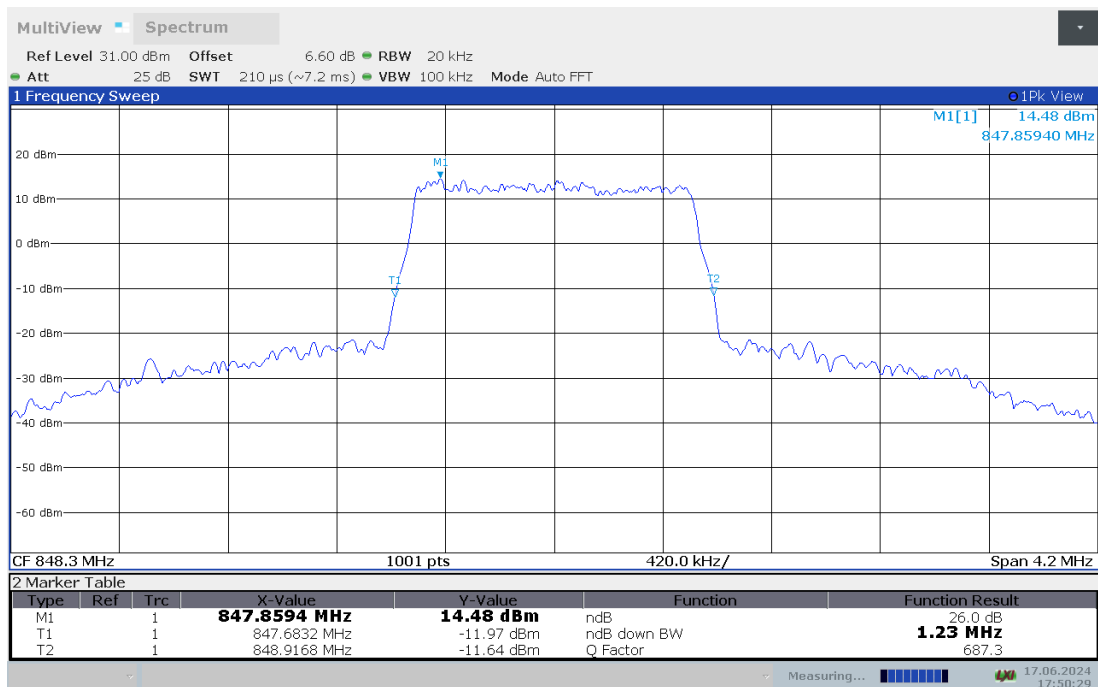


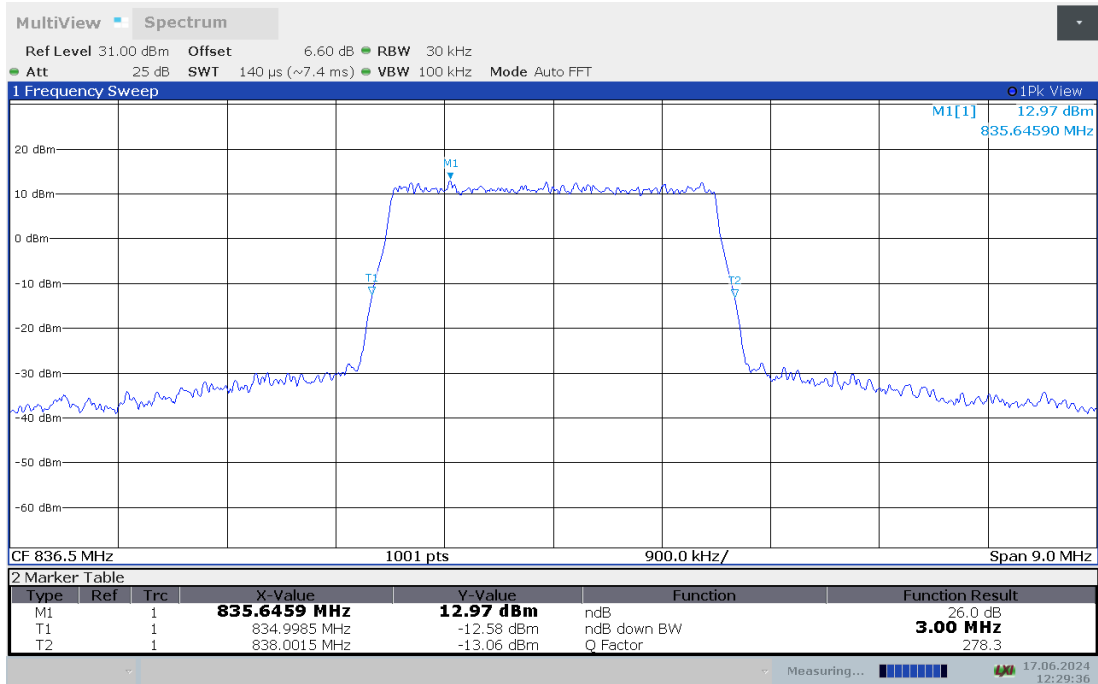
**LTE band 5 , 1.4MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



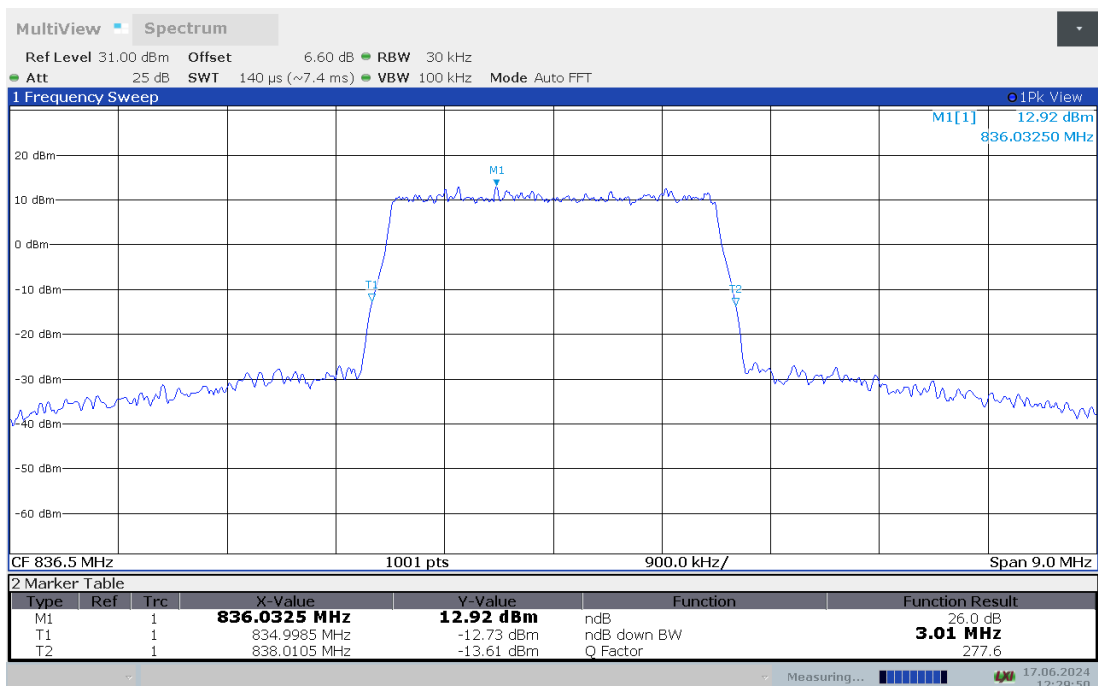
**LTE band 5,3MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
836.5	3.003	3.012
825.5	3.003	2.994
847.5	2.994	2.994

**LTE band 5 , 3MHz Bandwidth,MID,QPSK (-26dBc BW)**

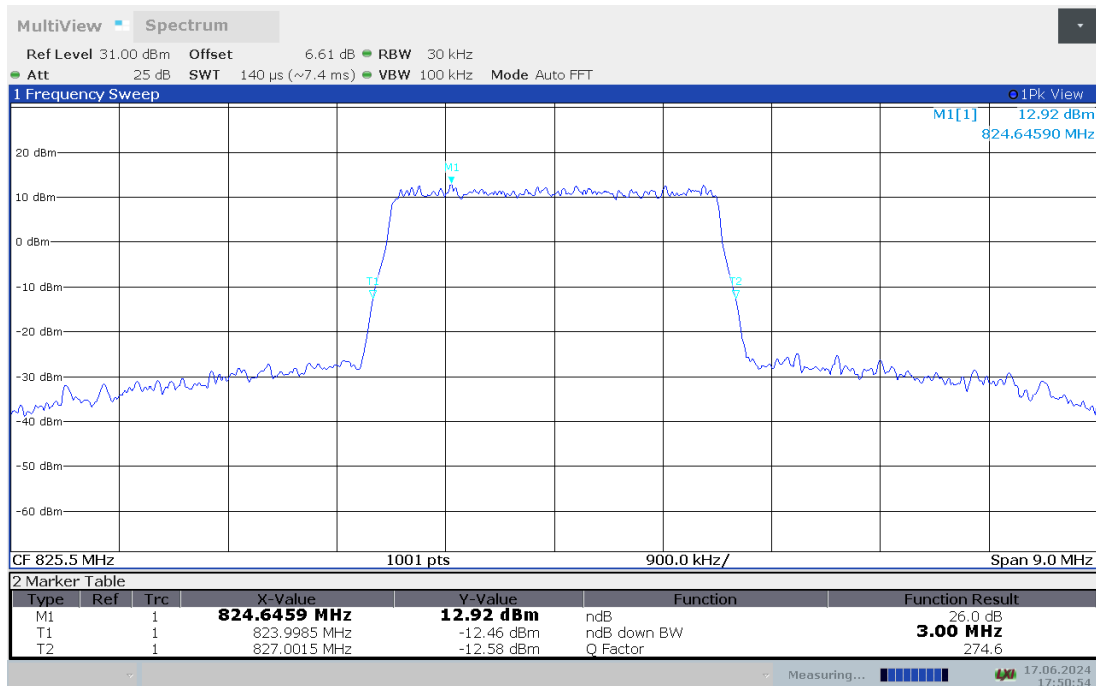


**LTE band 5 , 3MHz Bandwidth,MID,16QAM (-26dBc BW)**

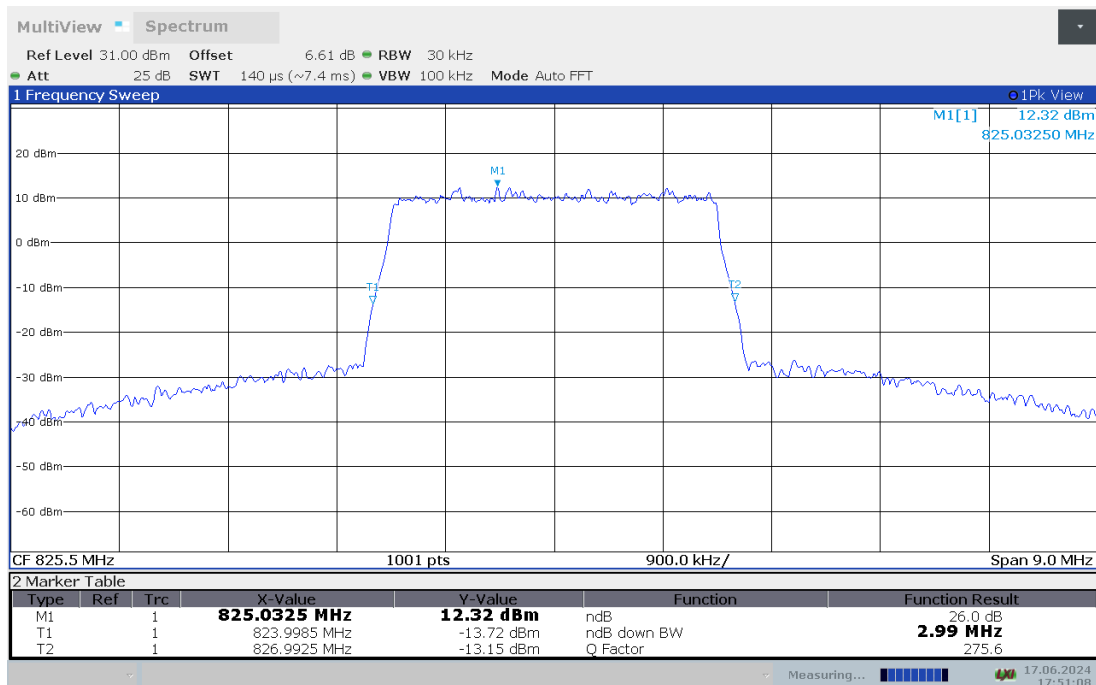




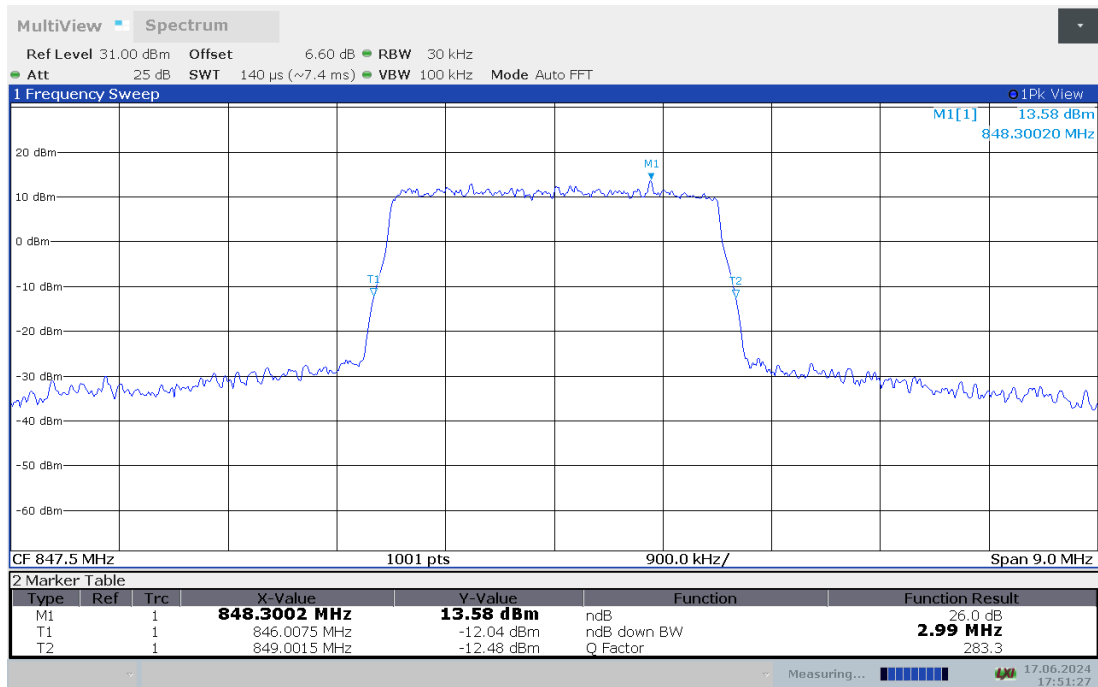
### LTE band 5 , 3MHz Bandwidth,LOW,QPSK (-26dBc BW)



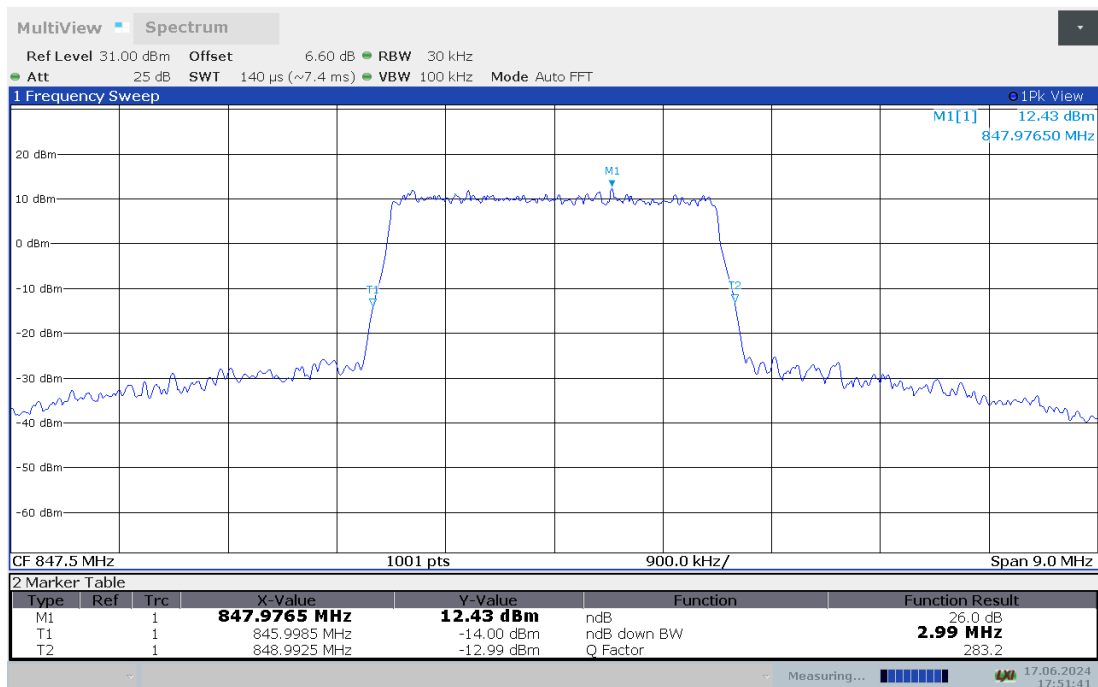
### LTE band 5 , 3MHz Bandwidth,LOW,16QAM (-26dBc BW)



### LTE band 5 , 3MHz Bandwidth,HIGH,QPSK (-26dBc BW)



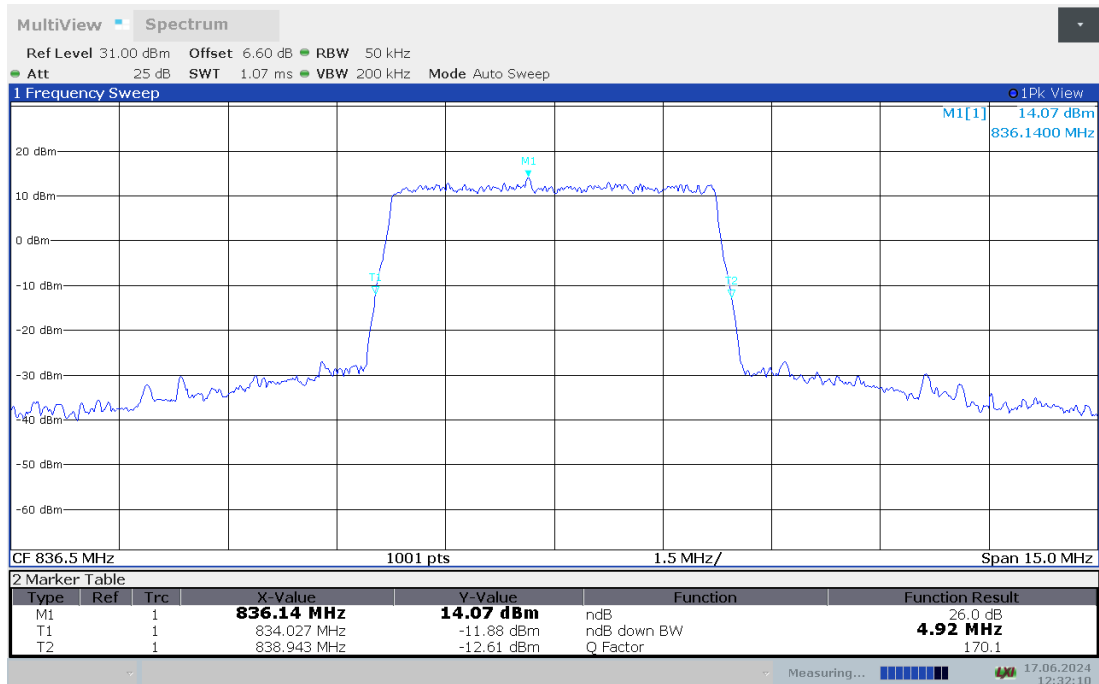
**LTE band 5 , 3MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



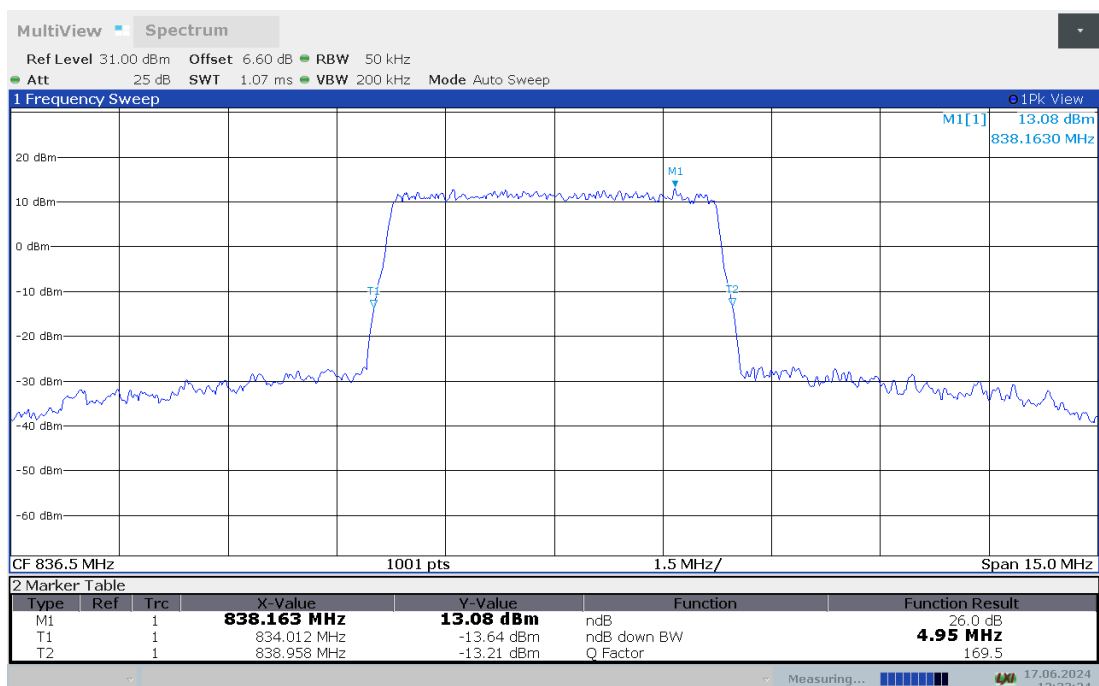
**LTE band 5,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
836.5	4.915	4.945
826.5	4.915	4.870
846.5	4.915	4.930

**LTE band 5 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**

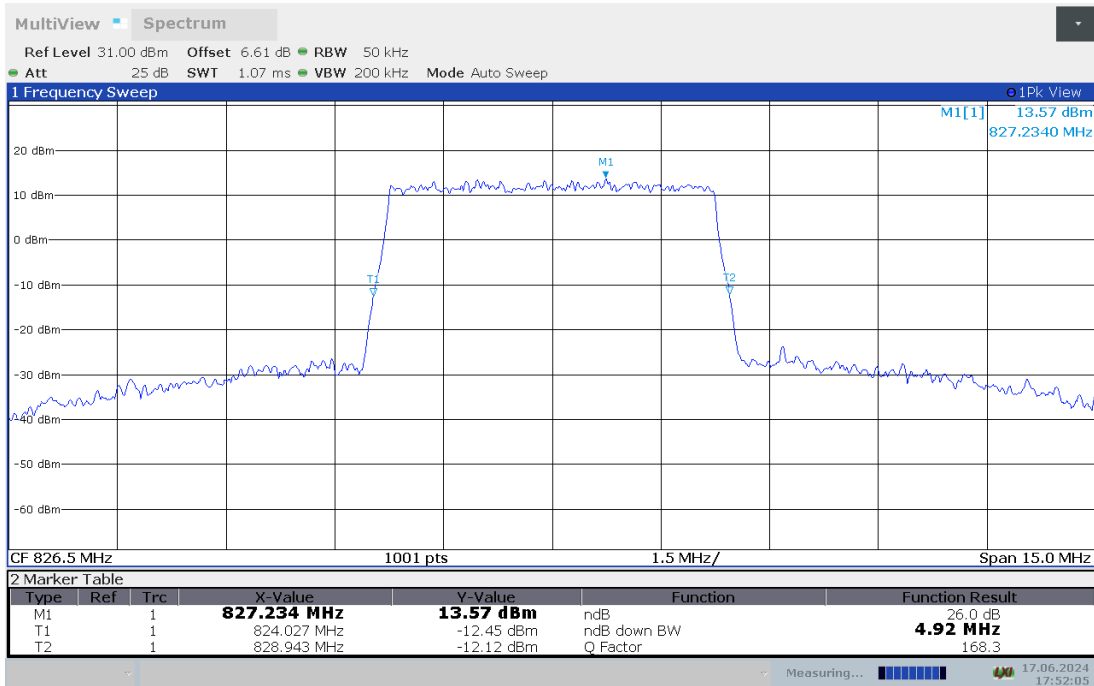


**LTE band 5 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**

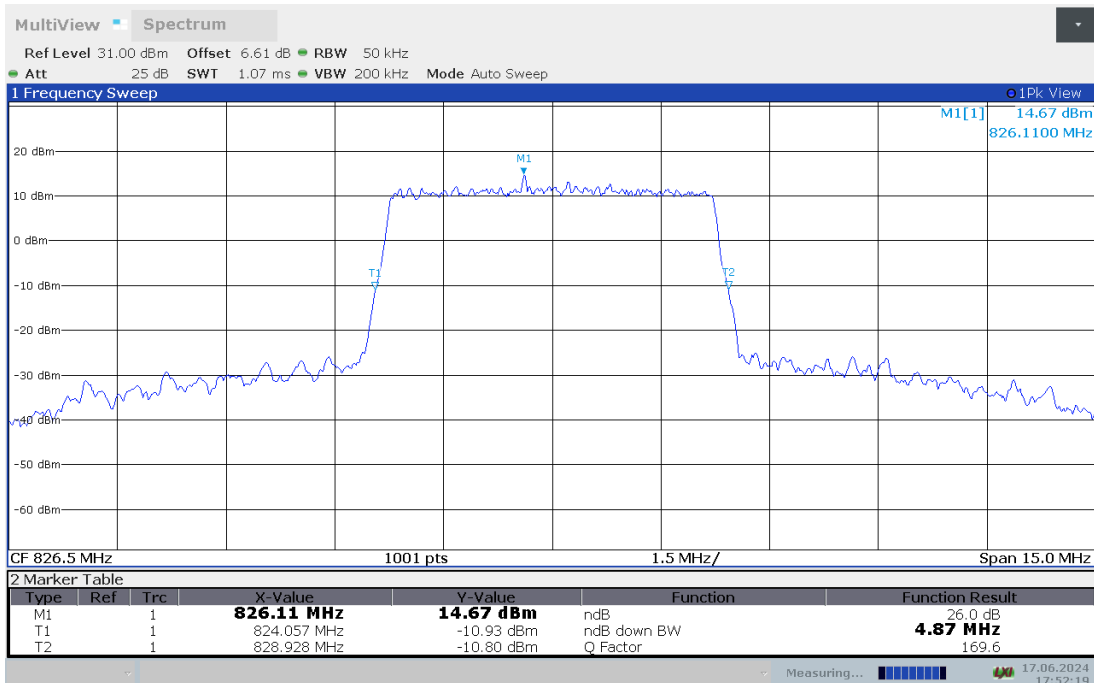




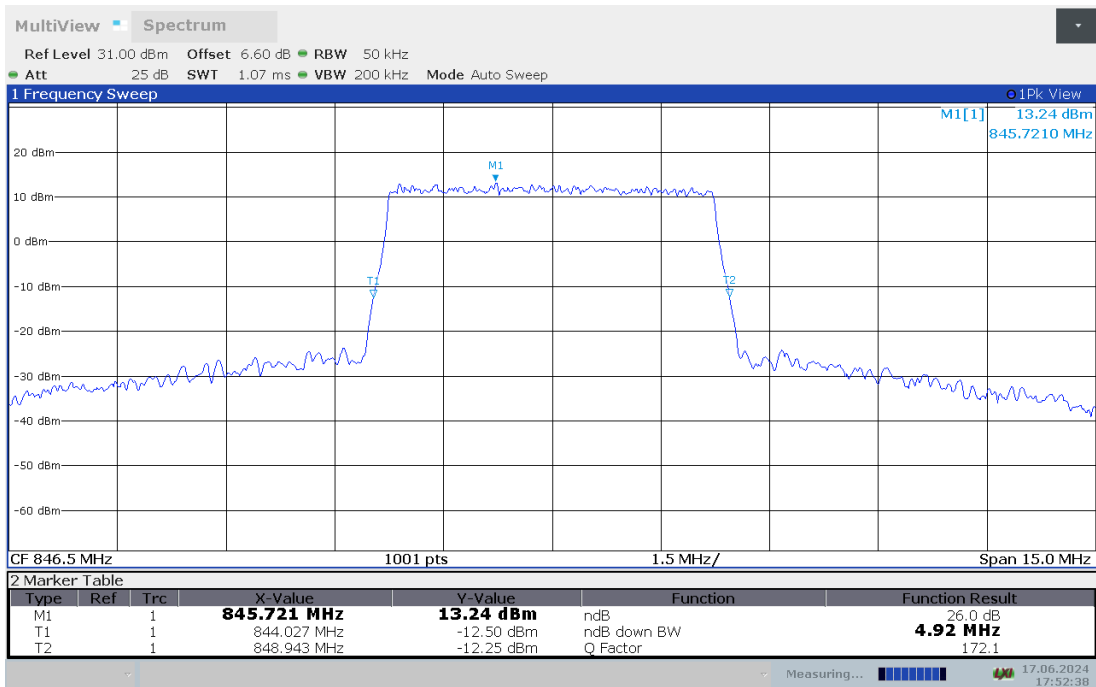
**LTE band 5 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)**



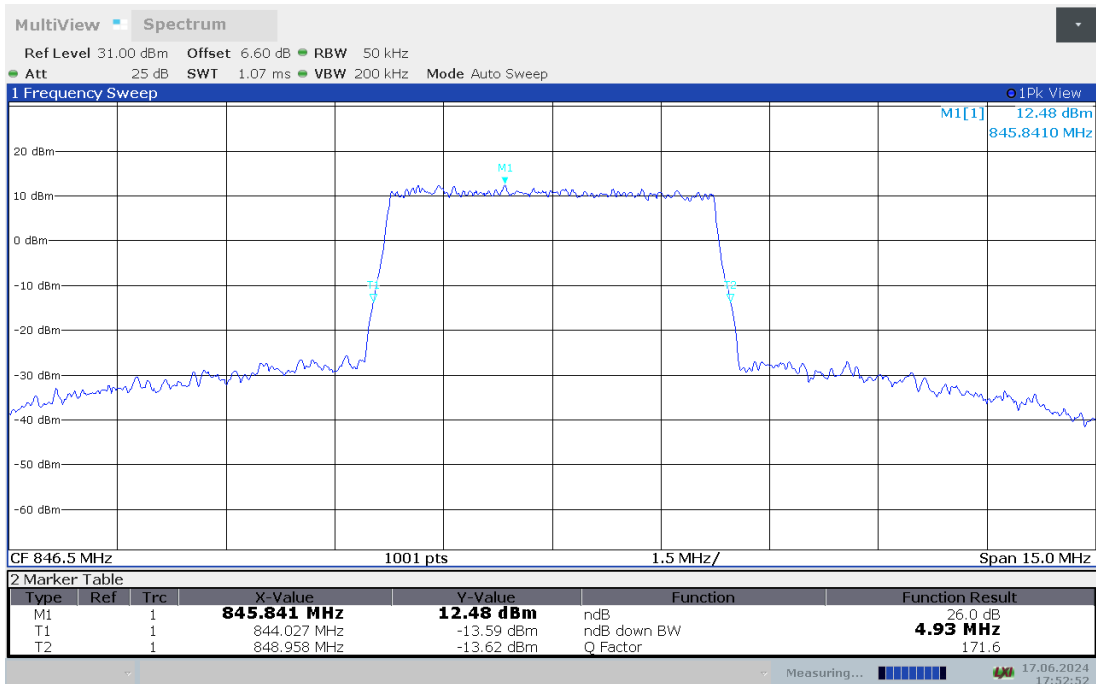
**LTE band 5 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 5 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 5 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

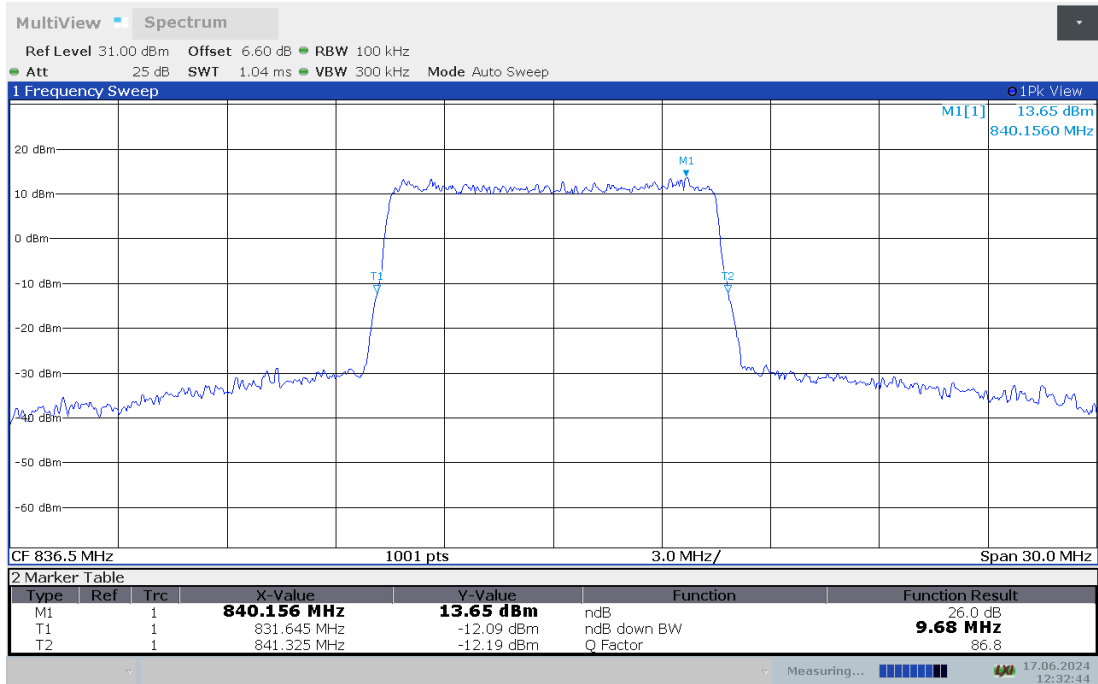




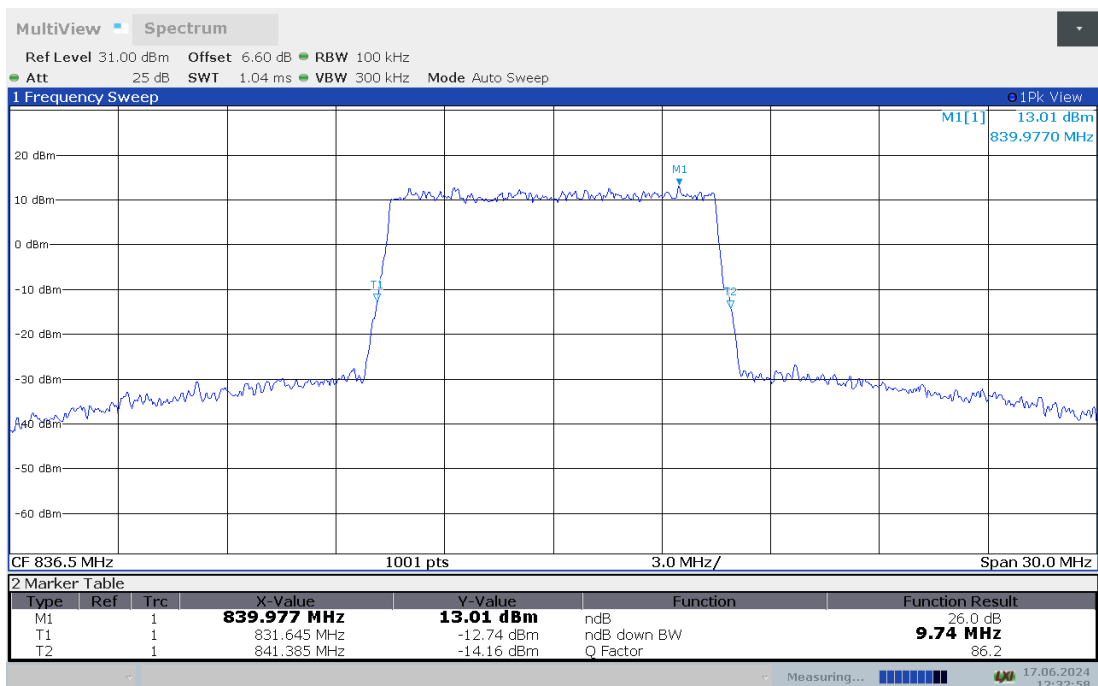
**LTE band 5,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
836.5	9.680	9.740
829	9.710	9.710
844	9.680	9.710

**LTE band 5 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**

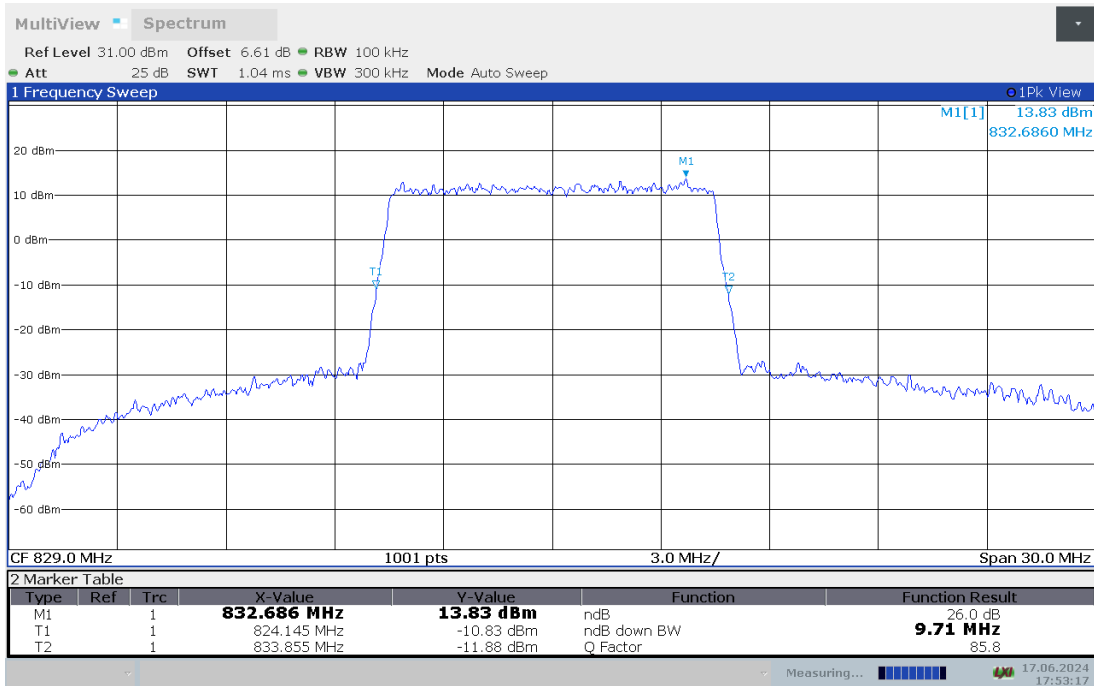


**LTE band 5 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**

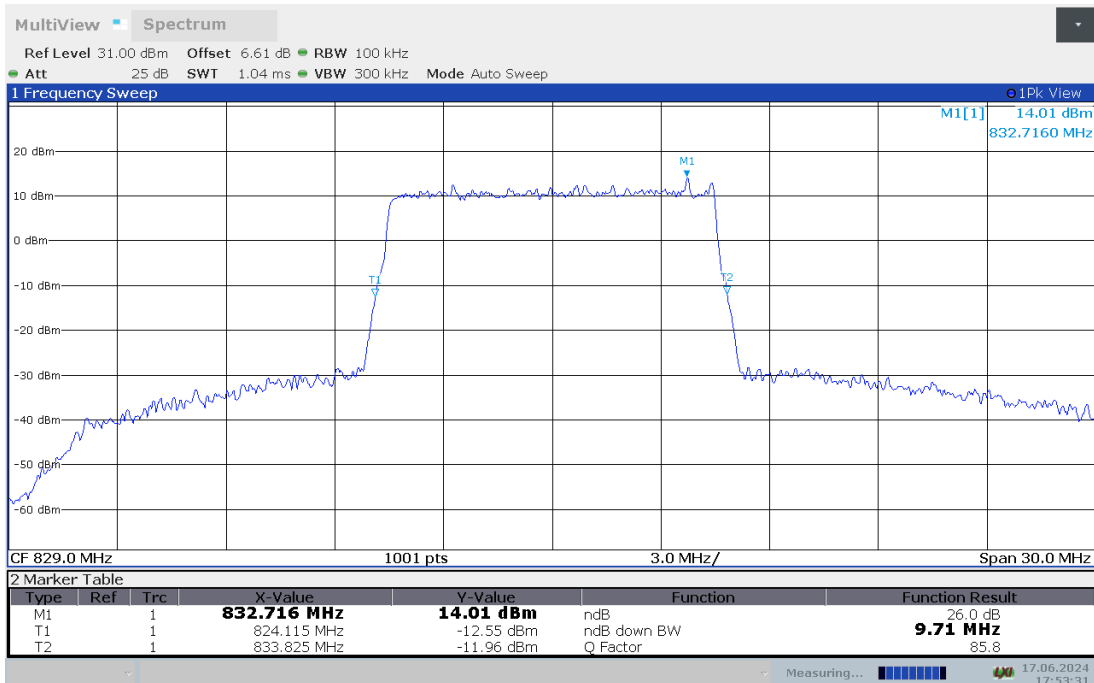




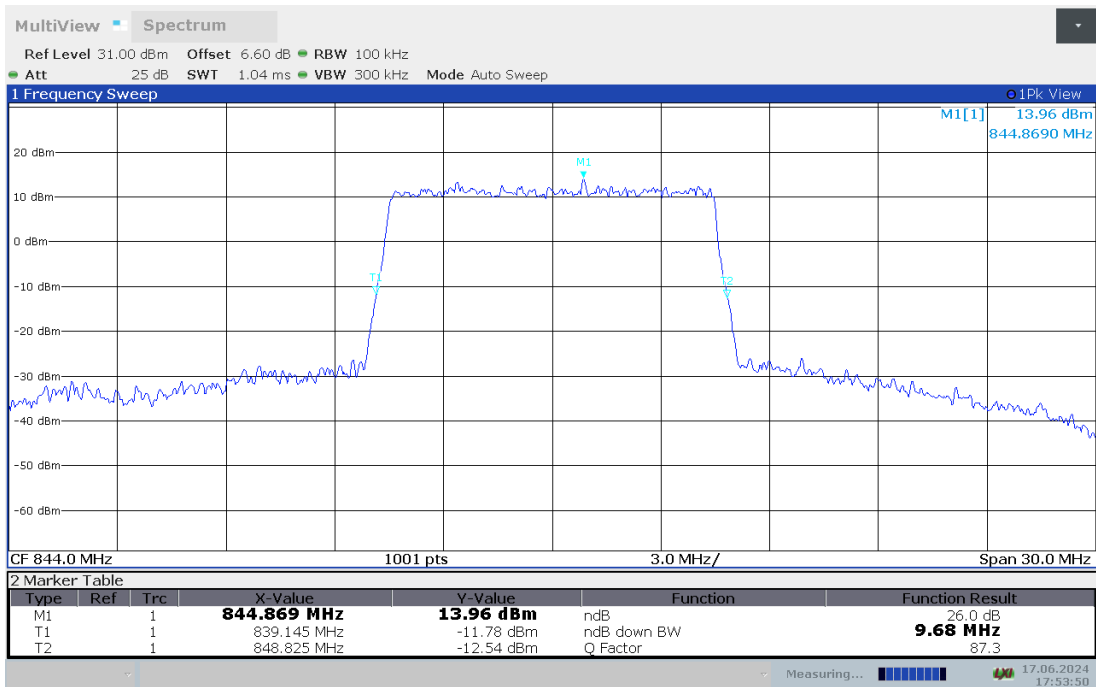
**LTE band 5 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



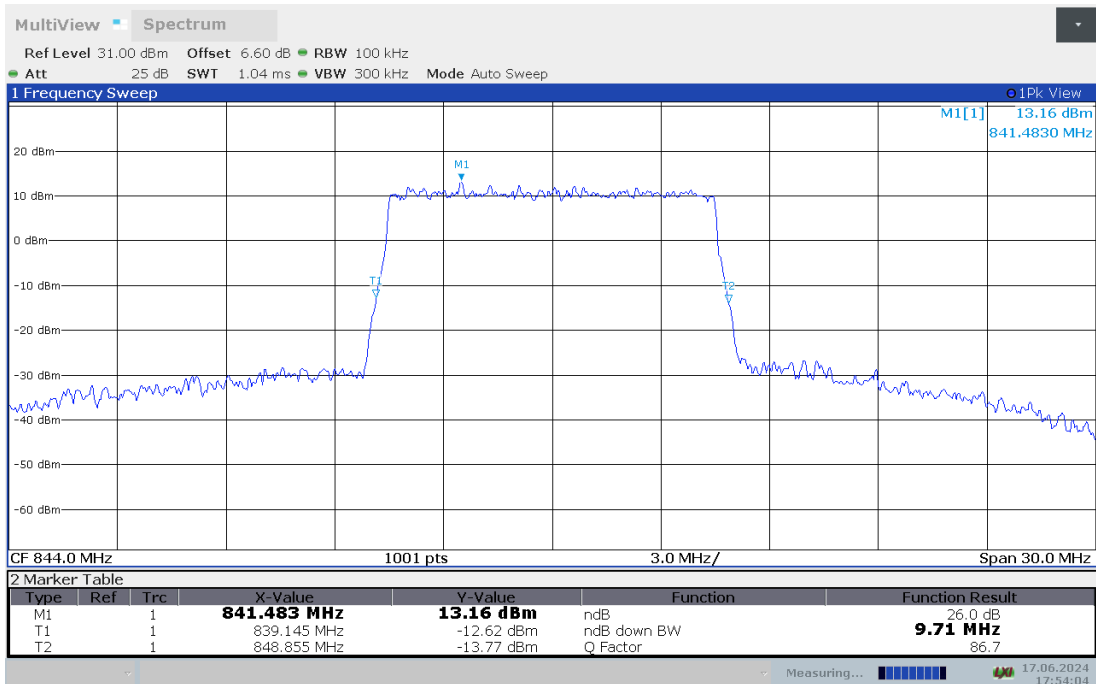
**LTE band 5 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 5 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



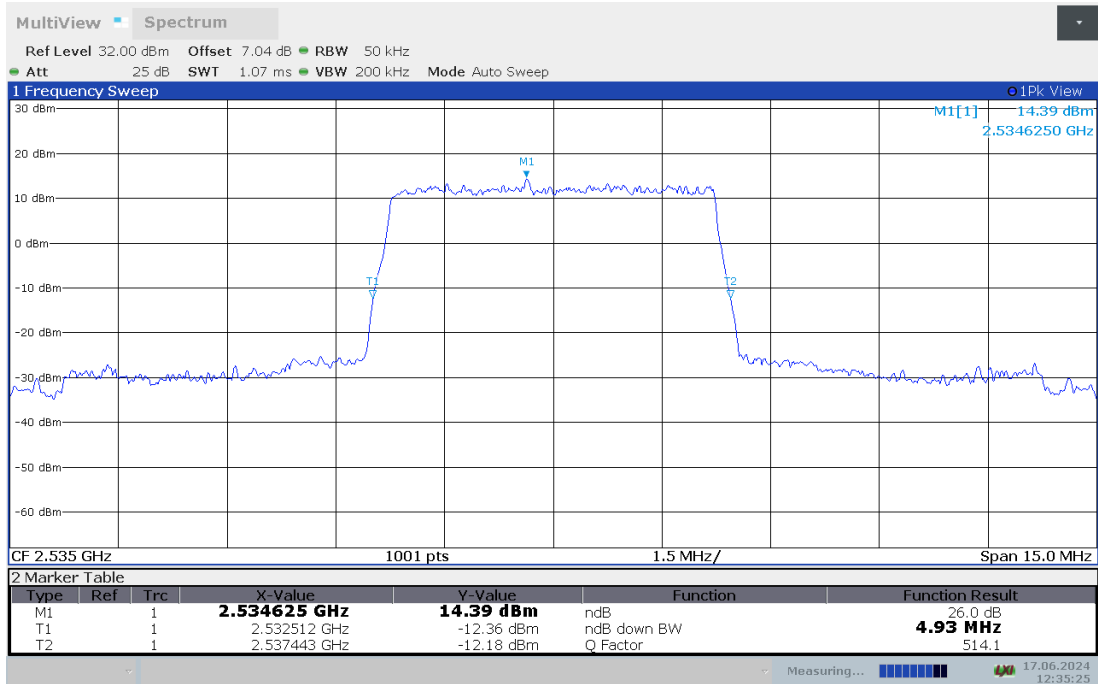
**LTE band 5 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



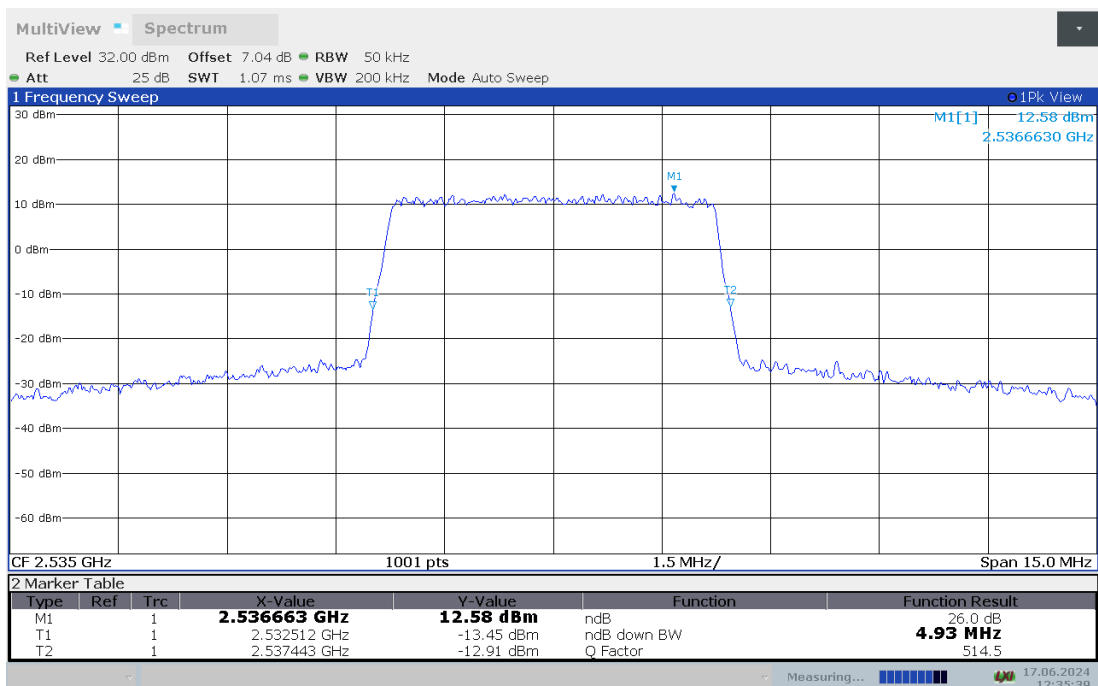
**LTE band 7,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
2535	4.930	4.930
2502.5	4.915	4.915
2567.5	4.915	4.900

