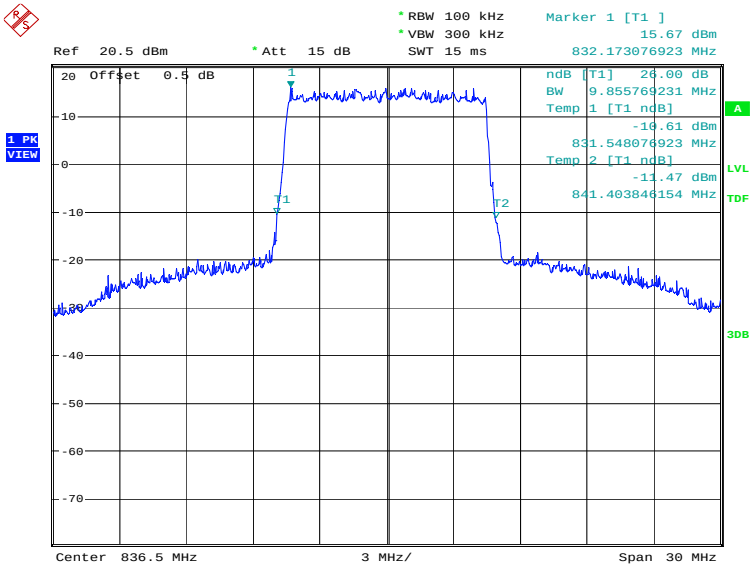
LTE band 5, 10MHz (-26dBc)

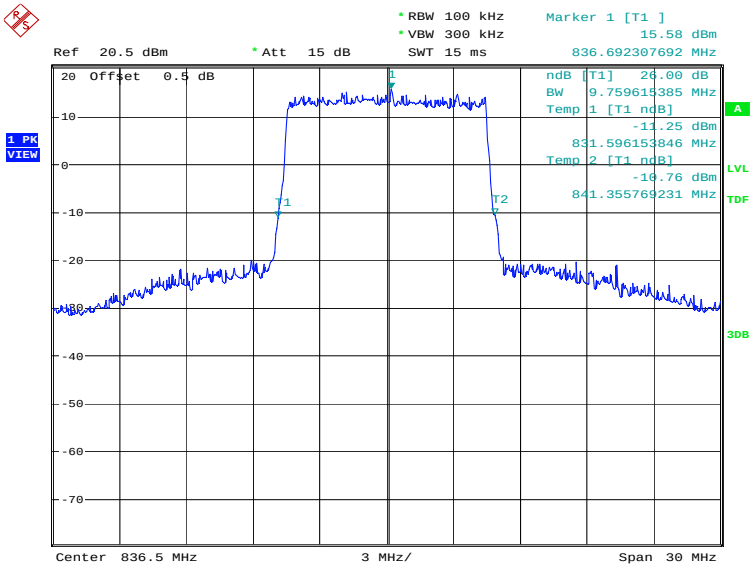
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
836.5	QPSK	16QAM
	9855.77	9759.62

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



Date: 27.SEP.2022 18:27:39

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



Date: 27.SEP.2022 18:28:19

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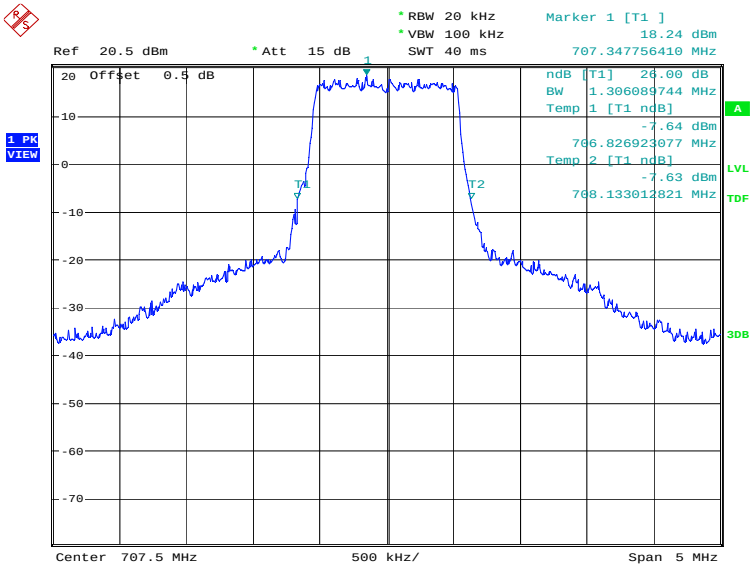
LTE band 12, 1.4MHz (-26dBc)

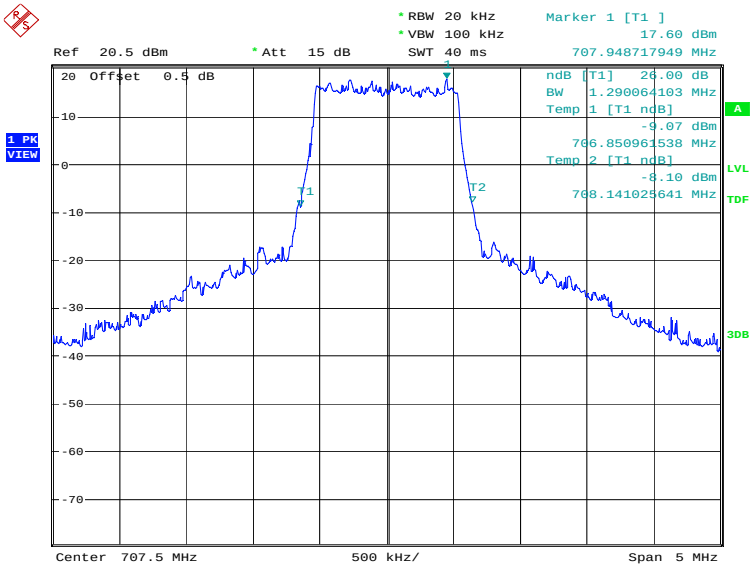
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
707.5	QPSK	16QAM
	1306.09	1290.06

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



Date: 27.SEP.2022 18:29:03

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



Date: 27.SEP.2022 18:29:44

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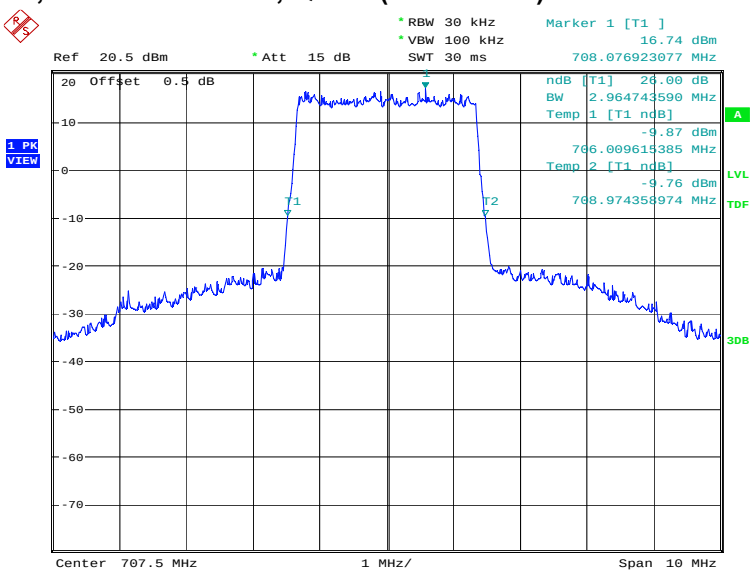
LTE band 12, 3MHz (-26dBc)

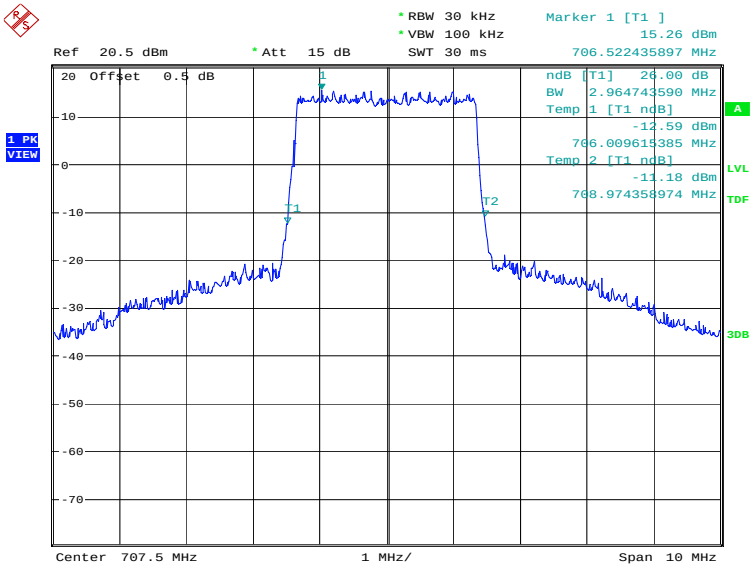
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
707.5	QPSK	16QAM
	2964.74	2964.74

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



Date: 27.SEP.2022 18:30:26

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



Date: 27.SEP.2022 18:31:07

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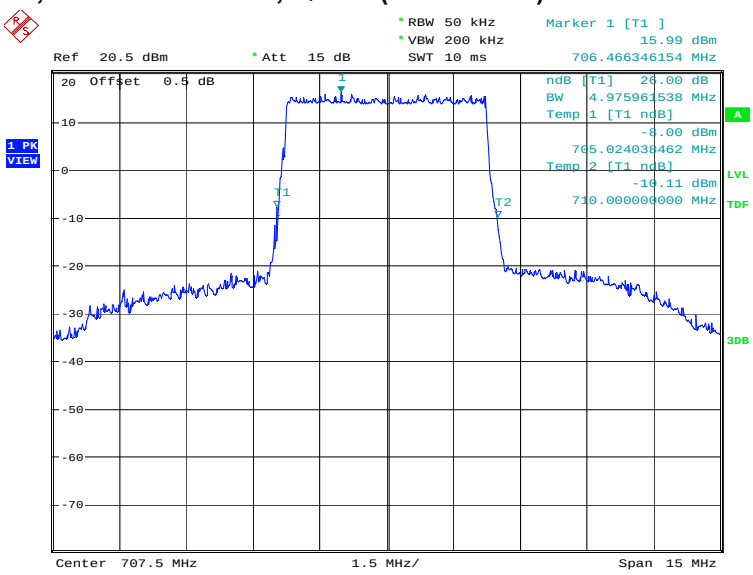
LTE band 12, 5MHz (-26dBc)

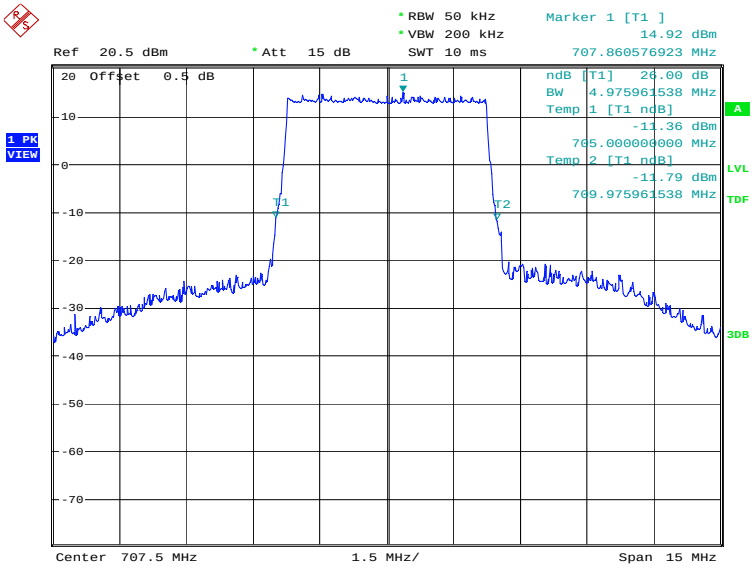
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
707.5	QPSK	16QAM
	4975.96	4975.96

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



Date: 27.SEP.2022 18:31:49

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



Date: 27.SEP.2022 18:32:30

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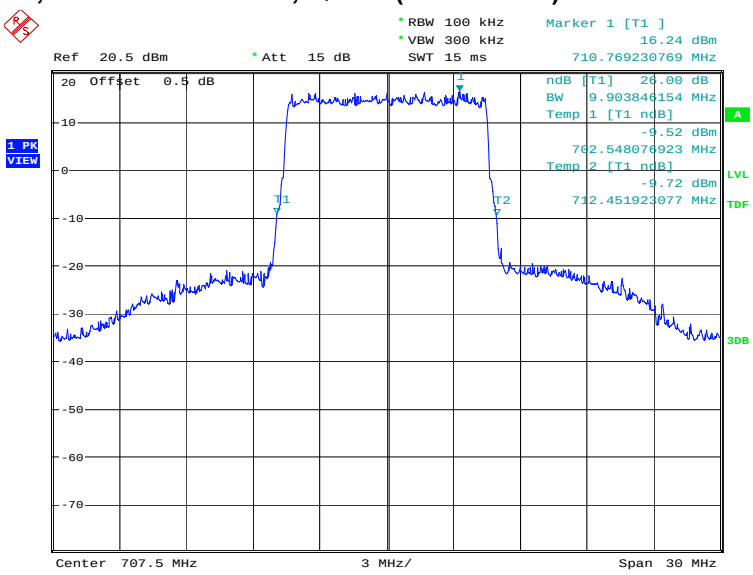
LTE band 12, 10MHz (-26dBc)

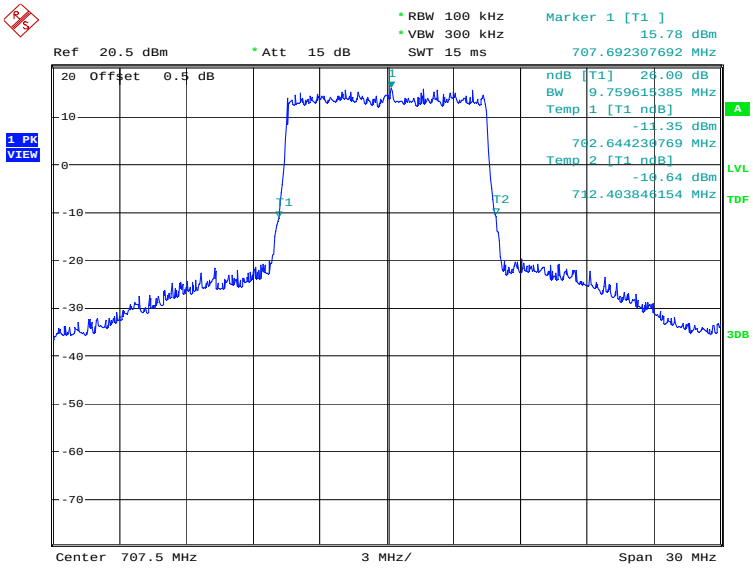
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
707.5	QPSK	16QAM
	9903.85	9759.62

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



Date: 27.SEP.2022 18:33:12

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



Date: 27.SEP.2022 18:33:53

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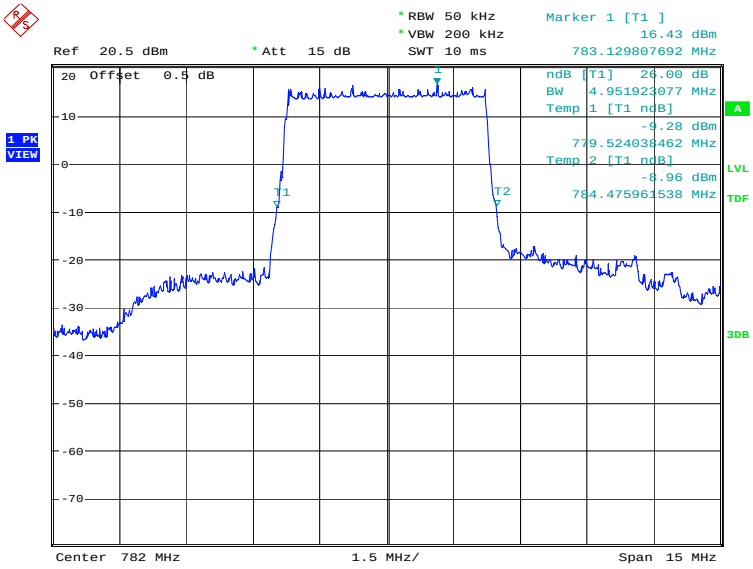
LTE band 13, 5MHz (-26dBc)

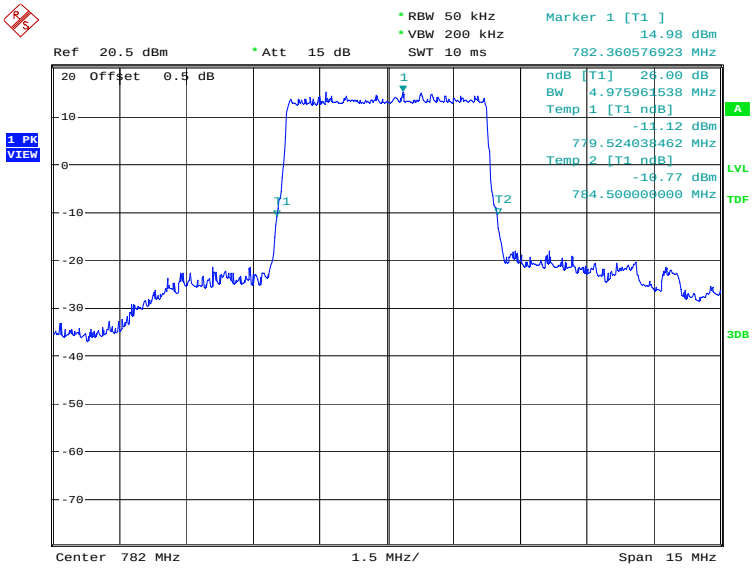
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
782.0	QPSK	16QAM
	4951.92	4975.96

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



Date: 27.SEP.2022 18:34:37

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



Date: 27.SEP.2022 18:35:17

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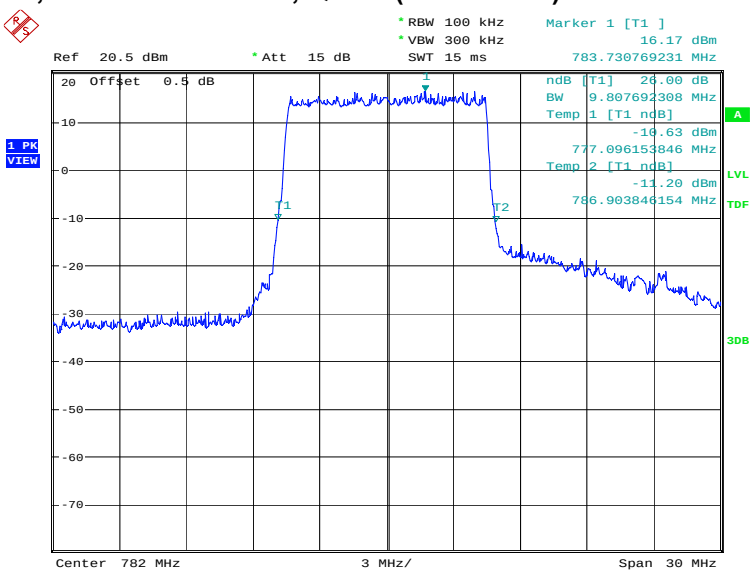
LTE band 13, 10MHz (-26dBc)

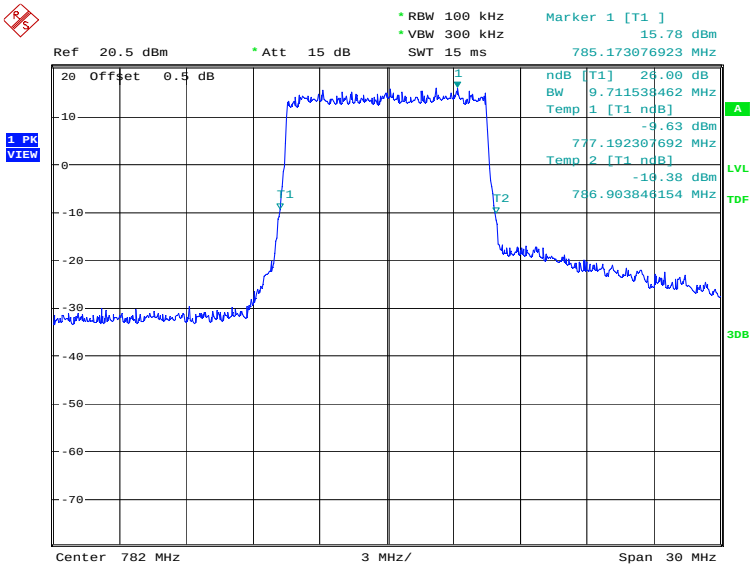
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
782.0	QPSK	16QAM
	9807.69	9711.54

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



Date: 27.SEP.2022 18:36:00

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



Date: 27.SEP.2022 18:36:40

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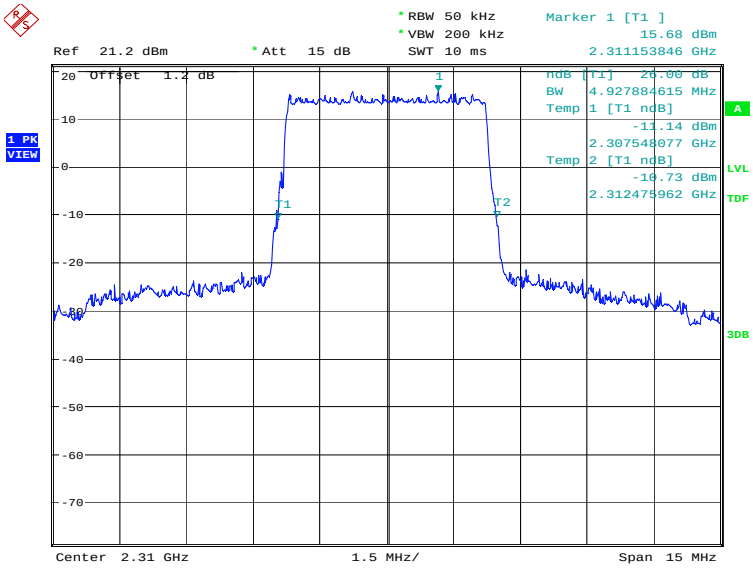
LTE band 30, 5MHz (-26dBc)

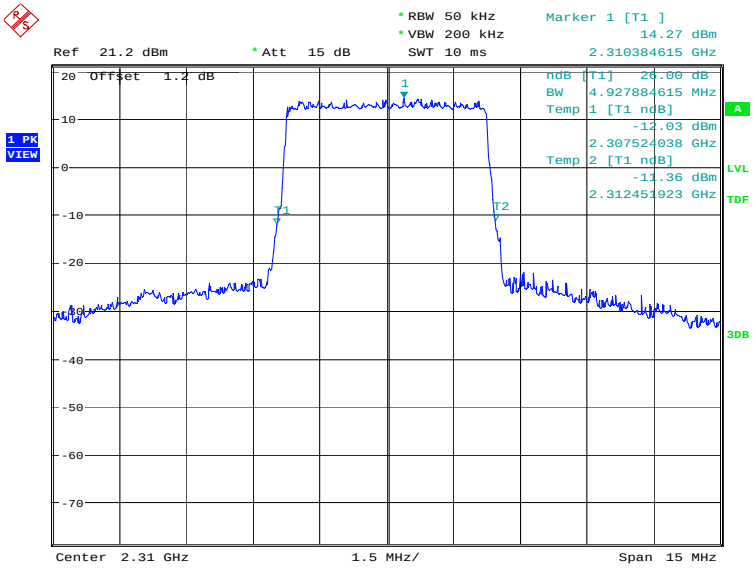
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2310.0	QPSK	16QAM
	4927.88	4927.88

LTE band 30, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:37:24

LTE band 30, 5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:38:04

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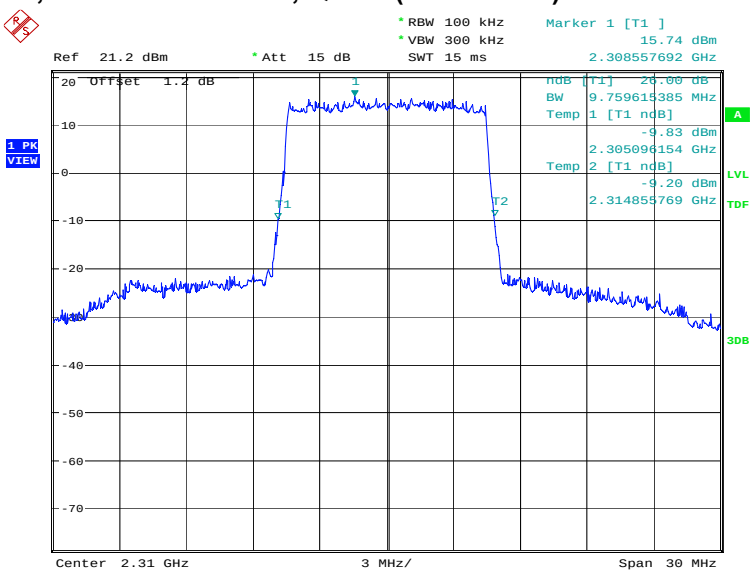
LTE band 30, 10MHz (-26dBc)

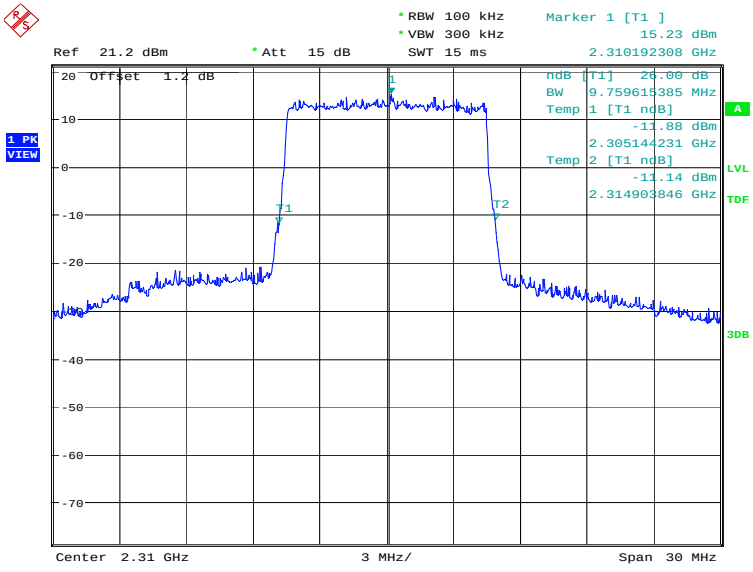
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2310.0	QPSK	16QAM
	9759.62	9759.62

LTE band 30, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:38:47

LTE band 30, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:39:27

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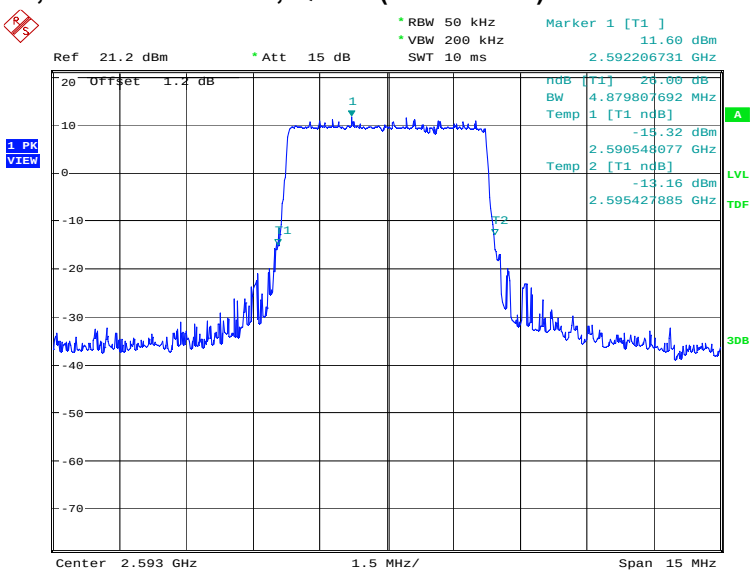
LTE band 41, 5MHz (-26dBc)

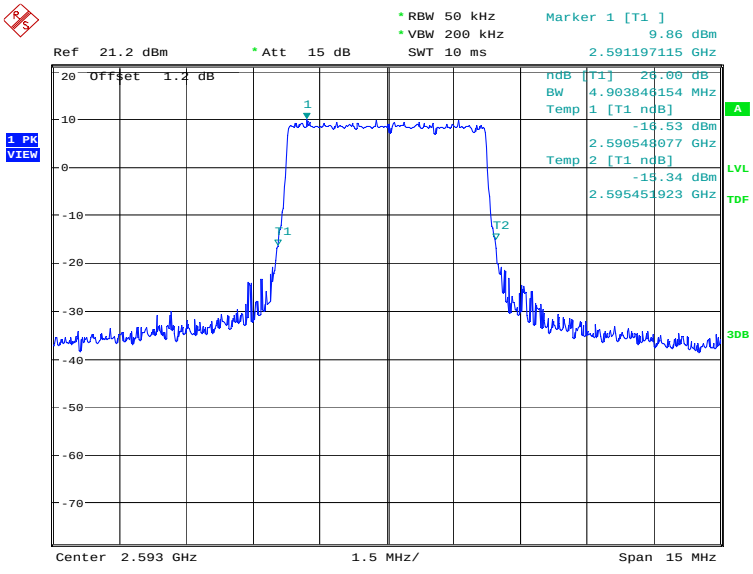
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	4879.81	4903.85

