

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|--------------------------------|--|---|--------------------------|------------------|-----------------|--------------|-------------|-------------|-------------|-------------|------------|-------|
| LTE Band 4 5MHz QPSK | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-06-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 4, 5MHz BW, QPSK | | | | | | | | | | |
| | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 27 | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1712.5MHz) | | | | | | | | | |
| | | | 3.4250 | 0.8 | V | 3.0 | 40.2 | 1.0 | -38.4 | -13.0 | -25.4 | |
| | | | 5.1375 | -2.8 | V | 3.0 | 40.9 | 1.0 | -42.7 | -13.0 | -29.7 | |
| | | | 6.8500 | 6.0 | V | 3.0 | 41.0 | 1.0 | -34.0 | -13.0 | -21.0 | |
| | | | 3.4250 | -0.6 | H | 3.0 | 40.2 | 1.0 | -39.8 | -13.0 | -26.8 | |
| | | | 5.1375 | -5.0 | H | 3.0 | 40.9 | 1.0 | -44.8 | -13.0 | -31.8 | |
| | | | 6.8500 | 1.2 | H | 3.0 | 41.0 | 1.0 | -38.7 | -13.0 | -25.7 | |
| | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | 3.4650 | -0.5 | V | 3.0 | 40.3 | 1.0 | -39.8 | -13.0 | -26.8 | |
| | | | 5.1975 | -2.9 | V | 3.0 | 40.9 | 1.0 | -42.8 | -13.0 | -29.8 | |
| | | | 6.9300 | 7.5 | V | 3.0 | 41.0 | 1.0 | -32.5 | -13.0 | -19.5 | |
| | | | 3.4650 | 0.7 | H | 3.0 | 40.3 | 1.0 | -38.5 | -13.0 | -25.5 | |
| | | | 5.1975 | -6.1 | H | 3.0 | 40.9 | 1.0 | -46.0 | -13.0 | -33.0 | |
| | | | 6.9300 | 2.4 | H | 3.0 | 41.0 | 1.0 | -37.6 | -13.0 | -24.6 | |
| | | | High Channel (1752.5MHz) | | | | | | | | | |
| | | | 3.5050 | 1.3 | V | 3.0 | 40.3 | 1.0 | -38.0 | -13.0 | -25.0 | |
| | | 5.2575 | -2.9 | V | 3.0 | 40.9 | 1.0 | -42.8 | -13.0 | -29.8 | | |
| | | 7.0100 | 5.7 | V | 3.0 | 41.0 | 1.0 | -34.3 | -13.0 | -21.3 | | |
| | | 3.5050 | 2.0 | H | 3.0 | 40.3 | 1.0 | -37.2 | -13.0 | -24.2 | | |
| | | 5.2575 | -7.8 | H | 3.0 | 40.9 | 1.0 | -47.7 | -13.0 | -34.7 | | |
| | | 7.0100 | 0.7 | H | 3.0 | 41.0 | 1.0 | -39.3 | -13.0 | -26.3 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |
| LTE Band 4 5MHz 16QAM | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | | |
| | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-06-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 7, 5MHz BW, 16QAM | | | | | | | | | | |
| | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 27 | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1712.5MHz) | | | | | | | | | |
| | | | 3.4250 | 0.9 | V | 3.0 | 40.2 | 1.0 | -38.4 | -13.0 | -25.4 | |
| | | | 5.1375 | -2.2 | V | 3.0 | 40.9 | 1.0 | -42.1 | -13.0 | -29.1 | |
| | | | 6.8500 | 6.1 | V | 3.0 | 41.0 | 1.0 | -33.9 | -13.0 | -20.9 | |
| | | | 3.4250 | -0.4 | H | 3.0 | 40.2 | 1.0 | -39.6 | -13.0 | -26.6 | |
| | | | 5.1375 | -4.3 | H | 3.0 | 40.9 | 1.0 | -44.1 | -13.0 | -31.1 | |
| | | | 6.8500 | 1.0 | H | 3.0 | 41.0 | 1.0 | -39.0 | -13.0 | -26.0 | |
| | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | 3.4650 | -0.4 | V | 3.0 | 40.3 | 1.0 | -39.7 | -13.0 | -26.7 | |
| | | | 5.1975 | -3.3 | V | 3.0 | 40.9 | 1.0 | -43.1 | -13.0 | -30.1 | |
| | | | 6.9300 | 7.2 | V | 3.0 | 41.0 | 1.0 | -32.8 | -13.0 | -19.8 | |
| | | | 3.4650 | -0.2 | H | 3.0 | 40.3 | 1.0 | -39.4 | -13.0 | -26.4 | |
| | | | 5.1975 | -6.2 | H | 3.0 | 40.9 | 1.0 | -46.1 | -13.0 | -33.1 | |
| | | | 6.9300 | 2.3 | H | 3.0 | 41.0 | 1.0 | -37.7 | -13.0 | -24.7 | |
| | | | High Channel (1752.5MHz) | | | | | | | | | |
| | | 3.5050 | 1.9 | V | 3.0 | 40.3 | 1.0 | -37.4 | -13.0 | -24.4 | | |
| | | 5.2575 | -2.1 | V | 3.0 | 40.9 | 1.0 | -41.9 | -13.0 | -28.9 | | |
| | | 7.0100 | 6.7 | V | 3.0 | 41.0 | 1.0 | -33.3 | -13.0 | -20.3 | | |
| | | 3.5050 | 2.0 | H | 3.0 | 40.3 | 1.0 | -37.3 | -13.0 | -24.3 | | |
| | | 5.2575 | -7.4 | H | 3.0 | 40.9 | 1.0 | -47.3 | -13.0 | -34.3 | | |
| | | 7.0100 | 2.0 | H | 3.0 | 41.0 | 1.0 | -38.0 | -13.0 | -25.0 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|--------------------------------|----------------|---|-------------------------|------------------|-----------------|--------------|-------------|-------------|-----------|-------------|------------|-------|
| LTE Band 4 3MHz QPSK | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | YH Lim | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 4, 3MHz BW,QPSK | | | | | | | | | | |
| | | | Chamber | Pre-amplifier | Filter | Limit | | | | | | |
| | | | Chamber 2 | AFS42 | Filter 1 | FCC Part 27 | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1711.5MHz) | | | | | | | | | |
| | | | 3.4230 | 3.3 | V | 3.0 | 40.2 | 1.0 | -35.9 | -13.0 | -22.9 | |
| | | | 5.1345 | 2.4 | V | 3.0 | 40.9 | 1.0 | -37.5 | -13.0 | -24.5 | |
| | | | 6.8460 | 8.3 | V | 3.0 | 41.0 | 1.0 | -31.7 | -13.0 | -18.7 | |
| | | | 3.4230 | 0.0 | H | 3.0 | 40.2 | 1.0 | -39.3 | -13.0 | -26.3 | |
| | | | 5.1345 | -6.8 | H | 3.0 | 40.9 | 1.0 | -46.7 | -13.0 | -33.7 | |
| | | | 6.8460 | -1.1 | H | 3.0 | 41.0 | 1.0 | -41.1 | -13.0 | -28.1 | |
| | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | 3.4650 | 0.2 | V | 3.0 | 40.3 | 1.0 | -39.1 | -13.0 | -26.1 | |
| | | | 5.1975 | -0.2 | V | 3.0 | 40.9 | 1.0 | -40.1 | -13.0 | -27.1 | |
| | | | 6.9300 | 5.8 | V | 3.0 | 41.0 | 1.0 | -34.2 | -13.0 | -21.2 | |
| | | 3.4650 | 1.2 | H | 3.0 | 40.3 | 1.0 | -38.1 | -13.0 | -25.1 | | |
| | | 5.1975 | -8.6 | H | 3.0 | 40.9 | 1.0 | -48.5 | -13.0 | -35.5 | | |
| | | 6.9300 | 1.1 | H | 3.0 | 41.0 | 1.0 | -38.9 | -13.0 | -25.9 | | |
| | | High Channel (1753.5MHz) | | | | | | | | | | |
| | | 3.5050 | 8.8 | V | 3.0 | 40.3 | 1.0 | -30.5 | -13.0 | -17.5 | | |
| | | 5.2575 | -0.4 | V | 3.0 | 40.9 | 1.0 | -40.3 | -13.0 | -27.3 | | |
| | | 7.0100 | 4.8 | V | 3.0 | 41.0 | 1.0 | -35.2 | -13.0 | -22.2 | | |
| | | 3.5050 | 3.4 | H | 3.0 | 40.3 | 1.0 | -35.9 | -13.0 | -22.9 | | |
| | | 5.2575 | -6.8 | H | 3.0 | 40.9 | 1.0 | -46.7 | -13.0 | -33.7 | | |
| | | 7.0100 | -5.5 | H | 3.0 | 41.0 | 1.0 | -45.5 | -13.0 | -32.5 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |
| LTE Band 4 3MHz 16QAM | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | YH Lim | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 4, 3MHz BW,16QAM | | | | | | | | | | |
