

n66

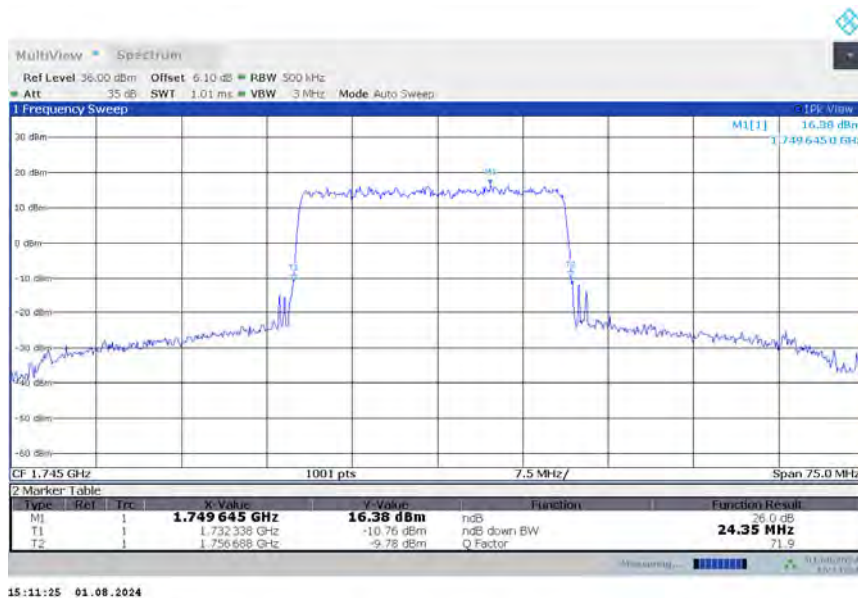
n66,25MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	24.276	24.351

n66,25MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,25MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n66
n66,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	30.120	30.210

n66,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n66

n66,35MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	33.670	33.880

n66,35MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,35MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n66

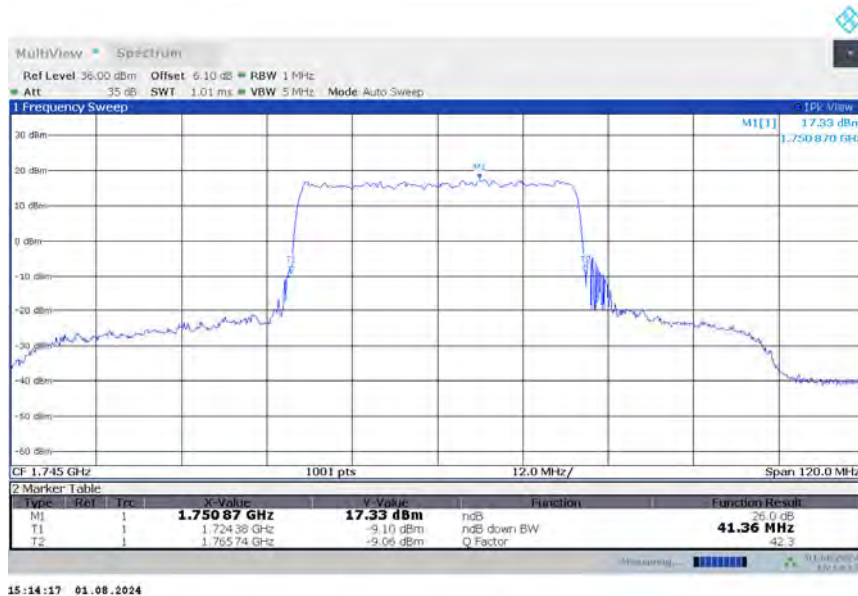
n66,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	41.240	41.360

n66,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n66,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n71

n71,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	5.215	5.215

n71,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n71,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n71

n71,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	9.890	9.770

n71,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n71,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n71

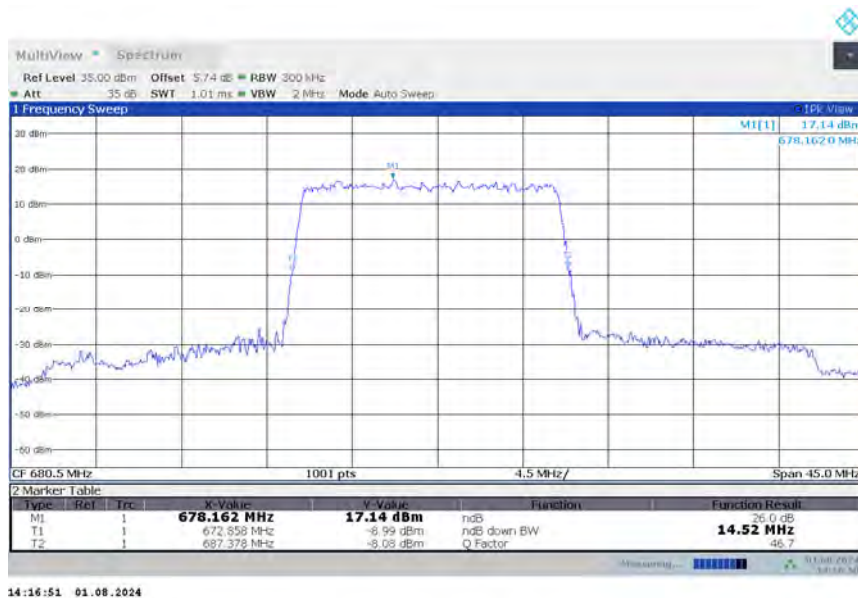
n71,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	14.565	14.520

n71,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n71,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n71

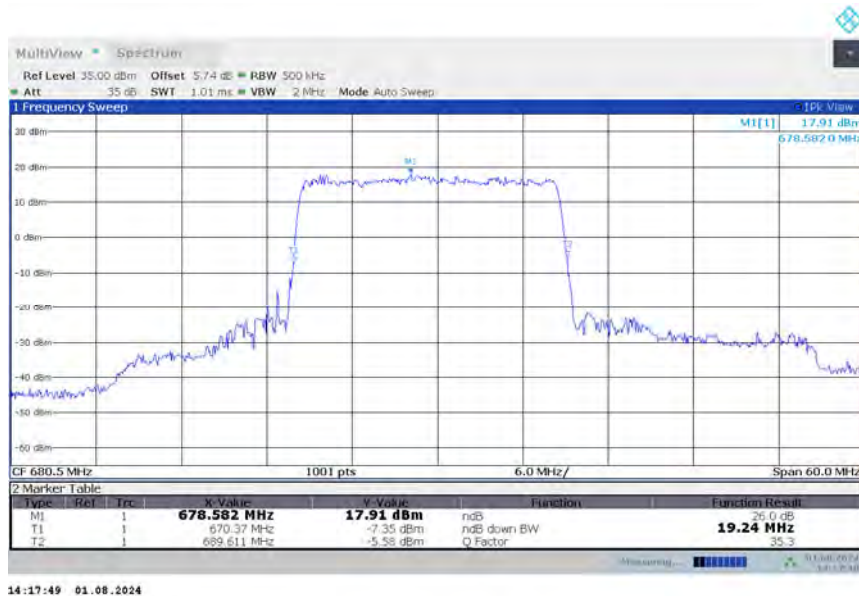
n71,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	19.361	19.241

n71,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n71,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

n77L,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	9.740	9.980

n77L,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

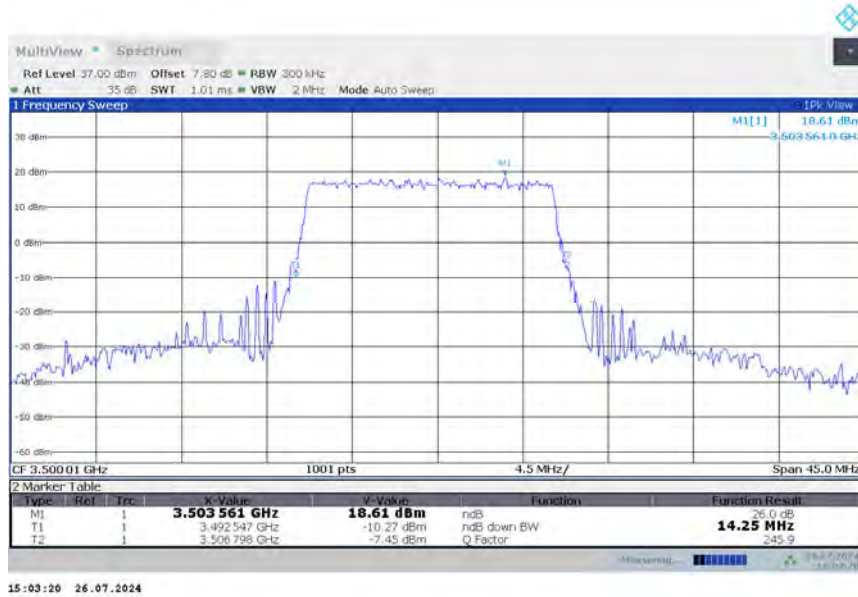


n77L

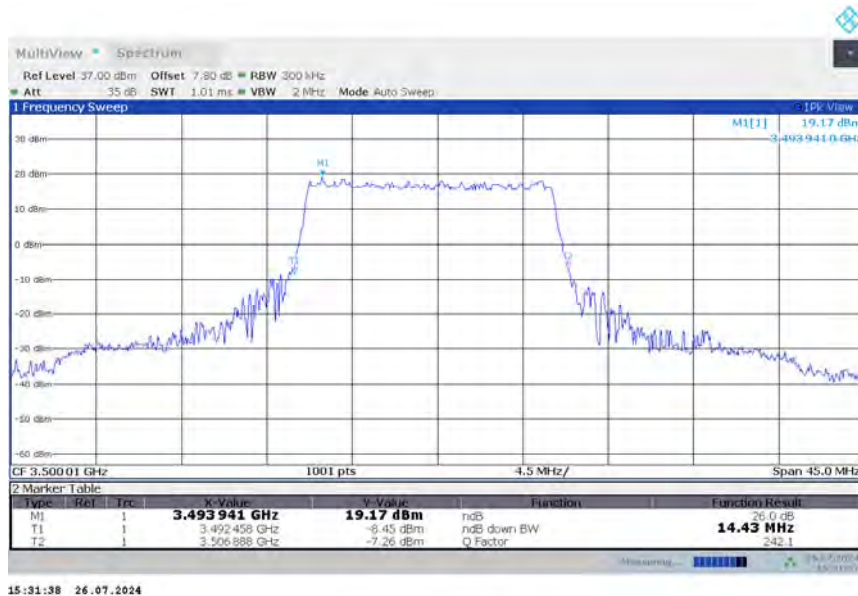
n77L,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	14.251	14.431

n77L,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

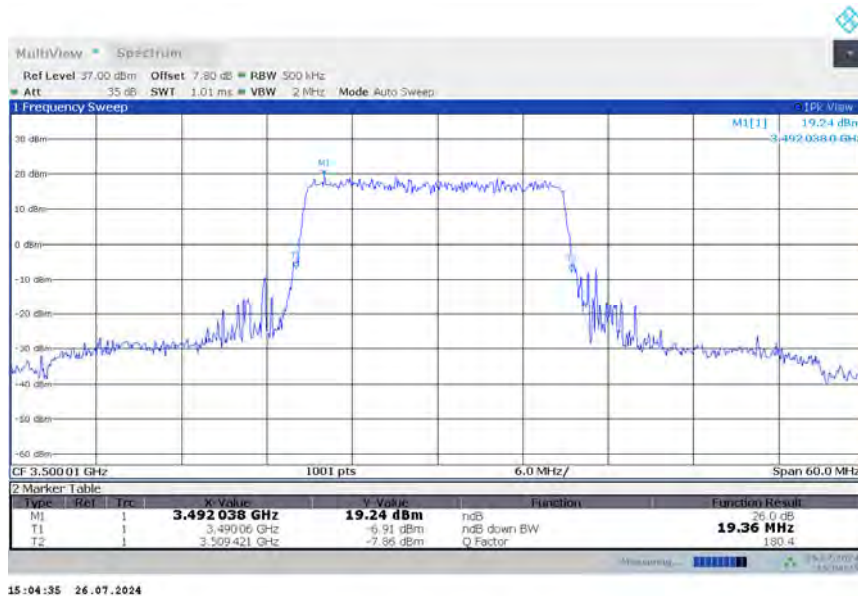
n77L,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	19.540	19.361

n77L,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

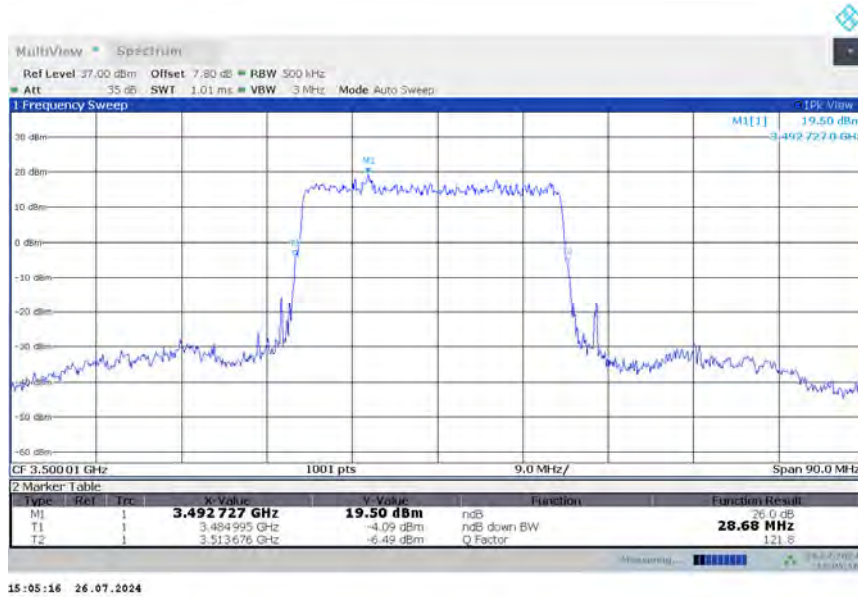


n77L

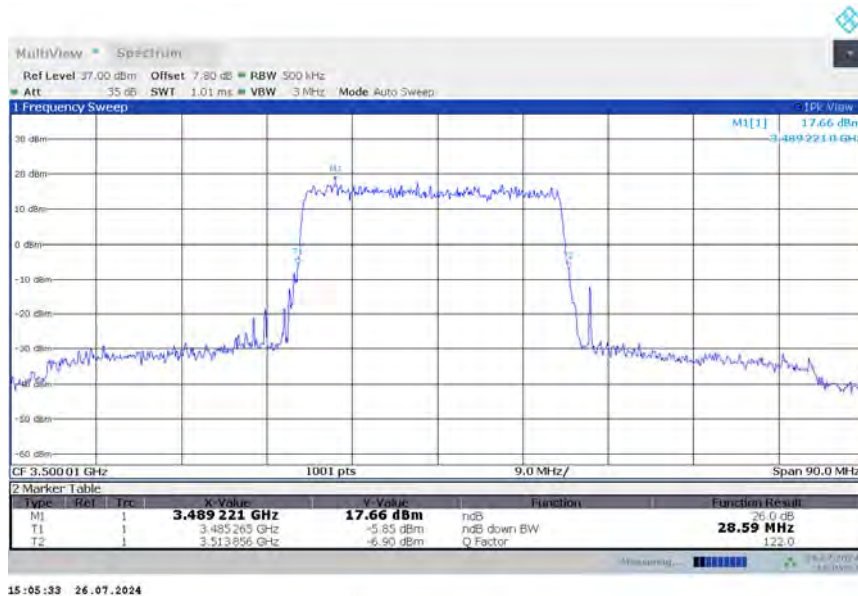
n77L,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	28.681	28.591

n77L,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

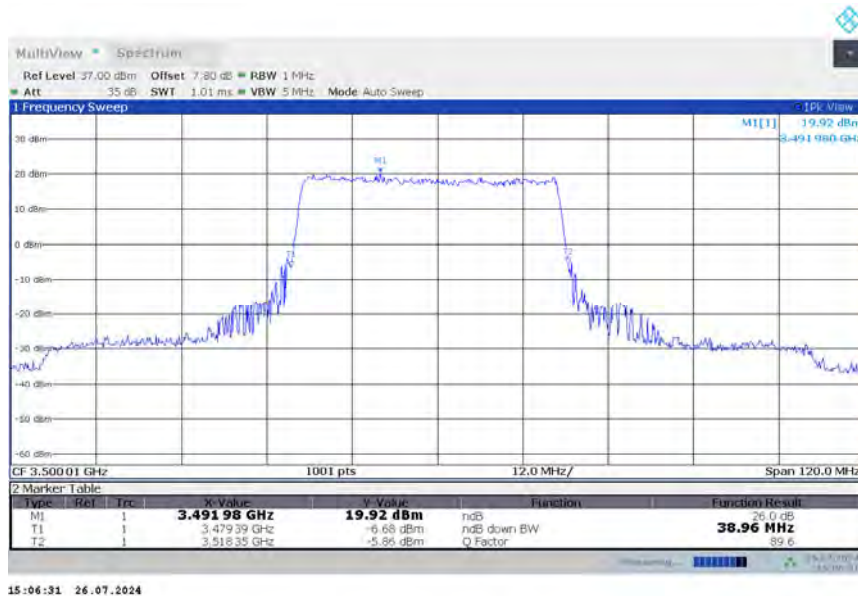
n77L,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	38.960	38.960

n77L,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

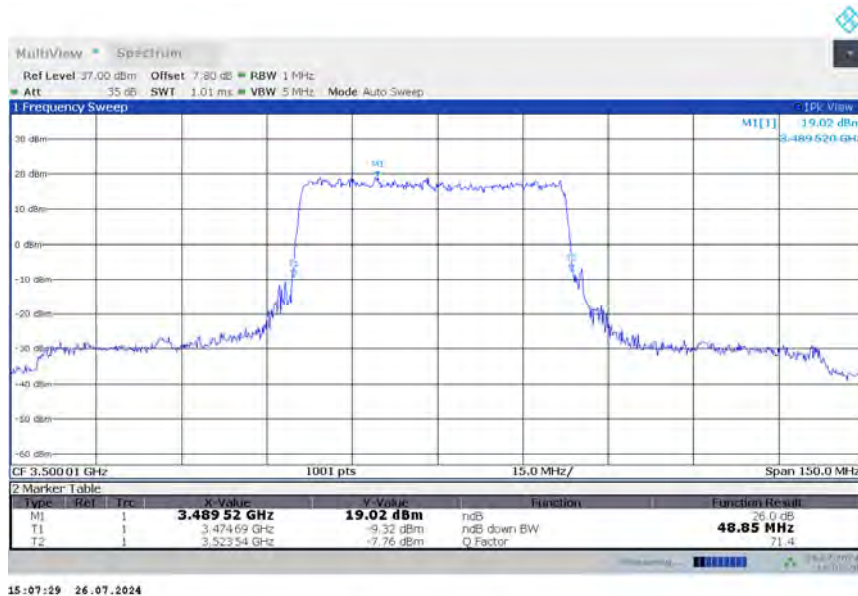
n77L,50MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	48.850	48.850

n77L,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

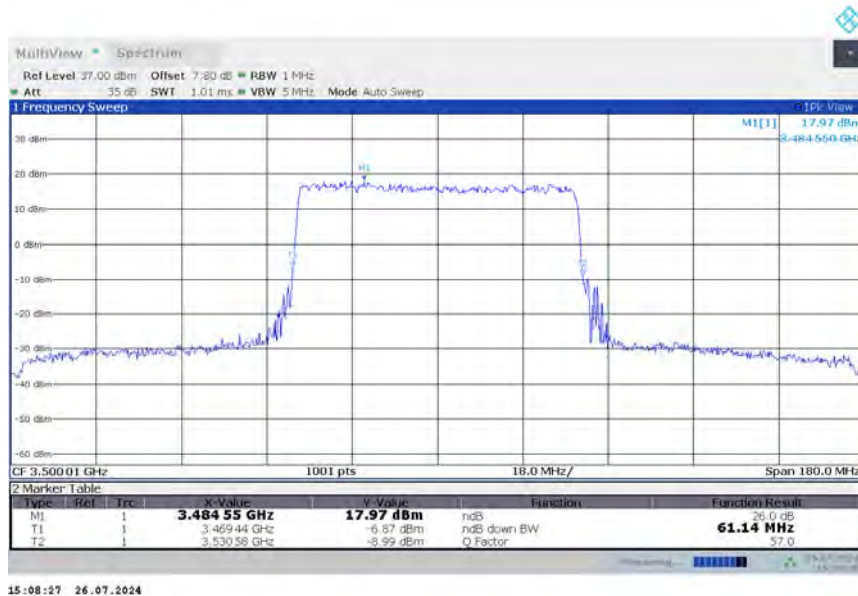
n77L,60MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	61.140	61.140

n77L,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

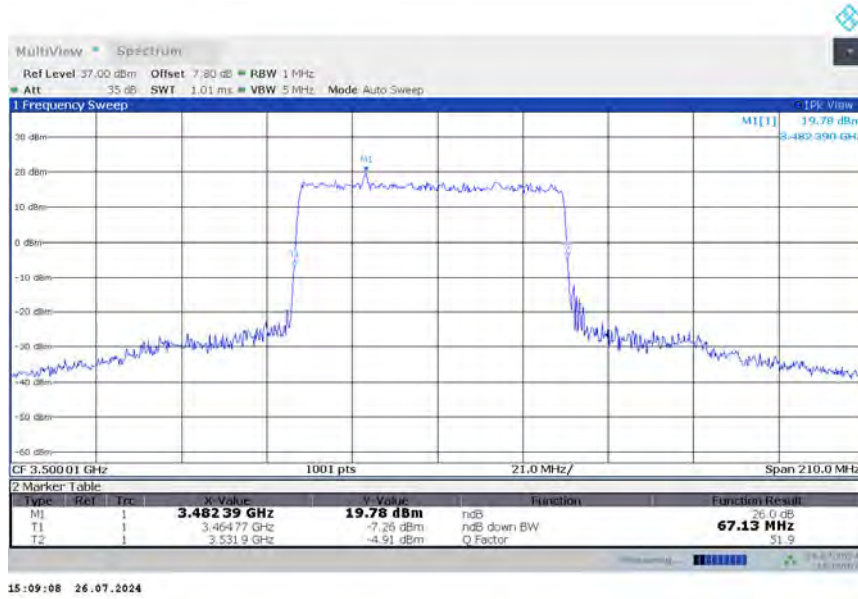


n77L

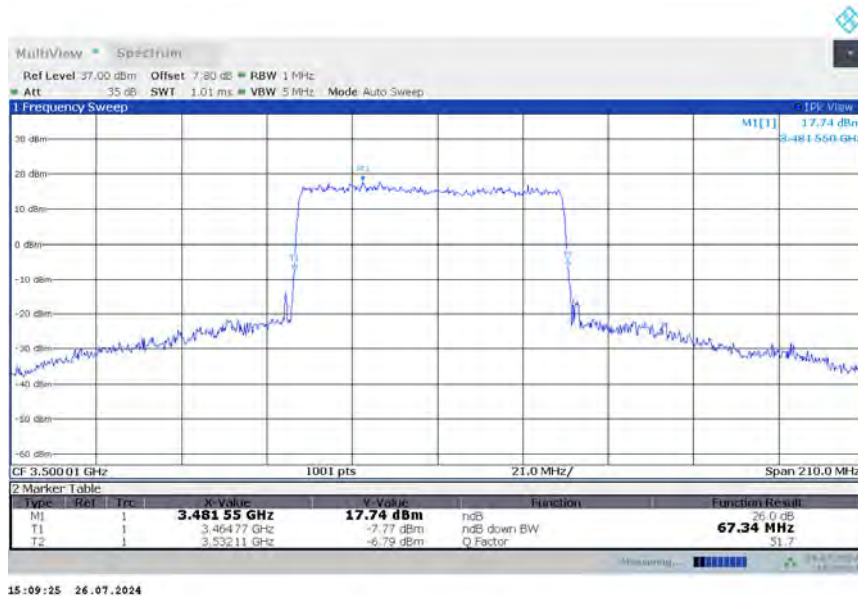
n77L,70MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	67.130	67.340

n77L,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

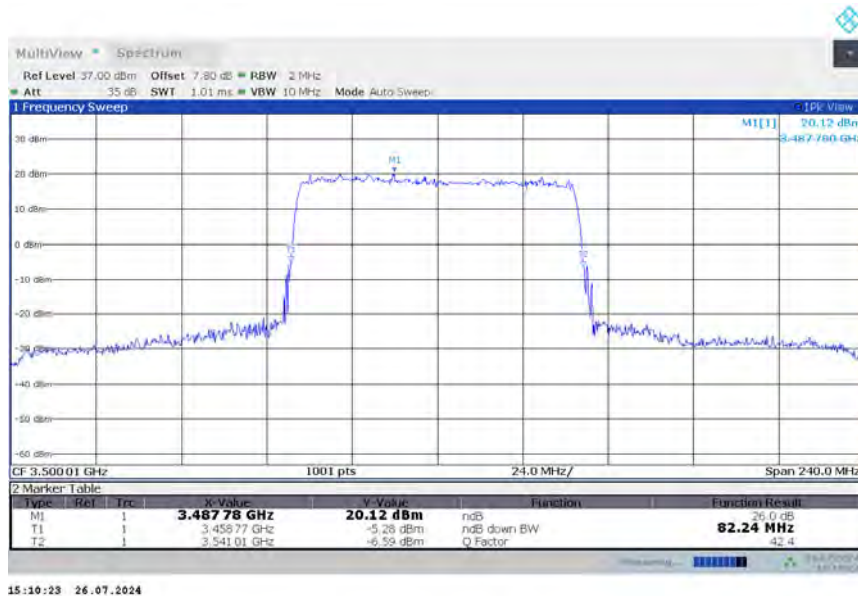
n77L,80MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	82.480	82.240

n77L,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

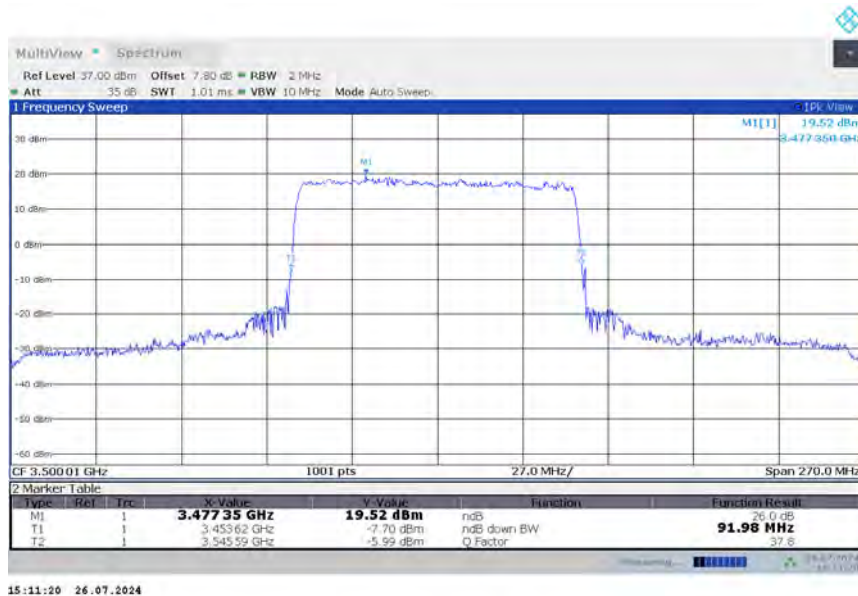
n77L,90MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	91.710	91.980

n77L,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77L

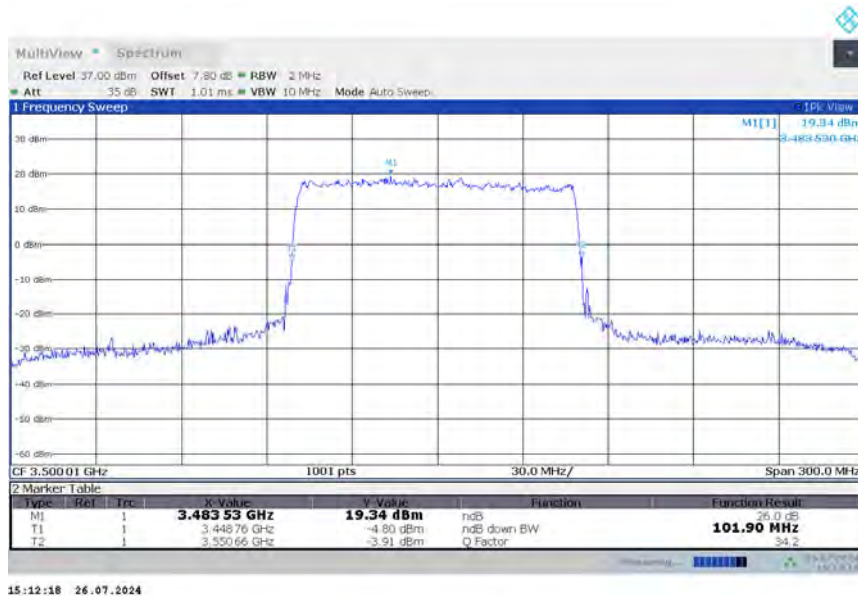
n77L,100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3500.01	101.900	101.900

n77L,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77L,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

