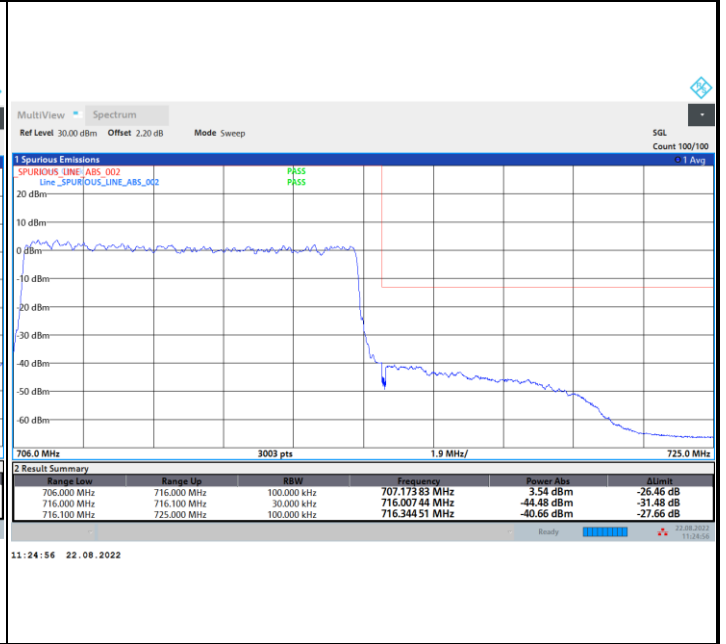
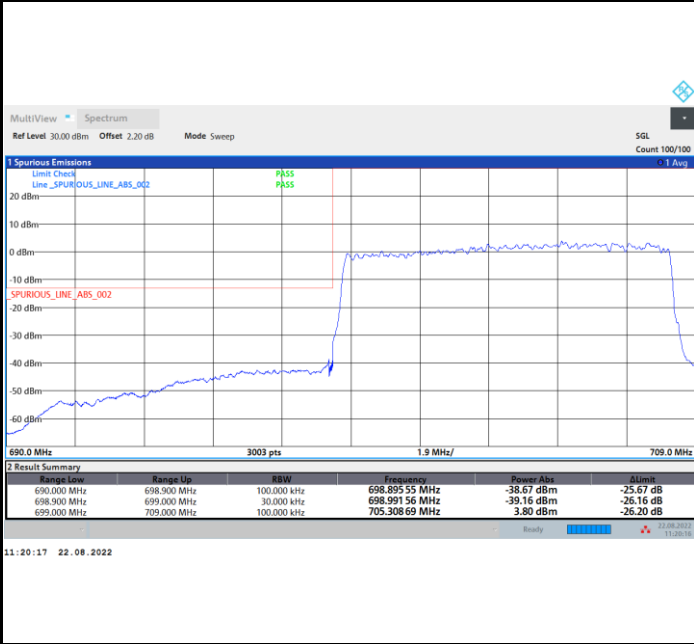




FR1 n12 / 10MHz / DFT-s-OFDM / 256QAM / Full RB

Lowest Band Edge

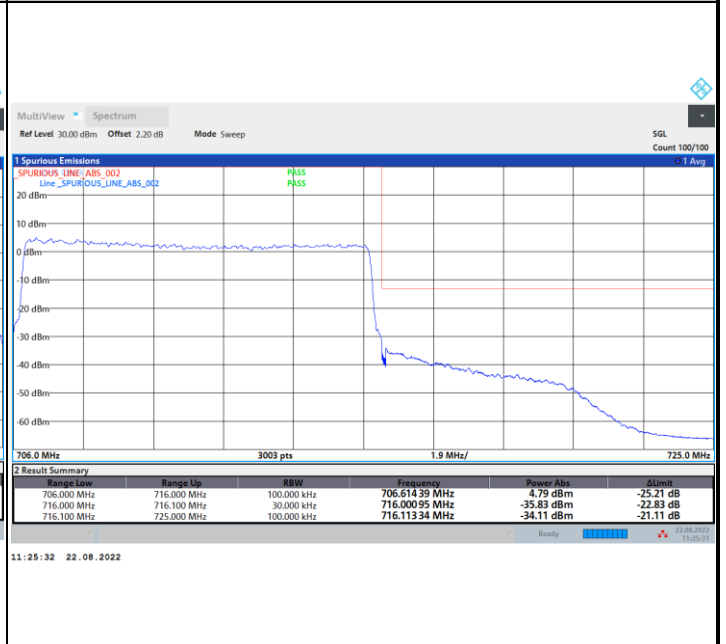
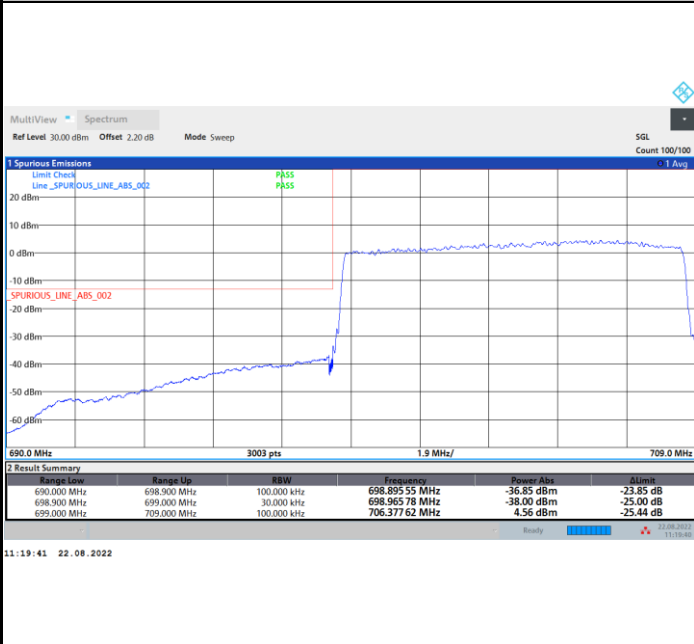
Highest Band Edge



FR1 n12 / 10MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

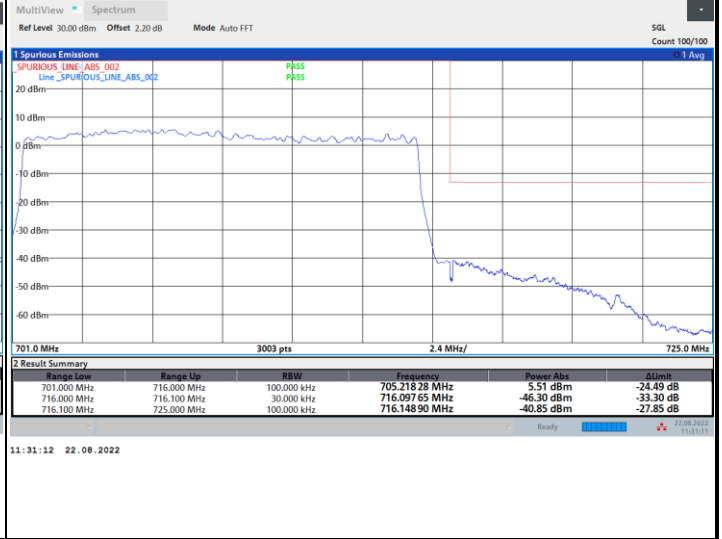
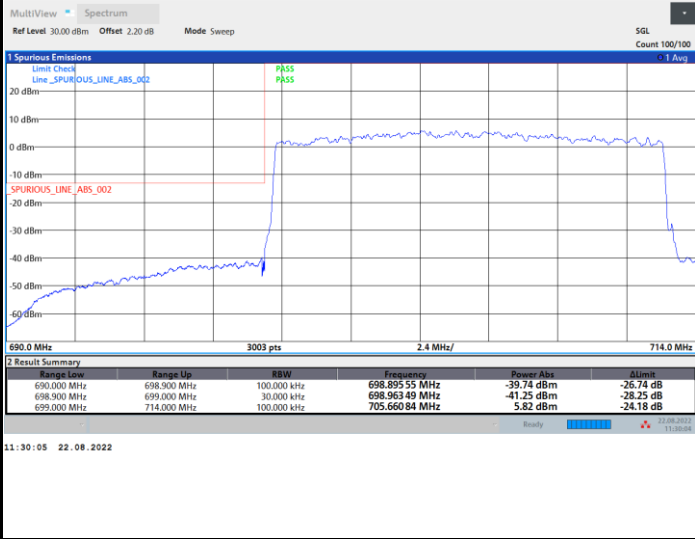




