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4.2 Test No. 2: Modulation Characteristics (§ 2.1047, § 2.201)

The occupied bandwidth was measured to be 4.88 MHz (Config. A), 9.73 MHz (Config. B), 14.6 MHz (Config. C), 19.6 MHz (Config. D), which represents the -26dB power bandwidth (see the following section and screenshots on pages 46).

Therefore, the modulation characteristic of the base stations transceiver is:

Config A: 4M88F9W (Channel bandwidth 5 MHz)

Config B: 9M73F9W (Channel bandwidth 10 MHz)

Config C: 14M6F9W (Channel bandwidth 15 MHz)

Config D: 19M6F9W (Channel bandwidth 20 MHz)

No further testing is required under this section of the FCC rules. No measurements other than the occupied bandwidth are required.

Sample modulation screenshots are on page 41, in I/Q constellation diagrams and tables, showing QPSK, 16QAM, 64QAM and 256QAM-modulation generation.

The modulation characteristics were found to be compliant with the manufacturer's specifications and with all requirements of the FCC rules.



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4.3 Test No. 3: Occupied Bandwidth (§ 2.1049)

4.3.1. Limits

Para. No 24.238(b). Emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

4.3.2. Test Procedure and Results

The 26dB occupied bandwidth of the carrier emission is measured using a signal analyzer with Resolution Bandwidth set to 200 kHz (less than 1% of bandwidth; see screenshots on page 46 for details). The following tables summarize the results:

| Measured laboratory room temperature and humidity during the tests | | | | |
|--|----------------------|-------|-------------------|--------|
| Date | Temperature Min-Max: | | Humidity Min-Max: | |
| 19.Mar– 2.Apr 2019 | 23 °C | 24 °C | 14 RH% | 21 RH% |

Config A:

| Carrier Frequency [MHz] | Occupied Bandwidth [MHz] | Result |
|------------------------------|--------------------------|-----------|
| QPSK-Modulation ANT1 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8450 | compliant |
| 1992.5 | 4.8550 | compliant |
| QPSK-Modulation ANT2 | | |
| 1932.5 | 4.8650 | compliant |
| 1962.5 | 4.8550 | compliant |
| 1992.5 | 4.8550 | compliant |
| QPSK-Modulation ANT3 | | |
| 1932.5 | 4.8450 | compliant |
| 1962.5 | 4.8250 | compliant |
| 1992.5 | 4.8550 | compliant |
| QPSK-Modulation ANT4 | | |
| 1932.5 | 4.8250 | compliant |
| 1962.5 | 4.8550 | compliant |
| 1992.5 | 4.8350 | compliant |
| 16QAM-Modulation ANT1 | | |
| 1932.5 | 4.8650 | compliant |
| 1962.5 | 4.8650 | compliant |
| 1992.5 | 4.8650 | compliant |
| 16QAM-Modulation ANT2 | | |
| 1932.5 | 4.7950 | compliant |
| 1962.5 | 4.8350 | compliant |
| 1992.5 | 4.8350 | compliant |
| 16QAM-Modulation ANT3 | | |
| 1932.5 | 4.8350 | compliant |



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| | | |
|--------------------------|--------|-----------|
| 1962.5 | 4.8150 | compliant |
| 1992.5 | 4.8250 | compliant |
| 16QAM-Modulation ANT4 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8650 | compliant |
| 1992.5 | 4.8450 | compliant |
| 64QAM-Modulation ANT1 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8550 | compliant |
| 1992.5 | 4.8450 | compliant |
| 64QAM-Modulation ANT2 | | |
| 1932.5 | 4.8750 | compliant |
| 1962.5 | 4.8550 | compliant |
| 1992.5 | 4.8550 | compliant |
| 64QAM-Modulation ANT3 | | |
| 1932.5 | 4.8350 | compliant |
| 1962.5 | 4.8650 | compliant |
| 1992.5 | 4.8550 | compliant |
| 64QAM-Modulation ANT4 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8350 | compliant |
| 1992.5 | 4.8550 | compliant |
| 256QAM-Modulation ANT1 | | |
| 1932.5 | 4.8750 | compliant |
| 1962.5 | 4.8350 | compliant |
| 1992.5 | 4.8550 | compliant |
| 256QAM-Modulation ANT2 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8750 | compliant |
| 1992.5 | 4.8550 | compliant |
| 256QAM-Modulation ANT3 | | |
| 1932.5 | 4.8550 | compliant |
| 1962.5 | 4.8450 | compliant |
| 1992.5 | 4.8650 | compliant |
| 256QAM-Modulation ANT4 | | |
| 1932.5 | 4.8350 | compliant |
| 1962.5 | 4.8650 | compliant |
| 1992.5 | 4.8550 | compliant |
| Measurement Uncertainty: | | ±48kHz |

