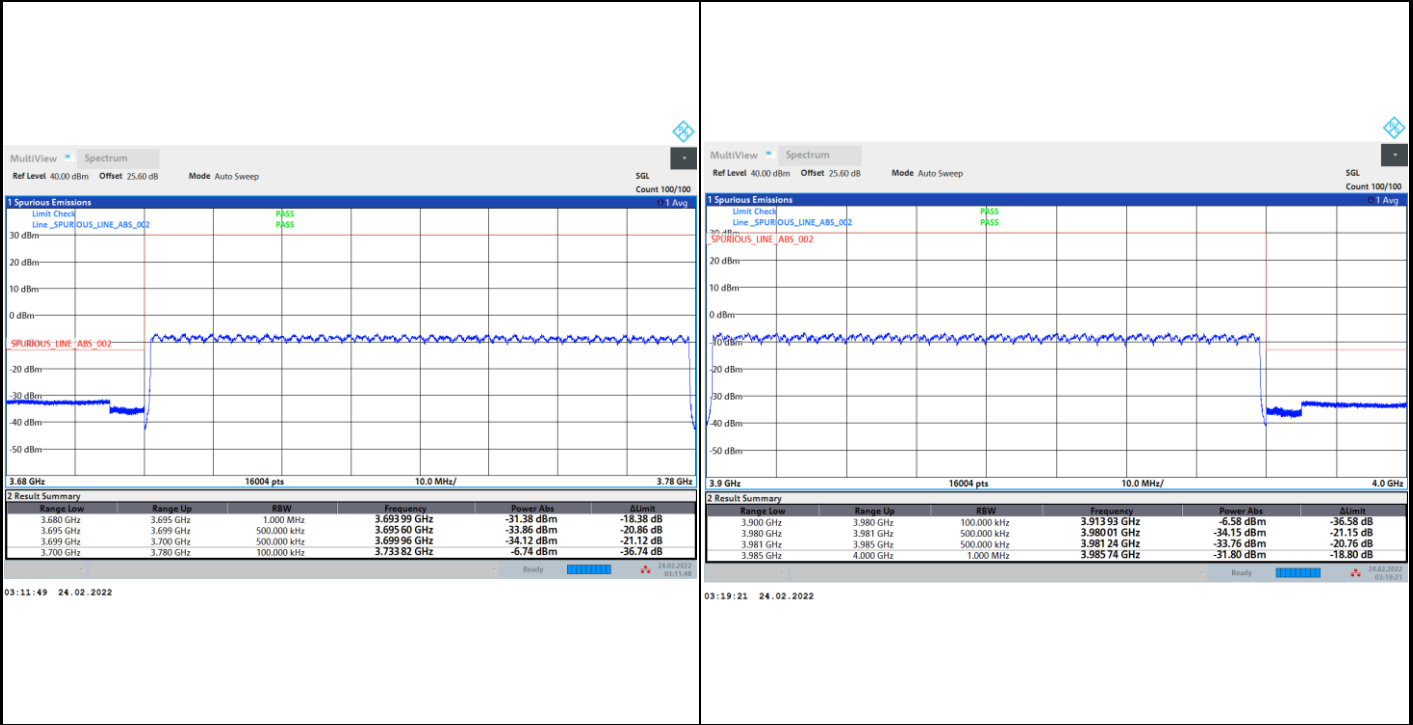




FR1 n77 / 80MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

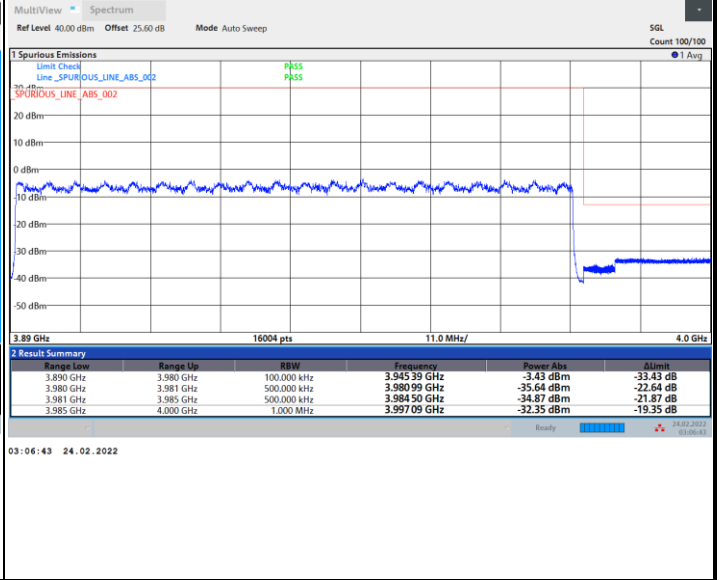
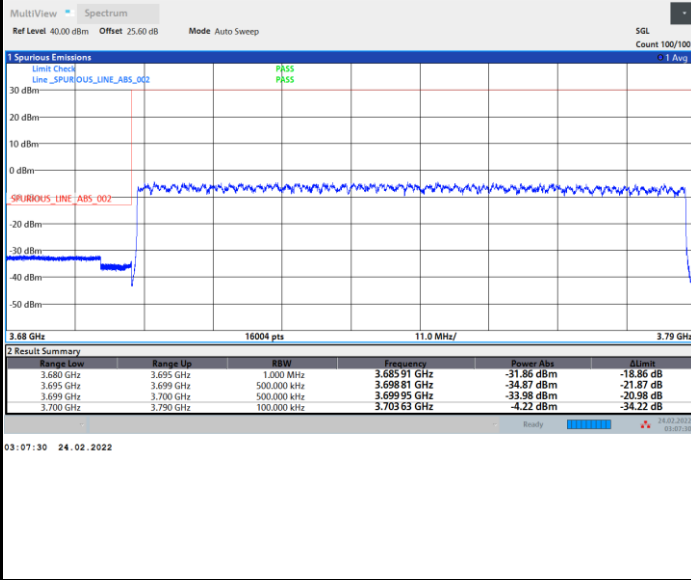


