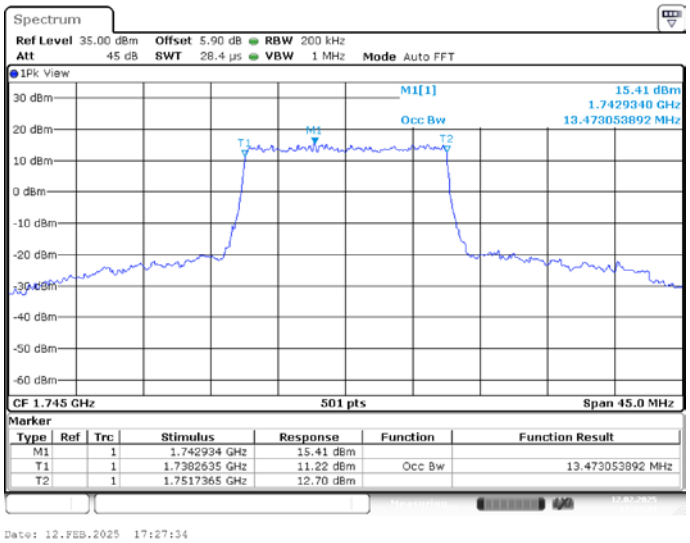
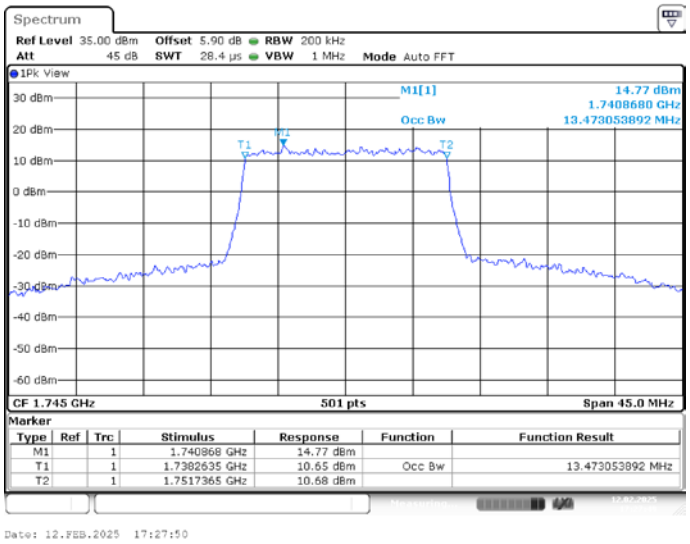
LTE band 66,15MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1745	13.473	13.473

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



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



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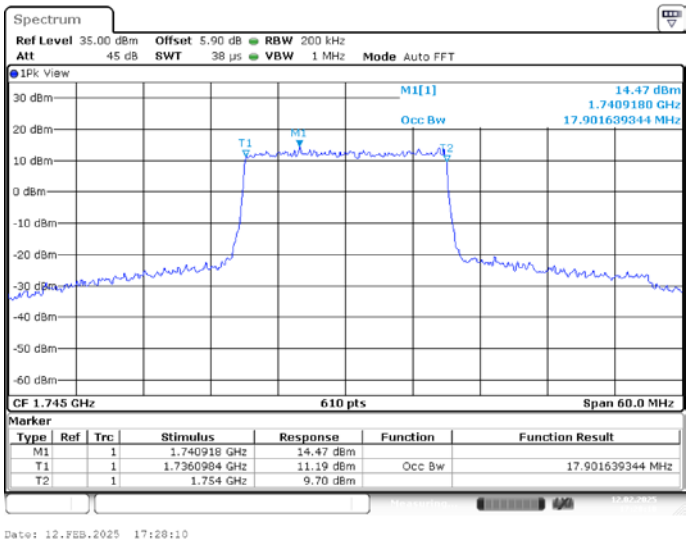
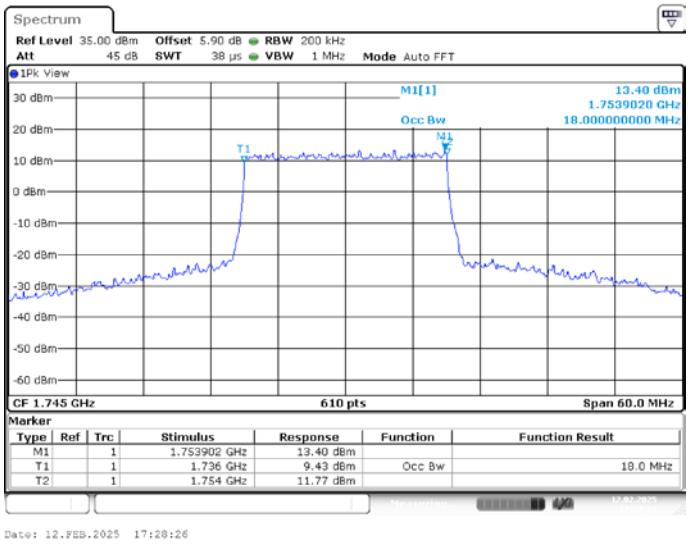
LTE band 66,20MHz(99%)

Frequency (MHz)	Occupied Bandwidth (99%)(MHz)	
	QPSK	16QAM
1745	17.902	18.000

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



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



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A.5 Emission Bandwidth

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

The measurement method is from ANSI C63.26:

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.

b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.

c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.

d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target "−X dB" requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.

e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.

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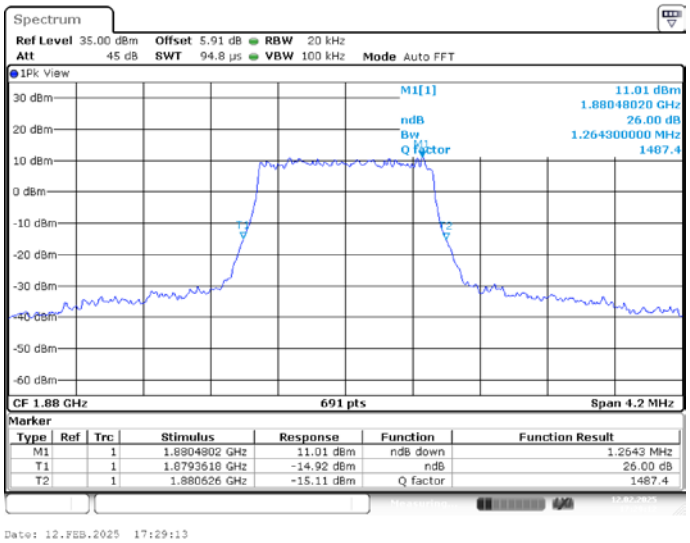
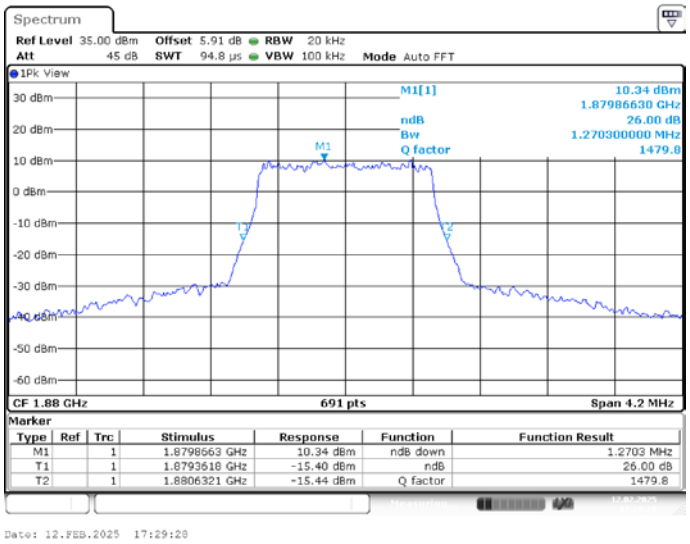
LTE band 2,1.4MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	1.264	1.270

LTE band 2 , 1.4MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 1.4MHz Bandwidth,MID,16QAM (-26dBc BW)



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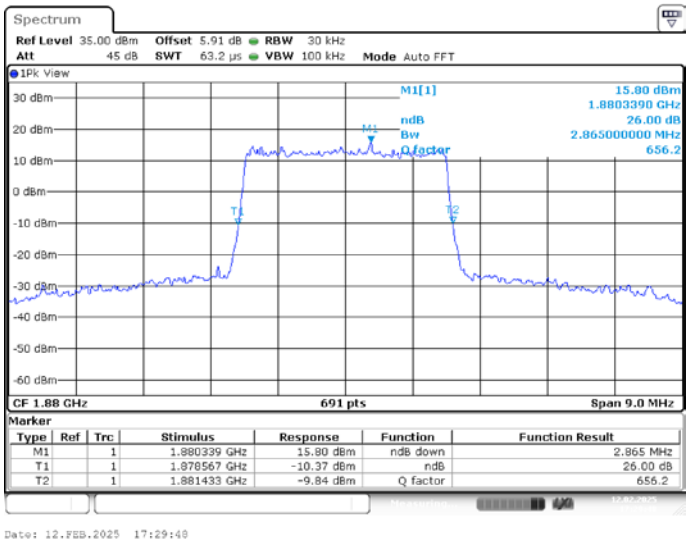
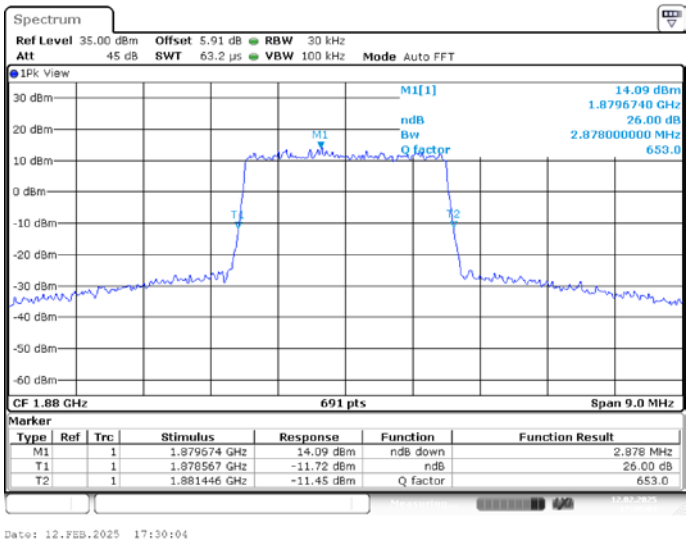
LTE band 2,3MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	2.865	2.878

LTE band 2 , 3MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 3MHz Bandwidth,MID,16QAM (-26dBc BW)



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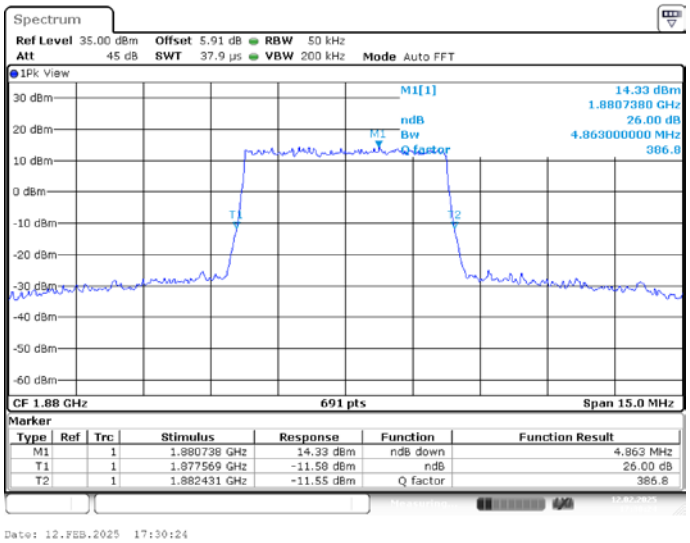
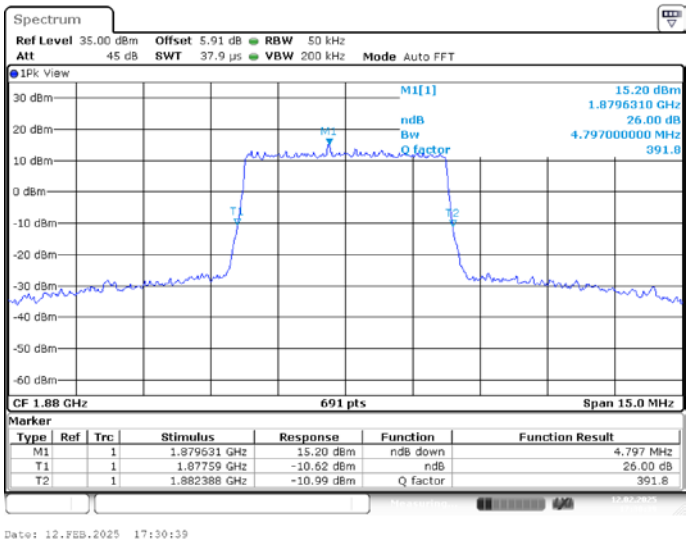
LTE band 2,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	4.863	4.797

LTE band 2 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)



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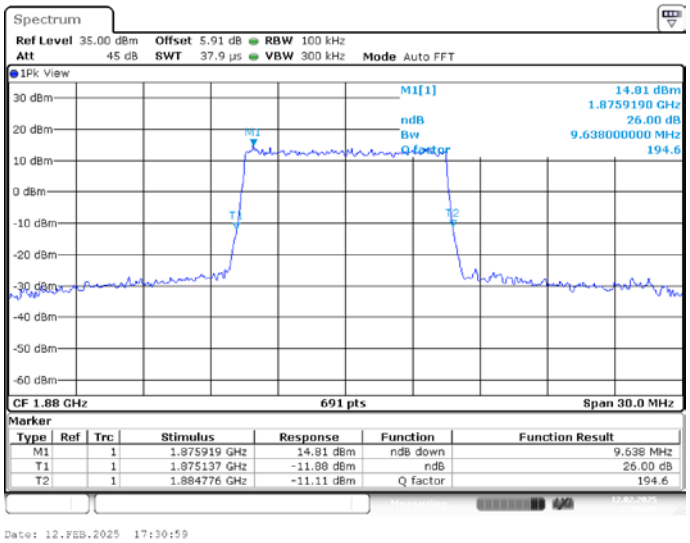
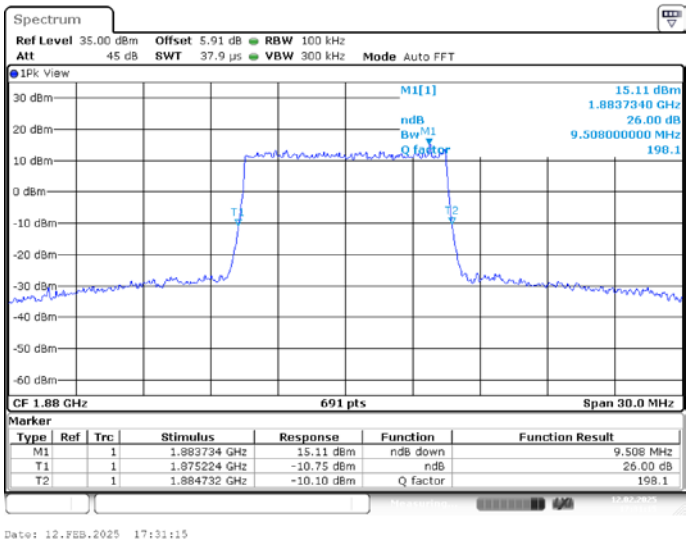
LTE band 2,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	9.638	9.508

LTE band 2 , 10MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 10MHz Bandwidth,MID,16QAM (-26dBc BW)



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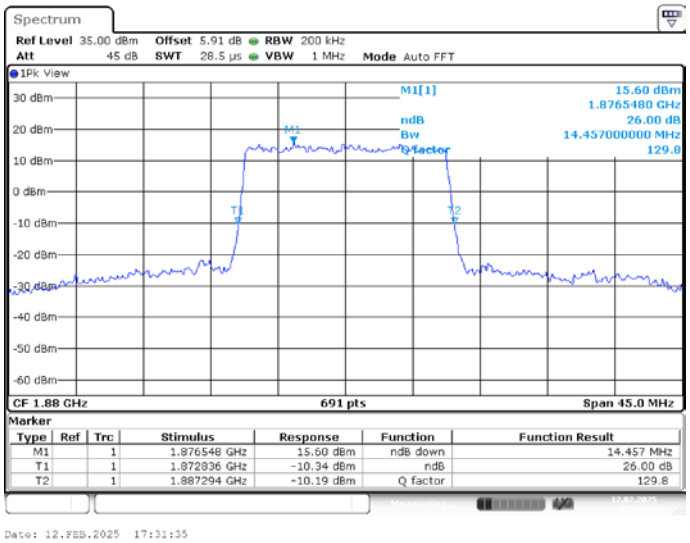
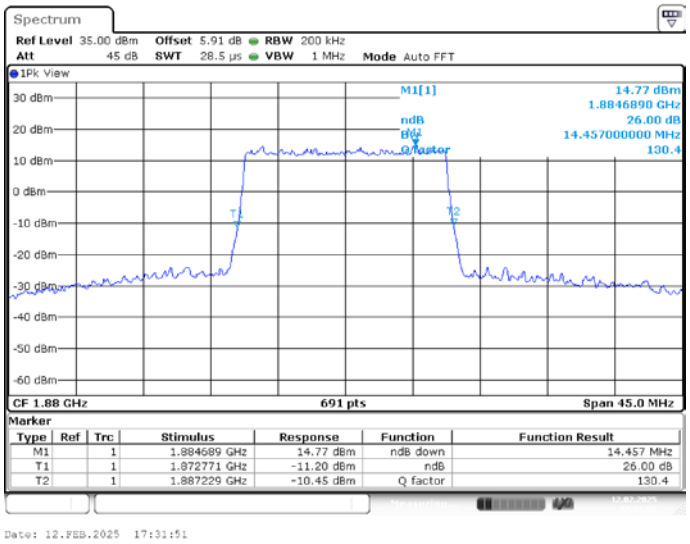
LTE band 2,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	14.457	14.457

