

Appendix B: Test Results of Band 4 for eMTC operation

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APPENDIX B.1: RF POWER OUTPUT AND EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA FOR M1

Test Result

| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | Index | Result (dBm) | Verdict |
|-------|-----------|------------|---------|---------|----------|-------|--------------|---------|
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | 23.46 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | 21.33 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | 23.37 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 21.25 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | 22.34 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | 21.30 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | 21.73 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | 21.24 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | 21.77 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 21.24 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | 21.29 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | 21.40 | PASS |
| Band4 | 3MHz | 19965 | QPSK | 1 | 0 | Low | 22.99 | PASS |
| Band4 | 3MHz | 19965 | QPSK | 6 | 0 | Low | 21.17 | PASS |
| Band4 | 3MHz | 20175 | QPSK | 1 | 0 | Low | 22.99 | PASS |
| Band4 | 3MHz | 20175 | QPSK | 6 | 0 | Low | 21.12 | PASS |
| Band4 | 3MHz | 20385 | QPSK | 1 | 5 | High | 22.10 | PASS |
| Band4 | 3MHz | 20385 | QPSK | 6 | 0 | High | 21.20 | PASS |
| Band4 | 3MHz | 19965 | 16QAM | 1 | 0 | Low | 21.54 | PASS |
| Band4 | 3MHz | 19965 | 16QAM | 6 | 0 | Low | 21.27 | PASS |
| Band4 | 3MHz | 20175 | 16QAM | 1 | 0 | Low | 21.57 | PASS |
| Band4 | 3MHz | 20175 | 16QAM | 6 | 0 | Low | 21.42 | PASS |
| Band4 | 3MHz | 20385 | 16QAM | 1 | 5 | High | 21.35 | PASS |
| Band4 | 3MHz | 20385 | 16QAM | 6 | 0 | High | 21.19 | PASS |
| Band4 | 5MHz | 19975 | QPSK | 1 | 0 | Low | 23.28 | PASS |
| Band4 | 5MHz | 19975 | QPSK | 6 | 0 | Low | 21.93 | PASS |
| Band4 | 5MHz | 20175 | QPSK | 1 | 0 | Low | 23.58 | PASS |
| Band4 | 5MHz | 20175 | QPSK | 6 | 0 | Low | 21.97 | PASS |
| Band4 | 5MHz | 20375 | QPSK | 1 | 5 | High | 22.13 | PASS |
| Band4 | 5MHz | 20375 | QPSK | 3 | 3 | High | 21.12 | PASS |
| Band4 | 5MHz | 19975 | 16QAM | 1 | 0 | Low | 23.12 | PASS |
| Band4 | 5MHz | 19975 | 16QAM | 6 | 0 | Low | 21.93 | PASS |
| Band4 | 5MHz | 20175 | 16QAM | 1 | 0 | Low | 23.11 | PASS |
| Band4 | 5MHz | 20175 | 16QAM | 6 | 0 | Low | 21.97 | PASS |
| Band4 | 5MHz | 20375 | 16QAM | 1 | 5 | High | 22.17 | PASS |
| Band4 | 5MHz | 20375 | 16QAM | 3 | 3 | High | 21.20 | PASS |
| Band4 | 10MHz | 20000 | QPSK | 1 | 0 | Low | 23.29 | PASS |
| Band4 | 10MHz | 20000 | QPSK | 5 | 0 | Low | 22.36 | PASS |
| Band4 | 10MHz | 20175 | QPSK | 1 | 0 | Low | 23.11 | PASS |
| Band4 | 10MHz | 20175 | QPSK | 5 | 0 | Low | 22.02 | PASS |

| | | | | | | | | |
|-------|-------|-------|-------|---|---|------|-------|------|
| Band4 | 10MHz | 20350 | QPSK | 1 | 5 | High | 22.13 | PASS |
| Band4 | 10MHz | 20350 | QPSK | 5 | 1 | High | 21.21 | PASS |
| Band4 | 10MHz | 20000 | 16QAM | 1 | 0 | Low | 23.11 | PASS |
| Band4 | 10MHz | 20000 | 16QAM | 5 | 0 | Low | 21.90 | PASS |
| Band4 | 10MHz | 20175 | 16QAM | 1 | 0 | Low | 23.13 | PASS |
| Band4 | 10MHz | 20175 | 16QAM | 5 | 0 | Low | 21.93 | PASS |
| Band4 | 10MHz | 20350 | 16QAM | 1 | 5 | High | 22.15 | PASS |
| Band4 | 10MHz | 20350 | 16QAM | 5 | 1 | High | 21.17 | PASS |
| Band4 | 15MHz | 20025 | QPSK | 1 | 0 | Low | 23.06 | PASS |
| Band4 | 15MHz | 20025 | QPSK | 6 | 0 | Low | 22.92 | PASS |
| Band4 | 15MHz | 20175 | QPSK | 1 | 0 | Low | 23.21 | PASS |
| Band4 | 15MHz | 20175 | QPSK | 6 | 0 | Low | 23.08 | PASS |
| Band4 | 15MHz | 20325 | QPSK | 1 | 5 | High | 22.10 | PASS |
| Band4 | 15MHz | 20325 | QPSK | 6 | 0 | High | 22.18 | PASS |
| Band4 | 15MHz | 20025 | 16QAM | 1 | 0 | Low | 23.13 | PASS |
| Band4 | 15MHz | 20025 | 16QAM | 6 | 0 | Low | 23.03 | PASS |
| Band4 | 15MHz | 20175 | 16QAM | 1 | 0 | Low | 23.28 | PASS |
| Band4 | 15MHz | 20175 | 16QAM | 6 | 0 | Low | 23.03 | PASS |
| Band4 | 15MHz | 20325 | 16QAM | 1 | 5 | High | 22.17 | PASS |
| Band4 | 15MHz | 20325 | 16QAM | 6 | 0 | High | 22.18 | PASS |
| Band4 | 20MHz | 20050 | QPSK | 1 | 0 | Low | 23.12 | PASS |
| Band4 | 20MHz | 20050 | QPSK | 6 | 0 | Low | 23.01 | PASS |
| Band4 | 20MHz | 20175 | QPSK | 1 | 0 | Low | 23.26 | PASS |
| Band4 | 20MHz | 20175 | QPSK | 6 | 0 | Low | 23.04 | PASS |
| Band4 | 20MHz | 20300 | QPSK | 1 | 5 | High | 22.05 | PASS |
| Band4 | 20MHz | 20300 | QPSK | 6 | 0 | High | 22.25 | PASS |
| Band4 | 20MHz | 20050 | 16QAM | 1 | 0 | Low | 23.18 | PASS |
| Band4 | 20MHz | 20050 | 16QAM | 6 | 0 | Low | 23.00 | PASS |
| Band4 | 20MHz | 20175 | 16QAM | 1 | 0 | Low | 23.23 | PASS |
| Band4 | 20MHz | 20175 | 16QAM | 6 | 0 | Low | 23.04 | PASS |
| Band4 | 20MHz | 20300 | 16QAM | 1 | 5 | High | 22.14 | PASS |
| Band4 | 20MHz | 20300 | 16QAM | 6 | 0 | High | 22.24 | PASS |

Note: The highest antenna gain permitted including cable loss, must satisfy both EIRP (ERP) limit and RF exposure requirements.

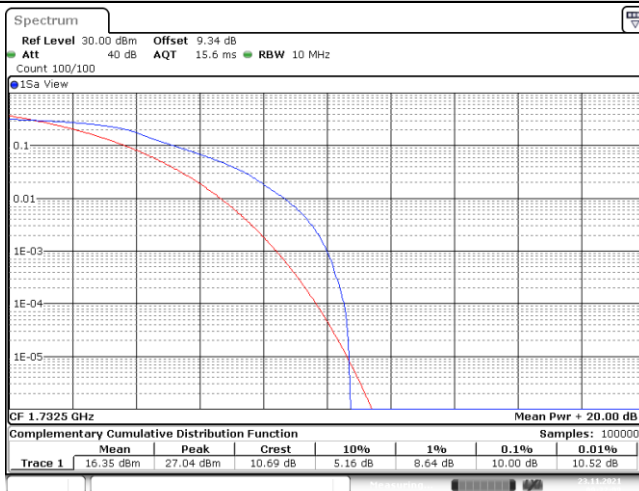
APPENDIX B.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR M1

Test Result

| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | Index | Result (dB) | Limit (dB) | Verdict |
|-------|-----------|------------|---------|---------|----------|-------|-------------|------------|---------|
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 10.00 | <=13 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 11.83 | <=13 | PASS |
| Band4 | 3MHz | 20175 | QPSK | 6 | 0 | Low | 9.88 | <=13 | PASS |
| Band4 | 3MHz | 20175 | 16QAM | 6 | 0 | Low | 11.13 | <=13 | PASS |
| Band4 | 5MHz | 20175 | QPSK | 6 | 0 | Low | 12.29 | <=13 | PASS |
| Band4 | 5MHz | 20175 | 16QAM | 6 | 0 | Low | 9.74 | <=13 | PASS |
| Band4 | 10MHz | 20175 | QPSK | 6 | 0 | Low | 10.99 | <=13 | PASS |
| Band4 | 10MHz | 20175 | 16QAM | 6 | 0 | Low | 9.83 | <=13 | PASS |
| Band4 | 15MHz | 20175 | QPSK | 6 | 0 | Low | 9.25 | <=13 | PASS |
| Band4 | 15MHz | 20175 | 16QAM | 6 | 0 | Low | 12.12 | <=13 | PASS |
| Band4 | 20MHz | 20175 | QPSK | 6 | 0 | Low | 9.36 | <=13 | PASS |
| Band4 | 20MHz | 20175 | 16QAM | 6 | 0 | Low | 10.78 | <=13 | PASS |

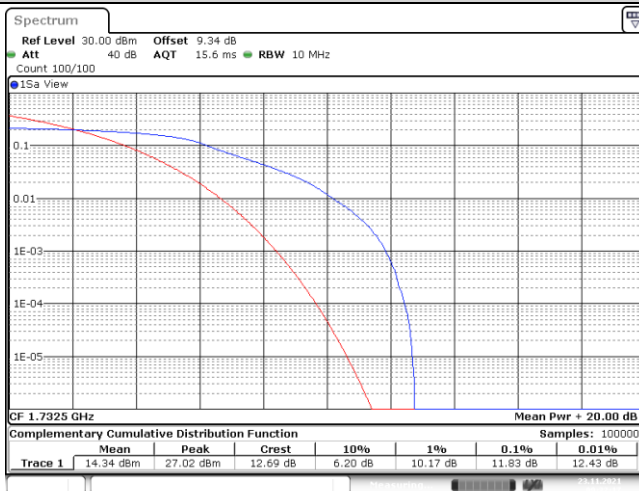
Test Graphs

Band4-1.4MHz-QPSK-20175-6-0-Low-10.00-<=13-PASS



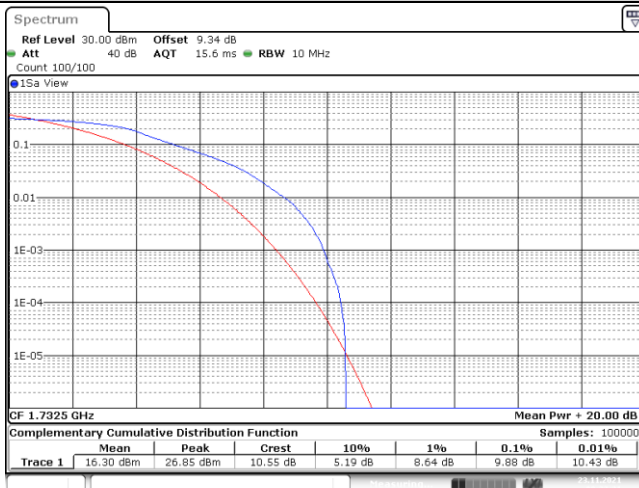
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Band4-1.4MHz-16QAM-20175-6-0-Low-11.83-<=13-PASS



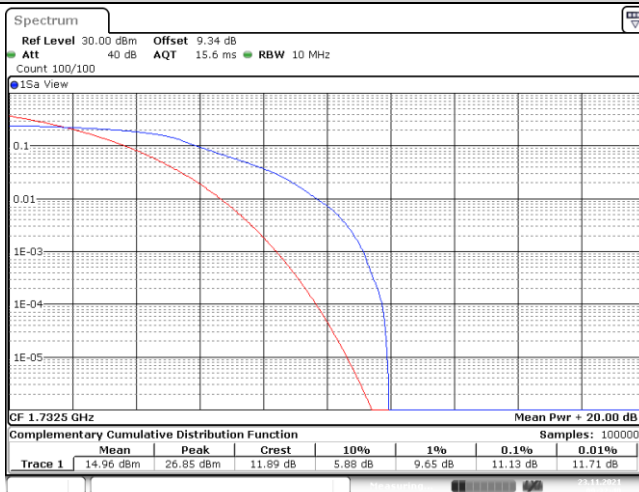
Date: 23.NOV.2021 09:32:18

Band4-3MHz-QPSK-20175-6-0-Low-9.88-<=13-PASS



Date: 23.NOV.2021 09:32:31

Band4-3MHz-16QAM-20175-6-0-Low-11.13-<=13-PASS



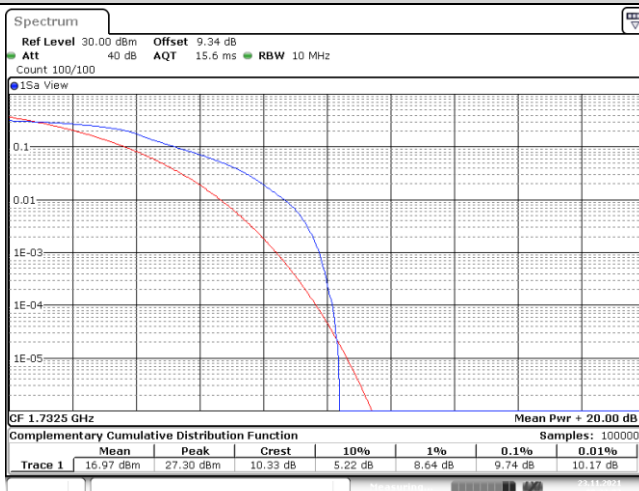
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Band4-5MHz-QPSK-20175-6-0-Low-12.29-<=13-PASS



