LTE band 42(3450MHz-3550MHz), 10MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
3500	QPSK	16QAM	64QAM
	8.941	4.468	8.943

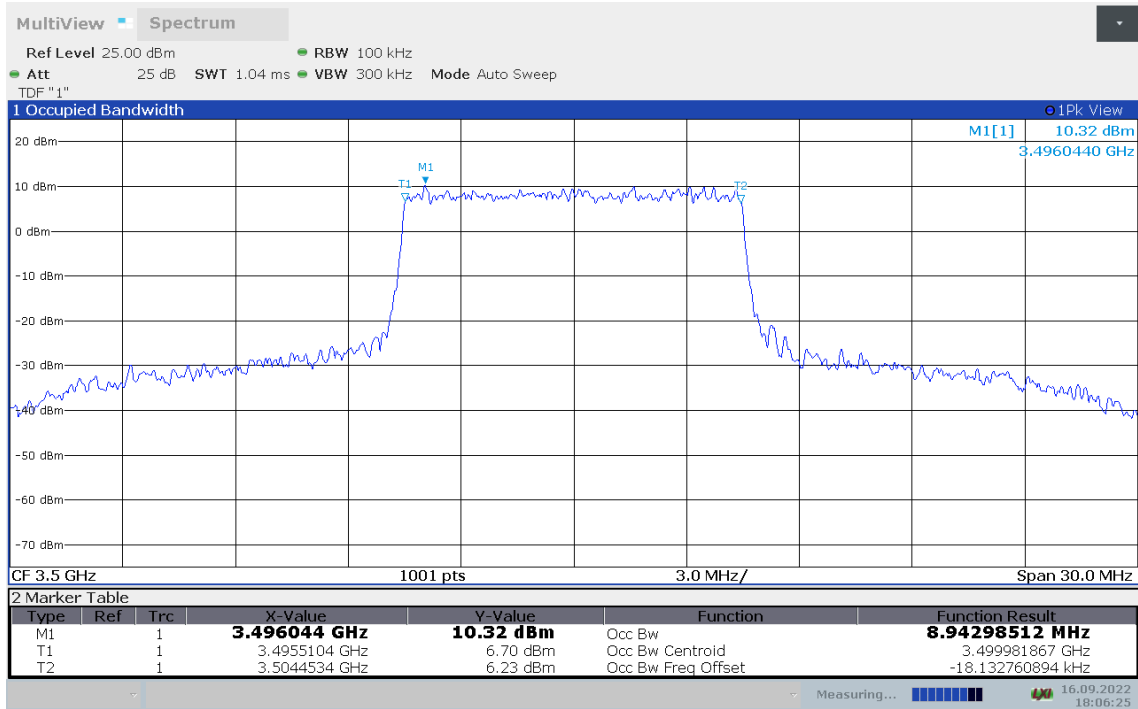**LTE band 42(3450MHz-3550MHz), 10MHz Bandwidth, QPSK (99% BW)**
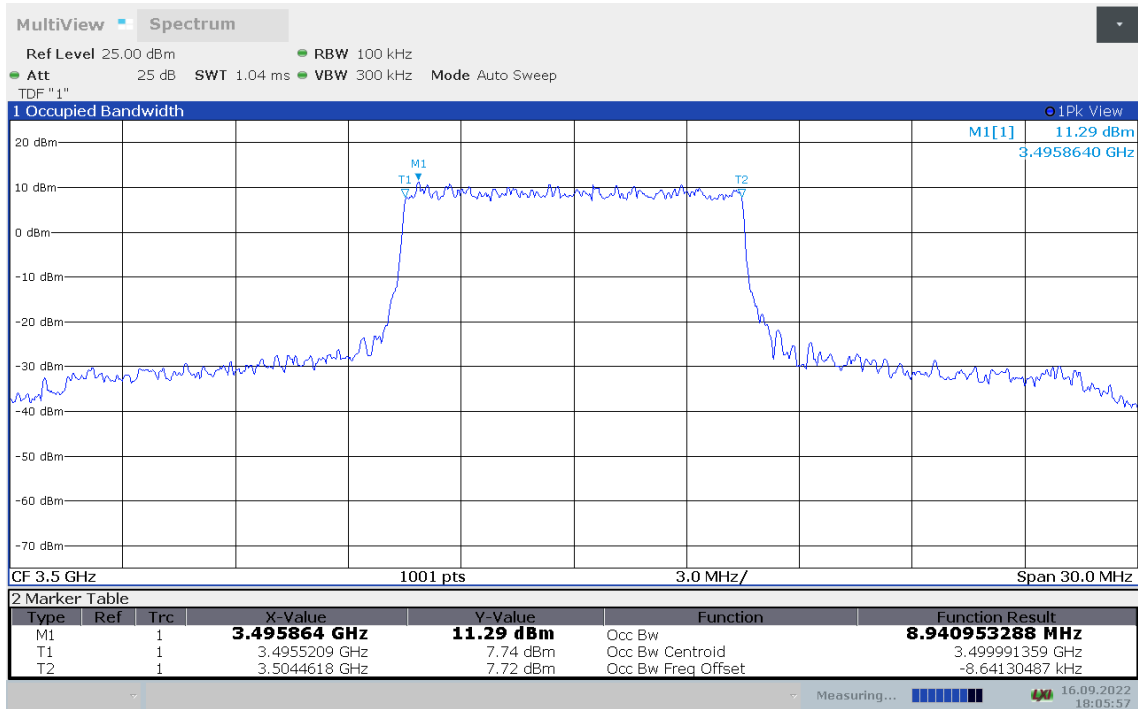
LTE band 42(3450MHz-3550MHz), 10MHz Bandwidth, 16QAM (99% BW)
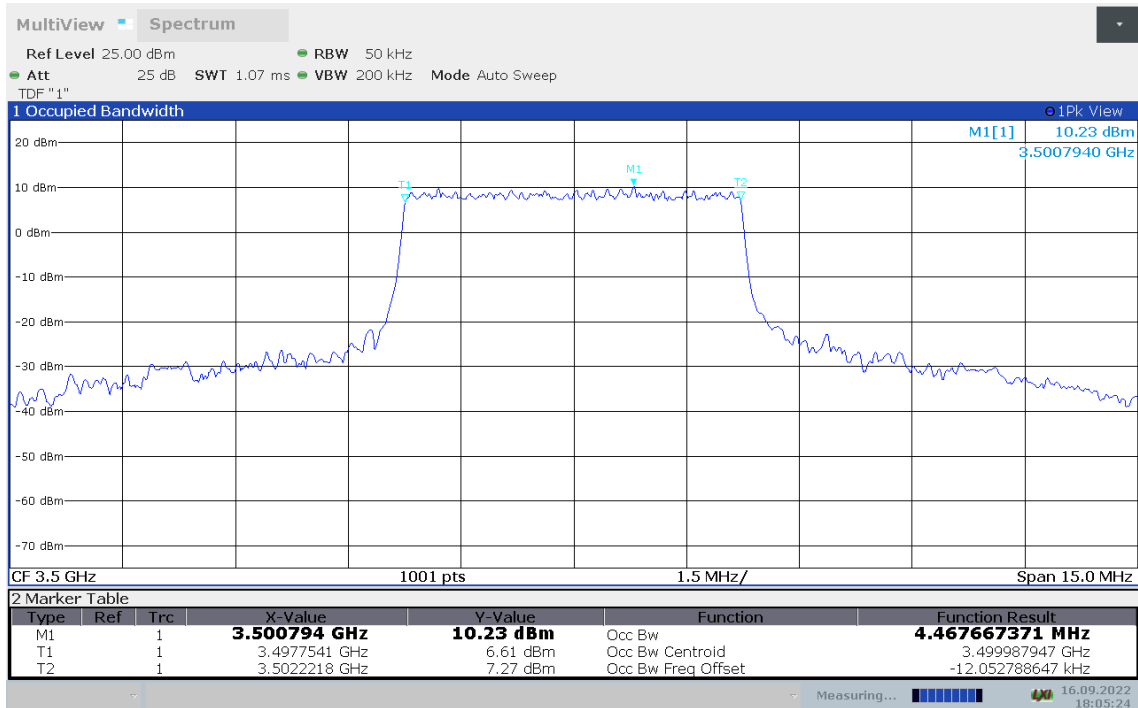
LTE Band 42(3450MHz-3550MHz), 10MHz Bandwidth, 64QAM (99% BW)

LTE band 42(3450MHz-3550MHz), 15MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
3500	13.441	13.434	13.446

LTE band 42(3450MHz-3550MHz), 15MHz Bandwidth, QPSK (99% BW)

LTE band 42(3450MHz-3550MHz), 15MHz Bandwidth, 16QAM (99% BW)

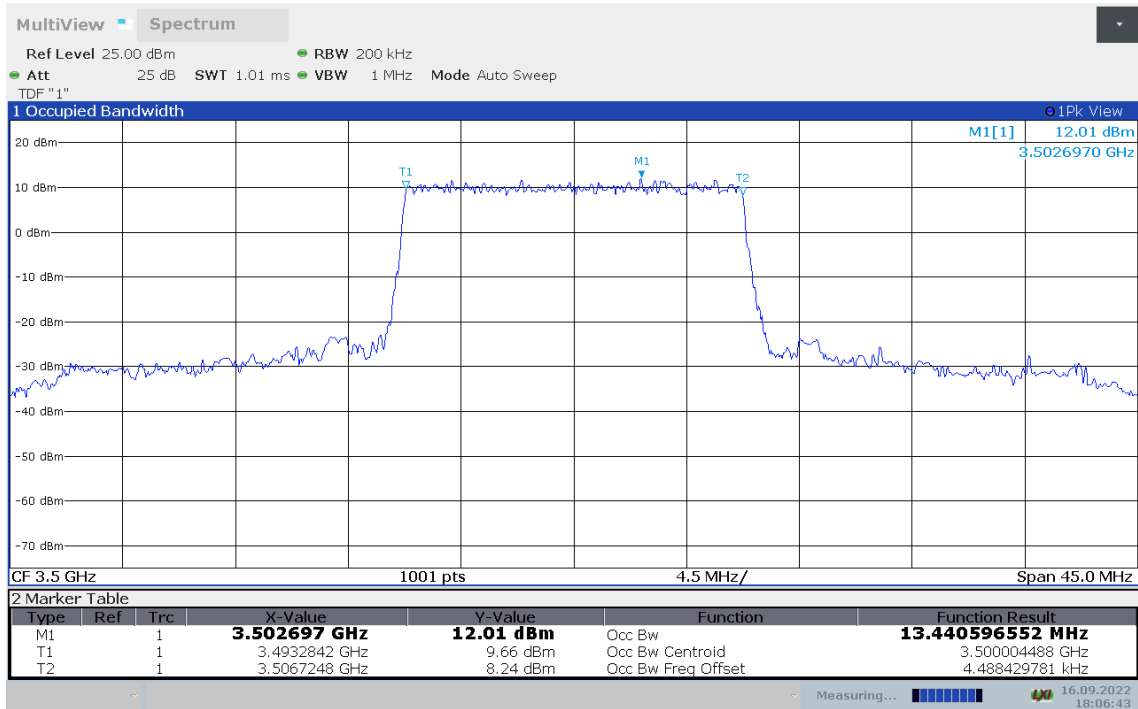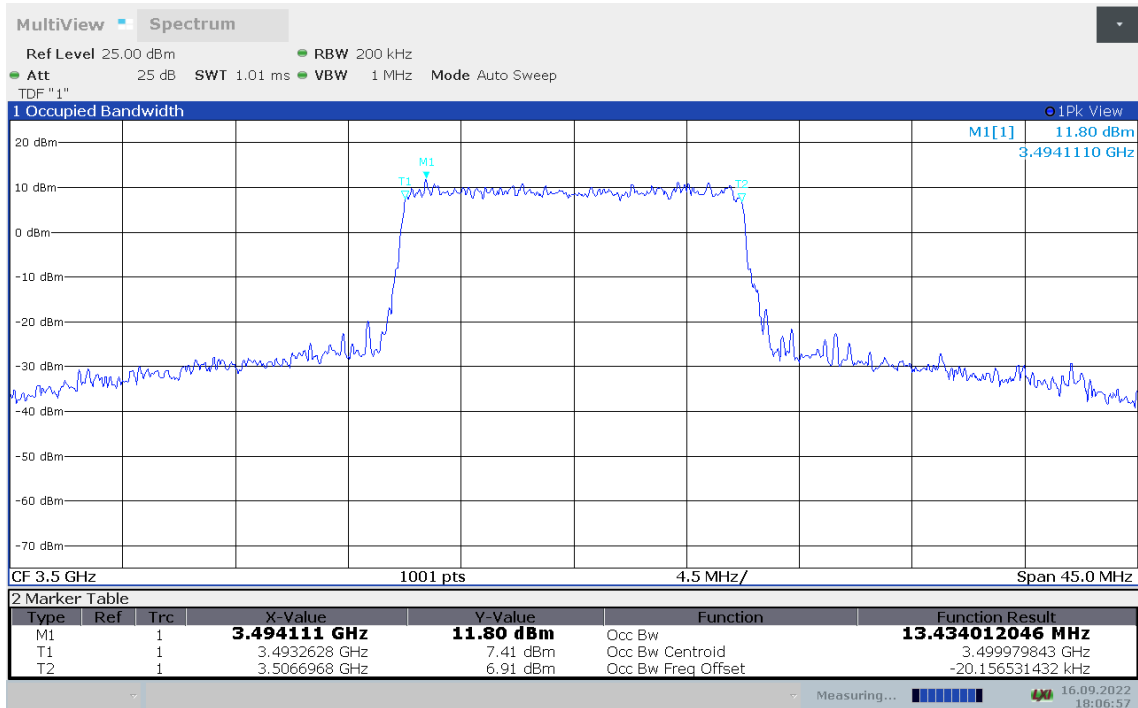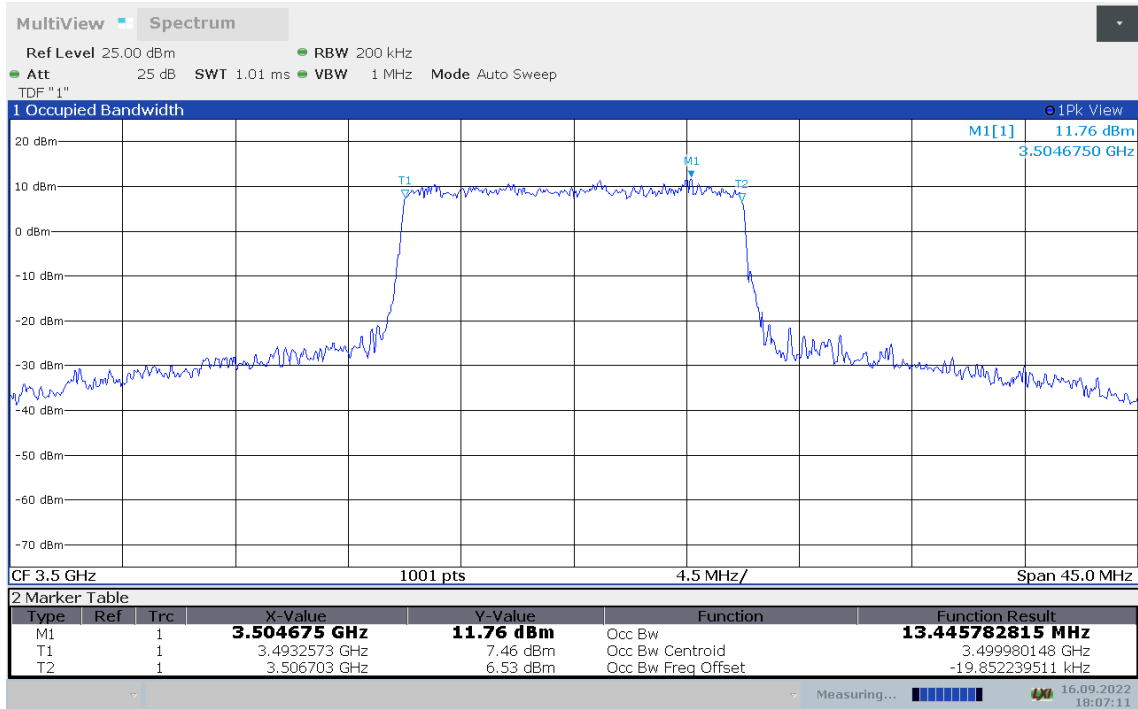**LTE Band 42(3450MHz-3550MHz), 15MHz Bandwidth, 64QAM (99% BW)**

LTE band 42(3450MHz-3550MHz), 20MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
3500	17.901	17.878	17.882

LTE band 42(3450MHz-3550MHz), 20MHz Bandwidth, QPSK (99% BW)

LTE band 42(3450MHz-3550MHz), 20MHz Bandwidth, 16QAM (99% BW)

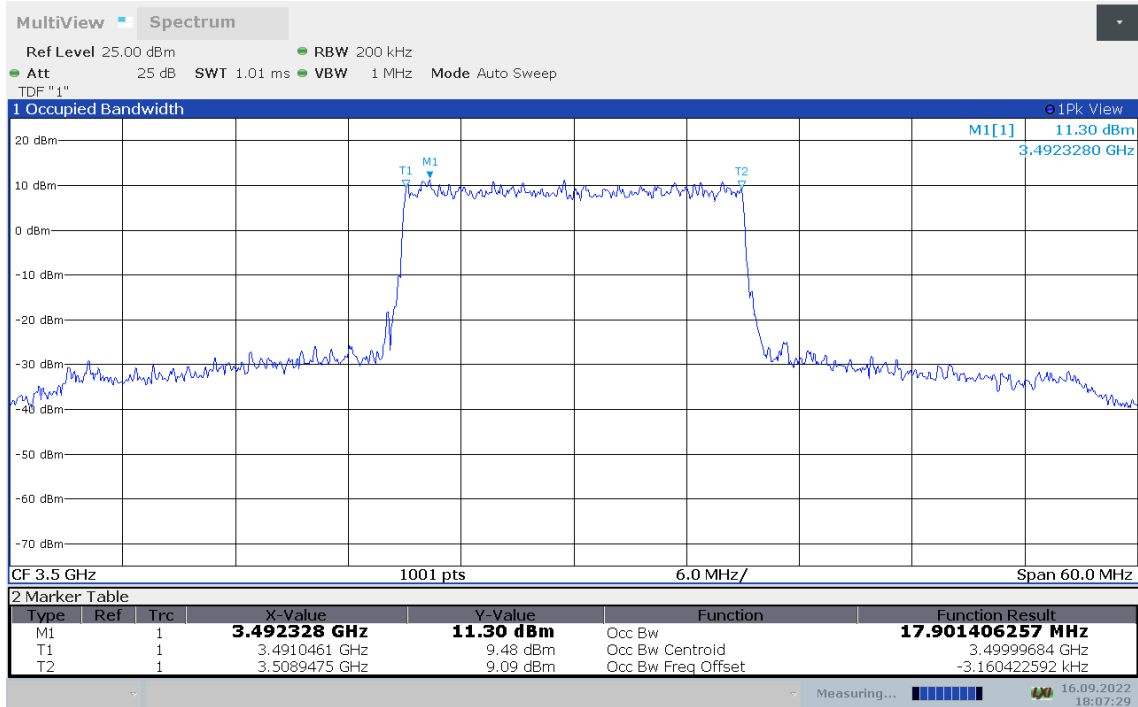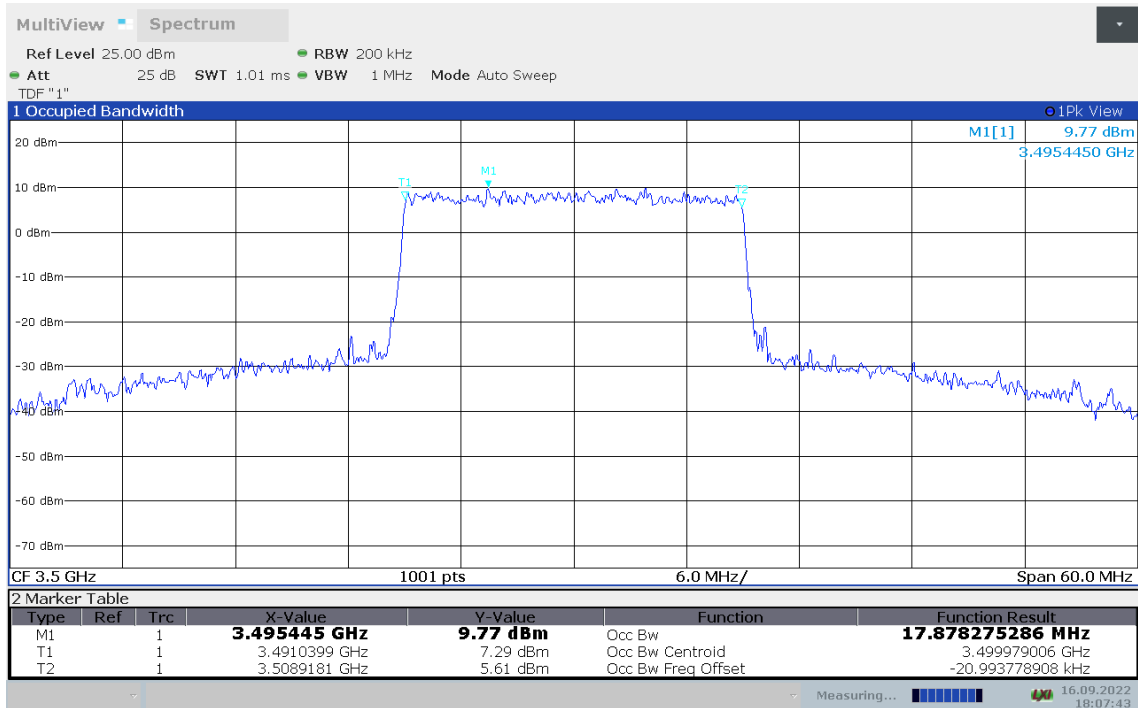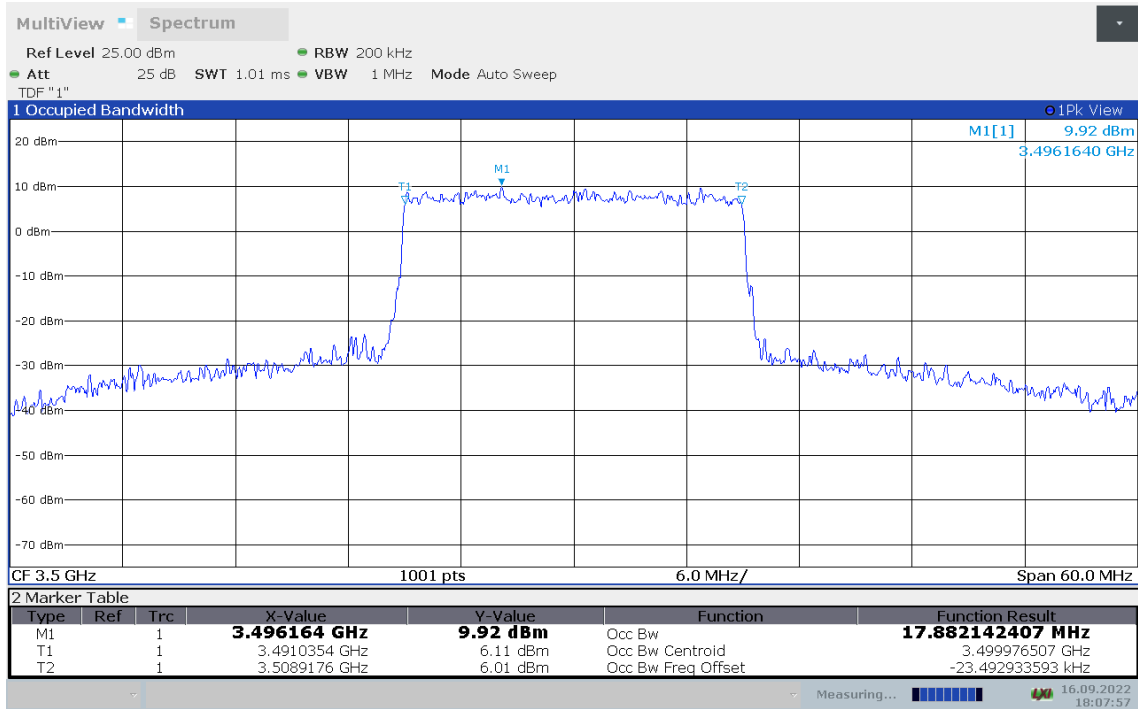**LTE Band 42(3450MHz-3550MHz), 20MHz Bandwidth, 64QAM (99% BW)**

MultiView	Spectrum		
Ref Level 25.00 dBm		RBW 200 kHz	
Att 25 dB	SWT 1.01 ms	VBW 1 MHz	Mode Auto Sweep
TDF "1"			

1 Occupied Bandwidth · 1Pk View

M1[1] 9.92 dBm
3.4961640 GHz

CF 3.5 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		3.496164 GHz	9.92 dBm	Occ Bw	17.882142407 MHz
T1	1		3.4910354 GHz	6.11 dBm	Occ Bw Centroid	3.499976507 GHz
T2	1		3.5089176 GHz	6.01 dBm	Occ Bw Freq Offset	-23.492933593 kHz

Measuring... 16.09.2022 18:07:57

LTE band 66, 1.4MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	1.082	1.089	1.091

LTE band 66, 1.4MHz Bandwidth, QPSK (99% BW)
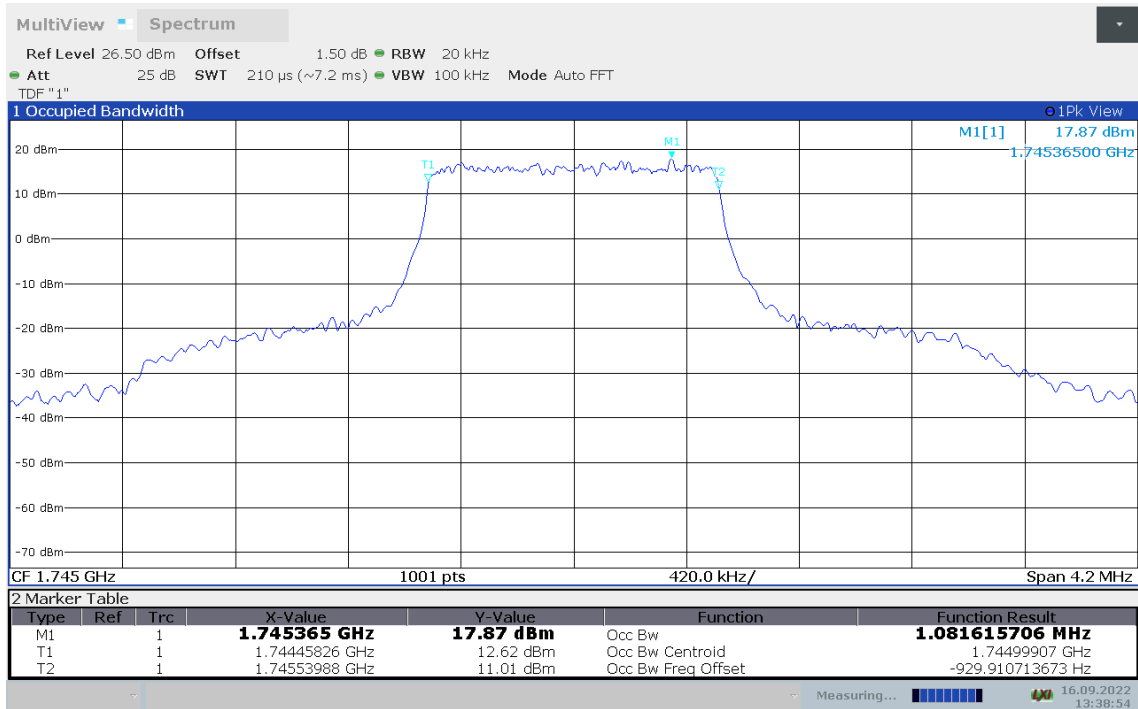
LTE band 66, 1.4MHz Bandwidth, 16QAM (99% BW)
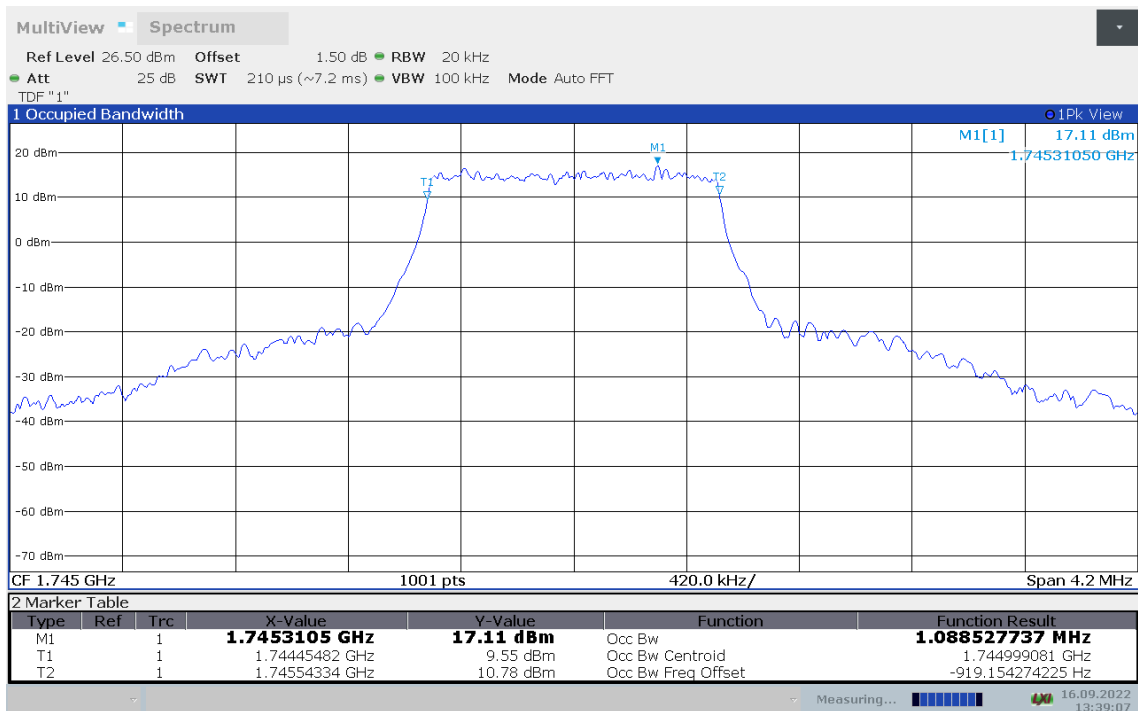
LTE Band 66, 1.4MHz Bandwidth, 64QAM (99% BW)

LTE band 66, 3MHz (99% BW)
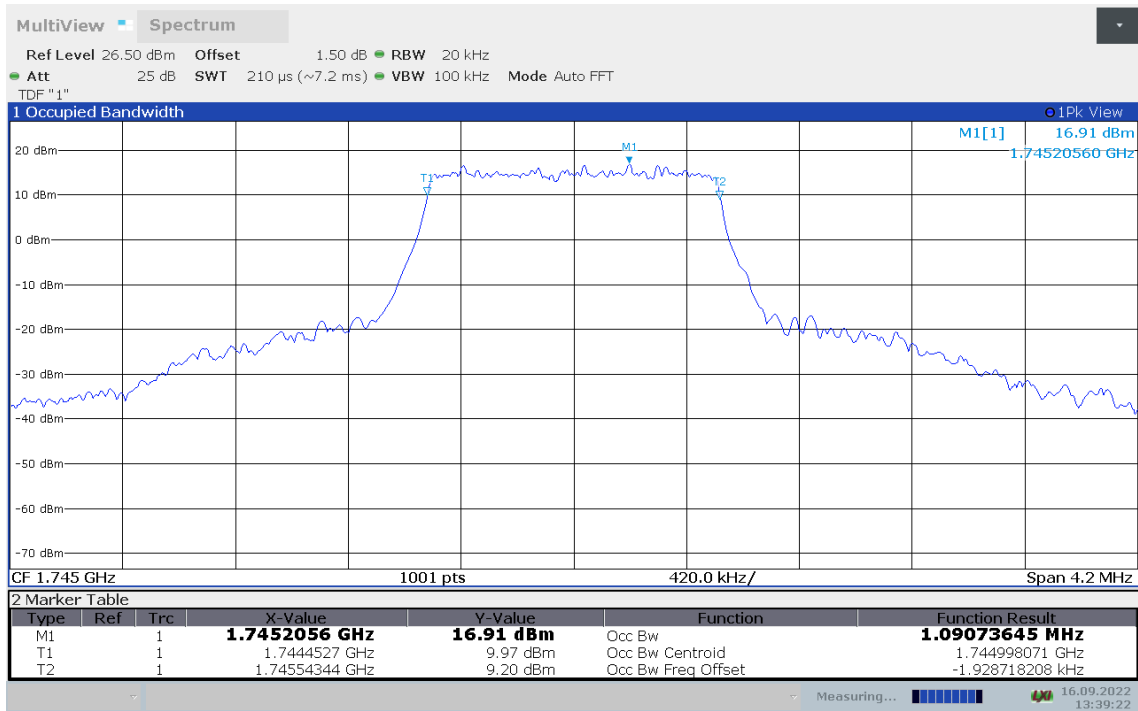
Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	2.683	2.684	2.679

LTE band 66, 3MHz Bandwidth, QPSK (99% BW)

LTE band 66, 3MHz Bandwidth, 16QAM (99% BW)

LTE Band 66, 3MHz Bandwidth, 64QAM (99% BW)
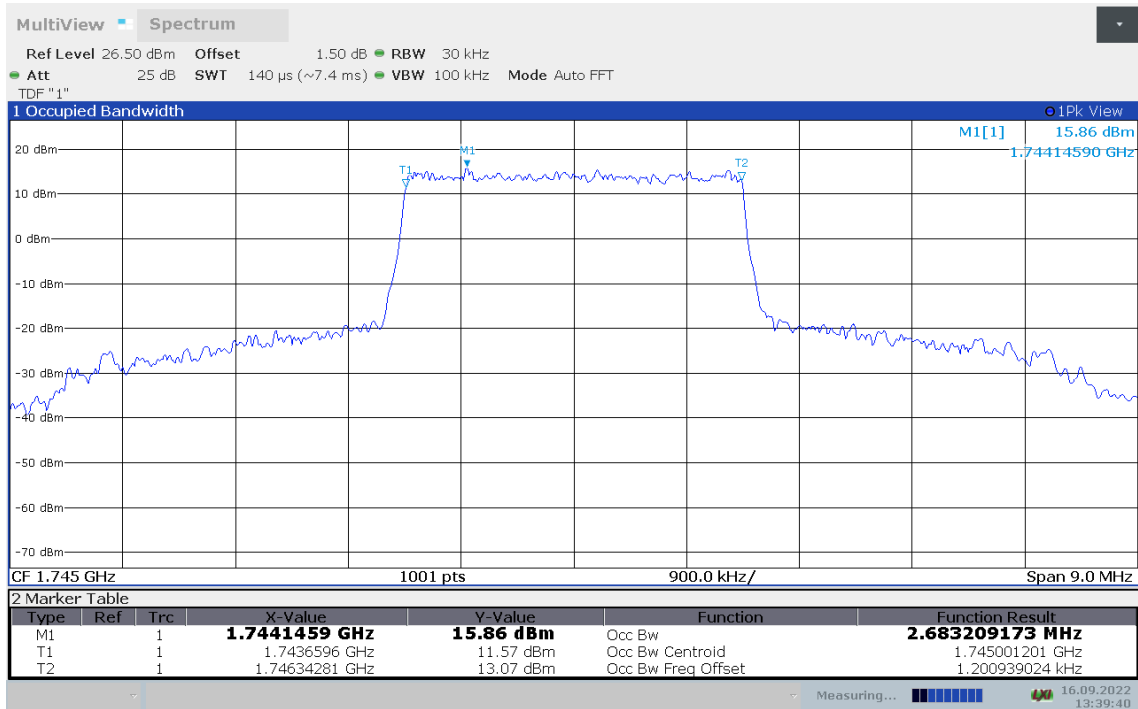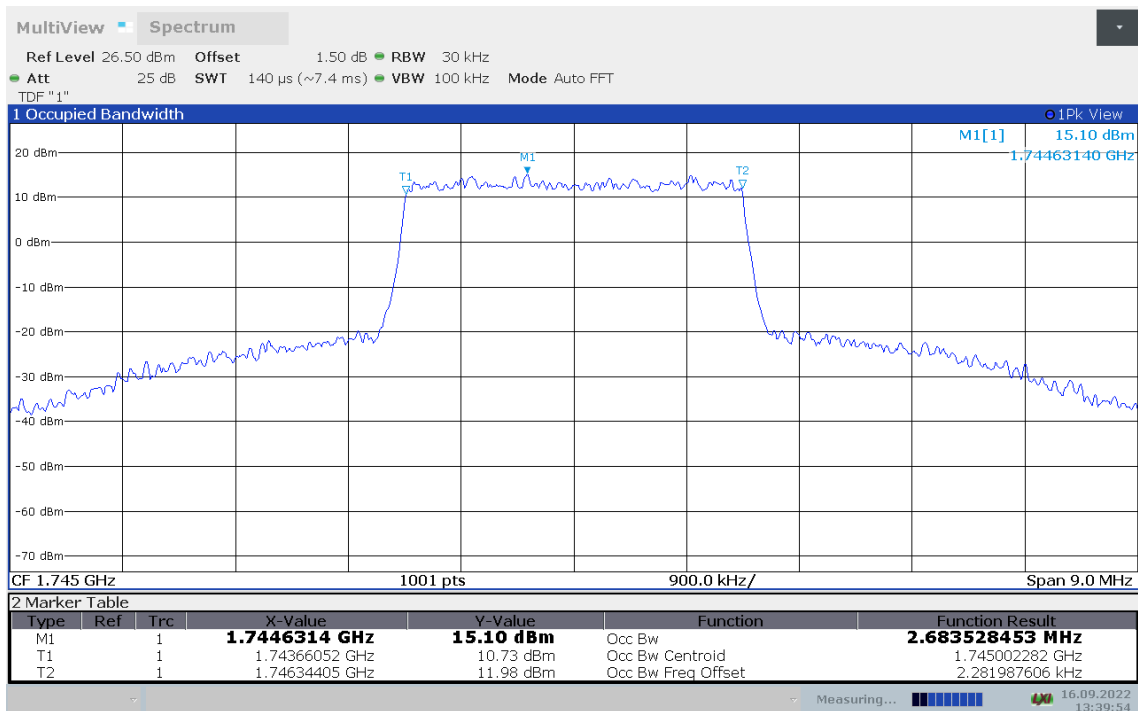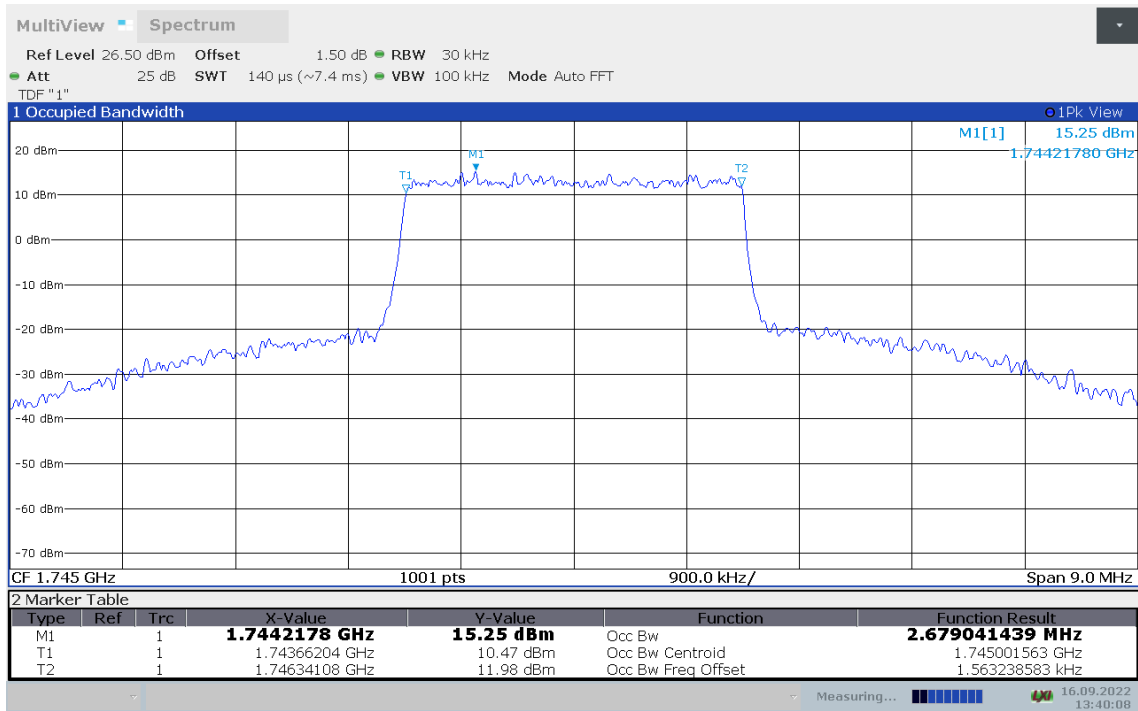
LTE band 66, 5MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
1745.0	QPSK	16QAM	64QAM
	4.485	4.468	4.470

LTE band 66, 5MHz Bandwidth, QPSK (99% BW)

LTE band 66, 5MHz Bandwidth,16QAM (99% BW)

LTE Band 66, 5MHz Bandwidth,64QAM (99% BW)

LTE band 66, 10MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	8.952	8.951	8.949

LTE band 66, 10MHz Bandwidth, QPSK (99% BW)

LTE band 66, 10MHz Bandwidth, 16QAM (99% BW)
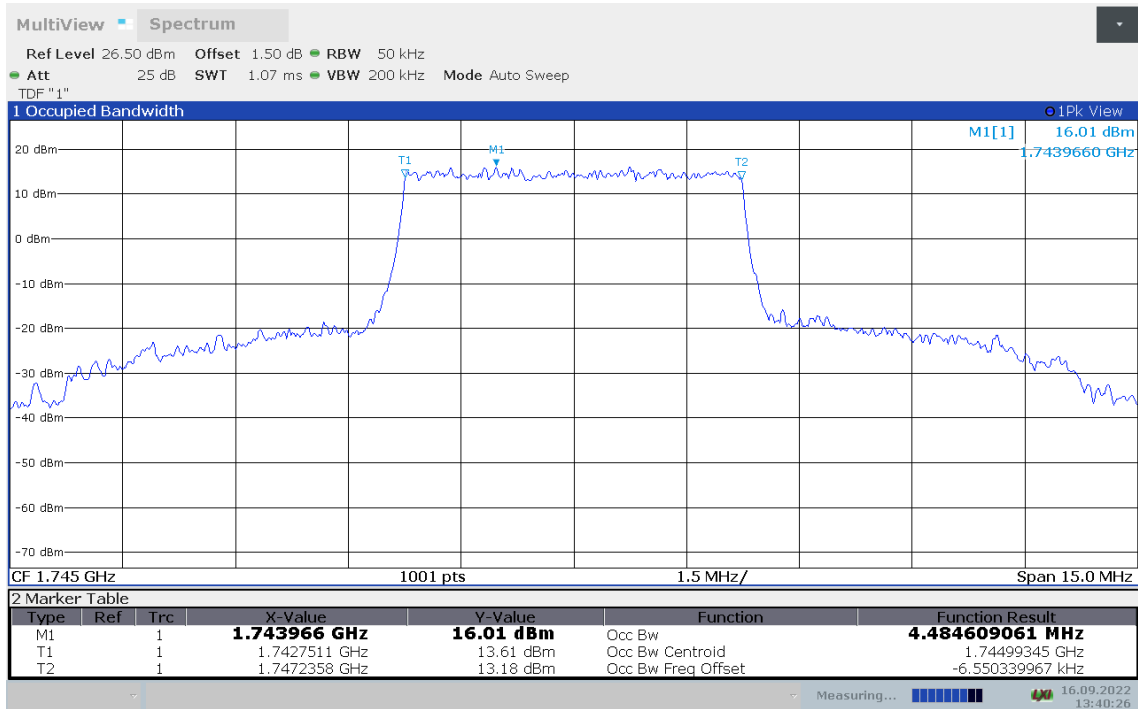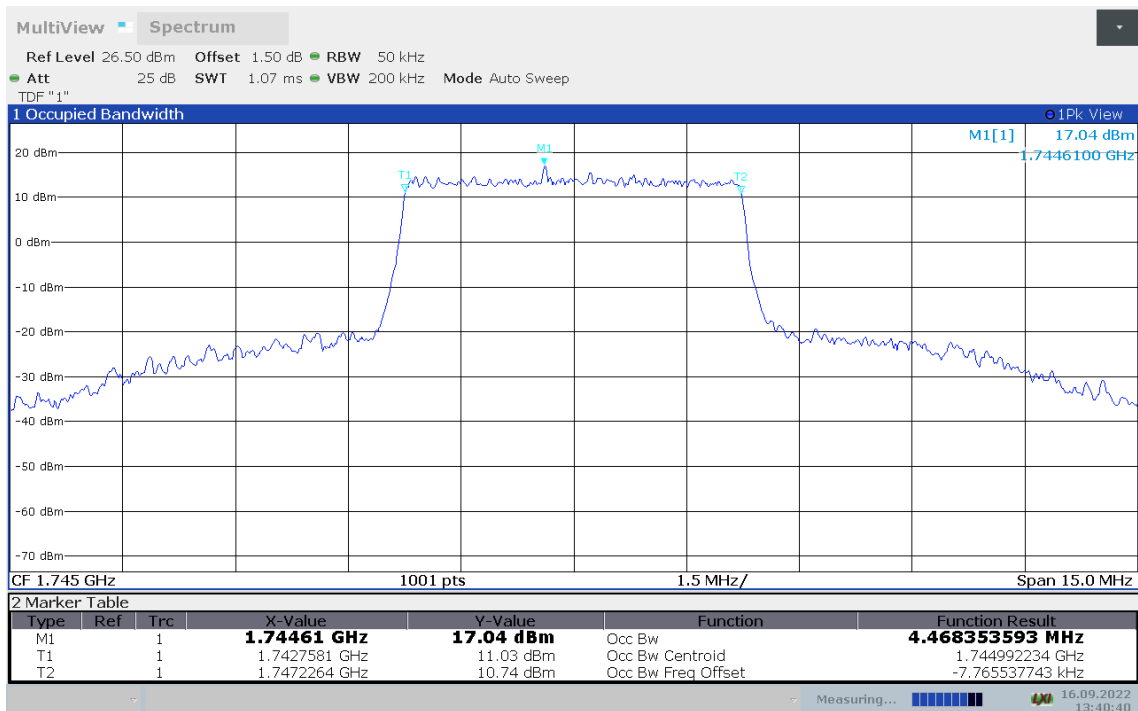
LTE Band 66, 10MHz Bandwidth, 64QAM (99% BW)

LTE band 66, 15MHz (99% BW)

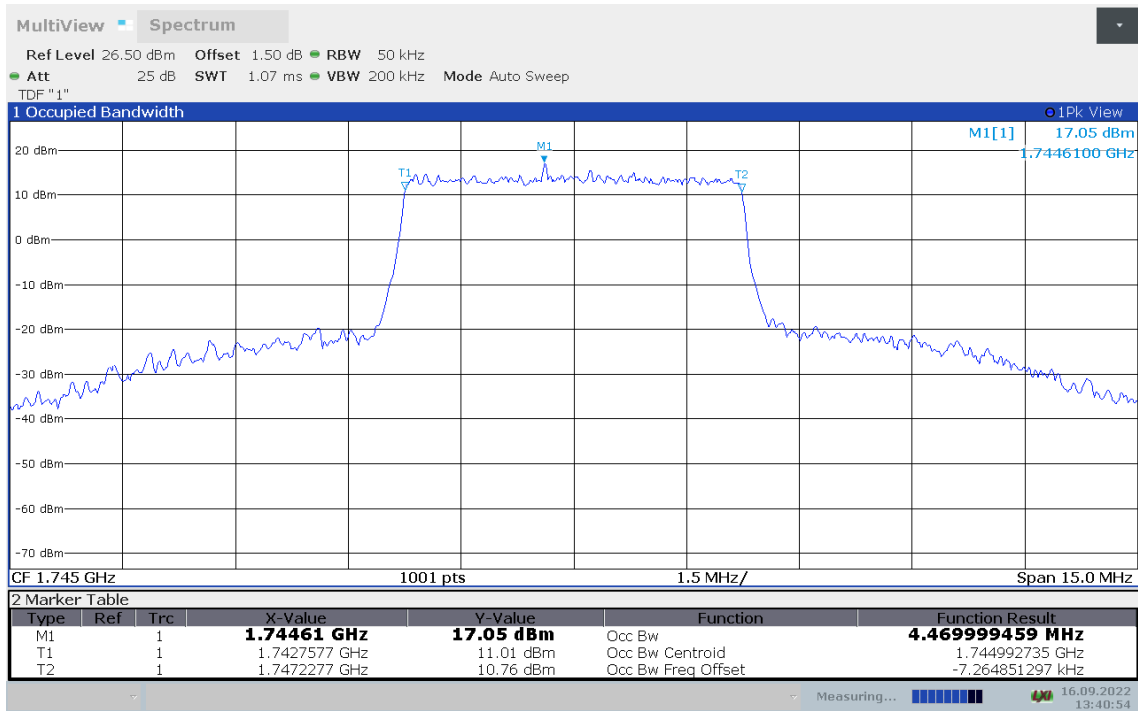| Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	13.461	13.447	13.452

LTE band 66, 15MHz Bandwidth, QPSK (99% BW)

