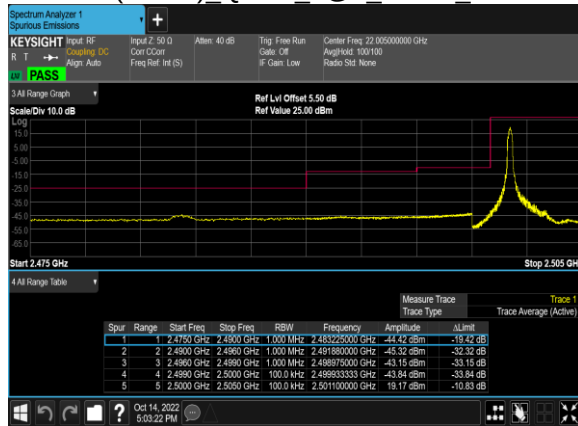
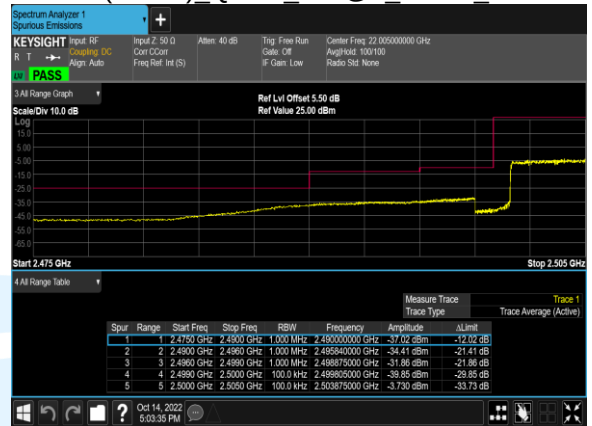


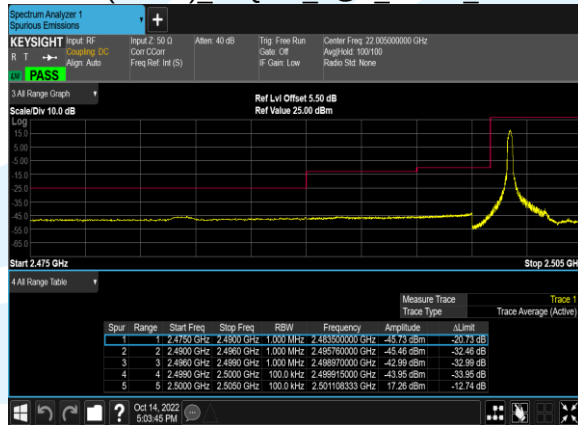
B7(20.0M) QPSK 1@0 20850 CH



B7(20.0M) QPSK 100@0 20850 CH



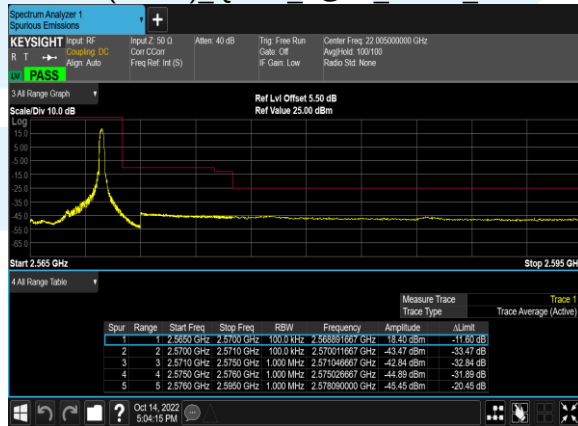
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B7(20.0M) 16QAM 100@0 20850 CH



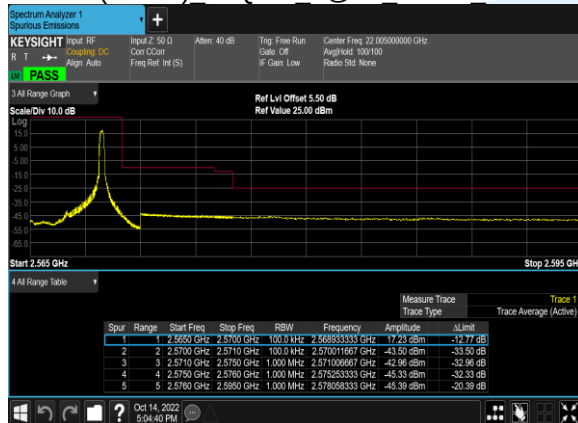
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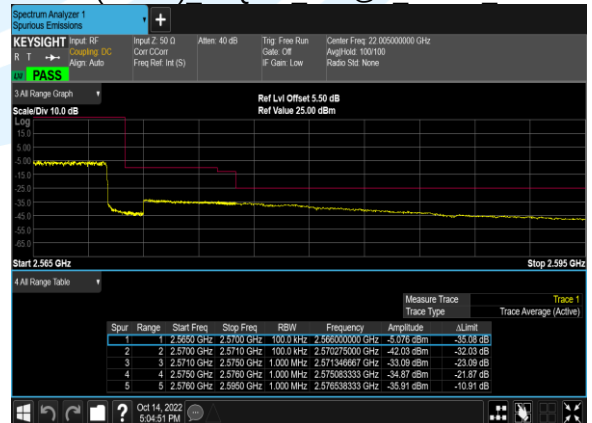
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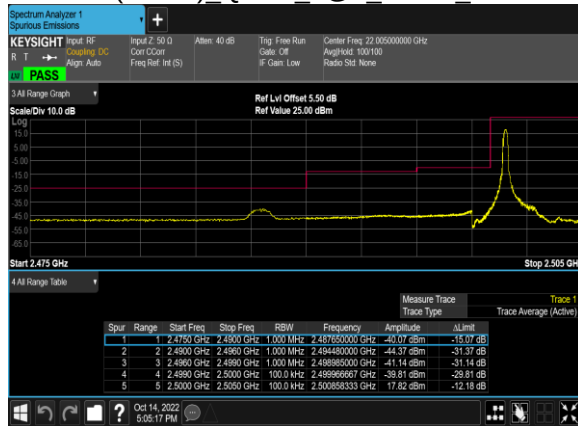
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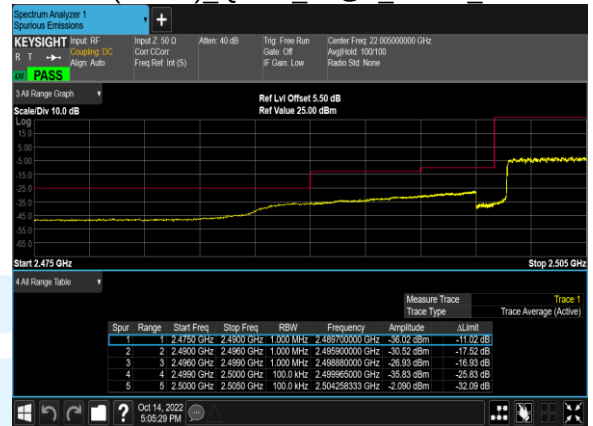
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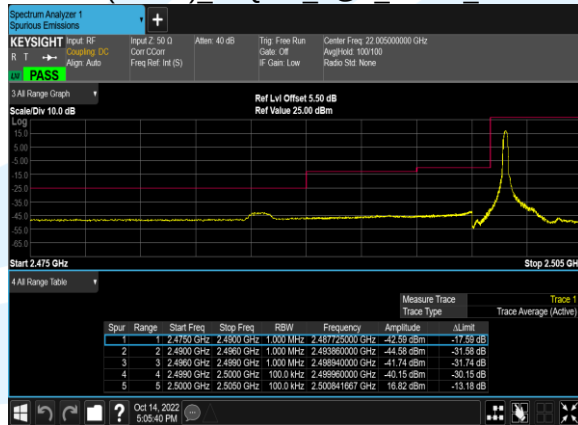
B7(15.0M) QPSK 1@0 20825 CH