Table 8 Occupied Bandwidth (5 MHz Channel BW)

Config B:

| Carrier Frequency [MHz] | Occupied Bandwidth [MHz] | Result |
|-------------------------|--------------------------|-----------|
| QPSK-Modulation ANT1 | | |
| 1935 | 9.7300 | compliant |
| 1962.5 | 9.6900 | compliant |
| 1990 | 9.7100 | compliant |
| QPSK-Modulation ANT2 | | |
| 1935 | 9.6700 | compliant |
| 1962.5 | 9.7300 | compliant |



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| | | |
|------------------------|--------|-----------|
| 1990 | 9.6900 | compliant |
| QPSK-Modulation ANT3 | | |
| 1935 | 9.6900 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.6900 | compliant |
| QPSK-Modulation ANT4 | | |
| 1935 | 9.6900 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.7100 | compliant |
| 16QAM-Modulation ANT1 | | |
| 1935 | 9.6500 | compliant |
| 1962.5 | 9.7100 | compliant |
| 1990 | 9.6500 | compliant |
| 16QAM-Modulation ANT2 | | |
| 1935 | 9.6900 | compliant |
| 1962.5 | 9.5900 | compliant |
| 1990 | 9.6700 | compliant |
| 16QAM-Modulation ANT3 | | |
| 1935 | 9.6100 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.6700 | compliant |
| 16QAM-Modulation ANT4 | | |
| 1935 | 9.6500 | compliant |
| 1962.5 | 9.5700 | compliant |
| 1990 | 9.5300 | compliant |
| 64QAM-Modulation ANT1 | | |
| 1935 | 9.6700 | compliant |
| 1962.5 | 9.7100 | compliant |
| 1990 | 9.7100 | compliant |
| 64QAM-Modulation ANT2 | | |
| 1935 | 9.7100 | compliant |
| 1962.5 | 9.6300 | compliant |
| 1990 | 9.7100 | compliant |
| 64QAM-Modulation ANT3 | | |
| 1935 | 9.7300 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.6700 | compliant |
| 64QAM-Modulation ANT4 | | |
| 1935 | 9.7100 | compliant |
| 1962.5 | 9.7100 | compliant |
| 1990 | 9.6900 | compliant |
| 256QAM-Modulation ANT1 | | |
| 1935 | 9.6900 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.6700 | compliant |
| 256QAM-Modulation ANT2 | | |
| 1935 | 9.6900 | compliant |
| 1962.5 | 9.6300 | compliant |
| 1990 | 9.6500 | compliant |
| 256QAM-Modulation ANT3 | | |
| 1935 | 9.7100 | compliant |
| 1962.5 | 9.6700 | compliant |



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| | | |
|--------------------------|--------|-----------|
| 1990 | 9.6700 | compliant |
| 256QAM-Modulation ANT4 | | |
| 1935 | 9.6700 | compliant |
| 1962.5 | 9.6700 | compliant |
| 1990 | 9.6100 | compliant |
| Measurement Uncertainty: | | ±48kHz |

Table 9 Occupied Bandwidth (10 MHz Channel BW)

Config C:

| Carrier Frequency [MHz] | Occupied Bandwidth [MHz] | Result |
|-------------------------|--------------------------|-----------|
| QPSK-Modulation ANT1 | | |
| 1937.5 | 14.4160 | compliant |
| 1962.5 | 14.5350 | compliant |
| 1987.5 | 14.5350 | compliant |
| QPSK-Modulation ANT2 | | |
| 1937.5 | 14.5350 | compliant |
| 1962.5 | 14.5650 | compliant |
| 1987.5 | 14.5350 | compliant |
| QPSK-Modulation ANT3 | | |
| 1937.5 | 14.3860 | compliant |
| 1962.5 | 14.4760 | compliant |
| 1987.5 | 14.5350 | compliant |
| QPSK-Modulation ANT4 | | |
| 1937.5 | 14.5650 | compliant |
| 1962.5 | 14.4460 | compliant |
| 1987.5 | 14.4760 | compliant |
| 16QAM-Modulation ANT1 | | |
| 1937.5 | 14.4160 | compliant |
| 1962.5 | 14.3560 | compliant |
| 1987.5 | 14.4460 | compliant |
| 16QAM-Modulation ANT2 | | |
| 1937.5 | 14.4160 | compliant |
| 1962.5 | 14.2960 | compliant |
| 1987.5 | 14.4160 | compliant |
| 16QAM-Modulation ANT3 | | |
| 1937.5 | 14.5050 | compliant |
| 1962.5 | 14.4460 | compliant |
| 1987.5 | 14.2960 | compliant |
| 16QAM-Modulation ANT4 | | |
| 1937.5 | 14.5050 | compliant |
| 1962.5 | 14.4760 | compliant |
| 1987.5 | 14.4760 | compliant |
| 64QAM-Modulation ANT1 | | |
| 1937.5 | 14.5950 | compliant |
| 1962.5 | 14.5950 | compliant |
| 1987.5 | 14.5350 | compliant |
| 64QAM-Modulation ANT2 | | |
| 1937.5 | 14.5350 | compliant |
| 1962.5 | 14.5050 | compliant |
| 1987.5 | 14.5650 | compliant |



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| 64QAM-Modulation ANT3 | | |
|--------------------------|---------|-----------|
| 1937.5 | 14.4760 | compliant |
| 1962.5 | 14.5650 | compliant |
| 1987.5 | 14.4460 | compliant |
| 64QAM-Modulation ANT4 | | |
| 1937.5 | 14.4760 | compliant |
| 1962.5 | 14.5050 | compliant |
| 1987.5 | 14.5050 | compliant |
| 256QAM-Modulation ANT1 | | |
| 1937.5 | 14.5050 | compliant |
| 1962.5 | 14.5350 | compliant |
| 1987.5 | 14.5350 | compliant |
| 256QAM-Modulation ANT2 | | |
| 1937.5 | 14.4760 | compliant |
| 1962.5 | 14.4460 | compliant |
| 1987.5 | 14.5650 | compliant |
| 256QAM-Modulation ANT3 | | |
| 1937.5 | 14.5050 | compliant |
| 1962.5 | 14.4760 | compliant |
| 1987.5 | 14.5350 | compliant |
| 256QAM-Modulation ANT4 | | |
| 1937.5 | 14.4160 | compliant |
| 1962.5 | 14.5350 | compliant |
| 1987.5 | 14.5350 | compliant |
| Measurement Uncertainty: | | ±48kHz |

Table 10 Occupied Bandwidth (15 MHz Channel BW)

Config D:

| Carrier Frequency [MHz] | Occupied Bandwidth [MHz] | Result |
|-------------------------|--------------------------|-----------|
| QPSK-Modulation ANT1 | | |
| 1937.5 | 19.3010 | compliant |
| 1962.5 | 19.4610 | compliant |
| 1987.5 | 19.5000 | compliant |
| QPSK-Modulation ANT2 | | |
| 1937.5 | 19.3410 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.4210 | compliant |
| QPSK-Modulation ANT3 | | |
| 1937.5 | 19.3810 | compliant |
| 1962.5 | 19.4610 | compliant |
| 1987.5 | 19.3010 | compliant |
| QPSK-Modulation ANT4 | | |
| 1937.5 | 19.5400 | compliant |
| 1962.5 | 19.5000 | compliant |
| 1987.5 | 19.4210 | compliant |
| 16QAM-Modulation ANT1 | | |
| 1937.5 | 19.5400 | compliant |
| 1962.5 | 19.5800 | compliant |
| 1987.5 | 19.5000 | compliant |
| 16QAM-Modulation ANT2 | | |