LTE band 66, 15MHz Bandwidth, 16QAM (99% BW)
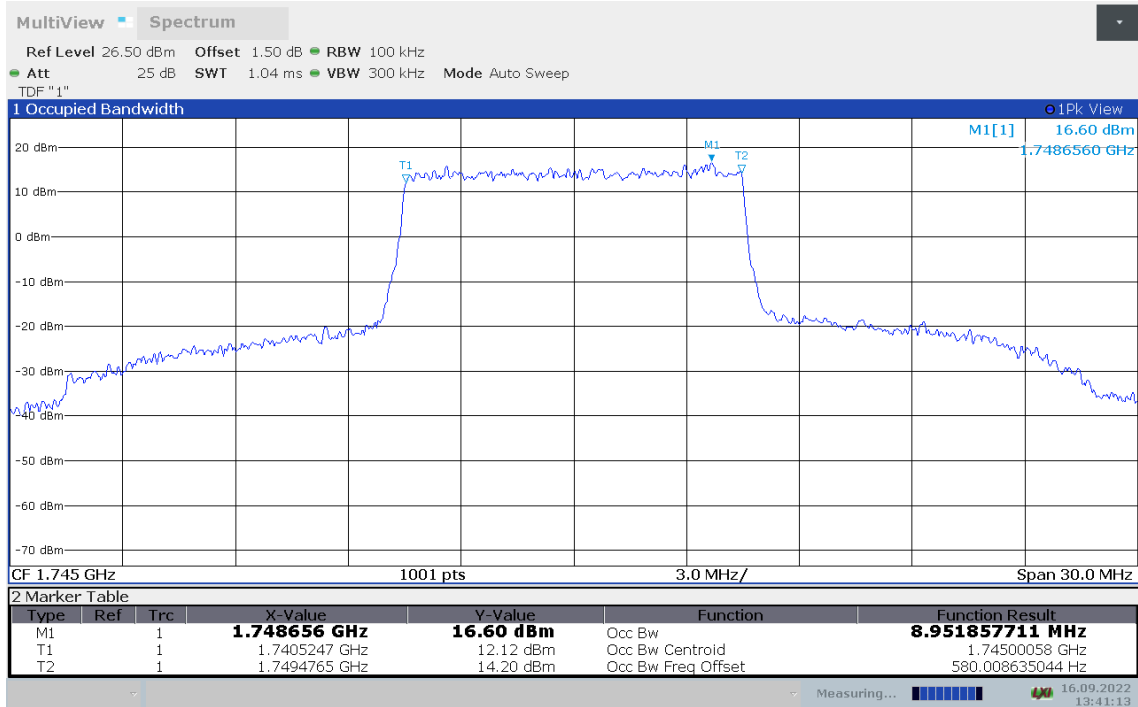
LTE Band 66, 15MHz Bandwidth, 64QAM (99% BW)

LTE band 66, 20MHz (99% BW)

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	17.925	17.928	17.940

LTE band 66, 20MHz Bandwidth, QPSK (99% BW)

LTE band 66, 20MHz Bandwidth, 16QAM (99% BW)

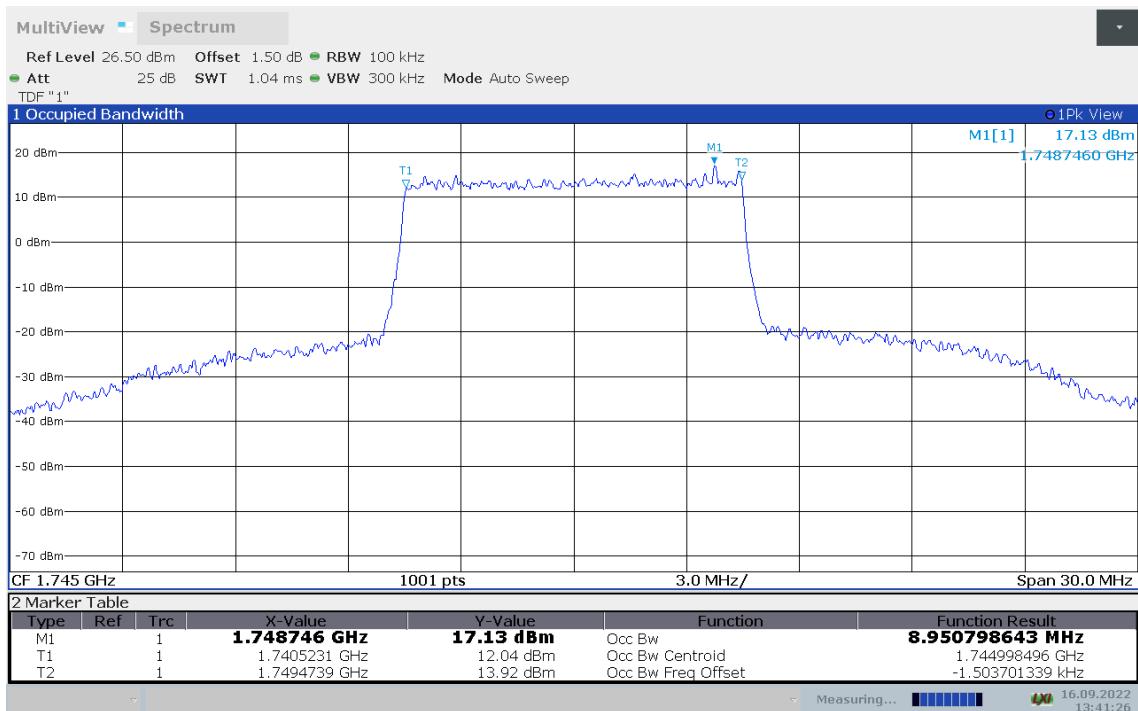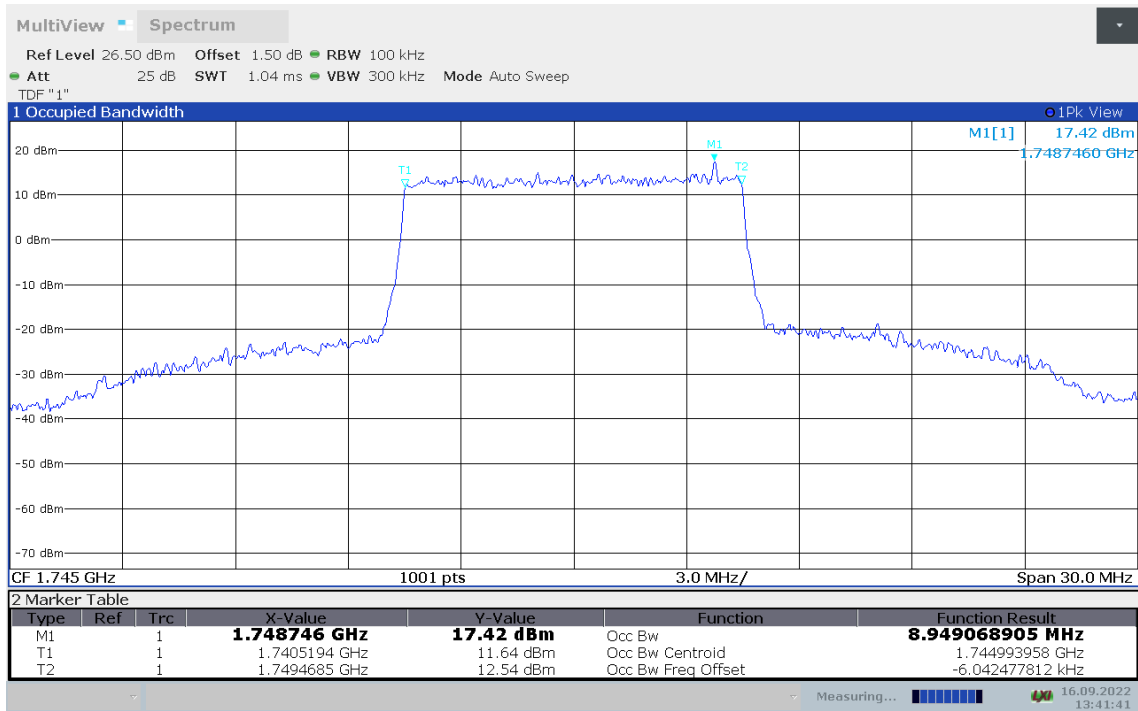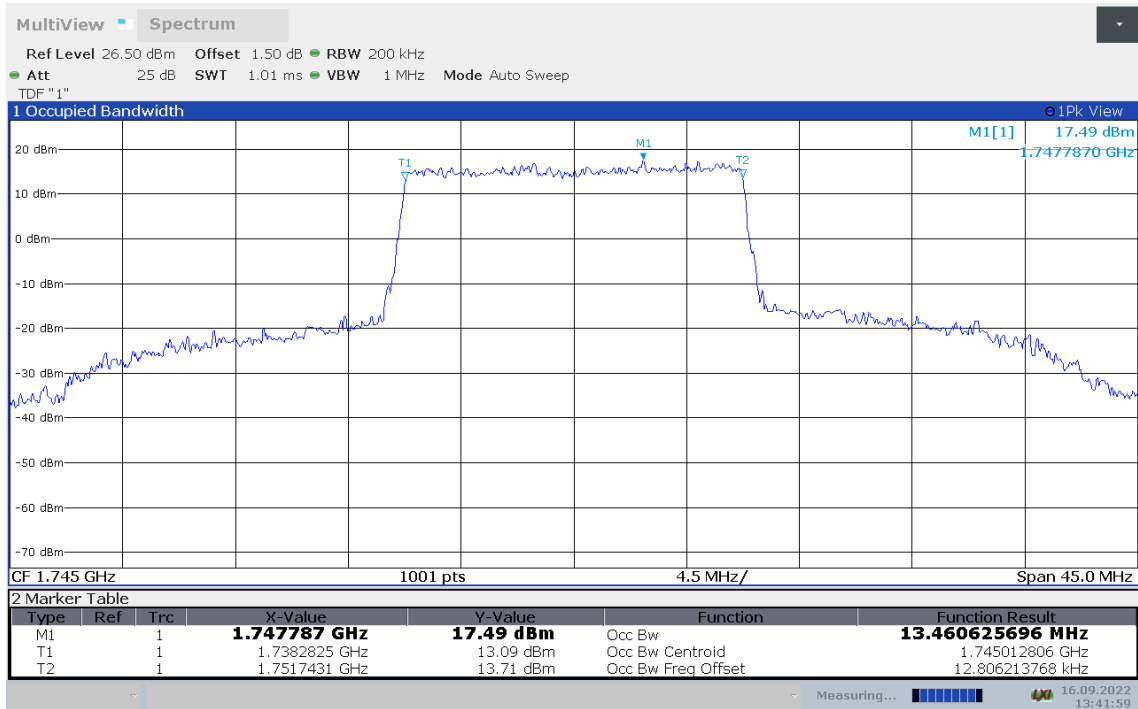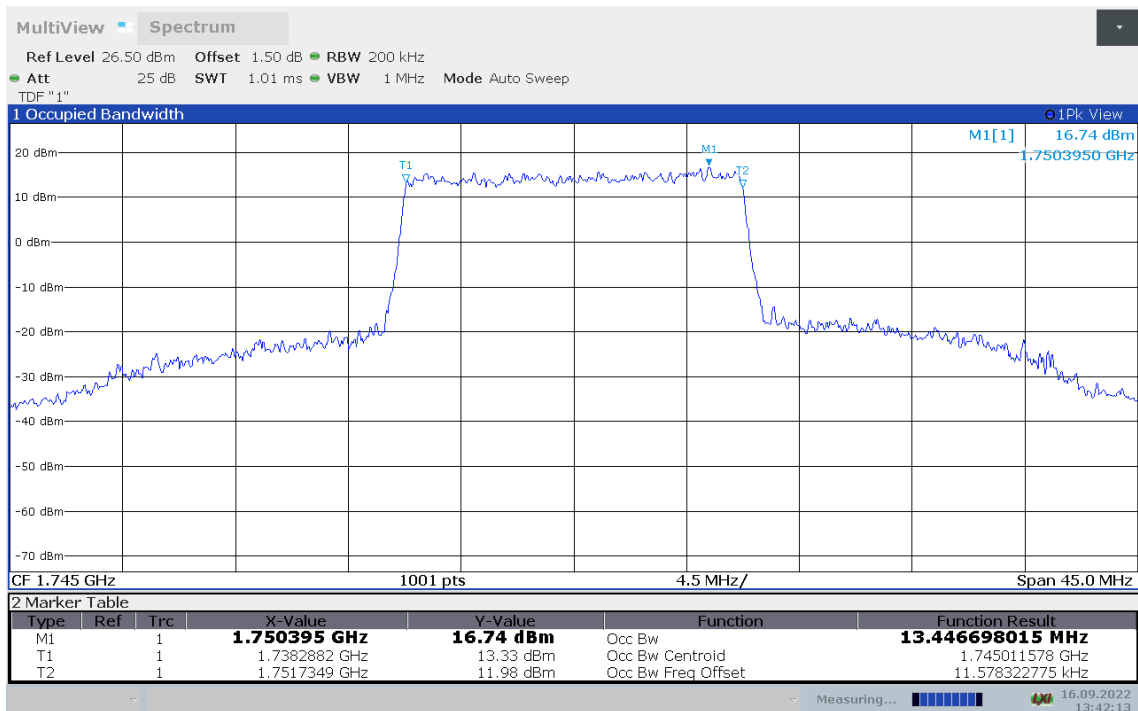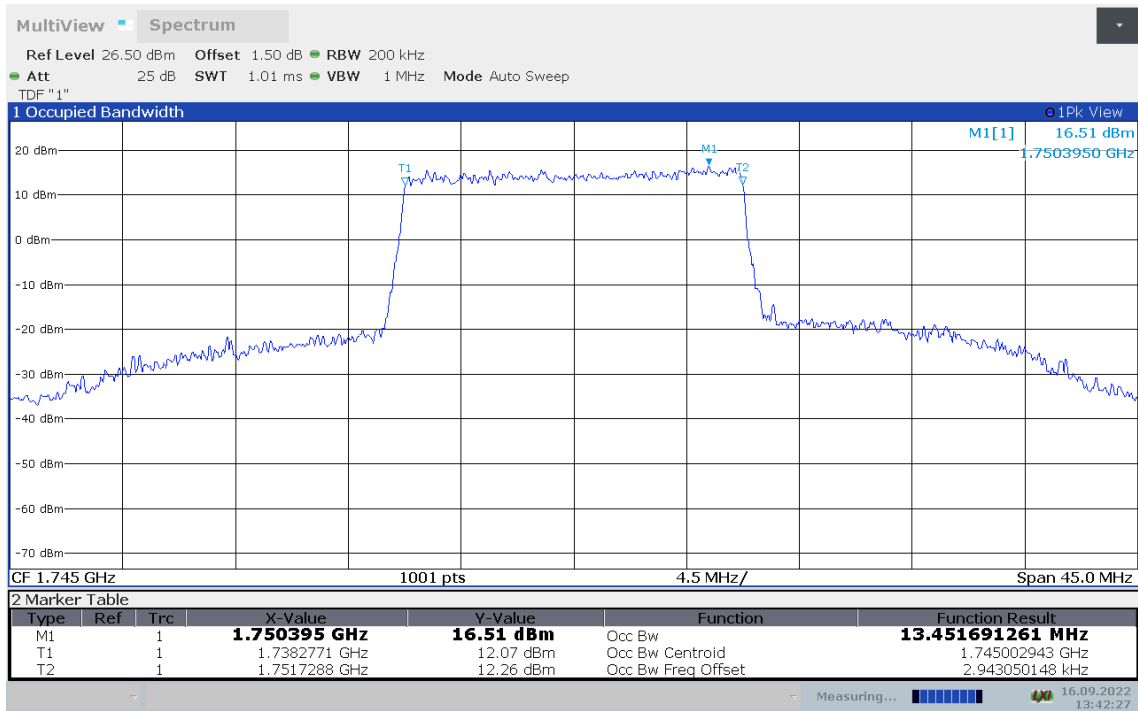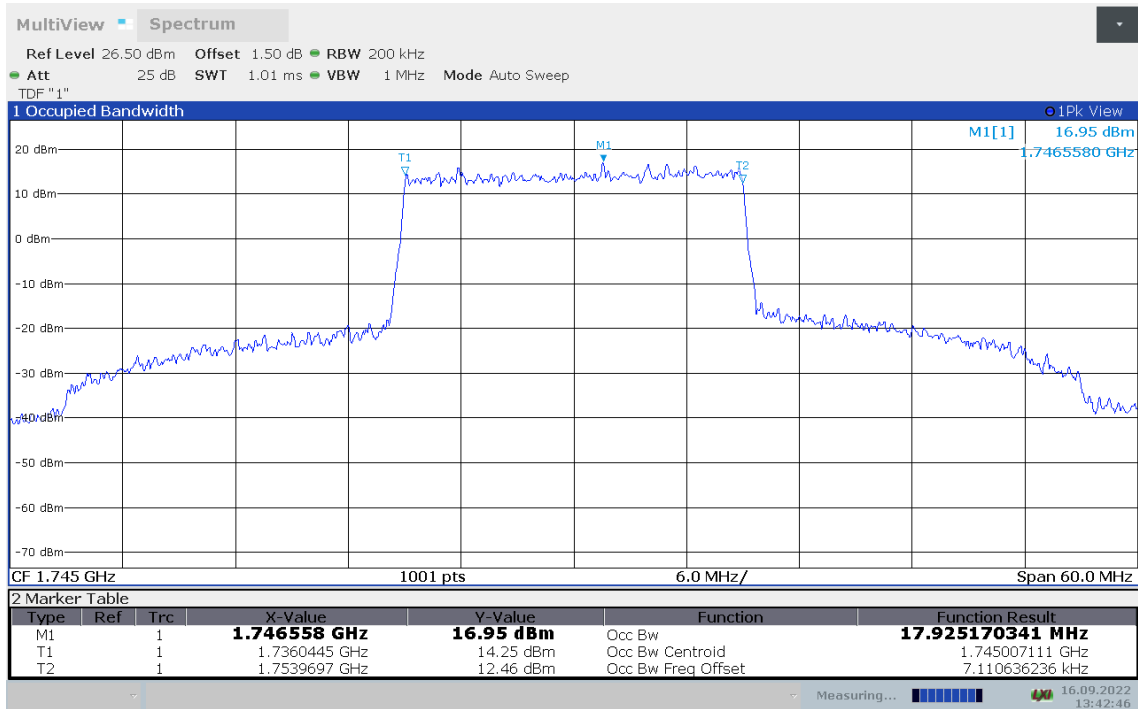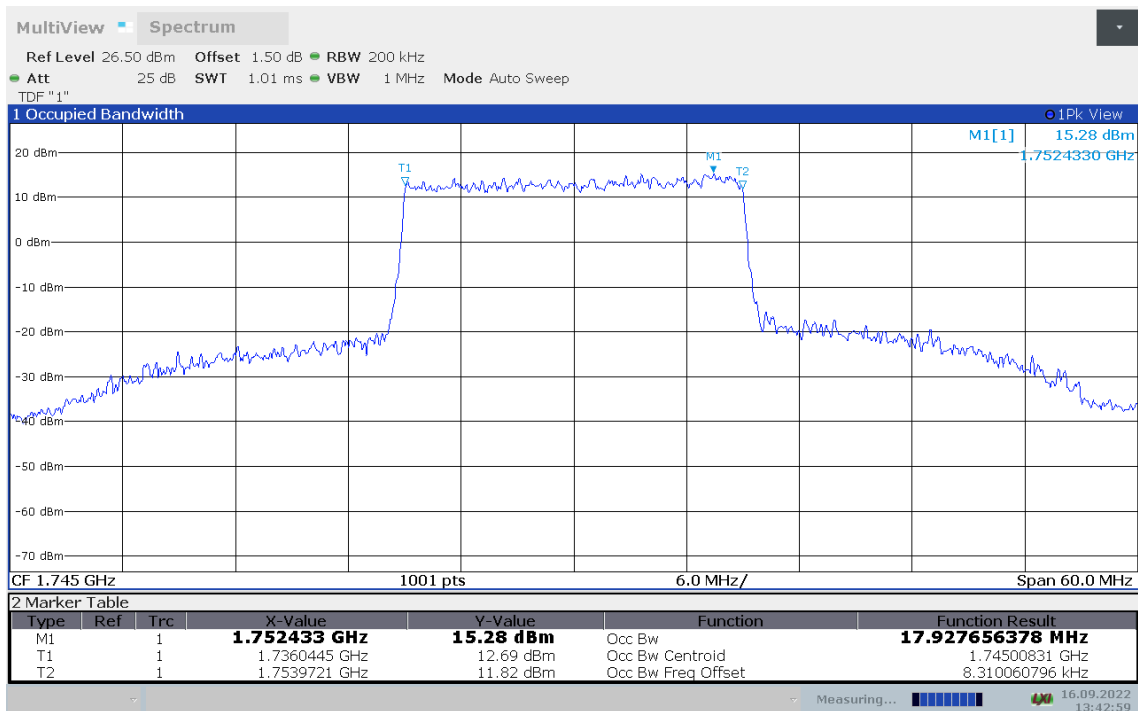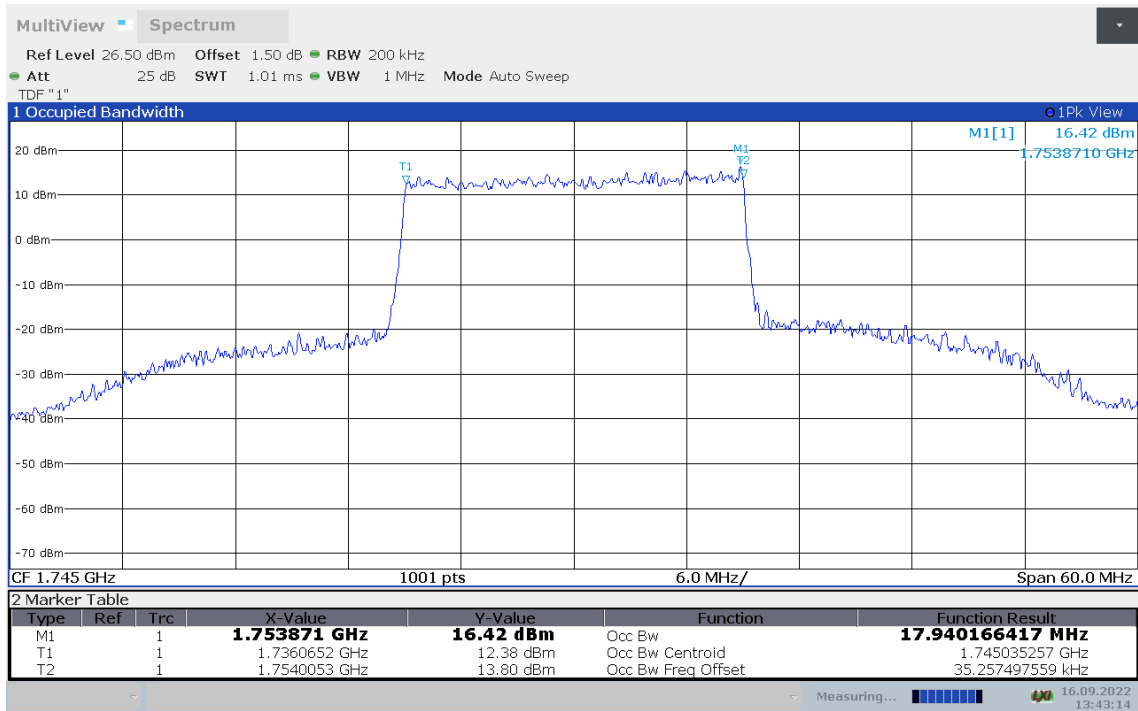## LTE Band 66, 20MHz Bandwidth, 64QAM (99% BW)

A.5 EMISSION BANDWIDTH

Reference
FCC: CFR Part 2.1049, 22.917, 24.238, 27.53, 90.691, 96.41.

A.5.1 Measurement Procedure
The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) Set the detection mode to peak, and the trace mode to max hold.

e) Use the 26dB bandwidth function of the spectrum analyzer and report the measured bandwidth.

A.5.2Emission Bandwidth Results
Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
2535.0	4.90	4.83	4.83

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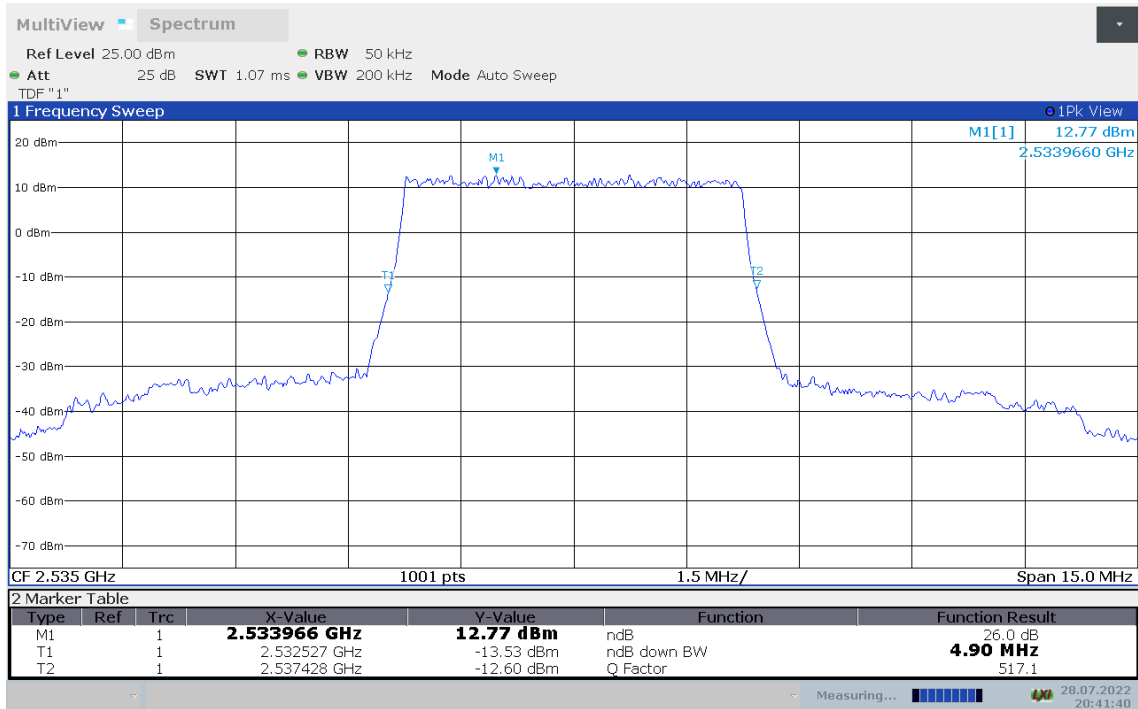
LTE band 7, 5MHz Bandwidth,16QAM (-26dBc BW)

LTE band 7, 5MHz Bandwidth,64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**2.53461 GHz**	**14.58 dBm**	ndB	26.0 dB
T1		1	2.532557 GHz	-11.49 dBm	ndB down BW	**4.83 MHz**
T2		1	2.537383 GHz	-10.80 dBm	Q Factor	525.3
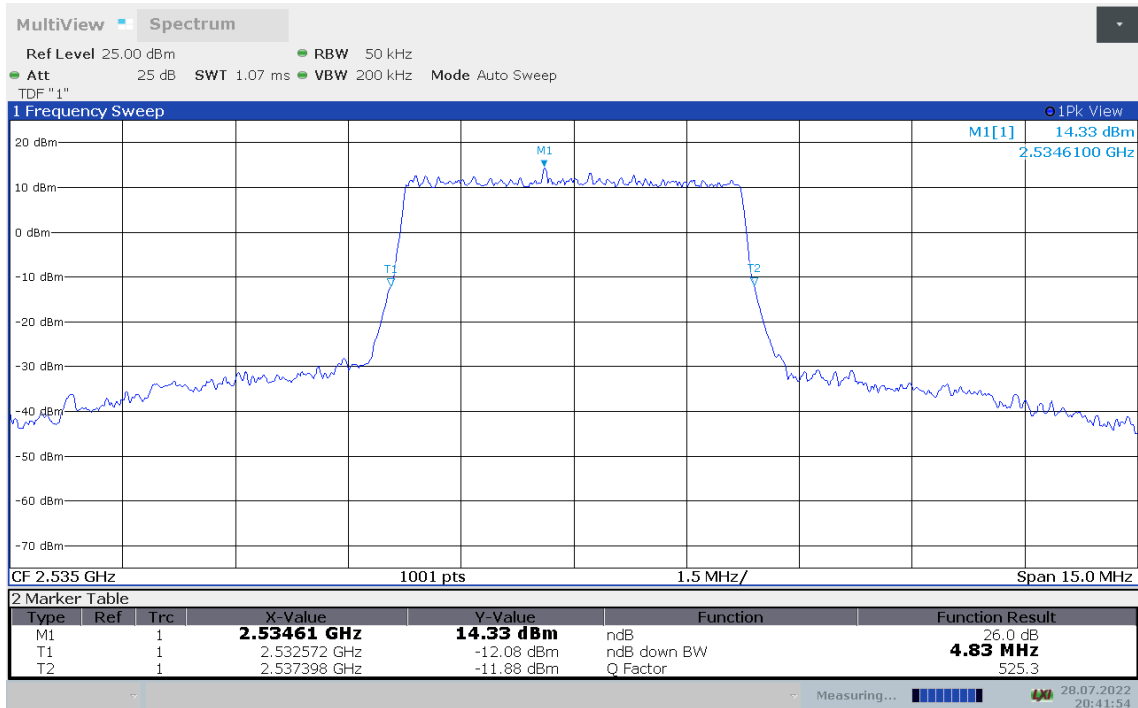
LTE band 7, 10MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
2535.0	9.65	9.56	9.56

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

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

LTE band 7, 10MHz Bandwidth, 64QAM (-26dBc BW)

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
2535.0	QPSK	16QAM	64QAM
	14.52	14.43	14.43

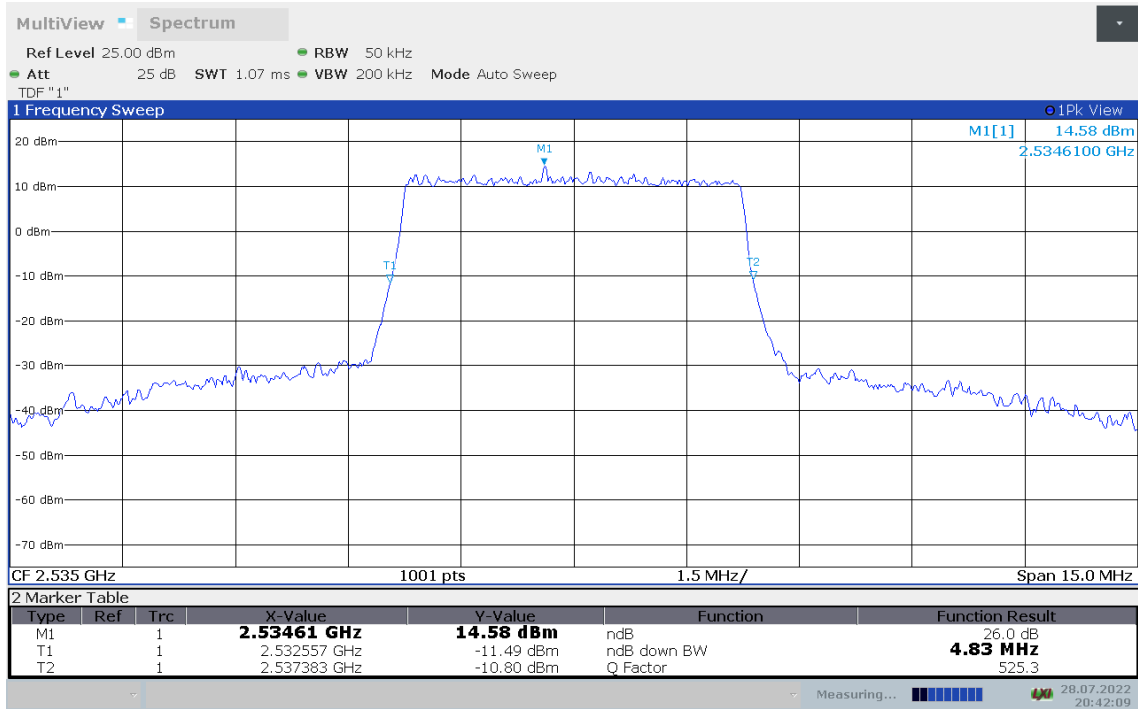**LTE band 7, 15MHz Bandwidth, QPSK (-26dBc BW)**

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

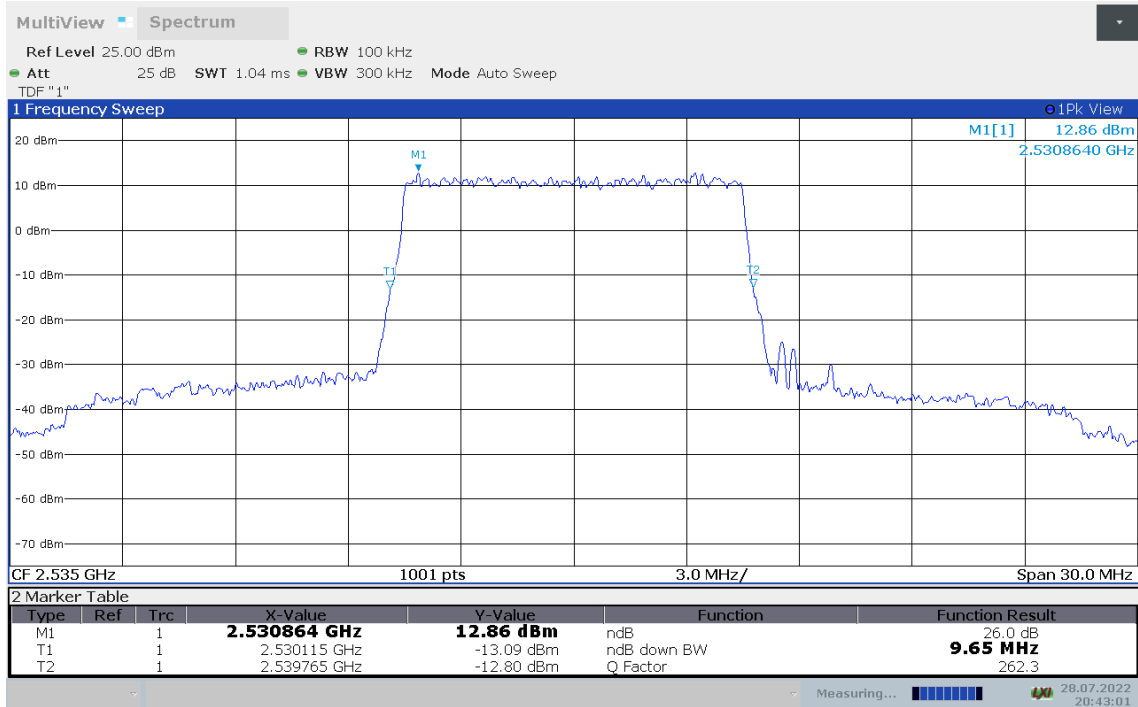**LTE band 7, 15MHz Bandwidth, 64QAM (-26dBc BW)**

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
2535.0	19.00	19.18	19.06

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

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

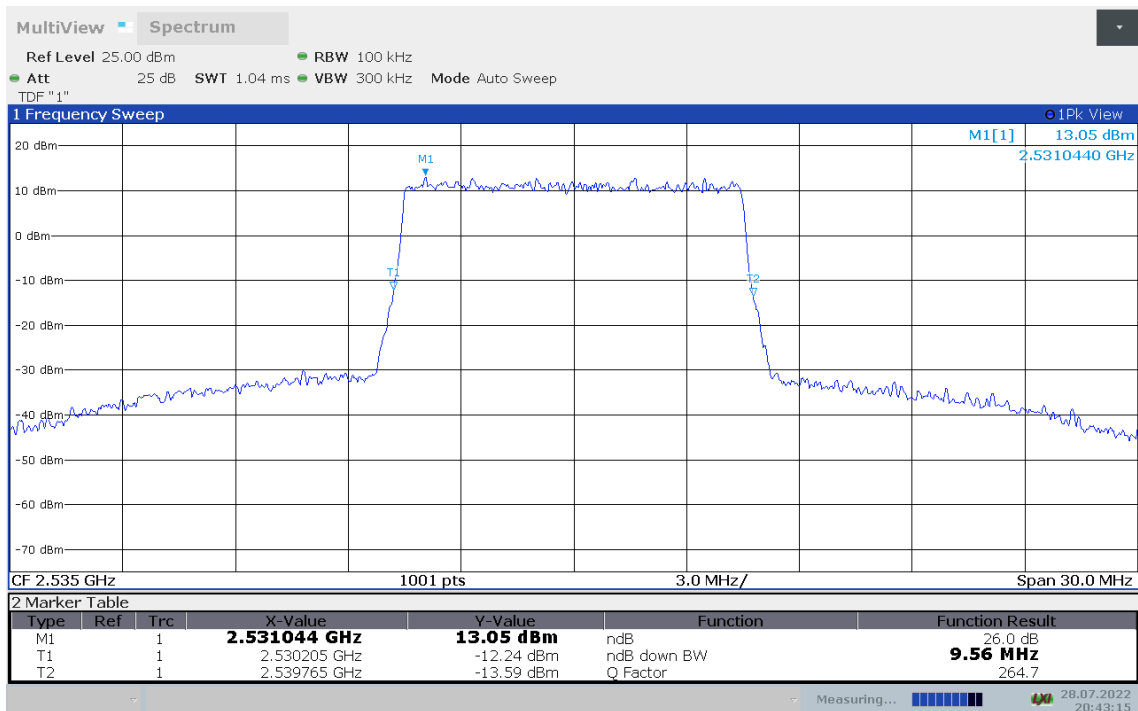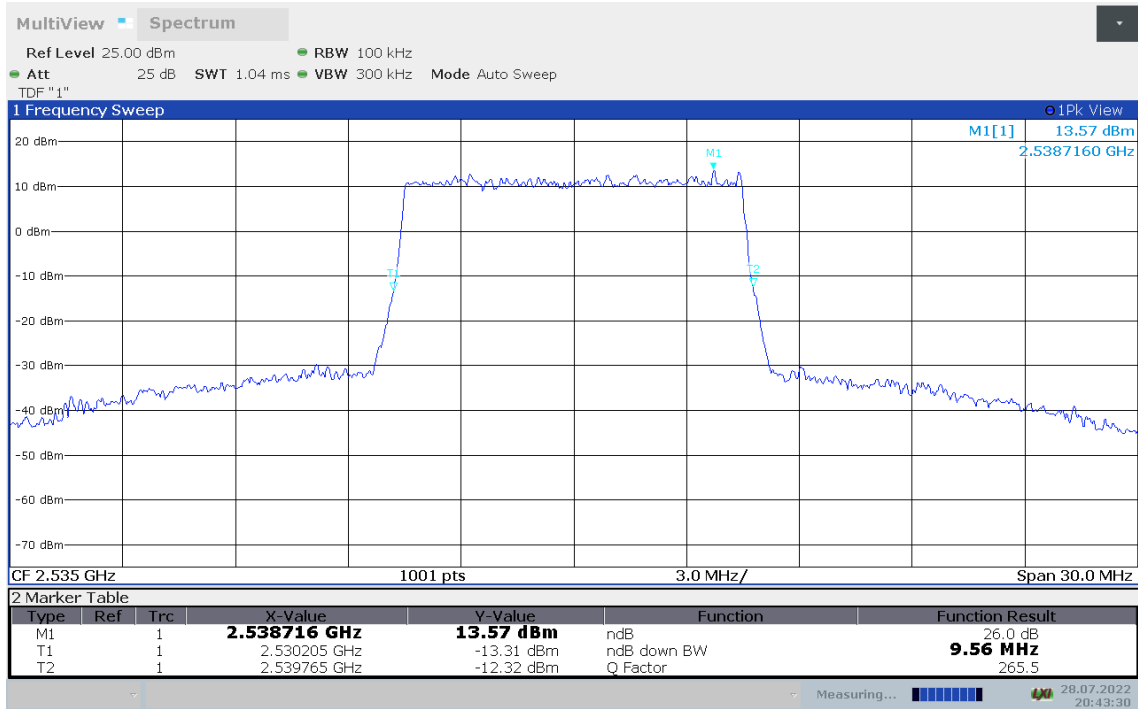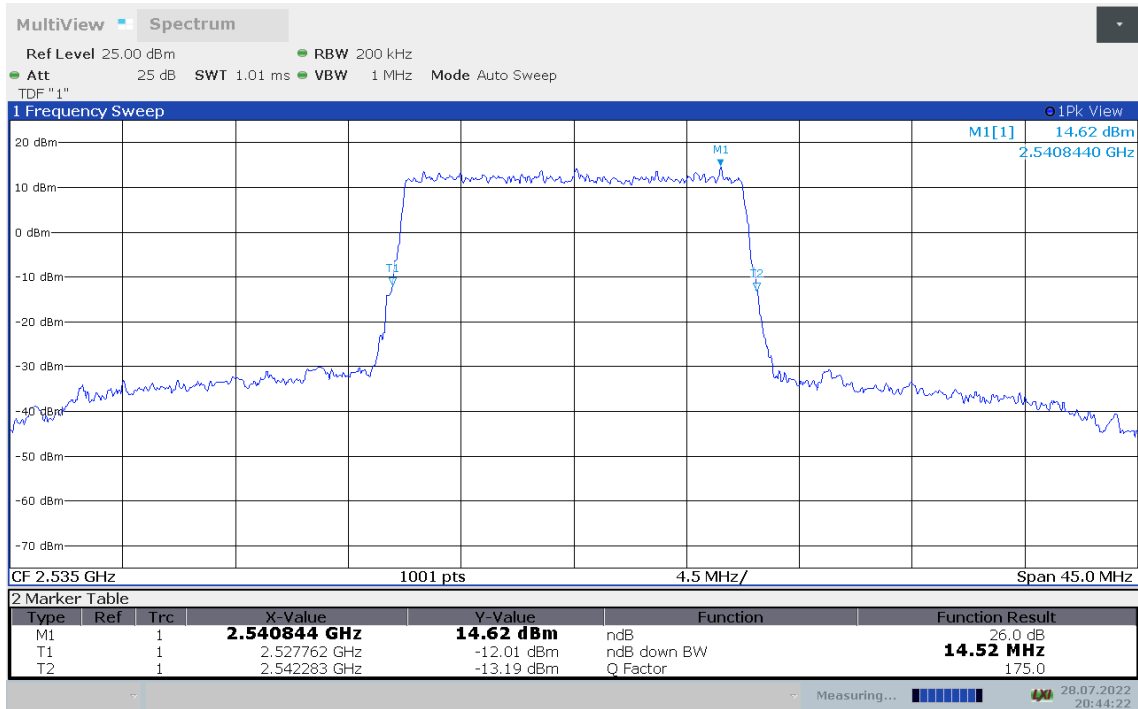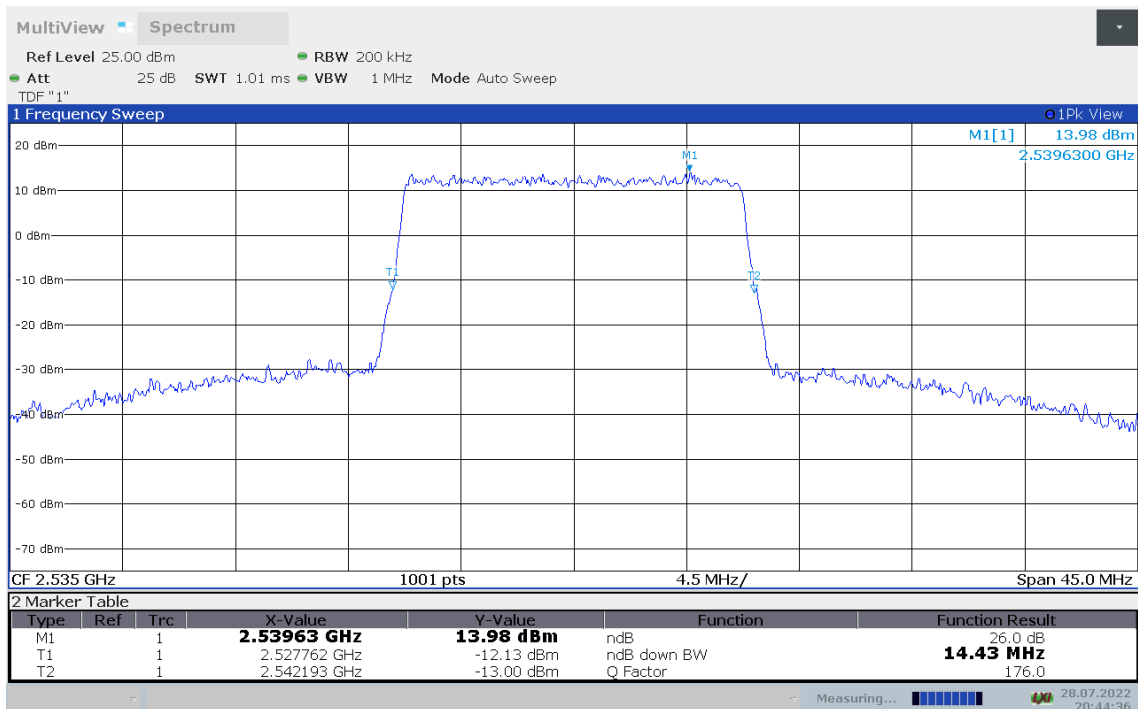## LTE band 7, 20MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		**2.529486 GHz**	**13.14 dBm**	ndB	26.0 dB
T1	1	1	2.52547 GHz	-11.65 dBm	ndB down BW	**19.06 MHz**
T2	1	1	2.54453 GHz	-13.27 dBm	Q Factor	132.7

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
707.5	1.25	1.28	1.28

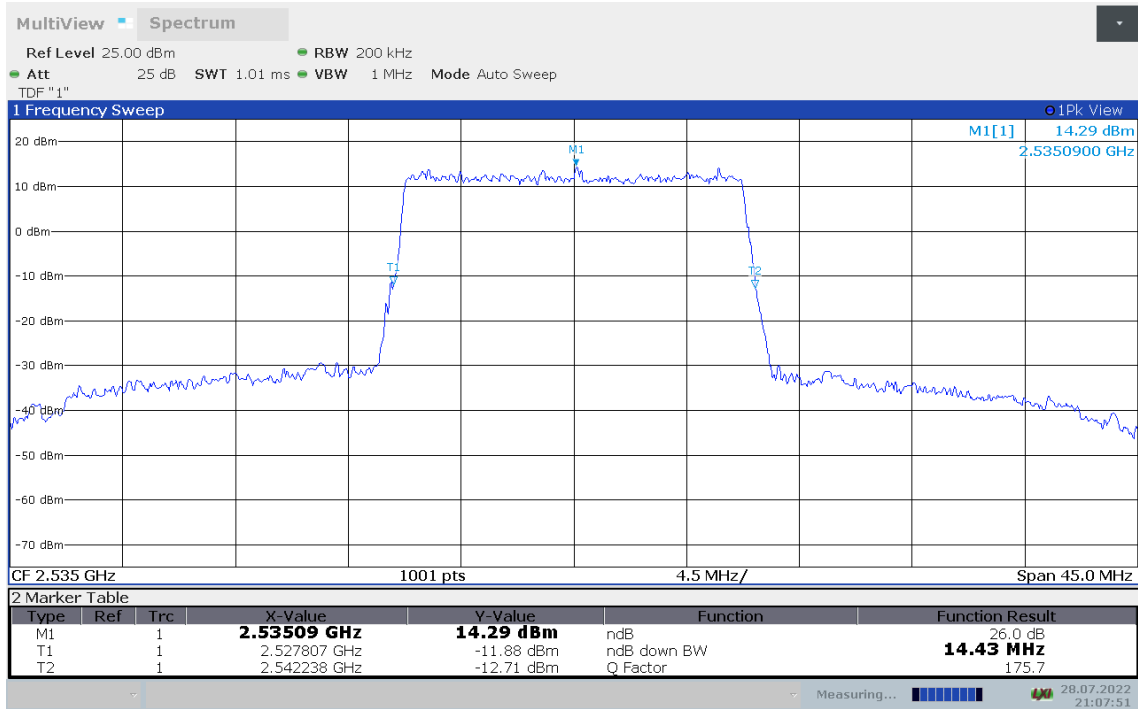## LTE band 12, 1.4MHz Bandwidth, QPSK (-26dBc BW)

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

LTE band 12, 1.4MHz Bandwidth, 64QAM (-26dBc BW)

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
707.5	2.89	2.90	2.89

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

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

LTE band 12, 3MHz Bandwidth, 64QAM (-26dBc BW)