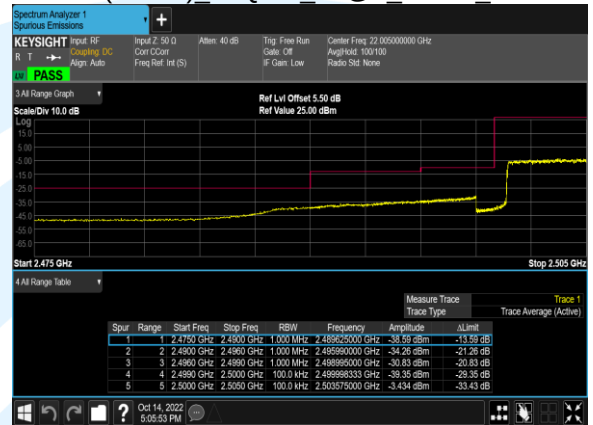
B7(15.0M) QPSK 75@0 20825 CH



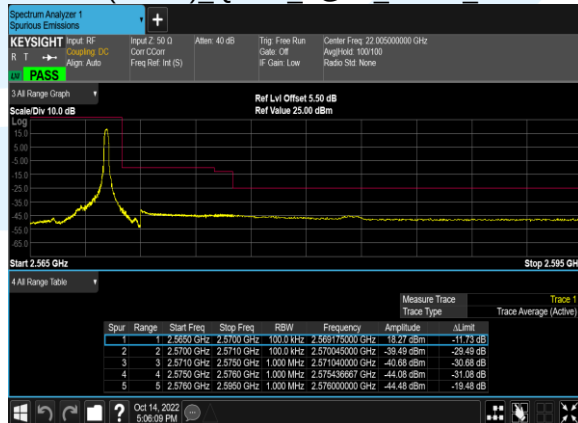
B7(15.0M) 16QAM 1@0 20825 CH



B7(15.0M) 16QAM 75@0 20825 CH



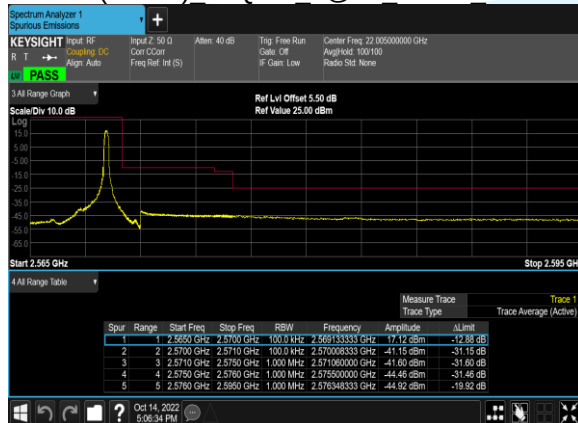
B7(15.0M) QPSK 1@74 21375 CH



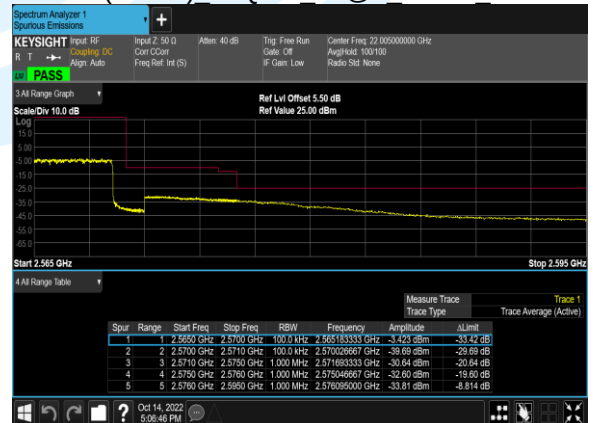
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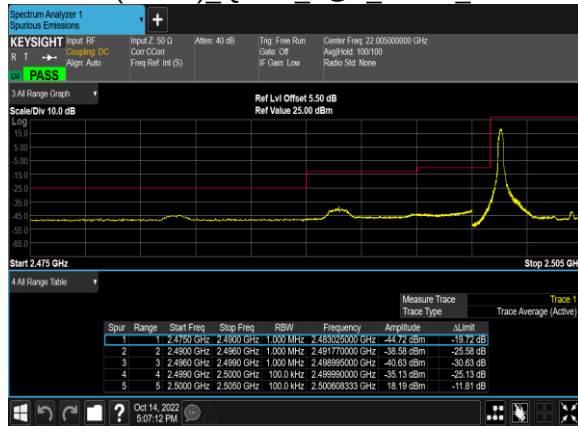
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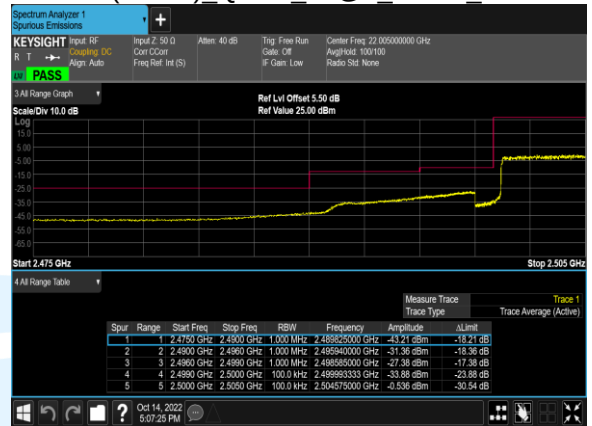
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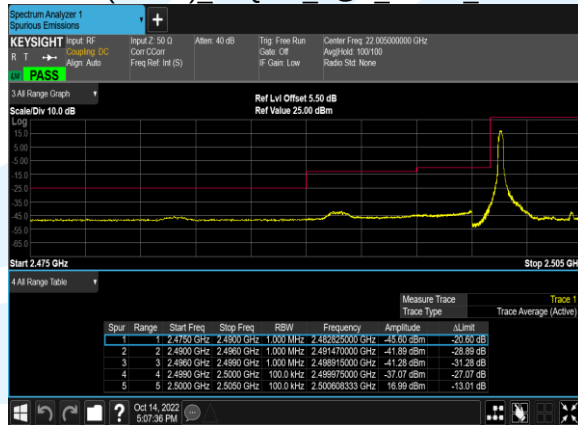
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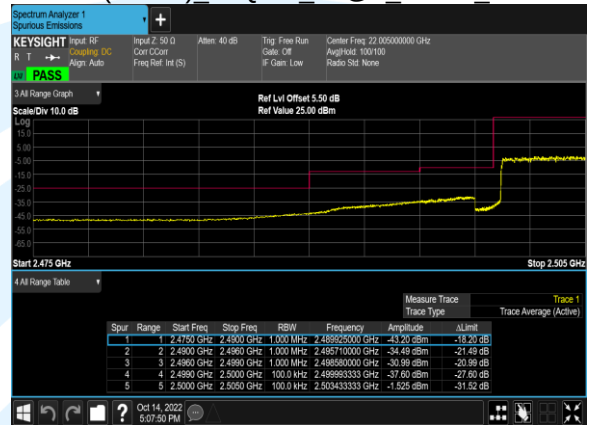
B7(10.0M) QPSK 50@0 20800 CH



