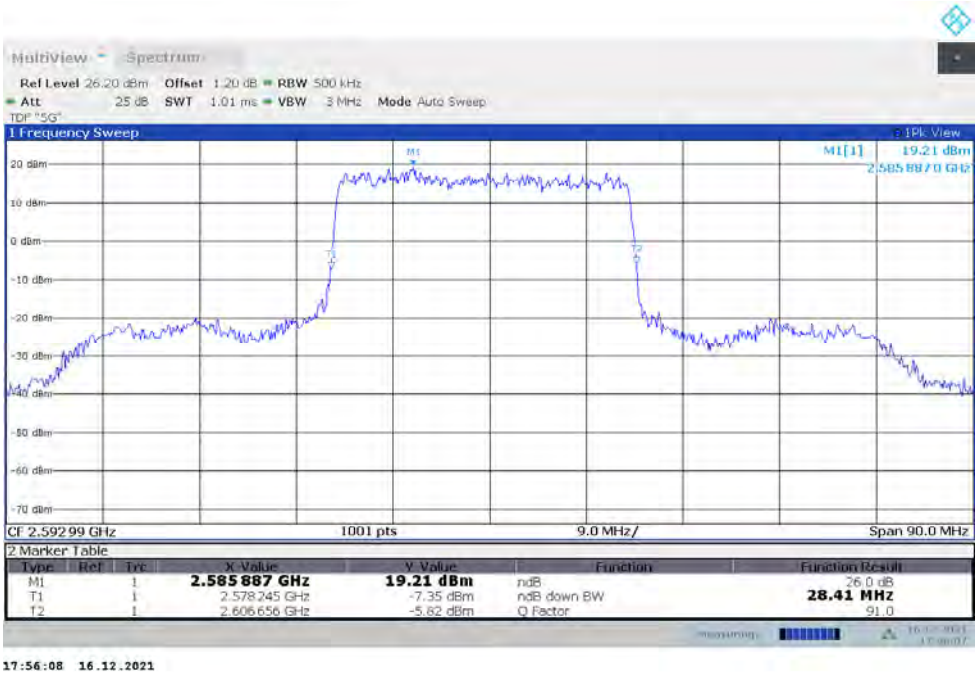
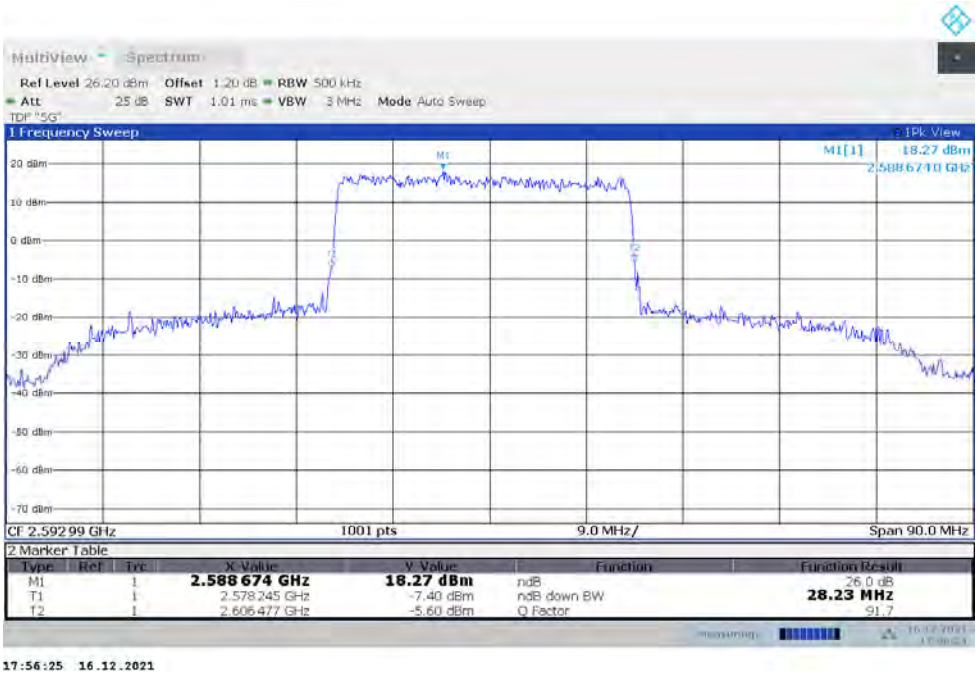
n41,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	28.412	28.232

n41,30MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



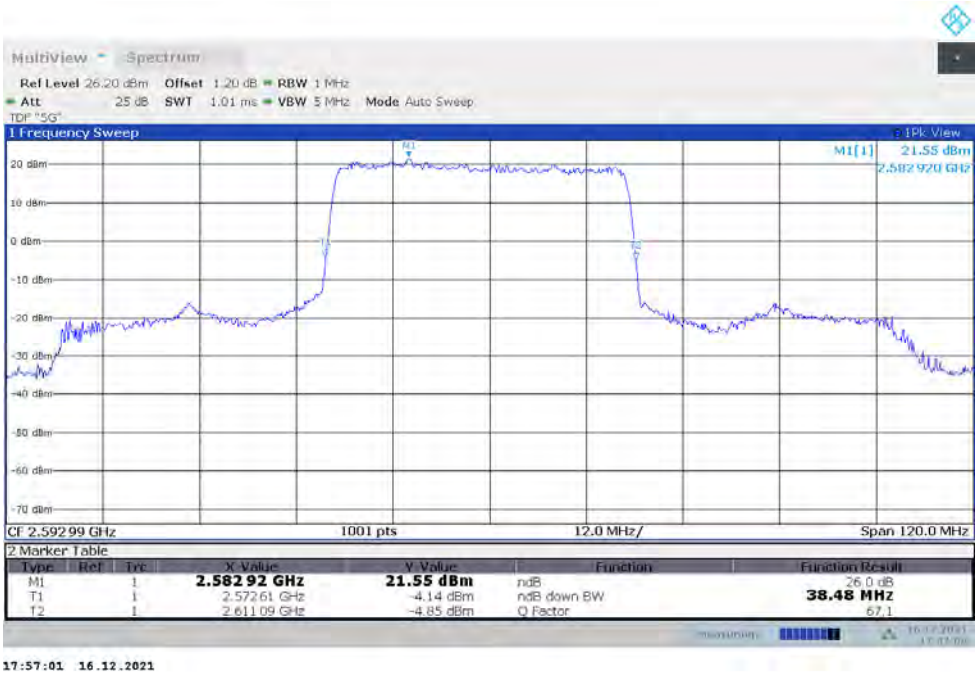
n41,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



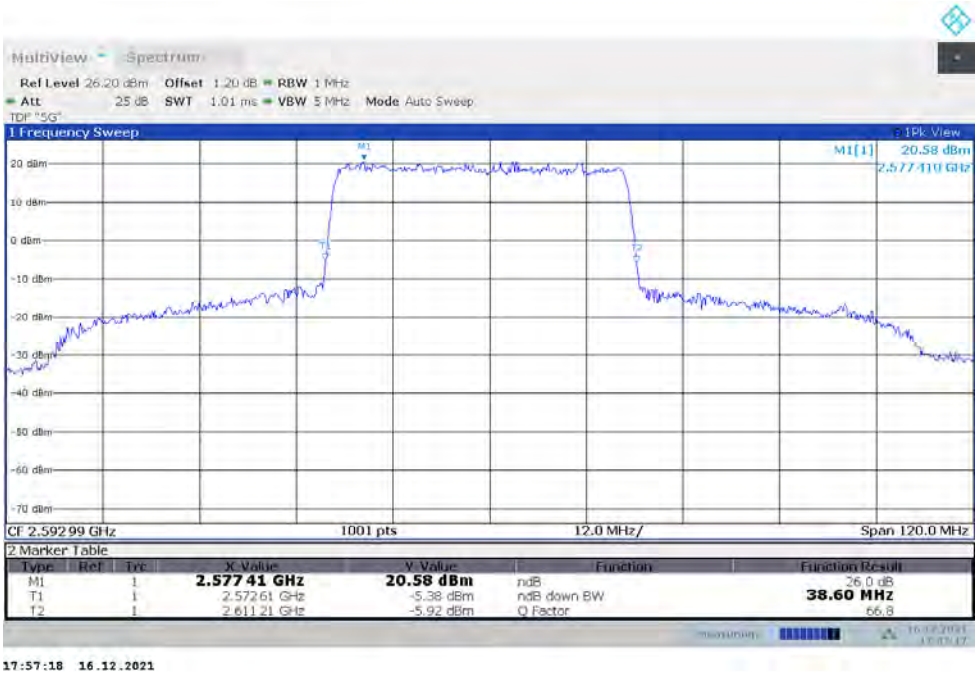
n41,40MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	38.480	38.600

n41,40MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n41,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

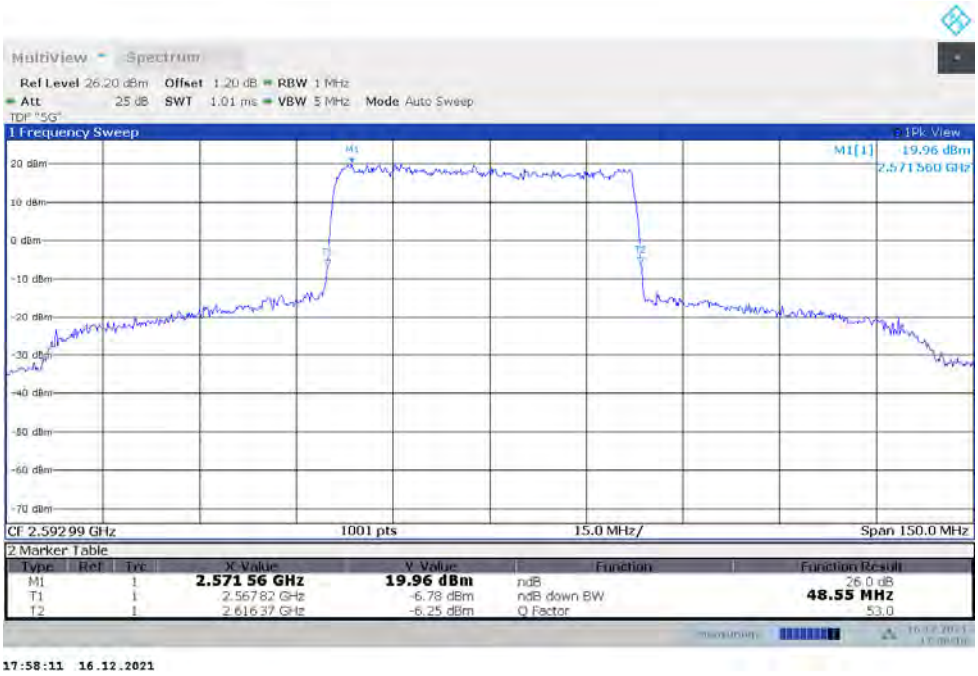


n41,50MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	48.550	48.550

n41,50MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

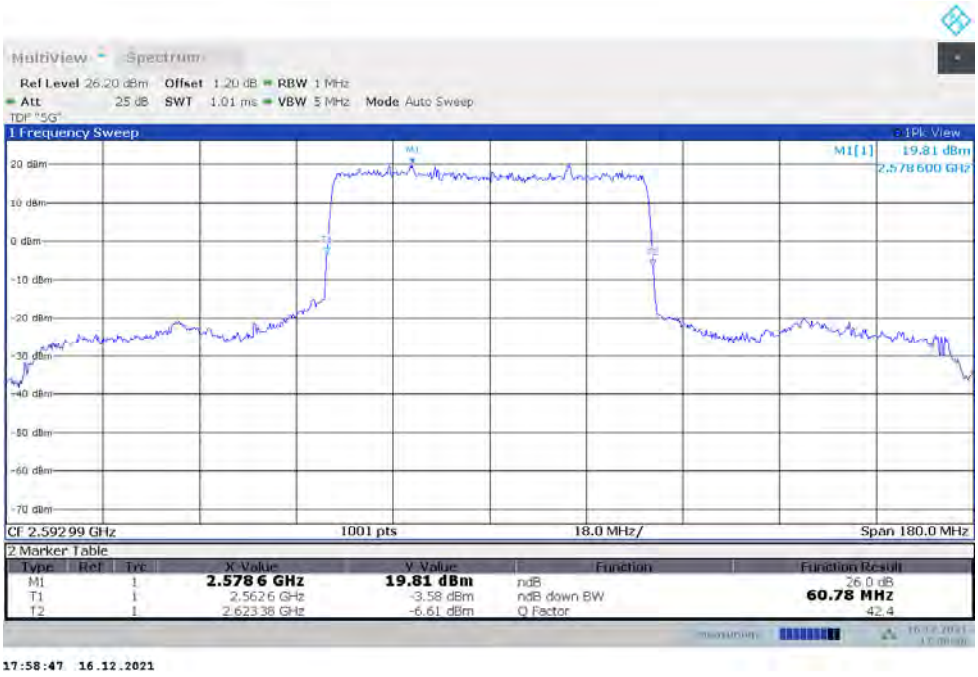
n41,50MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



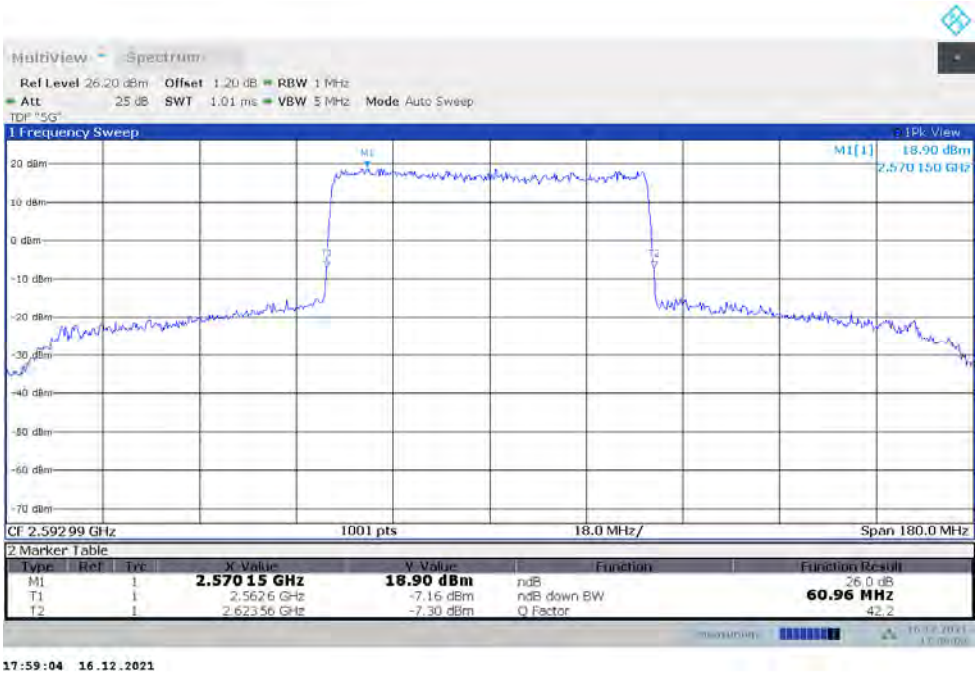
n41,60MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	60.780	60.960

n41,60MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



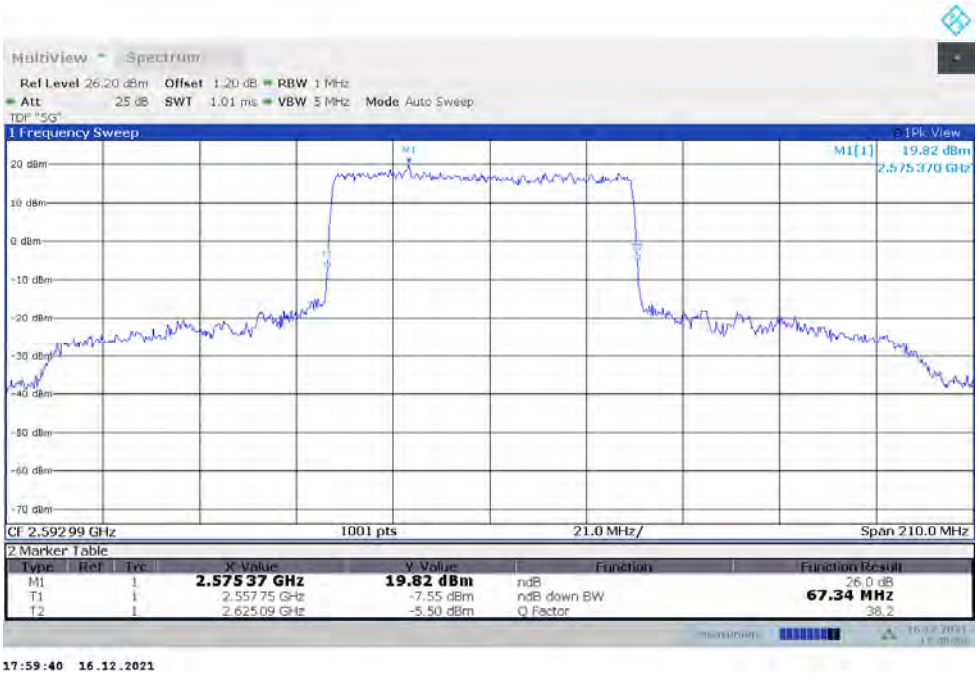
n41,60MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