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
707.5	4.90	4.83	4.83

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

LTE band 12, 5MHz Bandwidth,16QAM (-26dBc BW)
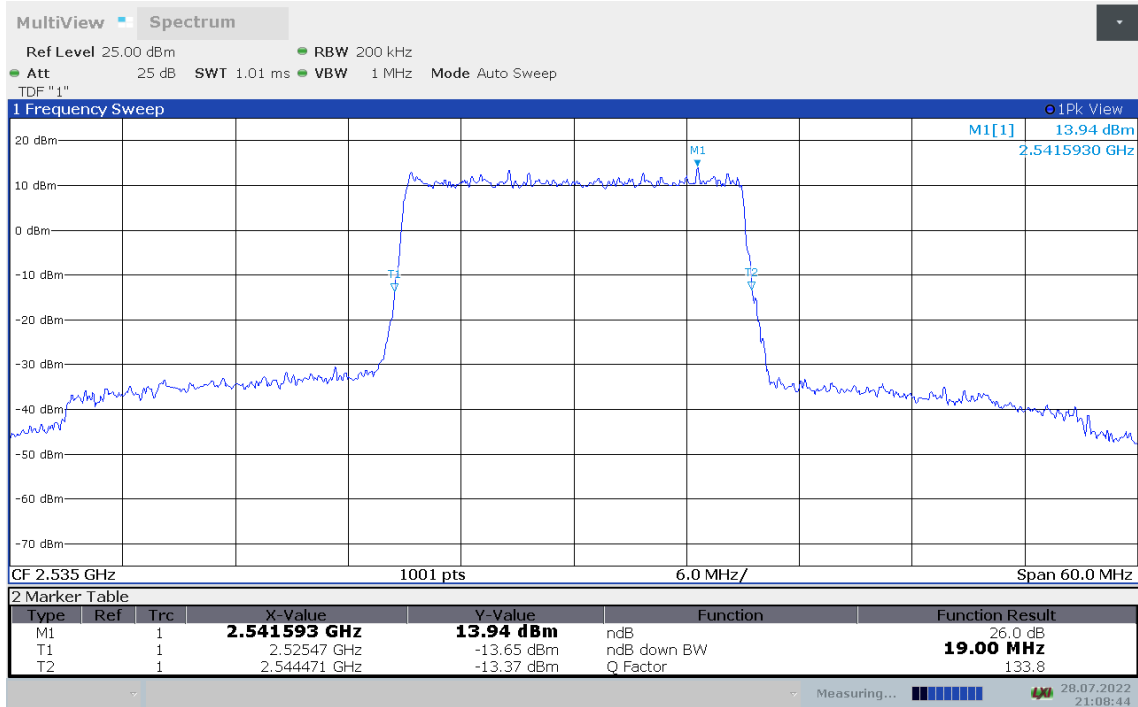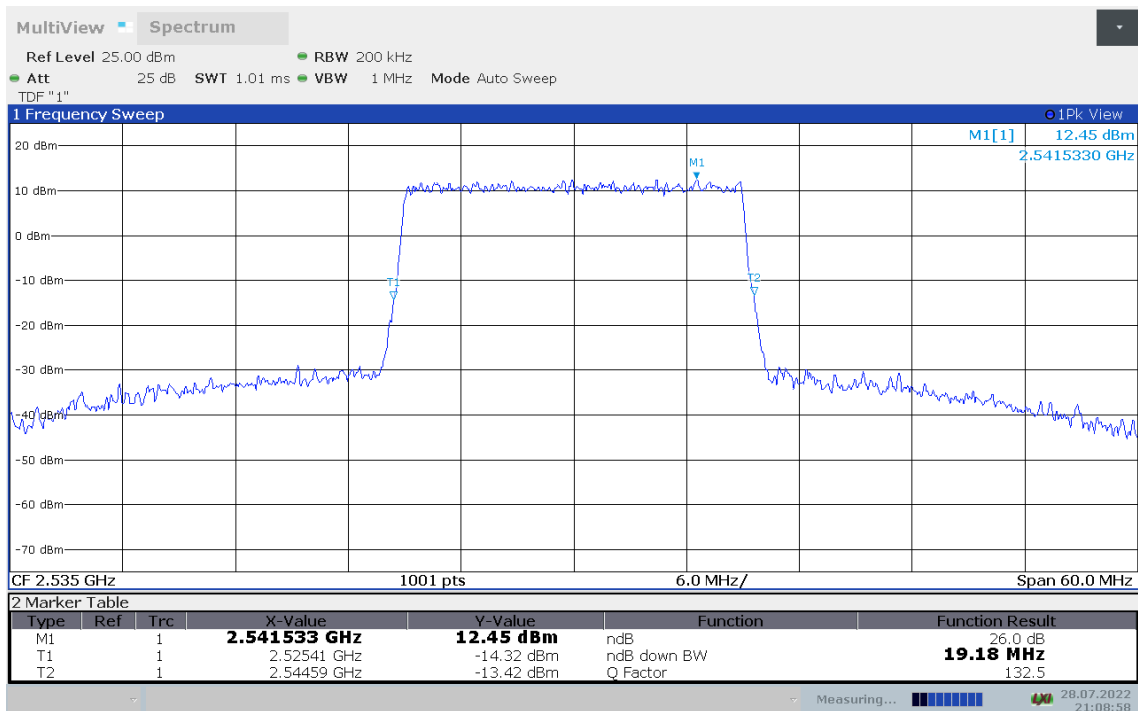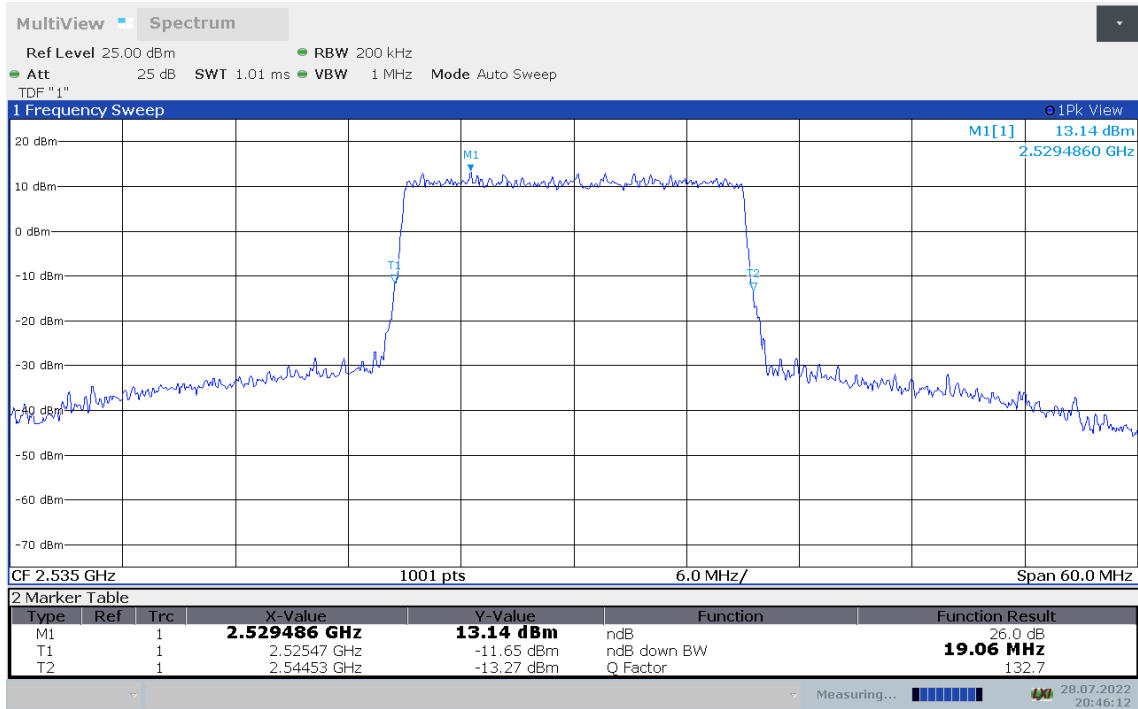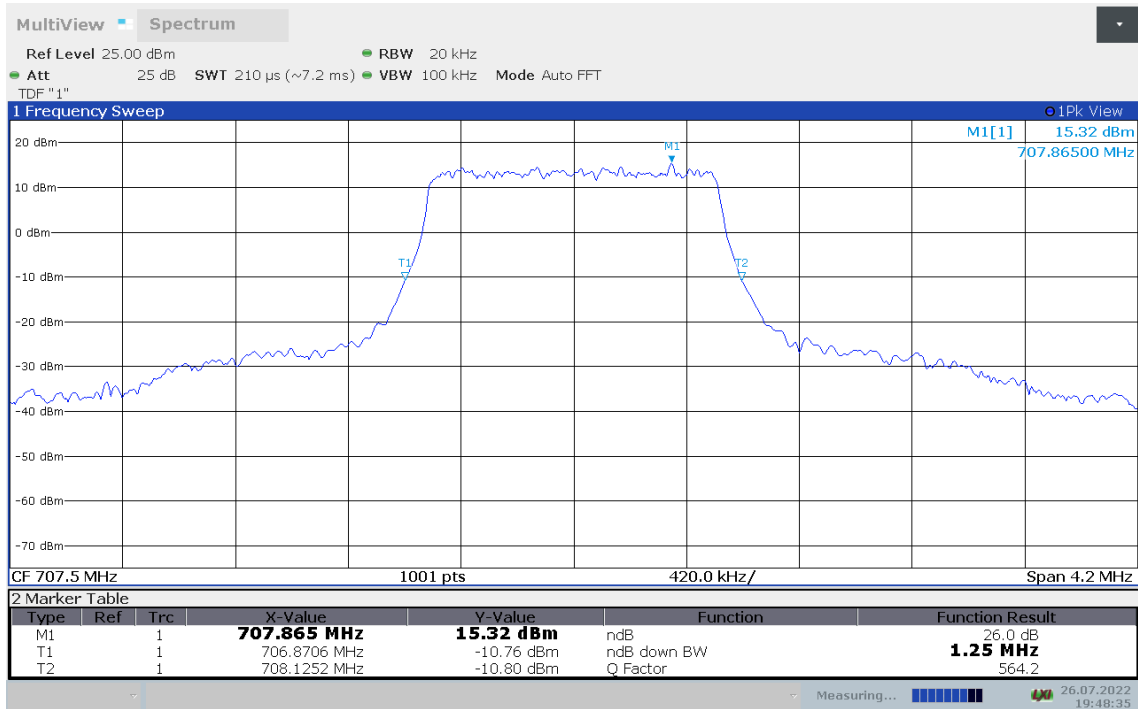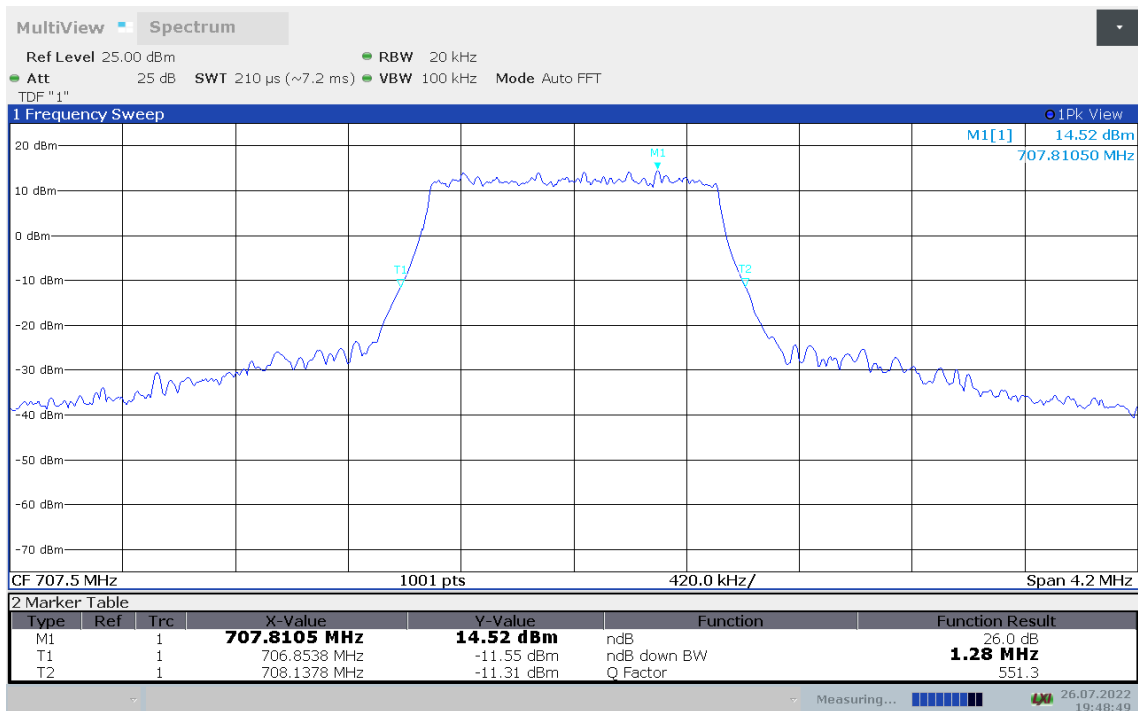
LTE band 12, 5MHz Bandwidth,64QAM (-26dBc BW)

MultiView	Spectrum						
Ref Level 25.00 dBm			RBW 50 kHz				
Att 25 dB	SWT 1.07 ms	VBW 200 kHz	Mode Auto Sweep				
TDF "1"							

1 Frequency Sweep ● 1Pk View

M1[1] 14.54 dBm
707.1100 MHz

M1

20 dBm
10 dBm
0 dBm
-10 dBm T1   T2
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

CF 707.5 MHz   1001 pts   1.5 MHz/   Span 15.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		707.11 MHz	14.54 dBm	ndB	26.0 dB
T1	1		705.057 MHz	-11.85 dBm	ndB down BW	4.83 MHz
T2	1		709.883 MHz	-11.36 dBm	Q Factor	146.5

Measuring... 26.07.2022 19:51:46

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
707.5	9.59	9.62	9.56

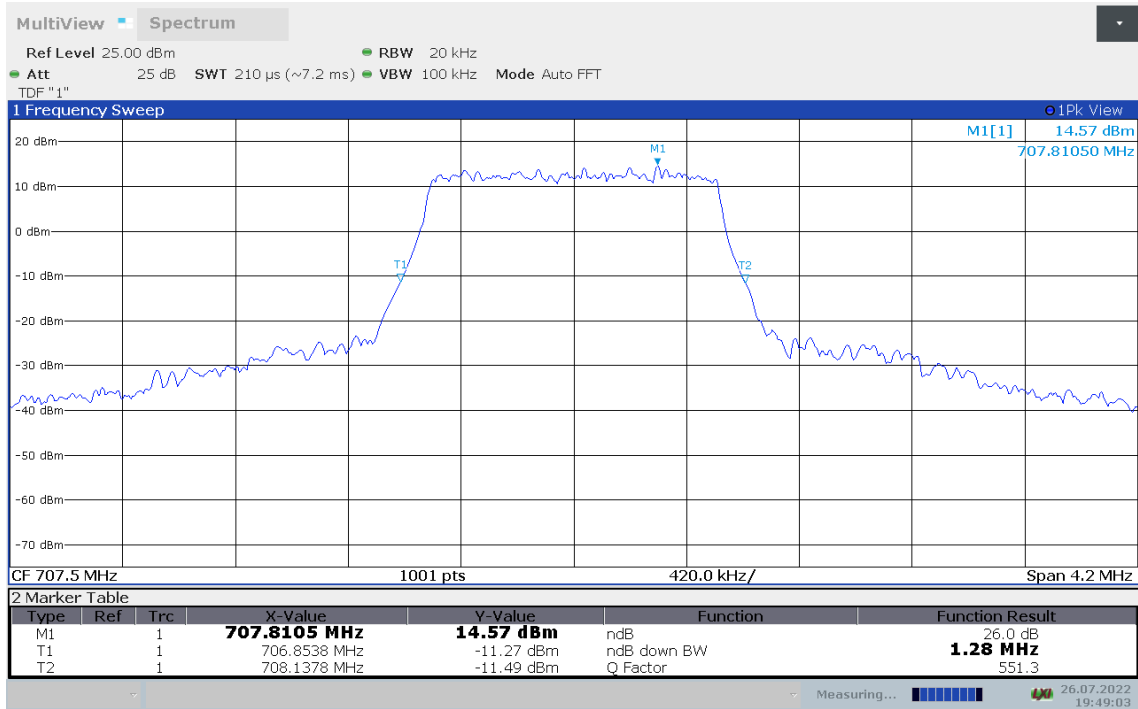**LTE band 12, 10MHz Bandwidth, QPSK (-26dBc BW)**
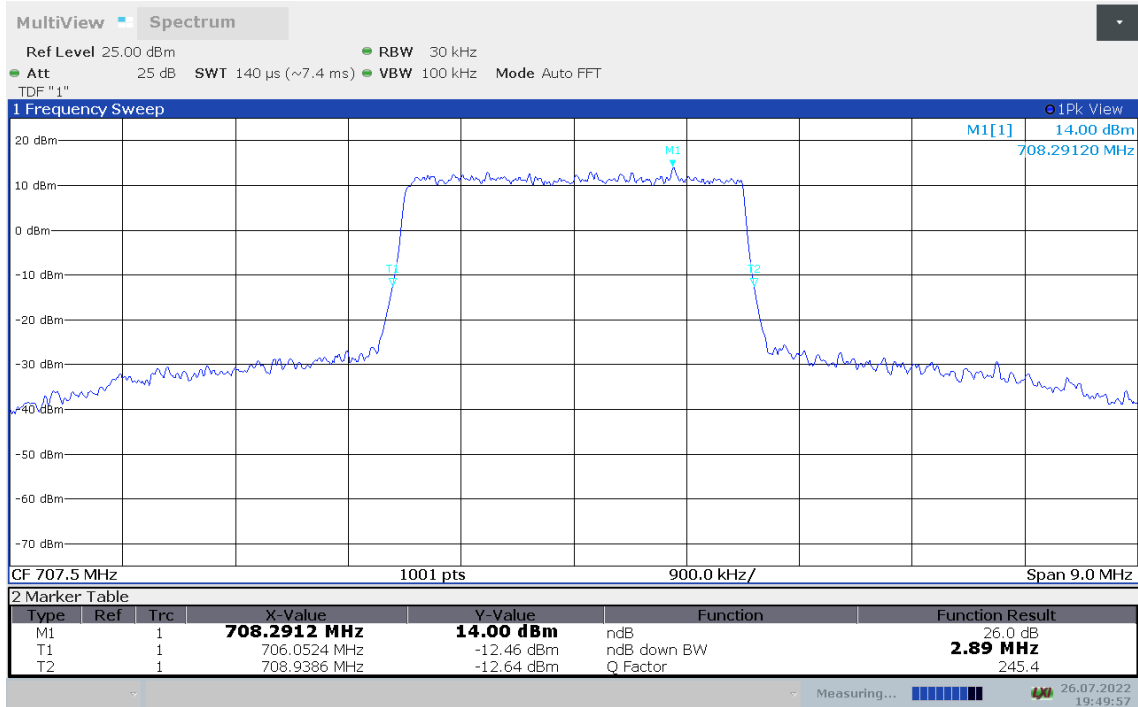

LTE band 12, 10MHz Bandwidth, 16QAM (-26dBc BW)

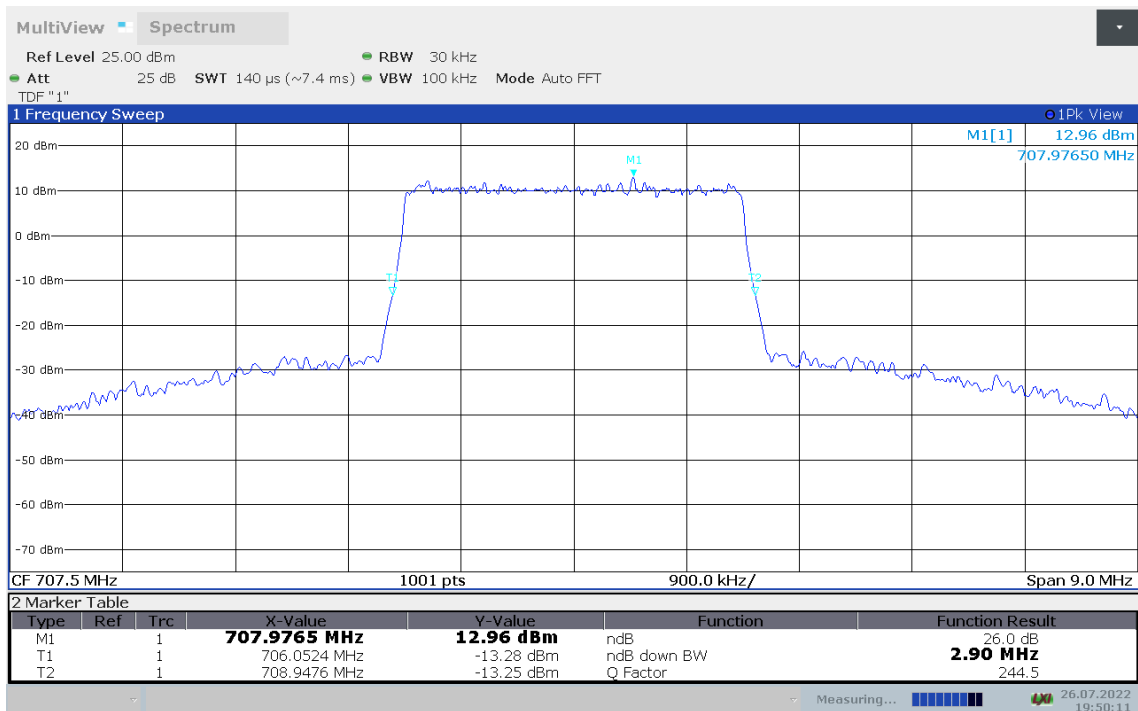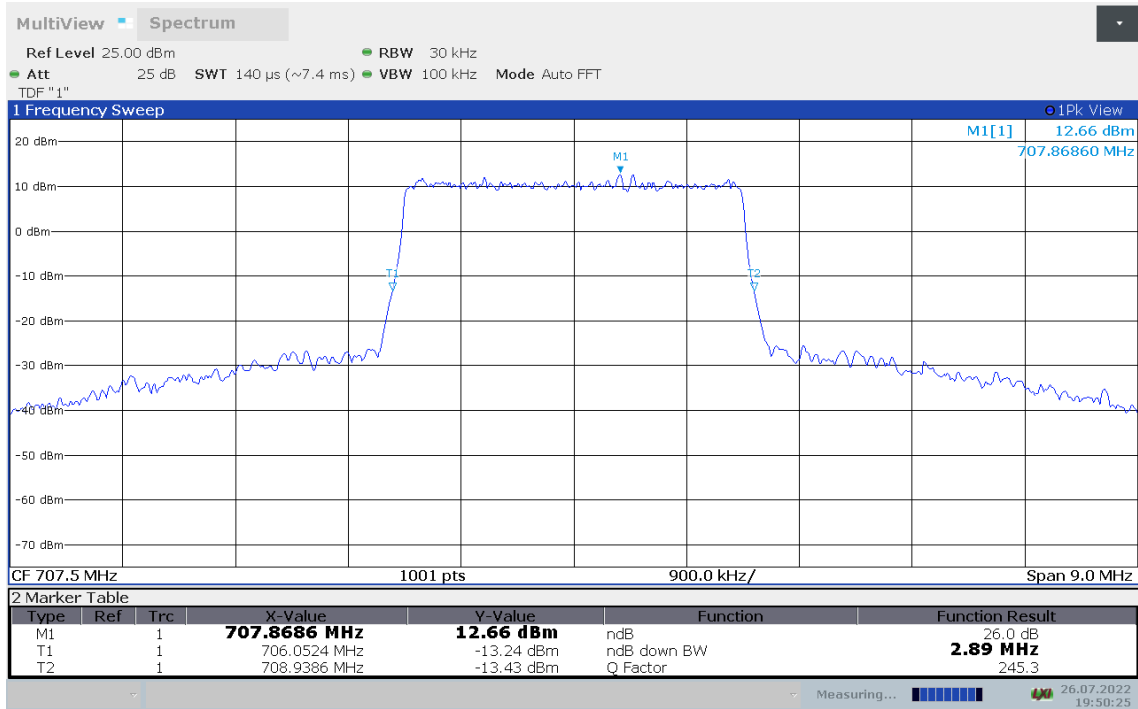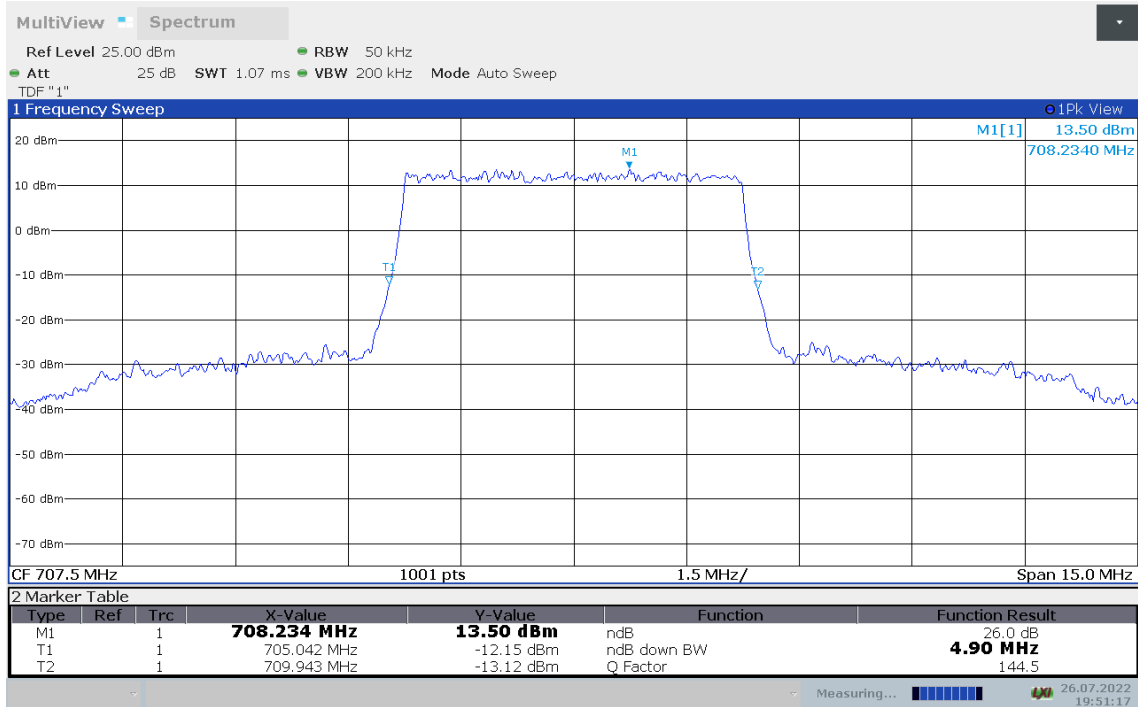## LTE band 12, 10MHz Bandwidth, 64QAM (-26dBc BW)

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
782.0	4.88	4.88	4.88

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

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

LTE band 13, 5MHz Bandwidth,64QAM (-26dBc BW)
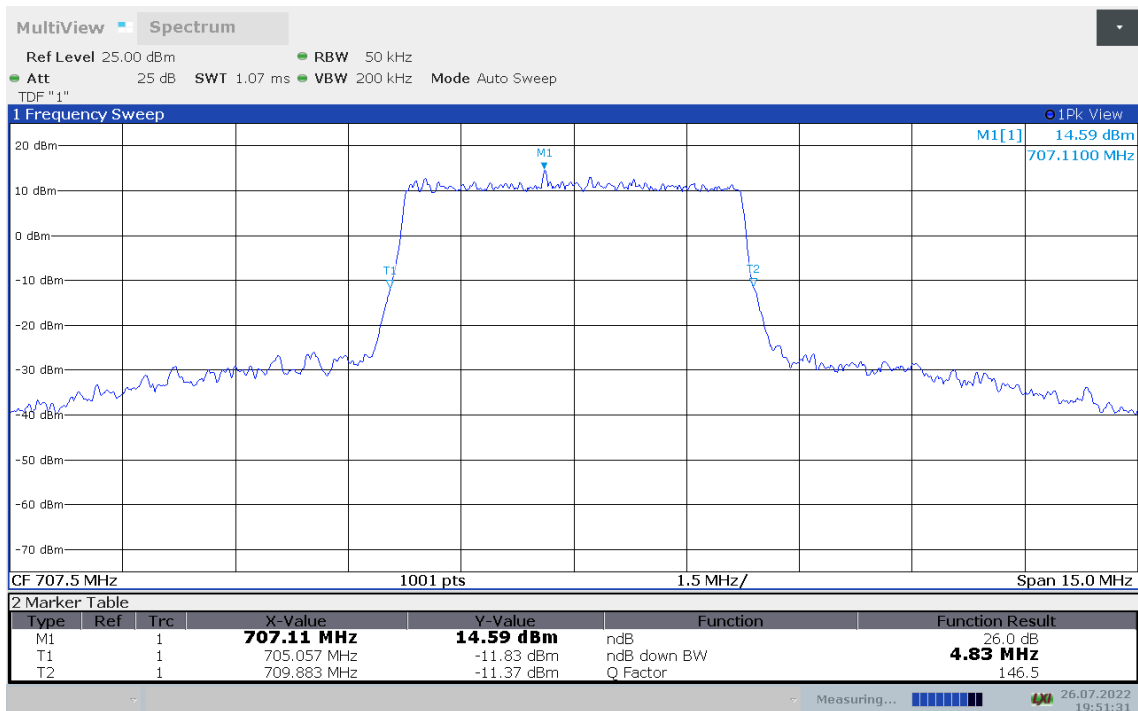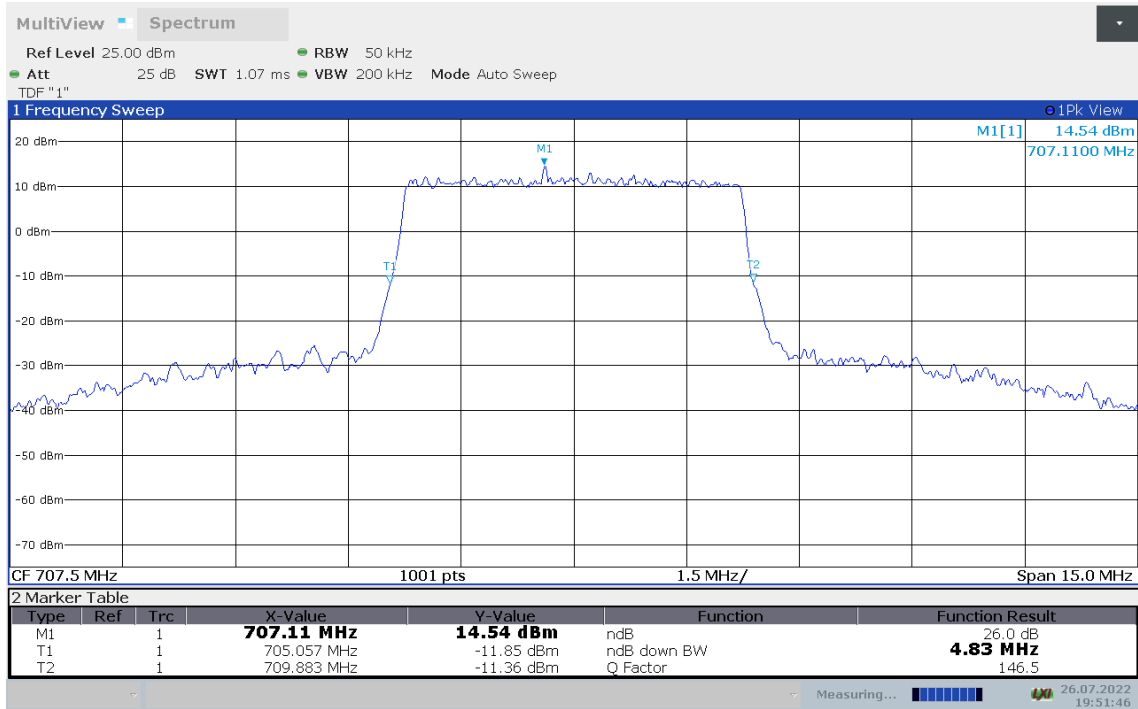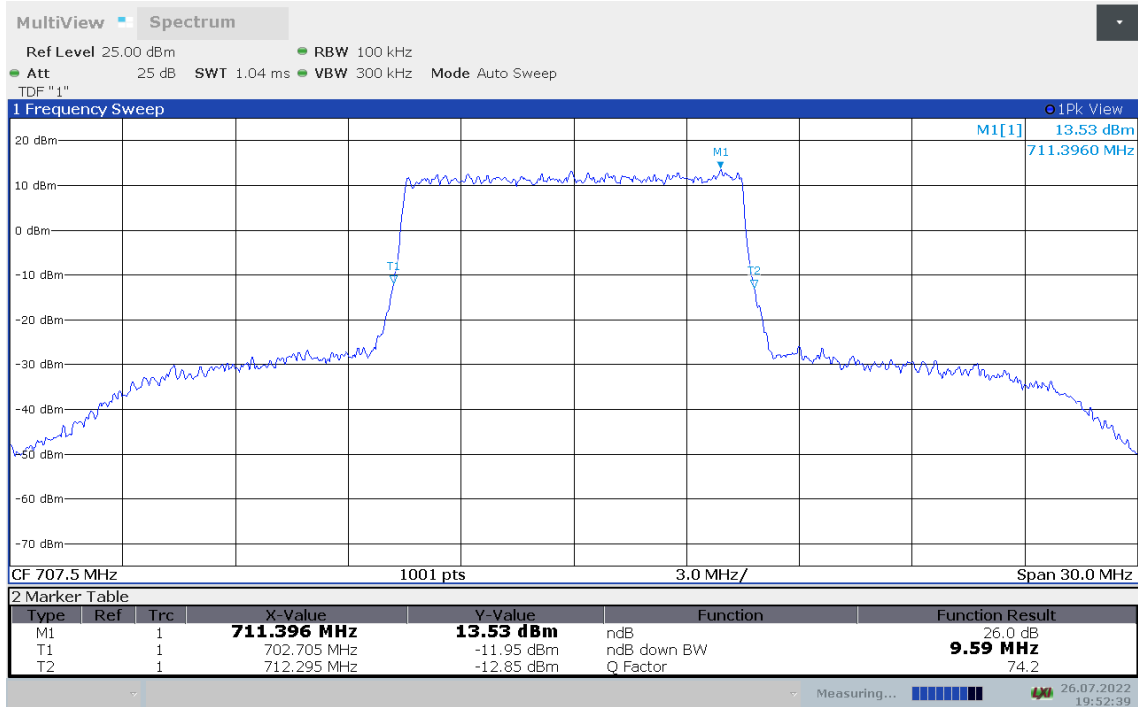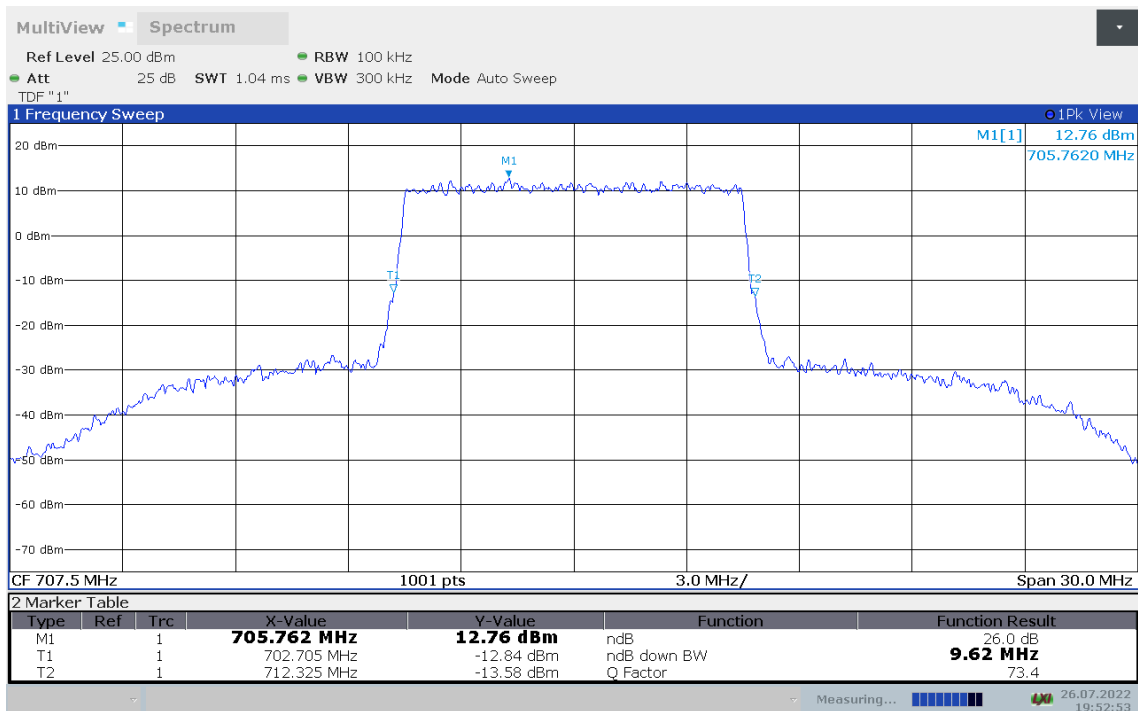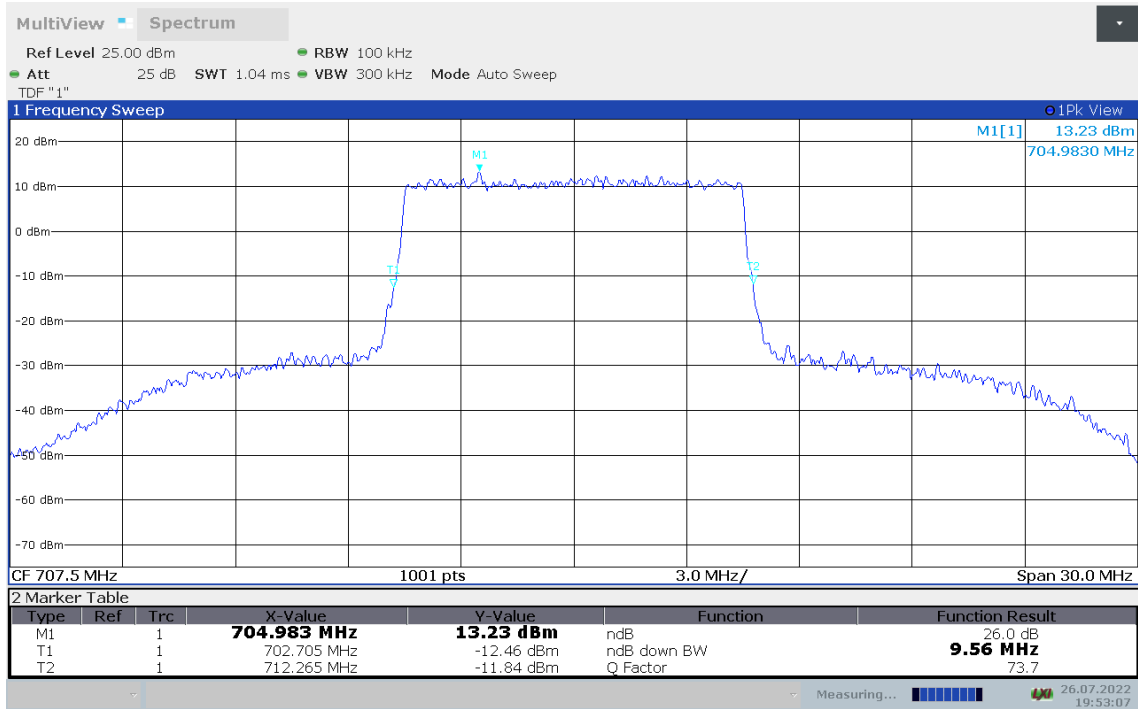
MultiView	Spectrum				

Ref Level 25.00 dBm ● RBW 50 kHz
● Att 25 dB SWT 1.07 ms ● VBW 200 kHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep ○1Pk View

M1[1] 12.50 dBm
781.3410 MHz

M1

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

T1 T2

CF 782.0 MHz 1001 pts 1.5 MHz/ Span 15.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**781.341 MHz**	**12.50 dBm**	ndB	26.0 dB
T1		1	779.557 MHz	-13.46 dBm	ndB down BW	**4.88 MHz**
T2		1	784.443 MHz	-13.94 dBm	Q Factor	159.9

Measuring... 26.07.2022 19:54:33

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
782.0	QPSK	16QAM	64QAM
	9.62	9.53	9.47

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

LTE band 13, 10MHz Bandwidth, 16QAM (-26dBc BW)
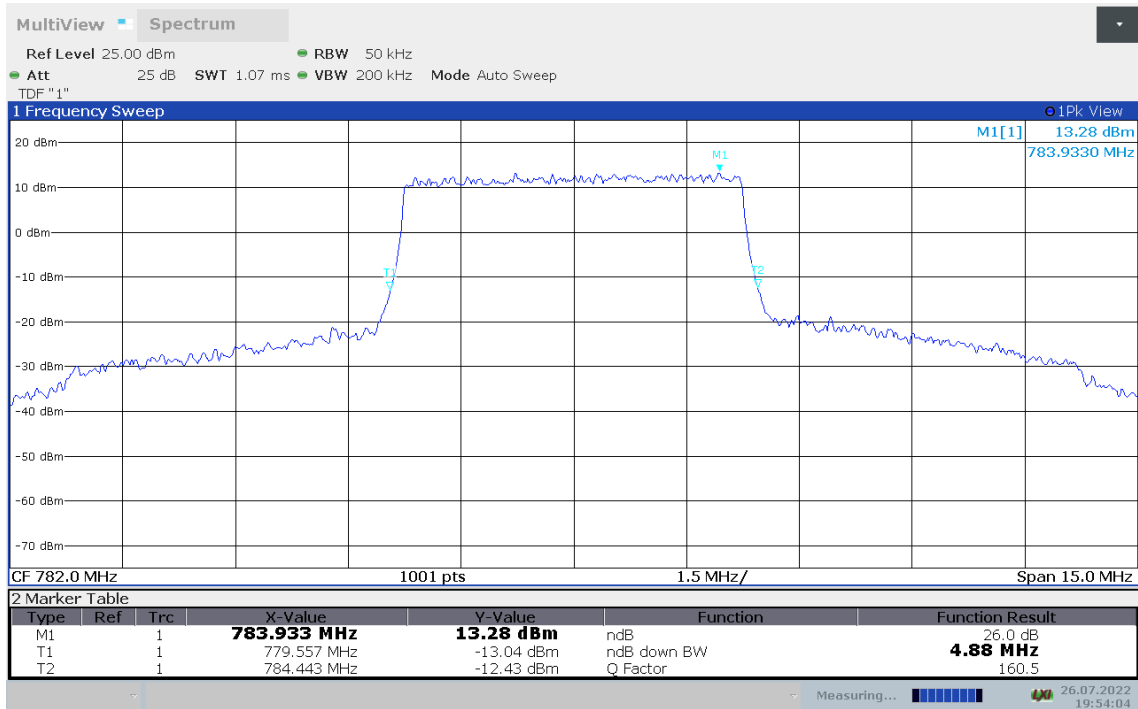
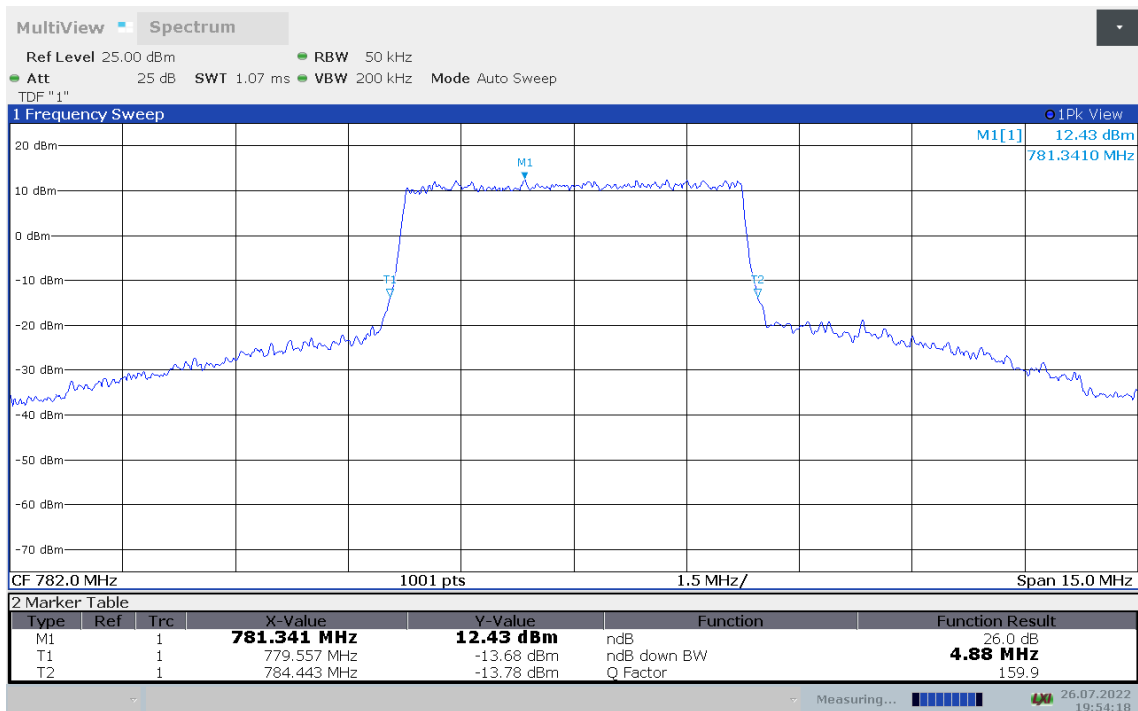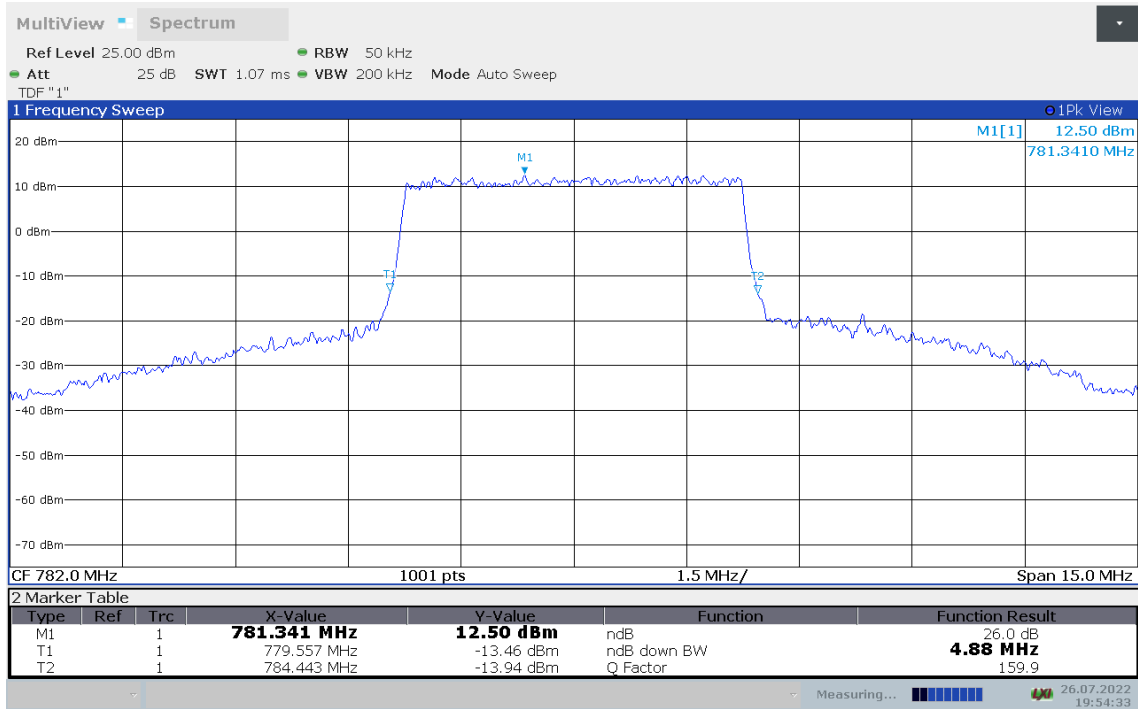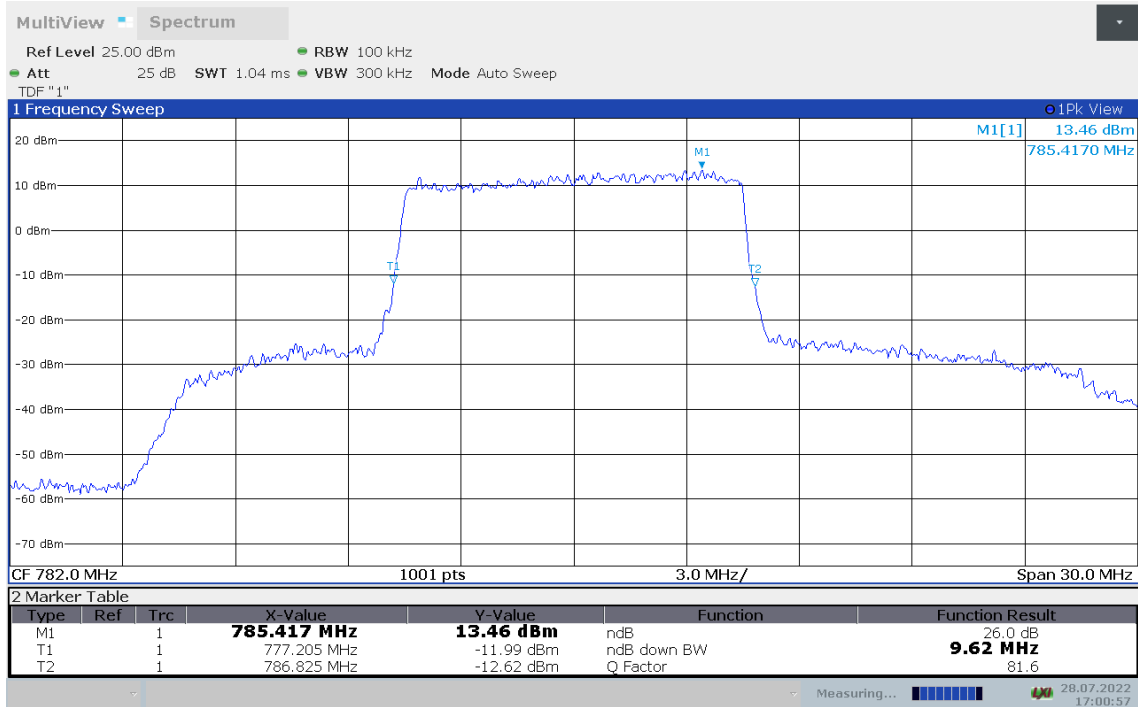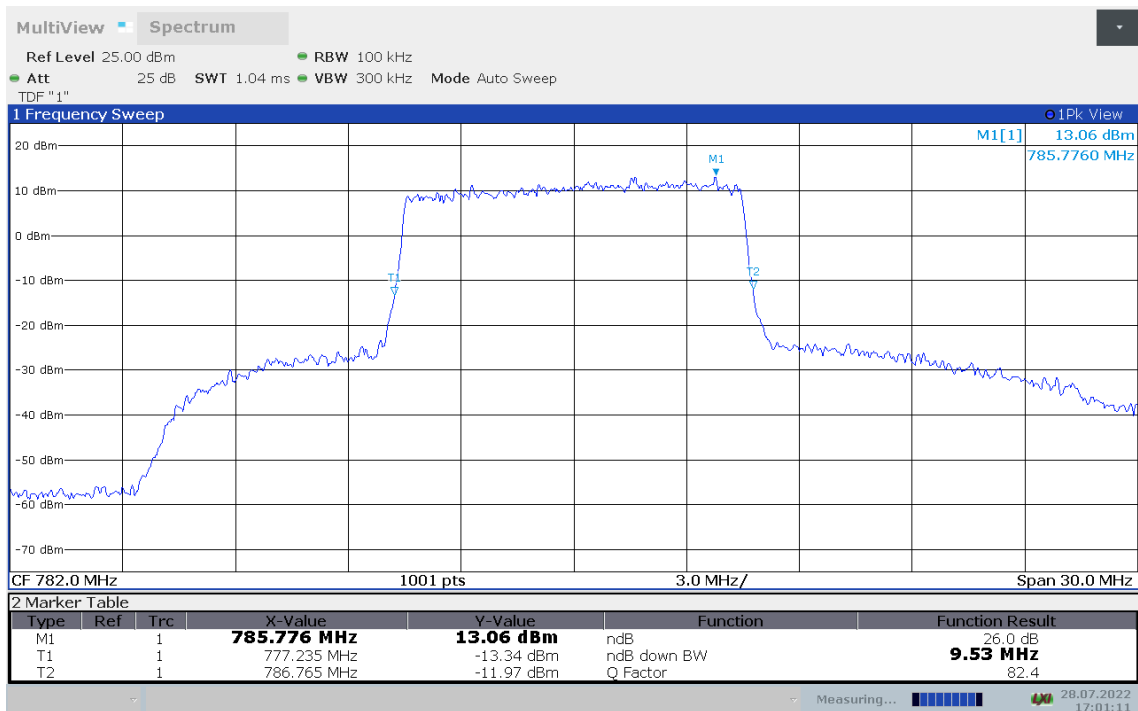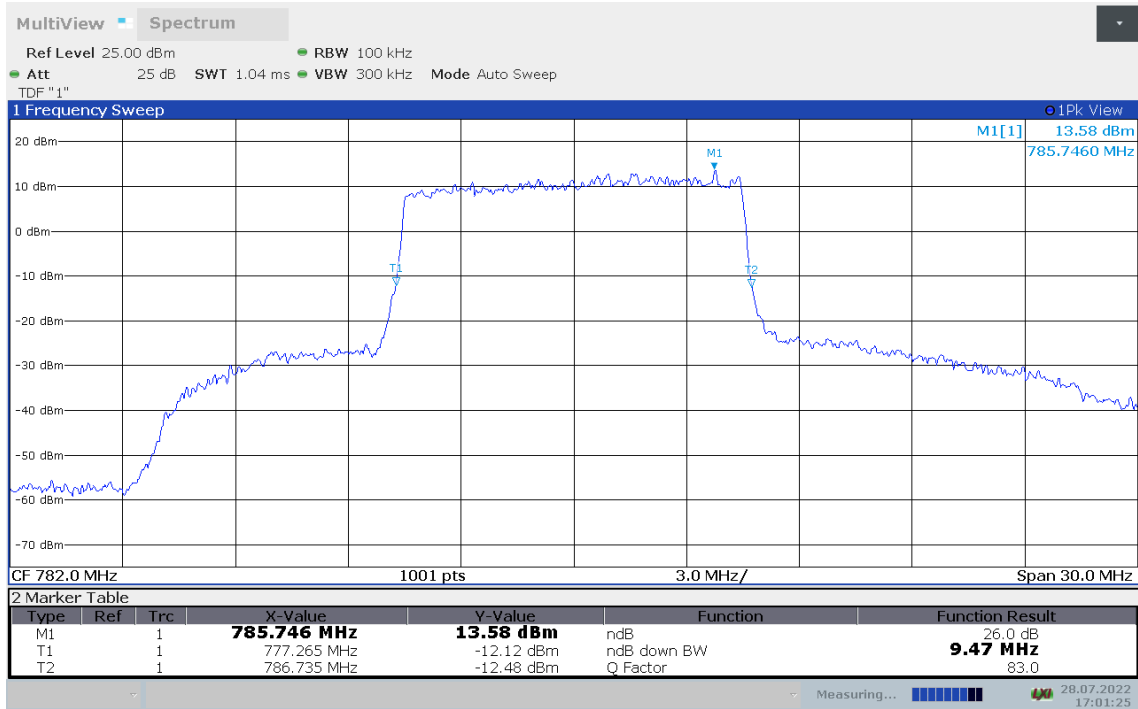**LTE band 13, 10MHz Bandwidth, 64QAM (-26dBc BW)**