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| | | |
|--------------------------|---------|-----------|
| 1937.5 | 19.5800 | compliant |
| 1962.5 | 19.5000 | compliant |
| 1987.5 | 19.5800 | compliant |
| 16QAM-Modulation ANT3 | | |
| 1937.5 | 19.6200 | compliant |
| 1962.5 | 19.5800 | compliant |
| 1987.5 | 19.5400 | compliant |
| 16QAM-Modulation ANT4 | | |
| 1937.5 | 19.5000 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.5000 | compliant |
| 64QAM-Modulation ANT1 | | |
| 1937.5 | 19.4210 | compliant |
| 1962.5 | 19.5000 | compliant |
| 1987.5 | 19.5400 | compliant |
| 64QAM-Modulation ANT2 | | |
| 1937.5 | 19.5000 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.5000 | compliant |
| 64QAM-Modulation ANT3 | | |
| 1937.5 | 19.5000 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.4610 | compliant |
| 64QAM-Modulation ANT4 | | |
| 1937.5 | 19.5400 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.5000 | compliant |
| 256QAM-Modulation ANT1 | | |
| 1937.5 | 19.5800 | compliant |
| 1962.5 | 19.3410 | compliant |
| 1987.5 | 19.4610 | compliant |
| 256QAM-Modulation ANT2 | | |
| 1937.5 | 19.4610 | compliant |
| 1962.5 | 19.4610 | compliant |
| 1987.5 | 19.5000 | compliant |
| 256QAM-Modulation ANT3 | | |
| 1937.5 | 19.5000 | compliant |
| 1962.5 | 19.5400 | compliant |
| 1987.5 | 19.5400 | compliant |
| 256QAM-Modulation ANT4 | | |
| 1937.5 | 19.4610 | compliant |
| 1962.5 | 19.4610 | compliant |
| 1987.5 | 19.5000 | compliant |
| Measurement Uncertainty: | | ±48kHz |

Table 11 Occupied Bandwidth (20 MHz Channel BW)

The occupied bandwidth was found to be compliant with the manufacturer's specifications and with all requirements of the FCC rules.



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4.4 Test No. 4: Spurious Emissions at Antenna Terminals (§ 2.1051, § 2.1057, § 24.238)

4.4.1. Limits

Para. No. 24.238(a,b,c). The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

The compliance limit was calculated in the following way:

$$\begin{aligned}
 \text{Maximum transmitter output power [W]:} & \quad P \\
 \text{Maximum transmitter output power [dBm]:} & \quad 30 + 10 \log_{10} P \text{ (conversion from W to dBm)} \\
 \text{Attenuation required by FCC:} & \quad 43 + 10 \log_{10} P \\
 \text{Compliance limit} & = \text{Maximum transmitter output power} - \text{Required attenuation} \\
 & = 30 + 10 \log_{10} P - (43 + 10 \log_{10} P) = \underline{-13 \text{ dBm}}
 \end{aligned}$$

For MiMo output from 4 TX -antenna connectors, each antenna connectors were measured individually and each individual limit lime was reduced by $10\log(4)$. Limit line was calculated to show -19.02dB emission limit, according to FCC KDB 662911 D01 guidance.

4.4.2. Test Procedure and Results

The tests were carried out in accordance with § 24.238. For all frequency ranges except two (immediately below and above the carrier frequency block) a 1 MHz resolution bandwidth was used for the measurements.

In the 1 MHz frequency bands immediately outside and adjacent to the carrier frequency block the resolution bandwidth is lowered to 1% of the 26 dB occupied bandwidth of the transmitted carrier.

According to § 2.1057, all emissions including the fundamental frequency from the lowest radio frequency generated in the equipment, without going below 9 kHz, up to the 10th harmonic were investigated.

The following tables summarize the worst case detected emission levels (see screenshots on page 54 for details). The external attenuation (cable loss of the set up) is already added in the results. It can be seen separately as the 'Offset' value in the screenshots.

| |
|--|
| Measured laboratory room temperature and humidity during the tests |
|--|



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| | | | | |
|--------------------|----------------------|-------|-------------------|--------|
| Date | Temperature Min-Max: | | Humidity Min-Max: | |
| 19.Mar- 2.Apr 2019 | 23 °C | 24 °C | 14 RH% | 21 RH% |

Config A Lower band edge:

| Carrier Frequency: 1932.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1930.00 | -34.08 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1930.00 | -33.59 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1930.00 | -33.32 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1930.00 | -34.64 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1930.00 | -34.08 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1930.00 | -34.08 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.06 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1930.00 | -34.23 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 1930.00 | -34.31 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 1930.00 | -33.62 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.49 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 1930.00 | -34.60 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1930.00 | -34.22 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 1930.00 | -33.33 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.80 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 1930.00 | -34.51 | compliant |
| Measurement Uncertainty: | | f < 1.0GHz: ±1.1dB, | |



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| | |
|--|--|
| | 1.0GHz ≤ f < 3.6GHz: ±1.2dB, 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB |
|--|--|

Table 12 Spurious Emissions (Lower band edge) (5 MHz CH BW)