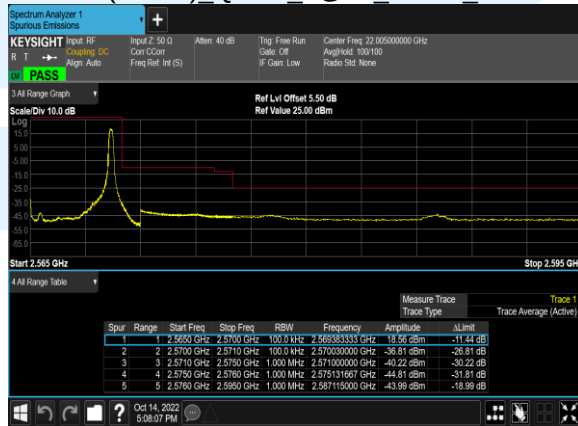
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B7(10.0M) 16QAM 50@0 20800 CH



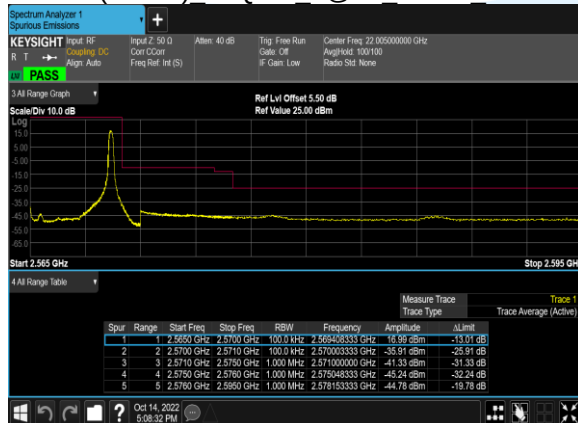
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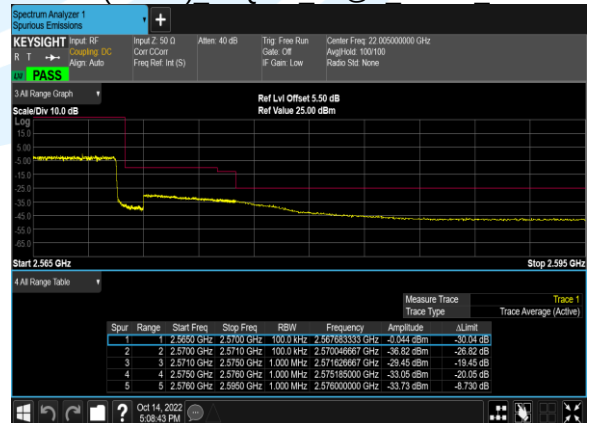
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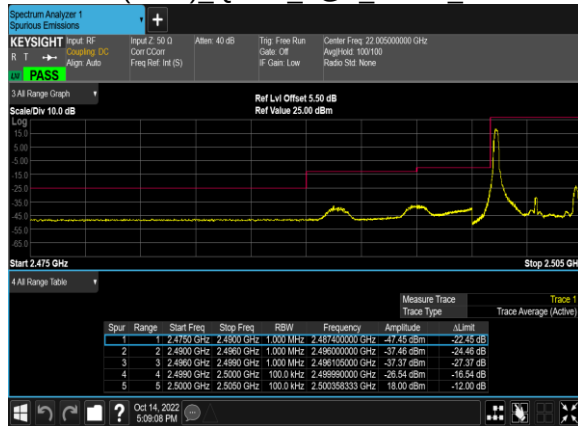
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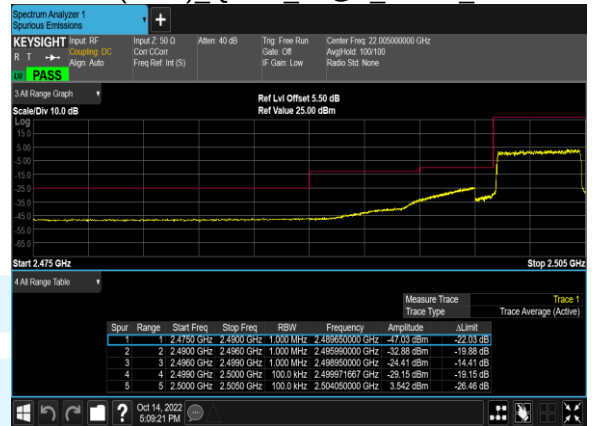
B7(10.0M) 16QAM 50@0 21400 CH