LTE band 25,1.4MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
1882.5	QPSK	16QAM	64QAM
	1.27	1.27	1.27

LTE band 25,1.4MHz Bandwidth, QPSK (-26dBc BW)

LTE band 25,1.4MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 25,1.4MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**1.8820259 GHz**	**13.44 dBm**	ndB	26.0 dB
T1		1	1.8818664 GHz	-12.27 dBm	ndB down BW	**1.27 MHz**
T2		1	1.8831378 GHz	-12.57 dBm	Q Factor	1480.4

LTE band 25,3MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1882.5	2.90	2.87	2.90

LTE band 25,3MHz Bandwidth, QPSK (-26dBc BW)

LTE band 25,3MHz Bandwidth, 16QAM (-26dBc BW)
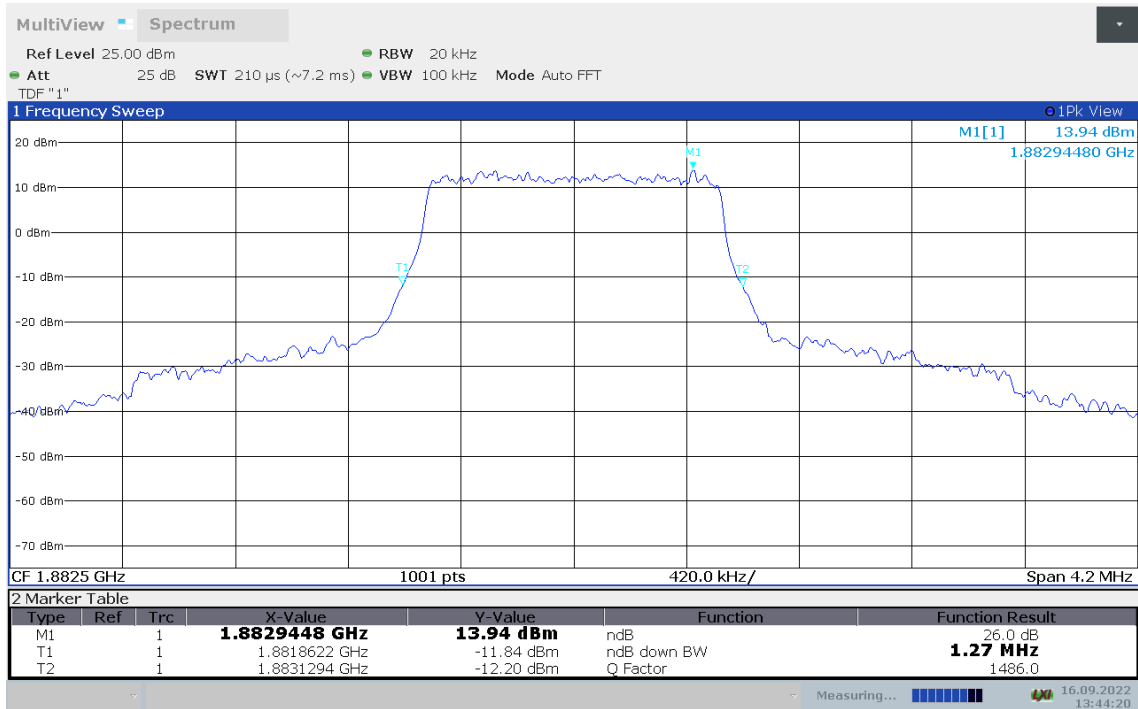
LTE band 25,3MHz Bandwidth, 64QAM (-26dBc BW)
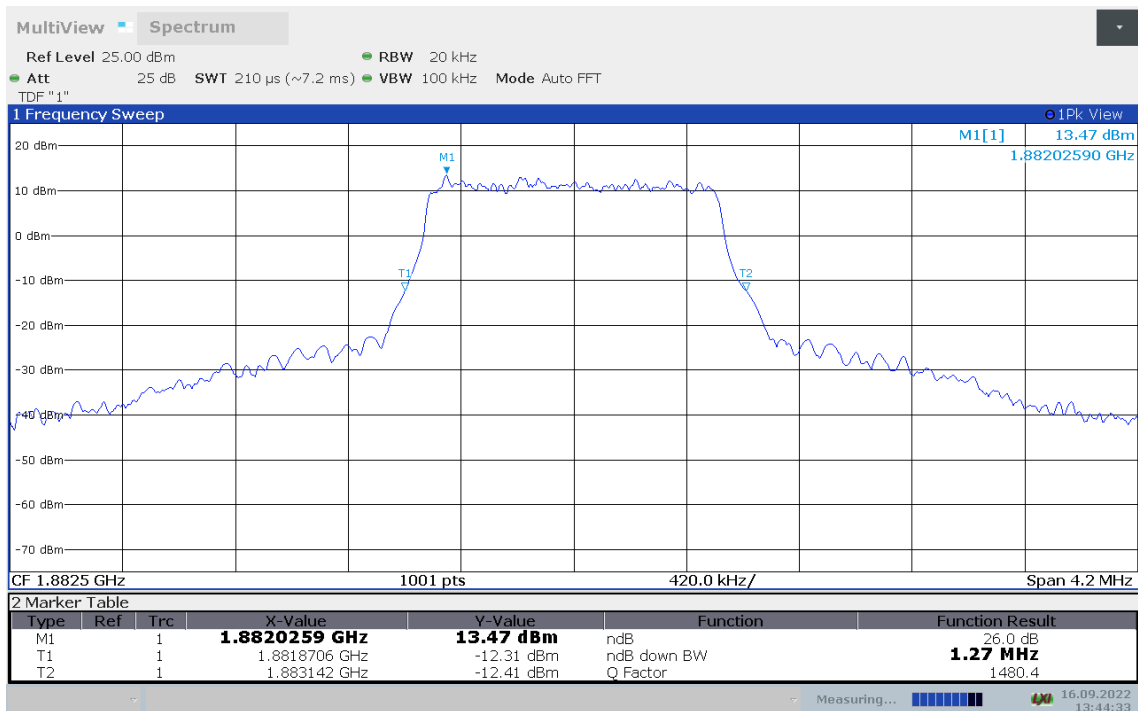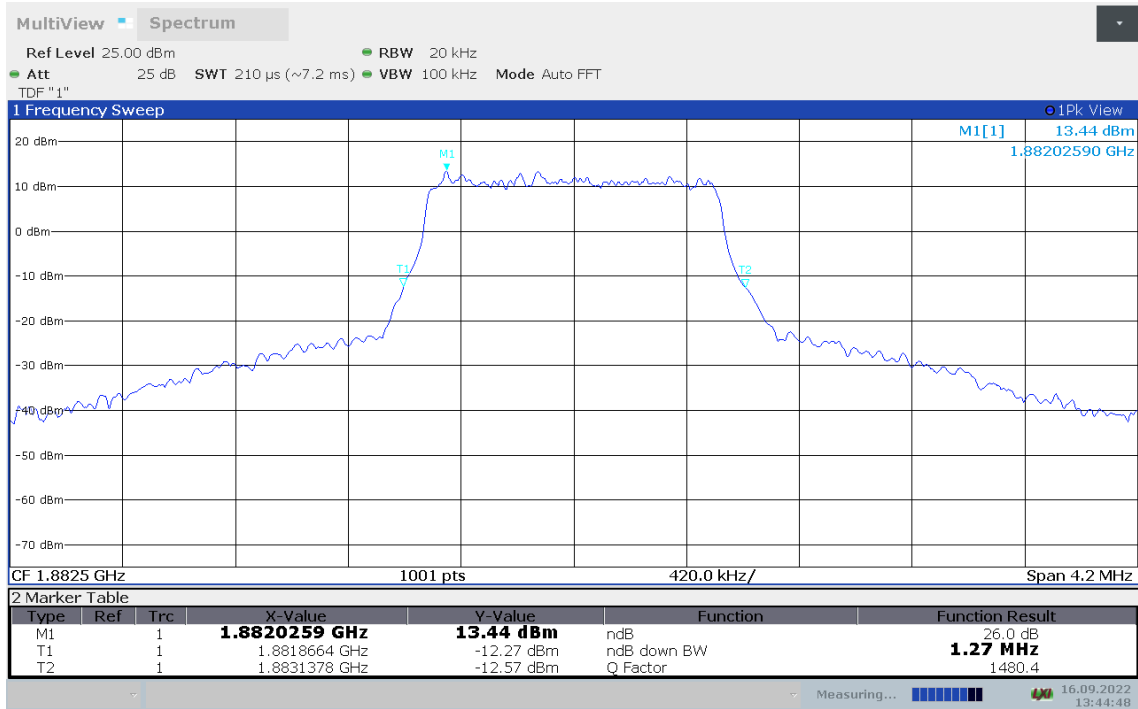
LTE band 25,5MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1882.5	4.88	4.84	4.83

LTE band 25,5MHz Bandwidth, QPSK (-26dBc BW)

LTE band 25,5MHz Bandwidth, 16QAM (-26dBc BW)
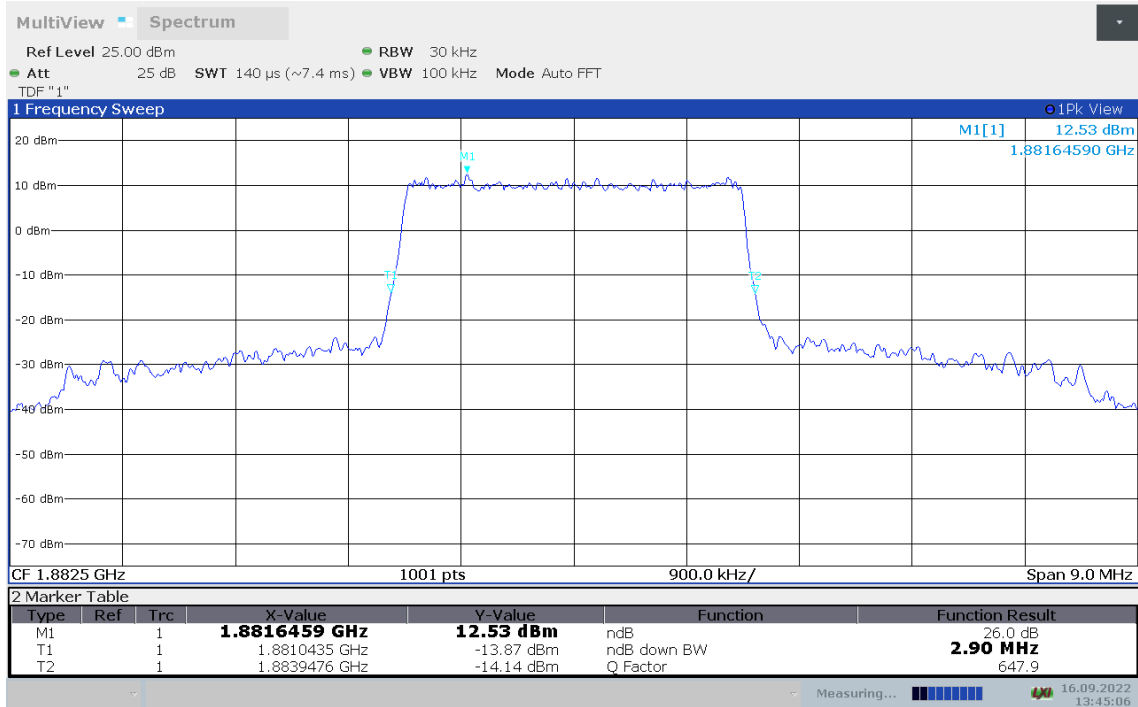
LTE band 25,5MHz Bandwidth, 64QAM (-26dBc BW)

LTE band 25,10MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1882.5	9.71	9.53	9.53

LTE band 25,10MHz Bandwidth, QPSK (-26dBc BW)

LTE band 25,10MHz Bandwidth, 16QAM (-26dBc BW)
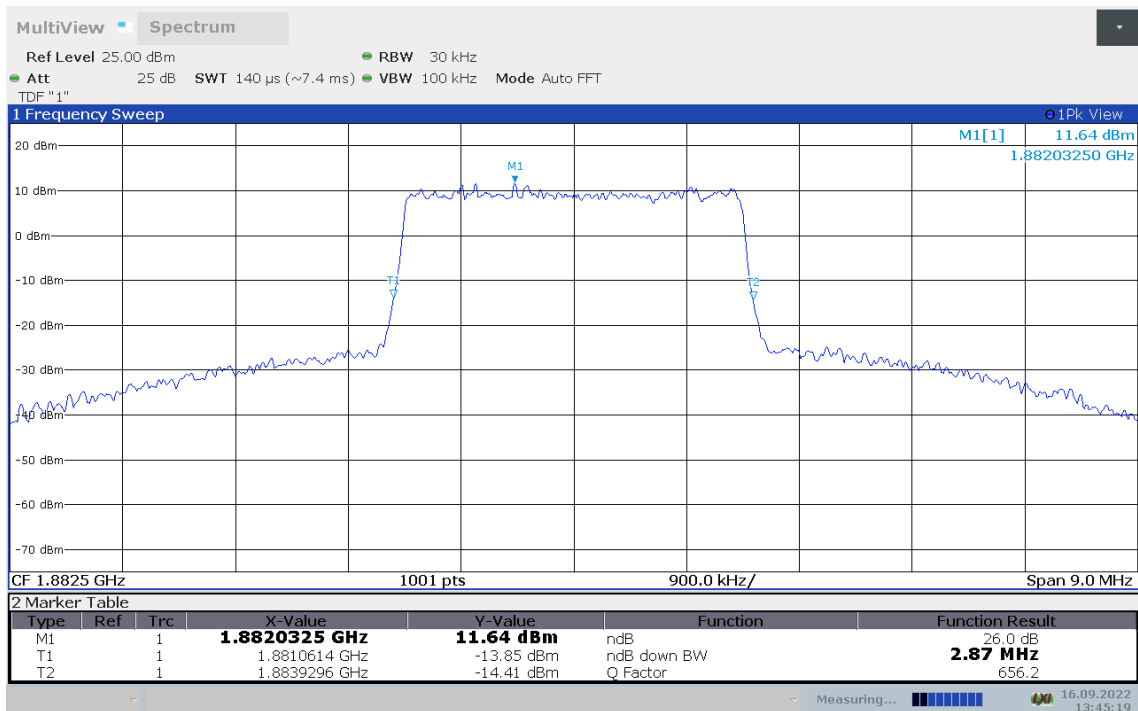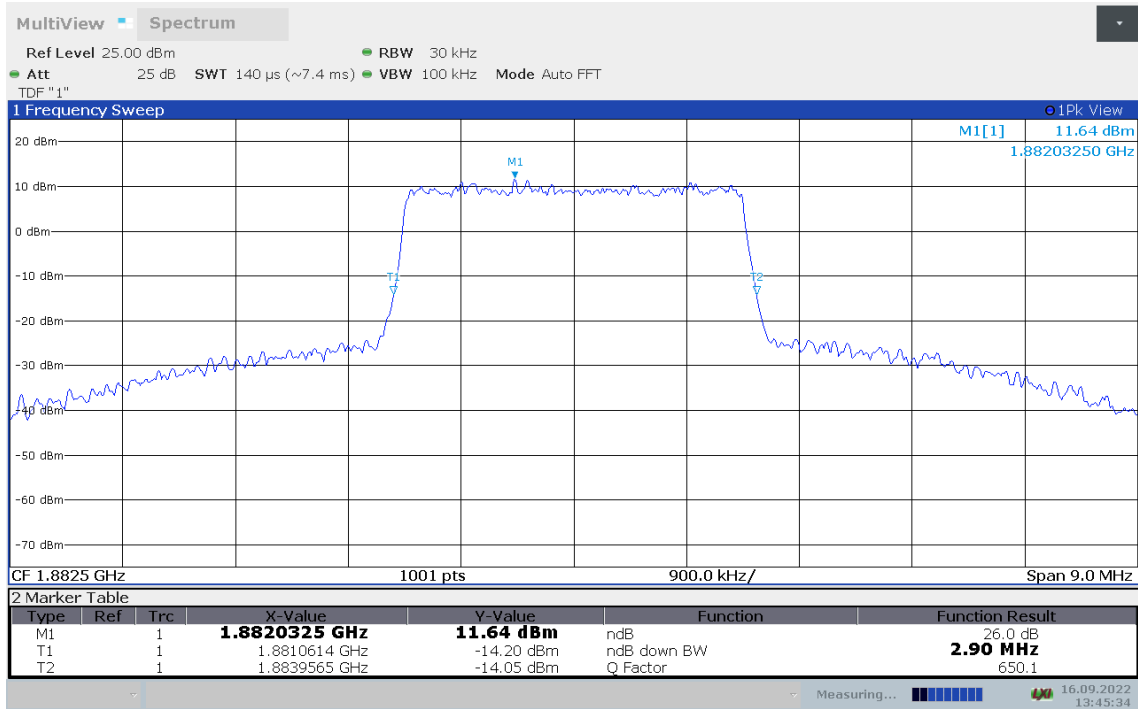
LTE band 25,10MHz Bandwidth, 64QAM (-26dBc BW)
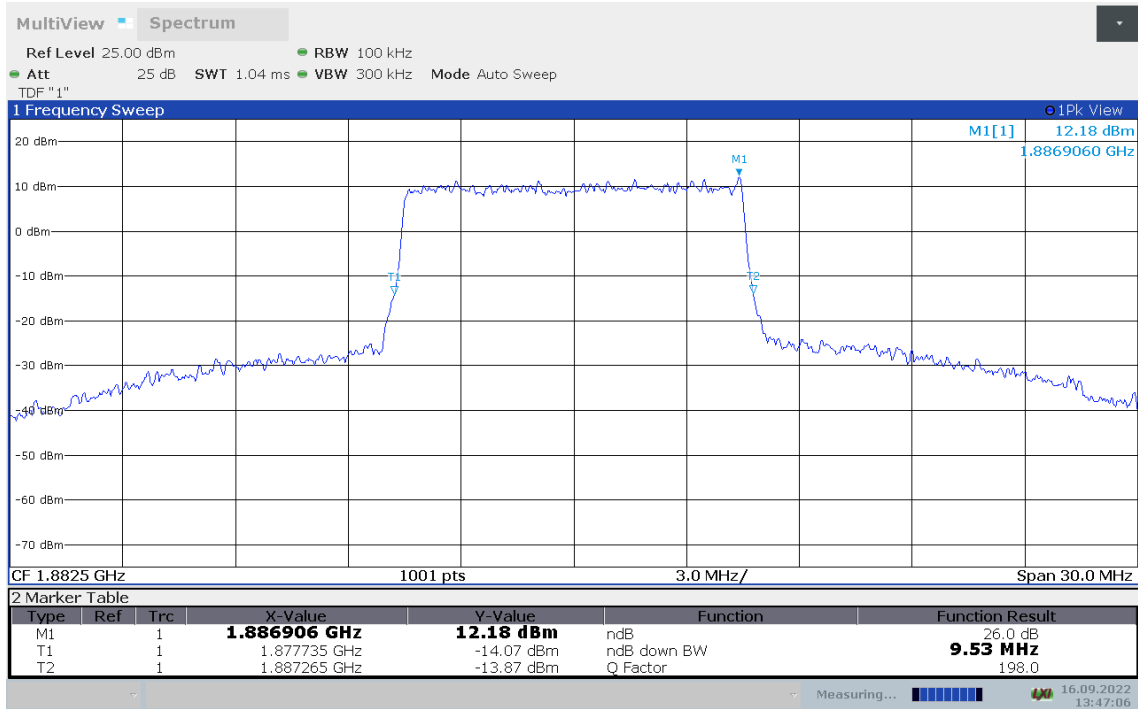
LTE band 25,15MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1882.5	14.61	14.48	14.52

LTE band 25,15MHz Bandwidth, QPSK (-26dBc BW)
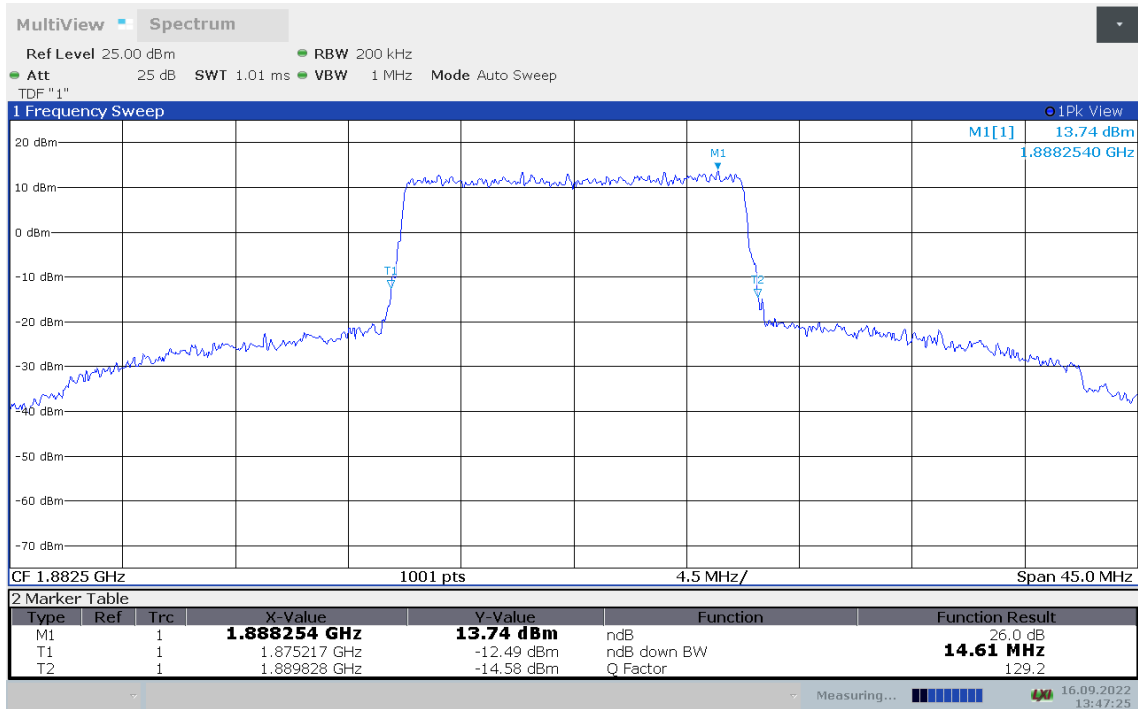
LTE band 25,15MHz Bandwidth, 16QAM (-26dBc BW)
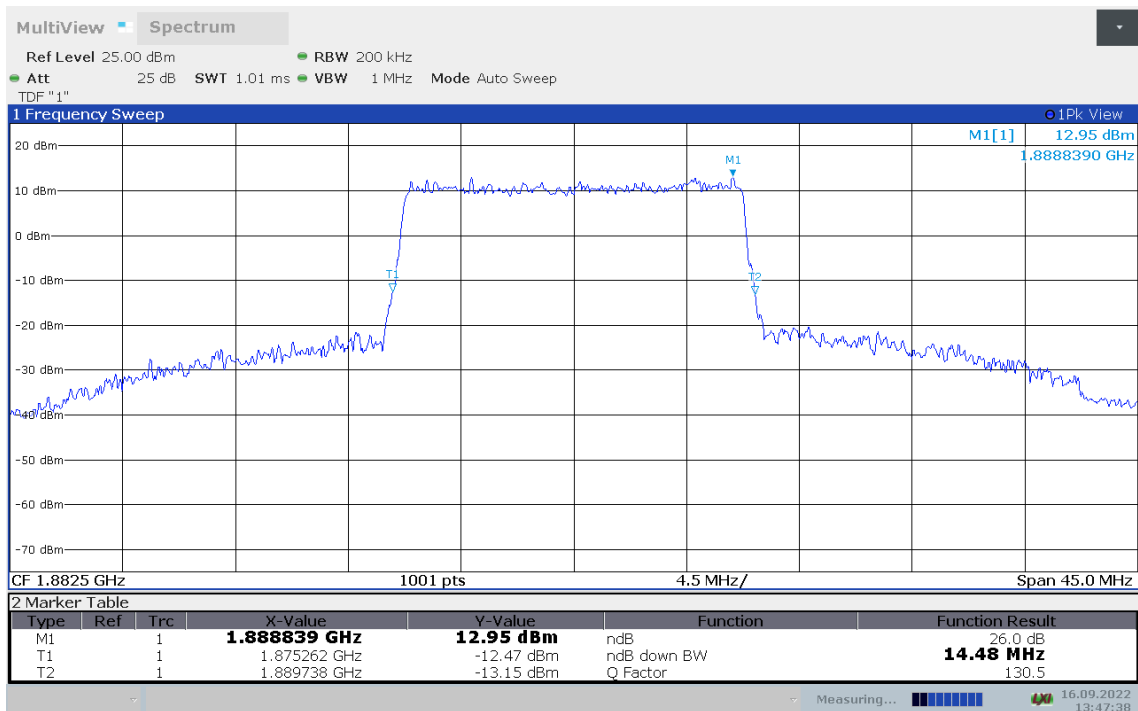
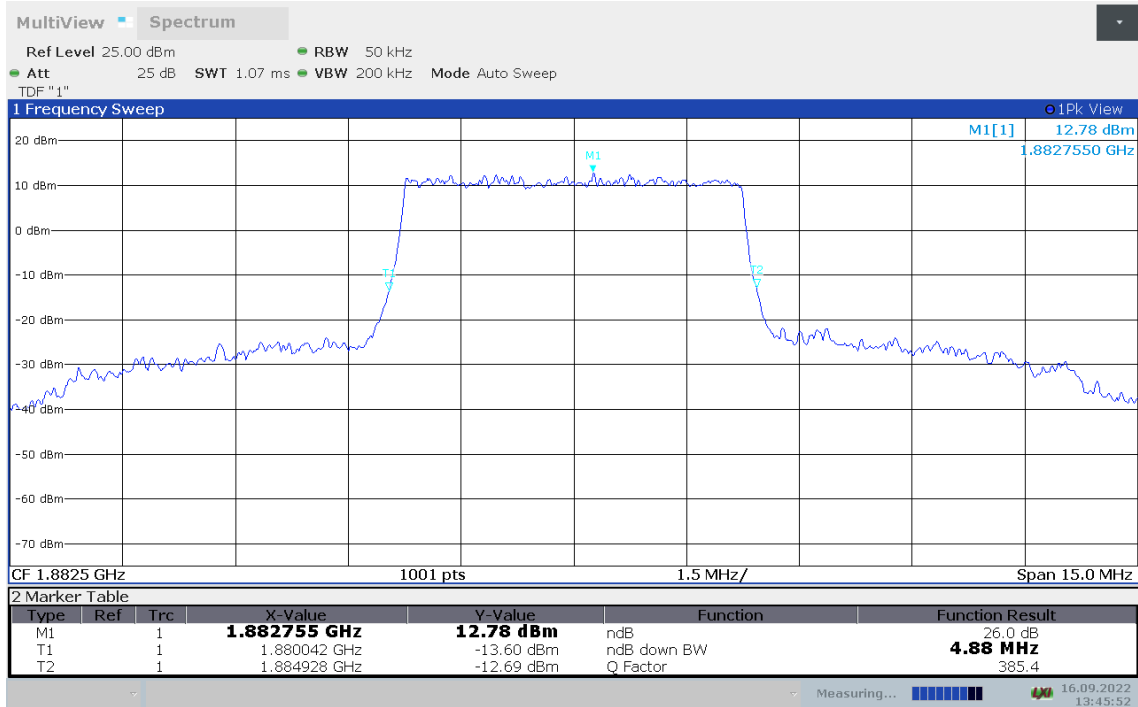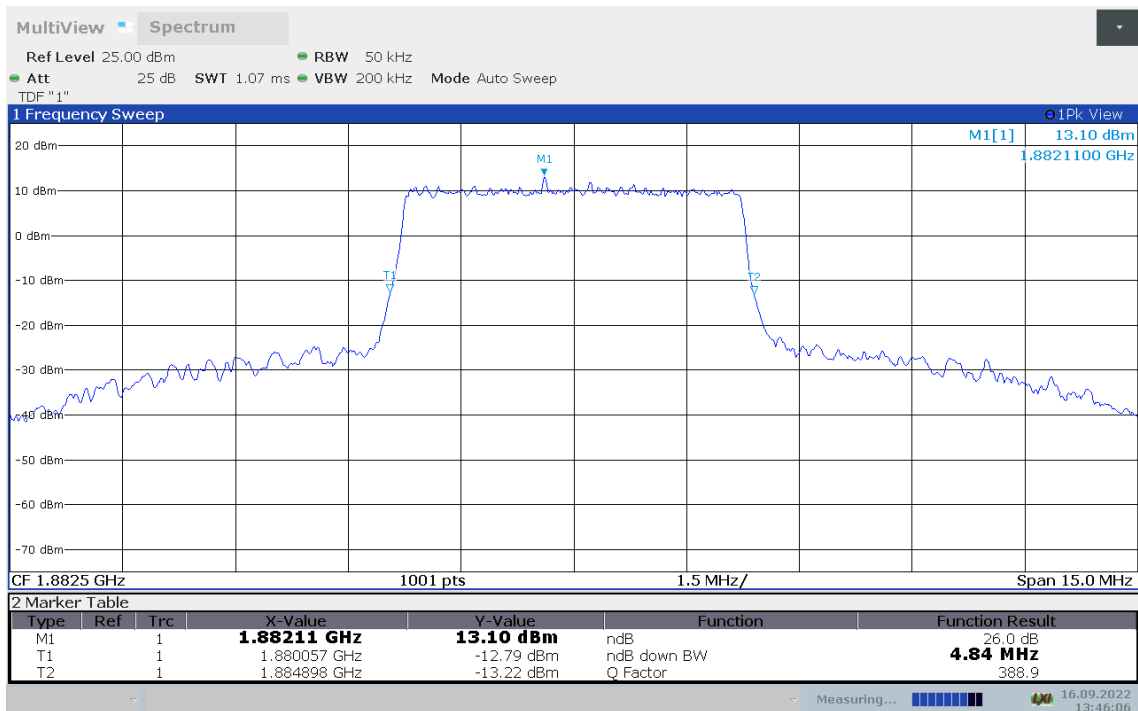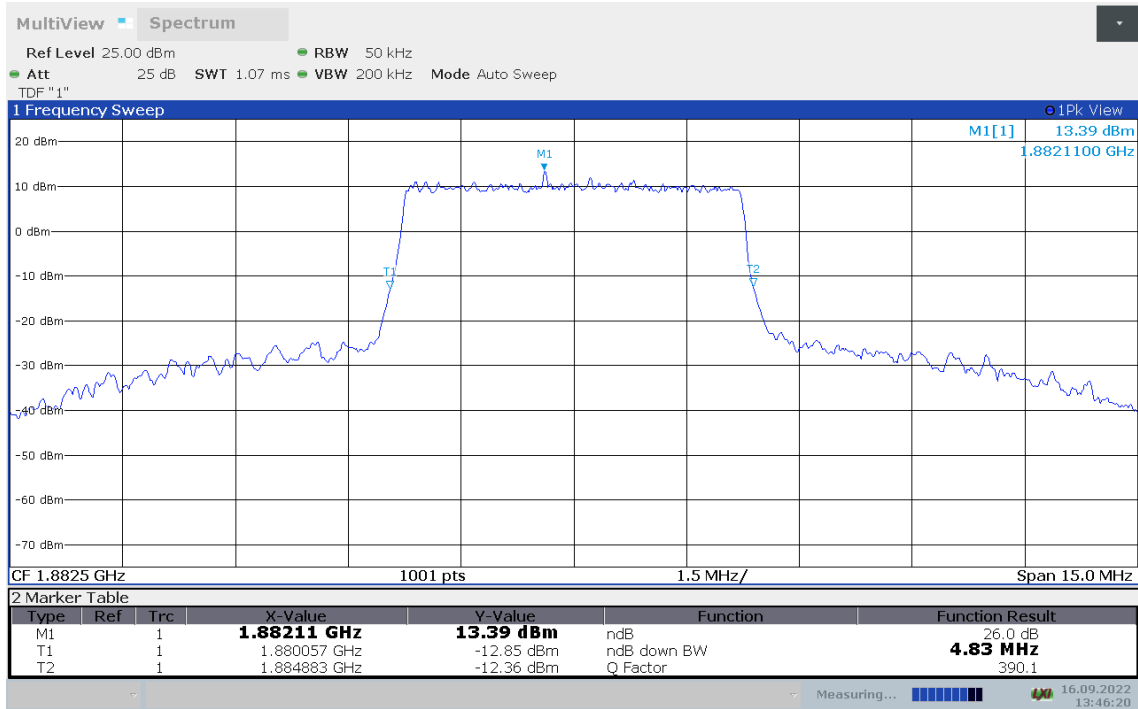## LTE band 25,15MHz Bandwidth, 64QAM (-26dBc BW)
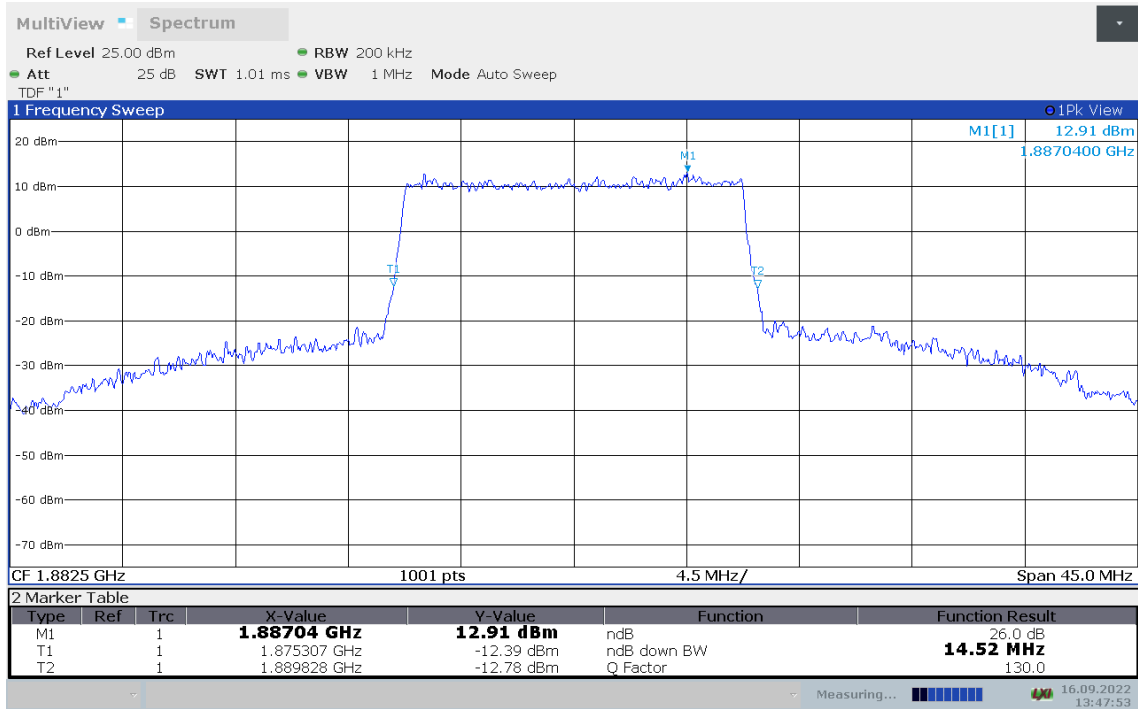
LTE band 25,20MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1882.5	19.12	19.00	19.12

LTE band 25,20MHz Bandwidth, QPSK (-26dBc BW)
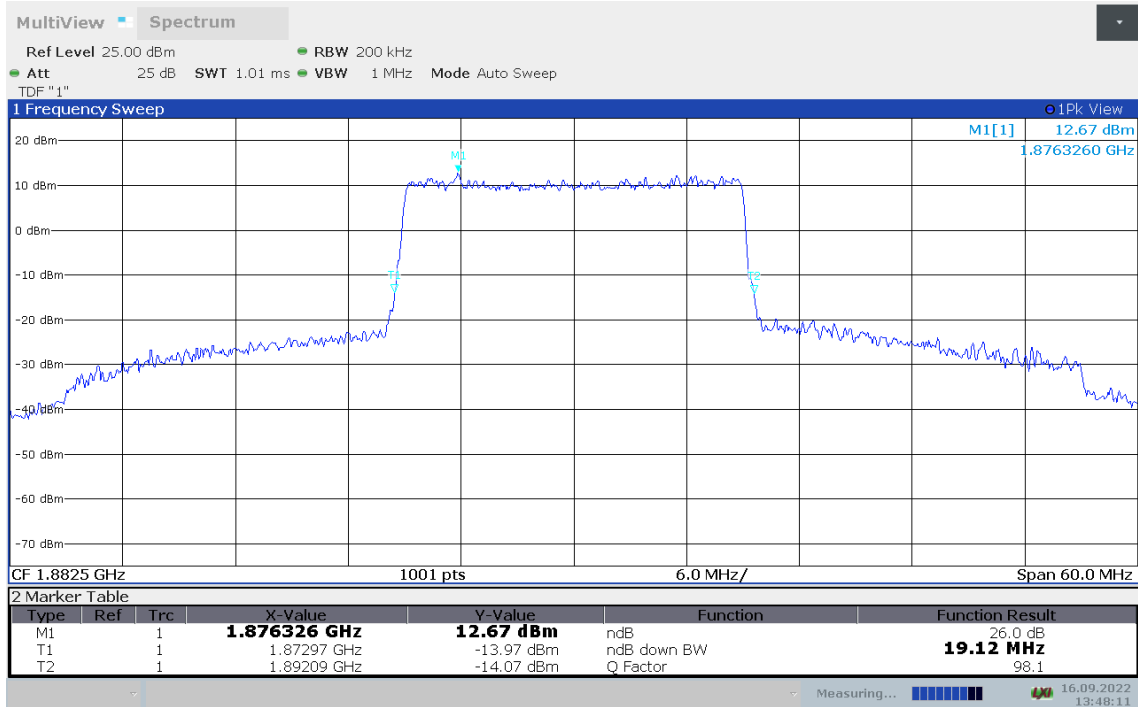
LTE band 25,20MHz Bandwidth, 16QAM (-26dBc BW)

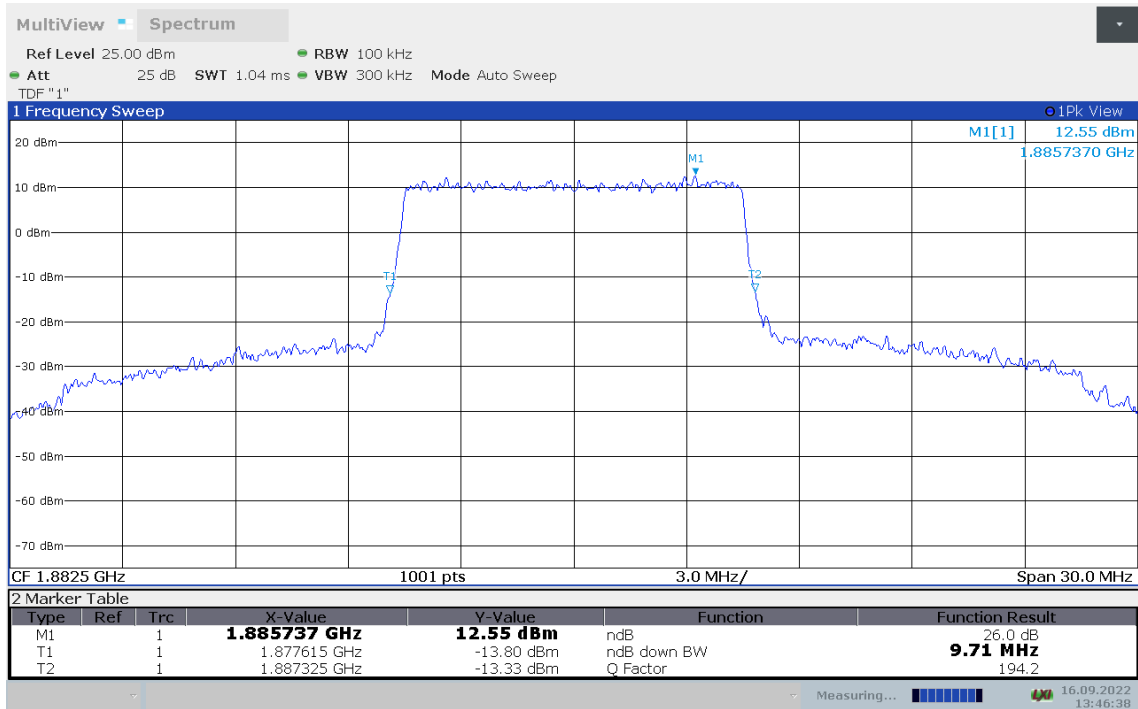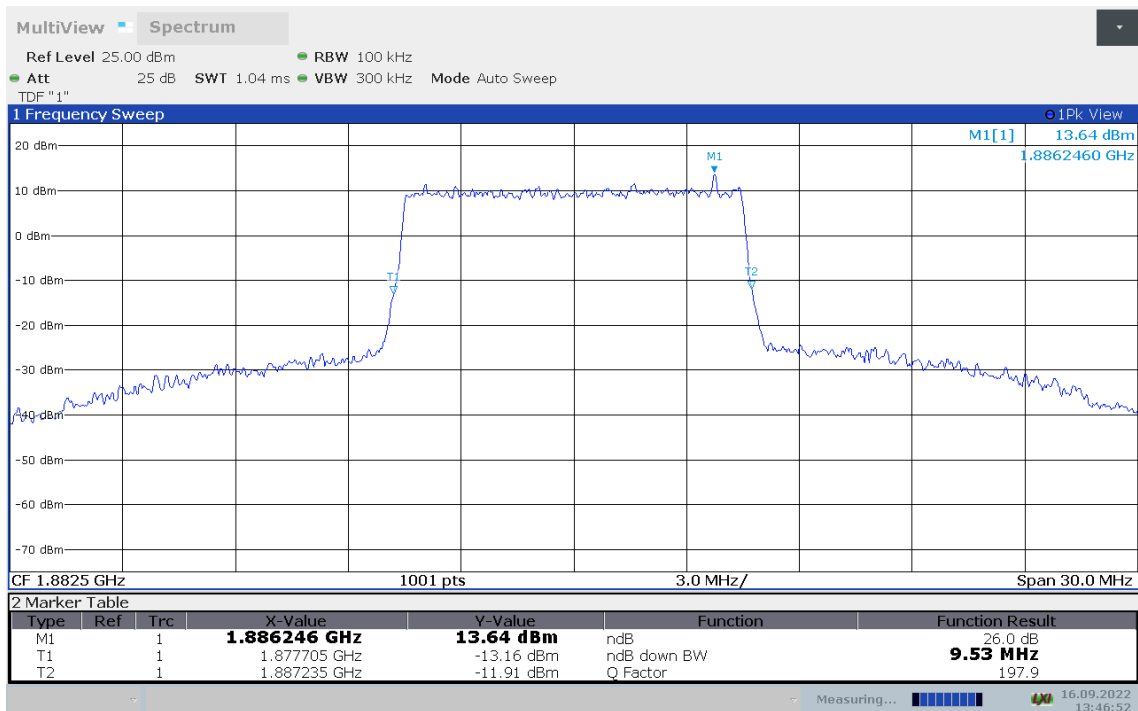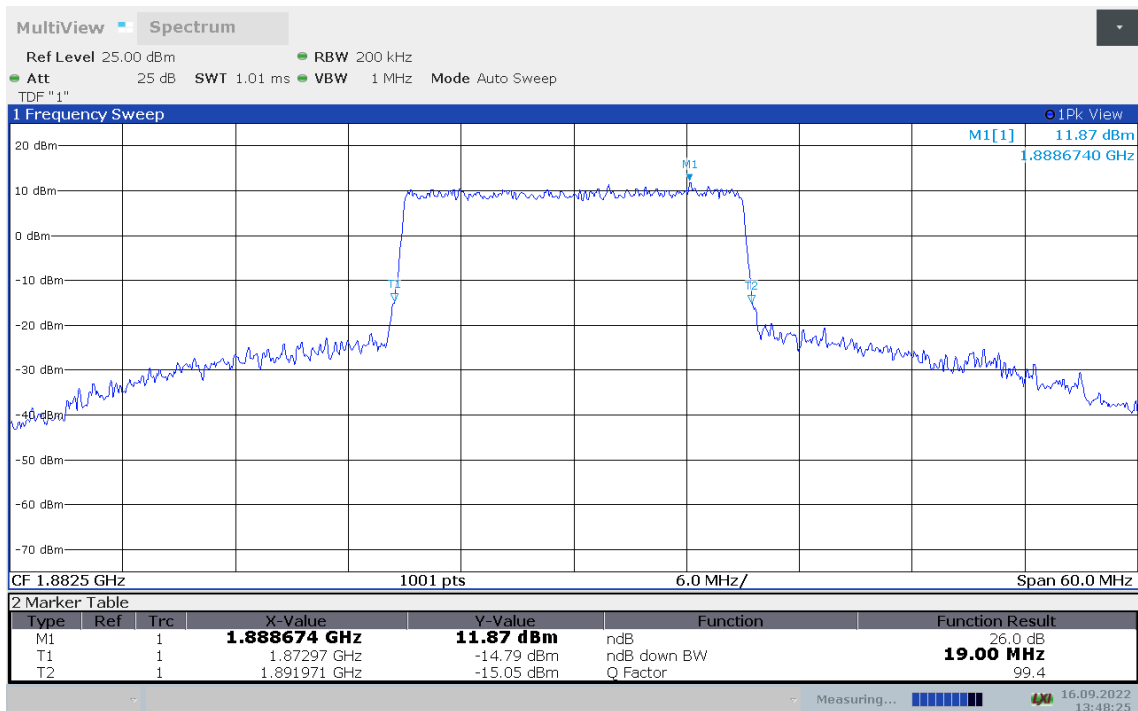## LTE band 25,20MHz Bandwidth, 64QAM (-26dBc BW)
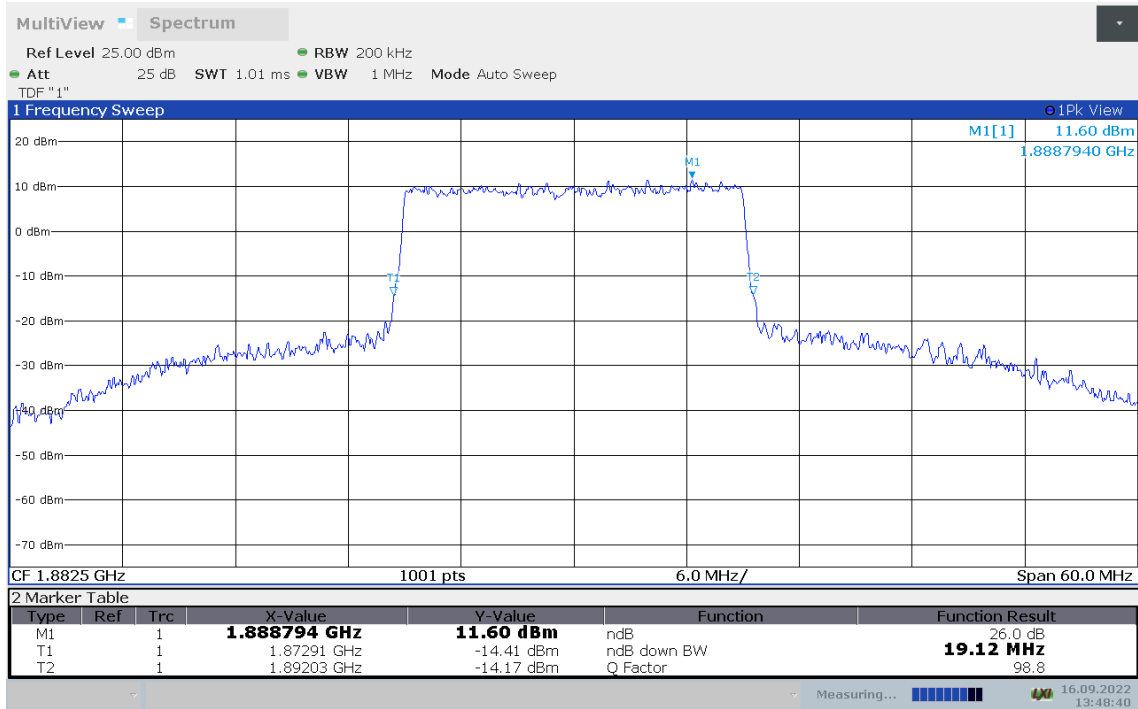
LTE band 26(814MHz-824MHz), 1.4MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
819.0	1.26	1.28	1.28

