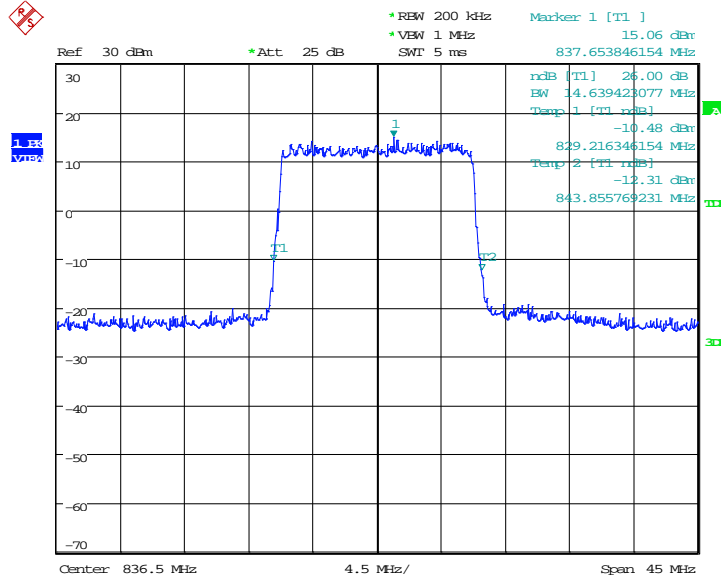


LTE band 26(824MHz-849MHz), 15MHz (-26dBc BW)

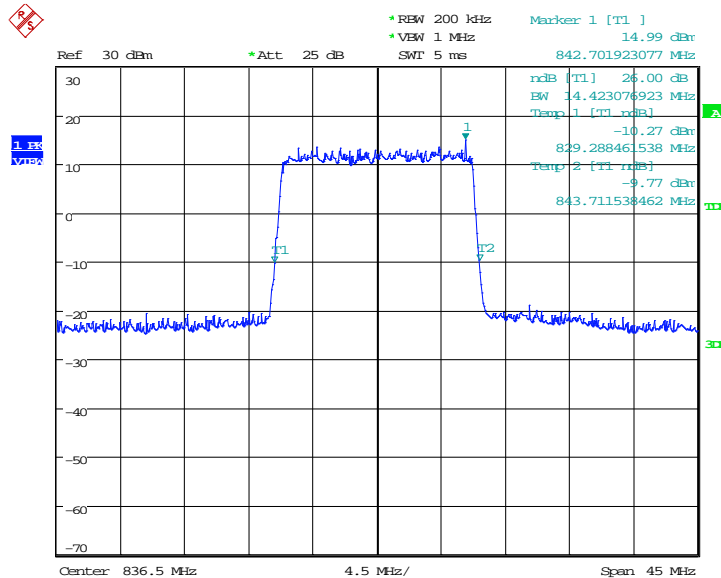
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
836.5	14639.42	14423.08	14639.42

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



Date: 13.JAN.2020 19:02:10

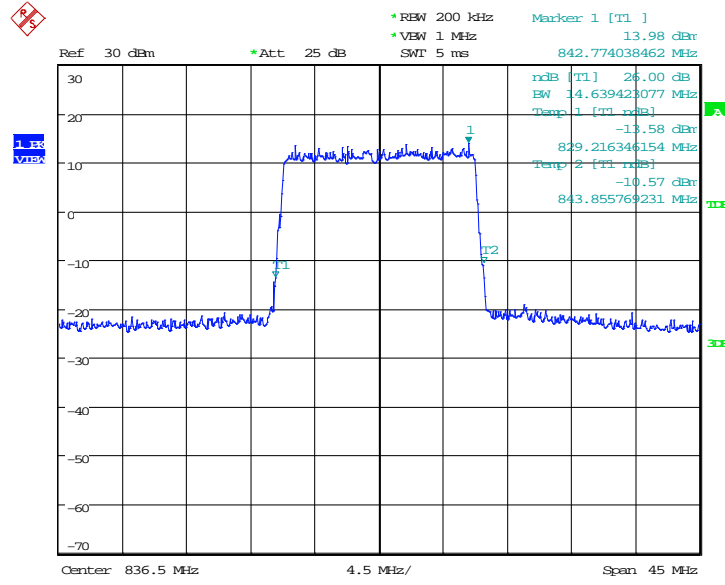
LTE band 26(824MHz-849MHz), 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 13.JAN.2020 19:02:26



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

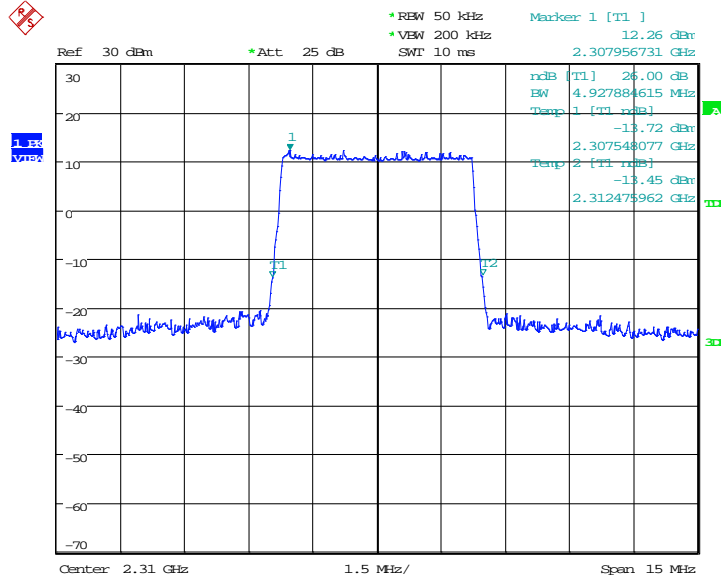


Date: 18.JAN.2020 18:39:29

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

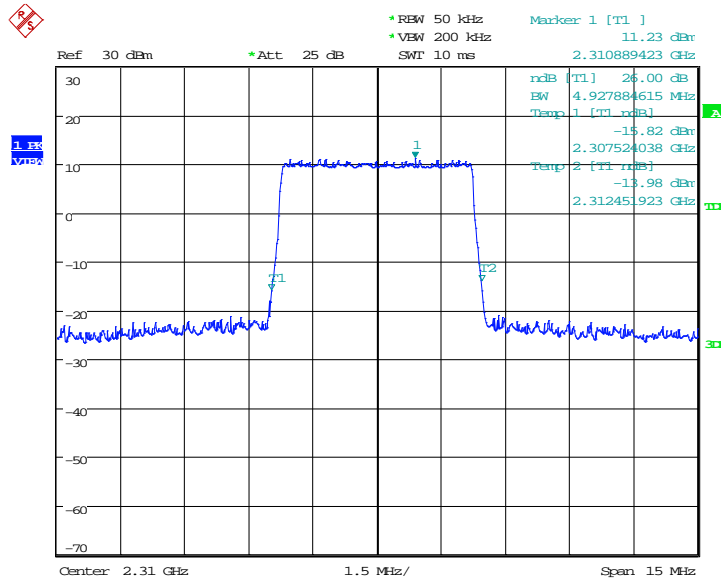
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2310.0	4927.88	4927.88	4903.85

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



Date: 18.JAN.2020 19:49:31

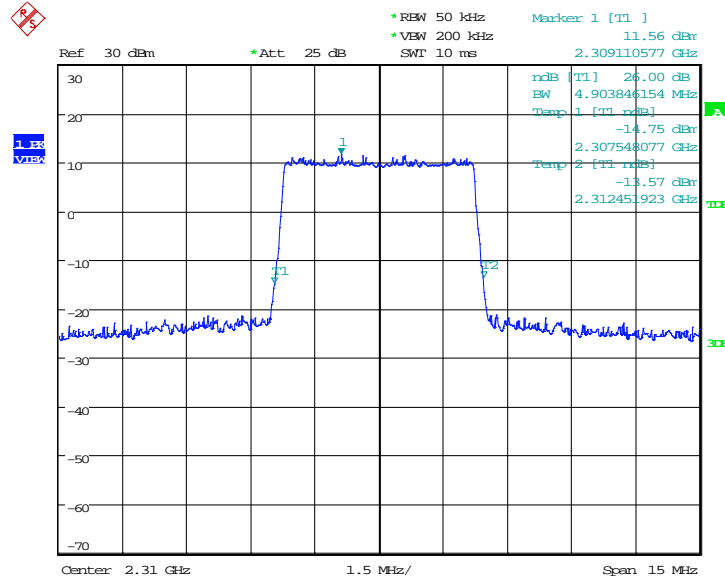
LTE band 30, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 18.JAN.2020 19:49:46



LTE band 30, 5MHz Bandwidth,64QAM (-26dBc BW)

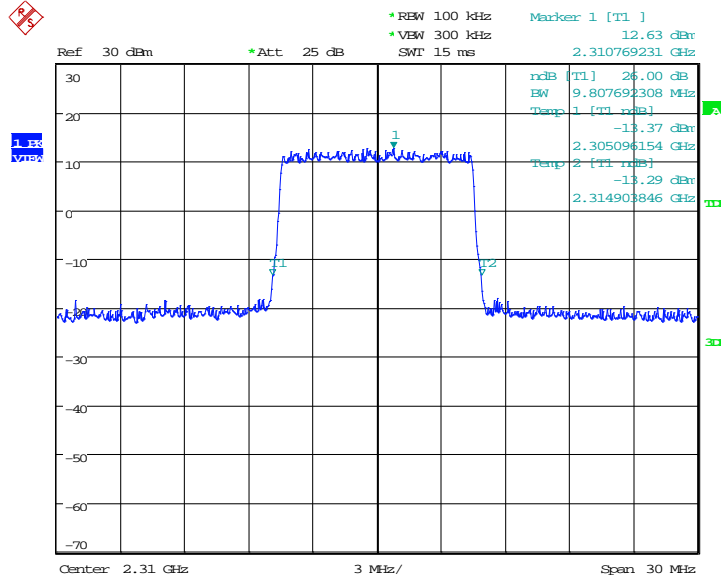


Date: 18.JAN.2020 20:00:55

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

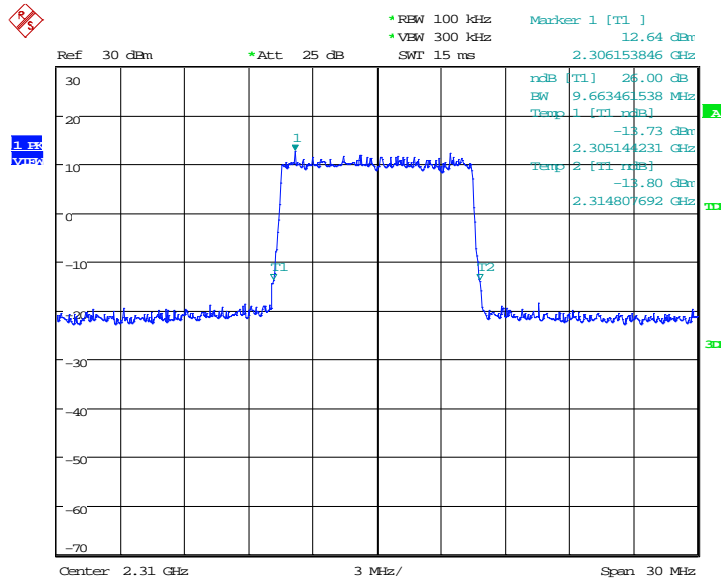
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2310.0	9807.69	9663.46	9615.38

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



Date: 18.JAN.2020 19:54:45

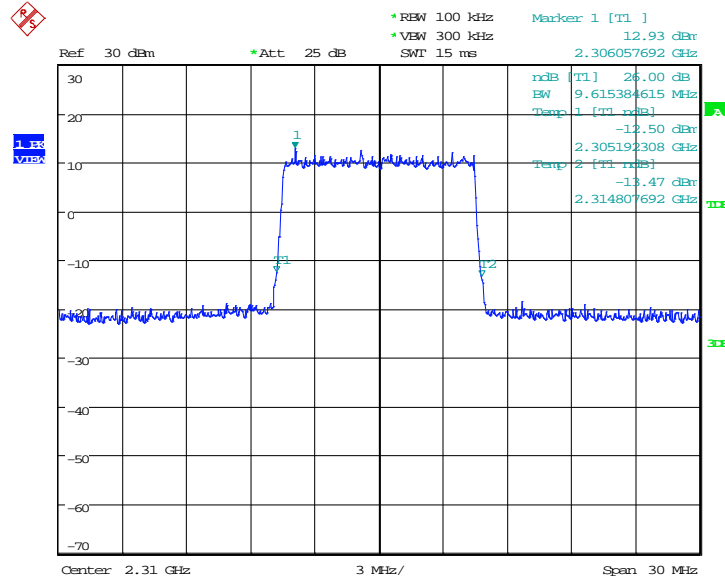
LTE band 30, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 18.JAN.2020 19:55:01



LTE band 30, 10MHz Bandwidth, 64QAM (-26dBc BW)



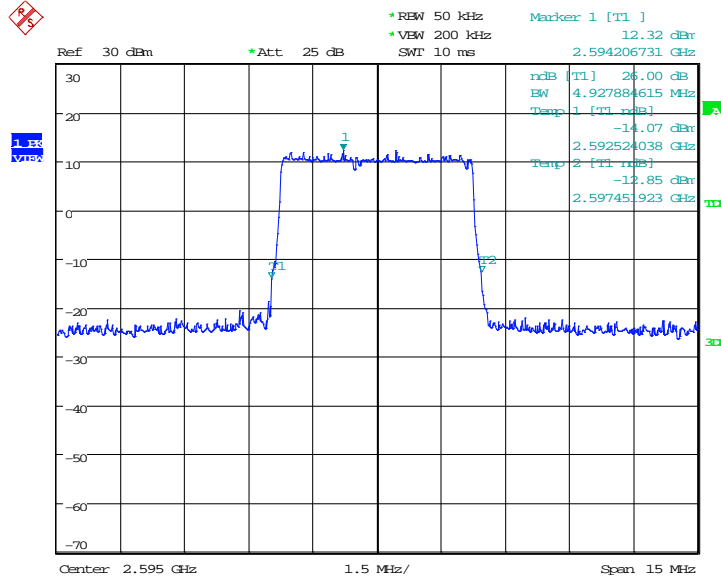
Date: 18.JAN.2020 20:04:22



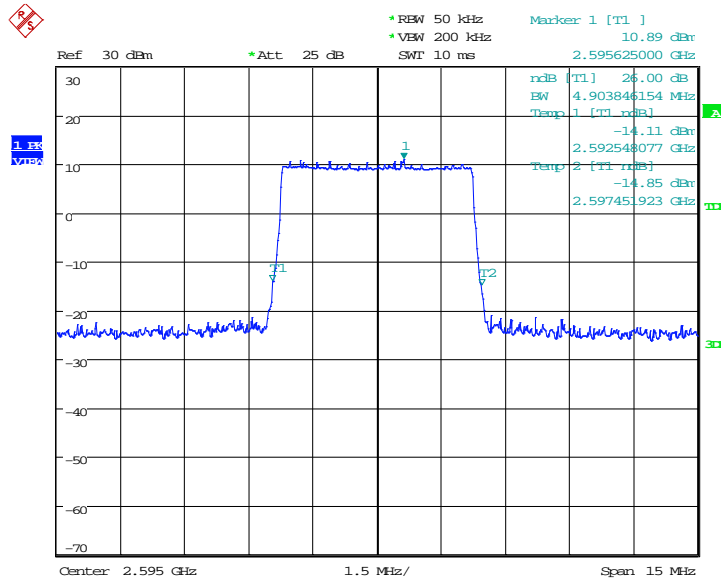
LTE band 38, 5MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2595.0	4927.88	4903.85	4855.77

LTE band 38, 5MHz Bandwidth, QPSK (-26dBc BW)

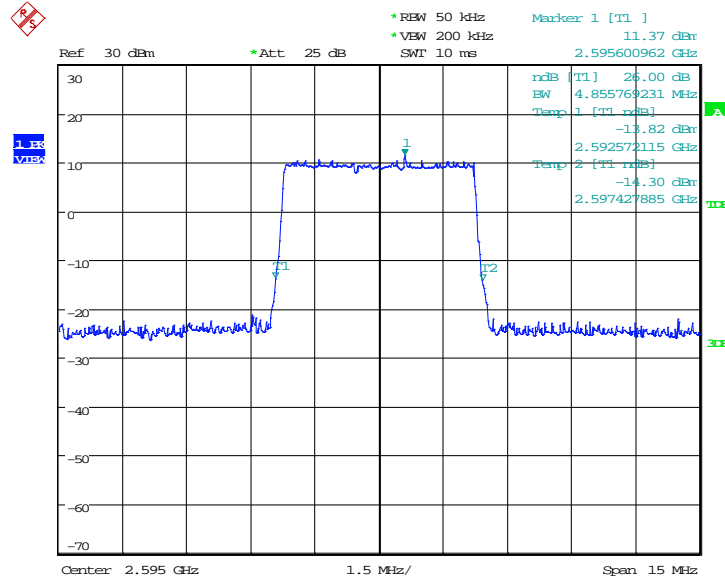


LTE band 38, 5MHz Bandwidth, 16QAM (-26dBc BW)





LTE band 38, 5MHz Bandwidth, 64QAM (-26dBc BW)

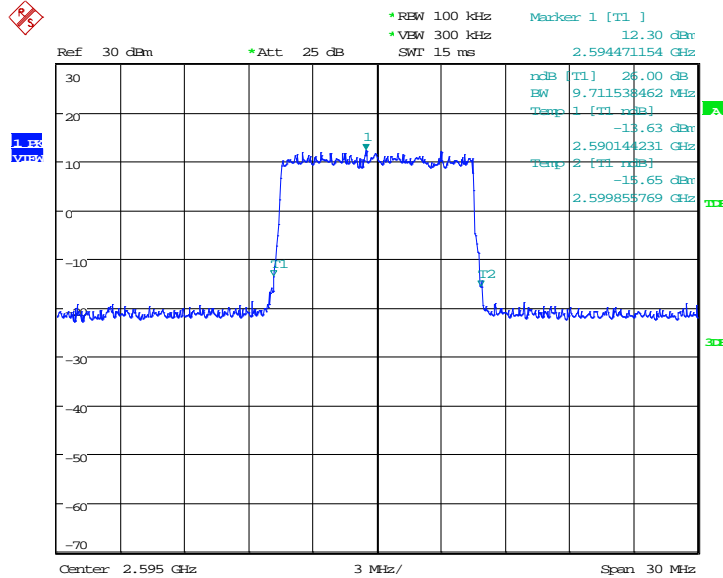


Date: 15.JAN.2020 07:20:45

LTE band 38, 10MHz (-26dBc BW)

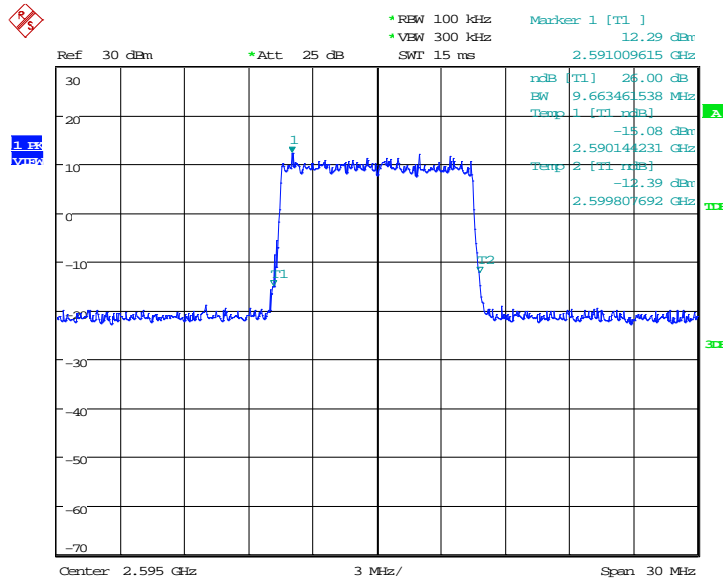
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	9711.54	9663.46	9711.54

LTE band 38, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.JAN.2020 04:58:47

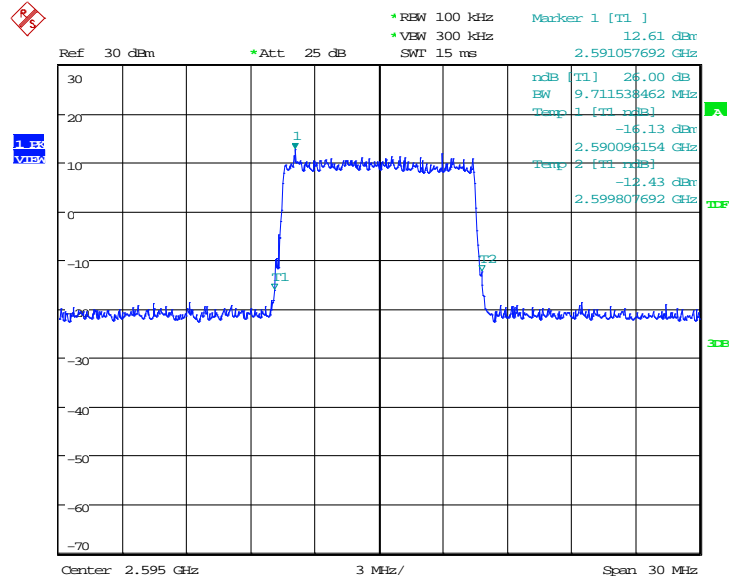
LTE band 38, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 04:59:03



LTE band 38, 10MHz Bandwidth, 64QAM (-26dBc BW)

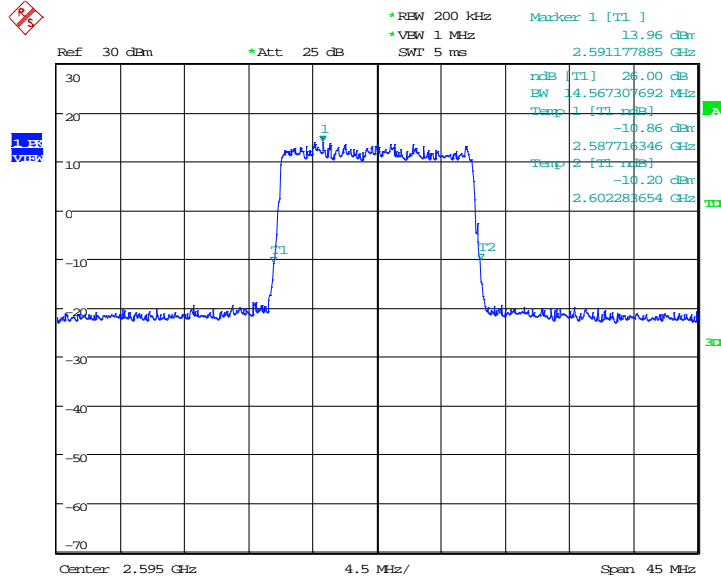


Date: 15.JAN.2020 07:24:13

LTE band 38, 15MHz (-26dBc BW)

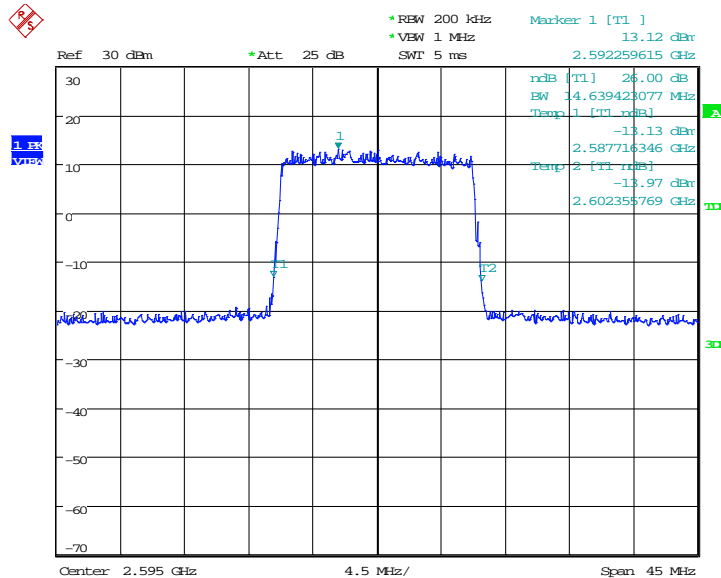
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2595.0	14567.31	14639.42	14495.19

LTE band 38, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.JAN.2020 05:26:46

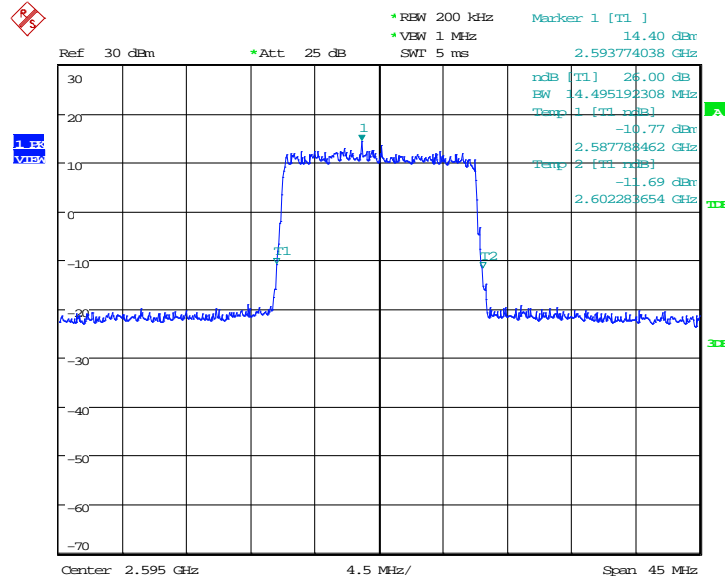
LTE band 38, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 05:27:02



LTE band 38, 15MHz Bandwidth, 64QAM (-26dBc BW)

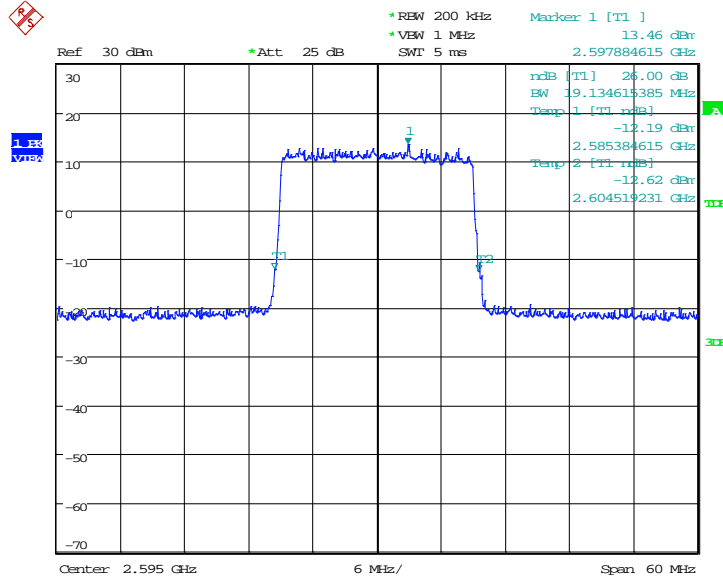


Date: 15.JAN.2020 07:27:40

LTE band 38, 20MHz (-26dBc BW)

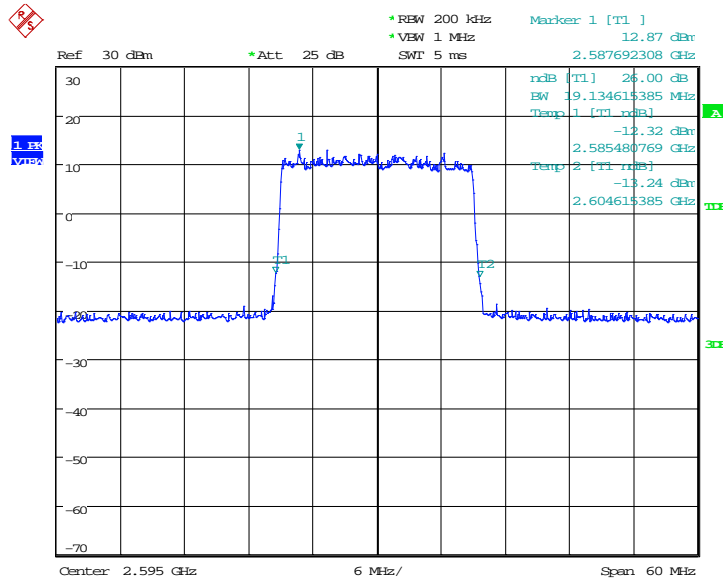
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2595.0	19134.62	19134.62	19134.62

LTE band 38, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.JAN.2020 05:30:16

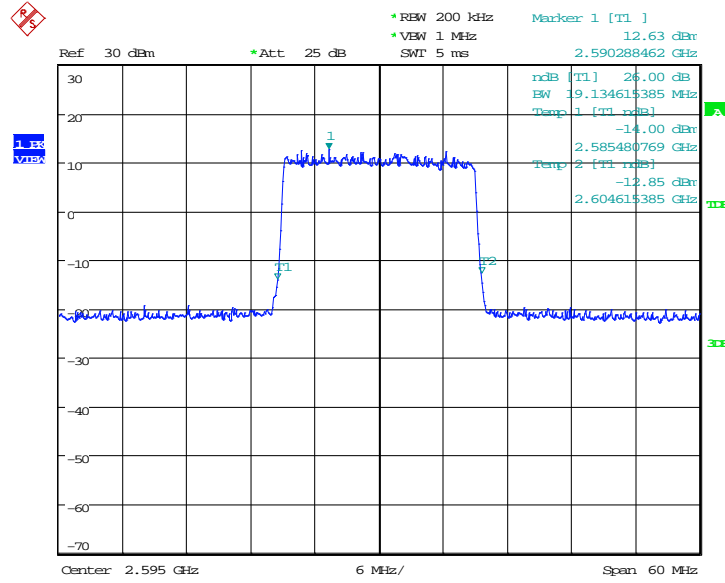
LTE band 38, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 05:30:32



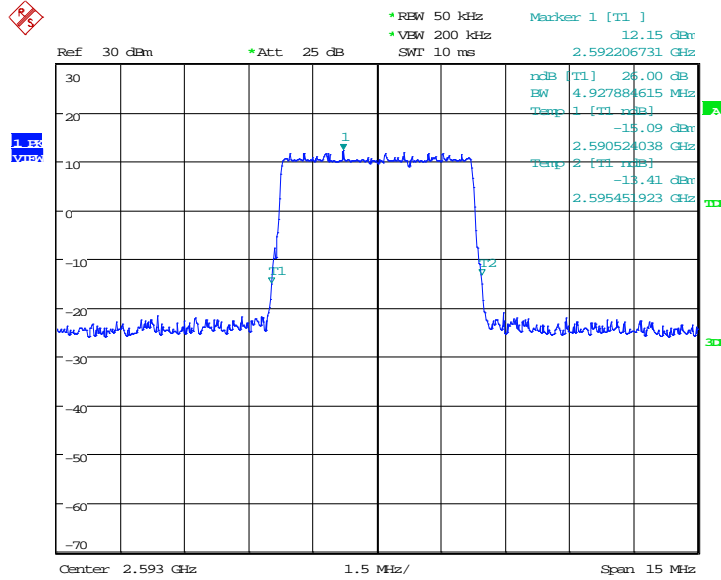
LTE band 38, 20MHz Bandwidth, 64QAM (-26dBc BW)



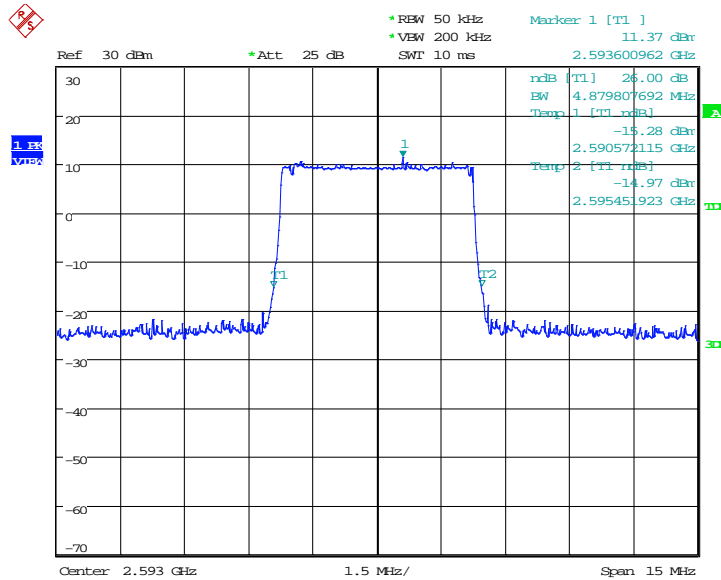
Date: 15.JAN.2020 07:31:08

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	4927.88	4879.81	4903.85

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


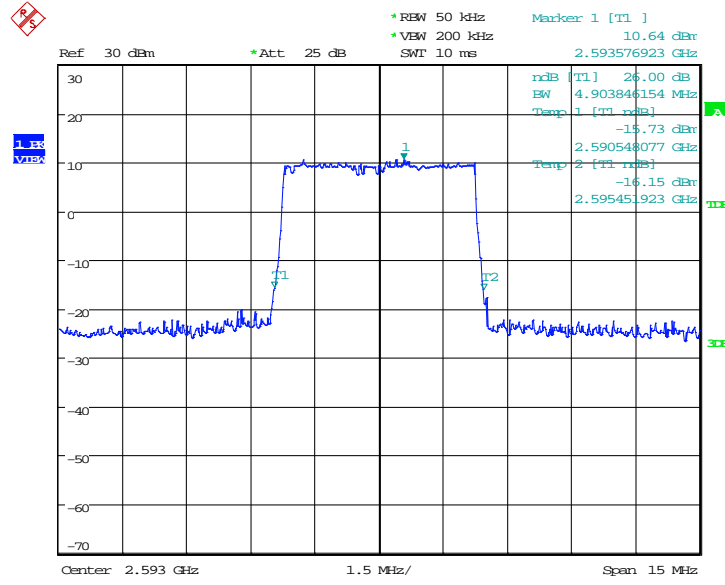
Date: 15.JAN.2020 05:34:21

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


Date: 15.JAN.2020 05:34:37



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

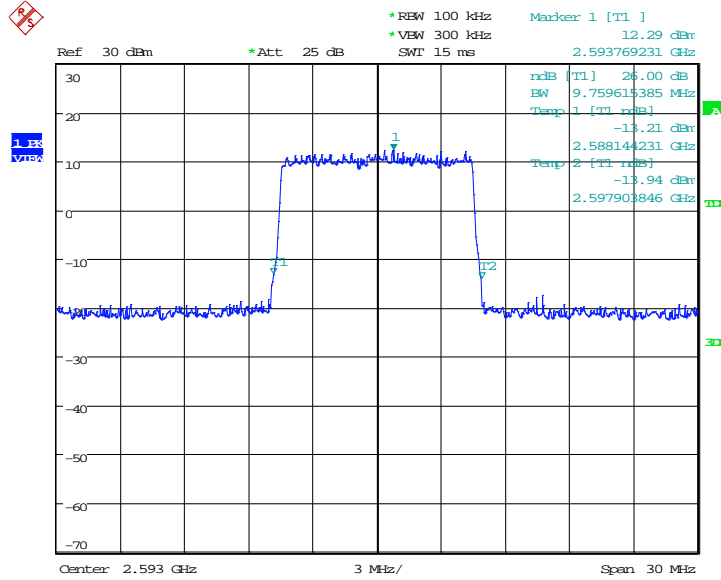


Date: 15.JAN.2020 07:34:38

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

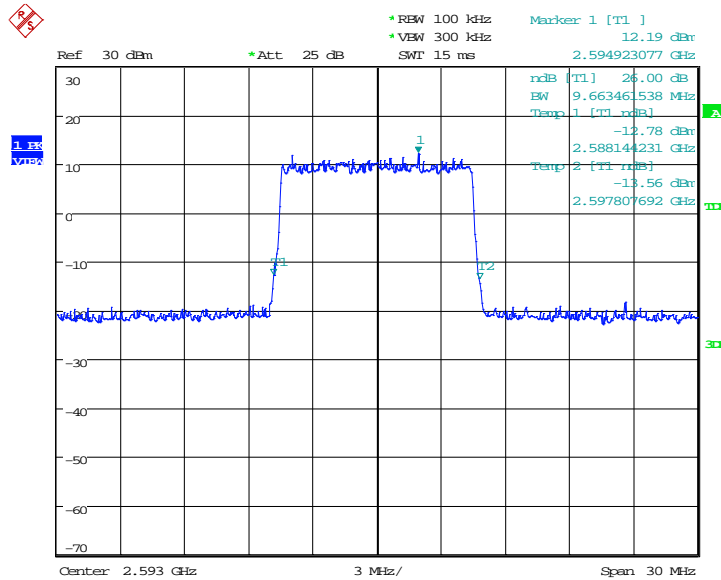
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	9759.62	9663.46	9663.46

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



Date: 15.JAN.2020 05:39:50

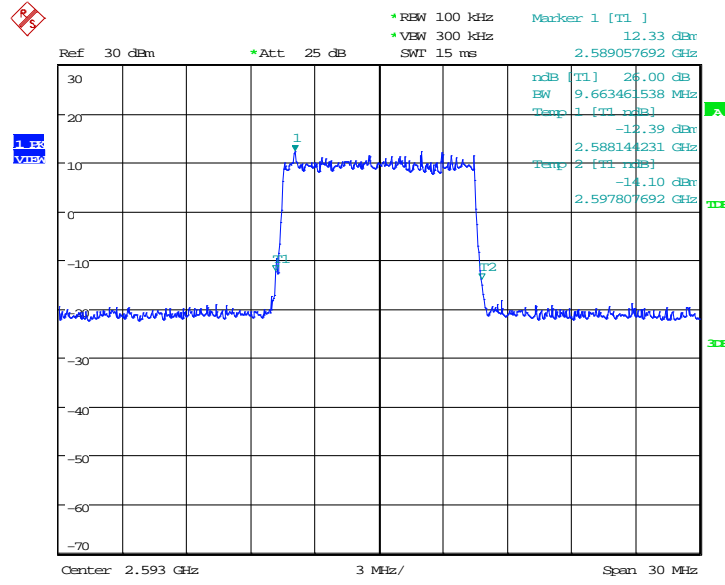
LTE band 41, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 05:40:06



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

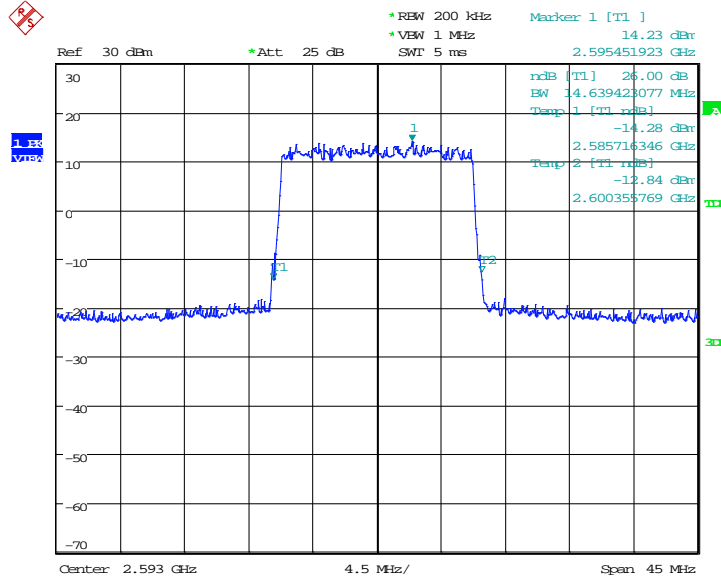


Date: 15.JAN.2020 07:38:05

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

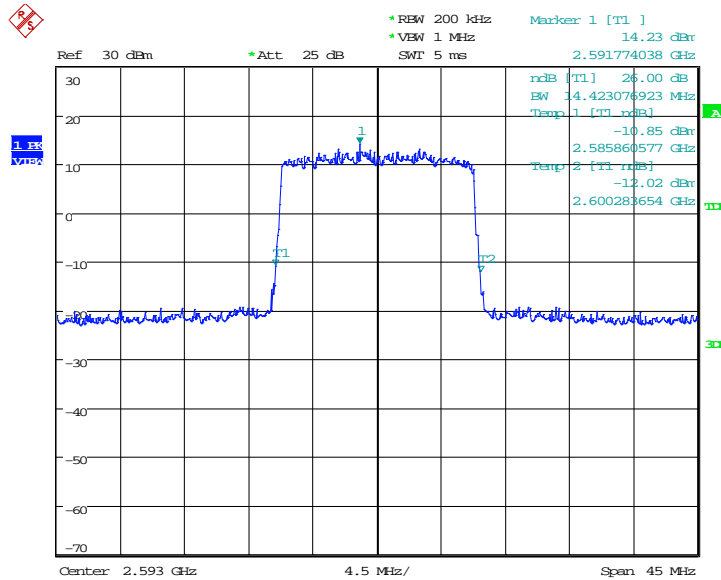
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	14639.42	14423.08	14495.19

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



Date: 15.JAN.2020 05:45:19

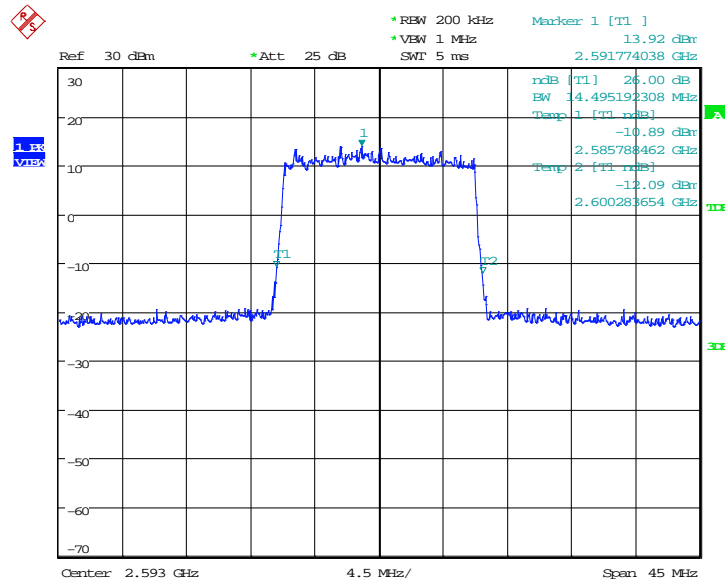
LTE band 41, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 05:45:35



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

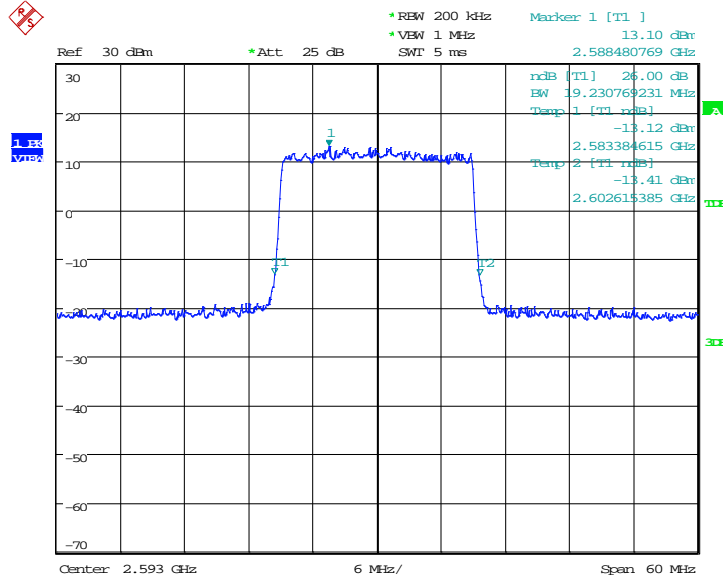


Date: 15.JAN.2020 07:41:32

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

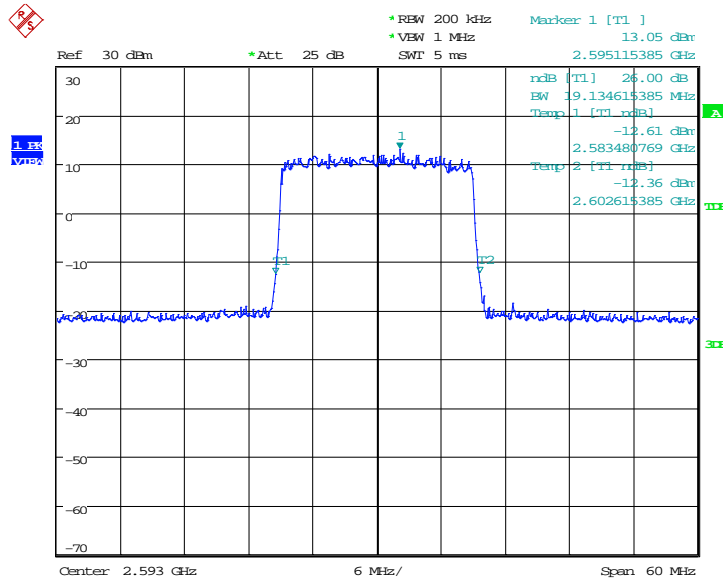
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	19230.77	19134.62	19134.62

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



Date: 15.JAN.2020 05:50:52

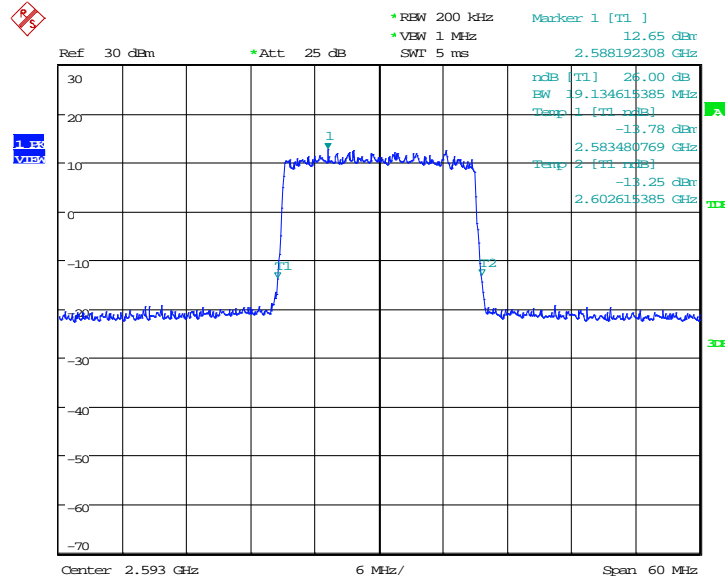
LTE band 41, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.JAN.2020 05:51:08



LTE band 41, 20MHz Bandwidth, 64QAM (-26dBc BW)

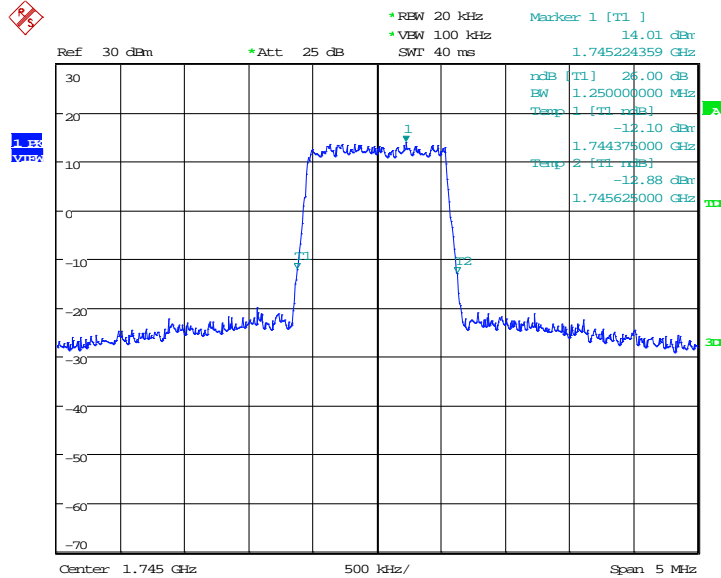


Date: 15.JAN.2020 07:45:00

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

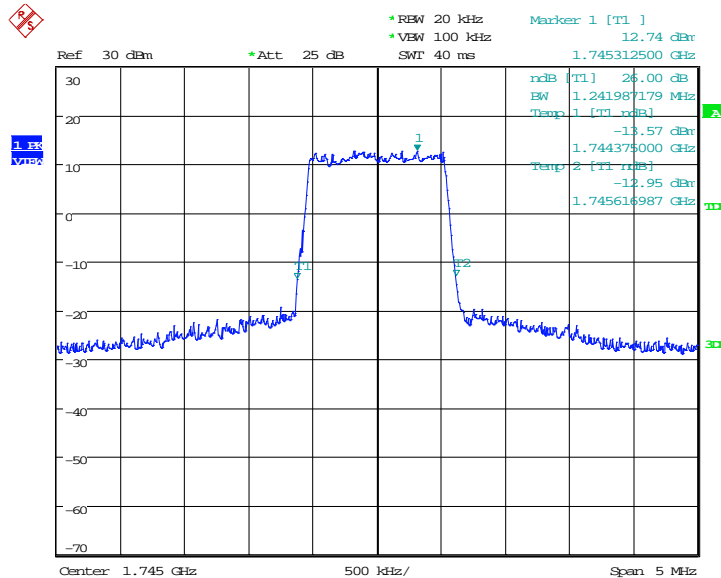
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	1250.00	1241.99	1241.99

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



Date: 13.JAN.2020 19:30:07

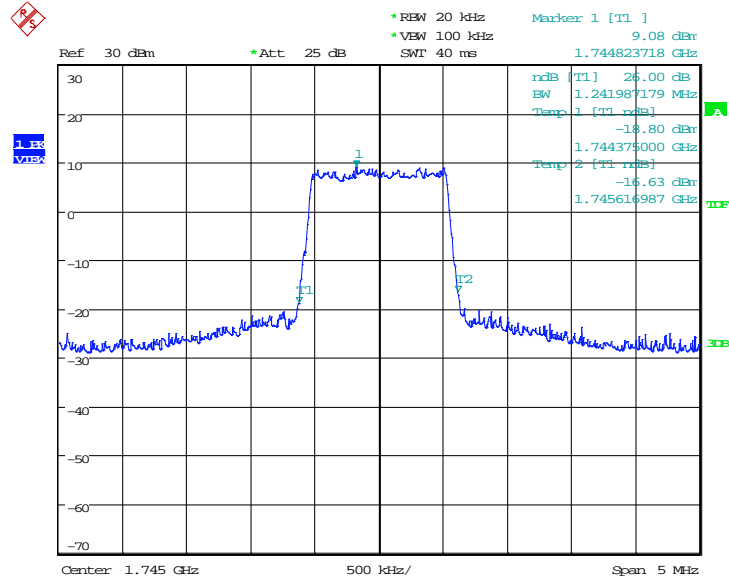
LTE band 66, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



Date: 13.JAN.2020 19:30:22



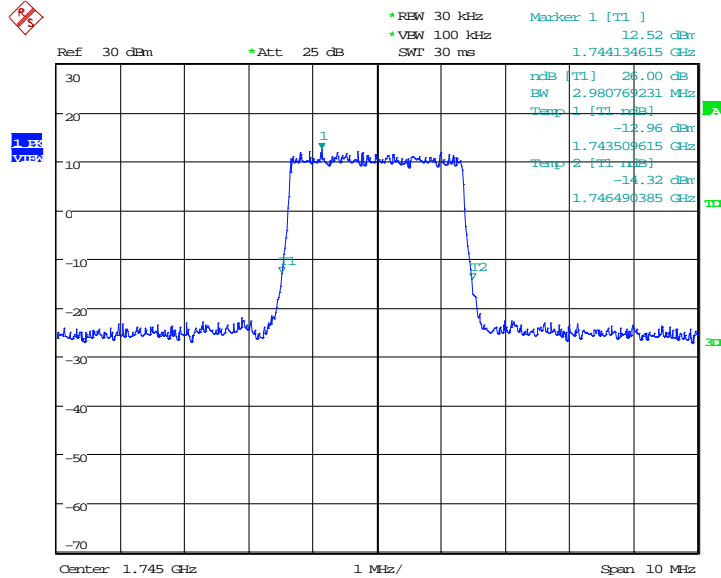
LTE band 66, 1.4MHz Bandwidth, 64QAM (-26dBc BW)



