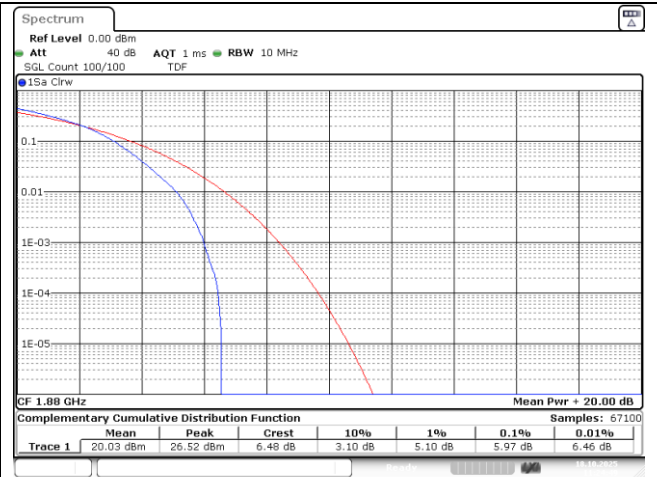
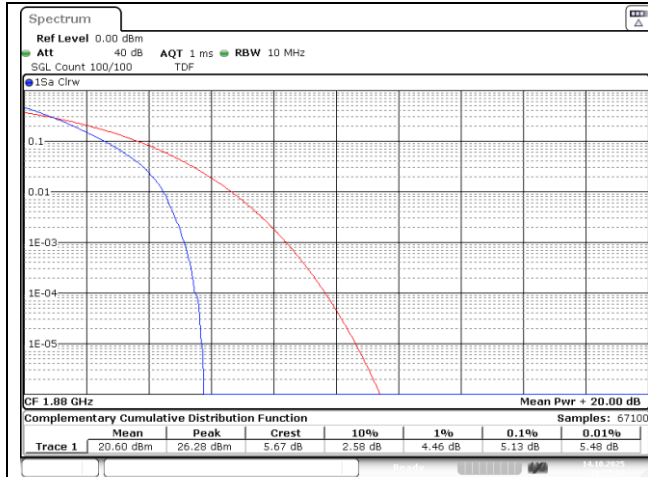
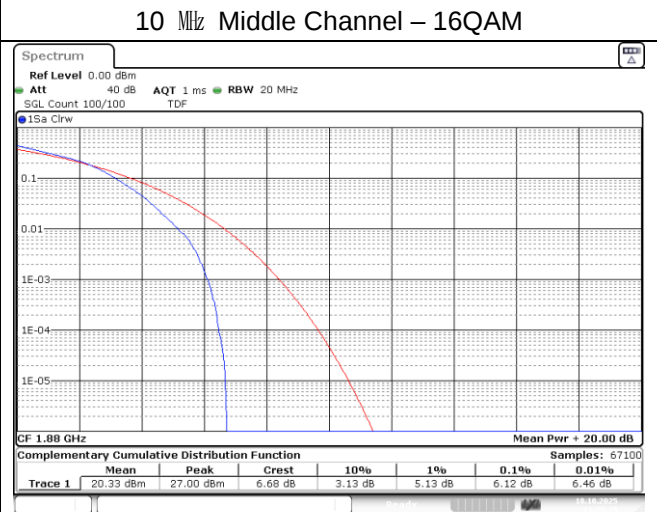
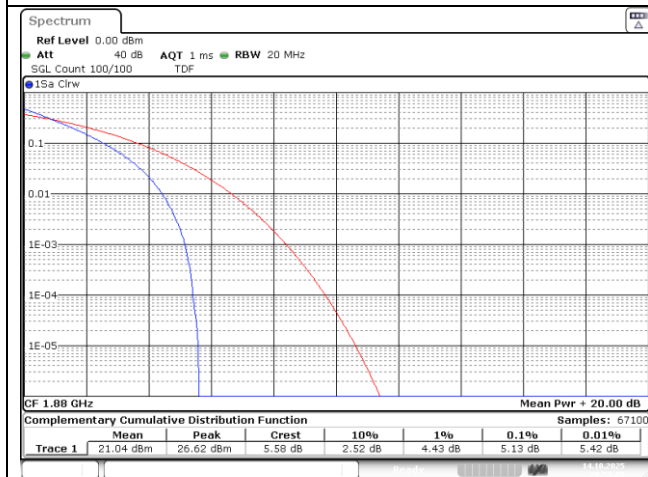


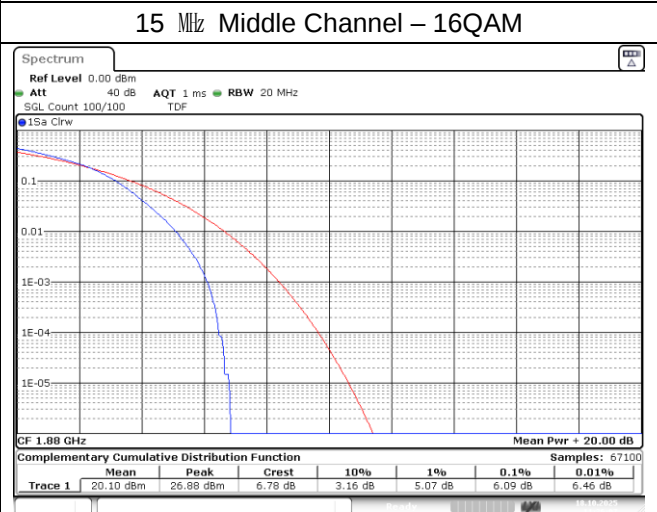
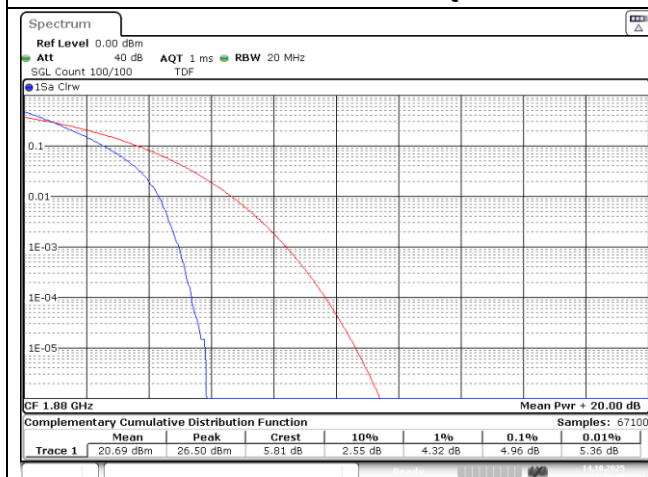
LTE band 2



10 MHz Middle Channel- QPSK



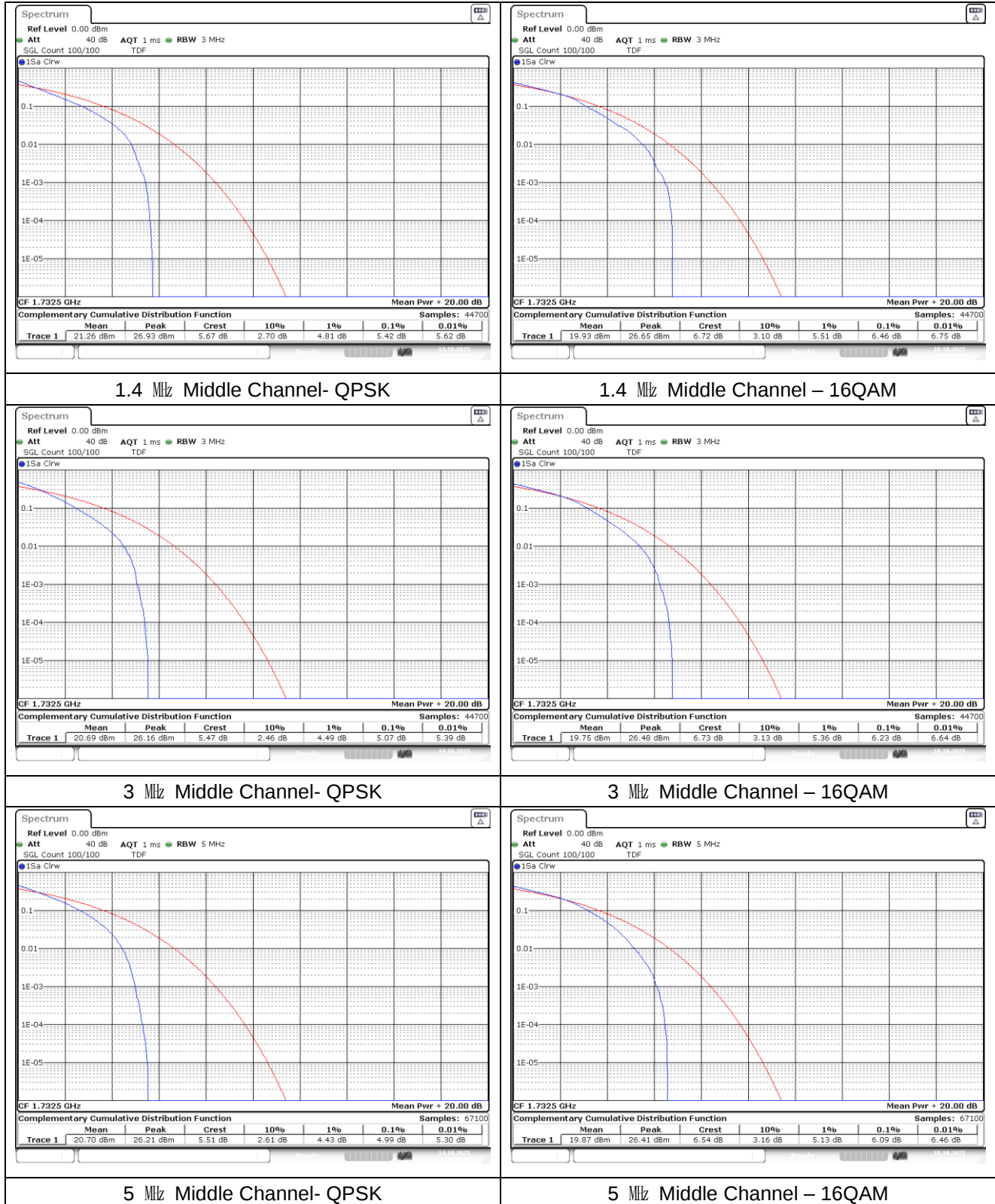
15 MHz Middle Channel- QPSK



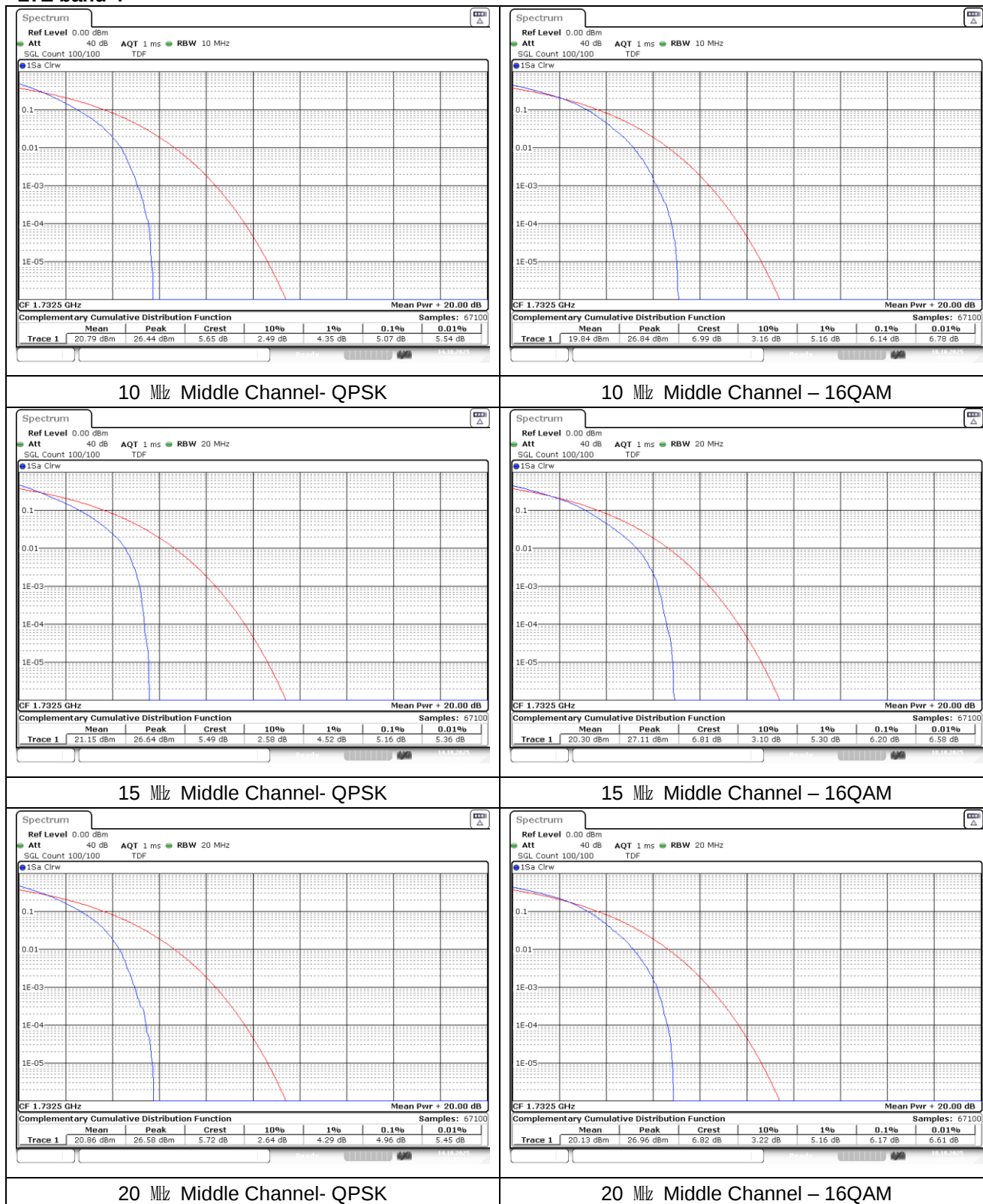
20 MHz Middle Channel- QPSK

20 MHz Middle Channel - 16QAM

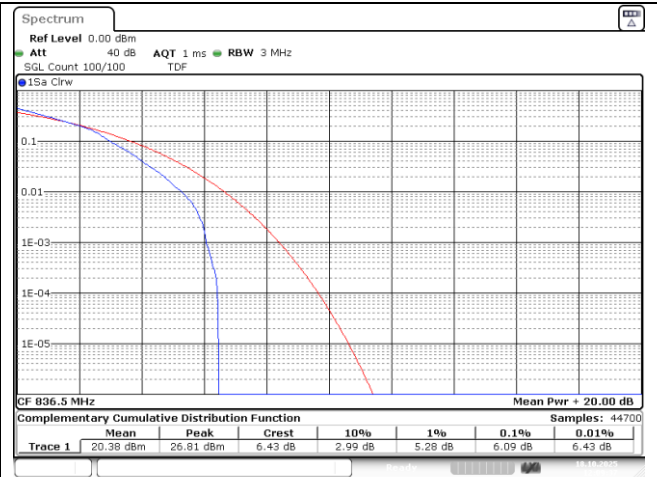
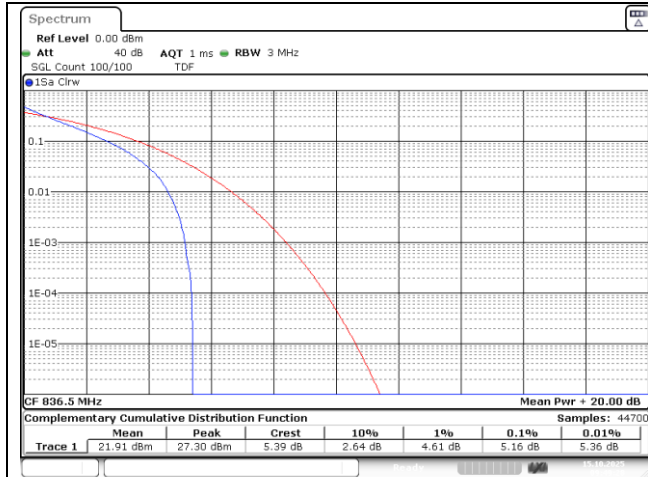
LTE band 4