FR1 n12 / 15MHz / DFT-s-OFDM / PI/2 BPSK / Full RB

Lowest Band Edge

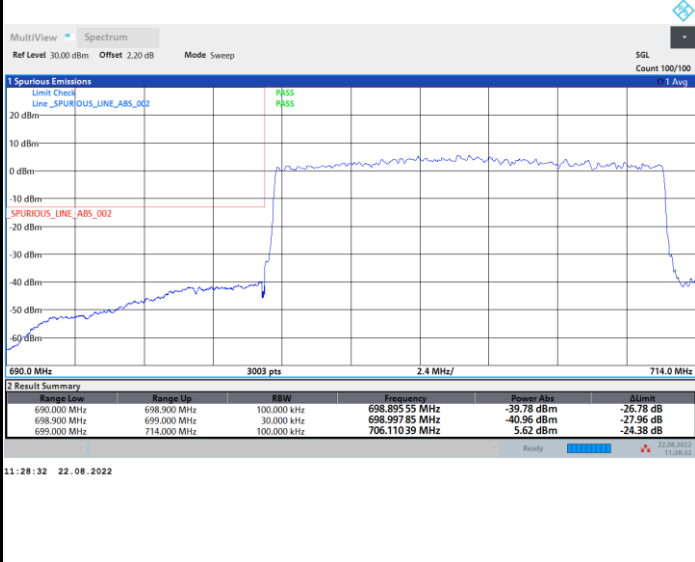
Highest Band Edge

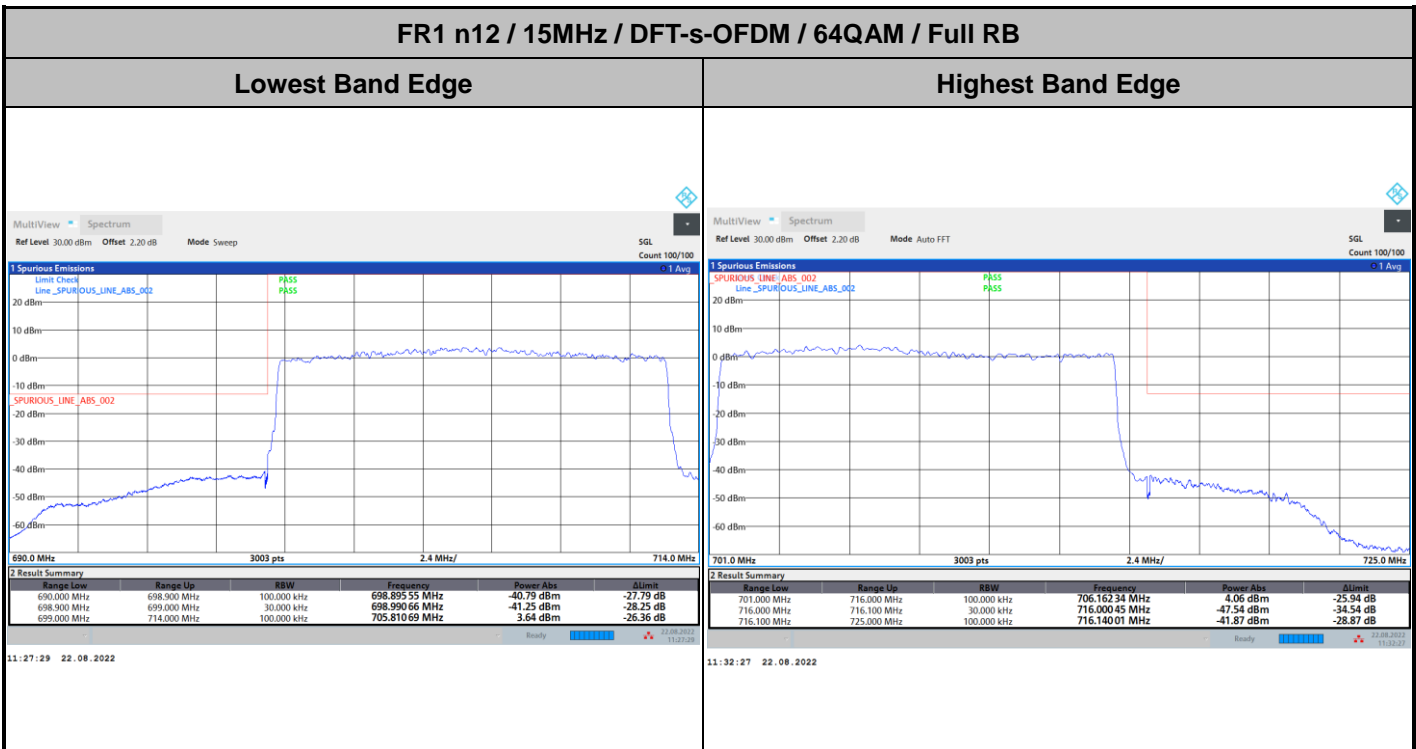
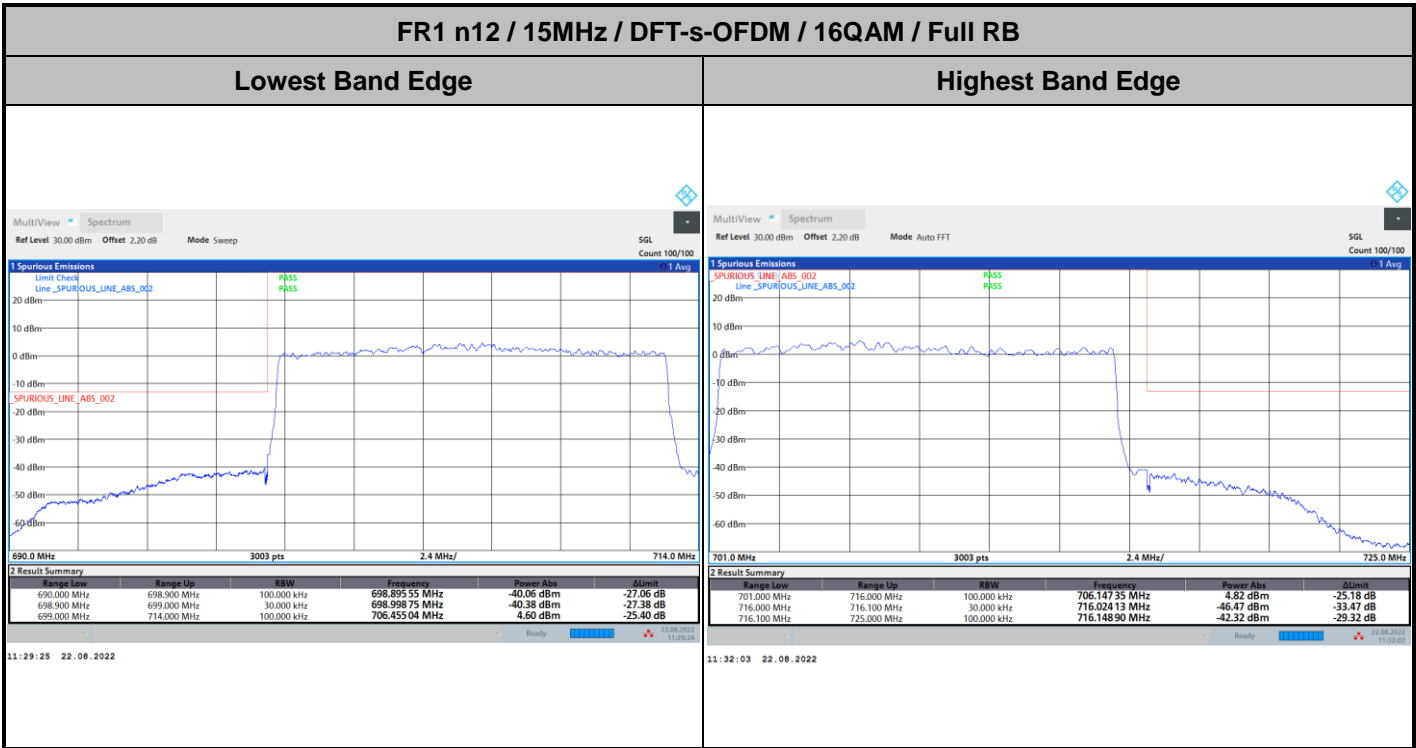


FR1 n12 / 15MHz / DFT-s-OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge



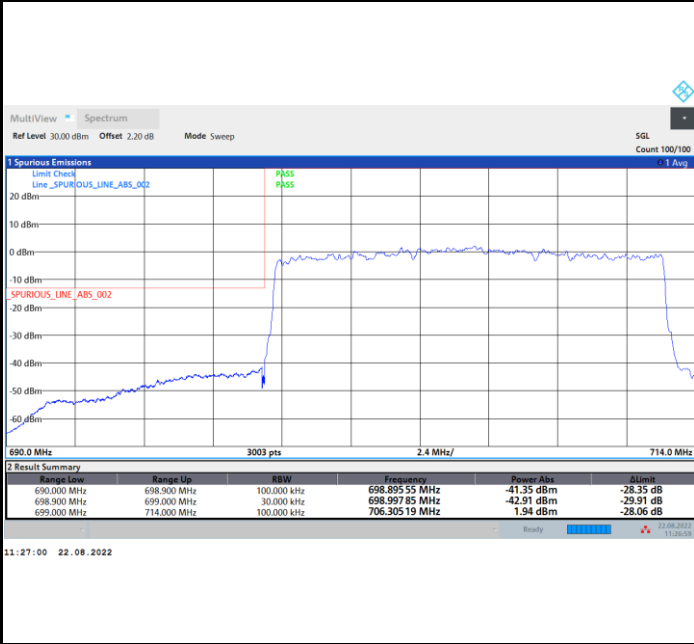




FR1 n12 / 15MHz / DFT-s-OFDM / 256QAM / Full RB

Lowest Band Edge

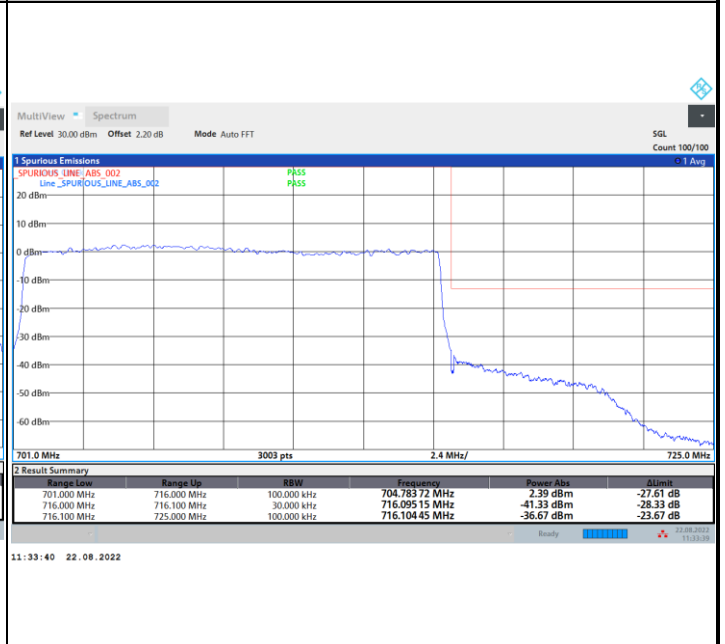
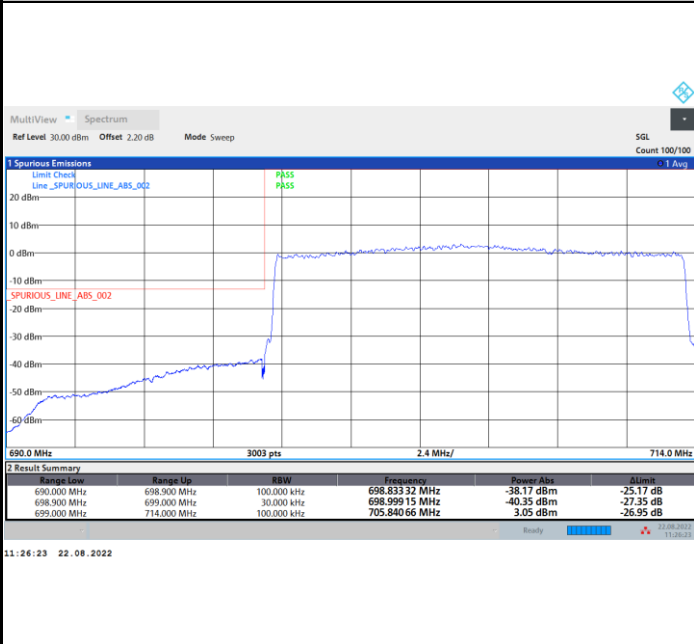
Highest Band Edge



FR1 n12 / 15MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

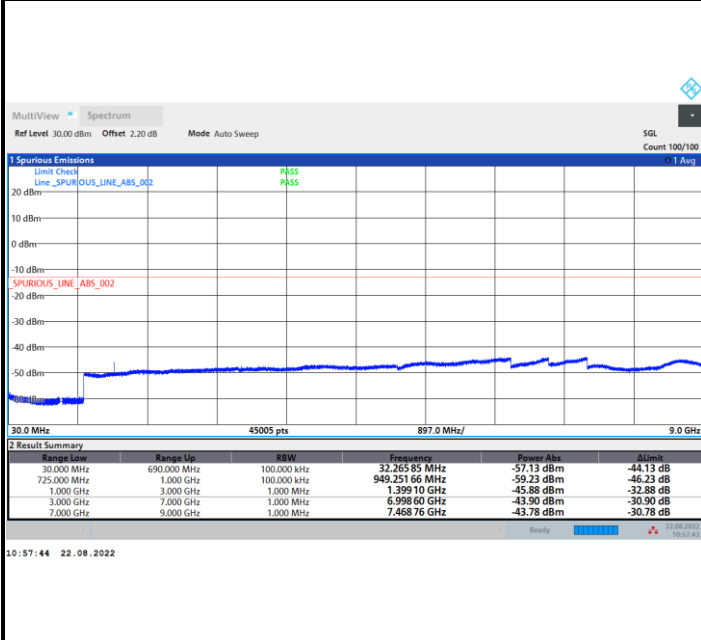




Conducted Spurious Emission

FR1 n12 / 5MHz / DFT-S OFDM / QPSK / 1RB1

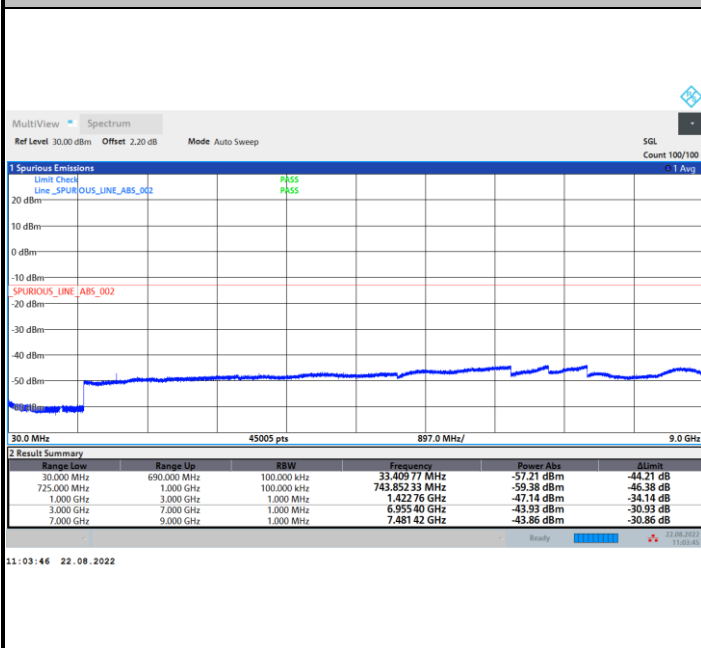
Lowest Channel



Middle Channel



Highest Channel





Frequency Stability

| Test Conditions | | FR1 n12 (PI/2 BPSK) / Middle Channel | Limit |
|---------------------|-------------------|--------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 15MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0005 | PASS |
| 40 | Normal Voltage | 0.0040 | |
| 30 | Normal Voltage | 0.0027 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0047 | |
| 0 | Normal Voltage | 0.0057 | |
| -10 | Normal Voltage | 0.0062 | |
| -20 | Normal Voltage | 0.0013 | |
| -30 | Normal Voltage | 0.0019 | |
| 20 | Maximum Voltage | 0.0031 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0035 | |

Note:

- 1. Normal Voltage = 4.05 V. ; Battery End Point (BEP) = 3.85 V. ; Maximum Voltage = 4.35 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



FR1 n13

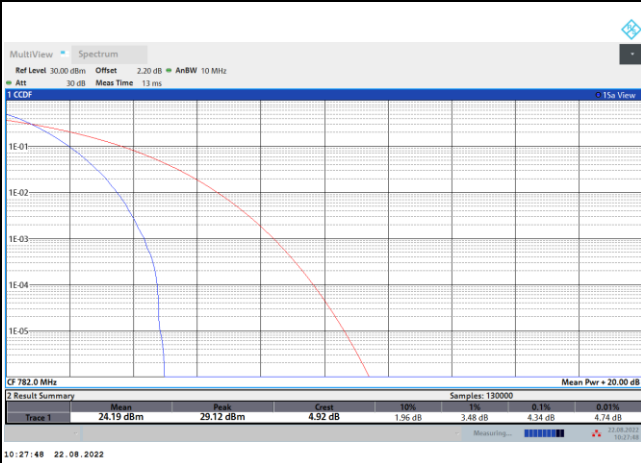
Peak-to-Average Ratio

| Mode | FR1 n13 / 10MHz / DFT-S OFDM | | | | |
|-----------|------------------------------|---------|---------|---------|-------------|
| Mod. | PI/2 BPSK | QPSK | 16QAM | 64QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Full RB | Result |
| Middle CH | 4.34 | 5.10 | 6.06 | 6.36 | PASS |
| Mode | FR1 n13 / 10MHz / DFT-S OFDM | | | | |
| Mod. | 256QAM | | | | Limit: 13dB |
| RB Size | Full RB | | | | Result |
| Middle CH | 6.80 | | | | PASS |

