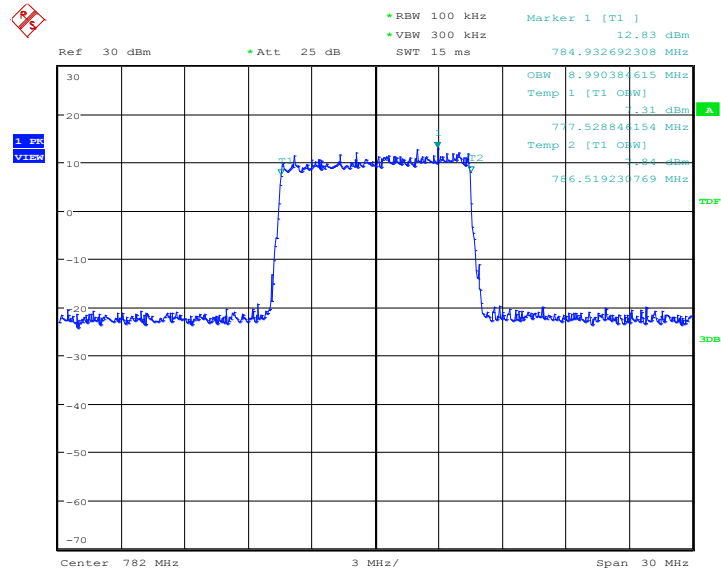


LTE band 13, 10MHz Bandwidth, 64QAM (99% BW)

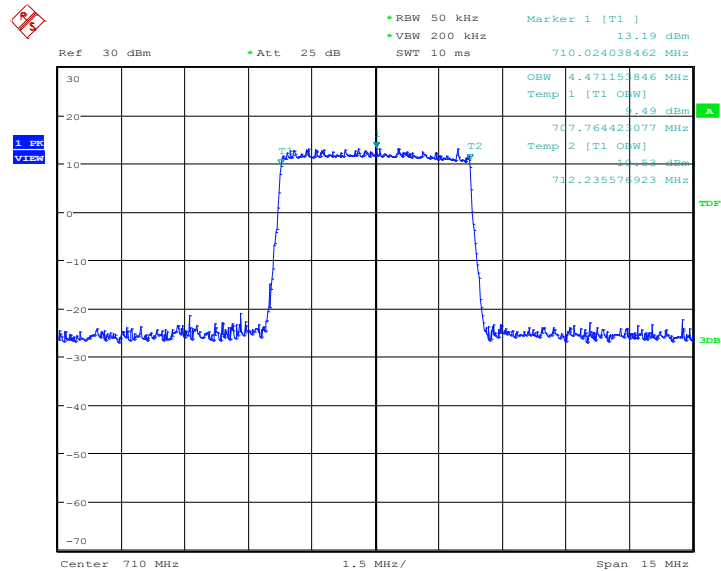


Date: 21.JUL.2021 14:33:45

LTE band 17, 5MHz (99% BW)

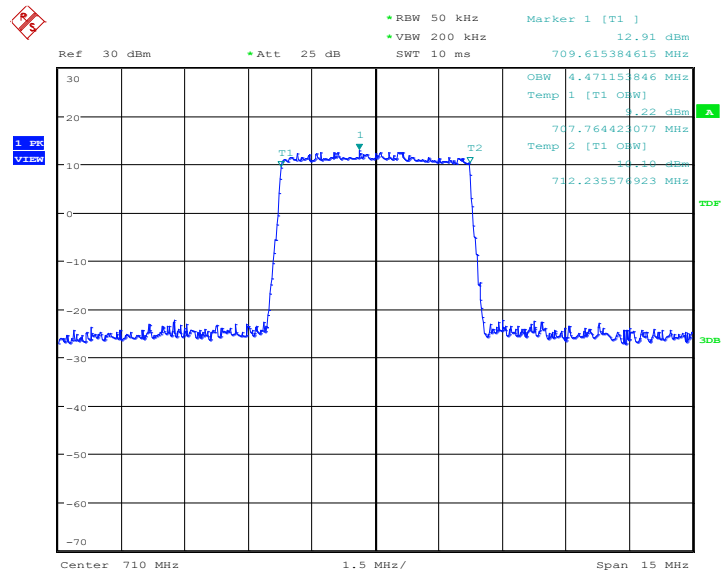
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
710.0	QPSK	16QAM	64QAM
	4471.15	4471.15	4495.19

LTE band 17, 5MHz Bandwidth, QPSK (99% BW)



Date: 21.JUL.2021 14:04:01

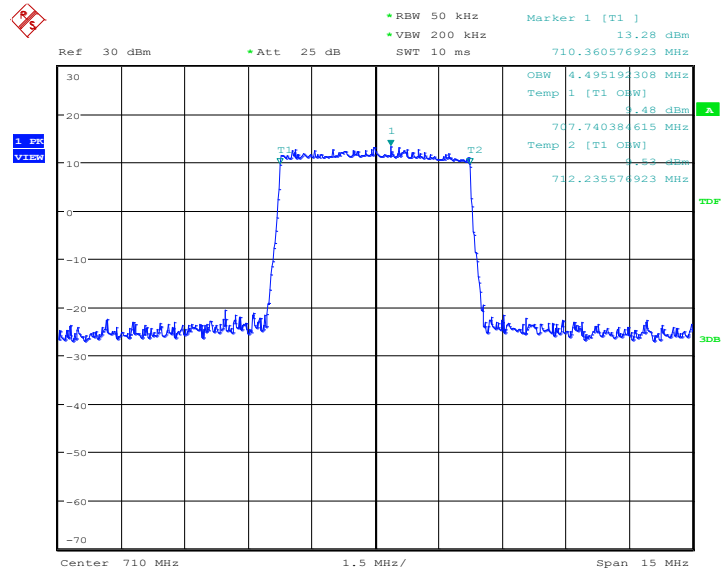
LTE band 17, 5MHz Bandwidth,16QAM (99% BW)



Date: 21.JUL.2021 14:04:15



LTE band 17, 5MHz Bandwidth, 64QAM (99% BW)

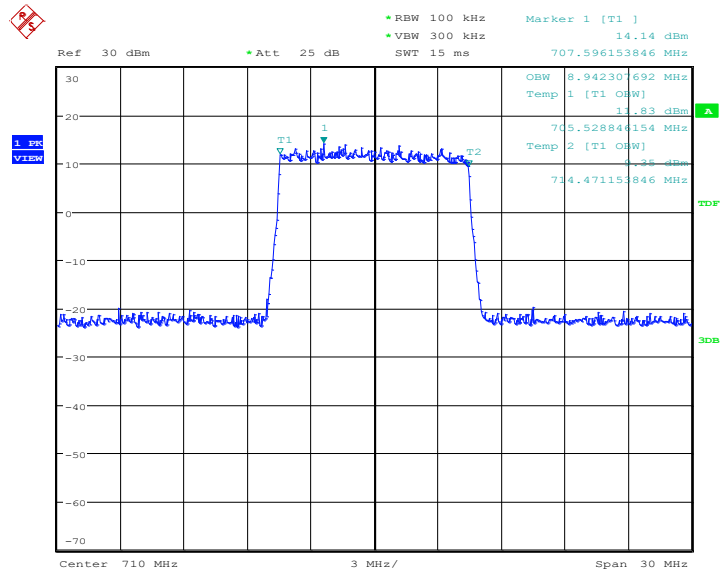


Date: 21.JUL.2021 15:13:14

LTE band 17, 10MHz (99% BW)

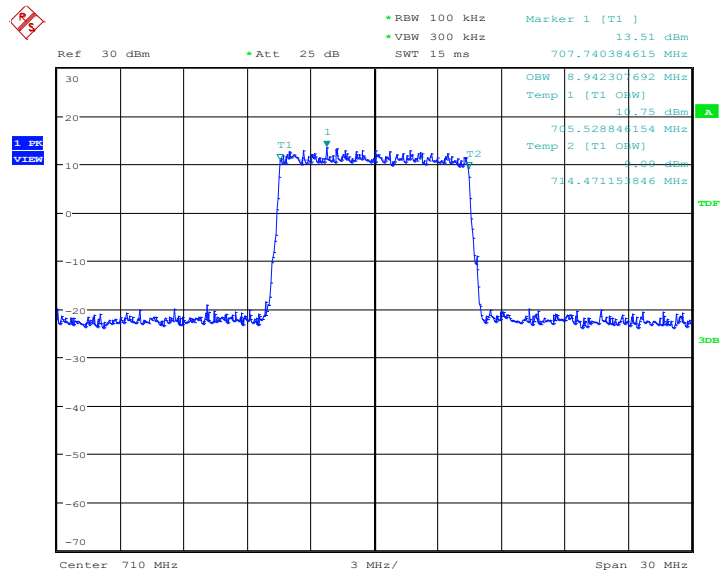
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
710.0	QPSK	16QAM	64QAM
	8942.31	8942.31	8942.31

LTE band 17, 10MHz Bandwidth, QPSK (99% BW)



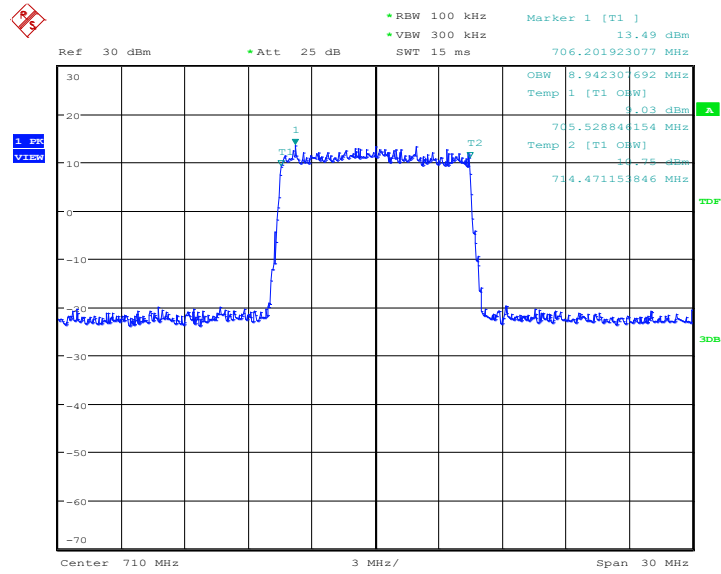
Date: 21.JUL.2021 14:06:19

LTE band 17, 10MHz Bandwidth, 16QAM (99% BW)



Date: 21.JUL.2021 14:06:33

LTE band 17, 10MHz Bandwidth, 64QAM (99% BW)

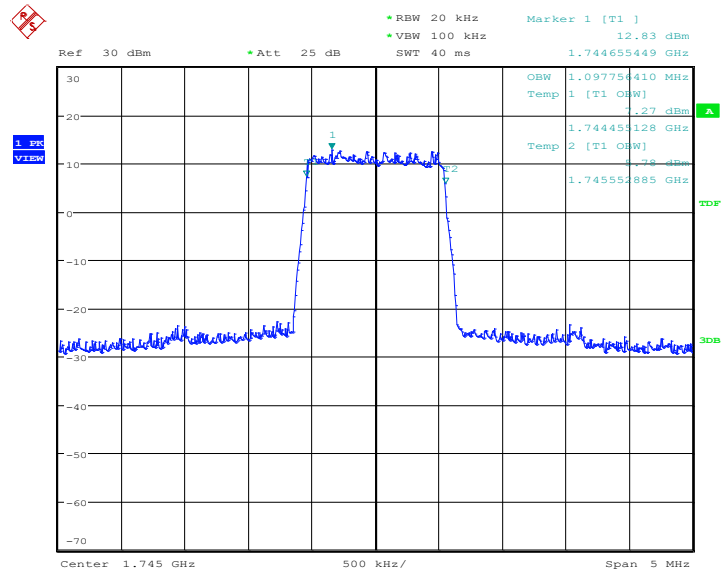


Date: 21.JUL.2021 15:15:02

LTE band 66, 1.4MHz (99% BW)

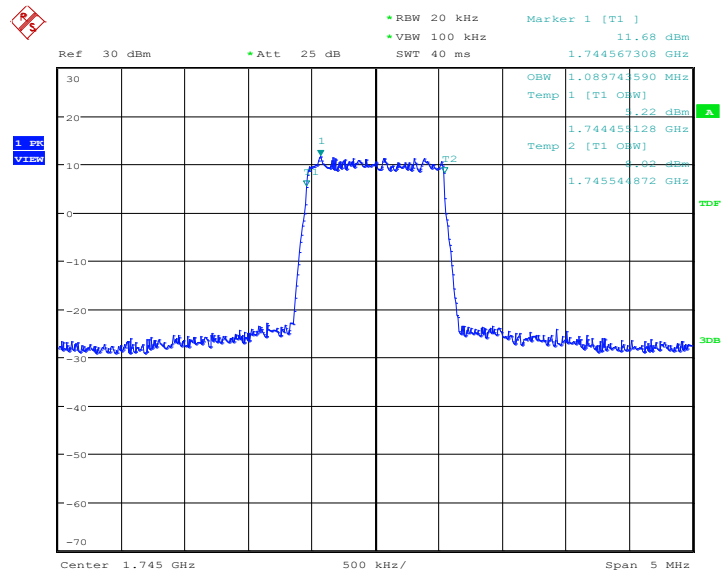
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
	QPSK	16QAM	64QAM
1745.0	1097.76	1089.74	1105.77

LTE band 66, 1.4MHz Bandwidth, QPSK (99% BW)



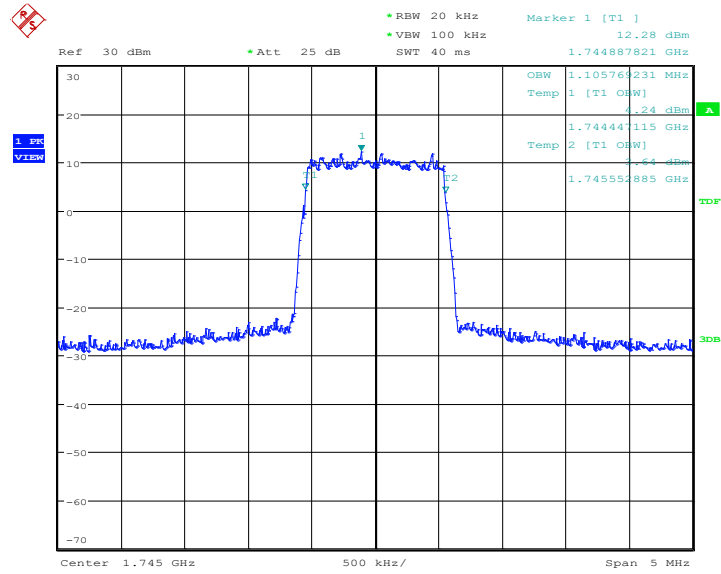
Date: 21.JUL.2021 14:08:38

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



Date: 21.JUL.2021 14:08:52

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

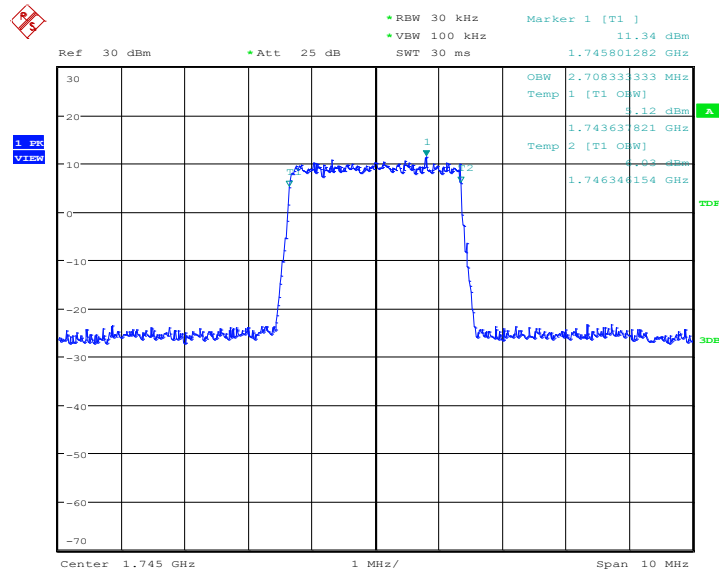


Date: 21.JUL.2021 15:16:55

LTE band 66, 3MHz (99% BW)

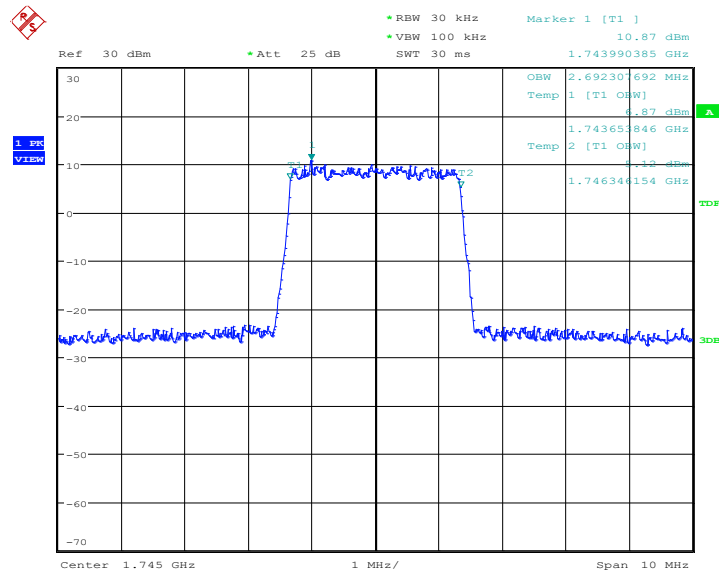
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	2708.33	2692.31	2708.33

