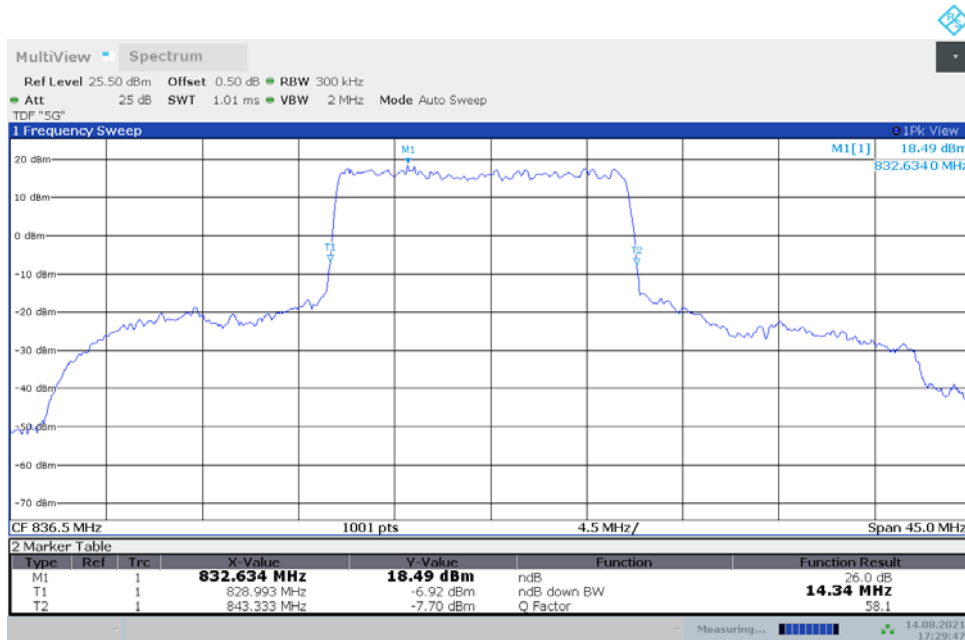


**LTE Band 66+NR n5**  
**n5,15MHz(-26dBc)**

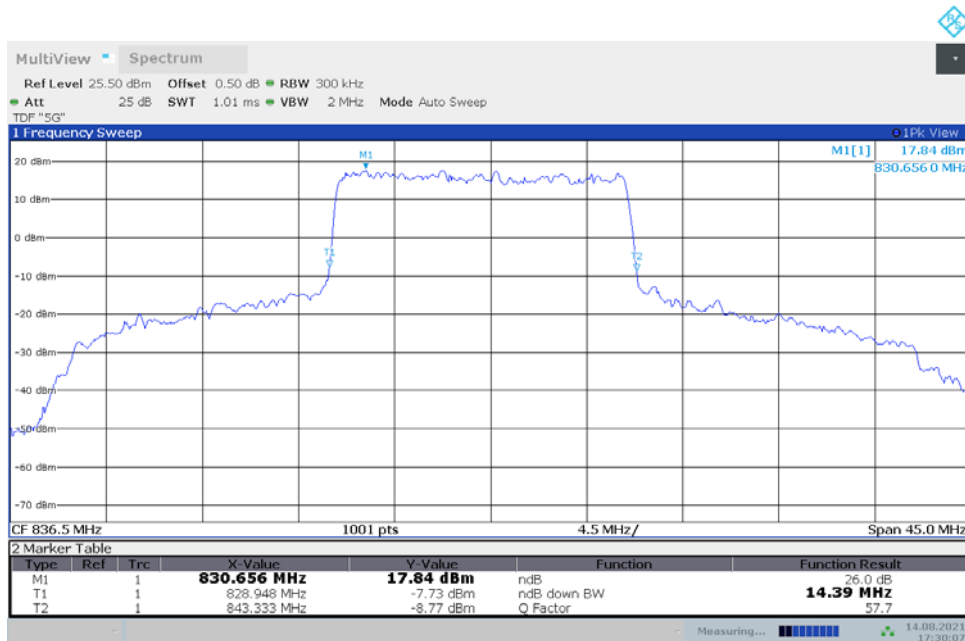
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	14.341	14.386

**n5,15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)**



Date:14.AUG.2021 17:29:47

**n5,15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)**

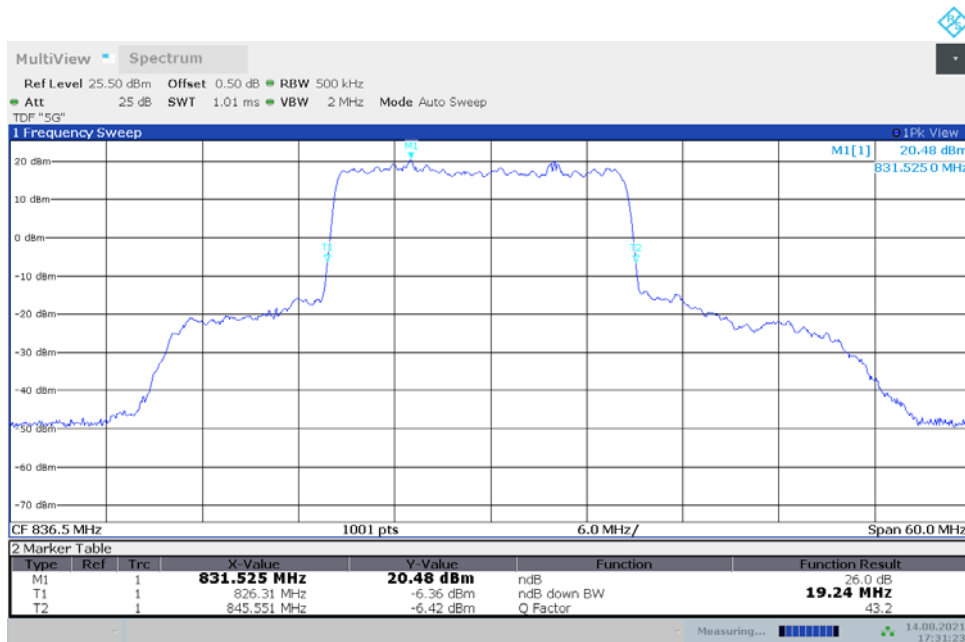


Date:14.AUG.2021 17:30:08

**LTE Band 66+NR n5  
n5,20MHz(-26dBc)**

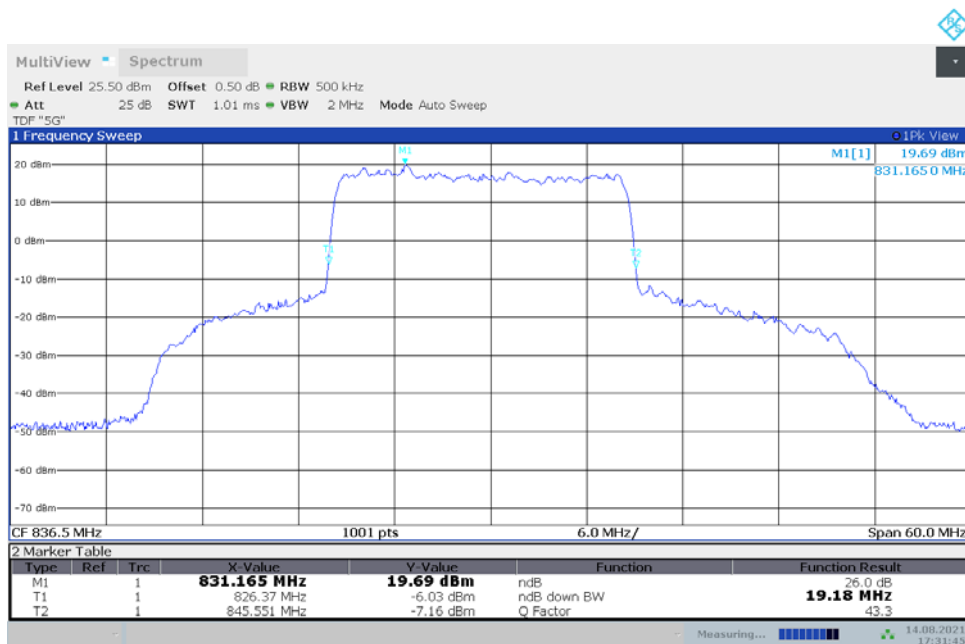
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	19.241	19.181

**n5,20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)**



Date:14.AUG.2021 17:31:24

**n5,20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)**

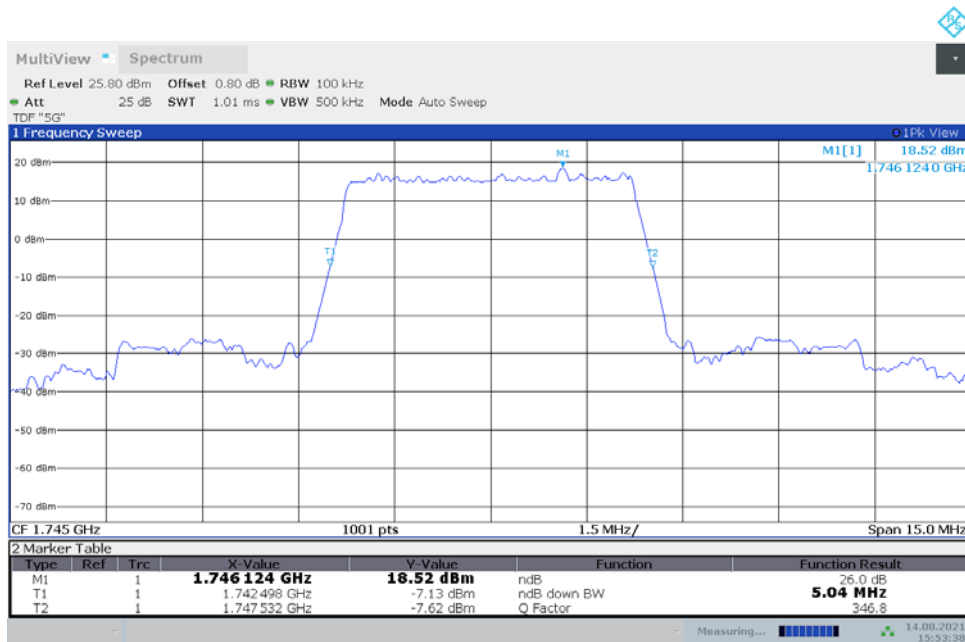


Date:14.AUG.2021 17:31:45

**LTE Band 13+NR n66**  
**n66,5MHz(-26dBc)**

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	5.035	4.990

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



Date:14.AUG.2021 15:53:39

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

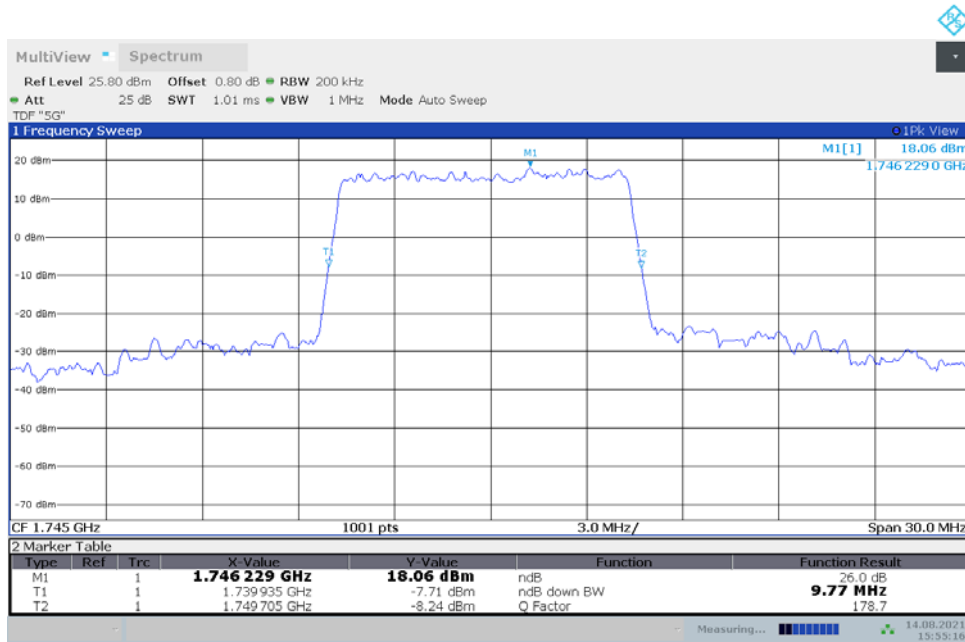


Date:14.AUG.2021 15:54:00

**LTE Band 13+NR n66**  
**n66,10MHz(-26dBc)**

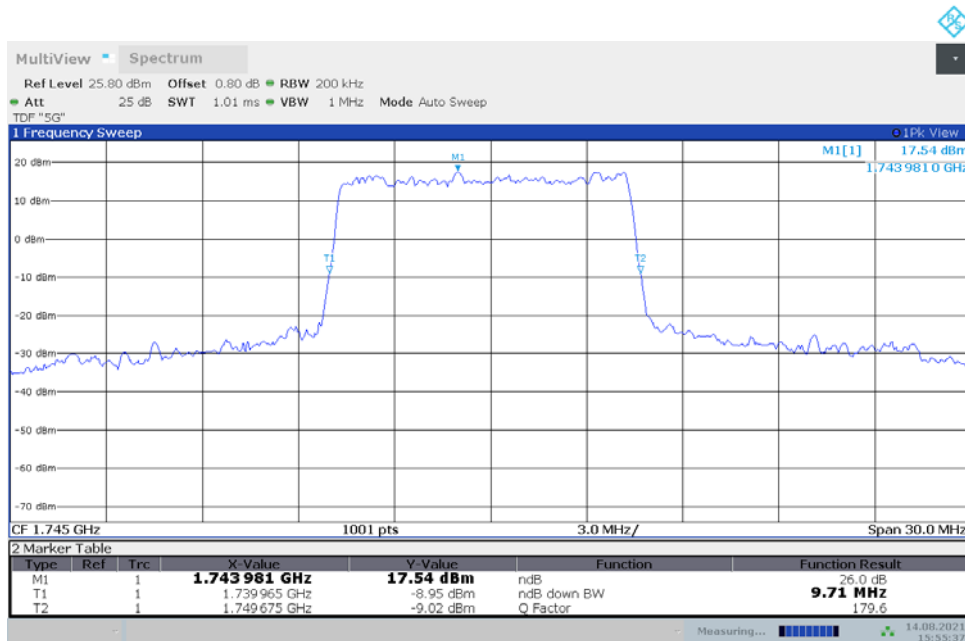
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	9.770	9.710