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



Date: 27.SEP.2022 18:49:13

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



Date: 27.SEP.2022 18:49:54

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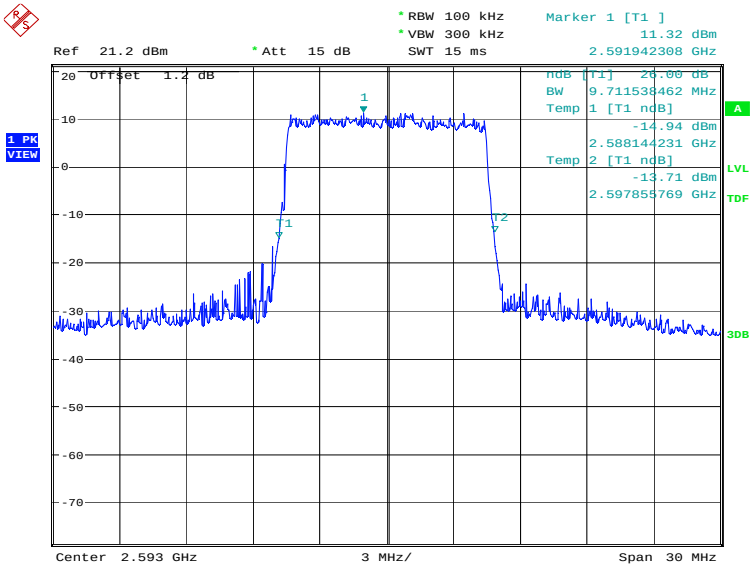
LTE band 41, 10MHz (-26dBc)

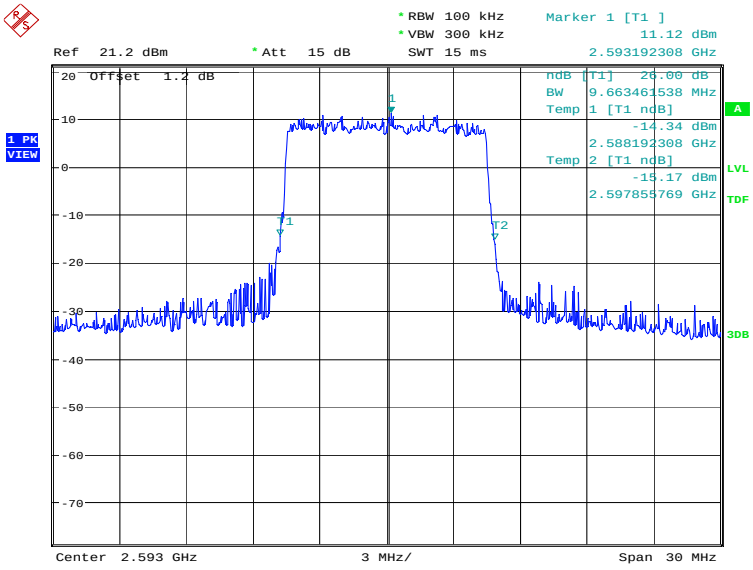
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	9711.54	9663.46

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



Date: 27.SEP.2022 18:50:38

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



Date: 27.SEP.2022 18:51:19

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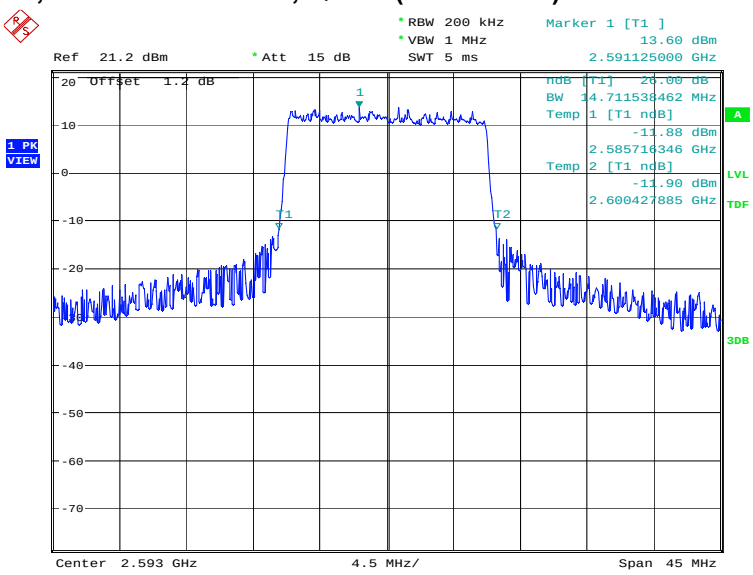
LTE band 41, 15MHz (-26dBc)

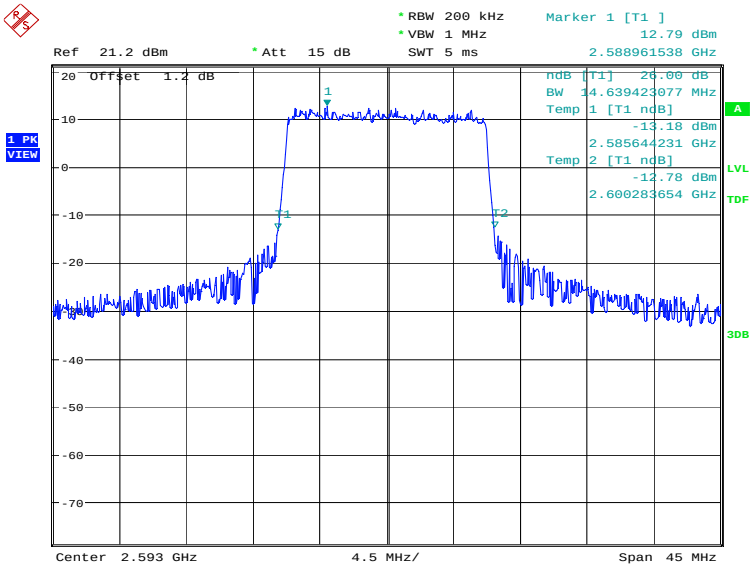
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	14711.54	14639.42

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



Date: 27.SEP.2022 18:52:01

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



Date: 27.SEP.2022 18:52:42

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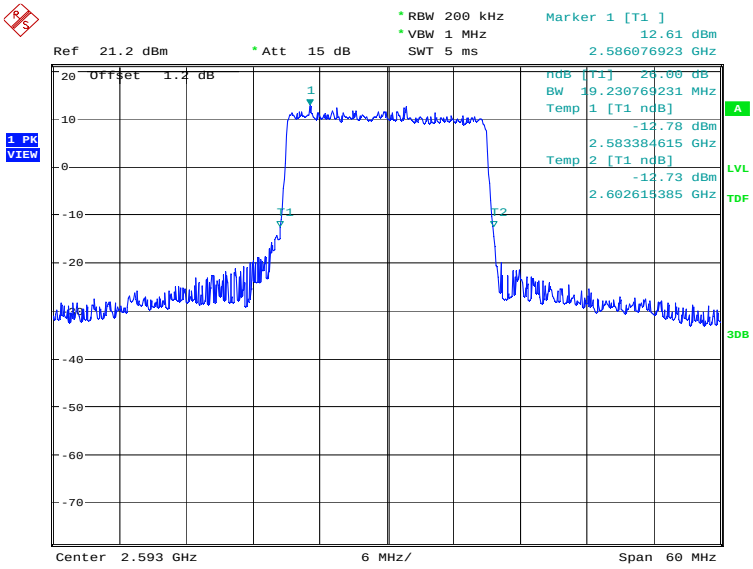
LTE band 41, 20MHz (-26dBc)

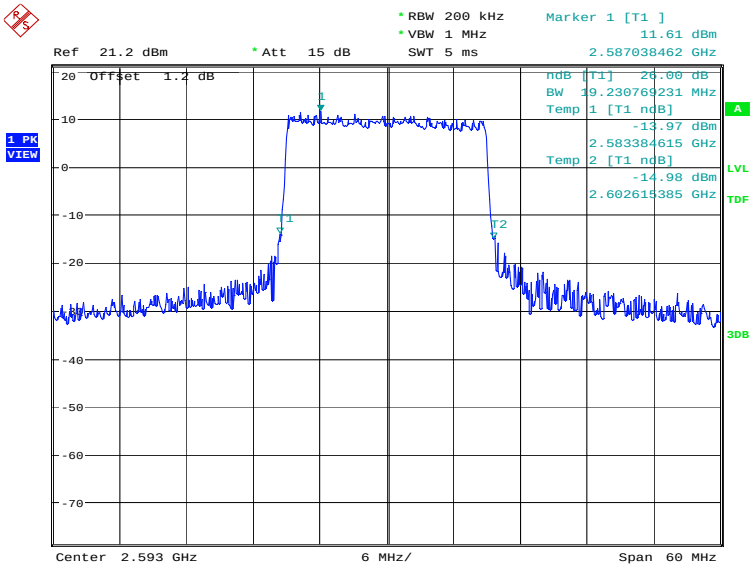
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	19230.77	19230.77

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



Date: 27.SEP.2022 18:53:25

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



Date: 27.SEP.2022 18:54:05

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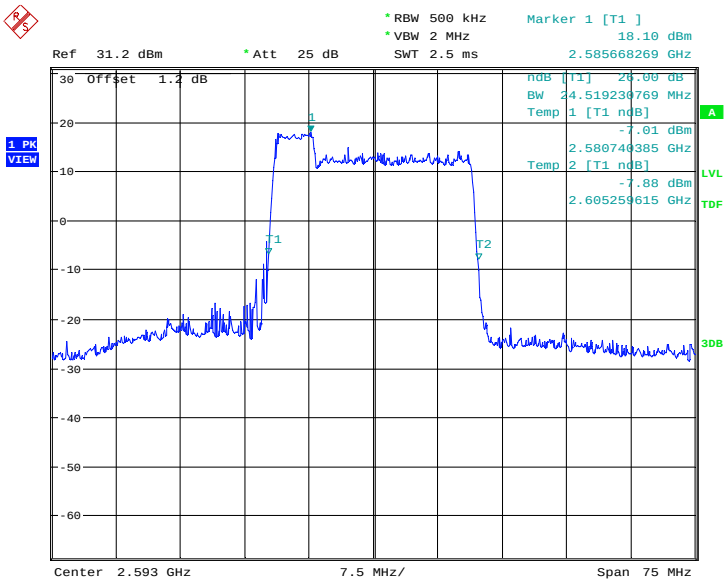
LTE band 41 CA,5MHz+20MHz(-26dBc)

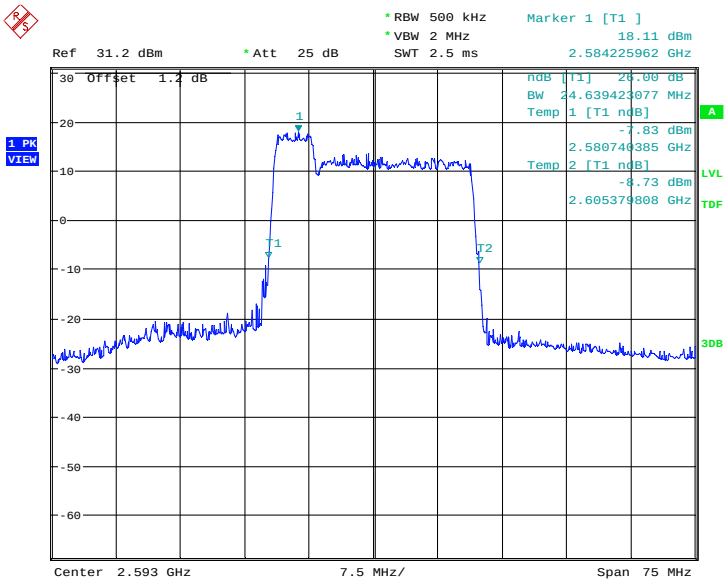
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	24.519	24.639

LTE band 41 CA , 5MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 14:59:22

LTE band 41 CA , 5MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 14:59:46

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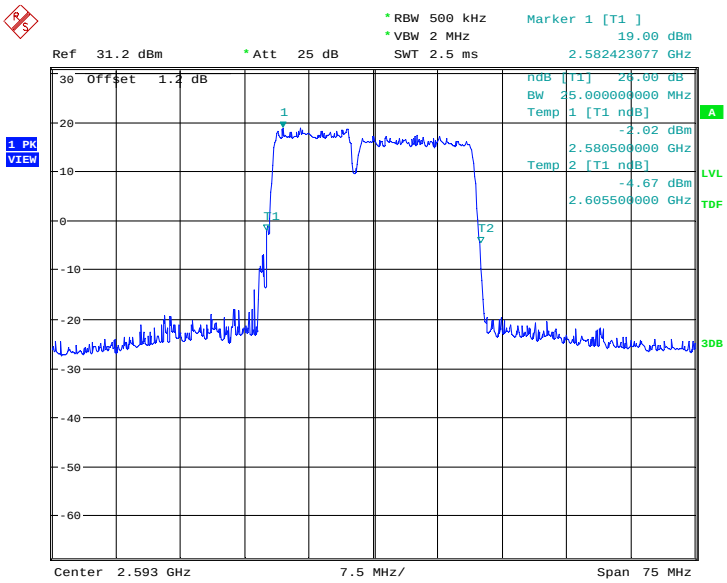
LTE band 41 CA,10MHz+15MHz(-26dBc)

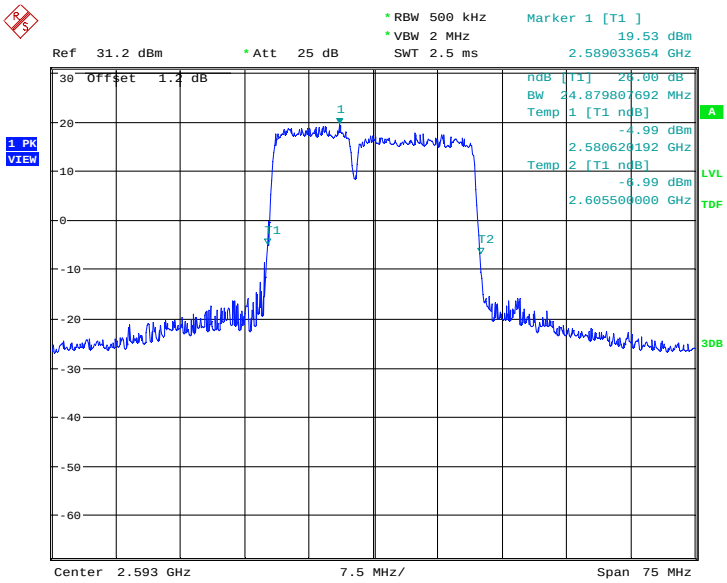
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	25.000	24.880

LTE band 41 CA , 10MHz+15MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 15:00:43

LTE band 41 CA , 10MHz+15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:01:06

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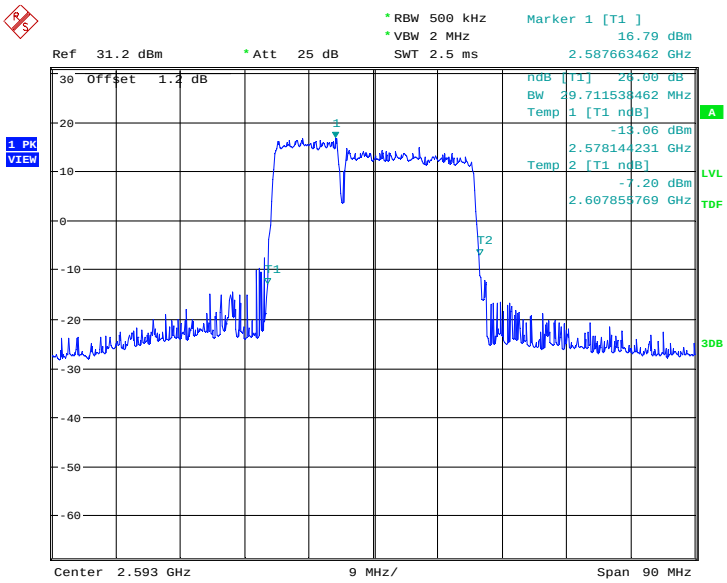
LTE band 41 CA,10MHz+20MHz(-26dBc)

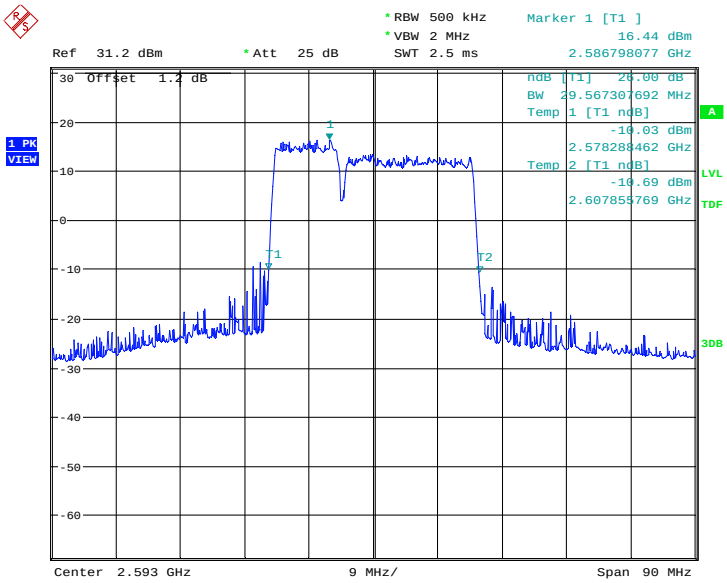
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	29.712	29.567

LTE band 41 CA , 10MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 15:02:00

LTE band 41 CA , 10MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:02:23

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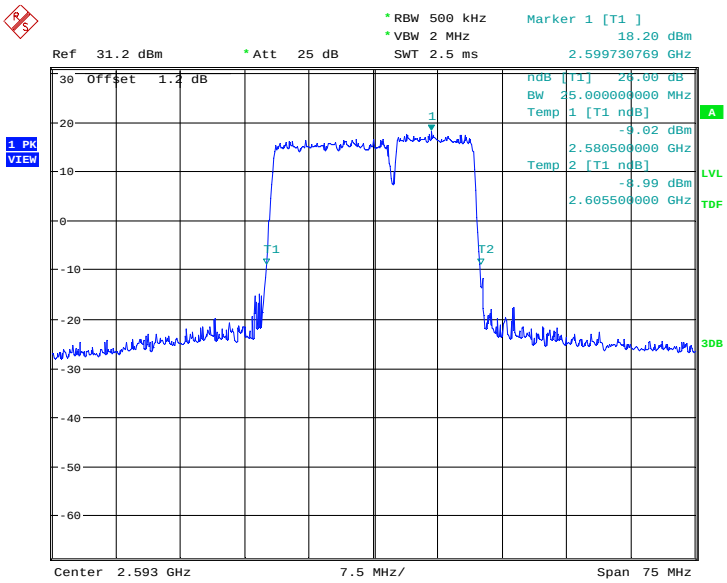
LTE band 41 CA,15MHz+10MHz(-26dBc)

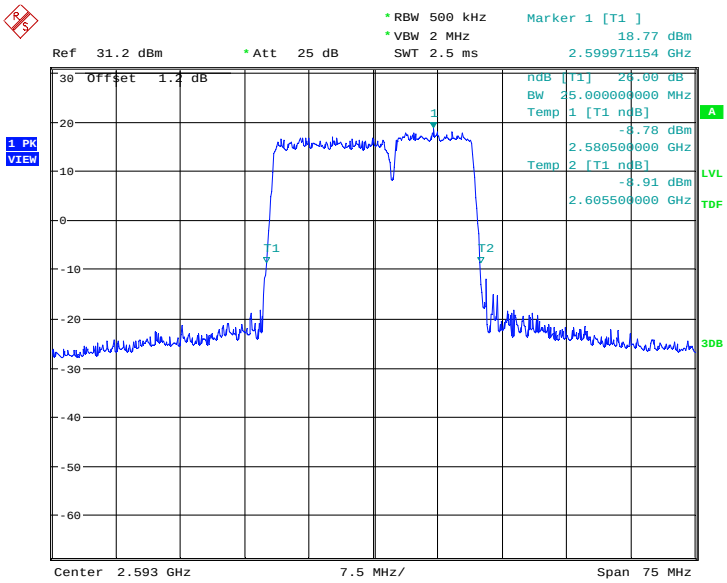
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	25.000	25.000

LTE band 41 CA , 15MHz+10MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 15:03:18

LTE band 41 CA , 15MHz+10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:03:42

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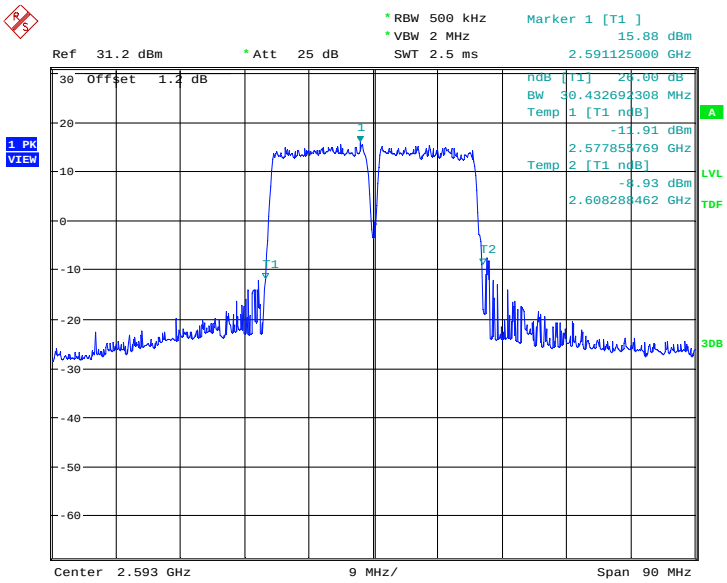
LTE band 41 CA,15MHz+15MHz(-26dBc)

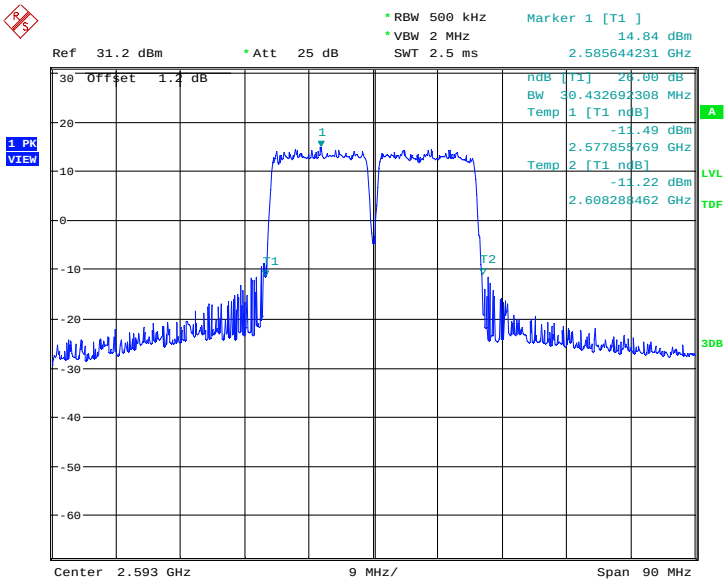
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	30.433	30.433

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



Date: 27.SEP.2022 15:04:35

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



Date: 27.SEP.2022 15:04:59

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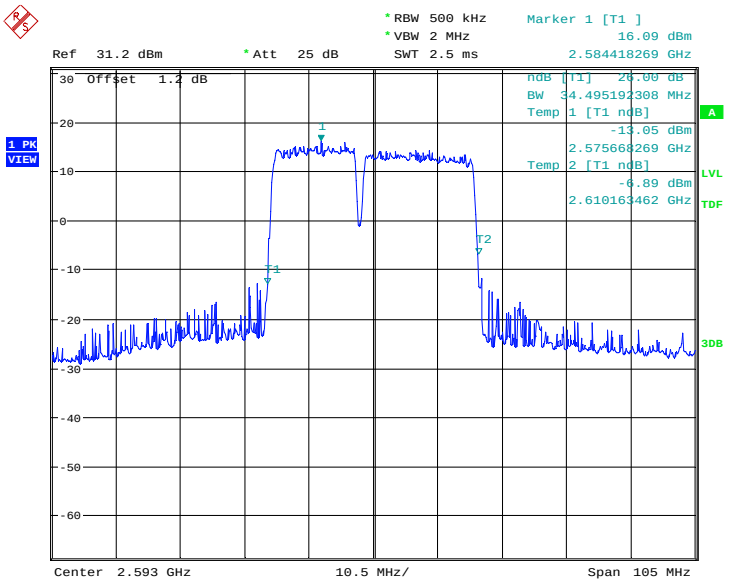
LTE band 41 CA,15MHz+20MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	34.495	34.663

LTE band 41 CA , 15MHz+20MHz Bandwidth, QPSK (-26dBc BW)



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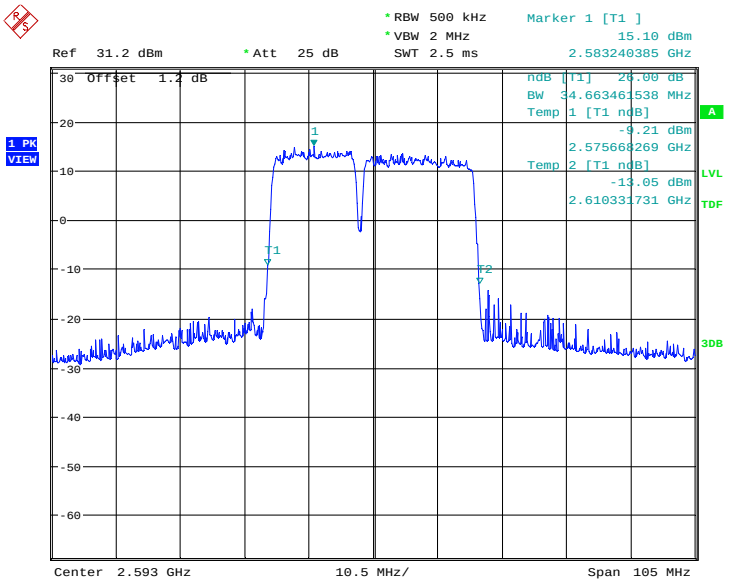
LTE band 41 CA , 15MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:06:16

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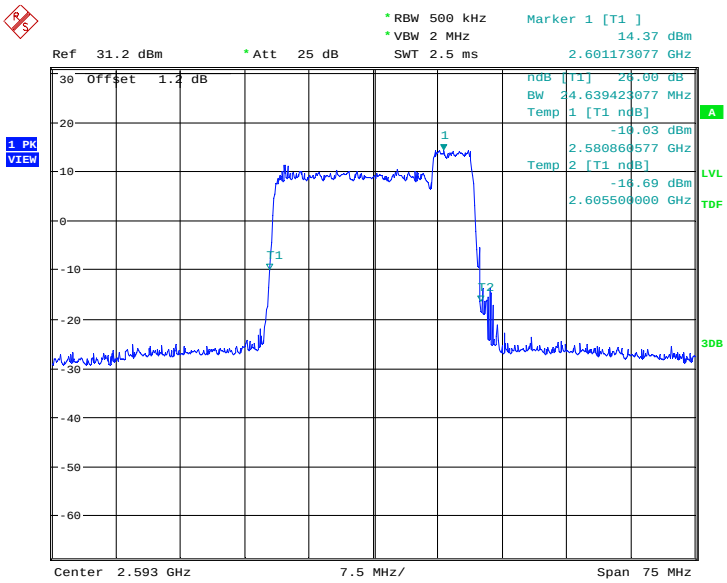
LTE band 41 CA,20MHz+5MHz(-26dBc)

Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	24.639	24.639

LTE band 41 CA , 20MHz+5MHz Bandwidth, QPSK (-26dBc BW)



