13.0 | -40.0 | |
| Mid Channel (B31 5MHz) | | | | | | | | | | |
| 1.66 | -62.5 | H | 3.0 | -18.8 | 39.9 | 1.0 | -57.7 | -13.0 | -44.7 | |
| 2.49 | -63.6 | H | 3.0 | -16.0 | 39.3 | 1.0 | -55.1 | -13.0 | -42.1 | |
| 3.33 | -64.6 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.6 | -13.0 | -40.6 | |
| High Channel (B46 5MHz) | | | | | | | | | | |
| 1.69 | -61.5 | H | 3.0 | -17.7 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.54 | -63.0 | H | 3.0 | -16.8 | 39.2 | 1.0 | -55.1 | -13.0 | -42.1 | |
| 3.39 | -64.5 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Low Channel (B16 5MHz) (Part 95) | | | | | | | | | | |
| 1.63 | -62.6 | V | 3.0 | -17.6 | 39.9 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 2.48 | -63.9 | V | 3.0 | -16.2 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.31 | -64.8 | V | 3.0 | -14.6 | 39.5 | 1.0 | -53.1 | -13.0 | -40.1 | |
| Mid Channel (B31 5MHz) | | | | | | | | | | |
| 1.66 | -62.9 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.49 | -63.8 | V | 3.0 | -16.0 | 39.3 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 3.33 | -64.2 | V | 3.0 | -13.9 | 39.5 | 1.0 | -52.4 | -13.0 | -39.4 | |
| High Channel (B46 5MHz) | | | | | | | | | | |
| 1.69 | -61.4 | H | 3.0 | -17.6 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.54 | -63.2 | H | 3.0 | -16.3 | 39.2 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.39 | -63.9 | H | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | |
| Low Channel (B16 5MHz) (Part 95) | | | | | | | | | | |
| 1.63 | -62.6 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 2.45 | -63.6 | V | 3.0 | -16.0 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.27 | -64.1 | V | 3.0 | -13.8 | 39.5 | 1.0 | -52.3 | -13.0 | -39.3 | |
| Low Channel (B26 5MHz) | | | | | | | | | | |
| 1.65 | -62.8 | H | 3.0 | -19.4 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2.48 | -63.4 | H | 3.0 | -16.7 | 39.3 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 3.31 | -64.4 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Mid Channel (B31 5MHz) | | | | | | | | | | |
| 1.66 | -62.9 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.48 | -63.3 | V | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.31 | -64.6 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | |
| High Channel (B46 5MHz) | | | | | | | | | | |
| 1.69 | -61.4 | H | 3.0 | -17.6 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.54 | -63.5 | V | 3.0 | -15.6 | 39.2 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3.39 | -64.1 | V | 3.0 | -13.7 | 39.5 | 1.0 | -52.2 | -13.0 | -39.2 | |

Rev: 10/28/15

LTE B26 5MHz QPSK

**High Frequency Substitution Measurement
 UL RTP Radiated Chamber**

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (B26), 5MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

Chamber Pre-amplifier Filter Limit
3m Chamber N-RTP 3m Chamber N-RTP Filter EIRP

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (HV) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---|------------------|----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (B16 5MHz) (Part 95) | | | | | | | | | | |
| 1.63 | -62.6 | H | 3.0 | -19.3 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2.45 | -63.4 | H | 3.0 | -16.9 | 39.3 | 1.0 | -55.2 | -13.0 | -42.2 | |
| 3.27 | -64.0 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.2 | -13.0 | -40.2 | |
| Low Channel (B26 5MHz) | | | | | | | | | | |
| 1.63 | -62.8 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 2.45 | -63.6 | V | 3.0 | -16.0 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.27 | -64.1 | V | 3.0 | -13.8 | 39.5 | 1.0 | -52.3 | -13.0 | -39.3 | |
| Low Channel (B26 5MHz) | | | | | | | | | | |
| 1.65 | -62.8 | H | 3.0 | -19.4 | 39.9 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2.48 | -63.4 | H | 3.0 | -16.7 | 39.3 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 3.31 | -64.4 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Mid Channel (B31 5MHz) | | | | | | | | | | |
| 1.66 | -62.9 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.48 | -63.3 | V | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.31 | -64.6 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | |
| Mid Channel (B31 5MHz) | | | | | | | | | | |
| 1.66 | -62.9 | H | 3.0 | -18.9 | 39.9 | 1.0 | -57.8 | -13.0 | -44.8 | |
| 2.49 | -63.9 | H | 3.0 | -17.1 | 39.3 | 1.0 | -55.4 | -13.0 | -42.4 | |
| 3.33 | -64.7 | H | 3.0 | -15.3 | 39.5 | 1.0 | -53.8 | -13.0 | -40.8 | |
| High Channel (B46 5MHz) | | | | | | | | | | |
| 1.66 | -62.9 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.49 | -64.0 | V | 3.0 | -16.2 | 39.3 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.33 | -64.9 | V | 3.0 | -14.6 | 39.5 | 1.0 | -53.1 | -13.0 | -40.1 | |
| High Channel (B46 5MHz) | | | | | | | | | | |
| 1.69 | -61.4 | H | 3.0 | -17.6 | 39.9 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 2.54 | -63.2 | H | 3.0 | -16.3 | 39.2 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.39 | -63.9 | H | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | |
| Low Channel (B16 5MHz) (Part 95) | | | | | | | | | | |
| 1.63 | -62.3 | V | 3.0 | -17.0 | 39.9 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 2.45 | -63.5 | V | 3.0 | -15.6 | 39.2 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3.39 | -64.1 | V | 3.0 | -13.7 | 39.5 | 1.0 | -52.2 | -13.0 | -39.2 | |

