

## **Appendix for LTE B12 test report**

## Appendix A: Effective (Isotropic) Radiated Power Output Data

### Test Results:

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Conducted Power[dBm] | ERP[dBm] | Limit[dBm] | Verdict |
|--------|-----------|------------|---------|------------------|----------------------|----------|------------|---------|
| Band12 | 1.4MHz    | QPSK       | 23017   | 1RB#2            | 22.96                | 20.56    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 1RB#5            | 22.99                | 20.59    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 1RB#0            | 23.04                | 20.64    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 3RB#0            | 23.05                | 20.65    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 3RB#1            | 23.05                | 20.65    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 3RB#3            | 23.00                | 20.6     | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 6RB#0            | 21.97                | 19.57    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 1RB#5            | 22.95                | 20.55    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 1RB#2            | 22.97                | 20.57    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 1RB#0            | 23.05                | 20.65    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 3RB#3            | 22.79                | 20.39    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 3RB#0            | 22.86                | 20.46    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 3RB#1            | 22.82                | 20.42    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 6RB#0            | 22.06                | 19.66    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 1RB#5            | 22.92                | 20.52    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 1RB#2            | 22.90                | 20.5     | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 1RB#0            | 22.95                | 20.55    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 3RB#1            | 22.86                | 20.46    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 3RB#3            | 22.91                | 20.51    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 3RB#0            | 22.86                | 20.46    | 33         | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 6RB#0            | 22.10                | 19.7     | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 1RB#0            | 21.96                | 19.56    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 1RB#5            | 22.11                | 19.71    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 1RB#2            | 22.09                | 19.69    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 3RB#3            | 21.64                | 19.24    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 3RB#1            | 21.66                | 19.26    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 3RB#0            | 21.66                | 19.26    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 6RB#0            | 20.74                | 18.34    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 1RB#5            | 21.82                | 19.42    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 1RB#2            | 22.04                | 19.64    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 1RB#0            | 21.95                | 19.55    | 33         | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 3RB#1            | 21.76                | 19.36    | 33         | PASS    |

|        |        |       |       |        |       |       |    |      |
|--------|--------|-------|-------|--------|-------|-------|----|------|
| Band12 | 1.4MHz | 16QAM | 23095 | 3RB#0  | 21.76 | 19.36 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23095 | 3RB#3  | 21.82 | 19.42 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23095 | 6RB#0  | 21.06 | 18.66 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 1RB#5  | 22.05 | 19.65 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 1RB#0  | 21.99 | 19.59 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 1RB#2  | 22.17 | 19.77 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 3RB#0  | 21.98 | 19.58 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 3RB#1  | 21.95 | 19.55 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 3RB#3  | 22.05 | 19.65 | 33 | PASS |
| Band12 | 1.4MHz | 16QAM | 23173 | 6RB#0  | 21.23 | 18.83 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 1RB#0  | 23.03 | 20.63 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 1RB#8  | 23.07 | 20.67 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 1RB#14 | 22.93 | 20.53 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 8RB#4  | 22.08 | 19.68 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 8RB#0  | 22.07 | 19.67 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 8RB#7  | 22.07 | 19.67 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23025 | 15RB#0 | 21.98 | 19.58 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 1RB#14 | 22.76 | 20.36 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 1RB#8  | 22.67 | 20.27 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 1RB#0  | 22.90 | 20.5  | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 8RB#7  | 21.92 | 19.52 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 8RB#4  | 22.04 | 19.64 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 8RB#0  | 22.02 | 19.62 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23095 | 15RB#0 | 21.85 | 19.45 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 1RB#0  | 22.94 | 20.54 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 1RB#14 | 22.80 | 20.4  | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 1RB#8  | 22.88 | 20.48 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 8RB#7  | 22.08 | 19.68 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 8RB#4  | 22.07 | 19.67 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 8RB#0  | 22.06 | 19.66 | 33 | PASS |
| Band12 | 3MHz   | QPSK  | 23165 | 15RB#0 | 22.04 | 19.64 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 1RB#8  | 21.49 | 19.09 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 1RB#0  | 21.49 | 19.09 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 1RB#14 | 21.54 | 19.14 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 8RB#7  | 21.13 | 18.73 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 8RB#4  | 21.17 | 18.77 | 33 | PASS |
| Band12 | 3MHz   | 16QAM | 23025 | 8RB#0  | 21.15 | 18.75 | 33 | PASS |

|        |      |       |       |         |       |       |    |      |
|--------|------|-------|-------|---------|-------|-------|----|------|
| Band12 | 3MHz | 16QAM | 23025 | 15RB#0  | 20.82 | 18.42 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 1RB#14  | 22.27 | 19.87 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 1RB#8   | 22.38 | 19.98 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 1RB#0   | 22.46 | 20.06 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 8RB#7   | 20.93 | 18.53 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 8RB#4   | 21.17 | 18.77 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 8RB#0   | 21.16 | 18.76 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23095 | 15RB#0  | 20.97 | 18.57 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 1RB#0   | 21.86 | 19.46 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 1RB#14  | 21.81 | 19.41 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 1RB#8   | 21.84 | 19.44 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 8RB#0   | 21.24 | 18.84 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 8RB#4   | 21.29 | 18.89 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 8RB#7   | 21.23 | 18.83 | 33 | PASS |
| Band12 | 3MHz | 16QAM | 23165 | 15RB#0  | 21.00 | 18.6  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 1RB#12  | 22.91 | 20.51 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 1RB#24  | 22.86 | 20.46 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 1RB#0   | 23.16 | 20.76 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 12RB#13 | 22.04 | 19.64 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 12RB#6  | 22.05 | 19.65 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 12RB#0  | 22.04 | 19.64 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23035 | 25RB#0  | 22.00 | 19.6  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 1RB#0   | 23.06 | 20.66 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 1RB#12  | 22.90 | 20.5  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 1RB#24  | 22.95 | 20.55 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 12RB#0  | 21.90 | 19.5  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 12RB#13 | 21.84 | 19.44 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 12RB#6  | 21.91 | 19.51 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23095 | 25RB#0  | 21.89 | 19.49 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 1RB#24  | 22.94 | 20.54 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 1RB#0   | 23.08 | 20.68 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 1RB#12  | 23.00 | 20.6  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 12RB#0  | 21.85 | 19.45 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 12RB#6  | 22.04 | 19.64 | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 12RB#13 | 22.00 | 19.6  | 33 | PASS |
| Band12 | 5MHz | QPSK  | 23155 | 25RB#0  | 22.10 | 19.7  | 33 | PASS |
| Band12 | 5MHz | 16QAM | 23035 | 1RB#12  | 21.72 | 19.32 | 33 | PASS |

|        |       |       |       |         |       |       |    |      |
|--------|-------|-------|-------|---------|-------|-------|----|------|
| Band12 | 5MHz  | 16QAM | 23035 | 1RB#0   | 21.72 | 19.32 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23035 | 1RB#24  | 21.70 | 19.3  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23035 | 12RB#0  | 21.00 | 18.6  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23035 | 12RB#13 | 20.99 | 18.59 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23035 | 12RB#6  | 21.00 | 18.6  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23035 | 25RB#0  | 20.93 | 18.53 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 1RB#24  | 21.55 | 19.15 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 1RB#12  | 21.50 | 19.1  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 1RB#0   | 21.71 | 19.31 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 12RB#6  | 20.95 | 18.55 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 12RB#13 | 21.01 | 18.61 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 12RB#0  | 20.95 | 18.55 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23095 | 25RB#0  | 20.99 | 18.59 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 1RB#24  | 21.43 | 19.03 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 1RB#12  | 21.39 | 18.99 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 1RB#0   | 21.30 | 18.9  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 12RB#6  | 20.99 | 18.59 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 12RB#13 | 21.09 | 18.69 | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 12RB#0  | 21.00 | 18.6  | 33 | PASS |
| Band12 | 5MHz  | 16QAM | 23155 | 25RB#0  | 21.20 | 18.8  | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 1RB#0   | 23.28 | 20.88 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 1RB#24  | 23.04 | 20.64 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 1RB#49  | 23.02 | 20.62 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 25RB#0  | 22.20 | 19.8  | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 25RB#25 | 22.21 | 19.81 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 25RB#12 | 22.20 | 19.8  | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23060 | 50RB#0  | 22.18 | 19.78 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 1RB#24  | 22.90 | 20.5  | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 1RB#49  | 23.04 | 20.64 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 1RB#0   | 22.92 | 20.52 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 25RB#25 | 22.12 | 19.72 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 25RB#12 | 22.12 | 19.72 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 25RB#0  | 22.11 | 19.71 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23095 | 50RB#0  | 22.01 | 19.61 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 1RB#0   | 22.87 | 20.47 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 1RB#24  | 23.01 | 20.61 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 1RB#49  | 22.31 | 19.91 | 33 | PASS |