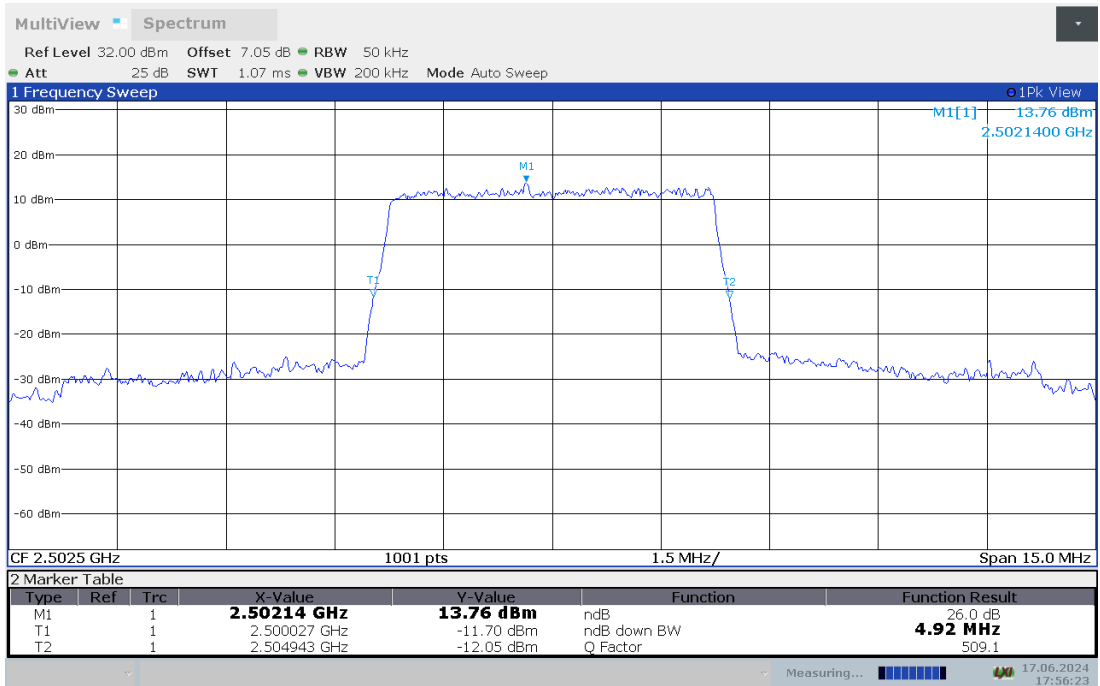
**LTE band 7 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**



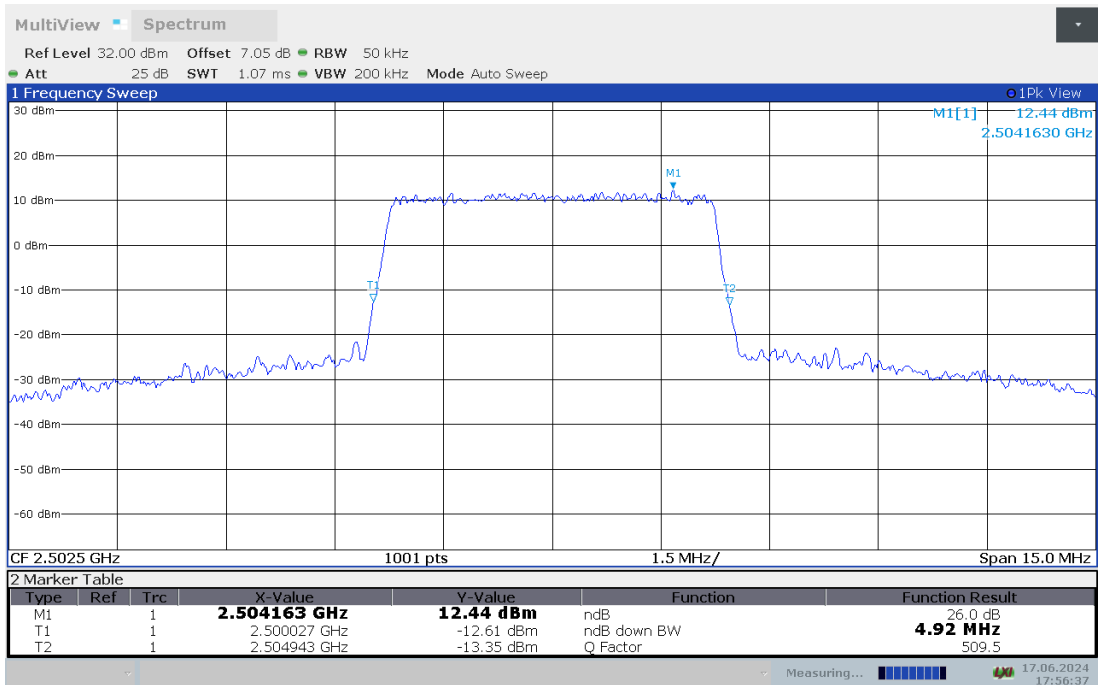
**LTE band 7 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**



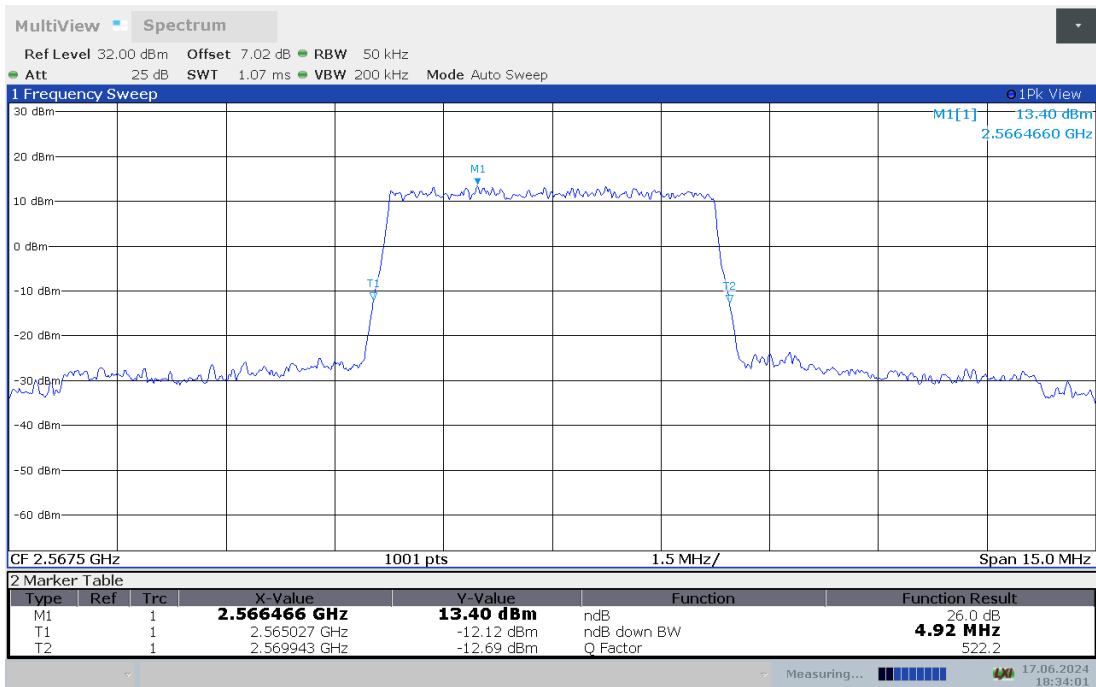
**LTE band 7 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)**



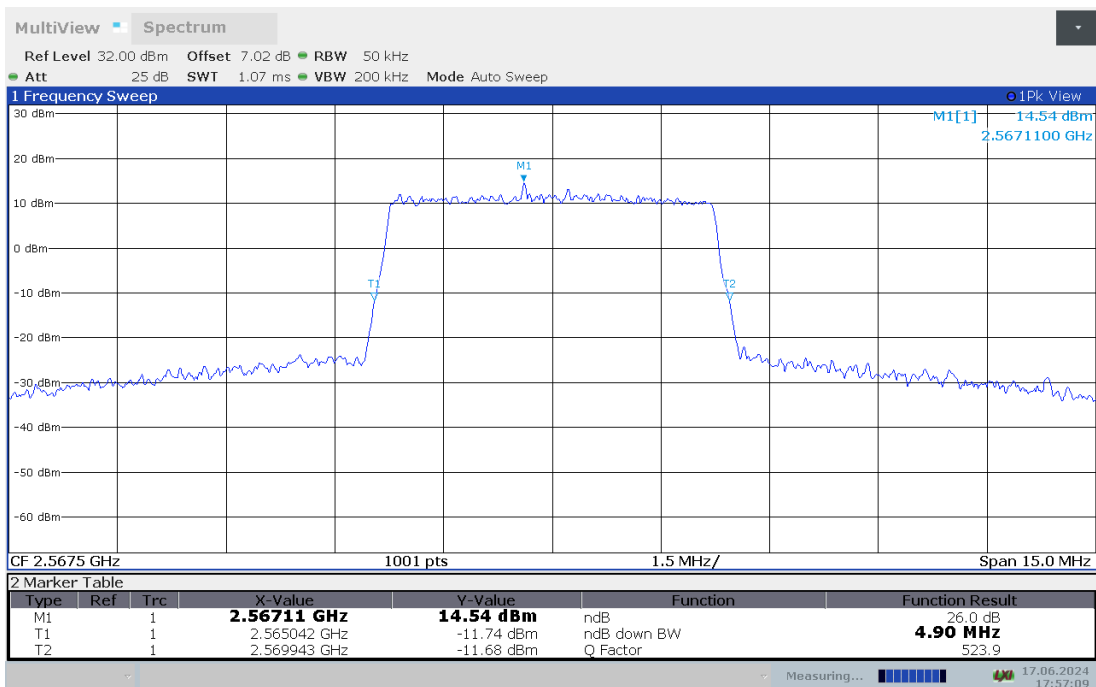
**LTE band 7 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 7 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 7 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

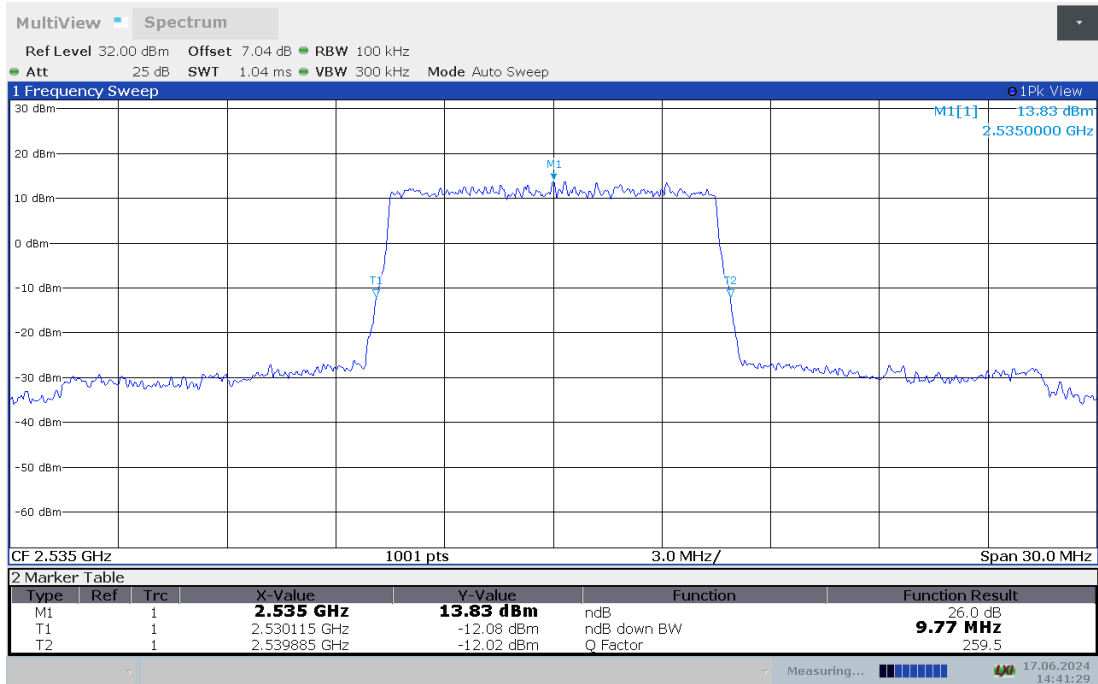




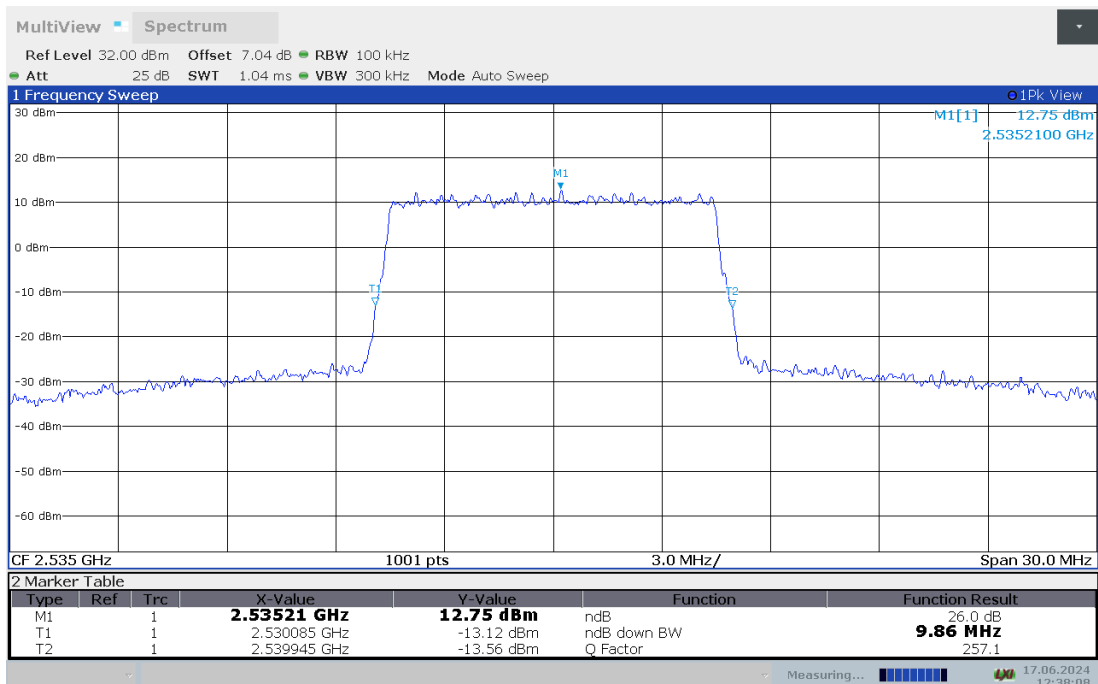
**LTE band 7,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
2535	9.770	9.860
2505	9.800	9.770
2565	9.710	9.710

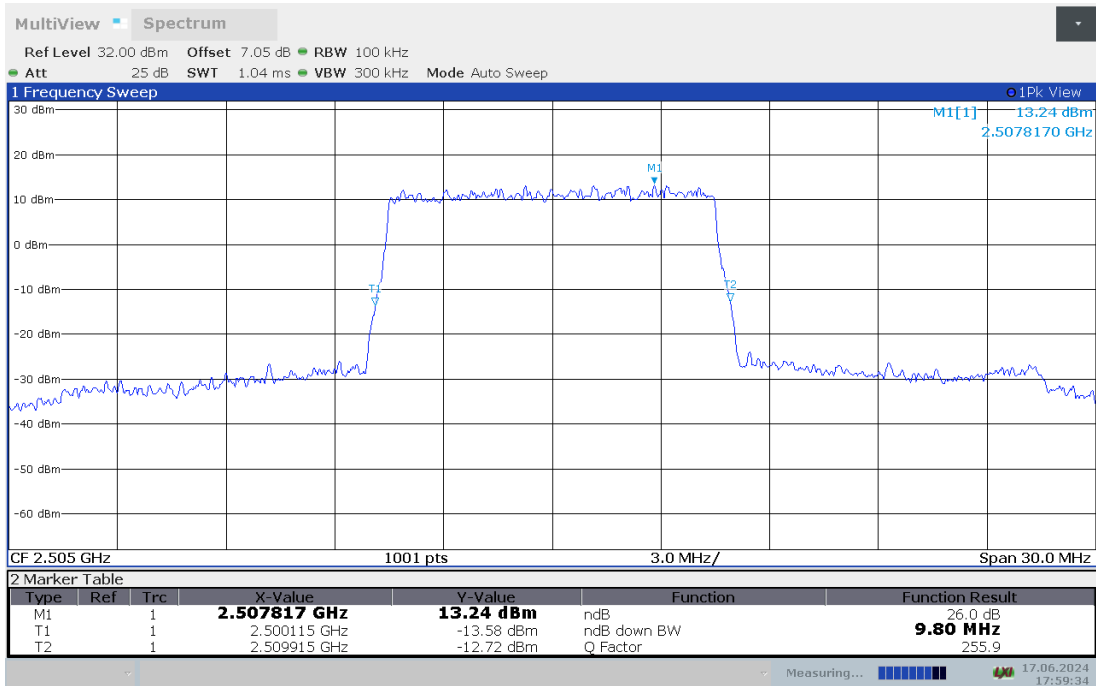
**LTE band 7 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**



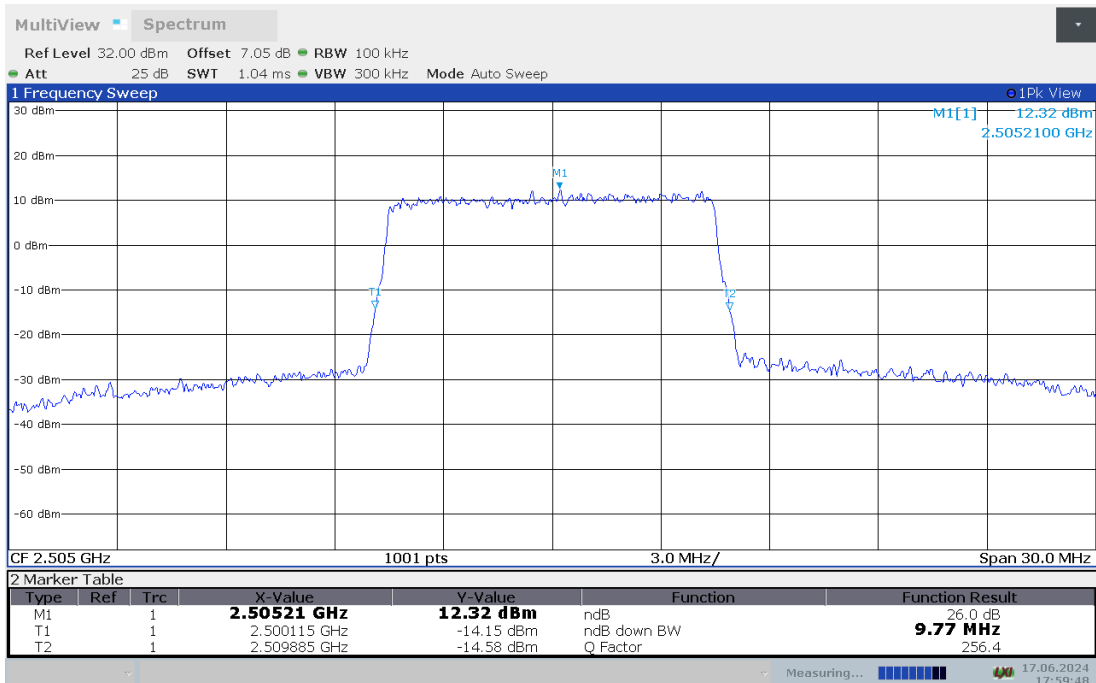
**LTE band 7 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**



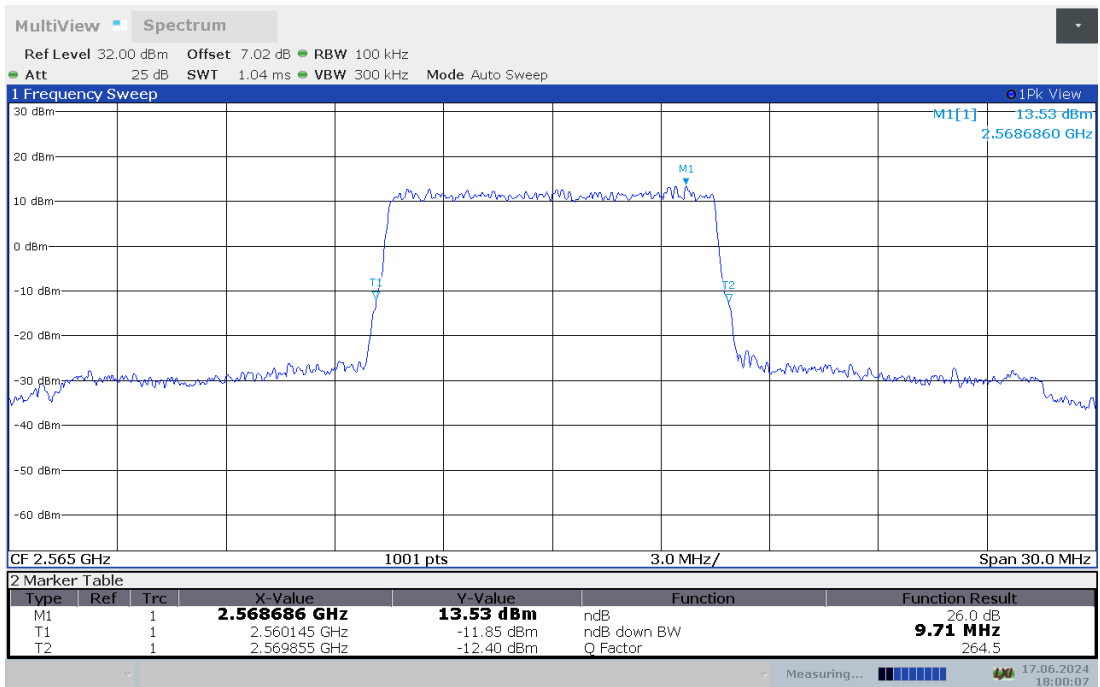
**LTE band 7 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



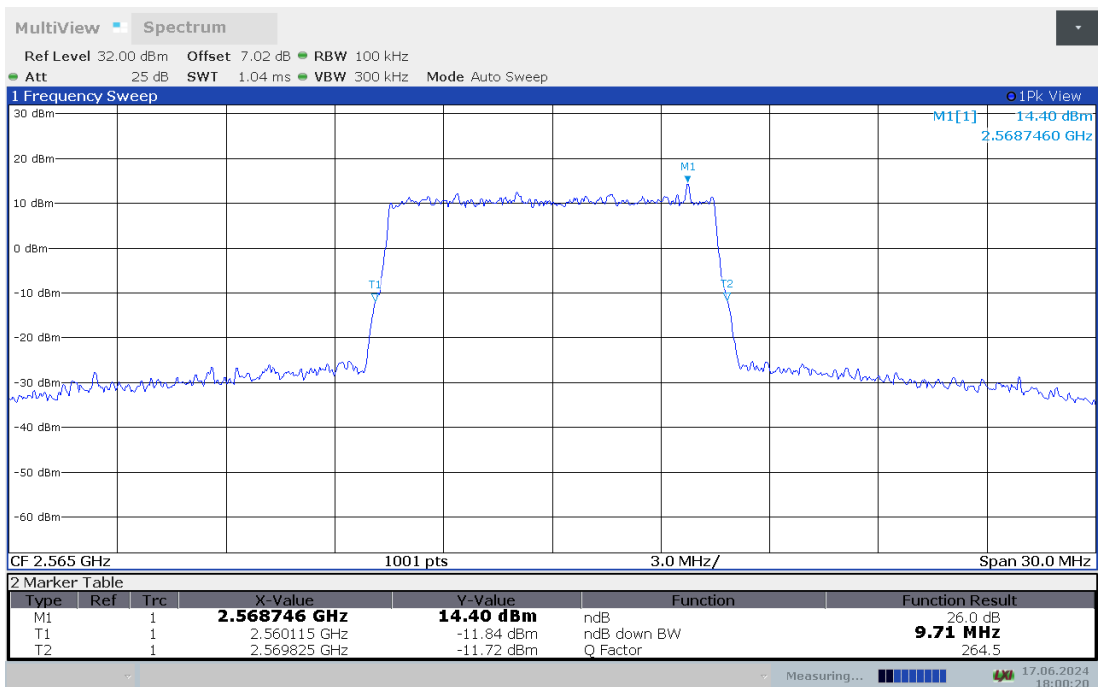
**LTE band 7 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 7 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 7 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



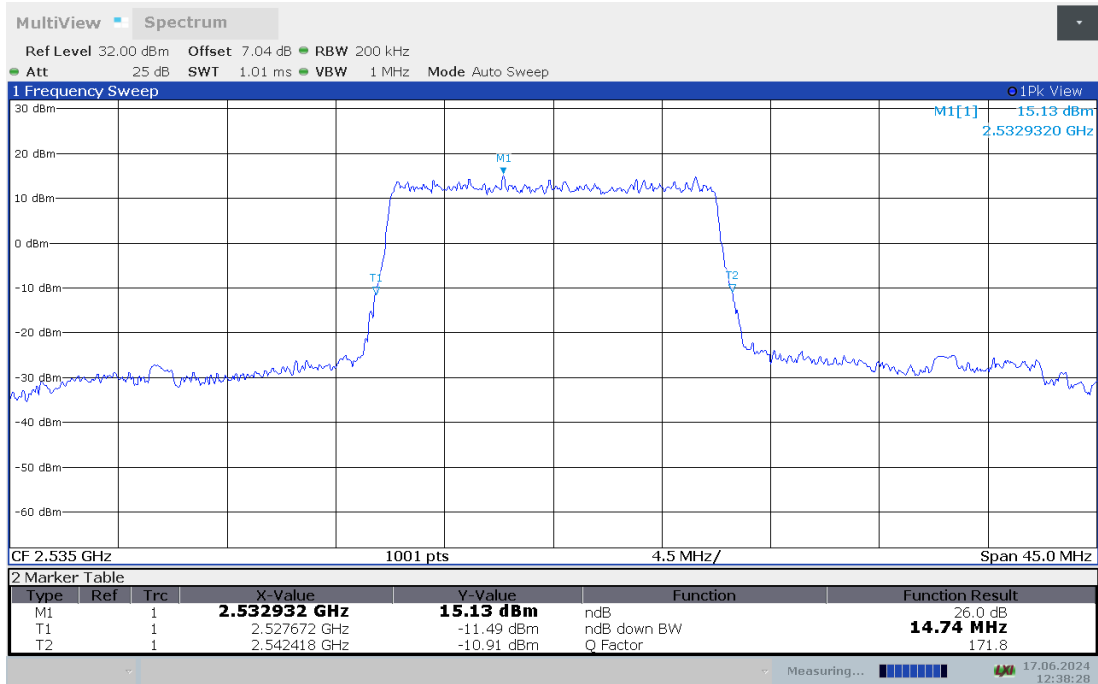




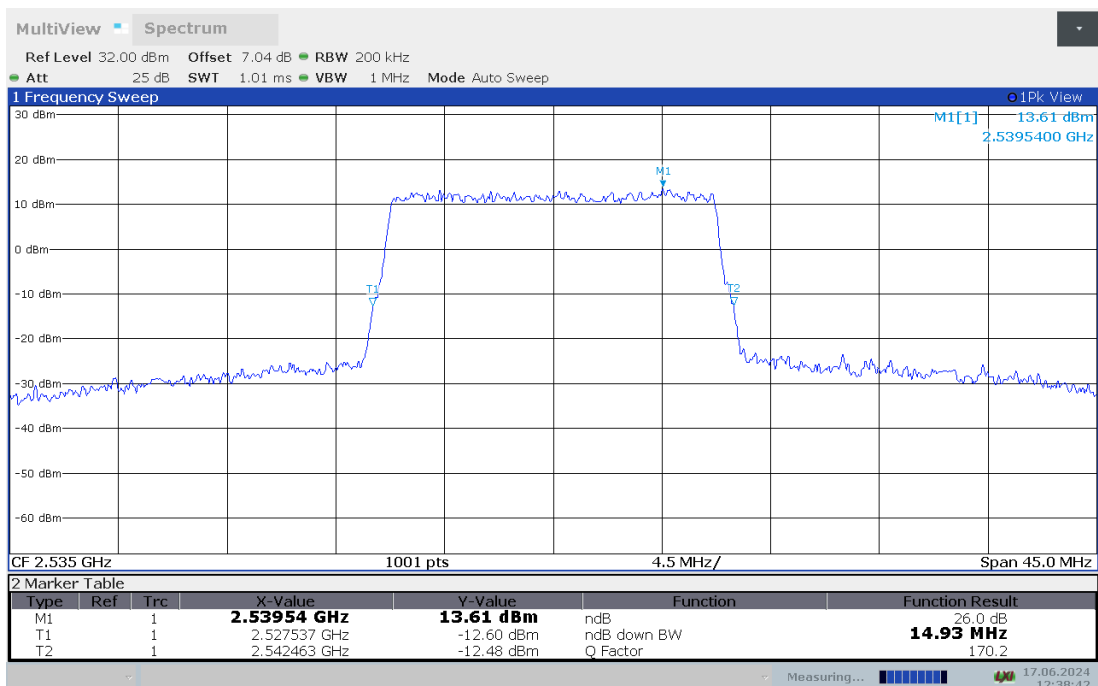
**LTE band 7,15MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
2535	14.745	14.925
2507.5	14.745	14.745
2562.5	14.700	14.880

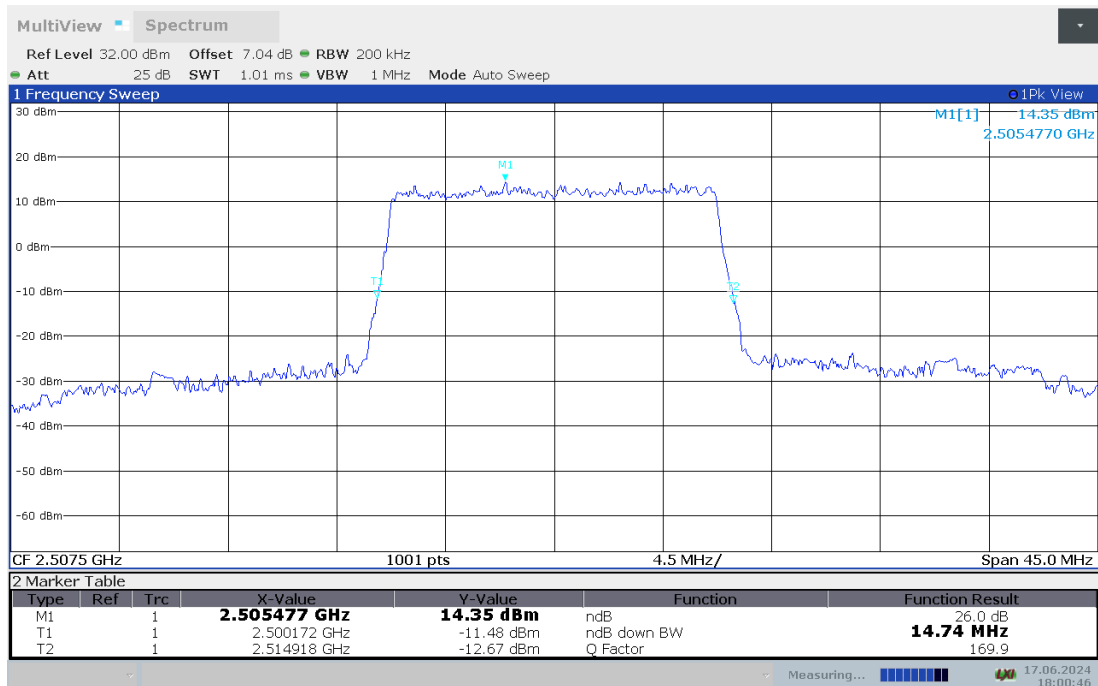
**LTE band 7 , 15MHz Bandwidth,MID,QPSK (-26dBc BW)**



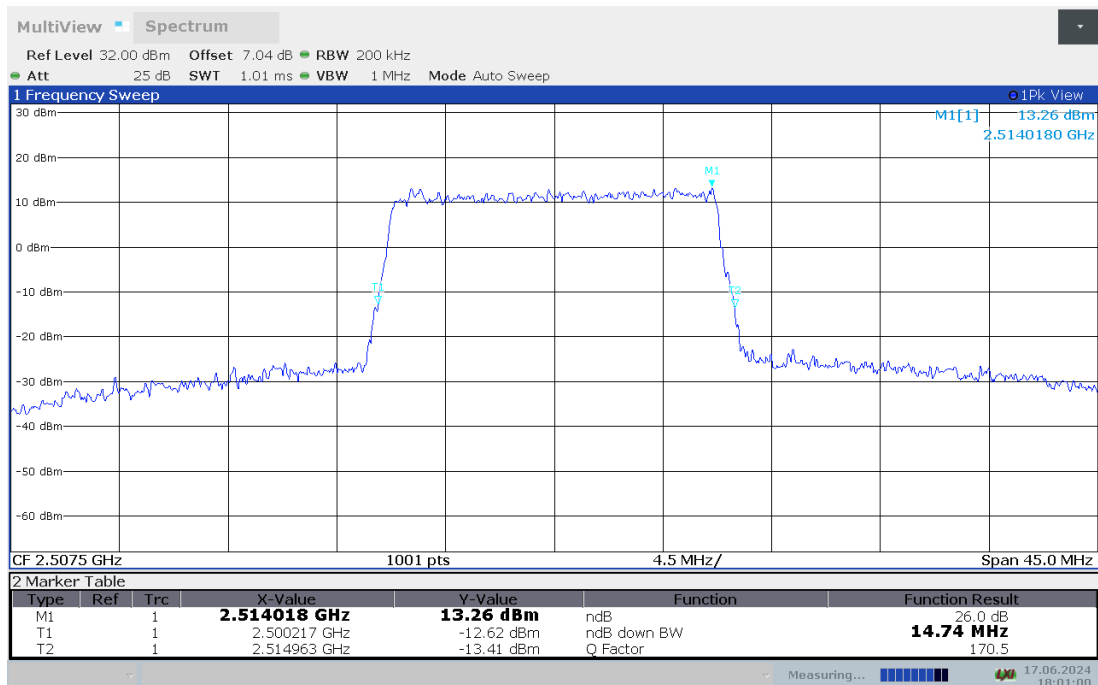
**LTE band 7 , 15MHz Bandwidth,MID,16QAM (-26dBc BW)**



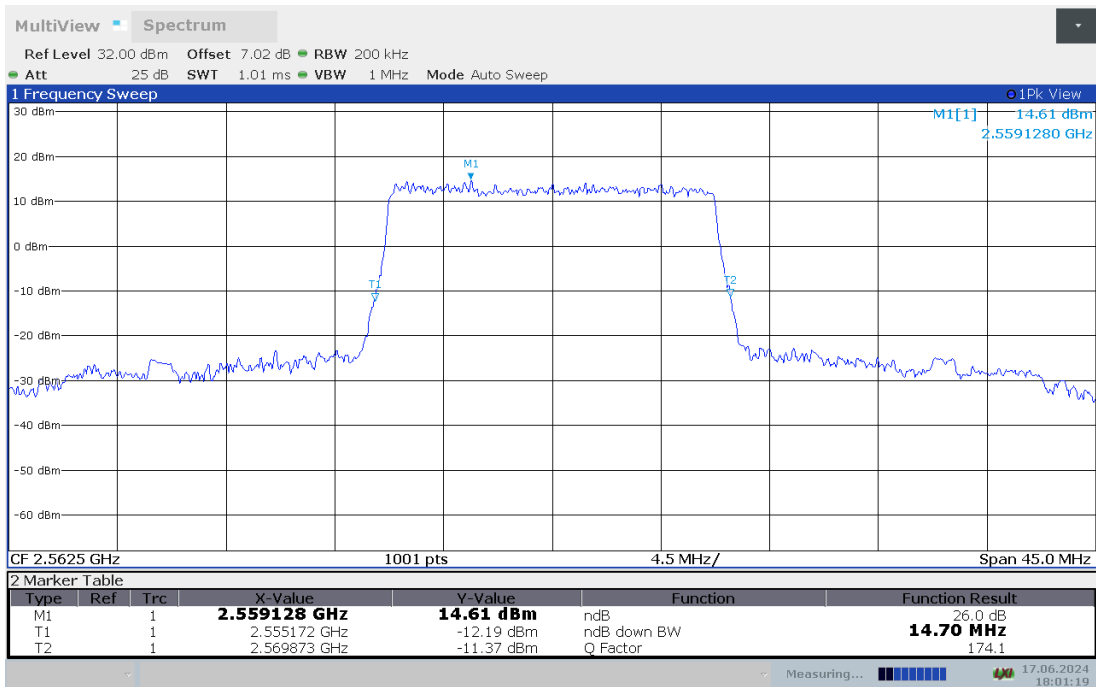
**LTE band 7 , 15MHz Bandwidth,LOW,QPSK (-26dBc BW)**



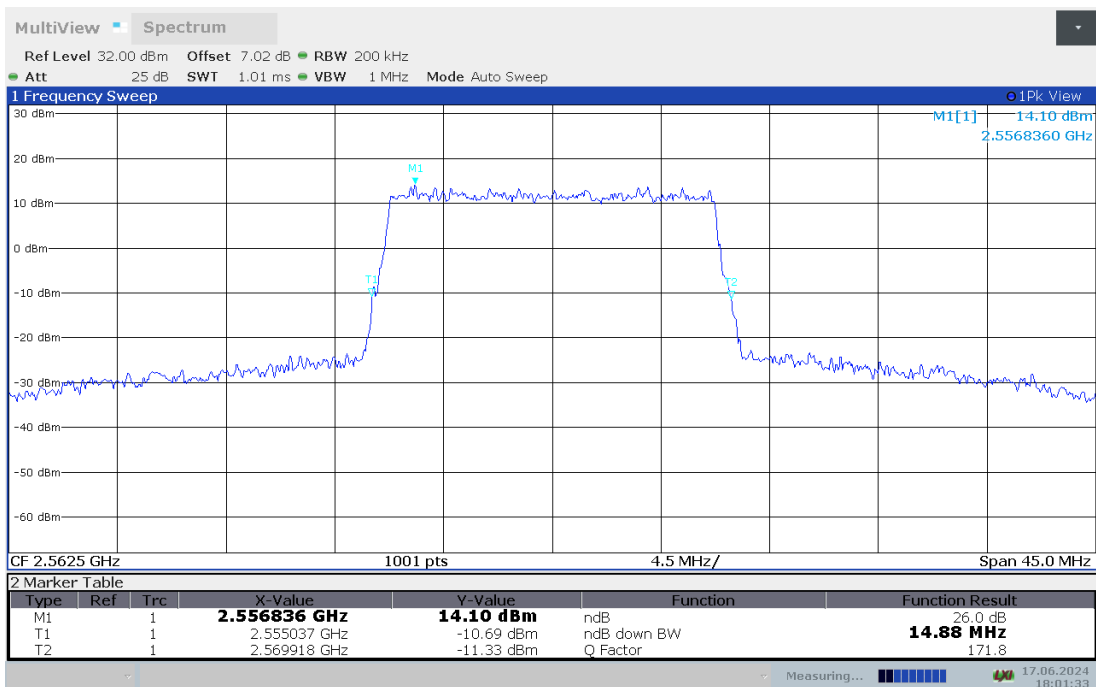
**LTE band 7 , 15MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 7 , 15MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 7 , 15MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

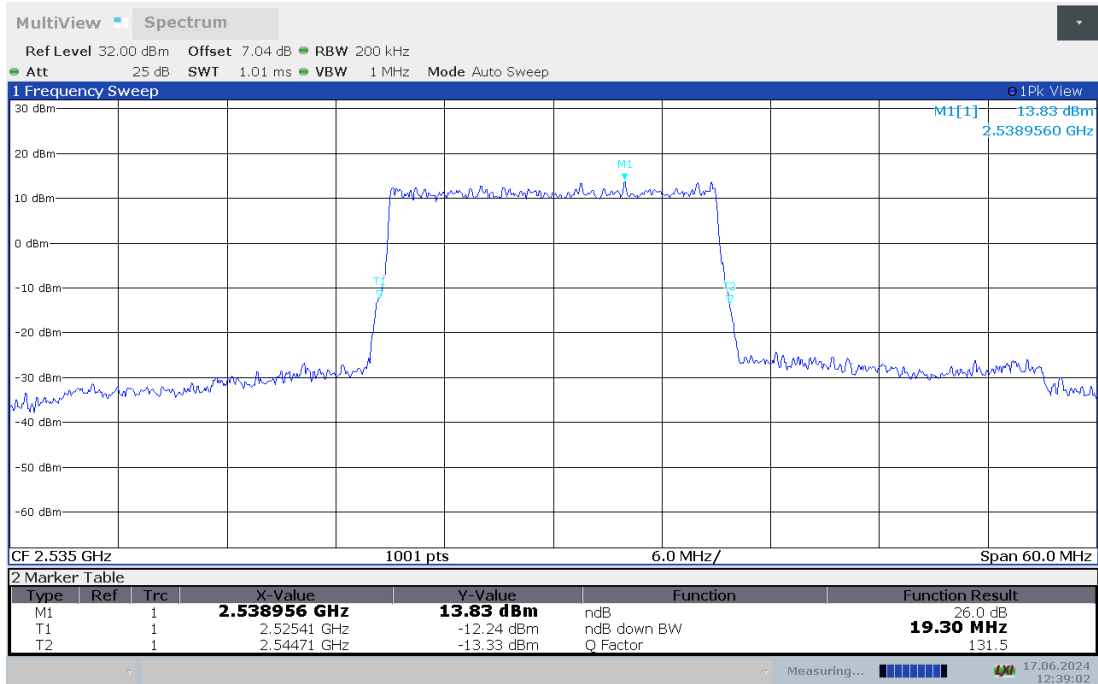




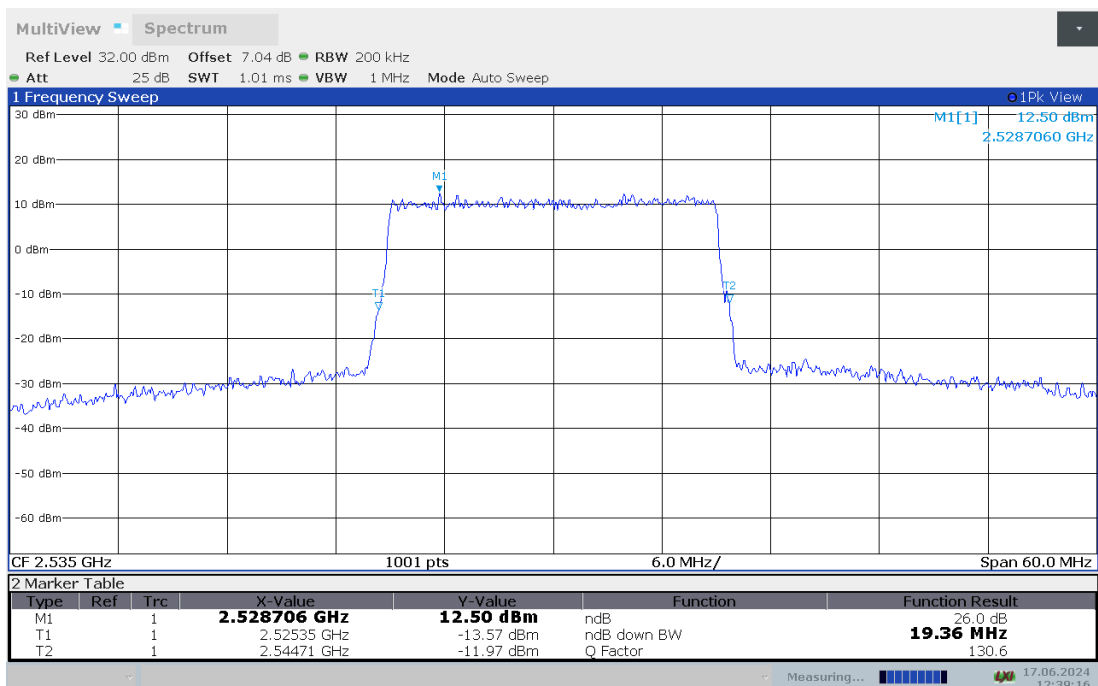
**LTE band 7,20MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
2535	19.301	19.361
2510	19.361	19.421
2560	19.121	19.361

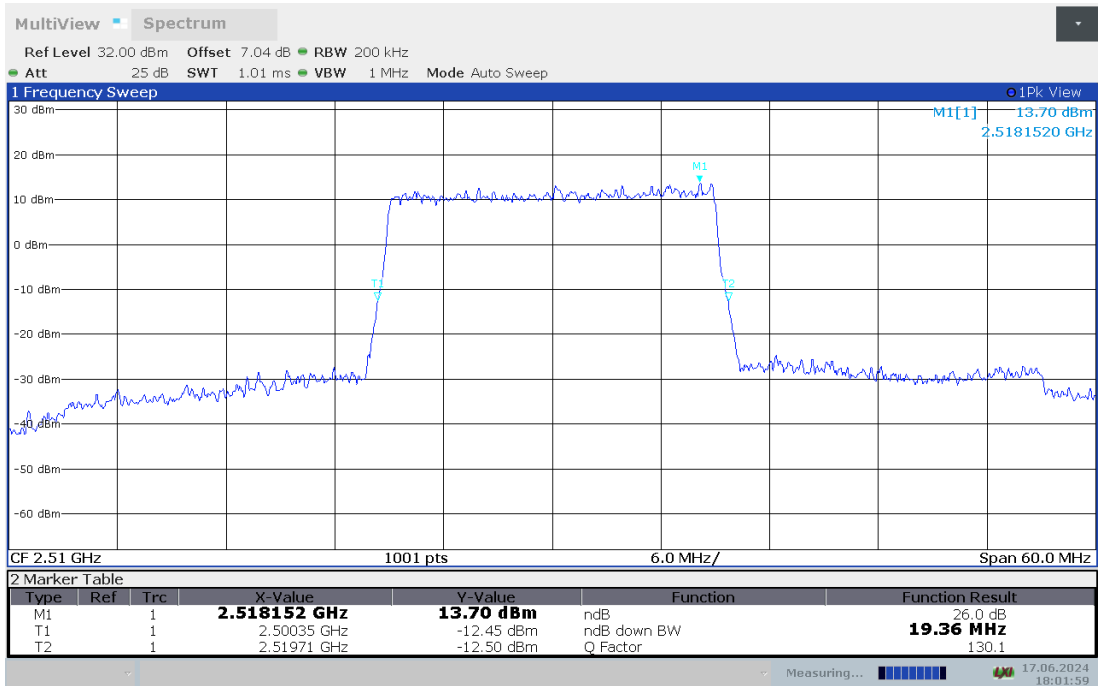
**LTE band 7 , 20MHz Bandwidth,MID,QPSK (-26dBc BW)**



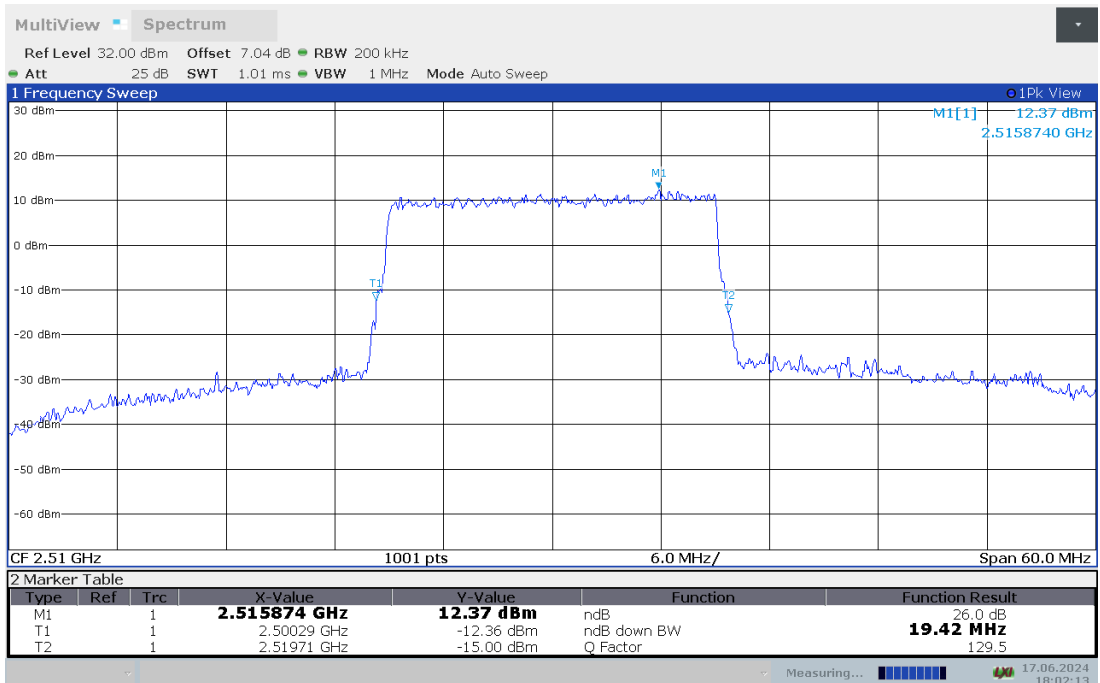
**LTE band 7 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)**



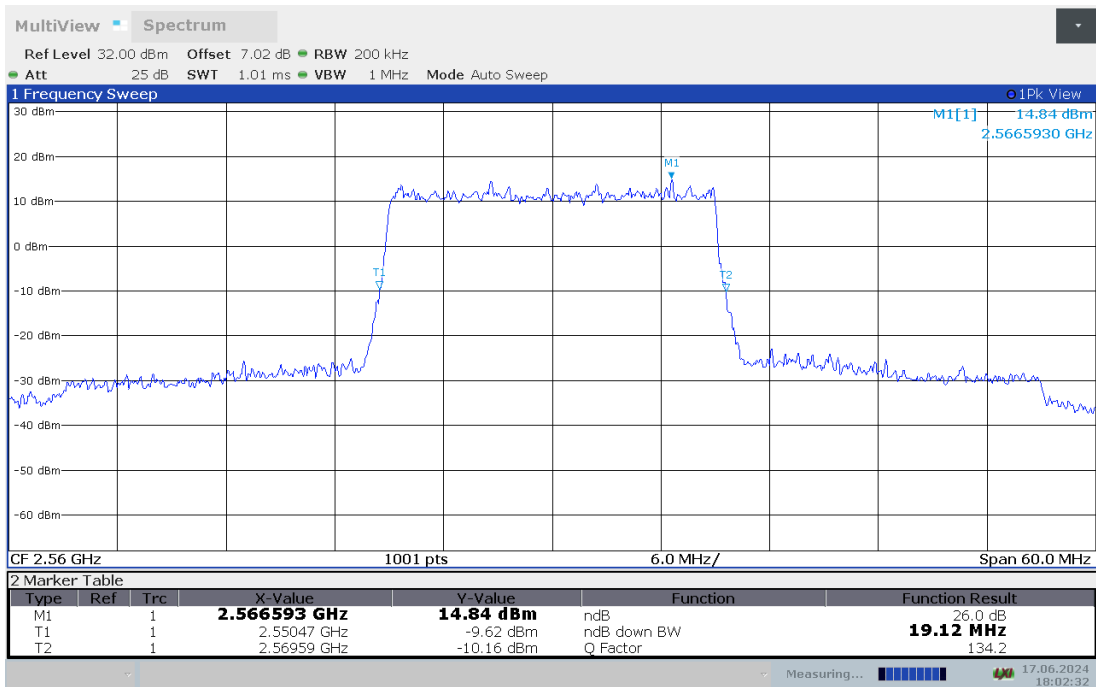
**LTE band 7 , 20MHz Bandwidth,LOW,QPSK (-26dBc BW)**