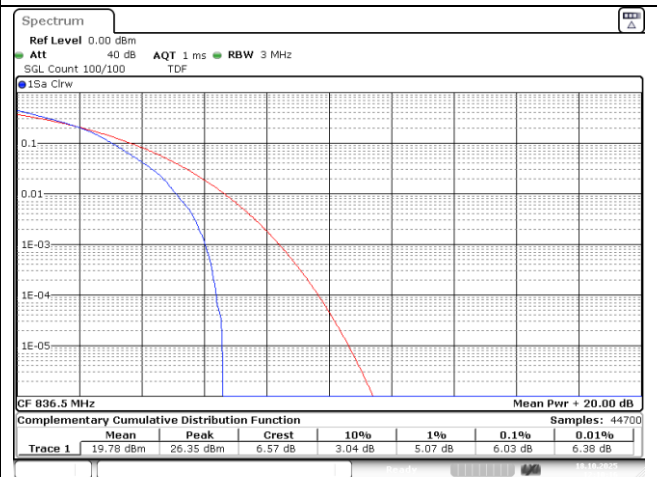
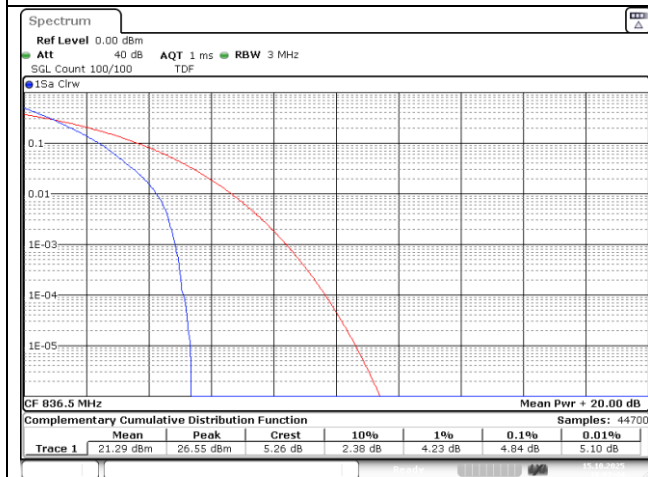
LTE band 4



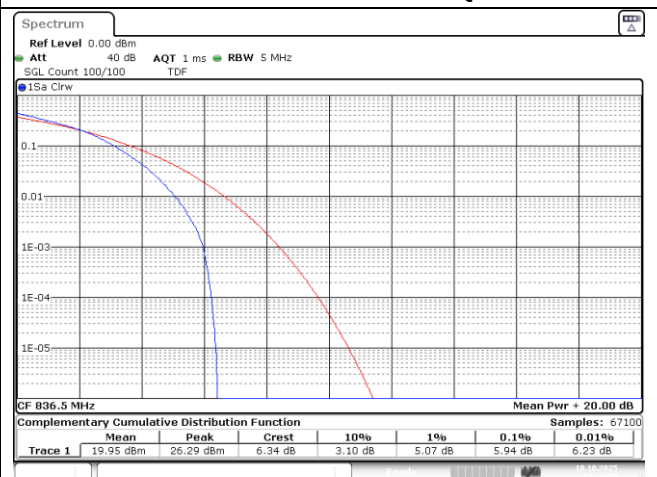
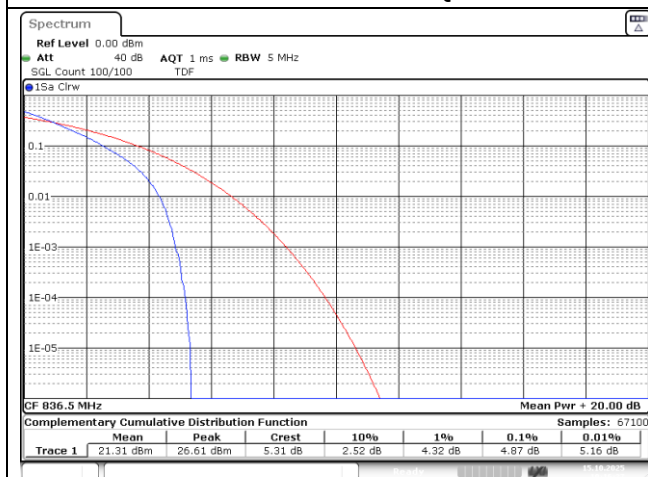
LTE band 5



1.4 MHz Middle Channel- QPSK



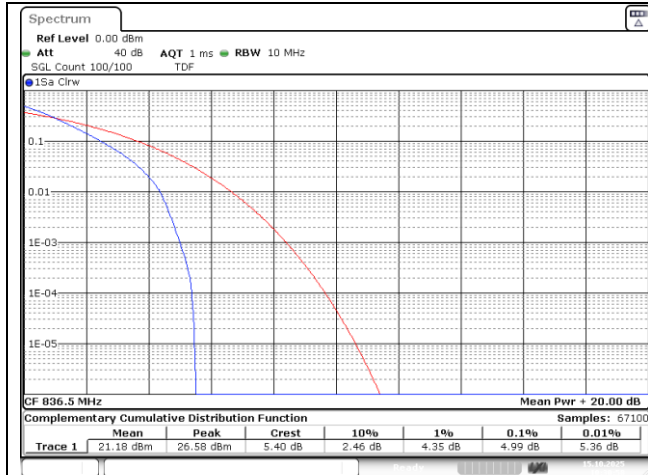
3 MHz Middle Channel- QPSK



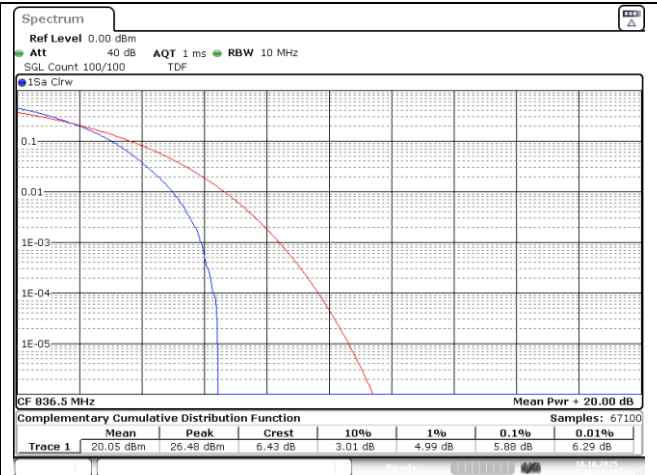
5 MHz Middle Channel- QPSK

5 MHz Middle Channel - 16QAM

LTE band 5

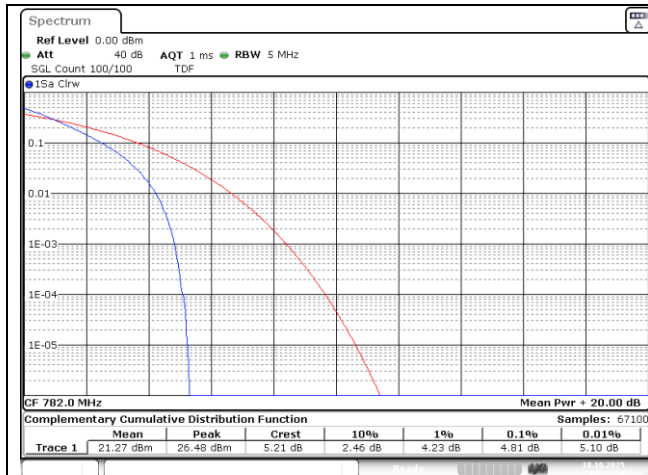


10 MHz Middle Channel- QPSK

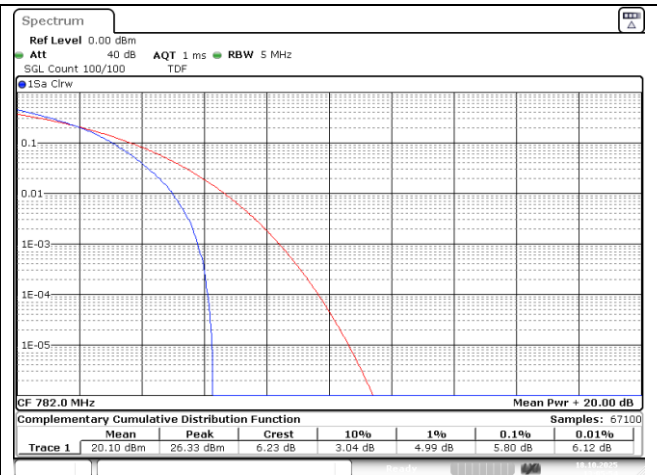


10 MHz Middle Channel - 16QAM

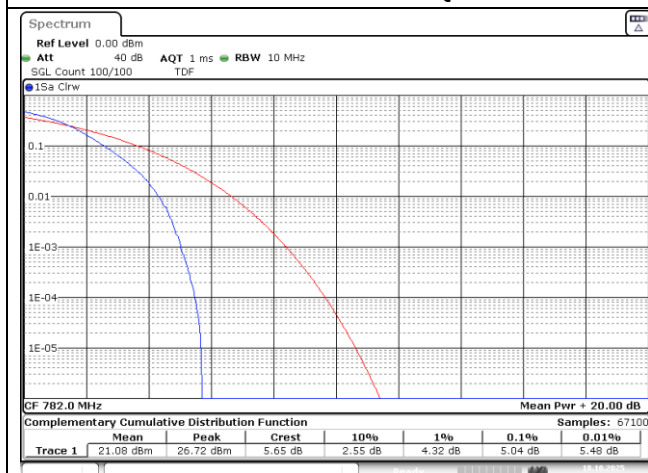
LTE band 13



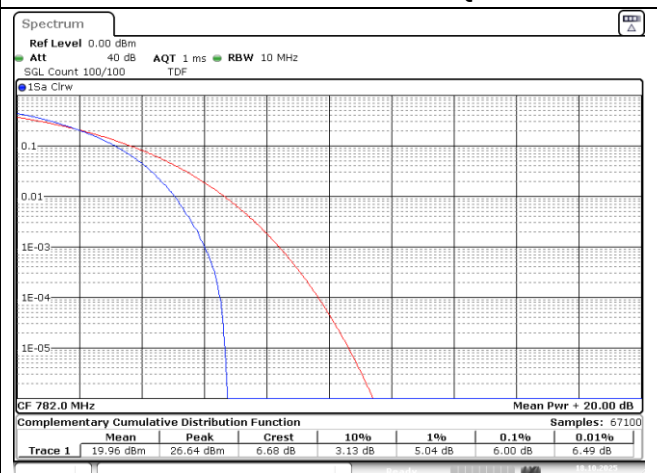
5 MHz Middle Channel- QPSK



5 MHz Middle Channel - 16QAM



10 MHz Middle Channel- QPSK



10 MHz Middle Channel - 16QAM

6. Spurious Emissions at Antenna Terminal

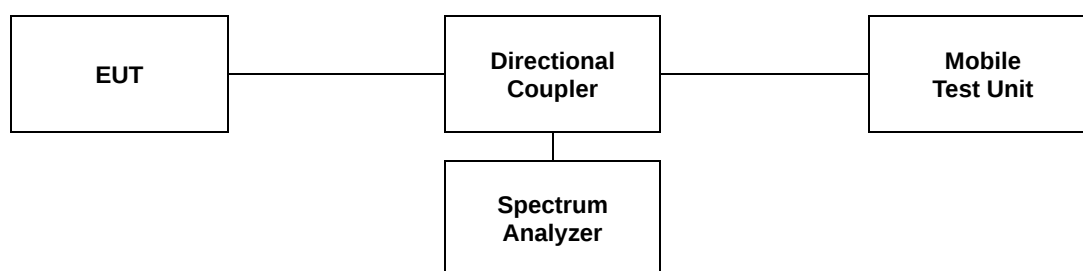
6.1. Limit

- §22.917(a), 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.
- §24.238(a), 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.
- §27.53(c)(2), On any frequency outside the 776-788 band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
- §27.53(h)(1), for operations in the 1 695-1 710 MHz, 1 710-1 755 MHz, 1 755-1 780 MHz, 1 915-1 920 MHz, 1 995-2 000 MHz, 2 000-2 020 MHz, 2 110-2 155 MHz, 2 155-2 180 MHz, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

6.2. Test Procedure

The test follows section 5.7.4 of ANSI C63.26-2015

1. Start frequency was set to 9 kHz and stop frequency was set to at least 10* the fundamental frequency.
2. Detector = RMS.
3. Trace mode = Max hold.
4. Sweep time = Auto couple.
5. The trace was allowed to stabilize.
6. Please see notes below for RBW and VBW settings.
7. For plots showing conducted spurious emissions from 9 kHz to 20 GHz, all path loss of wide frequency range was investigated and compensated to spectrum analyzer as correction factor.