Rev: 10/28/15

LTE B26 5MHz 16QAM

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kievra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (905), 10MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

Chamber Pre-amplifier Filter Limit
3m Chamber N-RTP 3m Chamber N-RTP Filter EIRP

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|--|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (810MHz) (Part 905) | | | | | | | | | | |
| 1.64 | 62.8 | H | 3.0 | -19.5 | 39.9 | 1.0 | -58.4 | -13.0 | -45.4 | |
| 2.46 | 62.6 | H | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.28 | 64.2 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.64 | 62.2 | V | 3.0 | -17.3 | 39.9 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 2.46 | 63.8 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.28 | 64.1 | V | 3.0 | -13.9 | 39.5 | 1.0 | -52.3 | -13.0 | -39.3 | |
| Low Channel (829MHz) | | | | | | | | | | |
| 1.66 | 62.6 | H | 3.0 | -19.2 | 39.9 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2.49 | 63.7 | H | 3.0 | -17.8 | 39.3 | 1.0 | -55.3 | -13.0 | -42.3 | |
| 3.32 | 64.3 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 1.66 | 62.9 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.49 | 63.7 | V | 3.0 | -16.8 | 39.3 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 3.32 | 64.7 | V | 3.0 | -14.4 | 39.5 | 1.0 | -52.9 | -13.0 | -39.9 | |
| Mid Channel (831.5MHz) | | | | | | | | | | |
| 1.66 | 62.7 | H | 3.0 | -19.2 | 39.9 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2.49 | 63.9 | H | 3.0 | -17.1 | 39.3 | 1.0 | -55.3 | -13.0 | -42.3 | |
| 3.33 | 64.5 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 1.66 | 62.9 | V | 3.0 | -17.8 | 39.9 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 2.49 | 63.9 | V | 3.0 | -16.9 | 39.3 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 3.33 | 64.4 | V | 3.0 | -14.1 | 39.5 | 1.0 | -52.6 | -13.0 | -39.6 | |
| High Channel (844MHz) | | | | | | | | | | |
| 1.69 | 62.4 | H | 3.0 | -18.7 | 39.9 | 1.0 | -57.7 | -13.0 | -44.7 | |
| 2.53 | 62.9 | H | 3.0 | -16.0 | 39.2 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 3.38 | 64.6 | H | 3.0 | -15.1 | 39.5 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 1.69 | 63.2 | V | 3.0 | -17.9 | 39.9 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 2.53 | 64.1 | V | 3.0 | -16.2 | 39.2 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.38 | 64.4 | V | 3.0 | -14.9 | 39.5 | 1.0 | -52.6 | -13.0 | -39.6 | |

Rev: 10.28.15

LTE B26 10MHz QPSK

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/19/2016
 Test Engineer: Brian Kievra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 26 (905), 10MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