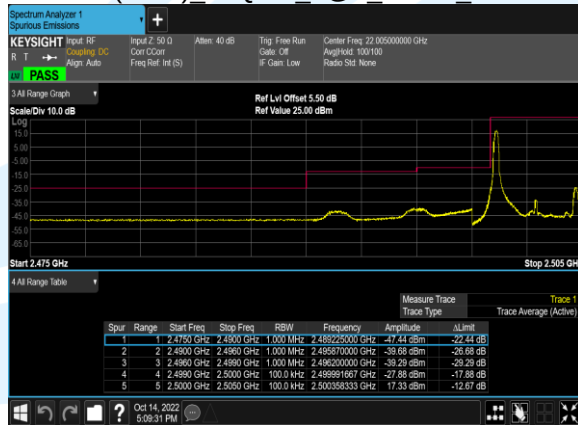
B7(5.0M) QPSK 1@0 20775 CH



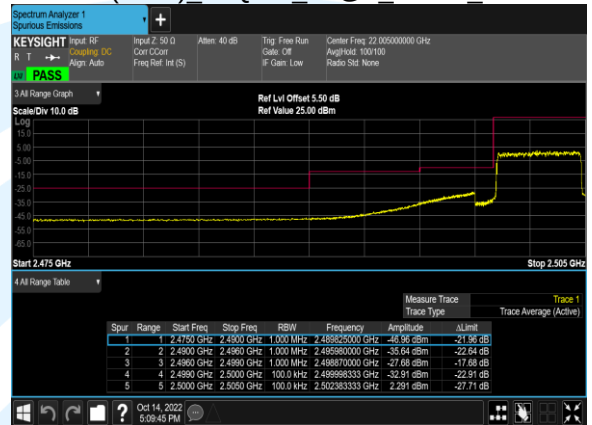
B7(5.0M) QPSK 25@0 20775 CH



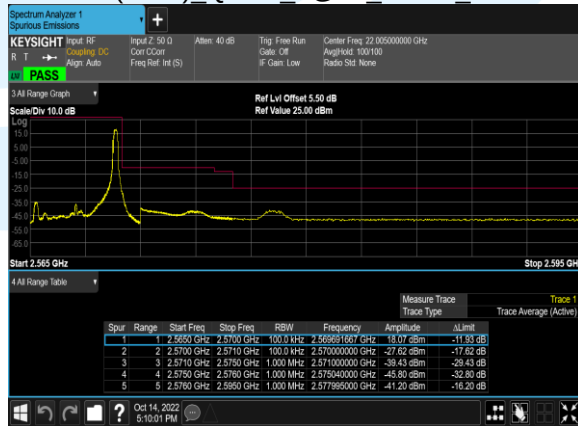
B7(5.0M) 16QAM 1@0 20775 CH



B7(5.0M) 16QAM 25@0 20775 CH



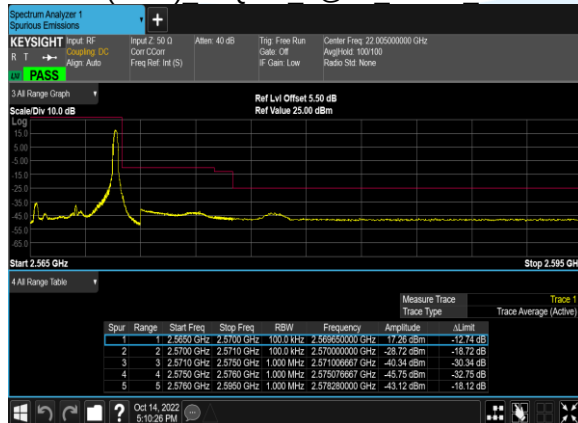
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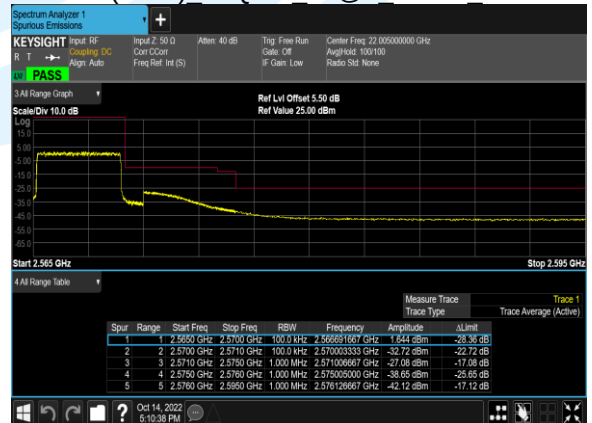
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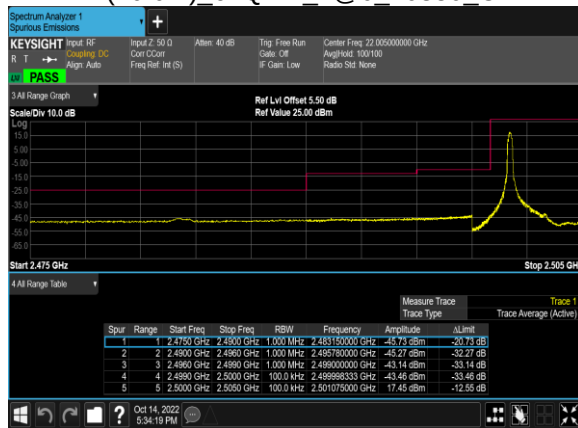
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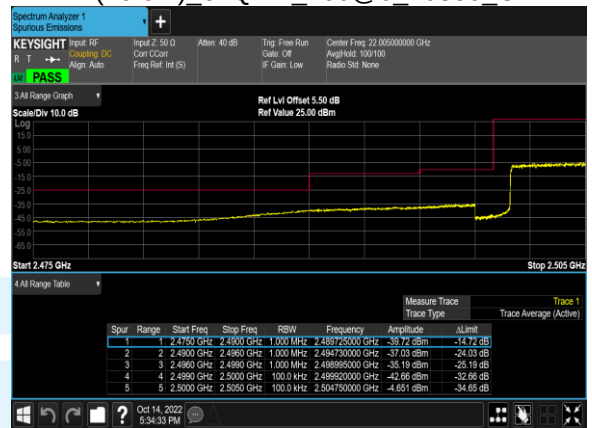
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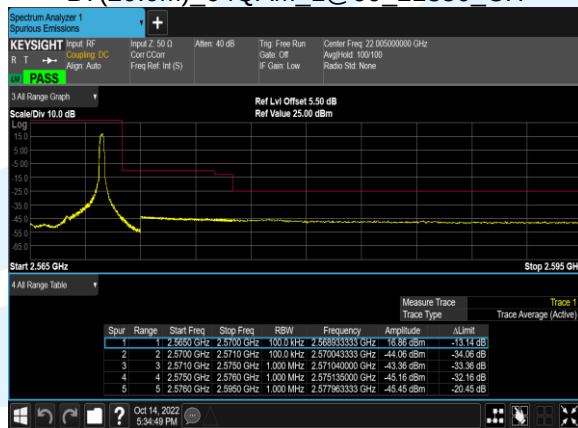
B7(20.0M) 64QAM 1@0 20850 CH