LTE band 26(814MHz-824MHz), 1.4MHz Bandwidth, QPSK (-26dBc BW)
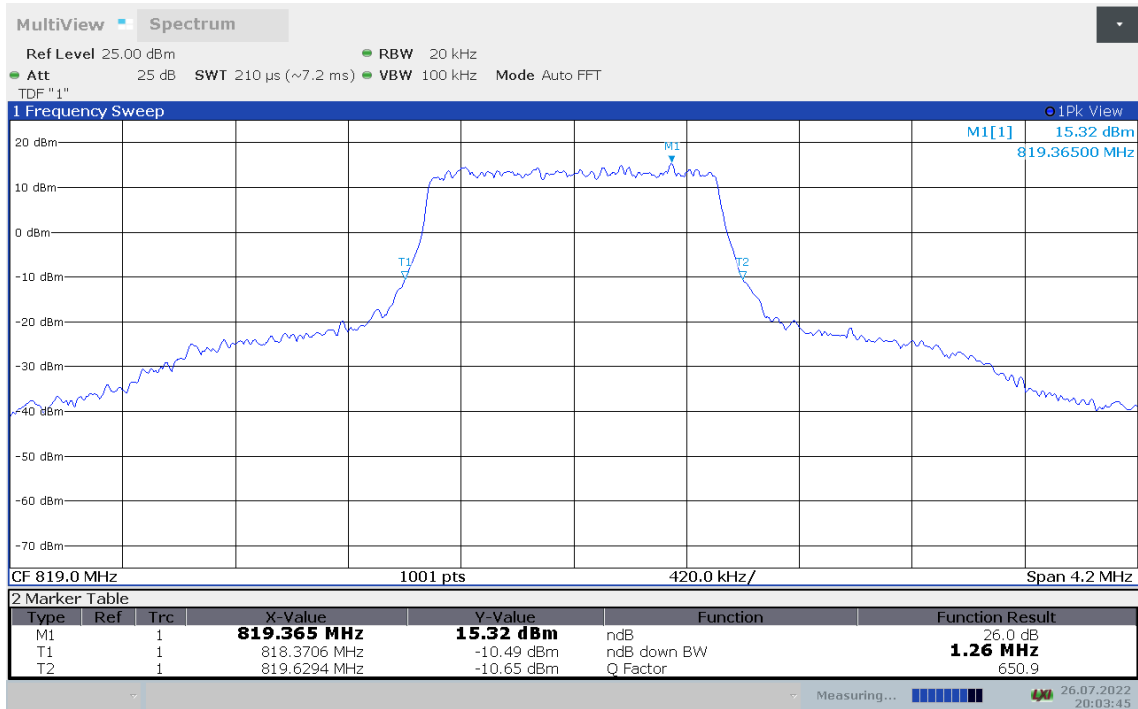
LTE band 26(814MHz-824MHz), 1.4MHz Bandwidth, 16QAM (-26dBc BW)
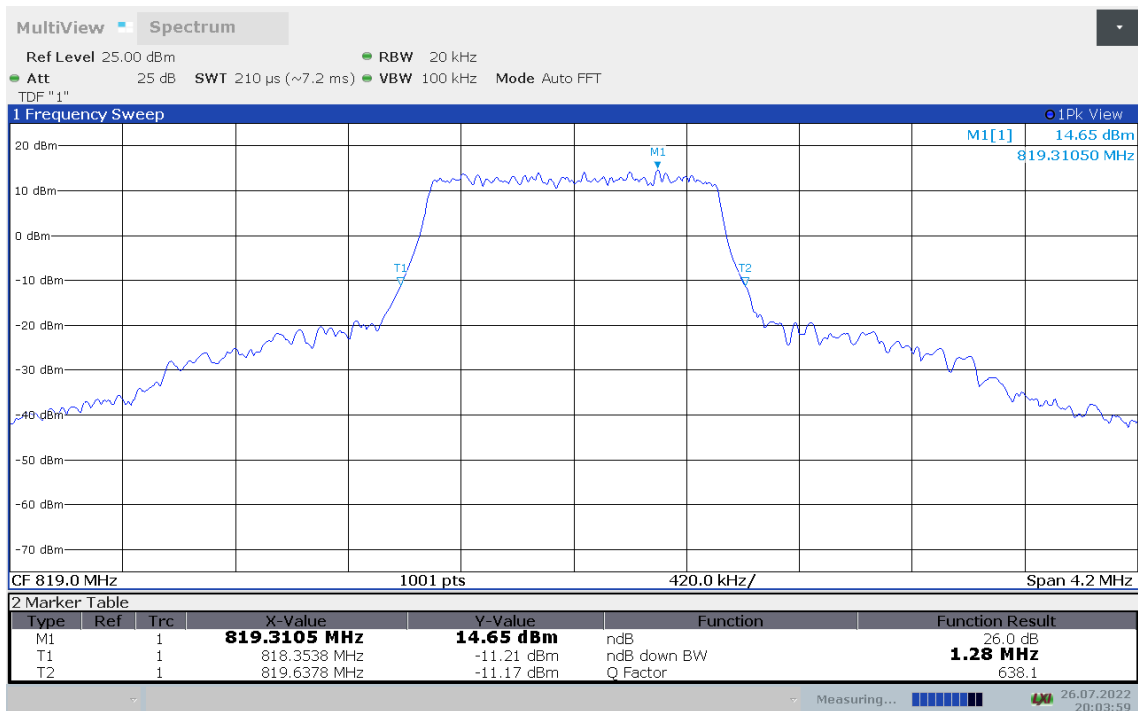
LTE band 26(814MHz-824MHz), 1.4MHz Bandwidth, 64QAM (-26dBc BW)

LTE band 26(814MHz-824MHz), 3MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
819.0	2.88	2.90	2.89

LTE band 26(814MHz-824MHz), 3MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(814MHz-824MHz), 3MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 26(814MHz-824MHz), 3MHz Bandwidth, 64QAM (-26dBc BW)

MultiView   Spectrum

Ref Level 25.00 dBm   ● RBW 30 kHz
● Att   25 dB   SWT 140 μs (~7.4 ms) ● VBW 100 kHz   Mode Auto FFT
TDF "1"

1 Frequency Sweep   ●1Pk View

M1[1]   13.11 dBm
819.46750 MHz

CF 819.0 MHz   1001 pts   900.0 kHz/   Span 9.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		**819.4675 MHz**	**13.11 dBm**	ndB	26.0 dB
T1		1	817.5524 MHz	-12.47 dBm	ndB down BW	**2.89 MHz**
T2		1	820.4386 MHz	-12.50 dBm	Q Factor	283.9

Measuring...   26.07.2022   20:05:37

LTE band 26(814MHz-824MHz), 5MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
819.0	QPSK	16QAM	64QAM
	4.90	4.84	4.86

LTE band 26(814MHz-824MHz), 5MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(814MHz-824MHz), 5MHz Bandwidth,16QAM (-26dBc BW)

LTE band 26(814MHz-824MHz), 5MHz Bandwidth,64QAM (-26dBc BW)

LTE band 26(814MHz-824MHz), 10MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
819.0	QPSK	16QAM	64QAM
	9.62	9.65	9.59

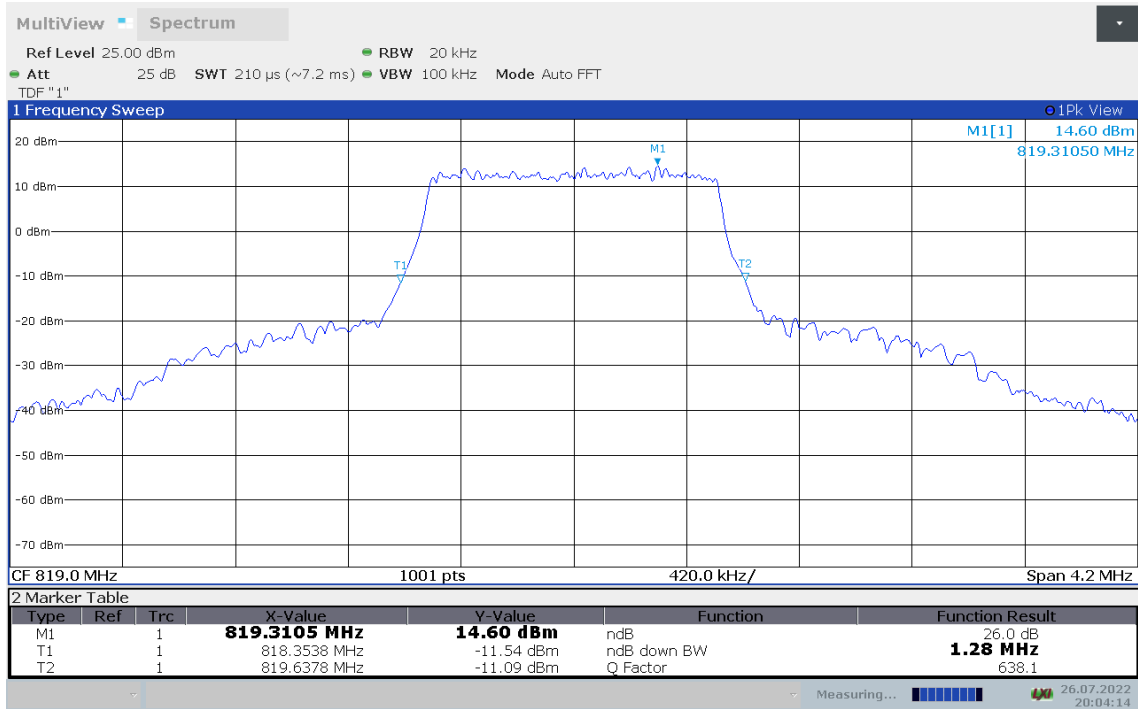### LTE band 26(814MHz-824MHz), 10MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(814MHz-824MHz), 10MHz Bandwidth, 16QAM (-26dBc BW)

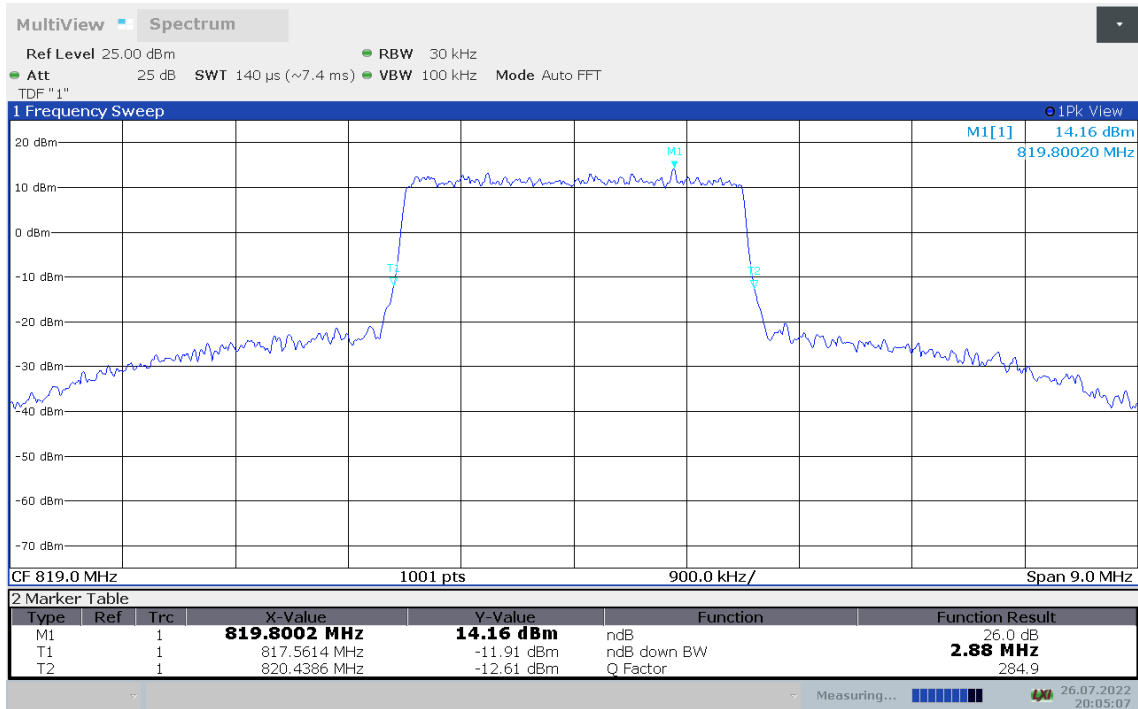## LTE band 26(814MHz-824MHz), 10MHz Bandwidth, 64QAM (-26dBc BW)

LTE band 26(824MHz-849MHz), 1.4MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
836.5	1.27	1.25	1.25

LTE band 26(824MHz-849MHz), 1.4MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(824MHz-849MHz), 1.4MHz Bandwidth, 16QAM (-26dBc BW)

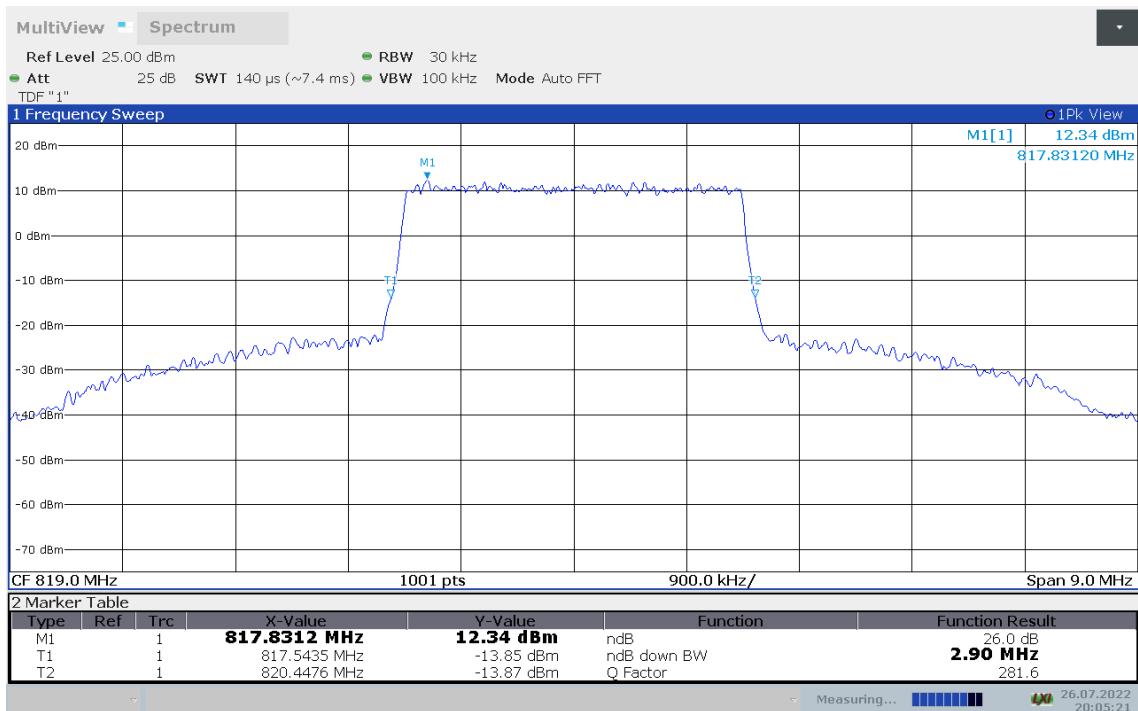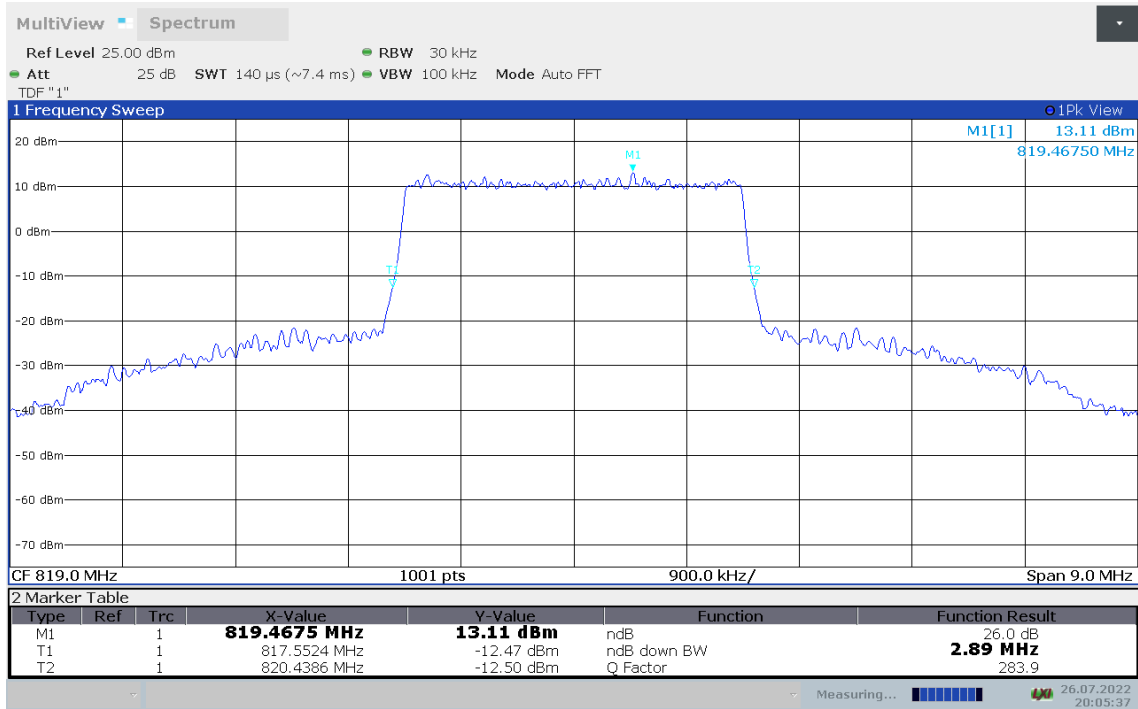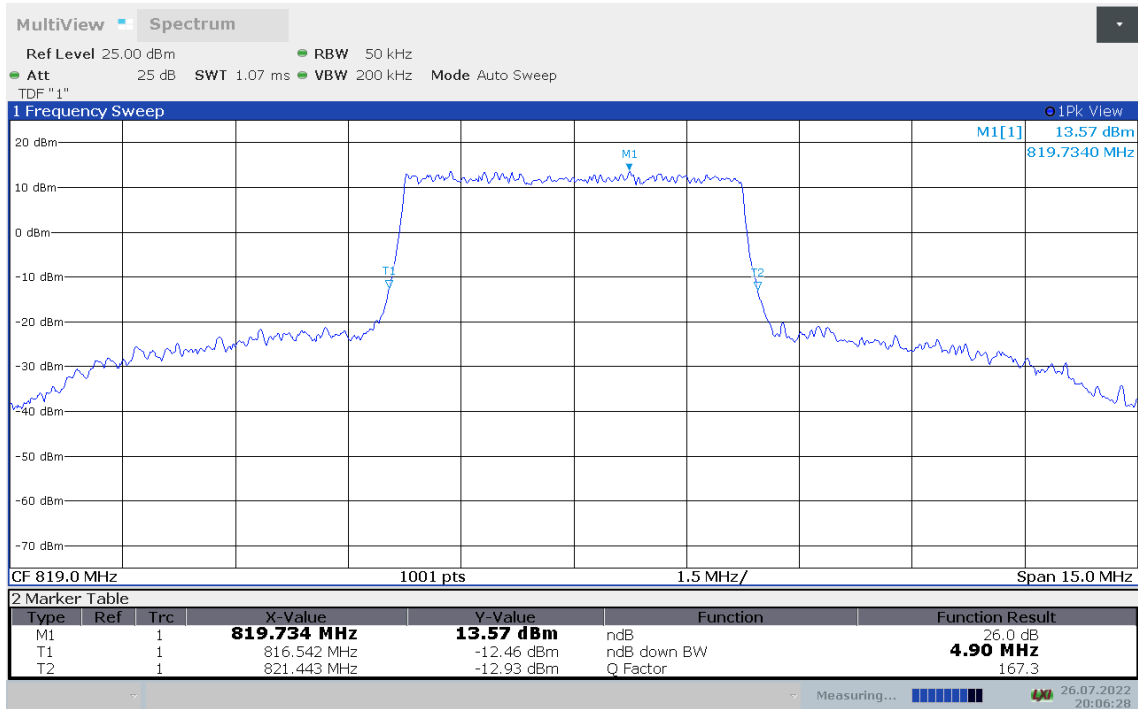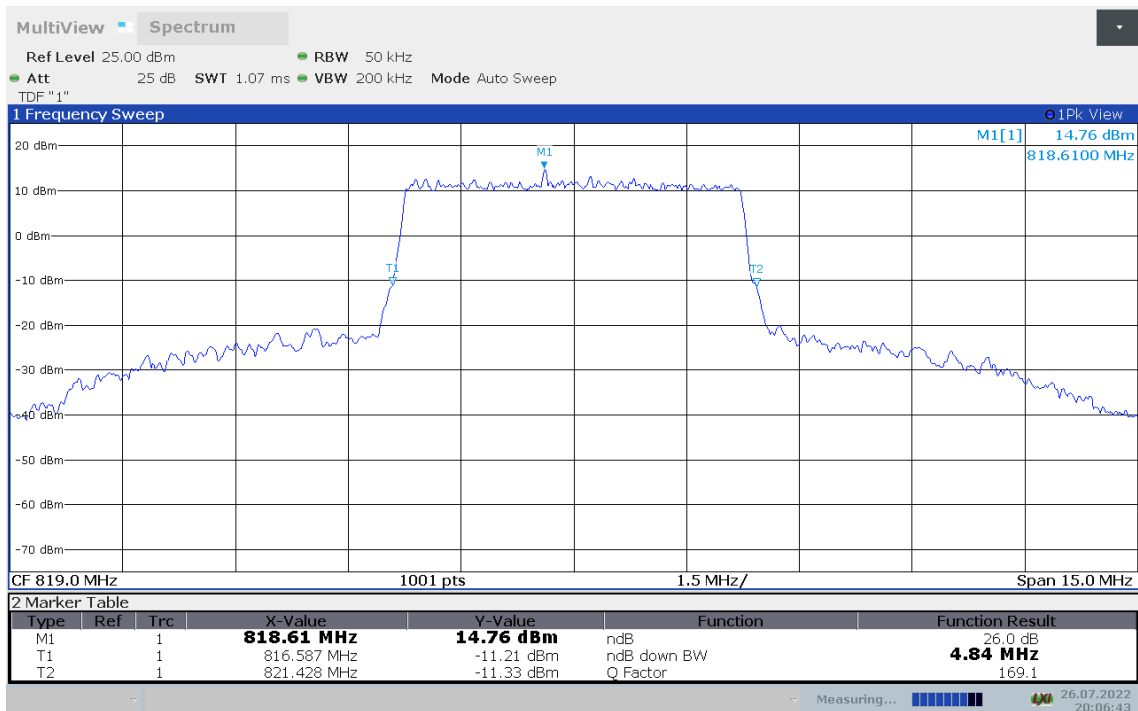## LTE band 26(824MHz-849MHz), 1.4MHz Bandwidth, 64QAM (-26dBc BW)

MultiView	Spectrum		▾

Ref Level 25.00 dBm ● RBW 20 kHz
● Att 25 dB SWT 210 µs (~7.2 ms) ● VBW 100 kHz Mode Auto FFT
TDF "1"

1 Frequency Sweep ○1Pk View

M1[1] 14.01 dBm
836.14760 MHz

CF 836.5 MHz   1001 pts   420.0 kHz/   Span 4.2 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**836.1476 MHz**	**14.01 dBm**	ndB	26.0 dB
T1		1	835.8706 MHz	-12.22 dBm	ndB down BW	**1.25 MHz**
T2		1	837.1252 MHz	-12.18 dBm	Q Factor	666.5

Measuring... 26.07.2022 19:57:22

LTE band 26(824MHz-849MHz), 3MHz (-26dBc BW)

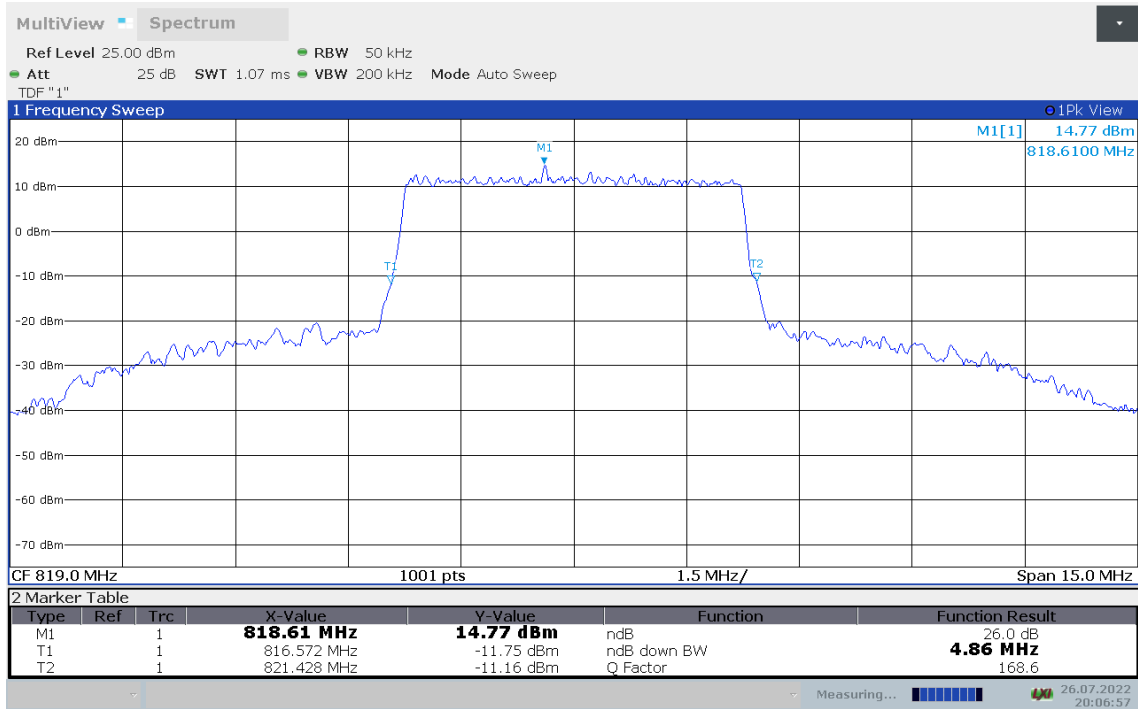| Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
836.5	QPSK	16QAM	64QAM
	2.89	2.90	2.90

LTE band 26(824MHz-849MHz), 3MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(824MHz-849MHz), 3MHz Bandwidth, 16QAM (-26dBc BW)

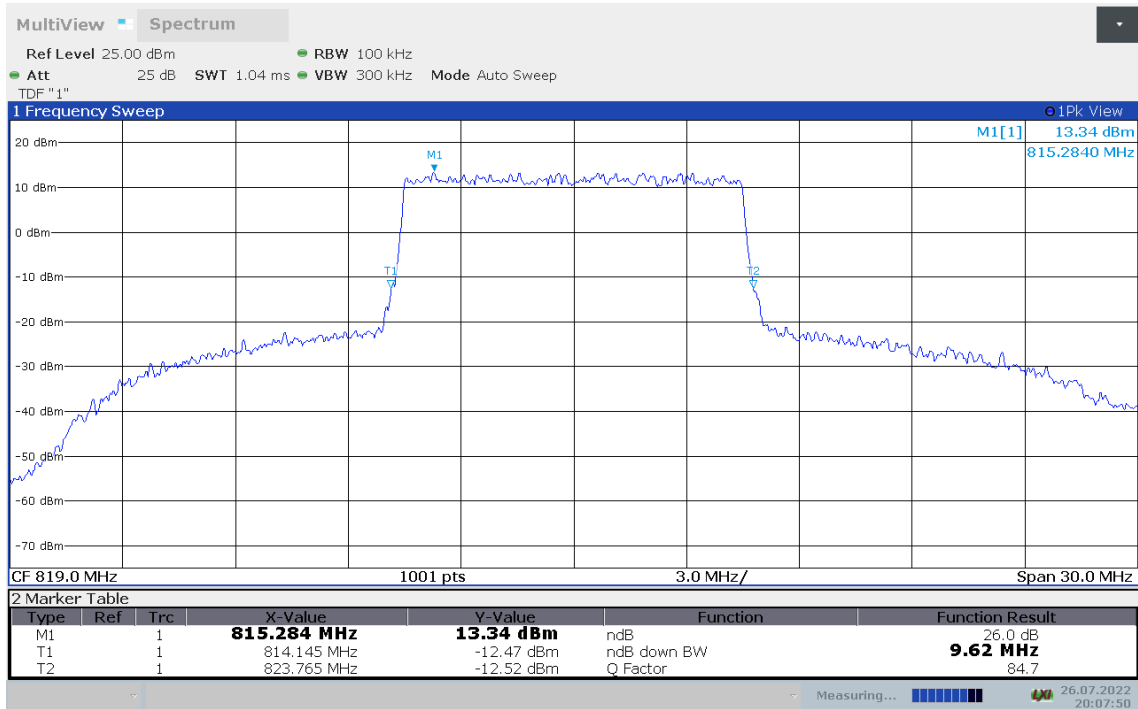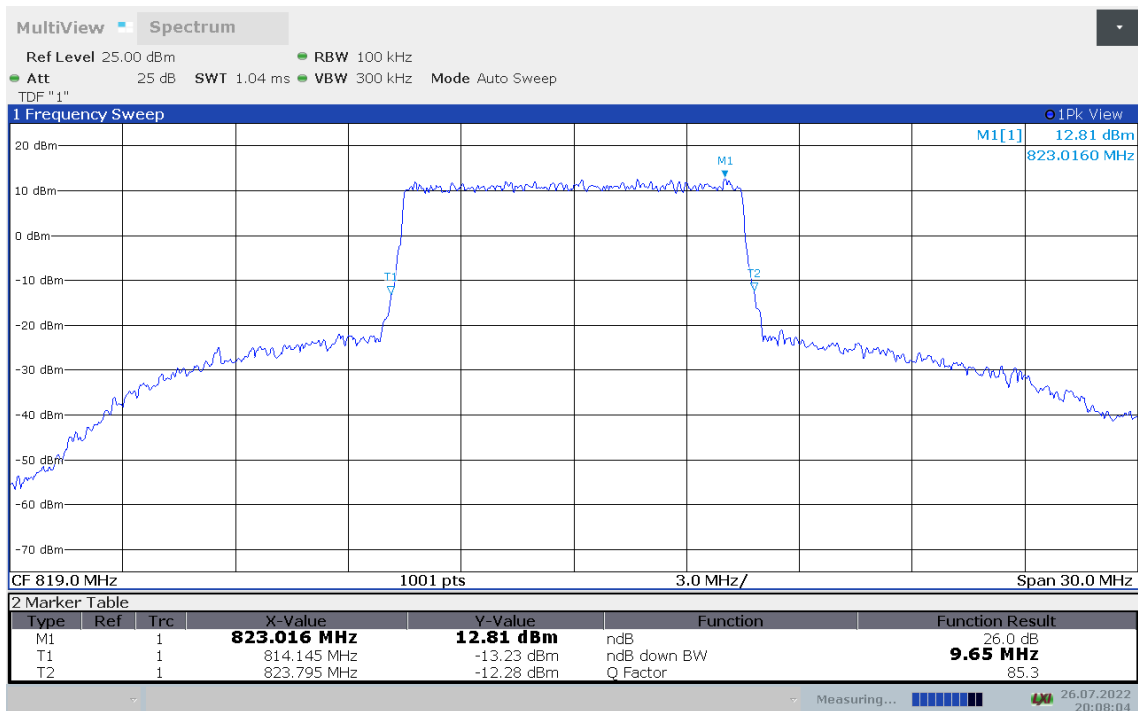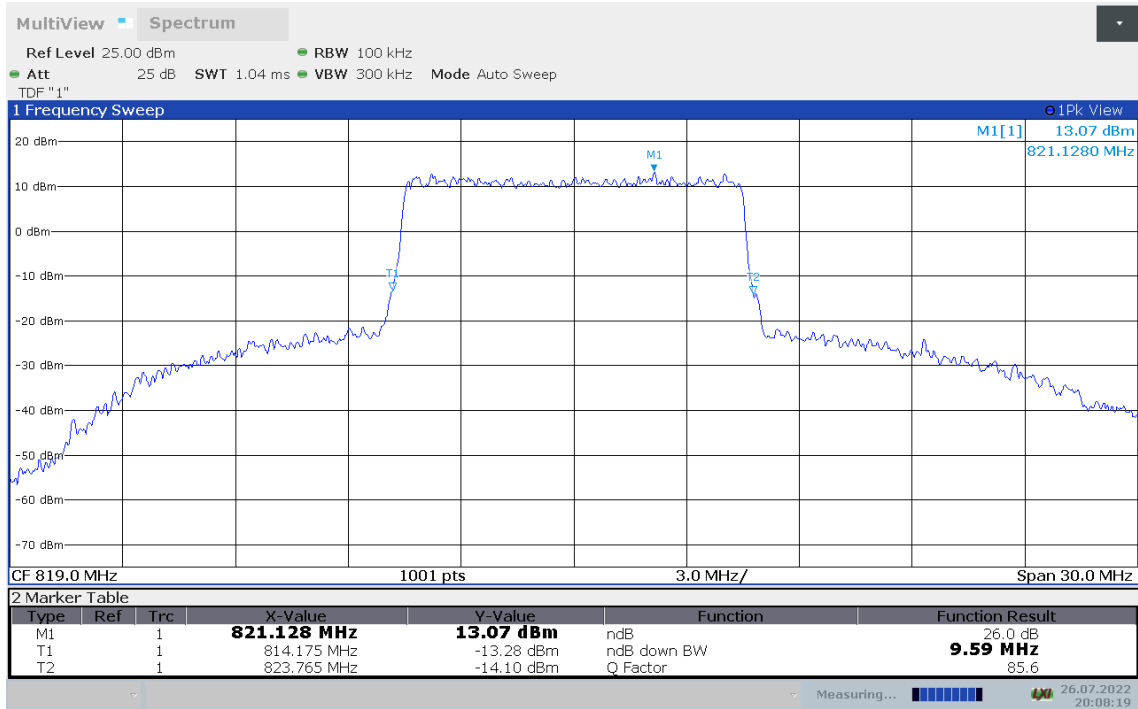## LTE band 26(824MHz-849MHz), 3MHz Bandwidth, 64QAM (-26dBc BW)

MultiView	Spectrum				
Ref Level 25.00 dBm			RBW 30 kHz		
Att 25 dB	SWT 140 µs (~7.4 ms)	VBW 100 kHz	Mode Auto FFT		

TDF "1"

1 Frequency Sweep ○1Pk View

M1[1] 12.68 dBm
836.97650 MHz

CF 836.5 MHz   1001 pts   900.0 kHz/   Span 9.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**836.9765 MHz**	**12.68 dBm**	ndB	26.0 dB
T1		1	835.0435 MHz	-13.81 dBm	ndB down BW	**2.90 MHz**
T2		1	837.9386 MHz	-13.31 dBm	Q Factor	289.1

Measuring... 26.07.2022 19:58:44

LTE band 26(824MHz-849MHz), 5MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
836.5	QPSK	16QAM	64QAM
	4.88	4.87	4.86

LTE band 26(824MHz-849MHz), 5MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(824MHz-849MHz), 5MHz Bandwidth,16QAM (-26dBc BW)

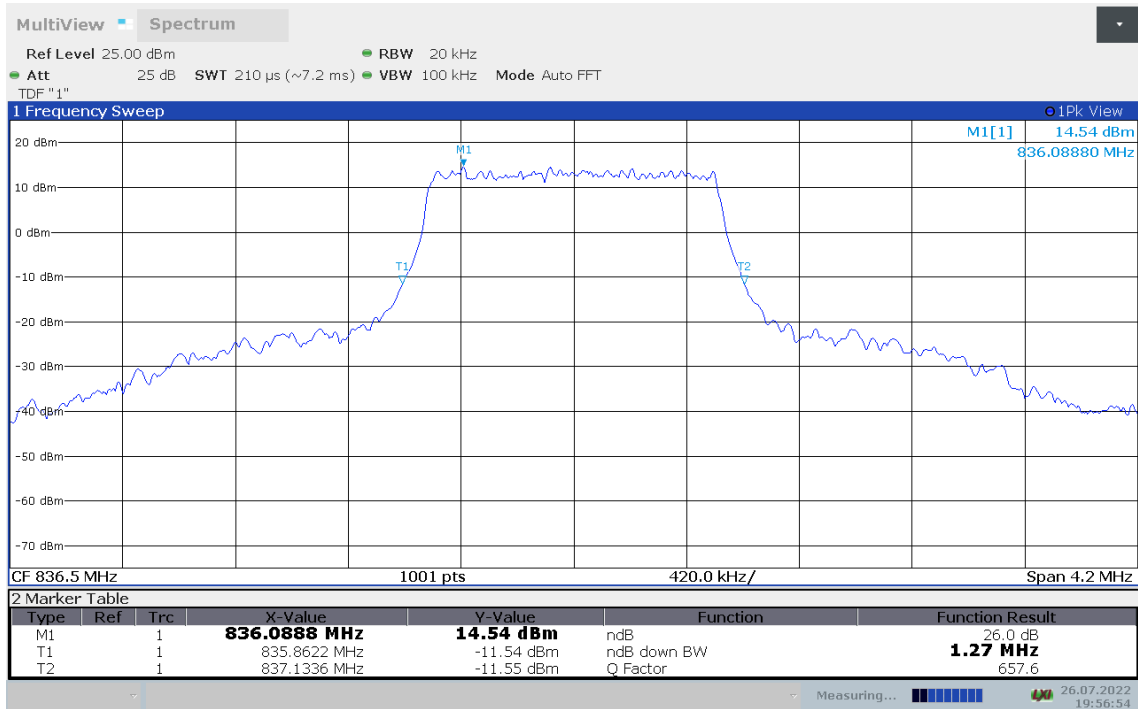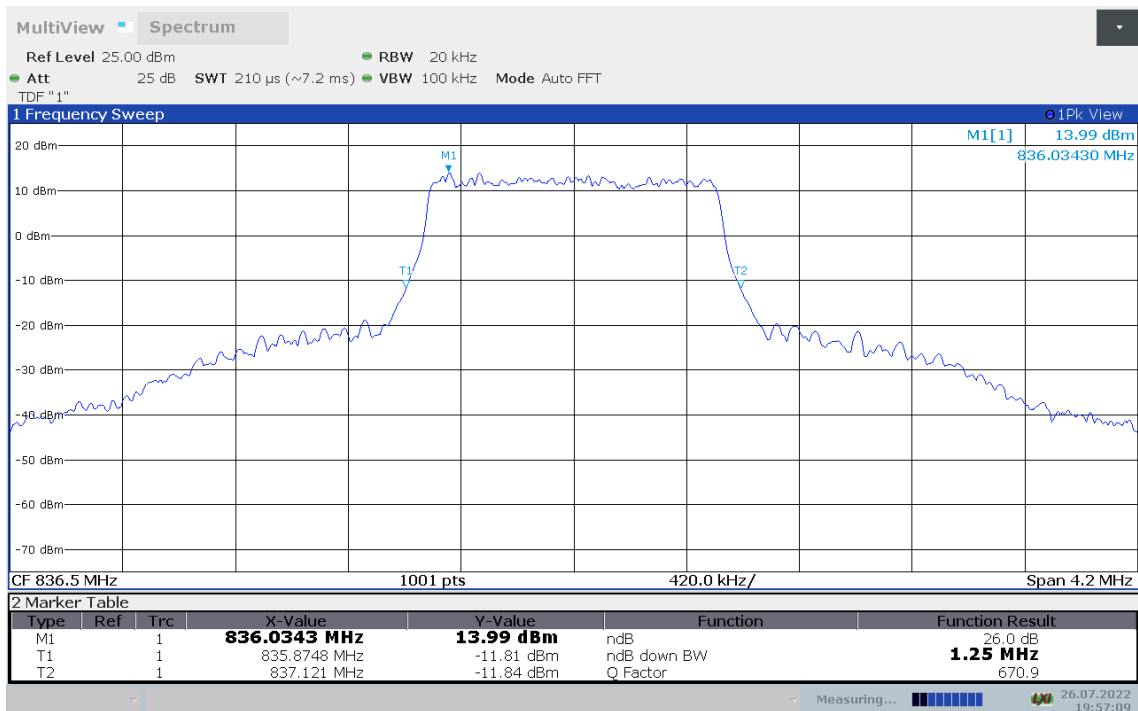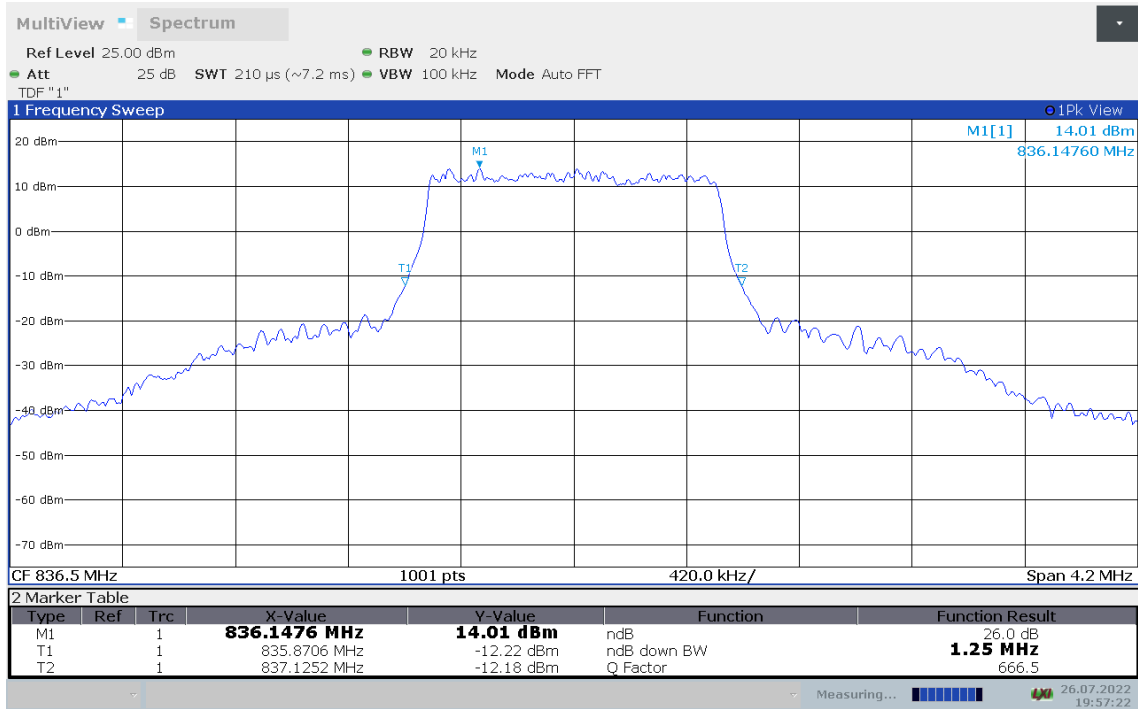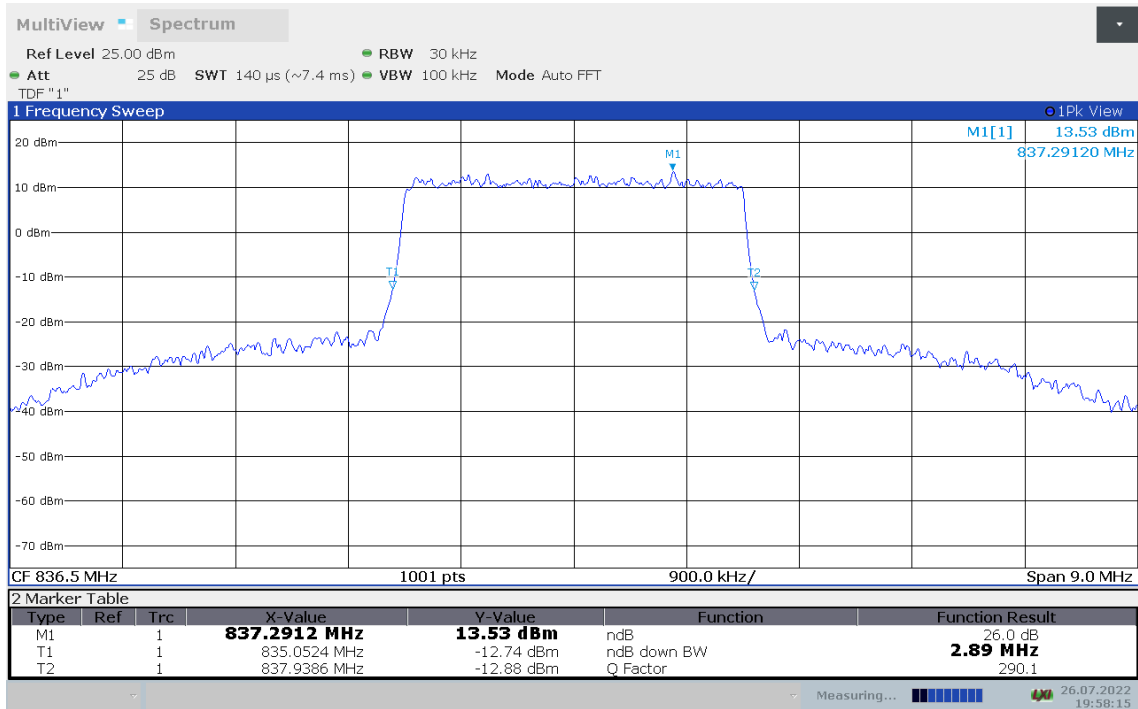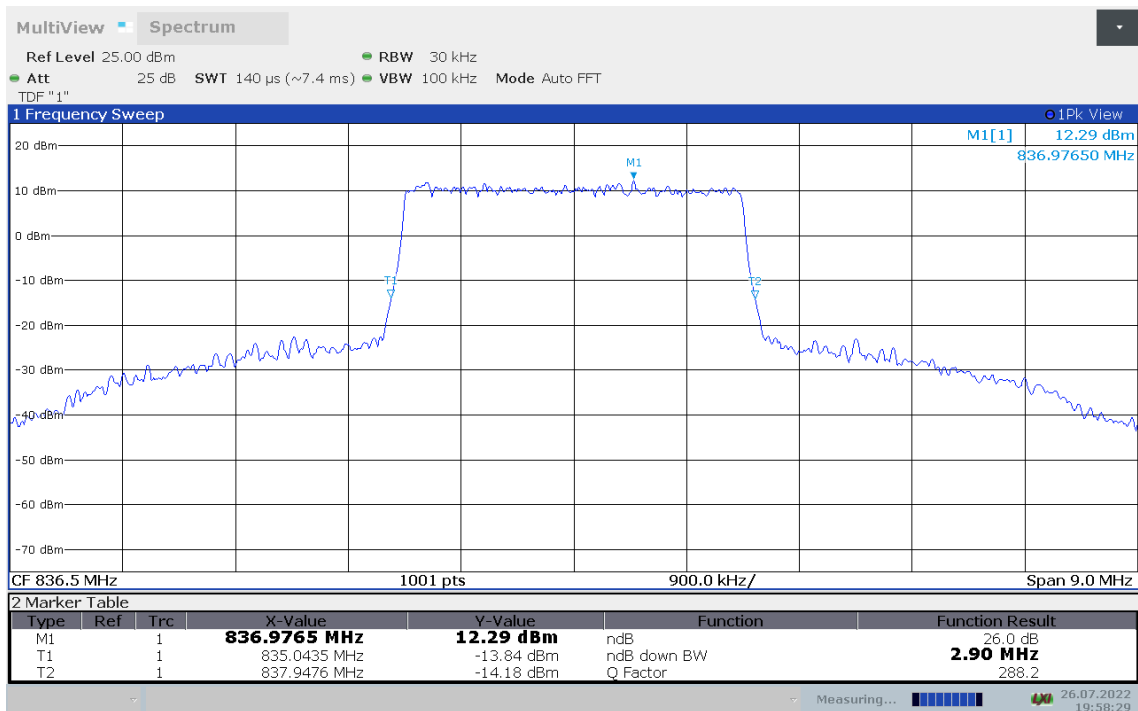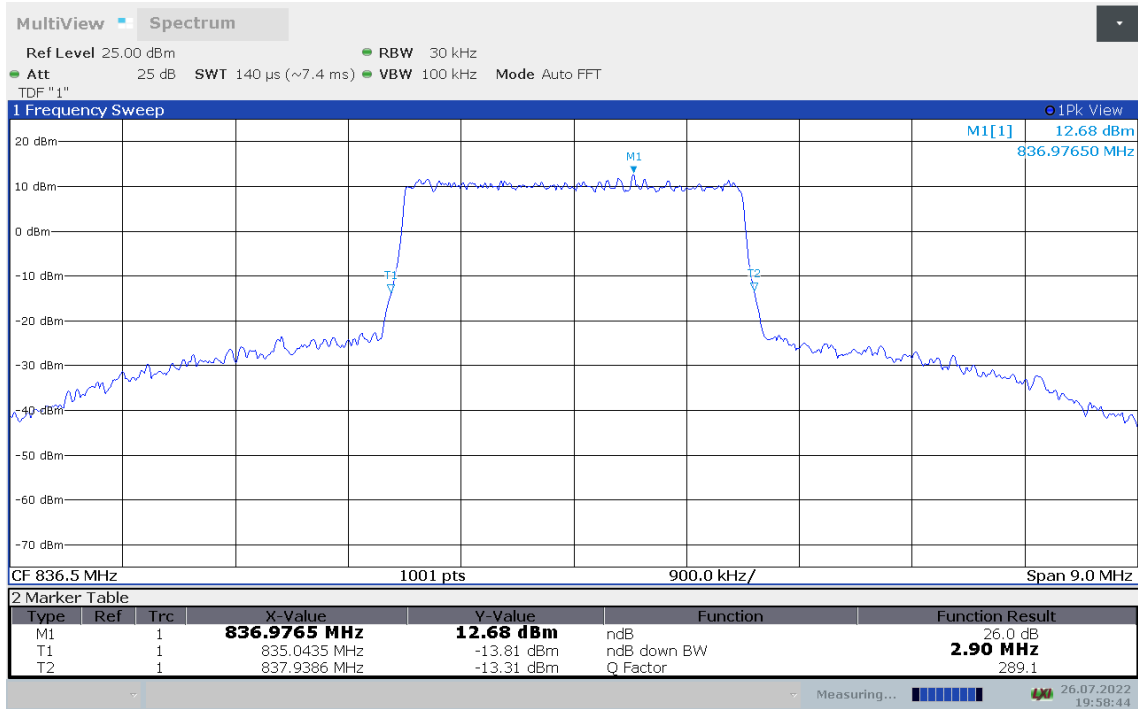## LTE band 26(824MHz-849MHz), 5MHz Bandwidth,64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**836.11 MHz**	**14.52 dBm**	ndB	26.0 dB
T1		1	834.057 MHz	-11.60 dBm	ndB down BW	**4.86 MHz**
T2		1	838.913 MHz	-11.43 dBm	Q Factor	172.2