|        |       |       |       |         |       |       |    |      |
|--------|-------|-------|-------|---------|-------|-------|----|------|
| Band12 | 10MHz | QPSK  | 23130 | 25RB#25 | 22.98 | 20.58 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 25RB#12 | 22.04 | 19.64 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 25RB#0  | 22.07 | 19.67 | 33 | PASS |
| Band12 | 10MHz | QPSK  | 23130 | 50RB#0  | 22.13 | 19.73 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 1RB#24  | 21.88 | 19.48 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 1RB#0   | 21.90 | 19.5  | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 1RB#49  | 21.82 | 19.42 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 25RB#0  | 21.31 | 18.91 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 25RB#12 | 21.30 | 18.9  | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 25RB#25 | 21.21 | 18.81 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23060 | 50RB#0  | 21.16 | 18.76 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 1RB#49  | 22.05 | 19.65 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 1RB#24  | 22.09 | 19.69 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 1RB#0   | 22.17 | 19.77 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 25RB#25 | 21.31 | 18.91 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 25RB#12 | 21.25 | 18.85 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 25RB#0  | 21.25 | 18.85 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 50RB#0  | 21.13 | 18.73 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 1RB#49  | 21.75 | 19.35 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 1RB#24  | 21.65 | 19.25 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 1RB#0   | 21.70 | 19.3  | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 25RB#12 | 20.95 | 18.55 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 25RB#25 | 21.25 | 18.85 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 25RB#0  | 20.94 | 18.54 | 33 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 50RB#0  | 21.25 | 18.85 | 33 | PASS |

## Note1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$
$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level

c, Antenna gain of LTE Band 12 is -2.4dBi.

Note2: SET Span=1.5\*OBW

SET RBW=1%of the OBW,not to exceed 1MHz

SET VBW>= 3\*RBW

SET Sweep time=auto-couple.

Detector:RMS

## Appendix B: Peak-to-Average Ratio

### Test Results

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band12 | 1.4MHz    | QPSK       | 23017   | 1RB#0            | 4.58       | 13        | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23017   | 6RB#0            | 5.39       | 13        | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 1RB#0            | 4.87       | 13        | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 6RB#0            | 5.39       | 13        | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 1RB#0            | 4.49       | 13        | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 6RB#0            | 5.22       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 1RB#0            | 5.51       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 6RB#0            | 6.09       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 1RB#0            | 5.71       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 6RB#0            | 6.26       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23173   | 1RB#0            | 4.99       | 13        | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23173   | 6RB#0            | 5.91       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23025   | 1RB#0            | 4.58       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23025   | 15RB#0           | 5.19       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23095   | 1RB#0            | 4.81       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23095   | 15RB#0           | 5.10       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23165   | 1RB#0            | 4.67       | 13        | PASS    |
| Band12 | 3MHz      | QPSK       | 23165   | 15RB#0           | 5.07       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23025   | 1RB#0            | 5.65       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23025   | 15RB#0           | 6.06       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23095   | 1RB#0            | 5.54       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23095   | 15RB#0           | 6.09       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23165   | 1RB#0            | 5.62       | 13        | PASS    |
| Band12 | 3MHz      | 16QAM      | 23165   | 15RB#0           | 6.00       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23035   | 1RB#0            | 4.70       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23035   | 25RB#0           | 5.22       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23095   | 1RB#0            | 4.72       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23095   | 25RB#0           | 5.19       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23155   | 1RB#0            | 4.78       | 13        | PASS    |
| Band12 | 5MHz      | QPSK       | 23155   | 25RB#0           | 5.07       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23035   | 1RB#0            | 5.71       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23035   | 25RB#0           | 6.06       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23095   | 1RB#0            | 5.59       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23095   | 25RB#0           | 6.12       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23155   | 1RB#0            | 5.80       | 13        | PASS    |
| Band12 | 5MHz      | 16QAM      | 23155   | 25RB#0           | 5.91       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23060   | 1RB#0            | 4.64       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23060   | 50RB#0           | 5.19       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23095   | 1RB#0            | 4.90       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23095   | 50RB#0           | 5.22       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23130   | 1RB#0            | 4.87       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23130   | 50RB#0           | 5.19       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23060   | 1RB#0            | 5.80       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23060   | 50RB#0           | 6.14       | 13        | PASS    |



Total Quality. Assured.

|        |       |       |       |        |      |    |      |
|--------|-------|-------|-------|--------|------|----|------|
| Band12 | 10MHz | 16QAM | 23095 | 1RB#0  | 5.77 | 13 | PASS |
| Band12 | 10MHz | 16QAM | 23095 | 50RB#0 | 6.14 | 13 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 1RB#0  | 5.88 | 13 | PASS |
| Band12 | 10MHz | 16QAM | 23130 | 50RB#0 | 6.03 | 13 | PASS |

