

# APPENDIX C: TEST RESULTS OF BAND 5 FOR NB-IOT OPERATION

|                                                                                        |           |
|----------------------------------------------------------------------------------------|-----------|
| <b>APPENDIX C: TEST RESULTS OF BAND 5 FOR NB-IOT OPERATION.....</b>                    | <b>1</b>  |
| <b>APPENDIX C.1: EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA FOR NB-IOT .....</b> | <b>2</b>  |
| Test Result.....                                                                       | 2         |
| <b>APPENDIX C.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR NB-IOT .....</b>                     | <b>4</b>  |
| Test Result.....                                                                       | 4         |
| Test Graphs .....                                                                      | 5         |
| <b>APPENDIX C.3: EMISSION BANDWIDTH FOR NB-IOT .....</b>                               | <b>10</b> |
| Test Result.....                                                                       | 10        |
| Test Graphs .....                                                                      | 11        |
| <b>APPENDIX C.4: BAND EDGE FOR NB-IOT .....</b>                                        | <b>19</b> |
| Test Result.....                                                                       | 19        |
| Test Graphs .....                                                                      | 20        |
| <b>APPENDIX C.5: CONDUCTED SPURIOUS EMISSION FOR NB-IOT .....</b>                      | <b>38</b> |
| Test Result.....                                                                       | 38        |
| Test Graphs .....                                                                      | 40        |
| <b>APPENDIX C.6: FREQUENCY STABILITY FOR NB-IOT .....</b>                              | <b>70</b> |
| Test Result.....                                                                       | 70        |

## APPENDIX C.1: EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA FOR NB-IOT

### Test Result

| Band  | OpMode      | SCS     | BW  | Modu | Channel | Tones | Measure Result | ERP   |       | Limit (watts) |      | Verdict |
|-------|-------------|---------|-----|------|---------|-------|----------------|-------|-------|---------------|------|---------|
|       |             |         |     |      |         |       | dBm            | dBm   | Watts | FCC           | ISED |         |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20401   | 1@0   | 6.36           | 6.35  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20401   | 1@47  | 6.27           | 6.26  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20402   | 1@0   | 23.03          | 23.02 | 0.200 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20402   | 1@47  | 22.92          | 22.91 | 0.195 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20525   | 1@0   | 22.88          | 22.87 | 0.194 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20525   | 1@47  | 22.85          | 22.84 | 0.192 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20648   | 1@0   | 22.95          | 22.94 | 0.197 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20648   | 1@47  | 22.85          | 22.84 | 0.192 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20649   | 1@0   | 6.43           | 6.42  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20649   | 1@47  | 6.35           | 6.34  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 6.44           | 6.43  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | 6.36           | 6.35  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20402   | 1@0   | 23.08          | 23.07 | 0.203 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20402   | 1@47  | 23             | 22.99 | 0.199 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 22.91          | 22.90 | 0.195 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 22.89          | 22.88 | 0.194 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20648   | 1@0   | 23             | 22.99 | 0.199 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20648   | 1@47  | 22.93          | 22.92 | 0.196 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 6.54           | 6.53  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | 6.46           | 6.45  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | 6.39           | 6.38  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@11  | 6.34           | 6.33  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 3@3   | 6.47           | 6.46  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20402   | 1@0   | 21.06          | 21.05 | 0.127 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20402   | 1@11  | 22.93          | 22.92 | 0.196 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20402   | 3@3   | 23.33          | 23.32 | 0.215 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 1@0   | 23.01          | 23.00 | 0.200 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 1@11  | 22.93          | 22.92 | 0.196 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 3@3   | 23.1           | 23.09 | 0.204 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20648   | 1@0   | 22.78          | 22.77 | 0.189 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20648   | 1@11  | 22.85          | 22.84 | 0.192 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20648   | 3@3   | 23.36          | 23.35 | 0.216 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 1@0   | 6.47           | 6.46  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 1@11  | 6.41           | 6.40  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 3@3   | 6.52           | 6.51  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 1@0   | 6.5            | 6.49  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 1@11  | 6.43           | 6.42  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 3@3   | 6.47           | 6.46  | 0.004 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 1@0   | 21.28          | 21.27 | 0.134 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 1@11  | 21.19          | 21.18 | 0.131 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 3@3   | 23.33          | 23.32 | 0.215 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 1@0   | 21             | 20.99 | 0.126 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 1@11  | 23.11          | 23.10 | 0.204 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 3@3   | 23.11          | 23.10 | 0.204 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 1@0   | 21.16          | 21.15 | 0.130 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 1@11  | 21.07          | 21.06 | 0.128 | 7             | 11.5 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 3@3   | 23.21          | 23.20 | 0.209 | 7             | 11.5 | PASS    |

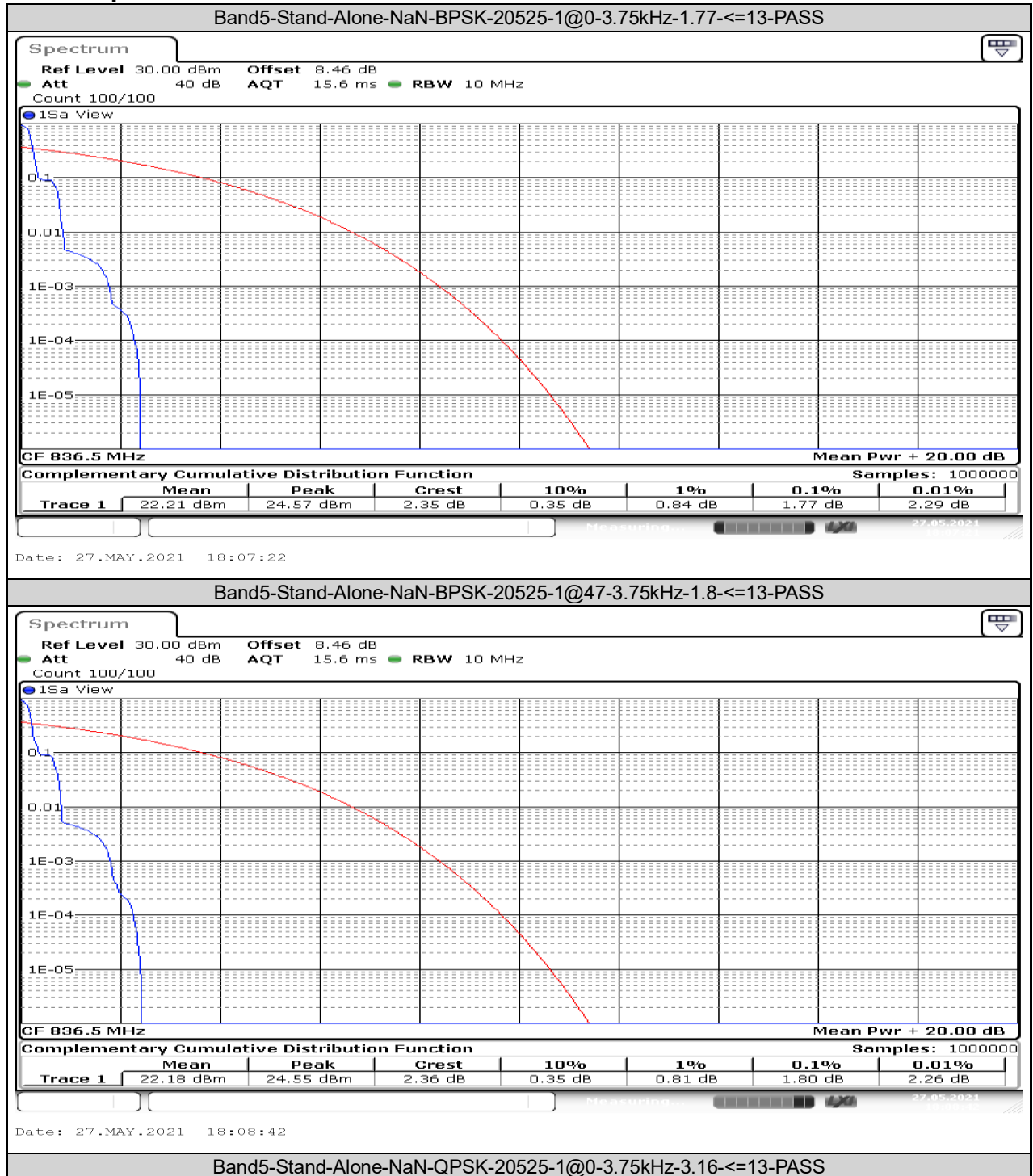
|       |             |       |     |      |       |      |      |      |       |   |      |      |
|-------|-------------|-------|-----|------|-------|------|------|------|-------|---|------|------|
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 1@0  | 6.59 | 6.58 | 0.005 | 7 | 11.5 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 1@11 | 6.5  | 6.49 | 0.004 | 7 | 11.5 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 3@3  | 6.52 | 6.51 | 0.004 | 7 | 11.5 | PASS |

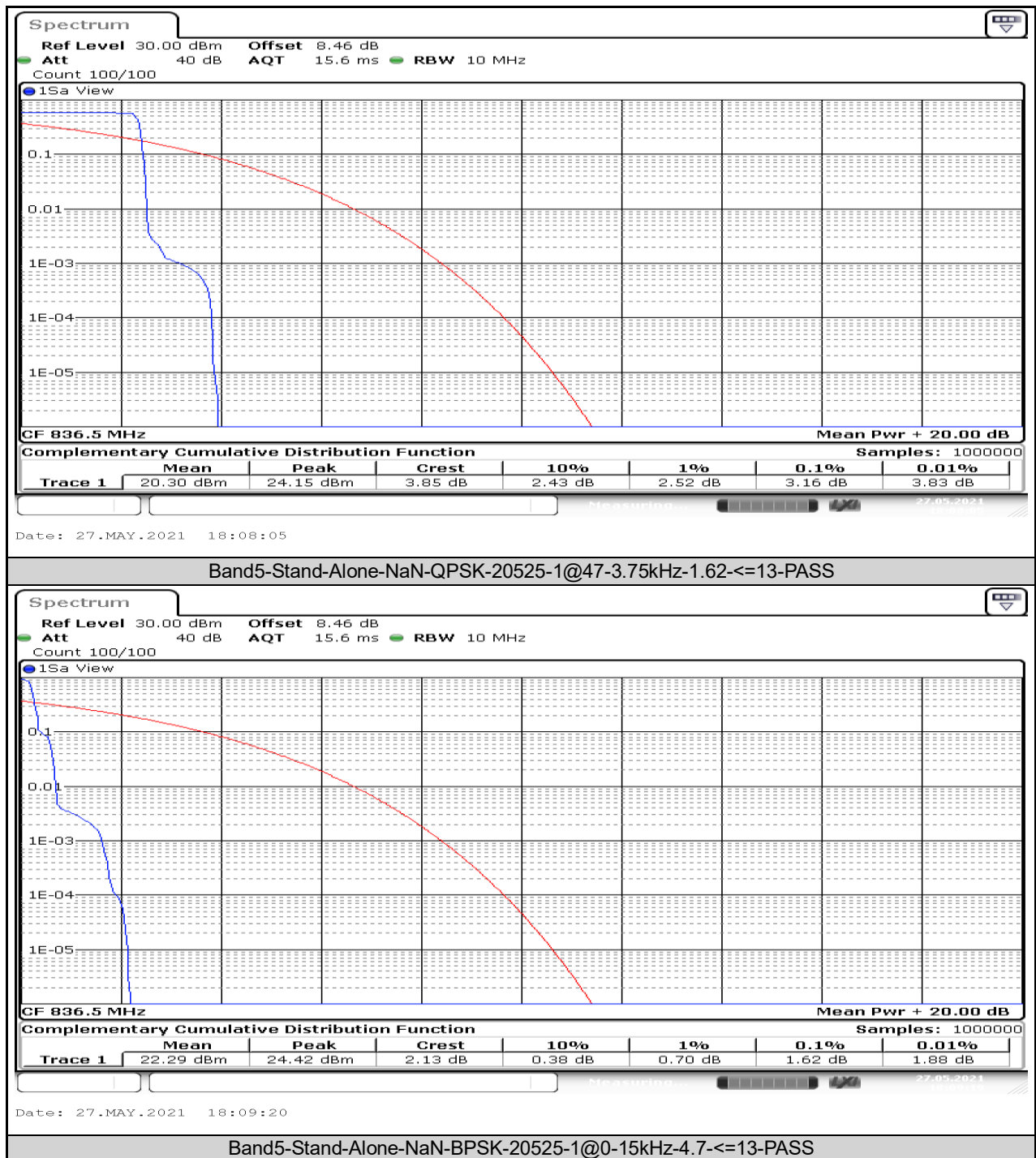
## APPENDIX C.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR NB-IOT

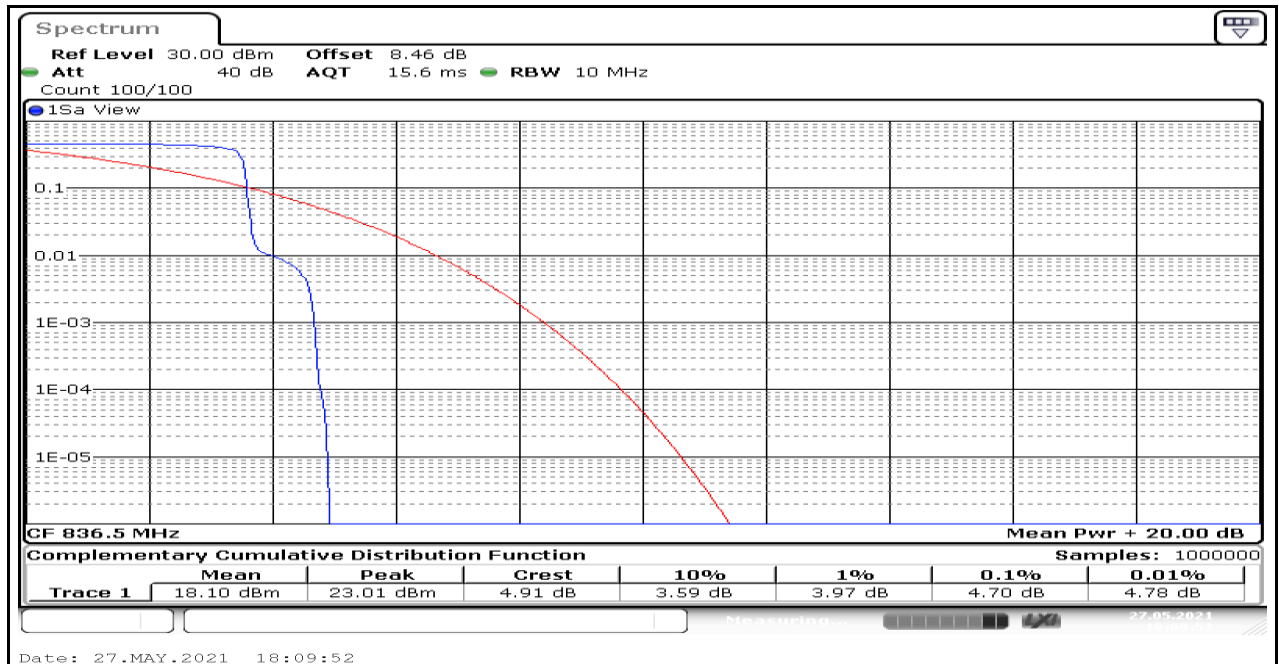
### Test Result

| Band  | OpMode      | SCS     | BW  | Modu | Channel | Tones | Result (dB) | Limit (dB) | Verdict |
|-------|-------------|---------|-----|------|---------|-------|-------------|------------|---------|
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20525   | 1@0   | 1.77        | <=13       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20525   | 1@47  | 1.8         | <=13       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 3.16        | <=13       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 1.62        | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 1@0   | 4.7         | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 1@11  | 3.88        | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 3@3   | 9.42        | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 1@0   | 5.1         | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 1@11  | 7.19        | <=13       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 3@3   | 8.43        | <=13       | PASS    |

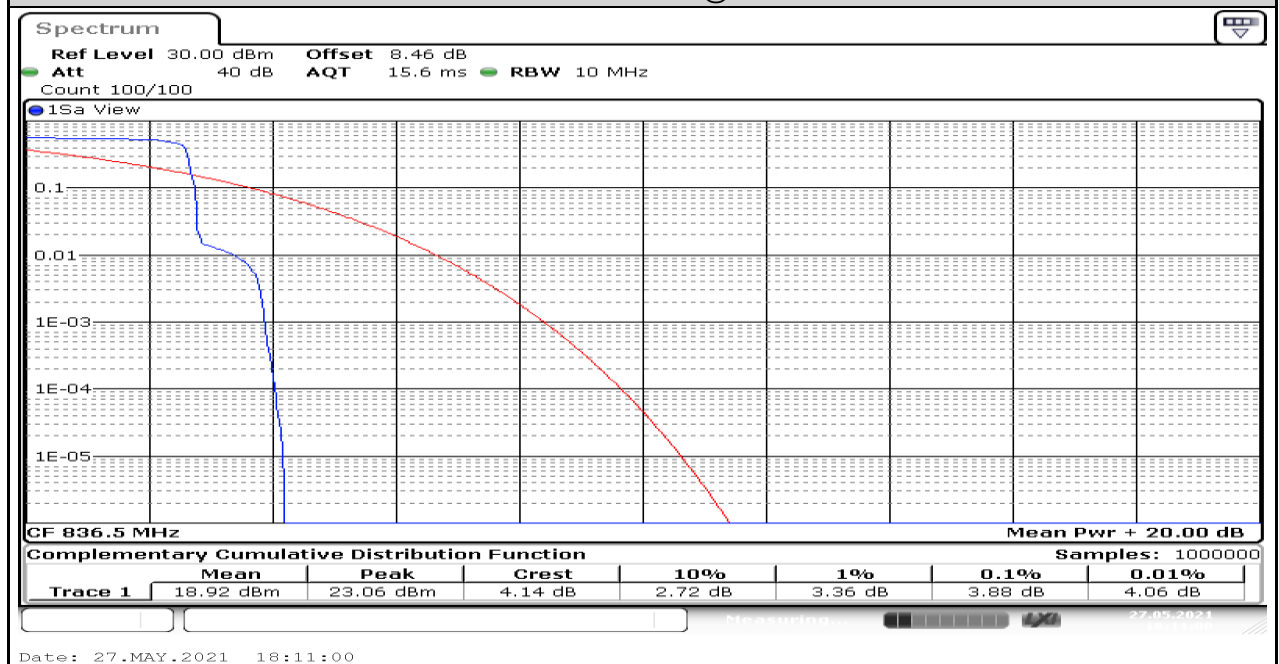
## Test Graphs



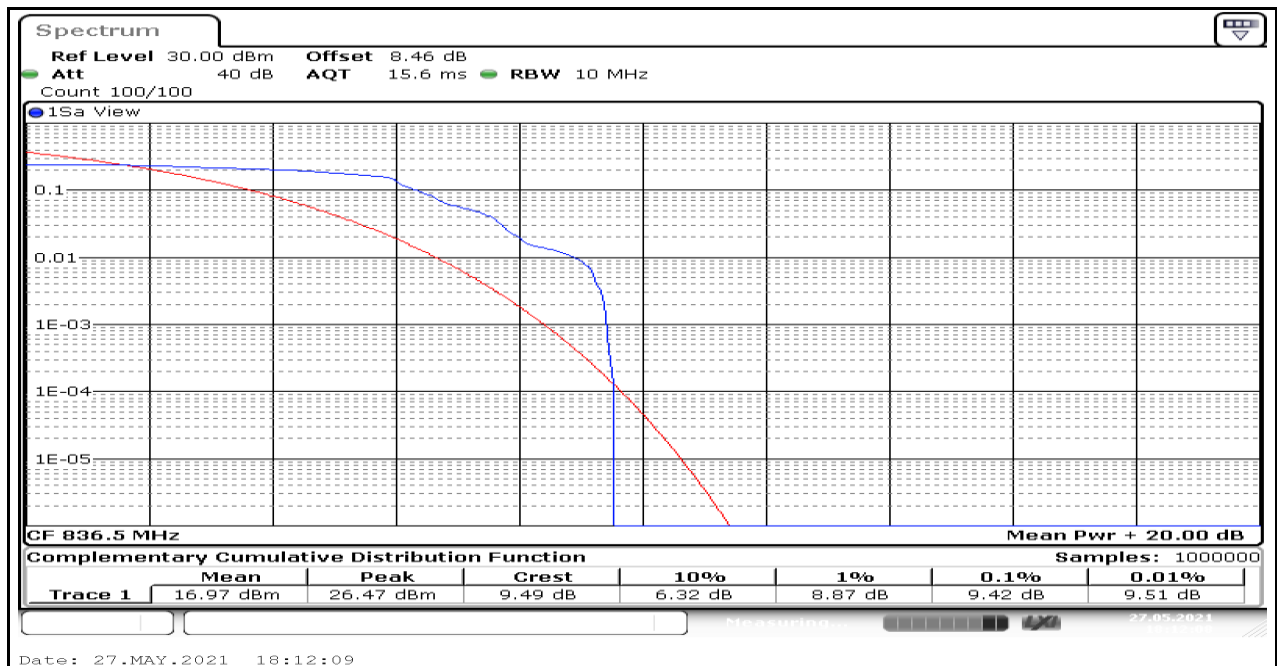




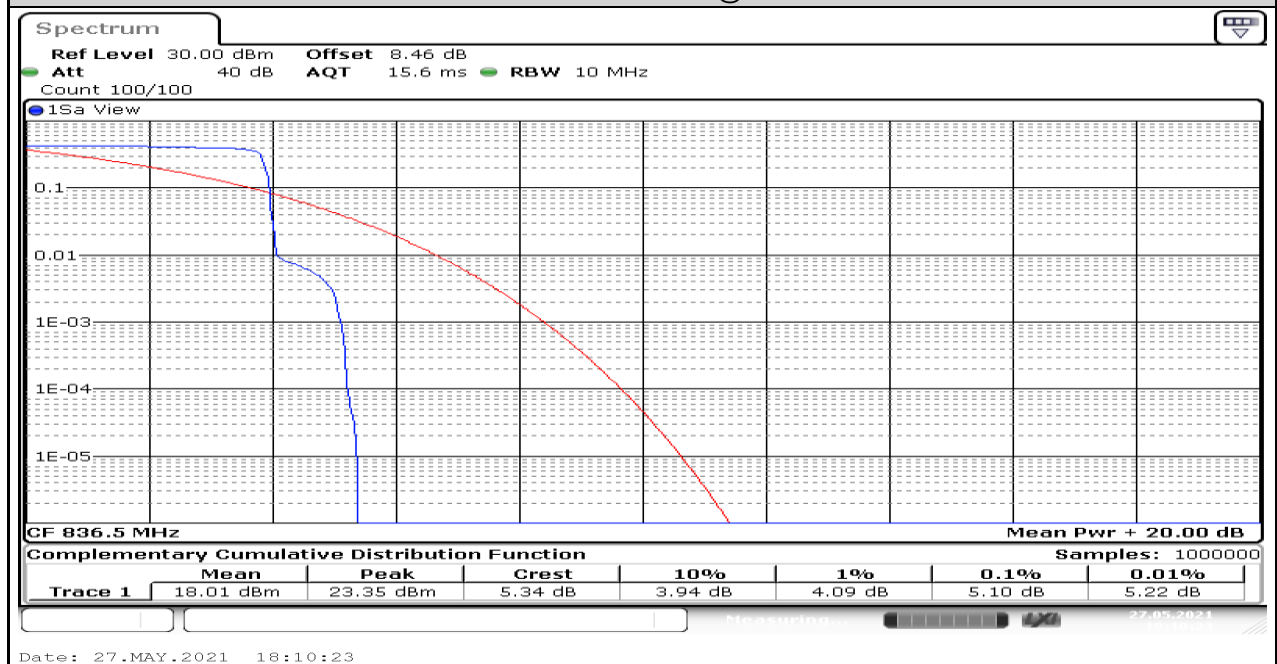
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-3.88-<=13-PASS



Band5-Stand-Alone-NaN-BPSK-20525-3@3-15kHz-9.42-<=13-PASS

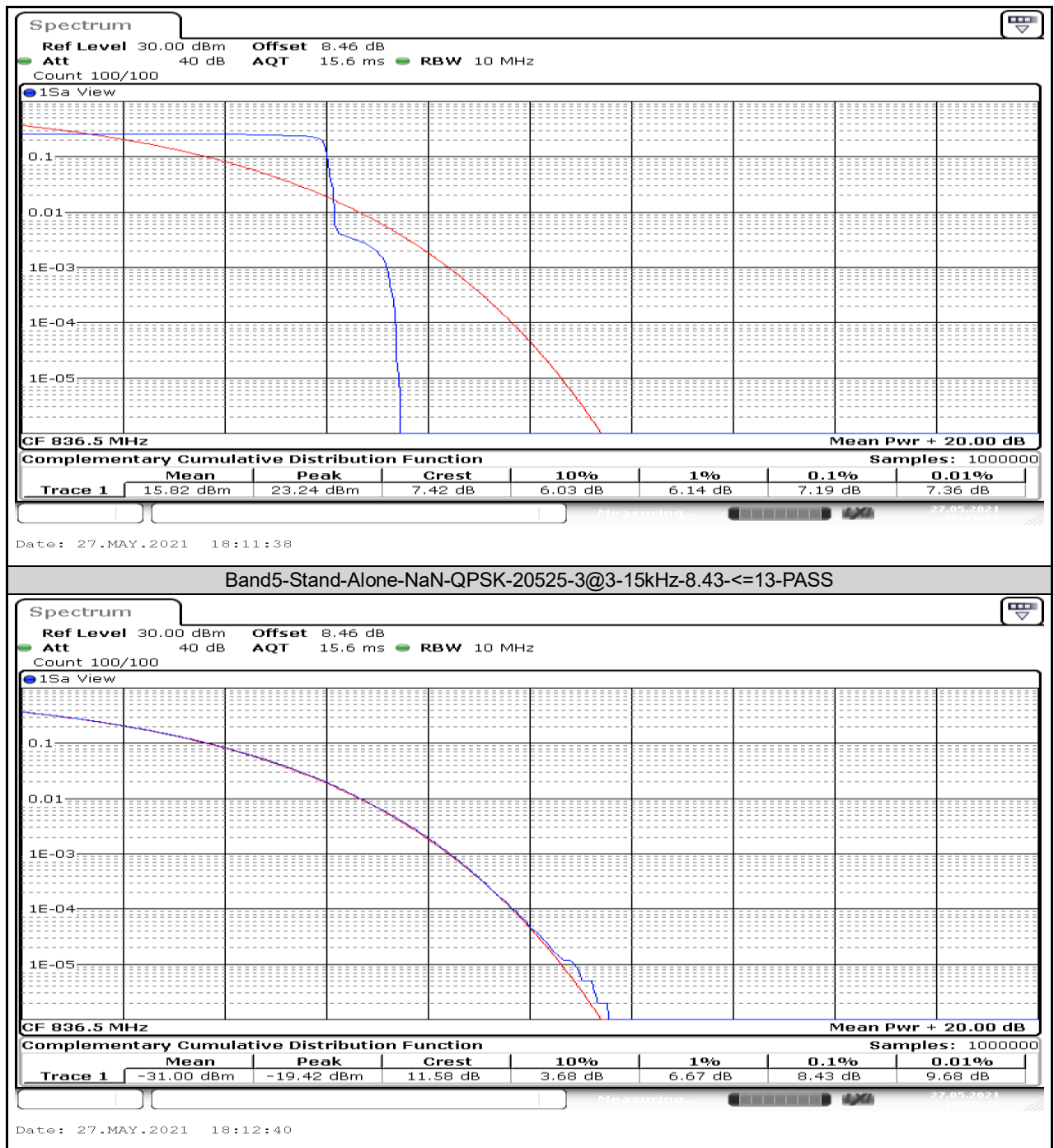


Band5-Stand-Alone-NaN-QPSK-20525-1@0-15kHz-5.1-<=13-PASS



Band5-Stand-Alone-NaN-QPSK-20525-1@11-15kHz-7.19-<=13-PASS



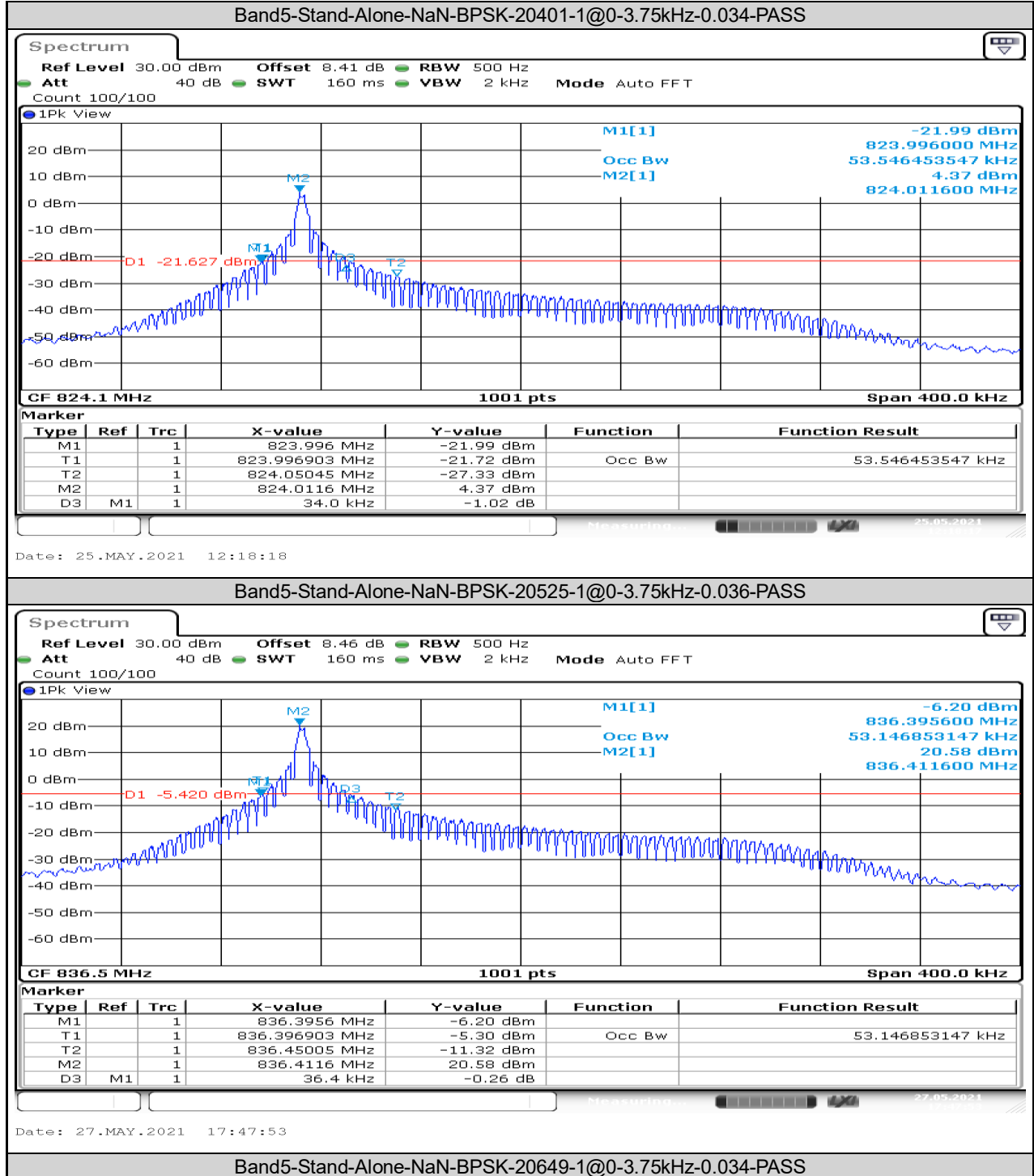


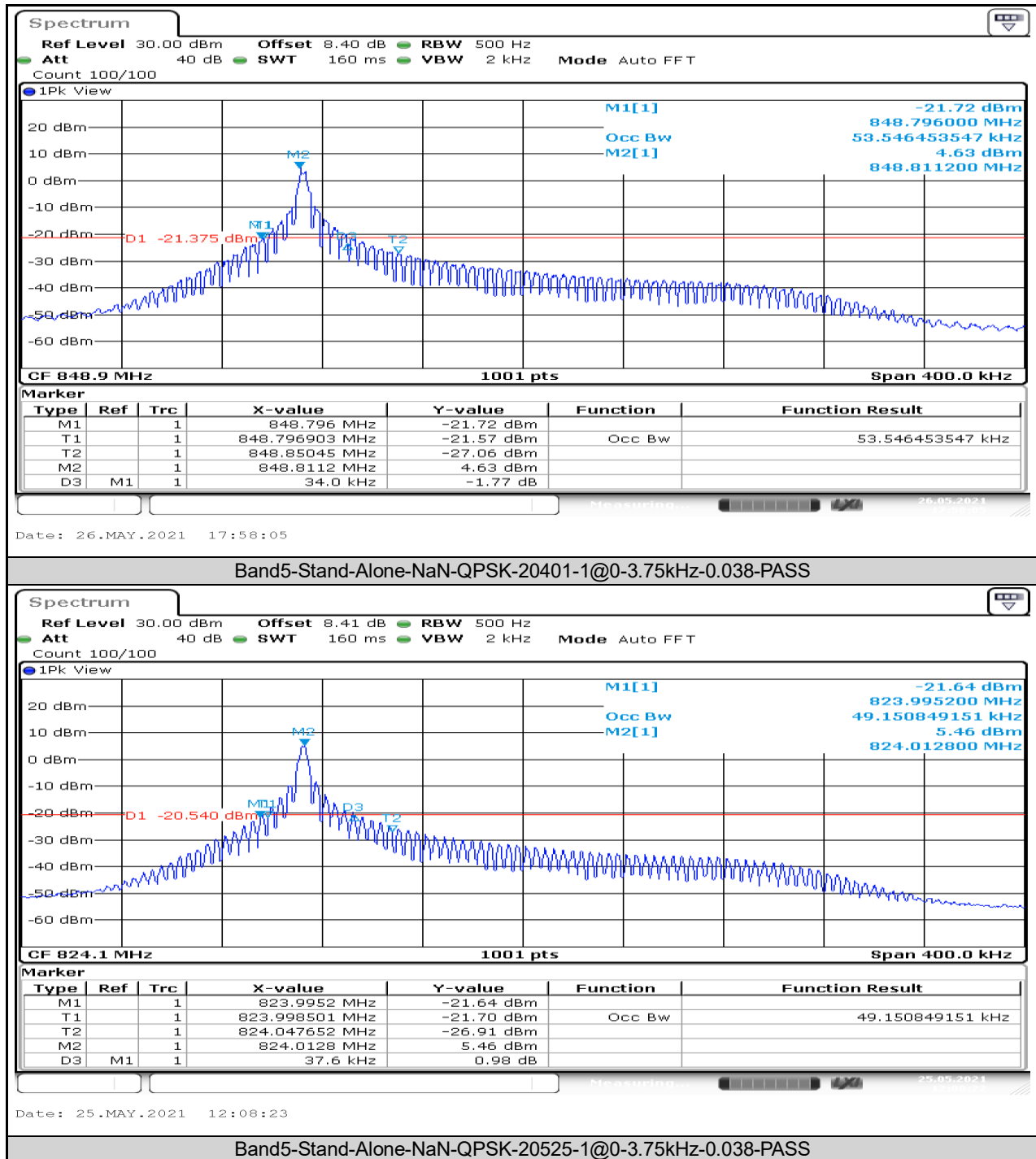
### APPENDIX C.3: EMISSION BANDWIDTH FOR NB-IOT

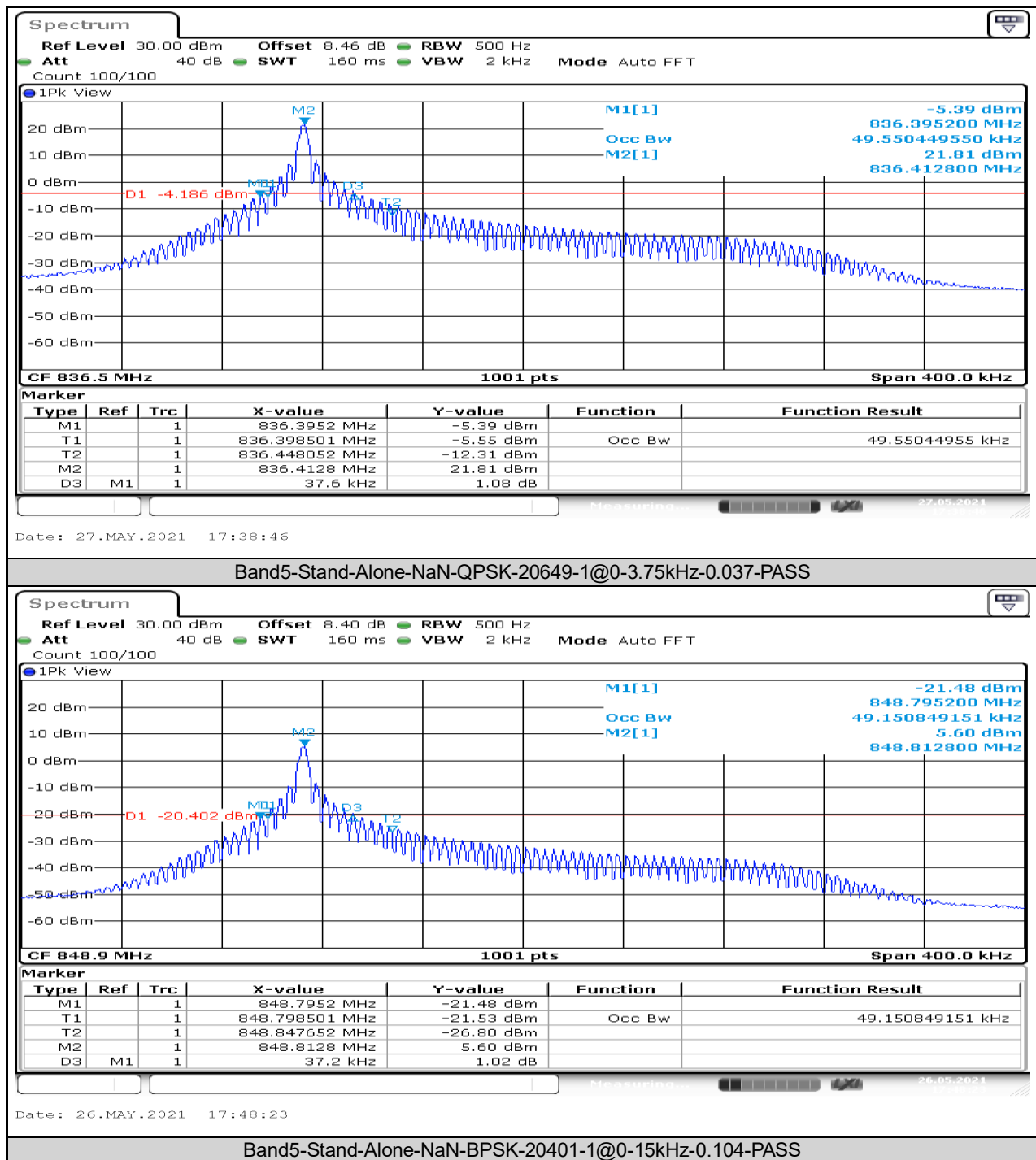
#### Test Result

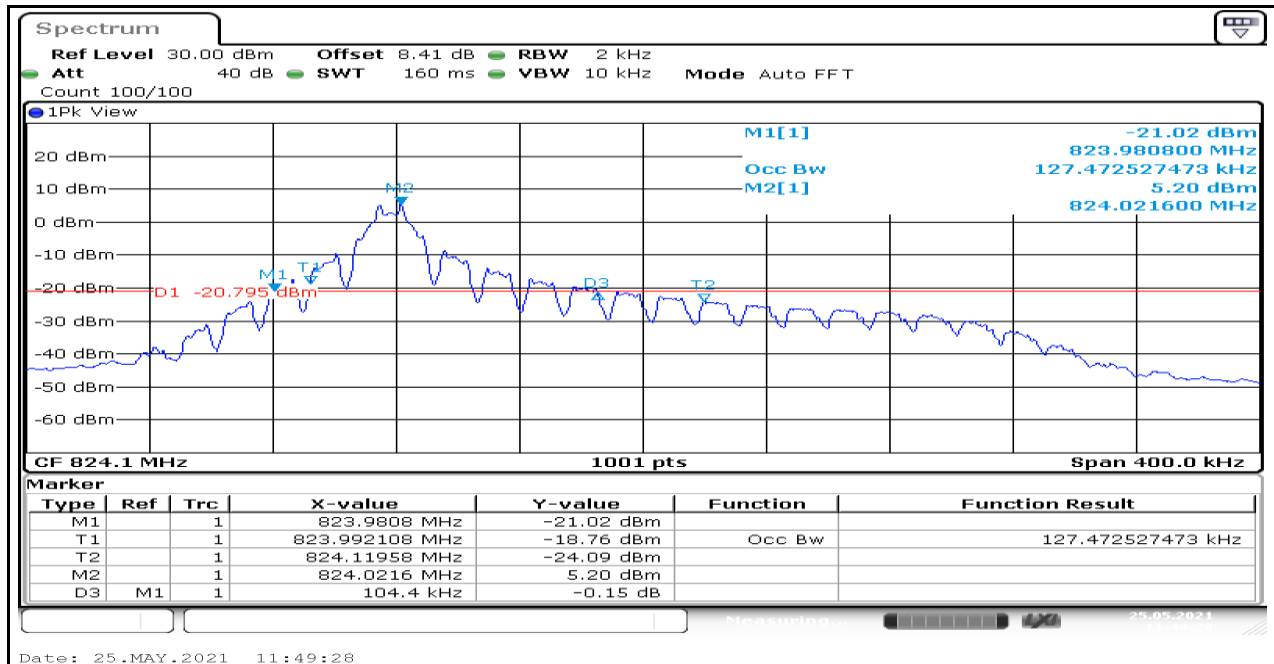
| Band  | OpMode      | SCS     | BW  | Modu | Channel | Tones | Result (dBm) |       | Verdict |
|-------|-------------|---------|-----|------|---------|-------|--------------|-------|---------|
|       |             |         |     |      |         |       | 26dB         | 99%   |         |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20401   | 1@0   | 0.034        | 0.054 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20525   | 1@0   | 0.036        | 0.053 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20649   | 1@0   | 0.034        | 0.054 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 0.038        | 0.049 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 0.038        | 0.050 | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 0.037        | 0.050 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | 0.104        | 0.127 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20525   | 1@0   | 0.106        | 0.125 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 1@0   | 0.106        | 0.128 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 1@0   | 0.117        | 0.119 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 12@0  | 0.250        | 0.184 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 1@0   | 0.117        | 0.119 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525   | 12@0  | 0.251        | 0.184 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20649   | 1@0   | 0.117        | 0.119 | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20649   | 12@0  | 0.250        | 0.184 | PASS    |