| | | | Chamber | Pre-amplifier | Filter | Limit | | | | | | |
| | | | Chamber 2 | AFS42 | Filter 1 | FCC Part 27 | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1711.5MHz) | | | | | | | | | |
| | | | 3.4230 | 3.2 | V | 3.0 | 40.2 | 1.0 | -36.0 | -13.0 | -23.0 | |
| | | | 5.1345 | 1.9 | V | 3.0 | 40.9 | 1.0 | -38.0 | -13.0 | -25.0 | |
| | | | 6.8460 | 7.3 | V | 3.0 | 41.0 | 1.0 | -32.6 | -13.0 | -19.6 | |
| | | | 3.4230 | -0.1 | H | 3.0 | 40.2 | 1.0 | -39.4 | -13.0 | -26.4 | |
| | | | 5.1345 | -7.1 | H | 3.0 | 40.9 | 1.0 | -47.0 | -13.0 | -34.0 | |
| | | | 6.8460 | -1.8 | H | 3.0 | 41.0 | 1.0 | -41.8 | -13.0 | -28.8 | |
| | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | 3.4650 | 0.1 | V | 3.0 | 40.3 | 1.0 | -39.2 | -13.0 | -26.2 | |
| | | | 5.1975 | -0.3 | V | 3.0 | 40.9 | 1.0 | -40.2 | -13.0 | -27.2 | |
| | | | 6.9300 | 5.7 | V | 3.0 | 41.0 | 1.0 | -34.3 | -13.0 | -21.3 | |
| | | 3.4650 | 1.3 | H | 3.0 | 40.3 | 1.0 | -37.9 | -13.0 | -24.9 | | |
| | | 5.1975 | -8.4 | H | 3.0 | 40.9 | 1.0 | -48.3 | -13.0 | -35.3 | | |
| | | 6.9300 | 1.0 | H | 3.0 | 41.0 | 1.0 | -39.0 | -13.0 | -26.0 | | |
| | | High Channel (1752.5MHz) | | | | | | | | | | |
| | | 3.5050 | 5.8 | V | 3.0 | 40.3 | 1.0 | -33.5 | -13.0 | -20.5 | | |
| | | 5.2575 | -0.4 | V | 3.0 | 40.9 | 1.0 | -40.3 | -13.0 | -27.3 | | |
| | | 7.0100 | 3.1 | V | 3.0 | 41.0 | 1.0 | -36.9 | -13.0 | -23.9 | | |
| | | 3.5050 | 2.2 | H | 3.0 | 40.3 | 1.0 | -37.1 | -13.0 | -24.1 | | |
| | | 5.2575 | -7.0 | H | 3.0 | 40.9 | 1.0 | -46.9 | -13.0 | -33.9 | | |
| | | 7.0100 | -7.1 | H | 3.0 | 41.0 | 1.0 | -47.1 | -13.0 | -34.1 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | | |
|----------------------------------|--|---|------|-------------------------|------------------|-----------------|--------------|-------------|-------------|-------------|-------------|------------|-------|
| LTE Band 4 1.4MHz QPSK | | Company: Wisol | | | | | | | | | | | |
| | | Project#: 16K23790 | | | | | | | | | | | |
| | | Date: 09-02-16 | | | | | | | | | | | |
| | | Test Engineer: JH Park | | | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | | | |
| | | Mode: TX, LTE BAND 4, 1.4MHz BW, QPSK | | | | | | | | | | | |
| | | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 27 | | | |
| | | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | | Low Channel (1710.7MHz) | | | | | | | | | |
| | | | | 3.4214 | 0.6 | V | 3.0 | 40.2 | 1.0 | -38.6 | -13.0 | -25.6 | |
| | | | | 5.1321 | -2.3 | V | 3.0 | 40.9 | 1.0 | -42.2 | -13.0 | -29.2 | |
| | | | | 6.8428 | 6.6 | V | 3.0 | 41.0 | 1.0 | -33.4 | -13.0 | -20.4 | |
| | | | | 3.4214 | -1.3 | H | 3.0 | 40.2 | 1.0 | -40.5 | -13.0 | -27.5 | |
| | | | | 5.1321 | -4.6 | H | 3.0 | 40.9 | 1.0 | -44.5 | -13.0 | -31.5 | |
| | | | | 6.8428 | 0.4 | H | 3.0 | 41.0 | 1.0 | -39.5 | -13.0 | -26.5 | |
| | | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | | 3.4650 | -1.0 | V | 3.0 | 40.3 | 1.0 | -40.3 | -13.0 | -27.3 | |
| | | | | 5.1975 | -3.5 | V | 3.0 | 40.9 | 1.0 | -43.3 | -13.0 | -30.3 | |
| | | | | 6.9300 | 7.6 | V | 3.0 | 41.0 | 1.0 | -32.4 | -13.0 | -19.4 | |
| | | 3.4650 | 0.2 | H | 3.0 | 40.3 | 1.0 | -39.0 | -13.0 | -26.0 | | | |
| | | 5.1975 | -8.6 | H | 3.0 | 40.9 | 1.0 | -48.5 | -13.0 | -35.5 | | | |
| | | 6.9300 | 1.3 | H | 3.0 | 41.0 | 1.0 | -38.7 | -13.0 | -25.7 | | | |
| | | High Channel (1754.3MHz) | | | | | | | | | | | |
| | | 3.5086 | 5.8 | V | 3.0 | 40.3 | 1.0 | -33.5 | -13.0 | -20.5 | | | |
| | | 5.2629 | -1.2 | V | 3.0 | 40.9 | 1.0 | -41.1 | -13.0 | -28.1 | | | |
| | | 7.0172 | 5.8 | V | 3.0 | 41.0 | 1.0 | -34.2 | -13.0 | -21.2 | | | |
| | | 3.5086 | 2.2 | H | 3.0 | 40.3 | 1.0 | -37.1 | -13.0 | -24.1 | | | |
| | | 5.2629 | -8.1 | H | 3.0 | 40.9 | 1.0 | -48.0 | -13.0 | -35.0 | | | |
| | | 7.0172 | 2.3 | H | 3.0 | 41.0 | 1.0 | -37.7 | -13.0 | -24.7 | | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | |
| LTE Band 4 1.4MHz 16QAM | | Company: Wisol | | | | | | | | | | | |
| | | Project#: 16K23790 | | | | | | | | | | | |
| | | Date: 09-02-16 | | | | | | | | | | | |
| | | Test Engineer: JH Park | | | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | | | |
| | | Mode: TX, LTE BAND 4, 1.4MHz BW, 16QAM | | | | | | | | | | | |
| | | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 27 | | | |
| | | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | | Low Channel (1710.7MHz) | | | | | | | | | |
| | | | | 3.4214 | -1.0 | V | 3.0 | 40.2 | 1.0 | -40.2 | -13.0 | -27.2 | |
| | | | | 5.1321 | -1.6 | V | 3.0 | 40.9 | 1.0 | -41.5 | -13.0 | -28.5 | |
| | | | | 6.8428 | 7.7 | V | 3.0 | 41.0 | 1.0 | -32.3 | -13.0 | -19.3 | |
| | | | | 3.4214 | -1.3 | H | 3.0 | 40.2 | 1.0 | -40.5 | -13.0 | -27.5 | |
| | | | | 5.1321 | -3.9 | H | 3.0 | 40.9 | 1.0 | -43.8 | -13.0 | -30.8 | |
| | | | | 6.8428 | 1.5 | H | 3.0 | 41.0 | 1.0 | -38.4 | -13.0 | -25.4 | |
| | | | | Mid Channel (1732.5MHz) | | | | | | | | | |
| | | | | 3.4650 | 0.0 | V | 3.0 | 40.3 | 1.0 | -39.3 | -13.0 | -26.3 | |
| | | | | 5.1975 | -2.6 | V | 3.0 | 40.9 | 1.0 | -42.5 | -13.0 | -29.5 | |
| | | | | 6.9300 | 7.4 | V | 3.0 | 41.0 | 1.0 | -32.6 | -13.0 | -19.6 | |
| | | 3.4650 | 0.3 | H | 3.0 | 40.3 | 1.0 | -38.9 | -13.0 | -25.9 | | | |
| | | 5.1975 | -7.5 | H | 3.0 | 40.9 | 1.0 | -47.4 | -13.0 | -34.4 | | | |
| | | 6.9300 | 1.0 | H | 3.0 | 41.0 | 1.0 | -39.0 | -13.0 | -26.0 | | | |
| | | High Channel (1754.3MHz) | | | | | | | | | | | |
| | | 3.5086 | 5.8 | V | 3.0 | 40.3 | 1.0 | -33.5 | -13.0 | -20.5 | | | |
| | | 5.2629 | -0.9 | V | 3.0 | 40.9 | 1.0 | -40.8 | -13.0 | -27.8 | | | |
| | | 7.0172 | 8.2 | V | 3.0 | 41.0 | 1.0 | -31.8 | -13.0 | -18.8 | | | |
| | | 3.5086 | 1.6 | H | 3.0 | 40.3 | 1.0 | -37.7 | -13.0 | -24.7 | | | |
| | | 5.2629 | -7.8 | H | 3.0 | 40.9 | 1.0 | -47.7 | -13.0 | -34.7 | | | |
| | | 7.0172 | 2.2 | H | 3.0 | 41.0 | 1.0 | -37.8 | -13.0 | -24.8 | | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | |

LTE Band 2