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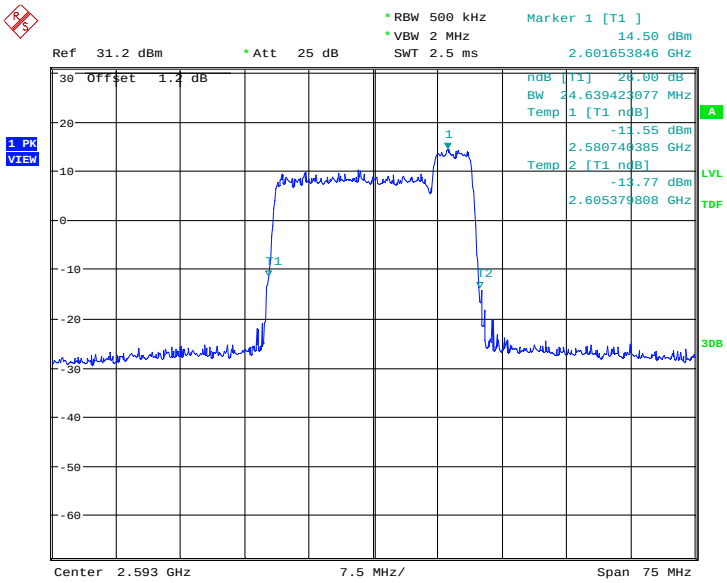
LTE band 41 CA , 20MHz+5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:07:37

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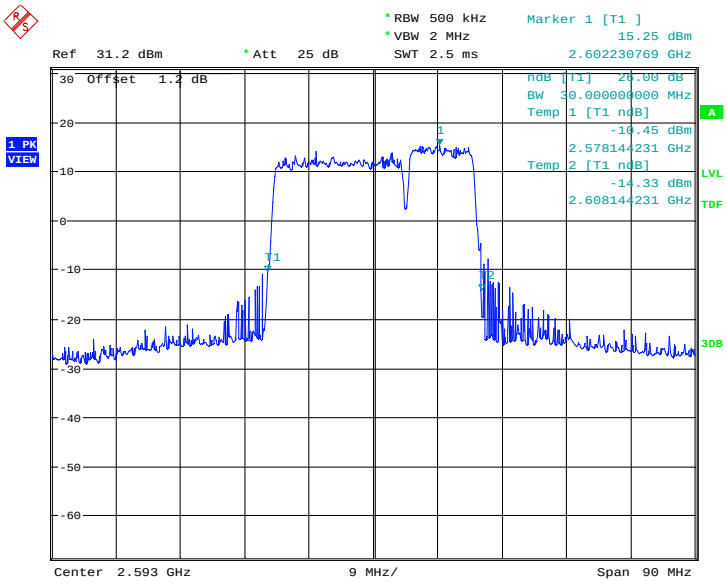
LTE band 41 CA,20MHz+10MHz(-26dBc)

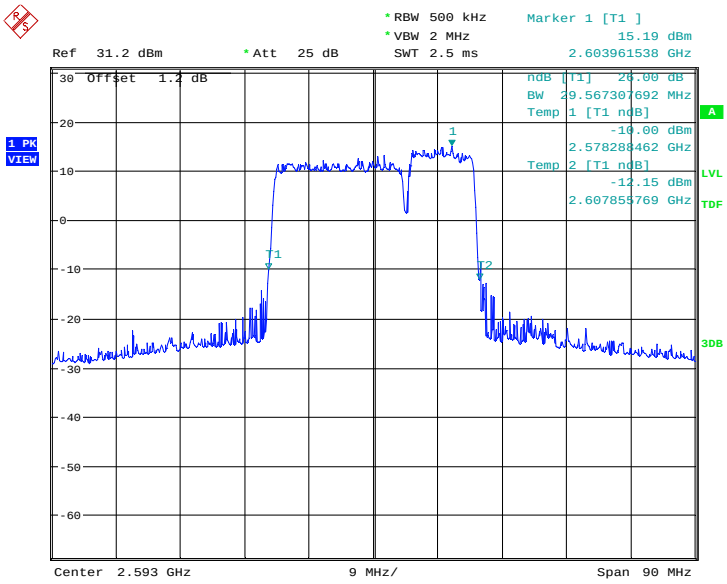
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	30.000	29.567

LTE band 41 CA , 20MHz+10MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 15:08:30

LTE band 41 CA , 20MHz+10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:08:54

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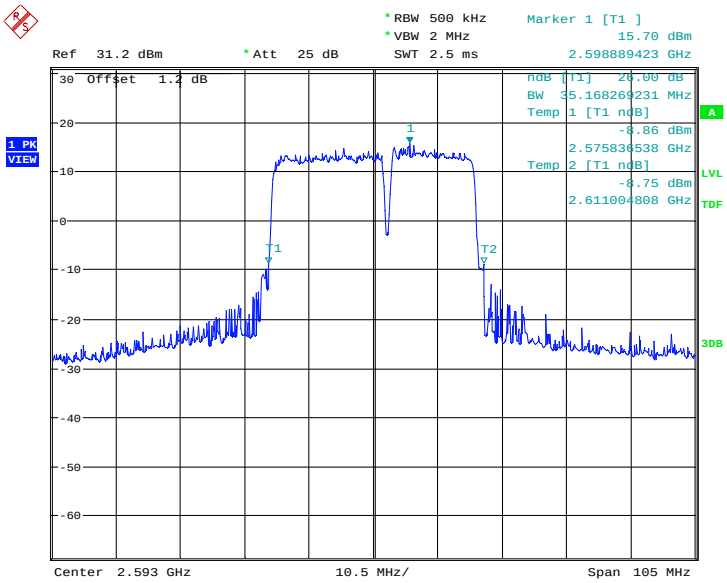
LTE band 41 CA,20MHz+15MHz(-26dBc)

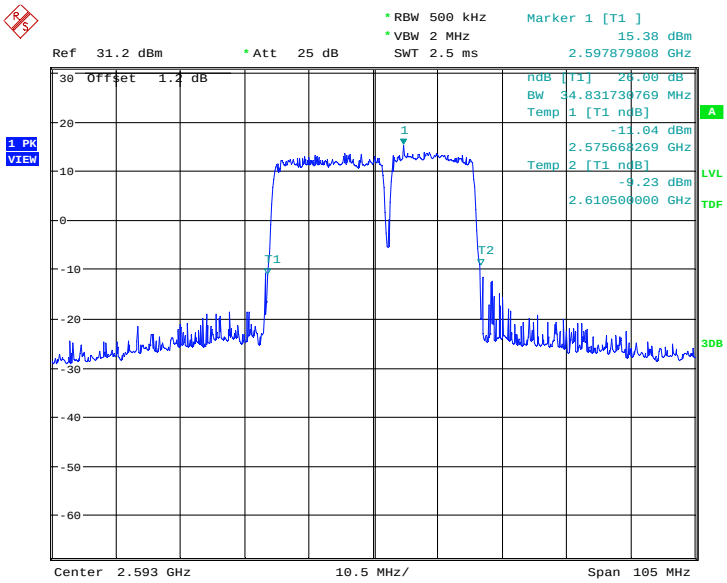
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	35.168	34.832

LTE band 41 CA , 20MHz+15MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 15:09:47

LTE band 41 CA , 20MHz+15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 15:10:11

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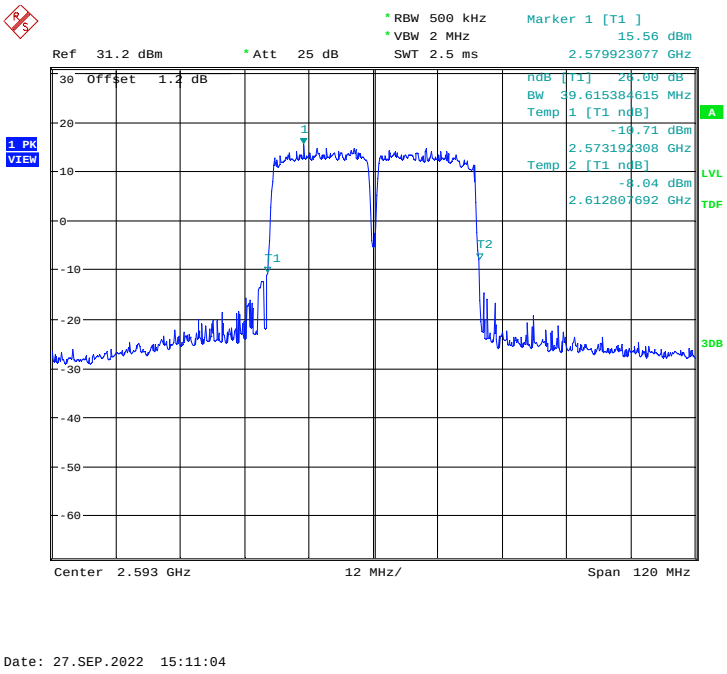
LTE band 41 CA,20MHz+20MHz(-26dBc)

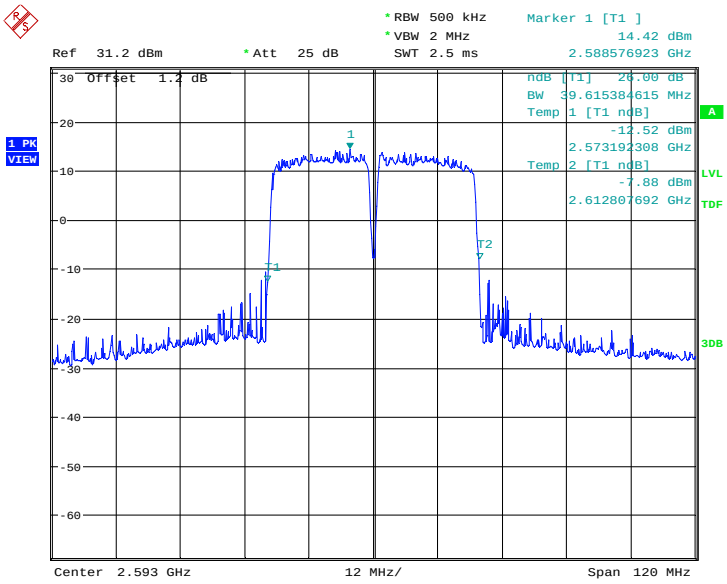
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593	39.615	39.615

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



Date: 27.SEP.2022 15:11:04

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



Date: 27.SEP.2022 15:11:28

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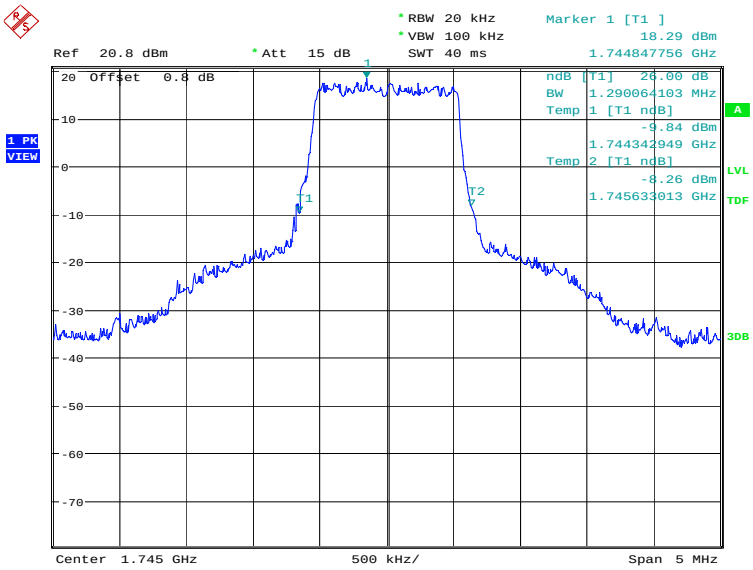
LTE band 66, 1.4MHz (-26dBc)

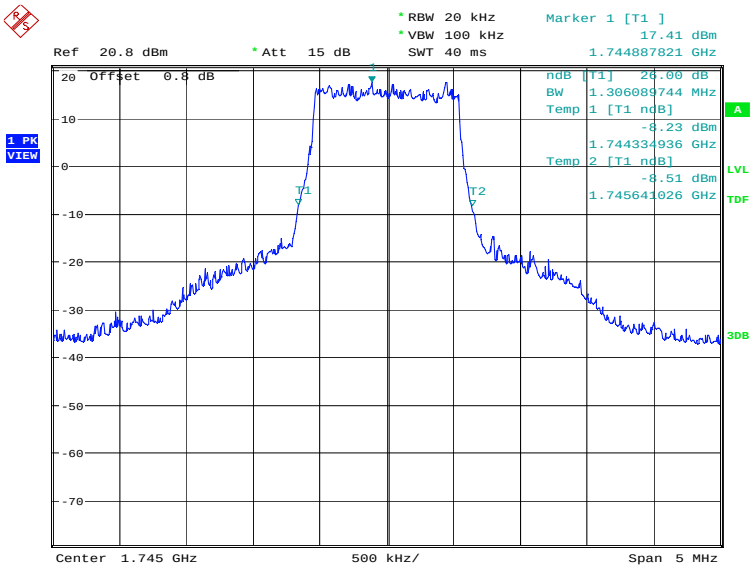
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	1290.06	1306.09

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



Date: 27.SEP.2022 18:40:11

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



Date: 27.SEP.2022 18:40:52

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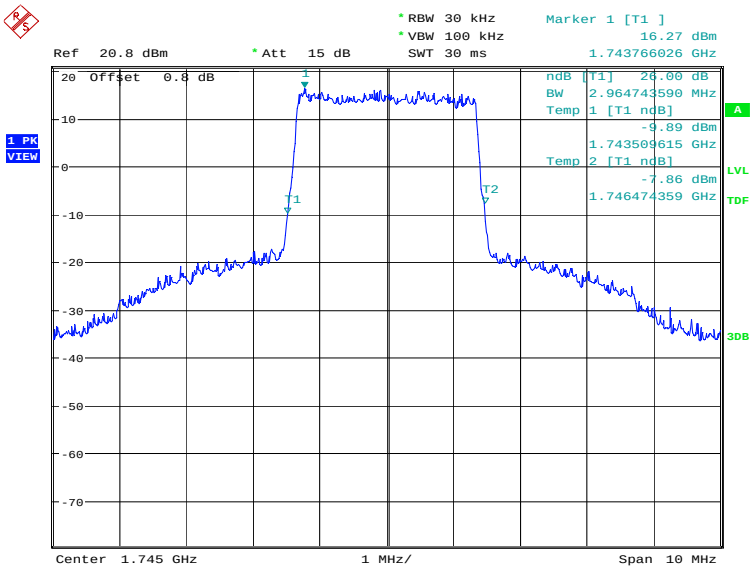
LTE band 66, 3MHz (-26dBc)

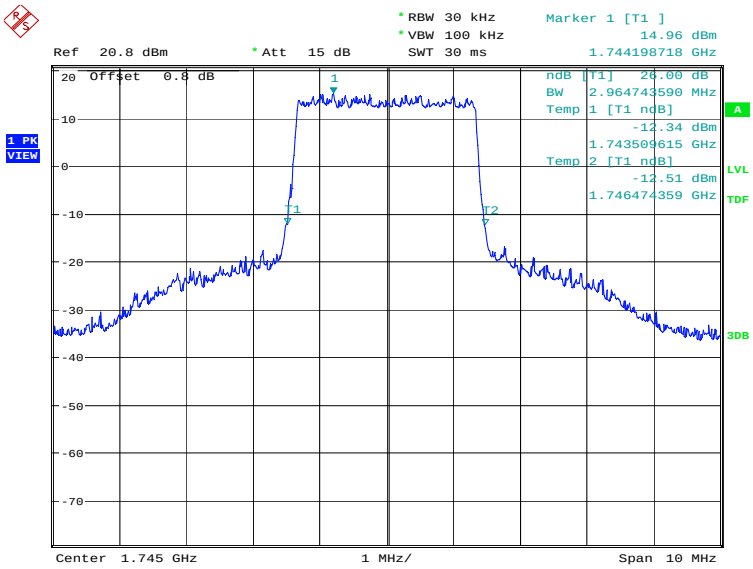
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	2964.74	2964.74

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



Date: 27.SEP.2022 18:41:34

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



Date: 27.SEP.2022 18:42:14

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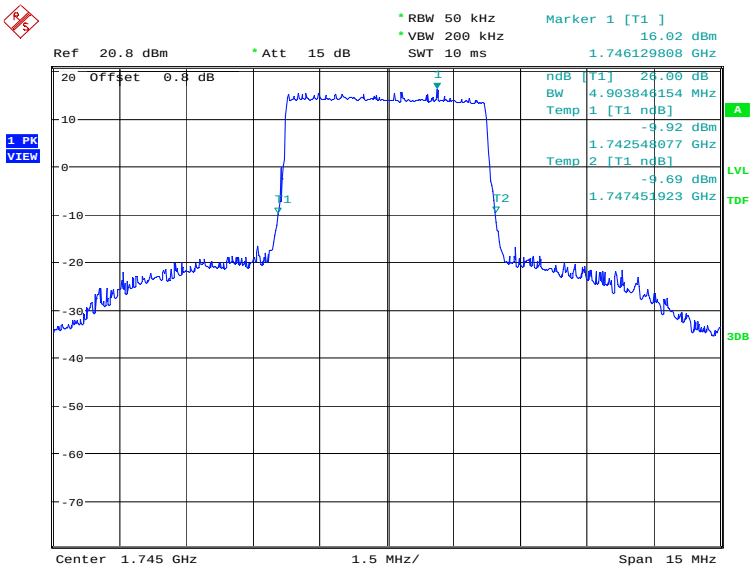
LTE band 66, 5MHz (-26dBc)

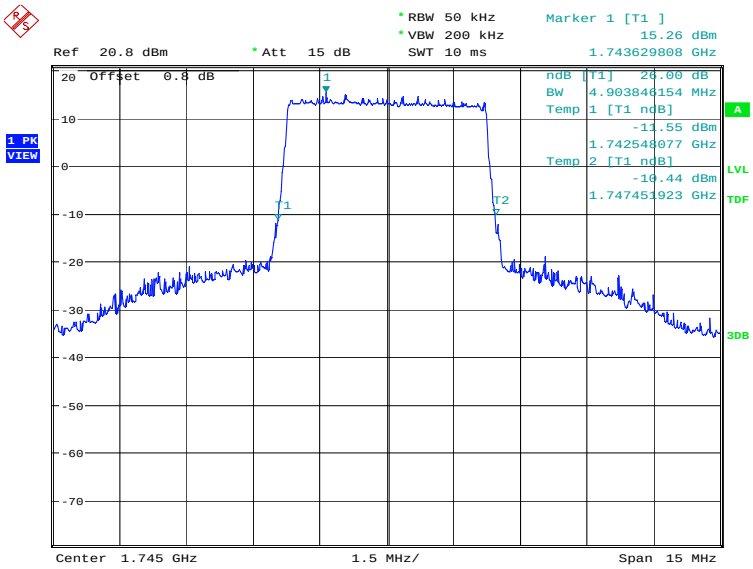
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	4903.85	4903.85

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



Date: 27.SEP.2022 18:42:56

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



Date: 27.SEP.2022 18:43:37

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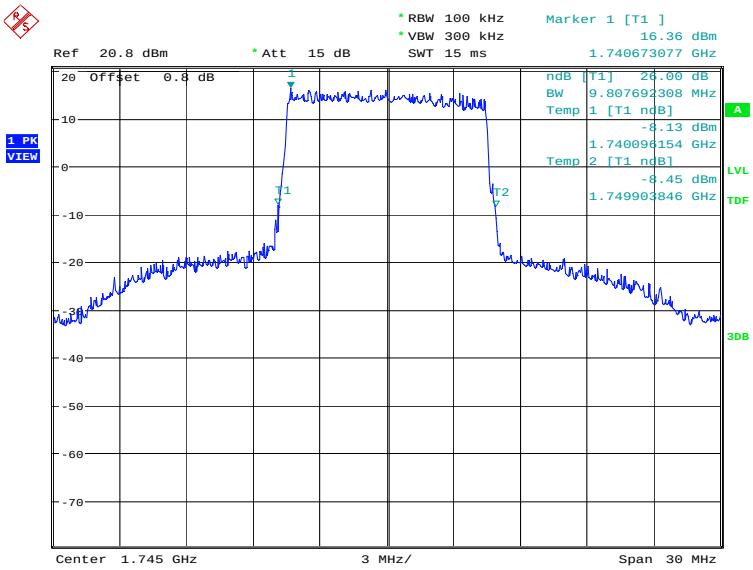
LTE band 66, 10MHz (-26dBc)

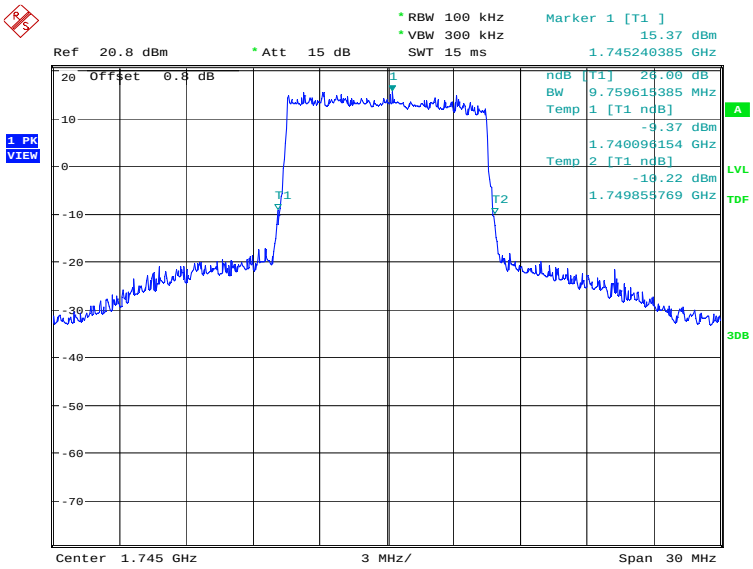
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	9807.69	9759.62

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



Date: 27.SEP.2022 18:44:19

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



Date: 27.SEP.2022 18:45:00

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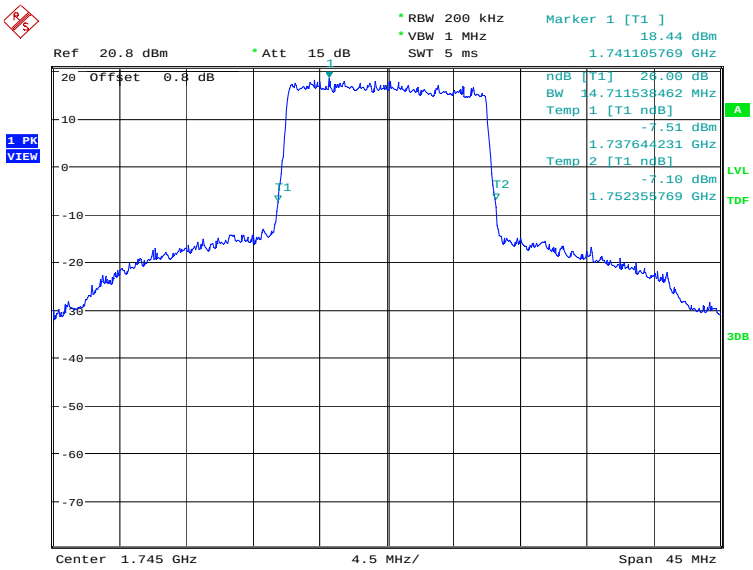
LTE band 66, 15MHz (-26dBc)

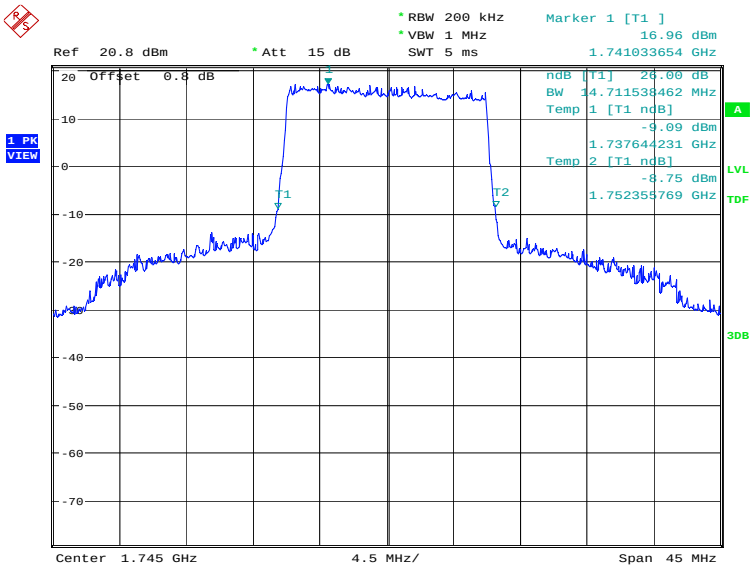
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	14711.54	14711.54

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



Date: 27.SEP.2022 18:45:42

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



Date: 27.SEP.2022 18:46:22

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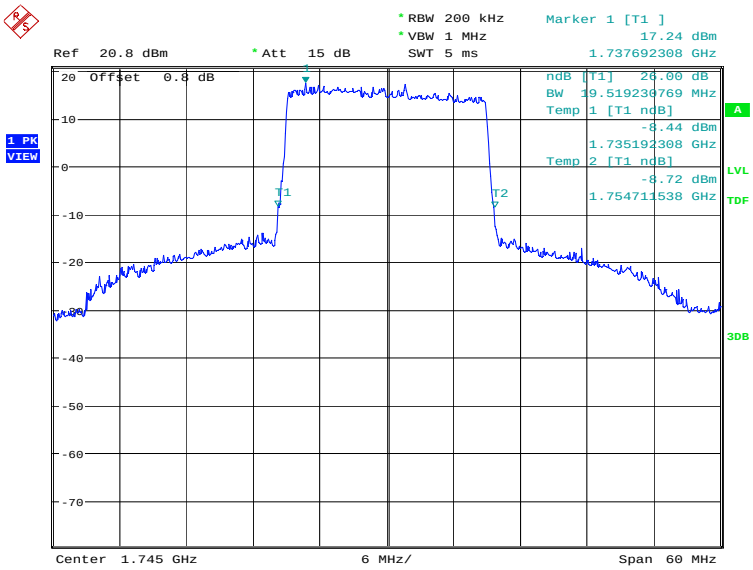
LTE band 66, 20MHz (-26dBc)

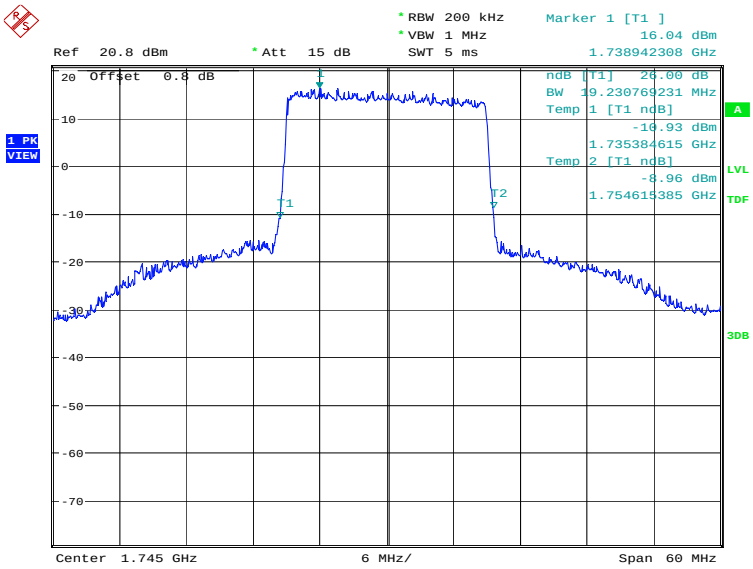
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	19519.23	19230.77

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



Date: 27.SEP.2022 18:47:05

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



Date: 27.SEP.2022 18:47:45

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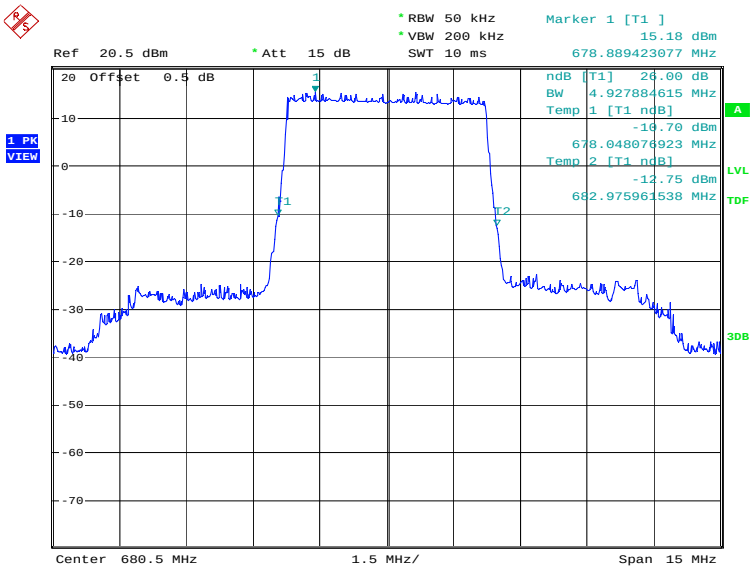
LTE band 71, 5MHz (-26dBc)