## Test Graphs

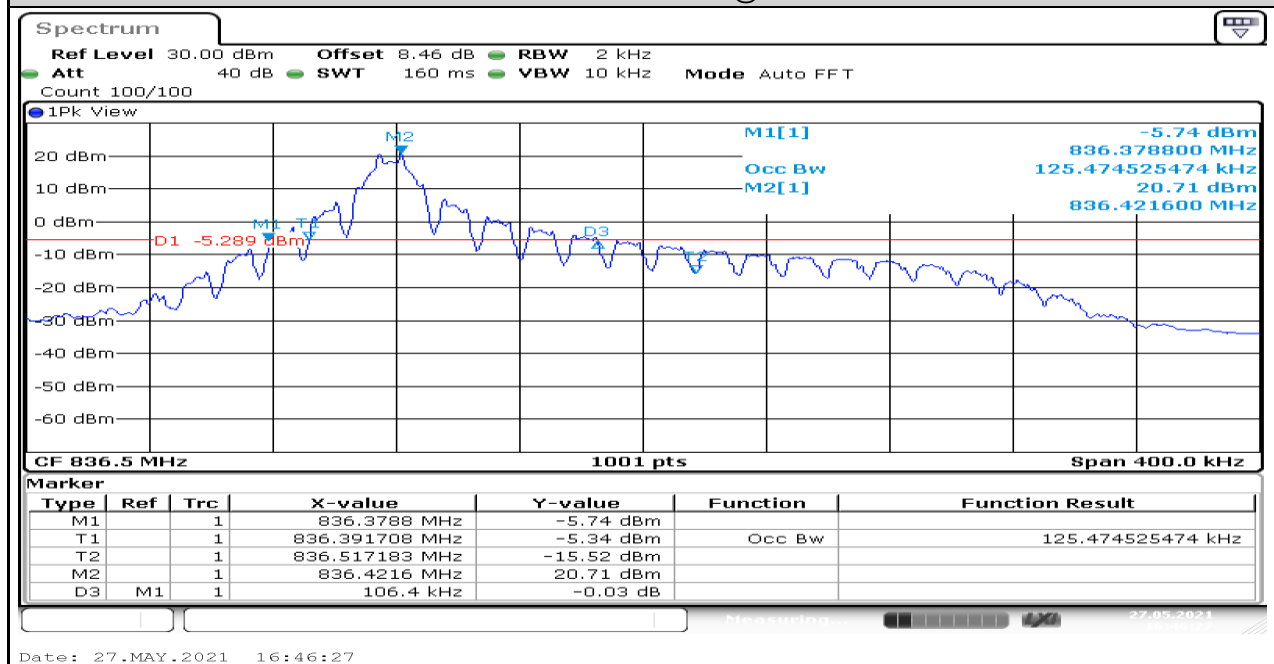




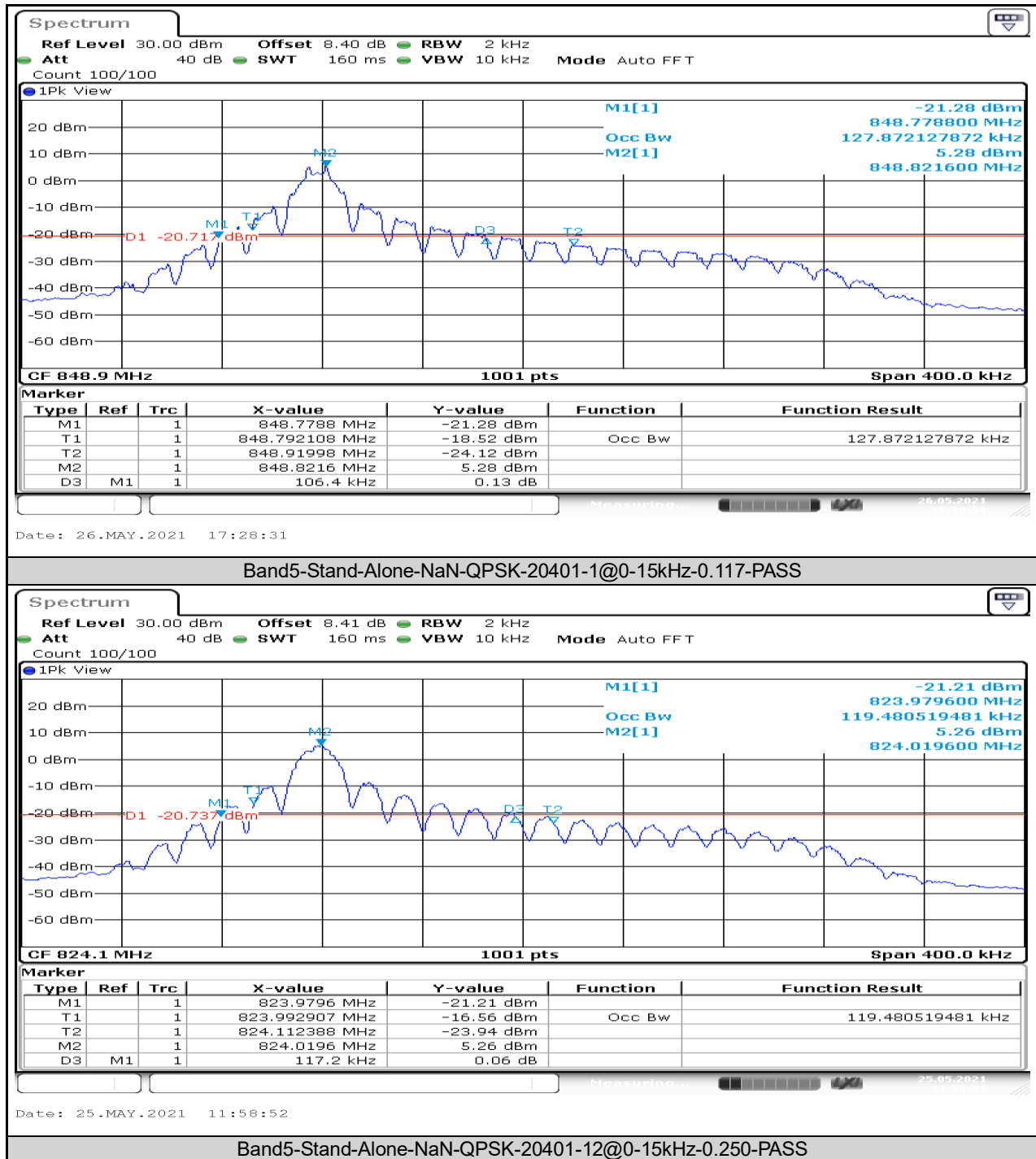


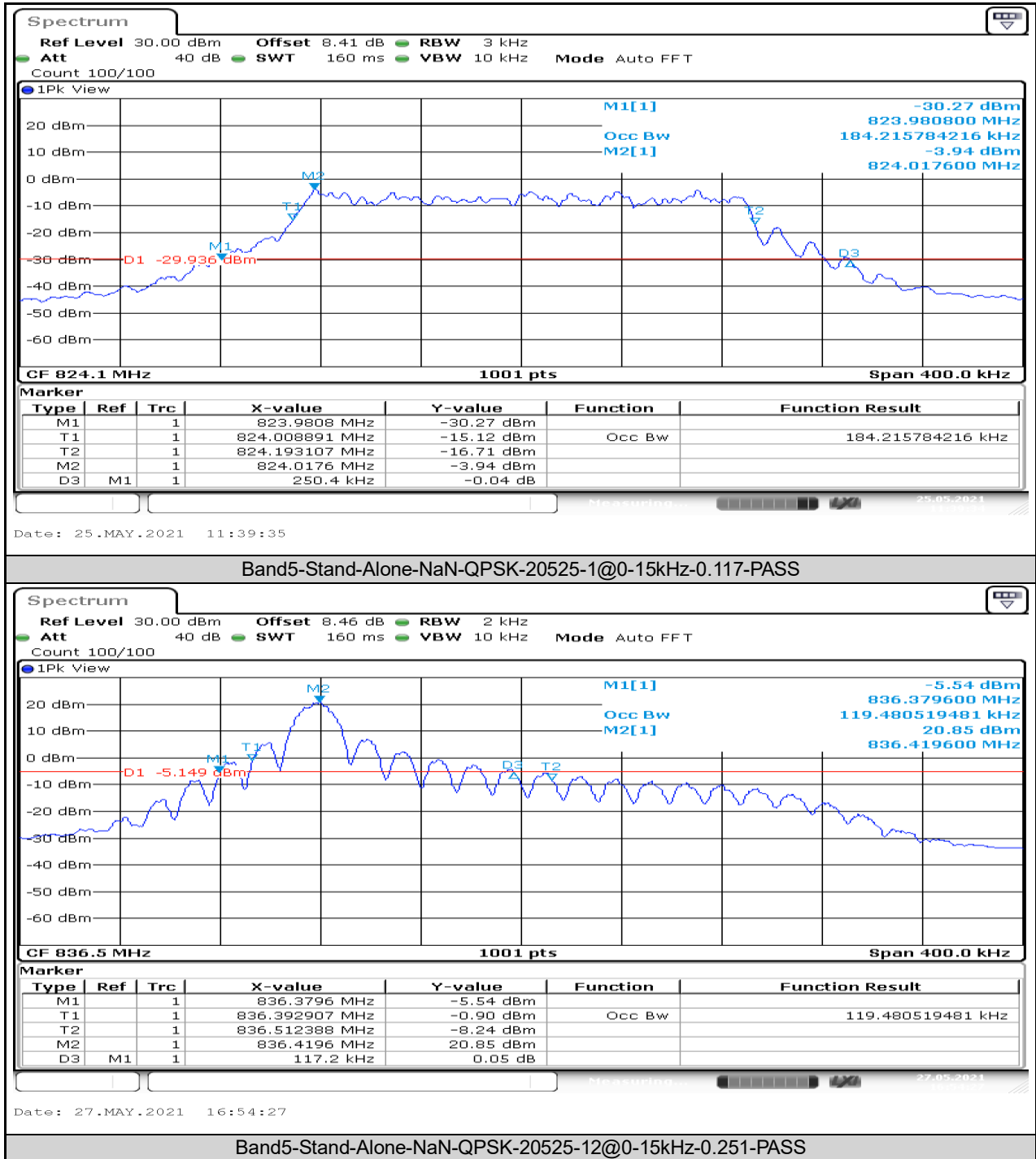


Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-0.106-PASS

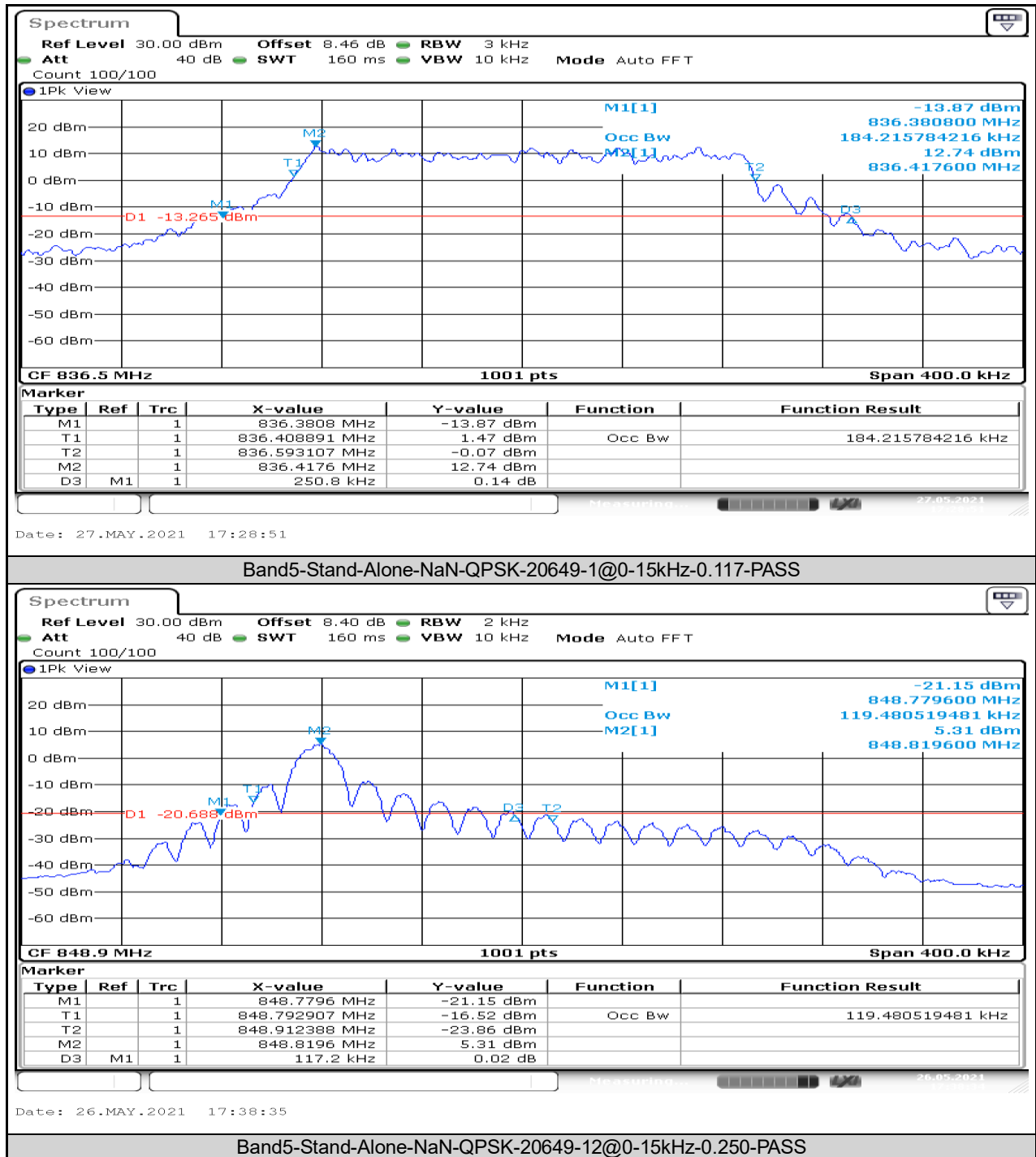


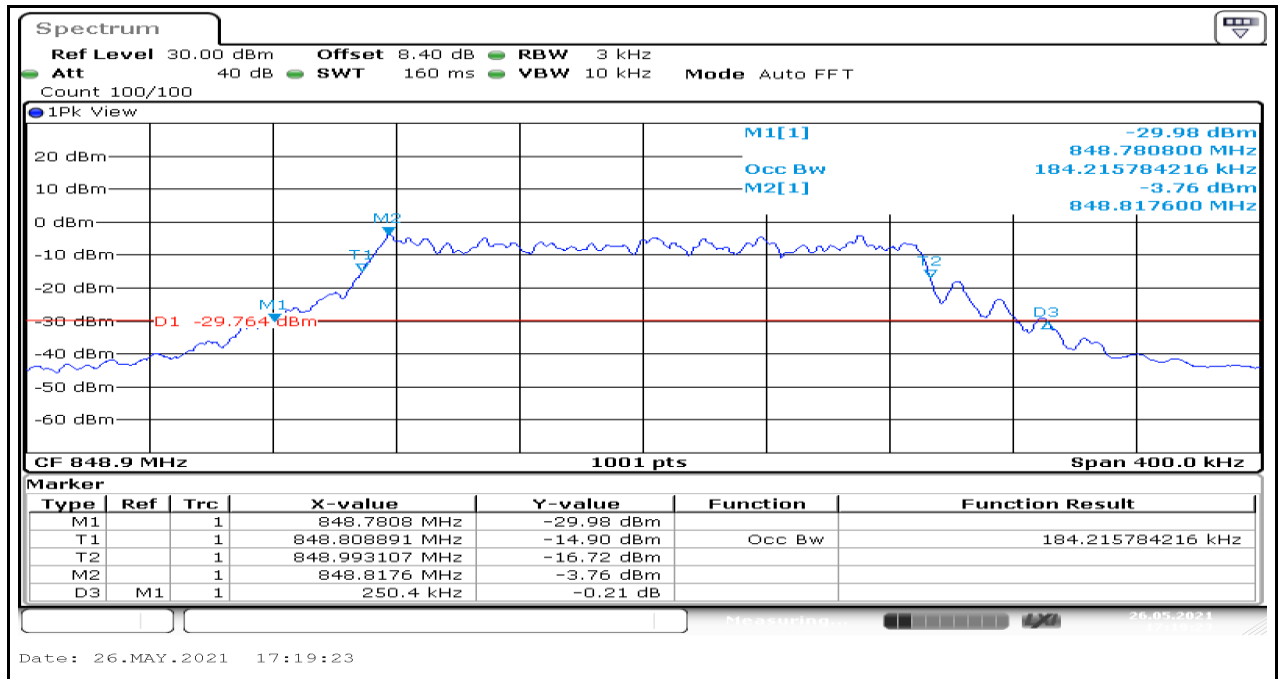
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-0.106-PASS









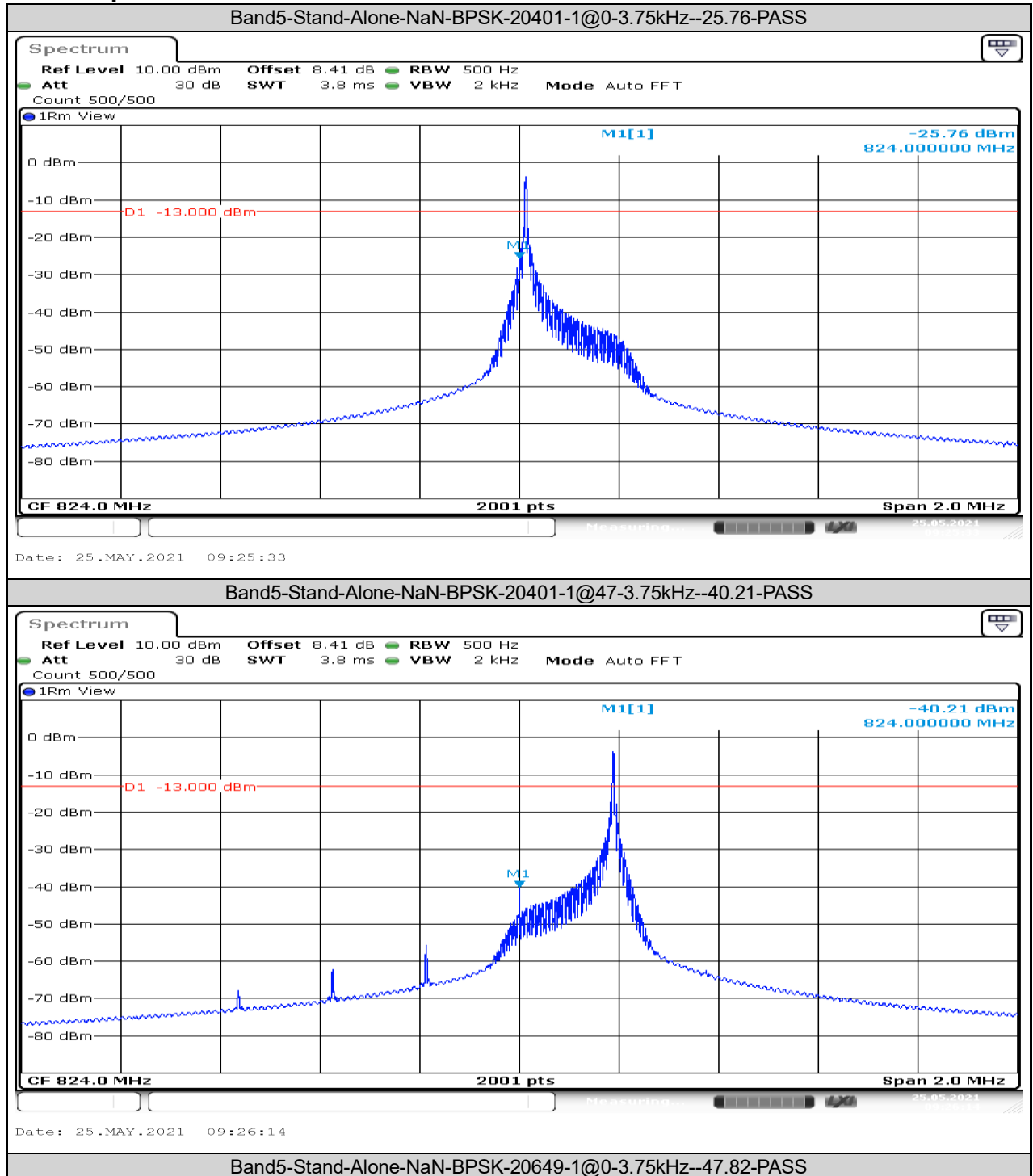


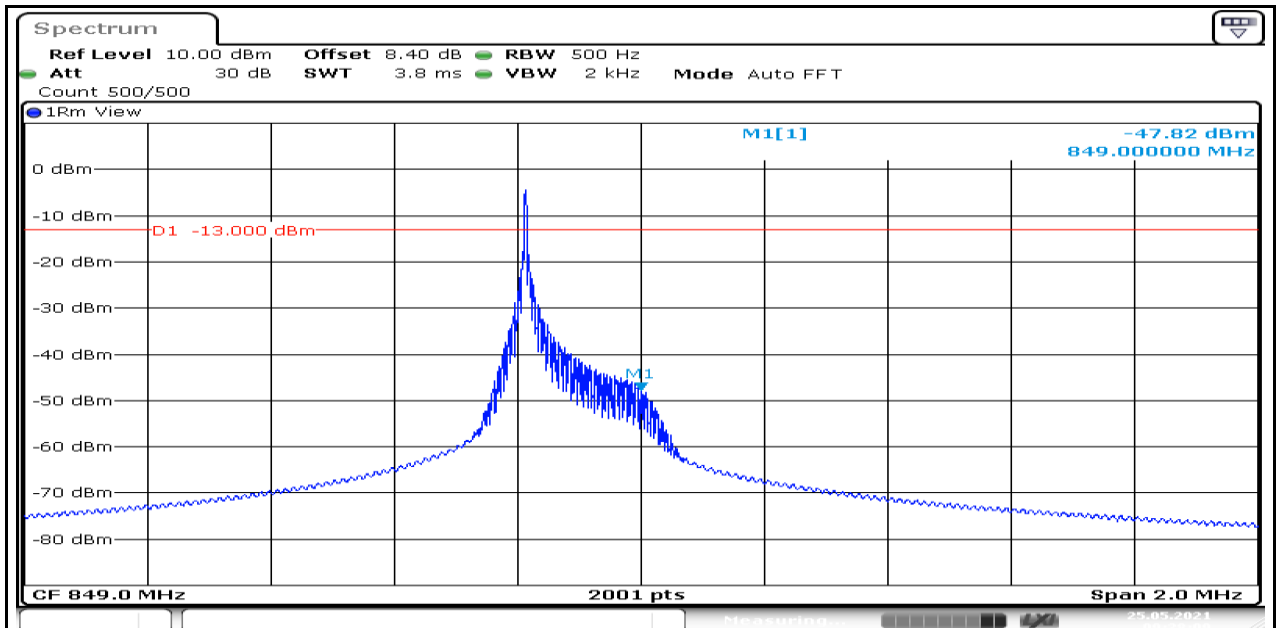
## APPENDIX C.4: BAND EDGE FOR NB-IOT

### Test Result

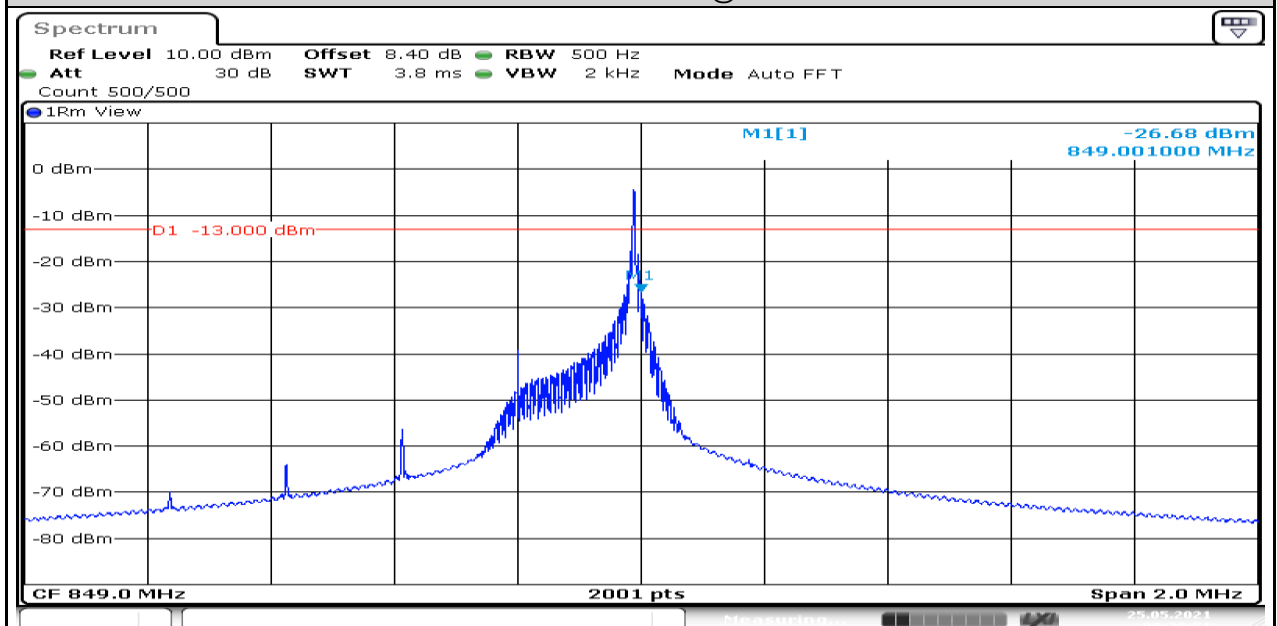
| Band  | OpMode      | SCS     | BW  | Modu | Channel | Tones | Result (dBm) | Verdict |
|-------|-------------|---------|-----|------|---------|-------|--------------|---------|
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20401   | 1@0   | -25.76       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20401   | 1@47  | -40.21       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20649   | 1@0   | -47.82       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20649   | 1@47  | -26.68       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | -27.39       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | -41.55       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | -48.81       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | -27.69       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | -20.37       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@11  | -36.74       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 1@0   | -39.98       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20649   | 1@11  | -20.68       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 1@0   | -22.61       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 1@11  | -38.58       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20401   | 12@0  | -39.79       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20649   | 1@0   | -41.16       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20649   | 1@11  | -21.92       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20649   | 12@0  | -37.40       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20402   | 1@0   | -43.11       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20402   | 1@0   | -44.30       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20402   | 1@0   | -47.81       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 1@0   | -49.29       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20402   | 1@11  | -42.23       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 1@11  | -42.74       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20402   | 1@47  | -39.52       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20402   | 1@47  | -40.54       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20402   | 12@0  | -46.52       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20648   | 1@0   | -47.28       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20648   | 1@0   | -49.12       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20648   | 1@0   | -54.40       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 1@0   | -53.35       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20648   | 1@11  | -48.87       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 1@11  | -50.31       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | BPSK | 20648   | 1@47  | -43.14       | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20648   | 1@47  | -43.48       | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20648   | 12@0  | -46.73       | PASS    |

## Test Graphs

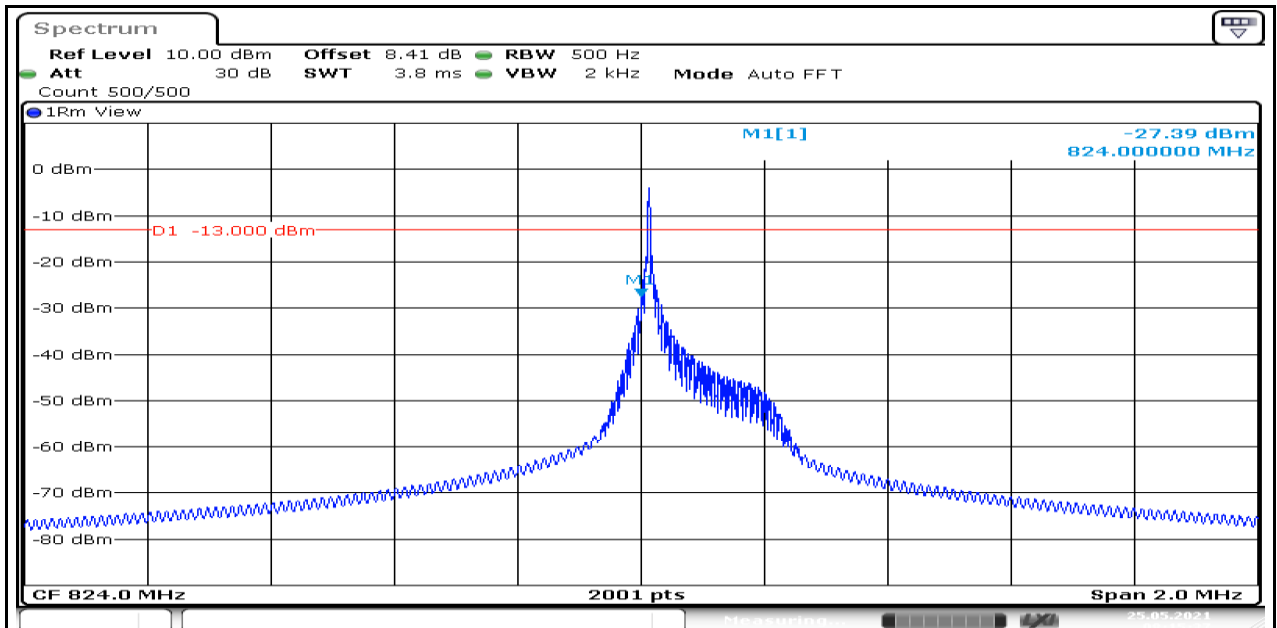




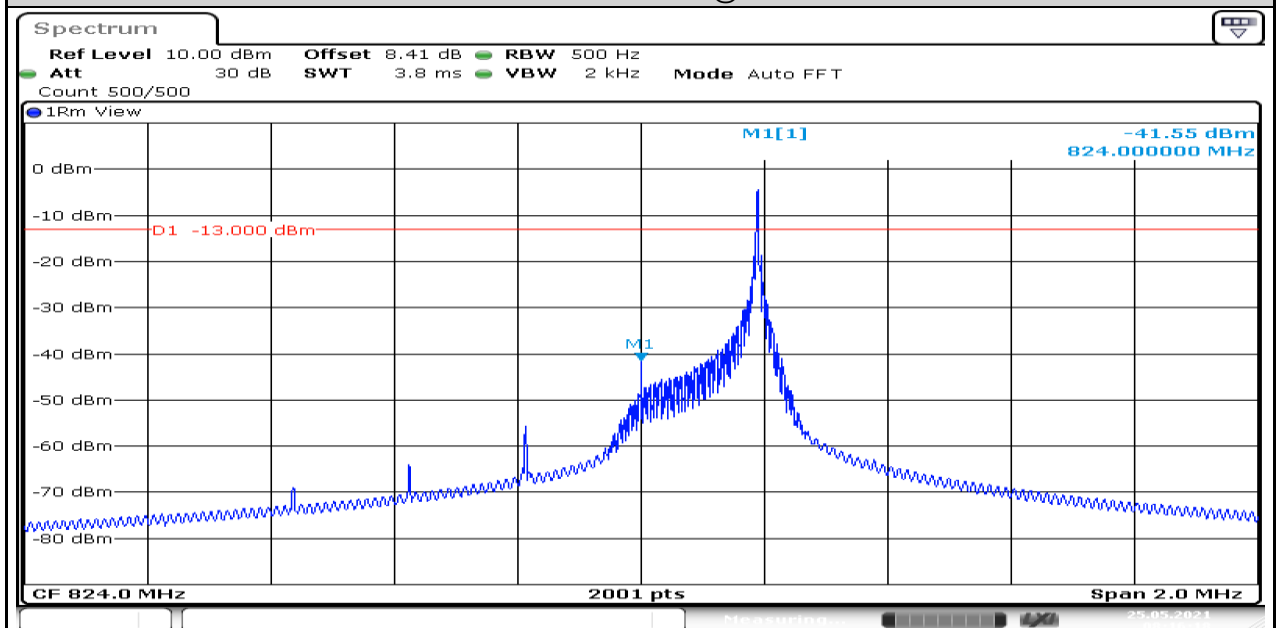
Band5-Stand-Alone-NaN-BPSK-20649-1@47-3.75kHz--26.68-PASS



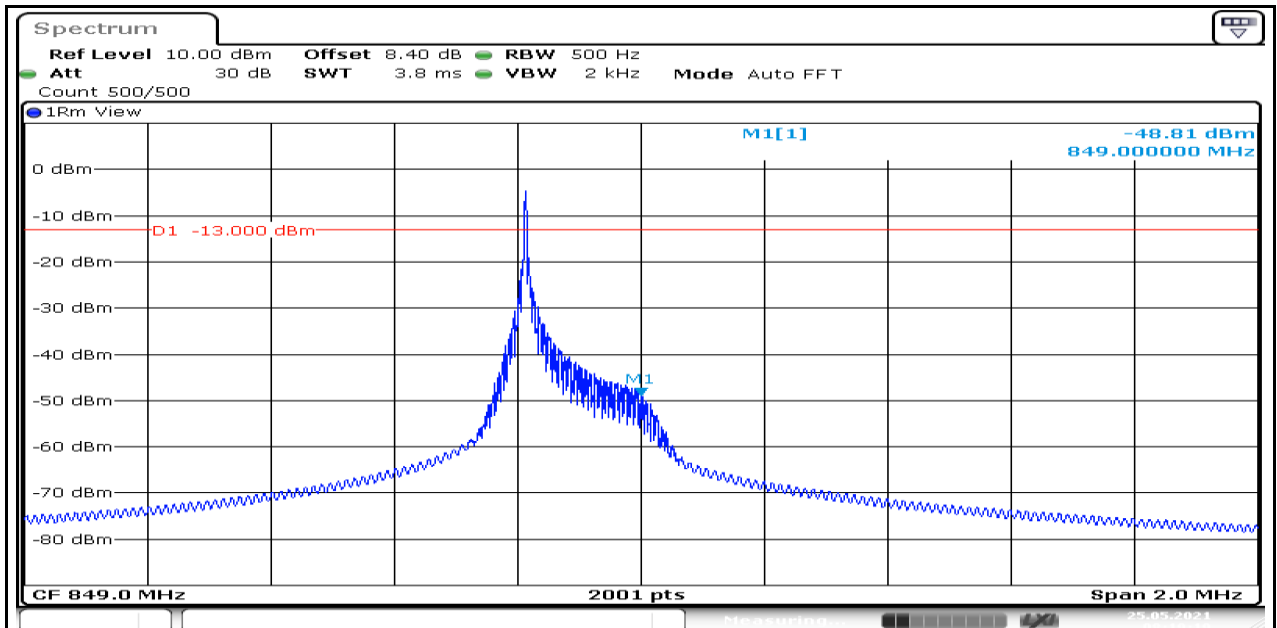
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz--27.39-PASS



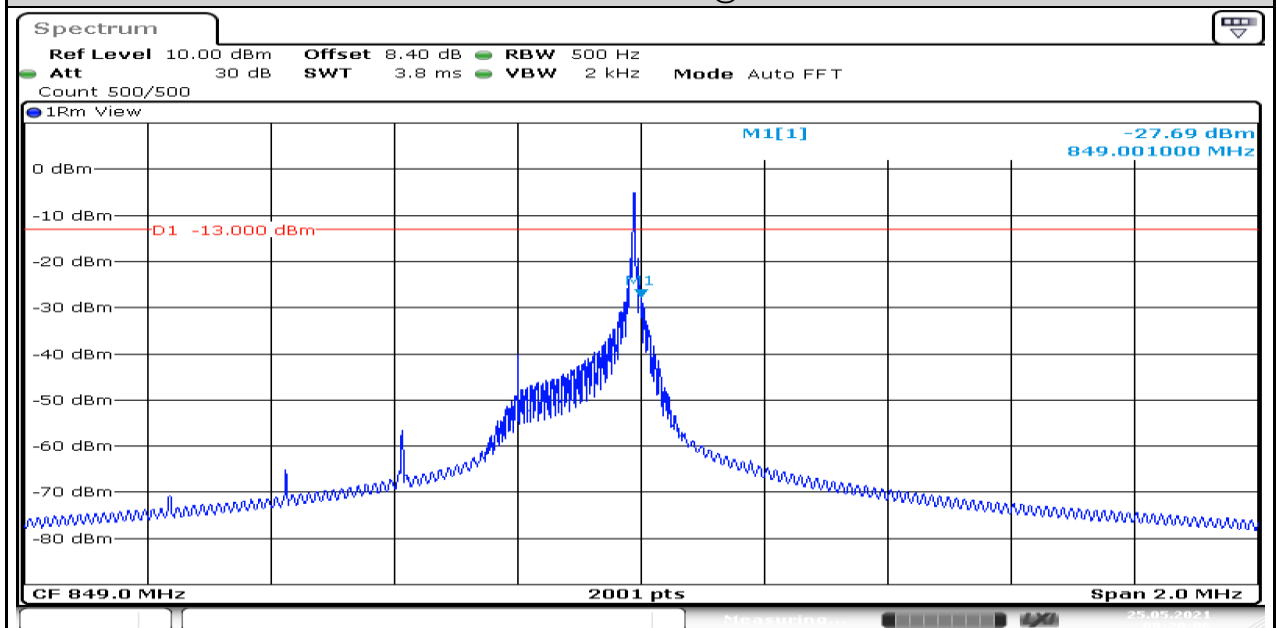
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz--41.55-PASS



