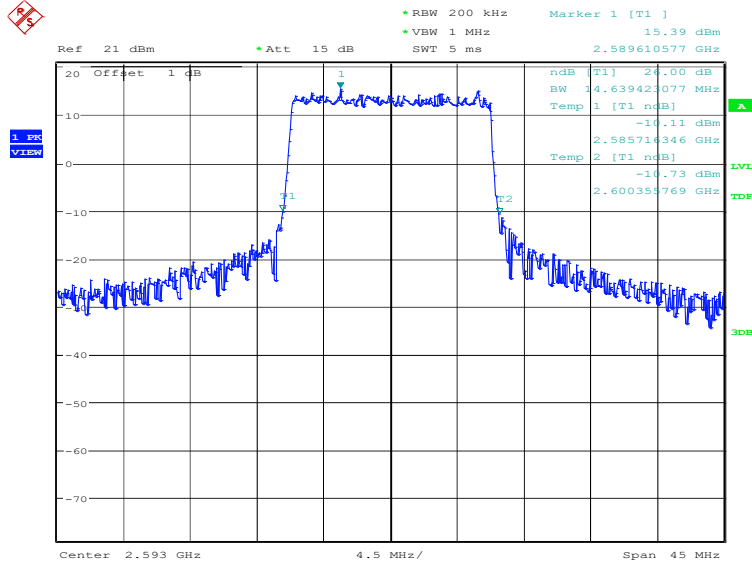


LTE band 41, 15MHz (-26dBc)

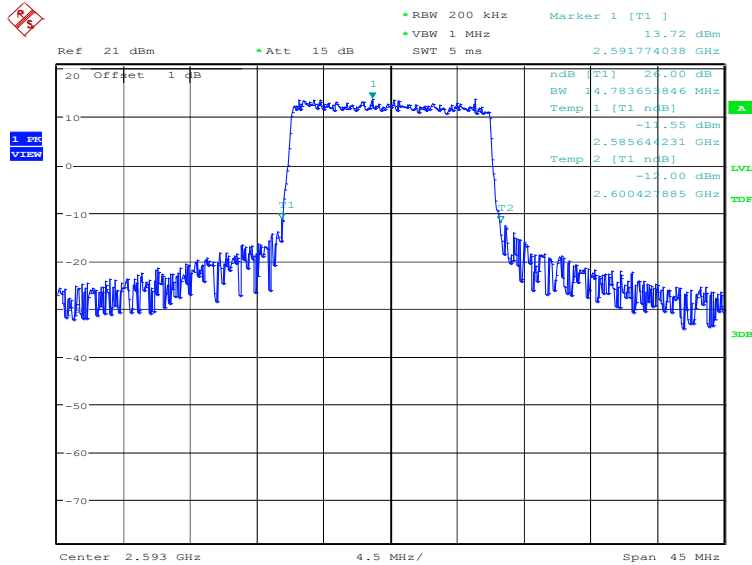
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	14639.42	14783.65

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



Date: 8.OCT.2023 16:16:39

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

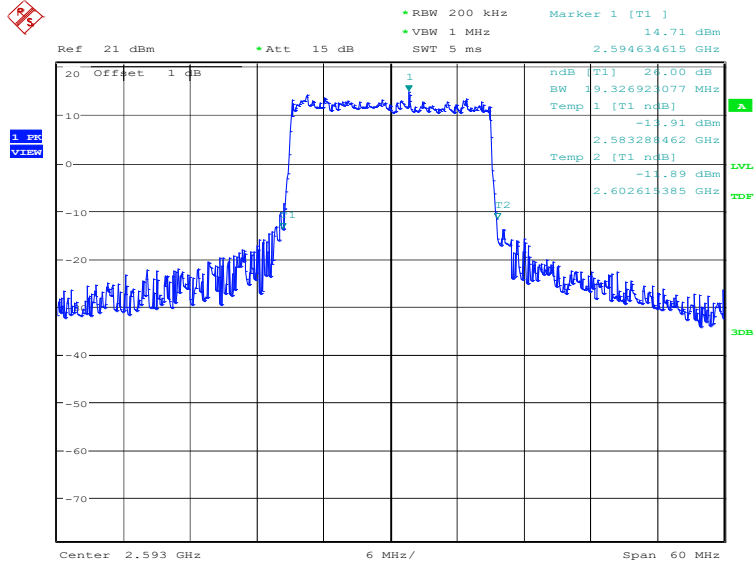


Date: 8.OCT.2023 16:17:20

LTE band 41, 20MHz (-26dBc)

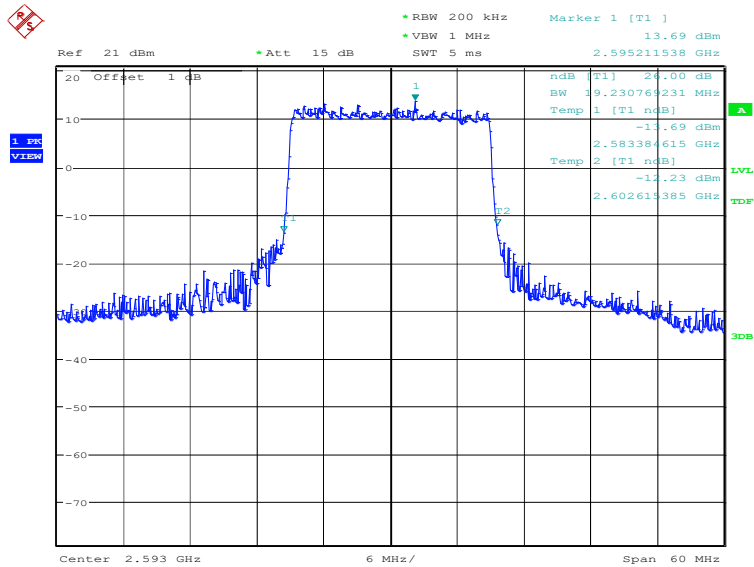
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
2593.0	QPSK	16QAM
	19326.92	19230.77

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



Date: 8.OCT.2023 16:18:05

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

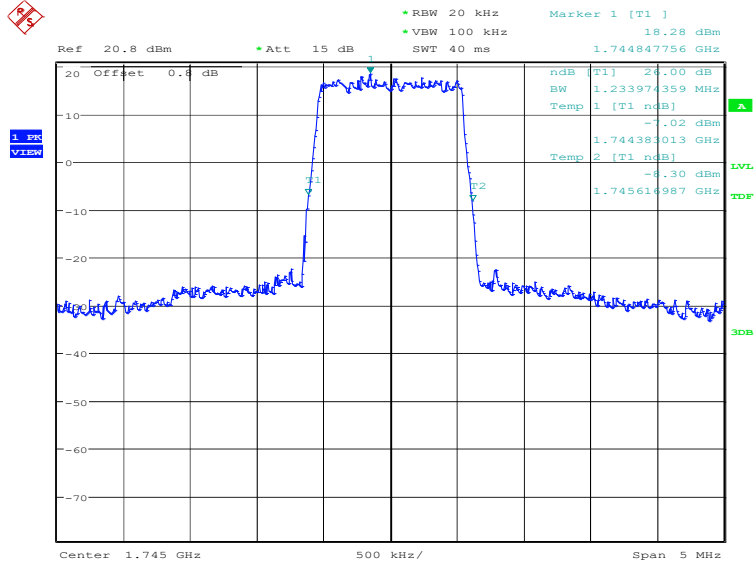


Date: 8.OCT.2023 16:18:46

LTE band 66, 1.4MHz (-26dBc)

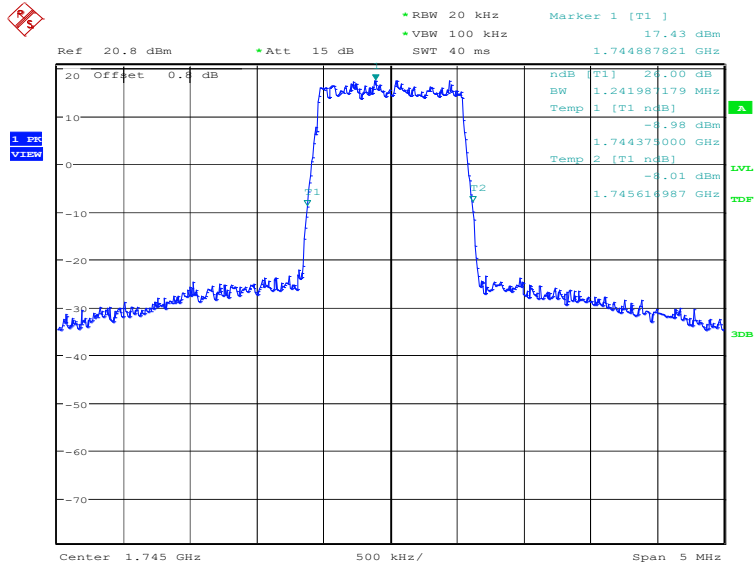
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
	1745.0	QPSK
	1233.97	1241.99

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



Date: 8.OCT.2023 13:30:31

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

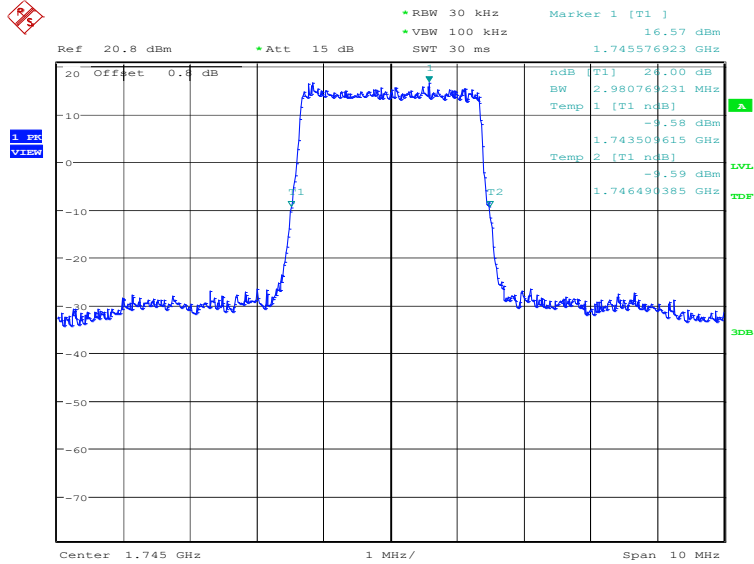


Date: 8.OCT.2023 13:31:12

LTE band 66, 3MHz (-26dBc)

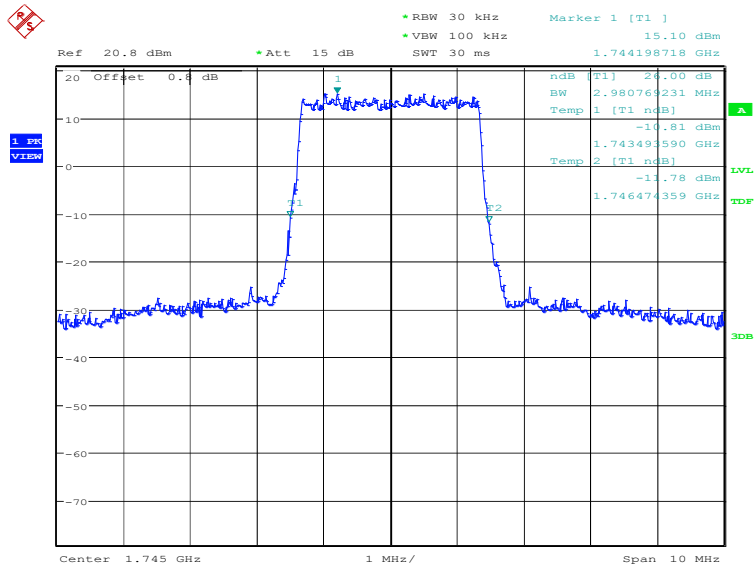
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	2980.77	2980.77

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



Date: 8.OCT.2023 13:31:59

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

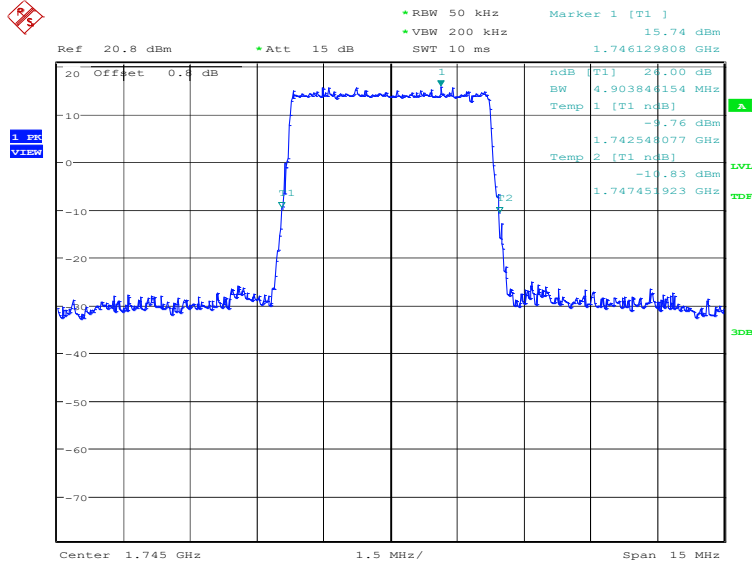


Date: 8.OCT.2023 13:32:40

LTE band 66, 5MHz (-26dBc)

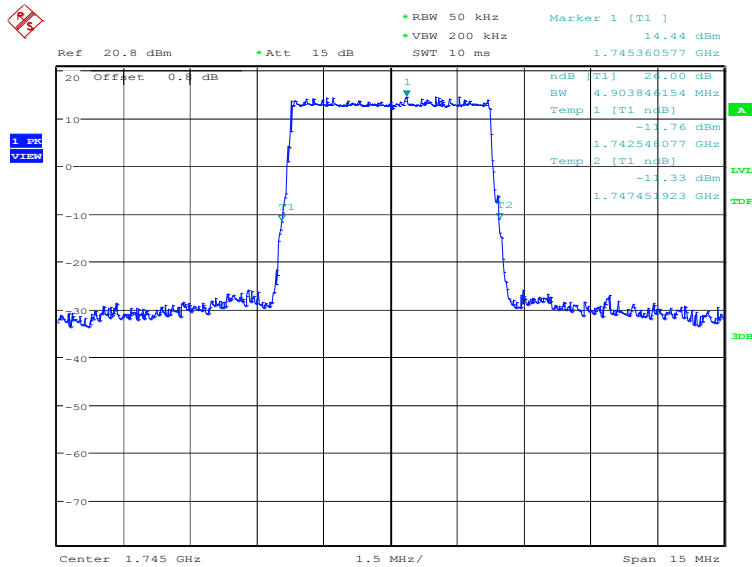
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	4903.85	4903.85

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



Date: 8.OCT.2023 13:33:26

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

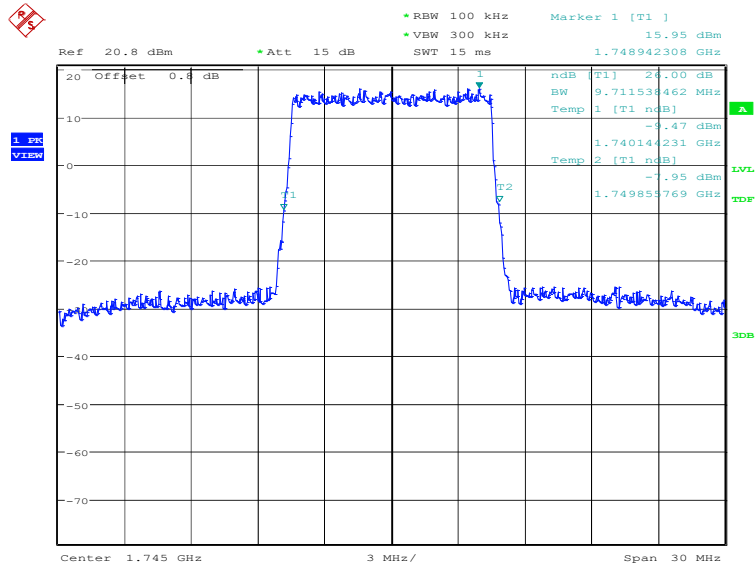


Date: 8.OCT.2023 13:34:07

LTE band 66, 10MHz (-26dBc)

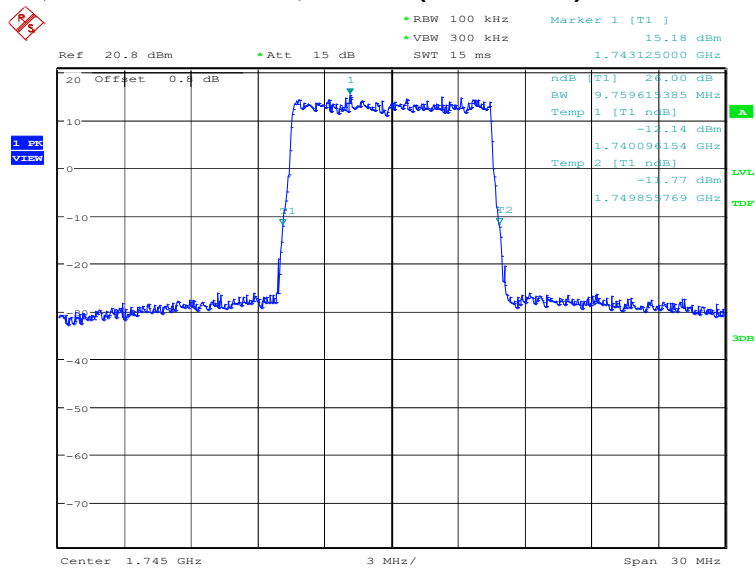
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	9711.54	9759.62

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



Date: 8.OCT.2023 13:34:54

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

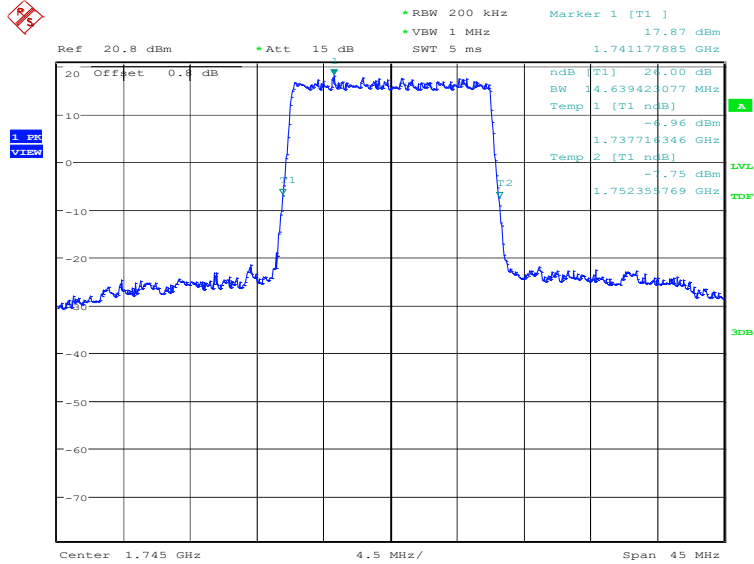


Date: 8.OCT.2023 13:35:35

LTE band 66, 15MHz (-26dBc)

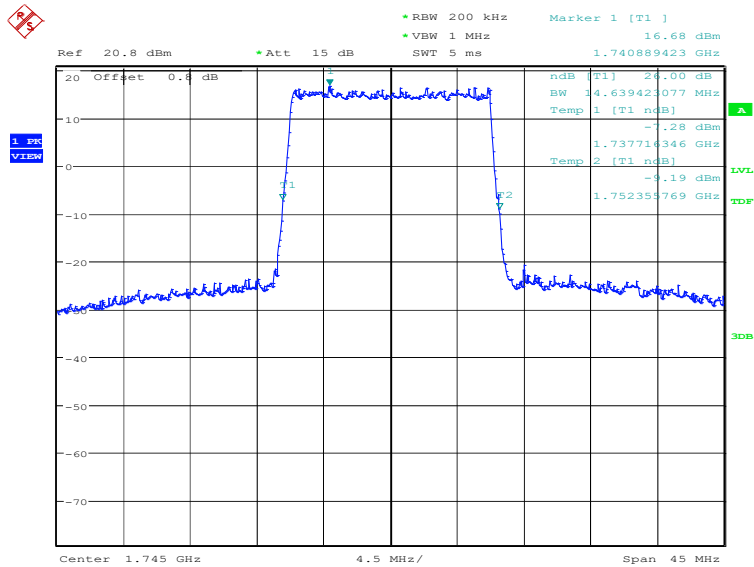
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
1745.0	QPSK	16QAM
	14639.42	14639.42

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



Date: 8.OCT.2023 13:36:22

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

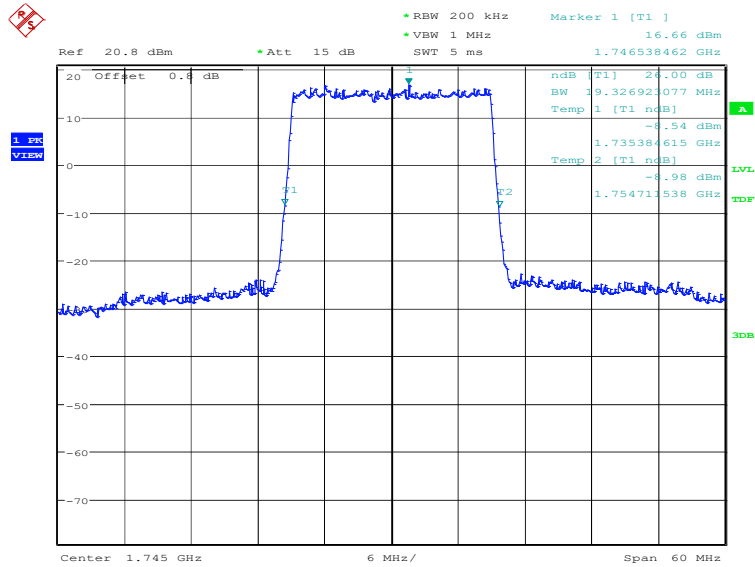


Date: 8.OCT.2023 13:37:03

LTE band 66, 20MHz (-26dBc)

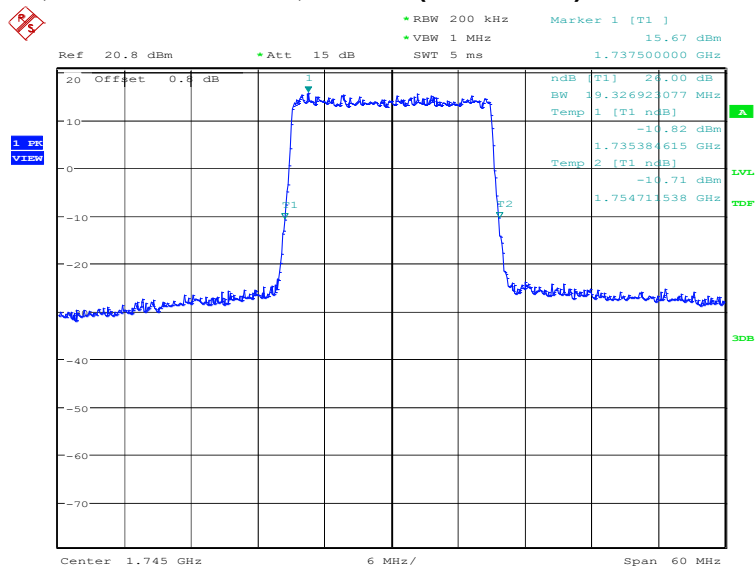
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
	1745.0	QPSK
	19326.92	19326.92

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



Date: 8.OCT.2023 13:37:50

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

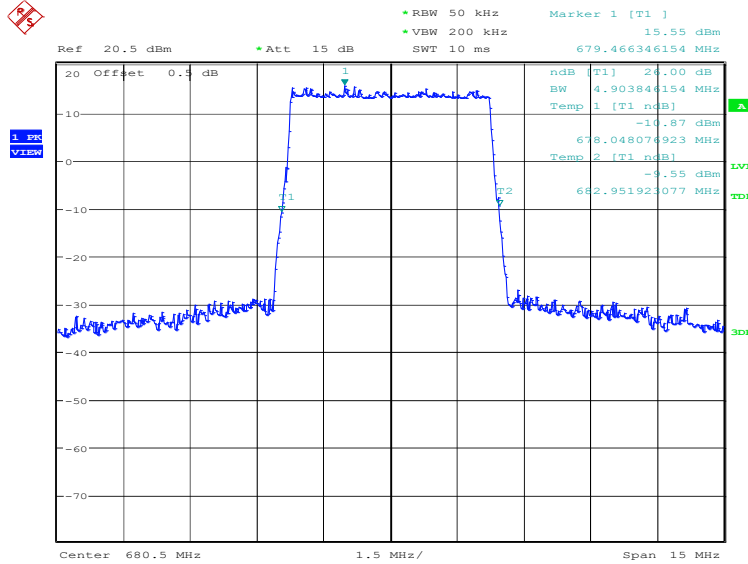


Date: 8.OCT.2023 13:38:31

LTE band 71, 5MHz (-26dBc)

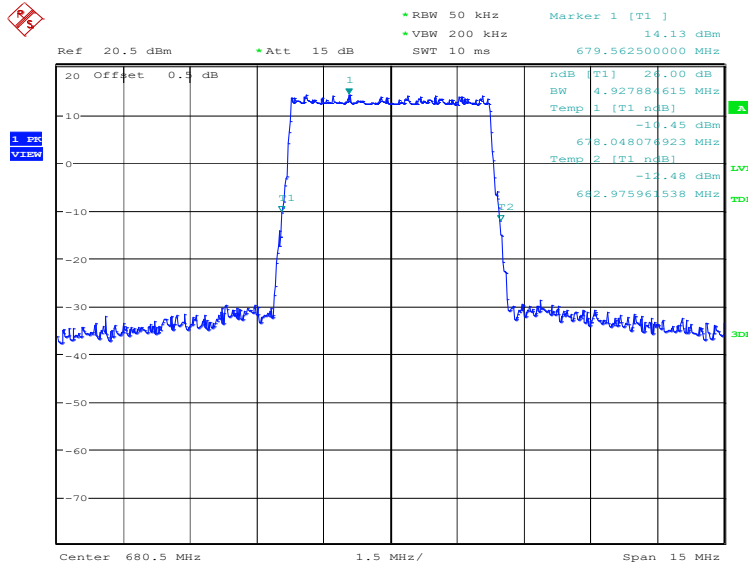
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
680.5	QPSK	16QAM
	4903.85	4927.88

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



Date: 8.OCT.2023 12:24:06

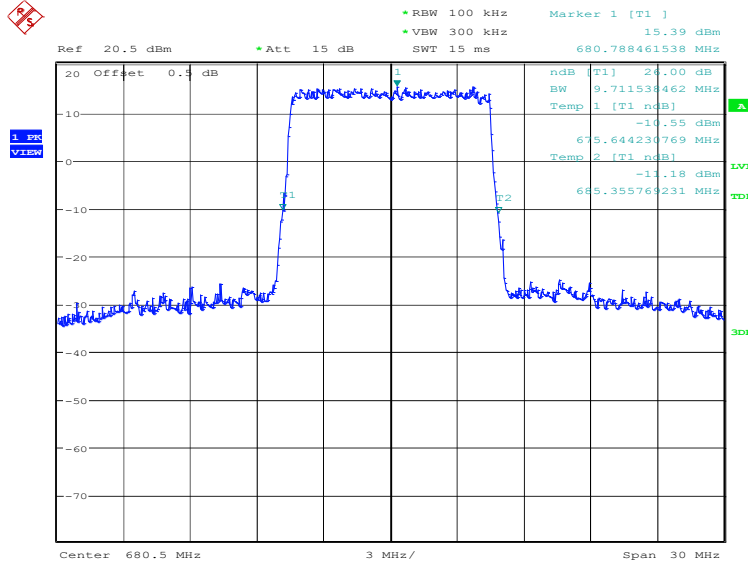
LTE band 71, 5MHz Bandwidth, 16QAM (-26dBc BW)



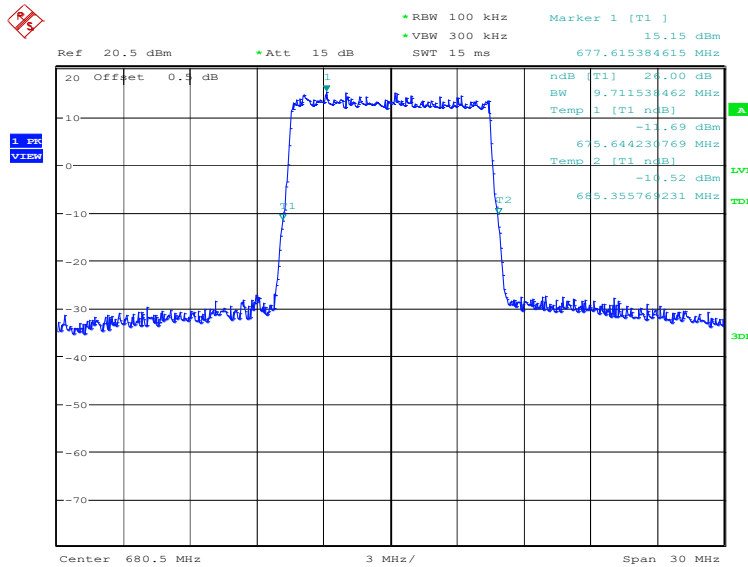
Date: 8.OCT.2023 12:24:47

LTE band 71, 10MHz (-26dBc)

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

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


Date: 8.OCT.2023 12:25:33

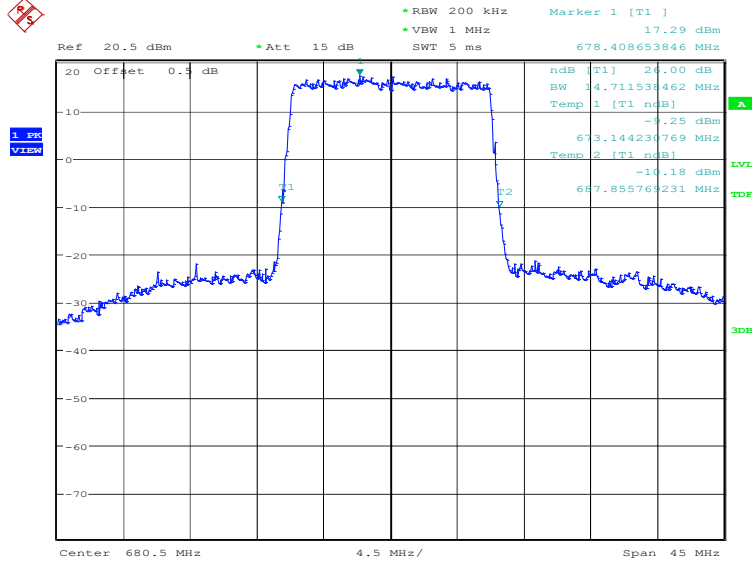
LTE band 71, 10MHz Bandwidth, 16QAM (-26dBc BW)


Date: 8.OCT.2023 12:26:14

LTE band 71, 15MHz (-26dBc)

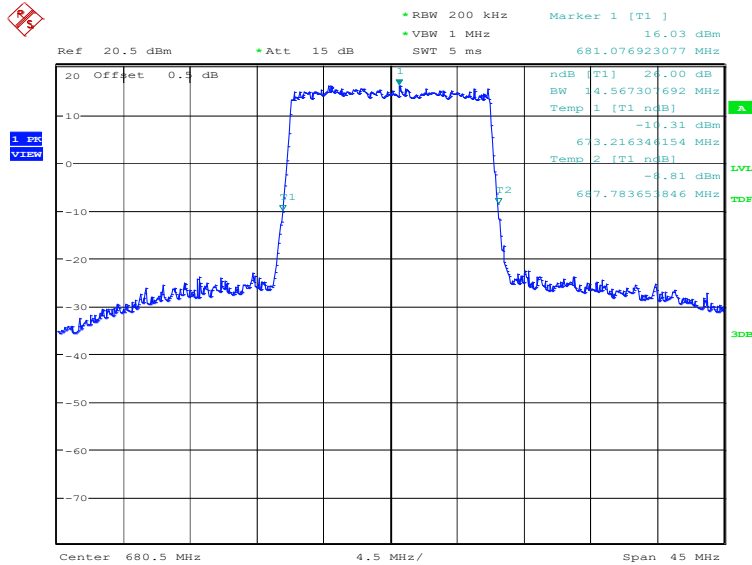
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
	680.5	QPSK
	14711.54	14567.31