LTE band 2 , 15MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 15MHz Bandwidth,MID,16QAM (-26dBc BW)



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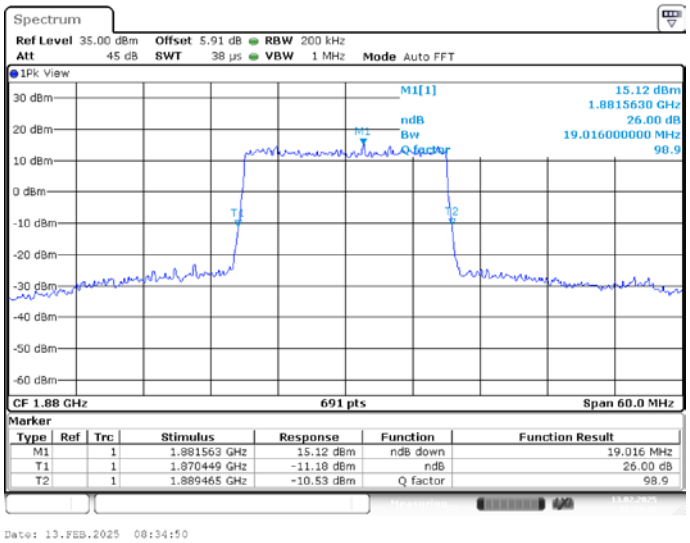
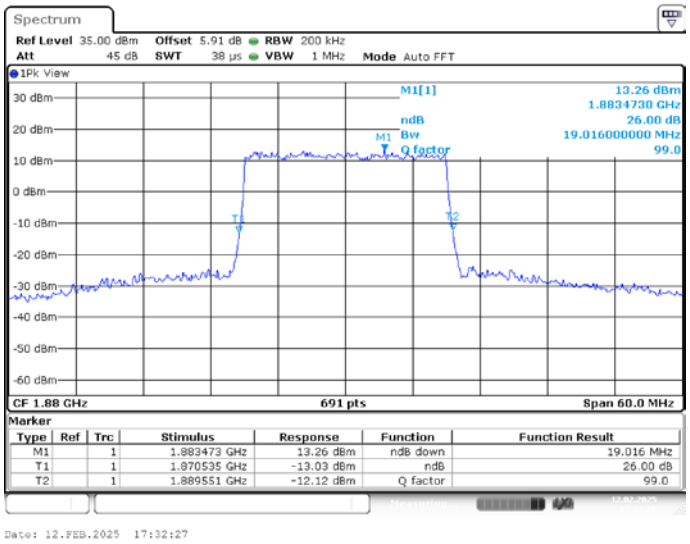
LTE band 2,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1880	19.016	19.016

LTE band 2 , 20MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 2 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)



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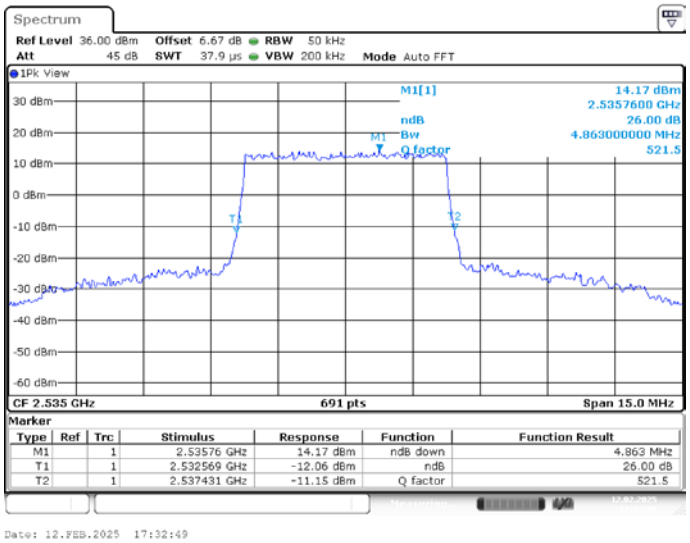
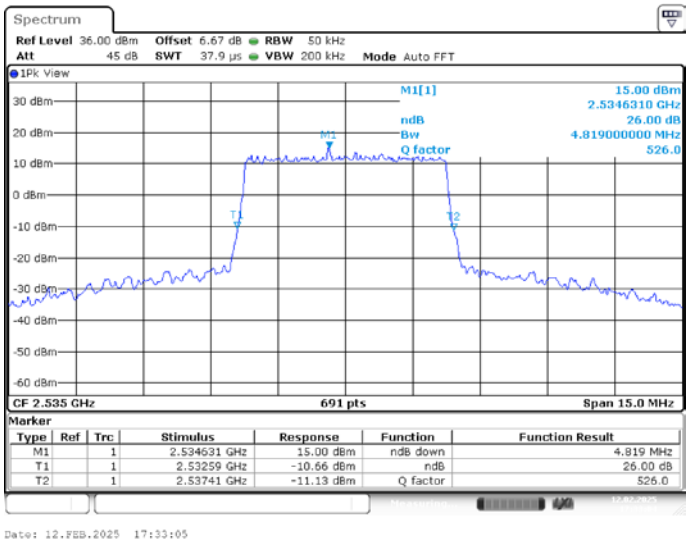
LTE band 7,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2535	4.863	4.819

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



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



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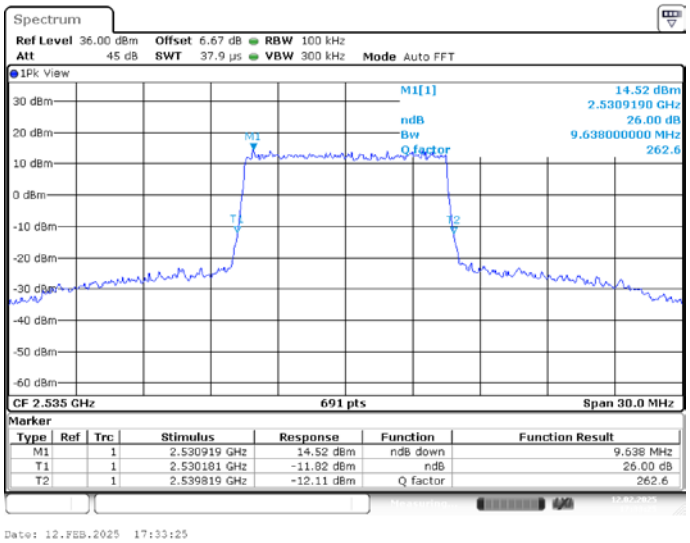
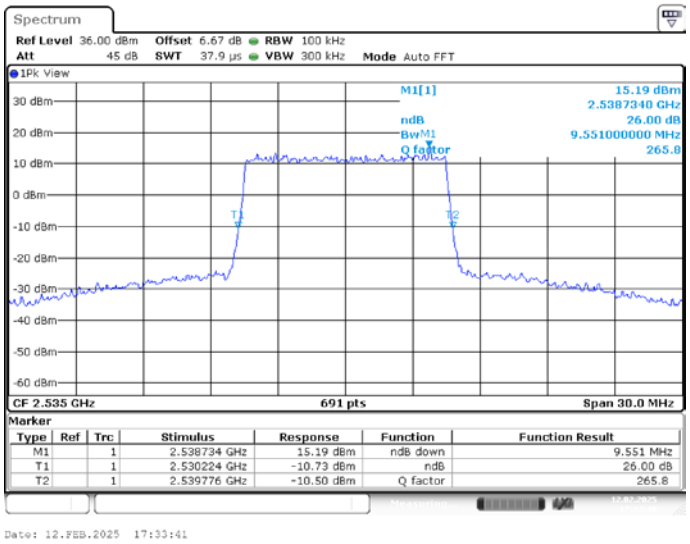
LTE band 7,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2535	9.638	9.551

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



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



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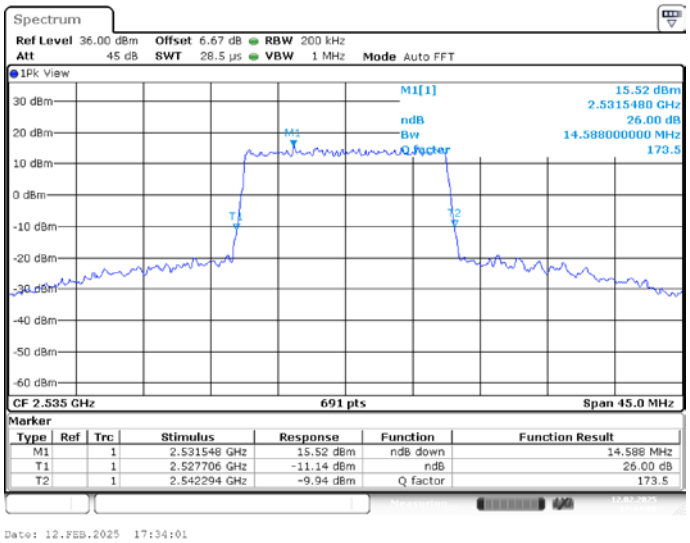
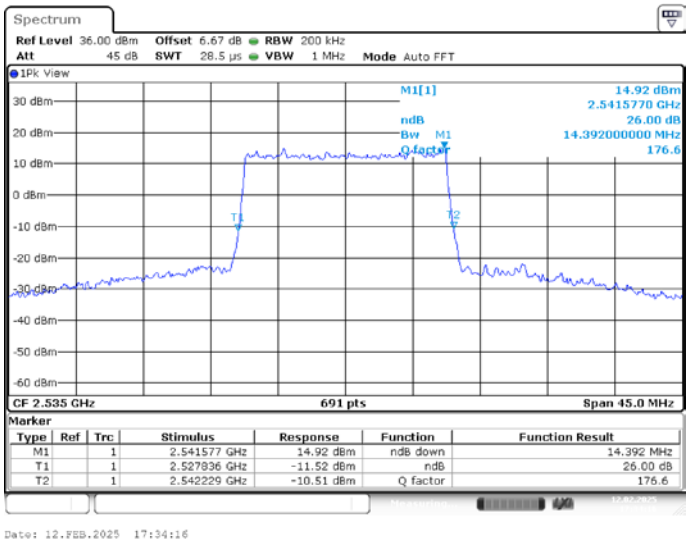
LTE band 7,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2535	14.588	14.392

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



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



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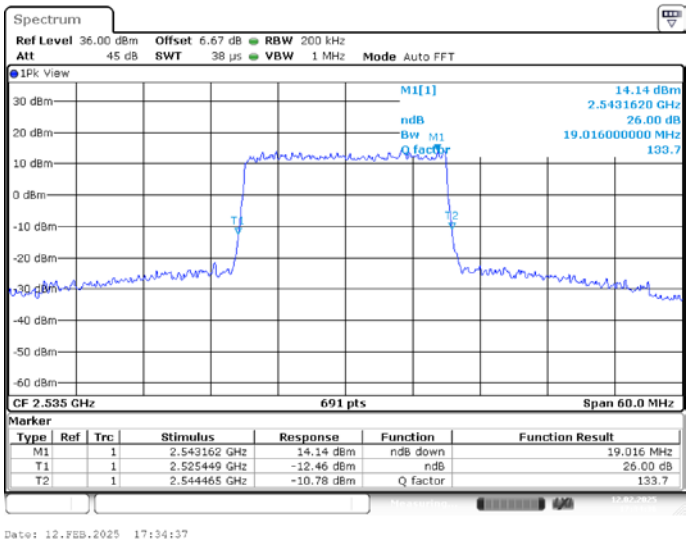
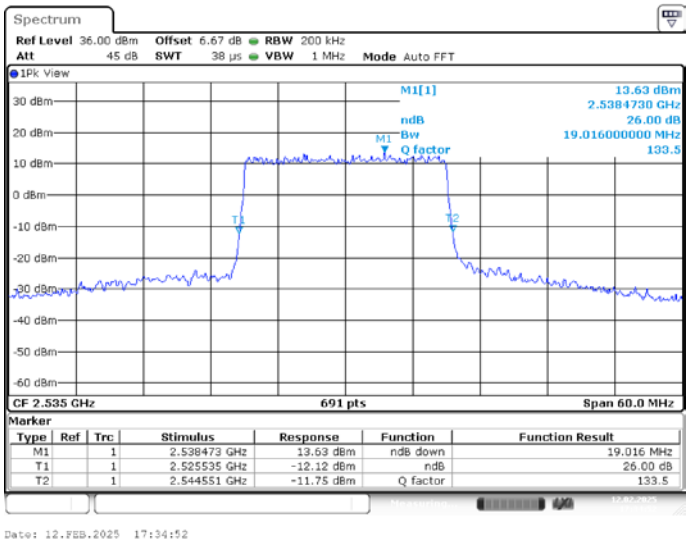
LTE band 7,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2535	19.016	19.016

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



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



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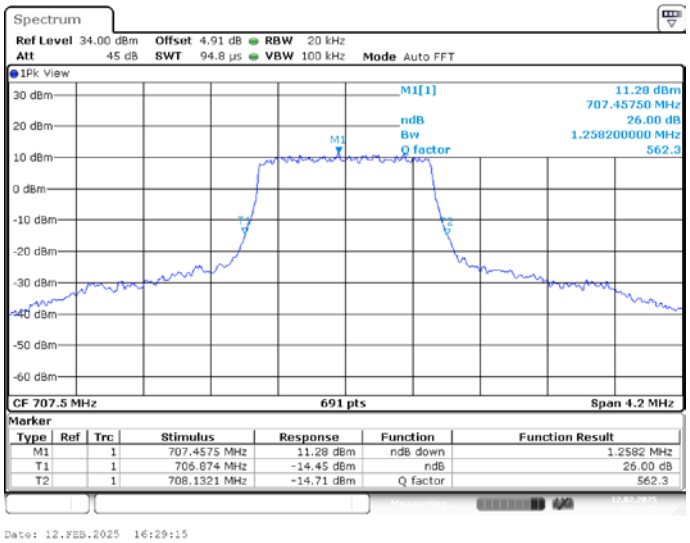
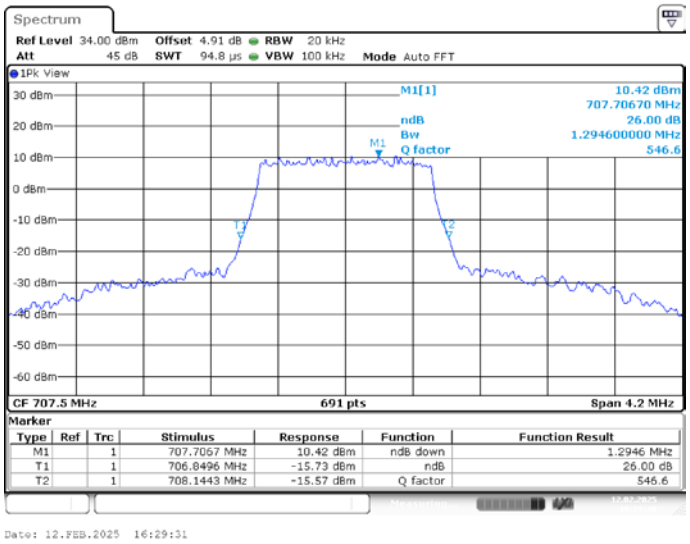
LTE band 12,1.4MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
707.5	1.258	1.295

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



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



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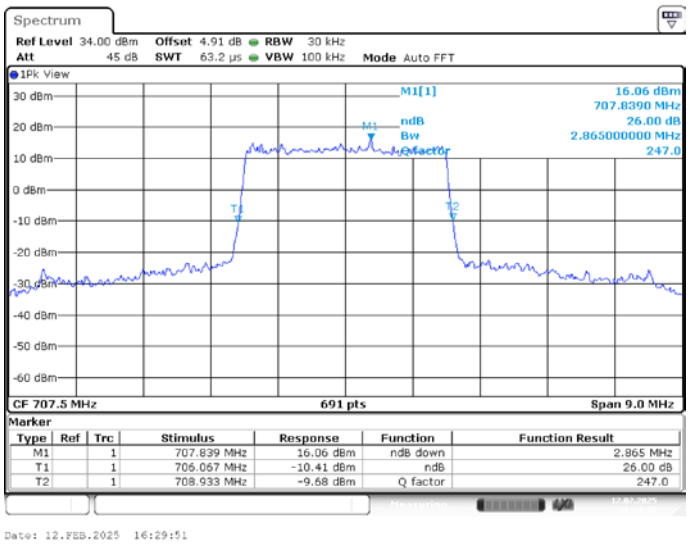
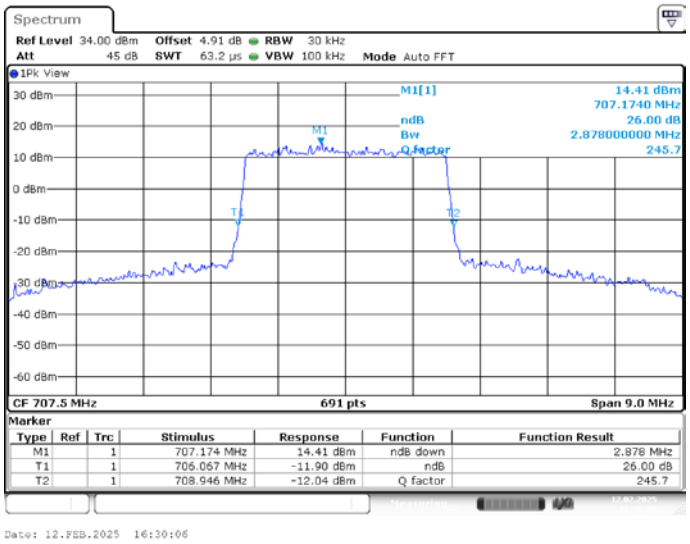
LTE band 12,3MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
707.5	2.865	2.878