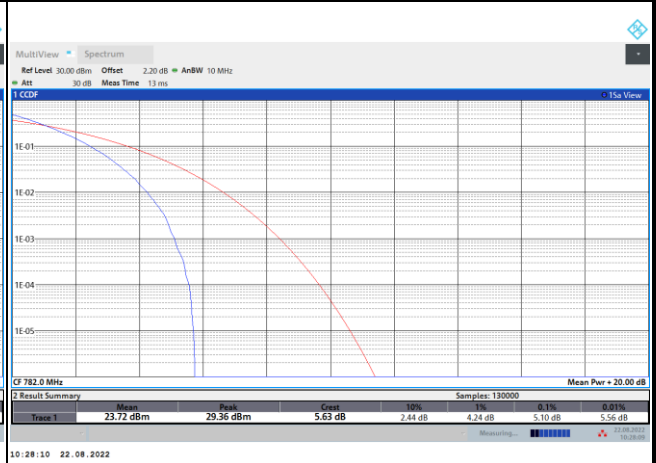


FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

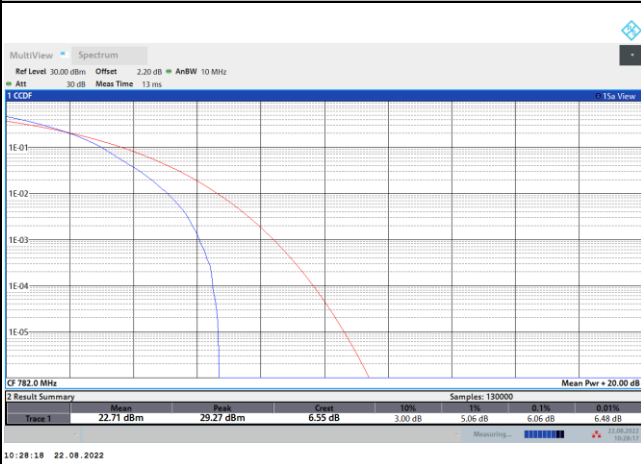
PI/2 BPSK



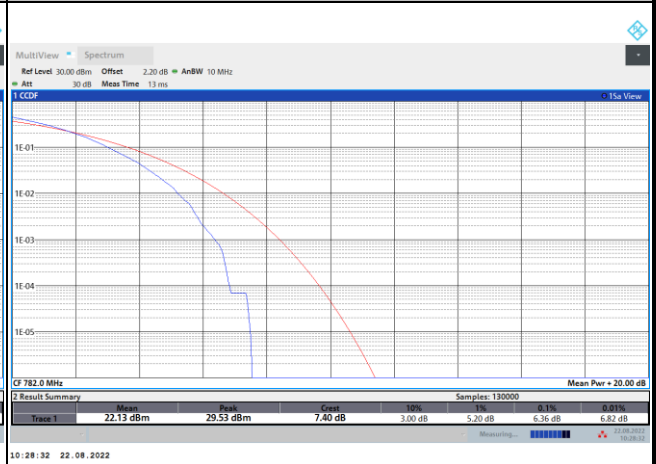
QPSK



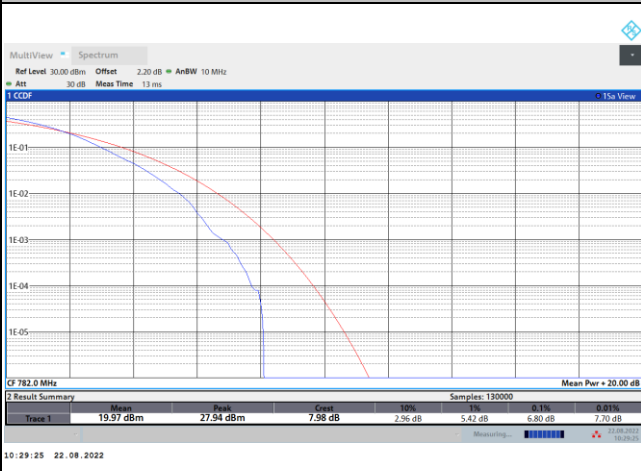
16QAM



64QAM



256QAM





26dB Bandwidth

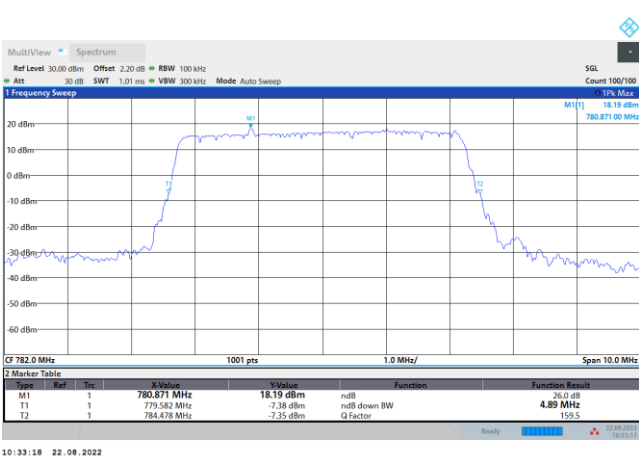
| Mode | FR1 n13 : 26dB BW(MHz) / DFT-S OFDM | | | | | | | |
|-----------|-------------------------------------|--|-----------|--|--|--|--|--|
| BW | 5MHz | | 10MHz | | | | | |
| Mod. | PI/2 BPSK | | PI/2 BPSK | | | | | |
| Middle CH | 4.89 | | 9.43 | | | | | |

| Mode | FR1 n13 : 26dB BW(MHz) / CP OFDM | | | | | | | |
|-----------|----------------------------------|--------|-------|--------|--|--|--|--|
| BW | 5MHz | | 10MHz | | | | | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | | | | |
| Middle CH | 4.87 | 4.91 | 9.75 | 9.65 | | | | |
| Mod. | 64QAM | 256QAM | 64QAM | 256QAM | | | | |
| Middle CH | 4.89 | 4.95 | 9.77 | 9.89 | | | | |



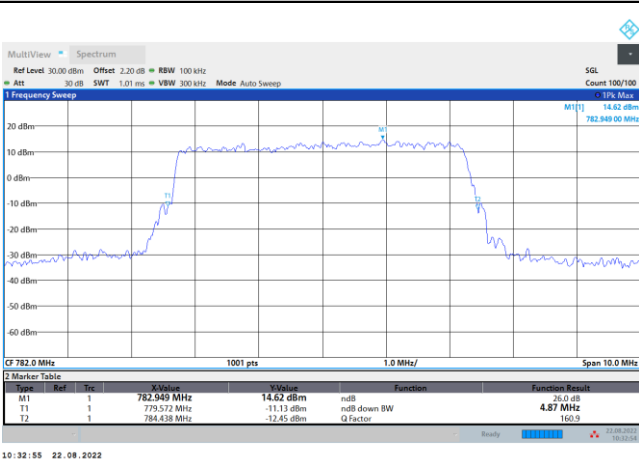
FR1 n13 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

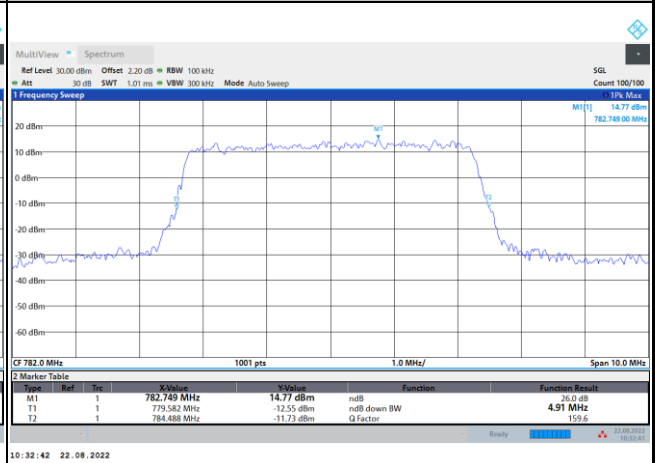


FR1 n13 / 5MHz / CP OFDM / Middle Channel / Full RB

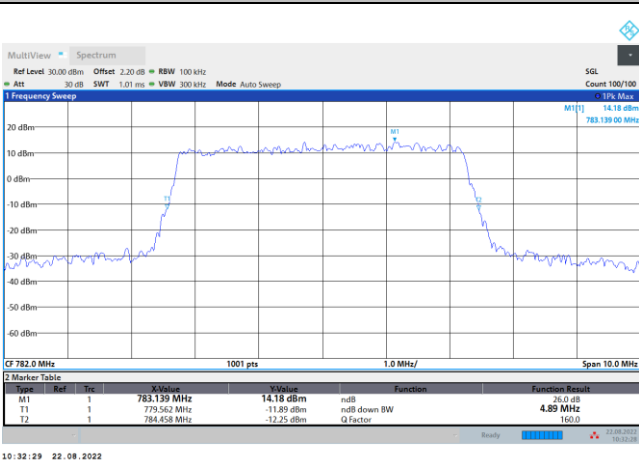
QPSK



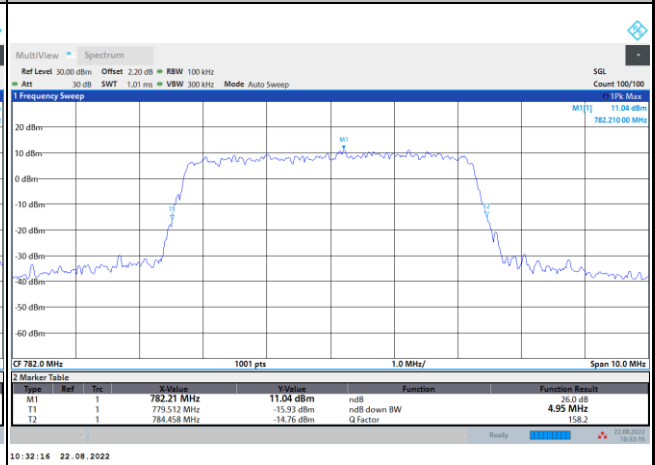
16QAM



64QAM



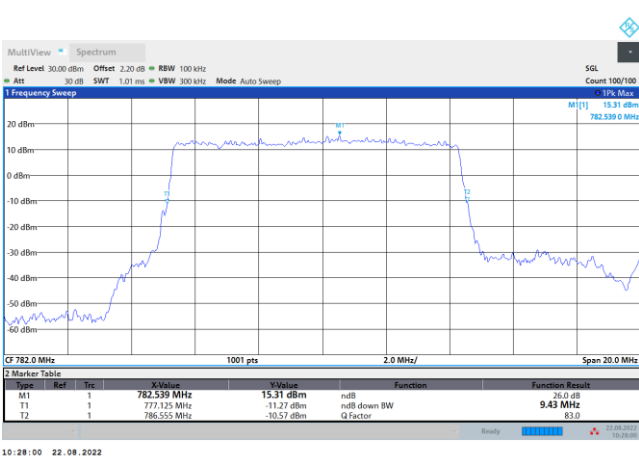
256QAM





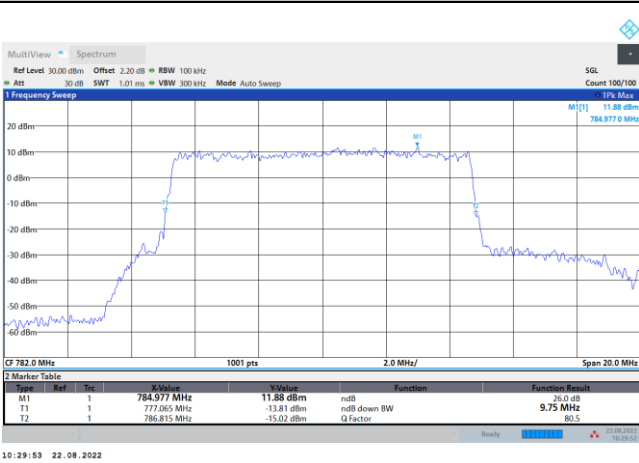
FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