Chamber Pre-amplifier Filter Limit
3m Chamber N-RTP 3m Chamber N-RTP Filter EIRP

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|--|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (810MHz) (Part 905) | | | | | | | | | | |
| 1.64 | 62.8 | H | 3.0 | -19.4 | 39.9 | 1.0 | -58.3 | -13.0 | -45.3 | |
| 2.46 | 62.9 | H | 3.0 | -16.4 | 39.3 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 3.28 | 63.9 | H | 3.0 | -14.6 | 39.5 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 1.64 | 62.6 | V | 3.0 | -17.7 | 39.9 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 2.46 | 63.2 | V | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.28 | 63.8 | V | 3.0 | -13.5 | 39.5 | 1.0 | -52.0 | -13.0 | -39.0 | |
| Low Channel (829MHz) | | | | | | | | | | |
| 1.66 | 63.0 | H | 3.0 | -19.5 | 39.9 | 1.0 | -58.4 | -13.0 | -45.4 | |
| 2.49 | 63.8 | H | 3.0 | -17.0 | 39.3 | 1.0 | -55.3 | -13.0 | -42.3 | |
| 3.32 | 64.6 | H | 3.0 | -15.2 | 39.5 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 1.66 | 63.3 | V | 3.0 | -18.2 | 39.9 | 1.0 | -57.1 | -13.0 | -44.1 | |
| 2.49 | 63.9 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.32 | 64.4 | V | 3.0 | -14.2 | 39.5 | 1.0 | -52.7 | -13.0 | -39.7 | |
| Mid Channel (831.5MHz) | | | | | | | | | | |
| 1.66 | 62.7 | H | 3.0 | -19.2 | 39.9 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2.49 | 63.9 | H | 3.0 | -17.2 | 39.3 | 1.0 | -55.4 | -13.0 | -42.4 | |
| 3.33 | 64.6 | H | 3.0 | -15.2 | 39.5 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 1.66 | 63.1 | V | 3.0 | -18.0 | 39.9 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 2.49 | 63.9 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 3.33 | 64.2 | V | 3.0 | -13.9 | 39.5 | 1.0 | -52.4 | -13.0 | -39.4 | |
| High Channel (844MHz) | | | | | | | | | | |
| 1.69 | 62.3 | H | 3.0 | -18.6 | 39.9 | 1.0 | -57.5 | -13.0 | -44.5 | |
| 2.53 | 63.3 | H | 3.0 | -16.4 | 39.2 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 3.38 | 64.3 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.69 | 62.2 | V | 3.0 | -16.9 | 39.9 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 2.53 | 64.0 | V | 3.0 | -16.1 | 39.2 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 3.38 | 64.4 | V | 3.0 | -14.1 | 39.5 | 1.0 | -52.6 | -13.0 | -39.6 | |

Rev: 10.28.15

LTE B26 10MHz 16QAM

| High Frequency Substitution Measurement UL RTP Radiated Chamber | | | | | | | | | | | High Frequency Substitution Measurement UL RTP Radiated Chamber | | | | | | | | | | |
|--|------------------|-----------------|------------------|-------------------------|--------|------------|-------|-------|-------|-------|---|------------------|-----------------|------------------|-------------------------|--------|------------|-------|-------|-------|-------|
| Company: SOMC Project #: 16J23633N Date: 08/22/2016 Test Engineer: Brian Kiewra / John Manser Configuration: Unit with ear-buds and charger (LTE #1) Mode: LTE Band 26, 15MHz QPSK Test Equipment: Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable | | | | | | | | | | | Company: SOMC Project #: 16J23633N Date: 08/22/2016 Test Engineer: Brian Kiewra / John Manser Configuration: Unit with ear-buds and charger (LTE #1) Mode: LTE Band 26, 15MHz 16QAM Test Equipment: Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable | | | | | | | | | | |
| Chamber | | | Pre-amplifier | | | Filter | | | Limit | | Chamber | | | Pre-amplifier | | | Filter | | | Limit | |
| 3m Chamber N-RTP | | | 3m Chamber N-RTP | | | Filter | | | EIRP | | 3m Chamber N-RTP | | | 3m Chamber N-RTP | | | Filter | | | EIRP | |
| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes | Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
| Low Channel (813.5 MHz) | | | | | | | | | | | Low Channel (813.5 MHz) | | | | | | | | | | |
| 1.66 | 62.1 | H | 3.0 | -18.6 | 39.9 | 1.0 | -57.5 | -13.0 | -44.5 | | 1.66 | 61.9 | H | 3.0 | -18.4 | 39.9 | 1.0 | -57.3 | -13.0 | -44.3 | |
| 2.49 | 62.5 | H | 3.0 | -15.8 | 39.3 | 1.0 | -54.0 | -13.0 | -41.0 | | 2.49 | 62.4 | H | 3.0 | -15.6 | 39.3 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.33 | 64.2 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.2 | -13.0 | -40.2 | | 3.33 | 63.7 | H | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 1.66 | 62.6 | V | 3.0 | -17.5 | 39.9 | 1.0 | -56.4 | -13.0 | -43.4 | | 1.66 | 62.7 | V | 3.0 | -17.6 | 39.9 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 2.49 | 63.7 | V | 3.0 | -15.9 | 39.3 | 1.0 | -54.2 | -13.0 | -41.2 | | 2.49 | 63.9 | V | 3.0 | -16.1 | 39.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.33 | 64.3 | V | 3.0 | -14.0 | 39.5 | 1.0 | -52.5 | -13.0 | -39.5 | | 3.33 | 64.4 | V | 3.0 | -14.1 | 39.5 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Channel (836.5 MHz) | | | | | | | | | | | Mid Channel (836.5 MHz) | | | | | | | | | | |
| 1.67 | 62.0 | H | 3.0 | -18.5 | 39.9 | 1.0 | -57.4 | -13.0 | -44.4 | | 1.67 | 62.1 | H | 3.0 | -18.5 | 39.9 | 1.0 | -57.4 | -13.0 | -44.4 | |
| 2.51 | 62.4 | H | 3.0 | -15.6 | 39.2 | 1.0 | -53.8 | -13.0 | -40.8 | | 2.51 | 62.5 | H | 3.0 | -15.6 | 39.2 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.35 | 64.4 | H | 3.0 | -14.9 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | | 3.35 | 64.2 | H | 3.0 | -14.7 | 39.5 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 1.67 | 62.6 | V | 3.0 | -17.4 | 39.9 | 1.0 | -56.3 | -13.0 | -43.3 | | 1.67 | 61.6 | V | 3.0 | -16.4 | 39.9 | 1.0 | -55.3 | -13.0 | -42.3 | |
| 2.51 | 63.1 | V | 3.0 | -15.2 | 39.2 | 1.0 | -53.5 | -13.0 | -40.5 | | 2.51 | 62.5 | V | 3.0 | -14.7 | 39.2 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.35 | 64.5 | V | 3.0 | -14.2 | 39.5 | 1.0 | -52.7 | -13.0 | -39.7 | | 3.35 | 64.7 | V | 3.0 | -14.4 | 39.5 | 1.0 | -52.9 | -13.0 | -39.9 | |
| High Channel (841.5 MHz) | | | | | | | | | | | High Channel (841.5 MHz) | | | | | | | | | | |
| 1.68 | 61.7 | H | 3.0 | -18.1 | 39.9 | 1.0 | -57.0 | -13.0 | -44.0 | | 1.68 | 62.0 | H | 3.0 | -18.4 | 39.9 | 1.0 | -57.3 | -13.0 | -44.3 | |
| 2.52 | 62.2 | H | 3.0 | -15.4 | 39.2 | 1.0 | -53.6 | -13.0 | -40.6 | | 2.52 | 62.9 | H | 3.0 | -16.0 | 39.2 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 3.37 | 64.8 | H | 3.0 | -15.2 | 39.5 | 1.0 | -53.8 | -13.0 | -40.8 | | 3.37 | 64.5 | H | 3.0 | -15.0 | 39.5 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 1.68 | 63.9 | V | 3.0 | -18.6 | 39.9 | 1.0 | -57.5 | -13.0 | -44.5 | | 1.68 | 63.7 | V | 3.0 | -18.4 | 39.9 | 1.0 | -57.4 | -13.0 | -44.4 | |
| 2.52 | 66.6 | V | 3.0 | -18.7 | 39.2 | 1.0 | -56.9 | -13.0 | -43.9 | | 2.52 | 66.2 | V | 3.0 | -18.4 | 39.2 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 3.37 | 64.6 | V | 3.0 | -14.3 | 39.5 | 1.0 | -52.8 | -13.0 | -39.8 | | 3.37 | 64.4 | V | 3.0 | -14.0 | 39.5 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Rev. 10.28.15 | | | | | | | | | | | Rev. 10.28.15 | | | | | | | | | | |
| LTE B26 15MHz QPSK | | | | | | | | | | | LTE B26 15MHz 16QAM | | | | | | | | | | |