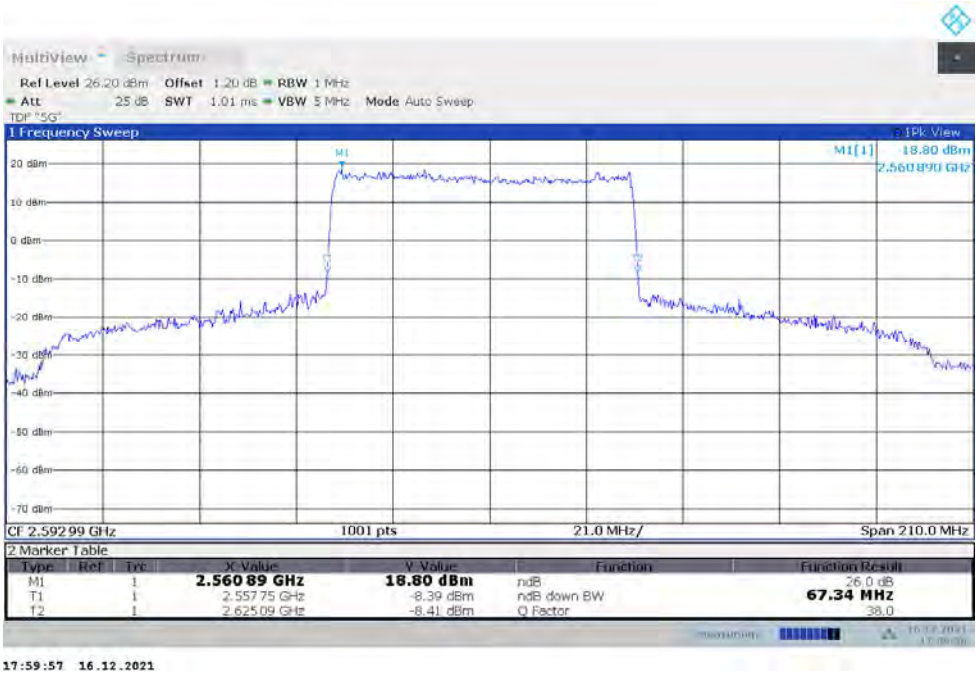
n41,70MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	67.340	67.340

n41,70MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



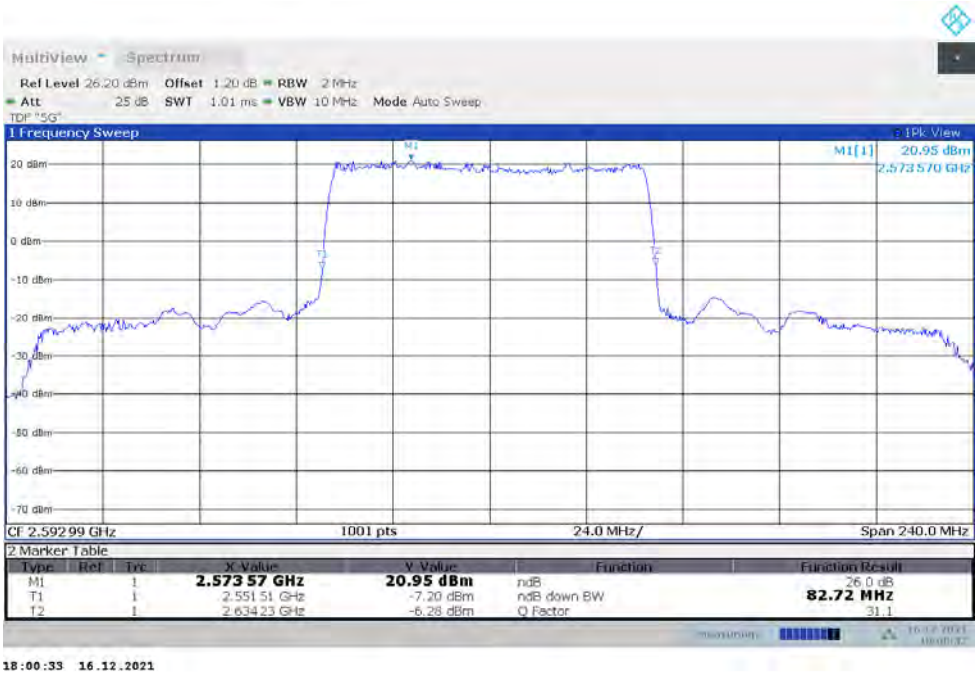
n41,70MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



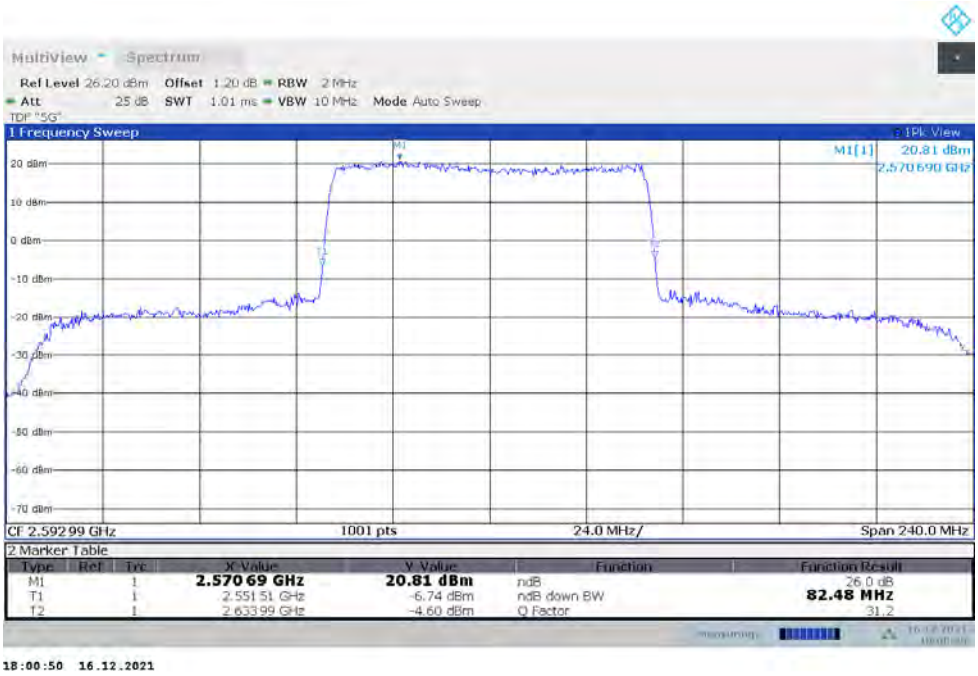
n41,80MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	82.720	82.480

n41,80MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



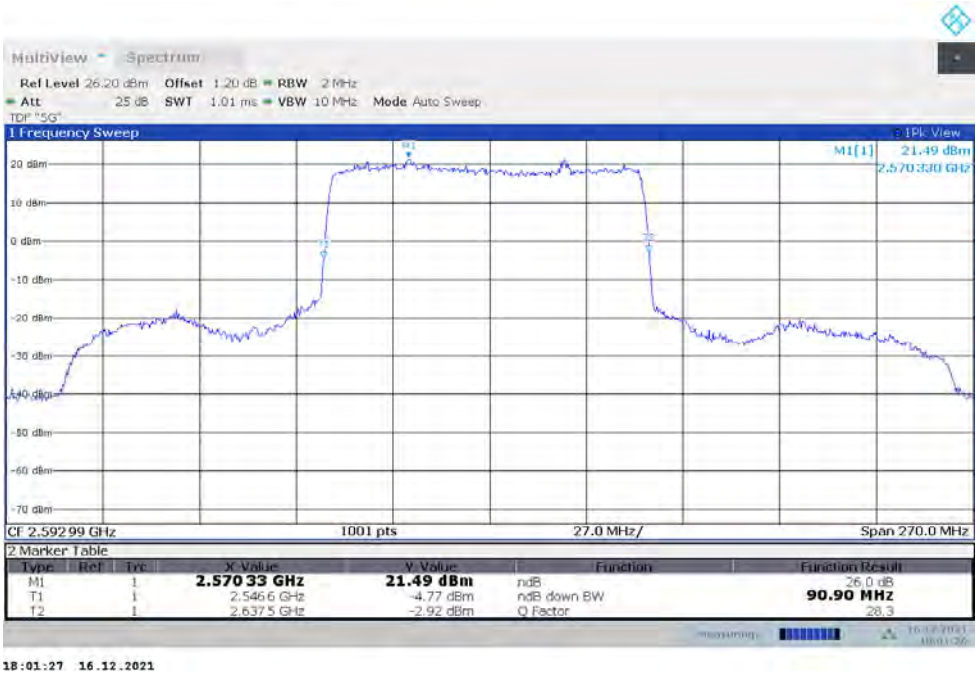
n41,80MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



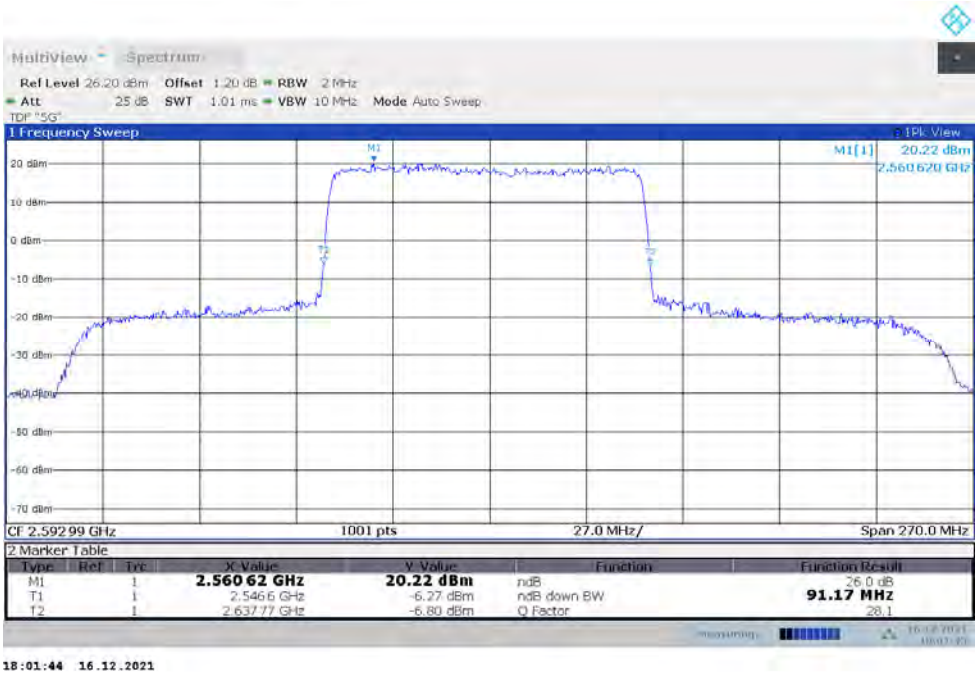
n41,90MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	90.900	91.170

n41,90MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



n41,90MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

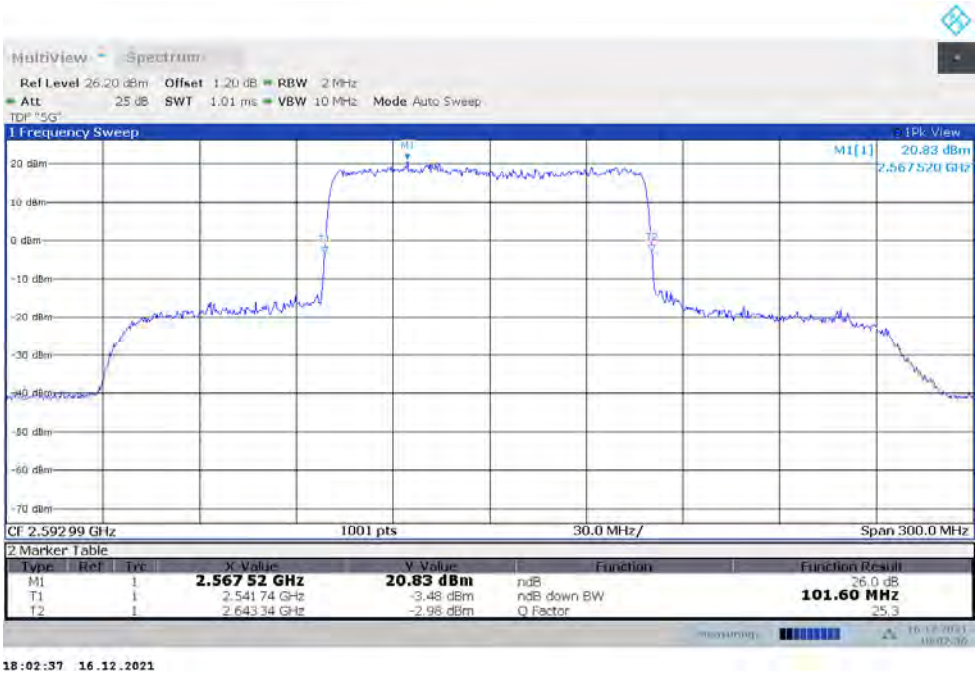


n41,100MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2592.99	101.600	101.600

n41,100MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

n41,100MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



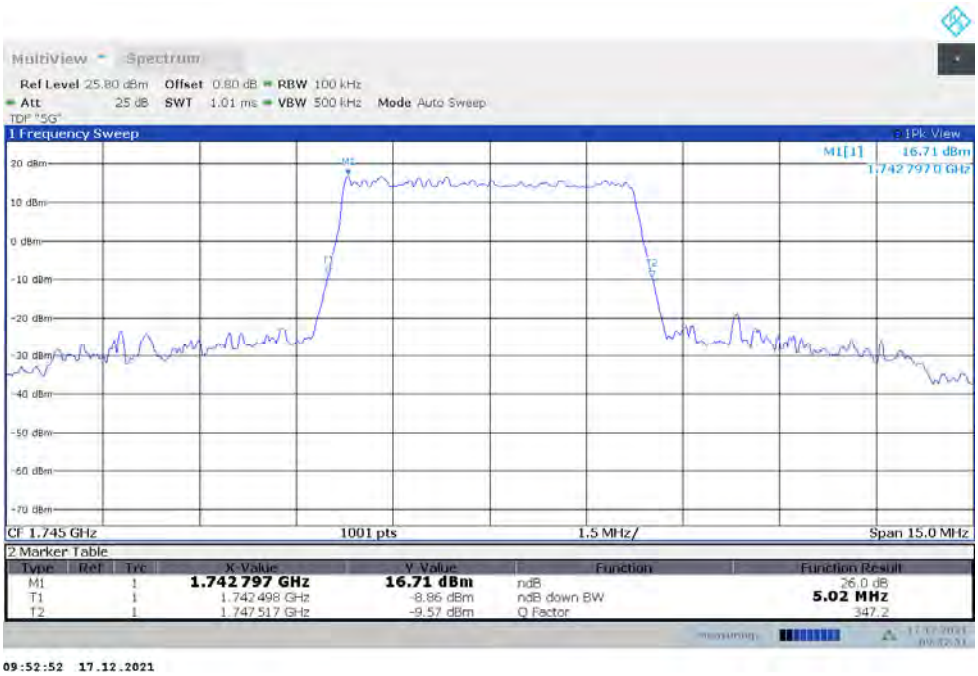
n66

n66,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	5.050	5.020

n66,5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

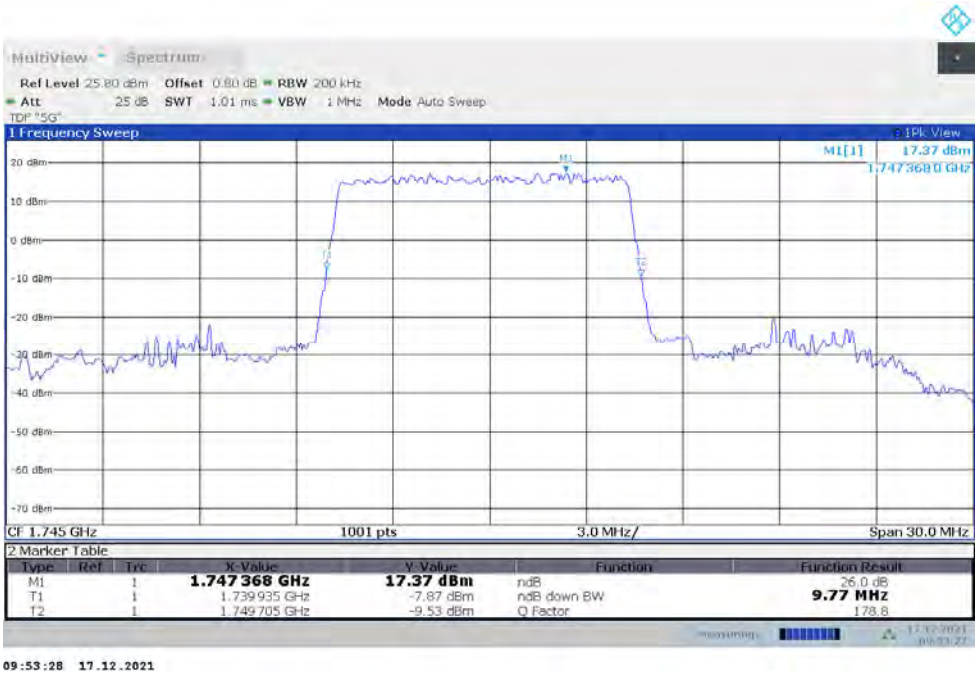
n66,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



n66,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	9.770	9.710

n66,10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

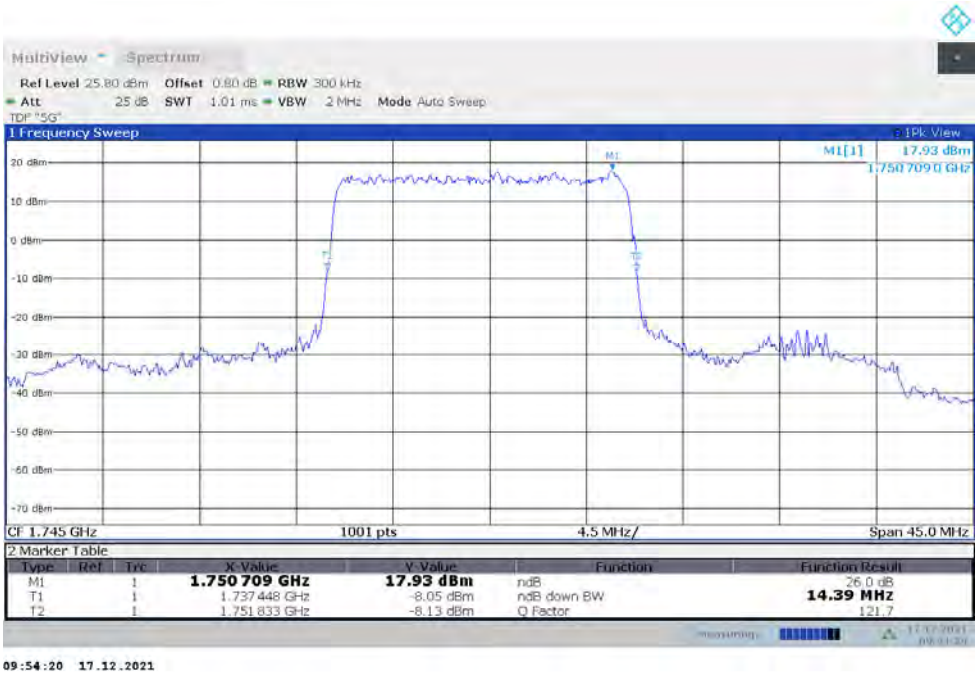


n66,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

n66,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	14.386	14.386

n66,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)