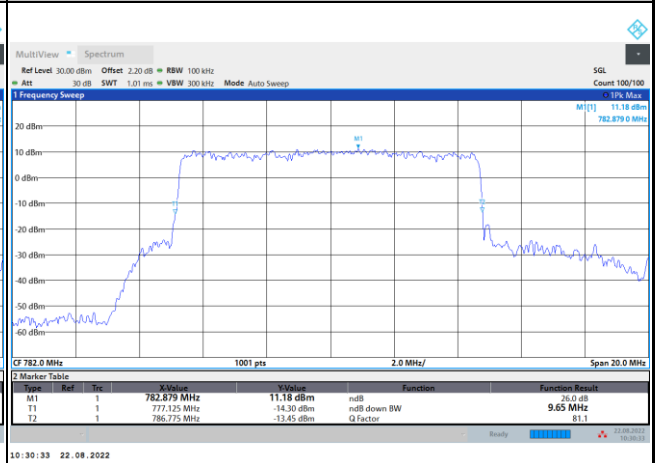


FR1 n13 / 10MHz / CP OFDM / Middle Channel / Full RB

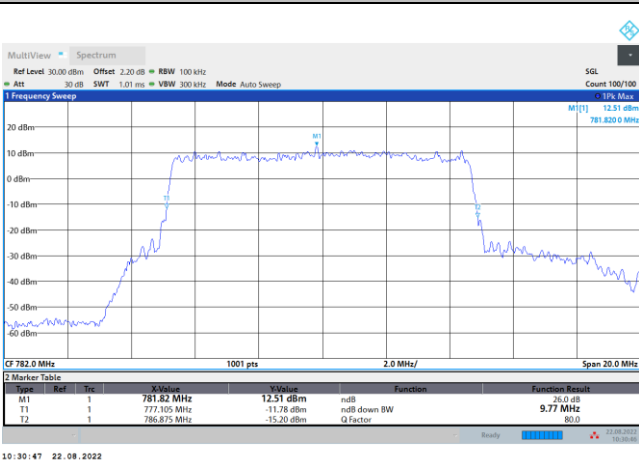
QPSK



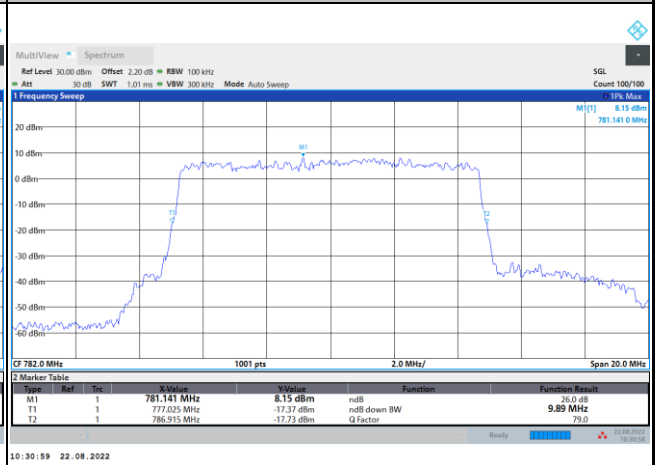
16QAM



64QAM



256QAM





Occupied Bandwidth

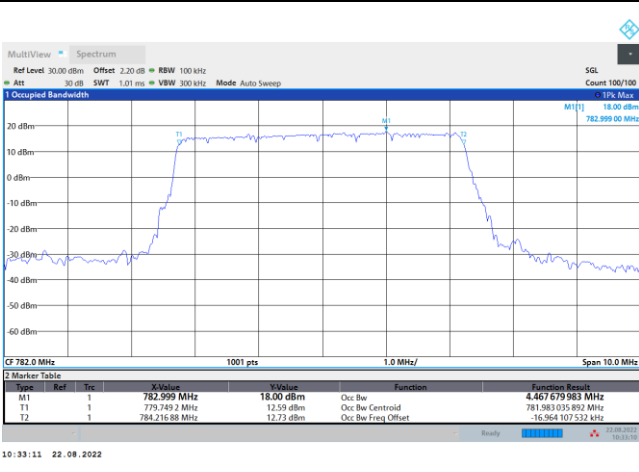
| Mode | FR1 n13 : 99%OBW(MHz) / DFT-S OFDM | | | | | | | |
|-----------|------------------------------------|--|-----------|--|--|--|--|--|
| BW | 5MHz | | 10MHz | | | | | |
| Mod. | PI/2 BPSK | | PI/2 BPSK | | | | | |
| Middle CH | 4.46 | | 8.89 | | | | | |

| Mode | FR1 n13 : 99%OBW (MHz) / CP OFDM | | | | | | | |
|-----------|----------------------------------|--------|-------|--------|--|--|--|--|
| BW | 5MHz | | 10MHz | | | | | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | | | | |
| Middle CH | 4.49 | 4.50 | 9.26 | 9.25 | | | | |
| Mod. | 64QAM | 256QAM | 64QAM | 256QAM | | | | |
| Middle CH | 4.48 | 4.47 | 9.25 | 9.27 | | | | |



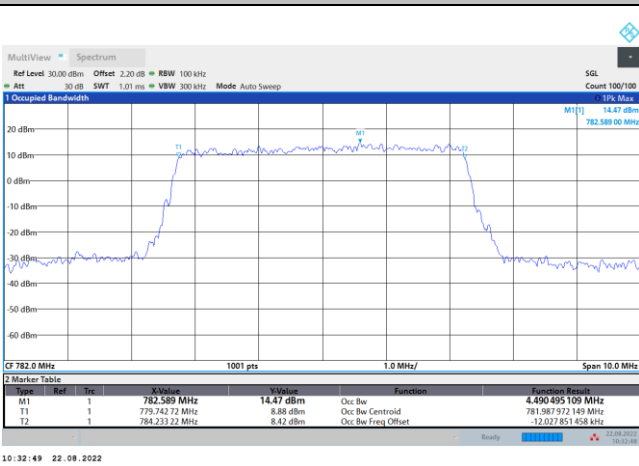
FR1 n13 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

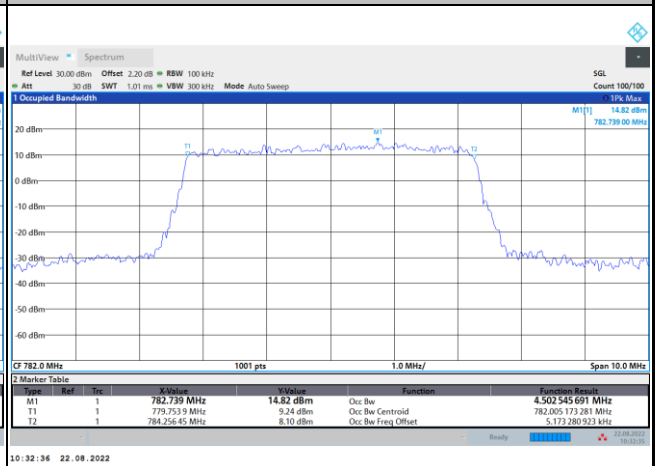


FR1 n13 / 5MHz / CP OFDM / Middle Channel / Full RB

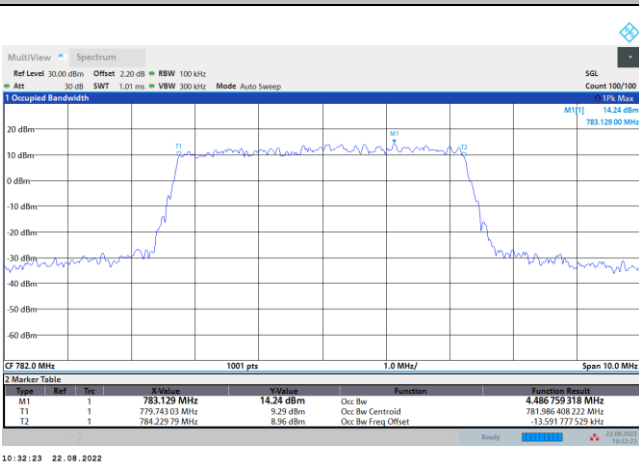
QPSK



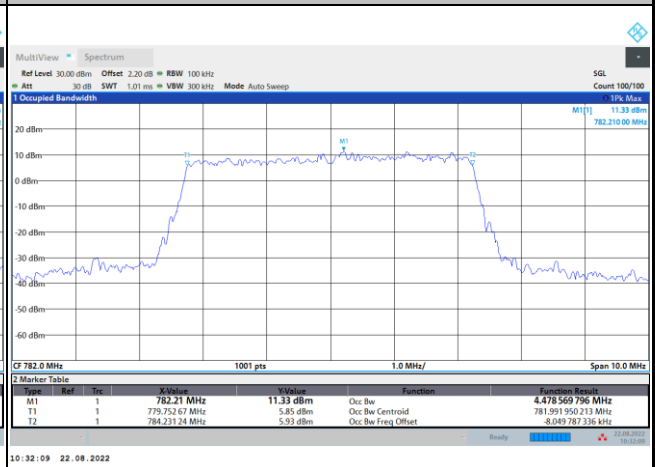
16QAM



64QAM



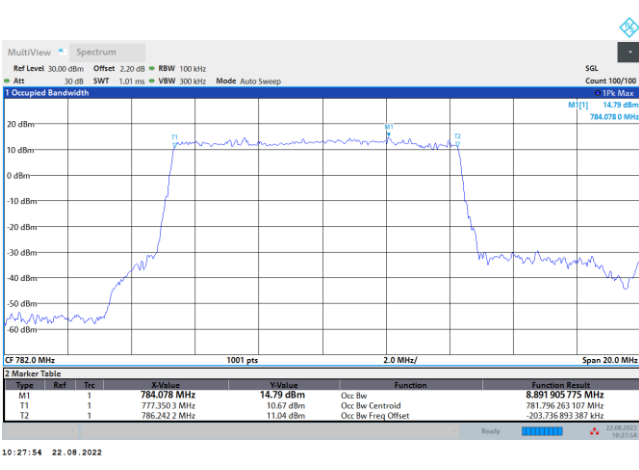
256QAM





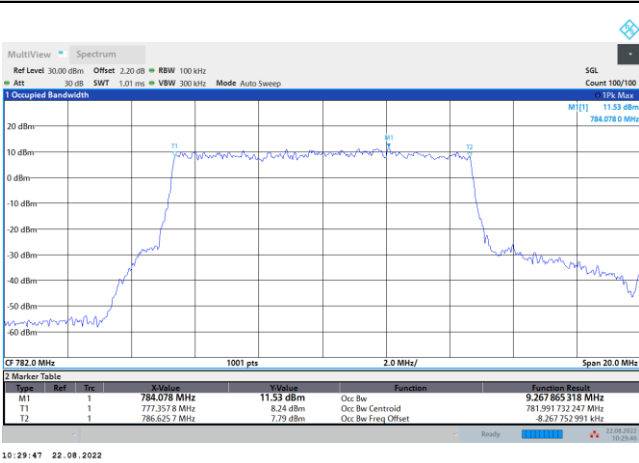
FR1 n13 / 10MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