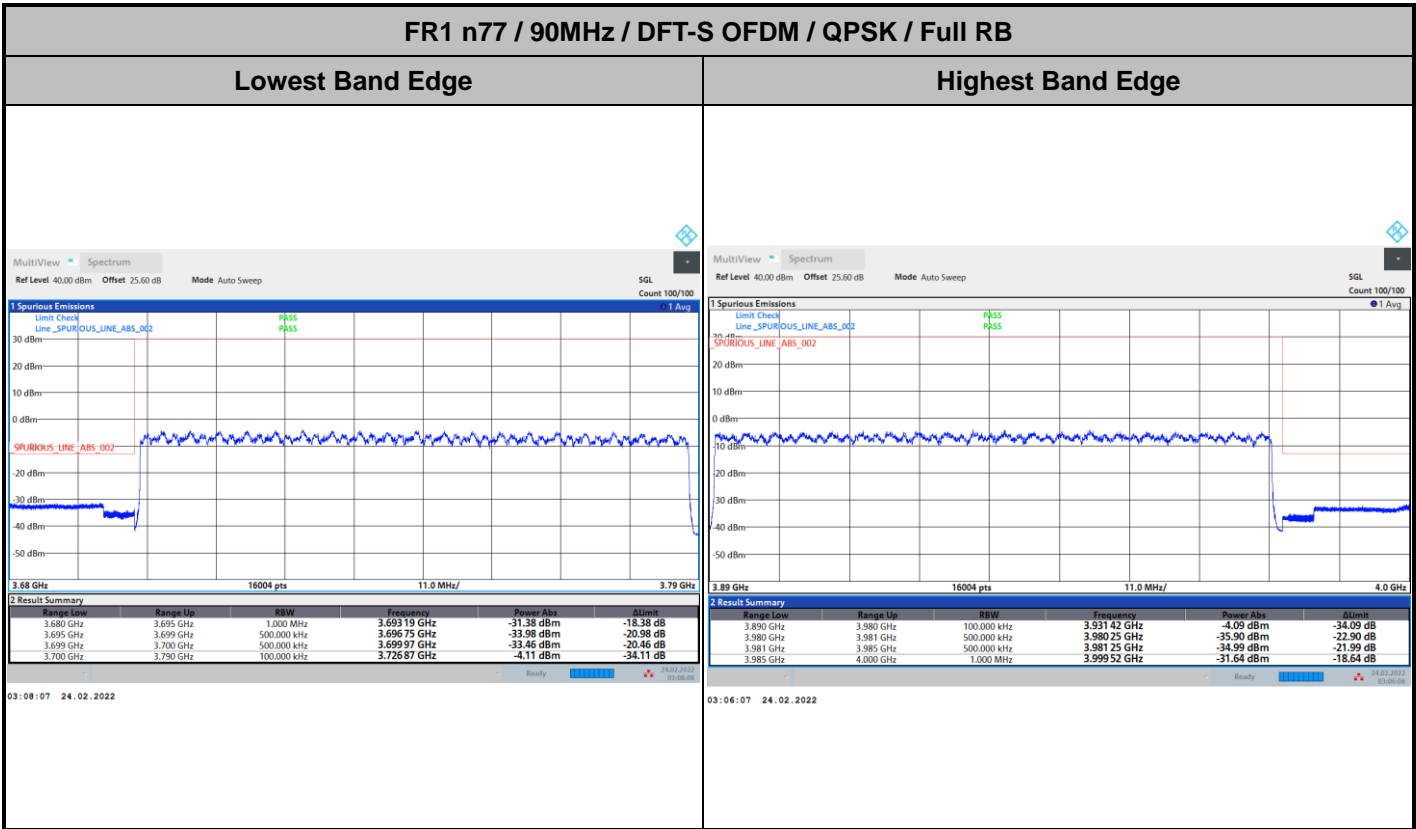


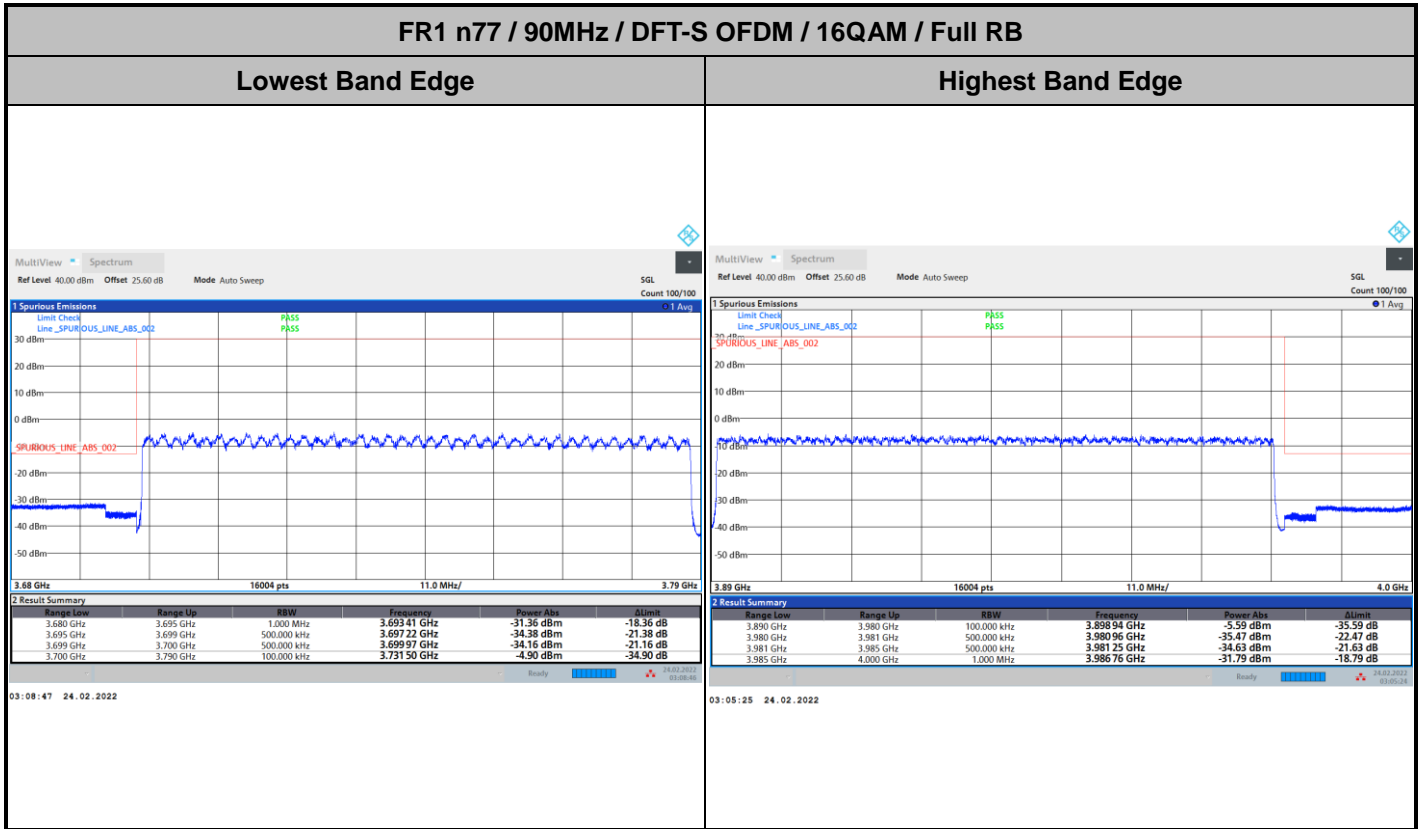
FR1 n77 / 90MHz / DFT-S OFDM / PI/2 BPSK / Full RB