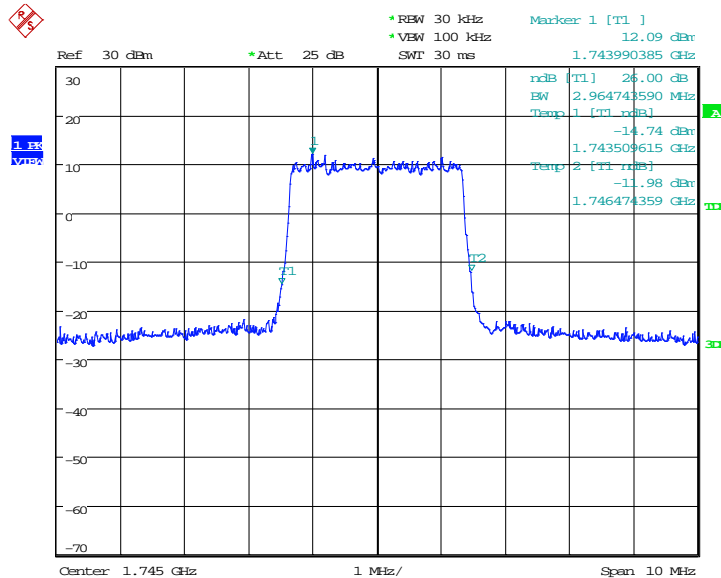
Date: 18.JAN.2020 19:02:37

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

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	2980.77	2964.74	2980.77

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


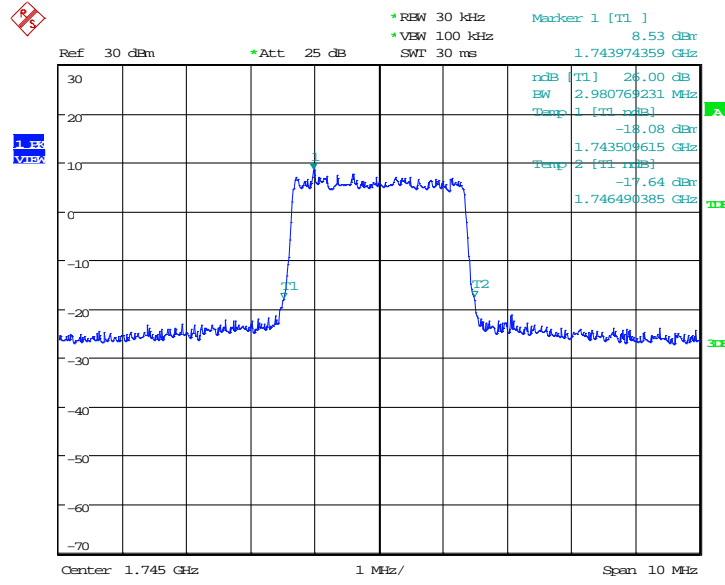
Date: 13.JAN.2020 19:35:34

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


Date: 13.JAN.2020 19:35:50



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

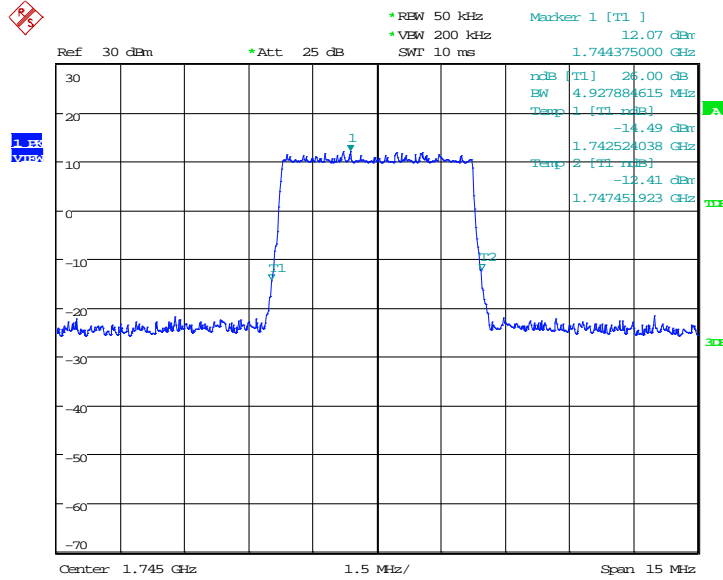


Date: 18.JAN.2020 19:06:59

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

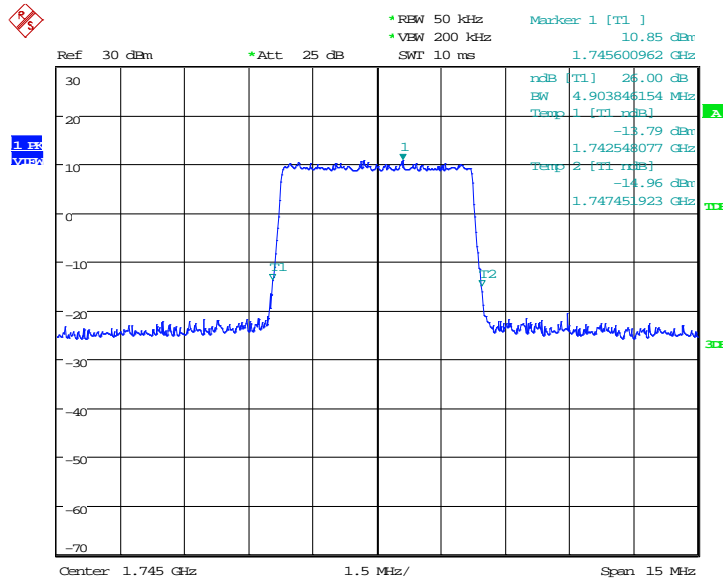
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	4927.88	4903.85	4927.88

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



Date: 13.JAN.2020 19:43:32

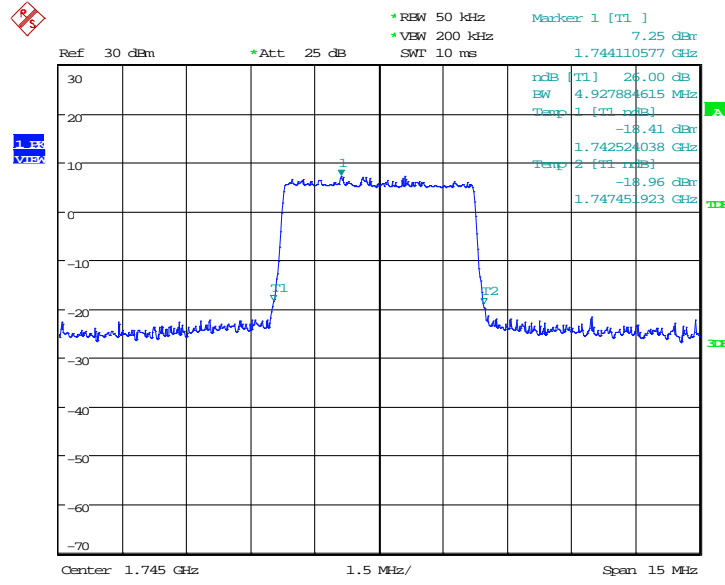
LTE band 66, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 13.JAN.2020 19:43:47



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

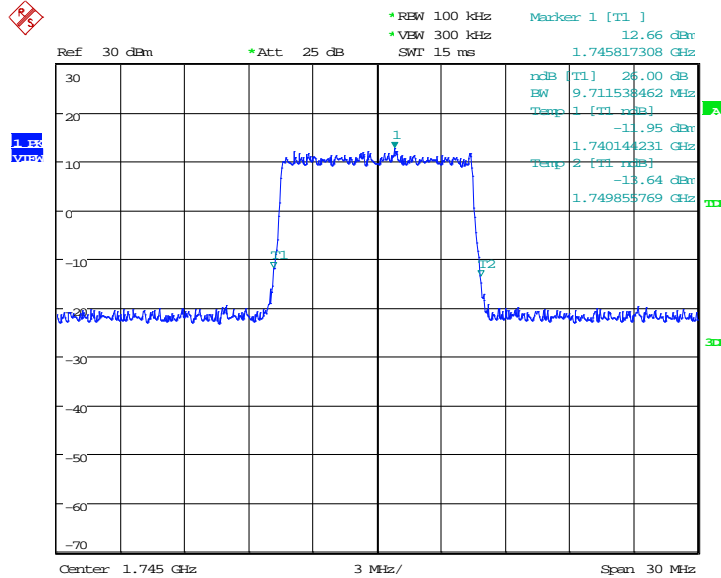


Date: 18.JAN.2020 19:32:21

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

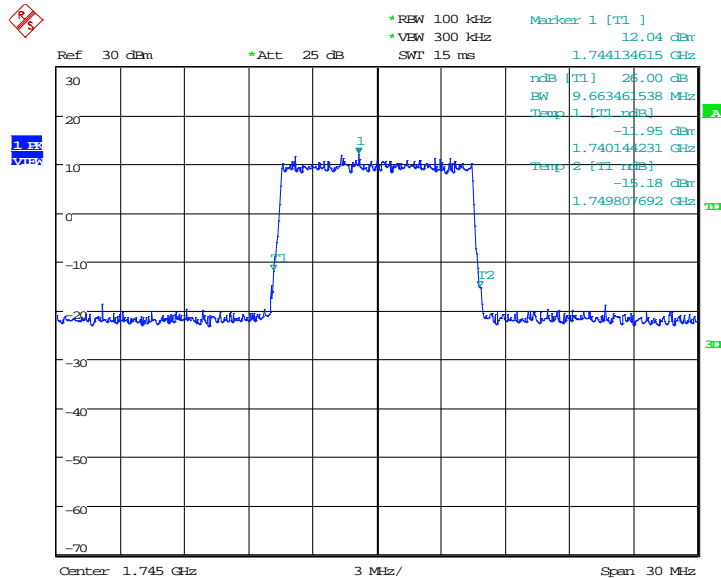
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	9711.54	9663.46	9711.54

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



Date: 13.JAN.2020 19:48:59

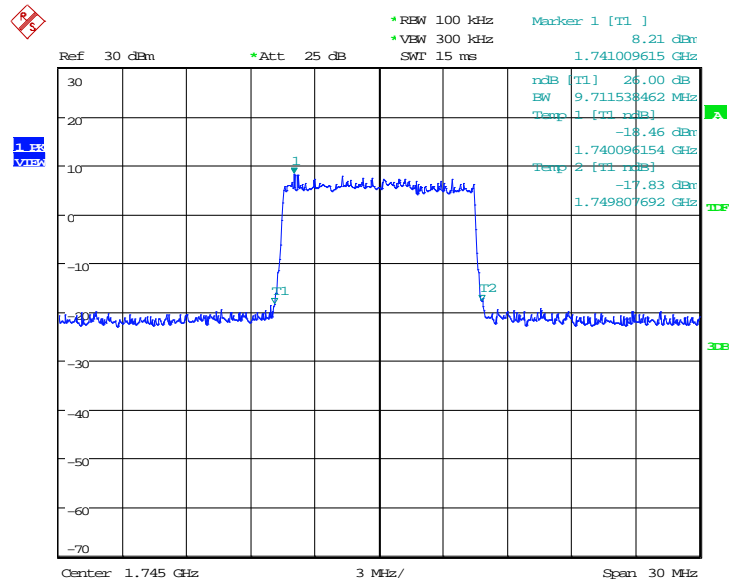
LTE band 66, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 13.JAN.2020 19:49:15



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

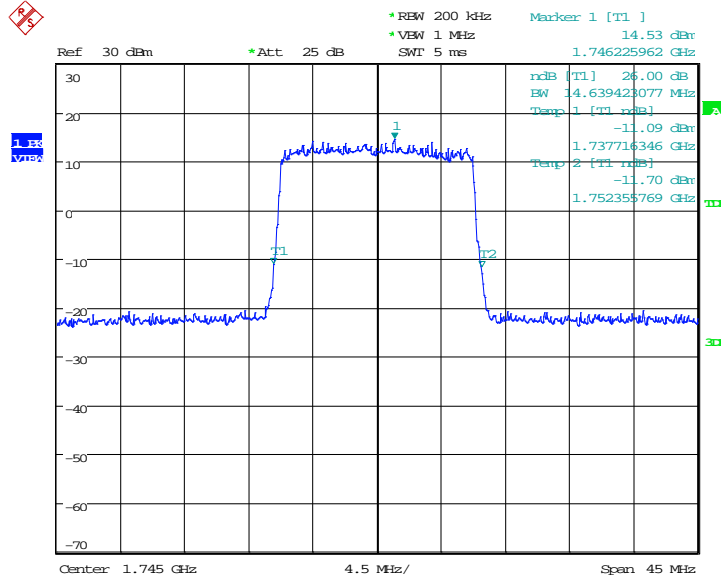


Date: 18.JAN.2020 19:35:04

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

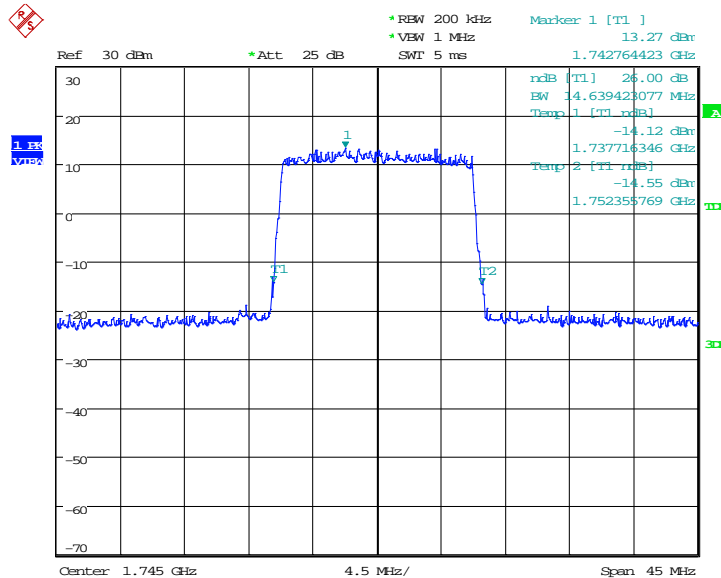
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	14639.42	14639.42	14567.31

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



Date: 13.JAN.2020 19:54:27

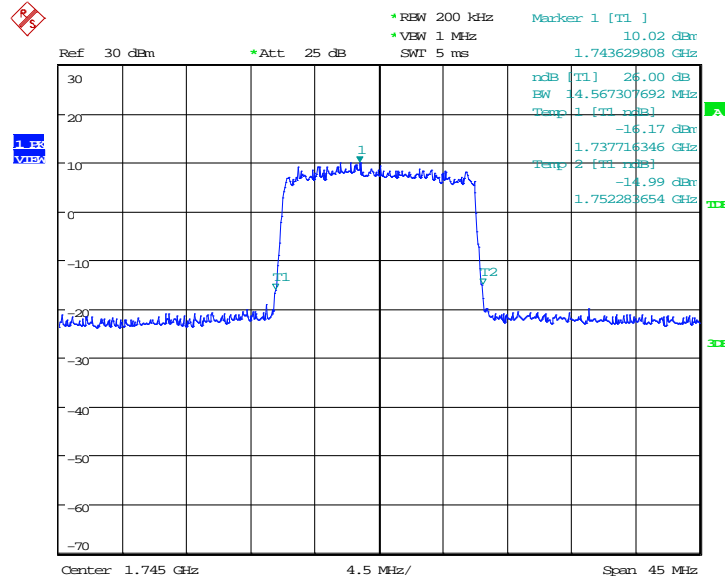
LTE band 66, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 13.JAN.2020 19:54:42



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

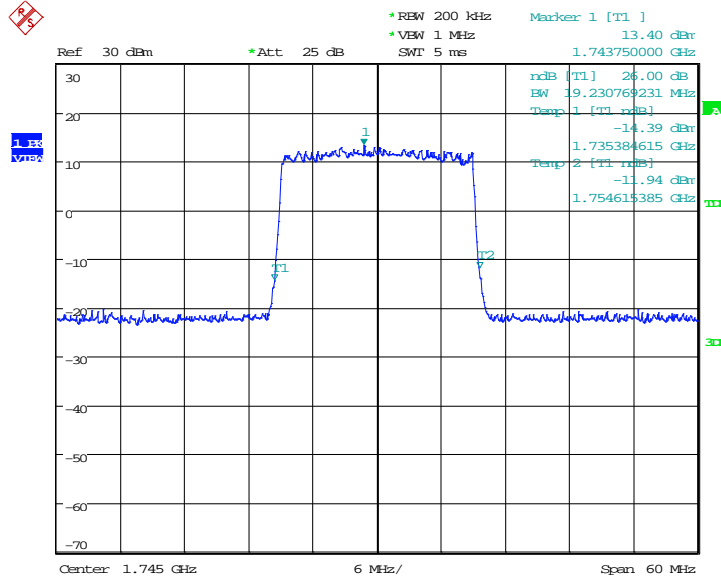


Date: 18.JAN.2020 19:38:19

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

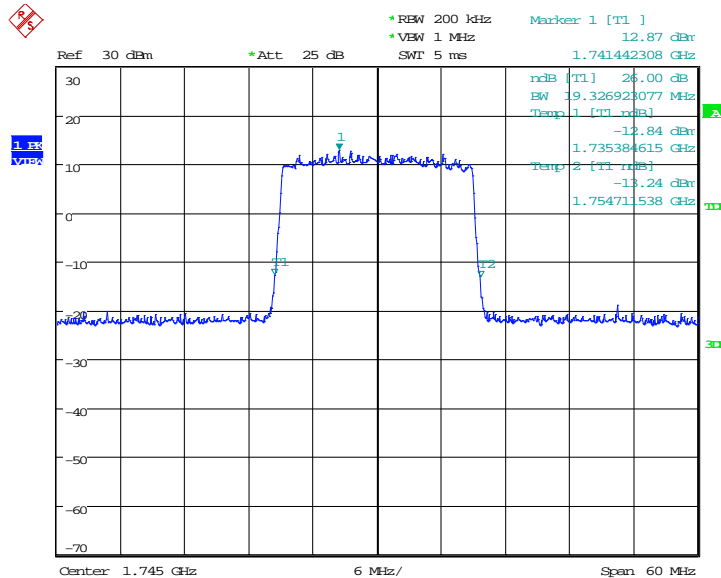
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	19230.77	19326.92	19326.92

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



Date: 13.JAN.2020 19:59:54

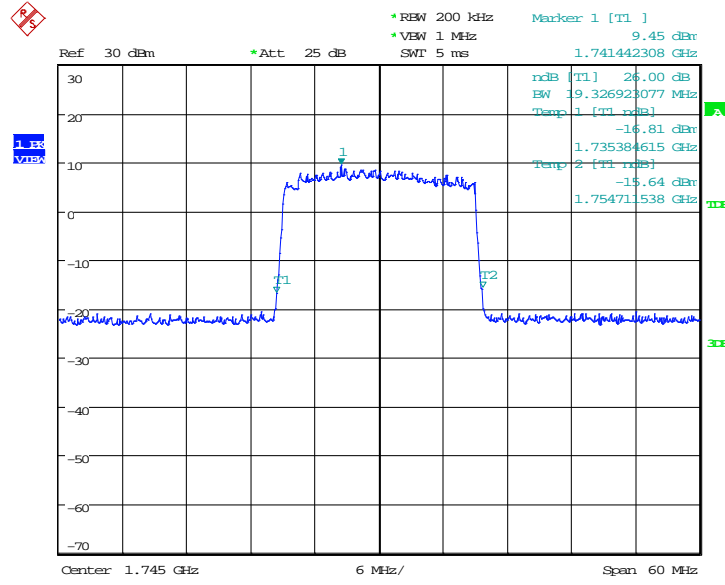
LTE band 66, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 13.JAN.2020 20:00:10



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



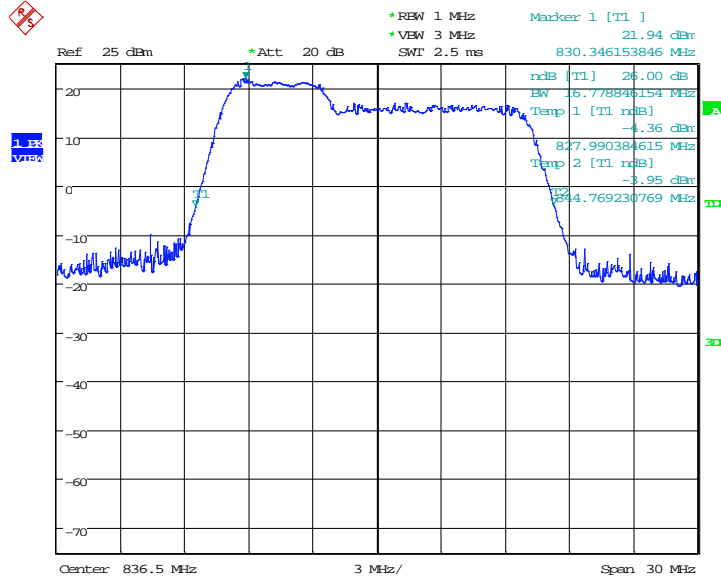
Date: 18.JAN.2020 19:41:05



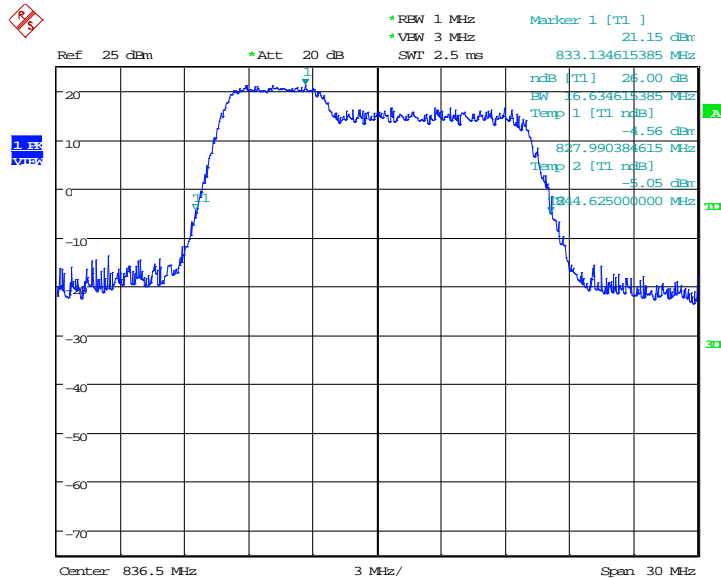
LTE Band CA_5B, 5MHz+10MHz (-26dBc BW)

Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
836.6	16778.85	16634.62	16971.15

LTE Band CA_5B, 5MHz+10MHz Bandwidth, QPSK (-26dBc BW)

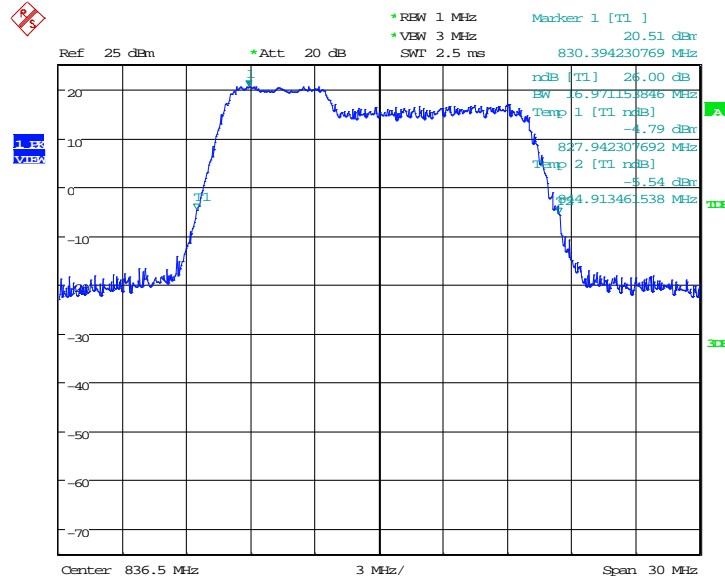


LTE Band CA_5B, 5MHz+10MHz Bandwidth, 16QAM (-26dBc BW)





LTE Band CA_5B, 5MHz+10MHz Bandwidth, 64QAM (-26dBc BW)



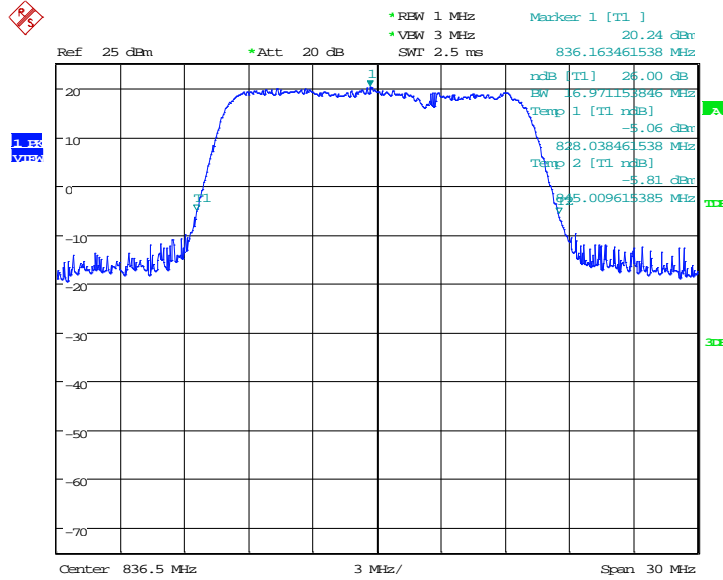
Date: 26.FEB.2020 12:11:19



LTE Band CA_5B, 10MHz+5MHz (-26dBc BW)

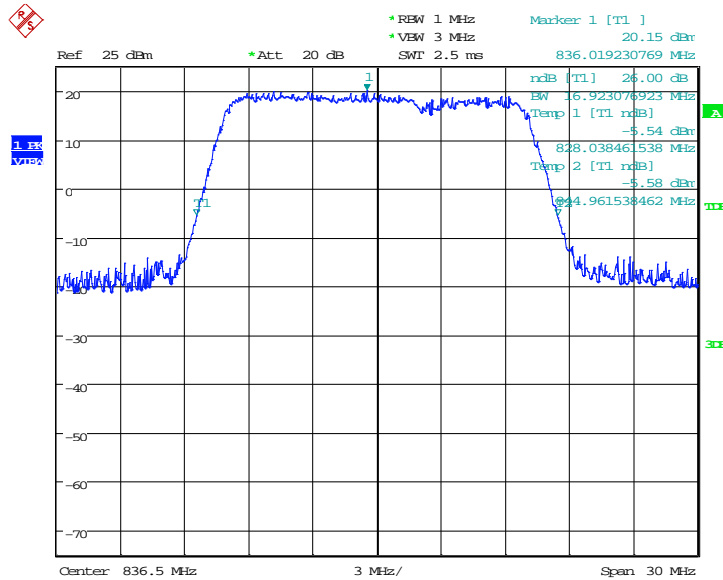
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
836.6	16971.15	16923.08	17067.31

LTE Band CA_5B, 10MHz+5MHz Bandwidth, QPSK (-26dBc BW)



Date: 26.FEB.2020 12:15:49

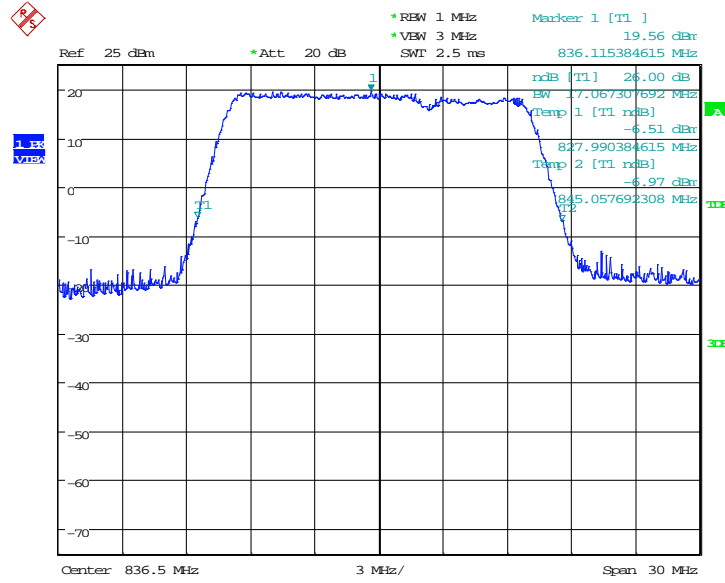
LTE Band CA_5B, 10MHz+5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 26.FEB.2020 12:16:08



LTE Band CA_5B, 10MHz+5MHz Bandwidth, 64QAM (-26dBc BW)



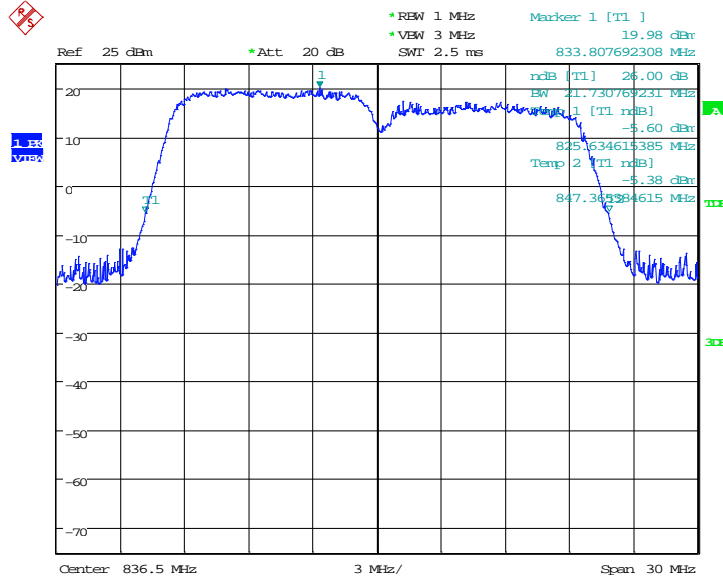
Date: 26.FEB.2020 12:17:30



LTE Band CA_5B, 10MHz+10MHz (-26dBc BW)

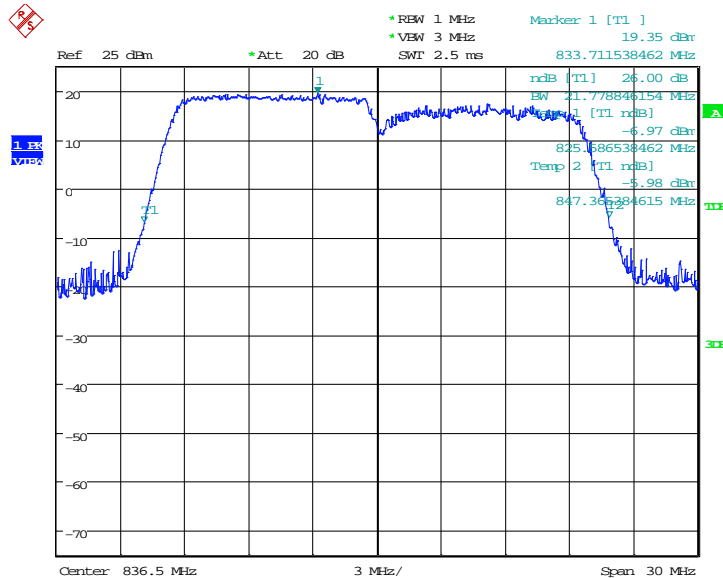
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
836.6	21730.77	21778.85	21730.77

LTE Band CA_5B, 10MHz+10MHz Bandwidth, QPSK (-26dBc BW)



Date: 26.FEB.2020 12:28:58

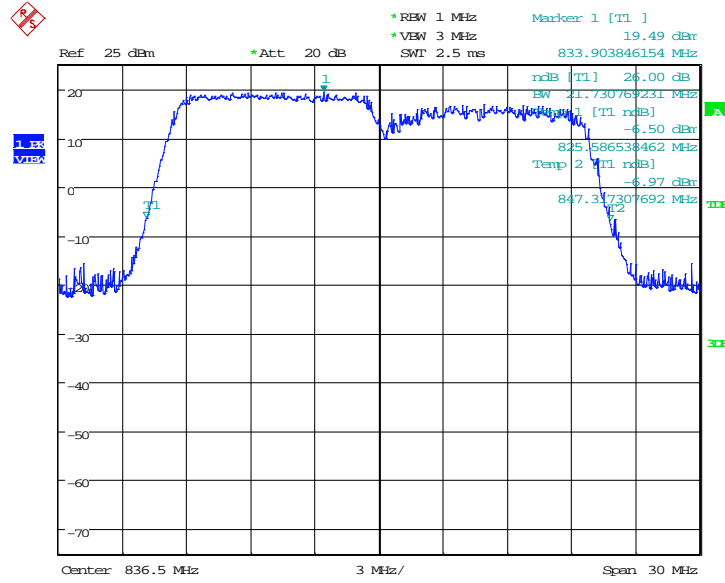
LTE Band CA_5B, 10MHz+10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 26.FEB.2020 12:28:26



LTE Band CA_5B, 10MHz+10MHz Bandwidth, 64QAM (-26dBc BW)

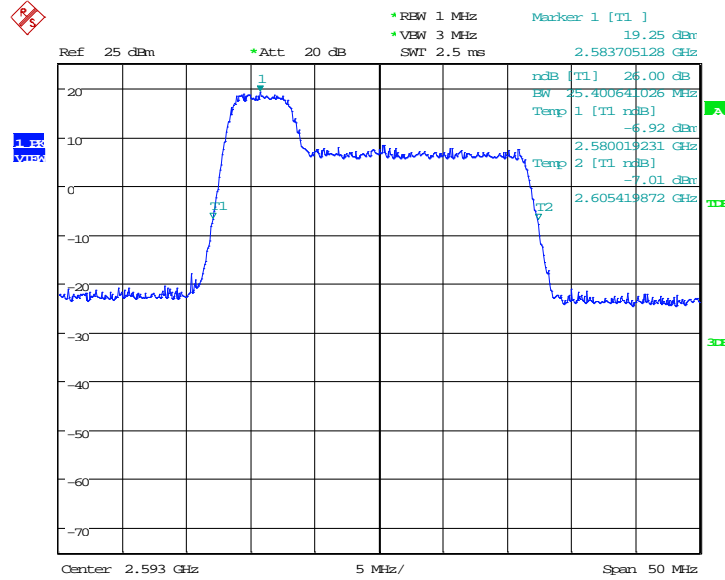


Date: 26.FEB.2020 12:26:45

LTE Band CA_41C, 5MHz+20MHz (-26dBc BW)

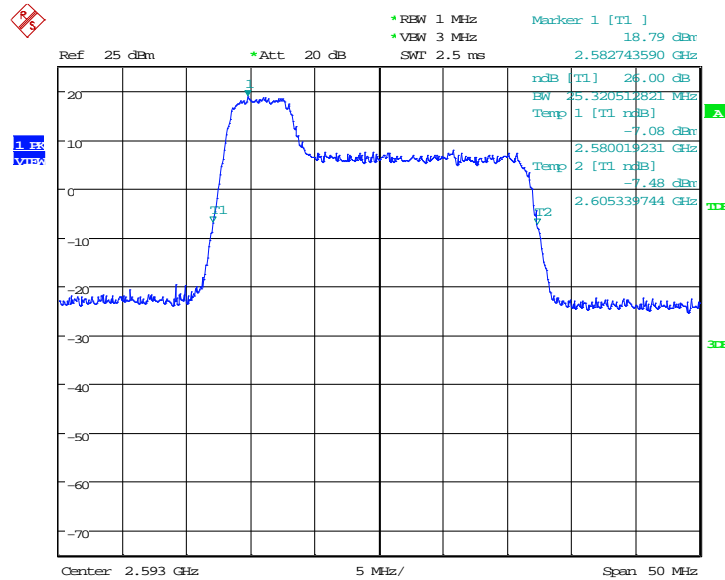
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	25400.64	25320.51	25560.90

LTE Band CA_41C, 5MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 07:21:15

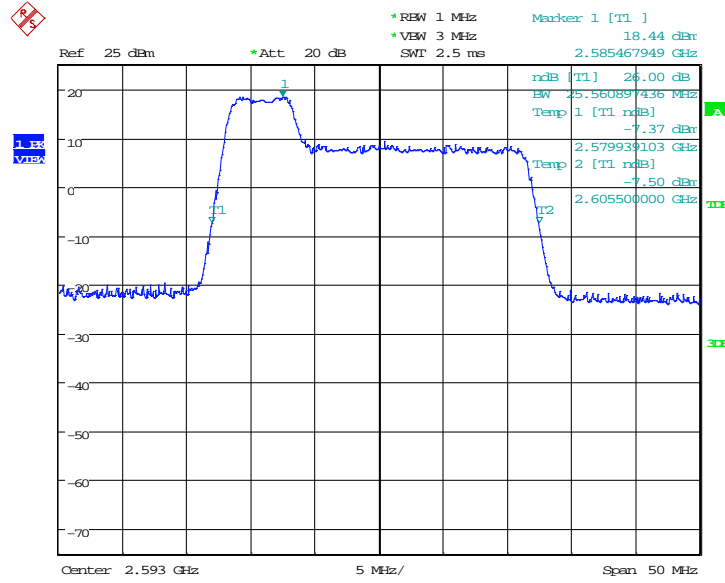
LTE Band CA_41C, 5MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 07:20:51



LTE Band CA_41C, 5MHz+20MHz Bandwidth, 64QAM (-26dBc BW)

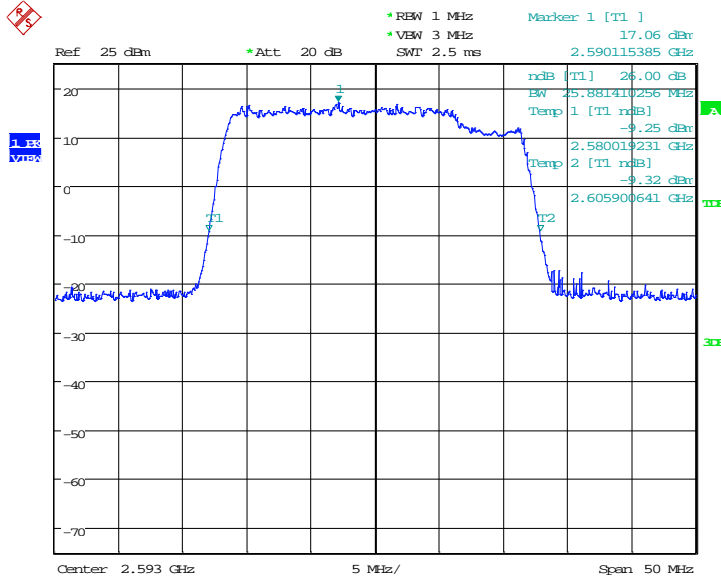


Date: 24.FEB.2020 07:20:06

LTE Band CA_41C, 20MHz+5MHz (-26dBc BW)

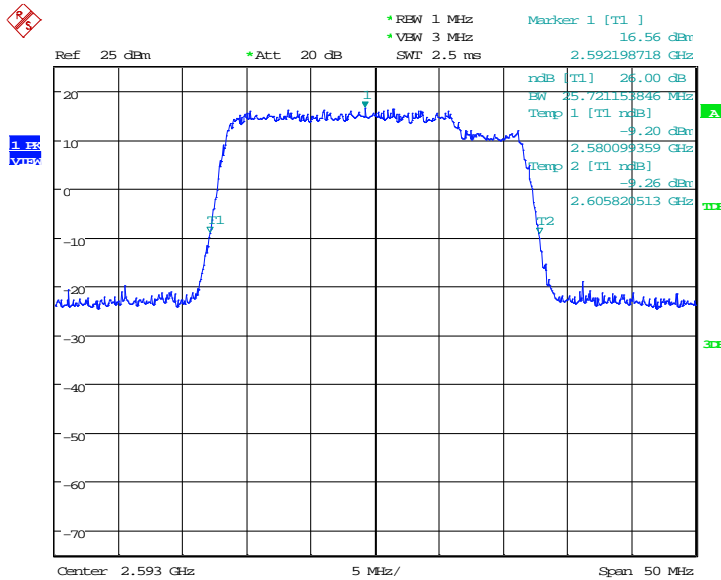
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	25881.41	25721.15	25801.28

LTE Band CA_41C, 20MHz+5MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 07:30:02

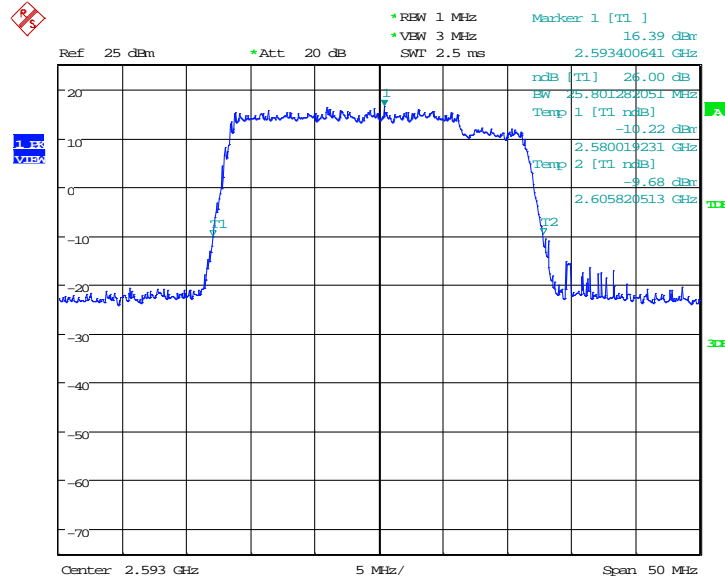
LTE Band CA_41C, 20MHz+5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 07:30:26



LTE Band CA_41C, 20MHz+5MHz Bandwidth, 64QAM (-26dBc BW)

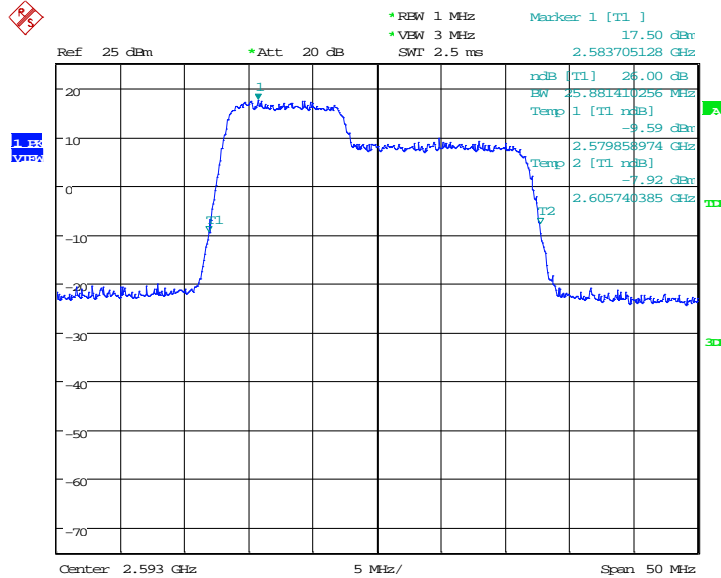


Date: 24.FEB.2020 07:31:08

LTE Band CA_41C, 10MHz+15MHz (-26dBc BW)

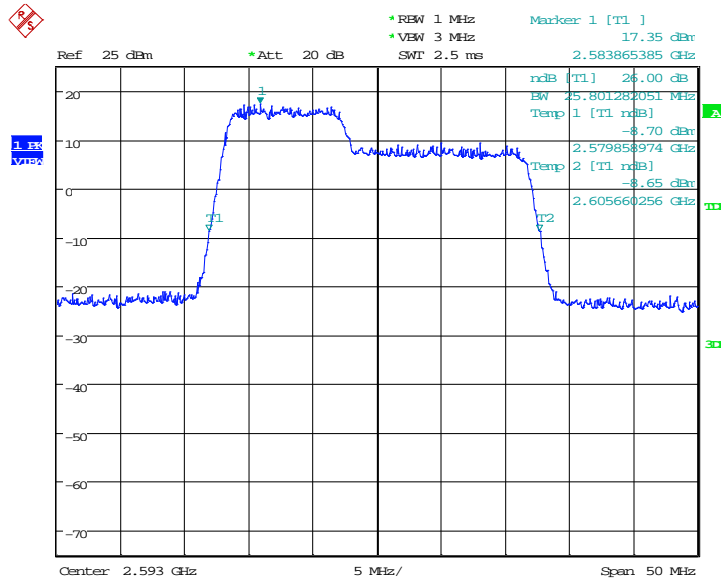
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	25881.41	25801.28	25881.41

LTE Band CA_41C, 10MHz+15MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:25:36

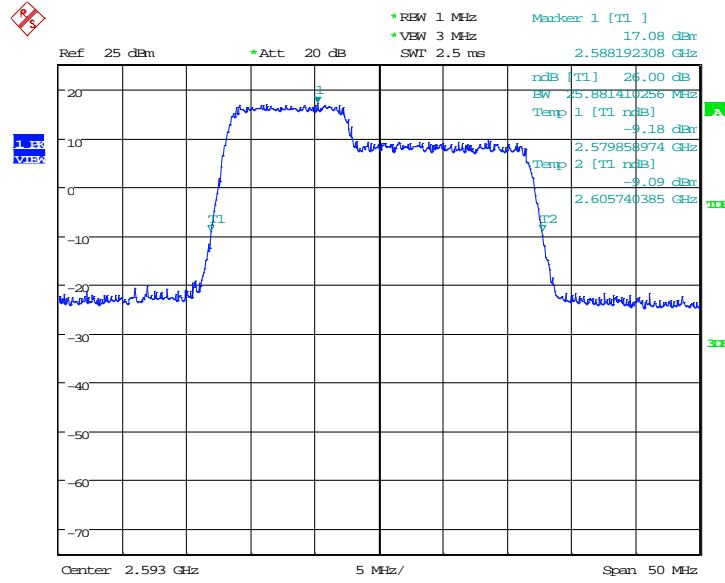
LTE Band CA_41C, 10MHz+15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 09:25:49



LTE Band CA_41C, 10MHz+15MHz Bandwidth, 64QAM (-26dBc BW)

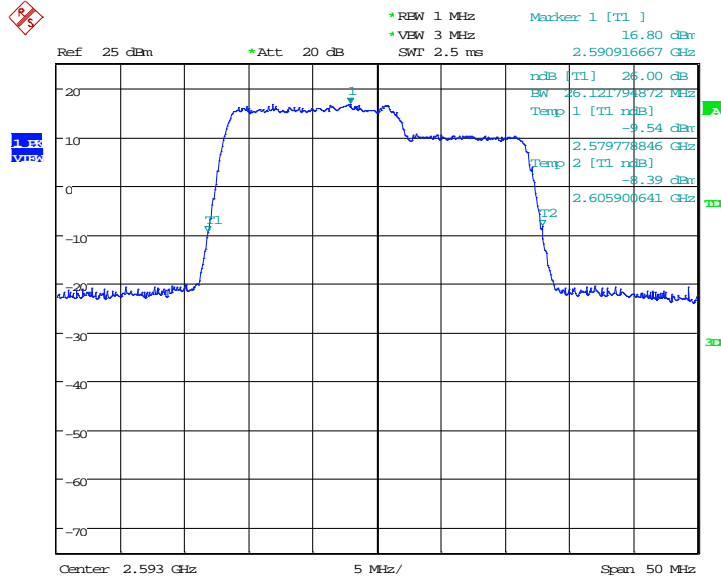


Date: 24.FEB.2020 09:25:05

LTE Band CA_41C, 15MHz+10MHz (-26dBc BW)

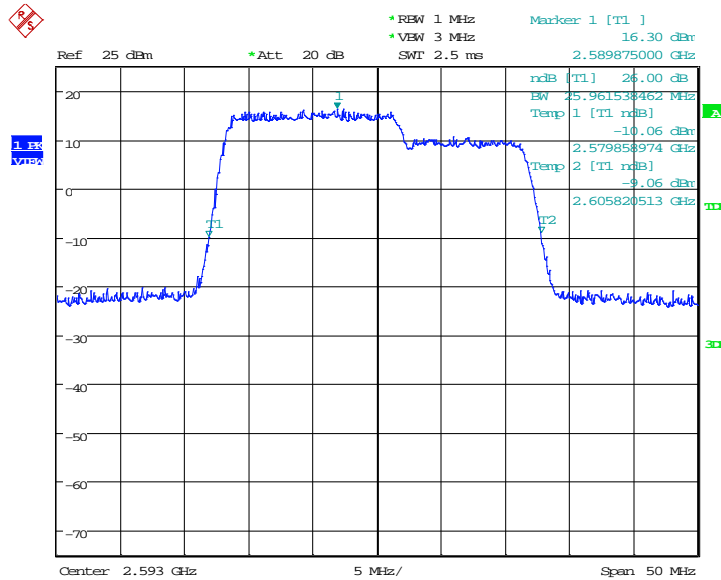
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	26121.79	25961.54	25961.54

LTE Band CA_41C, 15MHz+10MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:32:26

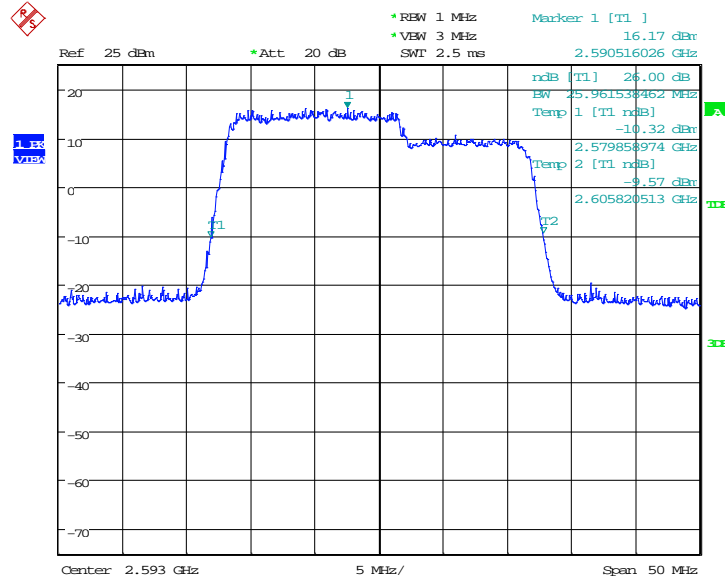
LTE Band CA_41C, 15MHz+10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 09:31:20



LTE Band CA_41C, 15MHz+10MHz Bandwidth, 64QAM (-26dBc BW)

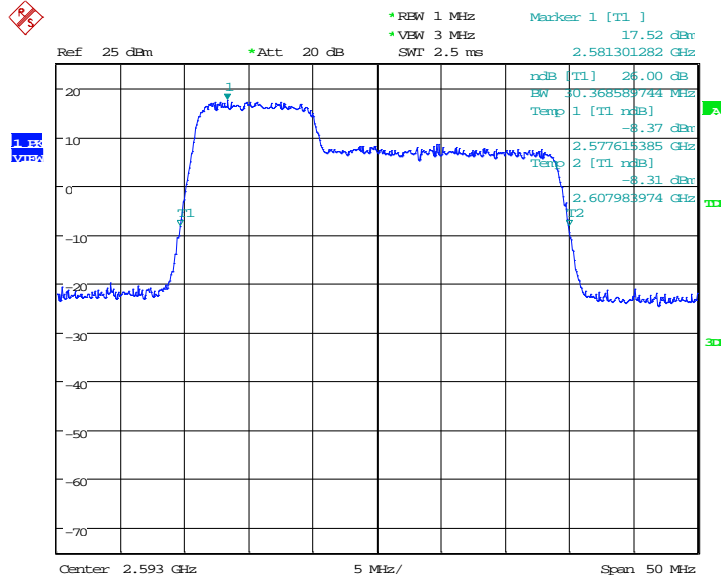


Date: 24.FEB.2020 09:31:46

LTE Band CA_41C, 10MHz+20MHz (-26dBc BW)

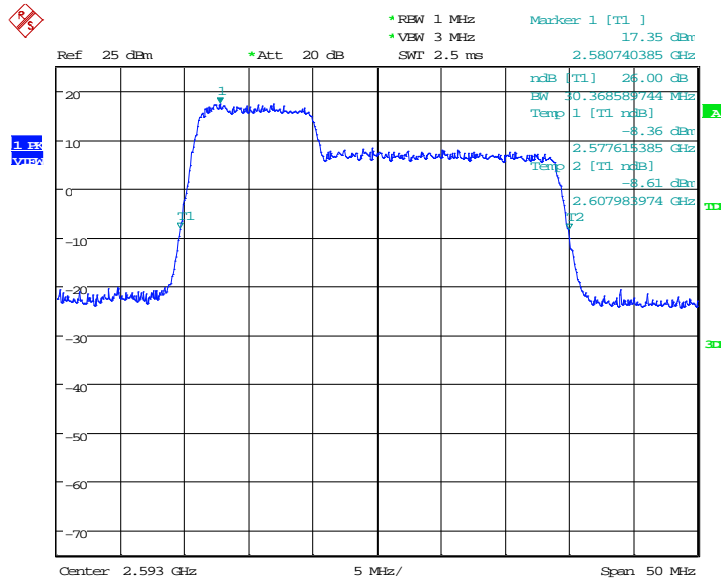
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	30368.59	30368.59	30448.72