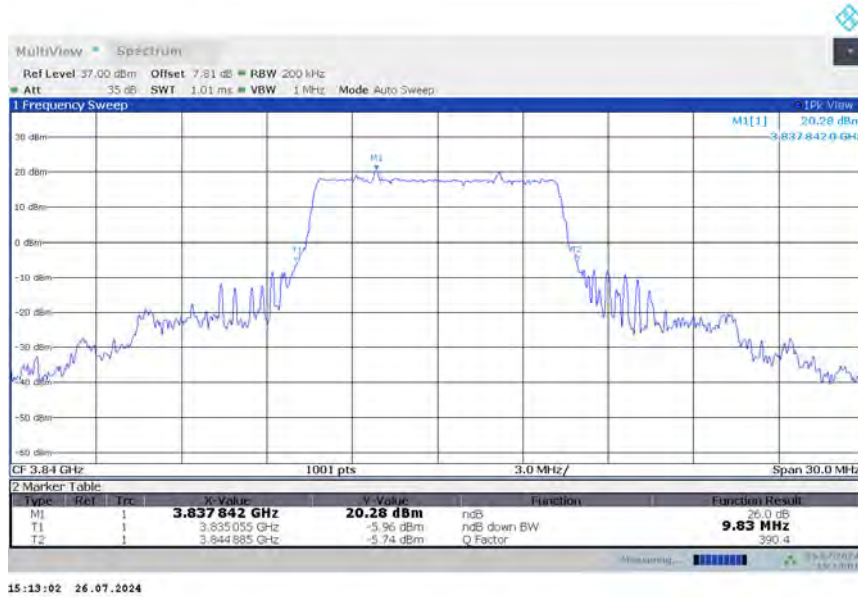


n77H

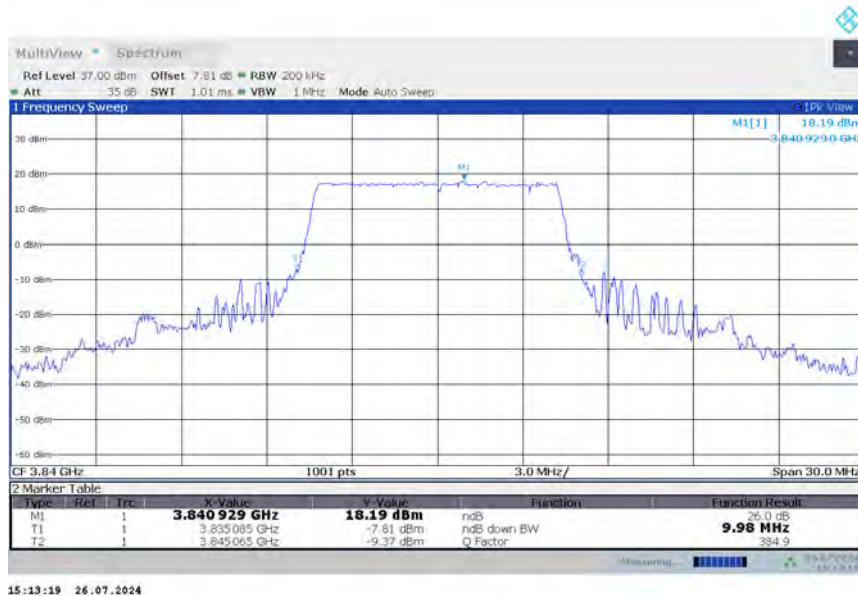
n77H,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	9.830	9.980

n77H,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

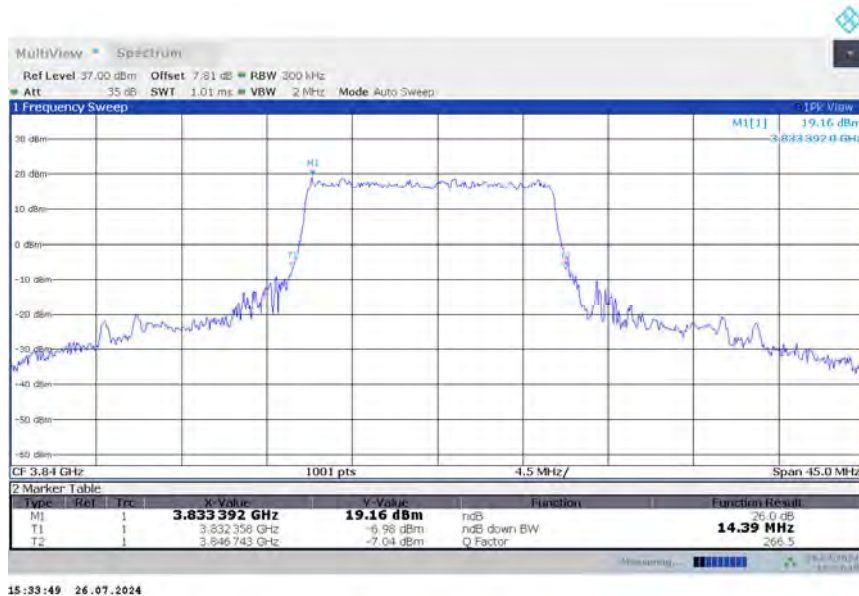
n77H,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	14.565	14.386

n77H,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

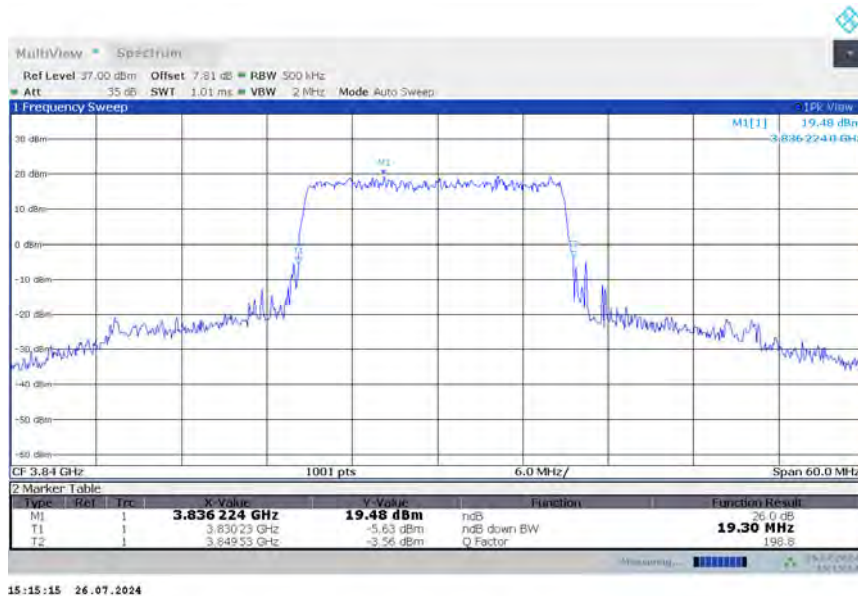
n77H,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	19.540	19.301

n77H,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

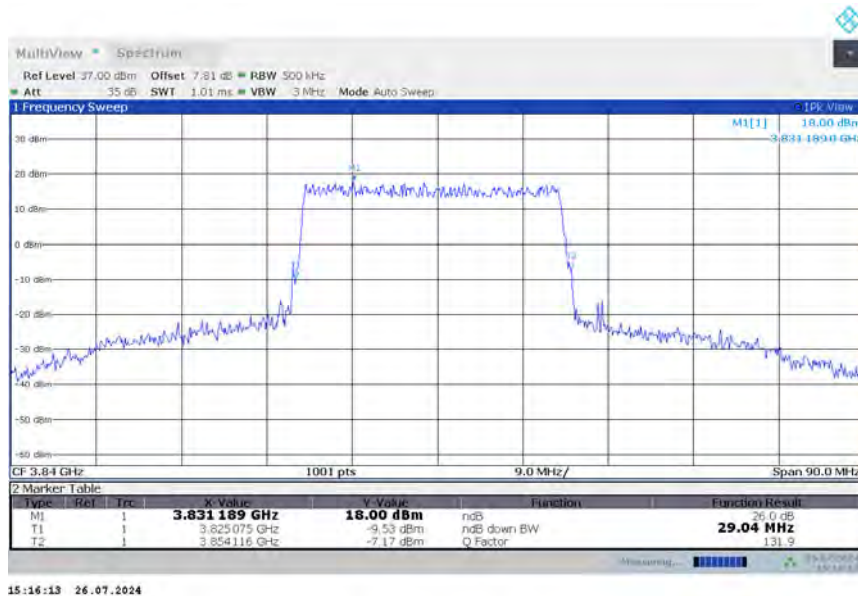
n77H,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	28.501	29.041

n77H,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

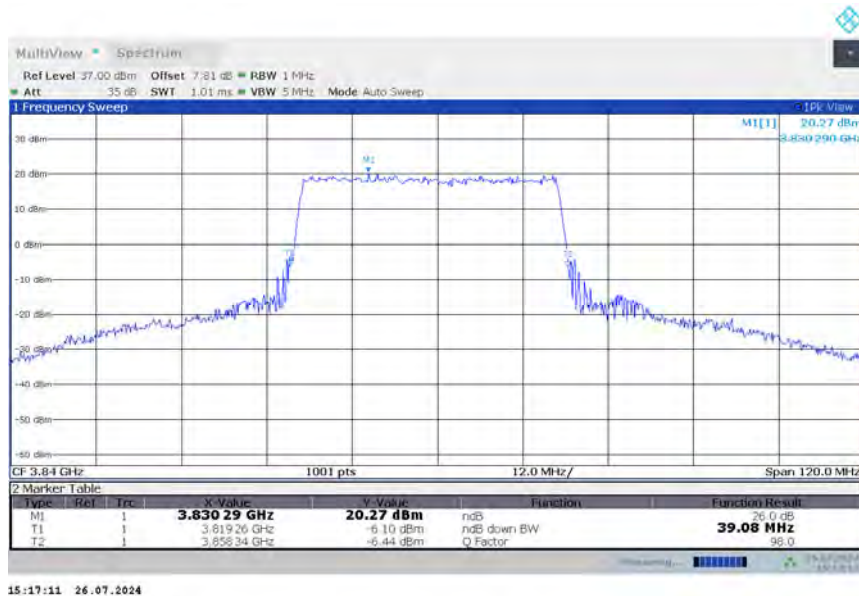
n77H,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	38.840	39.080

n77H,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

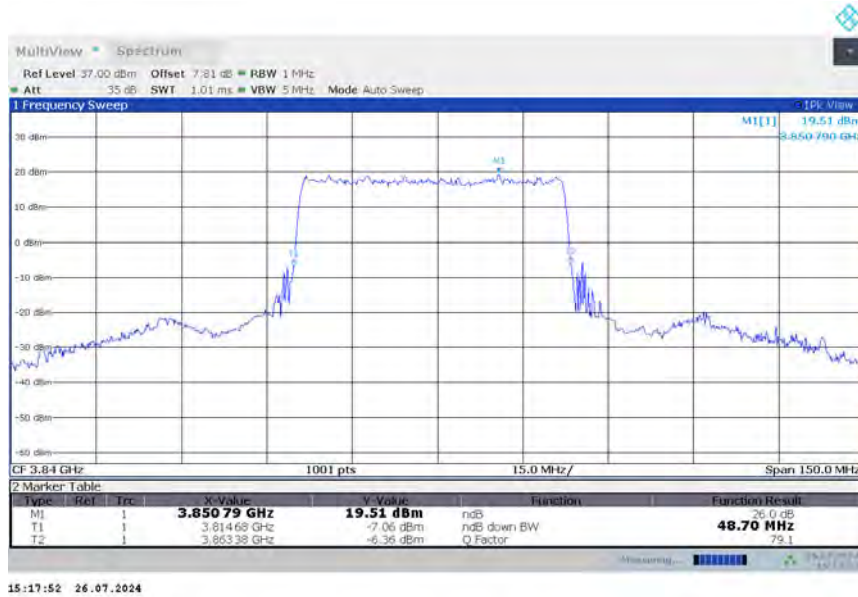


n77H

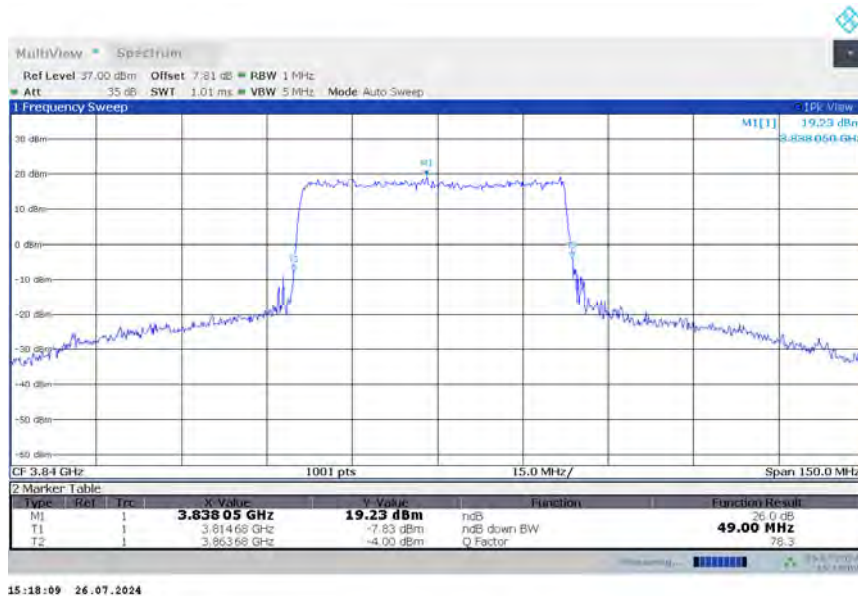
n77H,50MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	48.700	49.000

n77H,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

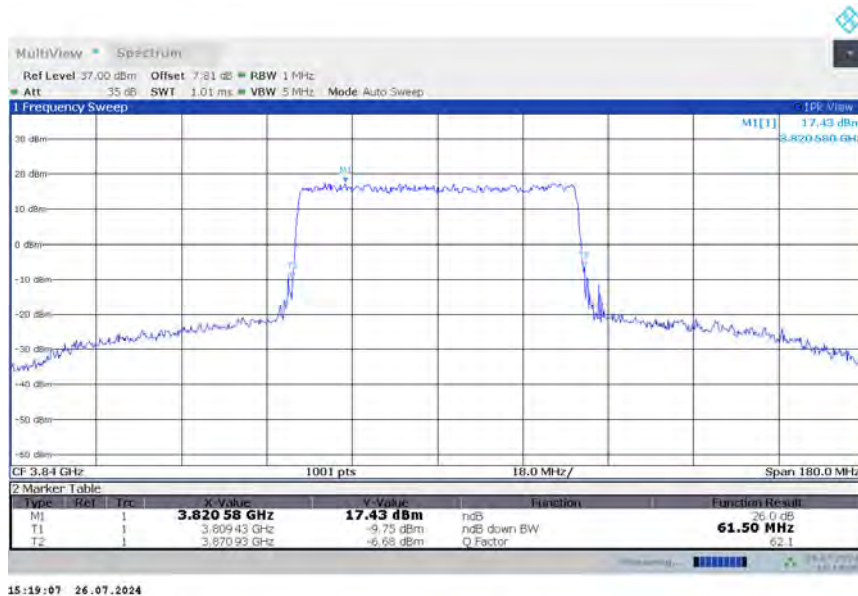
n77H,60MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	61.140	61.500

n77H,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

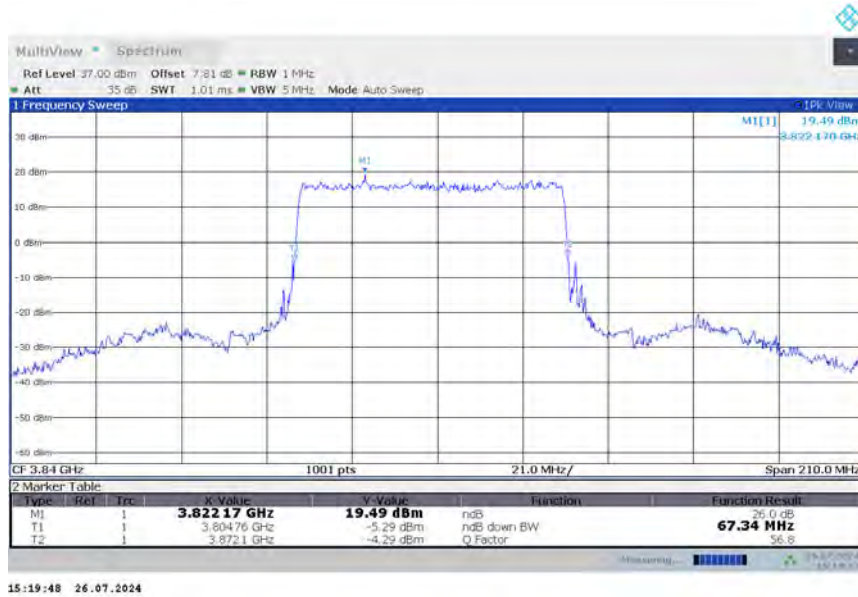


n77H

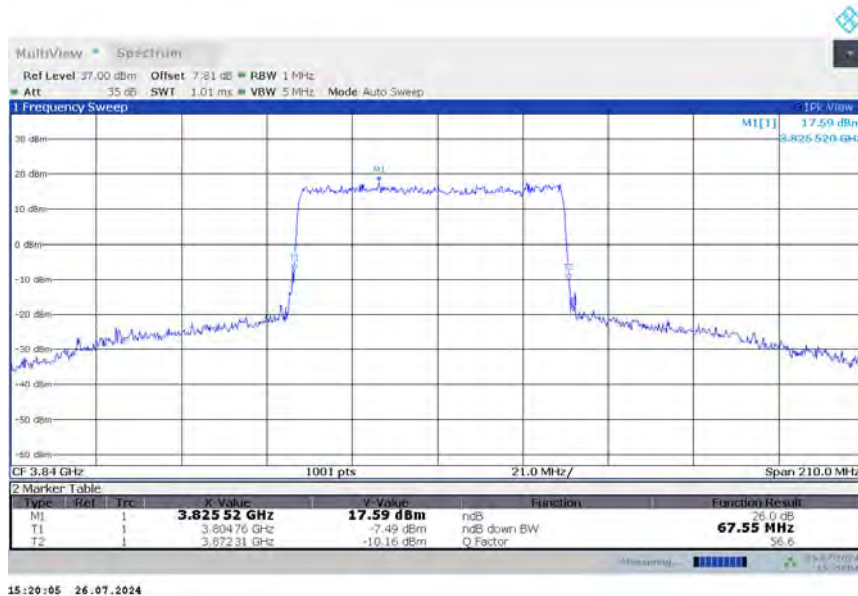
n77H,70MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	67.340	67.550

n77H,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

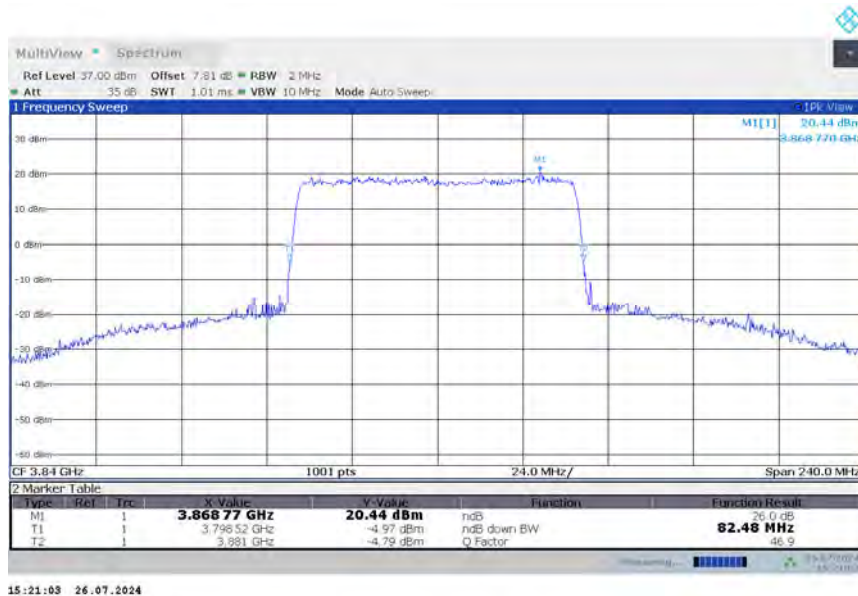
n77H,80MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	82.480	82.480

n77H,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

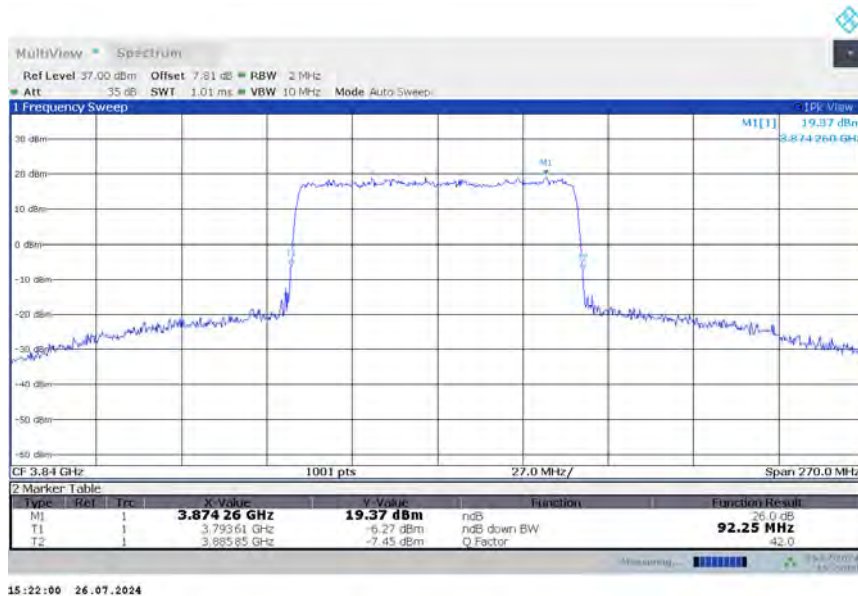
n77H,90MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	91.710	92.250

n77H,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n77H

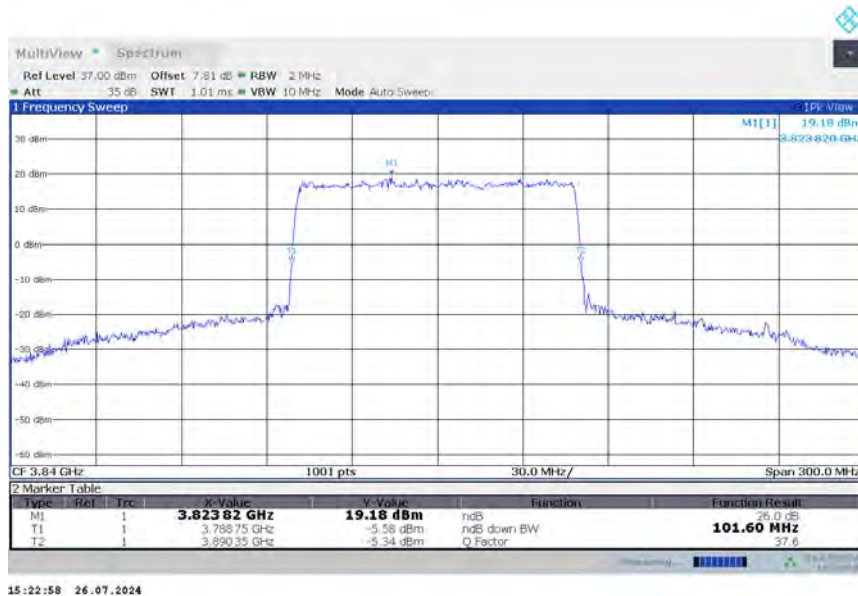
n77H,100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	102.200	101.600

n77H,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n77H,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



Note: The maximum value of expanded measurement uncertainty for this test item is $U = 0.626$ kHz, $k = 2$.

A.6 Band Edge Compliance

A.6.1 Measurement limit

Part 22.917, Part 24.238 and 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(m) specifies for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Part 27.53(n) states for mobile 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 this paragraph (n)(2) 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. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 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.

Part 27.53(l) states for mobile 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)(2) 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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 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



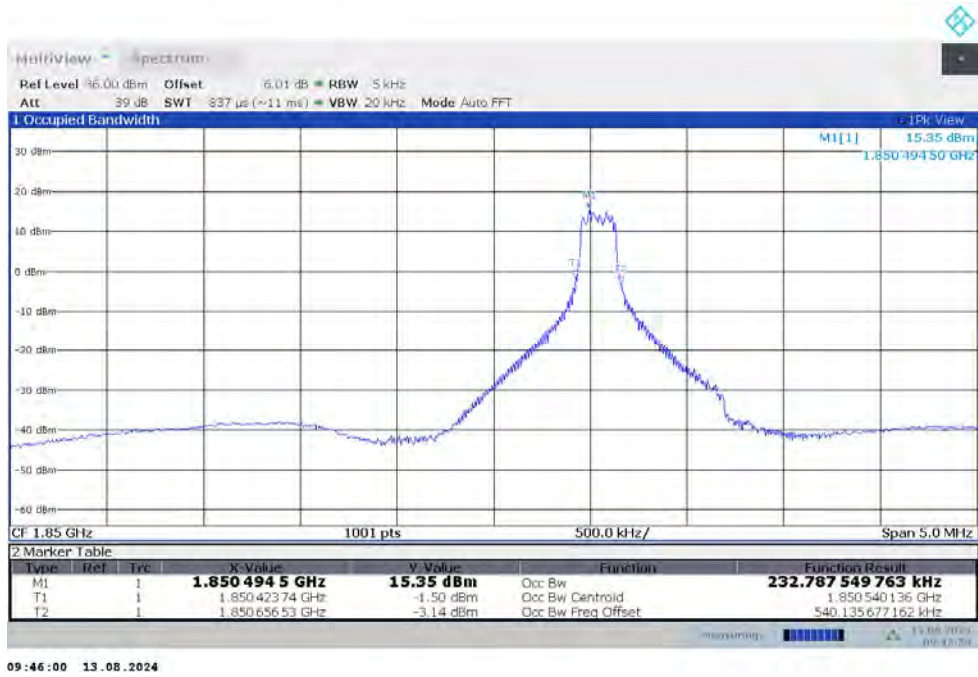
emissions are attenuated at least 26 dB below the transmitter power.

The spectrum analyzer readings are corrected by $[10 \log (1/\text{duty cycle})]$ for the non-continuous transmitting scenario.