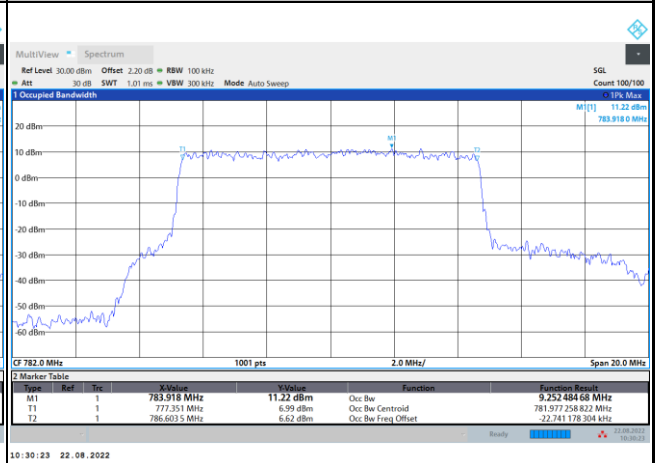


FR1 n13 / 10MHz / CP OFDM / Middle Channel / Full RB

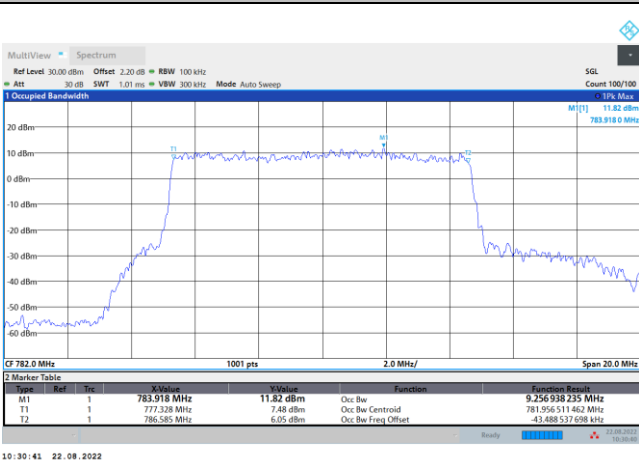
QPSK



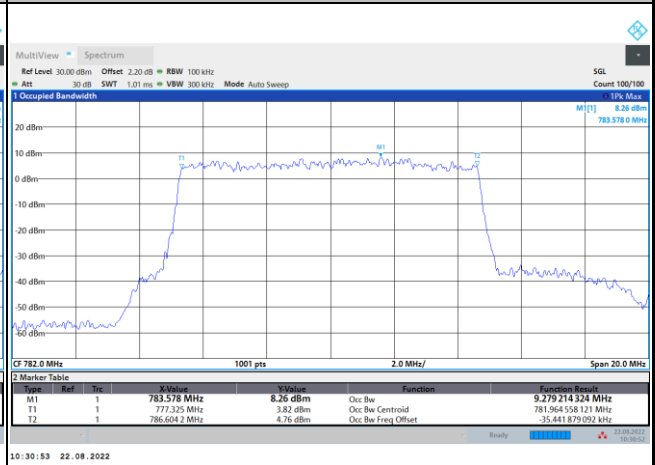
16QAM



64QAM



256QAM



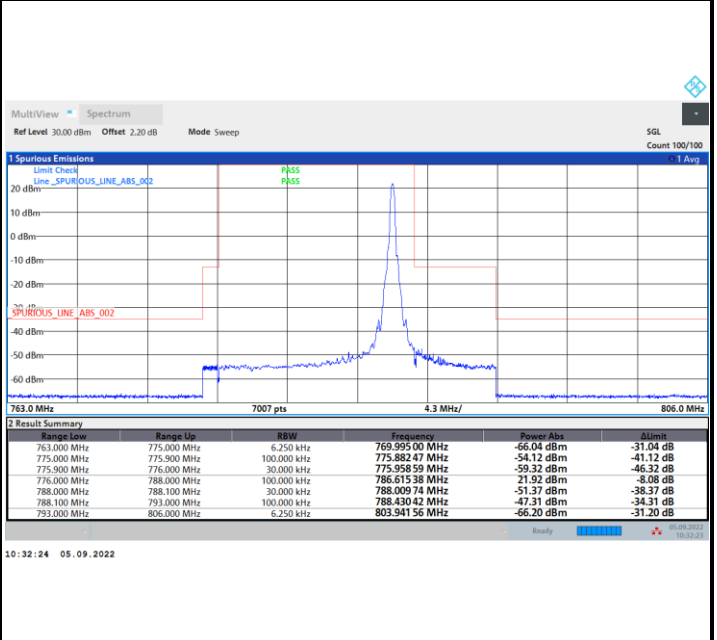
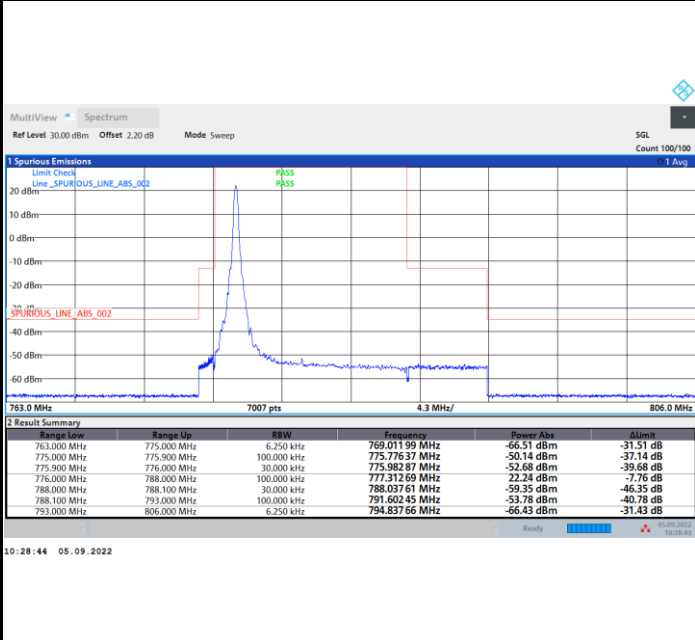


Conducted Band Edge

FR1 n13 / 5MHz / DFT-S OFDM / PI/2 BPSK

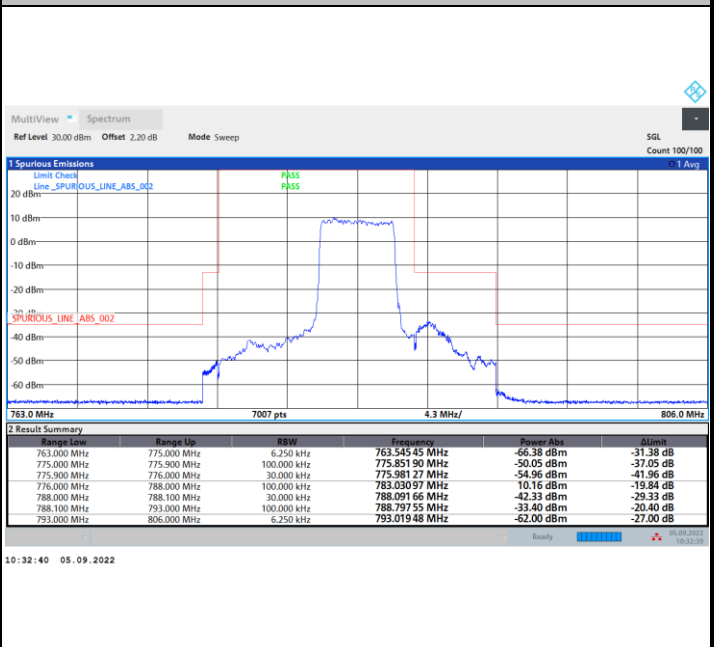
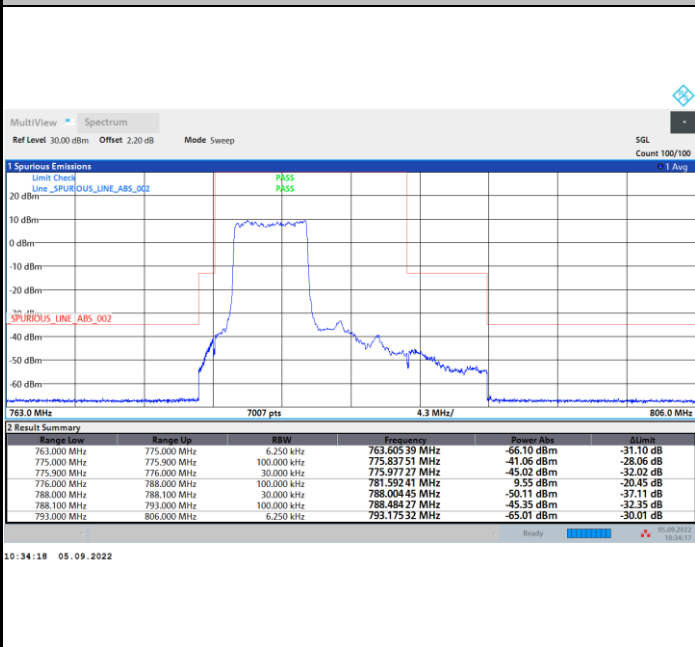
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

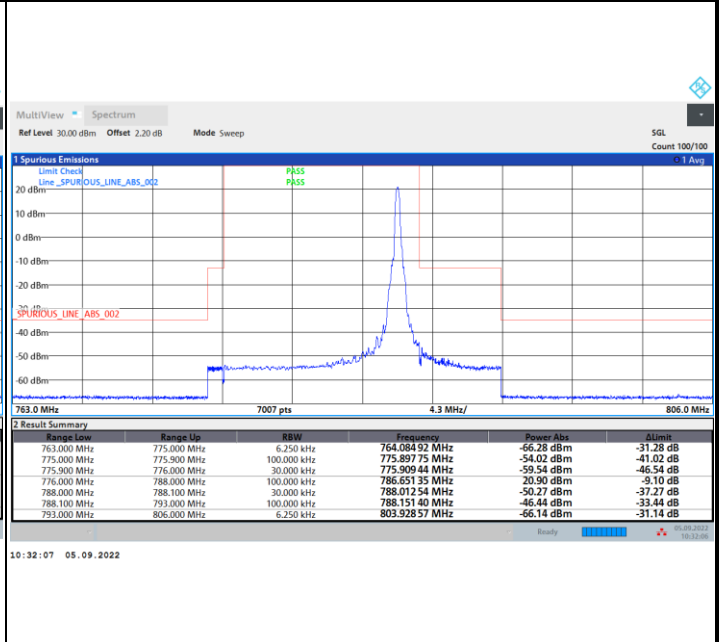
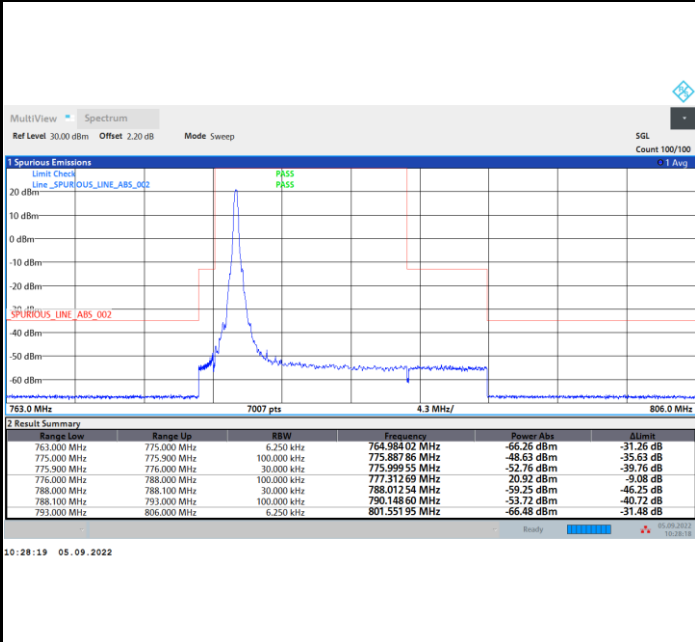




FR1 n13 / 5MHz / DFT-S OFDM / QPSK

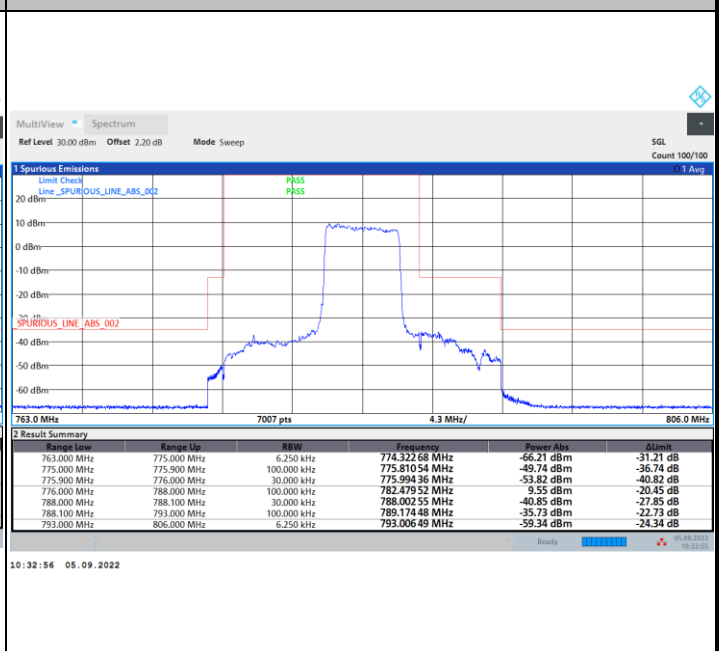
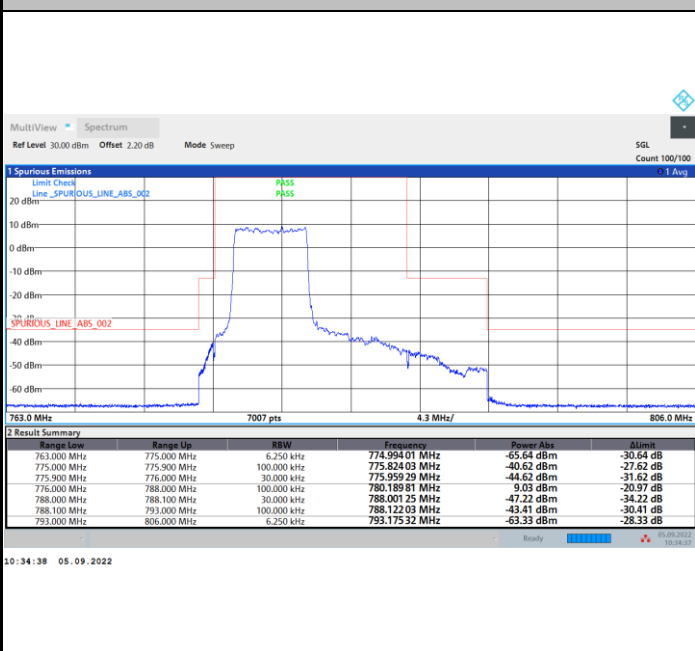
Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

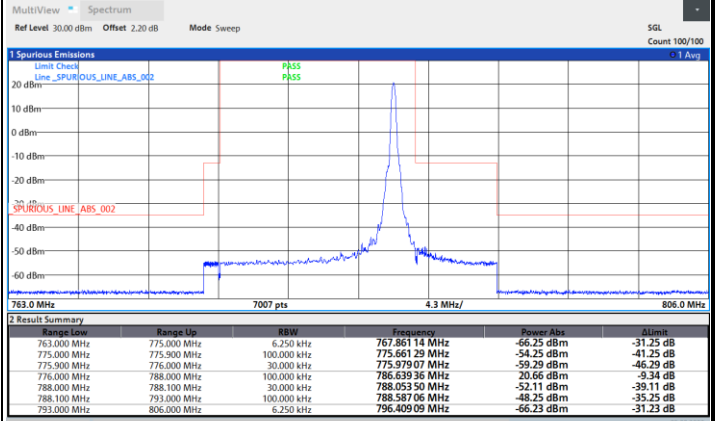
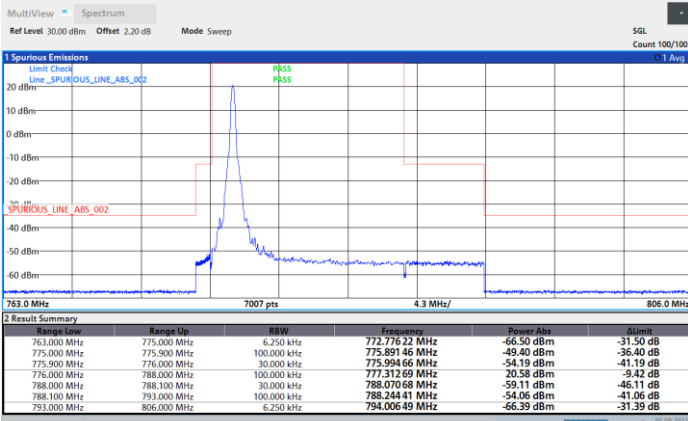