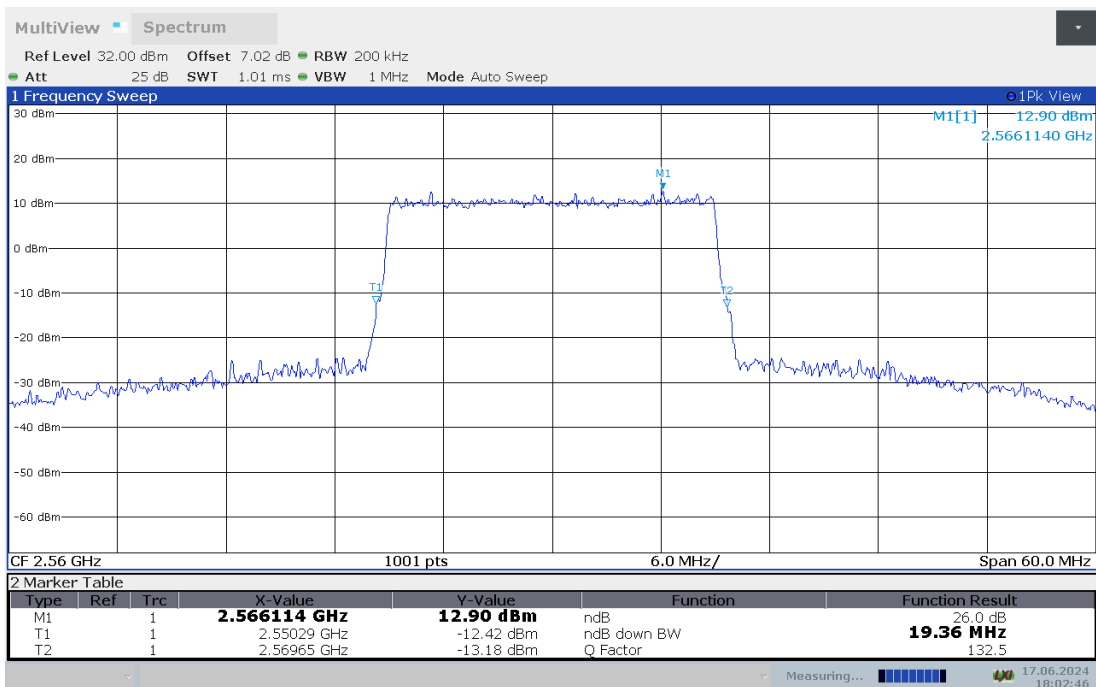
**LTE band 7 , 20MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 7 , 20MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 7 , 20MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

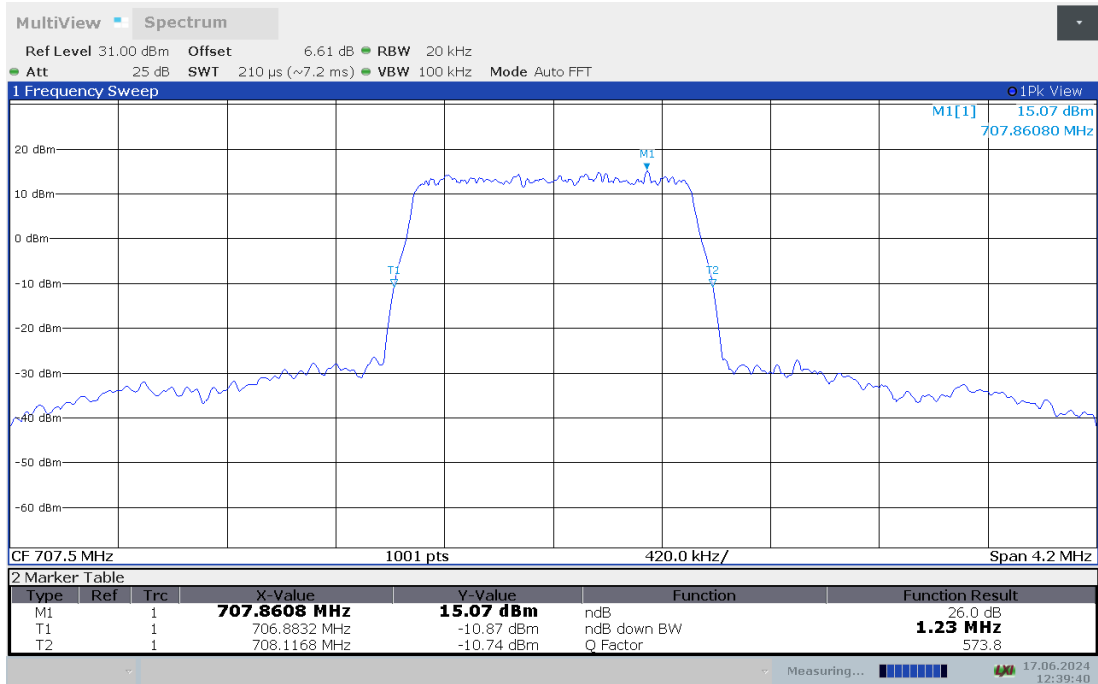




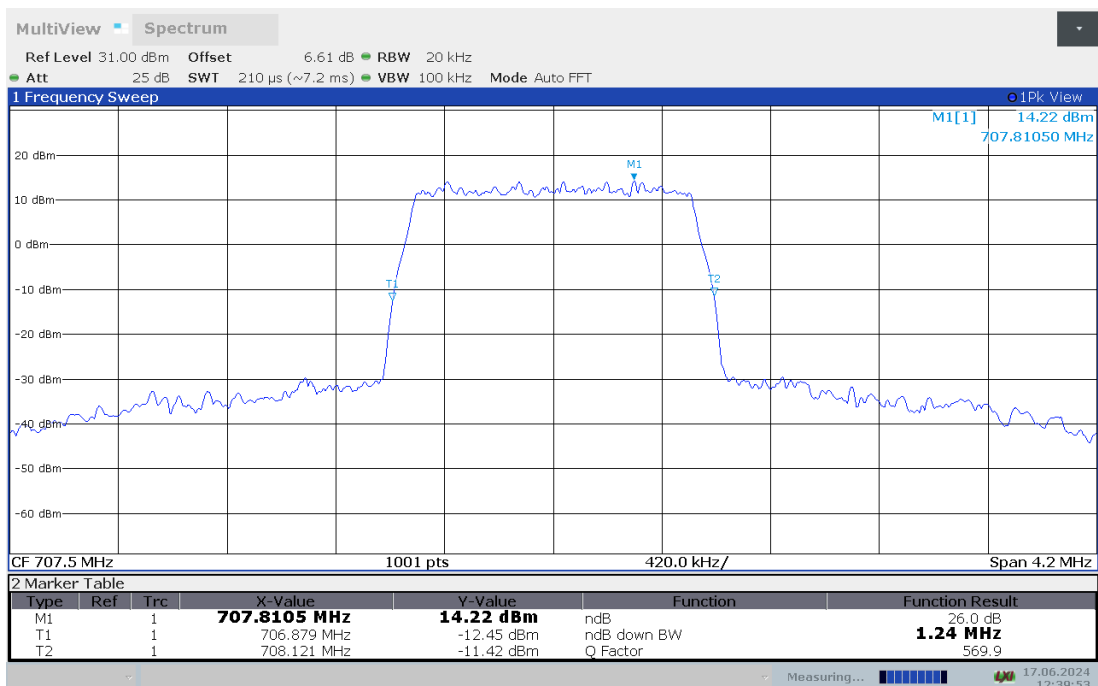
**LTE band 12,1.4MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
707.5	1.234	1.242
699.7	1.238	1.238
715.3	1.234	1.242

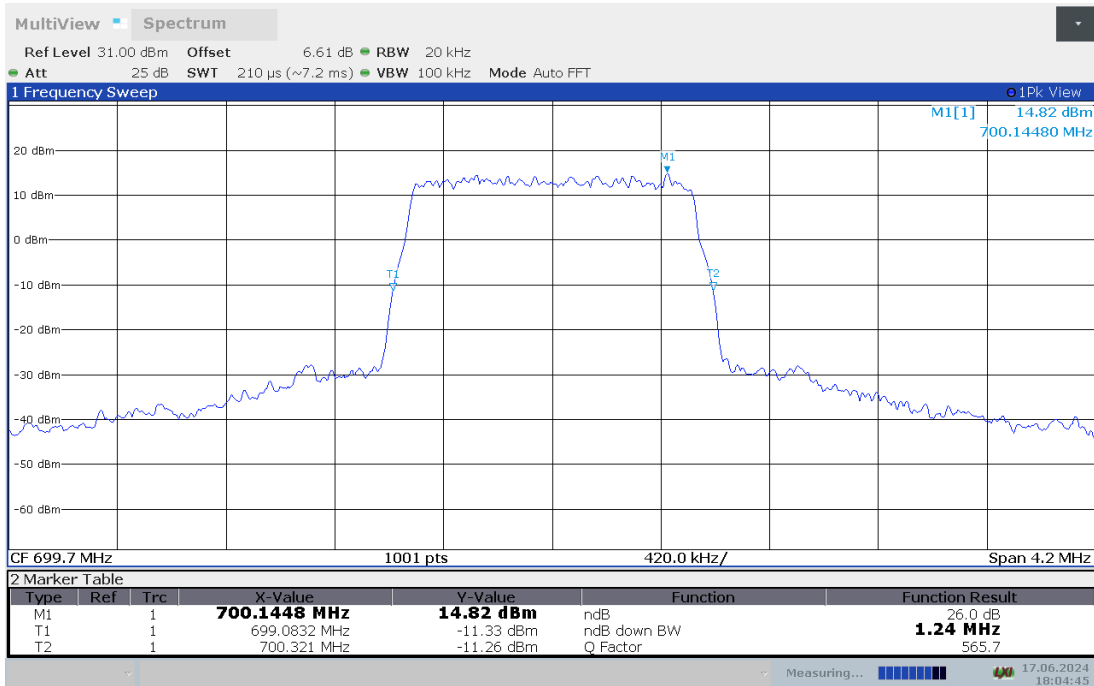
**LTE band 12 , 1.4MHz Bandwidth,MID,QPSK (-26dBc BW)**



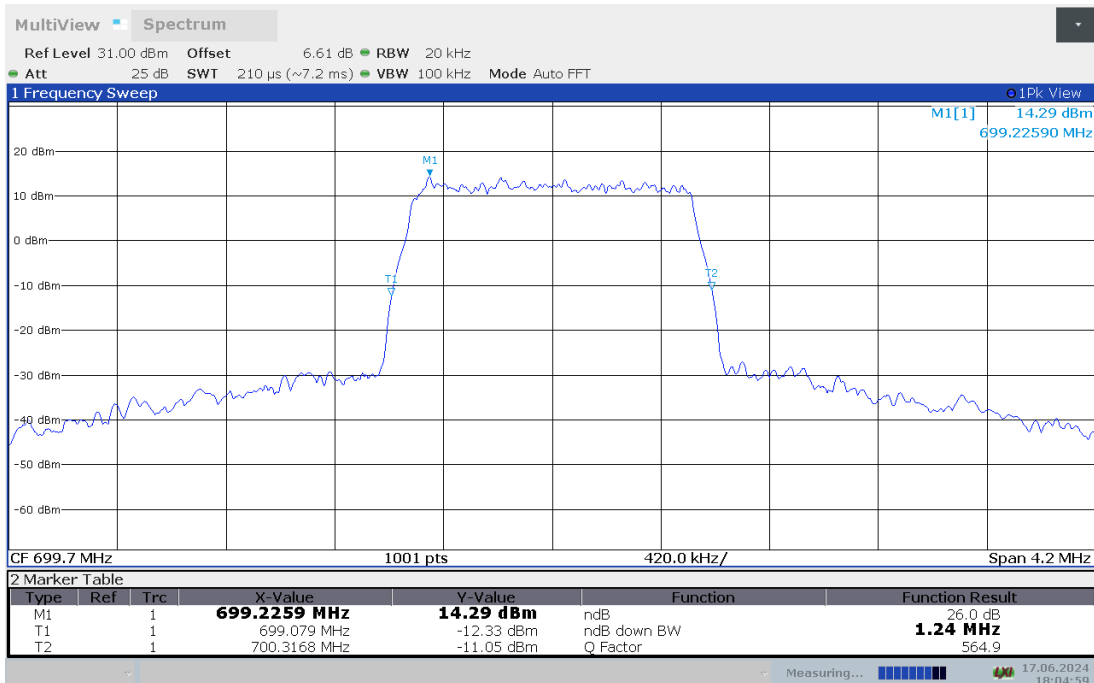
**LTE band 12 , 1.4MHz Bandwidth,MID,16QAM (-26dBc BW)**



**LTE band 12 , 1.4MHz Bandwidth,LOW,QPSK (-26dBc BW)**

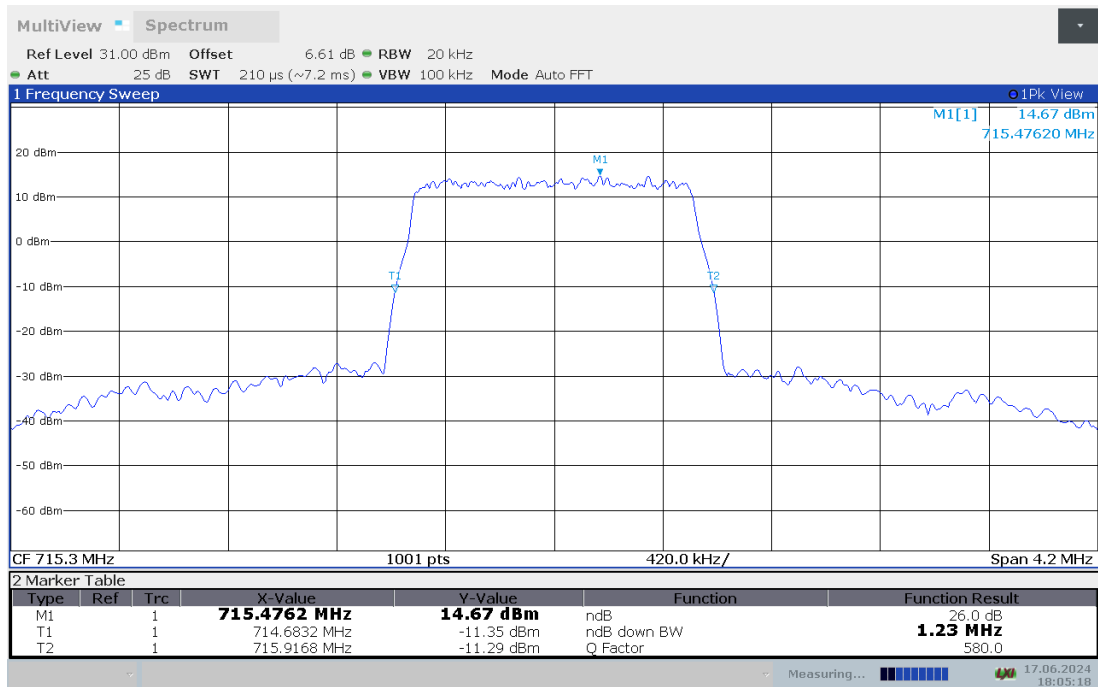


**LTE band 12 , 1.4MHz Bandwidth,LOW,16QAM (-26dBc BW)**

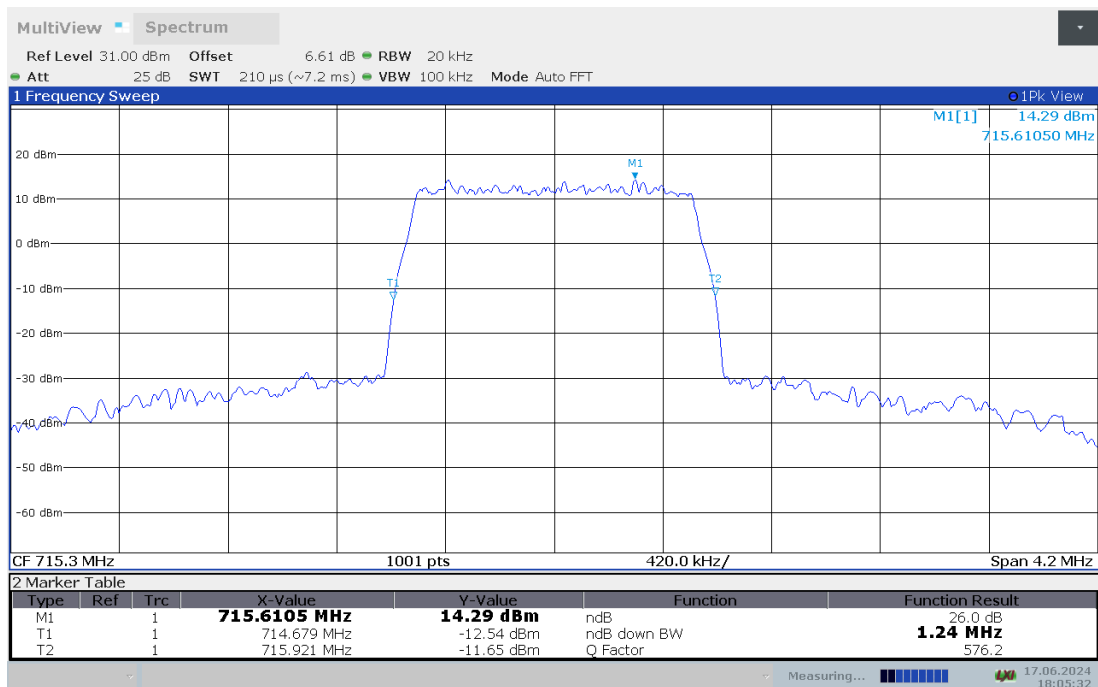


**LTE band 12 , 1.4MHz Bandwidth,HIGH,QPSK (-26dBc BW)**





**LTE band 12 , 1.4MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

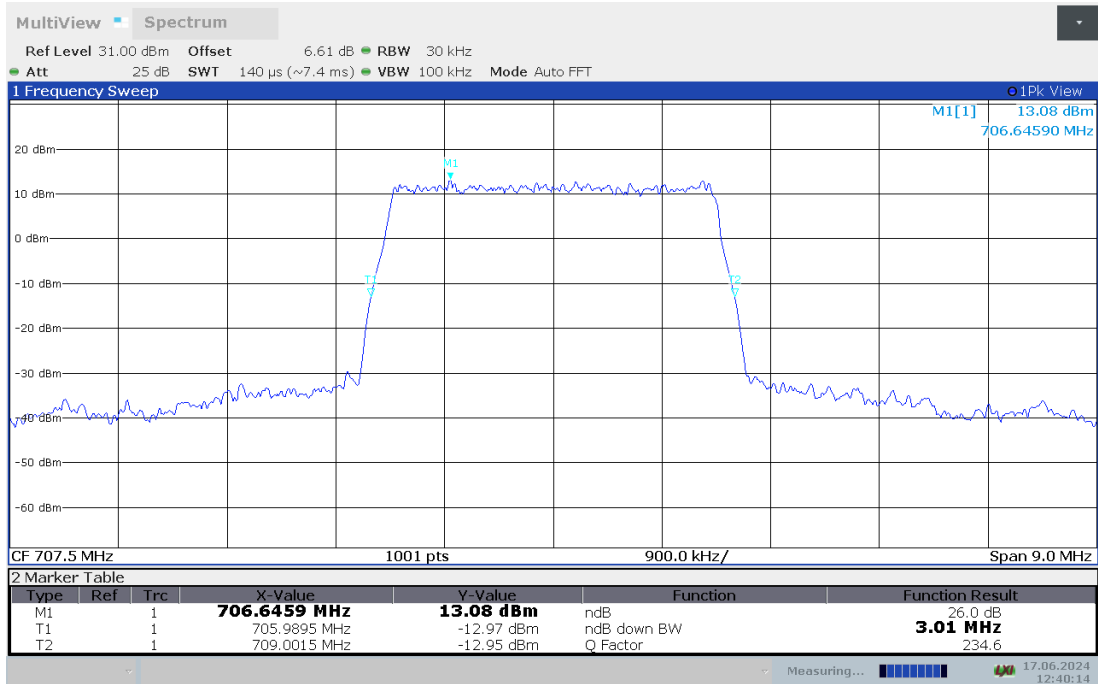




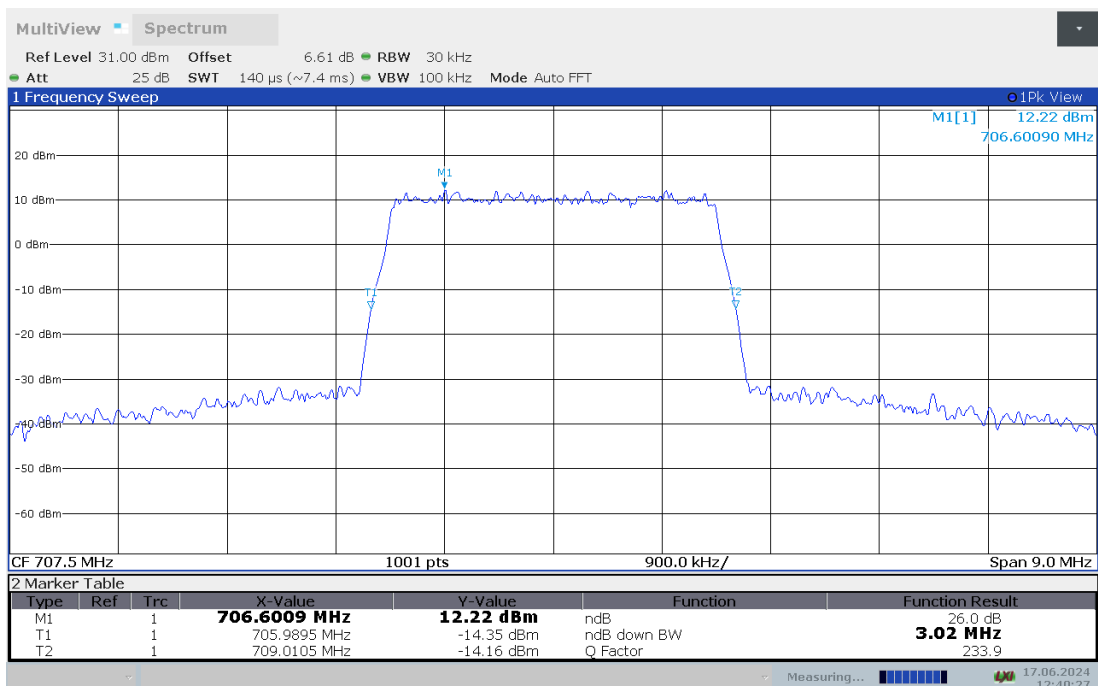
**LTE band 12,3MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
707.5	3.012	3.021
700.5	3.012	2.931
714.5	2.985	2.985

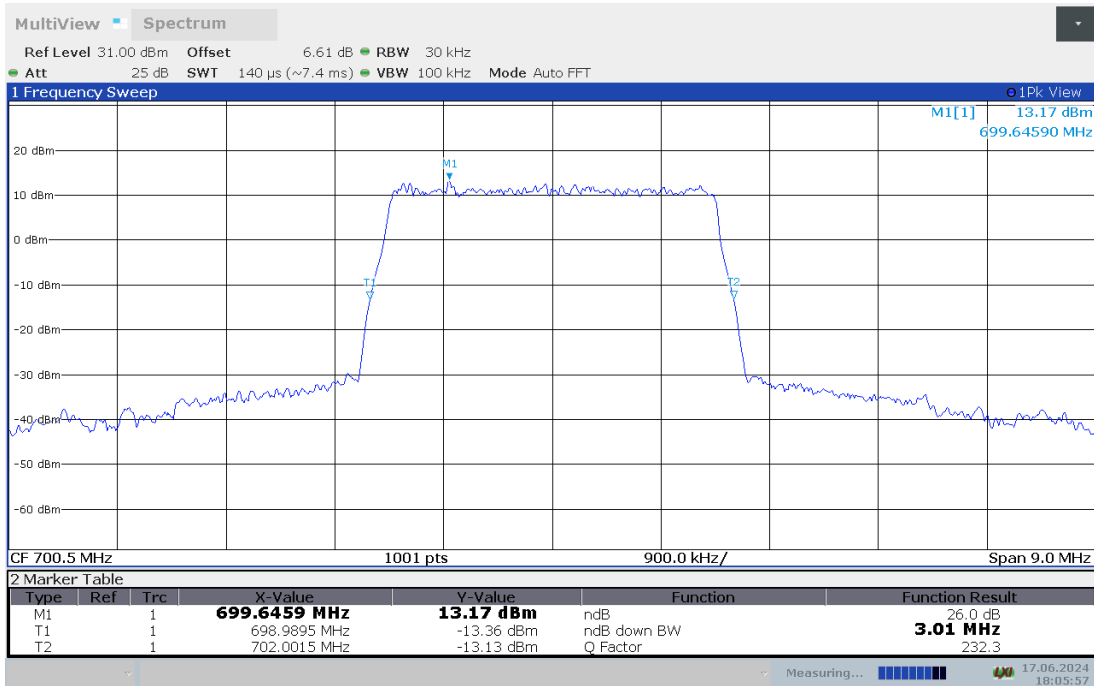
**LTE band 12 , 3MHz Bandwidth,MID,QPSK (-26dBc BW)**



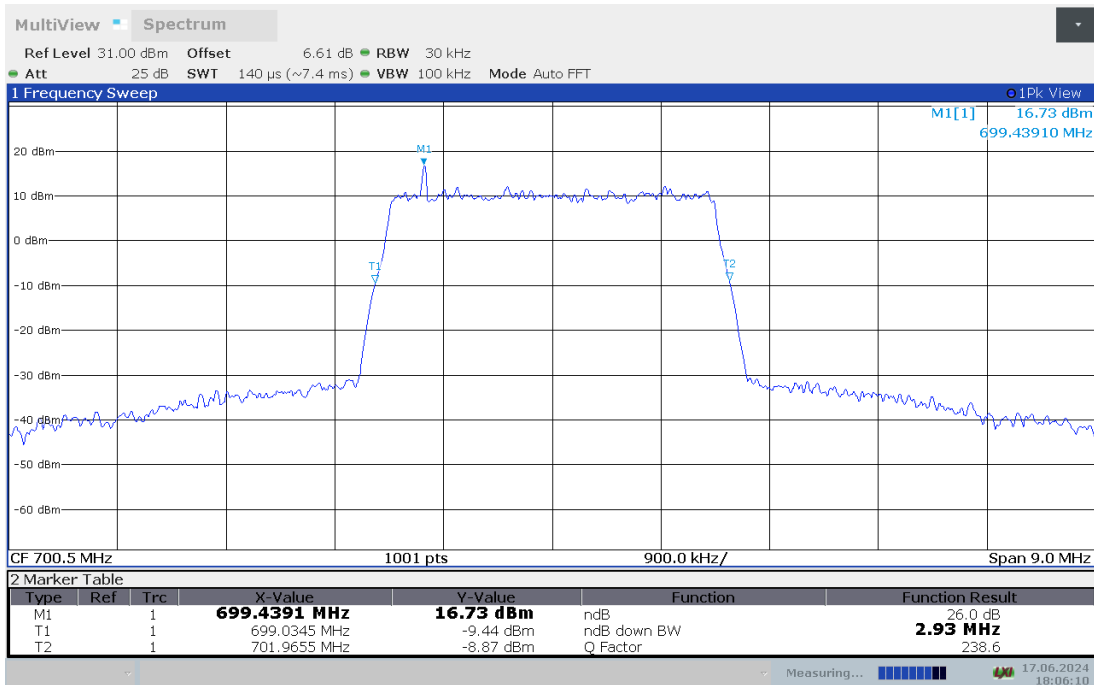
**LTE band 12 , 3MHz Bandwidth,MID,16QAM (-26dBc BW)**



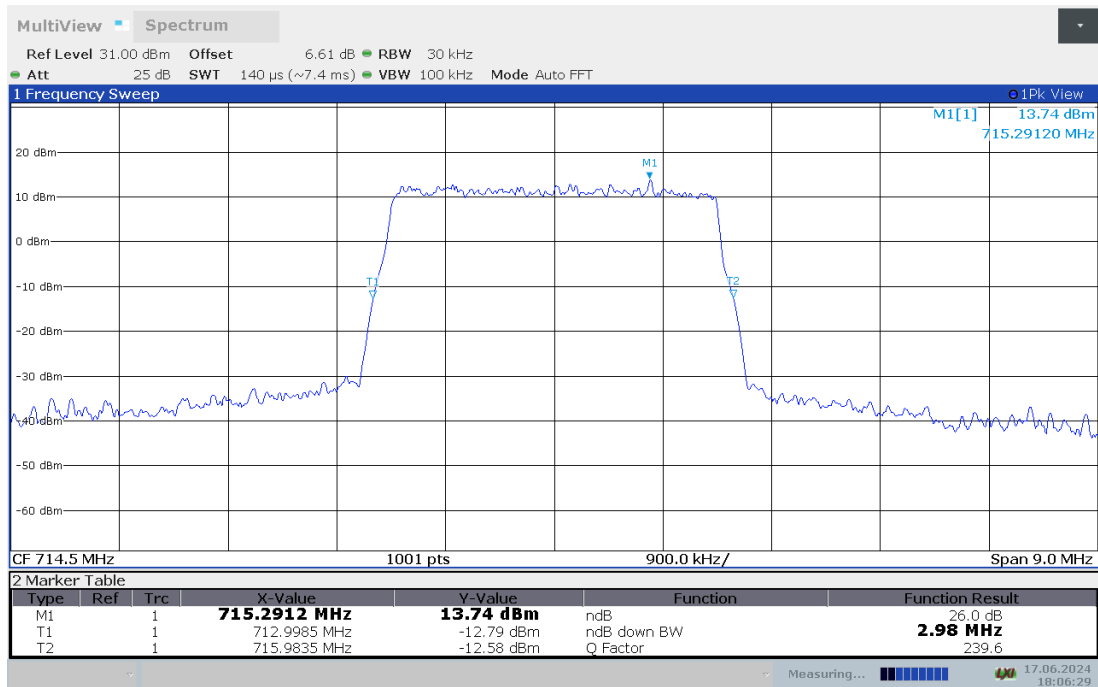
**LTE band 12 , 3MHz Bandwidth,LOW,QPSK (-26dBc BW)**



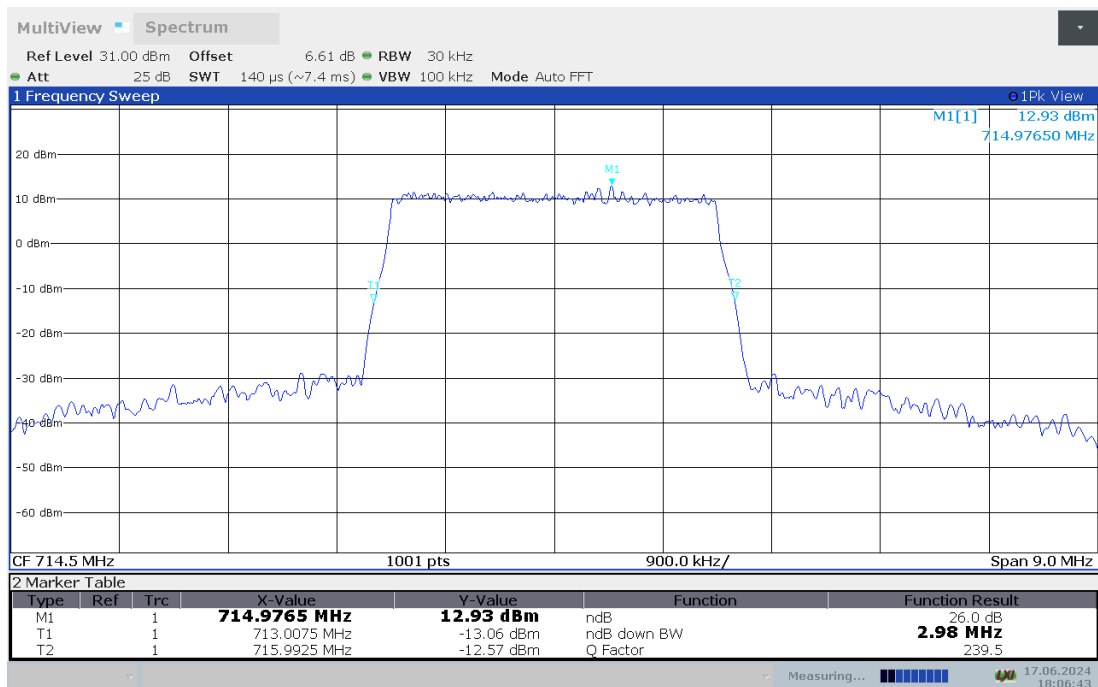
**LTE band 12 , 3MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 12 , 3MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 12 , 3MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

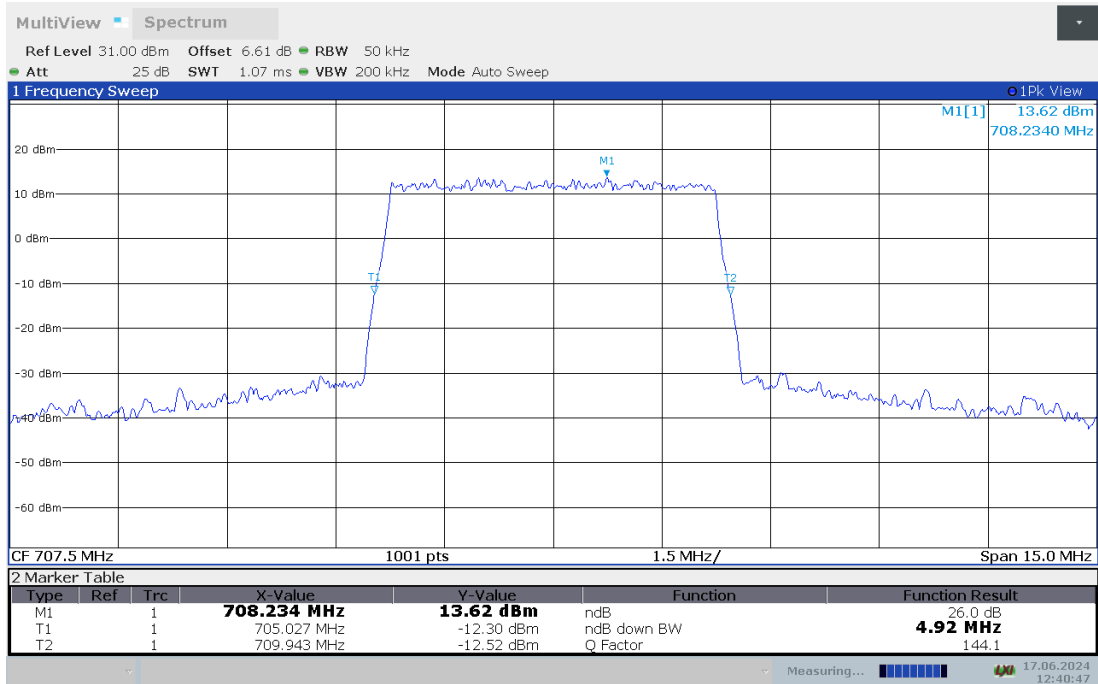




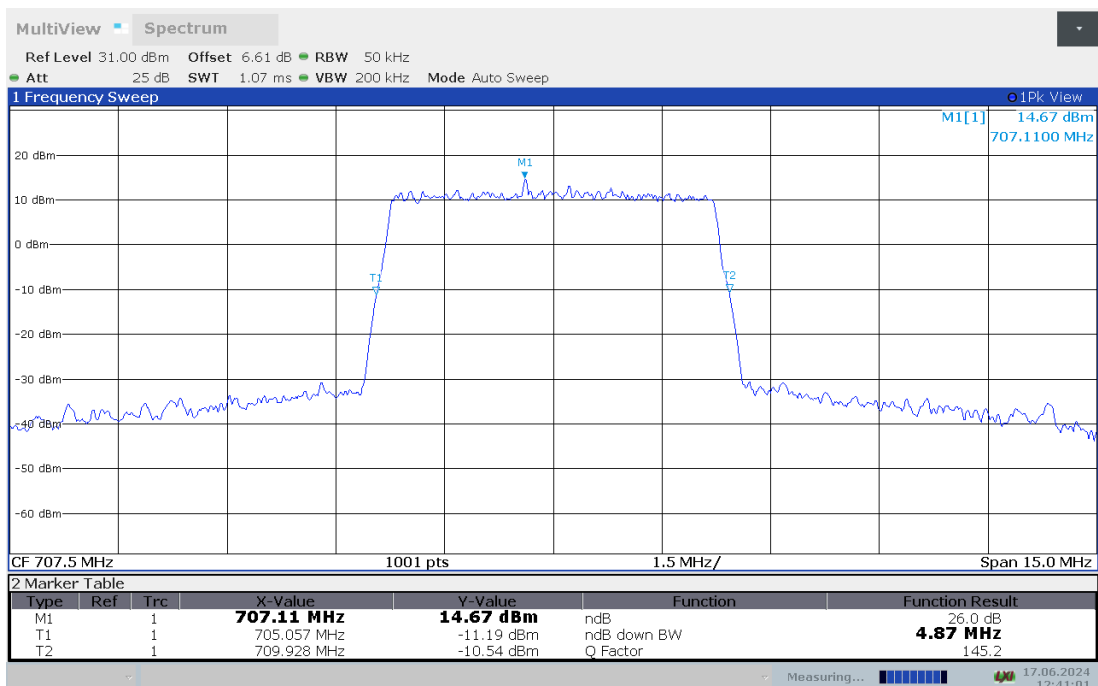
**LTE band 12,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
707.5	4.915	4.870
701.5	4.915	4.915
713.5	4.900	4.870

**LTE band 12 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**

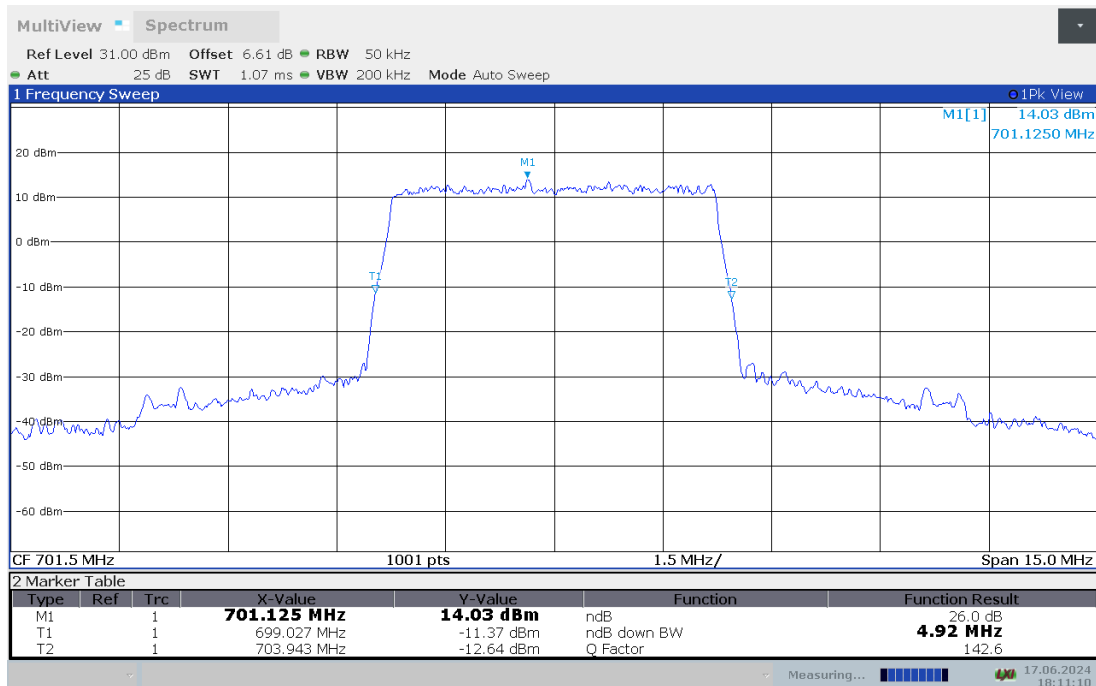


**LTE band 12 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**

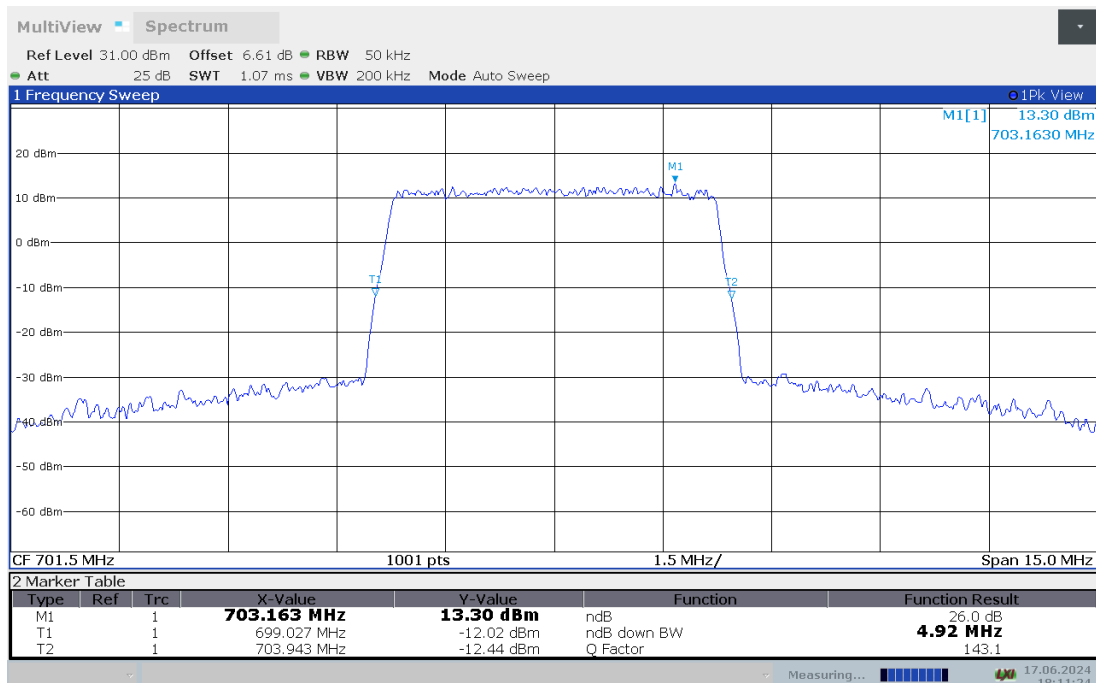




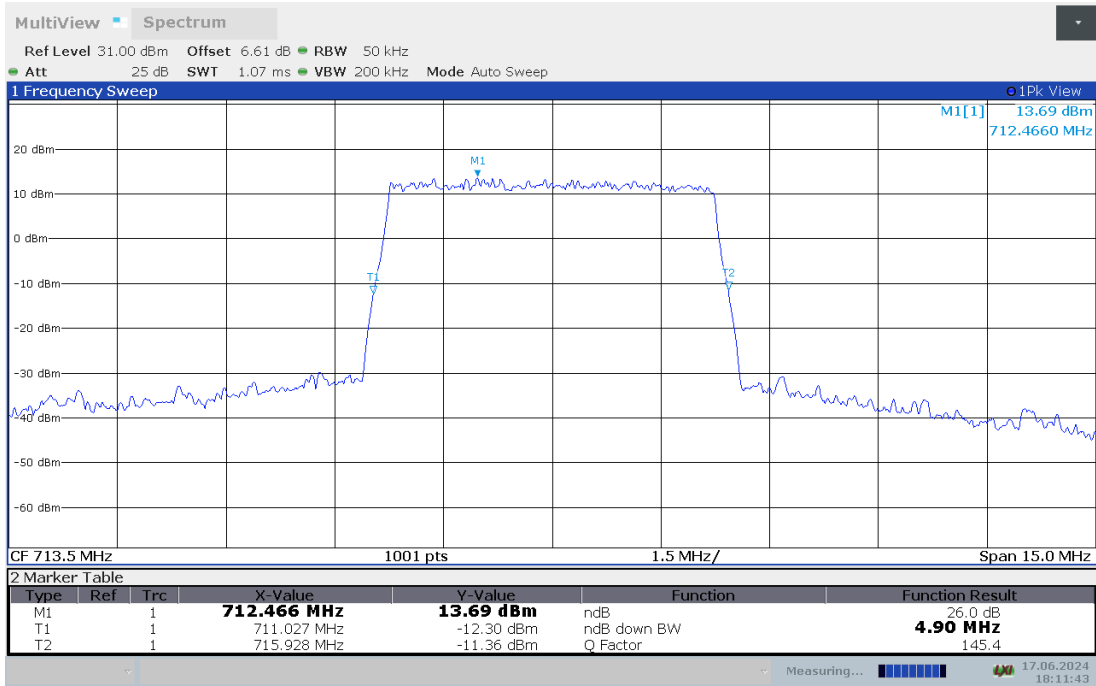
**LTE band 12 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)**



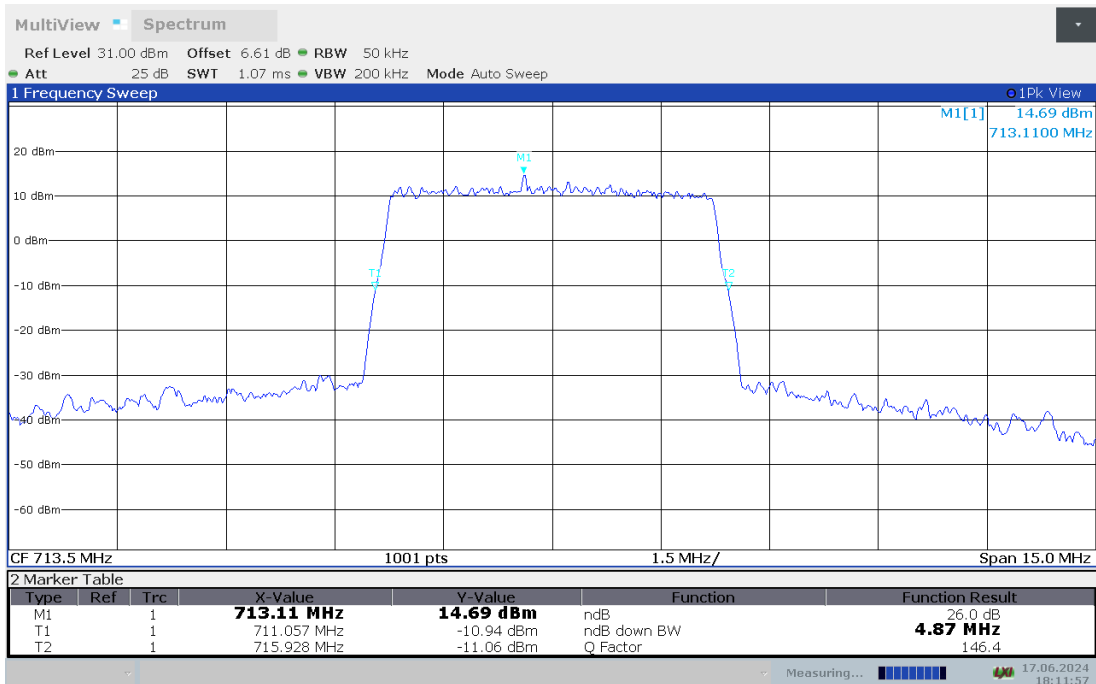
**LTE band 12 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 12 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



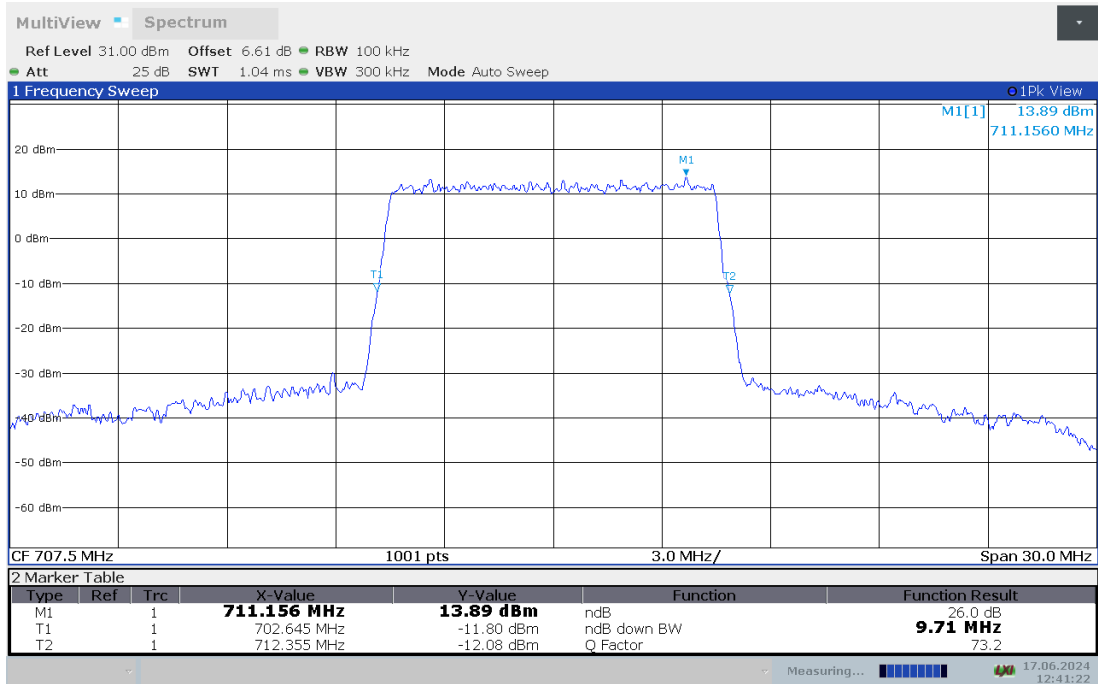
**LTE band 12 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



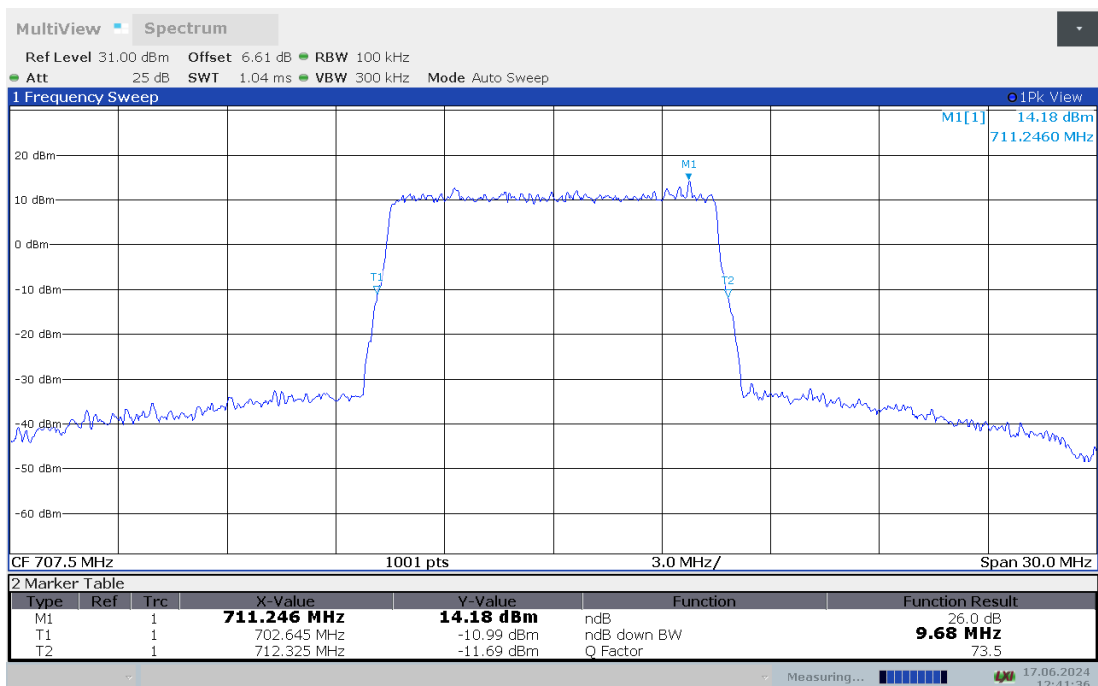
**LTE band 12,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
707.5	9.710	9.680
704	9.710	9.800
711	9.680	9.830