Note;

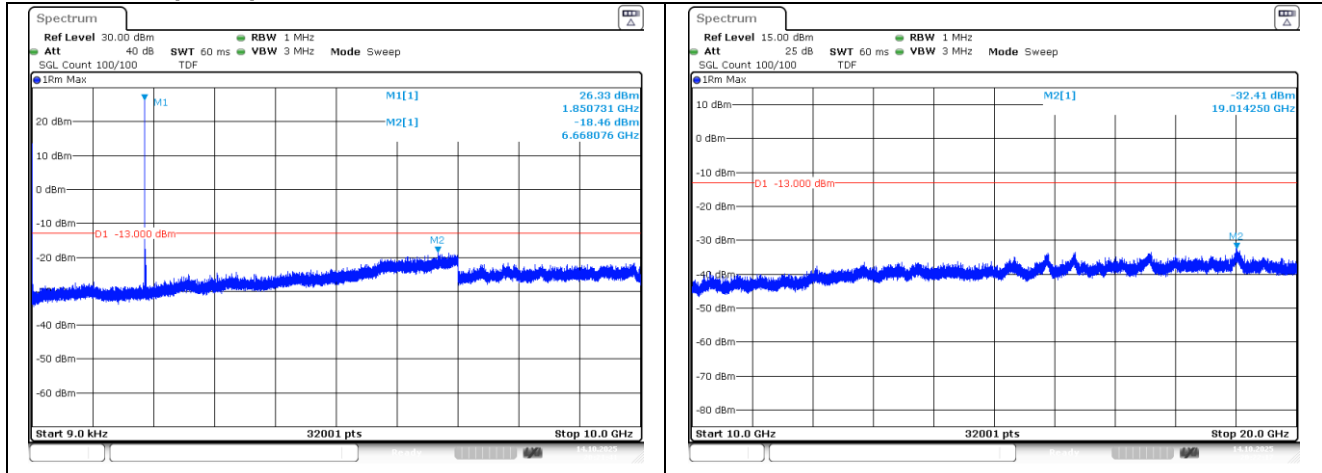
Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two point, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

6.3. Test Results

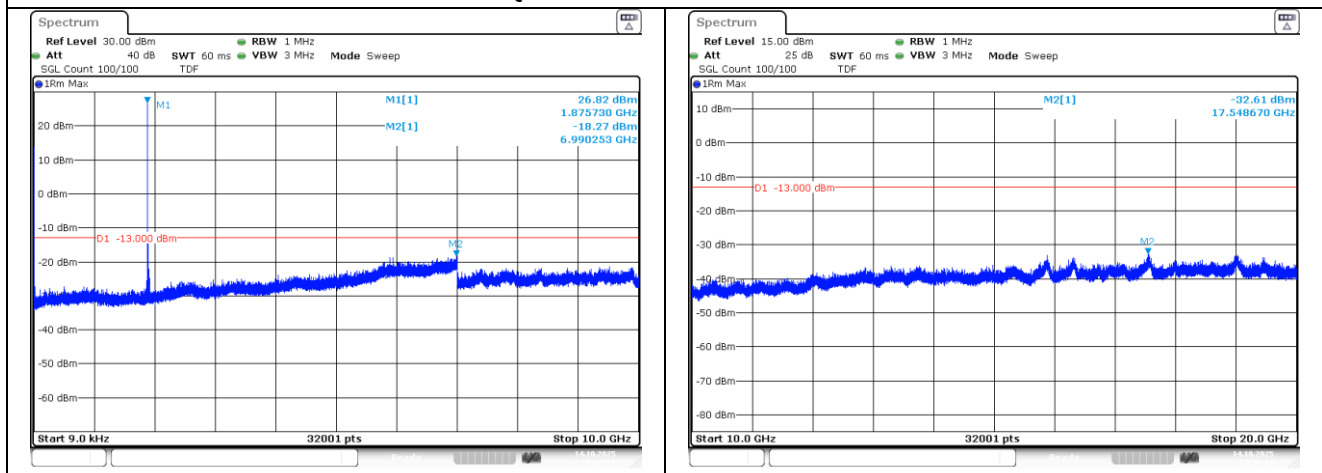
Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 %

- Test plots

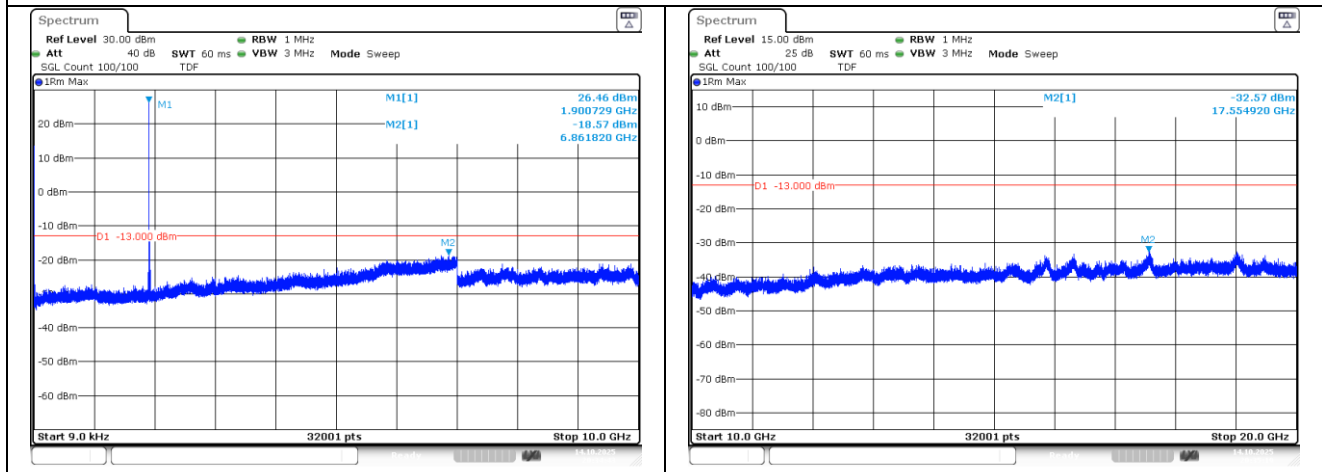
LTE band 2 (10 MHz)



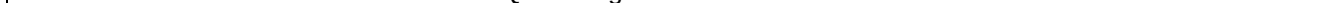
QPSK Low Channel - 1 RB



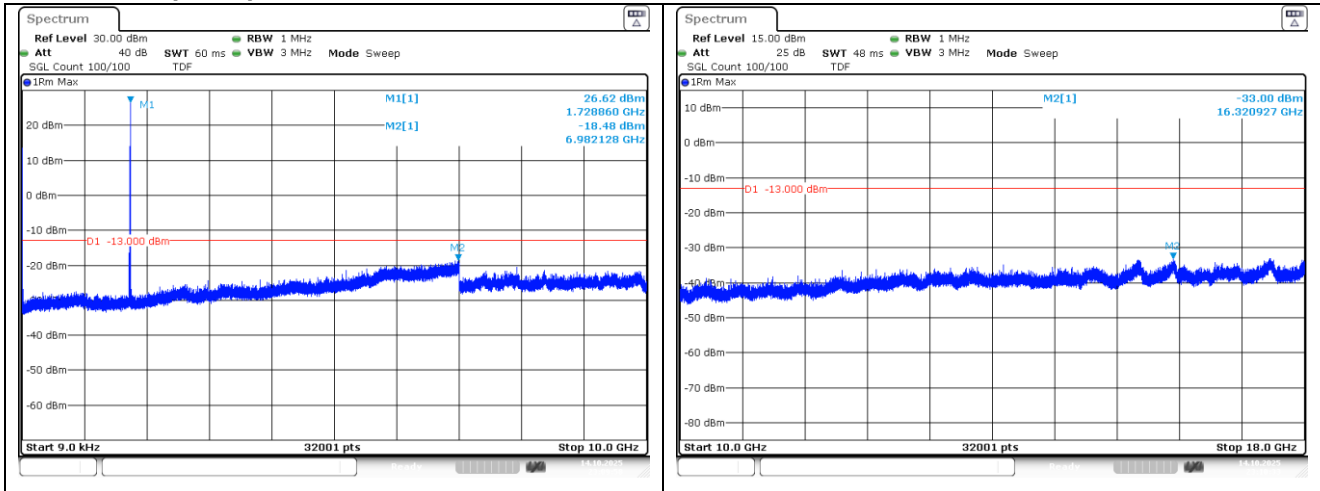
QPSK Middle Channel - 1 RB



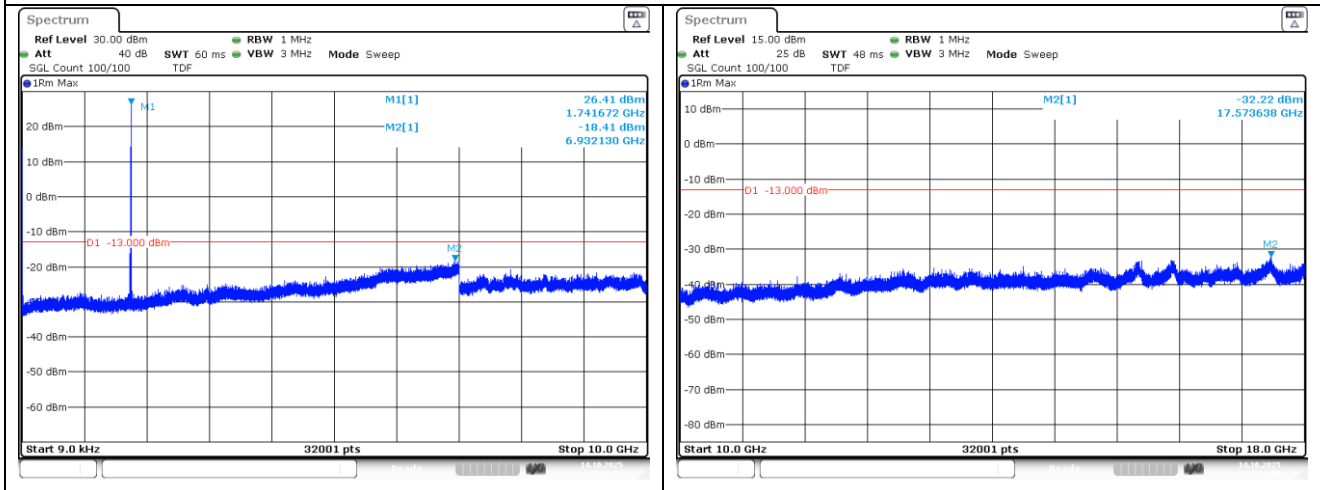
QPSK High Channel - 1 RB



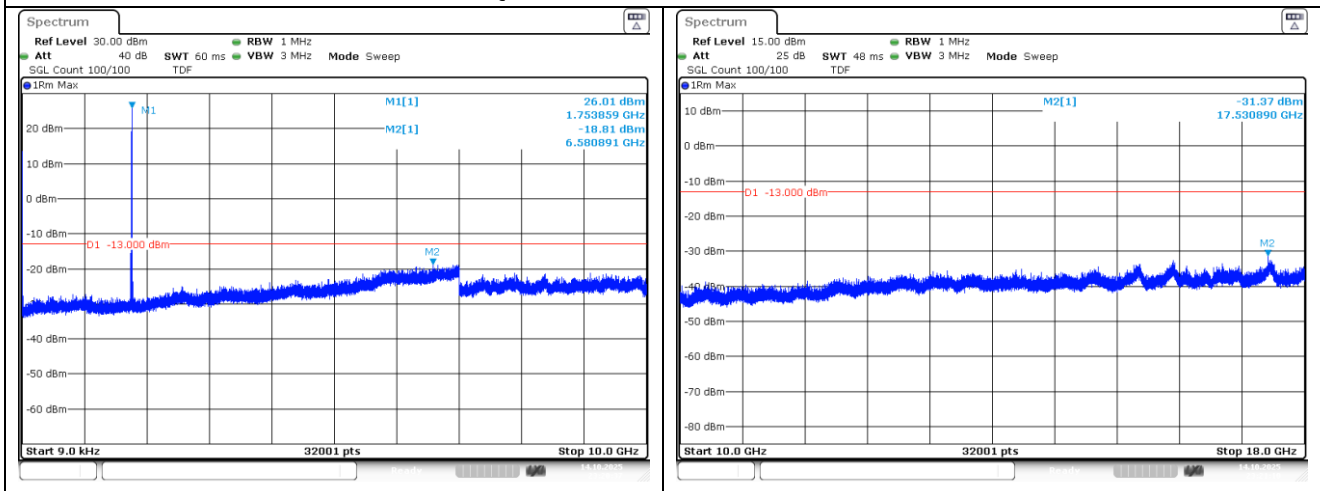
LTE band 4 (20 MHz)



QPSK Low Channel - 1 RB

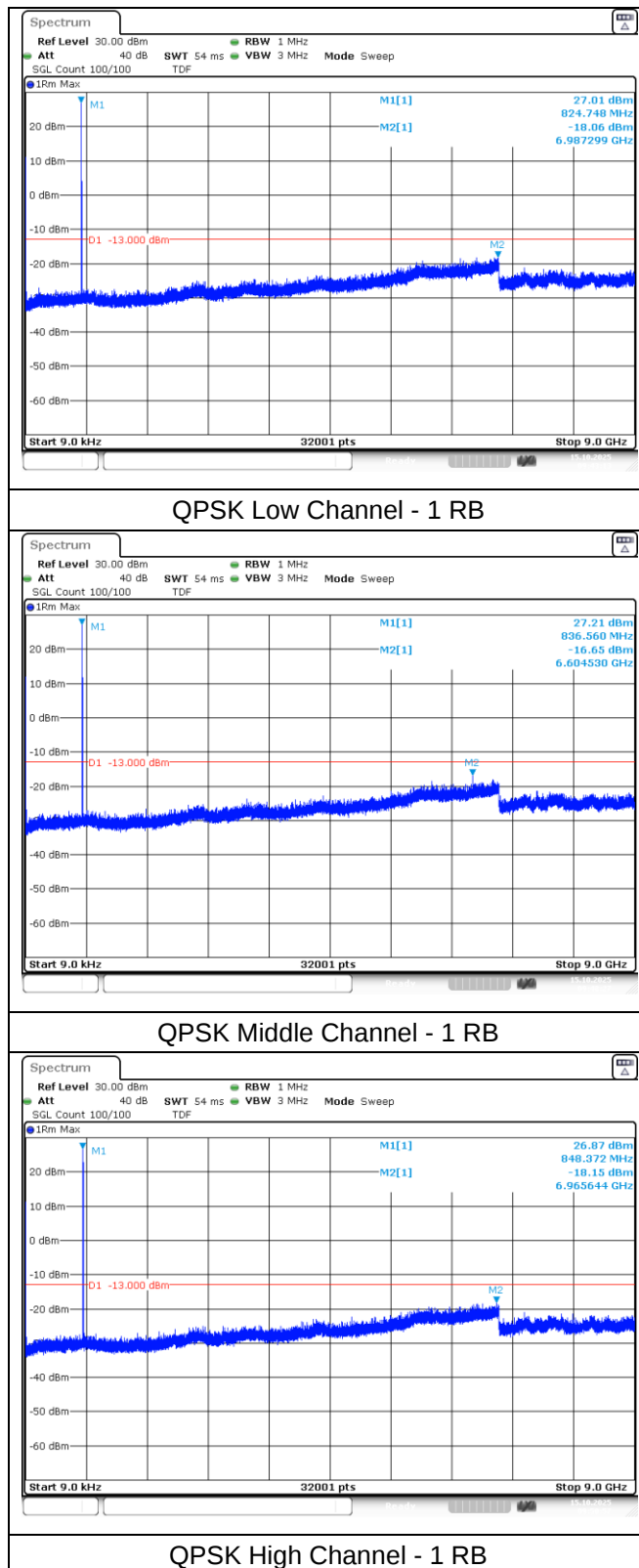


QPSK Middle Channel - 1 RB

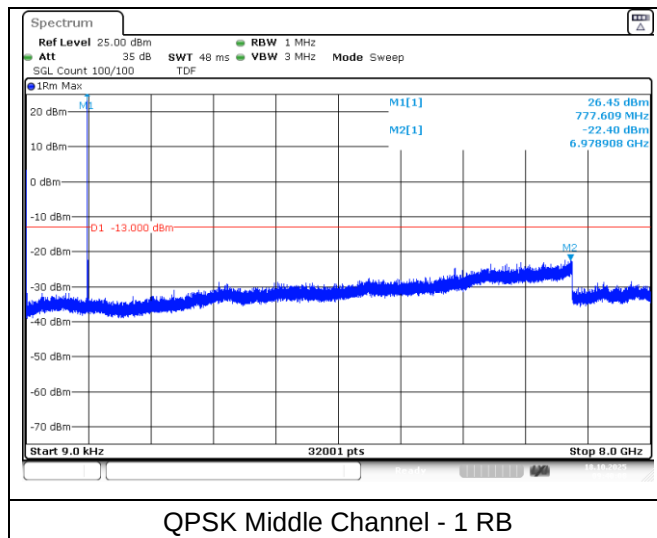


QPSK High Channel - 1 RB

LTE band 5 (1.4 MHz)