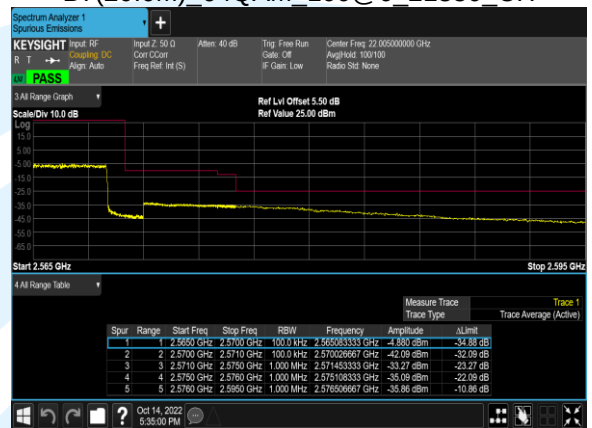
B7(20.0M) 64QAM 100@0 20850 CH



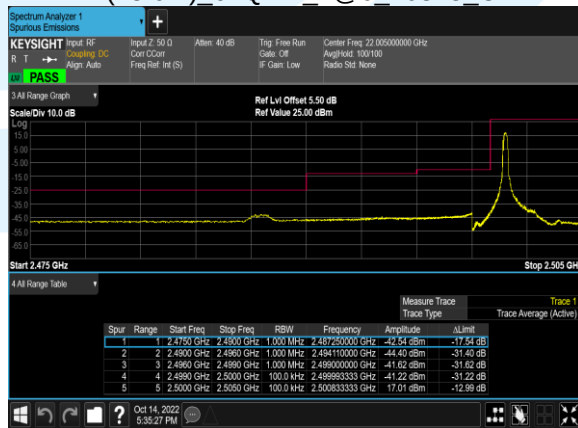
B7(20.0M) 64QAM 1@99 21350 CH



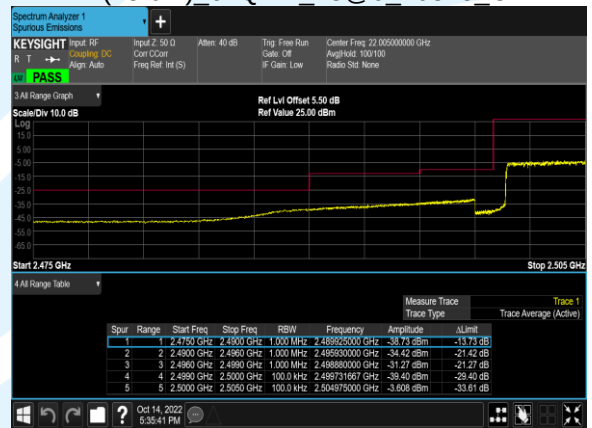
B7(20.0M) 64QAM 100@0 21350 CH



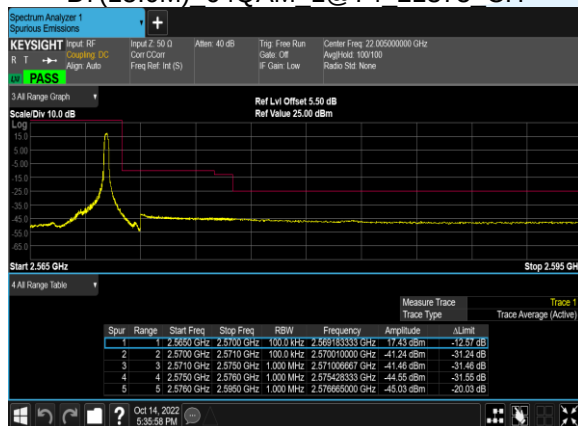
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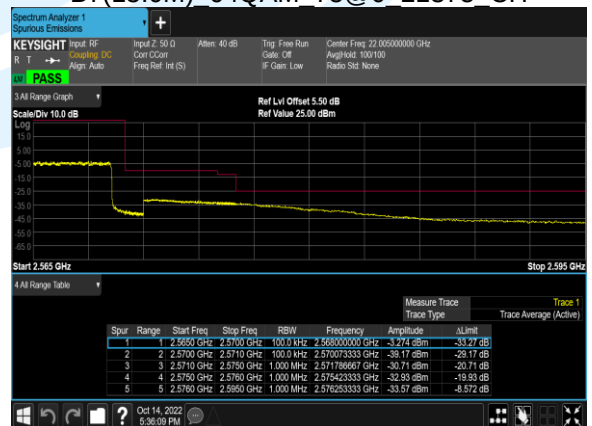
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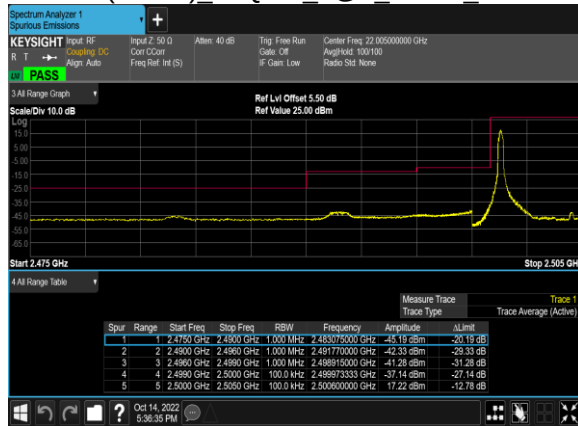
B7(15.0M) 64QAM 1@74 21375 CH



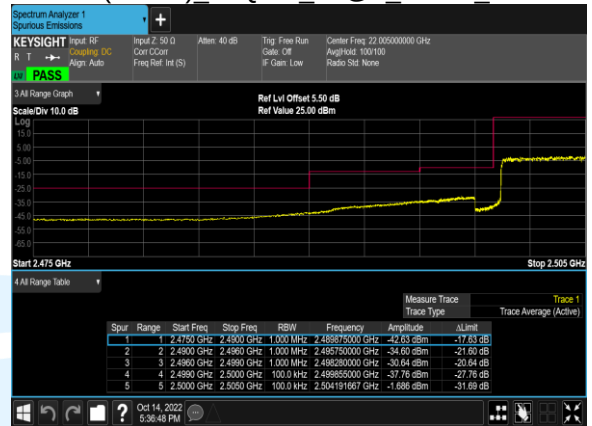
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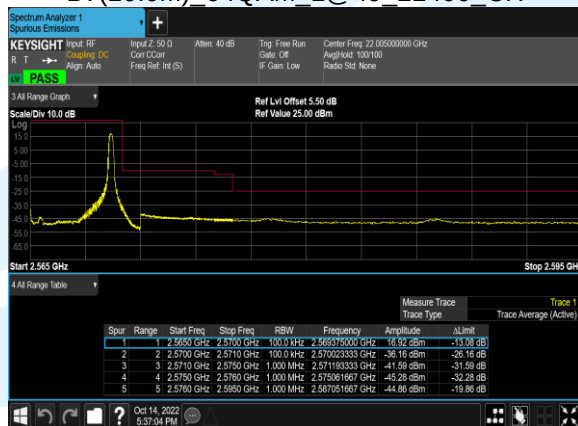
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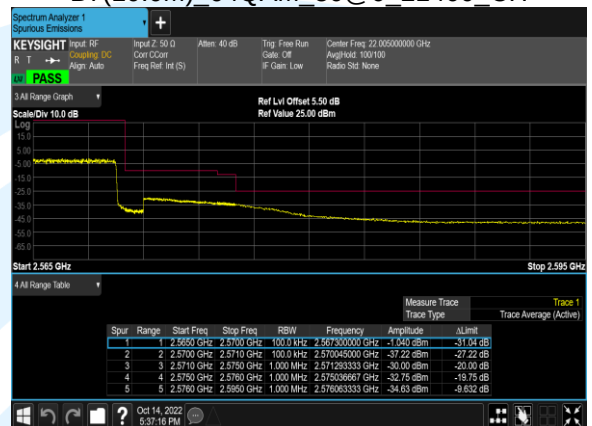
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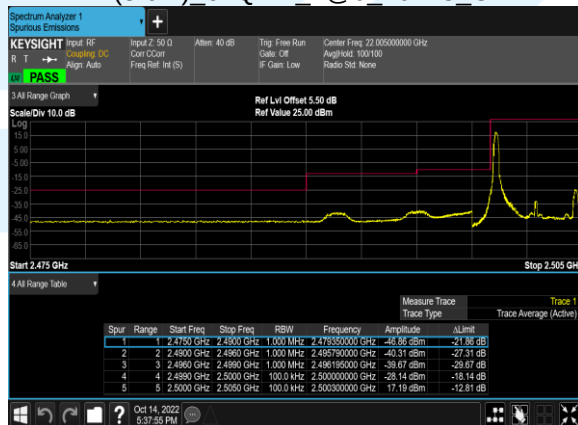
B7(10.0M) 64QAM 1@49 21400 CH