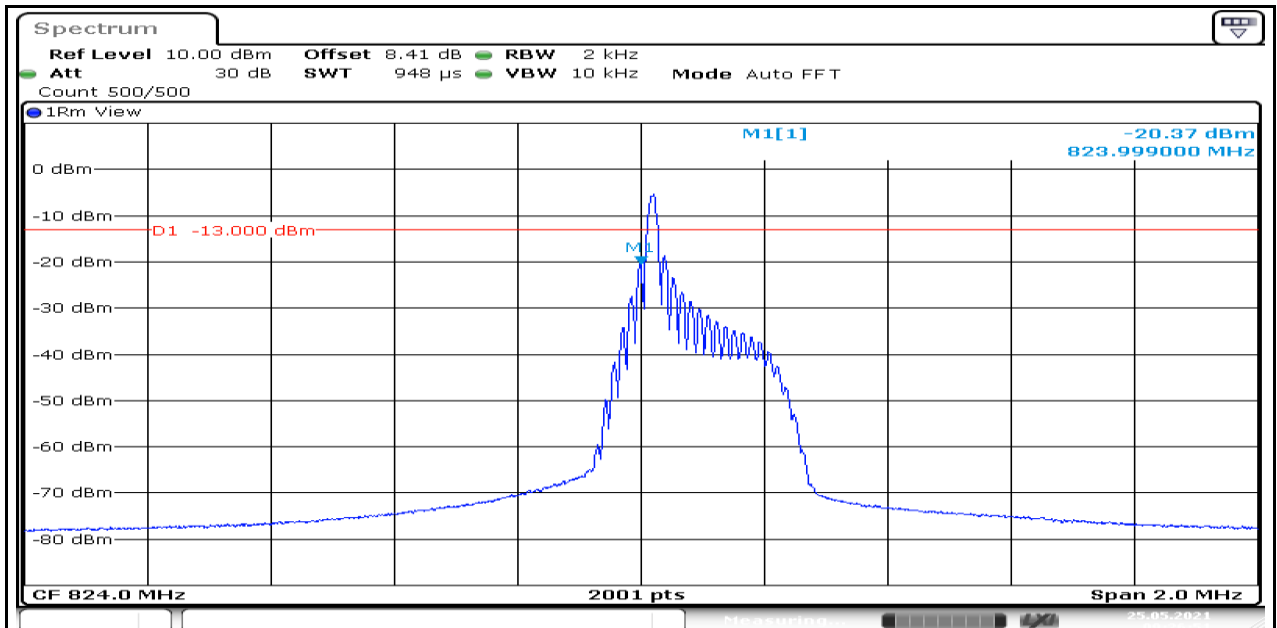
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz--48.81-PASS



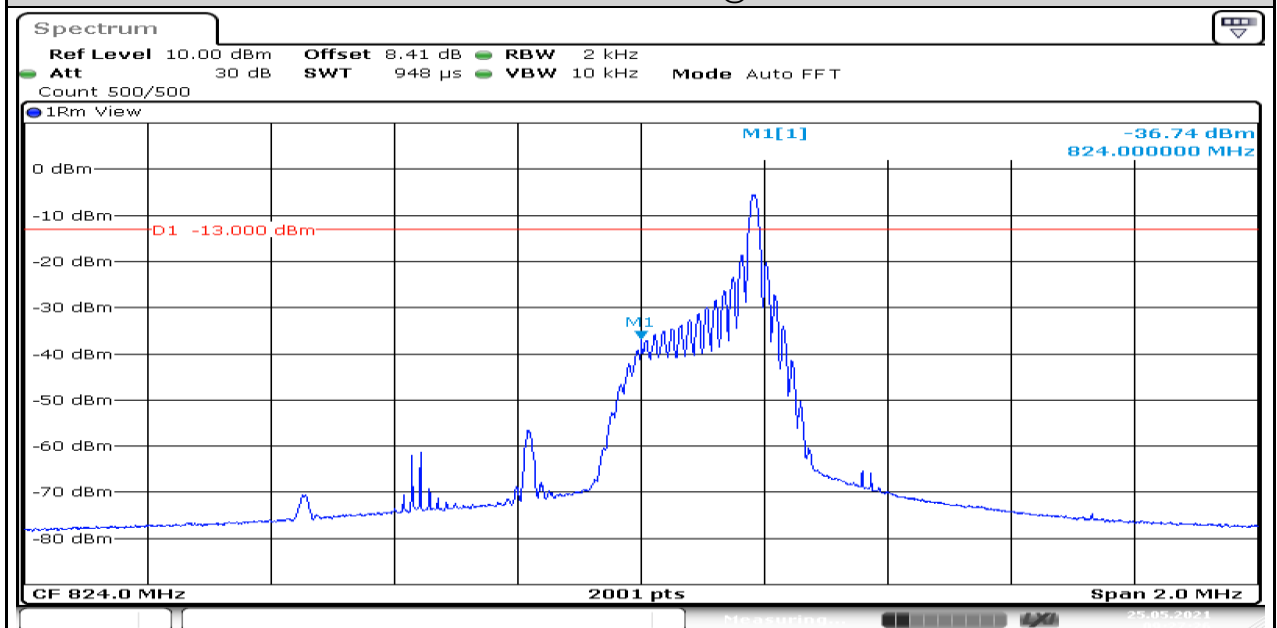
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz--27.69-PASS



Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz--20.37-PASS

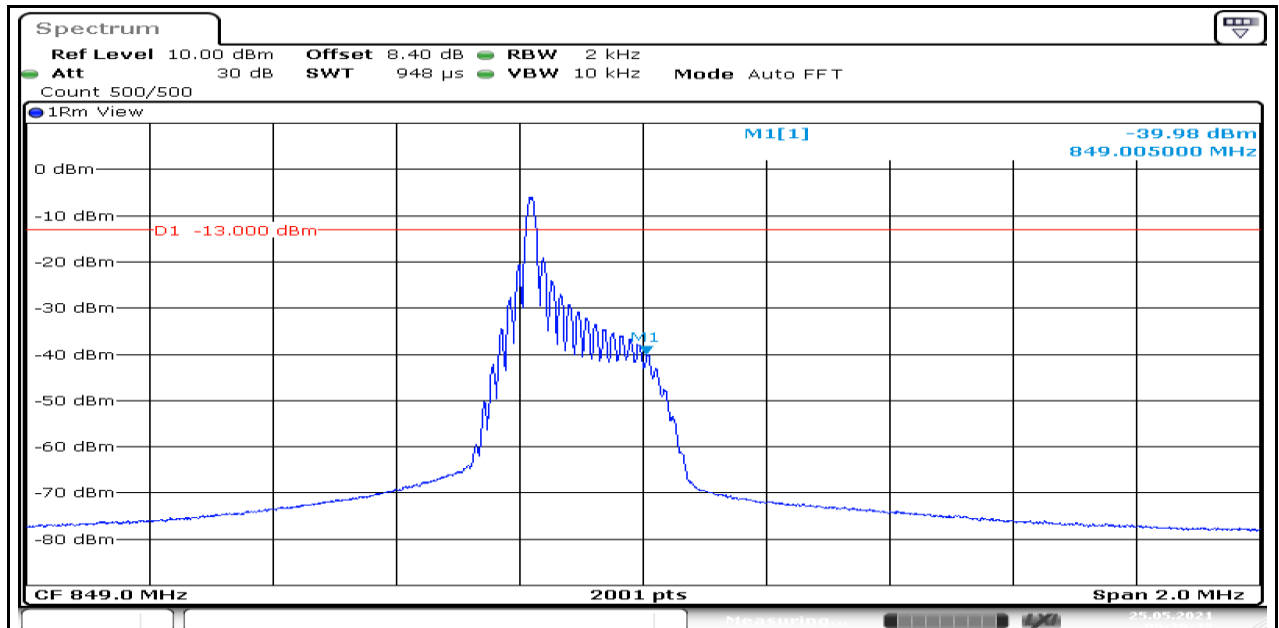


Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz--36.74-PASS

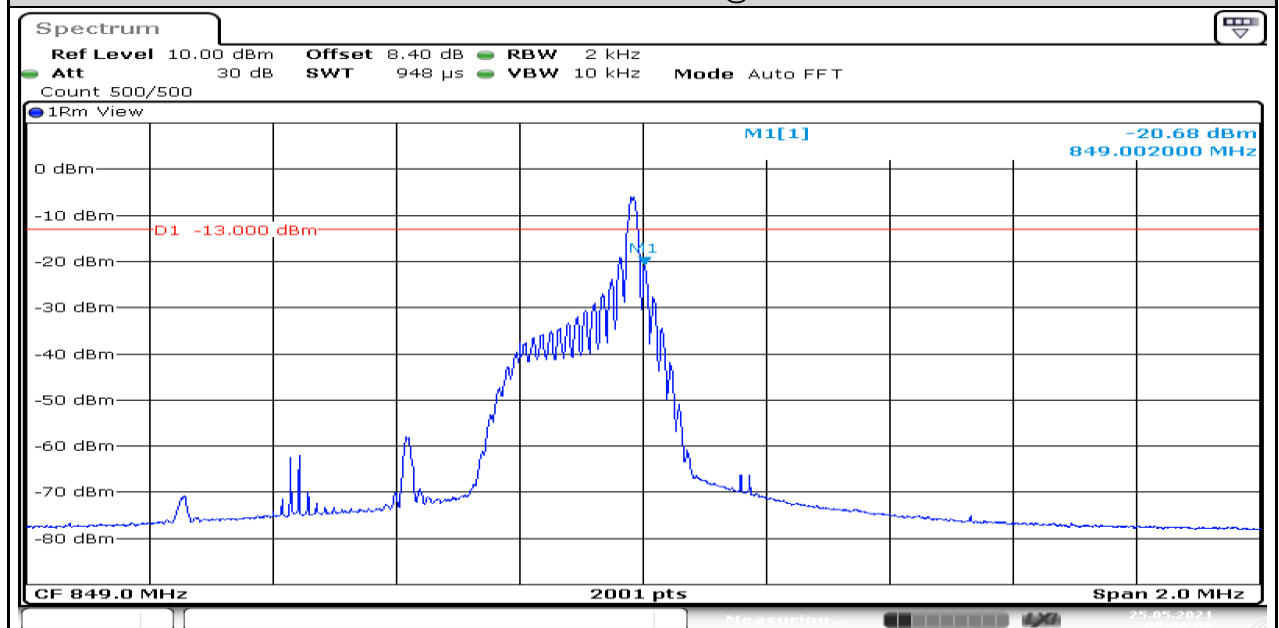


Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz--39.98-PASS

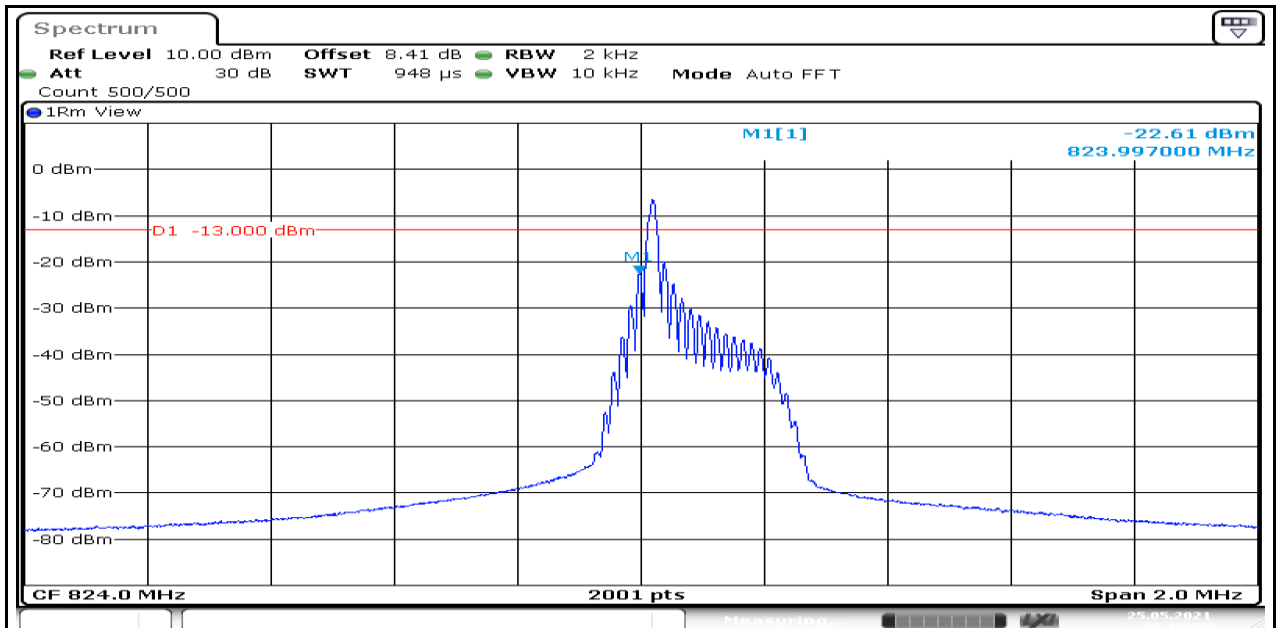




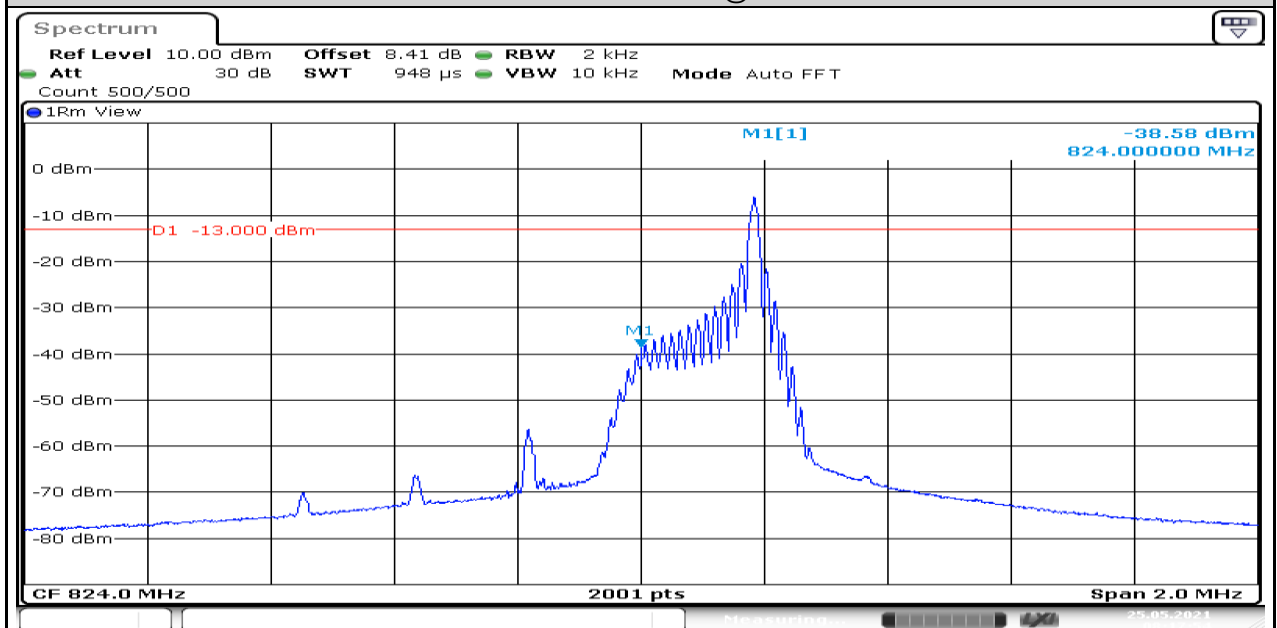
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz--20.68-PASS



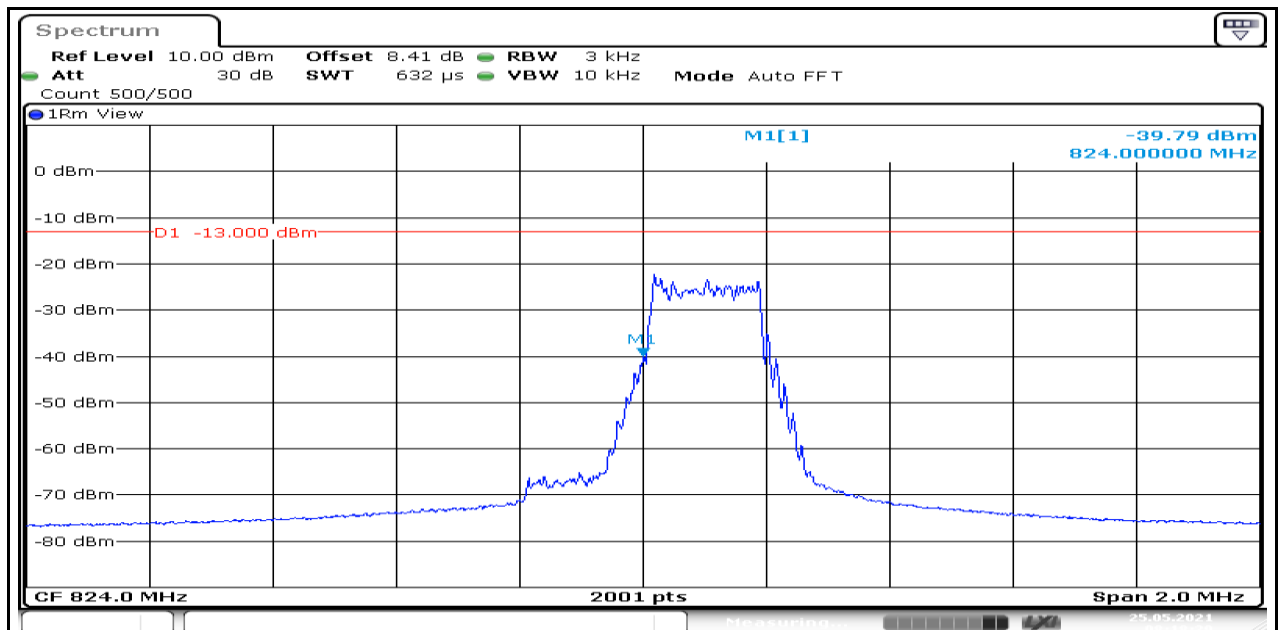
Band5-Stand-Alone-NaN-QPSK-20401-1@0-15kHz--22.61-PASS



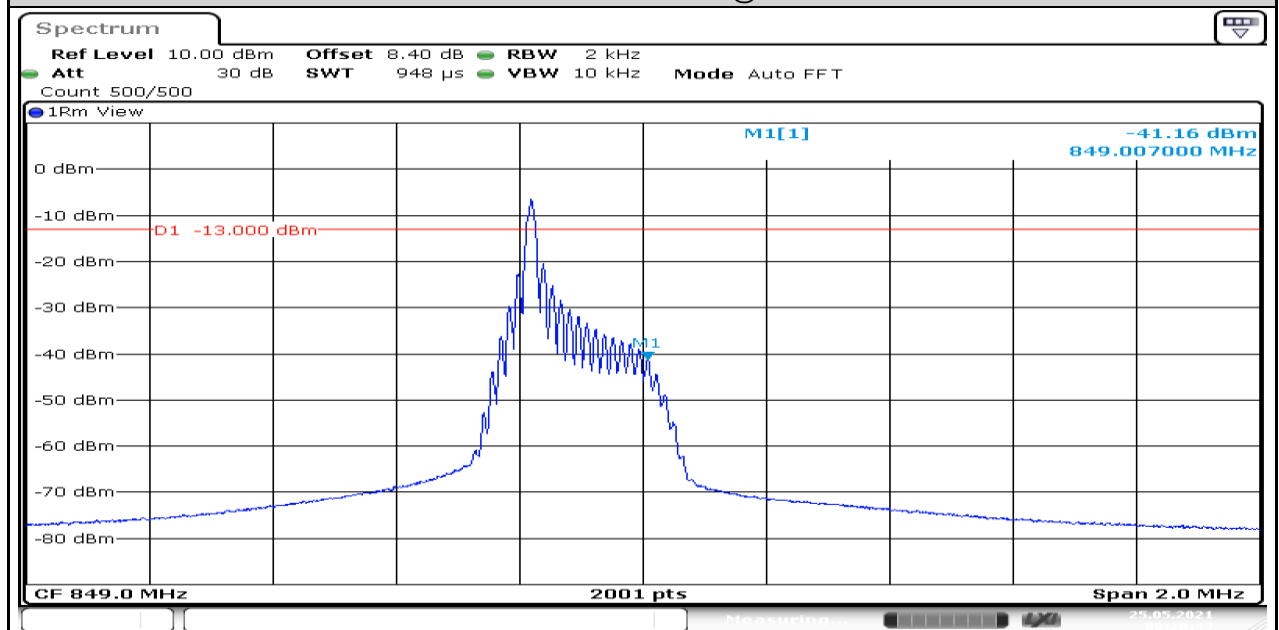
Band5-Stand-Alone-NaN-QPSK-20401-1@11-15kHz--38.58-PASS



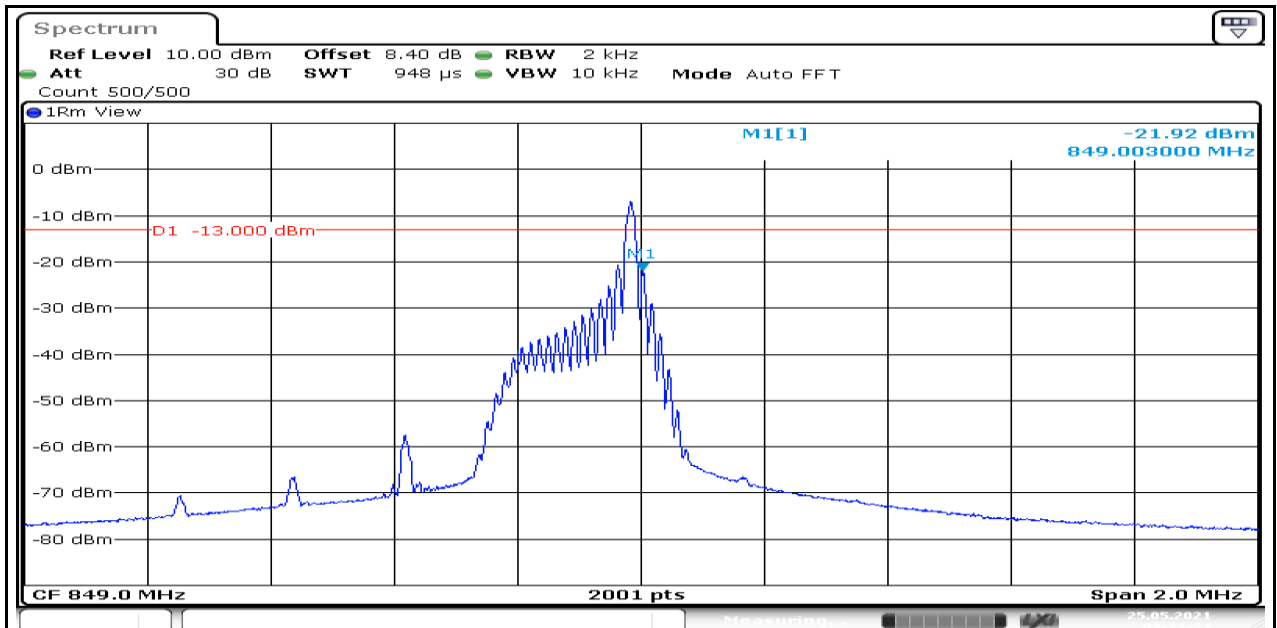
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz--39.79-PASS



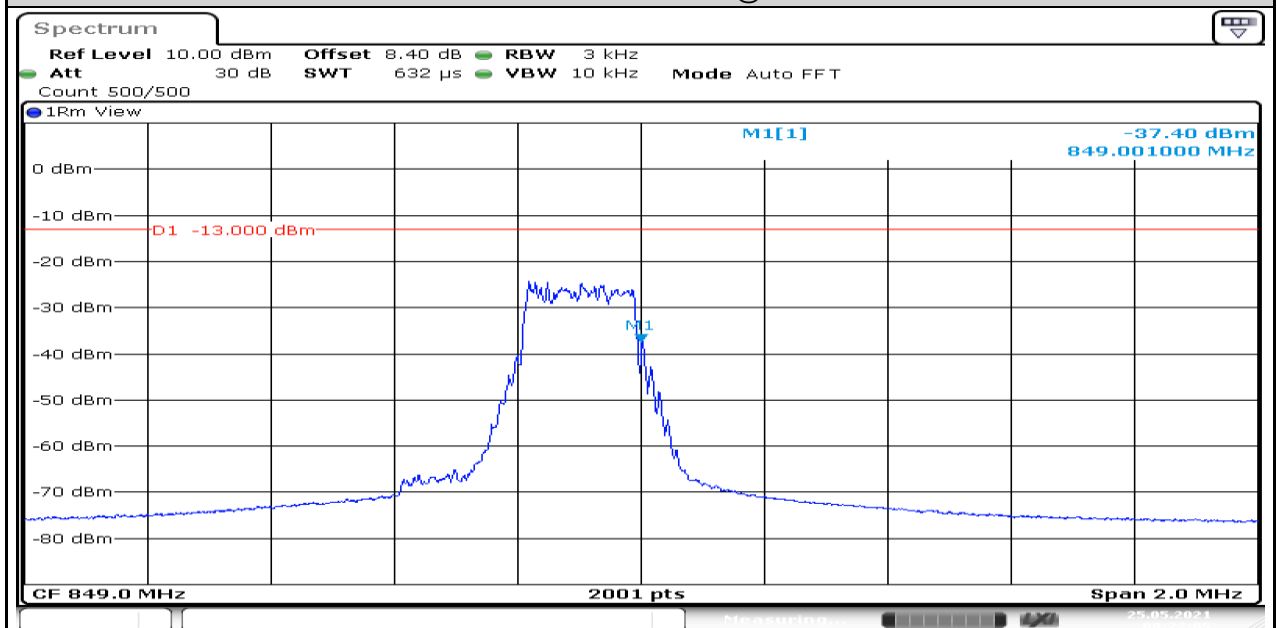
Band5-Stand-Alone-NaN-QPSK-20649-1@0-15kHz--41.16-PASS



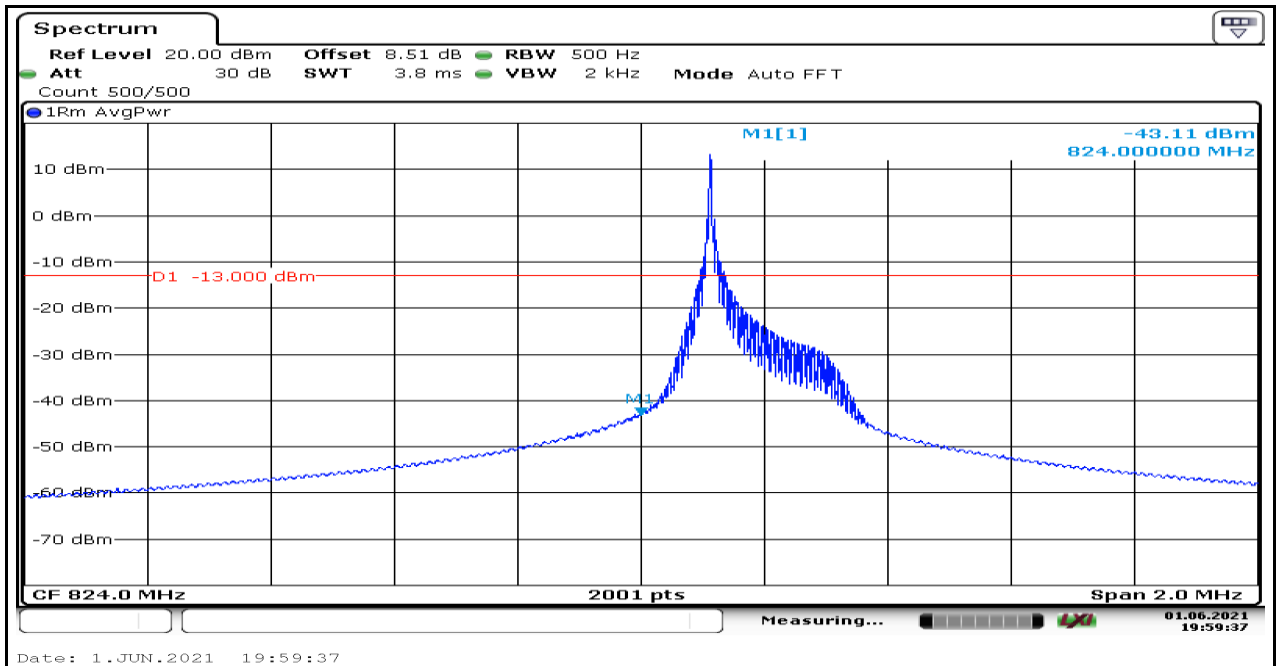
Band5-Stand-Alone-NaN-QPSK-20649-1@11-15kHz--21.92-PASS



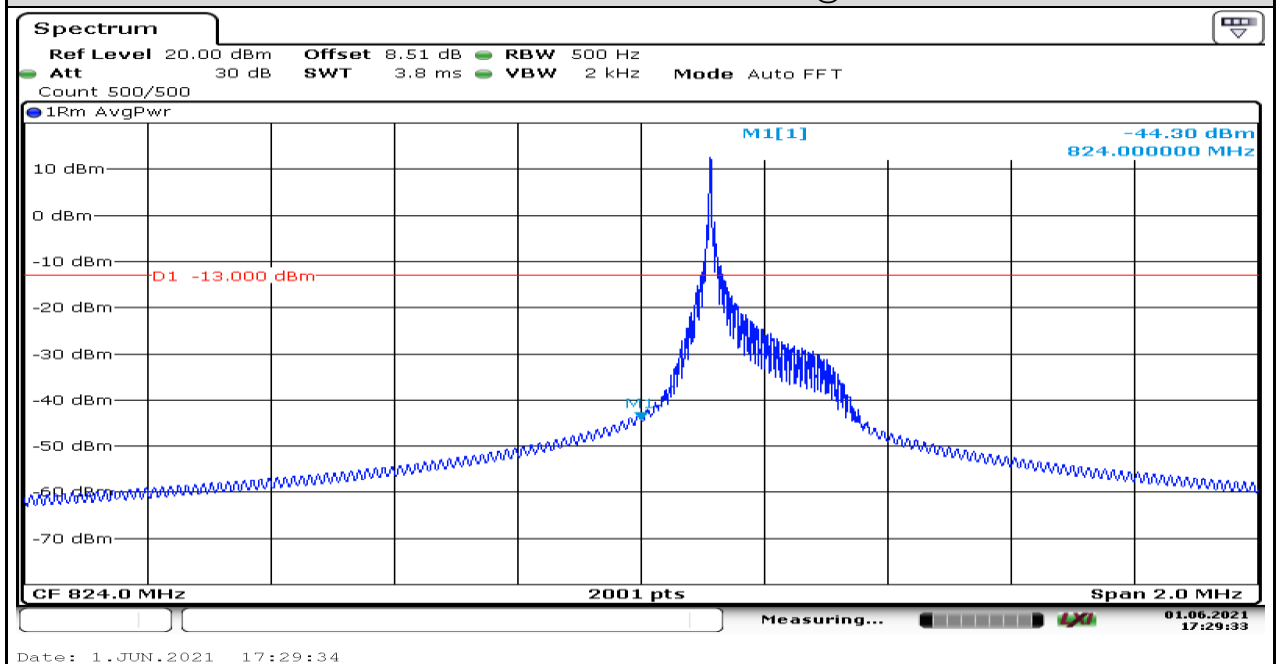
Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz--37.40-PASS



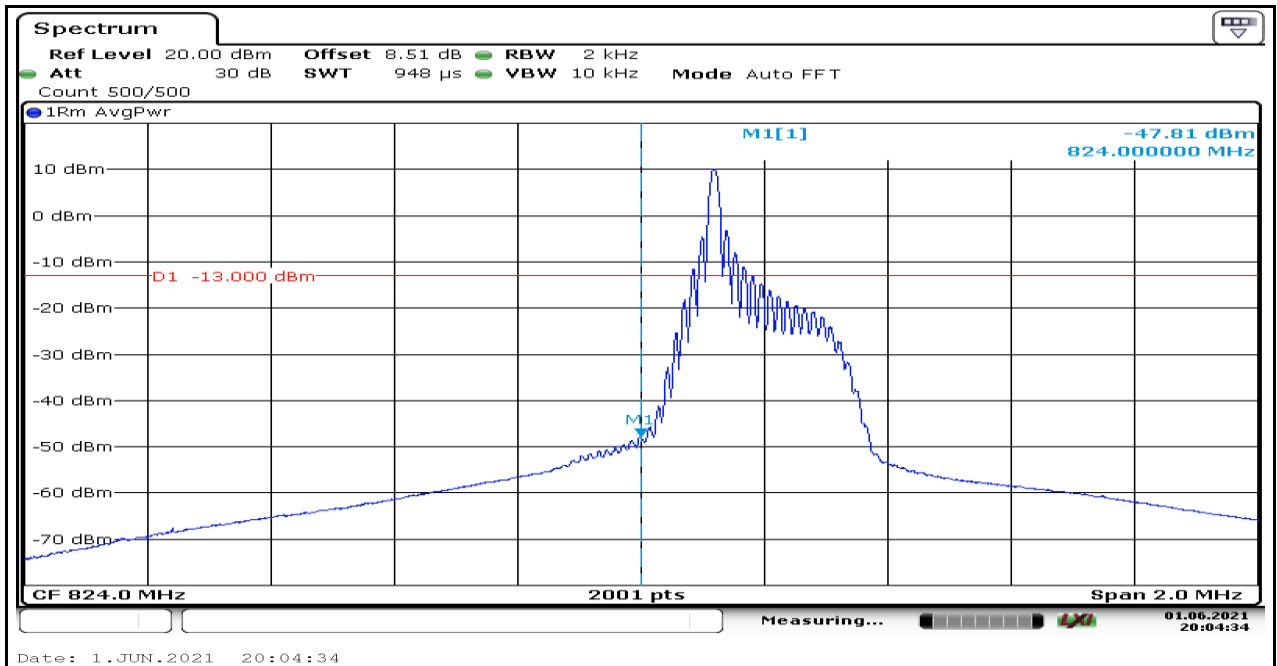
Band5-Stand-Alone-3.75kHz-NaN-BPSK-20402-1@0-43.11-PASS



Band5-Stand-Alone-3.75kHz-NaN-QPSK-20402-1@0--44.30-PASS



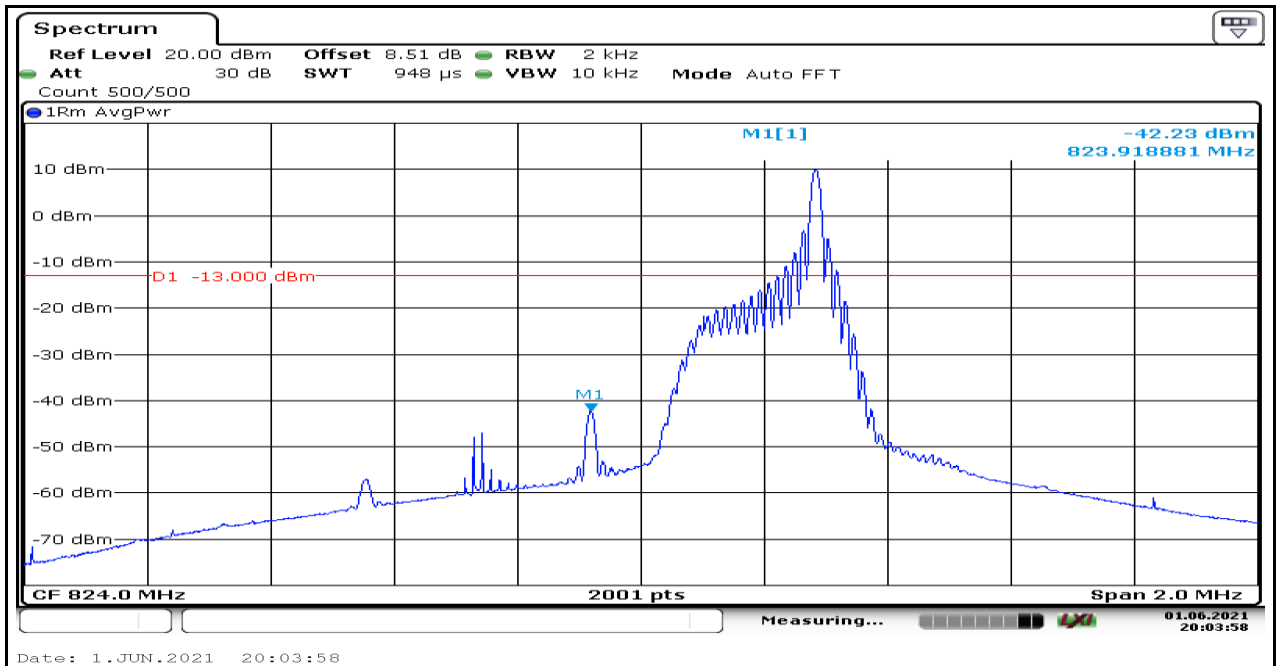
Band5-Stand-Alone-15kHz-NaN-BPSK-20402-1@0--47.81-PASS



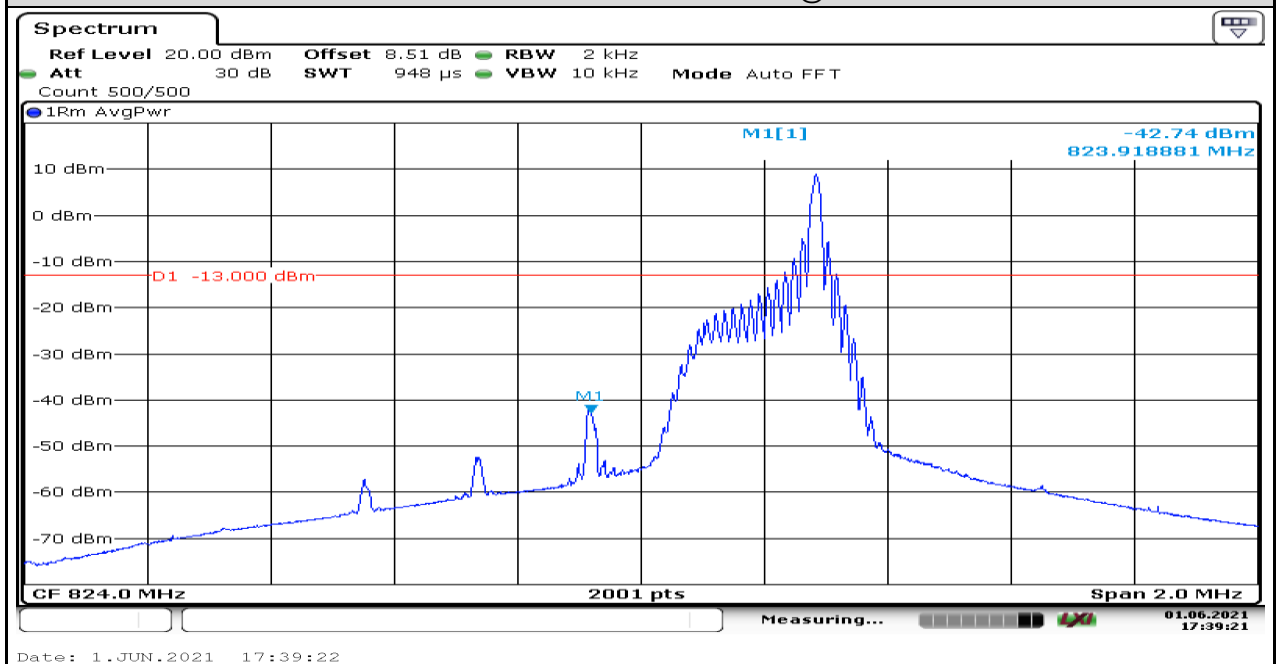
Band5-Stand-Alone-15kHz-NaN-QPSK-20402-1@0--49.29-PASS