LTE band 13 (10 MHz)



7. Band Edge

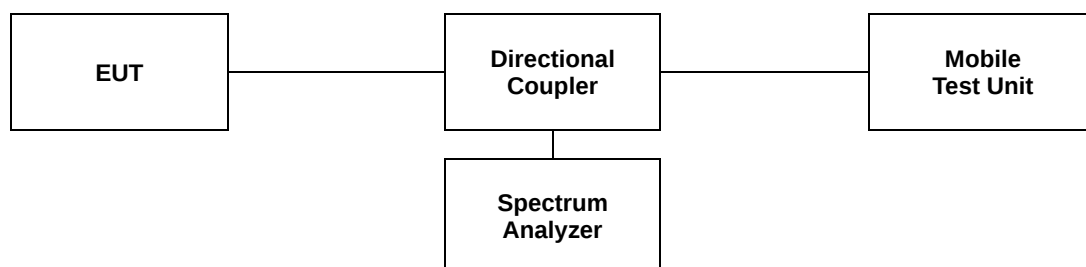
7.1. Limit

- §22.917(a), 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.
- §24.238(a), 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.
- §27.53(c)(2), On any frequency outside the 776-788 band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
- §27.53(c)(4), On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- §27.53(h)(1), for operations in the 1 695-1 710 MHz, 1 710-1 755 MHz, 1 755-1 780 MHz, 1 915-1 920 MHz, 1 995-2 000 MHz, 2 000-2 020 MHz, 2 110-2 155 MHz, 2 155-2 180 MHz, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

7.2. Test Procedure

The test follows section 5.7.3 of ANSI C63.26-2015

1. Span was set large enough so as to capture all out of band emissions near the band edge.
2. RBW ≥ 1 % of the OBW.
3. VBW $\geq 3 \times$ RBW.
4. Detector = RMS.
5. Trace mode = Average.
6. Sweep time = Auto.
7. The trace was allowed to stabilize.
8. All path loss of frequency range was investigated and compensated to spectrum analyzer as TDF function.

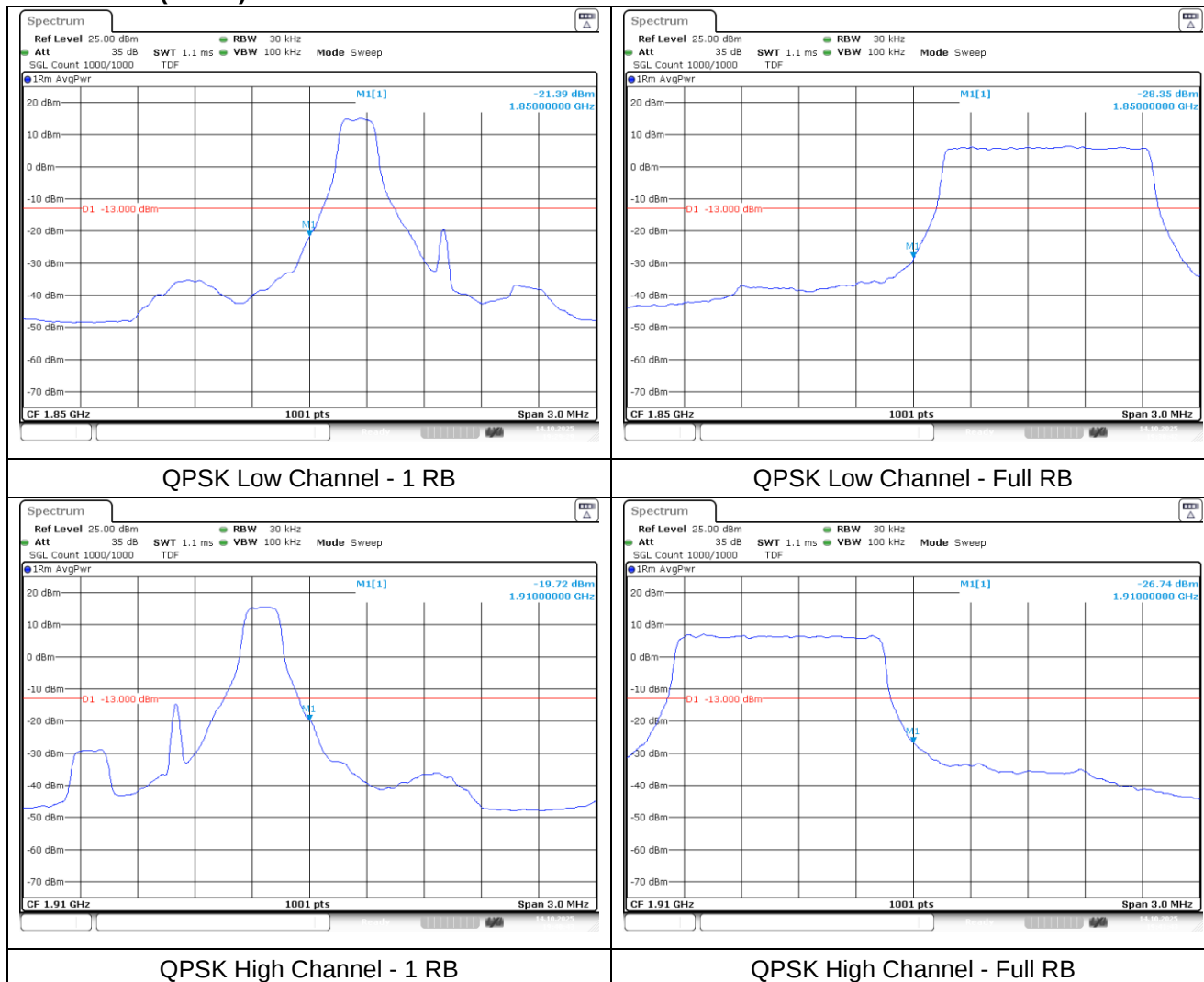


7.3. Test Results

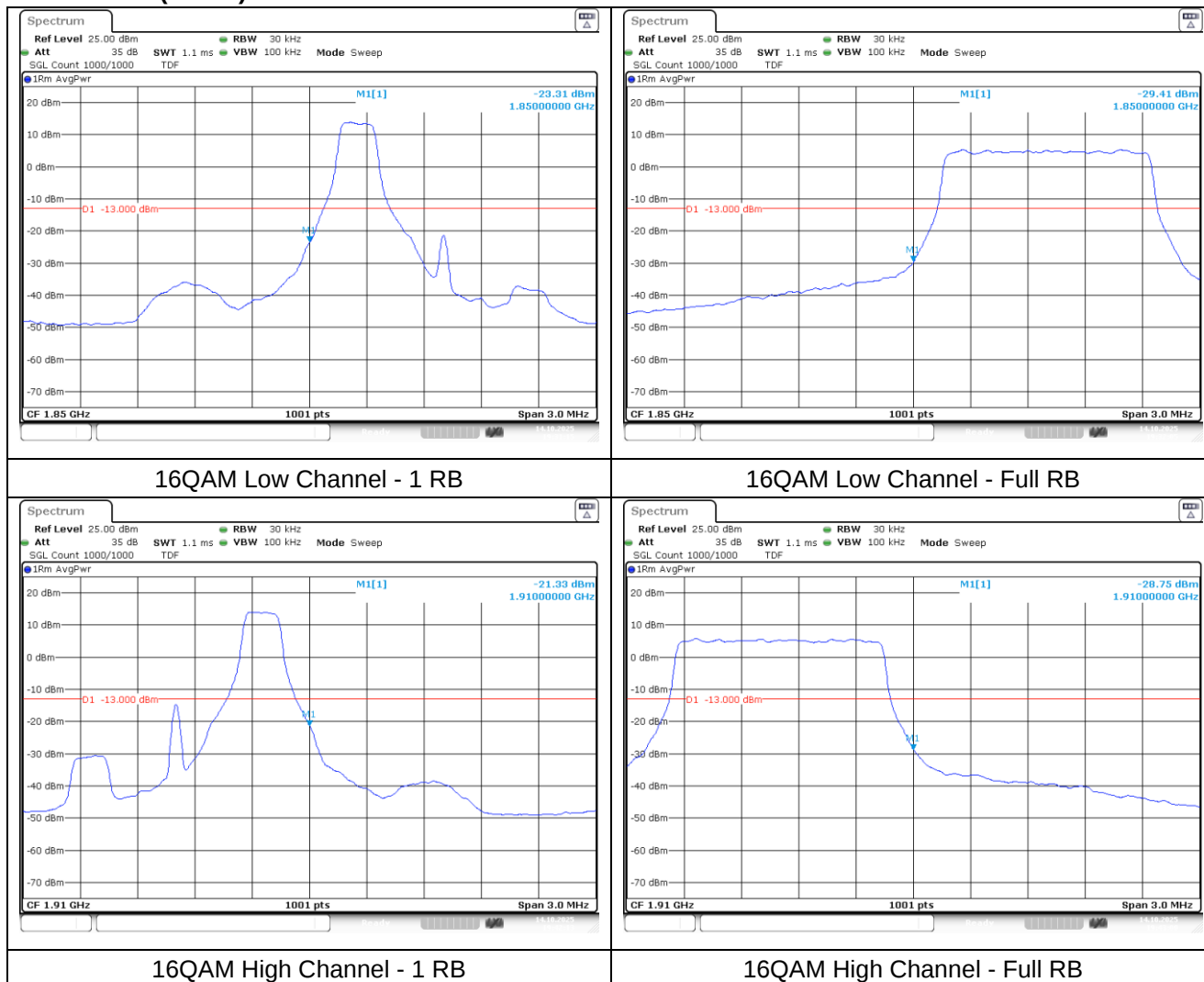
Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 %

- Test plots

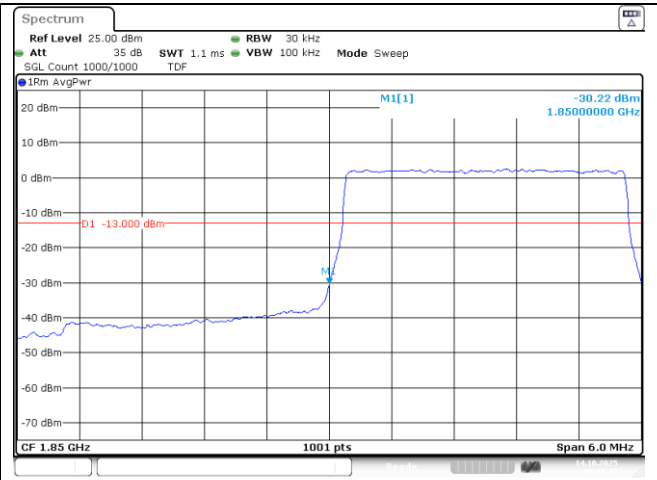
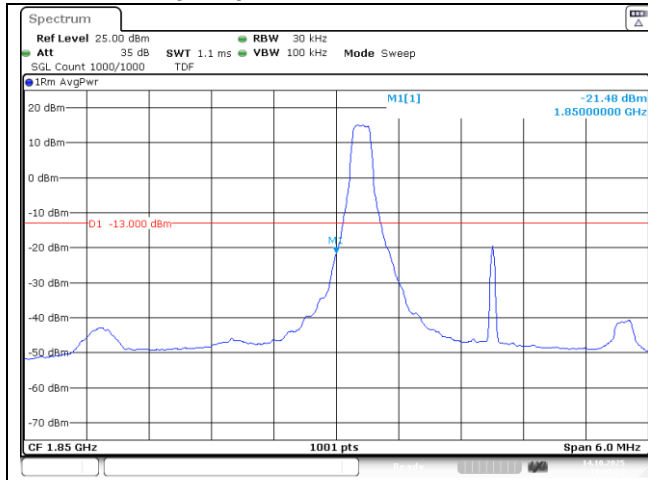
LTE band 2 (1.4 MHz)



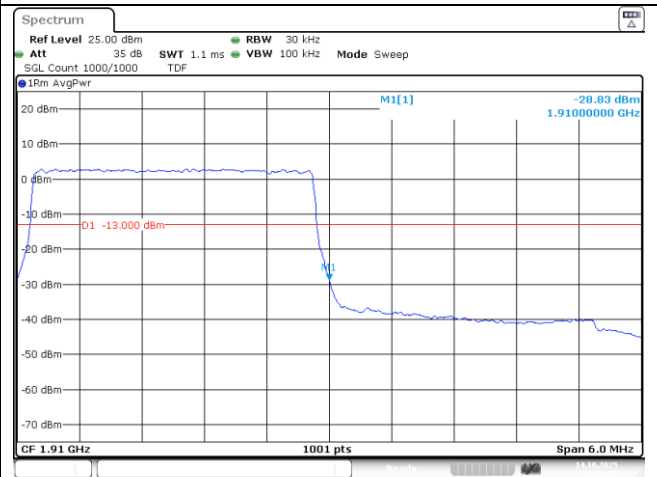
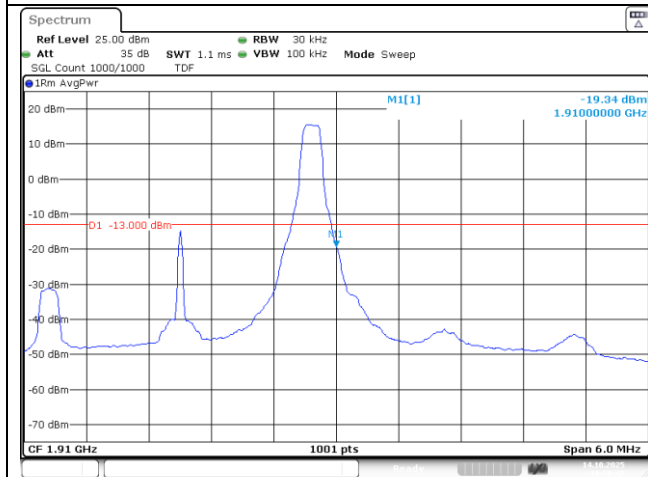
LTE band 2 (1.4 MHz)



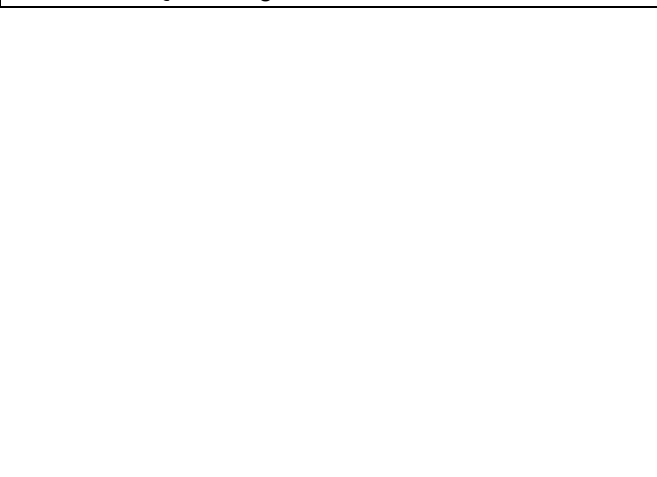
LTE band 2 (3 MHz)