LTE Band 41

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 5MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|------|-------|-------|-------|
| Low Channel (2498.5MHz) | | | | | | | | | | |
| 5.00 | 44.3 | H | 3.0 | 11.6 | 40.3 | 1.0 | 50.9 | -25.0 | -25.9 | |
| 7.50 | 46.5 | H | 3.0 | 10.8 | 38.9 | 1.0 | 48.0 | -25.0 | -22.0 | |
| 9.99 | 47.2 | H | 3.0 | 8.1 | 38.3 | 1.0 | 45.4 | -25.0 | -20.4 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | 43.5 | H | 3.0 | 10.6 | 40.3 | 1.0 | 50.0 | -25.0 | -25.0 | |
| 7.78 | 45.9 | H | 3.0 | 9.2 | 38.9 | 1.0 | 47.0 | -25.0 | -22.0 | |
| 10.37 | 47.5 | H | 3.0 | 7.9 | 38.3 | 1.0 | 45.2 | -25.0 | -20.2 | |
| 5.19 | 43.0 | V | 3.0 | 10.2 | 40.3 | 1.0 | 49.6 | -25.0 | -24.6 | |
| 7.78 | 46.4 | V | 3.0 | 9.4 | 38.9 | 1.0 | 47.7 | -25.0 | -22.7 | |
| 10.37 | 47.5 | V | 3.0 | 7.9 | 38.3 | 1.0 | 45.2 | -25.0 | -20.2 | |
| High Channel (2687.5MHz) | | | | | | | | | | |
| 5.38 | 44.5 | H | 3.0 | 11.3 | 40.2 | 1.0 | 50.5 | -25.0 | -25.5 | |
| 8.06 | 46.2 | H | 3.0 | 9.2 | 38.8 | 1.0 | 47.0 | -25.0 | -22.0 | |
| 10.75 | 47.9 | H | 3.0 | 7.8 | 38.3 | 1.0 | 45.1 | -25.0 | -20.1 | |
| 5.38 | 45.2 | V | 3.0 | 12.2 | 40.2 | 1.0 | 51.4 | -25.0 | -26.4 | |
| 8.06 | 46.3 | V | 3.0 | 9.4 | 38.8 | 1.0 | 47.2 | -25.0 | -22.2 | |
| 10.75 | 47.7 | V | 3.0 | 7.8 | 38.3 | 1.0 | 45.1 | -25.0 | -20.1 | |