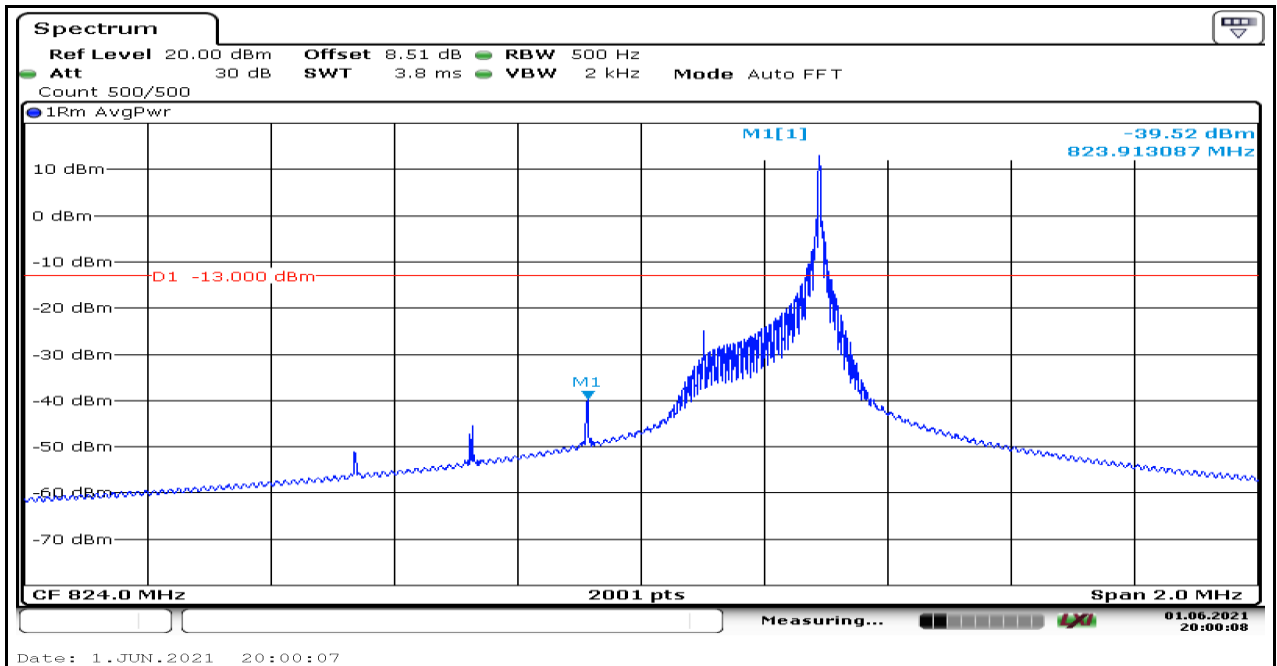
Band5-Stand-Alone-15kHz-NaN-BPSK-20402-1@11--42.23-PASS



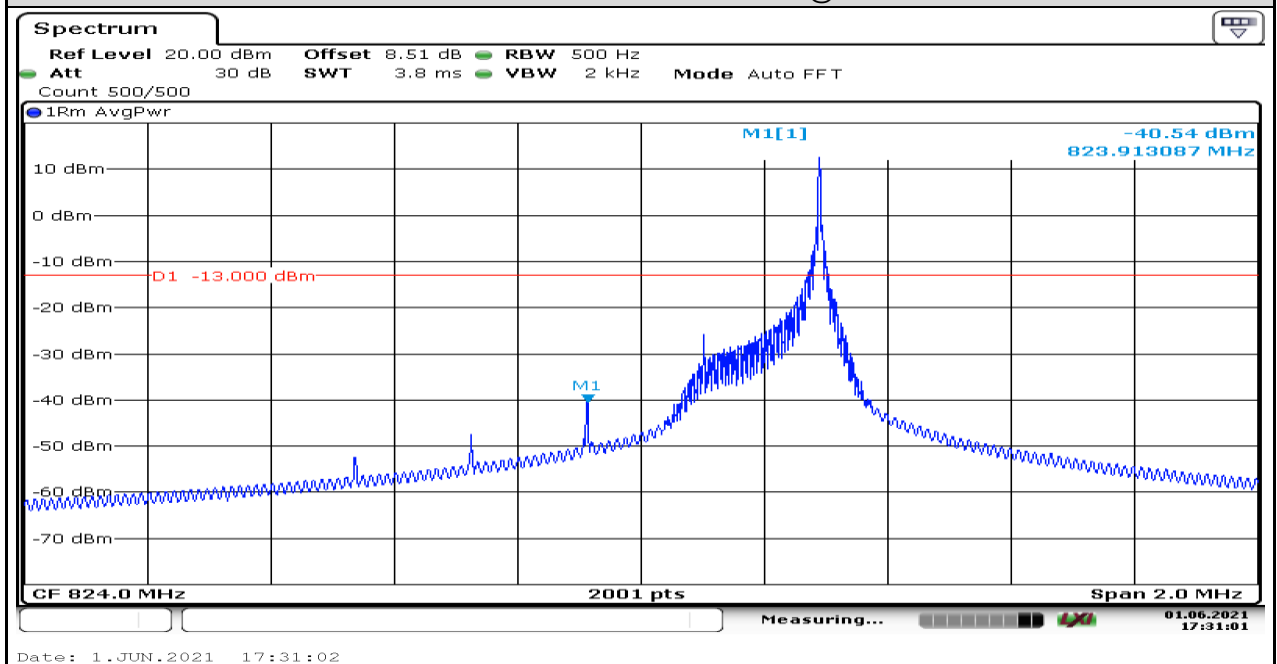
Band5-Stand-Alone-15kHz-NaN-QPSK-20402-1@11--42.74-PASS



Band5-Stand-Alone-3.75kHz-NaN-BPSK-20402-1@47--39.52-PASS

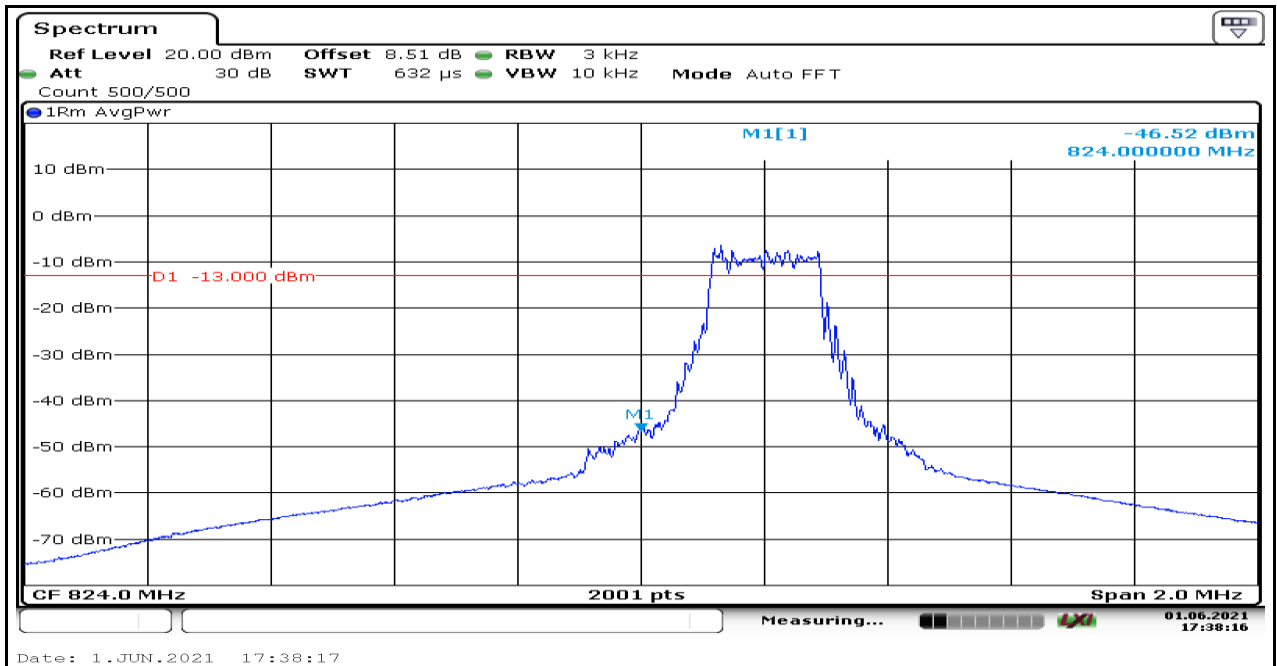


Band5-Stand-Alone-3.75kHz-NaN-QPSK-20402-1@47--40.54-PASS

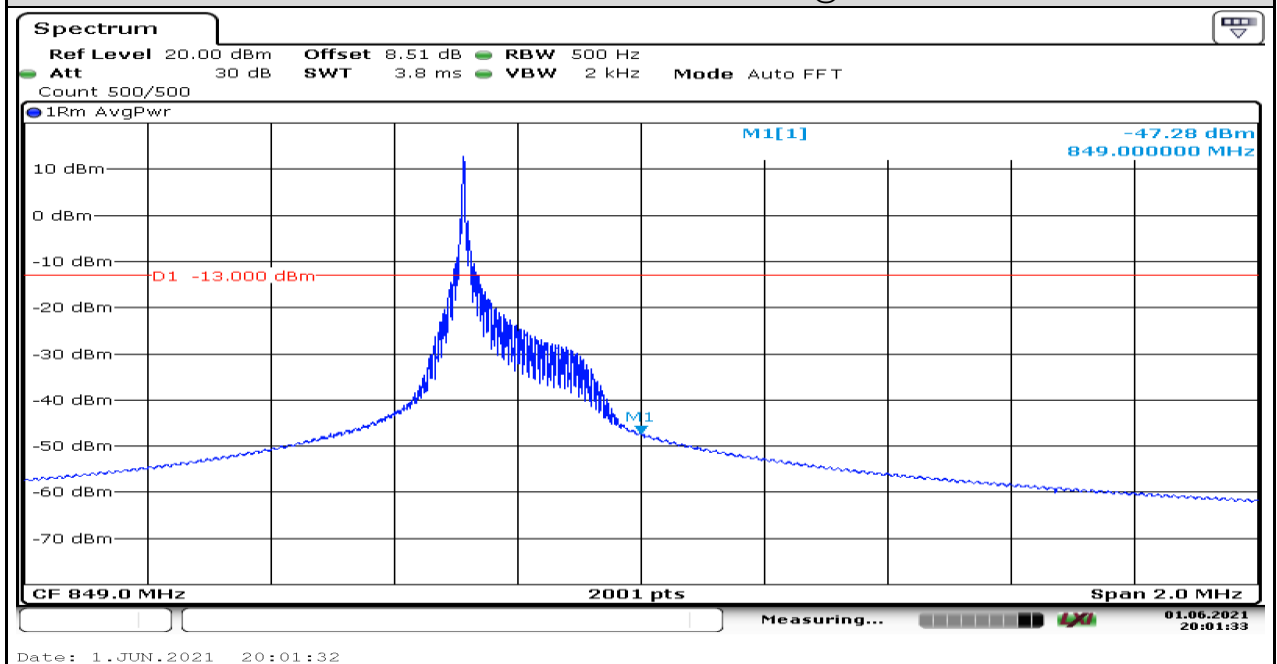


Band5-Stand-Alone-15kHz-NaN-QPSK-20402-12@0--46.52-PASS

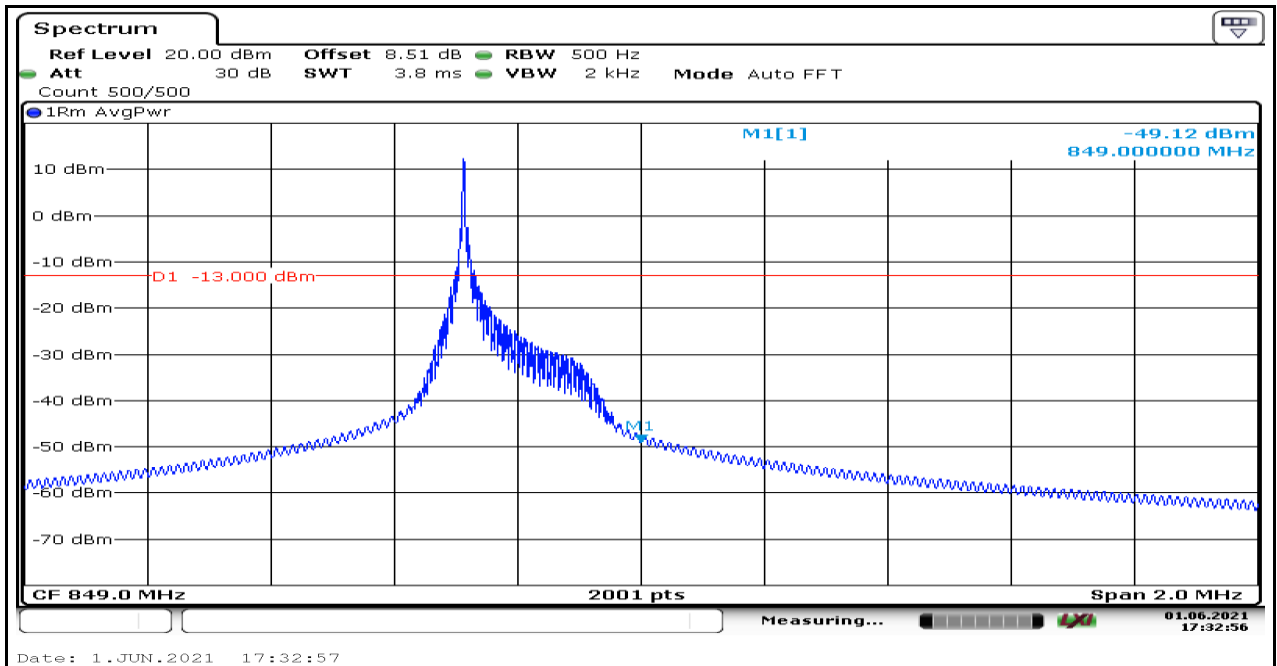




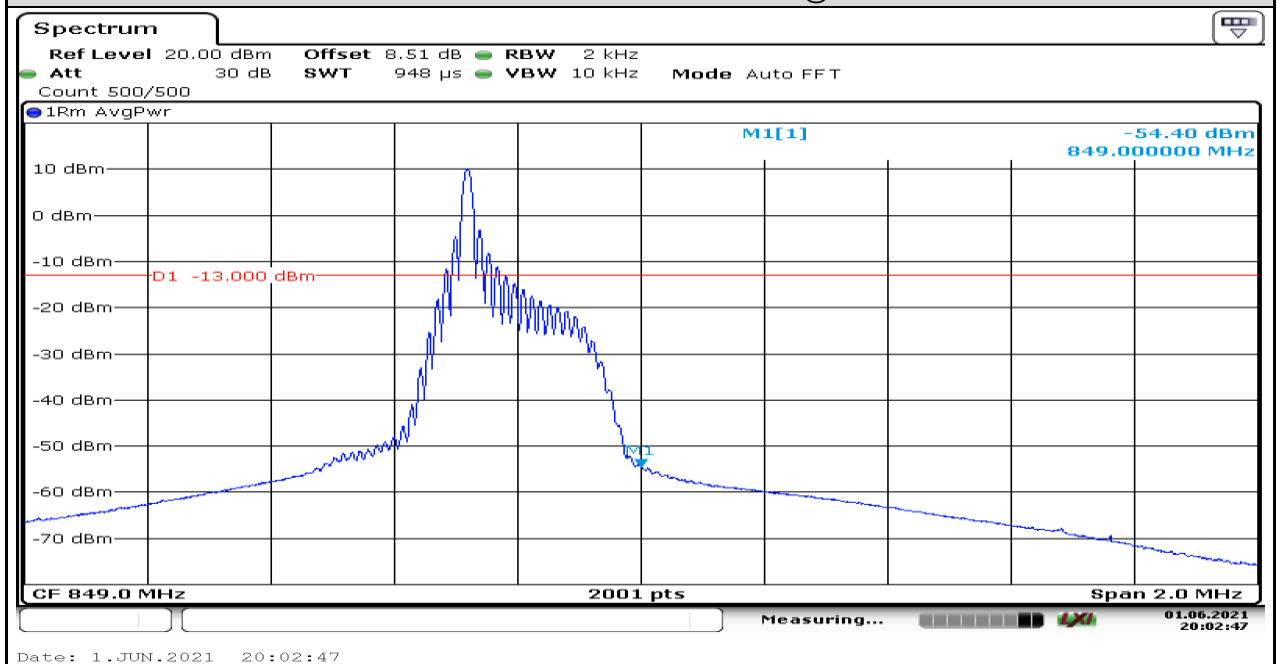
Band5-Stand-Alone-3.75kHz-NaN-BPSK-20648-1@0--47.28-PASS



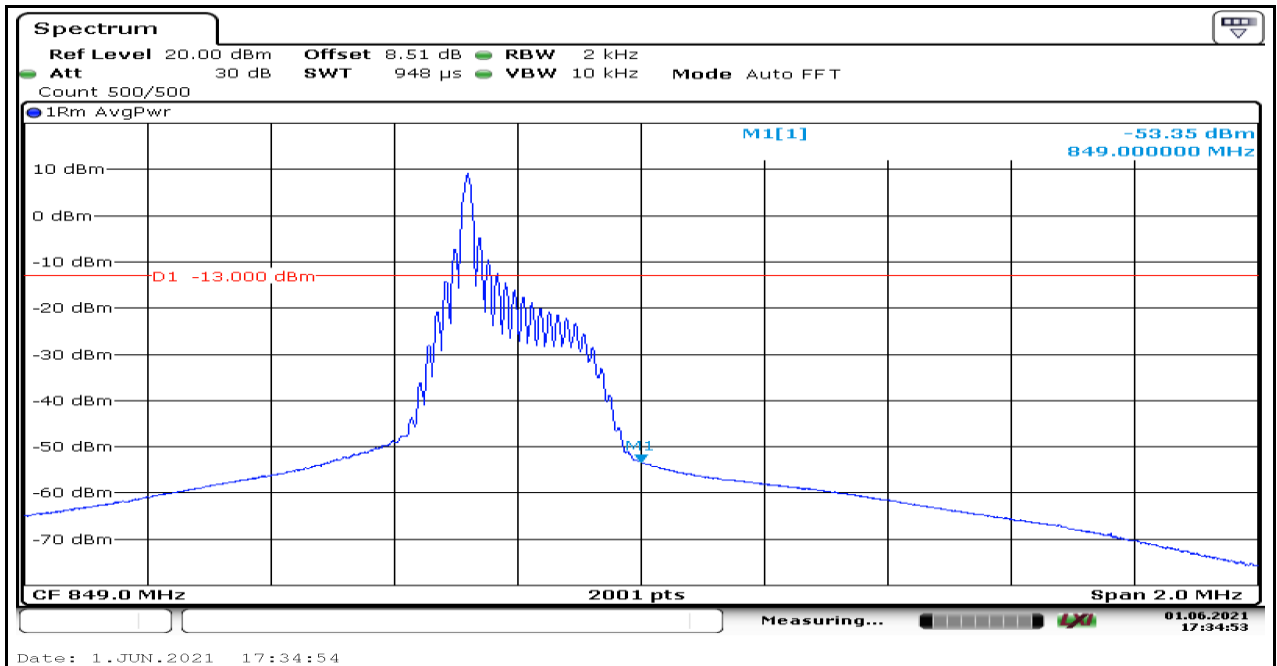
Band5-Stand-Alone-3.75kHz-NaN-QPSK-20648-1@0--49.12-PASS



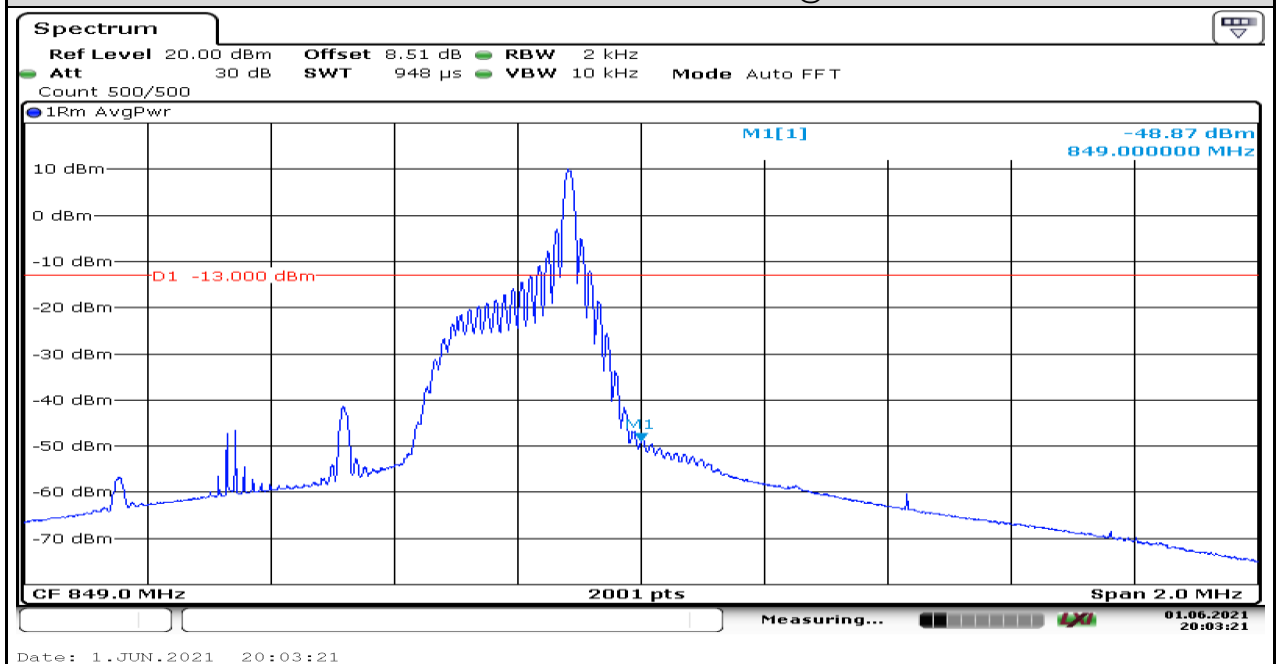
Band5-Stand-Alone-15kHz-NaN-BPSK-20648-1@0--54.40-PASS



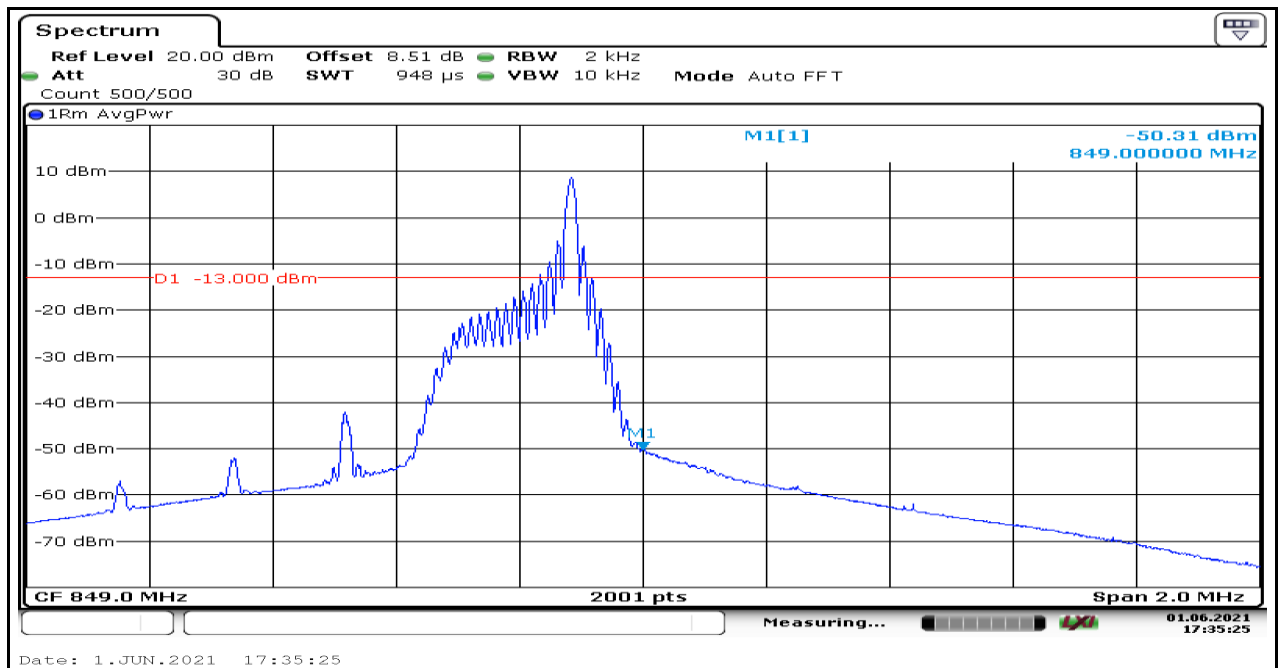
Band5-Stand-Alone-15kHz-NaN-QPSK-20648-1@0--53.35-PASS



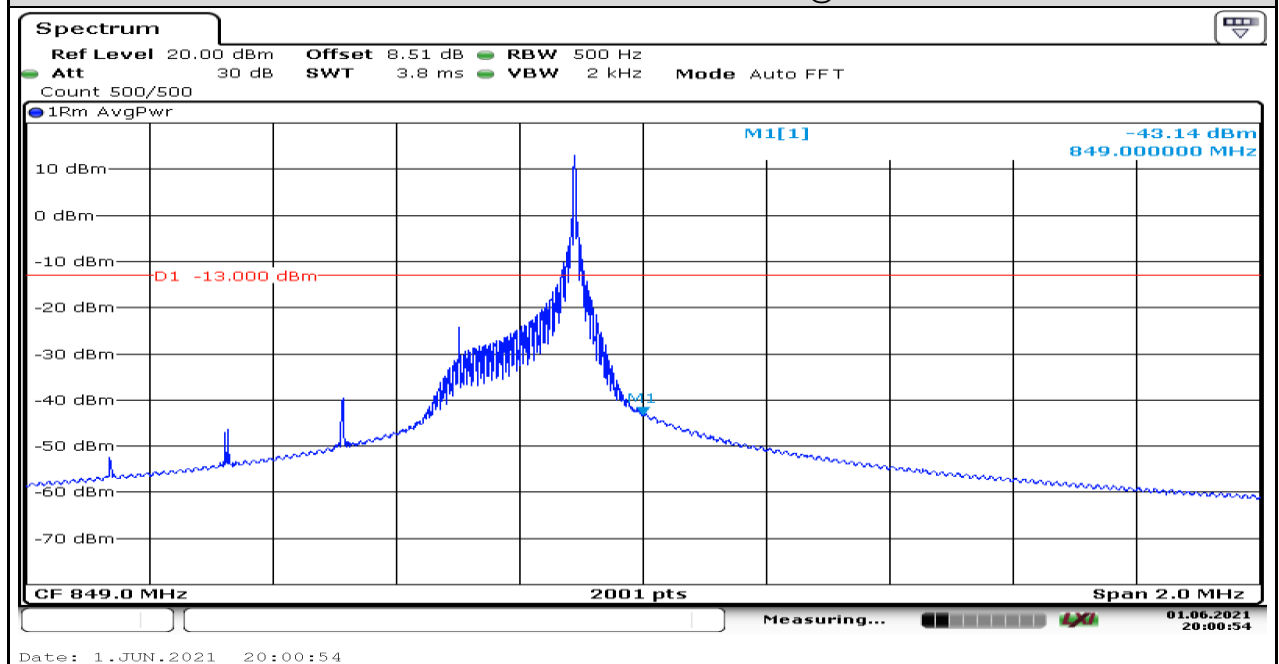
Band5-Stand-Alone-15kHz-NaN-BPSK-20648-1@11--48.87-PASS



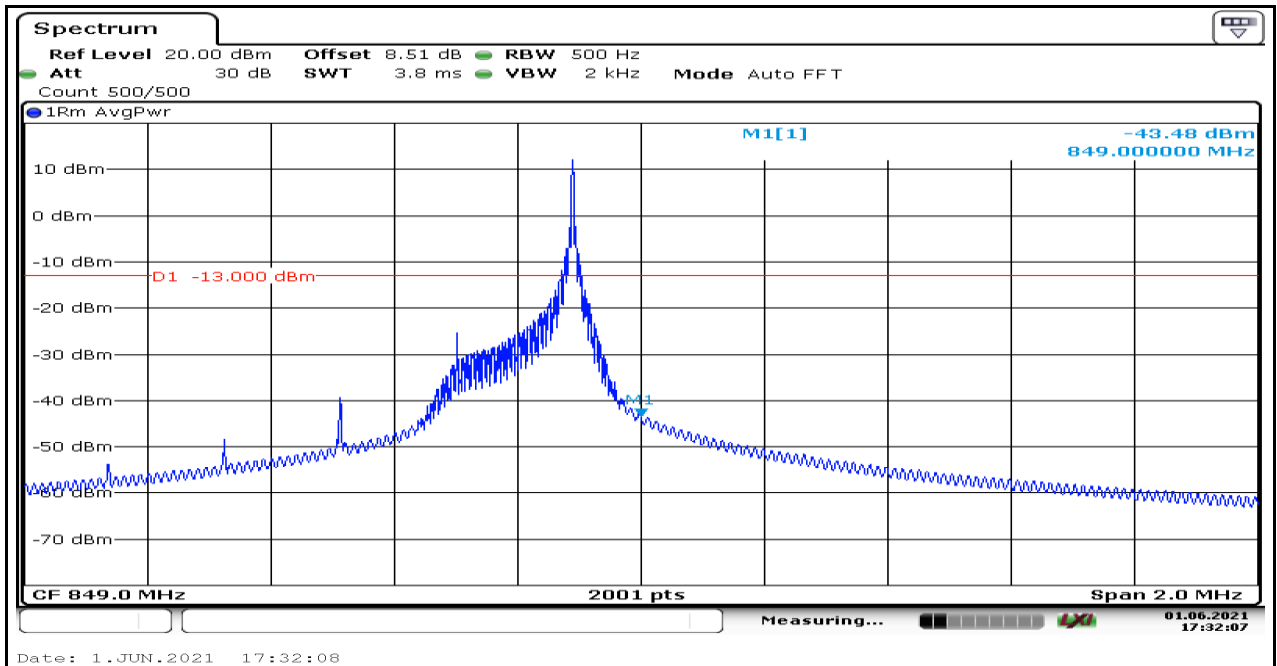
Band5-Stand-Alone-15kHz-NaN-QPSK-20648-1@11--50.31-PASS



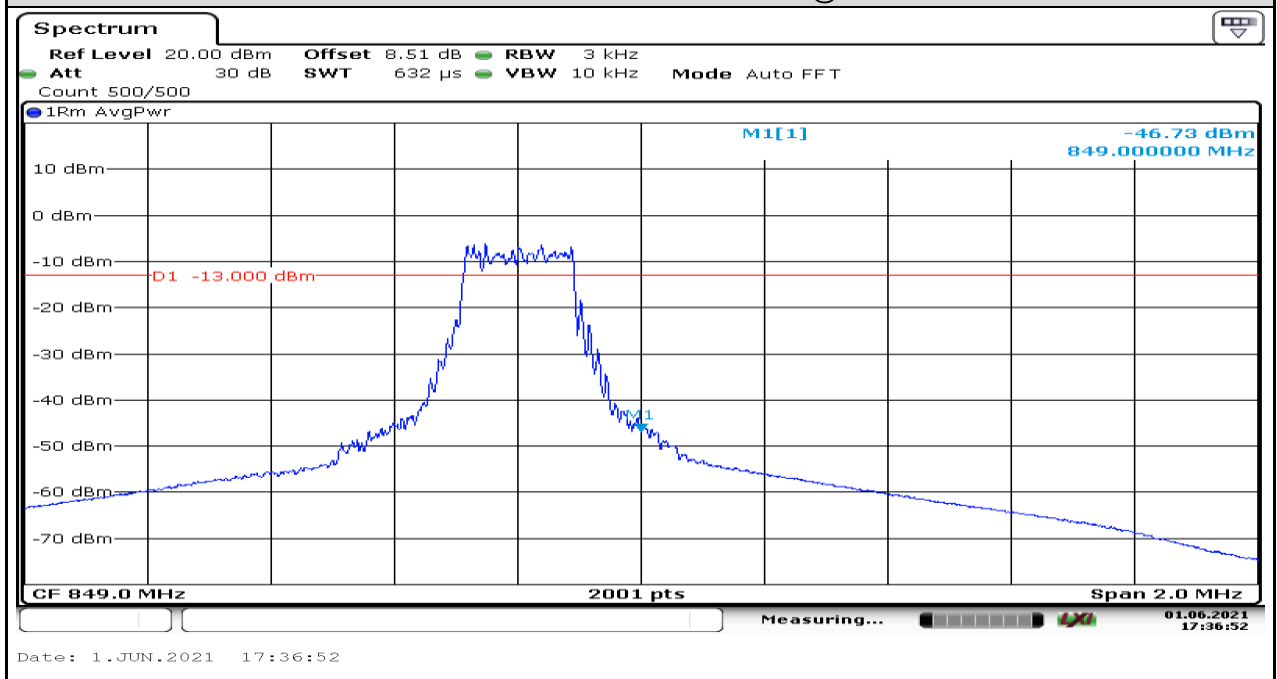
Band5-Stand-Alone-3.75kHz-NaN-BPSK-20648-1@47--43.14-PASS



Band5-Stand-Alone-3.75kHz-NaN-QPSK-20648-1@47--43.48-PASS



Band5-Stand-Alone-15kHz-NaN-QPSK-20648-12@0--46.73-PASS



## APPENDIX C.5: CONDUCTED SPURIOUS EMISSION FOR NB-IOT

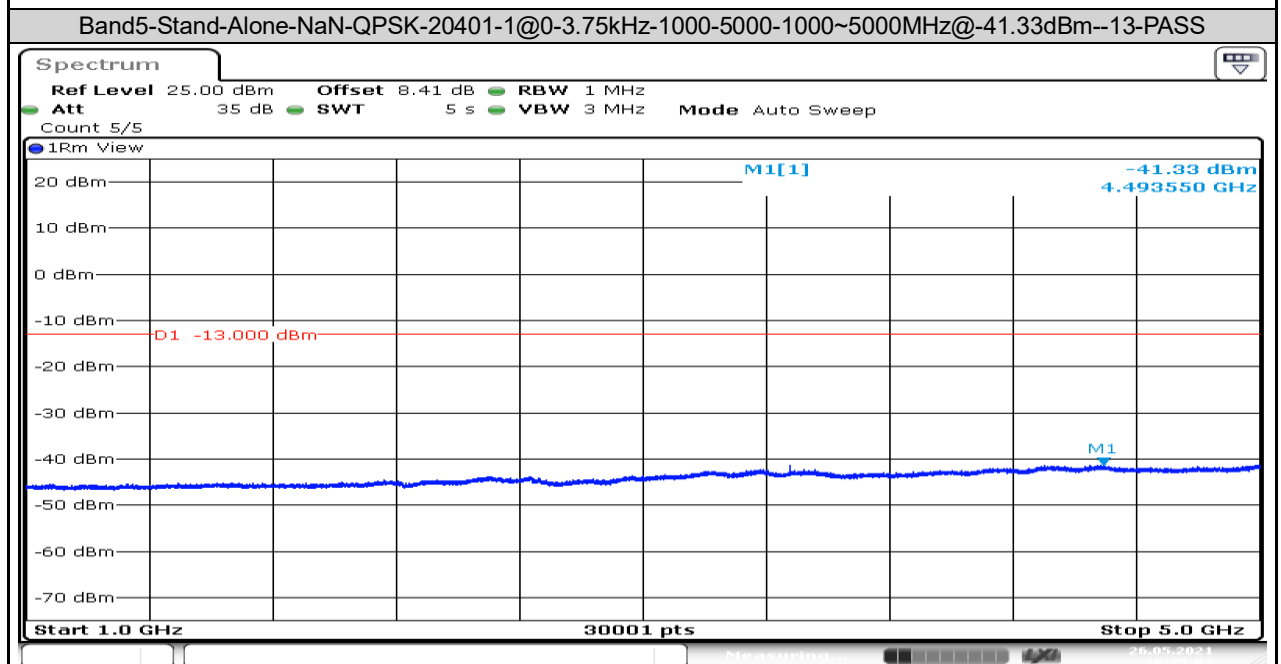
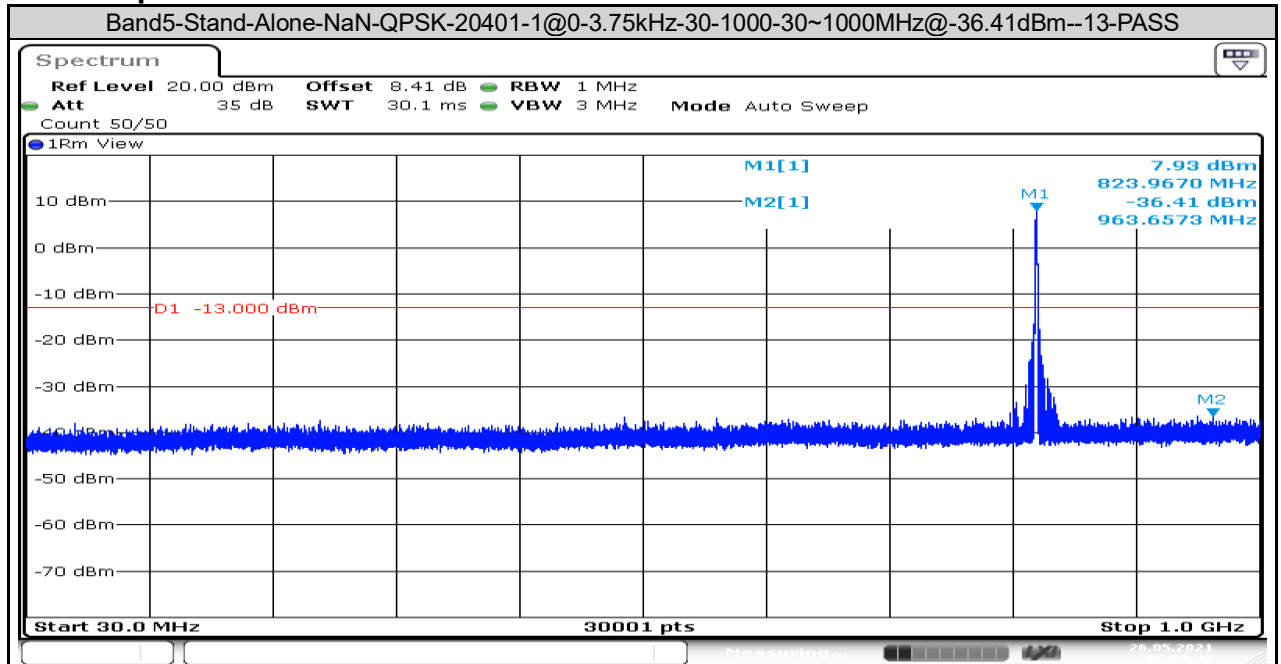
### Test Result

| Band  | OpMode      | SCS     | BW  | Modu | Channel | Tones | Result (dBm)             | Limit (dBm) | Verdict |
|-------|-------------|---------|-----|------|---------|-------|--------------------------|-------------|---------|
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 30~1000MHz@-36.41dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 1000~5000MHz@-41.33dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 5000~12000MHz@-54.27dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@0   | 12000~26500MHz@-50.46dBm | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | 30~1000MHz@-36.27dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | 1000~5000MHz@-41.31dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | 5000~12000MHz@-54.26dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20401   | 1@47  | 12000~26500MHz@-50.42dBm | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 30~1000MHz@-35.24dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 1000~5000MHz@-41.23dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 5000~12000MHz@-54.25dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@0   | 12000~26500MHz@-50.2dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 30~1000MHz@-35.92dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 1000~5000MHz@-41.22dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 5000~12000MHz@-54.33dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525   | 1@47  | 12000~26500MHz@-50.38dBm | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 30~1000MHz@-36.28dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 1000~5000MHz@-41.42dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 5000~12000MHz@-54.23dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@0   | 12000~26500MHz@-50.45dBm | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | 30~1000MHz@-35.84dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | 1000~5000MHz@-41.22dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | 5000~12000MHz@-54.28dBm  | -13         | PASS    |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20649   | 1@47  | 12000~26500MHz@-50.38dBm | -13         | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | 30~1000MHz@-36.34dBm     | -13         | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | 1000~5000MHz@-41.24dBm   | -13         | PASS    |
| Band5 | Stand-Alone | 15kHz   | NaN | BPSK | 20401   | 1@0   | 5000~12000MHz@-54.29dBm  | -13         | PASS    |

|       |             |       |     |      |       |      |                          |     |      |
|-------|-------------|-------|-----|------|-------|------|--------------------------|-----|------|
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20401 | 1@0  | 12000~26500MHz@-50.24dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20401 | 1@11 | 30~1000MHz@-36.06dBm     | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20401 | 1@11 | 1000~5000MHz@-41.23dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20401 | 1@11 | 5000~12000MHz@-54.29dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20401 | 1@11 | 12000~26500MHz@-50.09dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@0  | 30~1000MHz@-36.5dBm      | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@0  | 1000~5000MHz@-41.04dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@0  | 5000~12000MHz@-53.98dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@0  | 12000~26500MHz@-50.33dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@11 | 30~1000MHz@-36.81dBm     | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@11 | 1000~5000MHz@-41.13dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@11 | 5000~12000MHz@-54.36dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20525 | 1@11 | 12000~26500MHz@-50.35dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@0  | 30~1000MHz@-35.93dBm     | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@0  | 1000~5000MHz@-41.01dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@0  | 5000~12000MHz@-54.42dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@0  | 12000~26500MHz@-50.22dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@11 | 30~1000MHz@-36.16dBm     | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@11 | 1000~5000MHz@-41.28dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@11 | 5000~12000MHz@-54.41dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | BPSK | 20649 | 1@11 | 12000~26500MHz@-50.24dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20401 | 12@0 | 30~1000MHz@-36.27dBm     | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20401 | 12@0 | 1000~5000MHz@-41.17dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20401 | 12@0 | 5000~12000MHz@-54.37dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20401 | 12@0 | 12000~26500MHz@-50.38dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20525 | 12@0 | 30~1000MHz@-36.1dBm      | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20525 | 12@0 | 1000~5000MHz@-41.18dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20525 | 12@0 | 5000~12000MHz@-54.36dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20525 | 12@0 | 12000~26500MHz@-50.27dBm | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 12@0 | 30~1000MHz@-36.32dBm     | -13 | PASS |