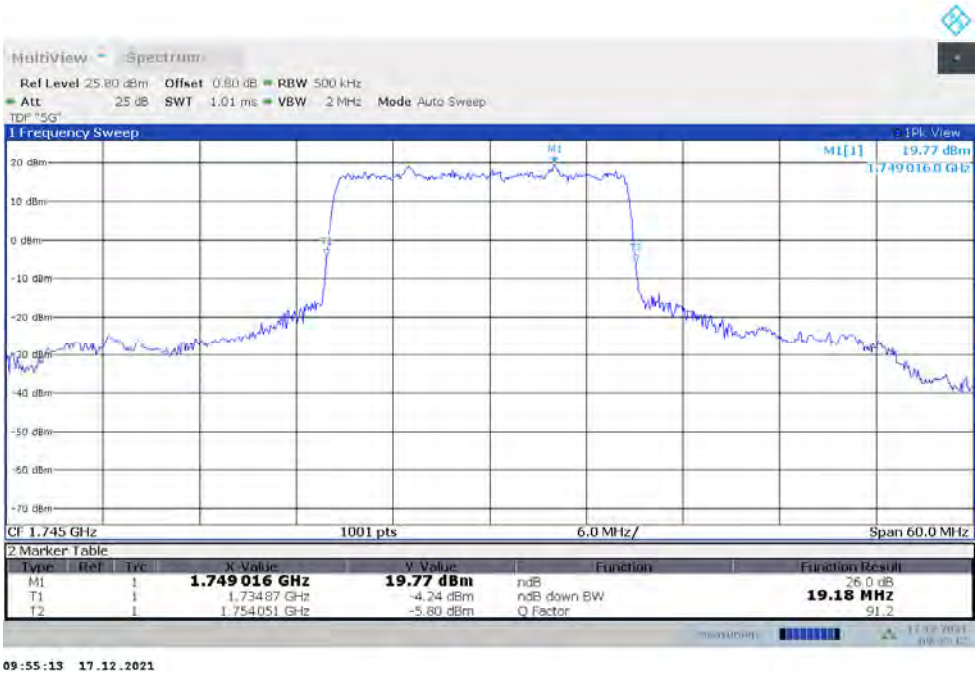


n66,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

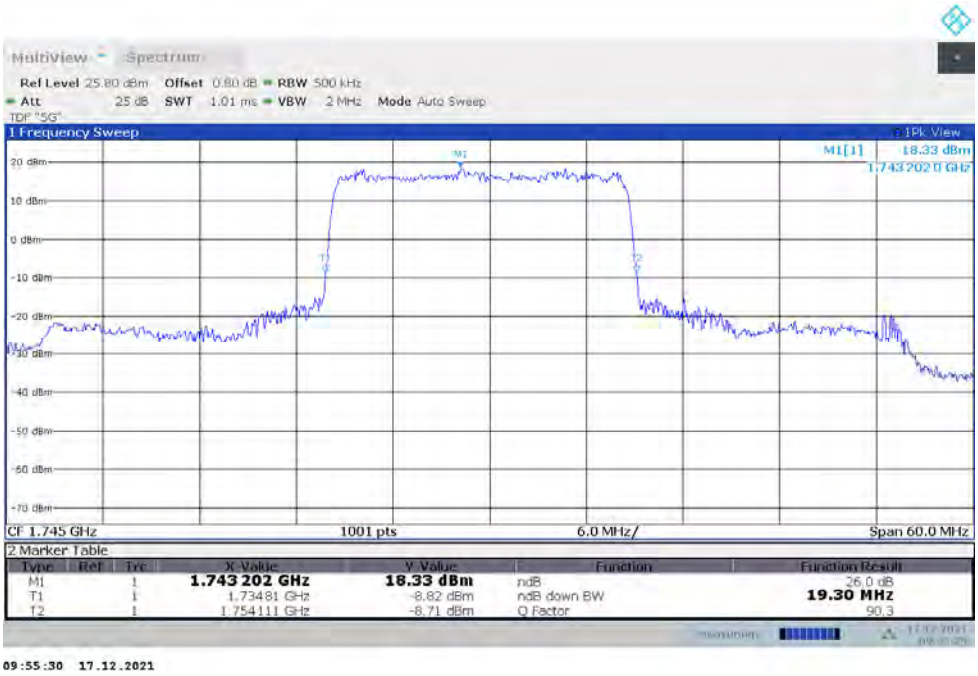
n66,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	19.181	19.301

n66,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



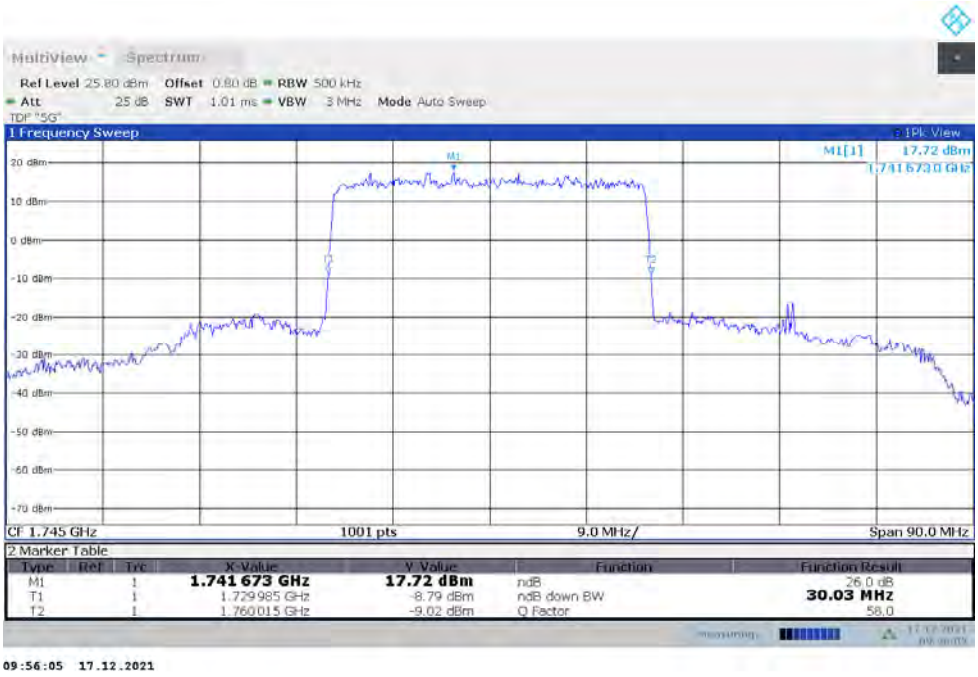
n66,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



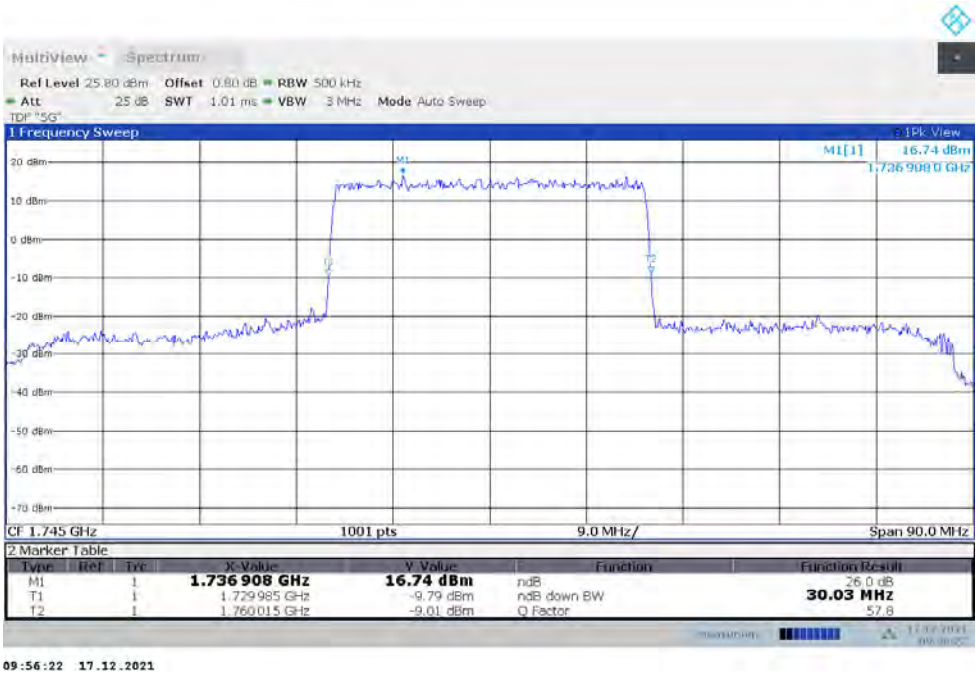
n66,30MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	30.030	30.030

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



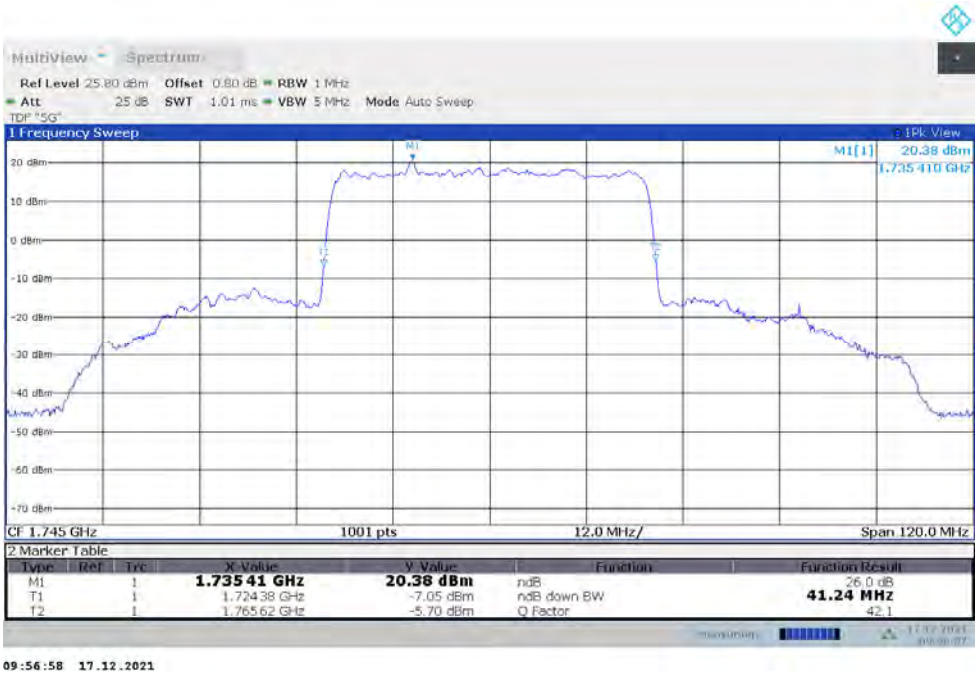
n66,30MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



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)



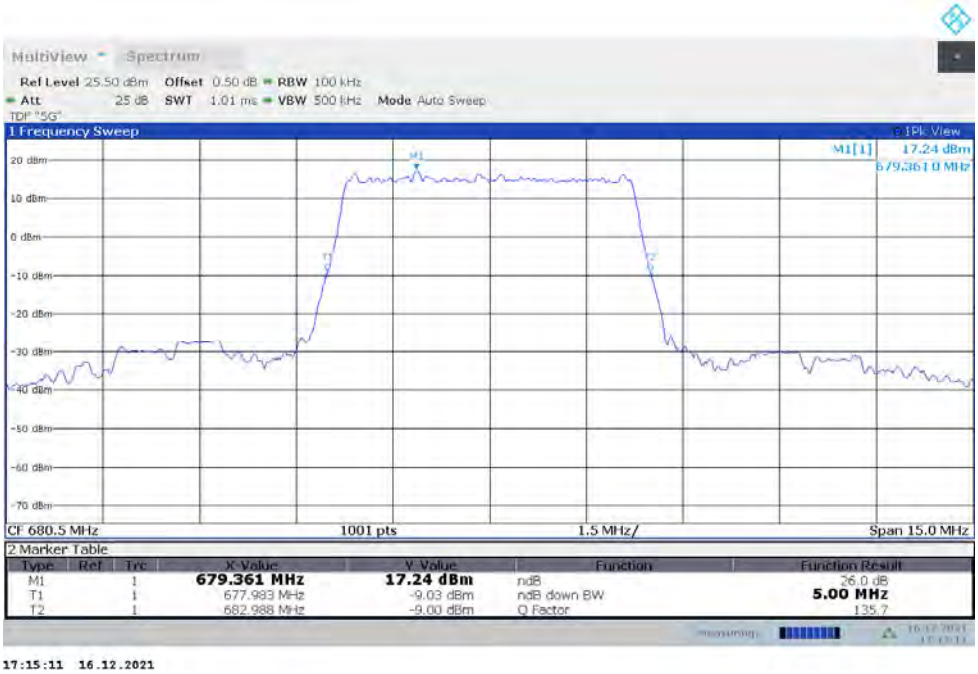
n66,40MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

n71

n71,5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	5.005	4.975

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



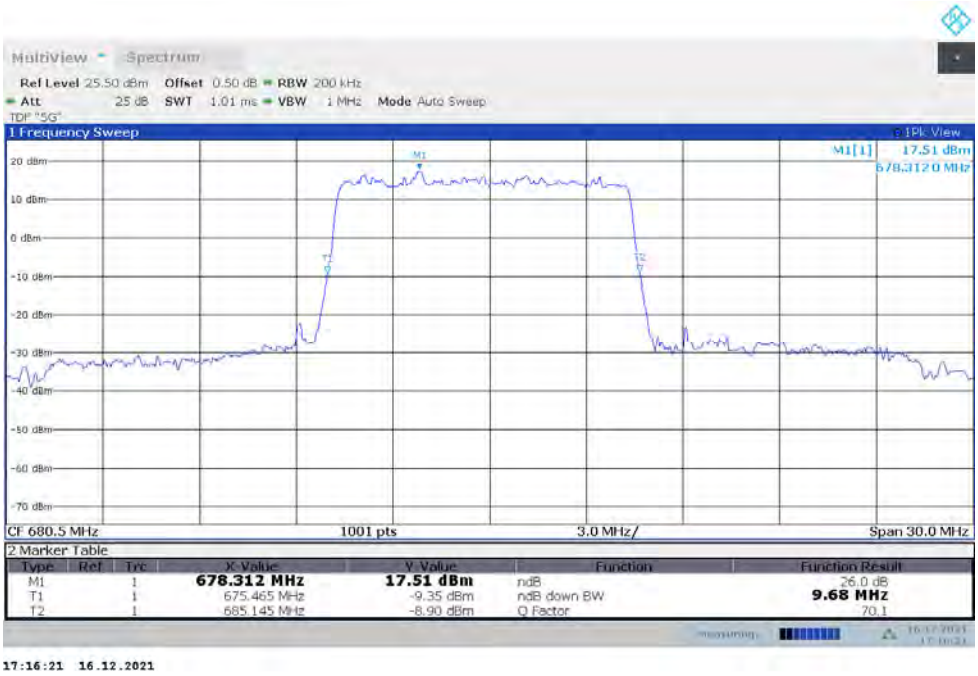
n71,5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

n71,10MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	9.650	9.680

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

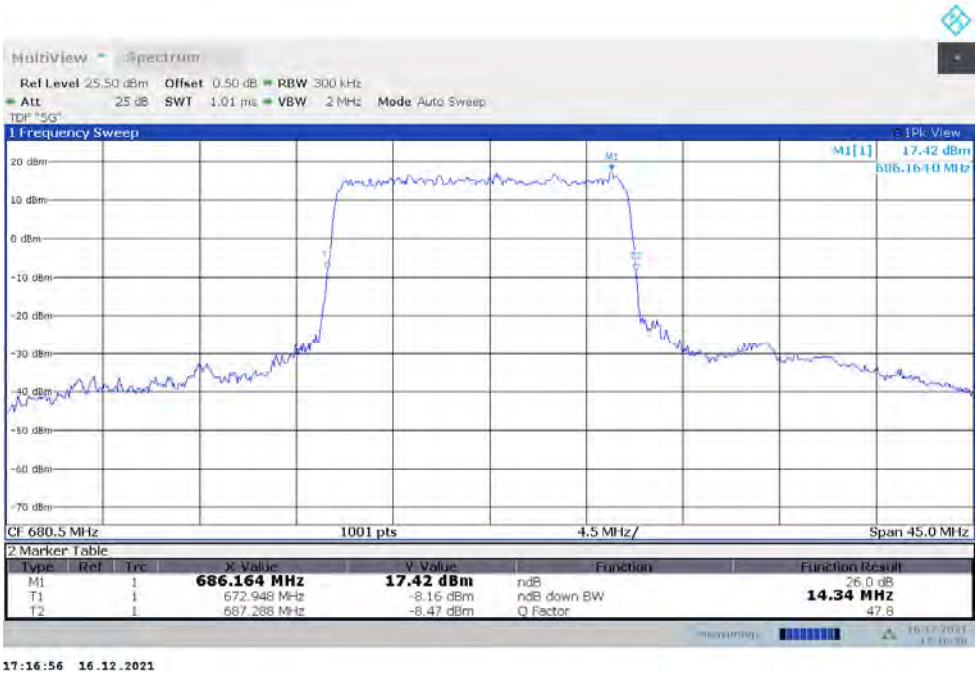
n71,10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