**LTE band 12 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**

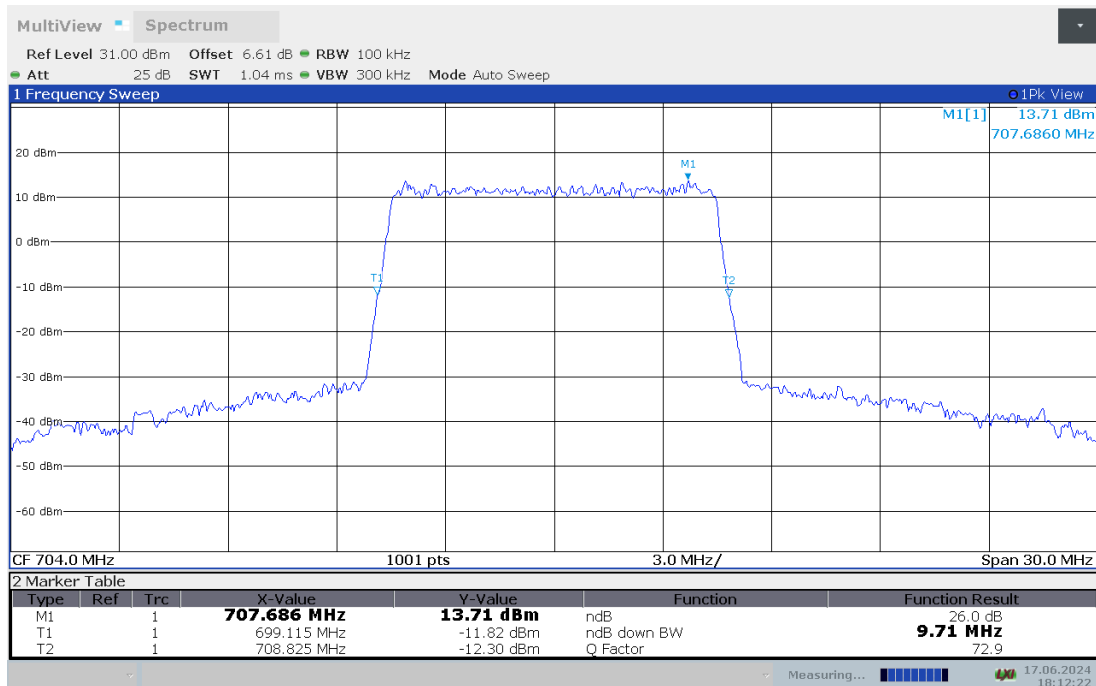


**LTE band 12 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**

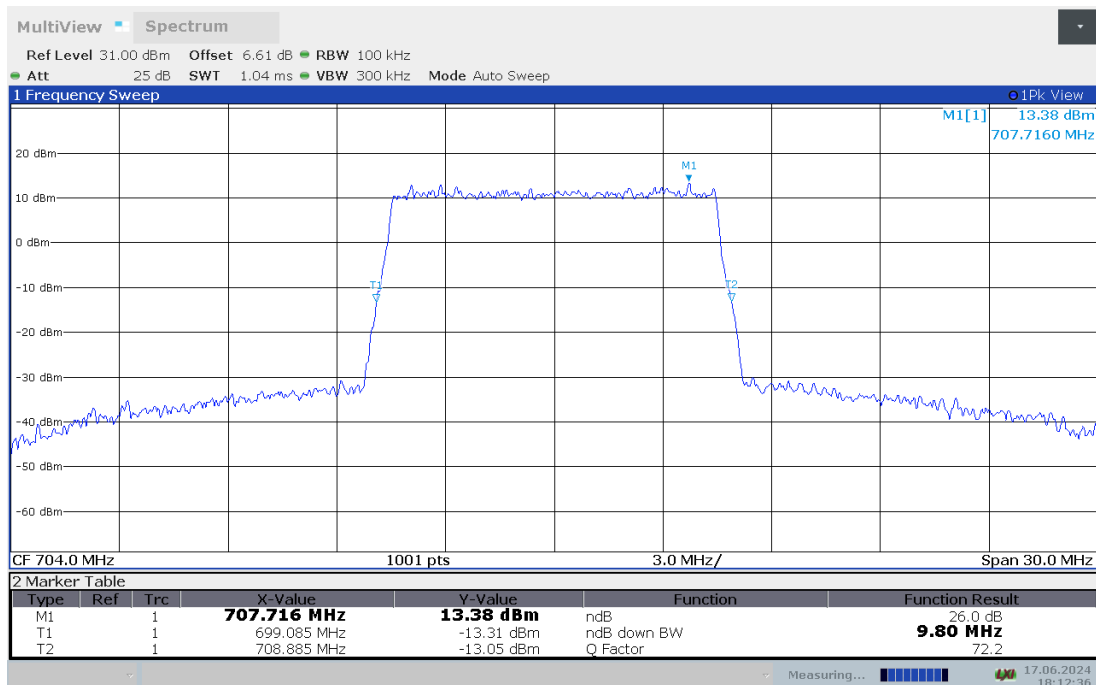




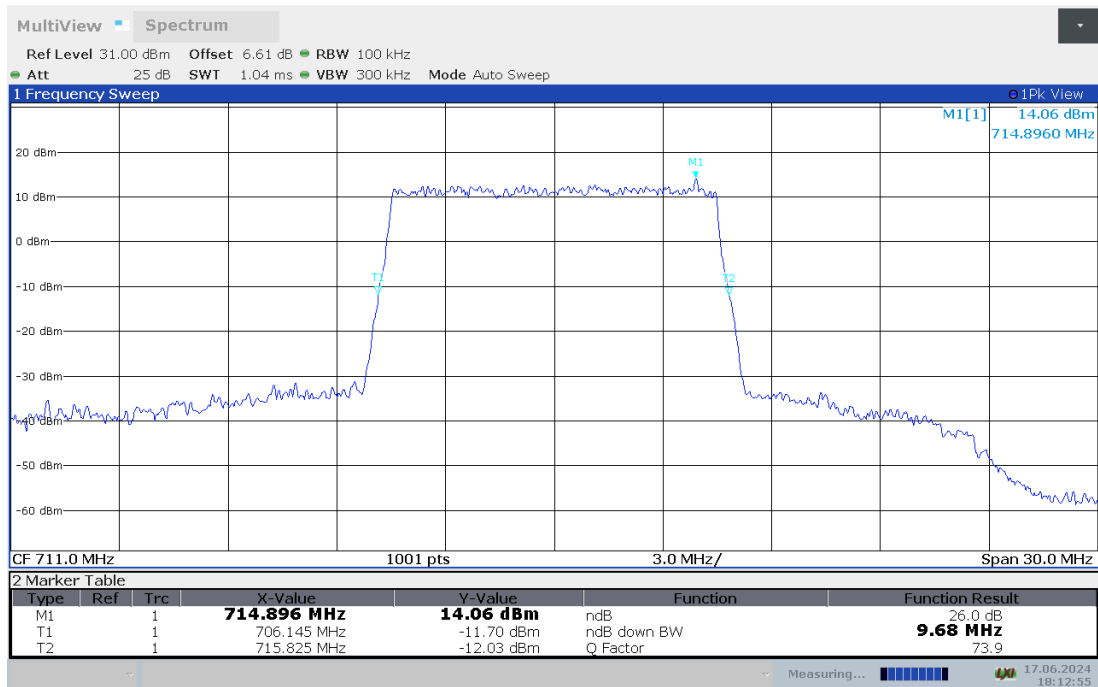
**LTE band 12 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



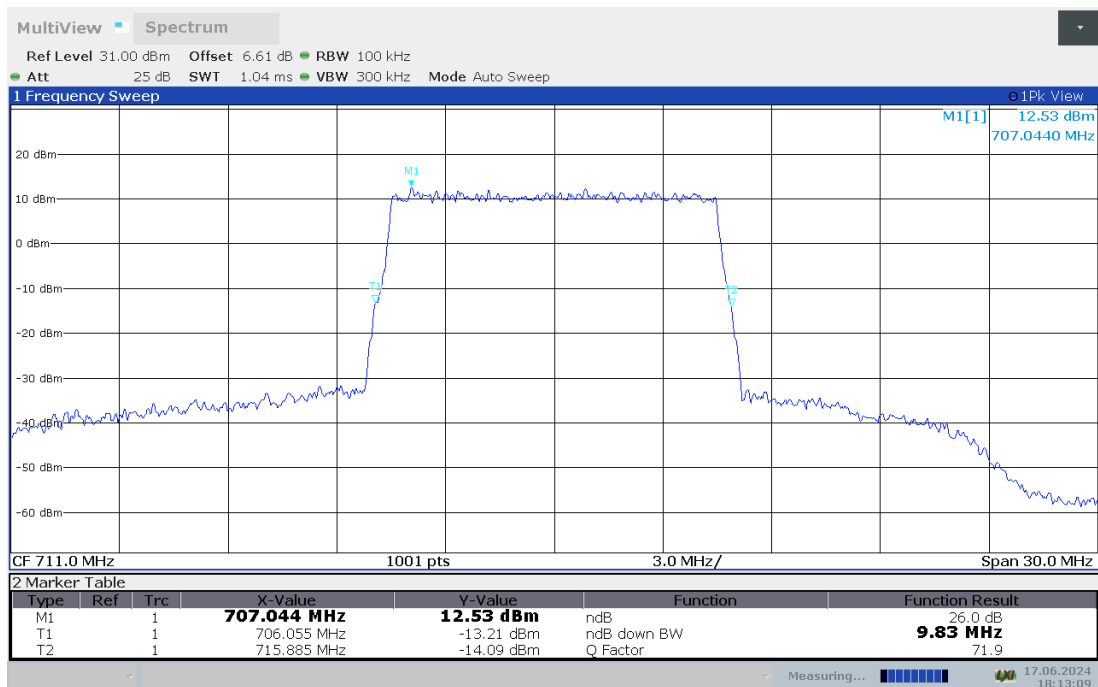
**LTE band 12 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 12 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



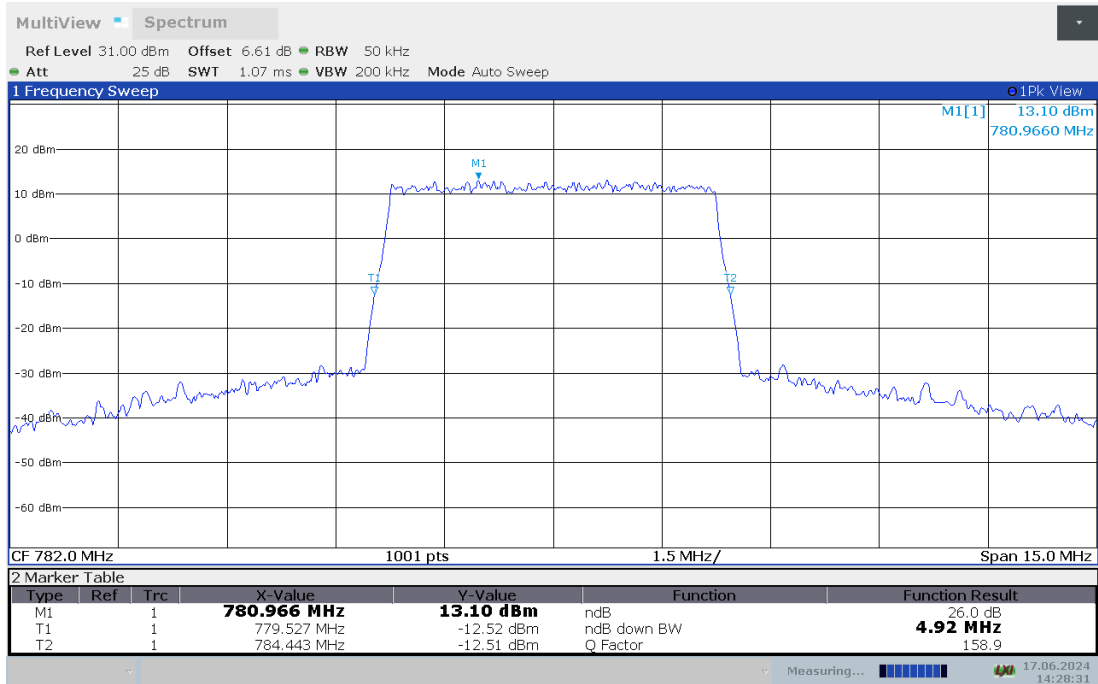
**LTE band 12 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



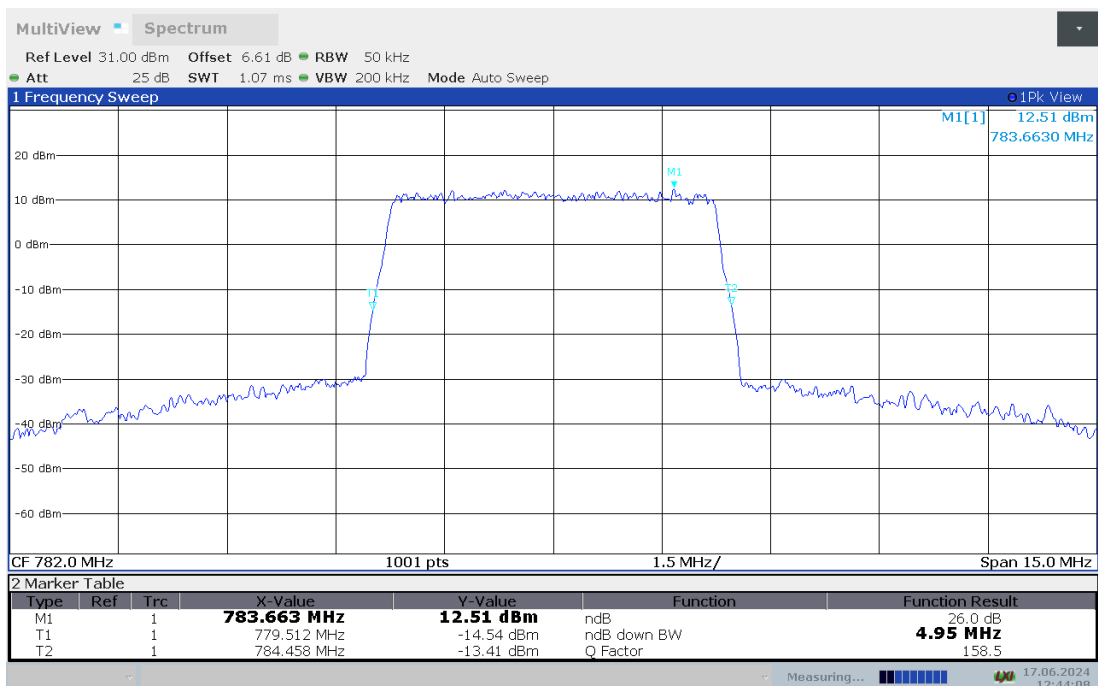
**LTE band 13,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
782	4.915	4.945
779.5	4.915	4.945
784.5	4.915	4.870

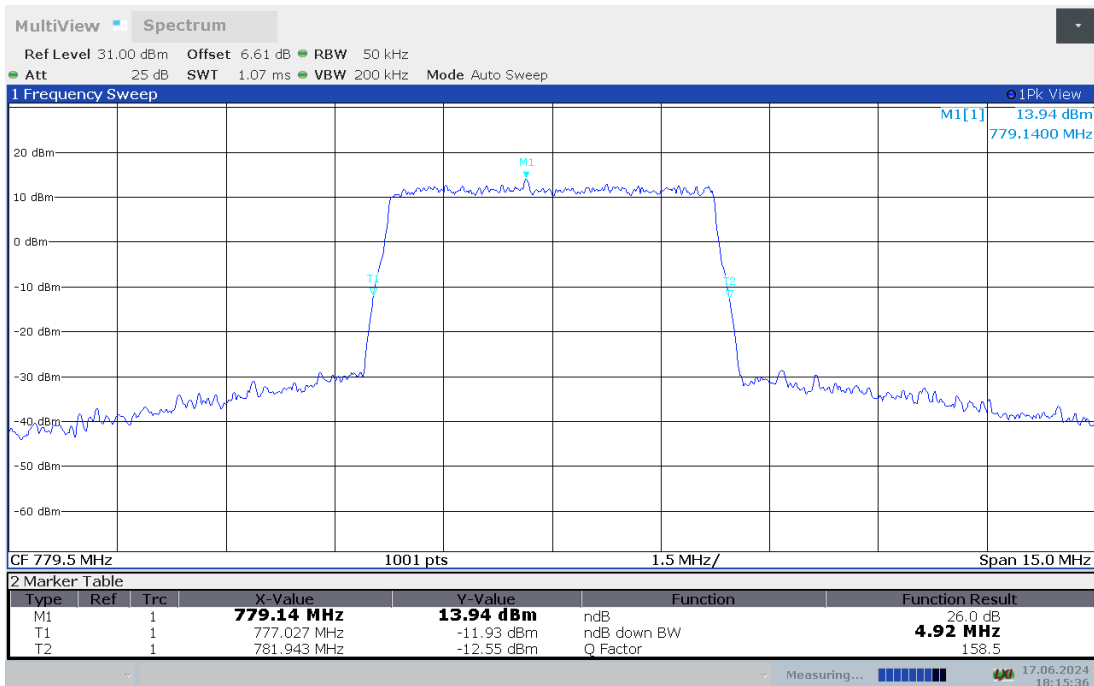
**LTE band 13 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**



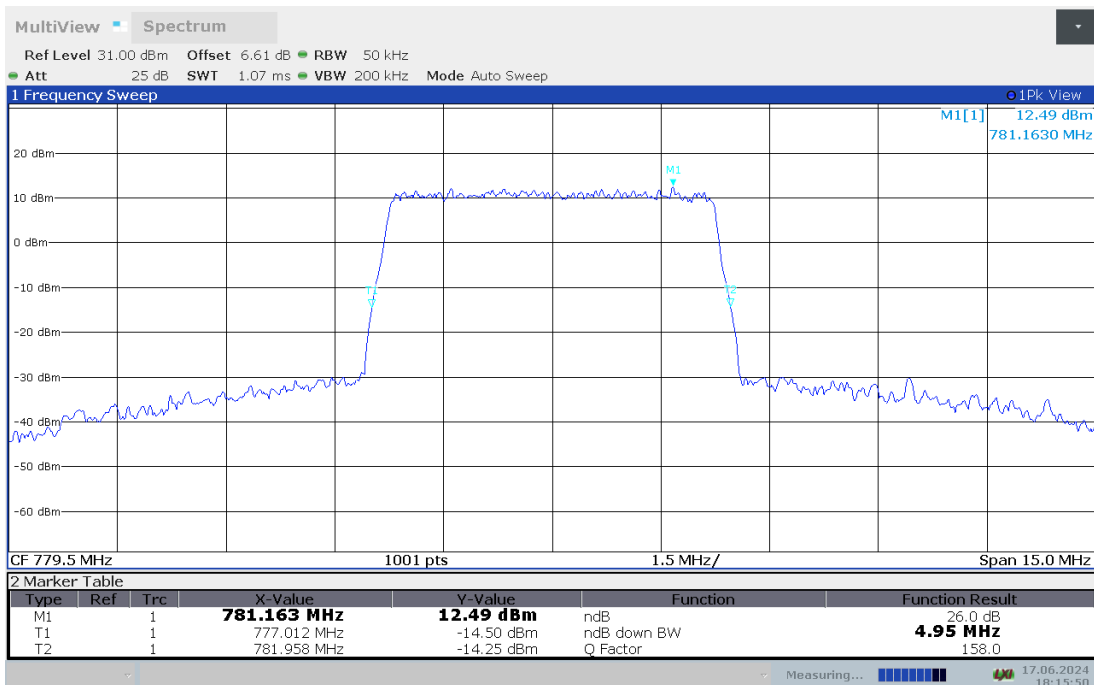
**LTE band 13 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**



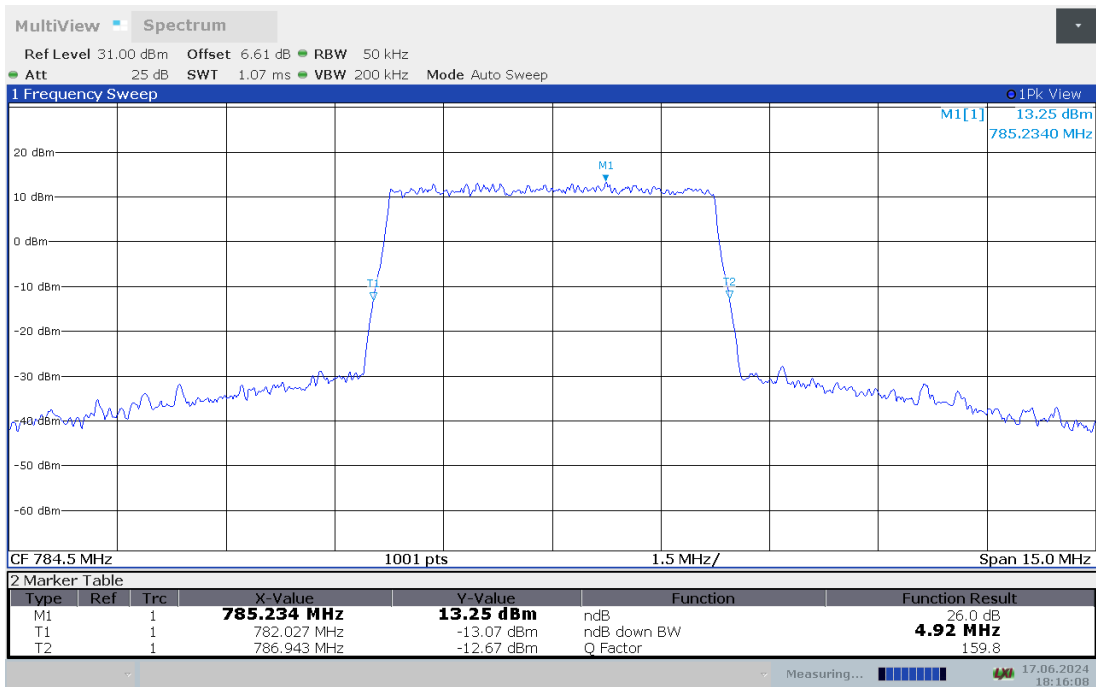
**LTE band 13 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)**



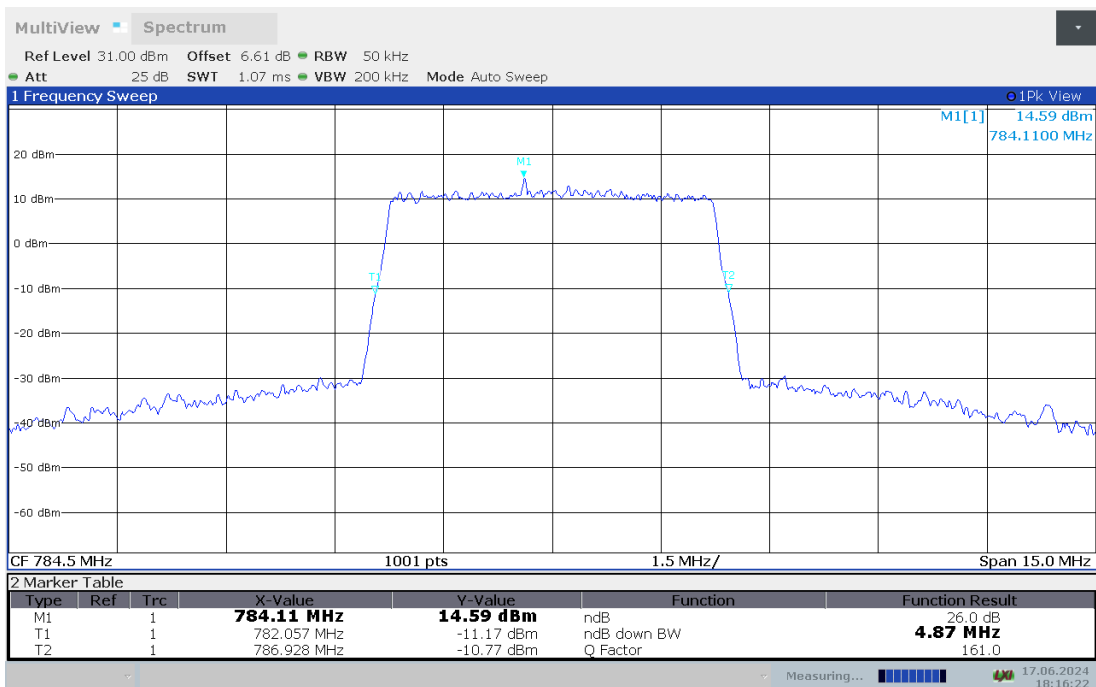
**LTE band 13 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 13 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 13 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

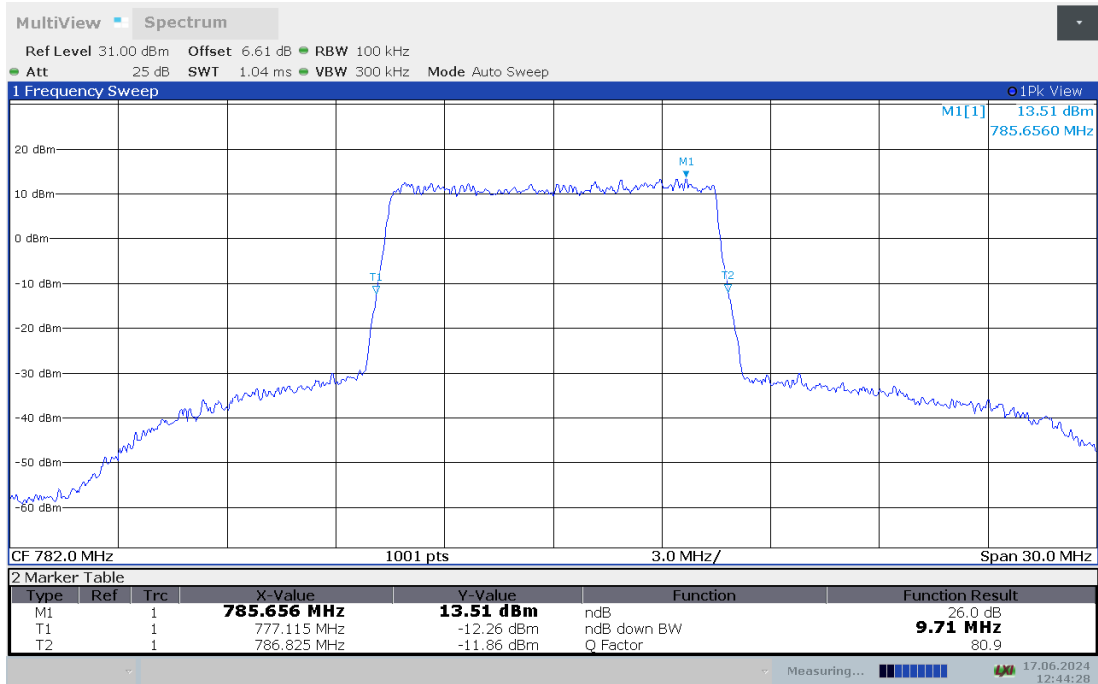




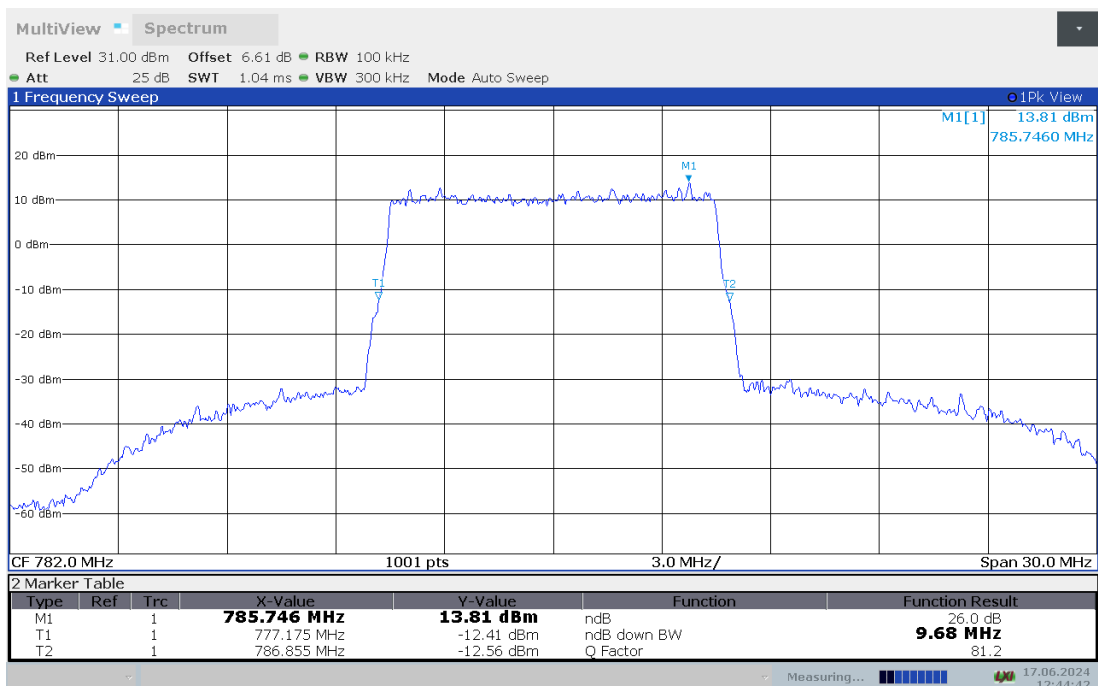
**LTE band 13,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
782	9.710	9.680
782	9.710	9.770
782	9.710	9.710

**LTE band 13 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**

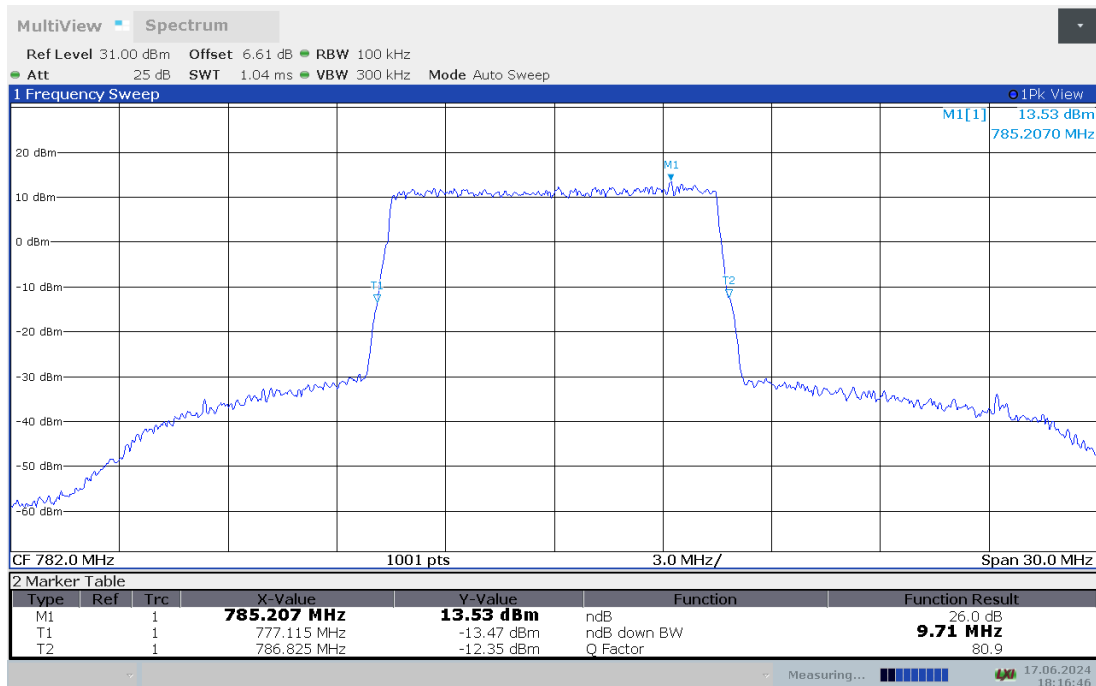


**LTE band 13 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**

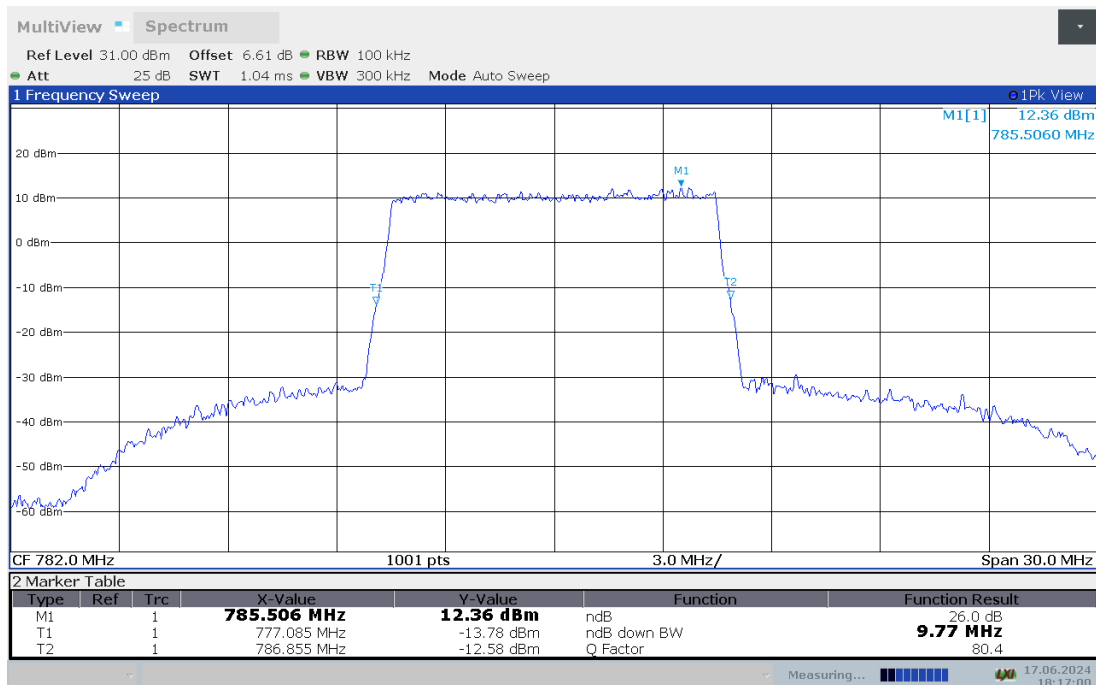




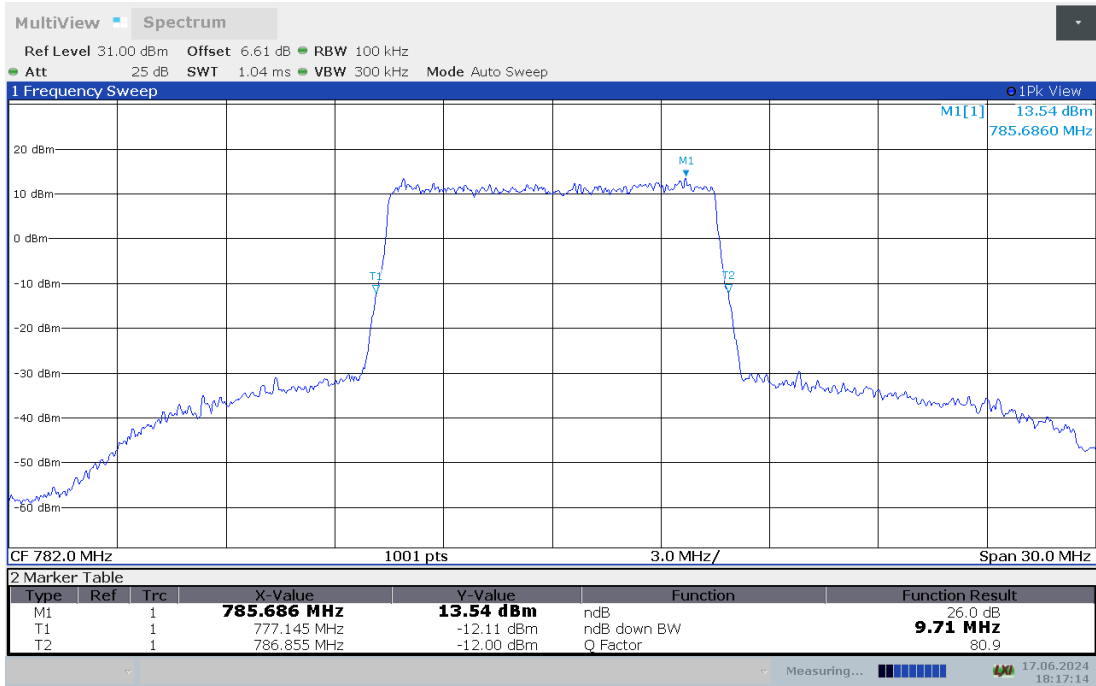
**LTE band 13 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



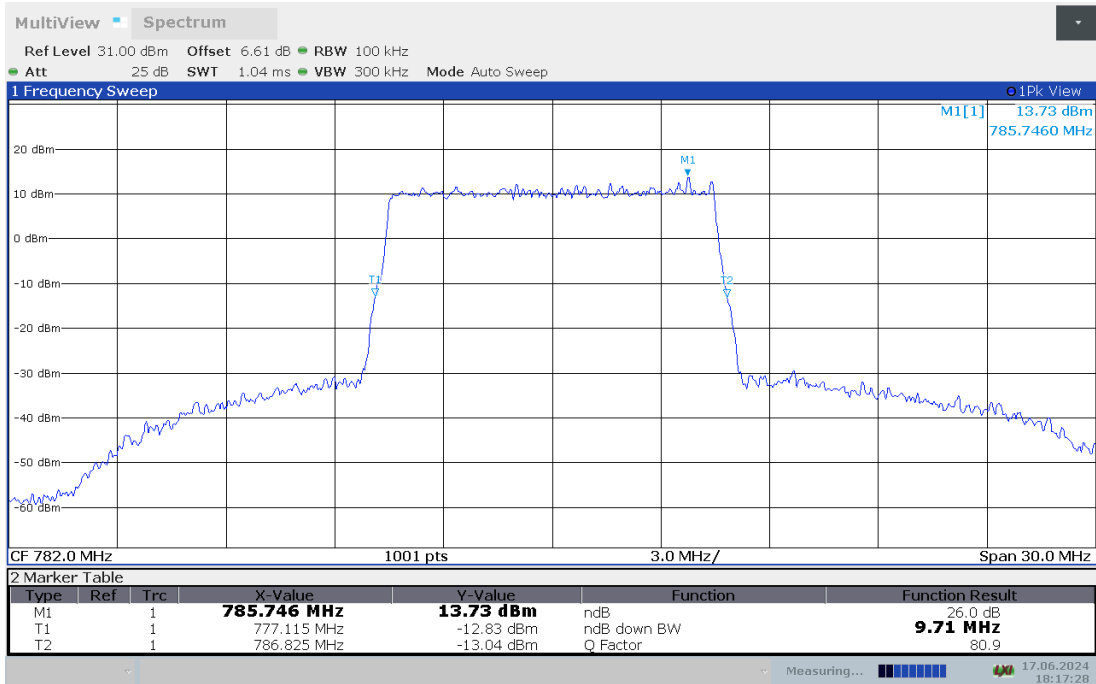
**LTE band 13 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 13 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 13 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

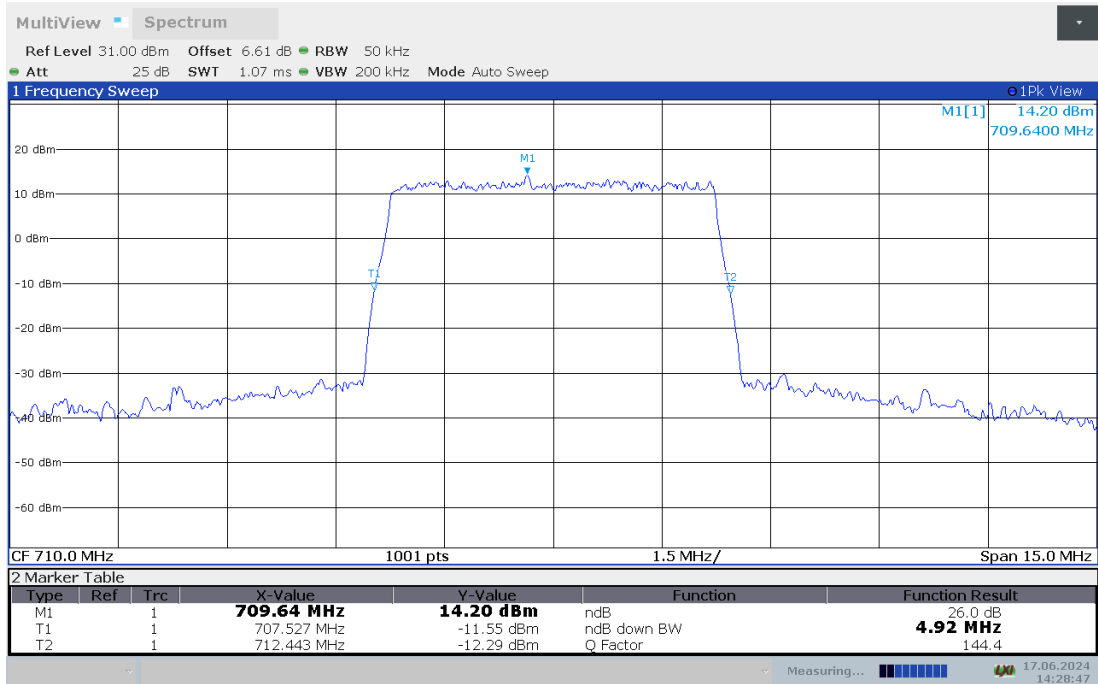




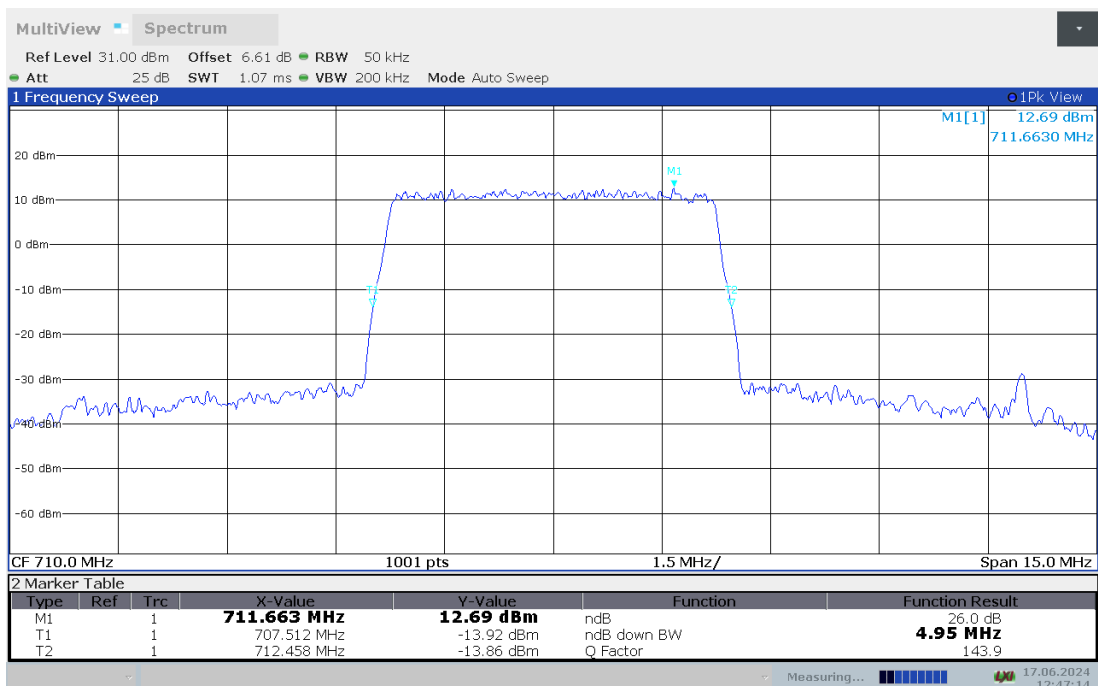
**LTE band 17,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
710	4.915	4.945
706.5	4.915	4.870
713.5	4.915	4.930

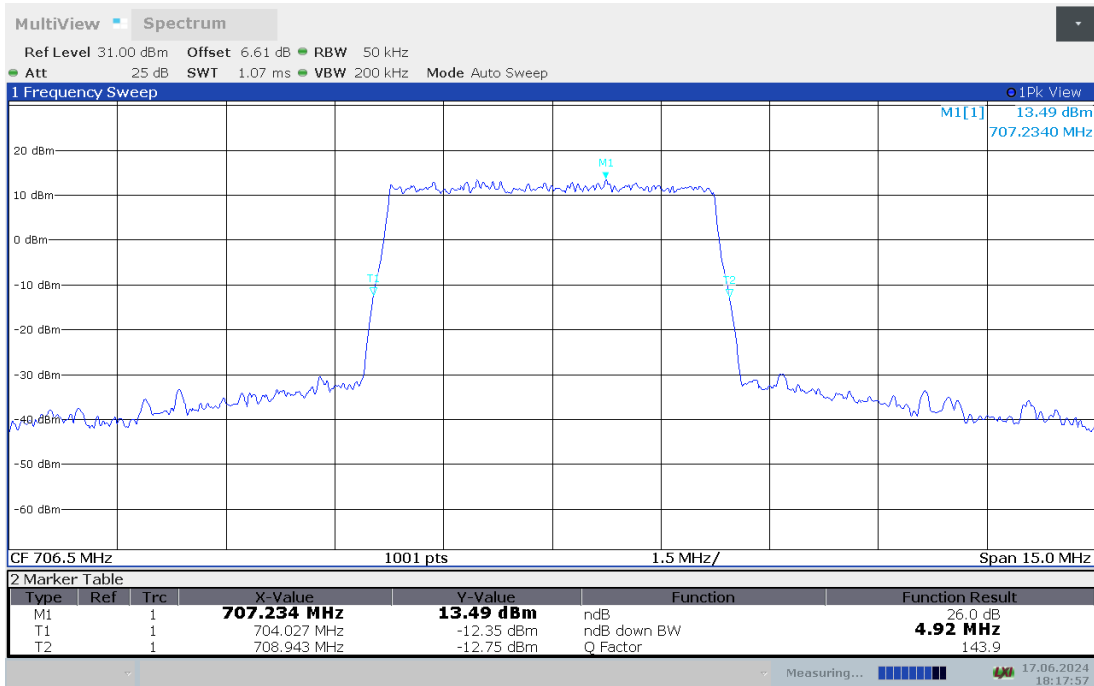
**LTE band 17 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**



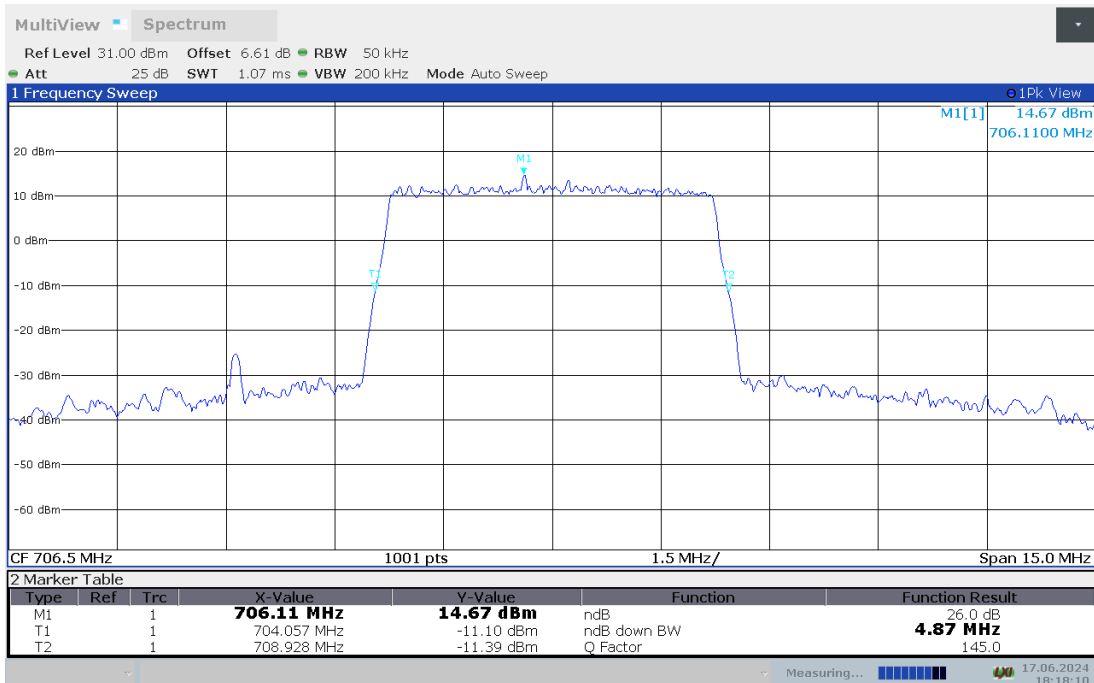
**LTE band 17 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**



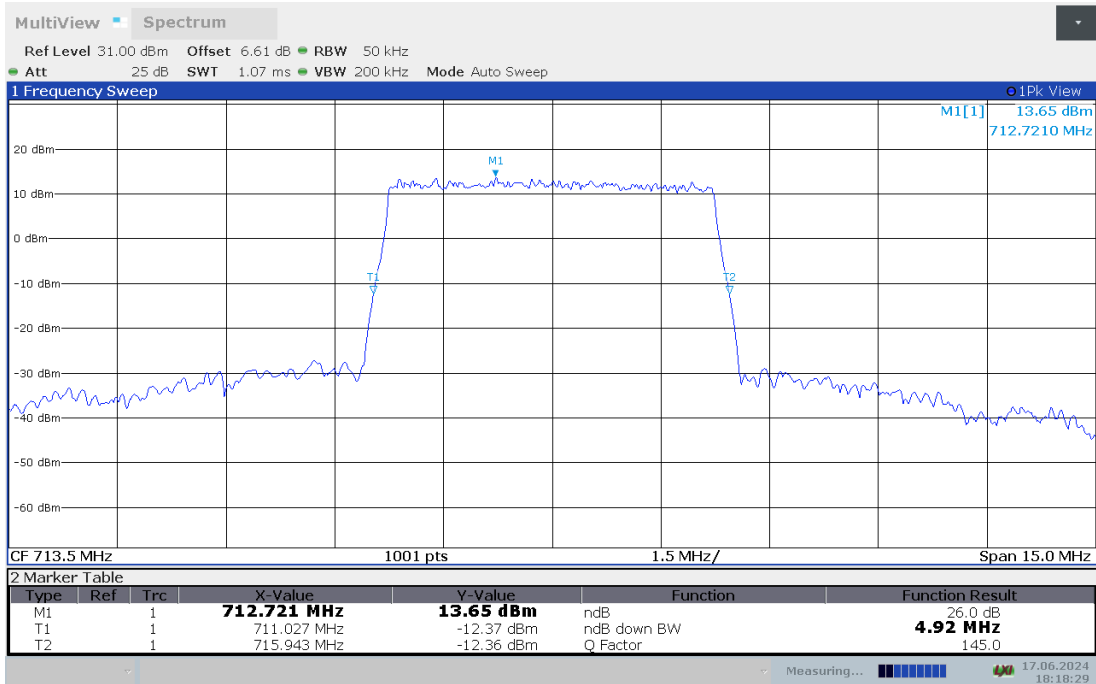
**LTE band 17 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)**