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



Date: 8.OCT.2023 12:27:00

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

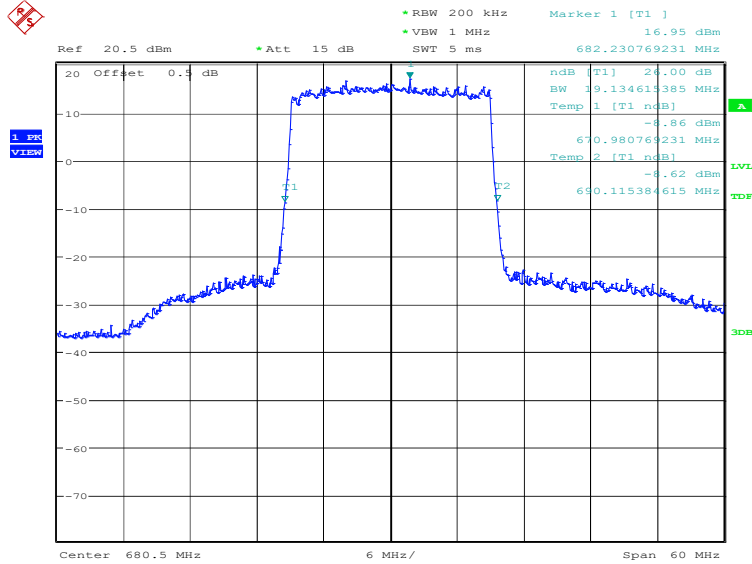


Date: 8.OCT.2023 12:27:41

LTE band 71, 20MHz (-26dBc)

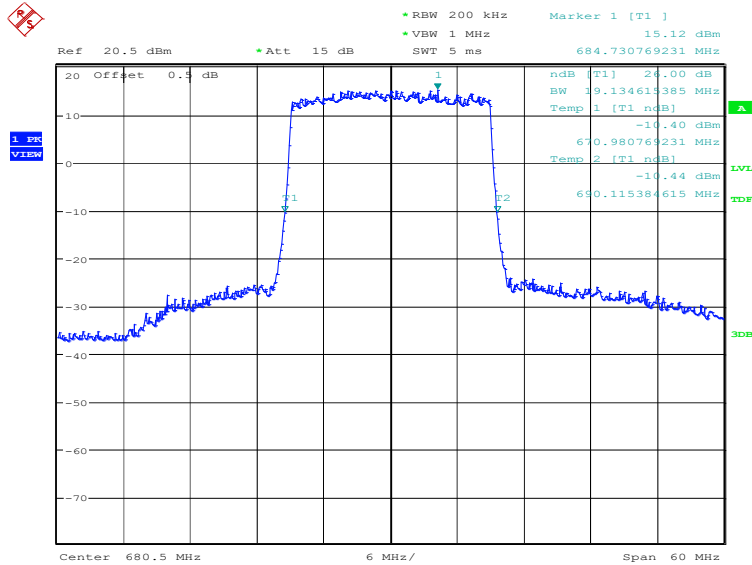
Frequency(MHz)	Emission Bandwidth (-26dBc)(kHz)	
	680.5	QPSK
	19134.62	19134.62

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



Date: 8.OCT.2023 12:28:26

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

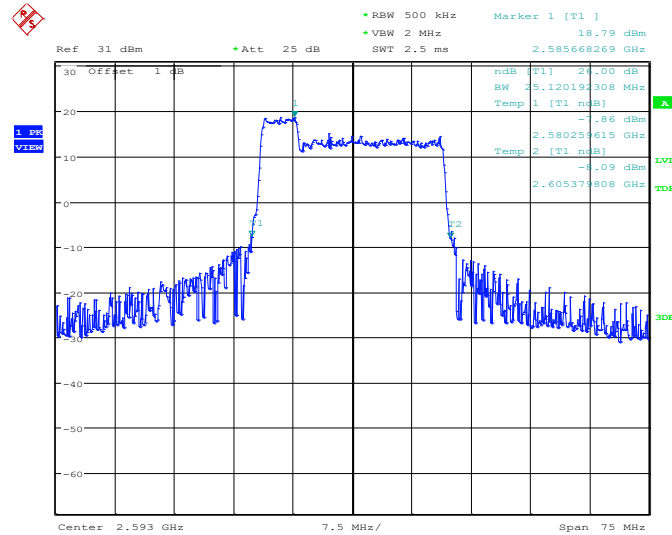


Date: 8.OCT.2023 12:29:07

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

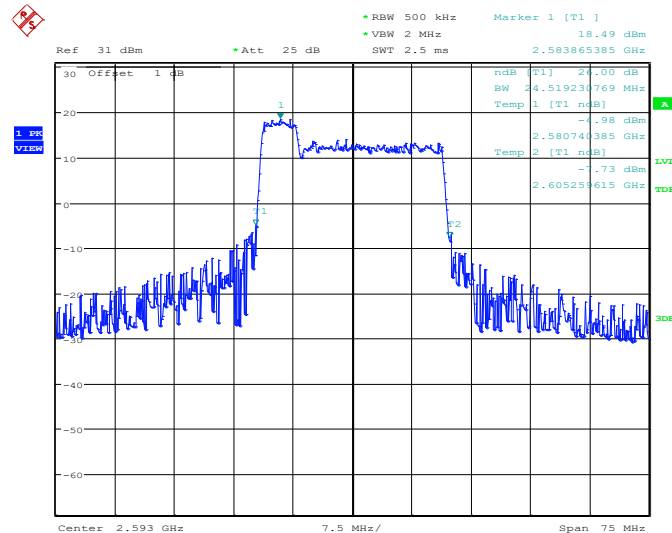
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	25.120	24.519

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



Date: 30.OCT.2023 16:11:27

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

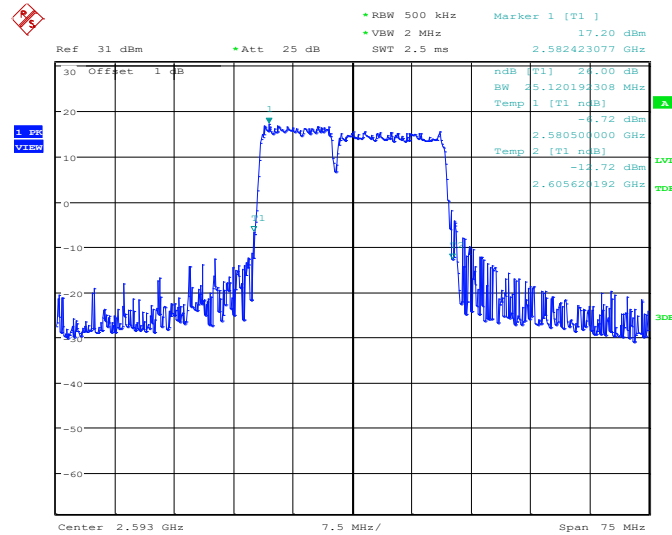


Date: 30.OCT.2023 16:11:48

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

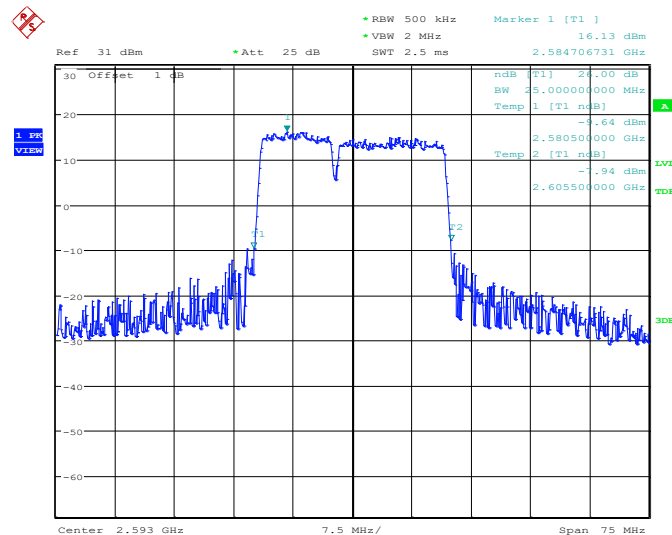
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	25.120	25.000

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



Date: 30.OCT.2023 16:12:47

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

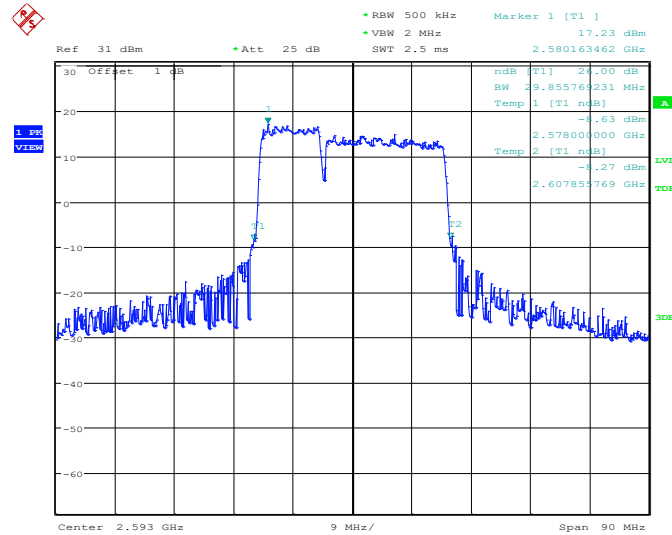


Date: 30.OCT.2023 16:13:09

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

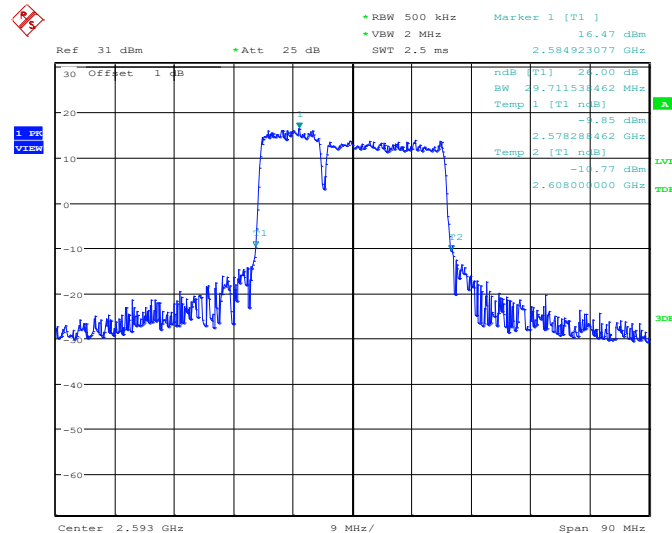
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	29.856	29.712

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



Date: 30.OCT.2023 16:14:07

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

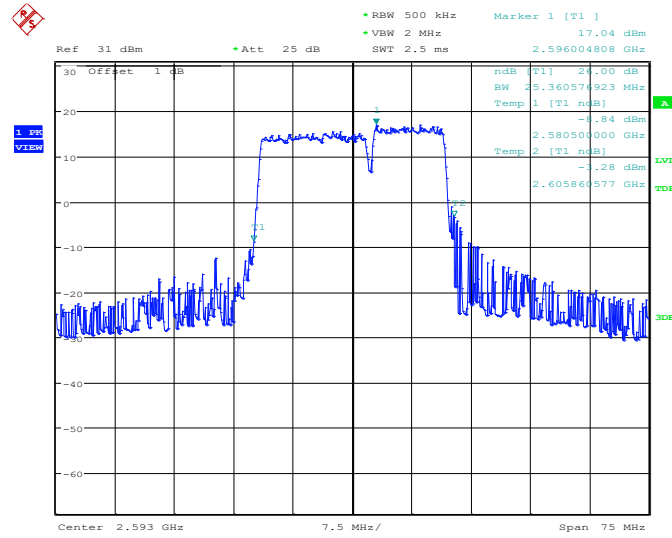


Date: 30.OCT.2023 16:14:28

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

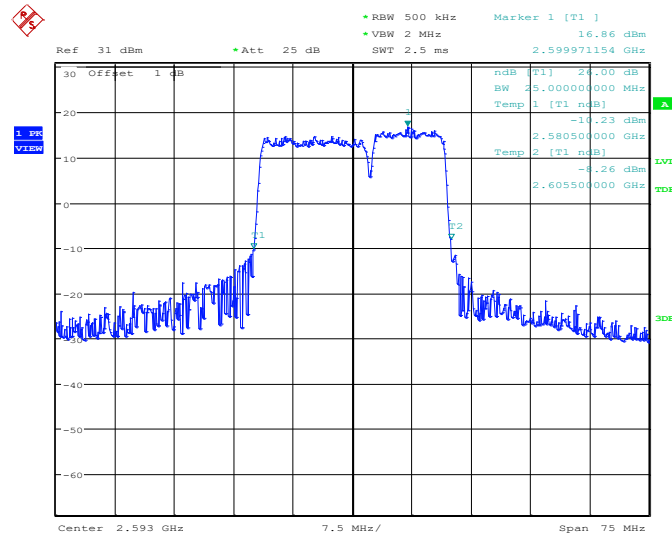
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	25.361	25.000

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



Date: 30.OCT.2023 16:15:27

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

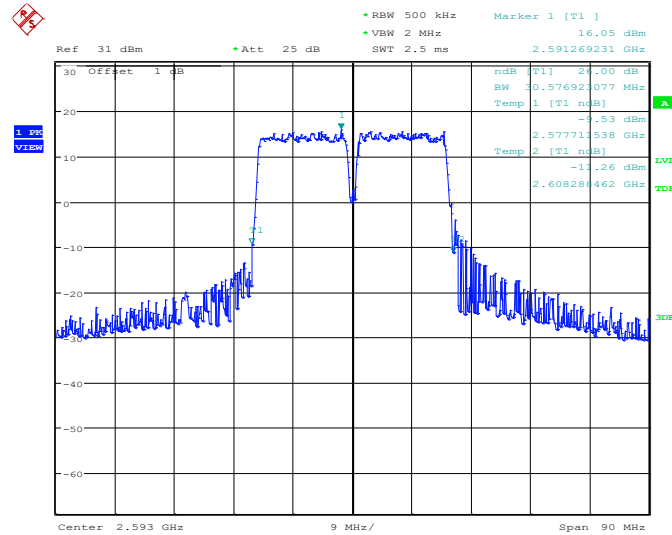


Date: 30.OCT.2023 16:15:49

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

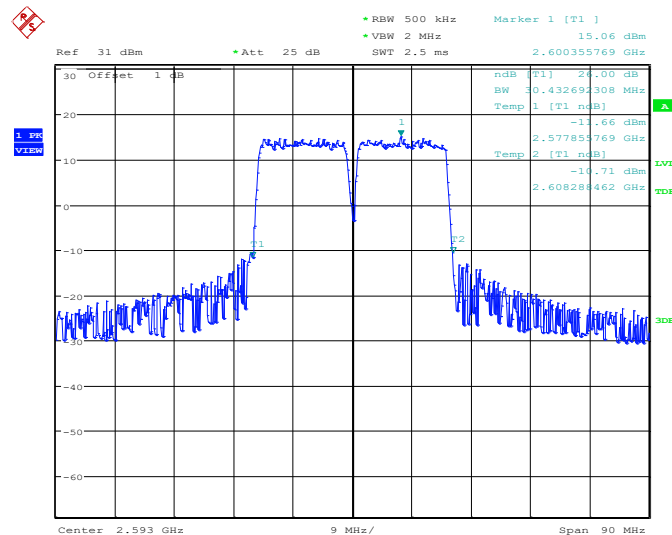
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	30.577	30.433

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



Date: 30.OCT.2023 16:16:47

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

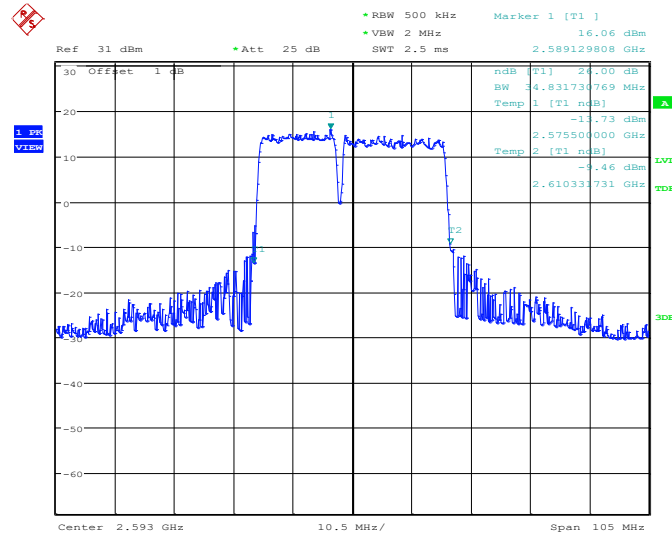


Date: 30.OCT.2023 16:17:08

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

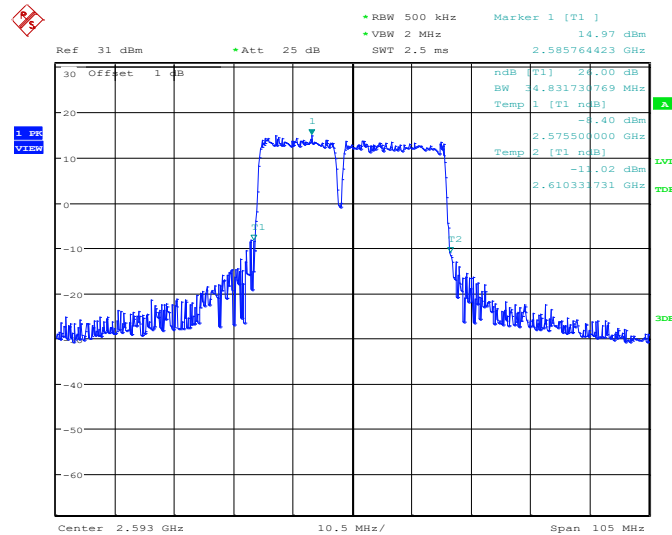
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	34.832	34.832

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



Date: 30.OCT.2023 16:18:07

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

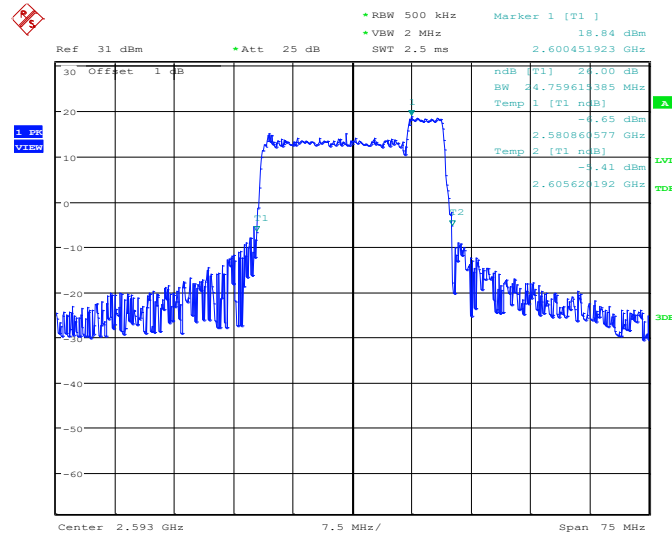


Date: 30.OCT.2023 16:18:28

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

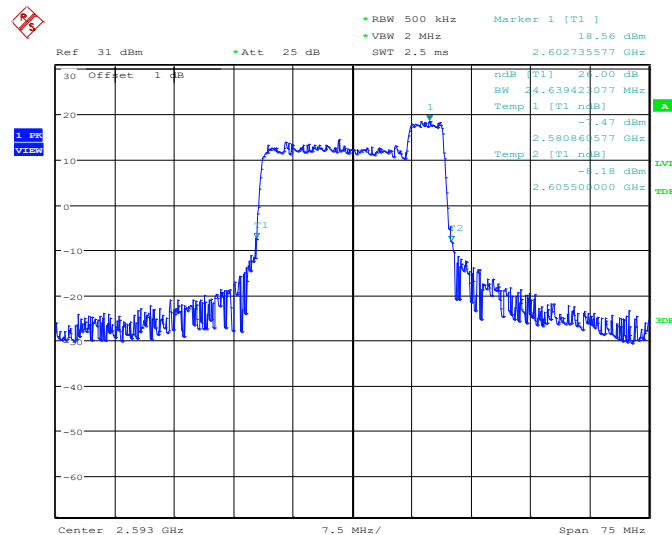
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	24.760	24.639

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



Date: 30.OCT.2023 16:19:27

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

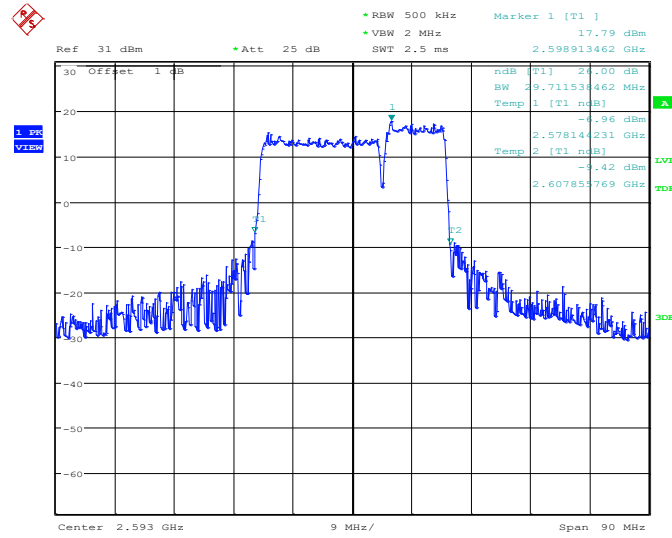


Date: 30.OCT.2023 16:19:48

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

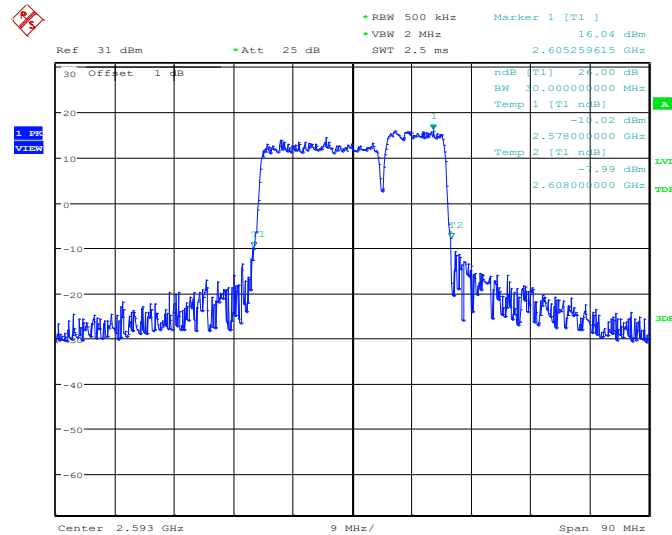
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	29.712	30.000

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



Date: 30.OCT.2023 16:20:47

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

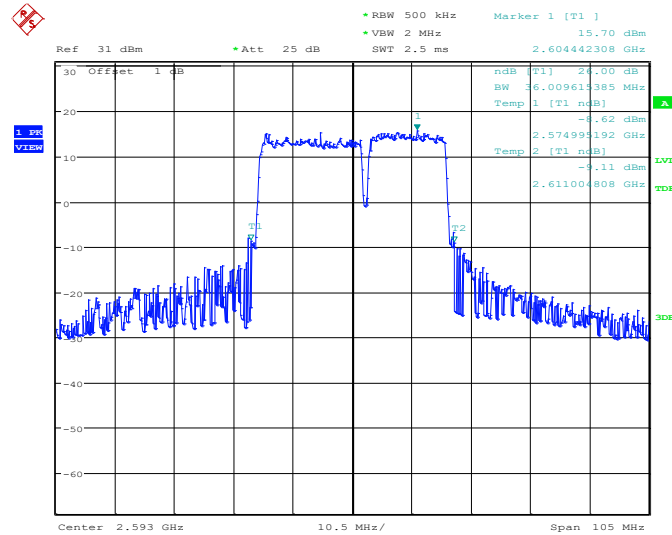


Date: 30.OCT.2023 16:21:08

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

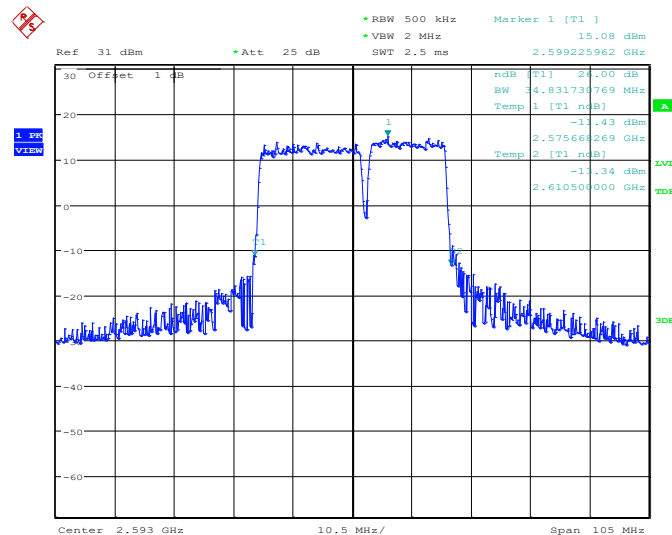
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	36.010	34.832

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



Date: 30.OCT.2023 16:22:06

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

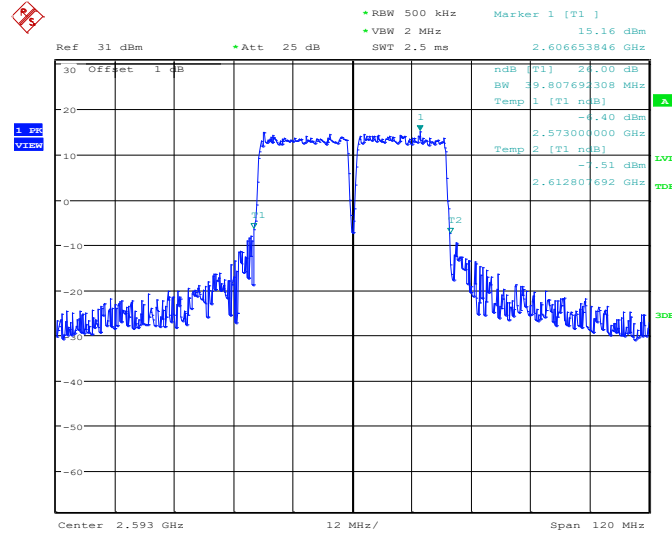


Date: 30.OCT.2023 16:22:28

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

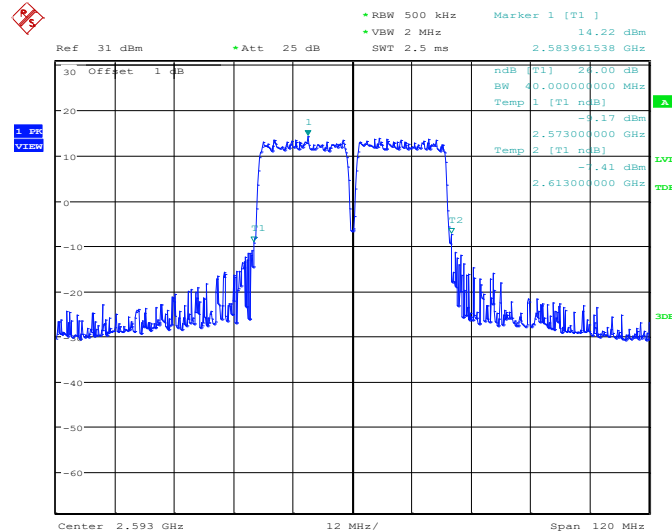
Frequency (MHz)	Occupied Bandwidth (-26dBc) (MHz)	
	QPSK	16QAM
2593.0	39.808	40.000

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



Date: 30.OCT.2023 16:23:22

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



Date: 30.OCT.2023 16:23:44

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

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 than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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 $70 +$

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.

Part 90.543 states that for operations in the 758–768 MHz and the 788–798 MHz bands, 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 all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations. (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB. (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

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

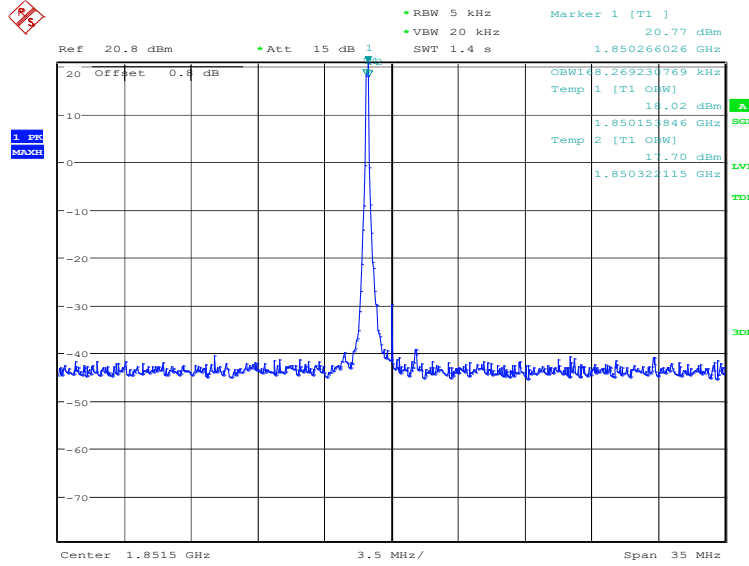
The spectrum analyzer readings are corrected by $[10 \log (1/\text{duty cycle})]$ for the non-continuous transmitting scenario.