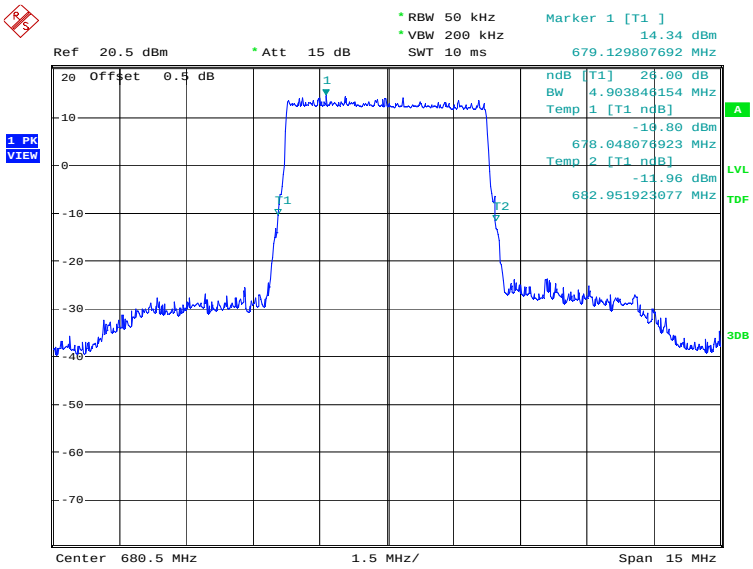
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
680.5	QPSK	16QAM
	4927.88	4903.85

LTE band 71, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:08:01

LTE band 71, 5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:08:41

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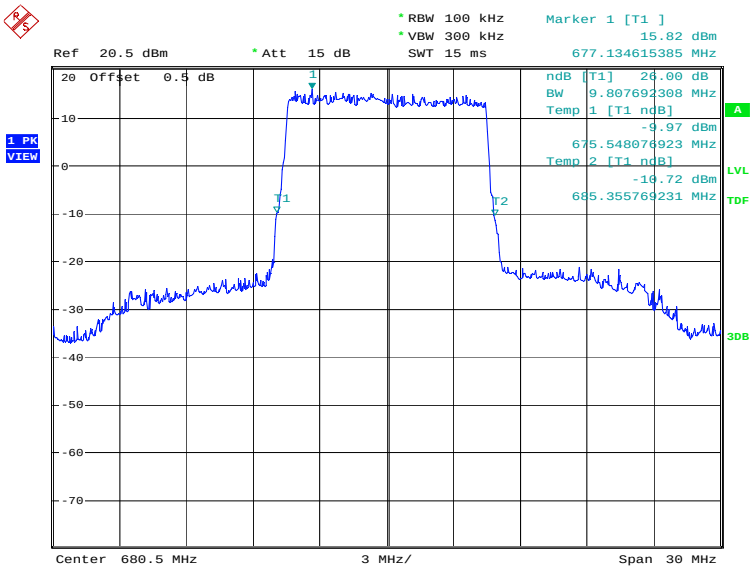
LTE band 71, 10MHz (-26dBc)

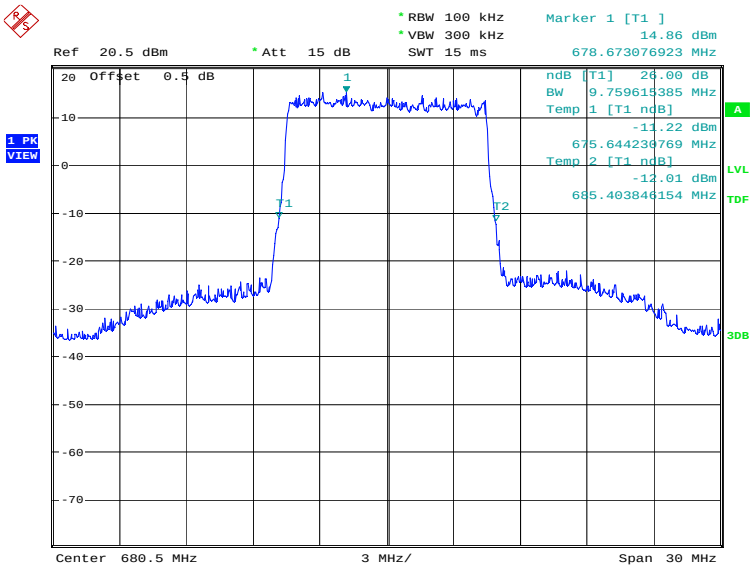
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
680.5	QPSK	16QAM
	9807.69	9759.62

LTE band 71, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:09:24

LTE band 71, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:10:04

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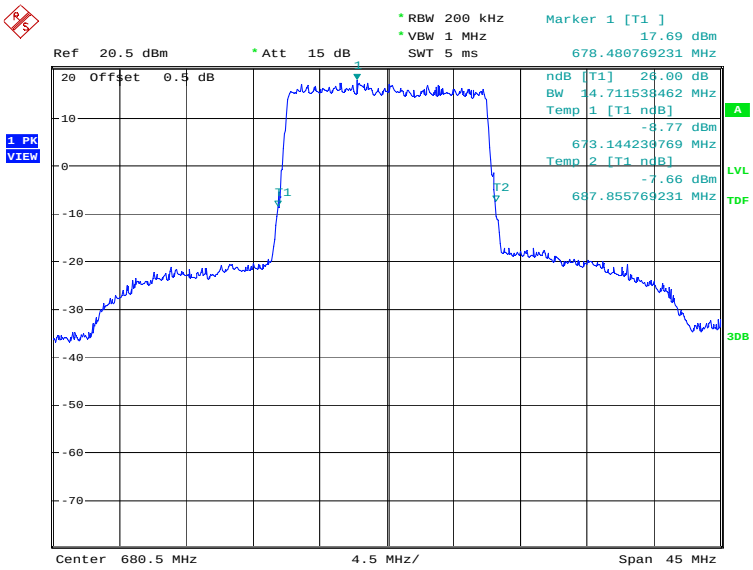
LTE band 71, 15MHz (-26dBc)

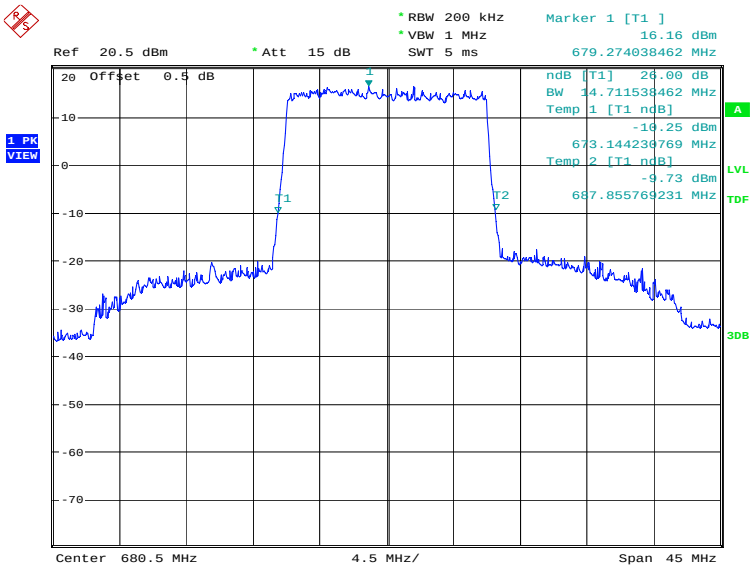
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
680.5	QPSK	16QAM
	14711.54	14711.54

LTE band 71, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:10:46

LTE band 71, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:11:27

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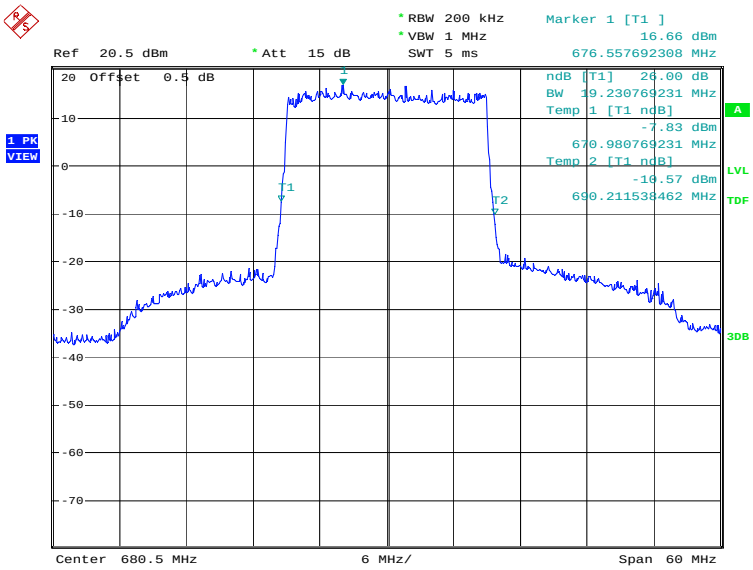
LTE band 71, 20MHz (-26dBc)

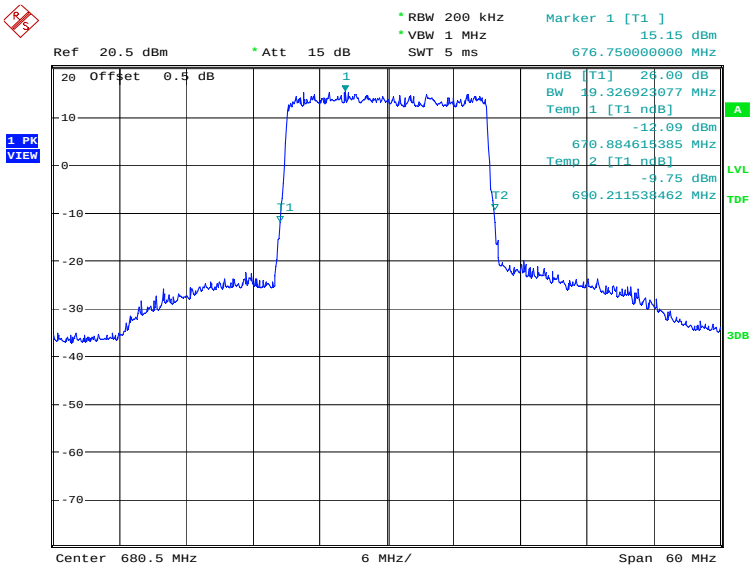
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
680.5	QPSK	16QAM
	19230.77	19326.92

LTE band 71, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 27.SEP.2022 18:12:09

LTE band 71, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 27.SEP.2022 18:12:50

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

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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.

Part 27.53(a) states for mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands: By a factor of not less than: 43 +10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 +

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10 log (P) dB below 2288 MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.
The spectrum analyzer readings are corrected by [10 log (1/duty cycle)] for the non-continuous transmitting scenario.

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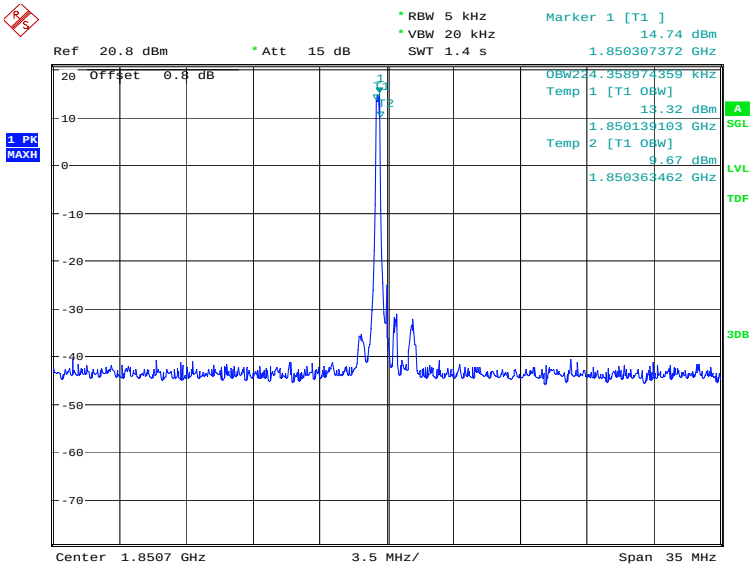
A.6.2 Measurement result

Only the worst case result is given below

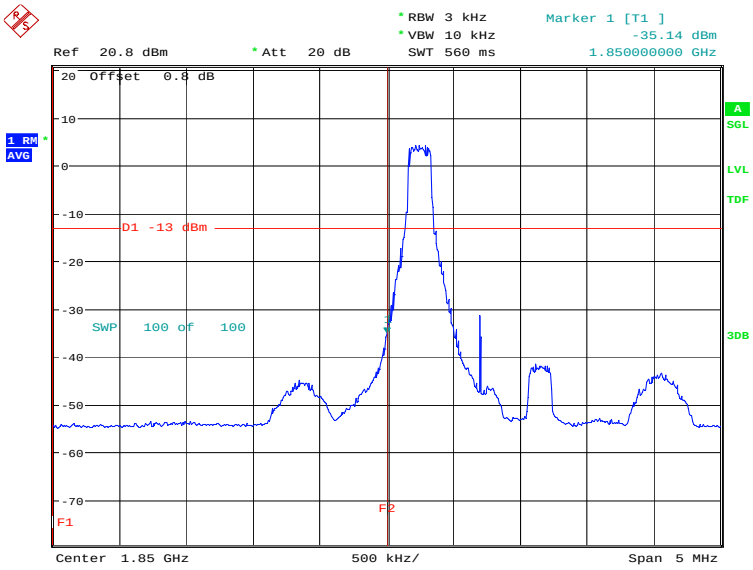
LTE band 2

OBW: 1RB-low_offset



Date: 30.NOV.2022 12:42:17

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 12:43:31

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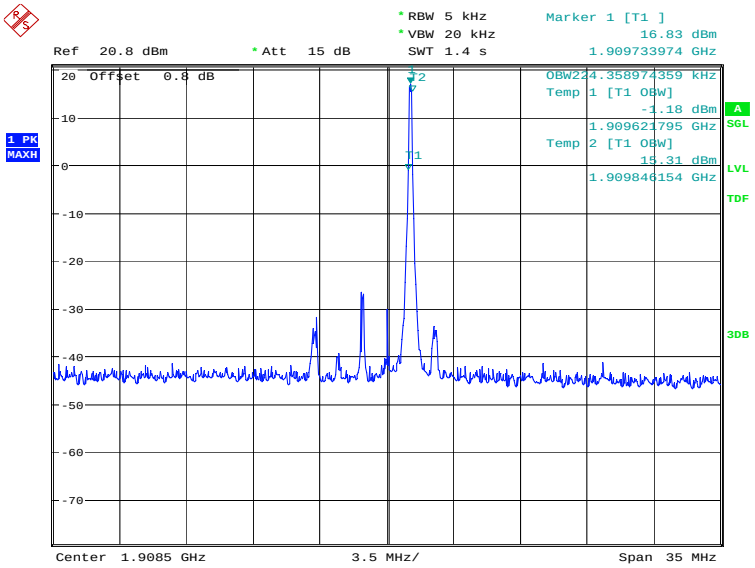
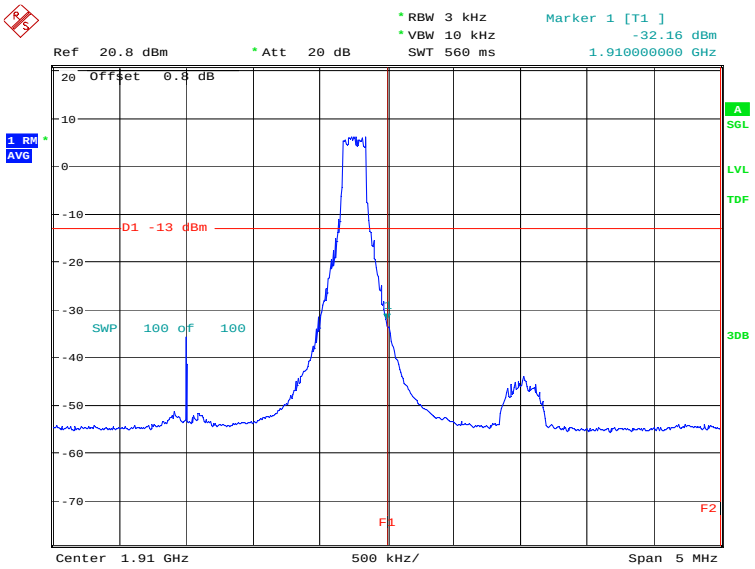
OBW: 1RB-high_offset



Date: 30.NOV.2022 12:44:09

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 12:45:23

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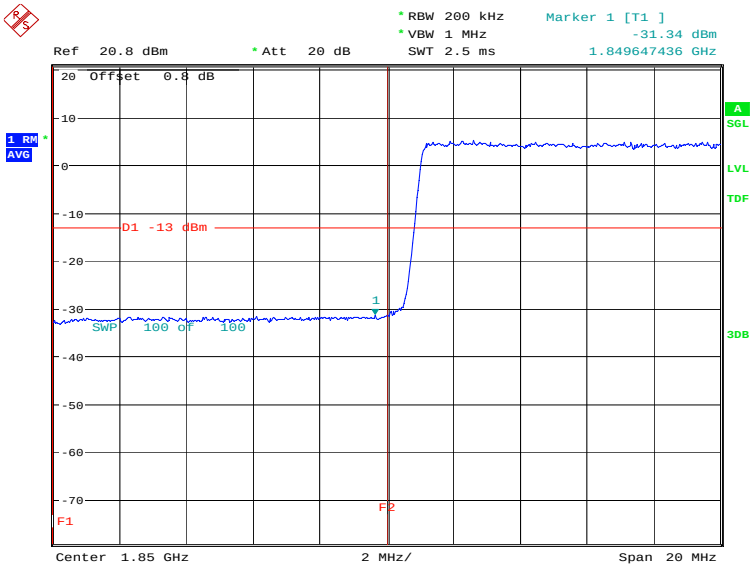
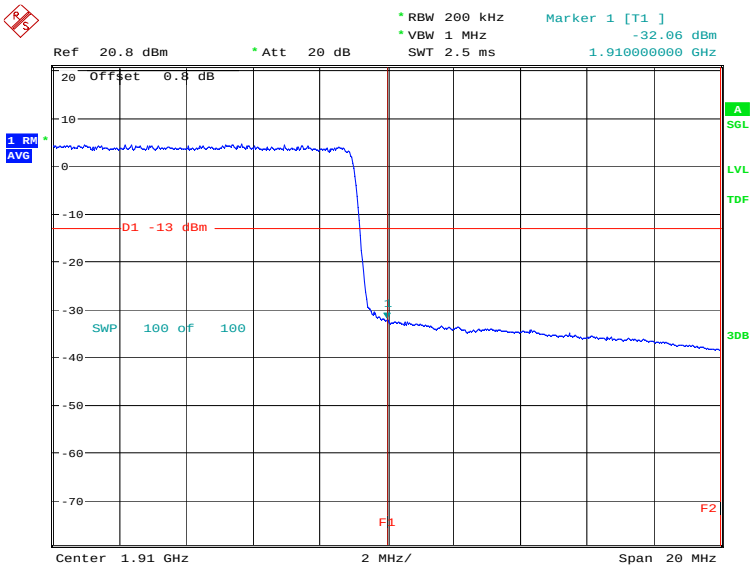
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 18:59:36

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 19:01:08

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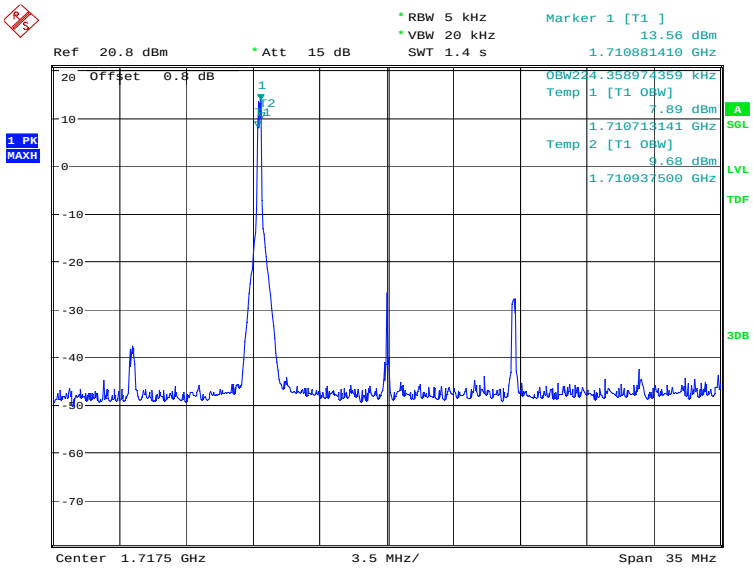
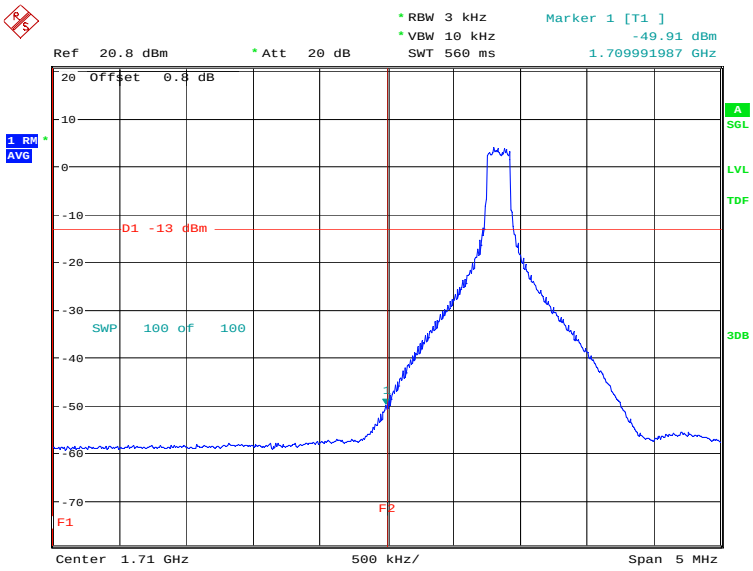
LTE band 4

OBW: 1RB-low_offset



Date: 30.NOV.2022 12:46:02

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 12:47:16

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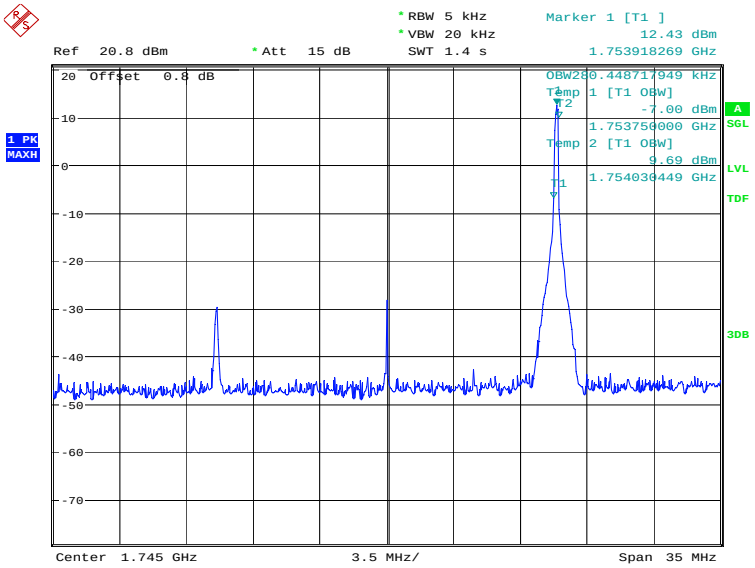
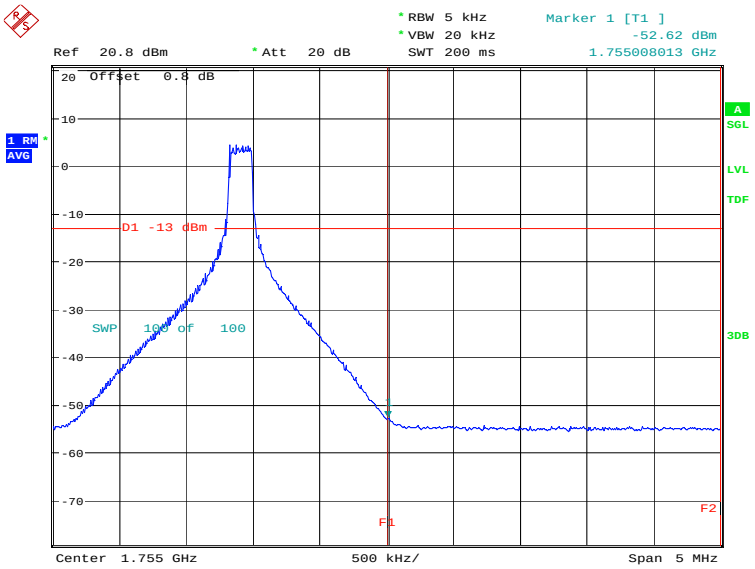
OBW: 1RB-high_offset



Date: 30.NOV.2022 12:50:20

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 12:51:34

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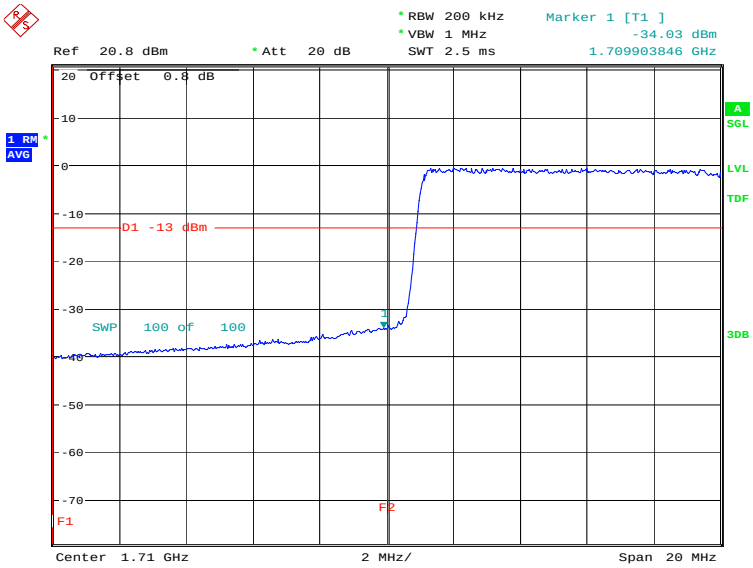
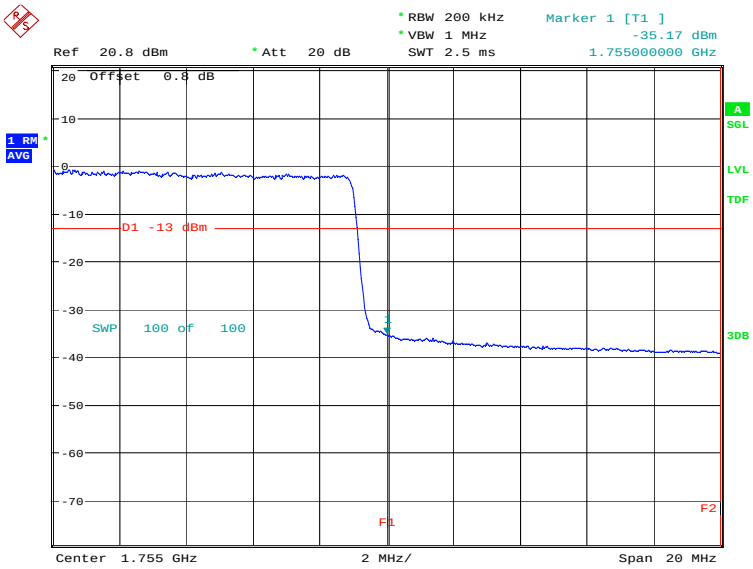
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 30.NOV.2022 12:48:47

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 30.NOV.2022 12:52:08

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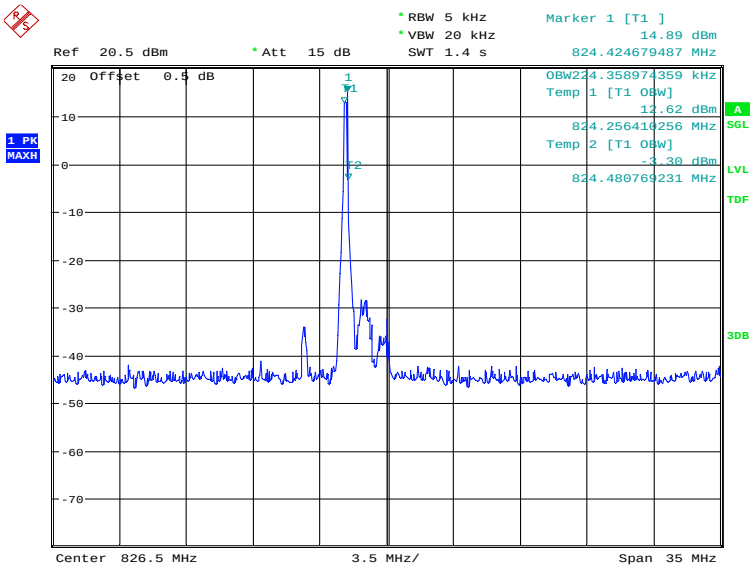
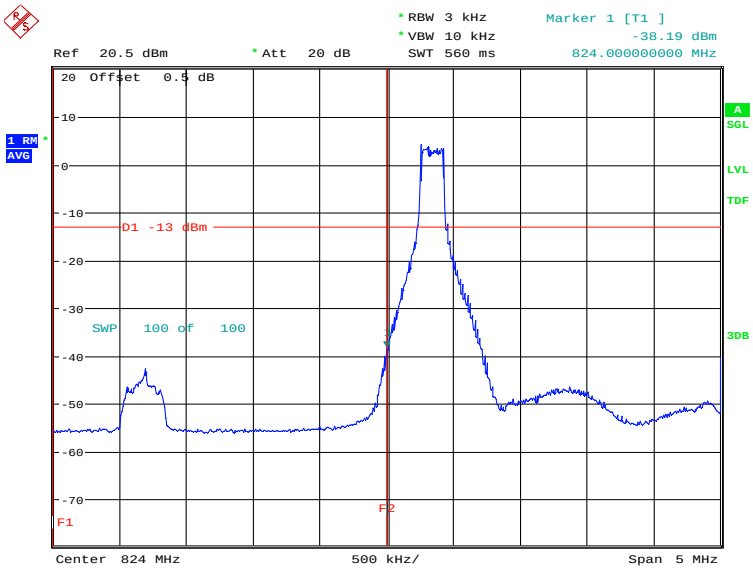
LTE band 5