## Appendix C: Modulation Characteristics

### Test Plots

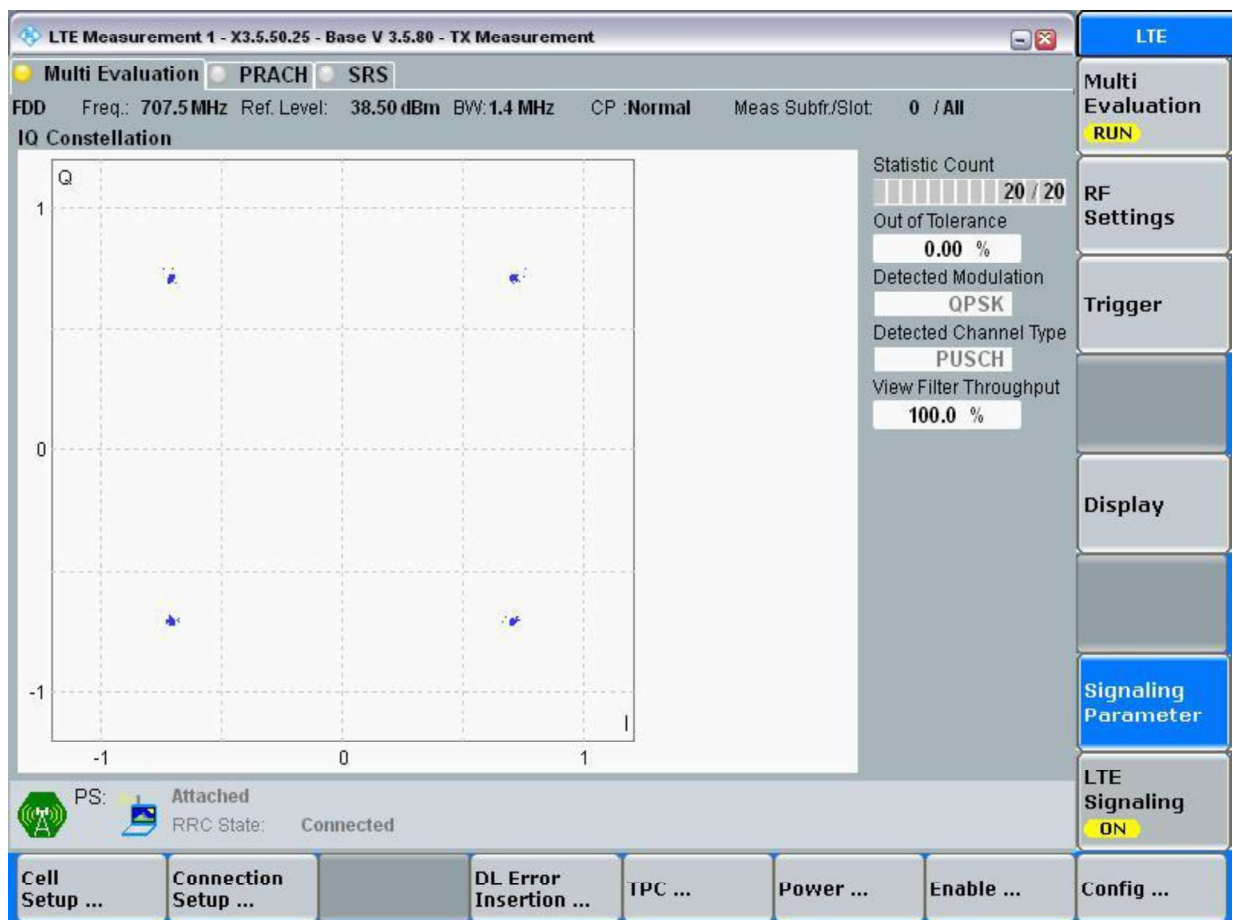
Test Band = BAND12

Test Mode = LTE/TM1

Test Bandwidth = 1.4MHz

Test Channel = MCH

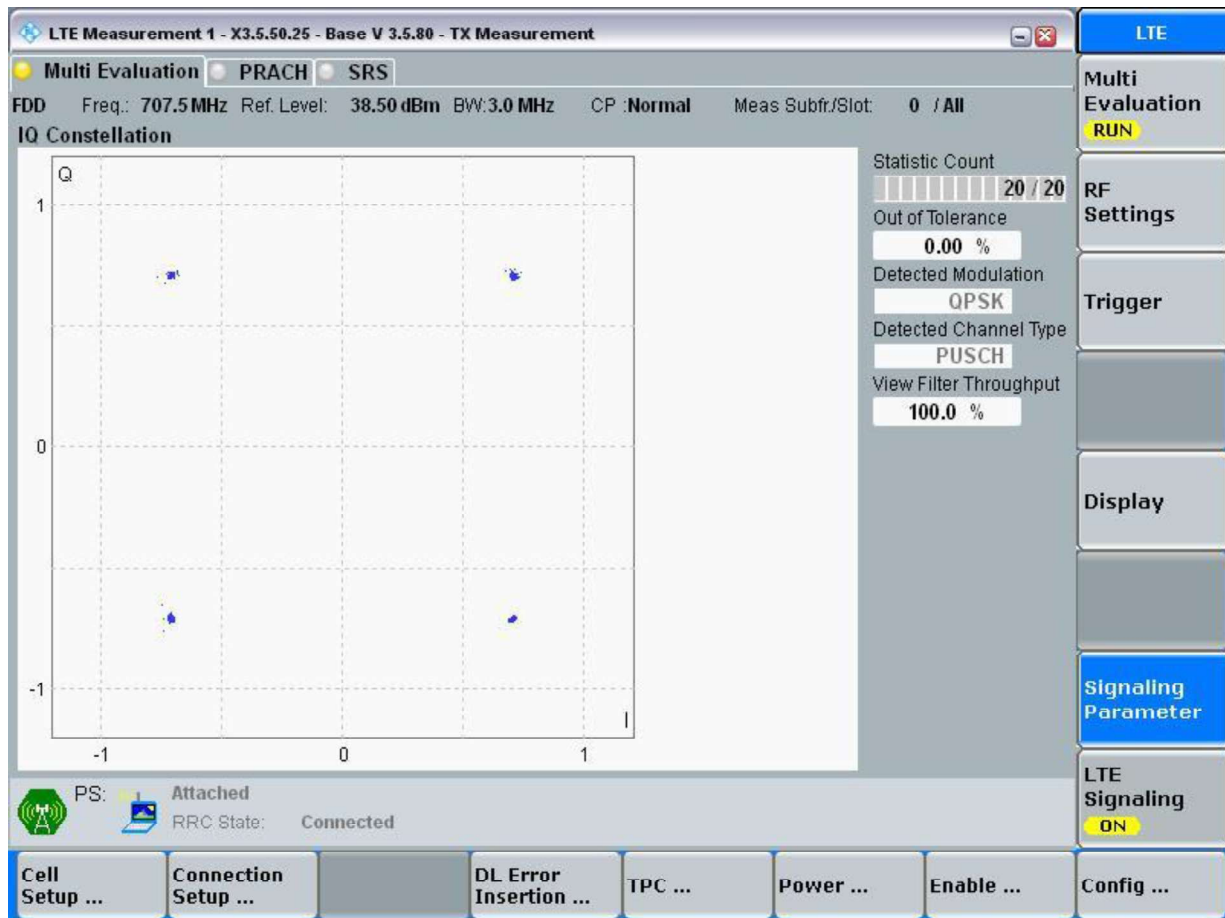
Test RB = RB6#0



Test Bandwidth = 3 MHz

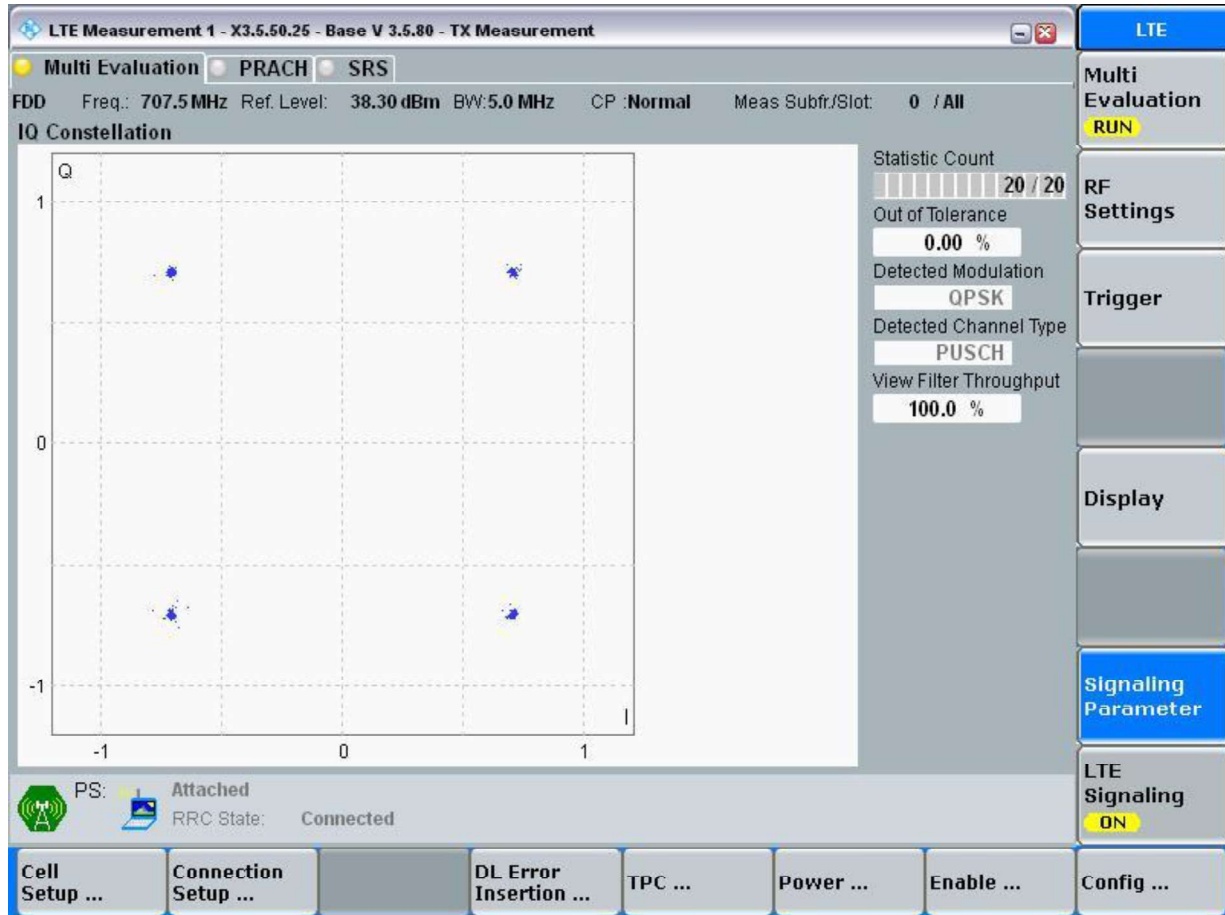
Test Channel = MCH

Test RB = RB15#0



Test Channel = MCH

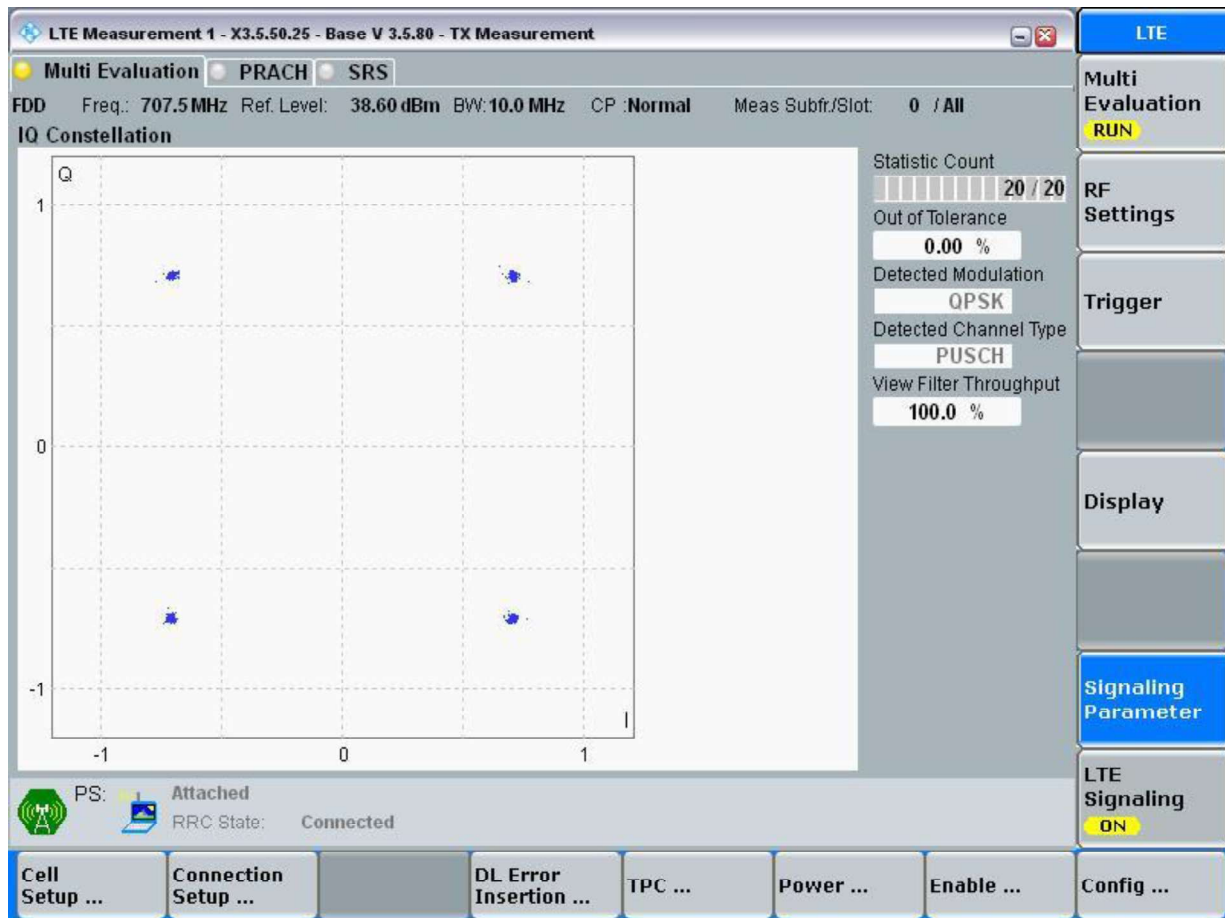
Test RB = RB25#0



Test Bandwidth = 10MHz

Test Channel = MCH

Test RB = RB50#0

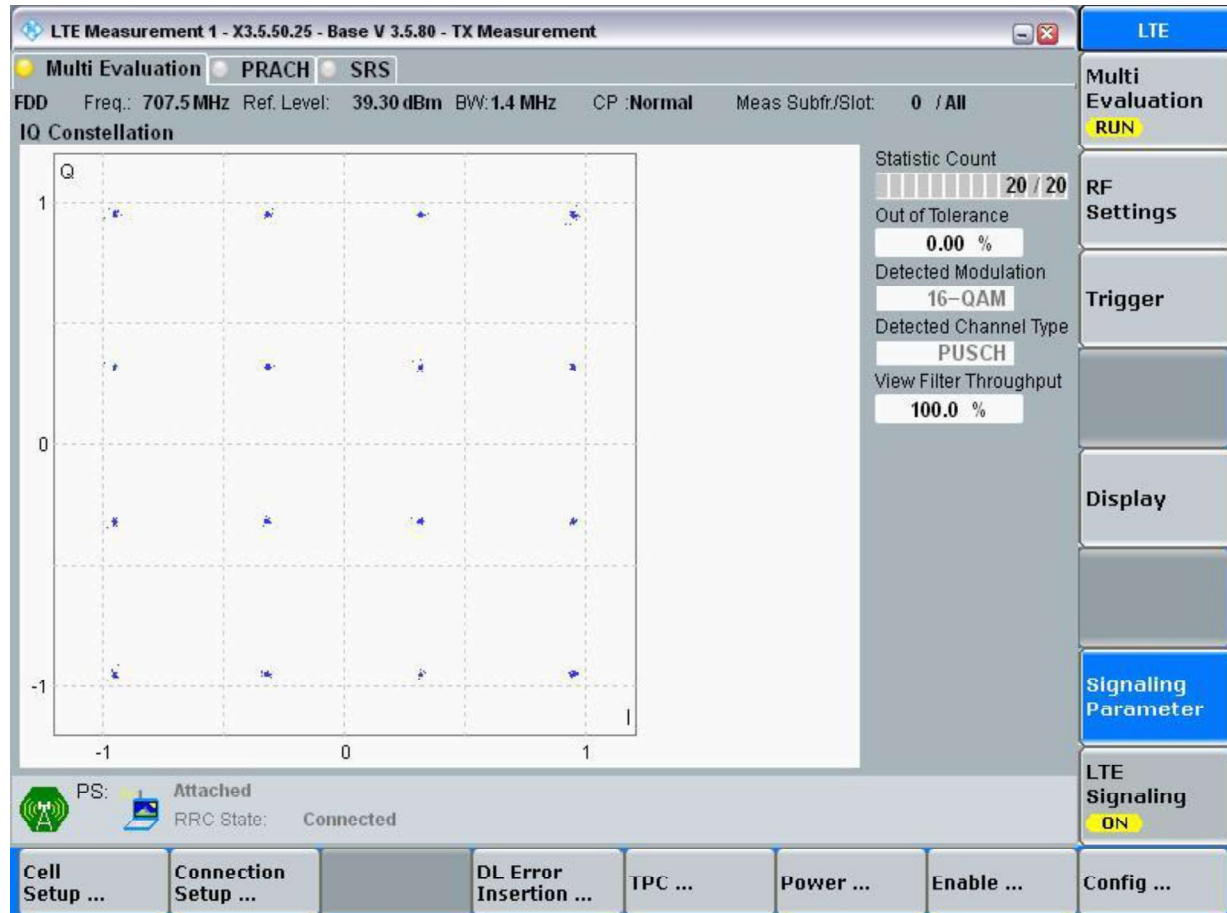


Test Mode = LTE/TM2

Bandwidth = 1.4MHz

Test Channel = MCH

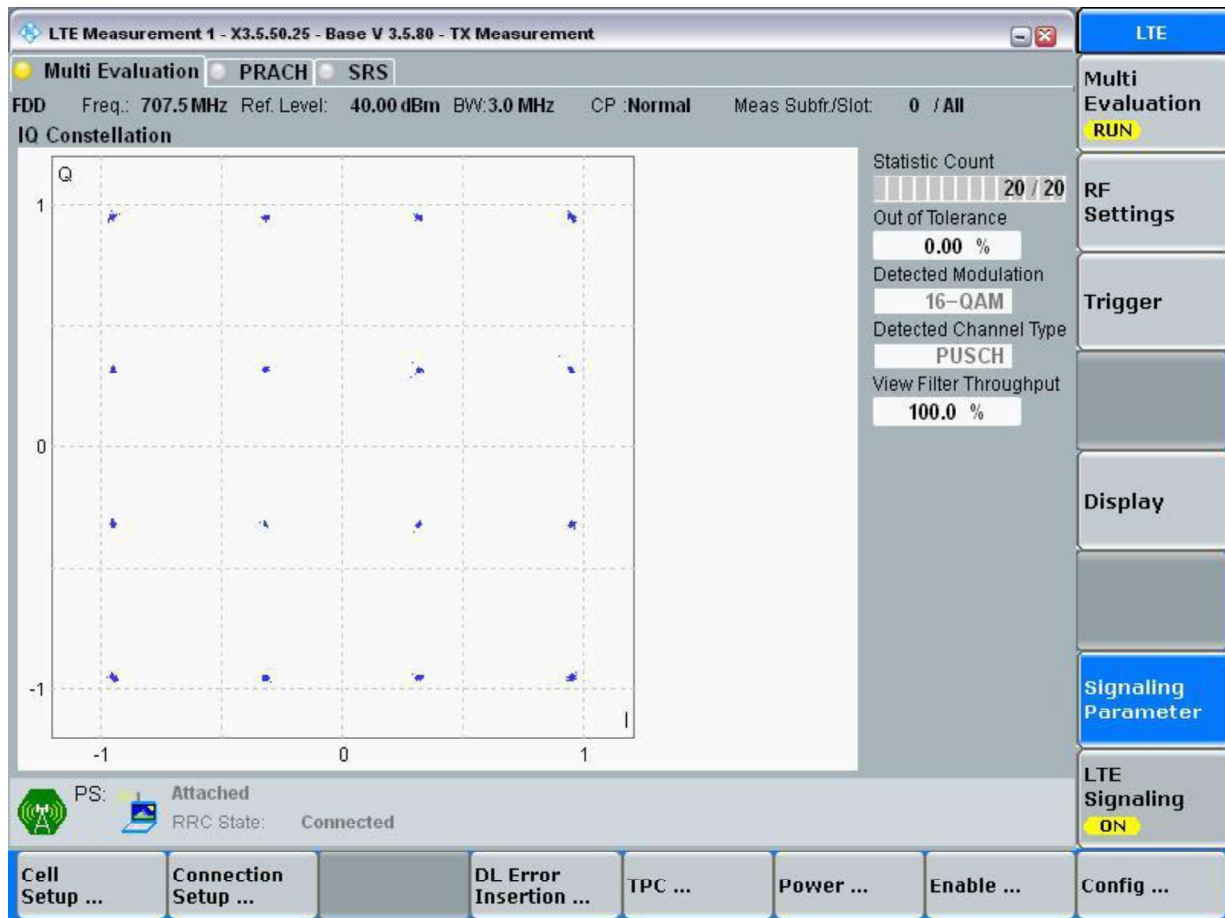
Test RB = RB6#0



Test Bandwidth = 3MHz

Test Channel = MCH

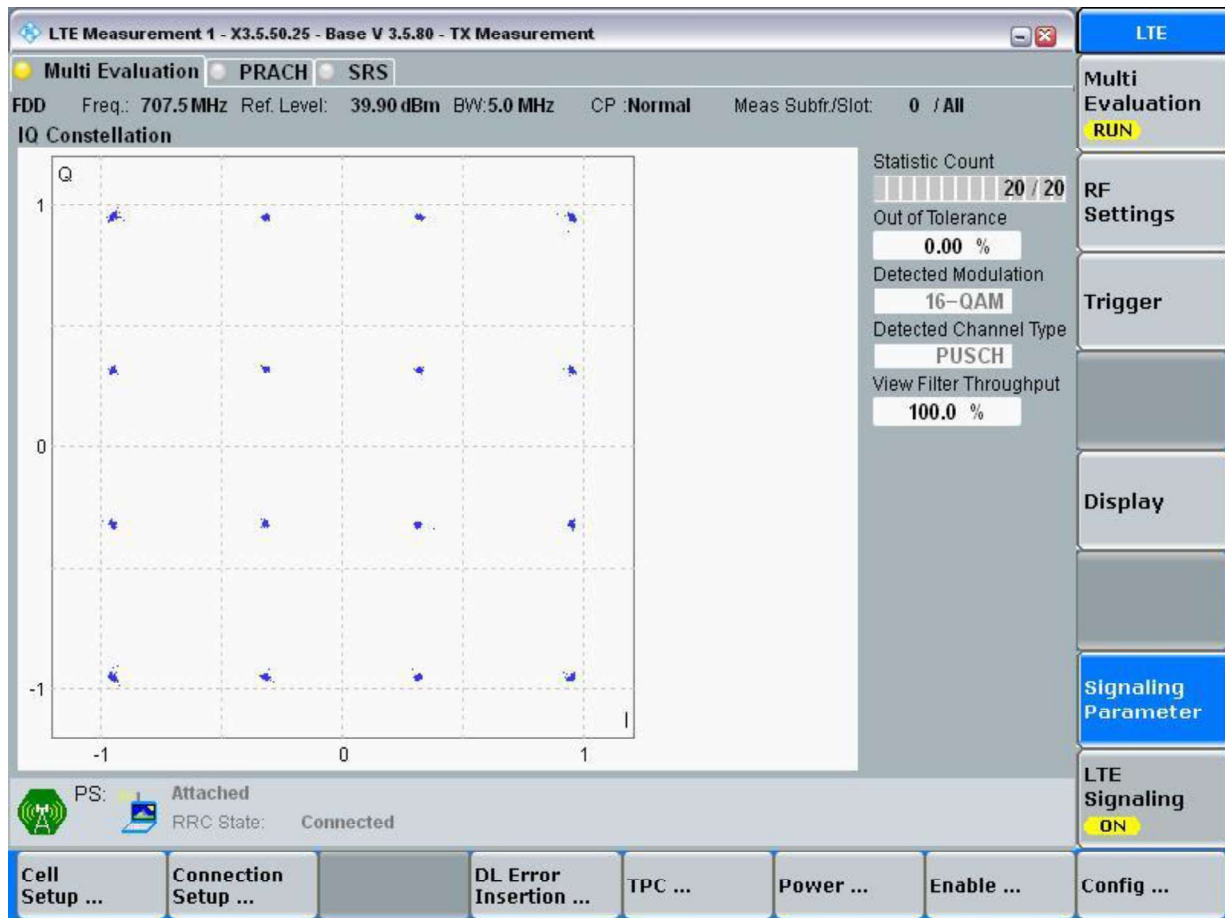
Test RB = RB15#0



Test Bandwidth = 5MHz

Test Channel = MCH

Test RB = RB25#0

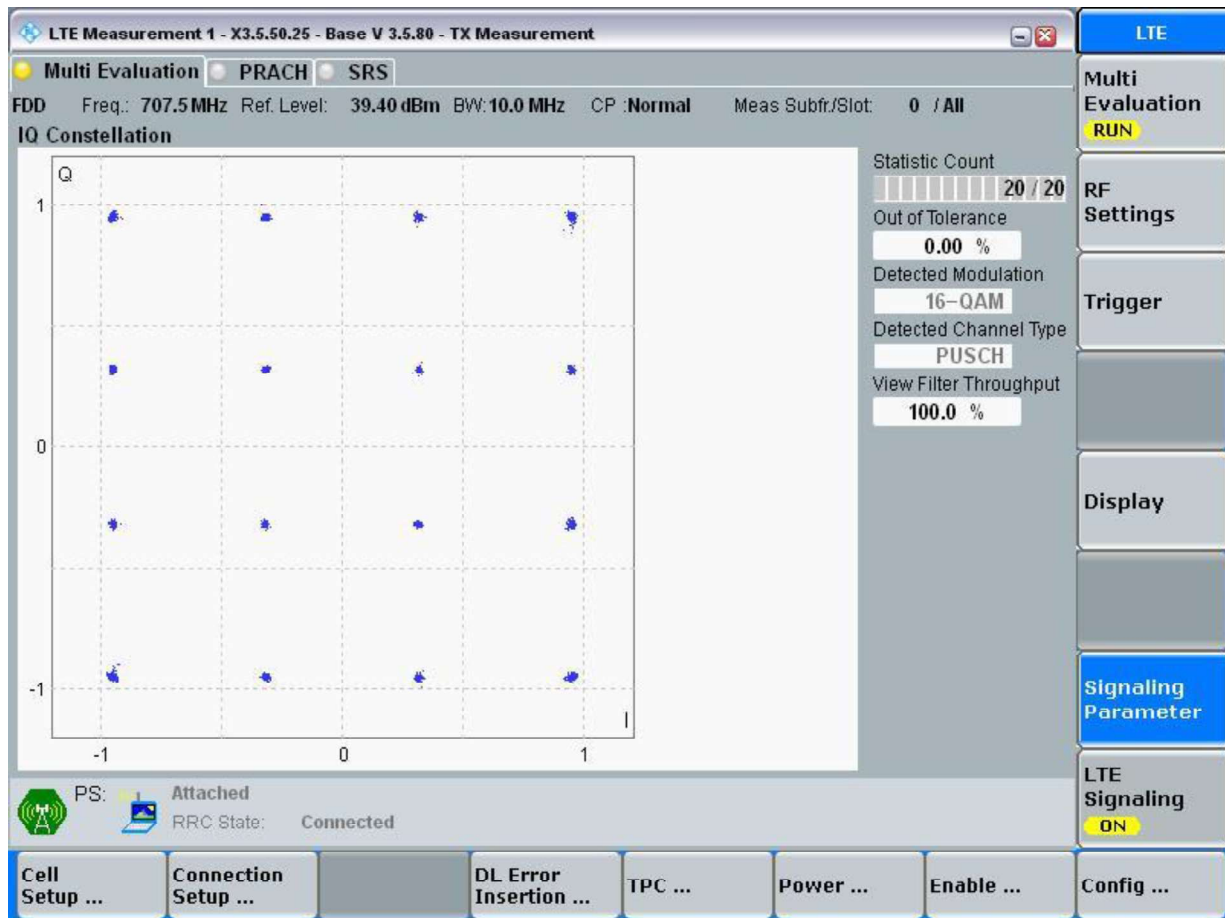




Test Bandwidth = 10MHz

Test Channel = MCH

Test RB = RB50#0



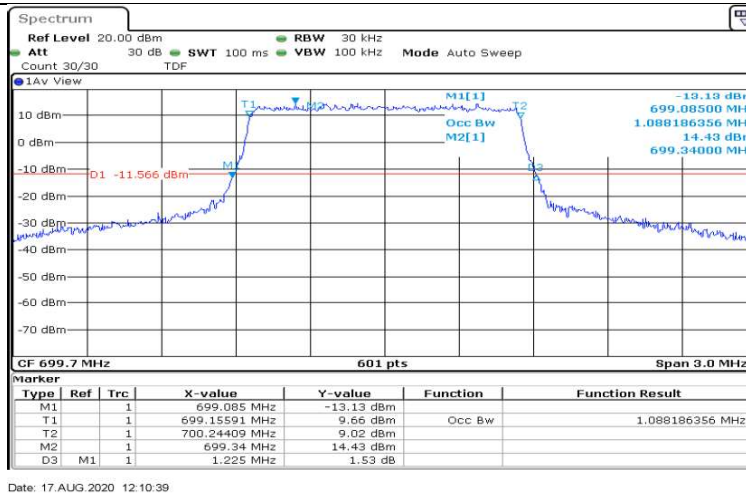
## Appendix D: Bandwidth

### Test Results

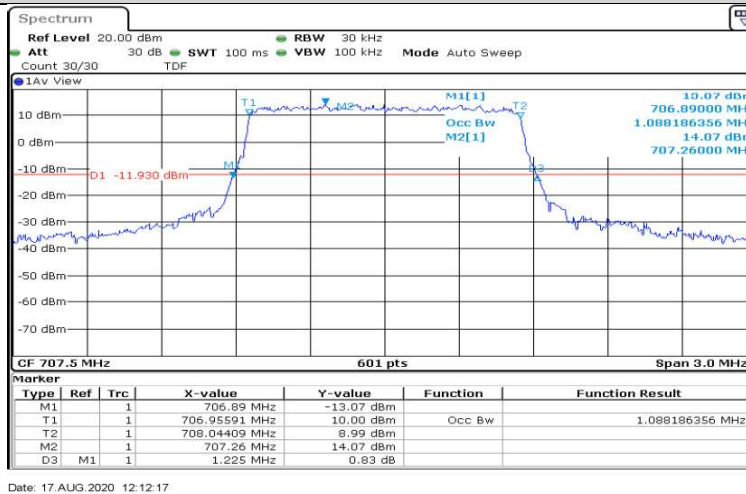