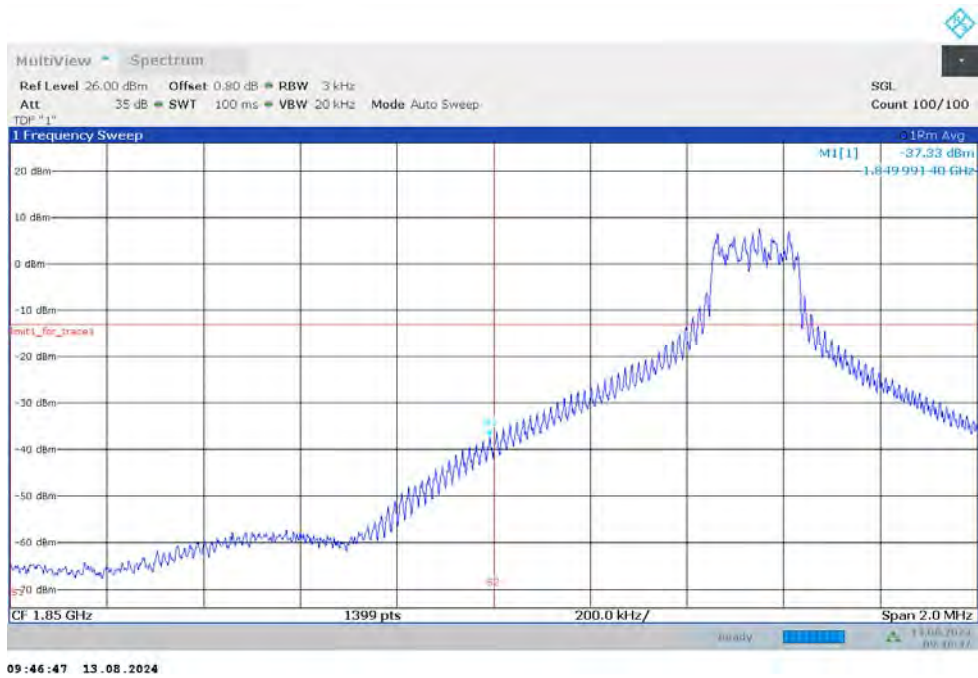
A.6.2 Measurement result

NR n2

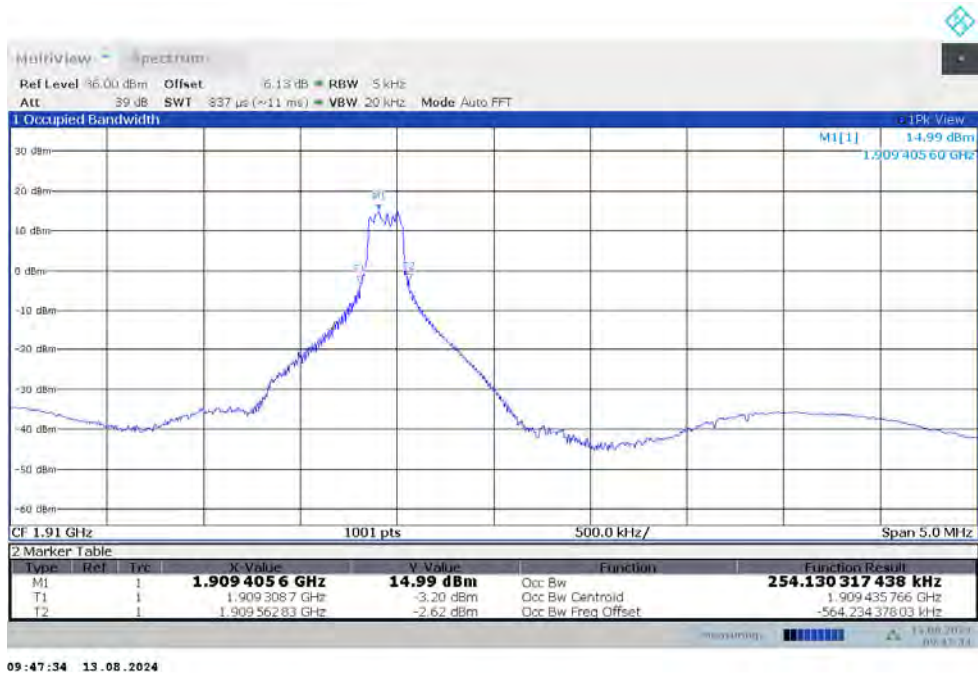
OBW: 1RB-LOW_offset



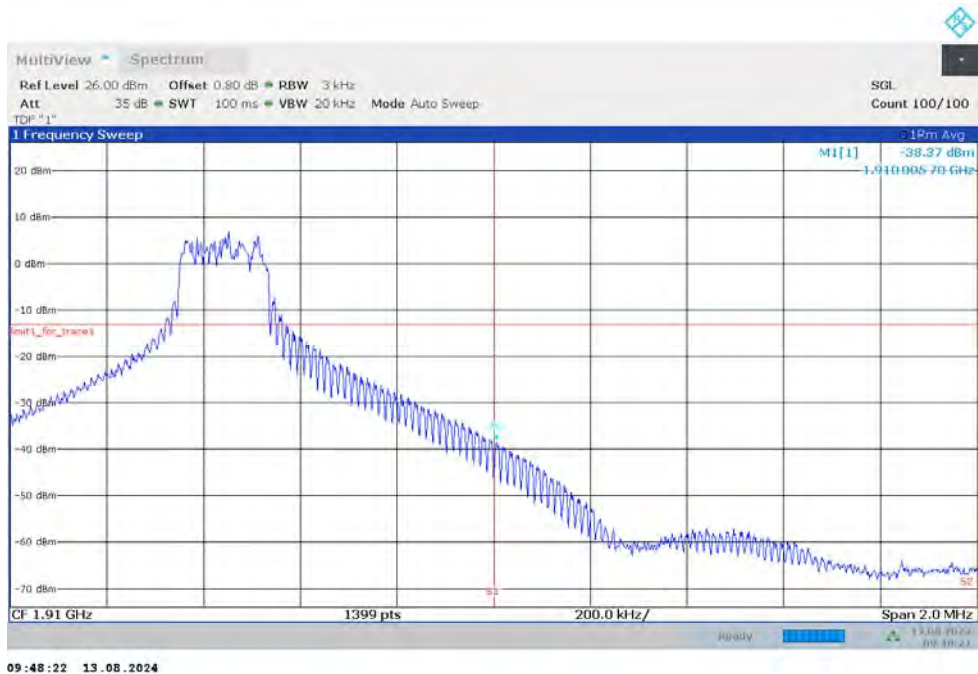
LOW BAND EDGE BLOCK-1RB-LOW_offset



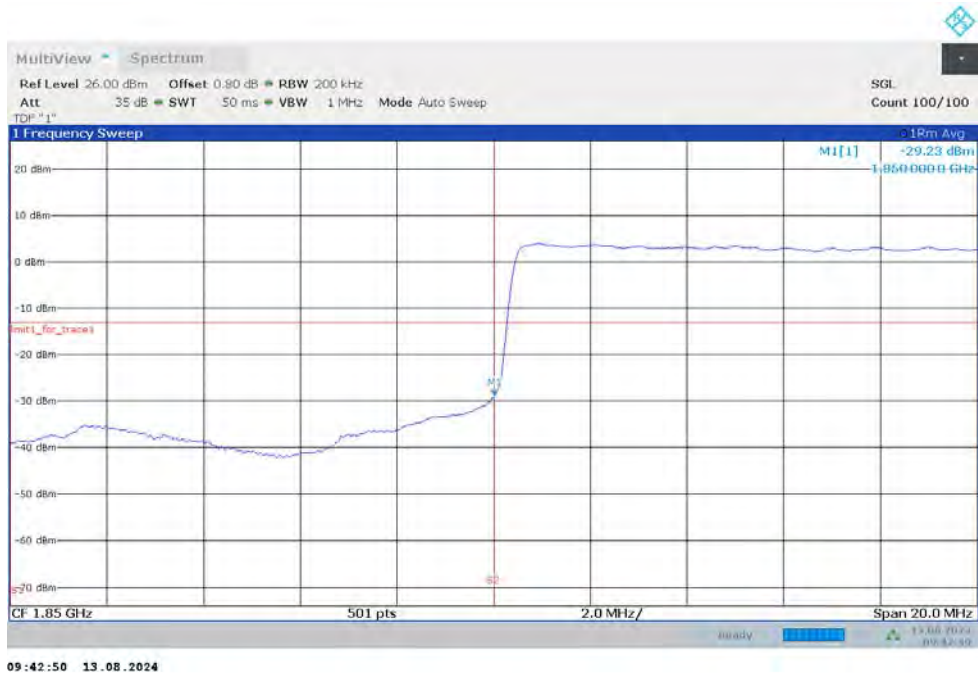
OBW: 1RB-HIGH_offset



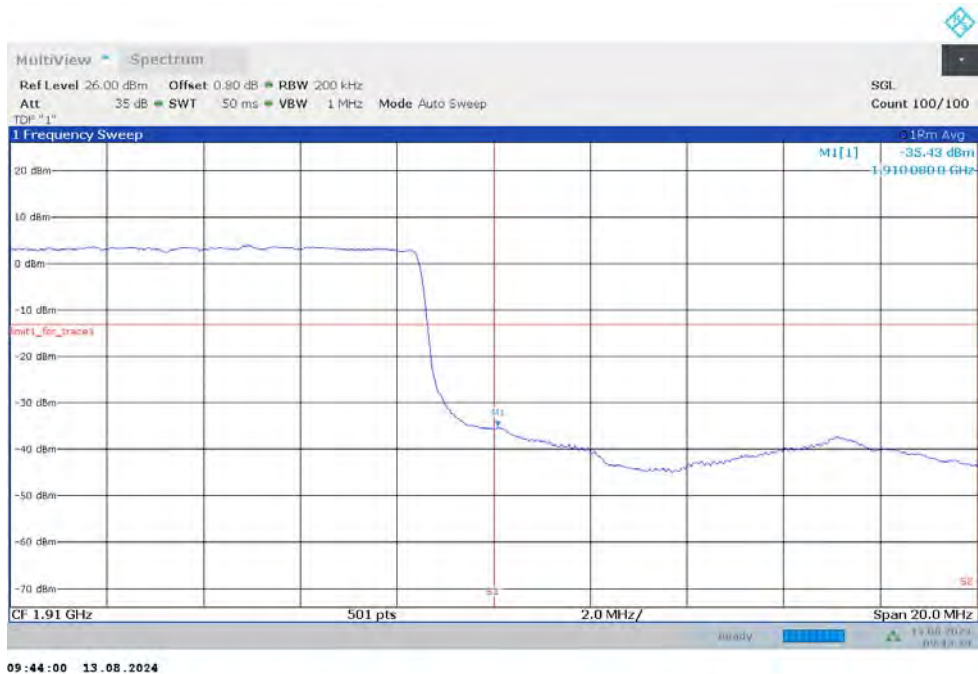
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20MHz-100%RB

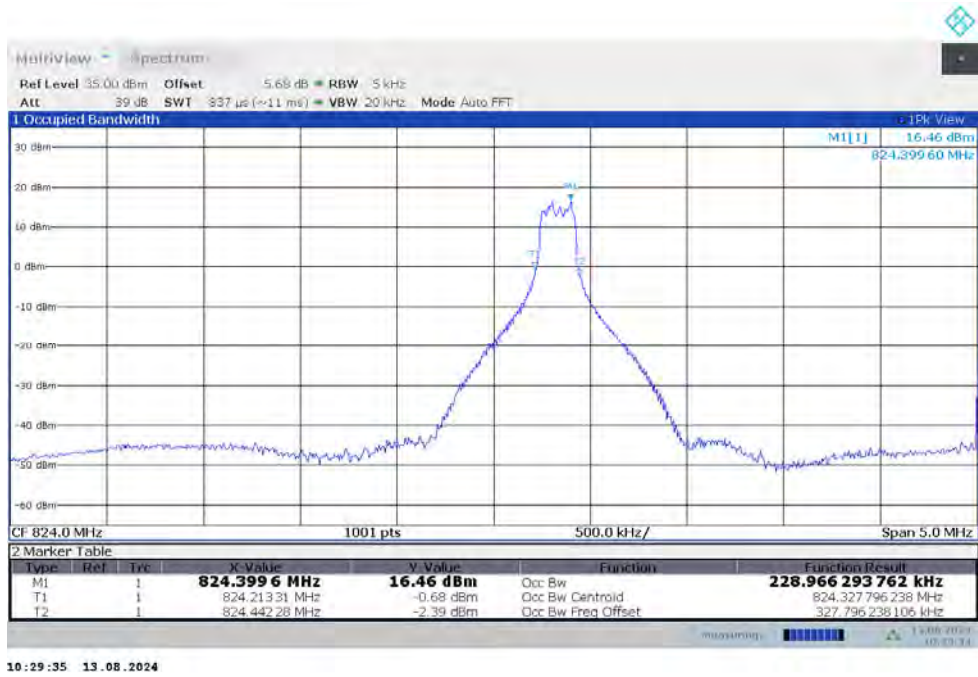


HIGH BAND EDGE BLOCK-20MHz-100%RB

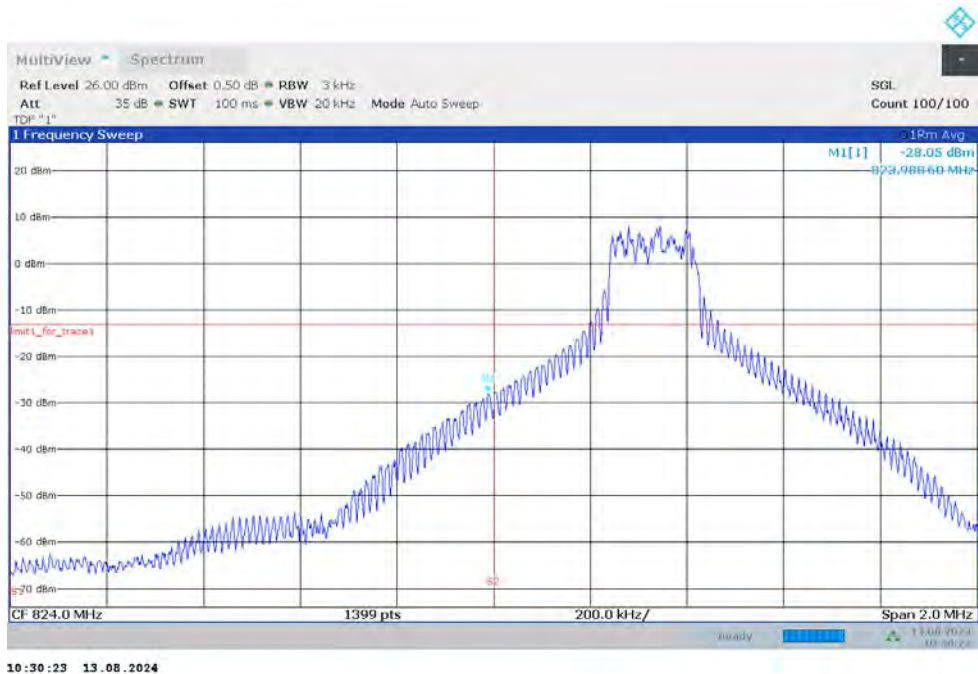


NR n5

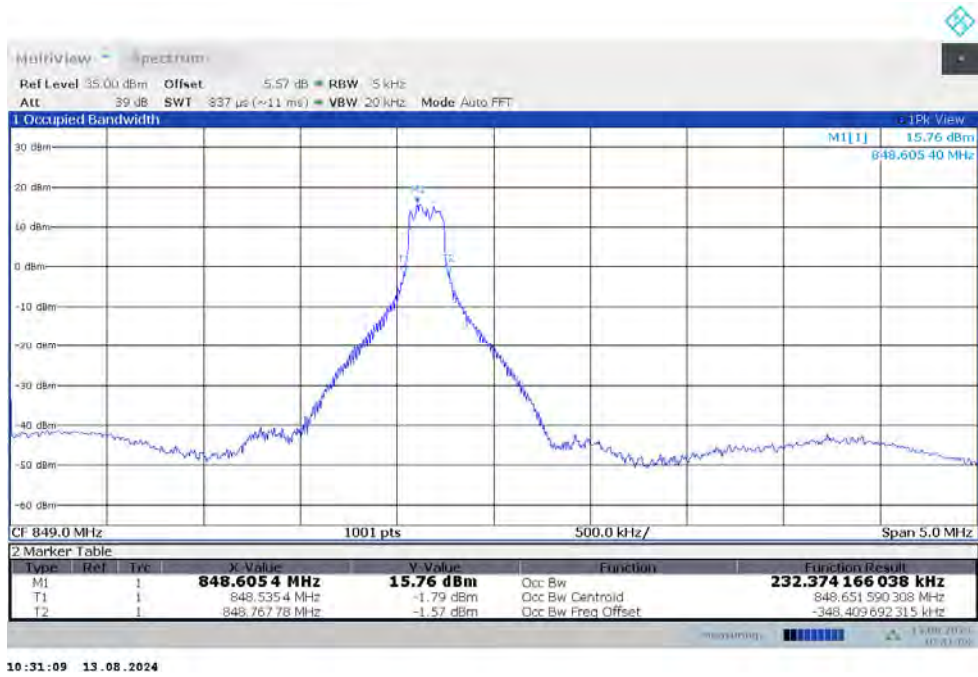
OBW: 1RB-LOW_offset



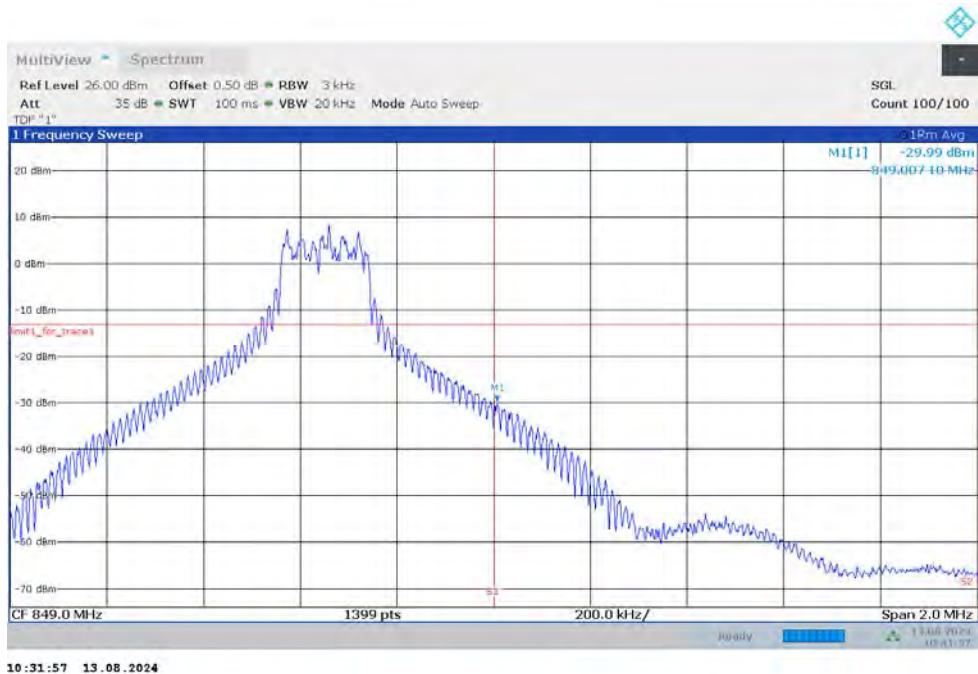
LOW BAND EDGE BLOCK-1RB-LOW_offset



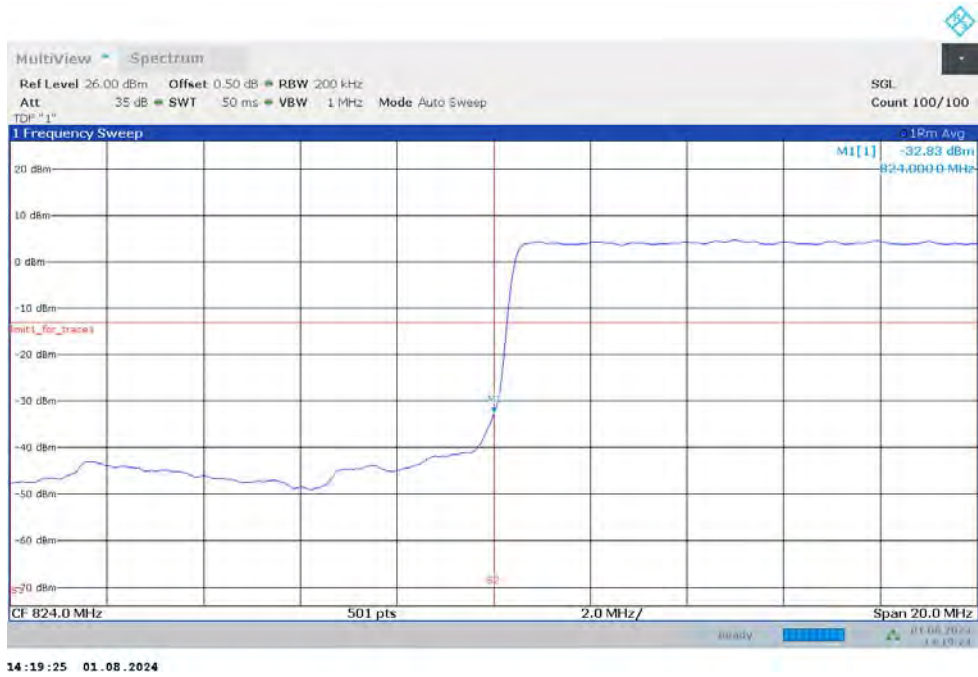
OBW: 1RB-HIGH_offset



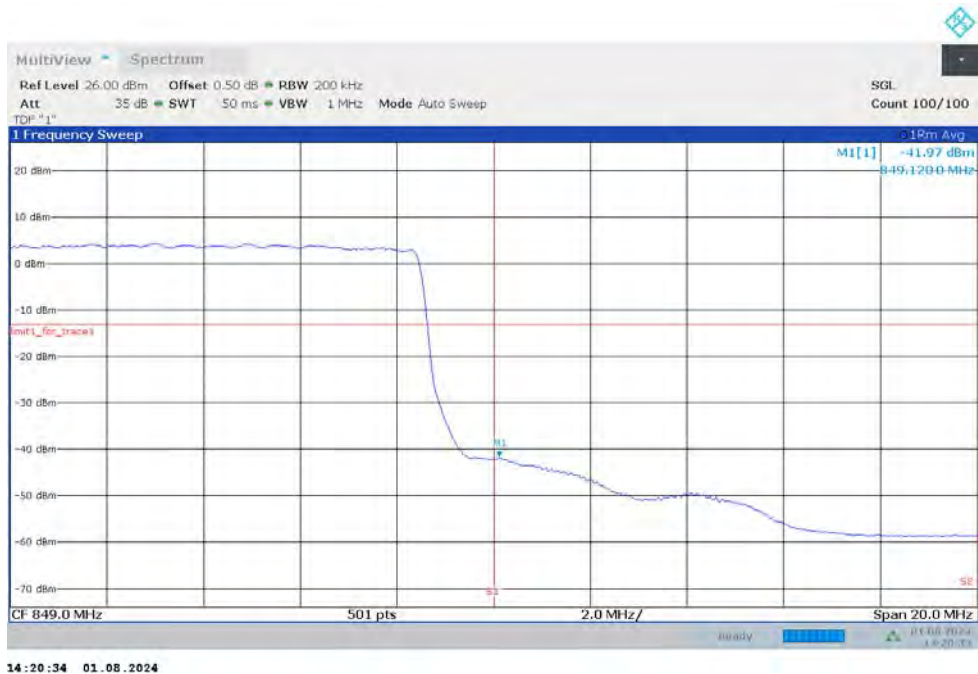
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20MHz-100%RB

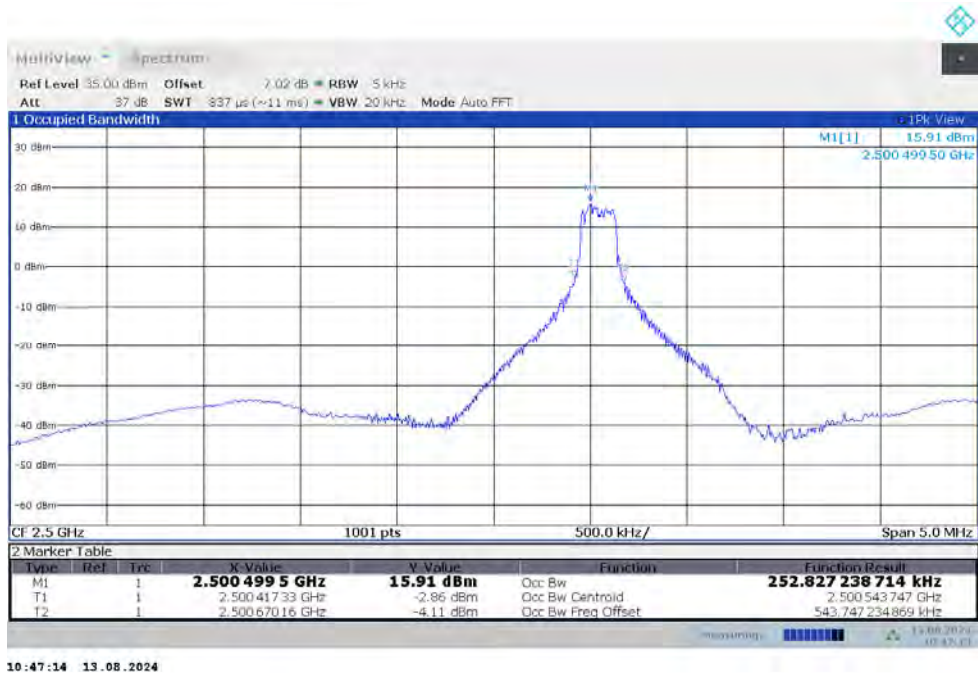


HIGH BAND EDGE BLOCK-20MHz-100%RB

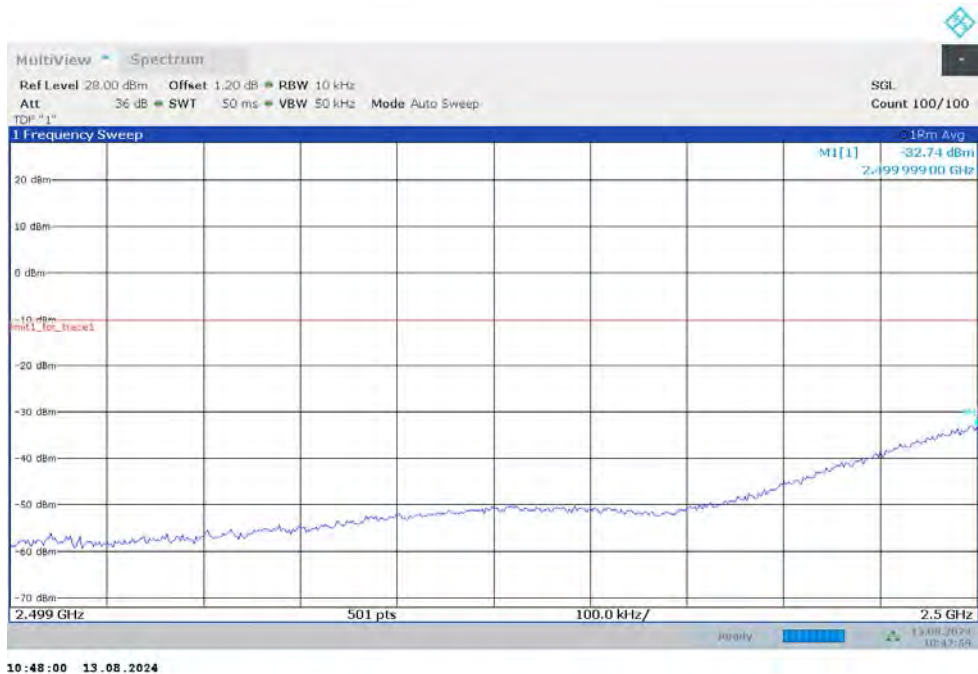


NR n7

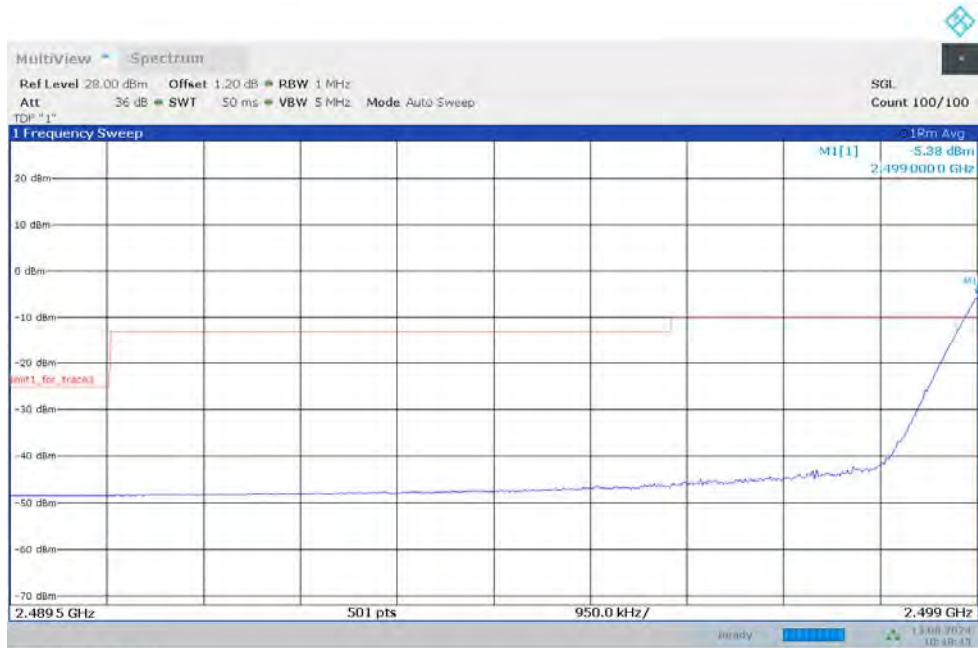
OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset

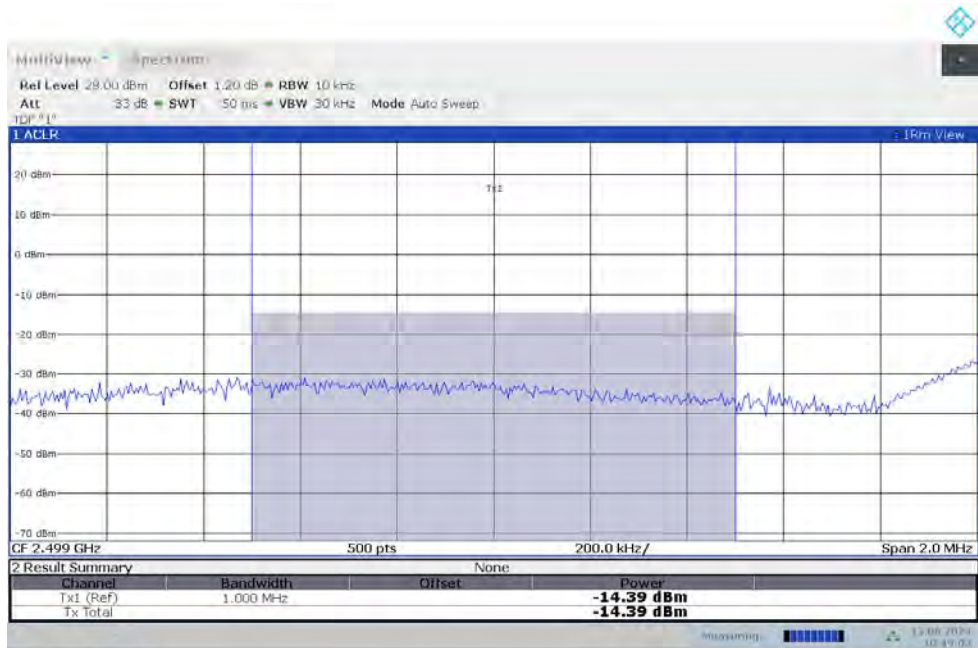


LOW BAND EDGE BLOCK-1RB-LOW_offset



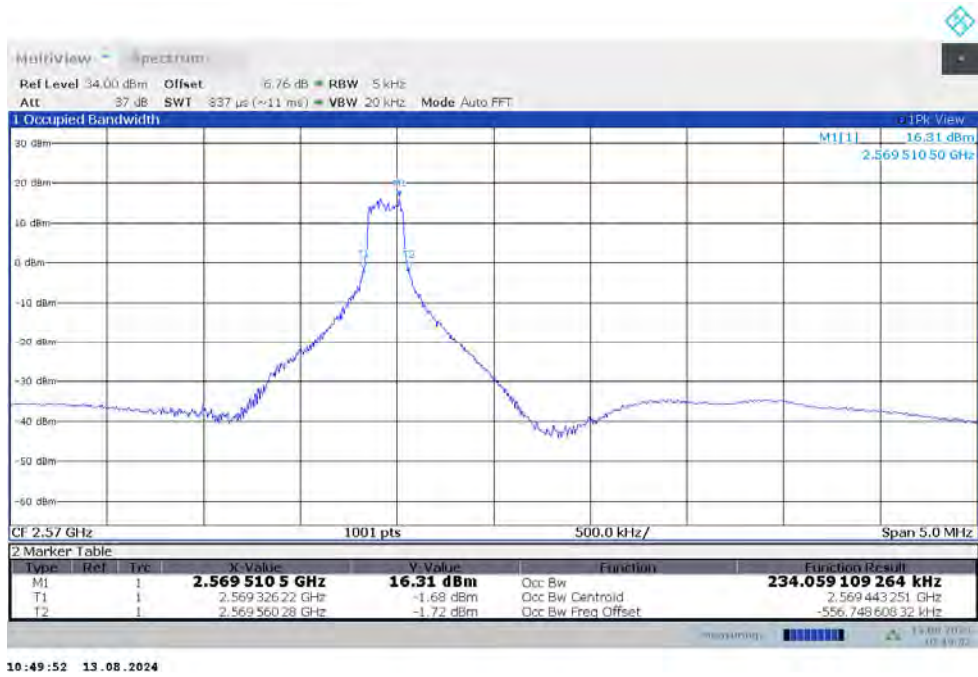
10:48:45 13.08.2024

Channel power

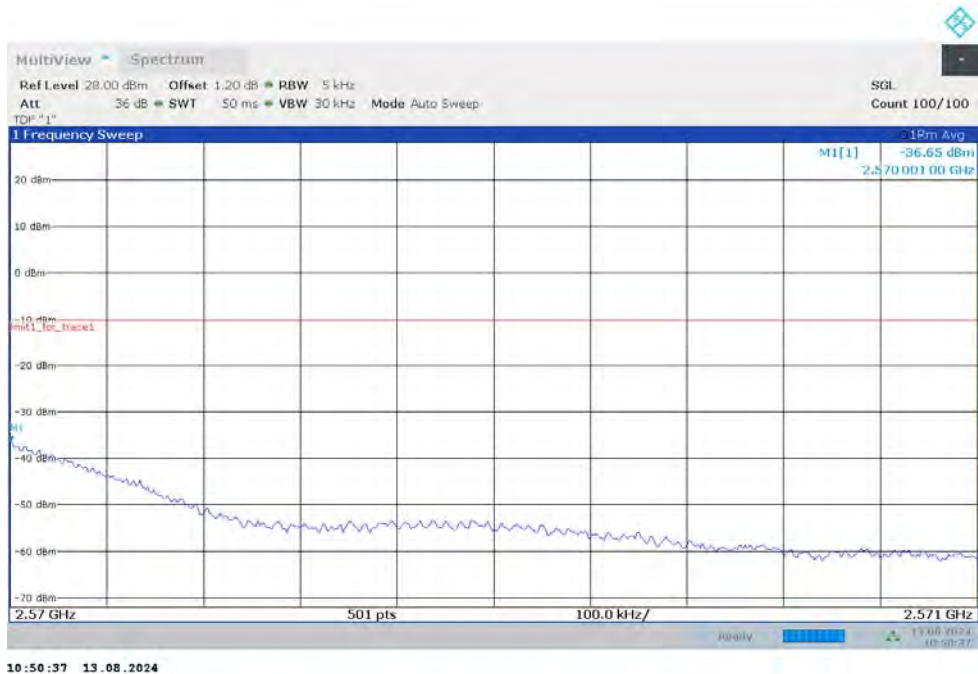


10:49:03 13.08.2024

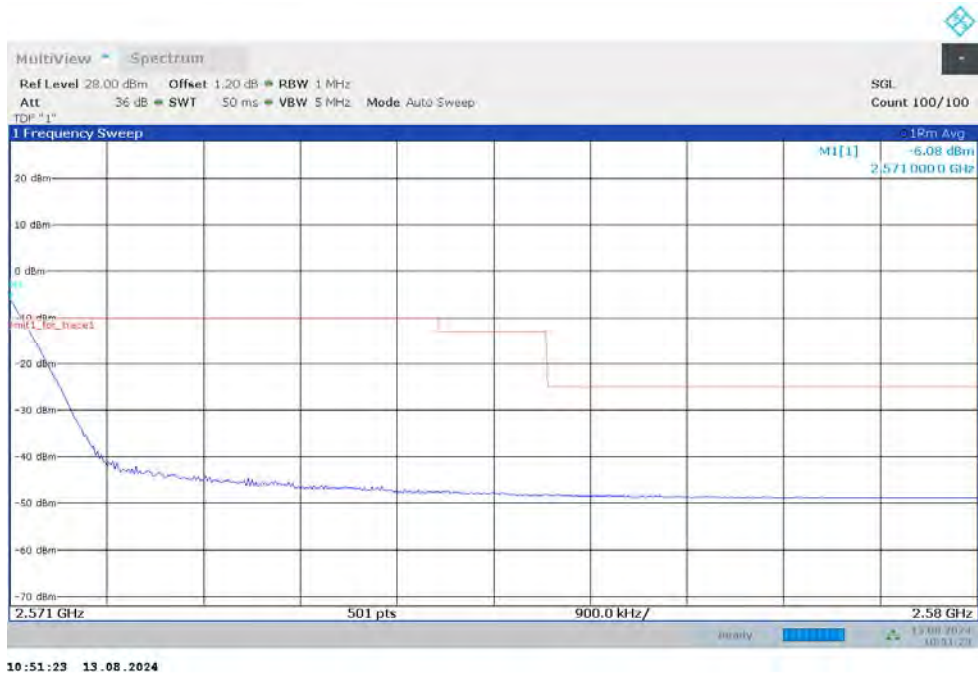
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



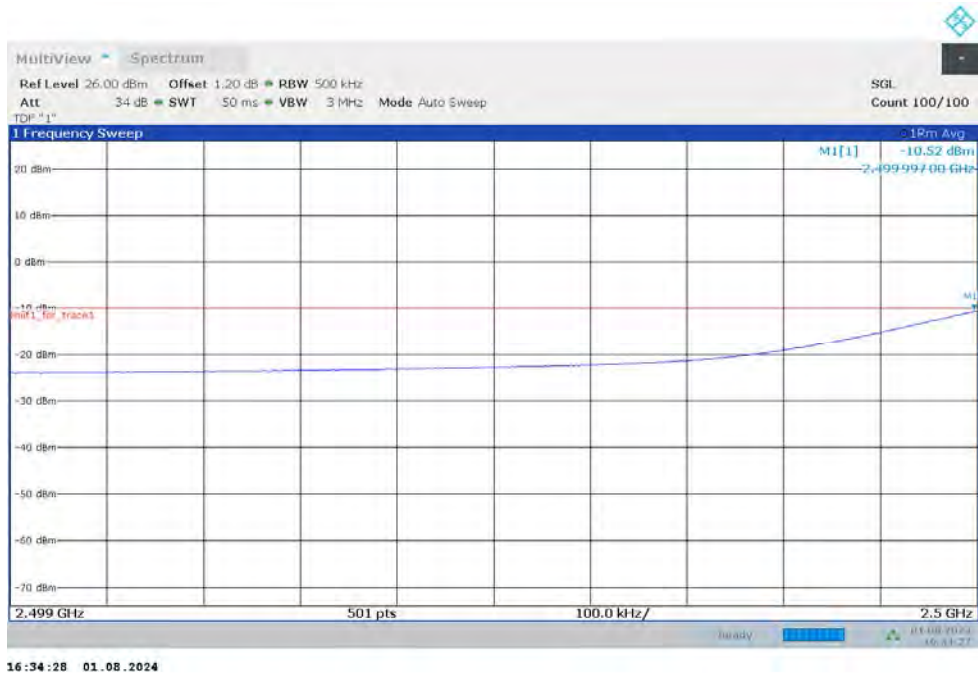
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



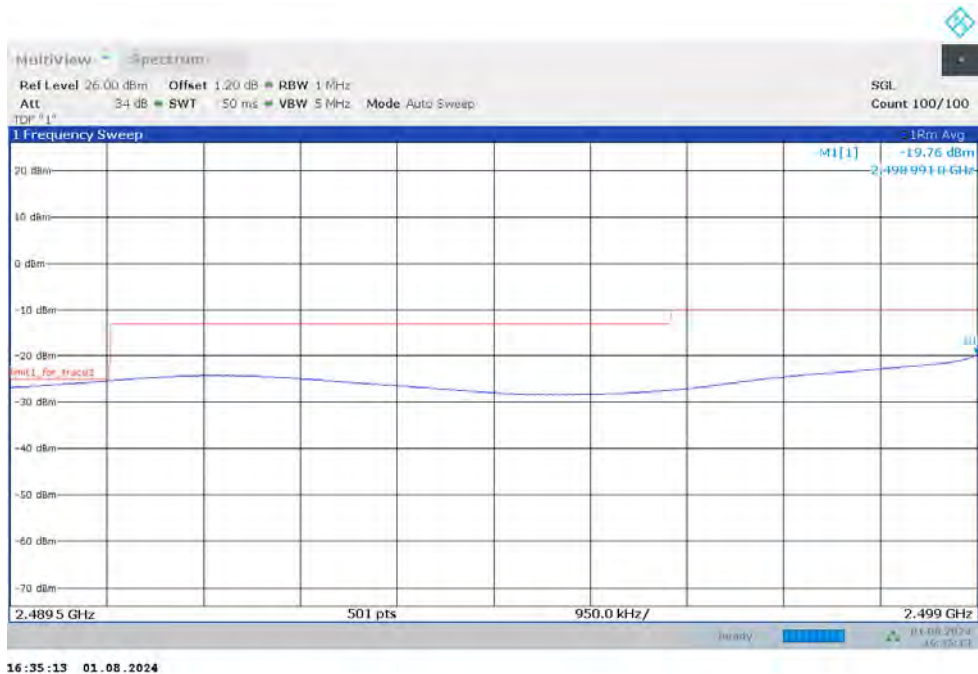
Channel power



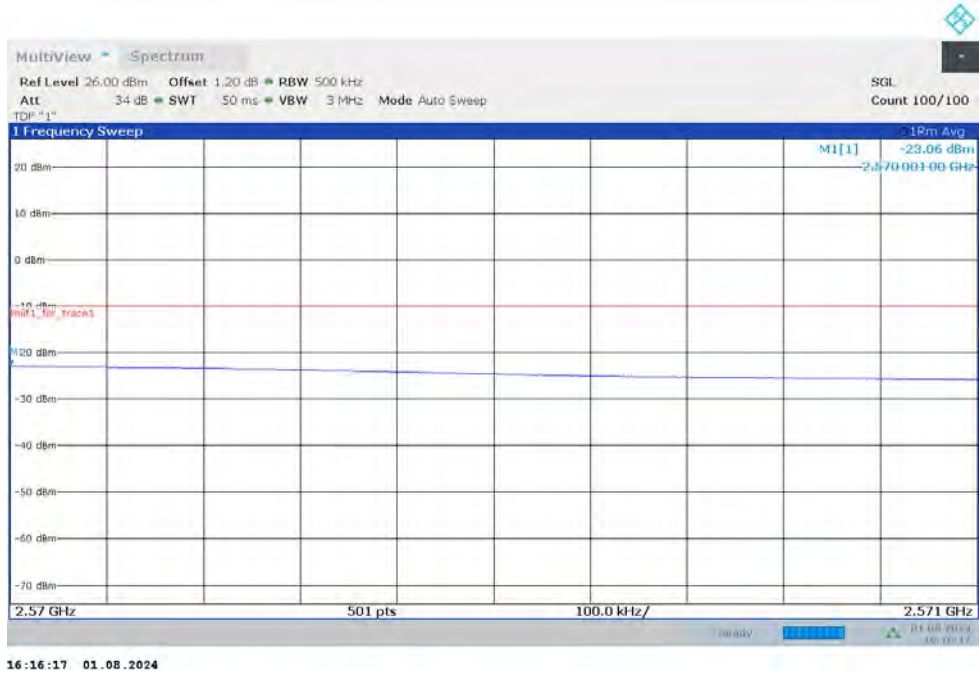
LOW BAND EDGE BLOCK-20MHz-100%RB



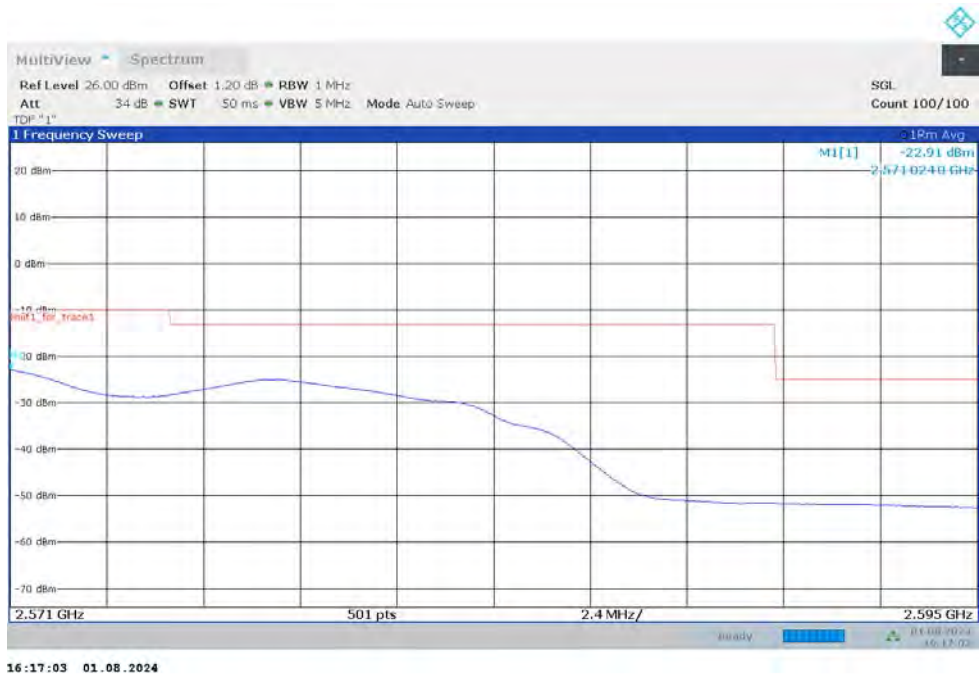
LOW BAND EDGE BLOCK-20MHz-100%RB



HIGH BAND EDGE BLOCK-20MHz-100%RB

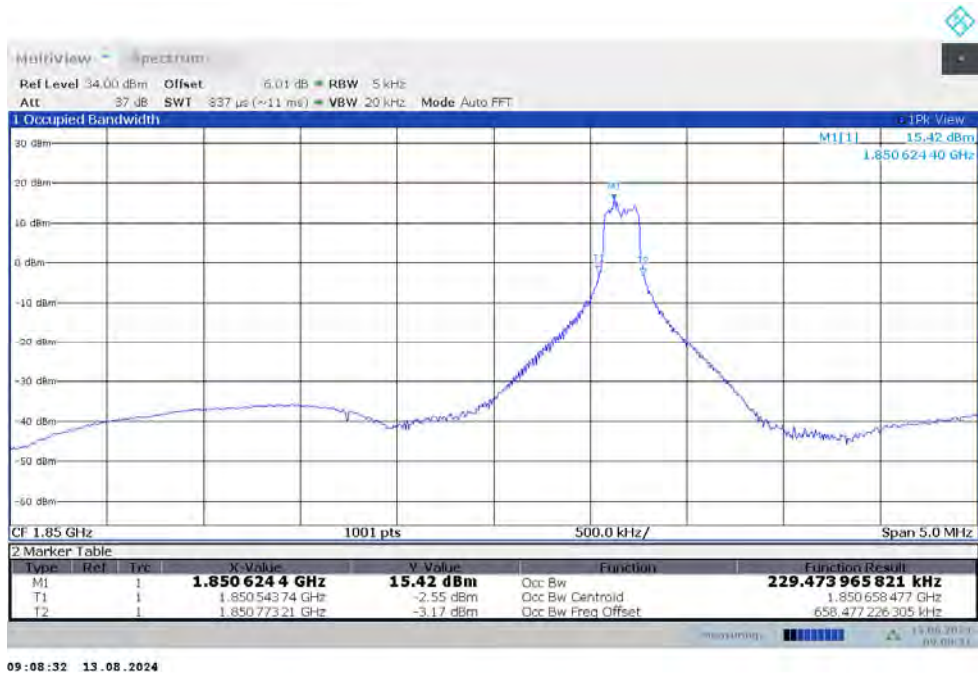


HIGH BAND EDGE BLOCK-20MHz-100%RB

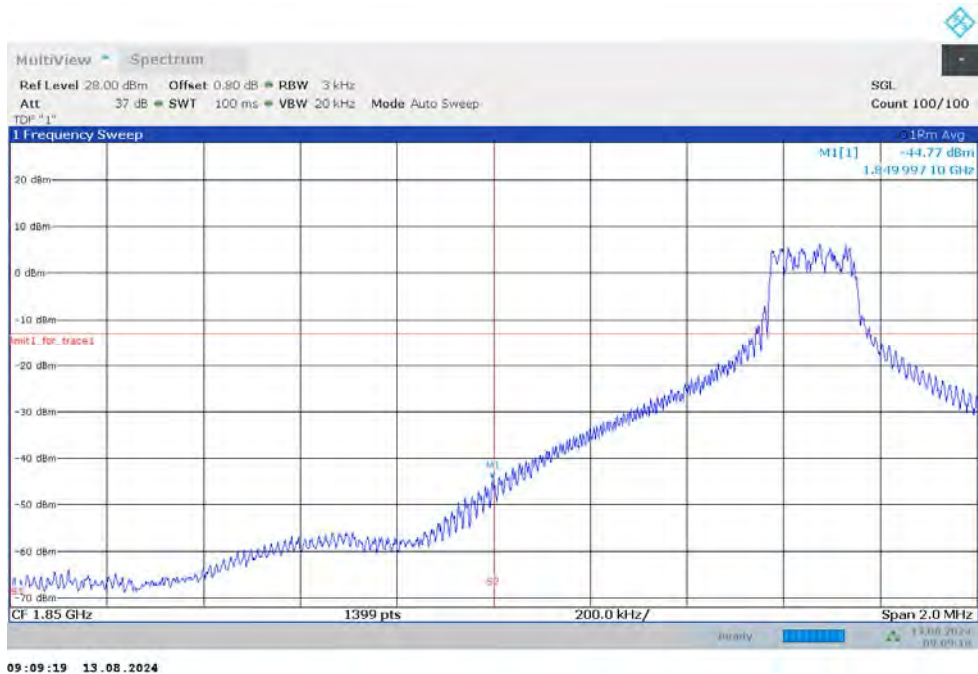


NR n25

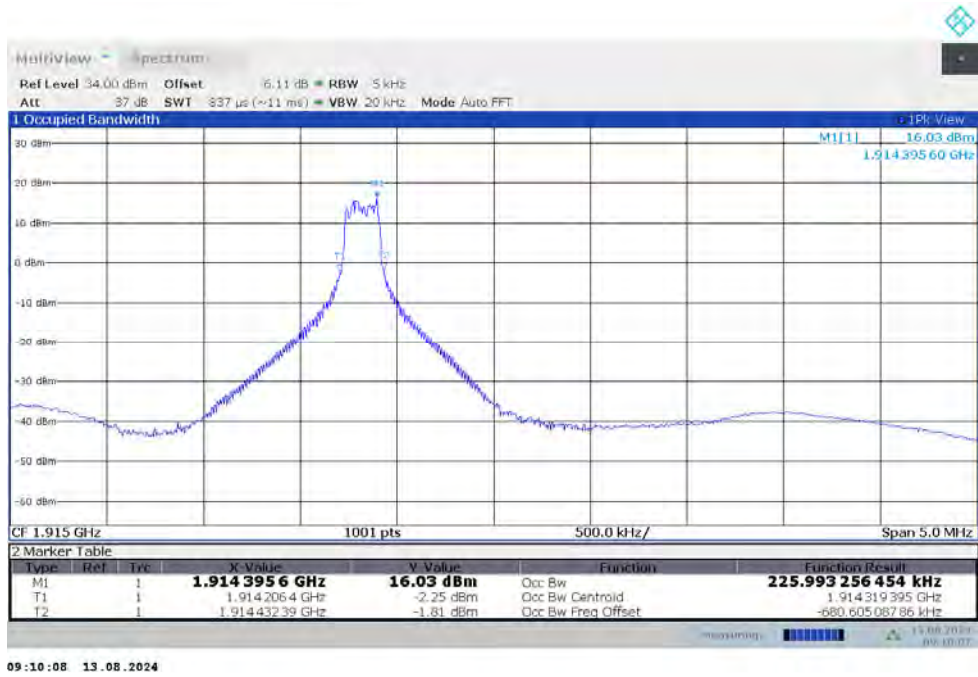
OBW: 1RB-LOW_offset



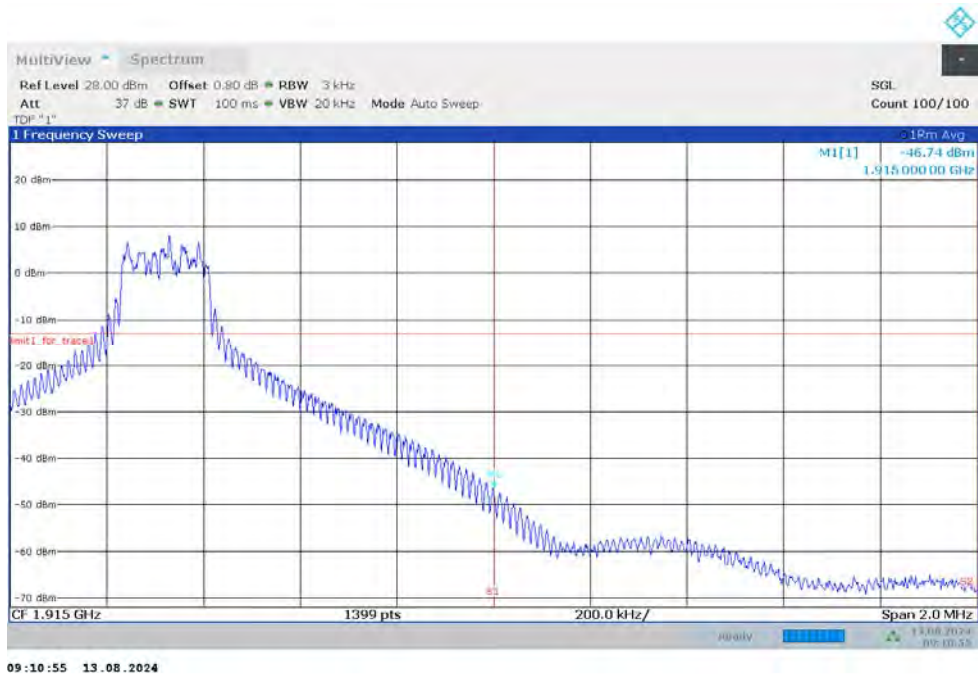
LOW BAND EDGE BLOCK-1RB-LOW_offset



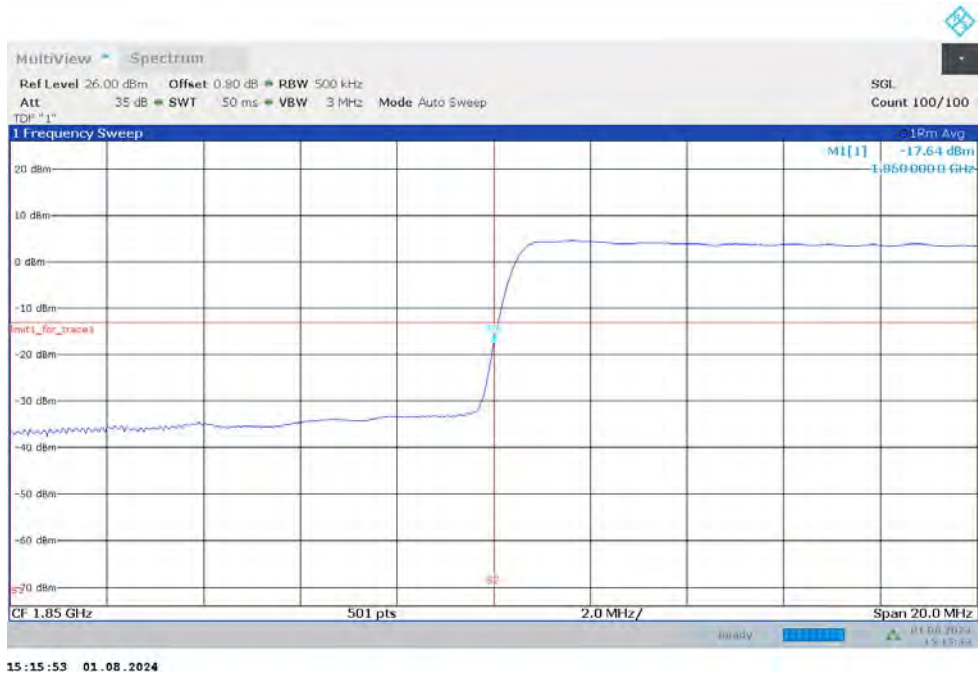
OBW: 1RB-HIGH_offset



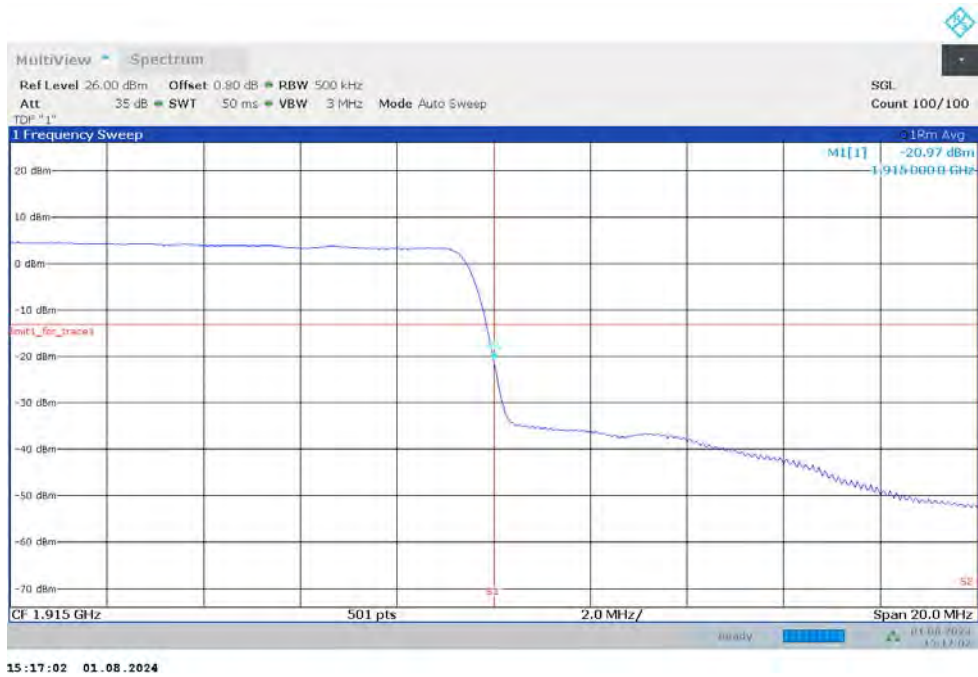
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-40MHz-100%RB