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



Date:14.AUG.2021 15:55:16

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

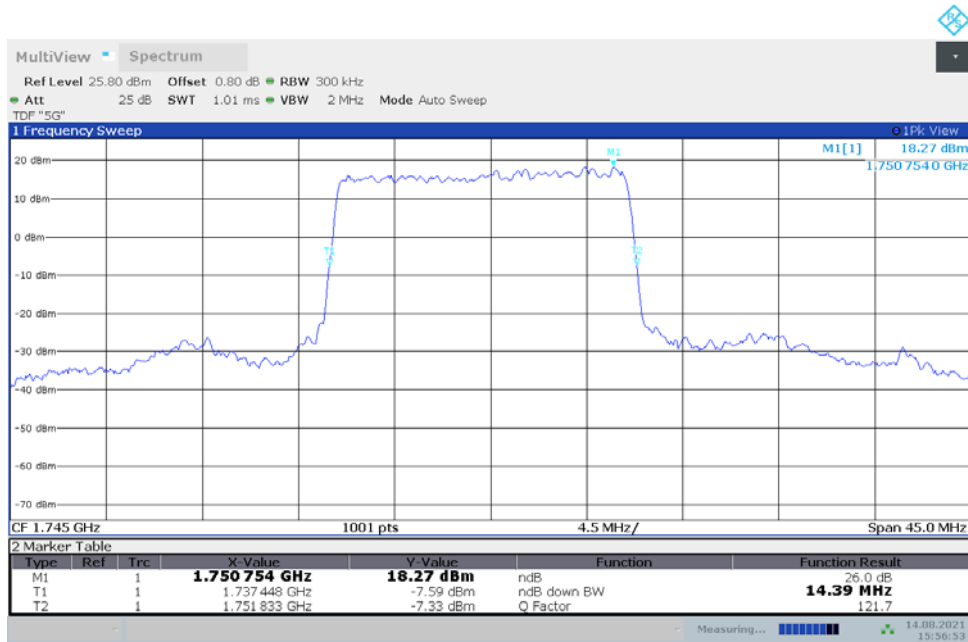


Date:14.AUG.2021 15:55:37

**LTE Band 13+NR n66**  
**n66,15MHz(-26dBc)**

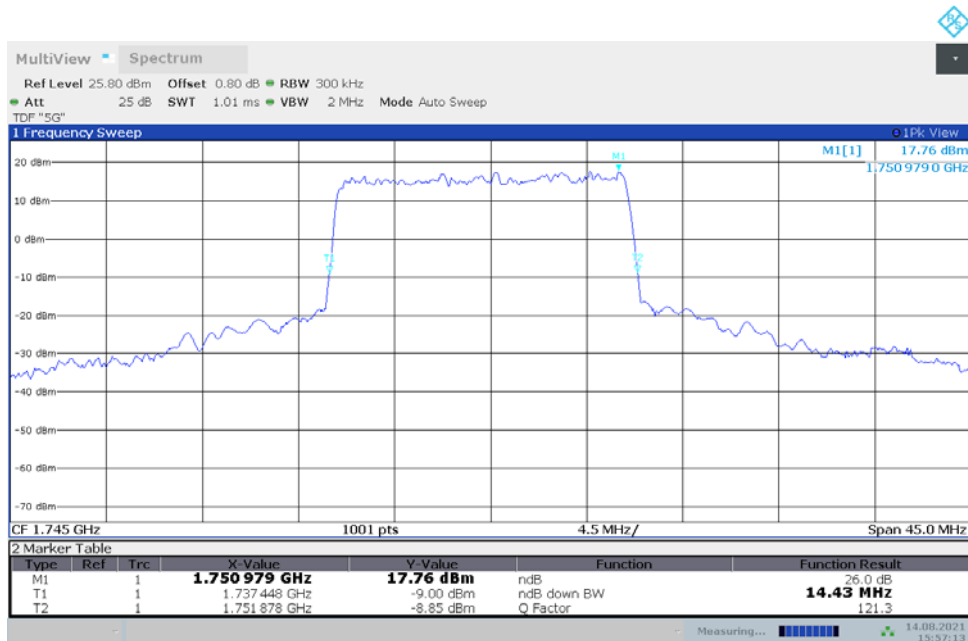
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	14.386	14.431

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



Date:14.AUG.2021 15:56:53

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

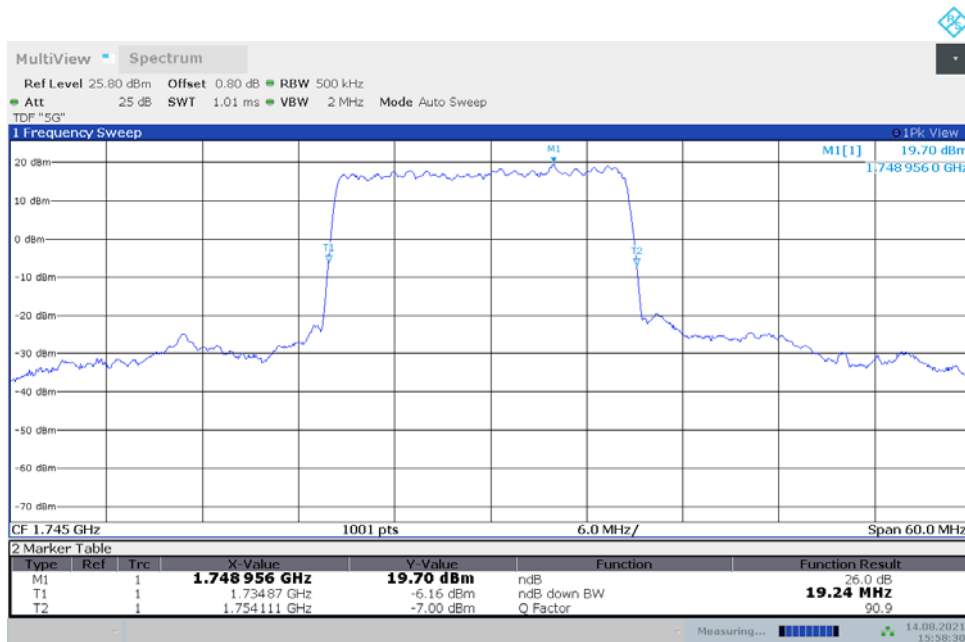


Date:14.AUG.2021 15:57:14

**LTE Band 13+NR n66**  
**n66,20MHz(-26dBc)**

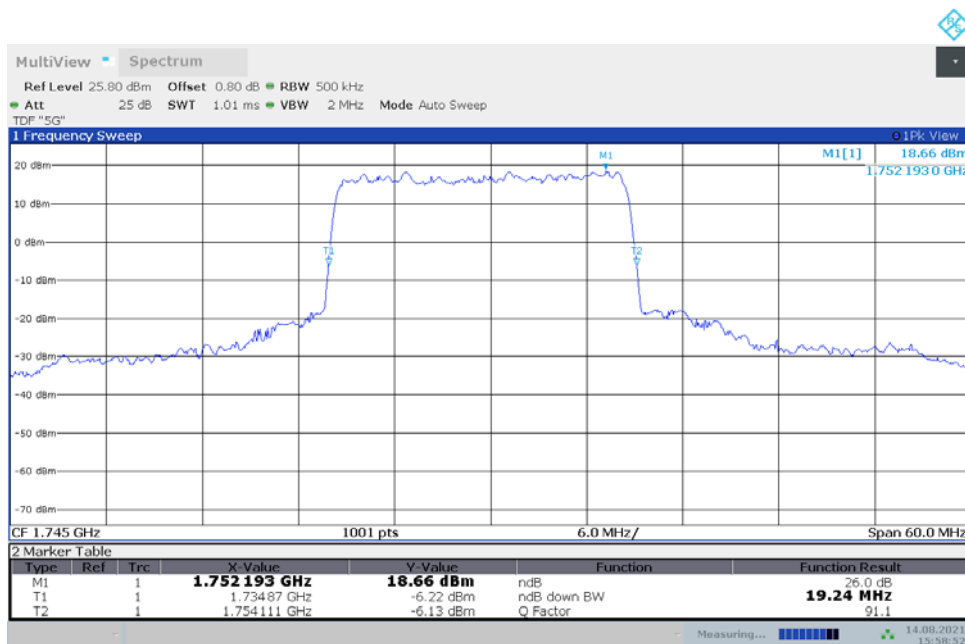
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	19.241	19.241

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



Date:14 AUG 2021 15:58:31

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

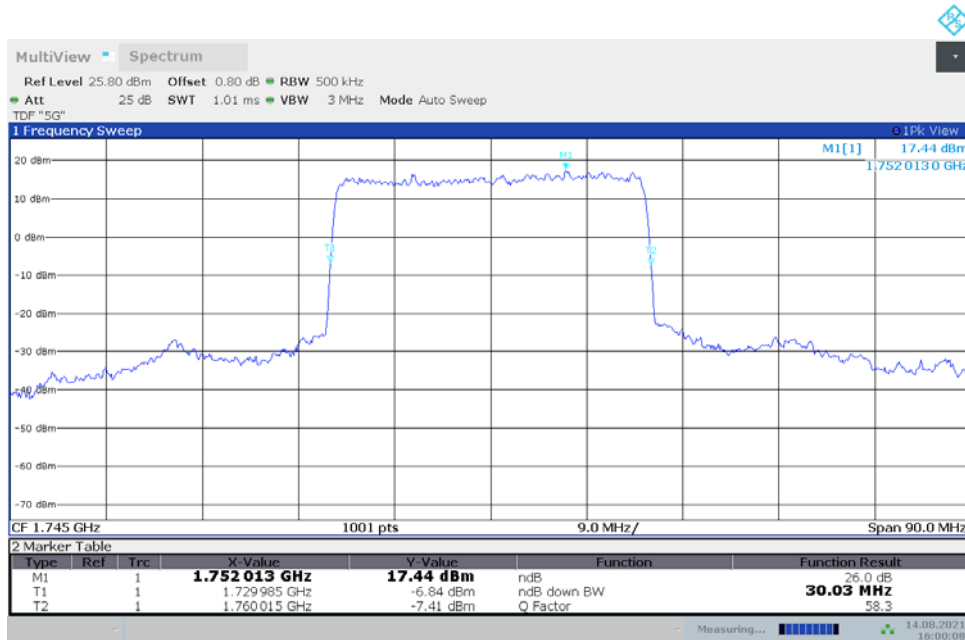


Date:14 AUG 2021 15:58:52

**LTE Band 13+NR n66**  
**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)**



Date: 14 AUG 2021 16:00:08

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

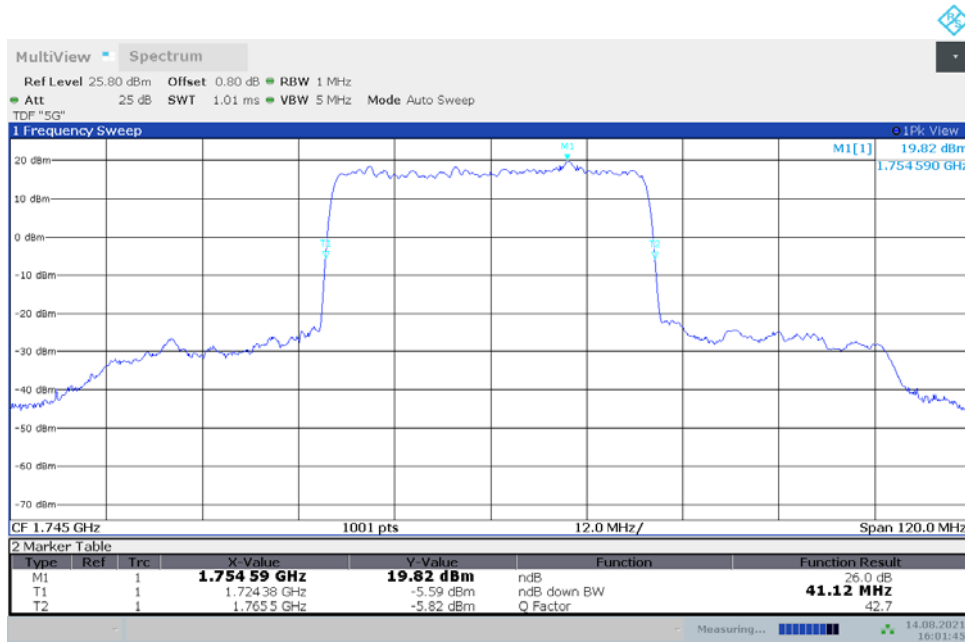


Date: 14 AUG 2021 16:00:29

**LTE Band 13+NR n66**  
**n66,40MHz(-26dBc)**

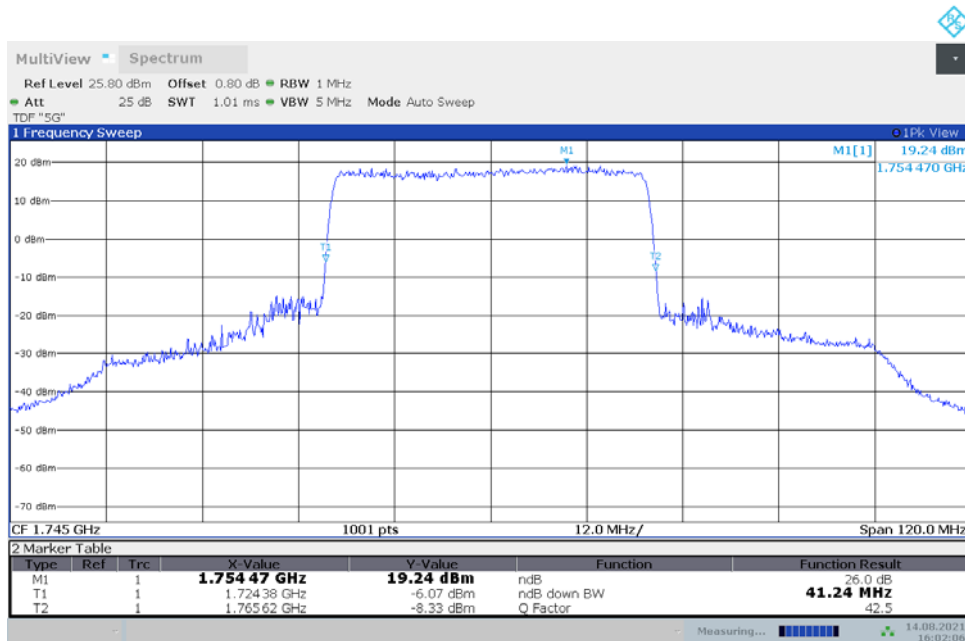
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
1745	41.120	41.240

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



Date:14.AUG.2021 16:01:46

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



Date:14.AUG.2021 16:02:07



**LTE Band 13+NR n77H  
n77H,20MHz(-26dBc)**

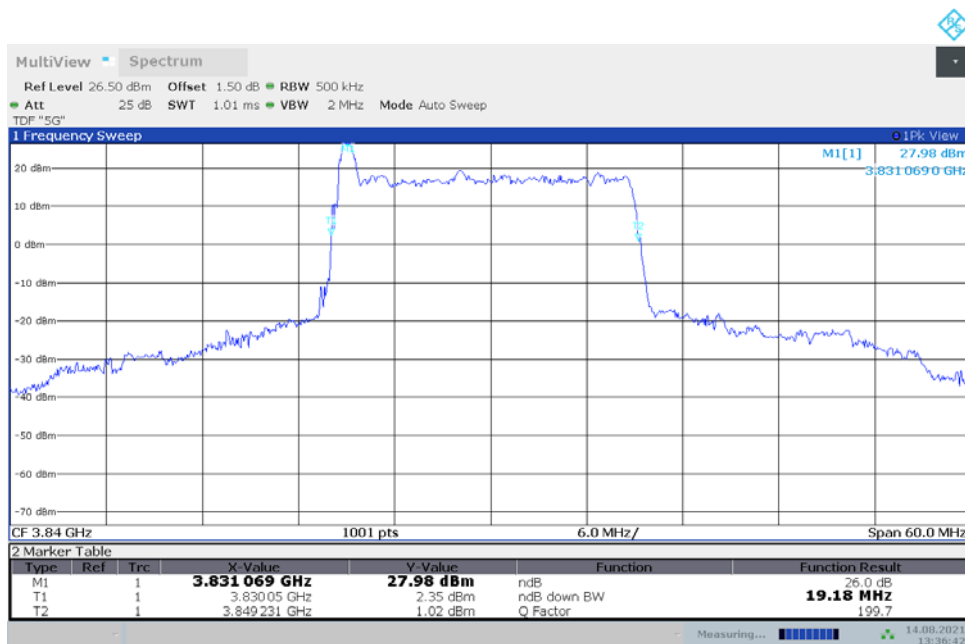
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	19.121	19.181