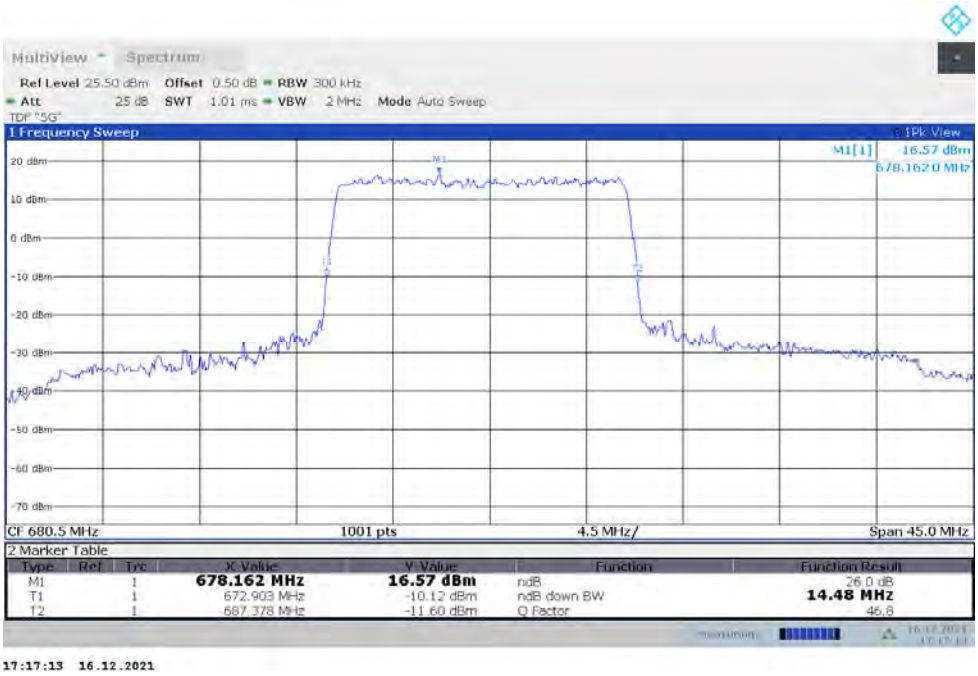
n71,15MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	14.341	14.476

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



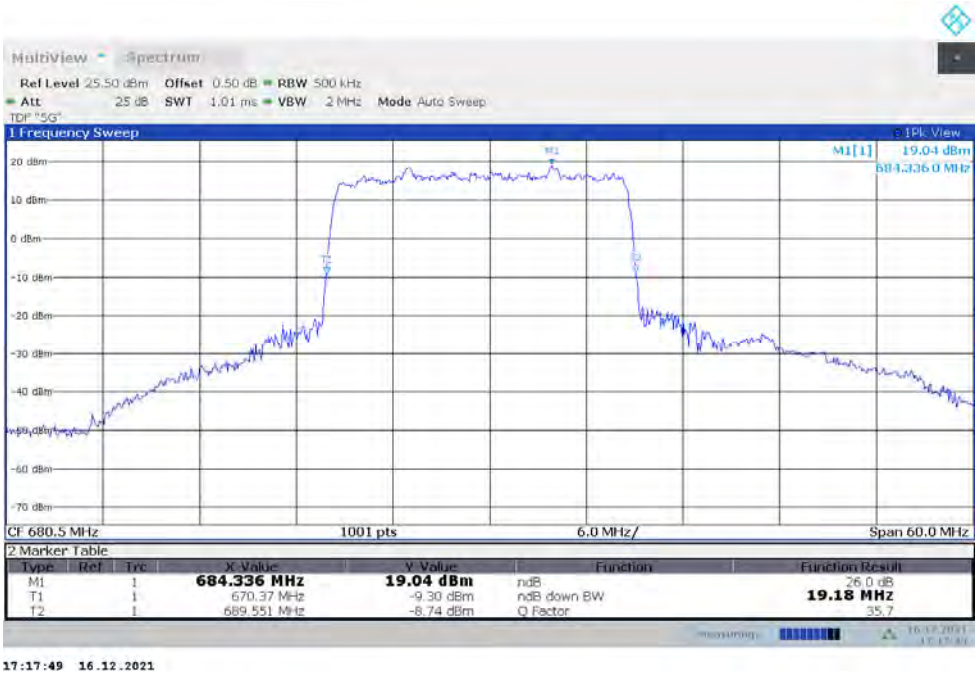
n71,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



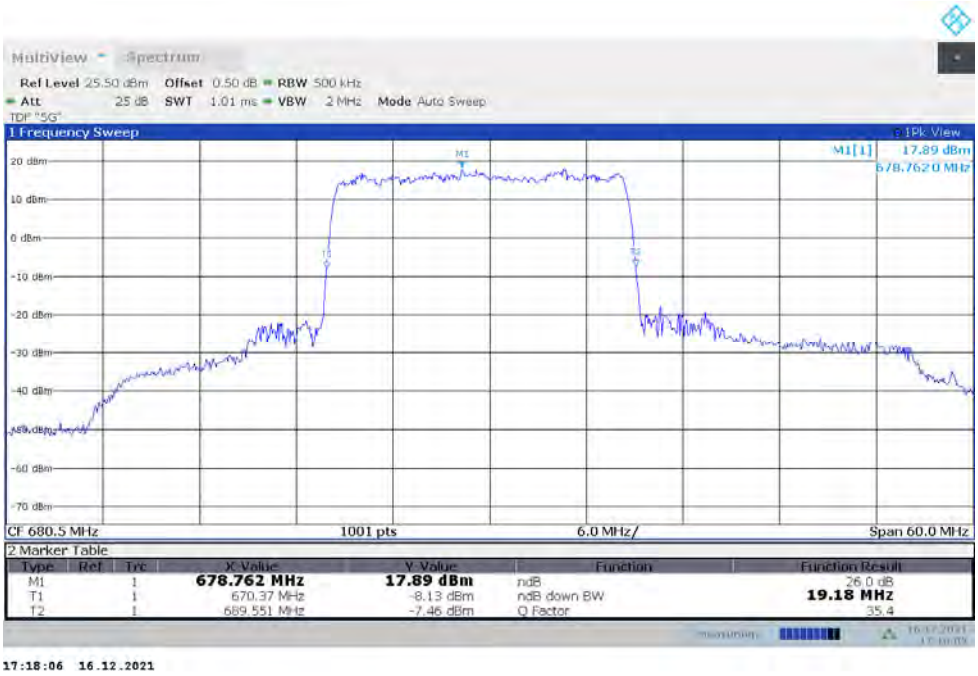
n71,20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
680.5	19.181	19.181

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



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



A.6 Band Edge Compliance

A.6.1 Measurement limit

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.

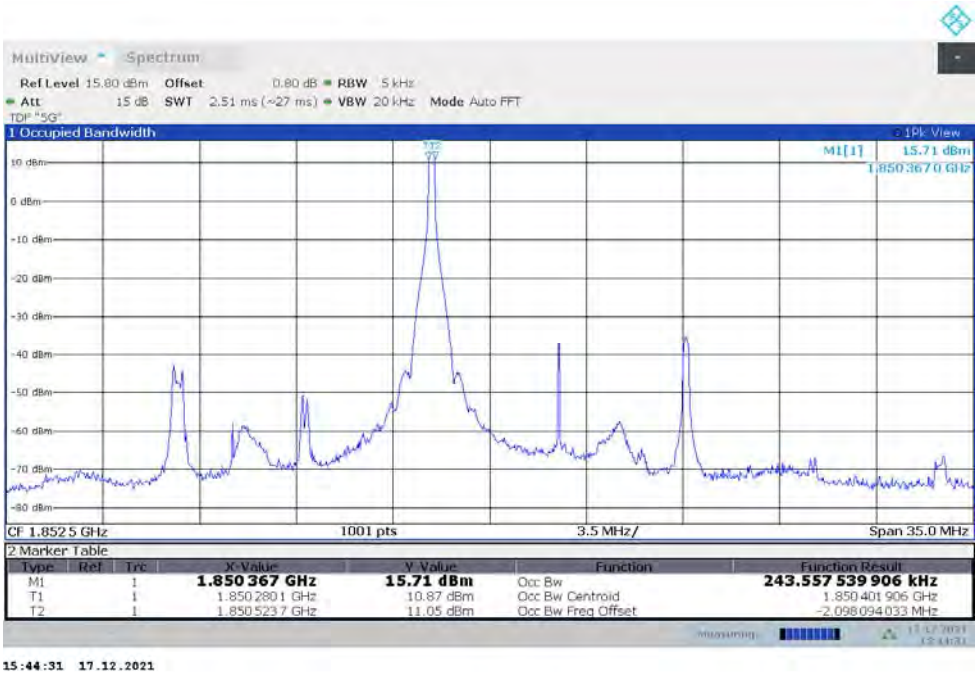
Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 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 that 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.

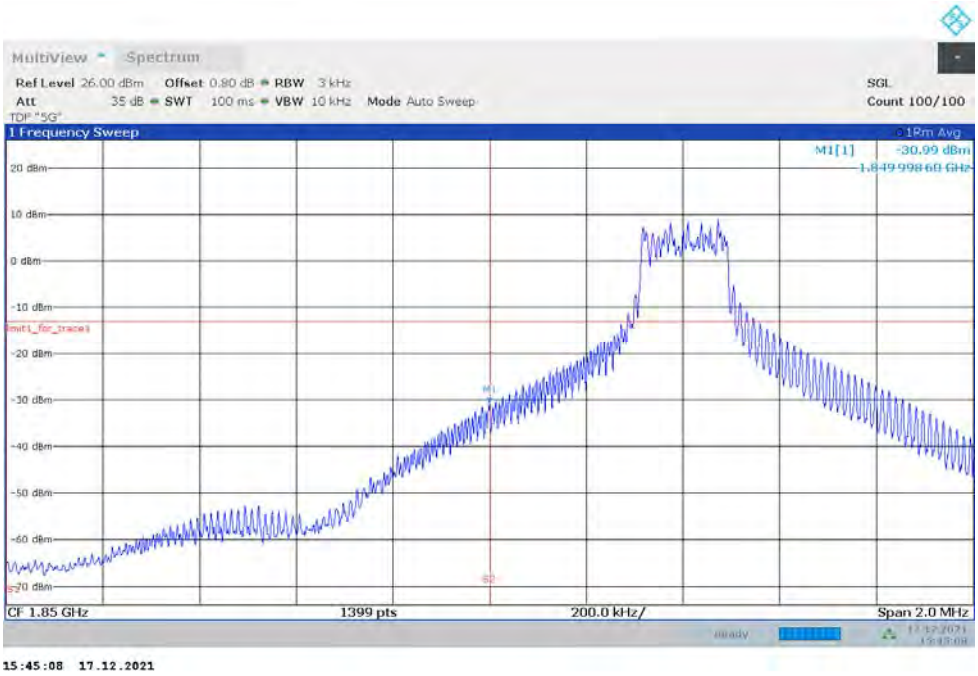
A.6.2 Measurement result

NR n2

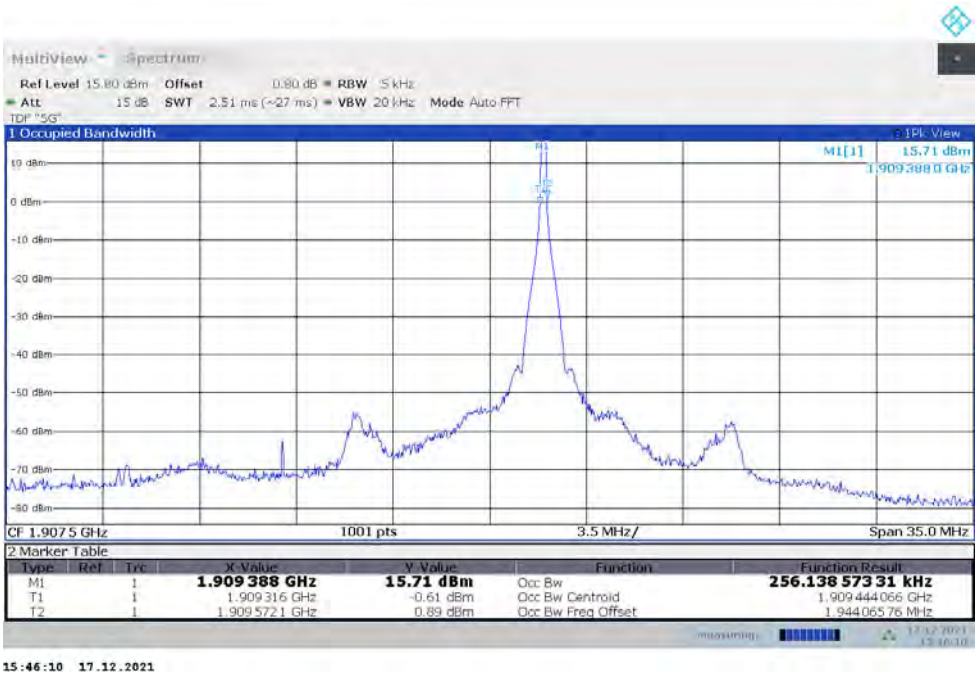
OBW: 1RB-LOW_offset



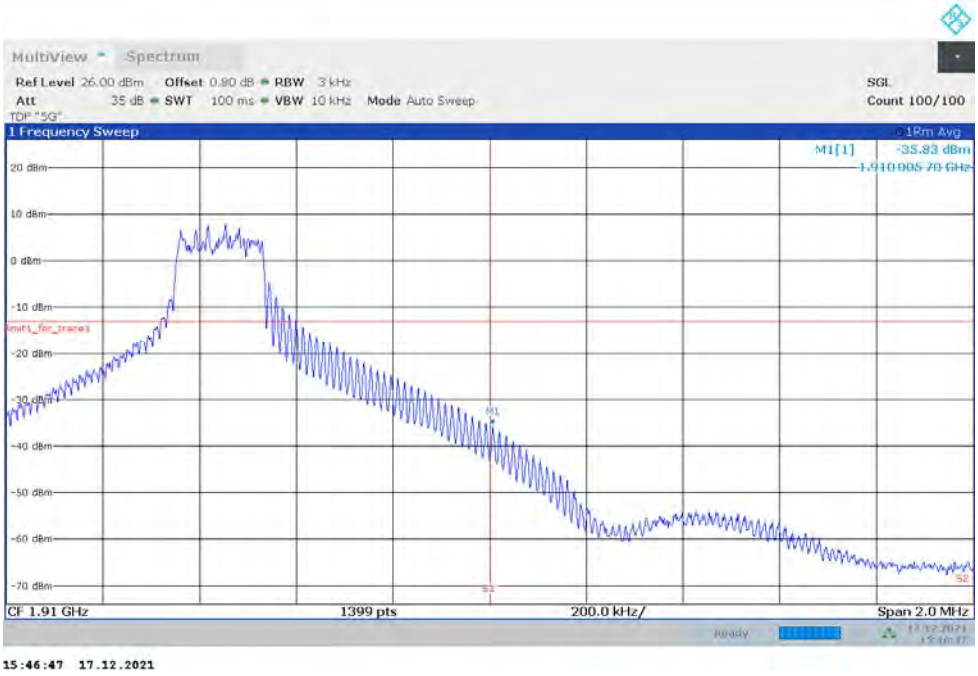
LOW BAND EDGE BLOCK-1RB-LOW_offset



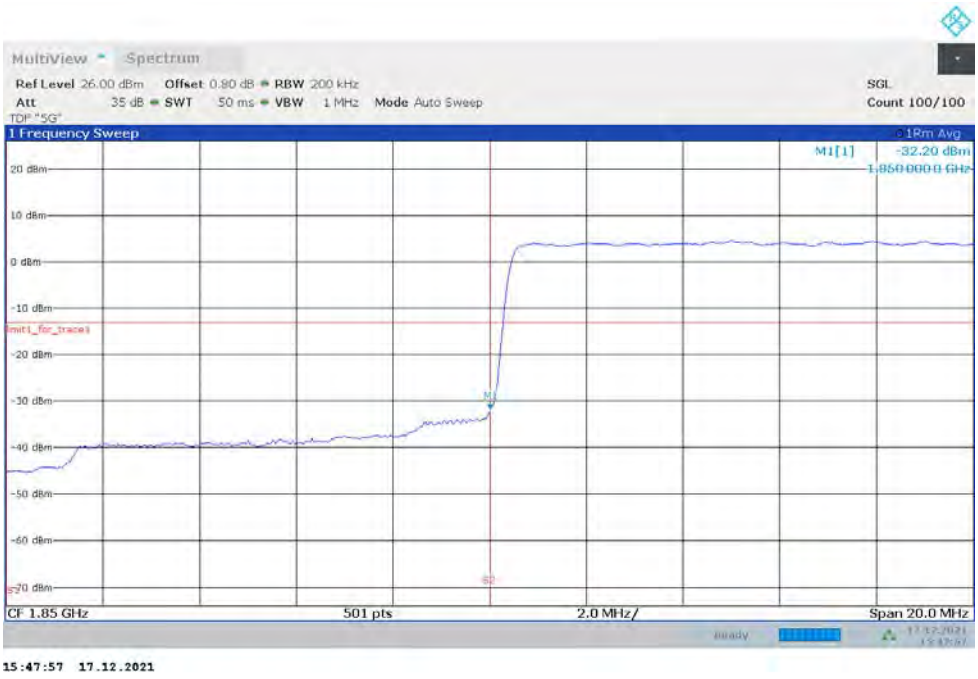
OBW: 1RB-HIGH_offset



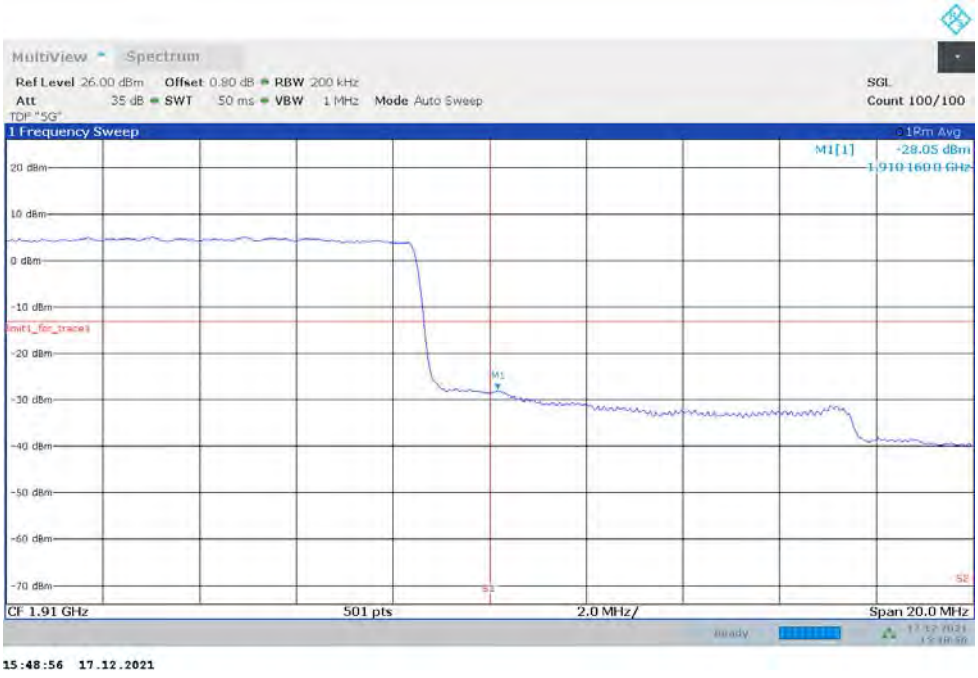
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20M-100%RB

