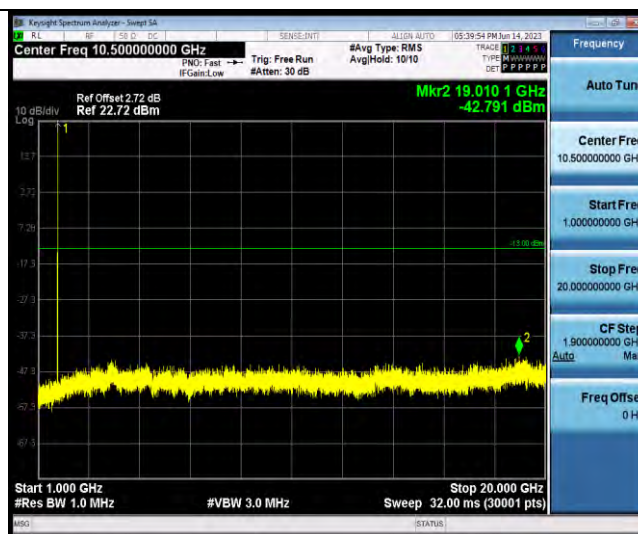
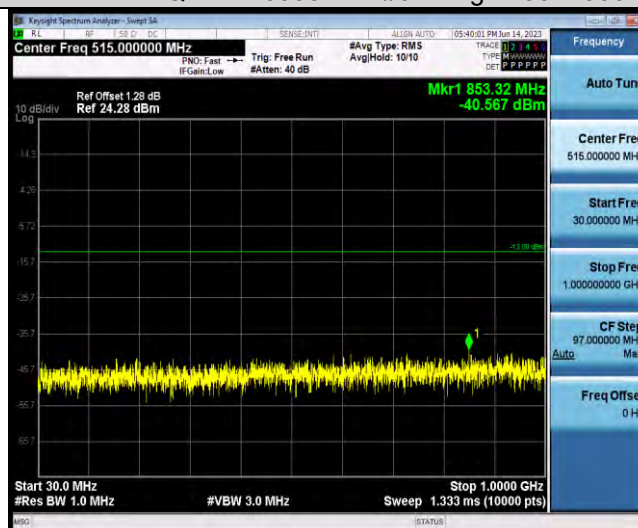




Band4-1.4MHz-QPSK-20393-1RB#0-Range1:30~1000MHz



Band4-1.4MHz-QPSK-20393-1RB#0-Range2:1000~20000MHz

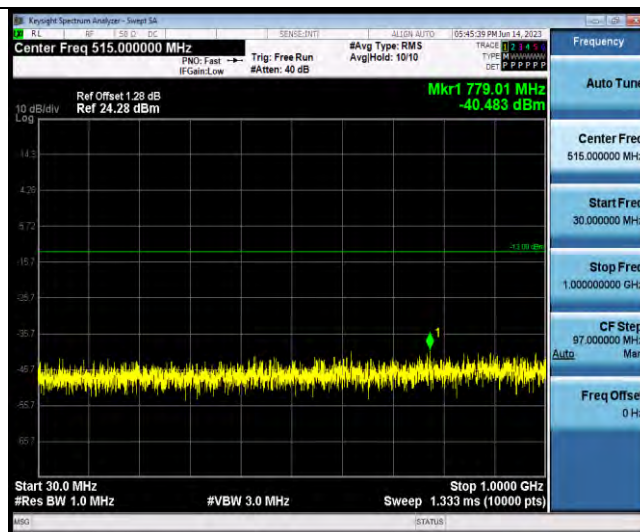


Band4-3MHz-QPSK-19965-1RB#0-Range1:30~1000MHz

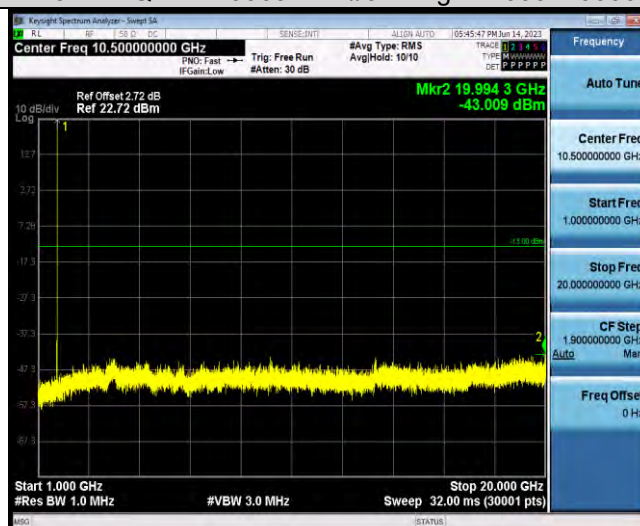


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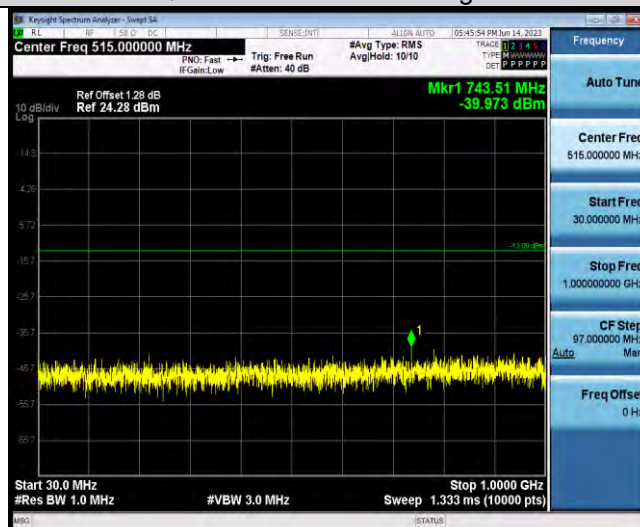
Test Report No.: W7L-P23060003RF04



Band4-3MHz-QPSK-19965-1RB#0-Range2:1000~20000MHz



Band4-3MHz-QPSK-20175-1RB#0-Range1:30~1000MHz

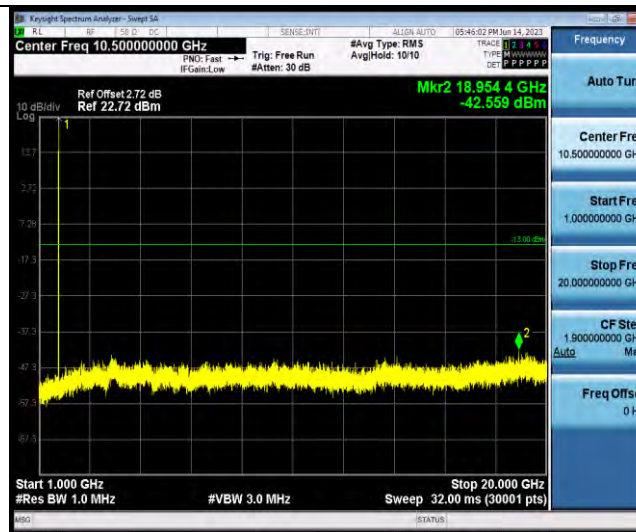


Band4-3MHz-QPSK-20175-1RB#0-Range2:1000~20000MHz

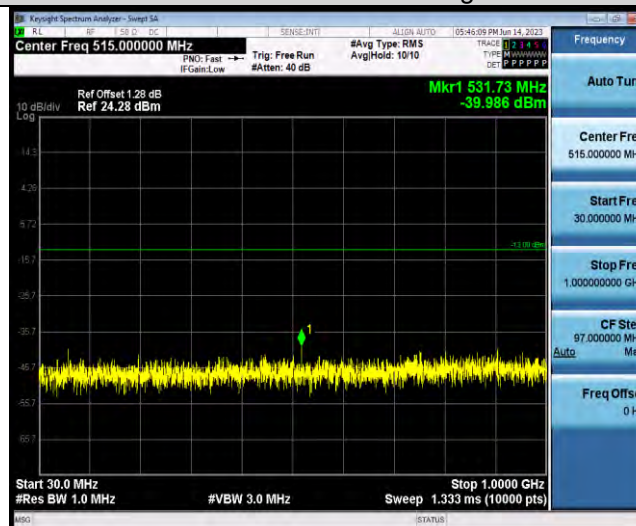


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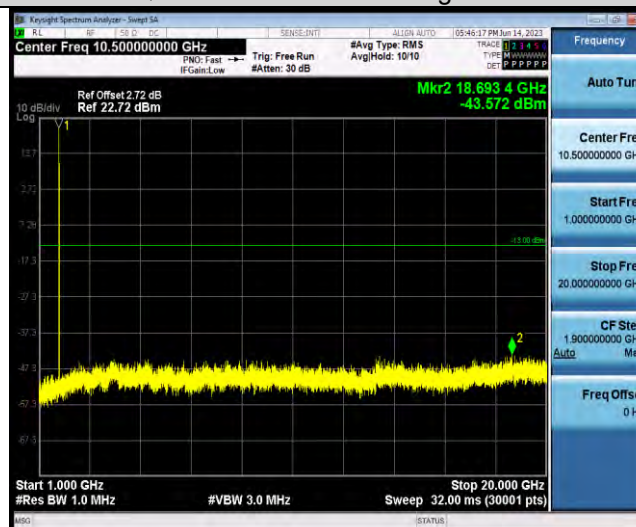
## Test Report No.: W7L-P23060003RF04



Band4-3MHz-QPSK-20385-1RB#0-Range1:30~1000MHz



Band4-3MHz-QPSK-20385-1RB#0-Range2:1000~20000MHz



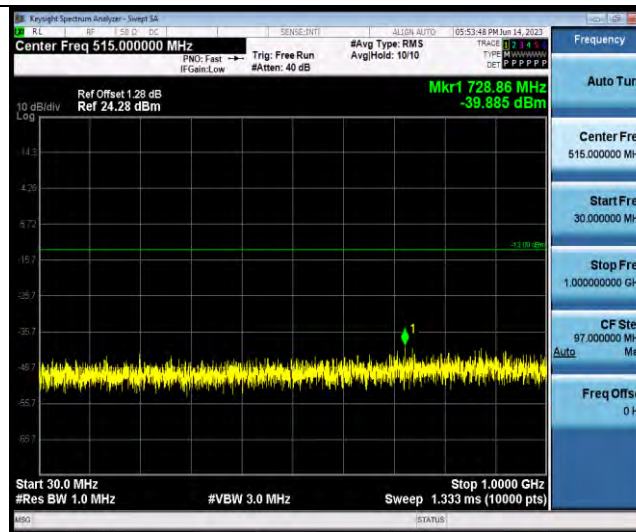
Band4-5MHz-QPSK-19975-1RB#0-Range1:30~1000MHz



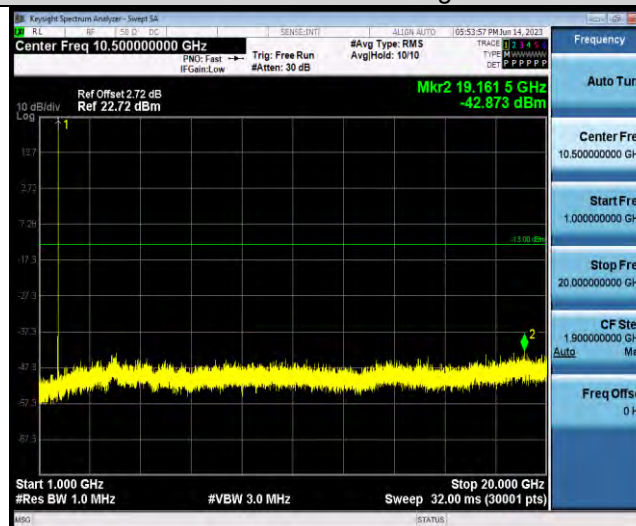


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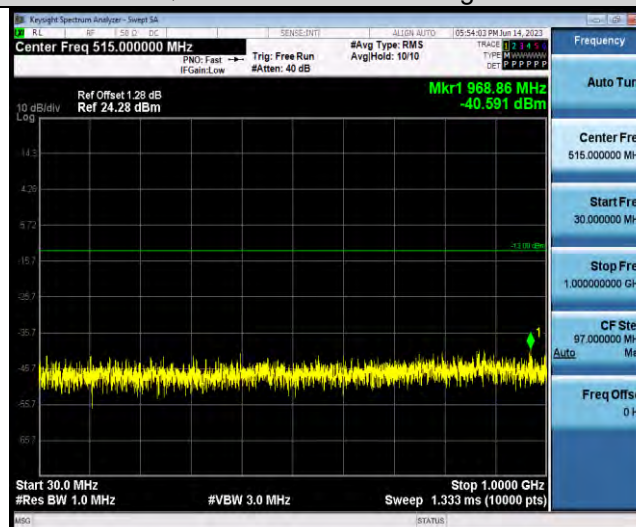
Test Report No.: W7L-P23060003RF04



Band4-5MHz-QPSK-19975-1RB#0-Range2:1000~20000MHz



Band4-5MHz-QPSK-20175-1RB#0-Range1:30~1000MHz

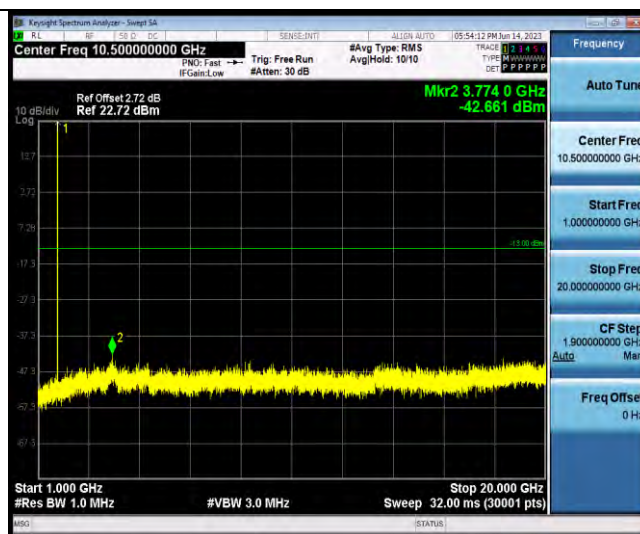


Band4-5MHz-QPSK-20175-1RB#0-Range2:1000~20000MHz

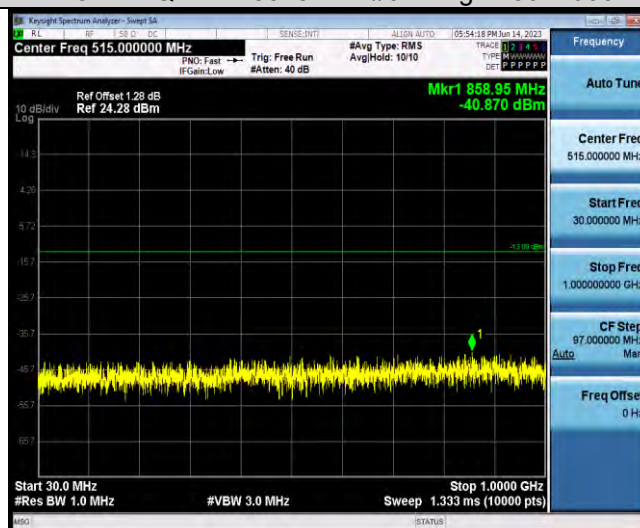


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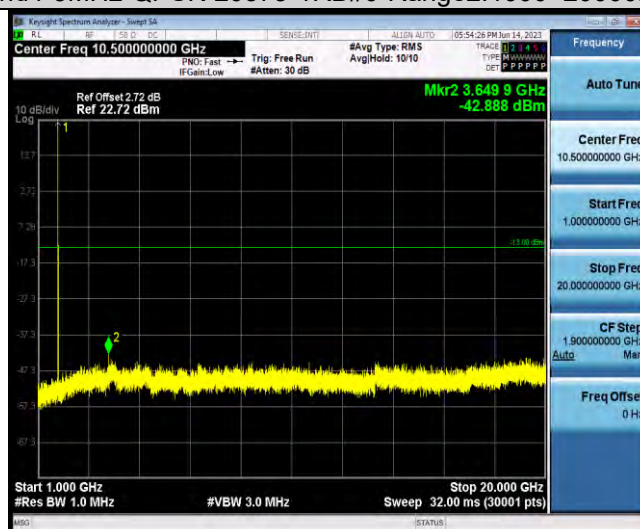
## Test Report No.: W7L-P23060003RF04