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



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



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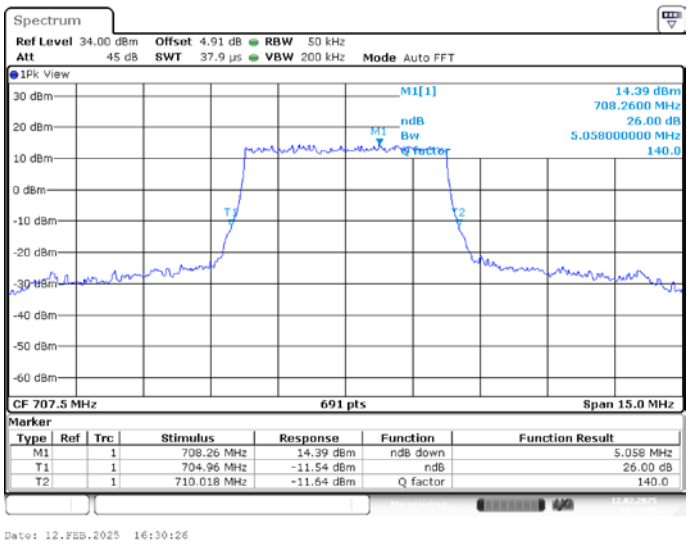
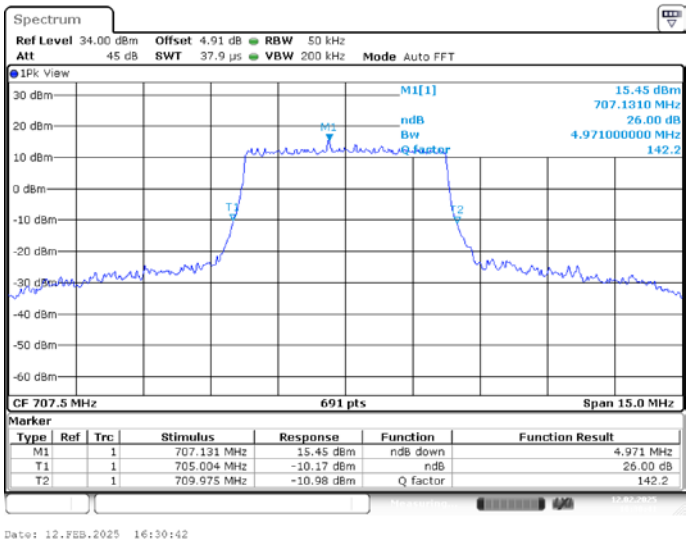
LTE band 12,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
707.5	5.058	4.971

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



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



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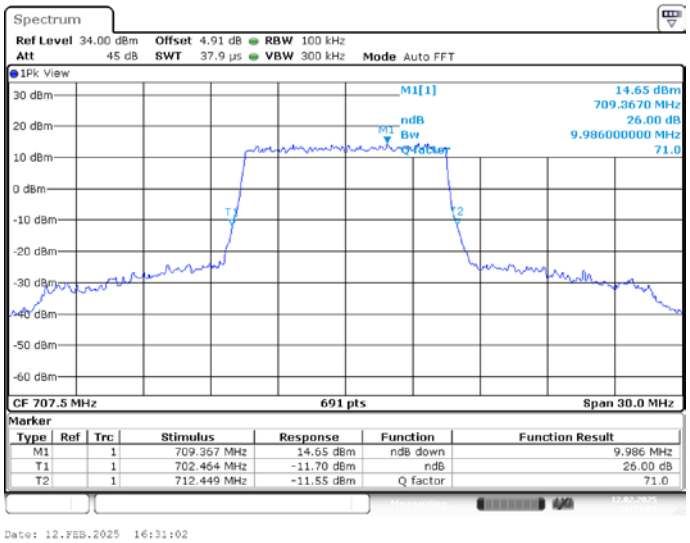
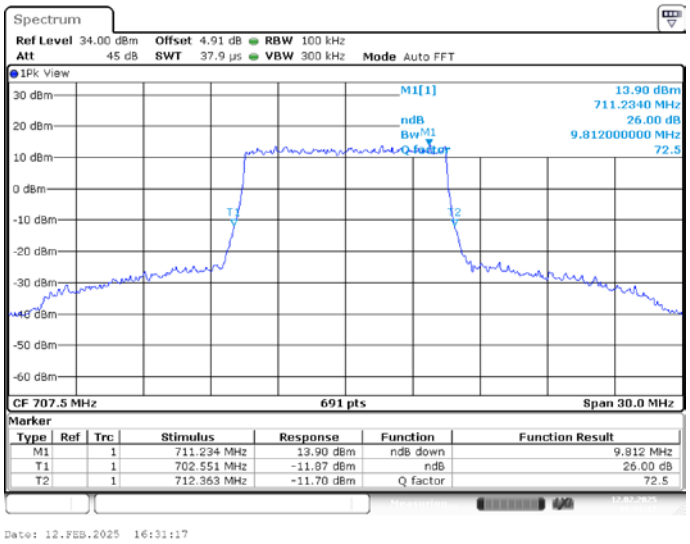
LTE band 12,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
707.5	9.986	9.812

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



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



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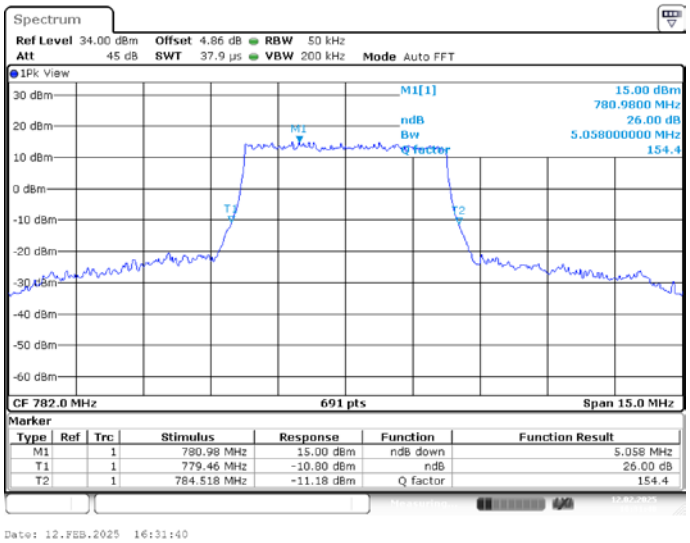
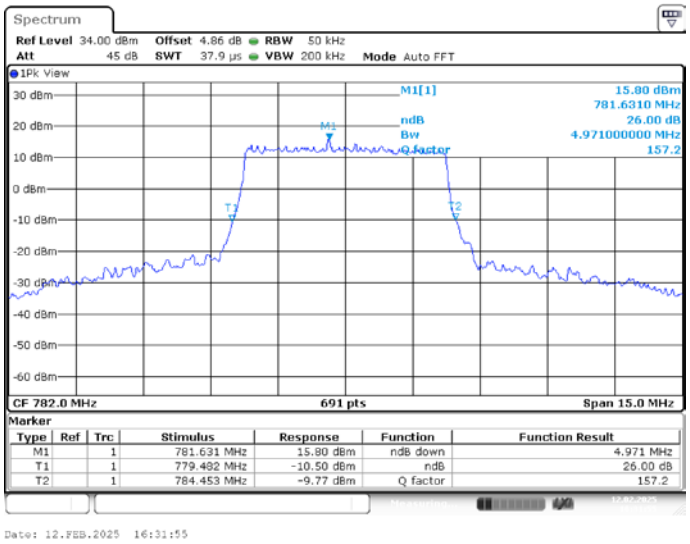
LTE band 13,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
782	5.058	4.971

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



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



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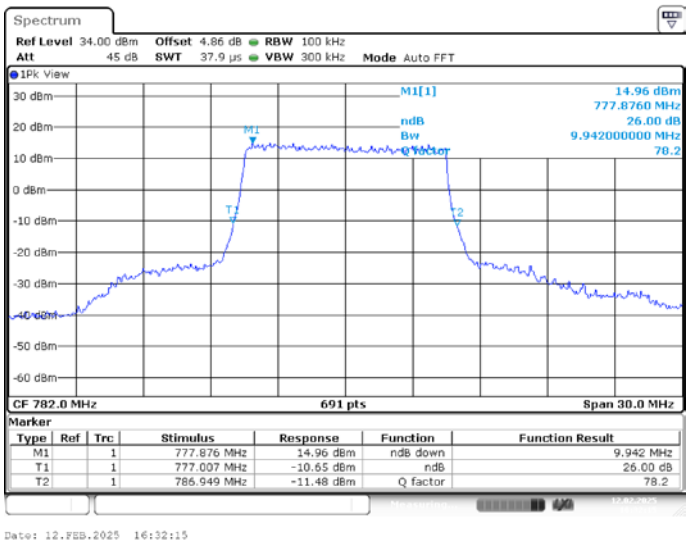
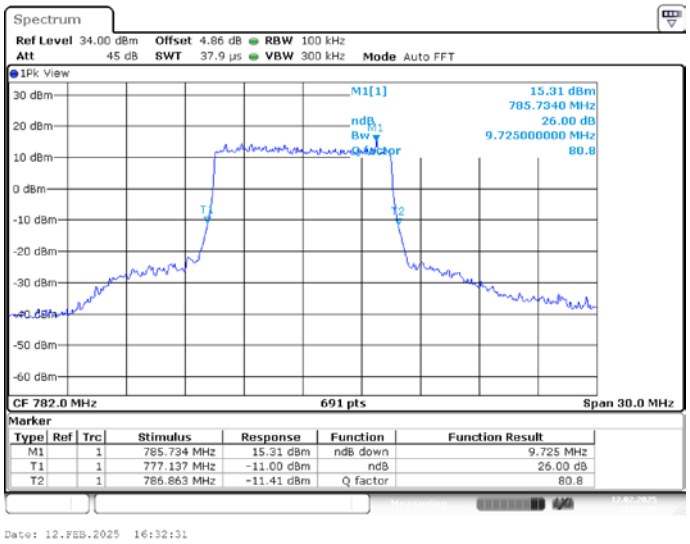
LTE band 13,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
782	9.942	9.725

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



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



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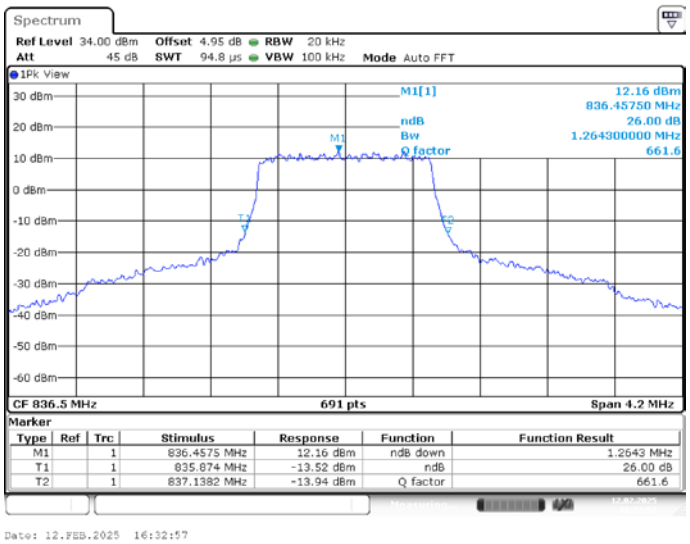
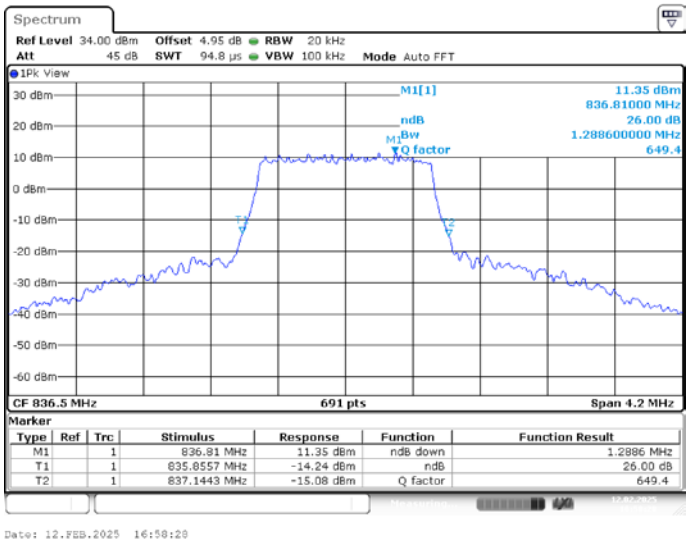
LTE band 26_Part22,1.4MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
836.5	1.264	1.289

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



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



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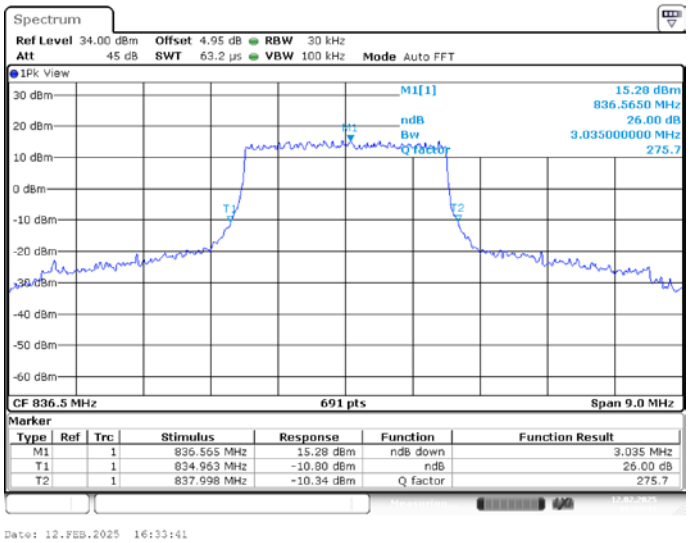
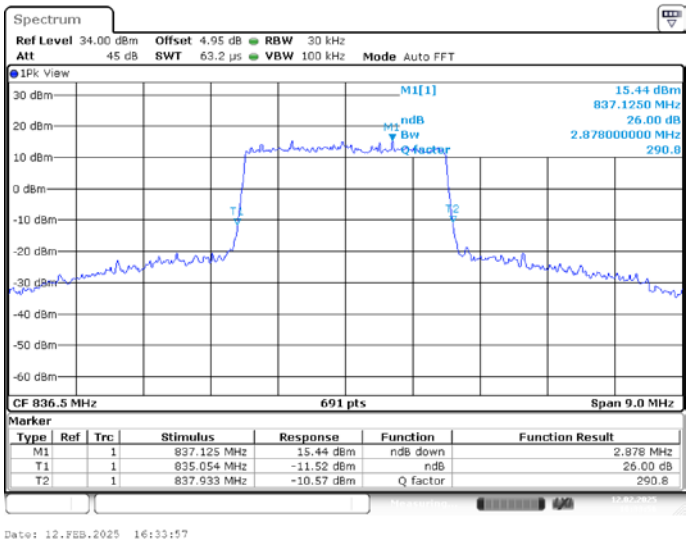
LTE band 26_Part22,3MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
836.5	3.035	2.878

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



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



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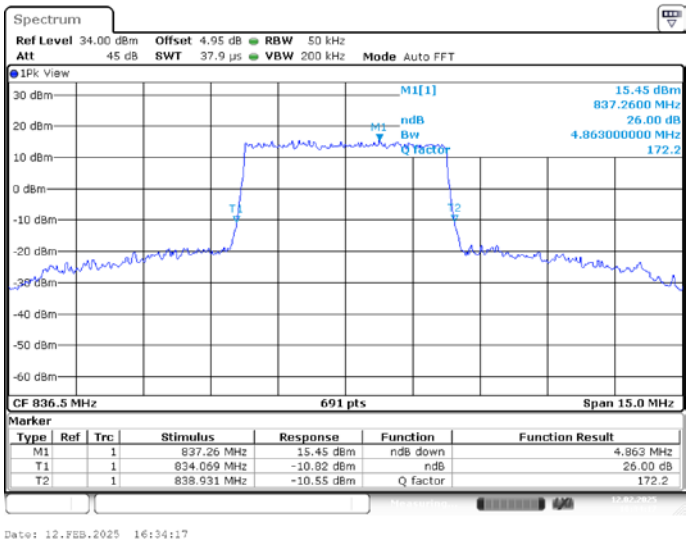
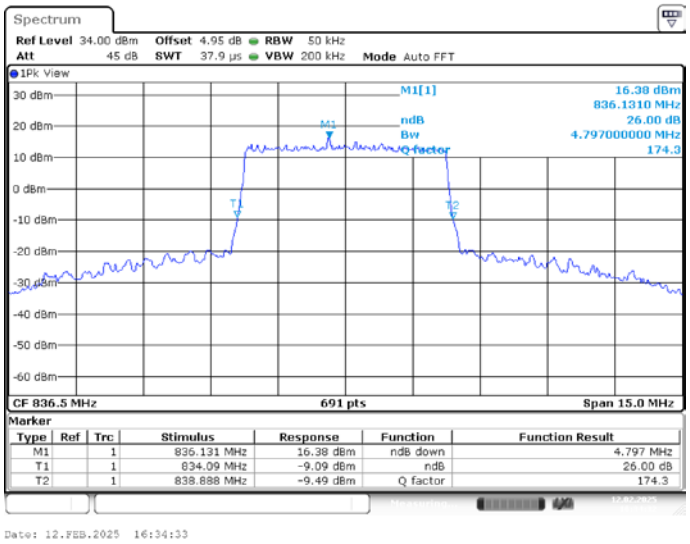
LTE band 26_Part22,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
836.5	4.863	4.797

