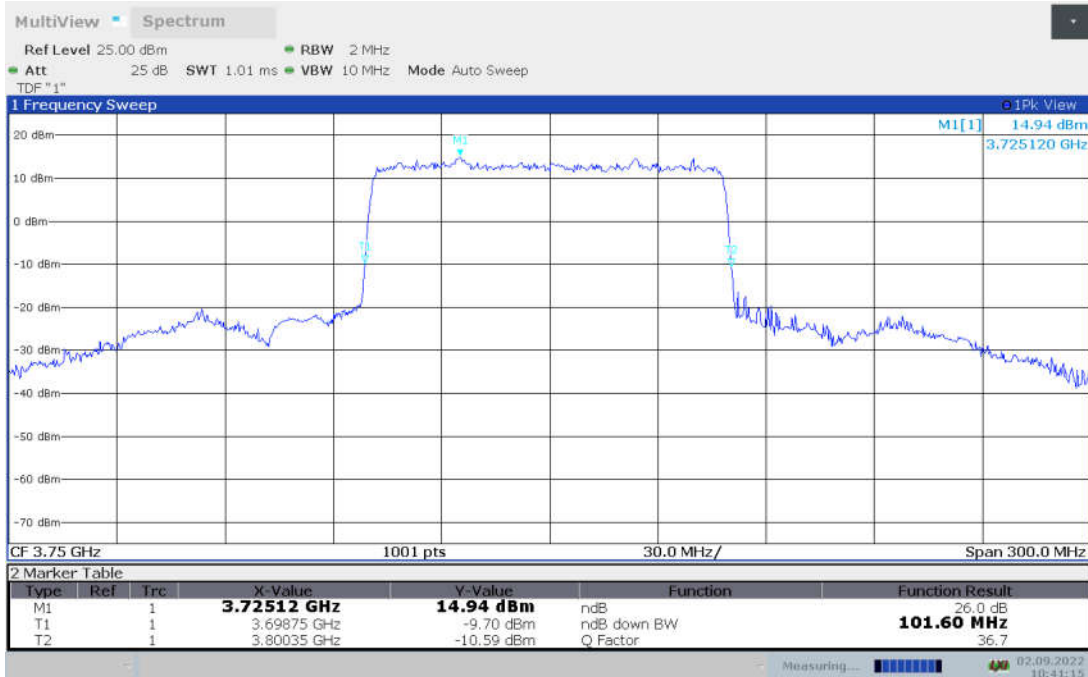


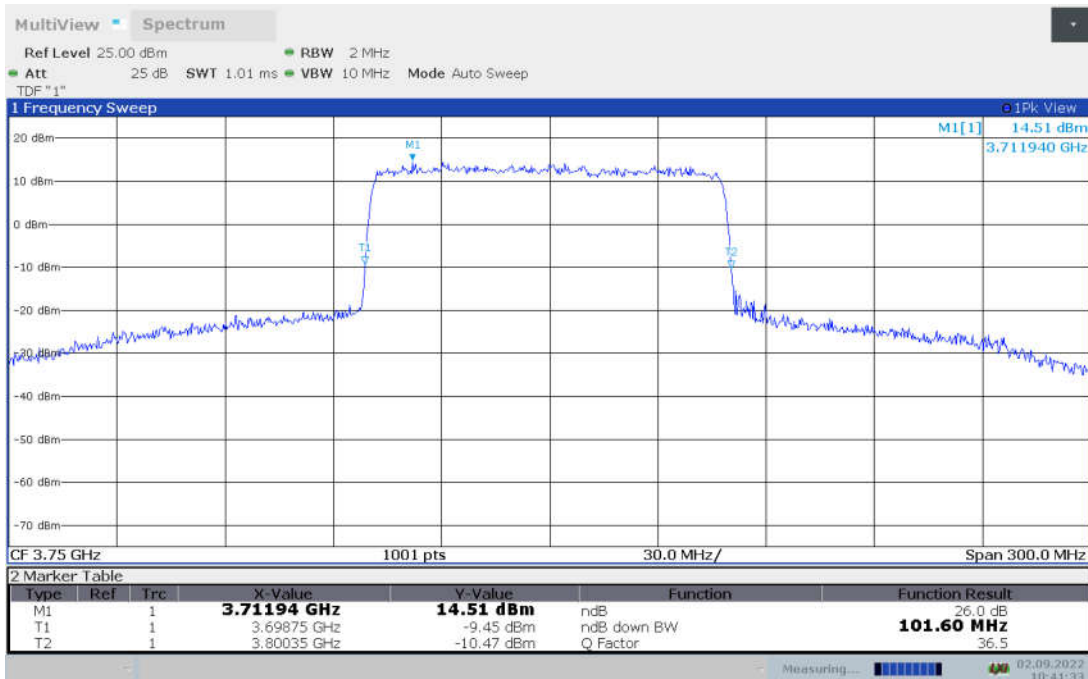
DC_2A_n78A(3700 MHz-3800 MHz),100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3750	101.60	101.60

DC_2A_n78A(3700 MHz-3800 MHz),100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



DC_2A_n78A(3700 MHz-3800 MHz),100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



Note: Expanded measurement uncertainty is $U = 3428$ Hz, $k = 2$

A.6 BAND EDGE COMPLIANCE

Reference

FCC: CFR Part 2.1051, 27.53.

A.6.1 Measurement limit

Part 27.53(h) specifies that 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.

Part 27.53(n) states for base station operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with the provisions of this paragraph (n)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. The 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. Notwithstanding the channel edge requirement of -13 dBm per megahertz, for base station operations in the 3450-3550 MHz band, the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed -40 dBm/MHz.

Part 27.53(l) states for base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's 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 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.

A.6.2 Measurement Procedure

The testing follows ANSI C63.26

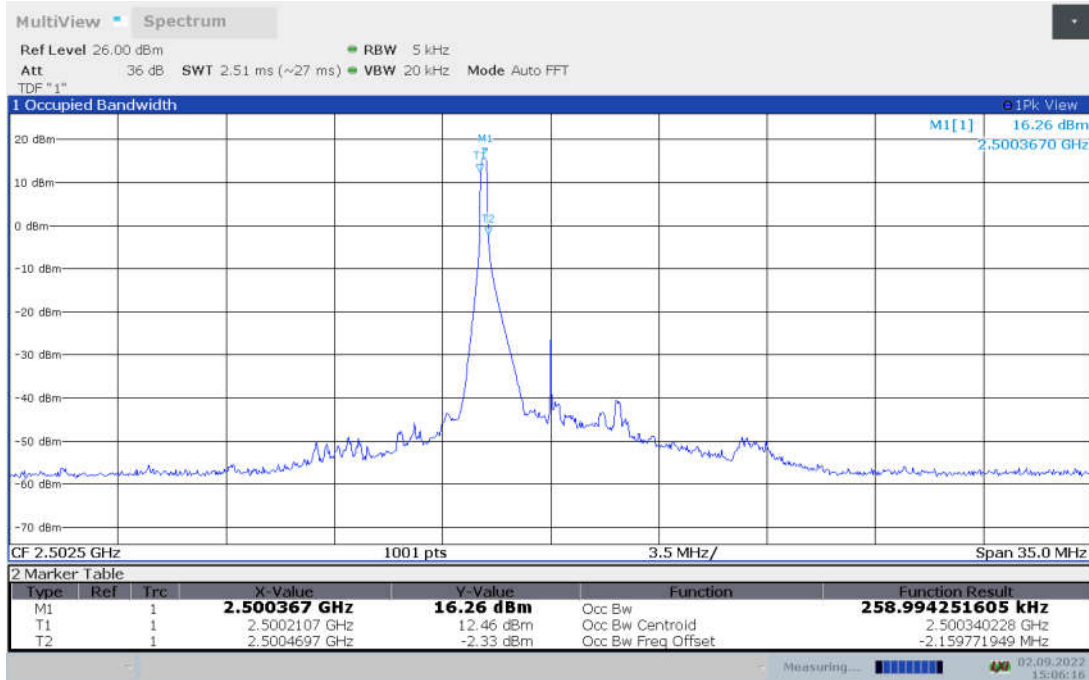
- a) The EUT was connected to spectrum analyzer and system simulator via a power divider.
- b) The band edges of low and high channels for the highest RF powers were measured.
- c) Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- d) Set spectrum analyzer with RMS detector.
- e) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- f) Checked that all the results comply with the emission limit line.