A.6.2 Measurement result

Only the worst case result is given below

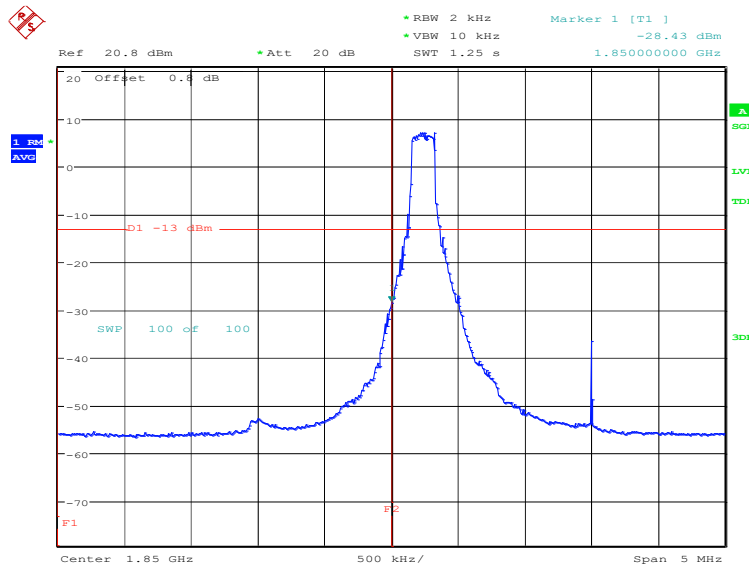
LTE band 2

OBW: 1RB-low_offset



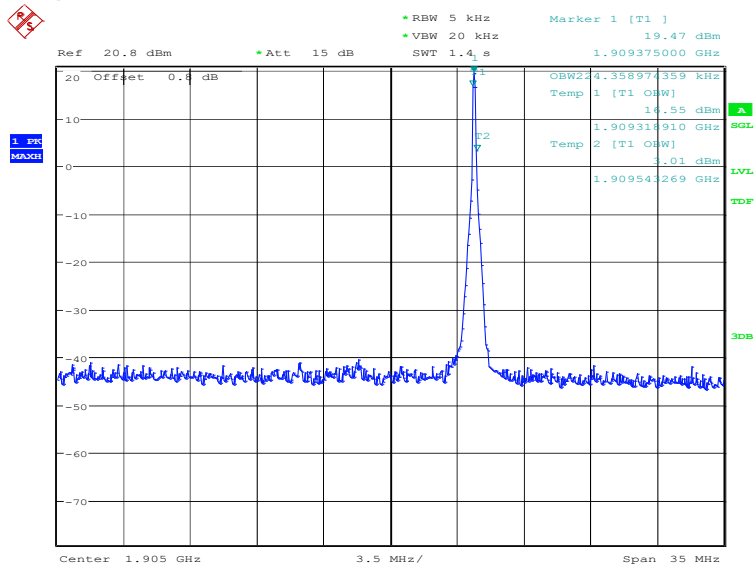
Date: 6.NOV.2023 09:50:06

LOW BAND EDGE BLOCK-1RB-low_offset



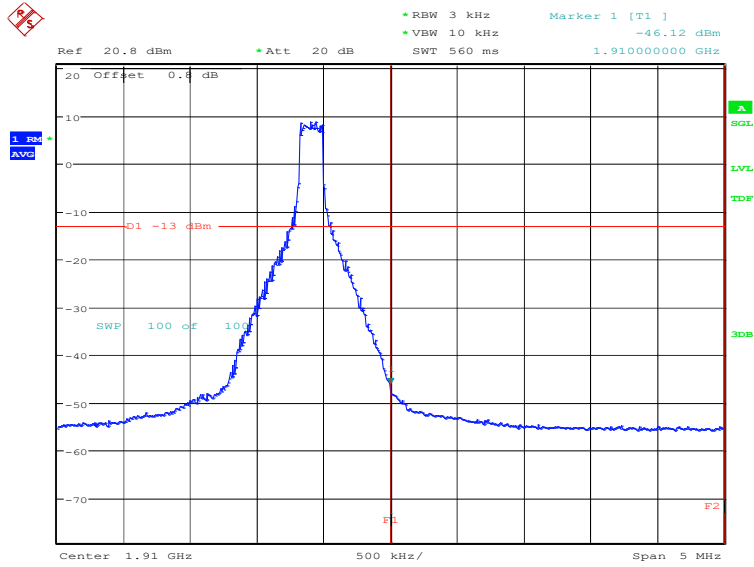
Date: 6.NOV.2023 09:52:24

OBW: 1RB-high_offset



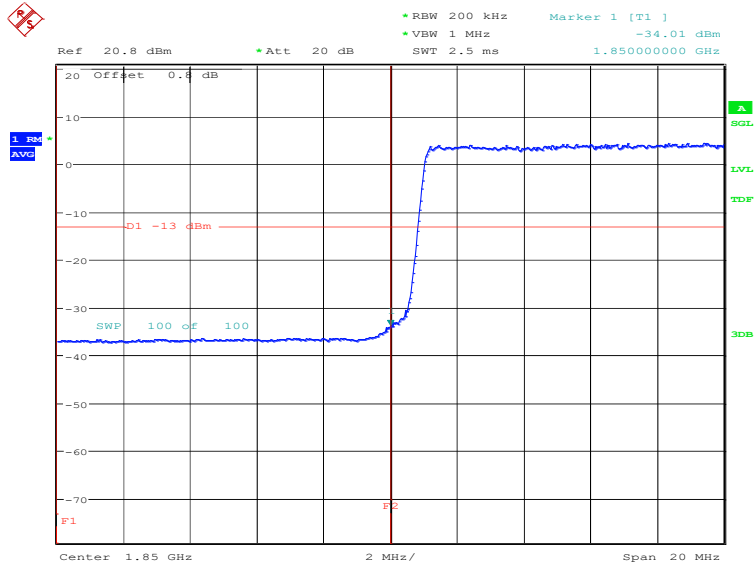
Date: 25.OCT.2023 08:53:56

HIGH BAND EDGE BLOCK-1RB-high_offset



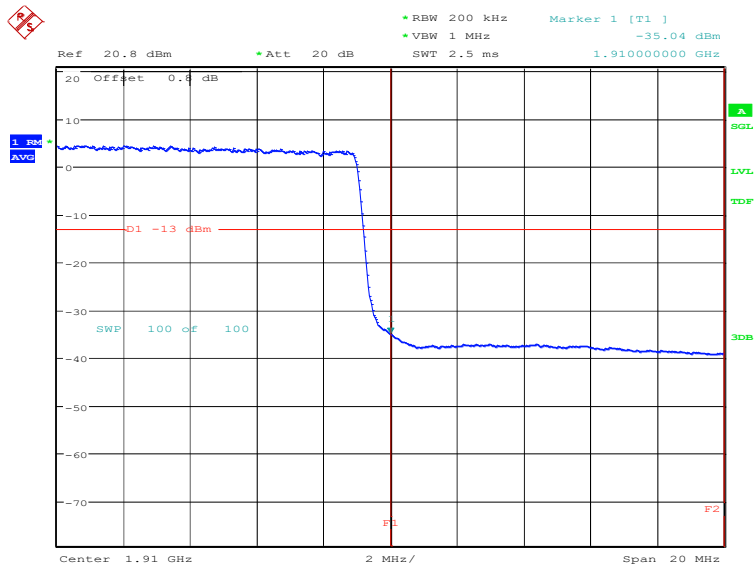
Date: 25.OCT.2023 08:55:10

LOW BAND EDGE BLOCK-20MHz-100%RB



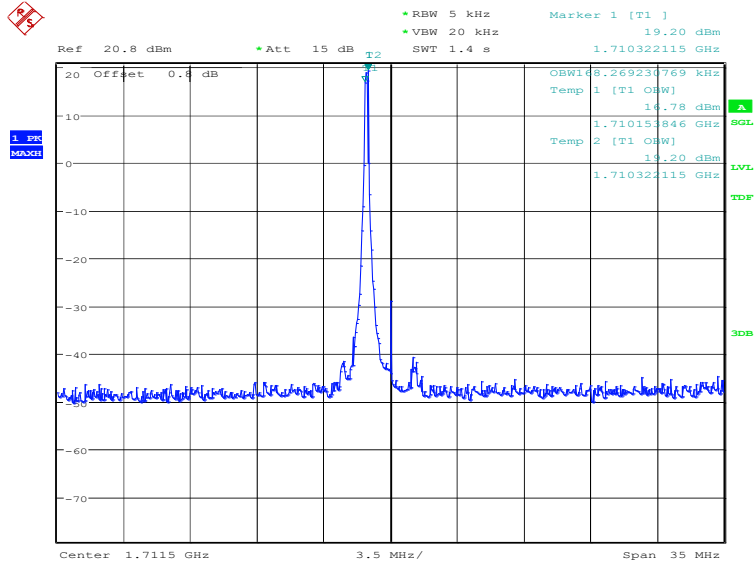
Date: 8.OCT.2023 13:44:18

HIGH BAND EDGE BLOCK-20MHz-100%RB



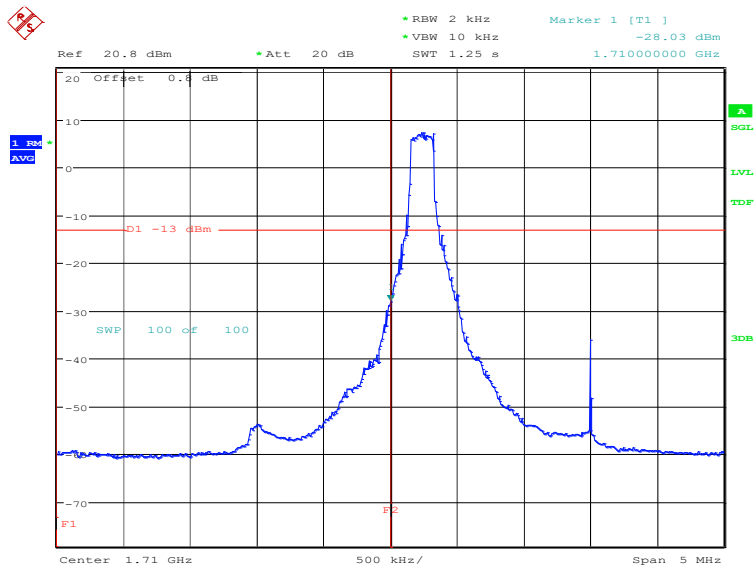
Date: 8.OCT.2023 13:45:51

LTE band 4
OBW: 1RB-low_offset



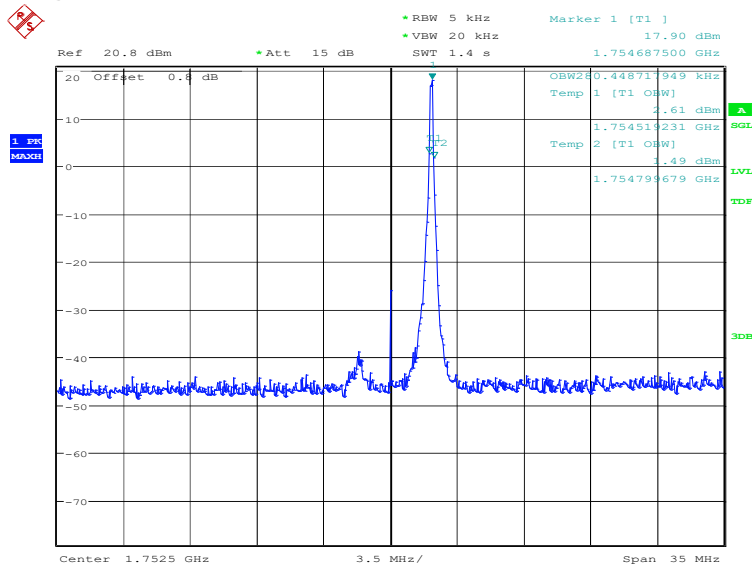
Date: 6.NOV.2023 09:25:34

LOW BAND EDGE BLOCK-1RB-low_offset



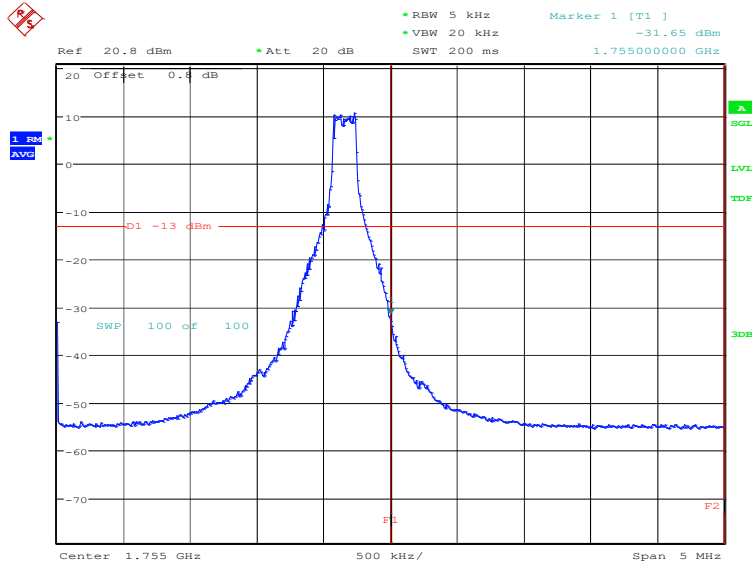
Date: 6.NOV.2023 09:27:57

OBW: 1RB-high_offset



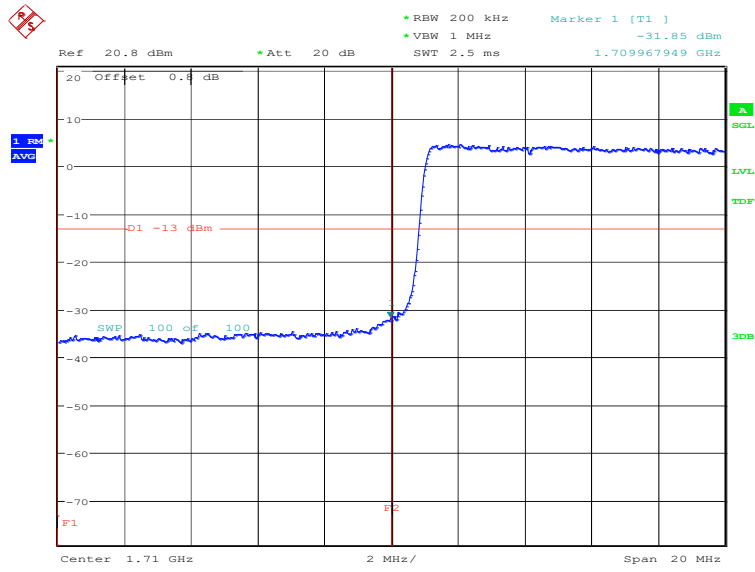
Date: 25.OCT.2023 08:59:12

HIGH BAND EDGE BLOCK-1RB-high_offset



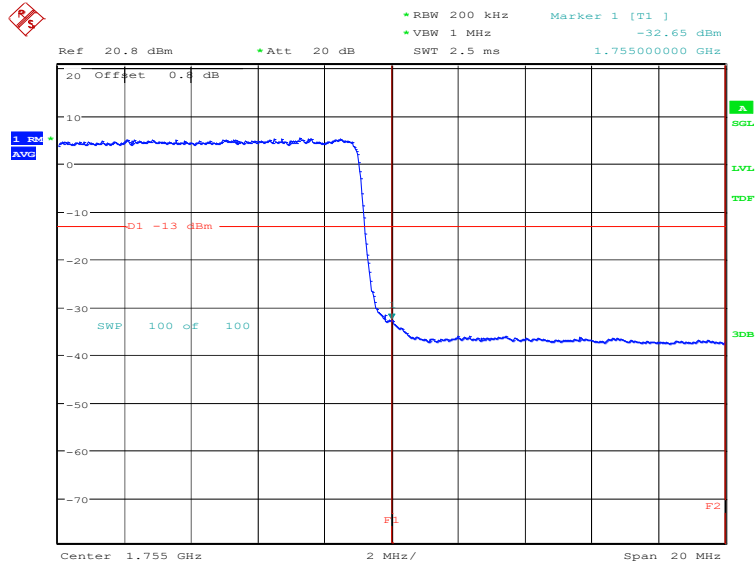
Date: 25.OCT.2023 09:00:26

LOW BAND EDGE BLOCK-20MHz-100%RB



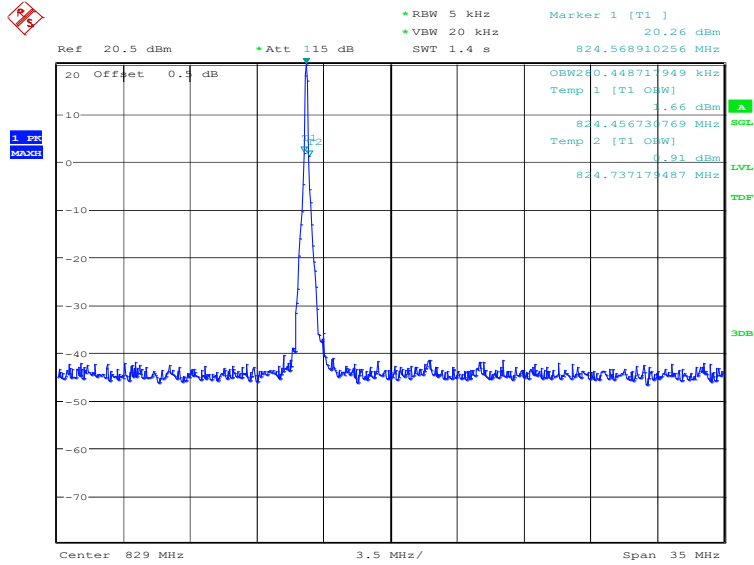
Date: 8.OCT.2023 13:47:29

HIGH BAND EDGE BLOCK-20MHz-100%RB



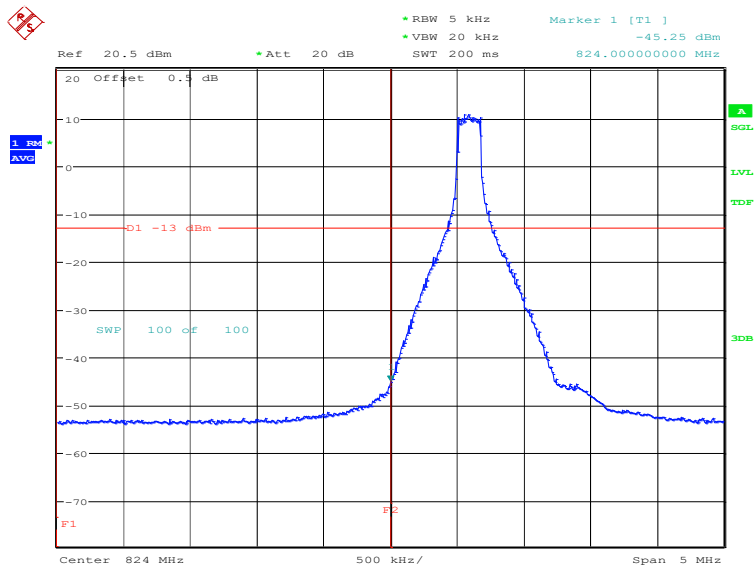
Date: 8.OCT.2023 13:49:03

LTE band 5
OBW: 1RB-low_offset



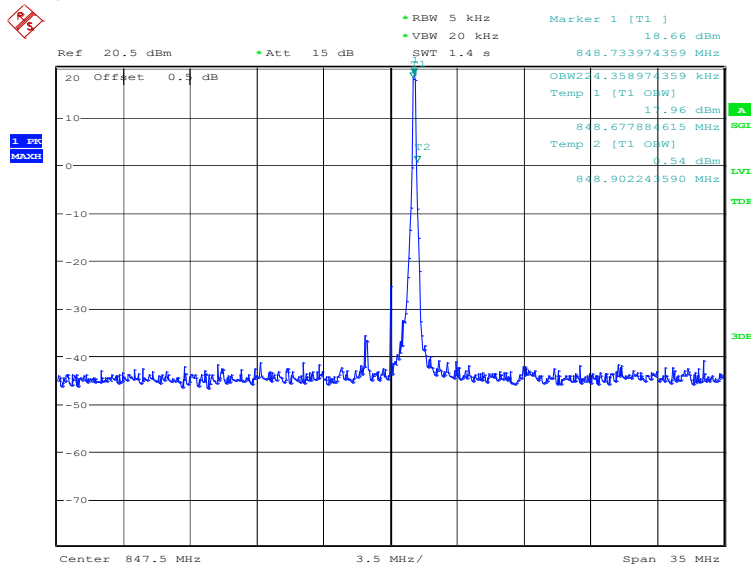
Date: 25.OCT.2023 09:05:43

LOW BAND EDGE BLOCK-1RB-low_offset



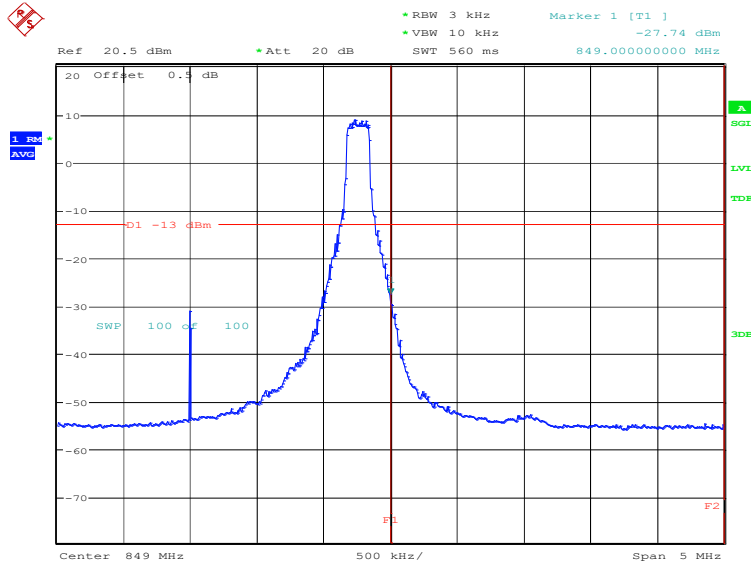
Date: 25.OCT.2023 09:06:57

OBW: 1RB-high_offset



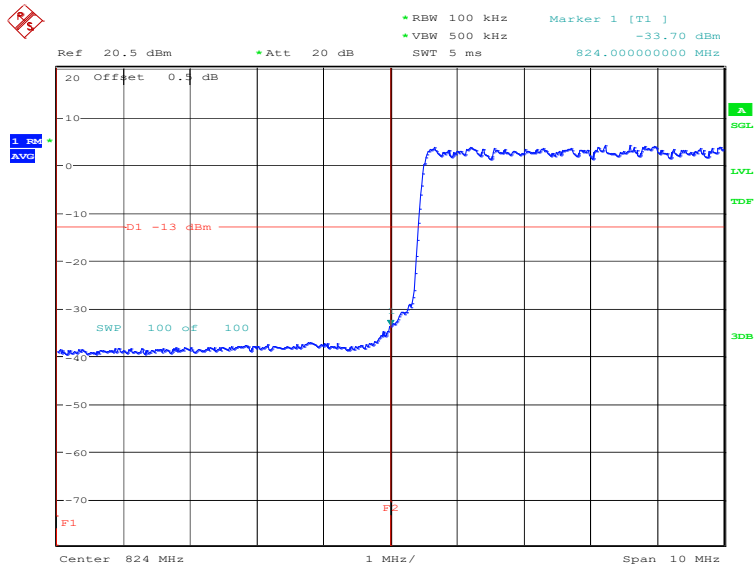
Date: 25.OCT.2023 09:08:18

HIGH BAND EDGE BLOCK-1RB-high_offset



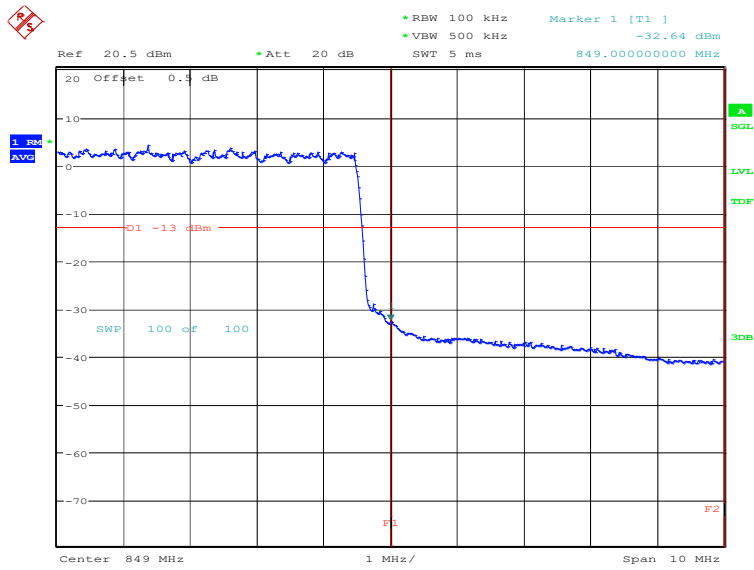
Date: 25.OCT.2023 09:09:32

LOW BAND EDGE BLOCK-10MHz-100%RB



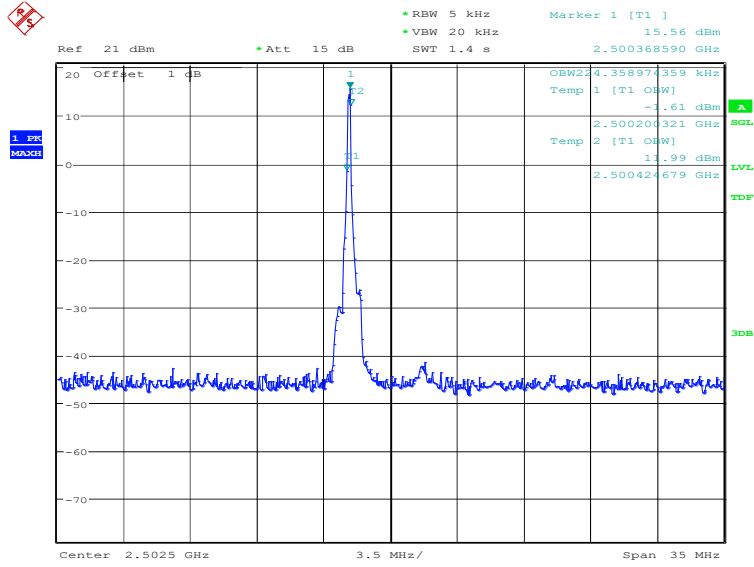
Date: 8.OCT.2023 13:51:35

HIGH BAND EDGE BLOCK-10MHz-100%RB



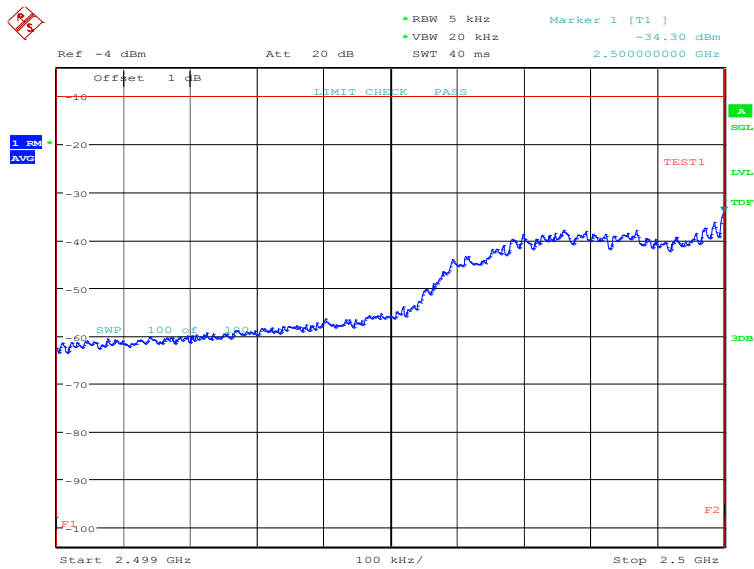
Date: 8.OCT.2023 13:53:08

LTE band 7
OBW: 1RB-low_offset

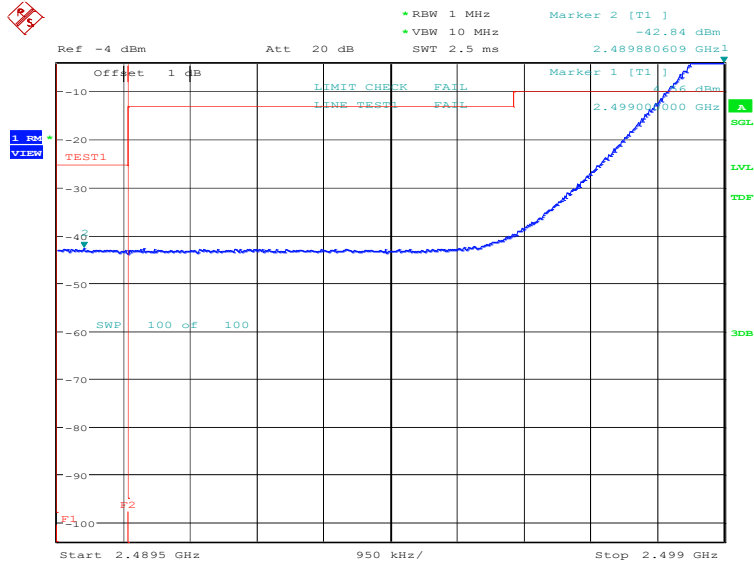


Date: 25.OCT.2023 08:25:36

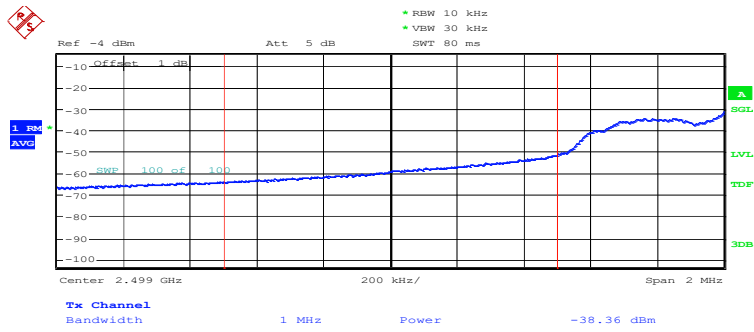
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 25.OCT.2023 08:26:57

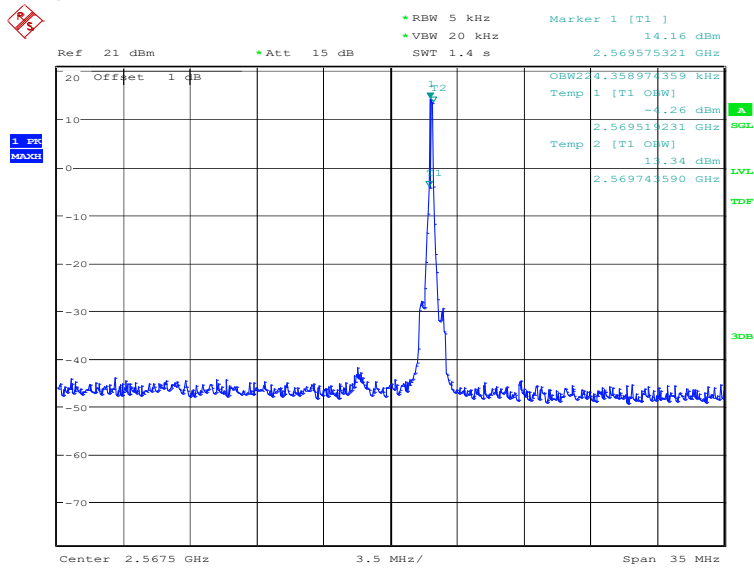


Date: 25.OCT.2023 08:28:46



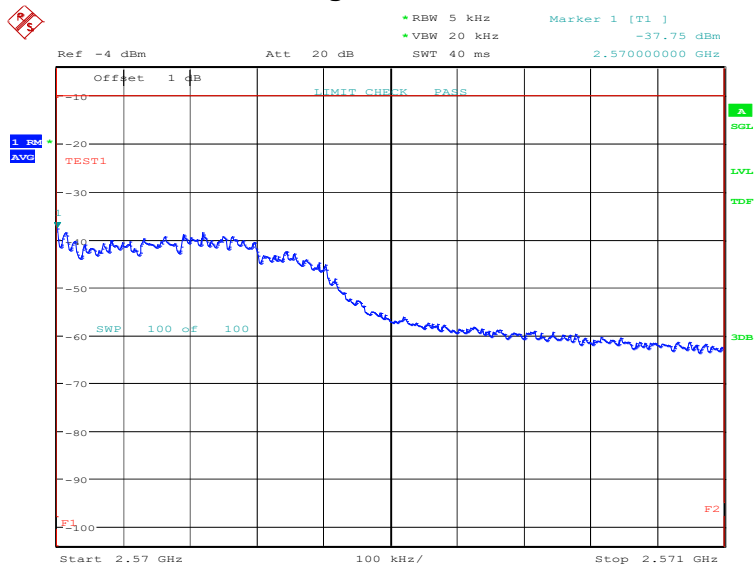
Date: 25.OCT.2023 08:29:14

OBW: 1RB-high_offset

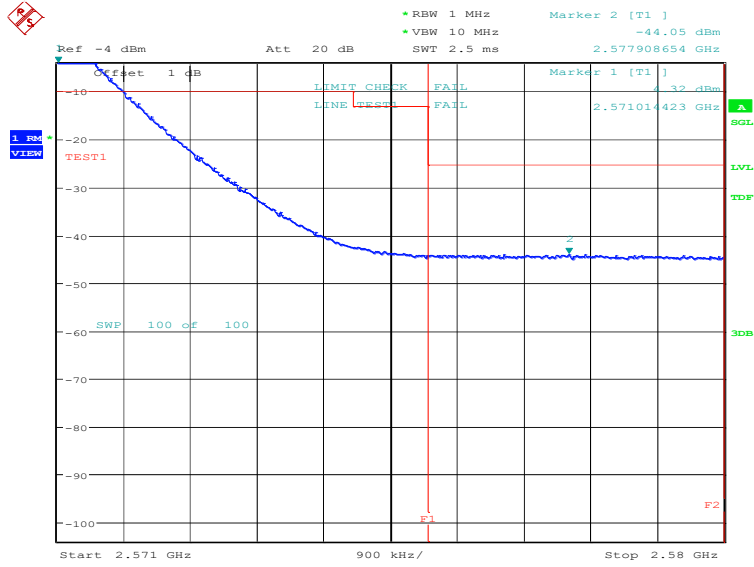


Date: 25.OCT.2023 08:29:50

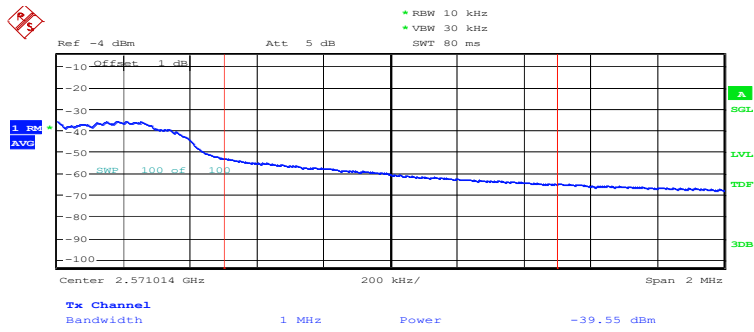
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 25.OCT.2023 08:31:12