LTE Band CA_41C, 10MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:38:40

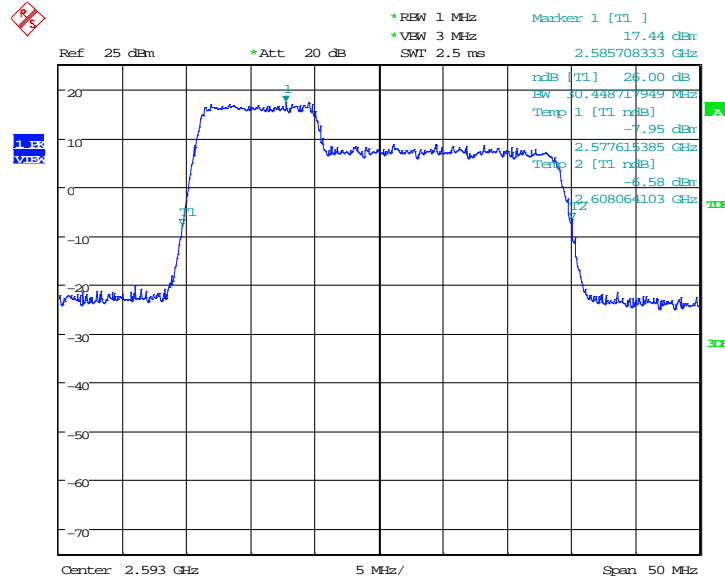
LTE Band CA_41C, 10MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 09:39:02



LTE Band CA_41C, 10MHz+20MHz Bandwidth, 64QAM (-26dBc BW)

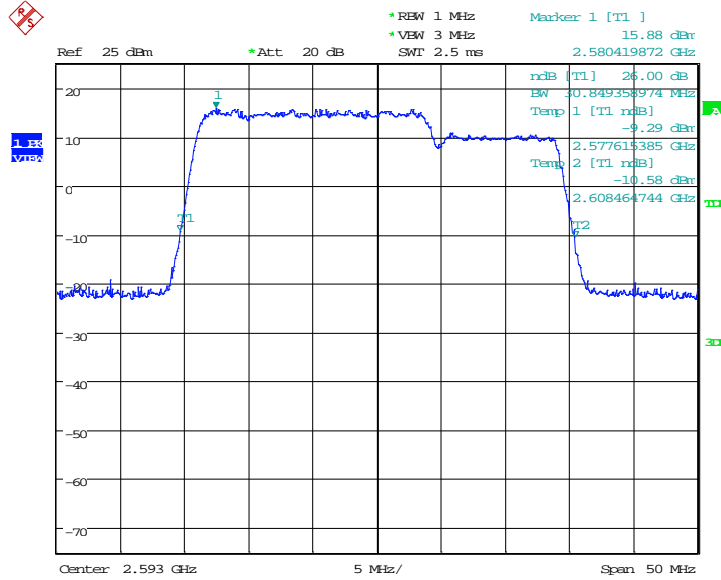


Date: 24.FEB.2020 09:40:16

LTE Band CA_41C, 20MHz+10MHz (-26dBc BW)

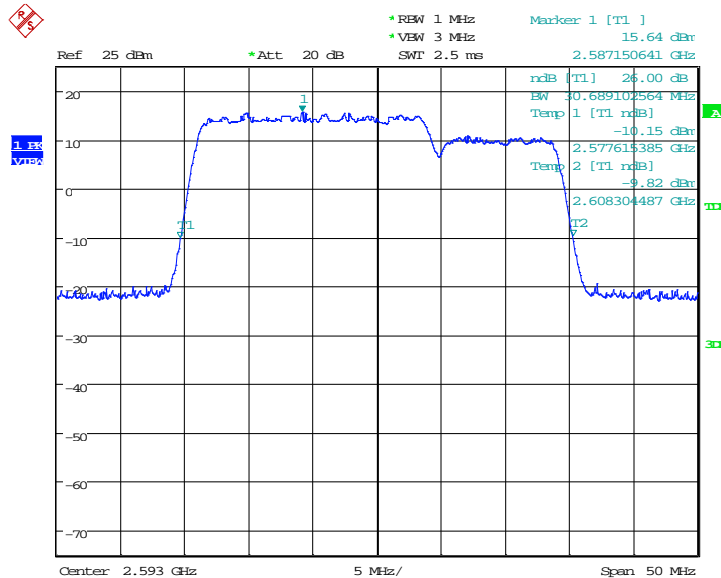
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	30849.36	30689.10	30689.10

LTE Band CA_41C, 20MHz+10MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:48:21

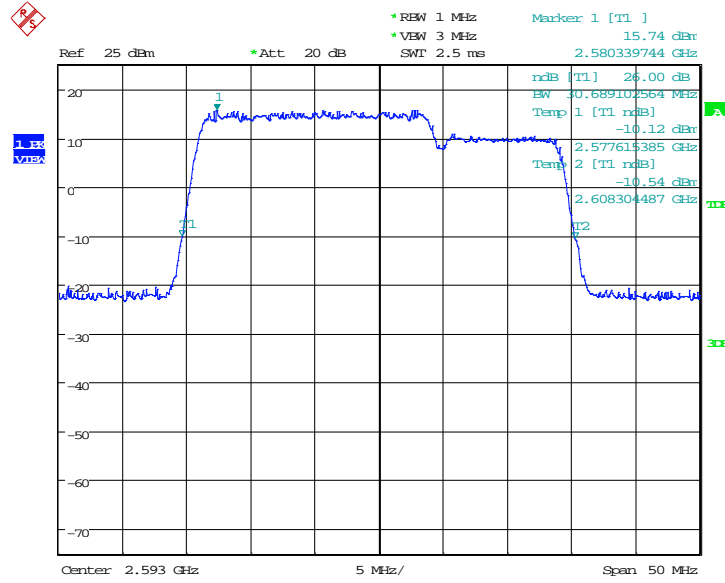
LTE Band CA_41C, 20MHz+10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 09:43:50



LTE Band CA_41C, 20MHz+10MHz Bandwidth, 64QAM (-26dBc BW)

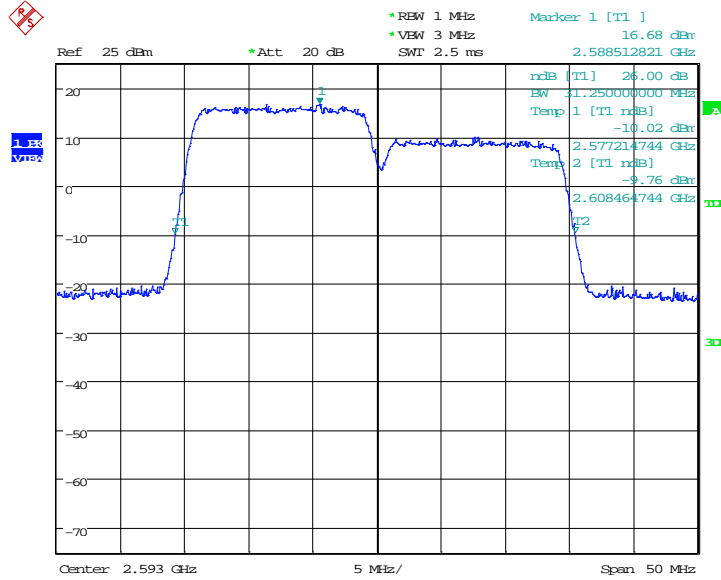


Date: 24.FEB.2020 09:42:27

LTE Band CA_41C, 15MHz+15MHz (-26dBc BW)

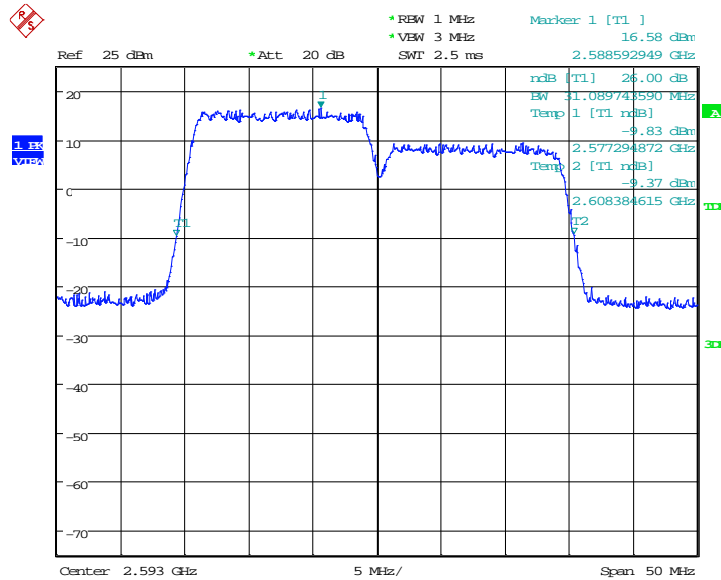
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	31250.00	31089.74	31009.62

LTE Band CA_41C, 15MHz+15MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:55:32

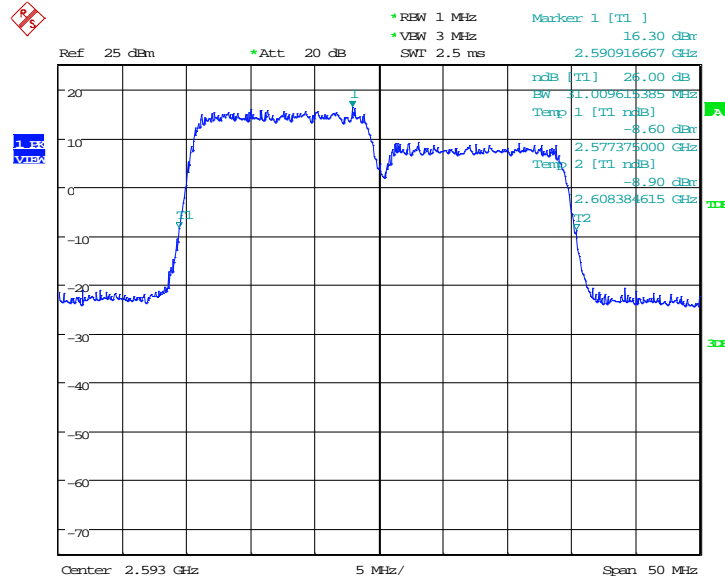
LTE Band CA_41C, 15MHz+15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 09:55:52



LTE Band CA_41C, 15MHz+15MHz Bandwidth, 64QAM (-26dBc BW)

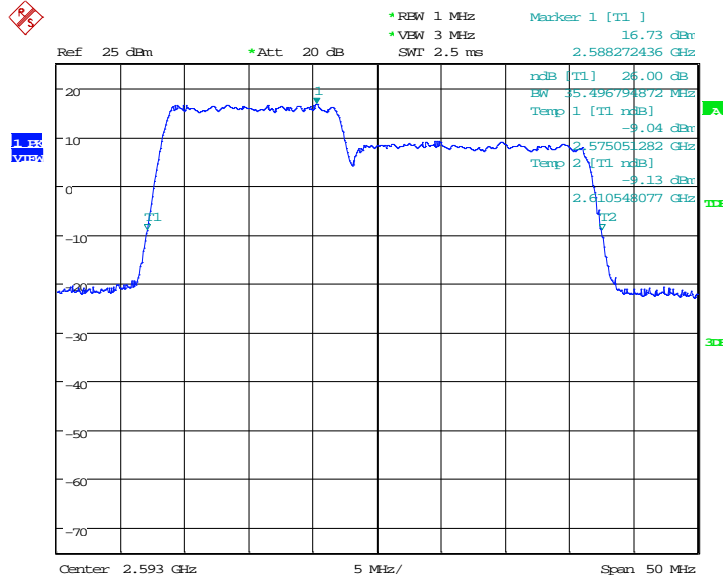


Date: 24.FEB.2020 09:54:33

LTE Band CA_41C, 15MHz+20MHz (-26dBc BW)

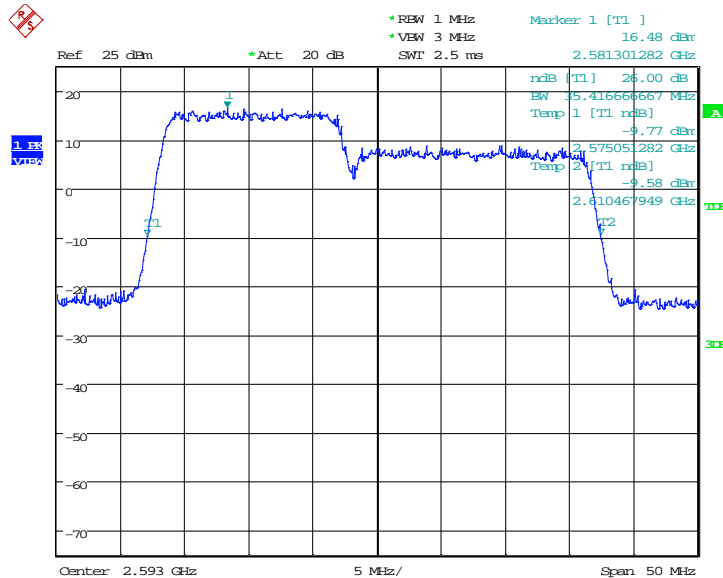
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	35496.79	35416.67	35336.54

LTE Band CA_41C, 15MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 09:59:48

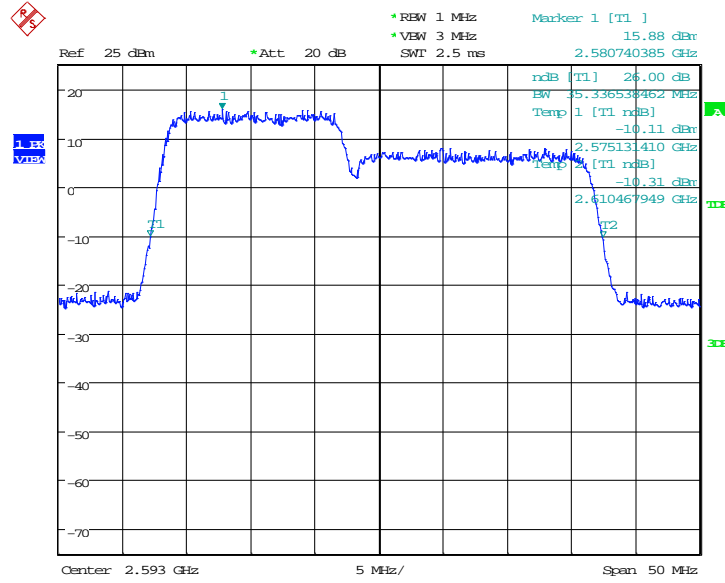
LTE Band CA_41C, 15MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 10:00:26



LTE Band CA_41C, 15MHz+20MHz Bandwidth, 64QAM (-26dBc BW)

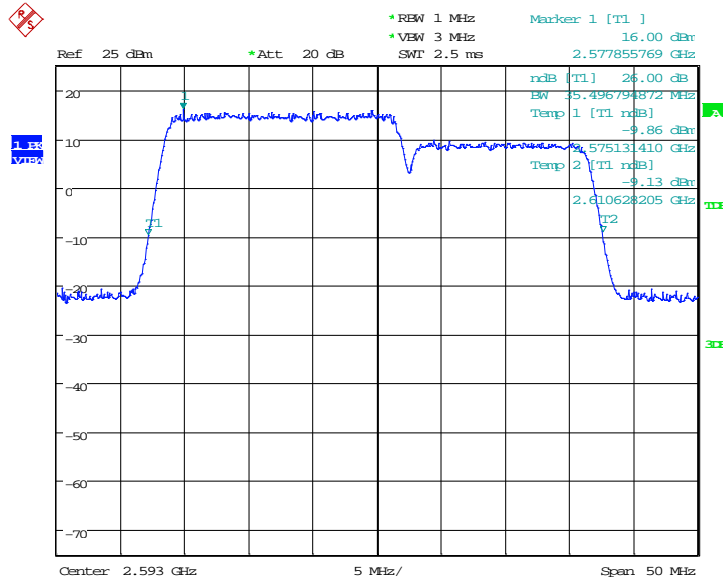


Date: 24.FEB.2020 10:00:52

LTE Band CA_41C, 20MHz+15MHz (-26dBc BW)

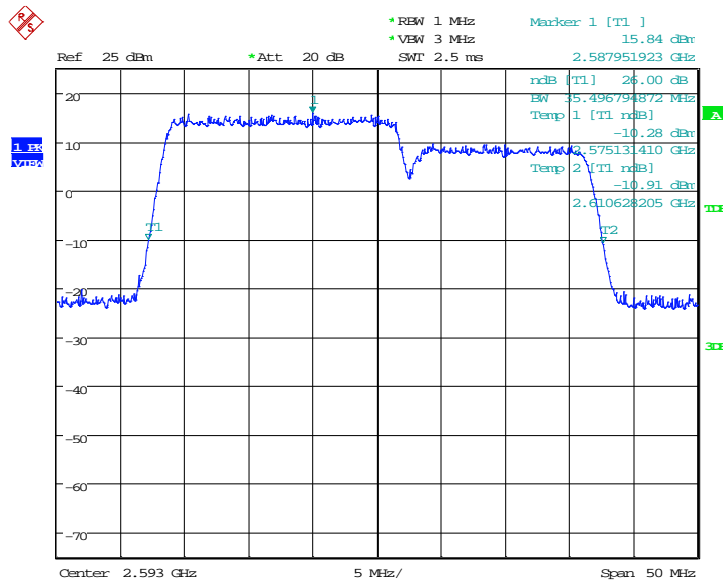
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	35496.79	35496.79	35576.92

LTE Band CA_41C, 20MHz+15MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 10:07:15

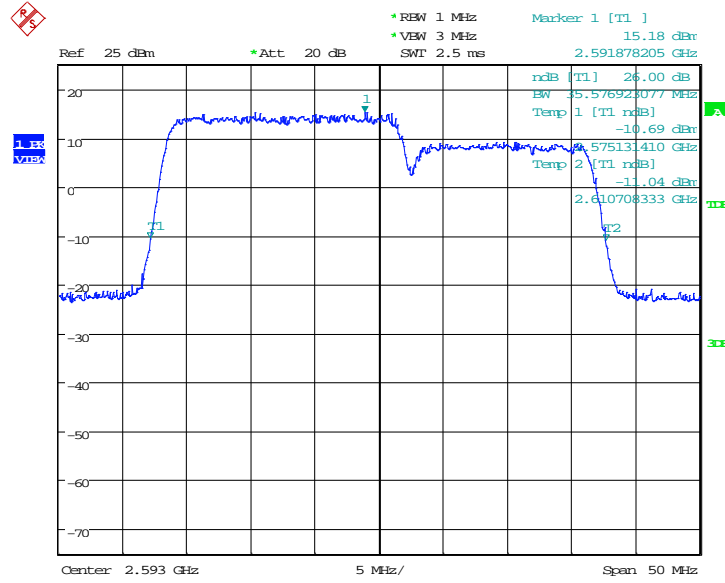
LTE Band CA_41C, 20MHz+15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 10:07:36



LTE Band CA_41C, 20MHz+15MHz Bandwidth, 64QAM (-26dBc BW)

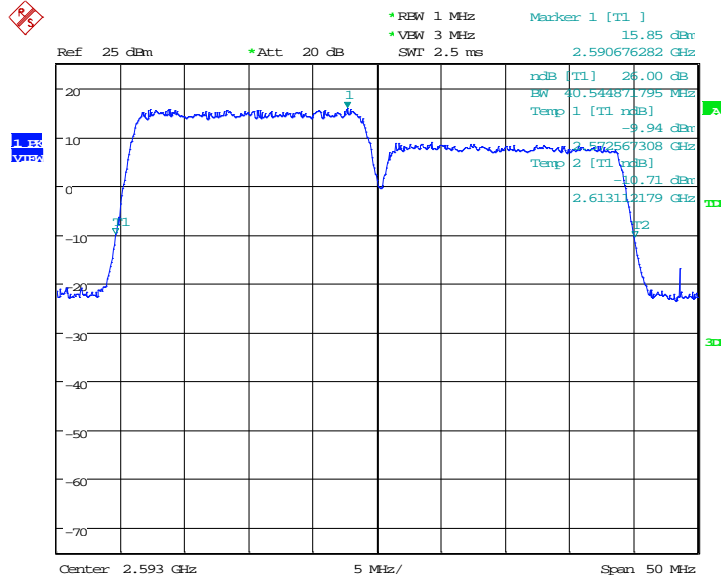


Date: 24.FEB.2020 10:08:20

LTE Band CA_41C, 20MHz+20MHz (-26dBc BW)

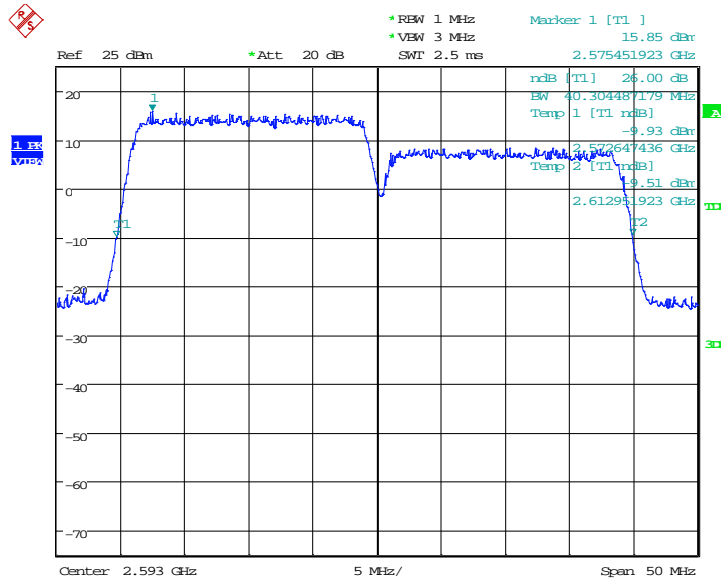
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
	QPSK	16QAM	64QAM
2593.0	40544.87	40304.49	40224.36

LTE Band CA_41C, 20MHz+20MHz Bandwidth, QPSK (-26dBc BW)



Date: 24.FEB.2020 10:11:47

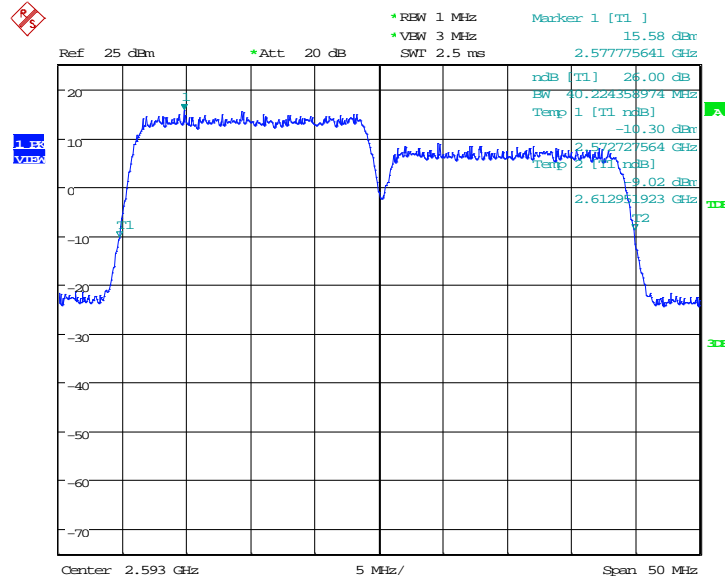
LTE Band CA_41C, 20MHz+20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 24.FEB.2020 10:11:14



LTE Band CA_41C, 20MHz+20MHz Bandwidth, 64QAM (-26dBc BW)



Date: 24.FEB.2020 10:10:40

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

A.6 BAND EDGE COMPLIANCE

Reference

FCC: CFR Part 2.1051, 22.917, 24.238, 27.53, 90.691.

A.6.1 Measurement limit

On any frequency outside frequency band

d of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least $43+10\log(P)$ dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

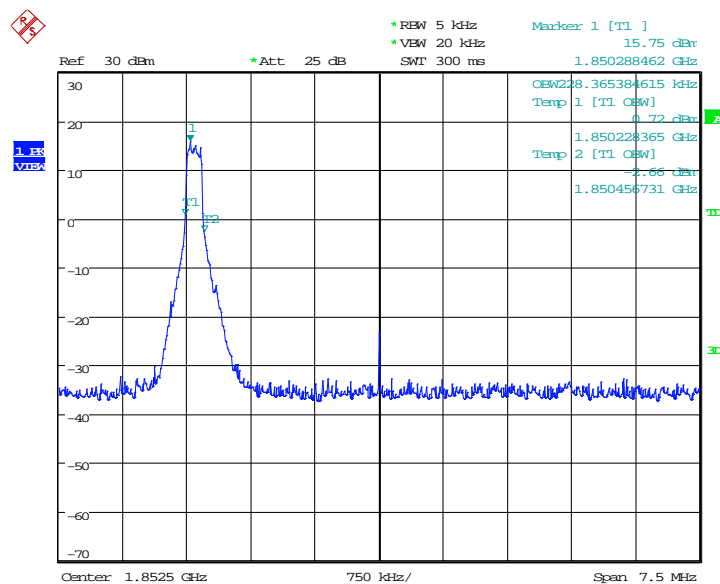
A relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

A.6.2 Measurement result

Only worst case result is given below

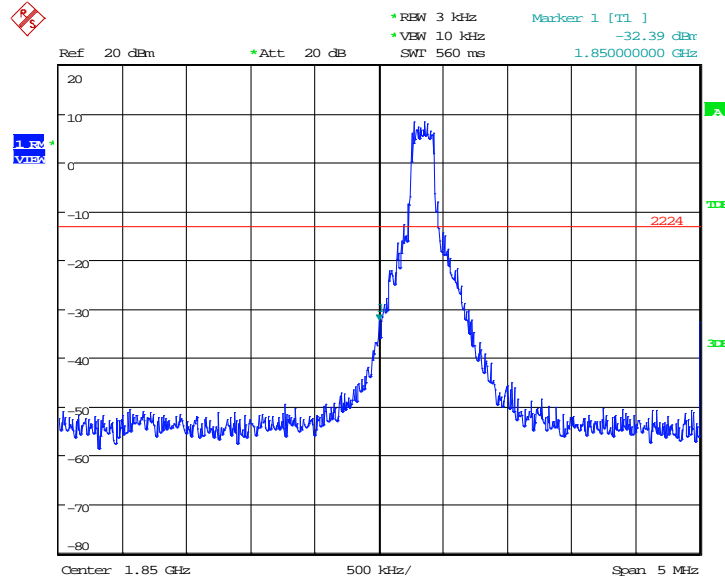
LTE band 2

OBW: 1RB-low_offset



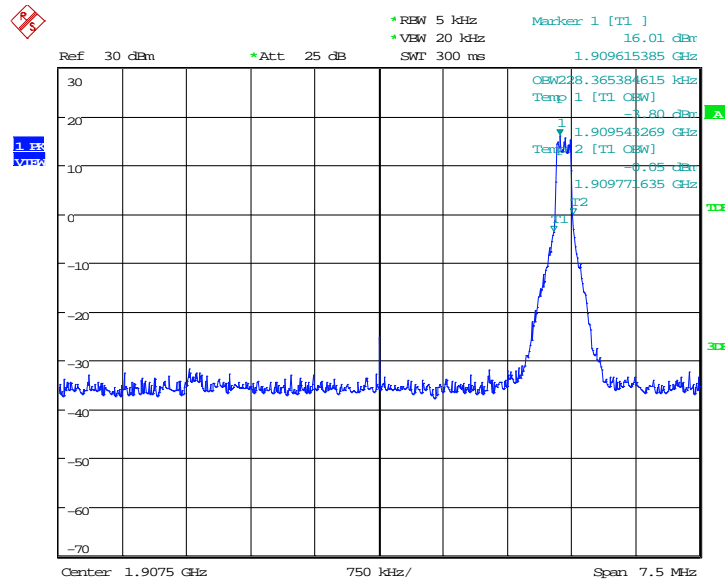
Date: 23.JAN.2020 16:31:02

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 16:31:46

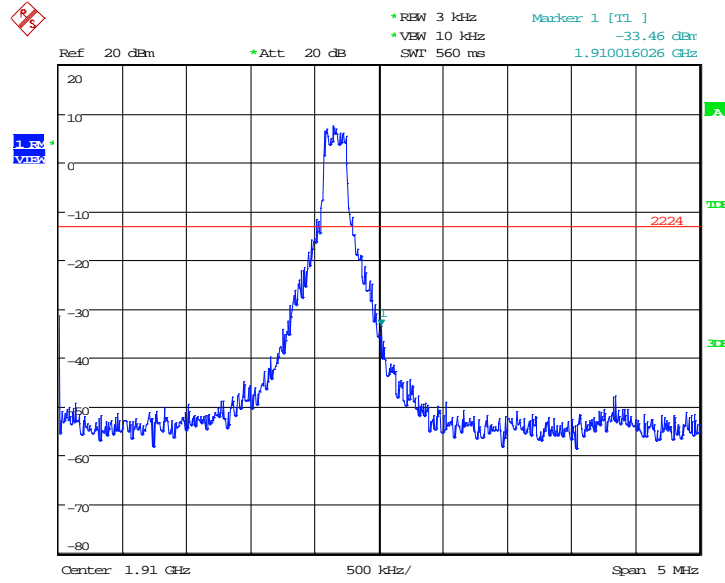
OBW: 1RB-high_offset



Date: 23.JAN.2020 16:10:04

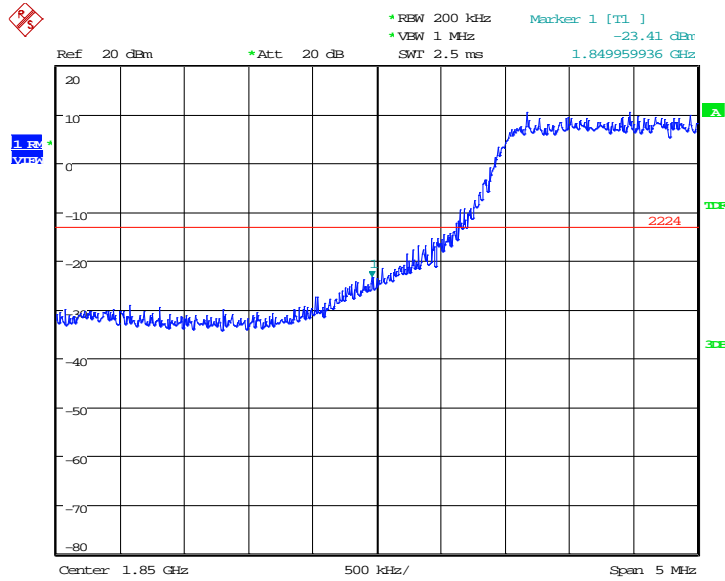


HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:10:49

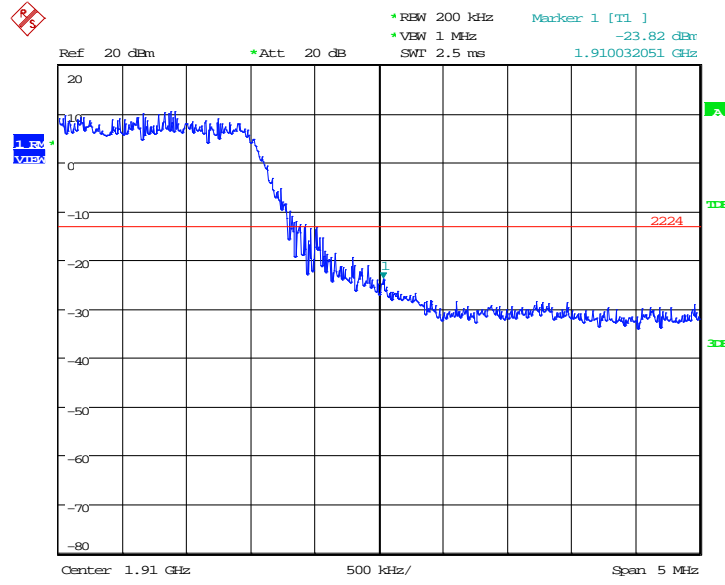
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:51:41



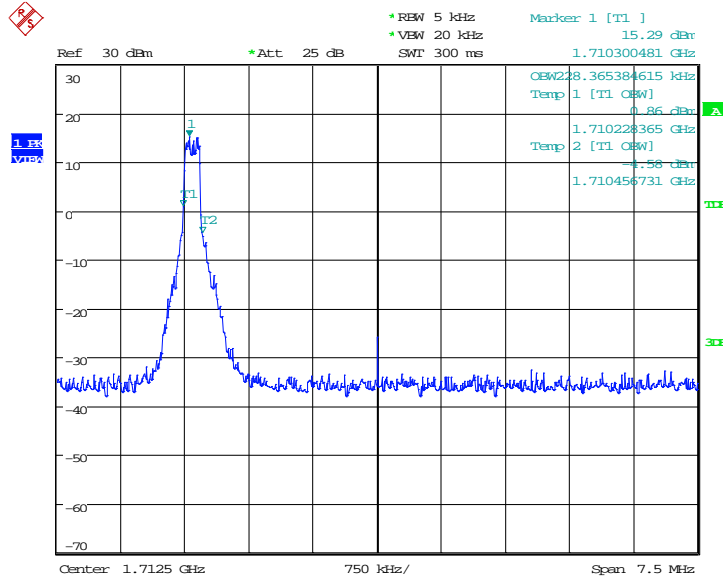
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:52:28

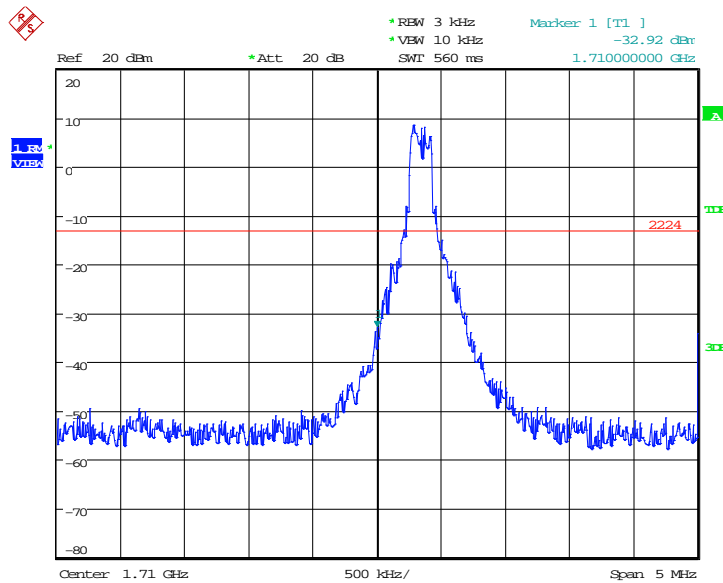


LTE band 4
OBW: 1RB-low_offset



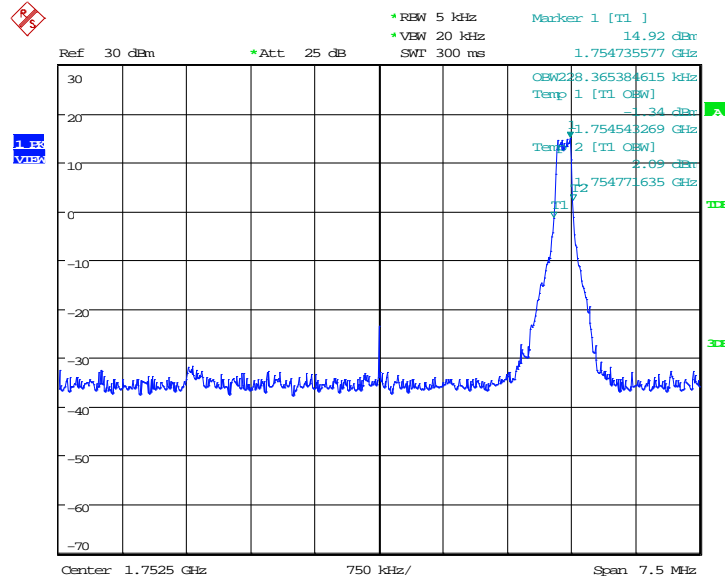
Date: 23.JAN.2020 16:32:42

LOW BAND EDGE BLOCK-1RB-low_offset



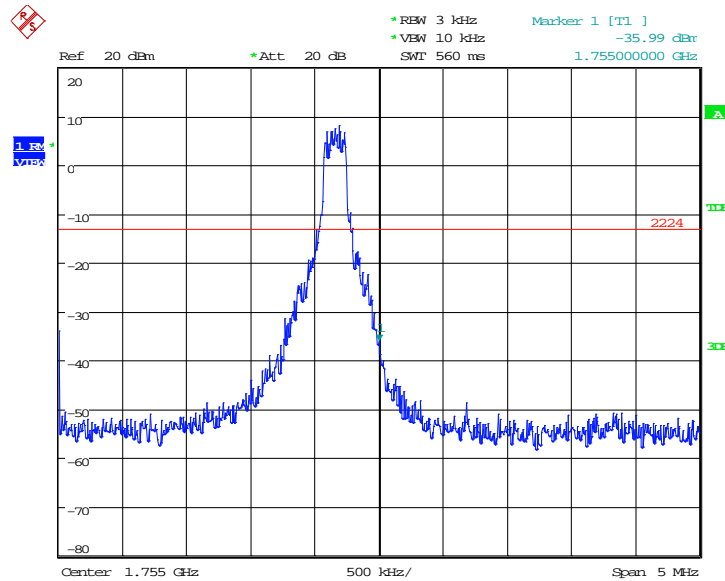
Date: 23.JAN.2020 16:33:26

OBW: 1RB-high_offset



Date: 23.JAN.2020 16:11:47

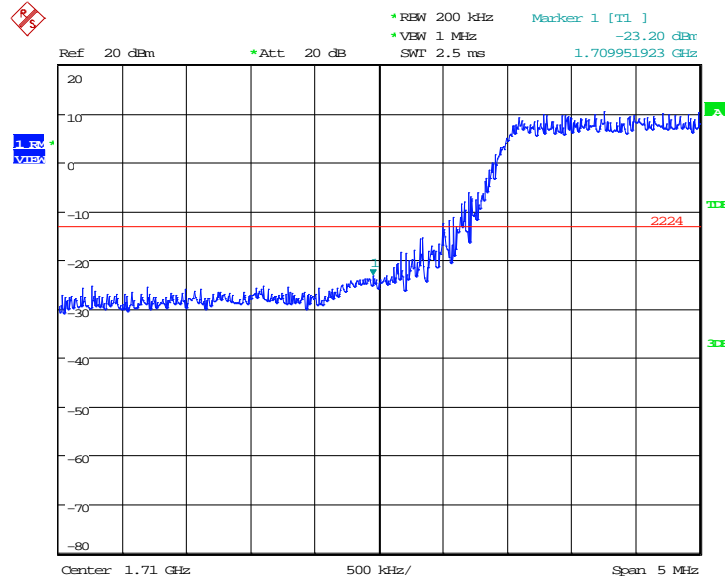
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:12:31

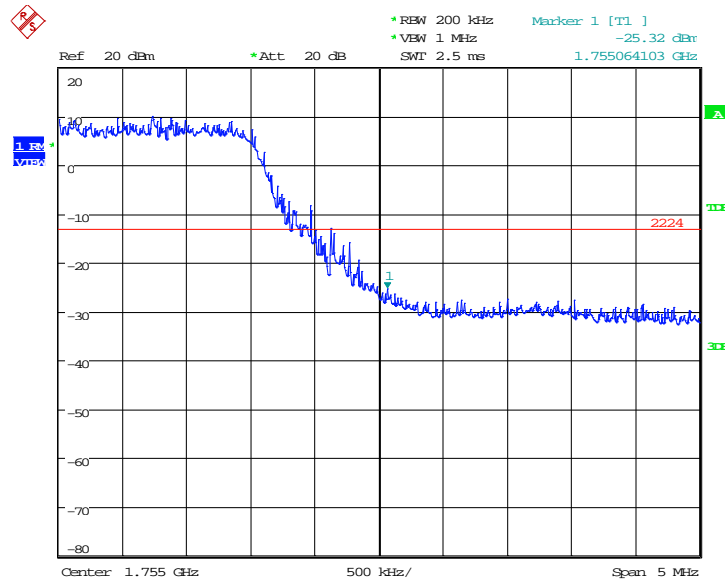


LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:53:15

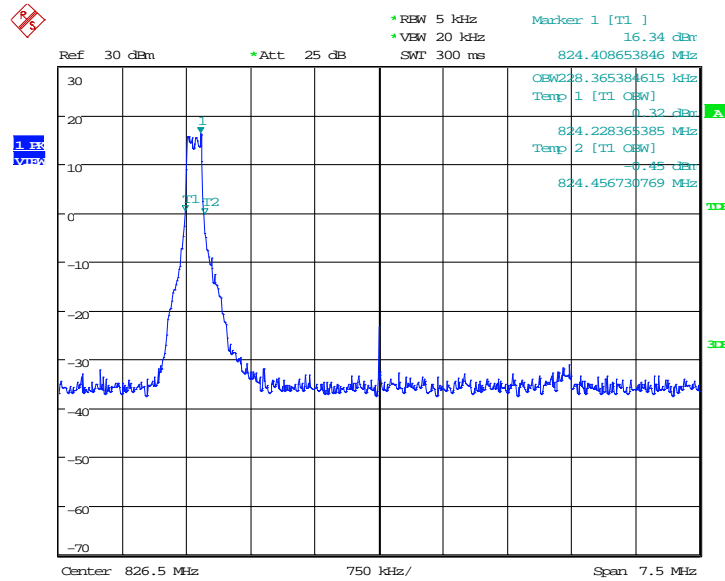
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:54:02

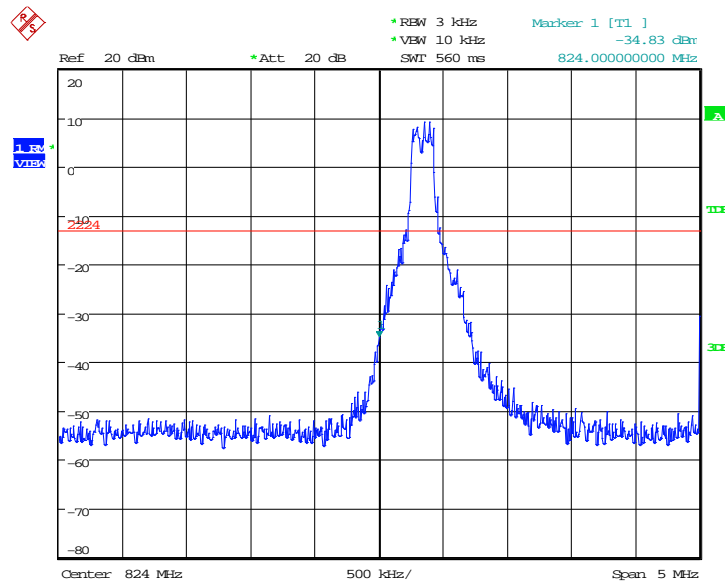


LTE band 5
OBW: 1RB-low_offset



Date: 23.JAN.2020 16:29:22

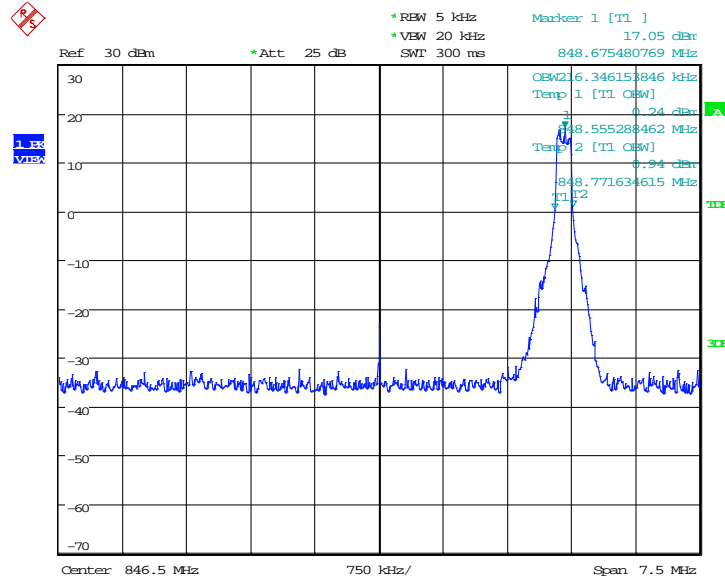
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 16:30:06

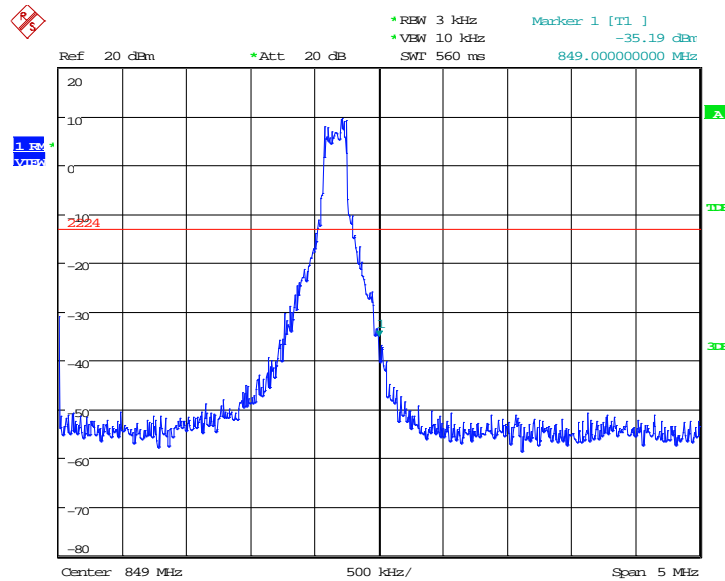


OBW: 1RB-high_offset



Date: 23.JAN.2020 16:08:24

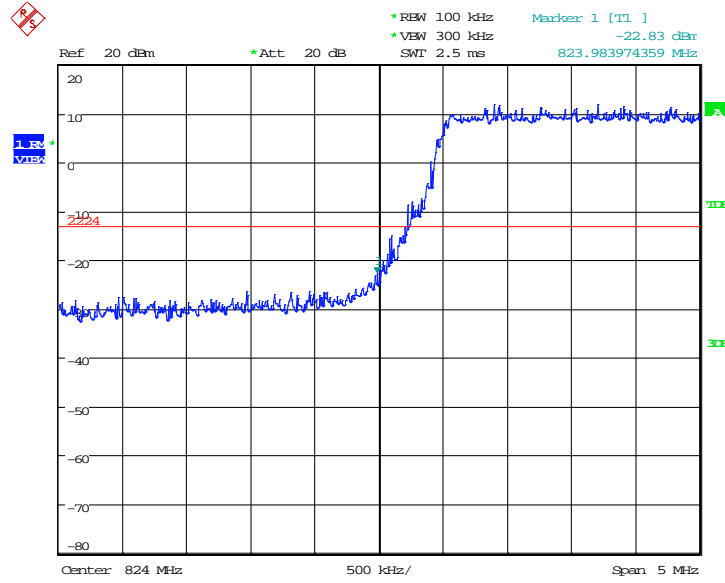
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:09:09

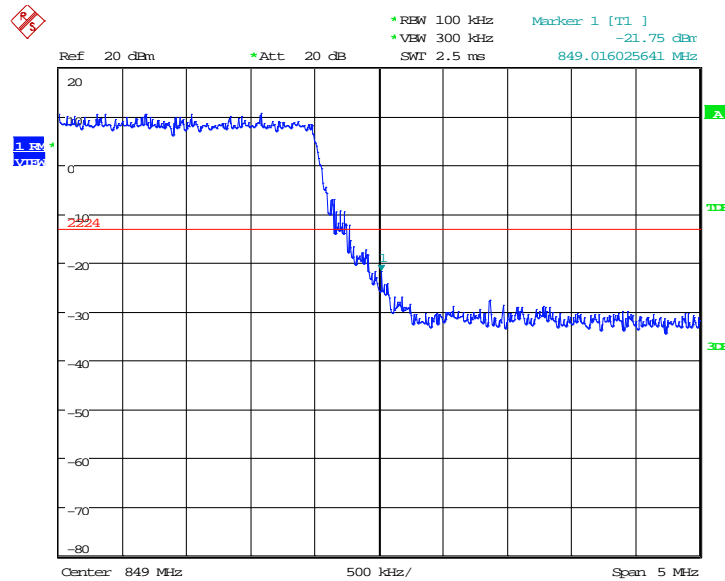


LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 23.JAN.2020 16:59:51

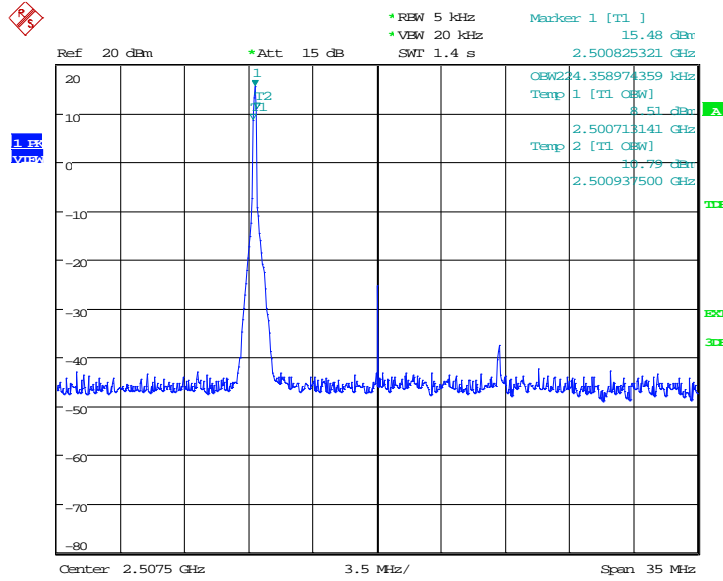
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 23.JAN.2020 17:00:37