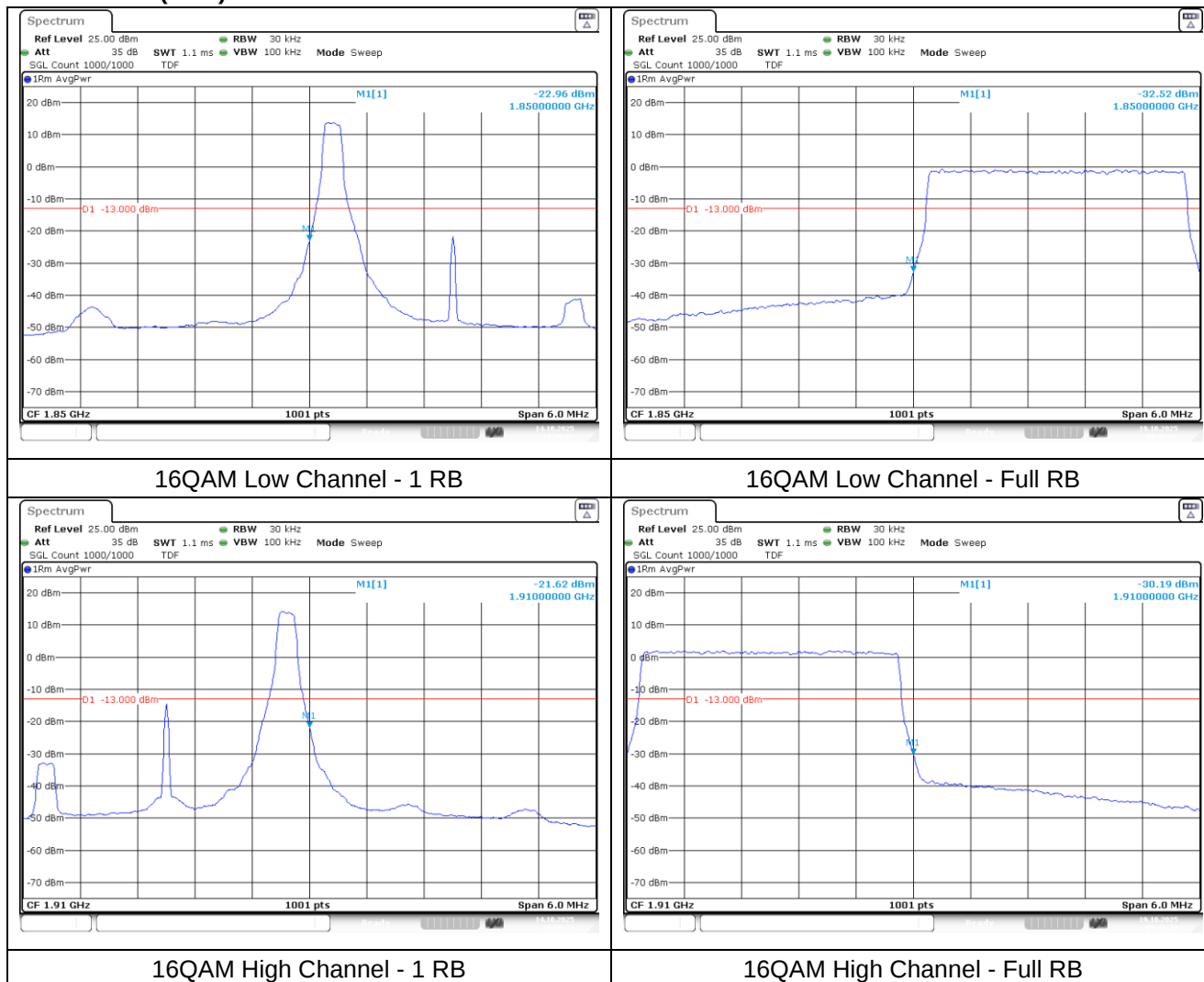
QPSK Low Channel - 1 RB



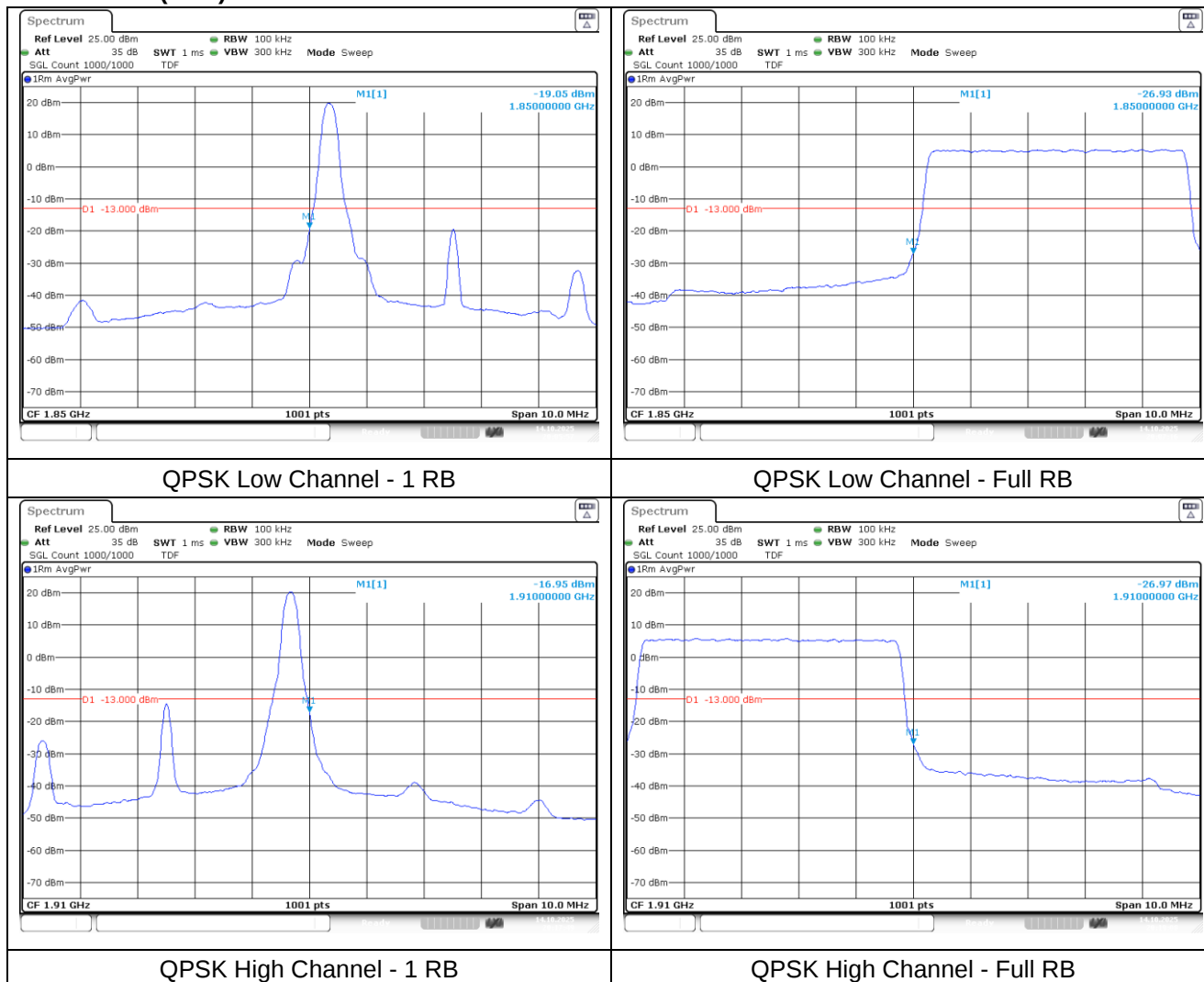
QPSK High Channel - 1 RB



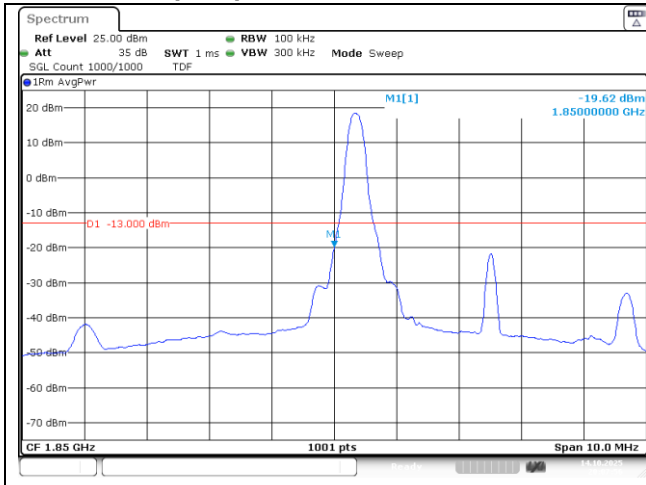
LTE band 2 (3 MHz)



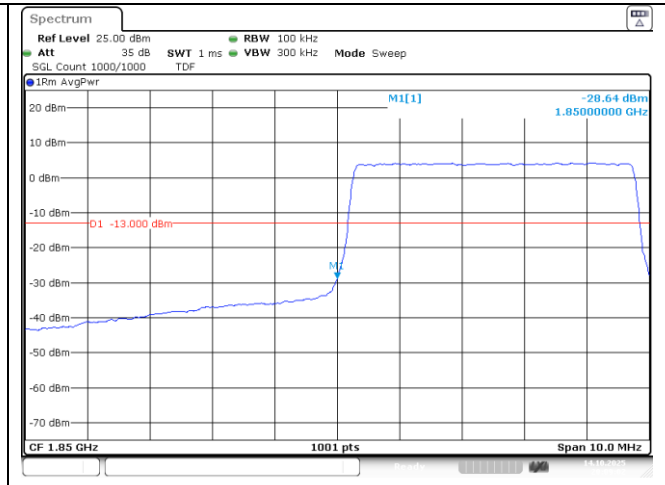
LTE band 2 (5 MHz)



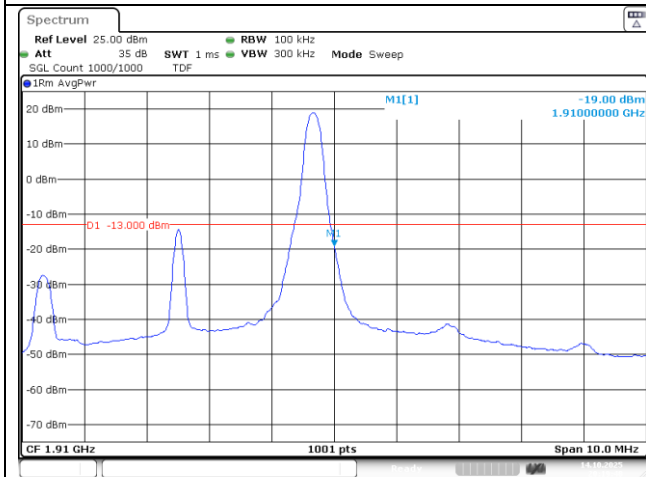
LTE band 2 (5 MHz)



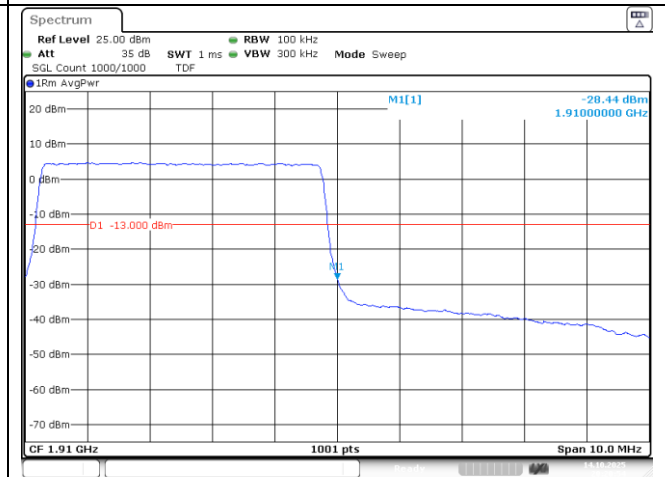
16QAM Low Channel - 1 RB



16QAM Low Channel - Full RB

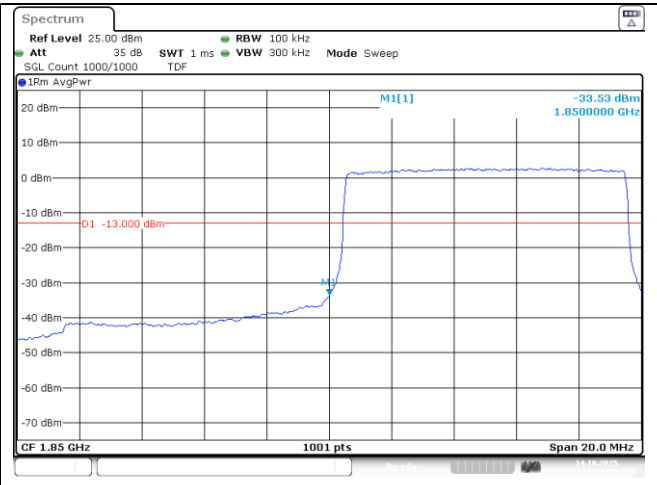
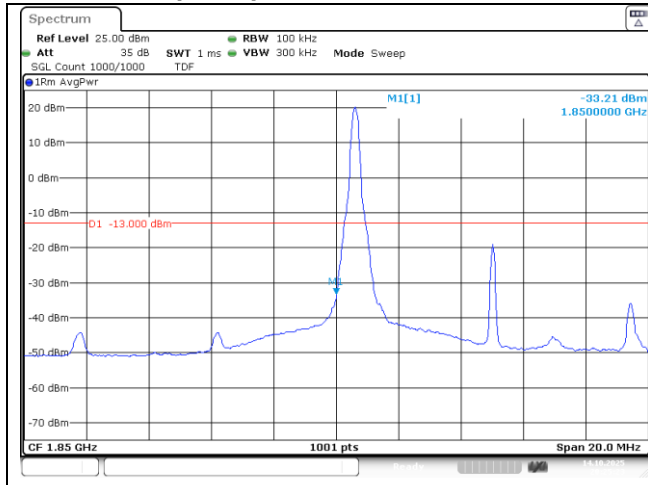