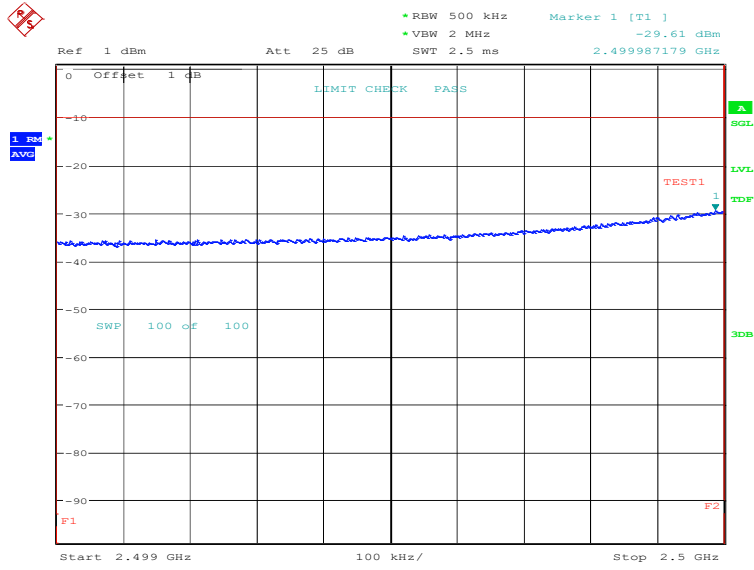


Date: 25.OCT.2023 08:33:01

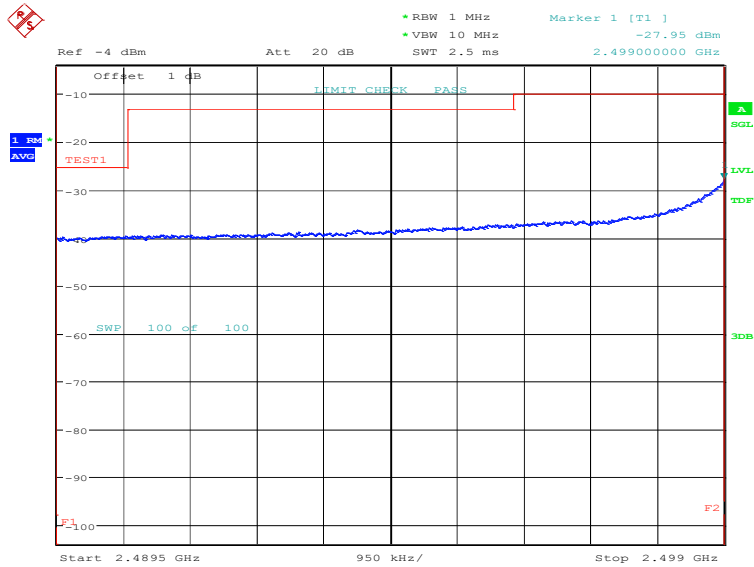


Date: 25.OCT.2023 08:33:29

LOW BAND EDGE BLOCK-20MHz-100%RB

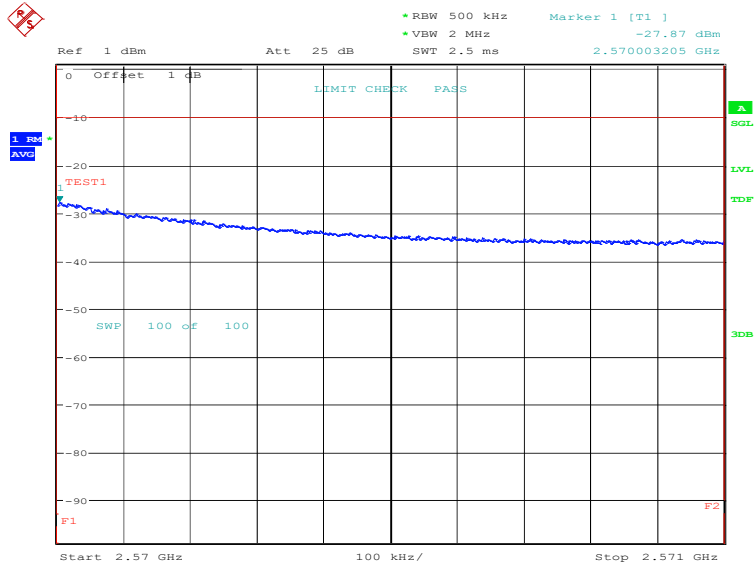


Date: 8.OCT.2023 15:31:54

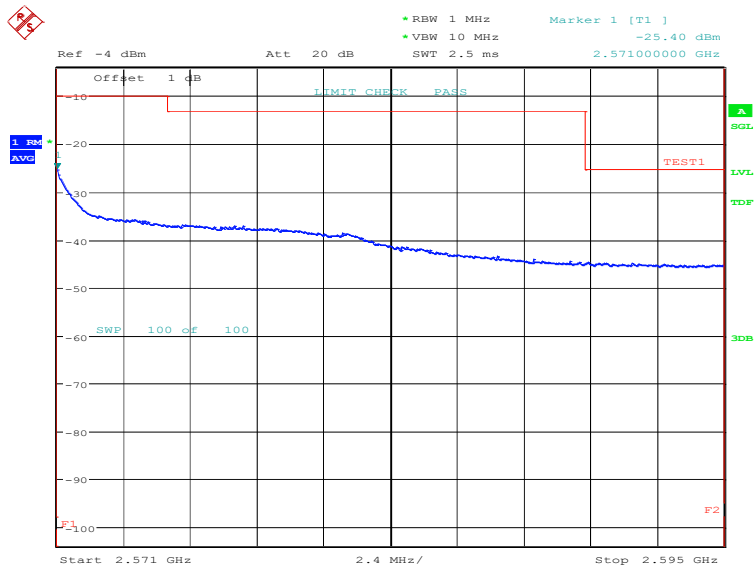


Date: 8.OCT.2023 15:33:35

HIGH BAND EDGE BLOCK-20MHz-100%RB

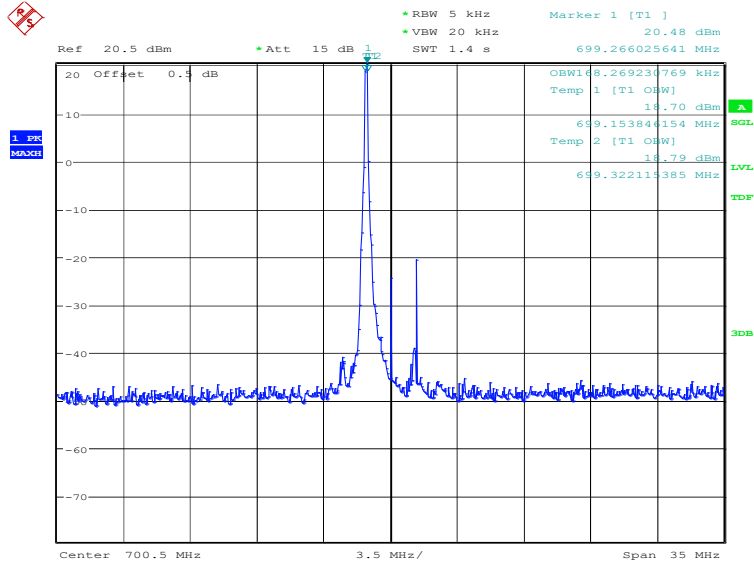


Date: 8.OCT.2023 15:36:33



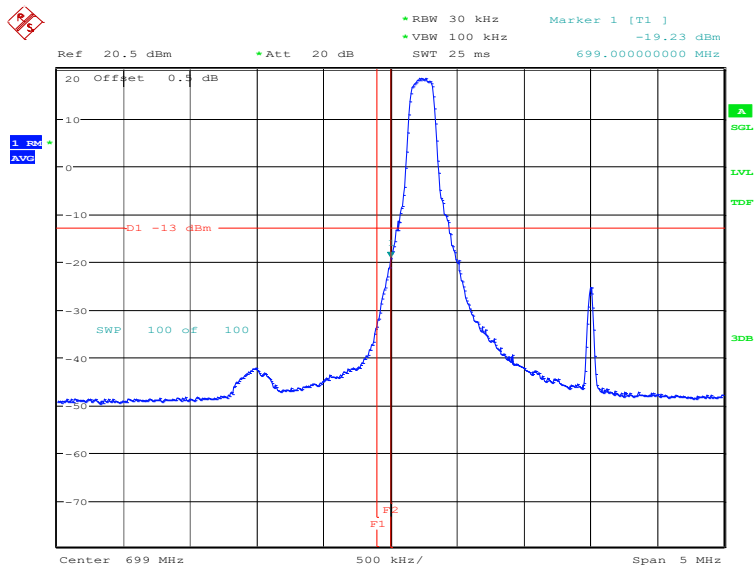
Date: 8.OCT.2023 15:38:14

LTE band 12
OBW: 1RB-low_offset



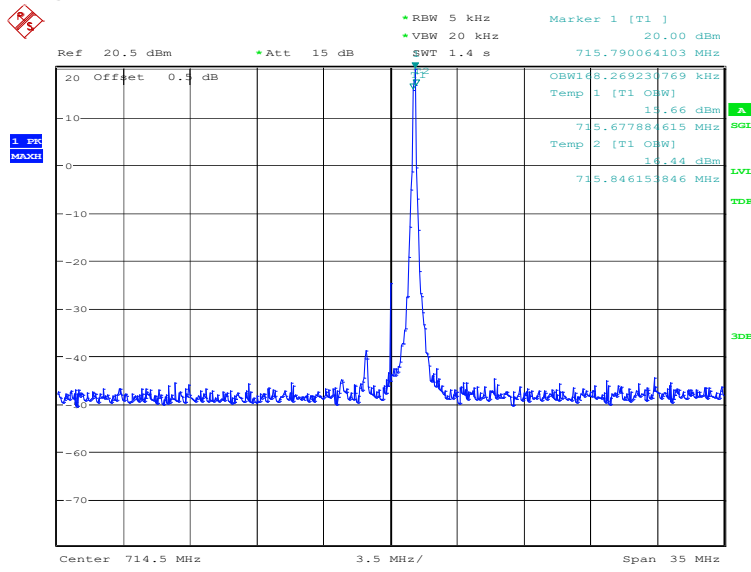
Date: 25.OCT.2023 09:10:23

LOW BAND EDGE BLOCK-1RB-low_offset



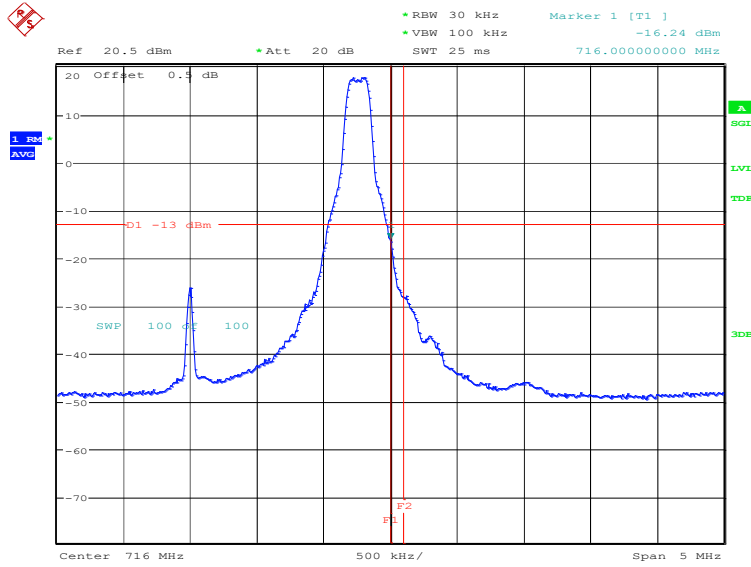
Date: 25.OCT.2023 09:10:42

OBW: 1RB-high_offset



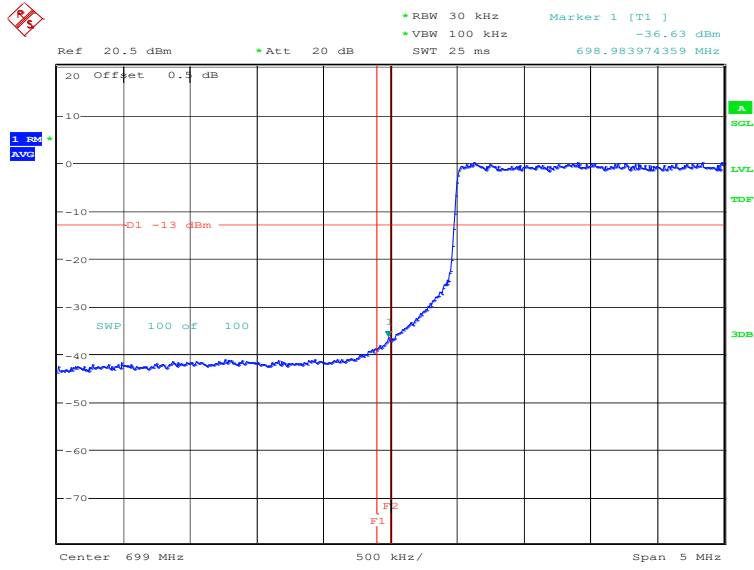
Date: 25.OCT.2023 09:11:19

HIGH BAND EDGE BLOCK-1RB-high_offset



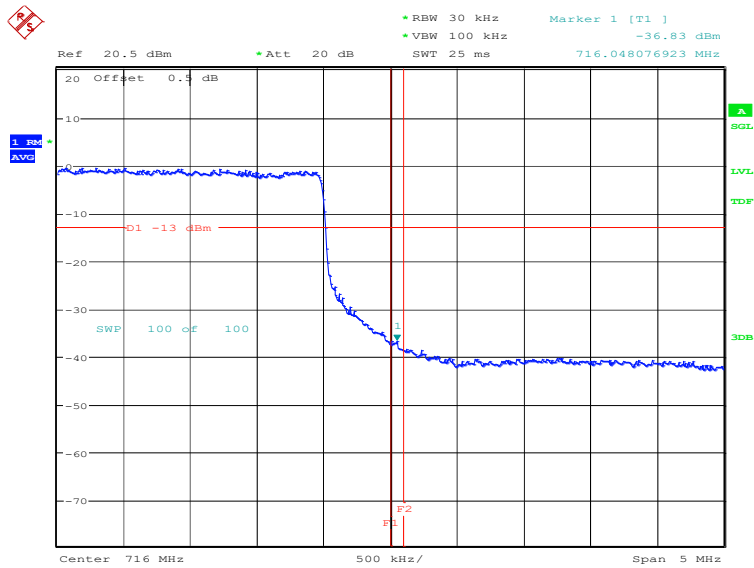
Date: 25.OCT.2023 09:11:38

LOW BAND EDGE BLOCK-10MHz-100%RB



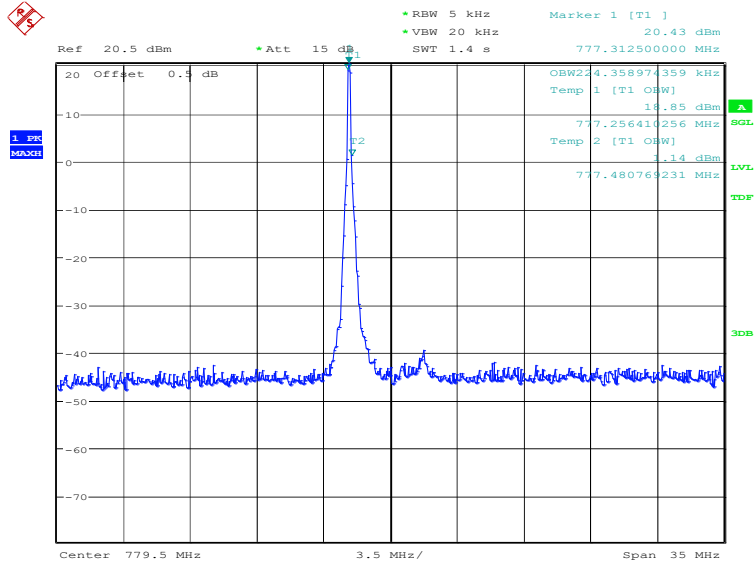
Date: 8.OCT.2023 13:54:46

HIGH BAND EDGE BLOCK-10MHz-100%RB



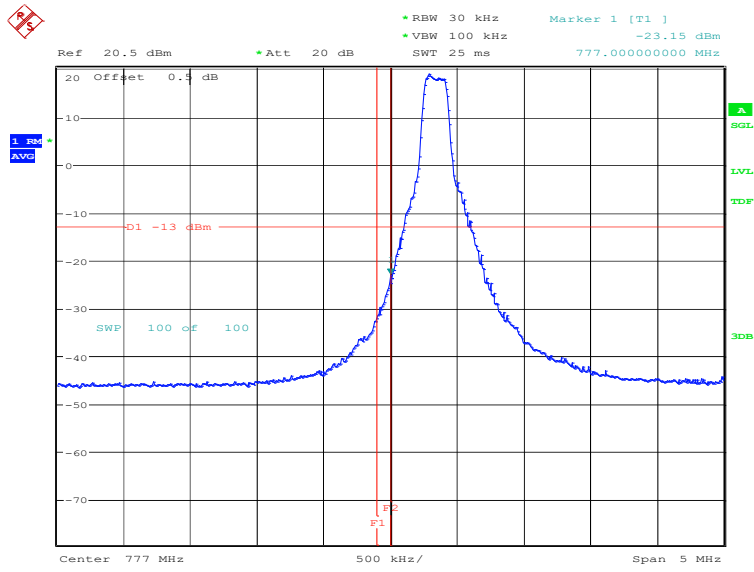
Date: 8.OCT.2023 13:56:20

LTE band 13
OBW: 1RB-low_offset

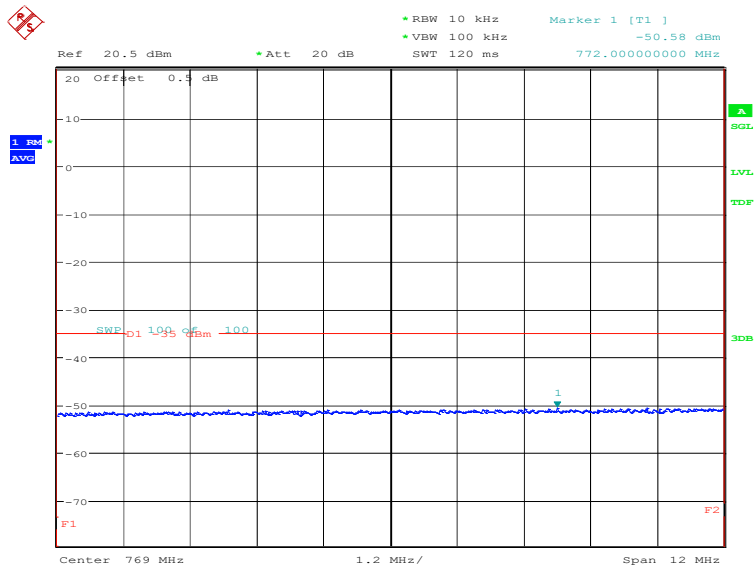


Date: 25.OCT.2023 09:13:13

LOW BAND EDGE BLOCK-1RB-low_offset

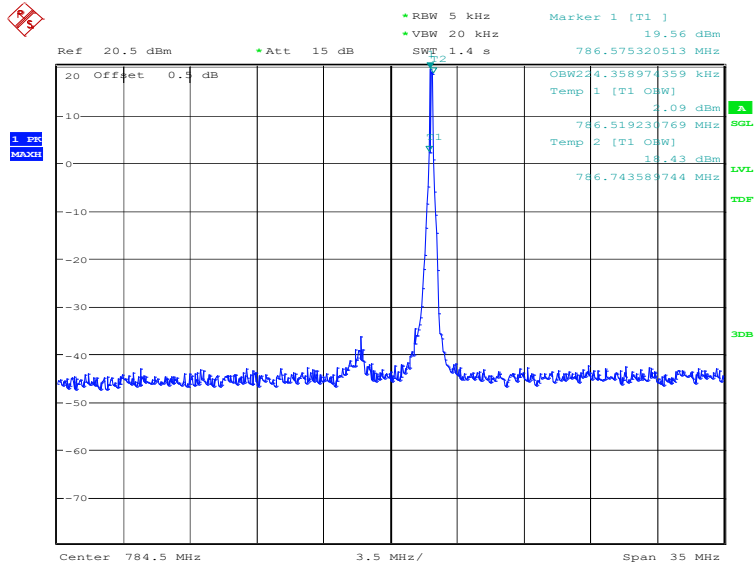


Date: 25.OCT.2023 09:13:33



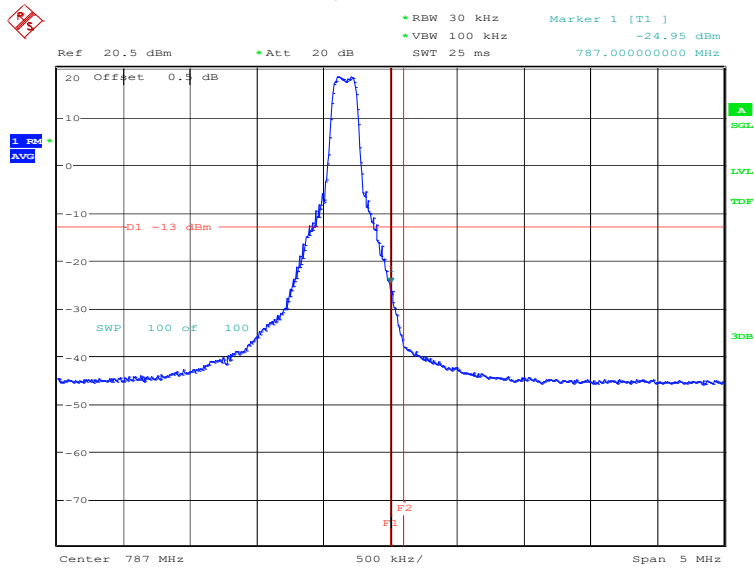
Date: 25.OCT.2023 09:14:12

OBW: 1RB-high_offset

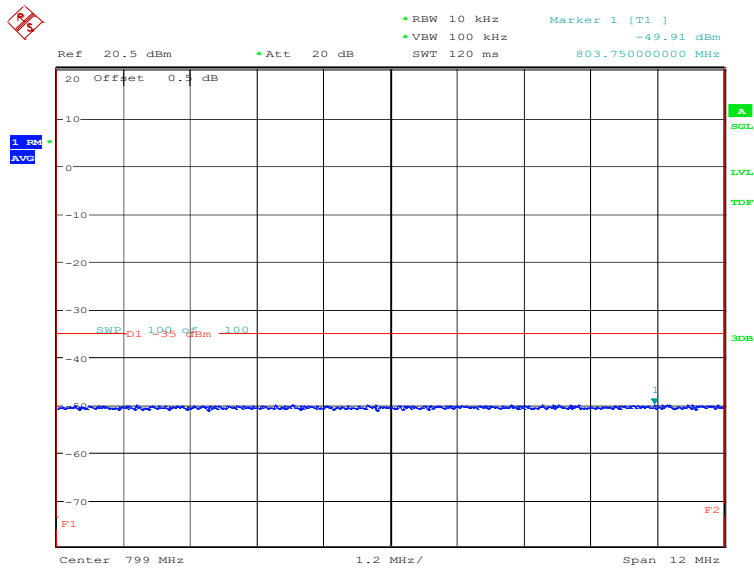


Date: 25.OCT.2023 09:14:48

HIGH BAND EDGE BLOCK-1RB-high_offset

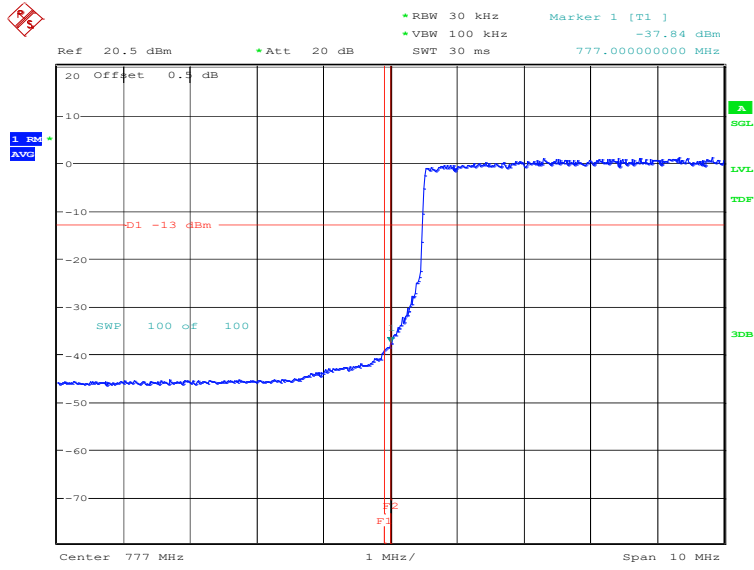


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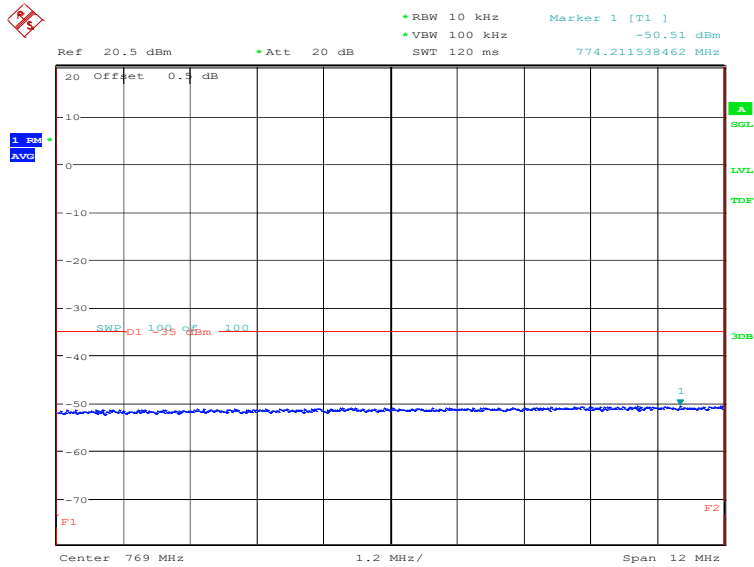