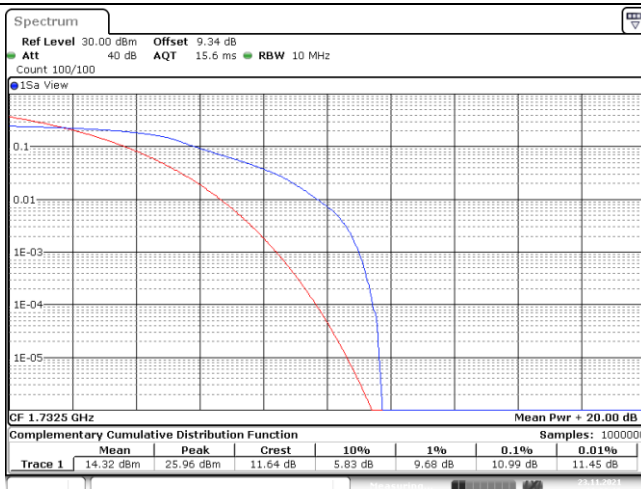
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Band4-5MHz-16QAM-20175-6-0-Low-9.74-<=13-PASS



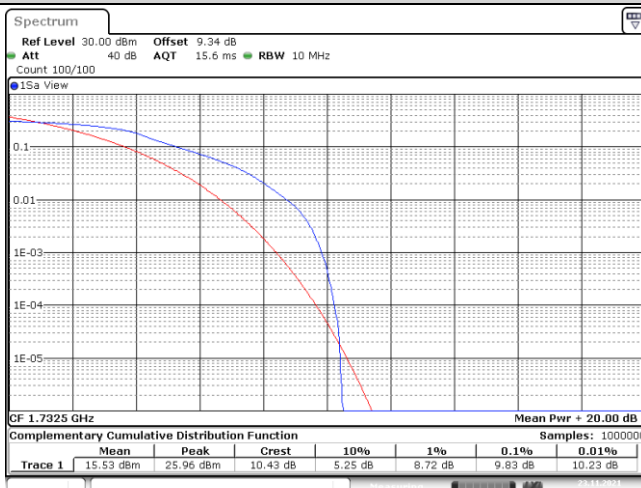
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Band4-10MHz-QPSK-20175-6-0-Low-10.99-<=13-PASS



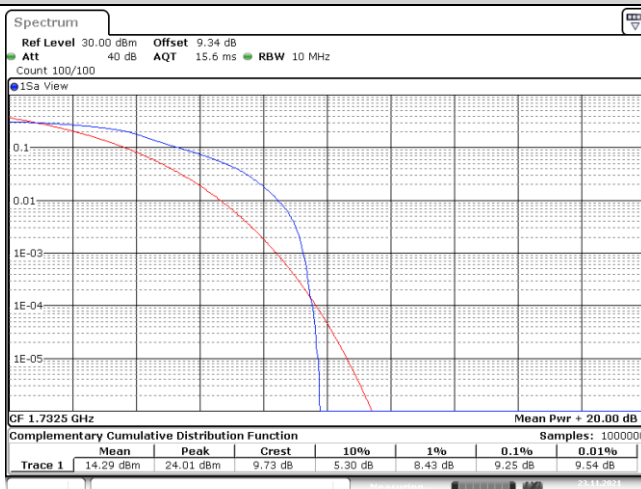
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Band4-10MHz-16QAM-20175-6-0-Low-9.83-<=13-PASS



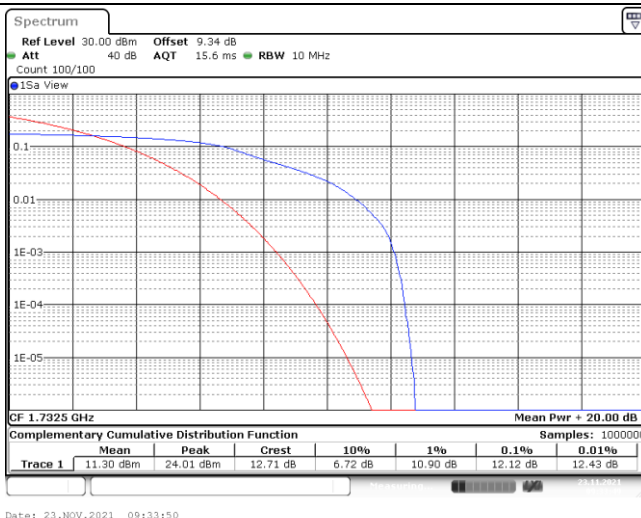
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Band4-15MHz-QPSK-20175-6-0-Low-9.25-<=13-PASS

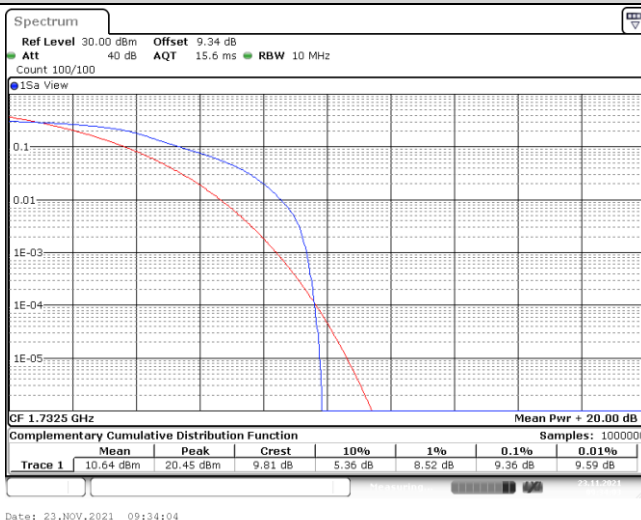


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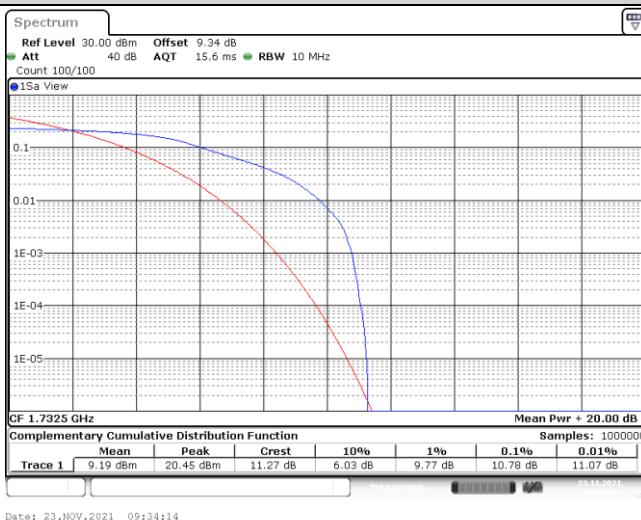
Band4-15MHz-16QAM-20175-6-0-Low-12.12-<=13-PASS



Band4-20MHz-QPSK-20175-6-0-Low-9.36-<=13-PASS



Band4-20MHz-16QAM-20175-6-0-Low-10.78-<=13-PASS



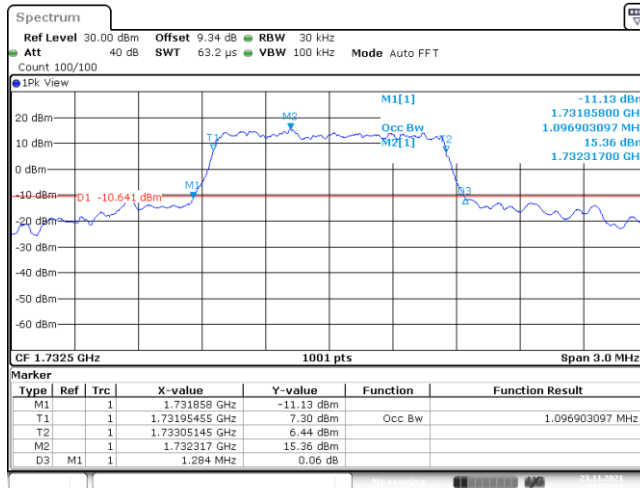
APPENDIX B.3: 26dB BANDWIDTH AND OCCUPIED BANDWIDTH FOR M1

Test Result

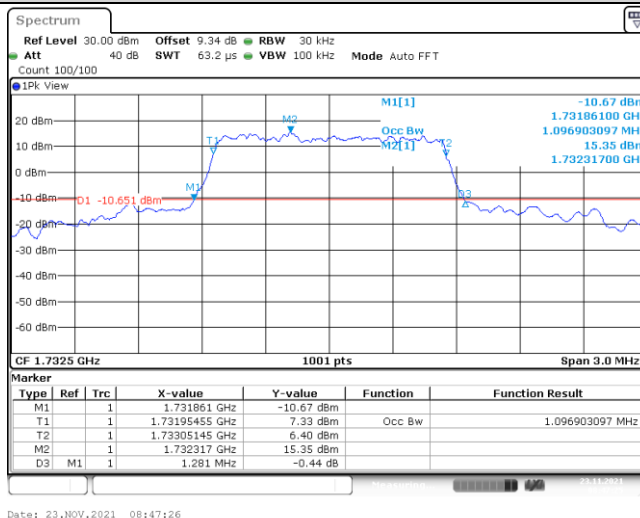
| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | Index | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|-------|-----------|------------|---------|---------|----------|-------|--------------------------|----------------------|---------|
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 1.097 | 1.284 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 1.097 | 1.281 | PASS |
| Band4 | 3MHz | 20175 | QPSK | 6 | 0 | Low | 1.109 | 1.290 | PASS |
| Band4 | 3MHz | 20175 | 16QAM | 6 | 0 | Low | 1.109 | 1.290 | PASS |
| Band4 | 5MHz | 20175 | QPSK | 6 | 0 | Low | 1.109 | 1.320 | PASS |
| Band4 | 5MHz | 20175 | 16QAM | 6 | 0 | Low | 1.119 | 1.320 | PASS |
| Band4 | 10MHz | 20175 | QPSK | 6 | 0 | Low | 1.119 | 1.320 | PASS |
| Band4 | 10MHz | 20175 | 16QAM | 6 | 0 | Low | 1.119 | 1.320 | PASS |
| Band4 | 15MHz | 20175 | QPSK | 6 | 0 | Low | 1.139 | 1.350 | PASS |
| Band4 | 15MHz | 20175 | 16QAM | 6 | 0 | Low | 1.139 | 1.320 | PASS |
| Band4 | 20MHz | 20175 | QPSK | 6 | 0 | Low | 1.159 | 1.400 | PASS |
| Band4 | 20MHz | 20175 | 16QAM | 6 | 0 | Low | 1.159 | 1.360 | PASS |

Test Graphs

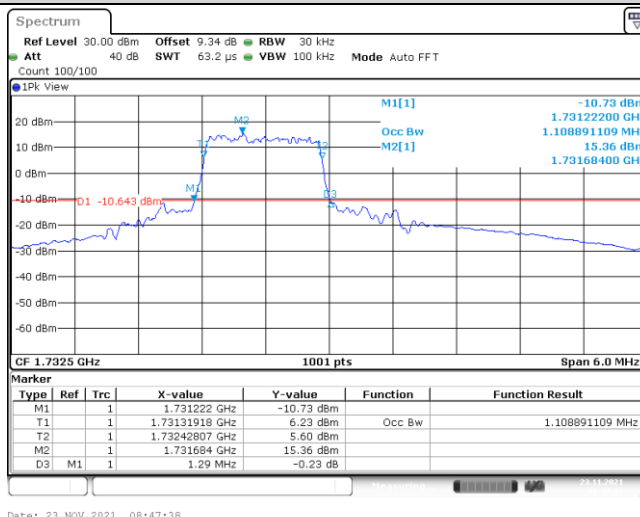
Band4-1.4MHz-QPSK-20175-6-0-Low-1.097-1.284-PASS



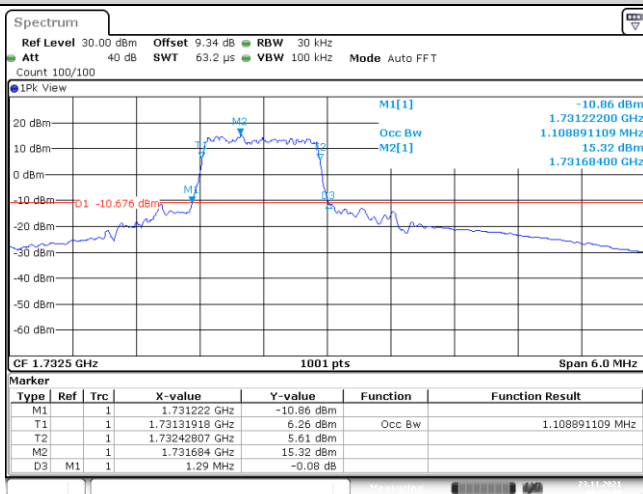
Band4-1.4MHz-16QAM-20175-6-0-Low-1.097-1.281-PASS