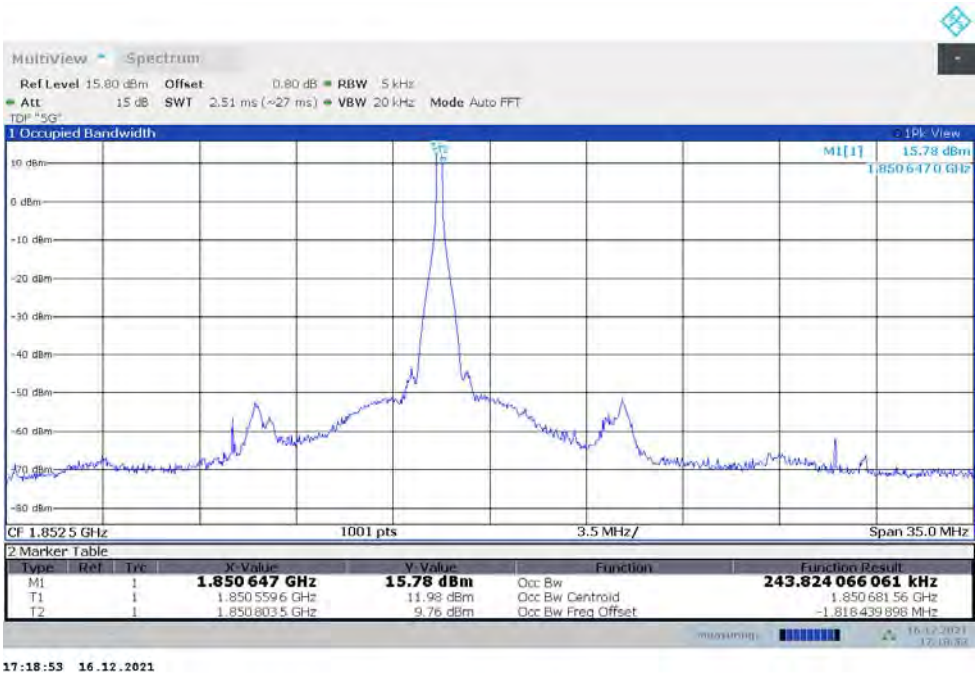


HIGH BAND EDGE BLOCK-20M-100%RB

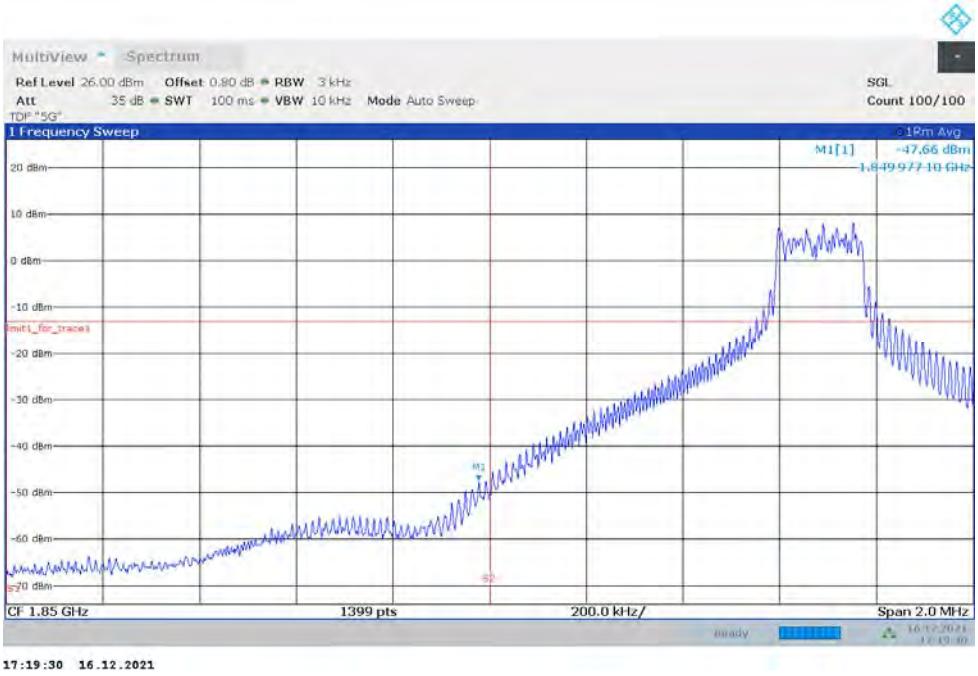


NR n25

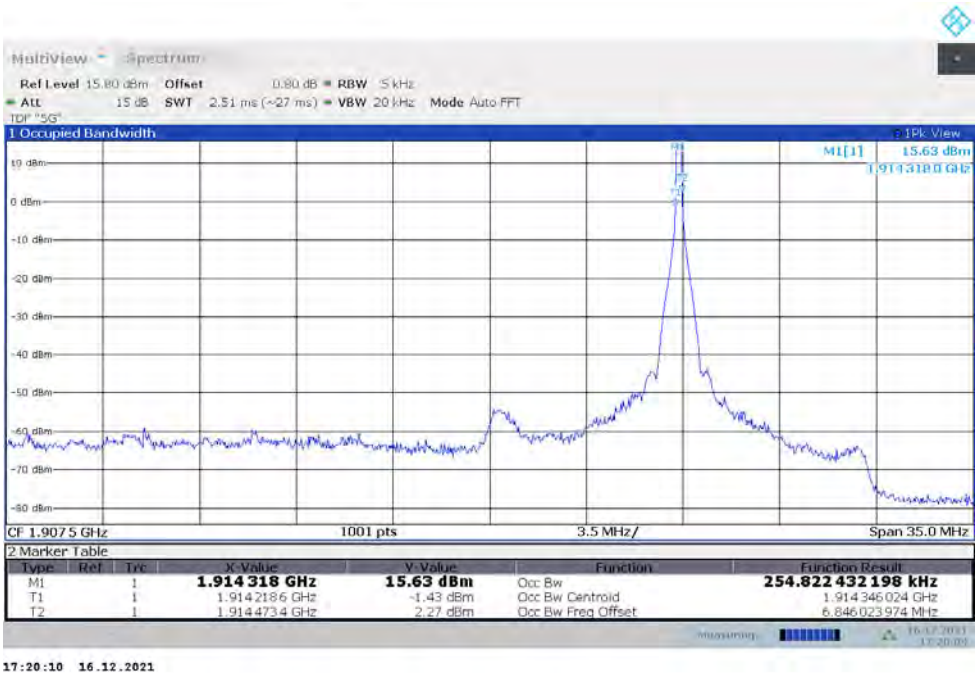
OBW: 1RB-LOW_offset



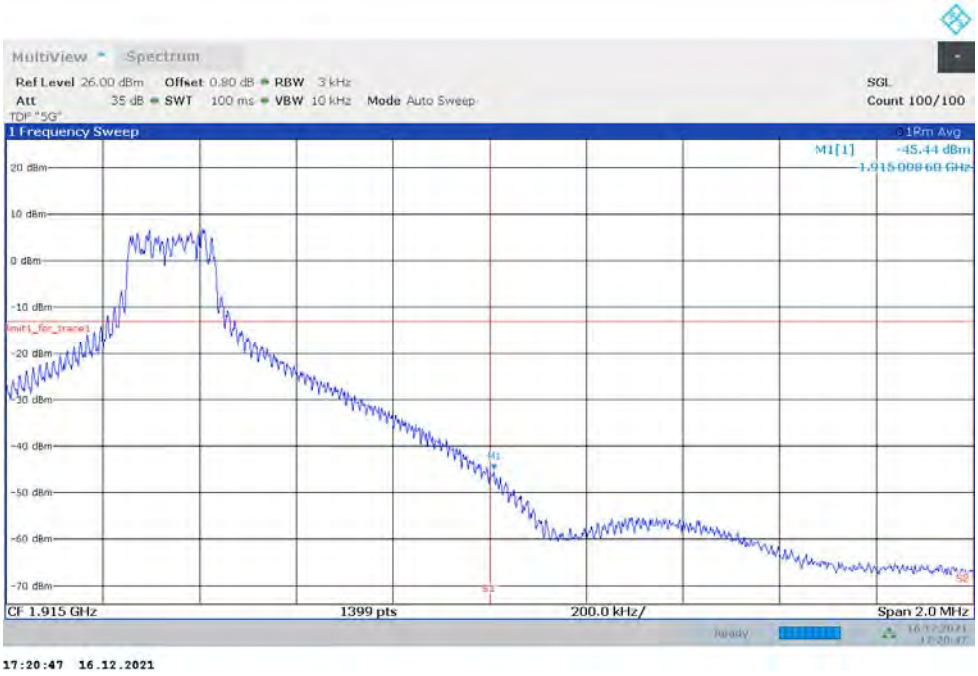
LOW BAND EDGE BLOCK-1RB-LOW_offset



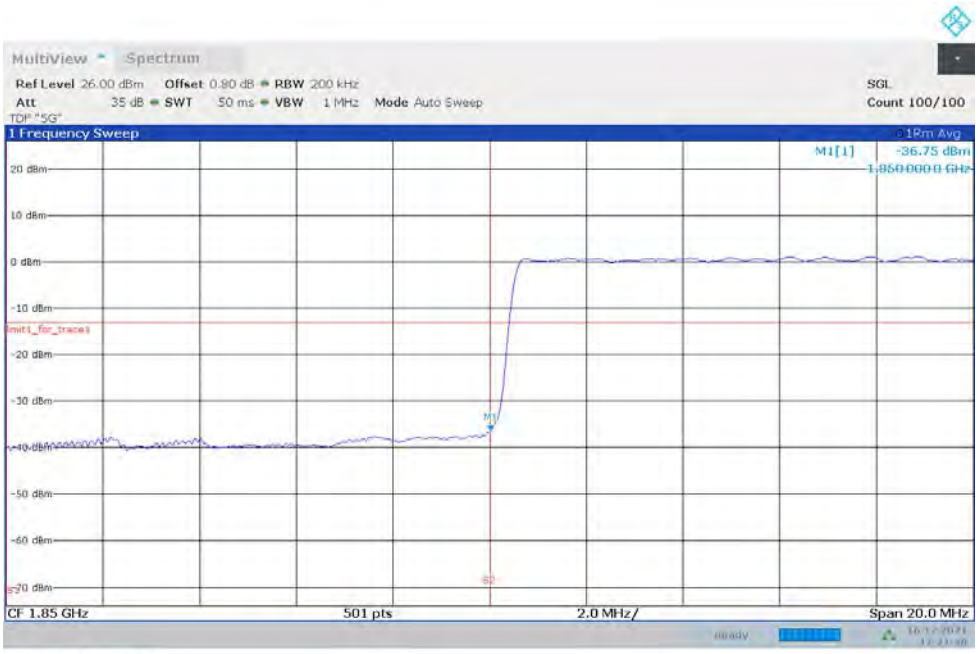
OBW: 1RB-HIGH_offset



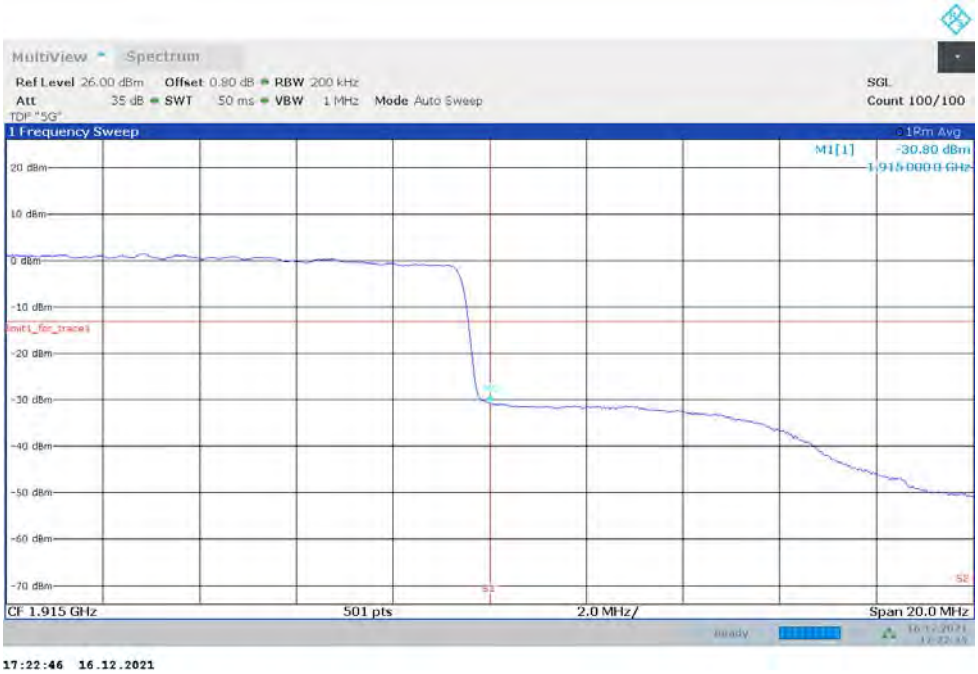
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-40M-100%RB