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



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



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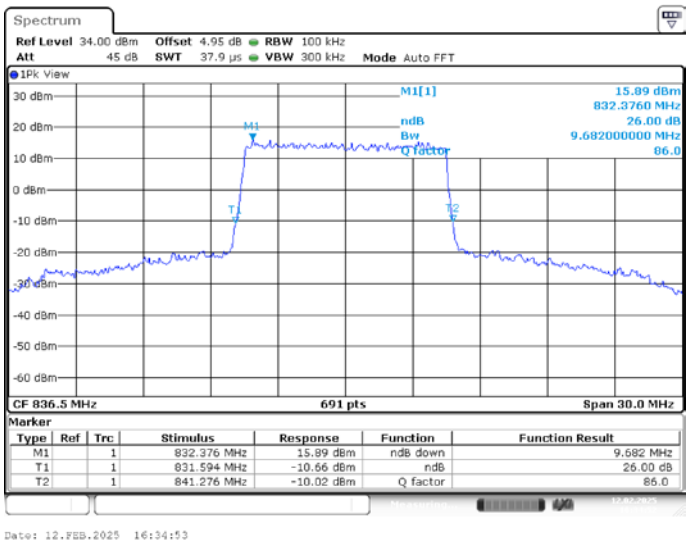
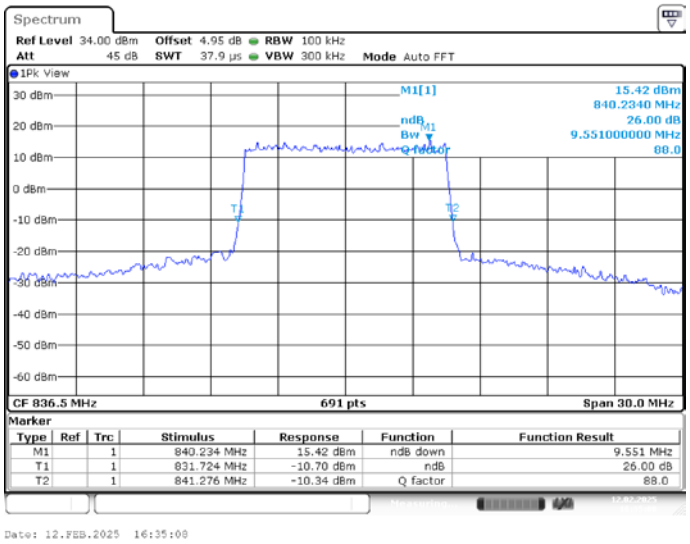
LTE band 26_Part22,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
836.5	9.682	9.551

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



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



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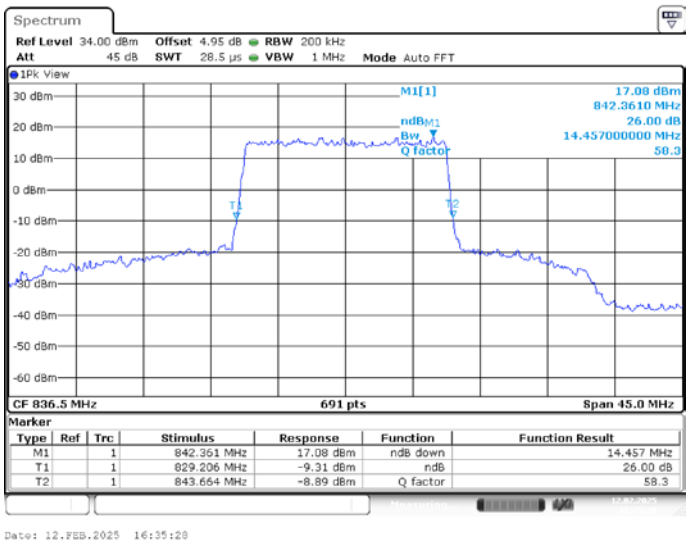
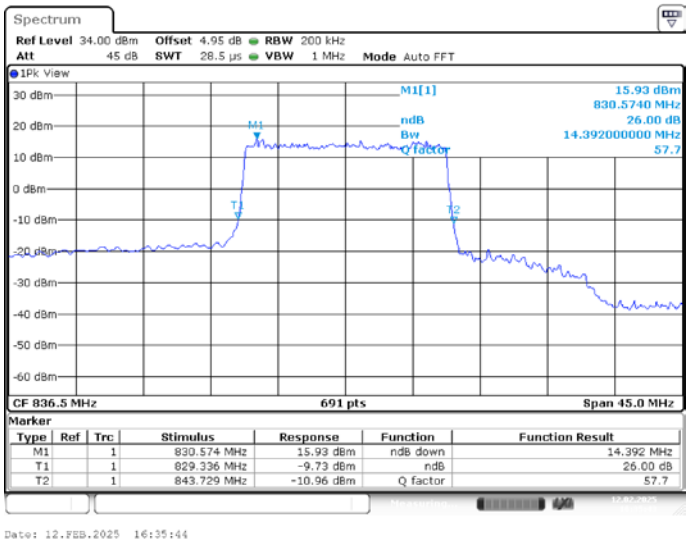
LTE band 26_Part22,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
836.5	14.457	14.392

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



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



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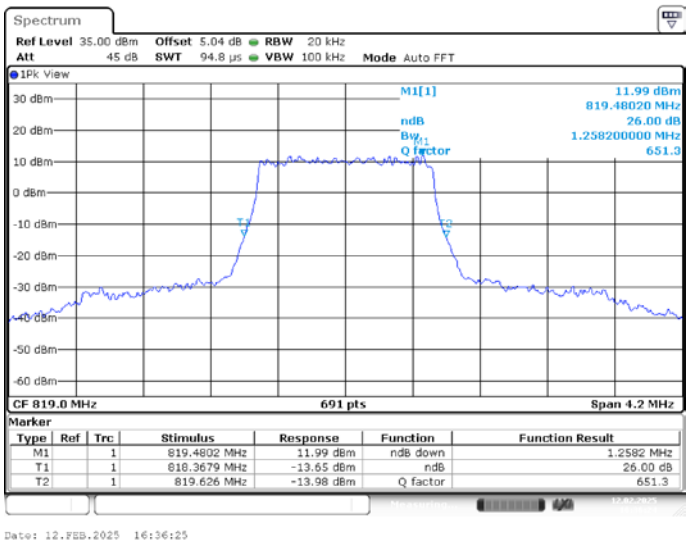
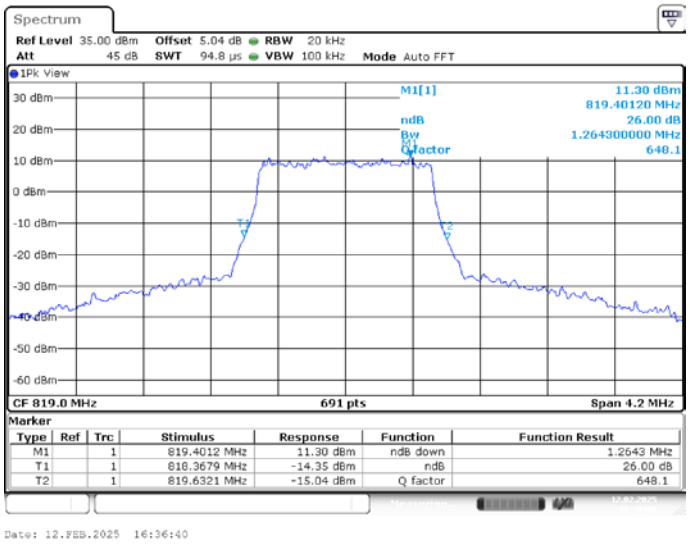
LTE band 26_Part90,1.4MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
819	1.258	1.264

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



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



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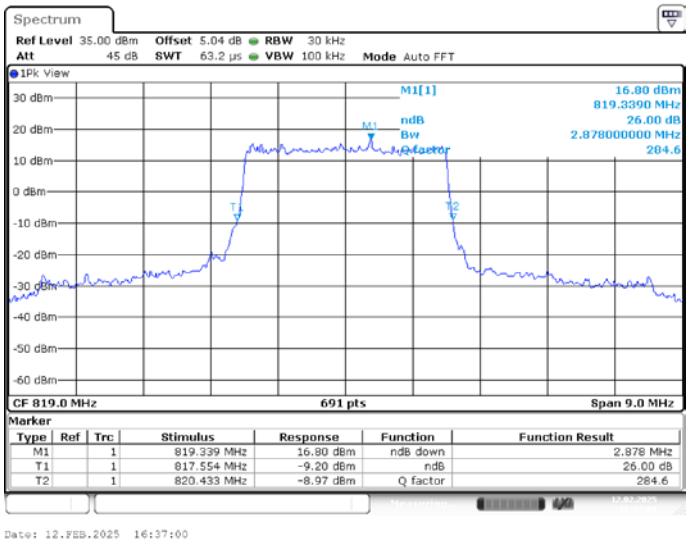
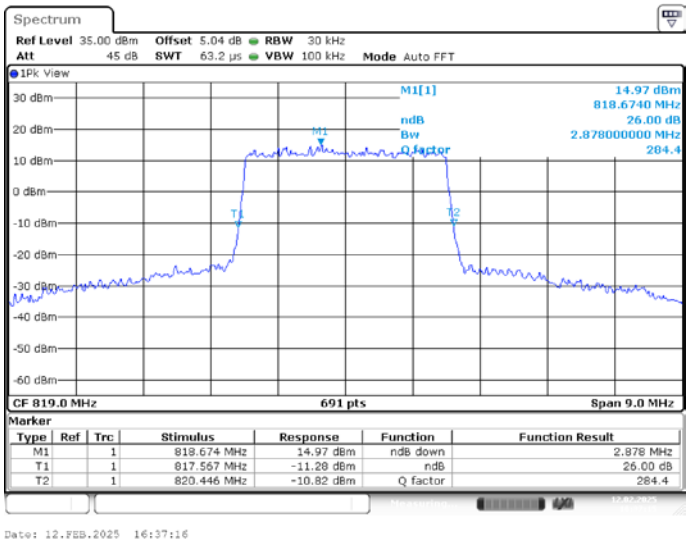
LTE band 26_Part90,3MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
819	2.878	2.878

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



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



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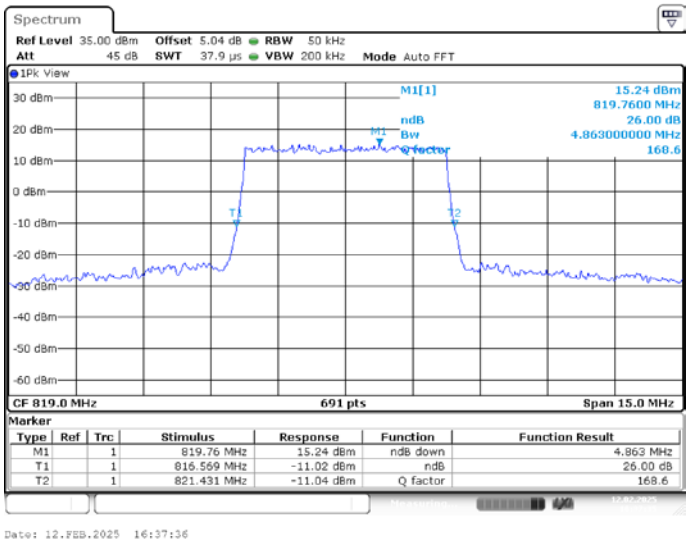
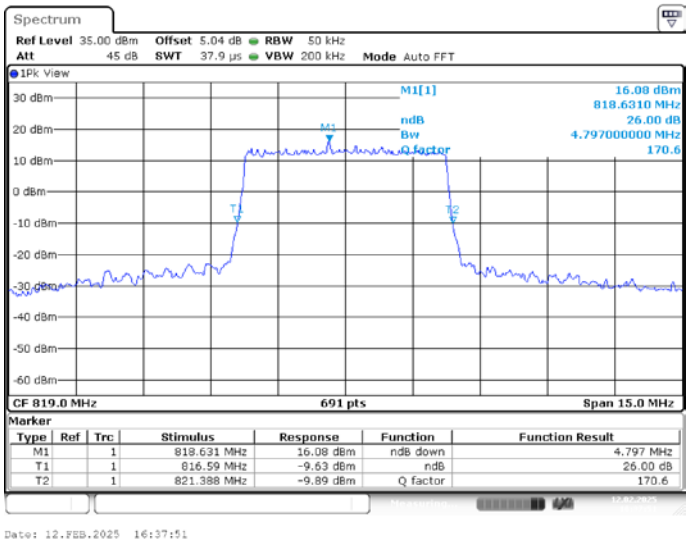
LTE band 26_Part90,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
819	4.863	4.797

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



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



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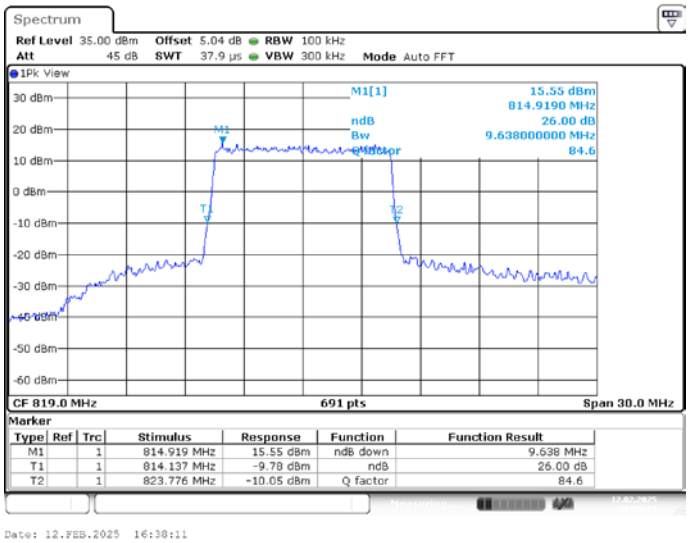
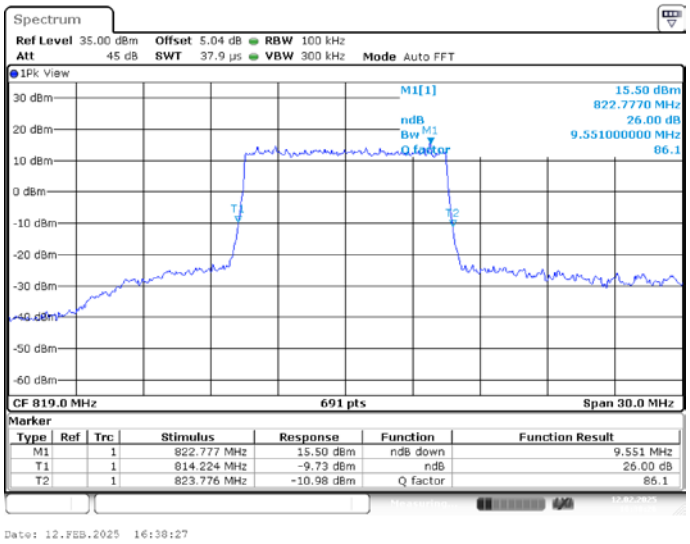
LTE band 26_Part90,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
819	9.638	9.551

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



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



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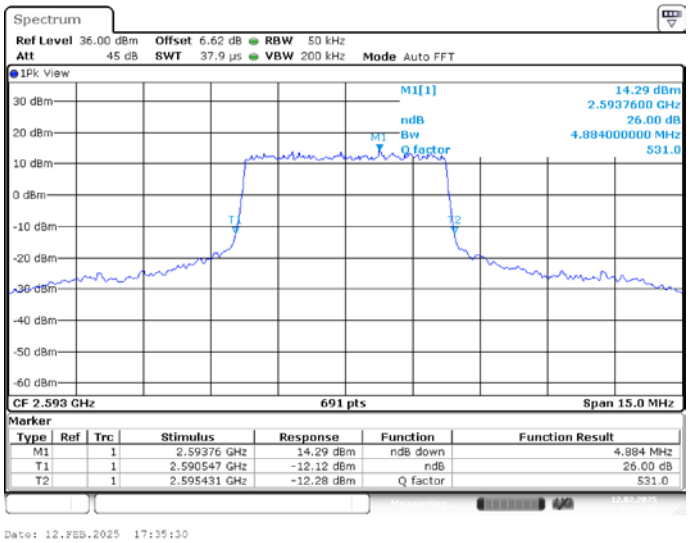
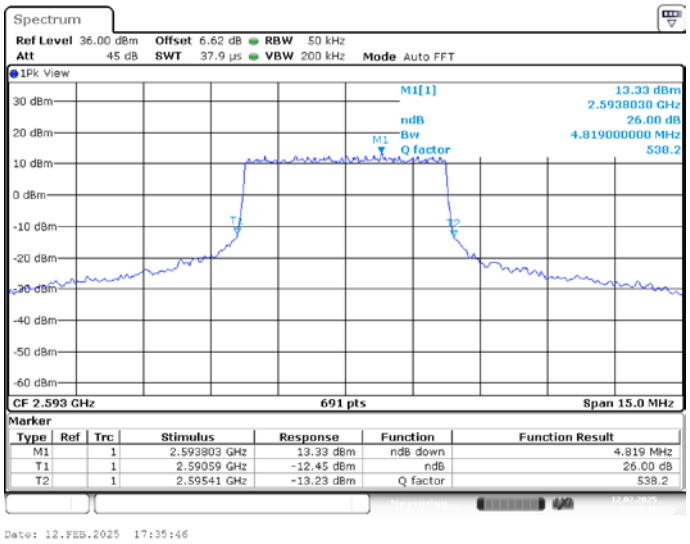
LTE band 41,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	4.884	4.819

LTE band 41 , 5MHz Bandwidth,MID,QPSK (-26dBc BW)