Band4-5MHz-QPSK-20375-1RB#0-Range1:30~1000MHz



Band4-5MHz-QPSK-20375-1RB#0-Range2:1000~20000MHz

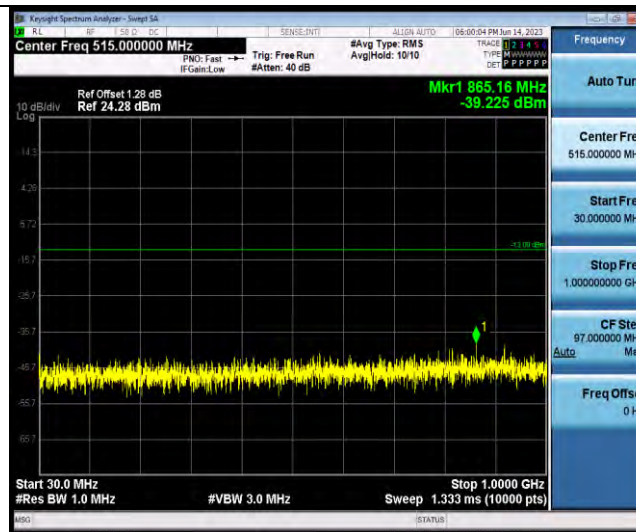


Band4-10MHz-QPSK-20000-1RB#0-Range1:30~1000MHz



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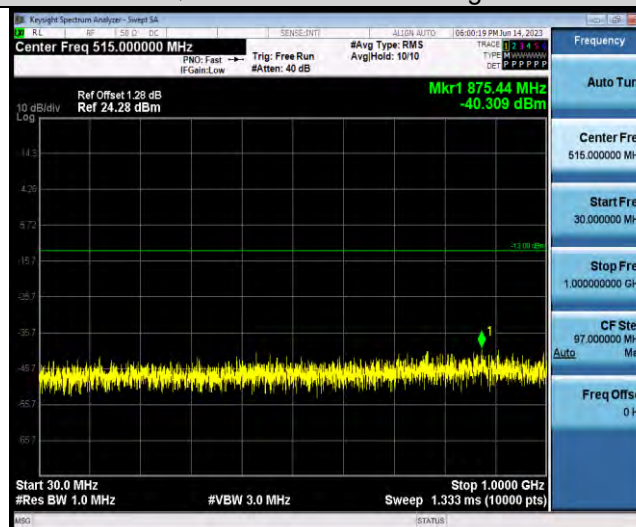
## Test Report No.: W7L-P23060003RF04



Band4-10MHz-QPSK-20000-1RB#0-Range2:1000~20000MHz



Band4-10MHz-QPSK-20175-1RB#0-Range1:30~1000MHz



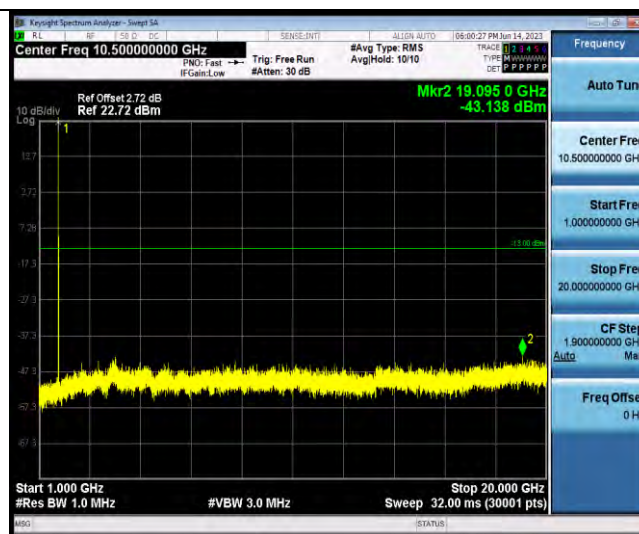
Band4-10MHz-QPSK-20175-1RB#0-Range2:1000~20000MHz



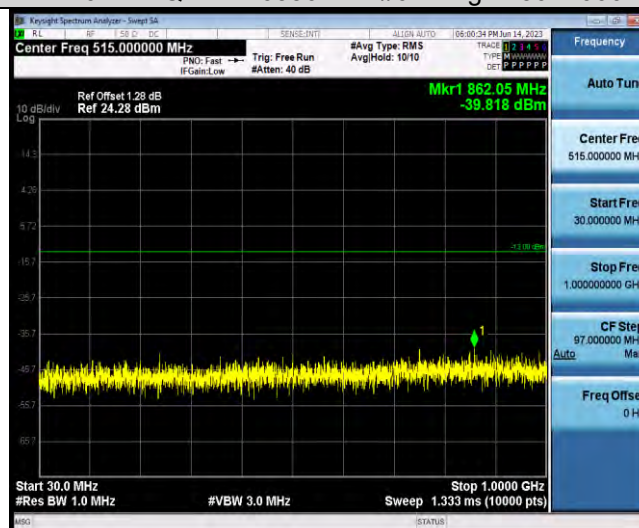


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Band4-10MHz-QPSK-20350-1RB#0-Range1:30~1000MHz



Band4-10MHz-QPSK-20350-1RB#0-Range2:1000~20000MHz

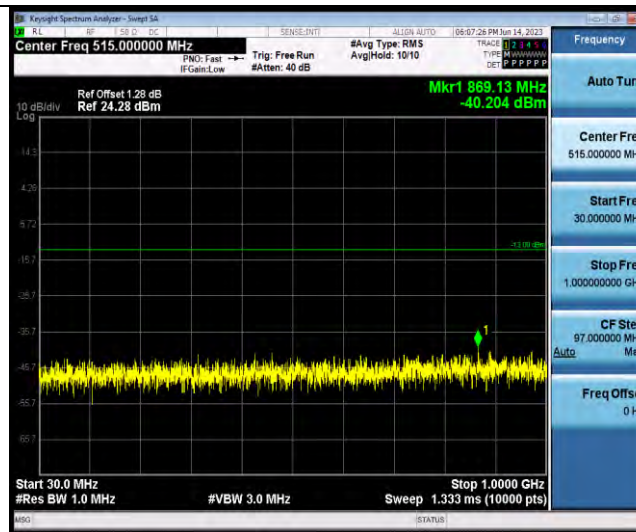


Band4-15MHz-QPSK-20025-1RB#0-Range1:30~1000MHz

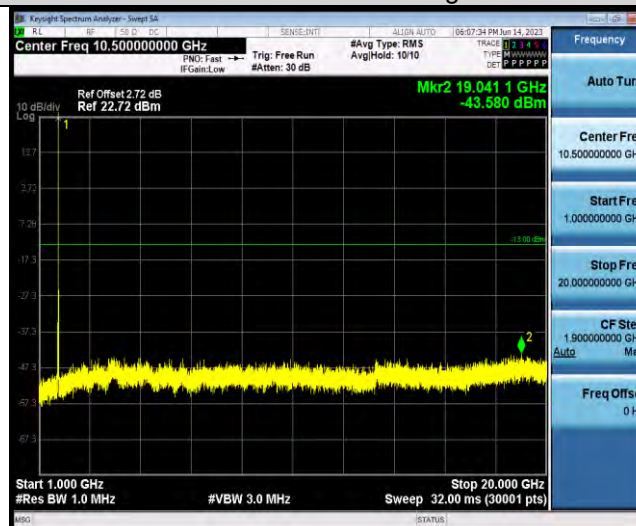


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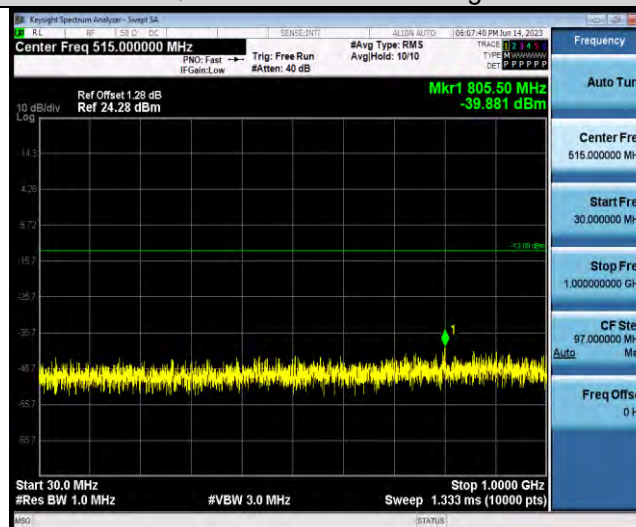
## Test Report No.: W7L-P23060003RF04



Band4-15MHz-QPSK-20025-1RB#0-Range2:1000~20000MHz



Band4-15MHz-QPSK-20175-1RB#0-Range1:30~1000MHz



Band4-15MHz-QPSK-20175-1RB#0-Range2:1000~20000MHz

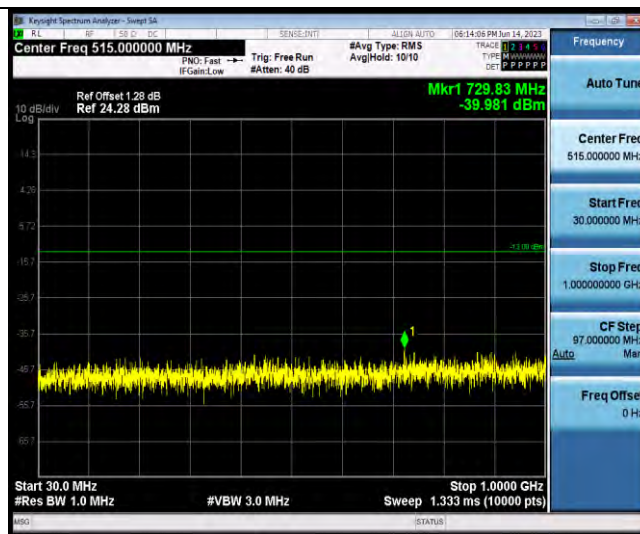




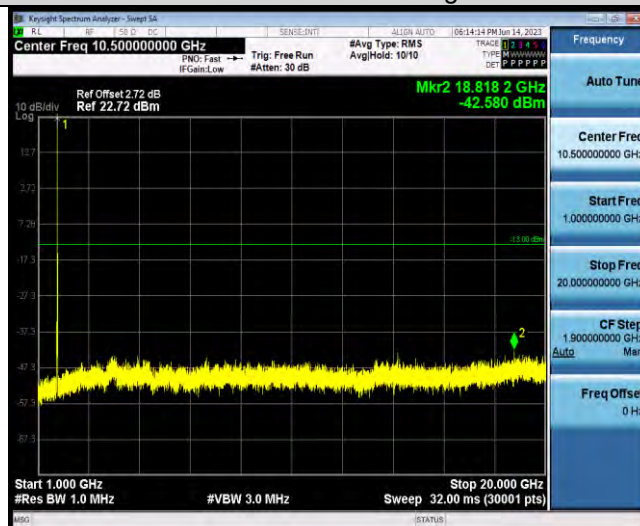


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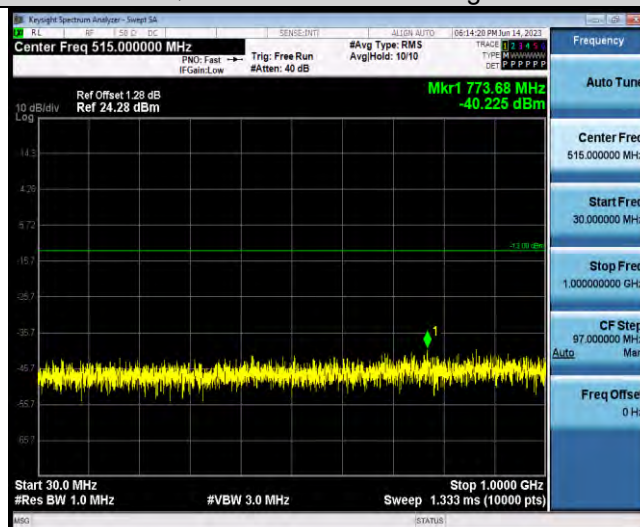
## Test Report No.: W7L-P23060003RF04



Band4-20MHz-QPSK-20050-1RB#0-Range2:1000~20000MHz



Band4-20MHz-QPSK-20175-1RB#0-Range1:30~1000MHz

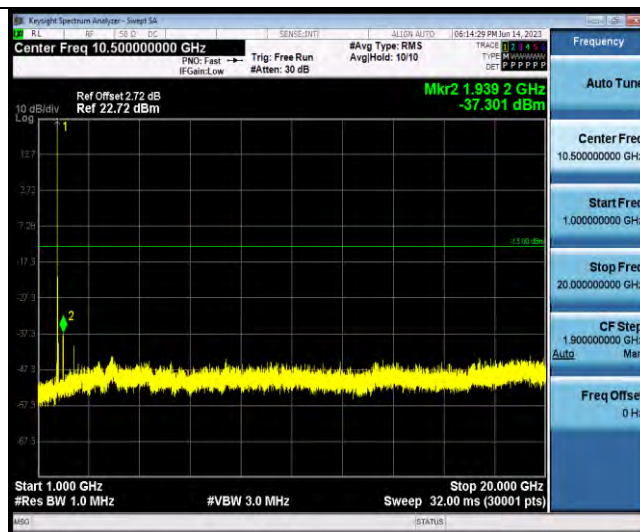


Band4-20MHz-QPSK-20175-1RB#0-Range2:1000~20000MHz

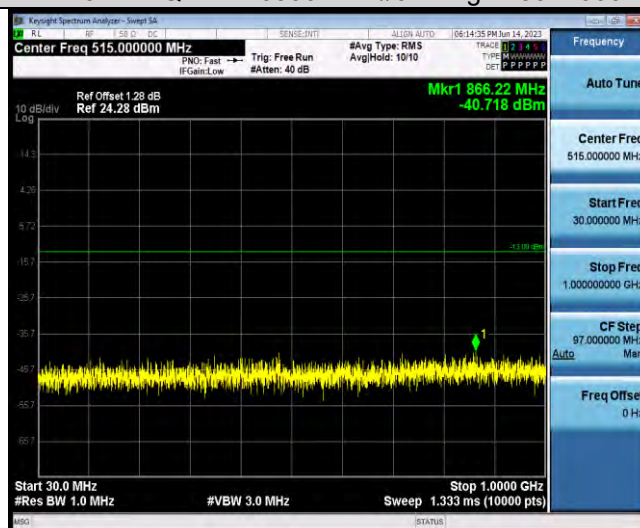


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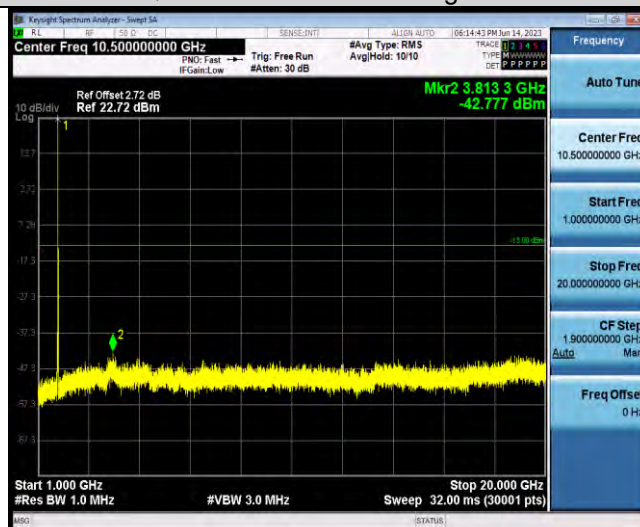
Test Report No.: W7L-P23060003RF04