Band4-3MHz-QPSK-20175-6-0-Low-1.109-1.290-PASS

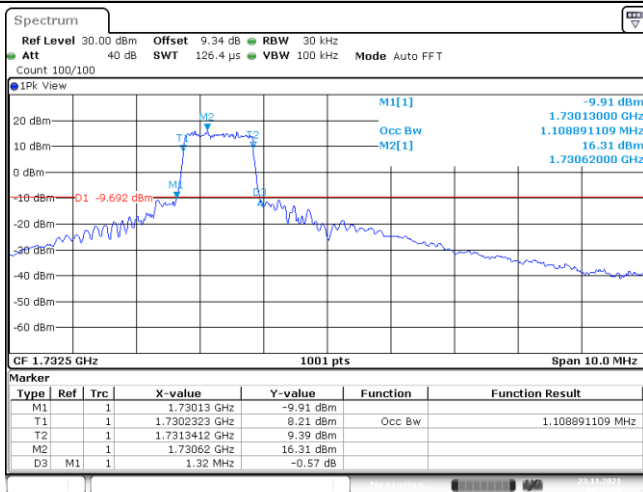


Band4-3MHz-16QAM-20175-6-0-Low-1.109-1.290-PASS



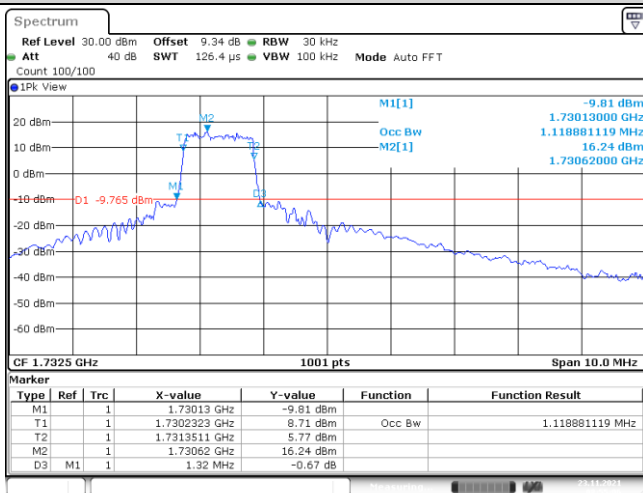
Date: 23.NOV.2021 08:47:48

Band4-5MHz-QPSK-20175-6-0-Low-1.109-1.320-PASS



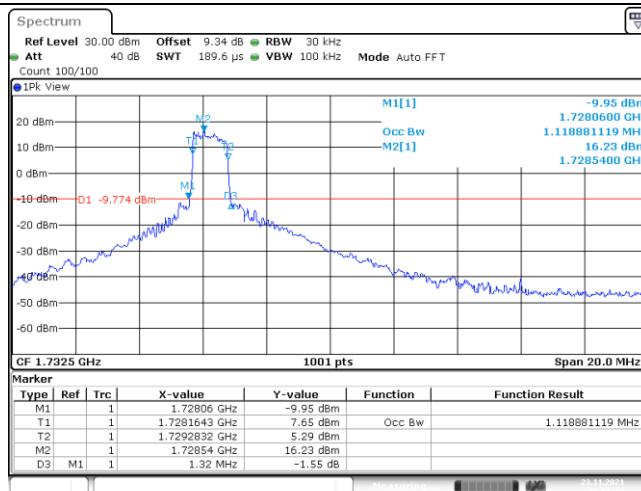
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Band4-5MHz-16QAM-20175-6-0-Low-1.119-1.320-PASS

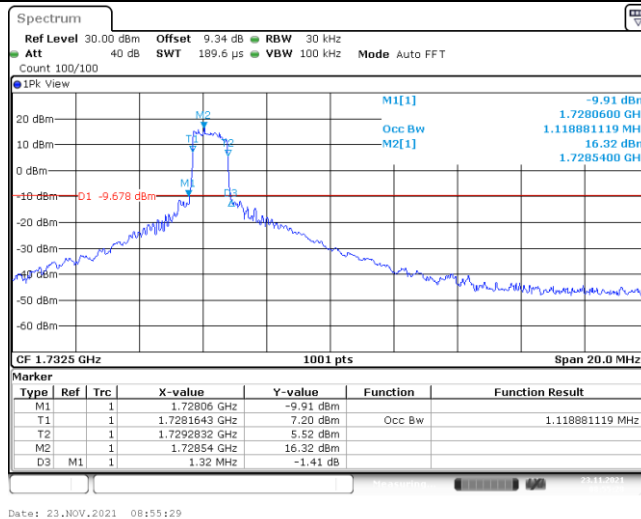


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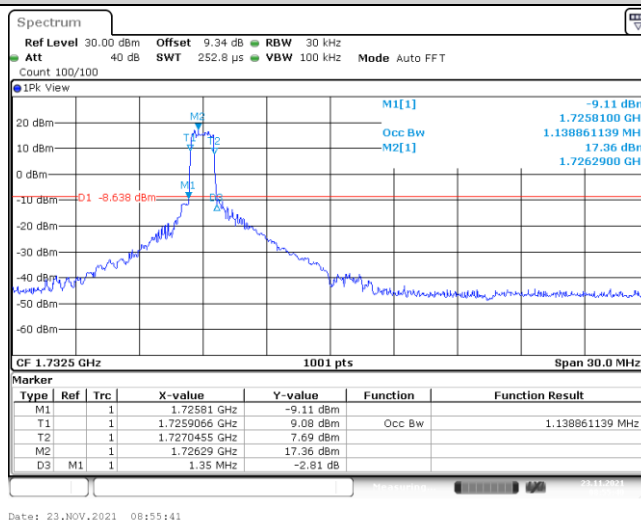
Band4-10MHz-QPSK-20175-6-0-Low-1.119-1.320-PASS



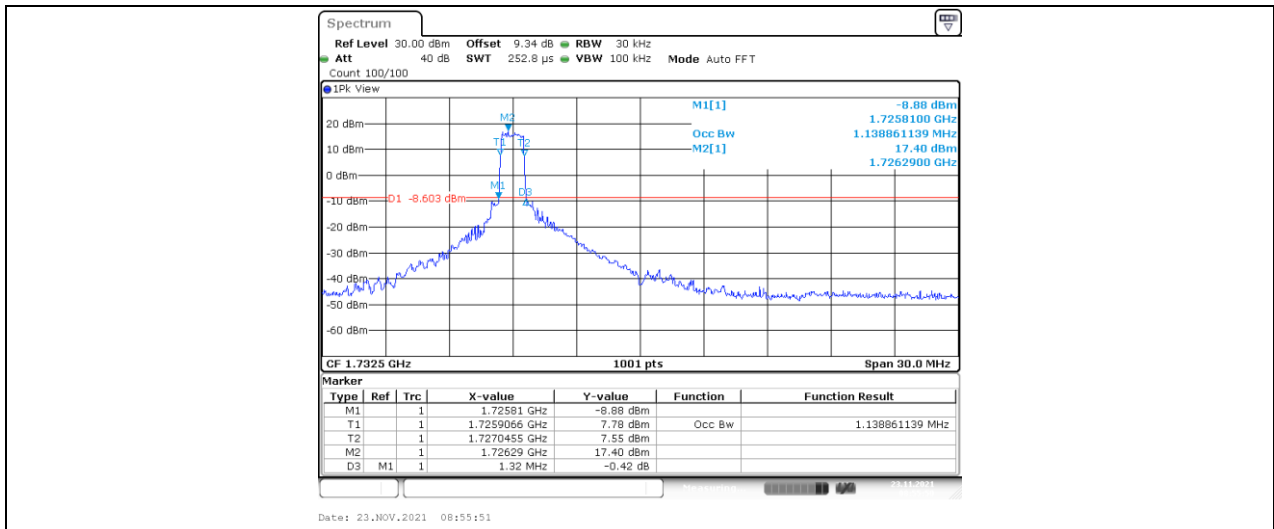
Band4-10MHz-16QAM-20175-6-0-Low-1.119-1.320-PASS



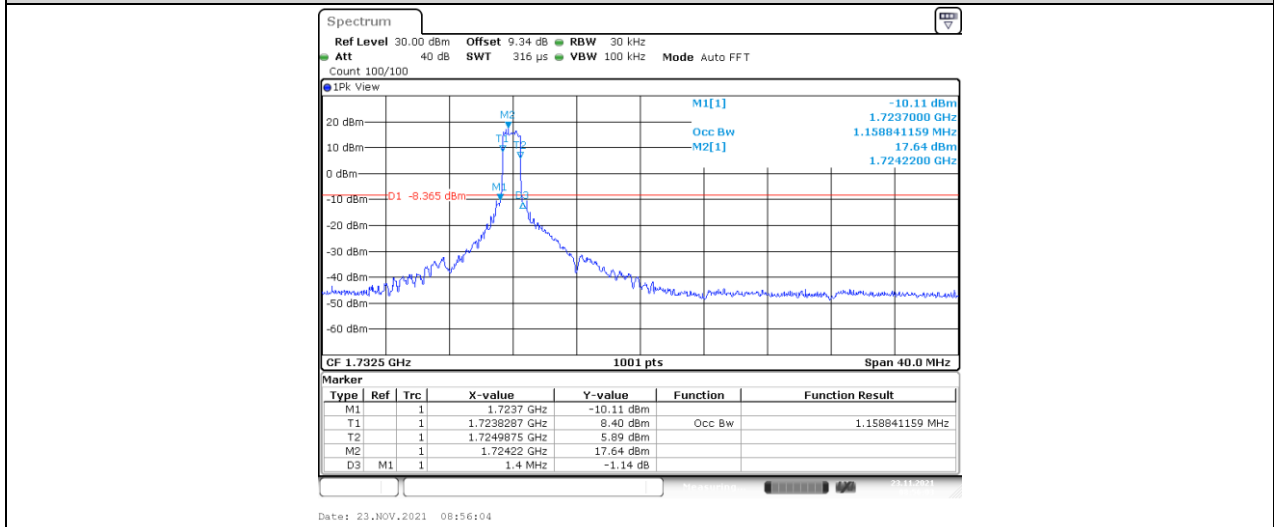
Band4-15MHz-QPSK-20175-6-0-Low-1.139-1.350-PASS



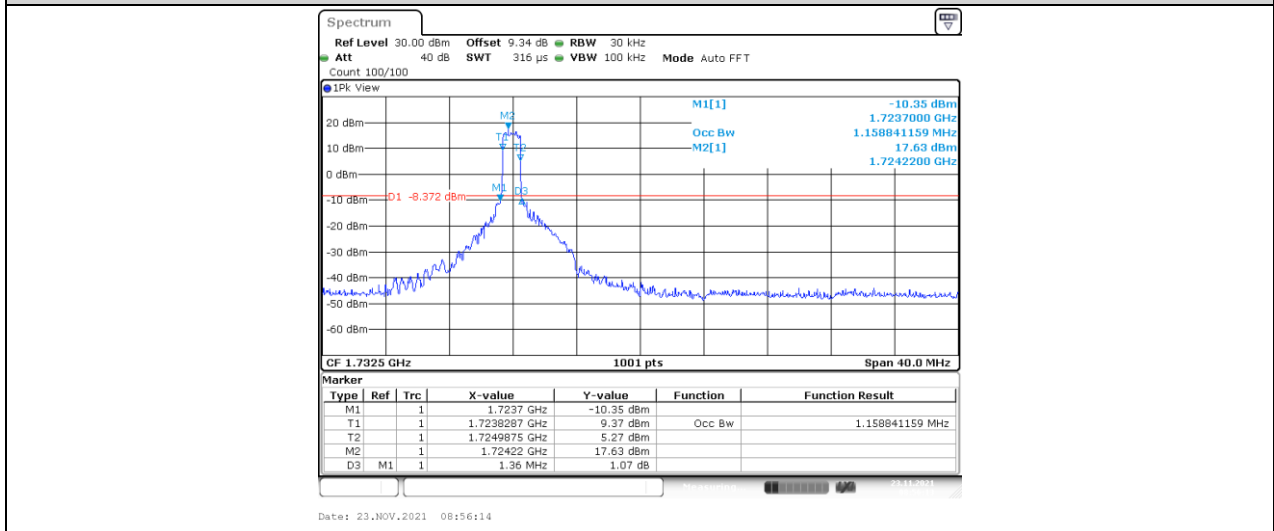
Band4-15MHz-16QAM-20175-6-0-Low-1.139-1.320-PASS