Date: 25.OCT.2023 09:15:46

LOW BAND EDGE BLOCK-10MHz-100%RB

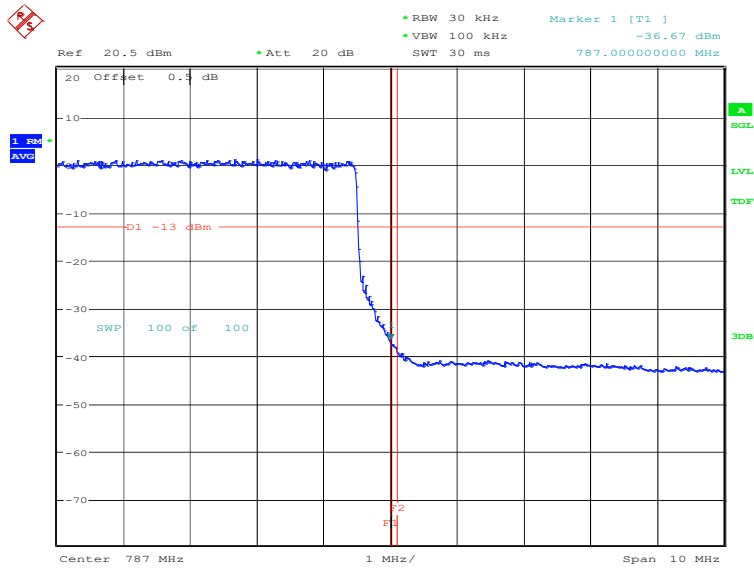


Date: 8.OCT.2023 13:57:57

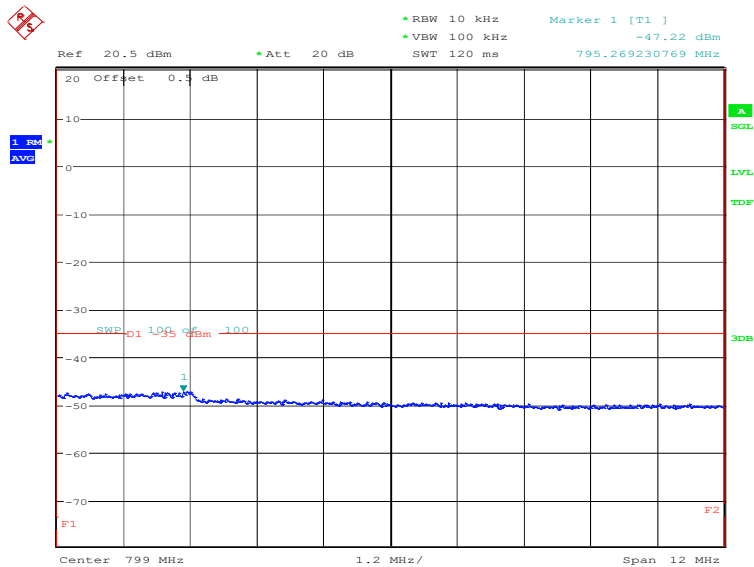


Date: 8.OCT.2023 13:58:37

HIGH BAND EDGE BLOCK-10MHz-100%RB

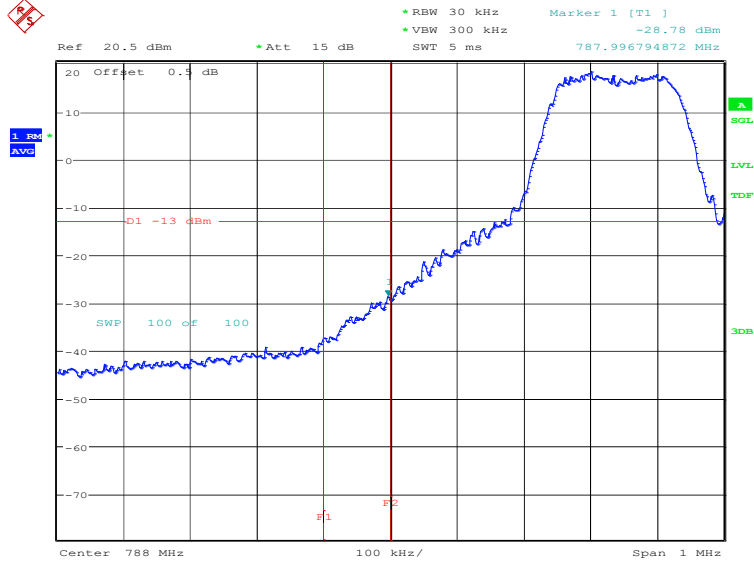


Date: 8.OCT.2023 14:00:10



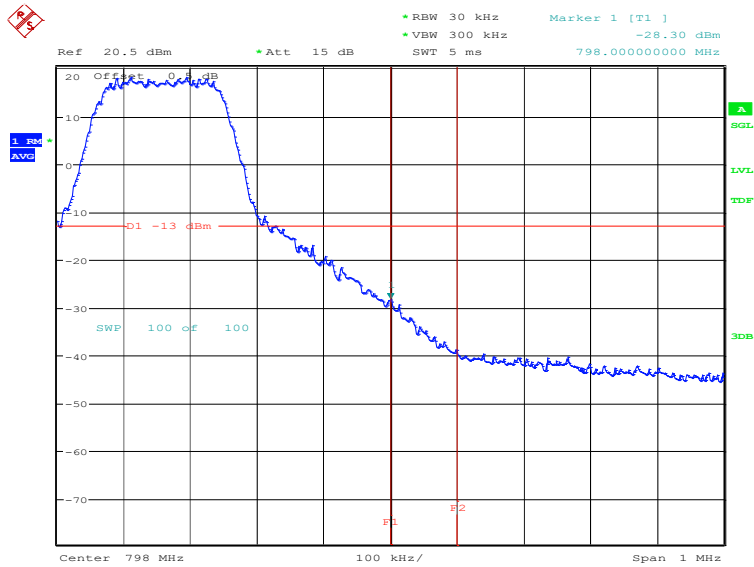
Date: 8.OCT.2023 14:00:50

LTE band 14 LOW BAND EDGE BLOCK-1RB-low_offset



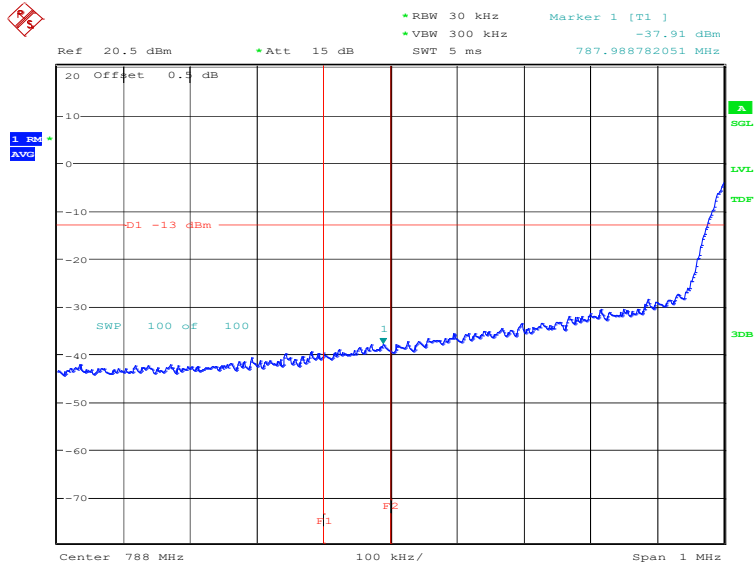
Date: 25.OCT.2023 10:16:43

HIGH BAND EDGE BLOCK-1RB-high_offset



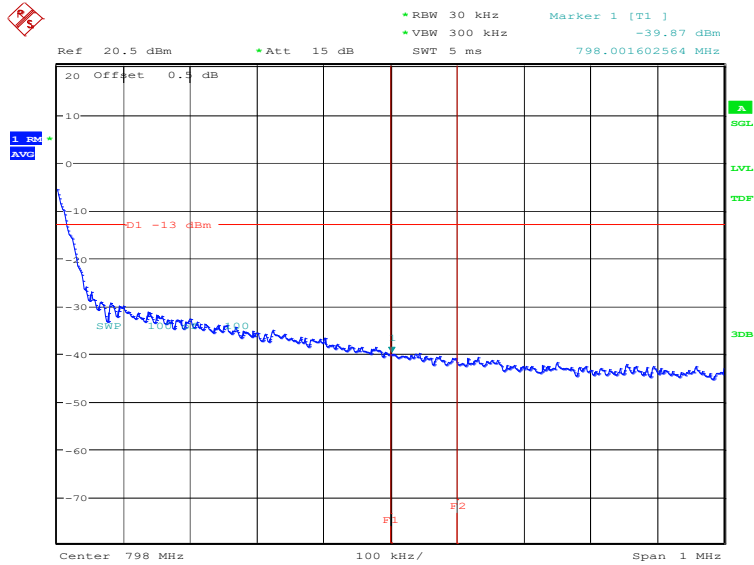
Date: 25.OCT.2023 10:17:20

LOW BAND EDGE BLOCK-10MHz-100%RB



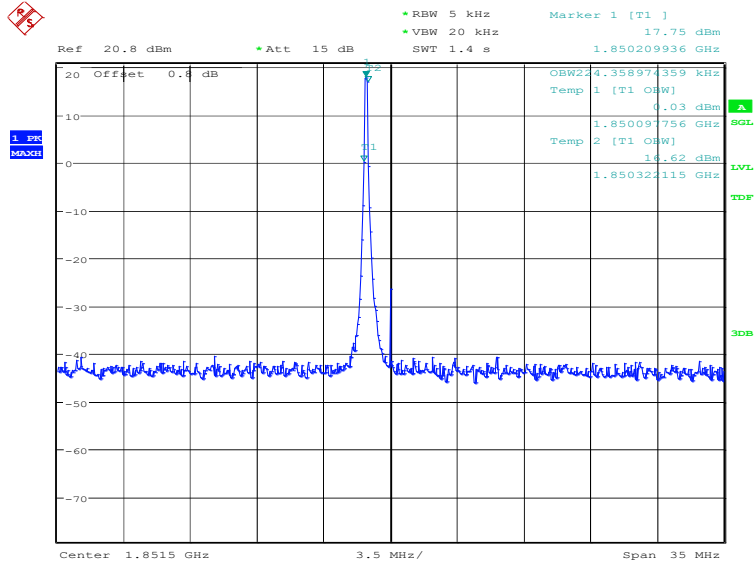
Date: 8.OCT.2023 14:48:04

HIGH BAND EDGE BLOCK-10MHz-100%RB



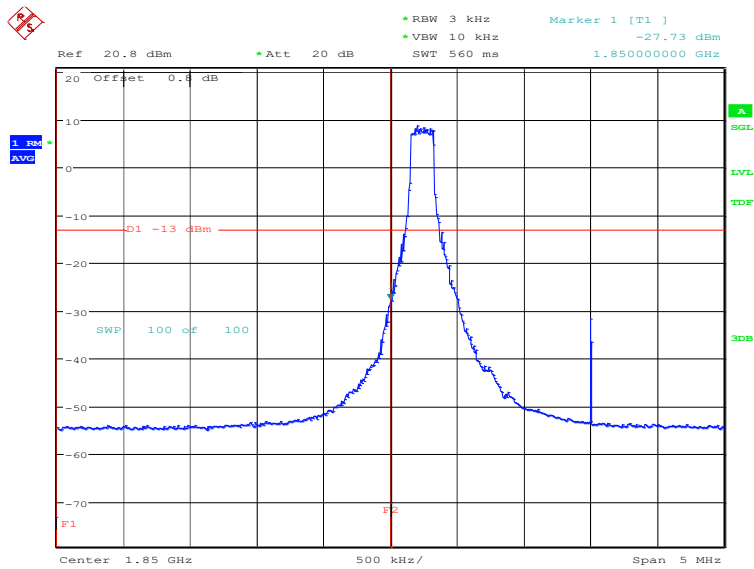
Date: 8.OCT.2023 14:49:40

LTE band 25
OBW: 1RB-low_offset



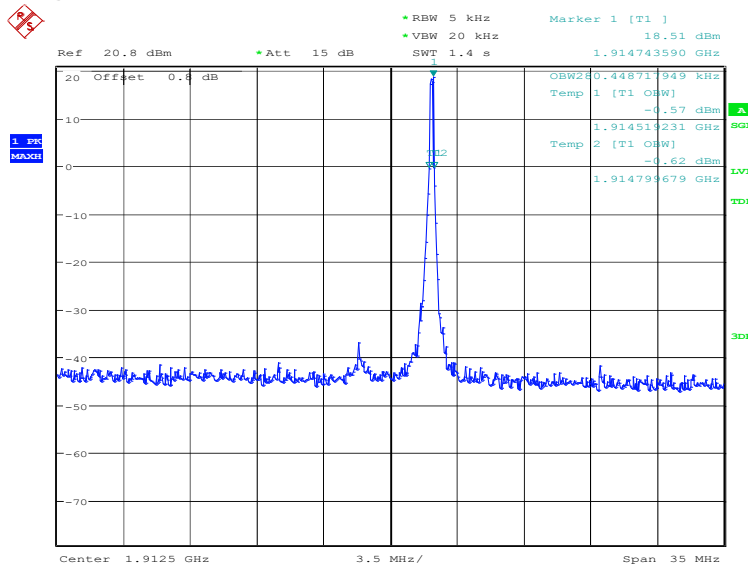
Date: 25.OCT.2023 09:17:10

LOW BAND EDGE BLOCK-1RB-low_offset



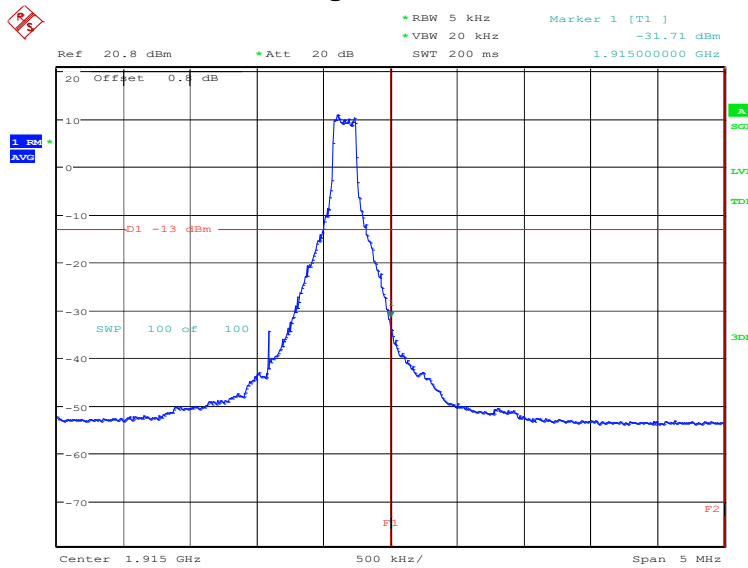
Date: 25.OCT.2023 09:18:24

OBW: 1RB-high_offset



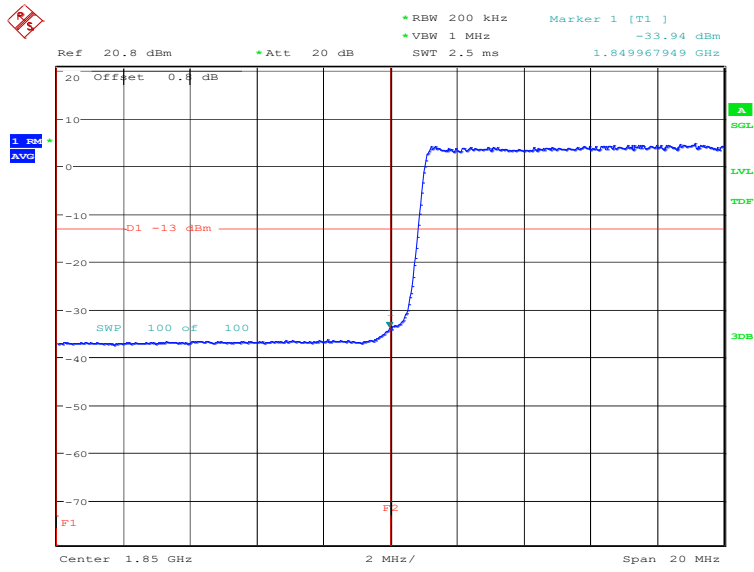
Date: 25.OCT.2023 09:19:16

HIGH BAND EDGE BLOCK-1RB-high_offset



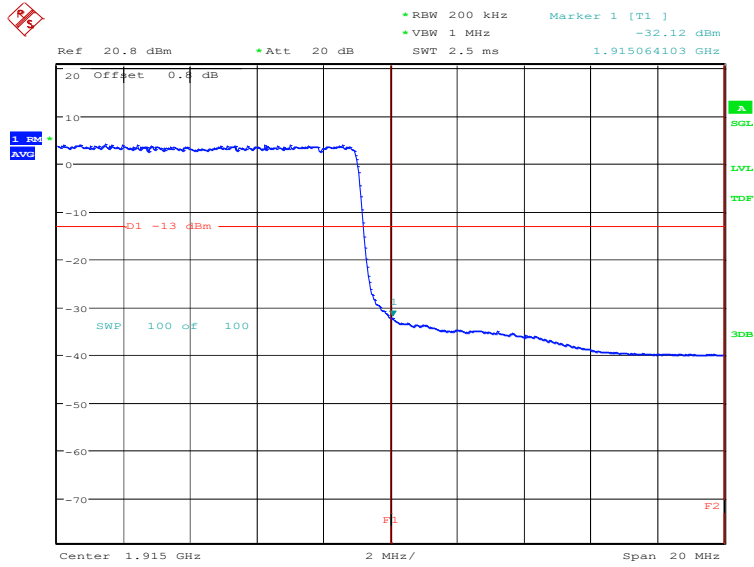
Date: 25.OCT.2023 09:20:31

LOW BAND EDGE BLOCK-20MHz-100%RB



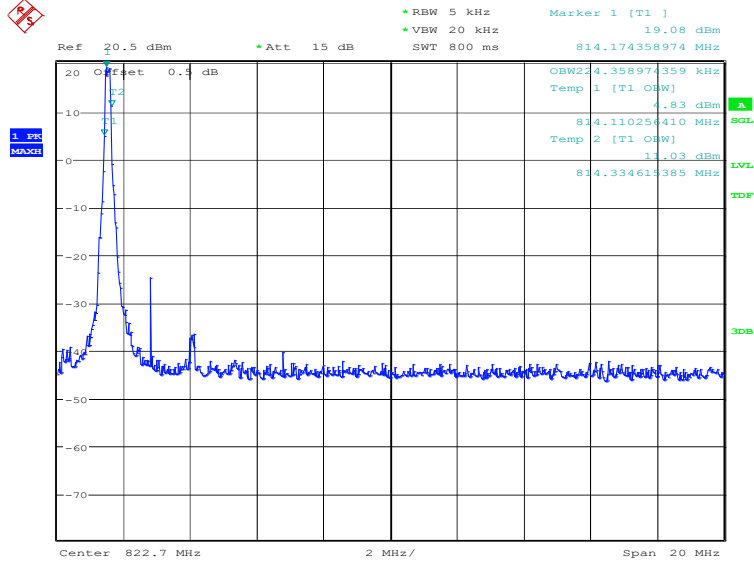
Date: 8.OCT.2023 14:02:33

HIGH BAND EDGE BLOCK-20MHz-100%RB



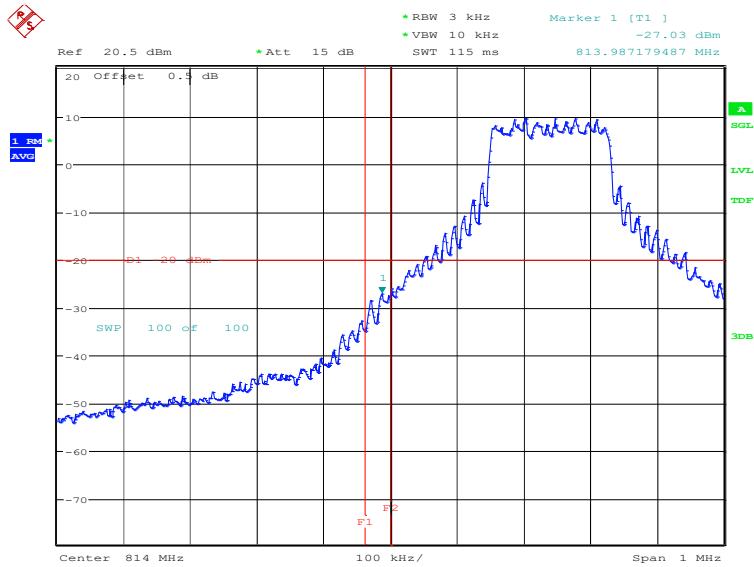
Date: 8.OCT.2023 14:04:06

LTE band 26(814MHz~824MHz)
OBW: 1RB-low_offset



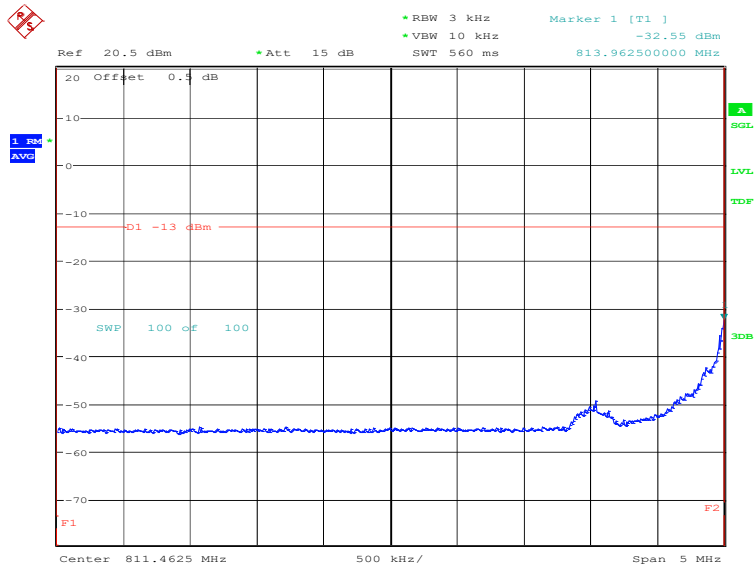
Date: 25.OCT.2023 09:54:21

LOW BAND EDGE BLOCK-1RB-low_offset



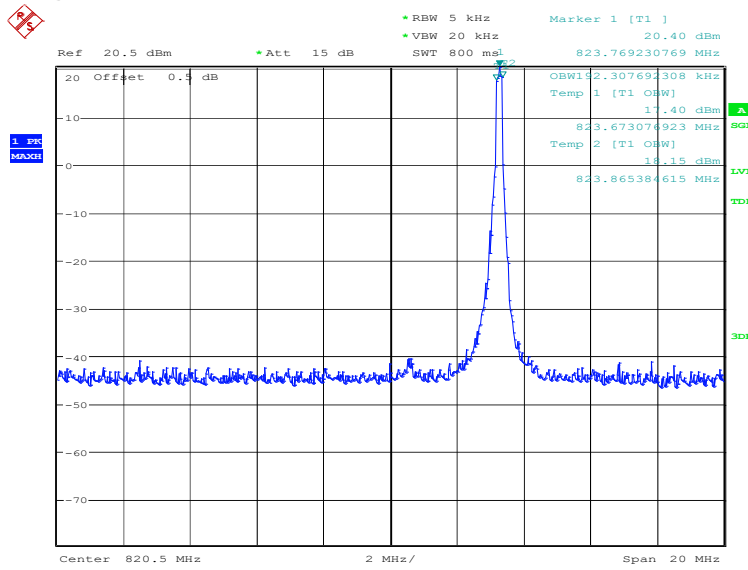
Date: 25.OCT.2023 09:55:53

LOW Emission Mask -1RB-low_offset



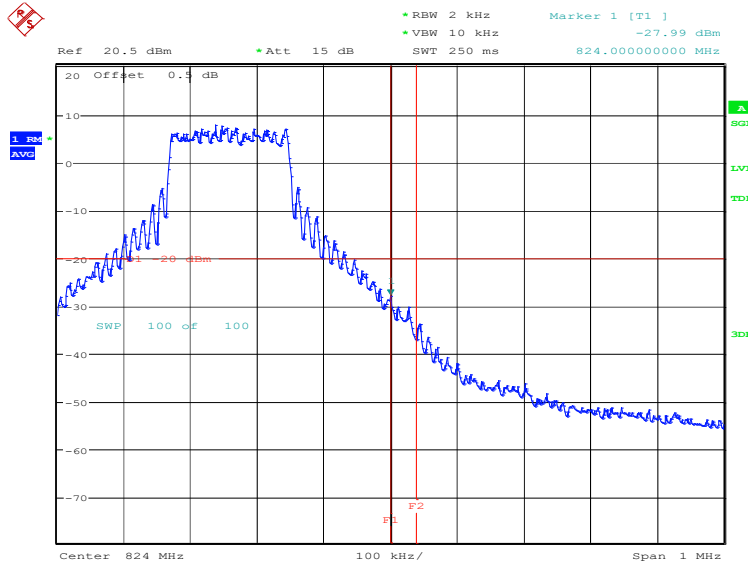
Date: 25.OCT.2023 09:58:11

OBW: 1RB-high_offset



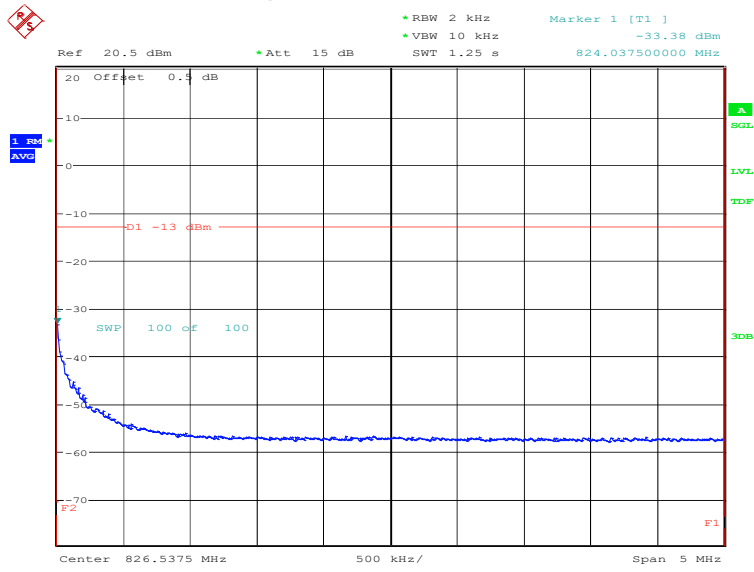
Date: 25.OCT.2023 09:58:48

HIGH BAND EDGE BLOCK-1RB-high_offset



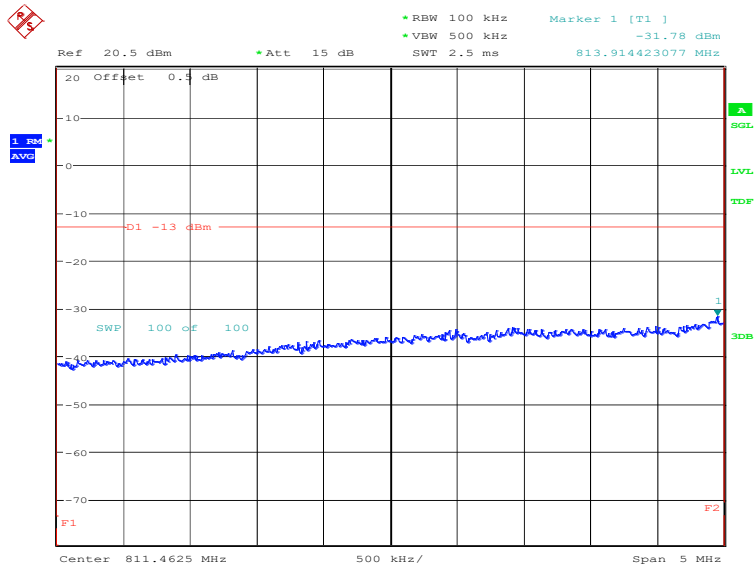
Date: 25.OCT.2023 10:00:34

HIGH Emission Mask -1RB-high_offset



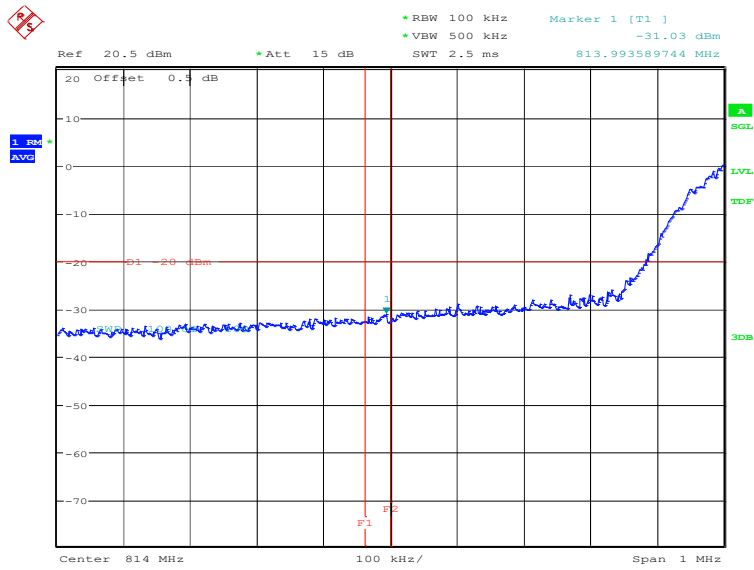
Date: 25.OCT.2023 10:04:00

LOW Emission Mask -10MHz-100%RB



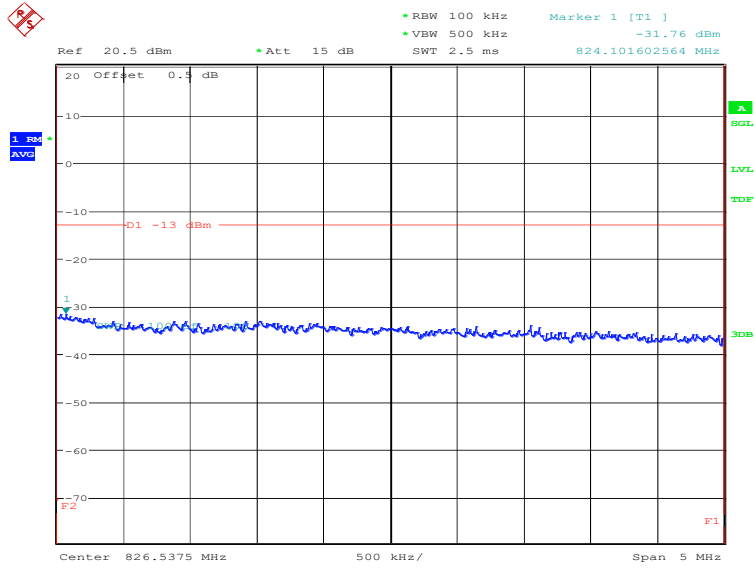
Date: 8.OCT.2023 14:44:24

LOW BAND EDGE BLOCK-10MHz-100%RB



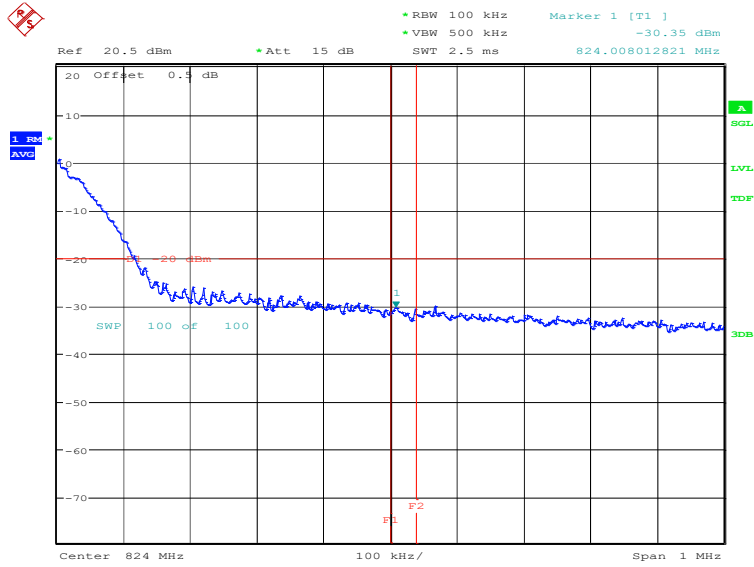
Date: 8.OCT.2023 14:44:01

HIGH Emission Mask -10MHz-100%RB



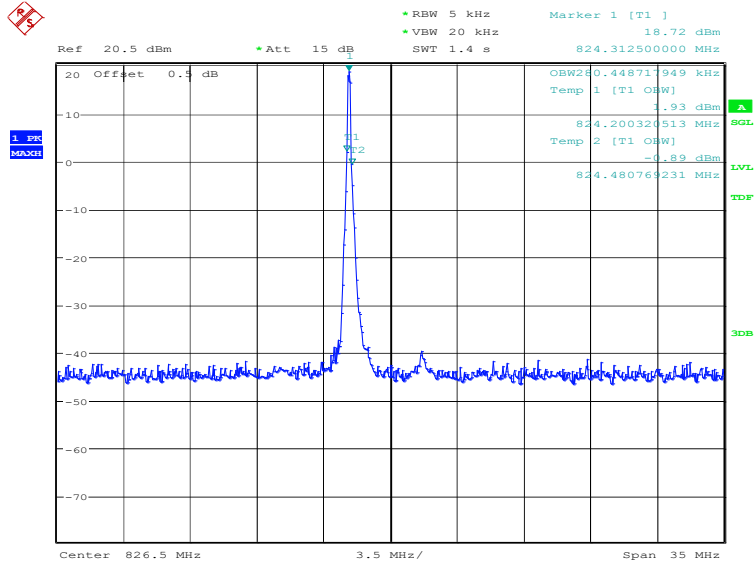
Date: 8.OCT.2023 14:46:23

HIGH BAND EDGE BLOCK-10MHz-100%RB



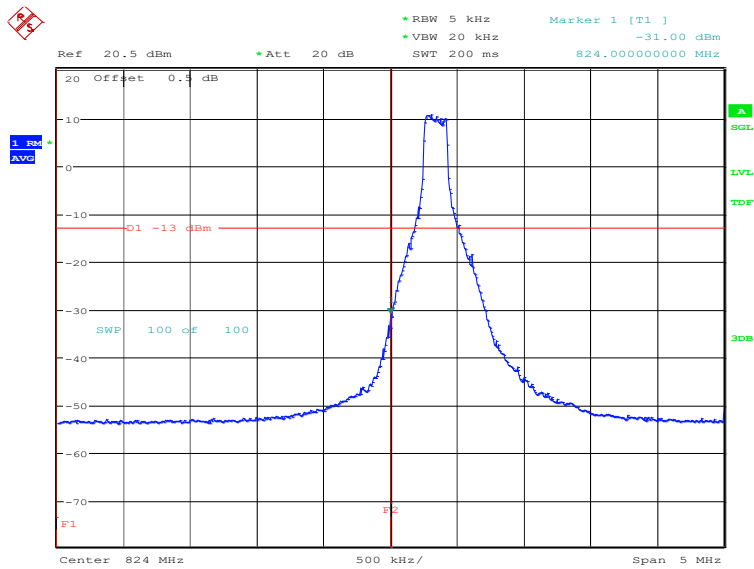
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LTE band 26(824MHz~849MHz)
OBW: 1RB-low_offset



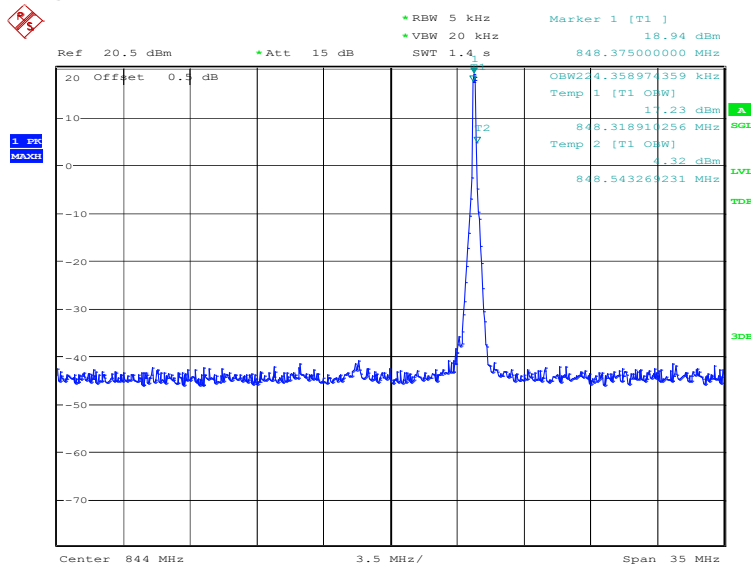
Date: 25.OCT.2023 09:21:12

LOW BAND EDGE BLOCK-1RB-low_offset



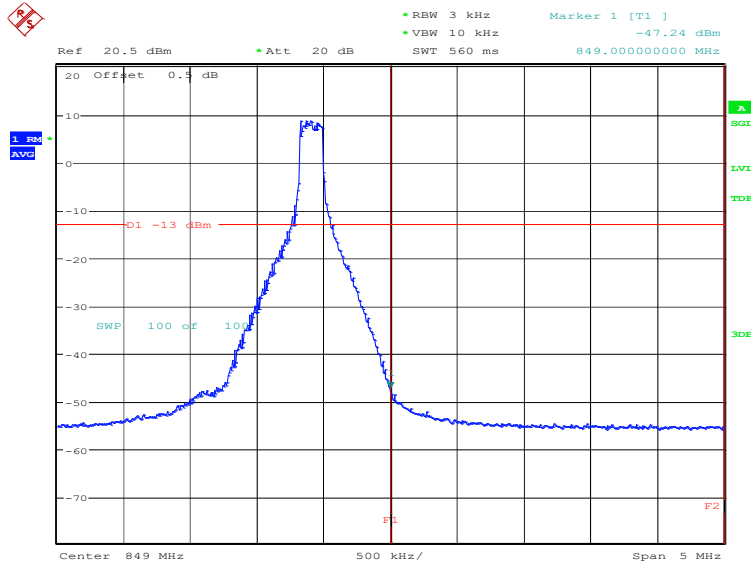
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OBW: 1RB-high_offset



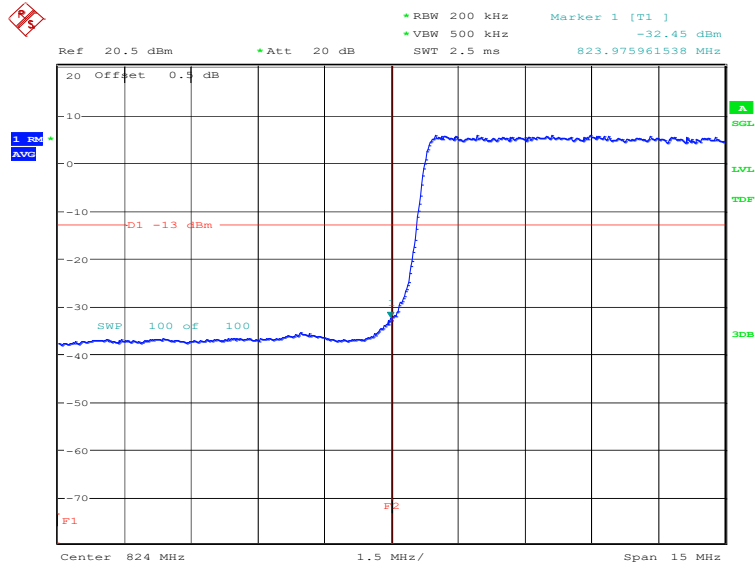
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HIGH BAND EDGE BLOCK-1RB-high_offset