OBW: 1RB-low_offset



Date: 1.DEC.2022 11:20:34

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 1.DEC.2022 11:21:48

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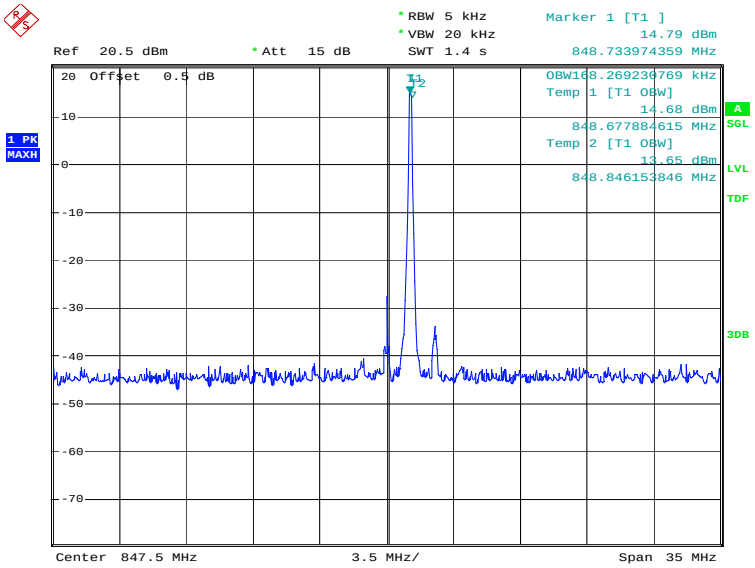
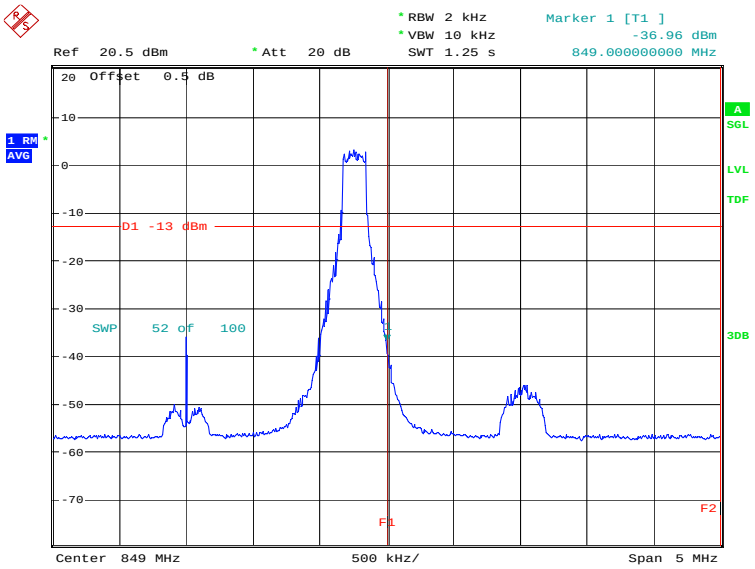
OBW: 1RB-high_offset



Date: 30.NOV.2022 12:58:28

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 12:59:42

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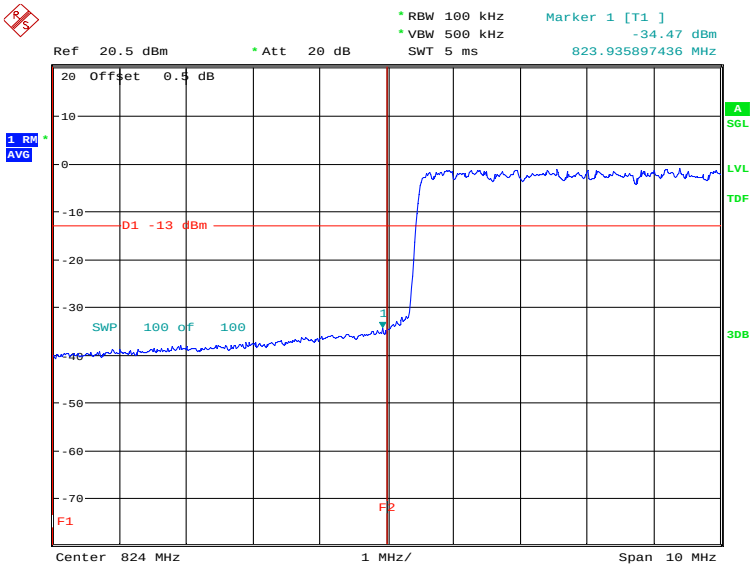
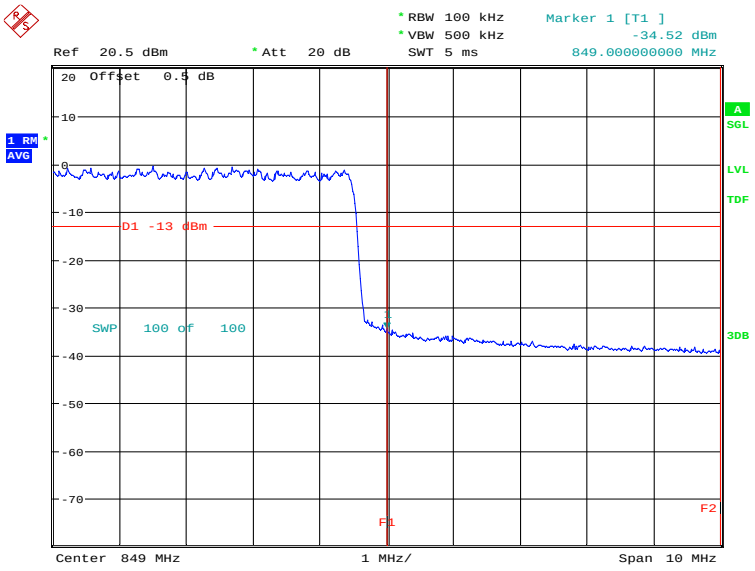
LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 1.DEC.2022 11:22:24

HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 1.DEC.2022 11:24:43

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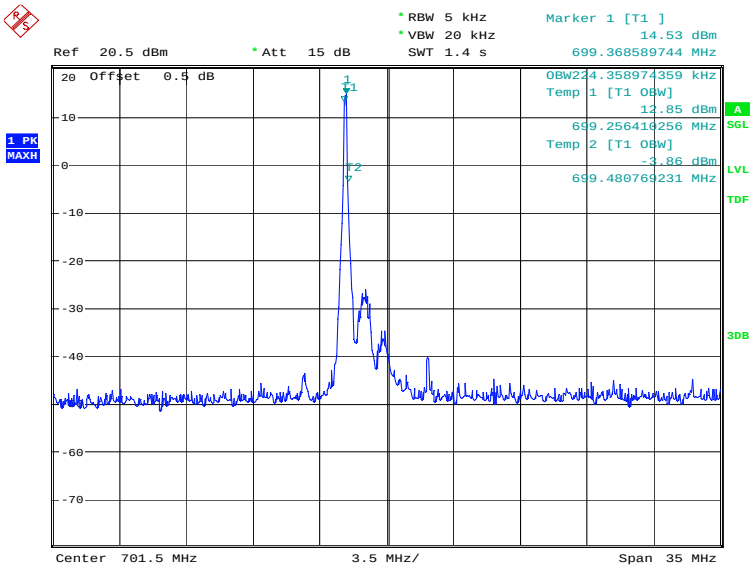
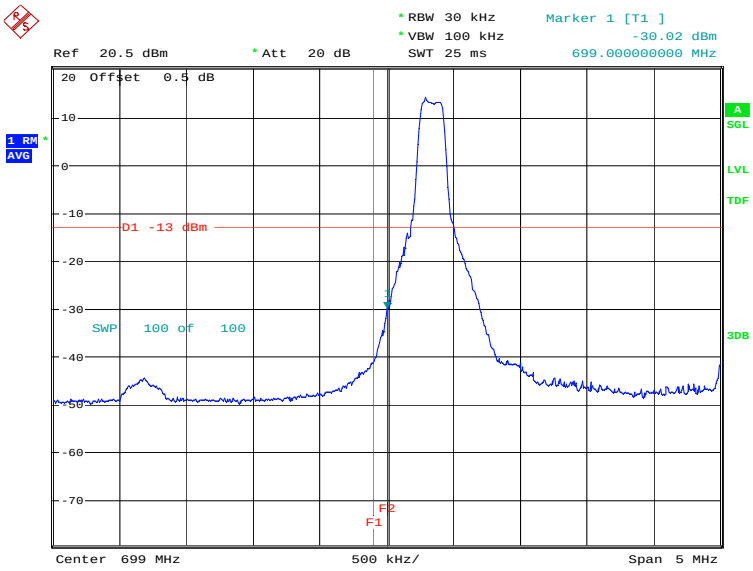
LTE band 12

OBW: 1RB-low_offset



Date: 30.NOV.2022 13:00:22

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 13:00:41

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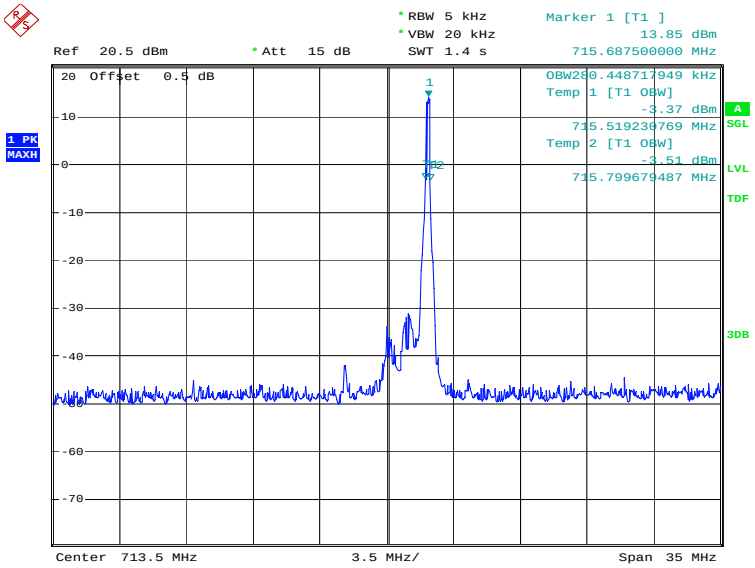
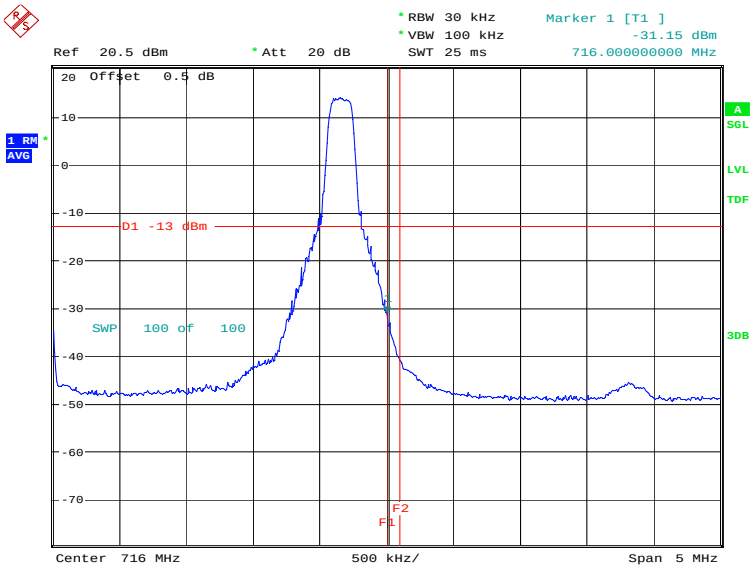
OBW: 1RB-high_offset



Date: 30.NOV.2022 13:01:17

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 13:01:36

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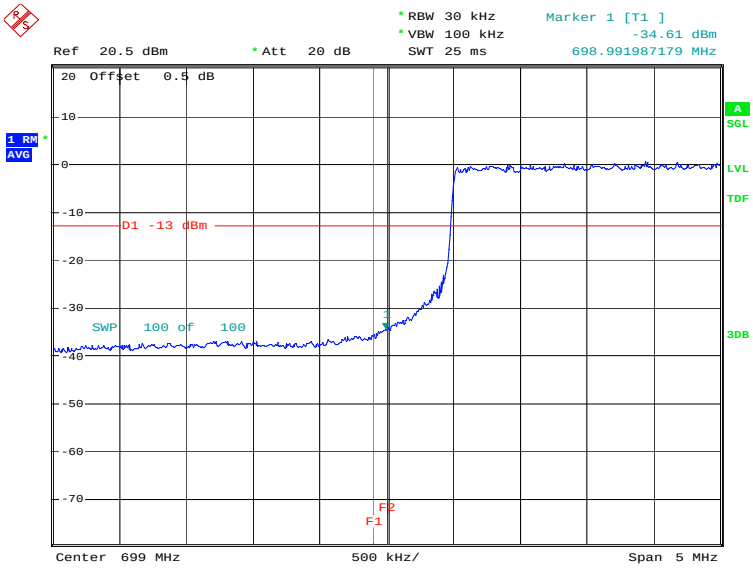
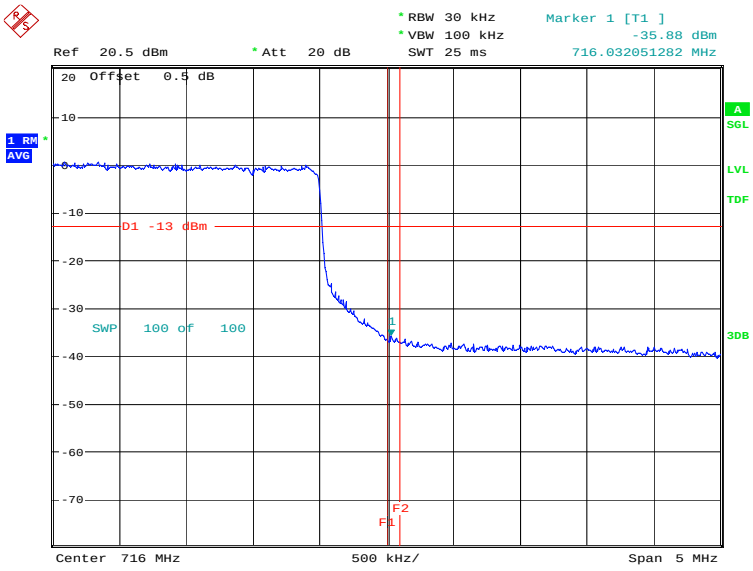
LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 27.SEP.2022 19:09:00

HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 27.SEP.2022 19:10:32

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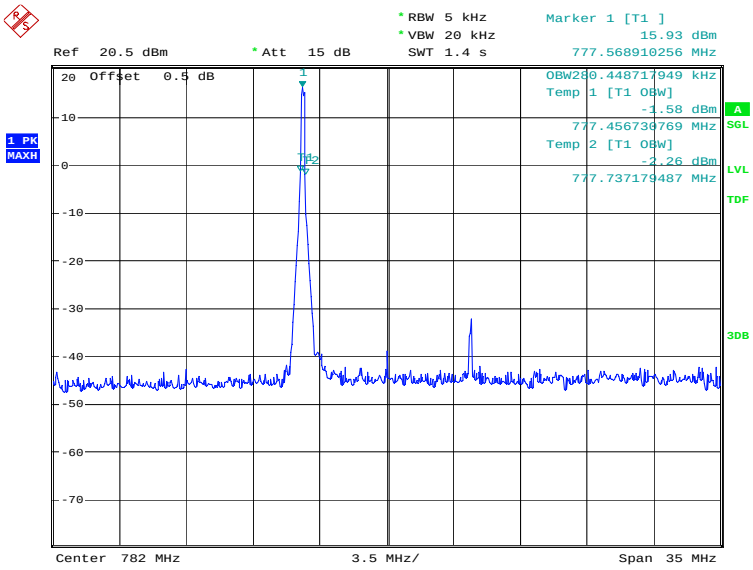
LTE band 13

OBW: 1RB-low_offset



Date: 30.NOV.2022 13:02:16

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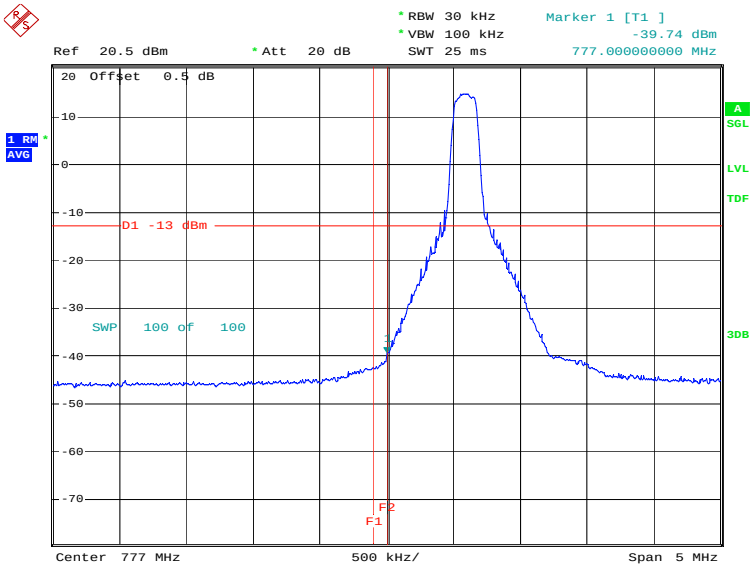
LOW BAND EDGE BLOCK-1RB-low_offset



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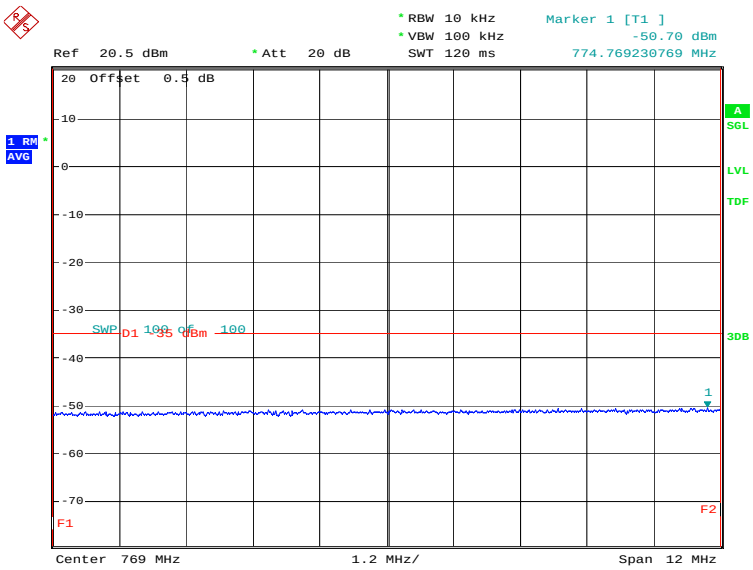

Date: 30.NOV.2022 13:03:14

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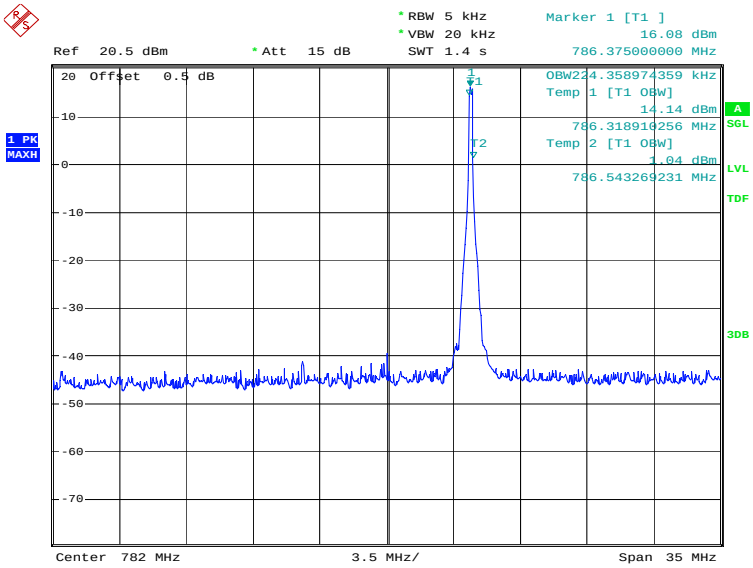
OBW: 1RB-high_offset



Date: 30.NOV.2022 13:03:49

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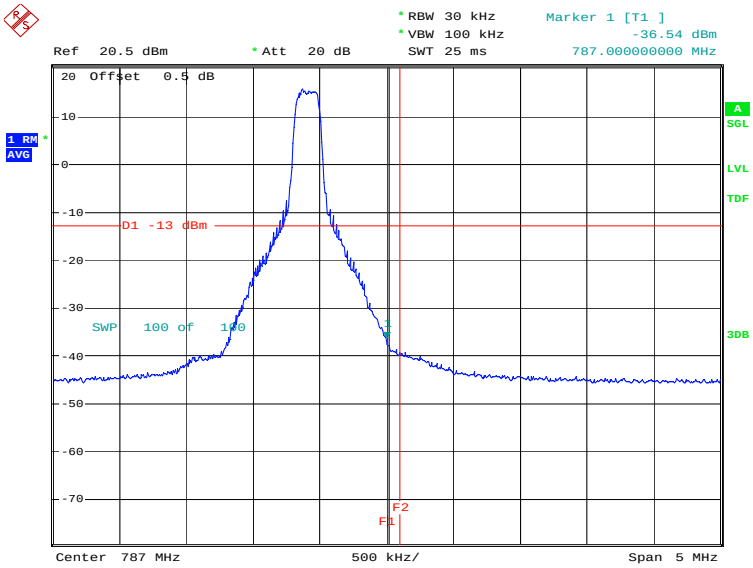
HIGH BAND EDGE BLOCK-1RB-high_offset



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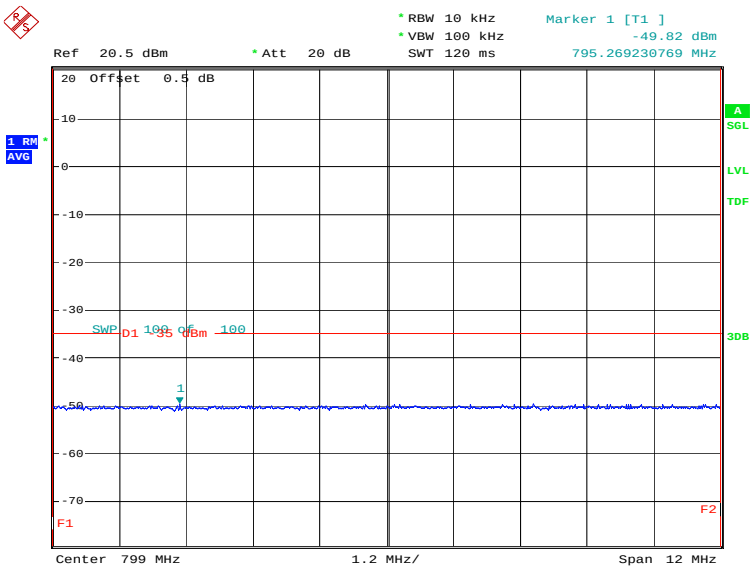

Date: 30.NOV.2022 13:04:47

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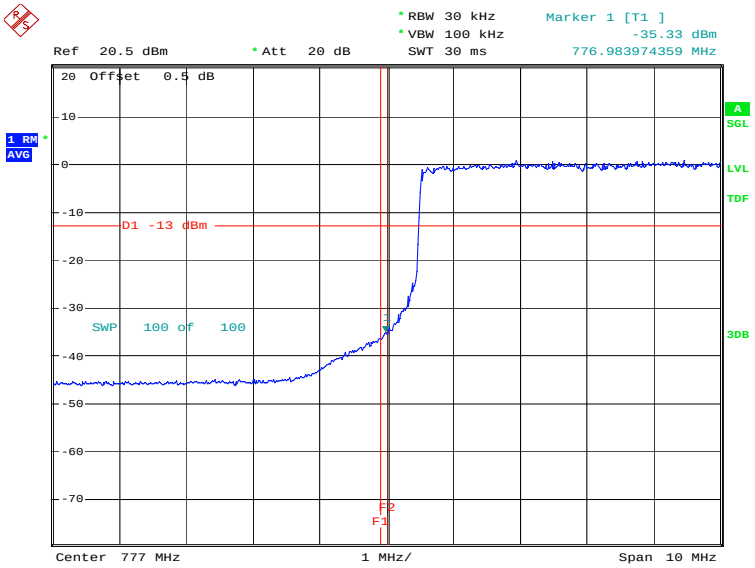
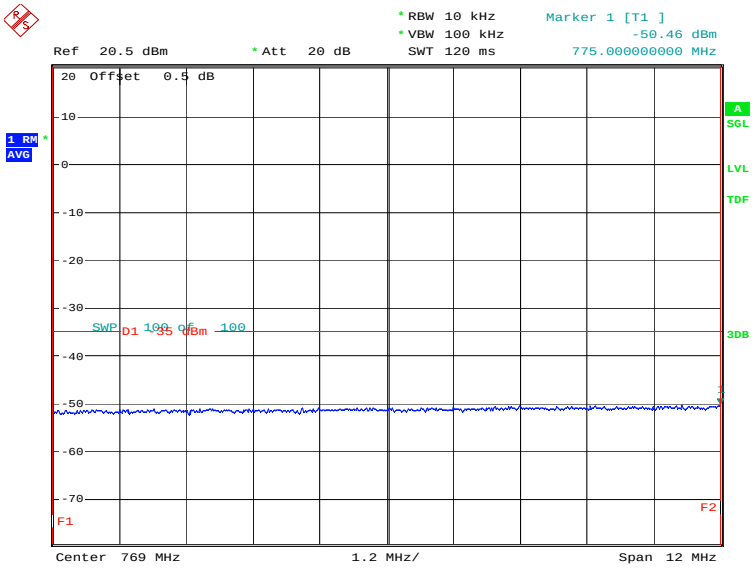
LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 27.SEP.2022 19:12:05



Date: 27.SEP.2022 19:12:44

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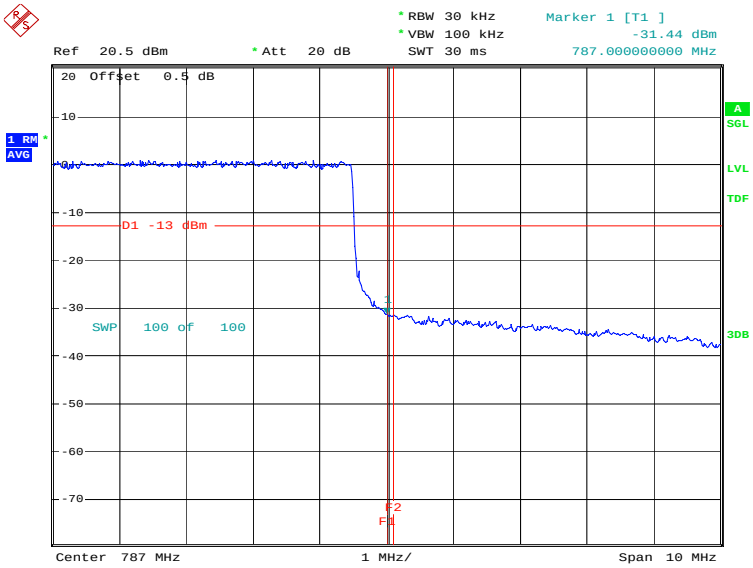
HIGH BAND EDGE BLOCK-10MHz-100%RB