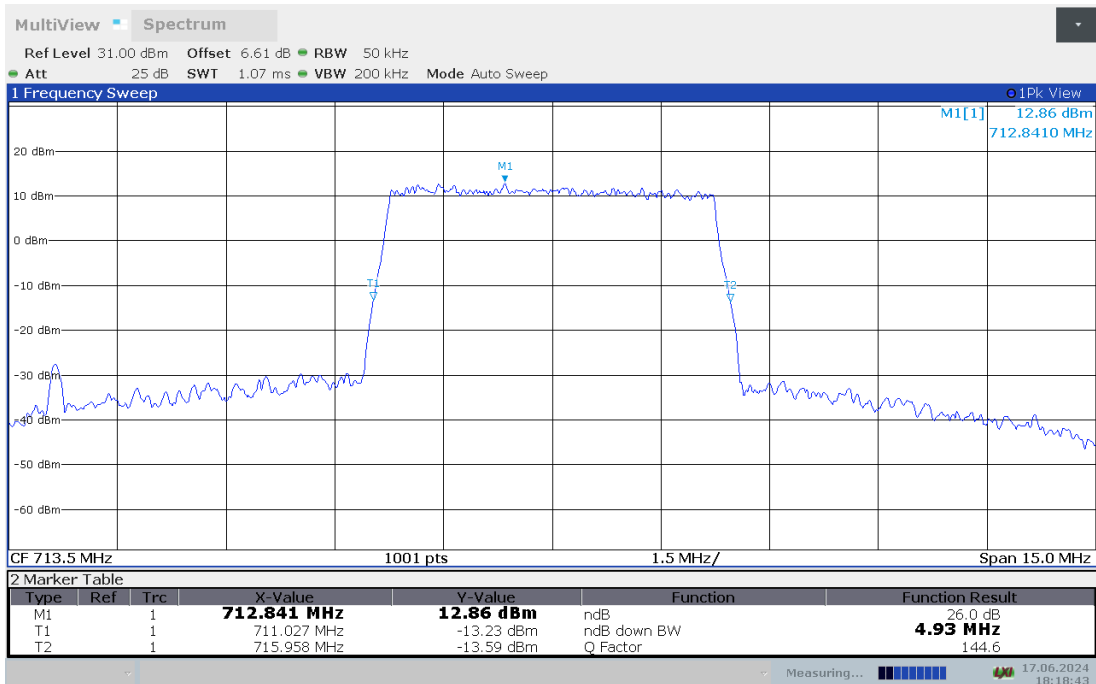
**LTE band 17 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 17 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 17 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

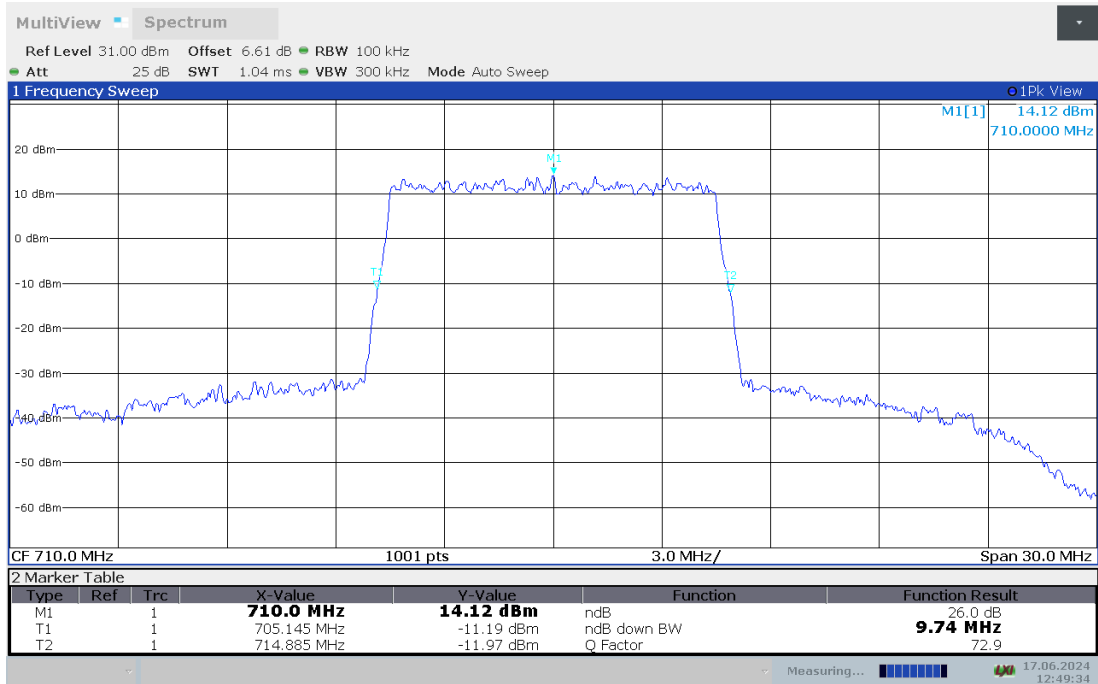




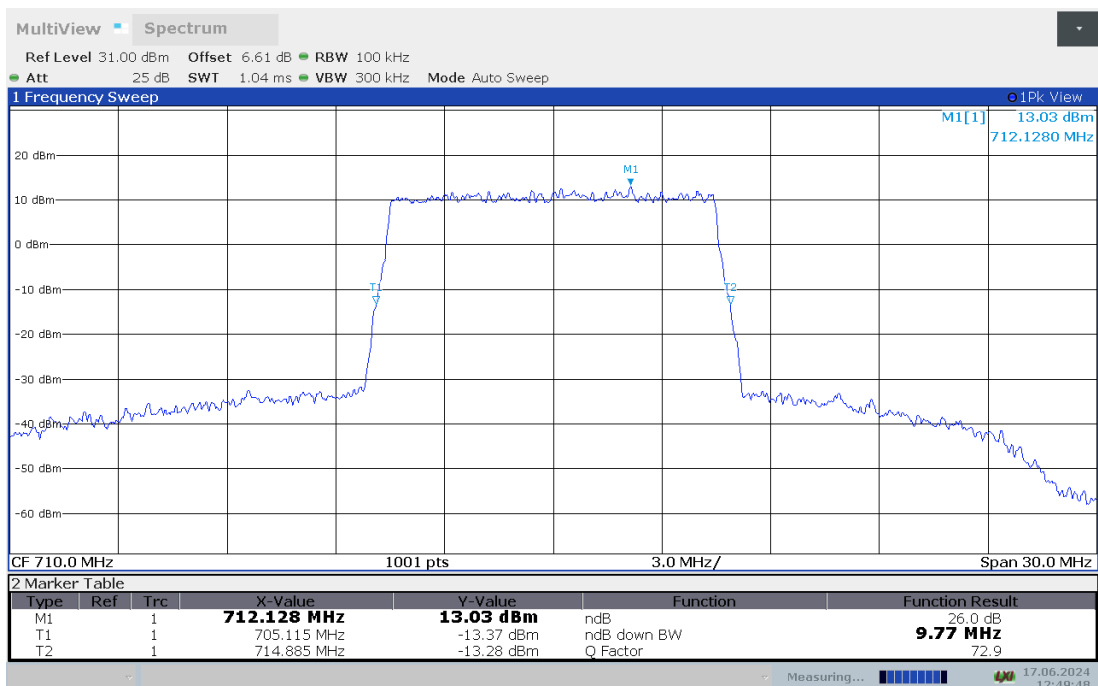
**LTE band 17,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
710	9.740	9.770
709	9.740	9.800
711	9.680	9.800

**LTE band 17 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**

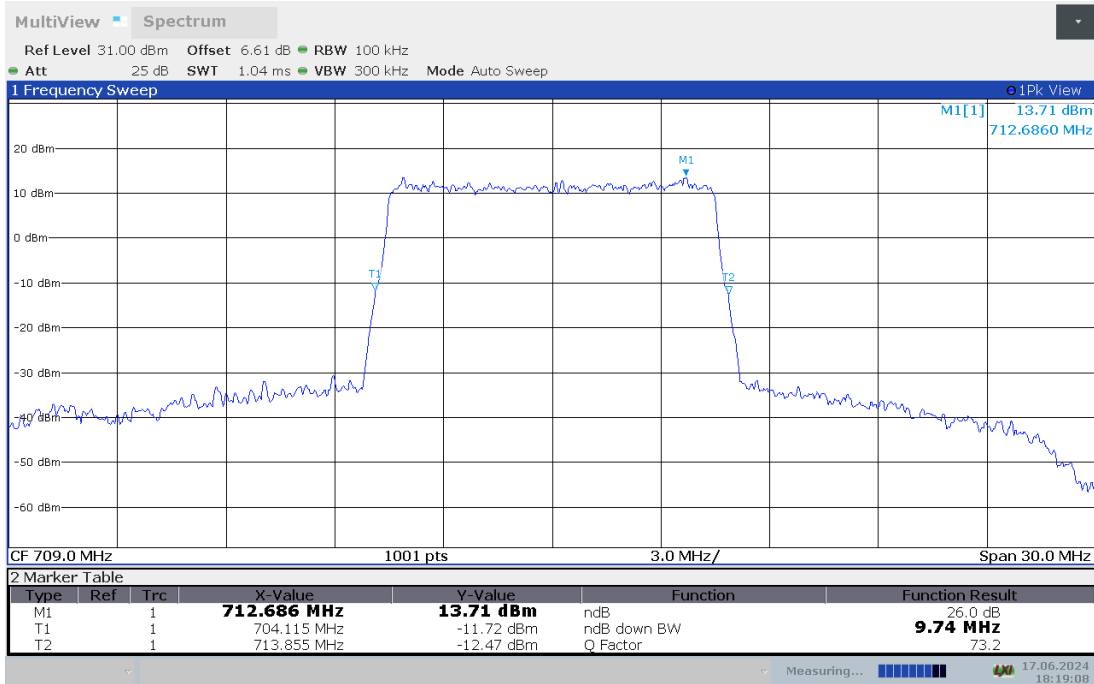


**LTE band 17 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**

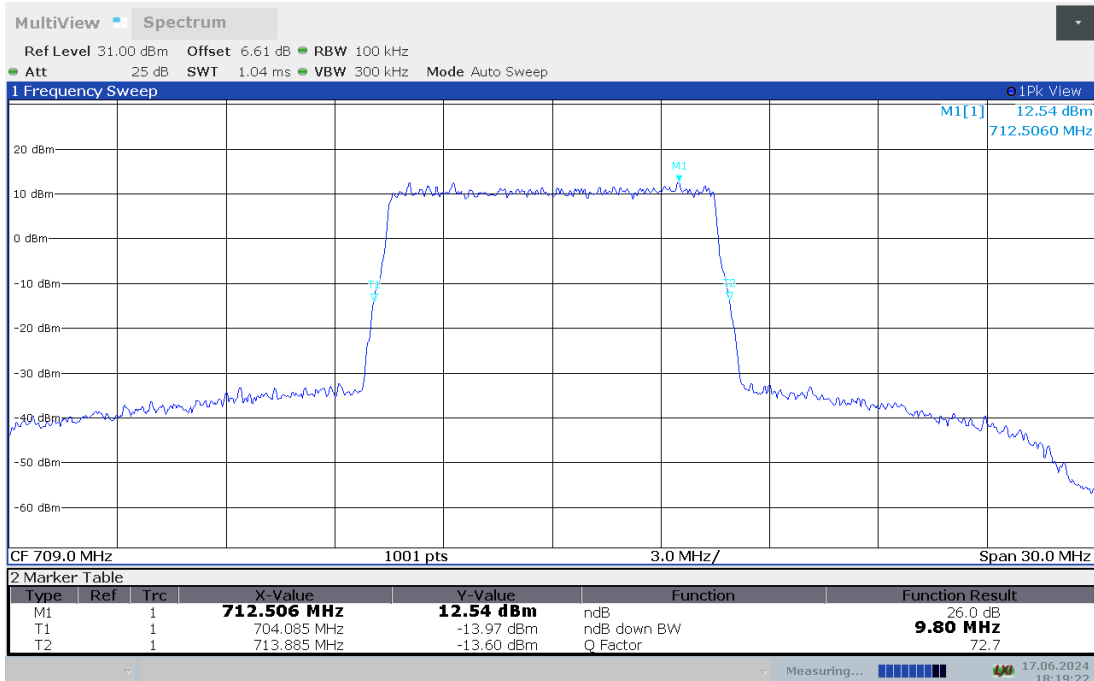




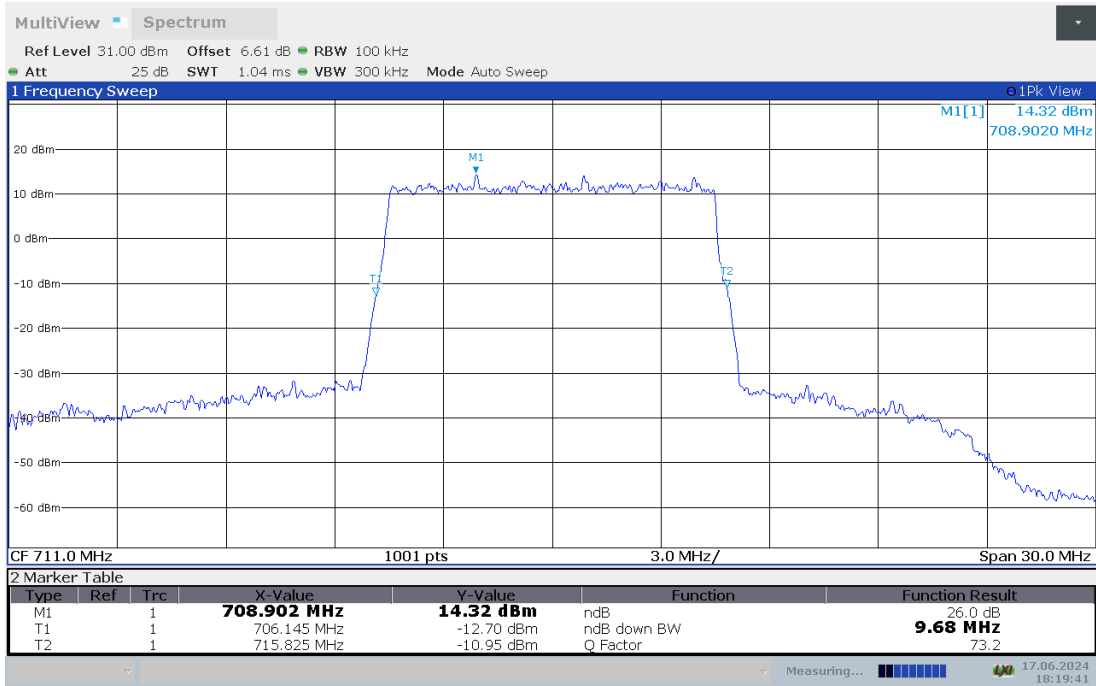
**LTE band 17 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



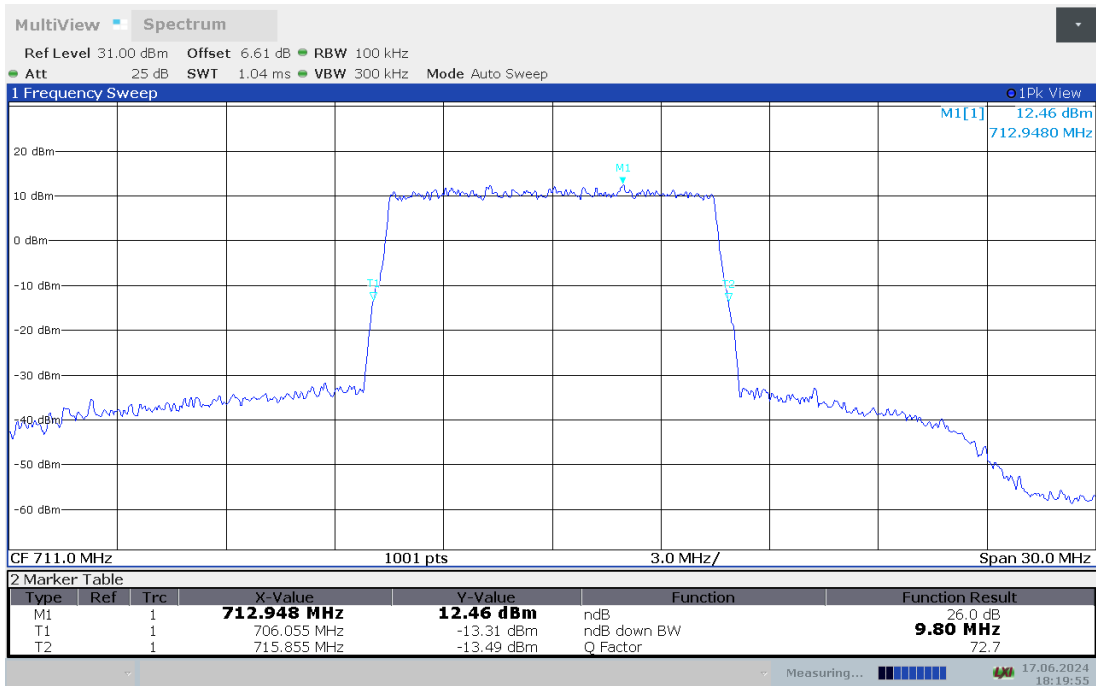
**LTE band 17 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 17 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 17 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

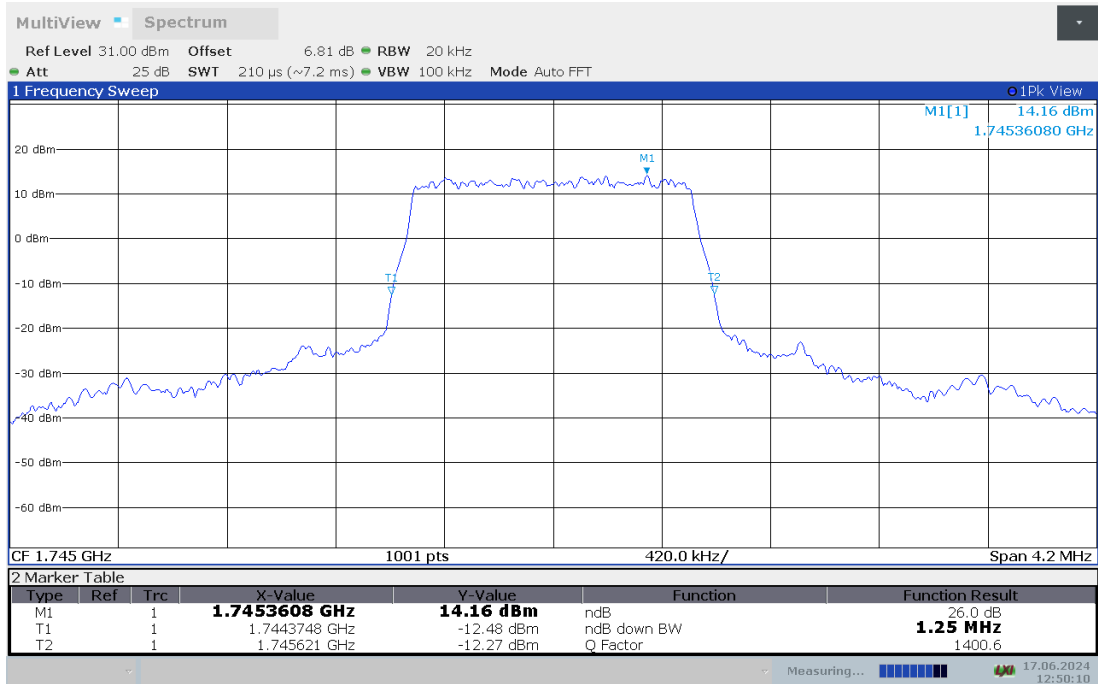




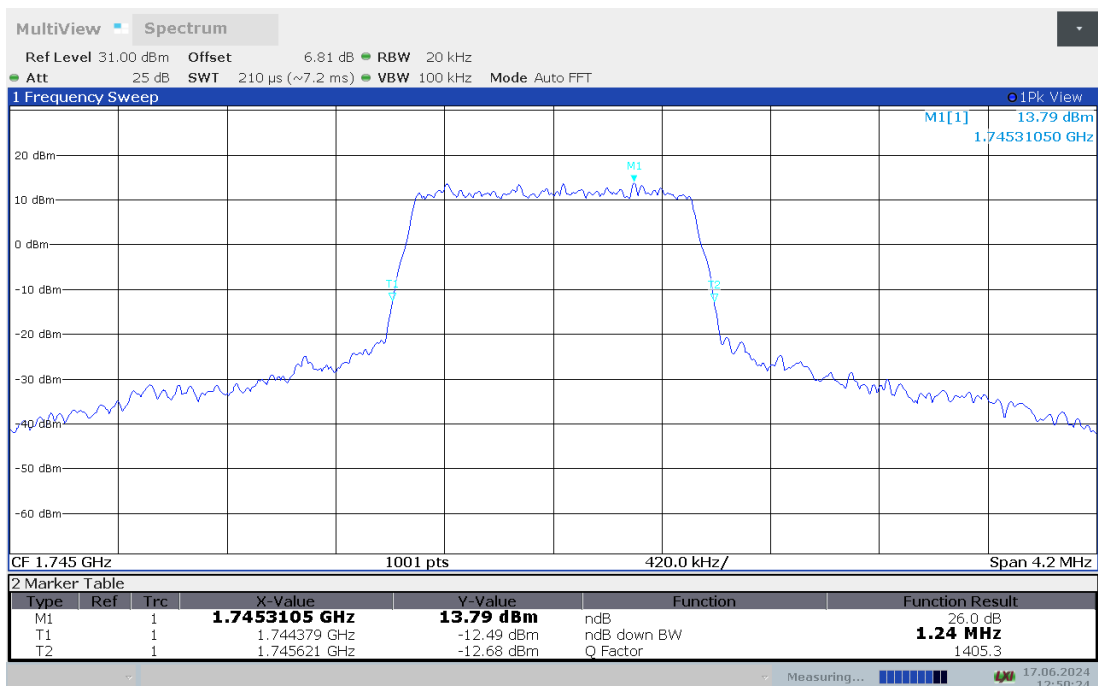
**LTE band 66,1.4MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	1.246	1.242
1710.7	1.238	1.246
1779.3	1.238	1.234

**LTE band 66 , 1.4MHz Bandwidth,MID,QPSK (-26dBc BW)**

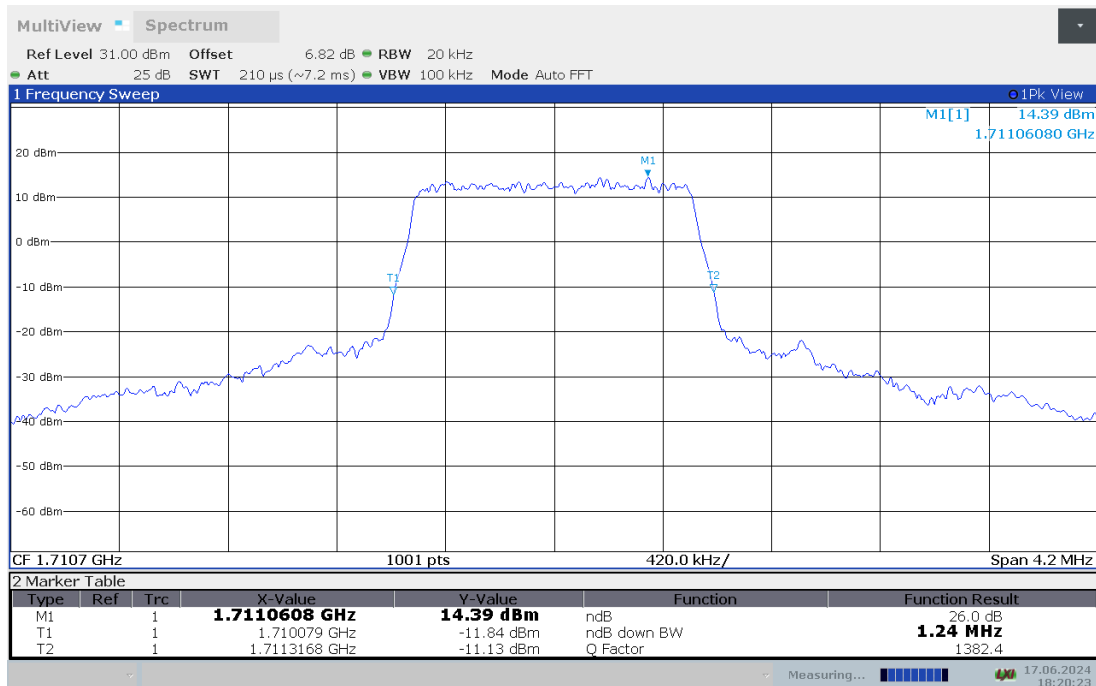


**LTE band 66 , 1.4MHz Bandwidth,MID,16QAM (-26dBc BW)**

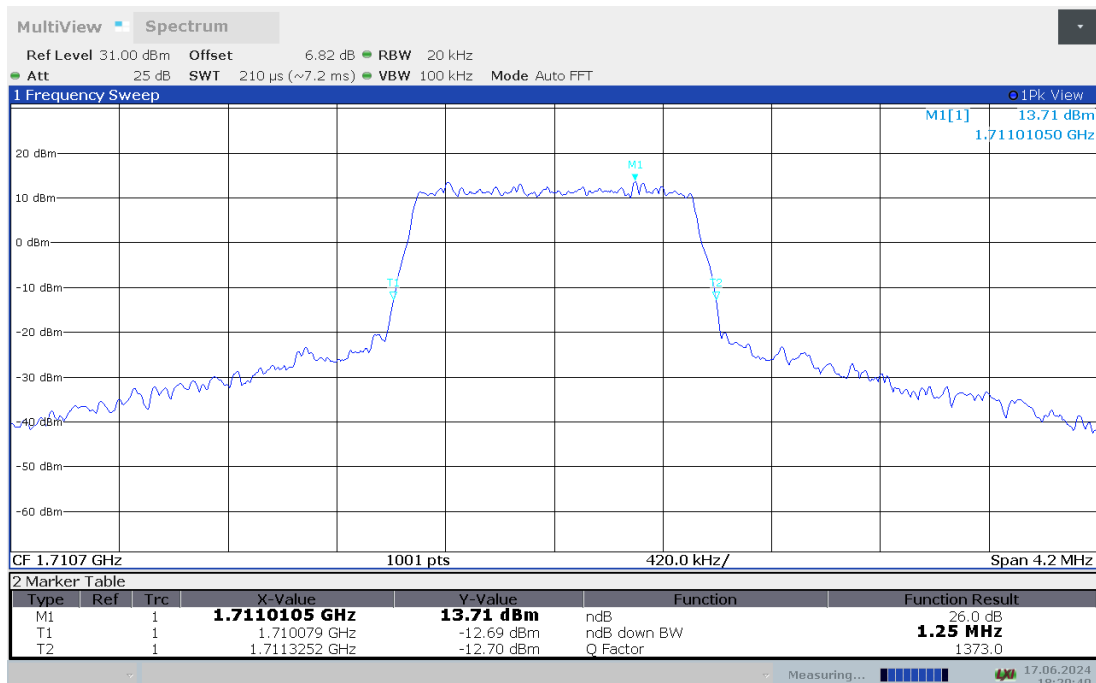




### LTE band 66 , 1.4MHz Bandwidth,LOW,QPSK (-26dBc BW)

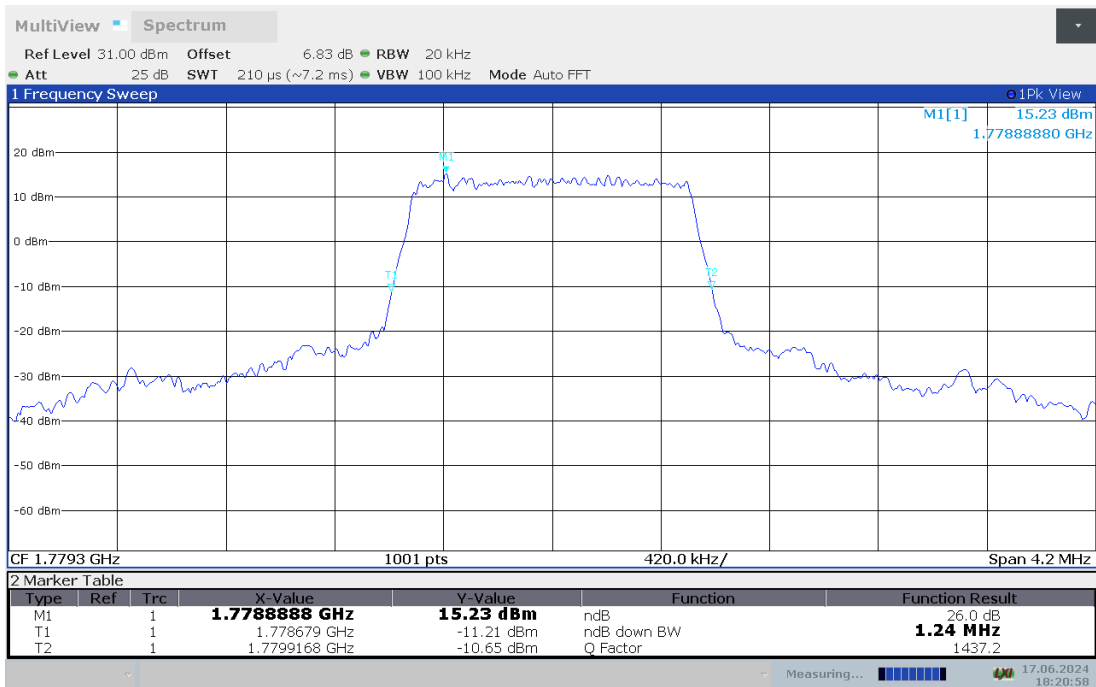


### LTE band 66 , 1.4MHz Bandwidth,LOW,16QAM (-26dBc BW)

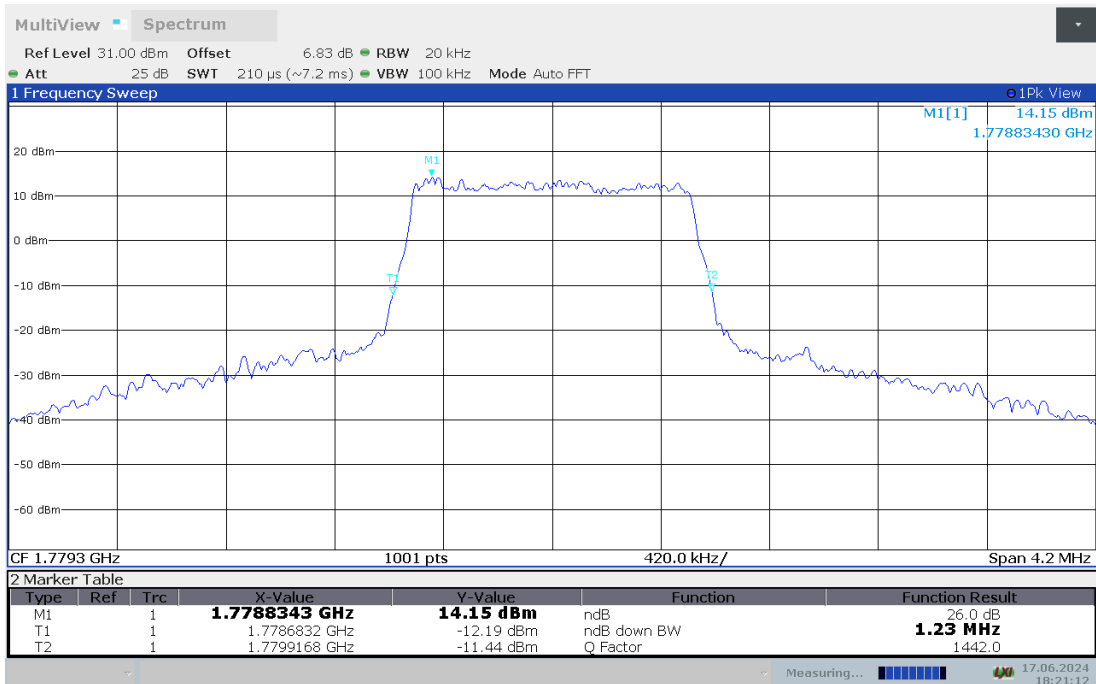


### LTE band 66 , 1.4MHz Bandwidth,HIGH,QPSK (-26dBc BW)





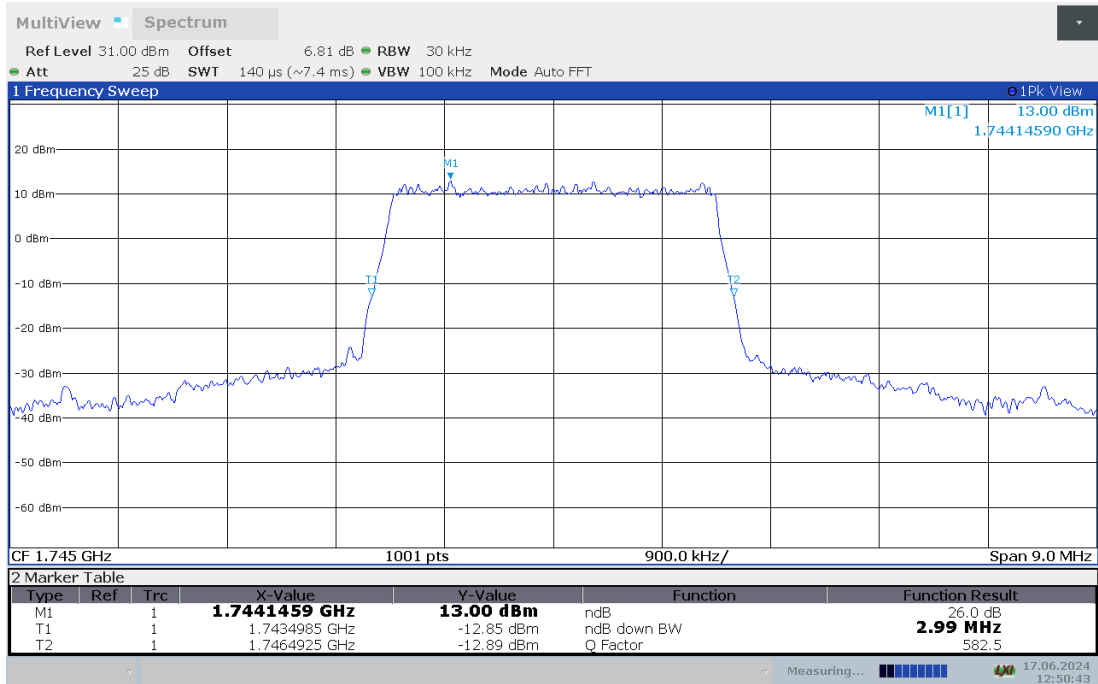
**LTE band 66 , 1.4MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



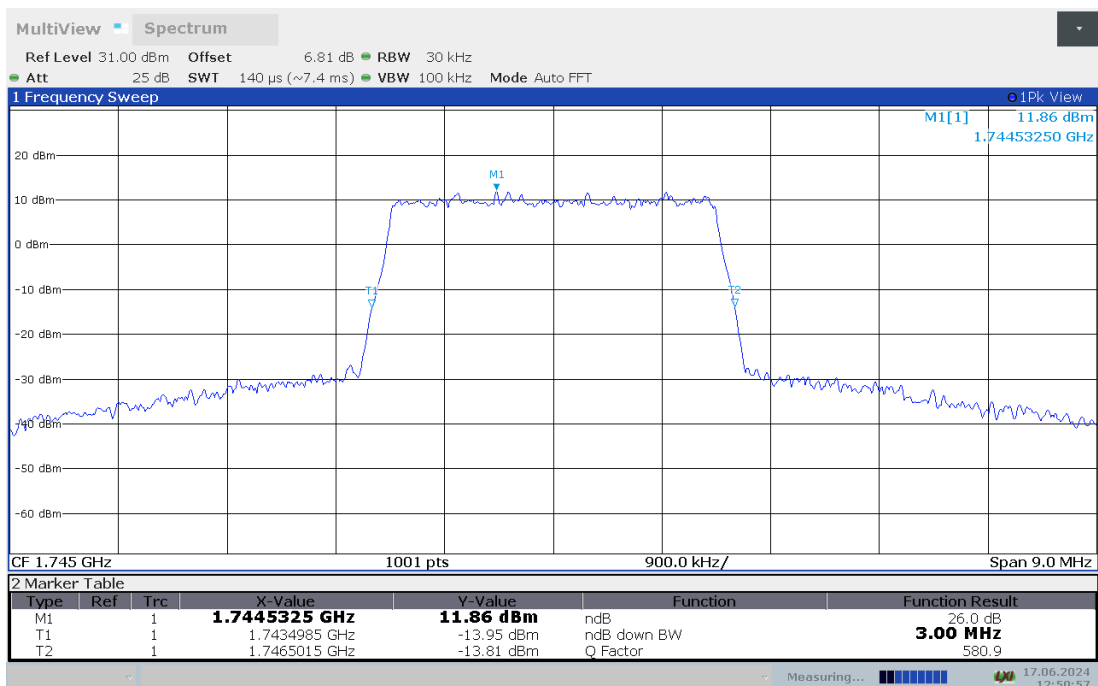
**LTE band 66,3MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	2.994	3.003
1711.5	3.003	3.003
1778.5	3.030	2.985

**LTE band 66 , 3MHz Bandwidth,MID,QPSK (-26dBc BW)**

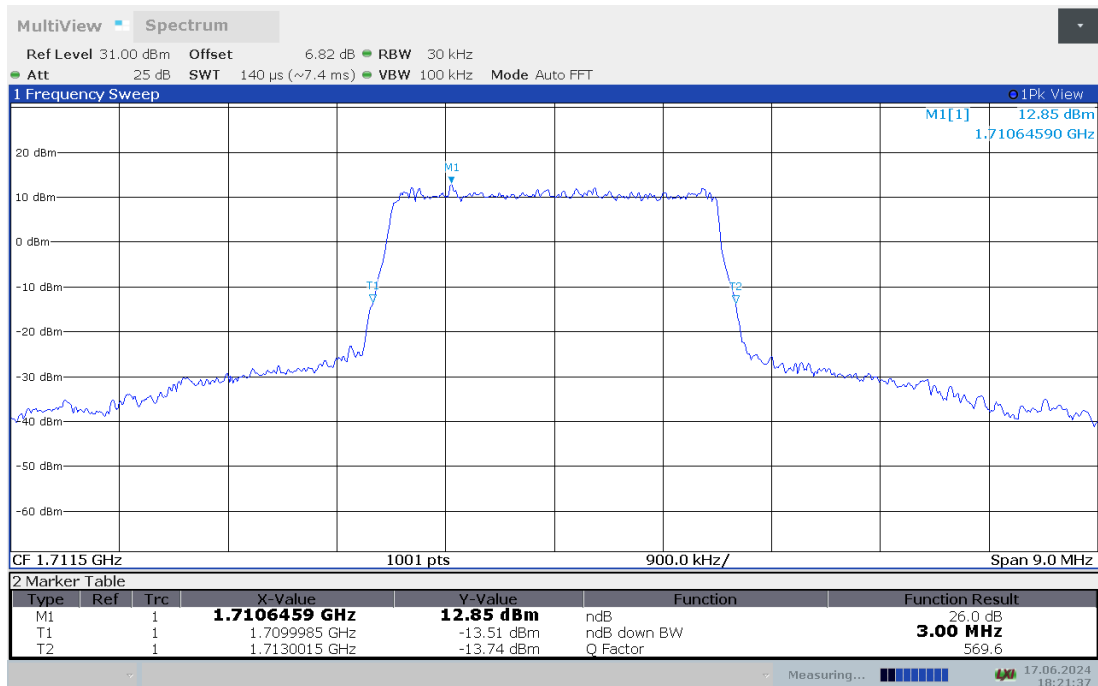


**LTE band 66 , 3MHz Bandwidth,MID,16QAM (-26dBc BW)**

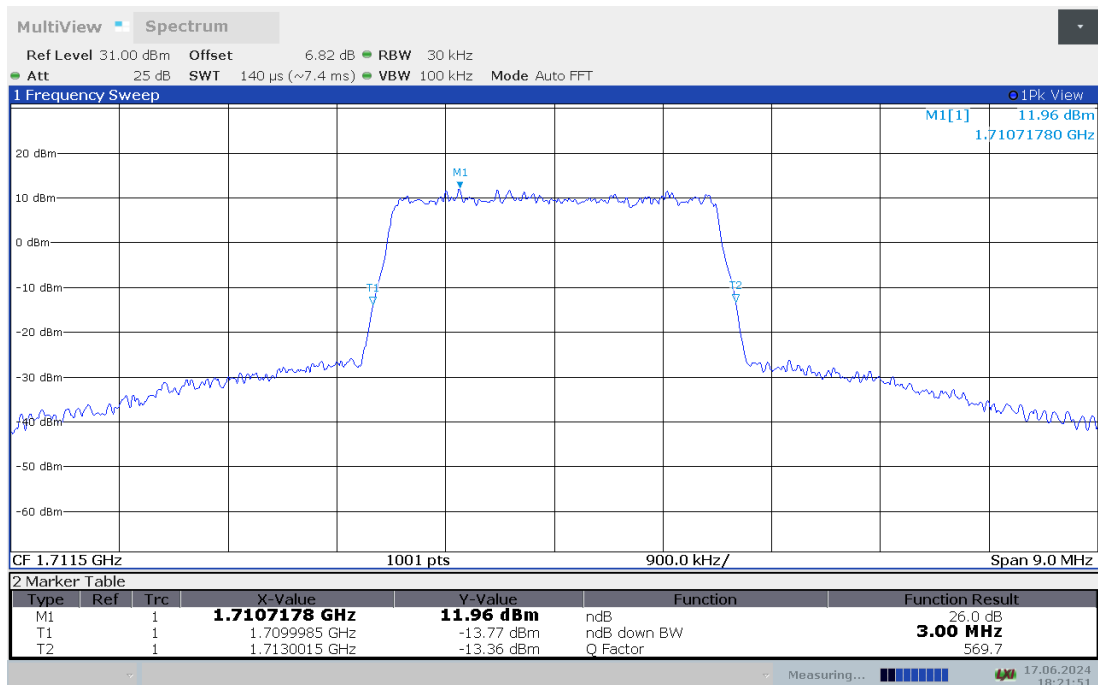




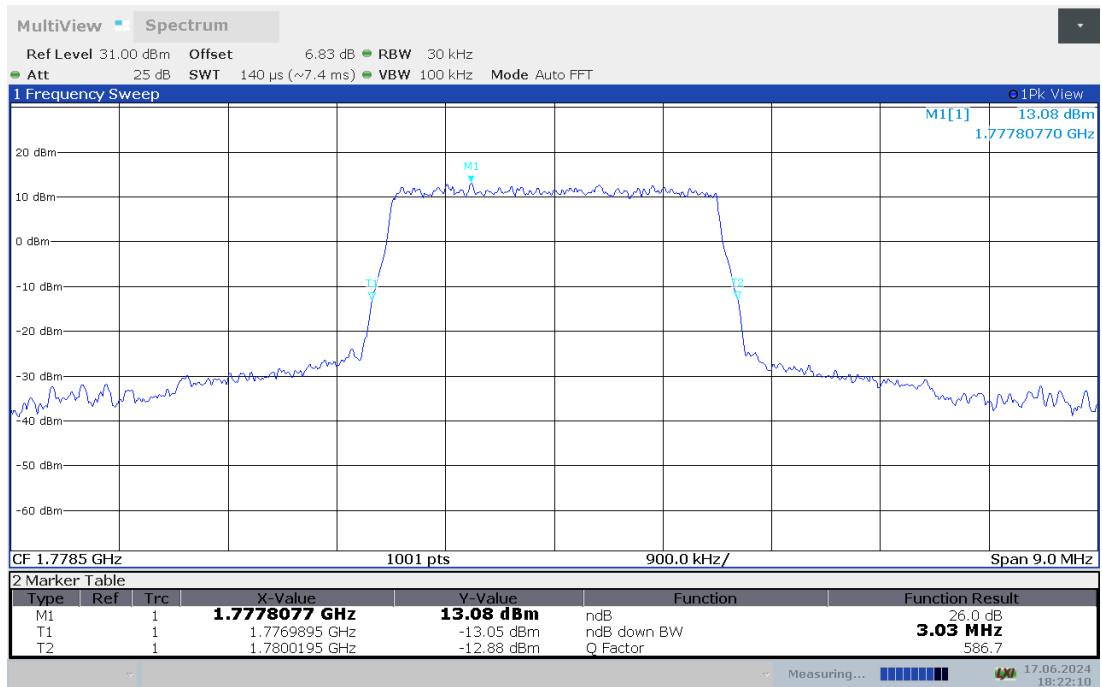
### LTE band 66 , 3MHz Bandwidth,LOW,QPSK (-26dBc BW)



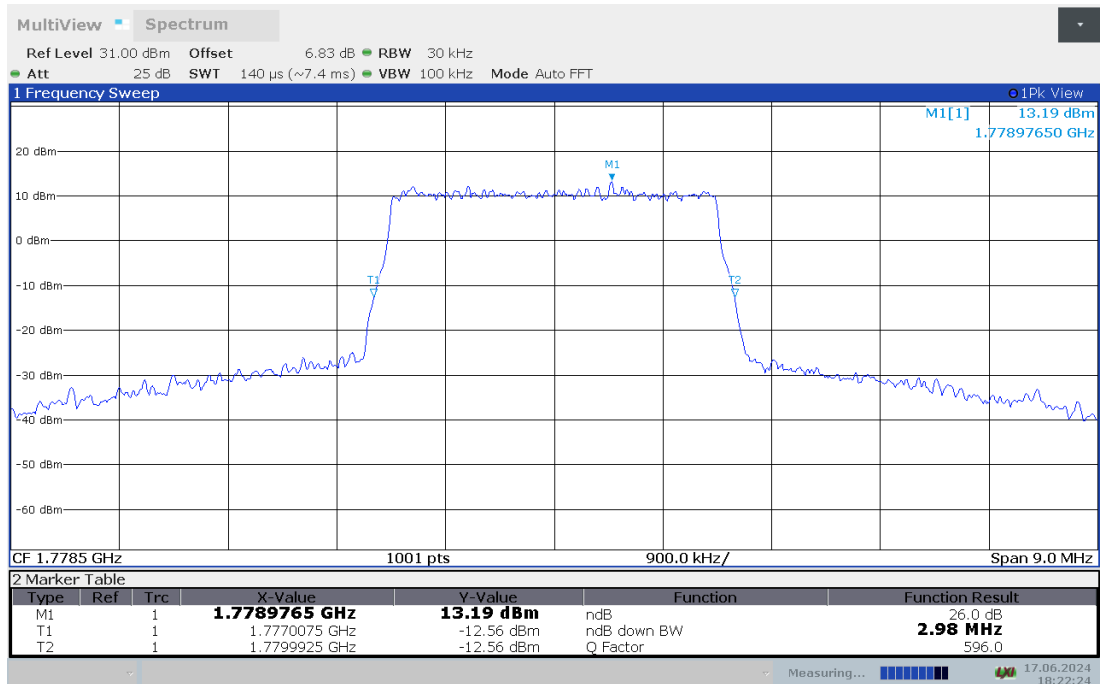
### LTE band 66 , 3MHz Bandwidth,LOW,16QAM (-26dBc BW)



### LTE band 66 , 3MHz Bandwidth,HIGH,QPSK (-26dBc BW)



**LTE band 66 , 3MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

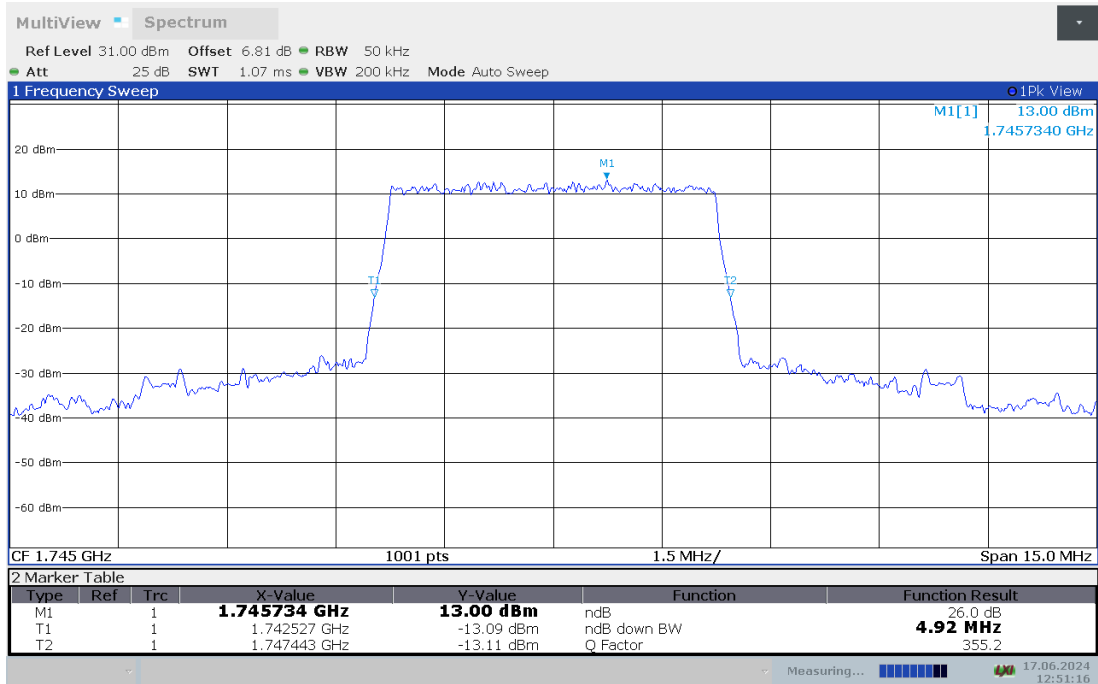




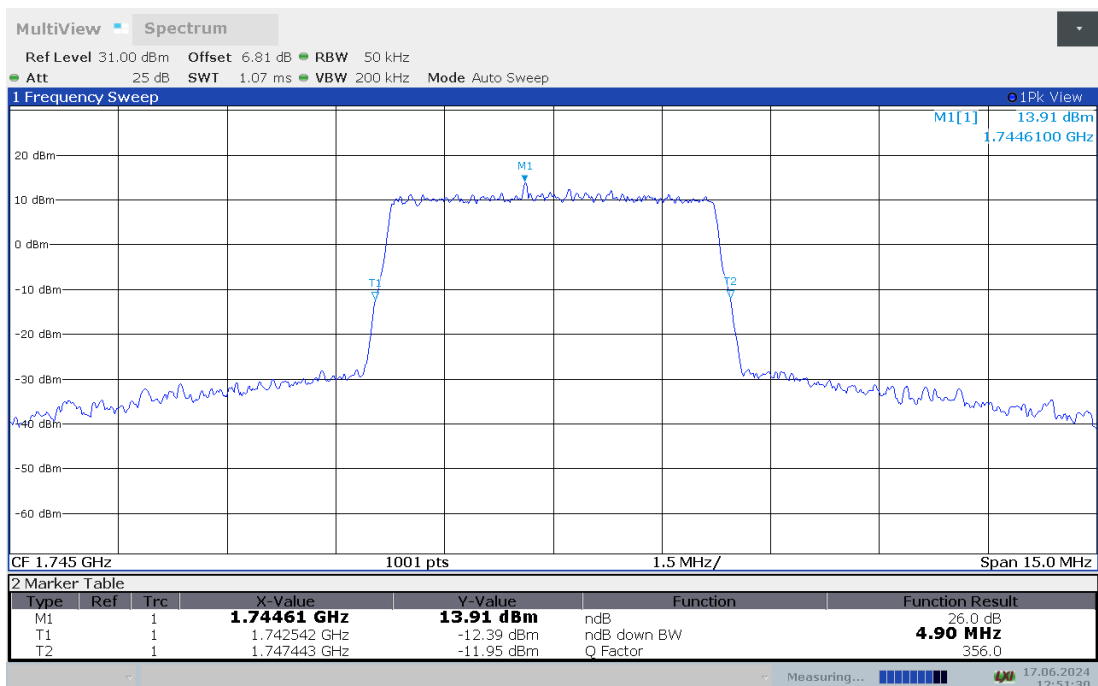
**LTE band 66,5MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	4.915	4.900
1712.5	4.915	4.885
1777.5	4.915	4.930