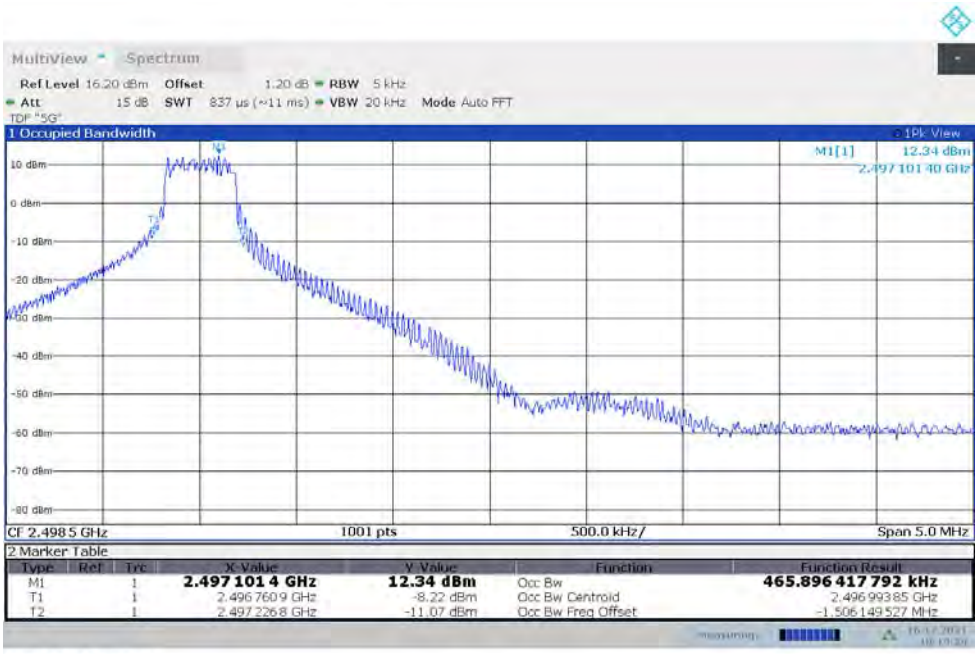


HIGH BAND EDGE BLOCK-40M-100%RB

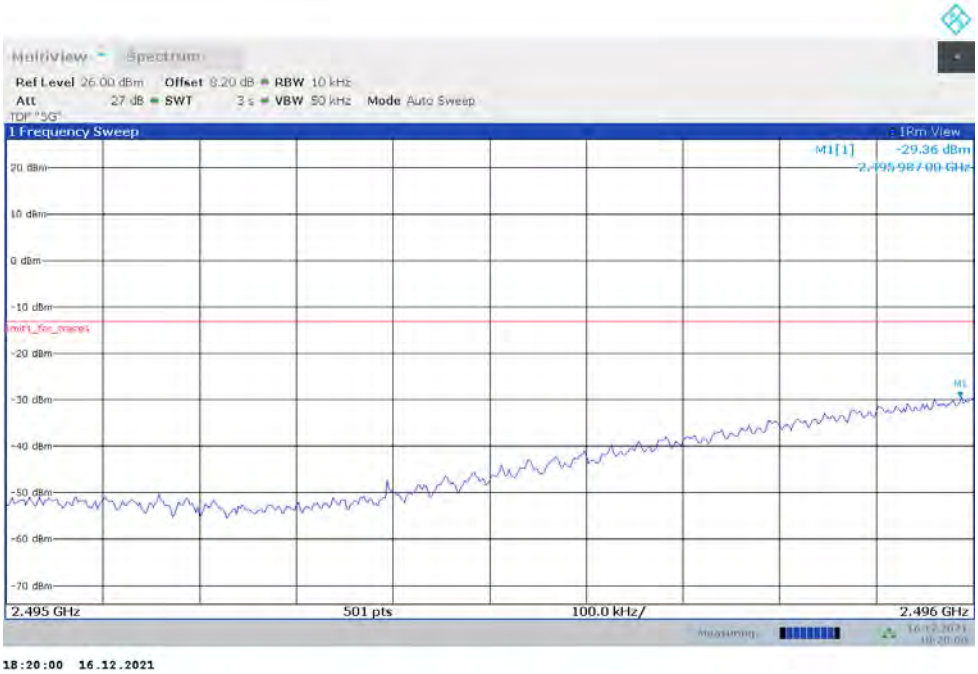


NR n41

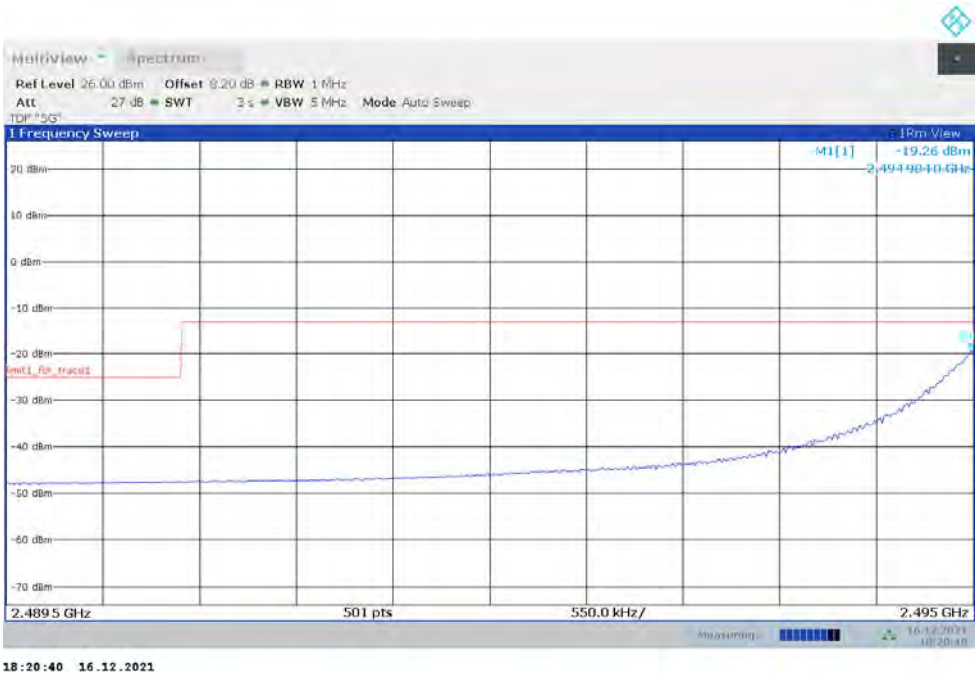
OBW: 1RB-LOW_offset



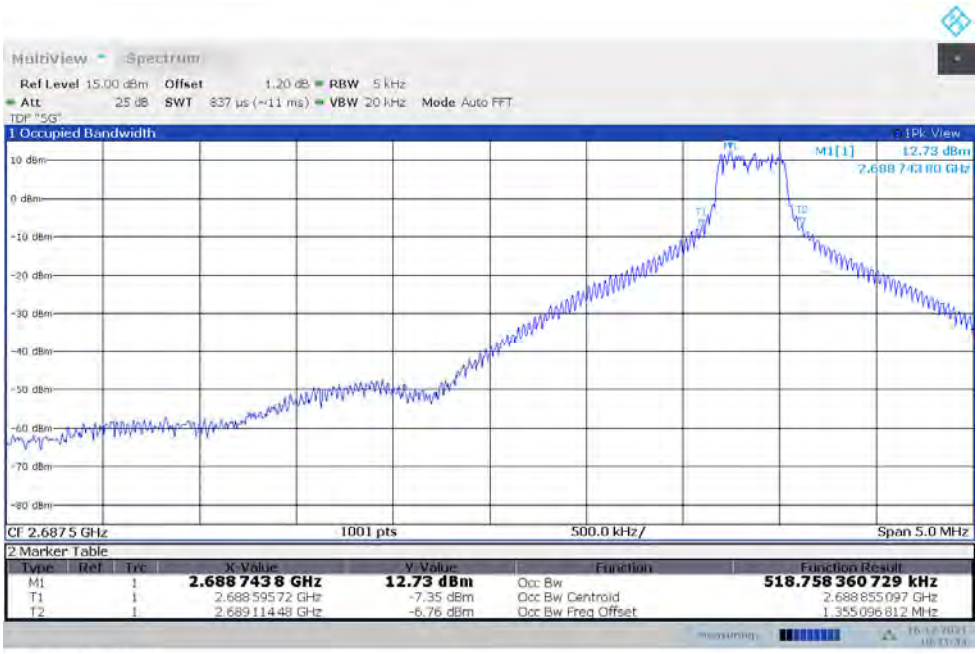
LOW BAND EDGE BLOCK-1RB-LOW_offset



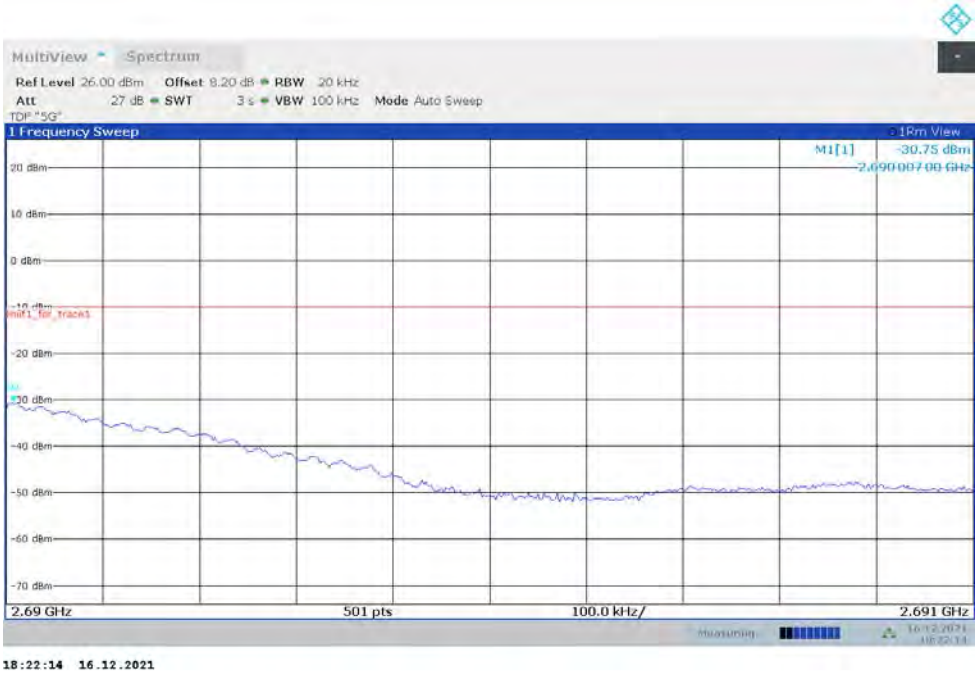
LOW BAND EDGE BLOCK-1RB-LOW_offset



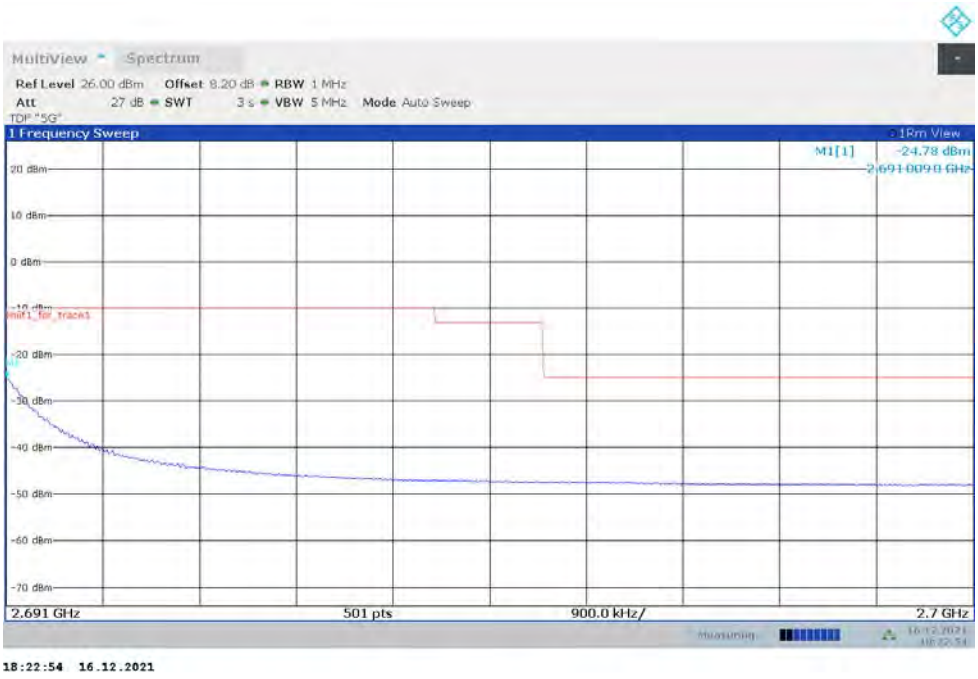
OBW: 1RB-HIGH_offset



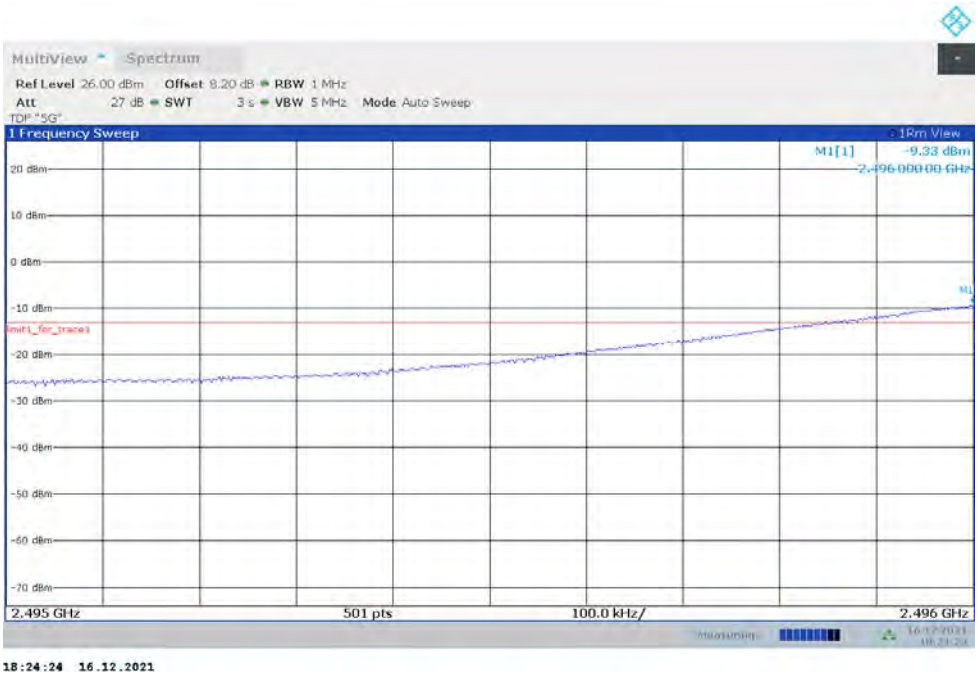
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



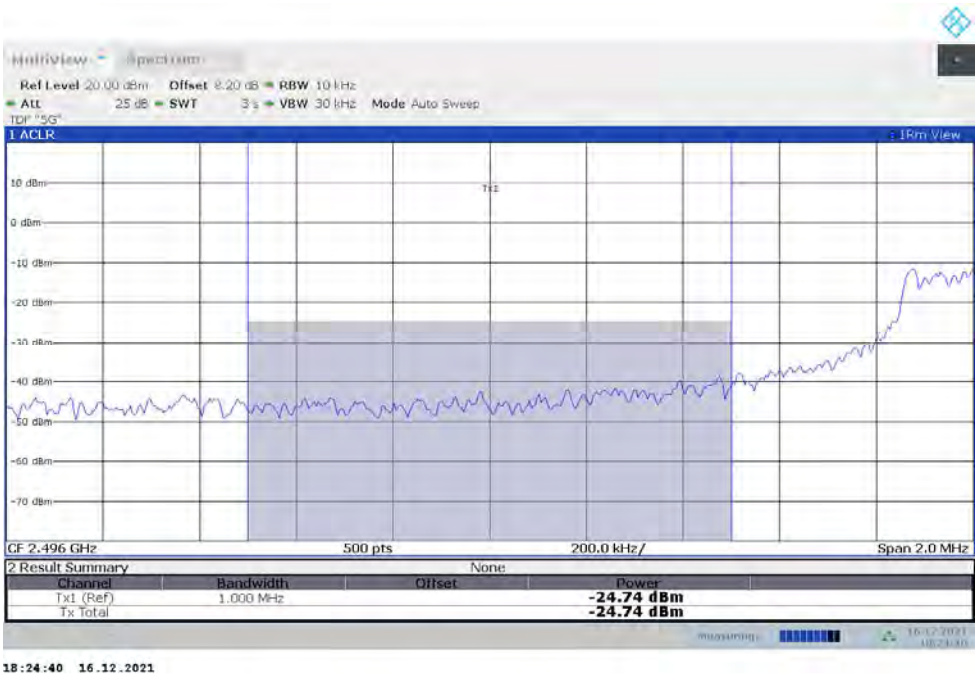
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