A.6.3 Measurement result

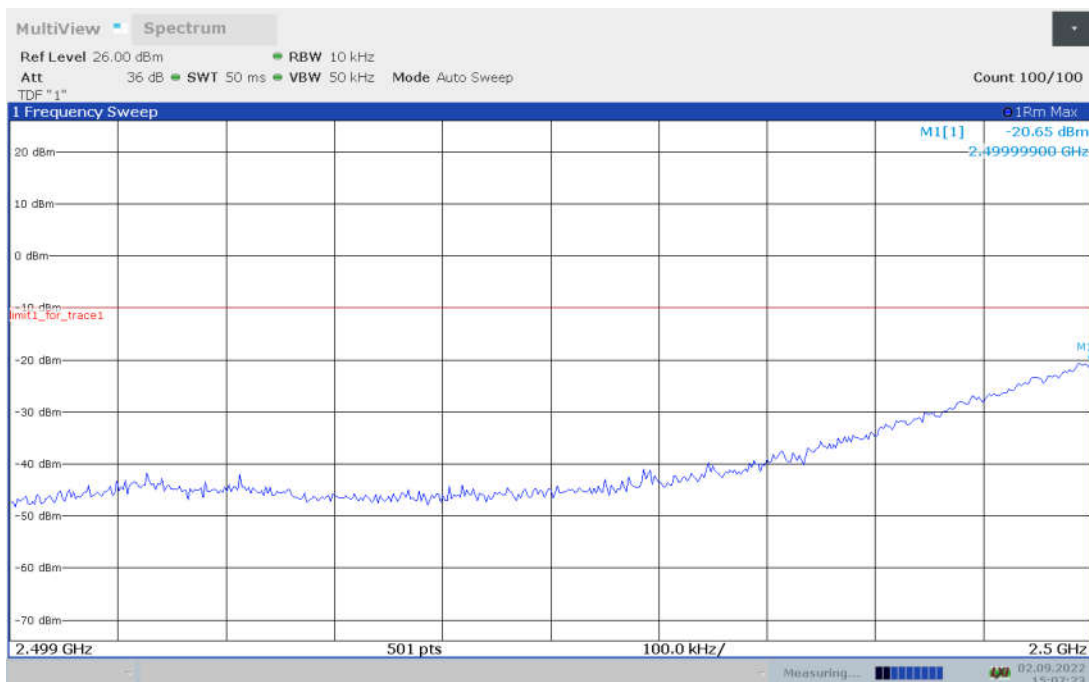
Only worst case result is given below

DC_2A_n7A

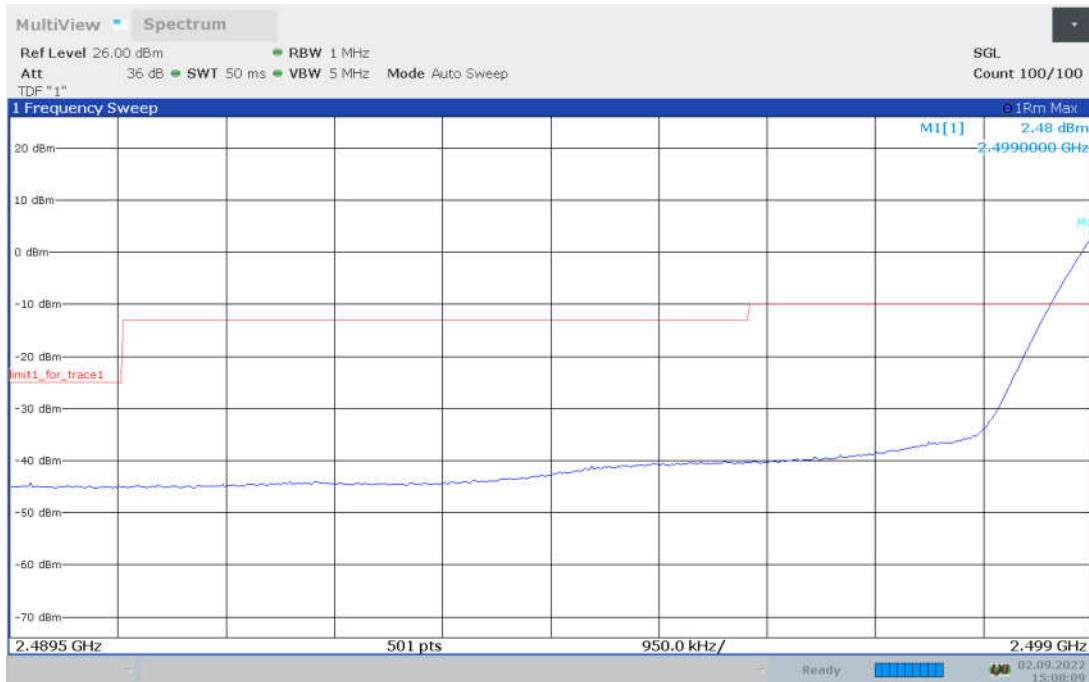
OBW: 1RB-LOW_offset



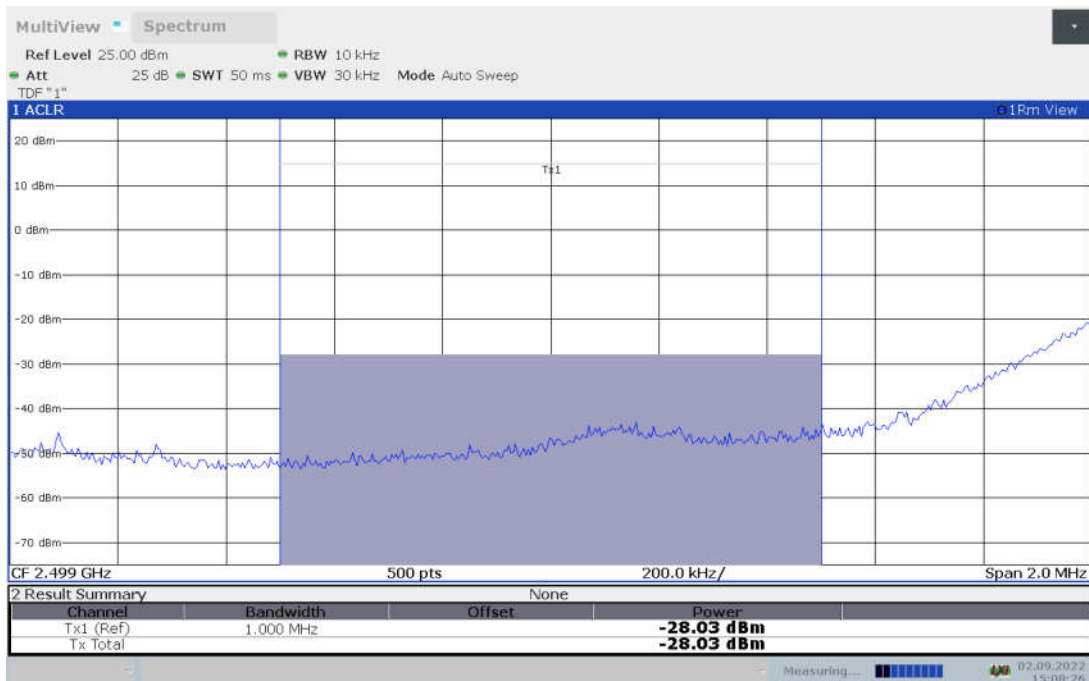
LOW BAND EDGE BLOCK-1RB-LOW_offset



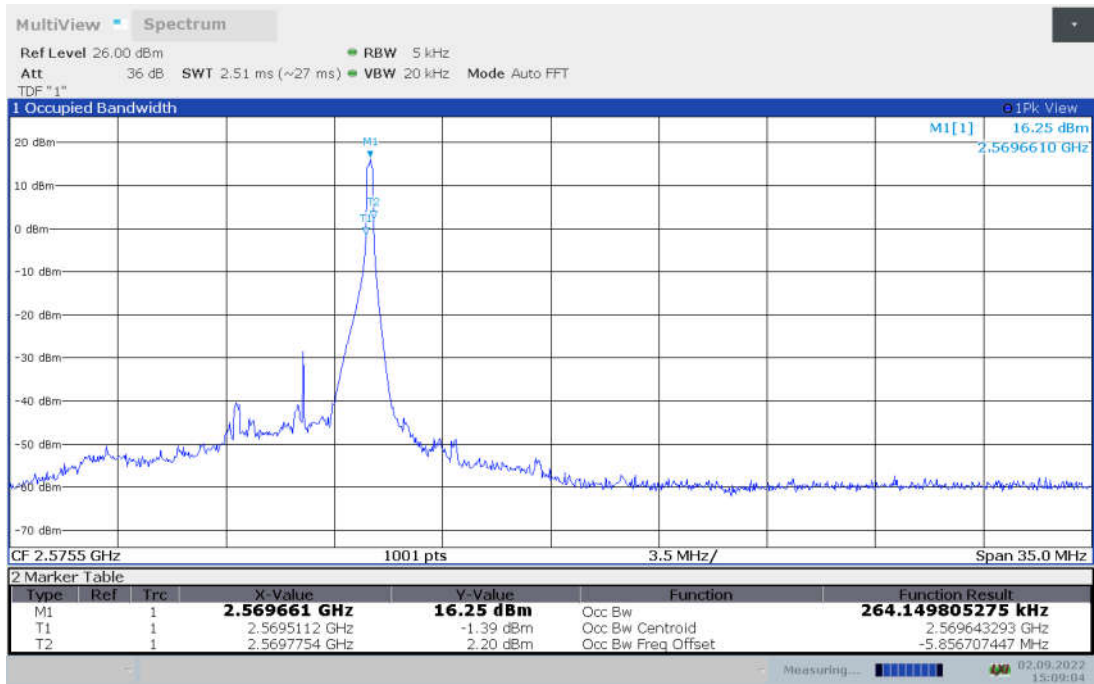
LOW BAND EDGE BLOCK-1RB-LOW_offset



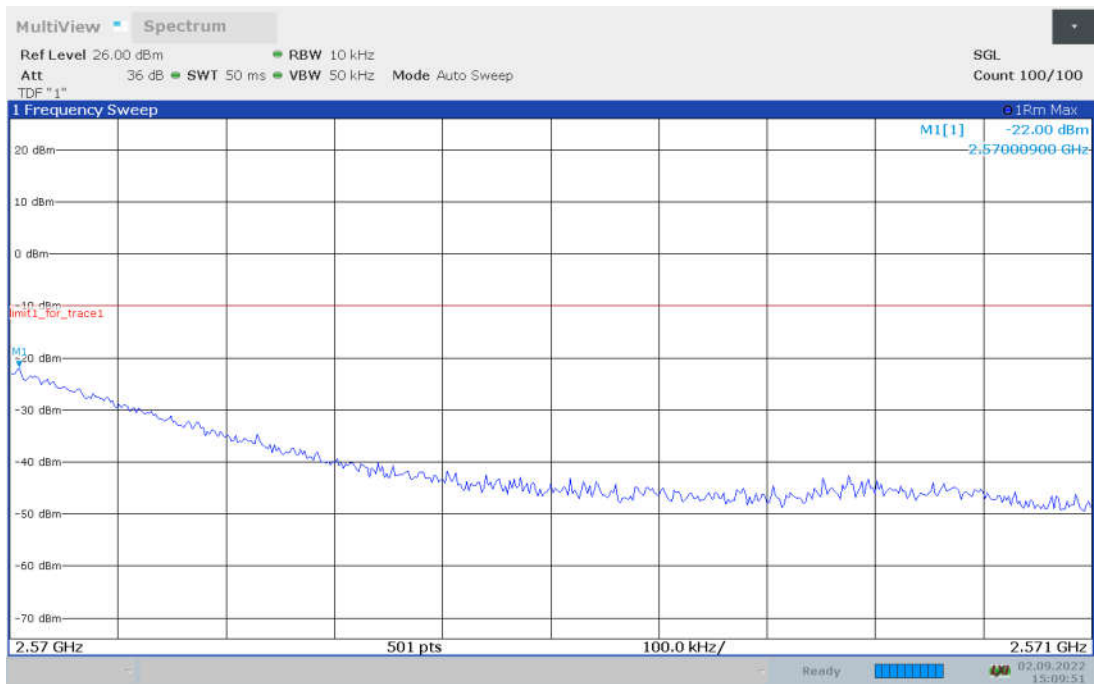
Channal Power



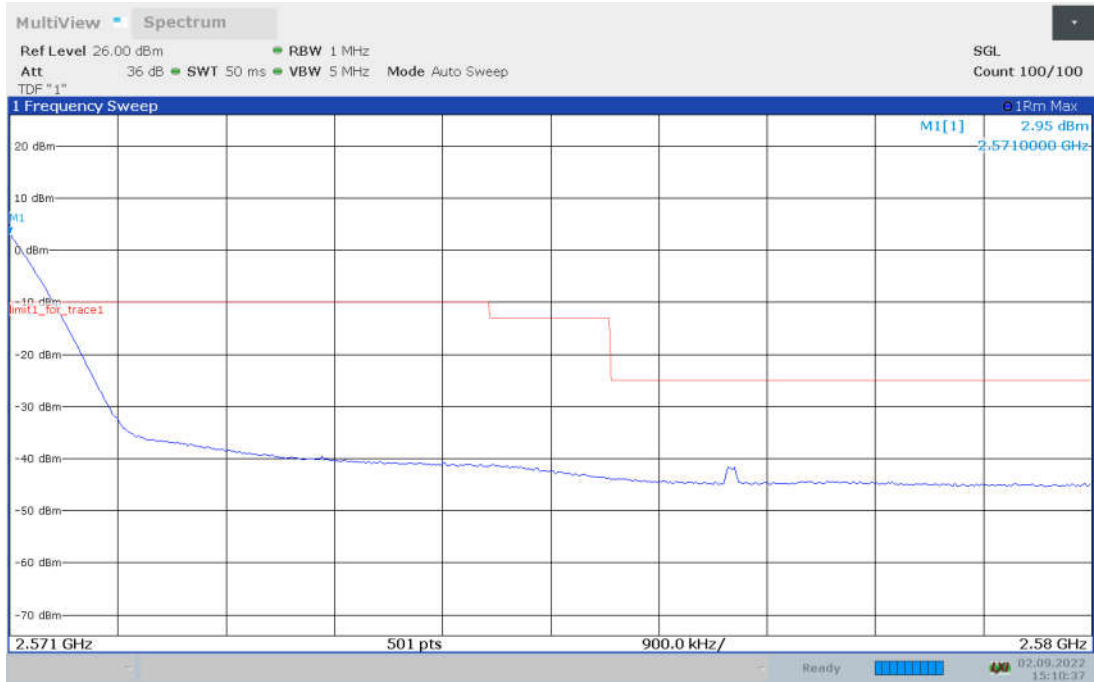
OBW: 1RB-HIGH_offset



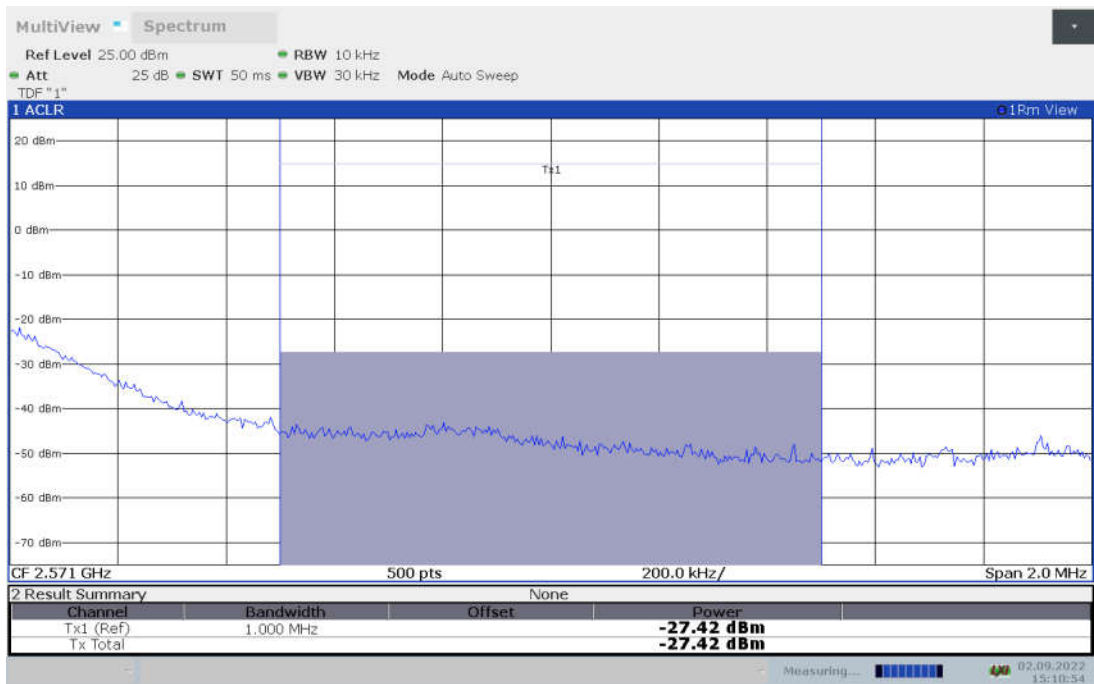
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