Rev: 10/28/15

LTE B41 5MHz QPSK

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 5MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|------|-------|-------|-------|
| Low Channel (2498.5MHz) | | | | | | | | | | |
| 5.00 | 43.9 | H | 3.0 | 11.3 | 40.3 | 1.0 | 50.5 | -25.0 | -25.5 | |
| 7.50 | 46.2 | H | 3.0 | 9.8 | 38.9 | 1.0 | 47.7 | -25.0 | -22.7 | |
| 9.99 | 47.2 | H | 3.0 | 8.1 | 38.3 | 1.0 | 45.4 | -25.0 | -20.4 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | 43.8 | H | 3.0 | 10.9 | 40.3 | 1.0 | 50.2 | -25.0 | -25.2 | |
| 7.78 | 46.1 | H | 3.0 | 9.3 | 38.9 | 1.0 | 47.2 | -25.0 | -22.2 | |
| 10.37 | 47.9 | H | 3.0 | 8.2 | 38.3 | 1.0 | 45.6 | -25.0 | -20.6 | |
| 5.19 | 43.6 | V | 3.0 | 10.8 | 40.3 | 1.0 | 50.1 | -25.0 | -25.1 | |
| 7.78 | 45.5 | V | 3.0 | 8.9 | 38.9 | 1.0 | 46.8 | -25.0 | -21.8 | |
| 10.37 | 47.5 | V | 3.0 | 7.9 | 38.3 | 1.0 | 45.2 | -25.0 | -20.2 | |
| High Channel (2687.5MHz) | | | | | | | | | | |
| 5.38 | 44.7 | H | 3.0 | 11.5 | 40.2 | 1.0 | 50.7 | -25.0 | -25.7 | |
| 8.06 | 46.2 | H | 3.0 | 9.1 | 38.8 | 1.0 | 46.9 | -25.0 | -21.9 | |
| 10.75 | 47.4 | H | 3.0 | 7.3 | 38.3 | 1.0 | 44.6 | -25.0 | -19.6 | |
| 5.38 | 45.4 | V | 3.0 | 12.3 | 40.2 | 1.0 | 51.5 | -25.0 | -26.5 | |
| 8.06 | 46.0 | V | 3.0 | 8.9 | 38.8 | 1.0 | 46.9 | -25.0 | -21.9 | |
| 10.75 | 46.2 | V | 3.0 | 8.2 | 38.3 | 1.0 | 45.5 | -25.0 | -20.5 | |

Rev: 10/28/15

LTE B41 5MHz 16QAM

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 10MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|------|-------|-------|-------|
| Low Channel (2501MHz) | | | | | | | | | | |
| 5.00 | 43.9 | H | 3.0 | 11.3 | 40.3 | 1.0 | 50.5 | -25.0 | -25.5 | |
| 7.50 | 46.5 | H | 3.0 | 10.1 | 38.9 | 1.0 | 48.0 | -25.0 | -23.0 | |
| 10.00 | 47.6 | H | 3.0 | 8.4 | 38.3 | 1.0 | 45.8 | -25.0 | -20.8 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | 43.4 | H | 3.0 | 10.5 | 40.3 | 1.0 | 49.8 | -25.0 | -24.8 | |
| 7.78 | 45.8 | H | 3.0 | 9.1 | 38.9 | 1.0 | 46.9 | -25.0 | -21.9 | |
| 10.37 | 47.6 | H | 3.0 | 7.9 | 38.3 | 1.0 | 45.3 | -25.0 | -20.3 | |
| 5.19 | 42.4 | V | 3.0 | 9.6 | 40.3 | 1.0 | 48.9 | -25.0 | -23.9 | |
| 7.78 | 45.9 | V | 3.0 | 8.4 | 38.9 | 1.0 | 47.3 | -25.0 | -22.3 | |
| 10.37 | 47.4 | V | 3.0 | 7.8 | 38.3 | 1.0 | 45.1 | -25.0 | -20.1 | |
| High Channel (2685MHz) | | | | | | | | | | |
| 5.37 | 45.2 | H | 3.0 | 11.9 | 40.2 | 1.0 | 51.2 | -25.0 | -26.2 | |
| 8.06 | 45.9 | H | 3.0 | 9.8 | 38.8 | 1.0 | 46.6 | -25.0 | -21.6 | |
| 10.74 | 47.9 | H | 3.0 | 7.8 | 38.3 | 1.0 | 45.1 | -25.0 | -20.1 | |
| 5.37 | 45.1 | V | 3.0 | 12.0 | 40.2 | 1.0 | 51.2 | -25.0 | -26.2 | |
| 8.06 | 46.4 | V | 3.0 | 9.6 | 38.8 | 1.0 | 47.4 | -25.0 | -22.4 | |
| 10.74 | 48.4 | V | 3.0 | 8.4 | 38.3 | 1.0 | 45.7 | -25.0 | -20.7 | |