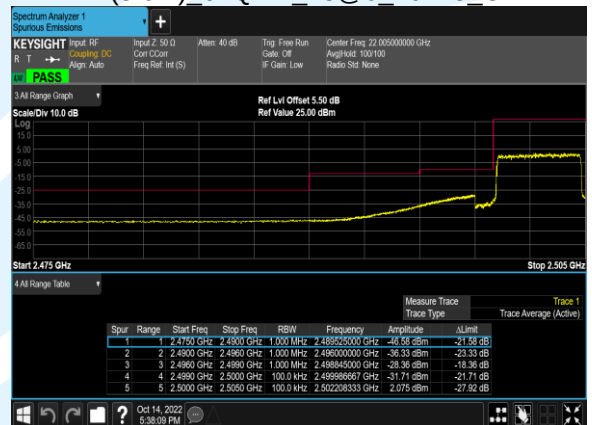
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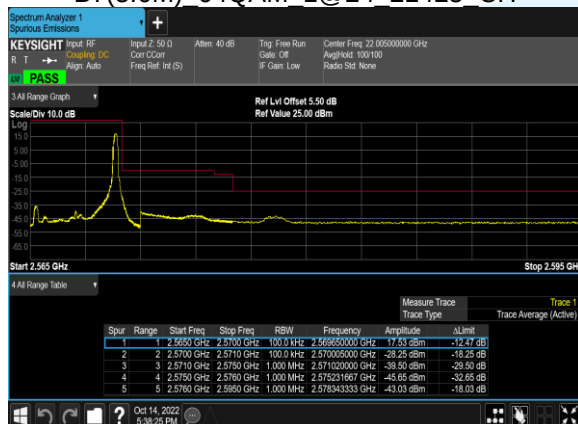
B7(5.0M) 64QAM 1@0 20775 CH



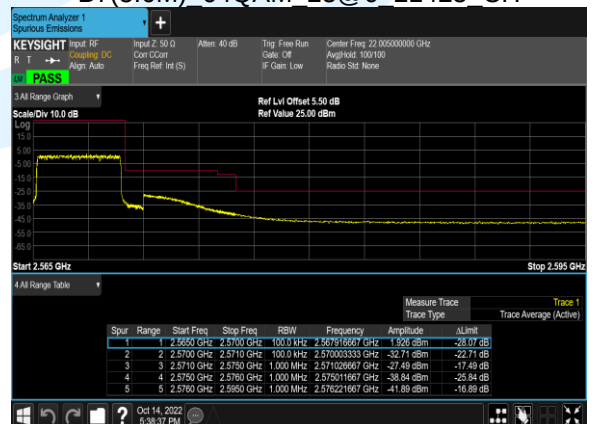
B7(5.0M) 64QAM 25@0 20775 CH



B7(5.0M) 64QAM 1@24 21425 CH



B7(5.0M) 64QAM 25@0 21425 CH



## A.5 LTE BAND 12

## Peak to Average Ratio

| Band | Bandwidth (MHz) | Channel | Freq (MHz) | Modulation | RB   | Result (dB) | Limit (dB) | Verdict |
|------|-----------------|---------|------------|------------|------|-------------|------------|---------|
| 12   | 10.0            | 23060   | 704.0      | QPSK       | 50@0 | 5.57        | 13         | PASS    |
| 12   | 10.0            | 23060   | 704.0      | 16QAM      | 50@0 | 6.36        | 13         | PASS    |
| 12   | 10.0            | 23060   | 704.0      | 64QAM      | 50@0 | 6.35        | 13         | PASS    |
| 12   | 10.0            | 23095   | 707.5      | QPSK       | 50@0 | 5.19        | 13         | PASS    |
| 12   | 10.0            | 23095   | 707.5      | 16QAM      | 50@0 | 6.20        | 13         | PASS    |
| 12   | 10.0            | 23095   | 707.5      | 64QAM      | 50@0 | 6.21        | 13         | PASS    |
| 12   | 10.0            | 23130   | 711.0      | QPSK       | 50@0 | 5.90        | 13         | PASS    |
| 12   | 10.0            | 23130   | 711.0      | 16QAM      | 50@0 | 6.53        | 13         | PASS    |
| 12   | 10.0            | 23130   | 711.0      | 64QAM      | 50@0 | 6.54        | 13         | PASS    |