Band4-20MHz-QPSK-20300-1RB#0-Range1:30~1000MHz



Band4-20MHz-QPSK-20300-1RB#0-Range2:1000~20000MHz





## FREQUENCY STABILITY

### Test Result

| Voltage |           |            |         |              |               |                  |                |                 |             |         |
|---------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band    | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band4   | 20MHz     | QPSK       | 20050   | 100RB#0      | VL            | NT               | 3.73           | 0.002169        | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20050   | 100RB#0      | VN            | NT               | 4.95           | 0.002878        | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20050   | 100RB#0      | VH            | NT               | 5.15           | 0.002994        | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20175   | 100RB#0      | VL            | NT               | 3.16           | 0.001824        | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20175   | 100RB#0      | VN            | NT               | -3.00          | -0.001732       | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20175   | 100RB#0      | VH            | NT               | 3.95           | 0.002280        | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20300   | 100RB#0      | VL            | NT               | -3.52          | -0.002017       | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20300   | 100RB#0      | VN            | NT               | -3.78          | -0.002166       | ±2.5        | PASS    |
| Band4   | 20MHz     | QPSK       | 20300   | 100RB#0      | VH            | NT               | -4.65          | -0.002665       | ±2.5        | PASS    |

| Temperature |           |            |         |              |               |                  |                |                 |             |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | -30              | -2.03          | -0.001180       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | -20              | 4.19           | 0.002436        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | -10              | 5.22           | 0.003035        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 0                | 5.46           | 0.003174        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 10               | 5.29           | 0.003076        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 20               | 2.98           | 0.001733        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 30               | 2.69           | 0.001564        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 40               | 5.18           | 0.003012        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20050   | 100RB#0      | NV            | 50               | 4.22           | 0.002453        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | -30              | 2.29           | 0.001322        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | -20              | 3.83           | 0.002211        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | -10              | 1.62           | 0.000935        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 0                | 3.68           | 0.002124        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 10               | 1.76           | 0.001016        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 20               | 6.11           | 0.003527        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 30               | -2.50          | -0.001443       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 40               | 4.82           | 0.002782        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20175   | 100RB#0      | NV            | 50               | 2.66           | 0.001535        | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | -30              | -2.93          | -0.001679       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | -20              | -5.59          | -0.003203       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | -10              | -7.17          | -0.004109       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | 0                | -3.83          | -0.002195       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | 10               | -3.52          | -0.002017       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | 20               | -5.28          | -0.003026       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | 30               | -6.27          | -0.003593       | ±2.5        | PASS    |
| Band4       | 20MHz     | QPSK       | 20300   | 100RB#0      | NV            | 40               | -5.08          | -0.002911       | ±2.5        | PASS    |



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|       |       |      |       |         |    |    |       |           |      |      |
|-------|-------|------|-------|---------|----|----|-------|-----------|------|------|
| Band4 | 20MHz | QPSK | 20300 | 100RB#0 | NV | 50 | -5.75 | -0.003295 | ±2.5 | PASS |
|-------|-------|------|-------|---------|----|----|-------|-----------|------|------|

## MAX Deviation calculation

| Frequency Stability            | Frequency (MHz) | Limit Line(MHz) | Result |
|--------------------------------|-----------------|-----------------|--------|
| $f_L -  \text{MAX}(\Delta f) $ | 1711.047000     | $\geq 1710$     | PASS   |
| $f_H +  \text{MAX}(\Delta f) $ | 1753.97200      | $\leq 1755$     |        |

Note : 1.  $|\text{MAX}(\Delta f)|$  = Max Deviation

2.  $f_L$  = Occ low channel  $f_L$ (-13dBm/MHz)

3.  $f_H$  = Occ High channel  $f_H$ (-13dBm/MHz)

4.  $|\text{MAX}(\Delta f)|$  = -7.17 Hz.



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## LTE BAND7

### PEAK-TO-AVERAGE RATIO(CCDF)

#### Test Result

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|-------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band7 | 20MHz     | QPSK       | 20850   | 1RB#0            | 3.68       | 13        | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 100RB#0          | 5.06       | 13        | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 1RB#0            | 4.65       | 13        | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 100RB#0          | 4.54       | 13        | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 1RB#0            | 3.90       | 13        | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 100RB#0          | 5.07       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 1RB#0            | 4.34       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 100RB#0          | 5.81       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 1RB#0            | 5.46       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 100RB#0          | 5.44       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 1RB#0            | 4.87       | 13        | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 100RB#0          | 5.99       | 13        | PASS    |

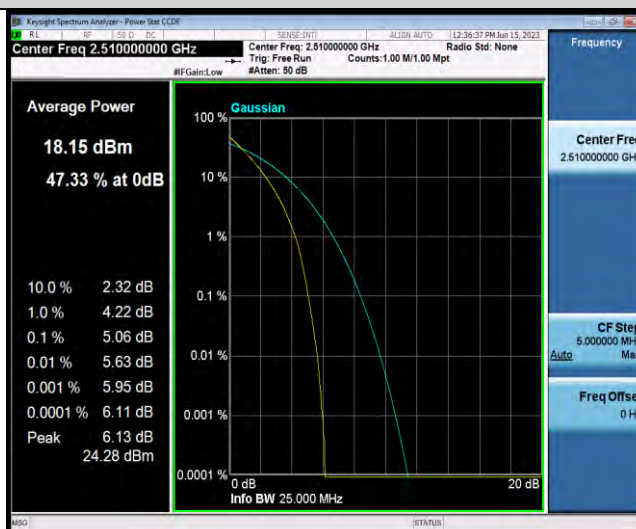


## Test Graphs

Band7-20MHz-QPSK-20850-1RB#0



Band7-20MHz-QPSK-20850-100RB#0

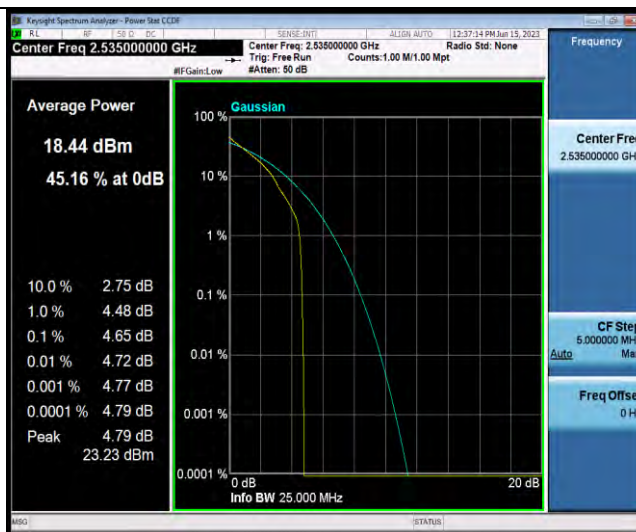


Band7-20MHz-QPSK-21100-1RB#0

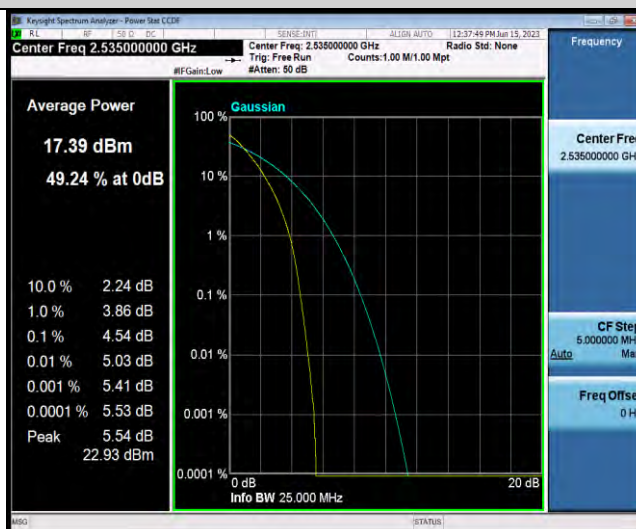


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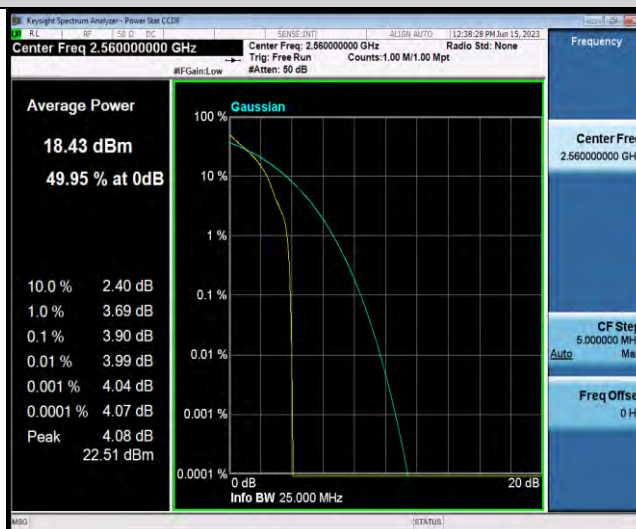
Test Report No.: W7L-P23060003RF04



Band7-20MHz-QPSK-21100-100RB#0



Band7-20MHz-QPSK-21350-1RB#0

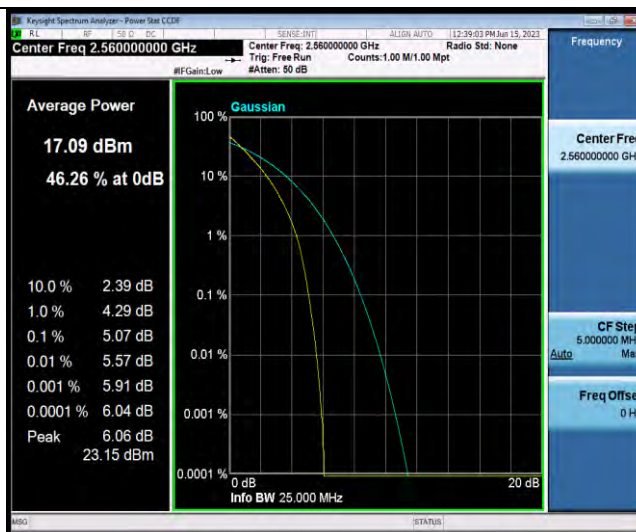


Band7-20MHz-QPSK-21350-100RB#0

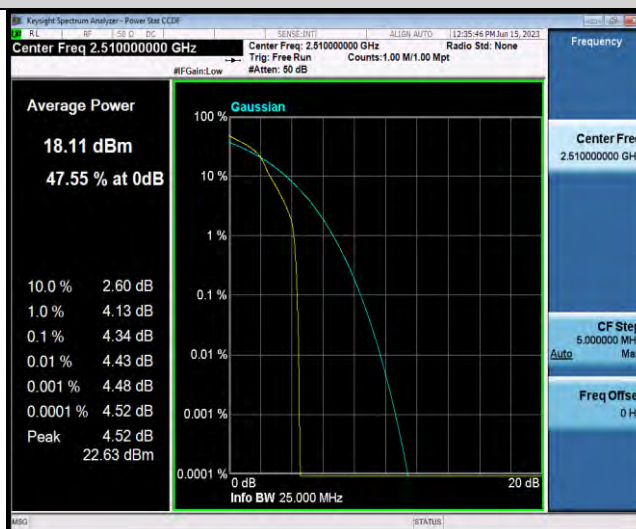


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Test Report No.: W7L-P23060003RF04



Band7-20MHz-16QAM-20850-1RB#0



Band7-20MHz-16QAM-20850-100RB#0

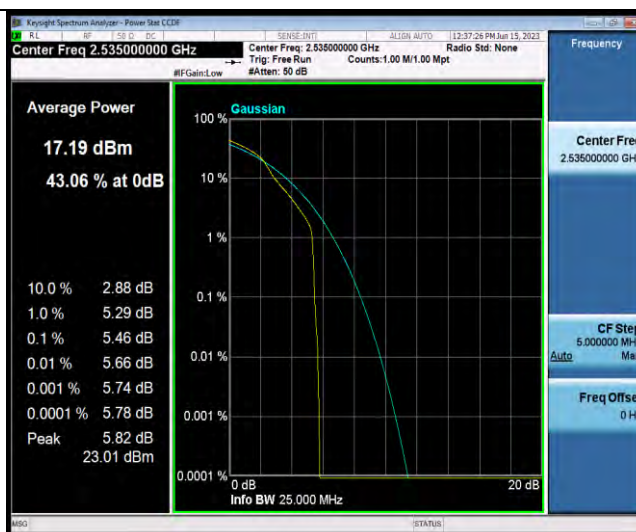


Band7-20MHz-16QAM-21100-1RB#0

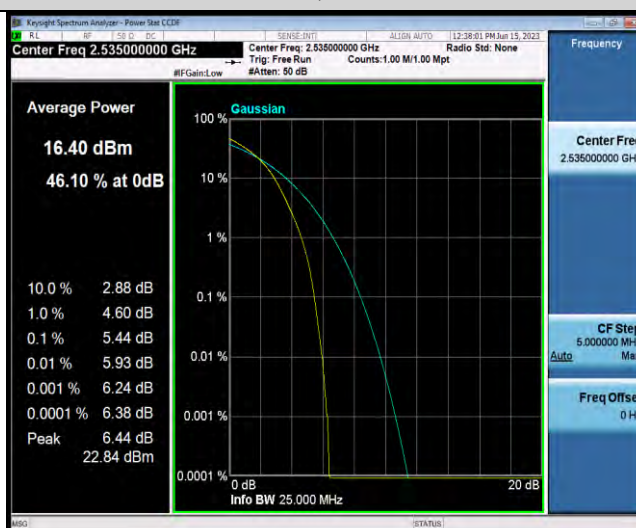


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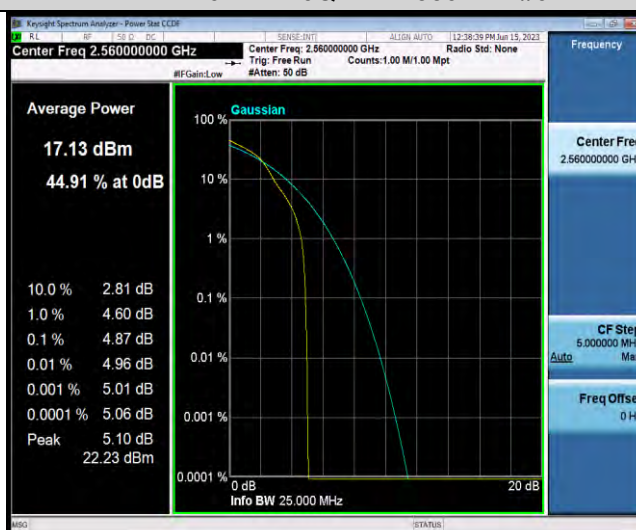
Test Report No.: W7L-P23060003RF04