**LTE band 66 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)**

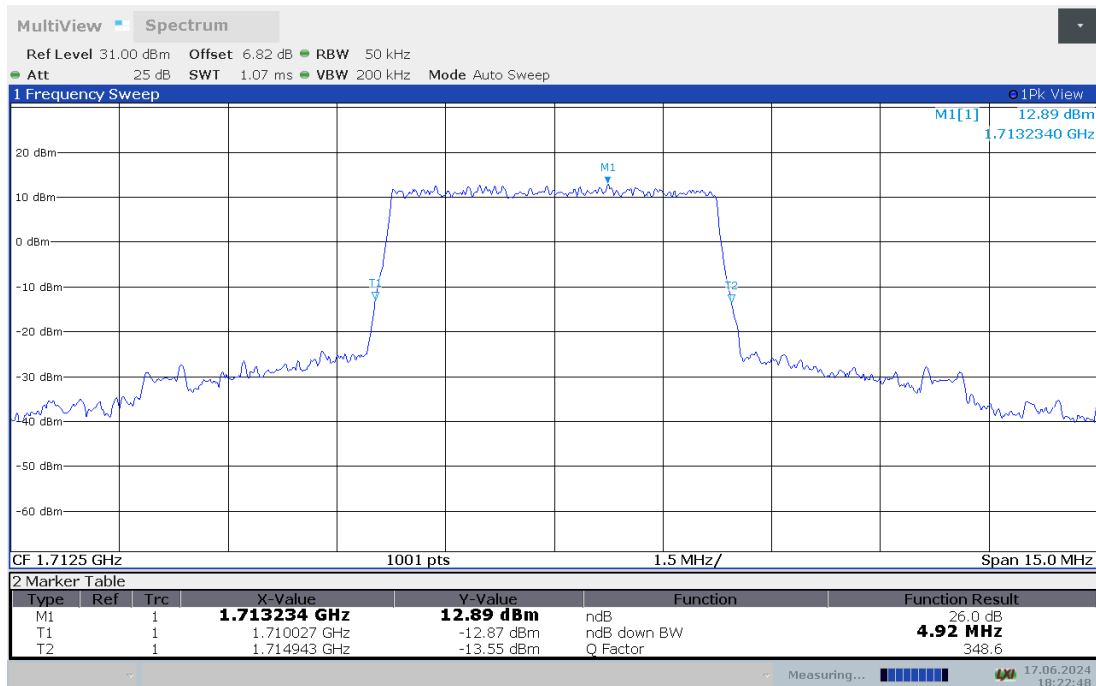


**LTE band 66 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)**

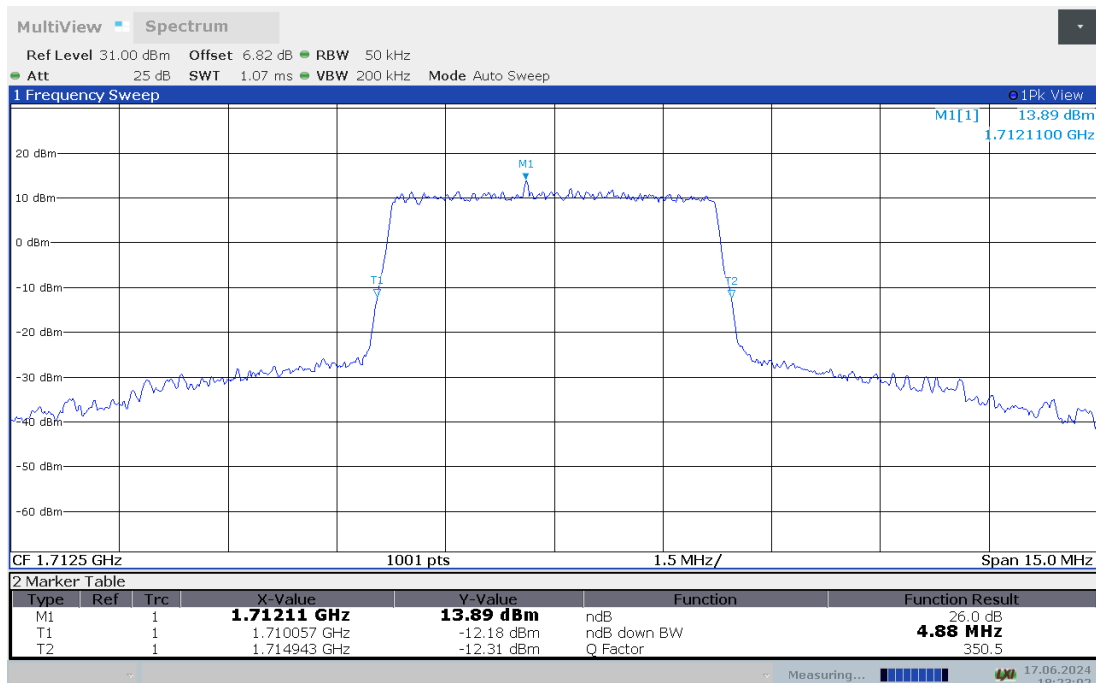




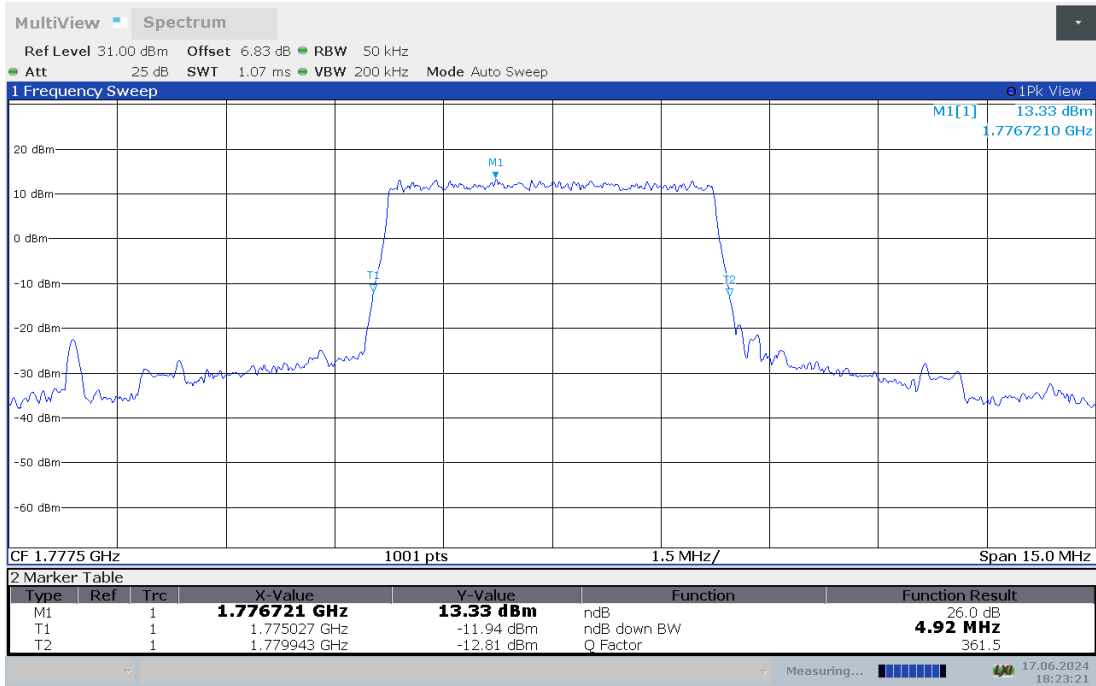
LTE band 66 , 5MHz Bandwidth,LOW,QPSK (-26dBc BW)



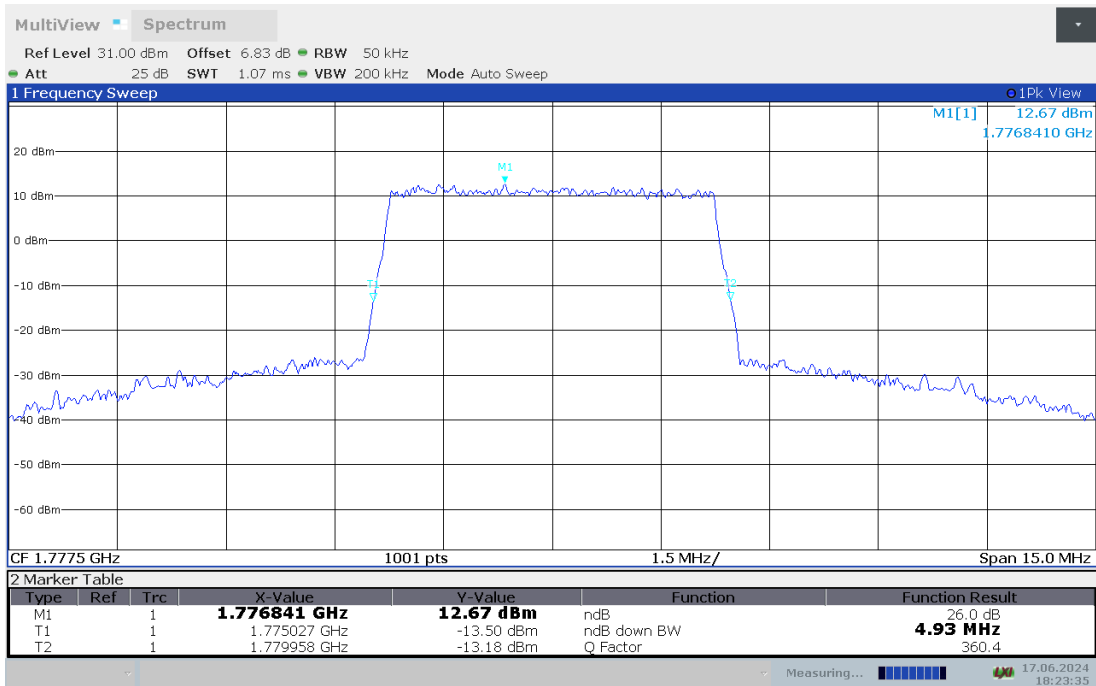
LTE band 66 , 5MHz Bandwidth,LOW,16QAM (-26dBc BW)



LTE band 66 , 5MHz Bandwidth,HIGH,QPSK (-26dBc BW)



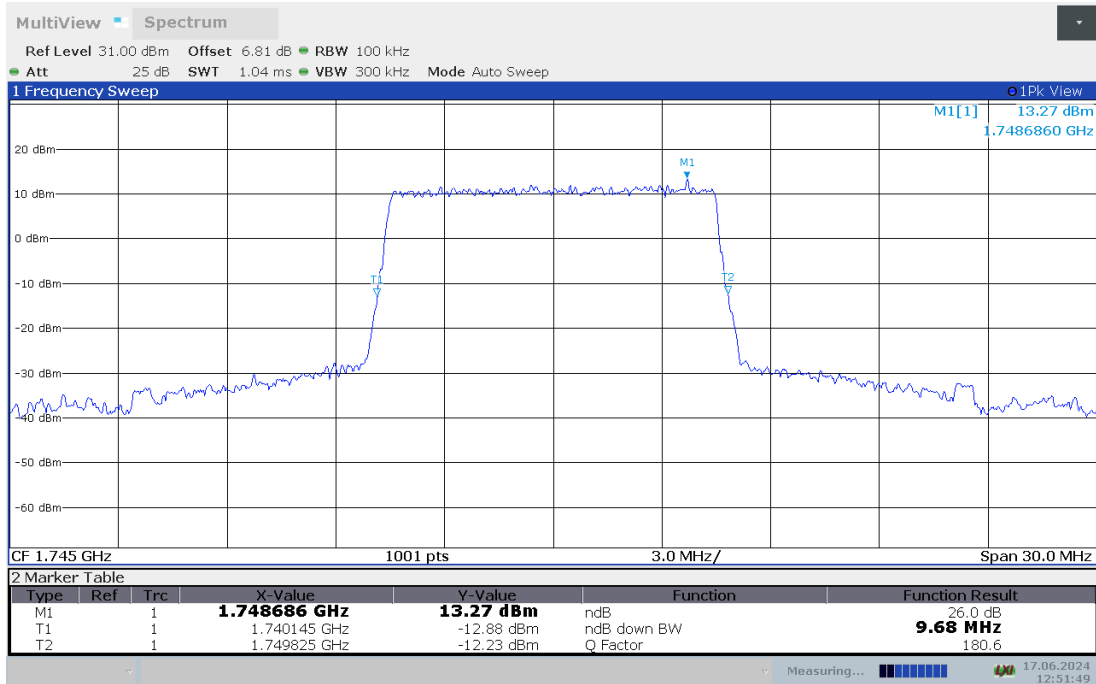
**LTE band 66 , 5MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



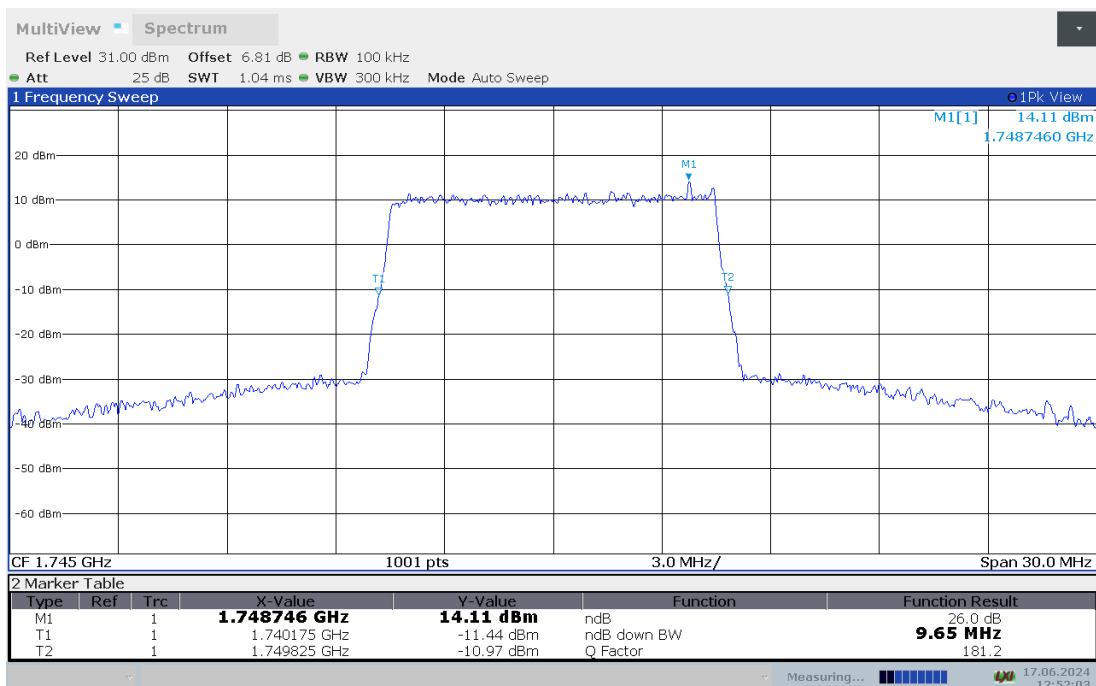
**LTE band 66,10MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	9.680	9.650
1715	9.740	9.680
1775	9.710	9.740

**LTE band 66 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)**

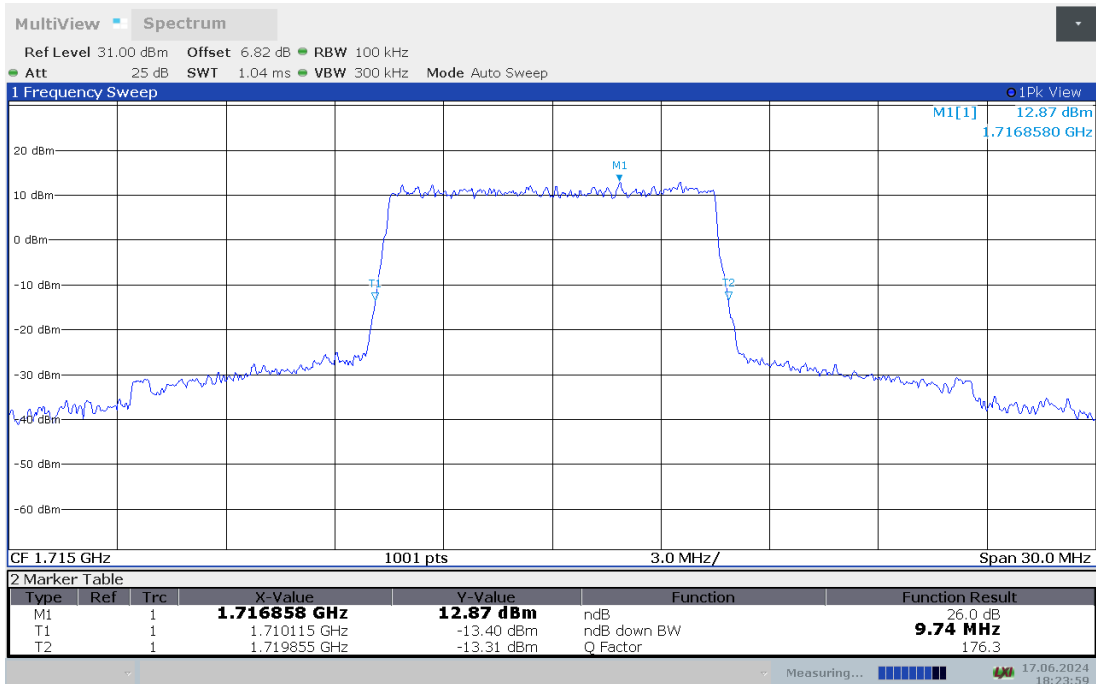


**LTE band 66 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)**

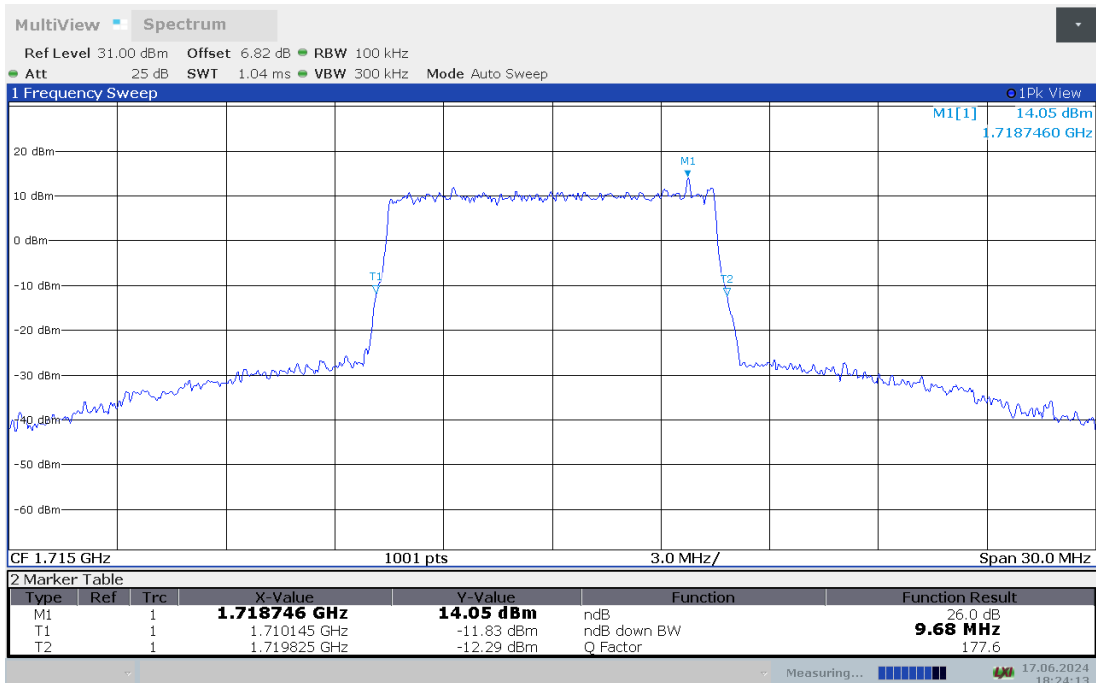




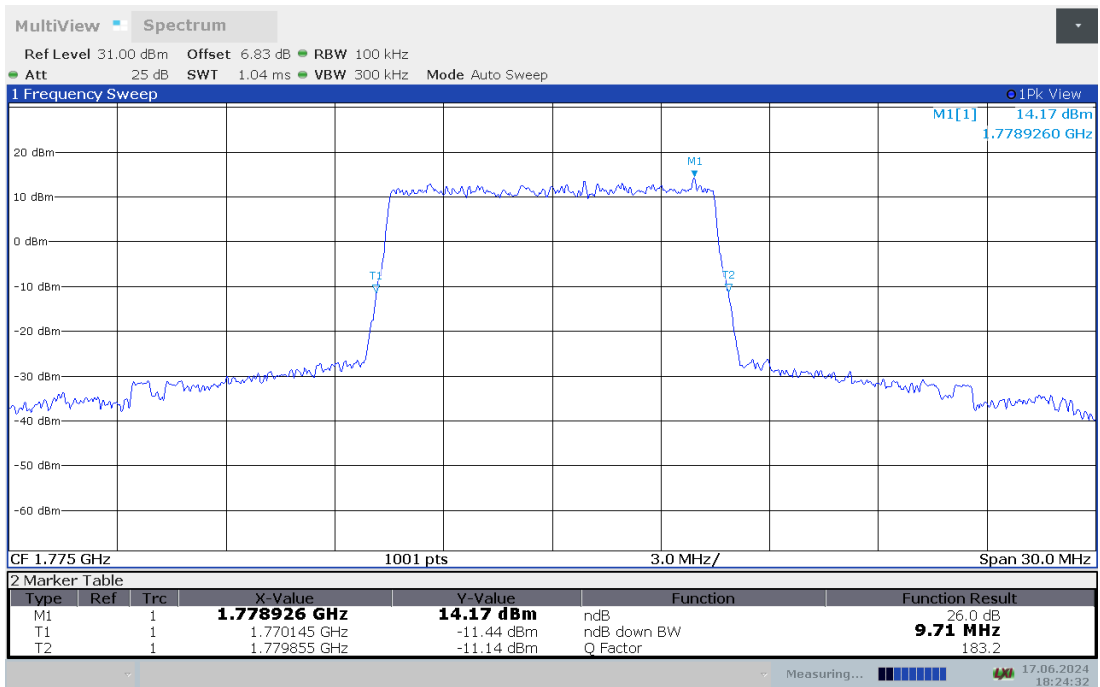
**LTE band 66 , 10MHz Bandwidth,LOW,QPSK (-26dBc BW)**



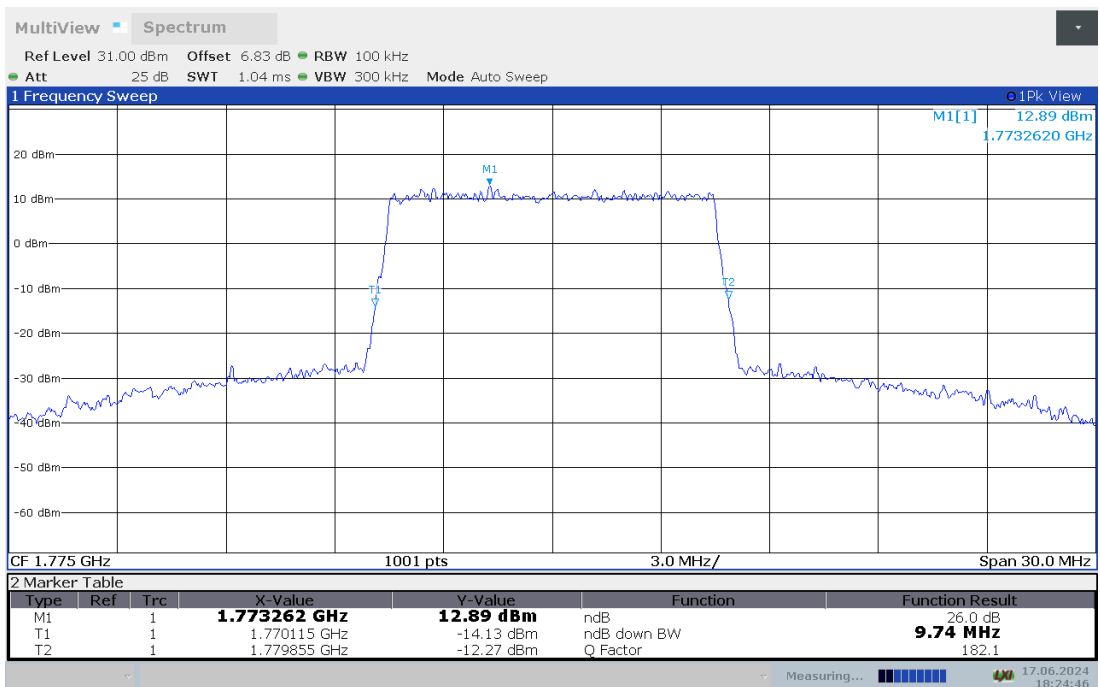
**LTE band 66 , 10MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 66 , 10MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 66 , 10MHz Bandwidth,HIGH,16QAM (-26dBc BW)**

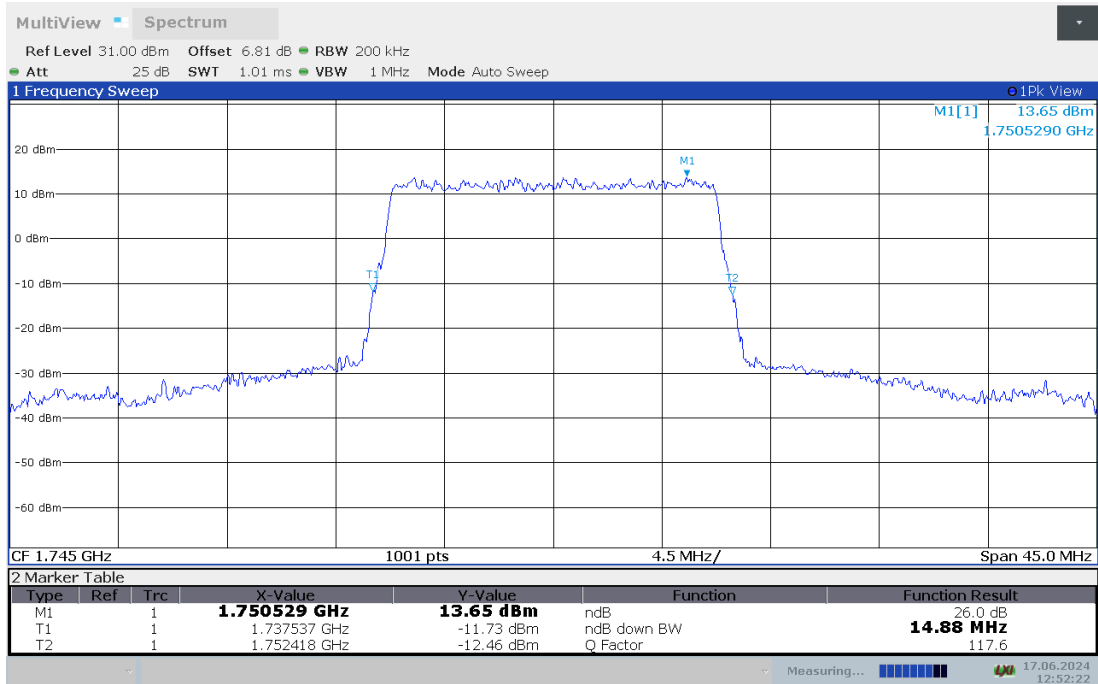




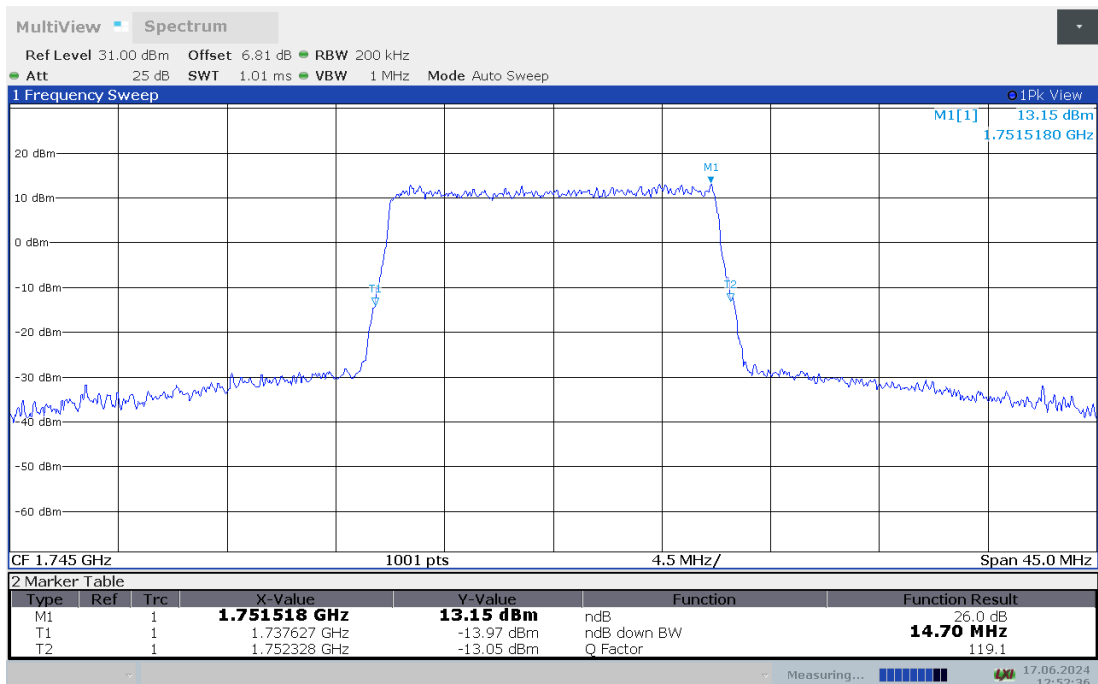
**LTE band 66,15MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	14.880	14.700
1717.5	14.880	14.655
1772.5	14.745	14.880

**LTE band 66 , 15MHz Bandwidth,MID,QPSK (-26dBc BW)**

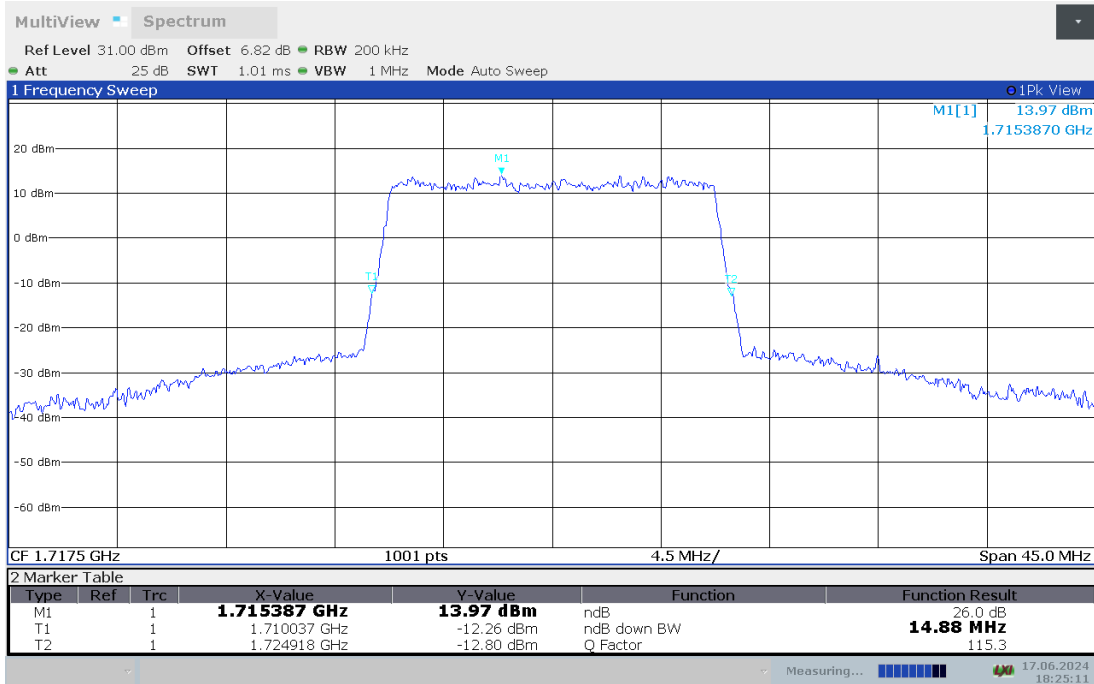


**LTE band 66 , 15MHz Bandwidth,MID,16QAM (-26dBc BW)**

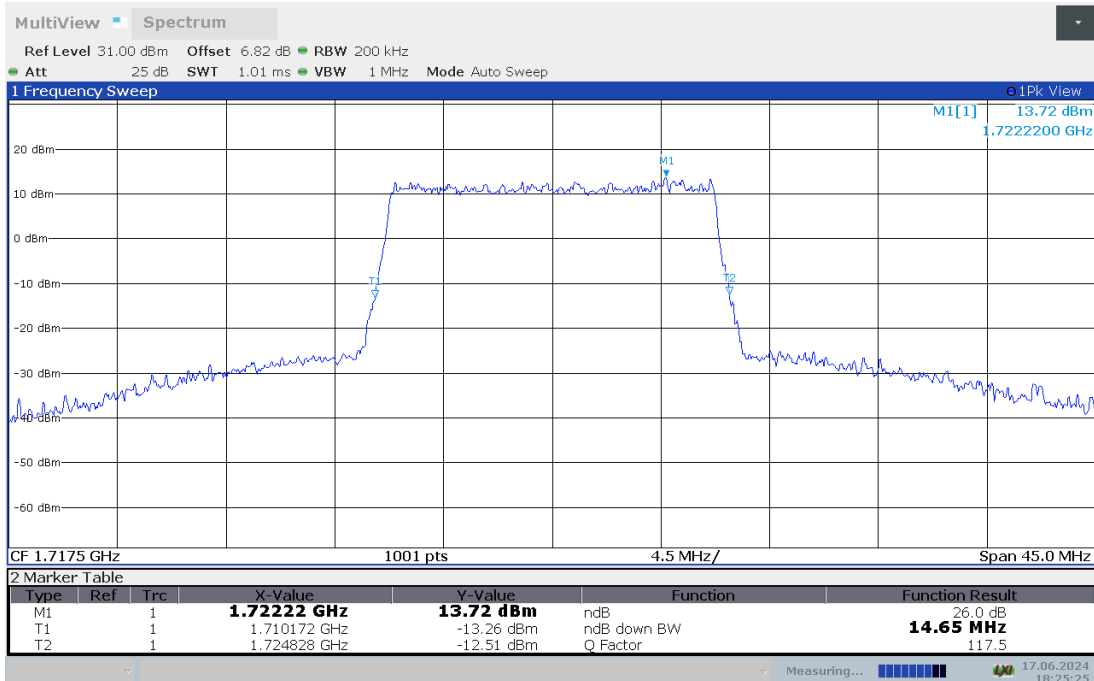




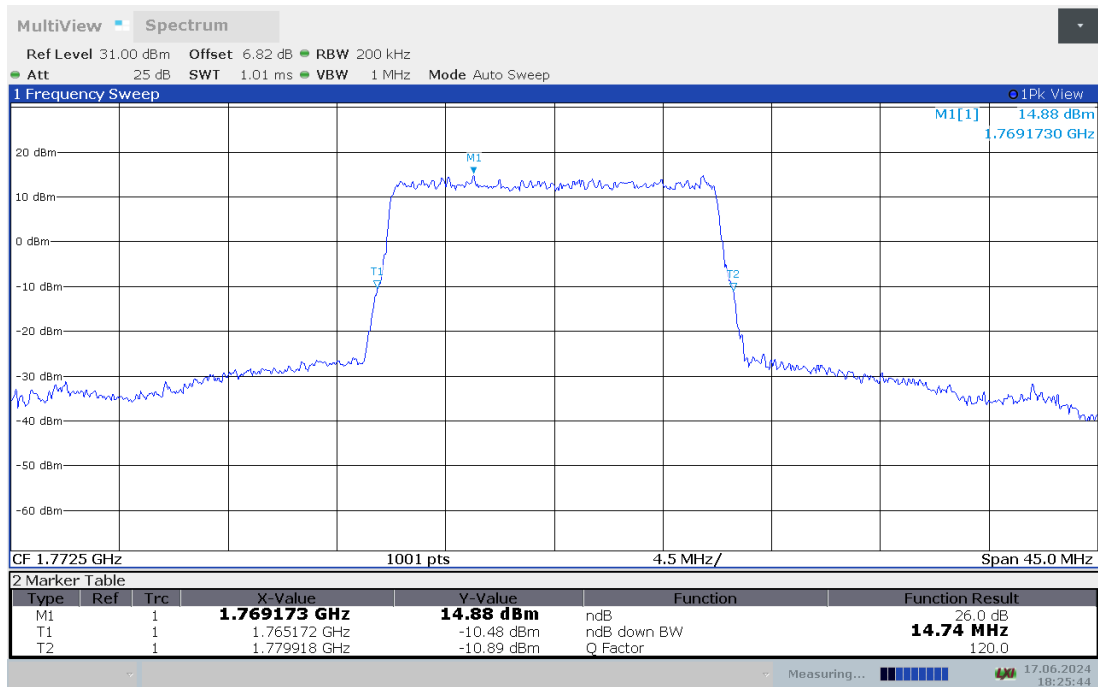
**LTE band 66 , 15MHz Bandwidth,LOW,QPSK (-26dBc BW)**



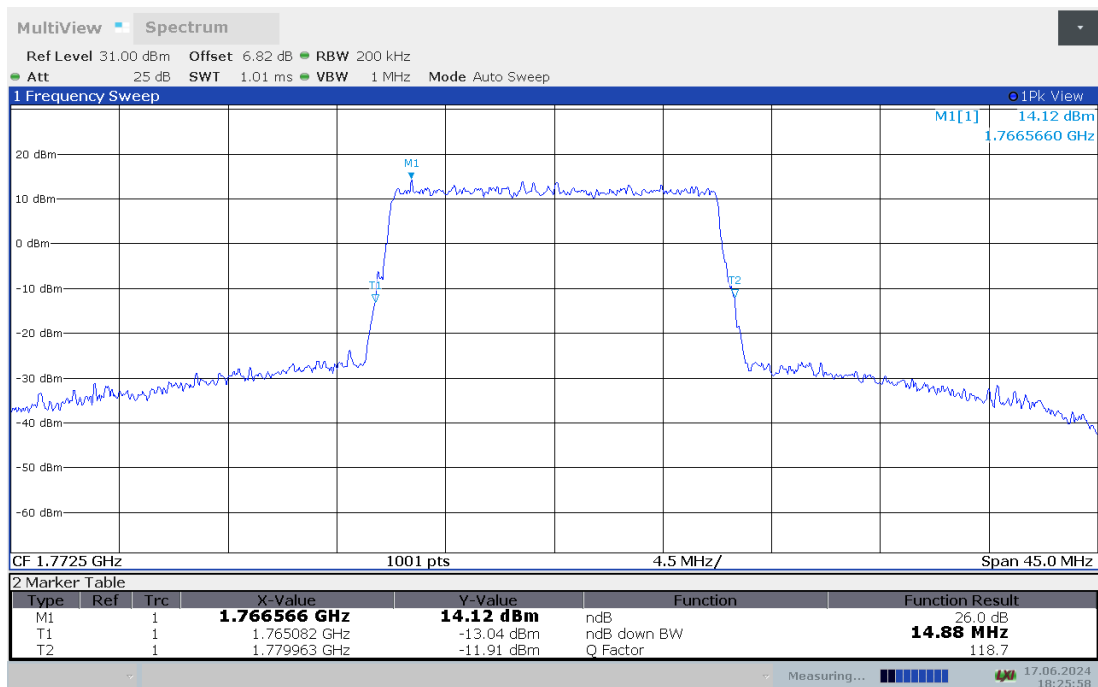
**LTE band 66 , 15MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 66 , 15MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



LTE band 66 , 15MHz Bandwidth,HIGH,16QAM (-26dBc BW)

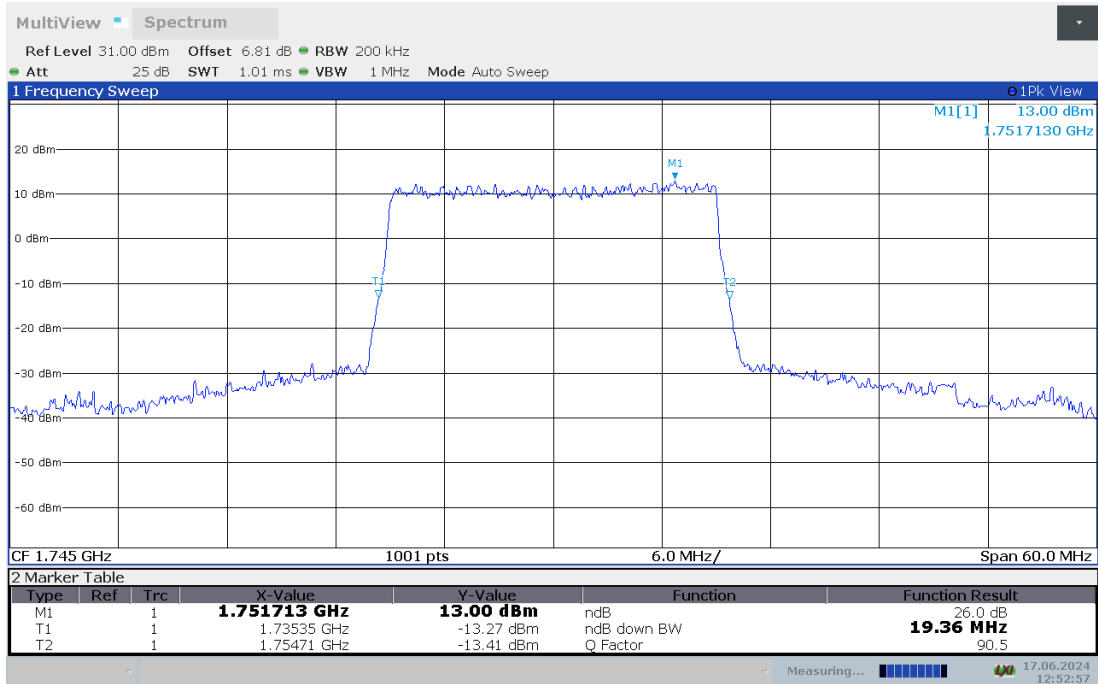




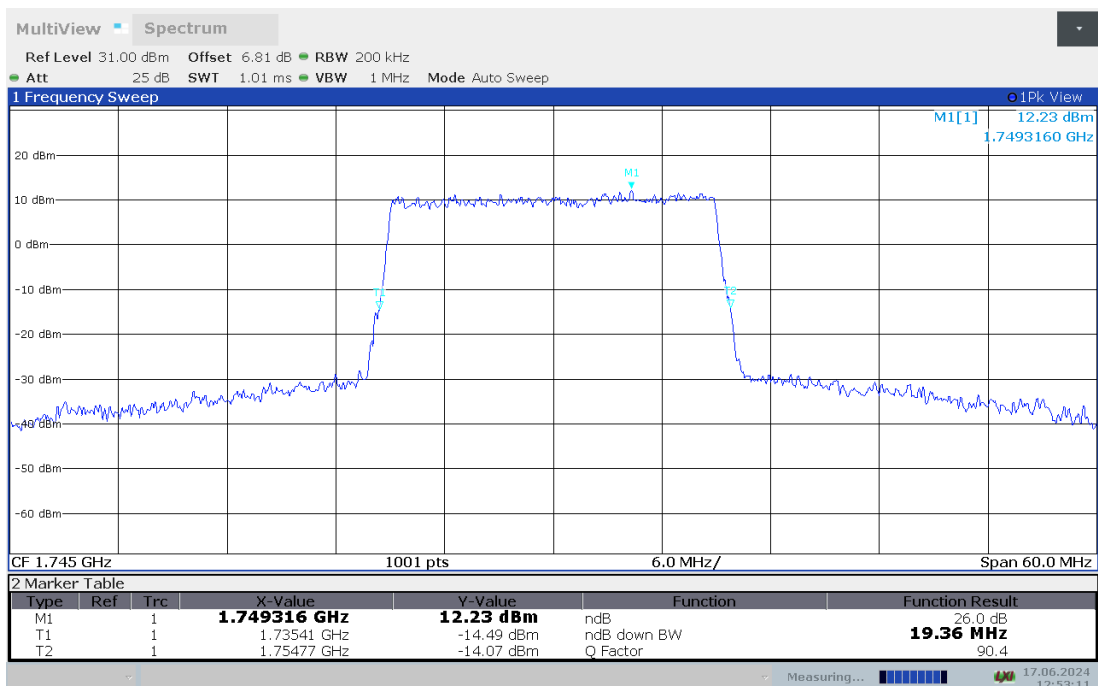
**LTE band 66,20MHz(-26dBc BW)**

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)	
	QPSK	16QAM
1745	19.361	19.361
1720	19.121	19.301
1770	19.361	19.421

**LTE band 66 , 20MHz Bandwidth,MID,QPSK (-26dBc BW)**

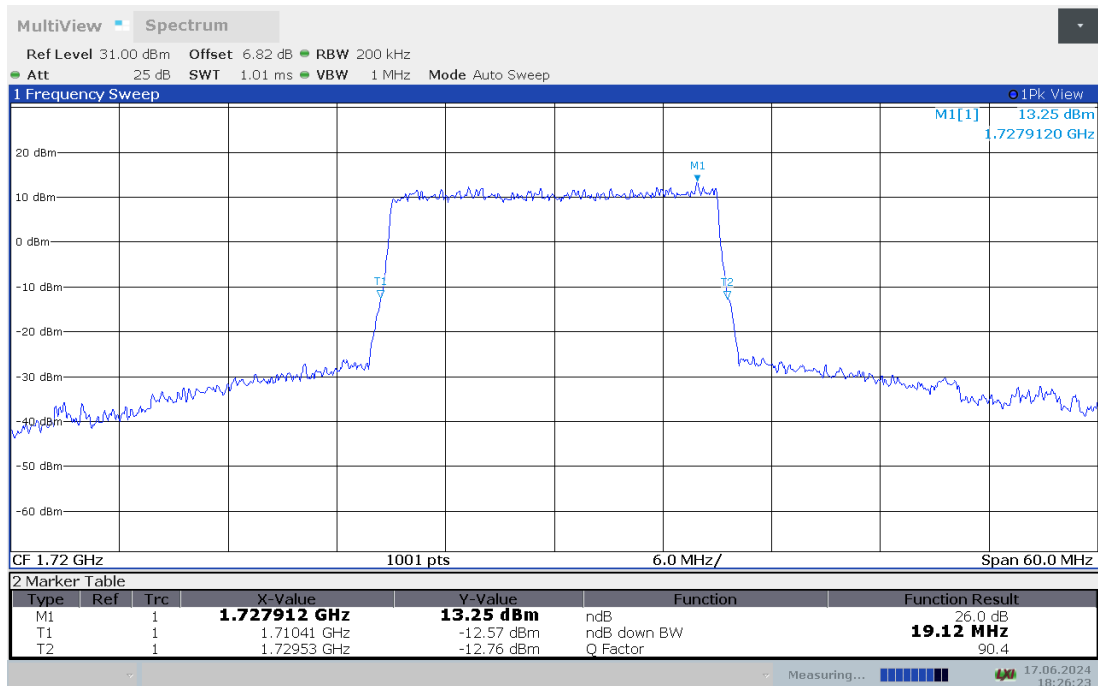


**LTE band 66 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)**

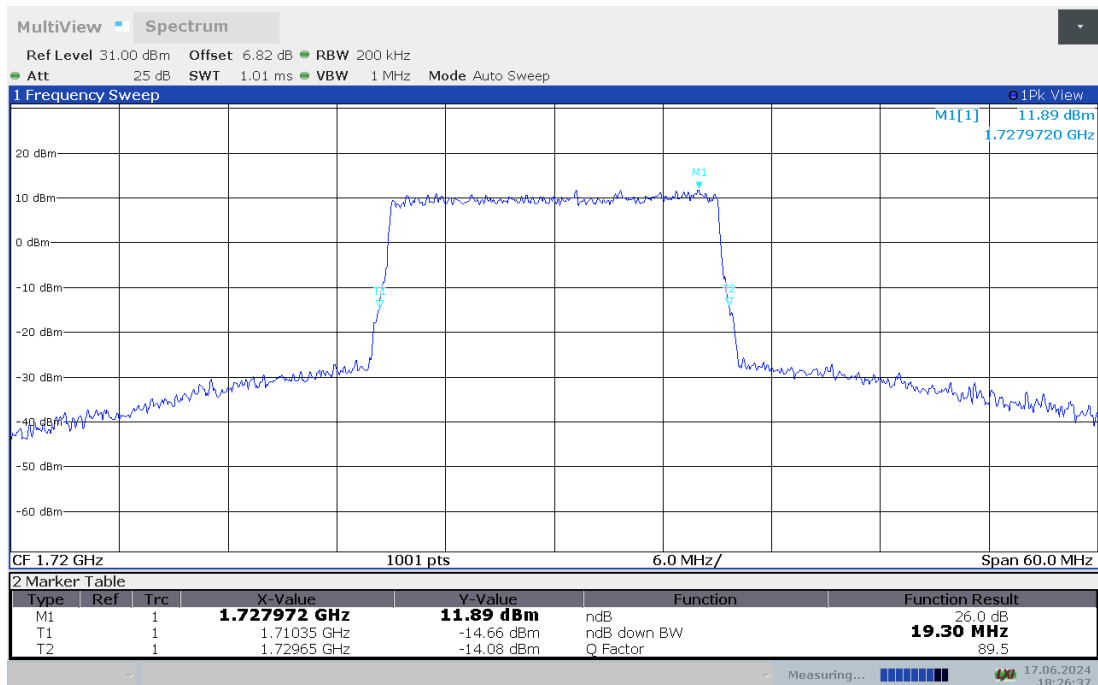




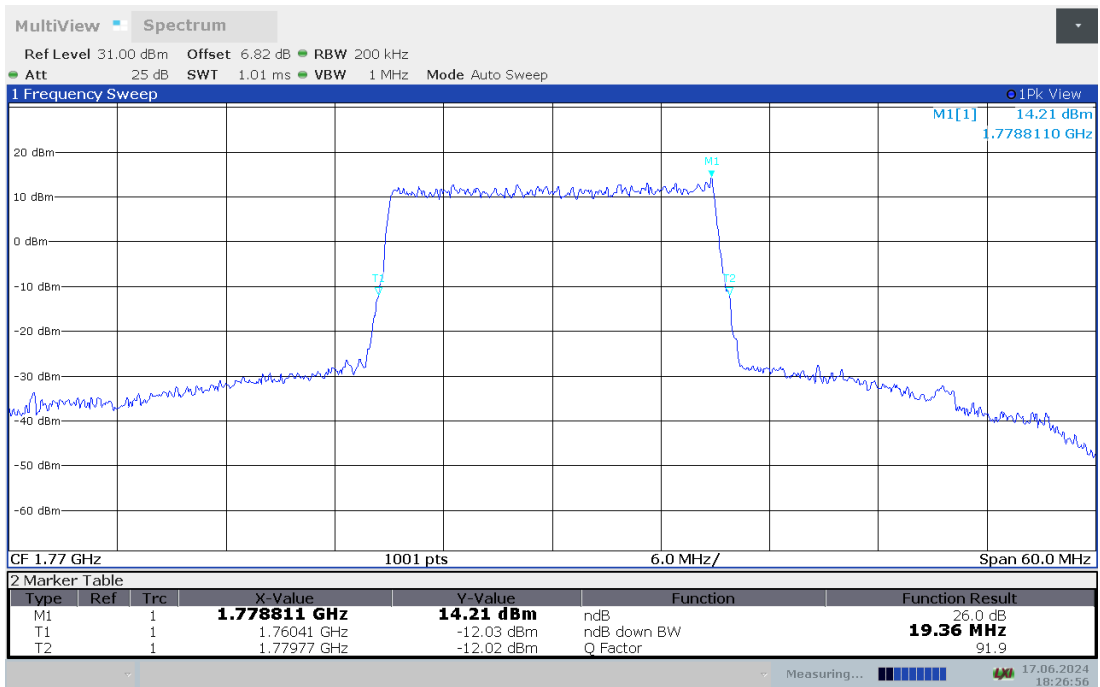
**LTE band 66 , 20MHz Bandwidth,LOW,QPSK (-26dBc BW)**



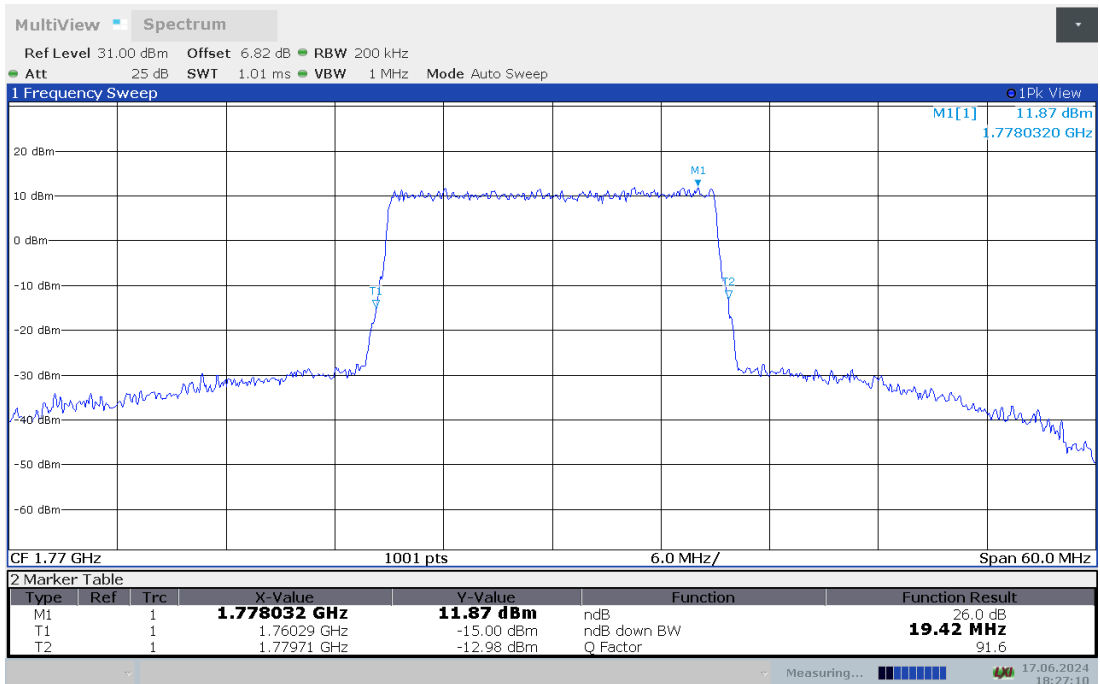
**LTE band 66 , 20MHz Bandwidth,LOW,16QAM (-26dBc BW)**



**LTE band 66 , 20MHz Bandwidth,HIGH,QPSK (-26dBc BW)**



**LTE band 66 , 20MHz Bandwidth,HIGH,16QAM (-26dBc BW)**



Note: Expanded measurement uncertainty is  $U = 3428 \text{ Hz}$ ,  $k = 2$



## **A.6 BAND EDGE COMPLIANCE**

### **A.6.1 Measurement limit**

Part 22.917 For operations in the 824–849MHz band, the FCC limit is  $43 + 10 \log (P)$  dB below the transmitter power(P) in a 100kHz bandwidth. However, in the 1MHz 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.