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



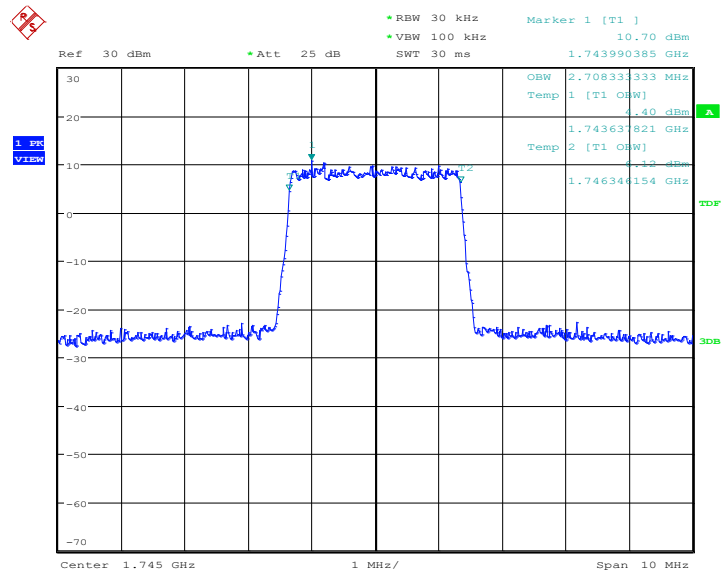
Date: 21.JUL.2021 14:10:56

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



Date: 21.JUL.2021 14:11:10

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

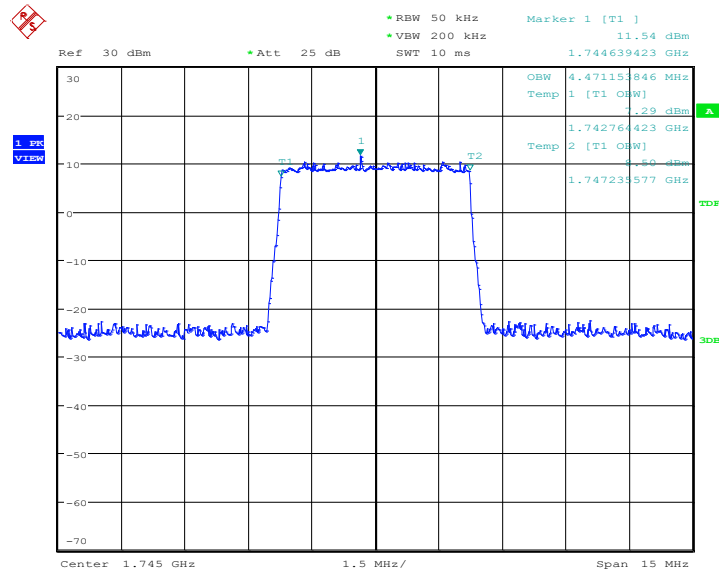


Date: 21.JUL.2021 15:18:43

LTE band 66, 5MHz (99% BW)

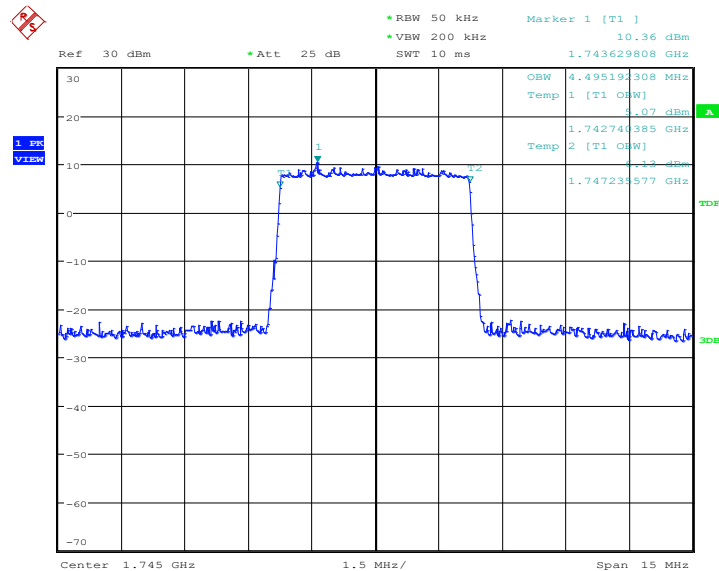
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	4471.15	4495.19	4495.19

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



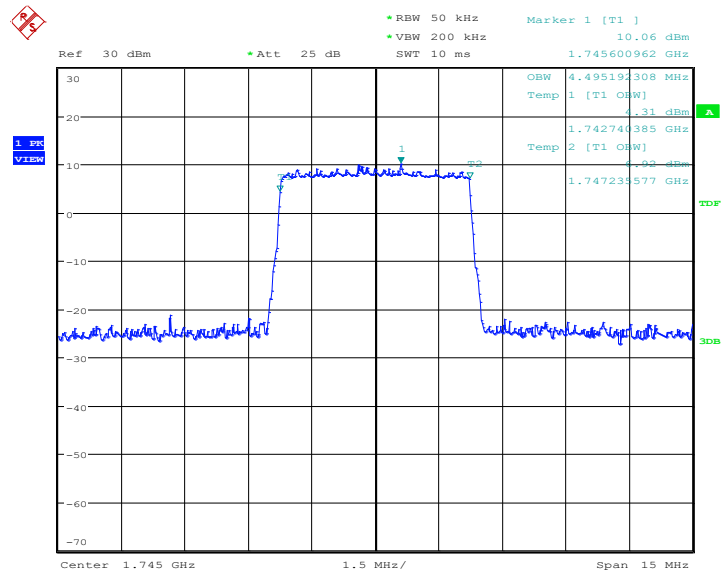
Date: 21.JUL.2021 14:13:14

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



Date: 21.JUL.2021 14:13:27

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

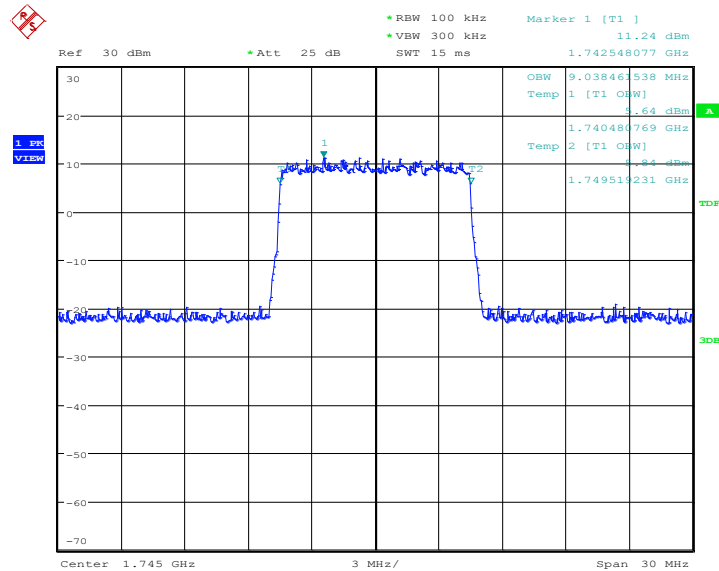


Date: 21.JUL.2021 15:20:31

LTE band 66, 10MHz (99% BW)

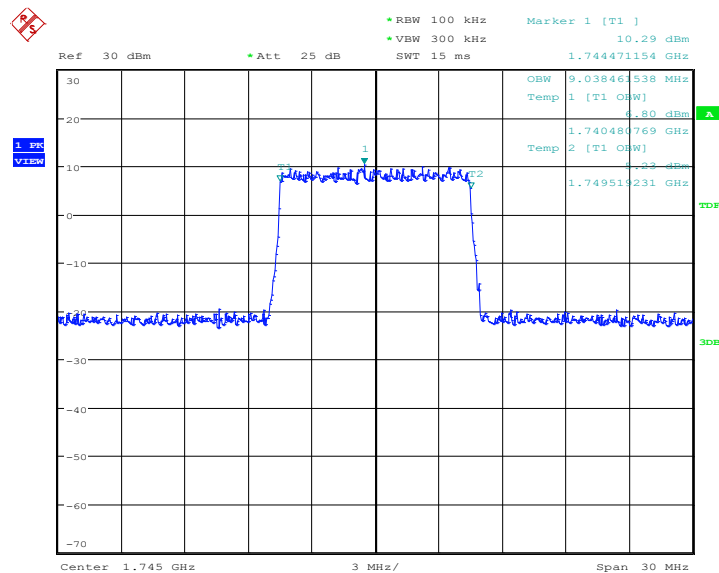
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	9038.46	9038.46	9038.46

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



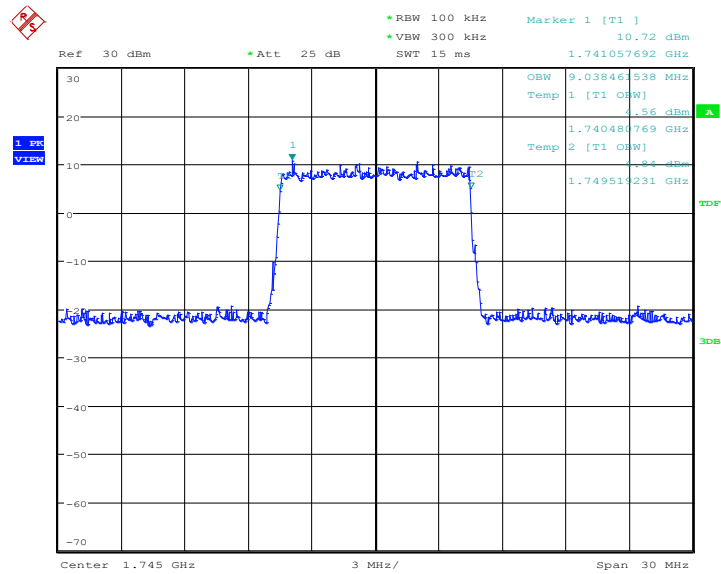
Date: 21.JUL.2021 14:15:31

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



Date: 21.JUL.2021 14:15:45

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

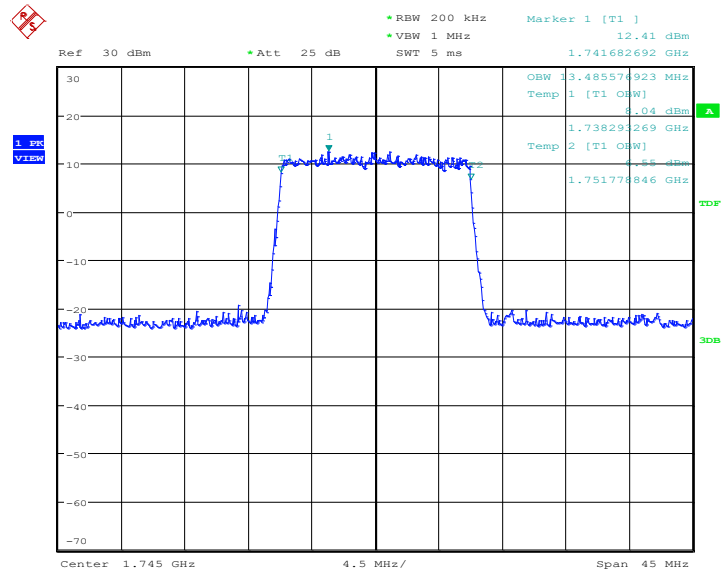


Date: 21.JUL.2021 15:22:19

LTE band 66, 15MHz (99% BW)

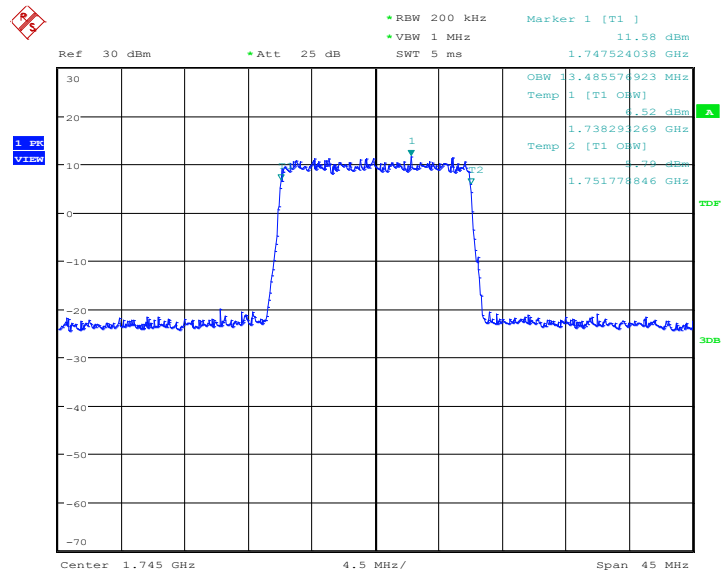
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	13485.58	13485.58	13485.58

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



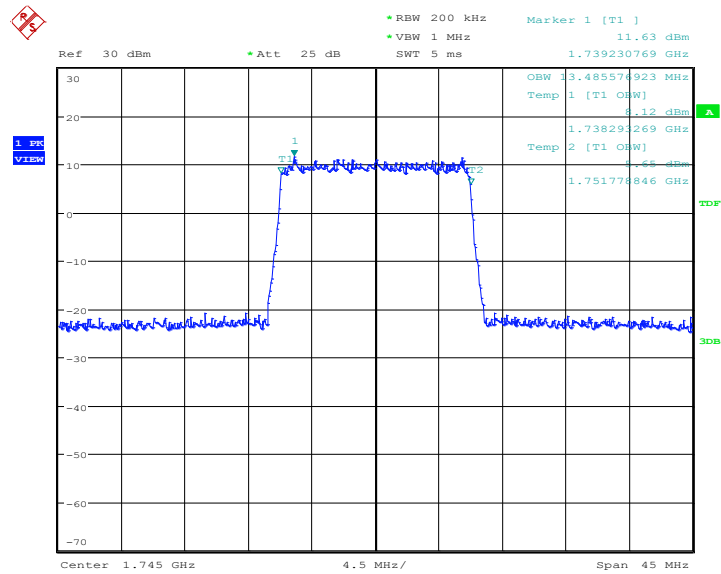
Date: 21.JUL.2021 14:17:49

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



Date: 21.JUL.2021 14:18:03

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

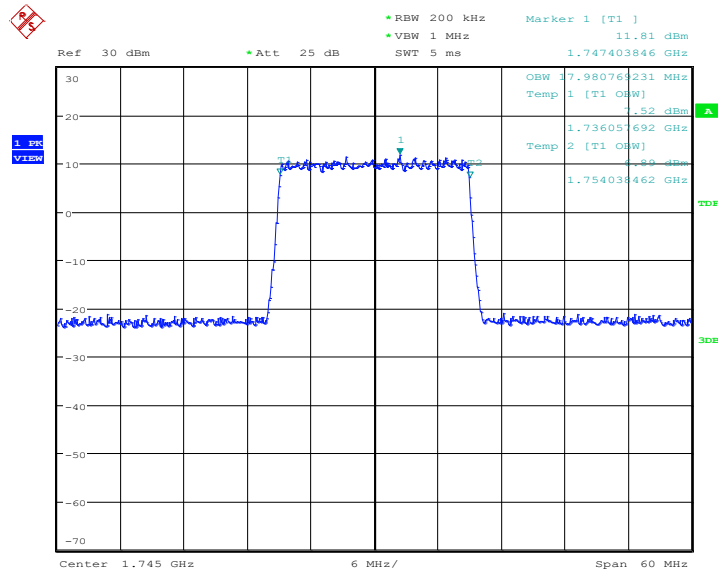


Date: 21.JUL.2021 15:24:08

LTE band 66, 20MHz (99% BW)

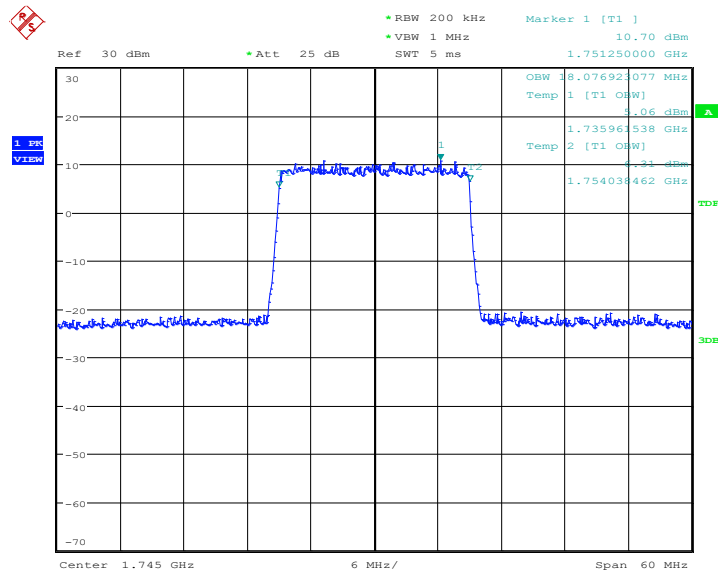
Frequency(MHz)	Occupied Bandwidth (99% BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	17980.77	18076.92	18076.92

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



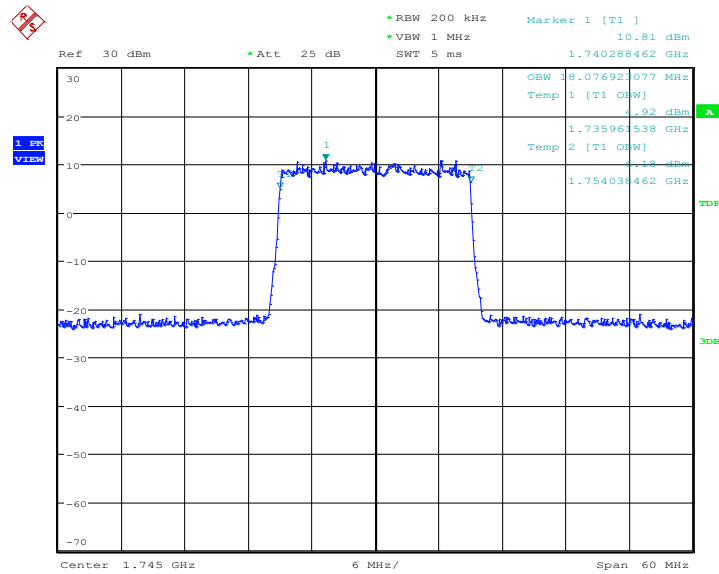
Date: 21.JUL.2021 14:20:07

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



Date: 21.JUL.2021 14:20:21

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



Date: 21.JUL.2021 15:25:56

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

A.5 EMISSION BANDWIDTH

Reference

FCC: CFR Part 2.1049, 22.917, 24.238, 27.53.