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---------------------------------------|--|--|--------------|------------------------|-------------|--------------------|-------------|----------------------|-------|--|--|-------|------------------|-----------------|--------------|-------------|-------------|-----------|-------------|------------|-------|-----------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|--------|-----|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|-----------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|--------|-----|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|------------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|--------|-----|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|--------|------|---|-----|------|-----|-------|-------|-------|--|--|--|
| LTE Band 2 20MHz QPSK | Company: Wisol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Project #: 16K23790 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Date: 09-02-16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Test Engineer: JH Park | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Configuration: EUT / X-Position | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Mode: TX, LTE BAND 2, 20MHz BW, QPSK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Chamber Chamber 2 | | Pre-amplifier AFS42 | | Filter Filter 1 | | Limit FCC Part 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th>f GHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Distance (m)</th> <th>Preamp (dB)</th> <th>Filter (dB)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td colspan="10">Low Channel (1860MHz)</td> </tr> <tr> <td>3.7200</td> <td>-15.3</td> <td>V</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-54.8</td> <td>-13.0</td> <td>-41.8</td> <td></td> </tr> <tr> <td>5.5800</td> <td>-3.3</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-43.1</td> <td>-13.0</td> <td>-30.1</td> <td></td> </tr> <tr> <td>7.4400</td> <td>1.5</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-38.3</td> <td>-13.0</td> <td>-25.3</td> <td></td> </tr> <tr> <td>3.7200</td> <td>-17.6</td> <td>H</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-57.1</td> <td>-13.0</td> <td>-44.1</td> <td></td> </tr> <tr> <td>5.5800</td> <td>-9.7</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-49.5</td> <td>-13.0</td> <td>-36.5</td> <td></td> </tr> <tr> <td>7.4400</td> <td>-6.8</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-46.6</td> <td>-13.0</td> <td>-33.6</td> <td></td> </tr> <tr> <td colspan="10">Mid Channel (1880MHz)</td> </tr> <tr> <td>3.7600</td> <td>-12.9</td> <td>V</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-52.5</td> <td>-13.0</td> <td>-39.5</td> <td></td> </tr> <tr> <td>5.6400</td> <td>-3.9</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-43.7</td> <td>-13.0</td> <td>-30.7</td> <td></td> </tr> <tr> <td>7.5200</td> <td>3.4</td> <td>V</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-36.3</td> <td>-13.0</td> <td>-23.3</td> <td></td> </tr> <tr> <td>3.7600</td> <td>-11.8</td> <td>H</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-51.3</td> <td>-13.0</td> <td>-38.3</td> <td></td> </tr> <tr> <td>5.6400</td> <td>-11.7</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-51.5</td> <td>-13.0</td> <td>-38.5</td> <td></td> </tr> <tr> <td>7.5200</td> <td>-4.3</td> <td>H</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-44.0</td> <td>-13.0</td> <td>-31.0</td> <td></td> </tr> <tr> <td colspan="10">High Channel (1900MHz)</td> </tr> <tr> <td>3.8000</td> <td>-15.6</td> <td>V</td> <td>3.0</td> <td>40.6</td> <td>1.0</td> <td>-55.2</td> <td>-13.0</td> <td>-42.2</td> <td></td> </tr> <tr> <td>5.7000</td> <td>-2.6</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-42.4</td> <td>-13.0</td> <td>-29.4</td> <td></td> </tr> <tr> <td>7.6000</td> <td>1.4</td> <td>V</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-38.3</td> <td>-13.0</td> <td>-25.3</td> <td></td> </tr> <tr> <td>3.8000</td> <td>-15.4</td> <td>H</td> <td>3.0</td> <td>40.6</td> <td>1.0</td> <td>-55.0</td> <td>-13.0</td> <td>-42.0</td> <td></td> </tr> <tr> <td>5.7000</td> <td>-7.3</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-47.1</td> <td>-13.0</td> <td>-34.1</td> <td></td> </tr> <tr> <td>7.6000</td> <td>-6.9</td> <td>H</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-46.6</td> <td>-13.0</td> <td>-33.6</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | Low Channel (1860MHz) | | | | | | | | | | 3.7200 | -15.3 | V | 3.0 | 40.5 | 1.0 | -54.8 | -13.0 | -41.8 | | 5.5800 | -3.3 | V | 3.0 | 40.8 | 1.0 | -43.1 | -13.0 | -30.1 | | 7.4400 | 1.5 | V | 3.0 | 40.8 | 1.0 | -38.3 | -13.0 | -25.3 | | 3.7200 | -17.6 | H | 3.0 | 40.5 | 1.0 | -57.1 | -13.0 | -44.1 | | 5.5800 | -9.7 | H | 3.0 | 40.8 | 1.0 | -49.5 | -13.0 | -36.5 | | 7.4400 | -6.8 | H | 3.0 | 40.8 | 1.0 | -46.6 | -13.0 | -33.6 | | Mid Channel (1880MHz) | | | | | | | | | | 3.7600 | -12.9 | V | 3.0 | 40.5 | 1.0 | -52.5 | -13.0 | -39.5 | | 5.6400 | -3.9 | V | 3.0 | 40.8 | 1.0 | -43.7 | -13.0 | -30.7 | | 7.5200 | 3.4 | V | 3.0 | 40.7 | 1.0 | -36.3 | -13.0 | -23.3 | | 3.7600 | -11.8 | H | 3.0 | 40.5 | 1.0 | -51.3 | -13.0 | -38.3 | | 5.6400 | -11.7 | H | 3.0 | 40.8 | 1.0 | -51.5 | -13.0 | -38.5 | | 7.5200 | -4.3 | H | 3.0 | 40.7 | 1.0 | -44.0 | -13.0 | -31.0 | | High Channel (1900MHz) | | | | | | | | | | 3.8000 | -15.6 | V | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | 5.7000 | -2.6 | V | 3.0 | 40.8 | 1.0 | -42.4 | -13.0 | -29.4 | | 7.6000 | 1.4 | V | 3.0 | 40.7 | 1.0 | -38.3 | -13.0 | -25.3 | | 3.8000 | -15.4 | H | 3.0 | 40.6 | 1.0 | -55.0 | -13.0 | -42.0 | | 5.7000 | -7.3 | H | 3.0 | 40.8 | 1.0 | -47.1 | -13.0 | -34.1 | | 7.6000 | -6.9 | H | 3.0 | 40.7 | 1.0 | -46.6 | -13.0 | -33.6 | | | |
| | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Low Channel (1860MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7200 | -15.3 | V | 3.0 | 40.5 | 1.0 | -54.8 | -13.0 | -41.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.5800 | -3.3 | V | 3.0 | 40.8 | 1.0 | -43.1 | -13.0 | -30.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.4400 | 1.5 | V | 3.0 | 40.8 | 1.0 | -38.3 | -13.0 | -25.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7200 | -17.6 | H | 3.0 | 40.5 | 1.0 | -57.1 | -13.0 | -44.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.5800 | -9.7 | H | 3.0 | 40.8 | 1.0 | -49.5 | -13.0 | -36.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.4400 | -6.8 | H | 3.0 | 40.8 | 1.0 | -46.6 | -13.0 | -33.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel (1880MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7600 | -12.9 | V | 3.0 | 40.5 | 1.0 | -52.5 | -13.0 | -39.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.6400 | -3.9 | V | 3.0 | 40.8 | 1.0 | -43.7 | -13.0 | -30.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5200 | 3.4 | V | 3.0 | 40.7 | 1.0 | -36.3 | -13.0 | -23.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7600 | -11.8 | H | 3.0 | 40.5 | 1.0 | -51.3 | -13.0 | -38.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.6400 | -11.7 | H | 3.0 | 40.8 | 1.0 | -51.5 | -13.0 | -38.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5200 | -4.3 | H | 3.0 | 40.7 | 1.0 | -44.0 | -13.0 | -31.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel (1900MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8000 | -15.6 | V | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.7000 | -2.6 | V | 3.0 | 40.8 | 1.0 | -42.4 | -13.0 | -29.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.6000 | 1.4 | V | 3.0 | 40.7 | 1.0 | -38.3 | -13.0 | -25.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8000 | -15.4 | H | 3.0 | 40.6 | 1.0 | -55.0 | -13.0 | -42.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.7000 | -7.3 | H | 3.0 | 40.8 | 1.0 | -47.1 | -13.0 | -34.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.6000 | -6.9 | H | 3.0 | 40.7 | 1.0 | -46.6 | -13.0 | -33.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Rev. 03.03.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LTE Band 2 20MHz 16QAM | Company: Wisol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Project #: 16K23790 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Date: 09-02-16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Test Engineer: JH Park | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Configuration: EUT / X-Position | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Mode: TX, LTE BAND 2, 20MHz BW, 16QAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Chamber Chamber 2 | | Pre-amplifier AFS42 | | Filter Filter 1 | | Limit FCC Part 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th>f GHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Distance (m)</th> <th>Preamp (dB)</th> <th>Filter (dB)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td colspan="10">Low Channel (1860MHz)</td> </tr> <tr> <td>3.7200</td> <td>-16.0</td> <td>V</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-55.5</td> <td>-13.0</td> <td>-42.5</td> <td></td> </tr> <tr> <td>5.5800</td> <td>-4.5</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-44.3</td> <td>-13.0</td> <td>-31.3</td> <td></td> </tr> <tr> <td>7.4400</td> <td>1.1</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-38.7</td> <td>-13.0</td> <td>-25.7</td> <td></td> </tr> <tr> <td>3.7200</td> <td>-17.9</td> <td>H</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-57.4</td> <td>-13.0</td> <td>-44.4</td> <td></td> </tr> <tr> <td>5.5800</td> <td>-10.1</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-49.9</td> <td>-13.0</td> <td>-36.9</td> <td></td> </tr> <tr> <td>7.4400</td> <td>-7.7</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-47.4</td> <td>-13.0</td> <td>-34.4</td> <td></td> </tr> <tr> <td colspan="10">Mid Channel (1880MHz)</td> </tr> <tr> <td>3.7600</td> <td>-13.4</td> <td>V</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-52.9</td> <td>-13.0</td> <td>-39.9</td> <td></td> </tr> <tr> <td>5.6400</td> <td>-4.1</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-43.9</td> <td>-13.0</td> <td>-30.9</td> <td></td> </tr> <tr> <td>7.5200</td> <td>4.1</td> <td>V</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-35.6</td> <td>-13.0</td> <td>-22.6</td> <td></td> </tr> <tr> <td>3.7600</td> <td>-11.5</td> <td>H</td> <td>3.0</td> <td>40.5</td> <td>1.0</td> <td>-51.0</td> <td>-13.0</td> <td>-38.0</td> <td></td> </tr> <tr> <td>5.6400</td> <td>-12.1</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-51.9</td> <td>-13.0</td> <td>-38.9</td> <td></td> </tr> <tr> <td>7.5200</td> <td>-3.5</td> <td>H</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-43.3</td> <td>-13.0</td> <td>-30.3</td> <td></td> </tr> <tr> <td colspan="10">High Channel (1900MHz)</td> </tr> <tr> <td>3.8000</td> <td>-15.6</td> <td>V</td> <td>3.0</td> <td>40.6</td> <td>1.0</td> <td>-55.2</td> <td>-13.0</td> <td>-42.2</td> <td></td> </tr> <tr> <td>5.7000</td> <td>-2.8</td> <td>V</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-42.6</td> <td>-13.0</td> <td>-29.6</td> <td></td> </tr> <tr> <td>7.6000</td> <td>2.0</td> <td>V</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-37.7</td> <td>-13.0</td> <td>-24.7</td> <td></td> </tr> <tr> <td>3.8000</td> <td>-15.7</td> <td>H</td> <td>3.0</td> <td>40.6</td> <td>1.0</td> <td>-55.2</td> <td>-13.0</td> <td>-42.2</td> <td></td> </tr> <tr> <td>5.7000</td> <td>-7.3</td> <td>H</td> <td>3.0</td> <td>40.8</td> <td>1.0</td> <td>-47.1</td> <td>-13.0</td> <td>-34.1</td> <td></td> </tr> <tr> <td>7.6000</td> <td>-7.2</td> <td>H</td> <td>3.0</td> <td>40.7</td> <td>1.0</td> <td>-46.9</td> <td>-13.0</td> <td>-33.9</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | Low Channel (1860MHz) | | | | | | | | | | 3.7200 | -16.0 | V | 3.0 | 40.5 | 1.0 | -55.5 | -13.0 | -42.5 | | 5.5800 | -4.5 | V | 3.0 | 40.8 | 1.0 | -44.3 | -13.0 | -31.3 | | 7.4400 | 1.1 | V | 3.0 | 40.8 | 1.0 | -38.7 | -13.0 | -25.7 | | 3.7200 | -17.9 | H | 3.0 | 40.5 | 1.0 | -57.4 | -13.0 | -44.4 | | 5.5800 | -10.1 | H | 3.0 | 40.8 | 1.0 | -49.9 | -13.0 | -36.9 | | 7.4400 | -7.7 | H | 3.0 | 40.8 | 1.0 | -47.4 | -13.0 | -34.4 | | Mid Channel (1880MHz) | | | | | | | | | | 3.7600 | -13.4 | V | 3.0 | 40.5 | 1.0 | -52.9 | -13.0 | -39.9 | | 5.6400 | -4.1 | V | 3.0 | 40.8 | 1.0 | -43.9 | -13.0 | -30.9 | | 7.5200 | 4.1 | V | 3.0 | 40.7 | 1.0 | -35.6 | -13.0 | -22.6 | | 3.7600 | -11.5 | H | 3.0 | 40.5 | 1.0 | -51.0 | -13.0 | -38.0 | | 5.6400 | -12.1 | H | 3.0 | 40.8 | 1.0 | -51.9 | -13.0 | -38.9 | | 7.5200 | -3.5 | H | 3.0 | 40.7 | 1.0 | -43.3 | -13.0 | -30.3 | | High Channel (1900MHz) | | | | | | | | | | 3.8000 | -15.6 | V | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | 5.7000 | -2.8 | V | 3.0 | 40.8 | 1.0 | -42.6 | -13.0 | -29.6 | | 7.6000 | 2.0 | V | 3.0 | 40.7 | 1.0 | -37.7 | -13.0 | -24.7 | | 3.8000 | -15.7 | H | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | 5.7000 | -7.3 | H | 3.0 | 40.8 | 1.0 | -47.1 | -13.0 | -34.1 | | 7.6000 | -7.2 | H | 3.0 | 40.7 | 1.0 | -46.9 | -13.0 | -33.9 | | | |
| | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Low Channel (1860MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7200 | -16.0 | V | 3.0 | 40.5 | 1.0 | -55.5 | -13.0 | -42.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.5800 | -4.5 | V | 3.0 | 40.8 | 1.0 | -44.3 | -13.0 | -31.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.4400 | 1.1 | V | 3.0 | 40.8 | 1.0 | -38.7 | -13.0 | -25.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7200 | -17.9 | H | 3.0 | 40.5 | 1.0 | -57.4 | -13.0 | -44.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.5800 | -10.1 | H | 3.0 | 40.8 | 1.0 | -49.9 | -13.0 | -36.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.4400 | -7.7 | H | 3.0 | 40.8 | 1.0 | -47.4 | -13.0 | -34.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel (1880MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7600 | -13.4 | V | 3.0 | 40.5 | 1.0 | -52.9 | -13.0 | -39.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.6400 | -4.1 | V | 3.0 | 40.8 | 1.0 | -43.9 | -13.0 | -30.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5200 | 4.1 | V | 3.0 | 40.7 | 1.0 | -35.6 | -13.0 | -22.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7600 | -11.5 | H | 3.0 | 40.5 | 1.0 | -51.0 | -13.0 | -38.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.6400 | -12.1 | H | 3.0 | 40.8 | 1.0 | -51.9 | -13.0 | -38.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5200 | -3.5 | H | 3.0 | 40.7 | 1.0 | -43.3 | -13.0 | -30.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel (1900MHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8000 | -15.6 | V | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.7000 | -2.8 | V | 3.0 | 40.8 | 1.0 | -42.6 | -13.0 | -29.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.6000 | 2.0 | V | 3.0 | 40.7 | 1.0 | -37.7 | -13.0 | -24.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8000 | -15.7 | H | 3.0 | 40.6 | 1.0 | -55.2 | -13.0 | -42.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.7000 | -7.3 | H | 3.0 | 40.8 | 1.0 | -47.1 | -13.0 | -34.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.6000 | -7.2 | H | 3.0 | 40.7 | 1.0 | -46.9 | -13.0 | -33.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Rev. 03.03.09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|---------------------------------|----------------|---|--------------------------|------------------|-----------------|--------------|-------------|-------------|-------------|-------------|------------|-------|
| LTE Band 2 15MHz QPSK | Company: | Wisol | | | | | | | | | | |
| | Project#: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 2, 15MHz BW, QPSK | | | | | | | | | | |
| | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 24 | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1857.5MHz) | | | | | | | | | |
| | | | 3.7150 | -16.8 | V | 3.0 | 40.5 | 1.0 | -56.3 | -13.0 | -43.3 | |
| | | | 5.5725 | -4.1 | V | 3.0 | 40.8 | 1.0 | -44.0 | -13.0 | -31.0 | |
| | | | 7.4300 | 0.5 | V | 3.0 | 40.8 | 1.0 | -39.3 | -13.0 | -26.3 | |
| | | | 3.7150 | -17.6 | H | 3.0 | 40.5 | 1.0 | -57.1 | -13.0 | -44.1 | |
| | | | 5.5725 | -9.5 | H | 3.0 | 40.8 | 1.0 | -49.3 | -13.0 | -36.3 | |
| | | | 7.4300 | -8.5 | H | 3.0 | 40.8 | 1.0 | -48.3 | -13.0 | -35.3 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -12.7 | V | 3.0 | 40.5 | 1.0 | -52.2 | -13.0 | -39.2 | |
| | | | 5.6400 | -5.1 | V | 3.0 | 40.8 | 1.0 | -44.9 | -13.0 | -31.9 | |
| | | | 7.5200 | 1.7 | V | 3.0 | 40.7 | 1.0 | -38.0 | -13.0 | -25.0 | |
| | | | 3.7600 | -12.3 | H | 3.0 | 40.5 | 1.0 | -51.8 | -13.0 | -38.8 | |
| | | | 5.6400 | -10.9 | H | 3.0 | 40.8 | 1.0 | -50.7 | -13.0 | -37.7 | |
| | | | 7.5200 | -6.2 | H | 3.0 | 40.7 | 1.0 | -45.9 | -13.0 | -32.9 | |
| | | | High Channel (1902.5MHz) | | | | | | | | | |
| | | | 3.8050 | -14.8 | V | 3.0 | 40.6 | 1.0 | -54.4 | -13.0 | -41.4 | |
| | | 5.7075 | -1.6 | V | 3.0 | 40.8 | 1.0 | -41.4 | -13.0 | -28.4 | | |
| | | 7.6100 | 2.9 | V | 3.0 | 40.7 | 1.0 | -36.7 | -13.0 | -23.7 | | |
| | | 3.8050 | -18.1 | H | 3.0 | 40.6 | 1.0 | -57.6 | -13.0 | -44.6 | | |
| | | 5.7075 | -8.8 | H | 3.0 | 40.8 | 1.0 | -48.6 | -13.0 | -35.6 | | |
| | | 7.6100 | -6.4 | H | 3.0 | 40.7 | 1.0 | -46.1 | -13.0 | -33.1 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |
| LTE Band 2 15MHz 16QAM | Company: | Wisol | | | | | | | | | | |
| | Project#: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 2, 15MHz BW, 16QAM | | | | | | | | | | |
| | | | Chamber | | Pre-amplifier | | Filter | | Limit | | | |
| | | | Chamber 2 | | AFS42 | | Filter 1 | | FCC Part 24 | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1857.5MHz) | | | | | | | | | |
| | | | 3.7150 | -16.8 | V | 3.0 | 40.5 | 1.0 | -56.3 | -13.0 | -43.3 | |
| | | | 5.5725 | -3.9 | V | 3.0 | 40.8 | 1.0 | -43.8 | -13.0 | -30.8 | |
| | | | 7.4300 | 2.0 | V | 3.0 | 40.8 | 1.0 | -37.8 | -13.0 | -24.8 | |
| | | | 3.7150 | -18.0 | H | 3.0 | 40.5 | 1.0 | -57.5 | -13.0 | -44.5 | |
| | | | 5.5725 | -8.9 | H | 3.0 | 40.8 | 1.0 | -48.7 | -13.0 | -35.7 | |
| | | | 7.4300 | -7.0 | H | 3.0 | 40.8 | 1.0 | -46.8 | -13.0 | -33.8 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -12.8 | V | 3.0 | 40.5 | 1.0 | -52.3 | -13.0 | -39.3 | |
| | | | 5.6400 | -5.4 | V | 3.0 | 40.8 | 1.0 | -45.2 | -13.0 | -32.2 | |
| | | | 7.5200 | 2.1 | V | 3.0 | 40.7 | 1.0 | -37.6 | -13.0 | -24.6 | |
| | | | 3.7600 | -12.4 | H | 3.0 | 40.5 | 1.0 | -51.9 | -13.0 | -38.9 | |