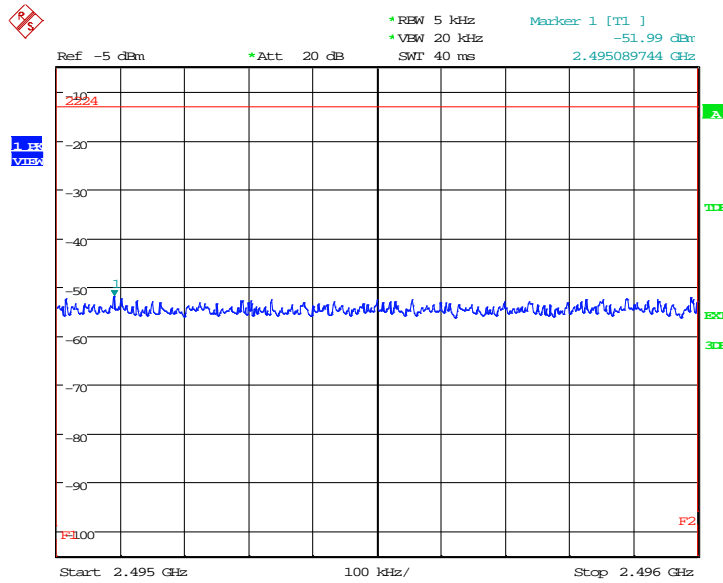


LTE band 7
OBW: 1RB-low_offset

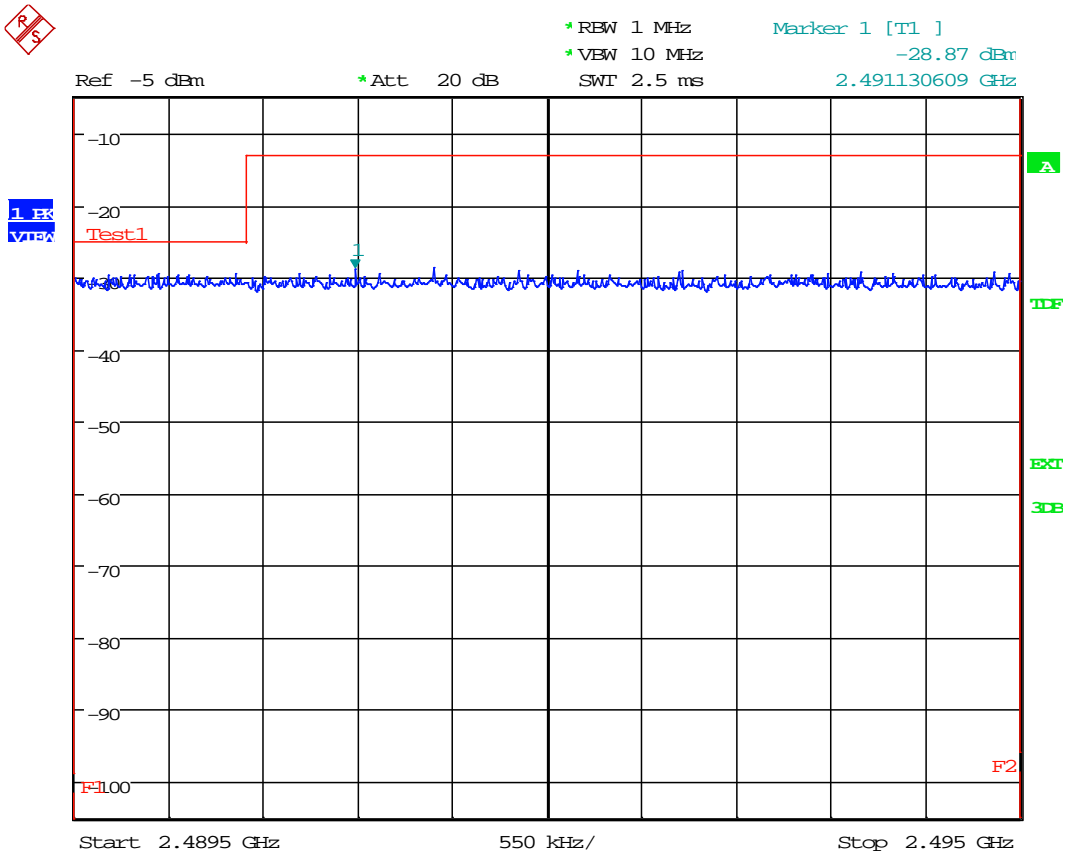


Date: 18.JAN.2020 13:48:50

LOW BAND EDGE BLOCK-1RB-low_offset

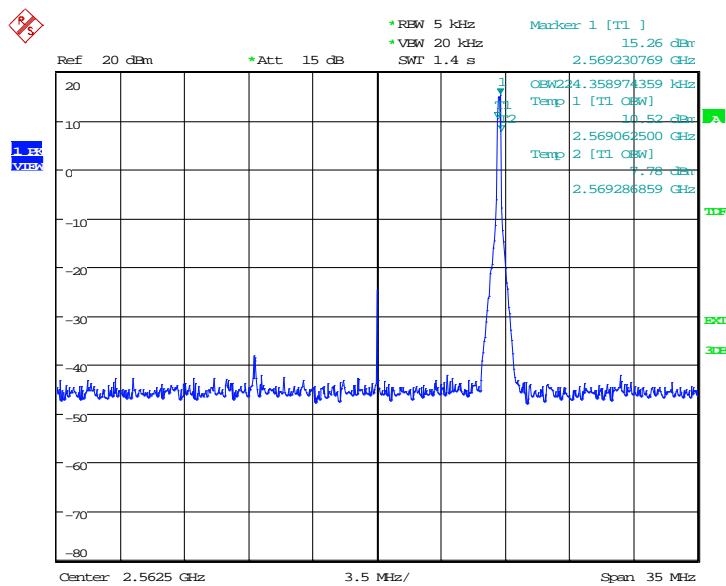


Date: 18.JAN.2020 13:53:45



Date: 18.JAN.2020 14:13:20

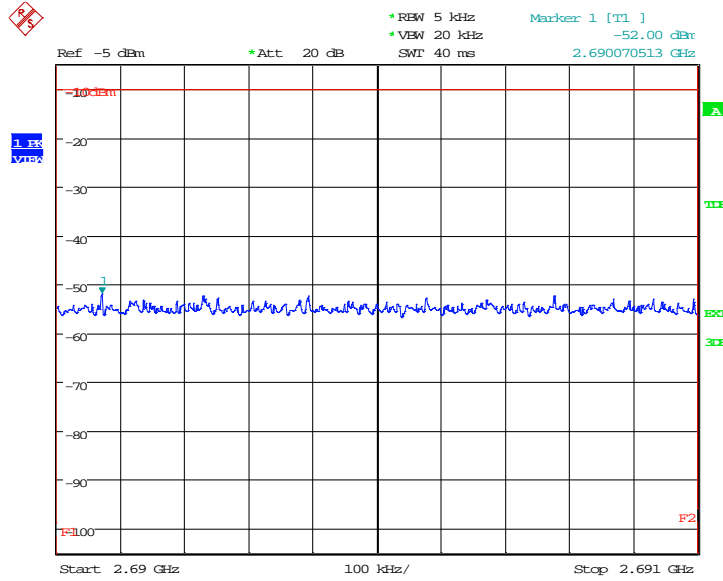
OBW: 1RB-high_offset



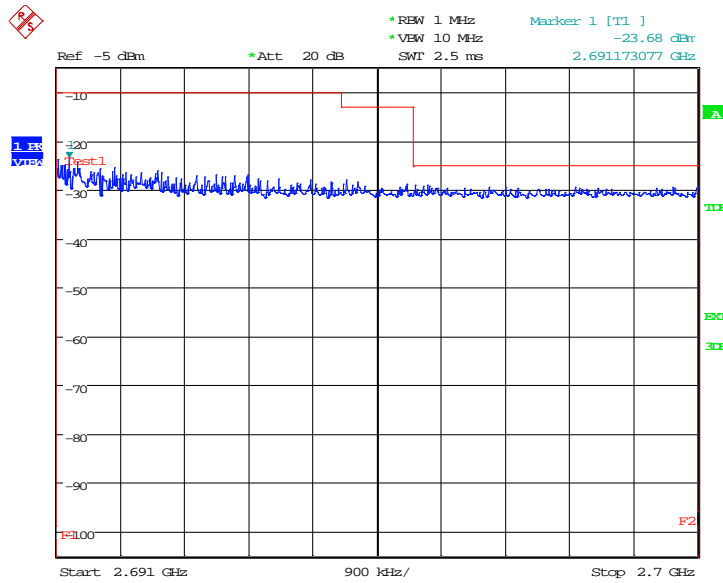
Date: 18.JAN.2020 14:14:46



HIGH BAND EDGE BLOCK-1RB-high_offset



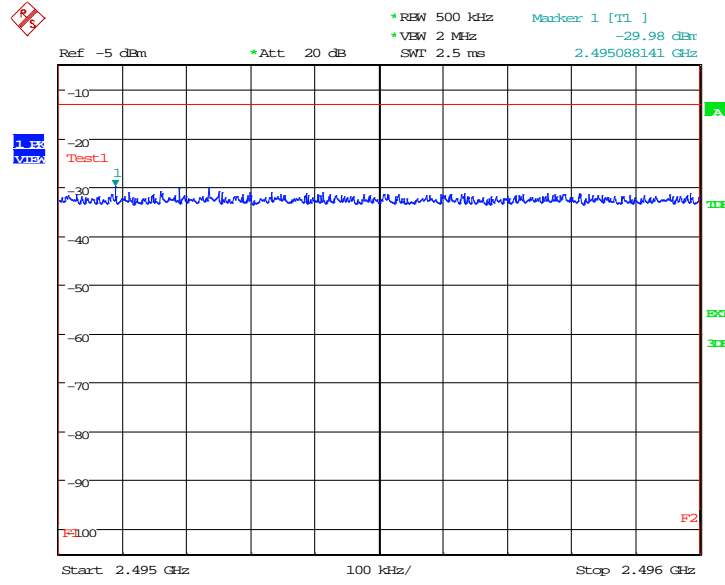
Date: 18.JAN.2020 14:19:46



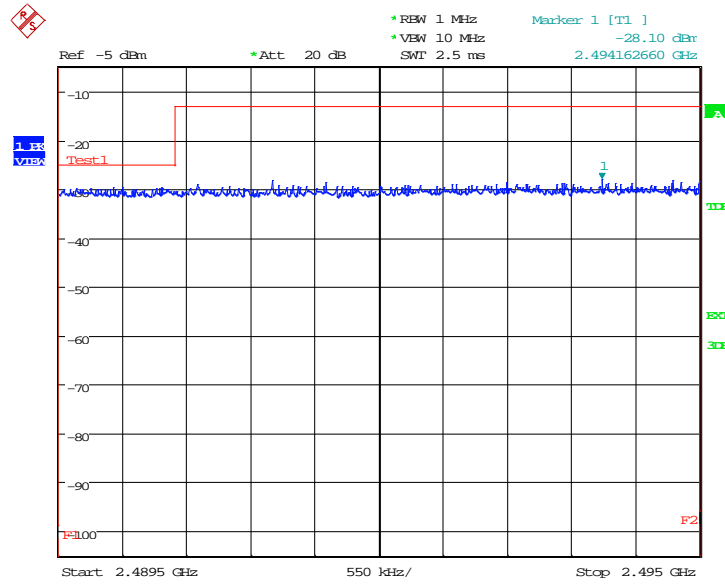
Date: 18.JAN.2020 14:31:18



LOW BAND EDGE BLOCK-20MHz-100%RB



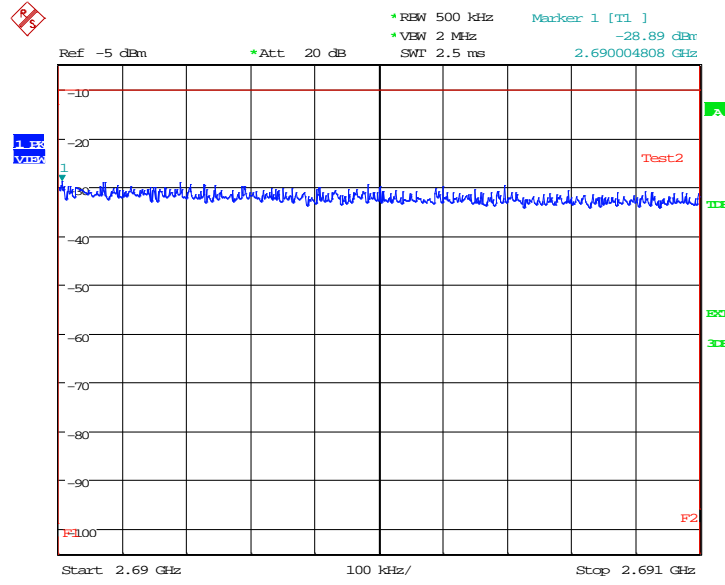
Date: 18.JAN.2020 14:34:40



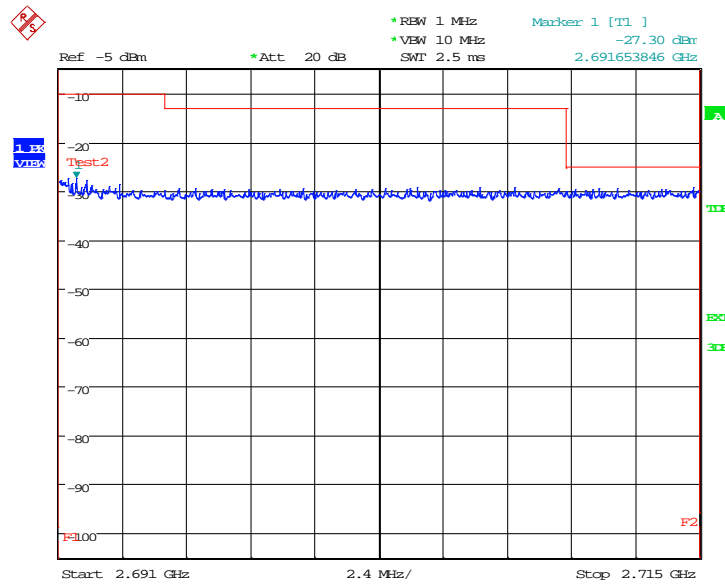
Date: 18.JAN.2020 14:36:09



HIGH BAND EDGE BLOCK-20MHz-100%RB



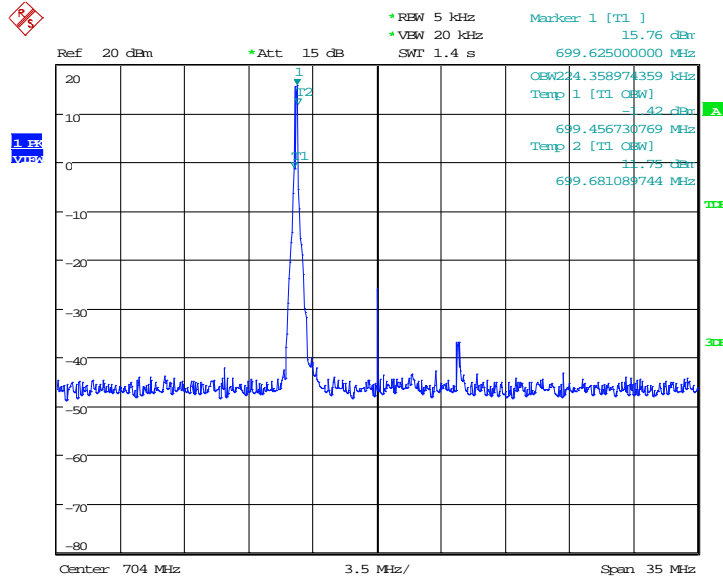
Date: 18.JAN.2020 14:53:55



Date: 18.JAN.2020 14:52:01

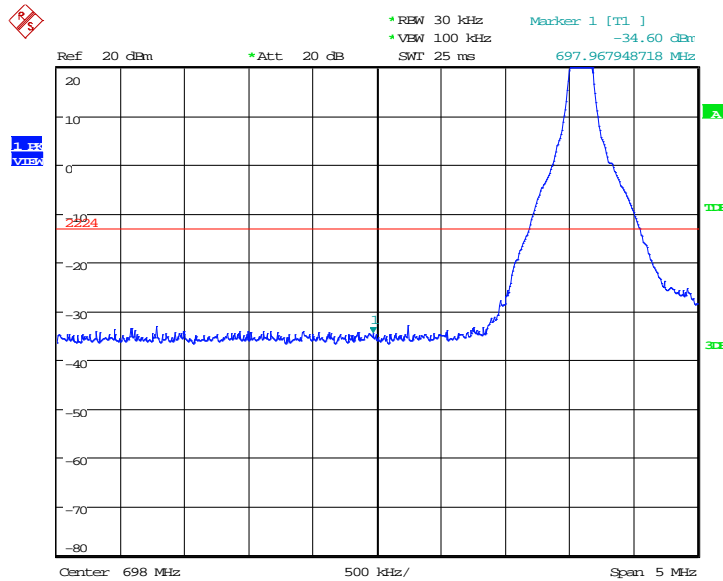


LTE band 12
OBW: 1RB-low_offset



Date: 24.JAN.2020 06:13:45

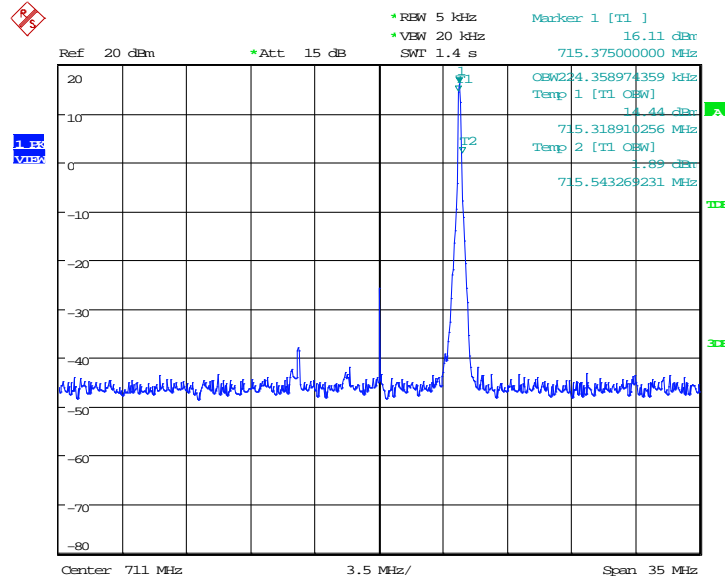
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 24.JAN.2020 06:37:22

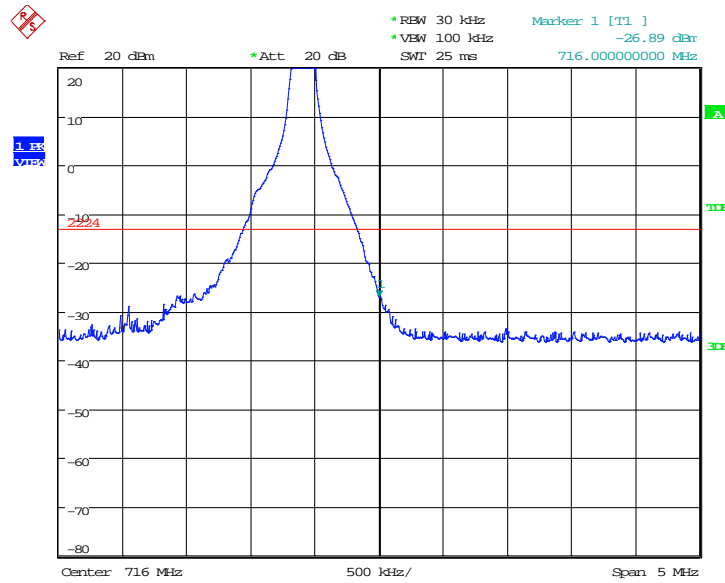


OBW: 1RB-high_offset



Date: 24.JAN.2020 06:15:47

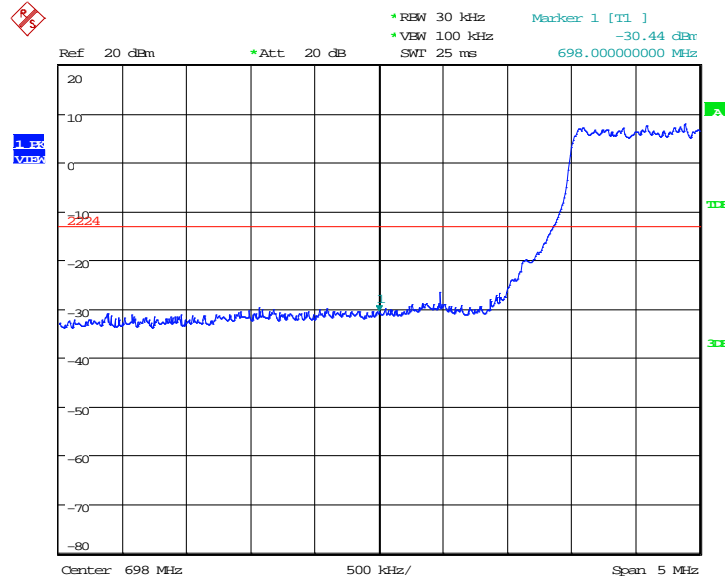
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 24.JAN.2020 06:34:32

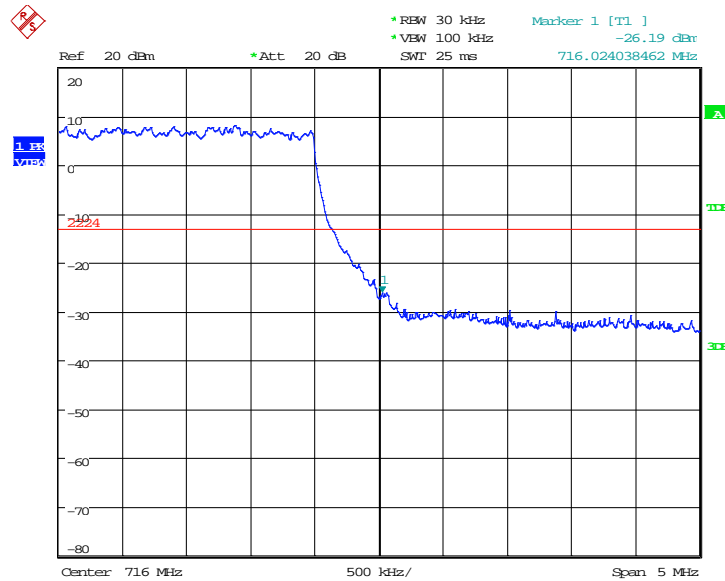


LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 24.JAN.2020 06:39:54

HIGH BAND EDGE BLOCK-10MHz-100%RB

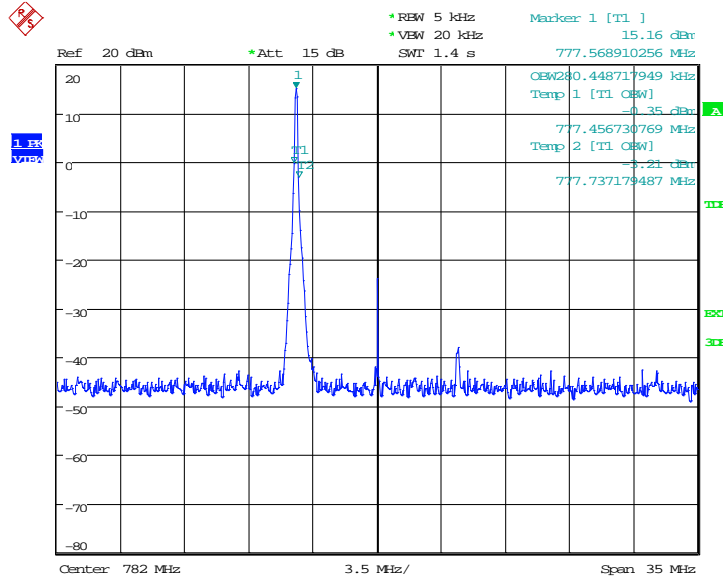


Date: 24.JAN.2020 06:43:38



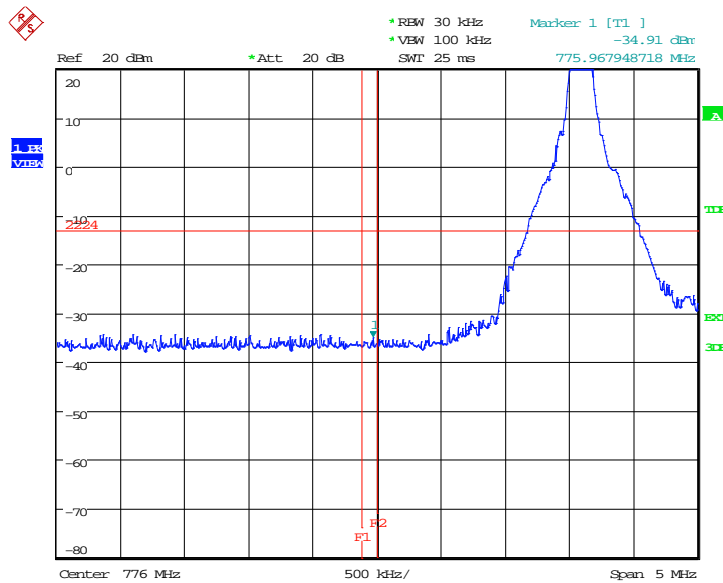
LTE band 13

OBW: 1RB-low_offset

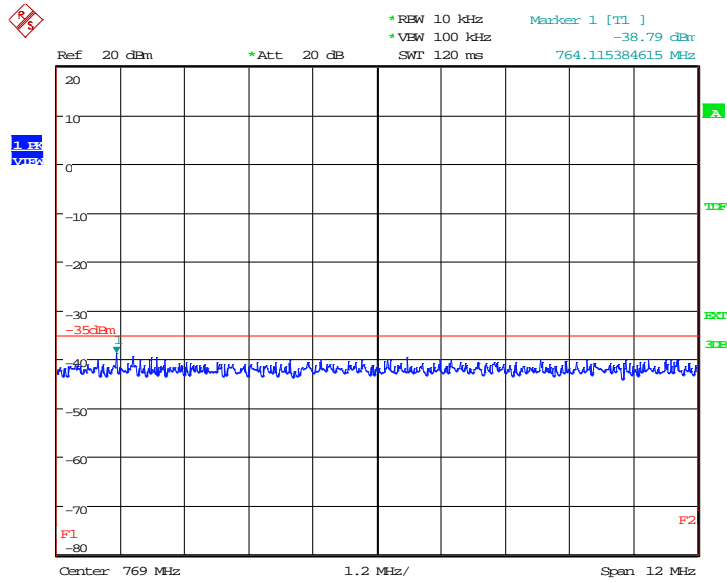


Date: 18.JAN.2020 12:56:40

LOW BAND EDGE BLOCK-1RB-low_offset

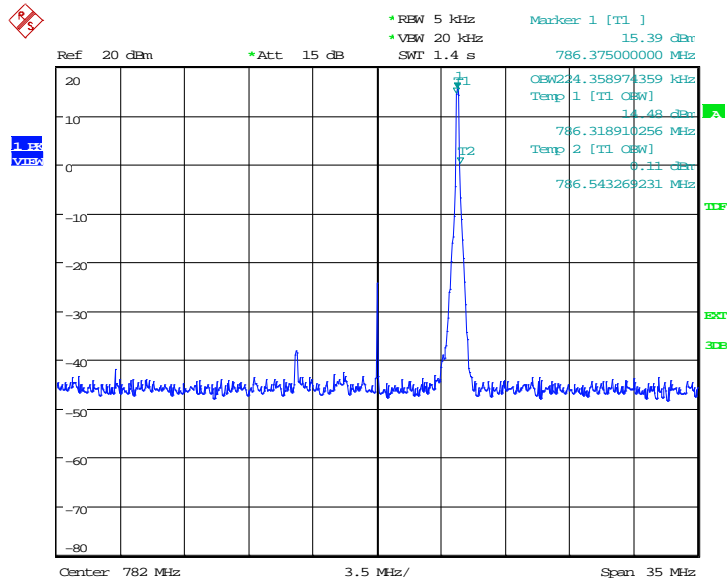


Date: 18.JAN.2020 13:01:52



Date: 18.JAN.2020 13:06:32

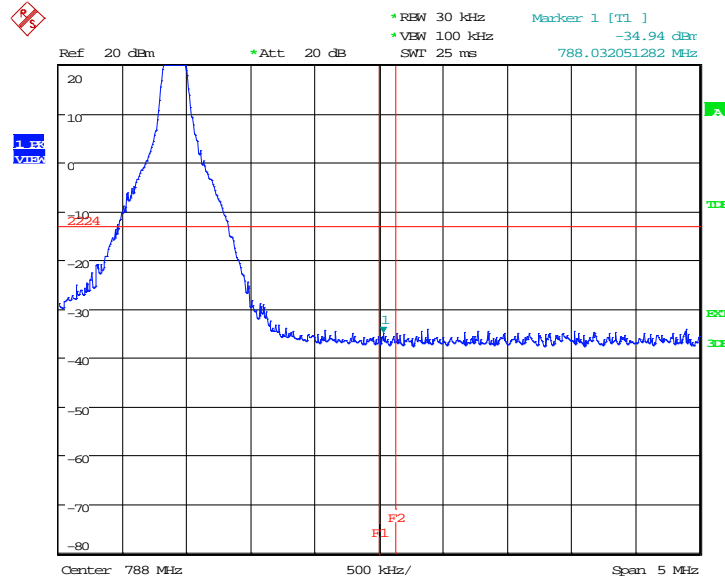
OBW: 1RB-high_offset



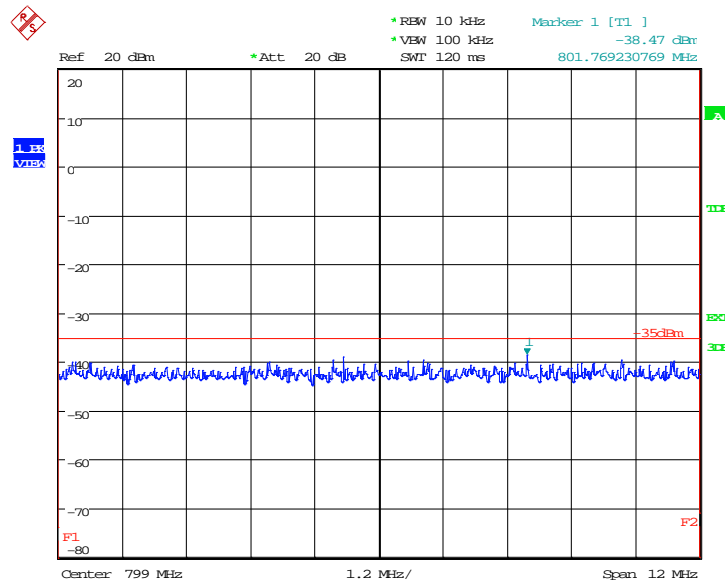
Date: 18.JAN.2020 13:12:25



HIGH BAND EDGE BLOCK-1RB-high_offset



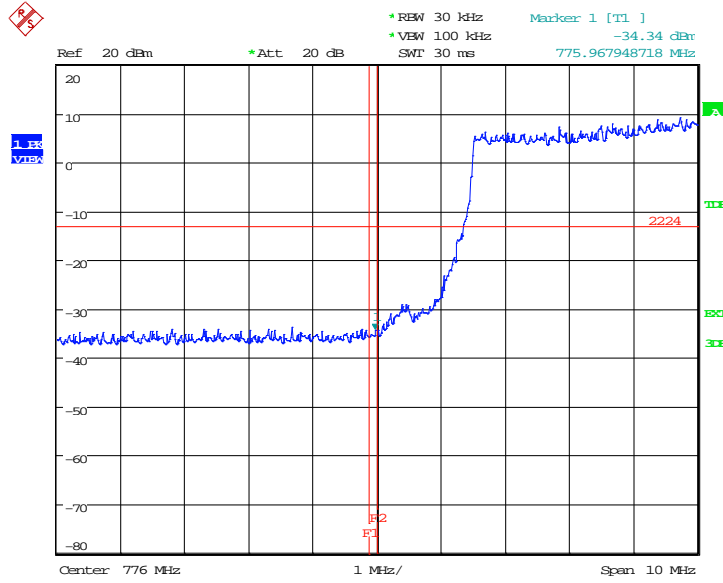
Date: 18.JAN.2020 13:10:55



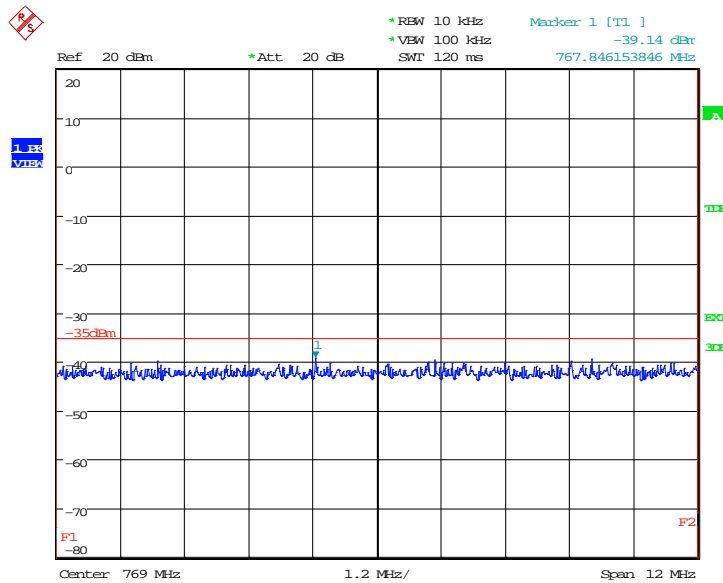
Date: 18.JAN.2020 13:09:11



LOW BAND EDGE BLOCK-10MHz-100%RB



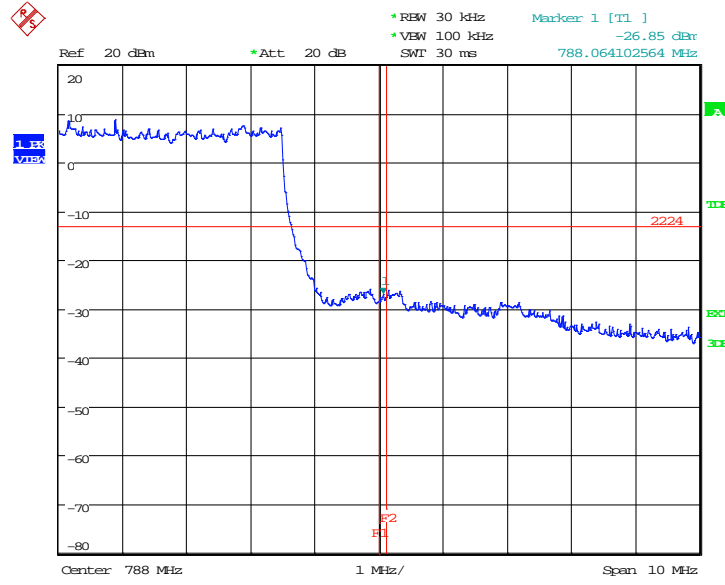
Date: 18.JAN.2020 13:16:51



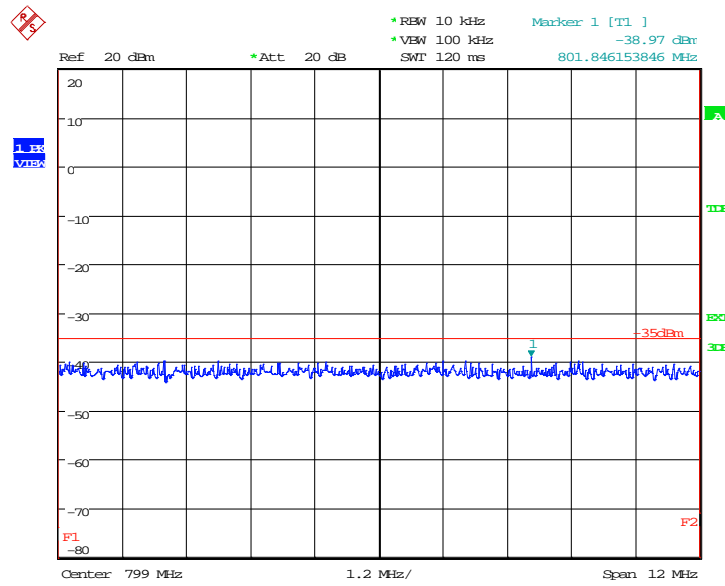
Date: 18.JAN.2020 13:18:41



HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 18.JAN.2020 13:21:06

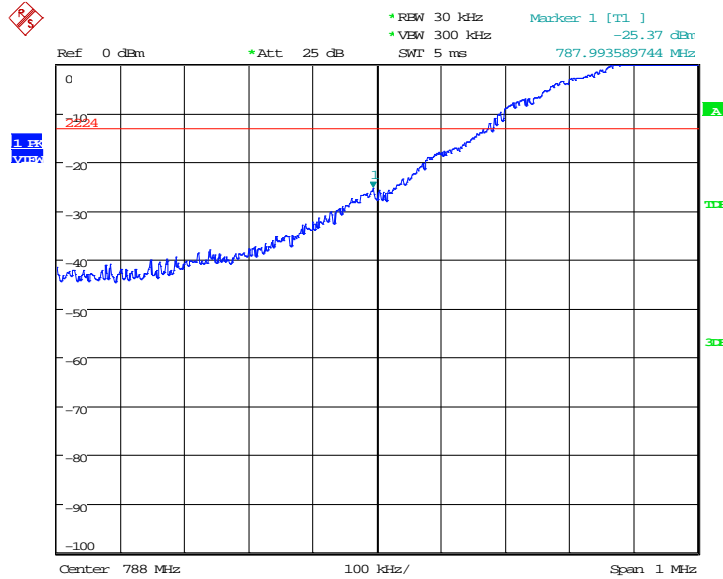


Date: 18.JAN.2020 13:19:45



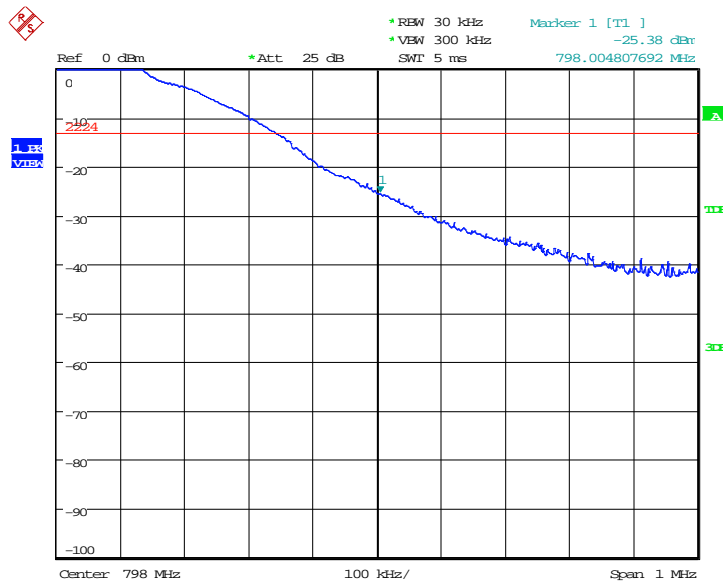
LTE band 14

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 24.JAN.2020 07:23:10

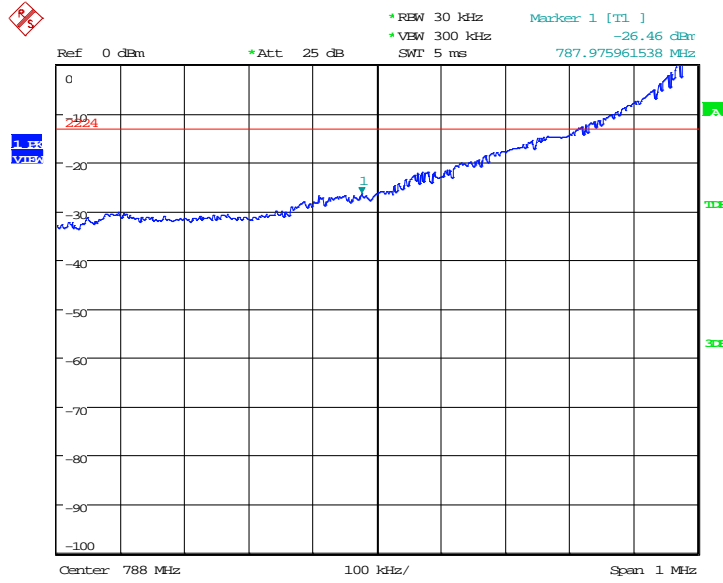
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 24.JAN.2020 07:27:37

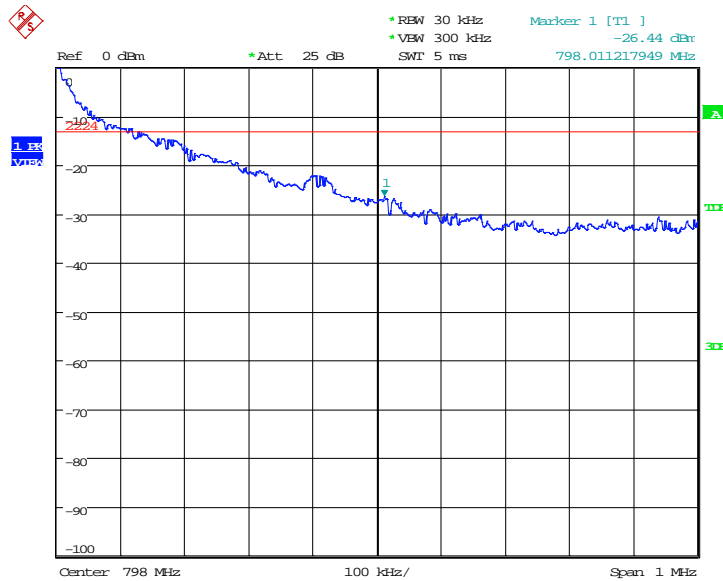


LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 24.JAN.2020 07:24:57

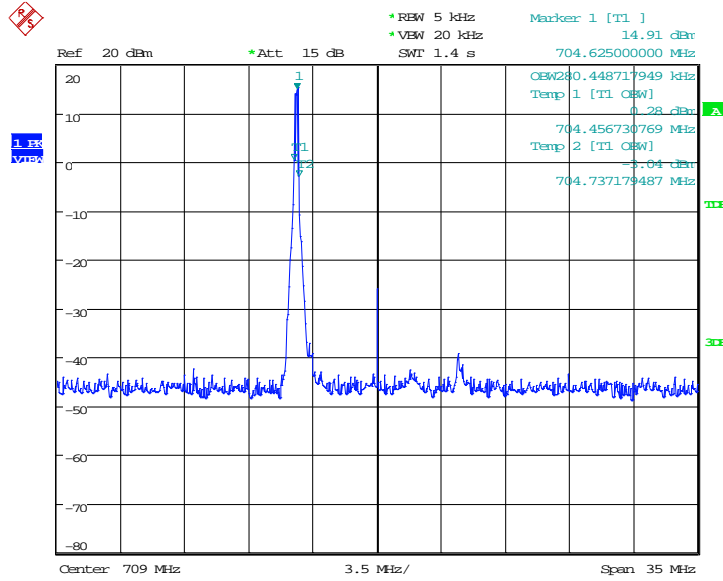
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 24.JAN.2020 07:26:14

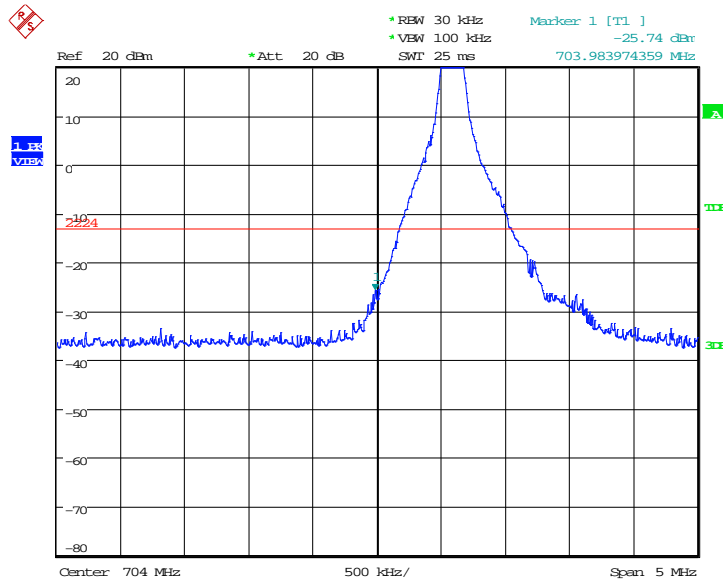


LTE band 17
OBW: 1RB-low_offset



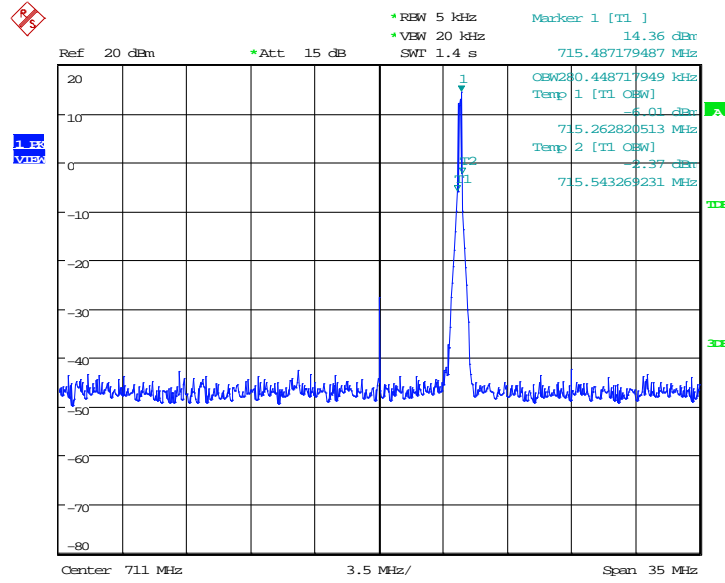
Date: 24.JAN.2020 07:40:01

LOW BAND EDGE BLOCK-1RB-low_offset



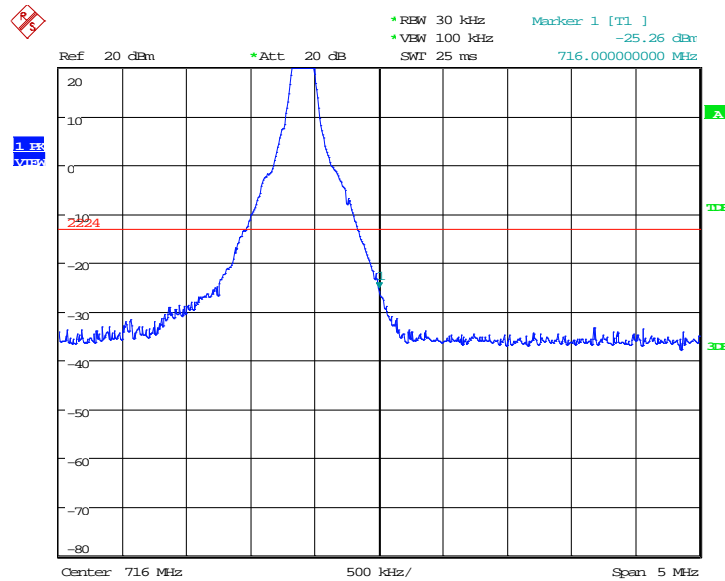
Date: 24.JAN.2020 07:35:15

OBW: 1RB-high_offset



Date: 24. JAN. 2020 07:40:40

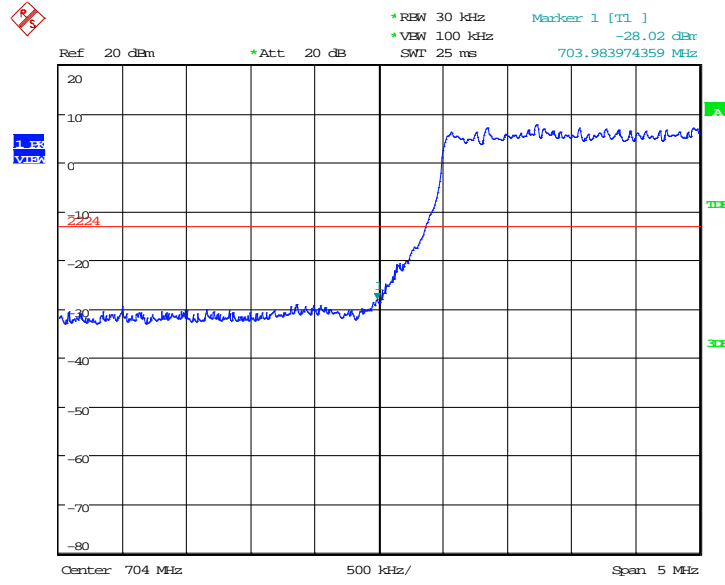
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 24. JAN. 2020 07:34:22

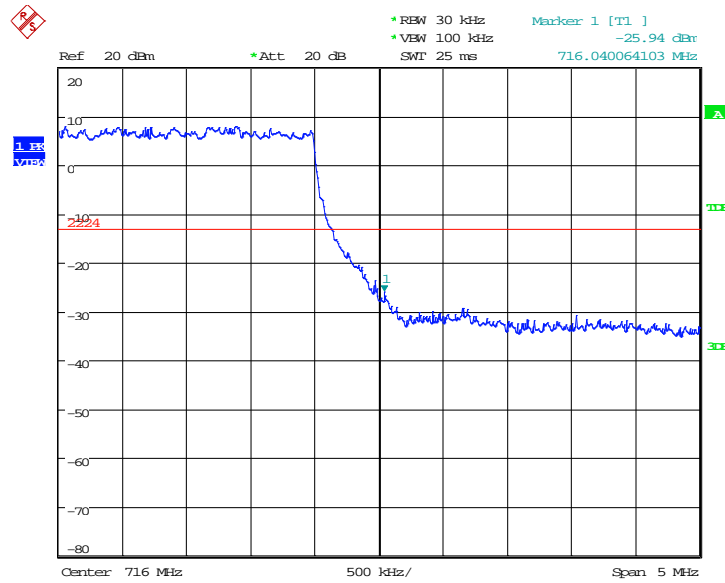


LOW BAND EDGE BLOCK-5MHz-100%RB



Date: 24.JAN.2020 07:36:33

HIGH BAND EDGE BLOCK-5MHz-100%RB

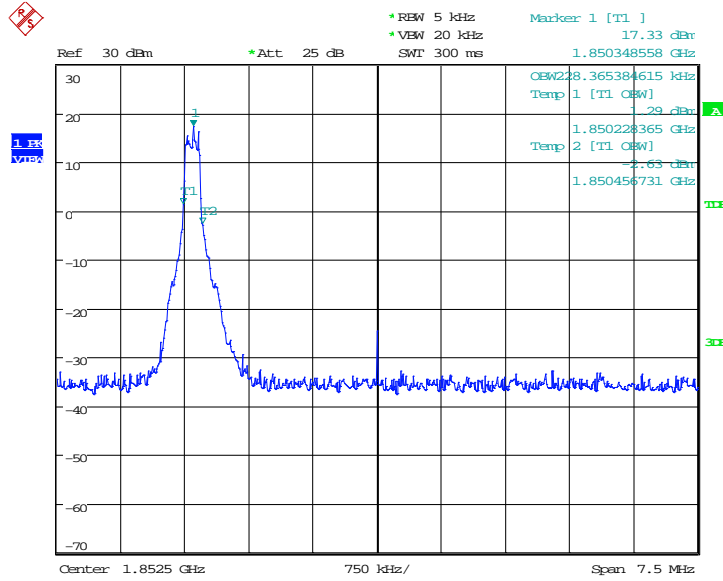


Date: 24.JAN.2020 07:37:18



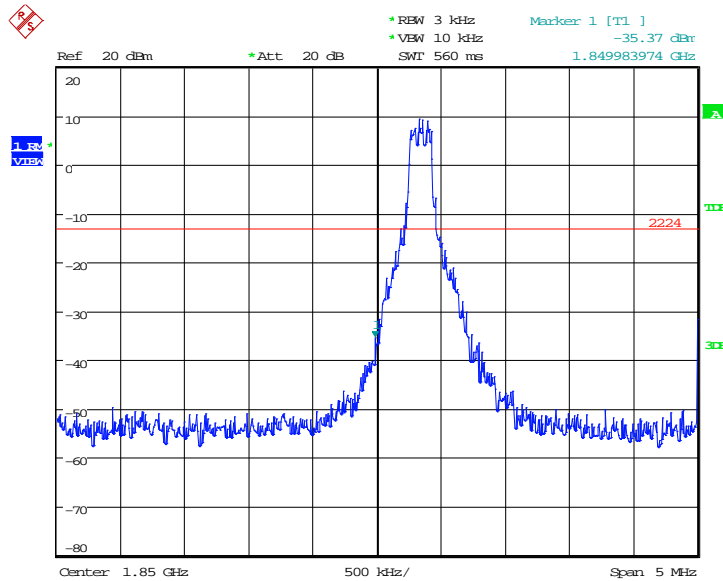
LTE band 25

OBW: 1RB-low_offset



Date: 23.JAN.2020 16:34:25

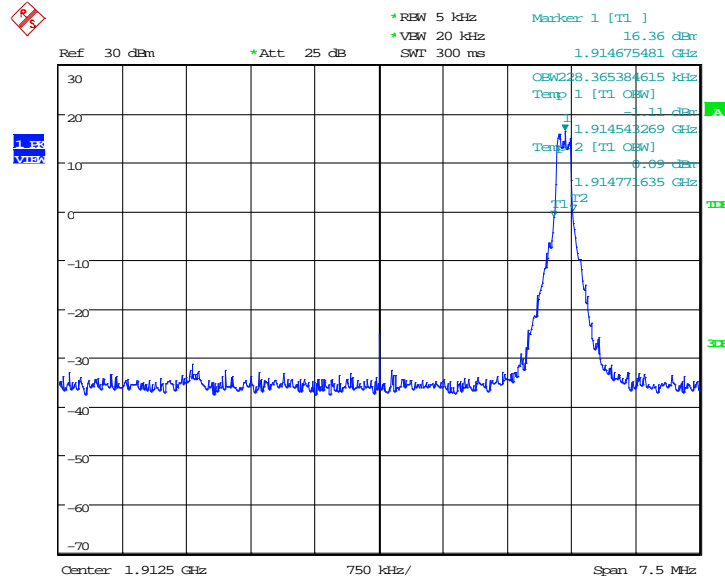
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 16:35:09