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



Date:14.AUG.2021 13:36:21

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

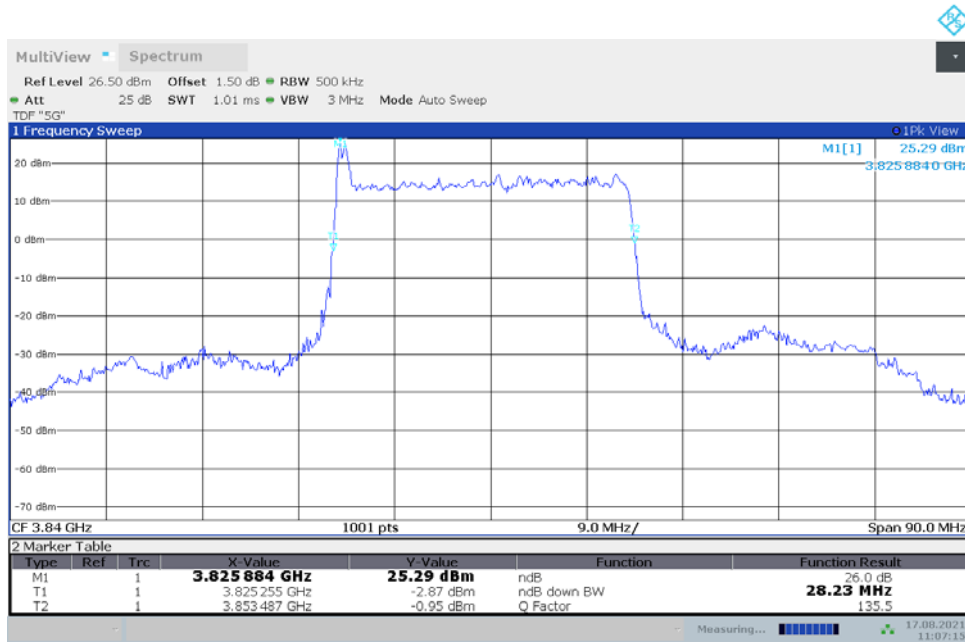


Date:14.AUG.2021 13:36:42

**LTE Band 13+NR n77H  
n77H,30MHz(-26dBc)**

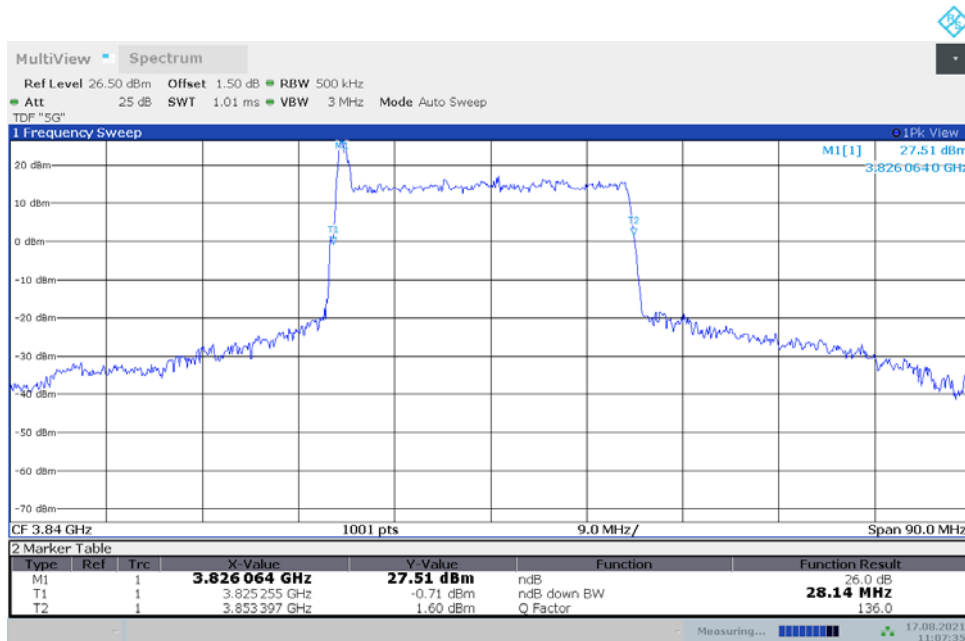
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	28.232	28.142

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



Date:17 AUG 2021 11:07:14

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

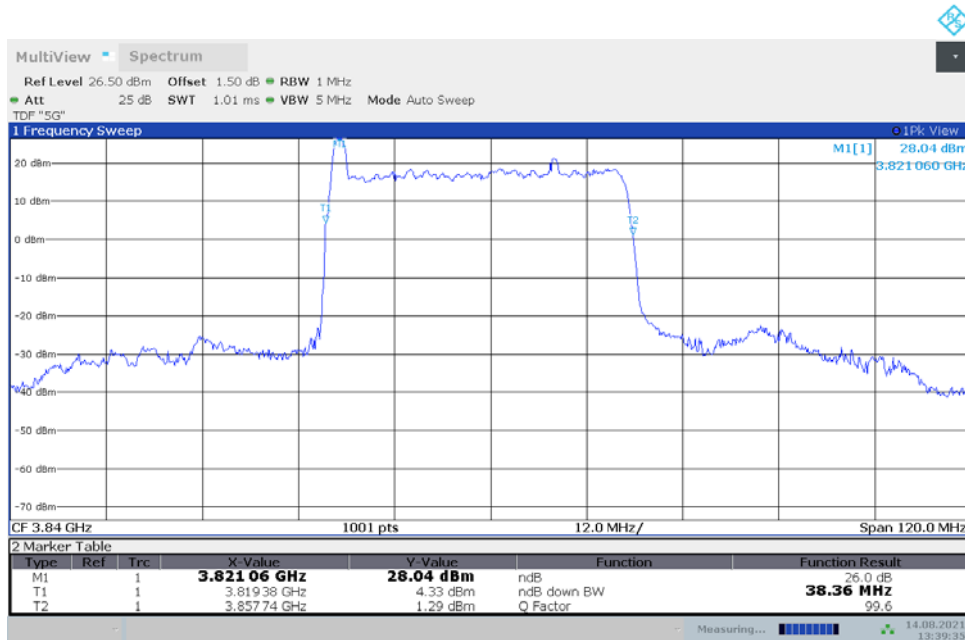


Date:17 AUG 2021 11:07:35

**LTE Band 13+NR n77H  
n77H,40MHz(-26dBc)**

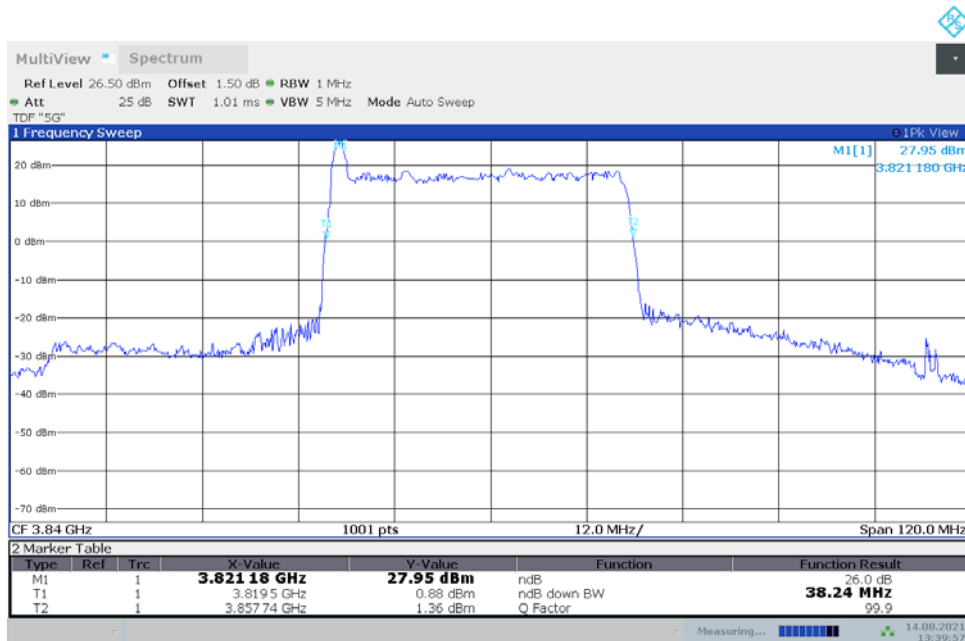
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	38.360	38.240

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



Date:14.AUG.2021 13:39:36

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

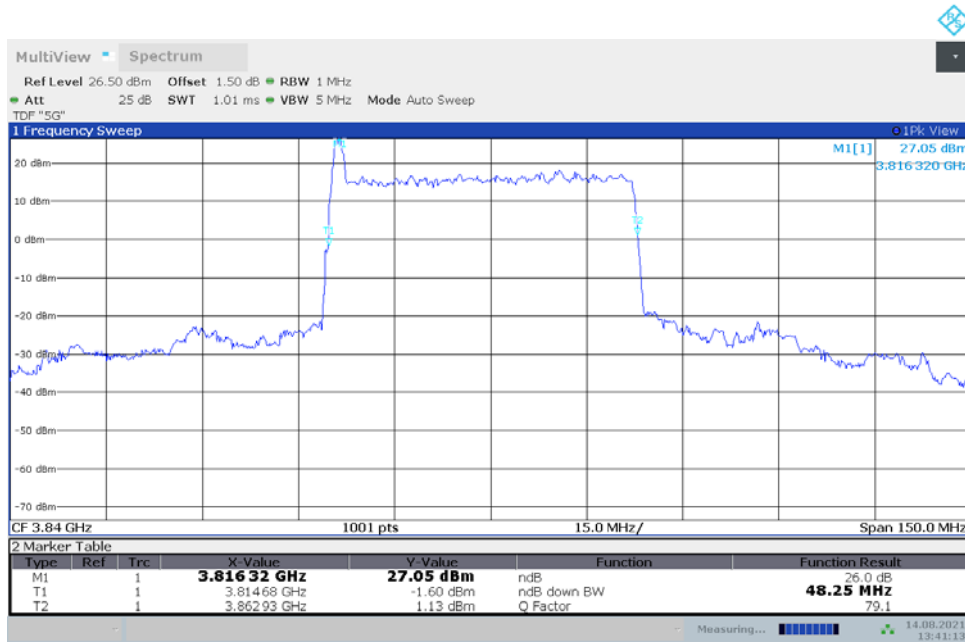


Date:14.AUG.2021 13:39:57

**LTE Band 13+NR n77H**  
**n77H,50MHz(-26dBc)**

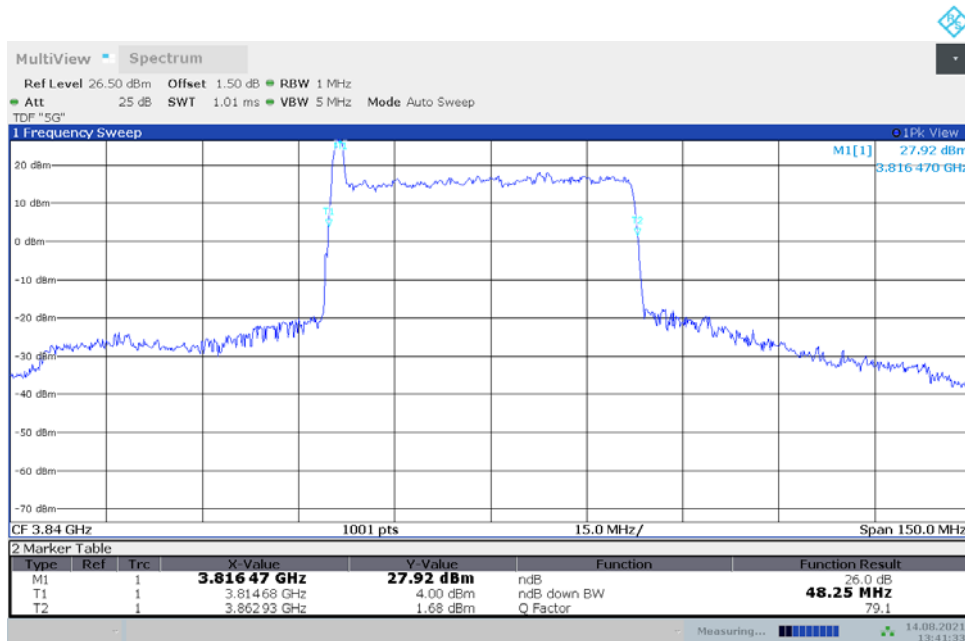
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	48.250	48.250

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



Date:14.AUG.2021 13:41:13

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

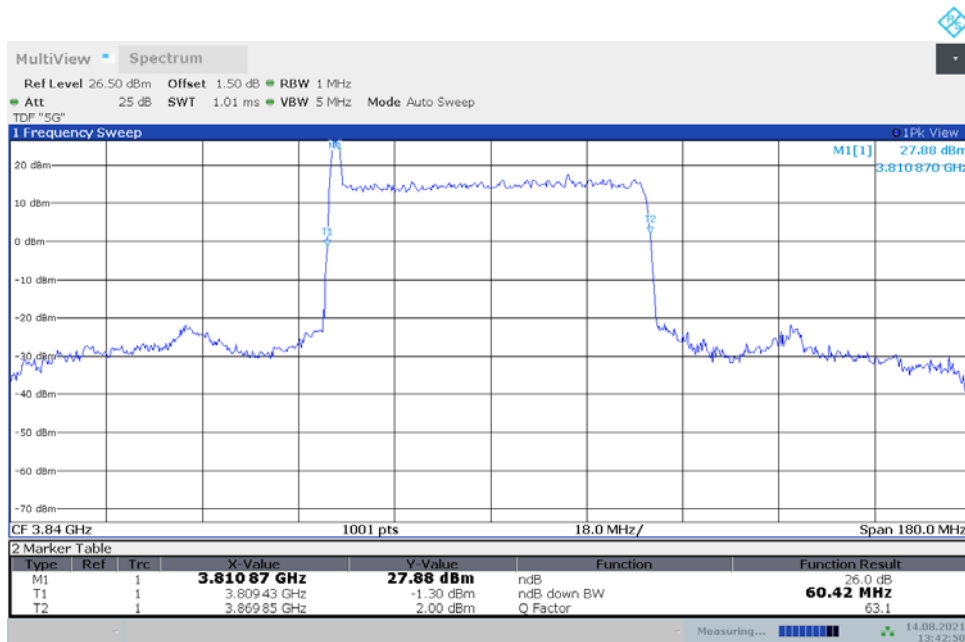


Date:14.AUG.2021 13:41:34

**LTE Band 13+NR n77H**  
**n77H,60MHz(-26dBc)**

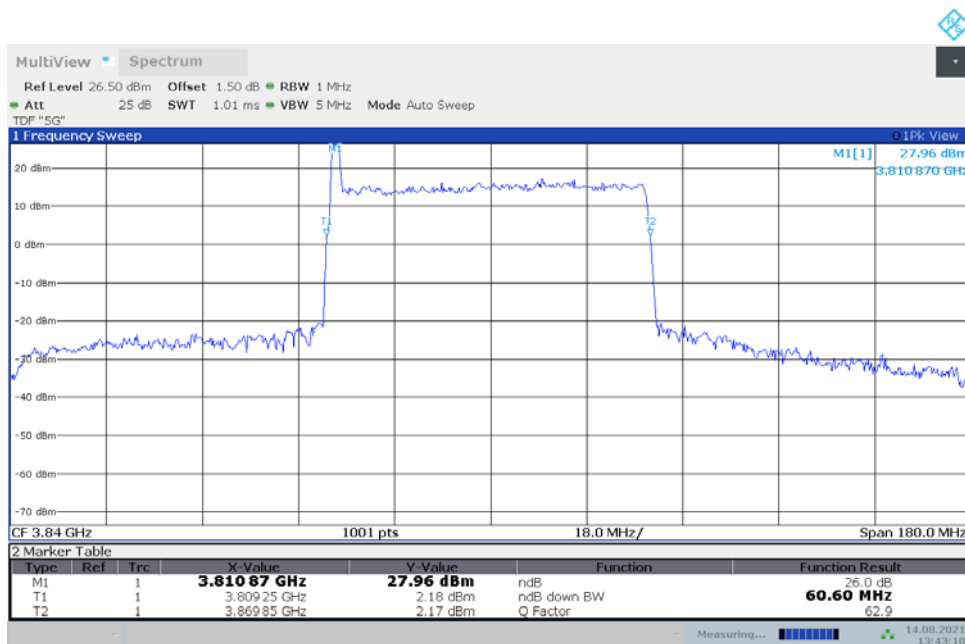
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	60.420	60.600