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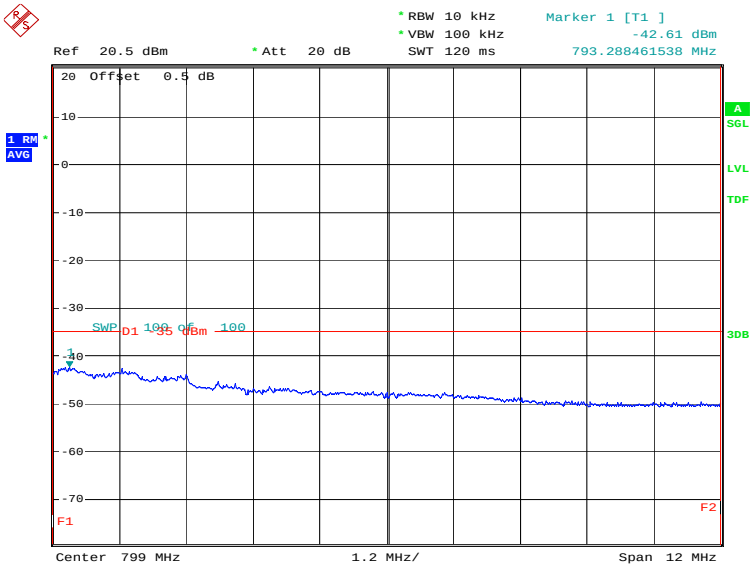

Date: 27.SEP.2022 19:14:55

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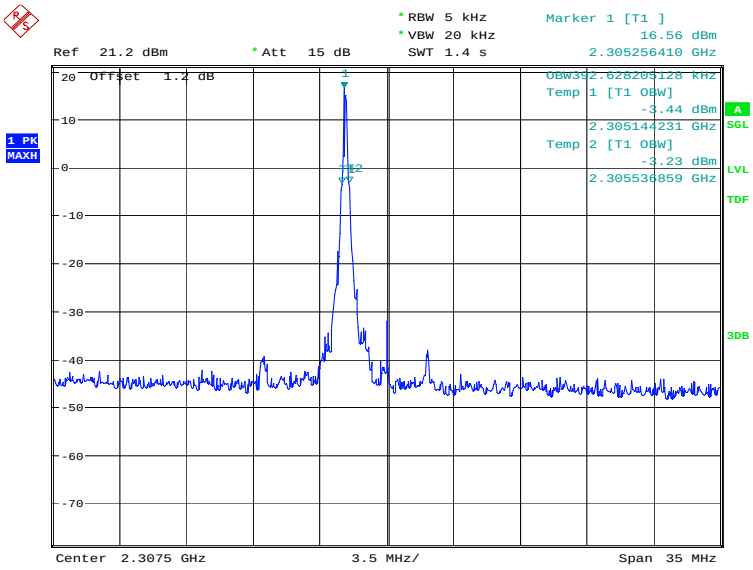
LTE band 30

OBW: 1RB-low_offset



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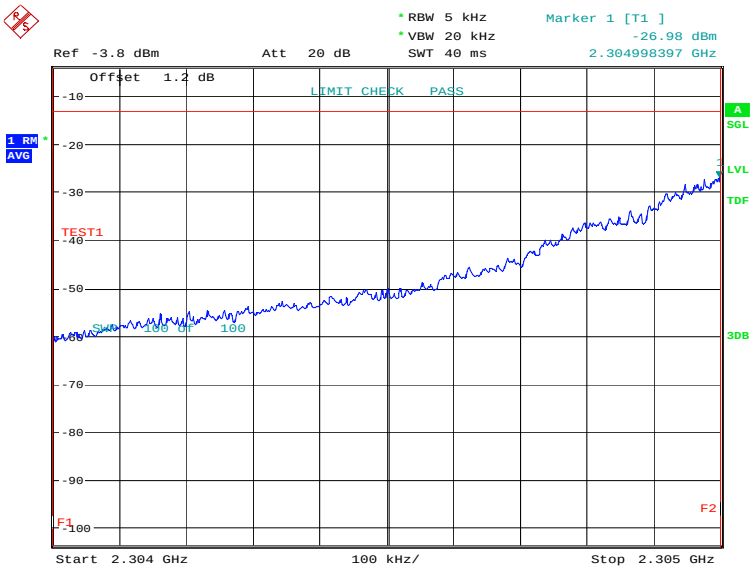
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 13:07:28

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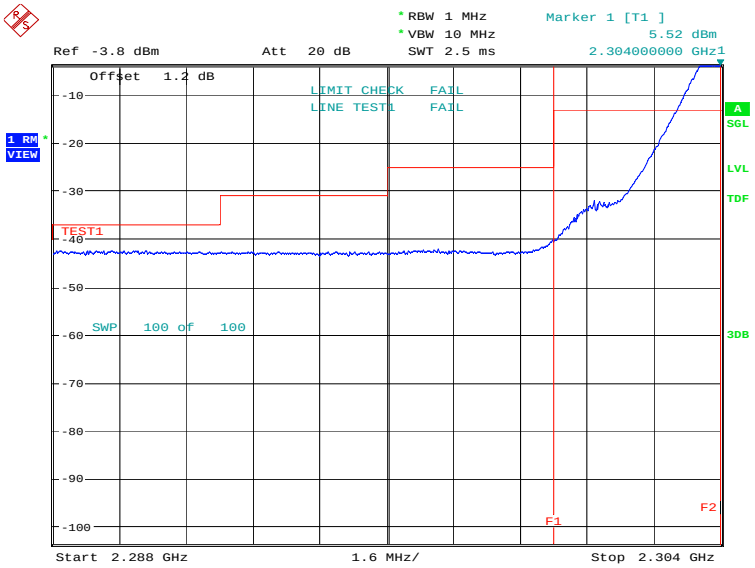
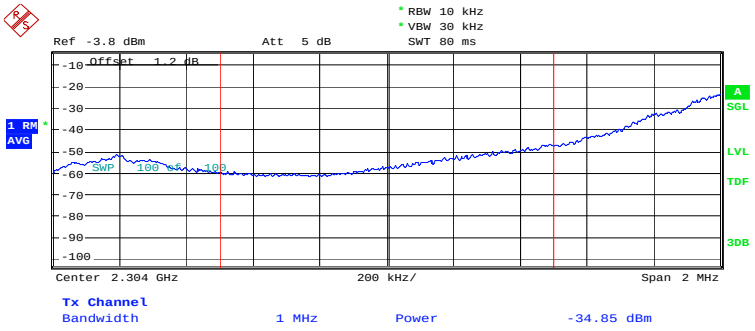


Date: 30.NOV.2022 13:09:19



Date: 30.NOV.2022 13:09:47

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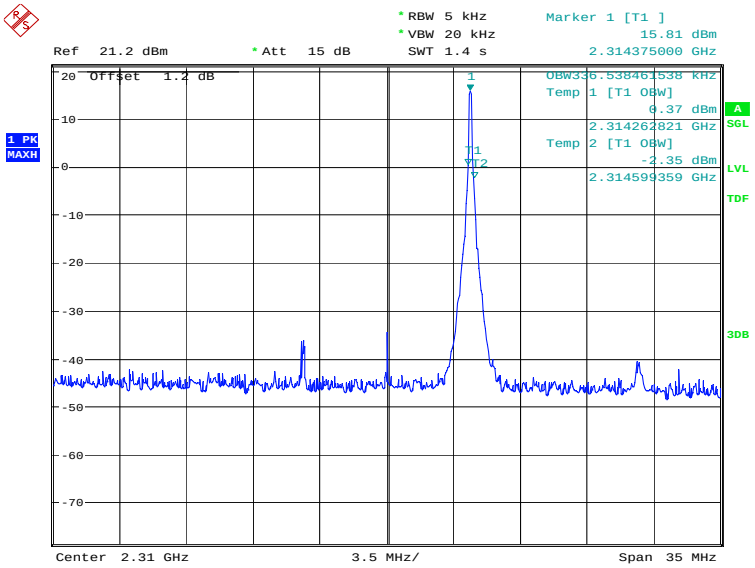
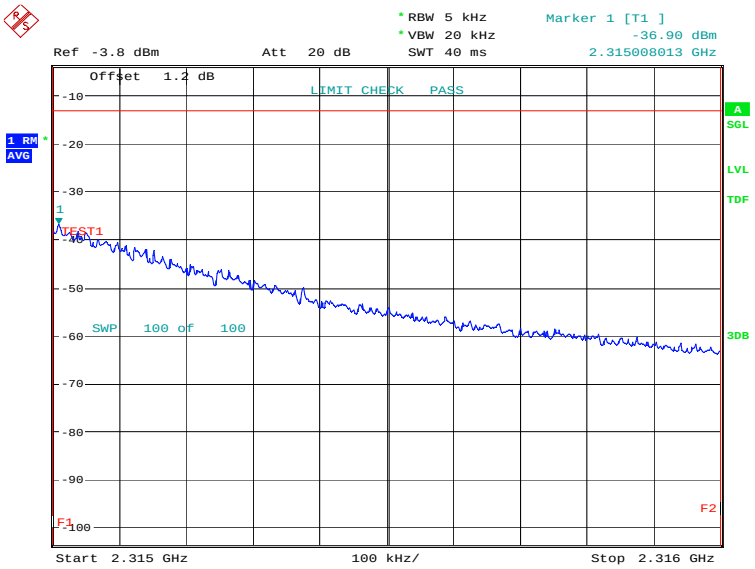
OBW: 1RB-high_offset



Date: 30.NOV.2022 13:10:24

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 13:11:46

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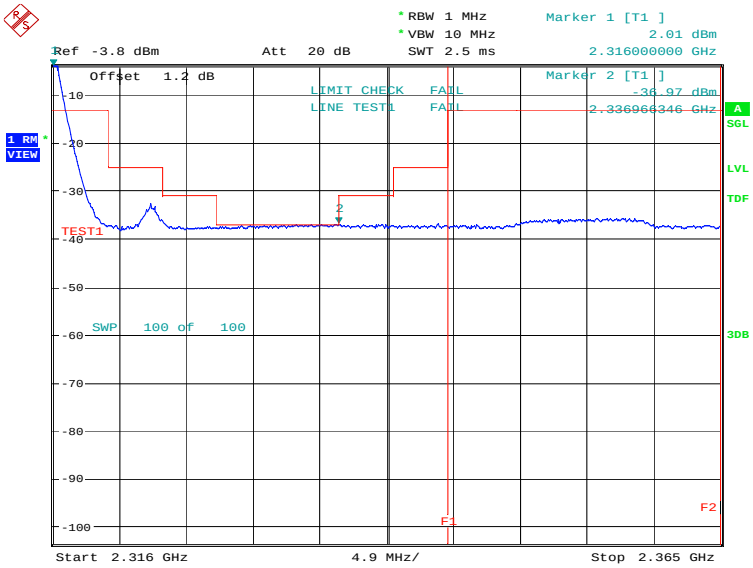

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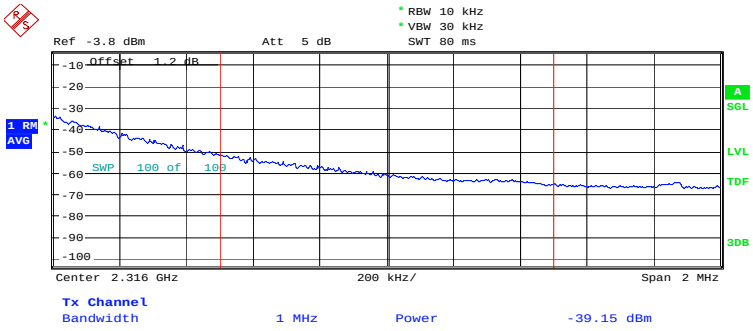

Date: 30.NOV.2022 13:14:12

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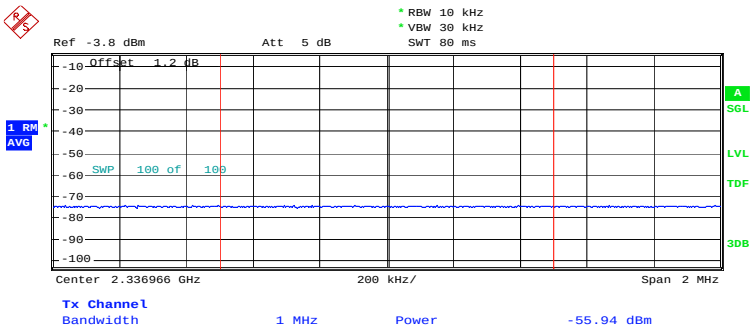

Date: 30.NOV.2022 13:14:38

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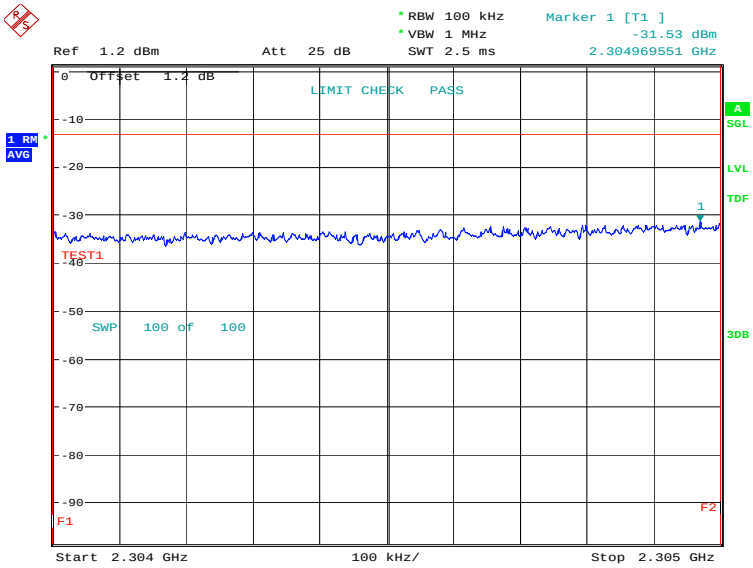
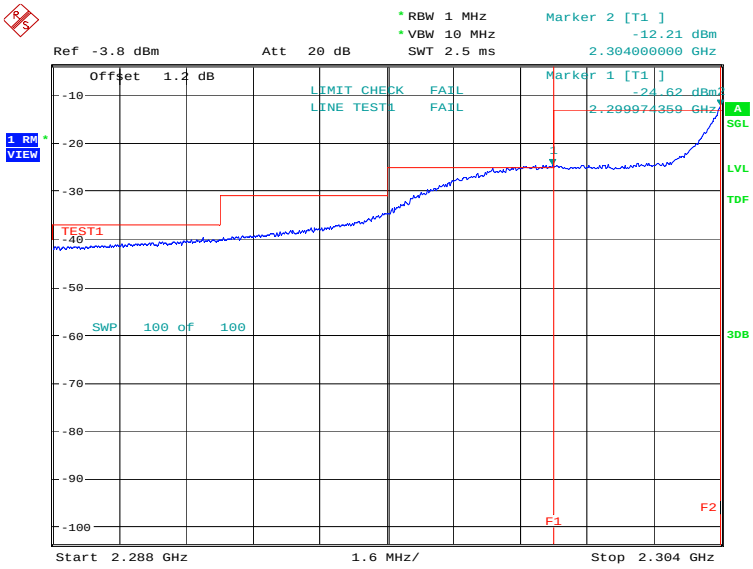
LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 27.SEP.2022 19:17:51



Date: 27.SEP.2022 19:19:42

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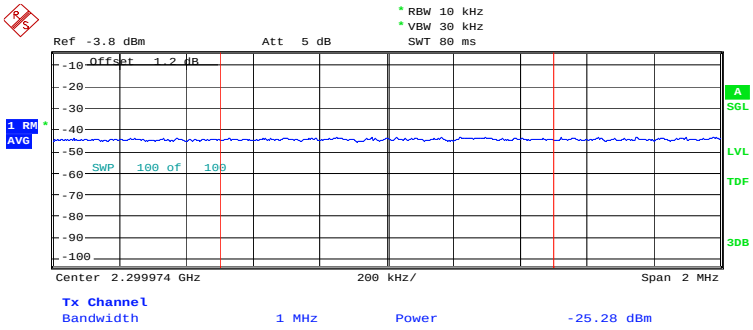
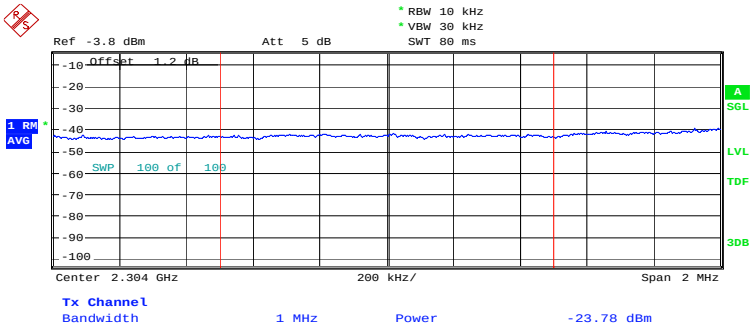


Date: 27.SEP.2022 19:20:10



Date: 27.SEP.2022 19:20:36

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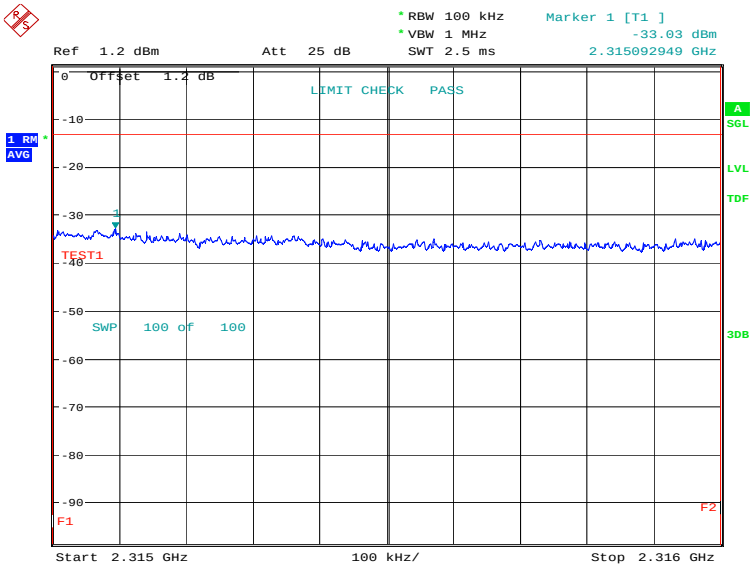
HIGH BAND EDGE BLOCK-10MHz-100%RB



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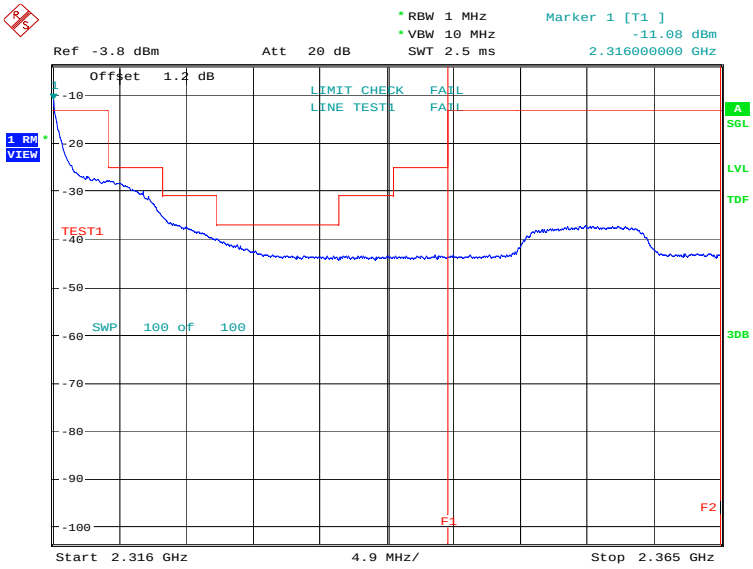

Date: 27.SEP.2022 19:25:29

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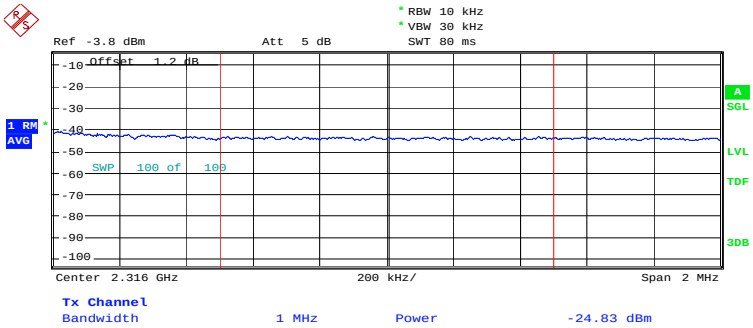

Date: 27.SEP.2022 19:25:57

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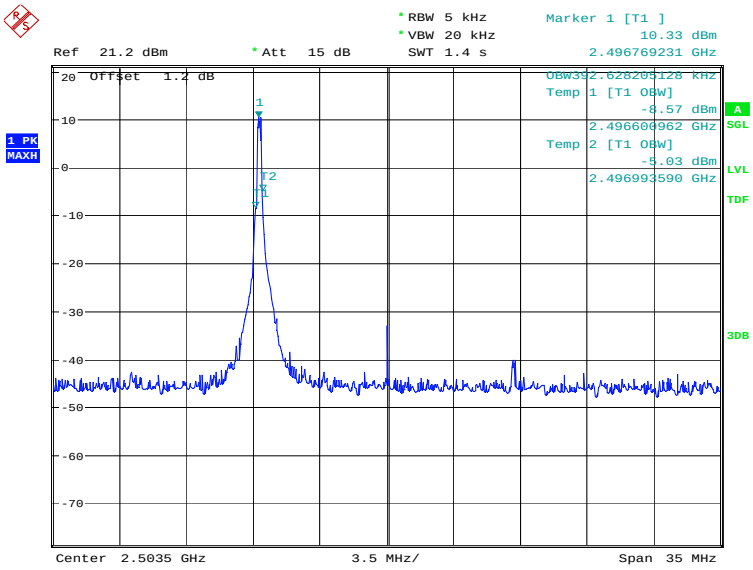
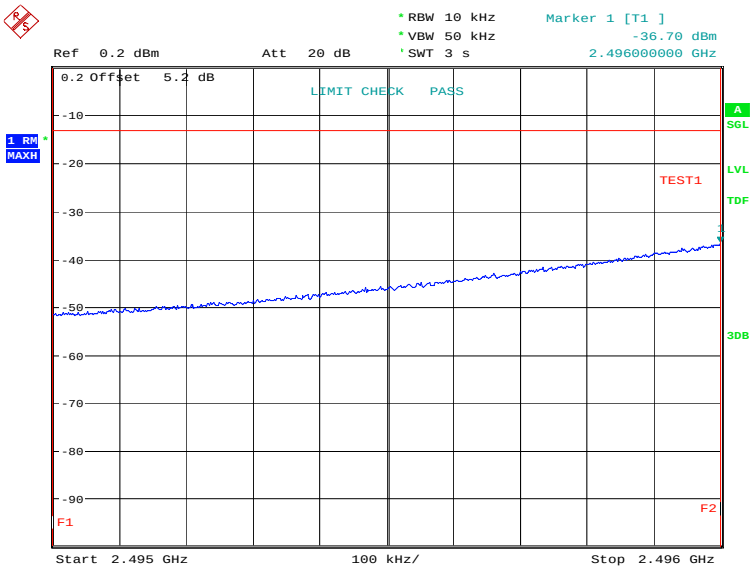
LTE band 41

OBW: 1RB-low_offset



Date: 30.NOV.2022 13:19:55

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 13:20:36

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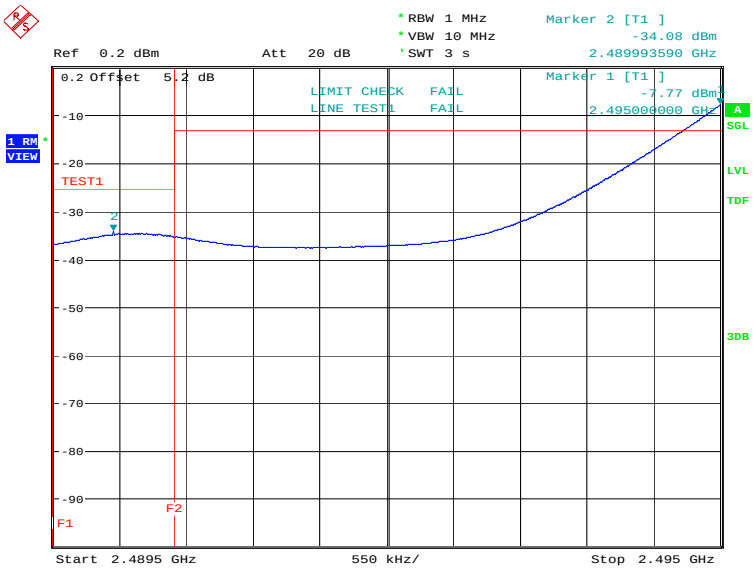
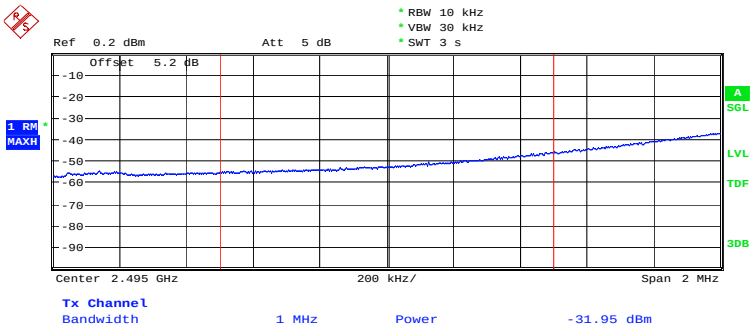


Date: 30.NOV.2022 13:21:20



Date: 30.NOV.2022 13:21:38

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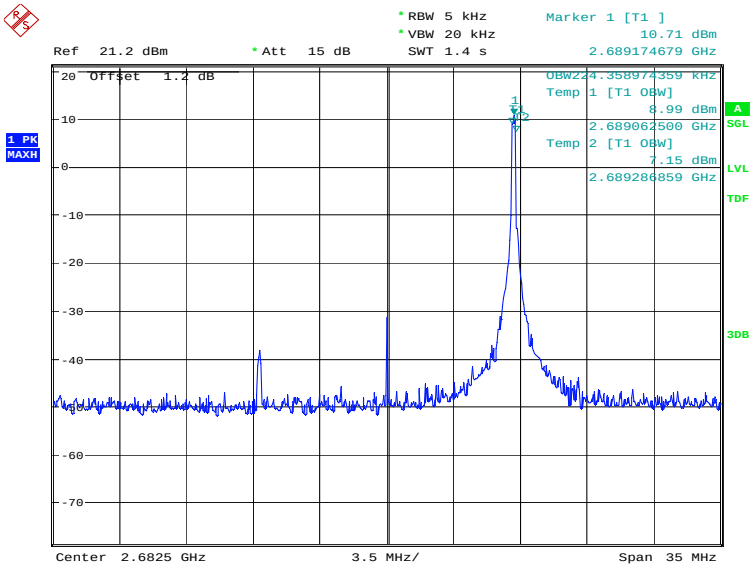
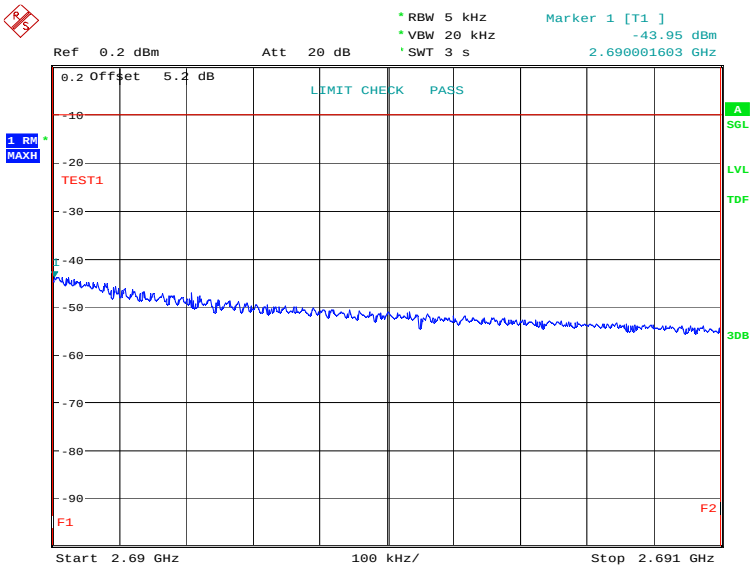
OBW: 1RB-high_offset