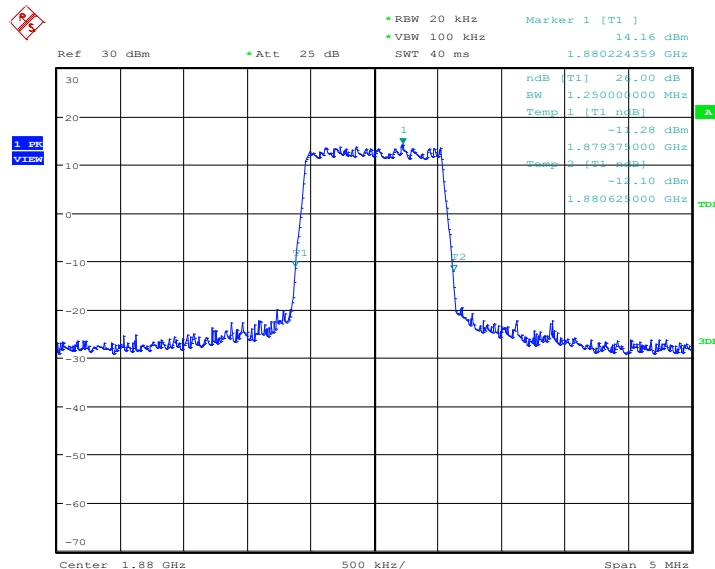
A.5.1 Emission Bandwidth Results

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

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

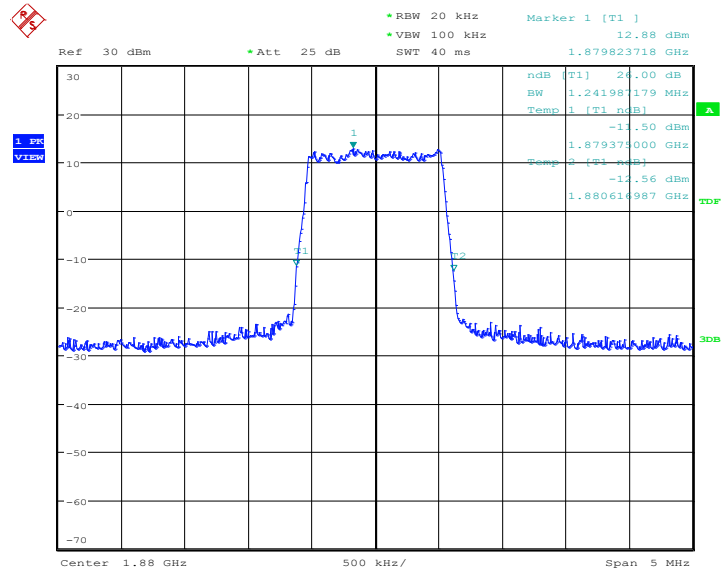
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	1250.00	1241.99	1241.99

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



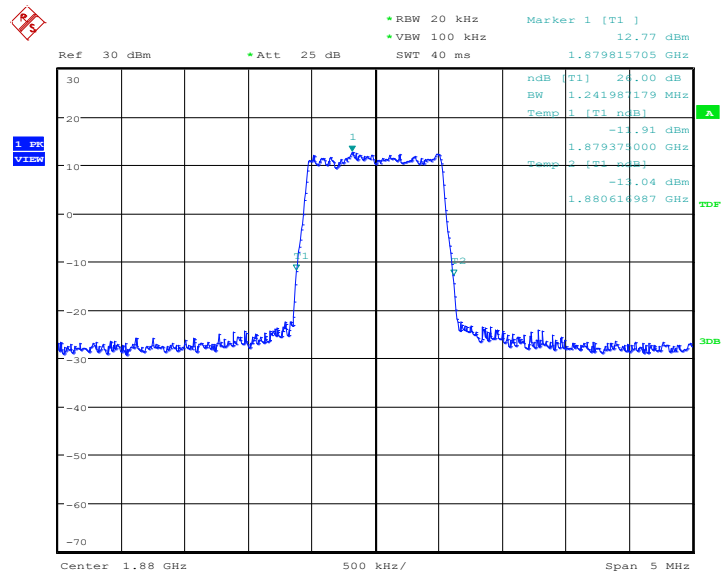
Date: 21.JUL.2021 13:17:57

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



Date: 21.JUL.2021 13:18:13

LTE band 2, 1.4MHz Bandwidth, 64QAM (-26dBc BW)

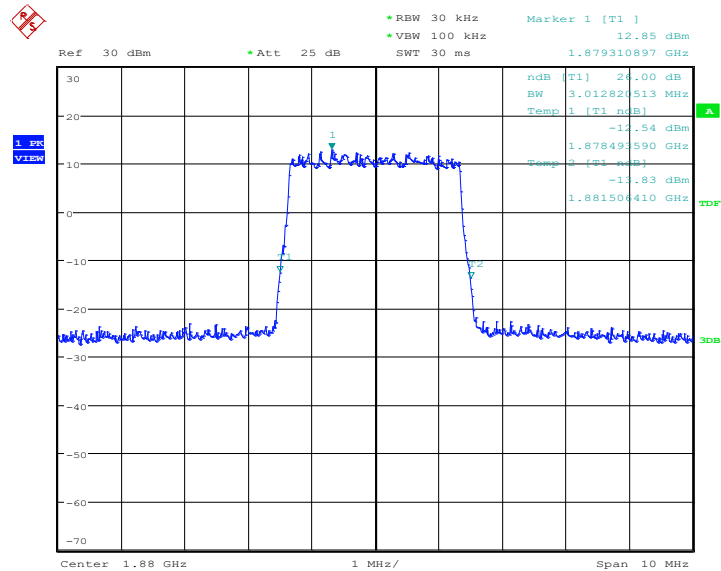


Date: 21.JUL.2021 14:43:46

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

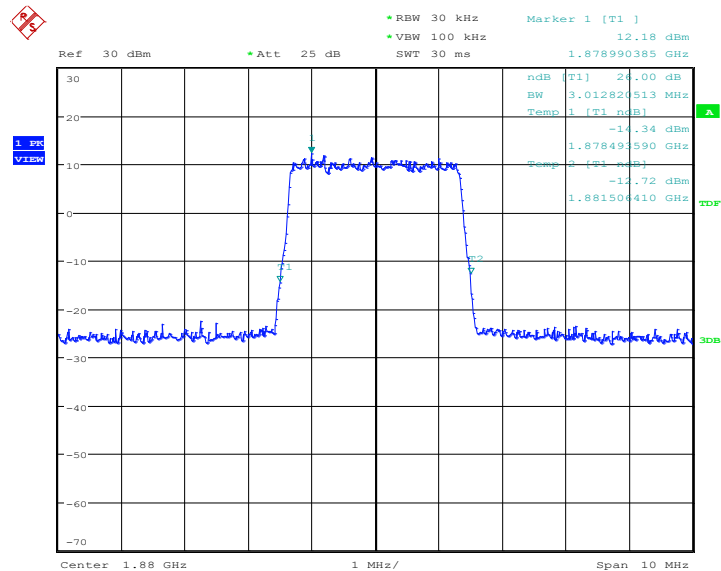
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	3012.82	3012.82	3028.85

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



Date: 21.JUL.2021 13:20:15

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

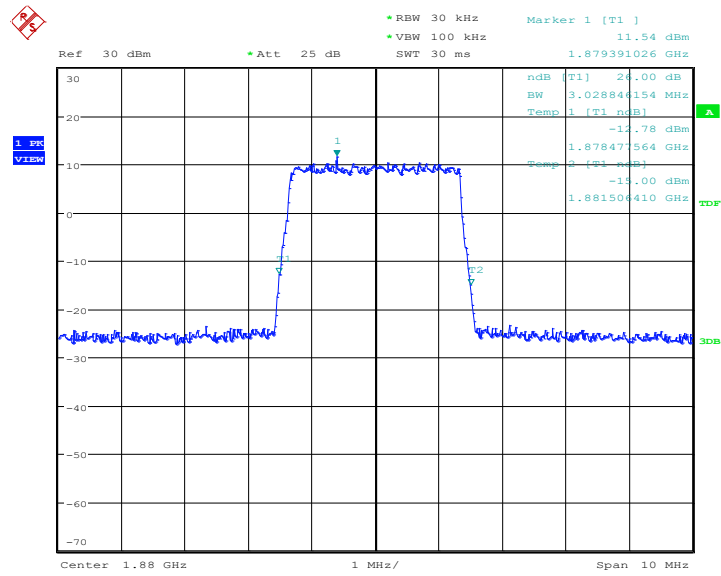


Date: 21.JUL.2021 13:20:31



No. I21N02204-RF-LTE

LTE band 2, 3MHz Bandwidth, 64QAM (-26dBc BW)

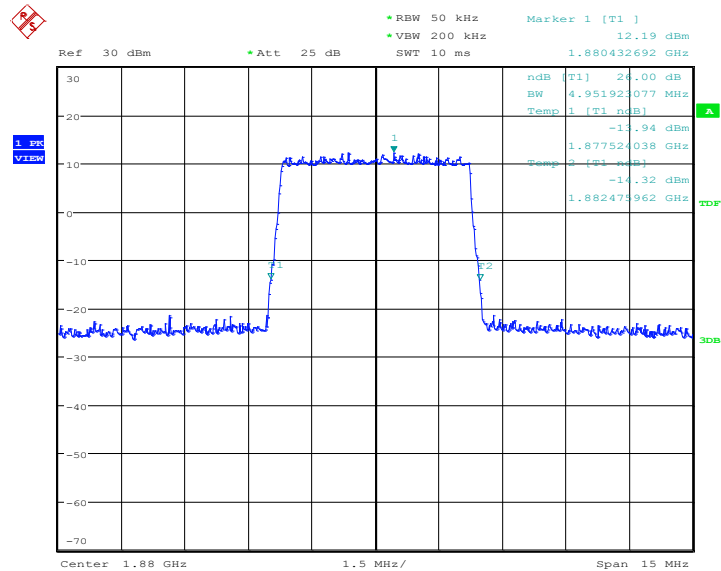


Date: 21.JUL.2021 14:45:34

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

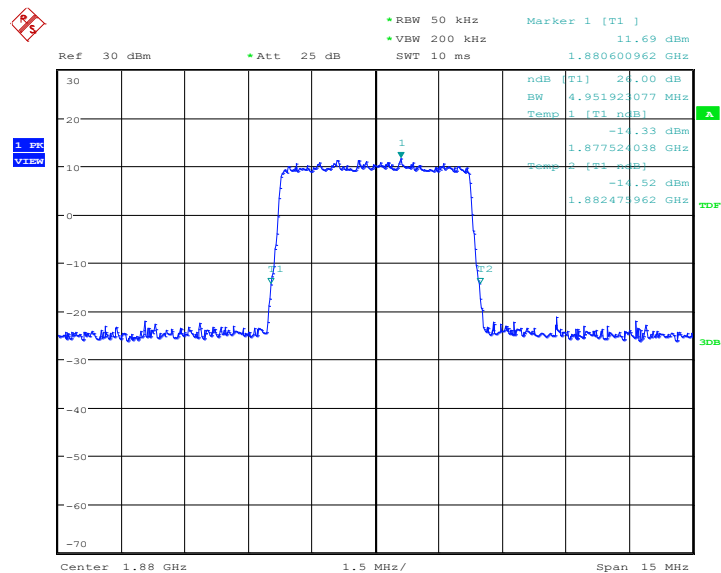
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	4951.92	4951.92	4903.85

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



Date: 21.JUL.2021 13:22:33

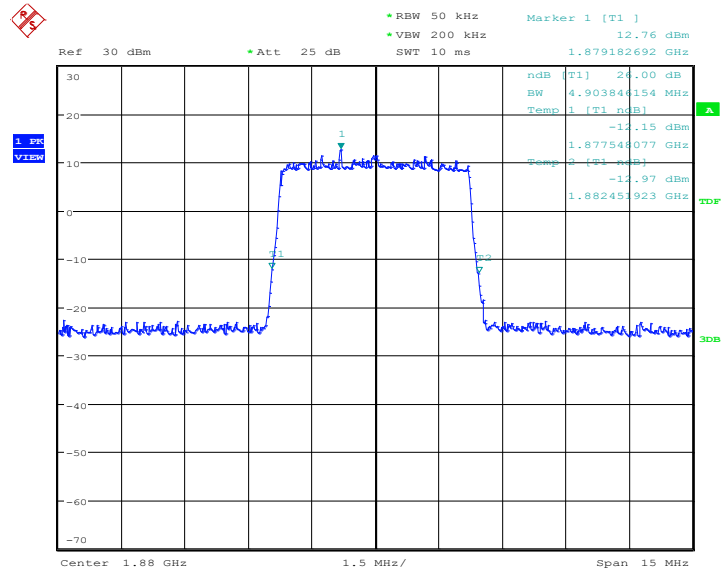
LTE band 2, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 21.JUL.2021 13:22:48



LTE band 2, 5MHz Bandwidth,64QAM (-26dBc BW)

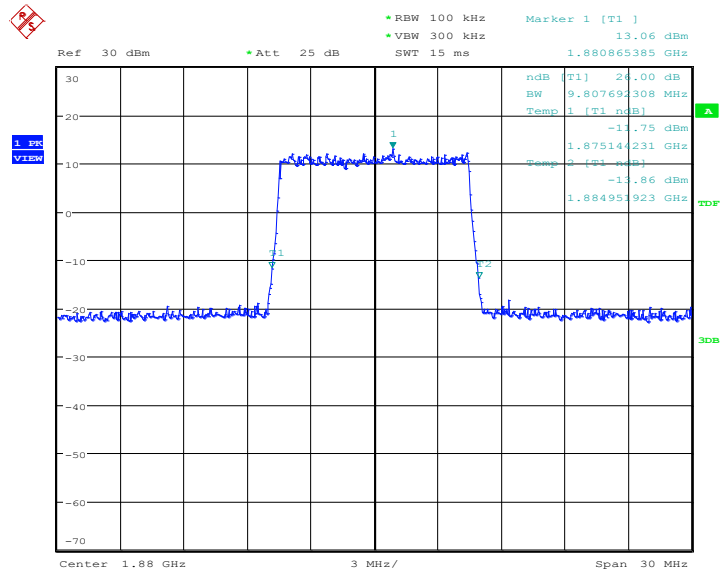


Date: 21.JUL.2021 14:47:22

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

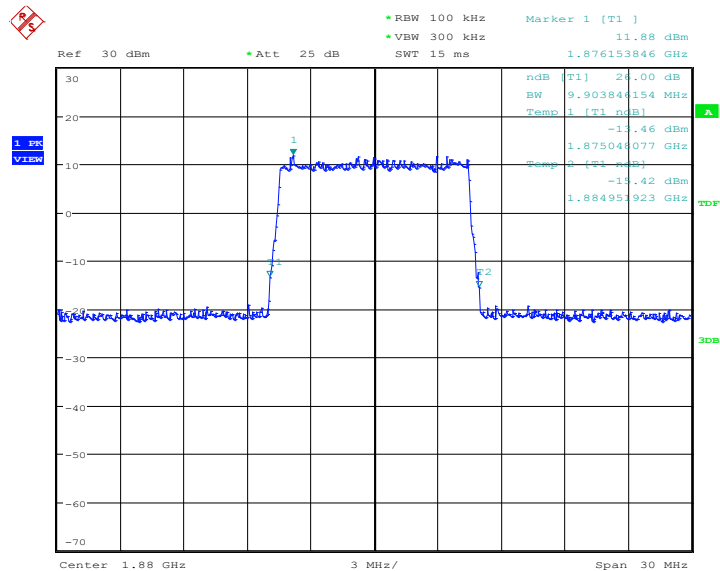
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	9807.69	9903.85	9903.85

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



Date: 21.JUL.2021 13:24:50

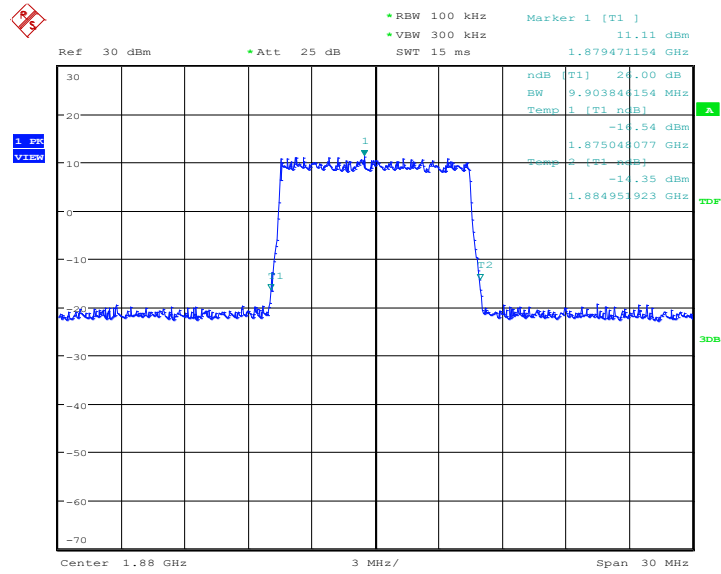
LTE band 2, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:25:06



LTE band 2, 10MHz Bandwidth, 64QAM (-26dBc BW)