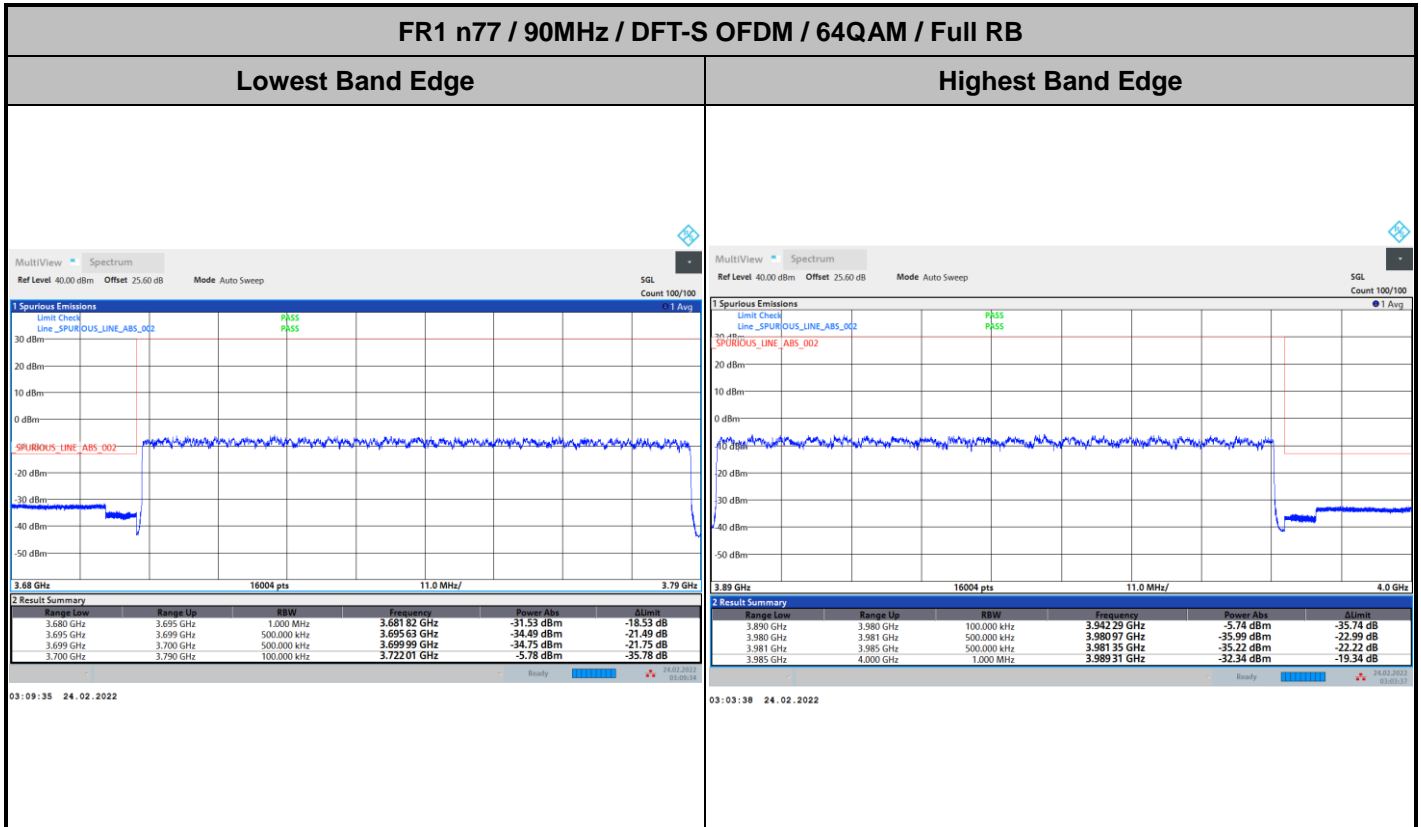
Lowest Band Edge

Highest Band Edge







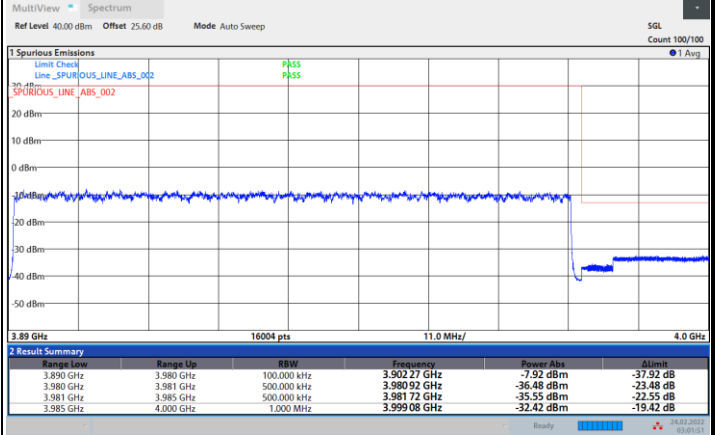
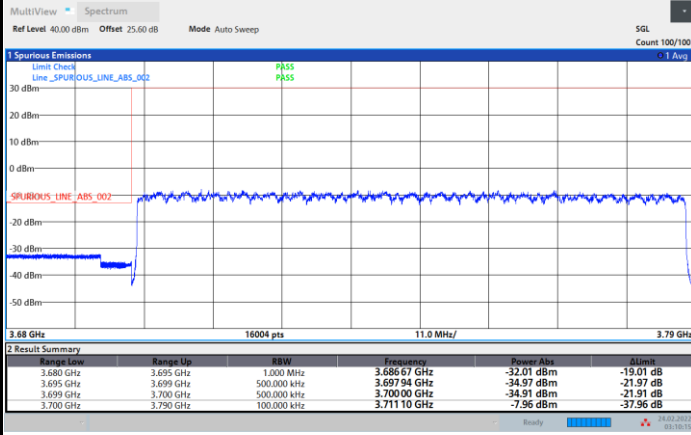