B12(10.0M) QPSK 50@0 23060\_CH



B12(10.0M) 16QAM 50@0 23060\_CH



B12(10.0M) QPSK 50@0 23095\_CH



B12(10.0M) 16QAM 50@0 23095\_CH



B12(10.0M) QPSK 50@0 23130\_CH



B12(10.0M) 16QAM 50@0 23130\_CH



B12(10.0M) 64QAM 50@0 23060 CH



B12(10.0M) 64QAM 50@0 23095 CH



B12(10.0M) 64QAM 50@0 23130 CH



### Occupied Bandwidth

| Band | Bandwidth<br>(MHz) | Channel | Freq<br>(MHz) | Modulation | RB   | OBW<br>(MHz) | 26dB BW<br>(MHz) |
|------|--------------------|---------|---------------|------------|------|--------------|------------------|
| 12   | 10.0               | 23060   | 704.0         | QPSK       | 50@0 | 8.9099       | 9.544            |
| 12   | 10.0               | 23060   | 704.0         | 16QAM      | 50@0 | 8.9139       | 9.608            |
| 12   | 10.0               | 23060   | 704.0         | 64QAM      | 50@0 | 8.9209       | 9.646            |
| 12   | 10.0               | 23095   | 707.5         | QPSK       | 50@0 | 8.8891       | 9.619            |
| 12   | 10.0               | 23095   | 707.5         | 16QAM      | 50@0 | 8.8766       | 9.502            |
| 12   | 10.0               | 23095   | 707.5         | 64QAM      | 50@0 | 8.8817       | 9.417            |
| 12   | 10.0               | 23130   | 711.0         | QPSK       | 50@0 | 9.0028       | 9.788            |
| 12   | 10.0               | 23130   | 711.0         | 16QAM      | 50@0 | 8.9897       | 9.779            |
| 12   | 10.0               | 23130   | 711.0         | 64QAM      | 50@0 | 8.9920       | 9.823            |
| 12   | 5.0                | 23035   | 701.5         | QPSK       | 25@0 | 4.4807       | 5.032            |
| 12   | 5.0                | 23035   | 701.5         | 16QAM      | 25@0 | 4.4866       | 5.049            |
| 12   | 5.0                | 23035   | 701.5         | 64QAM      | 25@0 | 1.7889       | 2.114            |
| 12   | 5.0                | 23095   | 707.5         | QPSK       | 25@0 | 4.4566       | 4.954            |
| 12   | 5.0                | 23095   | 707.5         | 16QAM      | 25@0 | 4.4512       | 4.839            |
| 12   | 5.0                | 23095   | 707.5         | 64QAM      | 25@0 | 4.4536       | 4.967            |
| 12   | 5.0                | 23155   | 713.5         | QPSK       | 25@0 | 4.4789       | 4.937            |
| 12   | 5.0                | 23155   | 713.5         | 16QAM      | 25@0 | 4.4822       | 4.999            |
| 12   | 5.0                | 23155   | 713.5         | 64QAM      | 25@0 | 4.4821       | 5.061            |
| 12   | 3.0                | 23025   | 700.5         | QPSK       | 15@0 | 2.6807       | 2.852            |
| 12   | 3.0                | 23025   | 700.5         | 16QAM      | 15@0 | 2.6759       | 2.844            |
| 12   | 3.0                | 23025   | 700.5         | 64QAM      | 15@0 | 2.6754       | 2.852            |
| 12   | 3.0                | 23095   | 707.5         | QPSK       | 15@0 | 2.6702       | 2.842            |
| 12   | 3.0                | 23095   | 707.5         | 16QAM      | 15@0 | 2.6674       | 2.835            |
| 12   | 3.0                | 23095   | 707.5         | 64QAM      | 15@0 | 2.6661       | 2.833            |
| 12   | 3.0                | 23165   | 714.5         | QPSK       | 15@0 | 2.6786       | 2.839            |
| 12   | 3.0                | 23165   | 714.5         | 16QAM      | 15@0 | 2.6776       | 2.845            |
| 12   | 3.0                | 23165   | 714.5         | 64QAM      | 15@0 | 2.6792       | 2.850            |
| 12   | 1.4                | 23017   | 699.7         | QPSK       | 6@0  | 1.0783       | 1.243            |
| 12   | 1.4                | 23017   | 699.7         | 16QAM      | 6@0  | 1.0778       | 1.245            |
| 12   | 1.4                | 23017   | 699.7         | 64QAM      | 6@0  | 1.0780       | 1.238            |
| 12   | 1.4                | 23095   | 707.5         | QPSK       | 6@0  | 1.0776       | 1.242            |
| 12   | 1.4                | 23095   | 707.5         | 16QAM      | 6@0  | 1.0793       | 1.258            |
| 12   | 1.4                | 23095   | 707.5         | 64QAM      | 6@0  | 1.0797       | 1.270            |
| 12   | 1.4                | 23173   | 715.3         | QPSK       | 6@0  | 1.0785       | 1.249            |
| 12   | 1.4                | 23173   | 715.3         | 16QAM      | 6@0  | 1.0753       | 1.217            |
| 12   | 1.4                | 23173   | 715.3         | 64QAM      | 6@0  | 1.0755       | 1.225            |

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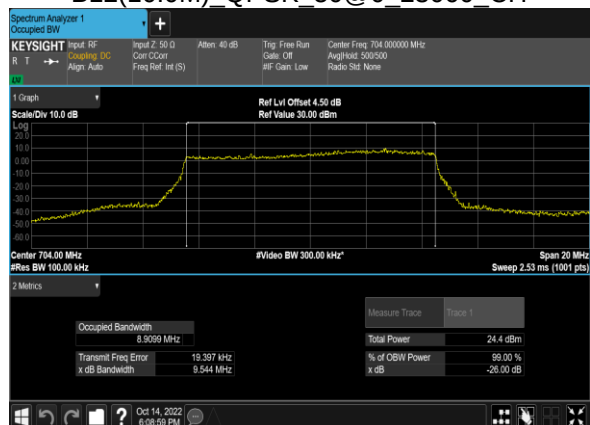
Fax: +86-755-28230886

E-mail: info@uttlab.com

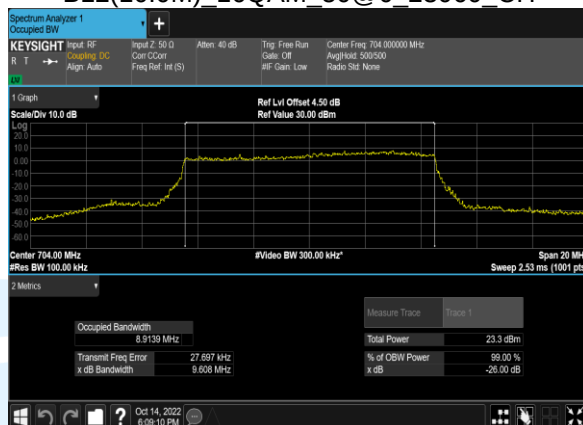
<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