16QAM High Channel - 1 RB

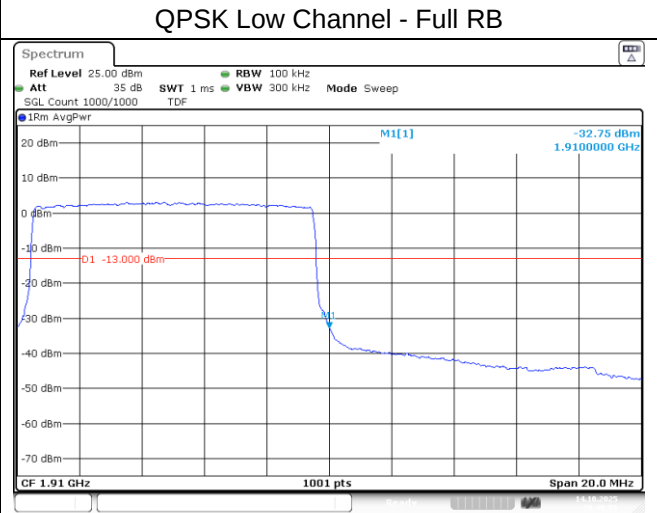
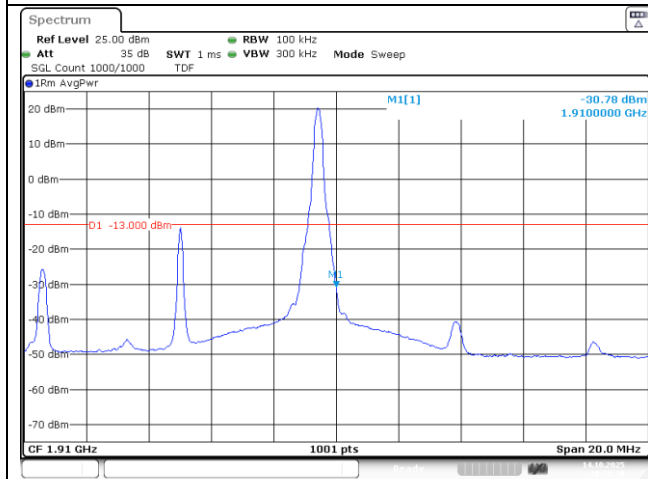


16QAM High Channel - Full RB

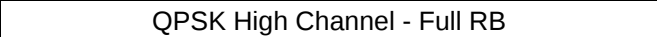
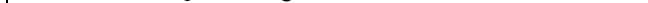
LTE band 2 (10 MHz)



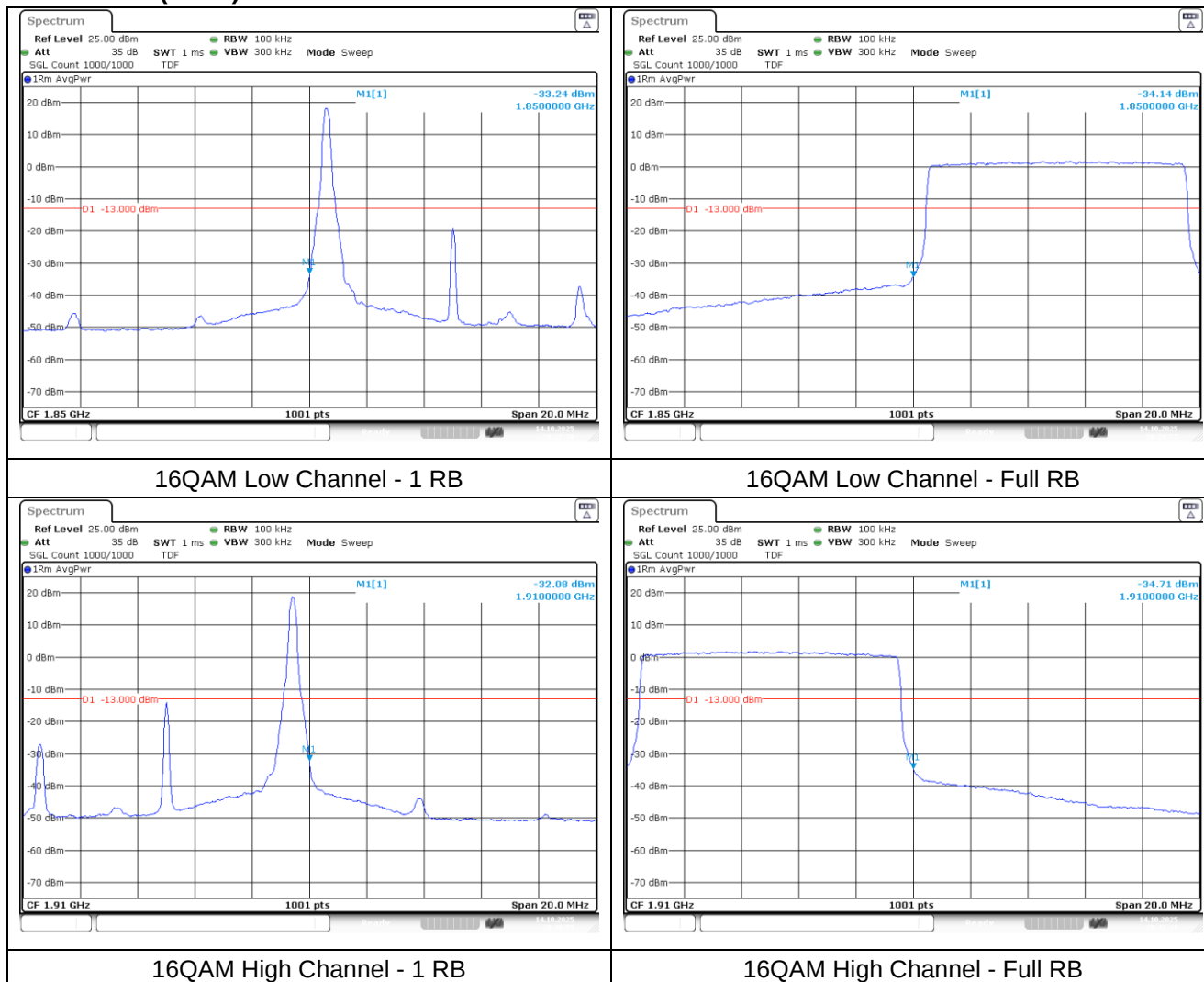
QPSK Low Channel - 1 RB



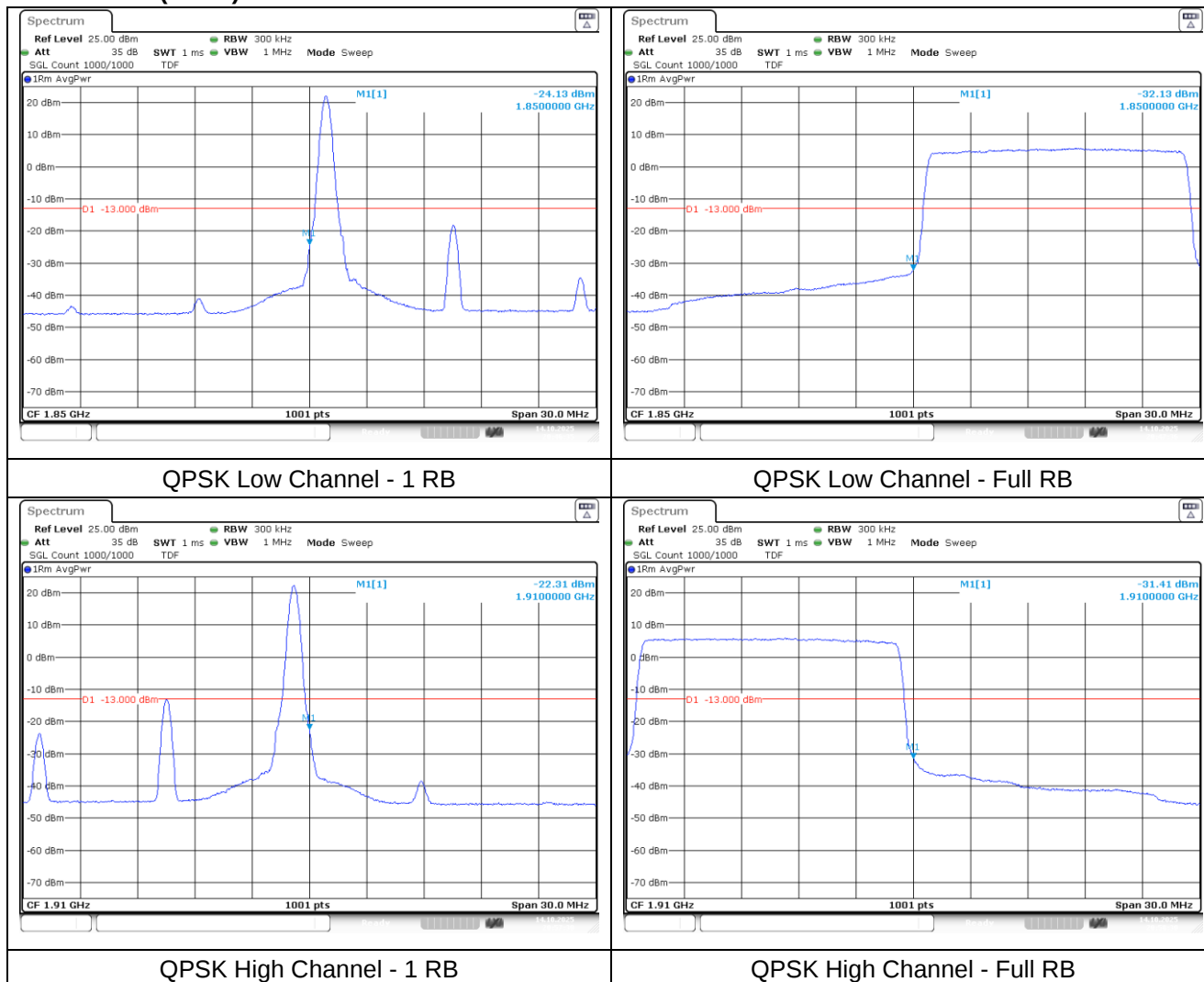
QPSK High Channel - 1 RB



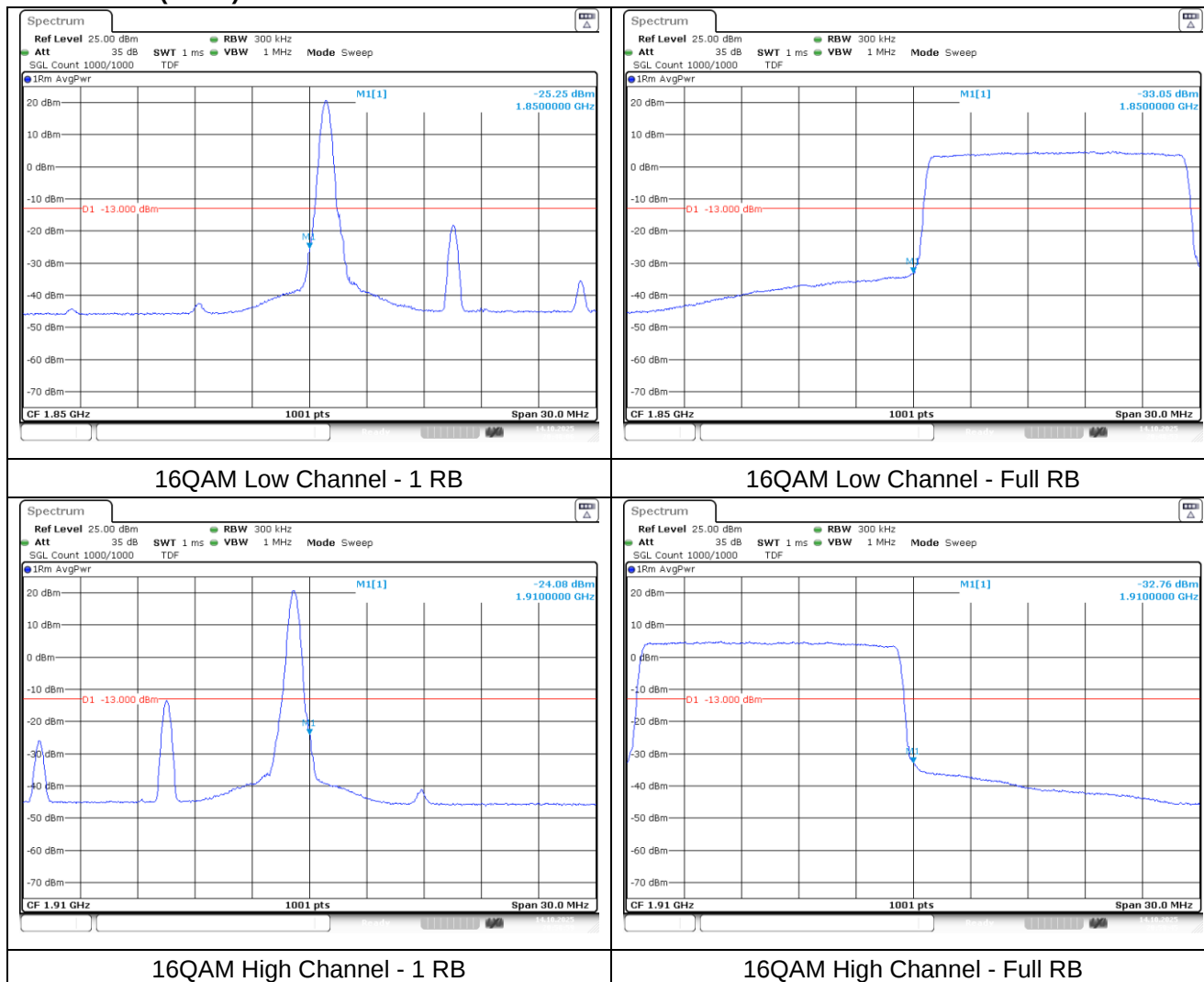
LTE band 2 (10 MHz)



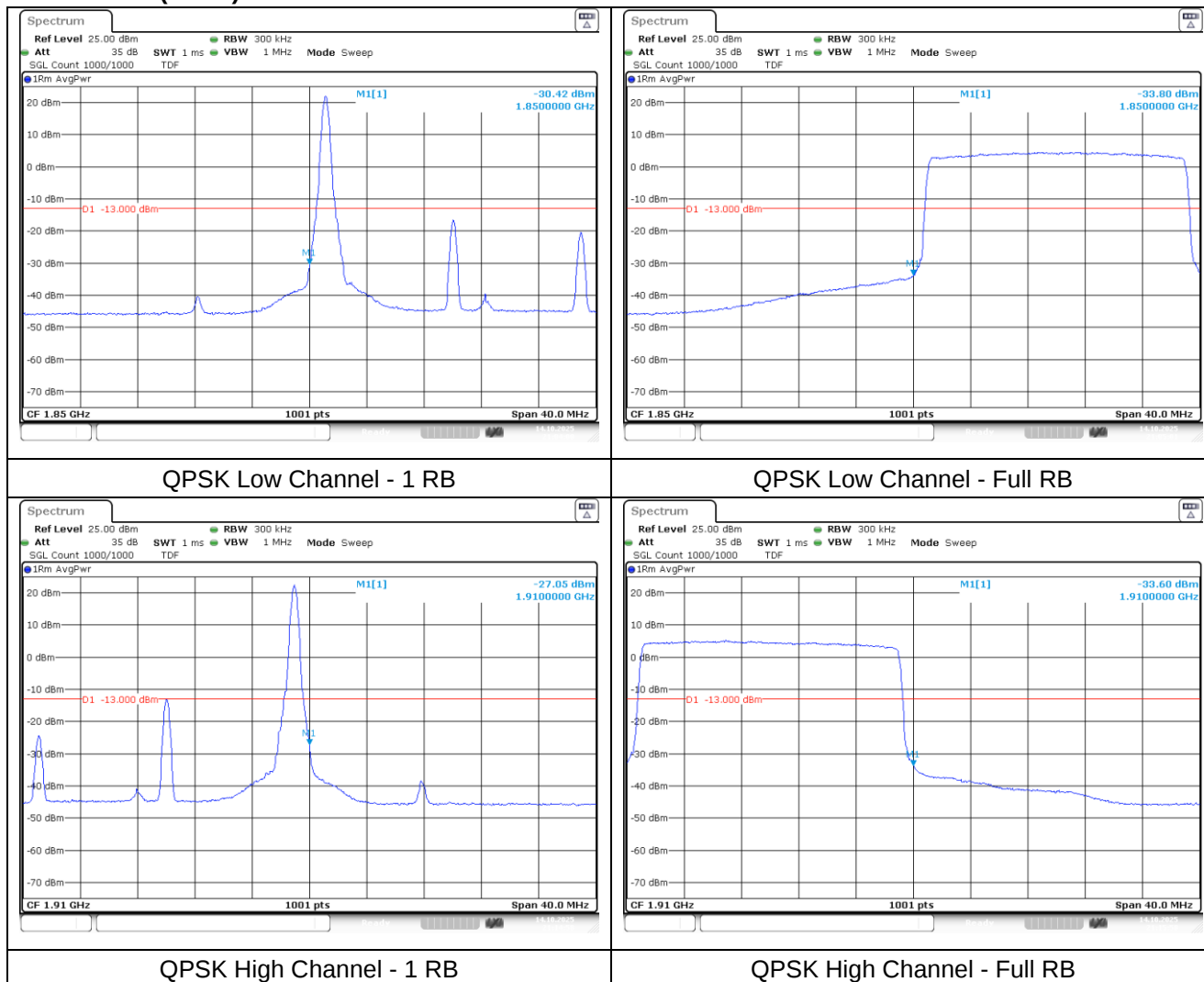
LTE band 2 (15 MHz)