Band7-20MHz-16QAM-21100-100RB#0



Band7-20MHz-16QAM-21350-1RB#0



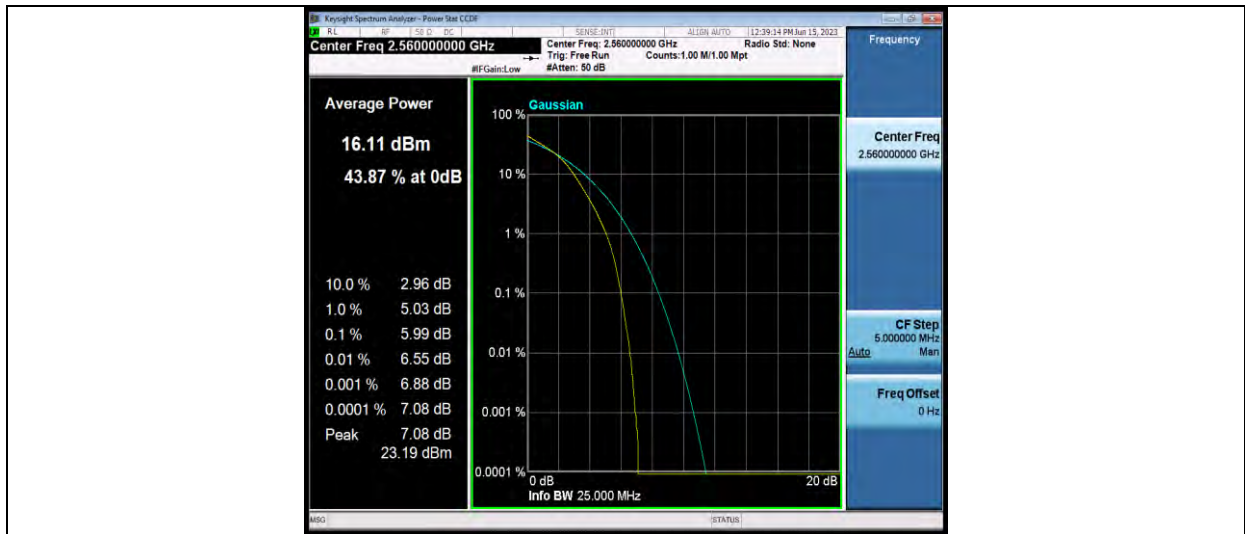
Band7-20MHz-16QAM-21350-100RB#0





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Test Report No.: W7L-P23060003RF04



## 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

### Test Result

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|-------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band7 | 5MHz      | QPSK       | 20775   | 25RB#0           | 4.5016                   | 4.884                | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 25RB#0           | 4.5021                   | 4.894                | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 25RB#0           | 4.5037                   | 4.885                | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 25RB#0           | 4.5025                   | 4.878                | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 25RB#0           | 4.5046                   | 4.877                | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 25RB#0           | 4.5086                   | 4.910                | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 50RB#0           | 8.9645                   | 9.579                | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 50RB#0           | 8.9649                   | 9.573                | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 50RB#0           | 8.9590                   | 9.577                | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 50RB#0           | 8.9730                   | 9.577                | PASS    |
| Band7 | 10MHz     | 16QAM      | 21100   | 50RB#0           | 8.9648                   | 9.521                | PASS    |
| Band7 | 10MHz     | 16QAM      | 21400   | 50RB#0           | 8.9797                   | 9.599                | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 75RB#0           | 13.471                   | 14.30                | PASS    |
| Band7 | 15MHz     | QPSK       | 21100   | 75RB#0           | 13.439                   | 14.30                | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 75RB#0           | 13.462                   | 14.28                | PASS    |
| Band7 | 15MHz     | 16QAM      | 20825   | 75RB#0           | 13.449                   | 14.29                | PASS    |
| Band7 | 15MHz     | 16QAM      | 21100   | 75RB#0           | 13.434                   | 14.26                | PASS    |
| Band7 | 15MHz     | 16QAM      | 21375   | 75RB#0           | 13.469                   | 14.28                | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 100RB#0          | 17.941                   | 18.98                | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 100RB#0          | 17.840                   | 18.95                | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 100RB#0          | 17.942                   | 19.01                | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 100RB#0          | 17.946                   | 19.00                | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 100RB#0          | 17.855                   | 18.94                | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 100RB#0          | 17.960                   | 19.01                | PASS    |

## Test Graphs



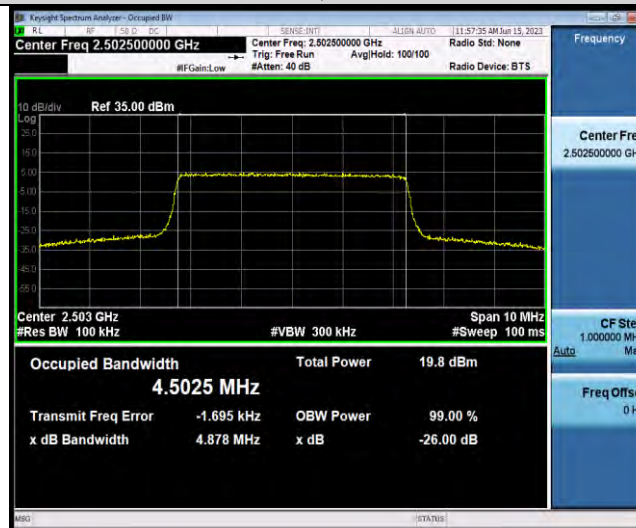


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## Test Report No.: W7L-P23060003RF04



Band7-5MHz-16QAM-20775-25RB#0



Band7-5MHz-16QAM-21100-25RB#0



Band7-5MHz-16QAM-21425-25RB#0





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## Test Report No.: W7L-P23060003RF04



Band7-10MHz-QPSK-20800-50RB#0



Band7-10MHz-QPSK-21100-50RB#0



Band7-10MHz-QPSK-21400-50RB#0



Band7-10MHz-16QAM-20800-50RB#0



Band7-10MHz-16QAM-21100-50RB#0



Band7-10MHz-16QAM-21400-50RB#0



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## Test Report No.: W7L-P23060003RF04



Band7-15MHz-QPSK-20825-75RB#0

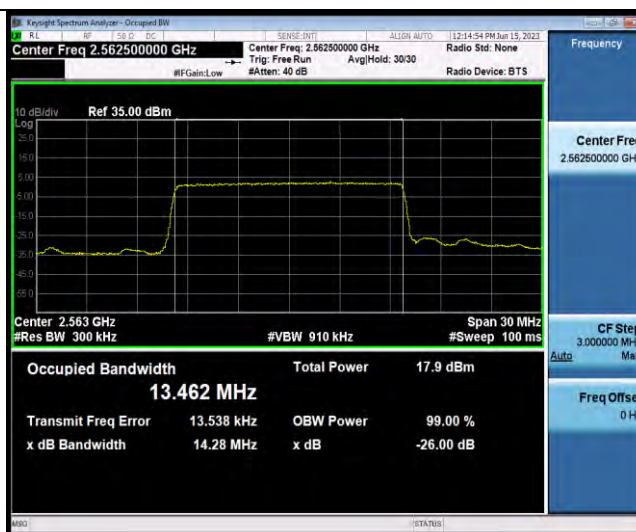


Band7-15MHz-QPSK-21100-75RB#0



Band7-15MHz-QPSK-21375-75RB#0

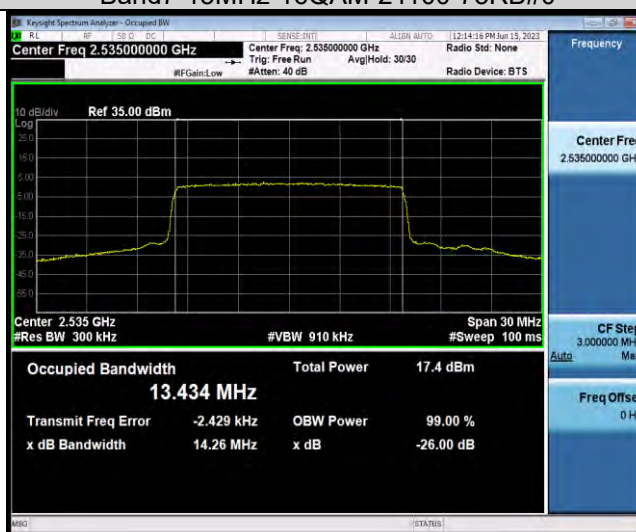




Band7-15MHz-16QAM-20825-75RB#0



Band7-15MHz-16QAM-21100-75RB#0



Band7-15MHz-16QAM-21375-75RB#0





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## Test Report No.: W7L-P23060003RF04



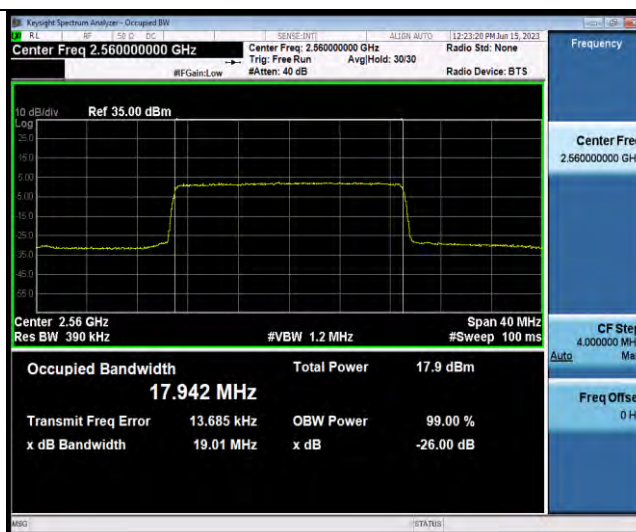
Band7-20MHz-QPSK-20850-100RB#0



Band7-20MHz-QPSK-21100-100RB#0



Band7-20MHz-QPSK-21350-100RB#0



Band7-20MHz-16QAM-20850-100RB#0



Band7-20MHz-16QAM-21100-100RB#0



Band7-20MHz-16QAM-21350-100RB#0



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## Test Report No.: W7L-P23060003RF04



## BAND EDGE

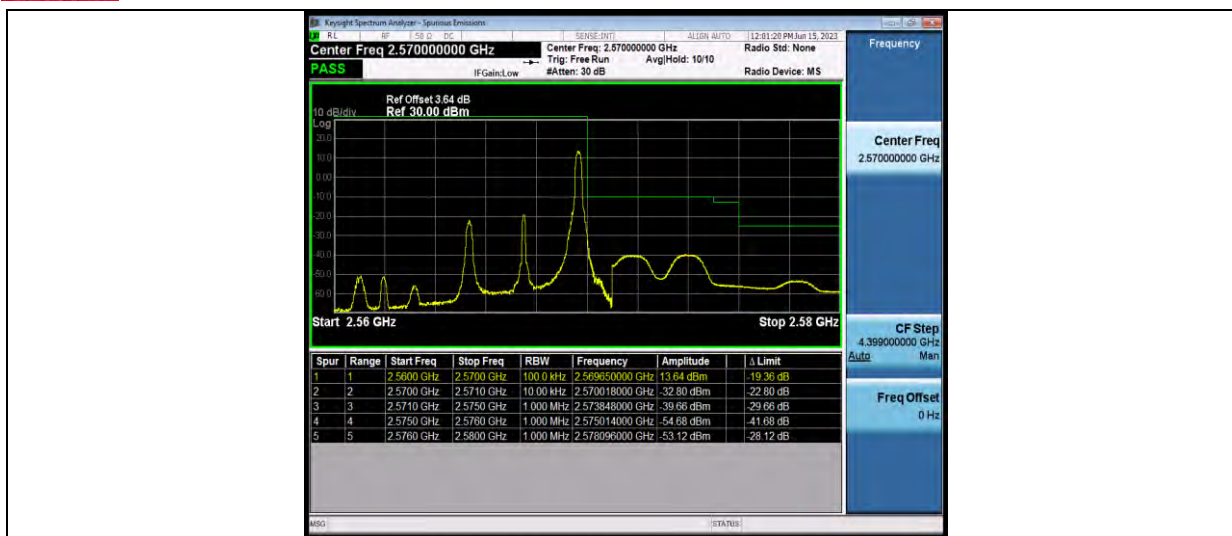
### Test Result

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm)                 | Verdict |
|-------|-----------|------------|---------|------------------|-----------------------------|---------|
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#0            | -53.27,-37.63,-37.45,-32.74 | PASS    |
| Band7 | 5MHz      | QPSK       | 20775   | 25RB#0           | -47.61,-36.18,-23.37,-28.24 | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#24           | -32.80,-39.66,-54.68,-53.12 | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 25RB#0           | -30.69,-25.44,-38.72,-40.78 | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 1RB#0            | -55.48,-44.47,-45.13,-33.53 | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 25RB#0           | -48.20,-39.42,-26.47,-29.76 | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 1RB#24           | -37.27,-44.03,-55.58,-53.86 | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 25RB#0           | -32.80,-26.96,-39.18,-42.91 | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#0            | -58.55,-40.76,-40.64,-45.22 | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 50RB#0           | -48.91,-28.09,-25.13,-26.81 | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 1RB#49           | -48.02,-40.42,-39.31,-58.52 | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 50RB#0           | -29.64,-26.84,-29.92,-43.32 | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 1RB#0            | -58.67,-43.62,-43.55,-45.44 | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 50RB#0           | -48.61,-30.91,-27.44,-29.45 | PASS    |
| Band7 | 10MHz     | 16QAM      | 21400   | 1RB#49           | -50.15,-43.16,-42.95,-58.70 | PASS    |
| Band7 | 10MHz     | 16QAM      | 21400   | 50RB#0           | -31.19,-28.07,-31.55,-42.20 | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 1RB#0            | -44.92,-40.66,-46.84,-43.91 | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 75RB#0           | -37.19,-28.55,-26.51,-30.49 | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 1RB#74           | -47.38,-45.37,-38.74,-58.89 | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 75RB#0           | -28.84,-25.44,-27.58,-42.19 | PASS    |
| Band7 | 15MHz     | 16QAM      | 20825   | 1RB#0            | -47.51,-43.74,-48.02,-43.88 | PASS    |
| Band7 | 15MHz     | 16QAM      | 20825   | 75RB#0           | -40.24,-31.44,-29.60,-32.85 | PASS    |
| Band7 | 15MHz     | 16QAM      | 21375   | 1RB#74           | -48.09,-46.60,-41.87,-58.92 | PASS    |
| Band7 | 15MHz     | 16QAM      | 21375   | 75RB#0           | -31.28,-27.25,-29.32,-41.83 | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 1RB#0            | -50.98,-43.08,-47.60,-50.14 | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 100RB#0          | -40.56,-31.92,-28.45,-28.97 | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 1RB#99           | -52.23,-48.77,-39.66,-58.81 | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 100RB#0          | -29.58,-27.67,-29.39,-47.38 | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 1RB#0            | -53.05,-46.03,-48.89,-49.94 | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 100RB#0          | -42.38,-34.81,-30.30,-31.38 | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 1RB#99           | -52.61,-50.01,-43.28,-59.00 | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 100RB#0          | -31.51,-29.43,-30.64,-46.71 | PASS    |