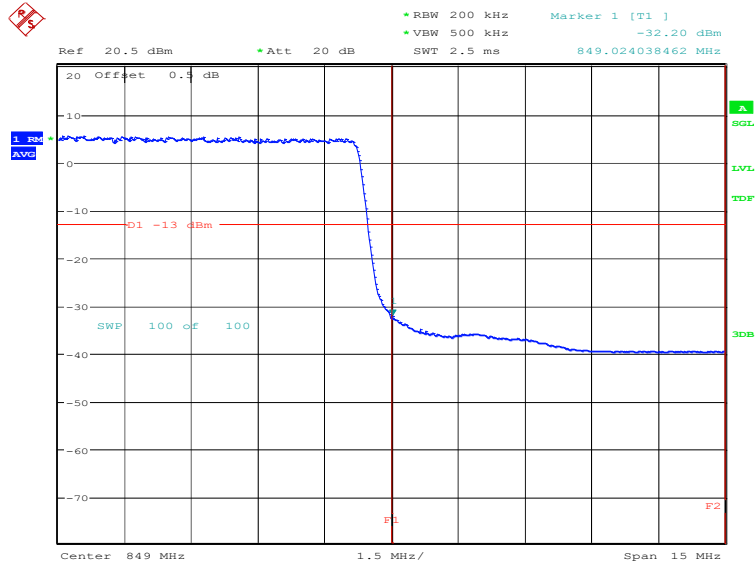
Date: 25.OCT.2023 09:24:22

LOW BAND EDGE BLOCK-15MHz-100%RB



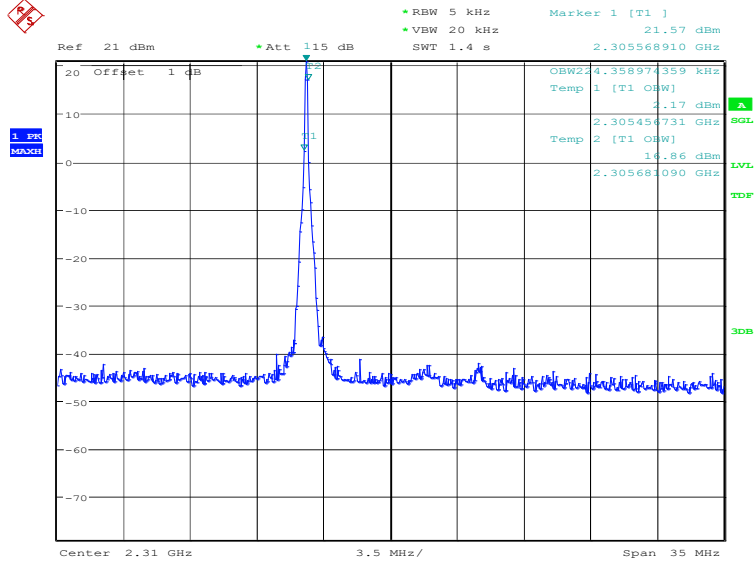
Date: 8.OCT.2023 14:06:38

HIGH BAND EDGE BLOCK-15MHz-100%RB



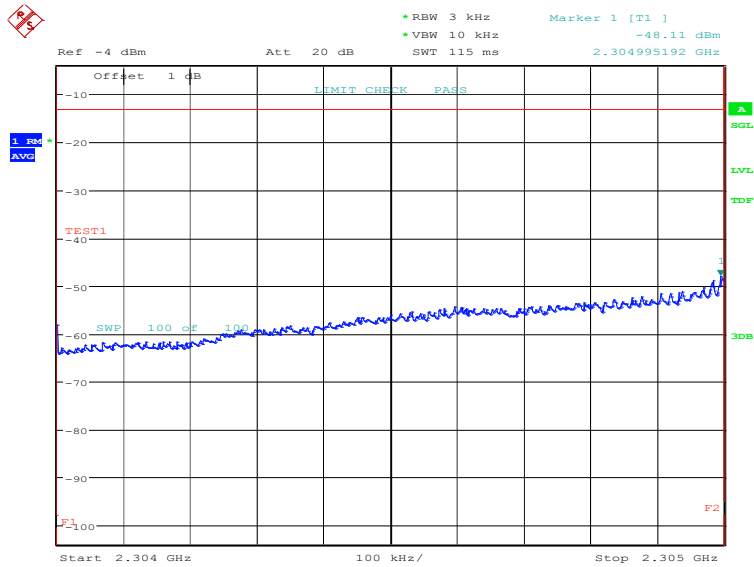
Date: 8.OCT.2023 14:08:12

LTE band 30
OBW: 1RB-low_offset

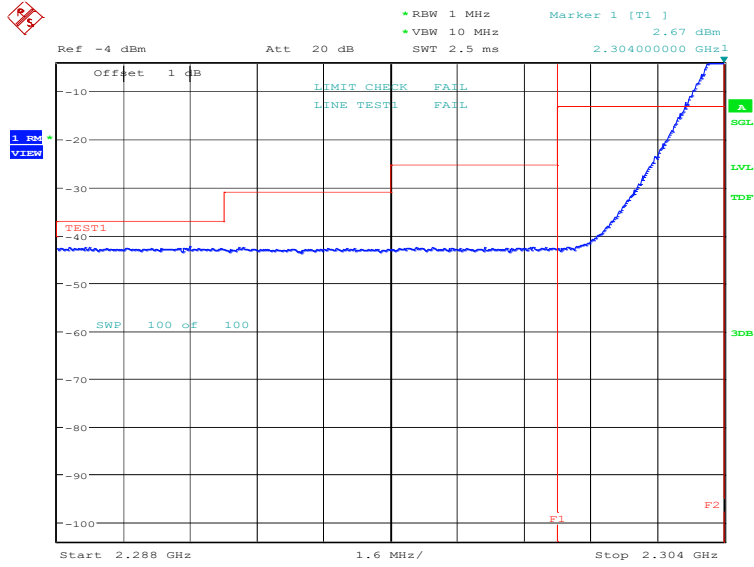


Date: 25.OCT.2023 08:34:14

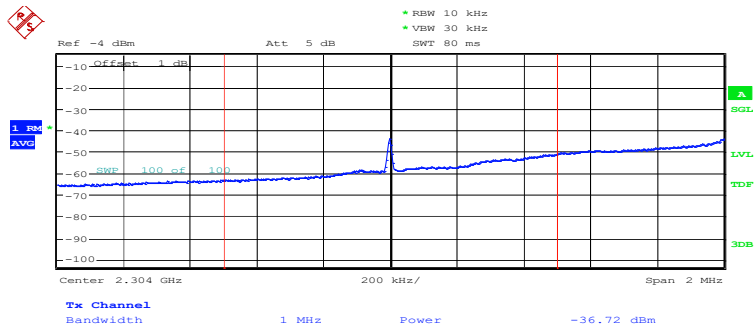
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 25.OCT.2023 08:35:43

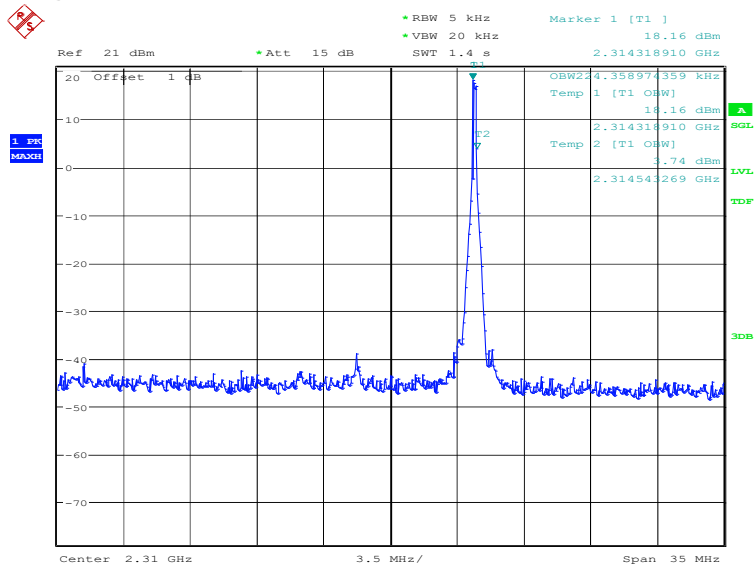


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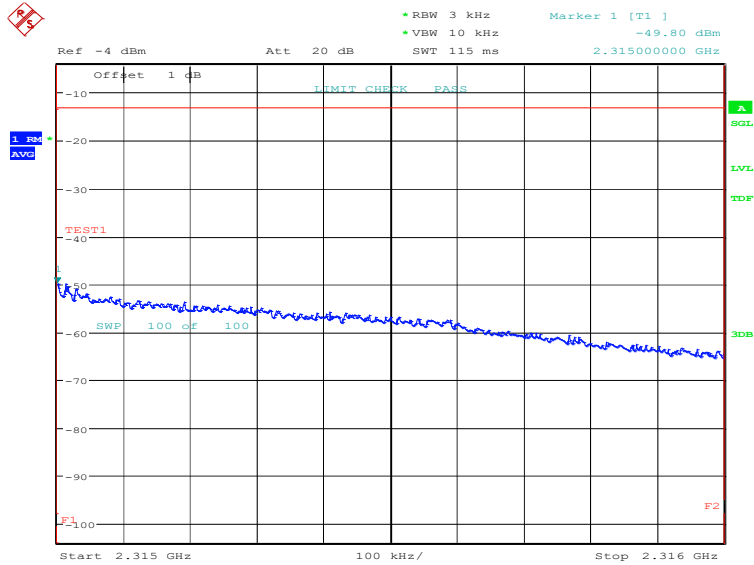
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OBW: 1RB-high_offset

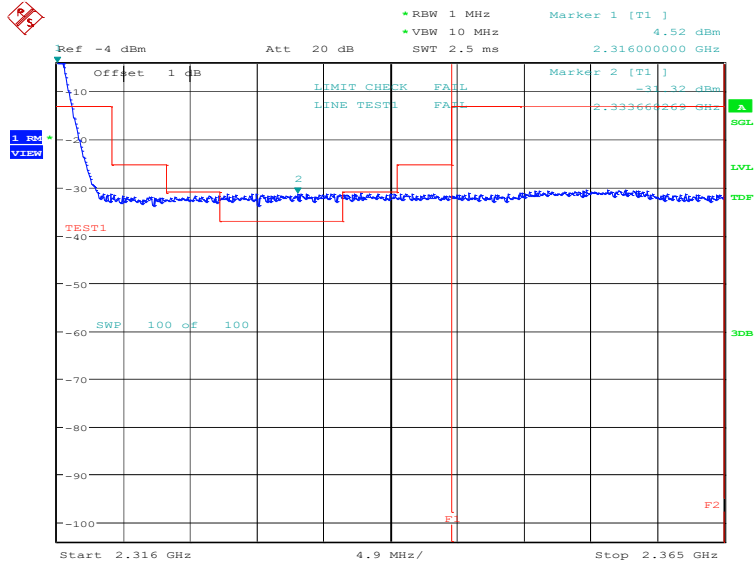


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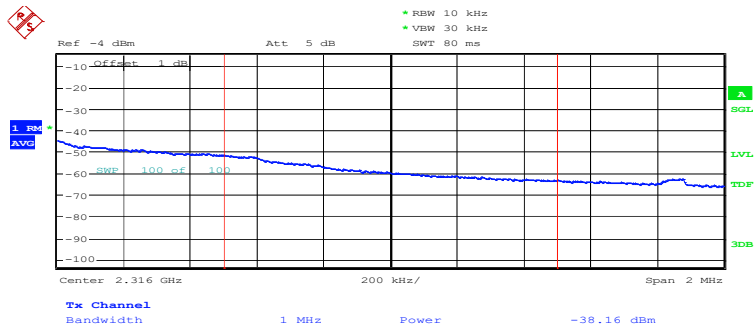
HIGH BAND EDGE BLOCK-1RB-high_offset



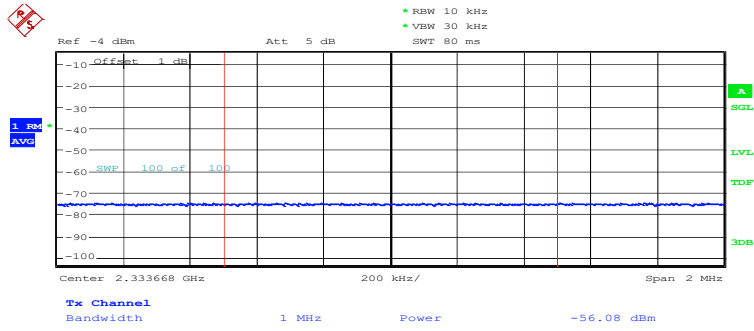
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Date: 25.OCT.2023 08:42:07

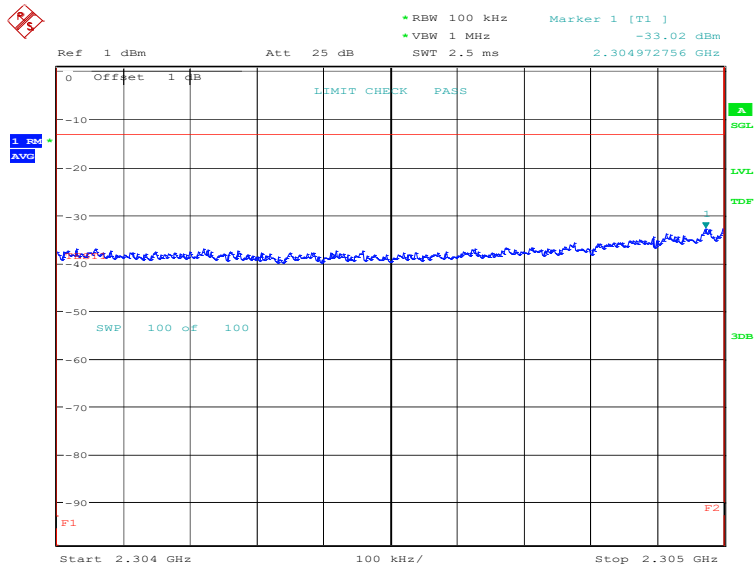


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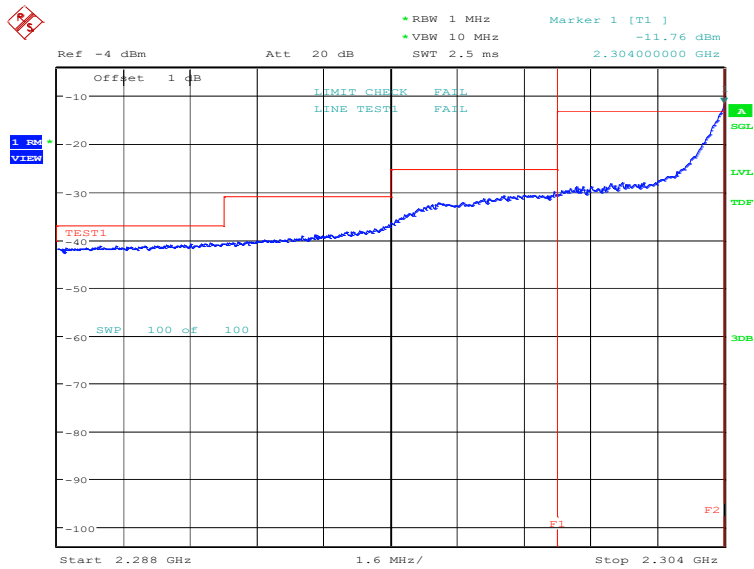


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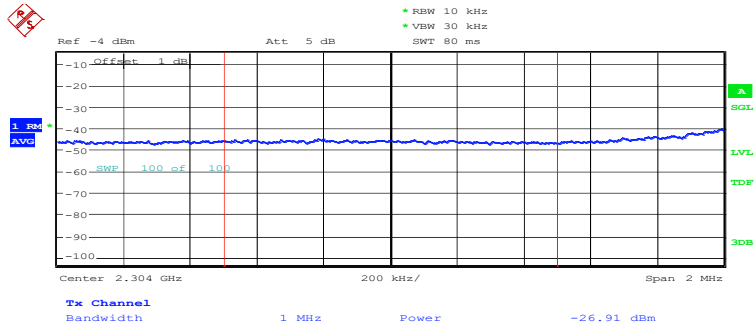
LOW BAND EDGE BLOCK-10MHz-100%RB



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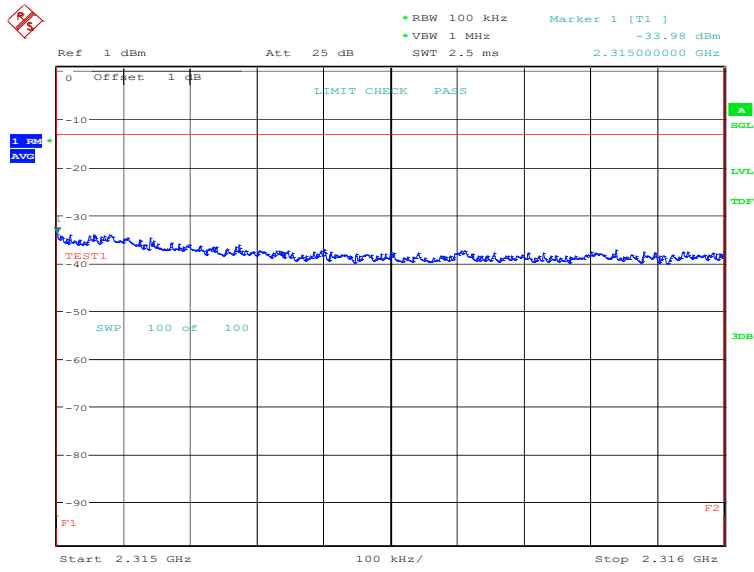


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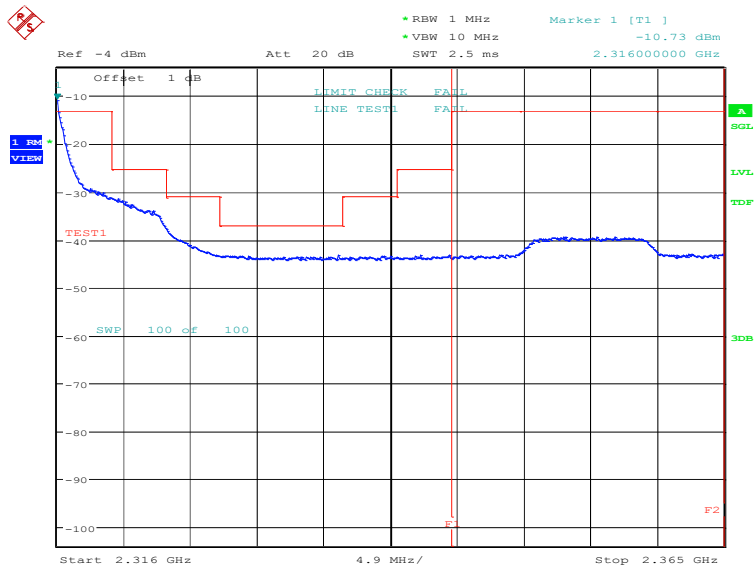


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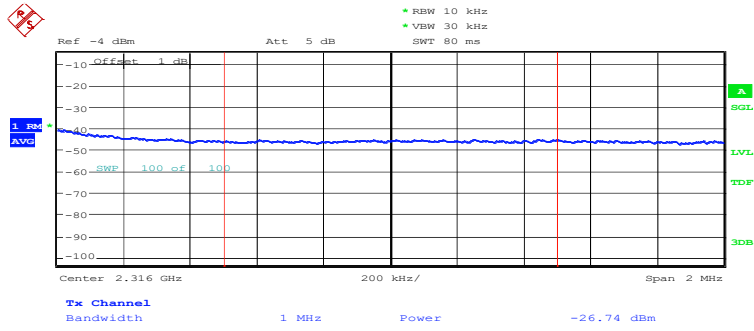
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 8.OCT.2023 15:47:25

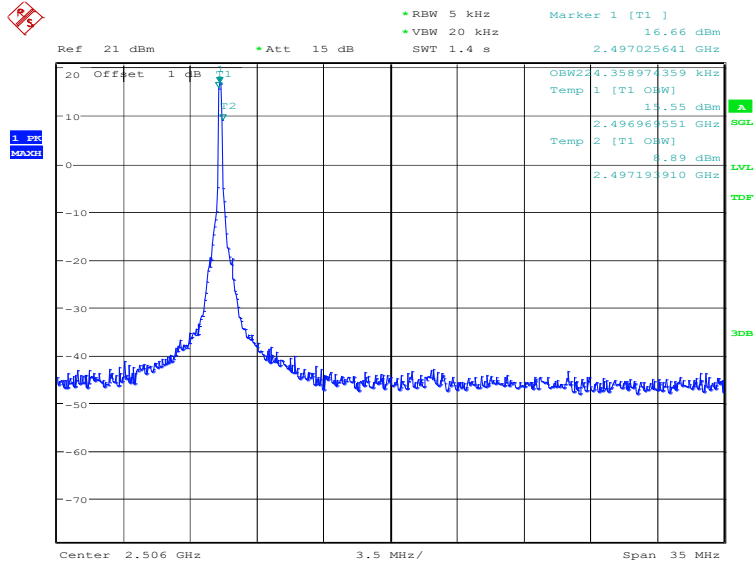


Date: 8.OCT.2023 15:49:24



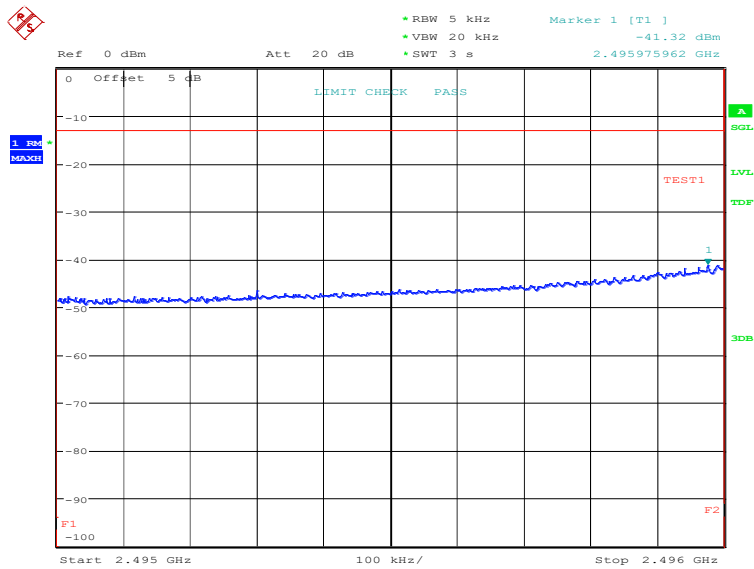
Date: 8.OCT.2023 15:49:52

LTE band 41
OBW: 1RB-low_offset

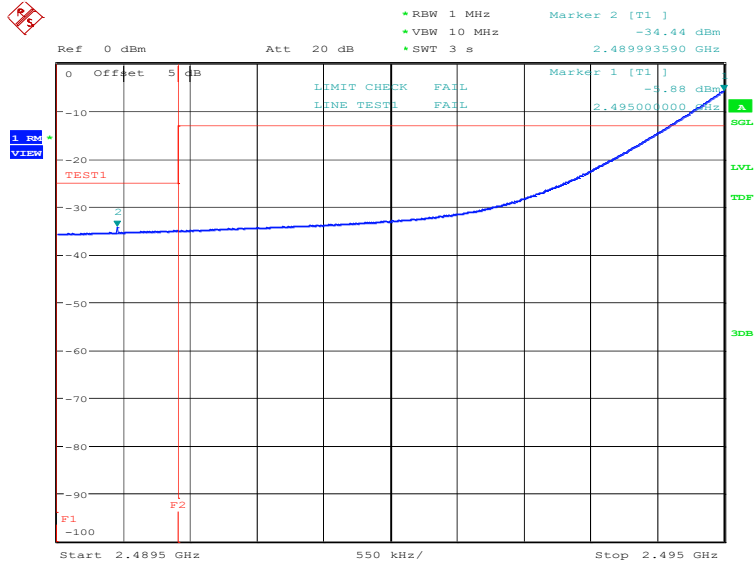


Date: 25.OCT.2023 10:22:45

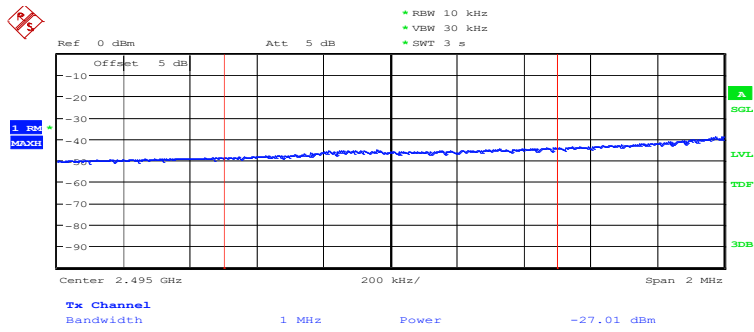
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 25.OCT.2023 10:23:27

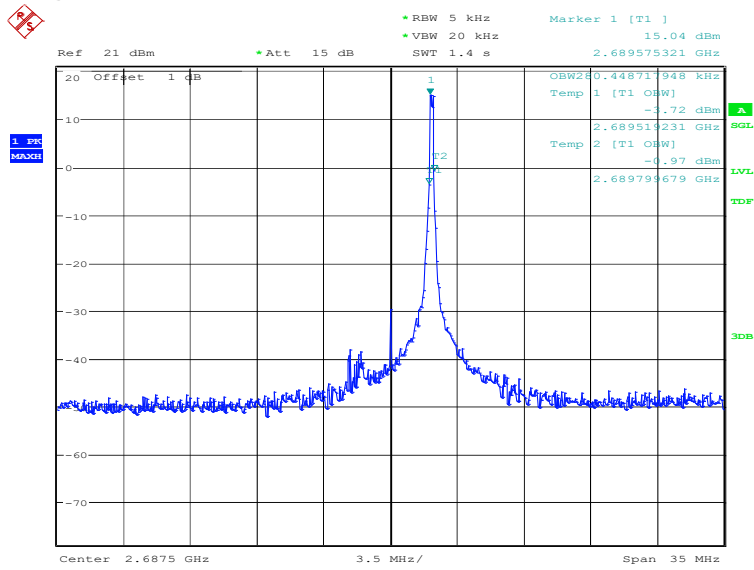


Date: 25.OCT.2023 10:24:11



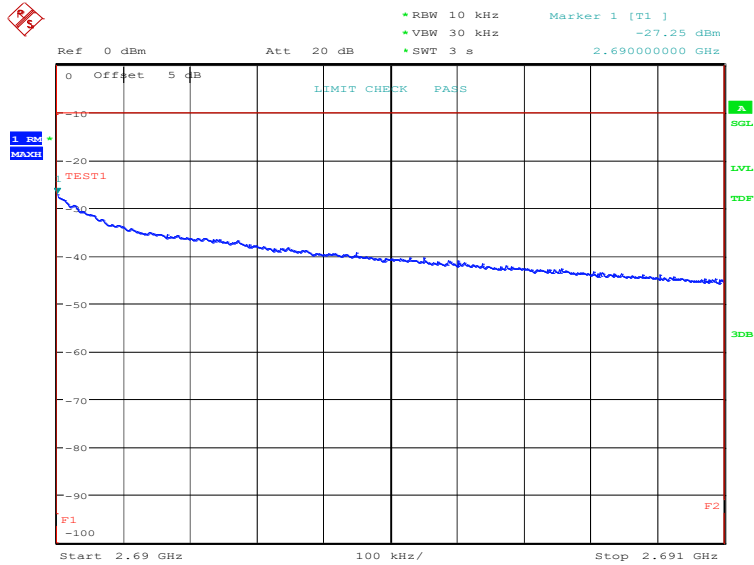
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OBW: 1RB-high_offset

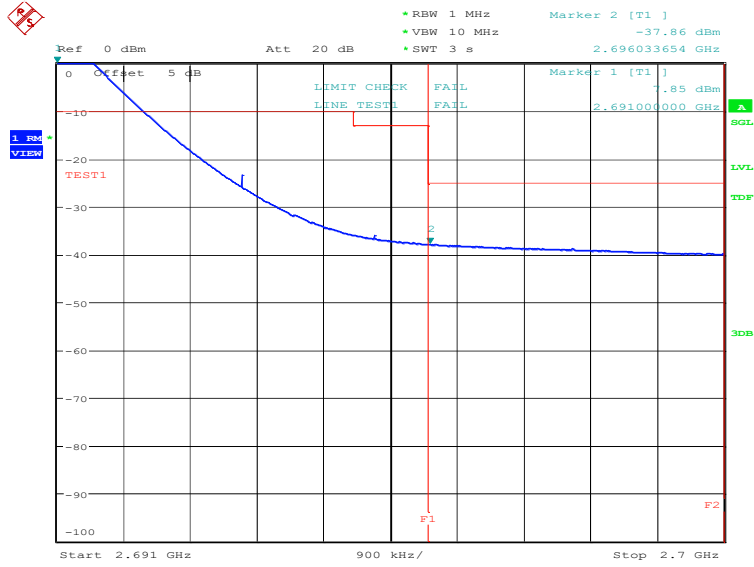


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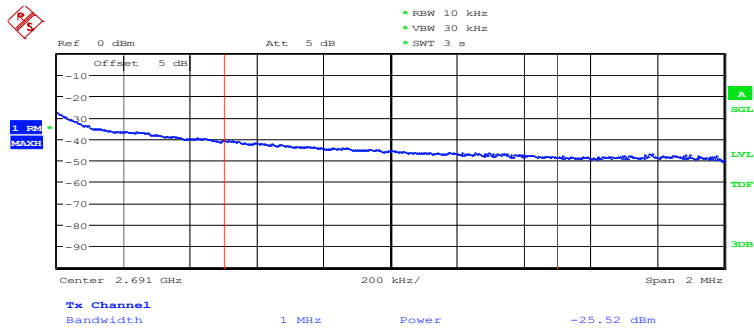
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 25.OCT.2023 10:26:29