HIGH BAND EDGE BLOCK-40MHz-100%RB

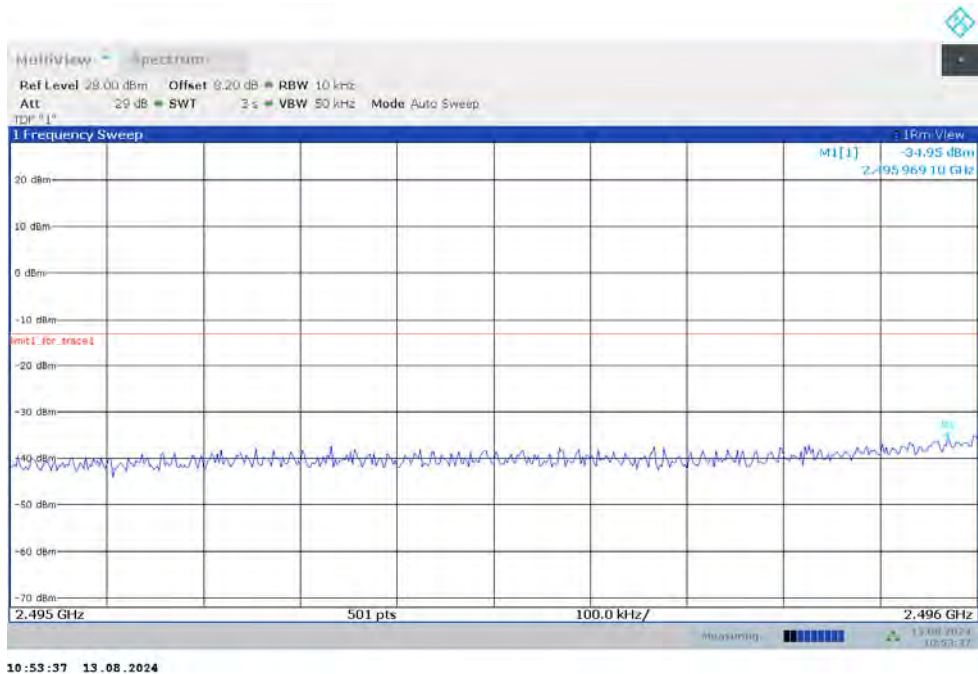


NR n41

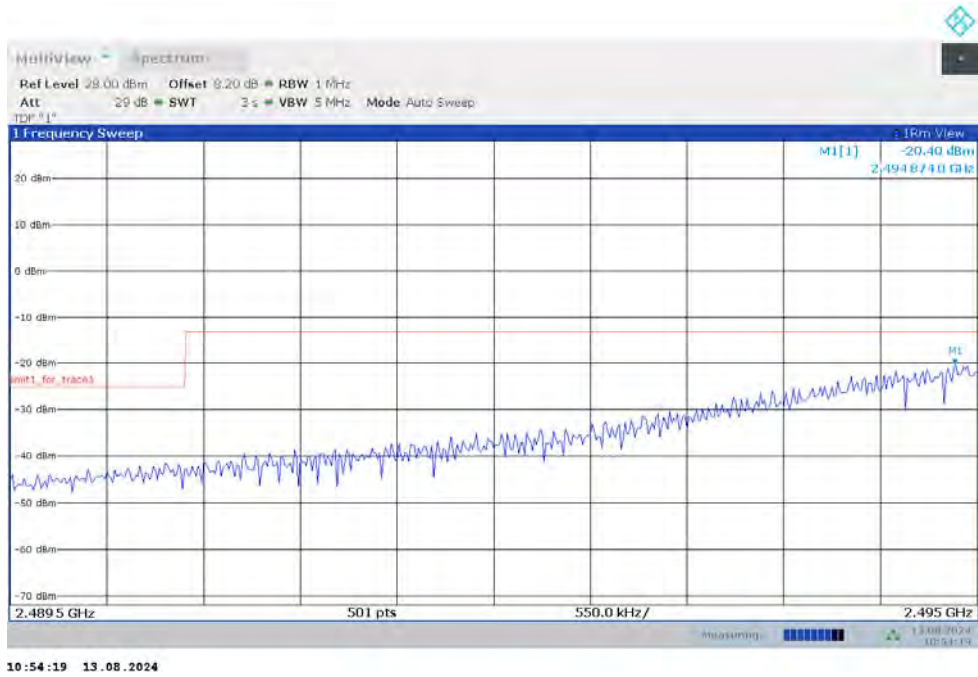
OBW: 1RB-LOW_offset



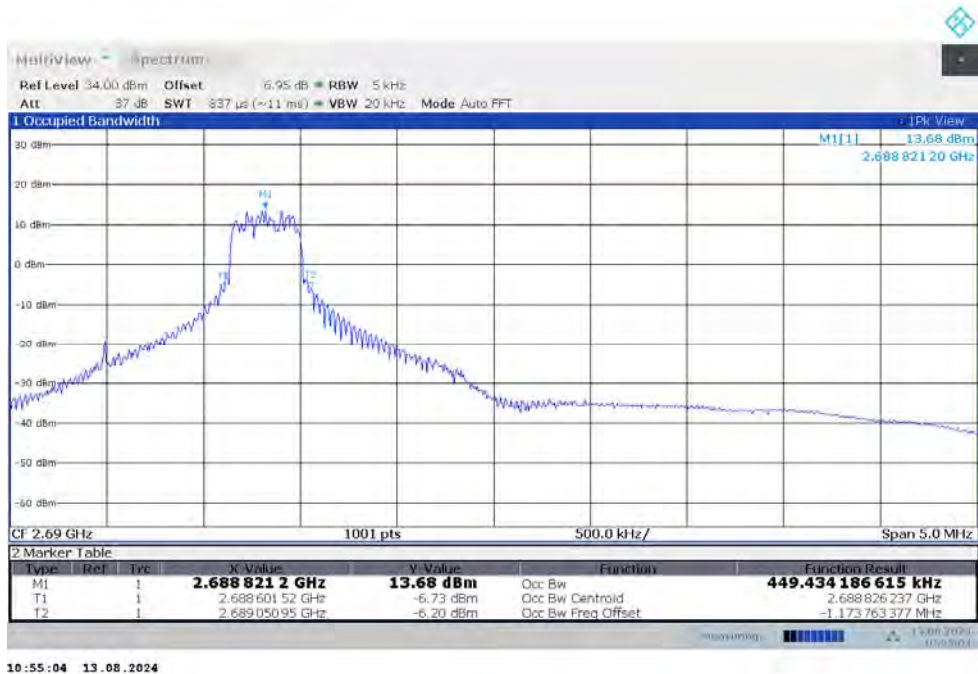
LOW BAND EDGE BLOCK-1RB-LOW_offset



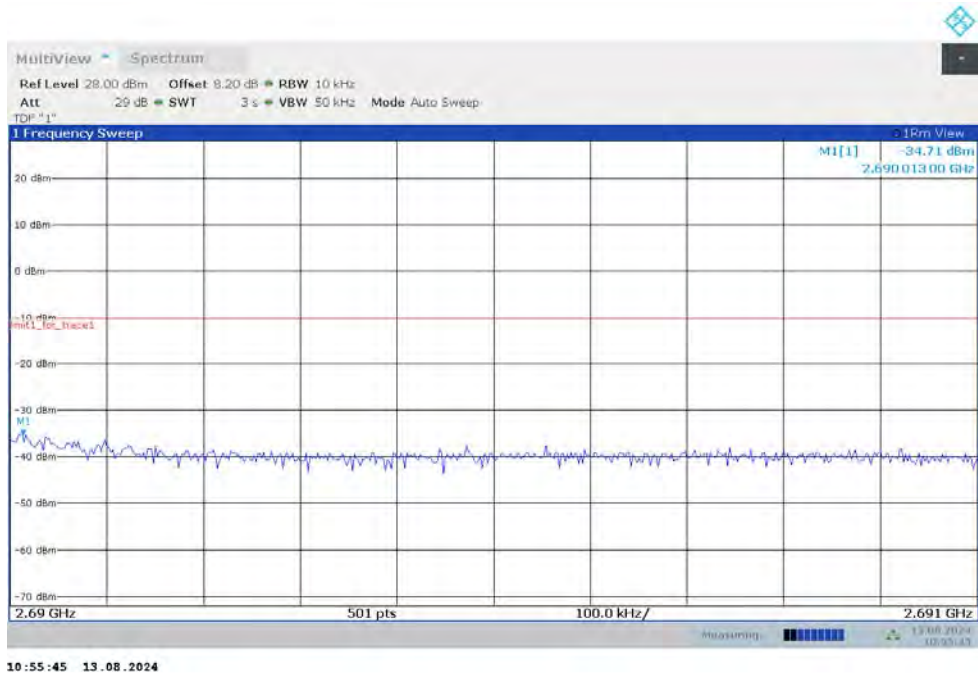
LOW BAND EDGE BLOCK-1RB-LOW_offset



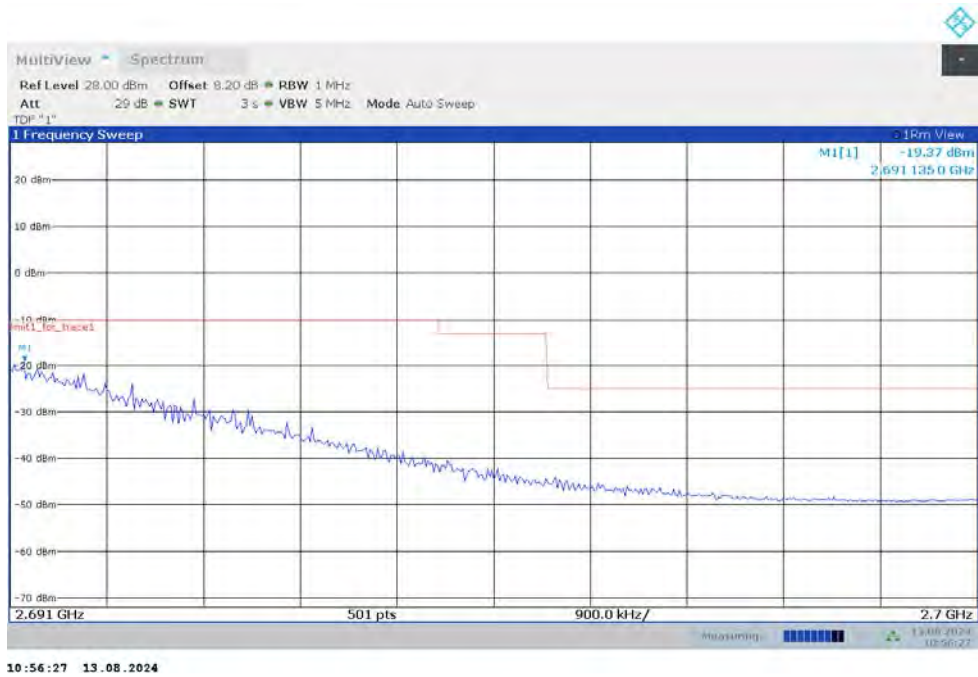
OBW: 1RB-HIGH_offset



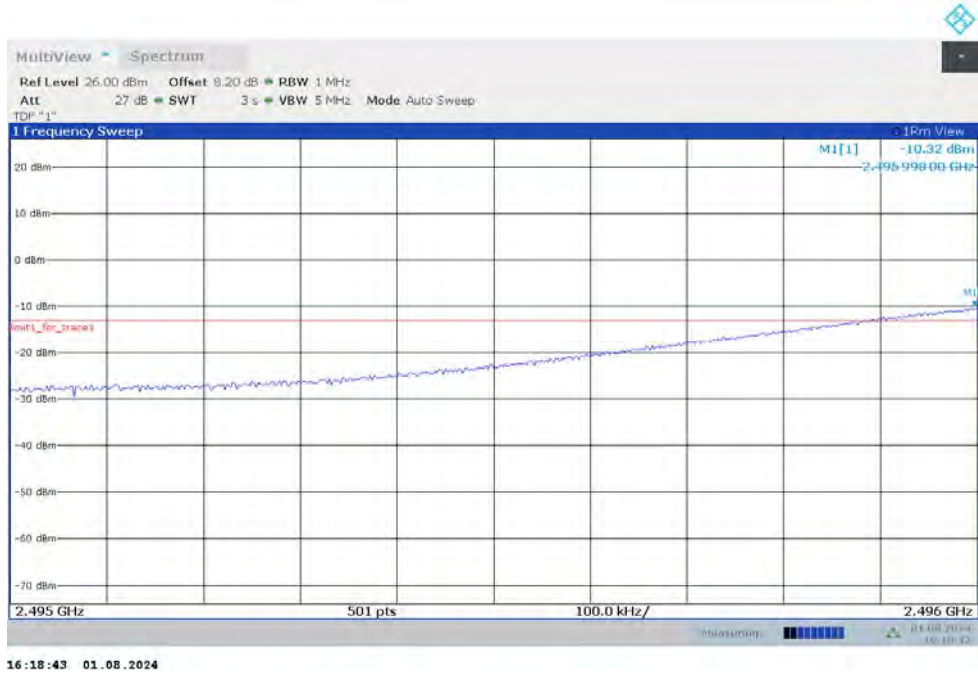
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



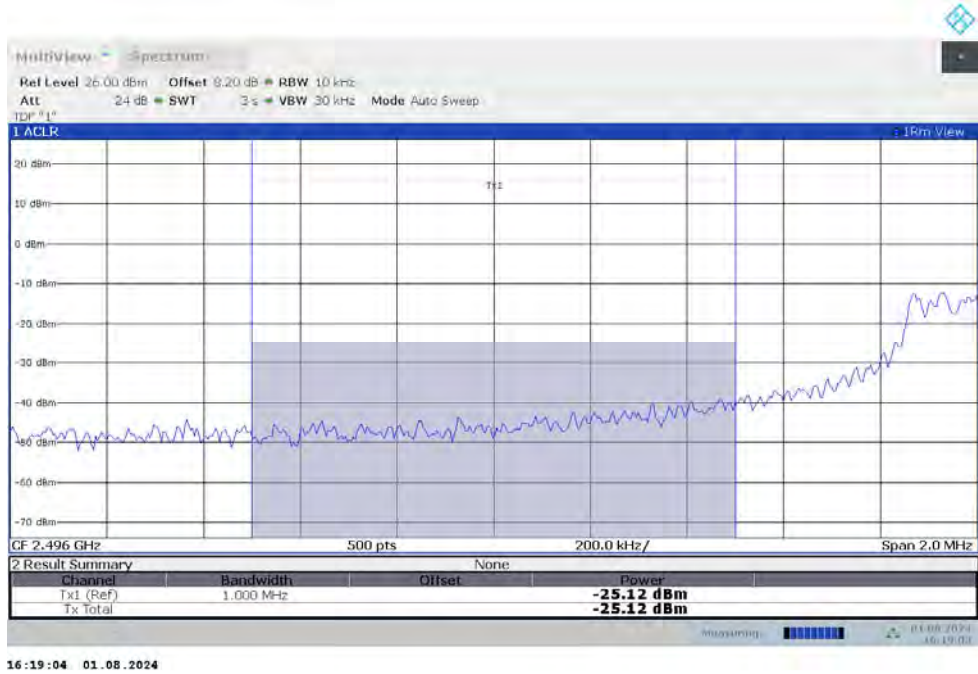
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



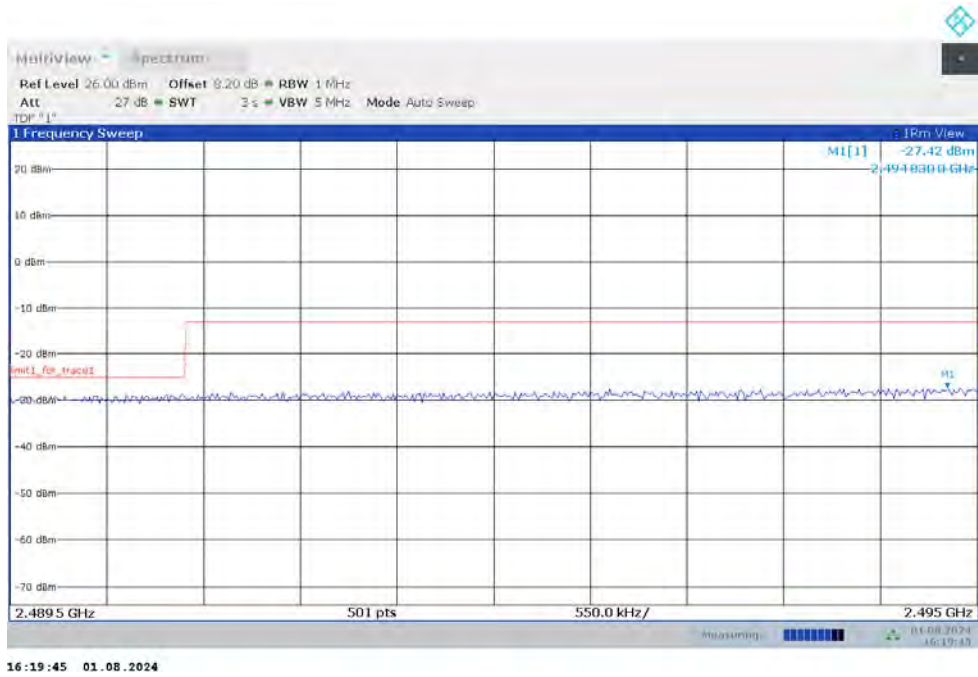
LOW BAND EDGE BLOCK-100MHz-100%RB



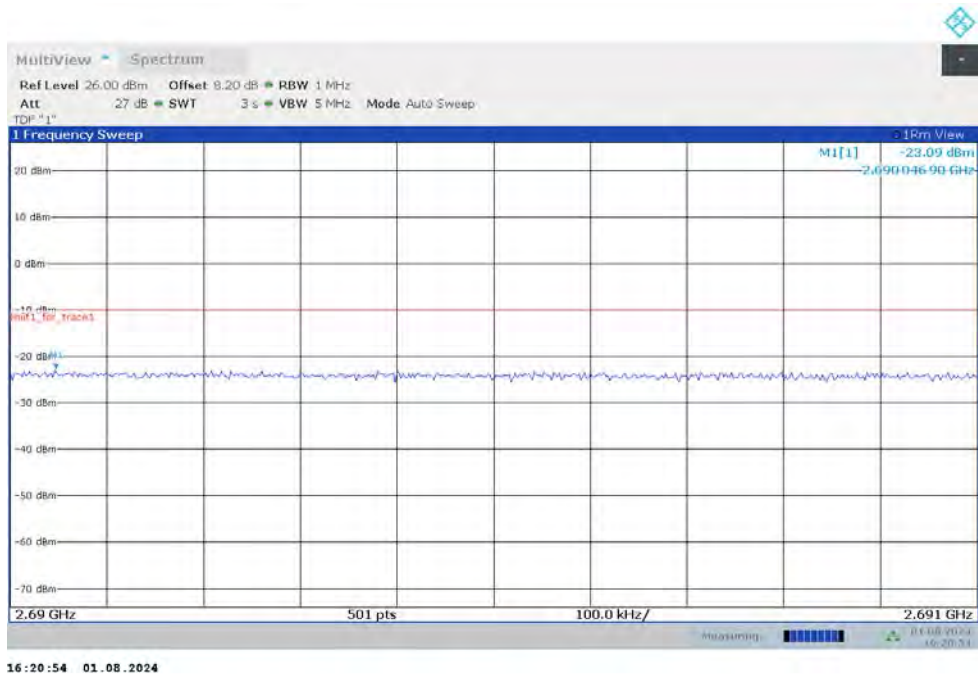
Channel power



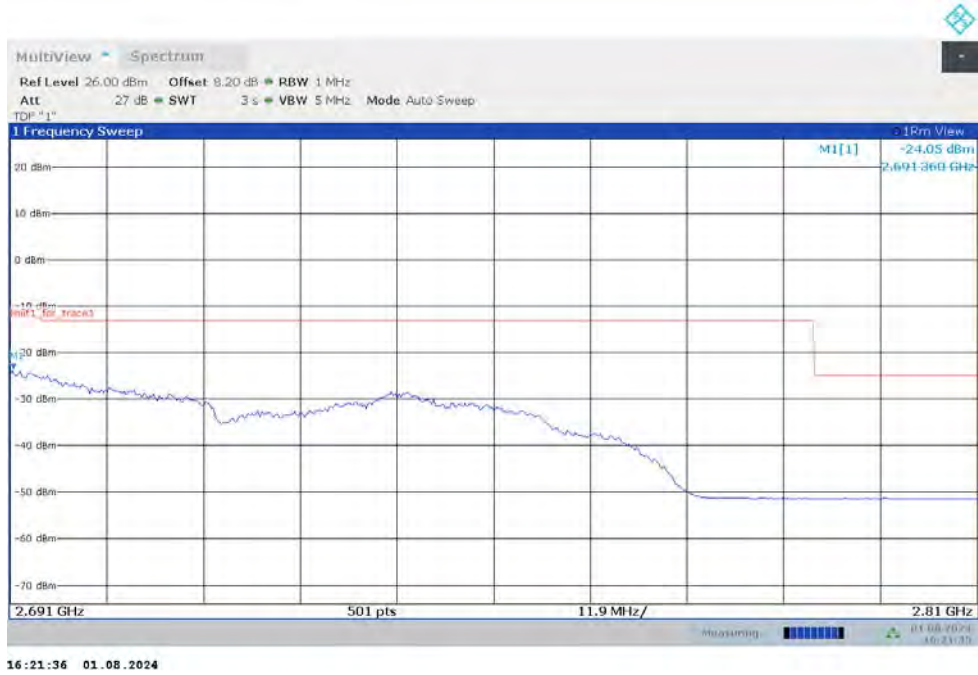
LOW BAND EDGE BLOCK-100MHz-100%RB



HIGH BAND EDGE BLOCK-100MHz-100%RB

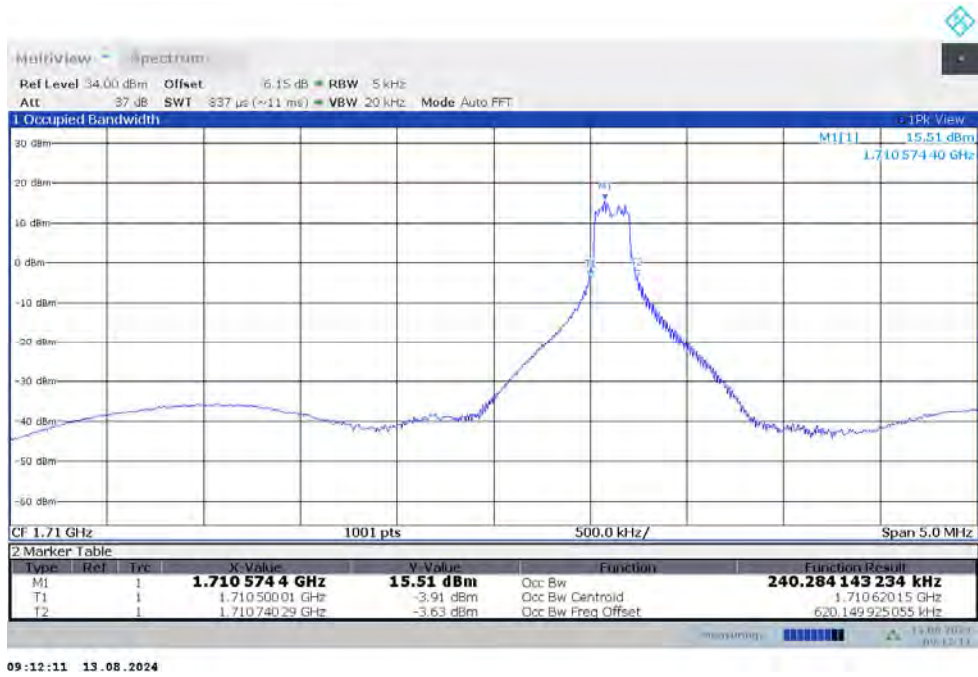


HIGH BAND EDGE BLOCK-100MHz-100%RB

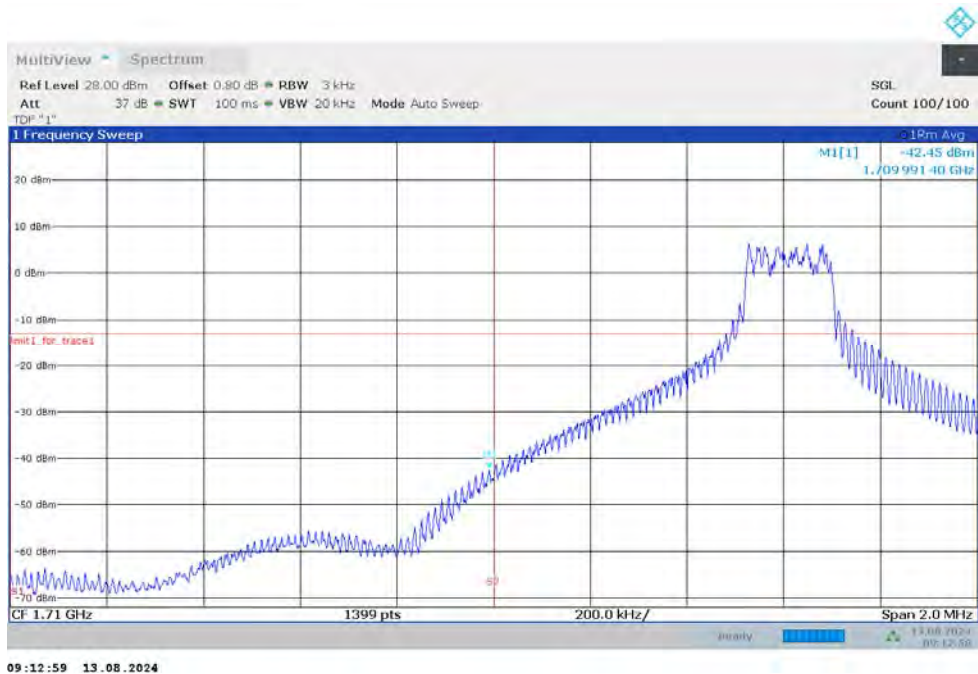


NR n66

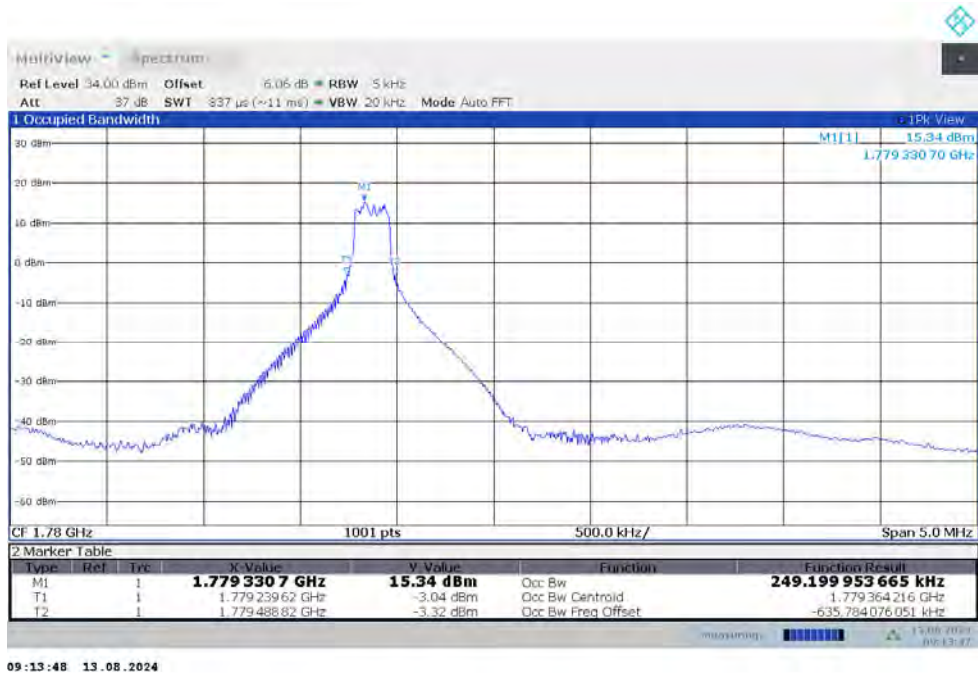
OBW: 1RB-LOW_offset



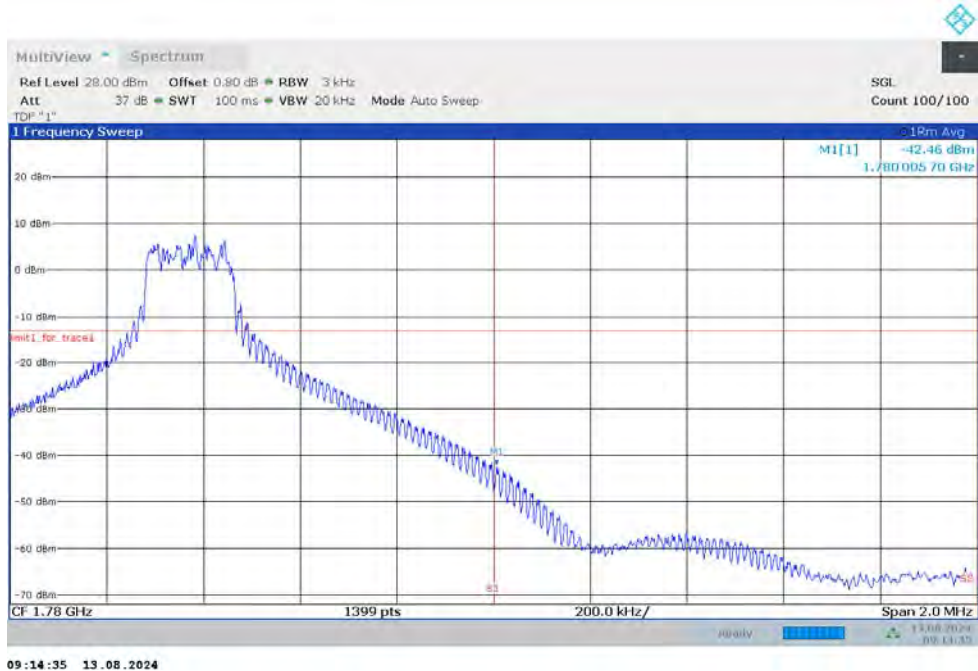
LOW BAND EDGE BLOCK-1RB-LOW_offset



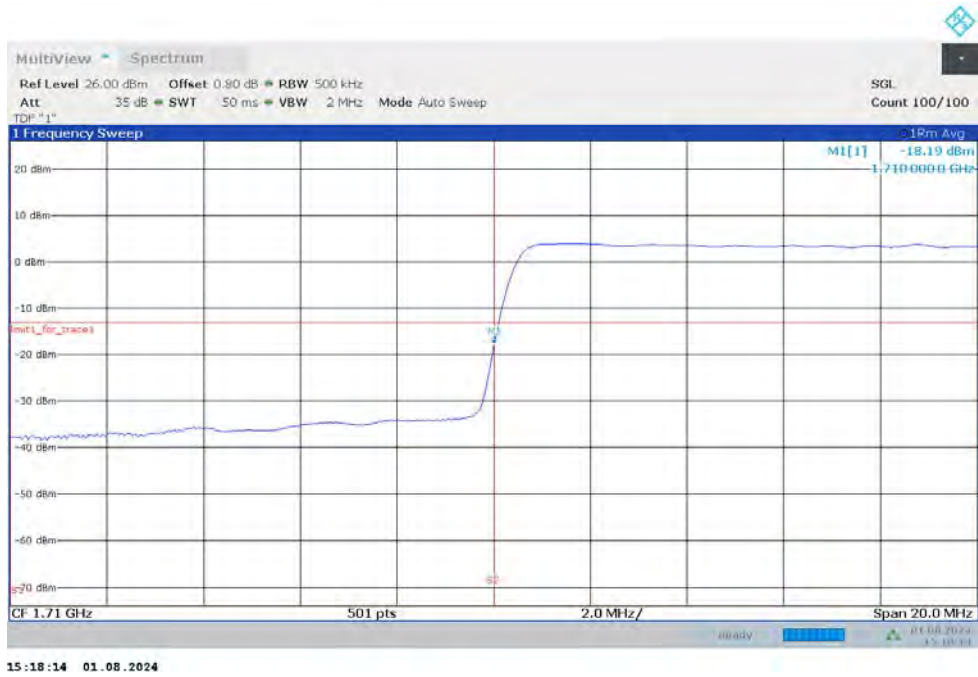
OBW: 1RB-HIGH_offset



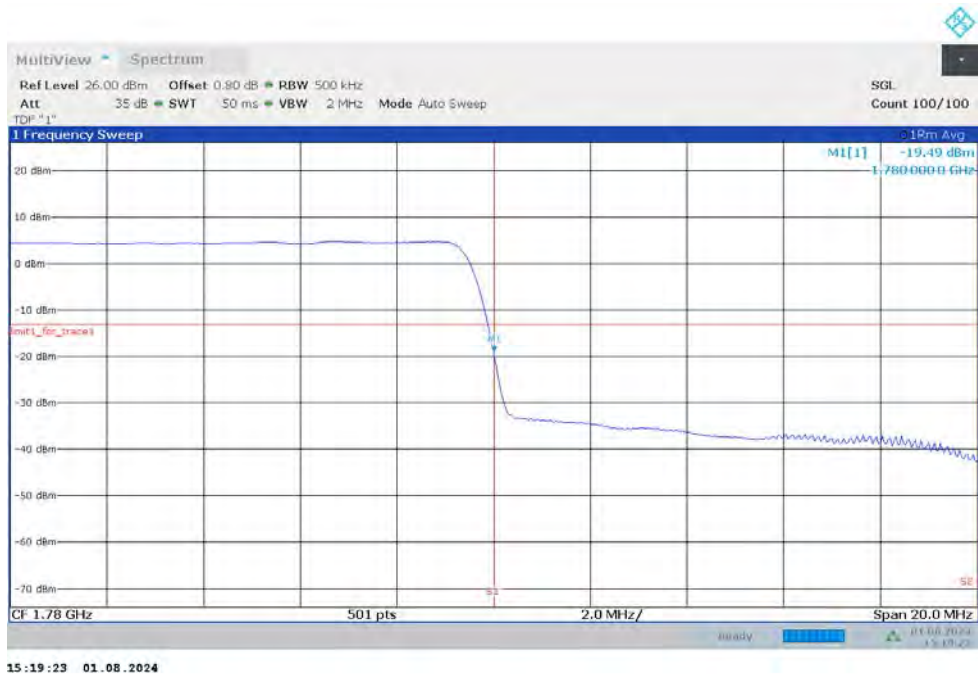
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-40MHz-100%RB