| | | | 5.6400 | -10.5 | H | 3.0 | 40.8 | 1.0 | -50.3 | -13.0 | -37.3 | |
| | | | 7.5200 | -6.9 | H | 3.0 | 40.7 | 1.0 | -46.6 | -13.0 | -33.6 | |
| | | | High Channel (1902.5MHz) | | | | | | | | | |
| | | | 3.8050 | -14.9 | V | 3.0 | 40.6 | 1.0 | -54.5 | -13.0 | -41.5 | |
| | | 5.7075 | -1.9 | V | 3.0 | 40.8 | 1.0 | -41.7 | -13.0 | -28.7 | | |
| | | 7.6100 | 2.3 | V | 3.0 | 40.7 | 1.0 | -37.3 | -13.0 | -24.3 | | |
| | | 3.8050 | -18.8 | H | 3.0 | 40.6 | 1.0 | -58.4 | -13.0 | -45.4 | | |
| | | 5.7075 | -8.6 | H | 3.0 | 40.8 | 1.0 | -48.4 | -13.0 | -35.4 | | |
| | | 7.6100 | -6.4 | H | 3.0 | 40.7 | 1.0 | -46.1 | -13.0 | -33.1 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|---------------------------------|---|---|------------------------|------------------|-----------------|--------------|-------------|-------------|-----------|-------------|------------|-------|
| LTE Band 2 10MHz QPSK | Company: Wisol | | | | | | | | | | | |
| | Project #: 16K23790 | | | | | | | | | | | |
| | Date: 09-02-16 | | | | | | | | | | | |
| | Test Engineer: JH Park | | | | | | | | | | | |
| | Configuration: EUT / X-Position | | | | | | | | | | | |
| | Mode: TX, LTE BAND 2, 10MHz BW,QPSK | | | | | | | | | | | |
| | <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">Chamber</div> <div style="border: 1px solid black; padding: 2px;">Pre-amplifier</div> <div style="border: 1px solid black; padding: 2px;">Filter</div> <div style="border: 1px solid black; padding: 2px;">Limit</div> </div> | | | | | | | | | | | |
| | <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">Chamber 2</div> <div style="border: 1px solid black; padding: 2px;">AFS42</div> <div style="border: 1px solid black; padding: 2px;">Filter 1</div> <div style="border: 1px solid black; padding: 2px;">FCC Part 24</div> </div> | | | | | | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1855MHz) | | | | | | | | | |
| | | | 3.7100 | -15.8 | V | 3.0 | 40.5 | 1.0 | -55.3 | -13.0 | -42.3 | |
| | | | 5.5650 | -5.0 | V | 3.0 | 40.8 | 1.0 | -44.8 | -13.0 | -31.8 | |
| | | | 7.4200 | 0.4 | V | 3.0 | 40.8 | 1.0 | -39.4 | -13.0 | -26.4 | |
| | | | 3.7100 | -18.1 | H | 3.0 | 40.5 | 1.0 | -57.6 | -13.0 | -44.6 | |
| | | | 5.5650 | -10.8 | H | 3.0 | 40.8 | 1.0 | -50.6 | -13.0 | -37.6 | |
| | | | 7.4200 | -8.2 | H | 3.0 | 40.8 | 1.0 | -47.9 | -13.0 | -34.9 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -11.9 | V | 3.0 | 40.5 | 1.0 | -51.5 | -13.0 | -38.5 | |
| | | | 5.6400 | -5.8 | V | 3.0 | 40.8 | 1.0 | -45.6 | -13.0 | -32.6 | |
| | | | 7.5200 | 3.4 | V | 3.0 | 40.7 | 1.0 | -36.3 | -13.0 | -23.3 | |
| | | | 3.7600 | -12.4 | H | 3.0 | 40.5 | 1.0 | -51.9 | -13.0 | -38.9 | |
| | | | 5.6400 | -11.5 | H | 3.0 | 40.8 | 1.0 | -51.3 | -13.0 | -38.3 | |
| | | | 7.5200 | -5.9 | H | 3.0 | 40.7 | 1.0 | -45.6 | -13.0 | -32.6 | |
| | | | High Channel (1905MHz) | | | | | | | | | |
| | | | 3.8100 | -13.3 | V | 3.0 | 40.6 | 1.0 | -52.8 | -13.0 | -39.8 | |
| | | 5.7150 | -1.8 | V | 3.0 | 40.8 | 1.0 | -41.5 | -13.0 | -28.5 | | |
| | | 7.6200 | 3.0 | V | 3.0 | 40.7 | 1.0 | -36.6 | -13.0 | -23.6 | | |
| | | 3.8100 | -14.5 | H | 3.0 | 40.6 | 1.0 | -54.1 | -13.0 | -41.1 | | |
| | | 5.7150 | -8.2 | H | 3.0 | 40.8 | 1.0 | -48.0 | -13.0 | -35.0 | | |
| | | 7.6200 | -6.8 | H | 3.0 | 40.7 | 1.0 | -46.4 | -13.0 | -33.4 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |
| LTE Band 2 10MHz 16QAM | Company: Wisol | | | | | | | | | | | |
| | Project #: 16K23790 | | | | | | | | | | | |
| | Date: 09-02-16 | | | | | | | | | | | |
| | Test Engineer: JH Park | | | | | | | | | | | |
| | Configuration: EUT / X-Position | | | | | | | | | | | |
| | Mode: TX, LTE BAND 2, 10MHz BW,16QAM | | | | | | | | | | | |
| | <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">Chamber</div> <div style="border: 1px solid black; padding: 2px;">Pre-amplifier</div> <div style="border: 1px solid black; padding: 2px;">Filter</div> <div style="border: 1px solid black; padding: 2px;">Limit</div> </div> | | | | | | | | | | | |
| | <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">Chamber 2</div> <div style="border: 1px solid black; padding: 2px;">AFS42</div> <div style="border: 1px solid black; padding: 2px;">Filter 1</div> <div style="border: 1px solid black; padding: 2px;">FCC Part 24</div> </div> | | | | | | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1855MHz) | | | | | | | | | |
| | | | 3.7100 | -14.7 | V | 3.0 | 40.5 | 1.0 | -54.2 | -13.0 | -41.2 | |
| | | | 5.5650 | -4.8 | V | 3.0 | 40.8 | 1.0 | -44.6 | -13.0 | -31.6 | |
| | | | 7.4200 | 3.1 | V | 3.0 | 40.8 | 1.0 | -36.7 | -13.0 | -23.7 | |
| | | | 3.7100 | -17.6 | H | 3.0 | 40.5 | 1.0 | -57.1 | -13.0 | -44.1 | |
| | | | 5.5650 | -10.4 | H | 3.0 | 40.8 | 1.0 | -50.3 | -13.0 | -37.3 | |
| | | | 7.4200 | -7.3 | H | 3.0 | 40.8 | 1.0 | -47.1 | -13.0 | -34.1 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -12.3 | V | 3.0 | 40.5 | 1.0 | -51.9 | -13.0 | -38.9 | |
| | | | 5.6400 | -5.1 | V | 3.0 | 40.8 | 1.0 | -44.9 | -13.0 | -31.9 | |
| | | | 7.5200 | 4.2 | V | 3.0 | 40.7 | 1.0 | -35.5 | -13.0 | -22.5 | |
| | | | 3.7600 | -11.6 | H | 3.0 | 40.5 | 1.0 | -51.1 | -13.0 | -38.1 | |
| | | | 5.6400 | -11.6 | H | 3.0 | 40.8 | 1.0 | -51.4 | -13.0 | -38.4 | |
| | | | 7.5200 | -5.4 | H | 3.0 | 40.7 | 1.0 | -45.1 | -13.0 | -32.1 | |
| | | | High Channel (1905MHz) | | | | | | | | | |
| | | | 3.8100 | -13.7 | V | 3.0 | 40.6 | 1.0 | -53.3 | -13.0 | -40.3 | |
| | | 5.7150 | -2.0 | V | 3.0 | 40.8 | 1.0 | -41.8 | -13.0 | -28.8 | | |
| | | 7.6200 | 2.6 | V | 3.0 | 40.7 | 1.0 | -37.1 | -13.0 | -24.1 | | |
| | | 3.8100 | -14.5 | H | 3.0 | 40.6 | 1.0 | -54.1 | -13.0 | -41.1 | | |
| | | 5.7150 | -8.4 | H | 3.0 | 40.8 | 1.0 | -48.2 | -13.0 | -35.2 | | |
| | | 7.6200 | -6.7 | H | 3.0 | 40.7 | 1.0 | -46.4 | -13.0 | -33.4 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | | |
|--------------------------------|----------------|---|--|------------------|-----------------|--------------|-------------|-------------|-----------|-------------|------------|-------|