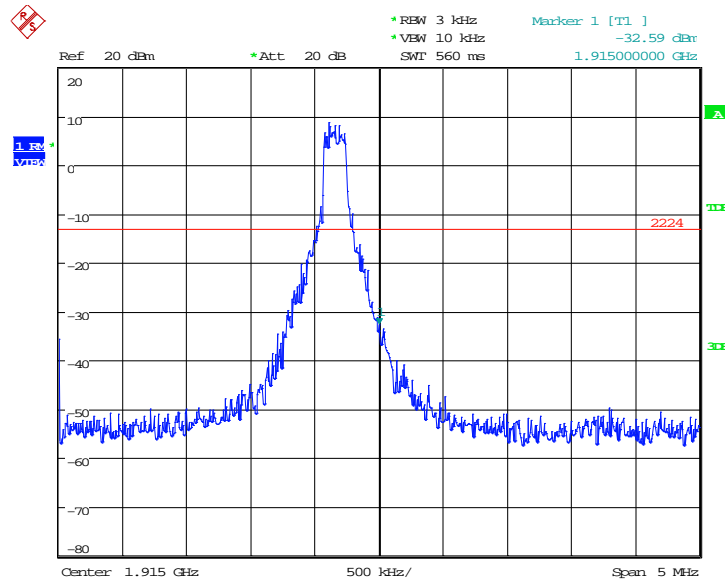


OBW: 1RB-high_offset



Date: 23.JAN.2020 16:13:27

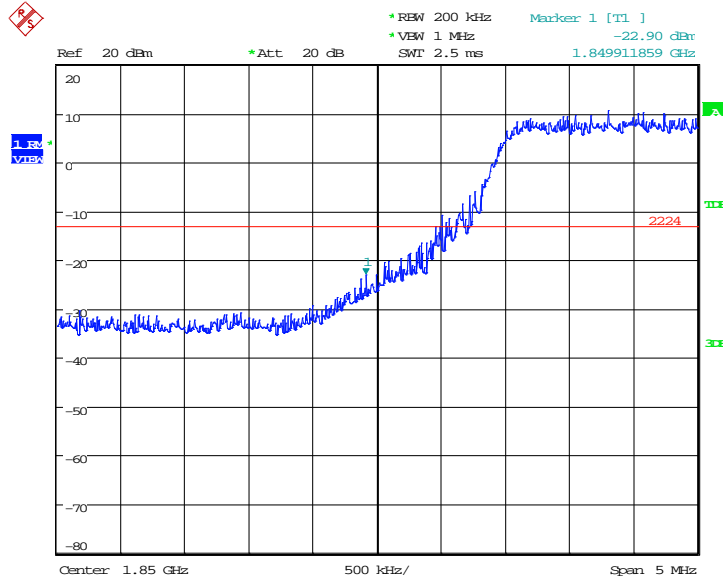
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:14:11

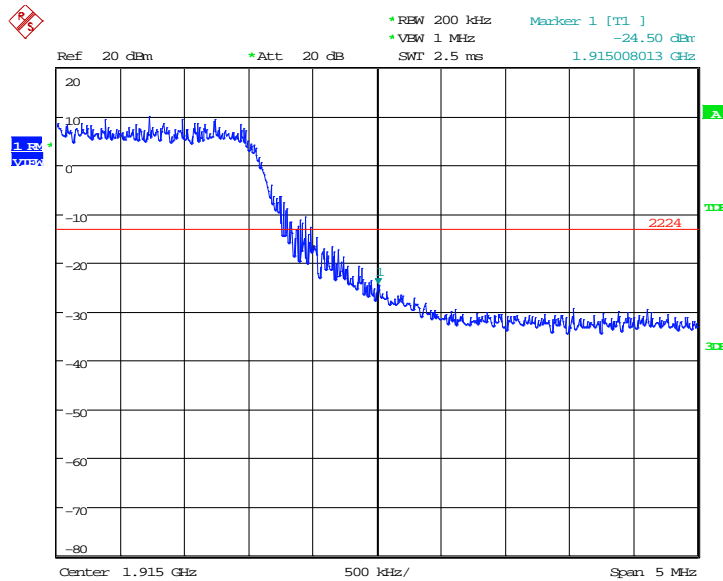


LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:54:49

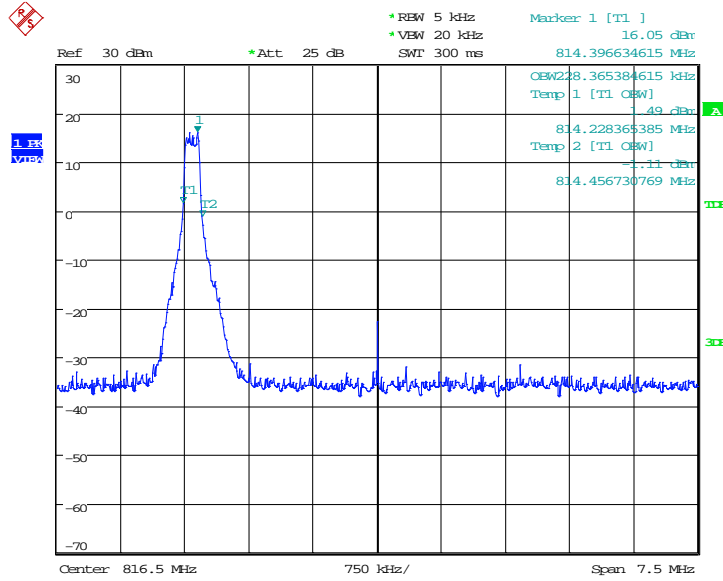
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:55:35

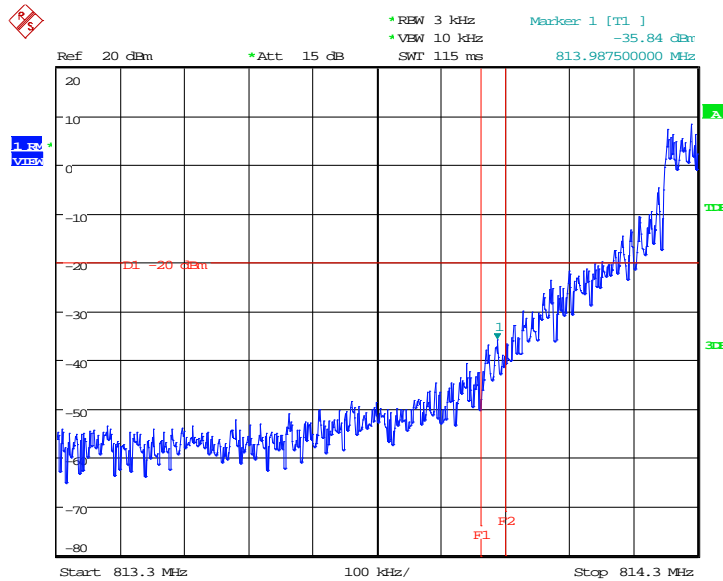


LTE band 26(814MHz-824MHz)
OBW: 1RB-low_offset



Date: 23.JAN.2020 17:22:17

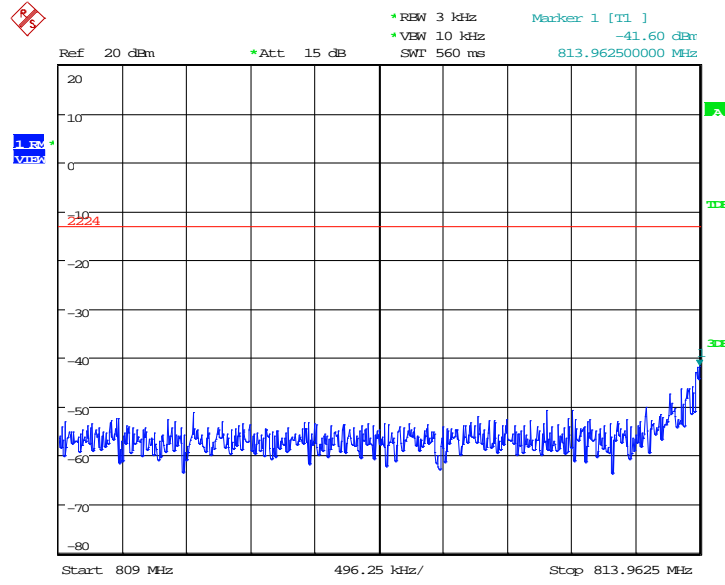
LOW Emission Mask -1RB-low_offset



Date: 23.JAN.2020 17:23:00



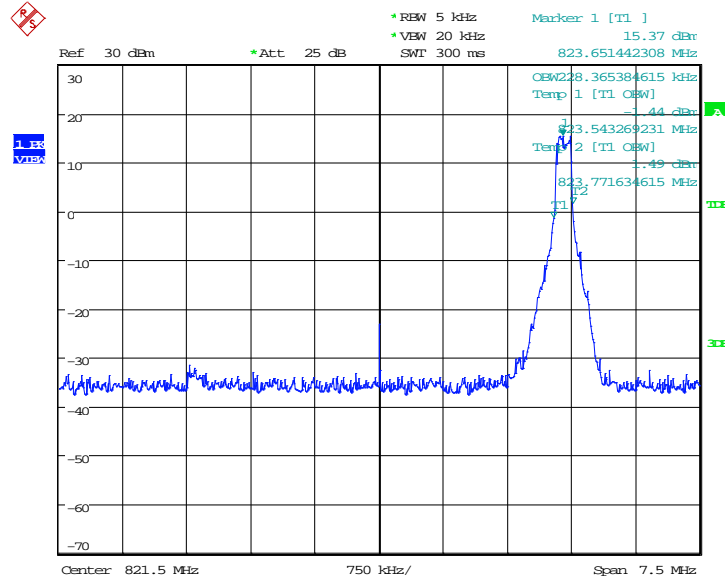
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 17:23:03

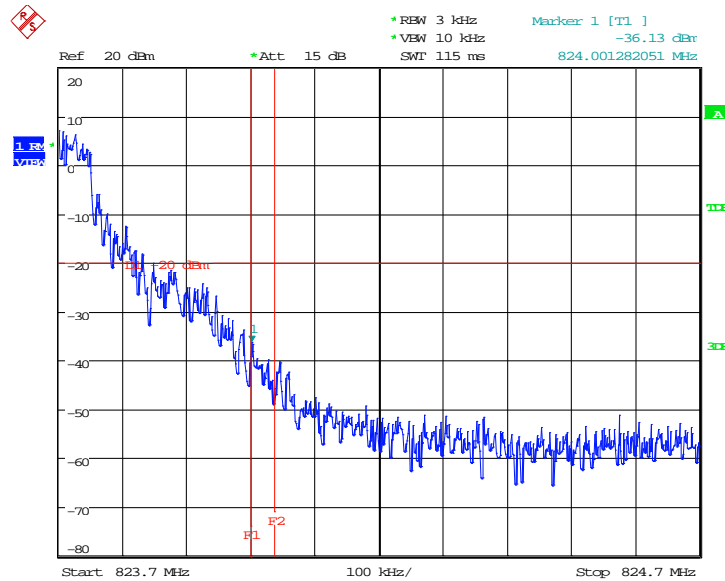


OBW: 1RB-high_offset



Date: 23.JAN.2020 17:15:32

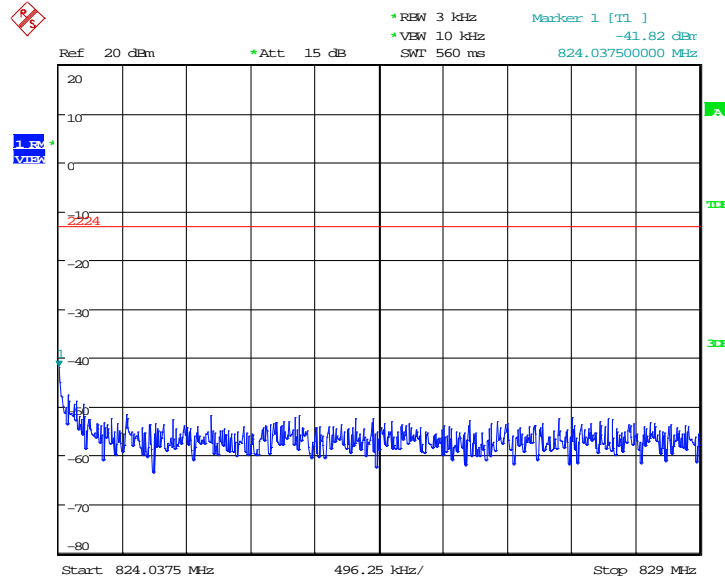
HIGH Emission Mask -1RB-high_offset



Date: 23.JAN.2020 17:16:15



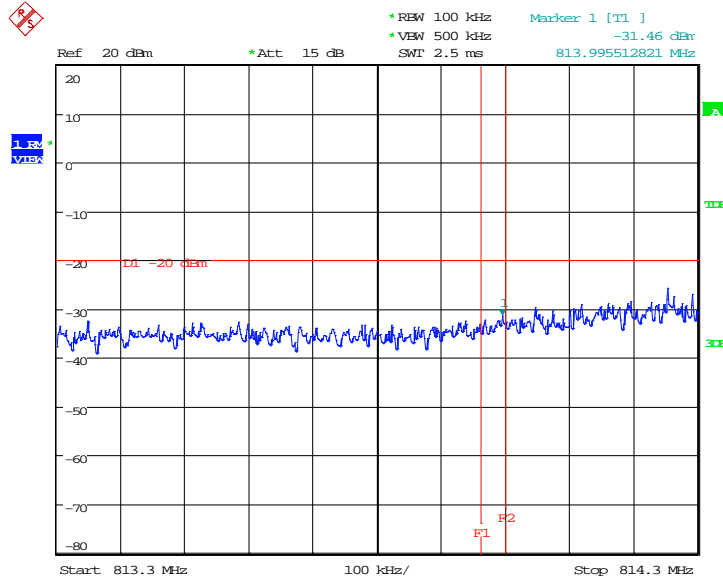
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 17:16:18

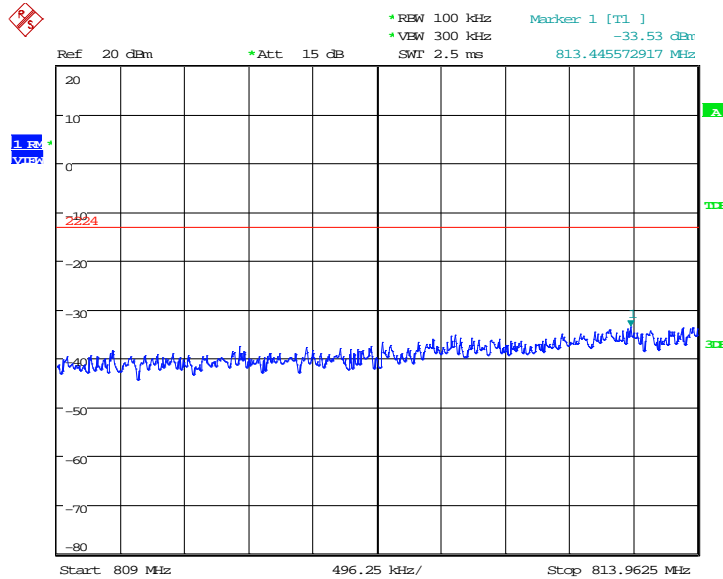


LOW Emission Mask -10MHz-100%RB



Date: 23.JAN.2020 17:07:54

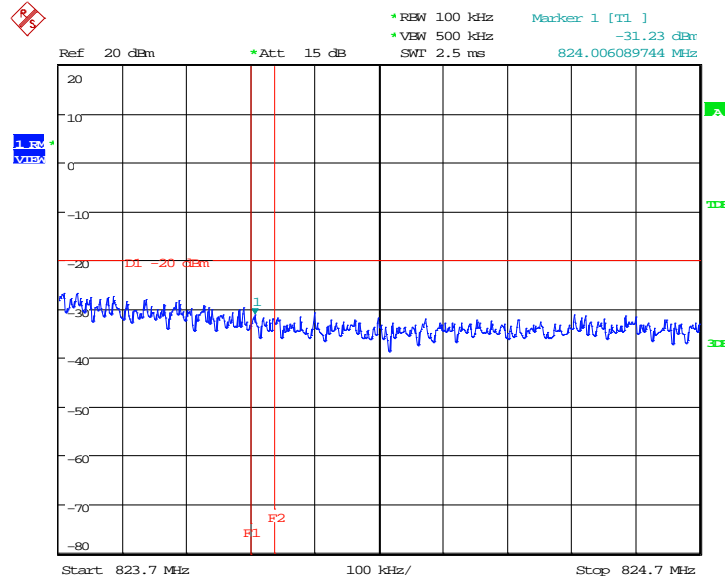
LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 23.JAN.2020 17:07:57

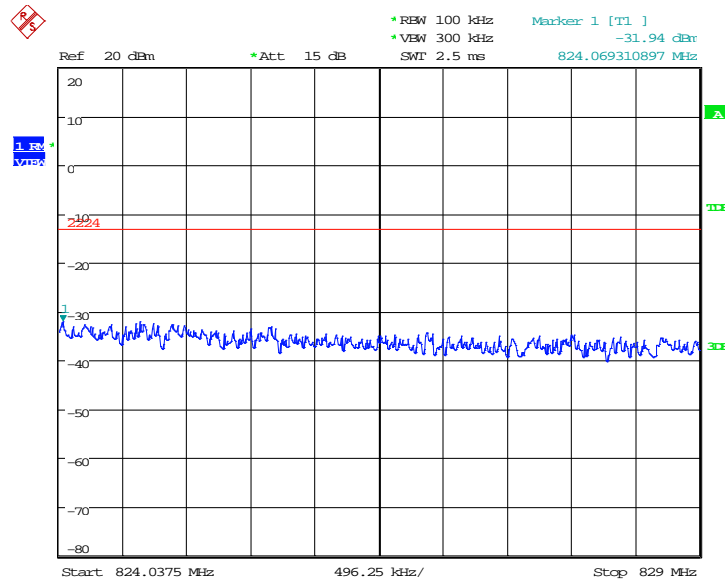


HIGH Emission Mask -10MHz-100%RB



Date: 23.JAN.2020 17:08:42

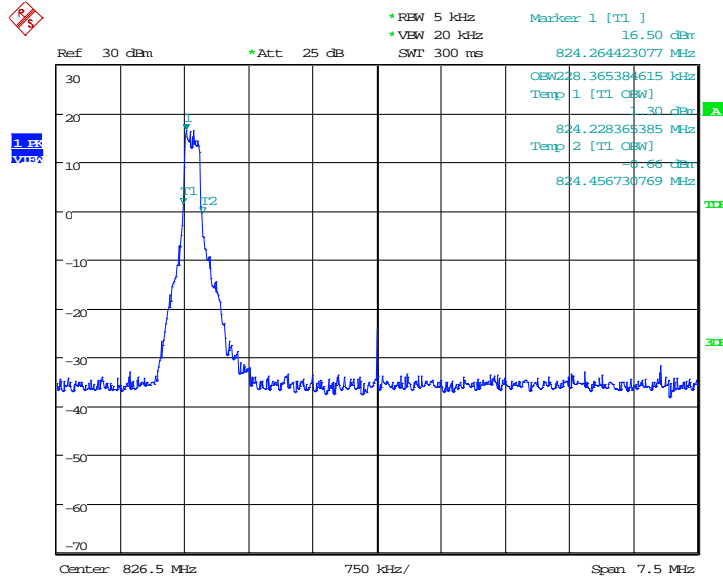
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 23.JAN.2020 17:08:44

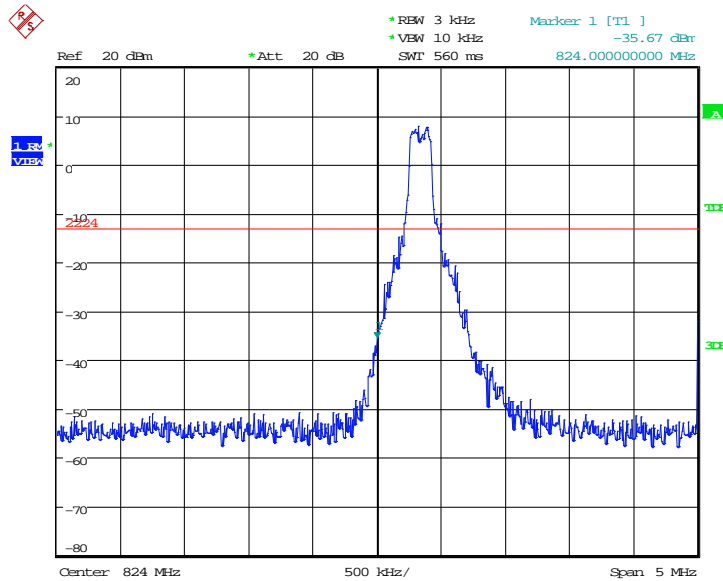


LTE band 26(824MHz-849MHz)
OBW: 1RB-low_offset



Date: 23.JAN.2020 16:36:07

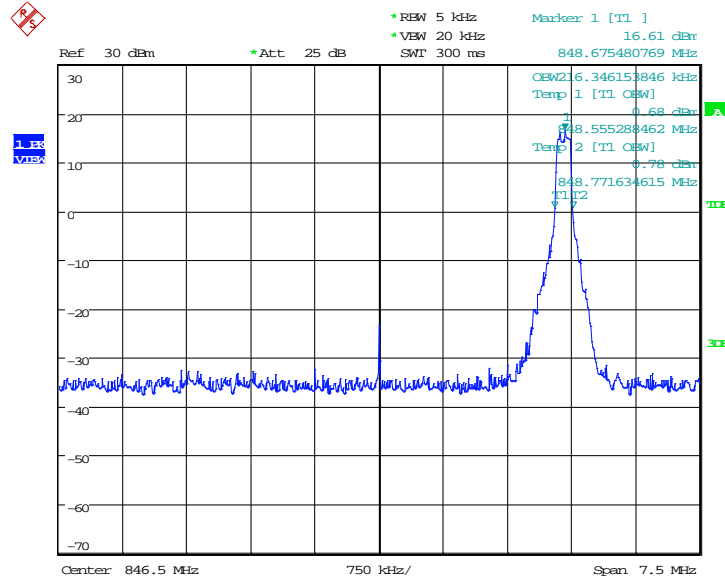
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 16:36:51

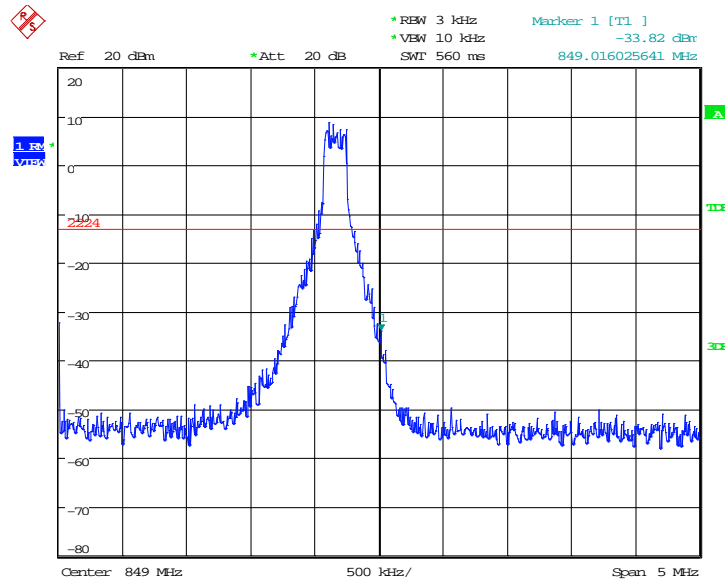


OBW: 1RB-high_offset



Date: 23.JAN.2020 16:15:07

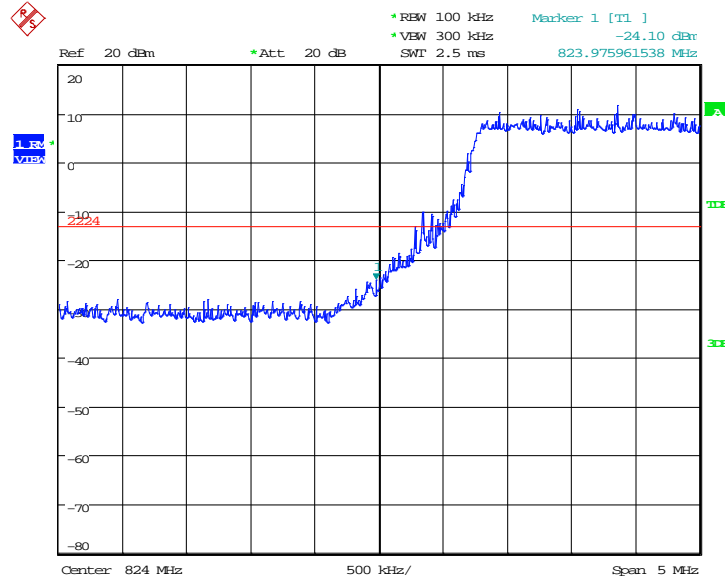
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:15:51

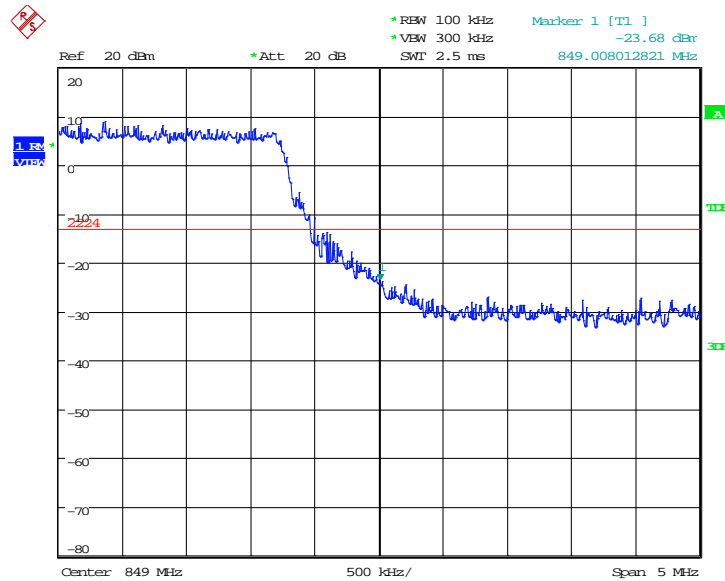


LOW BAND EDGE BLOCK-15MHz-100%RB



Date: 23.JAN.2020 17:03:01

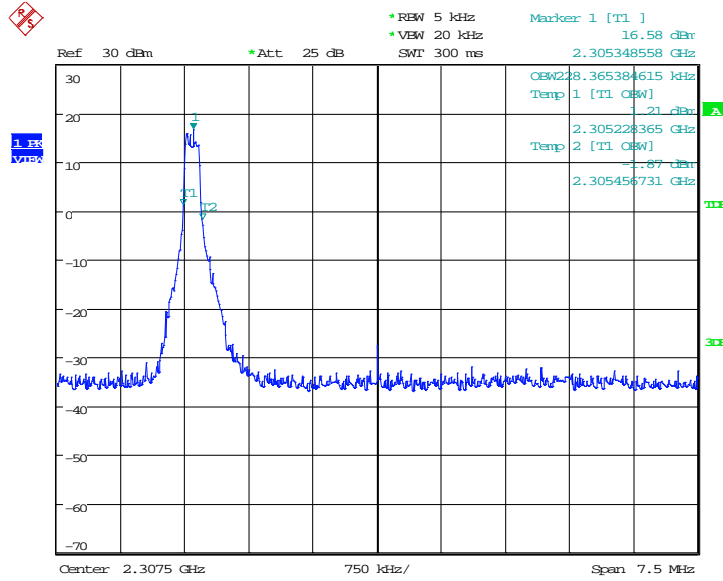
HIGH BAND EDGE BLOCK-15MHz-100%RB



Date: 23.JAN.2020 17:03:47



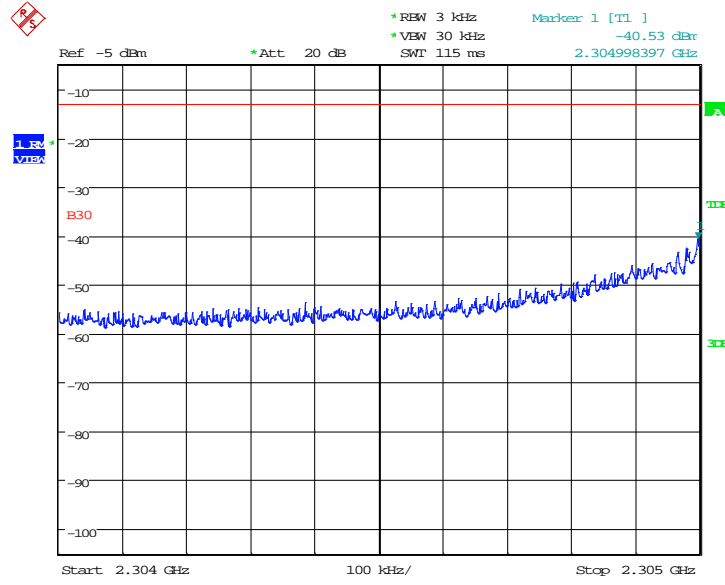
LTE band 30
OBW: 1RB-low_offset



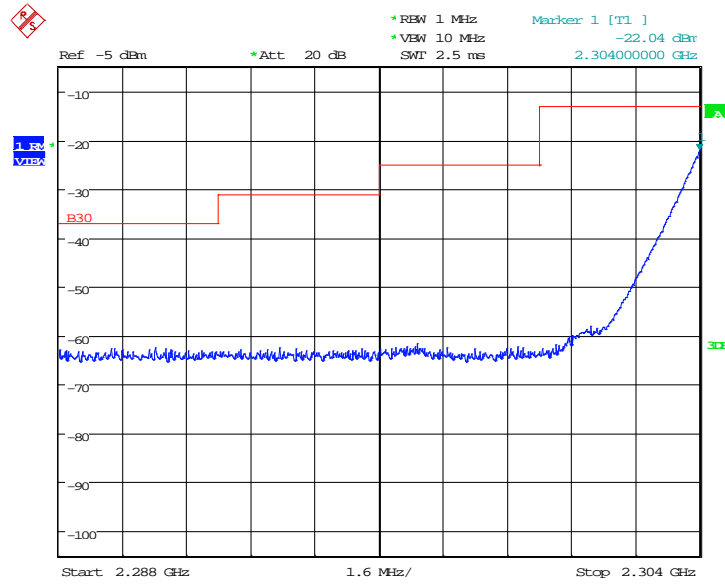
Date: 25.FEB.2020 10:32:37



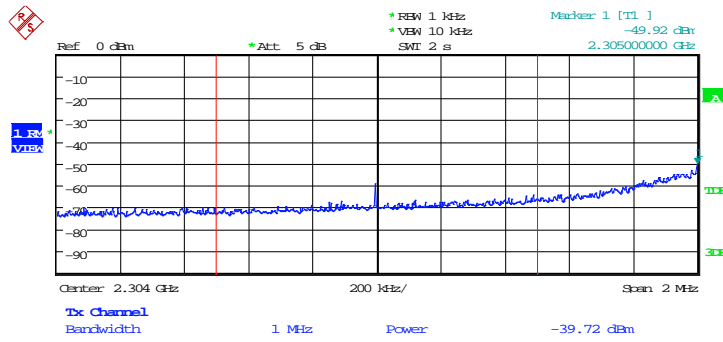
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 24.JAN.2020 11:32:54



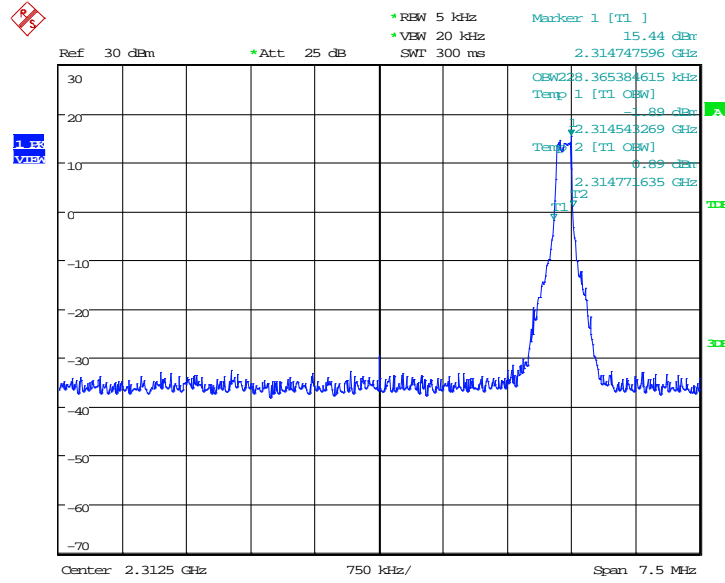
Date: 24.JAN.2020 11:36:35



Date: 24.JAN.2020 11:49:51

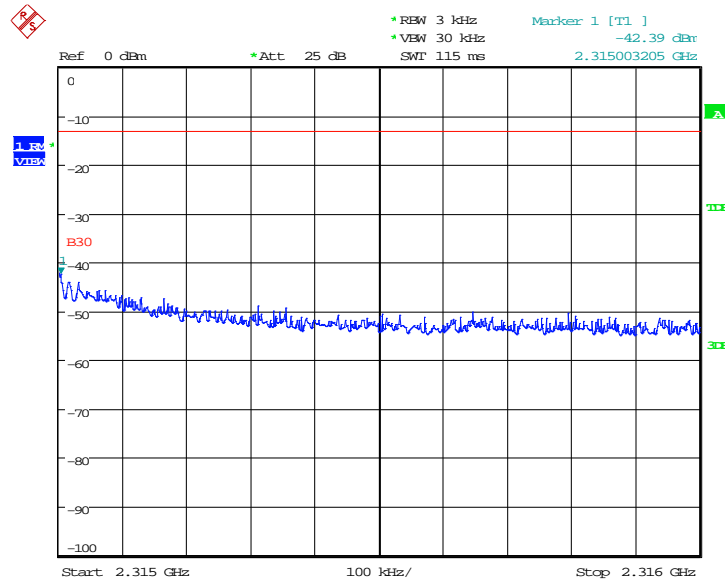


OBW: 1RB-high_offset

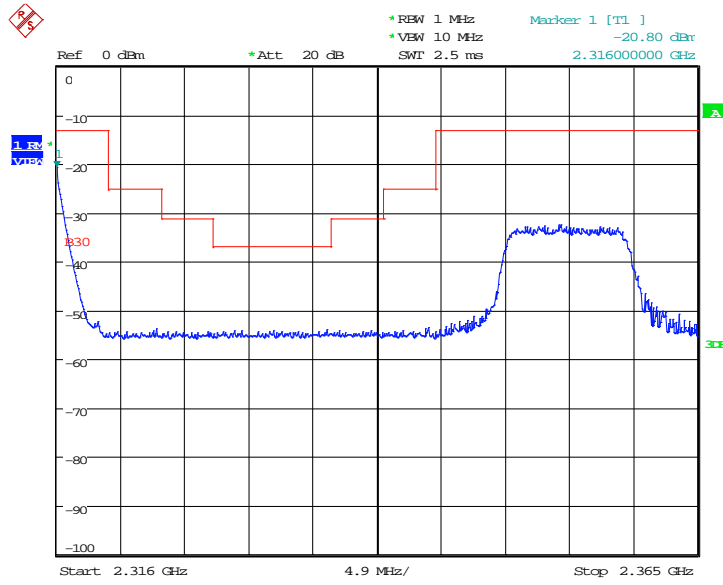


Date: 25.FEB.2020 10:33:20

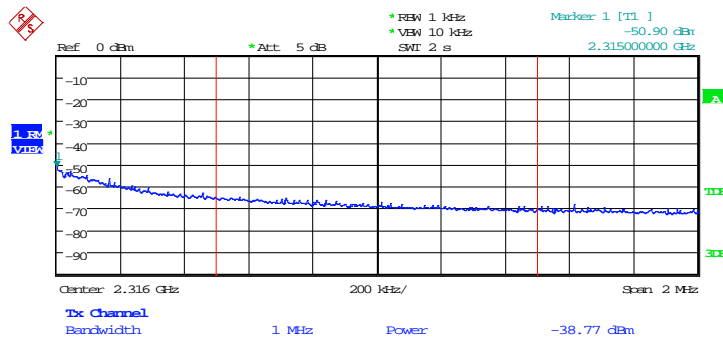
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 24.JAN.2020 12:05:59