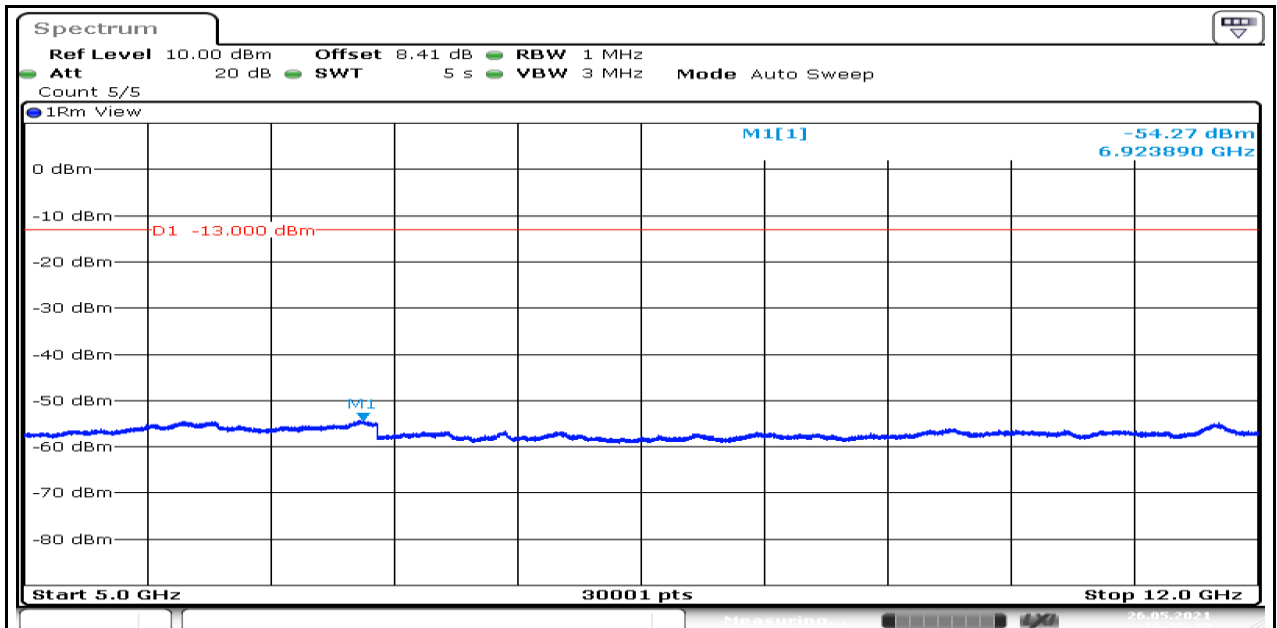
|       |             |       |     |      |       |      |                          |     |      |
|-------|-------------|-------|-----|------|-------|------|--------------------------|-----|------|
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 12@0 | 1000~5000MHz@-41.03dBm   | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 12@0 | 5000~12000MHz@-54.36dBm  | -13 | PASS |
| Band5 | Stand-Alone | 15kHz | NaN | QPSK | 20649 | 12@0 | 12000~26500MHz@-50.19dBm | -13 | PASS |

## Test Graphs

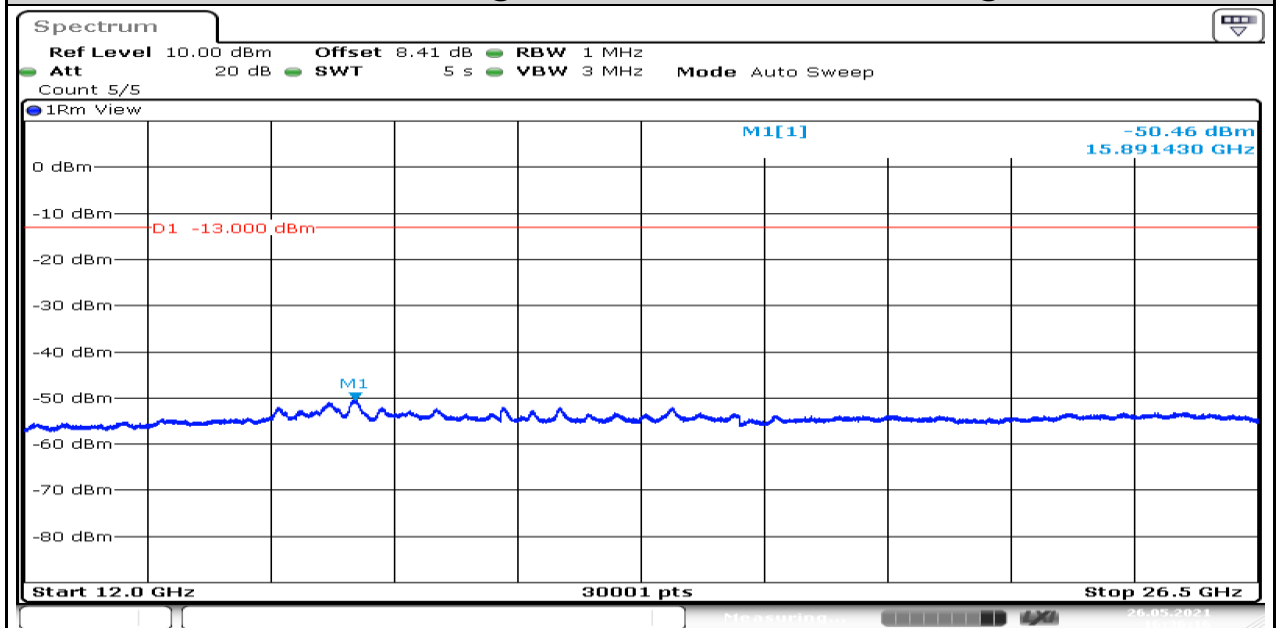


Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz-5000-12000-5000~12000MHz@-54.27dBm--13-PASS

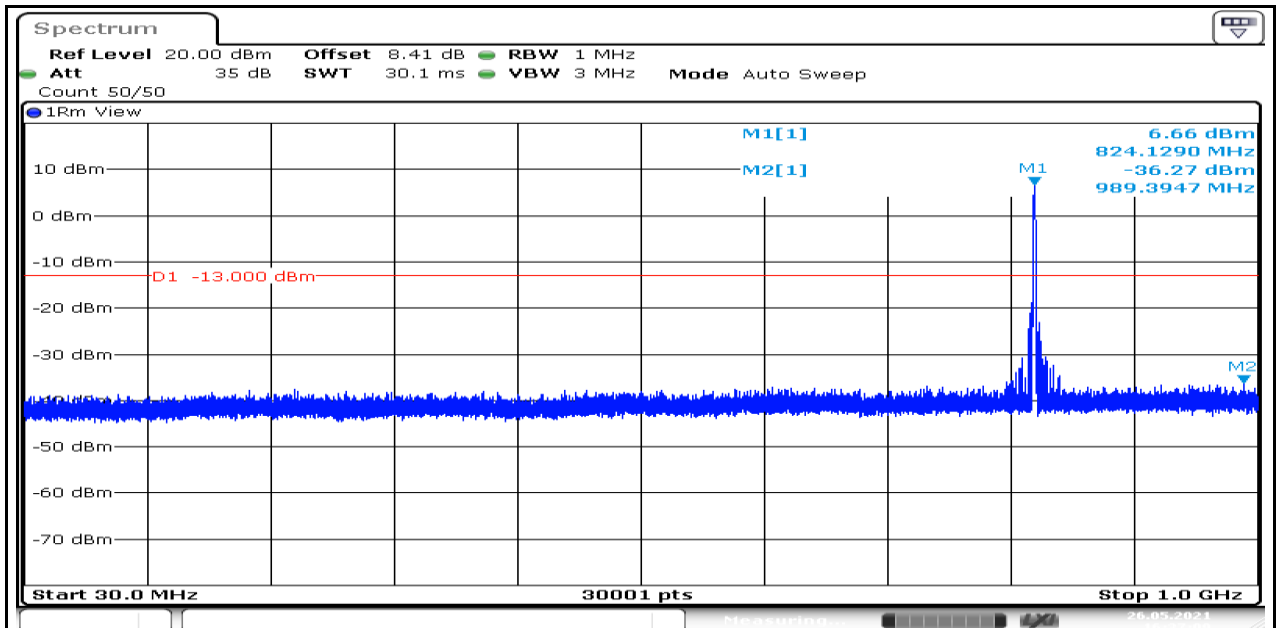




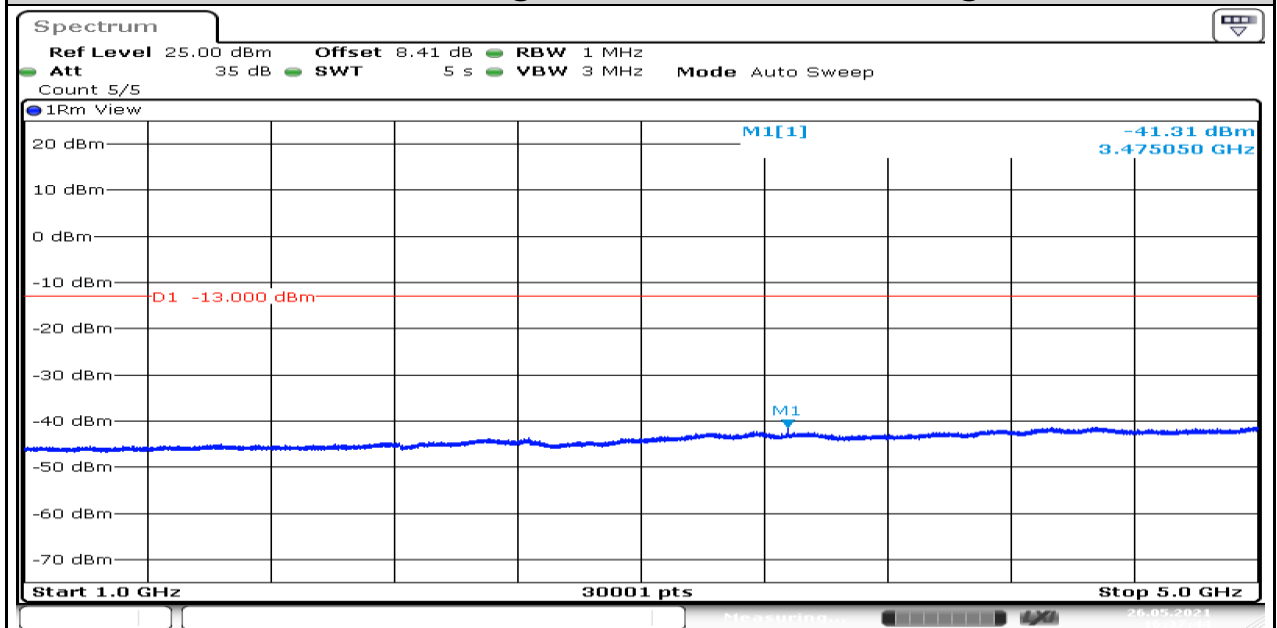
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz-12000-26500-12000~26500MHz@-50.46dBm--13-PASS



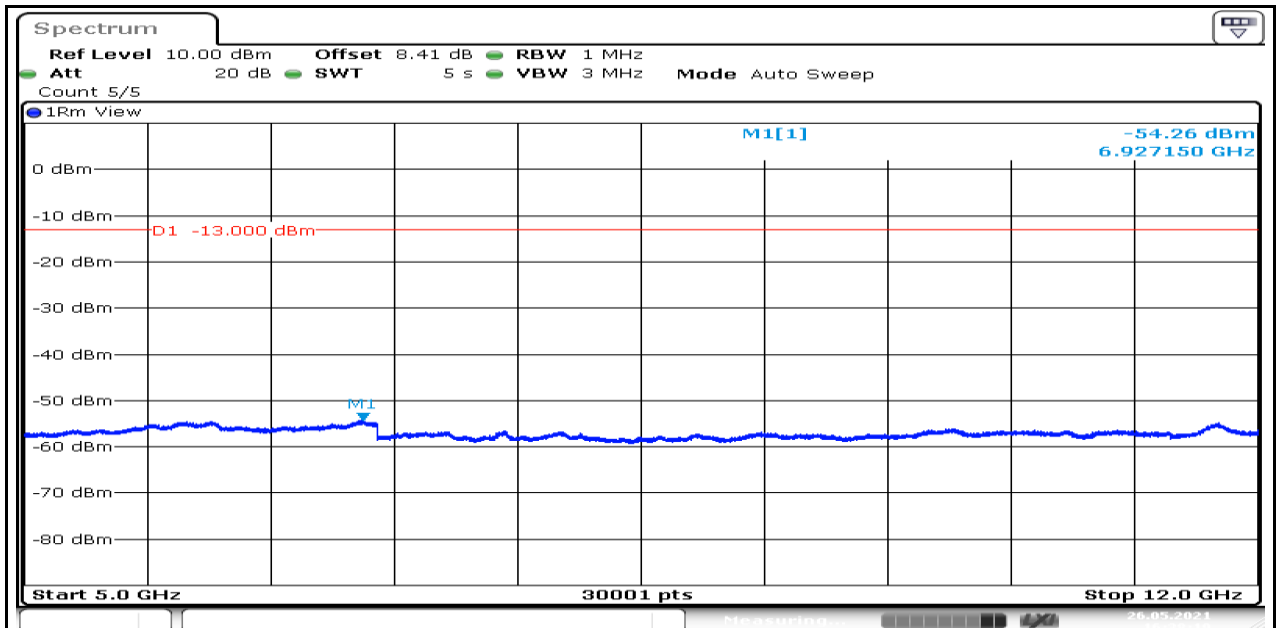
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-30-1000-30~1000MHz@-36.27dBm--13-PASS



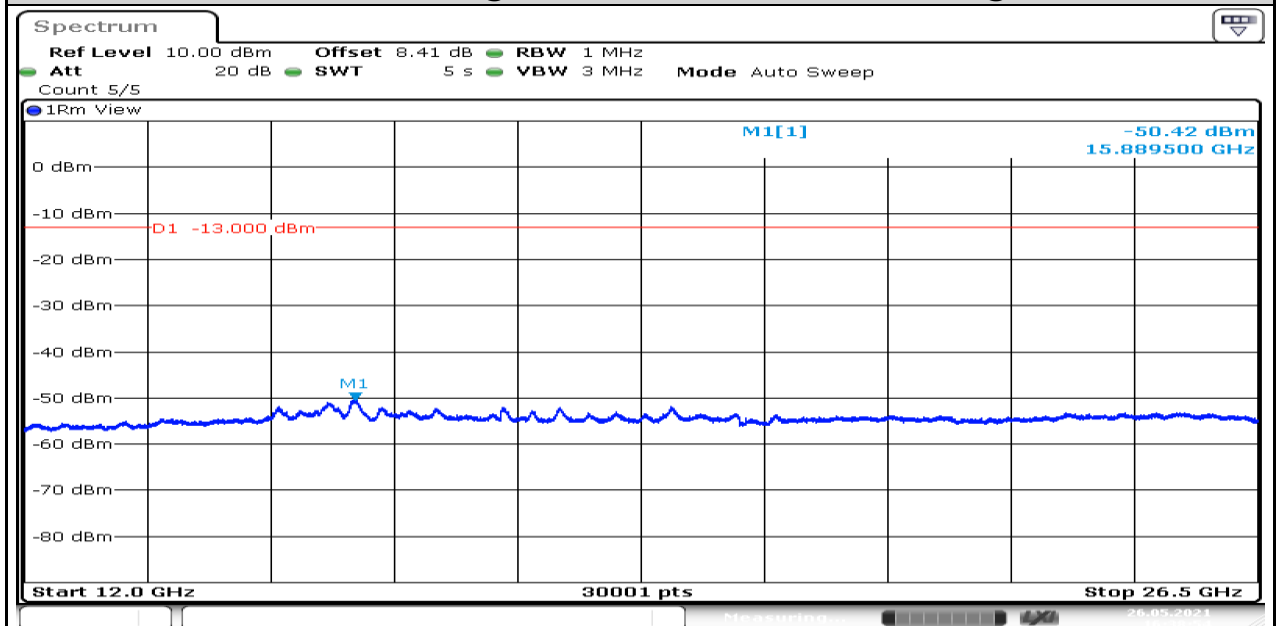
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-1000-5000-1000~5000MHz@-41.31dBm--13-PASS



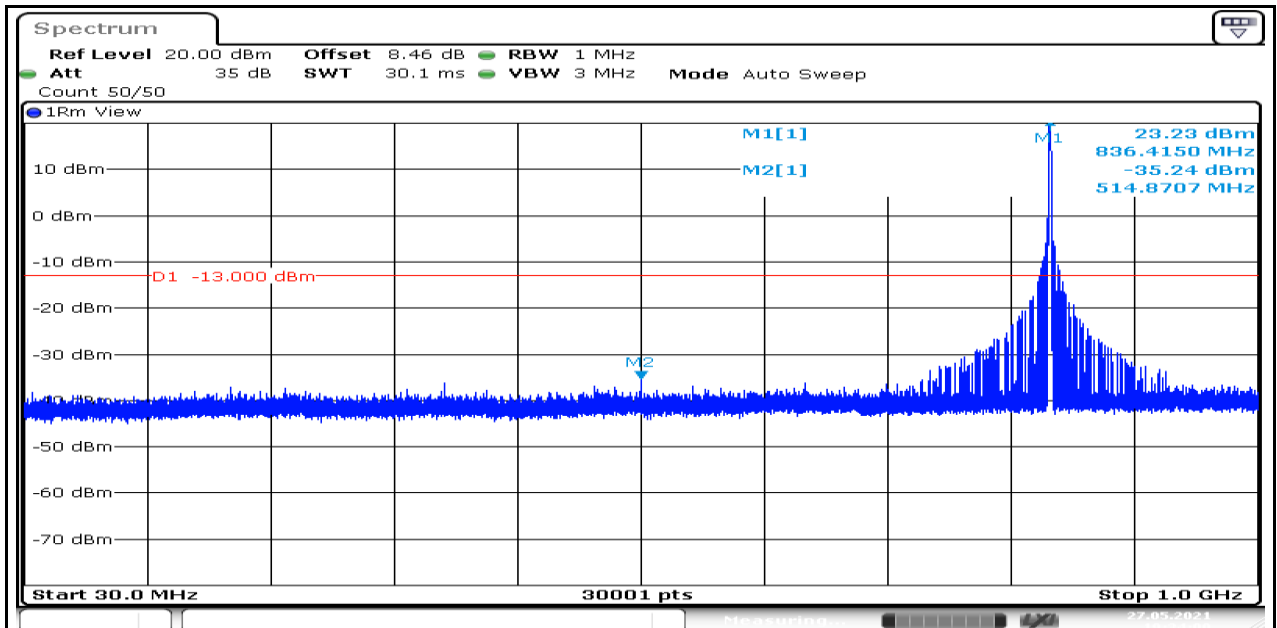
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-5000-12000-5000~12000MHz@-54.26dBm--13-PASS



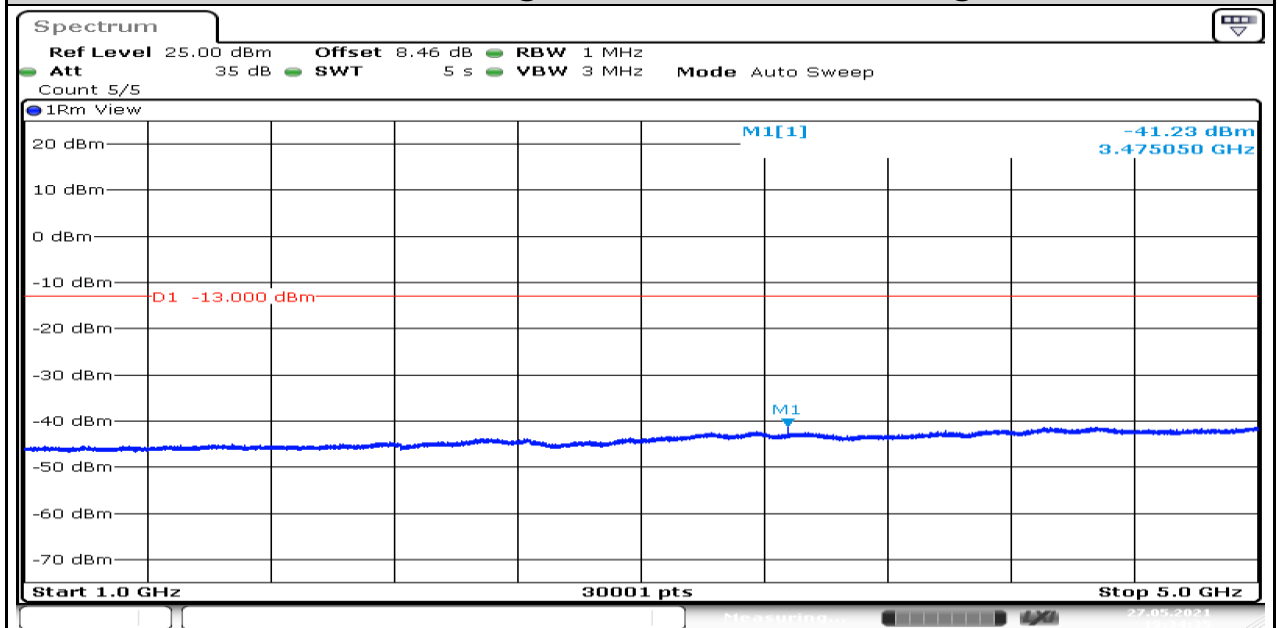
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-12000-26500-12000~26500MHz@-50.42dBm--13-PASS



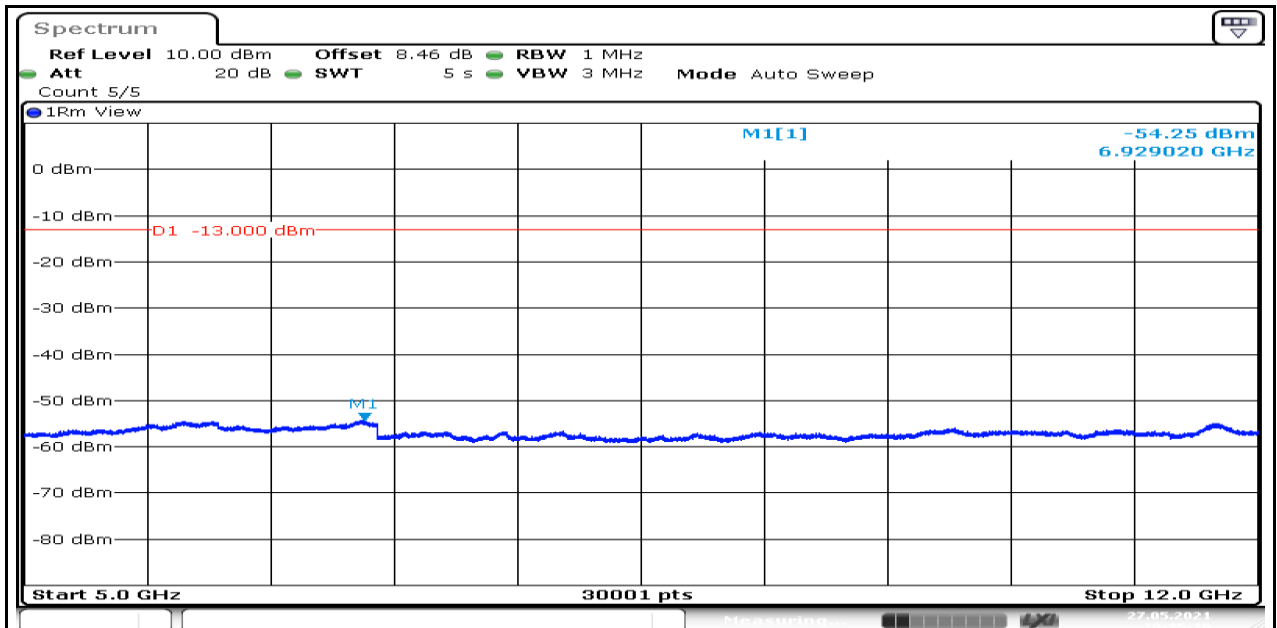
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-30-1000-30~1000MHz@-35.24dBm--13-PASS



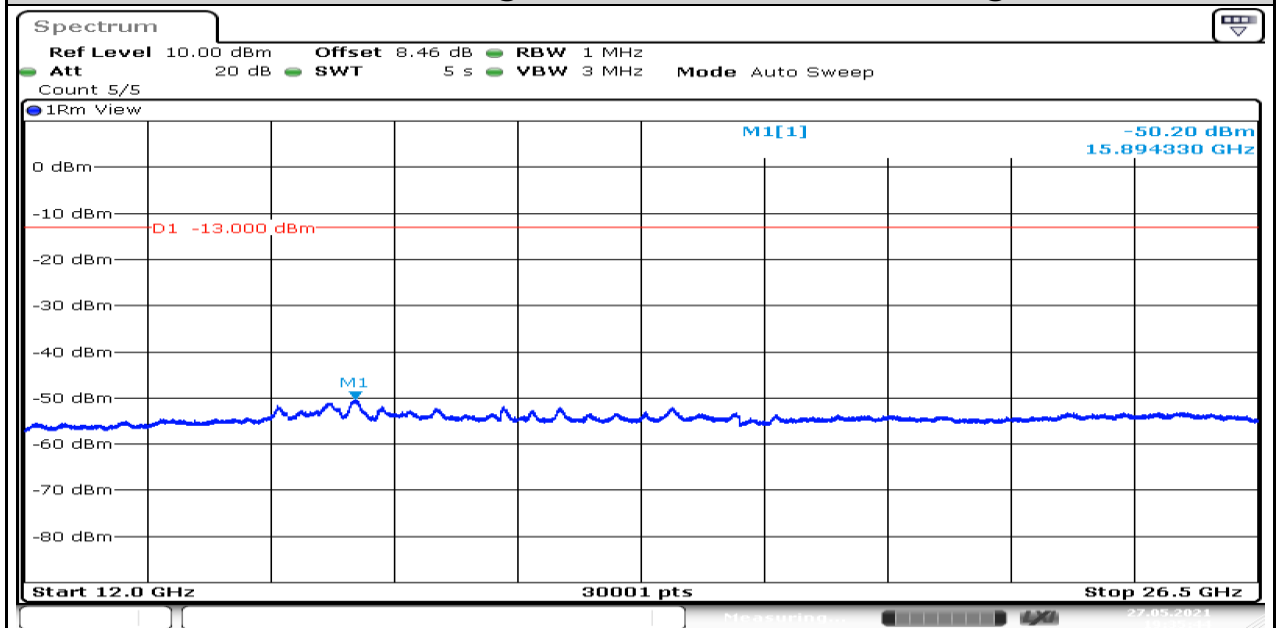
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-1000-5000-1000~5000MHz@-41.23dBm--13-PASS



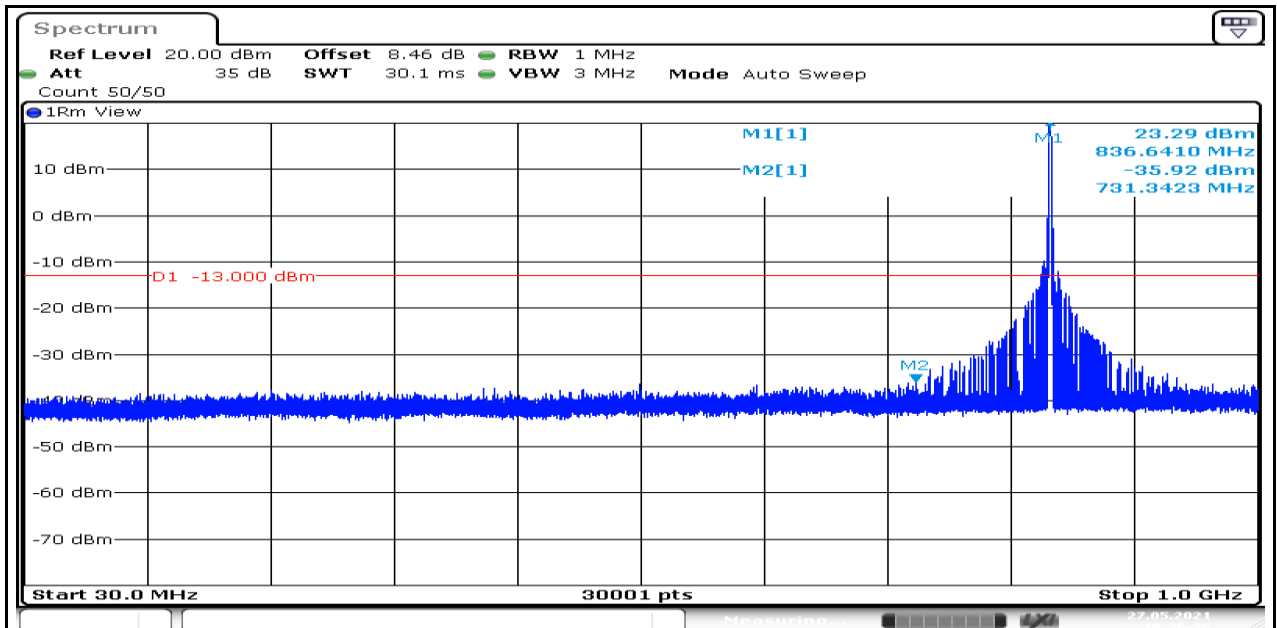
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-5000-12000-5000~12000MHz@-54.25dBm--13-PASS



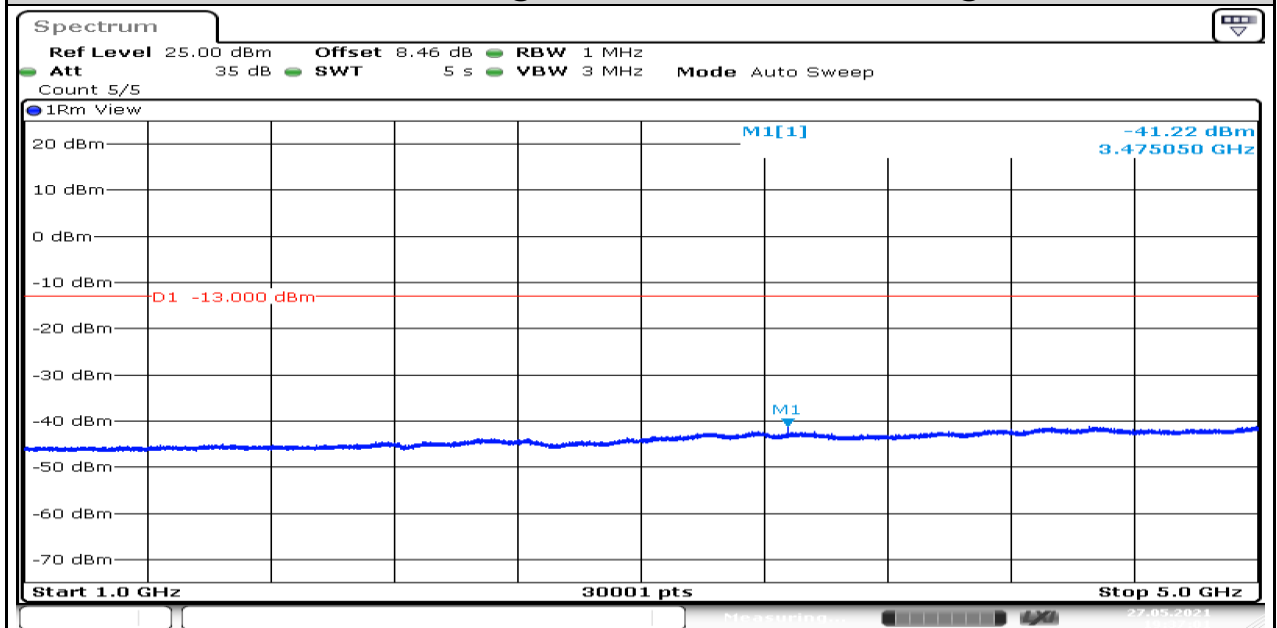
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-12000-26500-12000~26500MHz@-50.2dBm--13-PASS



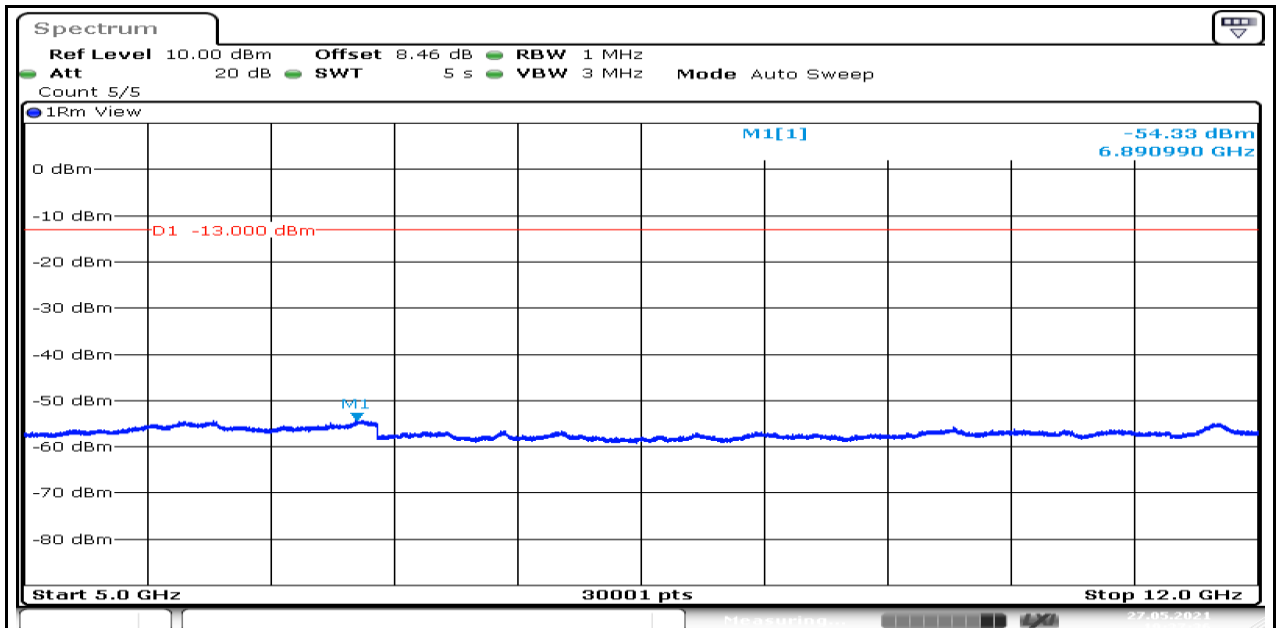
Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-30-1000-30~1000MHz@-35.92dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-1000-5000-1000~5000MHz@-41.22dBm--13-PASS

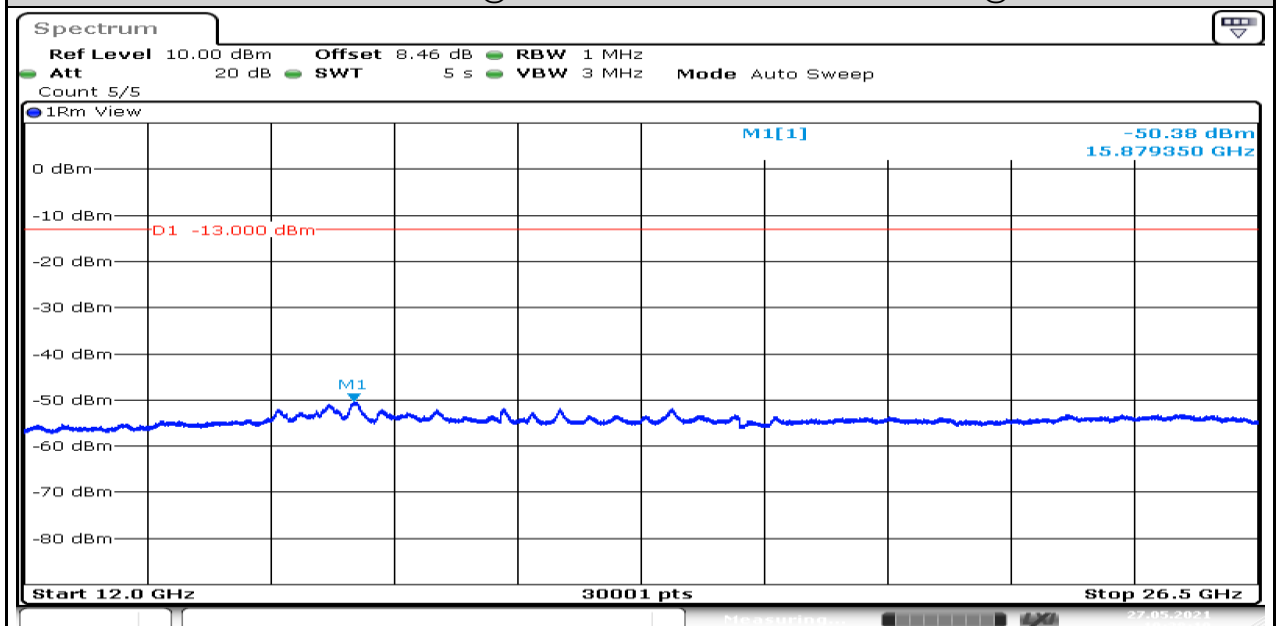


Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-5000-12000-5000~12000MHz@-54.33dBm--13-PASS