Date: 30.NOV.2022 13:22:13

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 13:22:55

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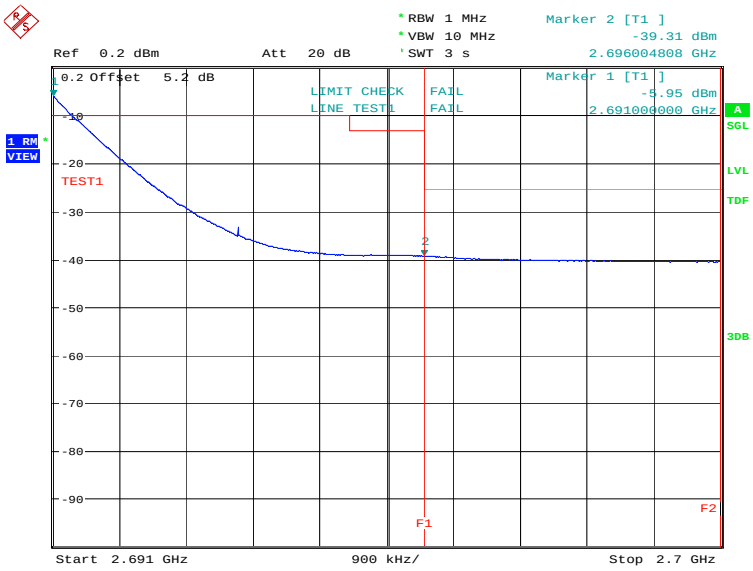

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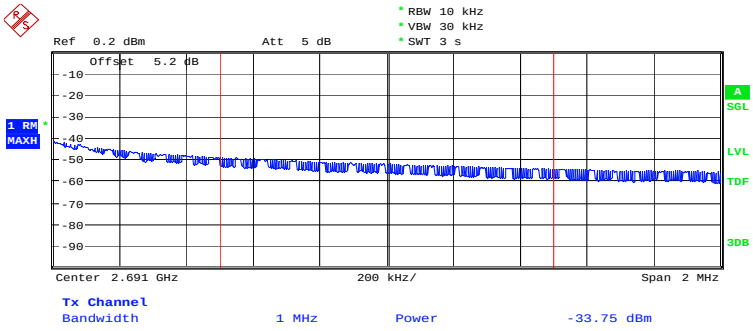

Date: 30.NOV.2022 13:23:59

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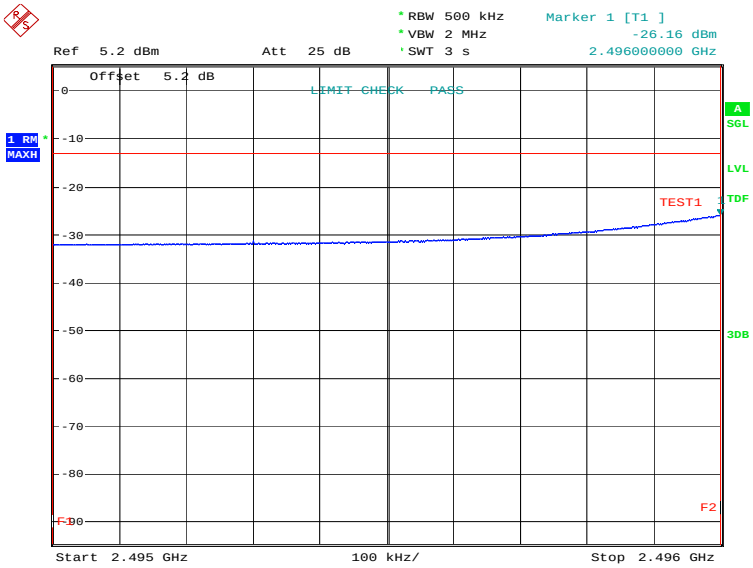
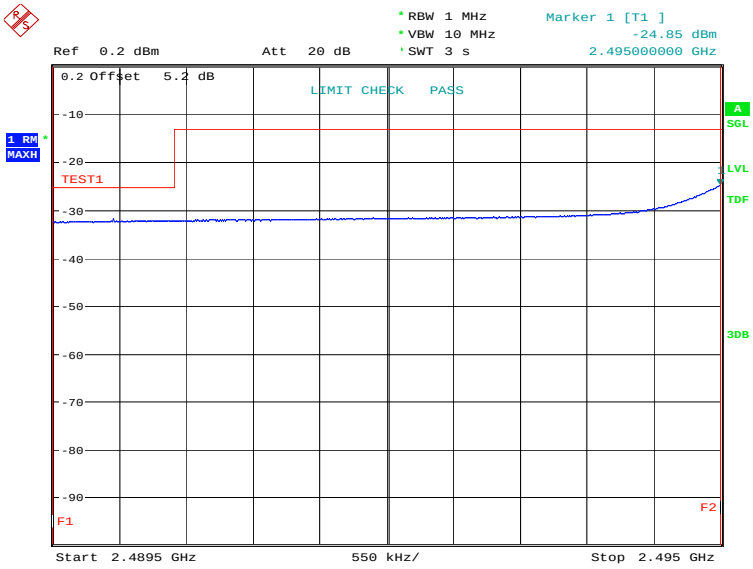
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 19:32:40



Date: 27.SEP.2022 19:33:20

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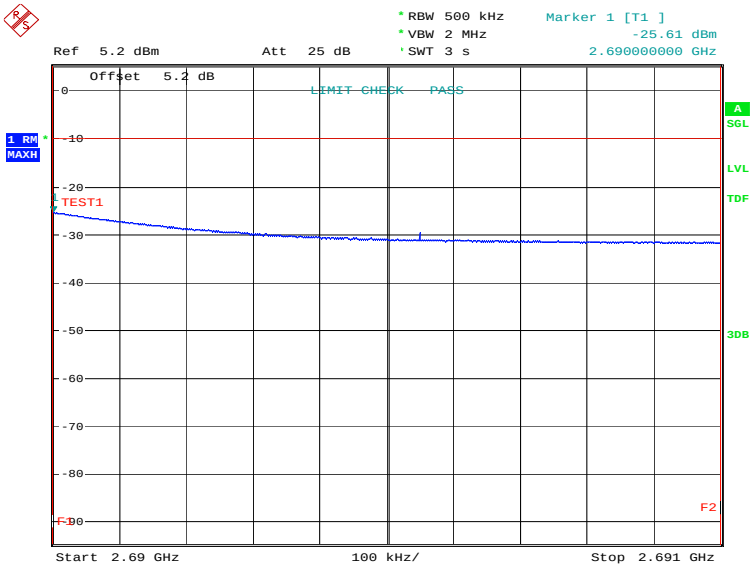
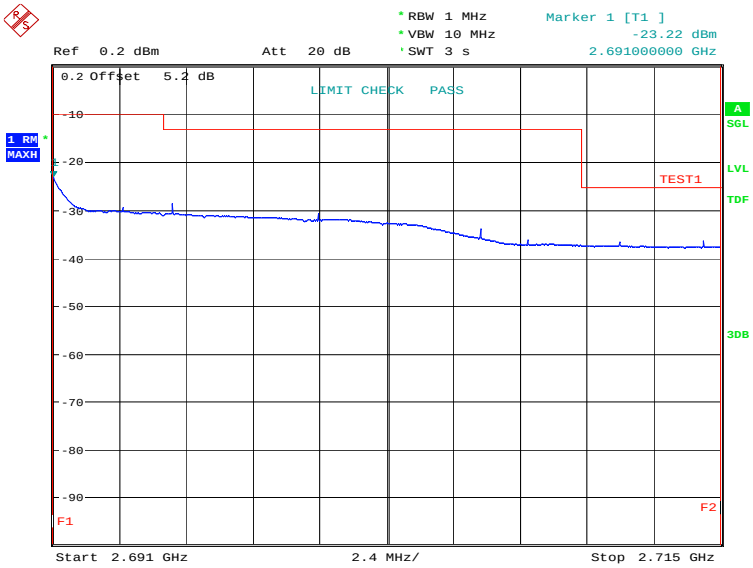
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 19:35:16



Date: 27.SEP.2022 19:35:55

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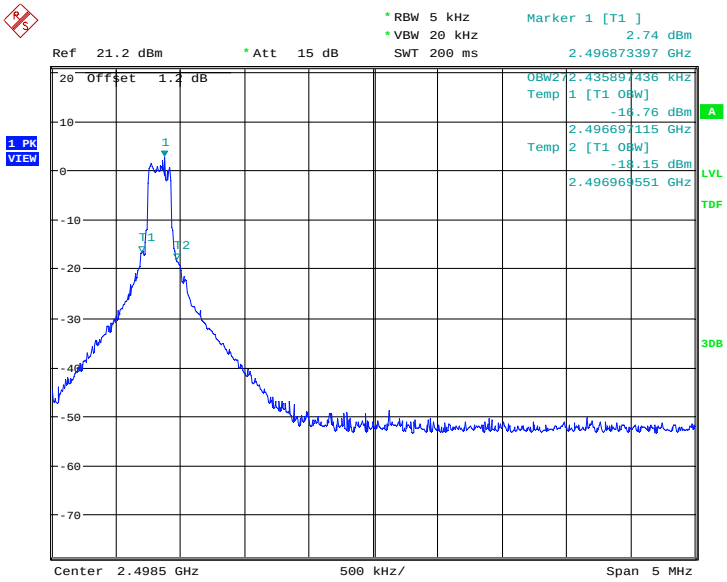
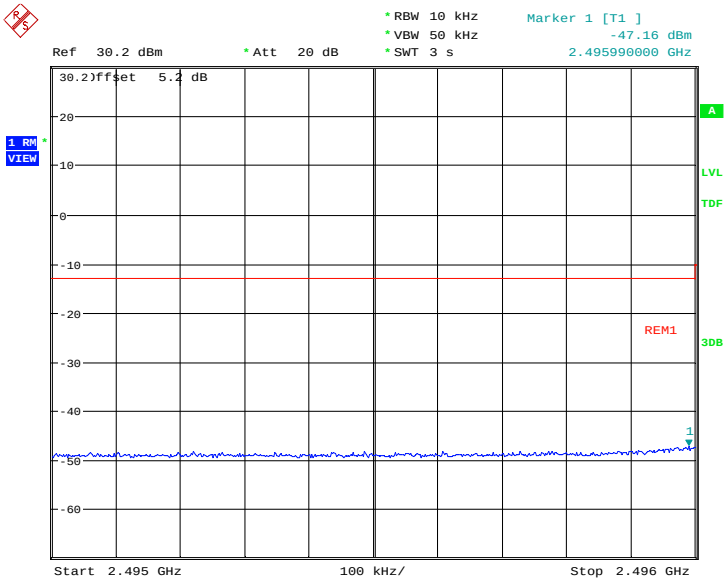
LTE band 41 CA

OBW: 1RB-LOW_offset



Date: 30.NOV.2022 14:57:40

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 14:58:24

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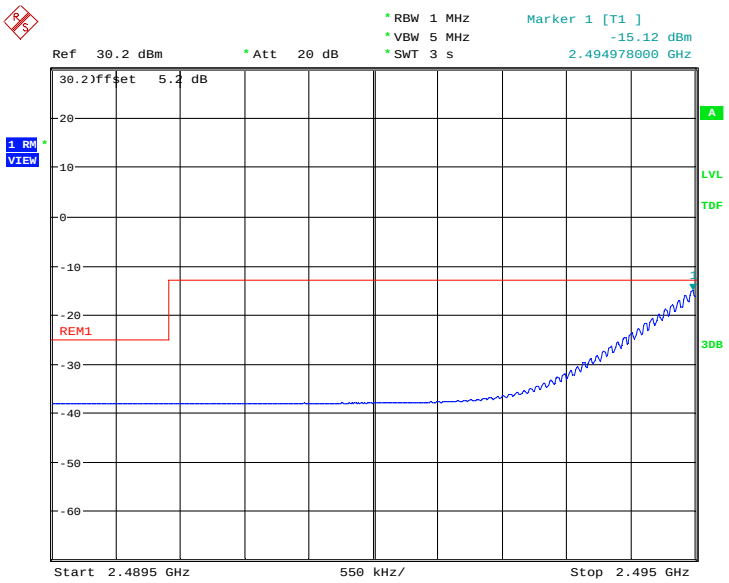
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 14:59:09

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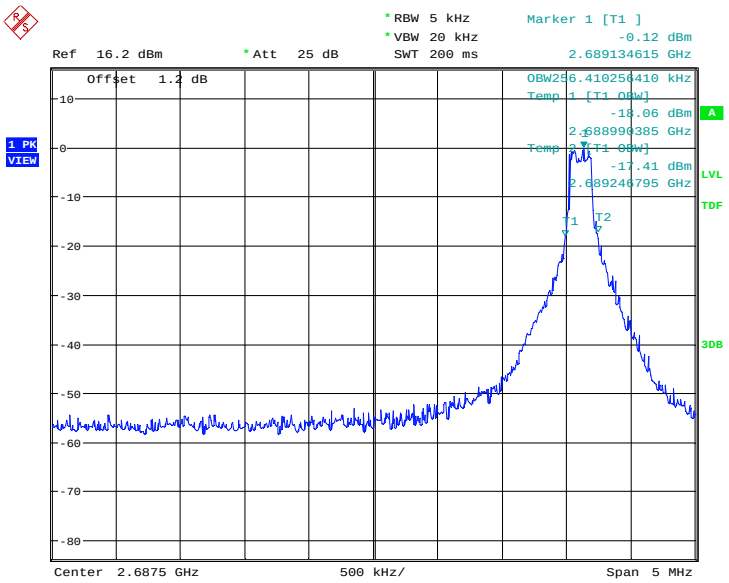
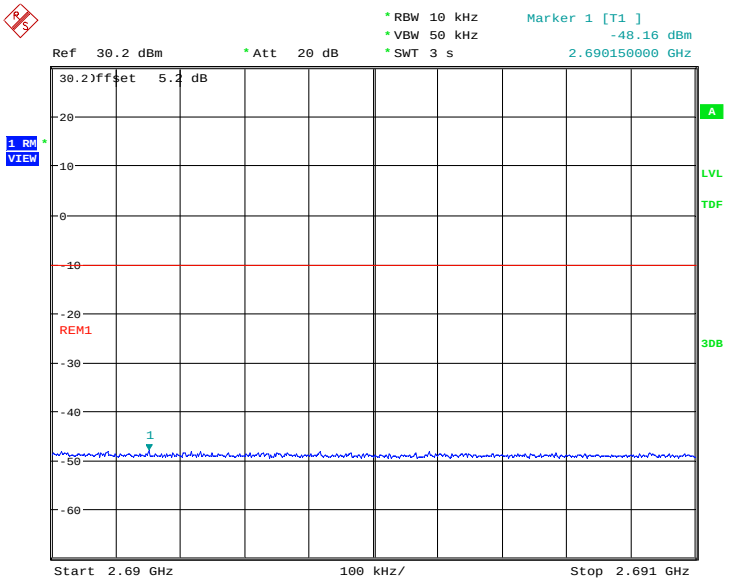
OBW: 1RB-HIGH_offset



Date: 30.NOV.2022 15:03:47

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 15:04:32

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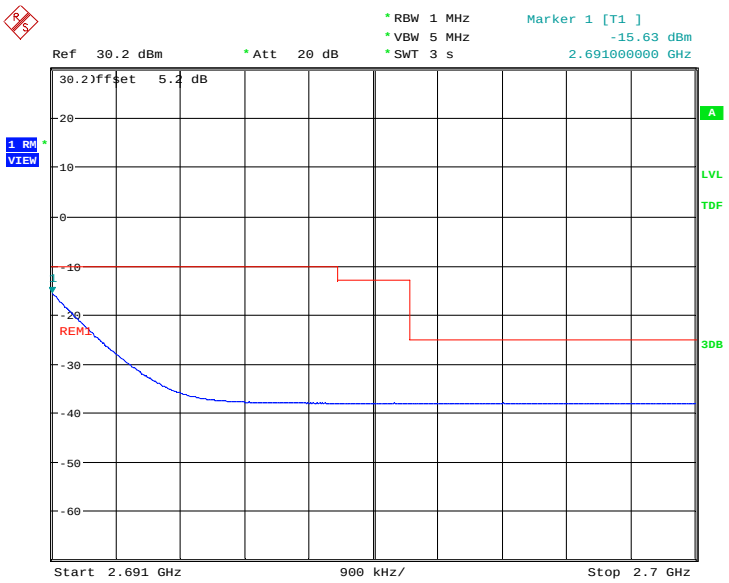
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 15:05:16

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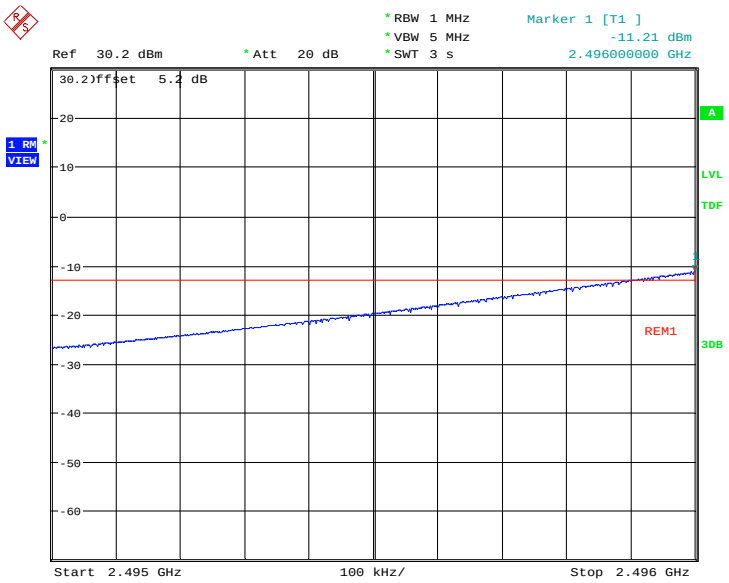
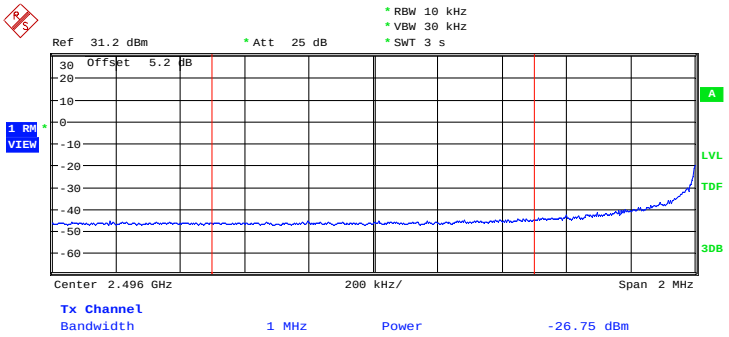
LOW BAND EDGE BLOCK-20MHz+20MHz-100%RB



Date: 27.SEP.2022 14:11:03

Channel power



Date: 27.SEP.2022 14:11:29

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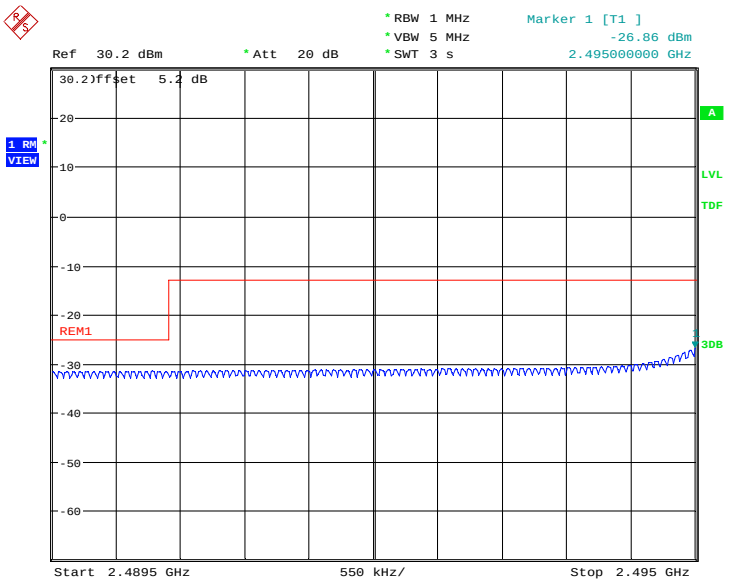
LOW BAND EDGE BLOCK-20MHz+20MHz-100%RB



Date: 27.SEP.2022 14:12:14

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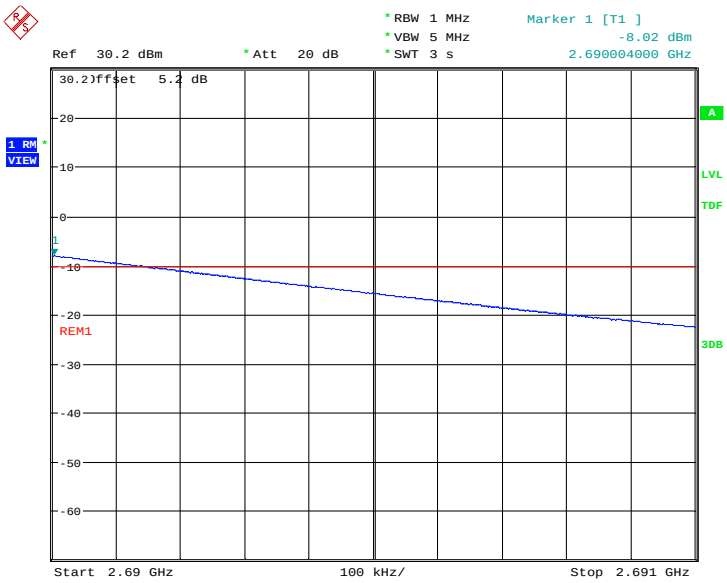
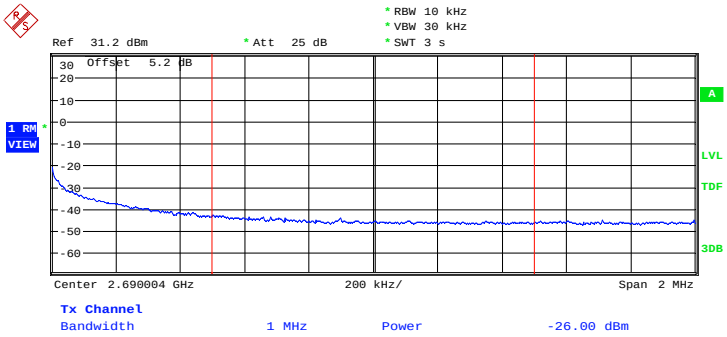
HIGH BAND EDGE BLOCK-20MHz+20MHz-100%RB



Date: 27.SEP.2022 14:17:05

Channel power



Date: 27.SEP.2022 14:17:31

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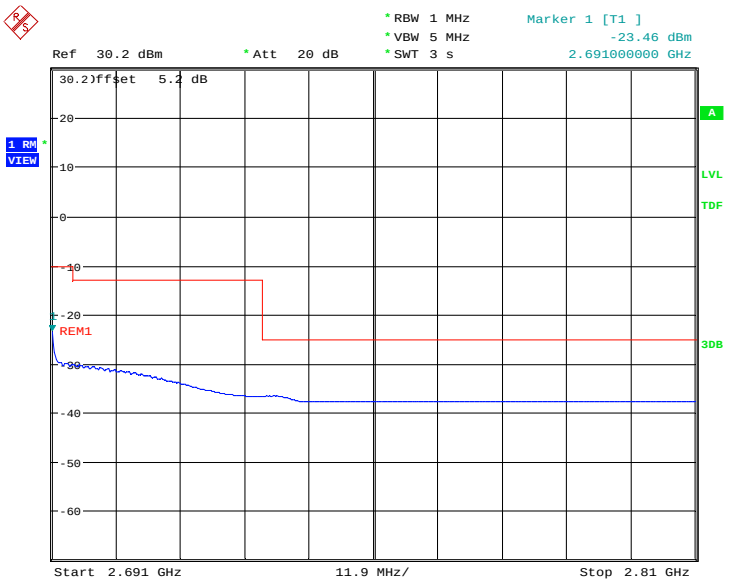
HIGH BAND EDGE BLOCK-20MHz+20MHz-100%RB



Date: 27.SEP.2022 14:18:15

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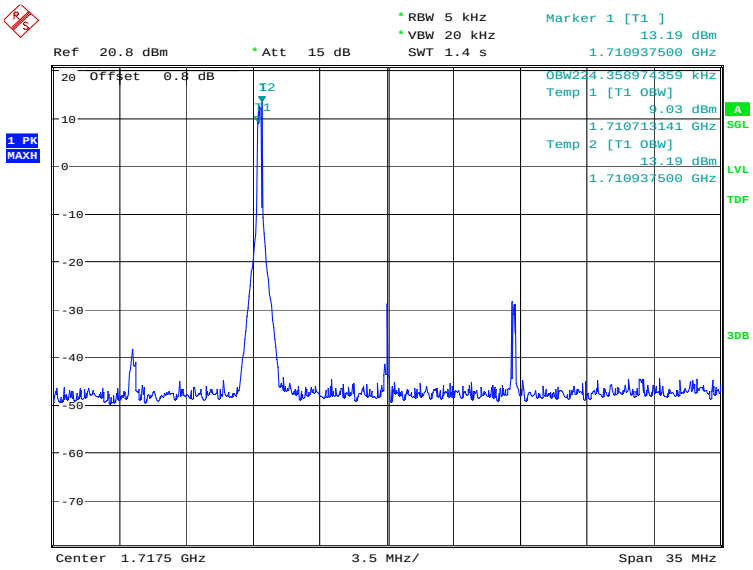
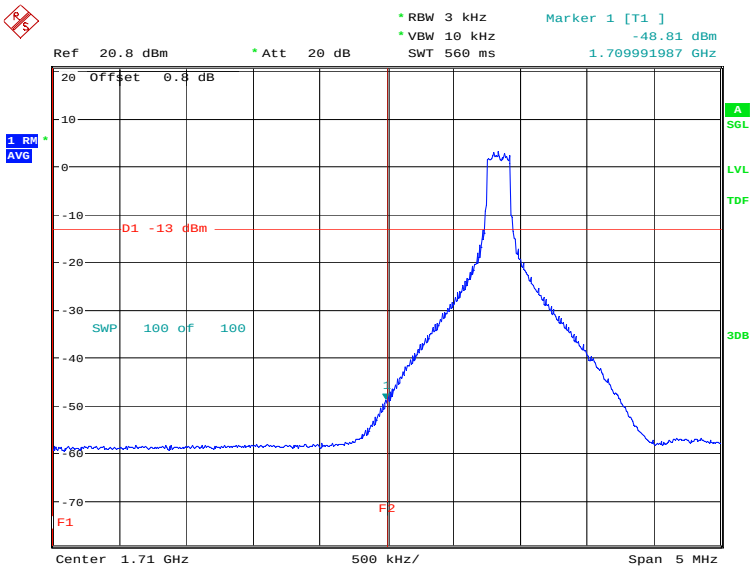
LTE band 66

OBW: 1RB-low_offset



Date: 30.NOV.2022 13:15:16

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 13:16:30

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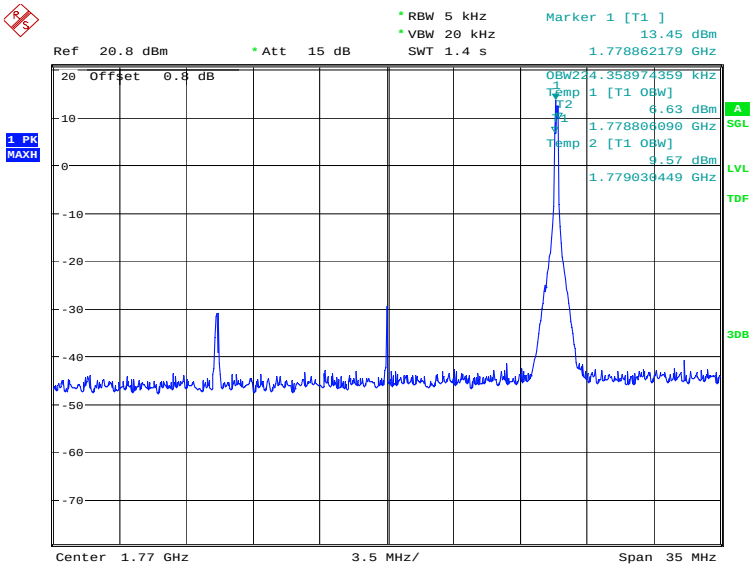
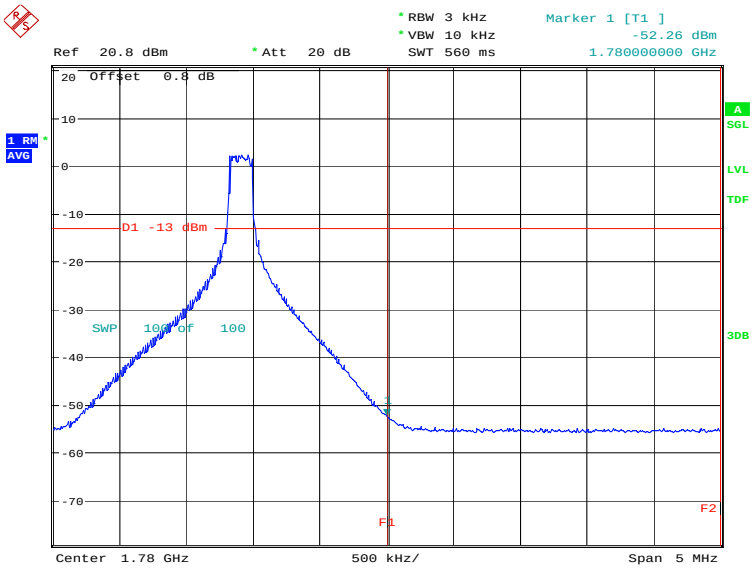
OBW: 1RB-high_offset