FR1 n13 / 5MHz / DFT-S OFDM / 16QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

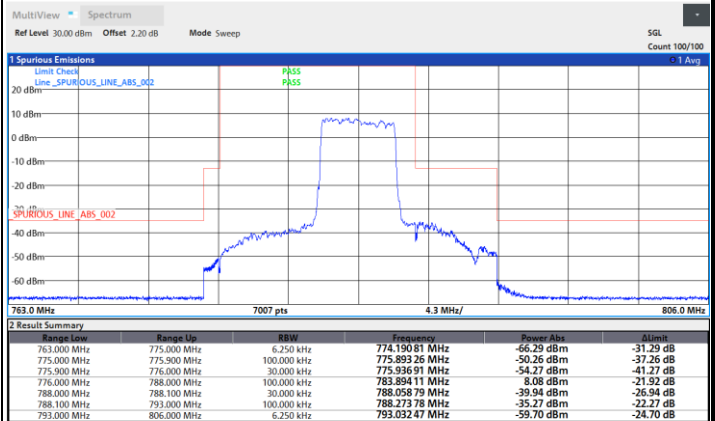
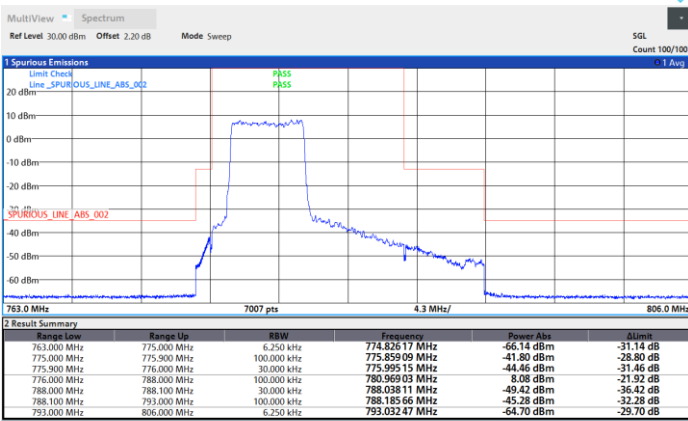


10:28:03 05.09.2022

10:31:51 05.09.2022

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



10:27:15 05.09.2022

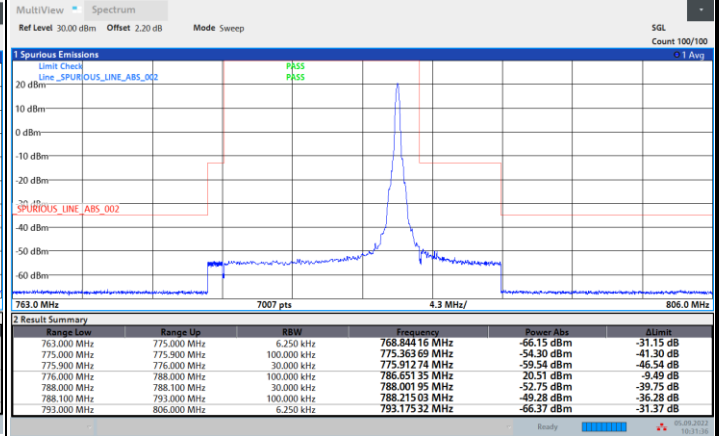
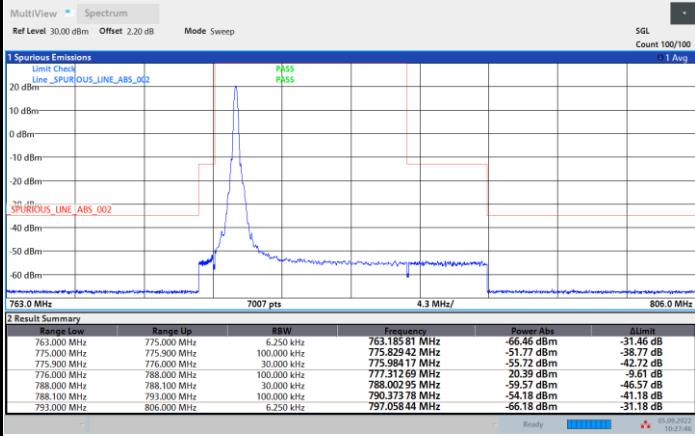
10:33:13 05.09.2022



FR1 n13 / 5MHz / DFT-S OFDM / 64QAM

Lowest Band Edge / 1RB0

Highest Band Edge / 1RBmax

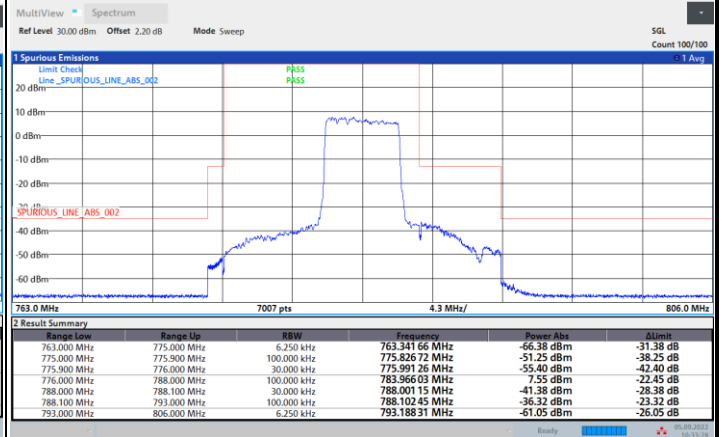
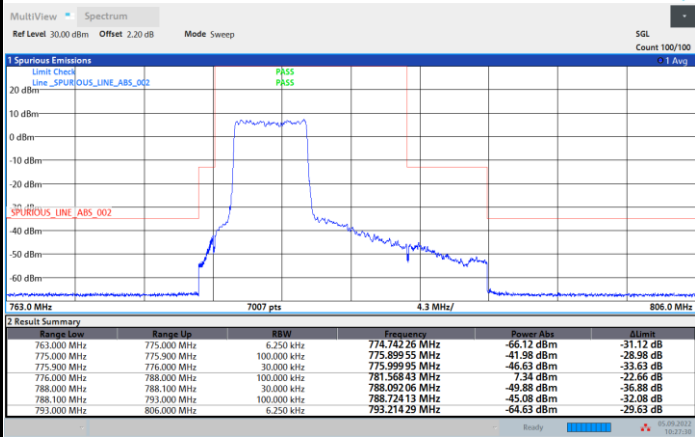


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10:31:37 05.09.2022

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



10:27:30 05.09.2022

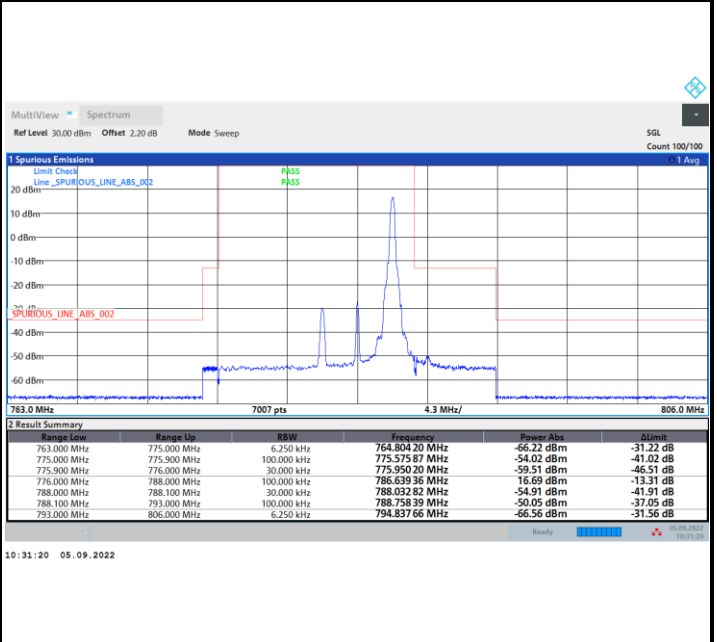
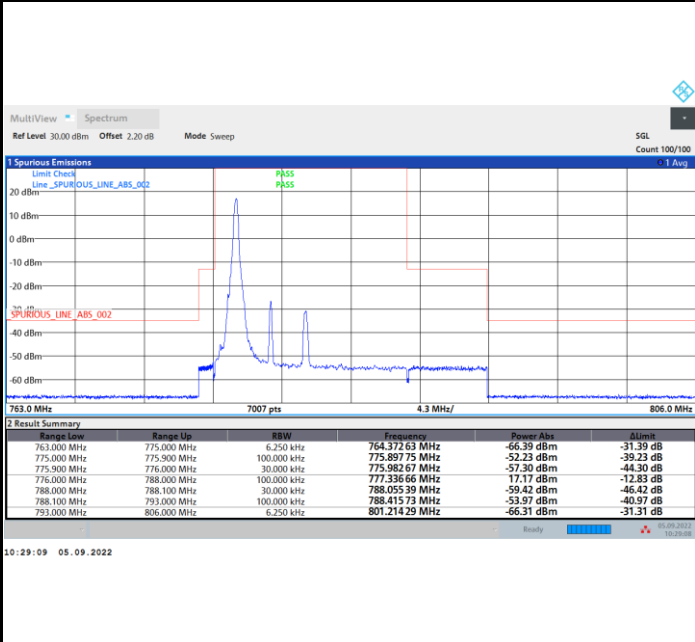
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FR1 n13 / 5MHz / DFT-S OFDM / 256QAM

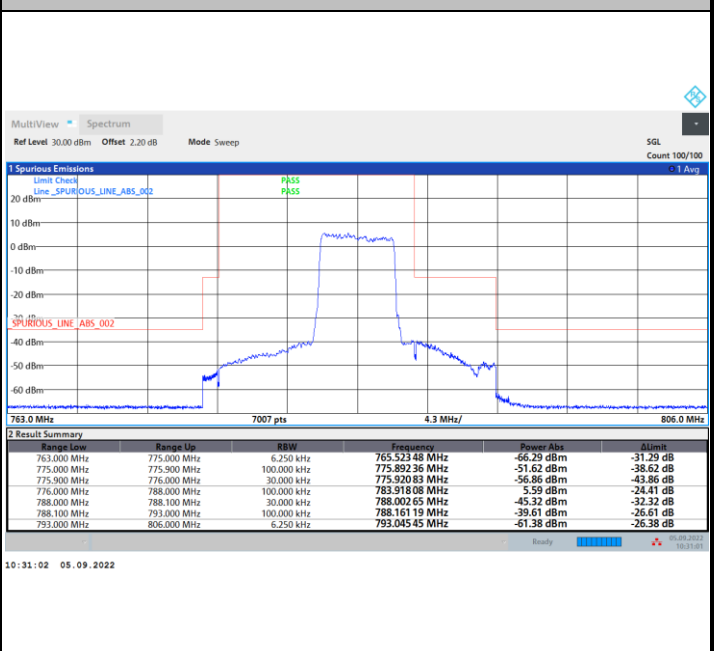
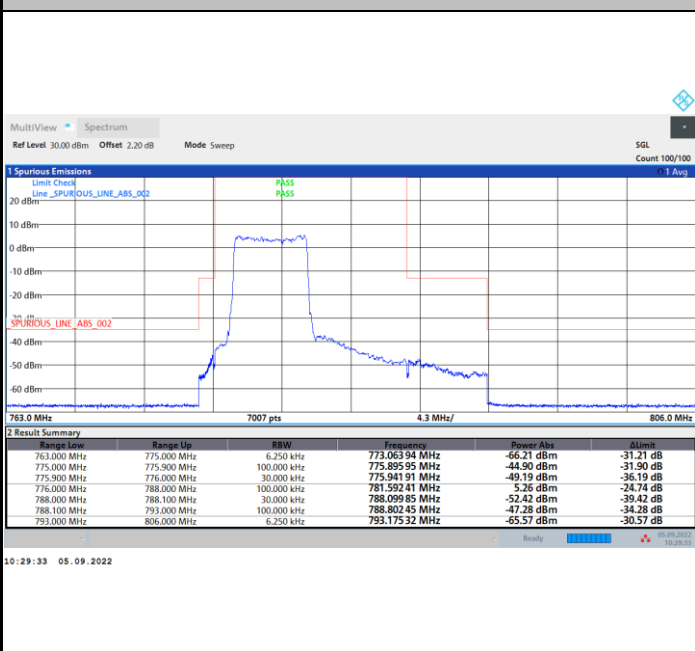
Lowest Band Edge / 1RB0