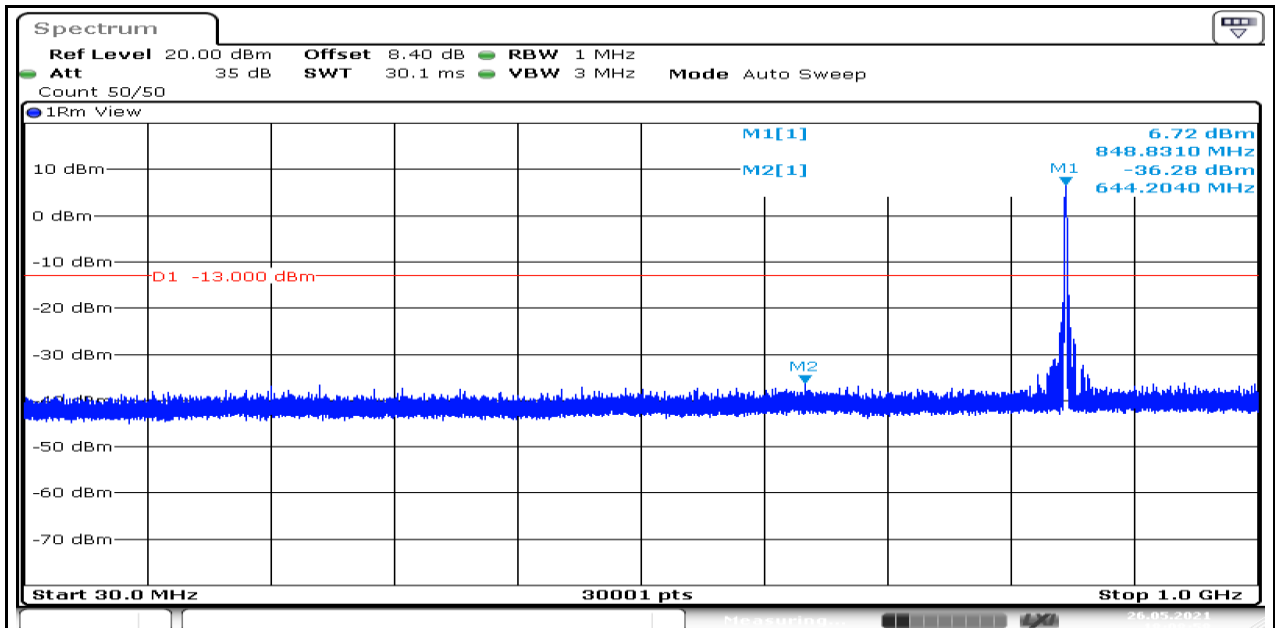
Date: 27.MAY.2021 19:37:36

Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-12000-26500-12000~26500MHz@-50.38dBm--13-PASS

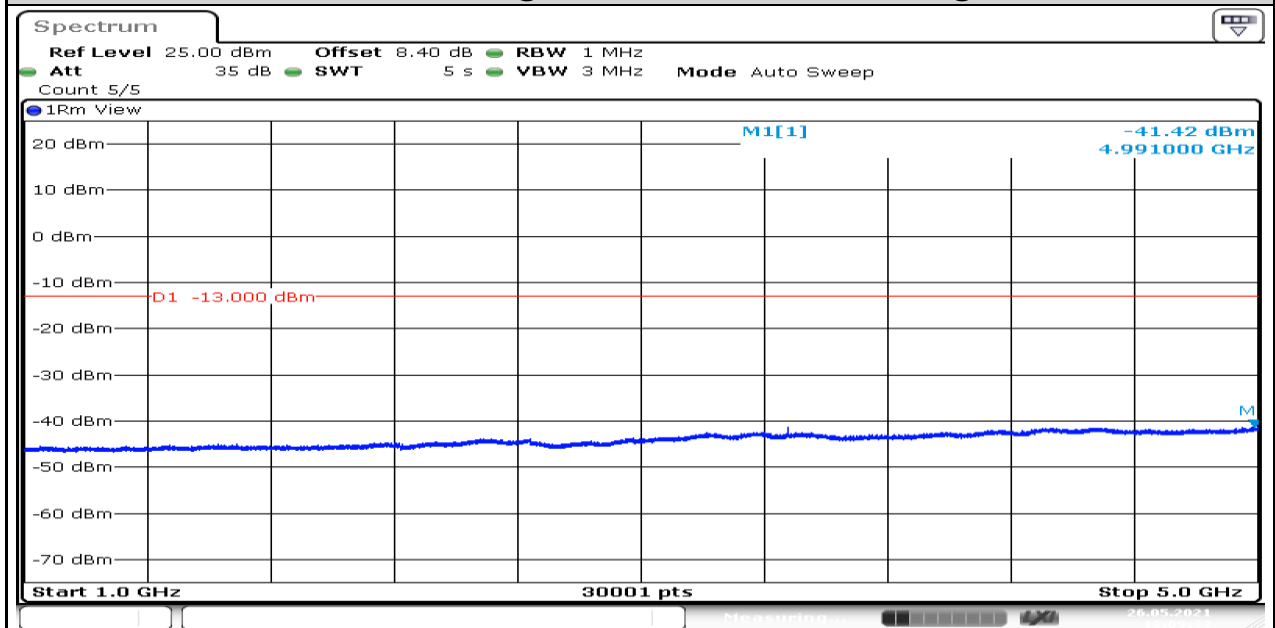


Date: 27.MAY.2021 19:38:11

Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-30-1000-30~1000MHz@-36.28dBm--13-PASS

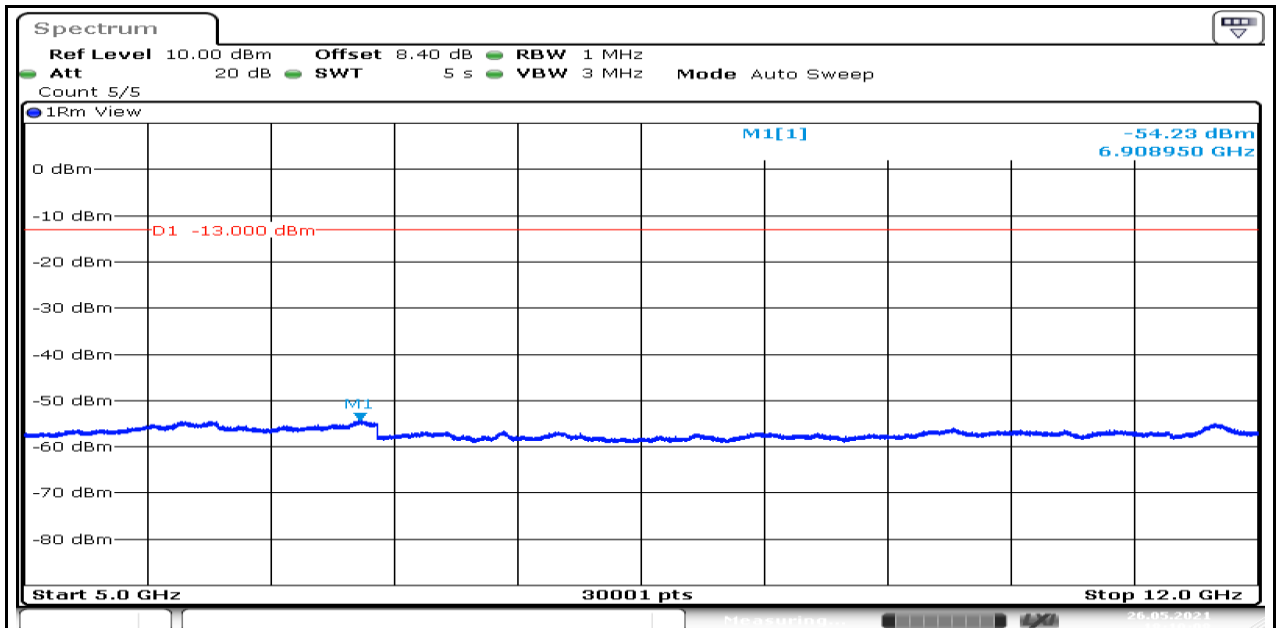


Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-1000-5000-1000~5000MHz@-41.42dBm--13-PASS

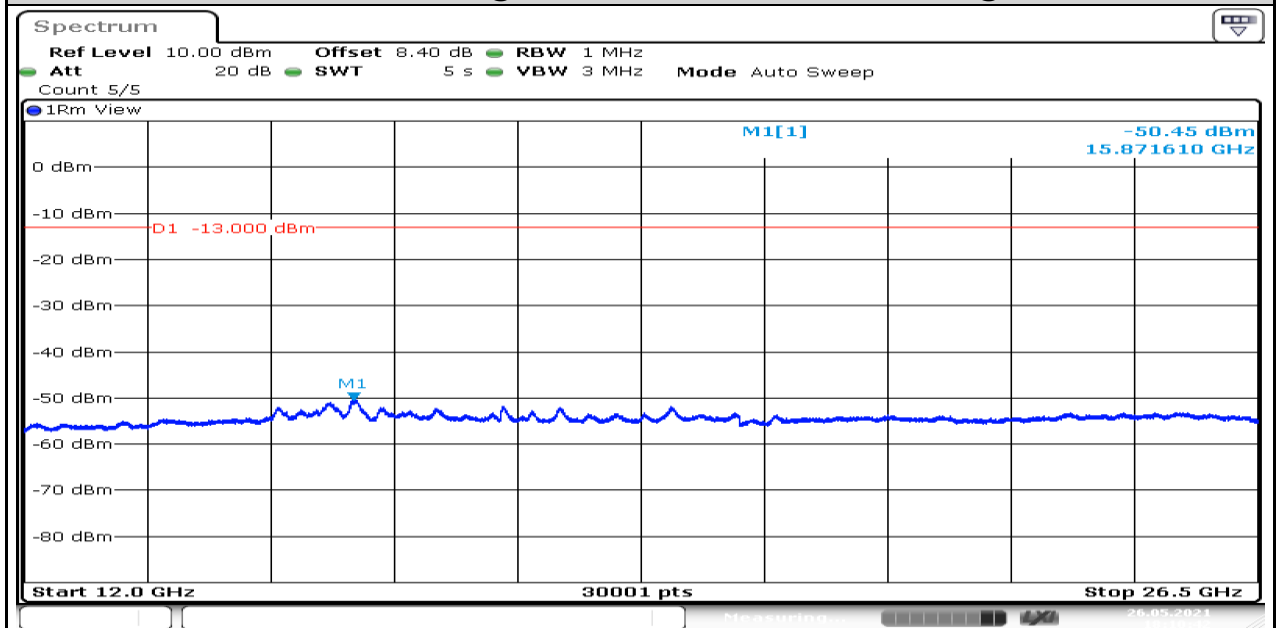


Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-5000-12000-5000~12000MHz@-54.23dBm--13-PASS

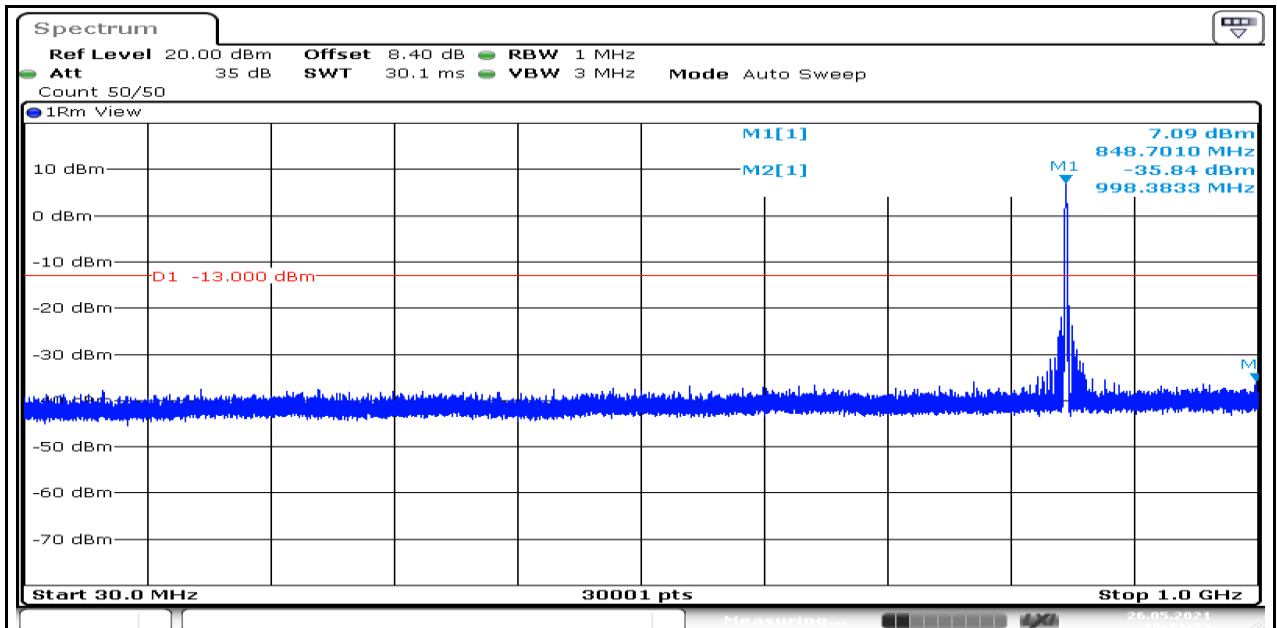




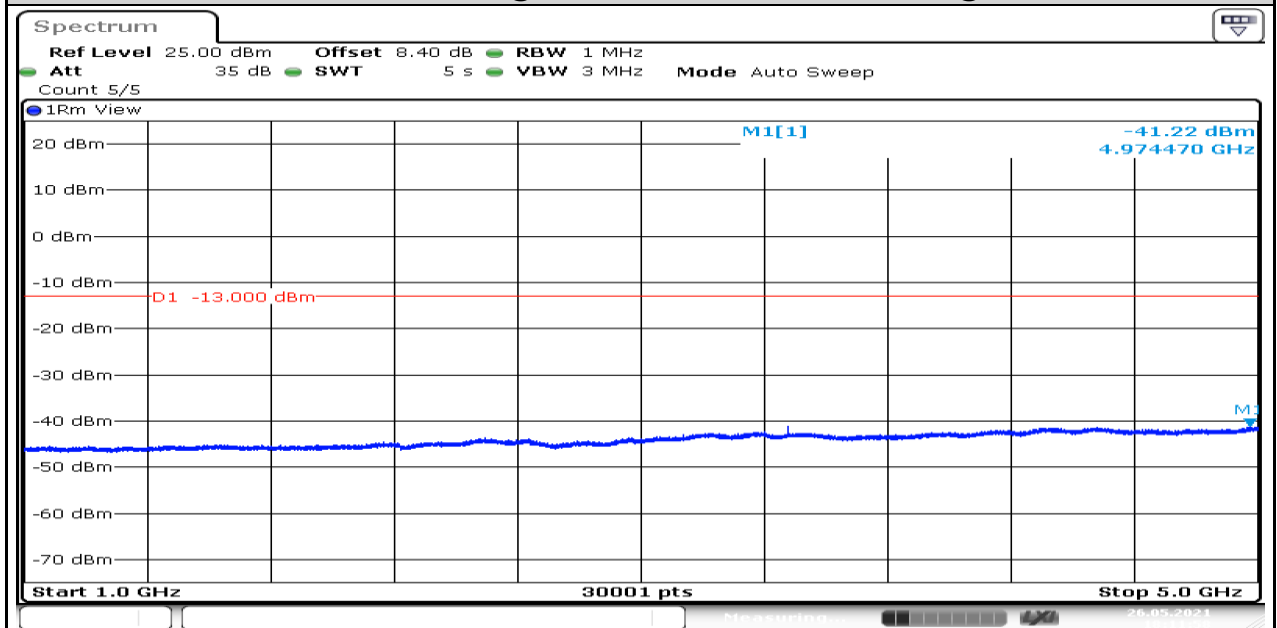
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-12000-26500-12000~26500MHz@-50.45dBm--13-PASS



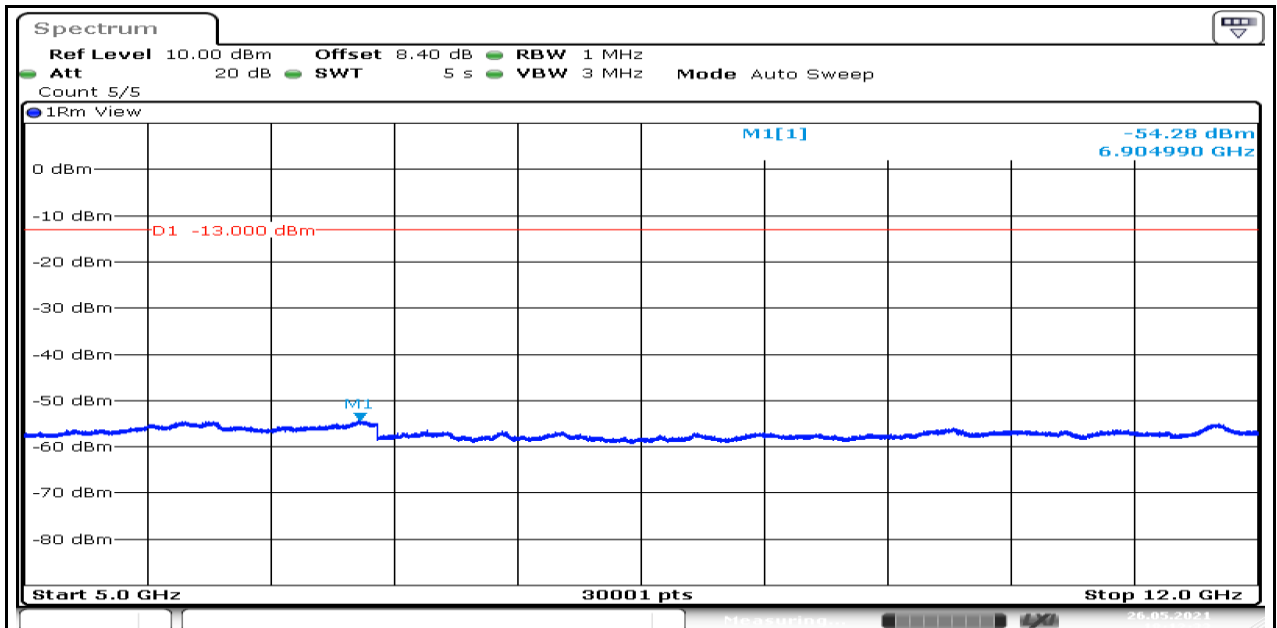
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-30-1000-30~1000MHz@-35.84dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-1000-5000-1000~5000MHz@-41.22dBm--13-PASS

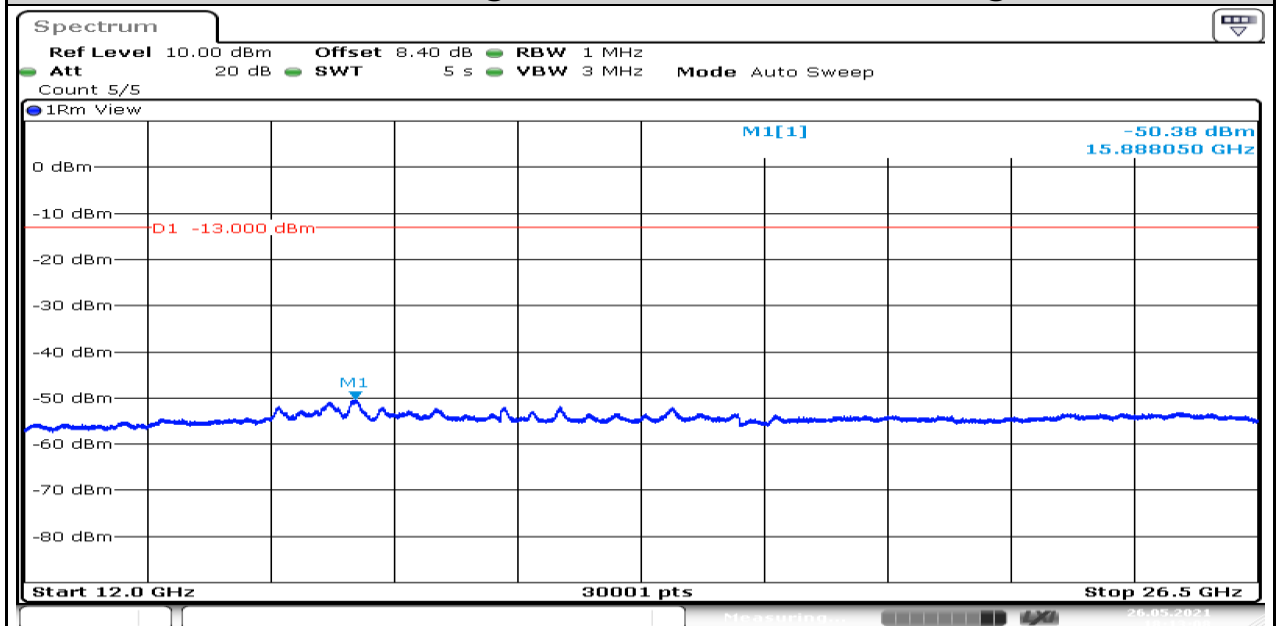


Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-5000-12000-5000~12000MHz@-54.28dBm--13-PASS



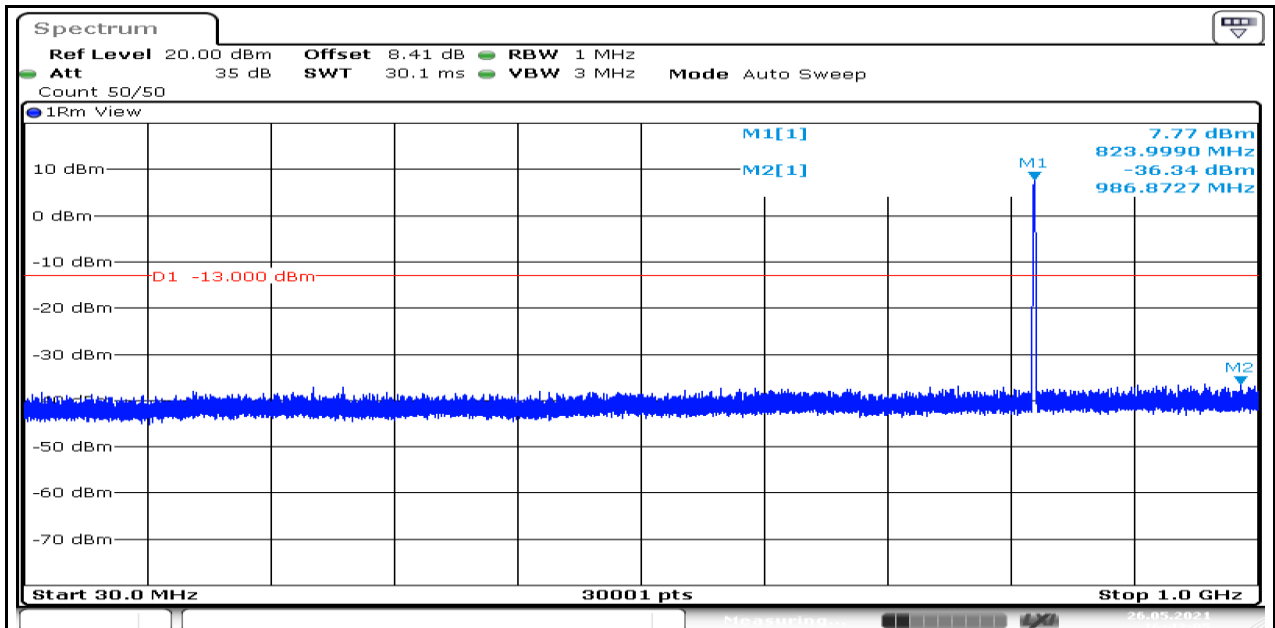
Date: 26.MAY.2021 18:12:33

Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-12000-26500-12000~26500MHz@-50.38dBm--13-PASS

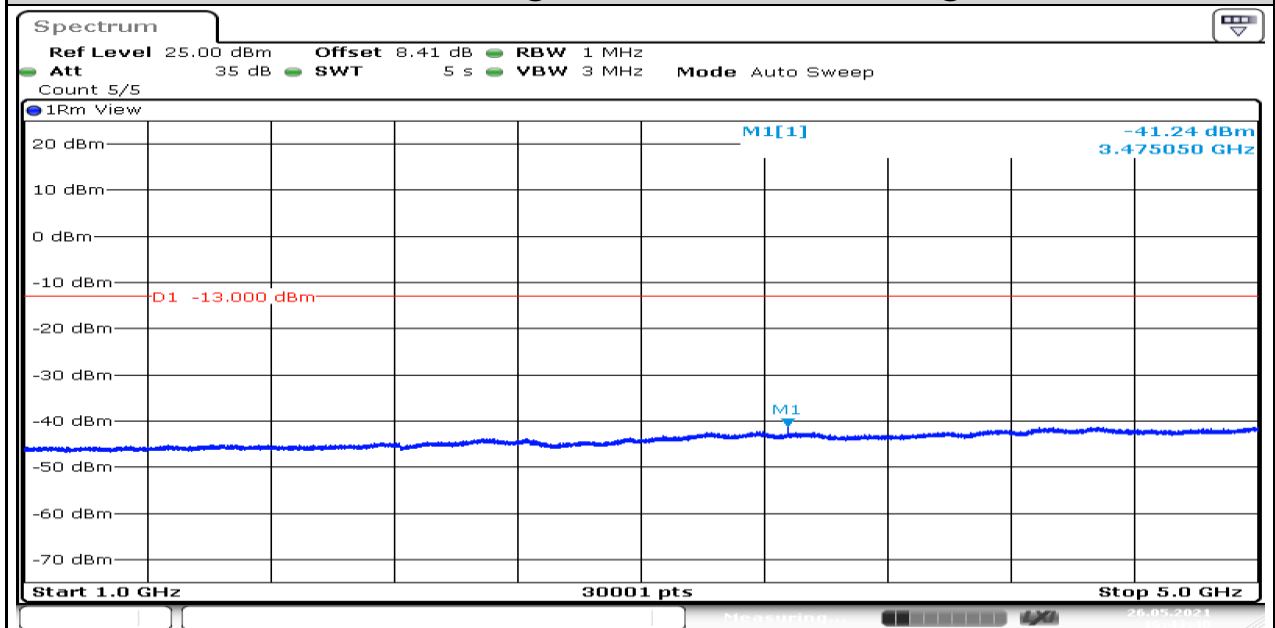


Date: 26.MAY.2021 18:13:08

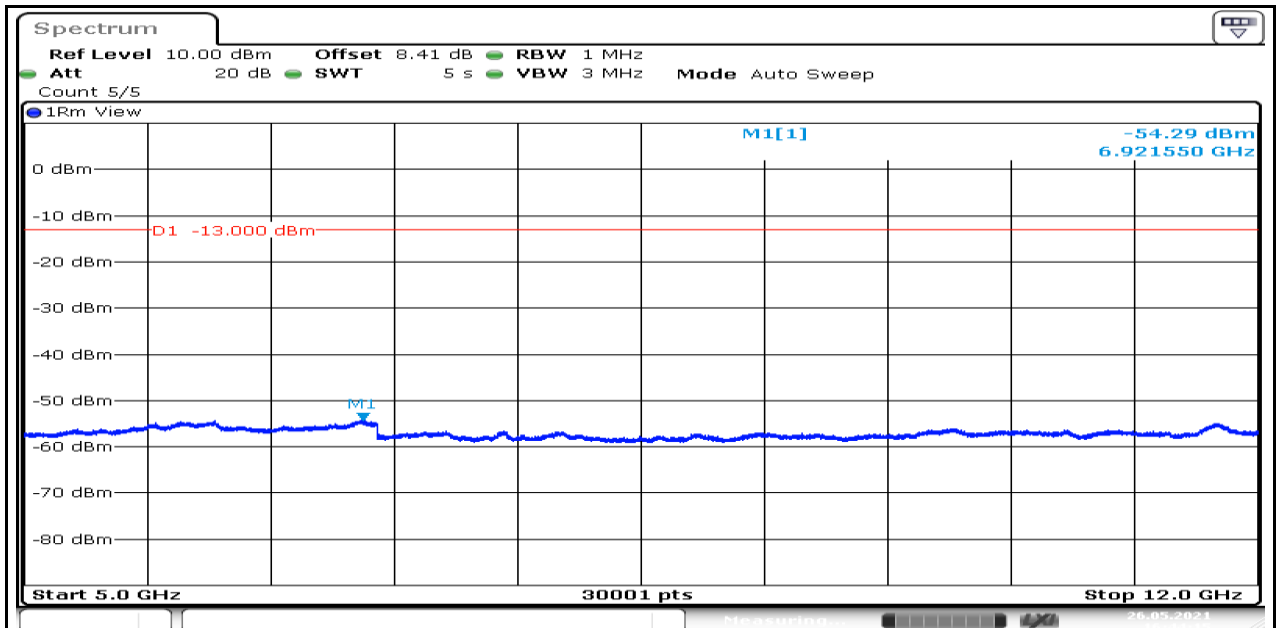
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-30-1000-30~1000MHz@-36.34dBm--13-PASS



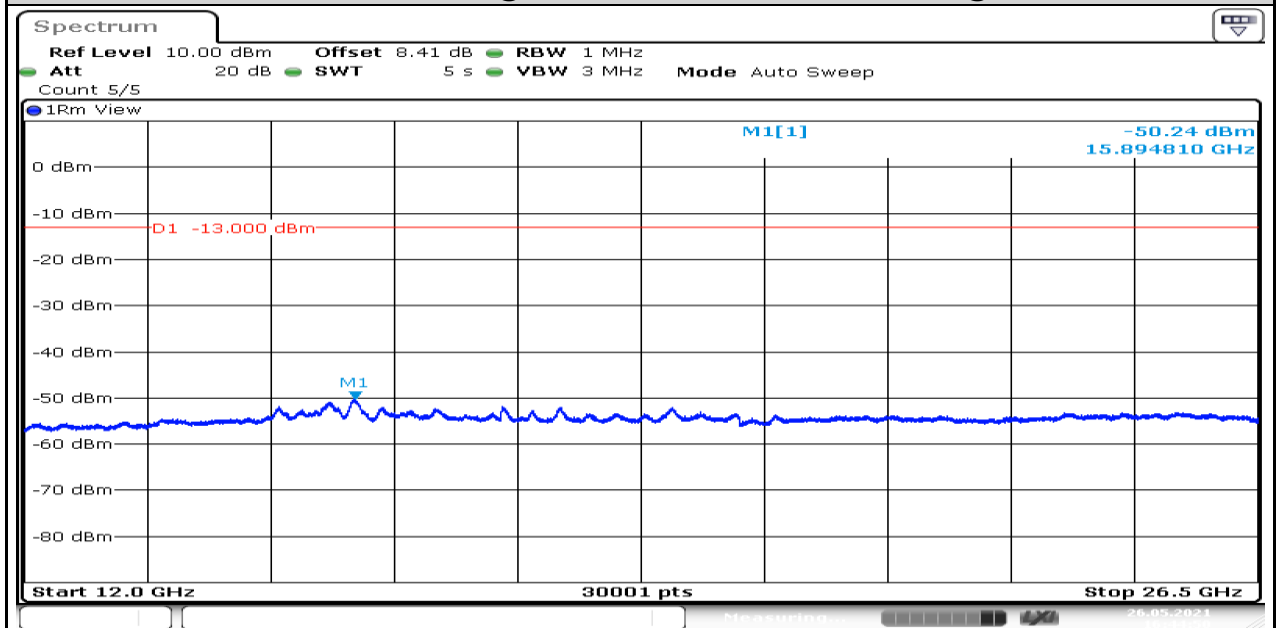
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-1000-5000-1000~5000MHz@-41.24dBm--13-PASS



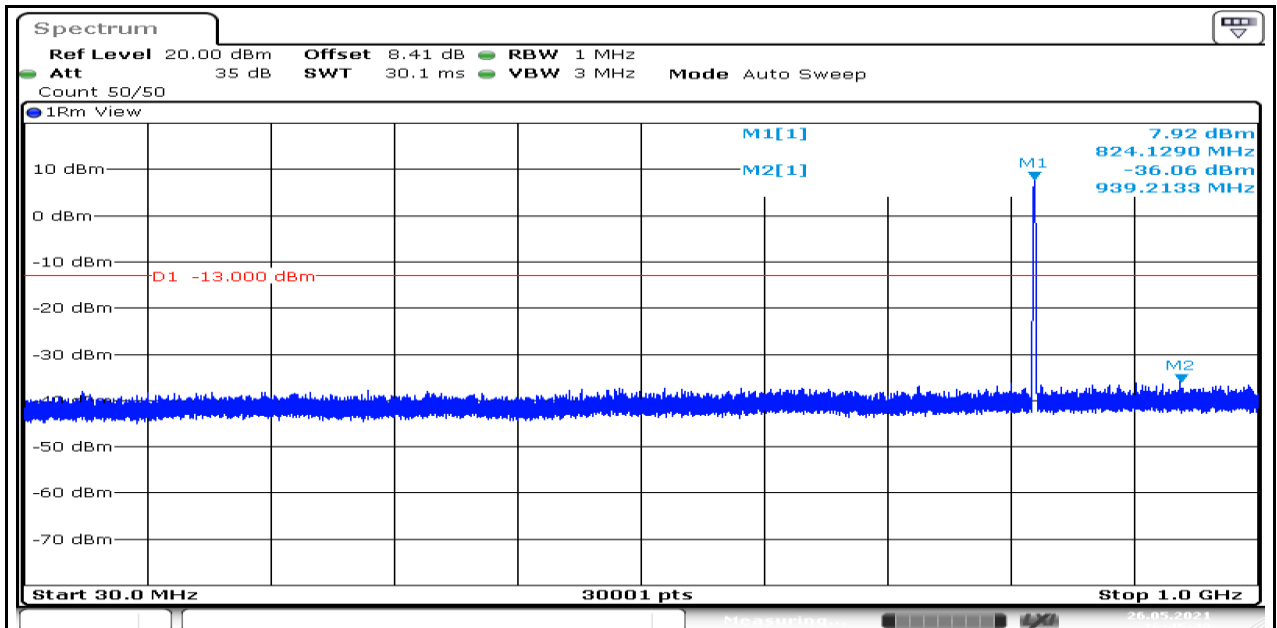
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-5000-12000-5000~12000MHz@-54.29dBm--13-PASS



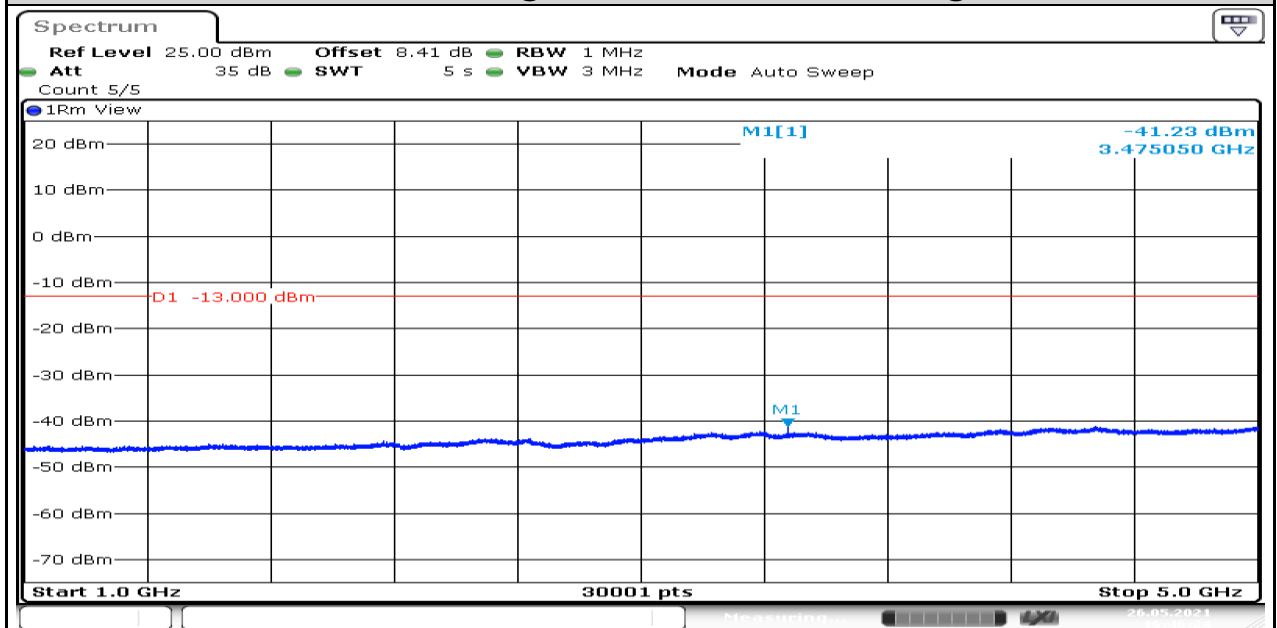
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-12000-26500-12000~26500MHz@-50.24dBm--13-PASS



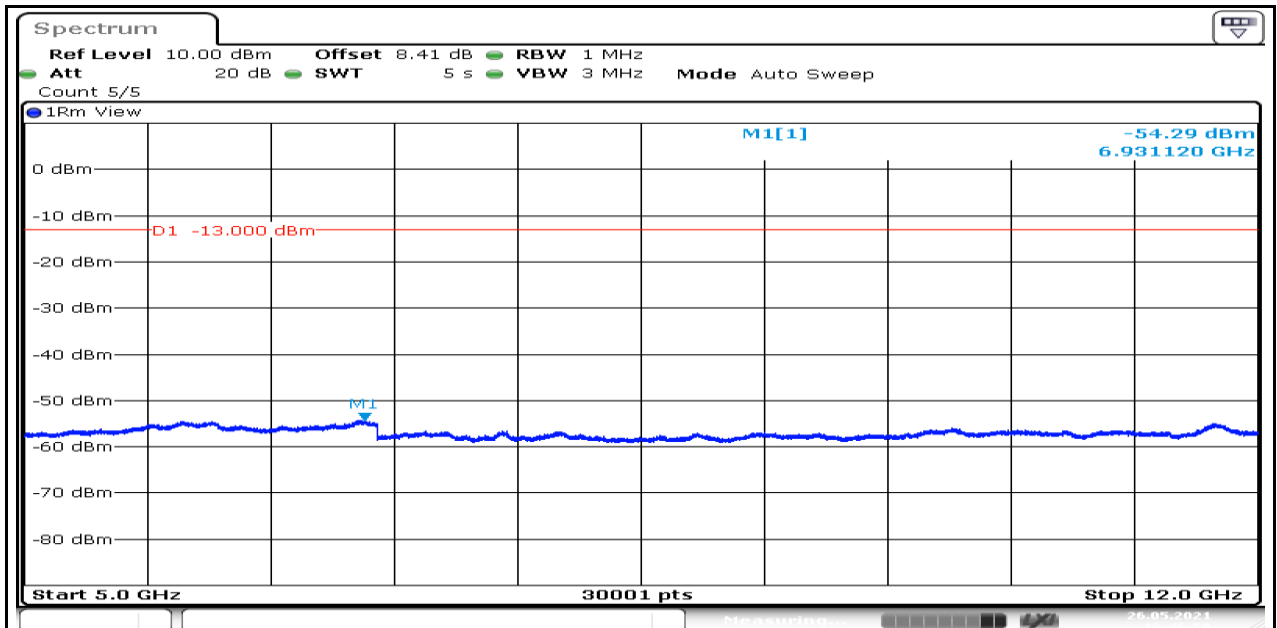
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-30-1000-30~1000MHz@-36.06dBm--13-PASS