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



Date:14.AUG.2021 13:42:50

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

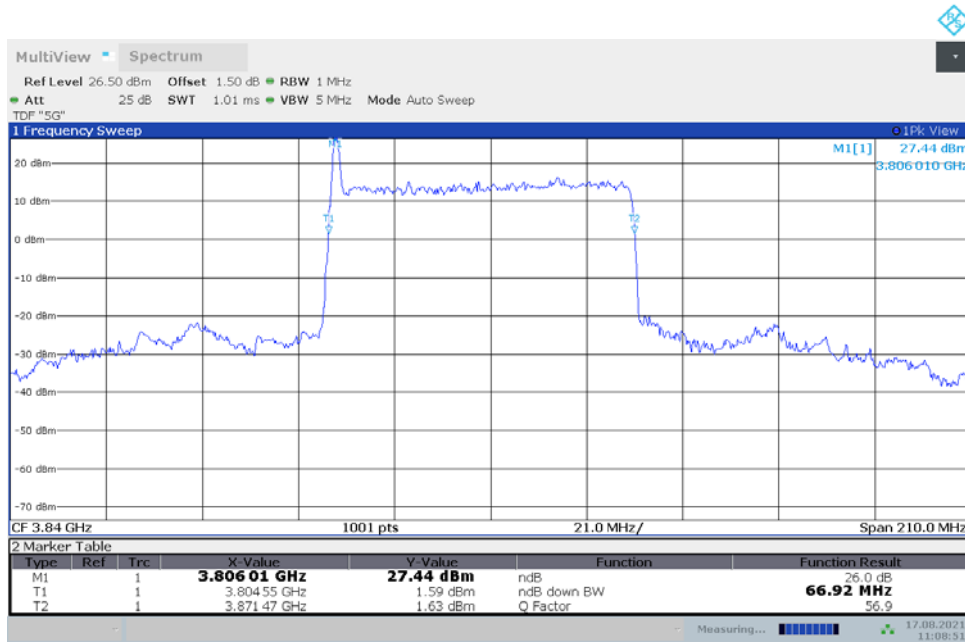


Date:14.AUG.2021 13:43:11

**LTE Band 13+NR n77H**  
**n77H,70MHz(-26dBc)**

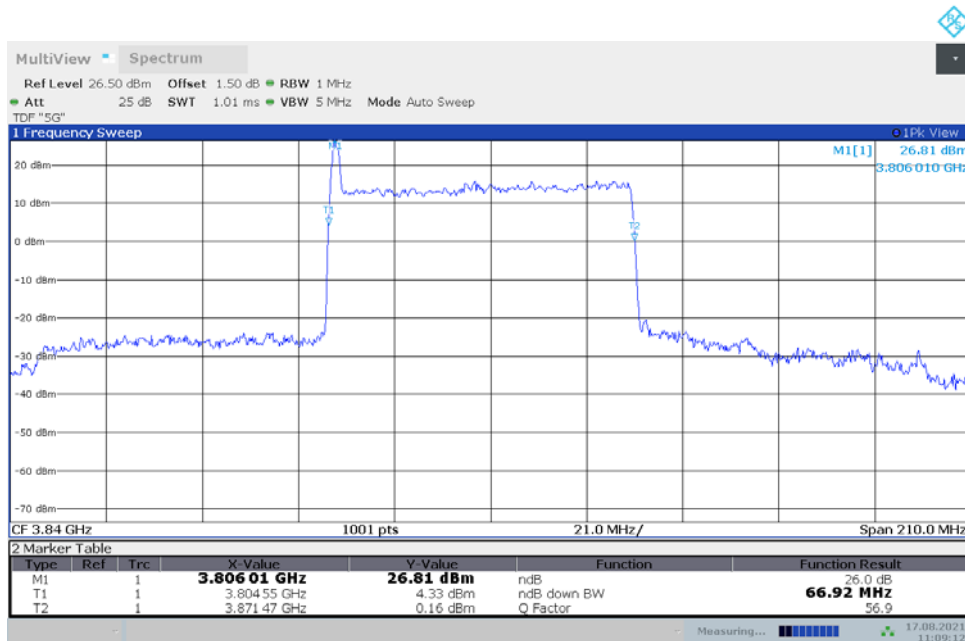
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	66.920	66.920

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



Date:17 AUG 2021 11:08:51

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

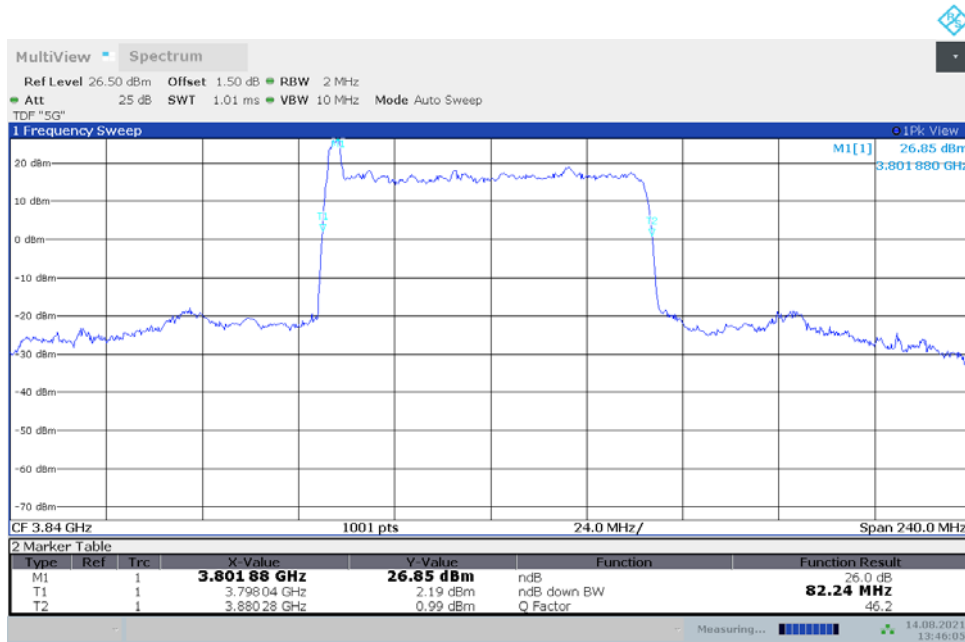


Date:17 AUG 2021 11:09:12

**LTE Band 13+NR n77H  
n77H,80MHz(-26dBc)**

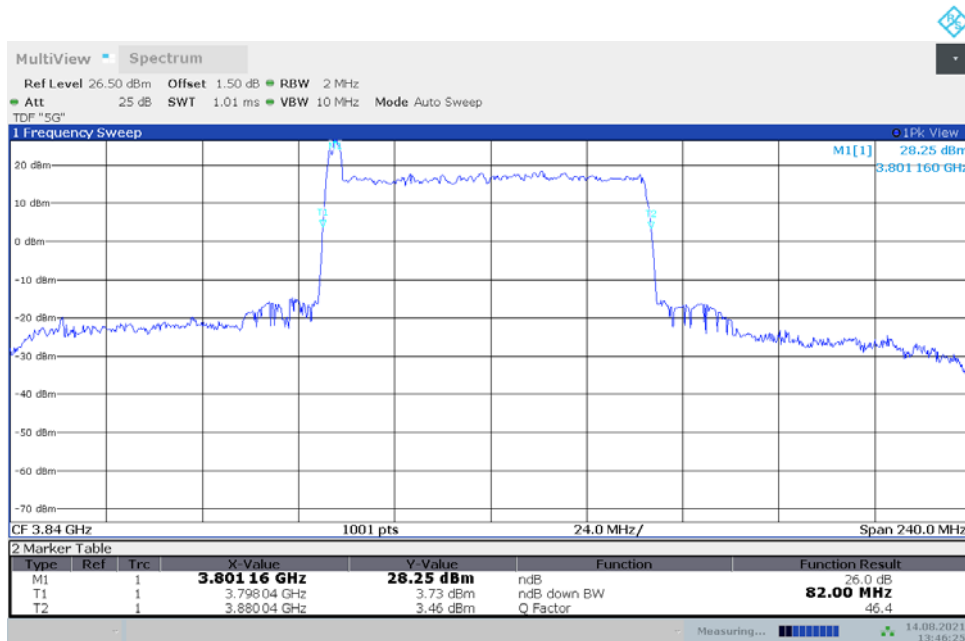
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	82.240	82.000

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



Date:14.AUG.2021 13:46:05

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

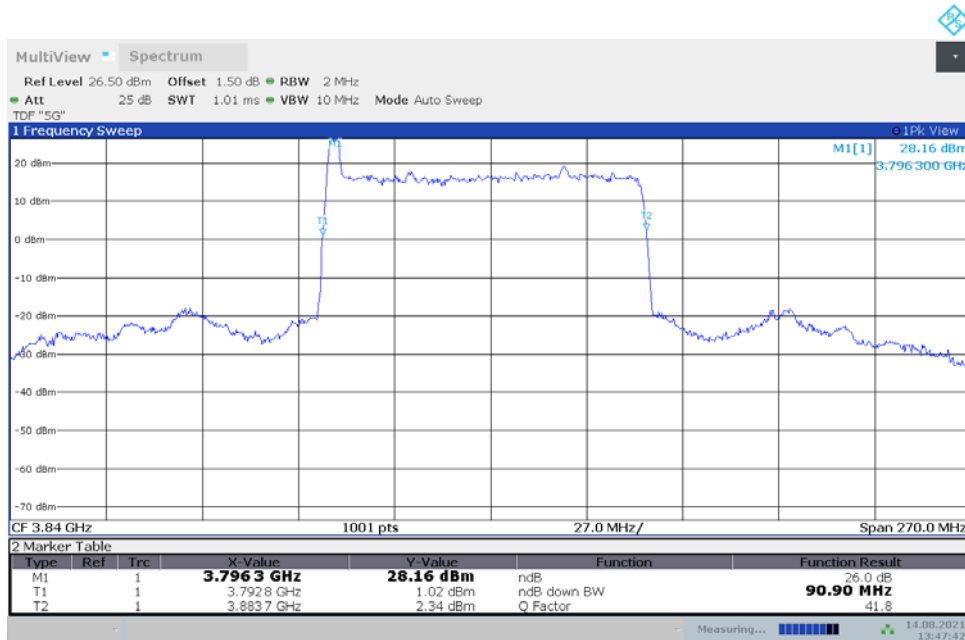


Date:14.AUG.2021 13:46:26

**LTE Band 13+NR n77H  
n77H,90MHz(-26dBc)**

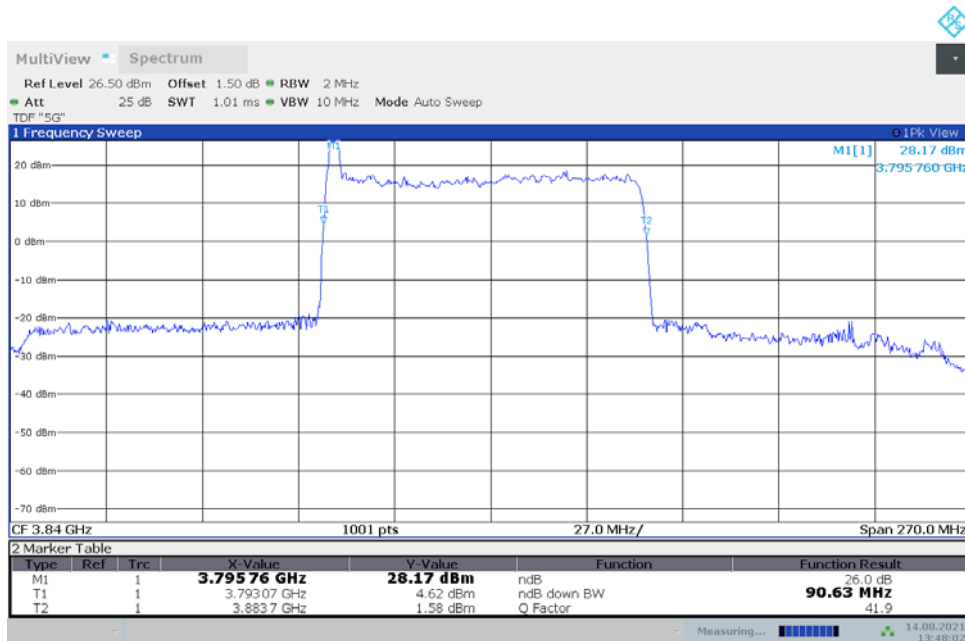
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	90.900	90.630

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



Date:14.AUG.2021 13:47:42

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



Date:14.AUG.2021 13:48:03



**LTE Band 13+NR n77H  
n77H,100MHz(-26dBc)**

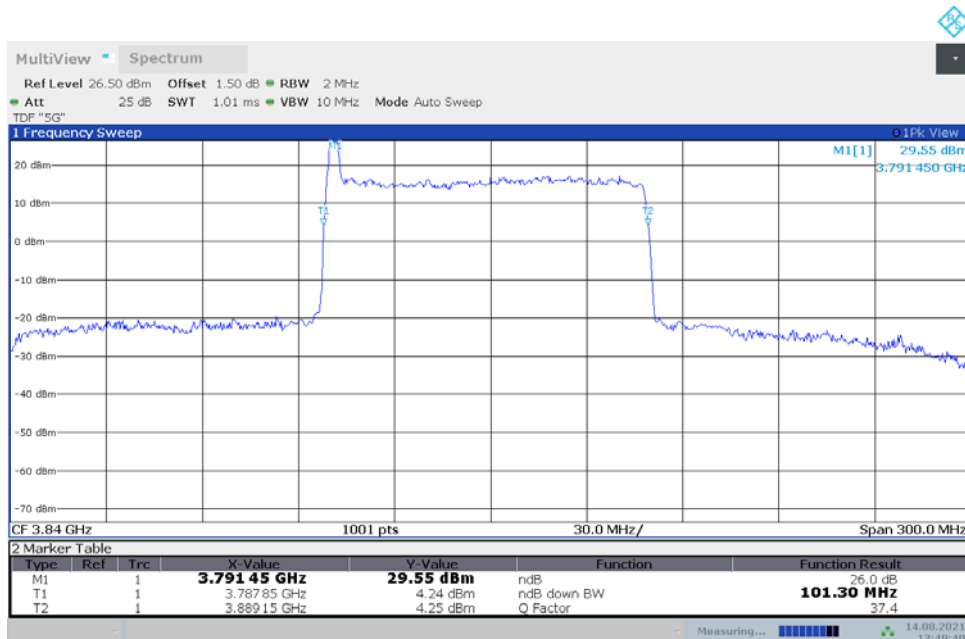
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
3840	101.000	101.300

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



Date:14.AUG.2021 13:49:19

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



Date:14.AUG.2021 13:49:40

## **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(l) 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.

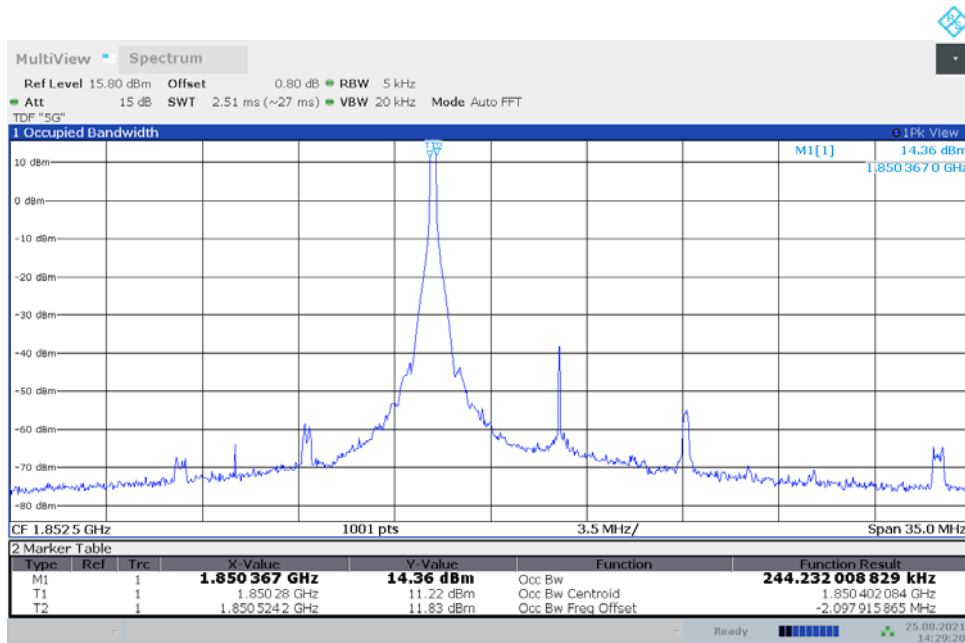
Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement 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 spectrum analyzer readings are corrected by  $[10 \log (1/\text{duty cycle})]$  for the non-continuous transmitting scenario.