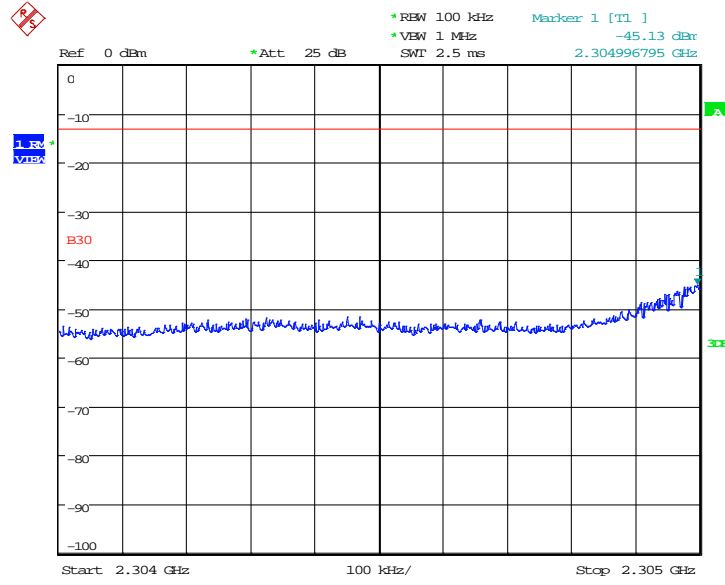
Date: 24.JAN.2020 12:08:45



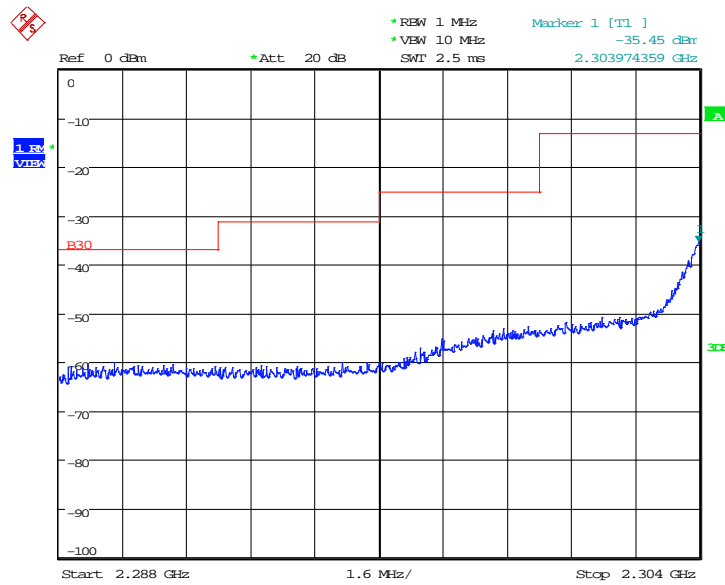
Date: 24.JAN.2020 12:04:04



LOW BAND EDGE BLOCK-10MHz-100%RB



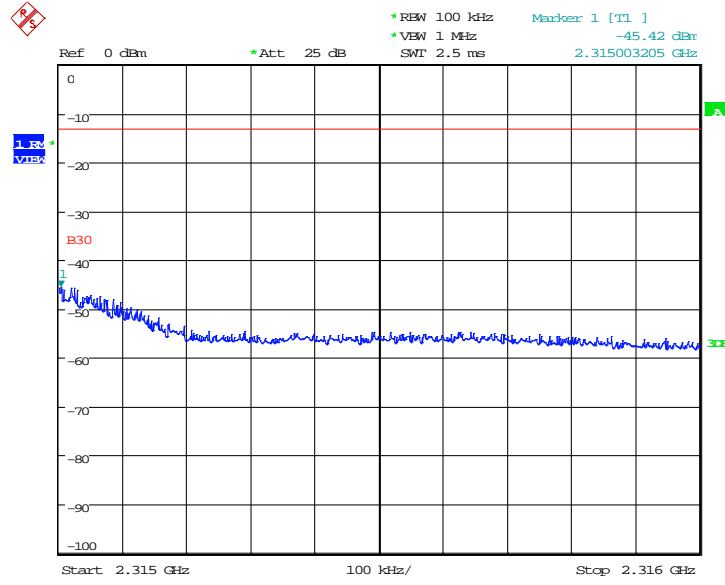
Date: 24.JAN.2020 12:49:40



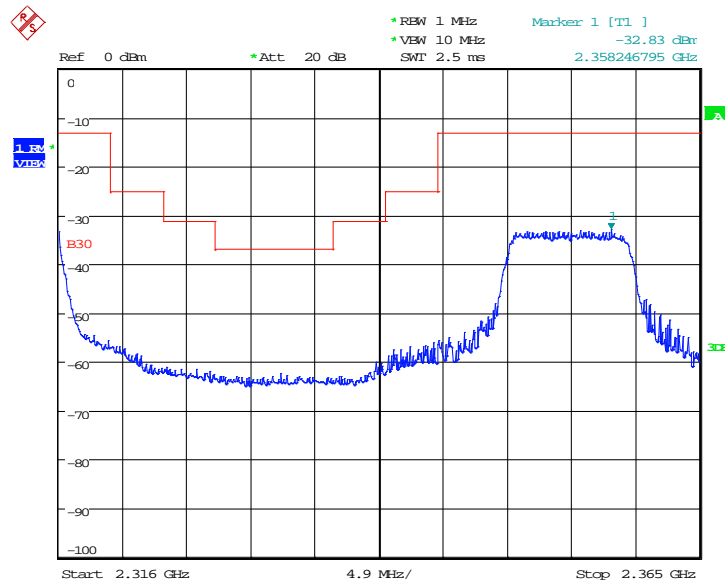
Date: 24.JAN.2020 12:48:48



HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 24.JAN.2020 12:50:36

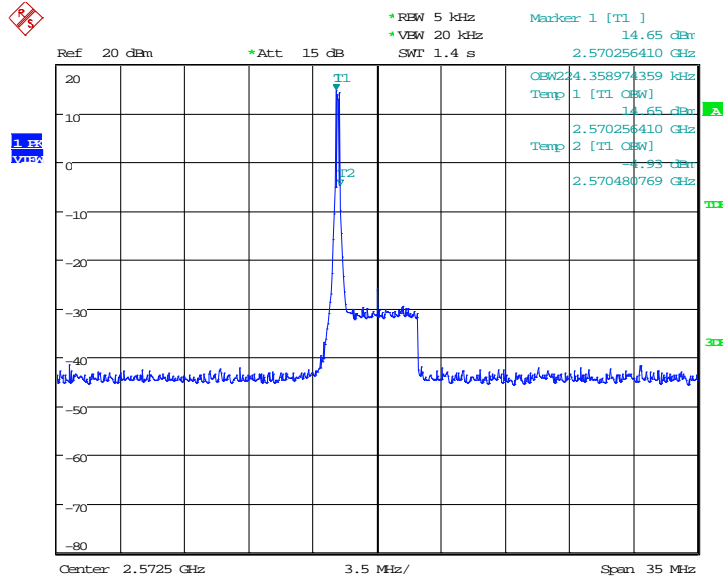


Date: 24.JAN.2020 12:51:22



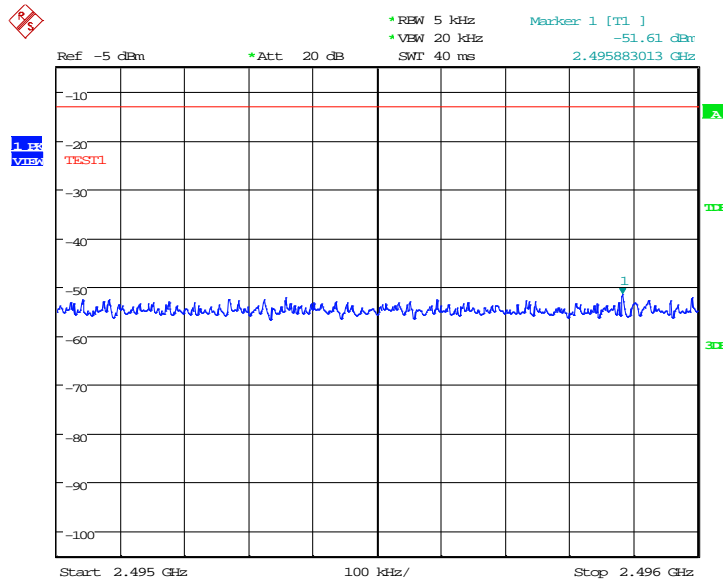
LTE band 38

OBW: 1RB-low_offset

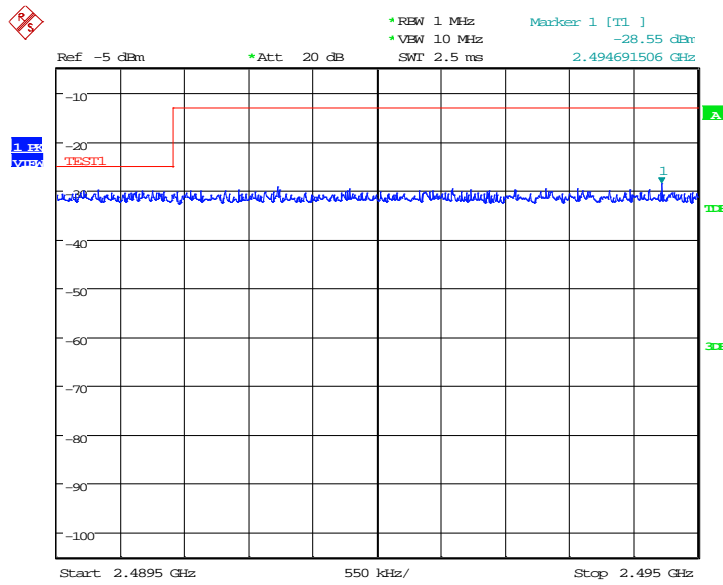


Date: 24.JAN.2020 08:55:40

LOW BAND EDGE BLOCK-1RB-low_offset

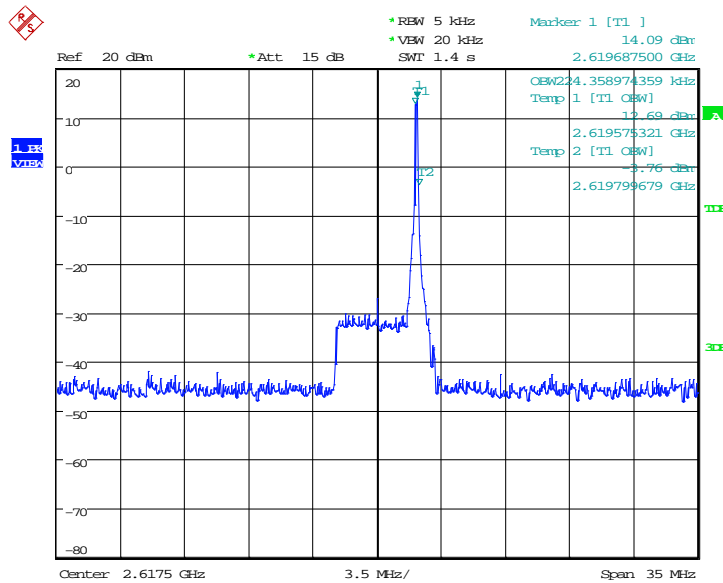


Date: 24.JAN.2020 09:02:38



Date: 24.JAN.2020 09:01:52

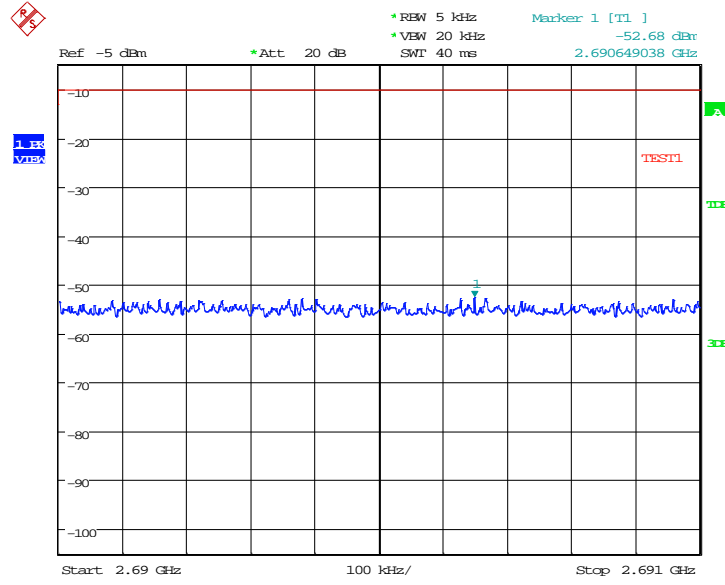
OBW: 1RB-high_offset



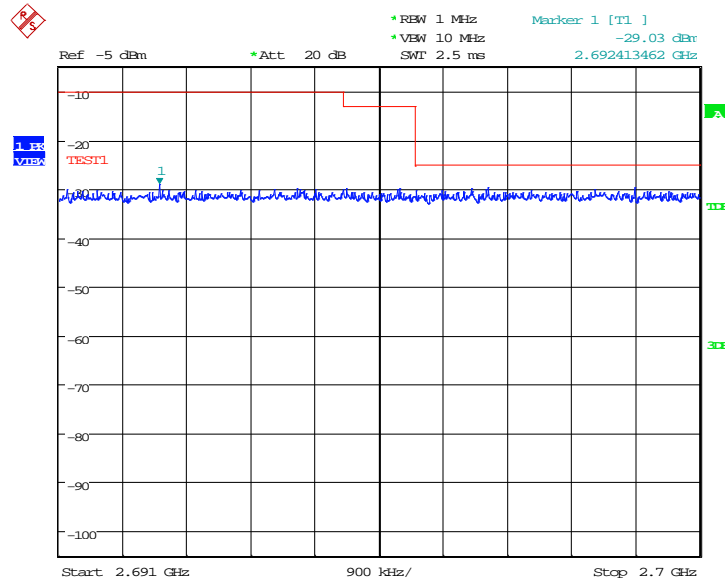
Date: 24.JAN.2020 08:56:27



HIGH BAND EDGE BLOCK-1RB-high_offset



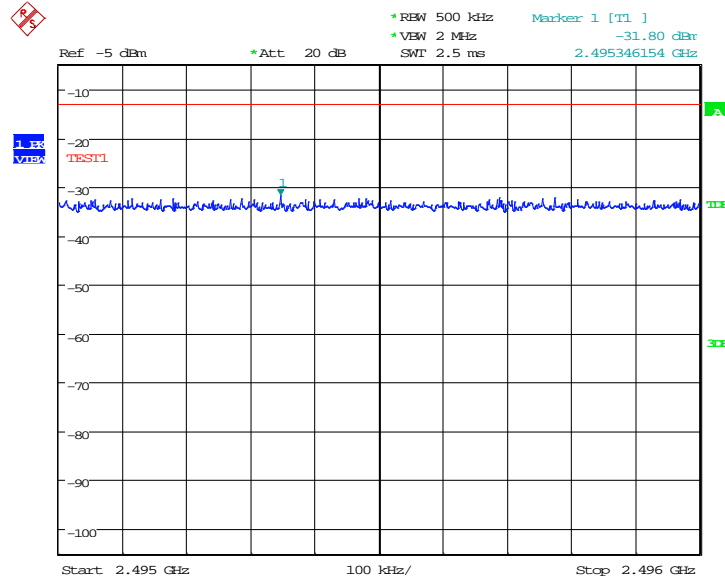
Date: 24.JAN.2020 08:58:29



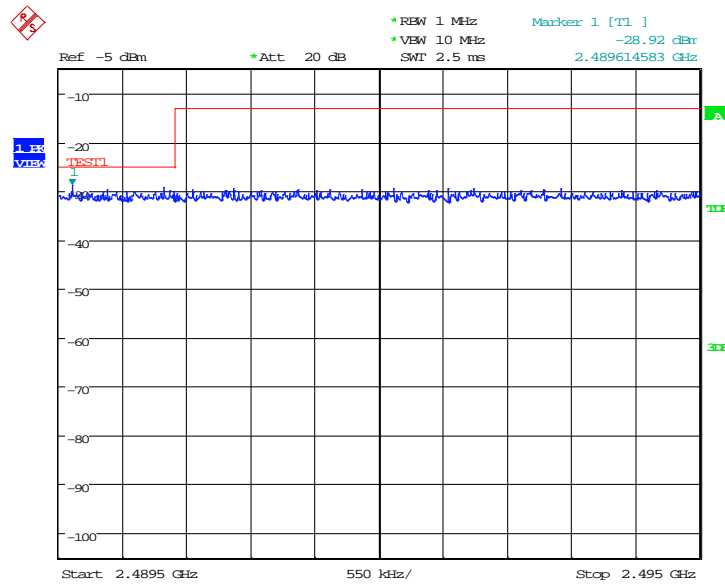
Date: 24.JAN.2020 09:00:44



LOW BAND EDGE BLOCK-10MHz-100%RB



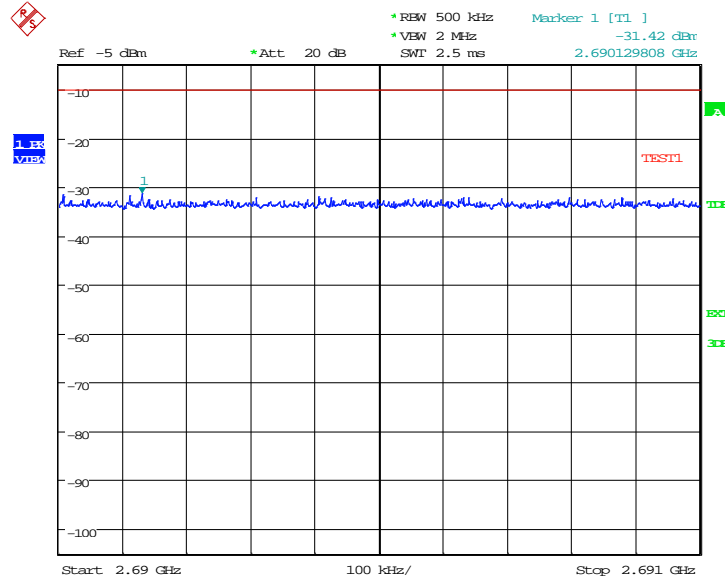
Date: 24.JAN.2020 09:04:40



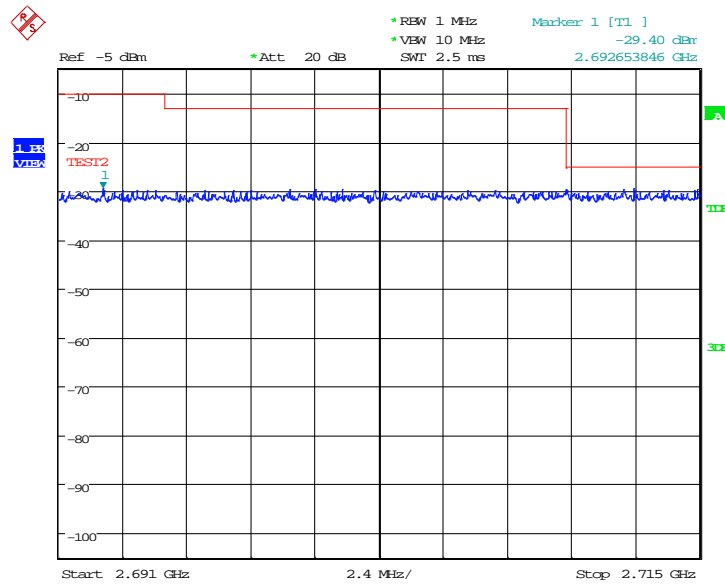
Date: 24.JAN.2020 09:05:22



HIGH BAND EDGE BLOCK-10MHz-100%RB



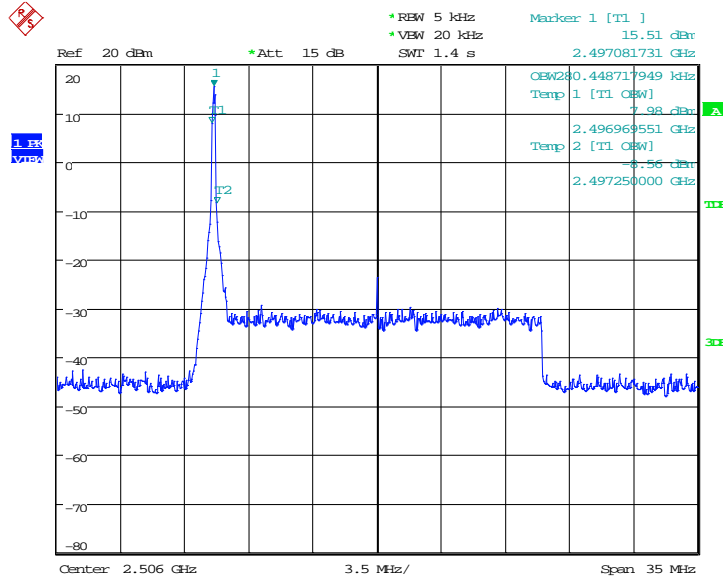
Date: 3.MAR.2020 10:32:06



Date: 24.JAN.2020 09:06:13

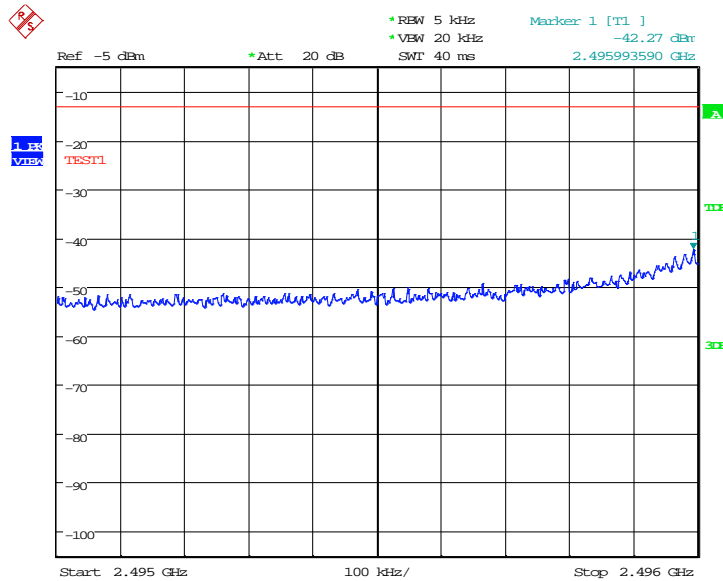


LTE band 41
OBW: 1RB-low_offset

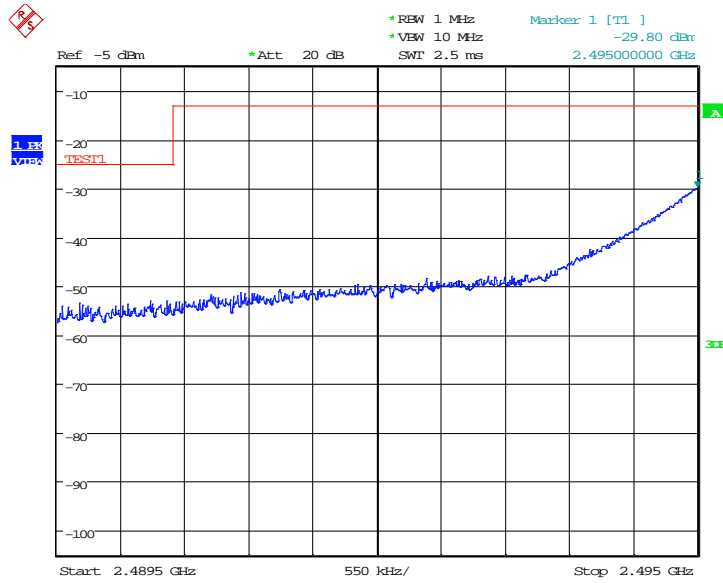


Date: 24.JAN.2020 08:10:35

LOW BAND EDGE BLOCK-1RB-low_offset

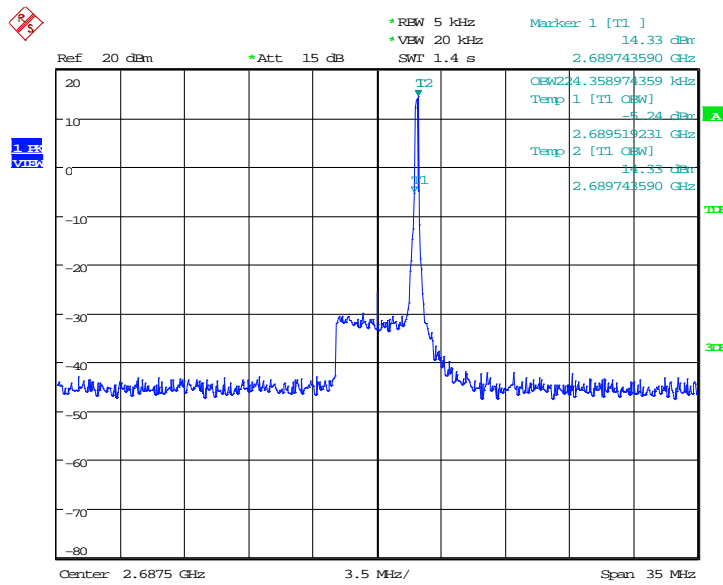


Date: 24.JAN.2020 08:42:04



Date: 24.JAN.2020 08:44:27

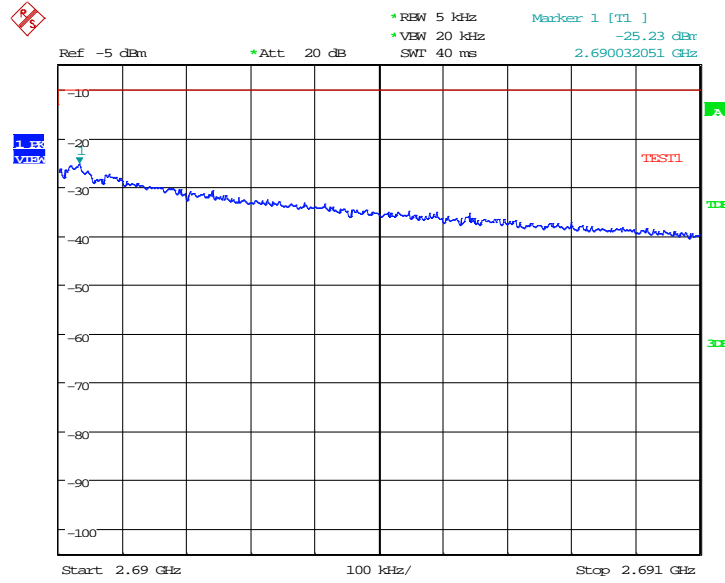
OBW: 1RB-high_offset



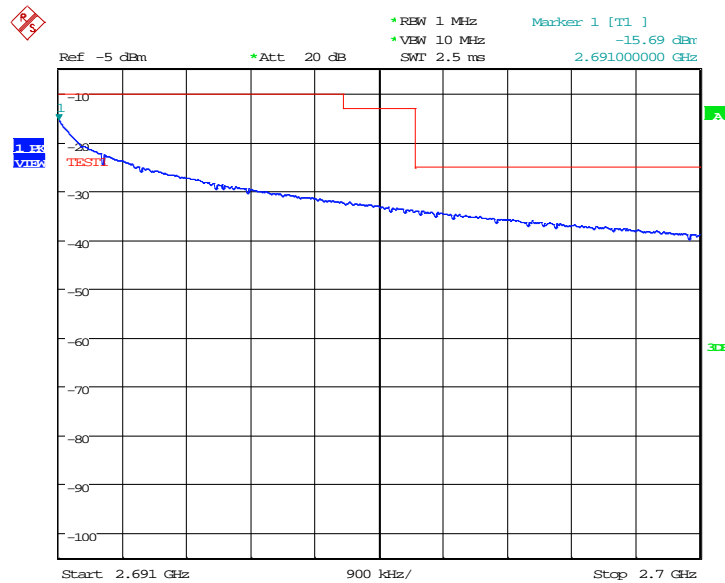
Date: 24.JAN.2020 08:12:54



HIGH BAND EDGE BLOCK-1RB-high_offset



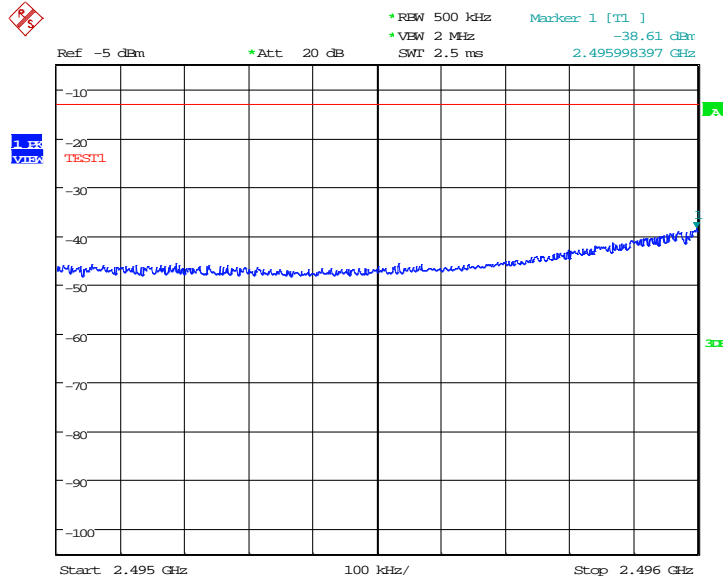
Date: 24.JAN.2020 08:15:23



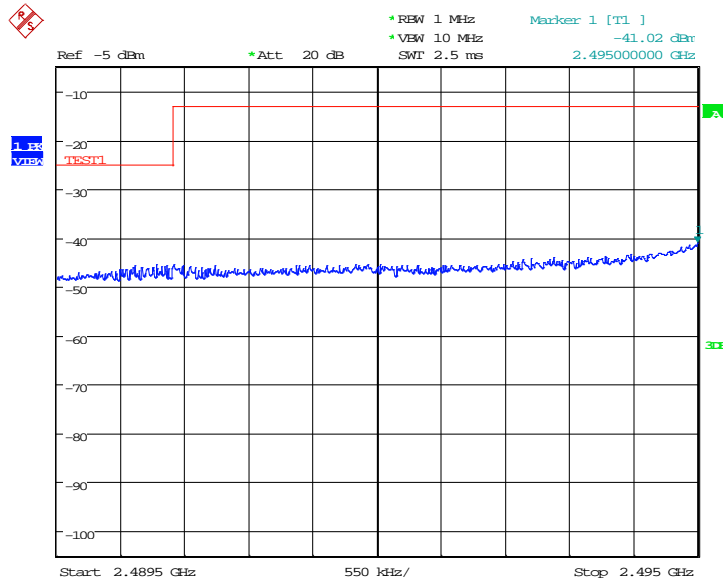
Date: 24.JAN.2020 08:19:07



LOW BAND EDGE BLOCK-10MHz-100%RB



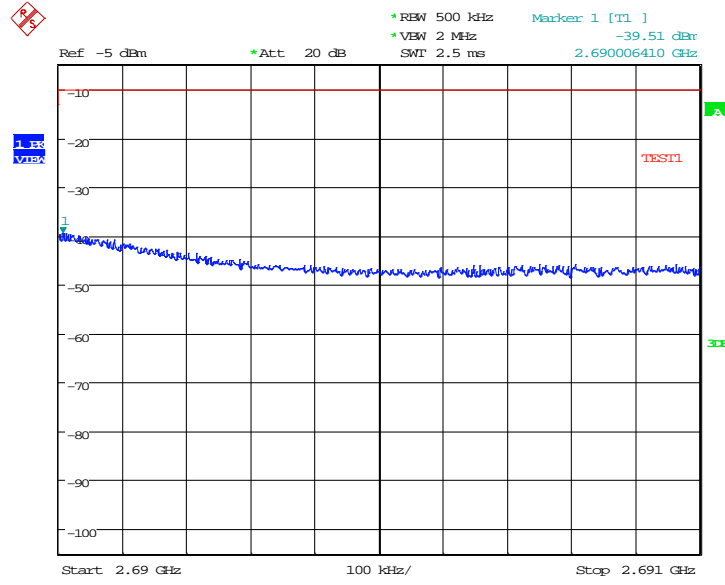
Date: 24.JAN.2020 08:46:58



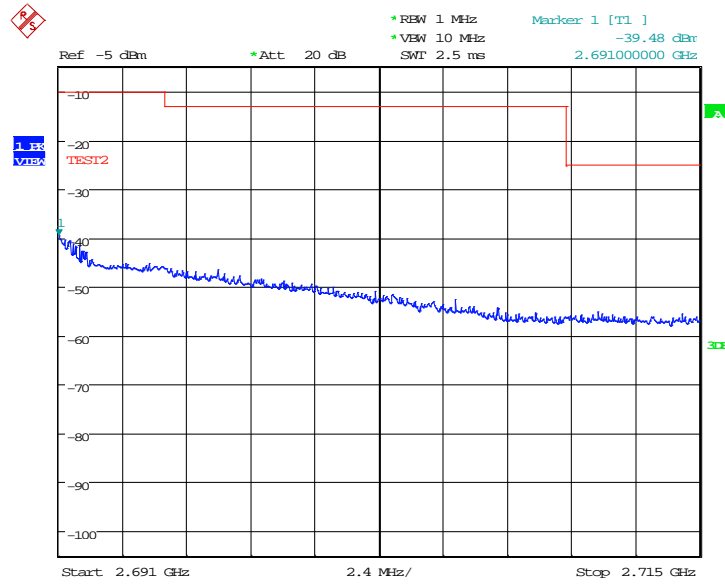
Date: 24.JAN.2020 08:48:06



HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 24.JAN.2020 08:51:47

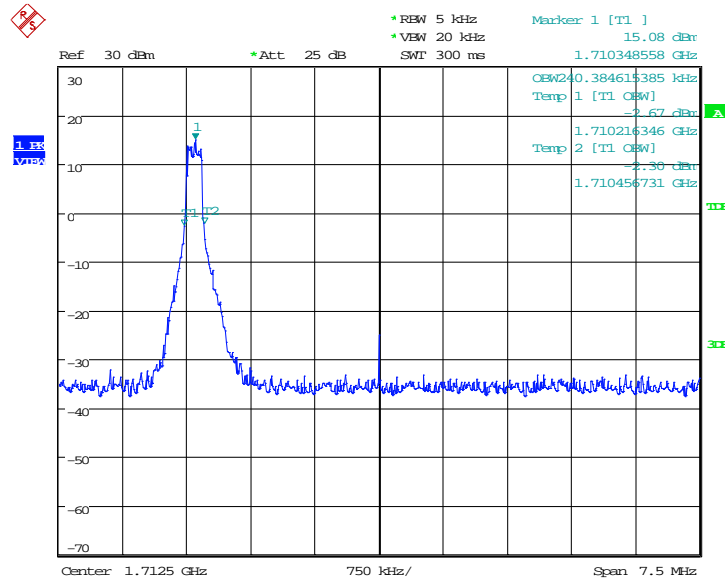


Date: 24.JAN.2020 08:50:23



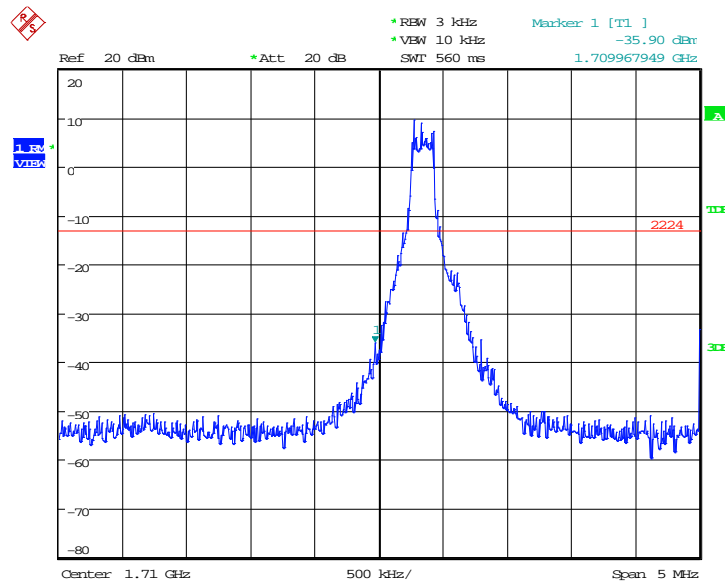
LTE band 66

OBW: 1RB-low_offset



Date: 23.JAN.2020 16:37:47

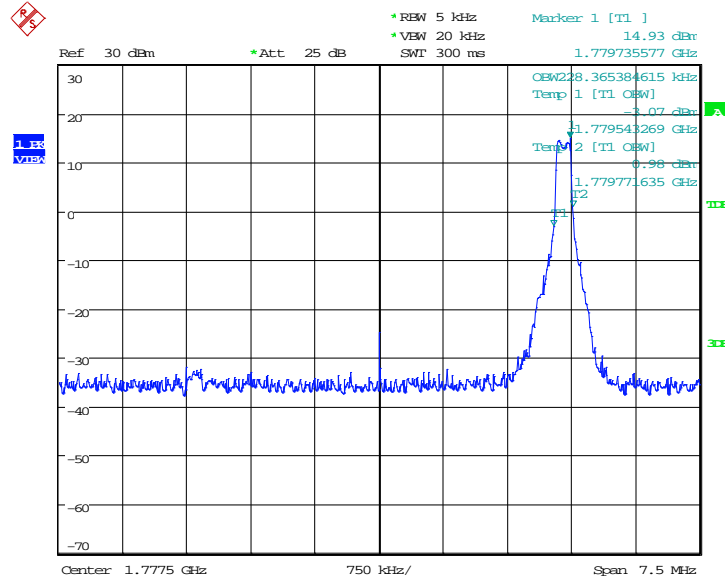
LOW BAND EDGE BLOCK-1RB-low_offset



Date: 23.JAN.2020 16:38:31

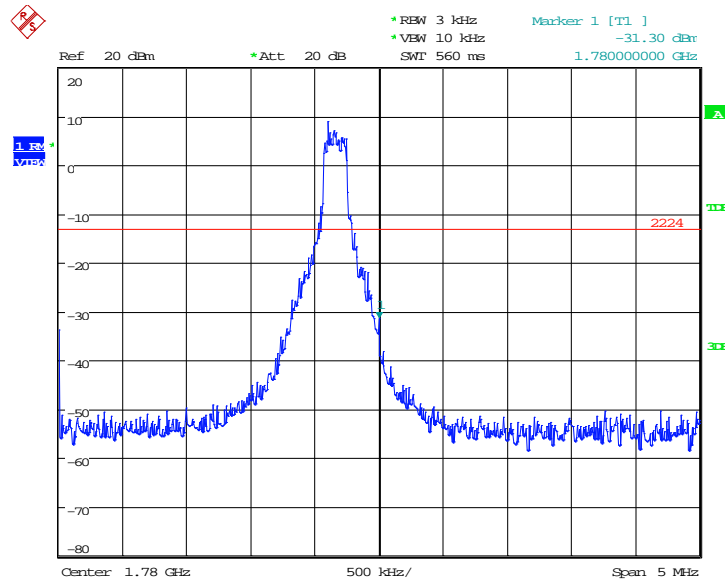


OBW: 1RB-high_offset



Date: 23.JAN.2020 16:16:47

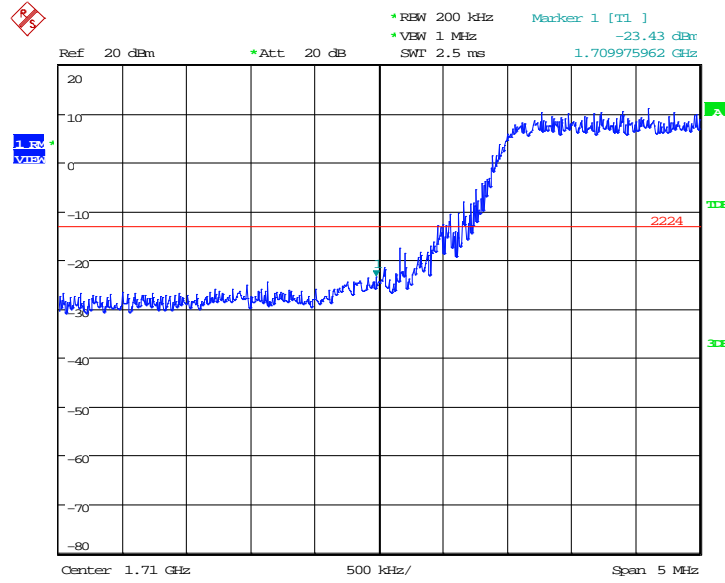
HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 23.JAN.2020 16:17:31

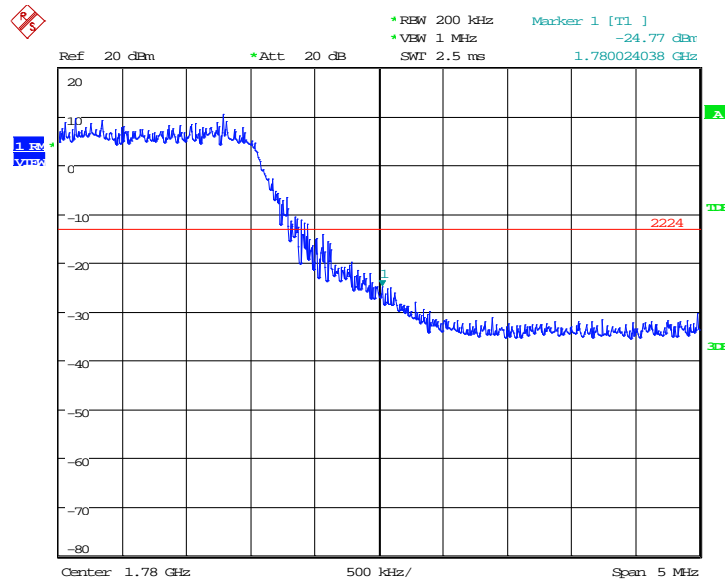


LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:56:23

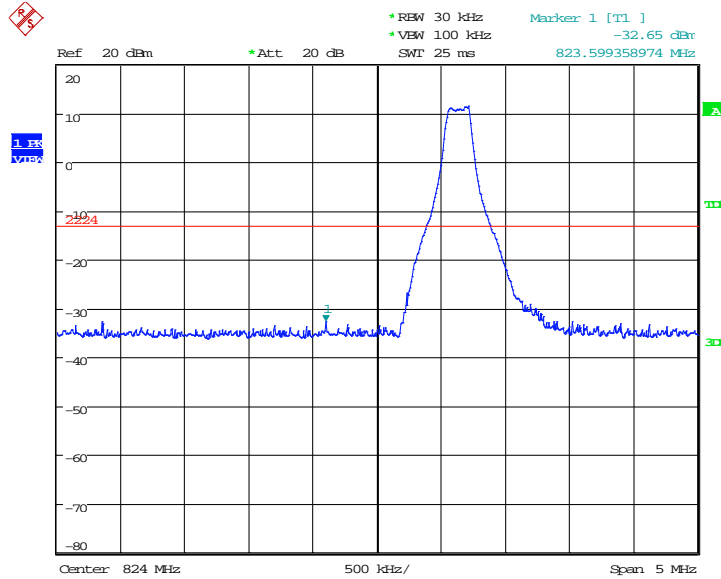
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 23.JAN.2020 16:57:09