Config A Upper band edge:

| Carrier Frequency: 1992.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1995.00 | -33.00 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1995.00 | -32.60 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1995.00 | -33.19 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1995.00 | -33.14 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1995.00 | -33.11 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1995.00 | -33.12 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1995.00 | -33.46 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1995.00 | -33.58 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 1995.00 | -31.78 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 1995.00 | -32.44 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1995.00 | -33.12 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 1995.00 | -33.21 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1995.00 | -32.47 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 1995.01 | -32.68 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1995.00 | -32.70 | compliant |



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| 256QAM-Modulation ANT4 | | | |
|------------------------|---------|--|-----------|
| | 1995.00 | -32.53 | compliant |
| | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, Measurement Uncertainty: 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 13 Spurious Emissions (Upper band edge) (5 MHz CH BW)

Config A Spurious emissions:

| Carrier Frequency: 1962.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| 0.009 – 19950 | 19696.04 | -22.05 | compliant |
| QPSK-Modulation ANT2 | | | |
| 0.009 – 19950 | 19919.21 | -21.92 | compliant |
| QPSK-Modulation ANT3 | | | |
| 0.009 – 19950 | 19862.41 | -21.83 | compliant |
| QPSK-Modulation ANT4 | | | |
| 0.009 – 19950 | 19914.12 | -21.95 | compliant |
| 16QAM-Modulation ANT1 | | | |
| 0.009 – 19950 | 19911.86 | -21.62 | compliant |
| 16QAM-Modulation ANT2 | | | |
| 0.009 – 19950 | 19915.82 | -21.22 | compliant |
| 16QAM-Modulation ANT3 | | | |
| 0.009 – 19950 | 19849.72 | -22.18 | compliant |
| 16QAM-Modulation ANT4 | | | |
| 0.009 – 19950 | 19912.99 | -21.84 | compliant |
| 64QAM-Modulation ANT1 | | | |
| 0.009 – 19950 | 19916.95 | -21.71 | compliant |
| 64QAM-Modulation ANT2 | | | |
| 0.009 – 19950 | 19841.81 | -21.74 | compliant |
| 64QAM-Modulation ANT3 | | | |
| 0.009 – 19950 | 19924.29 | -22.28 | compliant |
| 64QAM-Modulation ANT4 | | | |
| 0.009 – 19950 | 19926.55 | -22.01 | compliant |
| 256QAM-Modulation ANT1 | | | |
| 0.009 – 19950 | 19914.69 | -22.31 | compliant |
| 256QAM-Modulation ANT2 | | | |
| 0.009 – 19950 | 19915.82 | -21.69 | compliant |



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| 256QAM-Modulation ANT3 | | | |
|--------------------------|----------|---|-----------|
| 0.009 – 19950 | 19916.38 | -22.02 | compliant |
| 256QAM-Modulation ANT4 | | | |
| 0.009 – 19950 | 19919.21 | -22.14 | compliant |
| Measurement Uncertainty: | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 14 Spurious Emissions (5 MHz Channel BW)

Config B Lower band edge:

| Carrier Frequency: 1935.0 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1930.00 | -33.61 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1930.00 | -33.21 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1930.00 | -33.43 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1930.00 | -33.84 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1929.99 | -33.87 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1929.99 | -33.70 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.57 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1930.00 | -34.43 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 1930.00 | -33.76 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 1930.00 | -33.05 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.57 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 1929.99 | -34.15 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1930.00 | -33.66 | compliant |



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| 256QAM-Modulation ANT2 | | | |
|--------------------------|---------|---|-----------|
| | 1930.00 | -32.84 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1930.00 | -33.18 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 1929.99 | -31.64 | compliant |
| Measurement Uncertainty: | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 15 Spurious Emissions (Lower band edge) (10 MHz CH BW)

Config B Upper band edge:

| Carrier Frequency: 1990.0 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1995.00 | -32.01 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1995.00 | -32.86 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1995.00 | -33.51 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1995.00 | -33.63 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1995.00 | -32.25 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1995.00 | -32.90 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1995.01 | -33.39 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1995.00 | -33.30 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 1995.00 | -32.52 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 1995.00 | -33.08 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1995.00 | -33.33 | compliant |
| 64QAM-Modulation ANT4 | | | |



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| | | | |
|------------------------|---------|--|-----------|
| | 1995.01 | -33.66 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1995.01 | -32.19 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 1995.00 | -32.58 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1995.01 | -33.12 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 1995.00 | -33.25 | compliant |
| | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, Measurement Uncertainty: 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 16 Spurious Emissions (Upper band edge) (10 MHz CH BW)