FR1 n77 / 90MHz / DFT-S OFDM / 256QAM / Full RB

Lowest Band Edge

Highest Band Edge

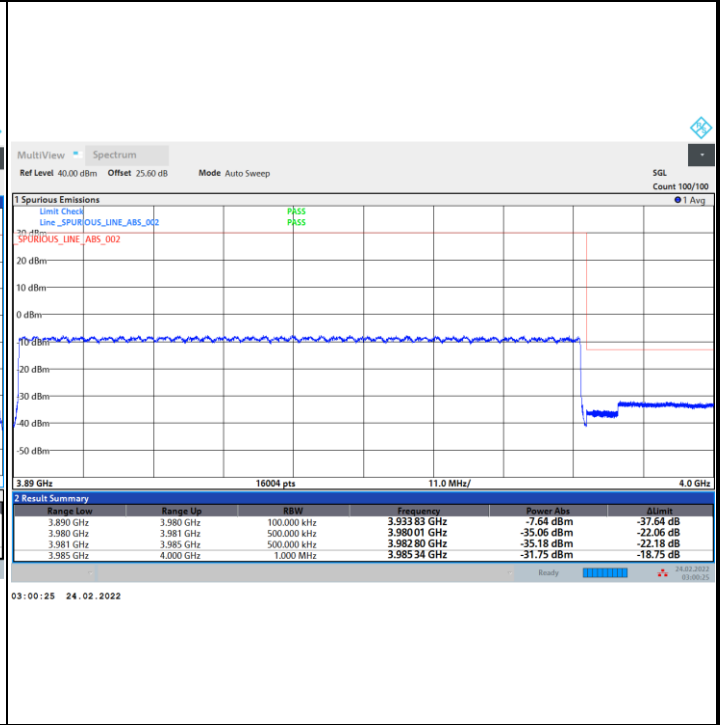
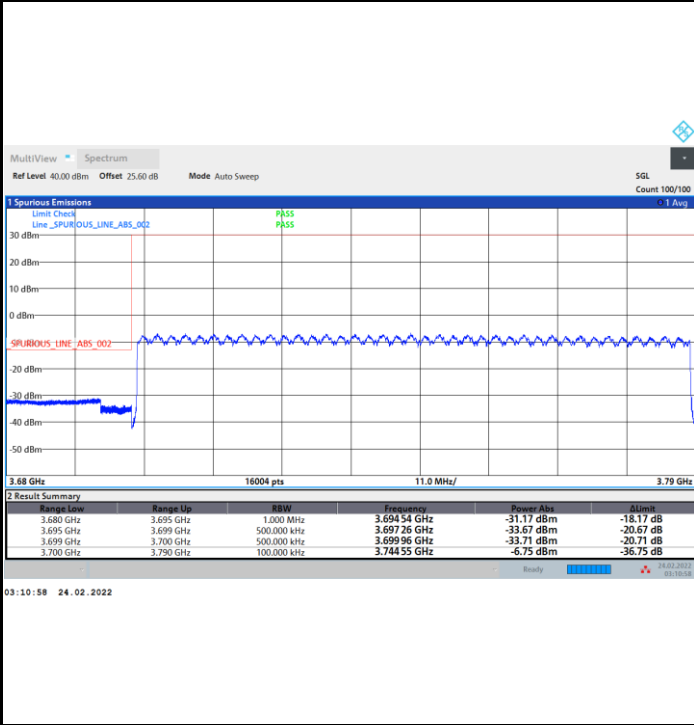




FR1 n77 / 90MHz / CP OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

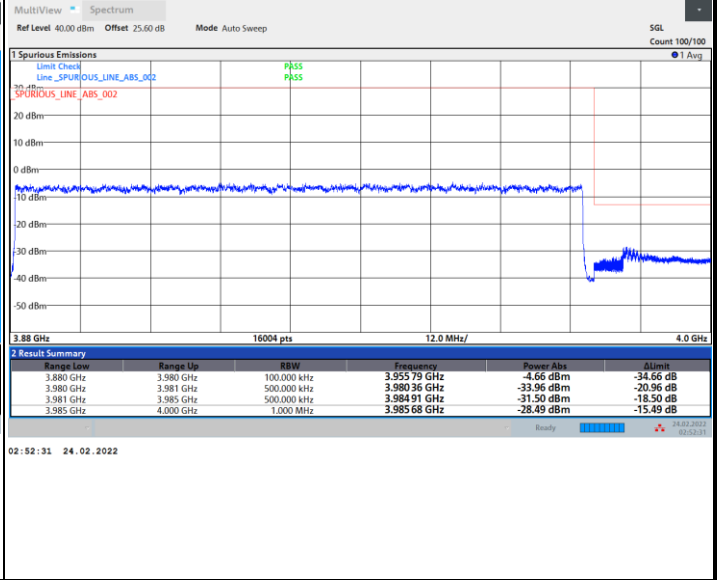
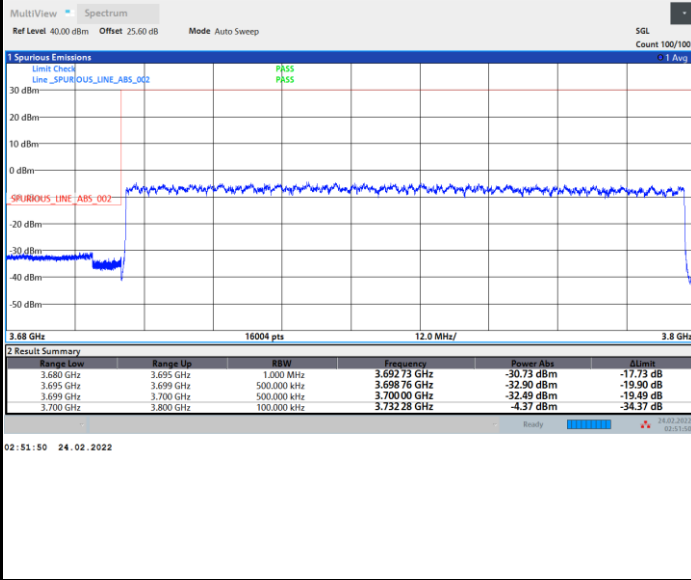