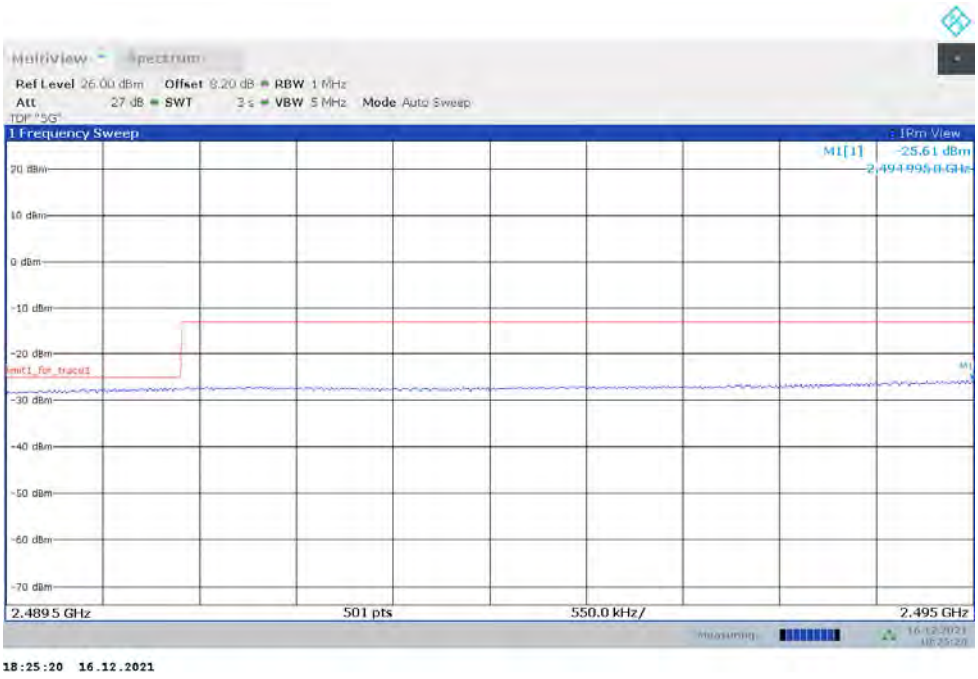
LOW BAND EDGE BLOCK-100M-100%RB



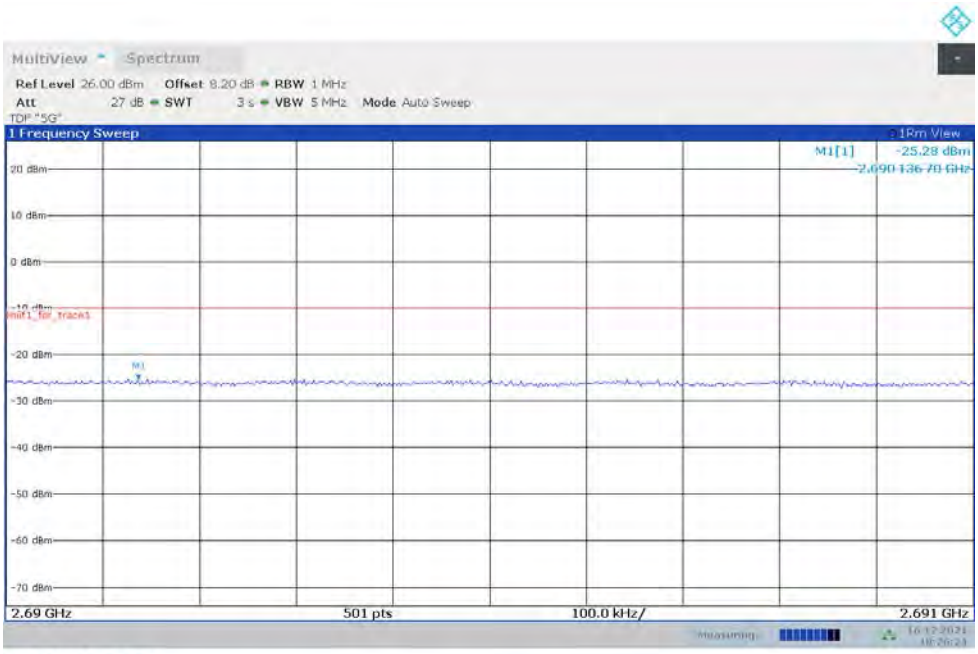
Channal Power



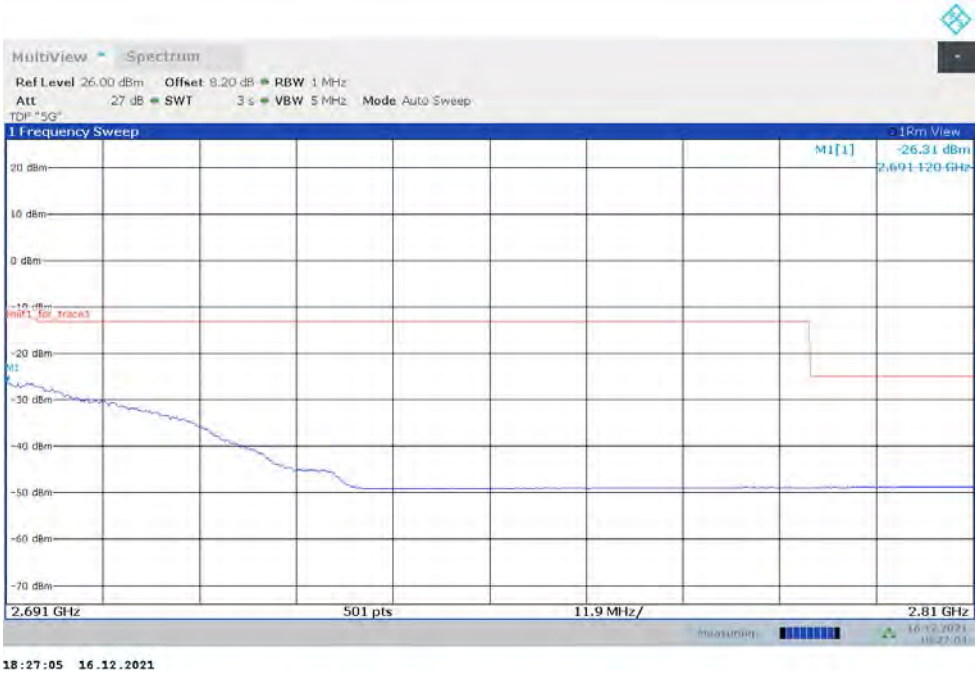
LOW BAND EDGE BLOCK-100M-100%RB



HIGH BAND EDGE BLOCK-100M-100%RB

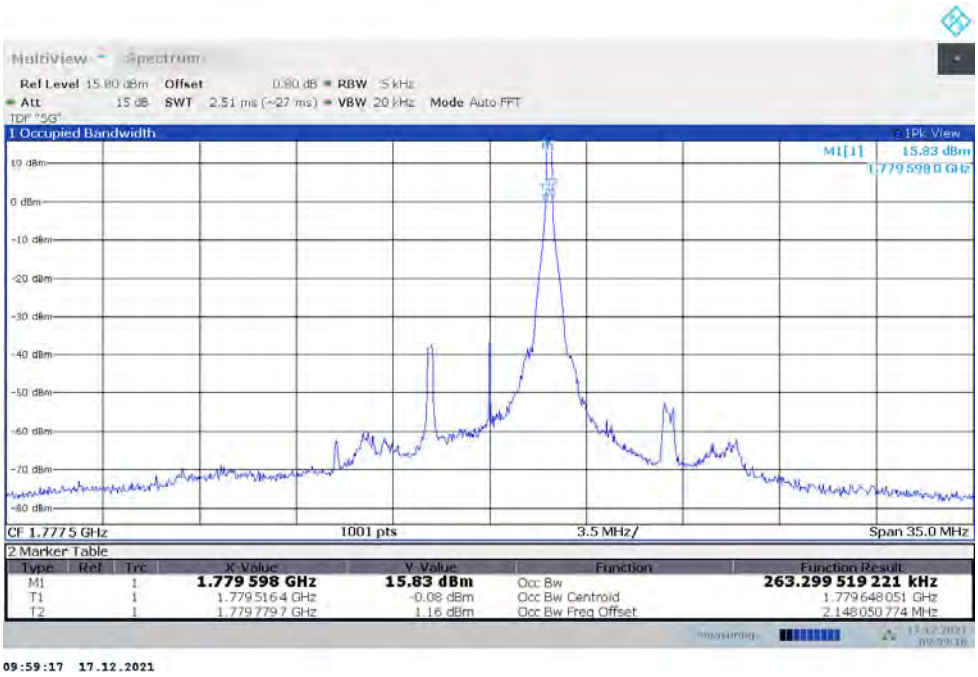


HIGH BAND EDGE BLOCK-100M-100%RB

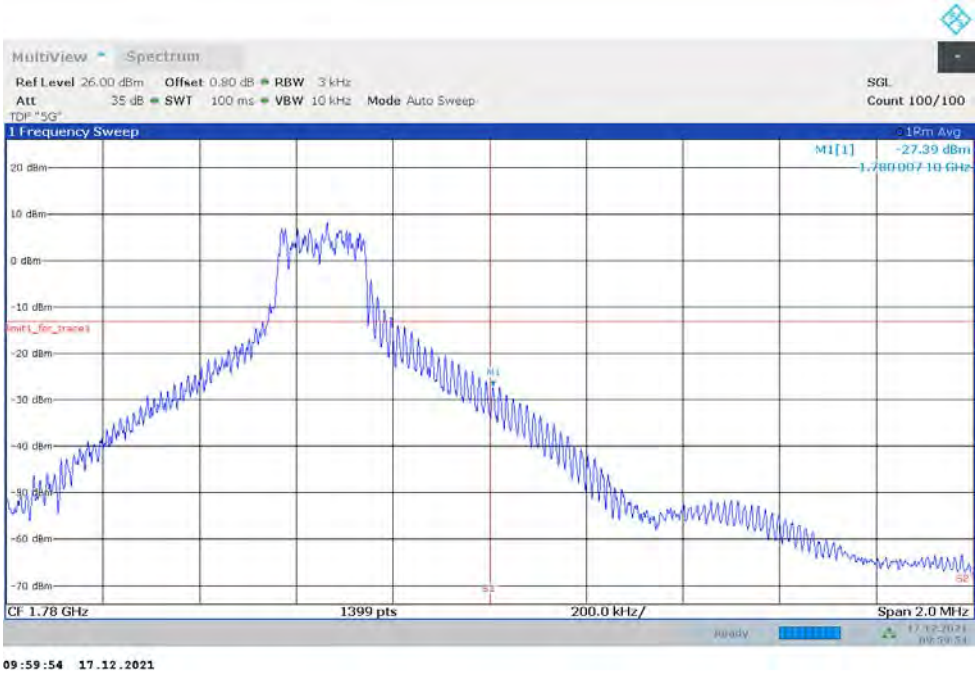


NR n66

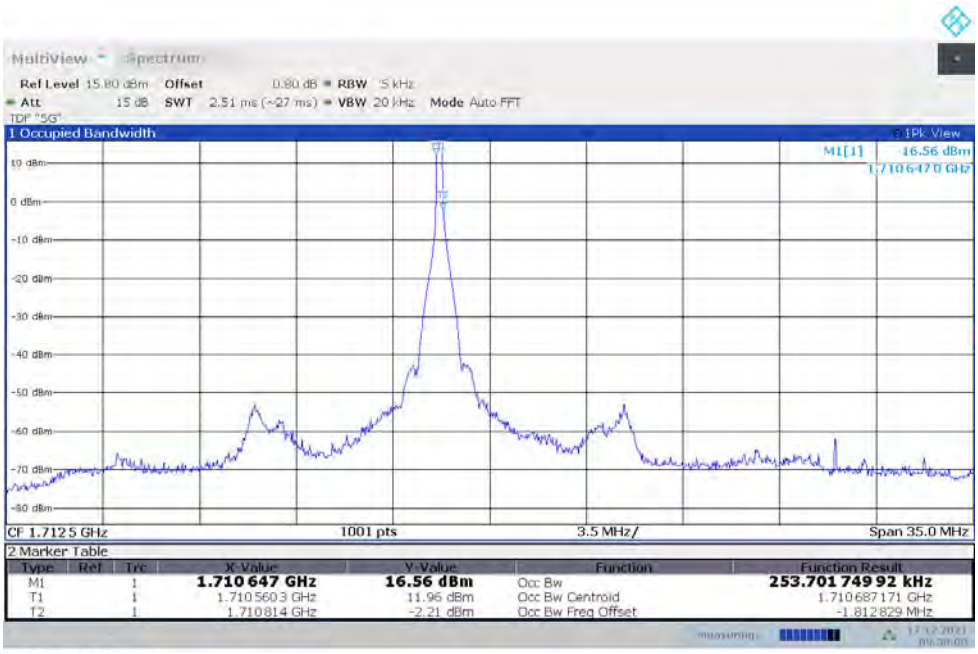
OBW: 1RB-HIGH_offset



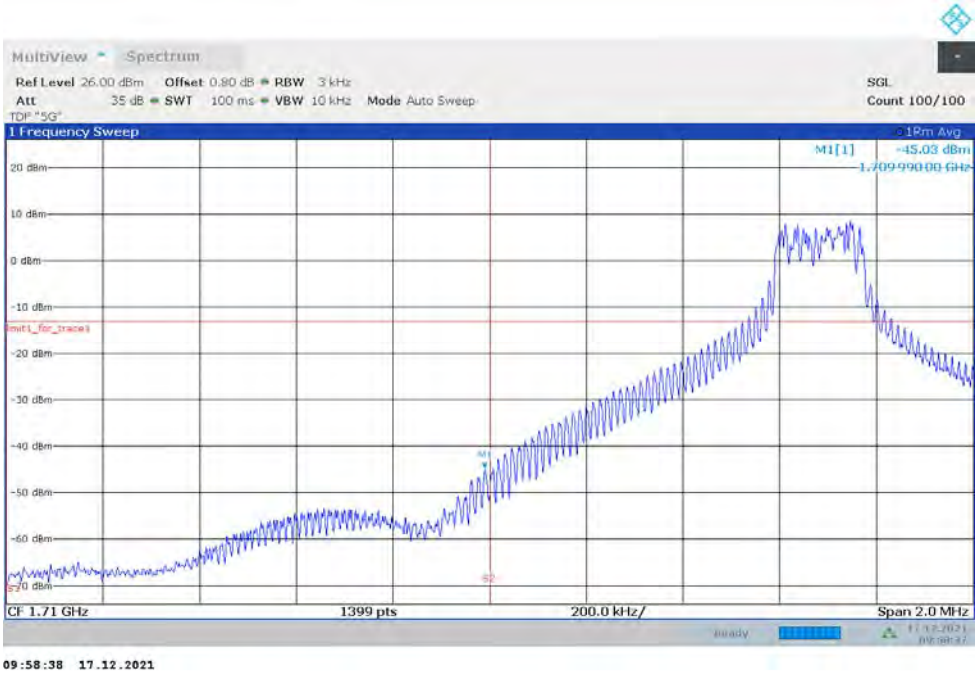
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