LTE band 41 , 5MHz Bandwidth,MID,16QAM (-26dBc BW)



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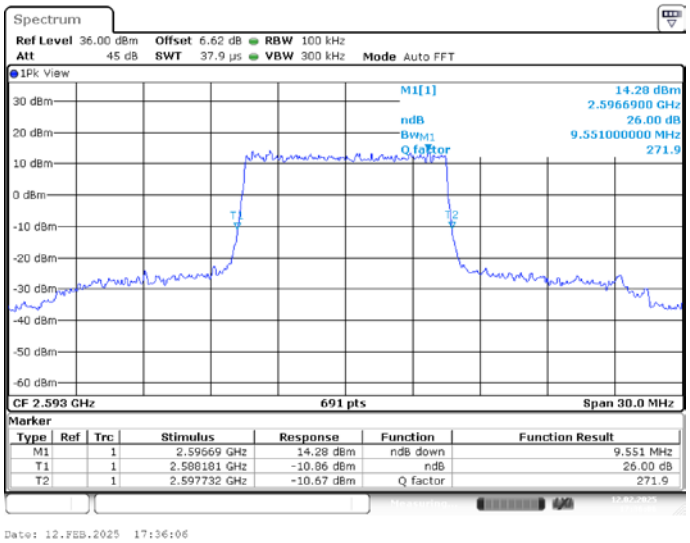
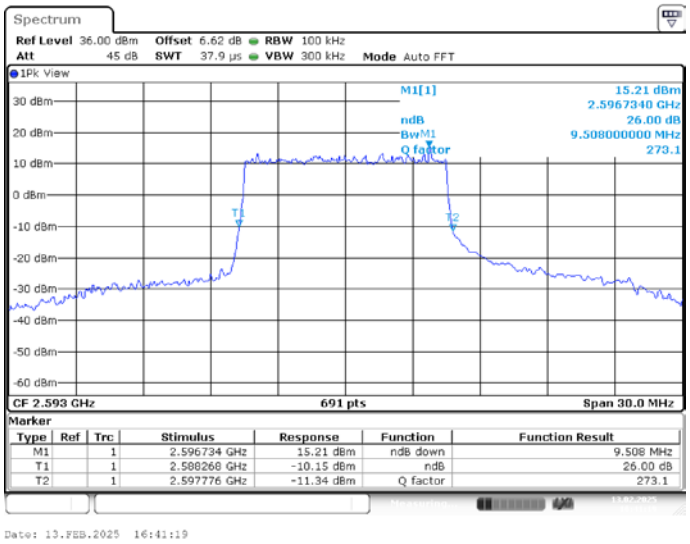
LTE band 41,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	9.551	9.508

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



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



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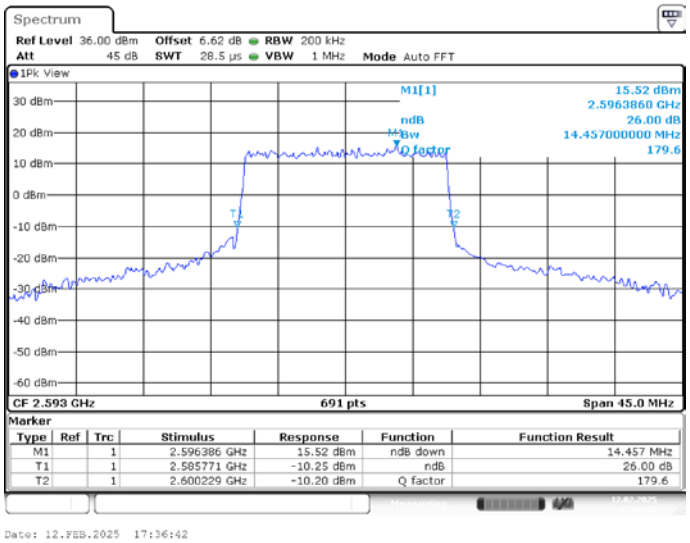
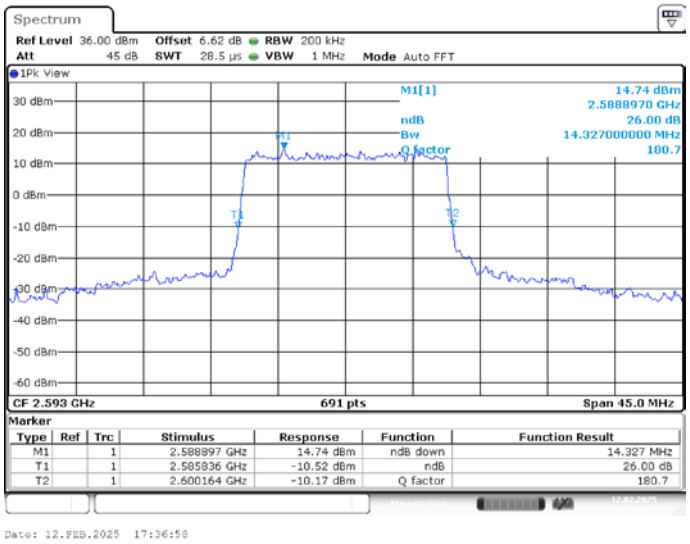
LTE band 41,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	14.457	14.327

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



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



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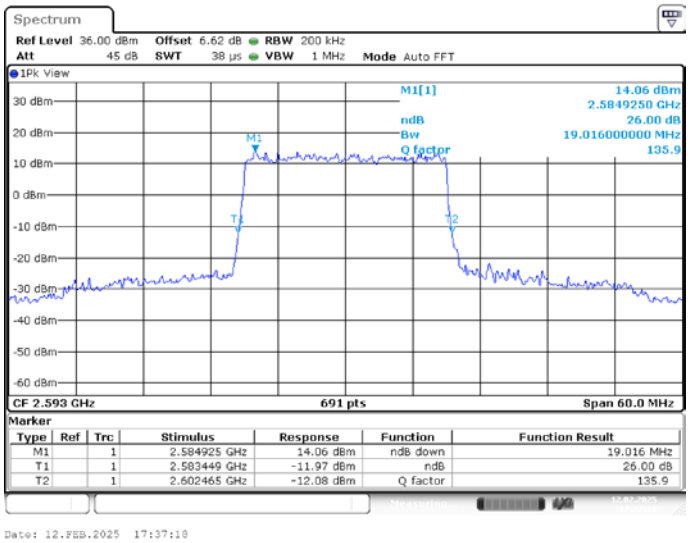
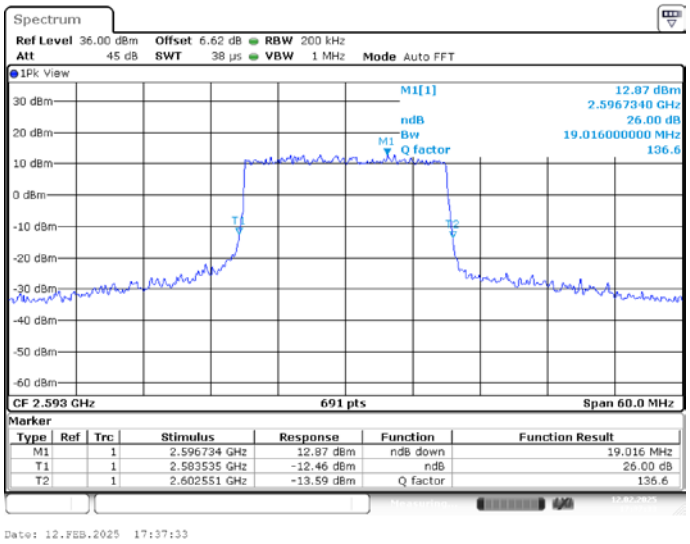
LTE band 41,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
2593	19.016	19.016

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



LTE band 41 , 20MHz Bandwidth,MID,16QAM (-26dBc BW)



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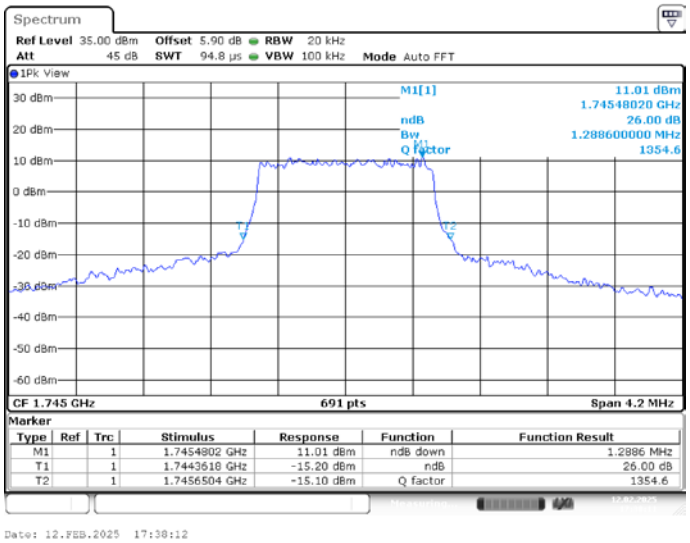
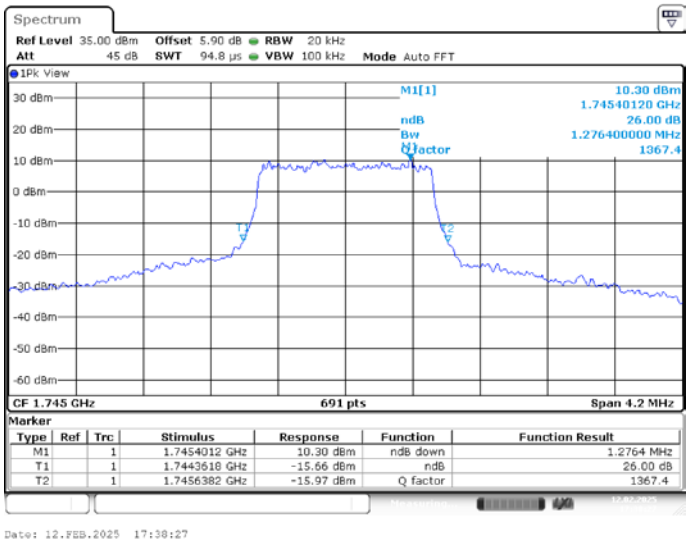
LTE band 66,1.4MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	1.289	1.276

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



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



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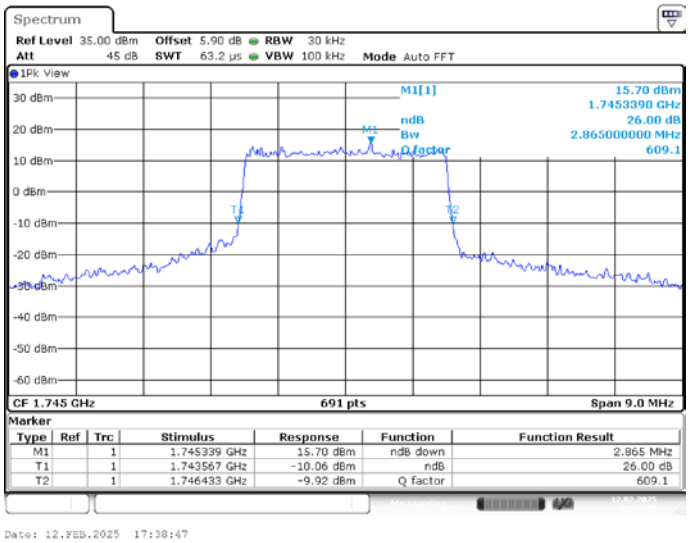
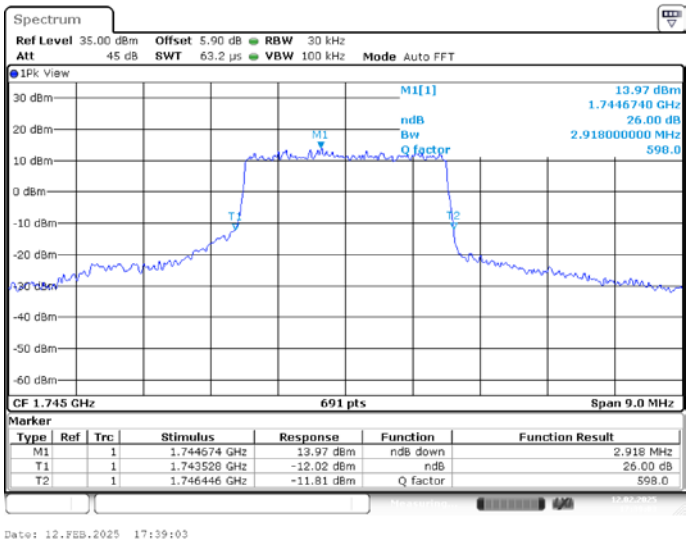
LTE band 66,3MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	2.865	2.918

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



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



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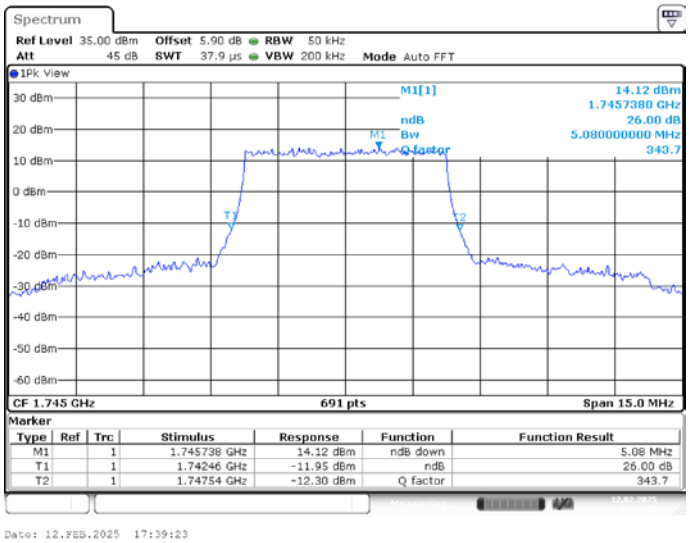
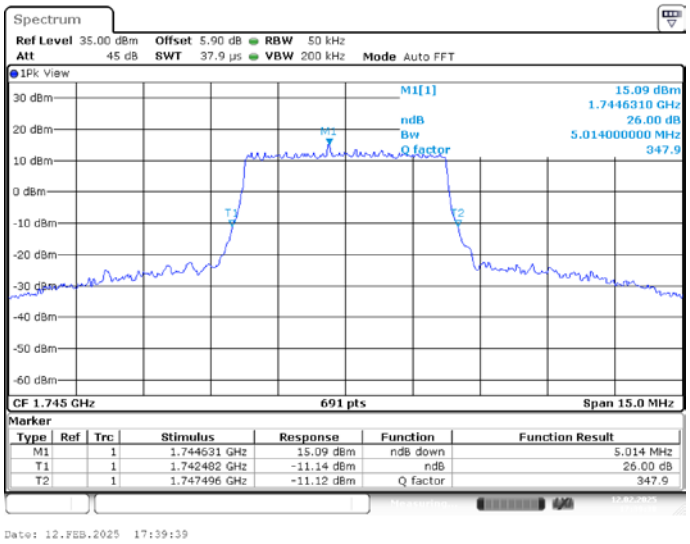
LTE band 66,5MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	5.080	5.014

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



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



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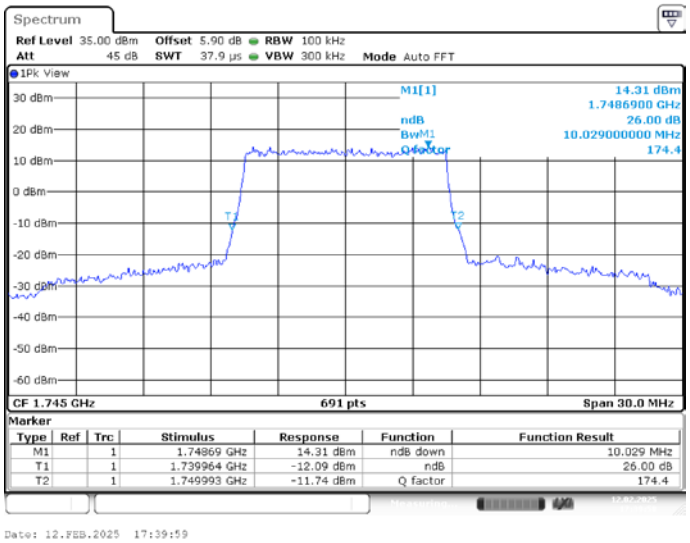
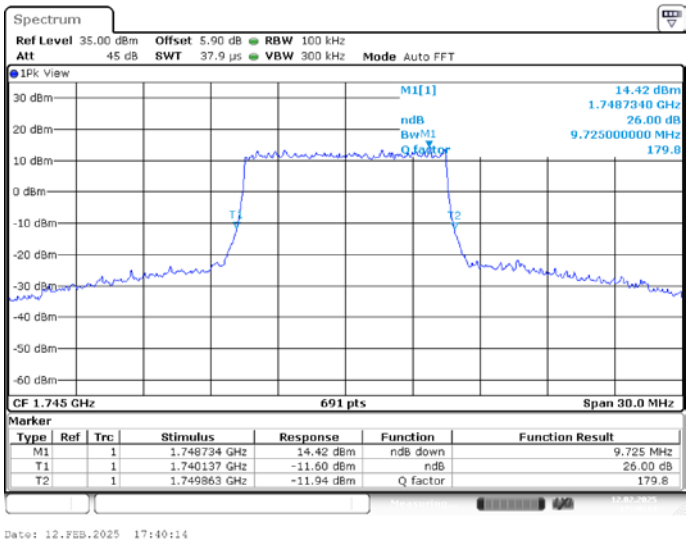
LTE band 66,10MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	10.029	9.725