Band4-20MHz-QPSK-20175-6-0-Low-1.159-1.400-PASS



Band4-20MHz-16QAM-20175-6-0-Low-1.159-1.360-PASS

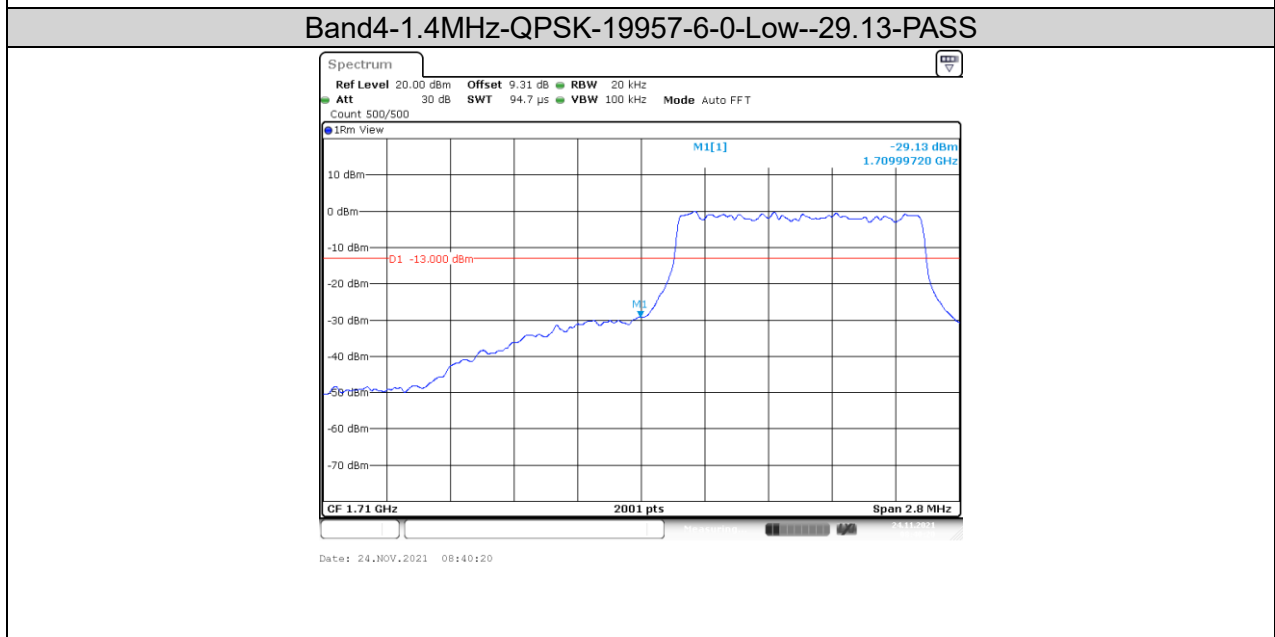
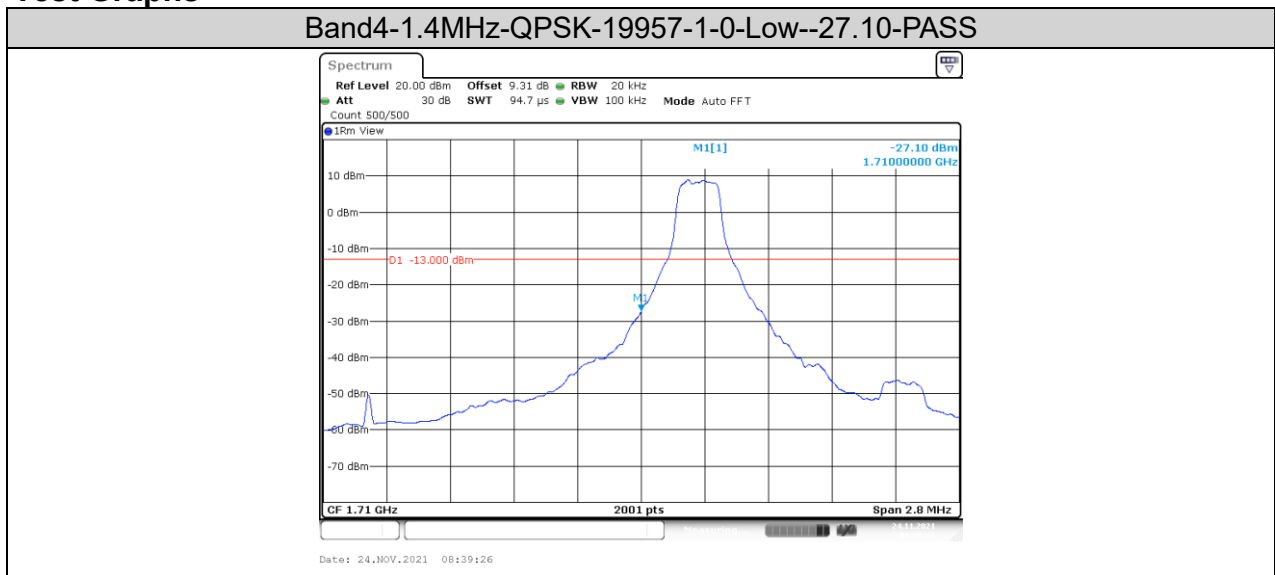


APPENDIX B.4: BAND EDGE FOR M1

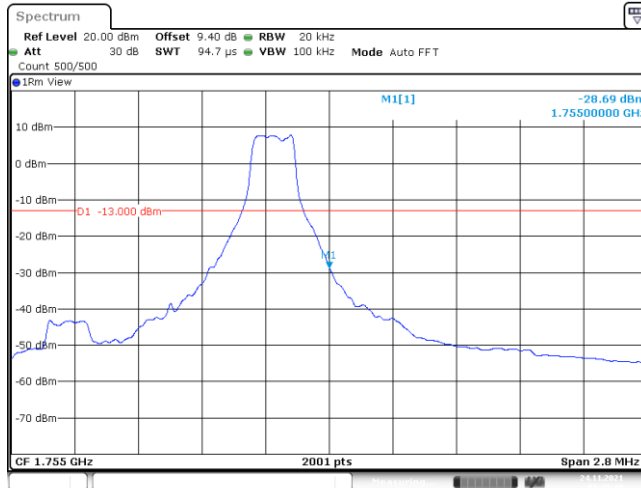
Test Result

| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | NB Index | Result(dBm) | Verdict |
|-------|-----------|------------|---------|---------|----------|----------|-------------|---------|
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | -27.10 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | -29.13 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | -28.69 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | -31.08 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | -29.03 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | -28.82 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | -30.04 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | -31.16 | PASS |

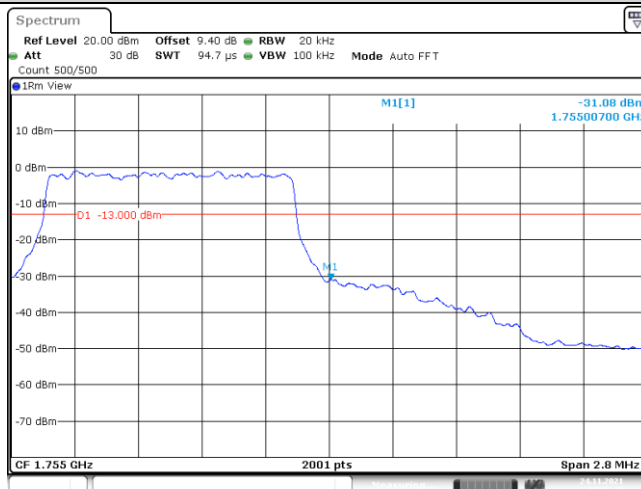
Test Graphs



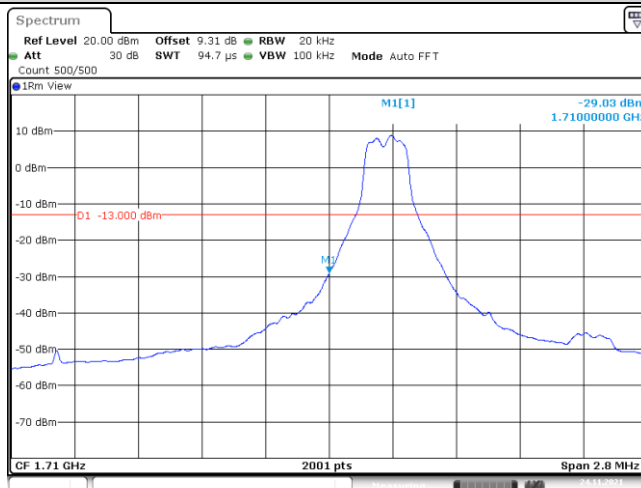
Band4-1.4MHz-QPSK-20393-1-5-Low--28.69-PASS



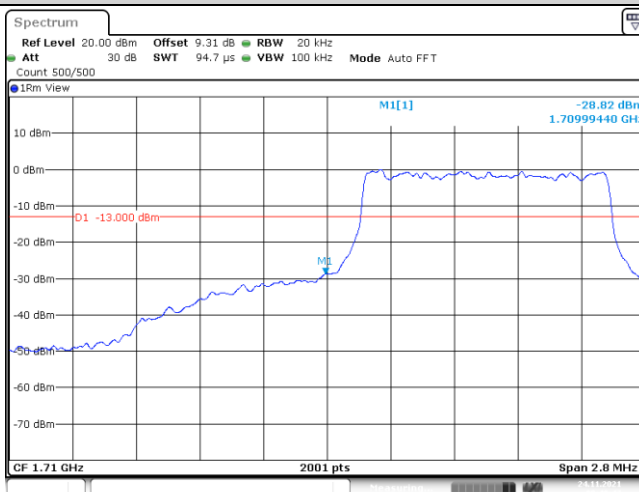
Band4-1.4MHz-QPSK-20393-6-0-Low--31.08-PASS



Band4-1.4MHz-16QAM-19957-1-0-Low--29.03-PASS

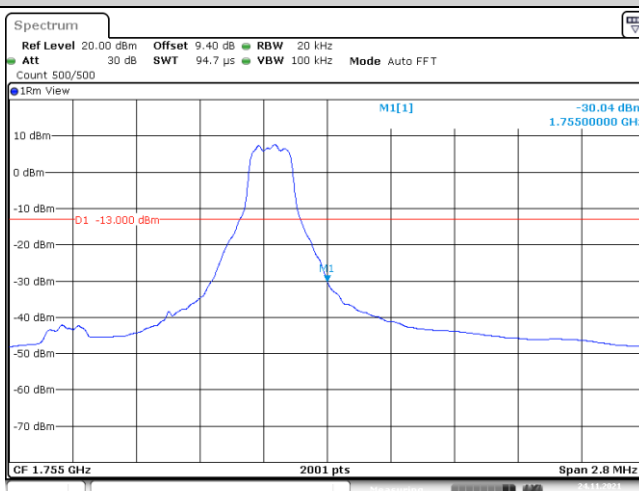


Band4-1.4MHz-16QAM-19957-6-0-Low--28.82-PASS



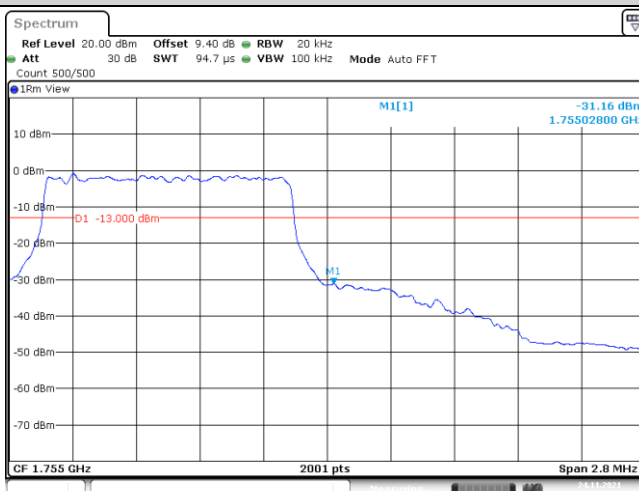
Date: 24.NOV.2021 08:40:47

Band4-1.4MHz-16QAM-20393-1-5-Low--30.04-PASS



Date: 24.NOV.2021 08:41:46

Band4-1.4MHz-16QAM-20393-6-0-Low--31.16-PASS



Date: 24.NOV.2021 08:42:40

APPENDIX B.5: CONDUCTED SPURIOUS EMISSION FOR M1

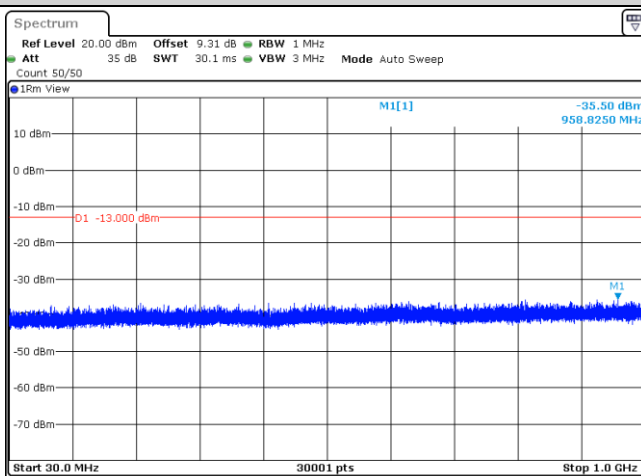
Test Result

| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | Index | Start Freq | Stop Freq | Result (dBm) | Verdict |
|-------|-----------|------------|---------|---------|----------|-------|------------|-----------|--------------|---------|
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | 30 | 1000 | -35.5 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | 1000 | 5000 | -37.86 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | 5000 | 12000 | -53.52 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 1 | 0 | Low | 12000 | 26500 | -49.71 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | 30 | 1000 | -35.26 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | 1000 | 5000 | -40.47 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | 5000 | 12000 | -53.47 | PASS |
| Band4 | 1.4MHz | 19957 | QPSK | 6 | 0 | Low | 12000 | 26500 | -49.65 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | 30 | 1000 | -35.15 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | 1000 | 5000 | -37.93 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | 5000 | 12000 | -53.01 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | 12000 | 26500 | -49.57 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 30 | 1000 | -34.89 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 1000 | 5000 | -40.31 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 5000 | 12000 | -53.56 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 6 | 0 | Low | 12000 | 26500 | -49.67 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | 30 | 1000 | -35.08 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | 1000 | 5000 | -37.26 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | 5000 | 12000 | -53.46 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 1 | 5 | Low | 12000 | 26500 | -49.54 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | 30 | 1000 | -34.66 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | 1000 | 5000 | -39.98 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | 5000 | 12000 | -53.28 | PASS |
| Band4 | 1.4MHz | 20393 | QPSK | 6 | 0 | Low | 12000 | 26500 | -49.54 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | 30 | 1000 | -35.22 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | 1000 | 5000 | -38.61 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | 5000 | 12000 | -53.58 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 1 | 0 | Low | 12000 | 26500 | -49.69 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | 30 | 1000 | -35.06 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | 1000 | 5000 | -40.28 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | 5000 | 12000 | -53.52 | PASS |
| Band4 | 1.4MHz | 19957 | 16QAM | 6 | 0 | Low | 12000 | 26500 | -49.71 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | 30 | 1000 | -35.58 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | 1000 | 5000 | -37.79 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | 5000 | 12000 | -53.37 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | 12000 | 26500 | -49.7 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 30 | 1000 | -35.21 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 1000 | 5000 | -40.13 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 5000 | 12000 | -53.48 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 6 | 0 | Low | 12000 | 26500 | -49.72 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | 30 | 1000 | -35.14 | PASS |

| | | | | | | | | | | |
|-------|--------|-------|-------|---|---|-----|-------|-------|--------|------|
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | 1000 | 5000 | -38.35 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | 5000 | 12000 | -53.41 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 1 | 5 | Low | 12000 | 26500 | -49.47 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | 30 | 1000 | -35.4 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | 1000 | 5000 | -39.54 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | 5000 | 12000 | -53.5 | PASS |
| Band4 | 1.4MHz | 20393 | 16QAM | 6 | 0 | Low | 12000 | 26500 | -49.61 | PASS |