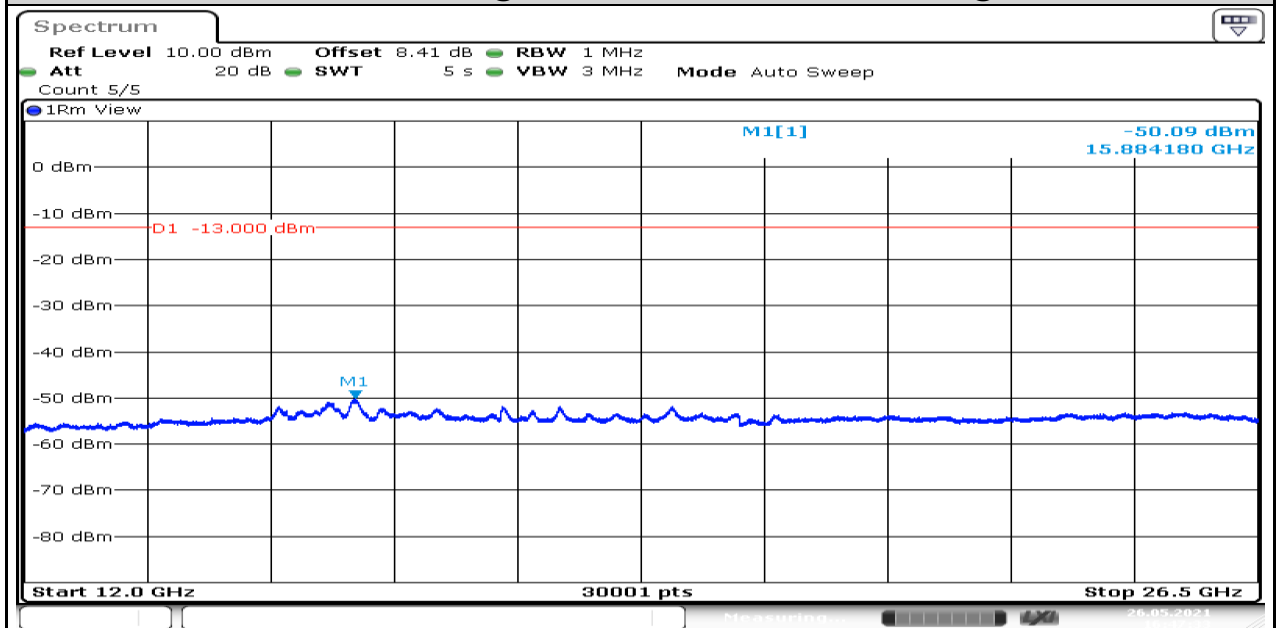
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-1000-5000-1000~5000MHz@-41.23dBm--13-PASS



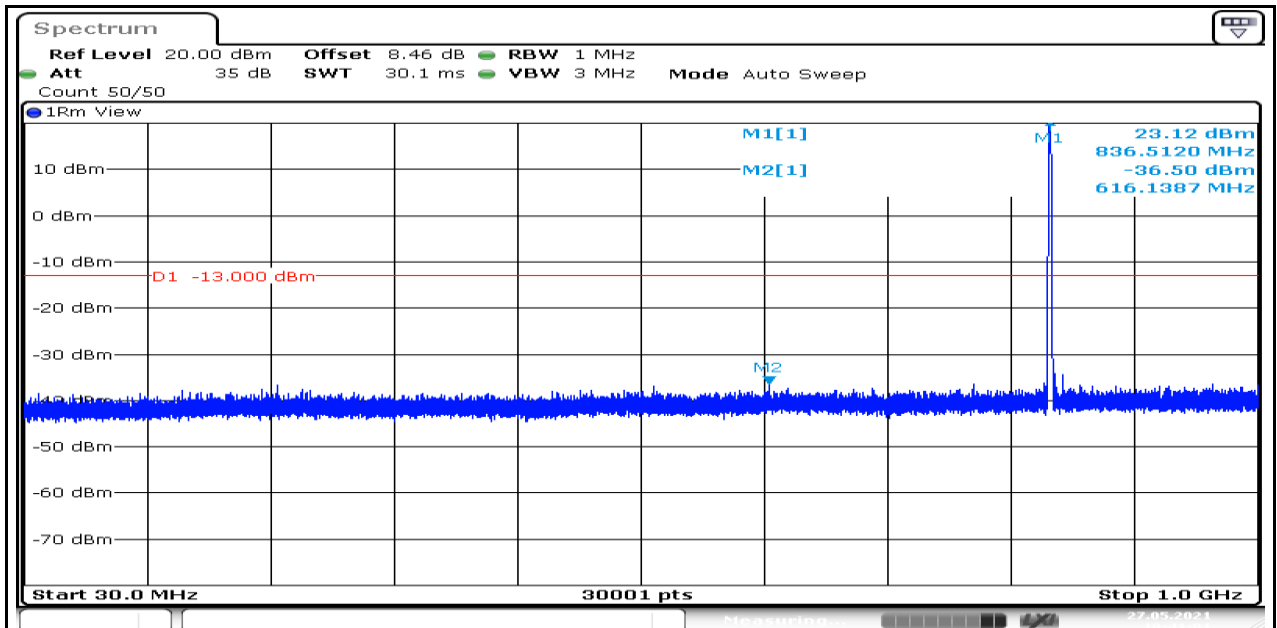
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-5000-12000-5000~12000MHz@-54.29dBm--13-PASS



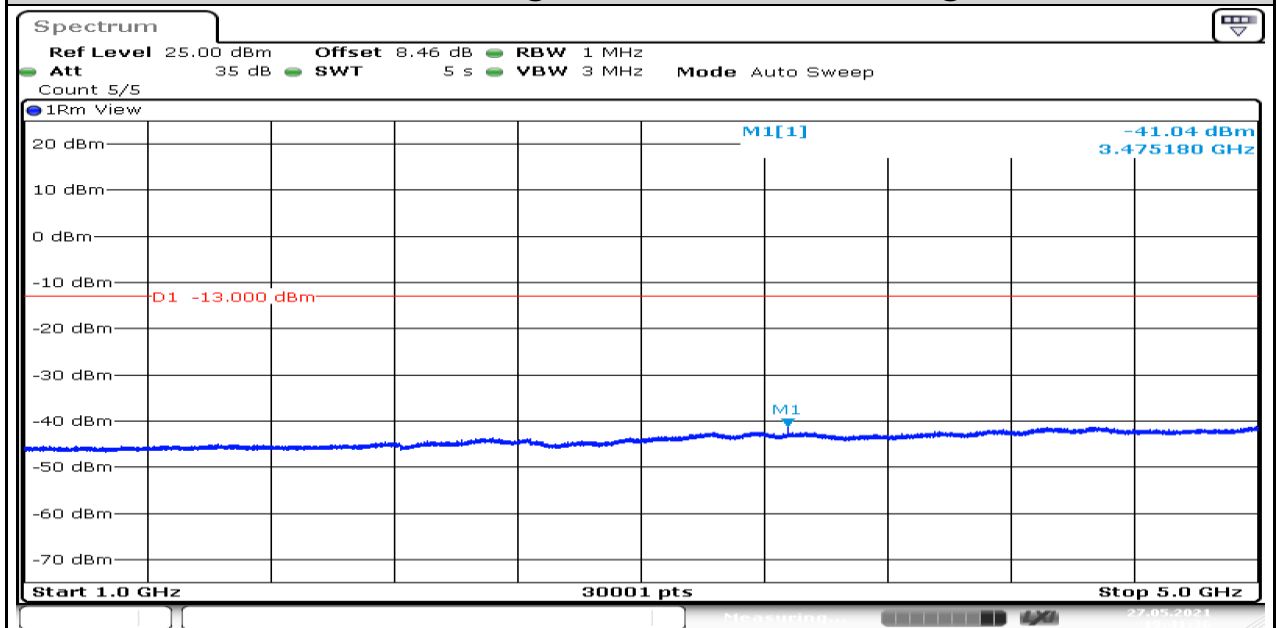
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-12000-26500-12000~26500MHz@-50.09dBm--13-PASS



Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-30-1000-30~1000MHz@-36.5dBm--13-PASS

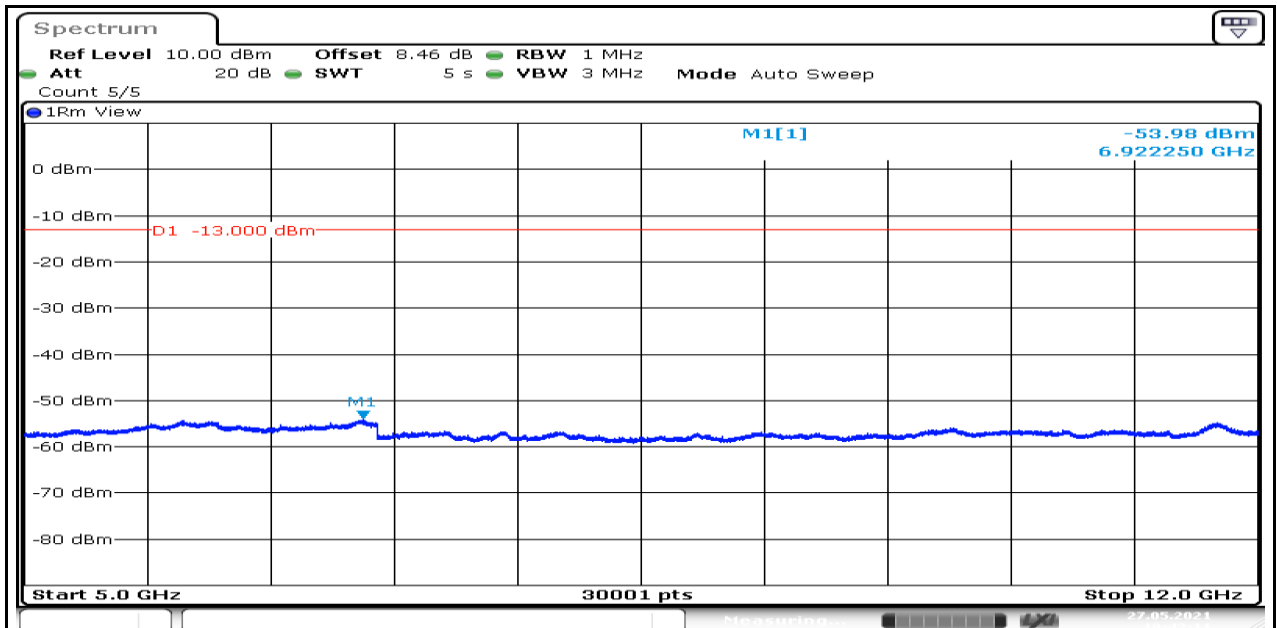


Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-1000-5000-1000~5000MHz@-41.04dBm--13-PASS

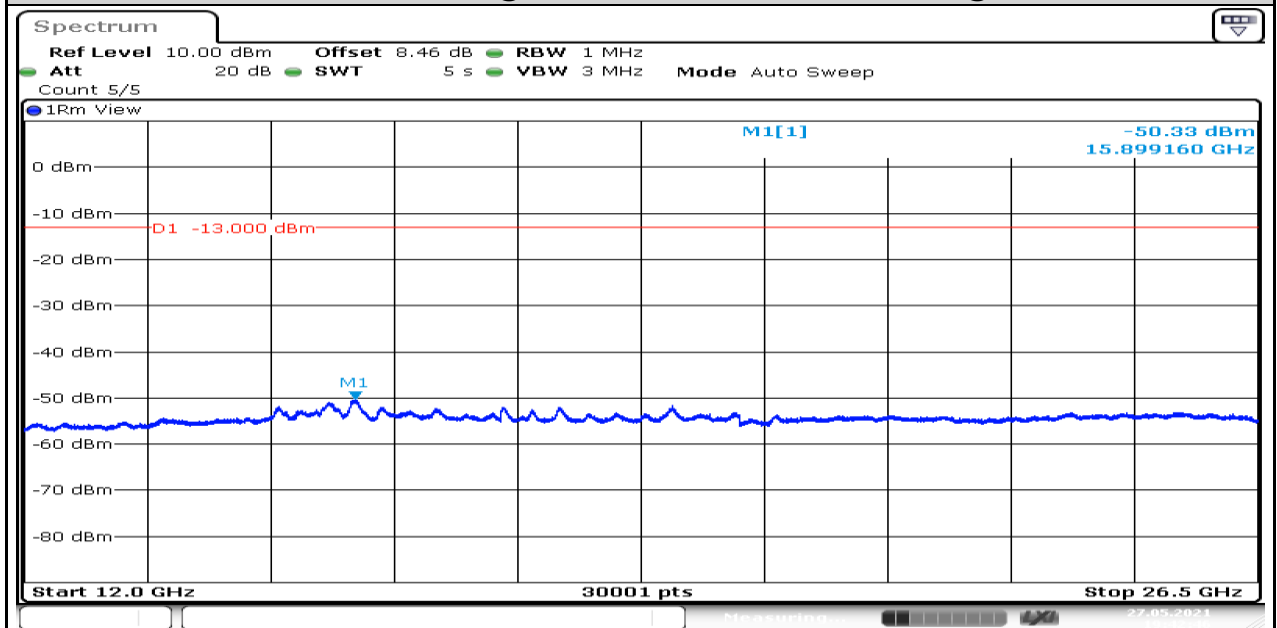


Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-5000-12000-5000~12000MHz@-53.98dBm--13-PASS

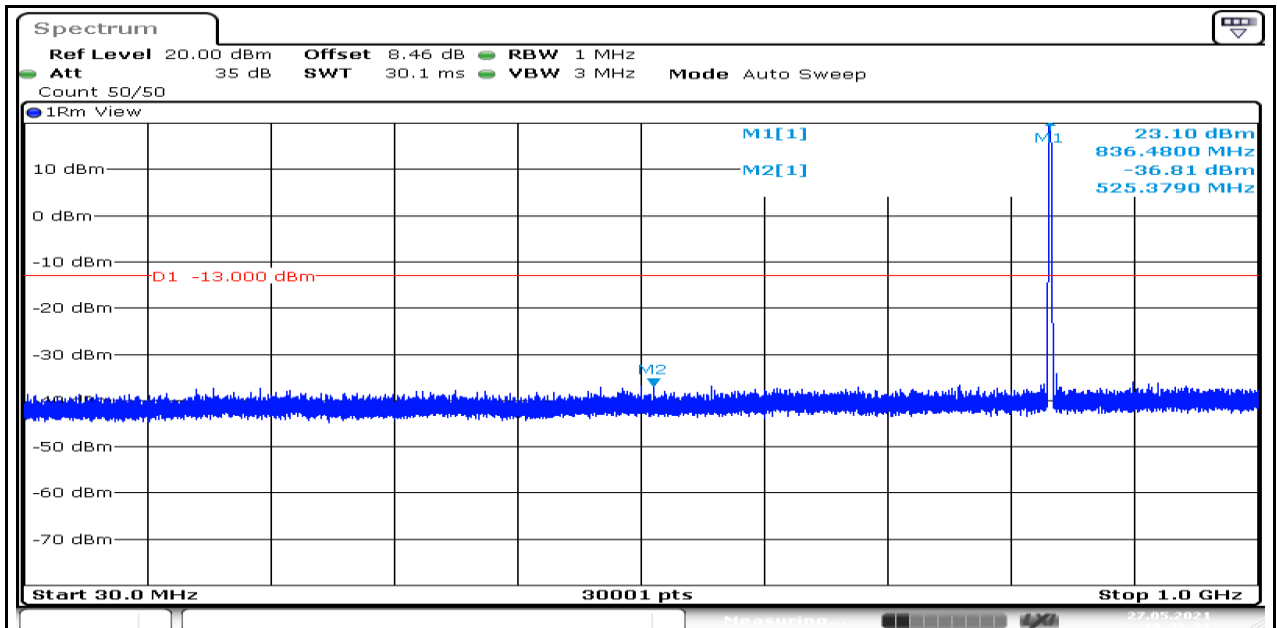




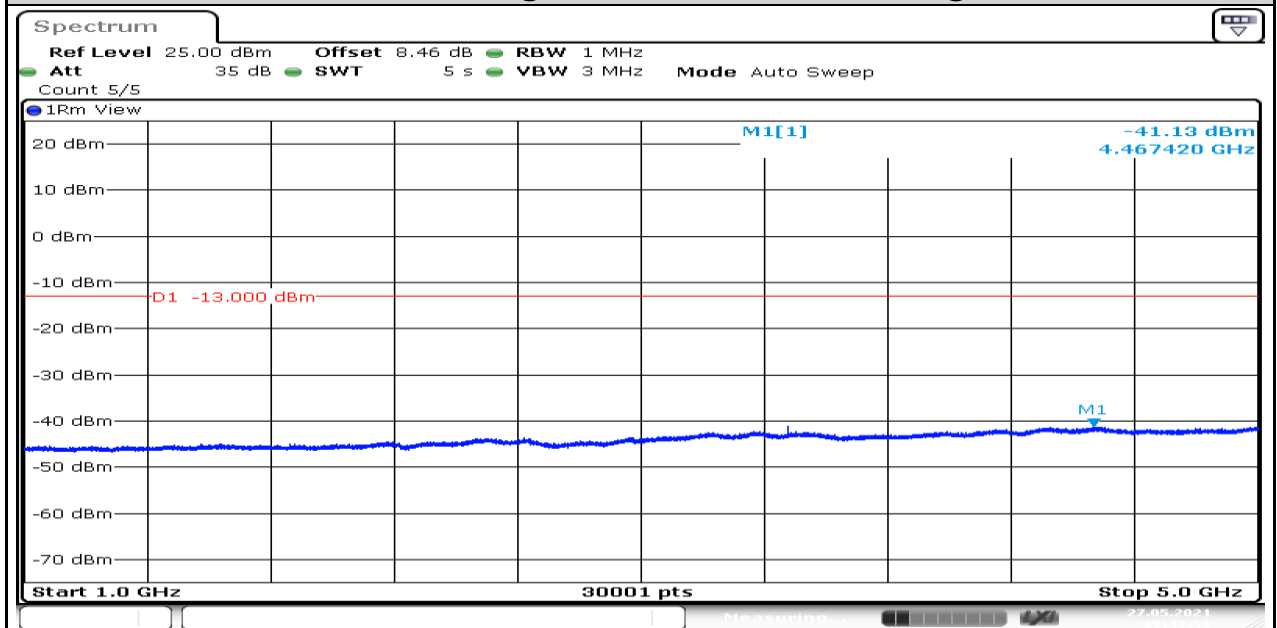
Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-12000-26500-12000~26500MHz@-50.33dBm--13-PASS



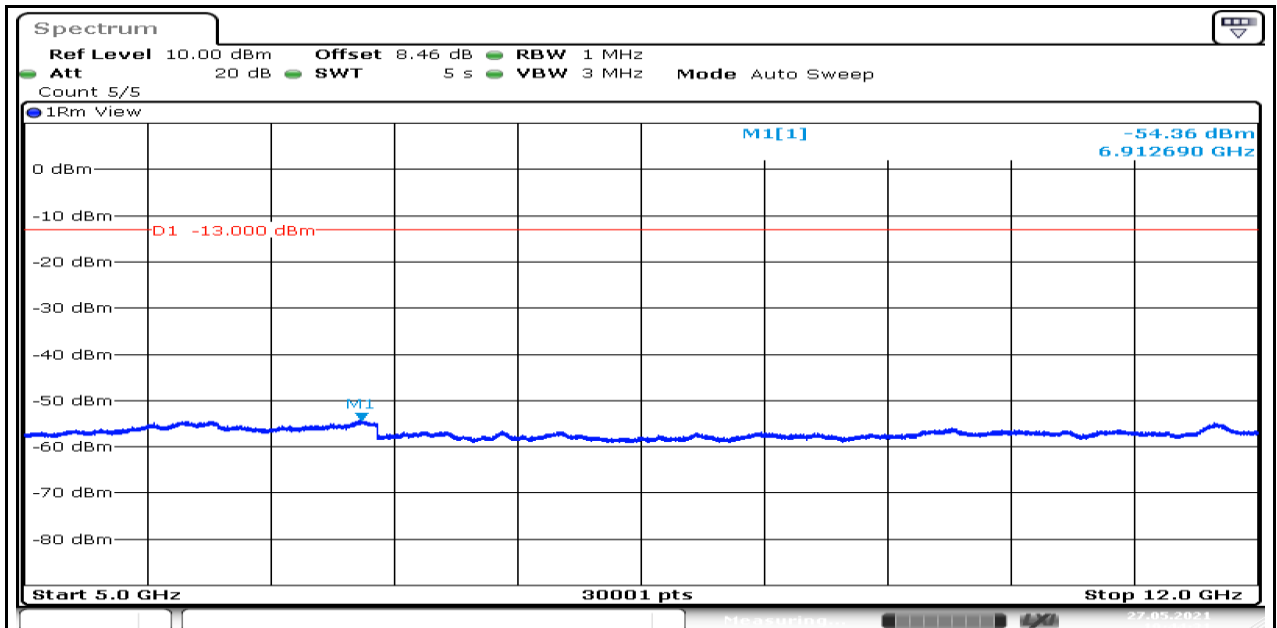
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-30-1000-30~1000MHz@-36.81dBm--13-PASS



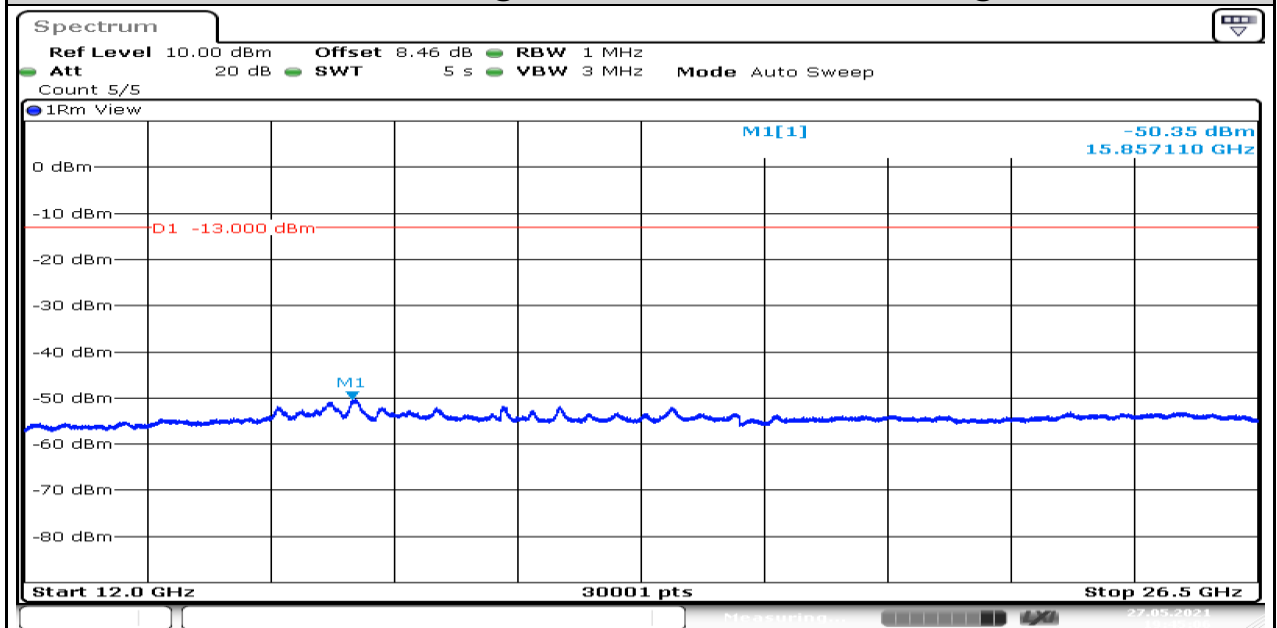
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-1000-5000-1000~5000MHz@-41.13dBm--13-PASS



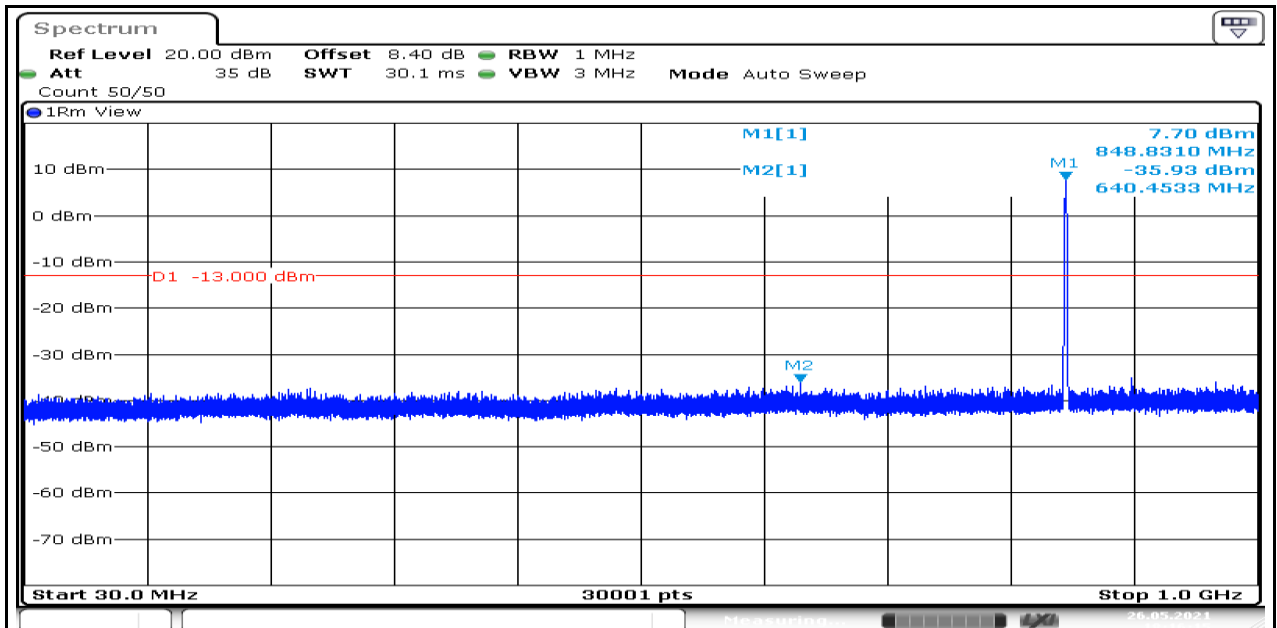
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-5000-12000-5000~12000MHz@-54.36dBm--13-PASS



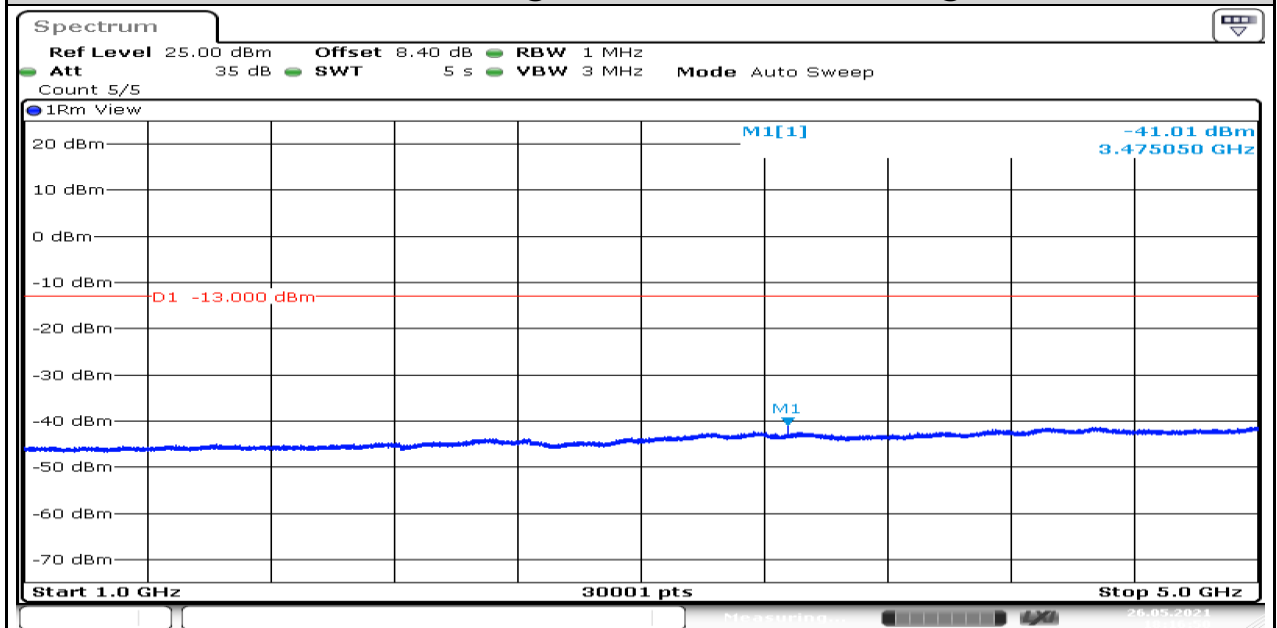
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-12000-26500-12000~26500MHz@-50.35dBm--13-PASS



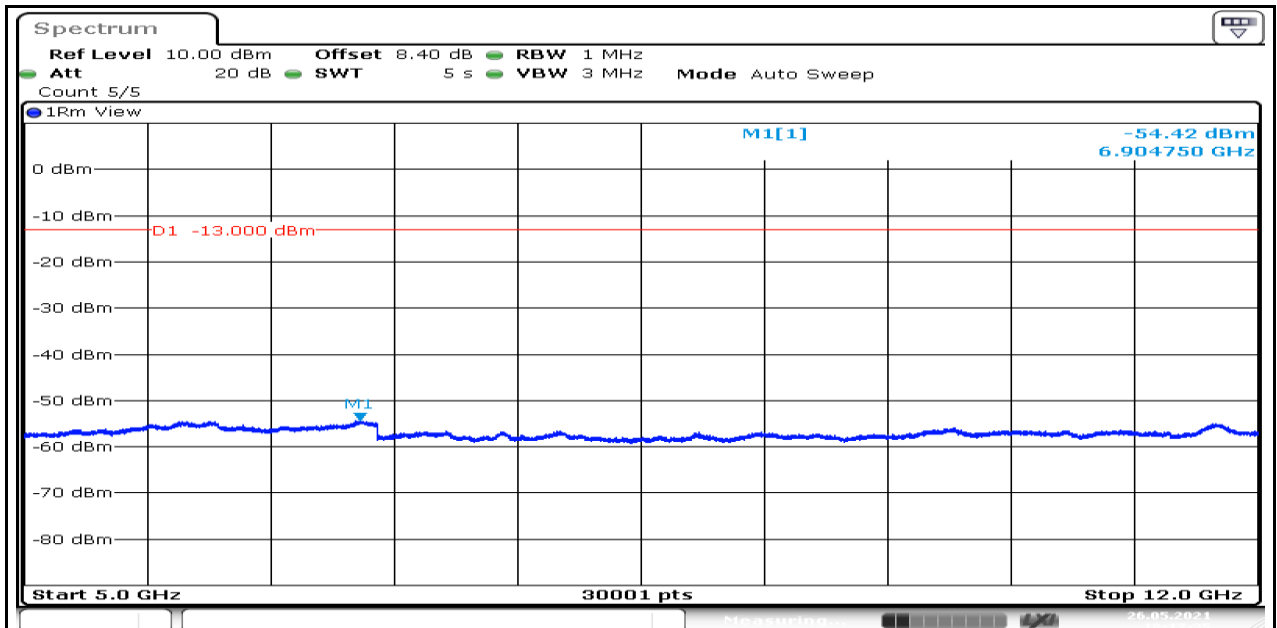
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-30-1000-30~1000MHz@-35.93dBm--13-PASS



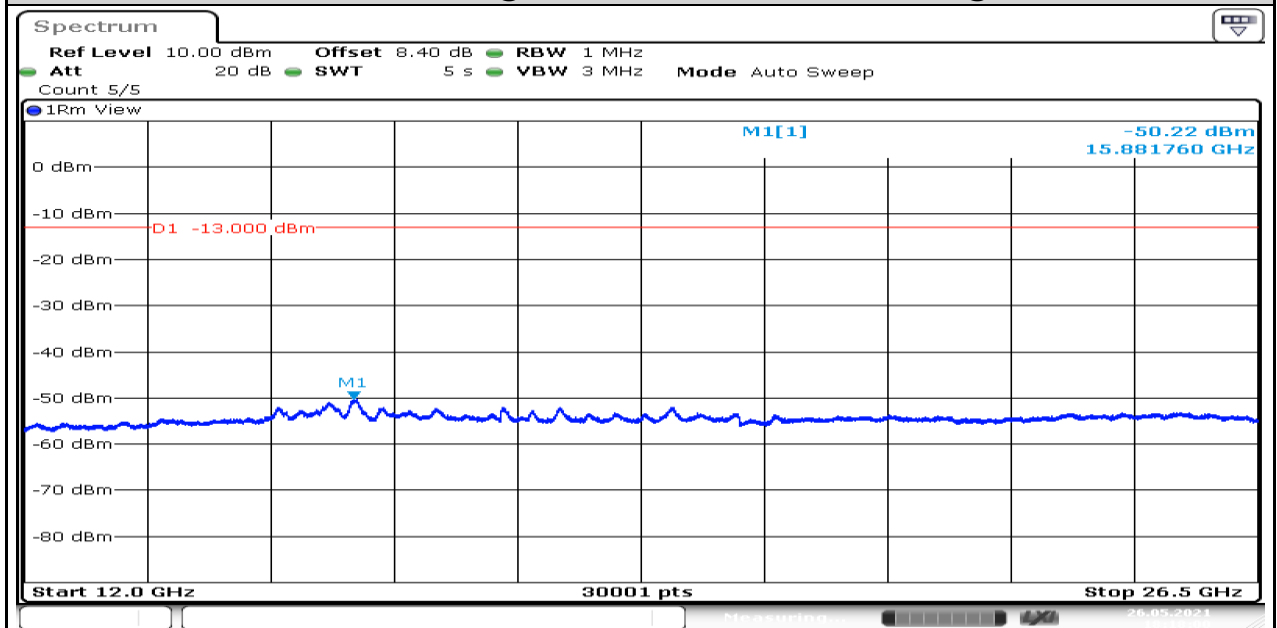
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-1000-5000-1000~5000MHz@-41.01dBm--13-PASS



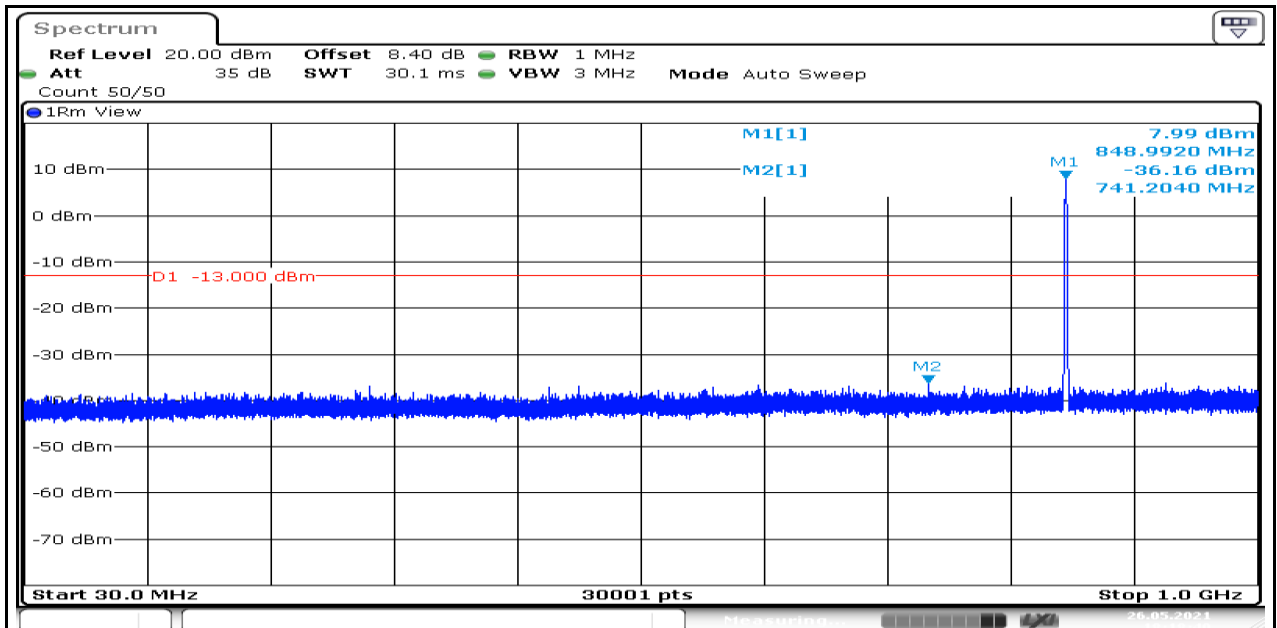
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-5000-12000-5000~12000MHz@-54.42dBm--13-PASS



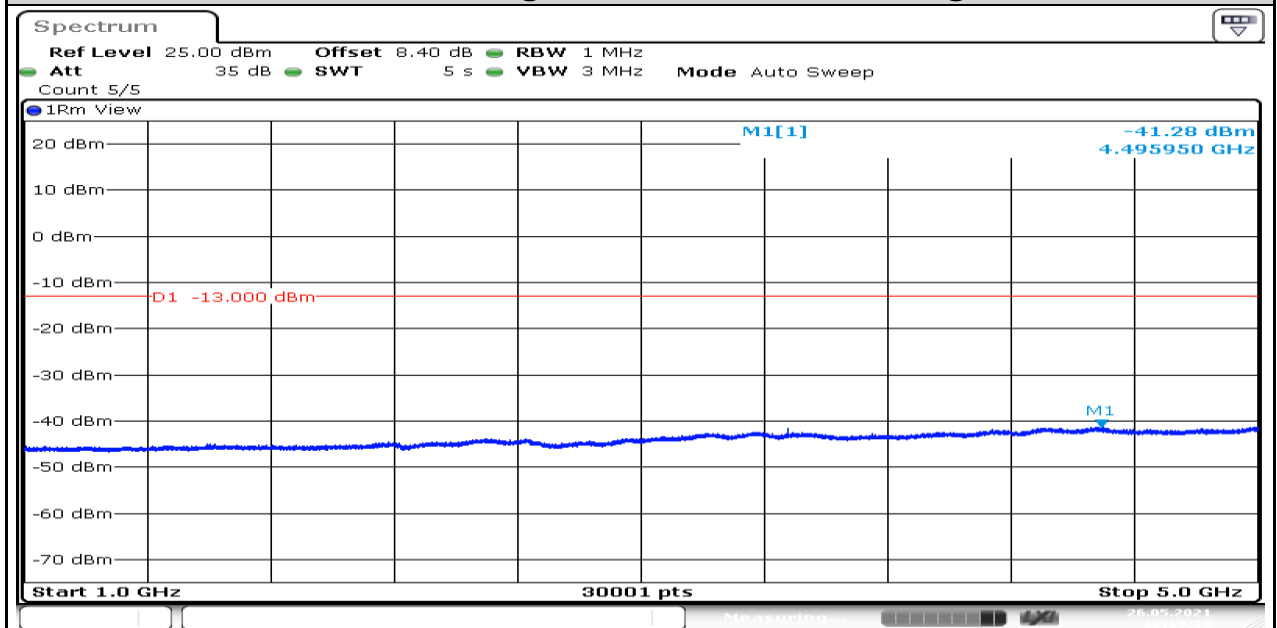
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-12000-26500-12000~26500MHz@-50.22dBm--13-PASS



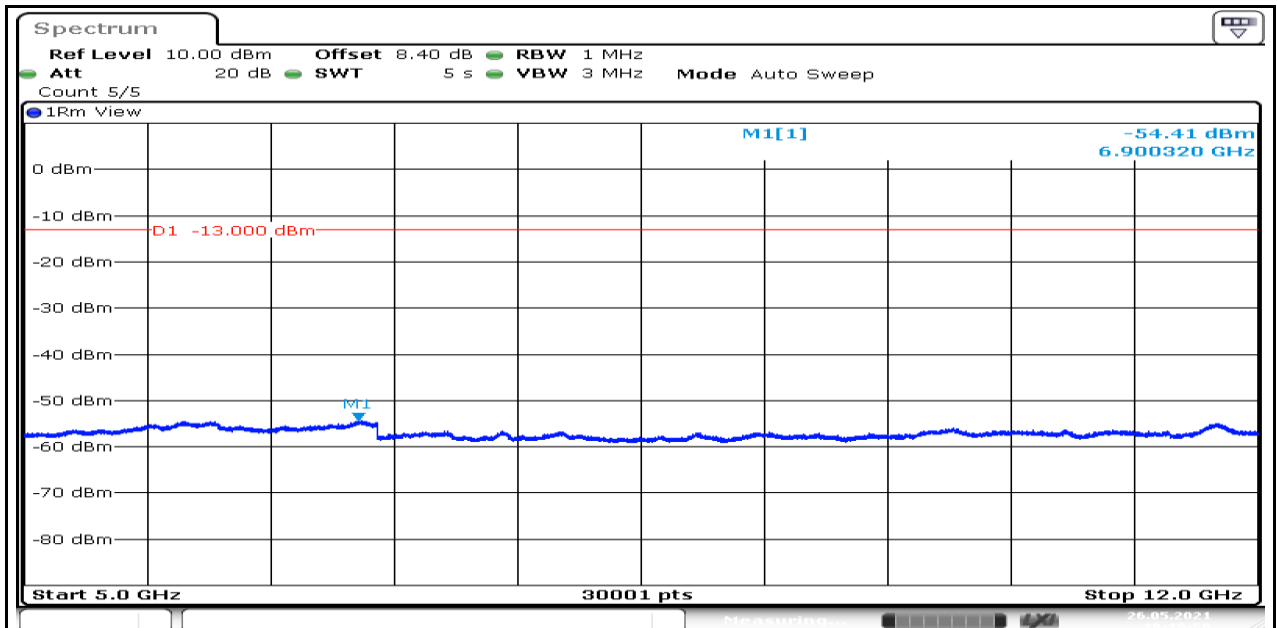
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-30-1000-30~1000MHz@-36.16dBm--13-PASS