Rev: 10/28/15

LTE B41 10MHz QPSK

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 10MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|------|-------|-------|-------|
| Low Channel (2501MHz) | | | | | | | | | | |
| 5.00 | 43.8 | H | 3.0 | 11.2 | 40.3 | 1.0 | 50.5 | -25.0 | -25.5 | |
| 7.50 | 45.6 | H | 3.0 | 9.1 | 38.9 | 1.0 | 47.0 | -25.0 | -22.0 | |
| 10.00 | 47.7 | H | 3.0 | 8.5 | 38.3 | 1.0 | 45.9 | -25.0 | -20.9 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.00 | 43.5 | V | 3.0 | 11.0 | 40.3 | 1.0 | 50.2 | -25.0 | -25.2 | |
| 7.50 | 46.6 | V | 3.0 | 10.4 | 38.9 | 1.0 | 48.4 | -25.0 | -23.4 | |
| 10.00 | 46.8 | V | 3.0 | 7.6 | 38.3 | 1.0 | 44.8 | -25.0 | -19.8 | |
| High Channel (2685MHz) | | | | | | | | | | |
| 5.37 | 45.2 | H | 3.0 | 12.0 | 40.2 | 1.0 | 51.2 | -25.0 | -26.2 | |
| 8.06 | 46.0 | H | 3.0 | 8.9 | 38.8 | 1.0 | 46.7 | -25.0 | -21.7 | |
| 10.74 | 47.6 | H | 3.0 | 7.5 | 38.3 | 1.0 | 44.8 | -25.0 | -19.8 | |
| 5.37 | 45.6 | V | 3.0 | 12.5 | 40.2 | 1.0 | 51.7 | -25.0 | -26.7 | |
| 8.06 | 46.5 | V | 3.0 | 9.6 | 38.8 | 1.0 | 47.4 | -25.0 | -22.4 | |
| 10.74 | 47.4 | V | 3.0 | 7.5 | 38.3 | 1.0 | 44.8 | -25.0 | -19.8 | |

Rev: 10/28/15

LTE B41 10MHz 16QAM

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 15MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2503.5MHz) | | | | | | | | | | |
| 5.01 | -63.6 | H | 3.0 | -10.9 | 40.3 | 1.0 | -50.2 | 25.0 | 25.2 | |
| 7.91 | -66.1 | H | 3.0 | -9.6 | 38.9 | 1.0 | -47.5 | 25.0 | -22.5 | |
| 10.01 | -67.4 | H | 3.0 | -8.2 | 38.3 | 1.0 | -45.6 | 25.0 | -20.6 | |
| 5.01 | -63.5 | V | 3.0 | -10.9 | 40.3 | 1.0 | -50.2 | 25.0 | 25.2 | |
| 7.91 | -66.2 | V | 3.0 | -10.0 | 38.9 | 1.0 | -47.8 | 25.0 | -22.9 | |
| 10.01 | -67.4 | V | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | 25.0 | -20.5 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | -62.6 | H | 3.0 | -9.7 | 40.3 | 1.0 | -49.0 | 25.0 | -24.0 | |
| 7.78 | -66.0 | H | 3.0 | -9.2 | 38.9 | 1.0 | -47.1 | 25.0 | -22.1 | |
| 10.37 | -67.6 | H | 3.0 | -8.0 | 38.3 | 1.0 | -45.3 | 25.0 | -20.3 | |
| 5.19 | -63.5 | V | 3.0 | -10.6 | 40.3 | 1.0 | -50.0 | 25.0 | -25.0 | |
| 7.78 | -66.0 | V | 3.0 | -9.5 | 38.9 | 1.0 | -47.4 | 25.0 | -22.4 | |
| 10.37 | -67.3 | V | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | 25.0 | -20.1 | |
| High Channel (2682.5MHz) | | | | | | | | | | |
| 5.37 | -65.0 | H | 3.0 | -11.8 | 40.2 | 1.0 | -51.0 | 25.0 | -26.0 | |
| 8.05 | -66.6 | H | 3.0 | -9.3 | 38.8 | 1.0 | -47.4 | 25.0 | -22.4 | |
| 10.73 | -67.9 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | 25.0 | -20.1 | |
| 5.37 | -64.6 | V | 3.0 | -11.5 | 40.2 | 1.0 | -50.7 | 25.0 | -25.7 | |
| 8.05 | -66.1 | V | 3.0 | -9.3 | 38.8 | 1.0 | -47.1 | 25.0 | -22.1 | |
| 10.73 | -67.2 | V | 3.0 | -7.3 | 38.3 | 1.0 | -44.6 | 25.0 | -19.6 | |