FR1 n77 / 100MHz / DFT-S OFDM / PI/2 BPSK / Full RB

Lowest Band Edge

Highest Band Edge

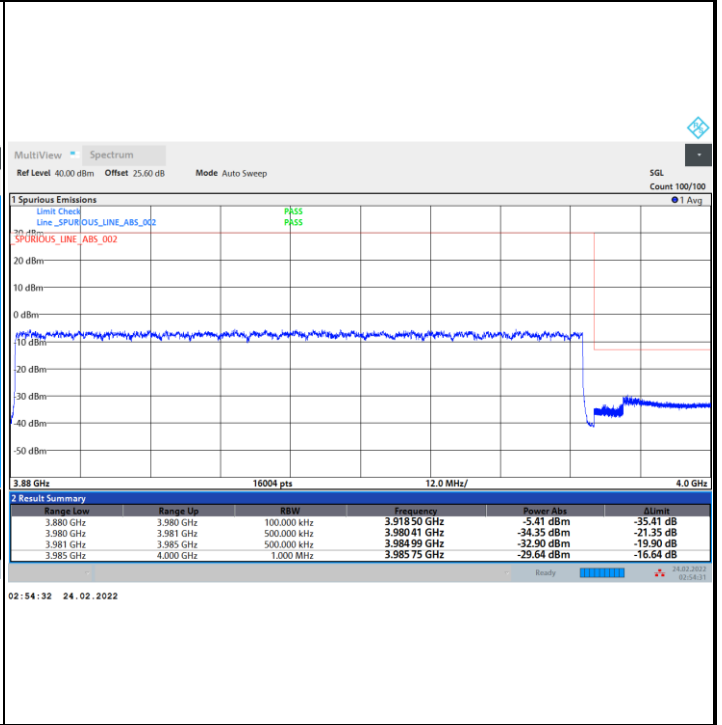




FR1 n77 / 100MHz / DFT-S OFDM / QPSK / Full RB

Lowest Band Edge

Highest Band Edge

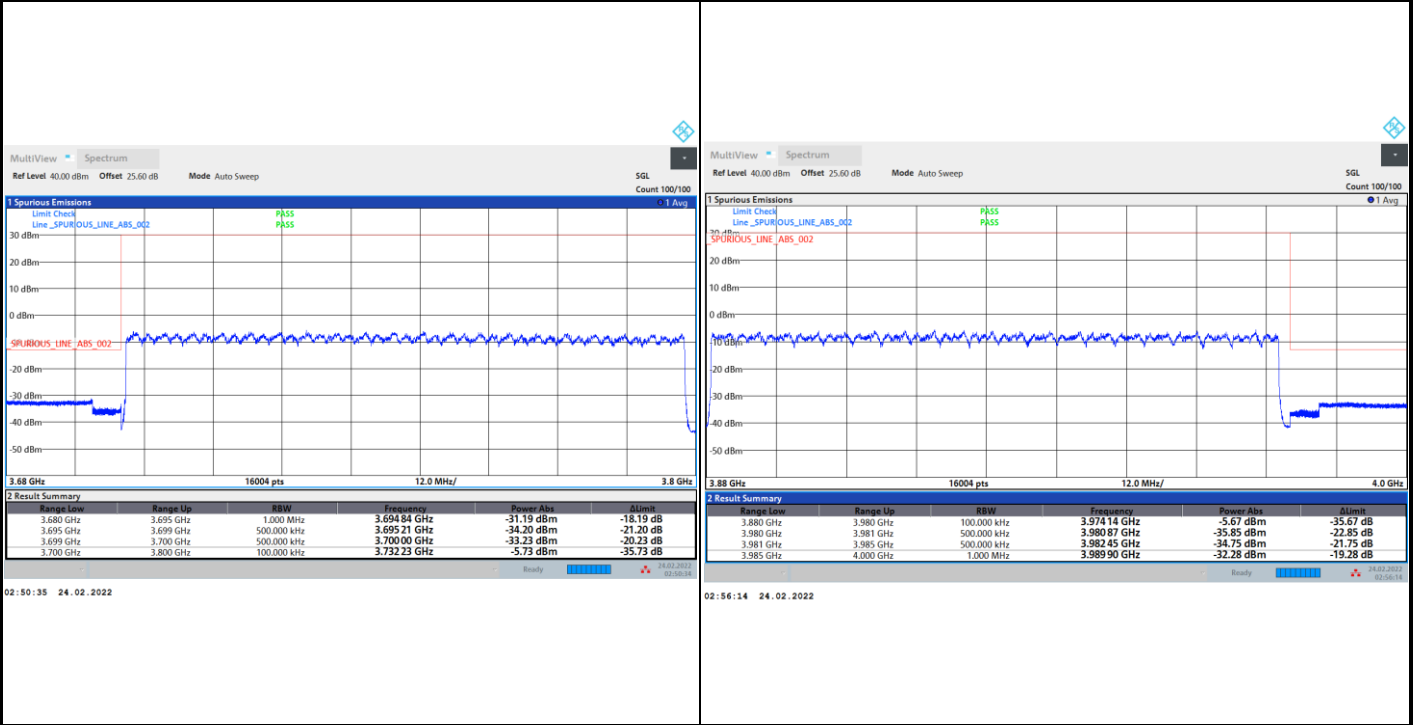




FR1 n77 / 100MHz / DFT-S OFDM / 16QAM / Full RB

Lowest Band Edge

Highest Band Edge

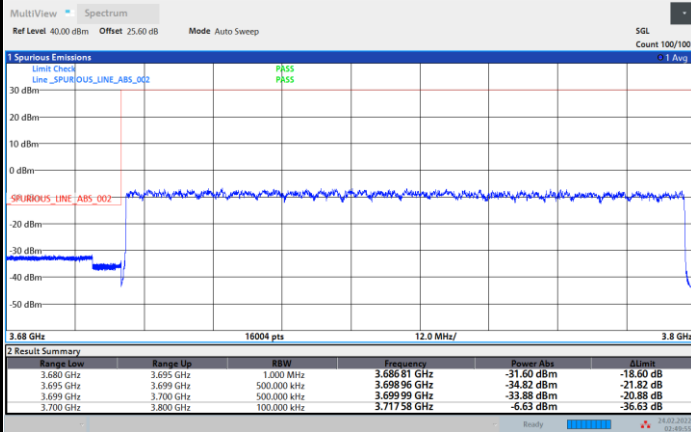




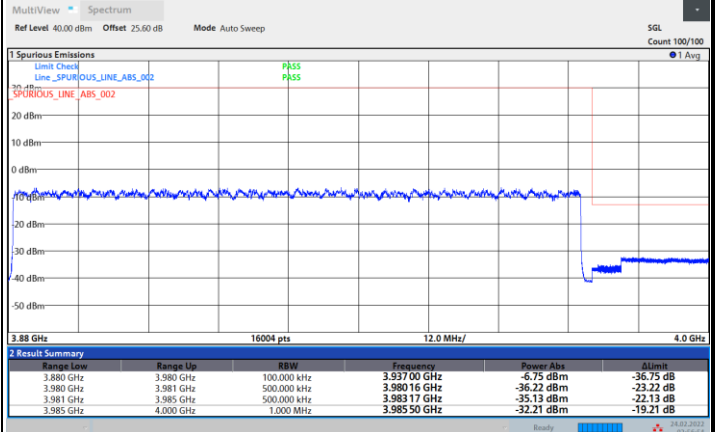
FR1 n77 / 100MHz / DFT-S OFDM / 64QAM / Full RB