LTE band 26(824MHz-849MHz), 10MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
836.5	QPSK	16QAM	64QAM
	9.65	9.53	9.62

LTE band 26(824MHz-849MHz), 10MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(824MHz-849MHz), 10MHz Bandwidth, 16QAM (-26dBc BW)

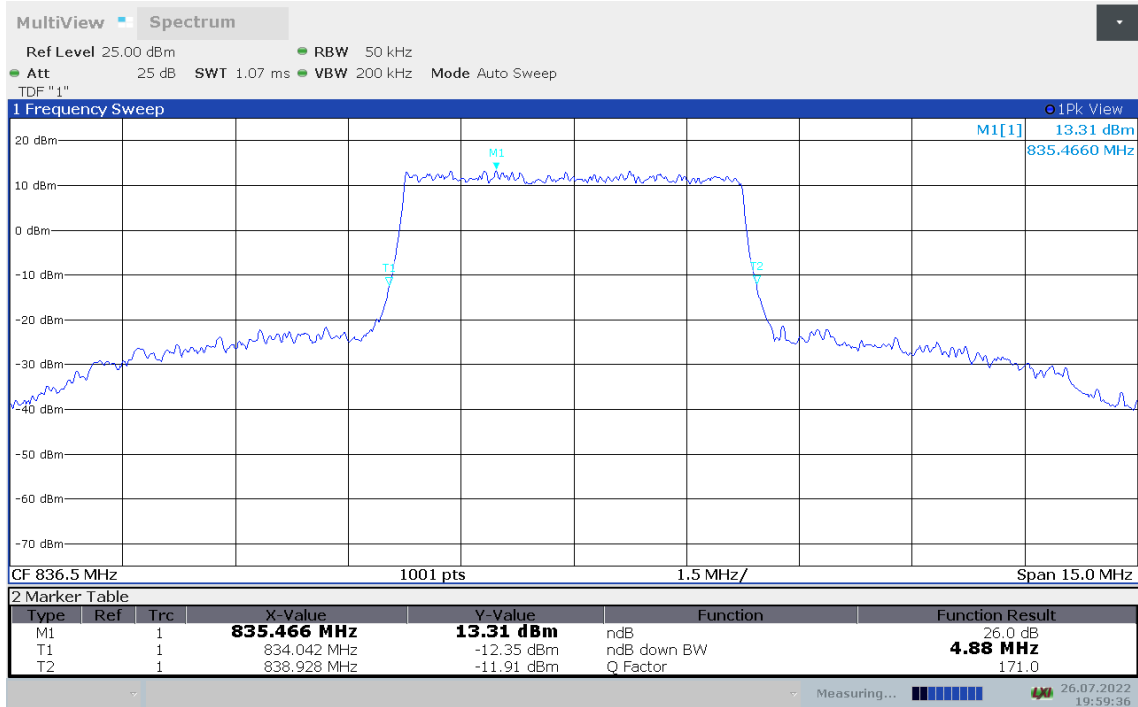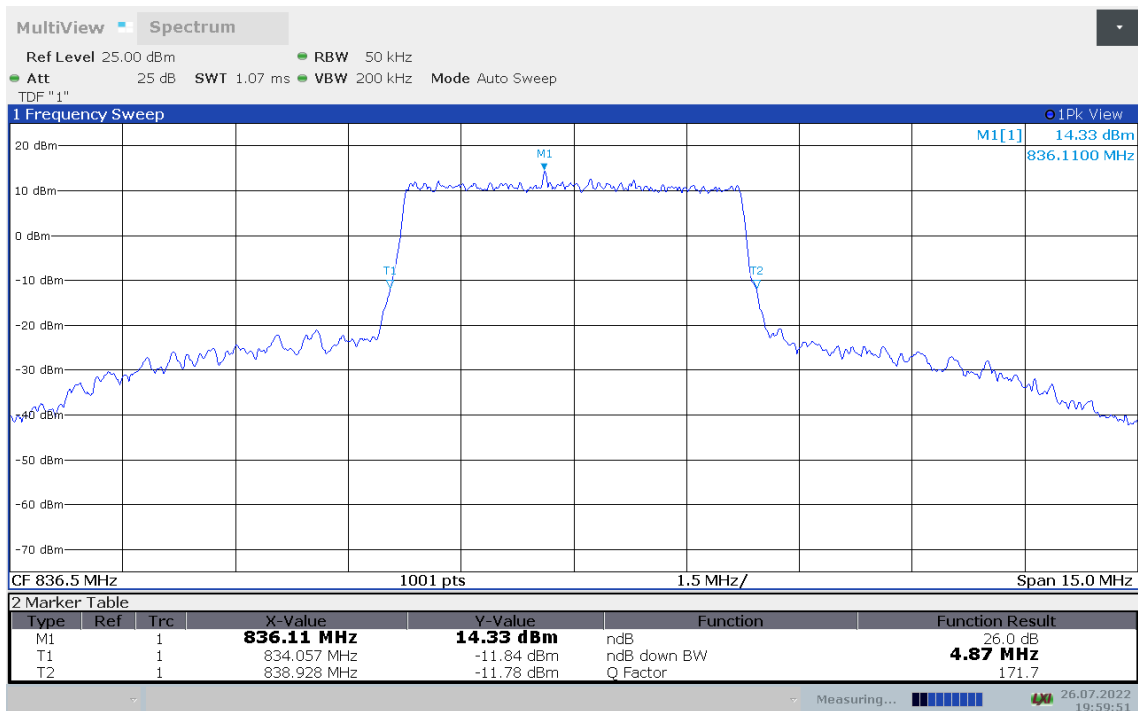## LTE band 26(824MHz-849MHz), 10MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**833.773 MHz**	**12.78 dBm**	ndB	26.0 dB
T1		1	831.675 MHz	-13.98 dBm	ndB down BW	**9.62 MHz**
T2		1	841.295 MHz	-13.08 dBm	Q Factor	86.7

LTE band 26(824MHz-849MHz), 15MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
836.5	14.34	14.39	14.43

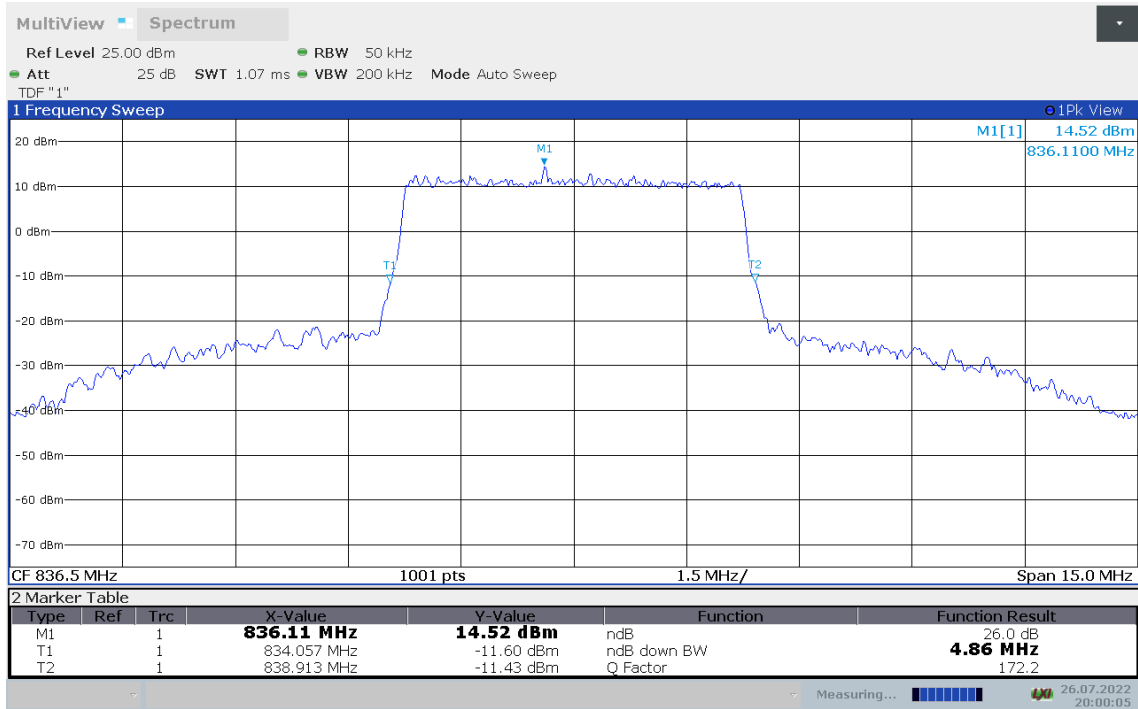### LTE band 26(824MHz-849MHz), 15MHz Bandwidth, QPSK (-26dBc BW)

LTE band 26(824MHz-849MHz), 15MHz Bandwidth, 16QAM (-26dBc BW)

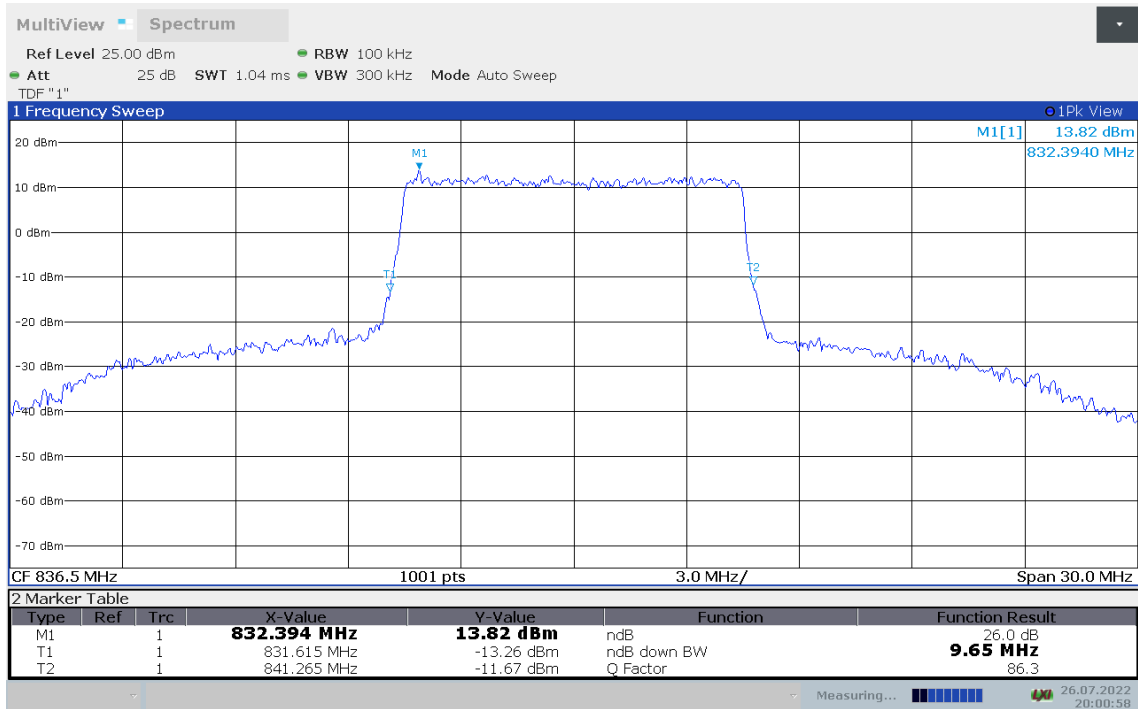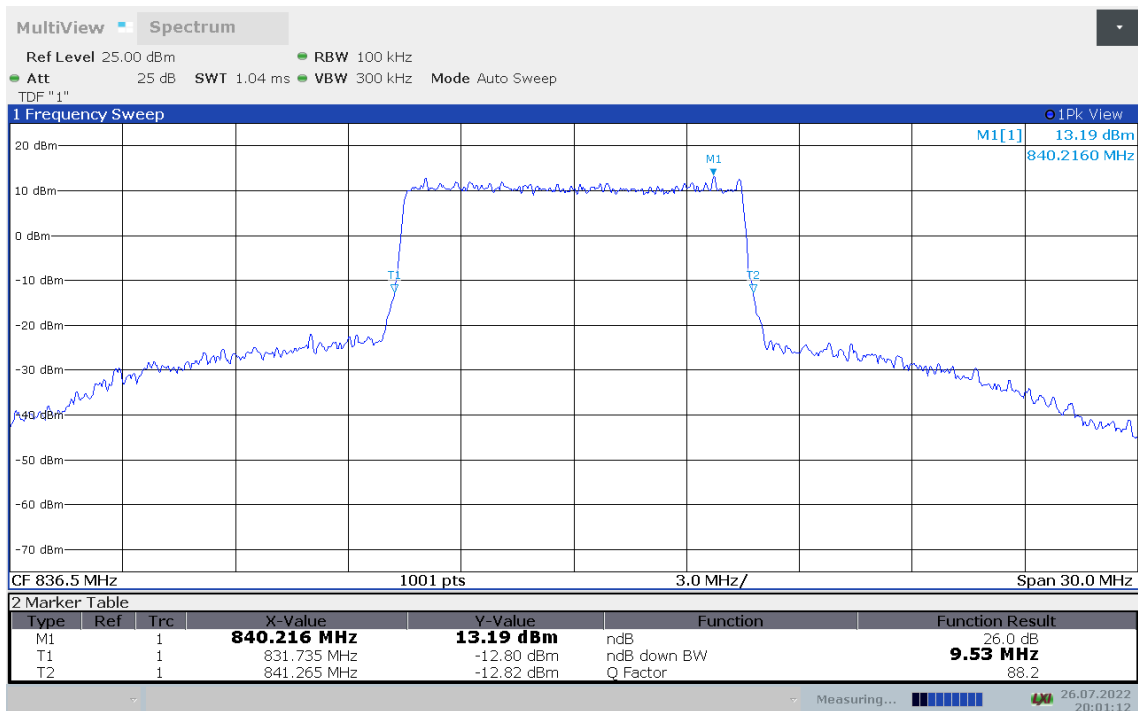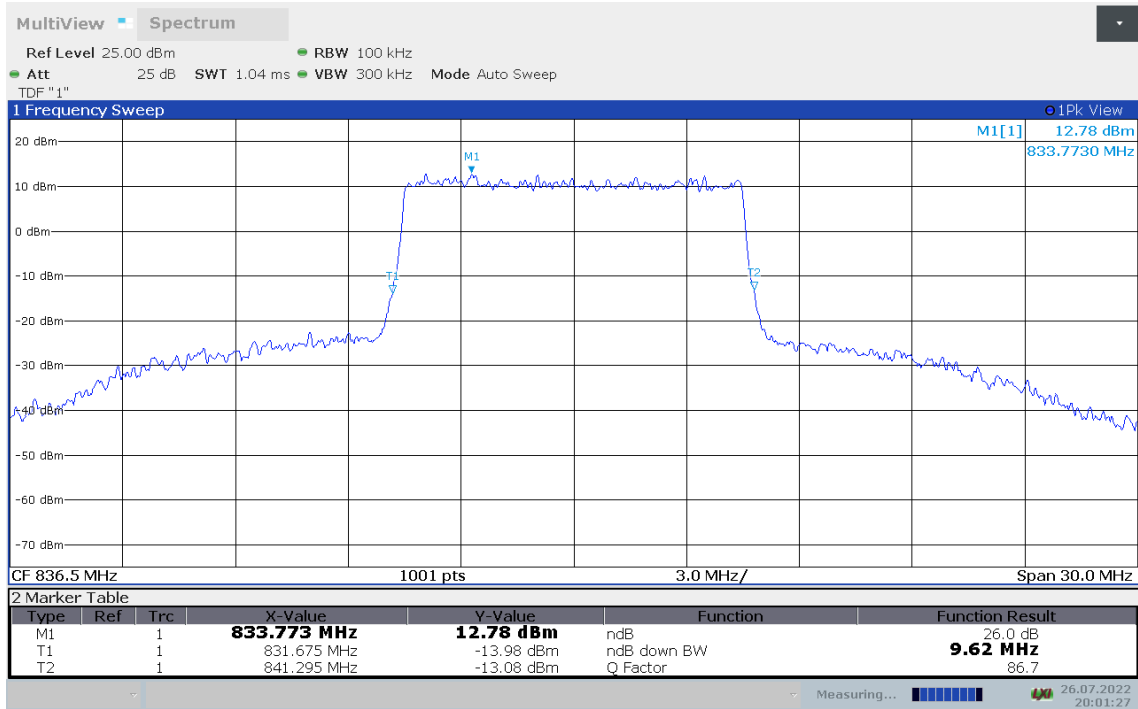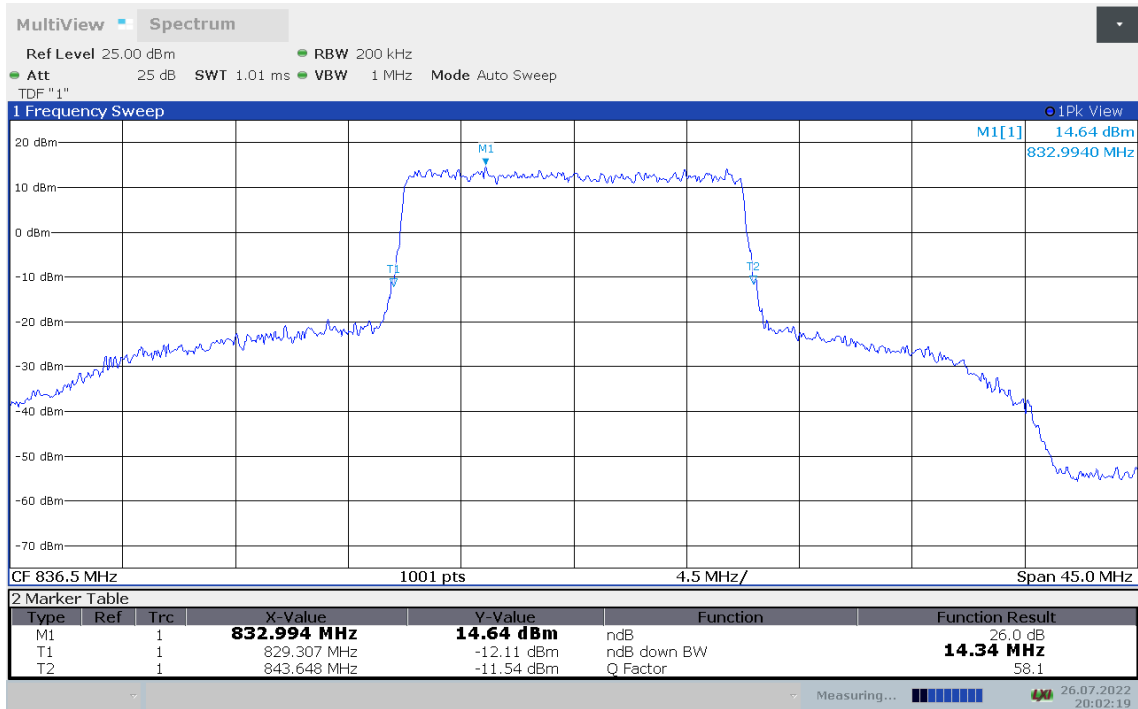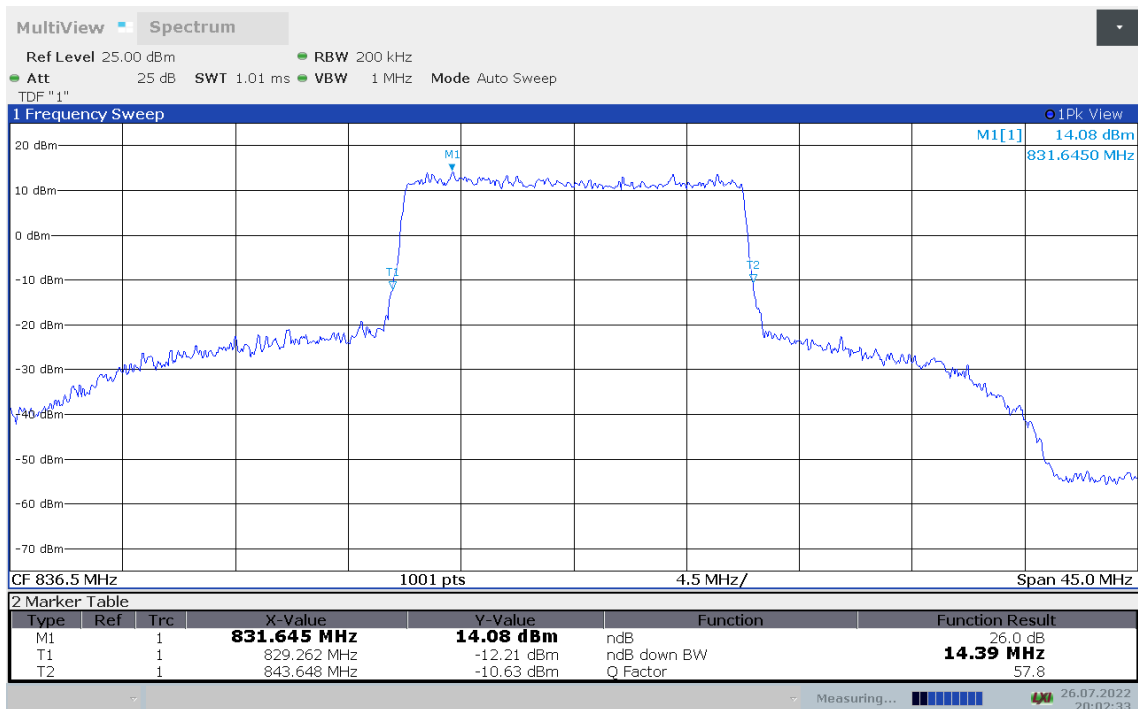**LTE band 26(824MHz-849MHz), 15MHz Bandwidth, 64QAM (-26dBc BW)**
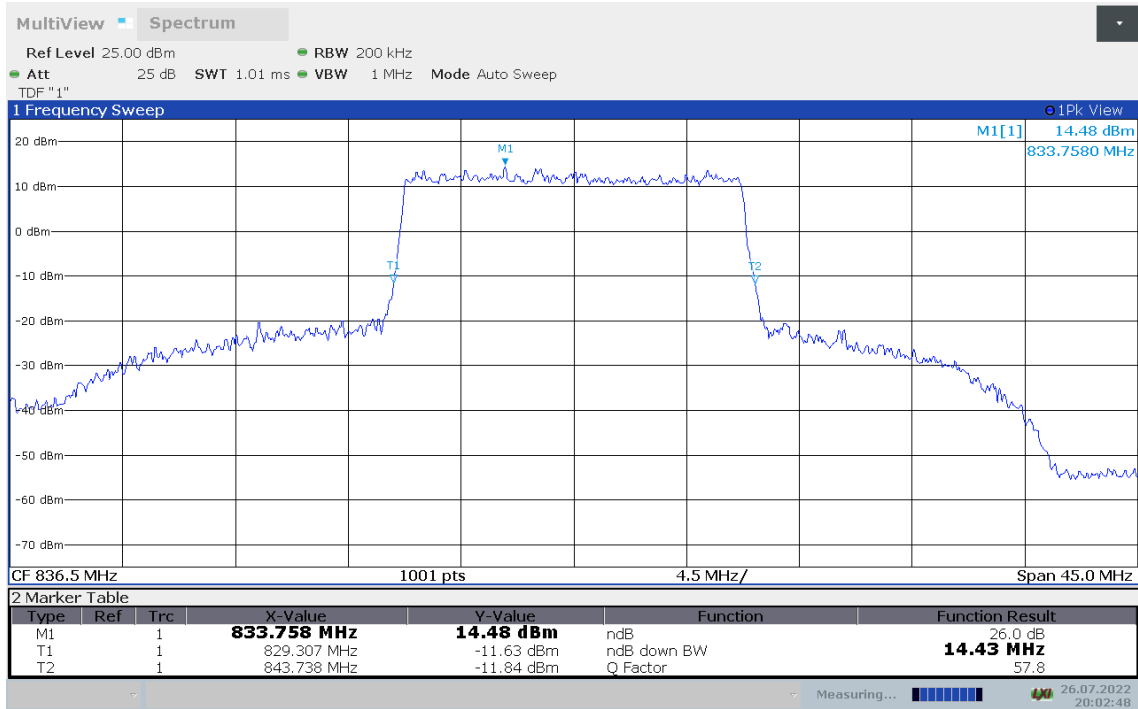
LTE band 41,5MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
2593	4.90	4.90	4.86

LTE band 41,5MHz Bandwidth, QPSK (-26dBc BW)
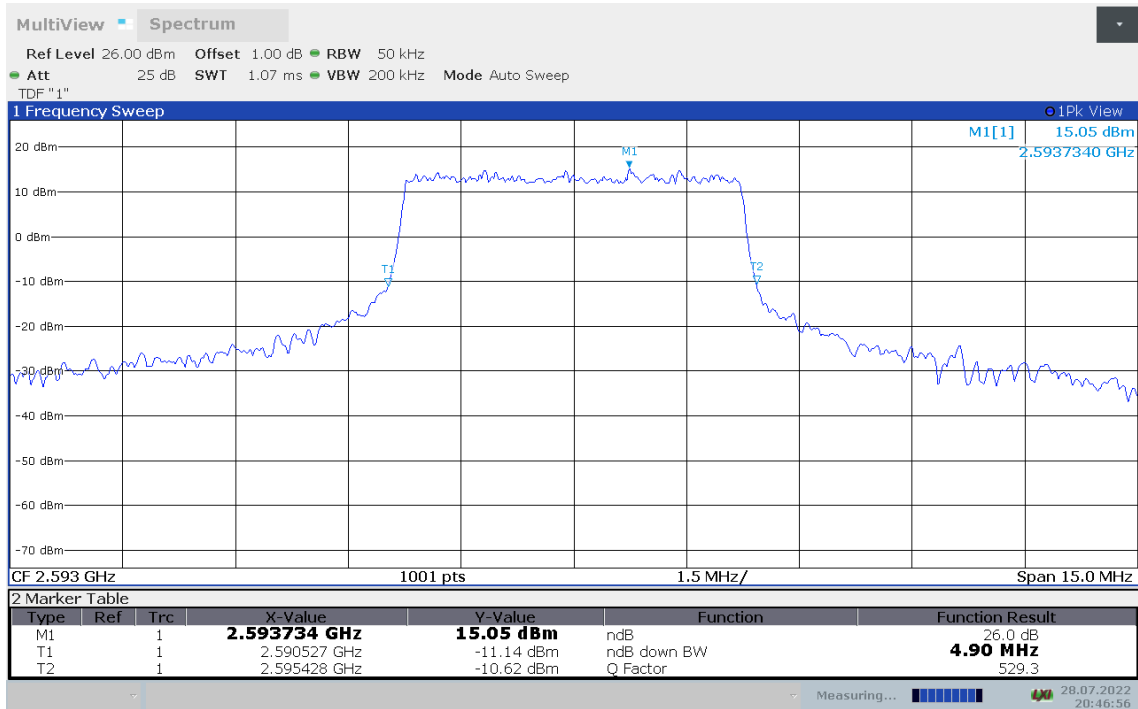
LTE band 41,5MHz Bandwidth,16QAM (-26dBc BW)
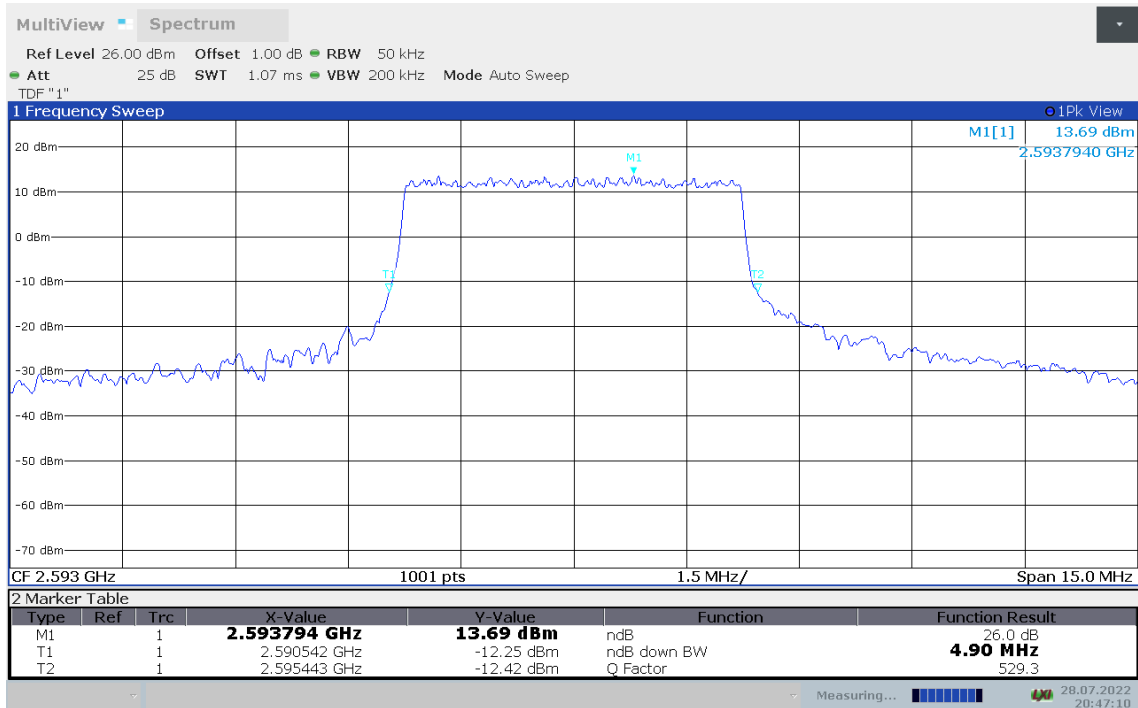
LTE band 41,5MHz Bandwidth,64QAM (-26dBc BW)
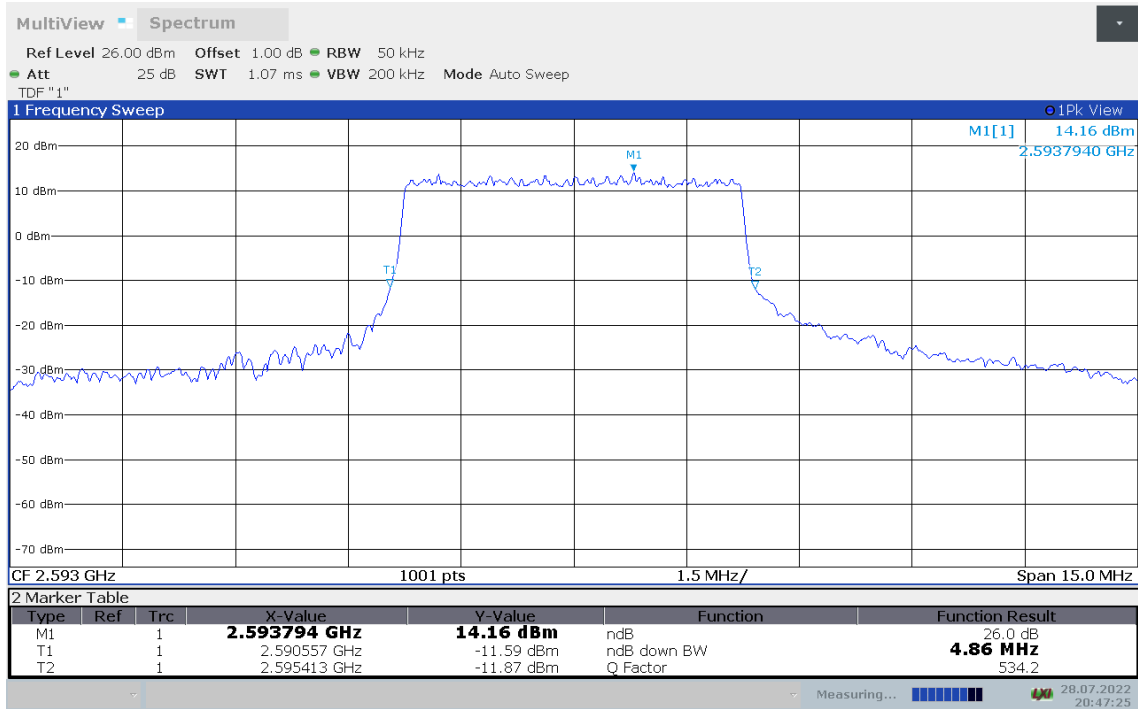
LTE band 41,10MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
2593	9.56	9.56	9.56

LTE band 41,10MHz Bandwidth, QPSK (-26dBc BW)

LTE band 41,10MHz Bandwidth, 16QAM (-26dBc BW)

LTE band 41,10MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**2.595847 GHz**	**14.38 dBm**	ndB	26.0 dB
T1		1	2.588235 GHz	-12.30 dBm	ndB down BW	**9.65 MHz**
T2		1	2.597885 GHz	-11.41 dBm	Q Factor	269.0
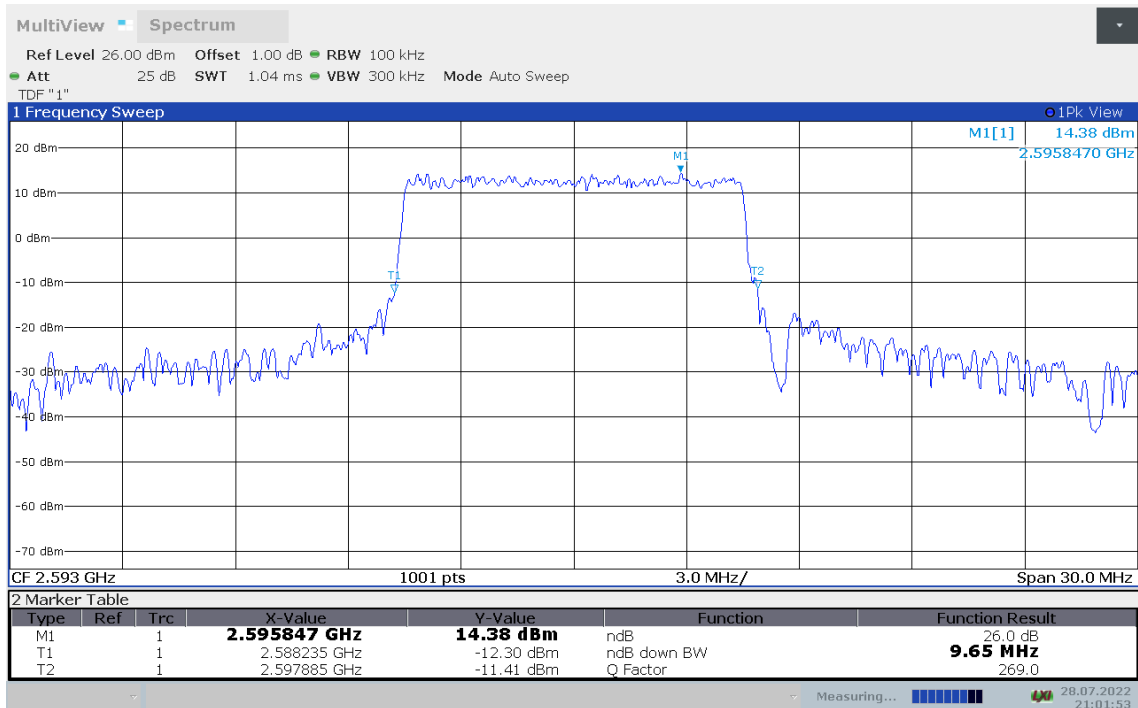
LTE band 41,15MHz(-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
2593	QPSK	16QAM	64QAM
	14.48	14.34	14.43

LTE band 41 , 15MHz Bandwidth,QPSK (-26dBc BW)

LTE band 41 , 15MHz Bandwidth,16QAM (-26dBc BW)

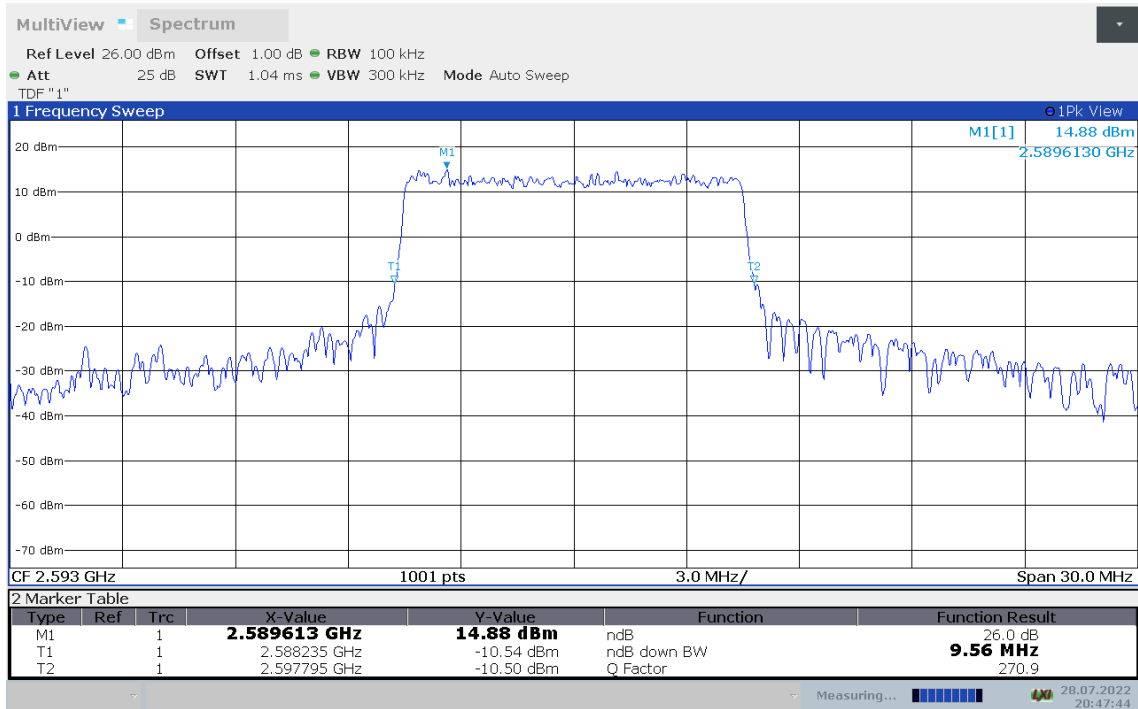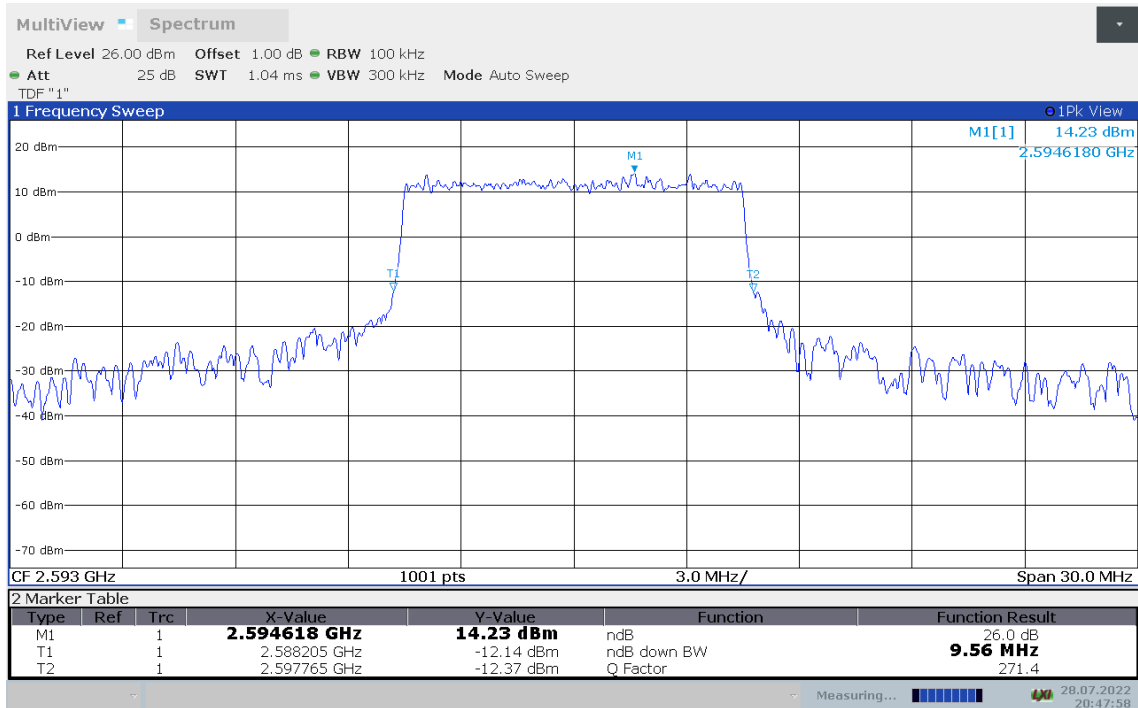## LTE band 41 , 15MHz Bandwidth,64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**2.595832 GHz**	**15.65 dBm**	ndB	26.0 dB
T1		1	2.585897 GHz	-10.53 dBm	ndB down BW	**14.43 MHz**
T2		1	2.600328 GHz	-11.01 dBm	Q Factor	179.9
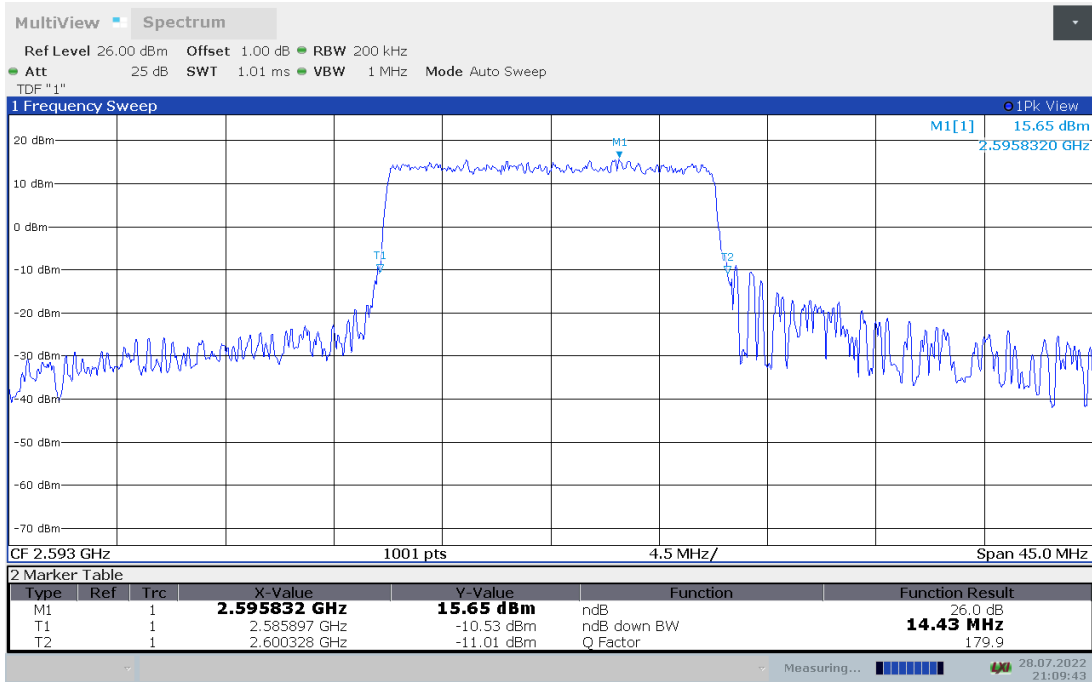
LTE band 41,20MHz(-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
2593	QPSK	16QAM	64QAM
	19.12	19.00	19.30

LTE band 41 , 20MHz Bandwidth,QPSK (-26dBc BW)