Rev: 10/28/15

LTE B41 15MHz QPSK

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 15MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|---------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2503.5MHz) | | | | | | | | | | |
| 5.01 | -63.5 | H | 3.0 | -10.9 | 40.3 | 1.0 | -50.1 | 25.0 | -25.1 | |
| 7.91 | -66.9 | H | 3.0 | -10.4 | 38.9 | 1.0 | -48.3 | 25.0 | -23.3 | |
| 10.01 | -67.4 | H | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | 25.0 | -20.5 | |
| 5.01 | -63.2 | V | 3.0 | -10.7 | 40.3 | 1.0 | -50.0 | 25.0 | -25.0 | |
| 7.91 | -66.0 | V | 3.0 | -9.8 | 38.9 | 1.0 | -47.7 | 25.0 | -22.7 | |
| 10.01 | -67.2 | V | 3.0 | -8.0 | 38.3 | 1.0 | -45.3 | 25.0 | -20.3 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | -63.7 | H | 3.0 | -10.8 | 40.3 | 1.0 | -50.1 | 25.0 | -25.1 | |
| 7.78 | -65.5 | H | 3.0 | -8.7 | 38.9 | 1.0 | -46.6 | 25.0 | -21.6 | |
| 10.37 | -67.7 | H | 3.0 | -8.1 | 38.3 | 1.0 | -45.4 | 25.0 | -20.4 | |
| 5.19 | -63.0 | V | 3.0 | -10.2 | 40.3 | 1.0 | -49.5 | 25.0 | -24.5 | |
| 7.78 | -66.2 | V | 3.0 | -9.7 | 38.9 | 1.0 | -47.6 | 25.0 | -22.6 | |
| 10.37 | -67.3 | V | 3.0 | -7.7 | 38.3 | 1.0 | -45.0 | 25.0 | -20.0 | |
| High Channel (2682.5MHz) | | | | | | | | | | |
| 5.37 | -64.3 | H | 3.0 | -11.1 | 40.2 | 1.0 | -50.3 | 25.0 | -25.3 | |
| 8.05 | -66.4 | H | 3.0 | -9.3 | 38.8 | 1.0 | -47.1 | 25.0 | -22.1 | |
| 10.73 | -67.9 | H | 3.0 | -7.8 | 38.3 | 1.0 | -45.1 | 25.0 | -20.1 | |
| 5.37 | -64.5 | V | 3.0 | -11.5 | 40.2 | 1.0 | -50.7 | 25.0 | -25.7 | |
| 8.05 | -66.1 | V | 3.0 | -9.3 | 38.8 | 1.0 | -47.1 | 25.0 | -22.1 | |
| 10.73 | -68.0 | V | 3.0 | -8.1 | 38.3 | 1.0 | -45.4 | 25.0 | -20.4 | |

Rev: 10/28/15

LTE B41 15MHz 16QAM

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 20MHz QPSK

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2506MHz) | | | | | | | | | | |
| 5.01 | -63.3 | H | 3.0 | -10.7 | 40.3 | 1.0 | -49.9 | 25.0 | -24.9 | |
| 7.92 | -66.7 | H | 3.0 | -10.2 | 38.9 | 1.0 | -48.1 | 25.0 | -23.1 | |
| 10.02 | -67.6 | H | 3.0 | -8.4 | 38.3 | 1.0 | -45.7 | 25.0 | -20.7 | |
| 5.01 | -63.5 | V | 3.0 | -11.0 | 40.3 | 1.0 | -50.2 | 25.0 | -25.2 | |
| 7.92 | -66.2 | V | 3.0 | -9.3 | 38.8 | 1.0 | -47.8 | 25.0 | -22.8 | |
| 10.02 | -67.4 | V | 3.0 | -8.2 | 38.3 | 1.0 | -45.5 | 25.0 | -20.5 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | -63.2 | H | 3.0 | -10.3 | 40.3 | 1.0 | -49.6 | 25.0 | -24.6 | |
| 7.78 | -66.0 | H | 3.0 | -9.3 | 38.9 | 1.0 | -47.1 | 25.0 | -22.1 | |
| 10.37 | -67.5 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | 25.0 | -20.2 | |
| 5.19 | -63.0 | V | 3.0 | -10.2 | 40.3 | 1.0 | -49.5 | 25.0 | -24.5 | |
| 7.78 | -66.0 | V | 3.0 | -9.5 | 38.9 | 1.0 | -47.3 | 25.0 | -22.3 | |
| 10.37 | -67.4 | V | 3.0 | -7.8 | 38.3 | 1.0 | -45.2 | 25.0 | -20.2 | |
| High Channel (2680MHz) | | | | | | | | | | |
| 5.36 | -63.6 | H | 3.0 | -10.4 | 40.2 | 1.0 | -49.6 | 25.0 | -24.6 | |
| 8.04 | -65.8 | H | 3.0 | -9.8 | 38.8 | 1.0 | -46.6 | 25.0 | -21.6 | |
| 10.72 | -67.9 | H | 3.0 | -7.9 | 38.3 | 1.0 | -45.2 | 25.0 | -20.2 | |
| 5.36 | -64.7 | V | 3.0 | -11.7 | 40.2 | 1.0 | -50.9 | 25.0 | -25.9 | |
| 8.04 | -66.6 | V | 3.0 | -9.7 | 38.8 | 1.0 | -47.5 | 25.0 | -22.5 | |
| 10.72 | -67.8 | V | 3.0 | -8.0 | 38.3 | 1.0 | -45.3 | 25.0 | -20.3 | |