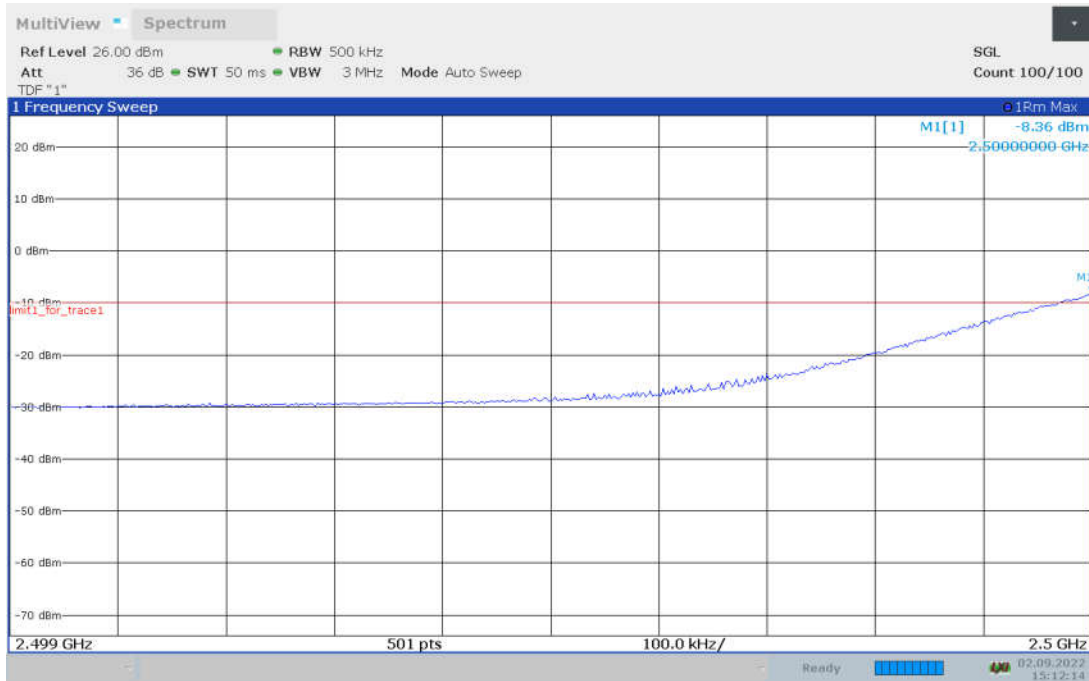
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



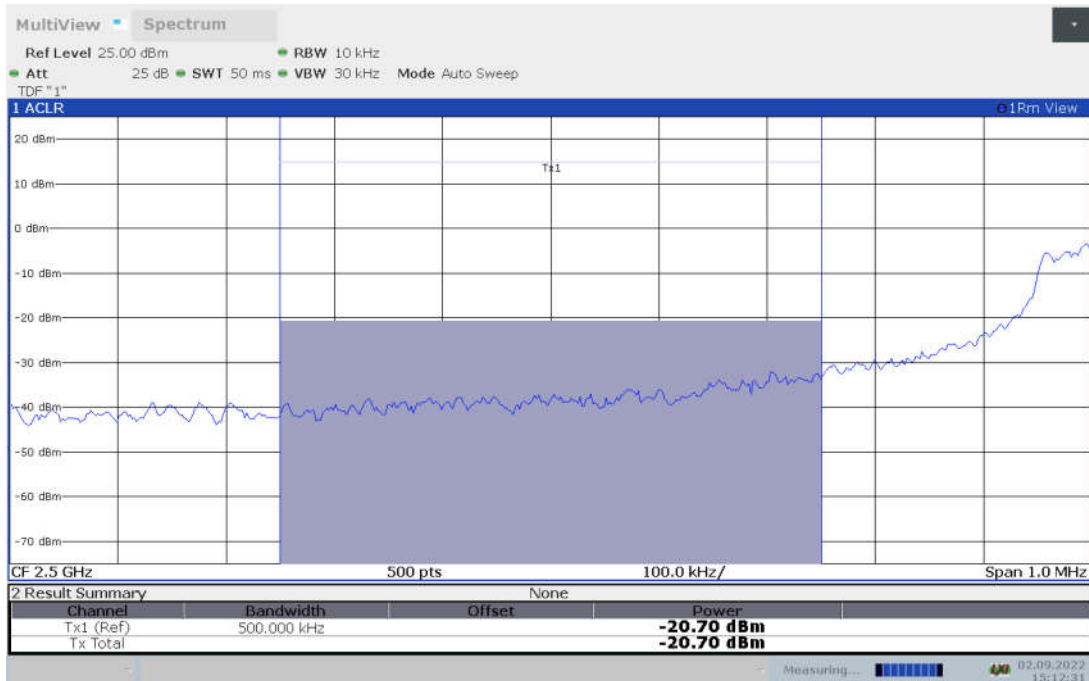
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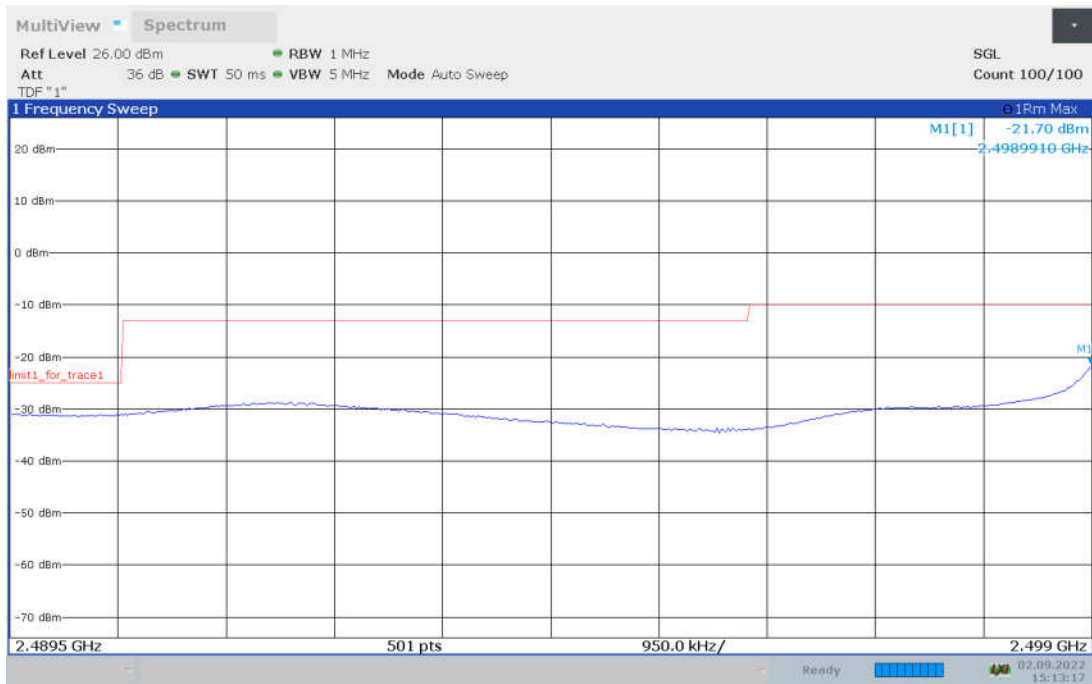
LOW BAND EDGE BLOCK-20M-100%RB