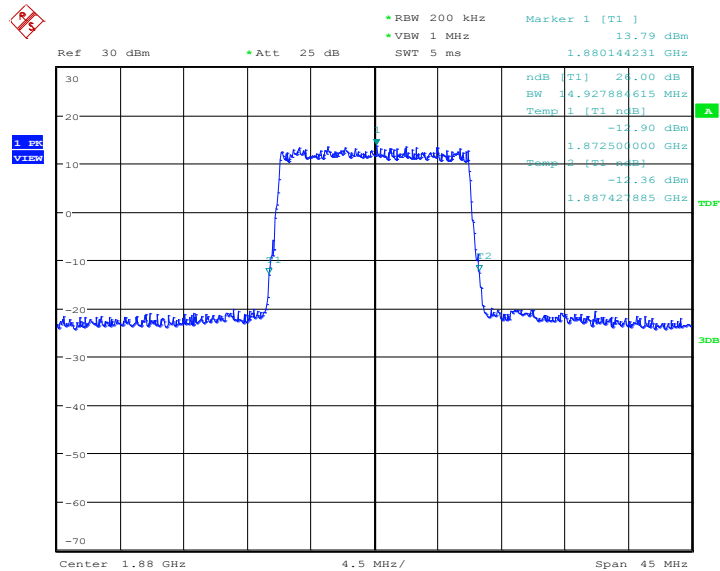


Date: 21.JUL.2021 14:49:10

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

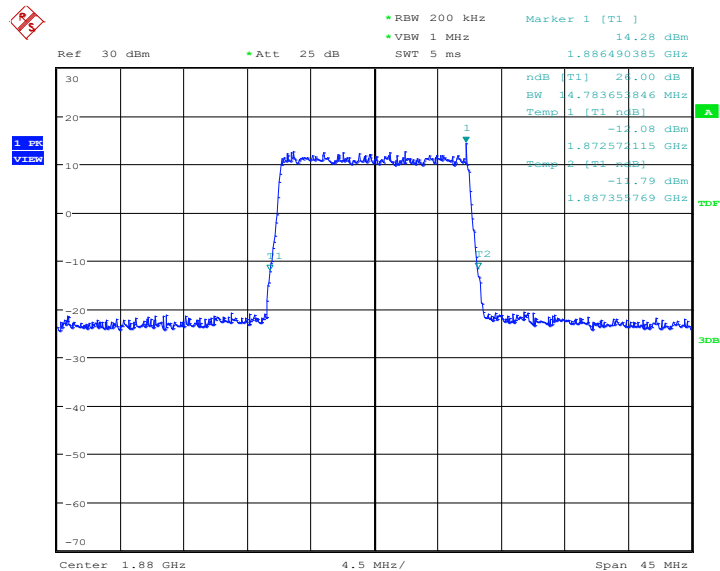
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	14927.88	14783.65	14783.65

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



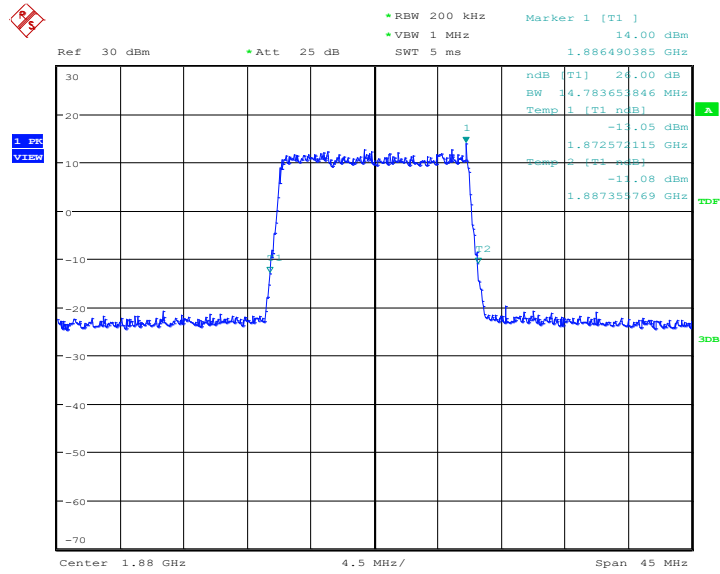
Date: 21.JUL.2021 13:27:08

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



Date: 21.JUL.2021 13:27:24

LTE band 2, 15MHz Bandwidth, 64QAM (-26dBc BW)

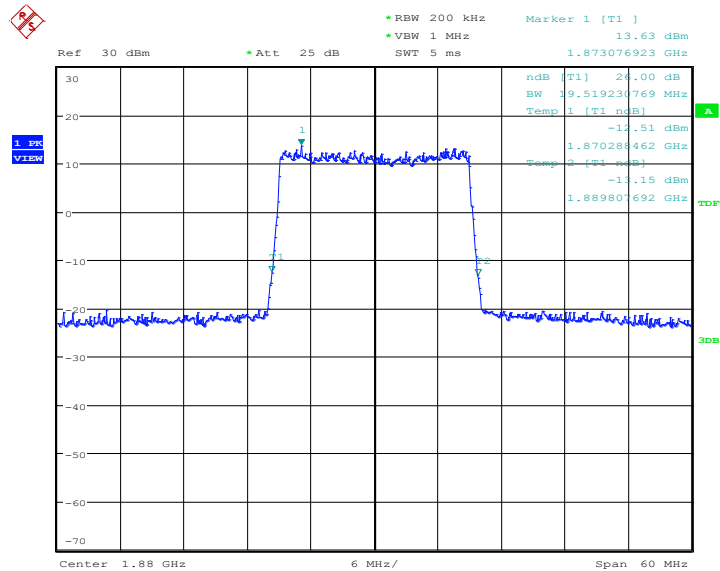


Date: 21.JUL.2021 14:50:59

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

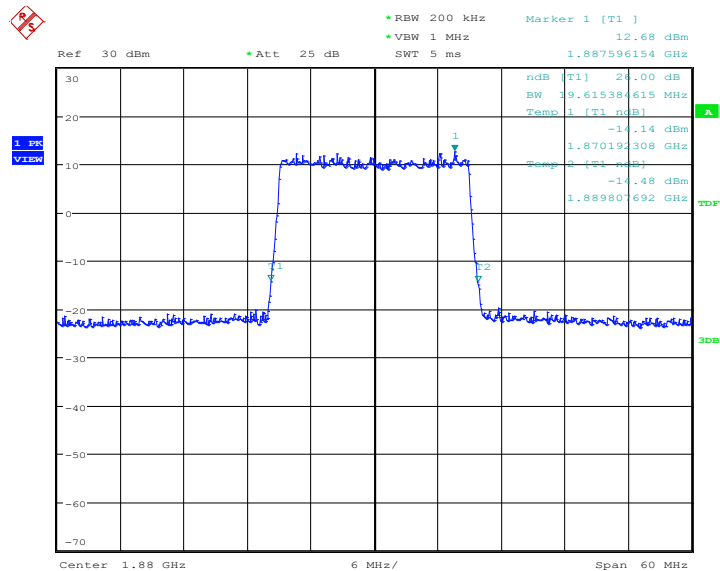
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1880.0	QPSK	16QAM	64QAM
	19519.23	19615.38	19615.38

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



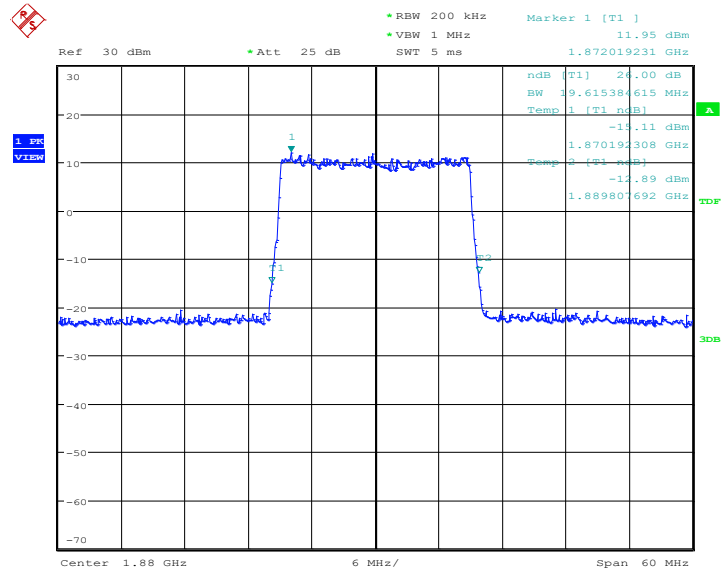
Date: 21.JUL.2021 13:29:26

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



Date: 21.JUL.2021 13:29:42

LTE band 2, 20MHz Bandwidth, 64QAM (-26dBc BW)

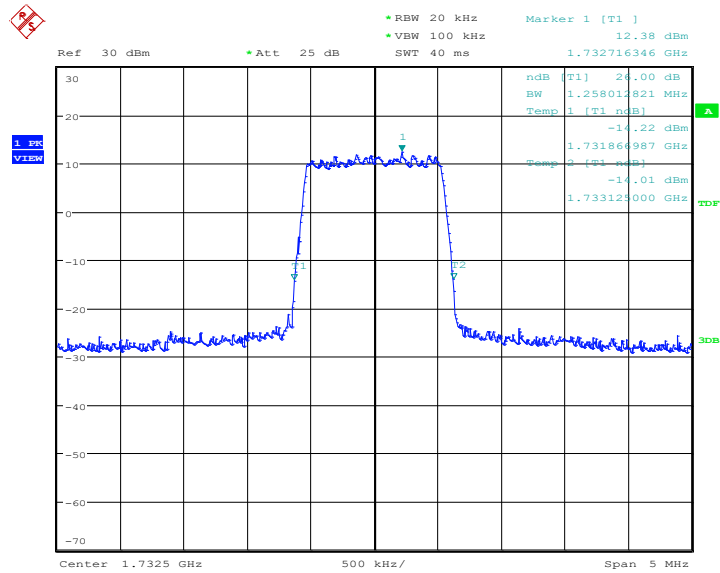


Date: 21.JUL.2021 14:52:47

LTE band 4, 1.4MHz (-26dBc BW)

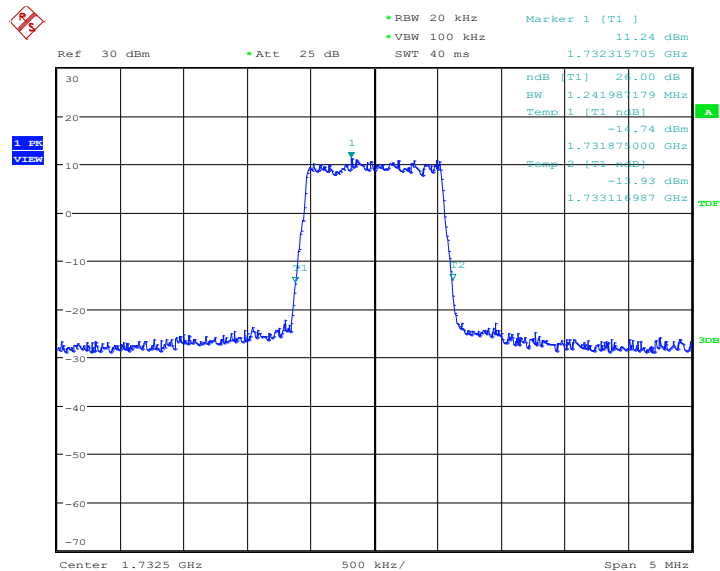
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	1258.01	1241.99	1250.00

LTE band 4, 1.4MHz Bandwidth, QPSK (-26dBc BW)



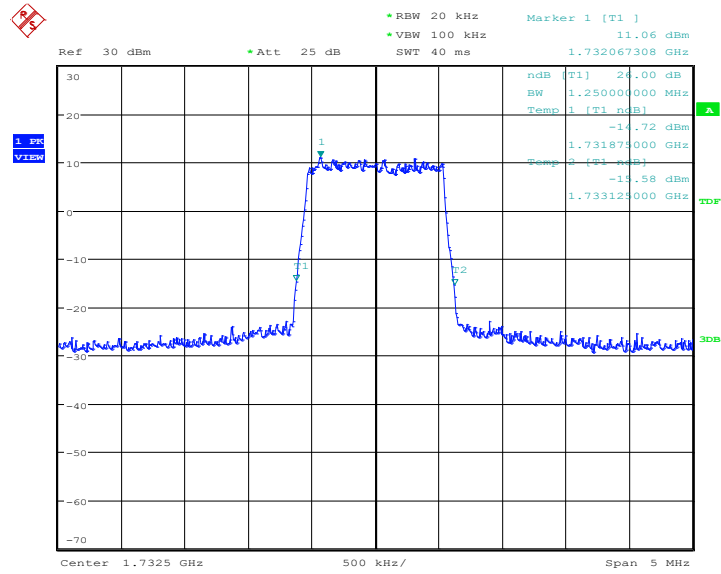
Date: 21.JUL.2021 13:31:48

LTE band 4, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:32:04

LTE band 4, 1.4MHz Bandwidth, 64QAM (-26dBc BW)

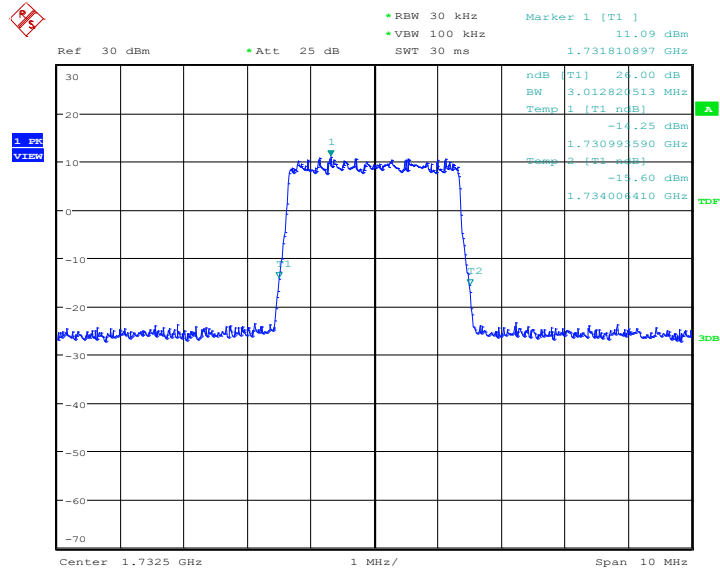


Date: 21.JUL.2021 14:54:37

LTE band 4, 3MHz (-26dBc BW)

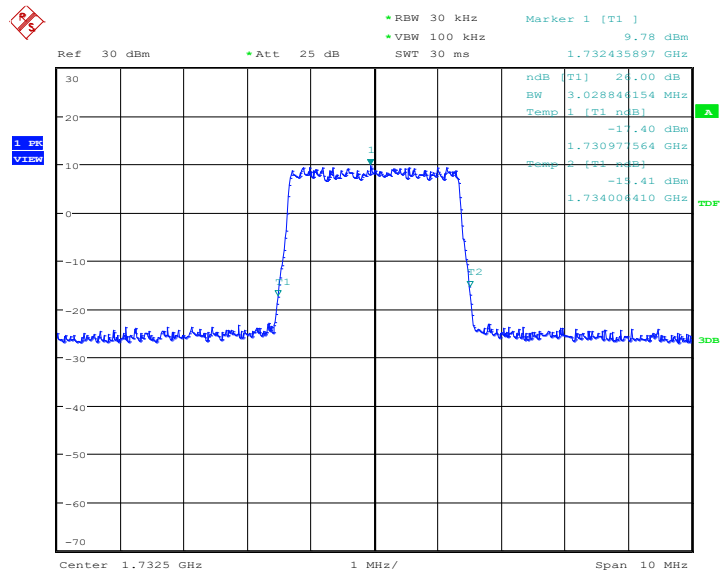
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	3012.82	3028.85	3060.90

LTE band 4, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 21.JUL.2021 13:34:05

LTE band 4, 3MHz Bandwidth, 16QAM (-26dBc BW)

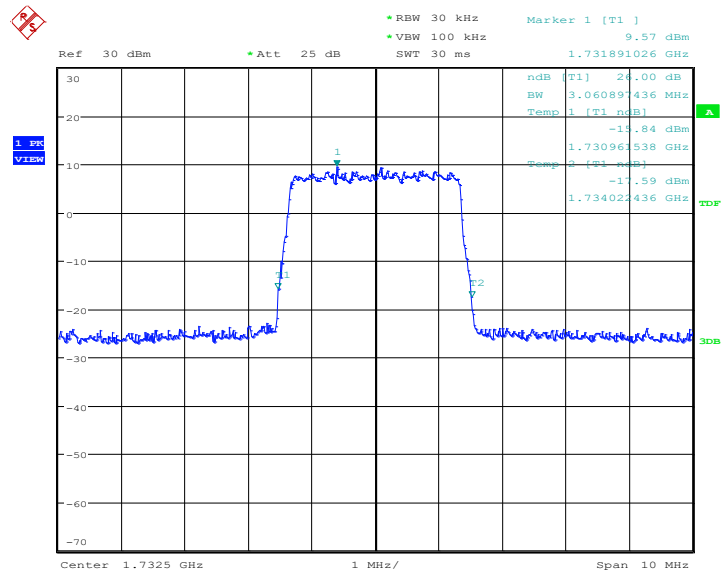


Date: 21.JUL.2021 13:34:21



No. I21N02204-RF-LTE

LTE band 4, 3MHz Bandwidth, 64QAM (-26dBc BW)