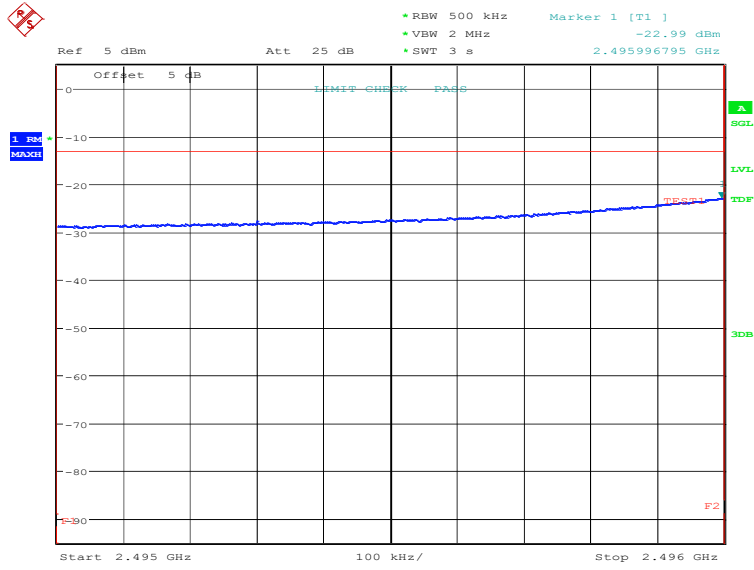


Date: 25.OCT.2023 10:27:16

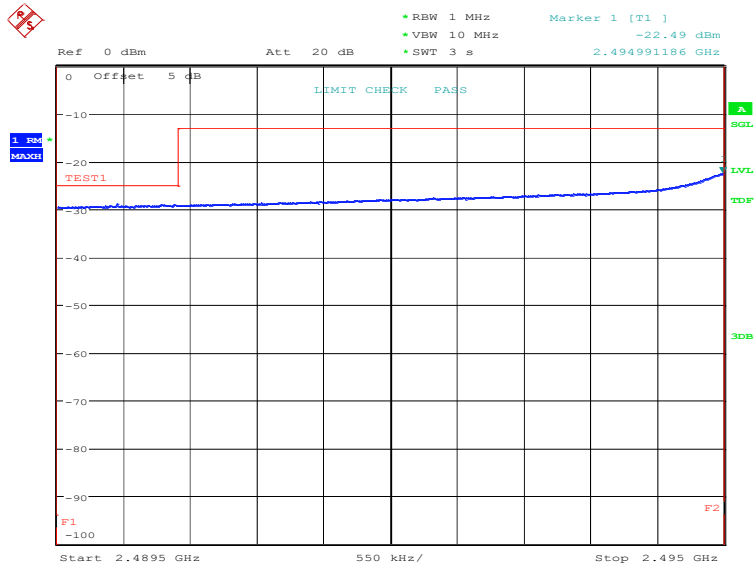


Date: 25.OCT.2023 10:27:34

LOW BAND EDGE BLOCK-20MHz-100%RB

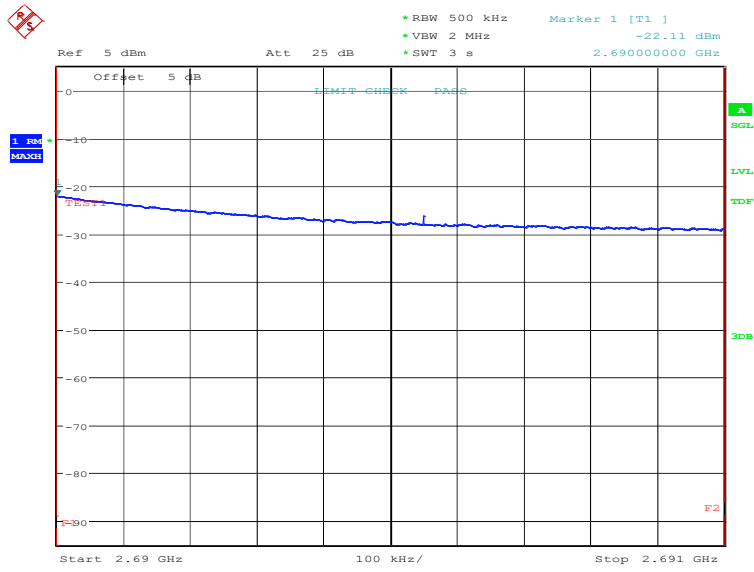


Date: 8.OCT.2023 16:20:36

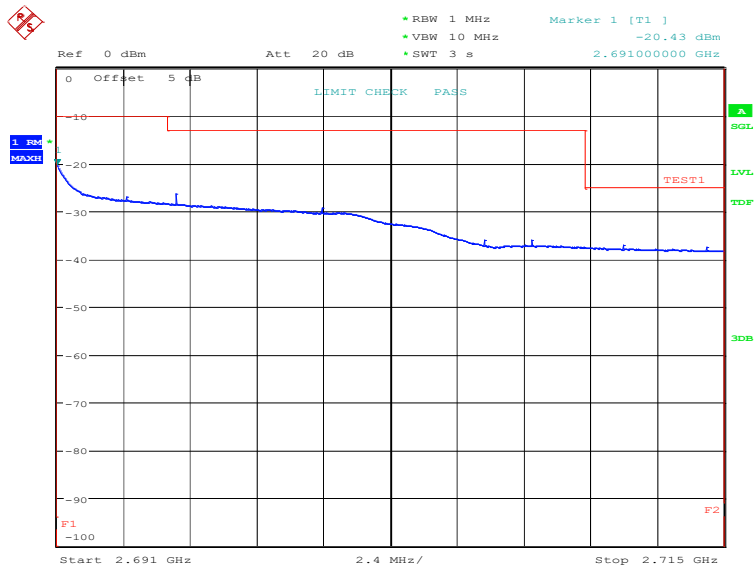


Date: 8.OCT.2023 16:21:15

HIGH BAND EDGE BLOCK-20MHz-100%RB

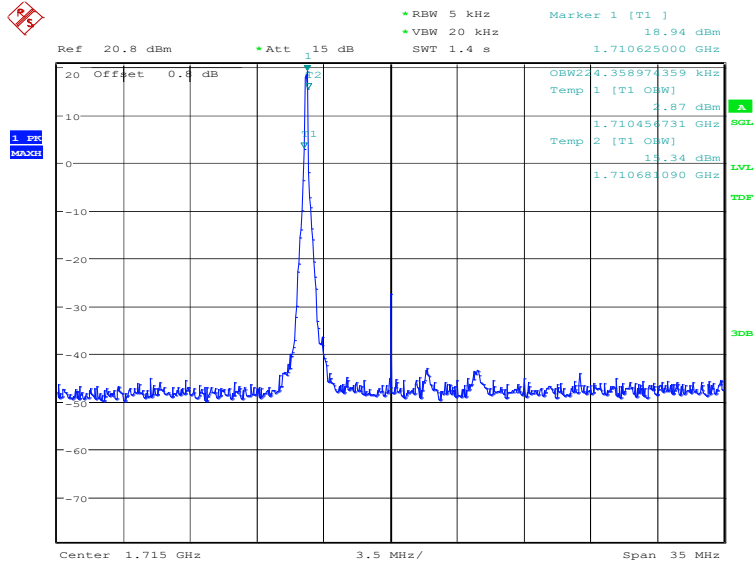


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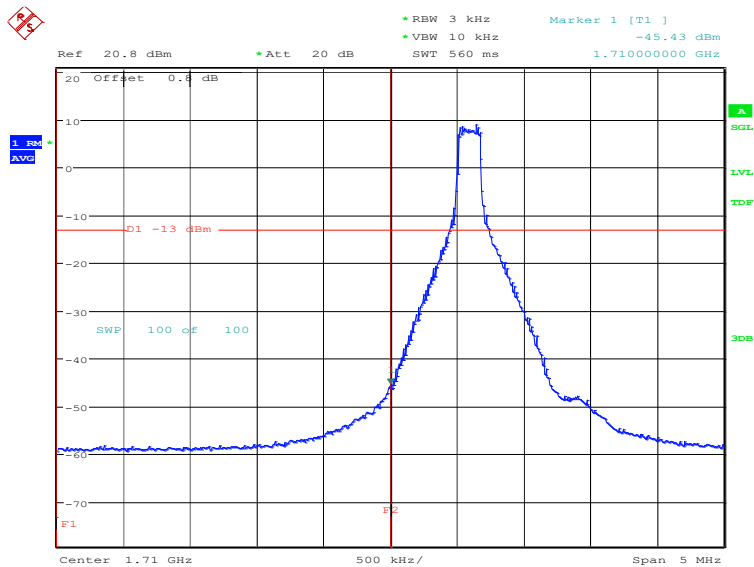
Date: 8.OCT.2023 16:23:50

LTE band 66
OBW: 1RB-low_offset



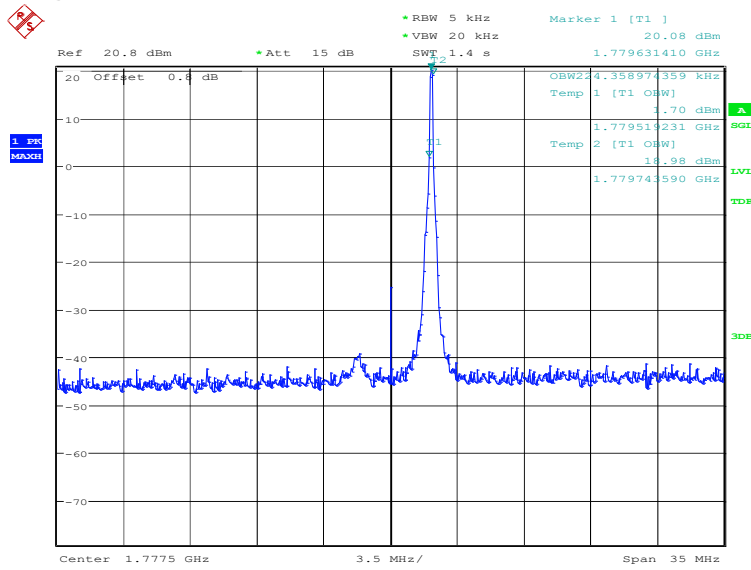
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LOW BAND EDGE BLOCK-1RB-low_offset



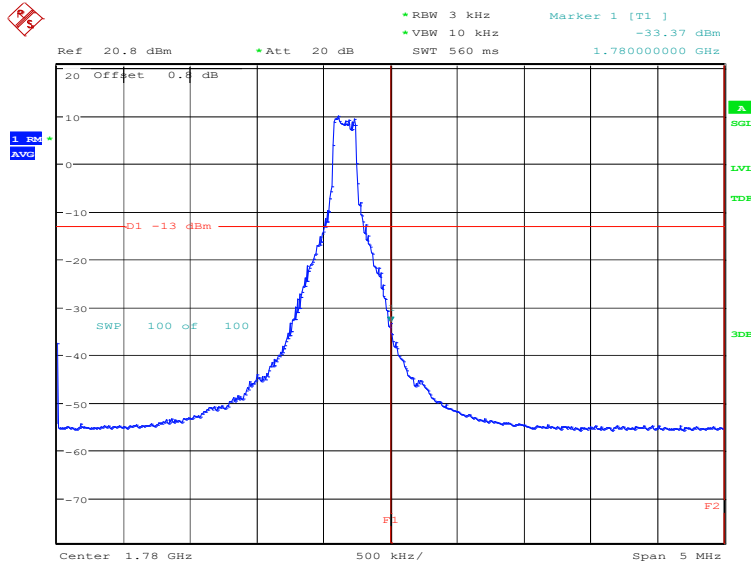
Date: 25.OCT.2023 09:27:01

OBW: 1RB-high_offset



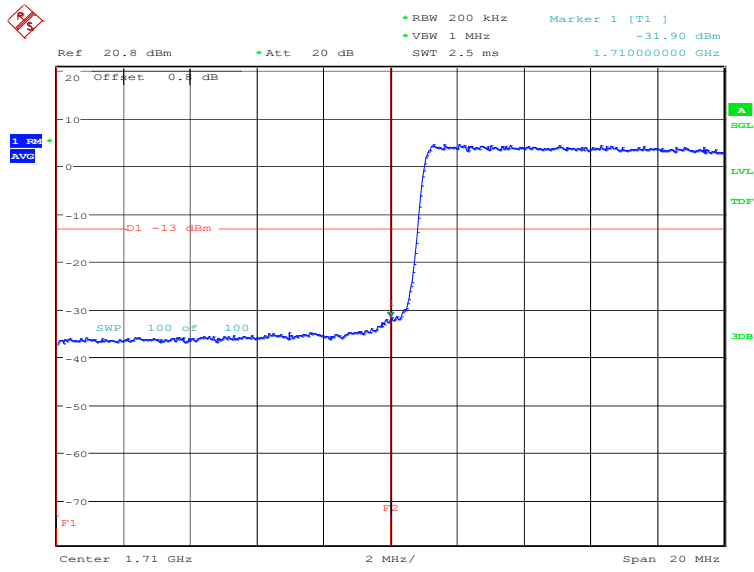
Date: 25.OCT.2023 09:28:20

HIGH BAND EDGE BLOCK-1RB-high_offset



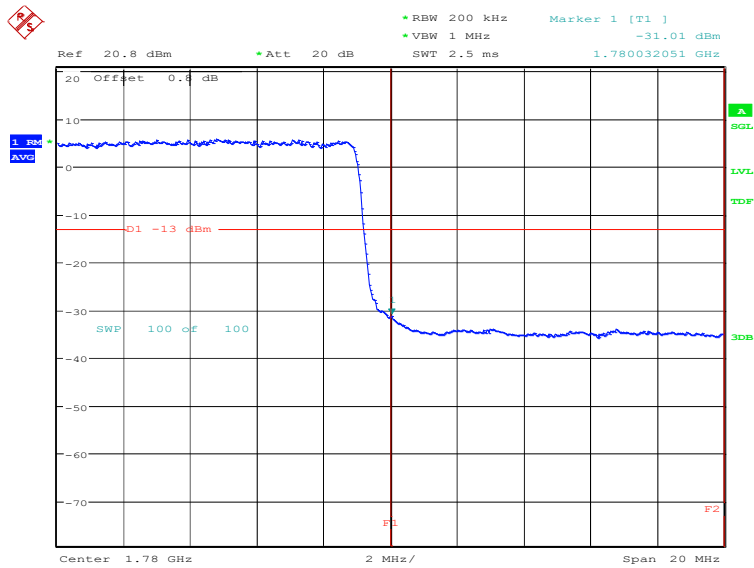
Date: 25.OCT.2023 09:29:35

LOW BAND EDGE BLOCK-20MHz-100%RB



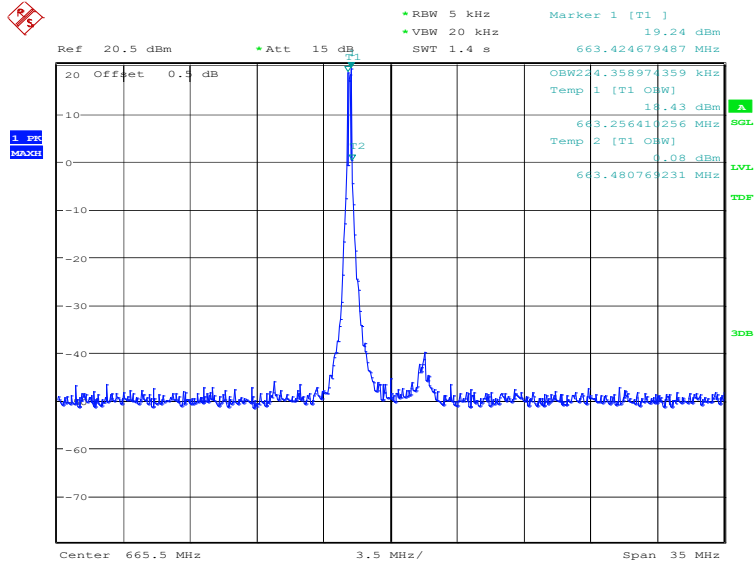
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HIGH BAND EDGE BLOCK-20MHz-100%RB



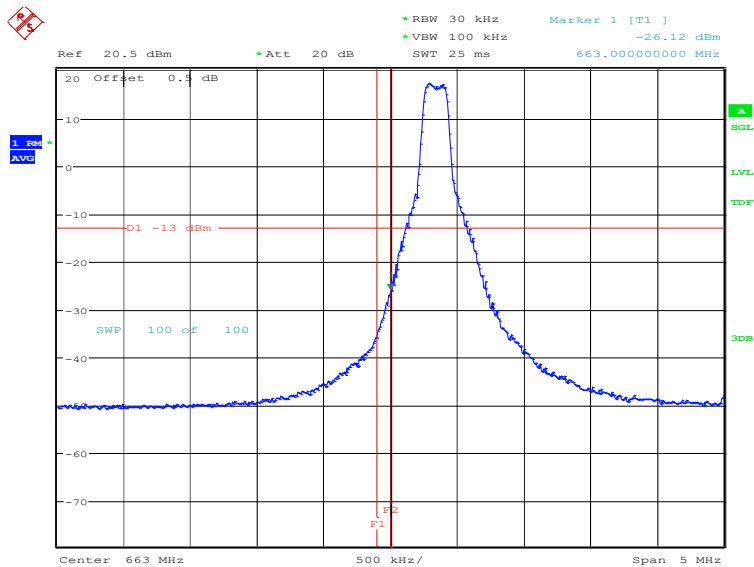
Date: 8.OCT.2023 14:11:29

LTE band 71
OBW: 1RB-low_offset



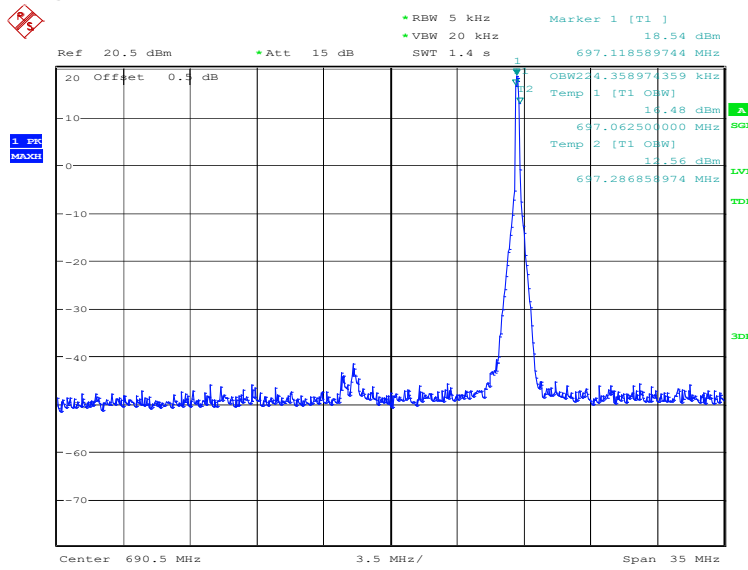
Date: 25.OCT.2023 08:48:54

LOW BAND EDGE BLOCK-1RB-low_offset



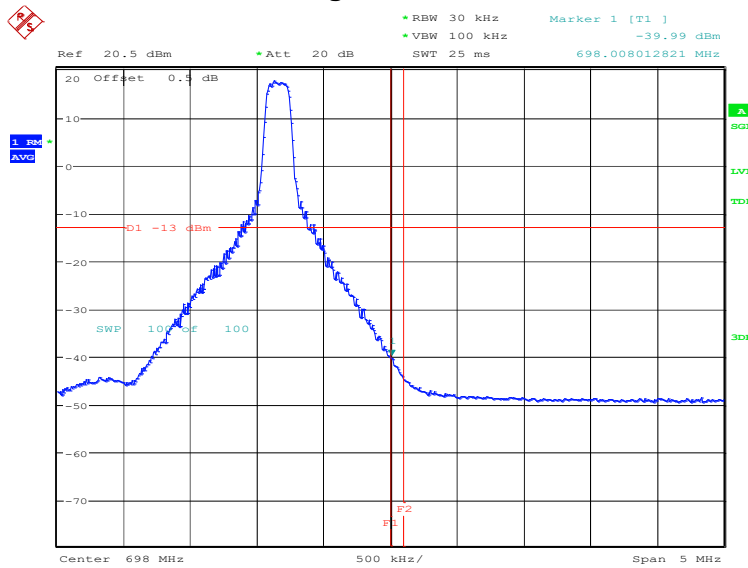
Date: 25.OCT.2023 08:49:13

OBW: 1RB-high_offset



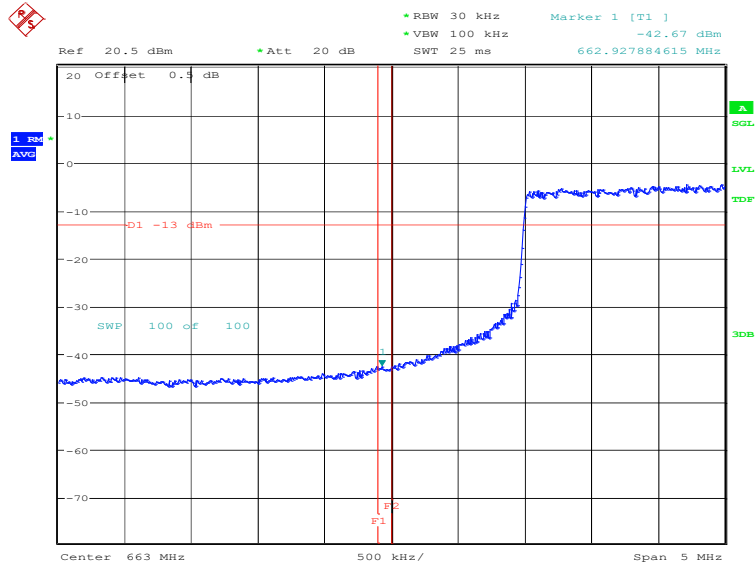
Date: 25.OCT.2023 08:49:54

HIGH BAND EDGE BLOCK-1RB-high_offset



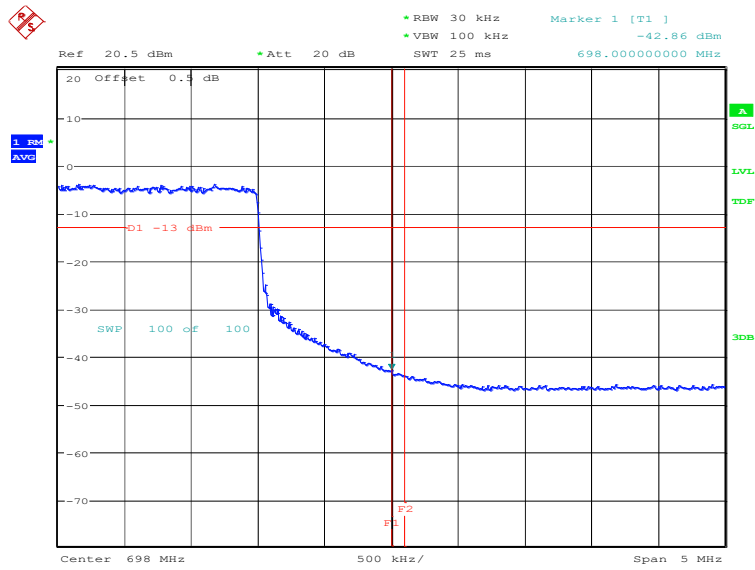
Date: 25.OCT.2023 08:50:14

LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 8.OCT.2023 13:40:21

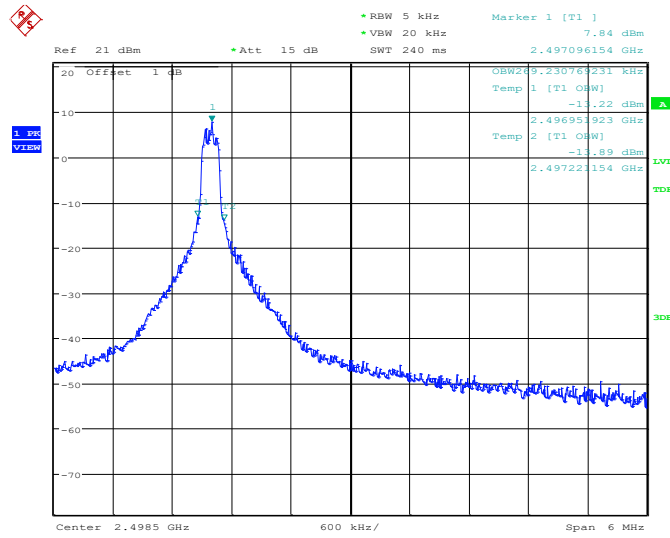
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 8.OCT.2023 13:41:54

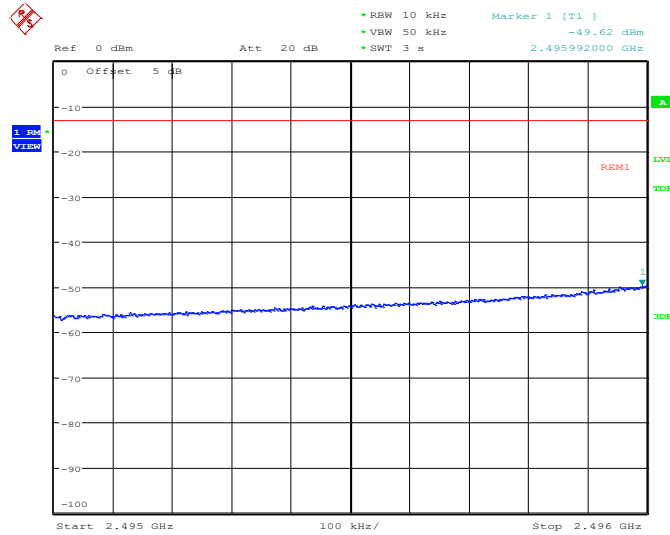
LTE CA band 41C

OBW: 1RB-low_offset

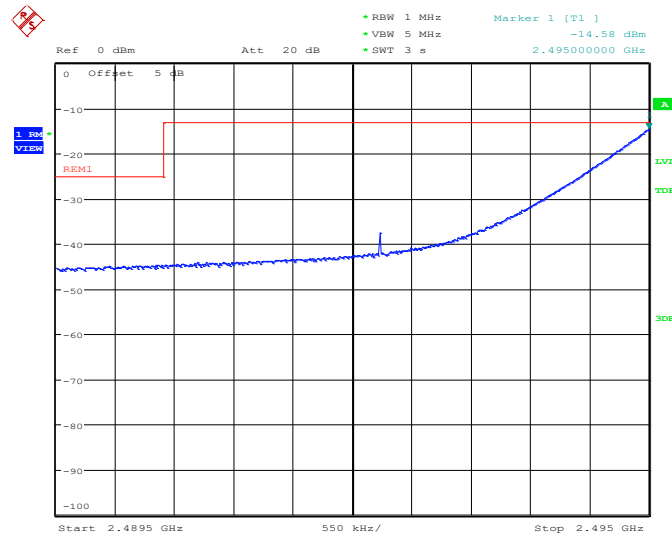


Date: 30.OCT.2023 16:25:16

LOW BAND EDGE BLOCK-1RB-low_offset

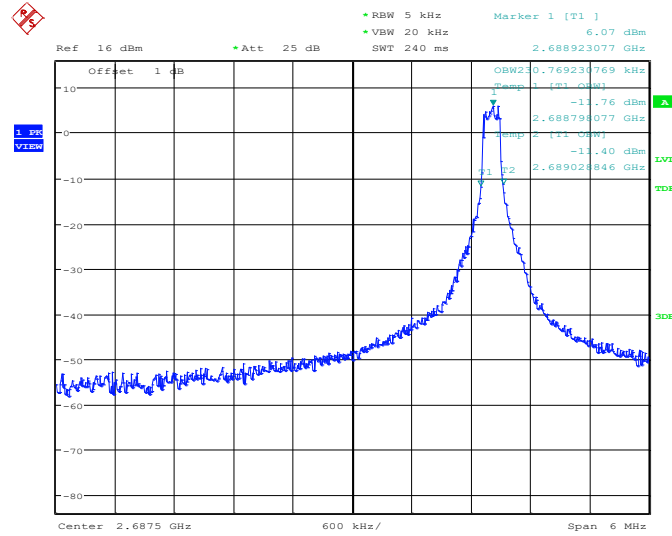


Date: 30.OCT.2023 16:25:57



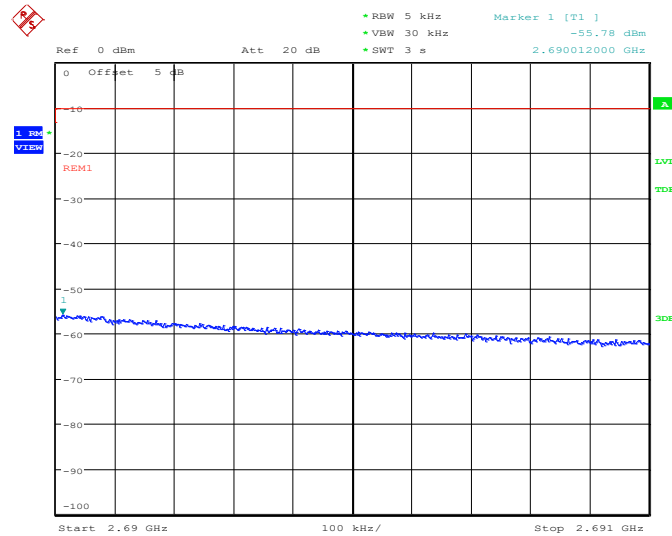
Date: 30.OCT.2023 16:26:39

OBW: 1RB-high_offset

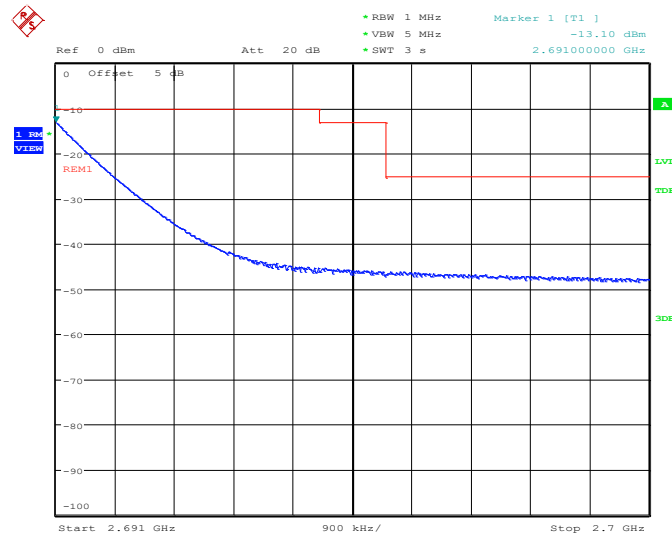


Date: 30.OCT.2023 16:27:34

HIGH BAND EDGE BLOCK-1RB-high_offset

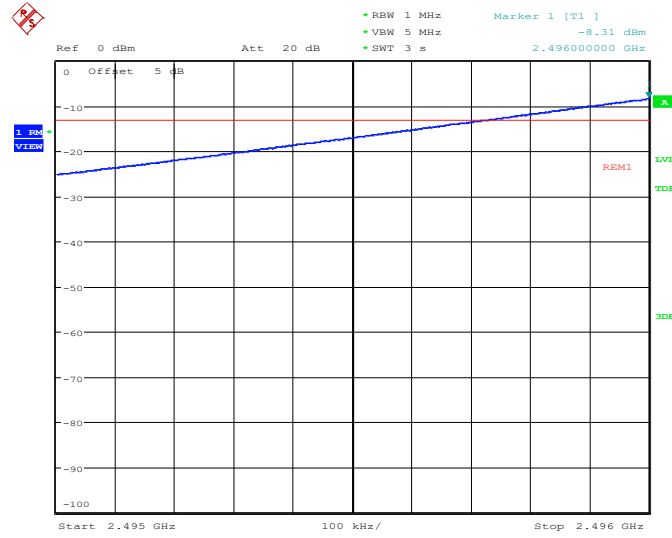


Date: 30.OCT.2023 16:28:16



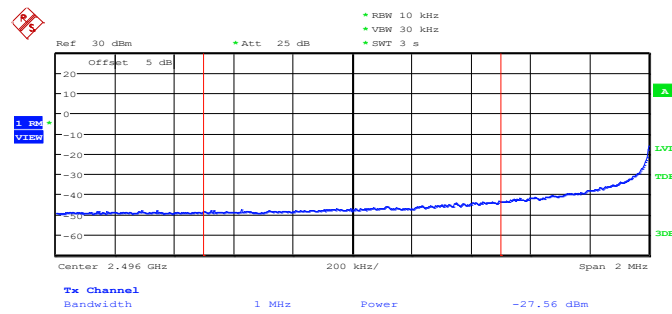
Date: 30.OCT.2023 16:28:58

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

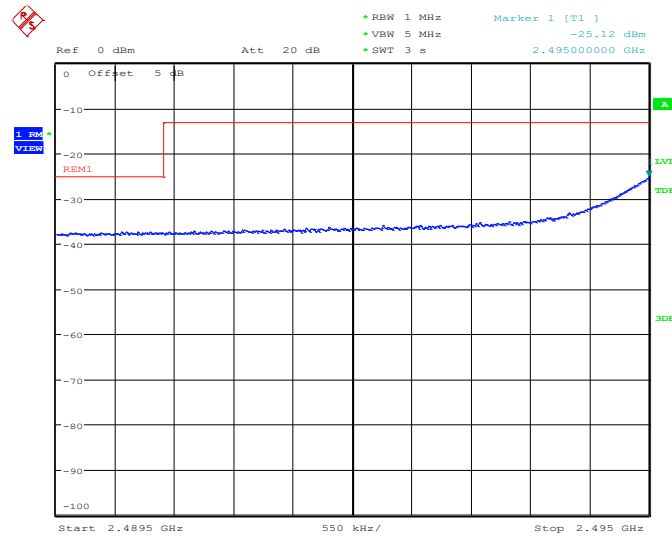


Date: 30.OCT.2023 16:30:19

Channel power

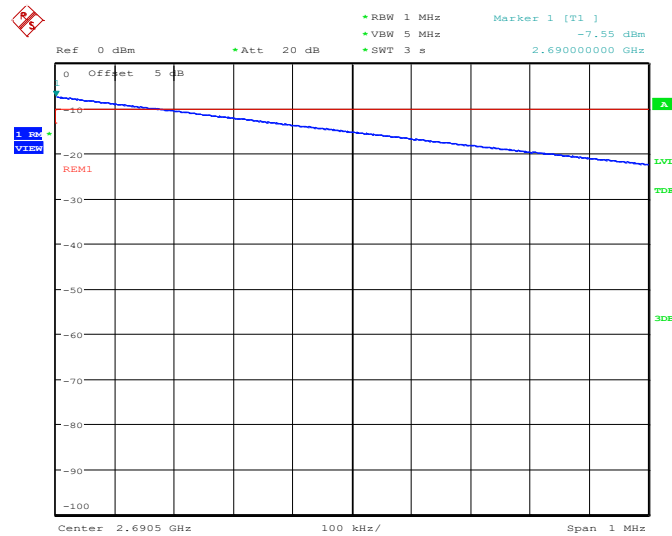


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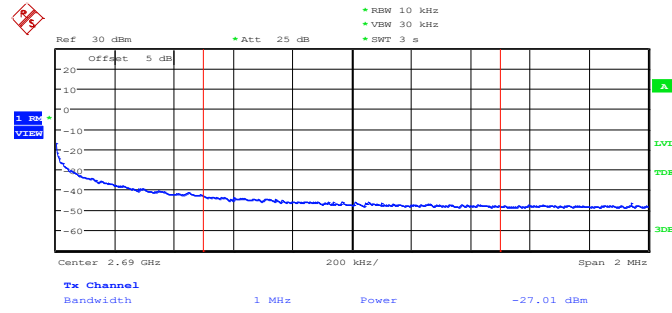
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HIGH BAND EDGE BLOCK-20MHz+20MHz-100%RB



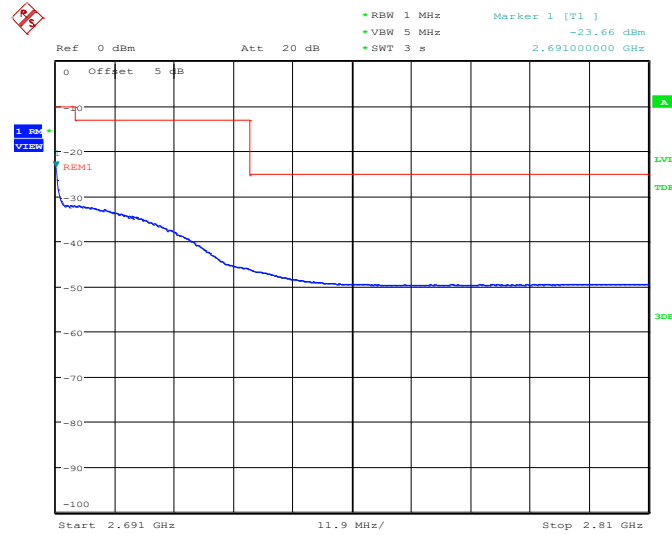
Date: 31.OCT.2023 09:01:21

Channel power



Date: 31.OCT.2023 09:01:47

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



Date: 31.OCT.2023 09:02:56

Note: Expanded measurement uncertainty is $U = 0.622 \text{ dB}$, $k = 2$.