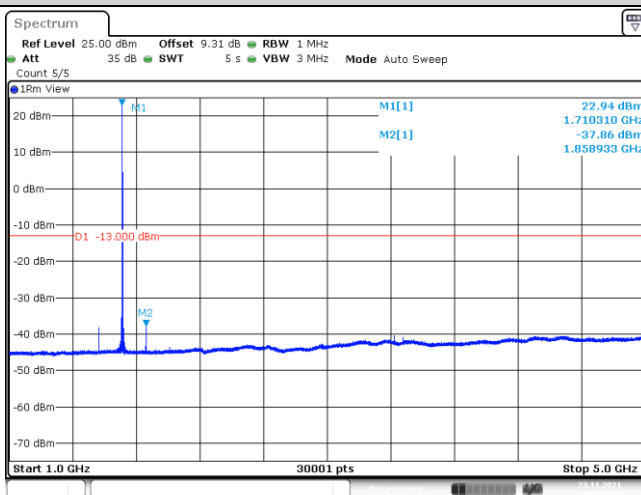
Test Graphs

Band4-1.4MHz-QPSK-19957-1-0-Low-30-1000--35.5-PASS



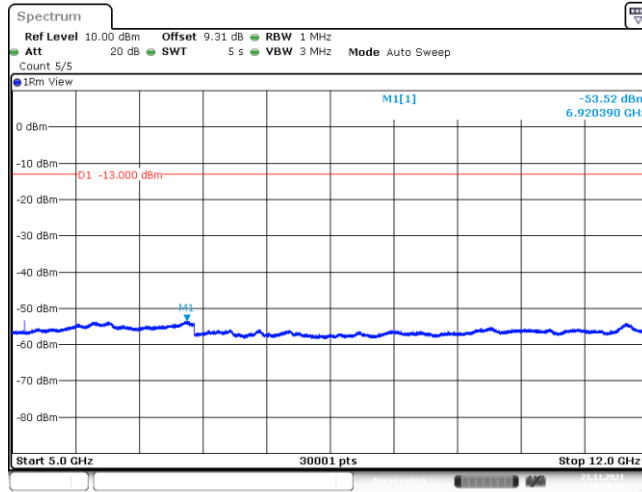
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Band4-1.4MHz-QPSK-19957-1-0-Low-1000-5000--37.86-PASS

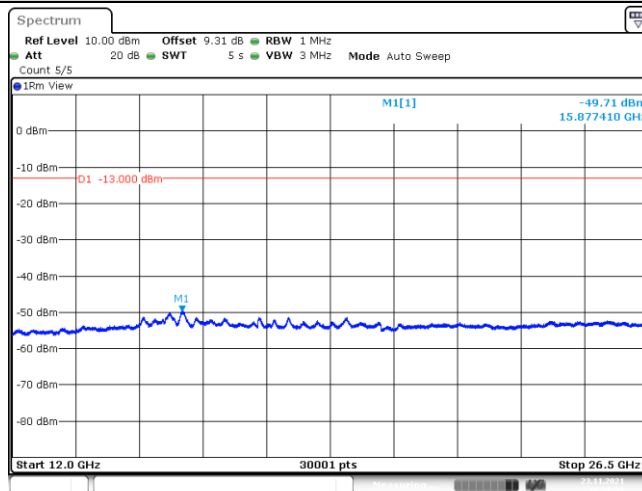


Date: 23.NOV.2021 10:57:41

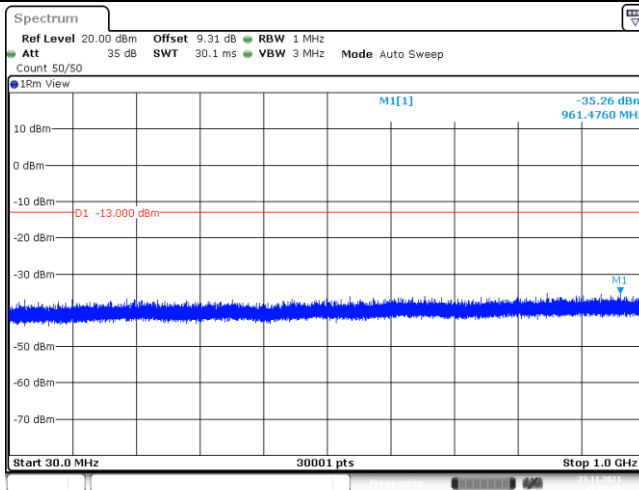
Band4-1.4MHz-QPSK-19957-1-0-Low-5000-12000--53.52-PASS



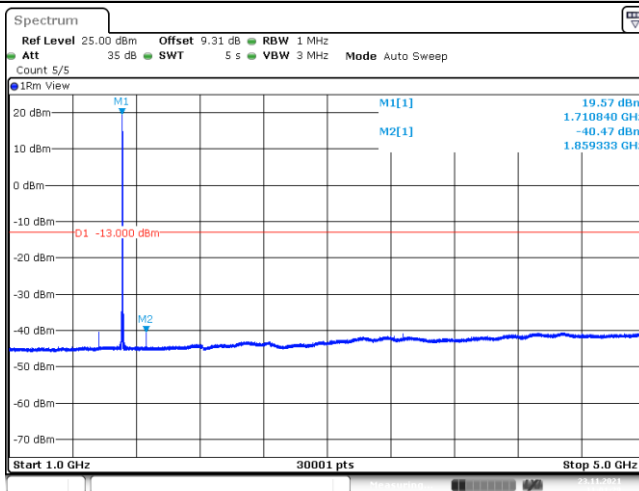
Band4-1.4MHz-QPSK-19957-1-0-Low-12000-26500--49.71-PASS



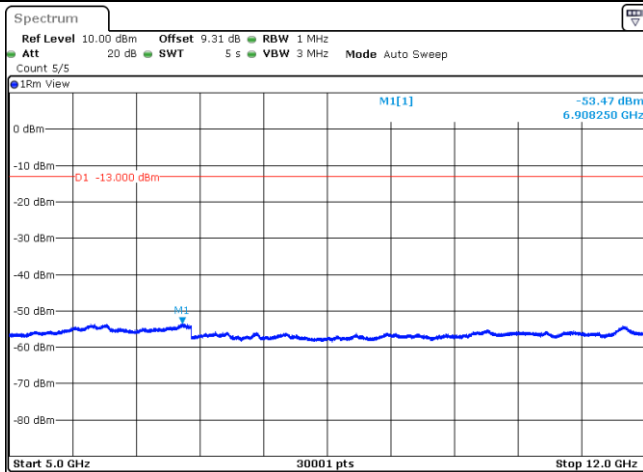
Band4-1.4MHz-QPSK-19957-6-0-Low-30-1000--35.26-PASS



Band4-1.4MHz-QPSK-19957-6-0-Low-1000-5000--40.47-PASS

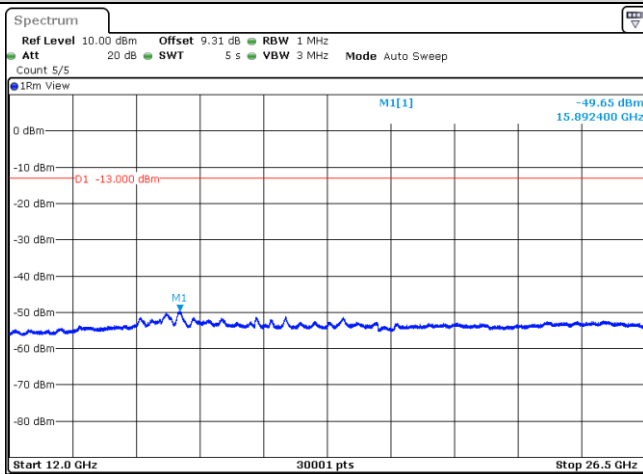


Band4-1.4MHz-QPSK-19957-6-0-Low-5000-12000--53.47-PASS



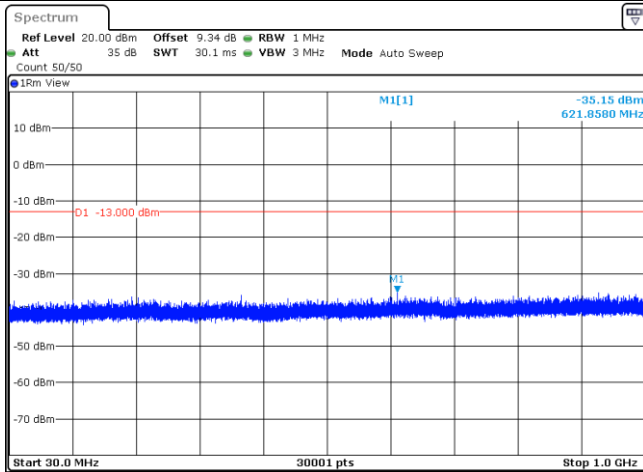
Date: 23.NOV.2021 11:02:03

Band4-1.4MHz-QPSK-19957-6-0-Low-12000-26500--49.65-PASS



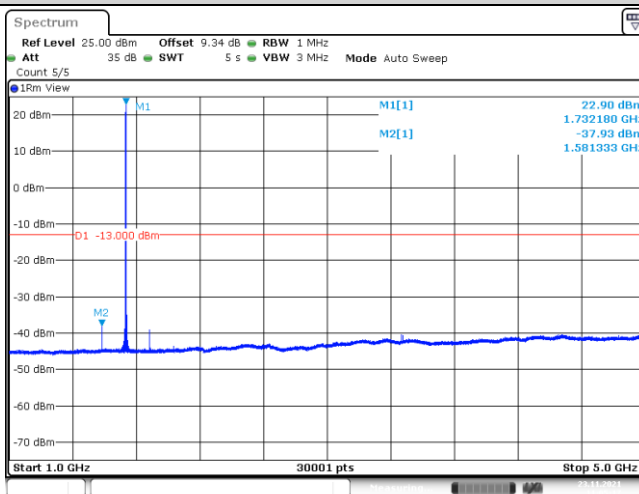
Date: 23.NOV.2021 11:02:37

Band4-1.4MHz-QPSK-20175-1-0-Low-30-1000--35.15-PASS



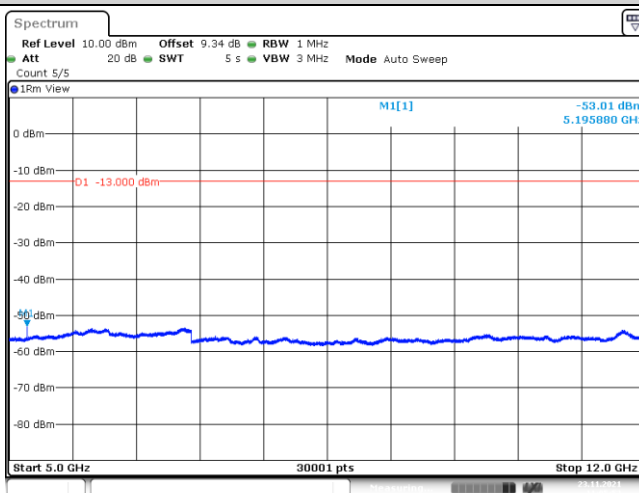
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Band4-1.4MHz-QPSK-20175-1-0-Low-1000-5000--37.93-PASS



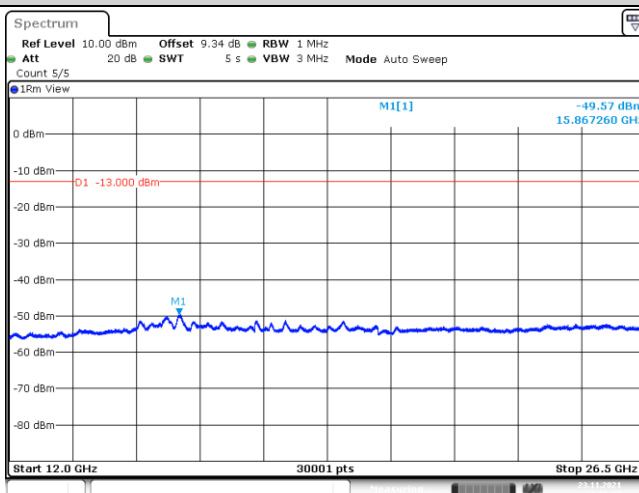
Date: 23.NOV.2021 11:05:17

Band4-1.4MHz-QPSK-20175-1-0-Low-5000-12000--53.01-PASS



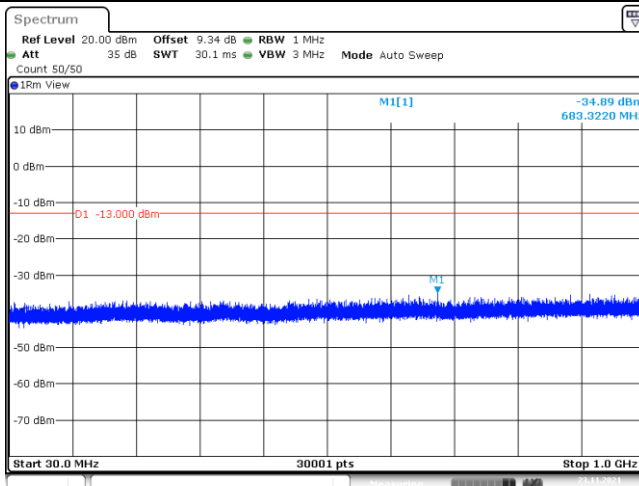
Date: 23.NOV.2021 11:05:52

Band4-1.4MHz-QPSK-20175-1-0-Low-12000-26500--49.57-PASS

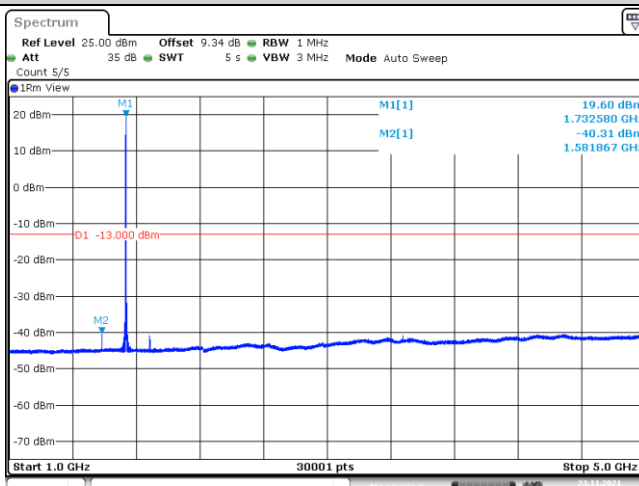


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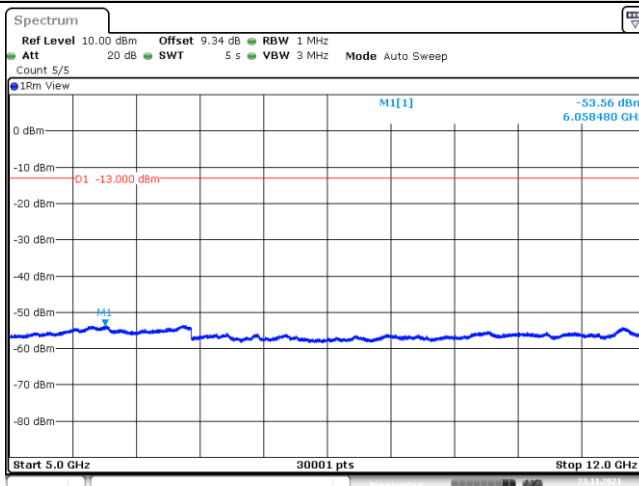
Band4-1.4MHz-QPSK-20175-6-0-Low-30-1000--34.89-PASS