| Band   | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|--------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band12 | 1.4MHz    | QPSK       | 23017   | 6RB#0            | 1.088                    | 1.225                | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23095   | 6RB#0            | 1.088                    | 1.235                | PASS    |
| Band12 | 1.4MHz    | QPSK       | 23173   | 6RB#0            | 1.088                    | 1.235                | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23017   | 6RB#0            | 1.088                    | 1.225                | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23095   | 6RB#0            | 1.088                    | 1.225                | PASS    |
| Band12 | 1.4MHz    | 16QAM      | 23173   | 6RB#0            | 1.088                    | 1.230                | PASS    |
| Band12 | 3MHz      | QPSK       | 23025   | 15RB#0           | 2.696                    | 2.890                | PASS    |
| Band12 | 3MHz      | QPSK       | 23095   | 15RB#0           | 2.696                    | 2.880                | PASS    |
| Band12 | 3MHz      | QPSK       | 23165   | 15RB#0           | 2.696                    | 2.880                | PASS    |
| Band12 | 3MHz      | 16QAM      | 23025   | 15RB#0           | 2.696                    | 2.920                | PASS    |
| Band12 | 3MHz      | 16QAM      | 23095   | 15RB#0           | 2.696                    | 2.870                | PASS    |
| Band12 | 3MHz      | 16QAM      | 23165   | 15RB#0           | 2.696                    | 2.900                | PASS    |
| Band12 | 5MHz      | QPSK       | 23035   | 25RB#0           | 4.486                    | 4.780                | PASS    |
| Band12 | 5MHz      | QPSK       | 23095   | 25RB#0           | 4.496                    | 4.790                | PASS    |
| Band12 | 5MHz      | QPSK       | 23155   | 25RB#0           | 4.486                    | 4.790                | PASS    |
| Band12 | 5MHz      | 16QAM      | 23035   | 25RB#0           | 4.496                    | 4.800                | PASS    |
| Band12 | 5MHz      | 16QAM      | 23095   | 25RB#0           | 4.496                    | 4.780                | PASS    |
| Band12 | 5MHz      | 16QAM      | 23155   | 25RB#0           | 4.496                    | 4.780                | PASS    |
| Band12 | 10MHz     | QPSK       | 23060   | 50RB#0           | 8.985                    | 9.533                | PASS    |
| Band12 | 10MHz     | QPSK       | 23095   | 50RB#0           | 8.985                    | 9.533                | PASS    |
| Band12 | 10MHz     | QPSK       | 23130   | 50RB#0           | 8.985                    | 9.533                | PASS    |
| Band12 | 10MHz     | 16QAM      | 23060   | 50RB#0           | 8.985                    | 9.533                | PASS    |
| Band12 | 10MHz     | 16QAM      | 23095   | 50RB#0           | 8.952                    | 9.567                | PASS    |
| Band12 | 10MHz     | 16QAM      | 23130   | 50RB#0           | 8.985                    | 9.533                | PASS    |