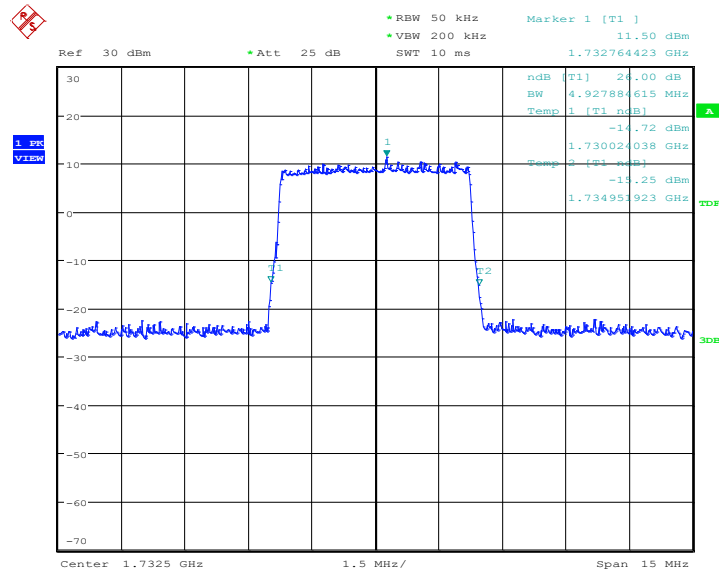


Date: 21.JUL.2021 14:56:25

LTE band 4, 5MHz (-26dBc BW)

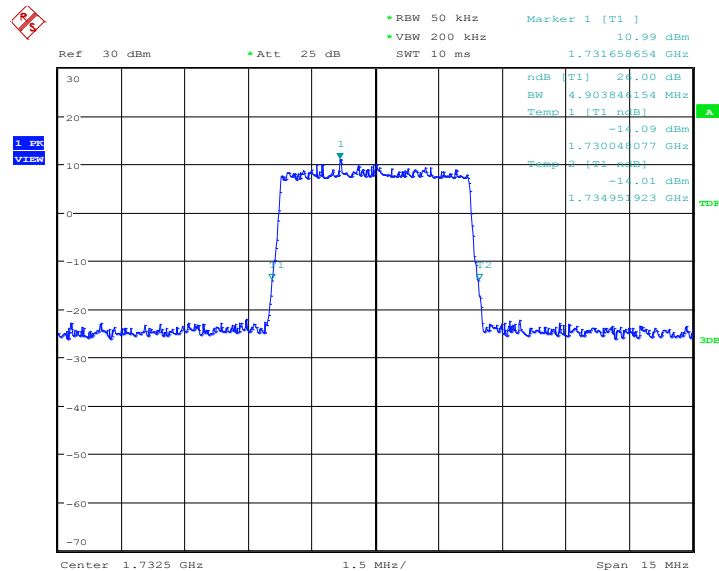
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	4927.88	4903.85	4927.88

LTE band 4, 5MHz Bandwidth, QPSK (-26dBc BW)



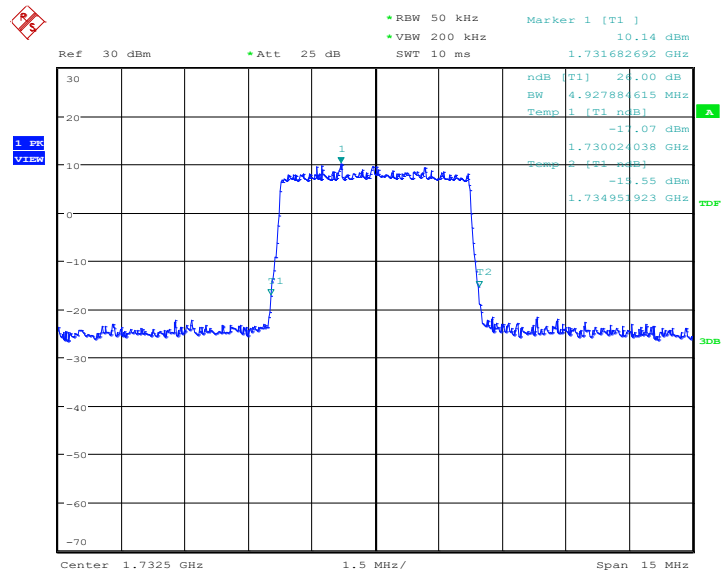
Date: 21.JUL.2021 13:36:23

LTE band 4, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 21.JUL.2021 13:36:39

LTE band 4, 5MHz Bandwidth,64QAM (-26dBc BW)

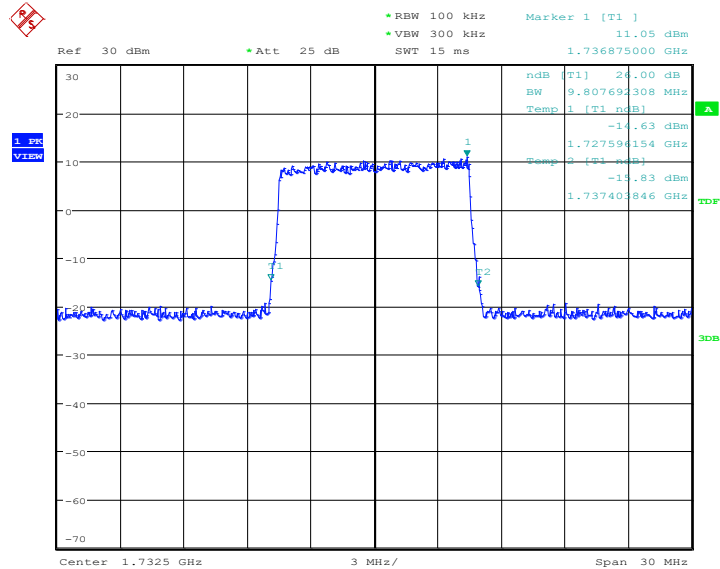


Date: 21.JUL.2021 14:58:13

LTE band 4, 10MHz (-26dBc BW)

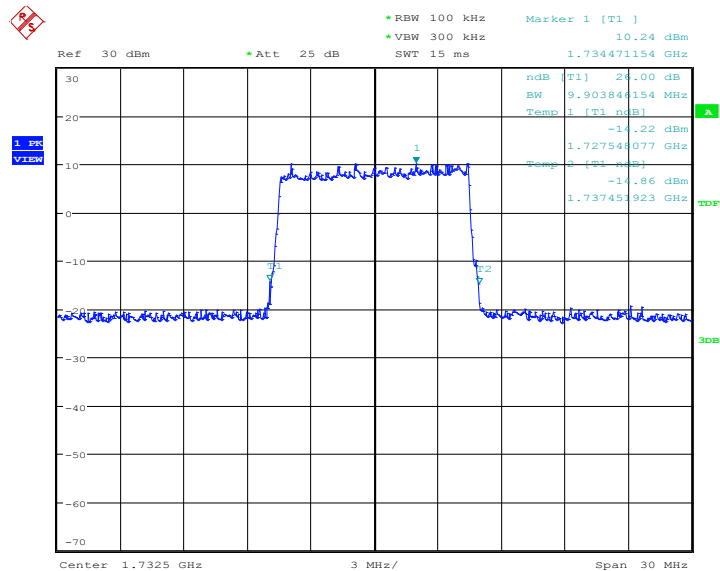
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	9807.69	9903.85	9807.69

LTE band 4, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 21.JUL.2021 13:38:41

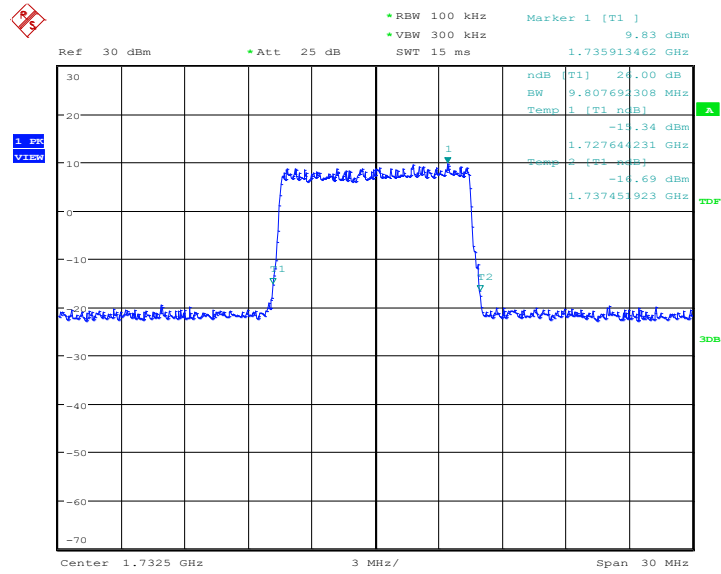
LTE band 4, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:38:57



LTE band 4, 10MHz Bandwidth, 64QAM (-26dBc BW)

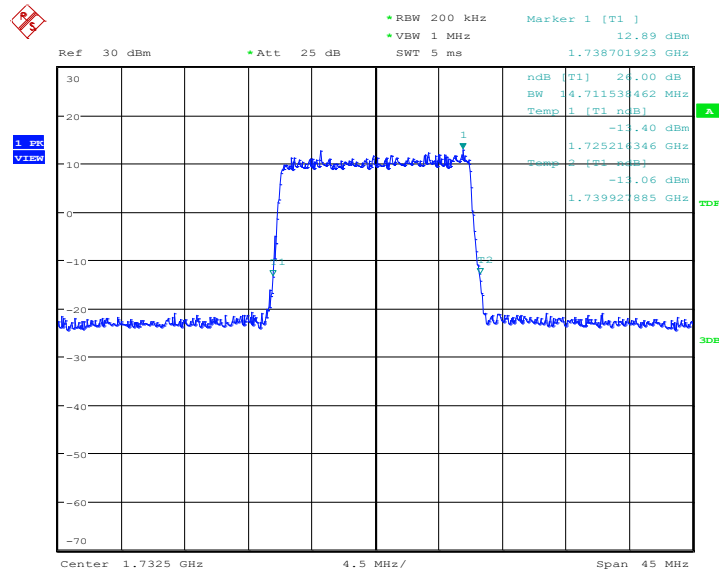


Date: 21.JUL.2021 15:00:01

LTE band 4, 15MHz (-26dBc BW)

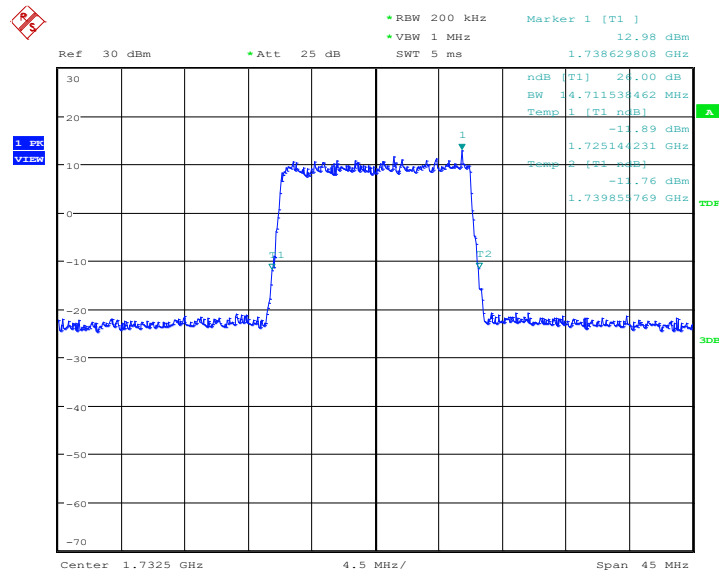
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	14711.54	14711.54	14783.65

LTE band 4, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 21.JUL.2021 13:40:59

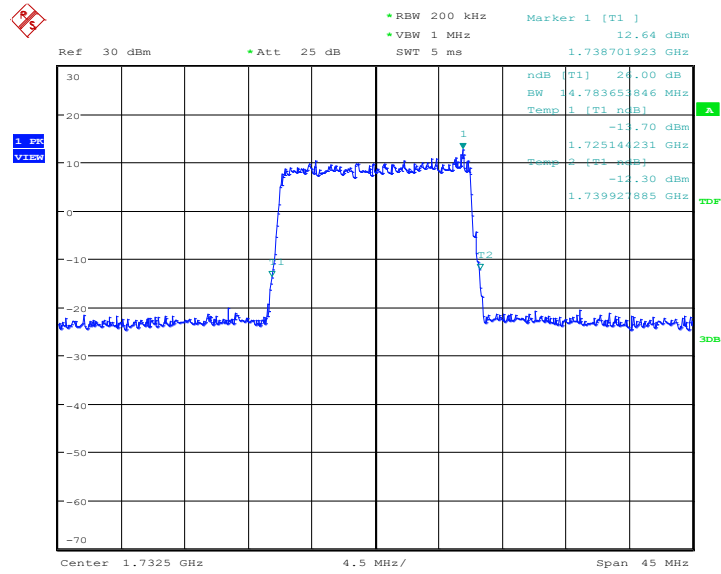
LTE band 4, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:41:14



LTE band 4, 15MHz Bandwidth, 64QAM (-26dBc BW)

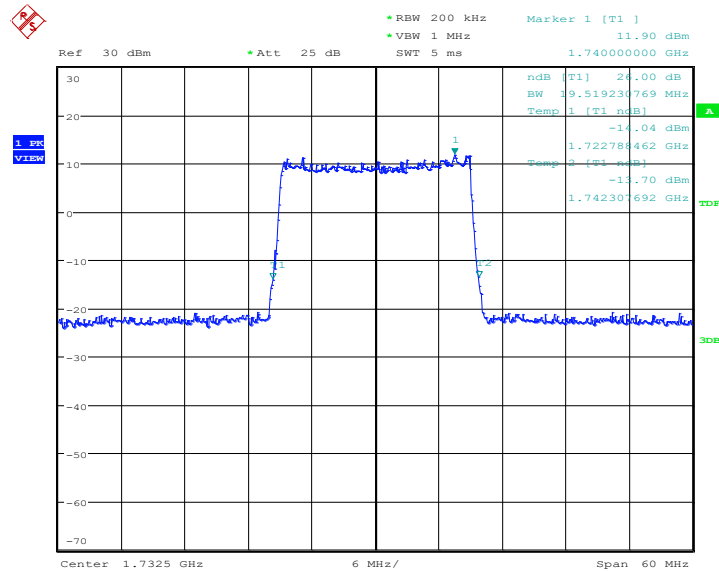


Date: 21.JUL.2021 15:01:50

LTE band 4, 20MHz (-26dBc BW)

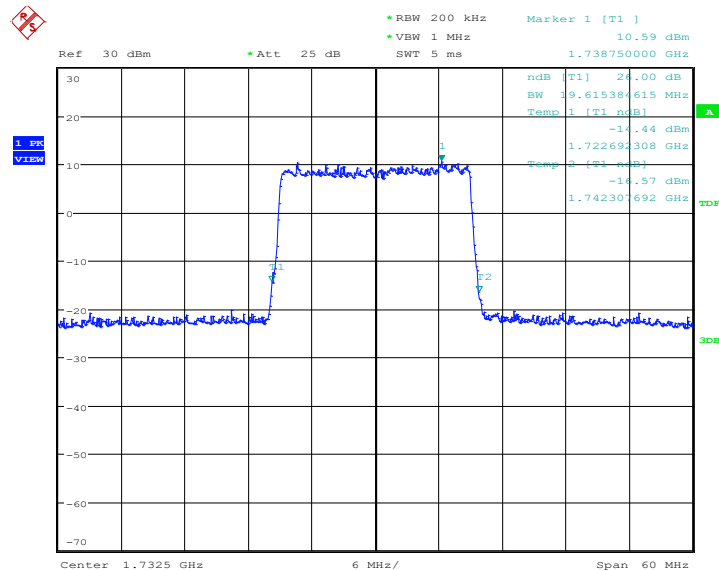
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1732.5	QPSK	16QAM	64QAM
	19519.23	19519.23	19615.38

LTE band 4, 20MHz Bandwidth, QPSK (-26dBc BW)



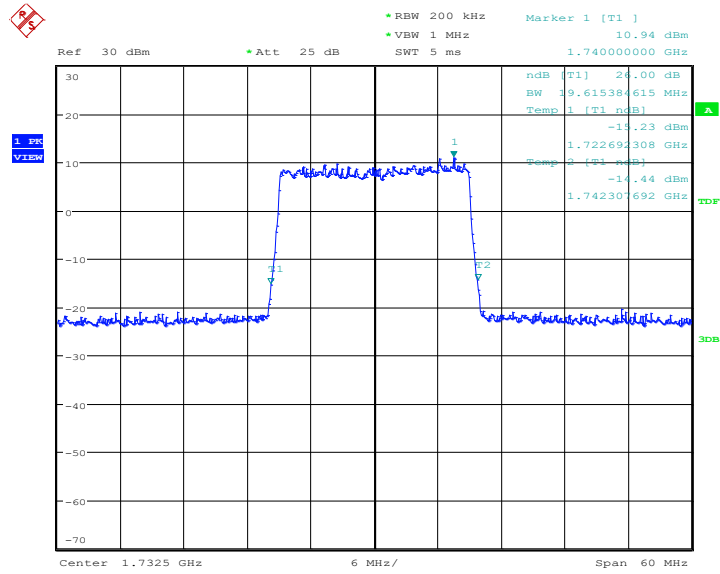
Date: 21.JUL.2021 13:43:17

LTE band 4, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:43:33

LTE band 4, 20MHz Bandwidth, 64QAM (-26dBc BW)