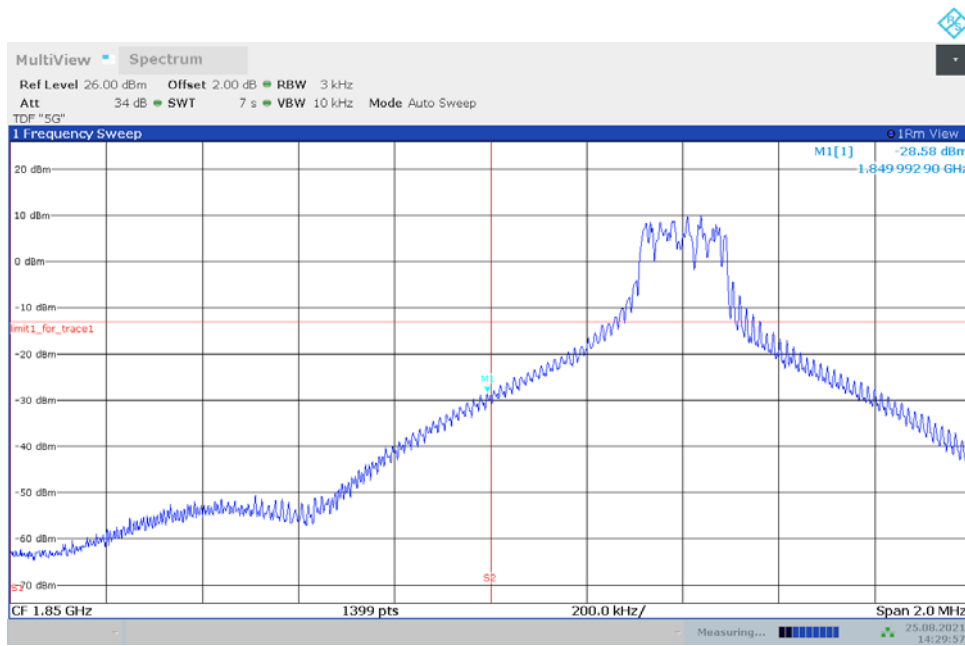
### A.6.2 Measurement result

#### LTE Band 66+NR n2

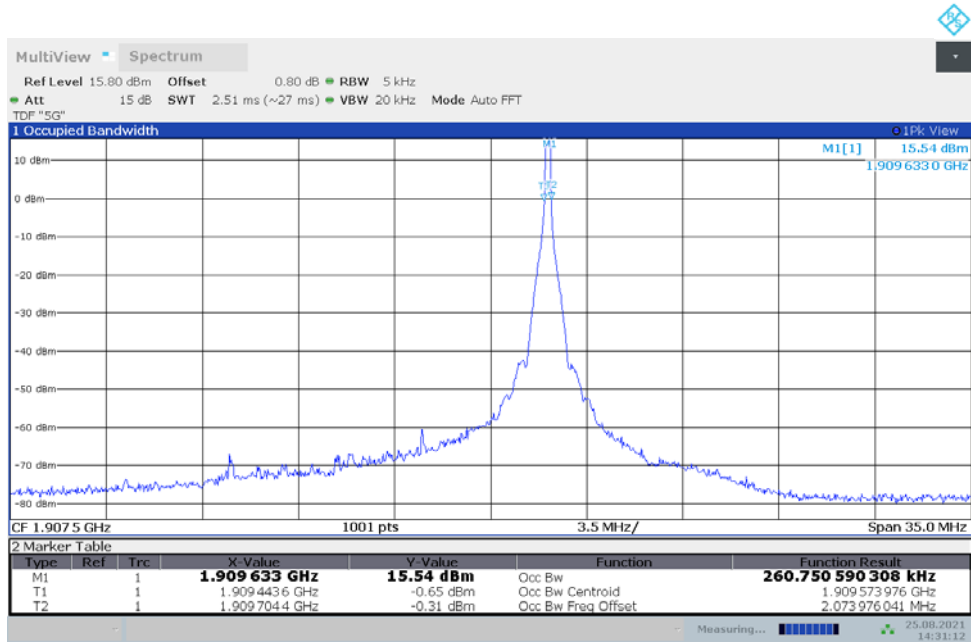
#### OBW: 1RB-LOW\_offset



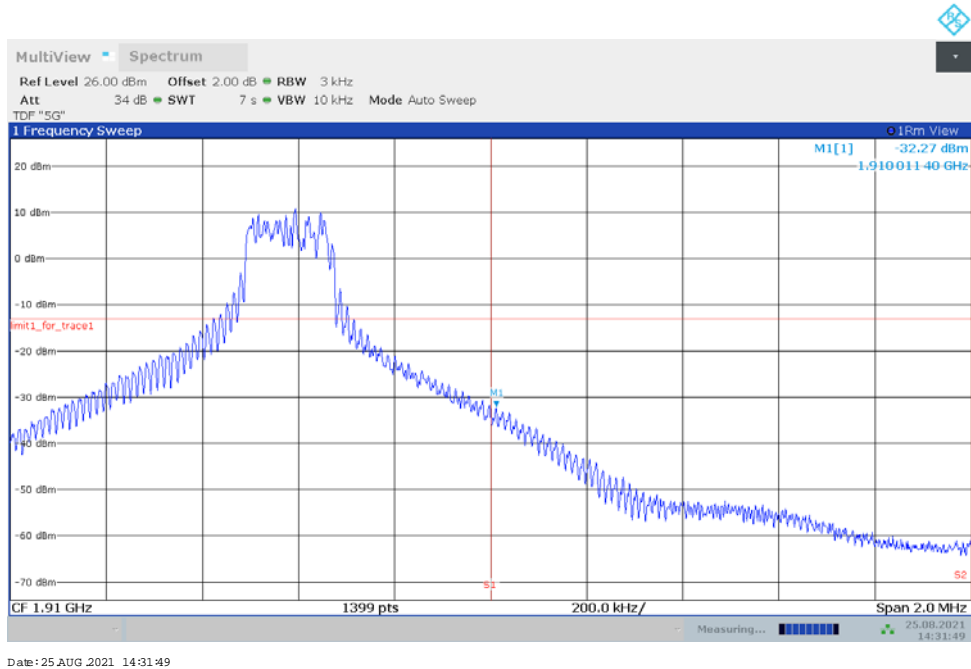
#### LOW BAND EDGE BLOCK-1RB-LOW\_offset



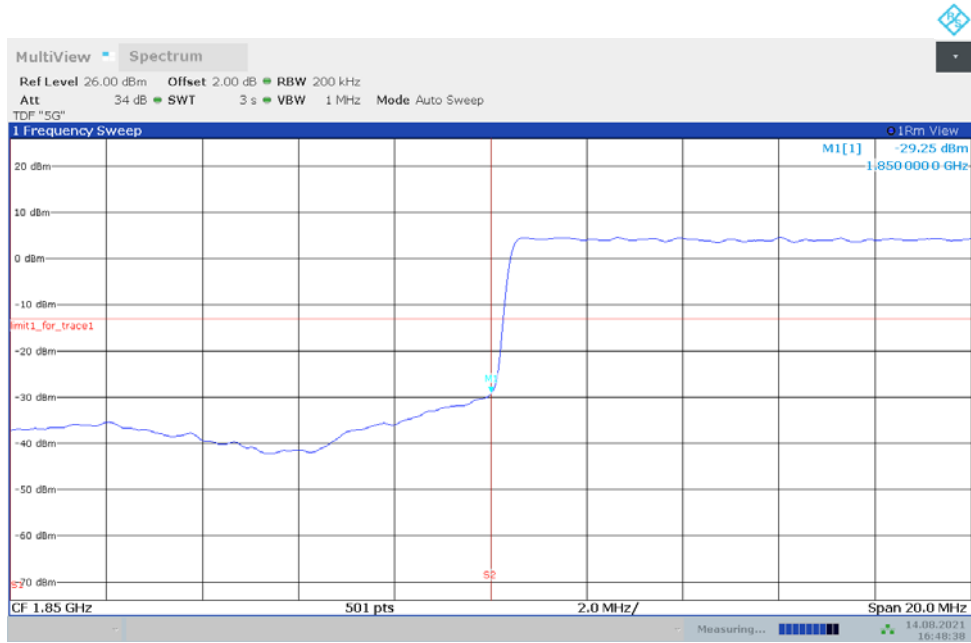
**OBW: 1RB-HIGH\_offset**



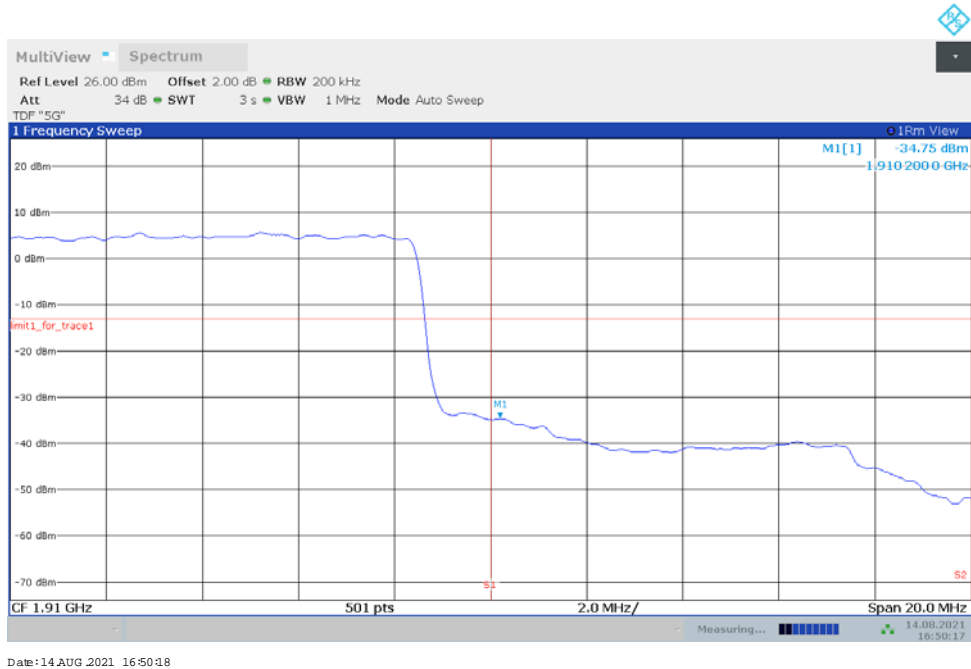
**HIGH BAND EDGE BLOCK-1RB-HIGH\_offset**