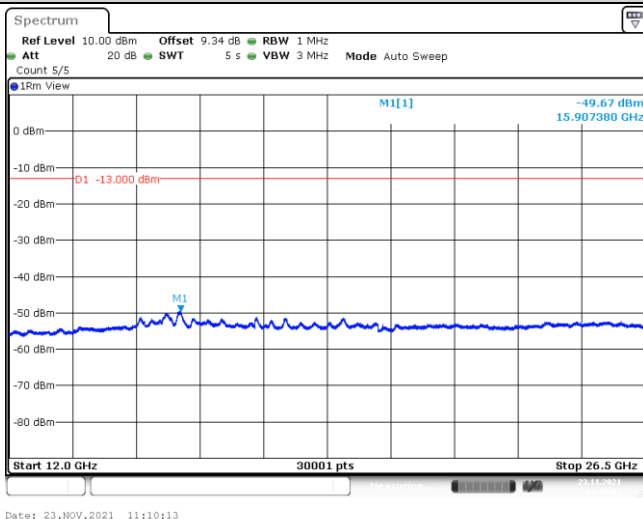
Band4-1.4MHz-QPSK-20175-6-0-Low-1000-5000--40.31-PASS



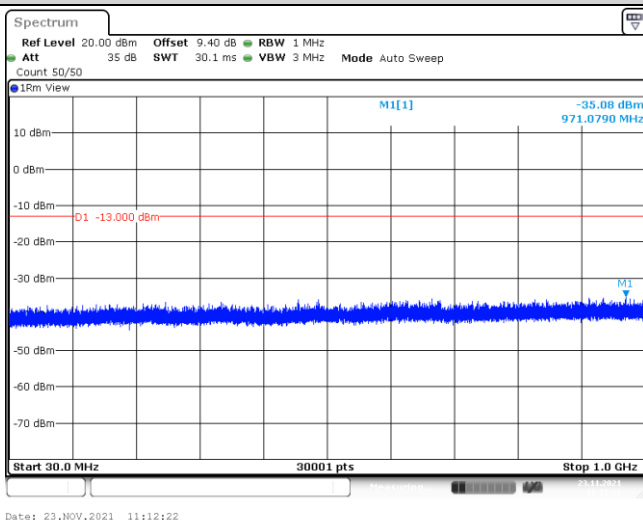
Band4-1.4MHz-QPSK-20175-6-0-Low-5000-12000--53.56-PASS



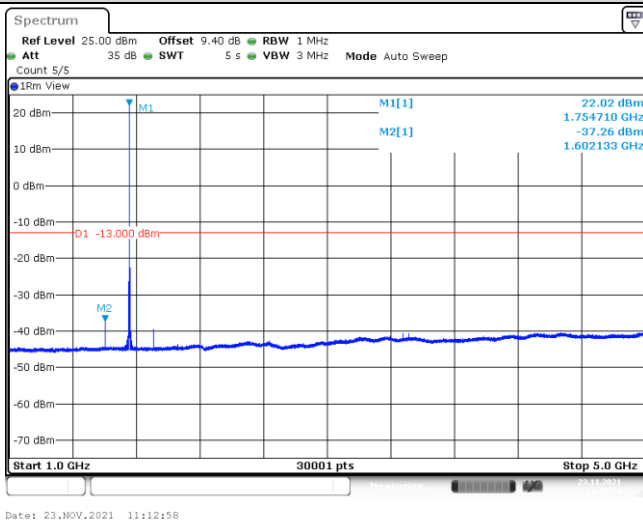
Band4-1.4MHz-QPSK-20175-6-0-Low-12000-26500--49.67-PASS



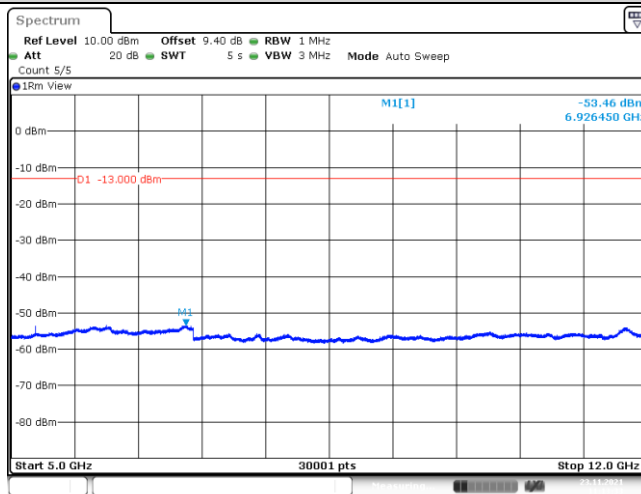
Band4-1.4MHz-QPSK-20393-1-5-Low-30-1000--35.08-PASS



Band4-1.4MHz-QPSK-20393-1-5-Low-1000-5000--37.26-PASS

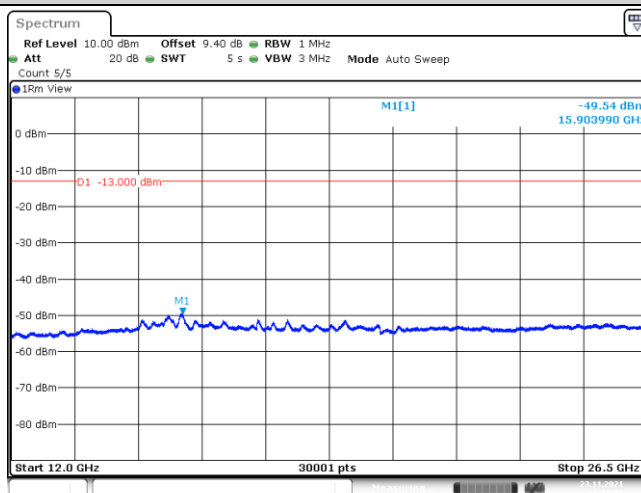


Band4-1.4MHz-QPSK-20393-1-5-Low-5000-12000--53.46-PASS



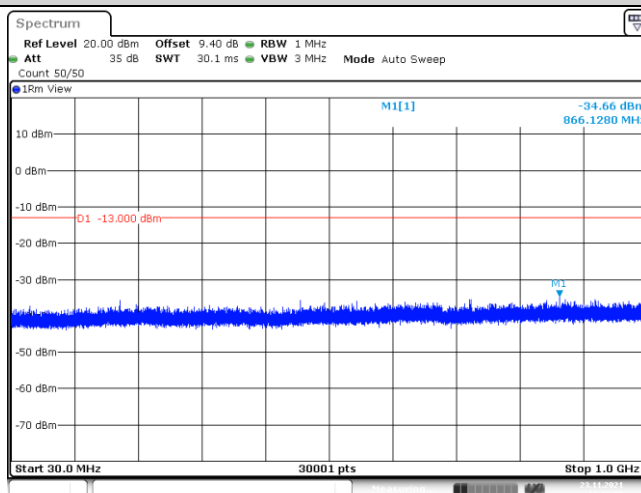
Date: 23.NOV.2021 11:13:33

Band4-1.4MHz-QPSK-20393-1-5-Low-12000-26500--49.54-PASS



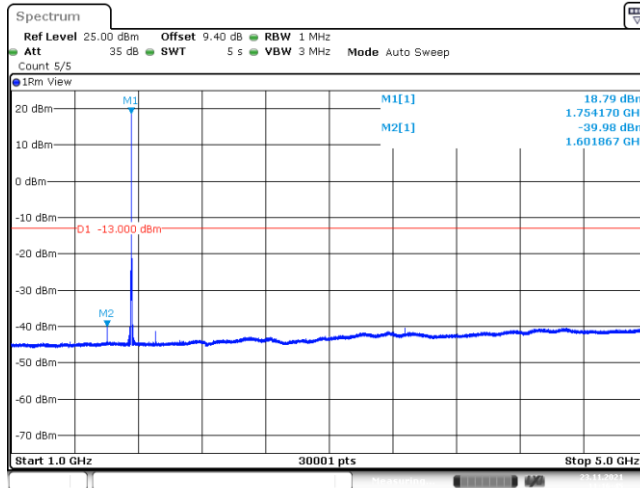
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Band4-1.4MHz-QPSK-20393-6-0-Low-30-1000--34.66-PASS

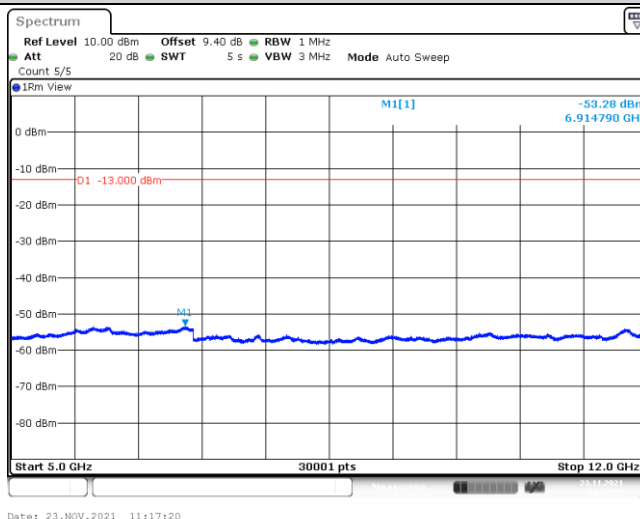


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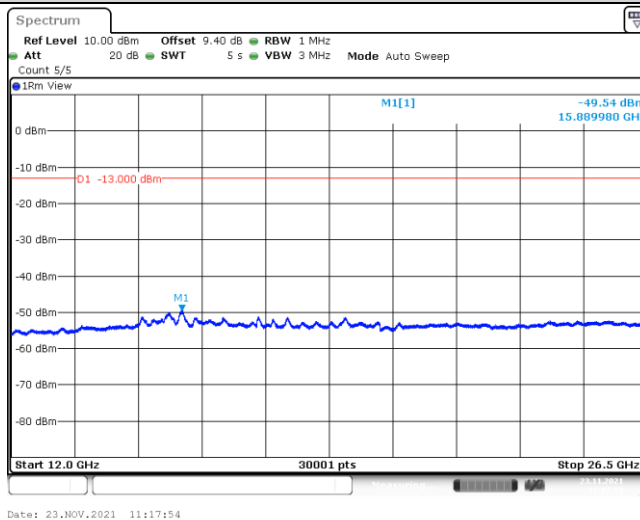
Band4-1.4MHz-QPSK-20393-6-0-Low-1000-5000--39.98-PASS



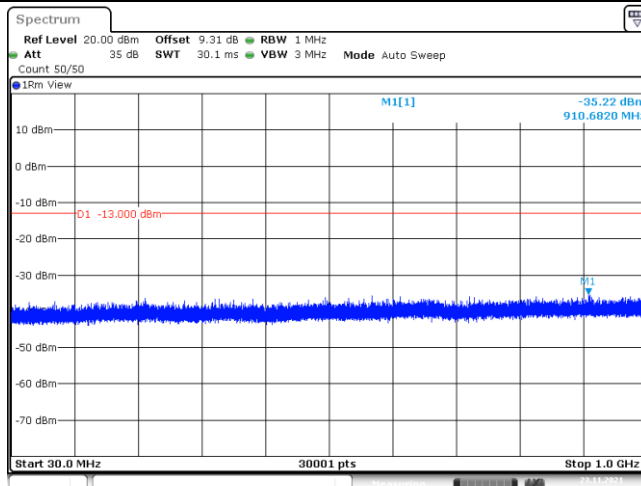
Band4-1.4MHz-QPSK-20393-6-0-Low-5000-12000--53.28-PASS