Lowest Band Edge

Highest Band Edge



02:49:55 24.02.2022



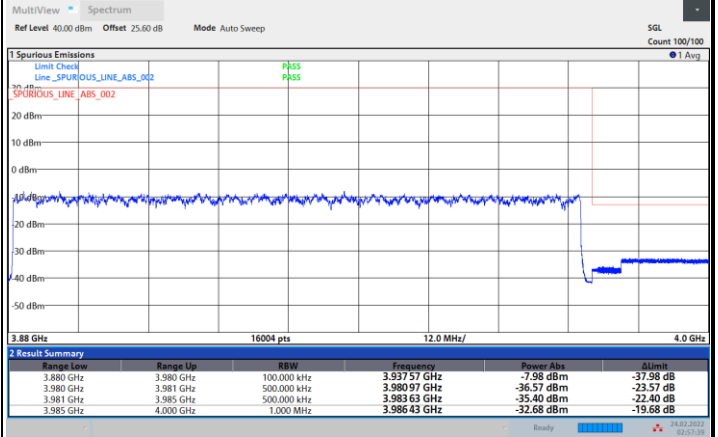
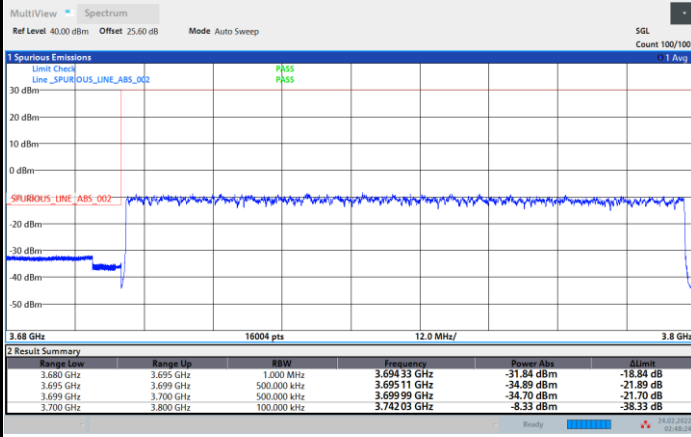
02:56:54 24.02.2022

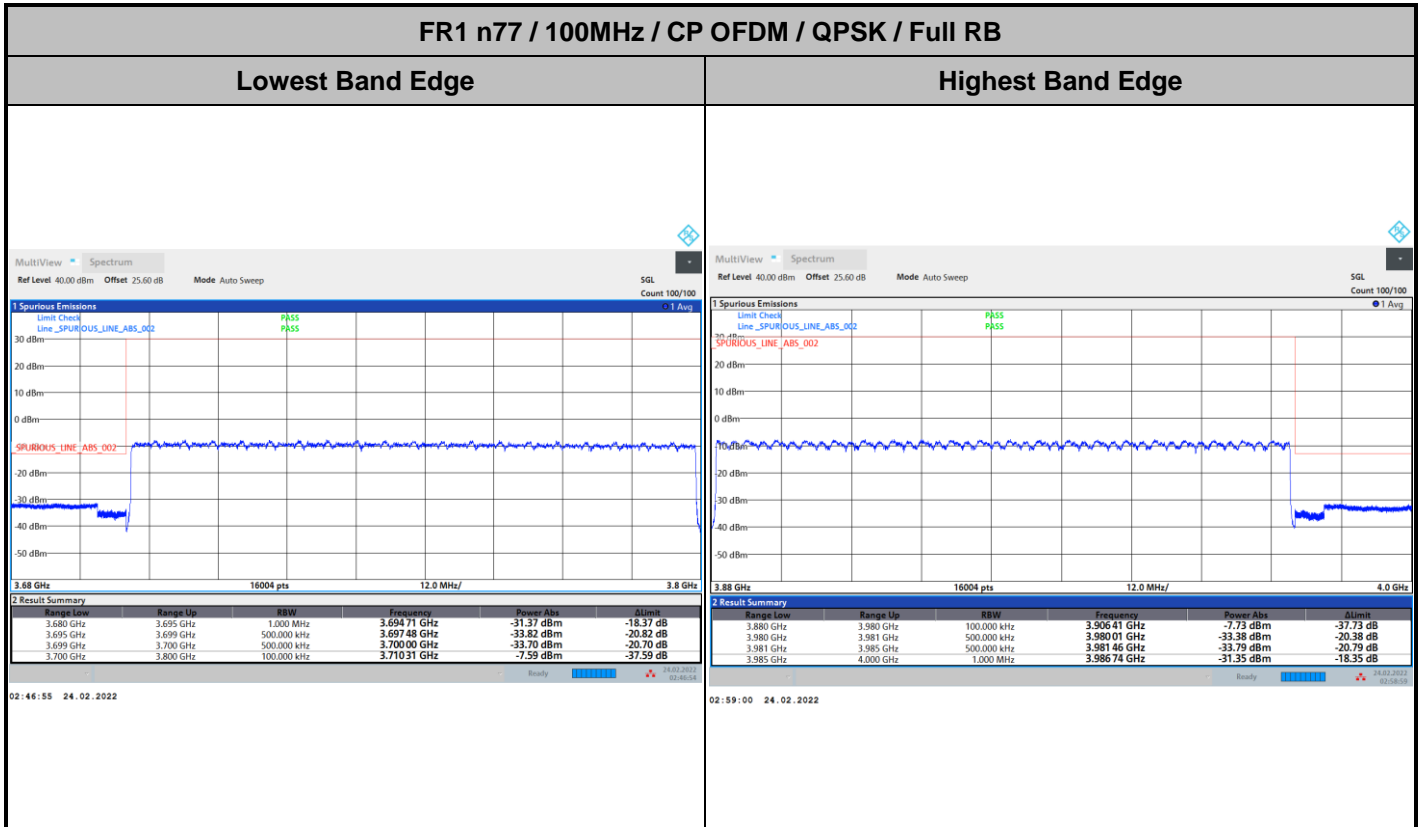


FR1 n77 / 100MHz / DFT-S OFDM / 256QAM / Full RB

Lowest Band Edge / Full RB

Highest Band Edge / Full RB





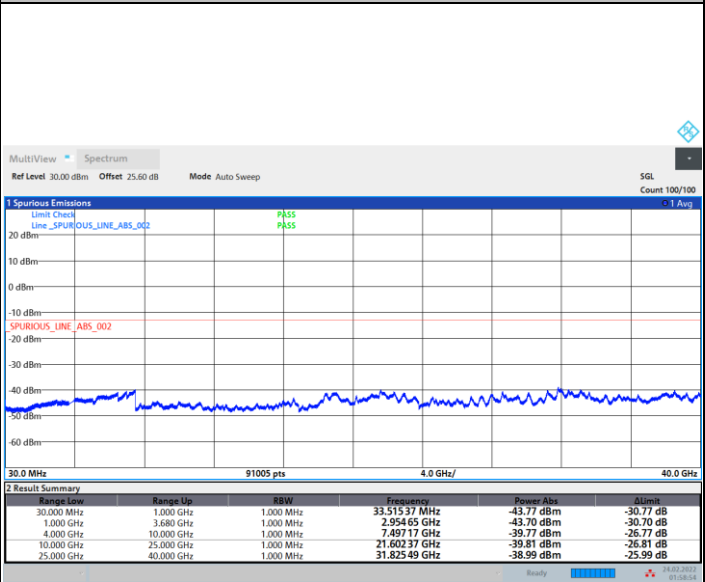
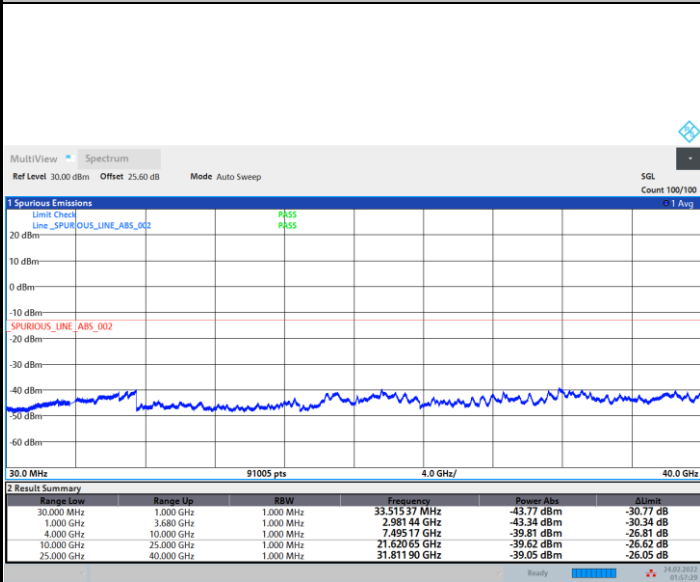