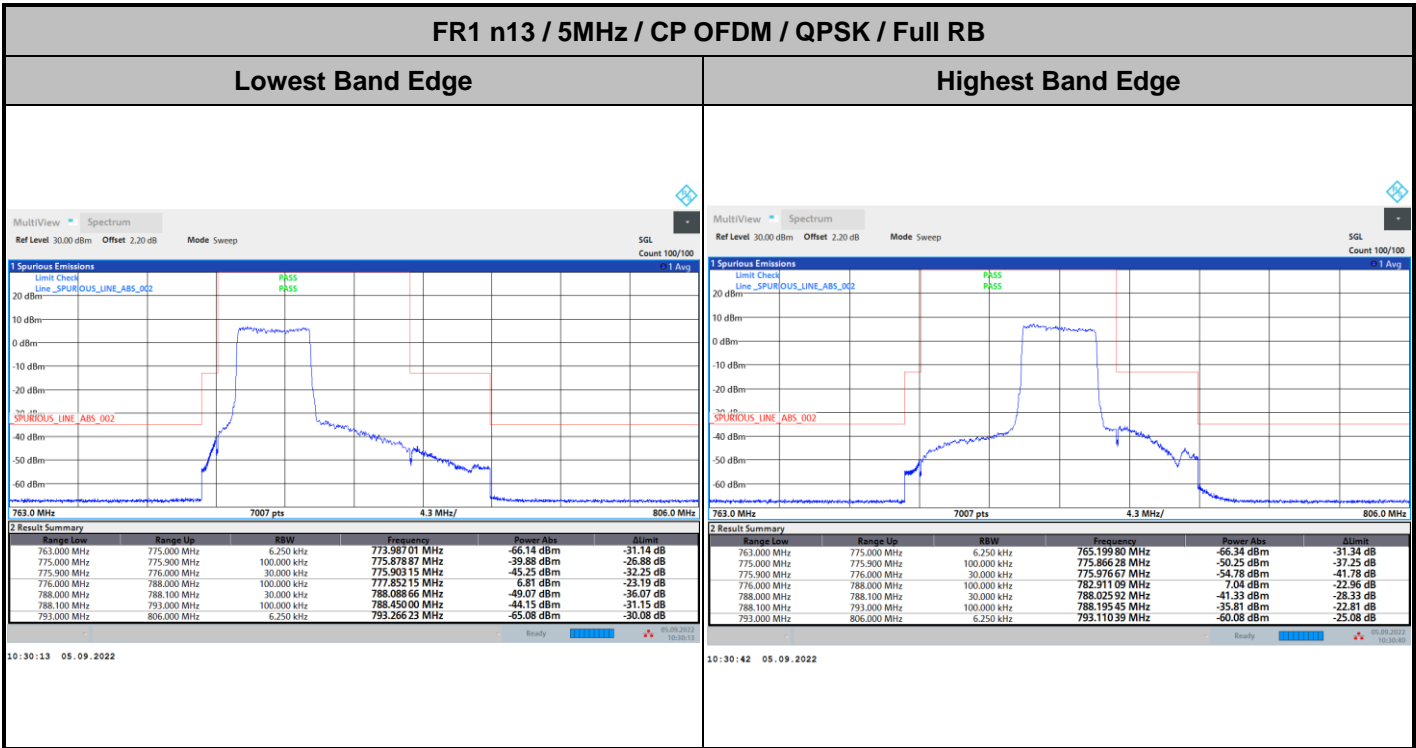
Highest Band Edge / 1RBmax



Lowest Band Edge / Full RB

Highest Band Edge / Full RB

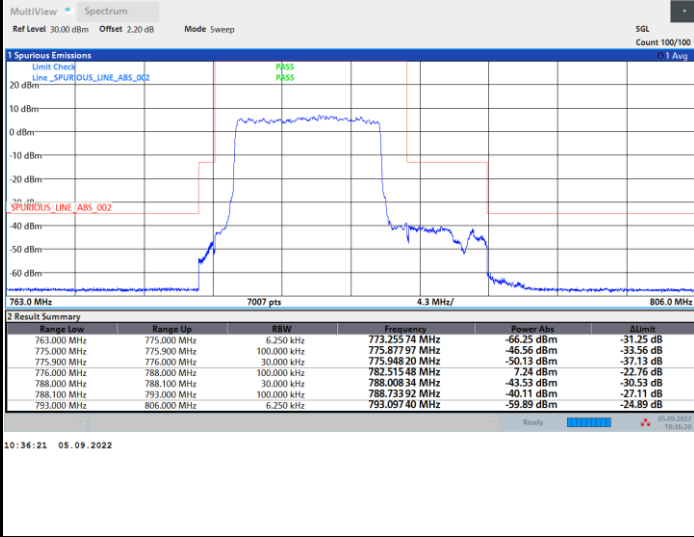






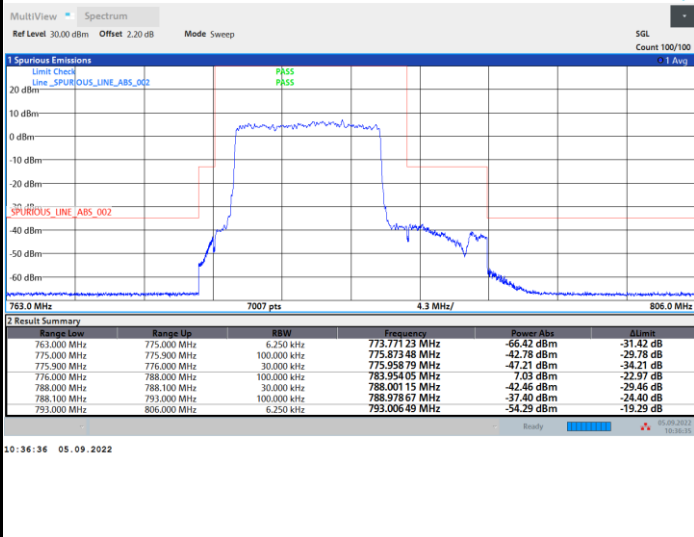
FR1 n13 / 10MHz / DFT-s-OFDM / PI/2 BPSK