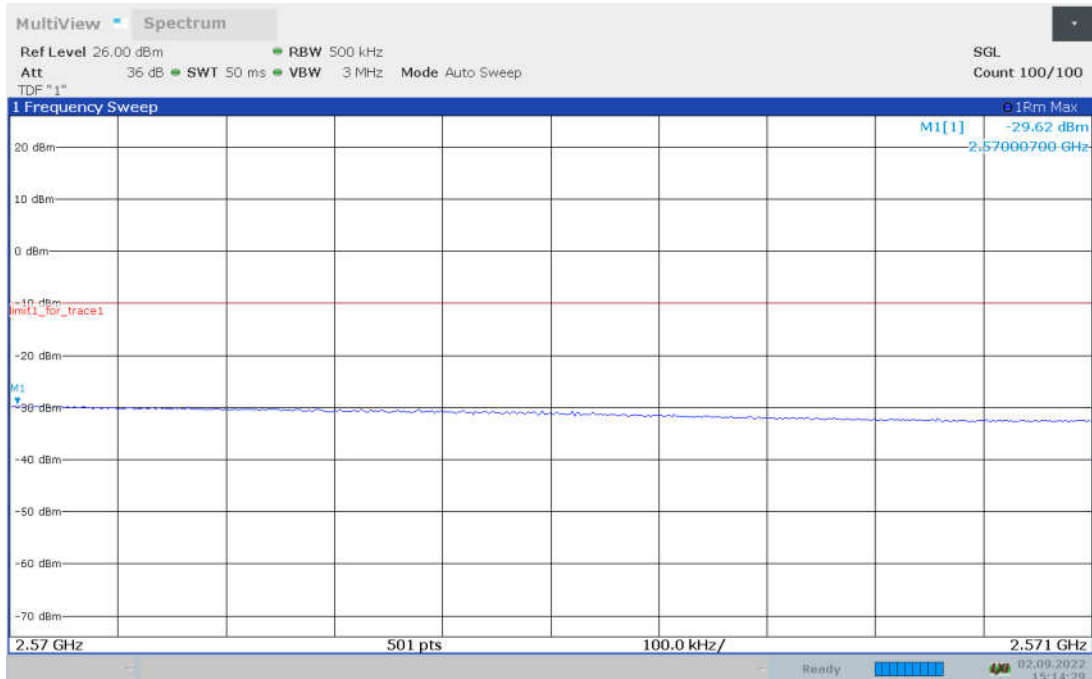
Channal Power



LOW BAND EDGE BLOCK-20M-100%RB



HIGH BAND EDGE BLOCK-20M-100%RB



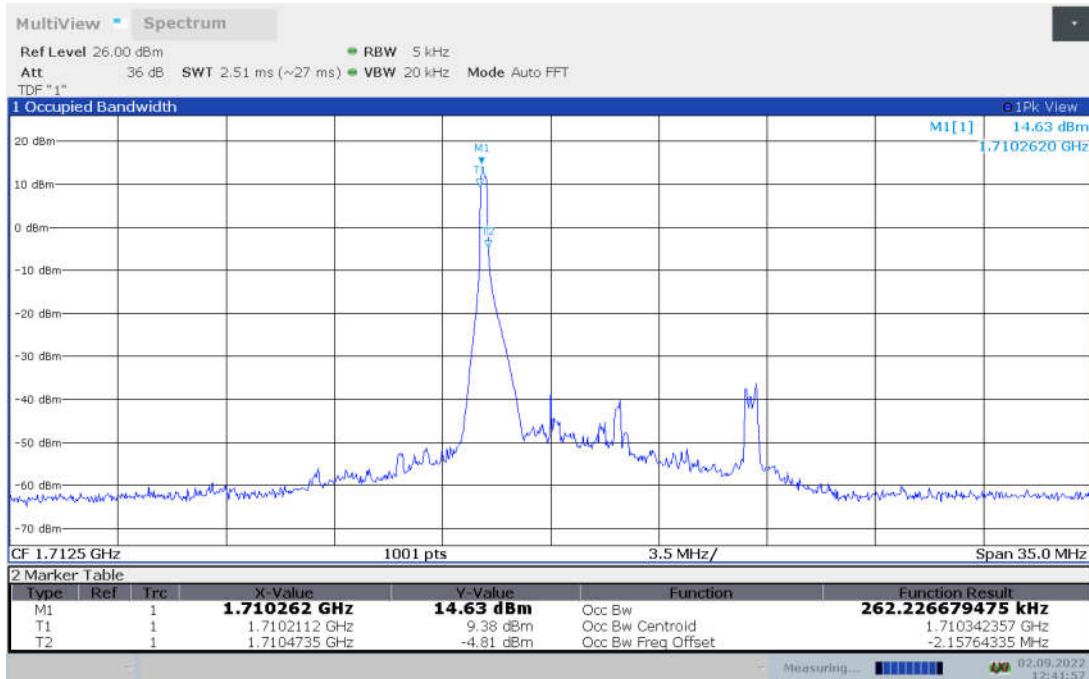


HIGH BAND EDGE BLOCK-20M-100%RB

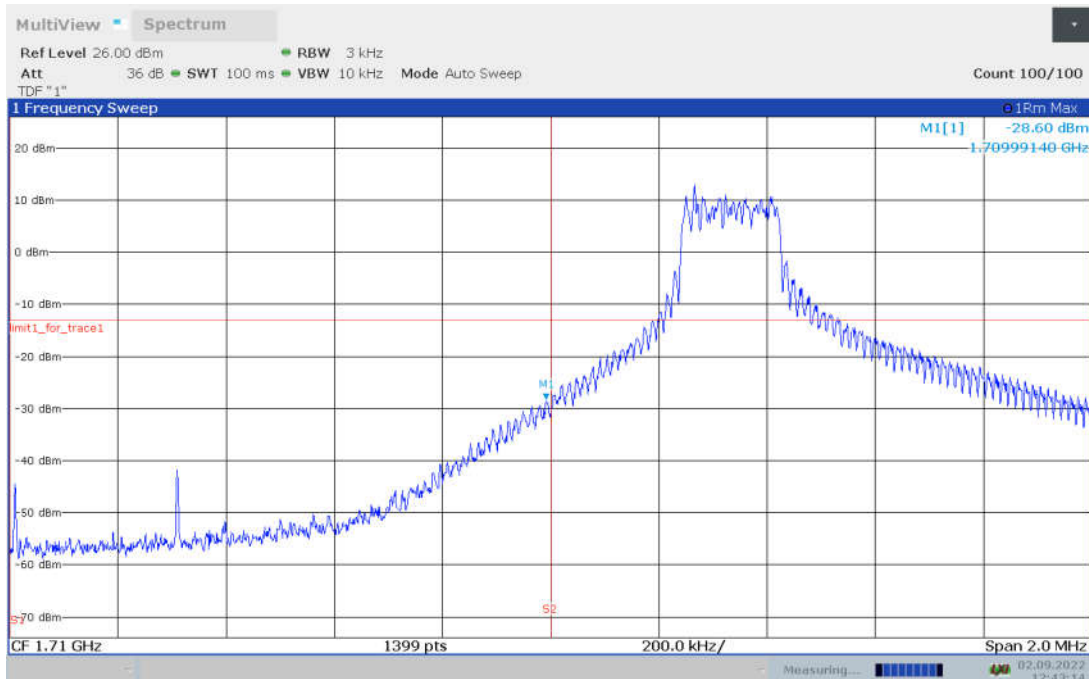


DC_2A_n66A

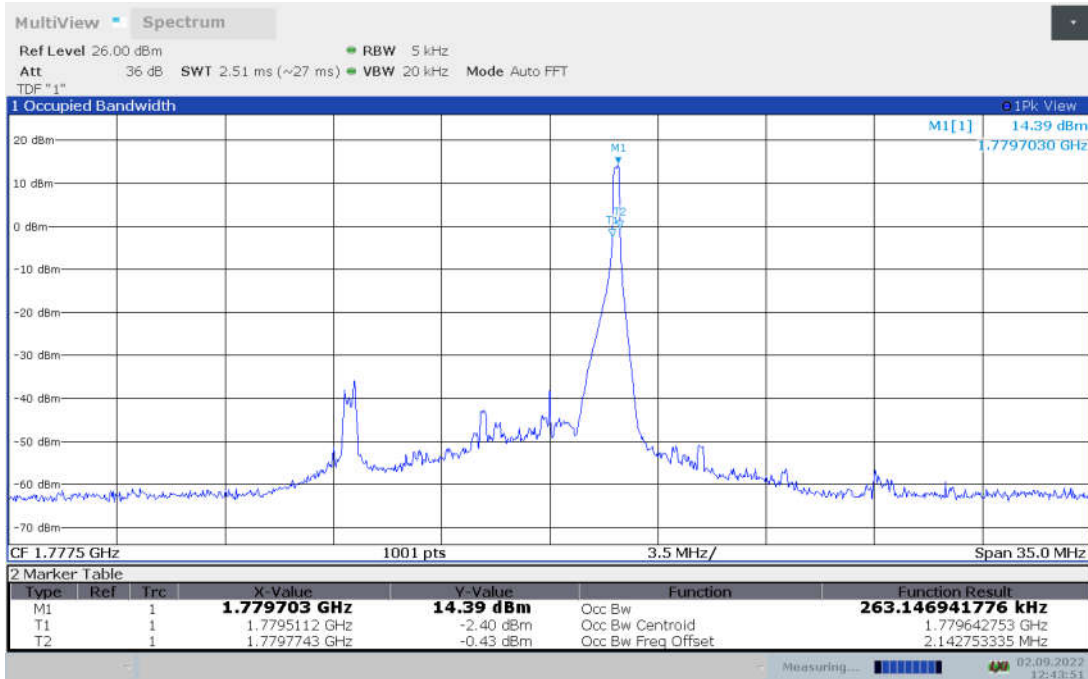
OBW: 1RB-LOW_offset



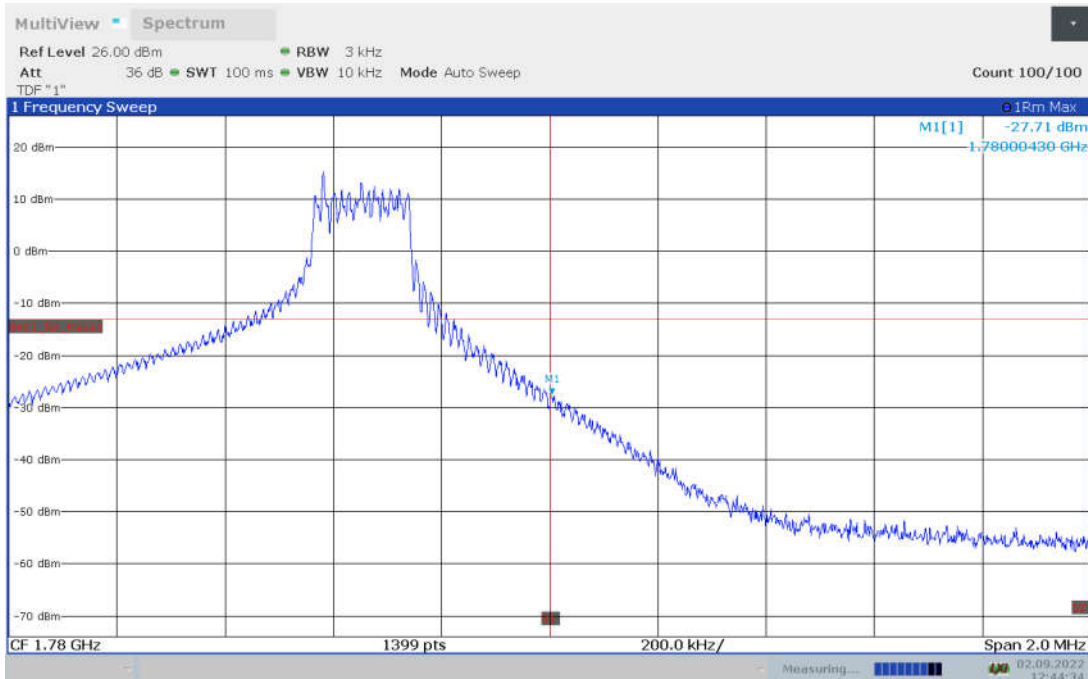
LOW BAND EDGE BLOCK-1RB-LOW_offset



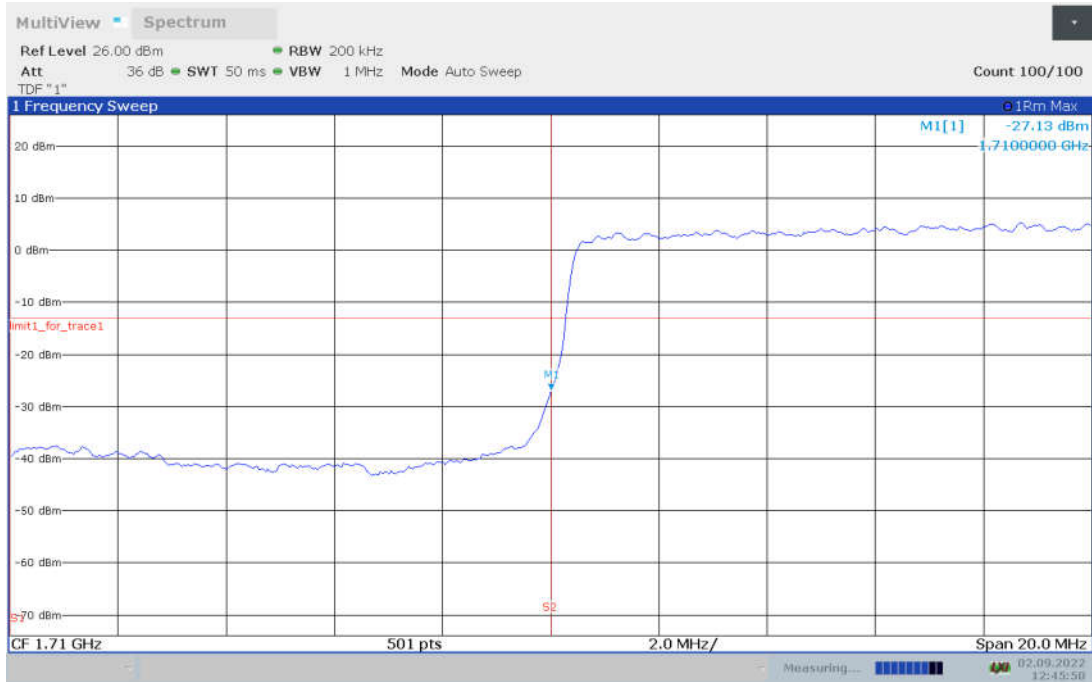
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20M-100%RB



HIGH BAND EDGE BLOCK-20M-100%RB

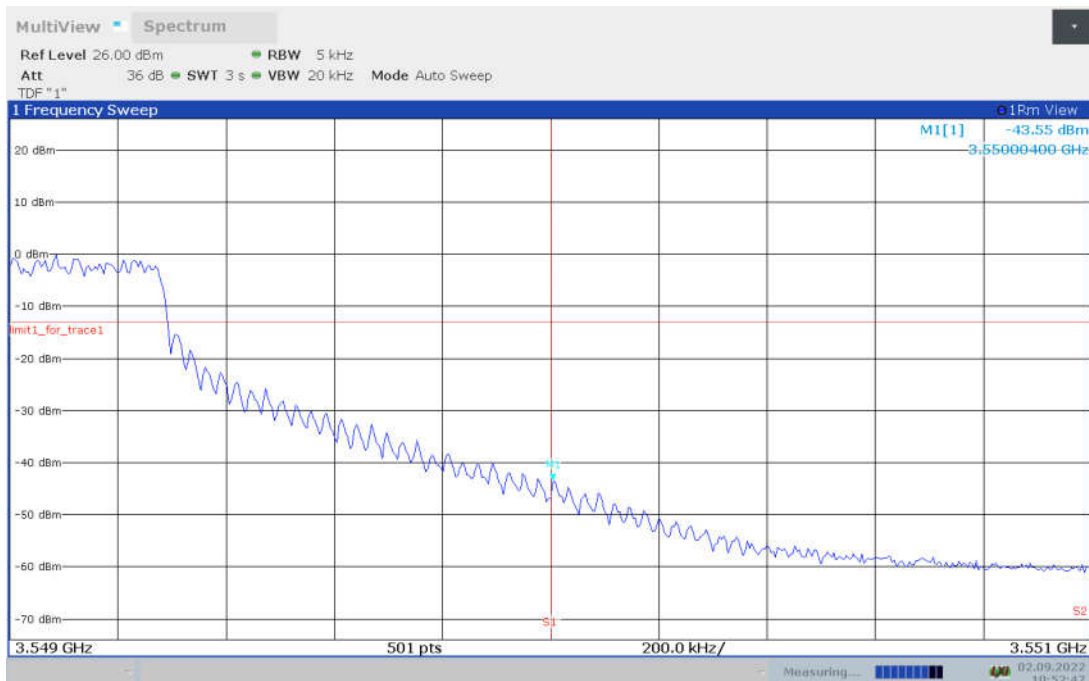


DC_2A_n78A(3450 MHz-3550 MHz)