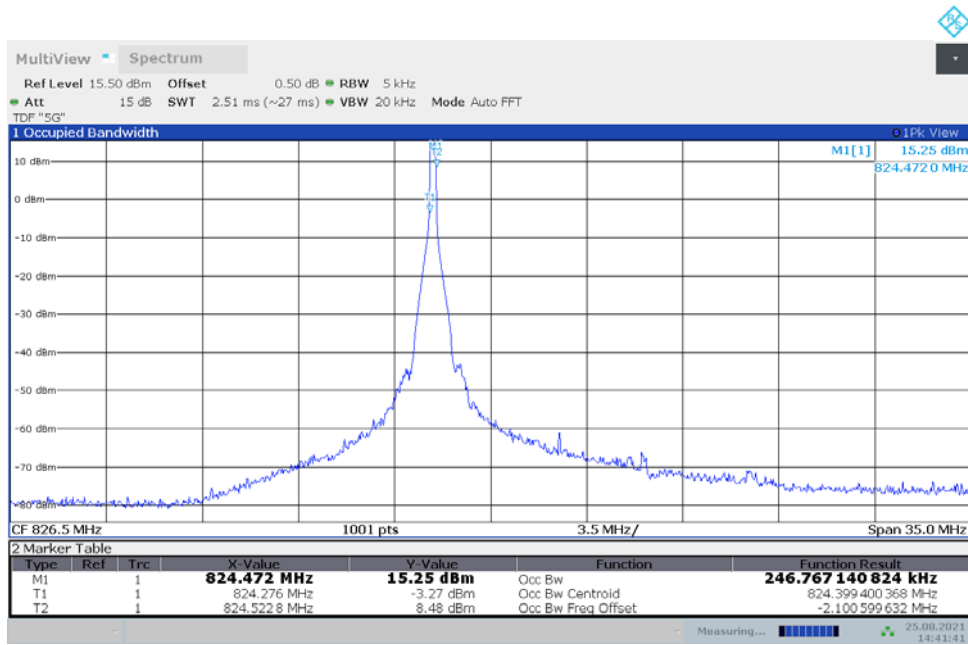
### LOW BAND EDGE BLOCK-20M-100%RB



### HIGH BAND EDGE BLOCK-20M-100%RB

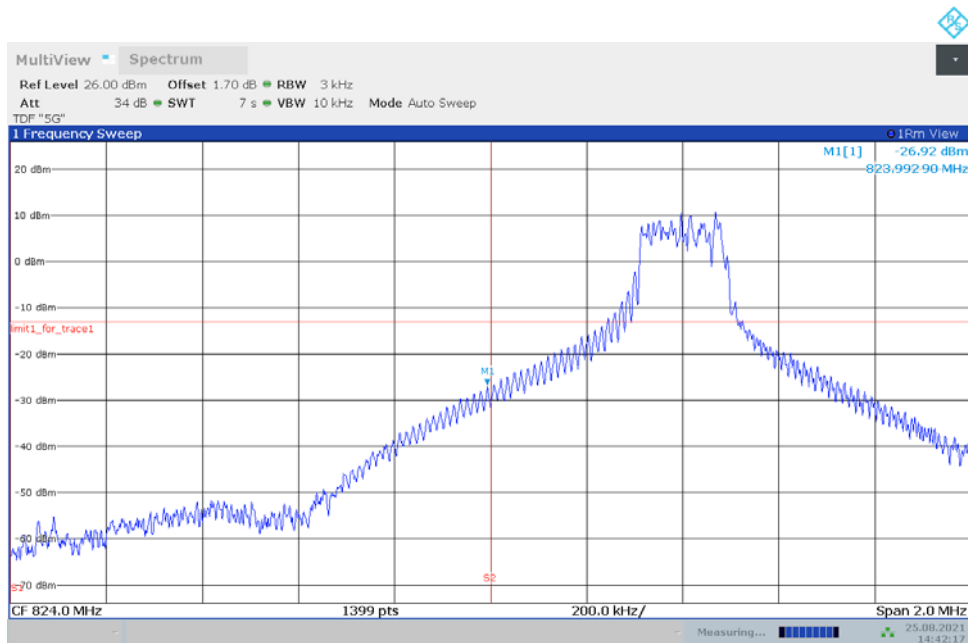


**LTE Band 66+NR n5**  
**OBW: 1RB-LOW\_offset**



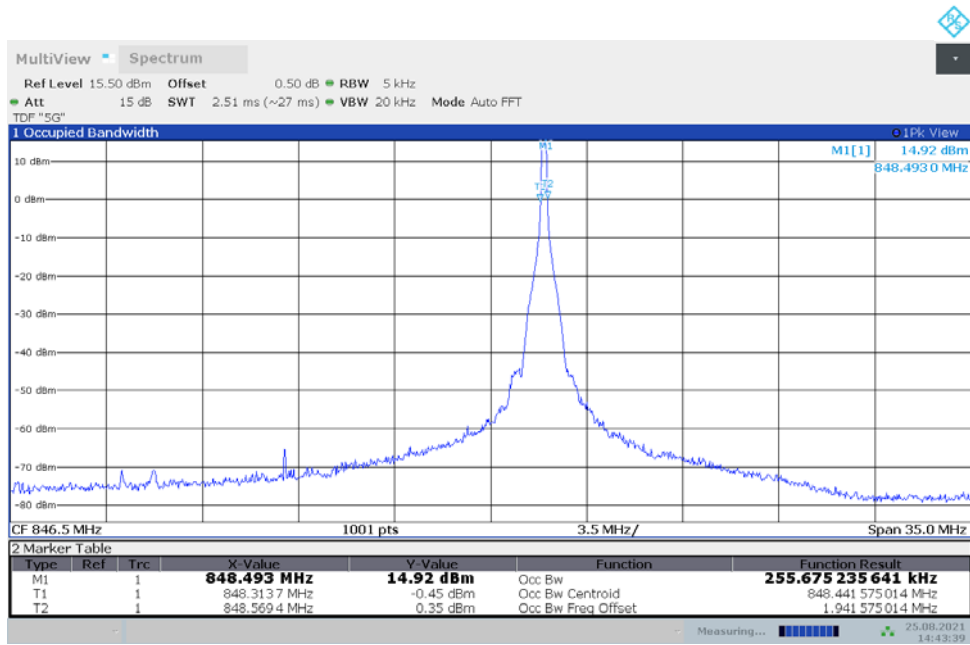
Date: 25.AUG.2021 14:41:41

**LOW BAND EDGE BLOCK-1RB-LOW\_offset**

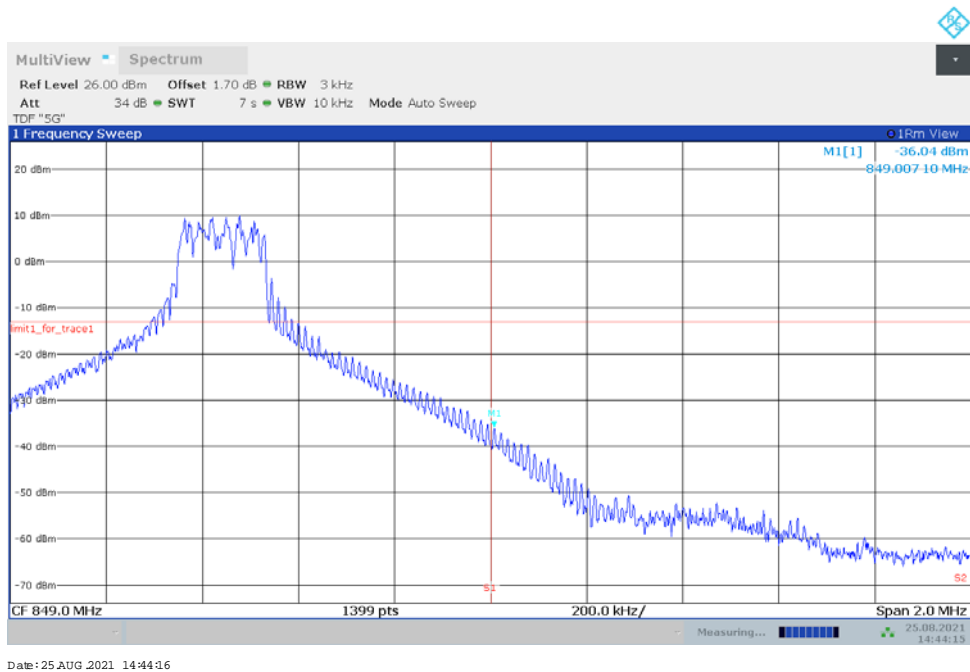


Date: 25.AUG.2021 14:42:18

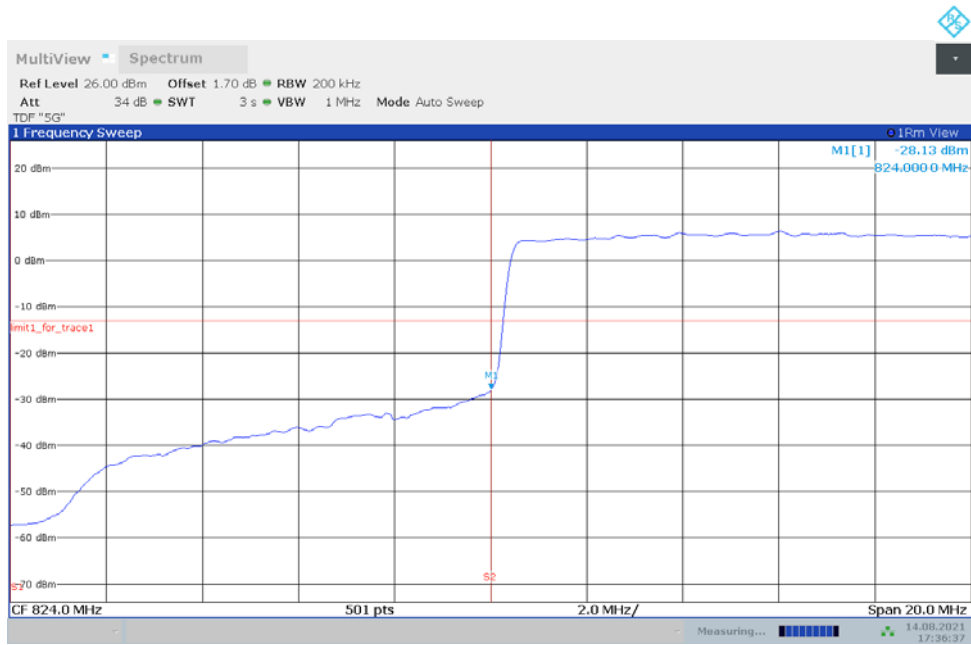
### OBW: 1RB-HIGH\_offset



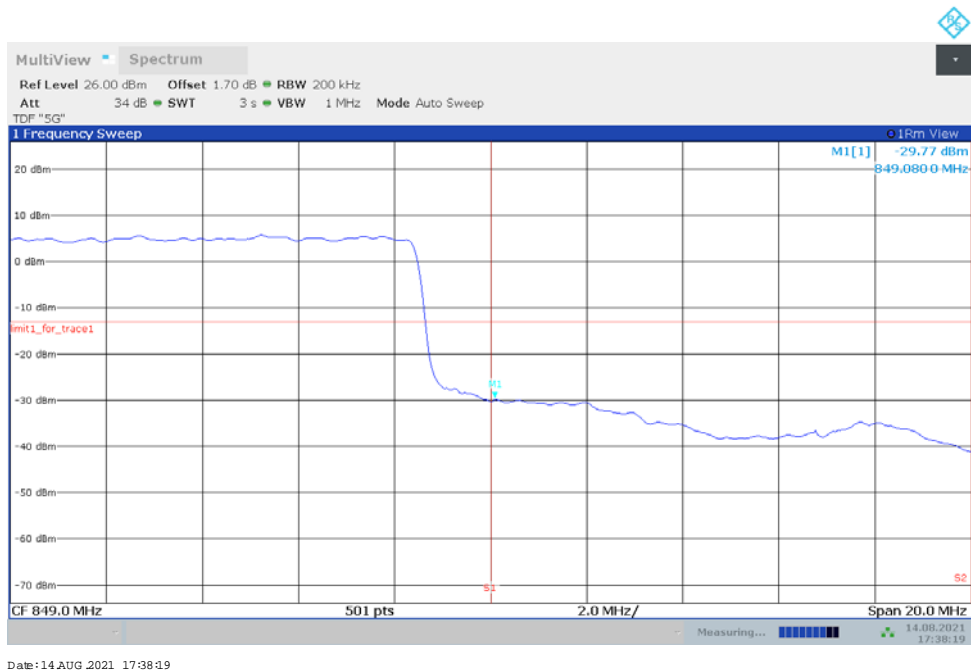
### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset



### LOW BAND EDGE BLOCK-20M-100%RB

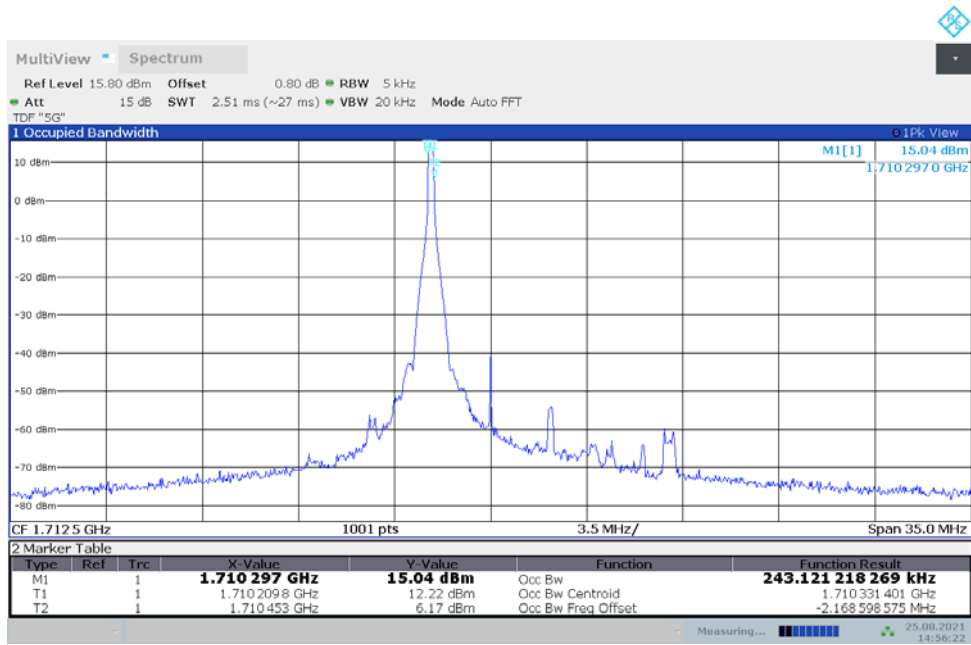


### HIGH BAND EDGE BLOCK-20M-100%RB

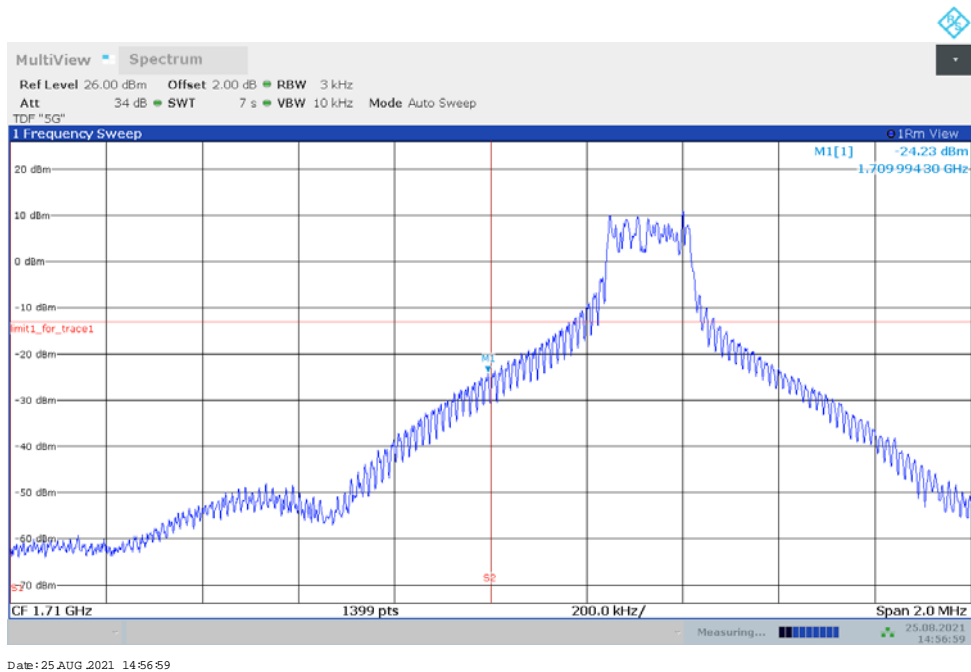




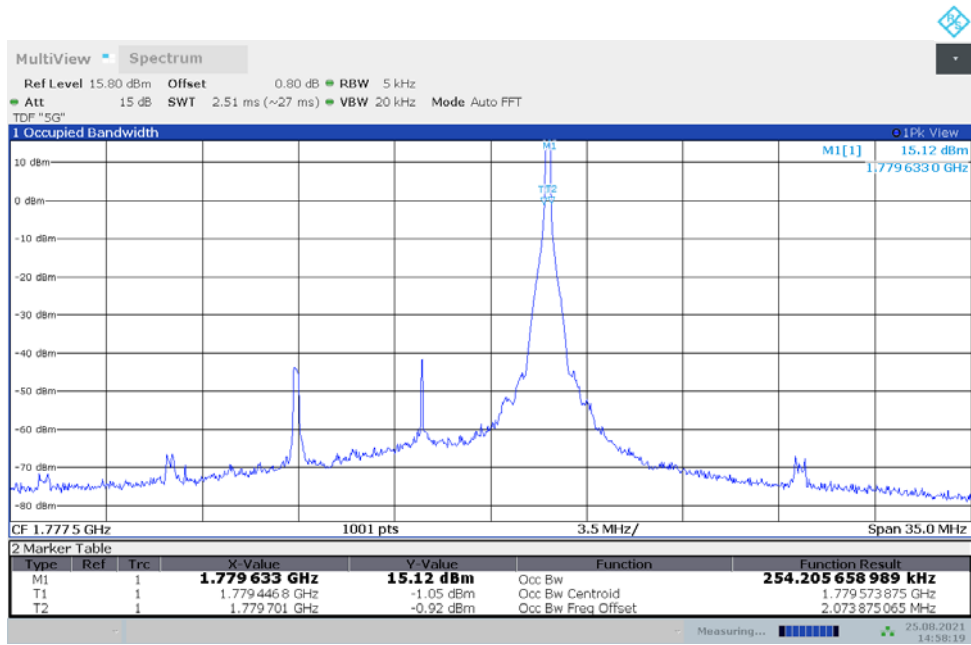
**LTE Band 13+NR n66**  
**OBW: 1RB-LOW\_offset**