## Test Graphs

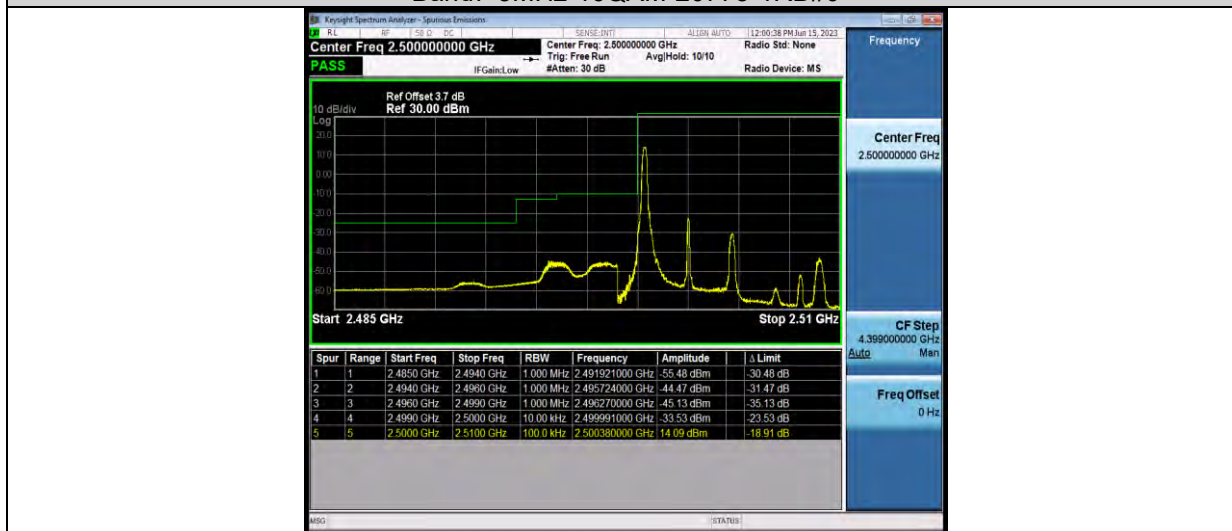




Band7-5MHz-QPSK-21425-25RB#0



Band7-5MHz-16QAM-20775-1RB#0



Band7-5MHz-16QAM-20775-25RB#0

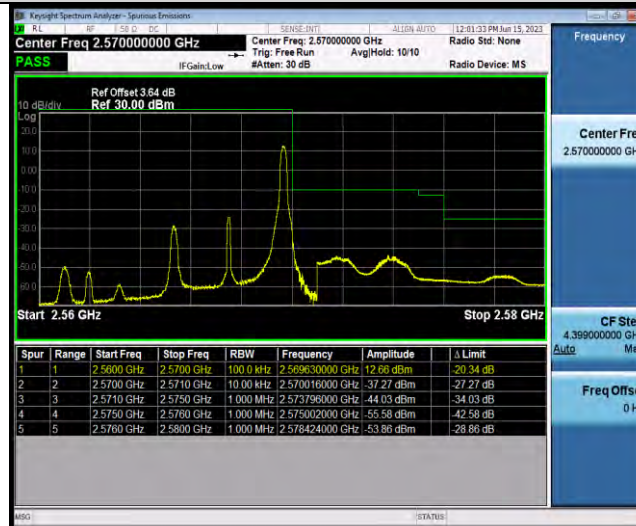


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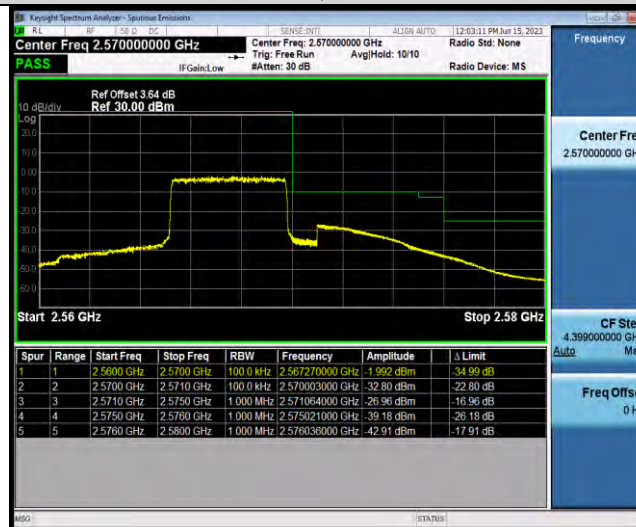
## Test Report No.: W7L-P23060003RF04



Band7-5MHz-16QAM-21425-1RB#24

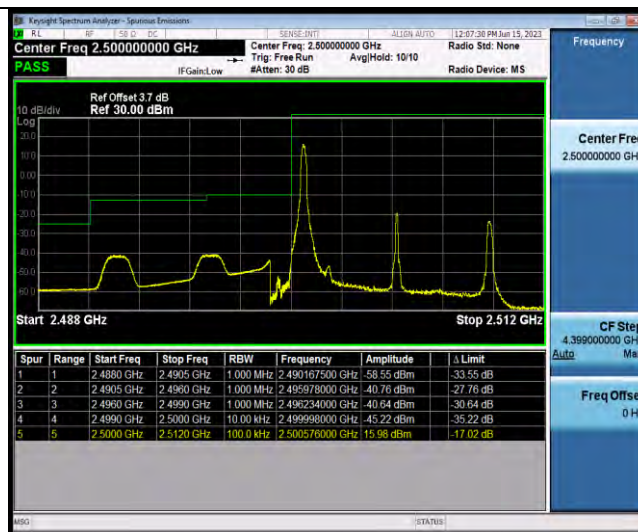


Band7-5MHz-16QAM-21425-25RB#0



Band7-10MHz-QPSK-20800-1RB#0

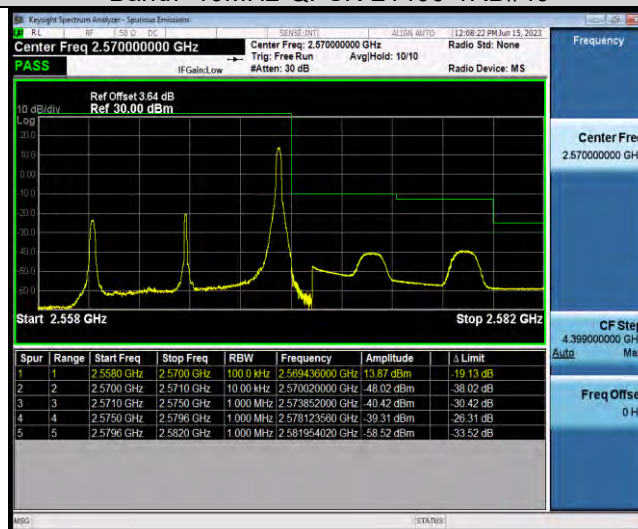




Band7-10MHz-QPSK-20800-50RB#0



Band7-10MHz-QPSK-21400-1RB#49

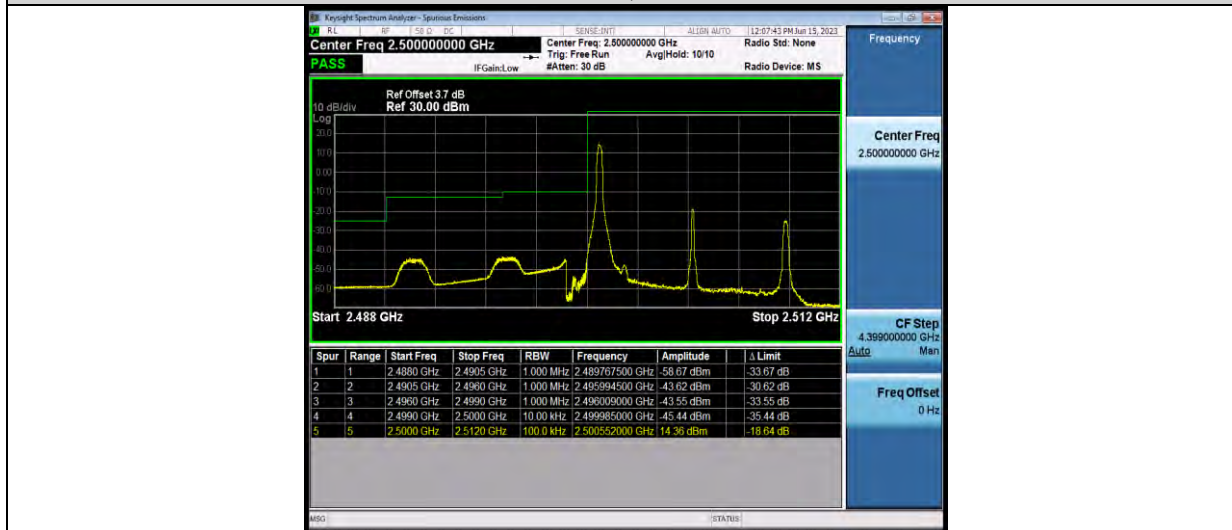


Band7-10MHz-QPSK-21400-50RB#0

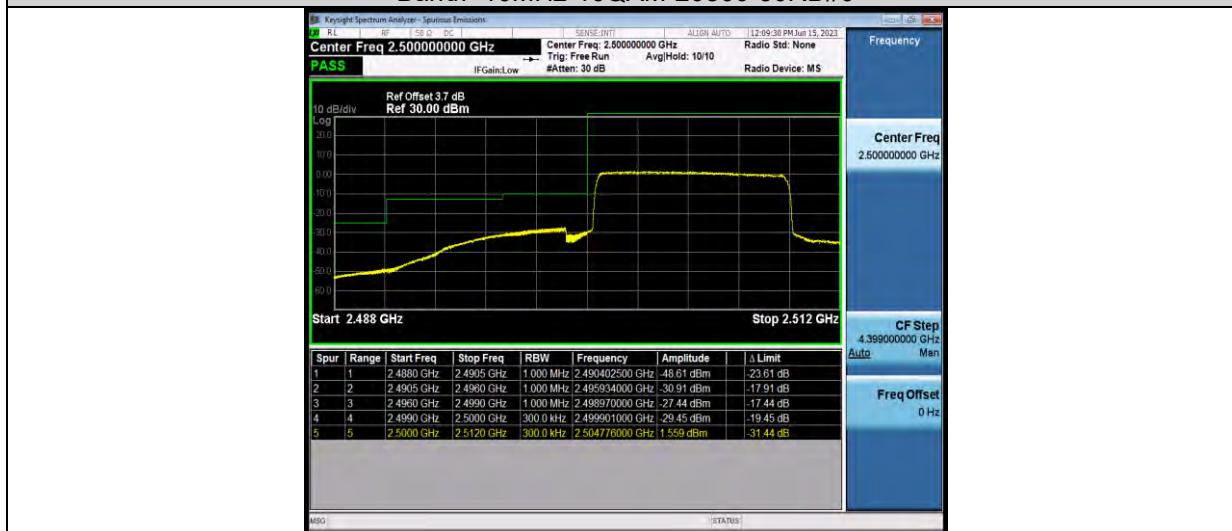




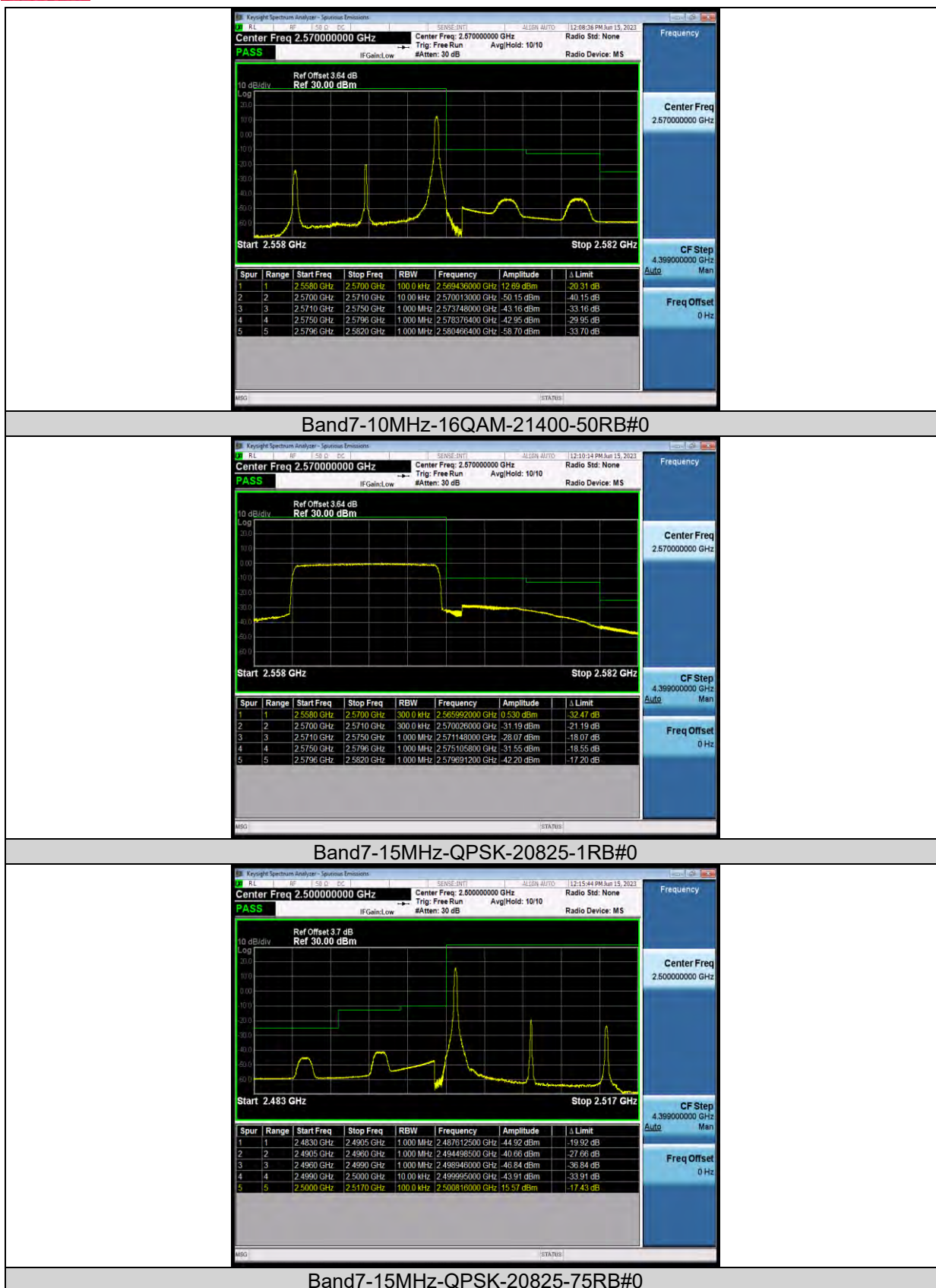
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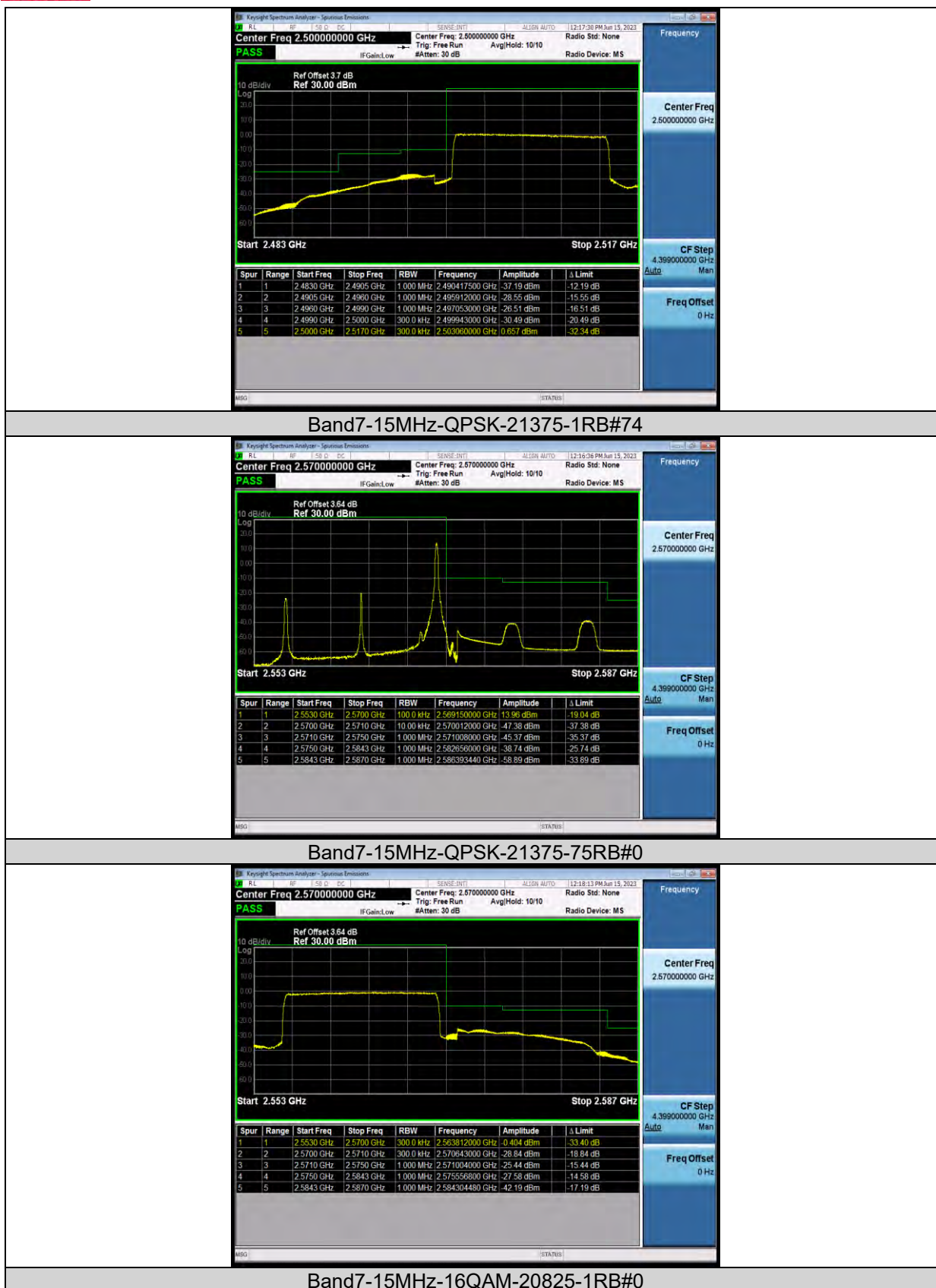