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(c) specifies On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB; On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB; On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations; Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed; Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

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(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.

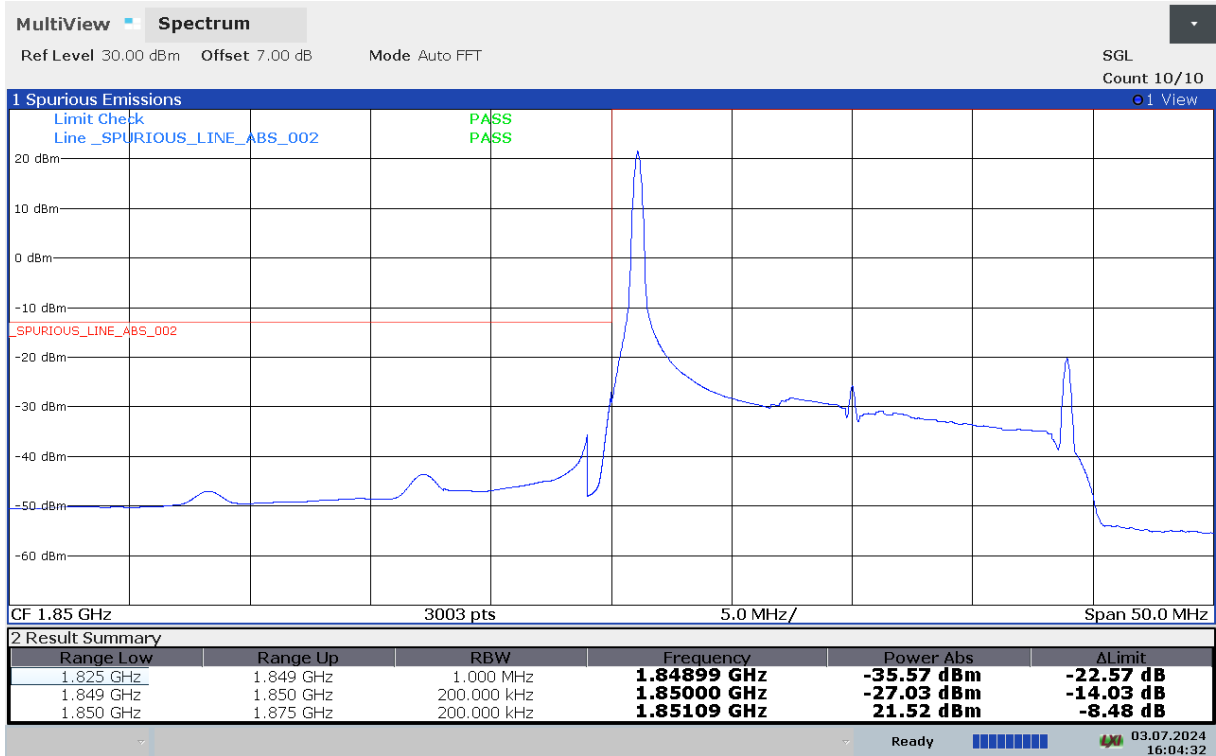
### **A.6.2 Measurement result**

**Only worst case result is given below**

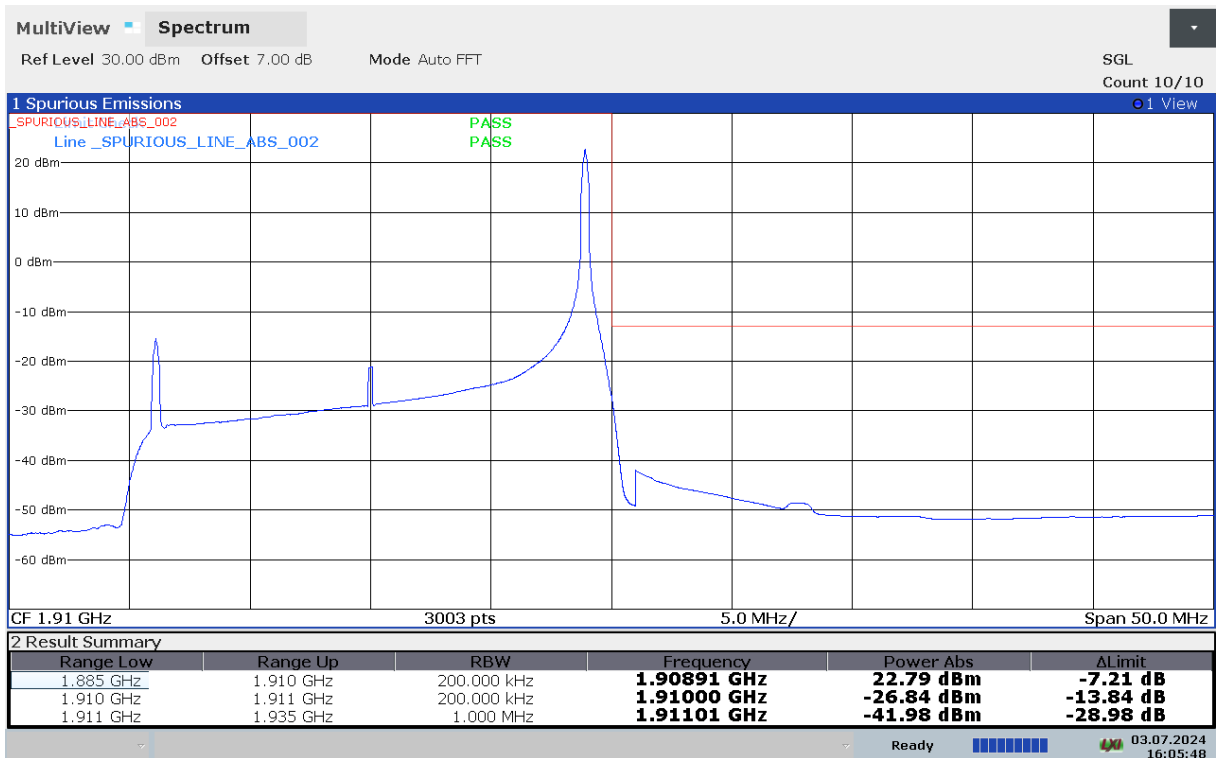


### LTE band 2

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

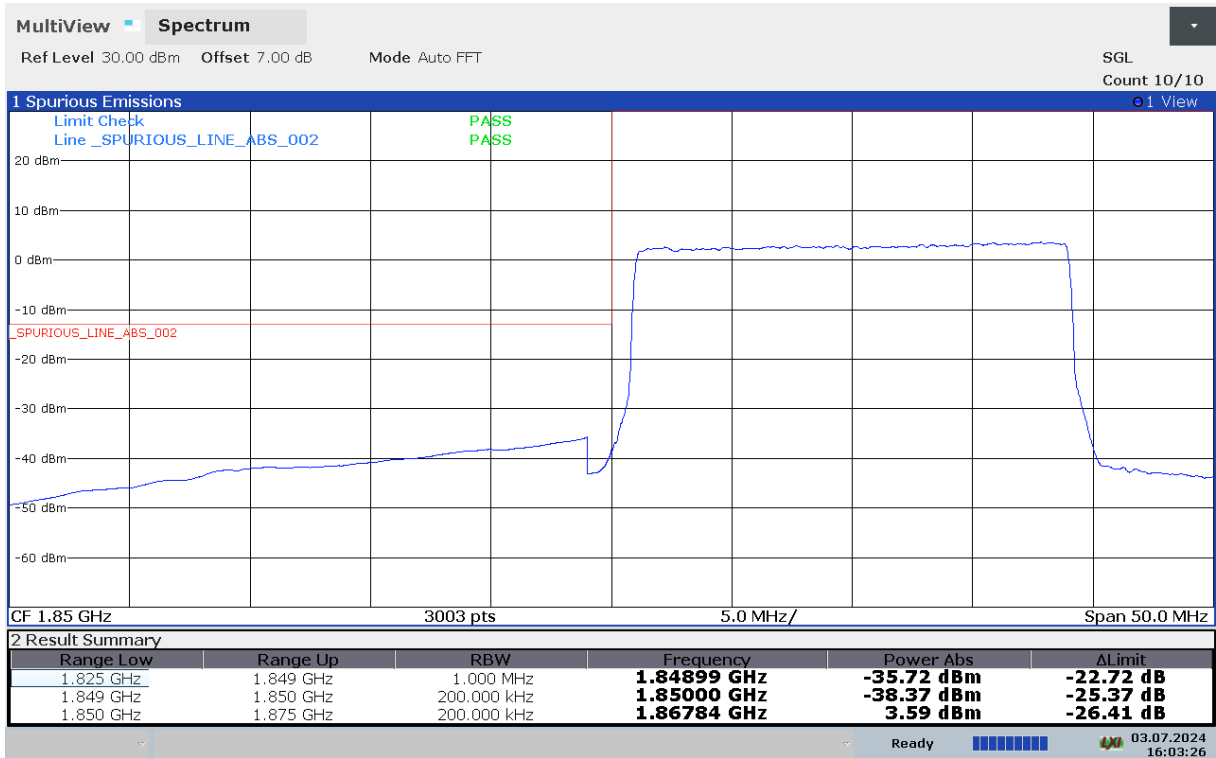


### HIGH BAND EDGE BLOCK-1RB-high\_offset

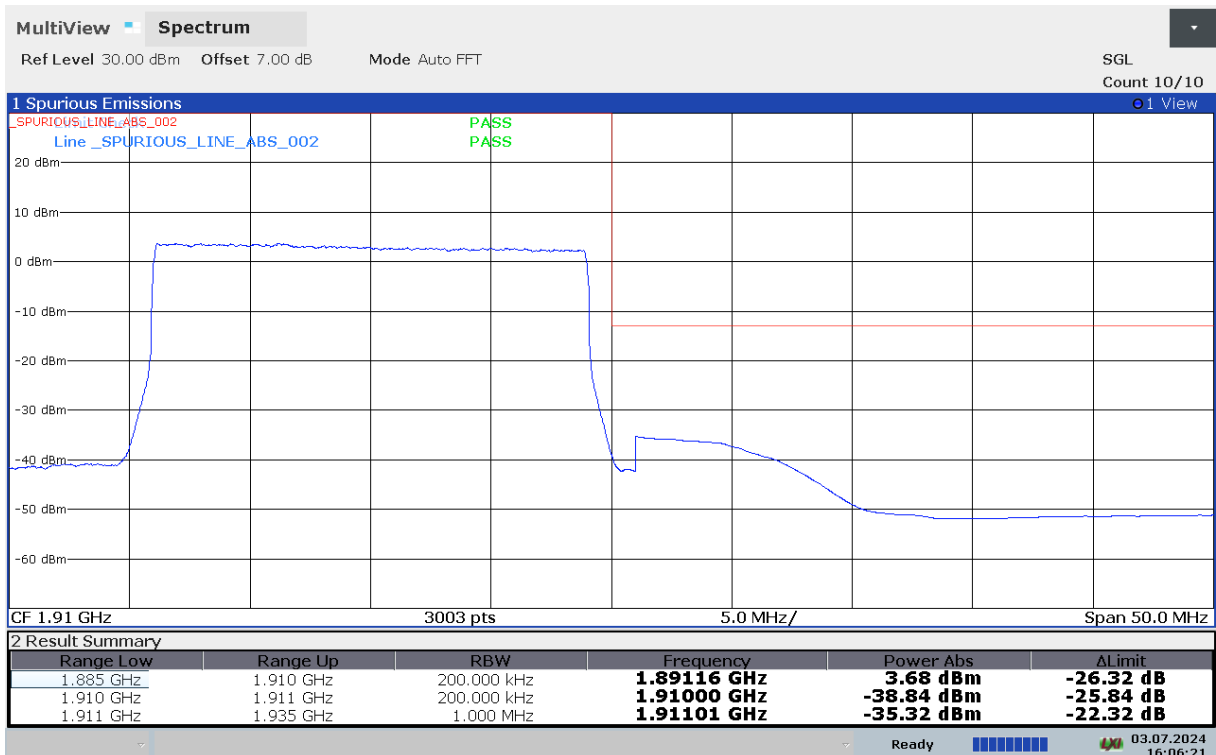




**LOW BAND EDGE BLOCK-20MHz-100%RB**



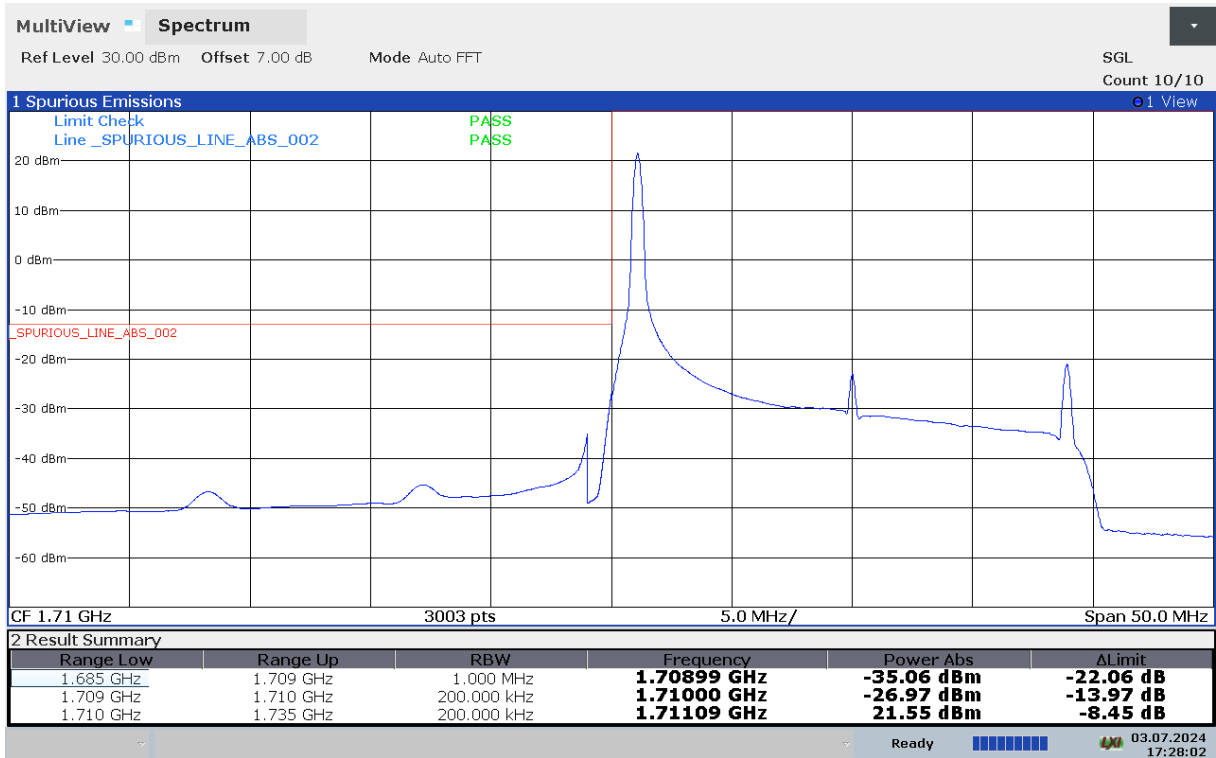
**HIGH BAND EDGE BLOCK-20MHz-100%RB**



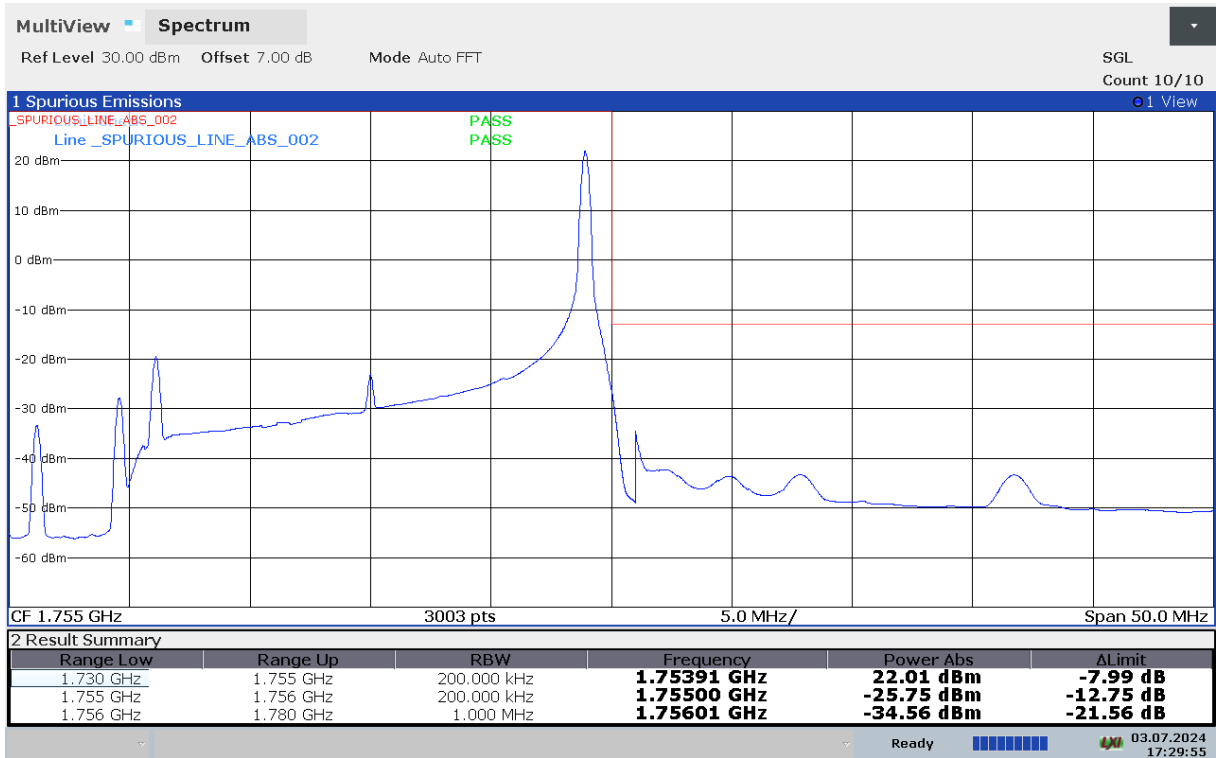


### LTE band 4

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

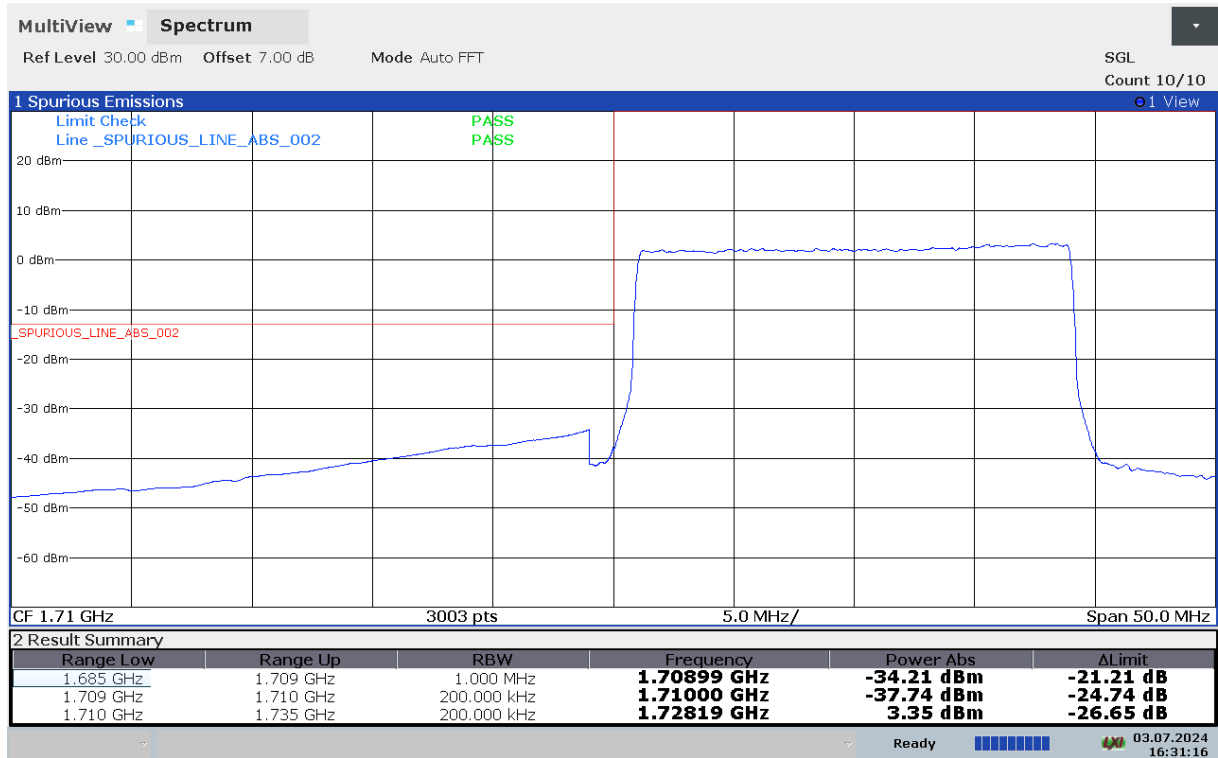


### HIGH BAND EDGE BLOCK-1RB-high\_offset

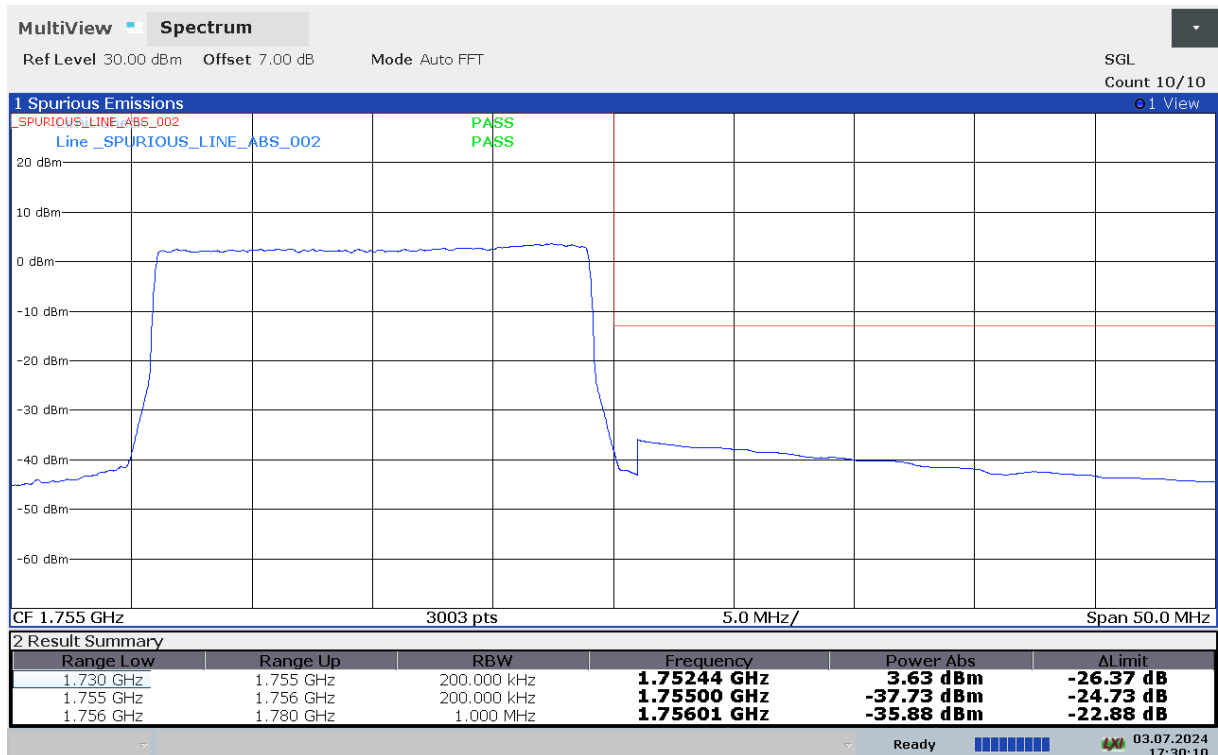




### LOW BAND EDGE BLOCK-20MHz-100%RB



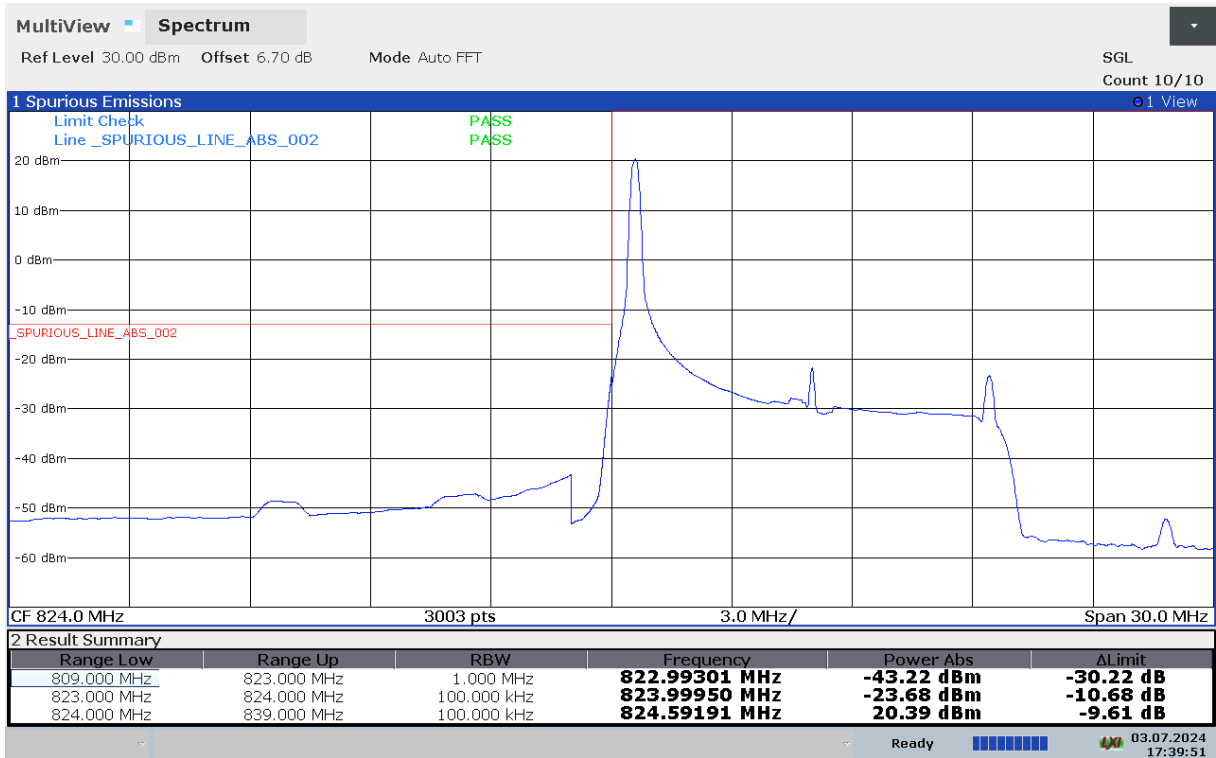
### HIGH BAND EDGE BLOCK-20MHz-100%RB



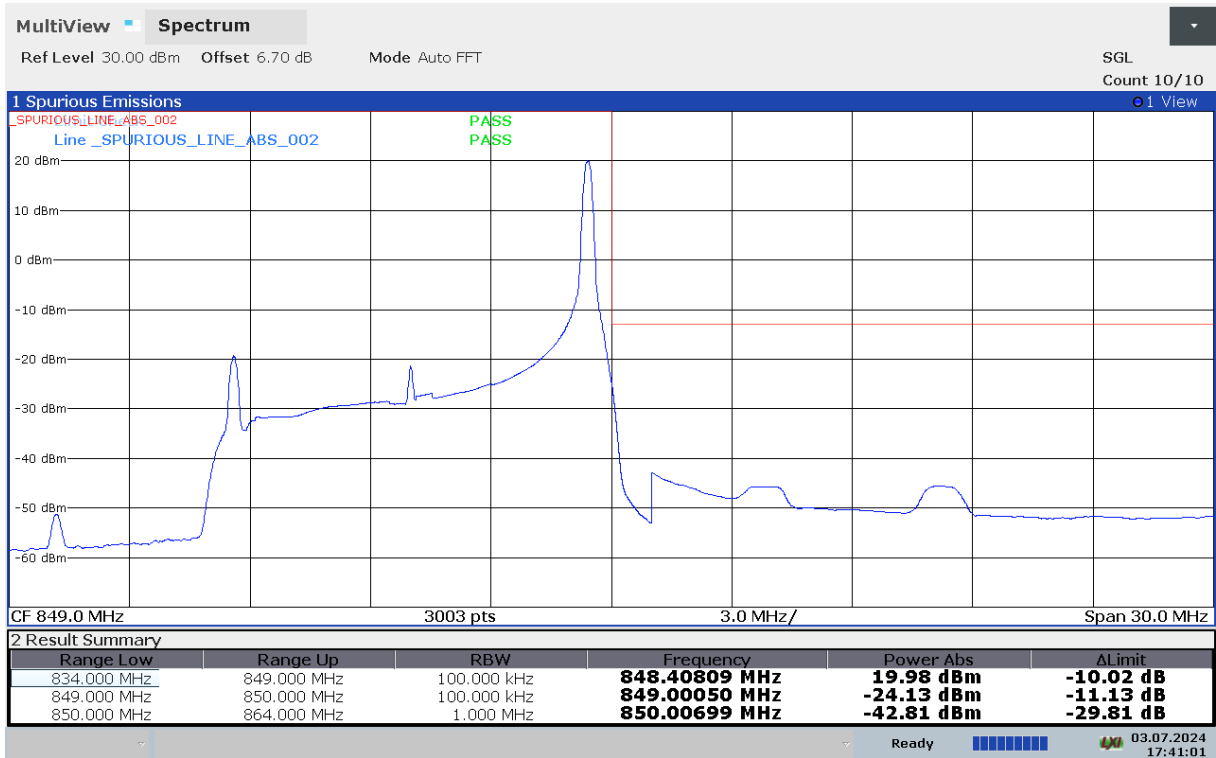


### LTE band 5

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

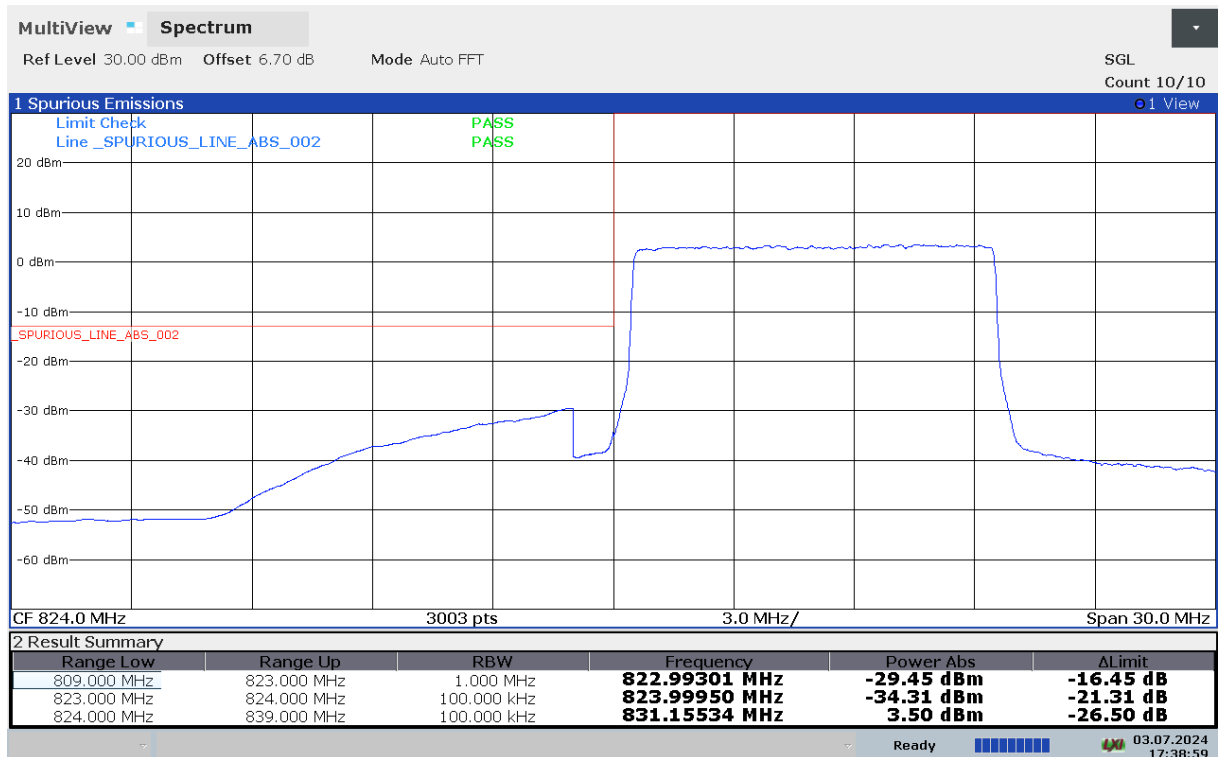


### HIGH BAND EDGE BLOCK-1RB-high\_offset

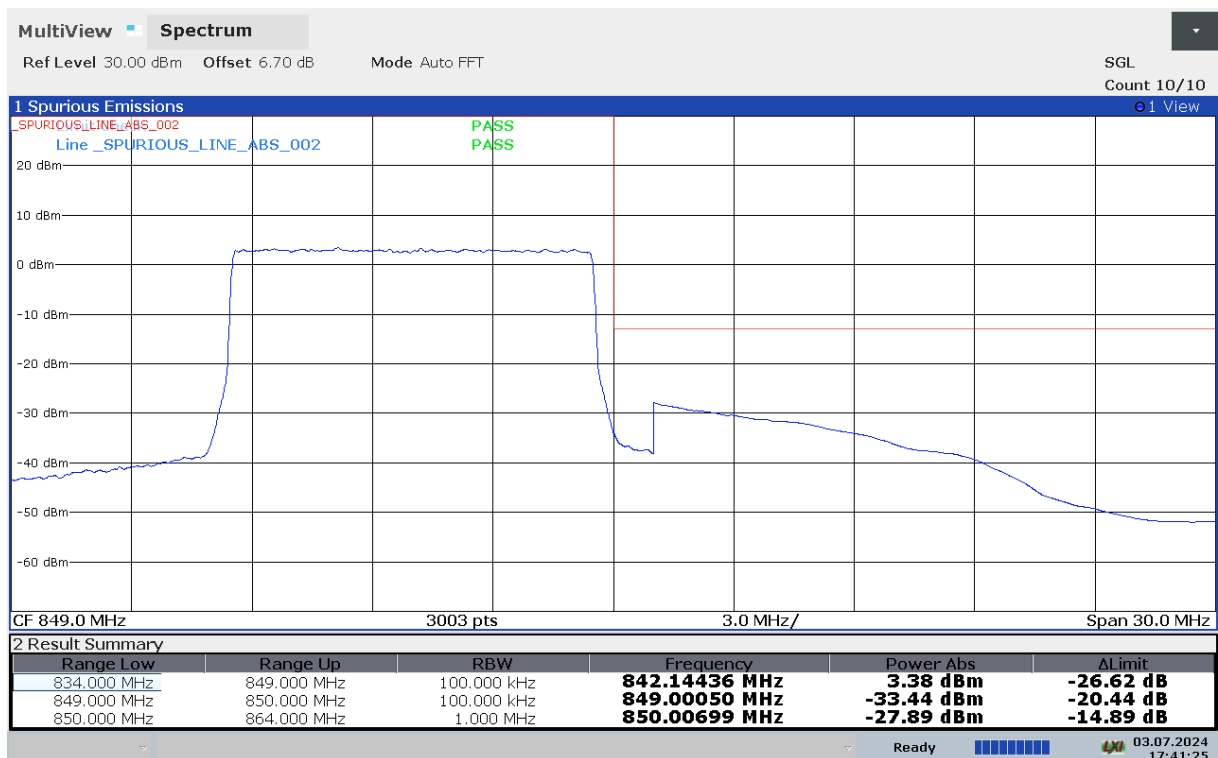




### LOW BAND EDGE BLOCK-10MHz-100%RB



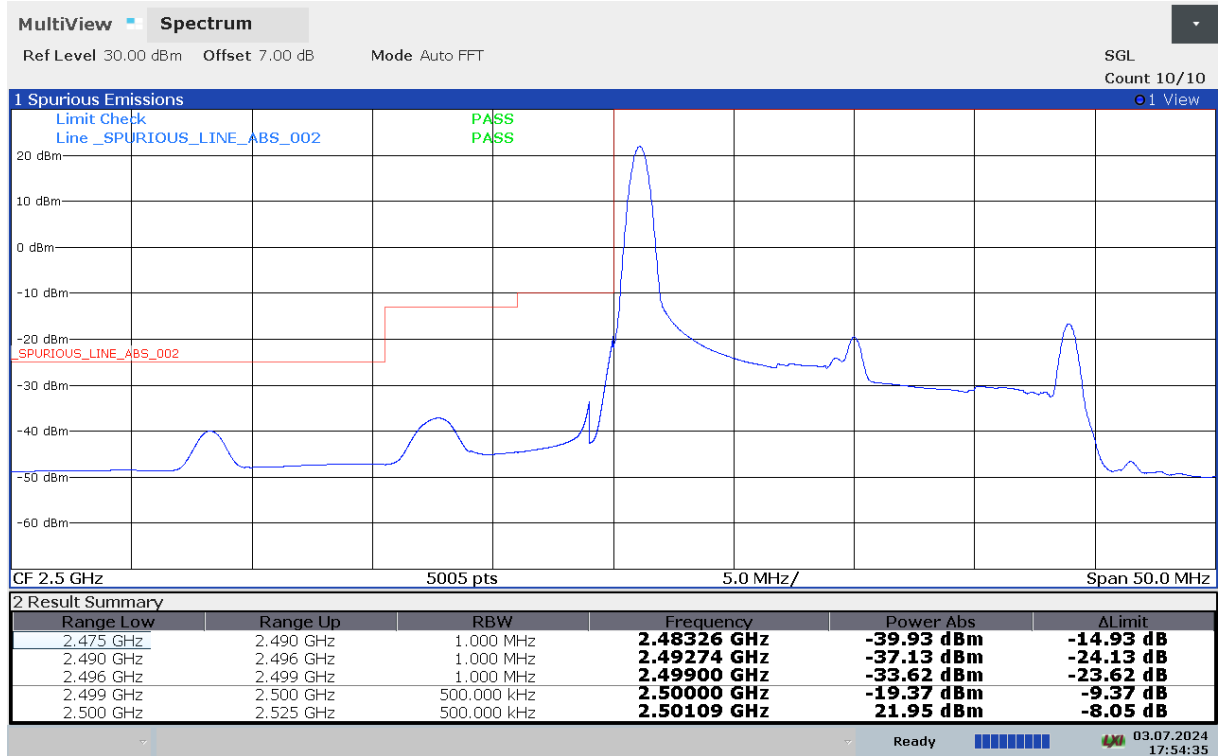
### HIGH BAND EDGE BLOCK-10MHz-100%RB



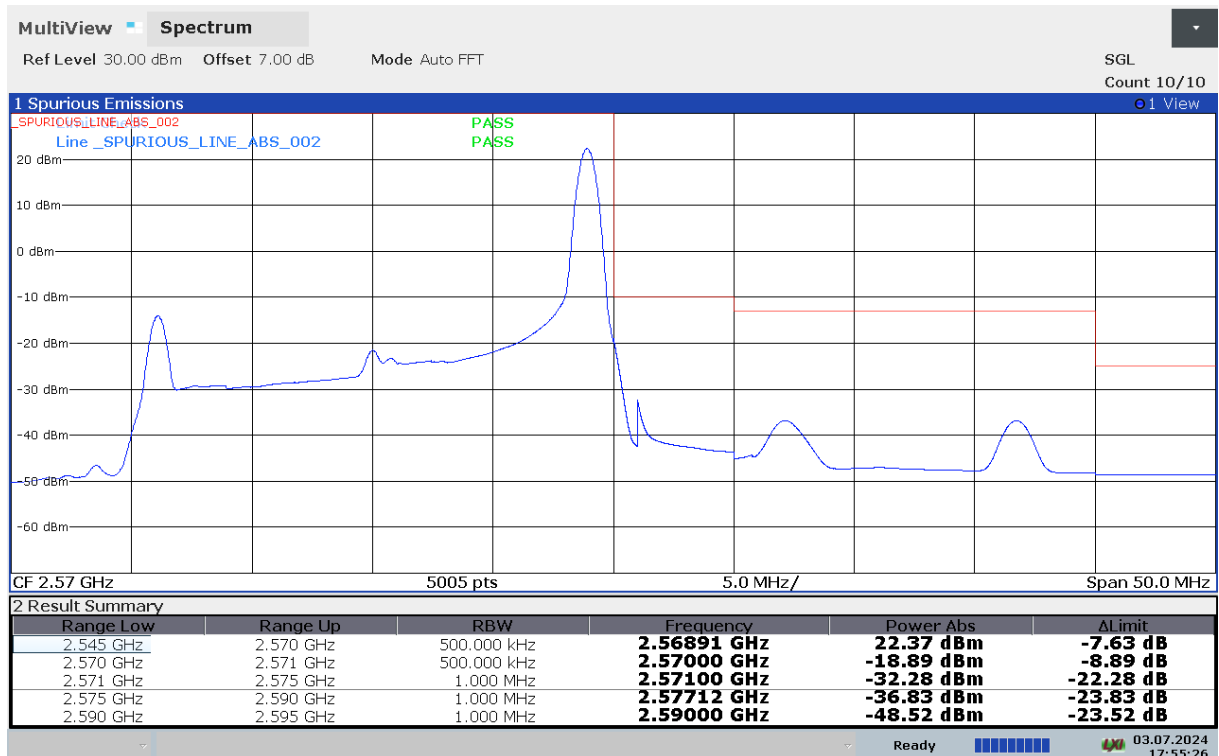


LTE band 7

LOW BAND EDGE BLOCK-1RB-low\_offset



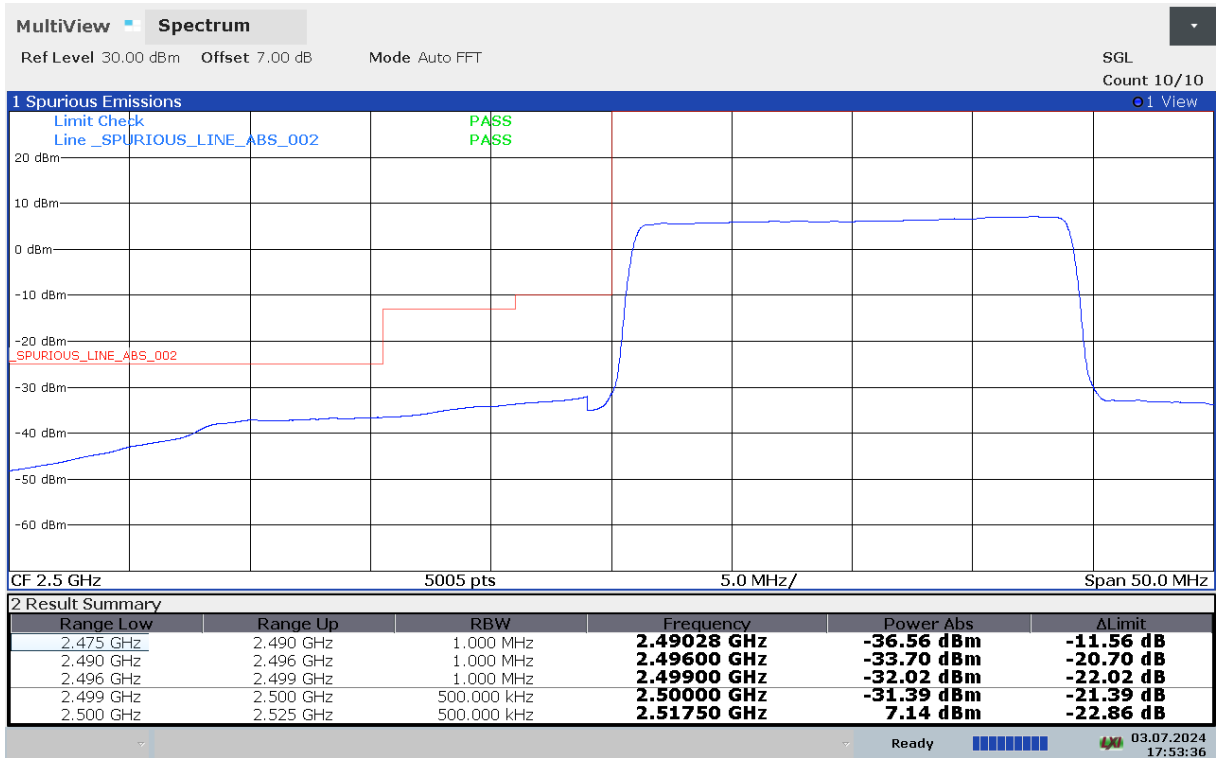
HIGH BAND EDGE BLOCK-1RB-high\_offset



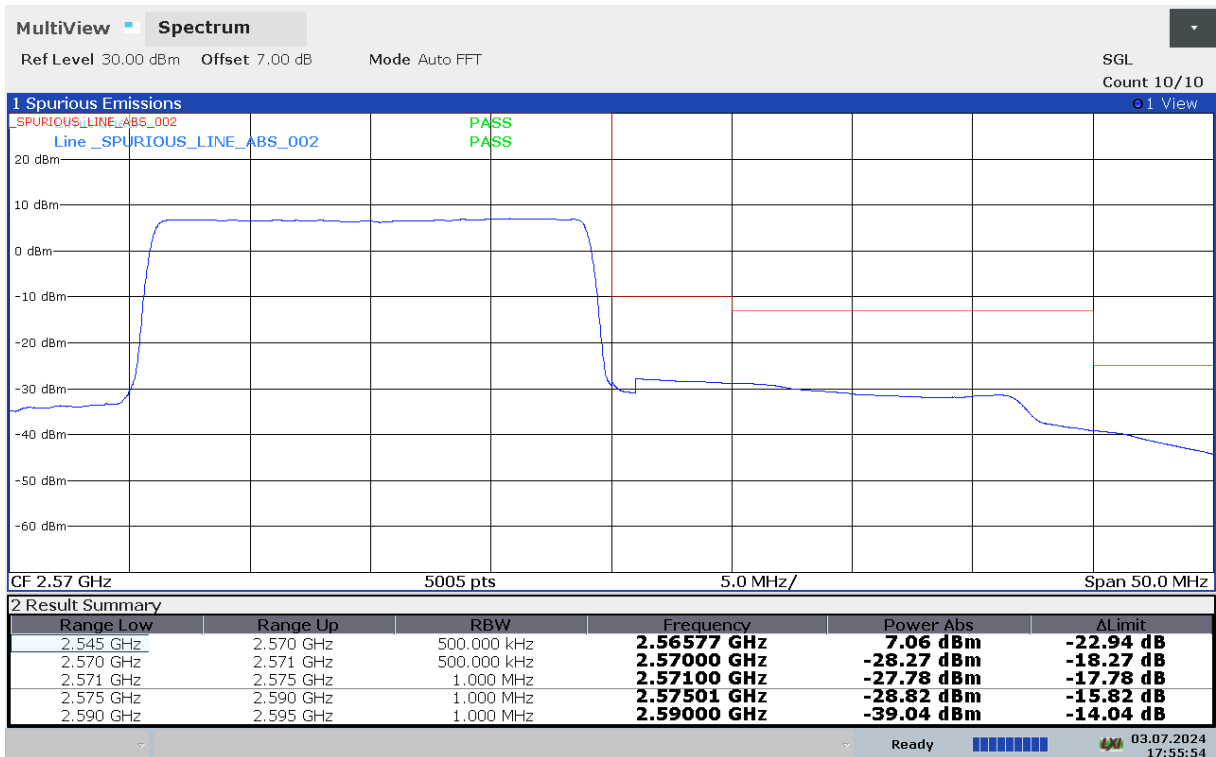




**LOW BAND EDGE BLOCK-20MHz-100%RB**



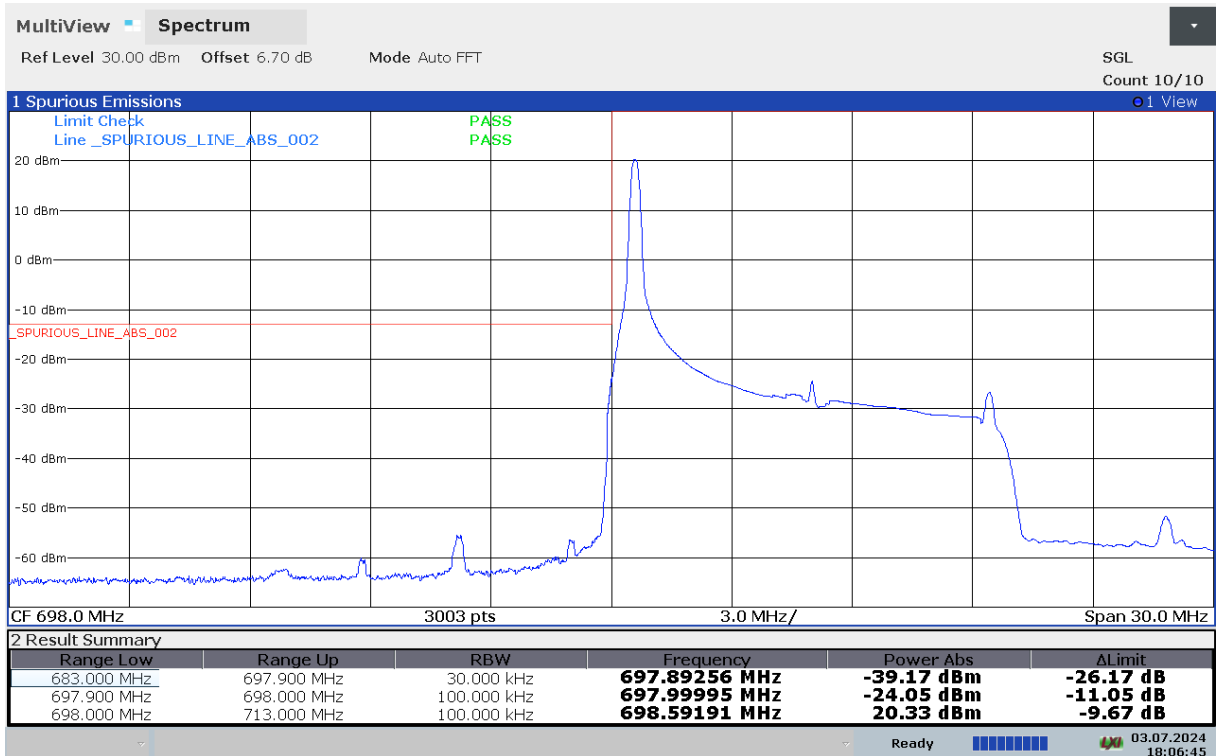
**HIGH BAND EDGE BLOCK-20MHz-100%RB**



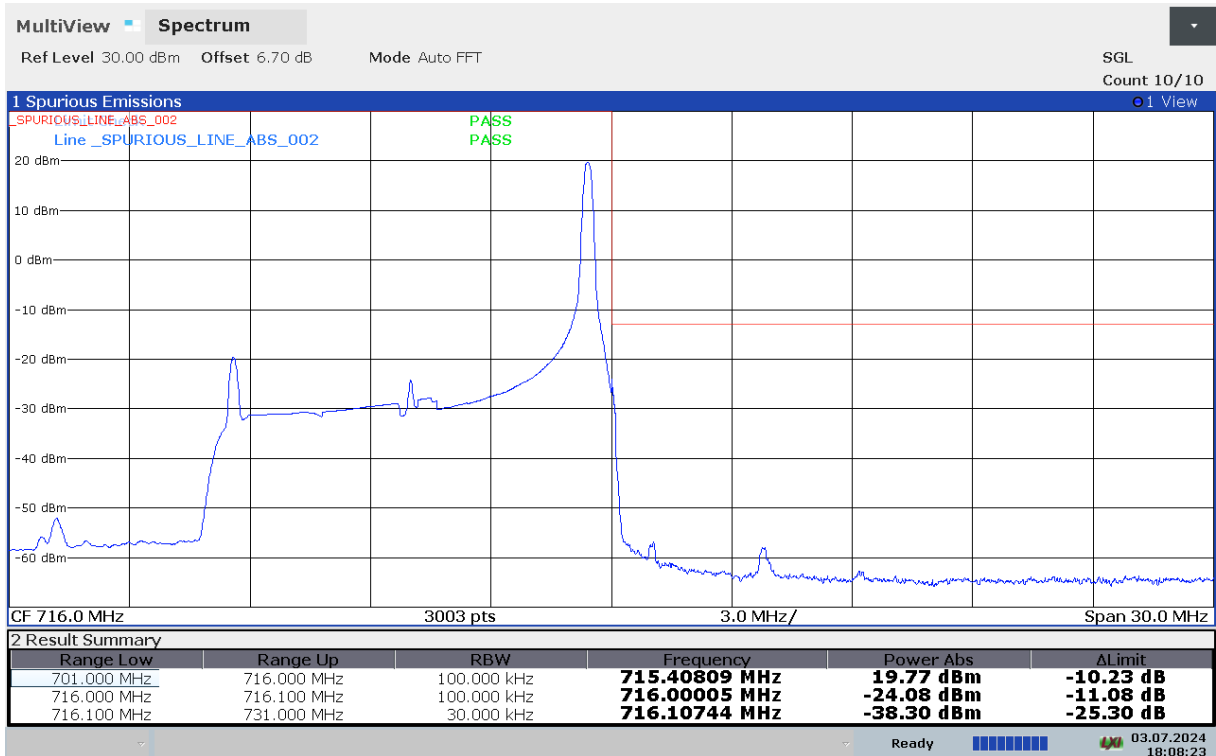


### LTE band 12

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

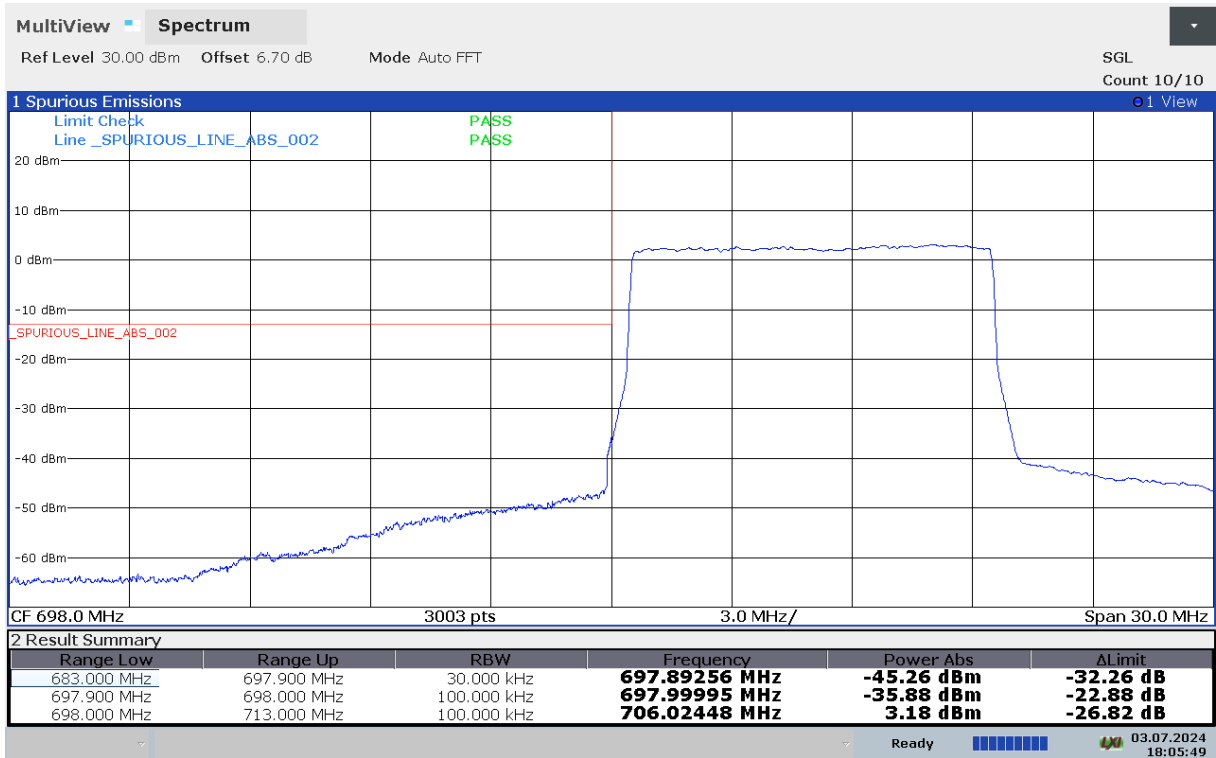


### HIGH BAND EDGE BLOCK-1RB-high\_offset

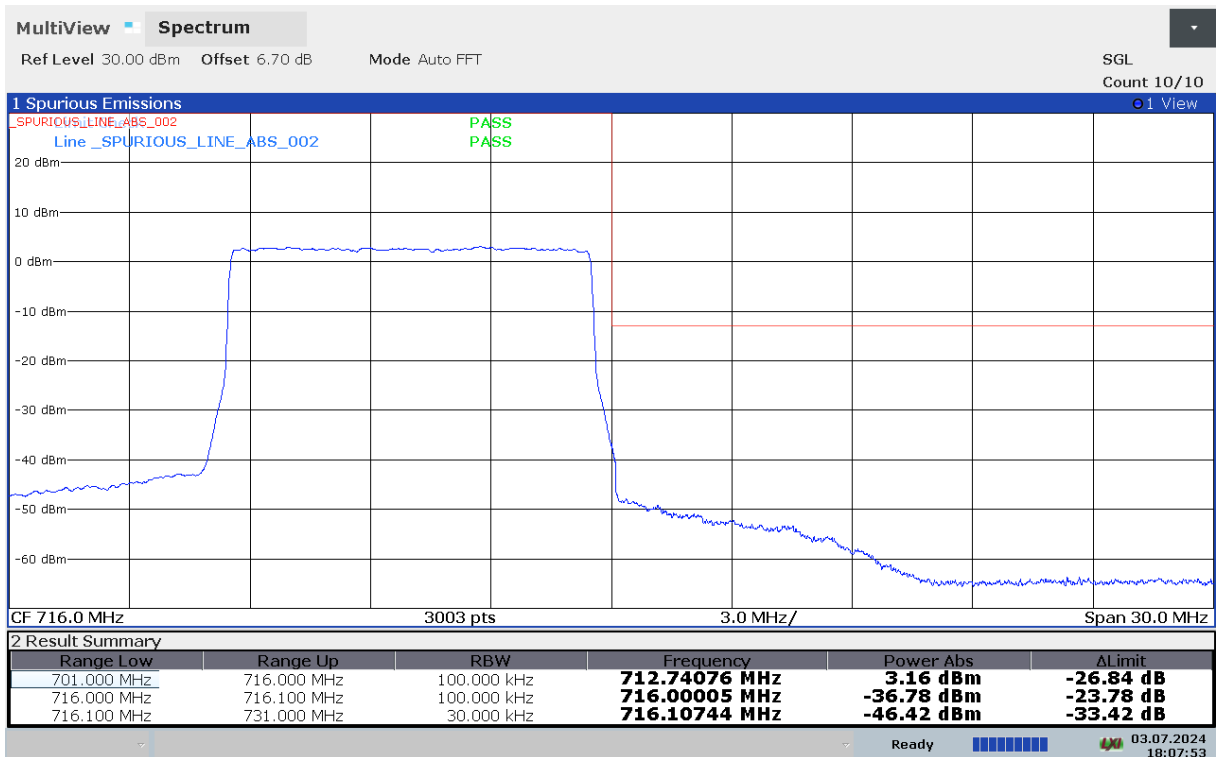




**LOW BAND EDGE BLOCK-10MHz-100%RB**



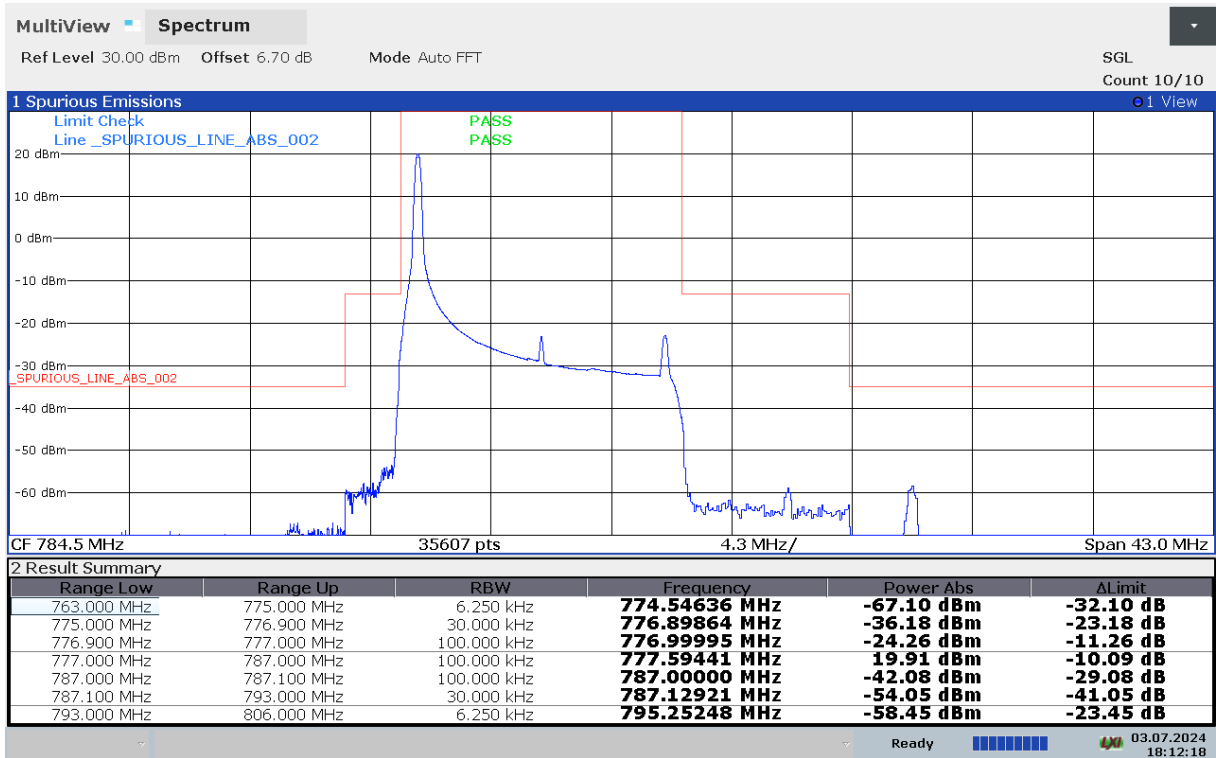
**HIGH BAND EDGE BLOCK-10MHz-100%RB**



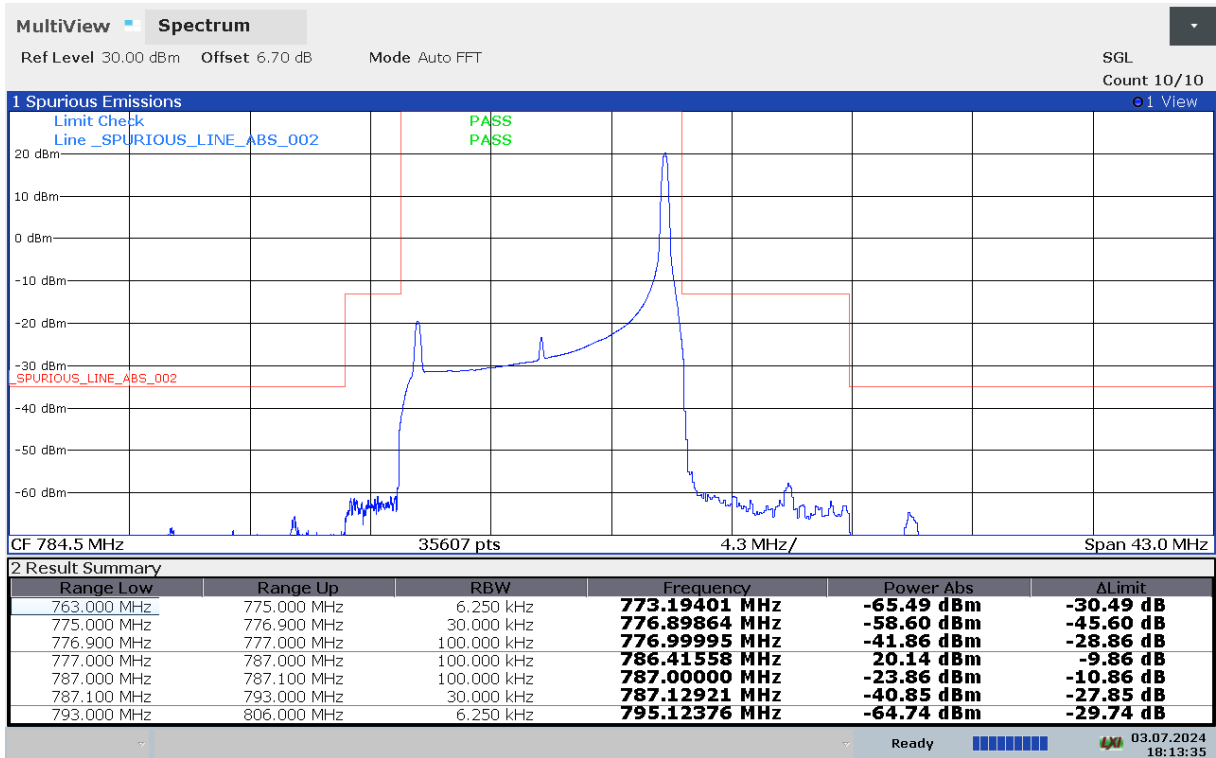