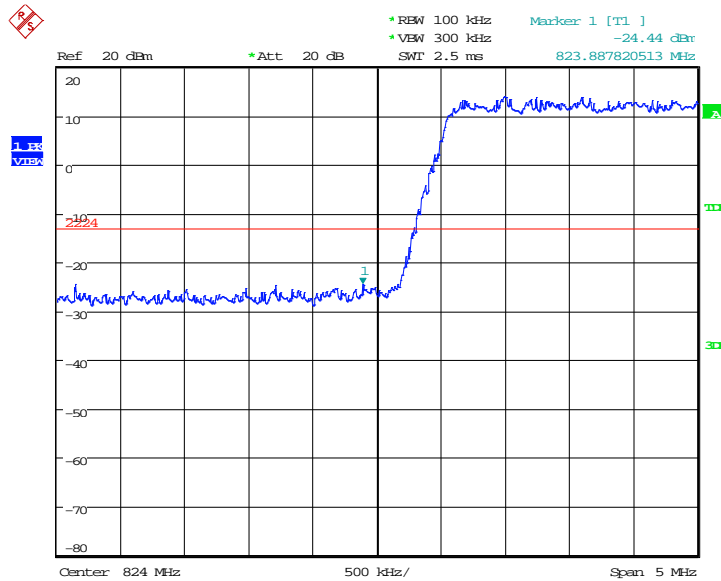


LTE Band CA_5B LOW BAND EDGE BLOCK-5MHz+10MHz-1RB



Date: 25.FEB.2020 05:26:02

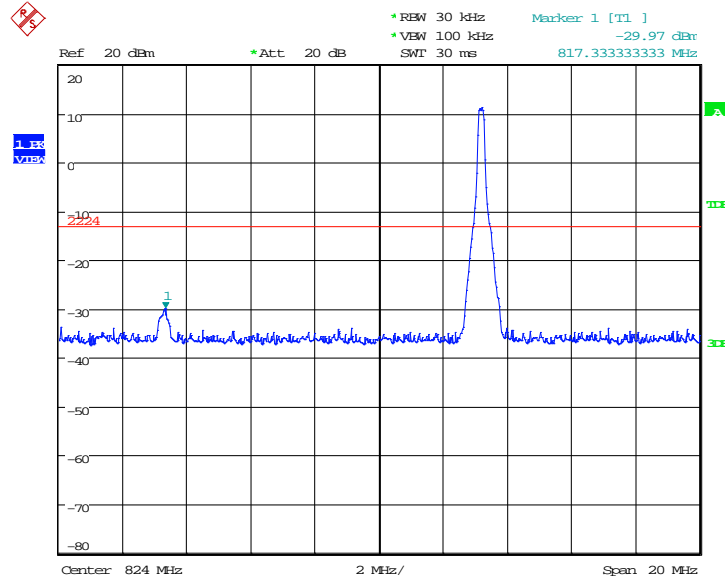
LOW BAND EDGE BLOCK-5MHz+10MHz-100%RB



Date: 25.FEB.2020 05:27:21

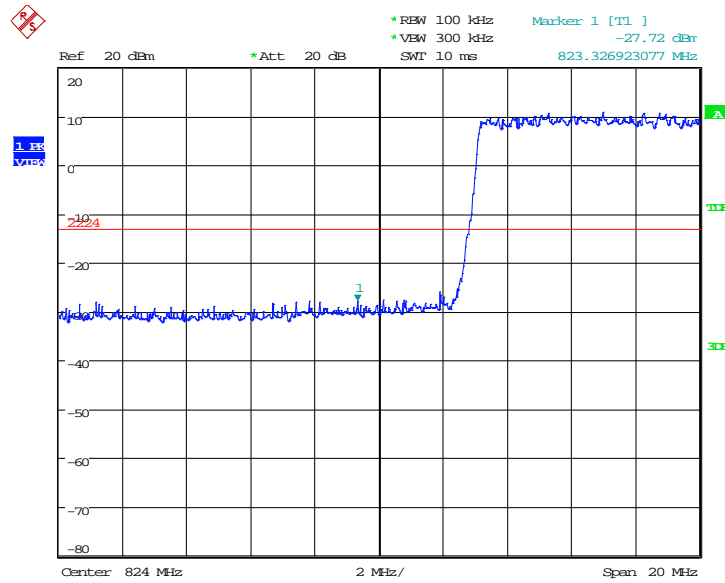


LOW BAND EDGE BLOCK-10MHz+10MHz-1RB



Date: 25.FEB.2020 05:40:26

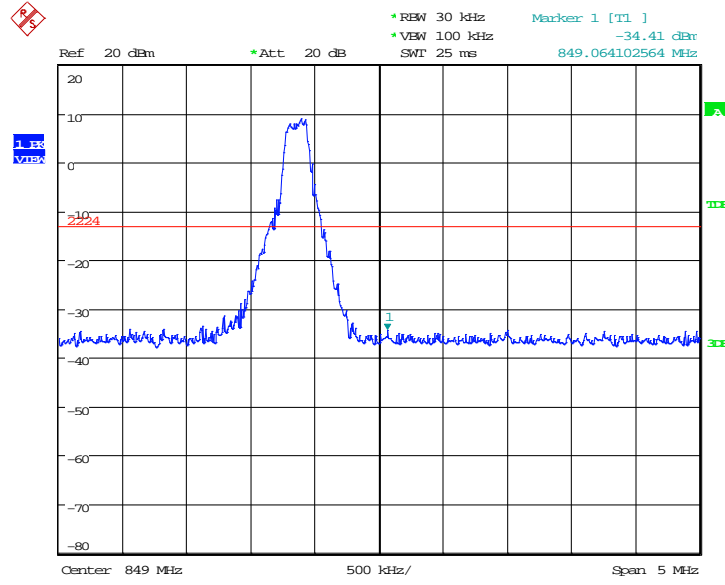
LOW BAND EDGE BLOCK-10MHz+10MHz-100%RB



Date: 25.FEB.2020 05:41:36

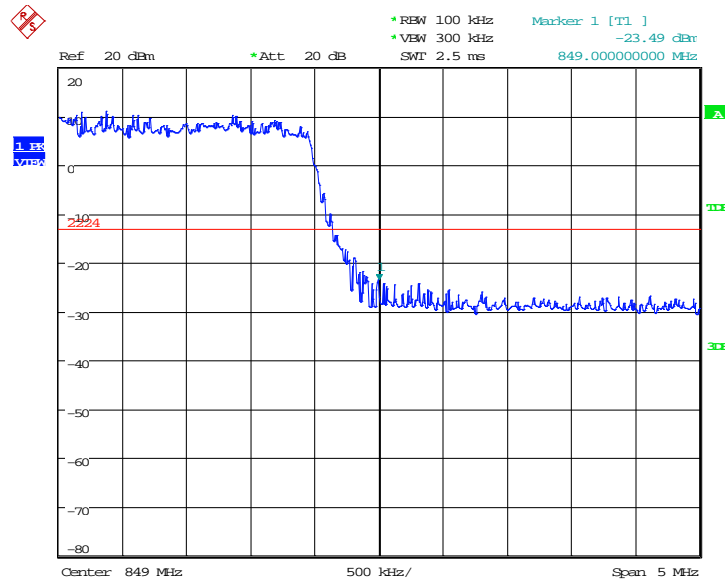


HIGH BAND EDGE BLOCK-10MHz+5MHz-1RB



Date: 25.FEB.2020 05:45:18

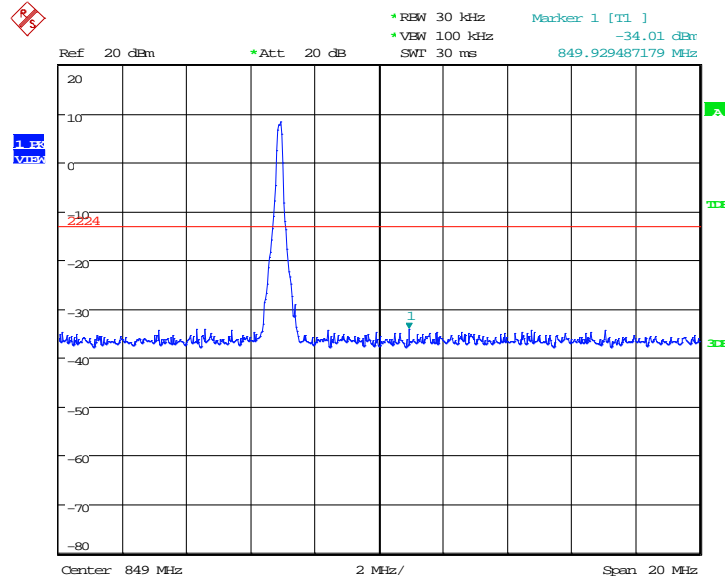
HIGH BAND EDGE BLOCK-10MHz+5MHz-100%RB



Date: 25.FEB.2020 05:46:42

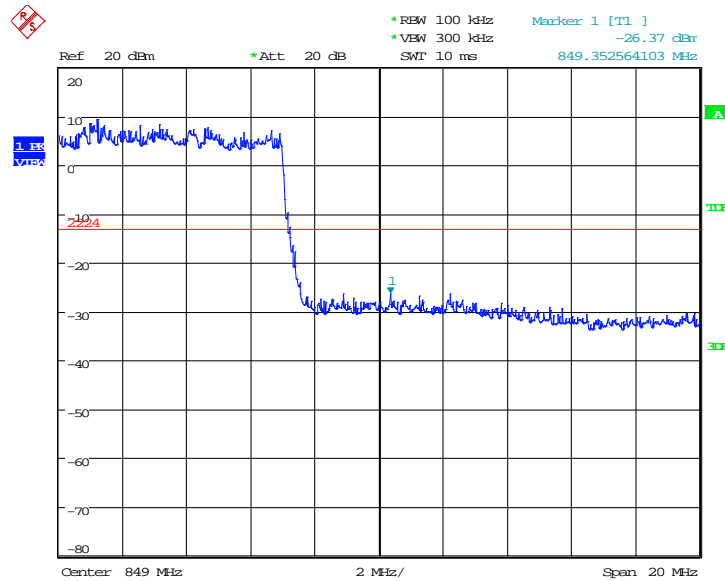


HIGH BAND EDGE BLOCK-10MHz+10MHz-1RB



Date: 25.FEB.2020 05:43:43

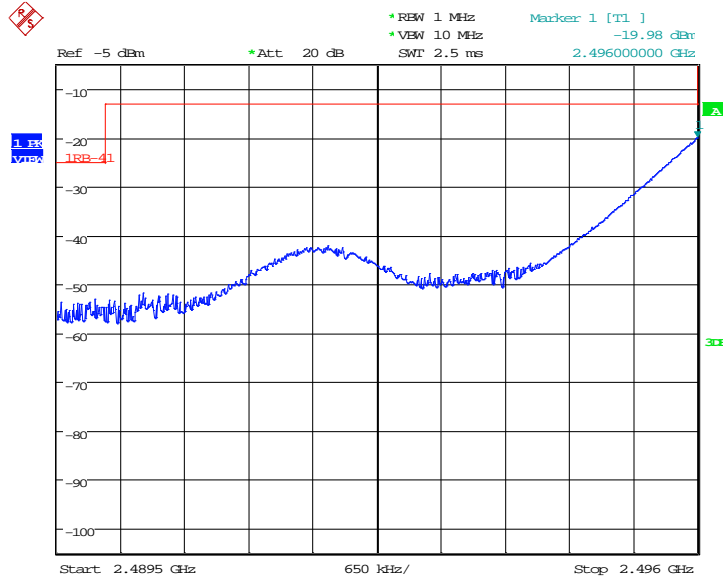
HIGH BAND EDGE BLOCK-10MHz+10MHz-100%RB



Date: 25.FEB.2020 05:42:47

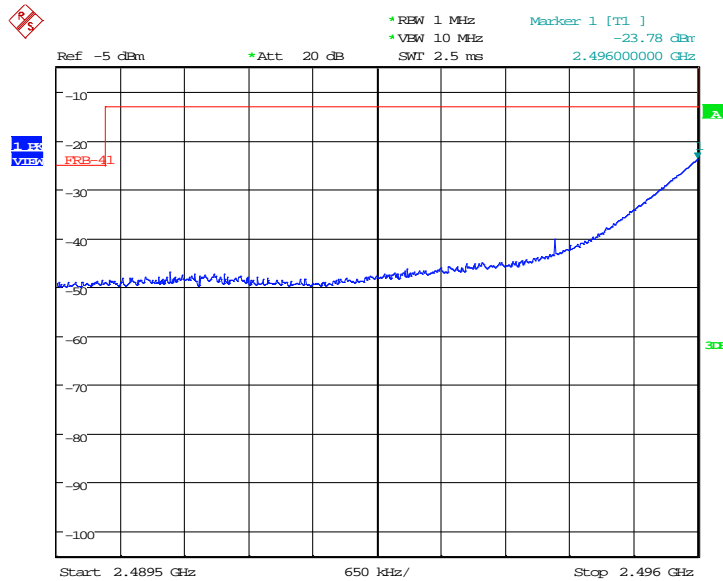


LTE Band CA_41C LOW BAND EDGE BLOCK-5MHz+20MHz-1RB



Date: 24.FEB.2020 12:55:55

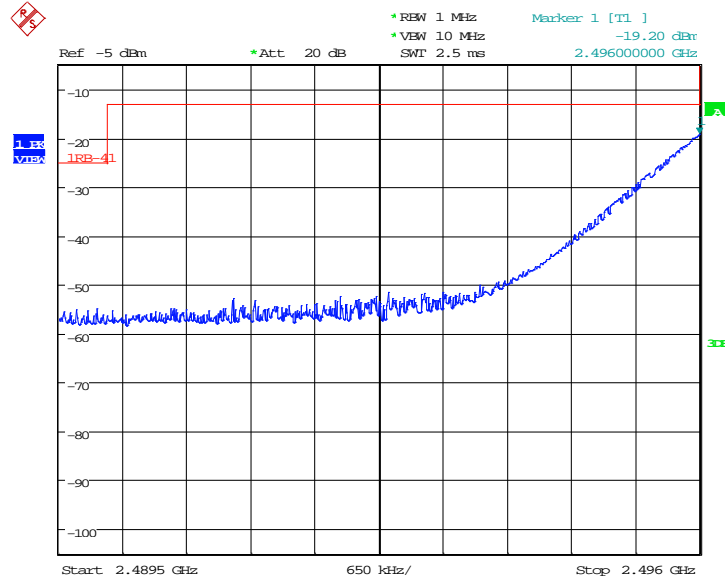
LOW BAND EDGE BLOCK-5MHz+20MHz-100%RB



Date: 24.FEB.2020 12:59:37

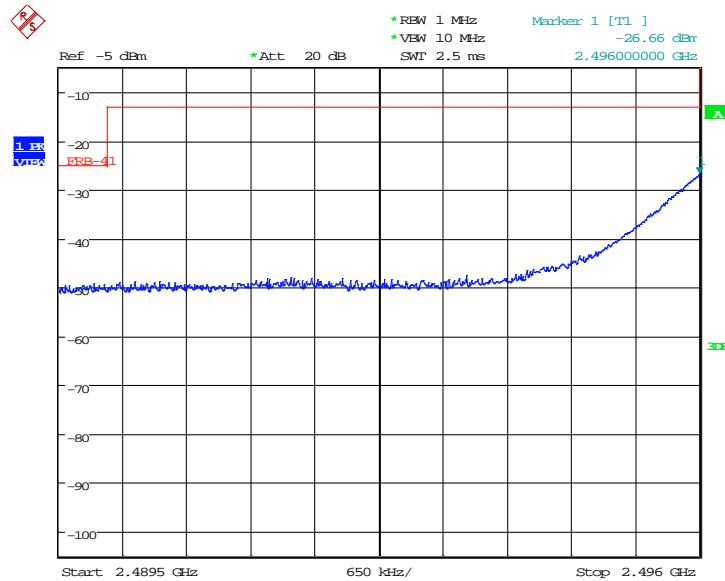


LOW BAND EDGE BLOCK-10MHz+20MHz-1RB



Date: 24.FEB.2020 13:06:17

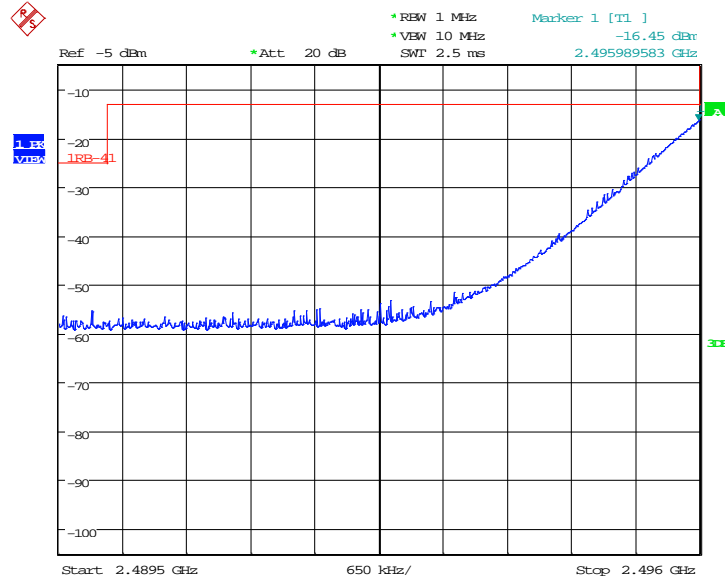
LOW BAND EDGE BLOCK-10MHz+20MHz-100%RB



Date: 24.FEB.2020 13:05:19

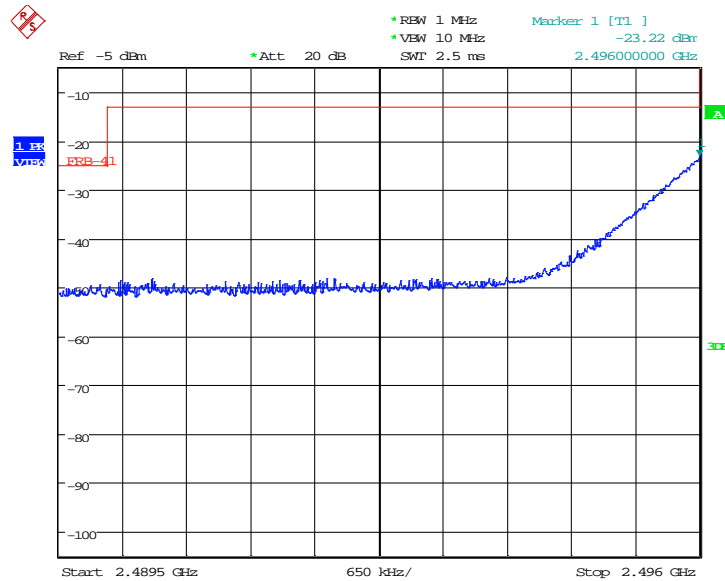


LOW BAND EDGE BLOCK-15MHz+15MHz-1RB



Date: 24.FEB.2020 13:12:56

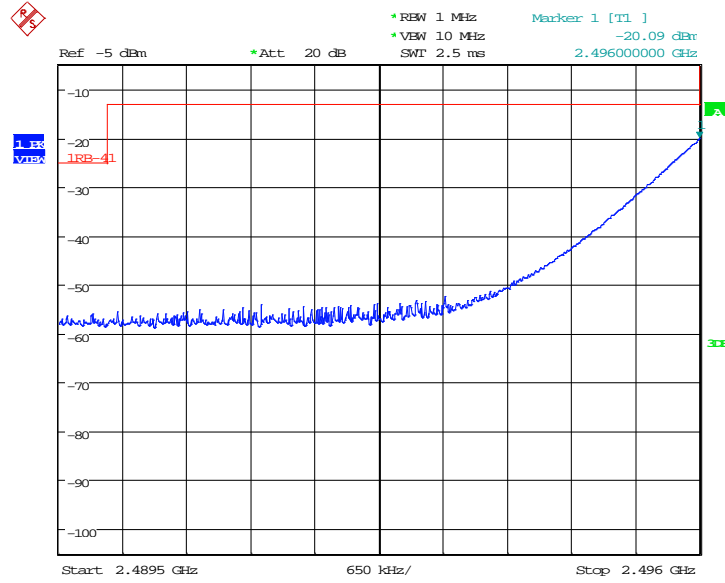
LOW BAND EDGE BLOCK-15MHz+15MHz-100%RB



Date: 24.FEB.2020 13:10:12

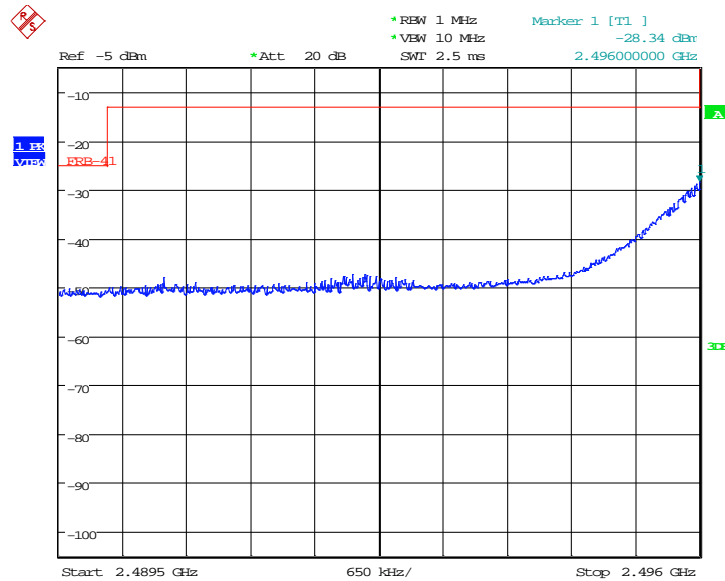


LOW BAND EDGE BLOCK-15MHz+20MHz-1RB



Date: 24.FEB.2020 13:15:02

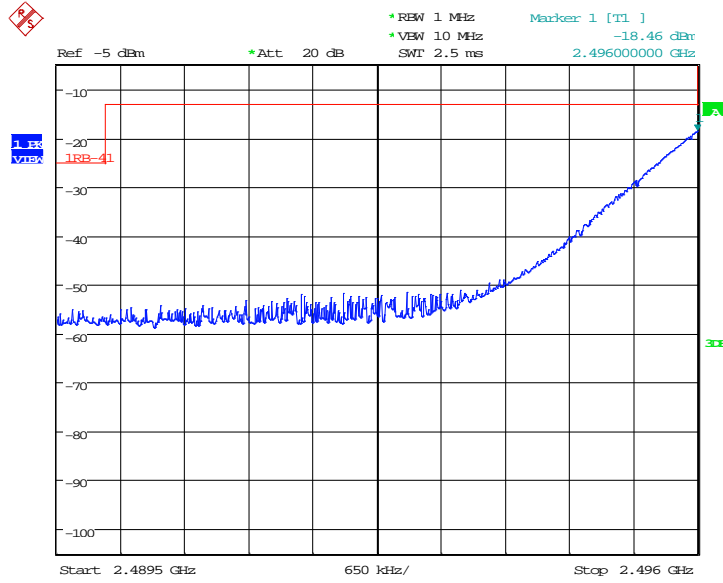
LOW BAND EDGE BLOCK-15MHz+20MHz-100%RB



Date: 24.FEB.2020 13:15:59

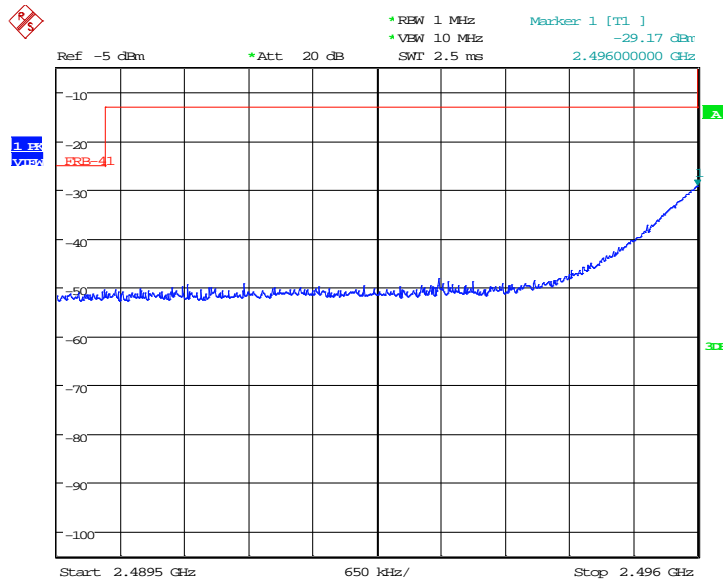


LOW BAND EDGE BLOCK-20MHz+20MHz-1RB



Date: 24.FEB.2020 13:19:03

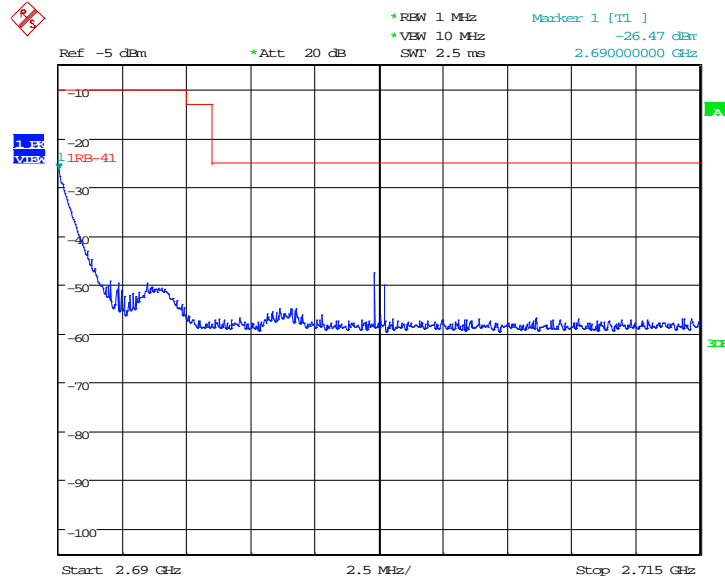
LOW BAND EDGE BLOCK-20MHz+20MHz-100%RB



Date: 24.FEB.2020 13:18:17

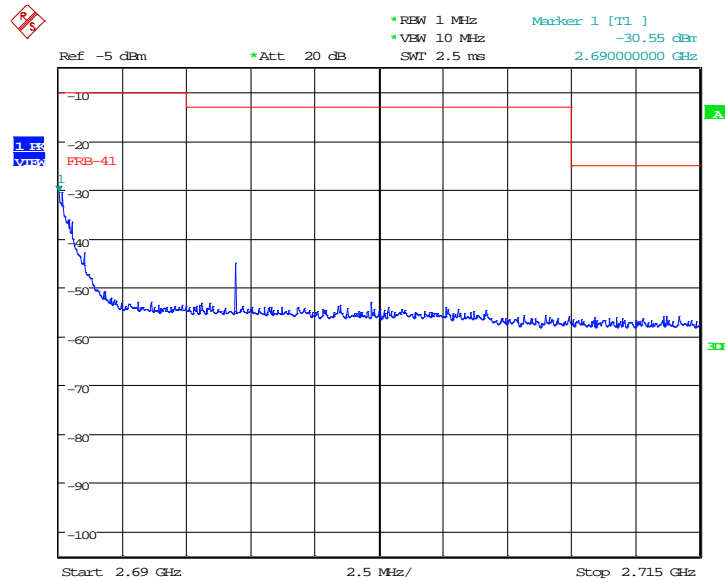


HIGH BAND EDGE BLOCK-20MHz+5MHz-1RB



Date: 24.FEB.2020 13:36:30

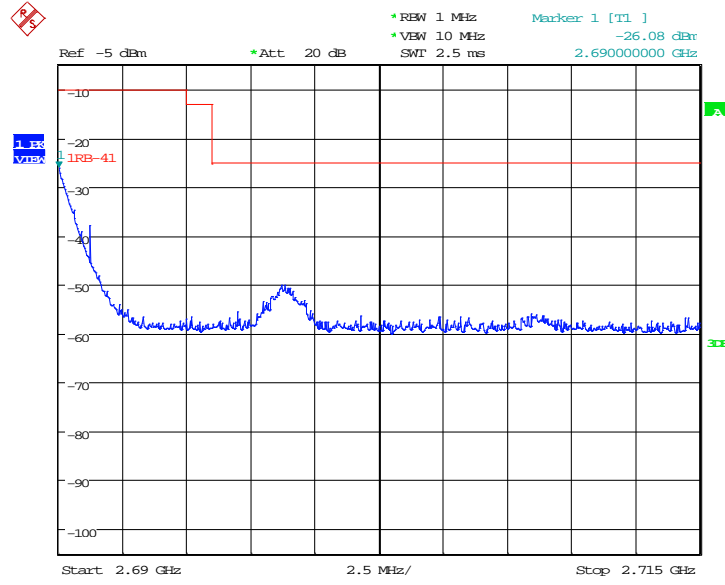
HIGH BAND EDGE BLOCK-20MHz+5MHz-100%RB



Date: 24.FEB.2020 13:37:43

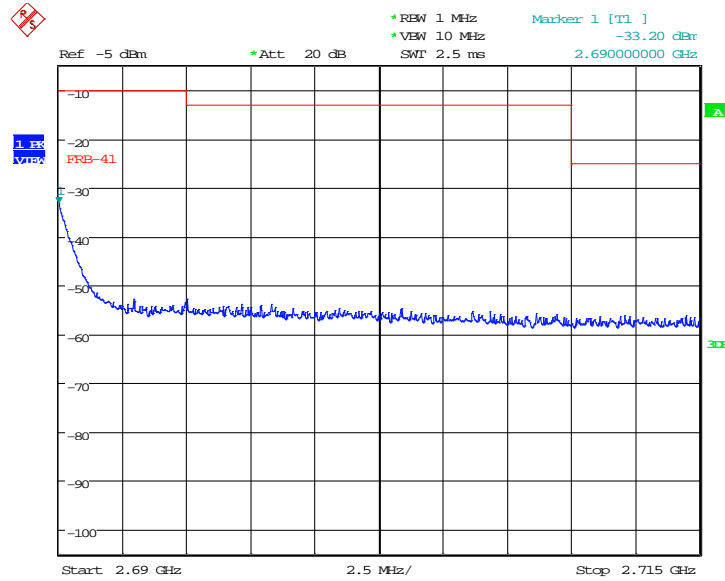


HIGH BAND EDGE BLOCK-20MHz+10MHz-1RB



Date: 24.FEB.2020 13:34:32

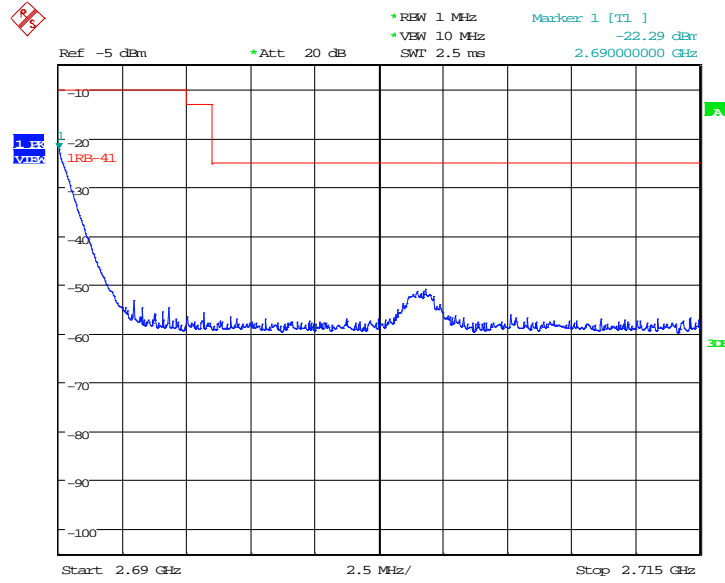
HIGH BAND EDGE BLOCK-20MHz+10MHz-100%RB



Date: 24.FEB.2020 13:33:49

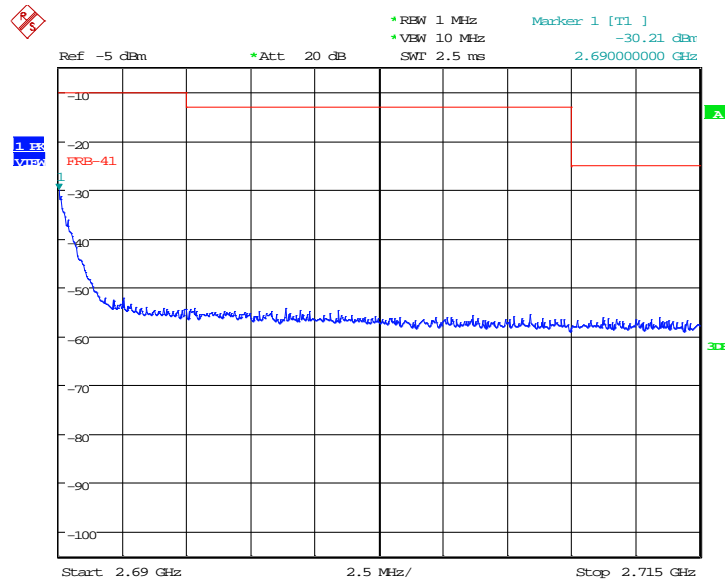


HIGH BAND EDGE BLOCK-15MHz+15MHz-1RB



Date: 24.FEB.2020 13:32:21

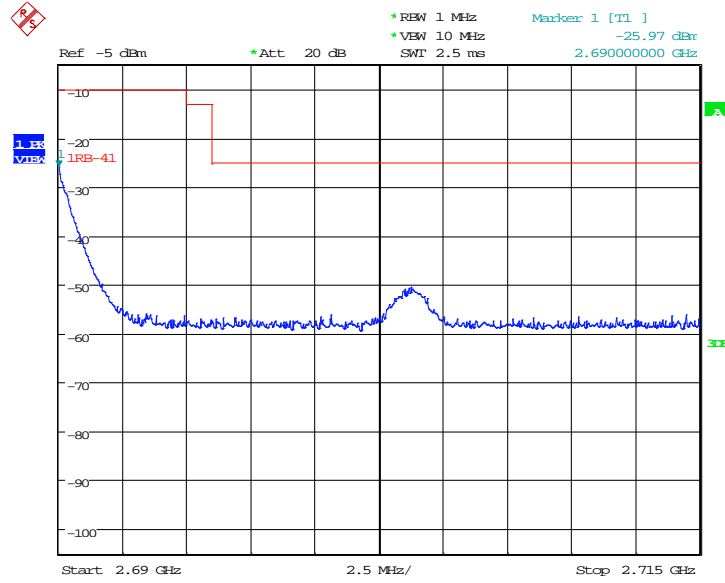
HIGH BAND EDGE BLOCK-15MHz+15MHz-100%RB



Date: 24.FEB.2020 13:31:36

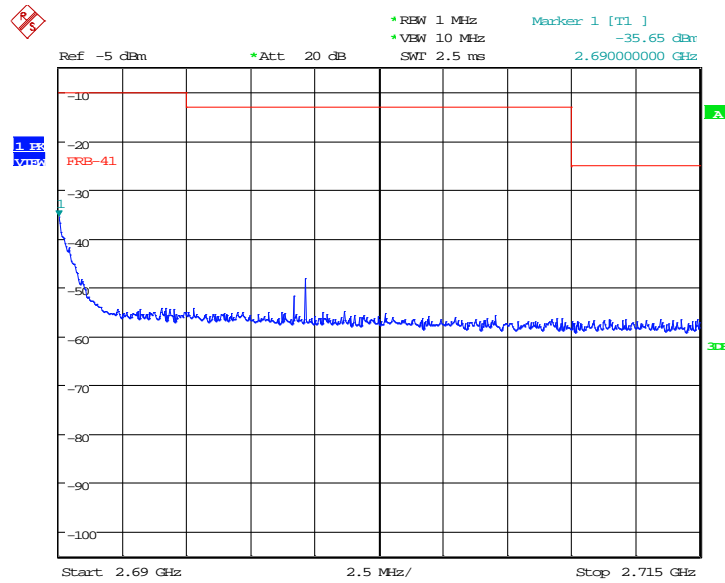


HIGH BAND EDGE BLOCK-20MHz+15MHz-1RB



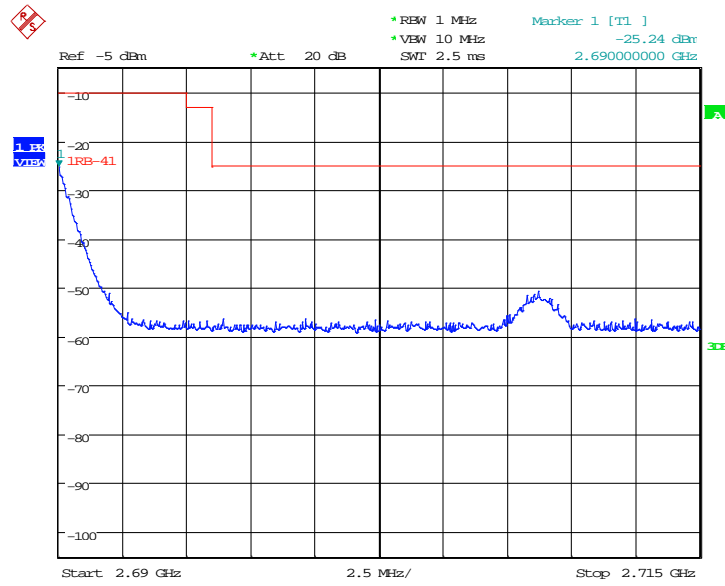
Date: 24.FEB.2020 13:25:11

HIGH BAND EDGE BLOCK-20MHz+15MHz-100%RB



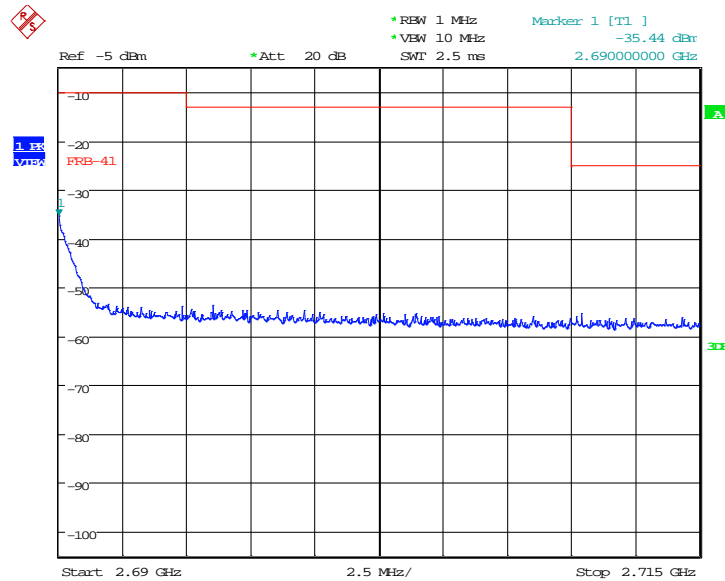
Date: 24.FEB.2020 13:28:04

HIGH BAND EDGE BLOCK-20MHz+20MHz-1RB



Date: 24.FEB.2020 13:23:42

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



Date: 24.FEB.2020 13:29:33

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

A.7 CONDUCTED SPURIOUS EMISSION

Reference

FCC: CFR Part 2.1051, 22.917, 24.238, 27.53, 90.691.

A.7.1 Measurement Method

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

1. Determine frequency range for measurements: From CFR 2.1051 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
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 set to 30001 which is greater than 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.

The specification that emissions shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P)$ dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Part 27.53(m)(4) 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(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.

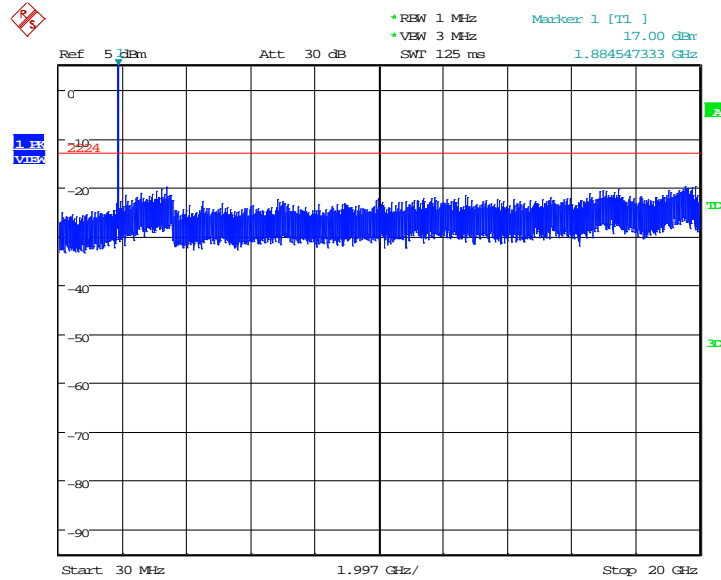
A. 7.3 Measurement result

Only worst case result is given below

LTE band 2 : 30MHz – 20GHz

Spurious emission limit –13dBm.

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

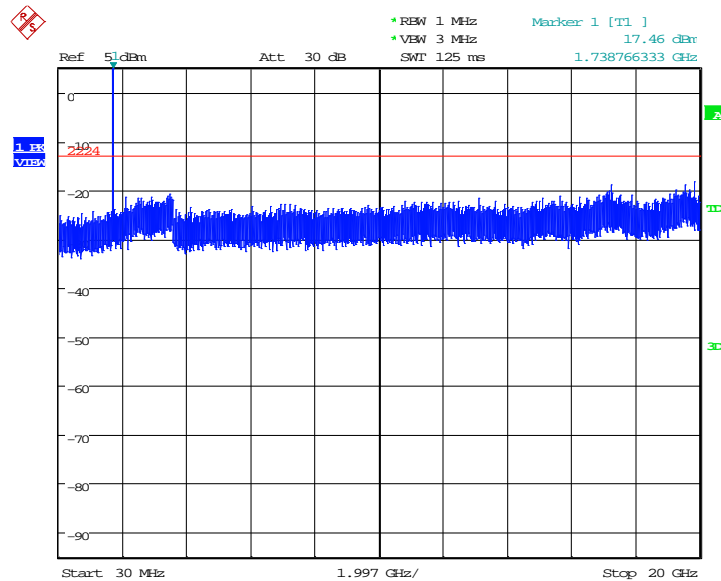


Date: 13.JAN.2020 16:32:07

LTE band 4 : 30MHz – 20GHz

Spurious emission limit –13dBm.

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



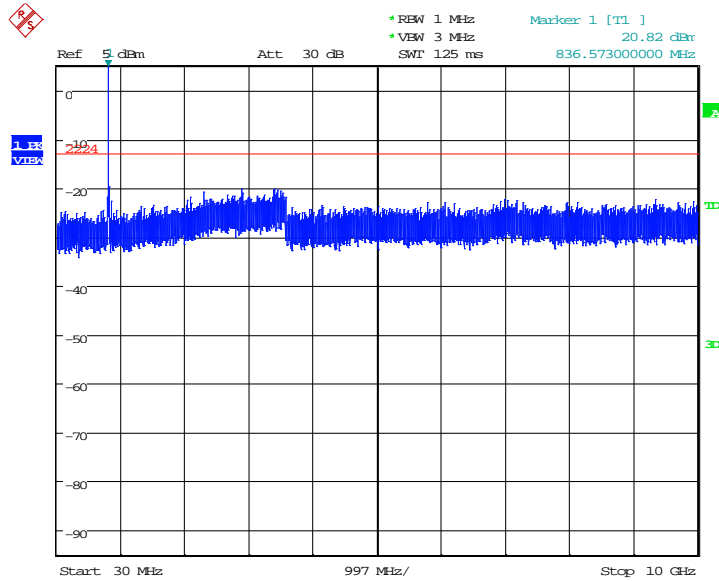
Date: 13.JAN.2020 17:04:58



LTE band 5 : 30MHz – 10GHz

Spurious emission limit –13dBm.

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

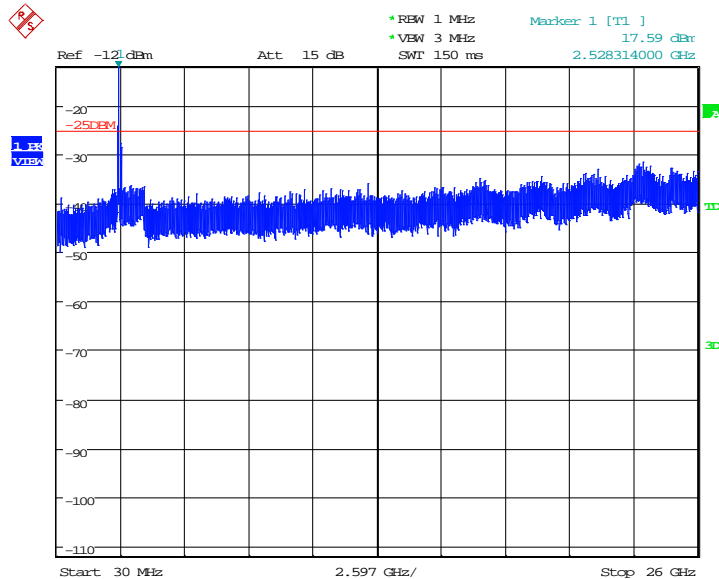


Date: 13.JAN.2020 15:59:19

LTE band 7 20MHz QPSK: 30MHz – 26GHz

Spurious emission limit –25dBm.

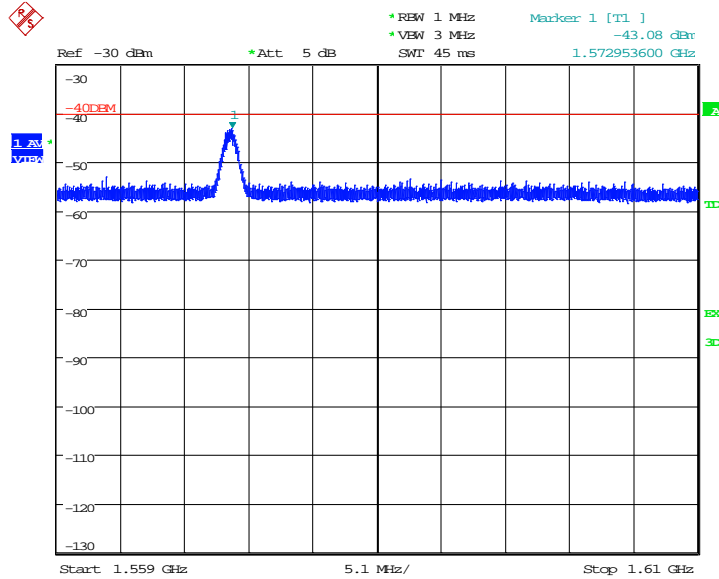
NOTE: peak above the limit line is the carrier frequency.



Date: 15.JAN.2020 06:49:29



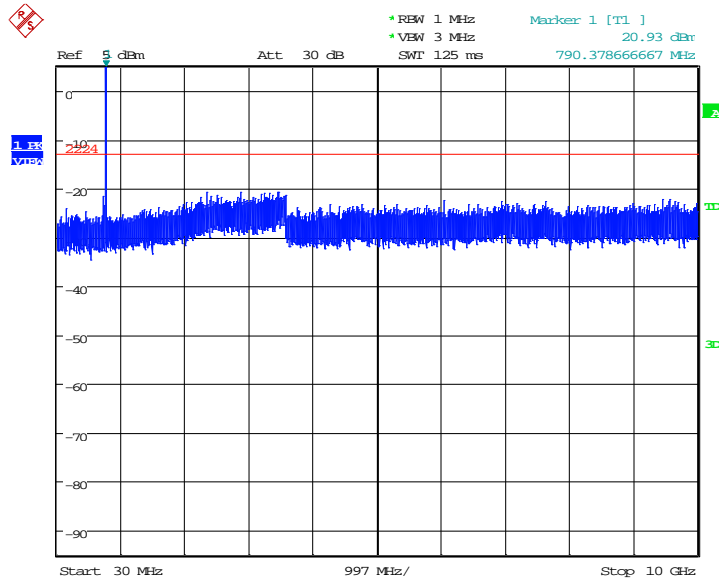
LTE band 13: 1559MHz – 1610MHz
Spurious emission limit –40dBm.



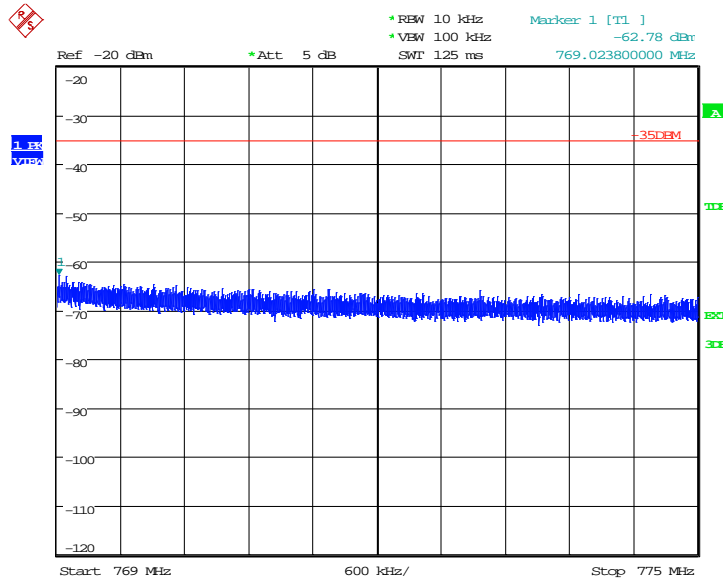
Date: 3.MAR.2020 12:55:13

LTE band 14: 30MHz – 10GHz
Spurious emission limit –13dBm.

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



Date: 13.JAN.2020 17:38:20

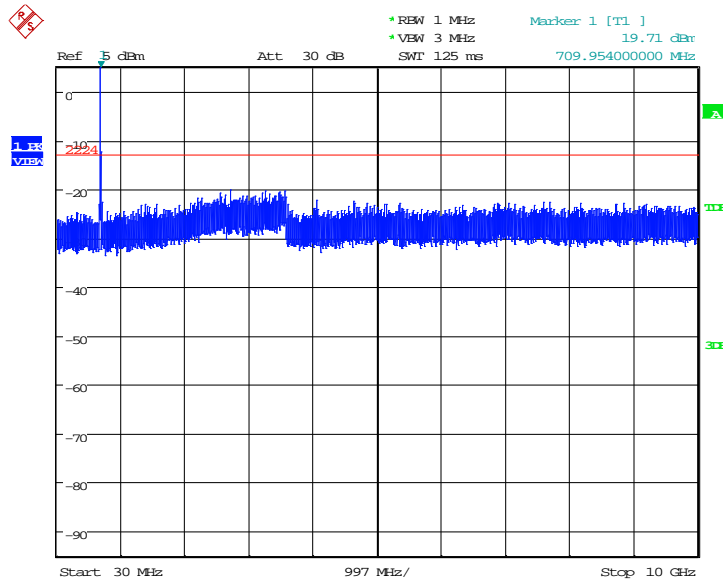


Date: 3.MAR.2020 12:48:41

LTE band 17: 30MHz – 10GHz

Spurious emission limit –13dBm.

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



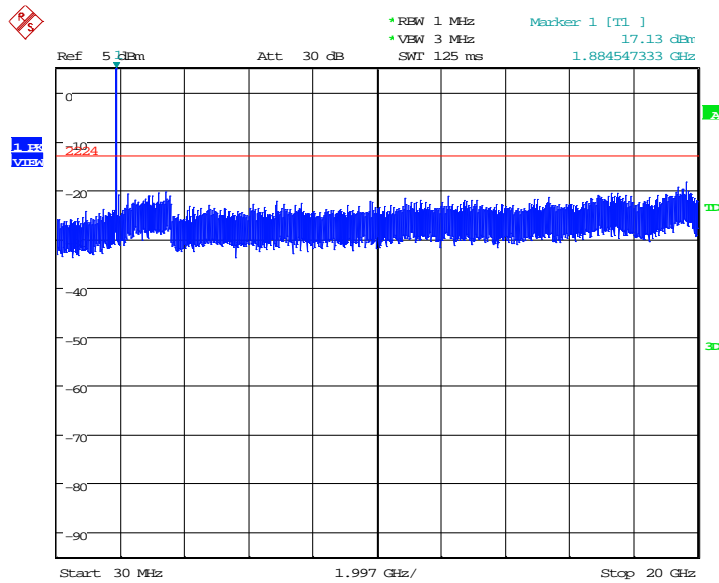
Date: 13.JAN.2020 17:49:18



LTE band 25: 30MHz – 20GHz

Spurious emission limit –13dBm.

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

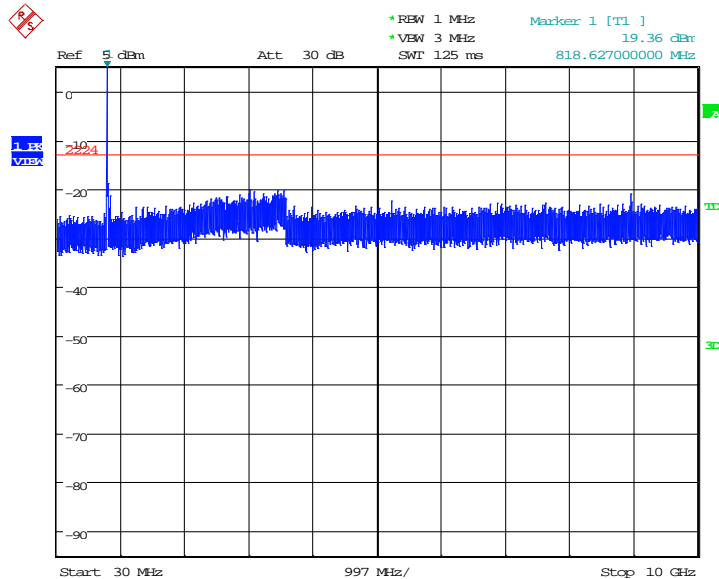


Date: 13.JAN.2020 18:37:34

LTE band 26(814MHz-824MHz): 30MHz – 10GHz

Spurious emission limit –13dBm.

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



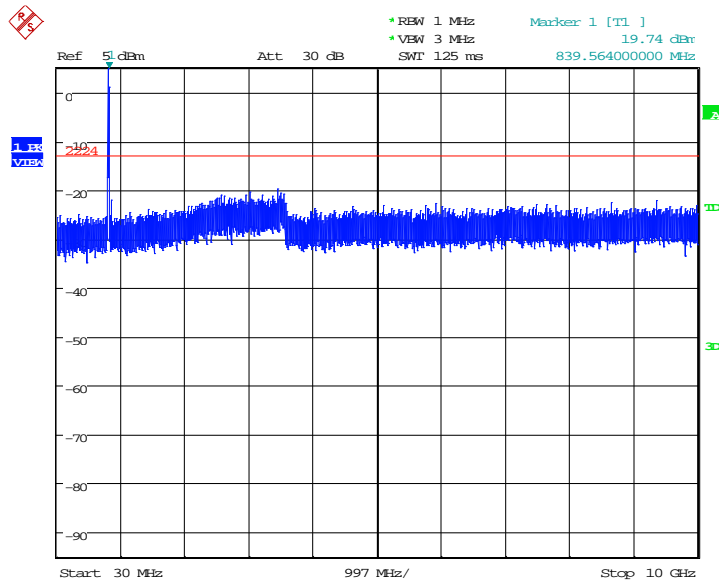
Date: 13.JAN.2020 19:25:45



LTE band 26(824MHz-849MHz): 30MHz – 10GHz

Spurious emission limit –13dBm.

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

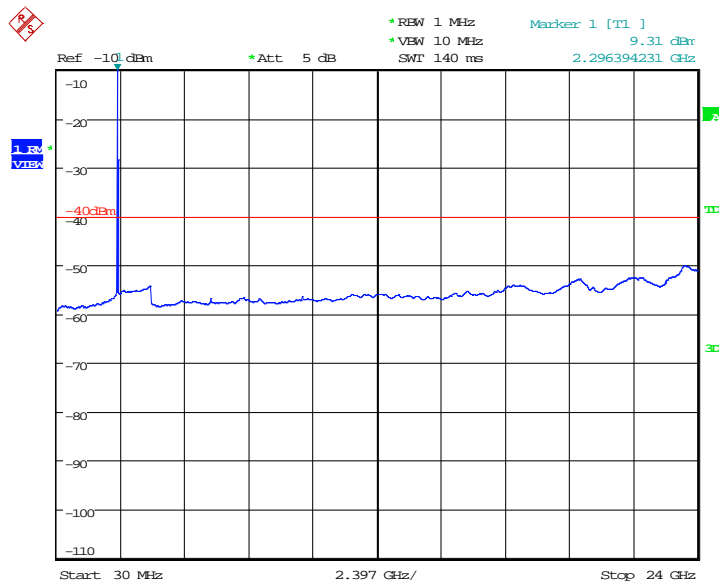


Date: 13.JAN.2020 19:03:21

LTE band 30: 30MHz – 24GHz

Spurious emission limit –13dBm.

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



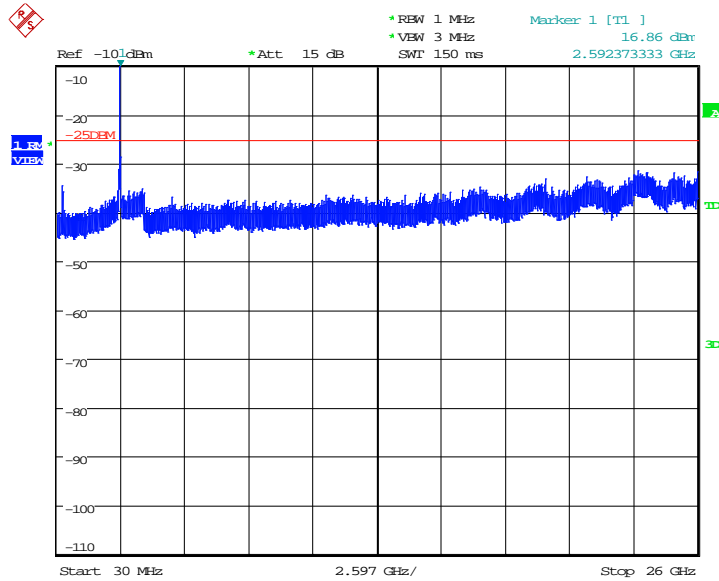
Date: 25.FEB.2020 10:50:56



LTE band 38: 30MHz – 26GHz

Spurious emission limit –25dBm.

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

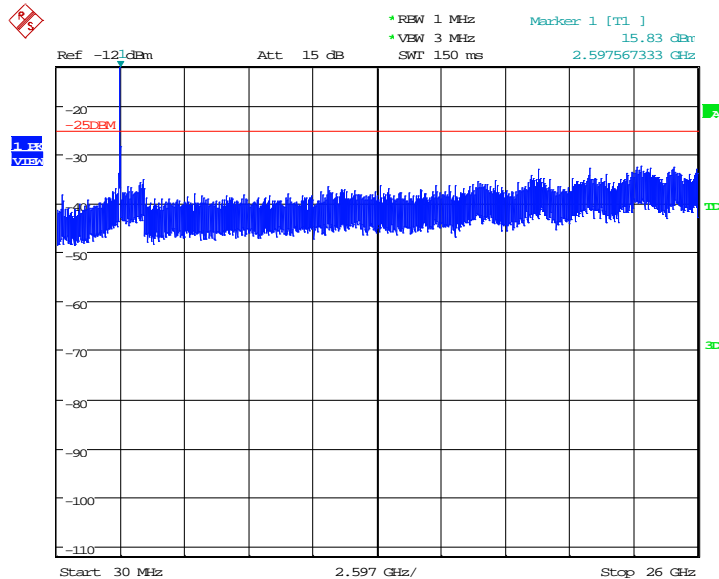


Date: 25.FEB.2020 10:55:08

LTE band 41: 30MHz – 26GHz

Spurious emission limit –25dBm.

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



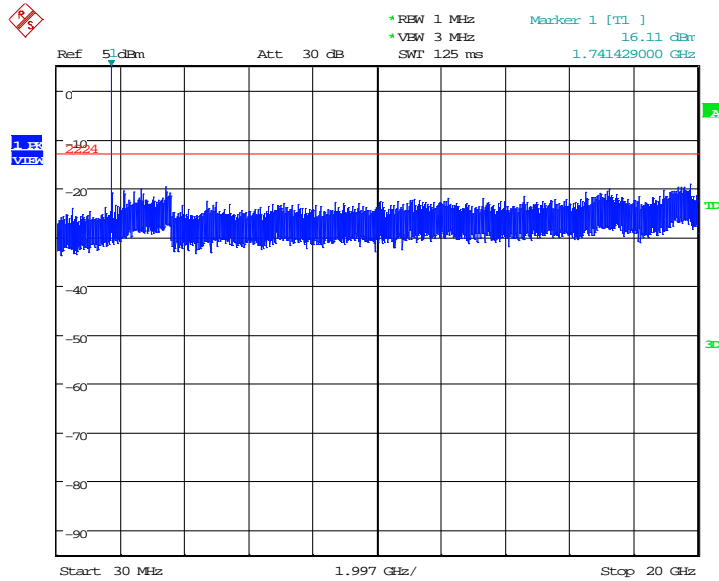
Date: 15.JAN.2020 05:52:03



LTE band 66: 30MHz – 20GHz

Spurious emission limit –13dBm.

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

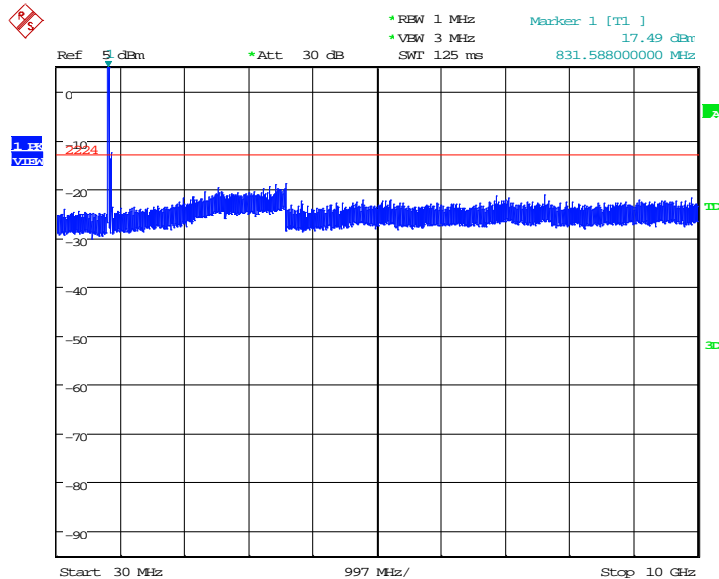


Date: 13.JAN.2020 20:01:05

LTE band CA_5B: 30MHz – 10GHz

Spurious emission limit –13dBm.

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



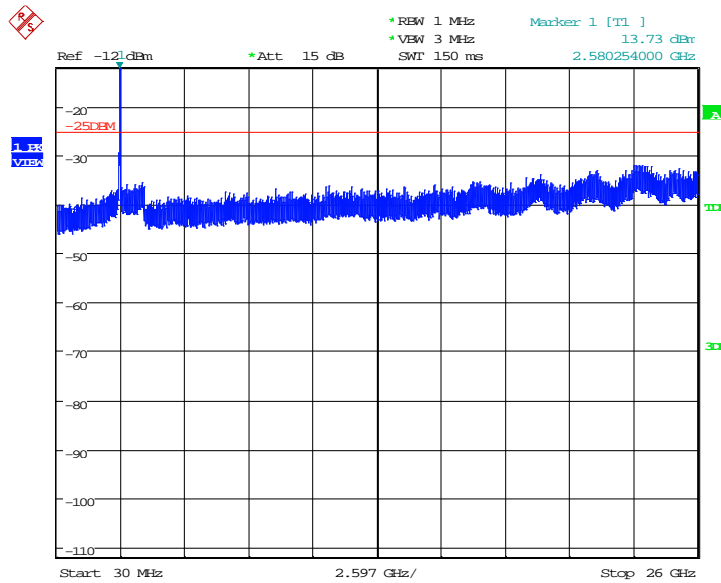
Date: 24.FEB.2020 10:52:14



LTE Band CA_41C: 30MHz – 26GHz

Spurious emission limit –25dBm.

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



Date: 24.FEB.2020 10:19:59

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

A.8 PEAK-TO-AVERAGE POWER RATIO

Reference

FCC: CFR Part 24.232, 27.50(d), KDB971168 D01(5.7).

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

- 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) Set the measurement interval to 1 ms
- e) Record the maximum PAPR level associated with a probability of 0.1%

A.8.1 Measurement limit

not exceed 13 dB

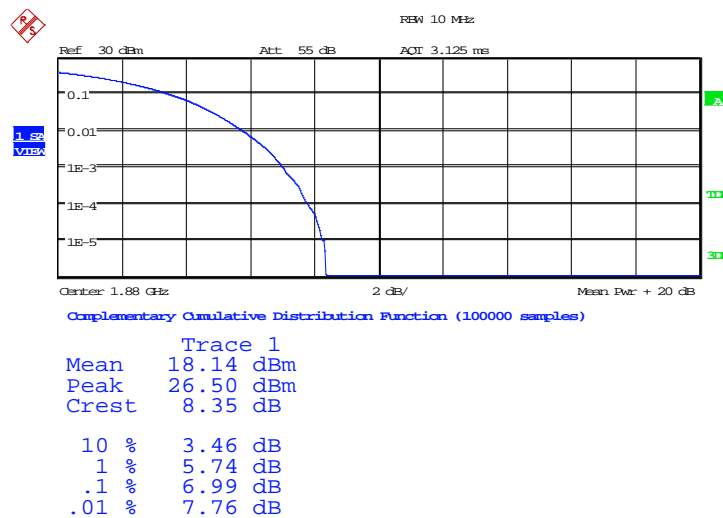
A.8.2 Measurement results

Only worst case result is given below

LTE band 2

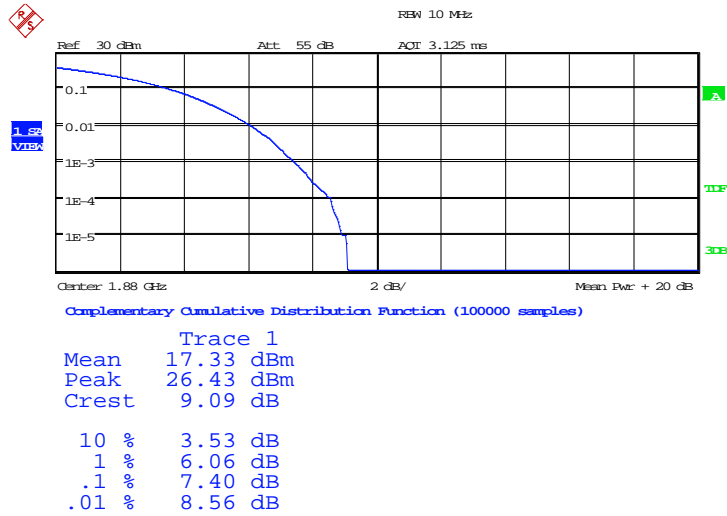
Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
1880.0	20	6.99	7.40	7.47

LTE band 2, 20MHz Bandwidth, QPSK (PAPR)



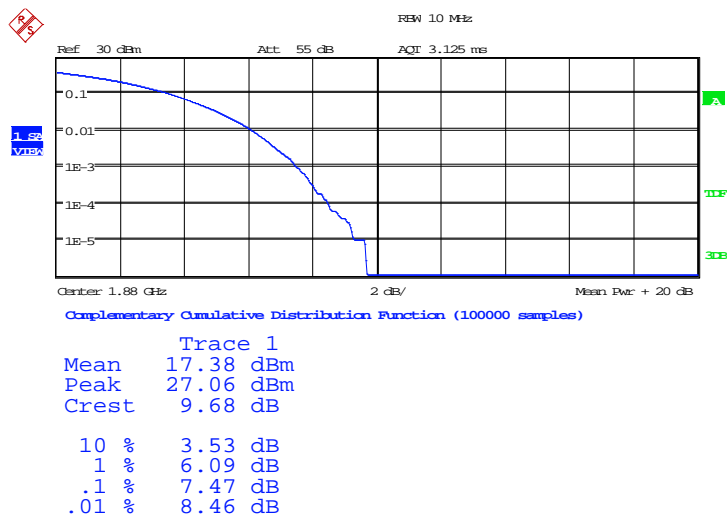
Date: 13.JAN.2020 16:34:18

LTE band 2, 20MHz Bandwidth, 16QAM (PAPR)



Date: 13.JAN.2020 16:34:24

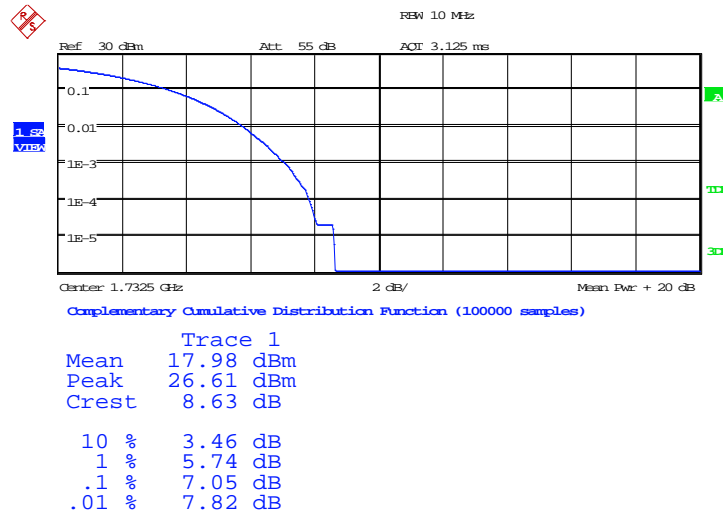
LTE band 2, 20MHz Bandwidth, 64QAM (PAPR)



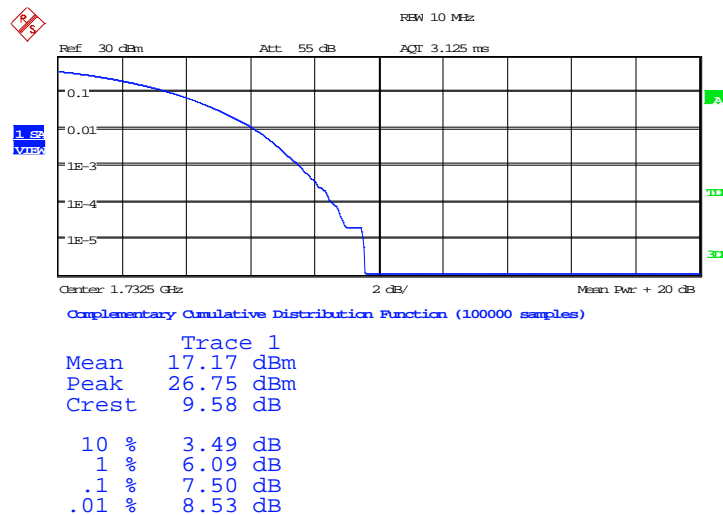
Date: 15.JAN.2020 09:06:44

LTE band 4

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
1732.5	20	7.05	7.50	7.66

LTE band 4, 20MHz Bandwidth, QPSK (PAPR)


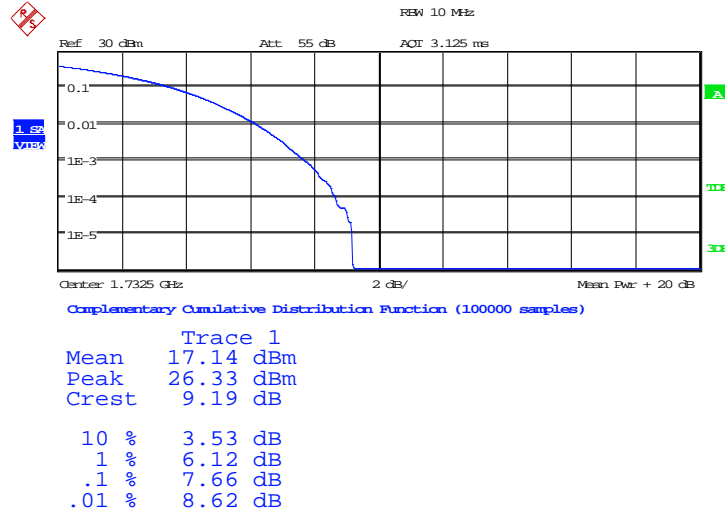
Date: 13.JAN.2020 17:07:39

LTE band 4, 20MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 17:07:45



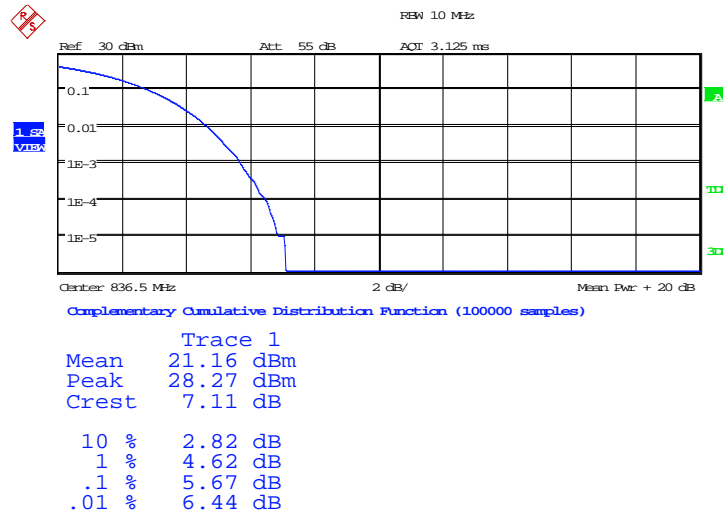
LTE band 4, 20MHz Bandwidth, 64QAM (PAPR)



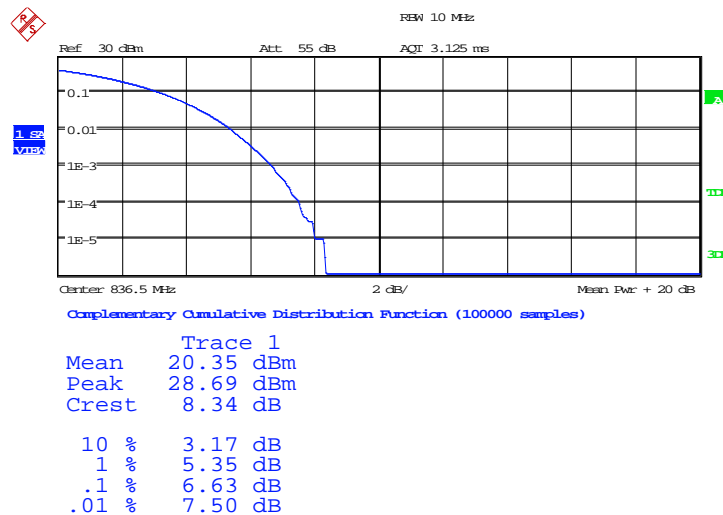
Date: 15.JAN.2020 09:27:30

LTE band 5

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
836.5	10	5.67	6.63	6.57

LTE band 5, 10MHz Bandwidth, QPSK (PAPR)


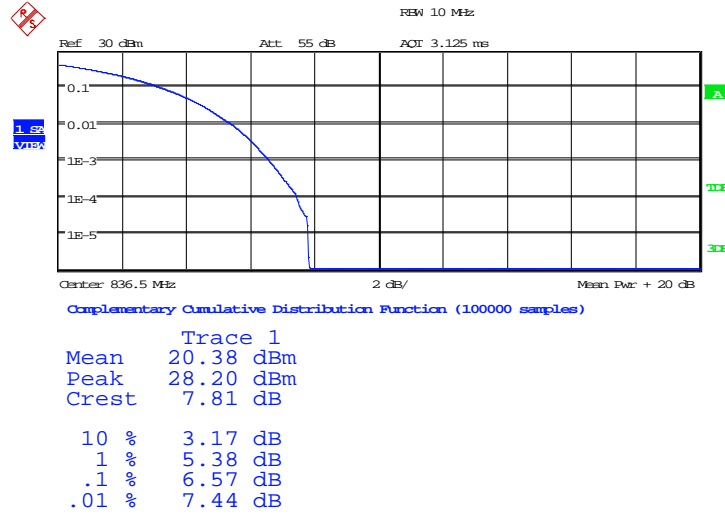
Date: 13.JAN.2020 16:01:30

LTE band 5, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 16:01:36



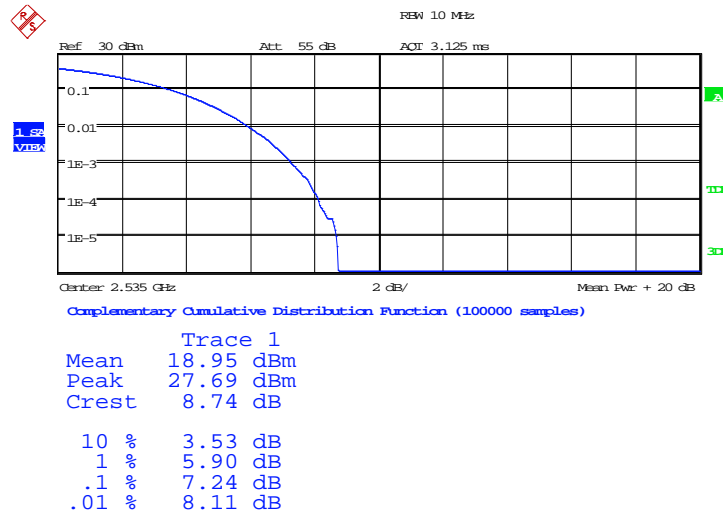
LTE band 5, 10MHz Bandwidth, 64QAM (PAPR)



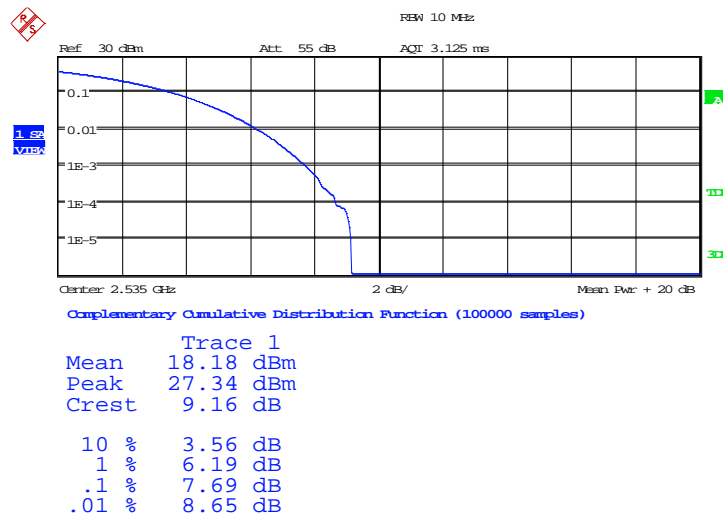
Date: 15.JAN.2020 08:45:27

LTE band 7

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
2510.0	20	7.24	7.69	7.69

LTE band 7, 20MHz Bandwidth, QPSK (PAPR)


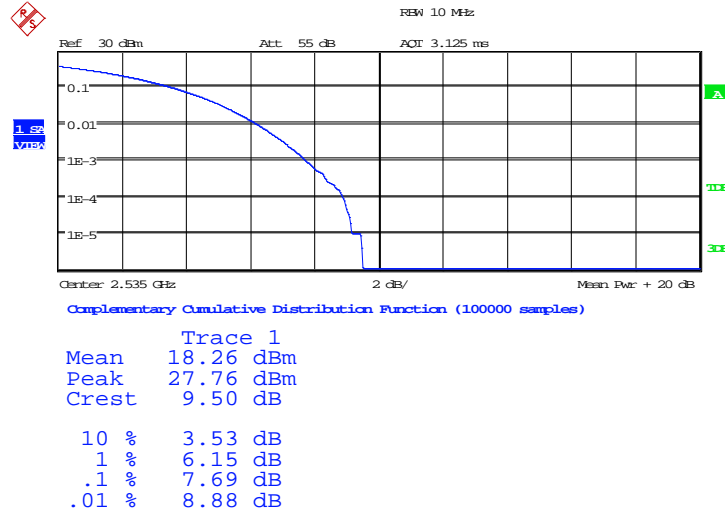
Date: 15.JAN.2020 07:01:31

LTE band 7, 20MHz Bandwidth, 16QAM (PAPR)