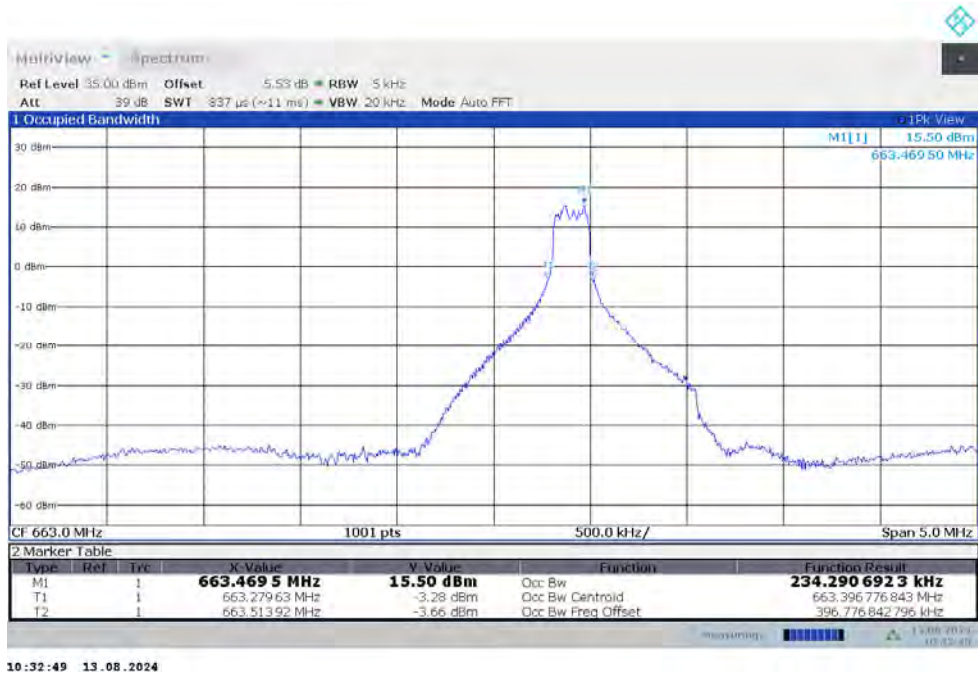


HIGH BAND EDGE BLOCK-40MHz-100%RB

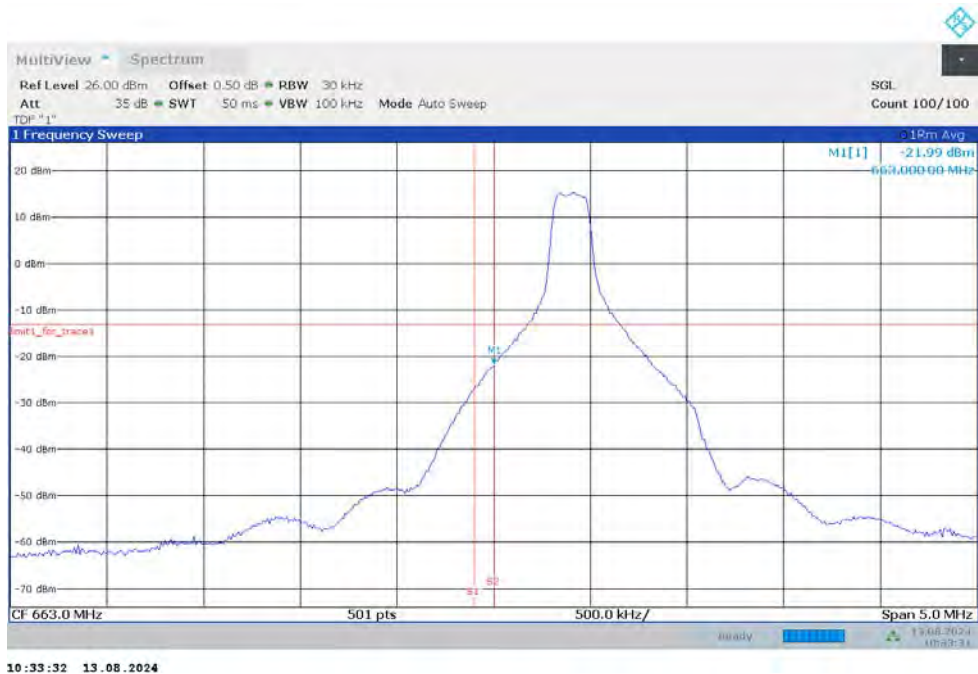


NR n71

OBW: 1RB-LOW_offset



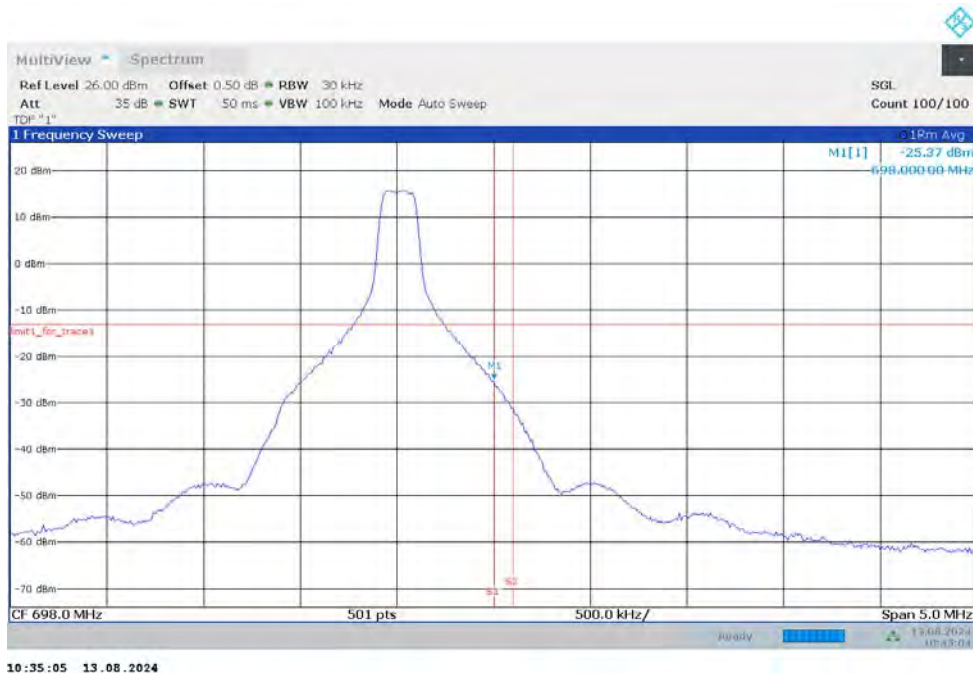
LOW BAND EDGE BLOCK-1RB-LOW_offset



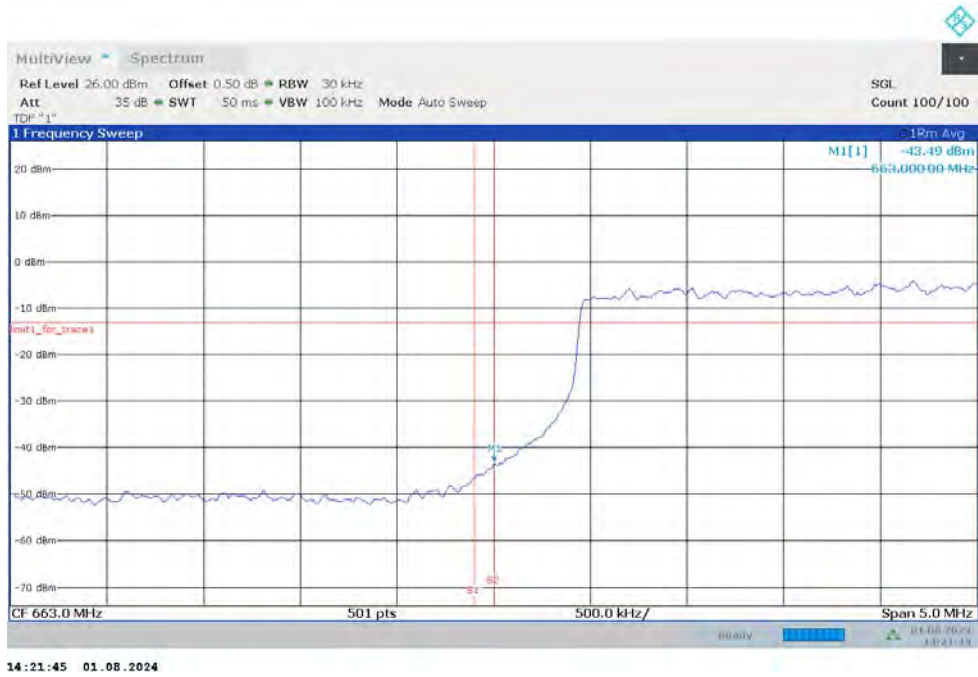
OBW: 1RB-HIGH_offset



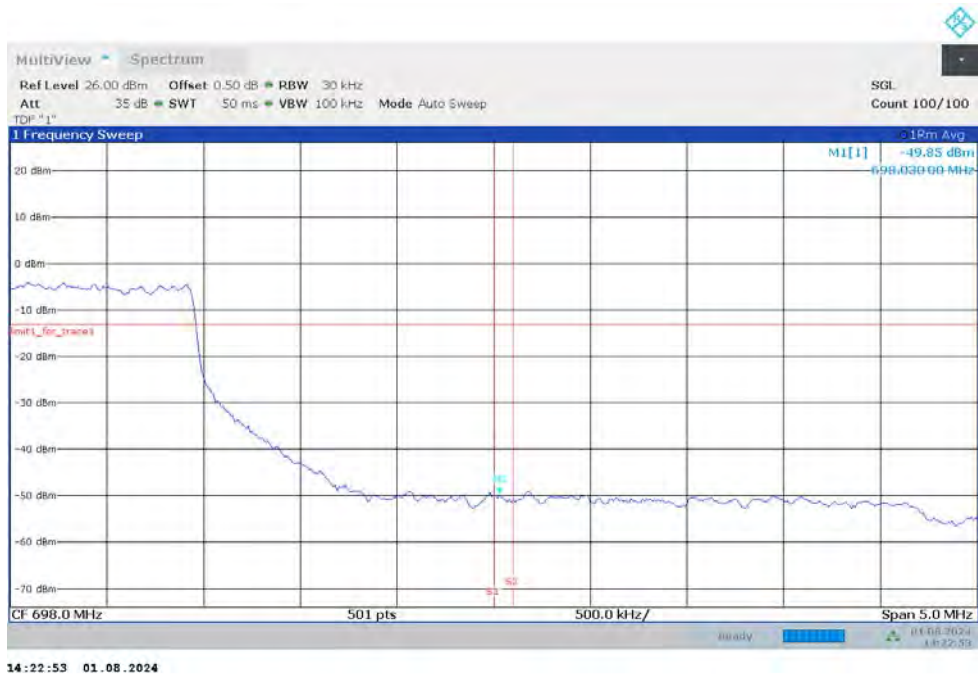
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20MHz-100%RB

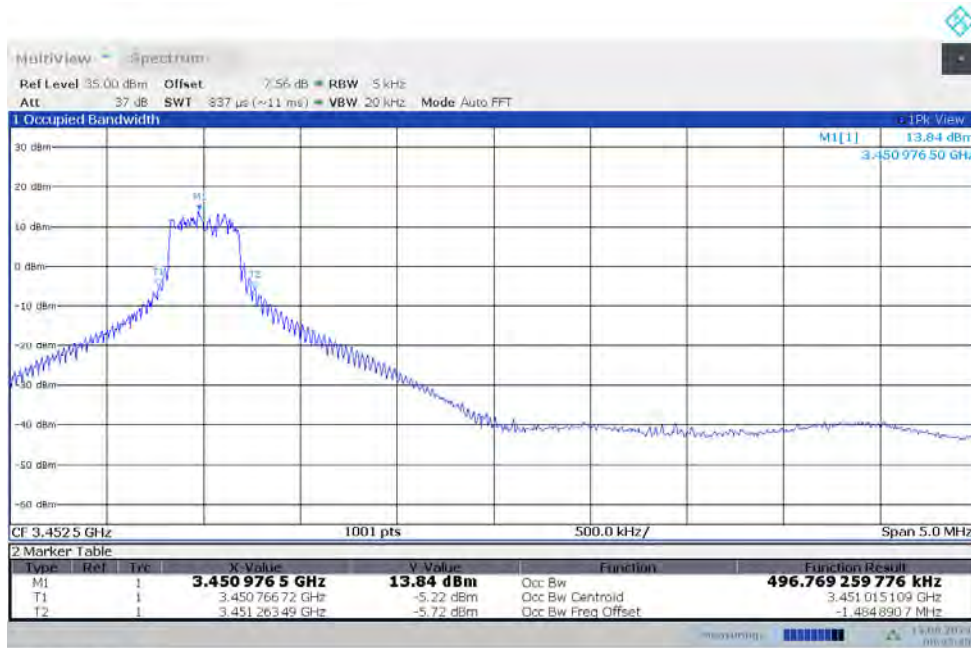


HIGH BAND EDGE BLOCK-20MHz-100%RB



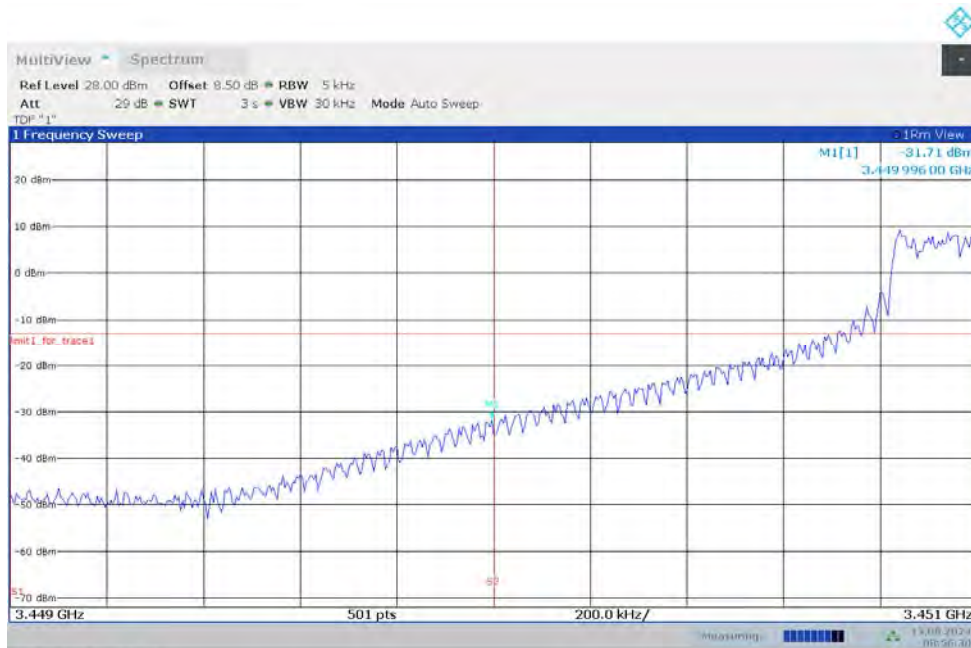
NR n77L

OBW: 1RB-LOW_offset



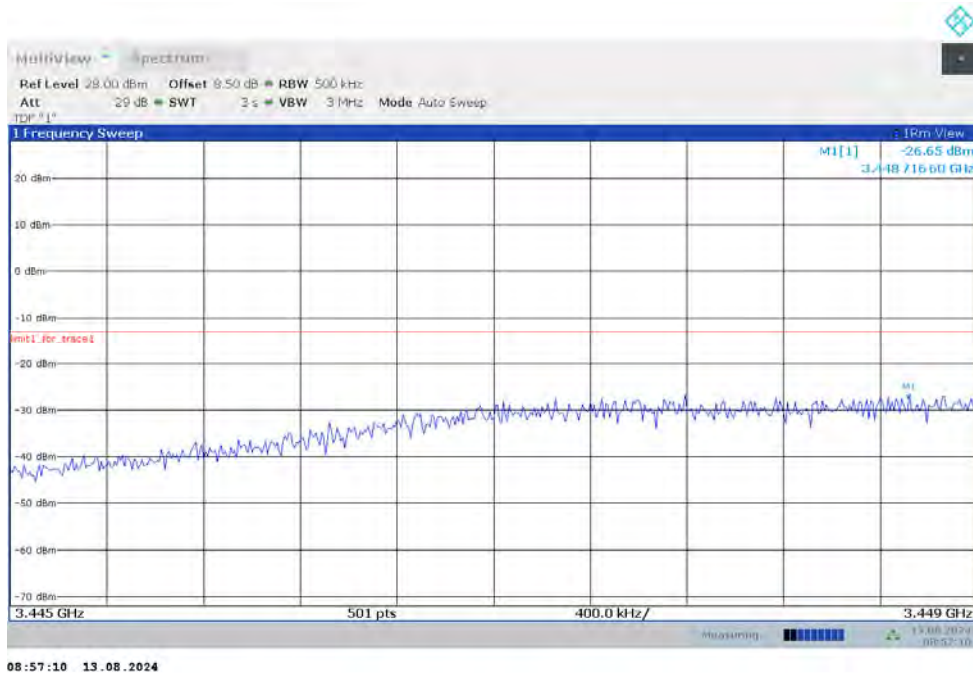
08:55:49 13.08.2024

LOW BAND EDGE BLOCK-1RB-LOW_offset

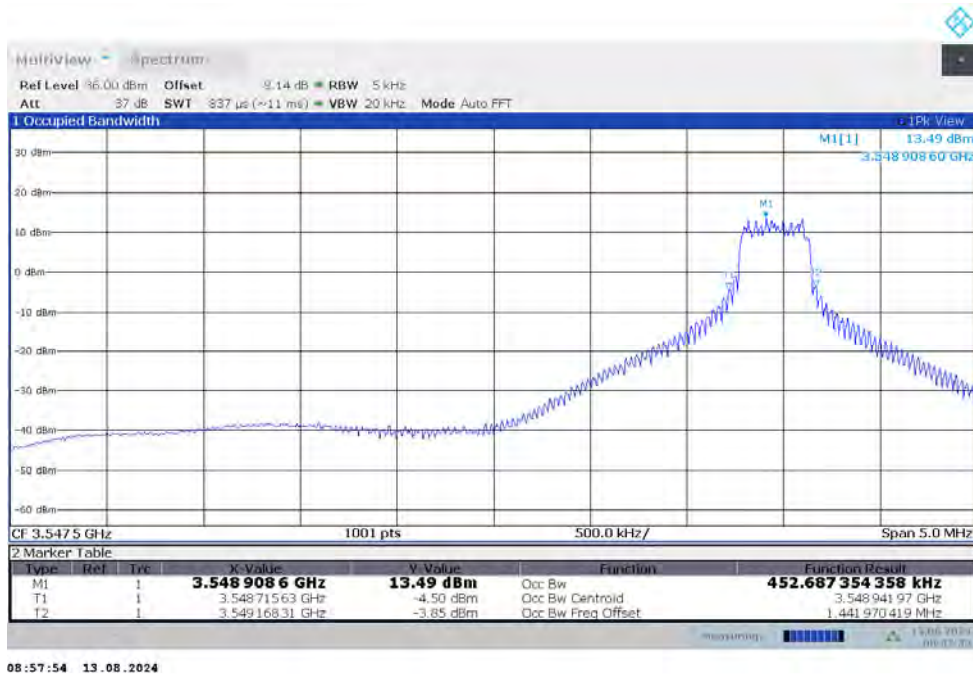


08:56:30 13.08.2024

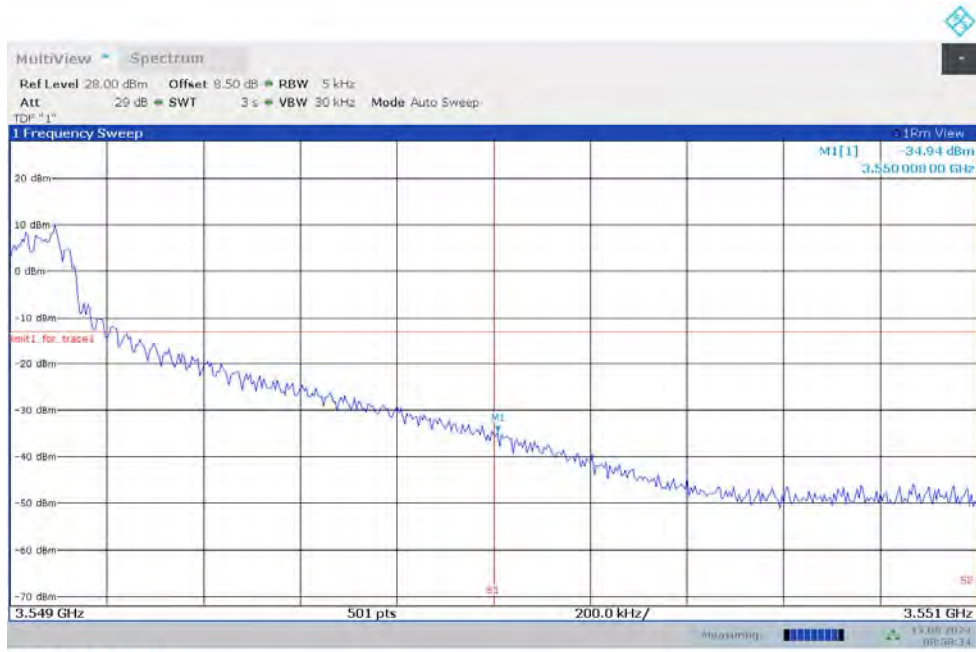
LOW BAND EDGE BLOCK-1RB-LOW_offset



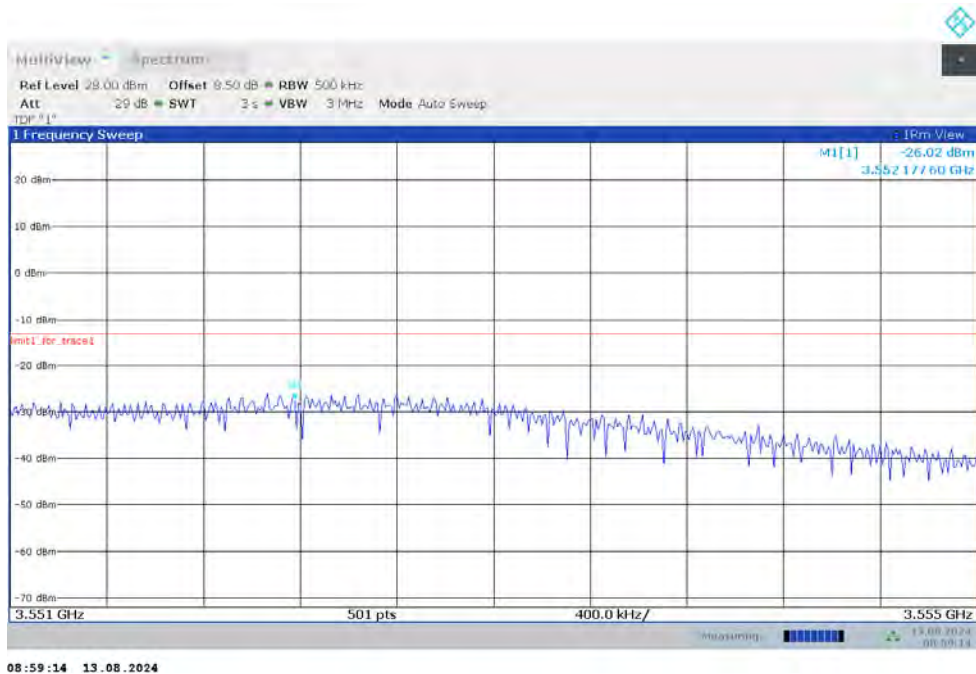
OBW: 1RB-HIGH_offset



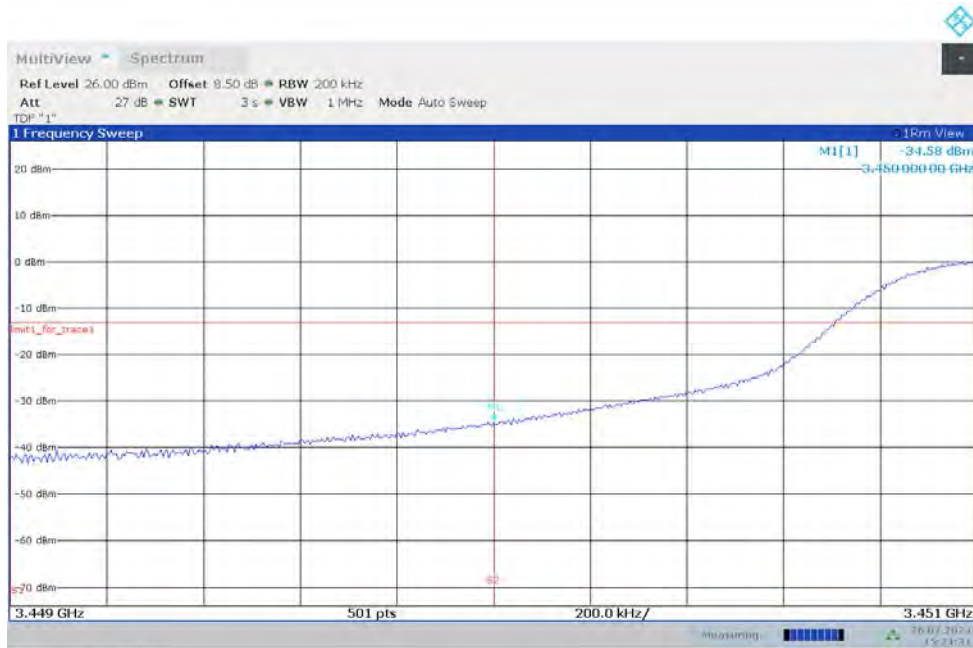
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset