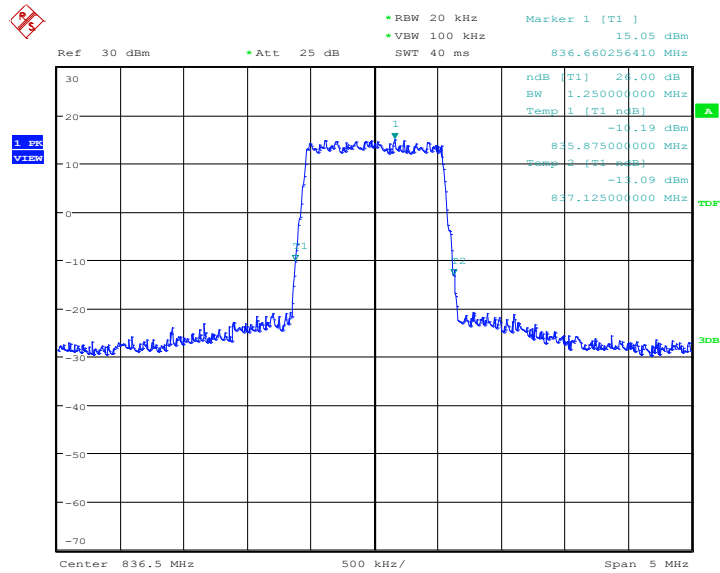


Date: 21.JUL.2021 15:03:38

LTE band 5, 1.4MHz (-26dBc BW)

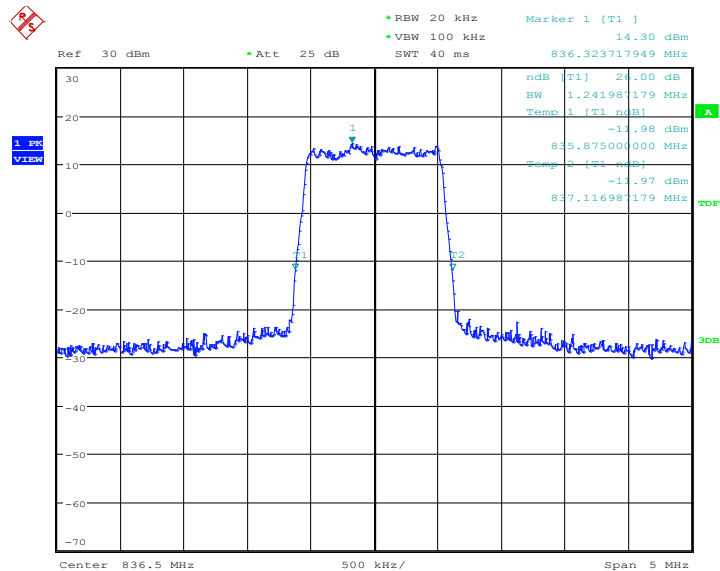
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
836.5	QPSK	16QAM	64QAM
	1250.00	1241.99	1241.99

LTE band 5, 1.4MHz Bandwidth, QPSK (-26dBc BW)



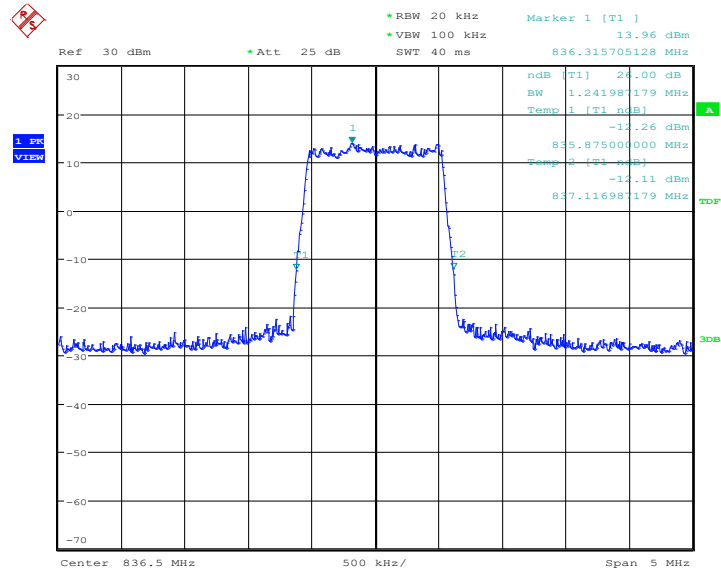
Date: 21.JUL.2021 13:08:43

LTE band 5, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:08:59

LTE band 5, 1.4MHz Bandwidth, 64QAM (-26dBc BW)

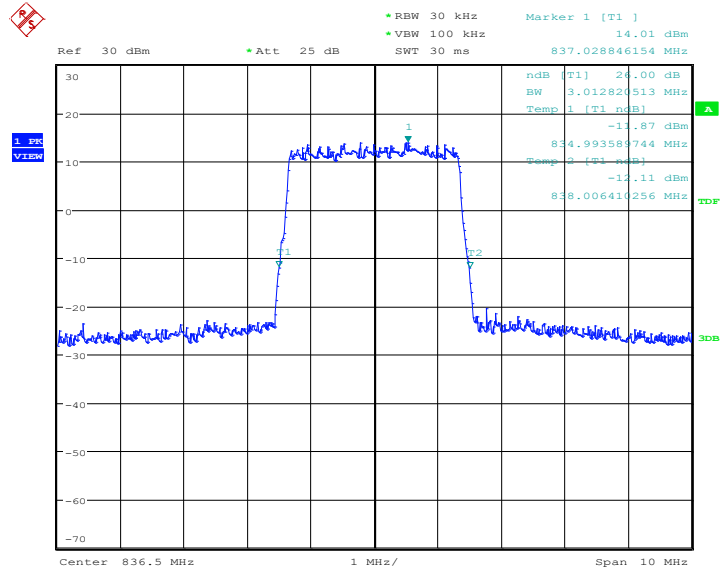


Date: 21.JUL.2021 14:36:29

LTE band 5, 3MHz (-26dBc BW)

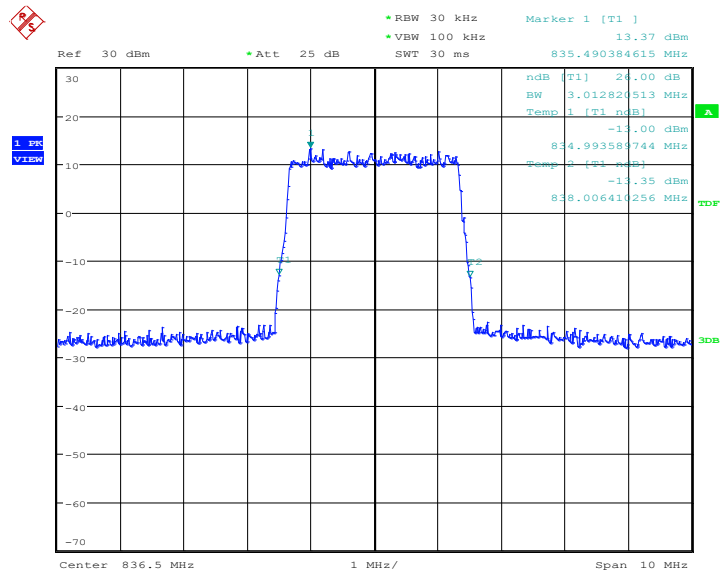
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
836.5	QPSK	16QAM	64QAM
	3012.82	3012.82	3060.90

LTE band 5, 3MHz Bandwidth, QPSK (-26dBc BW)



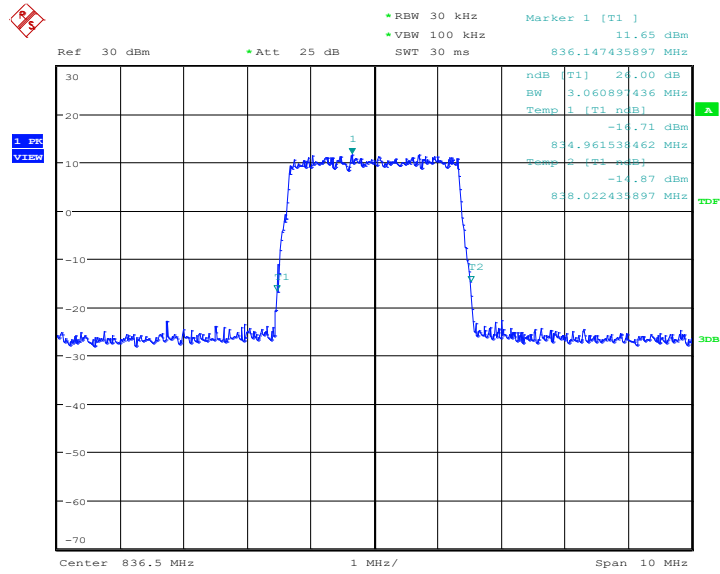
Date: 21.JUL.2021 13:11:01

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



Date: 21.JUL.2021 13:11:16

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

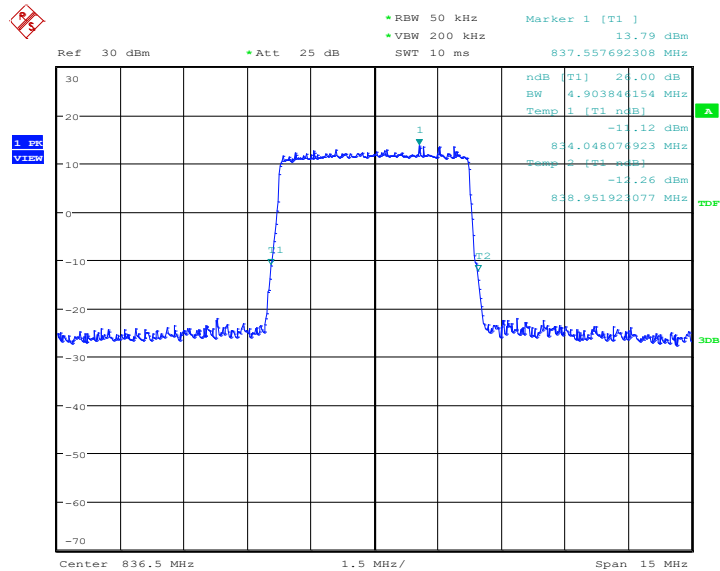


Date: 21.JUL.2021 14:38:17

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

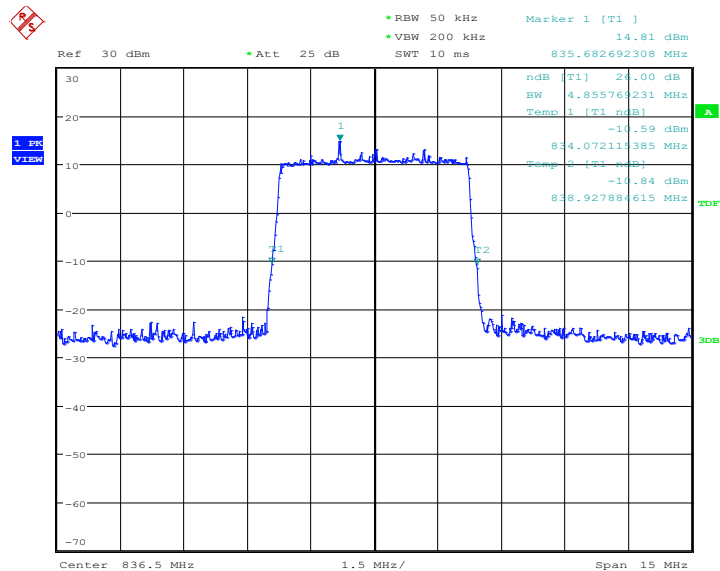
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
836.5	QPSK	16QAM	64QAM
	4903.85	4855.77	4927.88

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



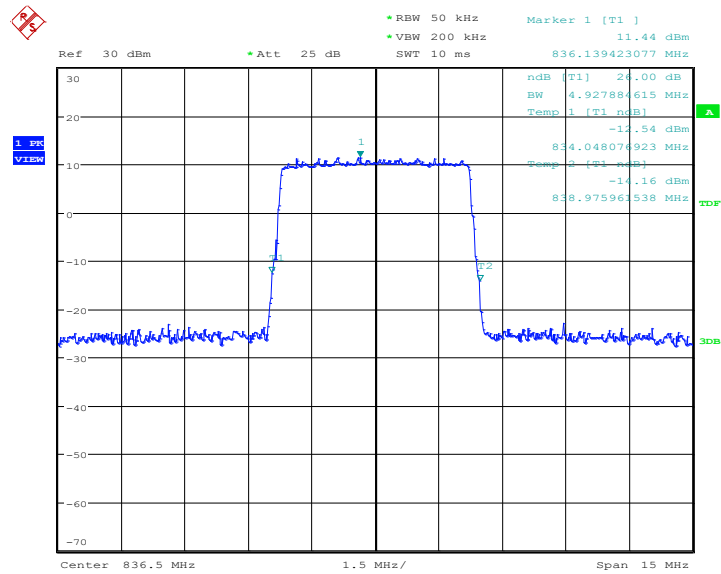
Date: 21.JUL.2021 13:13:18

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



Date: 21.JUL.2021 13:13:34

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

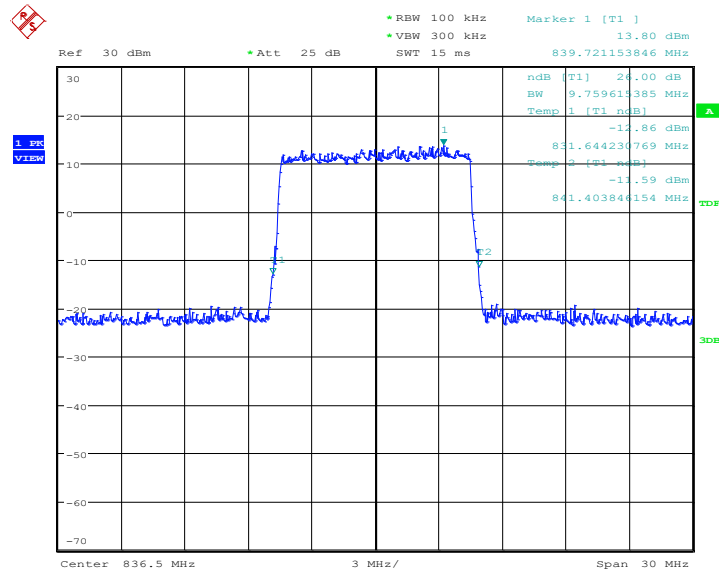


Date: 21.JUL.2021 14:40:05

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

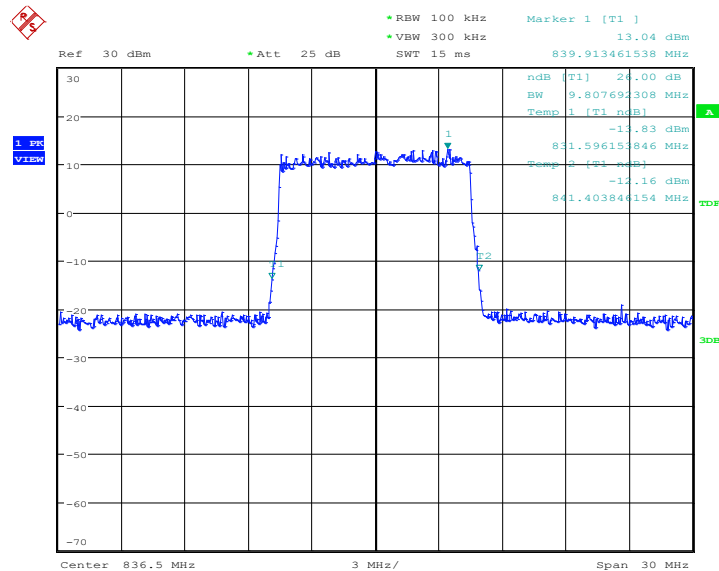
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
836.5	QPSK	16QAM	64QAM
	9759.62	9807.69	9759.62

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



Date: 21.JUL.2021 13:15:36

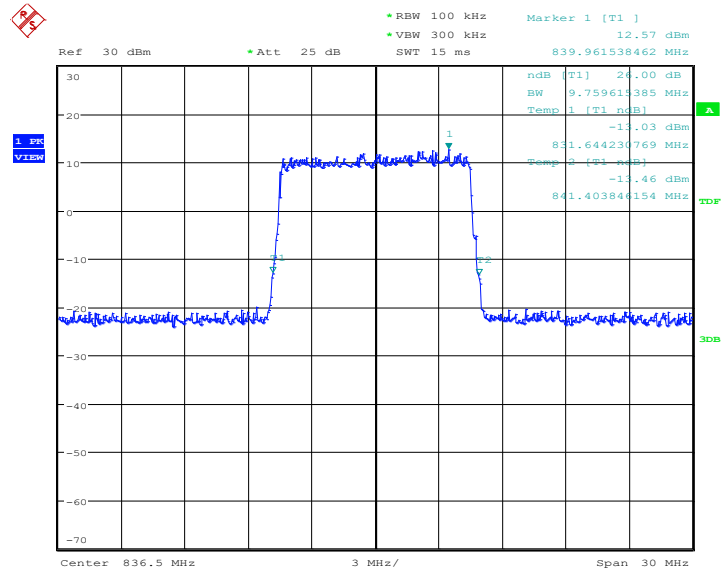
LTE band 5, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:15:52