## Test Plots

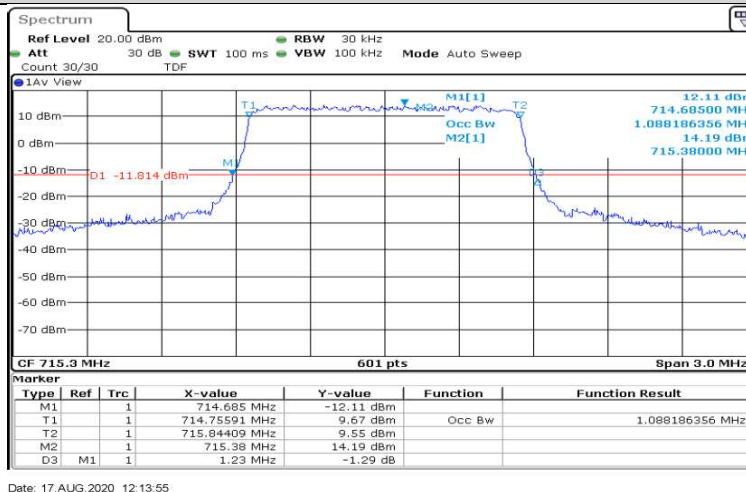




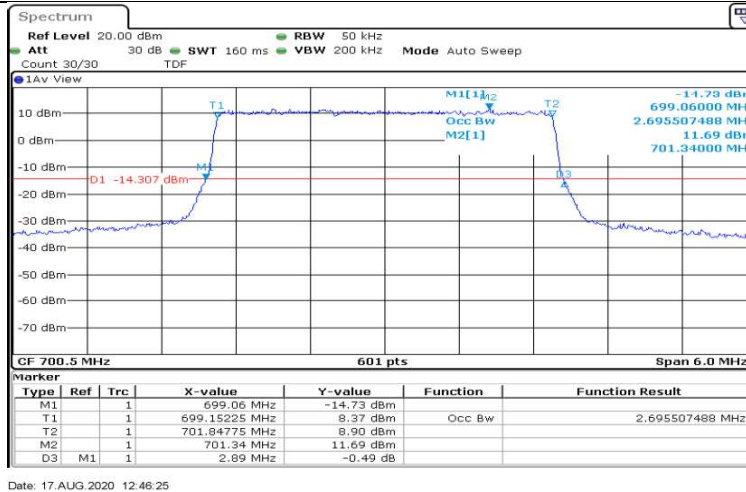
Band12-1.4MHz-16QAM-23095-6RB#0-1.088



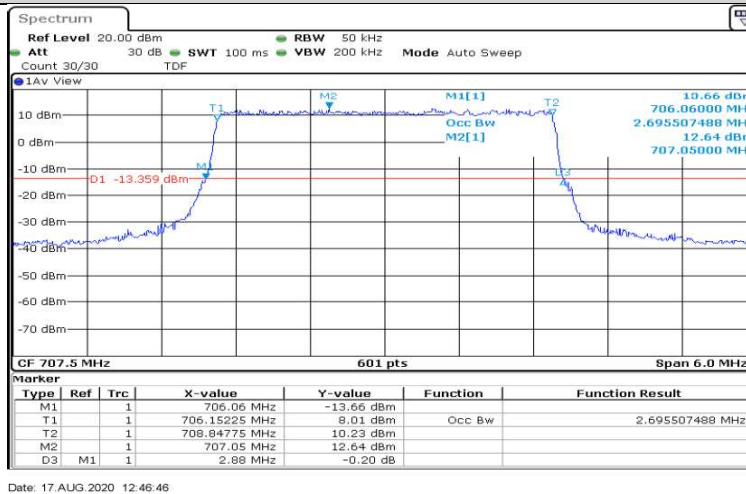
Band12-1.4MHz-16QAM-23173-6RB#0-1.088



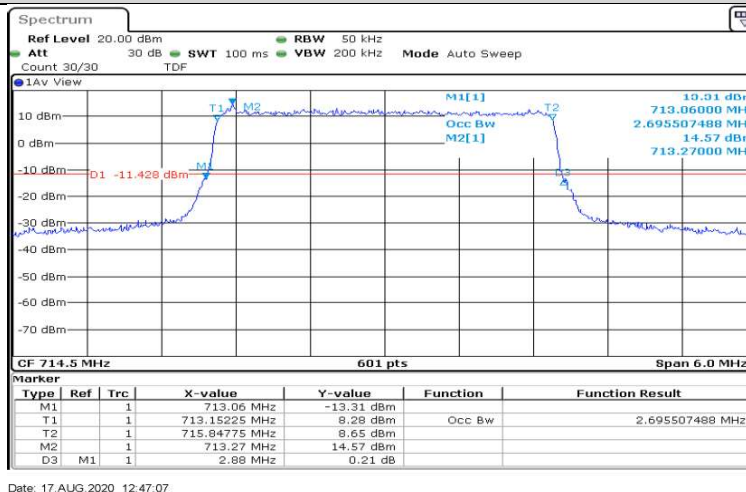
Band12-3MHz-QPSK-23025-15RB#0-2.696



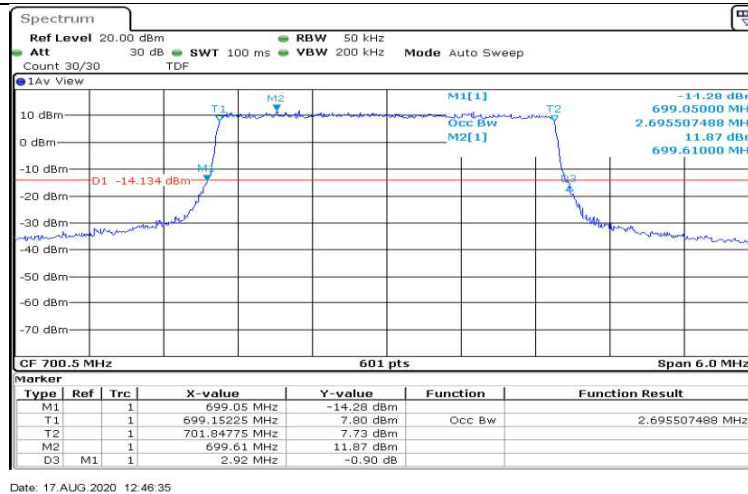
Band12-3MHz-QPSK-23095-15RB#0-2.696



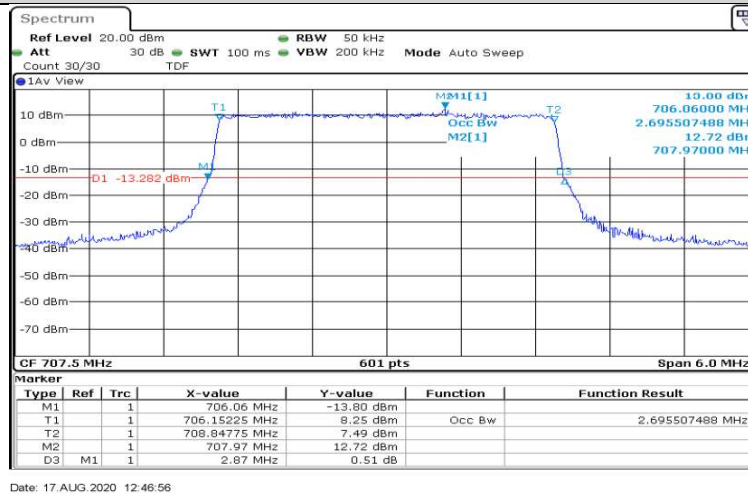
Band12-3MHz-QPSK-23165-15RB#0-2.696



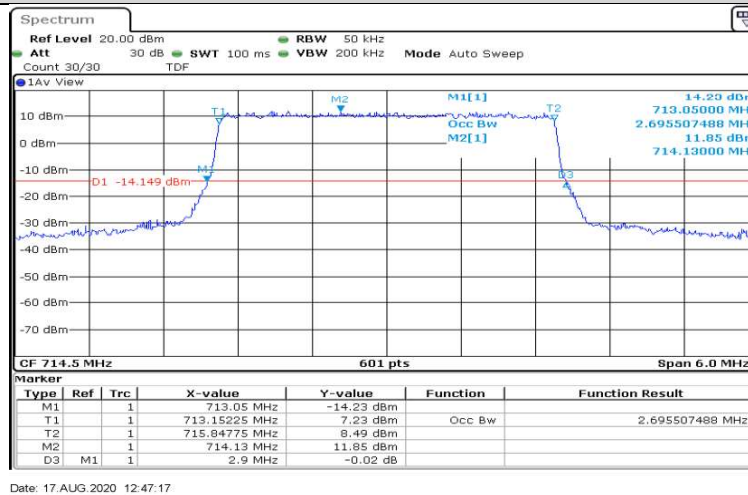
Band12-3MHz-16QAM-23025-15RB#0-2.696



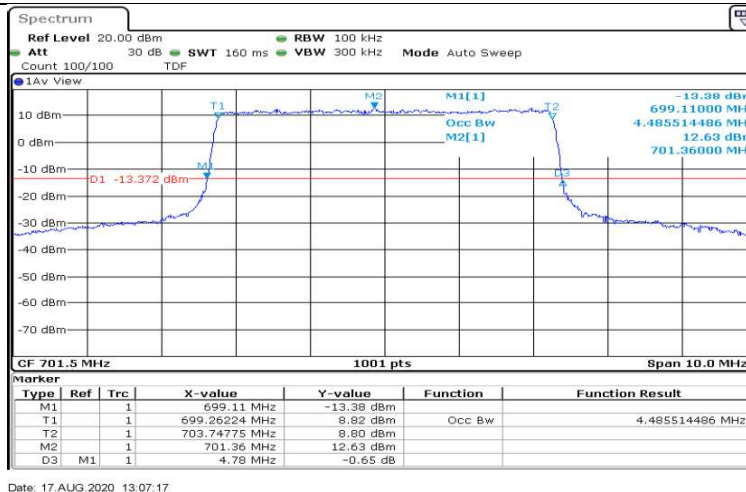
Band12-3MHz-16QAM-23095-15RB#0-2.696



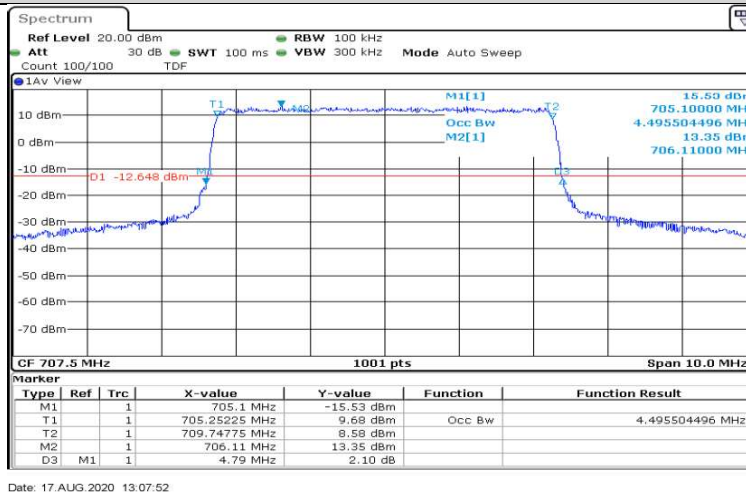
Band12-3MHz-16QAM-23165-15RB#0-2.696