Conducted Spurious Emission

FR1 n77 / 20MHz / DFT-S OFDM / QPSK / 1RB1

Lowest Channel

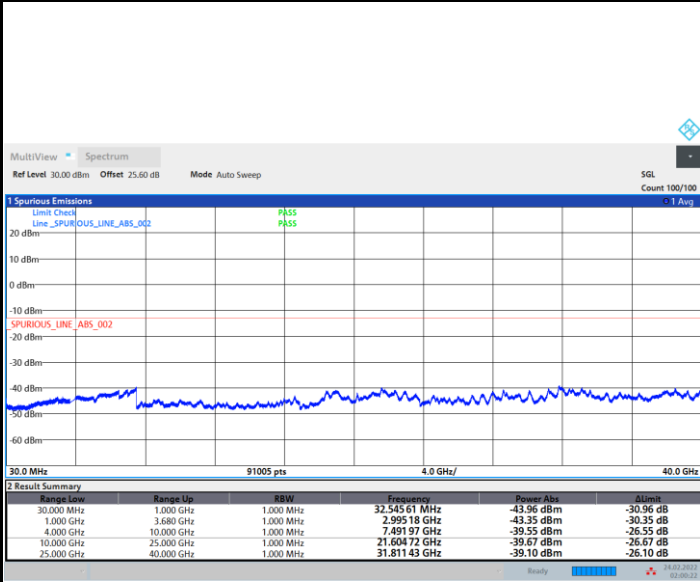
Middle Channel



01:57:30 24.02.2022

01:58:54 24.02.2022

Highest Channel



02:00:22 24.02.2022



Frequency Stability

| Test Conditions | | FR1 n77 (BPSK) / Middle Channel | Limit |
|------------------|-------------------|---------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 20MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0091 | PASS |
| 40 | Normal Voltage | 0.0067 | |
| 30 | Normal Voltage | 0.0069 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0068 | |
| 0 | Normal Voltage | 0.0061 | |
| -10 | Normal Voltage | 0.0057 | |
| -20 | Normal Voltage | 0.0065 | |
| -30 | Normal Voltage | 0.0064 | |
| 20 | Maximum Voltage | 0.0057 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0061 | |

Note:

1. Normal Voltage =14 V. ; Battery End Point (BEP) =12 V. ; Maximum Voltage =16 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

EN-DC 5A-n77A(HPUE)

| EN-DC 5A-n77A / 100MHz / PI/2 BPSK | | | | | | | | | |
|------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 7401 | -41.32 | -13 | -28.32 | -72.23 | -48.49 | 1.94 | 11.26 | H |
| | 11103 | -35.48 | -13 | -22.48 | -72.34 | -41.75 | 2.61 | 11.02 | H |
| | 14802 | -28.29 | -13 | -15.29 | -71.33 | -35.17 | 2.93 | 11.97 | H |
| | 18505 | -62.68 | -13 | -49.68 | -74.56 | -76.53 | 1.90 | 17.90 | H |
| | 22206 | -60.77 | -13 | -47.77 | -76.5 | -75.39 | 2.05 | 18.82 | H |
| | 25907 | -58.83 | -13 | -45.83 | -77.65 | -73.80 | 1.96 | 19.08 | H |
| | | | | | | | | | H |
| | 7401 | -41.03 | -13 | -28.03 | -72.04 | -48.20 | 1.94 | 11.26 | V |
| | 11103 | -35.74 | -13 | -22.74 | -72.55 | -42.01 | 2.61 | 11.02 | V |
| | 14802 | -27.73 | -13 | -14.73 | -71.88 | -34.61 | 2.93 | 11.97 | V |
| | 18505 | -62.71 | -13 | -49.71 | -74.37 | -76.56 | 1.90 | 17.90 | V |
| | 22206 | -61.06 | -13 | -48.06 | -76.39 | -75.68 | 2.05 | 18.82 | V |
| | 25907 | -59.24 | -13 | -46.24 | -77.75 | -74.21 | 1.96 | 19.08 | V |
| | | | | | | | | | V |
| Middle | 7584 | -41.50 | -13 | -28.50 | -72.03 | -48.47 | 2.00 | 11.12 | H |
| | 11375 | -34.73 | -13 | -21.73 | -71.88 | -41.44 | 2.49 | 11.35 | H |
| | 15168 | -28.96 | -13 | -15.96 | -71.31 | -37.51 | 3.04 | 13.74 | H |
| | 18955 | -63.89 | -13 | -50.89 | -75.46 | -77.89 | 1.75 | 17.90 | H |
| | 22746 | -59.66 | -13 | -46.66 | -76.19 | -73.99 | 1.97 | 18.45 | H |
| | 26537 | -57.31 | -13 | -44.31 | -77 | -71.59 | 2.36 | 18.79 | H |
| | | | | | | | | | H |
| | 7584 | -41.52 | -13 | -28.52 | -72.22 | -48.49 | 2.00 | 11.12 | V |
| | 11375 | -34.64 | -13 | -21.64 | -71.86 | -41.35 | 2.49 | 11.35 | V |
| | 15168 | -28.02 | -13 | -15.02 | -71.45 | -36.57 | 3.04 | 13.74 | V |
| | 18955 | -63.52 | -13 | -50.52 | -74.86 | -77.52 | 1.75 | 17.90 | V |
| | 22746 | -60.46 | -13 | -47.46 | -76.61 | -74.79 | 1.97 | 18.45 | V |
| | 26537 | -58.14 | -13 | -45.14 | -77.45 | -72.42 | 2.36 | 18.79 | V |