LTE band 41 , 20MHz Bandwidth,16QAM (-26dBc BW)
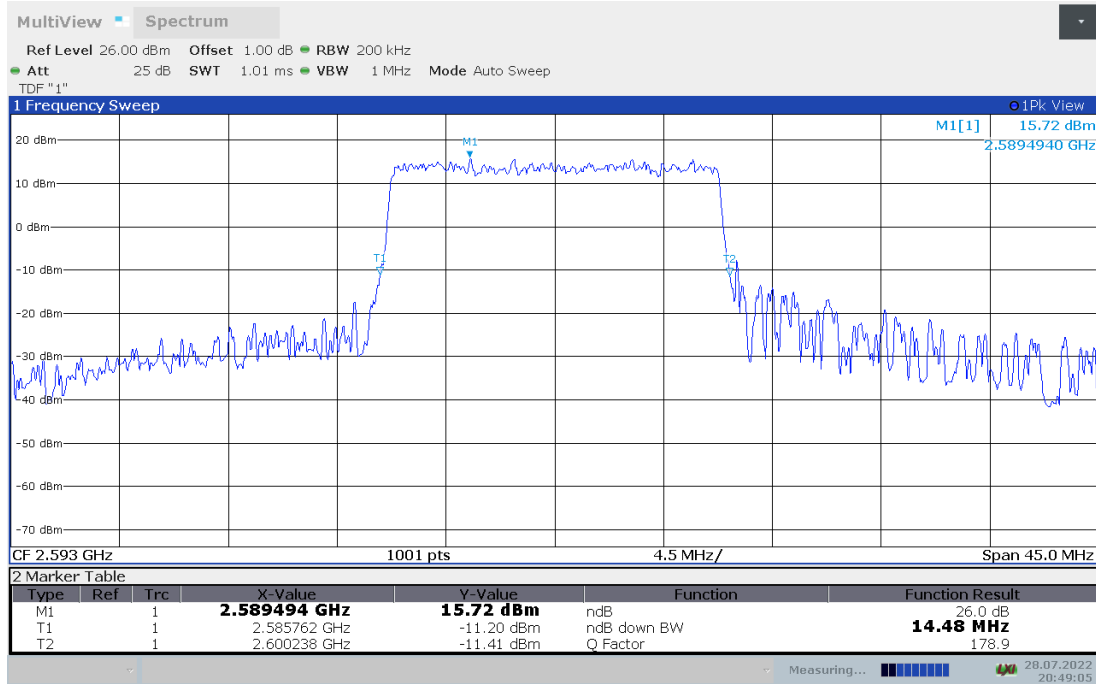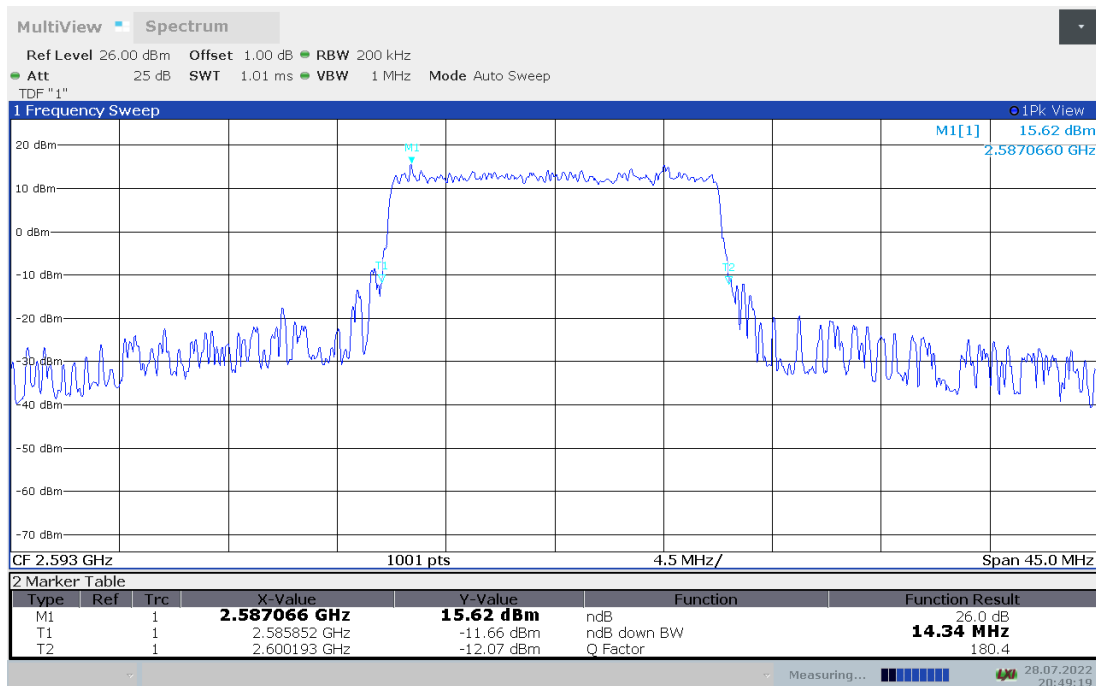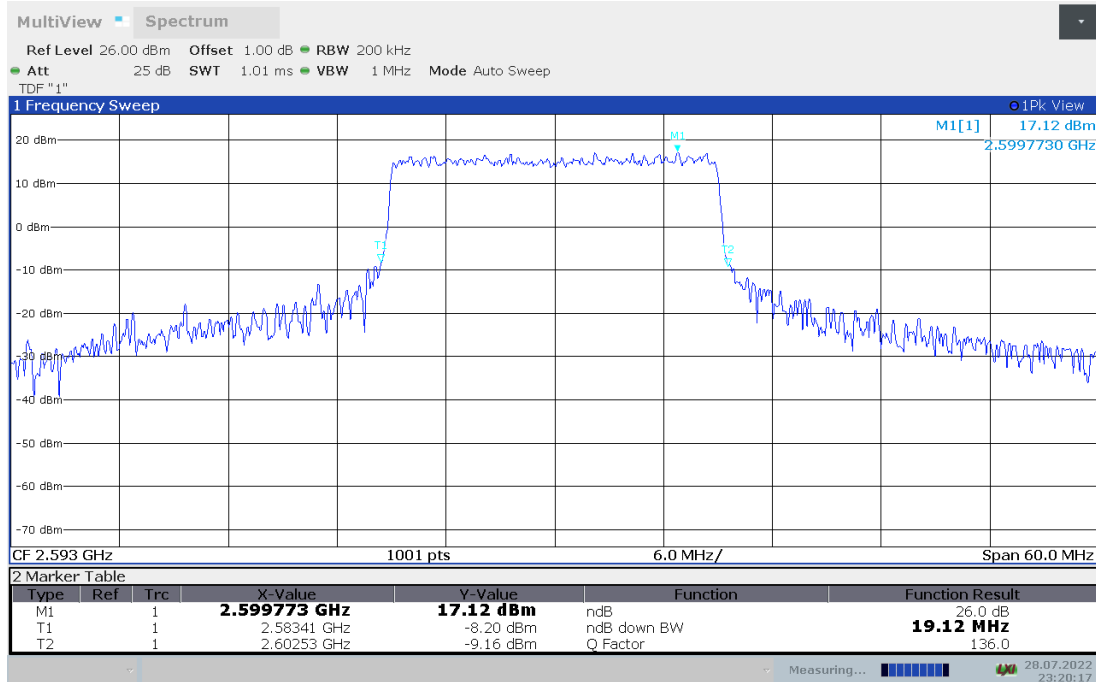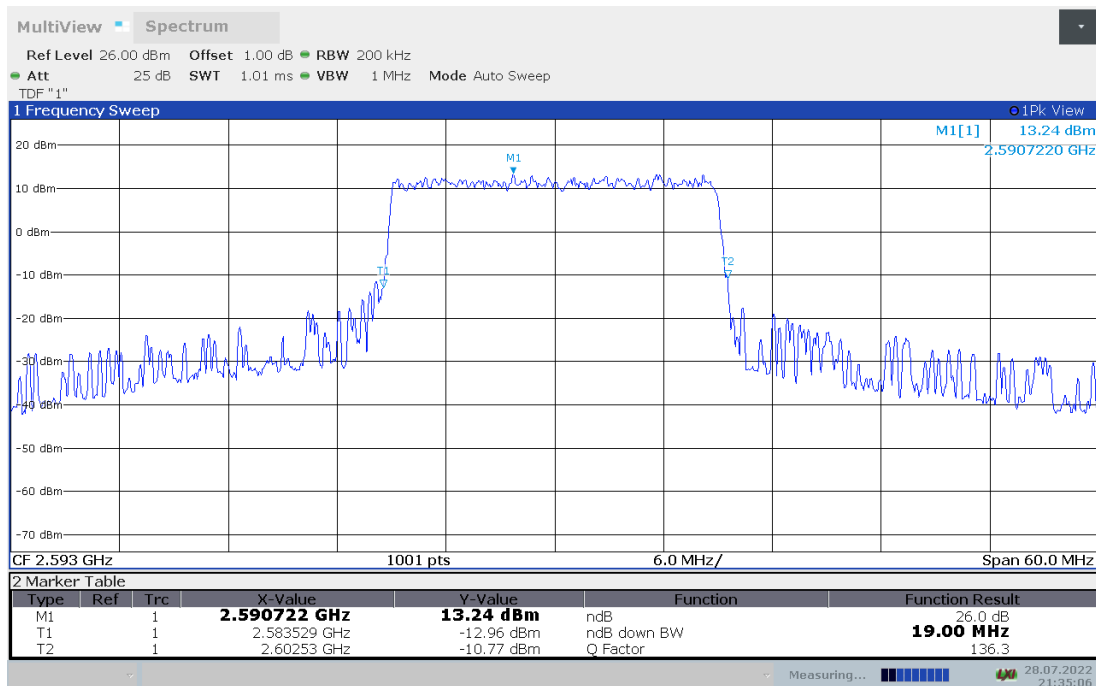
LTE band 41 , 20MHz Bandwidth,64QAM (-26dBc BW)
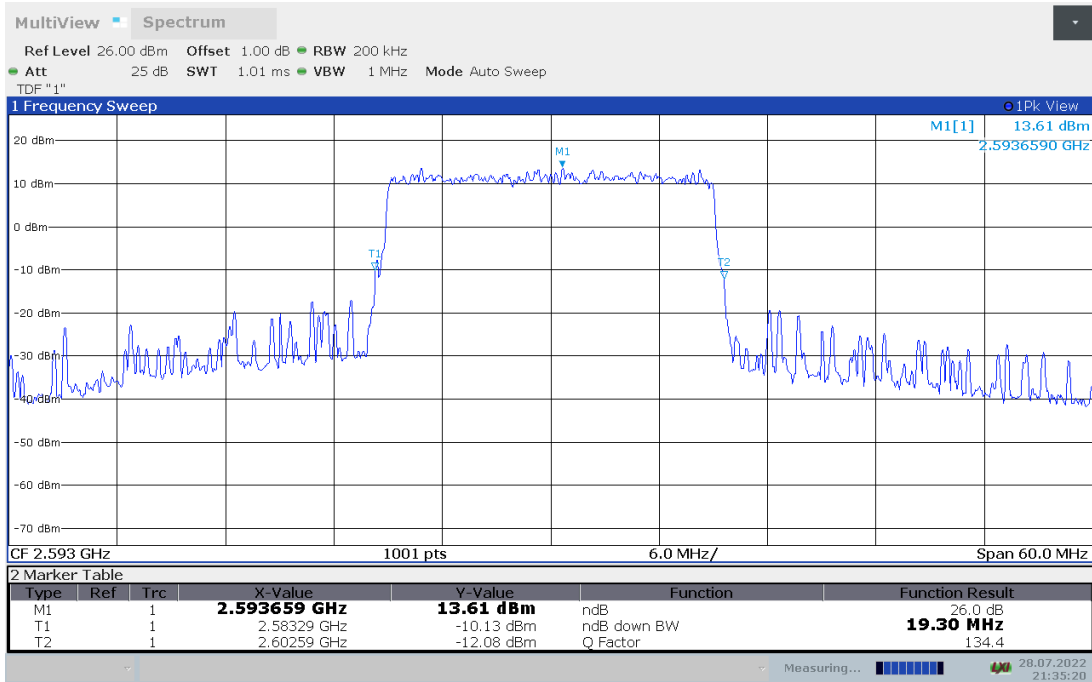
LTE band 42(3450MHz-3550MHz), 5MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
3500	QPSK	16QAM	64QAM
	4.92	4.84	4.84

LTE band 42(3450MHz-3550MHz), 5MHz Bandwidth, QPSK (-26dBc BW)
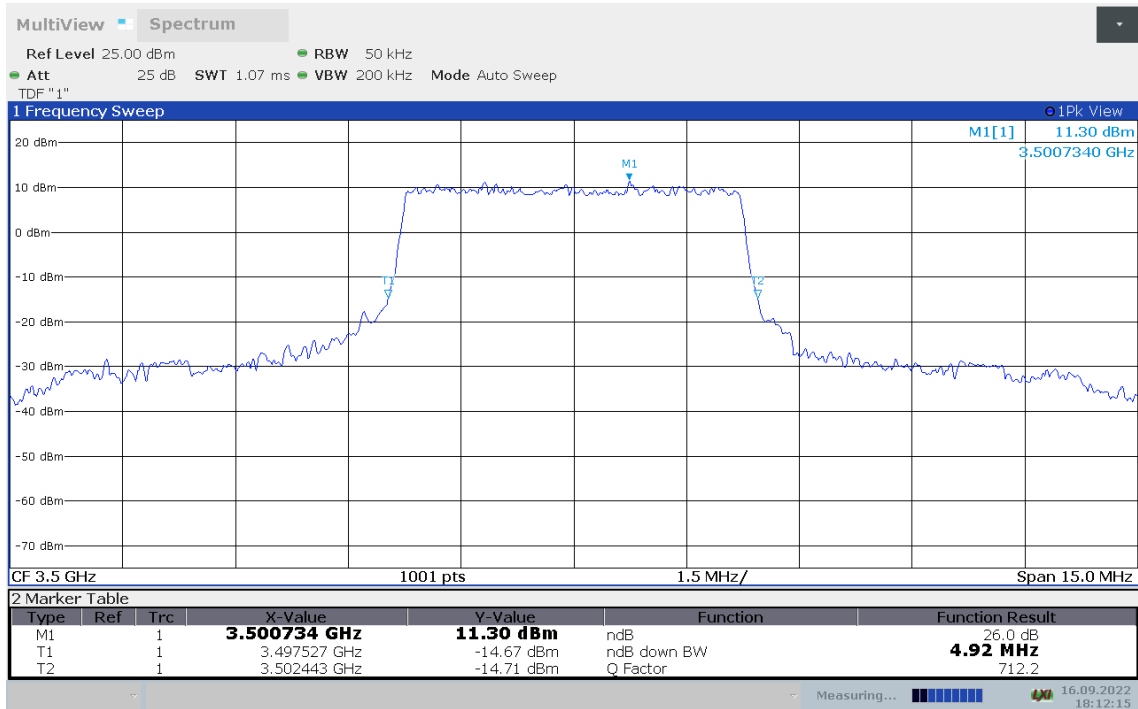
LTE band 42(3450MHz-3550MHz), 5MHz Bandwidth,16QAM (-26dBc BW)

LTE Band 42(3450MHz-3550MHz), 5MHz Bandwidth,64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		**3.500794 GHz**	**10.33 dBm**	ndB	26.0 dB
T1	1		3.497572 GHz	-15.46 dBm	ndB down BW	**4.84 MHz**
T2	1		3.502413 GHz	-15.98 dBm	Q Factor	723.3
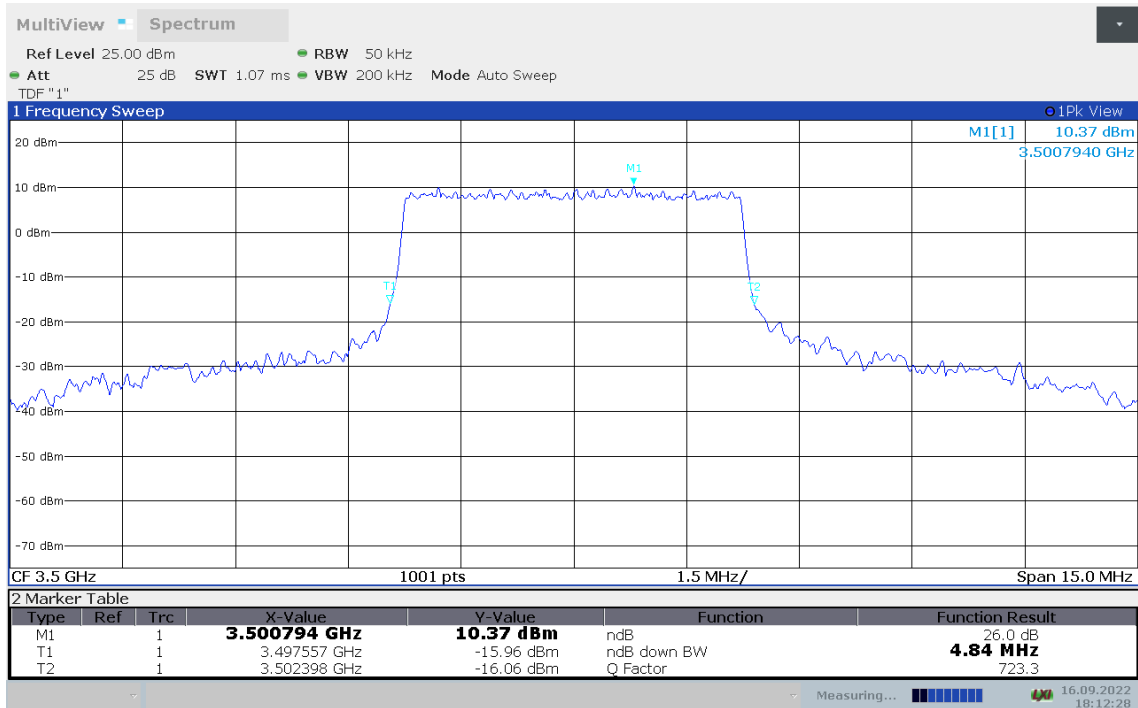
LTE band 42(3450MHz-3550MHz), 10MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
3500	QPSK	16QAM	64QAM
	9.56	9.56	9.59

LTE band 42(3450MHz-3550MHz), 10MHz Bandwidth, QPSK (-26dBc BW)

LTE band 42(3450MHz-3550MHz), 10MHz Bandwidth, 16QAM (-26dBc BW)

LTE Band 42(3450MHz-3550MHz), 10MHz Bandwidth, 64QAM (-26dBc BW)

LTE band 42(3450MHz-3550MHz), 15MHz (-26dBc BW)

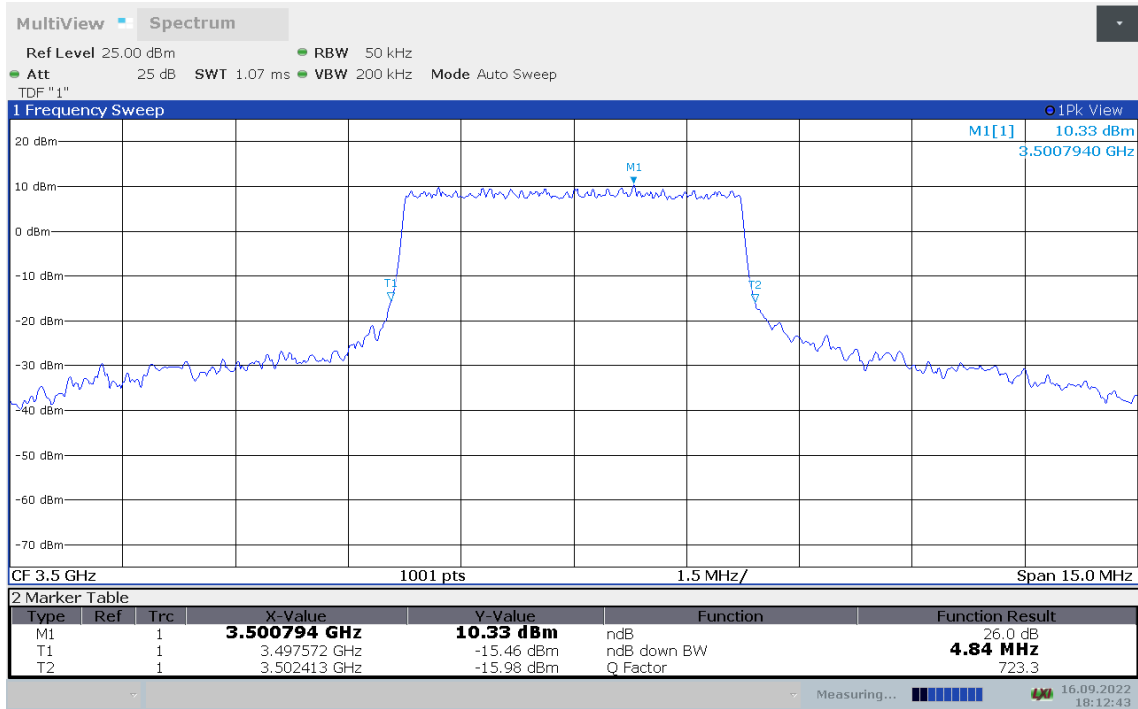| Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
3500	QPSK	16QAM	64QAM
	14.48	14.39	14.48

LTE band 42(3450MHz-3550MHz), 15MHz Bandwidth, QPSK (-26dBc BW)

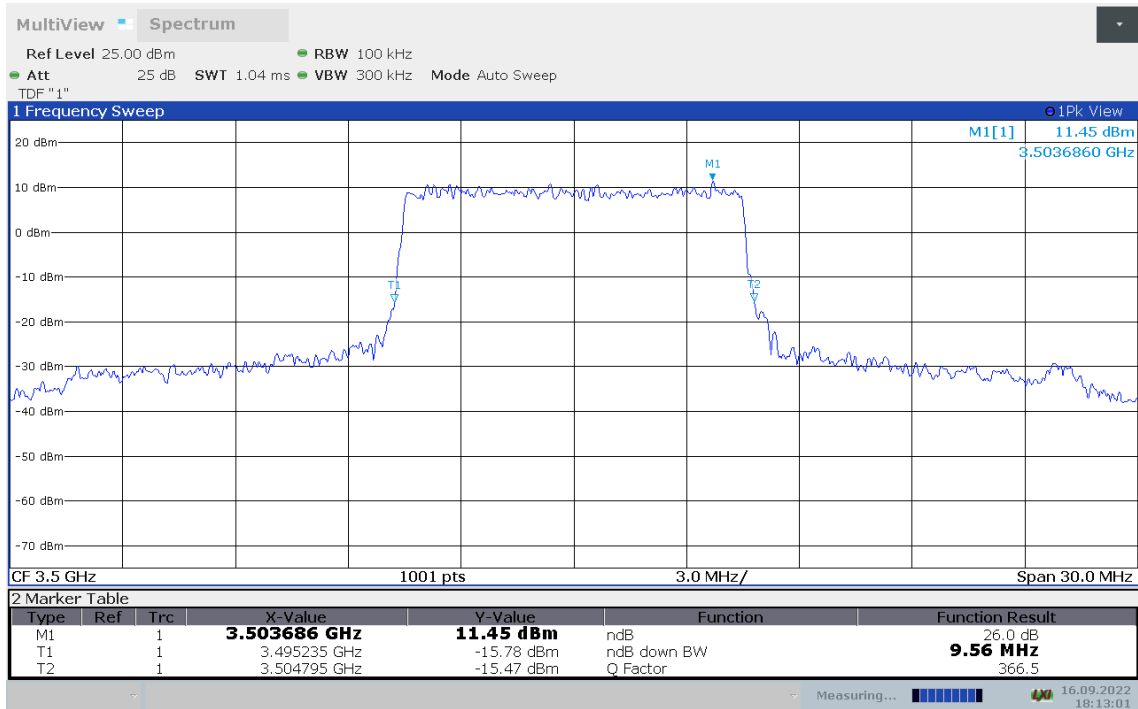**LTE band 42(3450MHz-3550MHz), 15MHz Bandwidth, 16QAM (-26dBc BW)**

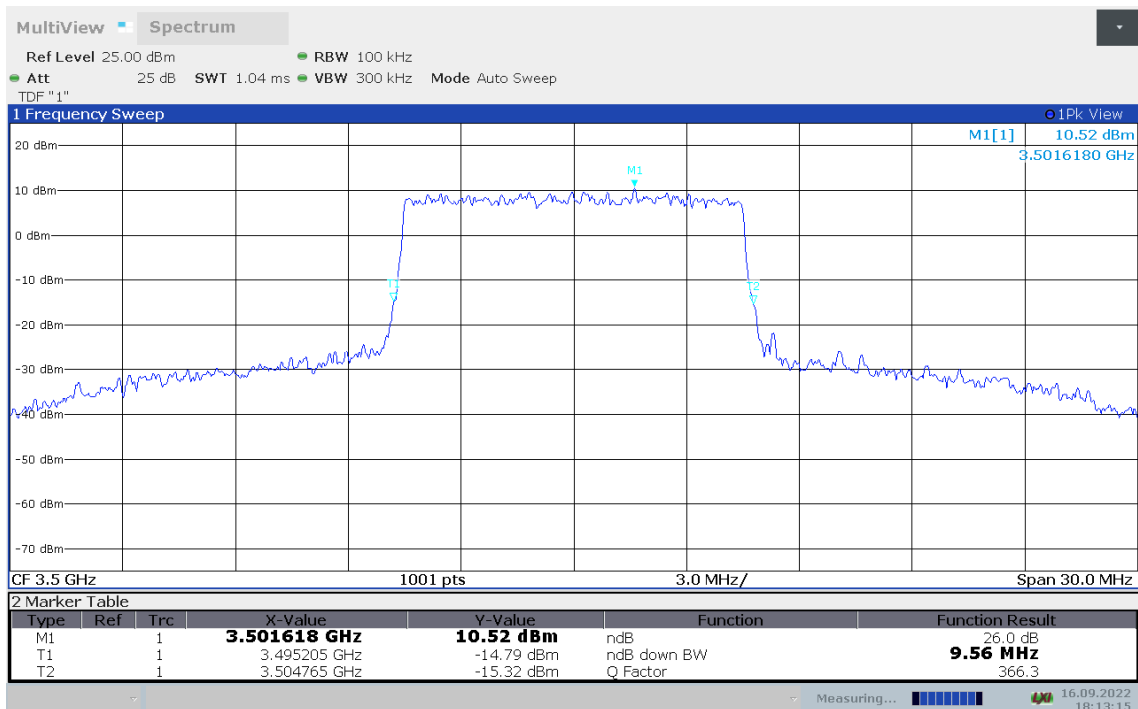## LTE Band 42(3450MHz-3550MHz), 15MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		**3.495954 GHz**	**11.24 dBm**	ndB	26.0 dB
T1	1		3.492762 GHz	-15.04 dBm	ndB down BW	**14.48 MHz**
T2	1		3.507238 GHz	-13.68 dBm	Q Factor	241.5

LTE band 42(3450MHz-3550MHz), 20MHz (-26dBc BW)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)		
3500	QPSK	16QAM	64QAM
	19.00	19.06	19.00

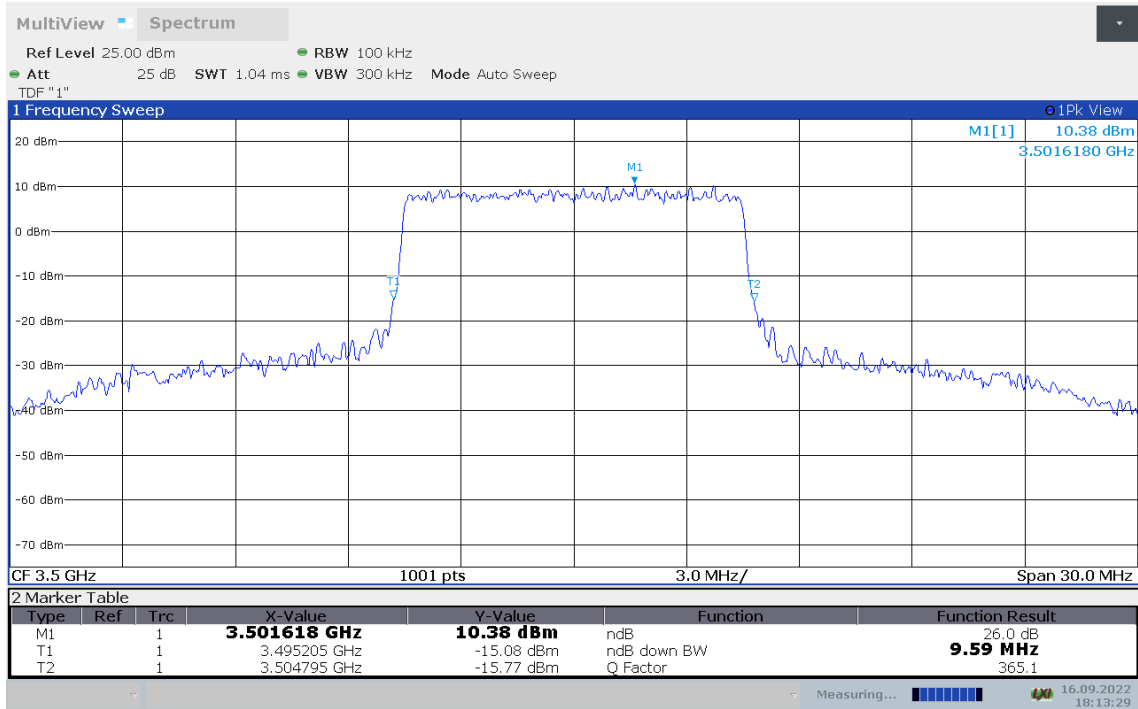**LTE band 42(3450MHz-3550MHz), 20MHz Bandwidth, QPSK (-26dBc BW)**
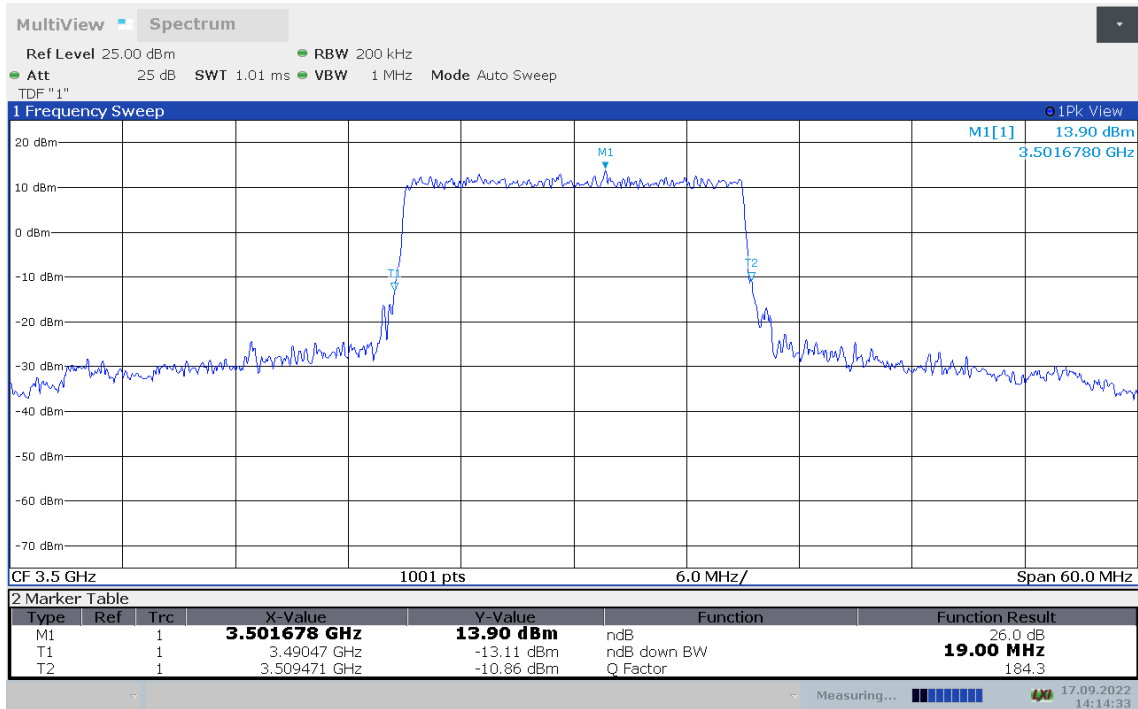
LTE band 42(3450MHz-3550MHz), 20MHz Bandwidth, 16QAM (-26dBc BW)

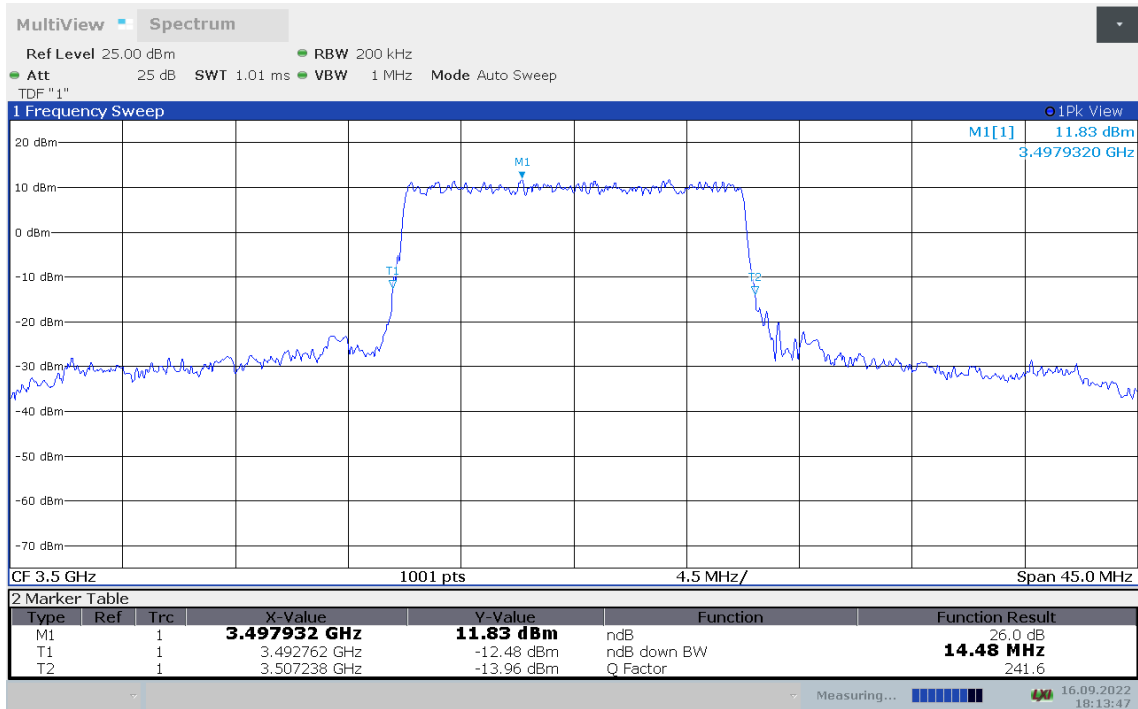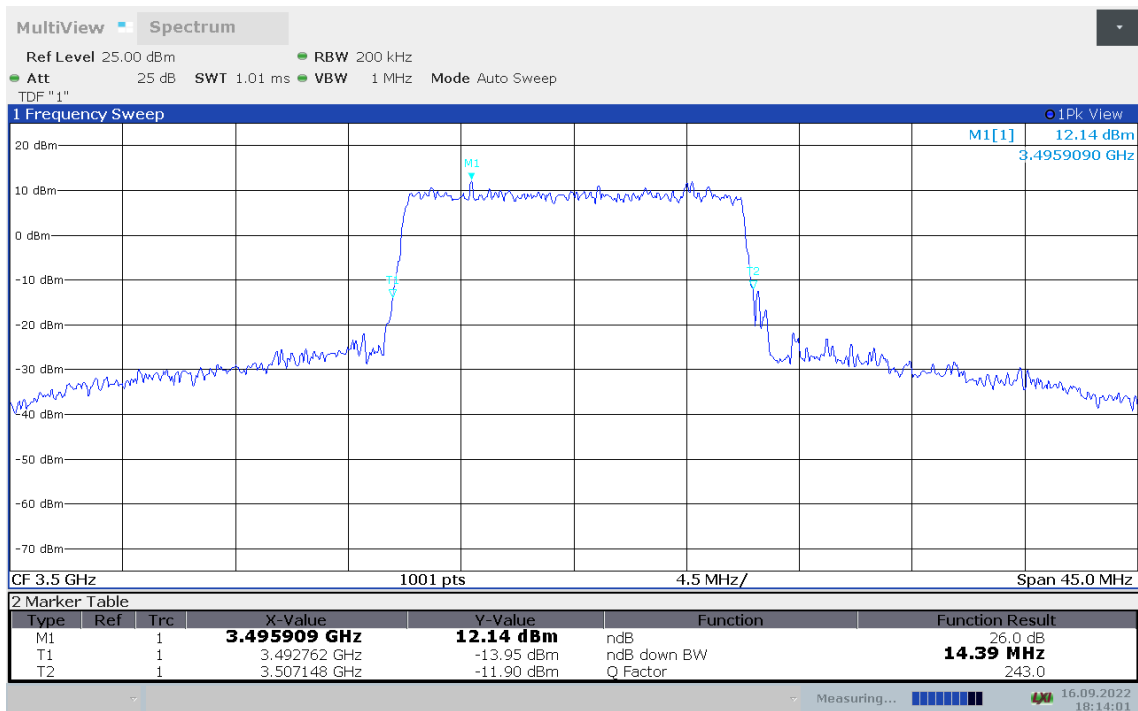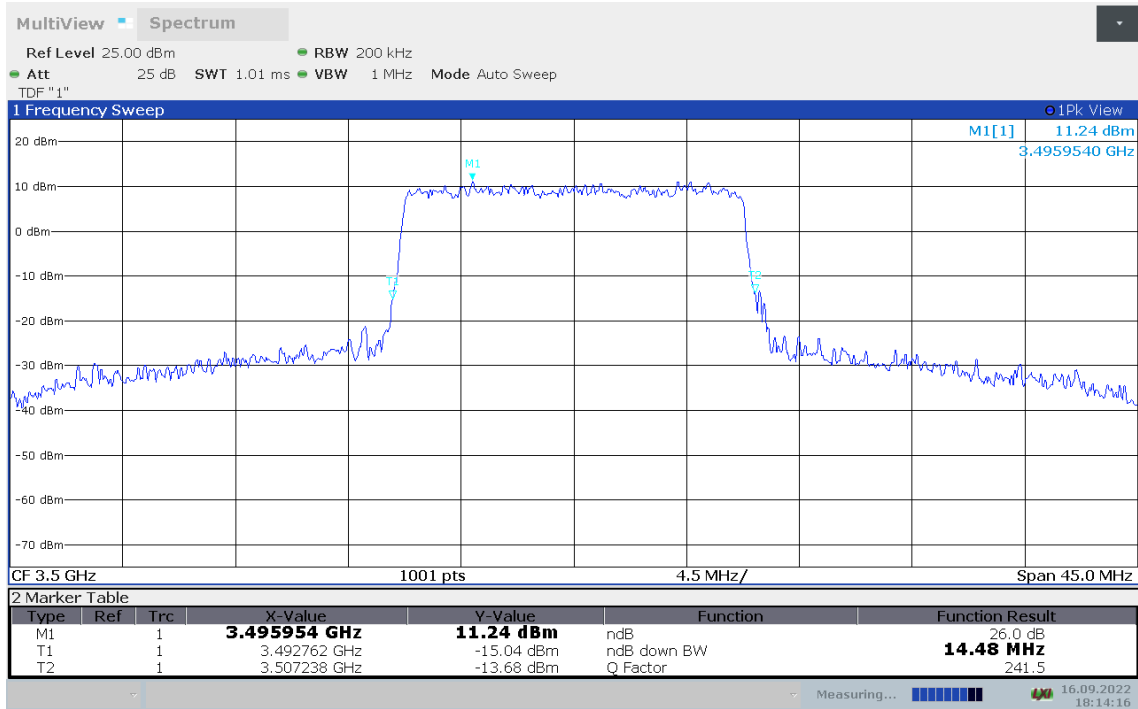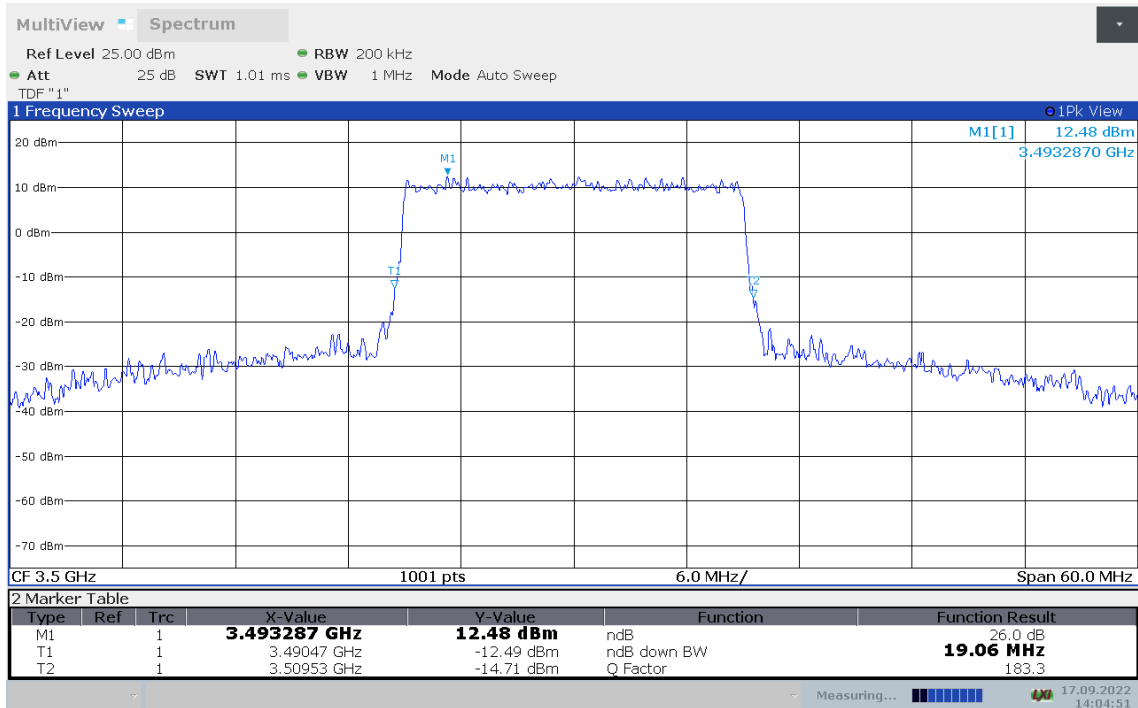**LTE Band 42(3450MHz-3550MHz), 20MHz Bandwidth, 64QAM (-26dBc BW)**
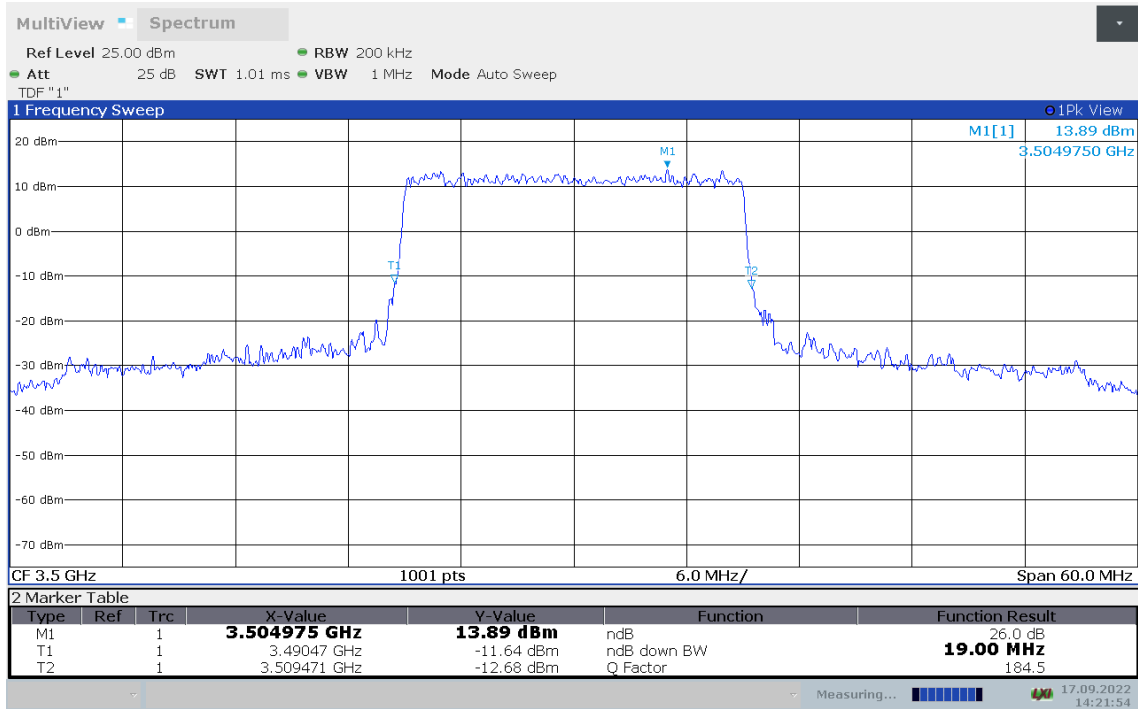
LTE band 66, 1.4MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	1.28	1.30	1.30

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

LTE band 66, 1.4MHz Bandwidth, 16QAM (-26dBc BW)
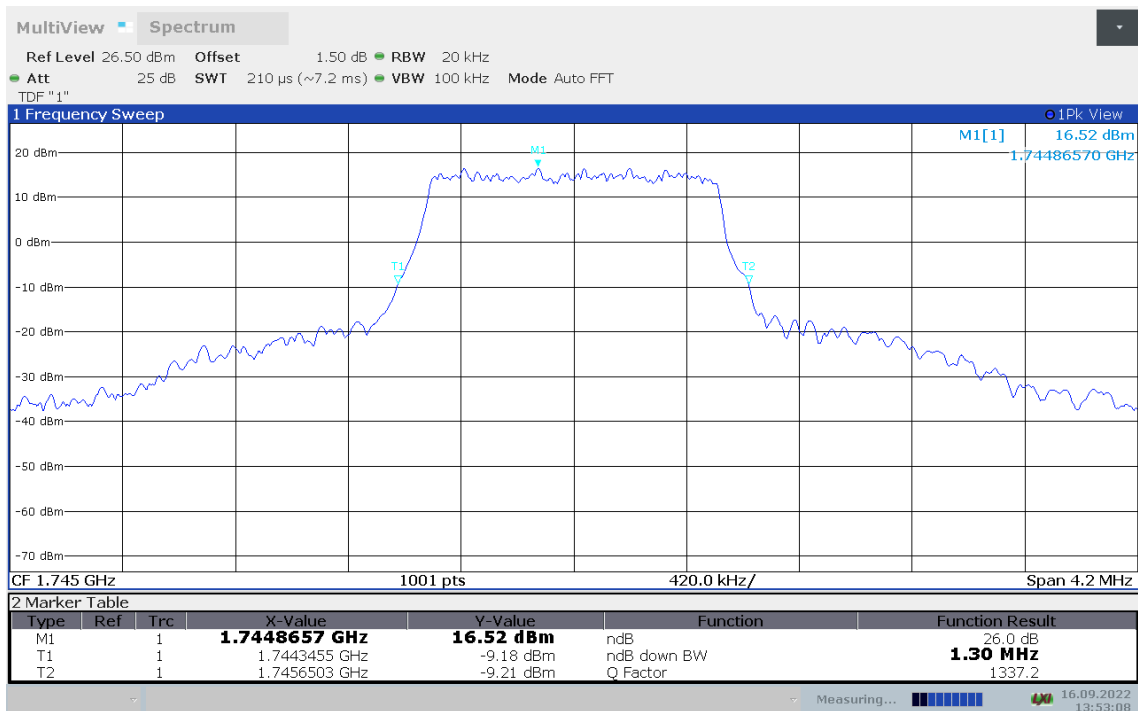
LTE band 66, 1.4MHz Bandwidth, 64QAM (-26dBc BW)

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
1745.0	QPSK	16QAM	64QAM
	2.92	2.90	2.88

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

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

LTE band 66, 3MHz Bandwidth, 64QAM (-26dBc BW)

LTE band 66, 5MHz (-26dBc BW)
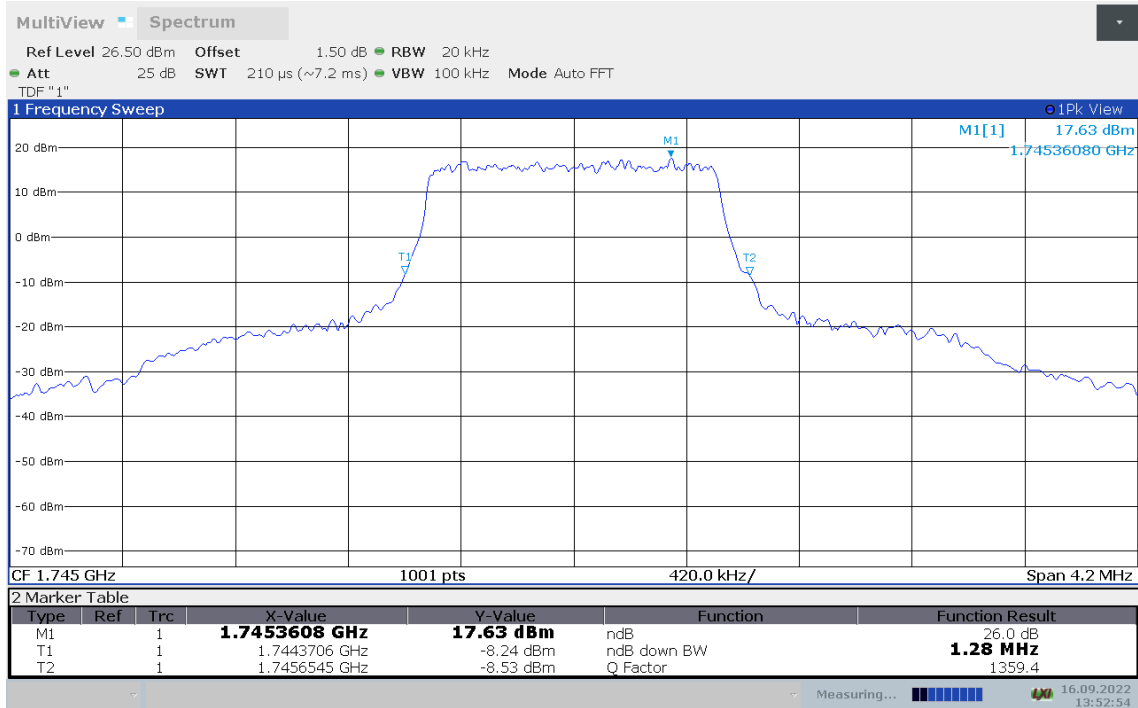
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	4.90	4.83	4.84

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

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

LTE band 66, 5MHz Bandwidth,64QAM (-26dBc BW)

MultiView Spectrum

Ref Level 26.50 dBm Offset 1.50 dB RBW 50 kHz
● Att   25 dB   SWT 1.07 ms ● VBW 200 kHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep   ●1Pk View

M1[1]   16.92 dBm
1.7446100 GHz

	X-Value						

CF 1.745 GHz   1001 pts   1.5 MHz/   Span 15.0 MHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		1.74461 GHz	16.92 dBm	ndB	26.0 dB
T1	1		1.742557 GHz	-9.44 dBm	ndB down BW	4.84 MHz
T2	1		1.747398 GHz	-9.15 dBm	Q Factor	360.4