Band7-10MHz-16QAM-20800-50RB#0



Band7-10MHz-16QAM-21400-1RB#49



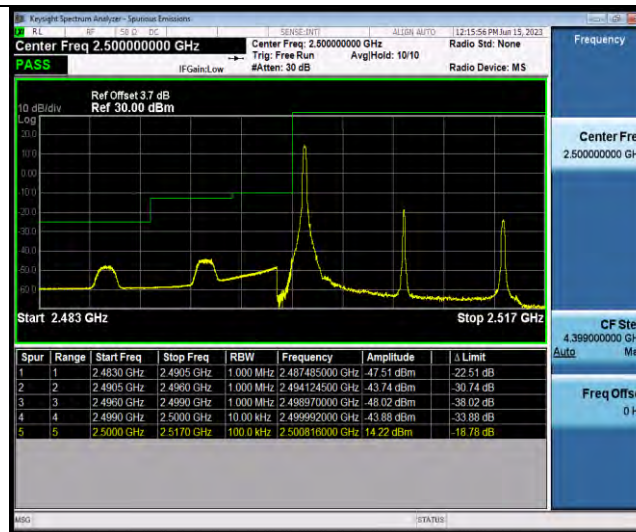




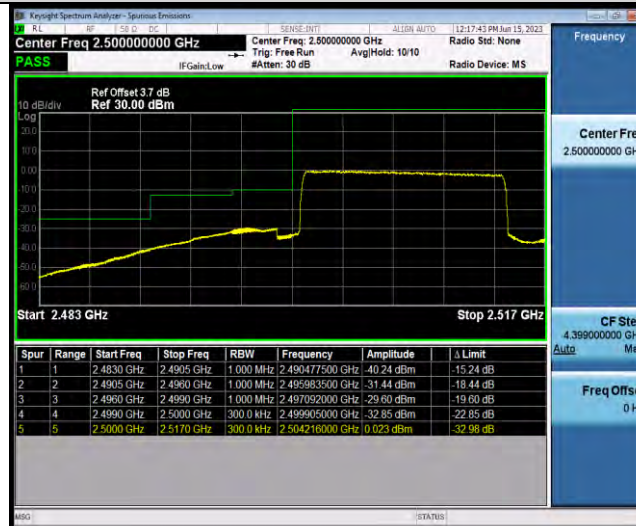


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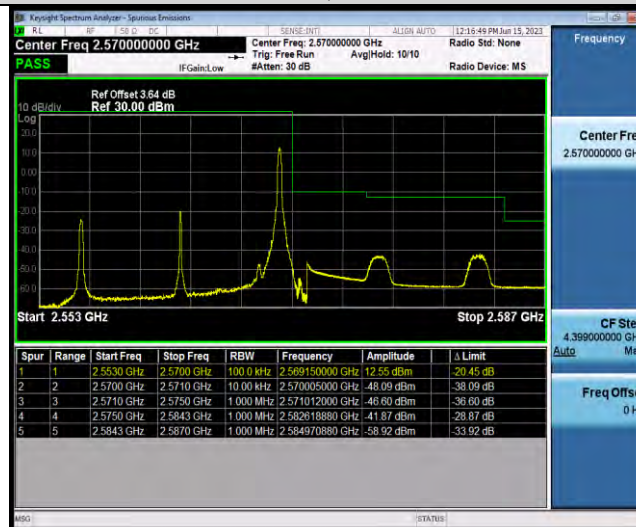
## Test Report No.: W7L-P23060003RF04



Band7-15MHz-16QAM-20825-75RB#0



Band7-15MHz-16QAM-21375-1RB#74

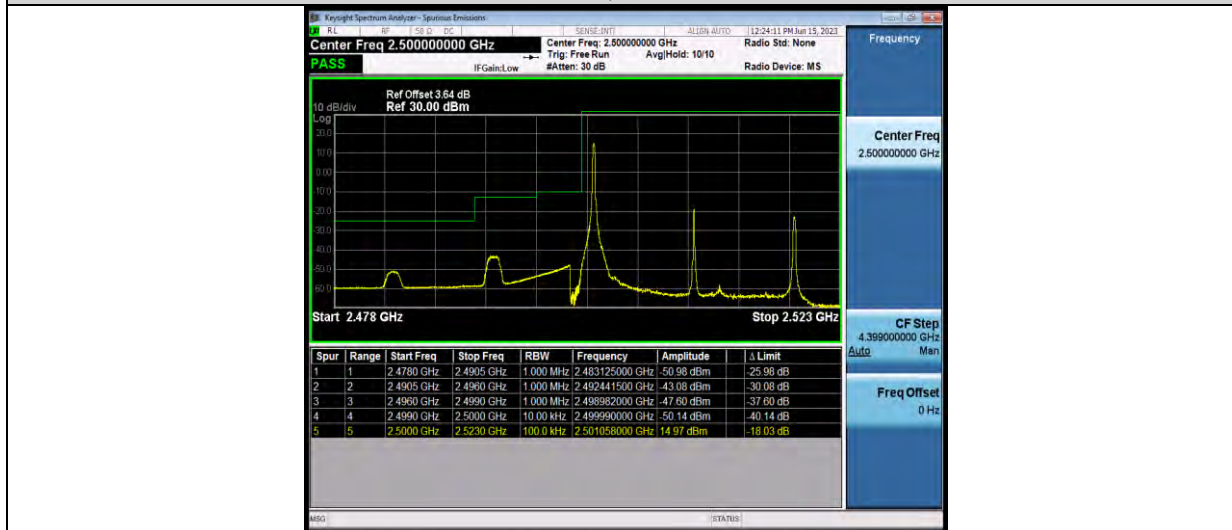


Band7-15MHz-16QAM-21375-75RB#0





Band7-20MHz-QPSK-20850-1RB#0



Band7-20MHz-QPSK-20850-100RB#0

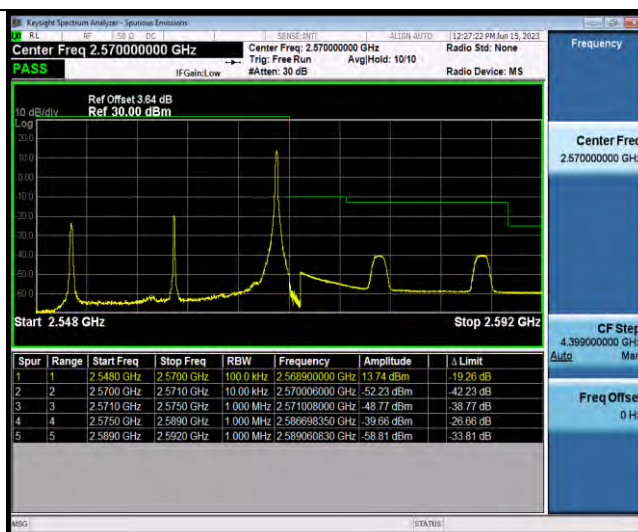


Band7-20MHz-QPSK-21350-1RB#99



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## Test Report No.: W7L-P23060003RF04



### Band7-20MHz-QPSK-21350-100RB#0



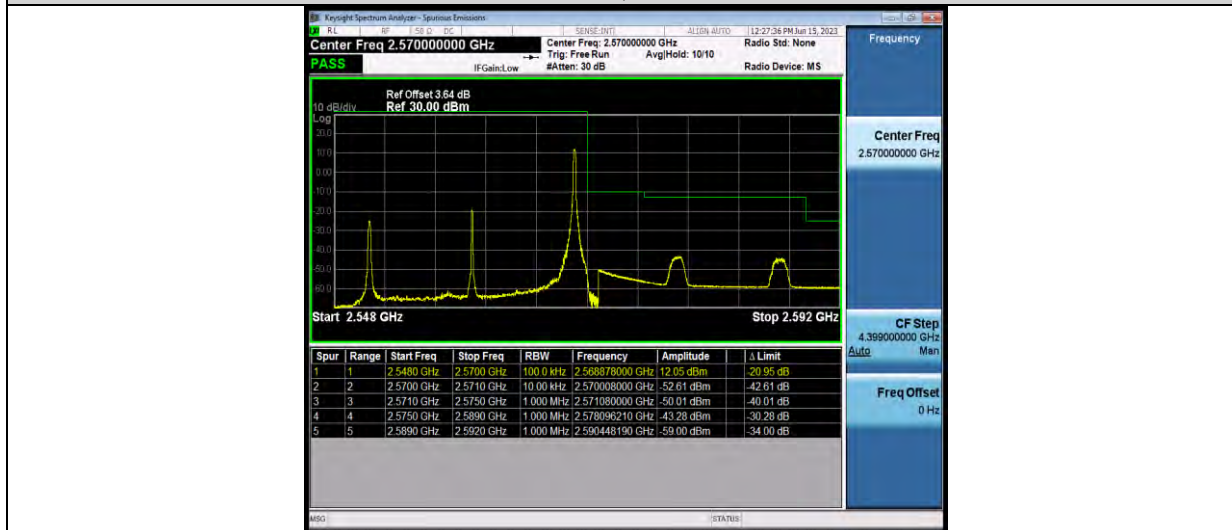
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Band7-20MHz-16QAM-21350-1RB#99



Band7-20MHz-16QAM-21350-100RB#0





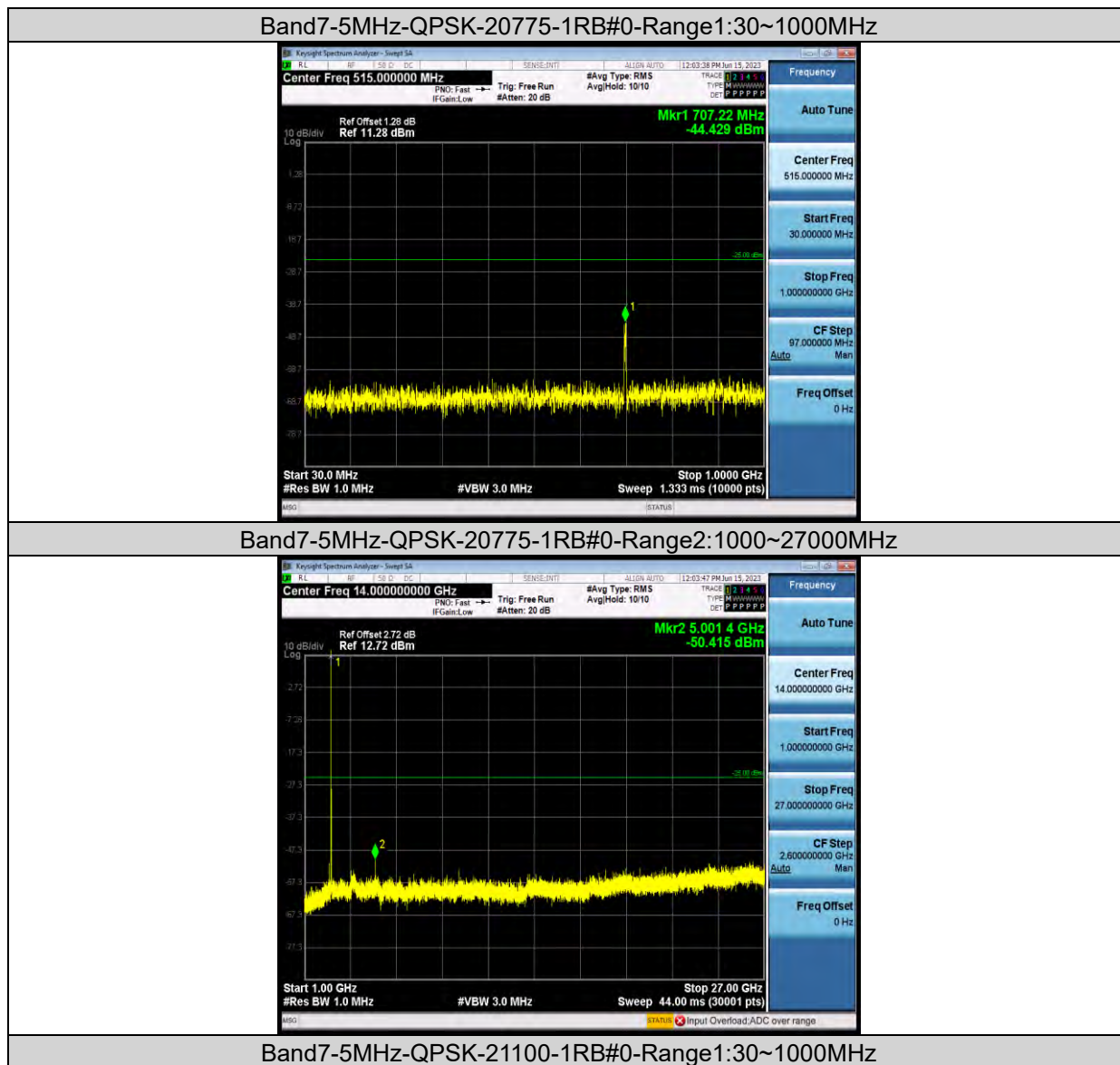
## CONDUCTED SPURIOUS EMISSION

### Test Result

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Frequency Range      | Result (dBm) | Verdict |
|-------|-----------|------------|---------|------------------|----------------------|--------------|---------|
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#0            | Range1:30~1000MHz    | -44.43       | PASS    |
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#0            | Range2:1000~27000MHz | -50.42       | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 1RB#0            | Range1:30~1000MHz    | -60.87       | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 1RB#0            | Range2:1000~27000MHz | -49.34       | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#0            | Range1:30~1000MHz    | -44.59       | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#0            | Range2:1000~27000MHz | -50.63       | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#0            | Range1:30~1000MHz    | -61.41       | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#0            | Range2:1000~27000MHz | -49.41       | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 1RB#0            | Range1:30~1000MHz    | -60.62       | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 1RB#0            | Range2:1000~27000MHz | -48.95       | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 1RB#0            | Range1:30~1000MHz    | -59.57       | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 1RB#0            | Range2:1000~27000MHz | -50.73       | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 1RB#0            | Range1:30~1000MHz    | -60.34       | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 1RB#0            | Range2:1000~27000MHz | -48.73       | PASS    |
| Band7 | 15MHz     | QPSK       | 21100   | 1RB#0            | Range1:30~1000MHz    | -61.03       | PASS    |
| Band7 | 15MHz     | QPSK       | 21100   | 1RB#0            | Range2:1000~27000MHz | -50.02       | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 1RB#0            | Range1:30~1000MHz    | -60.63       | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 1RB#0            | Range2:1000~27000MHz | -48.03       | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 1RB#0            | Range1:30~1000MHz    | -61.11       | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 1RB#0            | Range2:1000~27000MHz | -47.6        | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 1RB#0            | Range1:30~1000MHz    | -60.92       | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 1RB#0            | Range2:1000~27000MHz | -49.87       | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 1RB#0            | Range1:30~1000MHz    | -60.79       | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 1RB#0            | Range2:1000~27000MHz | -50.73       | PASS    |