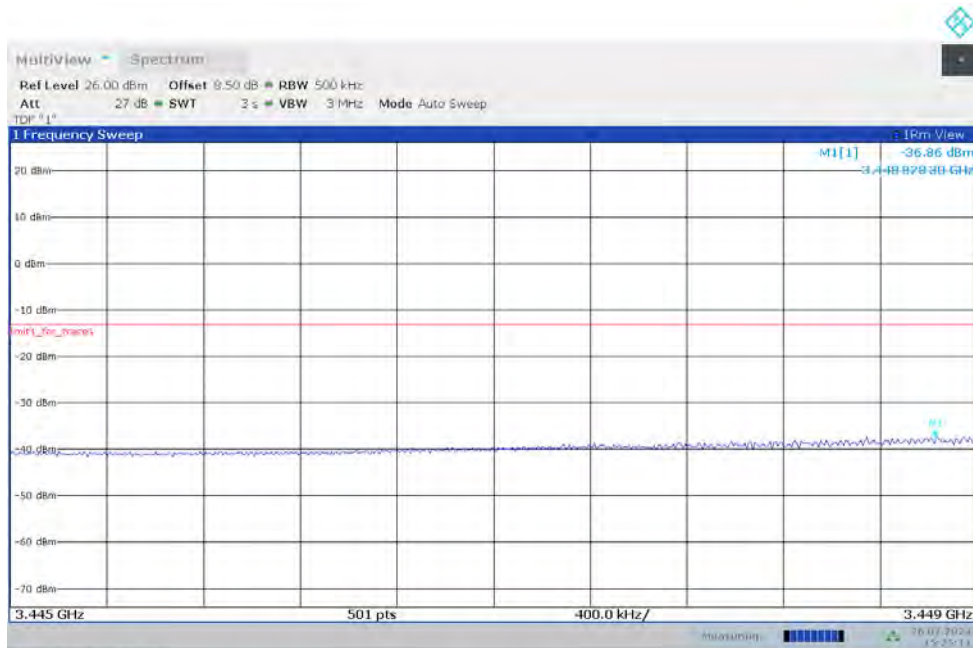


LOW BAND EDGE BLOCK-100MHz-100%RB



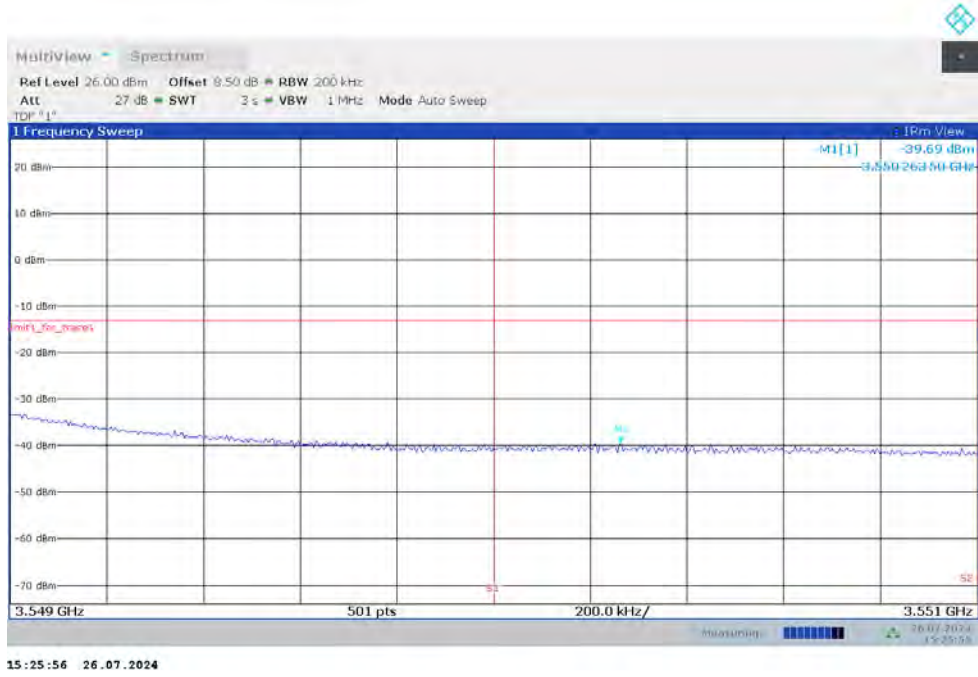
15:24:31 26.07.2024

LOW BAND EDGE BLOCK-100MHz-100%RB

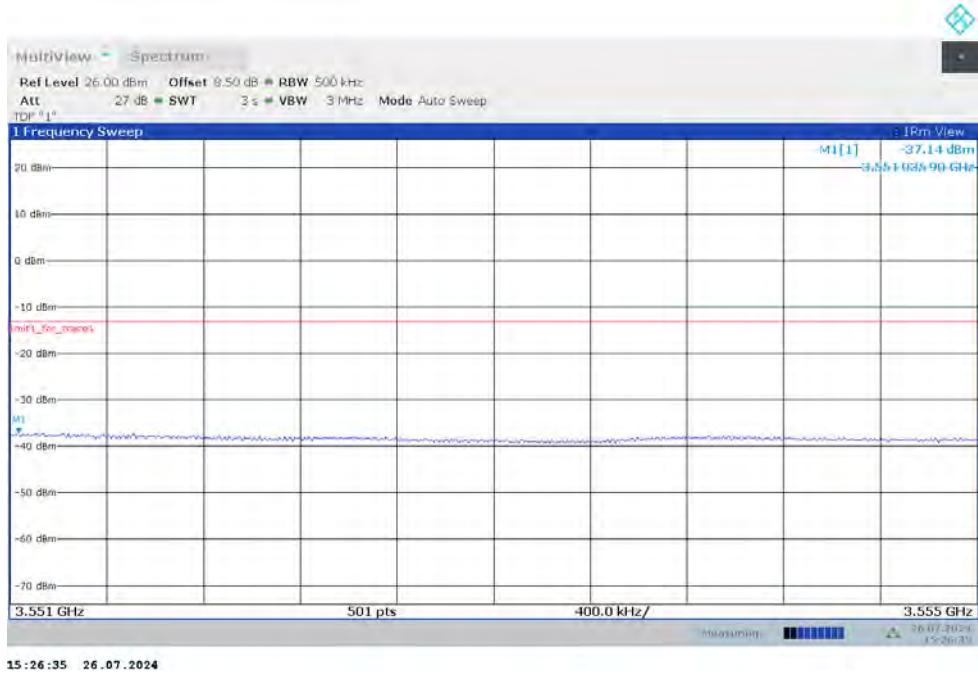


15:25:11 26.07.2024

HIGH BAND EDGE BLOCK-100MHz-100%RB

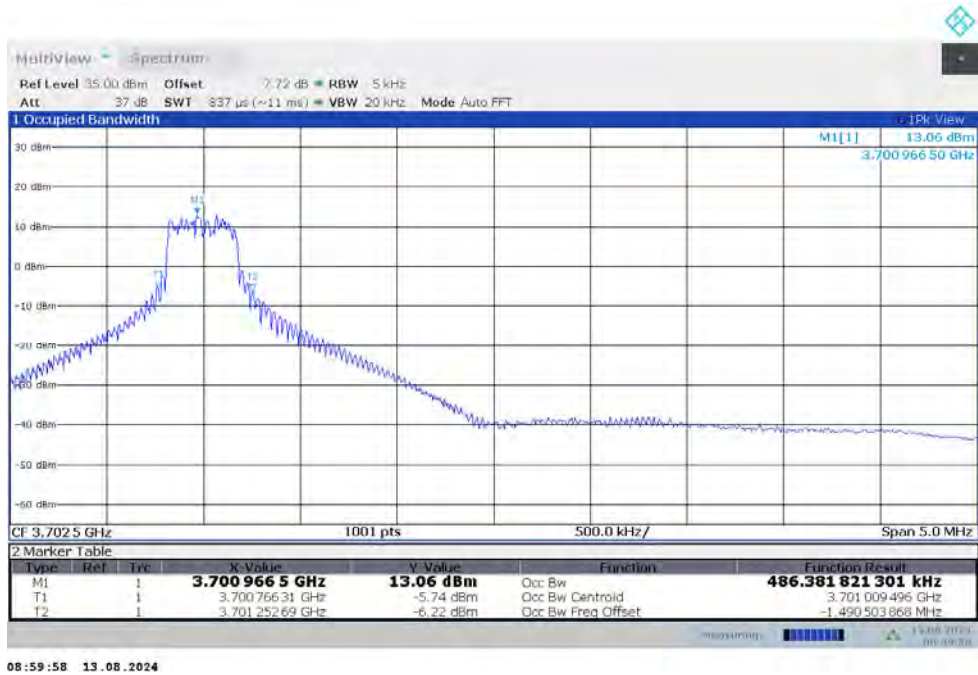


HIGH BAND EDGE BLOCK-100MHz-100%RB

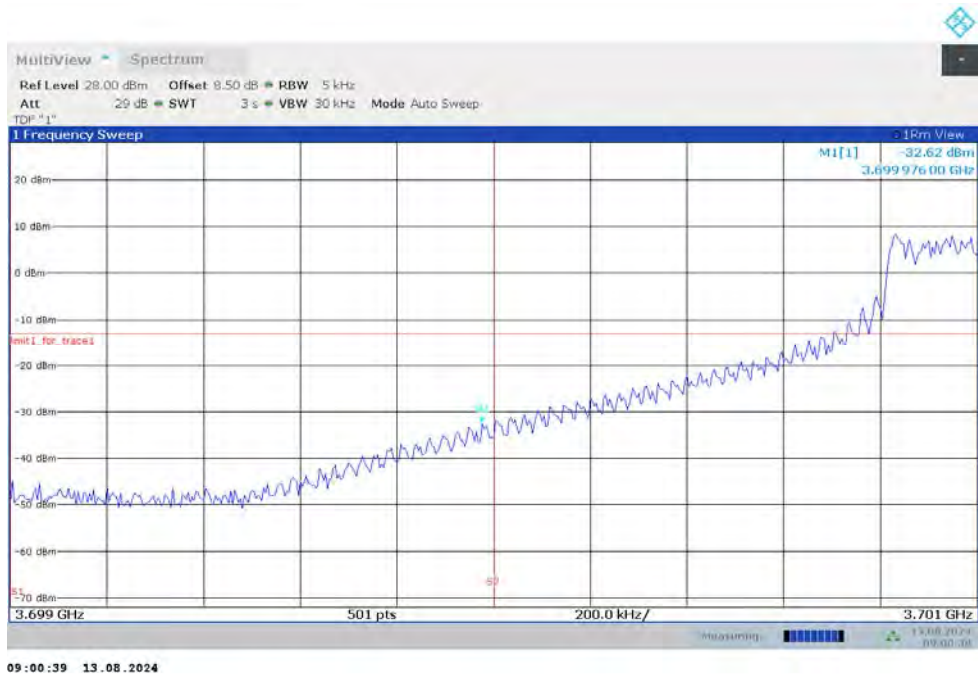


NR n77H

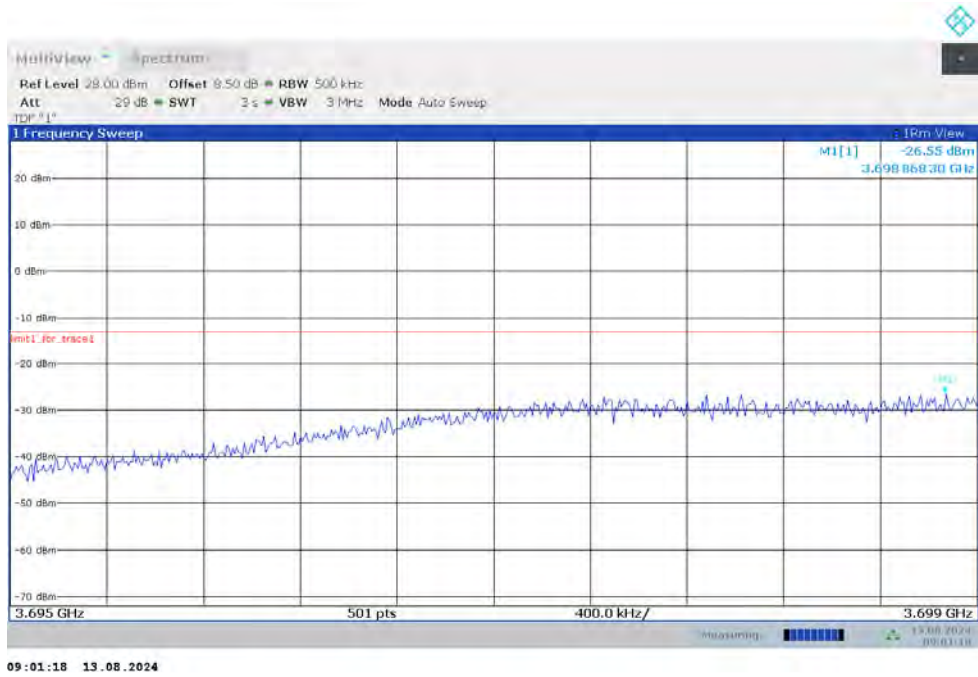
OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset



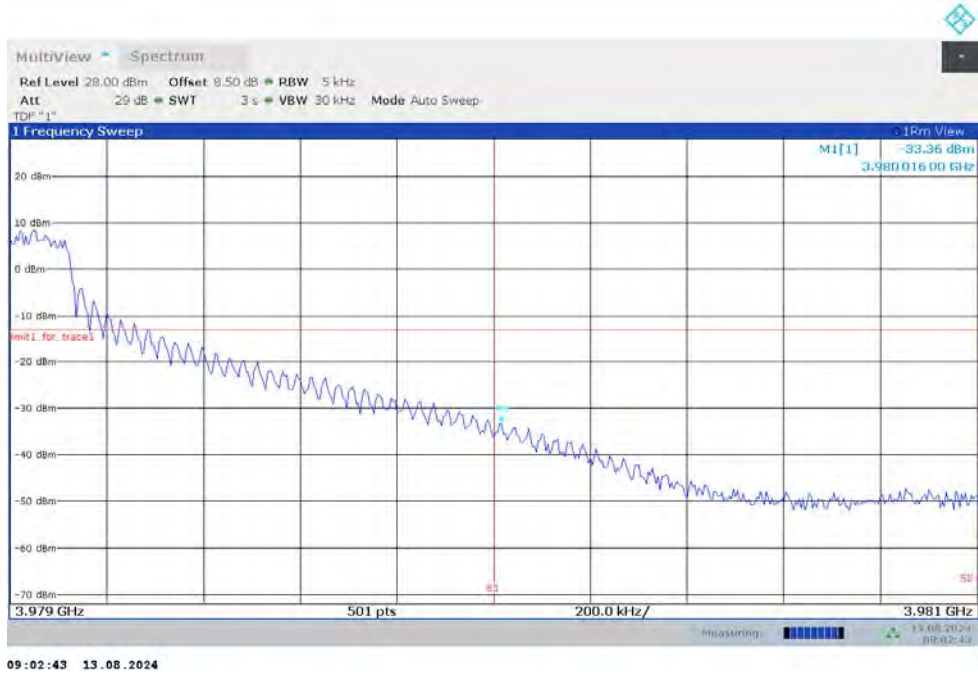
LOW BAND EDGE BLOCK-1RB-LOW_offset



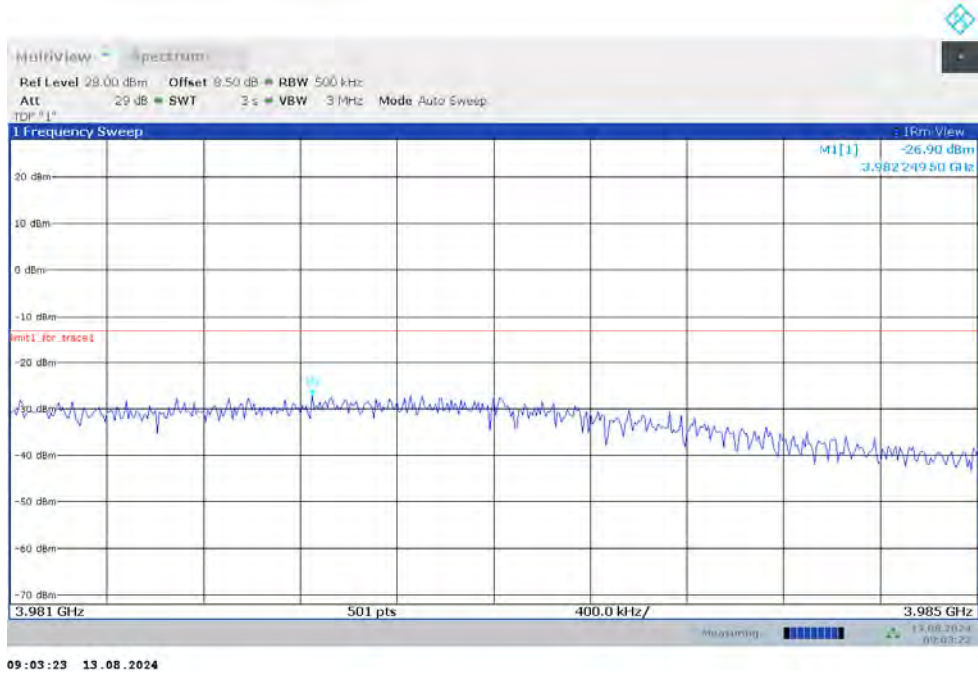
OBW: 1RB-HIGH_offset



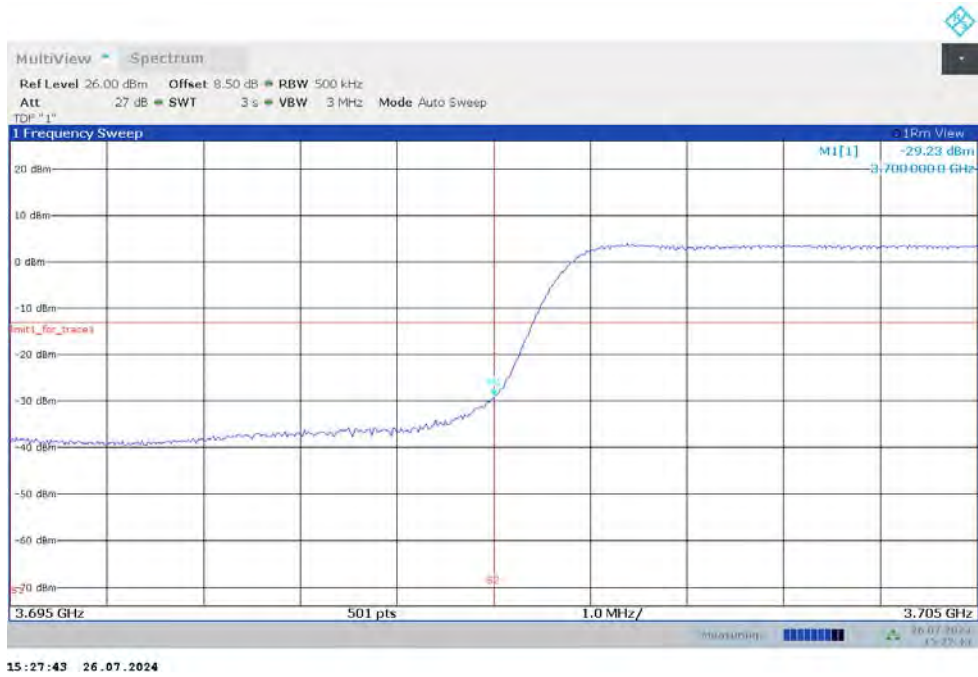
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



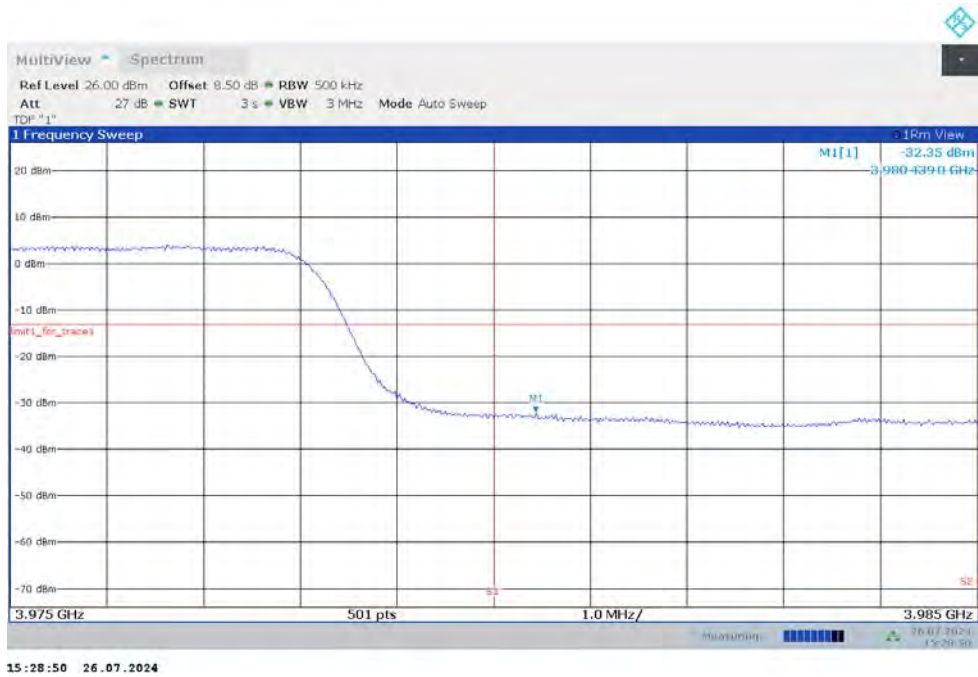
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-100MHz-100%RB



HIGH BAND EDGE BLOCK-100MHz-100%RB

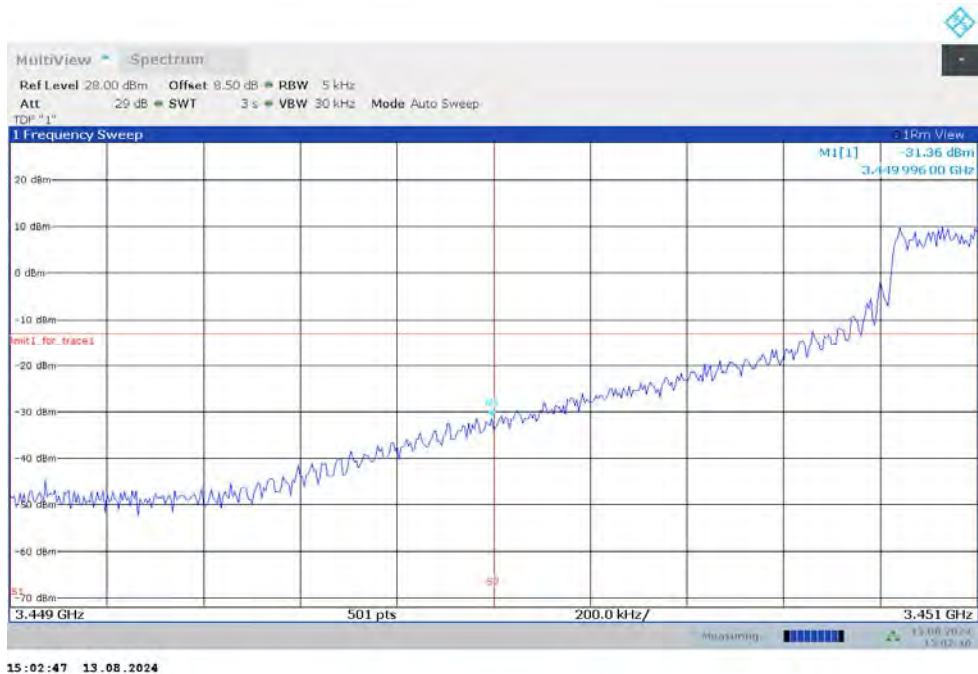


NR n78L

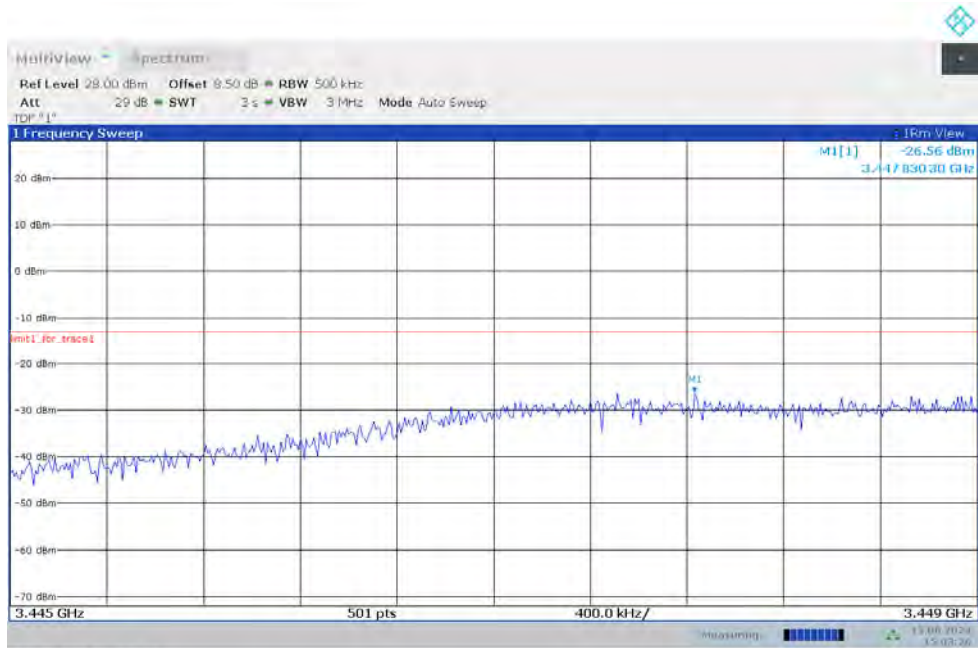
OBW: 1RB-LOW_offset



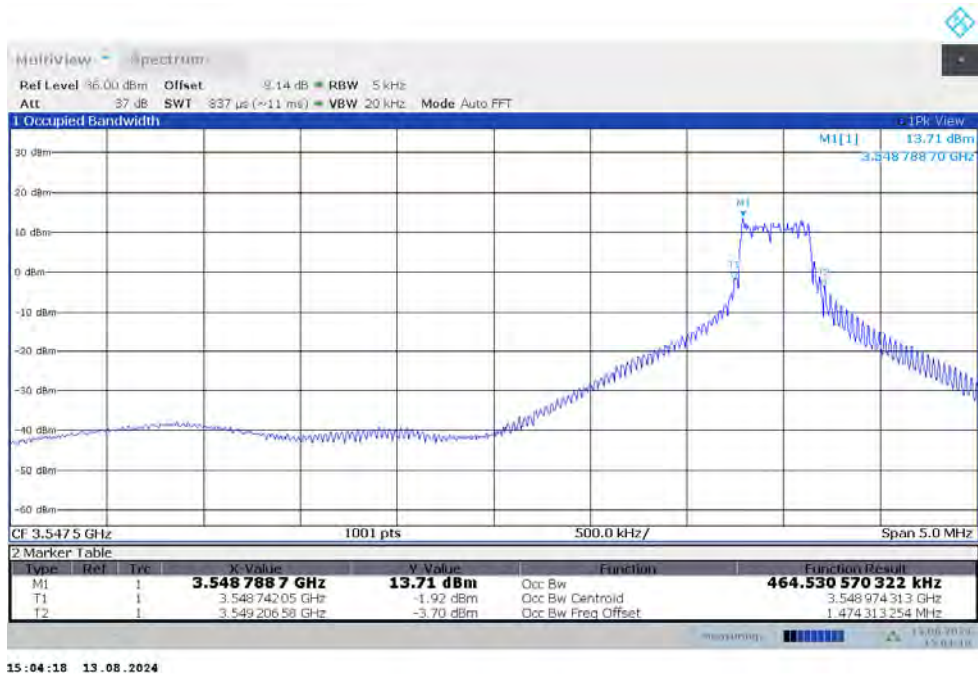
LOW BAND EDGE BLOCK-1RB-LOW_offset



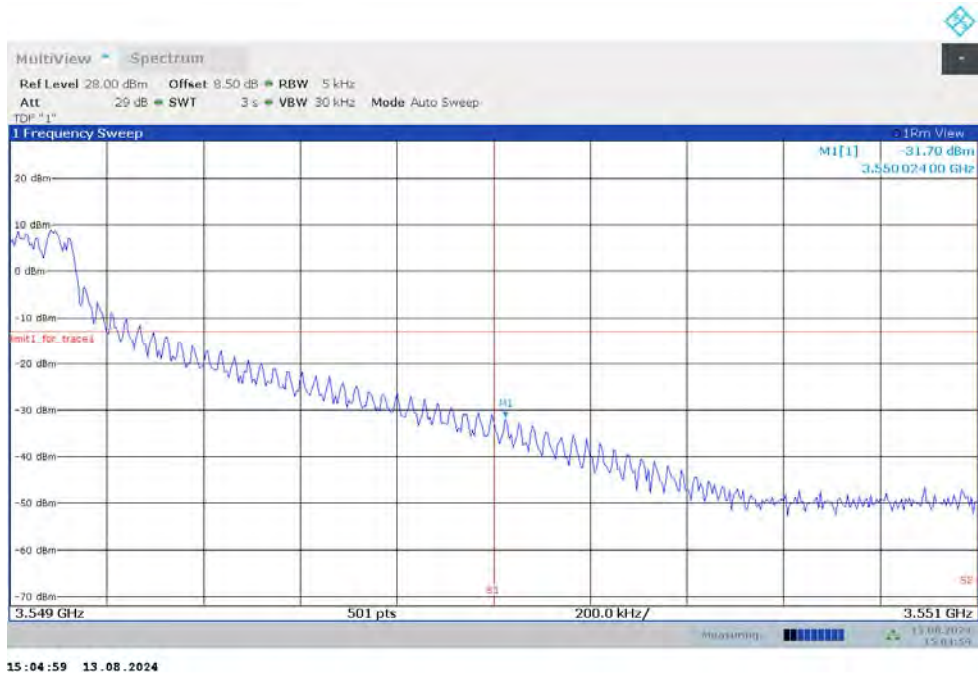
LOW BAND EDGE BLOCK-1RB-LOW_offset



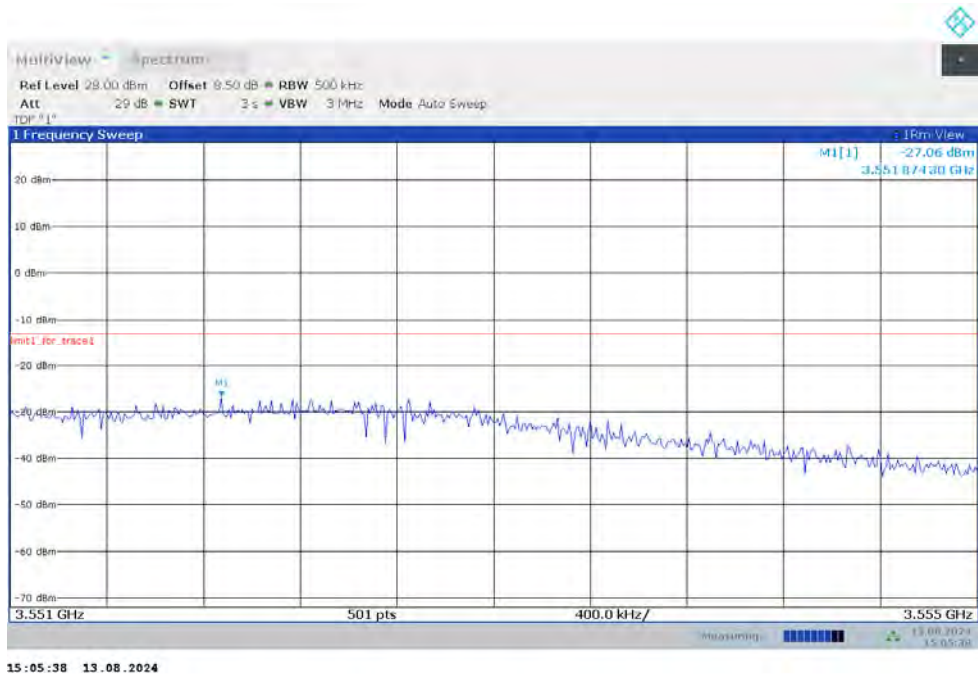
OBW: 1RB-HIGH_offset



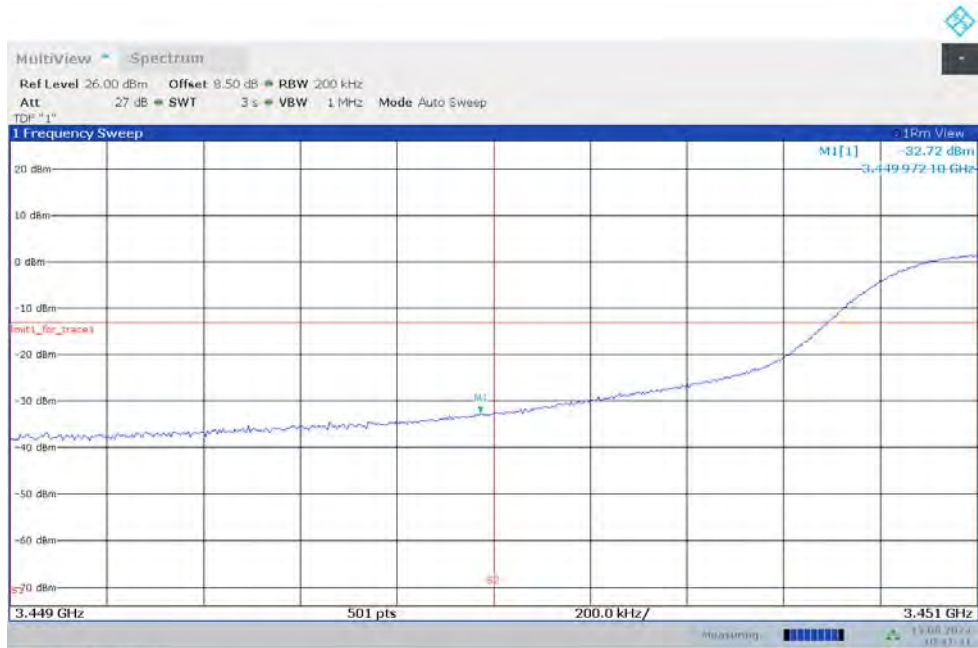
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