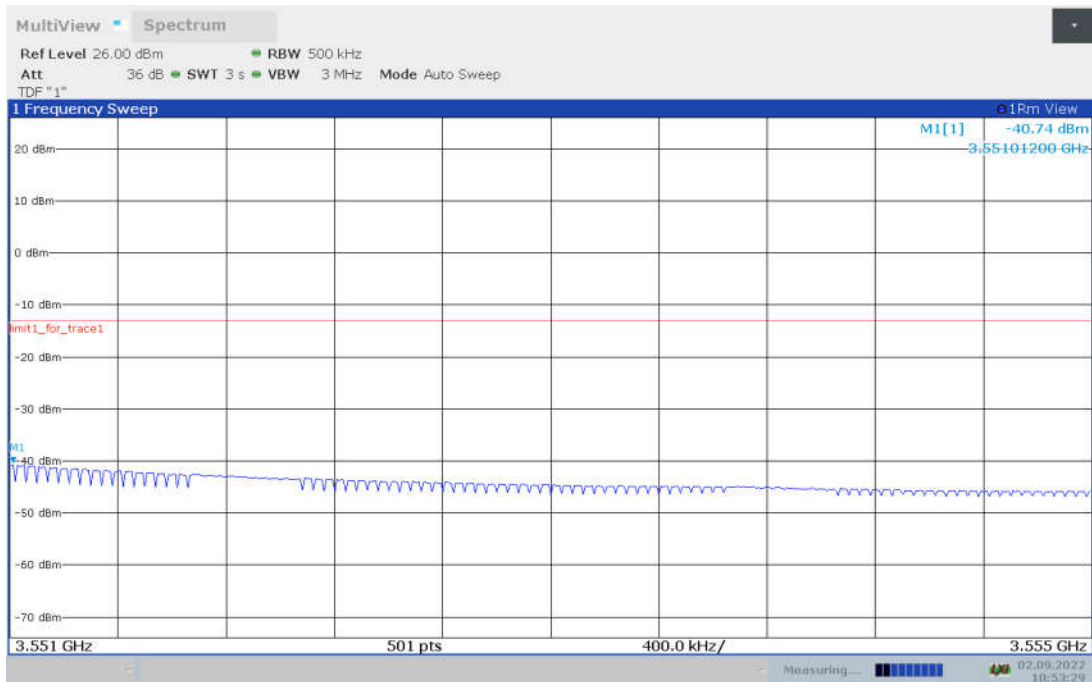
OBW: 1RB-HIGH_offset



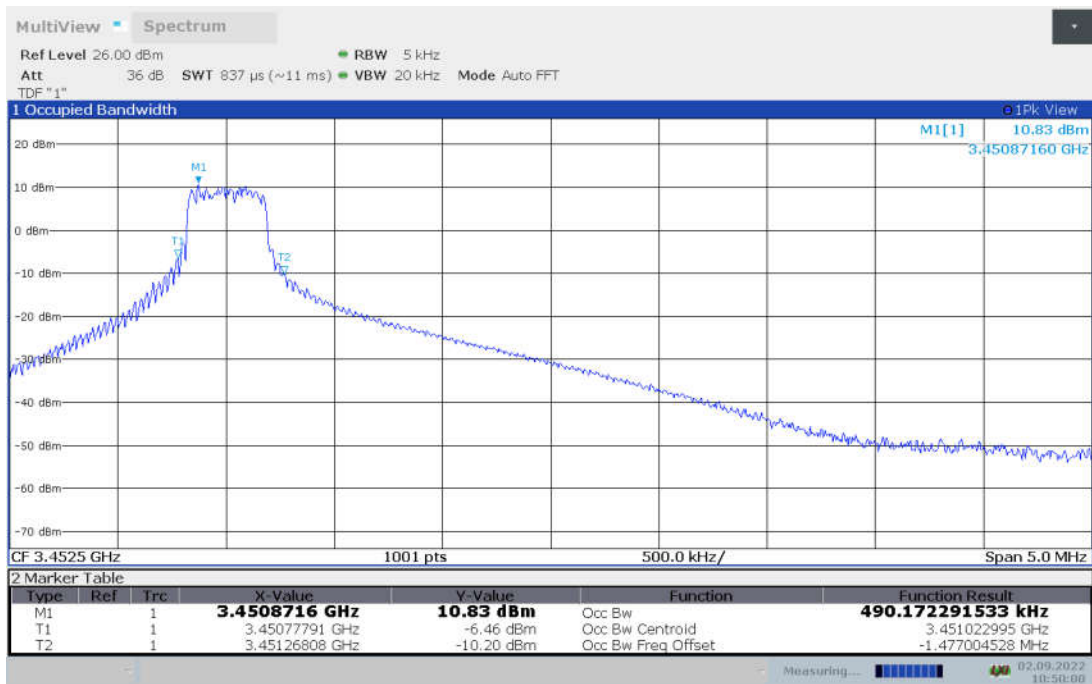
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



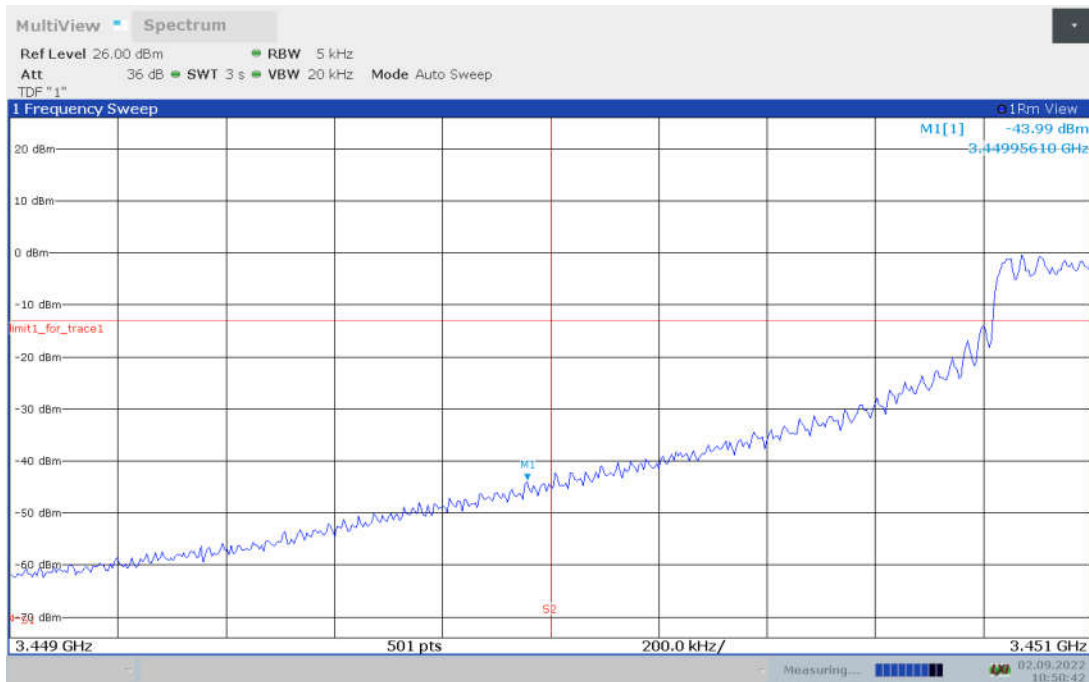
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