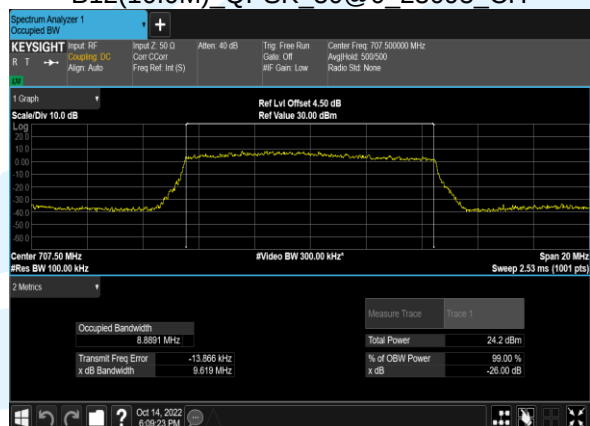
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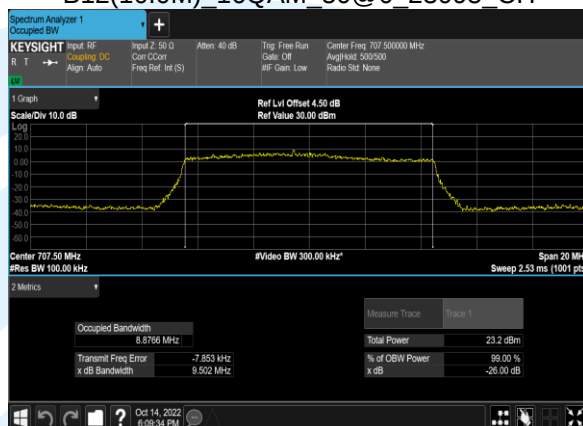
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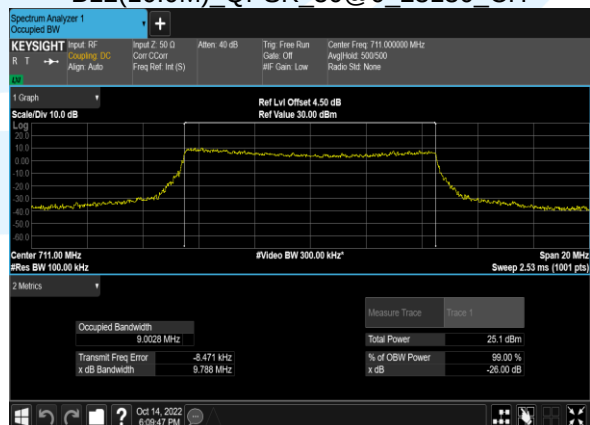
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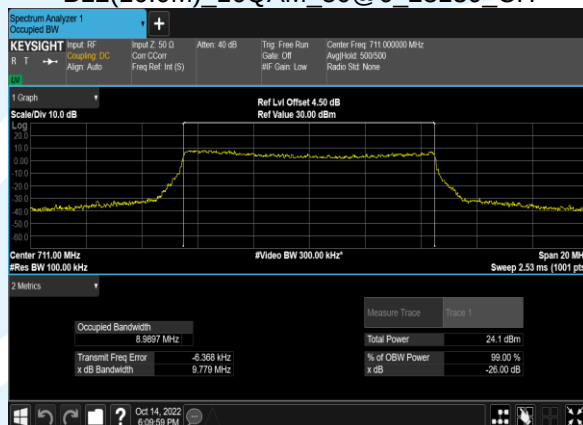
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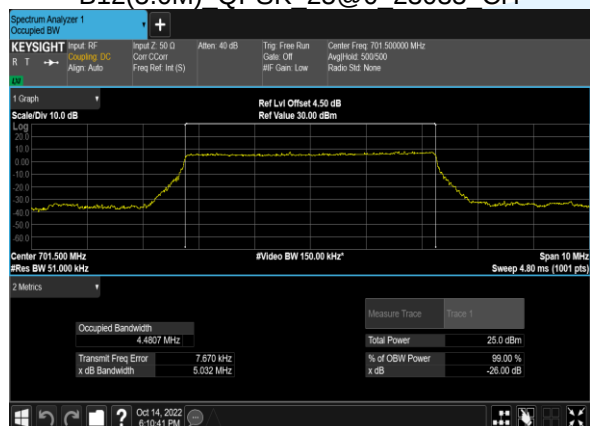
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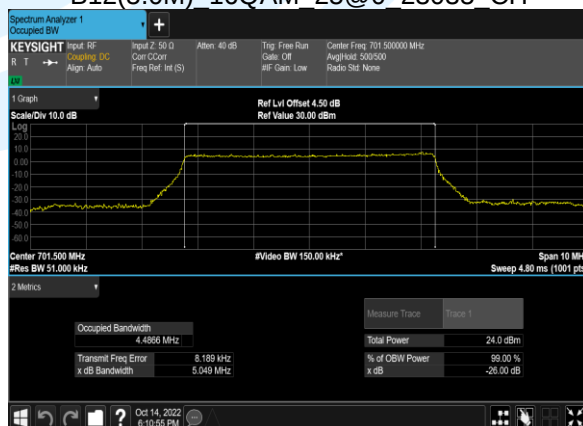
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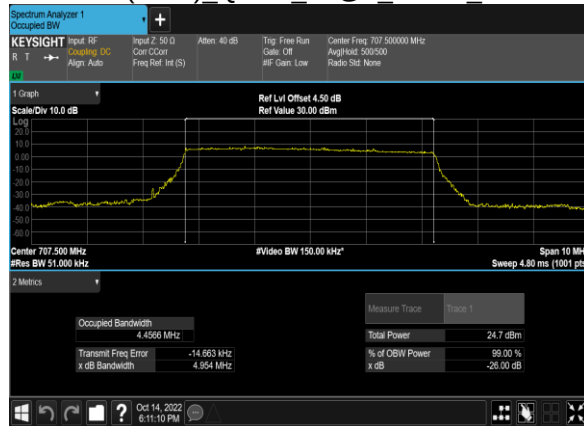
B12(5.0M) QPSK 25@0 23035 CH



B12(5.0M) 16QAM 25@0 23035 CH



B12(5.0M) QPSK 25@0 23095 CH



B12(5.0M) 16QAM 25@0 23095 CH



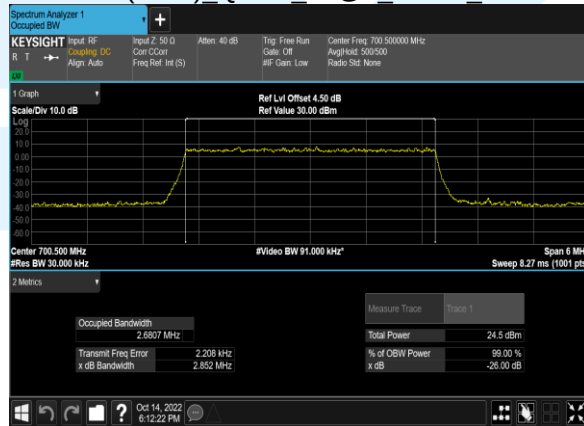
B12(5.0M) QPSK 25@0 23155 CH



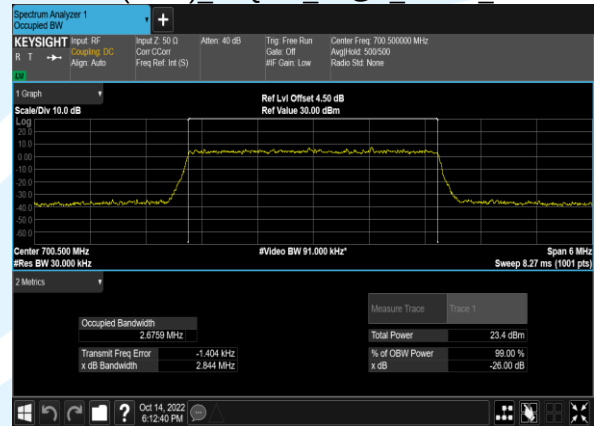
B12(5.0M) 16QAM 25@0 23155 CH



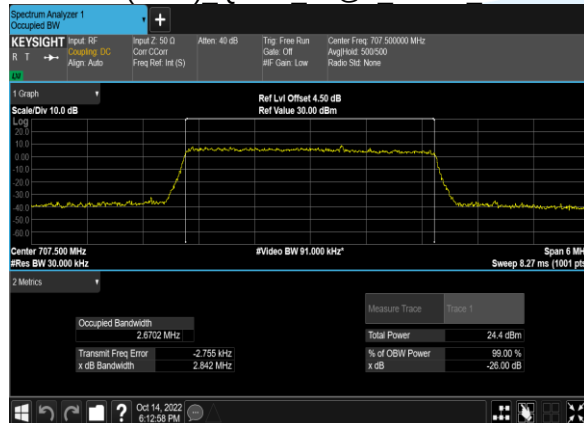
B12(3.0M) QPSK 15@0 23025 CH



B12(3.0M) 16QAM 15@0 23025 CH



B12(3.0M) QPSK 15@0 23095 CH



B12(3.0M) 16QAM 15@0 23095 CH