Middle Band Edge / Full RB



FR1 n13 / 10MHz / DFT-s-OFDM / QPSK

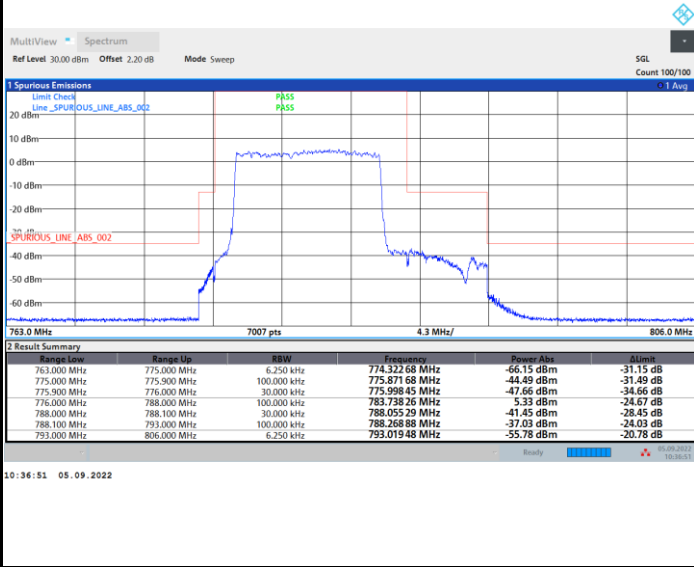
Middle Band Edge / Full RB





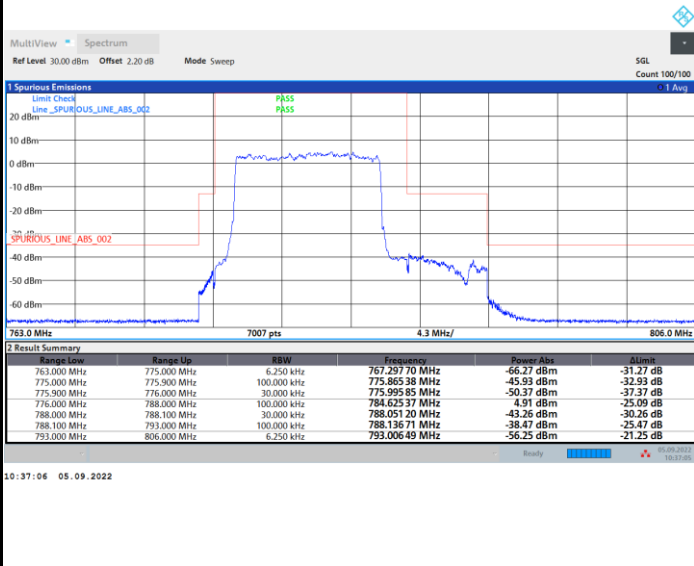
FR1 n13 / 10MHz / DFT-s-OFDM / 16QAM

Middle Band Edge / Full RB



FR1 n13 / 10MHz / DFT-s-OFDM / 64QAM

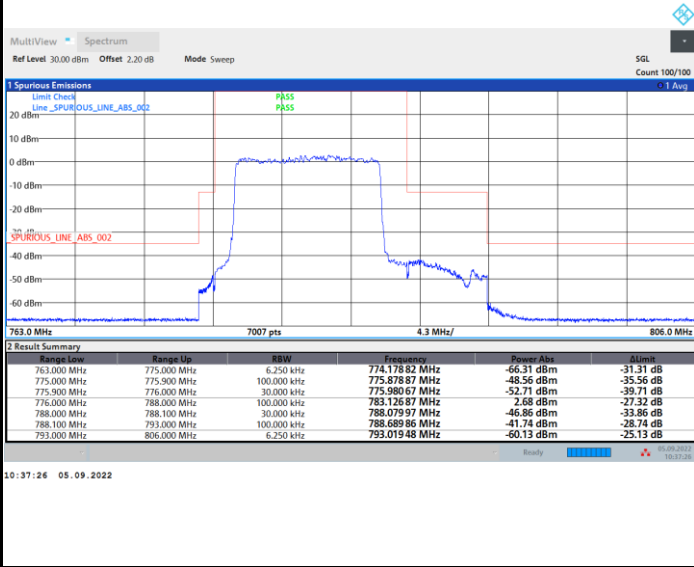
Middle Band Edge / Full RB





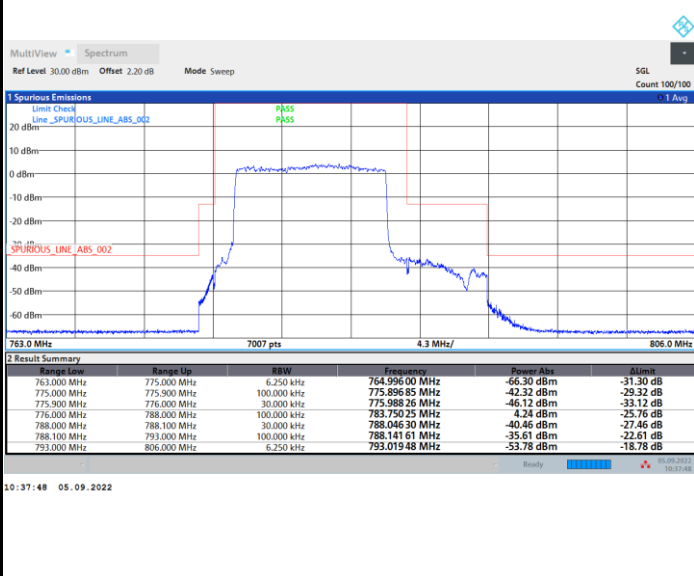
FR1 n13 / 10MHz / DFT-s-OFDM / 256QAM

Middle Band Edge / Full RB



FR1 n13 / 10MHz / CP OFDM / QPSK / Full RB

Middle Band Edge / Full RB

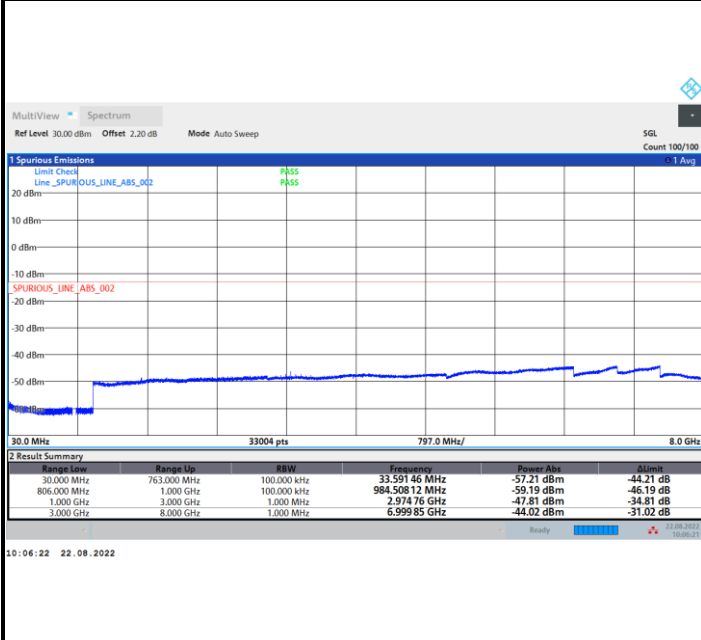




Conducted Spurious Emission

FR1 n13 / 5MHz / DFT-S OFDM / QPSK / 1RB1

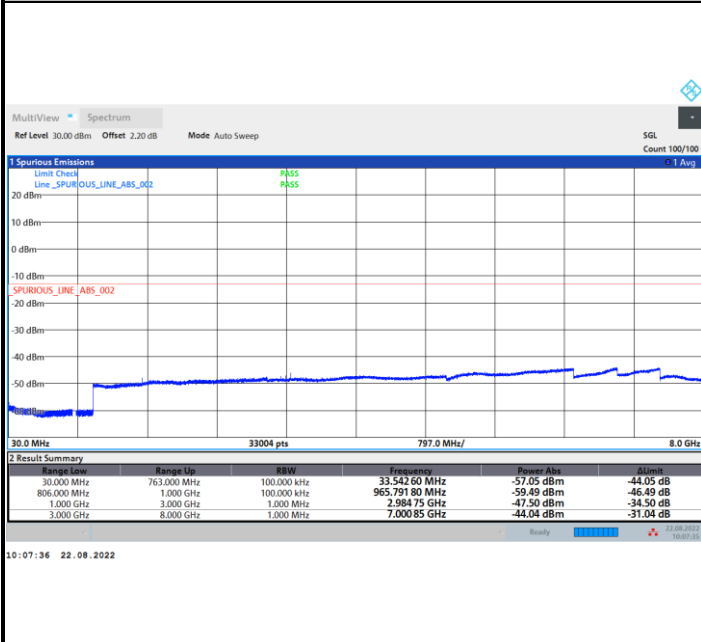
Lowest Channel



Middle Channel



Highest Channel





Frequency Stability

| Test Conditions | | FR1 n13 (PI/2 BPSK) / Middle Channel | Limit |
|------------------|-------------------|--------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0013 | PASS |
| 40 | Normal Voltage | 0.0006 | |
| 30 | Normal Voltage | 0.0097 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0042 | |
| 0 | Normal Voltage | 0.0027 | |
| -10 | Normal Voltage | 0.0077 | |
| -20 | Normal Voltage | 0.0006 | |
| -30 | Normal Voltage | 0.0039 | |
| 20 | Maximum Voltage | 0.0002 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0051 | |

Note:

- 1. Normal Voltage = 4.05 V. ; Battery End Point (BEP) = 3.85 V. ; Maximum Voltage = 4.35 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



FR1 n25

Peak-to-Average Ratio

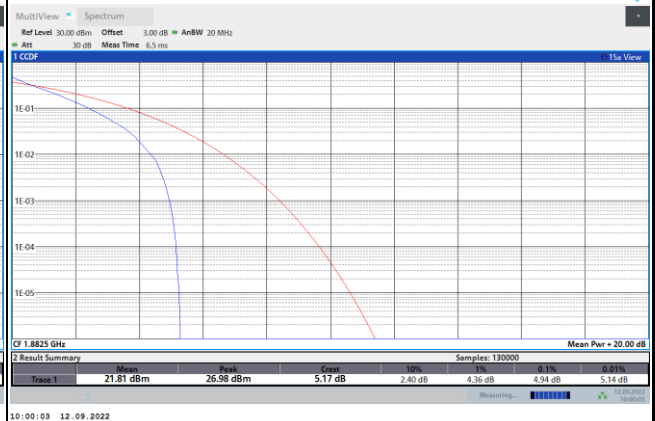
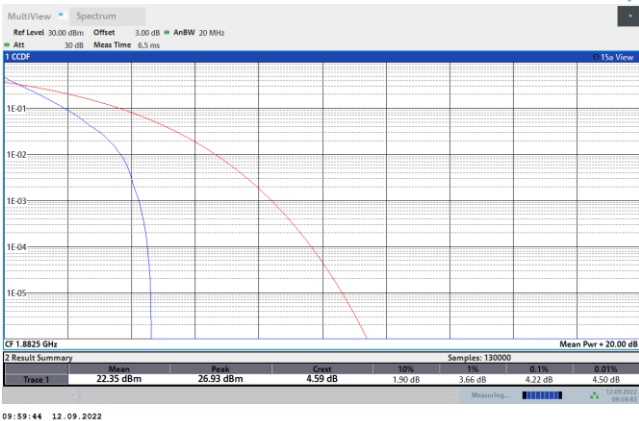
| Mode | FR1 n25 / 20MHz / DFT-S OFDM | | | | |
|-----------|------------------------------|---------|---------|---------|-------------|
| Mod. | PI/2 BPSK | QPSK | 16QAM | 64QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Full RB | Result |
| Middle CH | 4.22 | 4.94 | 5.94 | 6.18 | PASS |
| Mode | FR1 n25 / 20MHz / DFT-S OFDM | | | | |
| Mod. | 256QAM | | | | Limit: 13dB |
| RB Size | Full RB | | | | Result |
| Middle CH | 6.74 | | | | PASS |



FR1 n25 / 20MHz / DFT-S OFDM / Middle Channel / Full RB

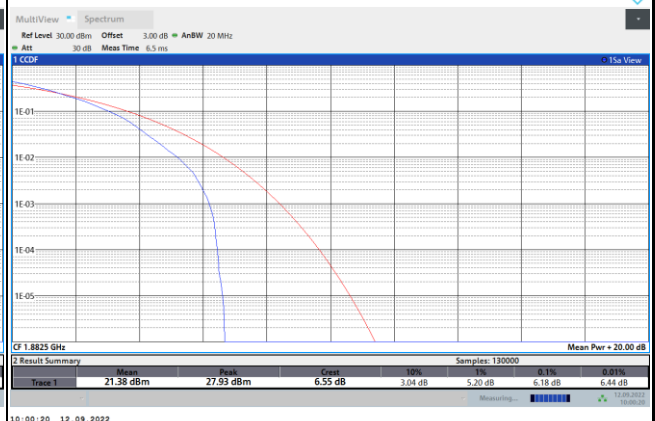
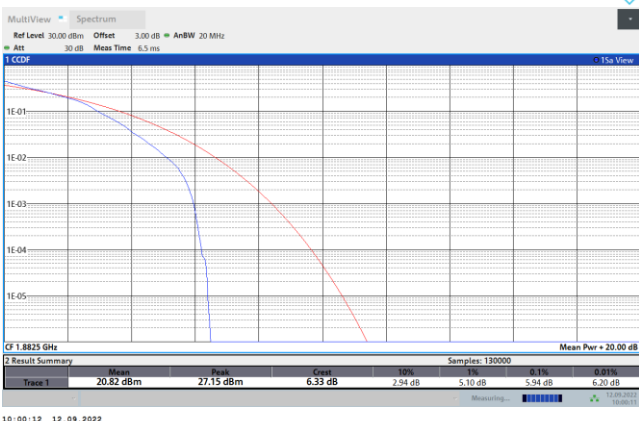
PI/2 BPSK

QPSK

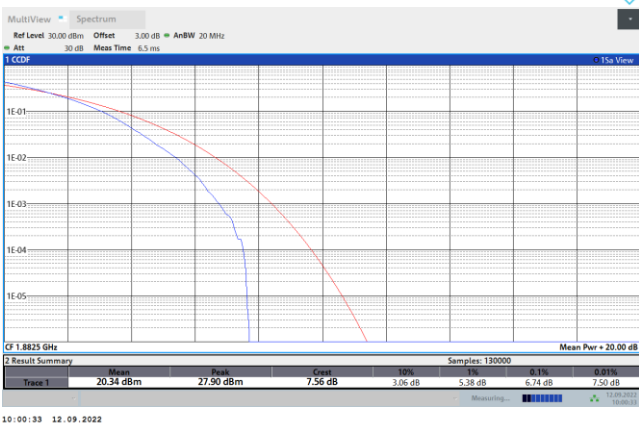


16QAM

64QAM



256QAM





26dB Bandwidth

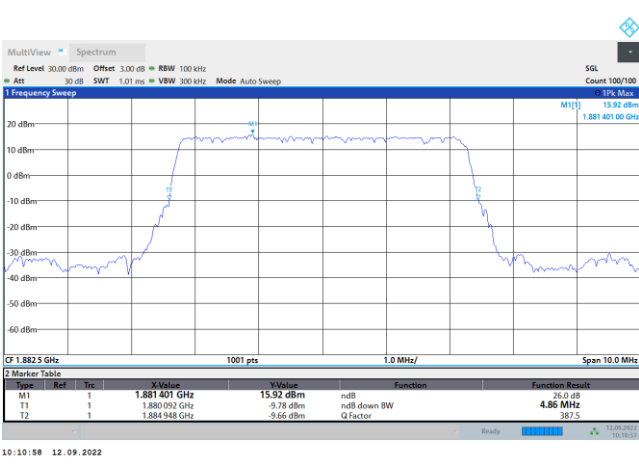
| Mode | FR1 n25 : 26dB BW(MHz) / DFT-S OFDM | | | | | | | |
|-----------|-------------------------------------|--|-----------|--|-----------|--|-----------|--|
| BW | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | PI/2 BPSK | | PI/2 BPSK | | PI/2 BPSK | | PI/2 BPSK | |
| Middle CH | 4.86 | | 9.41 | | 14.21 | | 18.78 | |

| Mode | FR1 n25 : 26dB BW(MHz) / CP OFDM | | | | | | | |
|-----------|----------------------------------|--------|-------|--------|-------|--------|-------|--------|
| BW | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Middle CH | 4.91 | 4.93 | 9.81 | 9.89 | 15.02 | 14.99 | 19.82 | 19.86 |
| Mod. | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM | 64QAM | 256QAM |
| Middle CH | 4.95 | 4.92 | 9.89 | 9.85 | 14.93 | 14.99 | 19.90 | 19.98 |



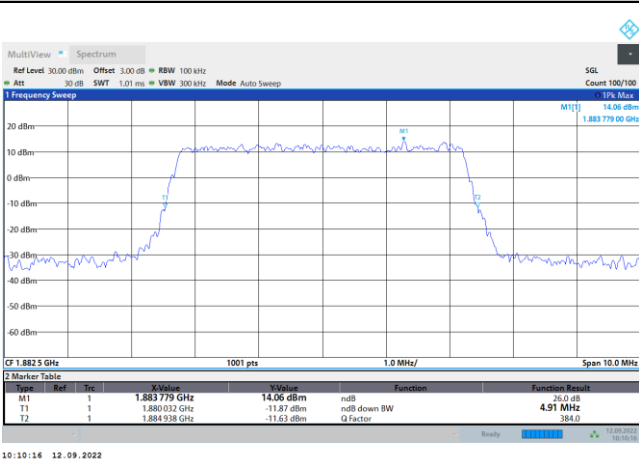
FR1 n25 / 5MHz / DFT-S OFDM / Middle Channel / Full RB

PI/2 BPSK

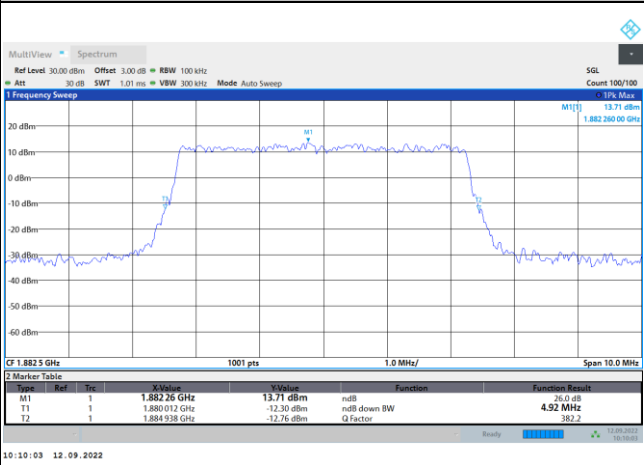


FR1 n25 / 5MHz / CP OFDM / Middle Channel / Full RB

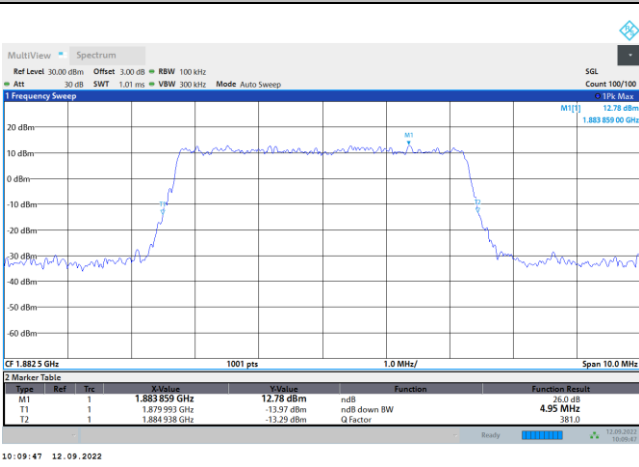
QPSK



16QAM



64QAM



256QAM