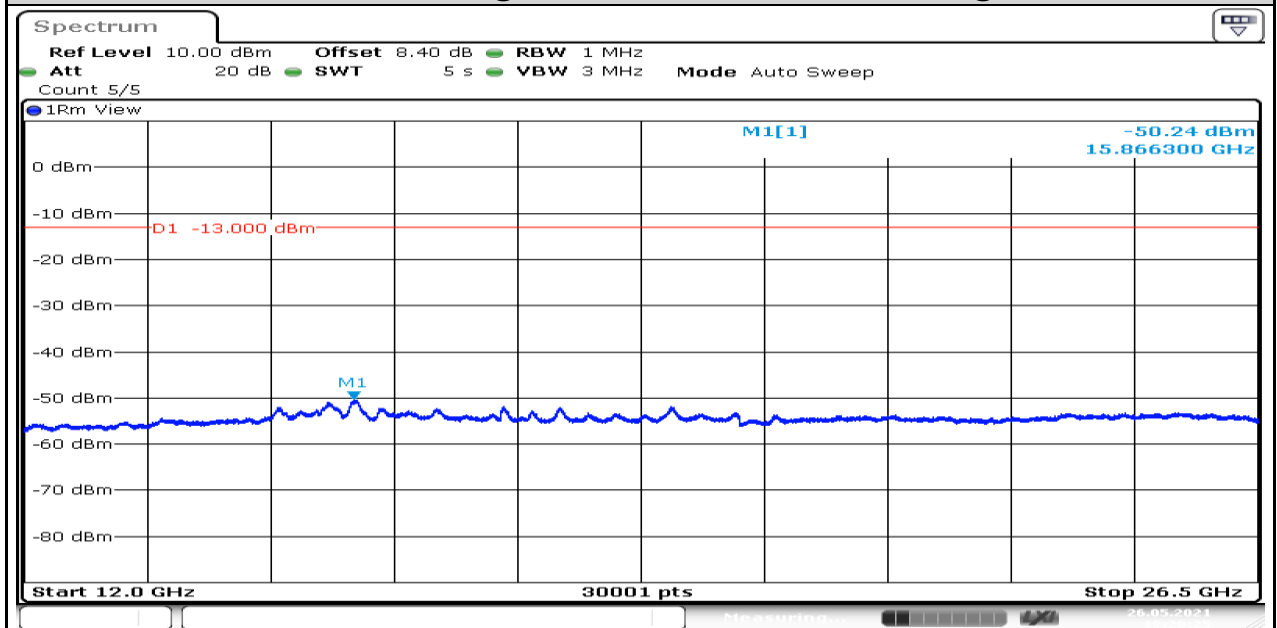
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-1000-5000-1000~5000MHz@-41.28dBm--13-PASS



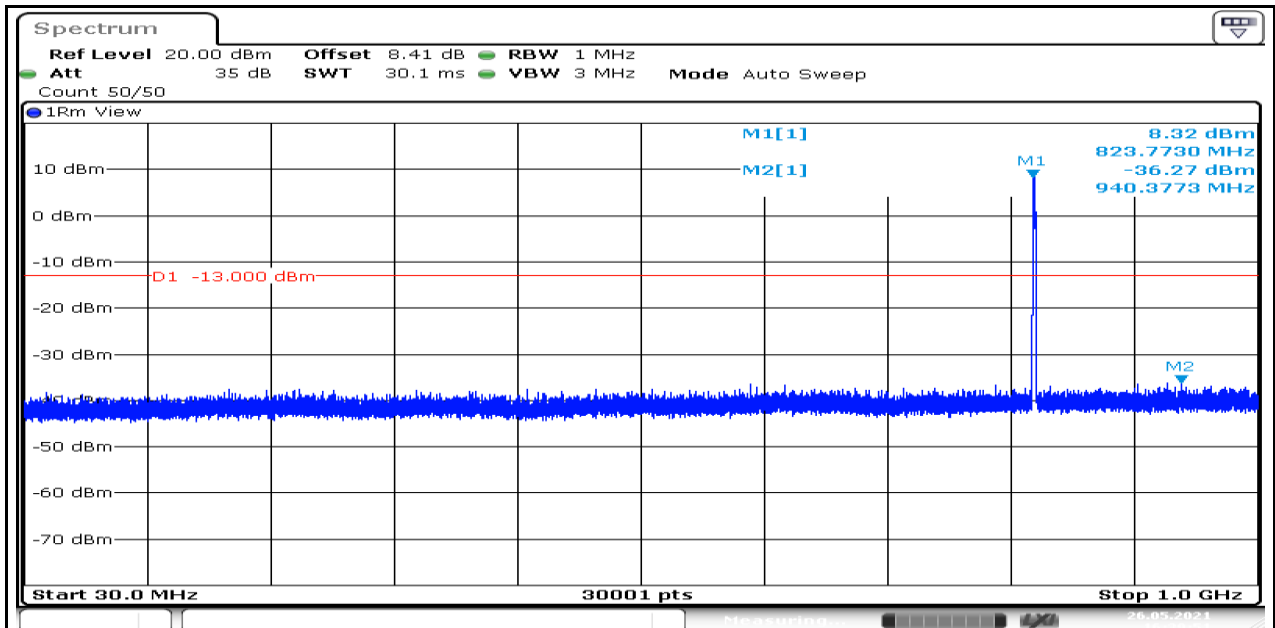
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-5000-12000-5000~12000MHz@-54.41dBm--13-PASS



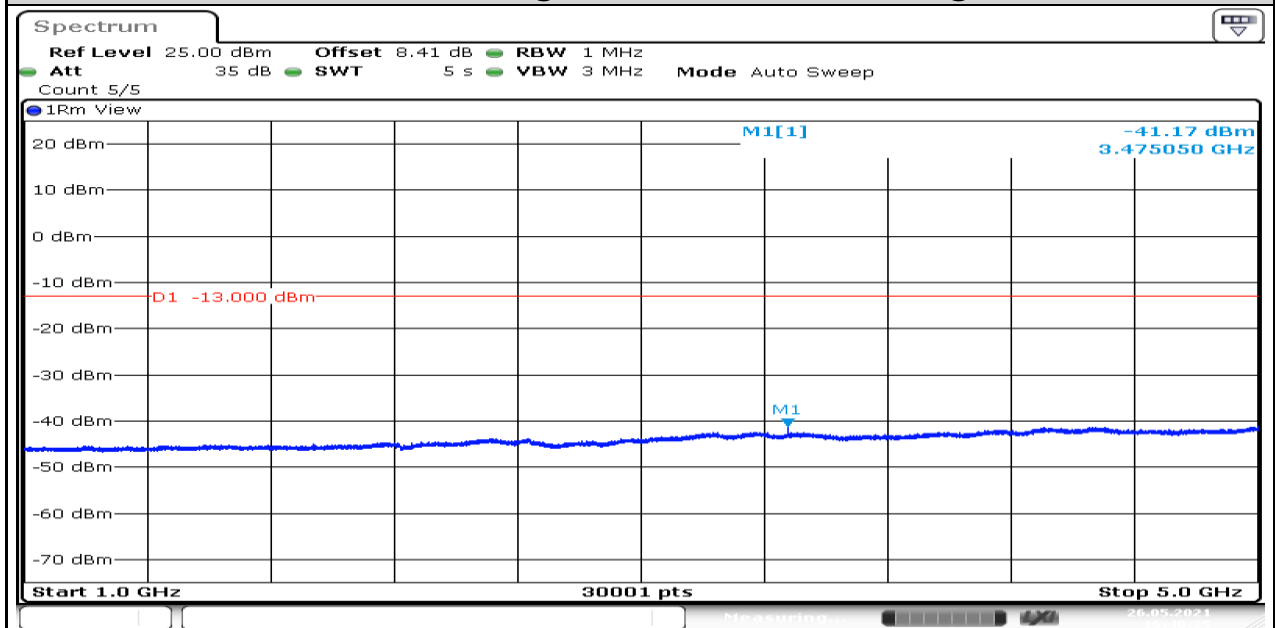
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-12000-26500-12000~26500MHz@-50.24dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-30-1000-30~1000MHz@-36.27dBm--13-PASS

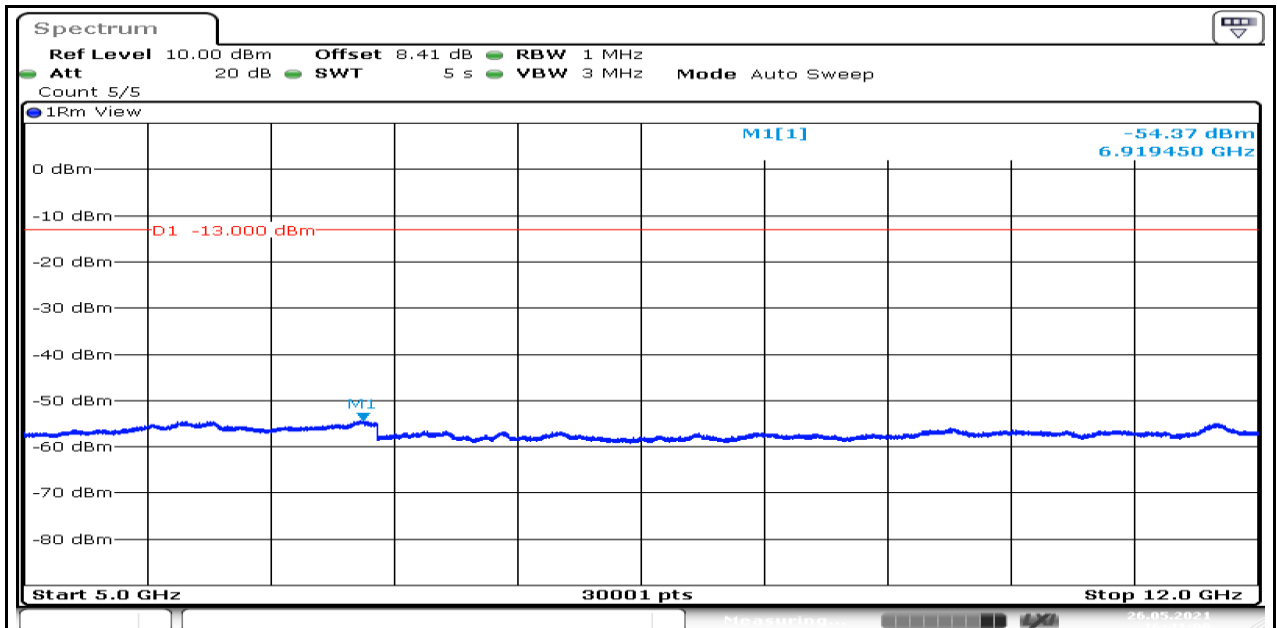


Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-1000-5000-1000~5000MHz@-41.17dBm--13-PASS

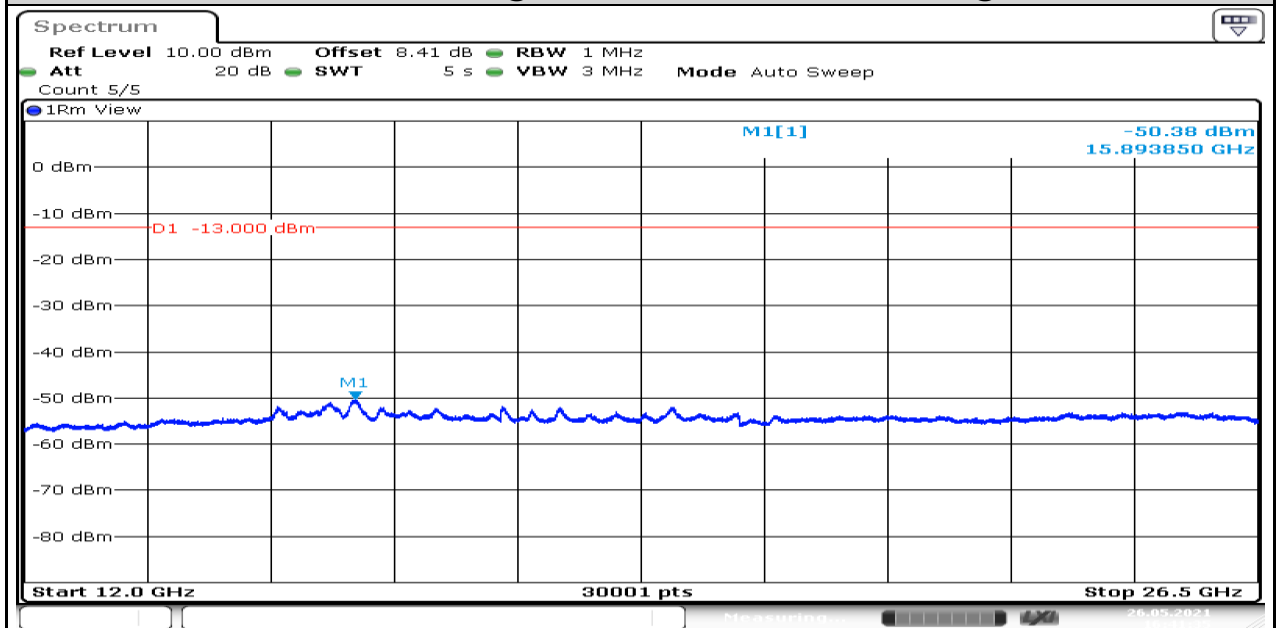


Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-5000-12000-5000~12000MHz@-54.37dBm--13-PASS

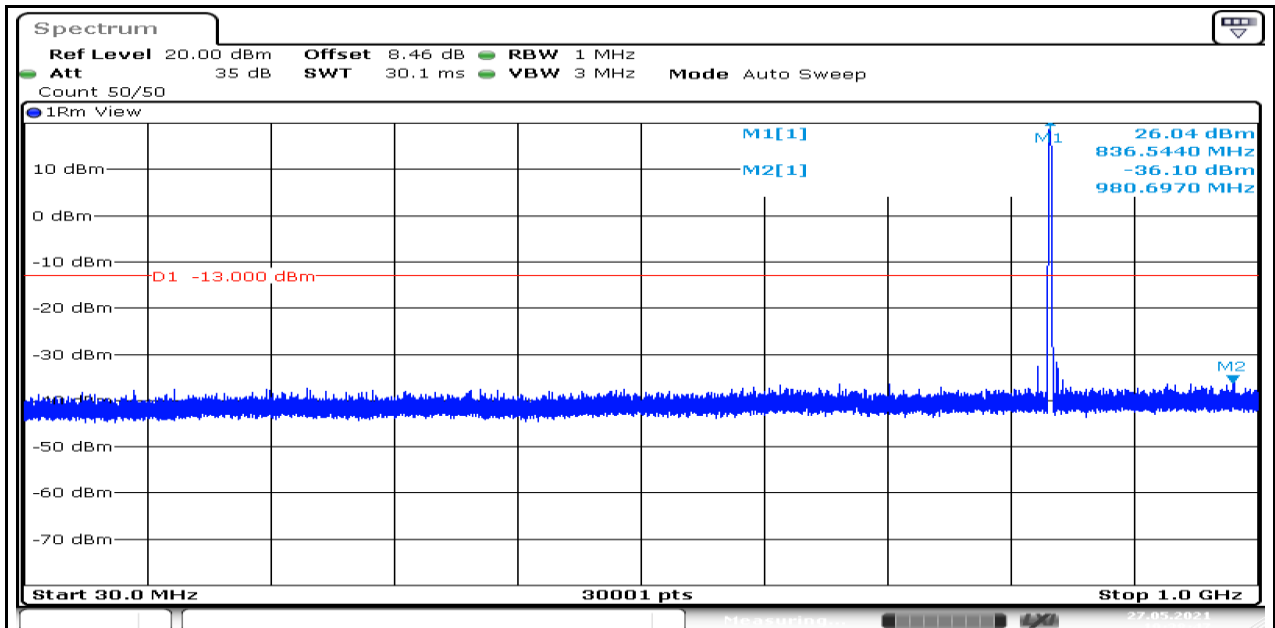




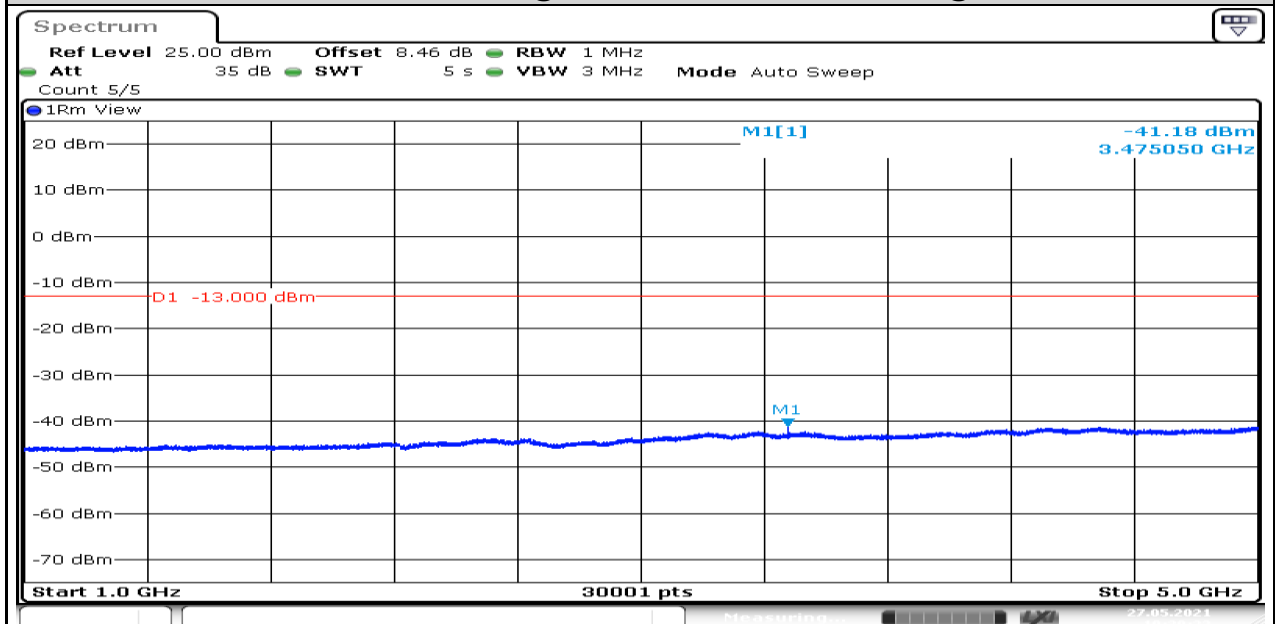
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-12000-26500-12000~26500MHz@-50.38dBm--13-PASS



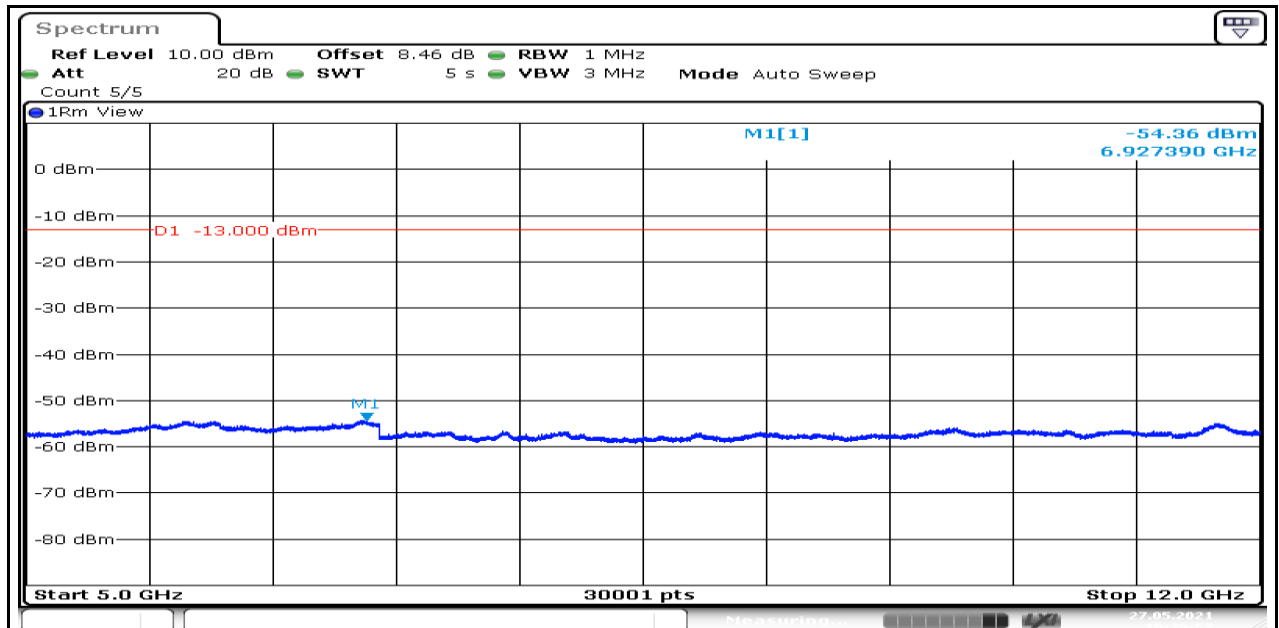
Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-30-1000-30~1000MHz@-36.1dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-1000-5000-1000~5000MHz@-41.18dBm--13-PASS

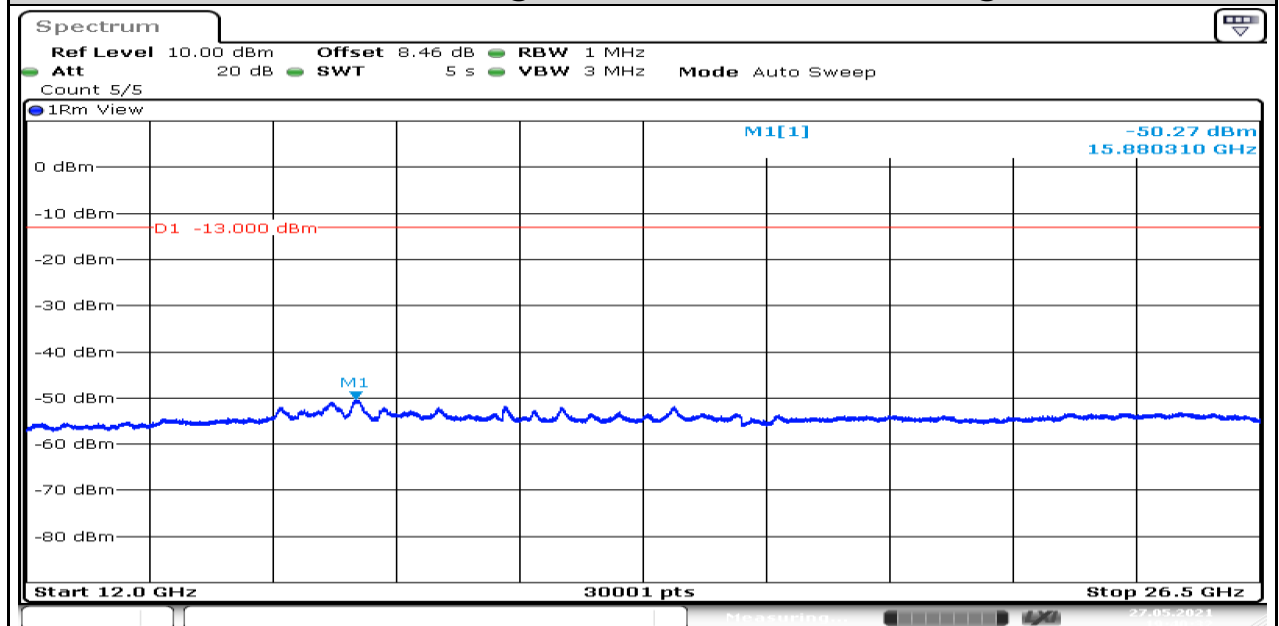


Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-5000-12000-5000~12000MHz@-54.36dBm--13-PASS



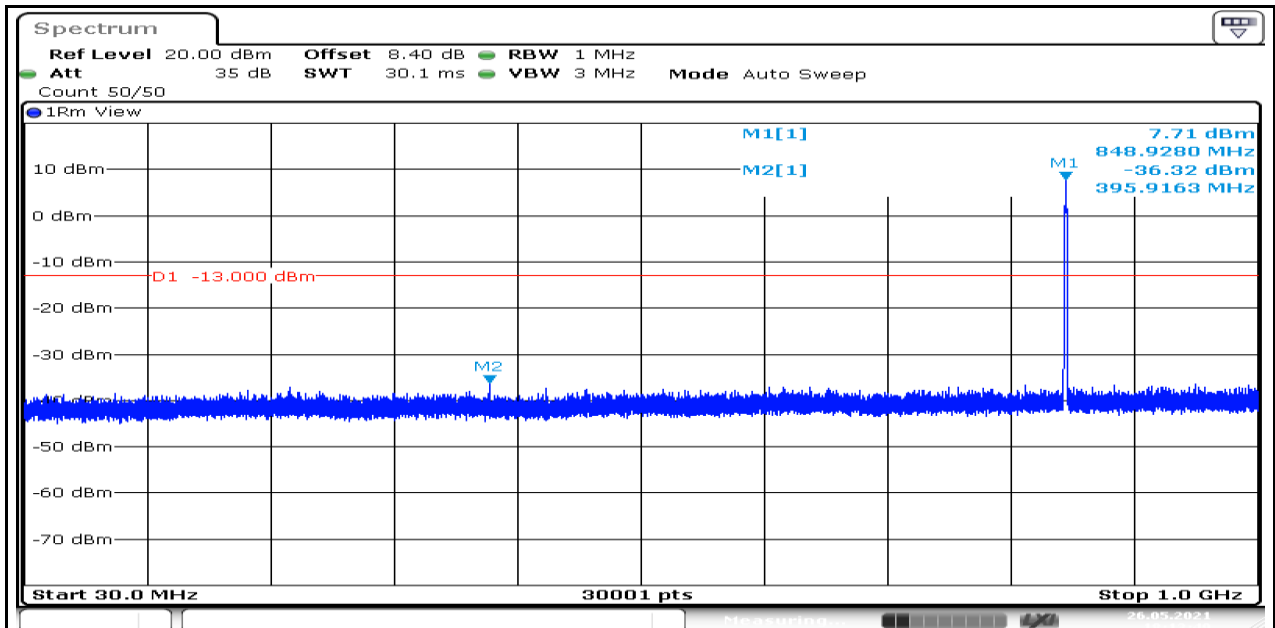
Date: 27.MAY.2021 19:39:57

Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-12000-26500-12000~26500MHz@-50.27dBm--13-PASS

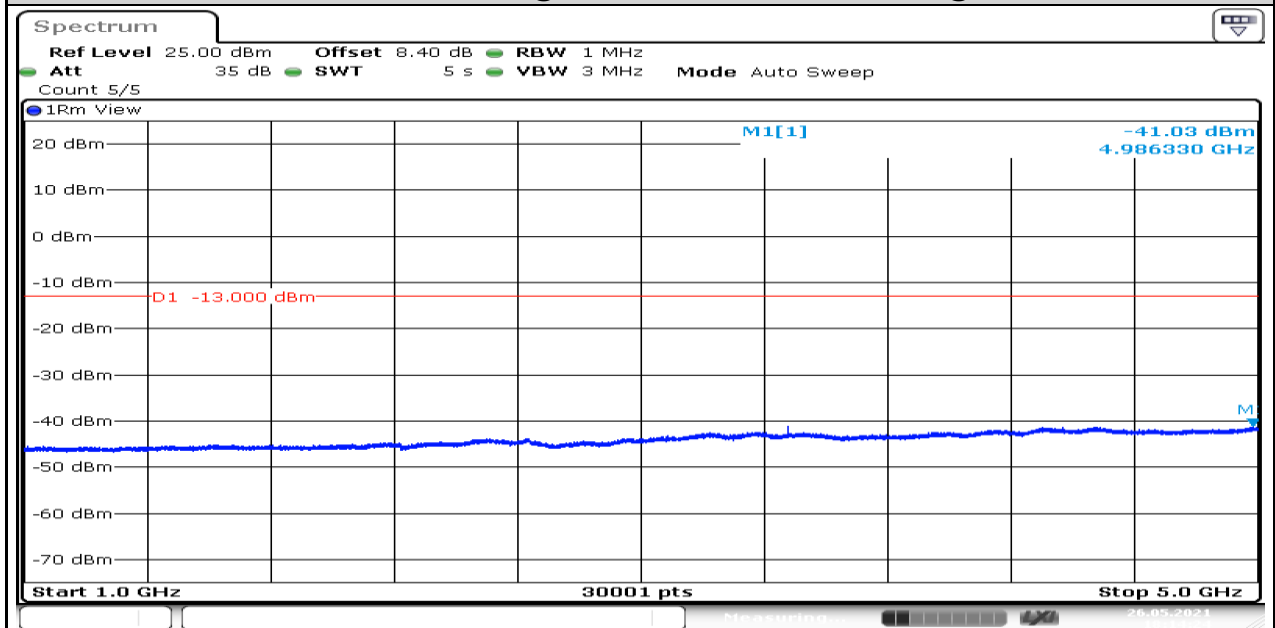


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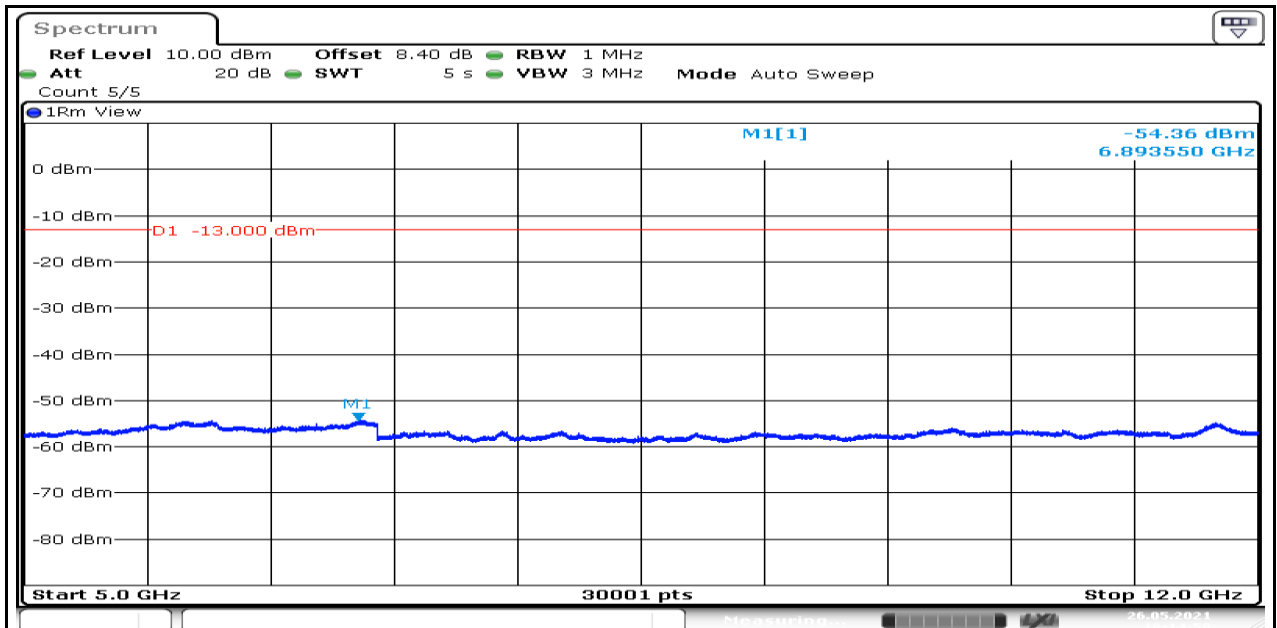
Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-30-1000-30~1000MHz@-36.32dBm--13-PASS



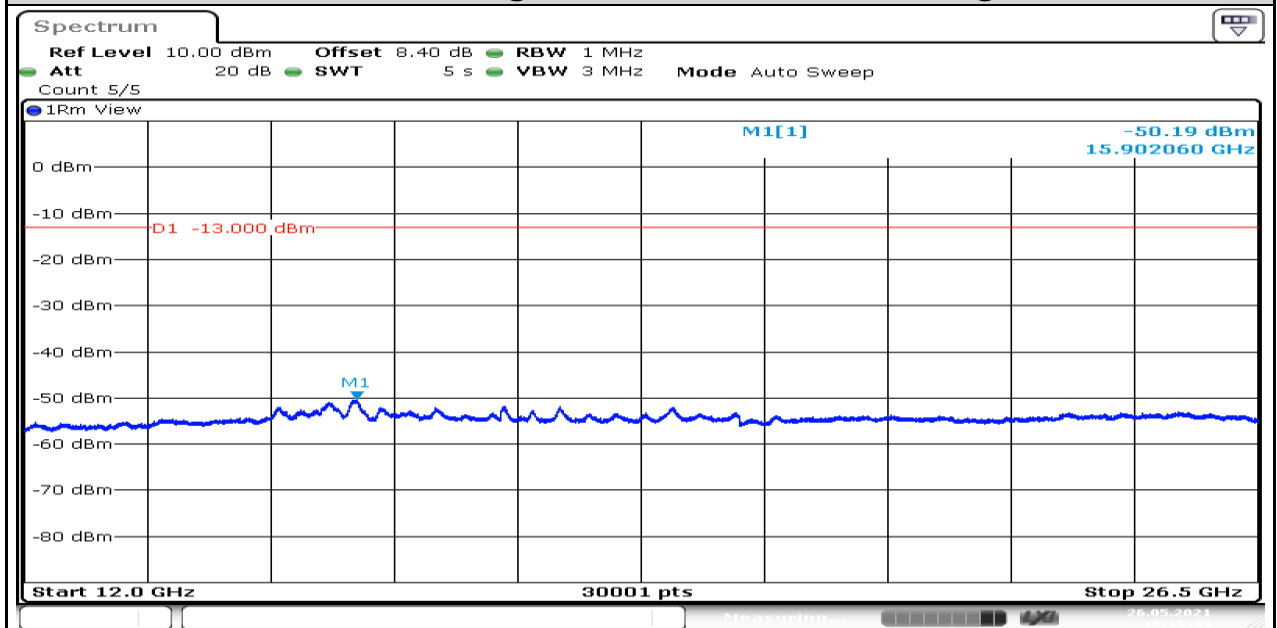
Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-1000-5000-1000~5000MHz@-41.03dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-5000-12000-5000~12000MHz@-54.36dBm--13-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-12000-26500-12000~26500MHz@-50.19dBm--13-PASS



## APPENDIX C.6: FREQUENCY STABILITY FOR NB-IOT

### Test Result

| Voltage |             |         |           |            |         |       |               |                  |                |                 |             |         |
|---------|-------------|---------|-----------|------------|---------|-------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band    | OpMode      | SCS     | Bandwidth | Modulation | Channel | Tones | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | HV            | NT               | -11.47         | -0.013712       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | LV            | NT               | 7.85           | 0.009384        | ±2.5        | PASS    |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | NT               | -9.34          | -0.011166       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | HV            | NT               | -12.29         | -0.014692       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | LV            | NT               | 6.47           | 0.007735        | ±2.5        | PASS    |
| Band5   | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | NT               | -9.78          | -0.011692       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@0   | HV            | NT               | -11.70         | -0.013987       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@0   | LV            | NT               | -7.08          | -0.008464       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@0   | NV            | NT               | -11.26         | -0.013461       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@11  | HV            | NT               | -9.28          | -0.011094       | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@11  | LV            | NT               | 8.67           | 0.010365        | ±2.5        | PASS    |
| Band5   | Stand-Alone | 15kHz   | NaN       | QPSK       | 20525   | 1@11  | NV            | NT               | -12.07         | -0.014429       | ±2.5        | PASS    |

| Temperature |             |         |           |            |         |       |               |                  |                |                 |             |         |
|-------------|-------------|---------|-----------|------------|---------|-------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | OpMode      | SCS     | Bandwidth | Modulation | Channel | Tones | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 50               | -5.74          | -0.006862       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | -40              | -8.74          | -0.010448       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 80               | -7.17          | -0.008571       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 60               | -6.14          | -0.007340       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 85               | -7.11          | -0.008500       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 40               | -6.42          | -0.007675       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 30               | -7.30          | -0.008727       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 20               | -7.08          | -0.008464       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 10               | -6.94          | -0.008296       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 0                | -6.51          | -0.007782       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | -10              | -8.13          | -0.009719       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | -20              | -8.91          | -0.010652       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | -30              | -9.18          | -0.010974       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@0   | NV            | 70               | -6.45          | -0.007711       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 20               | -6.42          | -0.007675       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 70               | -7.07          | -0.008452       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 60               | -6.84          | -0.008177       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 50               | -6.37          | -0.007615       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 40               | -7.22          | -0.008631       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 30               | -8.03          | -0.009600       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 10               | -8.50          | -0.010161       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | 0                | -7.95          | -0.009504       | ±2.5        | PASS    |
| Band5       | Stand-Alone | 3.75kHz | NaN       | QPSK       | 20525   | 1@47  | NV            | -10              | -8.74          | -0.010448       | ±2.5        | PASS    |

|       |             |         |     |      |       |      |    |     |        |           |      |      |
|-------|-------------|---------|-----|------|-------|------|----|-----|--------|-----------|------|------|
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525 | 1@47 | NV | -20 | -8.53  | -0.010197 | ±2.5 | PASS |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525 | 1@47 | NV | 80  | -5.79  | -0.006922 | ±2.5 | PASS |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525 | 1@47 | NV | -40 | -9.87  | -0.011799 | ±2.5 | PASS |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525 | 1@47 | NV | 85  | -6.38  | -0.007627 | ±2.5 | PASS |
| Band5 | Stand-Alone | 3.75kHz | NaN | QPSK | 20525 | 1@47 | NV | -30 | -8.23  | -0.009839 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 50  | -12.80 | -0.015302 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | -40 | -12.10 | -0.014465 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 80  | -12.62 | -0.015087 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 60  | -11.79 | -0.014094 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 85  | -13.25 | -0.015840 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 40  | -12.55 | -0.015003 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 30  | -12.15 | -0.014525 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 20  | -12.96 | -0.015493 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 10  | -10.26 | -0.012265 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 0   | -12.75 | -0.015242 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | -10 | -11.34 | -0.013556 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | -20 | -12.00 | -0.014345 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | -30 | -12.02 | -0.014369 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@0  | NV | 70  | -14.16 | -0.016928 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 30  | -11.70 | -0.013987 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 80  | -12.79 | -0.015290 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 70  | -15.45 | -0.018470 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 60  | -13.43 | -0.016055 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 50  | -13.22 | -0.015804 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 40  | -12.77 | -0.015266 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 20  | -11.22 | -0.013413 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 10  | -10.87 | -0.012995 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 0   | -9.18  | -0.010974 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | -10 | -13.56 | -0.016210 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | -20 | -9.33  | -0.011154 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | -40 | -11.22 | -0.013413 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | 85  | -12.57 | -0.015027 | ±2.5 | PASS |
| Band5 | Stand-Alone | 15kHz   | NaN | QPSK | 20525 | 1@11 | NV | -30 | -13.35 | -0.015959 | ±2.5 | PASS |