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

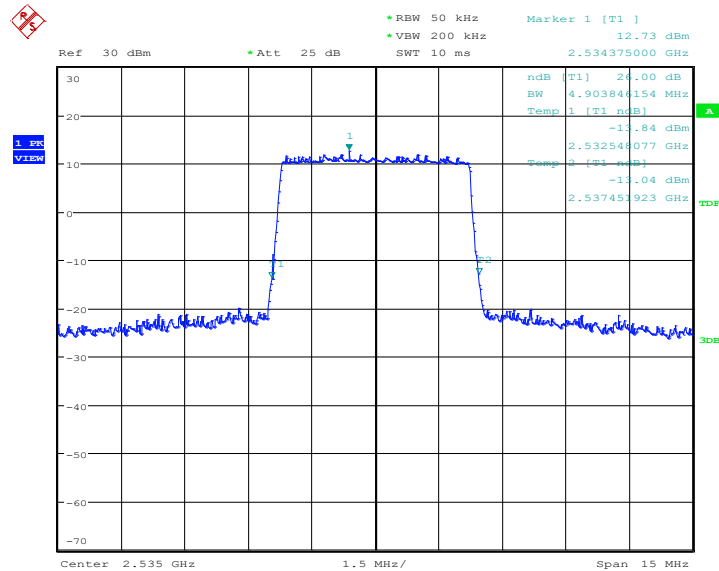


Date: 21.JUL.2021 14:41:54

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

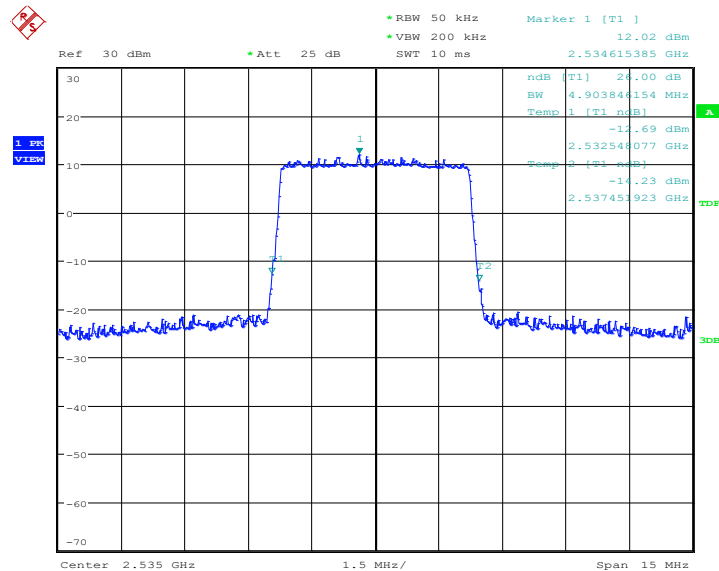
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
2535.0	QPSK	16QAM	64QAM
	4903.85	4903.85	4879.81

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



Date: 21.JUL.2021 12:54:20

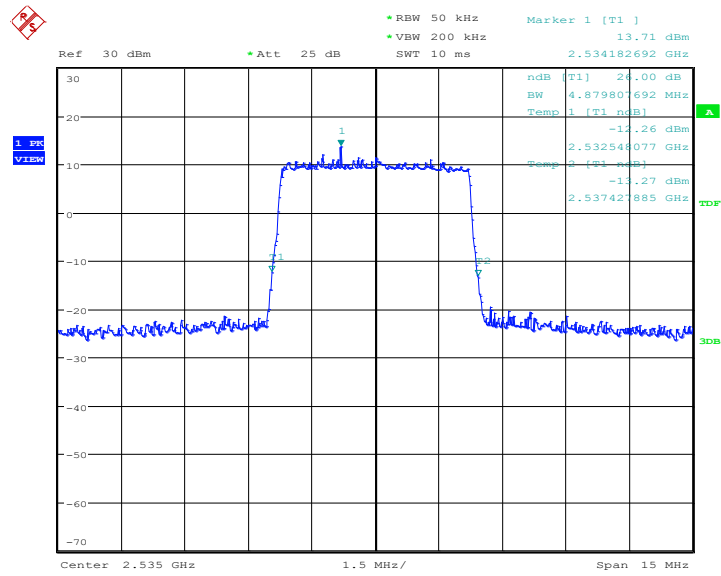
LTE band 7, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 21.JUL.2021 12:54:36



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

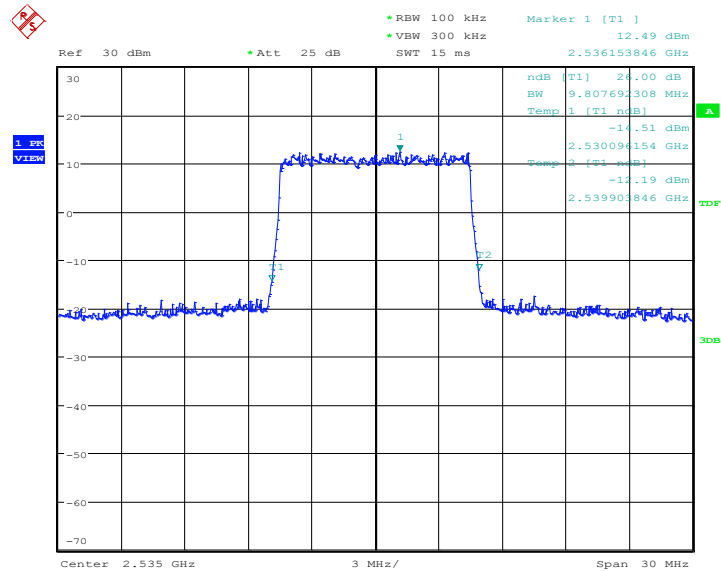


Date: 21.JUL.2021 14:25:36

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

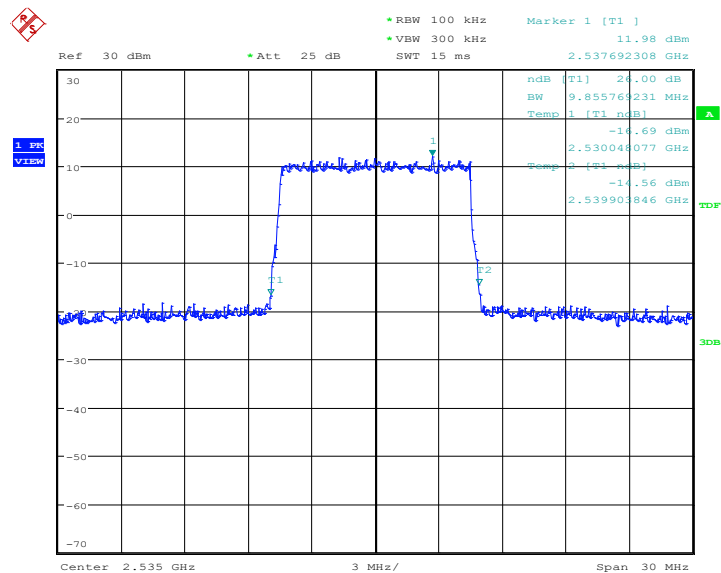
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
2535.0	QPSK	16QAM	64QAM
	9807.69	9855.77	9807.69

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



Date: 21.JUL.2021 12:56:38

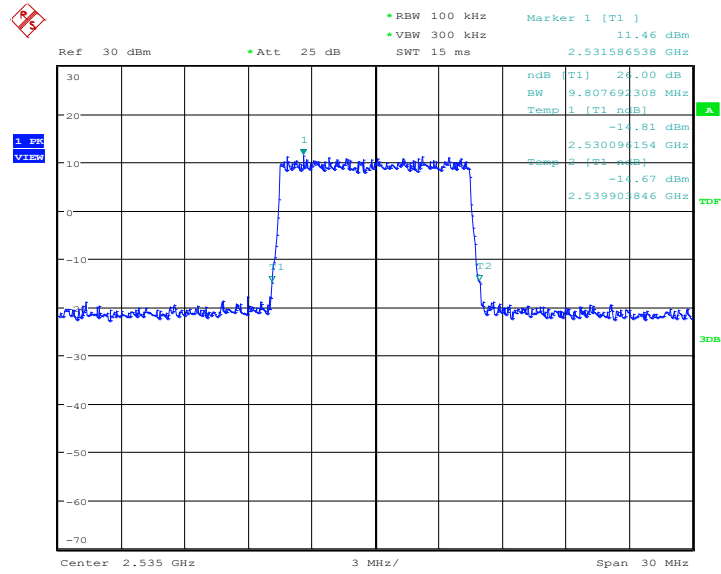
LTE band 7, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 12:56:54



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

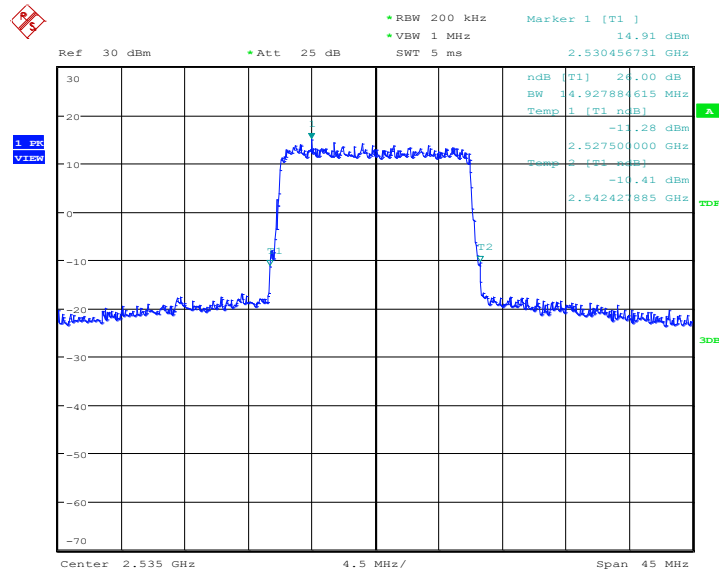


Date: 21.JUL.2021 14:27:24

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

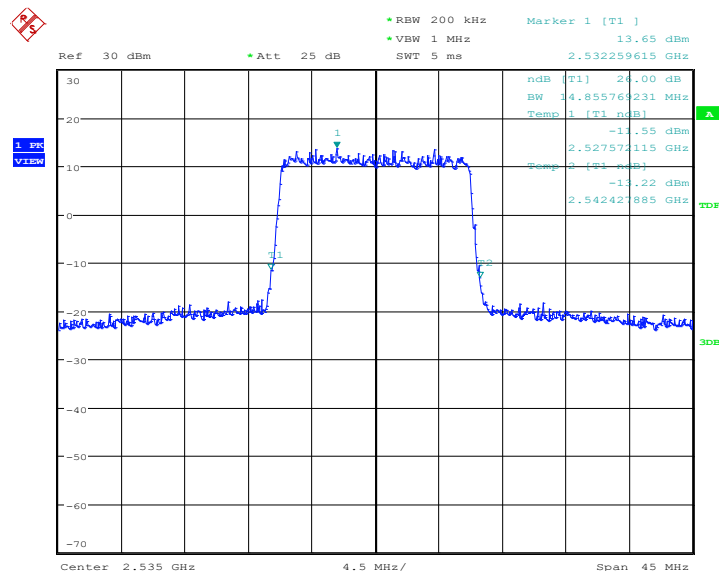
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
2535.0	QPSK	16QAM	64QAM
	14927.88	14855.77	14855.77

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



Date: 21.JUL.2021 12:58:56

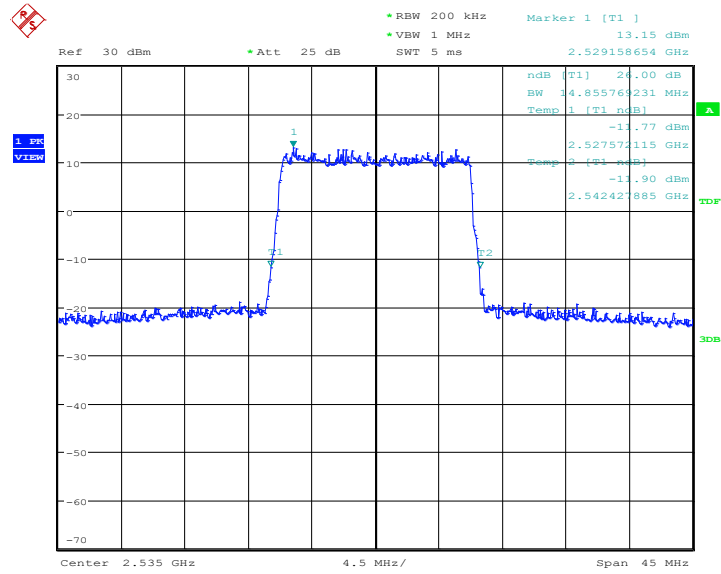
LTE band 7, 15MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 12:59:12



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

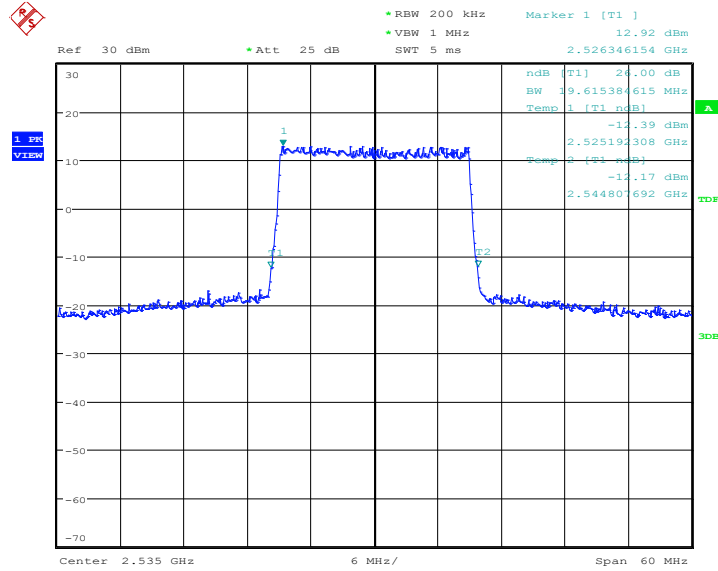


Date: 21.JUL.2021 14:29:12

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

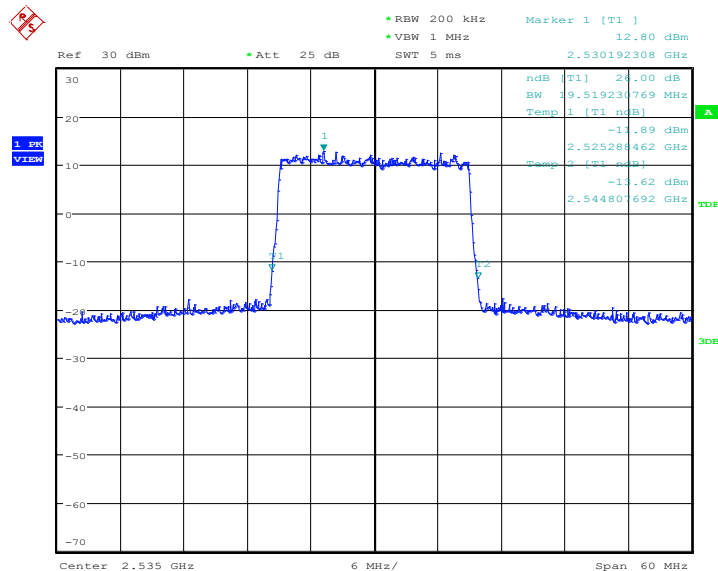
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
2535.0	QPSK	16QAM	64QAM
	19615.38	19519.23	19615.38

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



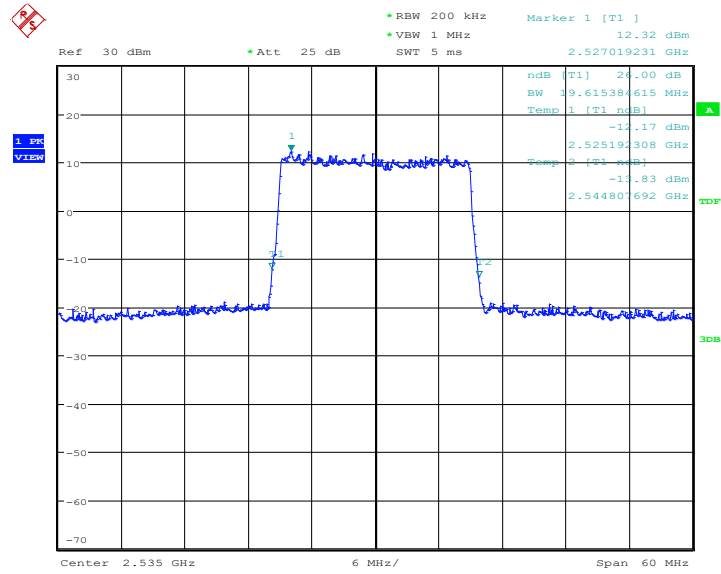
Date: 21.JUL.2021 13:01:14

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



Date: 21.JUL.2021 13:01:30

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



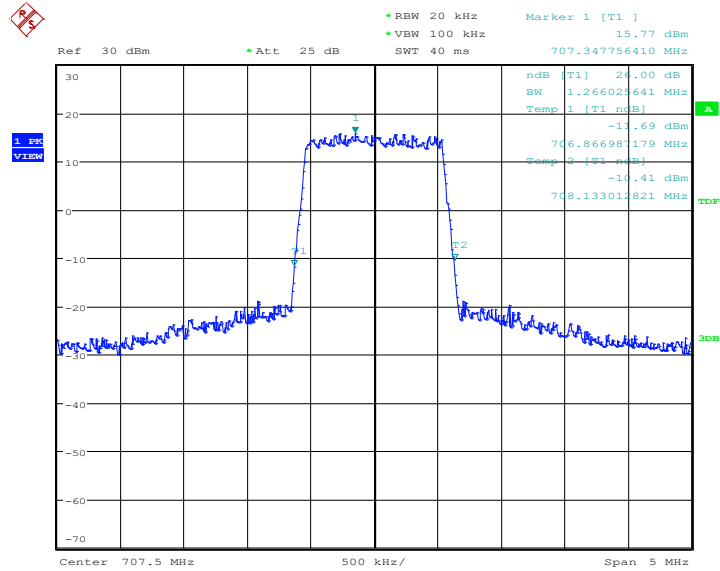
Date: 21.JUL.2021 14:31:01

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

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

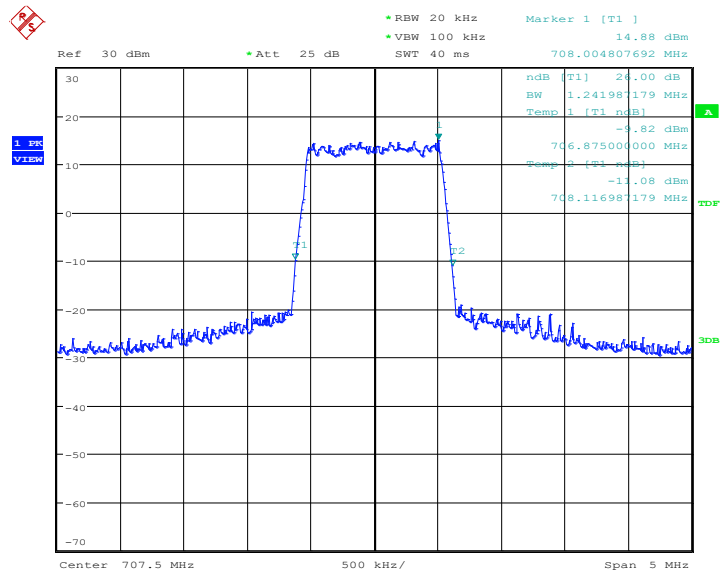
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
707.5	QPSK	16QAM	64QAM
	1266.03	1241.99	1241.99