Band4-1.4MHz-QPSK-20393-6-0-Low-12000-26500--49.54-PASS

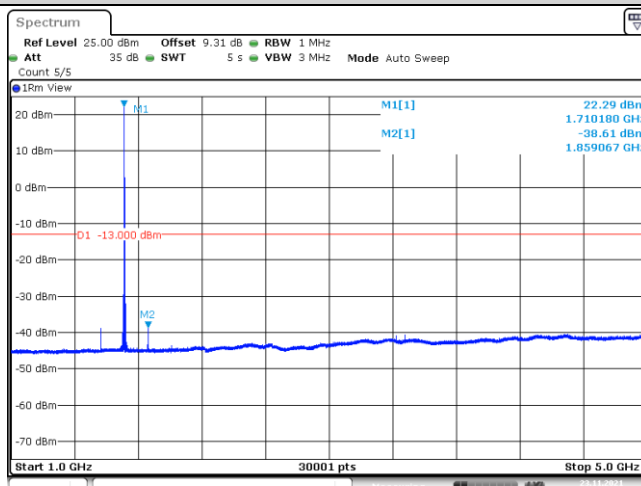


Band4-1.4MHz-16QAM-19957-1-0-Low-30-1000--35.22-PASS



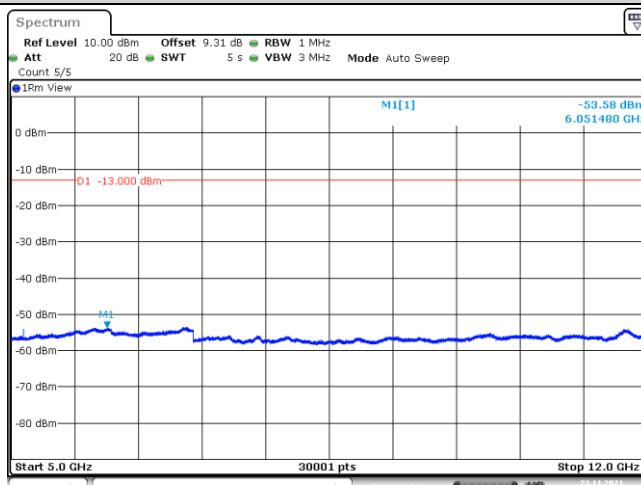
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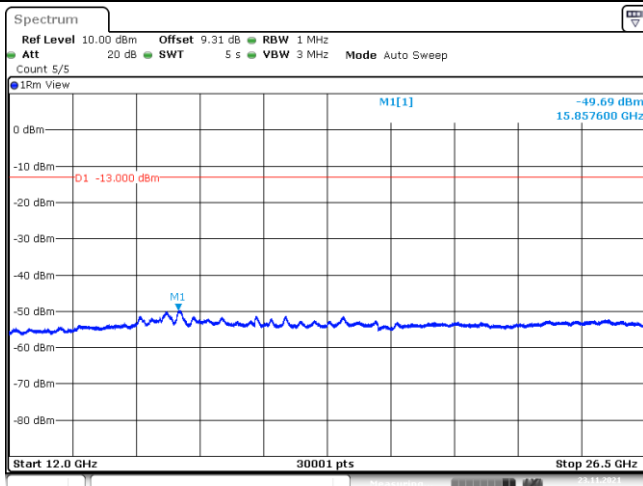
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Band4-1.4MHz-16QAM-19957-1-0-Low-5000-12000--53.58-PASS



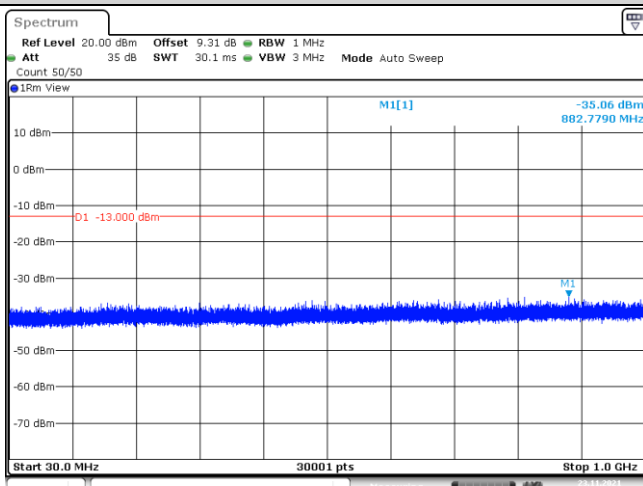
Date: 23.NOV.2021 11:00:09

Band4-1.4MHz-16QAM-19957-1-0-Low-12000-26500--49.69-PASS



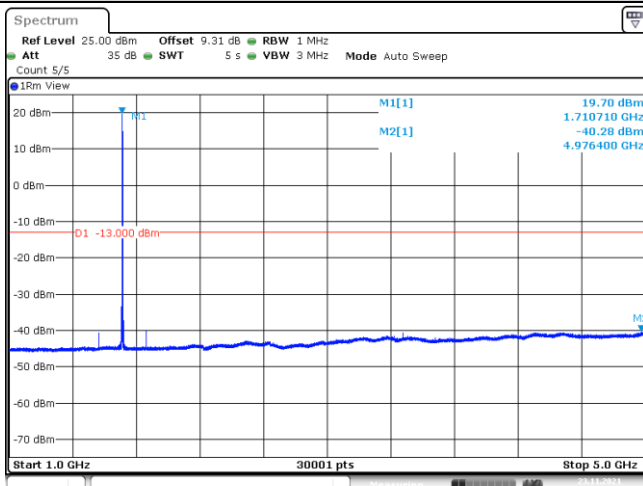
Date: 23.NOV.2021 11:00:44

Band4-1.4MHz-16QAM-19957-6-0-Low-30-1000--35.06-PASS



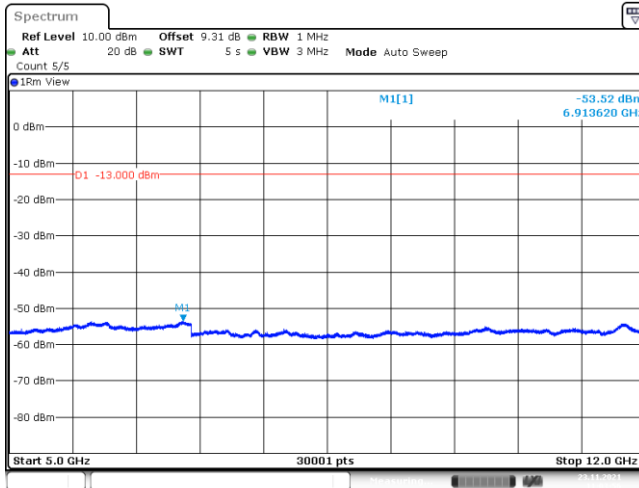
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Band4-1.4MHz-16QAM-19957-6-0-Low-1000-5000--40.28-PASS

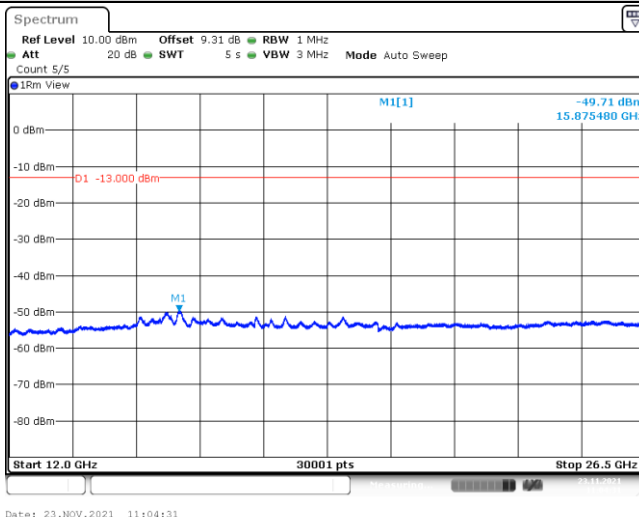


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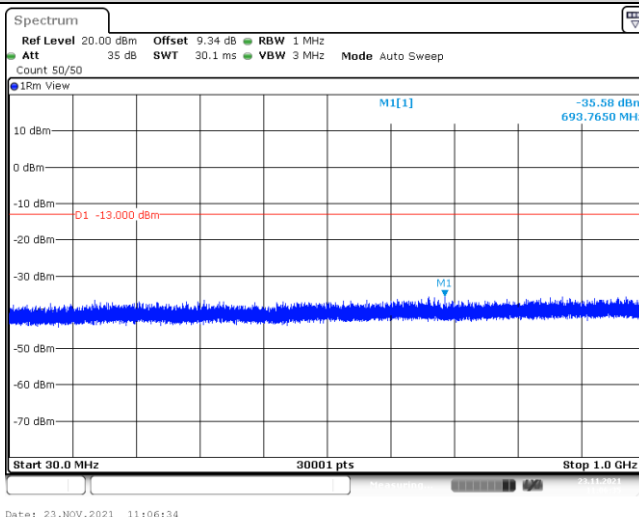
Band4-1.4MHz-16QAM-19957-6-0-Low-5000-12000--53.52-PASS



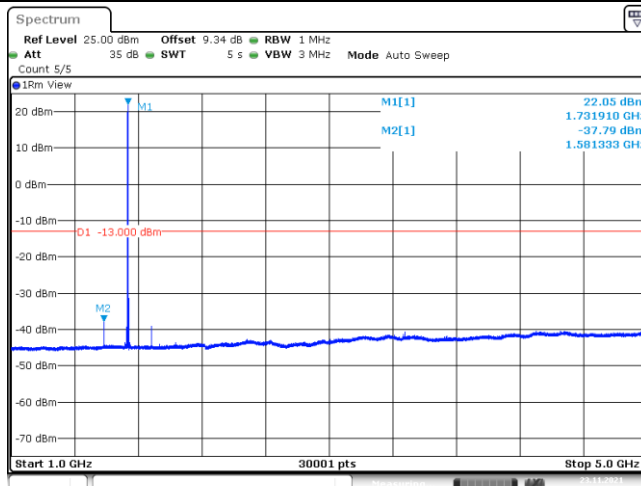
Band4-1.4MHz-16QAM-19957-6-0-Low-12000-26500--49.71-PASS



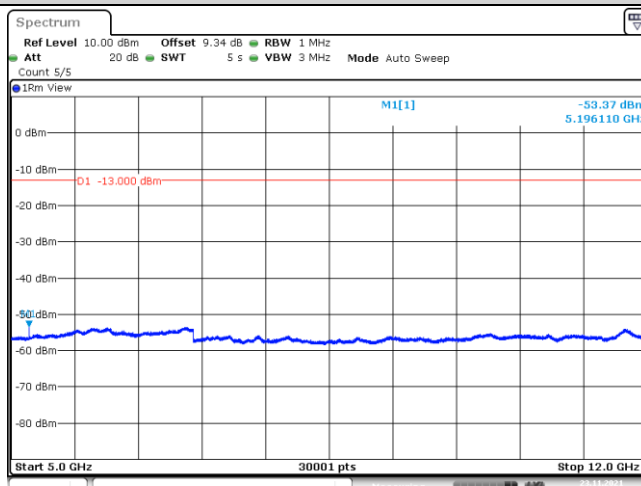
Band4-1.4MHz-16QAM-20175-1-0-Low-30-1000--35.58-PASS



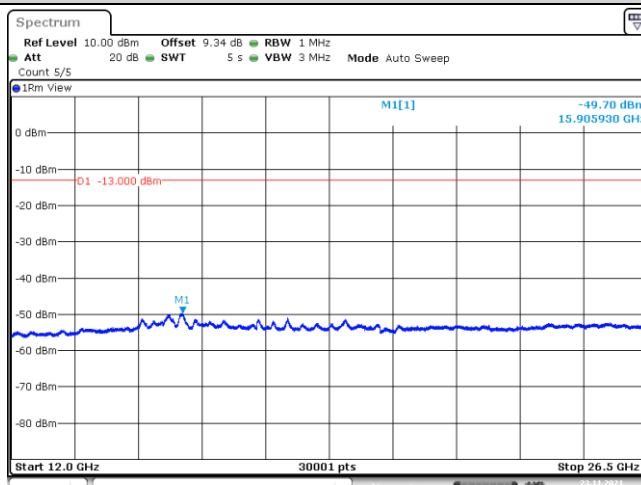
Band4-1.4MHz-16QAM-20175-1-0-Low-1000-5000--37.79-PASS



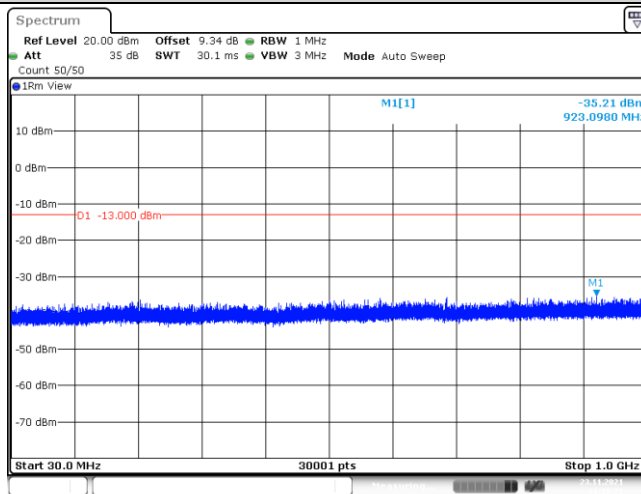
Band4-1.4MHz-16QAM-20175-1-0-Low-5000-12000--53.37-PASS