Date: 15.JAN.2020 07:01:37



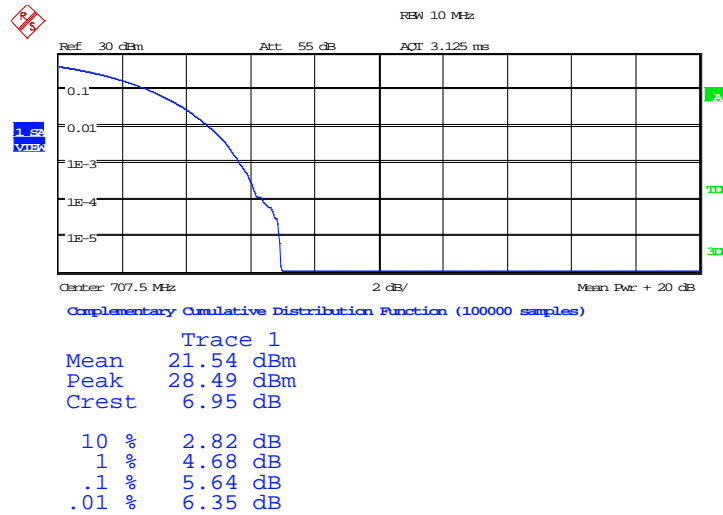
LTE band 7, 20MHz Bandwidth, 64QAM (PAPR)



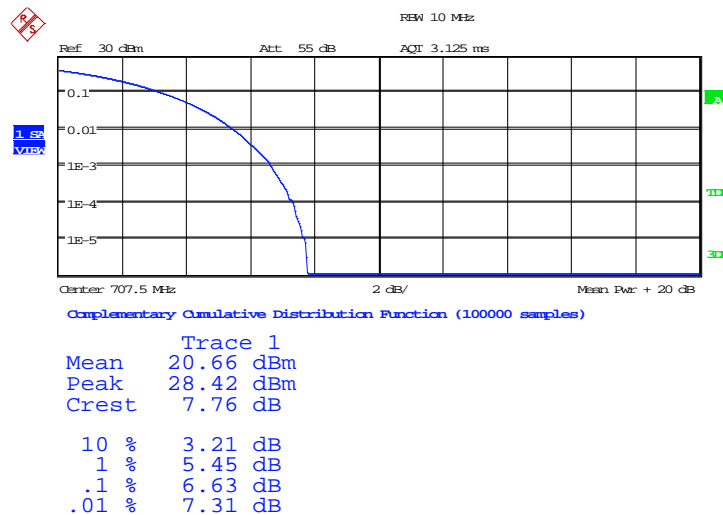
Date: 15.JAN.2020 07:18:55

LTE band 12

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
707.5	10	5.64	6.63	6.60

LTE band 12, 10MHz Bandwidth, QPSK (PAPR)


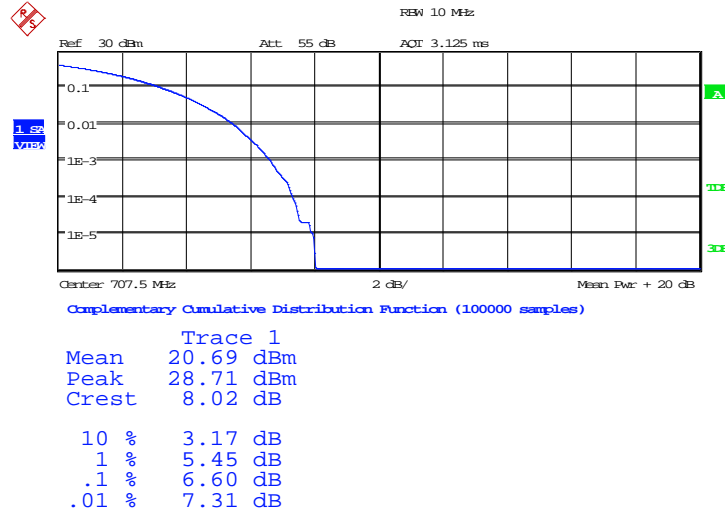
Date: 13.JAN.2020 17:29:33

LTE band 12, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 17:29:39



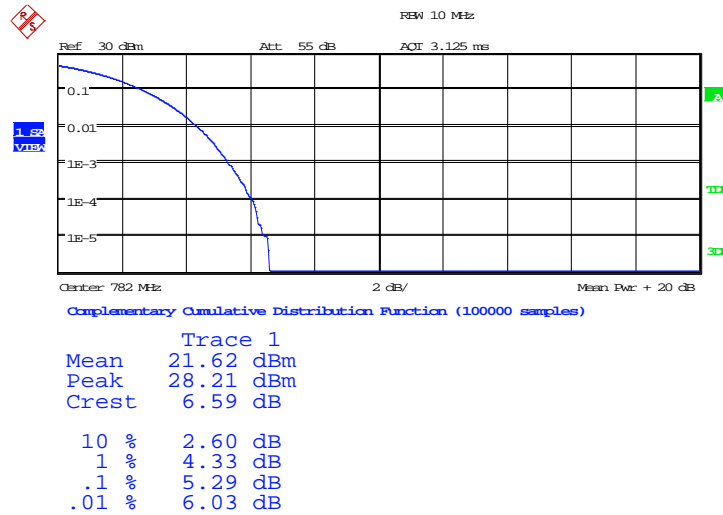
LTE band 12, 10MHz Bandwidth, 64QAM (PAPR)



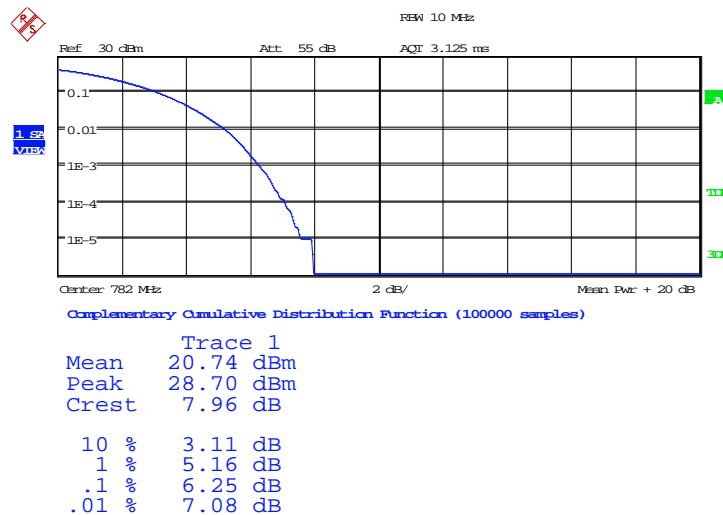
Date: 15.JAN.2020 09:42:22

LTE band 13

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
782.0	10	5.29	6.25	6.38

LTE band 13, 10MHz Bandwidth, QPSK (PAPR)


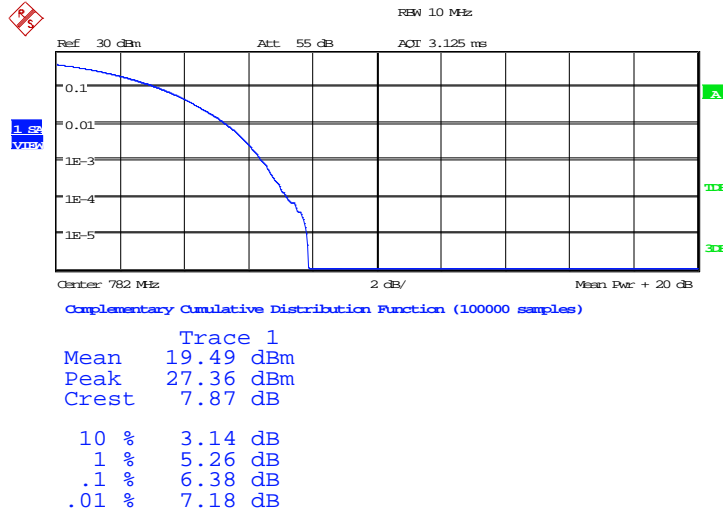
Date: 13.JAN.2020 15:39:37

LTE band 13, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 15:39:43



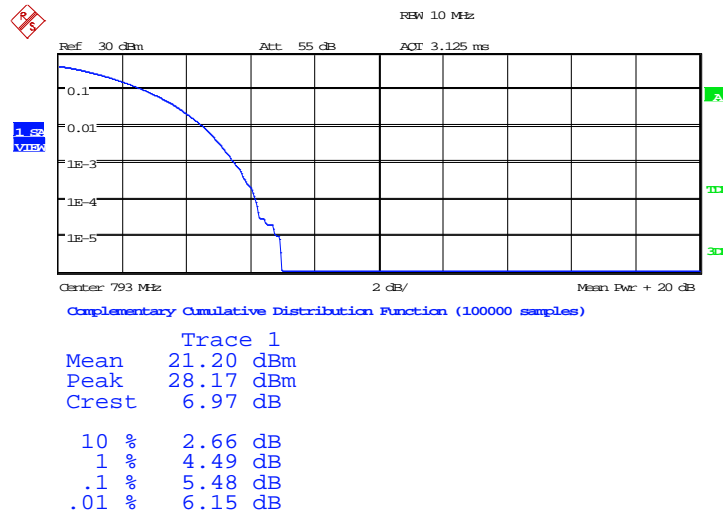
LTE band 13, 10MHz Bandwidth, 64QAM (PAPR)



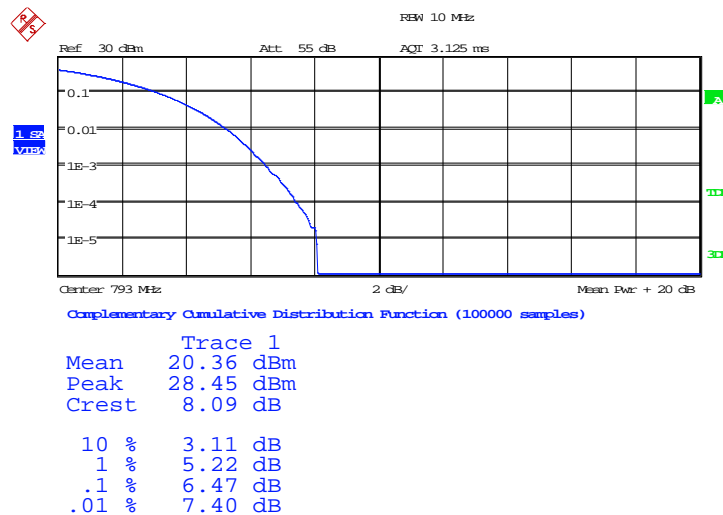
Date: 15.JAN.2020 08:31:34

LTE band 14

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
793.0	10	5.48	6.47	6.44

LTE band 14, 10MHz Bandwidth, QPSK (PAPR)


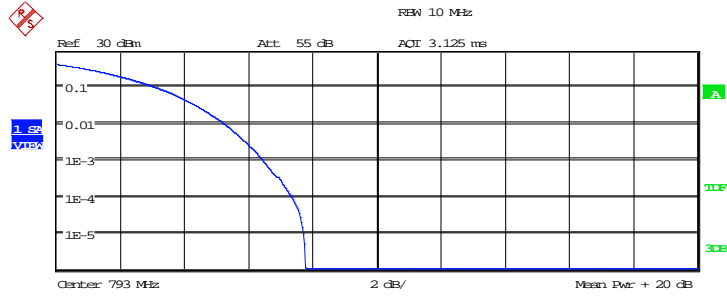
Date: 13.JAN.2020 17:40:32

LTE band 14, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 17:40:37



LTE band 14, 10MHz Bandwidth, 64QAM (PAPR)



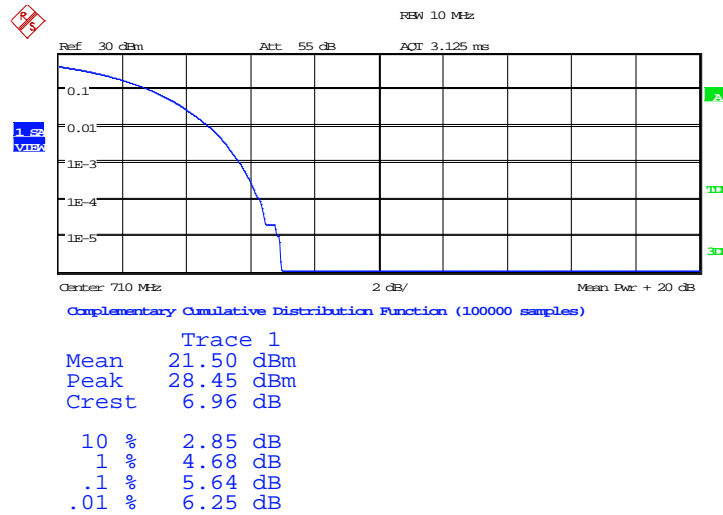
Complementary Cumulative Distribution Function (100000 samples)

Trace 1	
Mean	20.46 dBm
Peak	28.24 dBm
Crest	7.78 dB
10 %	3.11 dB
1 %	5.22 dB
.1 %	6.44 dB
.01 %	7.34 dB

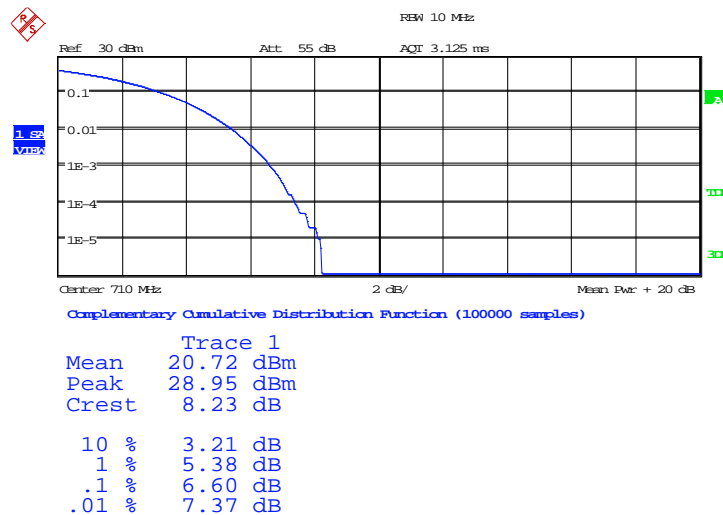
Date: 15.JAN.2020 09:49:20

LTE band 17

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
710.0	10	5.64	6.60	6.67

LTE band 17, 10MHz Bandwidth, QPSK (PAPR)


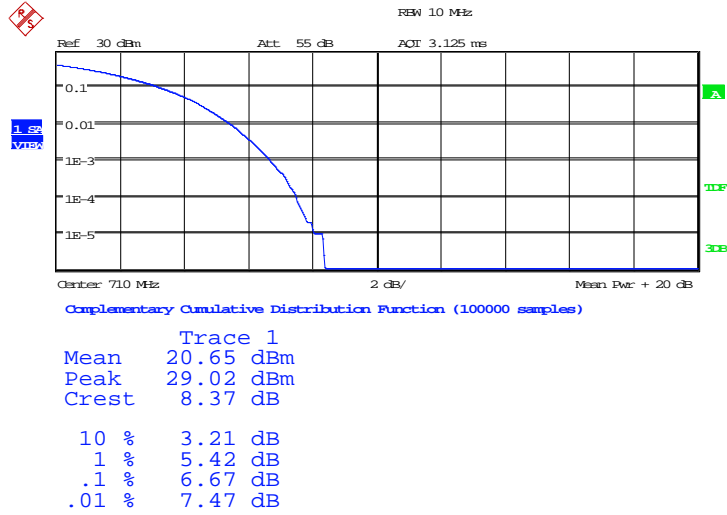
Date: 13.JAN.2020 17:51:30

LTE band 17, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 17:51:36



LTE band 17, 10MHz Bandwidth, 64QAM (PAPR)

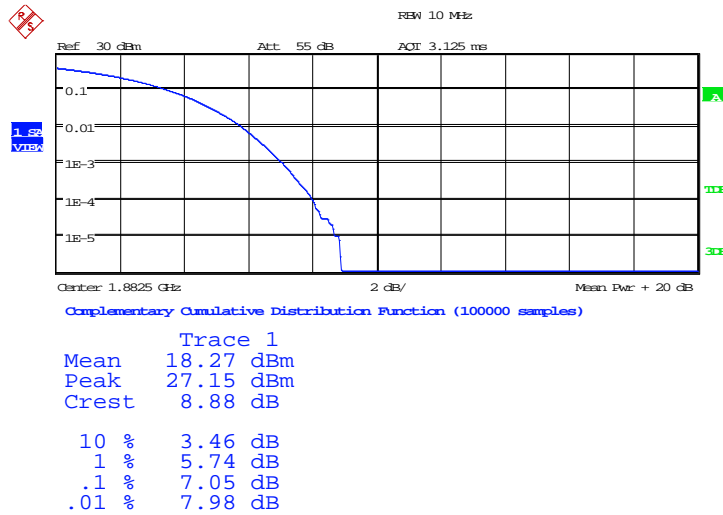


Date: 15.JAN.2020 09:56:16

LTE band 25

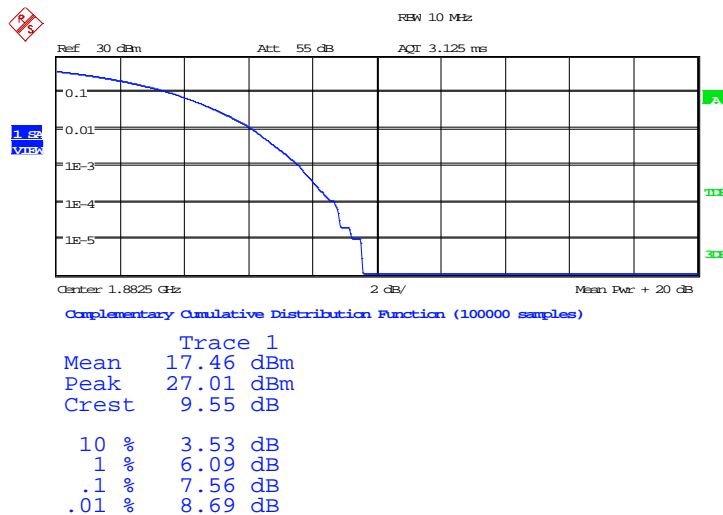
Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
1882.5	20	7.05	7.56	7.50

LTE band 25, 20MHz Bandwidth, QPSK (PAPR)



Date: 13.JAN.2020 18:33:27

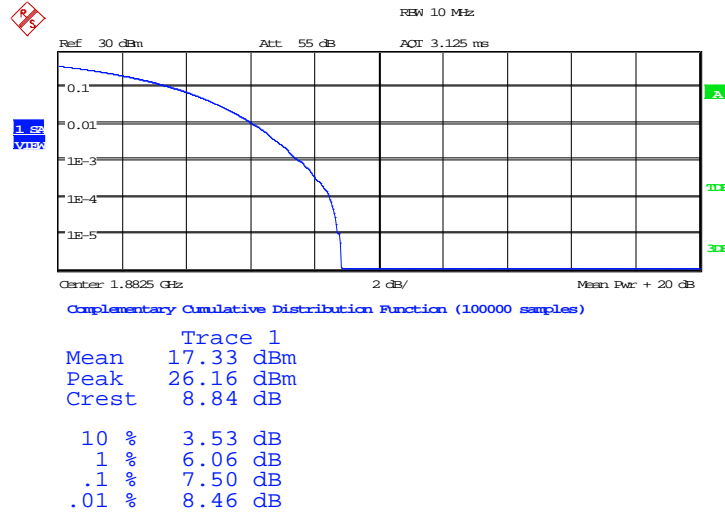
LTE band 25, 20MHz Bandwidth, 16QAM (PAPR)



Date: 13.JAN.2020 18:33:33



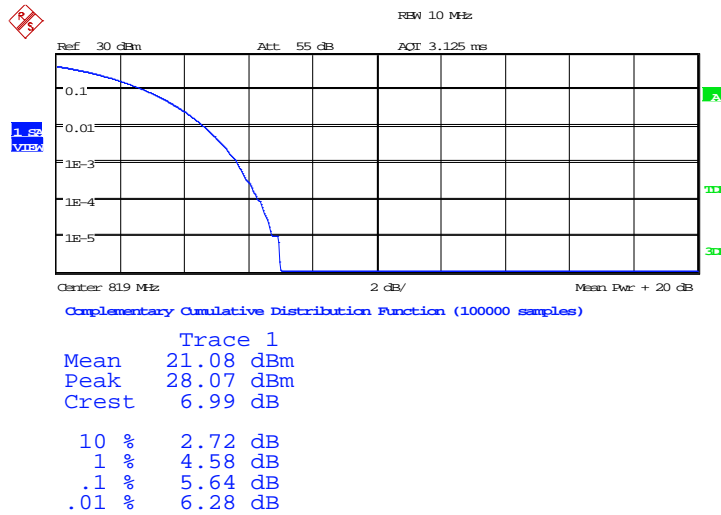
LTE band 25, 20MHz Bandwidth, 64QAM (PAPR)



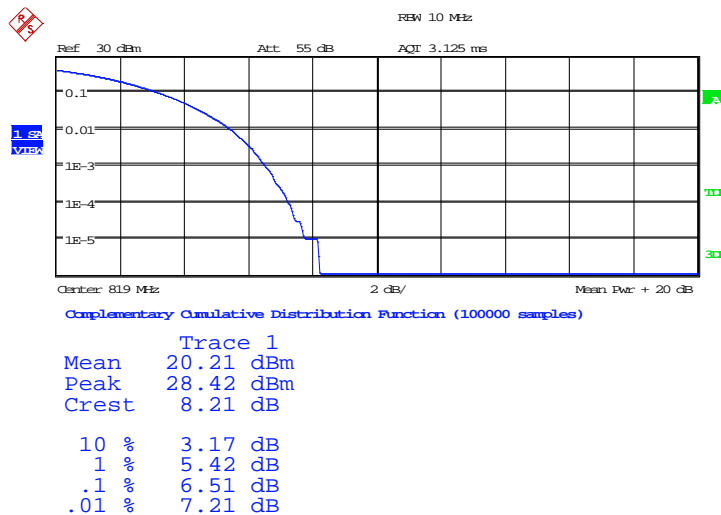
Date: 18.JAN.2020 17:55:16

LTE band 26(814MHz -824MHz)

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
819.0	10	5.64	6.51	6.57

LTE band 26(814MHz -824MHz), 10MHz Bandwidth, QPSK (PAPR)


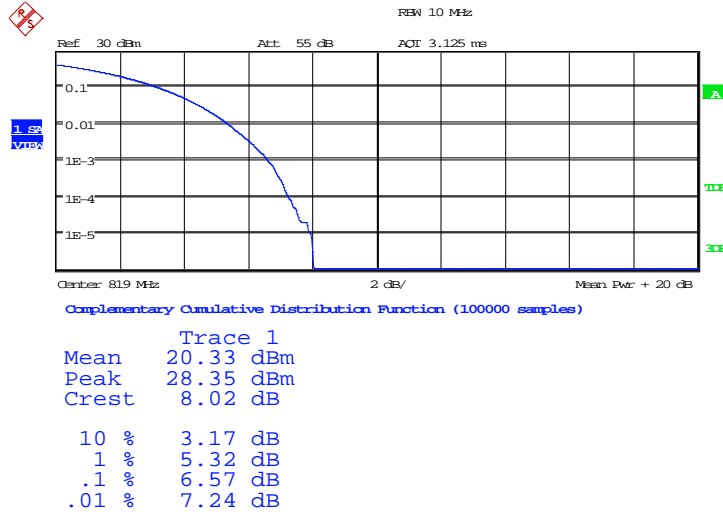
Date: 13.JAN.2020 19:27:57

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


Date: 13.JAN.2020 19:28:03



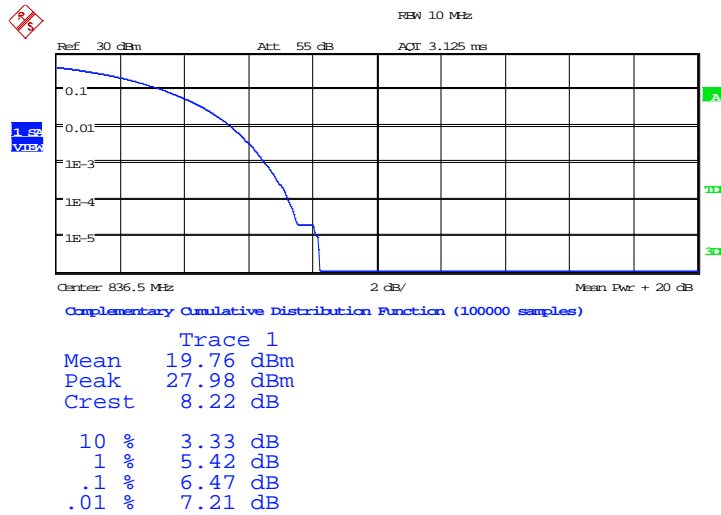
LTE band 26(814MHz -824MHz), 10MHz Bandwidth, 64QAM (PAPR)



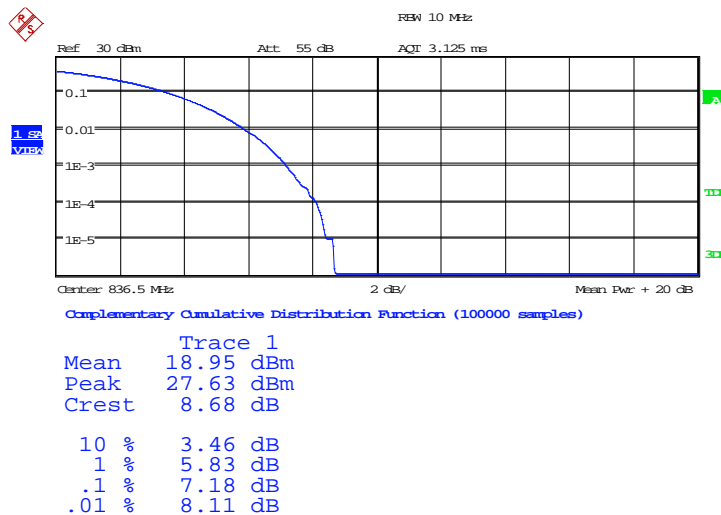
Date: 18.JAN.2020 19:00:46

LTE band 26(824MHz -849MHz)

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
836.5	15	6.47	7.18	7.15

LTE band 26(824MHz -849MHz), 15MHz Bandwidth, QPSK (PAPR)


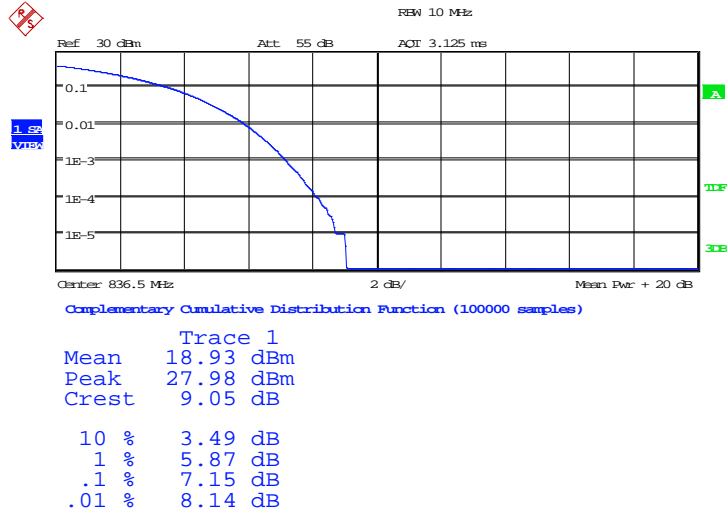
Date: 13.JAN.2020 19:05:32

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


Date: 13.JAN.2020 19:05:38



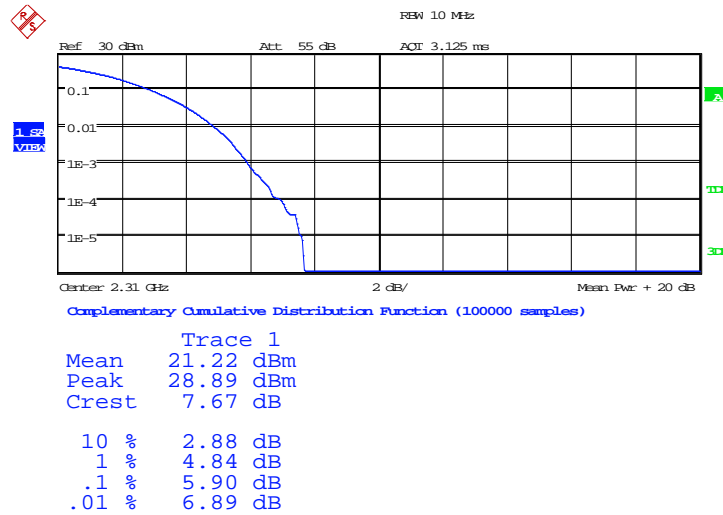
LTE band 26(824MHz -849MHz), 15MHz Bandwidth, 64QAM (PAPR)



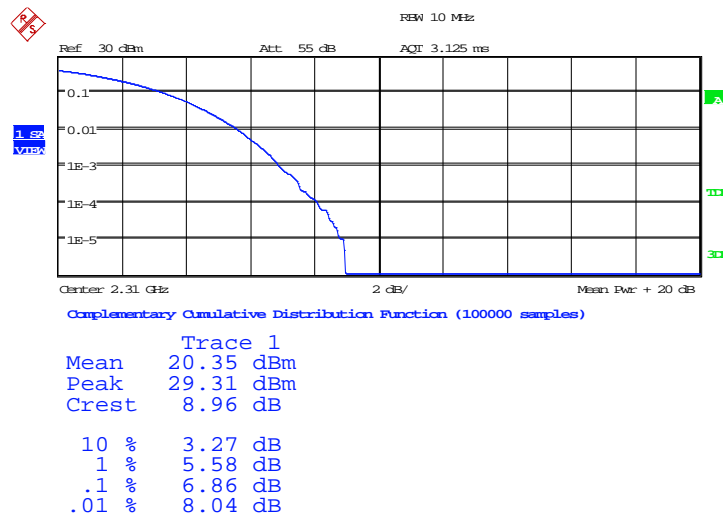
Date: 18.JAN.2020 18:42:08

LTE band 30

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
2310.0	10	5.90	6.86	6.83

LTE band 30, 10MHz Bandwidth, QPSK (PAPR)


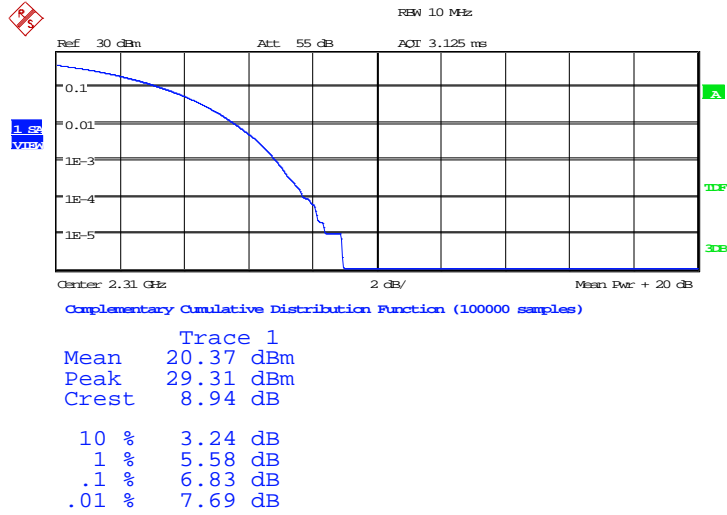
Date: 18.JAN.2020 19:57:55

LTE band 30, 10MHz Bandwidth, 16QAM (PAPR)


Date: 18.JAN.2020 19:58:02



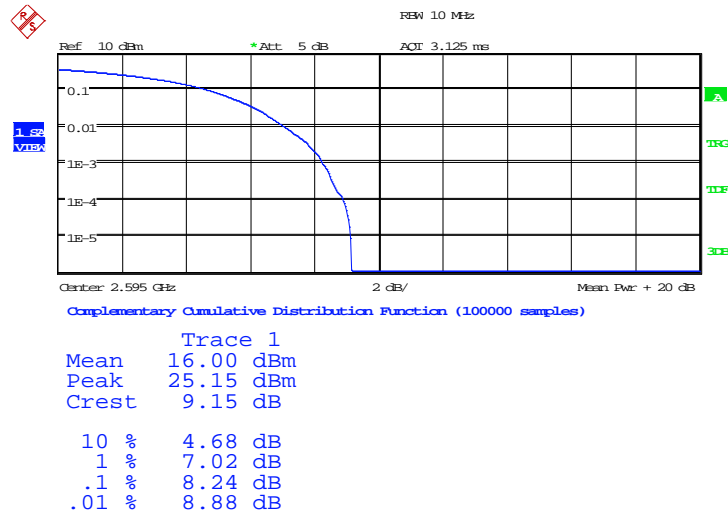
LTE band 30, 10MHz Bandwidth, 64QAM (PAPR)



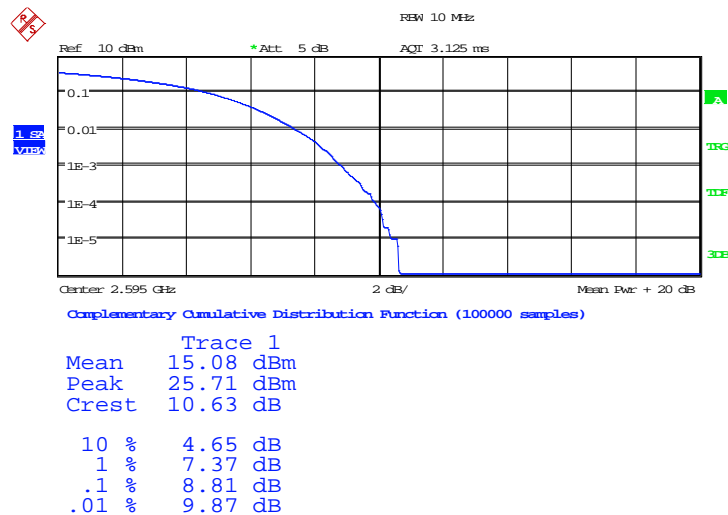
Date: 18.JAN.2020 20:06:03

LTE band 38

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
2595.0	20	8.24	8.81	11.38

LTE band 38, 10MHz Bandwidth, QPSK (PAPR)


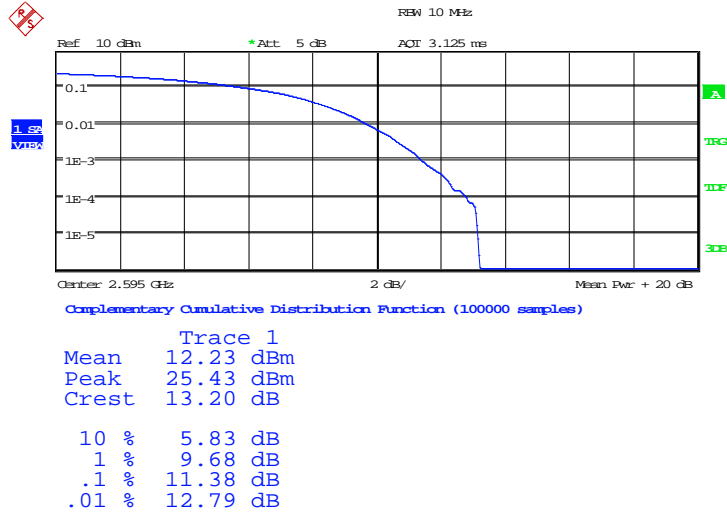
Date: 15.JAN.2020 05:23:29

LTE band 38, 10MHz Bandwidth, 16QAM (PAPR)


Date: 15.JAN.2020 05:23:36



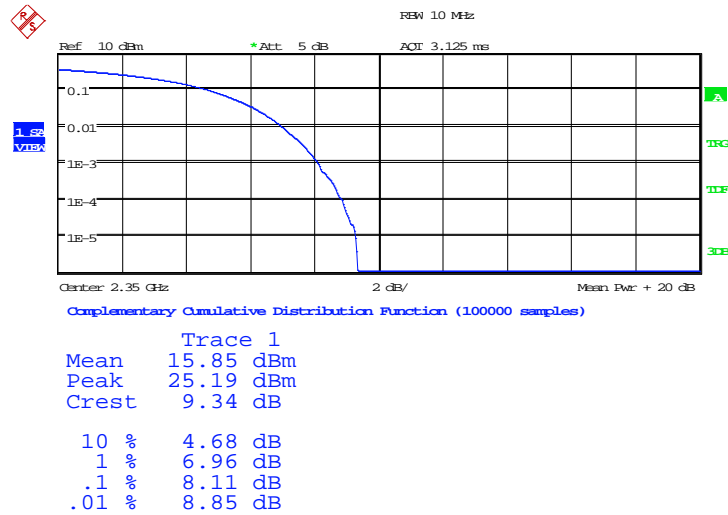
LTE band 38, 10MHz Bandwidth, 64QAM (PAPR)



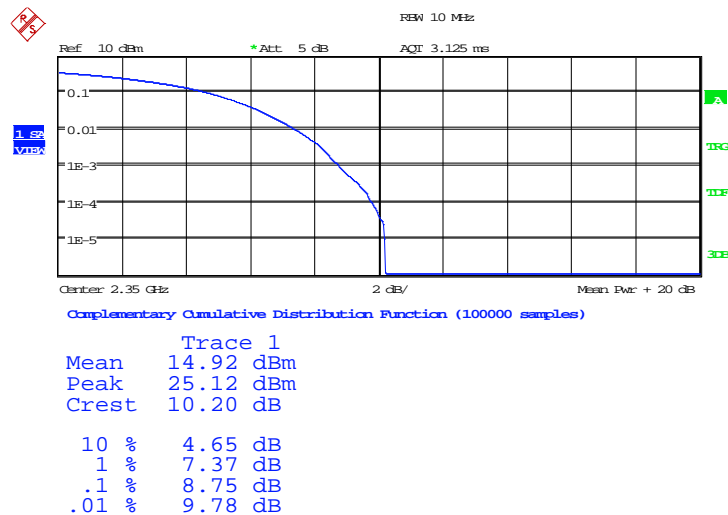
Date: 15.JAN.2020 07:32:49

LTE band 41

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
2593.0	20	8.11	8.75	10.06

LTE band 41, 10MHz Bandwidth, QPSK (PAPR)


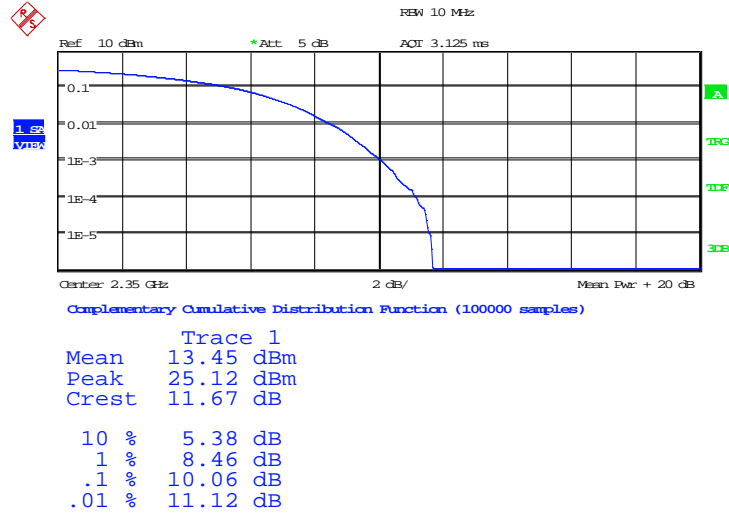
Date: 15.JAN.2020 06:31:18

LTE band 41, 10MHz Bandwidth, 16QAM (PAPR)


Date: 15.JAN.2020 06:31:25



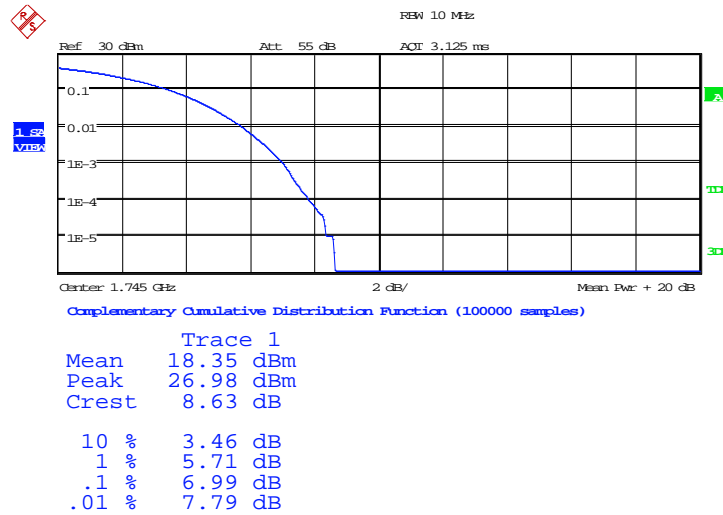
LTE band 41, 10MHz Bandwidth, 64QAM (PAPR)



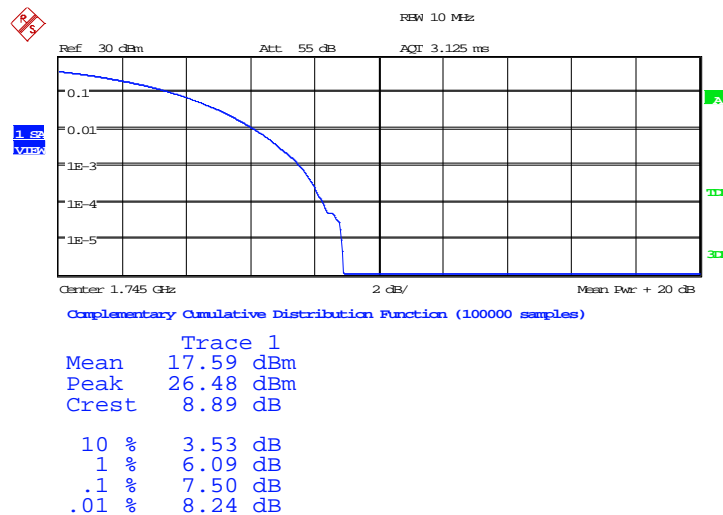
Date: 15.JAN.2020 08:00:35

LTE band 66

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
1745.0	20	6.99	7.50	7.72

LTE band 66, 10MHz Bandwidth, QPSK (PAPR)


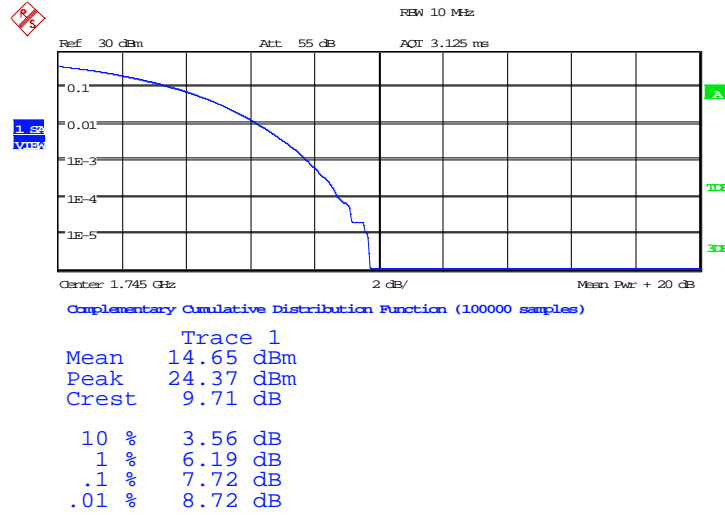
Date: 13.JAN.2020 20:04:16

LTE band 66, 10MHz Bandwidth, 16QAM (PAPR)


Date: 13.JAN.2020 20:04:22



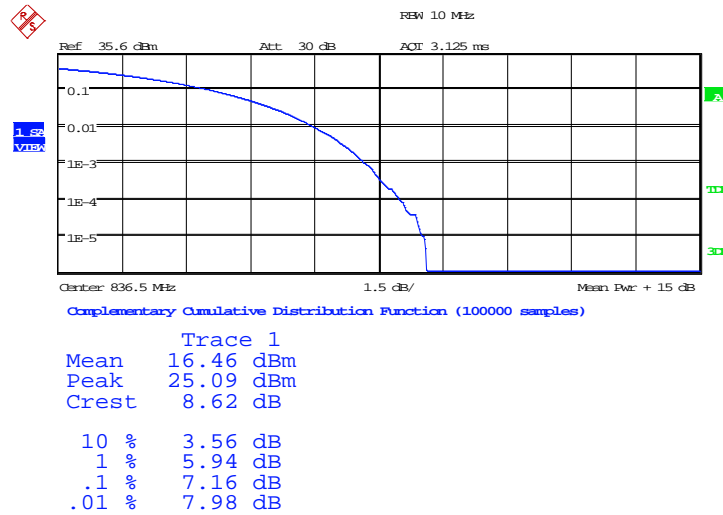
LTE band 66, 10MHz Bandwidth, 64QAM (PAPR)



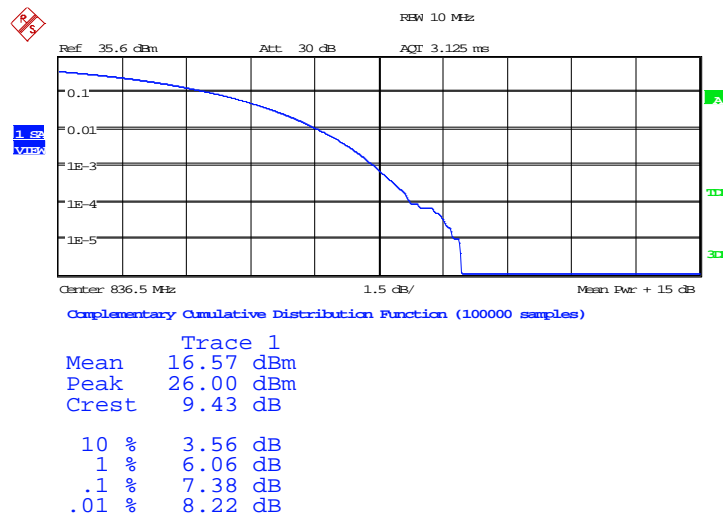
Date: 18.JAN.2020 19:26:41

LTE band CA_5B

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
836.5	10+10	7.16	7.38	7.62

LTE band CA_5B, 10MHz+10MHz Bandwidth, QPSK (PAPR)


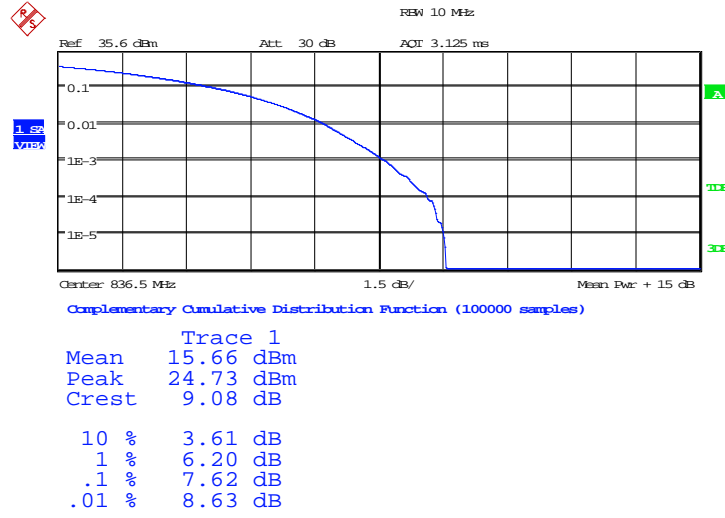
Date: 26.FEB.2020 12:30:28

LTE band CA_5B, 10MHz+10MHz Bandwidth, 16QAM (PAPR)


Date: 26.FEB.2020 12:30:48



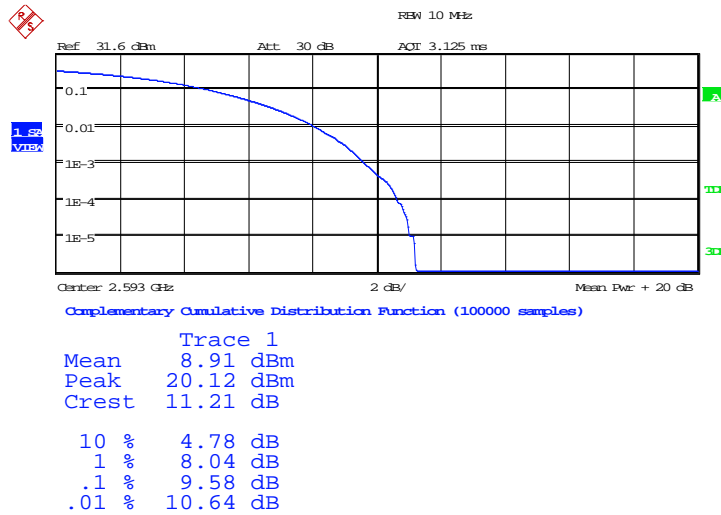
LTE band CA_5B, 10MHz+10MHz Bandwidth, 64QAM (PAPR)



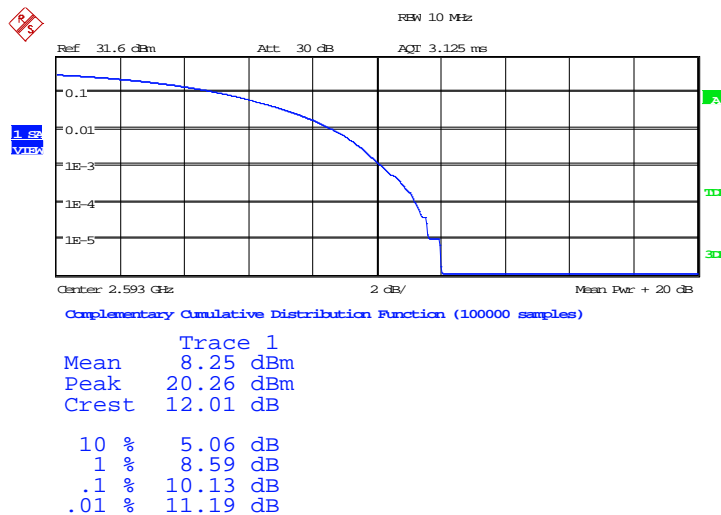
Date: 26.FEB.2020 12:31:11

LTE Band CA_41C

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)		
		QPSK	16QAM	64QAM
2593.0	20+20	9.58	10.13	11.79

LTE band CA_41C, 20MHz+20MHz Bandwidth, QPSK (PAPR)


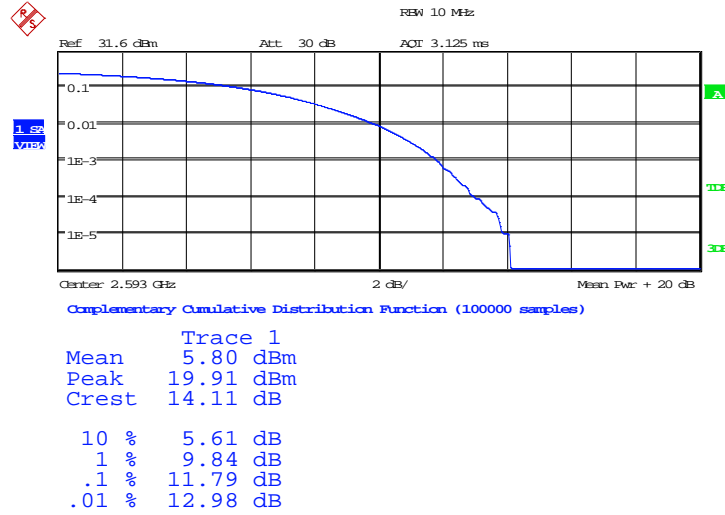
Date: 24.FEB.2020 10:22:22

LTE band CA_41C, 20MHz+20MHz Bandwidth, 16QAM (PAPR)


Date: 24.FEB.2020 10:22:50



LTE band CA_41C, 20MHz+20MHz Bandwidth, 64QAM (PAPR)



Date: 24.FEB.2020 10:24:02

Note: Expanded measurement uncertainty is $U = 0.48$, $k = 2$

END OF REPORT