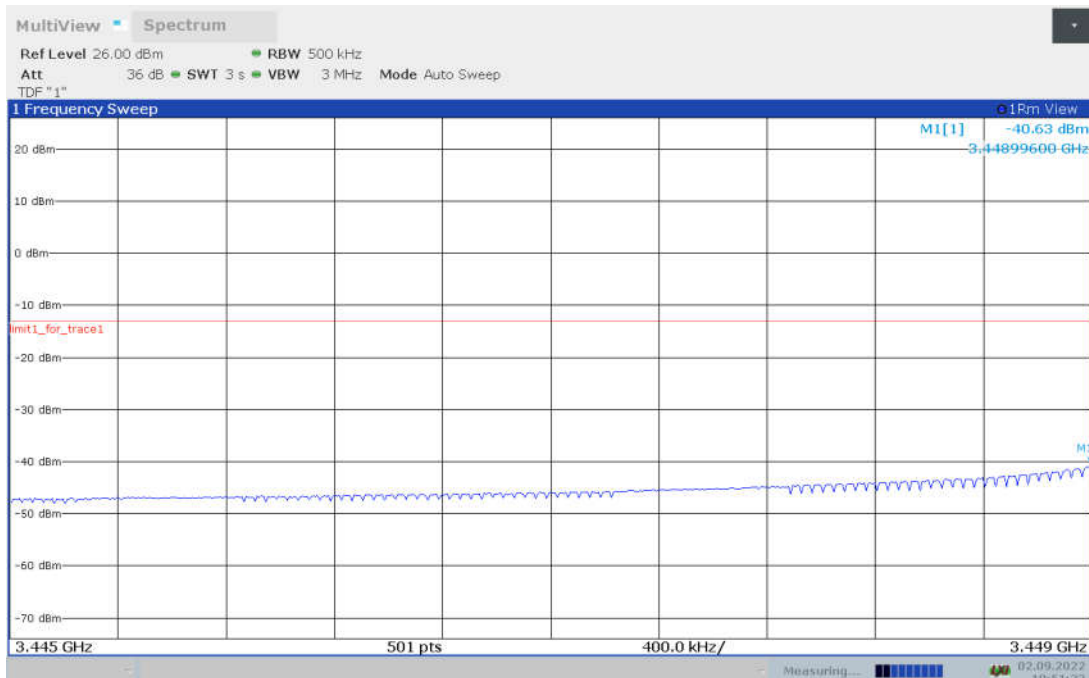
OBW: 1RB-LOW_offset



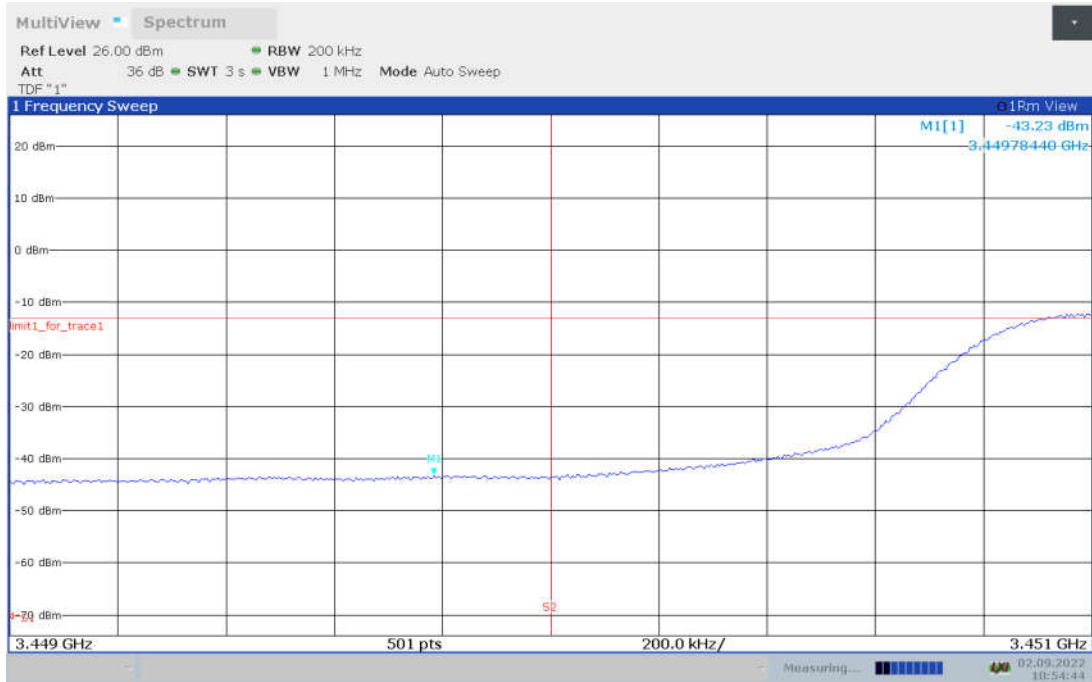
LOW BAND EDGE BLOCK-1RB-LOW_offset



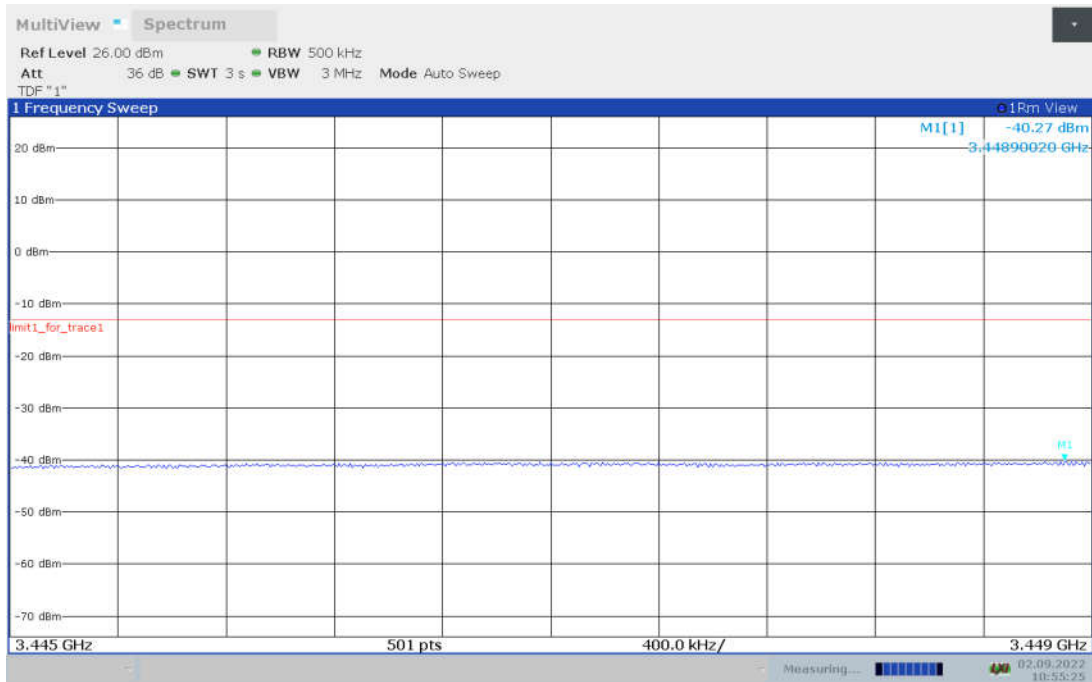
LOW BAND EDGE BLOCK-1RB-LOW_offset



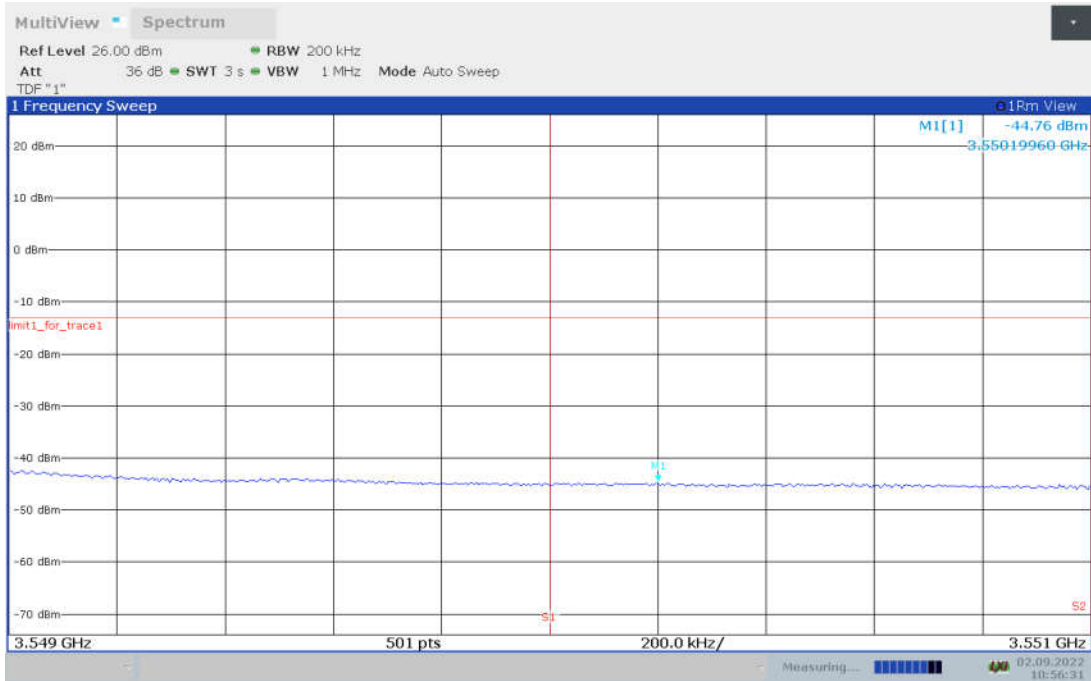
LOW BAND EDGE BLOCK-100M-100%RB



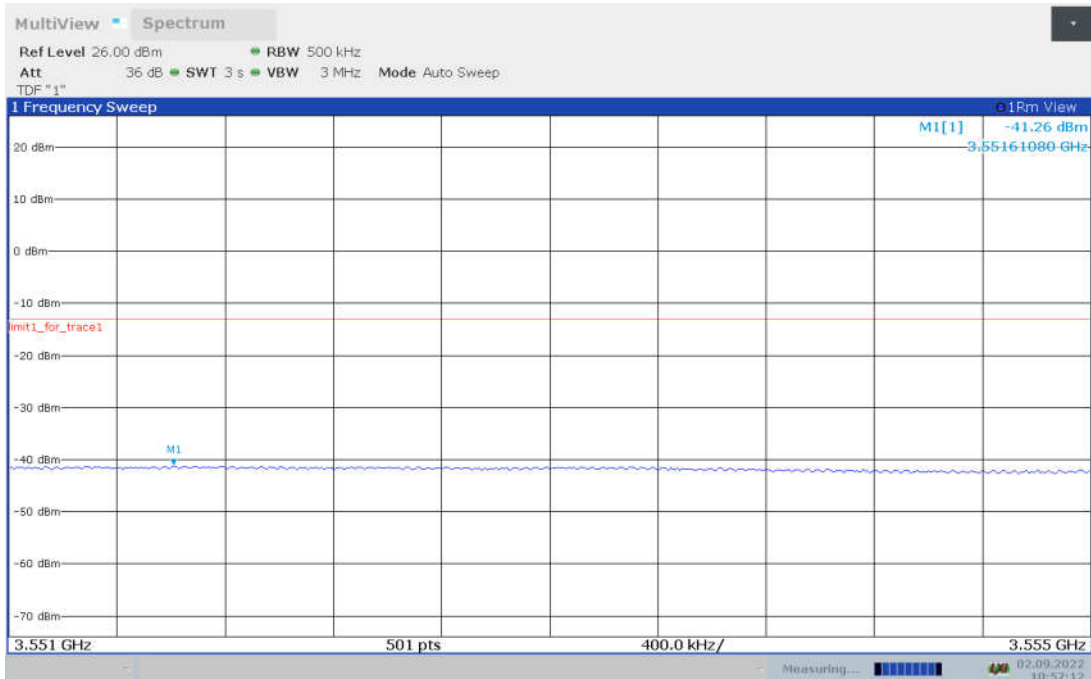
LOW BAND EDGE BLOCK-100M-100%RB



HIGH BAND EDGE BLOCK-100M-100%RB

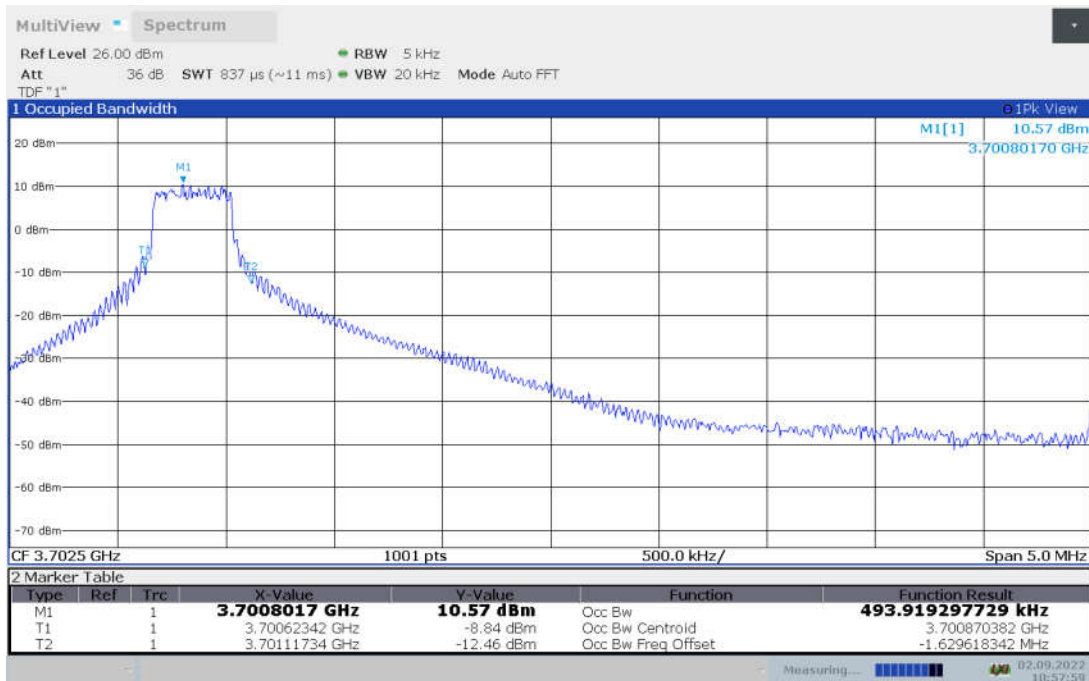


HIGH BAND EDGE BLOCK-100M-100%RB

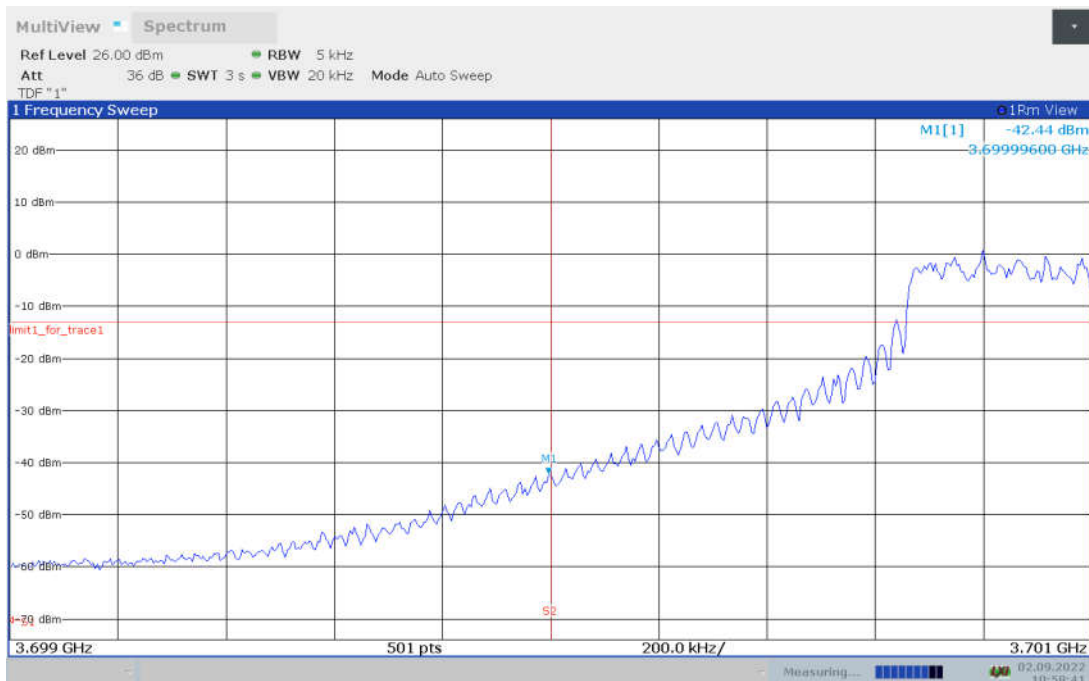


DC_2A_n78A(3700 MHz-3800 MHz)