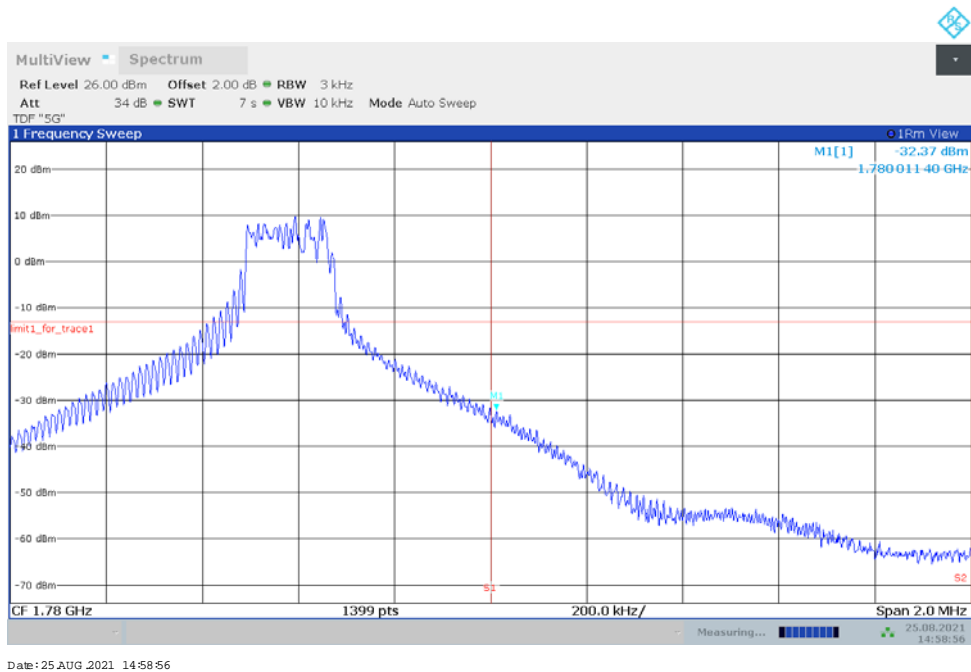
**LOW BAND EDGE BLOCK-1RB-LOW\_offset**



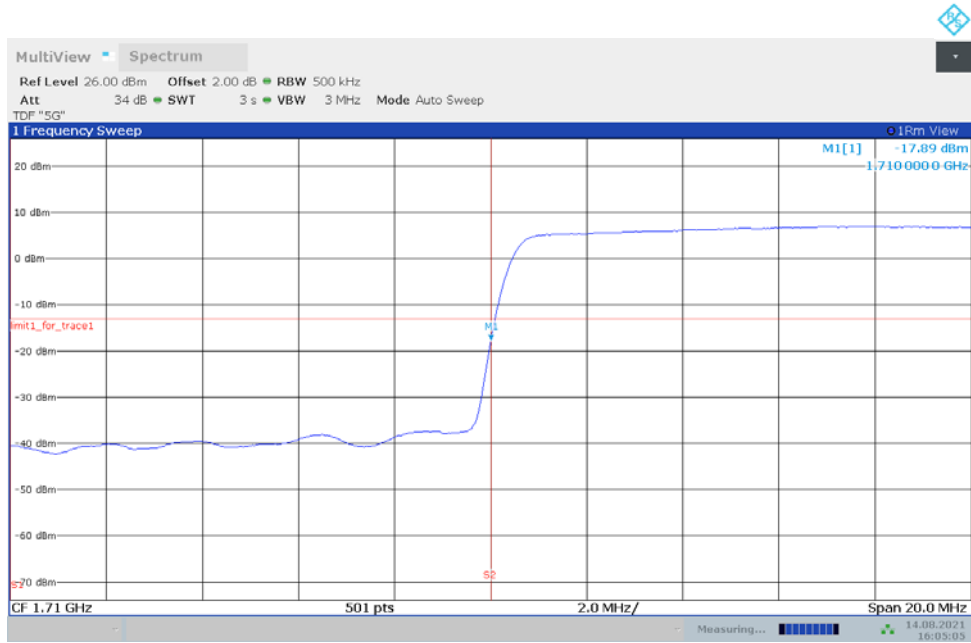
### OBW: 1RB-HIGH\_offset



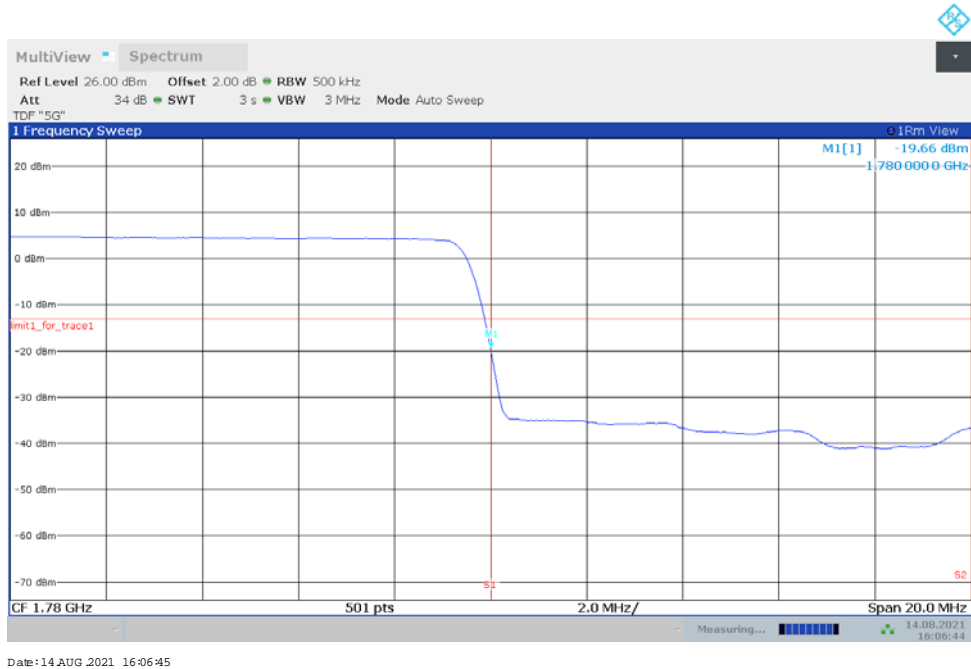
### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset



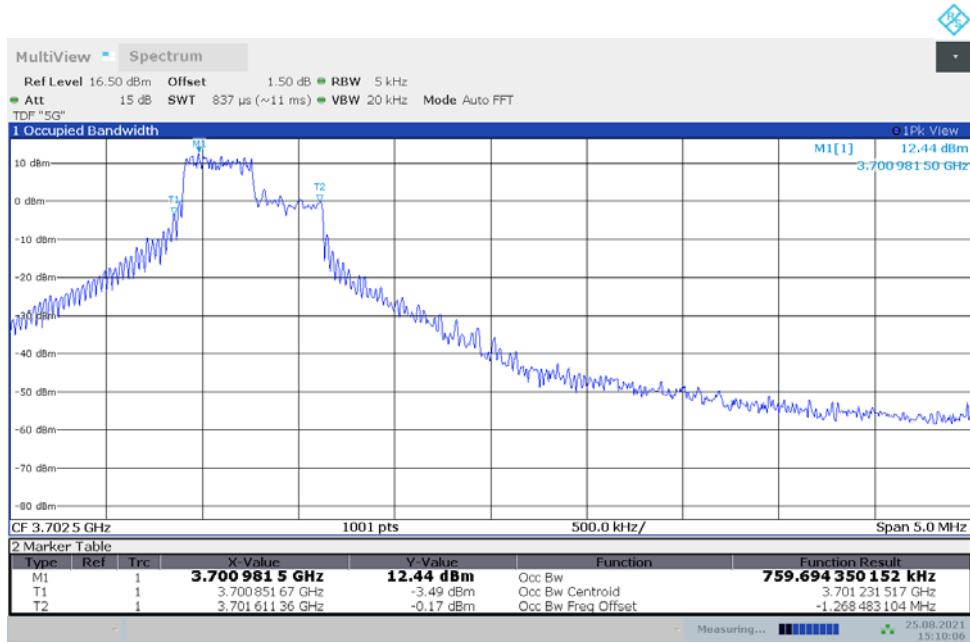
### LOW BAND EDGE BLOCK-40M-100%RB



### HIGH BAND EDGE BLOCK-40M-100%RB

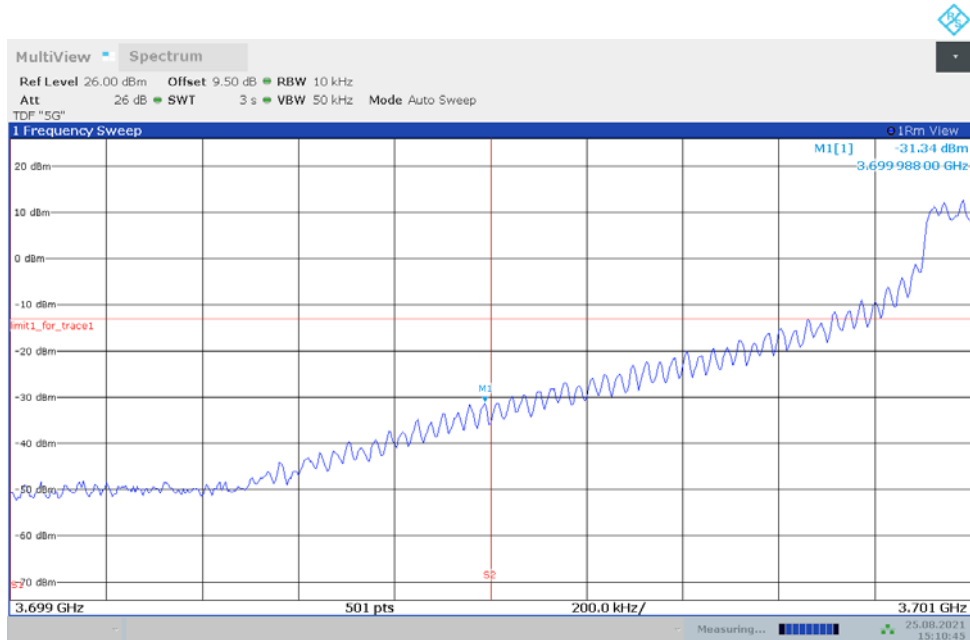


LTE Band 13+NR n77H  
OBW: 1RB-LOW\_offset



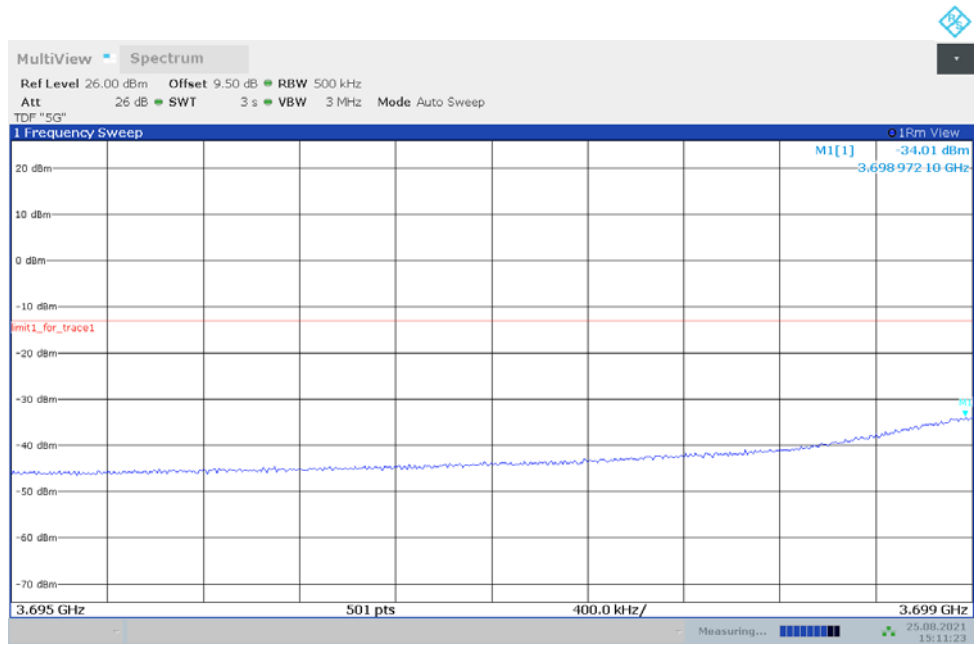
Date: 25.AUG.2021 15:10:06

LOW BAND EDGE BLOCK-1RB-LOW\_offset



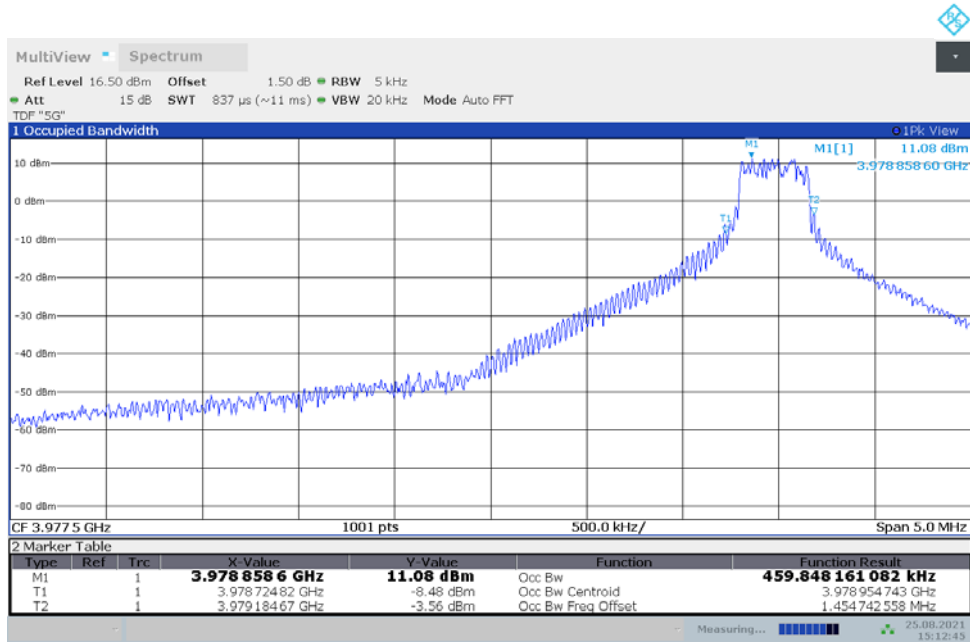
Date: 25.AUG.2021 15:10:45

### LOW BAND EDGE BLOCK-1RB-LOW\_offset



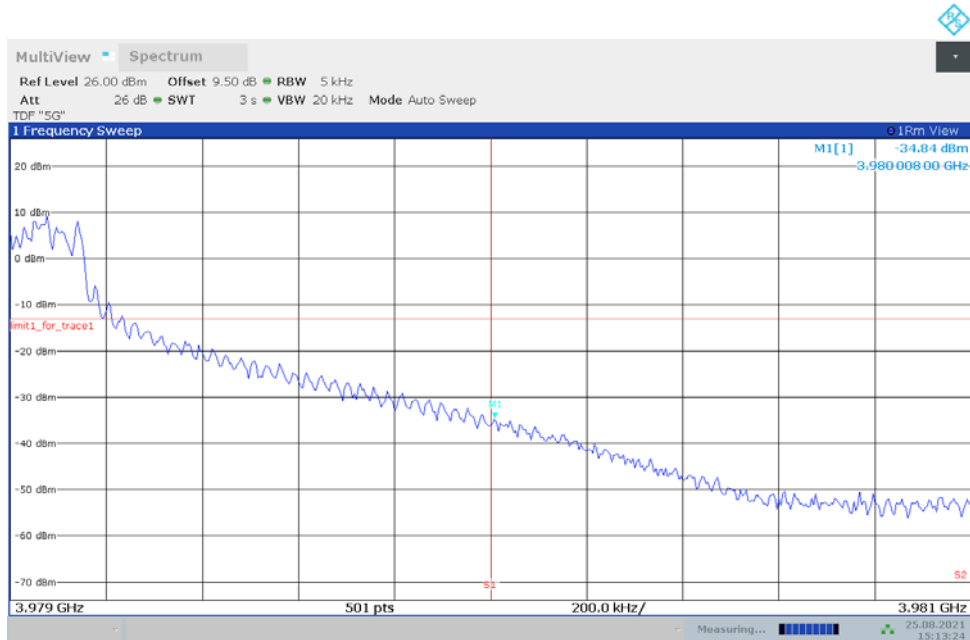
Date: 25.AUG.2021 15:11:23

**OBW: 1RB-HIGH\_offset**



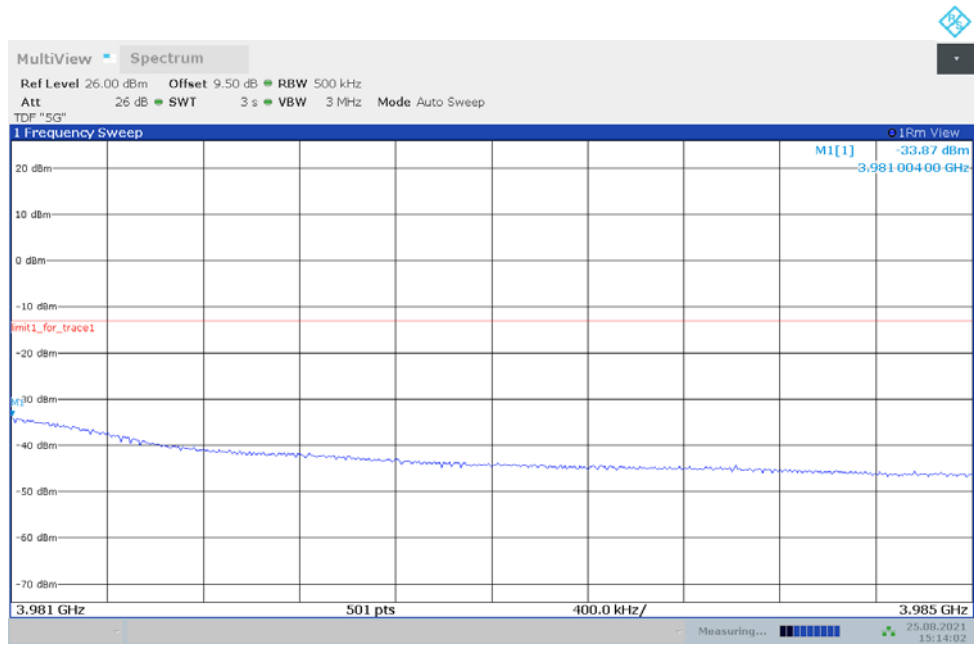
Date: 25.AUG.2021 15:12:45

**HIGH BAND EDGE BLOCK-1RB-HIGH\_offset**



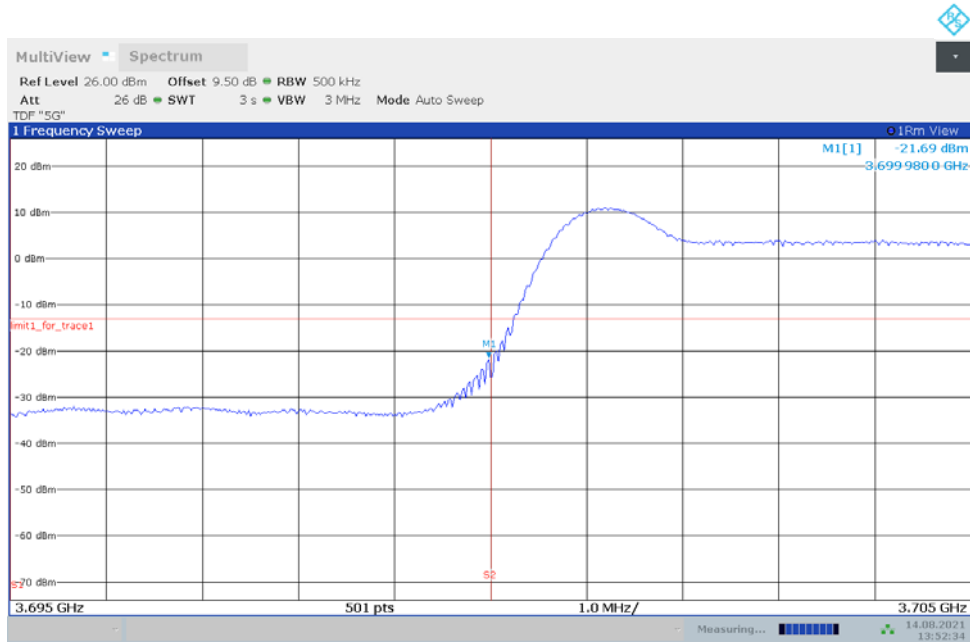
Date: 25.AUG.2021 15:13:25

### HIGH BAND EDGE BLOCK-1RB-HIGH\_offset

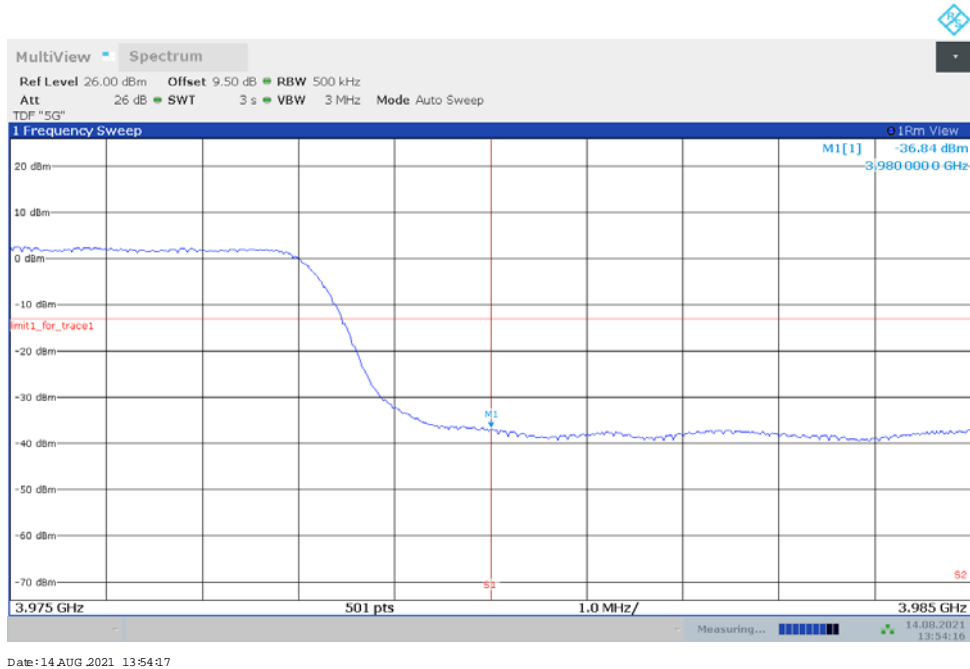


Date: 25 AUG 2021 15:14:03

### LOW BAND EDGE BLOCK-100M-100%RB



### HIGH BAND EDGE BLOCK-100M-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 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(l) 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.

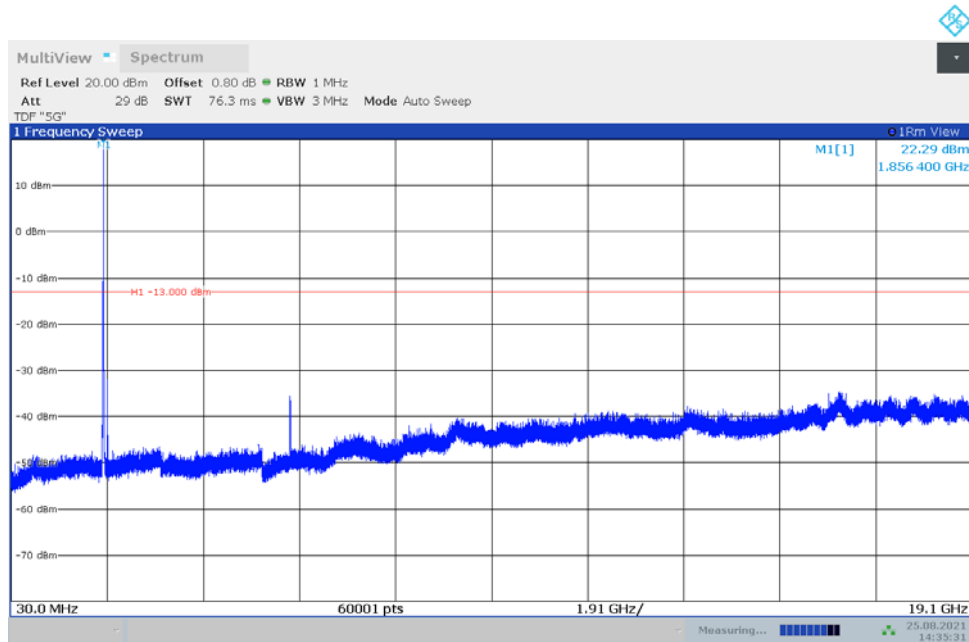
Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement 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 spectrum analyzer readings are corrected by  $[10 \log (1/\text{duty cycle})]$  for the non-continuous transmitting scenario.

### A. 7.3 Measurement result

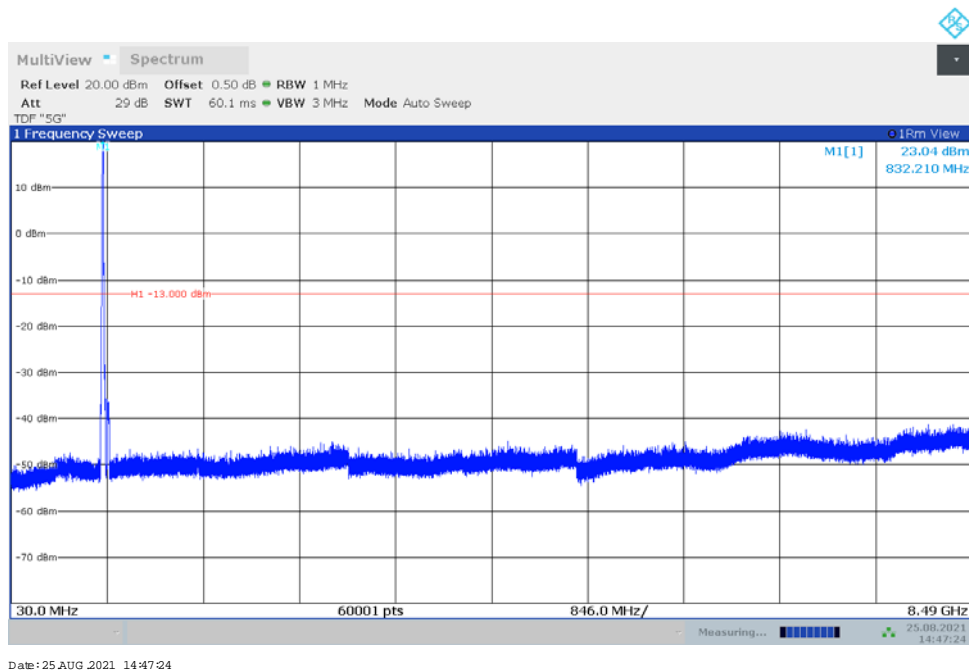
#### LTE Band 66+NR n2

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



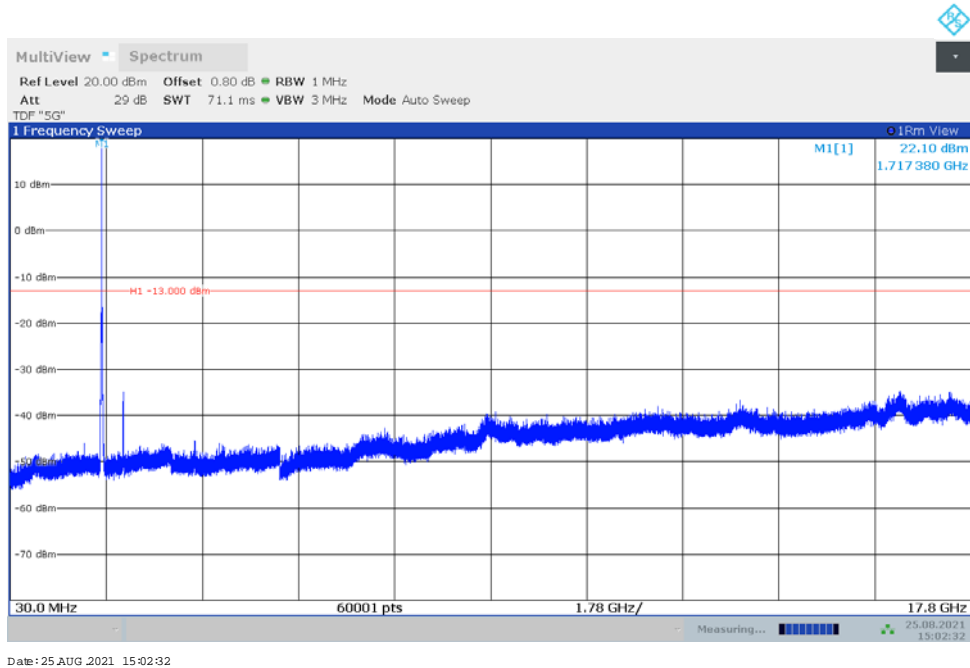
#### LTE Band 66+NR n5

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



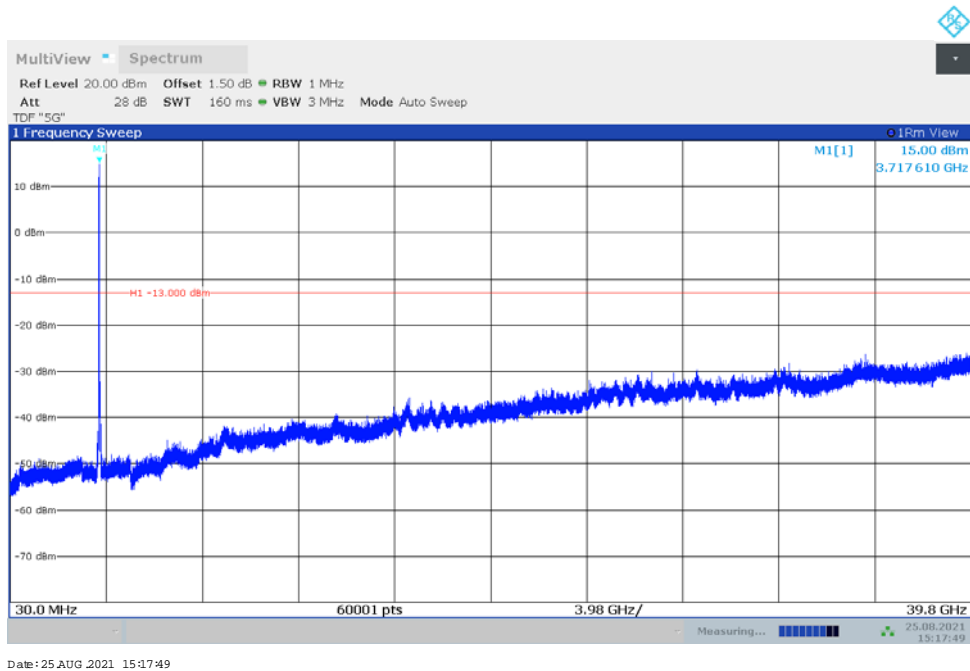
### LTE Band 13+NR n66

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



### LTE Band 13+NR n77H

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  $\geq$  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**

#### **LTE Band 66+NR n2,20MHz**

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
1880	5.44	6.34	7.06	7.46	7.70	8.36	8.48	8.66	9.92

#### **LTE Band 66+NR 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	4.84	5.54	6.58	6.82	7.50	7.76	7.62	8.14	9.00

#### **LTE Band 13+NR 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	5.88	6.26	6.90	7.34	7.66	8.82	8.82	8.84	9.44

#### **LTE Band 13+NR 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	4.79	6.01	7.58	7.92	8.05	9.04	9.12	9.23	9.57

## Annex B: Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p>  	
<hr/> <b>Certificate of Accreditation to ISO/IEC 17025:2017</b> <hr/>	
NVLAP LAB CODE: 600118-0	
<b>Telecommunication Technology Labs, CAICT</b> Beijing China	
<i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i>	
<b>Electromagnetic Compatibility &amp; Telecommunications</b>	
<i>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).</i>	
<hr/> 2021-09-29 through 2022-09-30 <i>Effective Dates</i>	 <hr/> <i>[Signature]</i> For the National Voluntary Laboratory Accreditation Program

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