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 $2 \times \text{span/RBW}$.

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 than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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

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.

Part 90.543 states that for operations in the 758–768 MHz and the 788–798 MHz bands, 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 all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations. (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB. (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

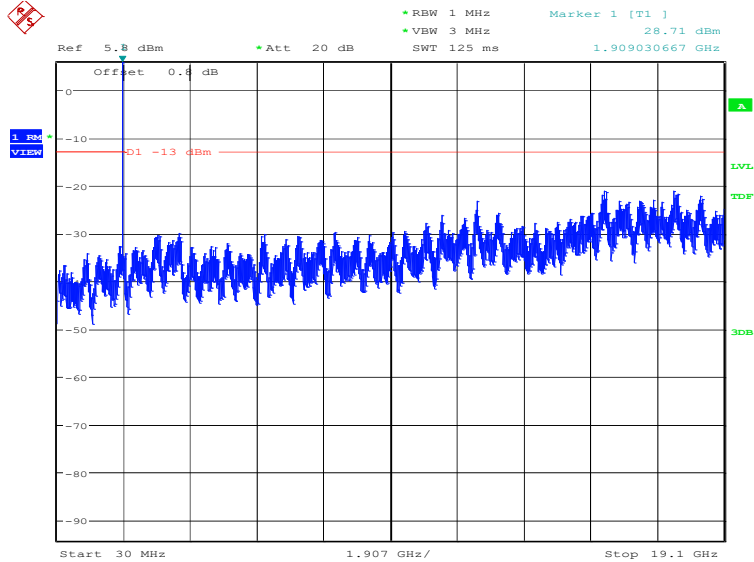
Part 90.691 states that out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows: For any frequency removed from the EA licensee's frequency block by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

A. 7.3 Measurement result

Only the worst case result is given below

LTE band 2: 30MHz – 19.1GHz

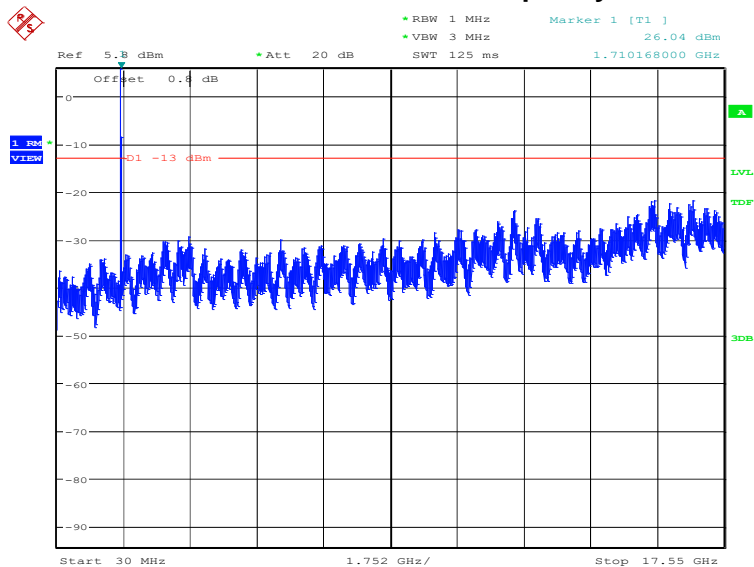
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:33:05

LTE band 4: 30MHz – 17.55GHz

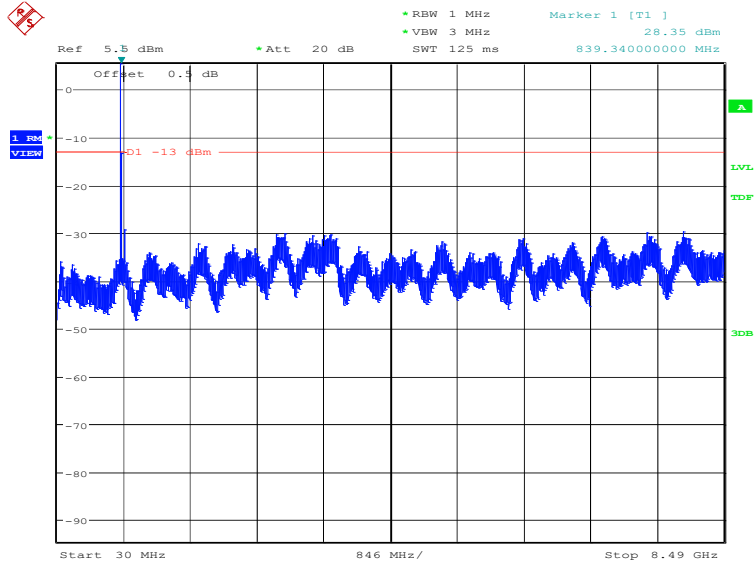
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:34:28

LTE band 5: 30MHz – 8.49GHz

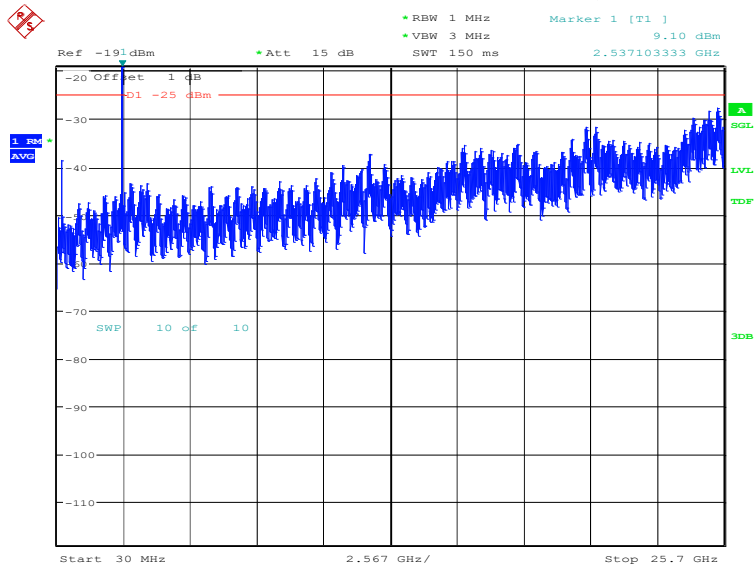
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:35:19

LTE band 7: 30MHz – 25.7GHz

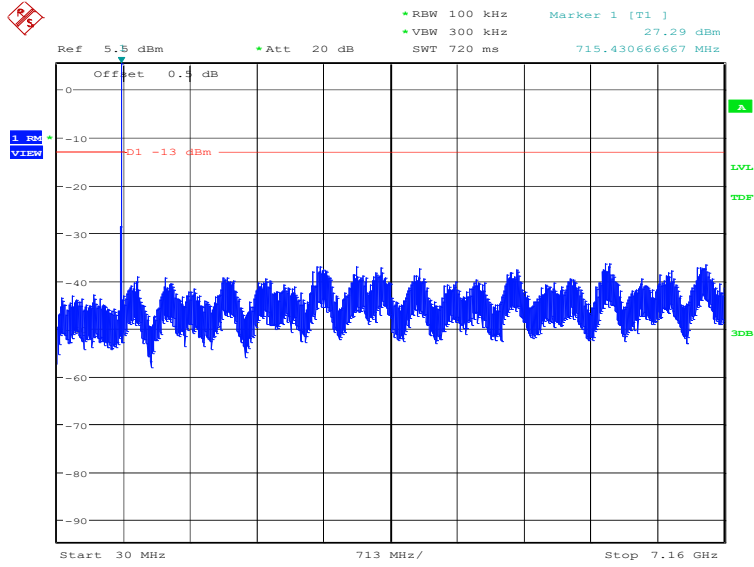
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 08:44:05

LTE band 12: 30MHz – 7.16GHz

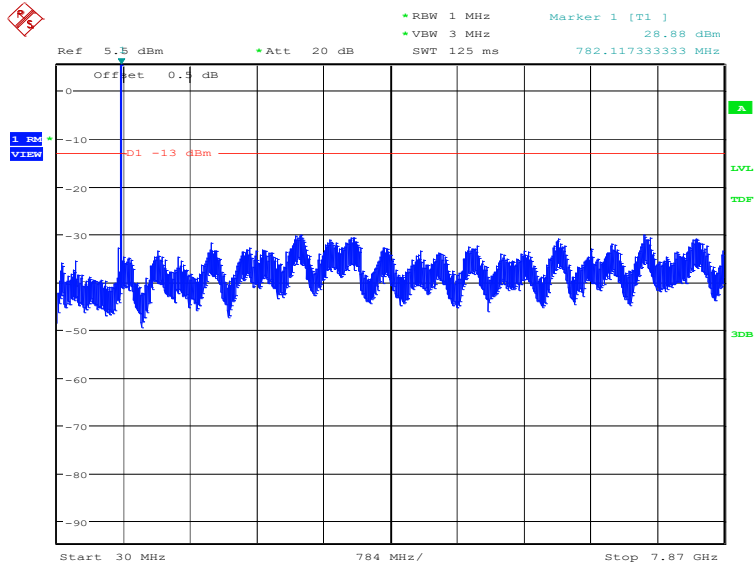
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 08:15:32

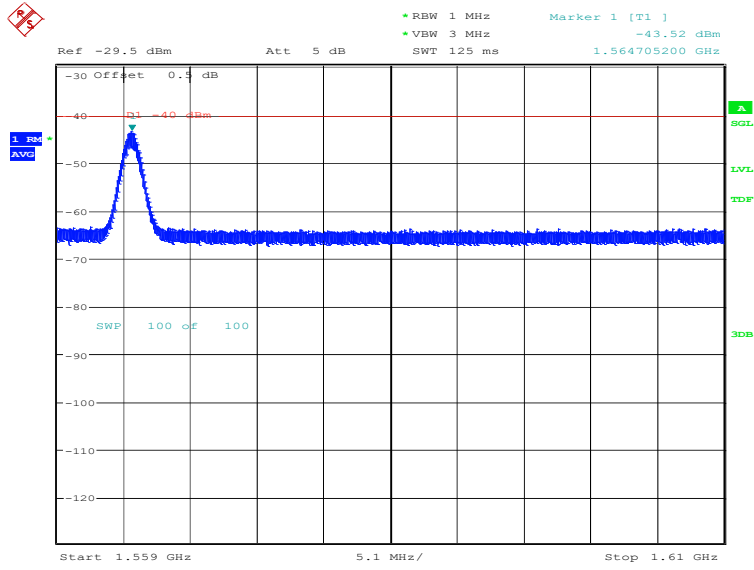
LTE band 13: 30MHz – 7.87GHz

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



Date: 25.OCT.2023 09:38:35

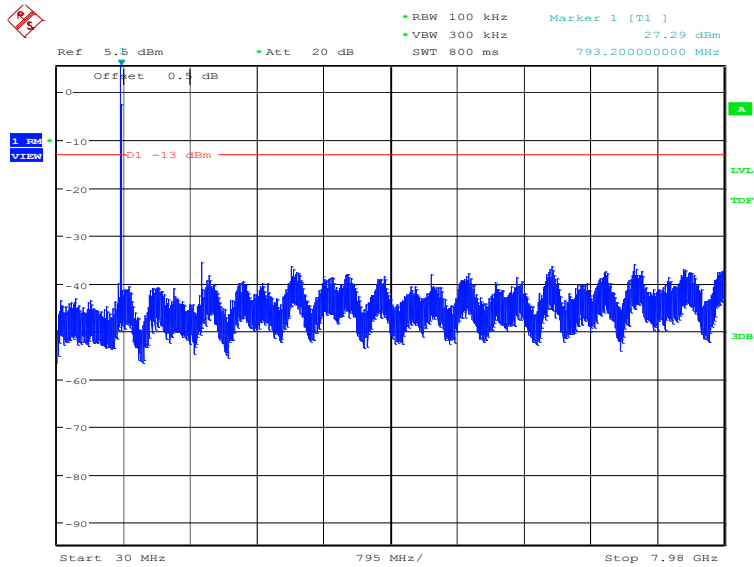
LTE band 13: 1559MHz – 1610MHz



Date: 25.OCT.2023 09:39:10

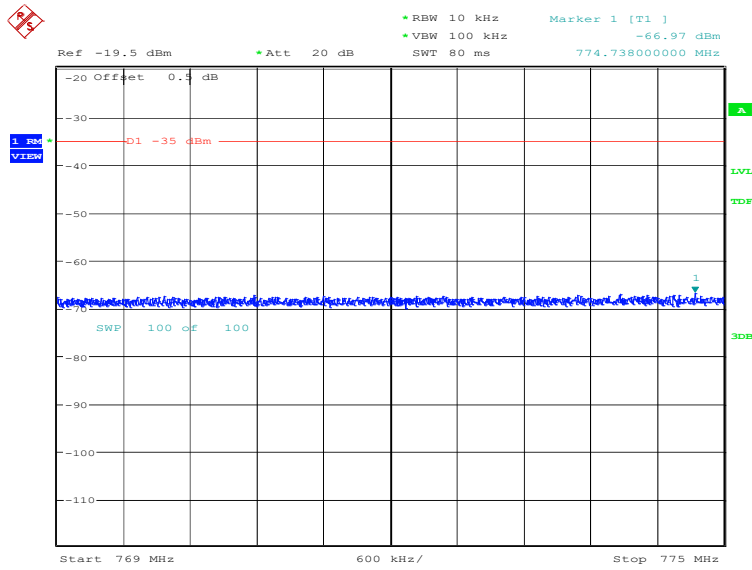
LTE band 14: 30MHz – 7.98GHz

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



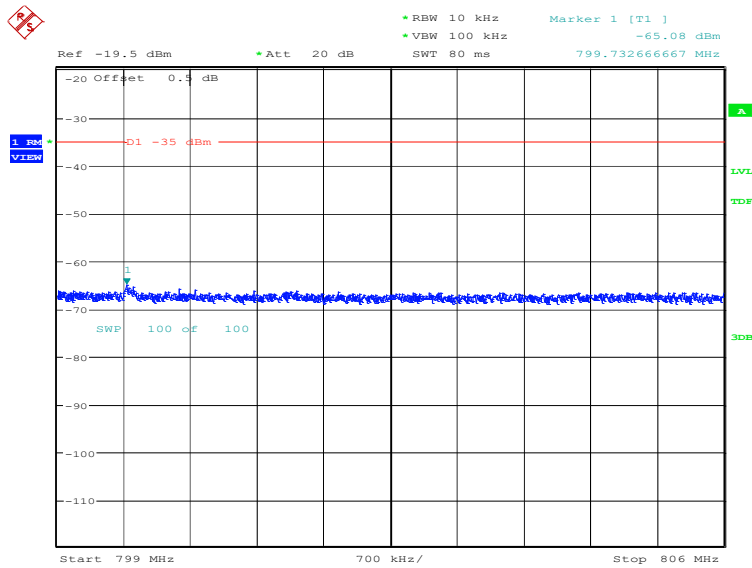
Date: 25.OCT.2023 09:47:01

LTE band 14: 769MHz~775MHz



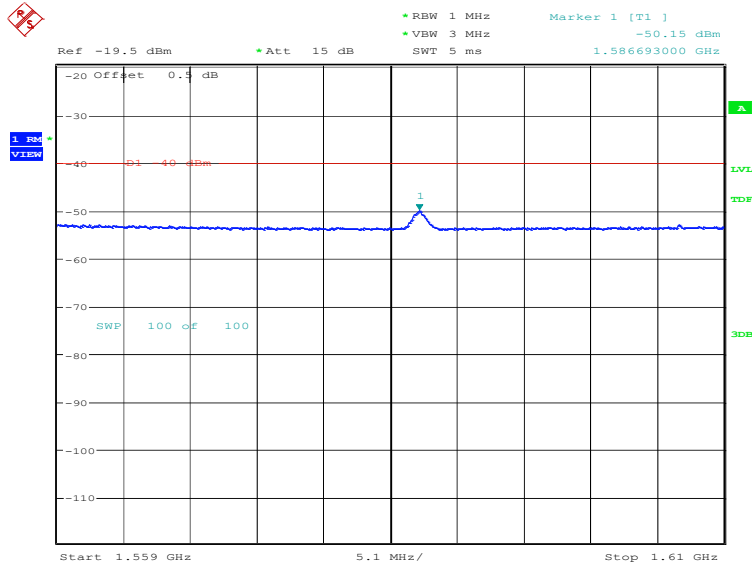
Date: 25.OCT.2023 09:47:27

LTE band 14: 799MHz~806MHz



Date: 25.OCT.2023 09:47:52

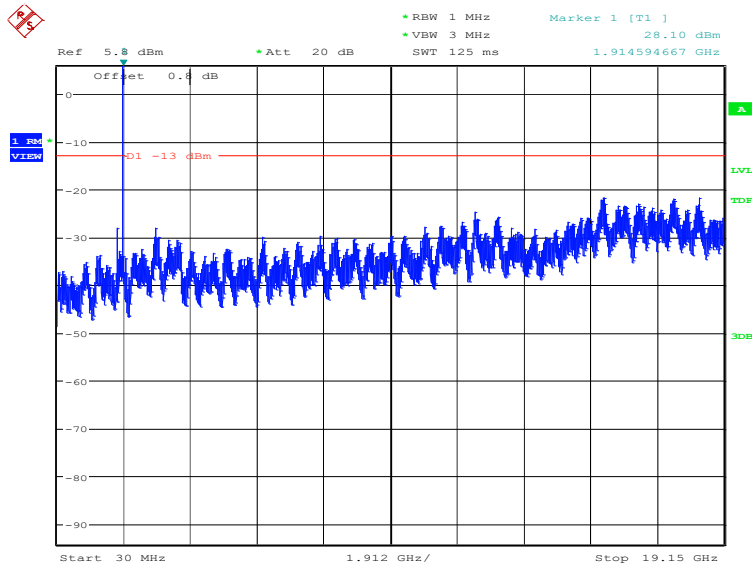
LTE band 14: 1559MHz~1610MHz



Date: 25.OCT.2023 09:48:17

LTE band 25: 30MHz – 19.15GHz

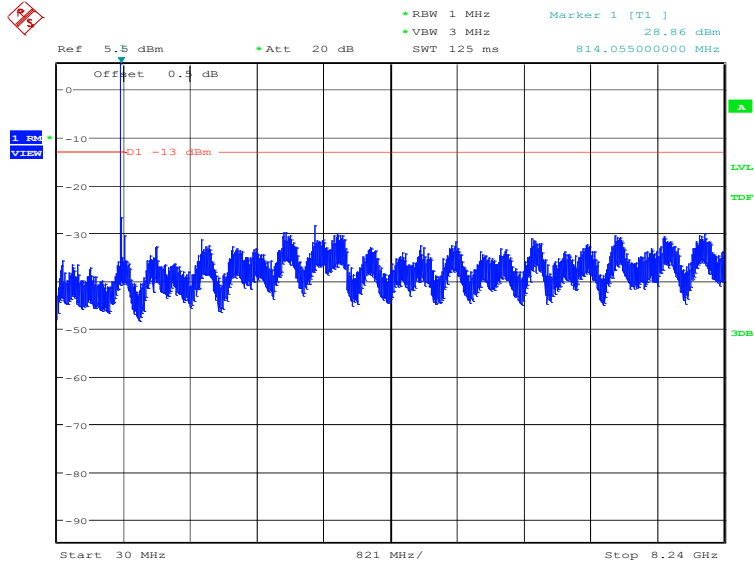
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:49:04

LTE band 26(814MHz~824MHz): 30MHz – 8.24GHz

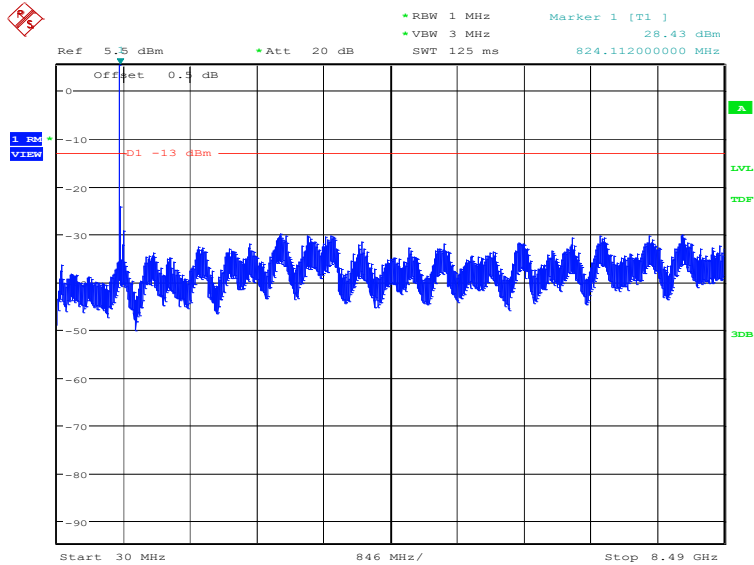
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:52:14

LTE band 26(824MHz~849MHz): 30MHz – 8.49GHz

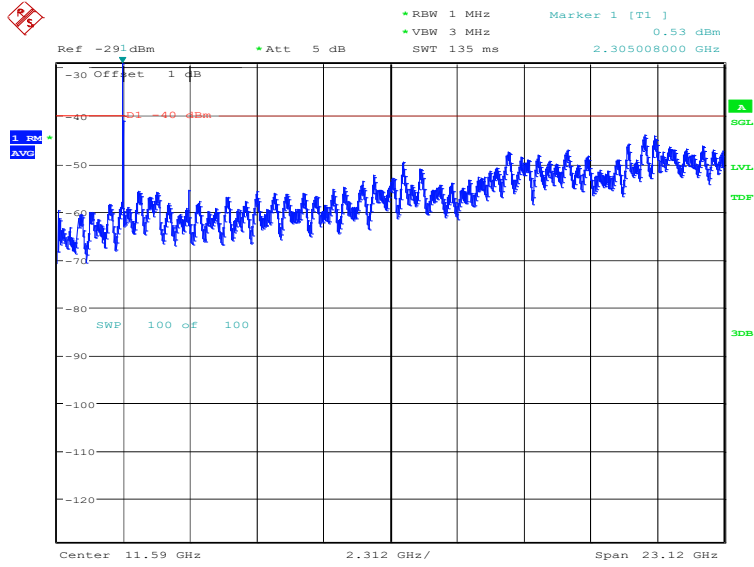
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:49:50

LTE band 30: 30MHz – 23.15GHz

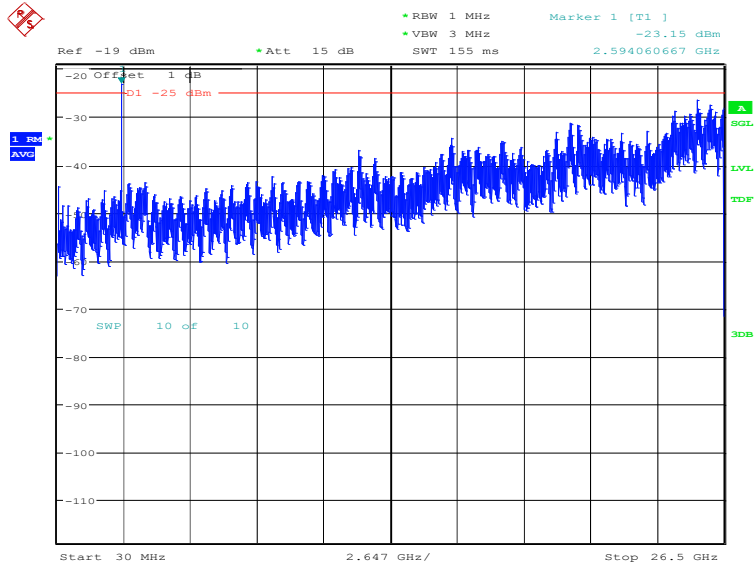
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 08:45:43

LTE band 41: 30MHz – 26.5GHz

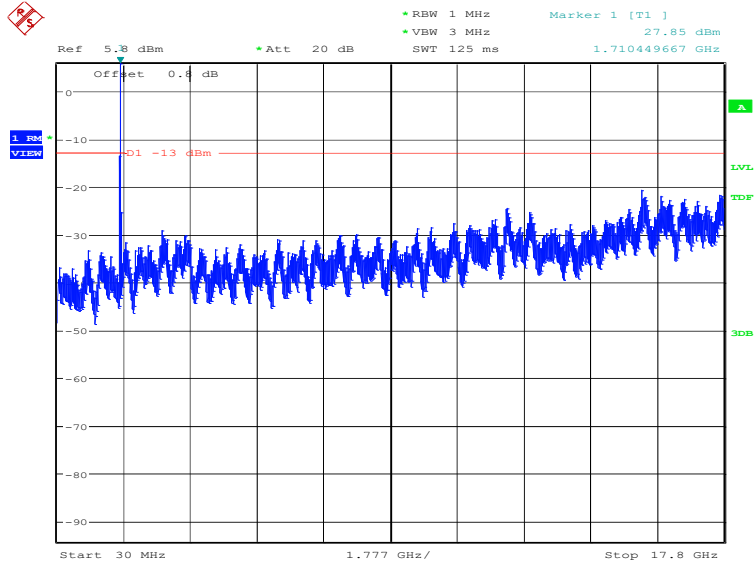
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 10:28:52

LTE band 66: 30MHz – 17.8GHz

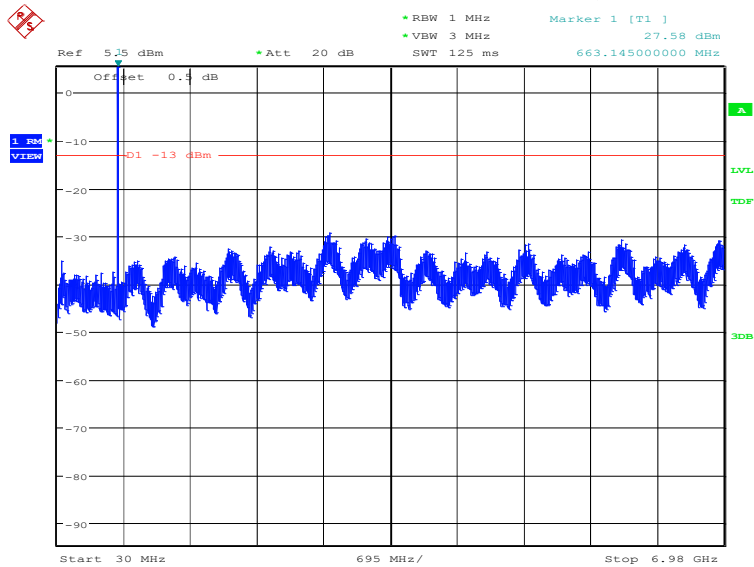
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:53:05

LTE band 71: 30MHz – 6.98GHz

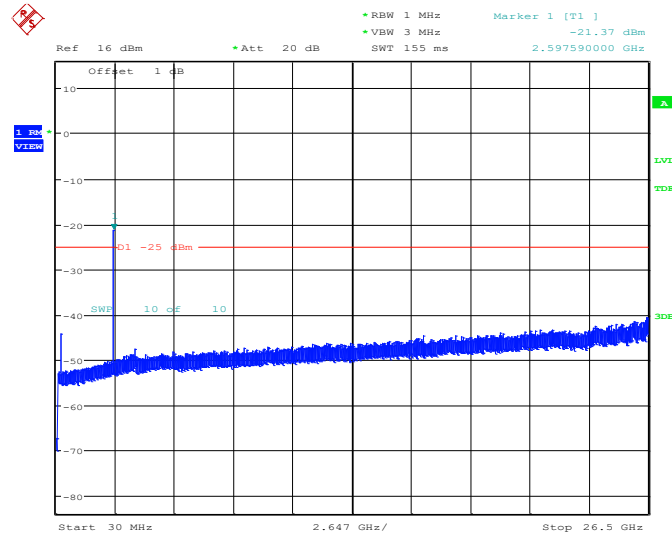
NOTE: peak above the limit line is the carrier frequency.



Date: 25.OCT.2023 09:31:14

LTE CA band 41C

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



Date: 6.NOV.2023 09:34:35

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

A.8 Peak-to-Average Power Ratio

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

- a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- b) Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
- c) Set the number of counts to a value that stabilizes the measured CCDF curve;
- d) Record the maximum PAPR level associated with a probability of 0.1%.

LTE band 2, 20MHz

Frequency(MHz)	PAPR(dB)			
1880.0	QPSK	16QAM	64QAM	256QAM
	7.37	7.47	7.40	7.56

LTE band 4, 20MHz

Frequency(MHz)	PAPR(dB)			
1732.5	QPSK	16QAM	64QAM	256QAM
	7.37	7.28	7.37	7.47

LTE band 7, 20MHz

Frequency(MHz)	PAPR(dB)			
2535.0	QPSK	16QAM	64QAM	256QAM
	6.99	7.40	7.88	7.88

LTE band 12, 10MHz

Frequency(MHz)	PAPR(dB)			
707.5	QPSK	16QAM	64QAM	256QAM
	6.63	6.57	6.44	6.79

LTE band 13, 10MHz

Frequency(MHz)	PAPR(dB)			
782.0	QPSK	16QAM	64QAM	256QAM
	6.54	6.67	6.54	6.79

LTE band 25, 20MHz

Frequency(MHz)	PAPR(dB)			
1882.5	QPSK	16QAM	64QAM	256QAM
	7.47	7.47	7.53	7.63

LTE band 30, 10MHz

Frequency(MHz)	PAPR(dB)			
2310.0	QPSK	16QAM	64QAM	256QAM
	5.61	6.38	6.70	6.96

LTE band 41, 20MHz

Frequency(MHz)	PAPR(dB)			
	QPSK	16QAM	64QAM	256QAM
2593.0	8.24	8.85	8.94	9.10

LTE band 66, 20MHz

Frequency(MHz)	PAPR(dB)			
	QPSK	16QAM	64QAM	256QAM
1745.0	7.40	7.37	7.50	7.47

LTE band 71, 20MHz

Frequency(MHz)	PAPR(dB)			
	QPSK	16QAM	64QAM	256QAM
680.5	6.38	7.15	7.37	7.28

LTE CA band 41C, 20MHz+20MHz

Frequency (MHz)	PAPR (dB)			
	QPSK	16QAM	64QAM	256QAM
2593.0	9.78	9.87	9.90	9.90

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

Annex B: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 26th day of June 2023.



Mr. Trace McInturf, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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