Rev: 10/28/15

LTE B41 20MHz QPSK

High Frequency Substitution Measurement
UL RTP Radiated Chamber

Company: SOMC
 Project #: 16J23633N
 Date: 08/18/2016
 Test Engineer: Brian Kiewra / John Manser
 Configuration: Unit with ear-buds and charger (LTE #1)
 Mode: LTE Band 41, 20MHz 16QAM

Test Equipment:
 Substitution: Horn AT0078 Substitution, and CBL010 SMA Cable

| | | | |
|------------------|------------------|--------|---------|
| Chamber | Pre-amplifier | Filter | Limit |
| 3m Chamber N-RTP | 3m Chamber N-RTP | Filter | LTE B41 |

| Frequency (GHz) | SA reading (dBm) | Ant. Pol. (H/V) | Distance | EIRP @ TX Ant End (dBm) | Preamp | Attenuator | EIRP | Limit | Delta | Notes |
|-------------------------------|------------------|-----------------|----------|-------------------------|--------|------------|-------|-------|-------|-------|
| Low Channel (2506MHz) | | | | | | | | | | |
| 5.01 | -63.2 | H | 3.0 | -10.6 | 40.3 | 1.0 | -49.8 | 25.0 | -24.8 | |
| 7.92 | -66.4 | H | 3.0 | -9.9 | 38.9 | 1.0 | -47.8 | 25.0 | -22.8 | |
| 10.02 | -67.6 | H | 3.0 | -8.4 | 38.3 | 1.0 | -45.8 | 25.0 | -20.8 | |
| 5.01 | -63.3 | V | 3.0 | -10.8 | 40.3 | 1.0 | -50.0 | 25.0 | -25.0 | |
| 7.92 | -66.5 | V | 3.0 | -10.3 | 38.9 | 1.0 | -47.8 | 25.0 | -22.8 | |
| 10.02 | -67.3 | V | 3.0 | -8.1 | 38.3 | 1.0 | -45.4 | 25.0 | -20.4 | |
| Mid Channel (2593MHz) | | | | | | | | | | |
| 5.19 | -63.5 | H | 3.0 | -10.6 | 40.3 | 1.0 | -49.9 | 25.0 | -24.9 | |
| 7.78 | -66.2 | H | 3.0 | -9.5 | 38.9 | 1.0 | -47.3 | 25.0 | -22.3 | |
| 10.37 | -67.1 | H | 3.0 | -7.5 | 38.3 | 1.0 | -44.8 | 25.0 | -19.8 | |
| 5.19 | -62.7 | V | 3.0 | -9.9 | 40.3 | 1.0 | -49.2 | 25.0 | -24.2 | |
| 7.78 | -65.7 | V | 3.0 | -9.2 | 38.9 | 1.0 | -47.0 | 25.0 | -22.0 | |
| 10.37 | -66.5 | V | 3.0 | -6.9 | 38.3 | 1.0 | -44.3 | 25.0 | -19.3 | |
| High Channel (2680MHz) | | | | | | | | | | |
| 5.36 | -64.5 | H | 3.0 | -11.3 | 40.2 | 1.0 | -50.5 | 25.0 | -25.5 | |
| 8.04 | -65.8 | H | 3.0 | -8.7 | 38.8 | 1.0 | -46.3 | 25.0 | -21.3 | |
| 10.72 | -67.7 | H | 3.0 | -7.7 | 38.3 | 1.0 | -45.0 | 25.0 | -20.0 | |
| 5.36 | -65.1 | V | 3.0 | -12.0 | 40.2 | 1.0 | -51.2 | 25.0 | -26.2 | |
| 8.04 | -66.8 | V | 3.0 | -9.9 | 38.8 | 1.0 | -47.7 | 25.0 | -22.7 | |
| 10.72 | -67.6 | V | 3.0 | -7.6 | 38.3 | 1.0 | -45.0 | 25.0 | -20.0 | |

Rev: 10/28/15

LTE B41 20MHz 16QAM