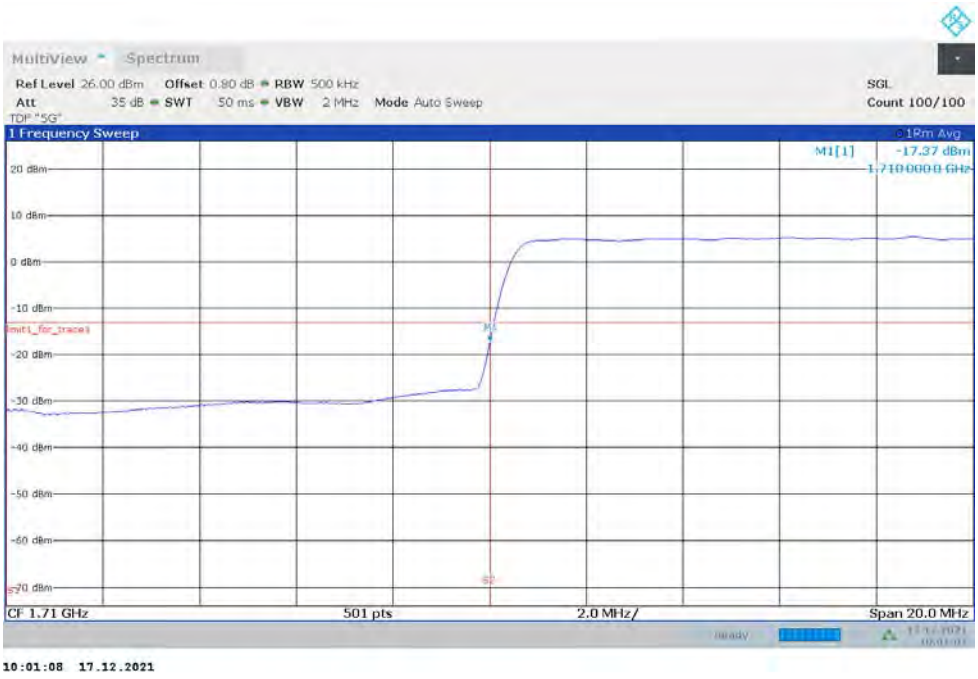
OBW: 1RB-LOW_offset



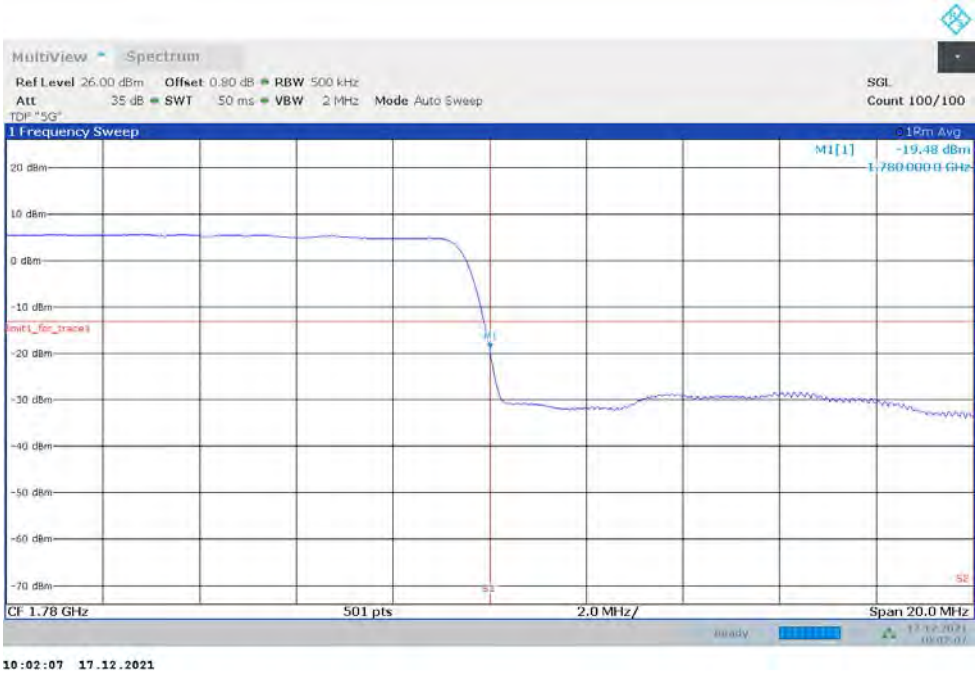
LOW BAND EDGE BLOCK-1RB-LOW_offset



LOW BAND EDGE BLOCK-40M-100%RB

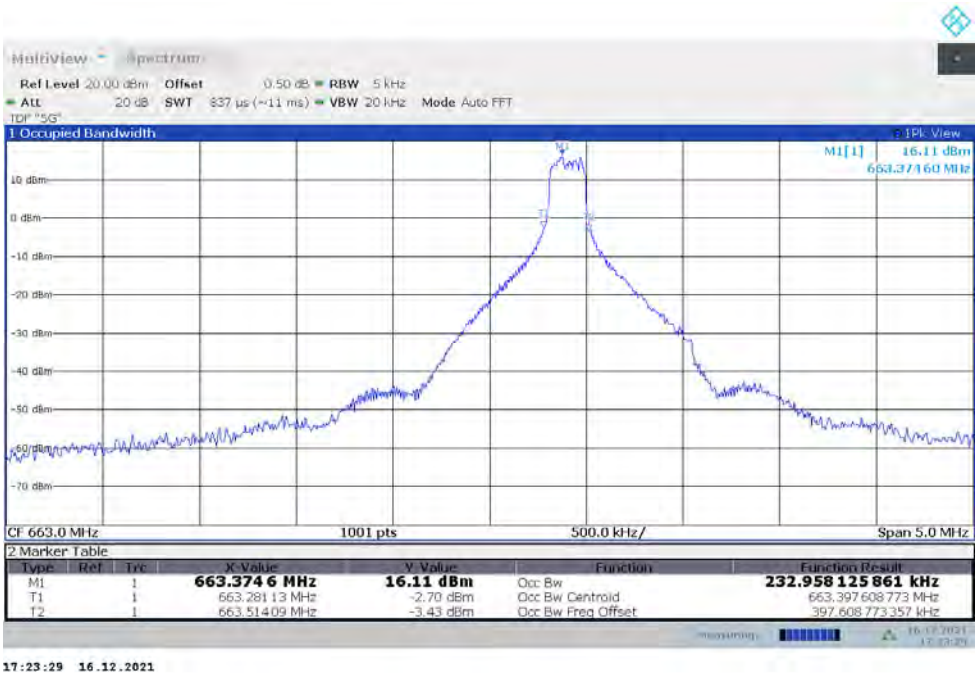


HIGH BAND EDGE BLOCK-40M-100%RB

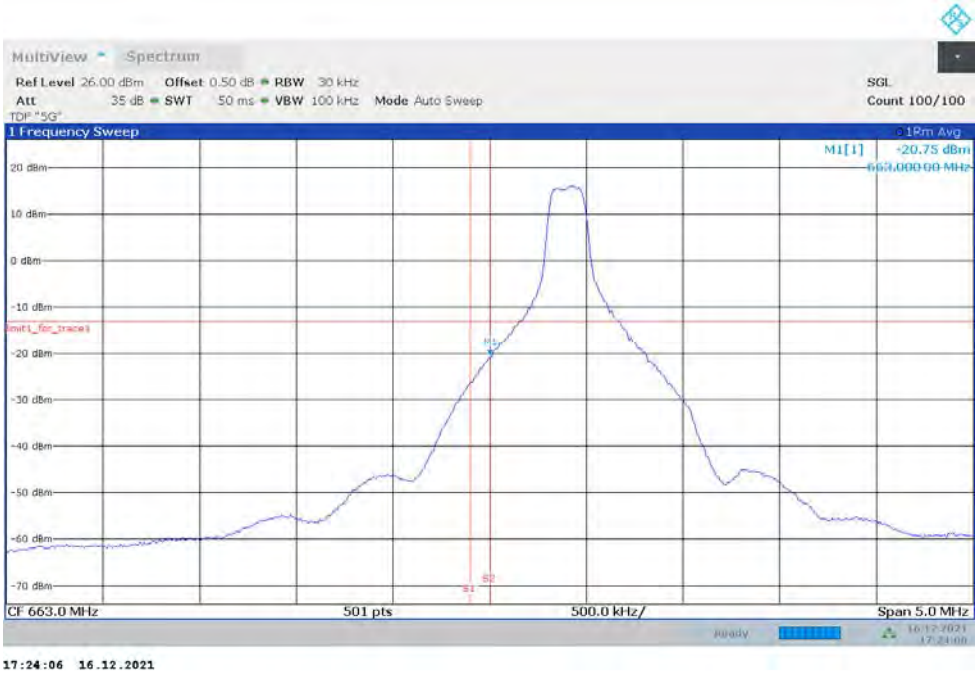


NR n71

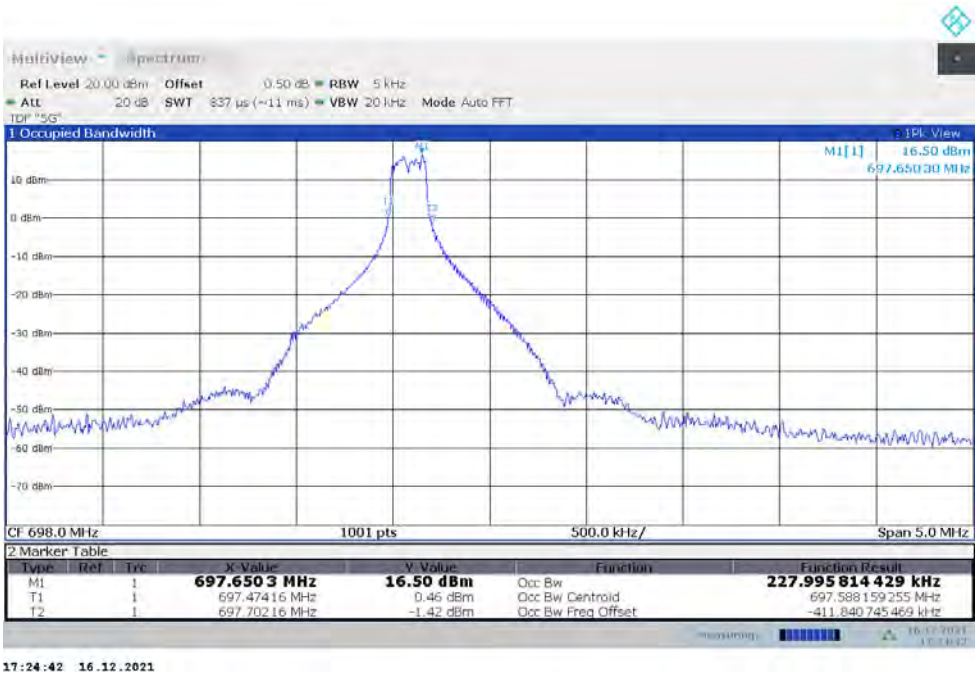
OBW: 1RB-LOW_offset



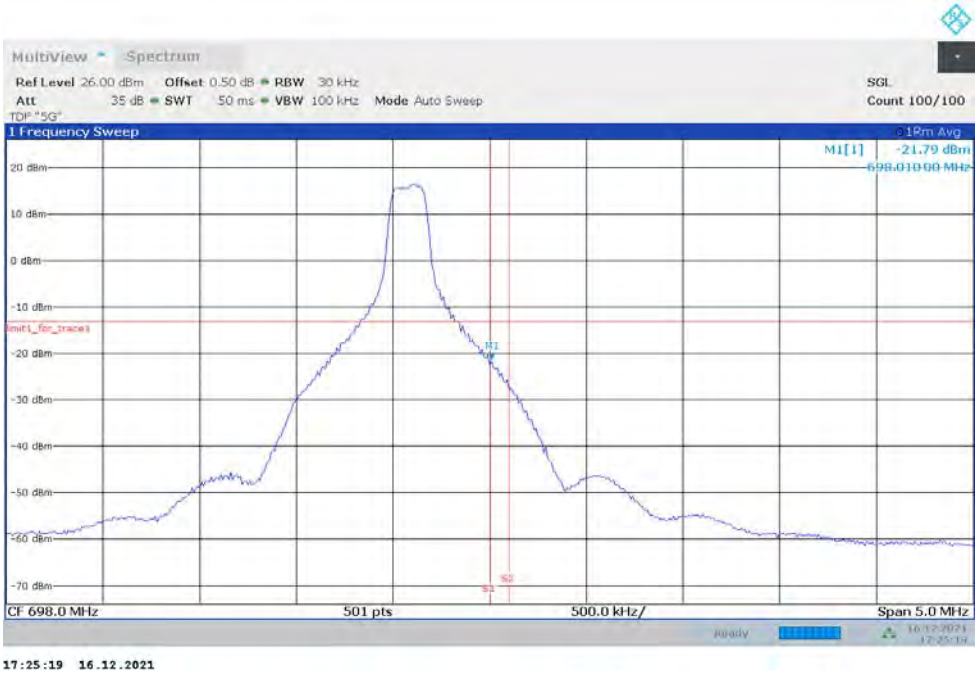
LOW BAND EDGE BLOCK-1RB-LOW_offset



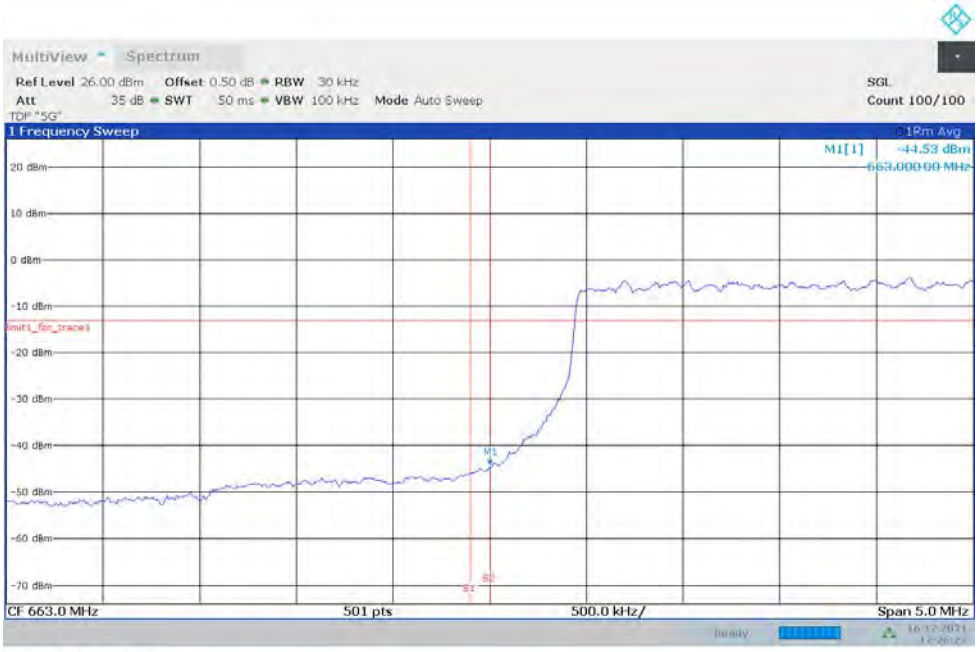
OBW: 1RB-HIGH_offset



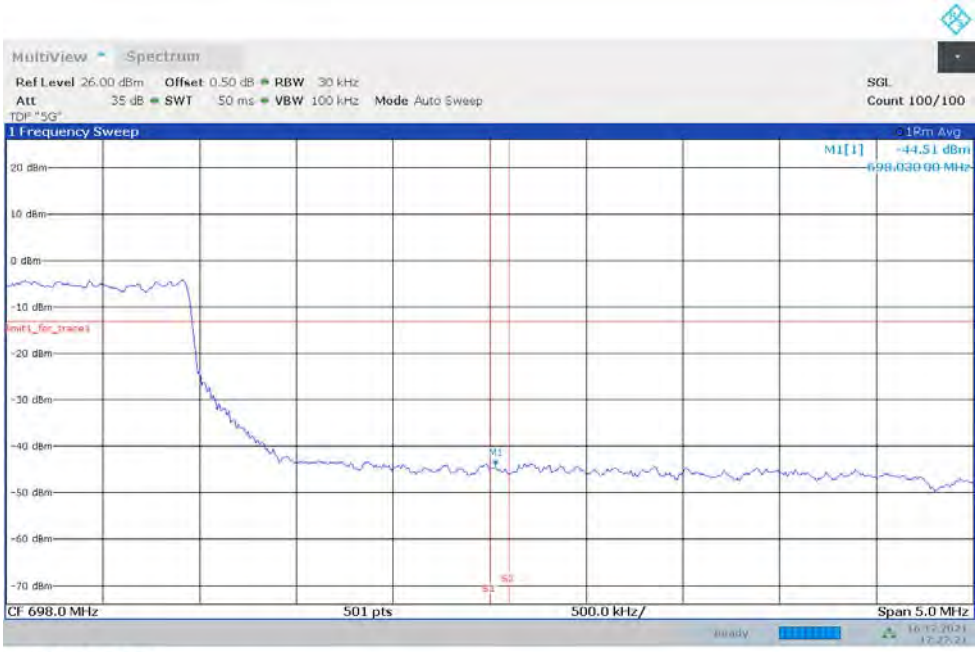
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



LOW BAND EDGE BLOCK-20M-100%RB



HIGH BAND EDGE BLOCK-20M-100%RB



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 set to 30001 which is greater than span/RBW.

A. 7.2 Measurement Limit

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.

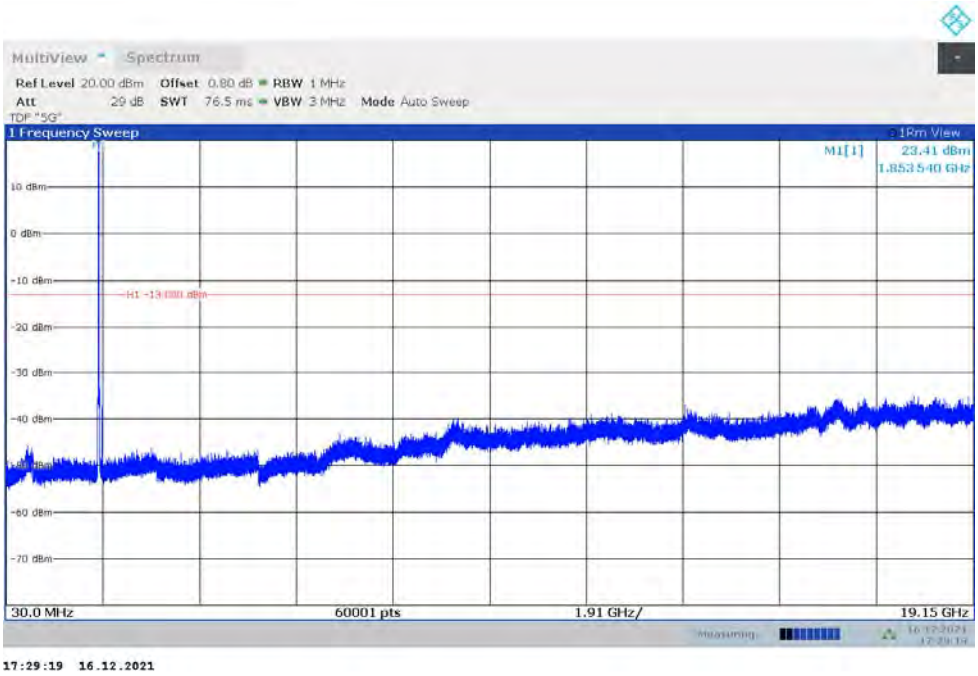
Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 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 that 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.

A. 7.3 Measurement result

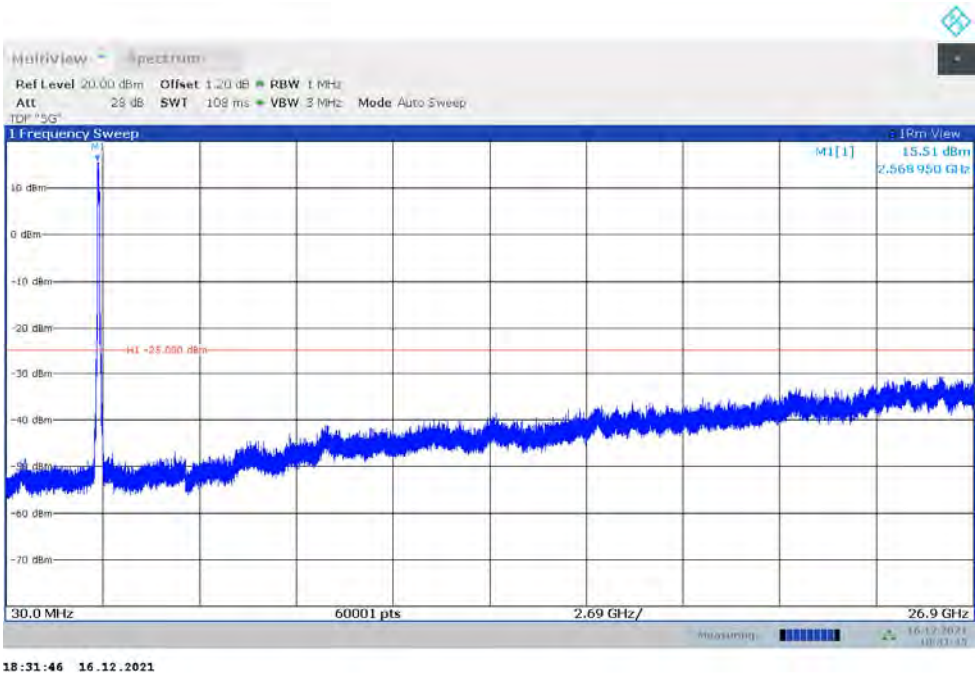
n25

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



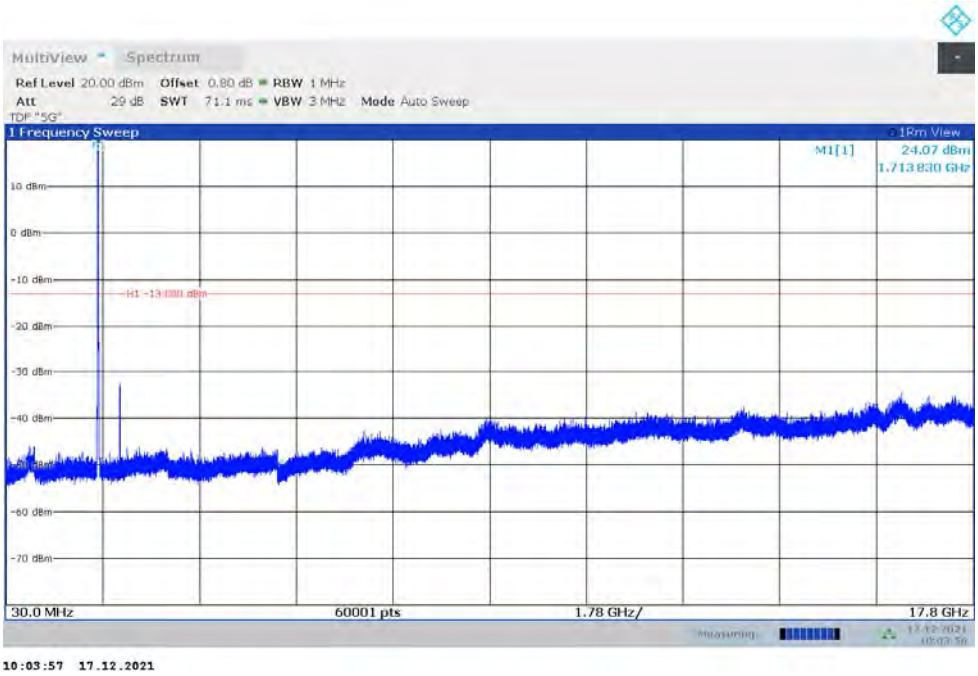
n41

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



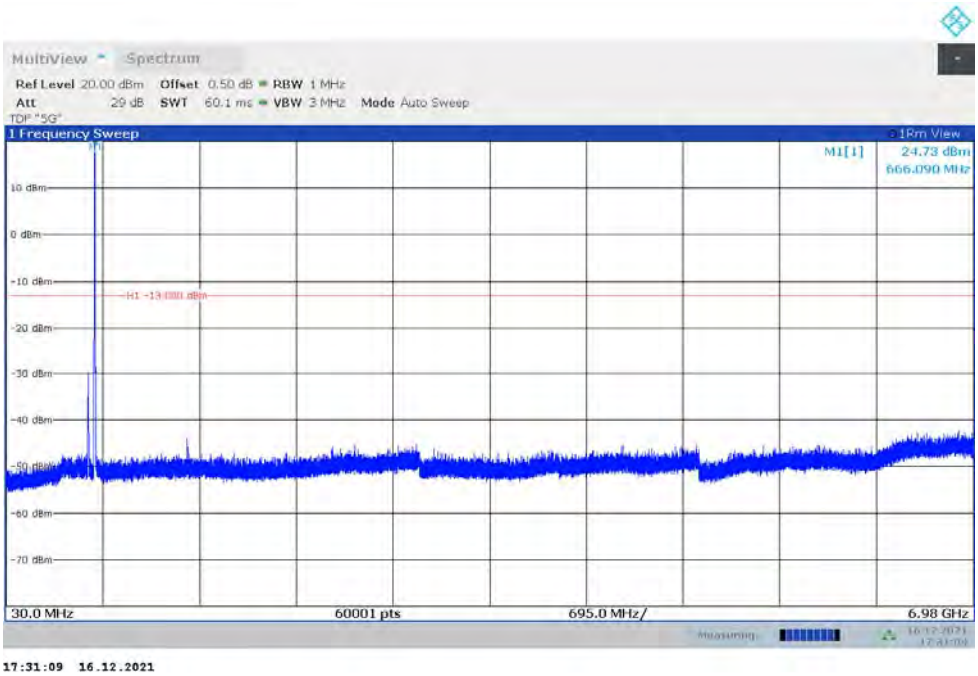
n66

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



n71

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



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 ≥ 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

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	5.04	4.94	6.02	6.36	6.50	7.60	7.68	7.72	8.36

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	3.93	5.25	6.16	6.41	6.54	7.27	7.24	7.67	8.25

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	4.68	4.94	6.02	6.40	6.38	7.52	7.54	7.66	8.46

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	4.16	5.60	6.60	6.48	6.54	7.24	7.22	7.78	8.36

Annex B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2021-09-29 through 2022-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

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