Config B Spurious emissions:

| Carrier Frequency: 1962.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| 0.009 – 19950 | 19848.59 | -21.84 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 19920.90 | -21.64 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 19918.08 | -21.95 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 19616.95 | -22.17 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 19919.77 | -21.39 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 19914.12 | -21.74 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 19915.25 | -21.41 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 19916.38 | -22.07 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 19929.38 | -21.63 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 19928.81 | -22.07 | compliant |
| 64QAM-Modulation ANT3 | | | |



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| | | | |
|--------------------------|----------|---|-----------|
| | 19915.25 | -22.08 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 19515.81 | -22.24 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 19914.69 | -22.01 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 19918.08 | -21.64 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 19920.90 | -21.72 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 19847.60 | -22.00 | compliant |
| Measurement Uncertainty: | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 17 Spurious Emissions (10 MHz Channel BW)

Config C Lower band edge:

| Carrier Frequency: 1937.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1930.00 | -30.46 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1929.99 | -30.11 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1929.99 | -30.32 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1929.98 | -31.00 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1930.00 | -30.93 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1929.99 | -30.02 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1929.98 | -30.33 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1929.99 | -30.87 | compliant |
| 64QAM-Modulation ANT1 | | | |
| | 1930.00 | -30.60 | compliant |
| 64QAM-Modulation ANT2 | | | |



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| | | | |
|--------------------------|---|--------|-----------|
| | 1929.99 | -30.13 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1929.99 | -30.56 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 1930.00 | -30.41 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1930.00 | -30.76 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 1929.99 | -30.22 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1929.99 | -30.12 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 1930.00 | -30.32 | compliant |
| Measurement Uncertainty: | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | | |

Table 18 Spurious Emissions (Lower band edge) (15 MHz CH BW)

Config C Upper band edge:

| Carrier Frequency: 1987.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| | 1995.00 | -29.73 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 1995.00 | -30.48 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 1995.02 | -30.30 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 1995.02 | -29.55 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 1995.01 | -29.51 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 1995.01 | -30.22 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 1995.00 | -30.17 | compliant |
| 16QAM-Modulation ANT4 | | | |
| | 1995.02 | -30.06 | compliant |
| 64QAM-Modulation ANT1 | | | |



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| | | | |
|------------------------|---------|--|-----------|
| | 1995.00 | -29.08 | compliant |
| 64QAM-Modulation ANT2 | | | |
| | 1995.00 | -30.07 | compliant |
| 64QAM-Modulation ANT3 | | | |
| | 1995.00 | -29.64 | compliant |
| 64QAM-Modulation ANT4 | | | |
| | 1995.00 | -28.97 | compliant |
| 256QAM-Modulation ANT1 | | | |
| | 1995.02 | -29.69 | compliant |
| 256QAM-Modulation ANT2 | | | |
| | 1995.01 | -29.90 | compliant |
| 256QAM-Modulation ANT3 | | | |
| | 1995.00 | -30.53 | compliant |
| 256QAM-Modulation ANT4 | | | |
| | 1995.00 | -29.55 | compliant |
| | | f < 1.0GHz: ±1.1dB, 1.0GHz ≤ f < 3.6GHz: ±1.2dB, Measurement Uncertainty: 3.6GHz ≤ f < 8.0GHz: ±1.6dB, 8.0GHz ≤ f: ±1.9dB | |

Table 19 Spurious Emissions (Upper band edge) (15 MHz CH BW)

Config C Spurious emissions:

| Carrier Frequency: 1962.5 MHz | | | |
|-------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz] | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result |
| QPSK-Modulation ANT1 | | | |
| 0.009 – 19950 | 19924.29 | -21.86 | compliant |
| QPSK-Modulation ANT2 | | | |
| | 19845.20 | -21.91 | compliant |
| QPSK-Modulation ANT3 | | | |
| | 19848.59 | -21.97 | compliant |
| QPSK-Modulation ANT4 | | | |
| | 19703.39 | -22.28 | compliant |
| 16QAM-Modulation ANT1 | | | |
| | 19850.28 | -21.97 | compliant |
| 16QAM-Modulation ANT2 | | | |
| | 19918.64 | -22.04 | compliant |
| 16QAM-Modulation ANT3 | | | |
| | 19916.95 | -22.09 | compliant |
| 16QAM-Modulation ANT4 | | | |