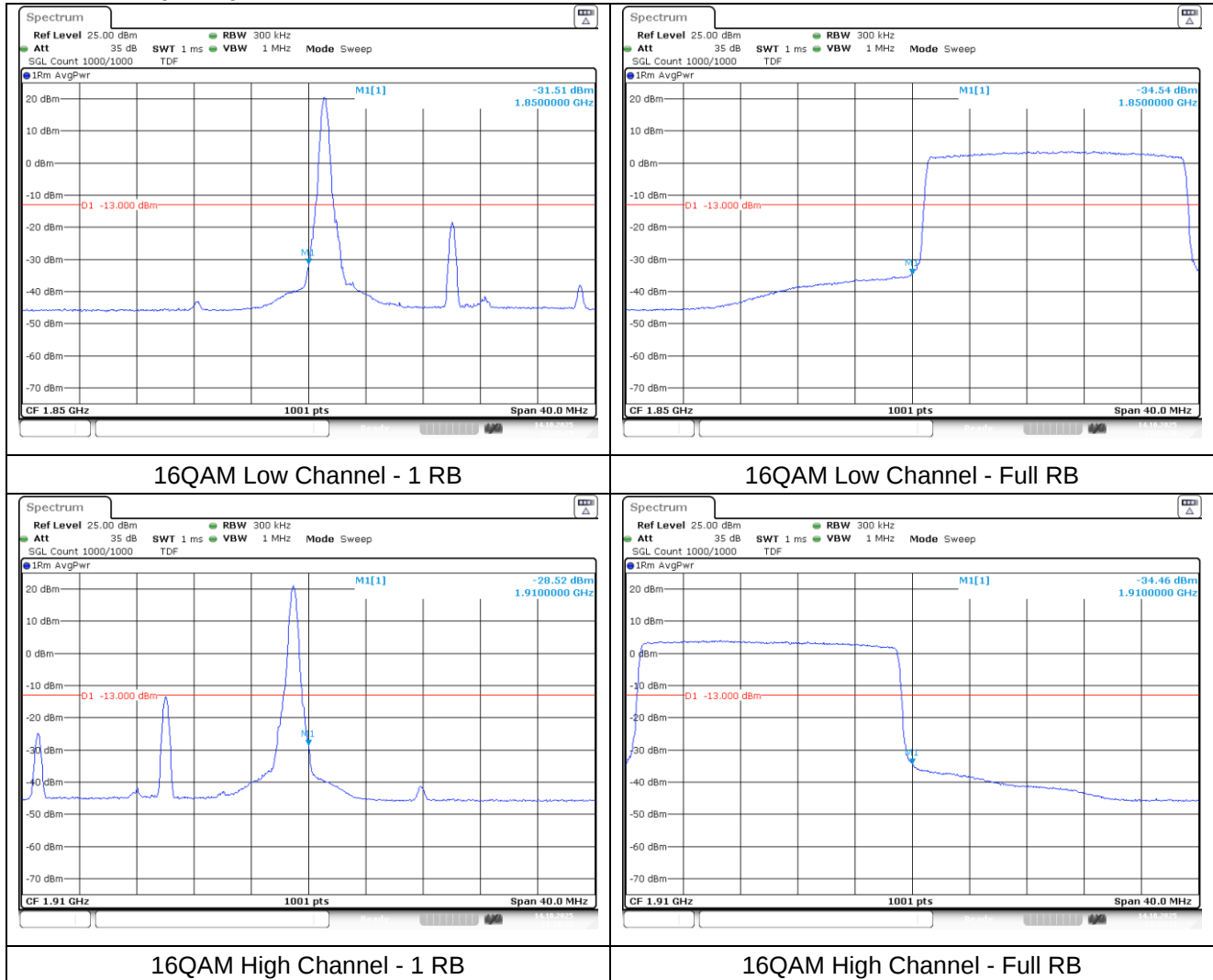
LTE band 2 (15 MHz)



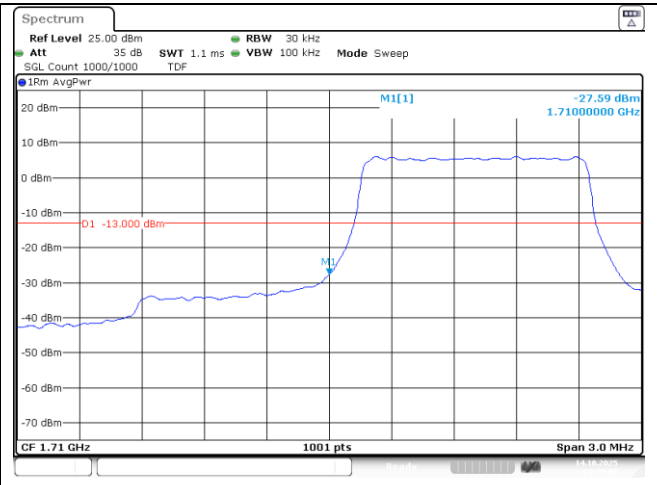
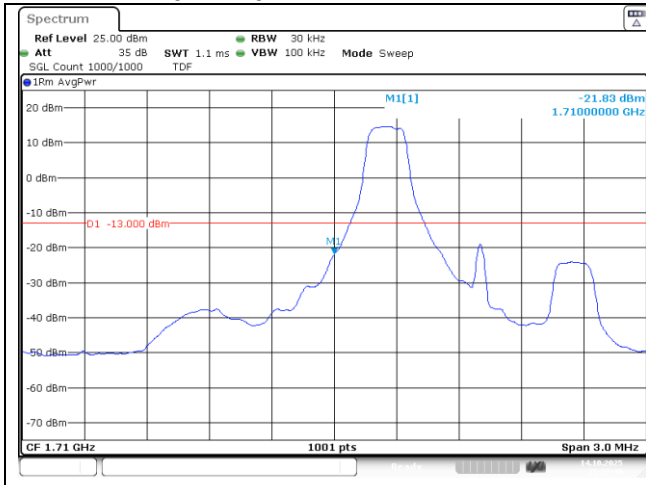
LTE band 2 (20 MHz)



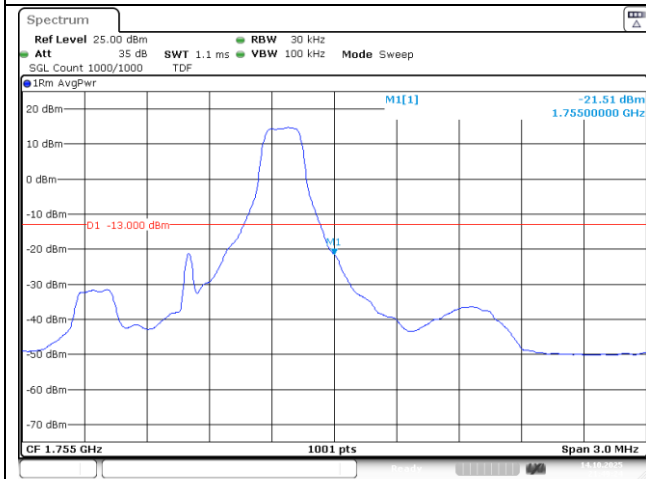
LTE band 2 (20 MHz)



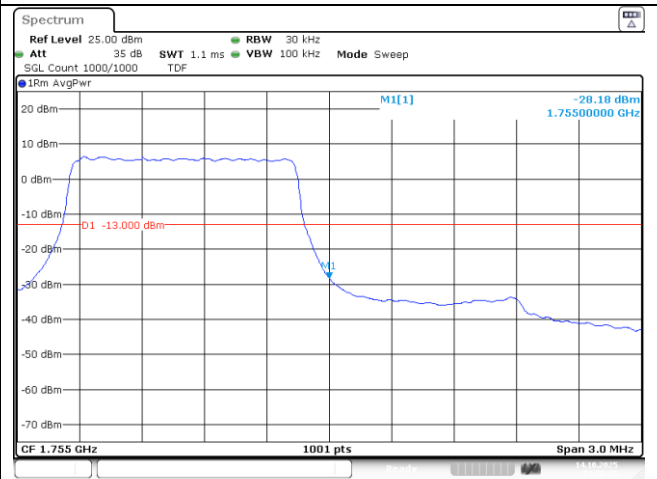
LTE band 4 (1.4 MHz)



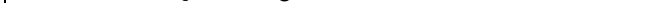
QPSK Low Channel - 1 RB



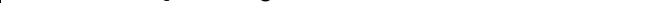
QPSK Low Channel - Full RB



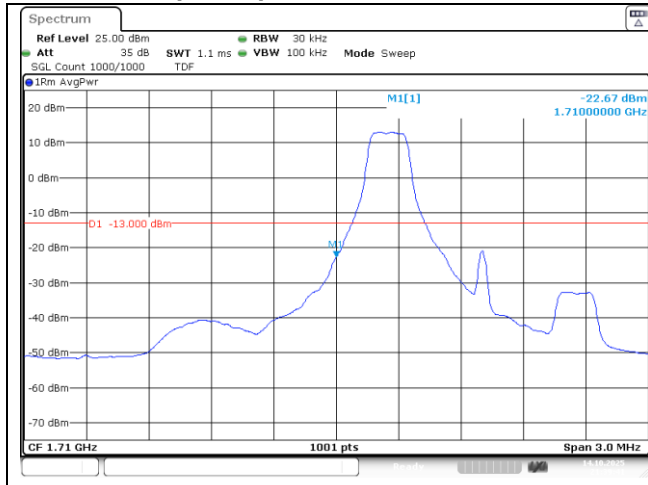
QPSK High Channel - 1 RB



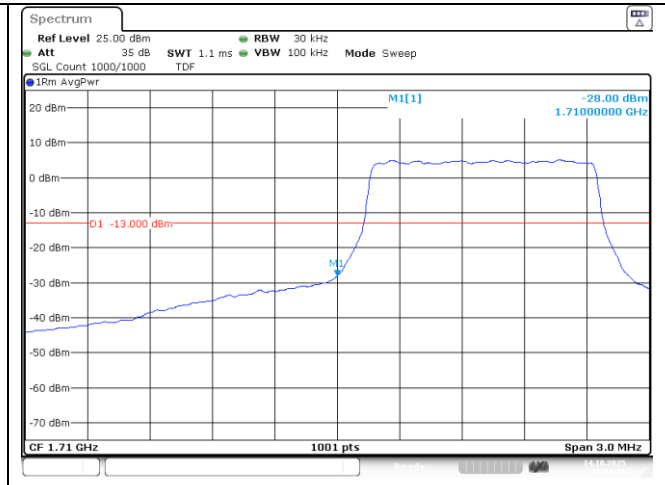
QPSK High Channel - Full RB



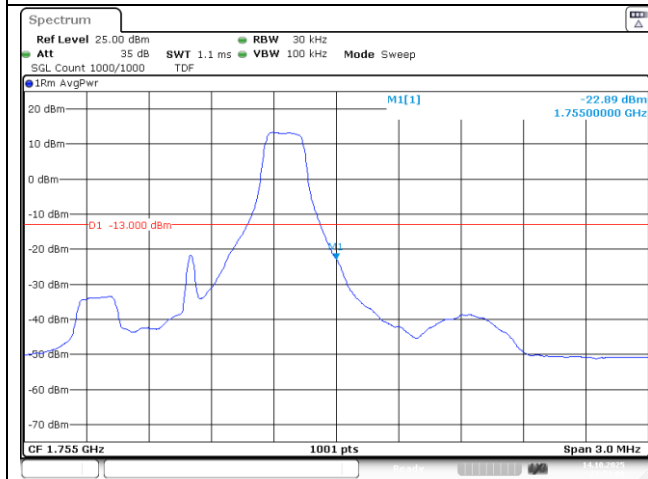
LTE band 4 (1.4 MHz)