| | | | | | | | | | |
|---------|-------|--------|-----|--------|--------|--------|------|-------|---|
| Highest | 7762 | -41.02 | -13 | -28.02 | -71.77 | -48.00 | 2.03 | 11.15 | H |
| | 11643 | -34.36 | -13 | -21.36 | -72.33 | -41.62 | 2.49 | 11.90 | H |
| | 15524 | -29.73 | -13 | -16.73 | -70.63 | -40.53 | 3.13 | 16.08 | H |
| | 19405 | -63.20 | -13 | -50.20 | -75.51 | -77.40 | 1.96 | 18.31 | H |
| | 23286 | -59.49 | -13 | -46.49 | -76.6 | -73.45 | 1.97 | 18.09 | H |
| | 27167 | -57.14 | -13 | -44.14 | -77.71 | -71.76 | 2.10 | 18.87 | H |
| | | | | | | | | | H |
| | 7762 | -40.84 | -13 | -27.84 | -71.86 | -47.82 | 2.03 | 11.15 | V |
| | 11643 | -34.10 | -13 | -21.10 | -71.98 | -41.36 | 2.49 | 11.90 | V |
| | 15524 | -29.95 | -13 | -16.95 | -71.12 | -40.75 | 3.13 | 16.08 | V |
| | 19405 | -63.14 | -13 | -50.14 | -75.19 | -77.34 | 1.96 | 18.31 | V |
| | 23286 | -59.42 | -13 | -46.42 | -76.21 | -73.38 | 1.97 | 18.09 | V |
| | 27167 | -57.35 | -13 | -44.35 | -77.56 | -71.97 | 2.10 | 18.87 | V |
| | | | | | | | | | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



EN-DC 2A-n77A(HPUE)

| EN-DC 2A-n77A / 100MHz / PI/2 BPSK | | | | | | | | | |
|------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 7584 | -45.85 | -13 | -32.85 | -72.34 | -52.82 | 2.00 | 11.12 | H |
| | 11375 | -41.02 | -13 | -28.02 | -73.07 | -47.73 | 2.49 | 11.35 | H |
| | 15168 | -33.29 | -13 | -20.29 | -71.51 | -41.84 | 3.04 | 13.74 | H |
| | 18955 | -55.77 | -13 | -42.77 | -75 | -69.77 | 1.75 | 17.90 | H |
| | 22746 | -52.76 | -13 | -39.76 | -76.93 | -67.09 | 1.97 | 18.45 | H |
| | 26537 | -50.18 | -13 | -37.18 | -77.58 | -64.46 | 2.36 | 18.79 | H |
| | | | | | | | | | H |
| | 7584 | -46.08 | -13 | -33.08 | -72.52 | -53.05 | 2.00 | 11.12 | V |
| | 11375 | -41.19 | -13 | -28.19 | -73.08 | -47.90 | 2.49 | 11.35 | V |
| | 15168 | -35.43 | -13 | -22.43 | -71.65 | -43.98 | 3.04 | 13.74 | V |
| | 18955 | -56.65 | -13 | -43.65 | -75.16 | -70.65 | 1.75 | 17.90 | V |
| | 22746 | -53.12 | -13 | -40.12 | -77.33 | -67.45 | 1.97 | 18.45 | V |
| | 26537 | -48.79 | -13 | -35.79 | -77.68 | -63.07 | 2.36 | 18.79 | V |
| | | | | | | | | | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



EN-DC 7A-n77A(HPUE)

| EN-DC 7A-n77A / 100MHz / PI/2 BPSK | | | | | | | | | |
|------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 7584 | -46.23 | -13 | -33.23 | -72.72 | -53.20 | 2.00 | 11.12 | H |
| | 11375 | -40.71 | -13 | -27.71 | -72.76 | -47.42 | 2.49 | 11.35 | H |
| | 15168 | -33.47 | -13 | -20.47 | -71.69 | -42.02 | 3.04 | 13.74 | H |
| | 18955 | -56.25 | -13 | -43.25 | -75.48 | -70.25 | 1.75 | 17.90 | H |
| | 22746 | -53.50 | -13 | -40.50 | -77.67 | -67.83 | 1.97 | 18.45 | H |
| | 26537 | -49.96 | -13 | -36.96 | -77.36 | -64.24 | 2.36 | 18.79 | H |
| | | | | | | | | | H |
| | 7584 | -45.83 | -13 | -32.83 | -72.27 | -52.80 | 2.00 | 11.12 | V |
| | 11375 | -41.33 | -13 | -28.33 | -73.22 | -48.04 | 2.49 | 11.35 | V |
| | 15168 | -35.59 | -13 | -22.59 | -71.81 | -44.14 | 3.04 | 13.74 | V |
| | 18955 | -56.96 | -13 | -43.96 | -75.47 | -70.96 | 1.75 | 17.90 | V |
| | 22746 | -53.24 | -13 | -40.24 | -77.45 | -67.57 | 1.97 | 18.45 | V |
| | 26537 | -48.31 | -13 | -35.31 | -77.2 | -62.59 | 2.36 | 18.79 | V |
| | | | | | | | | | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



EN-DC 41A-n77A(HPUE)

| EN-DC 41A-n77A / 100MHz / PI/2 BPSK | | | | | | | | | |
|-------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 7584 | -46.09 | -13 | -33.09 | -72.58 | -53.06 | 2.00 | 11.12 | H |
| | 11375 | -41.20 | -13 | -28.20 | -73.25 | -47.91 | 2.49 | 11.35 | H |
| | 15168 | -33.51 | -13 | -20.51 | -71.73 | -42.06 | 3.04 | 13.74 | H |
| | 18955 | -56.38 | -13 | -43.38 | -75.6 | -70.38 | 1.75 | 17.90 | H |
| | 22746 | -53.70 | -13 | -40.70 | -77.87 | -68.03 | 1.97 | 18.45 | H |
| | 26537 | -50.17 | -13 | -37.17 | -77.57 | -64.45 | 2.36 | 18.79 | H |
| | | | | | | | | | H |
| | 7584 | -46.36 | -13 | -33.36 | -72.8 | -53.33 | 2.00 | 11.12 | V |
| | 11375 | -41.36 | -13 | -28.36 | -73.25 | -48.07 | 2.49 | 11.35 | V |
| | 15168 | -35.47 | -13 | -22.47 | -71.69 | -44.02 | 3.04 | 13.74 | V |
| | 18955 | -57.17 | -13 | -44.17 | -75.68 | -71.17 | 1.75 | 17.90 | V |
| | 22746 | -53.43 | -13 | -40.43 | -77.64 | -67.76 | 1.97 | 18.45 | V |
| | 26537 | -48.06 | -13 | -35.06 | -76.96 | -62.34 | 2.36 | 18.79 | V |
| | | | | | | | | | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.