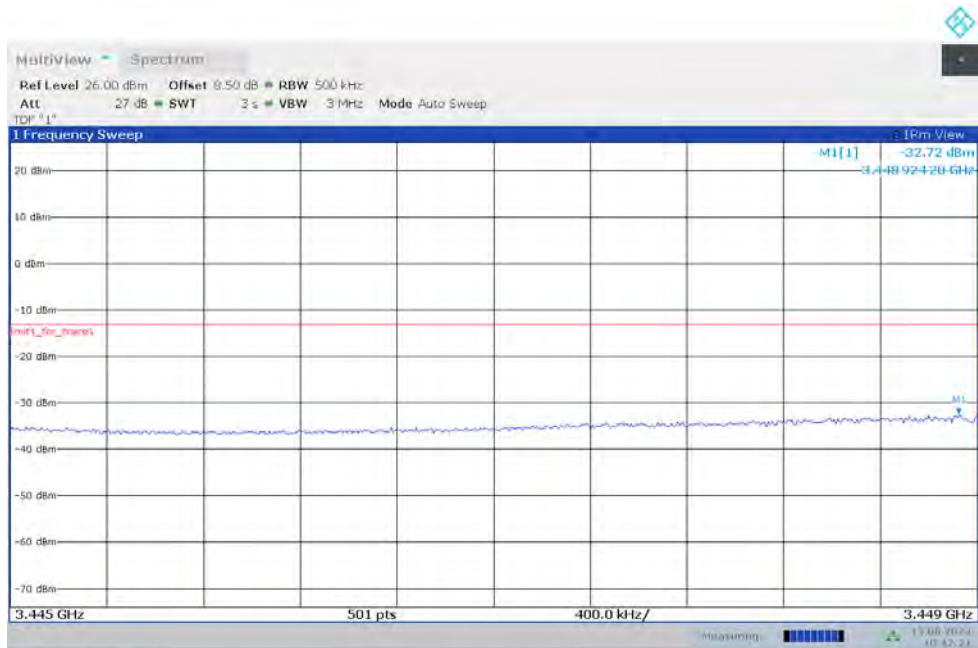
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



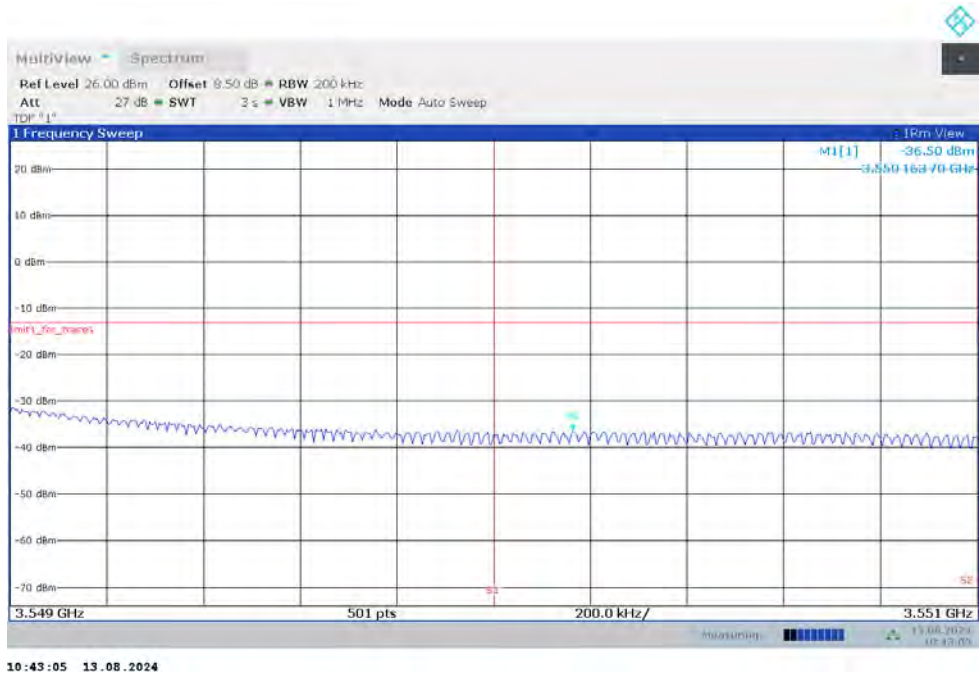
LOW BAND EDGE BLOCK-100MHz-100%RB



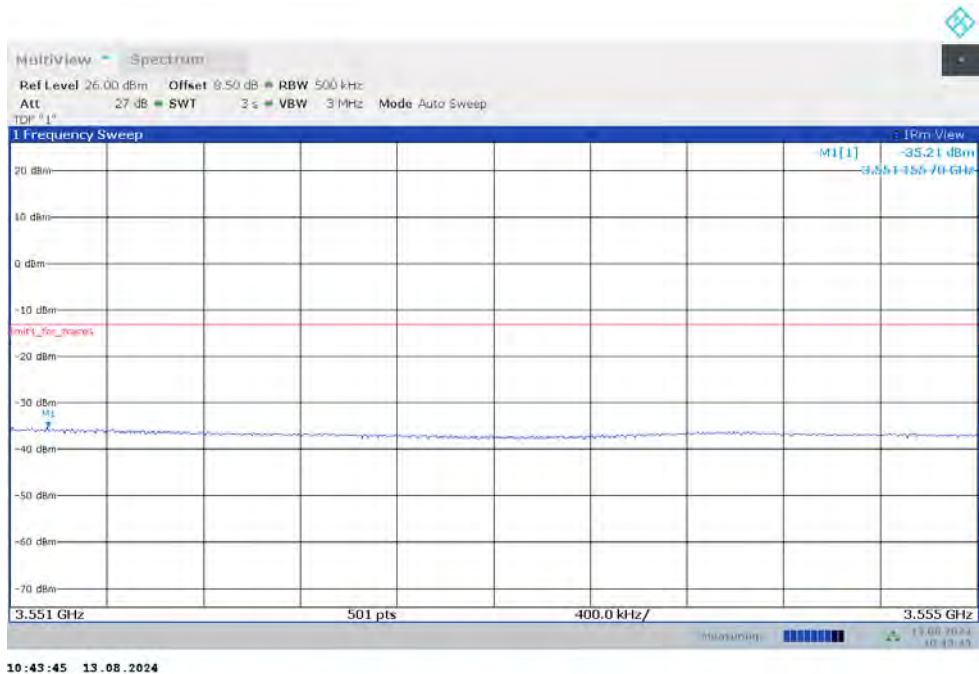
LOW BAND EDGE BLOCK-100MHz-100%RB



HIGH BAND EDGE BLOCK-100MHz-100%RB



HIGH BAND EDGE BLOCK-100MHz-100%RB



Note: The maximum value of expanded measurement uncertainty for this test item is $U = 0.626 \text{ kHz}$, $k = 2$.

A.7 Conducted Spurious Emission

A.7.1 Measurement Method

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

1. In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given below:
 - (a) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
 - (b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
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 greater than $2 \times \text{span/RBW}$.

A. 7.2 Measurement Limit

Part 22.917, Part 24.238 and 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(m) specifies for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Part 27.53(n) states for mobile 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 this paragraph (n)(2) 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. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 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.

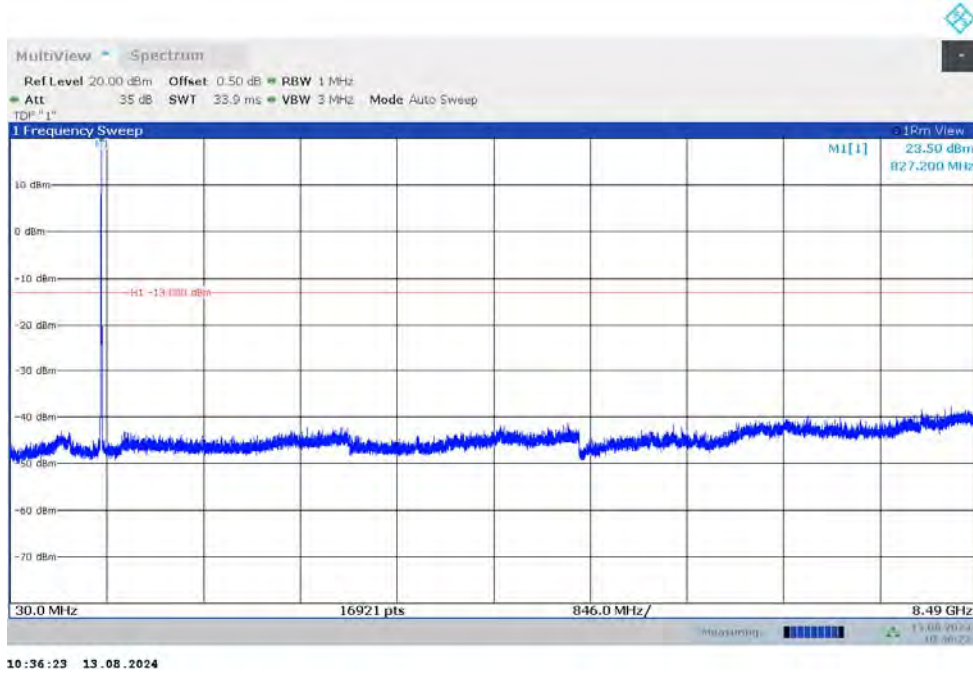
Part 27.53(l) states for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

Compliance with this paragraph (l)(2) 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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 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.

A. 7.3 Measurement result

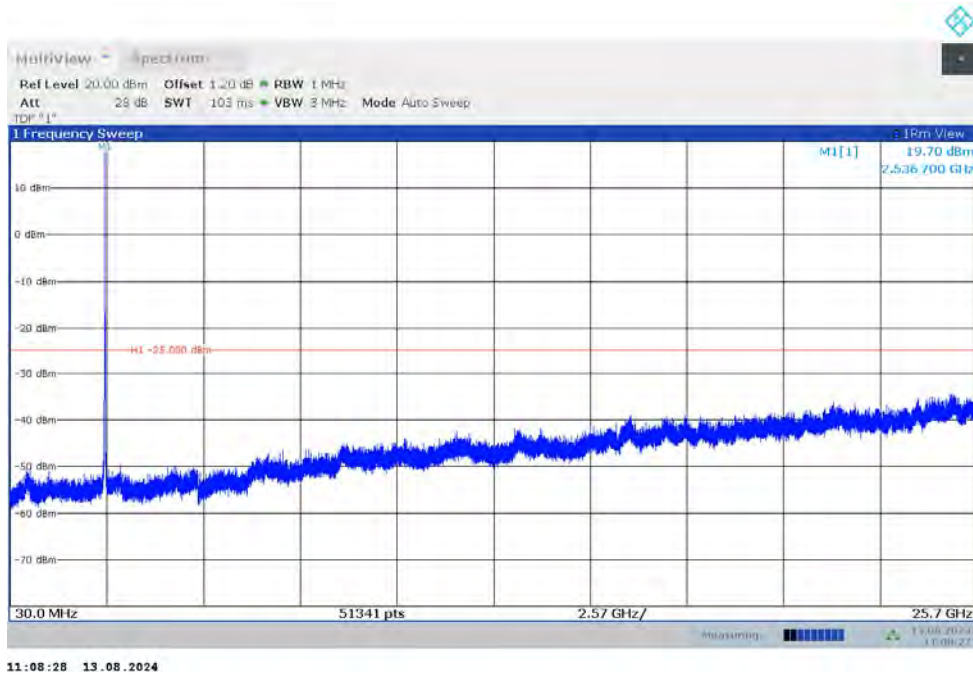
n5

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



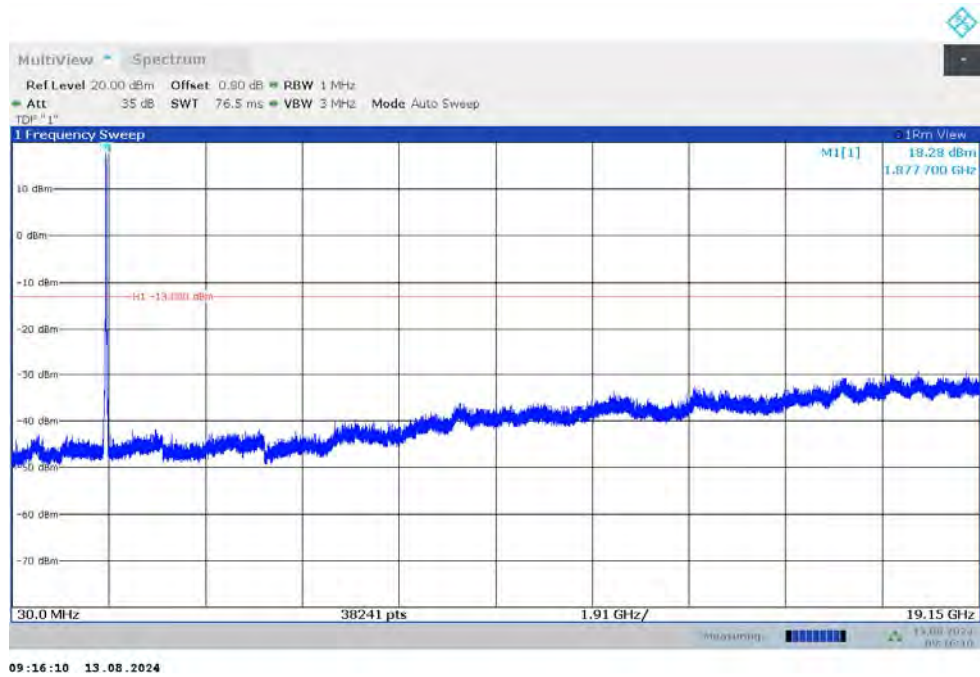
n7

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



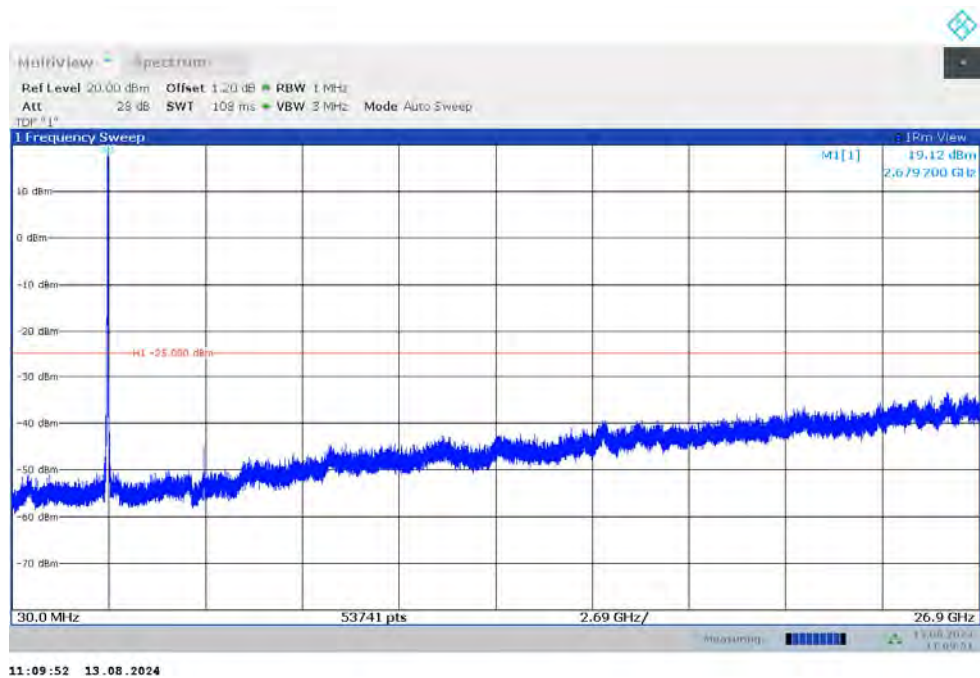
n25

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



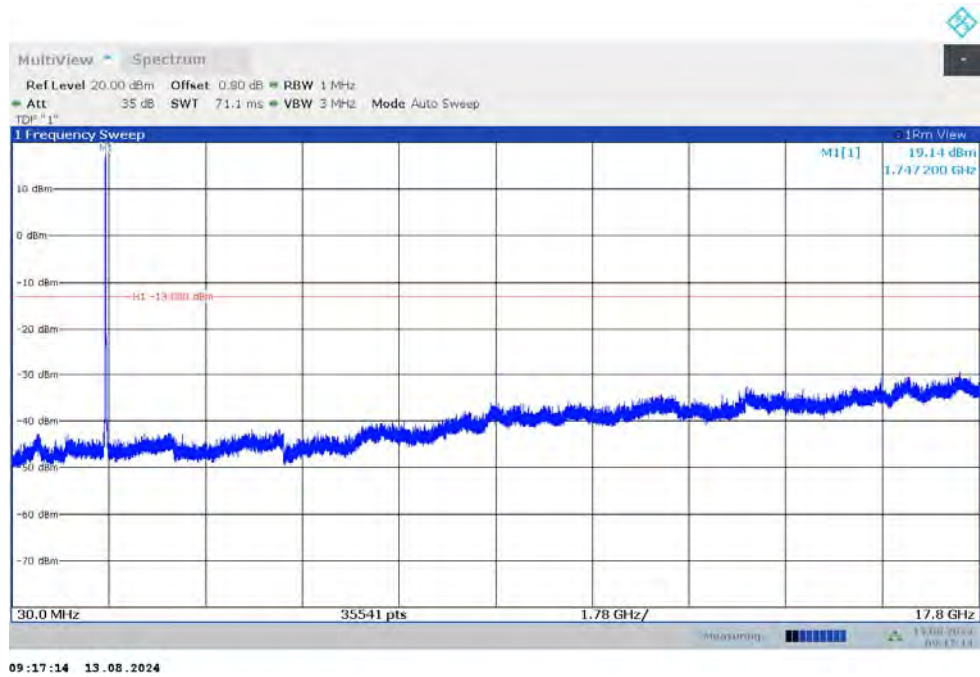
n41

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



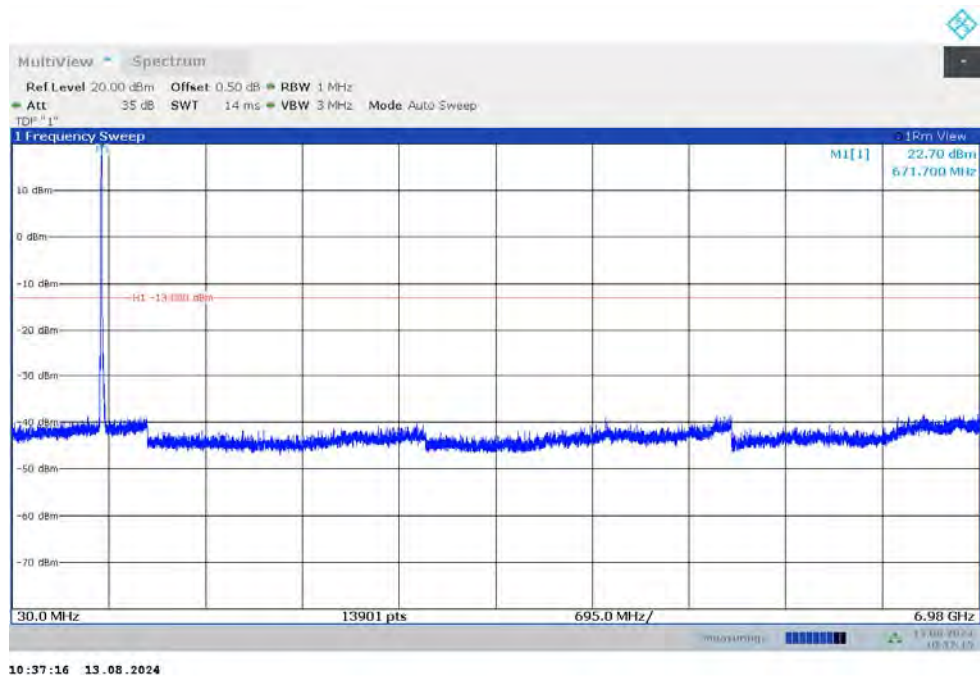
n66

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



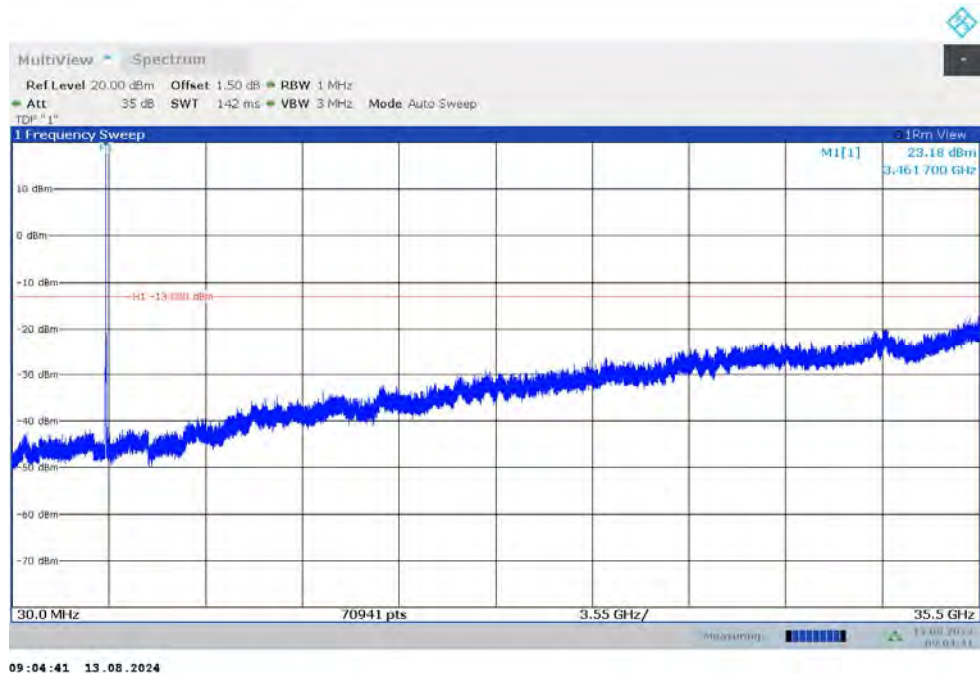
n71

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



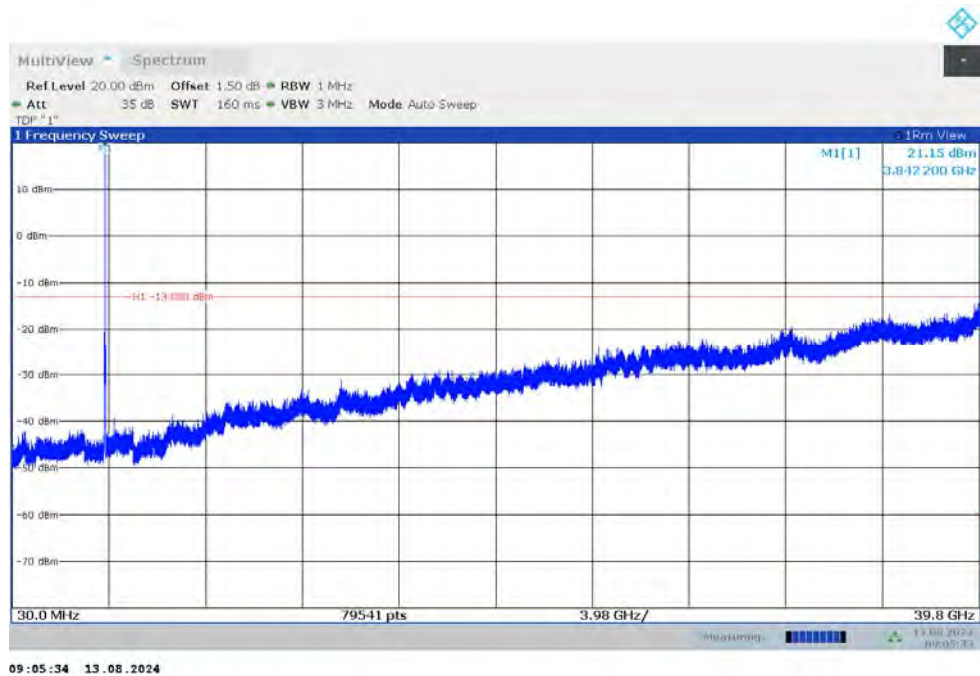
n77L

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



n77H

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



Note: The maximum value of expanded measurement uncertainty for this test item is $U = 0.372 \text{ dB}$, $k = 2$.

A.8 Peak-to-Average Power Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

- 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) Record the maximum PAPR level associated with a probability of 0.1%.

Measurement results

n5,20MHz

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
836.5	4.34	5.64	6.40	6.52	6.56	7.14	7.84	7.74	8.44

n7,20MHz

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	3.72	4.82	5.58	5.60	6.10	6.40	6.38	6.86	7.94

n25,40MHz

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
1882.5	4.72	5.49	6.21	6.42	6.56	7.11	7.14	7.53	8.19

n41,100MHz

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
2592.99	4.12	5.17	5.90	6.19	6.54	7.25	7.34	7.21	9.12

n66,40MHz

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	4.16	5.44	6.20	6.45	6.60	7.18	7.21	7.57	8.27

n71,20MHz

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
680.5	4.36	5.62	6.54	6.42	6.54	7.12	7.18	7.68	8.44

n77L,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	4.03	5.52	6.26	6.51	6.59	7.17	7.79	7.62	8.35

n77H,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
3840	4.73	5.16	6.16	6.63	6.65	8.11	8.85	9.16	9.33

Note: The maximum value of expanded measurement uncertainty for this test item is $U = 0.356$ dB, $k = 2$.

Annex B: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 23rd day of July 2024.



Mr. Trace McInturf, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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