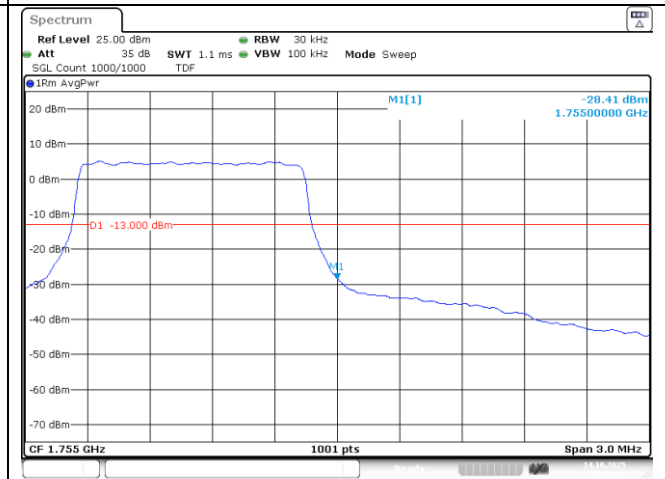
16QAM Low Channel - 1 RB



16QAM Low Channel - Full RB

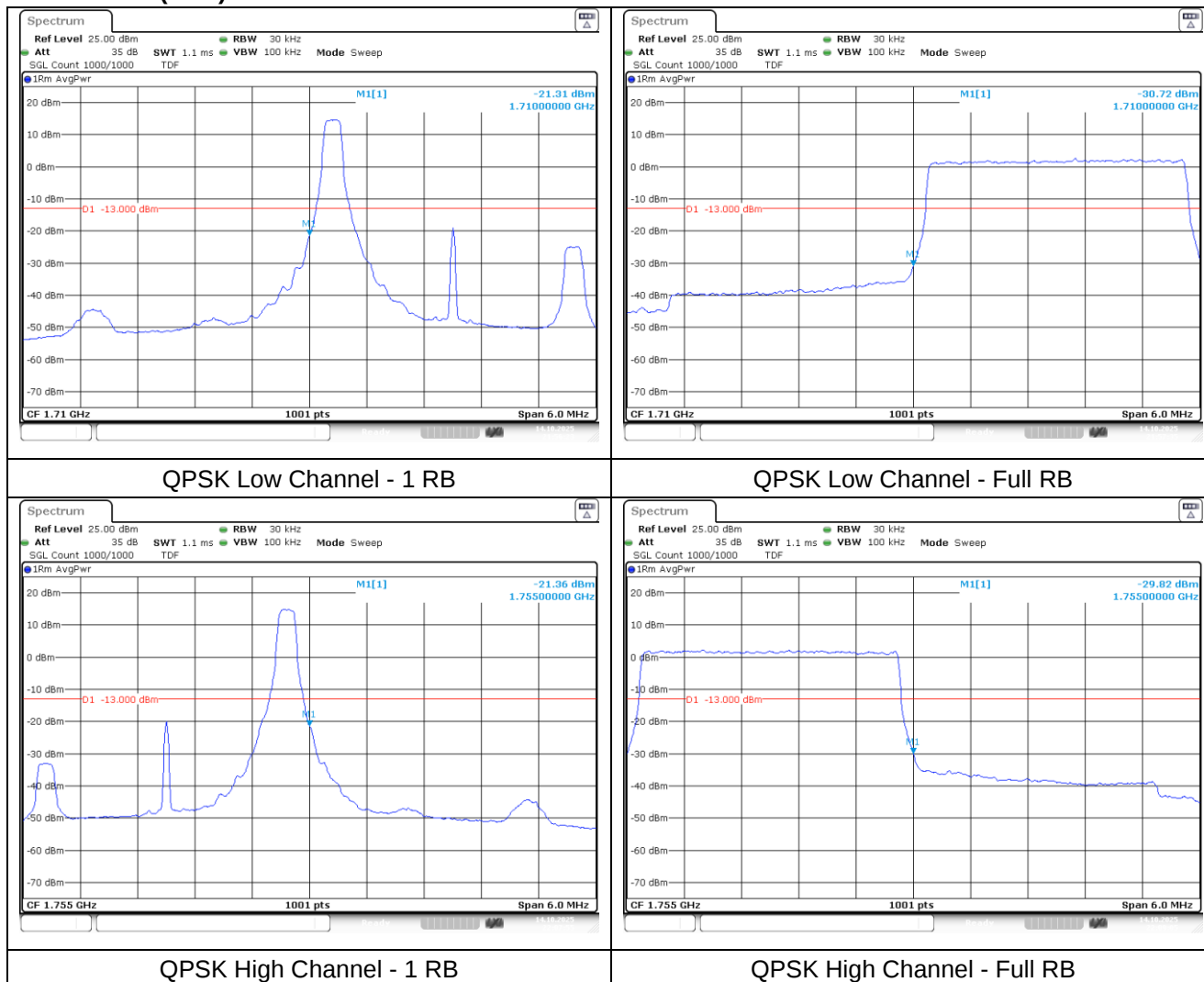


16QAM High Channel - 1 RB

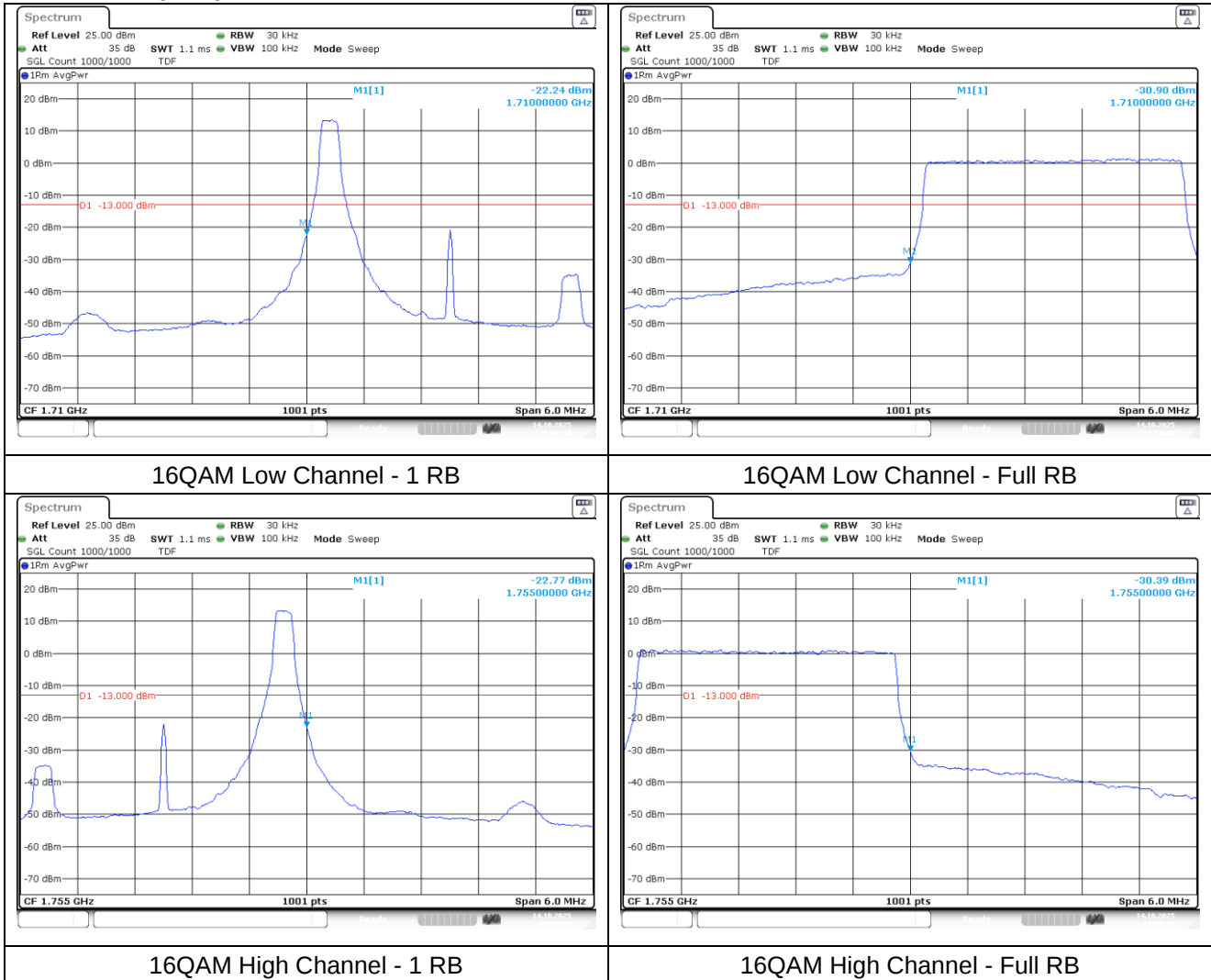


16QAM High Channel - Full RB

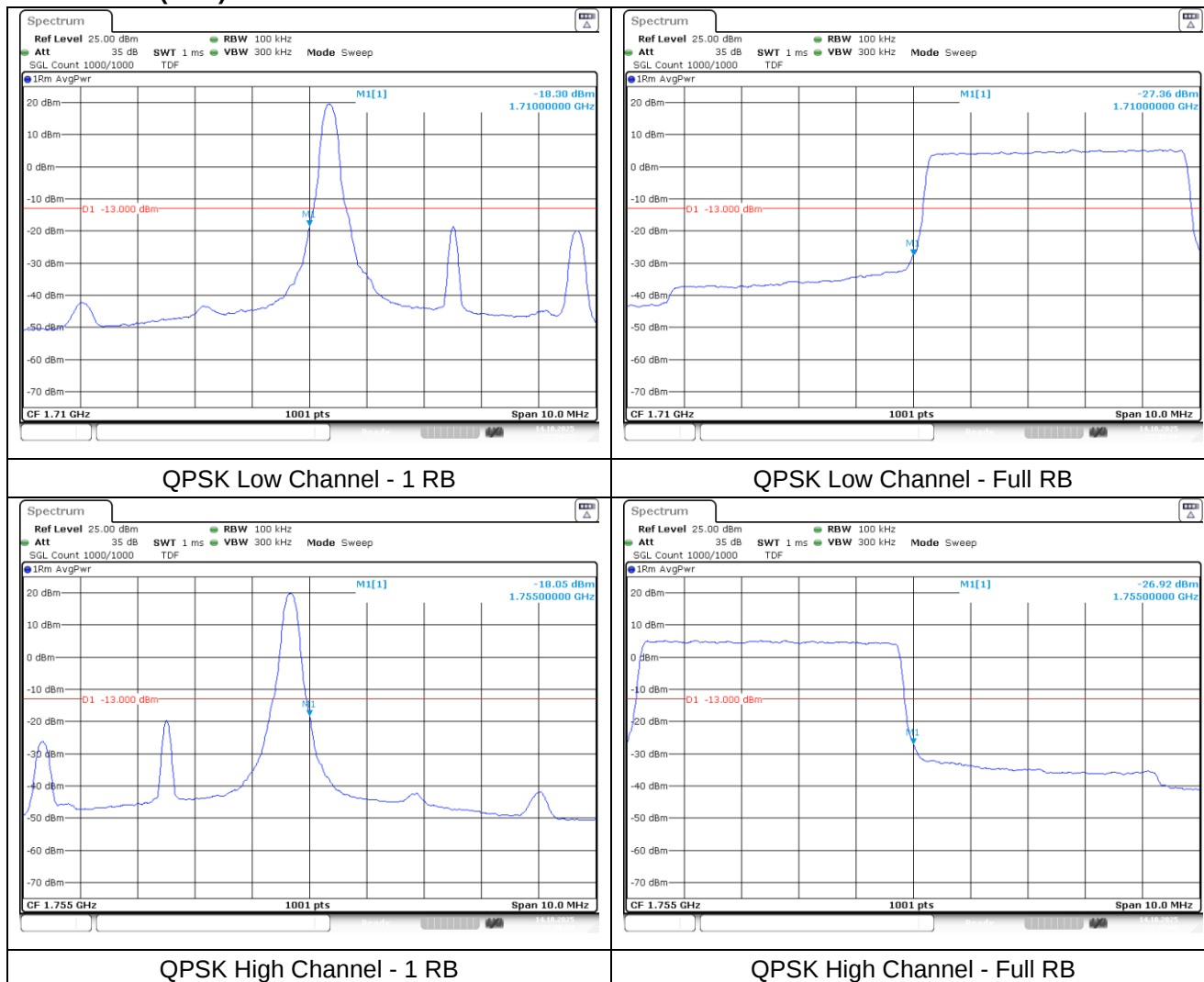
LTE band 4 (3 MHz)



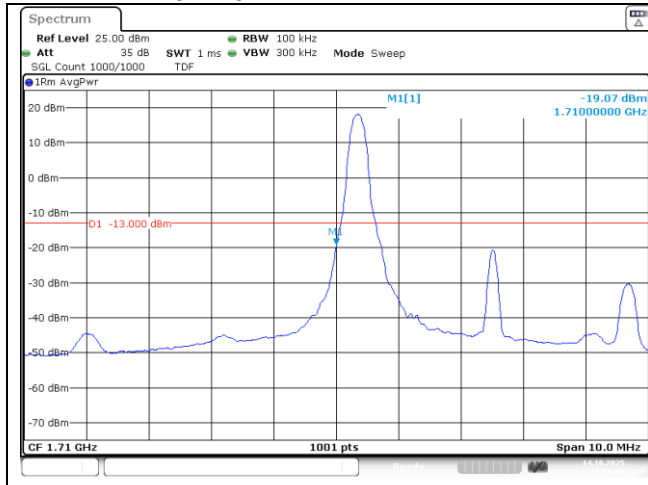
LTE band 4 (3 MHz)



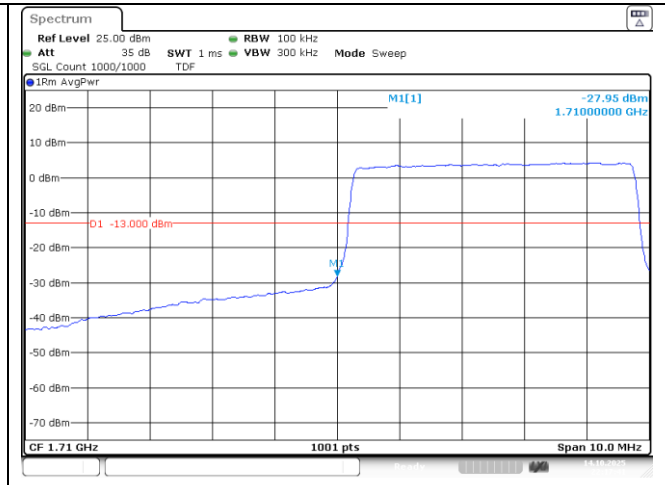
LTE band 4 (5 MHz)



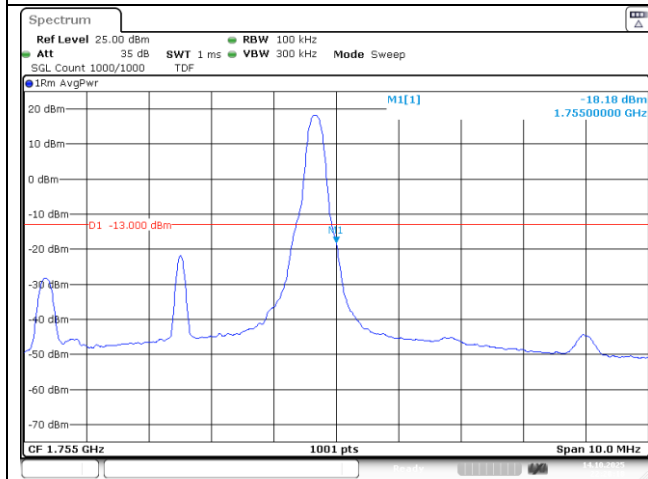
LTE band 4 (5 MHz)



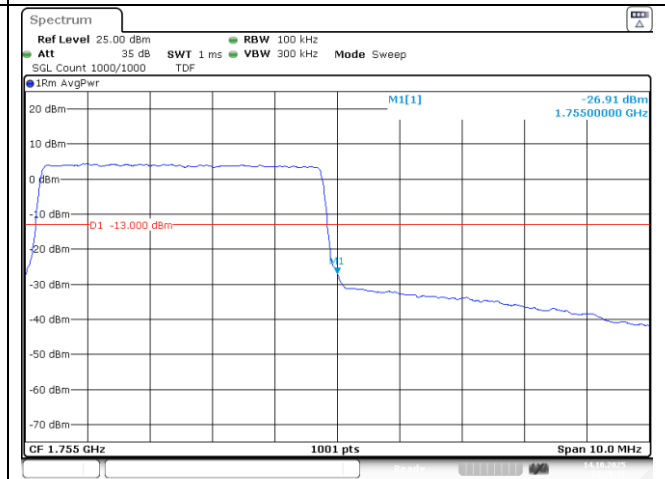
16QAM Low Channel - 1 RB



16QAM Low Channel - Full RB



16QAM High Channel - 1 RB



16QAM High Channel - Full RB

LTE band 4 (10 MHz)