Date: 30.NOV.2022 13:17:18

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 13:18:32

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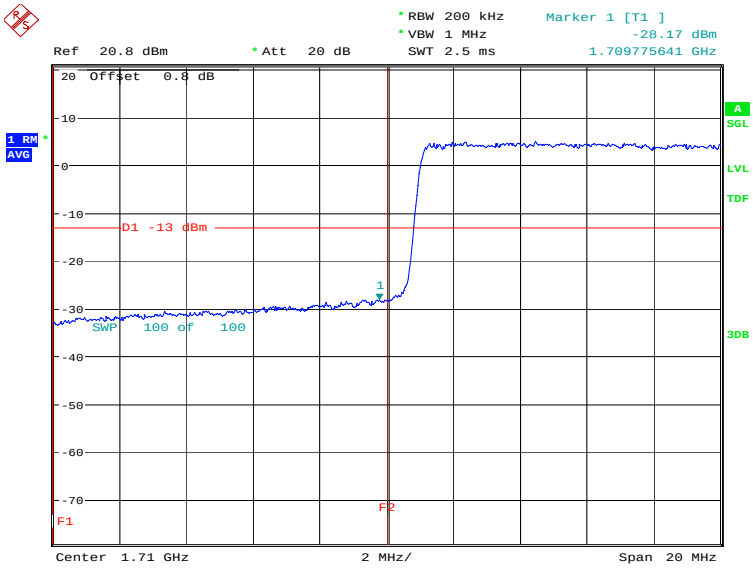
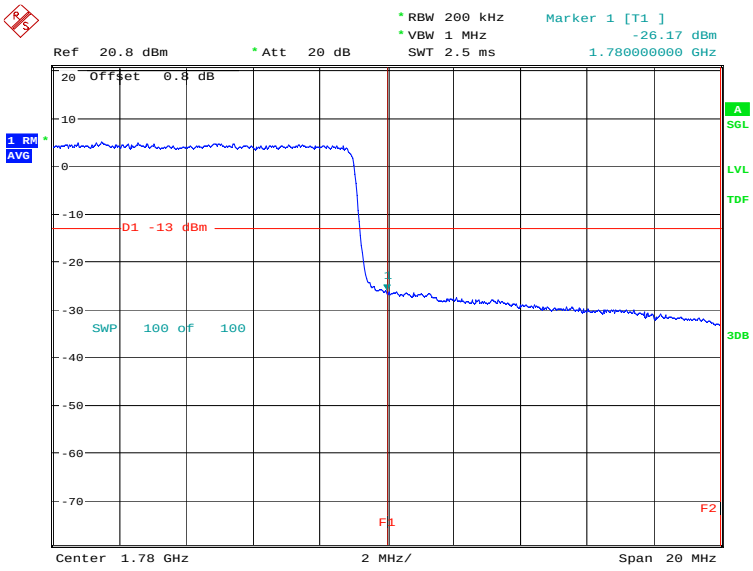
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 19:28:28

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 19:30:00

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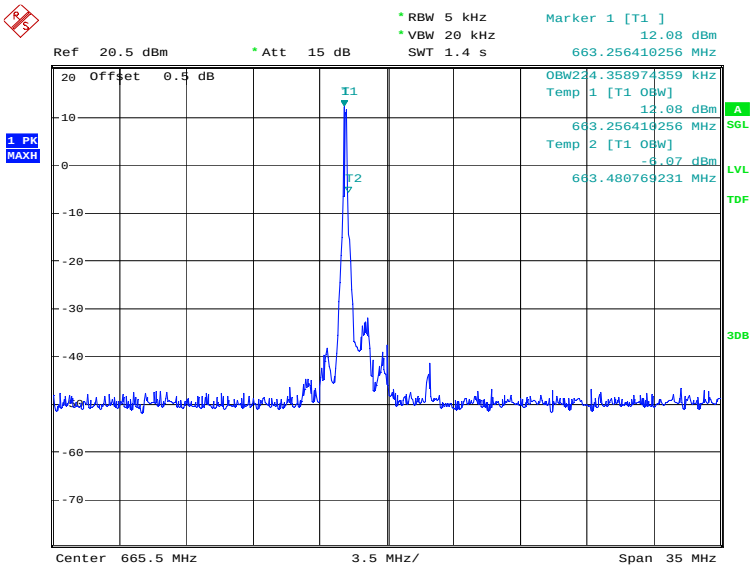
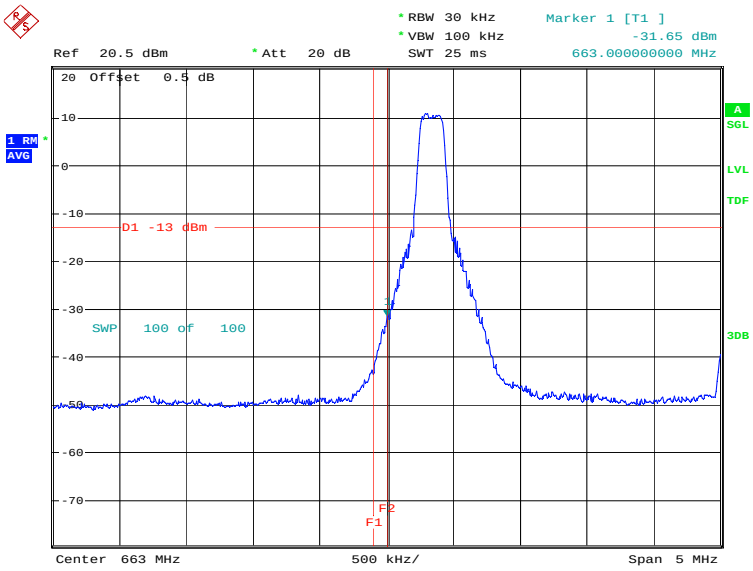
LTE band 71

OBW: 1RB-low_offset



Date: 30.NOV.2022 12:39:38

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 30.NOV.2022 12:39:57

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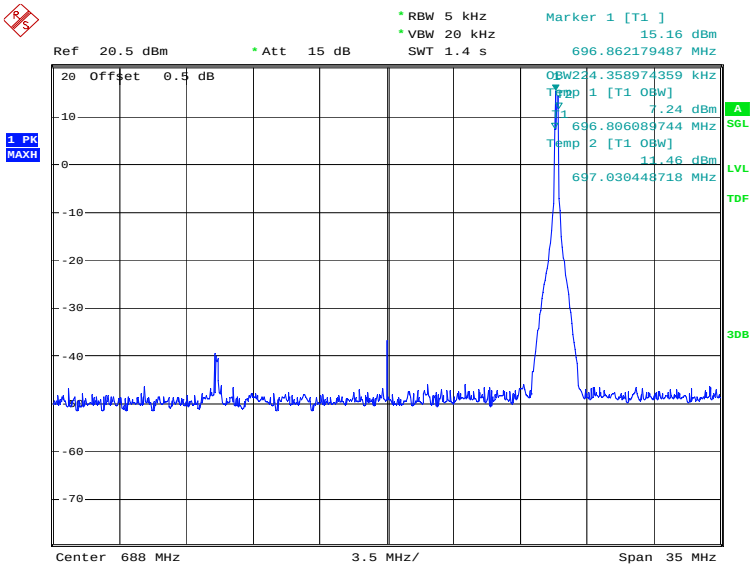
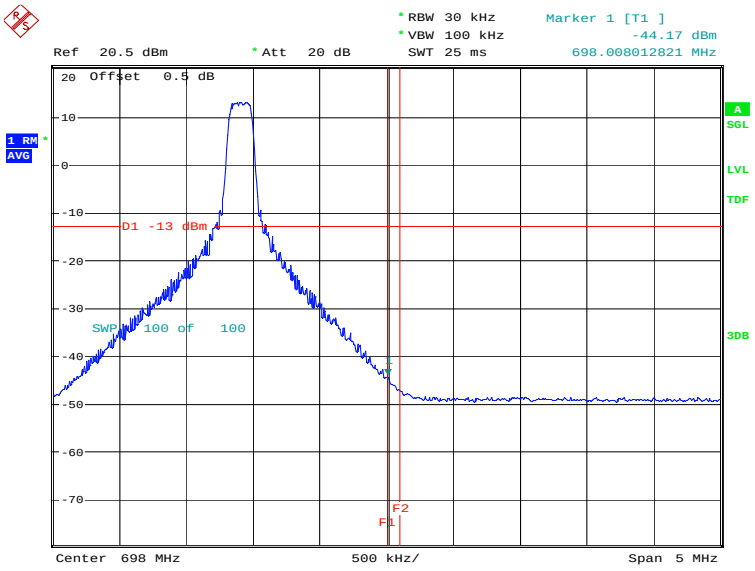
OBW: 1RB-high_offset



Date: 30.NOV.2022 12:40:35

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 30.NOV.2022 12:40:54

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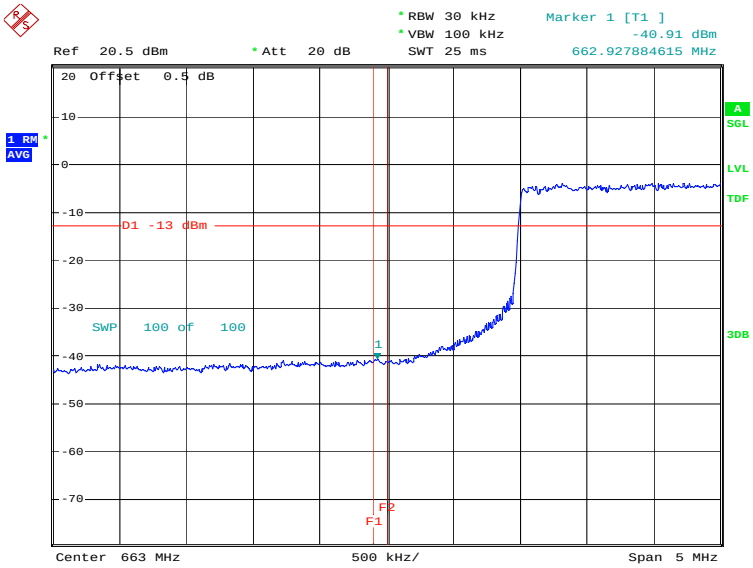
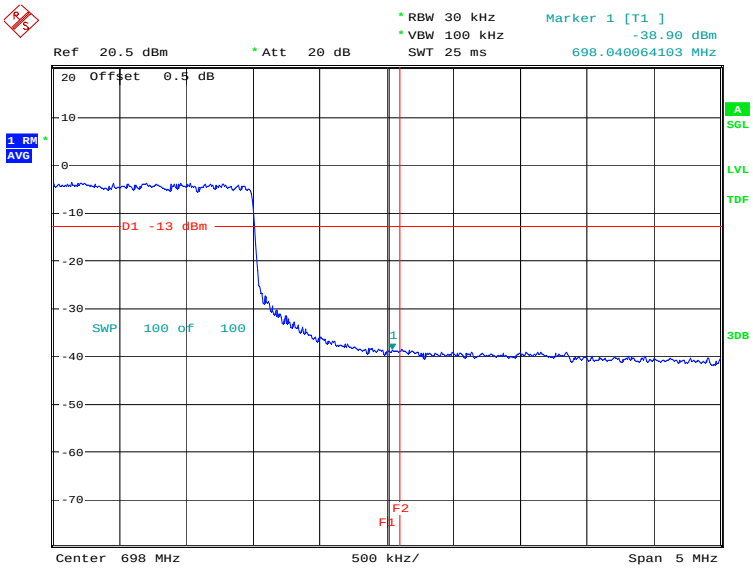
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 18:55:46

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 27.SEP.2022 18:57:17

Note: Expanded measurement uncertainty is U = 0.622 dB, k = 2.

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A.7 Conducted Spurious Emission

A.7.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given below:
   (a) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
   (b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. The number of sweep points of spectrum analyzer is greater than 2×span/RBW.

A. 7.2 Measurement Limit

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

Part 27.53(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(f) states for operations in the 746–758 MHz,775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals.

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

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transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Part 27.53(a) states for mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands: By a factor of not less than: 43 +10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz; By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

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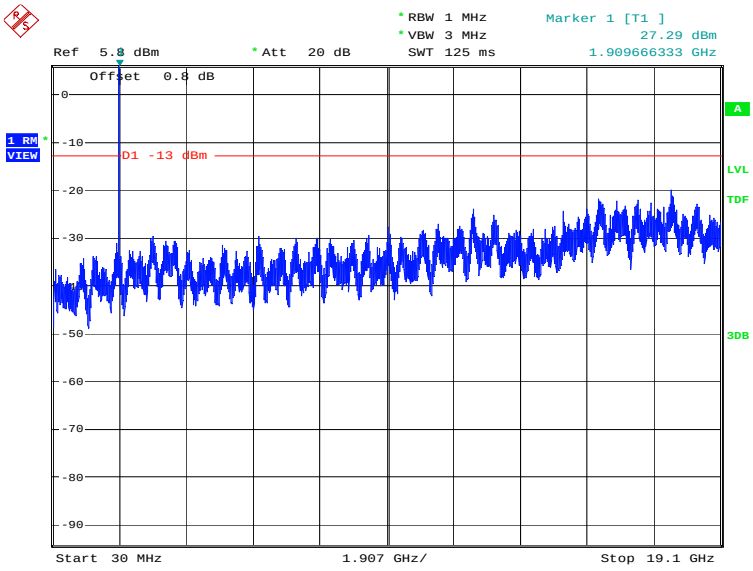
A. 7.3 Measurement result

Only the worst case result is given below

LTE band 2: 30MHz – 19.1GHz

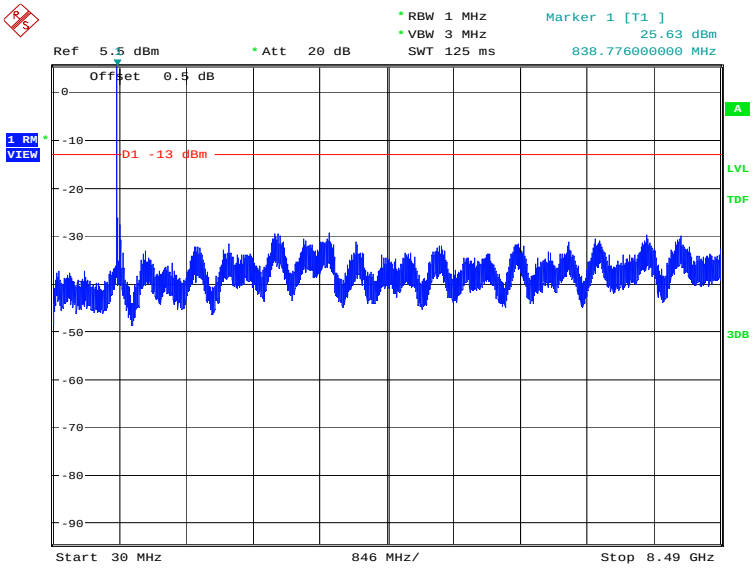
NOTE: peak above the limit line is the carrier frequency.



Date: 30.NOV.2022 13:27:04

LTE band 5: 30MHz – 8.49GHz

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



Date: 30.NOV.2022 13:27:47

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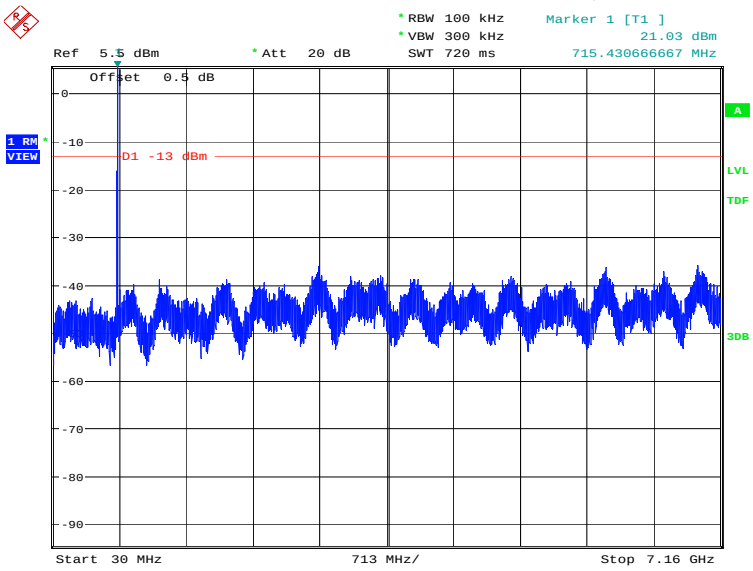
LTE band 12: 30MHz – 7.16GHz

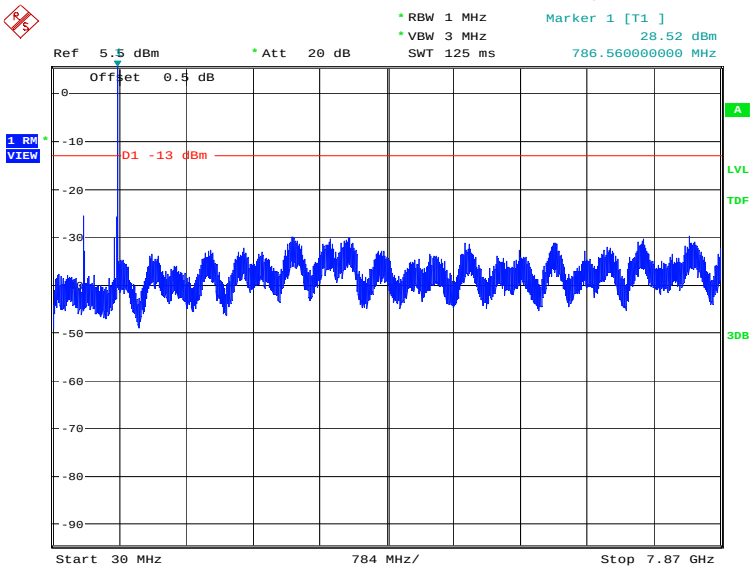
NOTE: peak above the limit line is the carrier frequency.



Date: 30.NOV.2022 13:28:30

LTE band 13: 30MHz – 7.87GHz

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



Date: 30.NOV.2022 13:29:12

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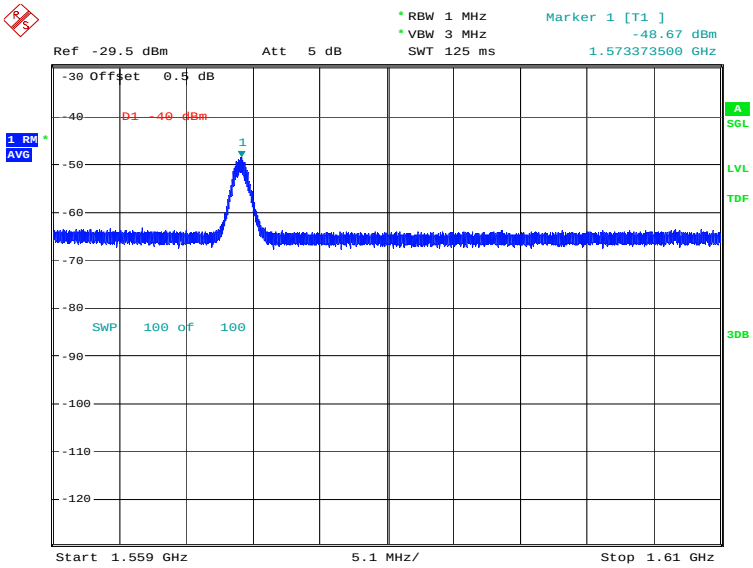
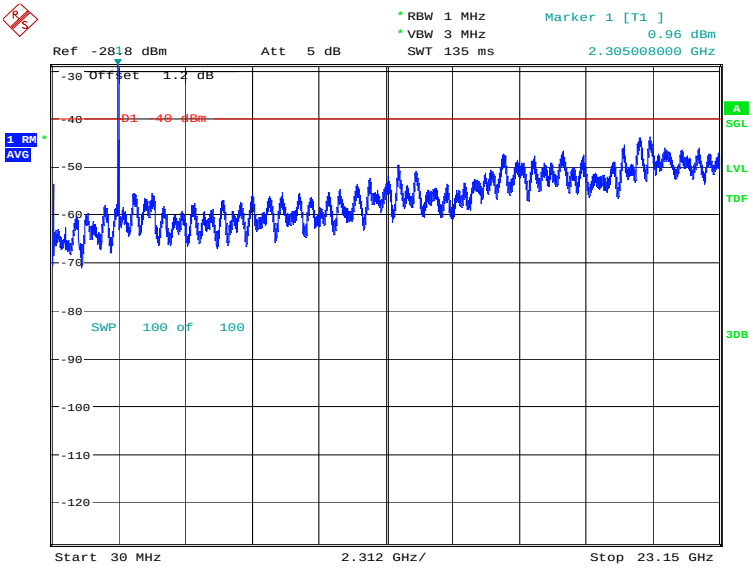
LTE band 13: 1559MHz – 1610MHz



Date: 30.NOV.2022 13:29:46

LTE band 30: 30MHz – 23.15GHz

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



Date: 30.NOV.2022 13:34:51

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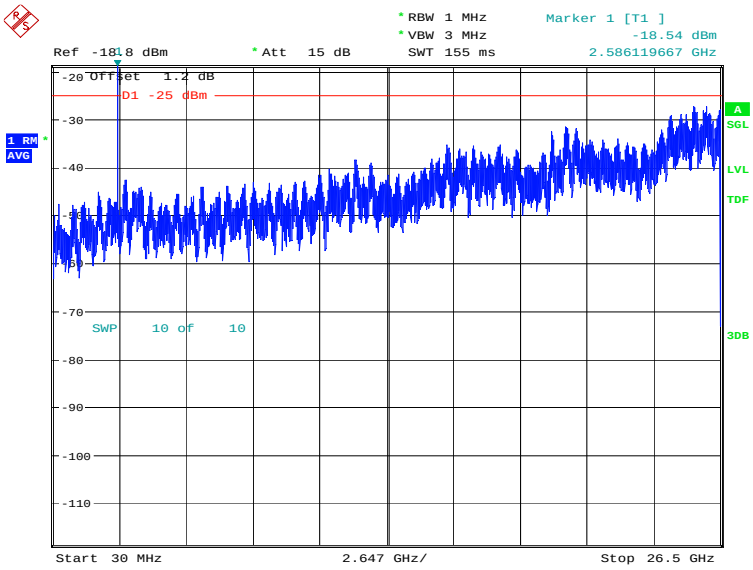
LTE band 41: 30MHz – 26.5GHz

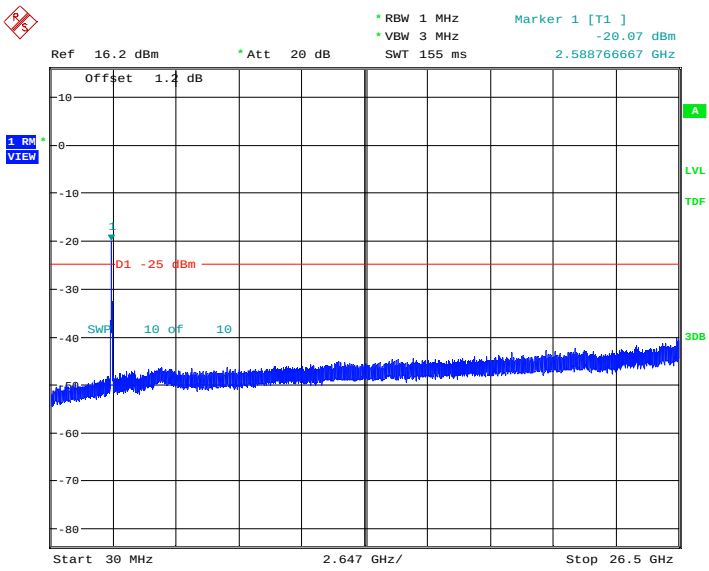
NOTE: peak above the limit line is the carrier frequency.



Date: 30.NOV.2022 13:32:46

LTE band 41 CA: 30MHz – 26.5GHz

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



Date: 30.NOV.2022 15:10:49

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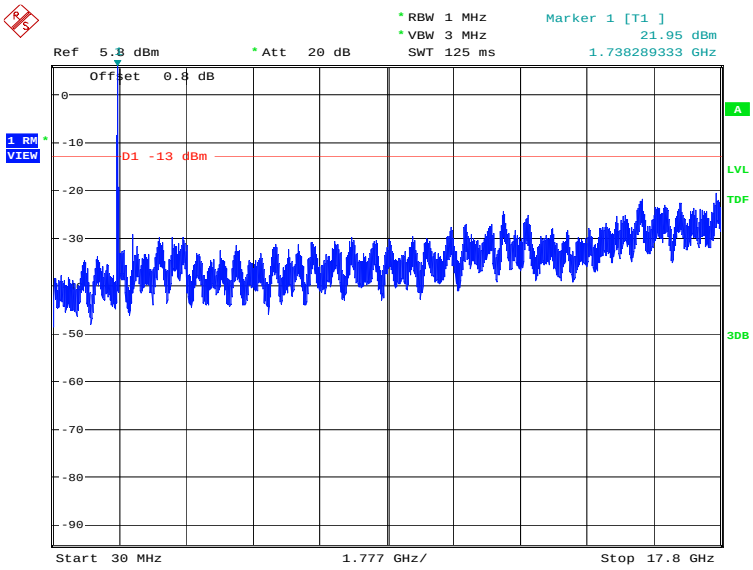
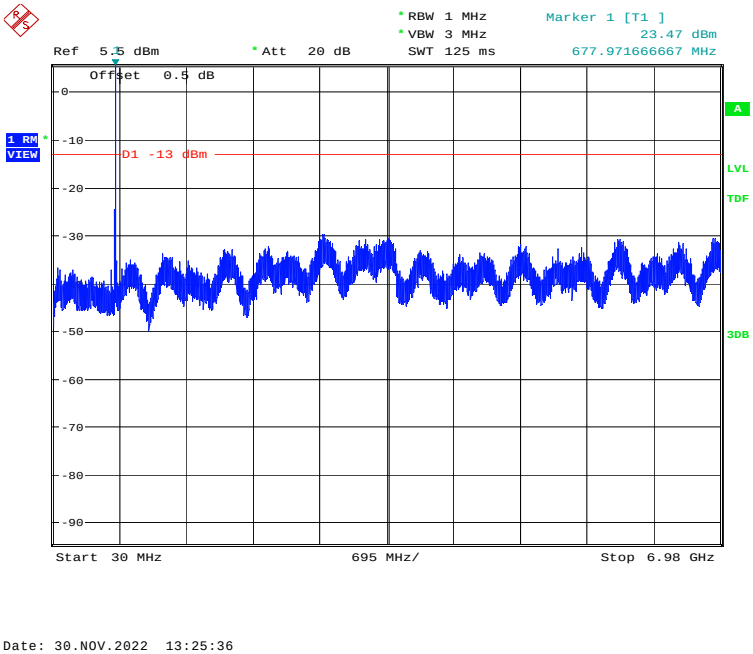
LTE band 66: 30MHz – 17.8GHz

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



LTE band 71: 30MHz – 6.98GHz

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



Note: Expanded measurement uncertainty is U = 0.622 dB, k = 2.

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A.8 Peak-to-Average Power Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Record the maximum PAPR level associated with a probability of 0.1%.

LTE band 2, 20MHz

Frequency(MHz)	PAPR(dB)		
1880.0	QPSK	16QAM	64QAM
	6.67	7.28	7.34

LTE band 12, 10MHz

Frequency(MHz)	PAPR(dB)		
707.5	QPSK	16QAM	64QAM
	5.48	6.25	6.57

LTE band 13, 10MHz

Frequency(MHz)	PAPR(dB)		
782.0	QPSK	16QAM	64QAM
	5.42	6.35	6.57

LTE band 30, 10MHz

Frequency(MHz)	PAPR(dB)		
2310.0	QPSK	16QAM	64QAM
	5.58	6.38	6.67

LTE band 41, 20MHz

Frequency (MHz)	PAPR (dB)		
2593.0	QPSK	16QAM	64QAM
	8.27	8.88	9.04

LTE band 41 CA, 20MHz+20MHz

Frequency (MHz)	PAPR (dB)		
2593.0	QPSK	16QAM	64QAM
	9.71	9.94	9.97

LTE band 66, 20MHz

Frequency(MHz)	PAPR(dB)		
1745.0	QPSK	16QAM	64QAM
	6.54	7.18	7.24

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LTE band 71, 20MHz

Frequency(MHz)	PAPR(dB)		
680.5	QPSK	16QAM	64QAM
	6.35	7.18	7.24

Note: Expanded measurement uncertainty is U = 0.578 dB, k = 2.

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Annex B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

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

Electromagnetic Compatibility & Telecommunications

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

2022-10-01 through 2023-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

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

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