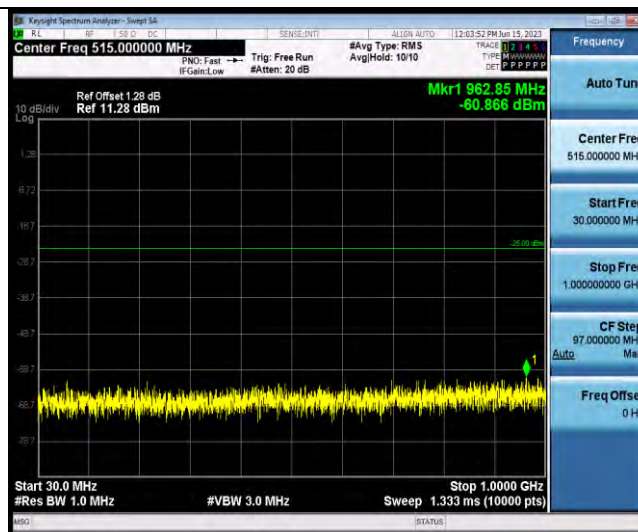
## Test Graphs



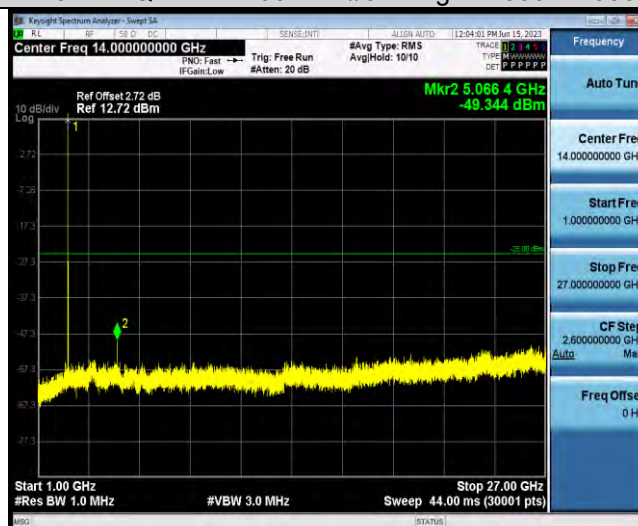


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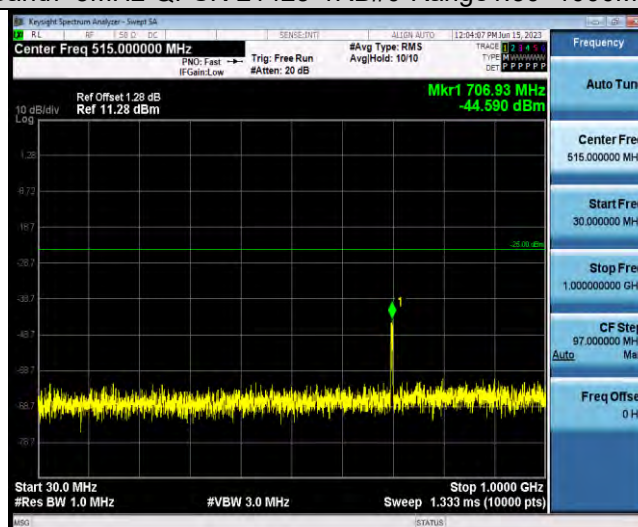
## Test Report No.: W7L-P23060003RF04



Band7-5MHz-QPSK-21100-1RB#0-Range2:1000~27000MHz



Band7-5MHz-QPSK-21425-1RB#0-Range1:30~1000MHz

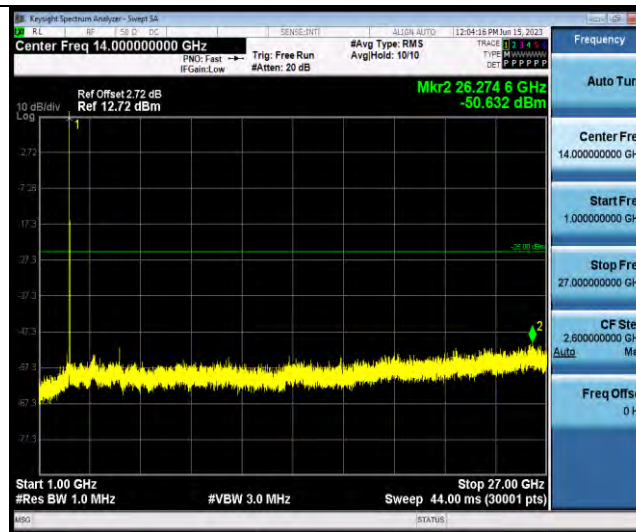


Band7-5MHz-QPSK-21425-1RB#0-Range2:1000~27000MHz

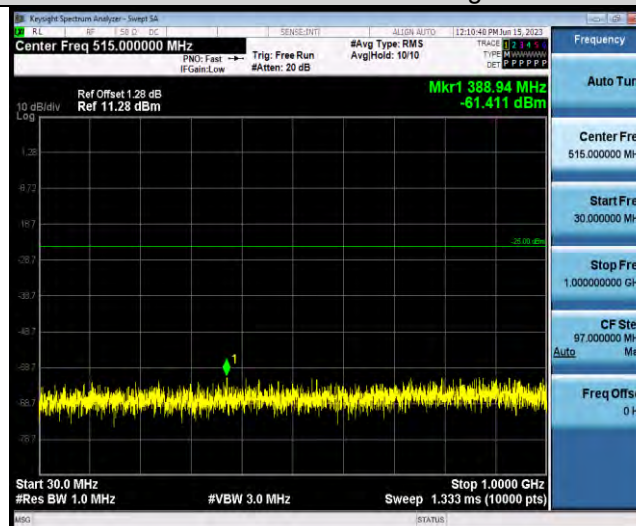


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Test Report No.: W7L-P23060003RF04



Band7-10MHz-QPSK-20800-1RB#0-Range1:30~1000MHz



Band7-10MHz-QPSK-20800-1RB#0-Range2:1000~27000MHz



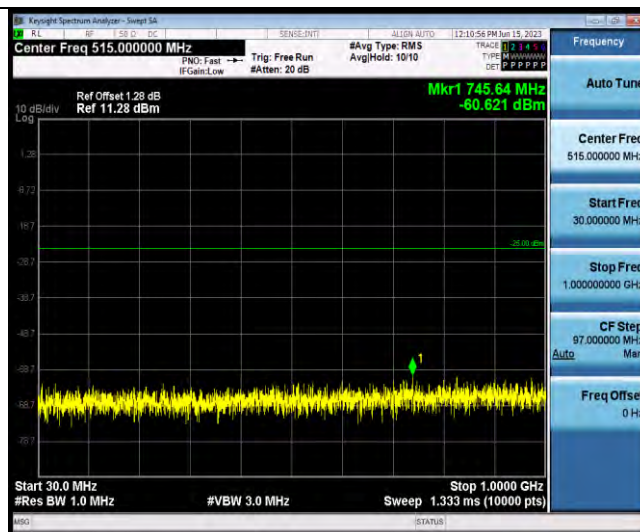
Band7-10MHz-QPSK-21100-1RB#0-Range1:30~1000MHz



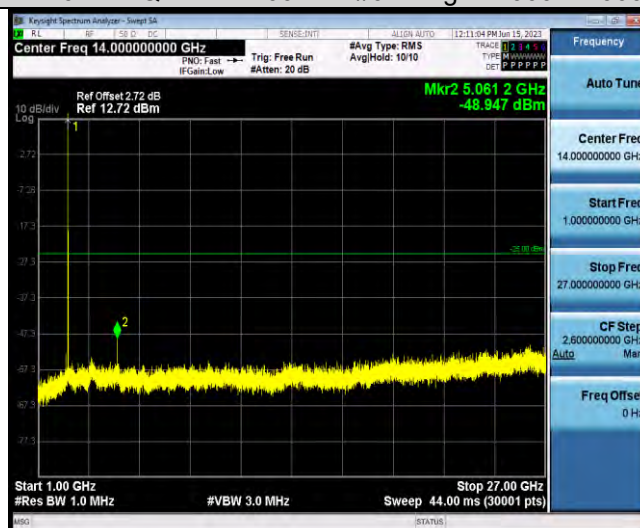


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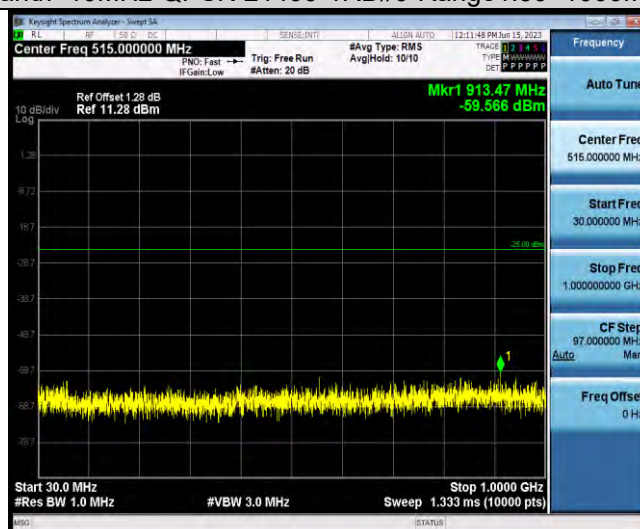
Test Report No.: W7L-P23060003RF04



Band7-10MHz-QPSK-21100-1RB#0-Range2:1000~27000MHz



Band7-10MHz-QPSK-21400-1RB#0-Range1:30~1000MHz



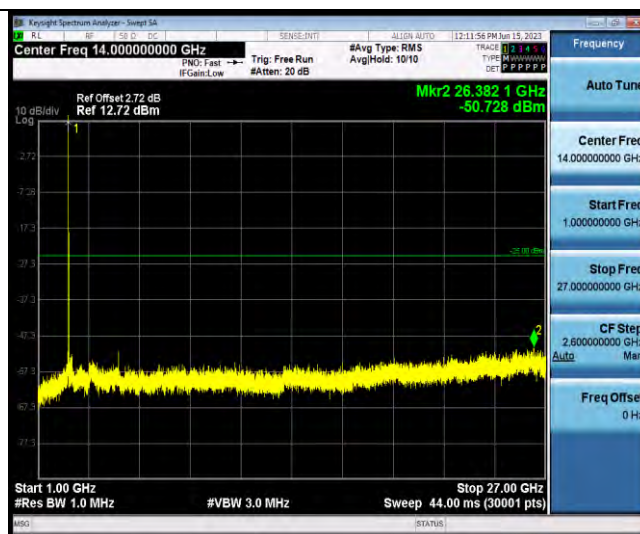
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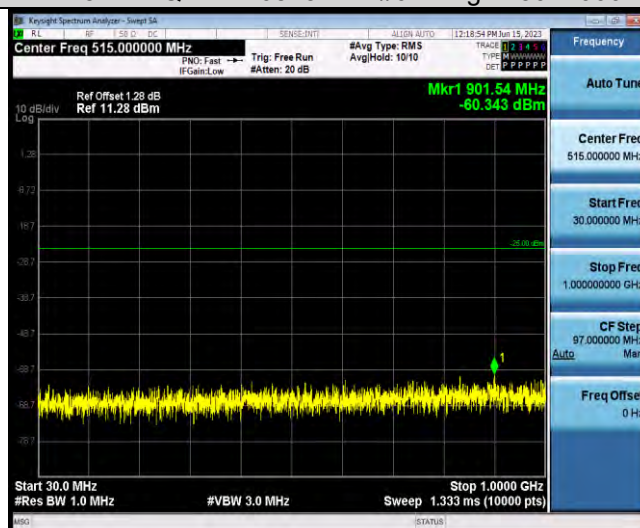


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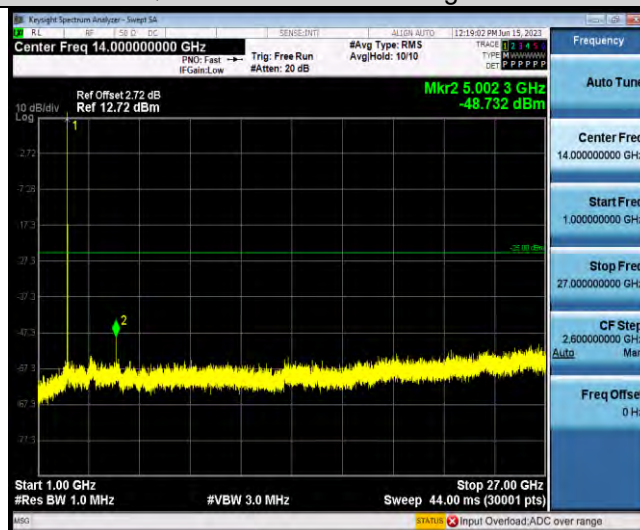
Test Report No.: W7L-P23060003RF04