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



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



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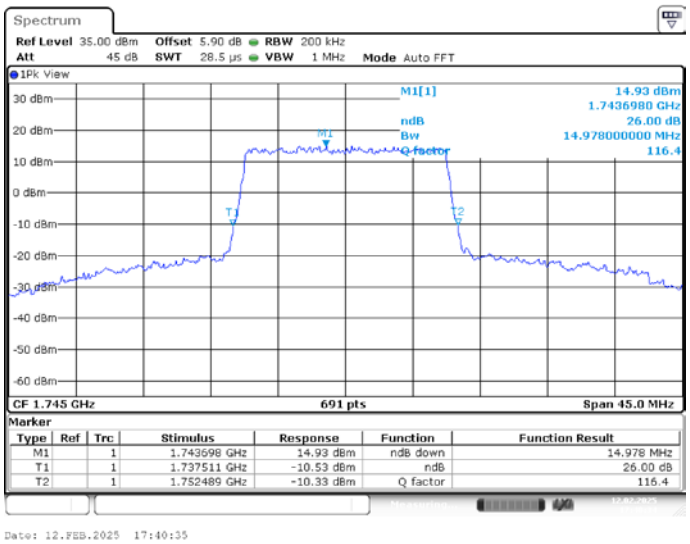
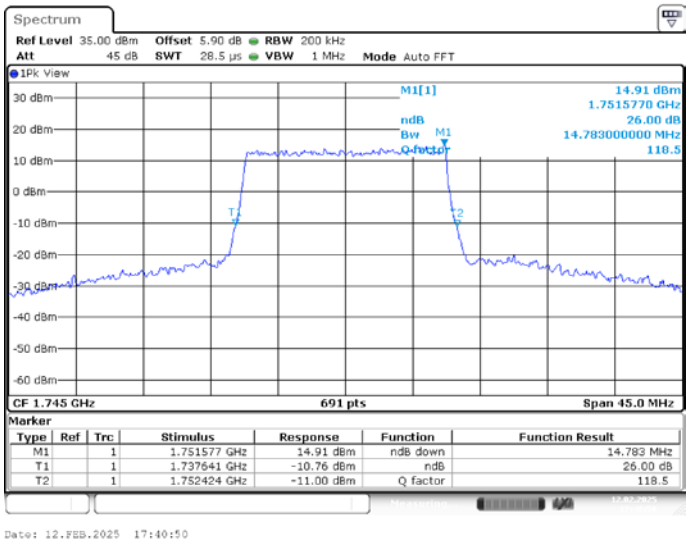
LTE band 66,15MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	14.978	14.783

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



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



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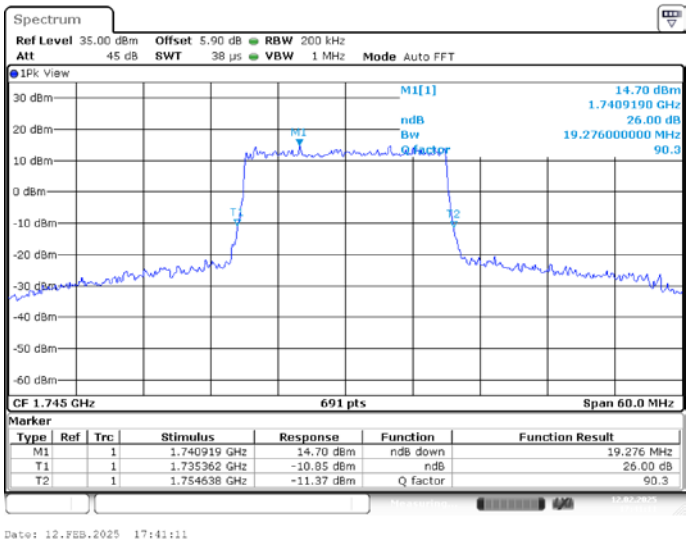
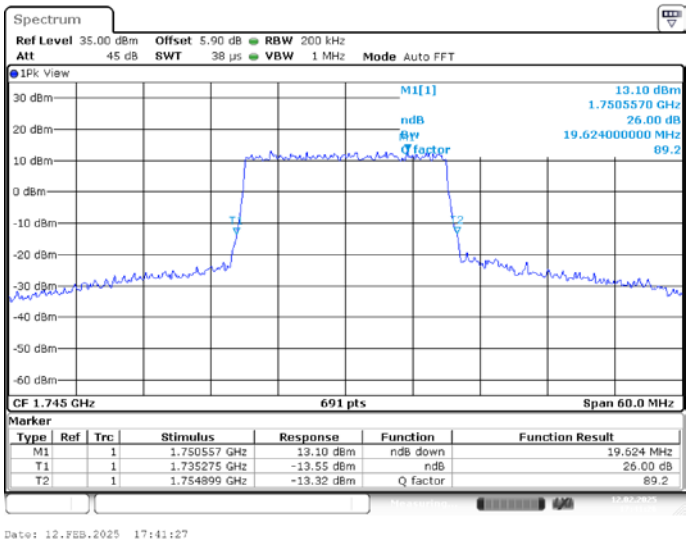
LTE band 66,20MHz(-26dBc)

Frequency(MHz)	Emission Bandwidth (-26dBc)(MHz)	
	QPSK	16QAM
1745	19.276	19.624

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



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



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A.6 Band Edge Compliance

A.6.1 Measurement limit

Part 22.917, Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 27.53(c) states for operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the 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, in accordance with the following:(1) 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;(2) 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;(4) 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.

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.

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

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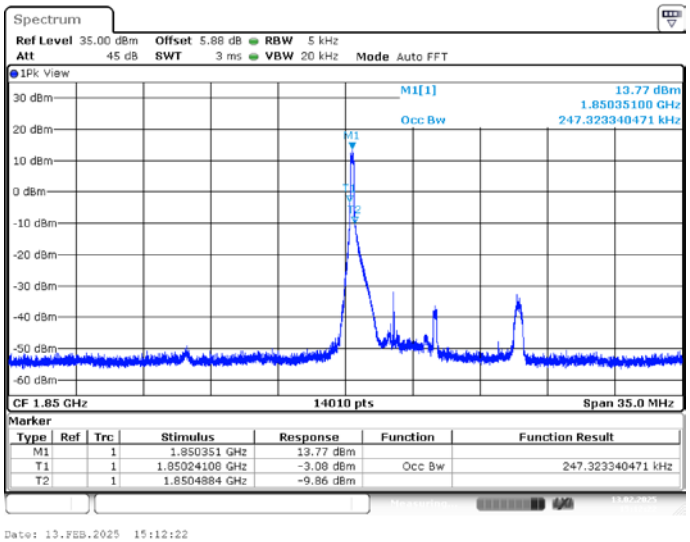
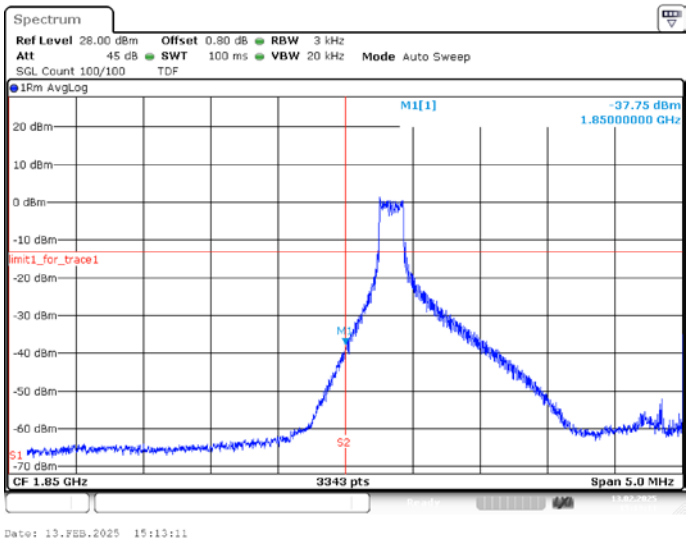
A.6.2 Measurement result

LTE band 2

OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset



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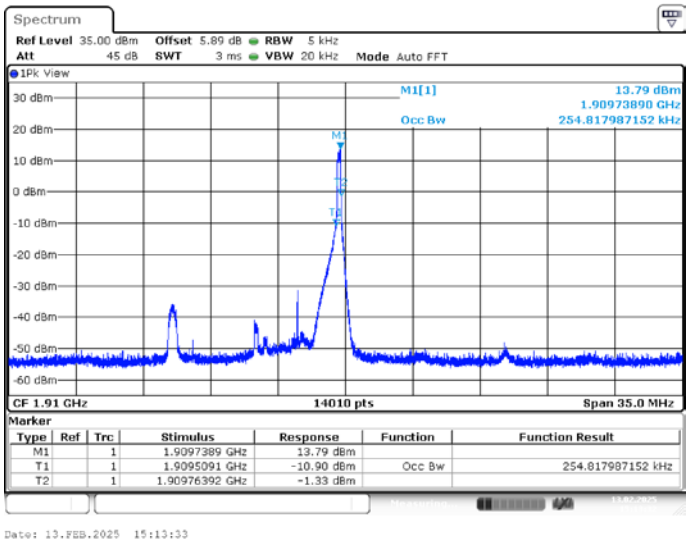
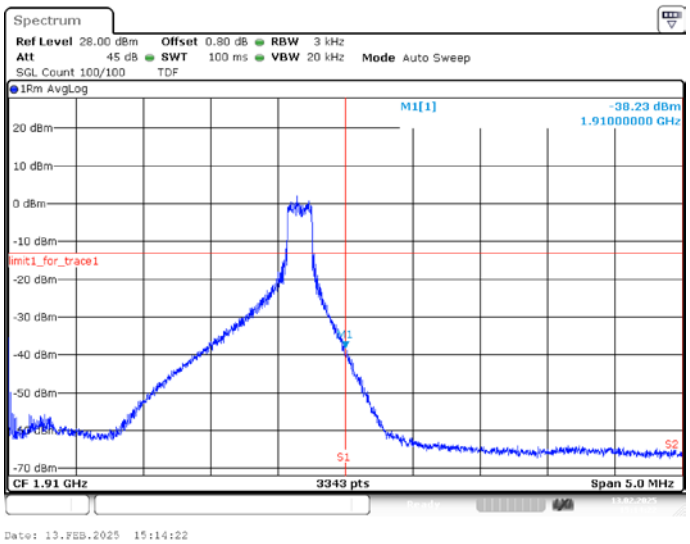
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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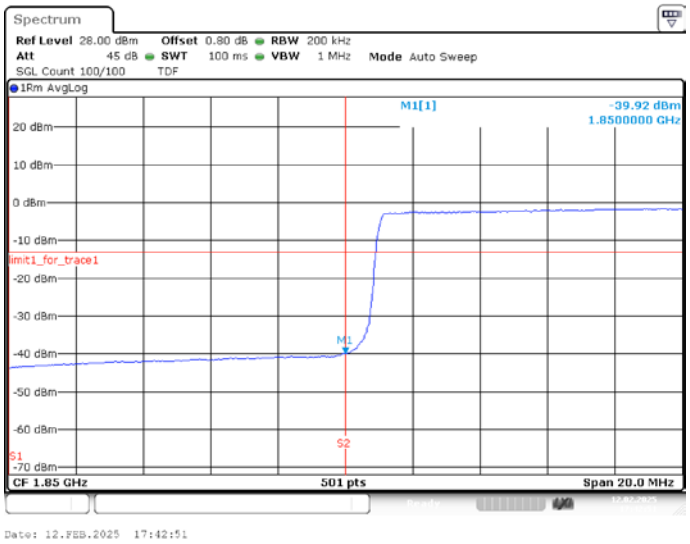
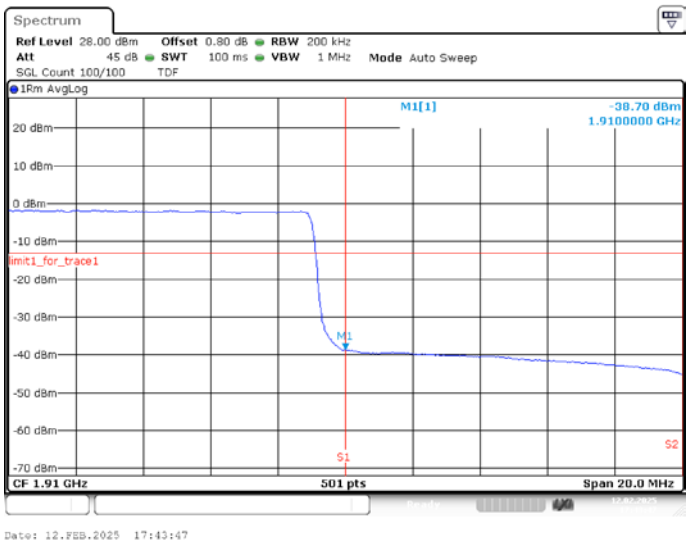
LOW BAND EDGE BLOCK-20MHz-100%RB



HIGH BAND EDGE BLOCK-20MHz-100%RB



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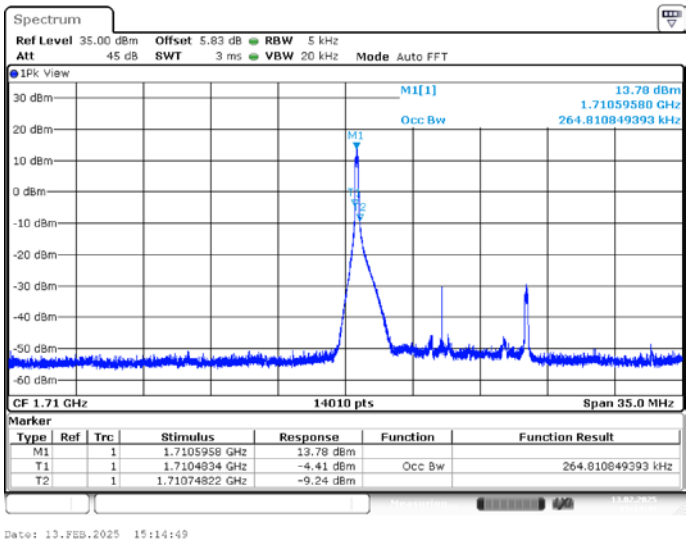
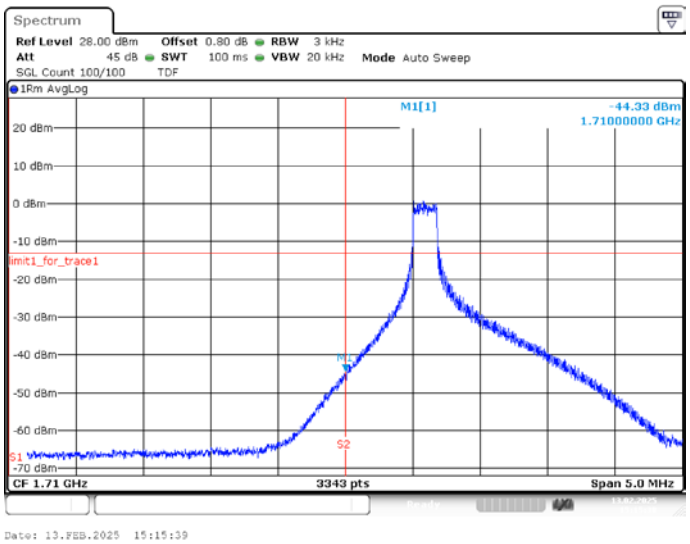
LTE band 4

OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset



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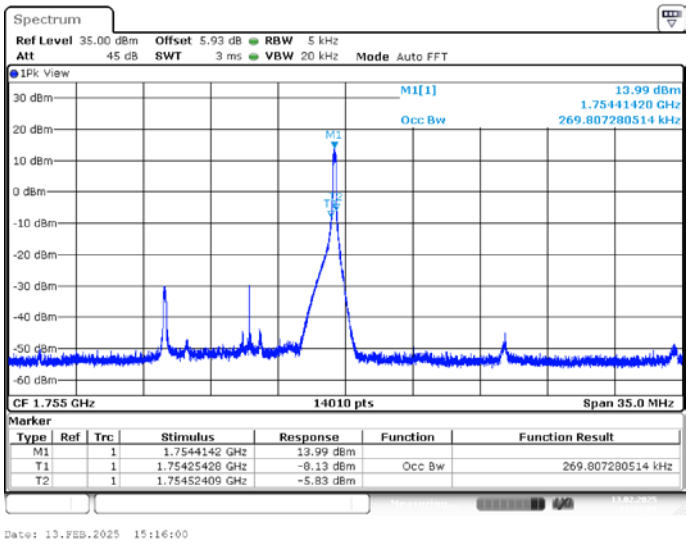
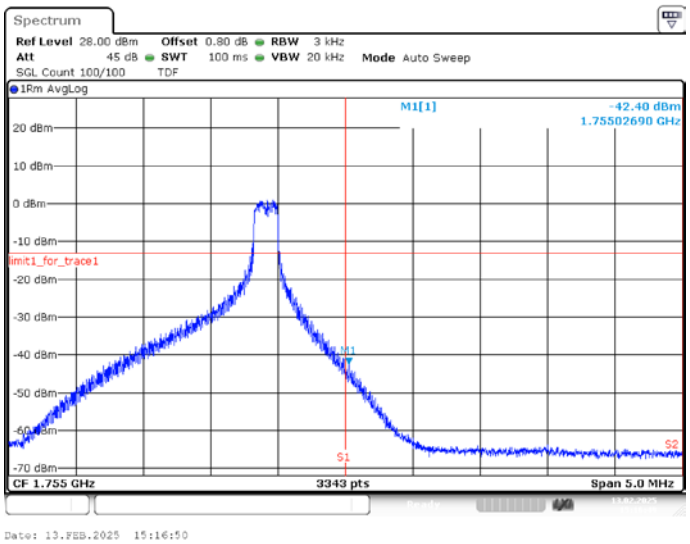
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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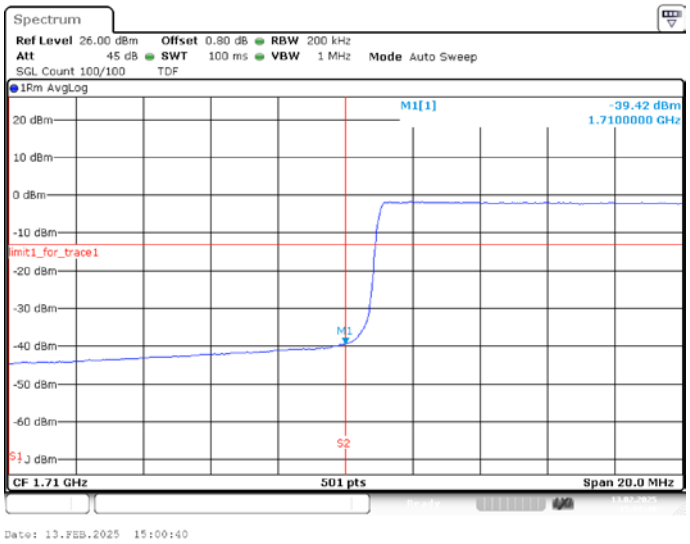
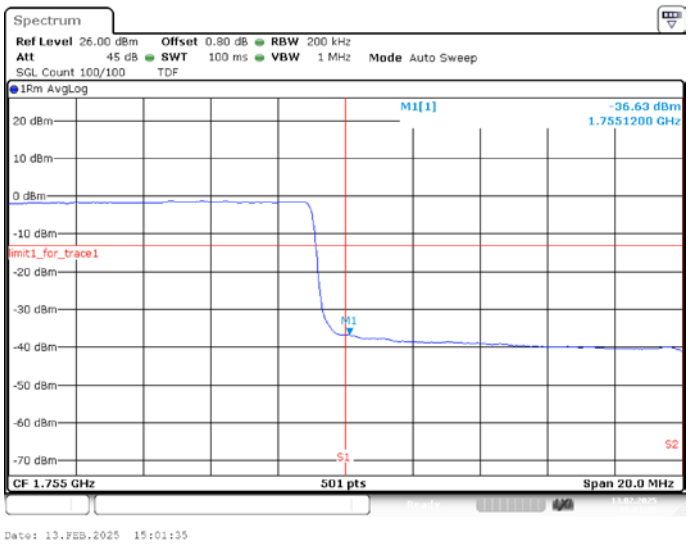
LOW BAND EDGE BLOCK-20MHz-100%RB