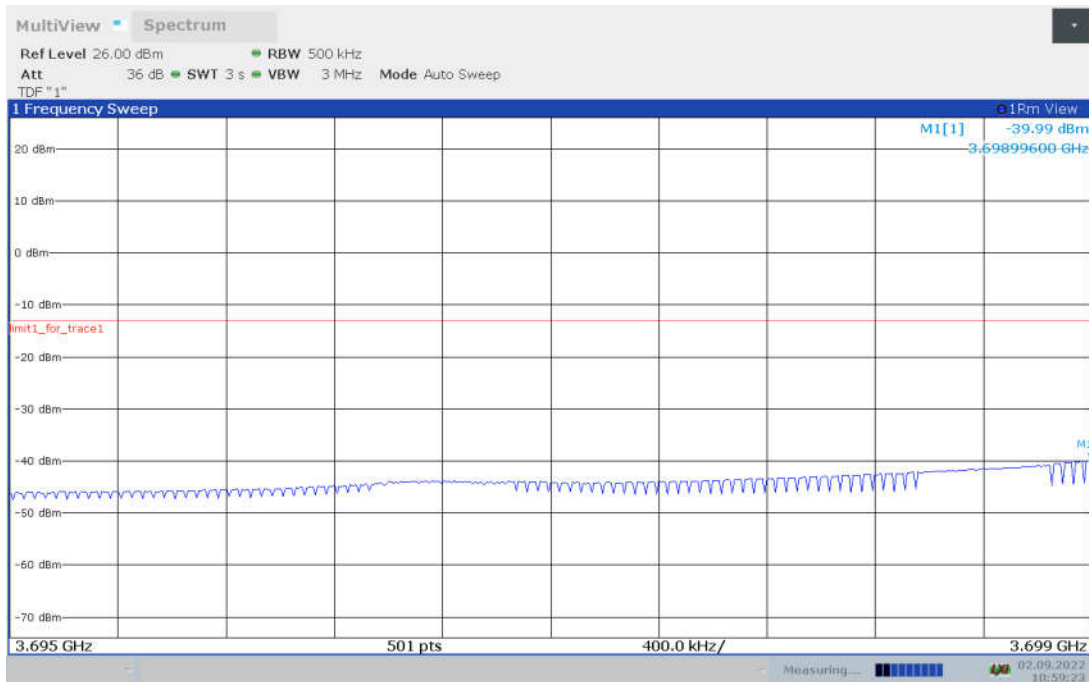
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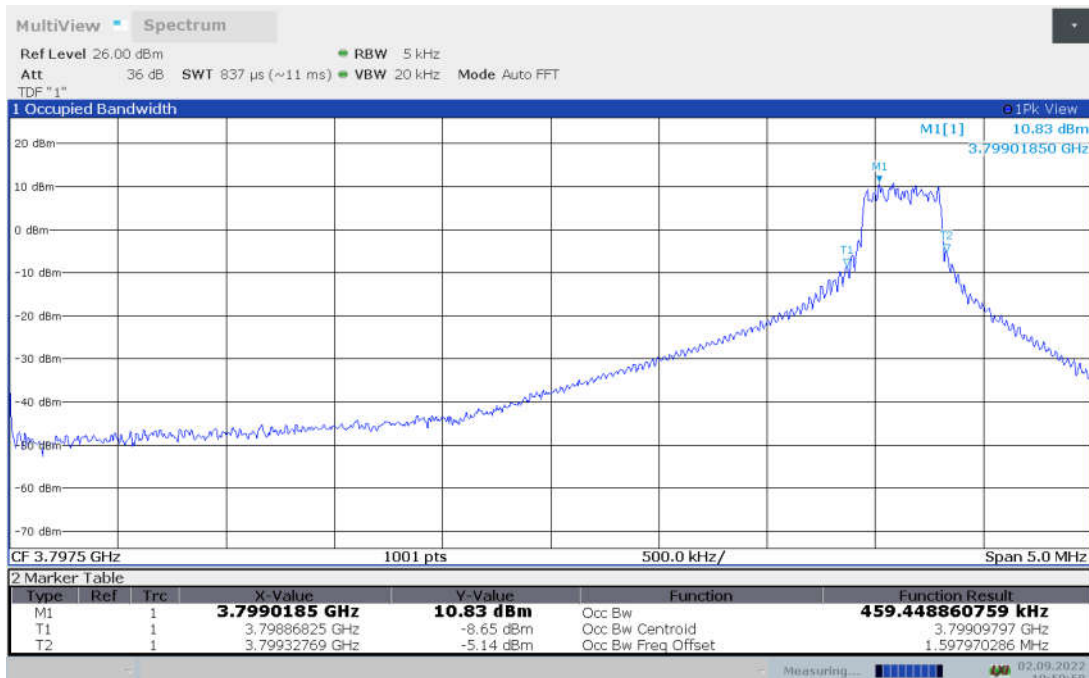
LOW BAND EDGE BLOCK-1RB-LOW_offset



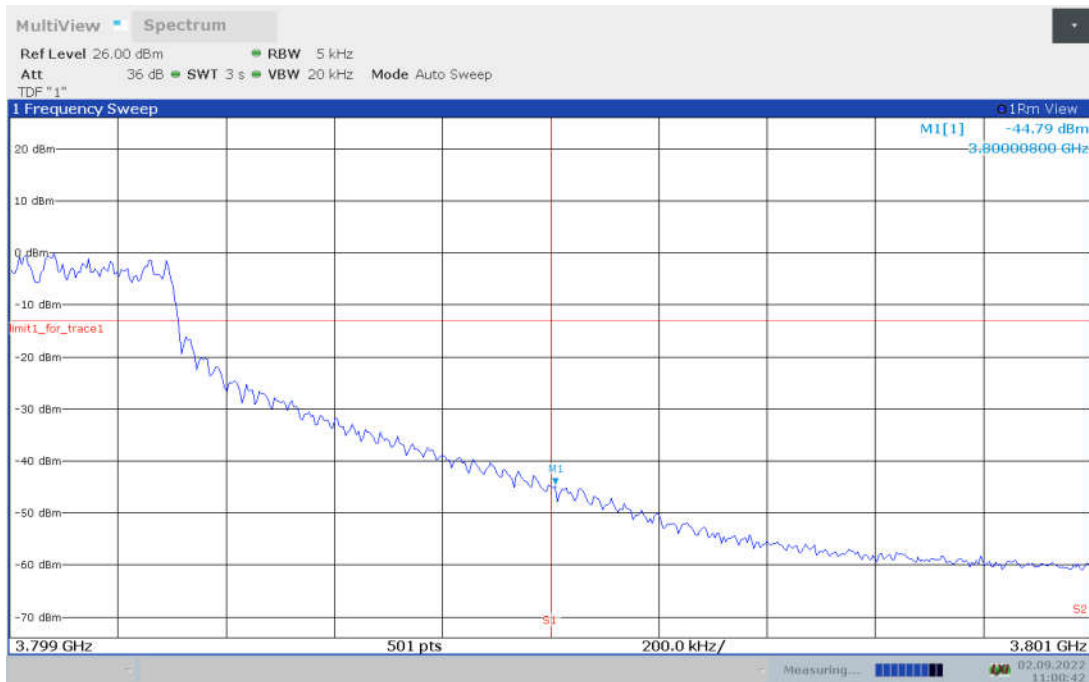
LOW BAND EDGE BLOCK-1RB-LOW_offset



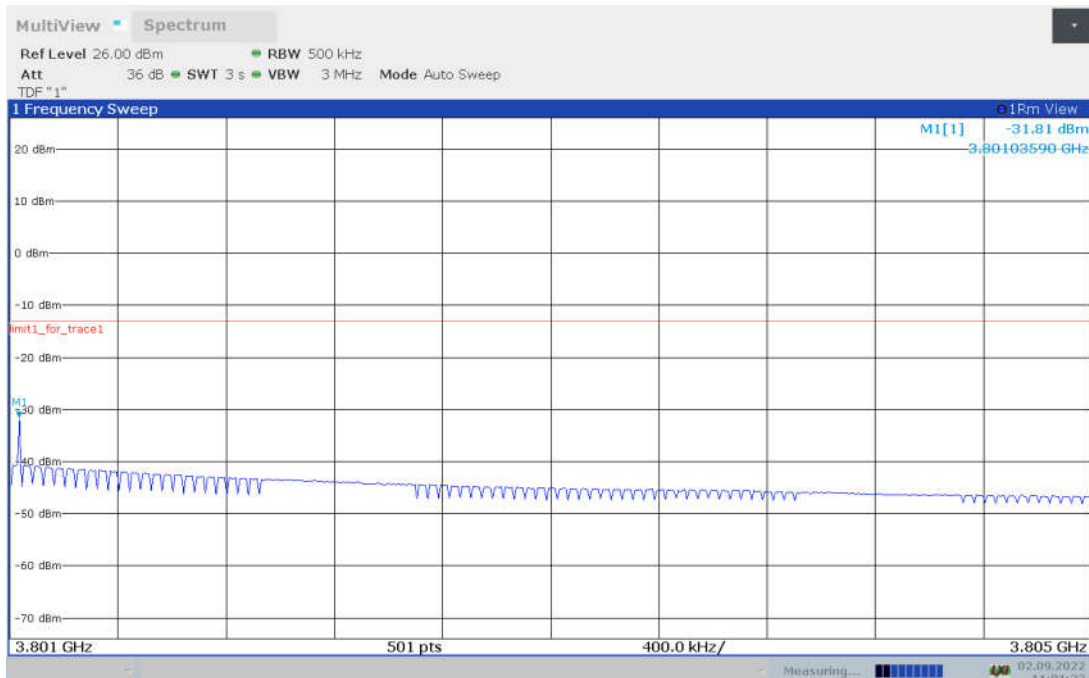
OBW: 1RB-HIGH_offset



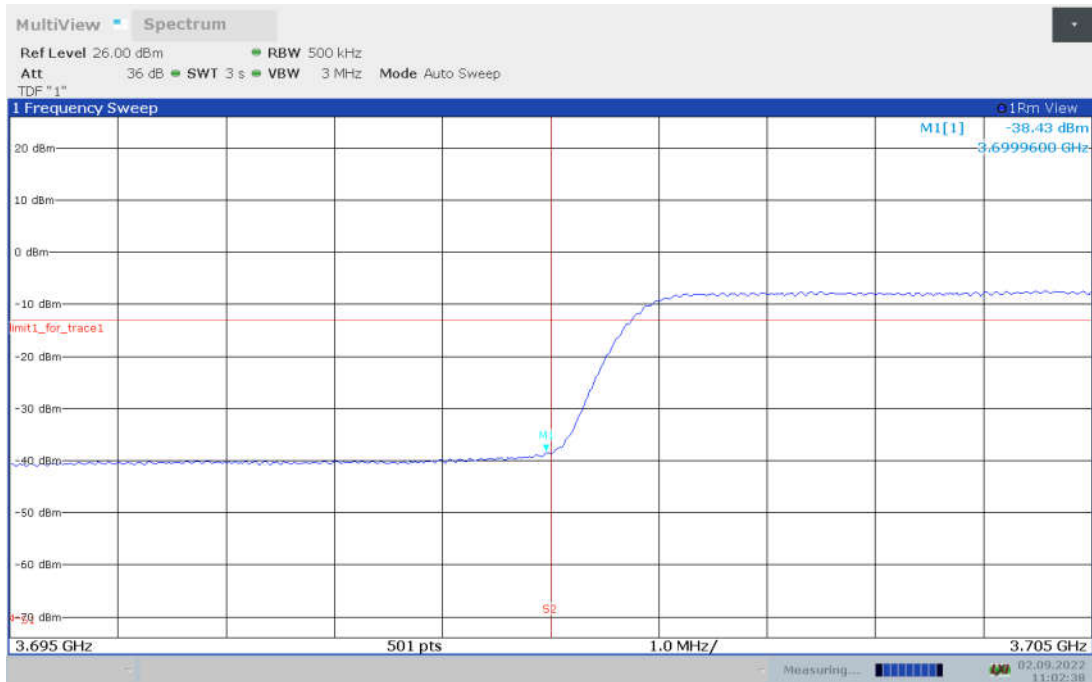
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



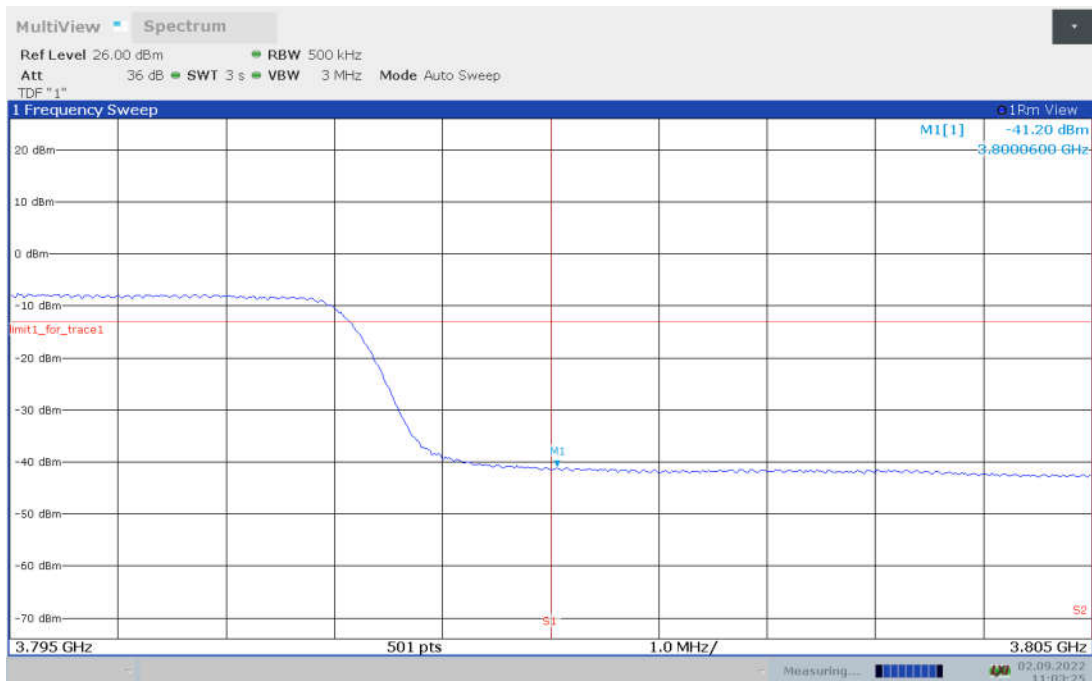
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-100M-100%RB



HIGH BAND EDGE BLOCK-100M-100%RB



Note: Expanded measurement uncertainty is $U = 0.49\text{dB}(100\text{kHz}-2\text{GHz})/1.21\text{dB}(2\text{GHz}-26.5\text{GHz})$, $k = 1.96$

A.7 CONDUCTED SPURIOUS EMISSION

Reference

FCC: CFR Part 2.1051, 27.53.