Band7-15MHz-QPSK-20825-1RB#0-Range1:30~1000MHz



Band7-15MHz-QPSK-20825-1RB#0-Range2:1000~27000MHz

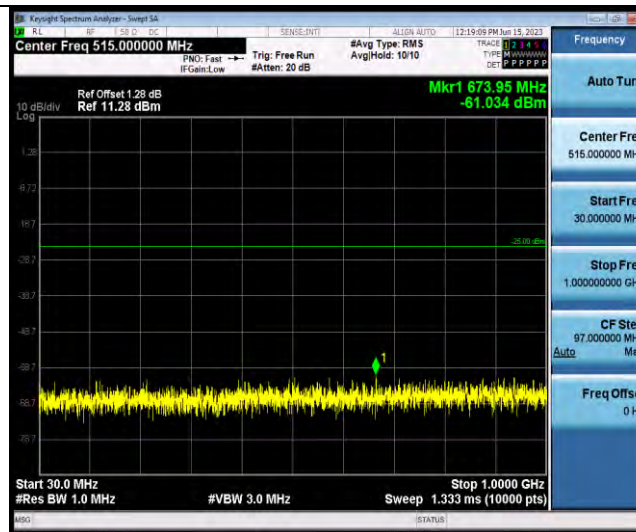


Band7-15MHz-QPSK-21100-1RB#0-Range1:30~1000MHz

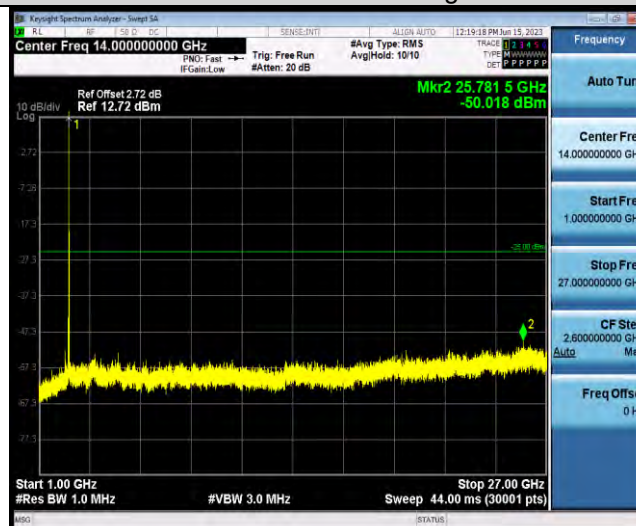


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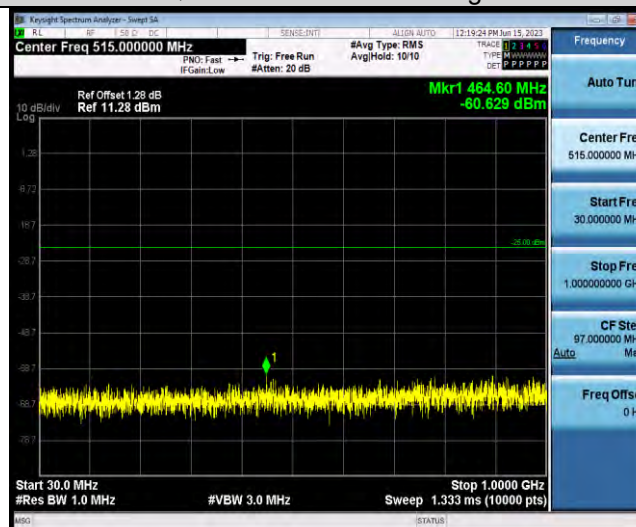
## Test Report No.: W7L-P23060003RF04



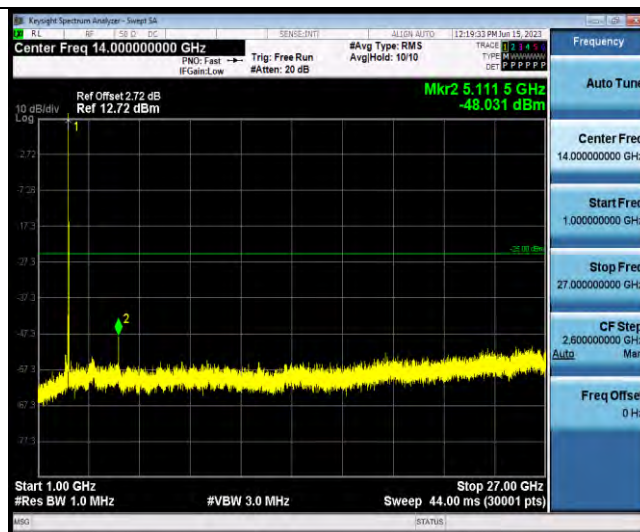
Band7-15MHz-QPSK-21100-1RB#0-Range2:1000~27000MHz



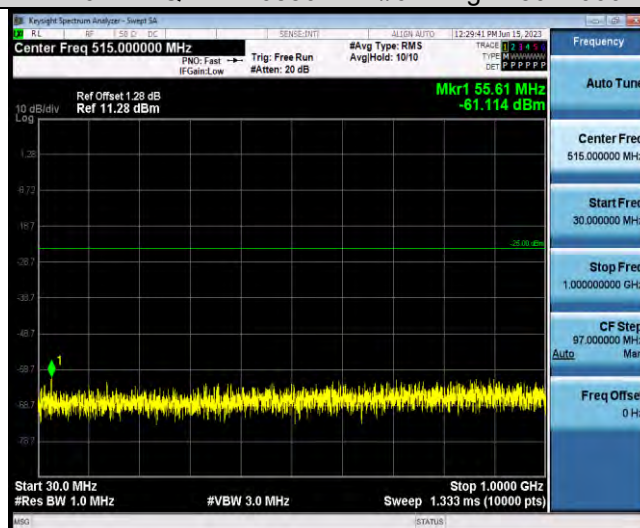
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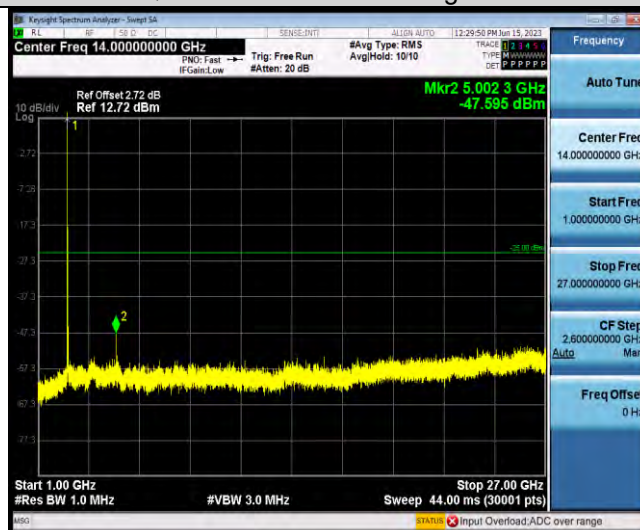
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Band7-20MHz-QPSK-20850-1RB#0-Range1:30~1000MHz



Band7-20MHz-QPSK-20850-1RB#0-Range2:1000~27000MHz



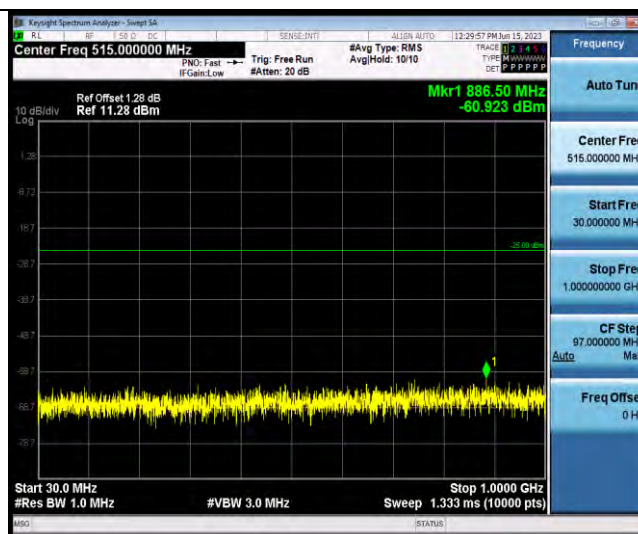
Band7-20MHz-QPSK-21100-1RB#0-Range1:30~1000MHz





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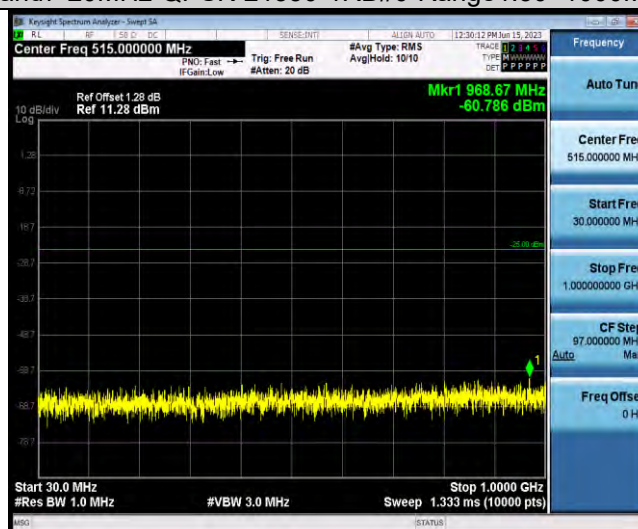
## Test Report No.: W7L-P23060003RF04



Band7-20MHz-QPSK-21100-1RB#0-Range2:1000~27000MHz



Band7-20MHz-QPSK-21350-1RB#0-Range1:30~1000MHz



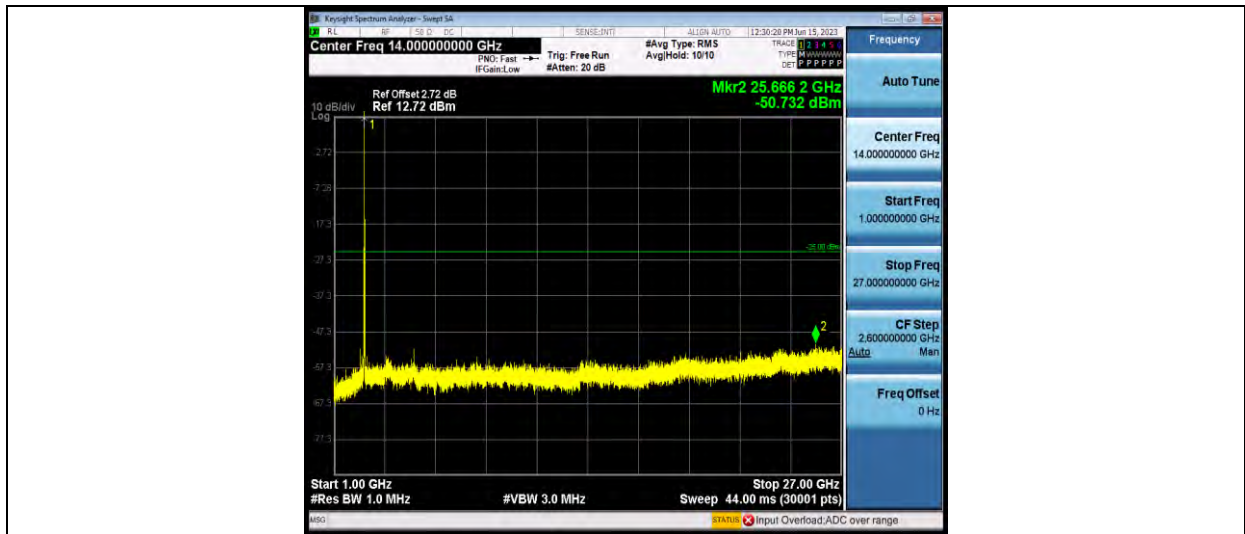
Band7-20MHz-QPSK-21350-1RB#0-Range2:1000~27000MHz





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Test Report No.: W7L-P23060003RF04



## FREQUENCY STABILITY

### Test Result

| Voltage |           |            |         |              |               |                  |                |                 |             |         |
|---------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band    | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band7   | 20MHz     | QPSK       | 20850   | 100RB#0      | VL            | NT               | -5.15          | -0.002052       | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 20850   | 100RB#0      | VN            | NT               | 8.07           | 0.003215        | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 20850   | 100RB#0      | VH            | NT               | 10.66          | 0.004247        | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VL            | NT               | -9.06          | -0.003574       | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VN            | NT               | -4.99          | -0.001968       | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VH            | NT               | -4.96          | -0.001957       | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21350   | 100RB#0      | VL            | NT               | 3.92           | 0.001531        | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21350   | 100RB#0      | VN            | NT               | 4.42           | 0.001727        | ±2.5        | PASS    |
| Band7   | 20MHz     | QPSK       | 21350   | 100RB#0      | VH            | NT               | -4.71          | -0.001840       | ±2.5        | PASS    |

| Temperature |           |            |         |              |               |                  |                |                 |             |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | -30              | 5.58           | 0.002223        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | -20              | 7.72           | 0.003076        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | -10              | 12.96          | 0.005163        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 0                | 4.69           | 0.001869        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 10               | 6.49           | 0.002586        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 20               | 10.34          | 0.004120        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 30               | 5.59           | 0.002227        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 40               | 11.03          | 0.004394        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 20850   | 100RB#0      | NV            | 50               | 11.07          | 0.004410        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -30              | -7.75          | -0.003057       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -20              | -5.81          | -0.002292       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -10              | -9.38          | -0.003700       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 0                | -6.81          | -0.002686       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 10               | -6.11          | -0.002410       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 20               | -4.46          | -0.001759       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 30               | -5.38          | -0.002122       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 40               | -5.52          | -0.002178       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 50               | -4.99          | -0.001968       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | -30              | -3.53          | -0.001379       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | -20              | -4.26          | -0.001664       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | -10              | 8.03           | 0.003137        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | 0                | -4.25          | -0.001660       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | 10               | 4.08           | 0.001594        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | 20               | -7.04          | -0.002750       | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | 30               | 5.89           | 0.002301        | ±2.5        | PASS    |
| Band7       | 20MHz     | QPSK       | 21350   | 100RB#0      | NV            | 40               | -3.95          | -0.001543       | ±2.5        | PASS    |



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**Test Report No.: W7L-P23060003RF04**

|       |       |      |       |         |    |    |       |           |      |      |
|-------|-------|------|-------|---------|----|----|-------|-----------|------|------|
| Band7 | 20MHz | QPSK | 21350 | 100RB#0 | NV | 50 | -4.16 | -0.001625 | ±2.5 | PASS |
|-------|-------|------|-------|---------|----|----|-------|-----------|------|------|

## MAX Deviation calculation

| Frequency Stability            | Frequency (MHz) | Limit Line(MHz) | Result |
|--------------------------------|-----------------|-----------------|--------|
| $f_L -  \text{MAX}(\Delta f) $ | 2501.029500     | $\geq 2500$     | PASS   |
| $f_H +  \text{MAX}(\Delta f) $ | 2568.971000     | $\leq 2570$     |        |

- Note :
1.  $|\text{MAX}(\Delta f)|$  = Max Deviation
  2.  $f_L$  = Occ low channel  $f_L$ (-13dBm/MHz)
  3.  $f_H$  = Occ High channel  $f_H$ (-13dBm/MHz)
  4.  $|\text{MAX}(\Delta f)|$  = 12.96 Hz.



Test Report No.: W7L-P23060003RF04

## LTE BAND12

### PEAK-TO-AVERAGE RATIO(CCDF)

#### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band12 | 10MHz     | QPSK       | 23060   | 1RB#0            | 4.93       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23060   | 50RB#0           | 4.90       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23095   | 1RB#0            | 4.36       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23095   | 50RB#0           | 5.19       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23130   | 1RB#0            | 3.70       | 13        | PASS    |
| Band12 | 10MHz     | QPSK       | 23130   | 50RB#0           | 5.28       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23060   | 1RB#0            | 5.76       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23060   | 50RB#0           | 5.80       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23095   | 1RB#0            | 5.22       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23095   | 50RB#0           | 5.97       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23130   | 1RB#0            | 4.52       | 13        | PASS    |
| Band12 | 10MHz     | 16QAM      | 23130   | 50RB#0           | 6.13       | 13        | PASS    |

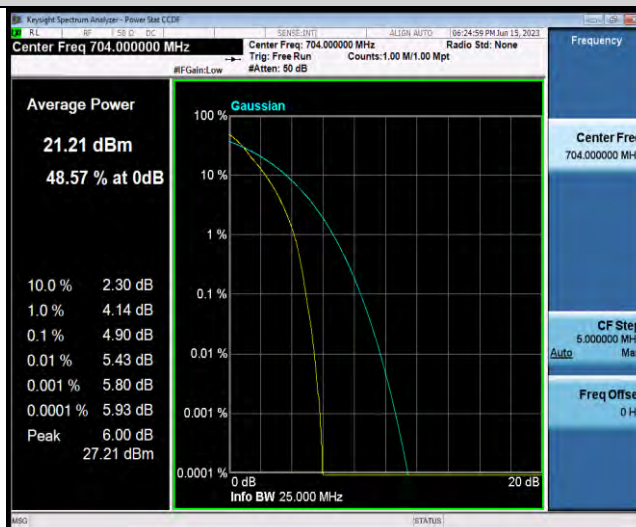


## Test Graphs

Band12-10MHz-QPSK-23060-1RB#0



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



Band12-10MHz-QPSK-23095-1RB#0