### LTE band 13

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

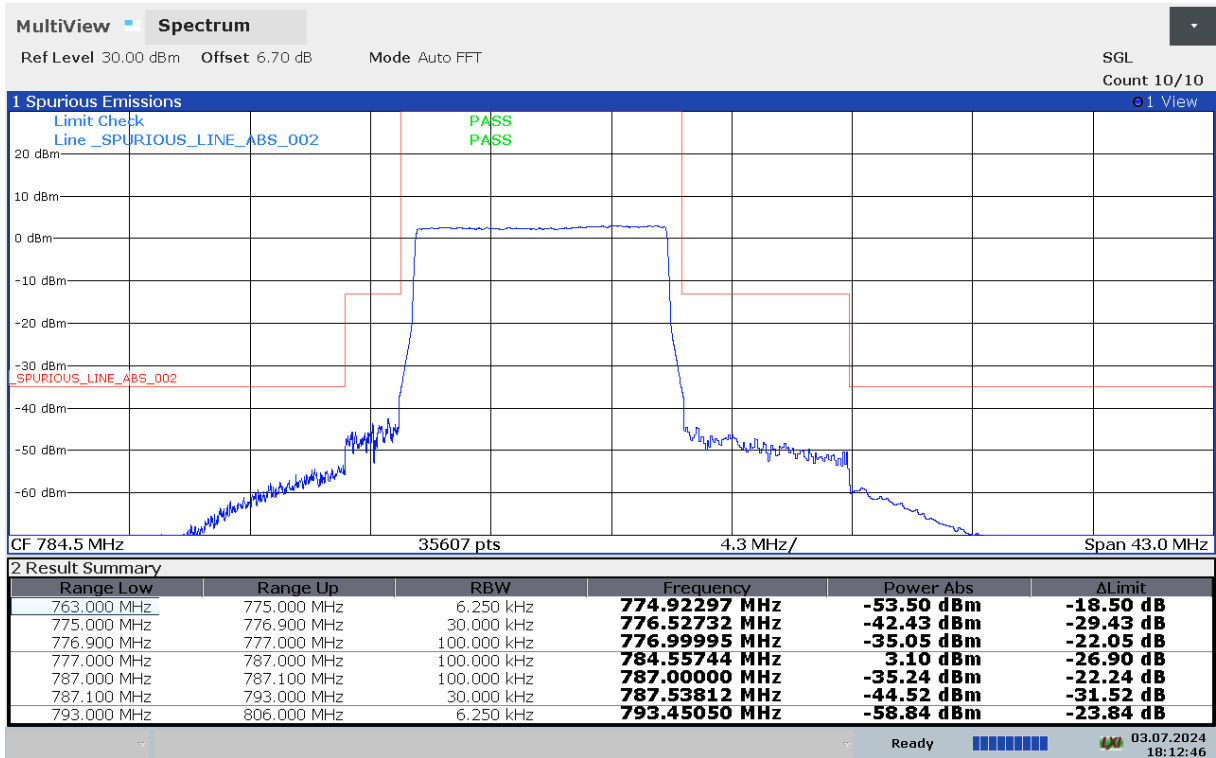


### HIGH BAND EDGE BLOCK-1RB-high\_offset





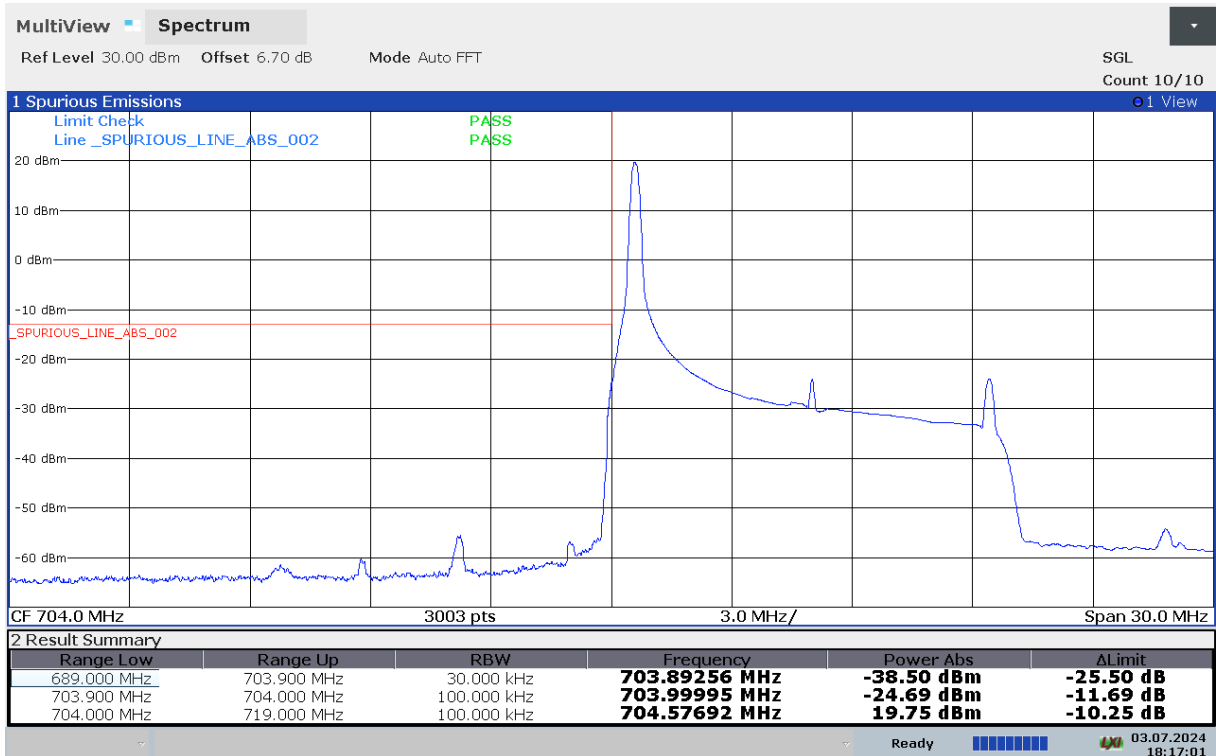
**EDGE BLOCK-10MHz-100%RB**



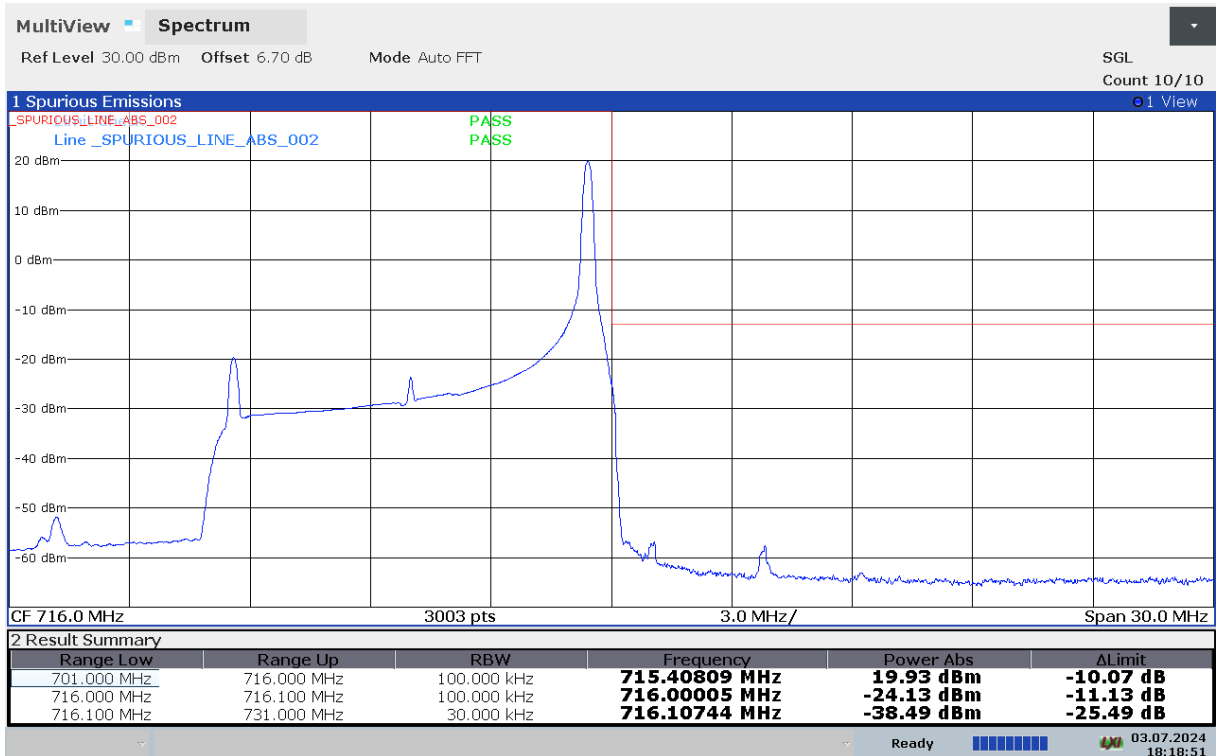


### LTE band 17

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

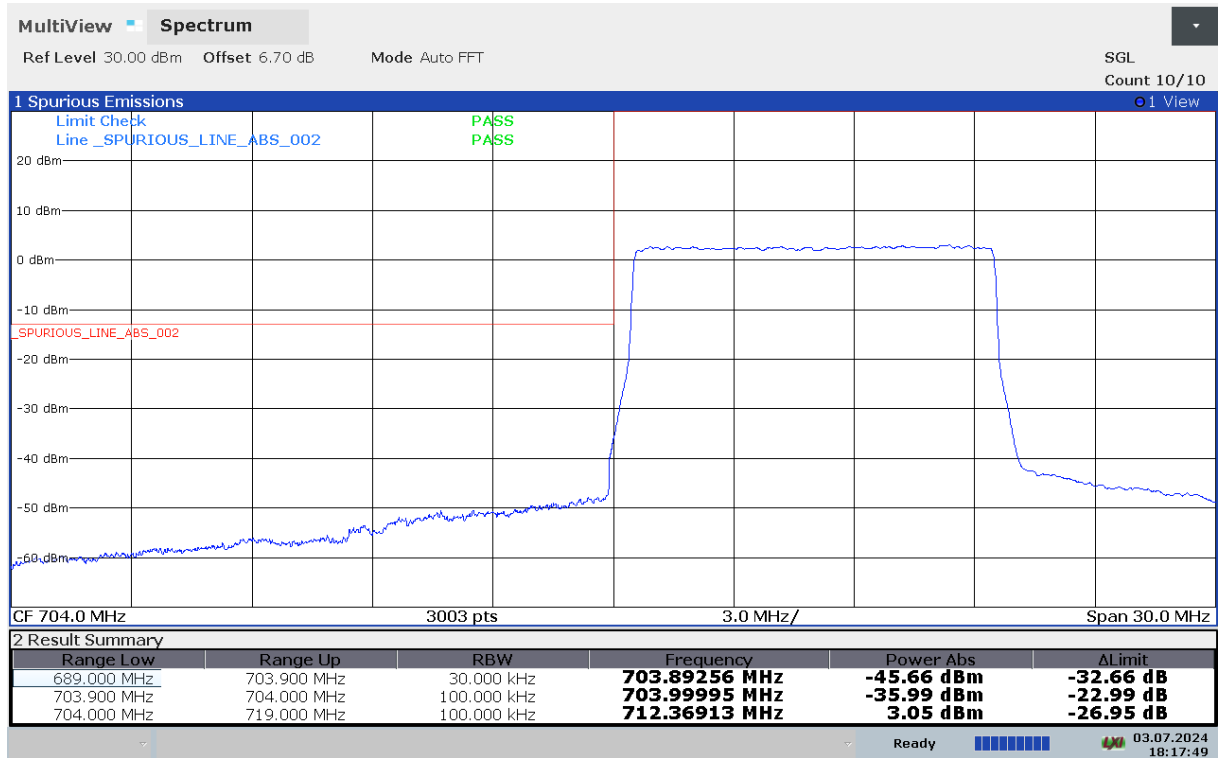


### HIGH BAND EDGE BLOCK-1RB-high\_offset

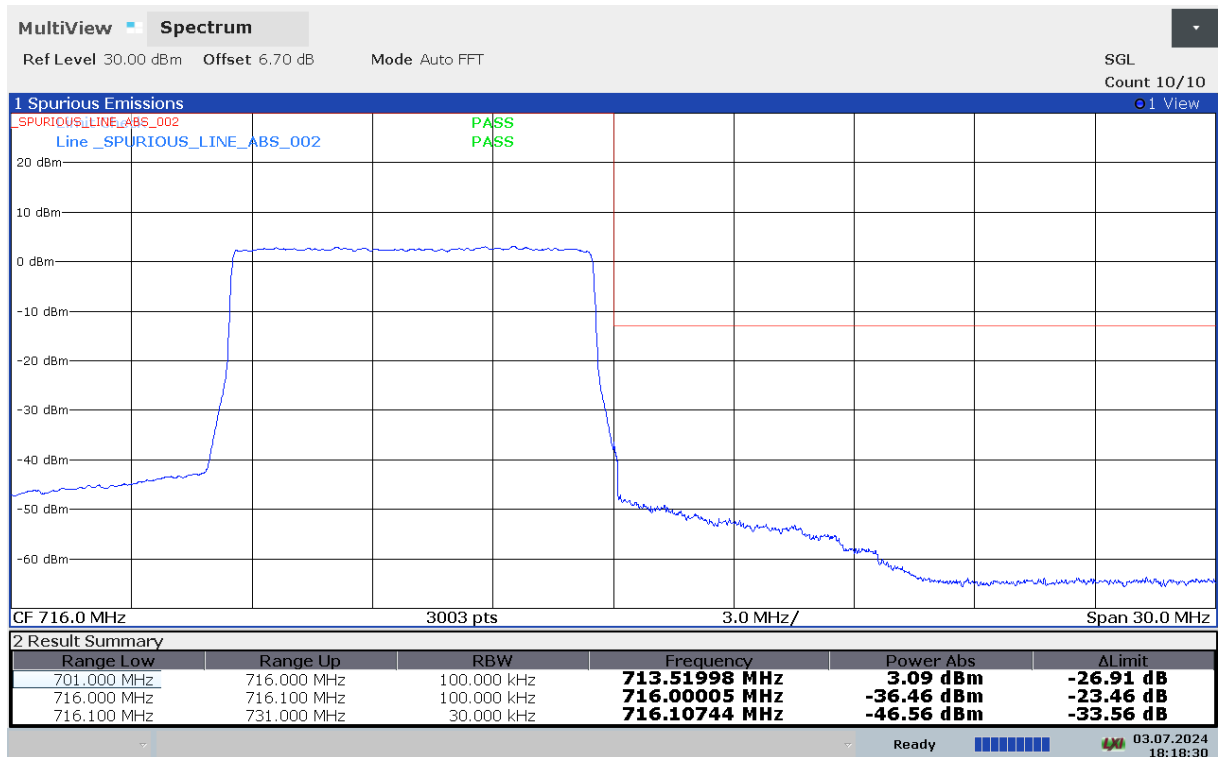




**LOW BAND EDGE BLOCK-10MHz-100%RB**



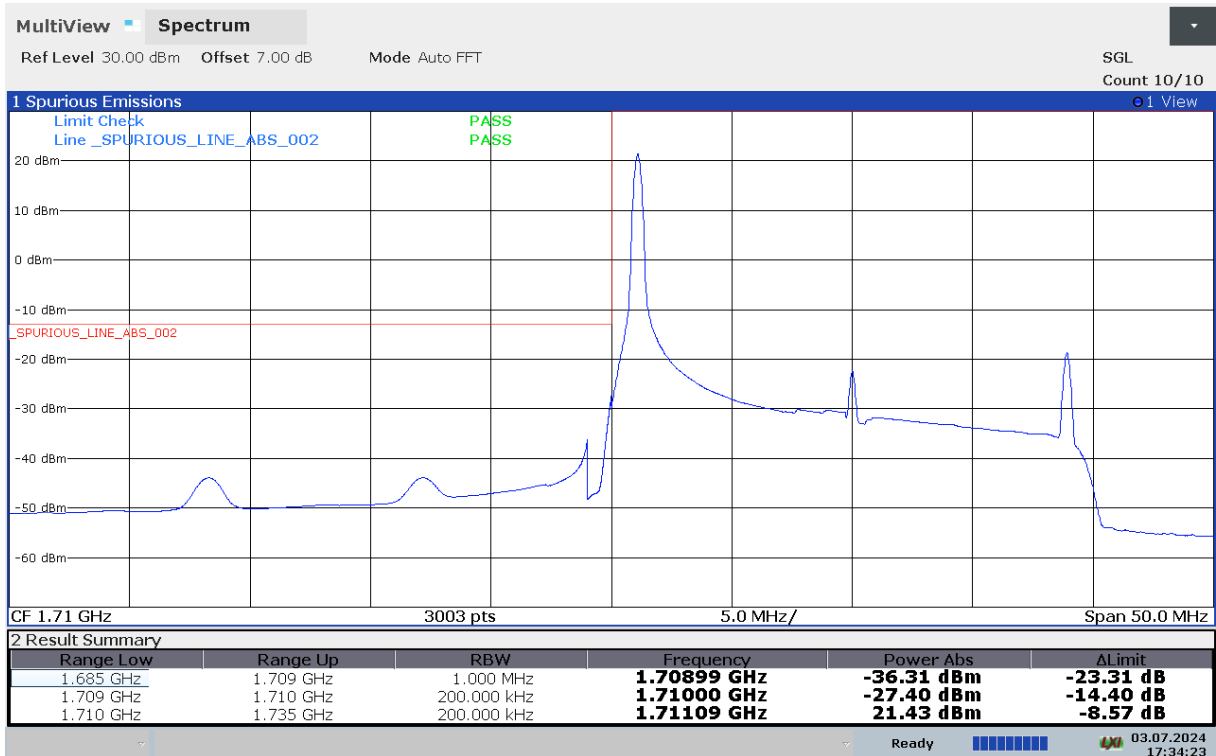
**HIGH BAND EDGE BLOCK-10MHz-100%RB**



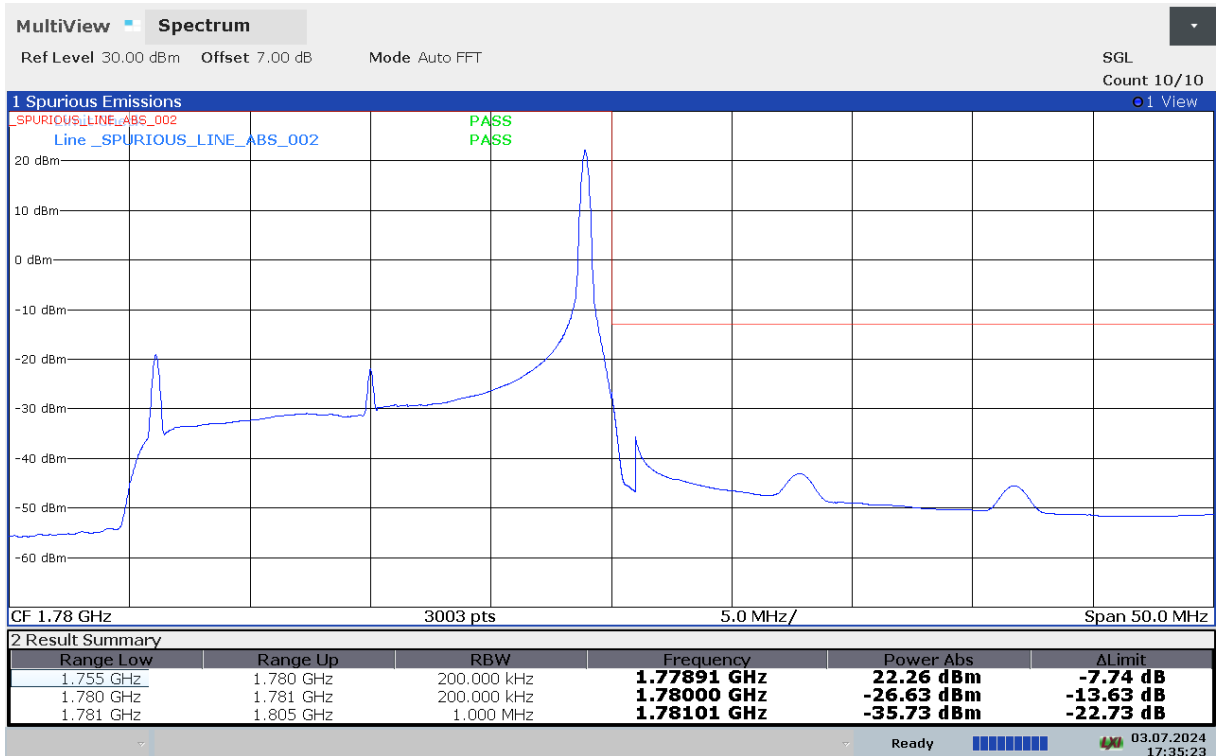


### LTE band 66

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



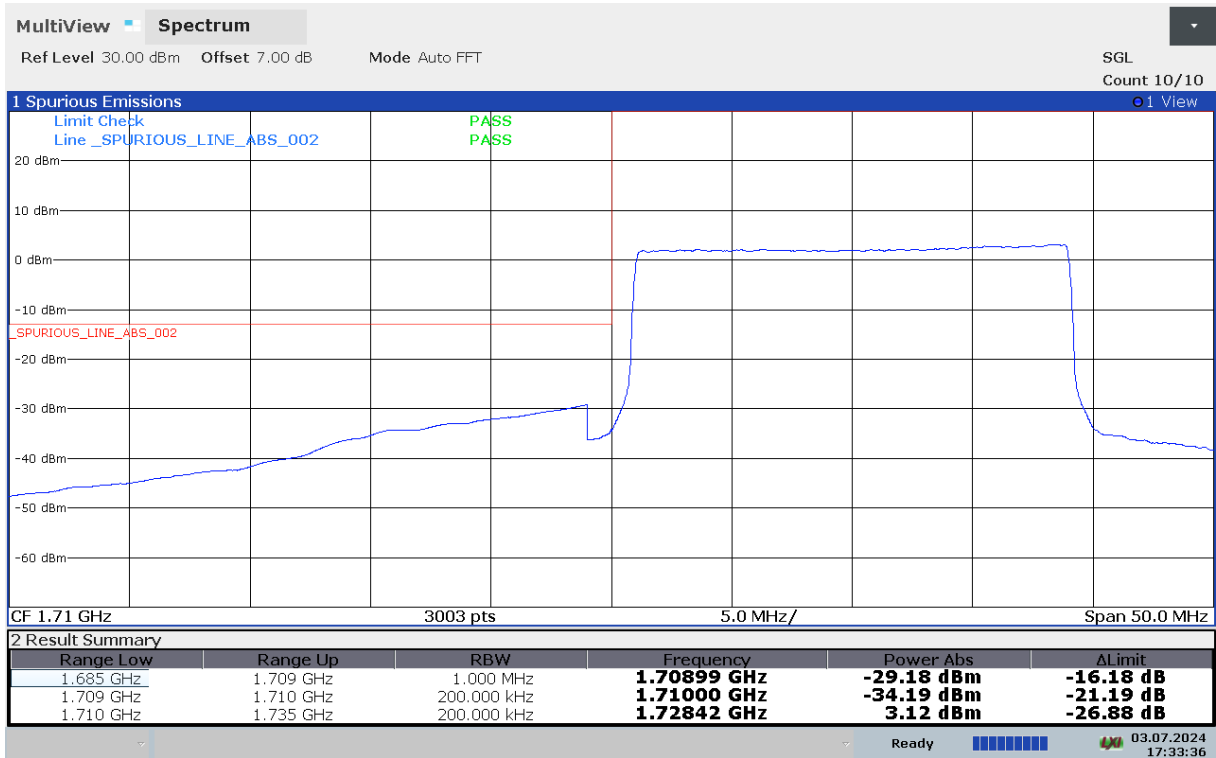
### HIGH BAND EDGE BLOCK-1RB-high\_offset



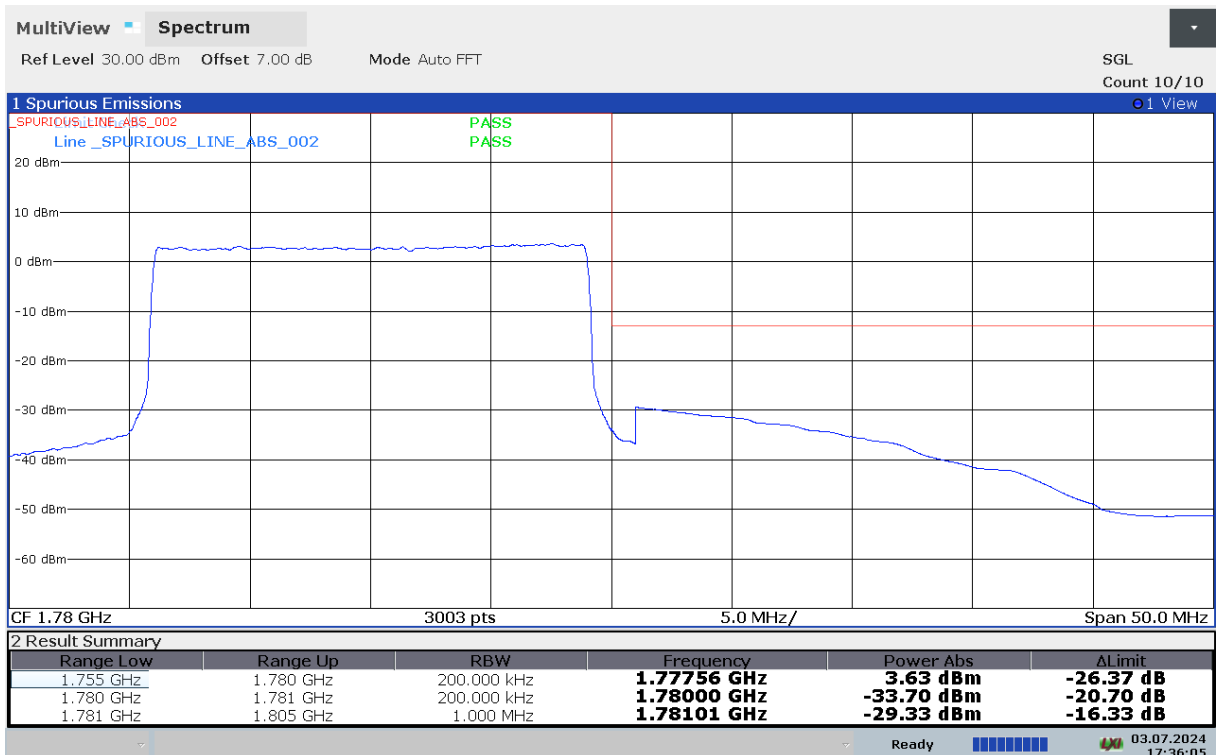




**LOW BAND EDGE BLOCK-20MHz-100%RB**



**HIGH BAND EDGE BLOCK-20MHz-100%RB**



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

## **A.7 CONDUCTED SPURIOUS EMISSION**

### **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.

The number of sweep points of spectrum analyzer is greater than  $2 \times \text{span} / \text{RBWA}$ . **7.2 A. 7.2 A. 7.2**

### **A. 7.2 Measurement Limit**

Part 22.917 For operations in the 824–849MHz band, the FCC limit is  $43 + 10 \log (P)$  dB below the transmitter power(P) in a 100kHz bandwidth. However, in the 1MHz 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.

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(c) specifies On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB; On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB; On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations; Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed; Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

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(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.

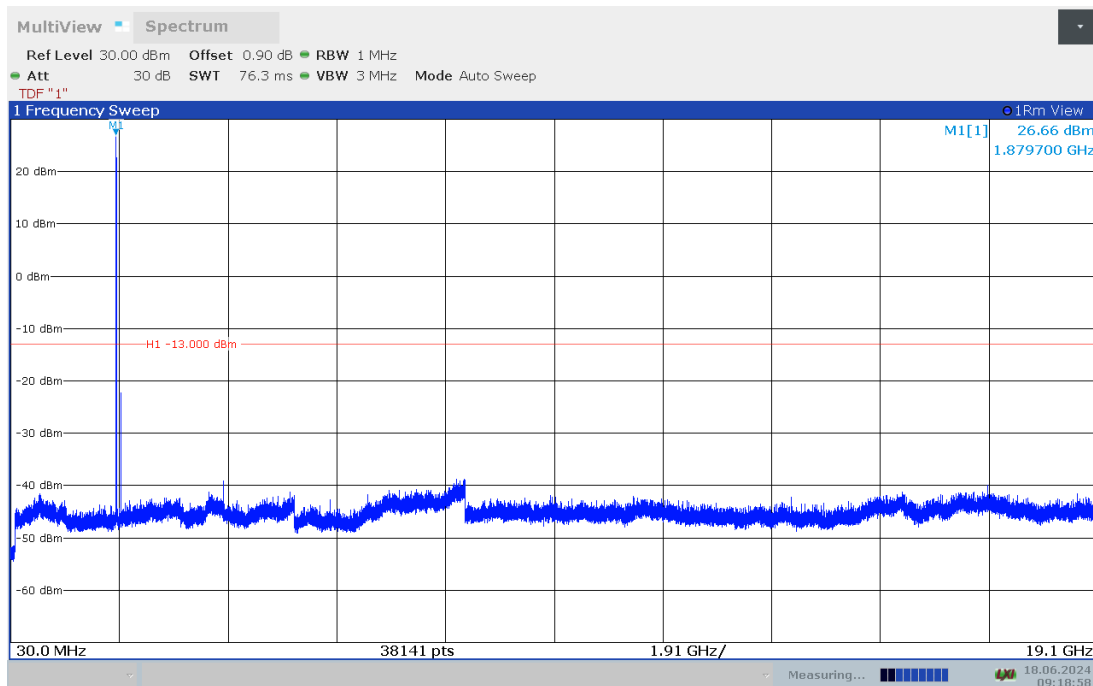
**A. 7.3 Measurement result**

**Only worst case result is given below**

**LTE band 2 : 30MHz – 19.1GHz**

Spurious emission limit –13dBm.

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

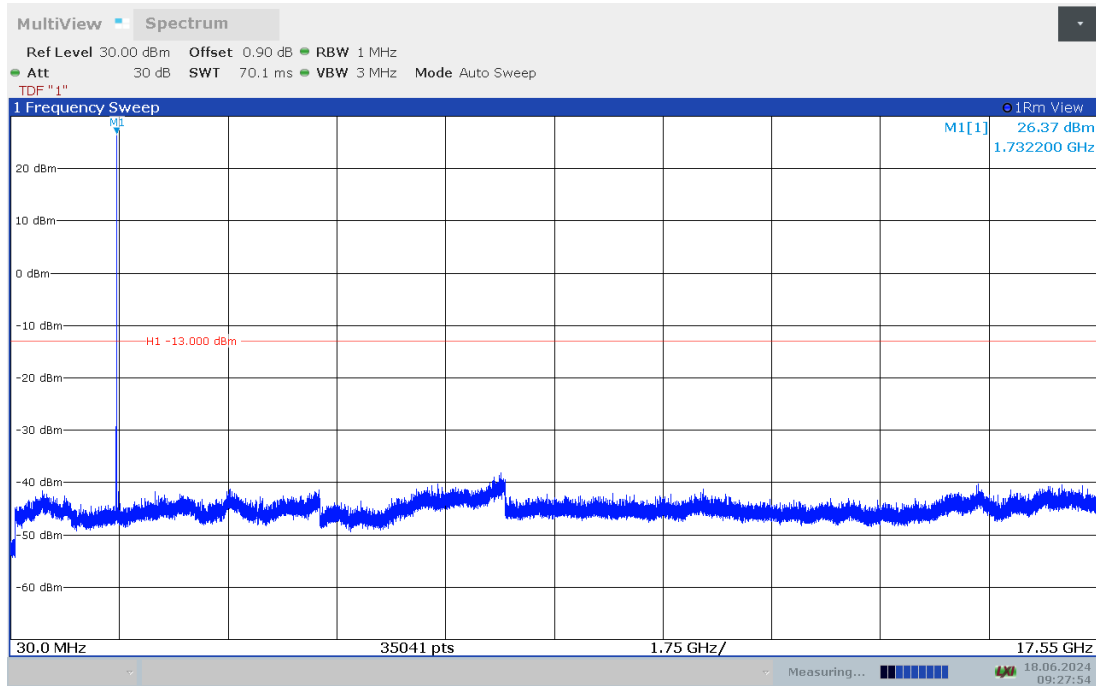




**LTE band 4 : 30MHz – 17.55GHz**

Spurious emission limit –13dBm.

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



**LTE band 5 20MHz QPSK: 30MHz – 8.49GHz**

Spurious emission limit –25dBm.

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