Measuring... 16.09.2022 13:54:55

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	9.74	9.56	9.68

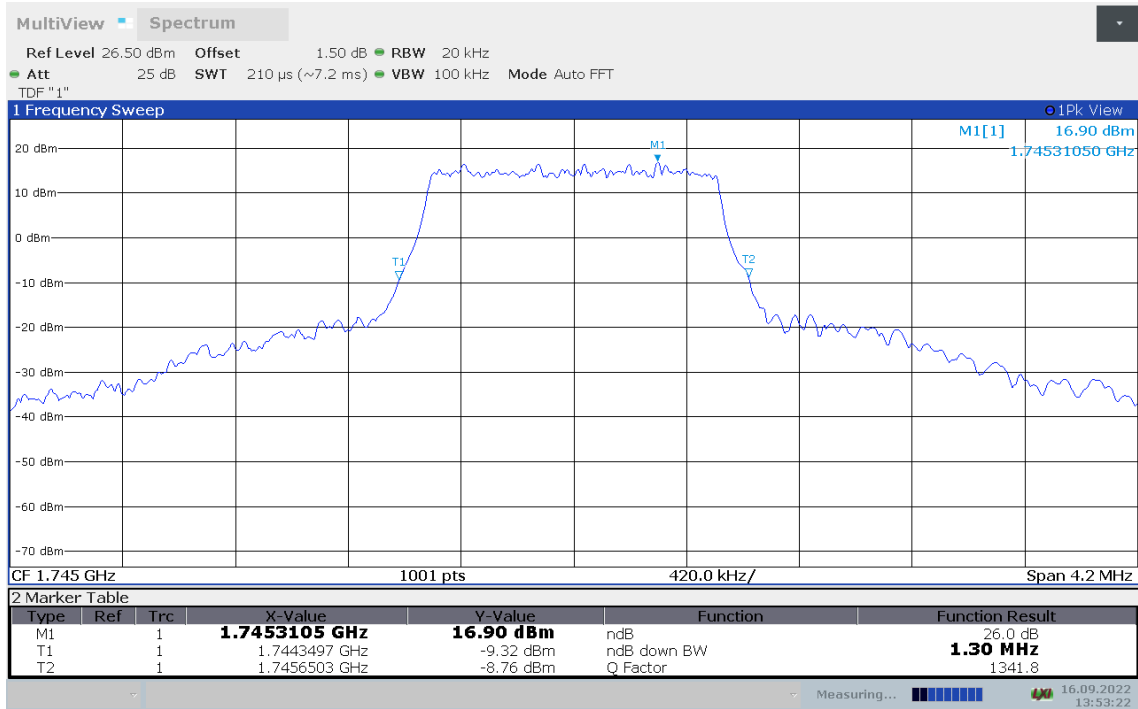**LTE band 66, 10MHz Bandwidth, QPSK (-26dBc BW)**

LTE band 66, 10MHz Bandwidth, 16QAM (-26dBc BW)
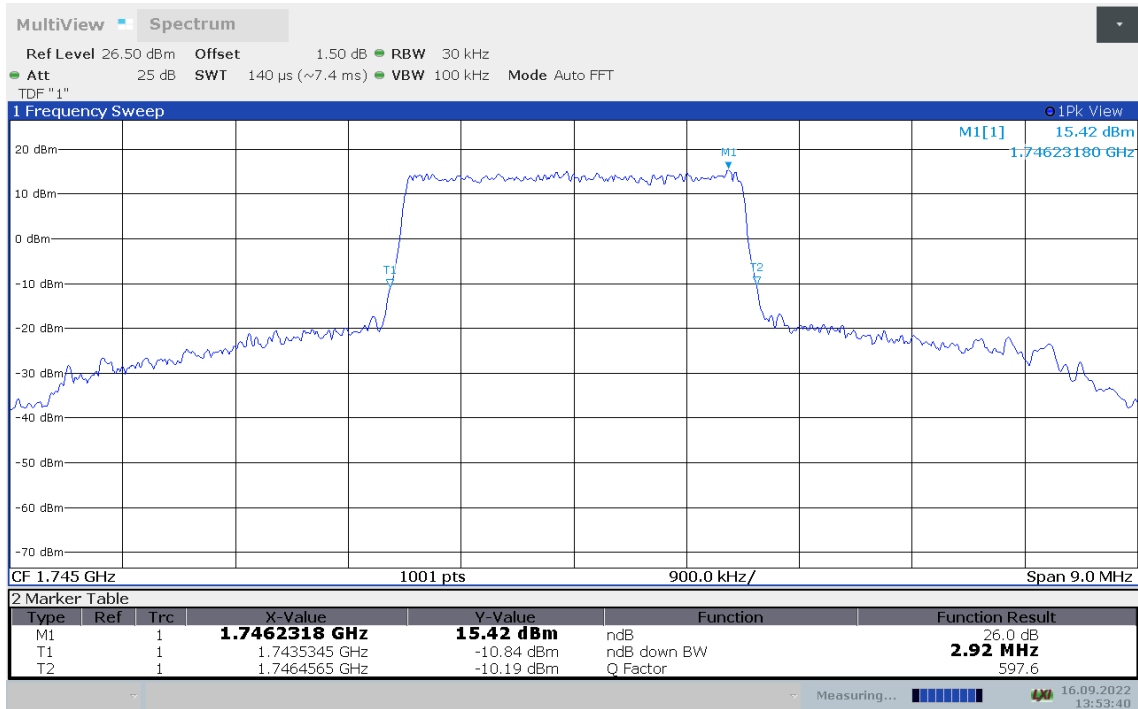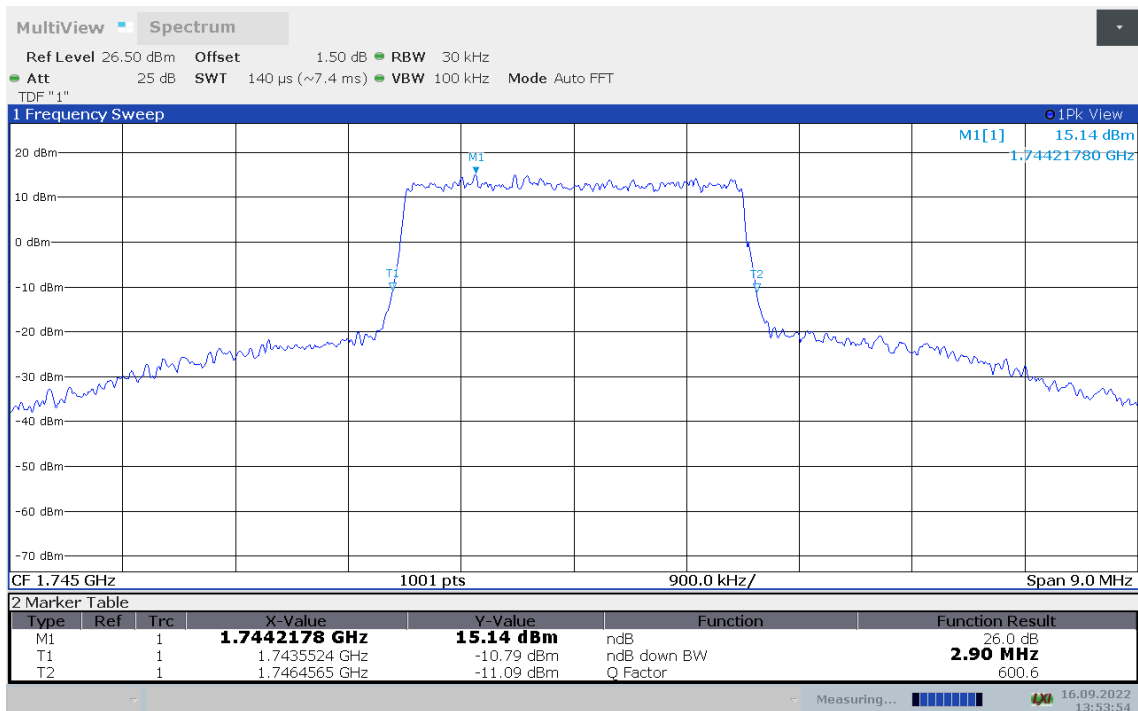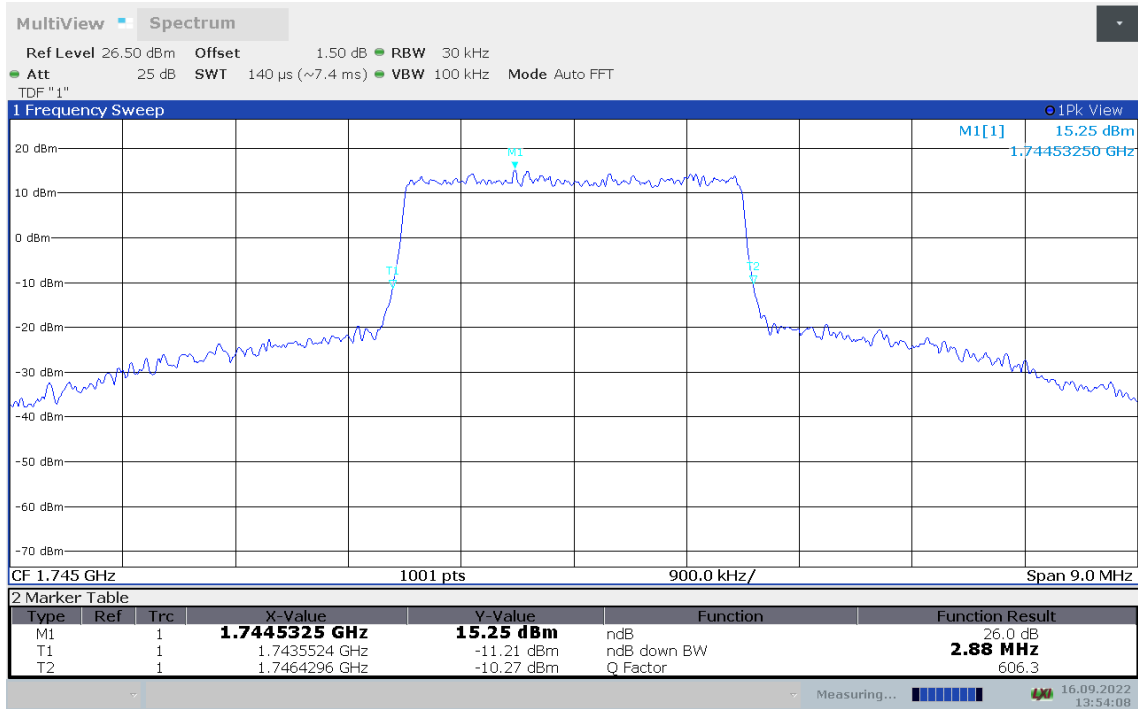
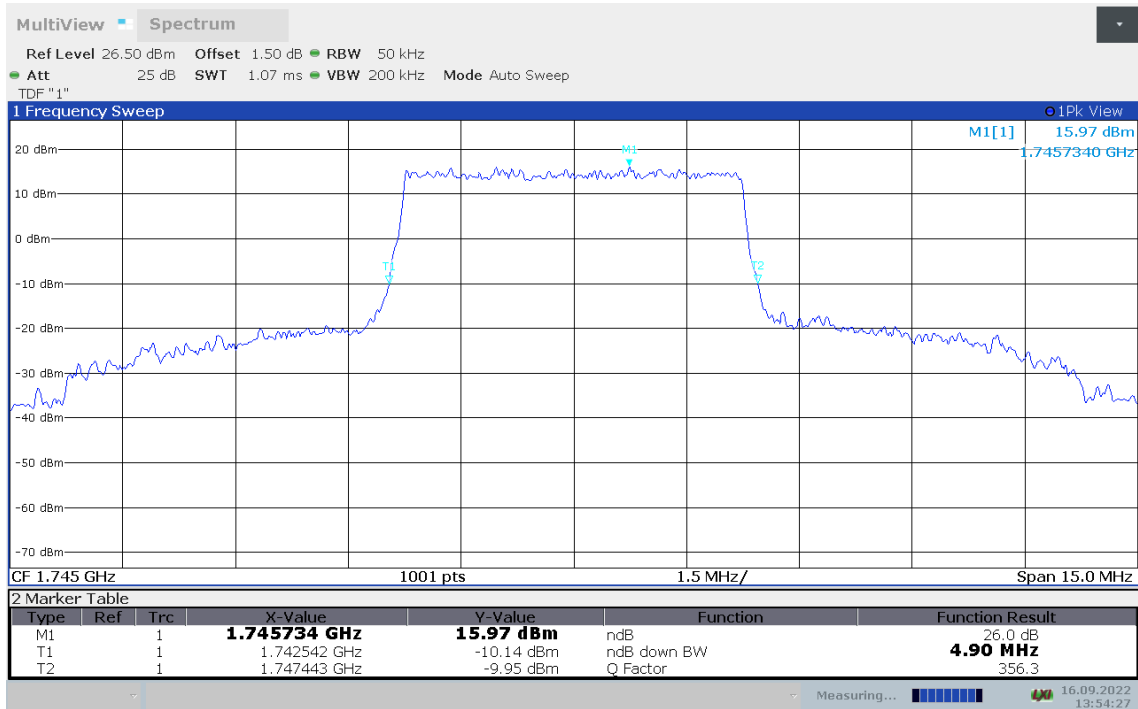## LTE band 66, 10MHz Bandwidth, 64QAM (-26dBc BW)
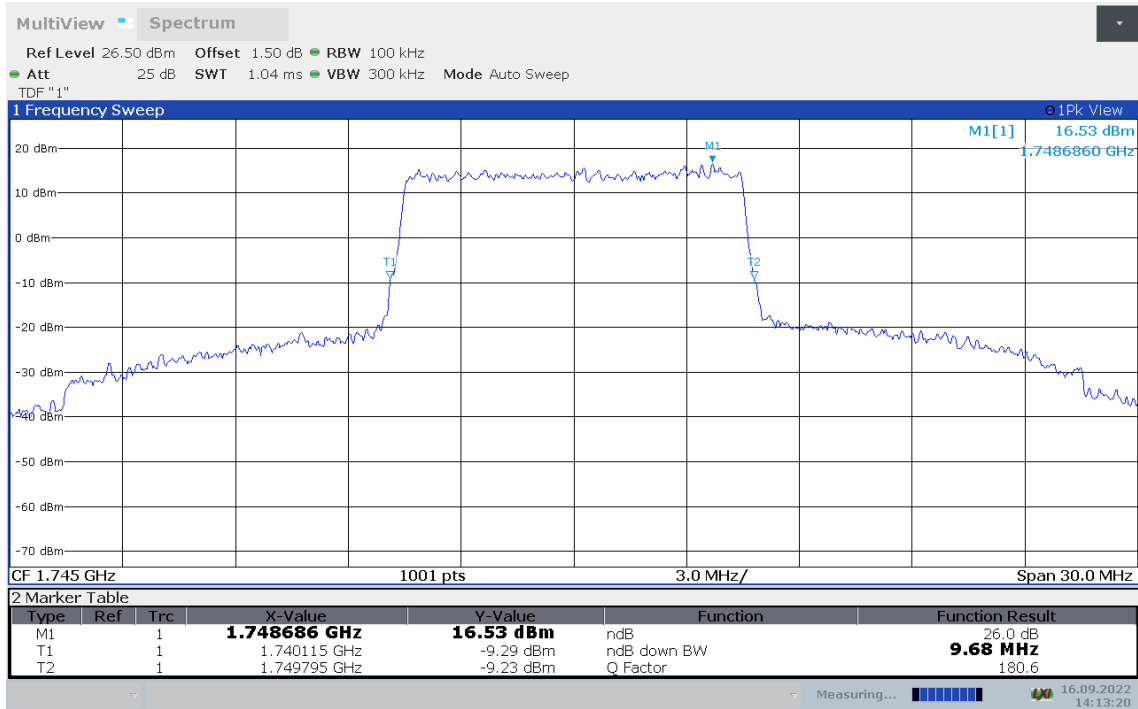
LTE band 66, 15MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
	QPSK	16QAM	64QAM
1745.0	14.48	14.48	14.48

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

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

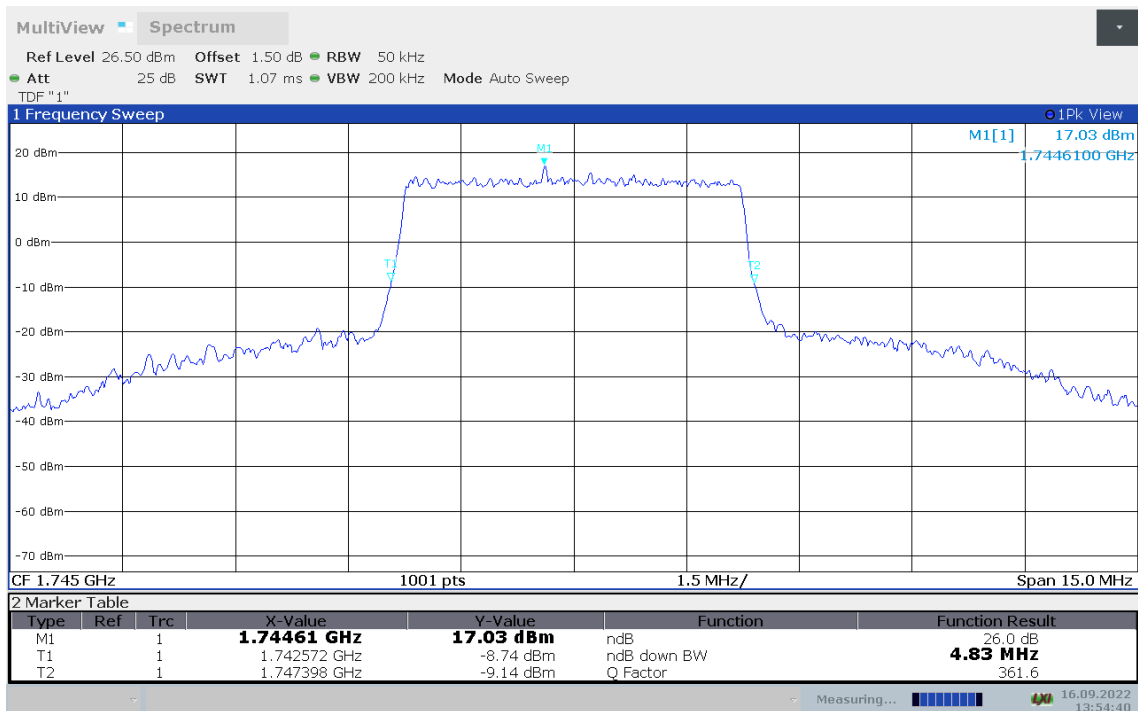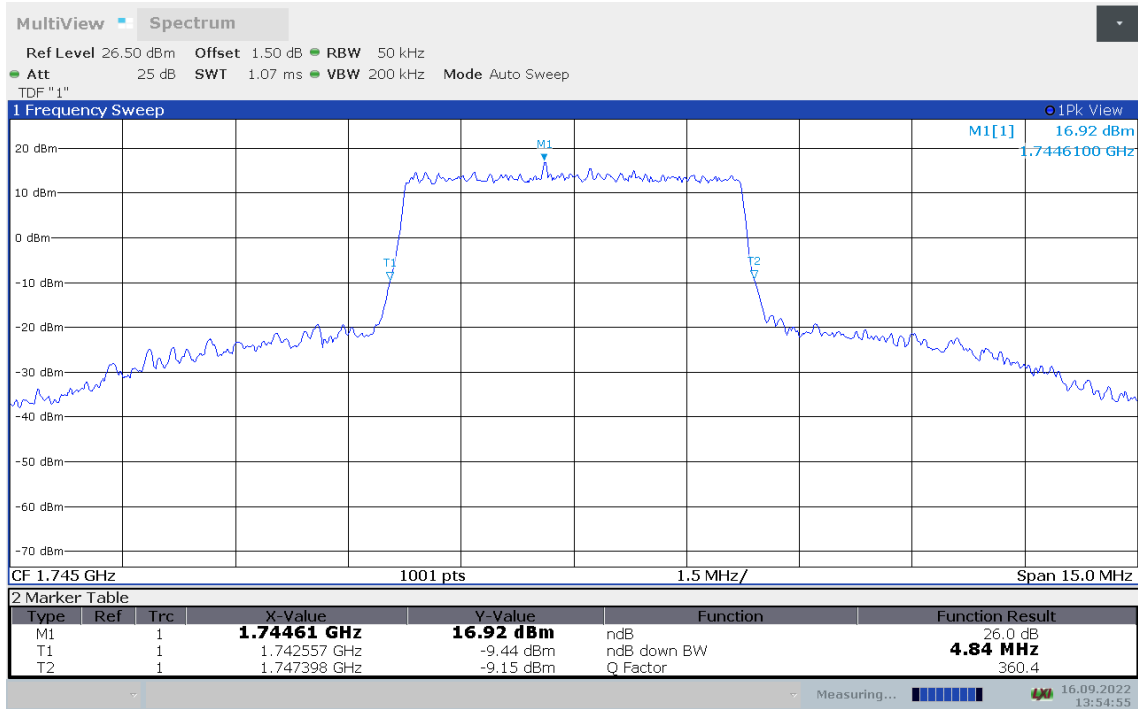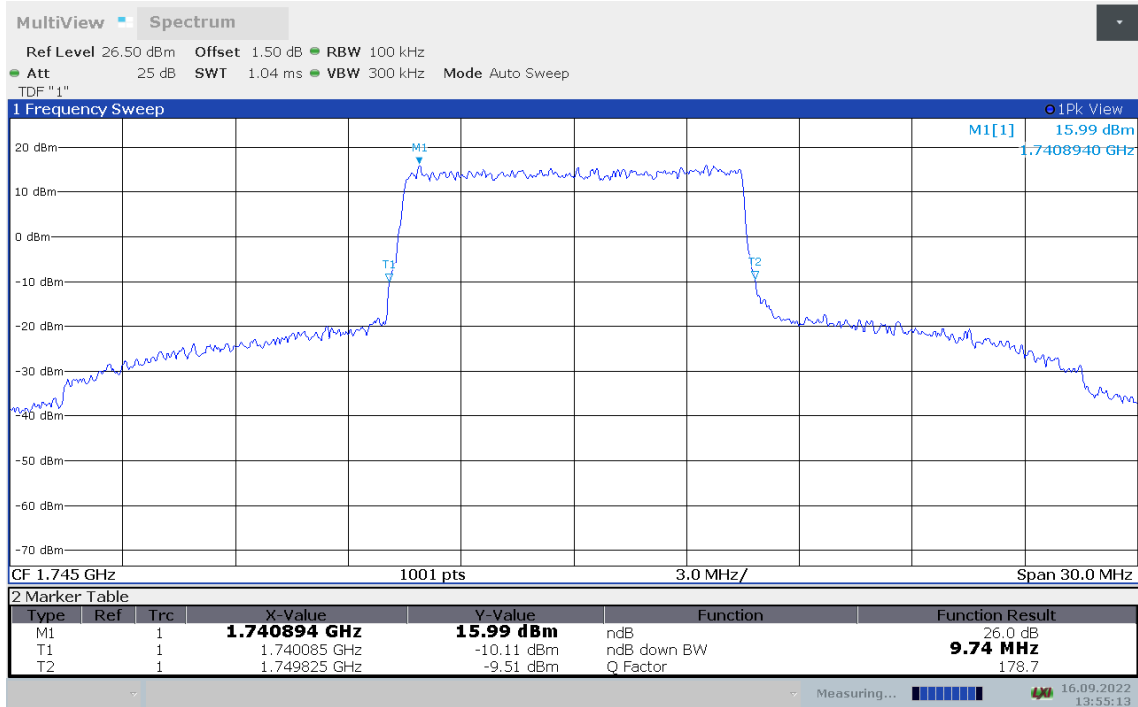## LTE band 66, 15MHz Bandwidth, 64QAM (-26dBc BW)

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		**1.74972 GHz**	**17.16 dBm**	ndB	26.0 dB
T1	1	1	1.737762 GHz	-8.03 dBm	ndB down BW	**14.48 MHz**
T2	1	1	1.752238 GHz	-8.92 dBm	Q Factor	120.9
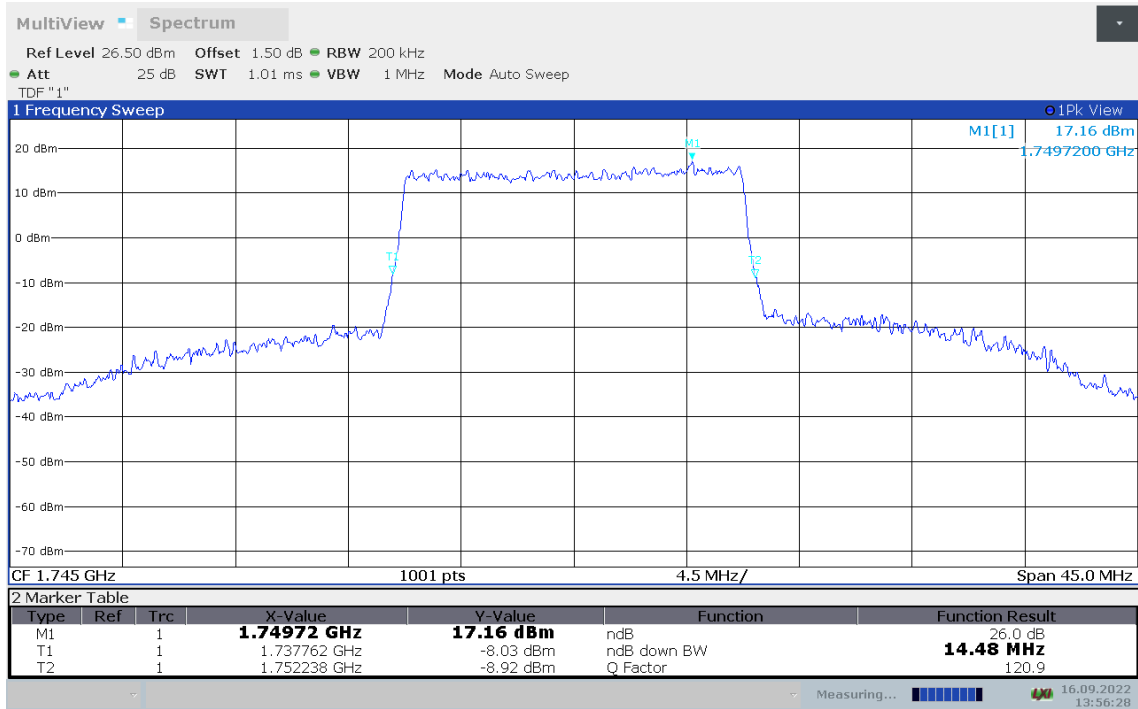
LTE band 66, 20MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(MHz)		
1745.0	QPSK	16QAM	64QAM
	19.06	19.06	19.00

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

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

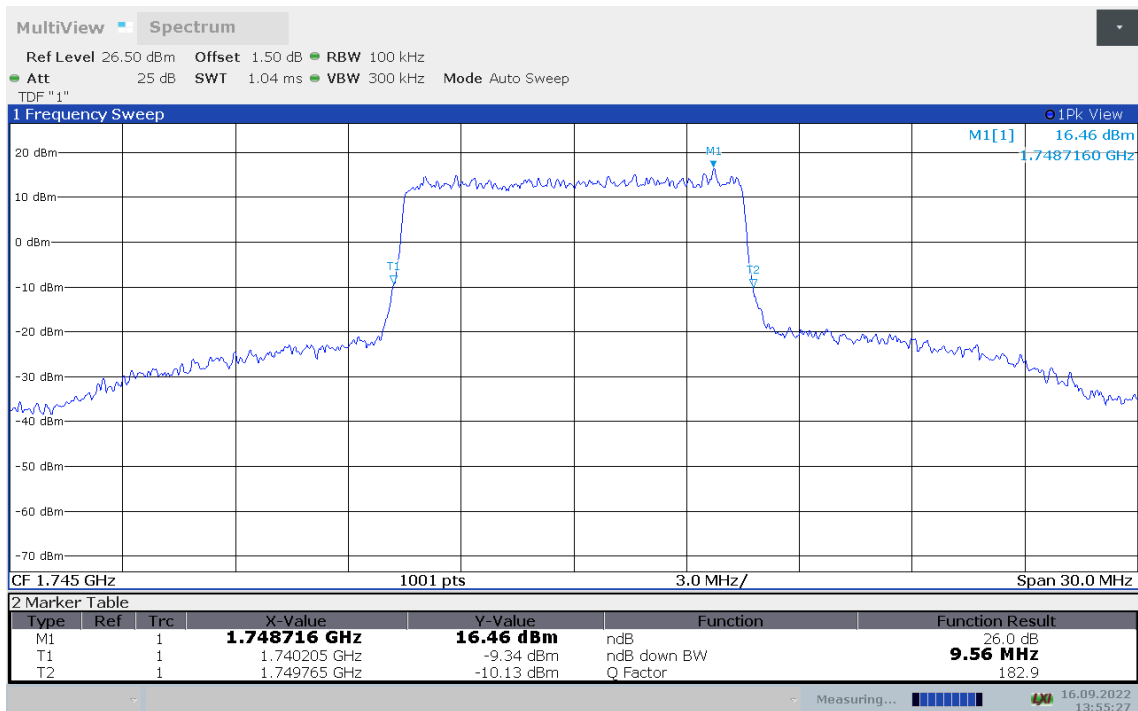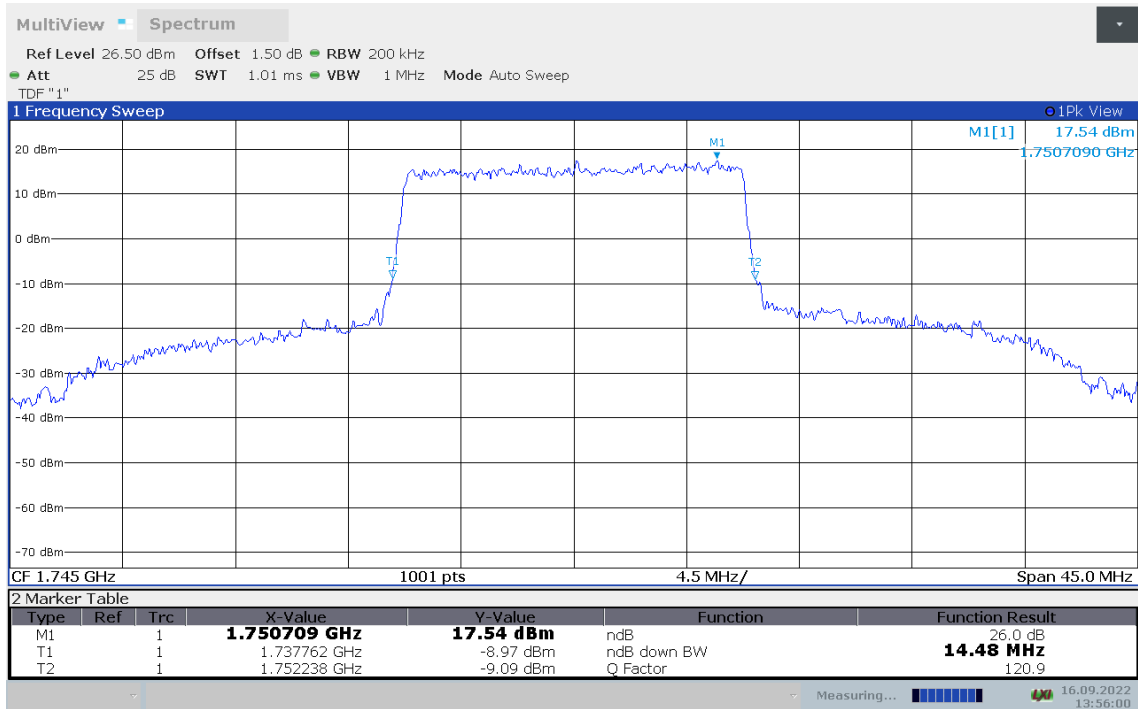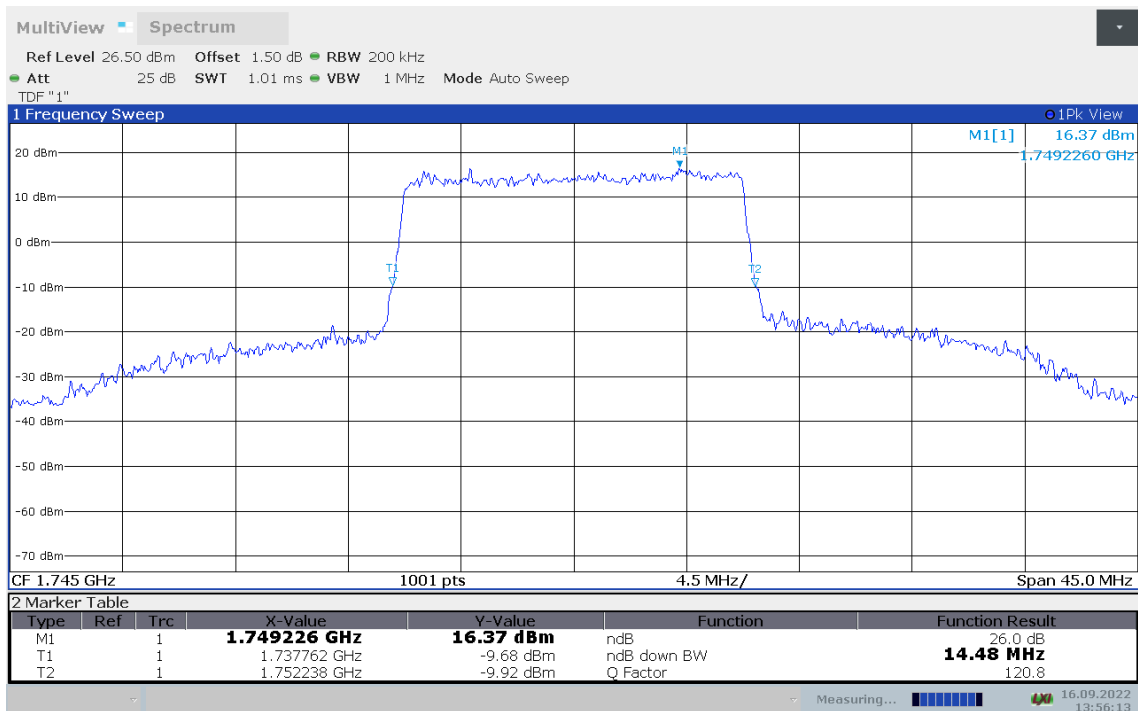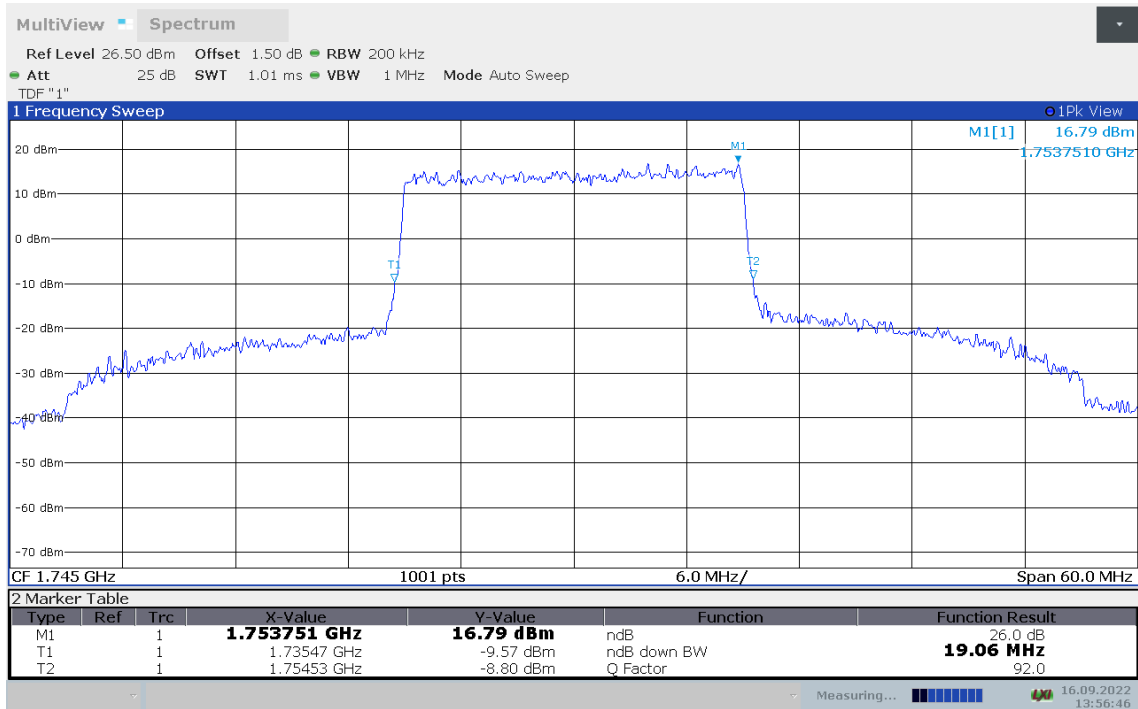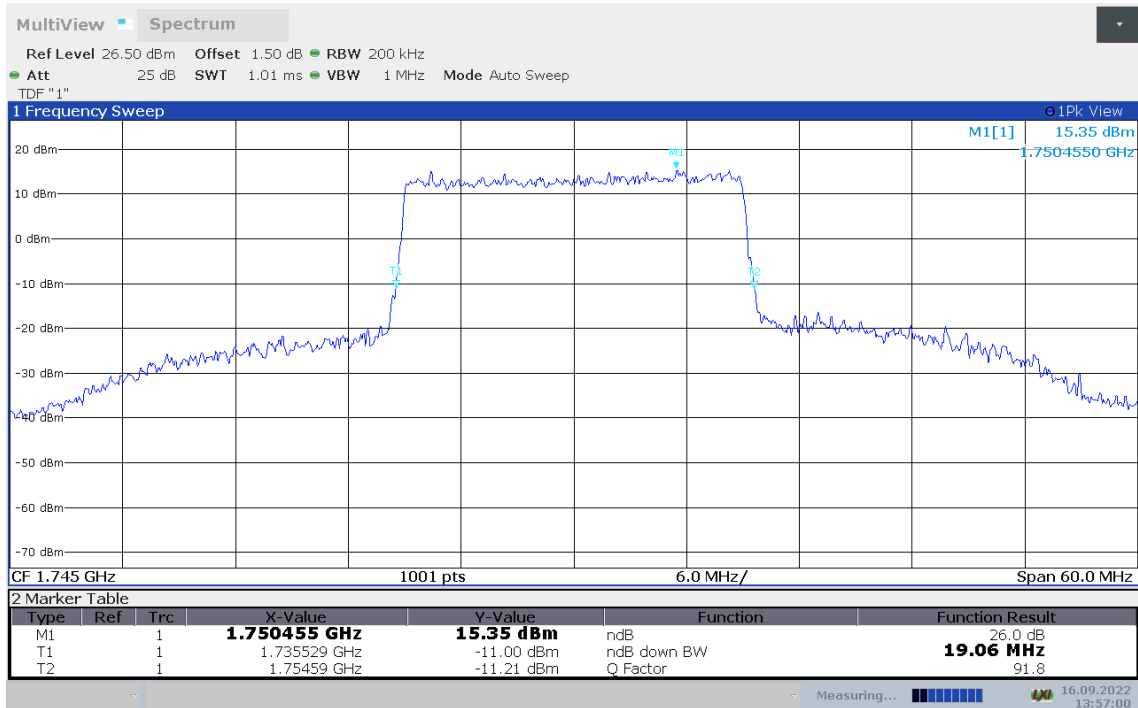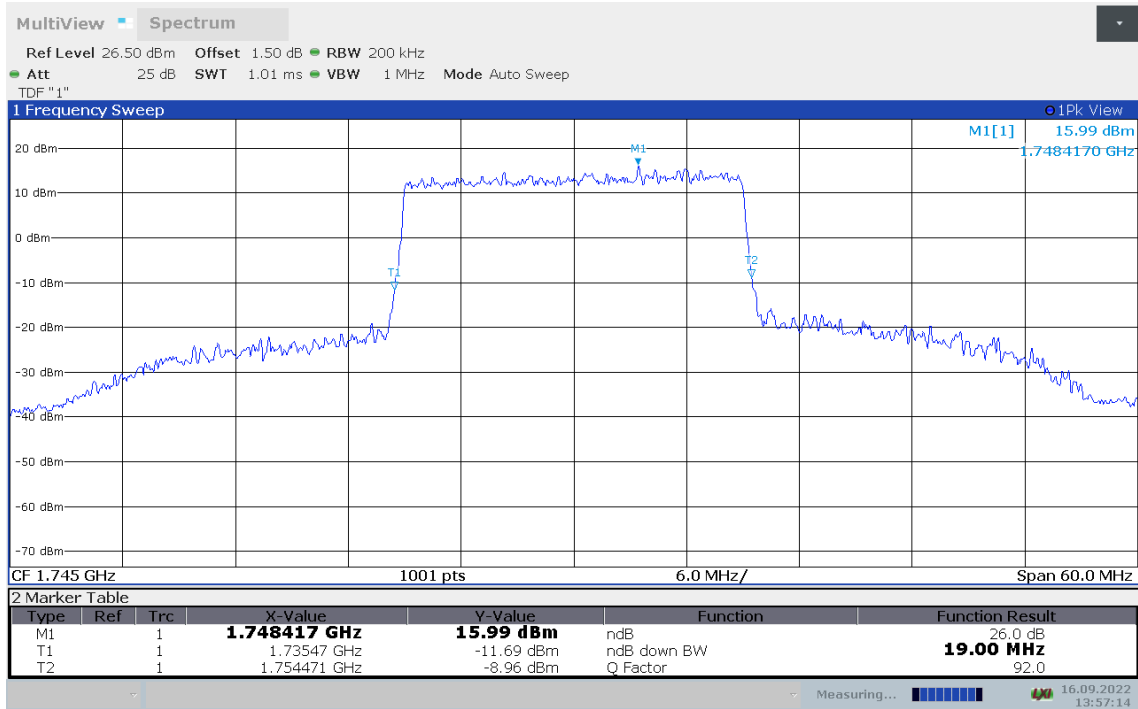## LTE band 66, 20MHz Bandwidth, 64QAM (-26dBc BW)

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

A.6 BAND EDGE COMPLIANCE

Reference
FCC: CFR Part 2.1051, 22.917, 24.238, 27.53, 90.691, 96.41.
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(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 + 10log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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

Part 90.691 states that out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

A.6.2Measurement Procedure
The testing follows ANSI C63.26

a) The EUT was connected to spectrum analyzer and system simulator via a power divider.

b) The band edges of low and high channels for the highest RF powers were measured.

c) Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.

d) Set spectrum analyzer with RMS detector.

e) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

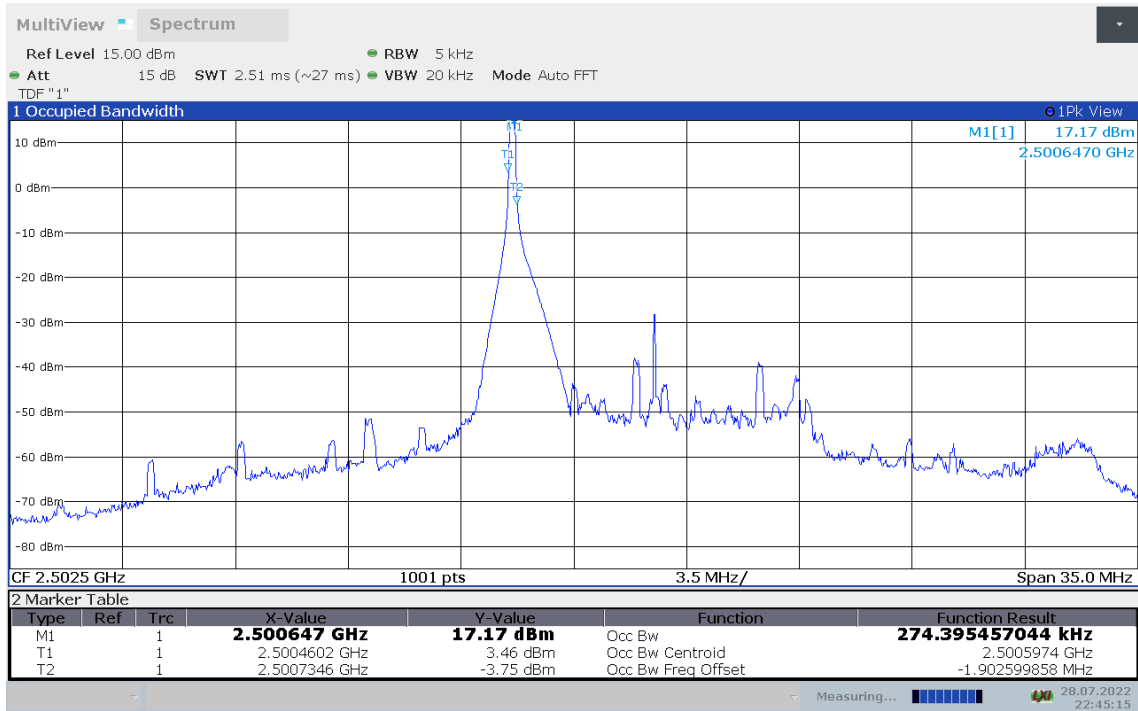f) Checked that all the results comply with the emission limit line.

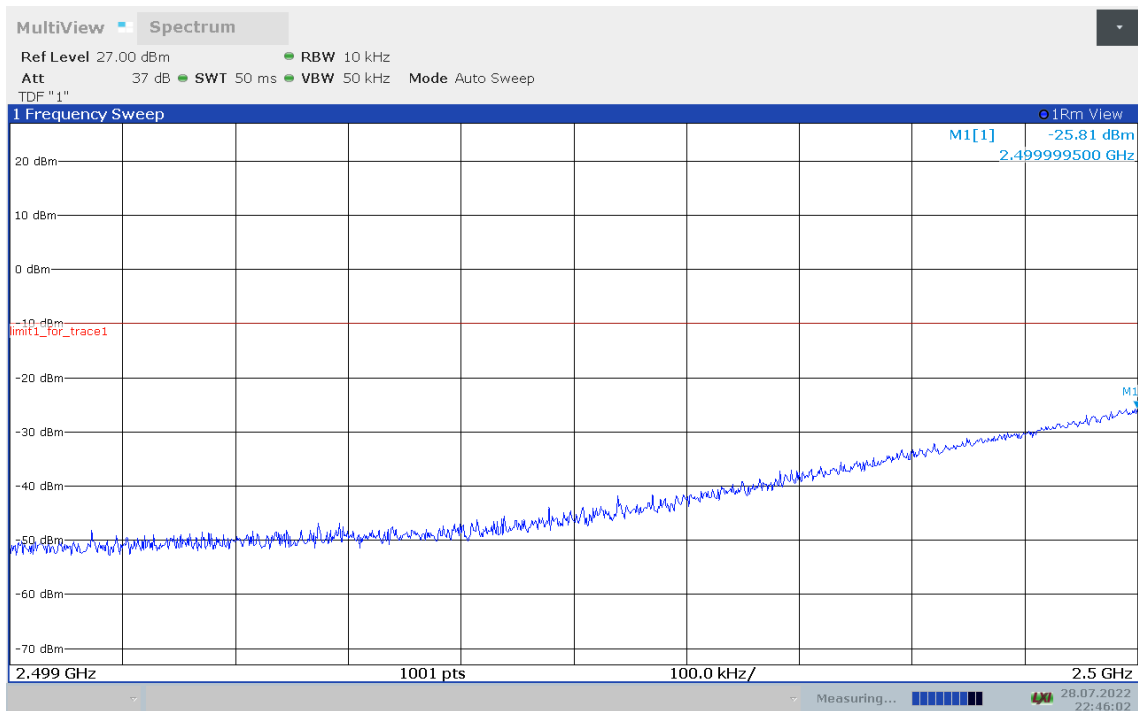**A.6.3 Measurement result**

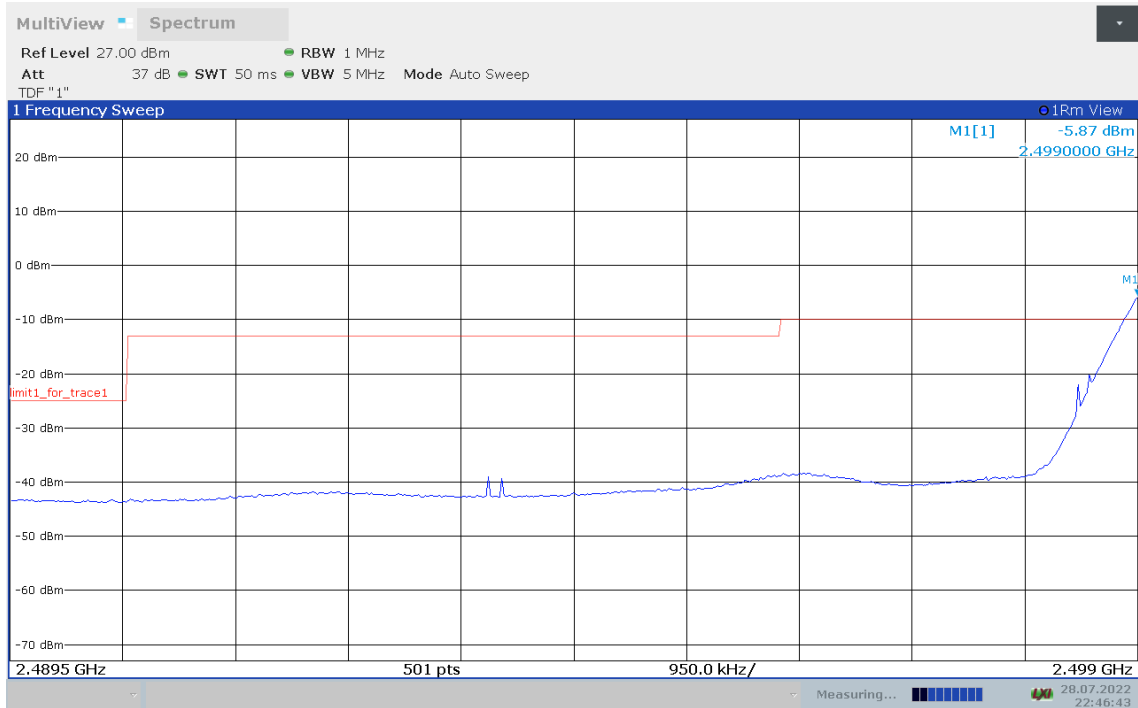**Only worst case result is given below**

LTE band 7

OBW: 1RB-LOW_offset

LOW BAND EDGE BLOCK-1RB-LOW_offset

LOW BAND EDGE BLOCK-1RB-LOW_offset

Channal Power

Channel	Bandwidth	Offset	Power
Tx1 (Ref)	1.000 MHz		-32.36 dBm
Tx Total			-32.36 dBm