A.7.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1051 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. The number of sweep points of spectrum analyzer is set to 30001 which is greater than span/RBW.

A. 7.2 Measurement Limit

Part 27.53(h) specify that 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.

Part 27.53(n) states for base station operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with the provisions of this paragraph (n)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. The 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. Notwithstanding the channel edge requirement of -13 dBm per megahertz, for base station operations in the 3450-3550 MHz band, the conducted power of any emission below 3440 MHz or above 3560 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3430 MHz or above 3570 MHz shall not exceed -40 dBm/MHz.

Part 27.53(l) states for base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's 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 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.

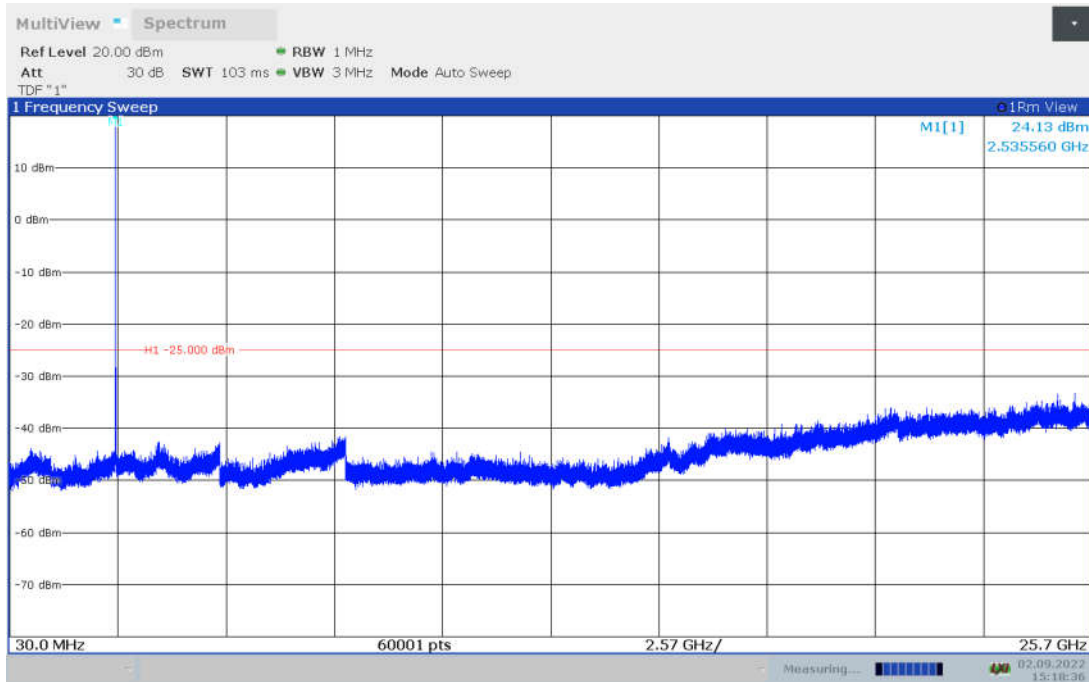
A. 7.3 Measurement result

Only worst case result is given below

DC_2A_n7A

Spurious emission limit –25dBm.

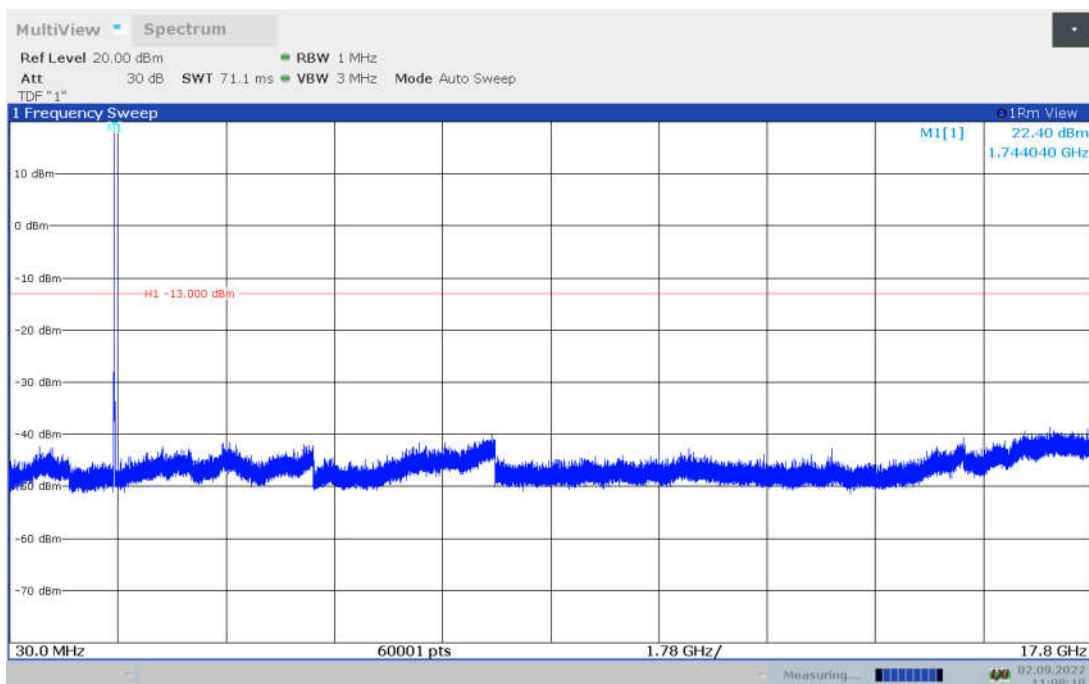
NOTE: peak above the limit line is the carrier frequency.



DC_2A_n66A

Spurious emission limit –13dBm.

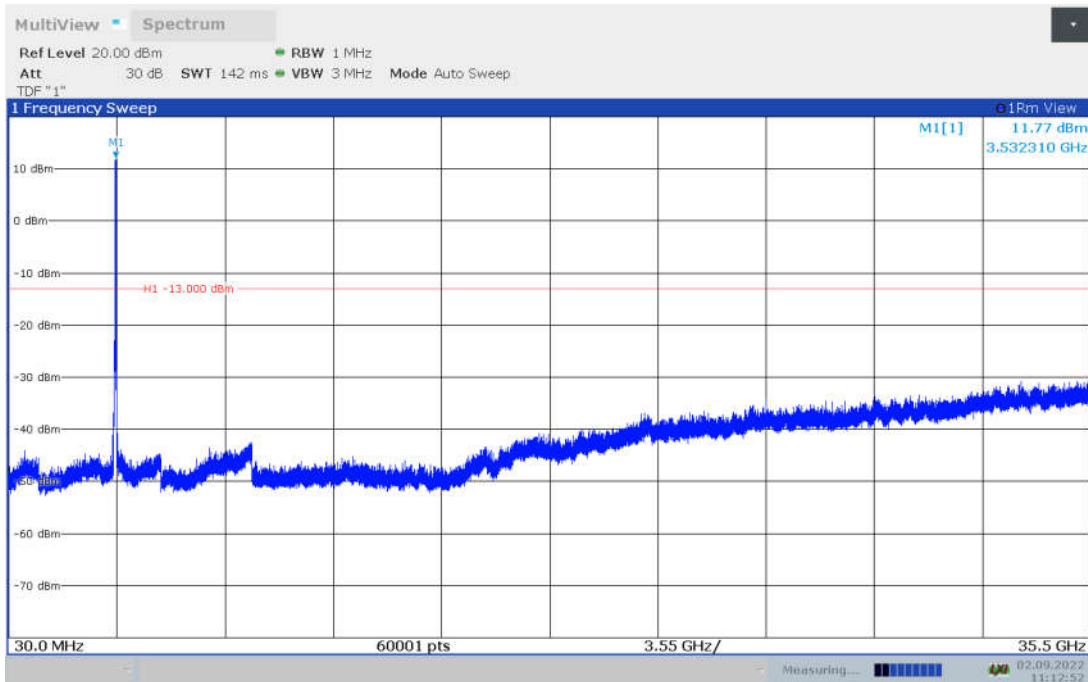
NOTE: peak above the limit line is the carrier frequency.



DC_2A_n78A(3450 MHz-3550 MHz)

Spurious emission limit –13dBm.

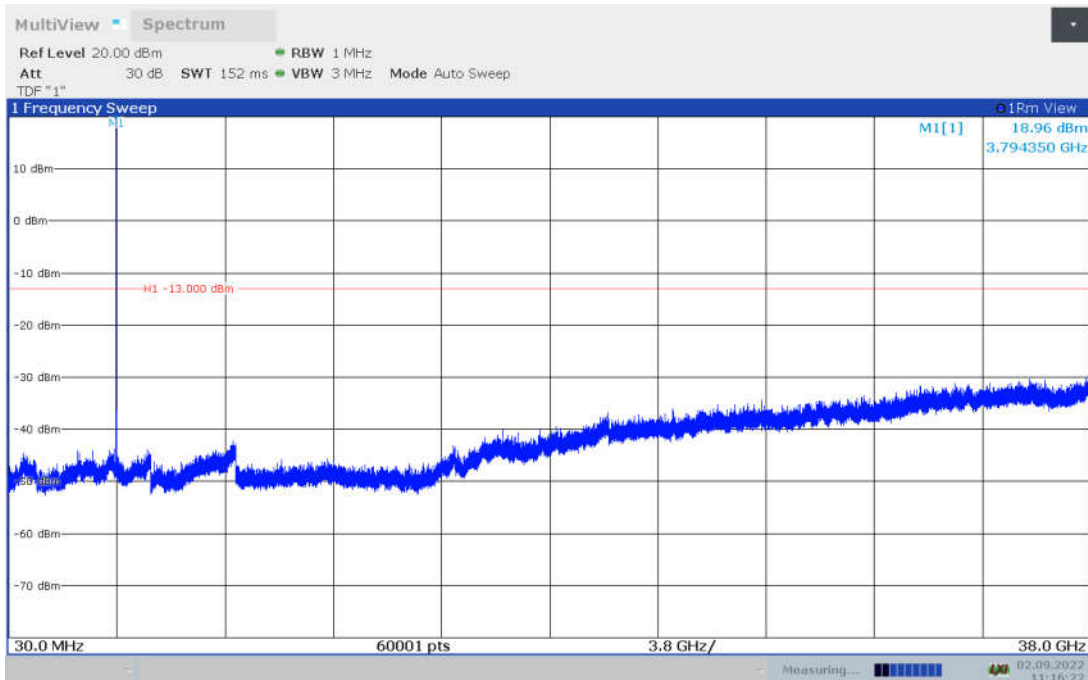
NOTE: peak above the limit line is the carrier frequency.



DC_2A_n78A(3700 MHz-3800 MHz)

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



Note: Expanded measurement uncertainty is $U = 0.49\text{dB}(100\text{kHz}-2\text{GHz})/1.21\text{dB}(2\text{GHz}-26.5\text{GHz})$, $k = 1.96$



A.8 PEAK-TO-AVERAGE POWER RATIO

Reference

FCC: CFR Part 27.50, KDB971168 D01.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

- a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- b) Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
- c) Set the number of counts to a value that stabilizes the measured CCDF curve;
- d) Set the measurement interval to 1 ms
- e) Record the maximum PAPR level associated with a probability of 0.1%

DC_2A_n7A,20MHz

Frequency (MHz)	PAPR (dB)								
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM
2535	4.36	5.36	6.10	6.18	6.48	8.14	8.14	8.14	8.42

DC_2A_n66A,20MHz

Frequency (MHz)	PAPR (dB)								
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM
1745	4.50	5.46	6.24	6.42	6.70	8.16	8.10	8.20	8.68

DC_2A_n78A(3450 MHz-3550 MHz),100MHz

Frequency (MHz)	PAPR (dB)								
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM
3500.01	4.43	5.54	6.19	6.58	6.67	8.25	8.21	8.34	8.79

DC_2A_n78A(3700 MHz-3800 MHz),100MHz

Frequency (MHz)	PAPR (dB)								
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM
3750	4.51	5.60	6.32	6.71	6.78	8.41	8.58	8.62	8.97

*****END OF REPORT*****