HIGH BAND EDGE BLOCK-20MHz-100%RB



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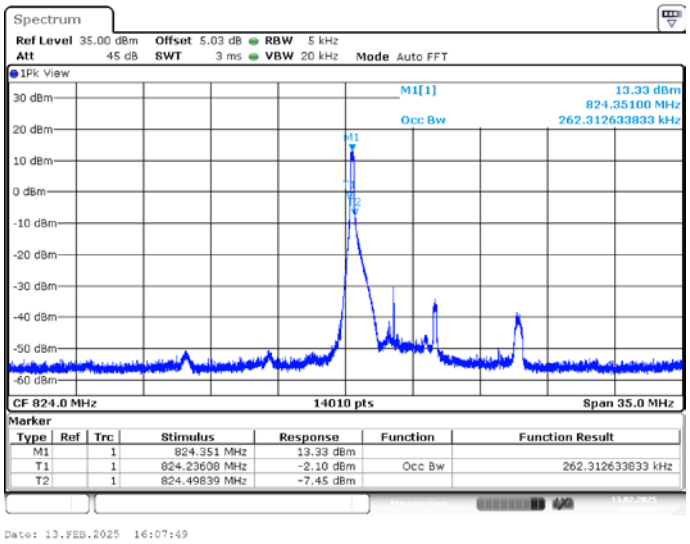
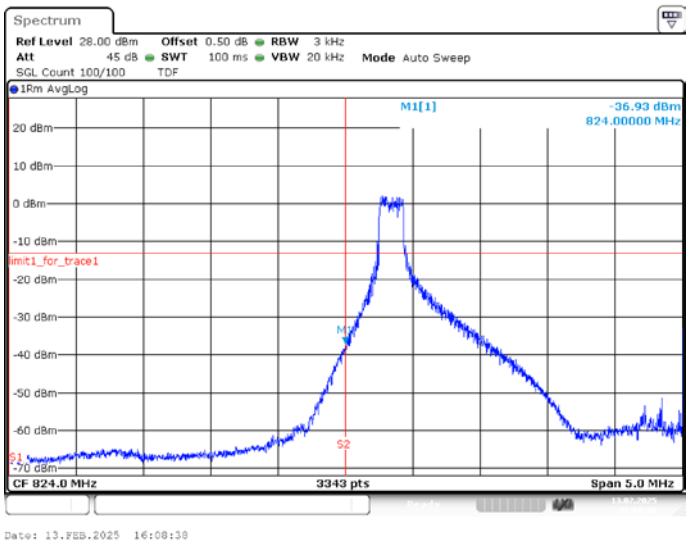
LTE band 5

OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset



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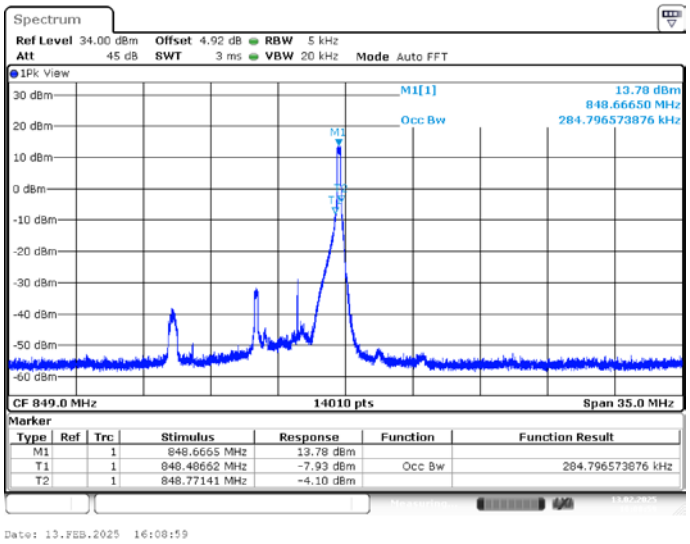
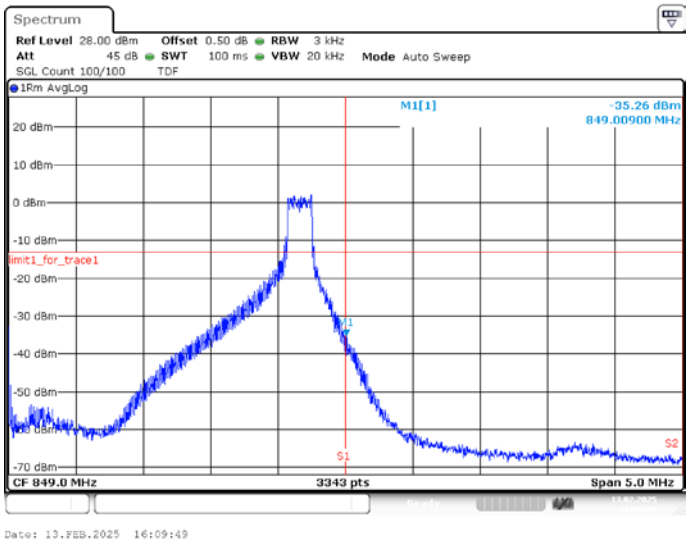
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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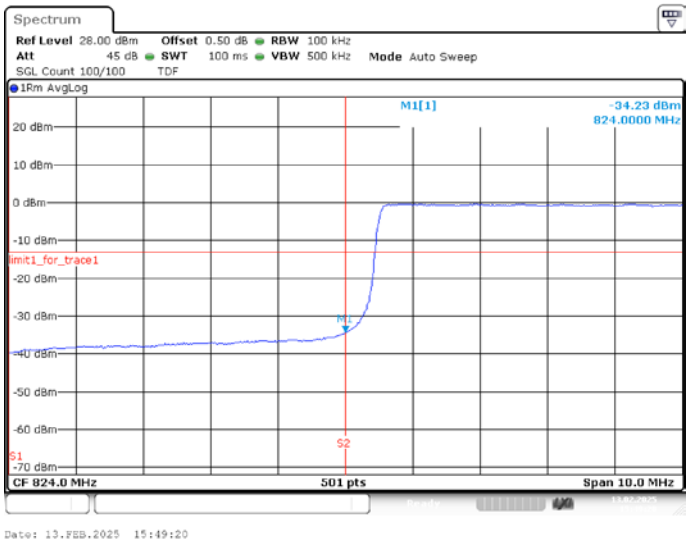
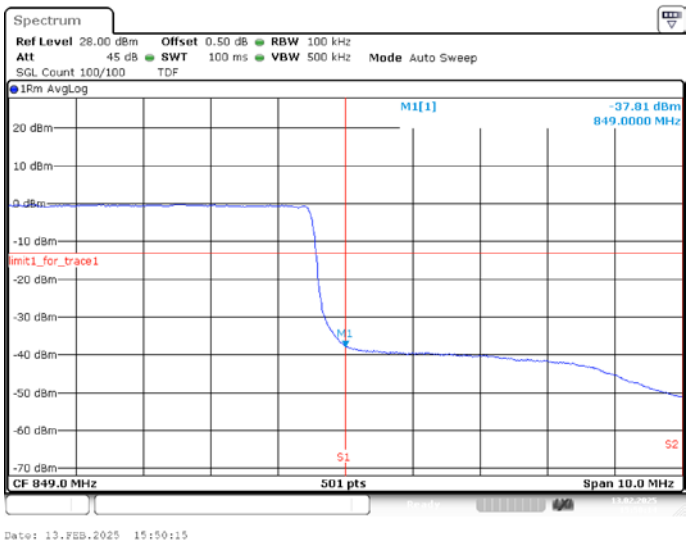
LOW BAND EDGE BLOCK-10MHz-100%RB



HIGH BAND EDGE BLOCK-10MHz-100%RB



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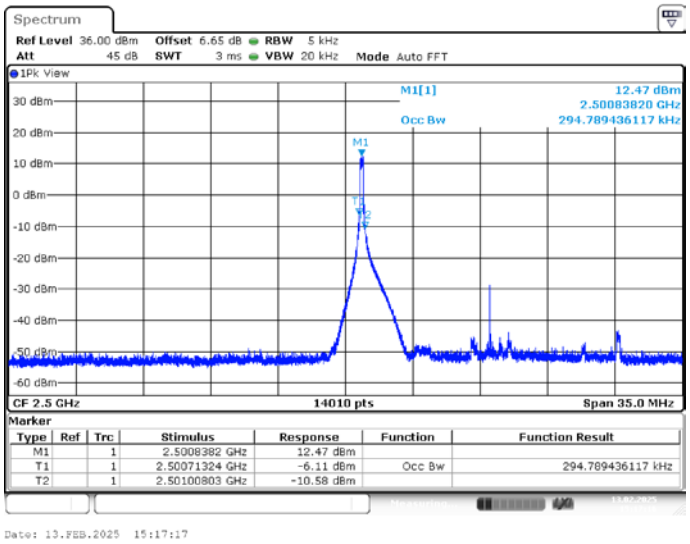
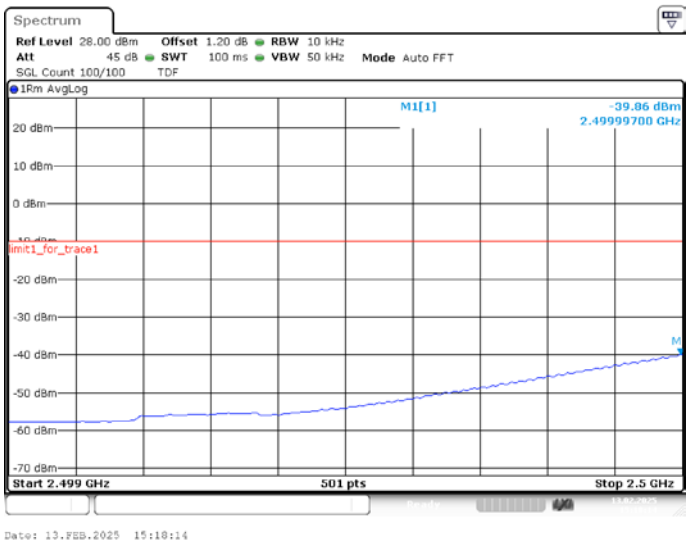
LTE band 7

OBW: 1RB-LOW_offset



LOW BAND EDGE BLOCK-1RB-LOW_offset



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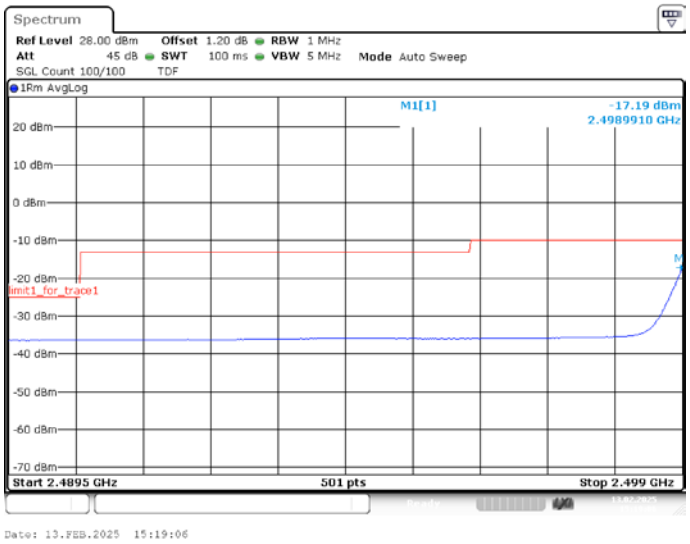
LOW BAND EDGE BLOCK-1RB-LOW_offset



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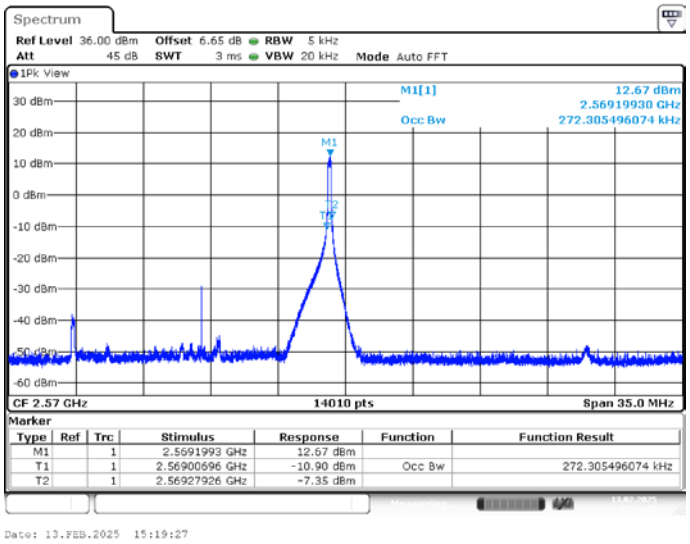
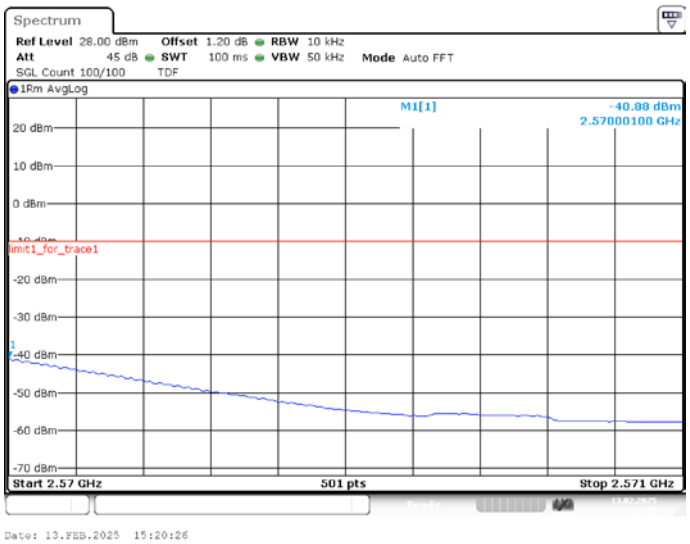
OBW: 1RB-HIGH_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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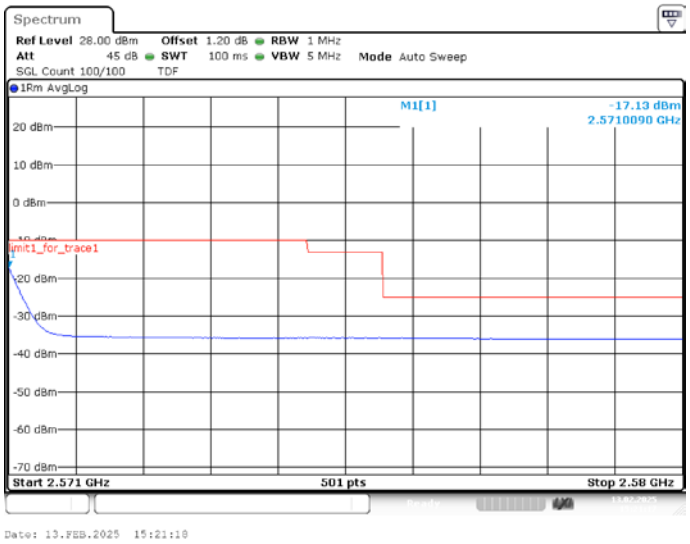
HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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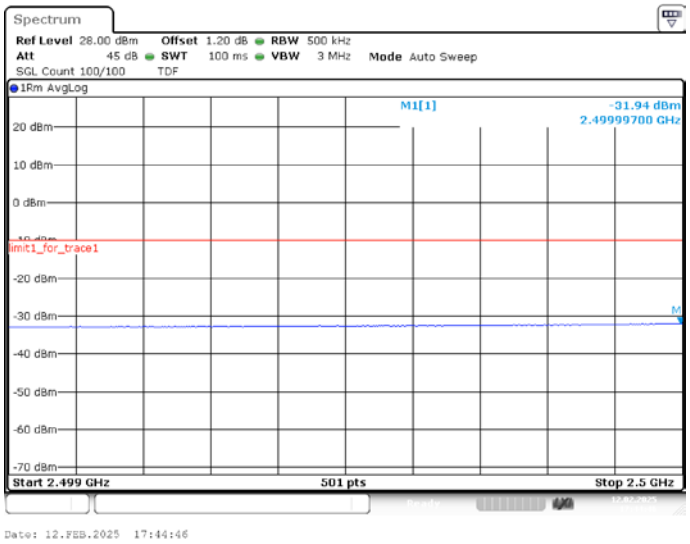
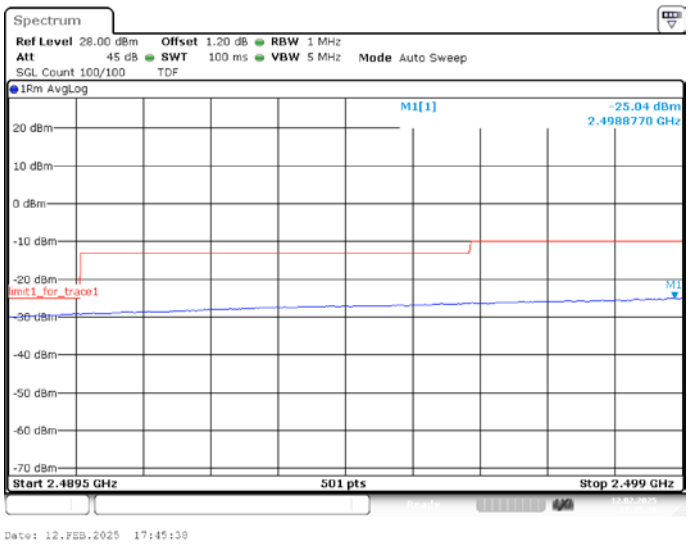
LOW BAND EDGE BLOCK-20MHz-100%RB