| LTE Band 2 5MHz QPSK | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 2, 5MHz BW, QPSK | | | | | | | | | | |
| | | | Chamber | Pre-amplifier | Filter | | | | | | | |
| | | | Chamber 2 | AFS42 | Filter 1 | | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1852.5MHz) | | | | | | | | | |
| | | | 3.7050 | -13.5 | V | 3.0 | 40.5 | 1.0 | -53.0 | -13.0 | -40.0 | |
| | | | 5.5575 | -4.7 | V | 3.0 | 40.8 | 1.0 | -44.5 | -13.0 | -31.5 | |
| | | | 7.4100 | 0.2 | V | 3.0 | 40.8 | 1.0 | -39.6 | -13.0 | -26.6 | |
| | | | 3.7050 | -16.1 | H | 3.0 | 40.5 | 1.0 | -55.6 | -13.0 | -42.6 | |
| | | | 5.5575 | -11.8 | H | 3.0 | 40.8 | 1.0 | -51.6 | -13.0 | -38.6 | |
| | | | 7.4100 | -8.9 | H | 3.0 | 40.8 | 1.0 | -48.7 | -13.0 | -35.7 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -12.7 | V | 3.0 | 40.5 | 1.0 | -52.2 | -13.0 | -39.2 | |
| | | | 5.6400 | -4.5 | V | 3.0 | 40.8 | 1.0 | -44.3 | -13.0 | -31.3 | |
| | | | 7.5200 | 1.3 | V | 3.0 | 40.7 | 1.0 | -38.4 | -13.0 | -25.4 | |
| | | | 3.7600 | -11.5 | H | 3.0 | 40.5 | 1.0 | -51.0 | -13.0 | -38.0 | |
| | | | 5.6400 | -10.3 | H | 3.0 | 40.8 | 1.0 | -50.1 | -13.0 | -37.1 | |
| | | | 7.5200 | -5.4 | H | 3.0 | 40.7 | 1.0 | -45.2 | -13.0 | -32.2 | |
| | | | High Channel (1907.5MHz) | | | | | | | | | |
| | | | 3.8150 | -13.2 | V | 3.0 | 40.6 | 1.0 | -52.8 | -13.0 | -39.8 | |
| | | 5.7225 | -3.0 | V | 3.0 | 40.8 | 1.0 | -42.8 | -13.0 | -29.8 | | |
| | | 7.6300 | -0.6 | V | 3.0 | 40.7 | 1.0 | -40.3 | -13.0 | -27.3 | | |
| | | 3.8150 | -14.8 | H | 3.0 | 40.6 | 1.0 | -54.4 | -13.0 | -41.4 | | |
| | | 5.7225 | -9.1 | H | 3.0 | 40.8 | 1.0 | -48.9 | -13.0 | -35.9 | | |
| | | 7.6300 | -10.4 | H | 3.0 | 40.7 | 1.0 | -50.1 | -13.0 | -37.1 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |
| LTE Band 2 5MHz 16QAM | | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | |
| | Company: | Wisol | | | | | | | | | | |
| | Project #: | 16K23790 | | | | | | | | | | |
| | Date: | 09-02-16 | | | | | | | | | | |
| | Test Engineer: | JH Park | | | | | | | | | | |
| | Configuration: | EUT / X-Position | | | | | | | | | | |
| | Mode: | TX, LTE BAND 2, 5MHz BW, 16QAM | | | | | | | | | | |
| | | | Chamber | Pre-amplifier | Filter | | | | | | | |
| | | | Chamber 2 | AFS42 | Filter 1 | | | | | | | |
| | | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| | | | Low Channel (1852.5MHz) | | | | | | | | | |
| | | | 3.7050 | -12.6 | V | 3.0 | 40.5 | 1.0 | -52.1 | -13.0 | -39.1 | |
| | | | 5.5575 | -4.3 | V | 3.0 | 40.8 | 1.0 | -44.1 | -13.0 | -31.1 | |
| | | | 7.4100 | 0.4 | V | 3.0 | 40.8 | 1.0 | -39.4 | -13.0 | -26.4 | |
| | | | 3.7050 | -15.6 | H | 3.0 | 40.5 | 1.0 | -55.1 | -13.0 | -42.1 | |
| | | | 5.5575 | -12.0 | H | 3.0 | 40.8 | 1.0 | -51.8 | -13.0 | -38.8 | |
| | | | 7.4100 | -7.7 | H | 3.0 | 40.8 | 1.0 | -47.5 | -13.0 | -34.5 | |
| | | | Mid Channel (1880MHz) | | | | | | | | | |
| | | | 3.7600 | -12.0 | V | 3.0 | 40.5 | 1.0 | -51.5 | -13.0 | -38.5 | |
| | | | 5.6400 | -3.8 | V | 3.0 | 40.8 | 1.0 | -43.6 | -13.0 | -30.6 | |
| | | | 7.5200 | 1.9 | V | 3.0 | 40.7 | 1.0 | -37.9 | -13.0 | -24.9 | |
| | | | 3.7600 | -11.4 | H | 3.0 | 40.5 | 1.0 | -50.9 | -13.0 | -37.9 | |
| | | | 5.6400 | -10.1 | H | 3.0 | 40.8 | 1.0 | -49.9 | -13.0 | -36.9 | |
| | | | 7.5200 | -5.6 | H | 3.0 | 40.7 | 1.0 | -45.3 | -13.0 | -32.3 | |
| | | | High Channel (1907.5MHz) | | | | | | | | | |
| | | 3.8150 | -14.1 | V | 3.0 | 40.6 | 1.0 | -53.6 | -13.0 | -40.6 | | |
| | | 5.7225 | -4.0 | V | 3.0 | 40.8 | 1.0 | -43.8 | -13.0 | -30.8 | | |
| | | 7.6300 | -0.6 | V | 3.0 | 40.7 | 1.0 | -40.2 | -13.0 | -27.2 | | |
| | | 3.8150 | -15.9 | H | 3.0 | 40.6 | 1.0 | -55.5 | -13.0 | -42.5 | | |
| | | 5.7225 | -9.5 | H | 3.0 | 40.8 | 1.0 | -49.3 | -13.0 | -36.3 | | |
| | | 7.6300 | -10.9 | H | 3.0 | 40.7 | 1.0 | -50.6 | -13.0 | -37.6 | | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | |
|---|------------------|---|--------------|---|-------------|---|-------------|---|-------|--|--|
| | | Company: Wisol | | | | | | | | | |
| | | Project #: 16K23790 | | | | | | | | | |
| | | Date: 09-02-16 | | | | | | | | | |
| | | Test Engineer: JH Park | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | |
| | | Mode: TX, LTE BAND 2, 3MHz BW,QPSK | | | | | | | | | |
| | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 24 | | | |
| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | | |
| Low Channel (1851.5MHz) | | | | | | | | | | | |
| 3.7030 | -12.0 | V | 3.0 | 40.5 | 1.0 | -51.5 | -13.0 | -38.5 | | | |
| 5.5545 | -4.1 | V | 3.0 | 40.8 | 1.0 | -44.0 | -13.0 | -31.0 | | | |
| 7.4060 | 0.8 | V | 3.0 | 40.8 | 1.0 | -38.9 | -13.0 | -25.9 | | | |
| 3.7030 | -14.9 | H | 3.0 | 40.5 | 1.0 | -54.4 | -13.0 | -41.4 | | | |
| 5.5545 | -8.3 | H | 3.0 | 40.8 | 1.0 | -48.2 | -13.0 | -35.2 | | | |
| 7.4060 | -7.8 | H | 3.0 | 40.8 | 1.0 | -47.6 | -13.0 | -34.6 | | | |
| Mid Channel (1880MHz) | | | | | | | | | | | |
| 3.7600 | -9.2 | V | 3.0 | 40.5 | 1.0 | -48.8 | -13.0 | -35.8 | | | |
| 5.6400 | -1.8 | V | 3.0 | 40.8 | 1.0 | -41.6 | -13.0 | -28.6 | | | |
| 7.5200 | 4.6 | V | 3.0 | 40.7 | 1.0 | -35.1 | -13.0 | -22.1 | | | |
| 3.7600 | -13.5 | H | 3.0 | 40.5 | 1.0 | -53.0 | -13.0 | -40.0 | | | |
| 5.6400 | -7.6 | H | 3.0 | 40.8 | 1.0 | -47.4 | -13.0 | -34.4 | | | |
| 7.5200 | -4.1 | H | 3.0 | 40.7 | 1.0 | -43.8 | -13.0 | -30.8 | | | |
| High Channel (1908.5MHz) | | | | | | | | | | | |
| 3.8170 | -16.5 | V | 3.0 | 40.6 | 1.0 | -56.1 | -13.0 | -43.1 | | | |
| 5.7255 | -0.7 | V | 3.0 | 40.8 | 1.0 | -40.4 | -13.0 | -27.4 | | | |
| 7.6340 | 2.3 | V | 3.0 | 40.7 | 1.0 | -37.3 | -13.0 | -24.3 | | | |
| 3.8170 | -15.4 | H | 3.0 | 40.6 | 1.0 | -55.0 | -13.0 | -42.0 | | | |
| 5.7255 | -8.0 | H | 3.0 | 40.8 | 1.0 | -47.8 | -13.0 | -34.8 | | | |
| 7.6340 | -5.3 | H | 3.0 | 40.7 | 1.0 | -44.9 | -13.0 | -31.9 | | | |
| Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | |
|---|------------------|---|--------------|---|-------------|---|-------------|---|-------|--|--|
| | | Company: Wisol | | | | | | | | | |
| | | Project #: 16K23790 | | | | | | | | | |
| | | Date: 09-02-16 | | | | | | | | | |
| | | Test Engineer: JH Park | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | |
| | | Mode: TX, LTE BAND 2, 3MHz BW,16QAM | | | | | | | | | |
| | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1 | | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 24 | | | |
| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes | | |
| Low Channel (1851.5MHz) | | | | | | | | | | | |
| 3.703 | -12.7 | V | 3.0 | 40.5 | 1.0 | -52.2 | -13.0 | -39.2 | | | |
| 5.555 | -3.6 | V | 3.0 | 40.8 | 1.0 | -43.5 | -13.0 | -30.5 | | | |
| 7.406 | 1.6 | V | 3.0 | 40.8 | 1.0 | -38.1 | -13.0 | -25.1 | | | |
| 3.703 | -15.4 | H | 3.0 | 40.5 | 1.0 | -54.9 | -13.0 | -41.9 | | | |
| 5.555 | -8.6 | H | 3.0 | 40.8 | 1.0 | -48.5 | -13.0 | -35.5 | | | |
| 7.406 | -7.0 | H | 3.0 | 40.8 | 1.0 | -46.8 | -13.0 | -33.8 | | | |
| Mid Channel (1880MHz) | | | | | | | | | | | |
| 3.760 | -9.0 | V | 3.0 | 40.5 | 1.0 | -48.6 | -13.0 | -35.6 | | | |
| 5.640 | -2.0 | V | 3.0 | 40.8 | 1.0 | -41.8 | -13.0 | -28.8 | | | |
| 7.520 | 4.8 | V | 3.0 | 40.7 | 1.0 | -34.9 | -13.0 | -21.9 | | | |
| 3.760 | -14.1 | H | 3.0 | 40.5 | 1.0 | -53.7 | -13.0 | -40.7 | | | |
| 5.640 | -7.8 | H | 3.0 | 40.8 | 1.0 | -47.6 | -13.0 | -34.6 | | | |
| 7.520 | -4.4 | H | 3.0 | 40.7 | 1.0 | -44.1 | -13.0 | -31.1 | | | |
| High Channel (1908.5MHz) | | | | | | | | | | | |
| 3.817 | -17.3 | V | 3.0 | 40.6 | 1.0 | -56.9 | -13.0 | -43.9 | | | |
| 5.726 | -0.3 | V | 3.0 | 40.8 | 1.0 | -40.0 | -13.0 | -27.0 | | | |
| 7.634 | 4.5 | V | 3.0 | 40.7 | 1.0 | -35.1 | -13.0 | -22.1 | | | |
| 3.817 | -14.4 | H | 3.0 | 40.6 | 1.0 | -54.0 | -13.0 | -41.0 | | | |
| 5.726 | -7.5 | H | 3.0 | 40.8 | 1.0 | -47.3 | -13.0 | -34.3 | | | |
| 7.634 | -4.4 | H | 3.0 | 40.7 | 1.0 | -44.1 | -13.0 | -31.1 | | | |
| Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | | | |

| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | |
|--------|--|---|------------------|------------------------|--------------|--------------------|-------------|----------------------|-------------|------------|-------|
| | | Company: Wisol | | | | | | | | | |
| | | Project #: 16K23790 | | | | | | | | | |
| | | Date: 09-01-16 | | | | | | | | | |
| | | Test Engineer: Chan Park | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | |
| | | Mode: TX LTE BAND 2, 1.4MHz BW,QPSK | | | | | | | | | |
| | | Chamber Chamber 2 | | Pre-amplifier AFS42 | | Filter Filter 1 | | Limit FCC Part 24 | | | |
| LTE | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| Band 2 | | Low Channel (1850.7MHz) | | | | | | | | | |
| | | 3.7014 | -10.8 | V | 3.0 | 40.5 | 1.0 | -50.2 | -13.0 | -37.2 | |
| | | 5.5521 | -2.9 | V | 3.0 | 40.8 | 1.0 | -42.7 | -13.0 | -29.7 | |
| | | 7.4028 | 2.1 | V | 3.0 | 40.8 | 1.0 | -37.7 | -13.0 | -24.7 | |
| | | 3.7014 | -10.4 | H | 3.0 | 40.5 | 1.0 | -49.9 | -13.0 | -36.9 | |
| | | 5.5521 | -6.6 | H | 3.0 | 40.8 | 1.0 | -46.4 | -13.0 | -33.4 | |
| | | 7.4028 | -5.8 | H | 3.0 | 40.8 | 1.0 | -45.6 | -13.0 | -32.6 | |
| 1.4MHz | | Mid Channel (1880MHz) | | | | | | | | | |
| | | 3.7600 | -8.7 | V | 3.0 | 40.5 | 1.0 | -48.3 | -13.0 | -35.3 | |
| | | 5.6400 | -1.8 | V | 3.0 | 40.8 | 1.0 | -41.6 | -13.0 | -28.6 | |
| | | 7.5200 | 4.9 | V | 3.0 | 40.7 | 1.0 | -34.8 | -13.0 | -21.8 | |
| | | 3.7600 | -9.3 | H | 3.0 | 40.5 | 1.0 | -48.8 | -13.0 | -35.8 | |
| | | 5.6400 | -6.6 | H | 3.0 | 40.8 | 1.0 | -46.4 | -13.0 | -33.4 | |
| | | 7.5200 | -4.1 | H | 3.0 | 40.7 | 1.0 | -43.8 | -13.0 | -30.8 | |
| QPSK | | High Channel (1909.3MHz) | | | | | | | | | |
| | | 3.8186 | -11.2 | V | 3.0 | 40.6 | 1.0 | -50.8 | -13.0 | -37.8 | |
| | | 5.7279 | -0.4 | V | 3.0 | 40.8 | 1.0 | -40.2 | -13.0 | -27.2 | |
| | | 7.6372 | 9.1 | V | 3.0 | 40.7 | 1.0 | -30.6 | -13.0 | -17.6 | |
| | | 3.8186 | -8.2 | H | 3.0 | 40.6 | 1.0 | -47.8 | -13.0 | -34.8 | |
| | | 5.7279 | -5.1 | H | 3.0 | 40.8 | 1.0 | -44.9 | -13.0 | -31.9 | |
| | | 7.6372 | 1.4 | H | 3.0 | 40.7 | 1.0 | -38.3 | -13.0 | -25.3 | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | |
| | | UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement | | | | | | | | | |
| | | Company: Wisol | | | | | | | | | |
| | | Project #: 16K23790 | | | | | | | | | |
| | | Date: 09-01-16 | | | | | | | | | |
| | | Test Engineer: Chan Park | | | | | | | | | |
| | | Configuration: EUT / X-Position | | | | | | | | | |
| | | Mode: TX LTE BAND 2, 1.4MHz BW,16QAM | | | | | | | | | |
| | | Chamber Chamber 2 | | Pre-amplifier AFS42 | | Filter Filter 1 | | Limit FCC Part 24 | | | |
| LTE | | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | ERP (dBm) | Limit (dBm) | Delta (dB) | Notes |
| Band 2 | | Low Channel (1850.7MHz) | | | | | | | | | |
| | | 3.7014 | -10.1 | V | 3.0 | 40.5 | 1.0 | -49.6 | -13.0 | -36.6 | |
| | | 5.5521 | -2.7 | V | 3.0 | 40.8 | 1.0 | -42.6 | -13.0 | -29.6 | |
| | | 7.4028 | 2.5 | V | 3.0 | 40.8 | 1.0 | -37.3 | -13.0 | -24.3 | |
| | | 3.7014 | -9.7 | H | 3.0 | 40.5 | 1.0 | -49.2 | -13.0 | -36.2 | |
| | | 5.5521 | -6.5 | H | 3.0 | 40.8 | 1.0 | -46.4 | -13.0 | -33.4 | |
| | | 7.4028 | -5.1 | H | 3.0 | 40.8 | 1.0 | -44.9 | -13.0 | -31.9 | |
| 1.4MHz | | Mid Channel (1880MHz) | | | | | | | | | |
| | | 3.7600 | -8.5 | V | 3.0 | 40.5 | 1.0 | -48.0 | -13.0 | -35.0 | |
| | | 5.6400 | -1.4 | V | 3.0 | 40.8 | 1.0 | -41.2 | -13.0 | -28.2 | |
| | | 7.5200 | 5.5 | V | 3.0 | 40.7 | 1.0 | -34.3 | -13.0 | -21.3 | |
| | | 3.7600 | -8.9 | H | 3.0 | 40.5 | 1.0 | -48.5 | -13.0 | -35.5 | |
| | | 5.6400 | -6.4 | H | 3.0 | 40.8 | 1.0 | -46.2 | -13.0 | -33.2 | |
| | | 7.5200 | -3.4 | H | 3.0 | 40.7 | 1.0 | -43.1 | -13.0 | -30.1 | |
| 16QAM | | High Channel (1909.3MHz) | | | | | | | | | |
| | | 3.8186 | -11.9 | V | 3.0 | 40.6 | 1.0 | -51.5 | -13.0 | -38.5 | |
| | | 5.7279 | -0.5 | V | 3.0 | 40.8 | 1.0 | -40.3 | -13.0 | -27.3 | |
| | | 7.6372 | 7.2 | V | 3.0 | 40.7 | 1.0 | -32.4 | -13.0 | -19.4 | |
| | | 3.8186 | -8.5 | H | 3.0 | 40.6 | 1.0 | -48.1 | -13.0 | -35.1 | |
| | | 5.7279 | -5.2 | H | 3.0 | 40.8 | 1.0 | -45.0 | -13.0 | -32.0 | |
| | | 7.6372 | -0.2 | H | 3.0 | 40.7 | 1.0 | -39.9 | -13.0 | -26.9 | |
| | | Rev. 03.03.09 Note: No other emissions were detected above the system noise floor. | | | | | | | | | |