Band4-1.4MHz-16QAM-20175-1-0-Low-12000-26500--49.7-PASS

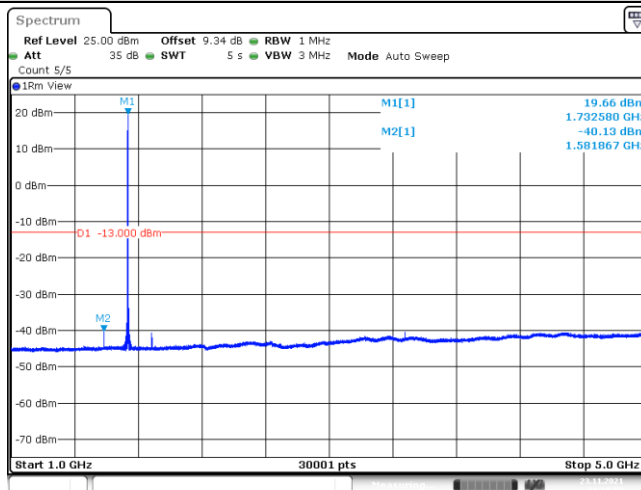


Band4-1.4MHz-16QAM-20175-6-0-Low-30-1000--35.21-PASS



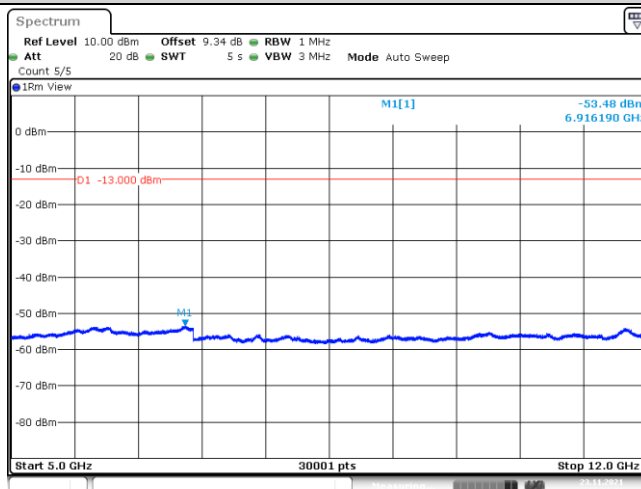
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Band4-1.4MHz-16QAM-20175-6-0-Low-1000-5000--40.13-PASS



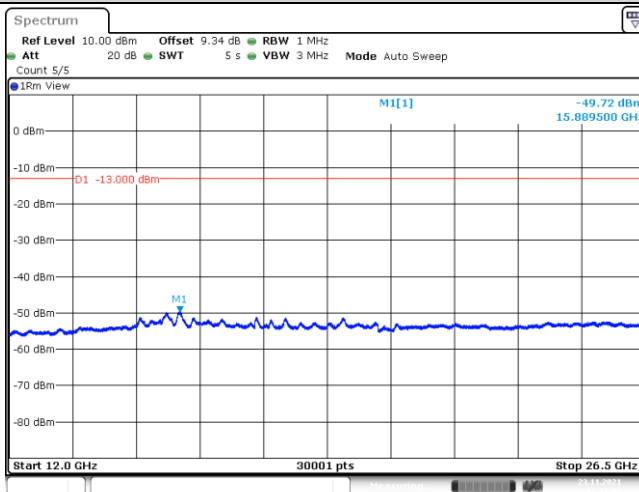
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Band4-1.4MHz-16QAM-20175-6-0-Low-5000-12000--53.48-PASS



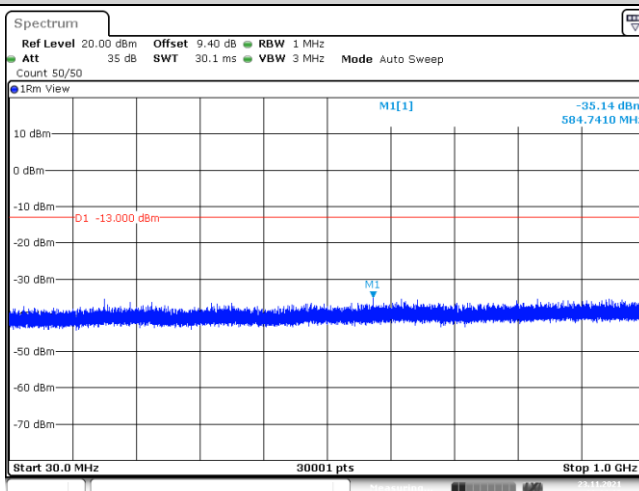
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Band4-1.4MHz-16QAM-20175-6-0-Low-12000-26500--49.72-PASS



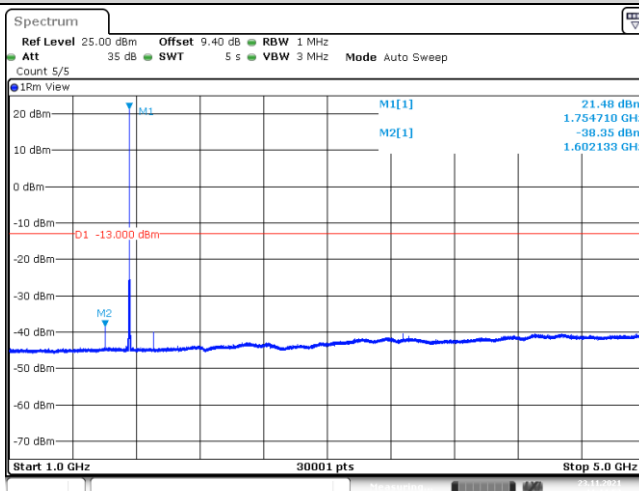
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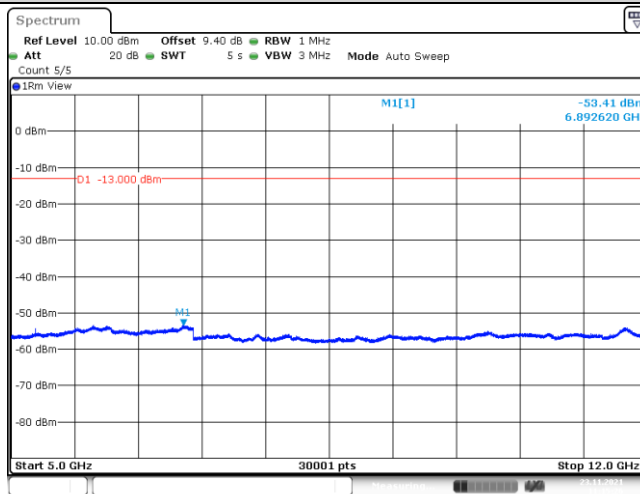
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Band4-1.4MHz-16QAM-20393-1-5-Low-1000-5000--38.35-PASS



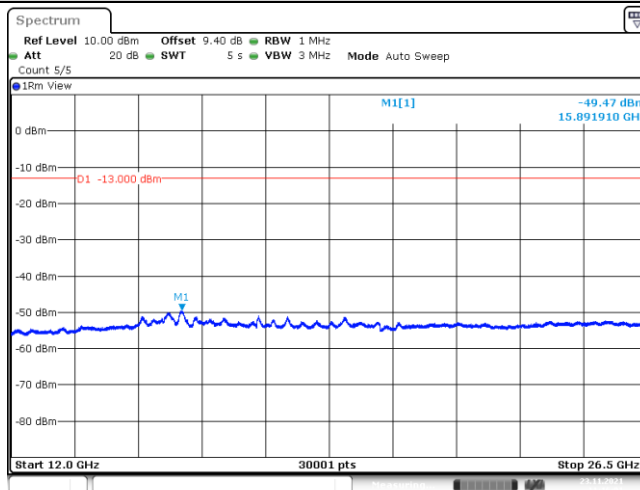
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Band4-1.4MHz-16QAM-20393-1-5-Low-5000-12000--53.41-PASS



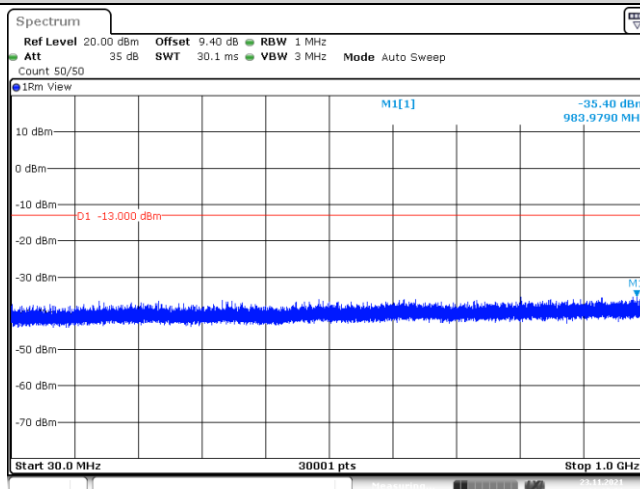
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Band4-1.4MHz-16QAM-20393-1-5-Low-12000-26500--49.47-PASS



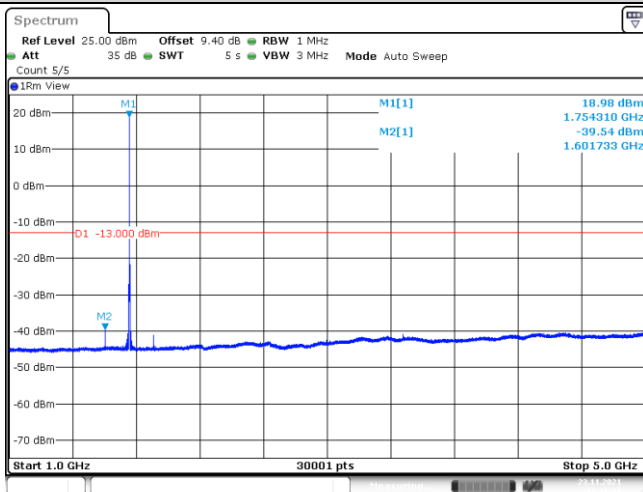
Date: 23.NOV.2021 11:16:01

Band4-1.4MHz-16QAM-20393-6-0-Low-30-1000--35.4-PASS



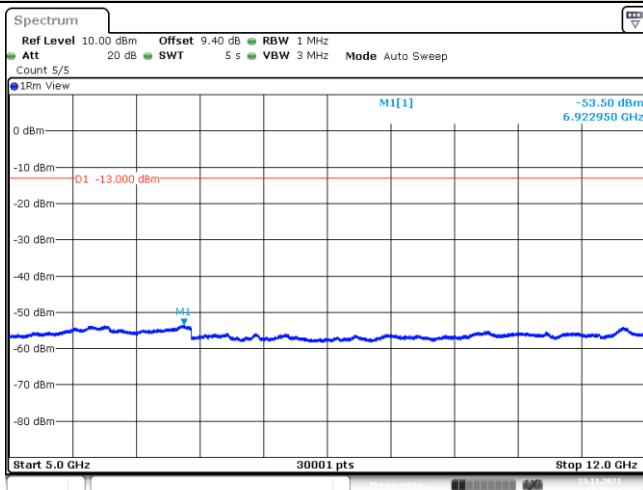
Date: 23.NOV.2021 11:18:02

Band4-1.4MHz-16QAM-20393-6-0-Low-1000-5000--39.54-PASS



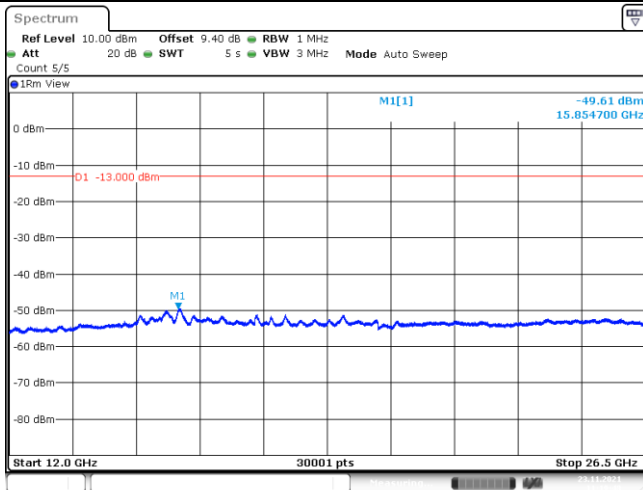
Date: 23.NOV.2021 11:18:38

Band4-1.4MHz-16QAM-20393-6-0-Low-5000-12000--53.5-PASS



Date: 23.NOV.2021 11:19:13

Band4-1.4MHz-16QAM-20393-6-0-Low-12000-26500--49.61-PASS



Date: 23.NOV.2021 11:19:48

APPENDIX B.6: FREQUENCY STABILITY FOR M1

Test Result

| Voltage | | | | | | | | | | | | |
|---------|-----------|---------|------------|---------|----------|-------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band | Bandwidth | Channel | Modulation | RB Size | RB Start | Index | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | HV | NT | -15.19 | -0.008768 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | LV | NT | -16.55 | -0.009553 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | NT | -14.05 | -0.008110 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | HV | NT | -15.01 | -0.008664 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | LV | NT | -11.42 | -0.006592 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | NT | -19.28 | -0.011128 | ±2.5 | PASS |

| Temperature | | | | | | | | | | | | |
|-------------|-----------|------------|---------|---------|----------|-------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band | Bandwidth | Modulation | Channel | RB Size | RB Start | Index | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 85 | -13.00 | -0.007504 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | -30 | -13.10 | -0.007561 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | -20 | -13.98 | -0.008069 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | -10 | -14.53 | -0.008387 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 0 | -13.23 | -0.007636 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 10 | -12.47 | -0.007198 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 20 | -14.22 | -0.008208 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 30 | -10.93 | -0.006309 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 40 | -10.94 | -0.006315 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 50 | -15.85 | -0.009149 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 60 | -13.42 | -0.007746 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 70 | -11.37 | -0.006563 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | -40 | -12.73 | -0.007348 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | QPSK | 1 | 0 | Low | NV | 80 | -12.04 | -0.006949 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 85 | -14.06 | -0.008115 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | -30 | -13.00 | -0.007504 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | -20 | -11.09 | -0.006401 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | -10 | -9.28 | -0.005356 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 0 | -11.14 | -0.006430 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 10 | -12.92 | -0.007457 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 20 | -12.66 | -0.007307 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 30 | -16.01 | -0.009241 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 40 | -14.05 | -0.008110 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 50 | -11.34 | -0.006545 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 60 | -13.89 | -0.008017 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 70 | -11.00 | -0.006349 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | 80 | -11.80 | -0.006811 | ±2.5 | PASS |
| Band4 | 1.4MHz | 20175 | 16QAM | 1 | 0 | Low | NV | -40 | -14.59 | -0.008421 | ±2.5 | PASS |