LOW BAND EDGE BLOCK-20MHz-100%RB



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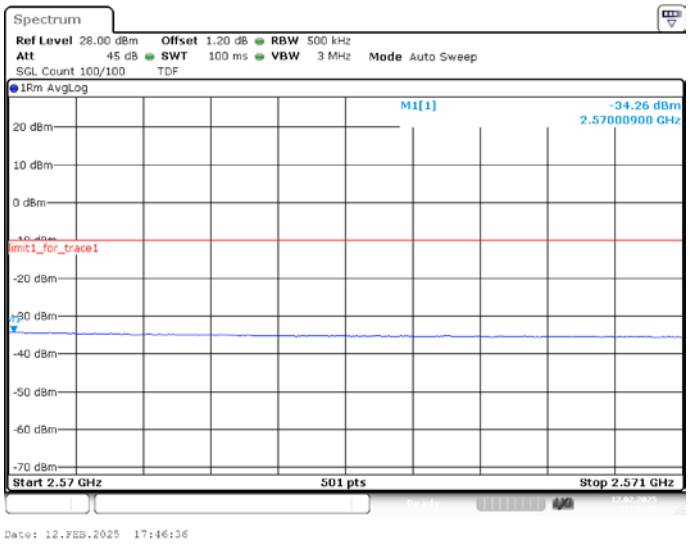
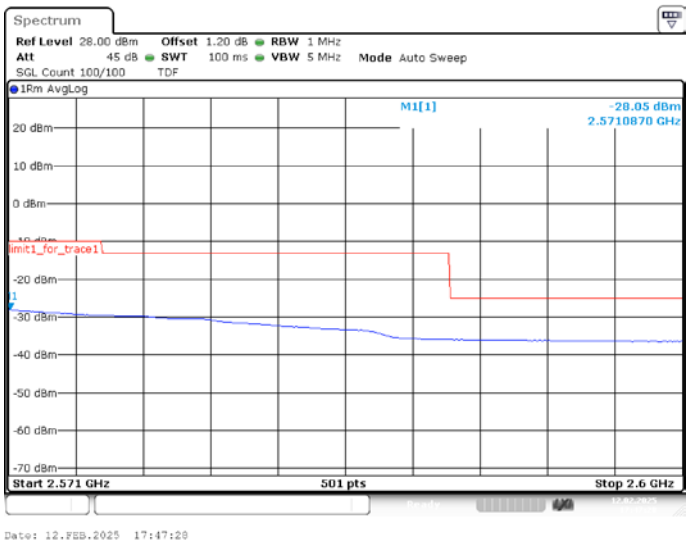
HIGH BAND EDGE BLOCK-20MHz-100%RB



HIGH BAND EDGE BLOCK-20MHz-100%RB



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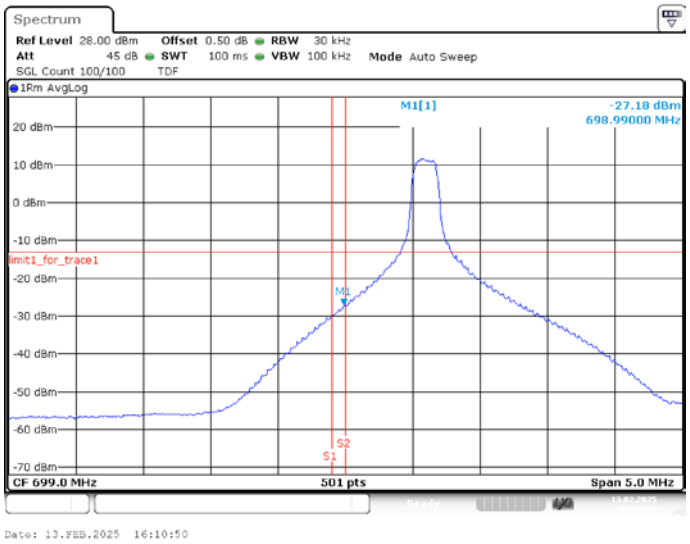
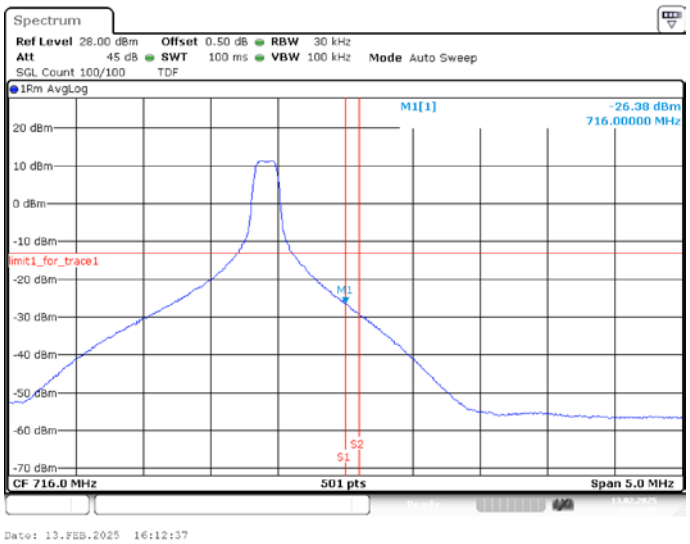
LTE band 12

LOW BAND EDGE BLOCK-1RB-LOW_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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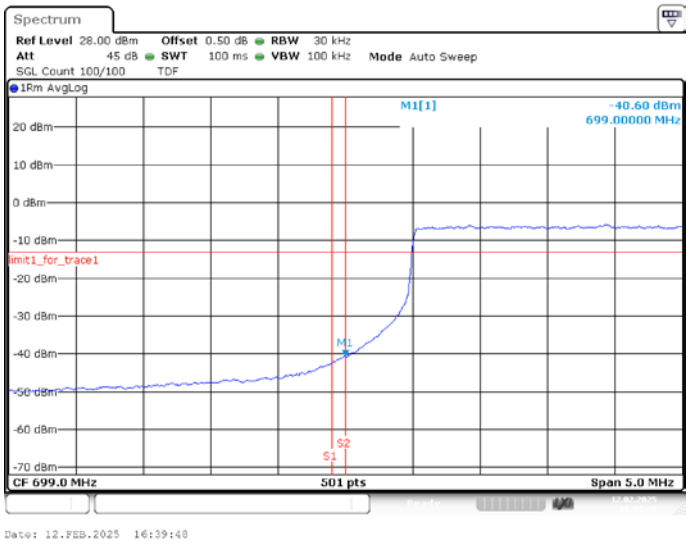
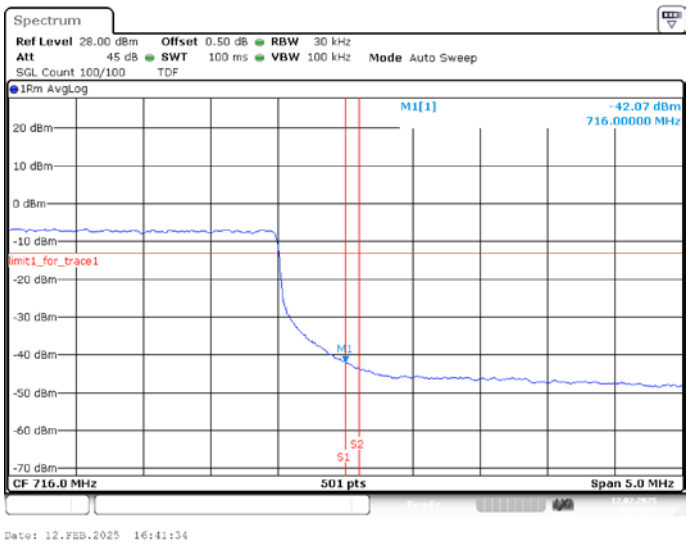
LOW BAND EDGE BLOCK-10MHz-100%RB



HIGH BAND EDGE BLOCK-10MHz-100%RB



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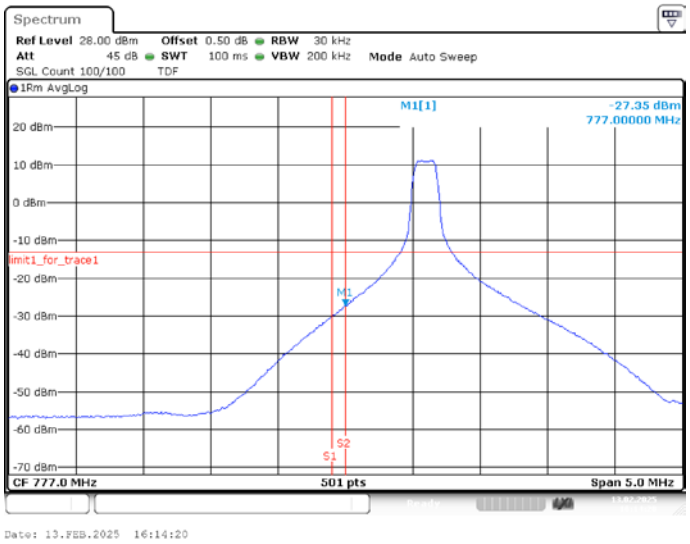
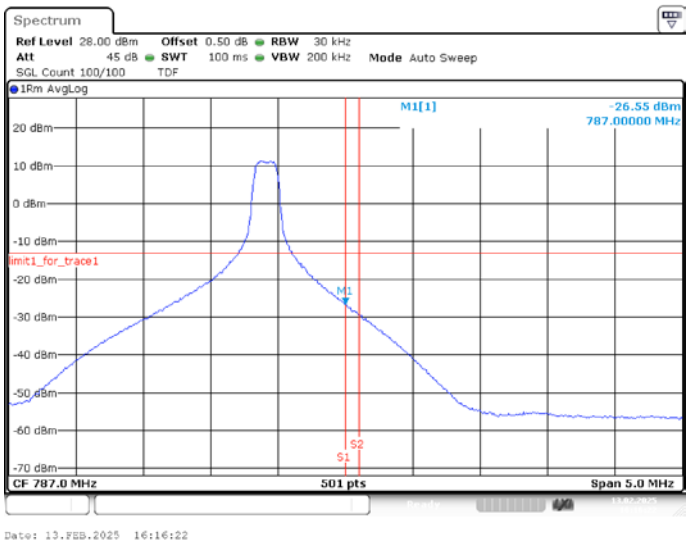
LTE band 13

LOW BAND EDGE BLOCK-1RB-LOW_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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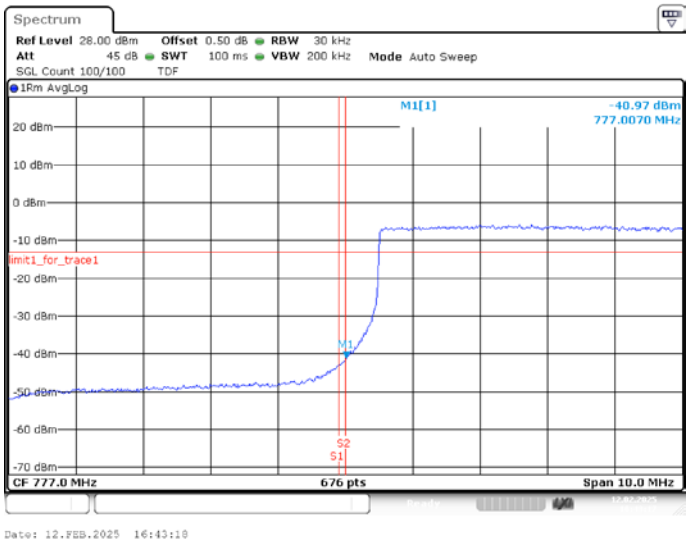
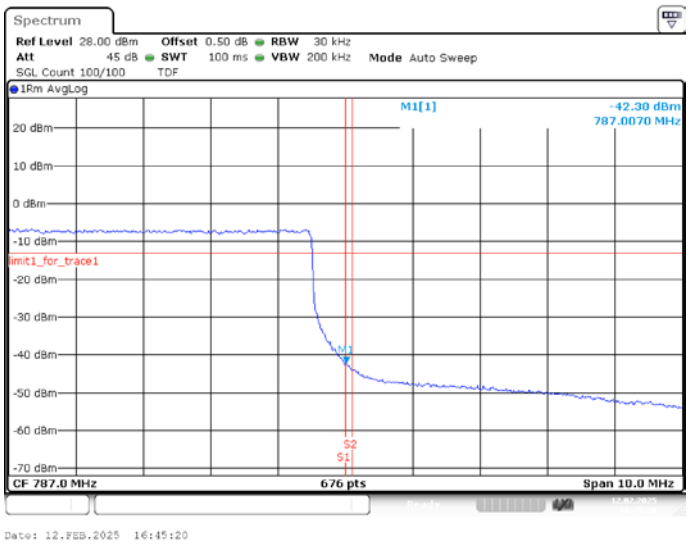
LOW BAND EDGE BLOCK-10MHz-100%RB



HIGH BAND EDGE BLOCK-10MHz-100%RB



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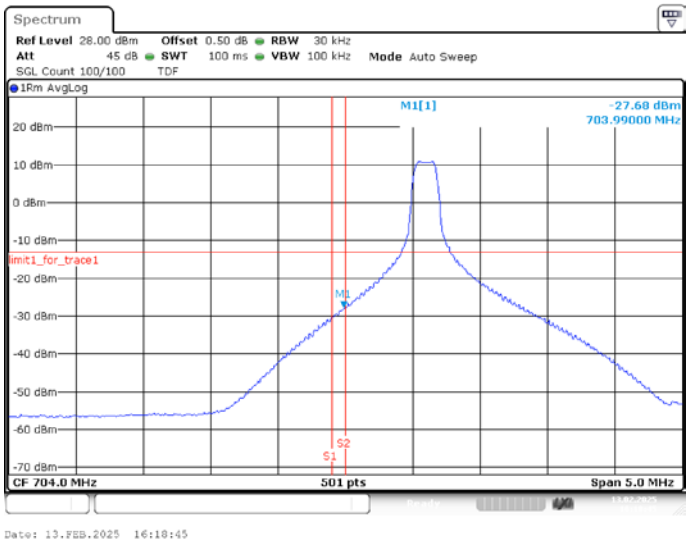
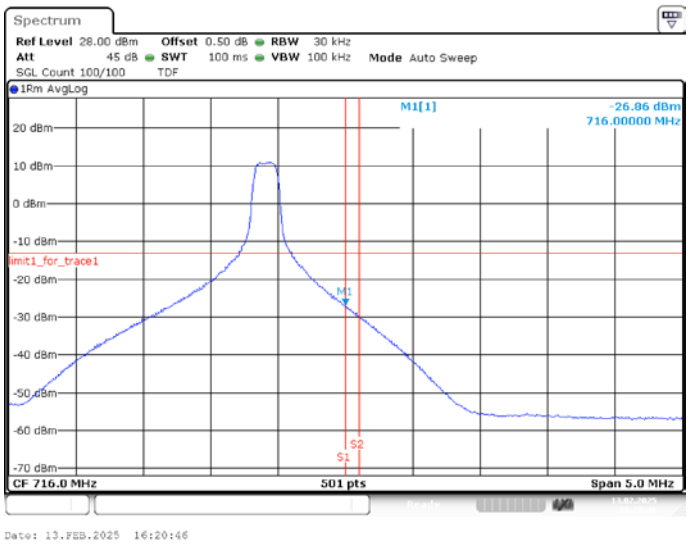
LTE band 17

LOW BAND EDGE BLOCK-1RB-LOW_offset



HIGH BAND EDGE BLOCK-1RB-HIGH_offset



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