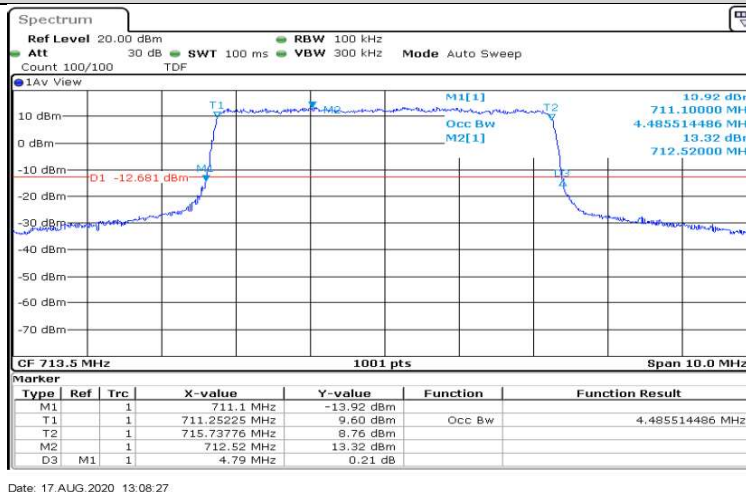
Band12-5MHz-QPSK-23035-25RB#0-4.486



Band12-5MHz-QPSK-23095-25RB#0-4.496

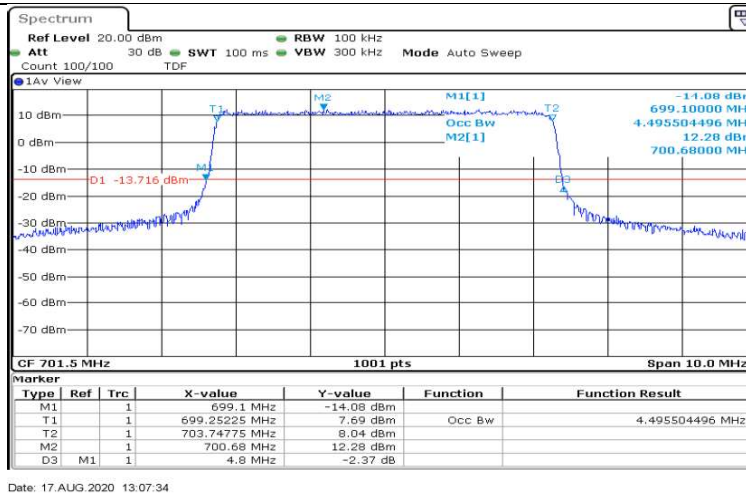


Band12-5MHz-QPSK-23155-25RB#0-4.486

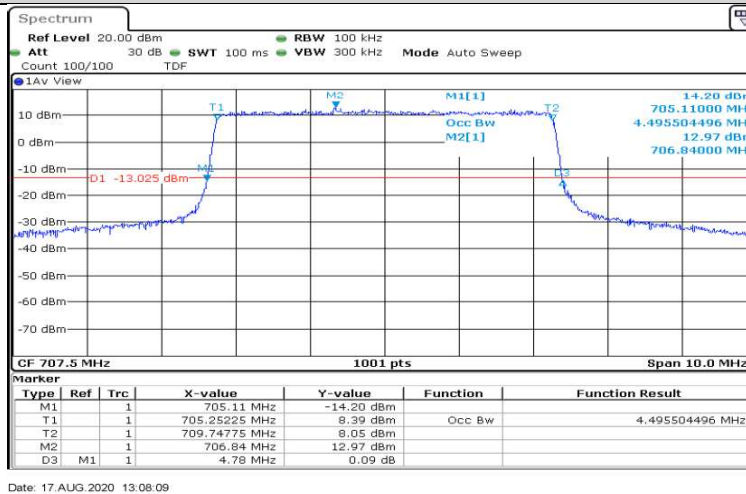


Band12-5MHz-16QAM-23035-25RB#0-4.496

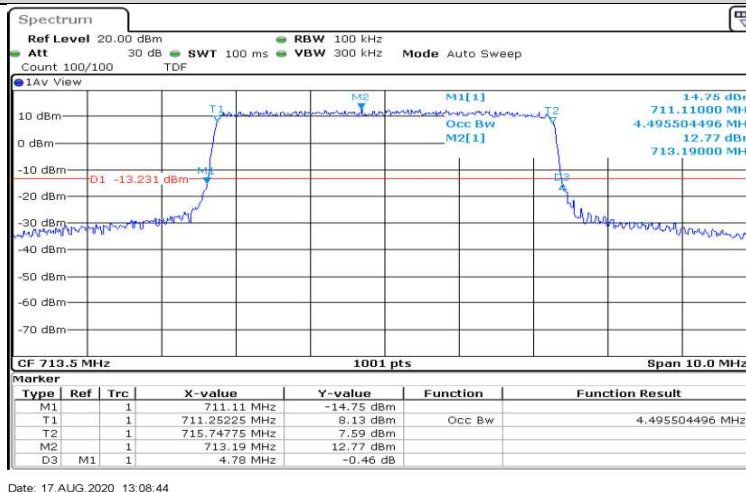




Band12-5MHz-16QAM-23095-25RB#0-4.496

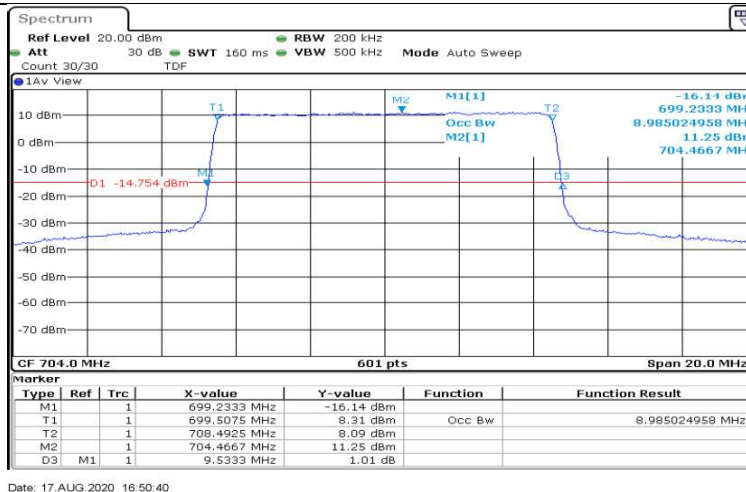


Band12-5MHz-16QAM-23155-25RB#0-4.496

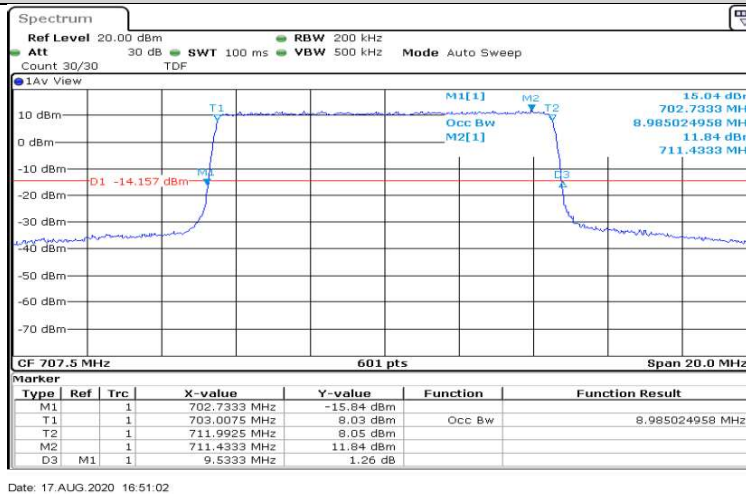


Band12-10MHz-QPSK-23060-50RB#0-8.985

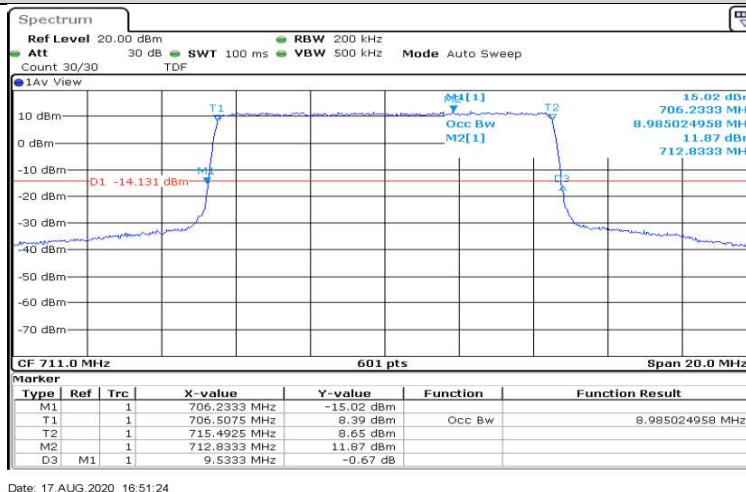




Band12-10MHz-QPSK-23095-50RB#0-8.985



Band12-10MHz-QPSK-23130-50RB#0-8.985



Band12-10MHz-16QAM-23060-50RB#0-8.985