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



Date: 21.JUL.2021 13:45:38

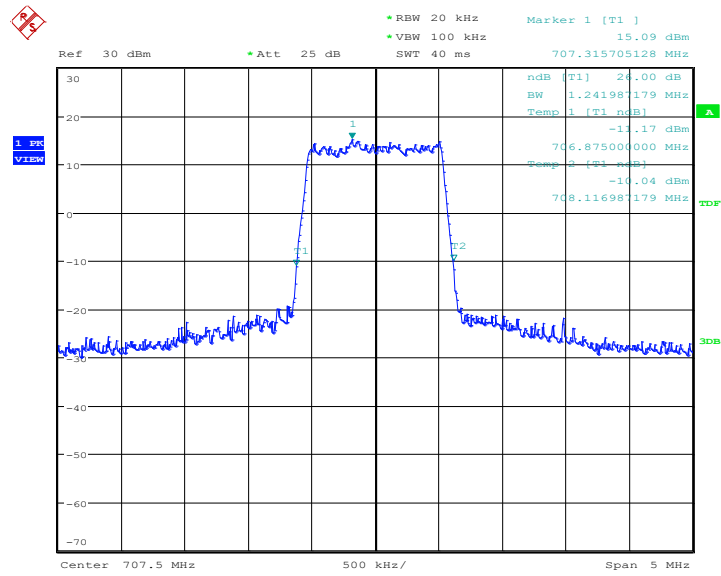
LTE band 12, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:45:54



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

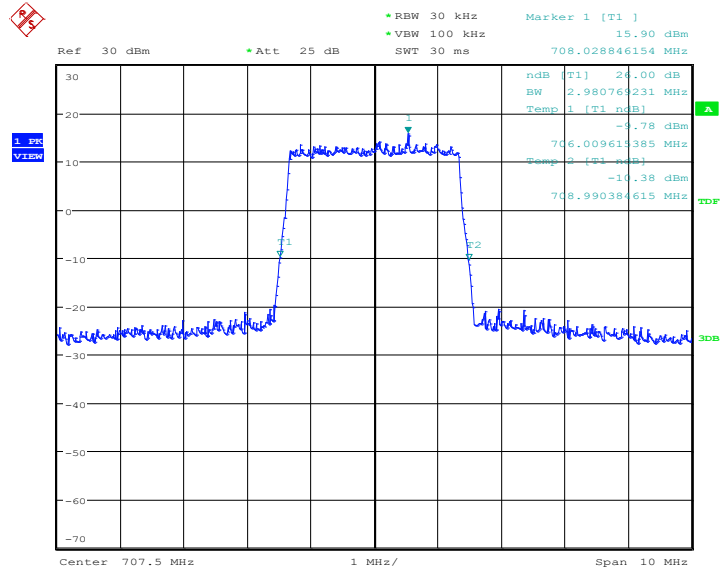


Date: 21.JUL.2021 15:05:30

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

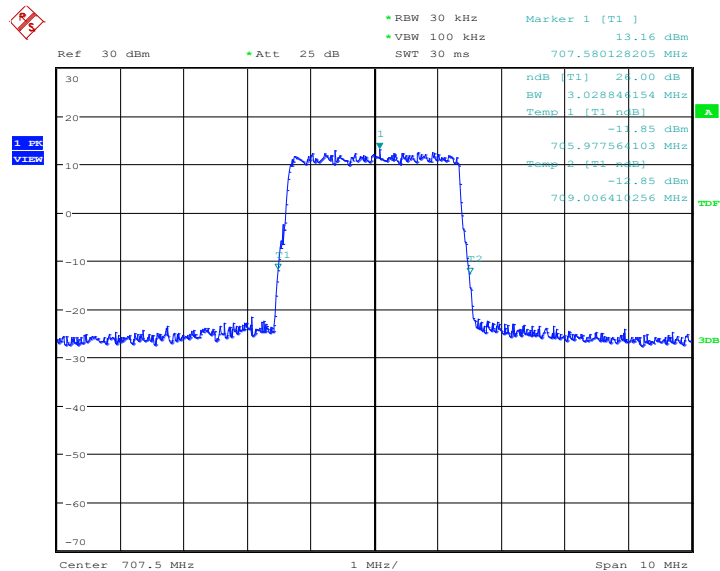
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
707.5	QPSK	16QAM	64QAM
	2980.77	3028.85	2900.64

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



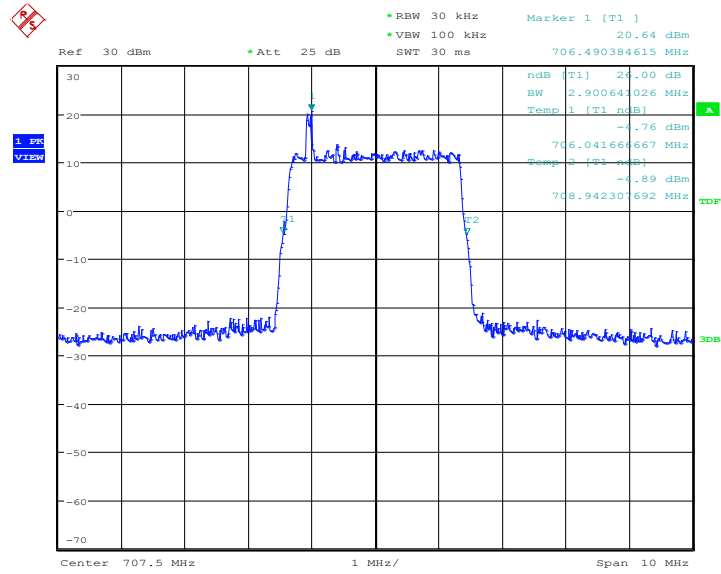
Date: 21.JUL.2021 13:47:56

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



Date: 21.JUL.2021 13:48:12

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

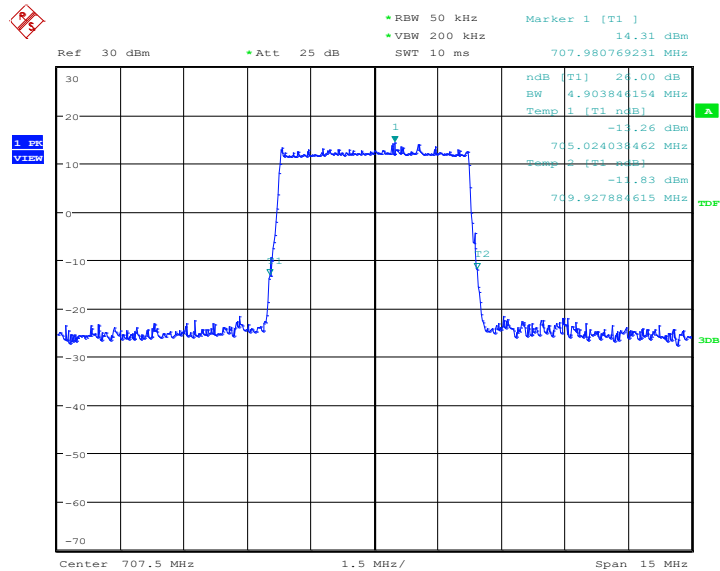


Date: 21.JUL.2021 15:07:18

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

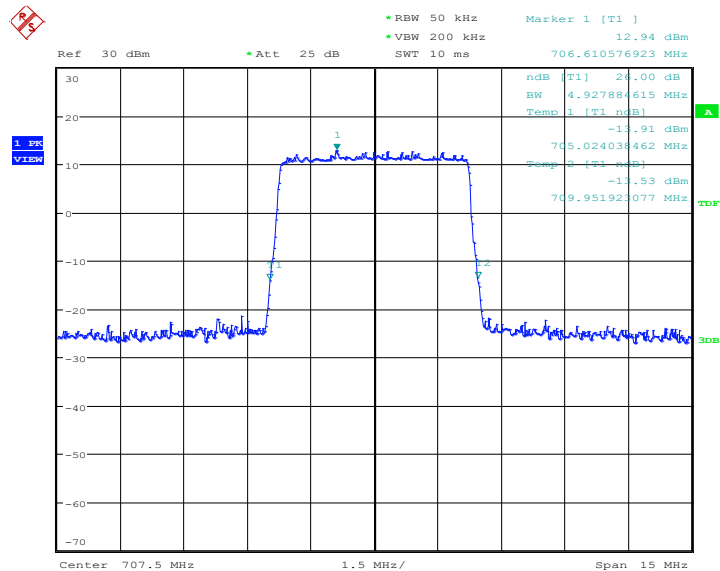
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
707.5	QPSK	16QAM	64QAM
	4903.85	4927.88	4855.77

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



Date: 21.JUL.2021 13:50:14

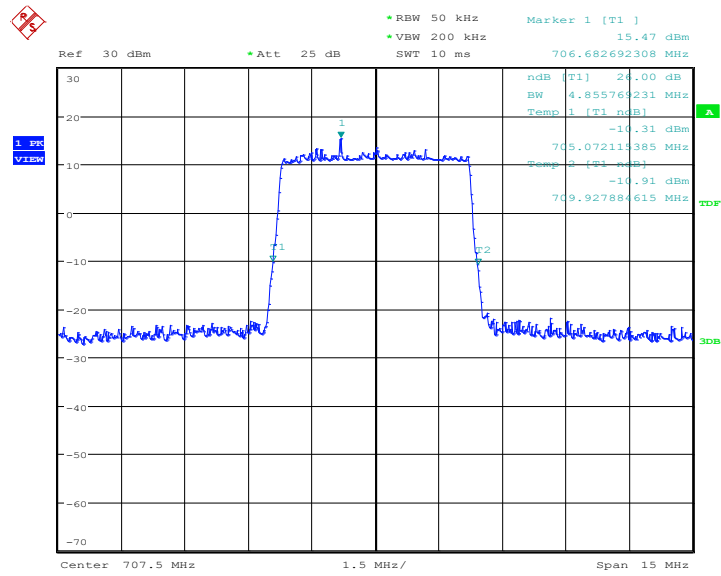
LTE band 12, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 21.JUL.2021 13:50:29



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

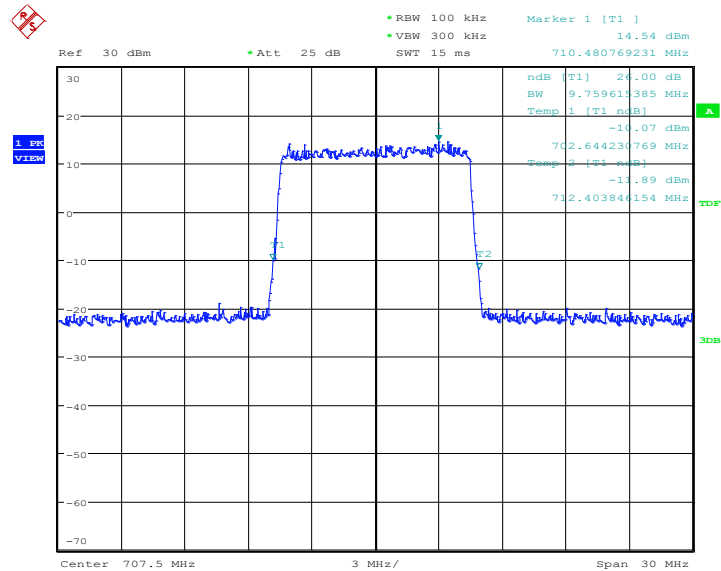


Date: 21.JUL.2021 15:09:07

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

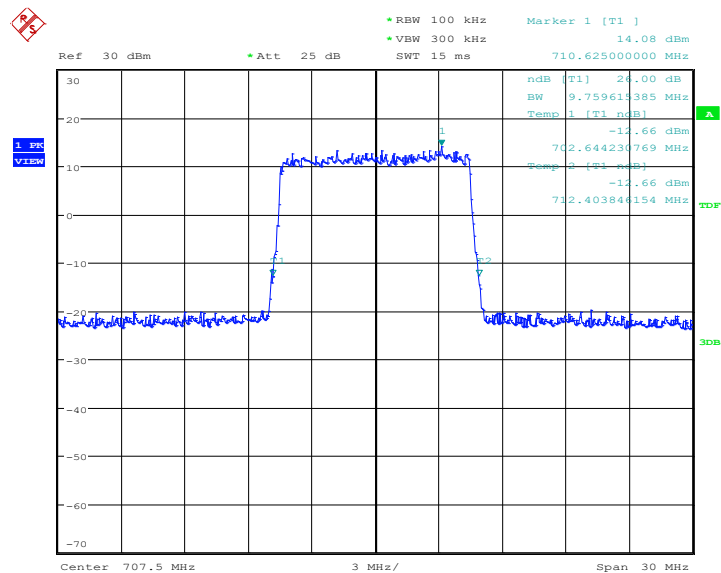
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
707.5	QPSK	16QAM	64QAM
	9759.62	9759.62	9807.69

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



Date: 26.JUL.2021 06:43:30

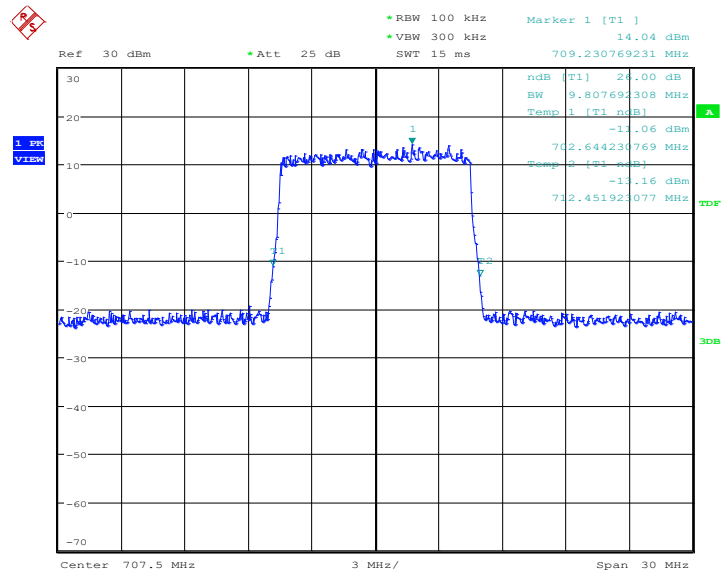
LTE band 12, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 26.JUL.2021 06:43:45



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

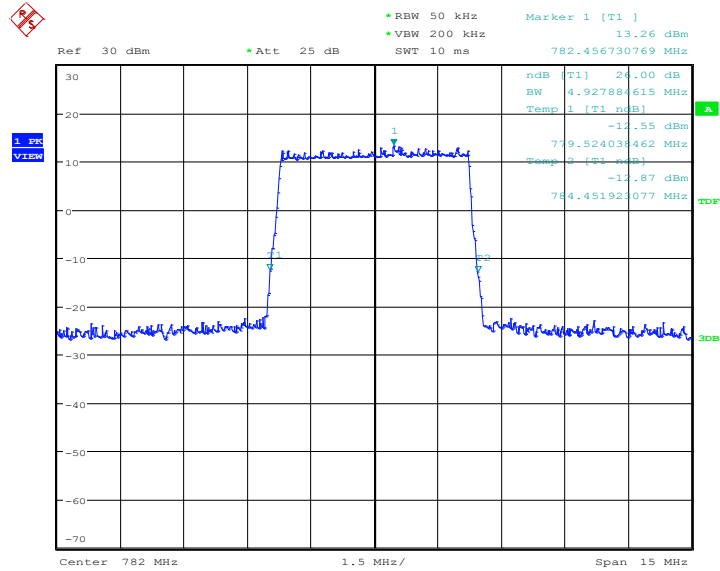


Date: 26.JUL.2021 06:37:34

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

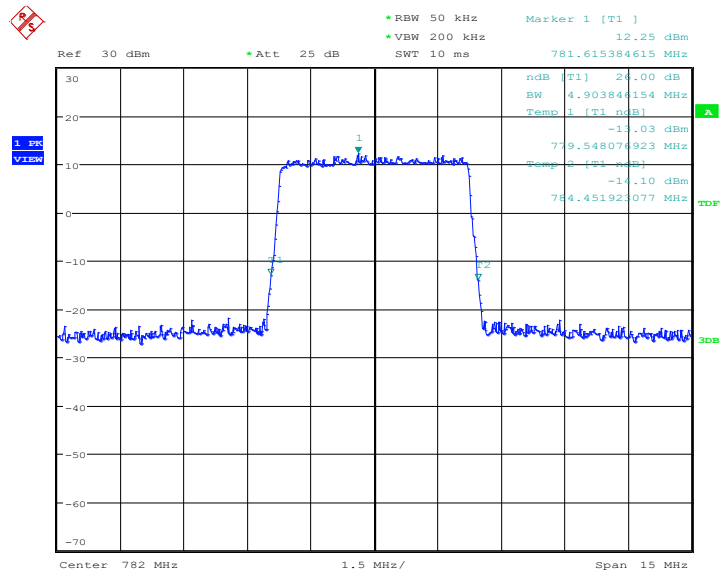
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
782.0	QPSK	16QAM	64QAM
	4927.88	4903.85	4927.88

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



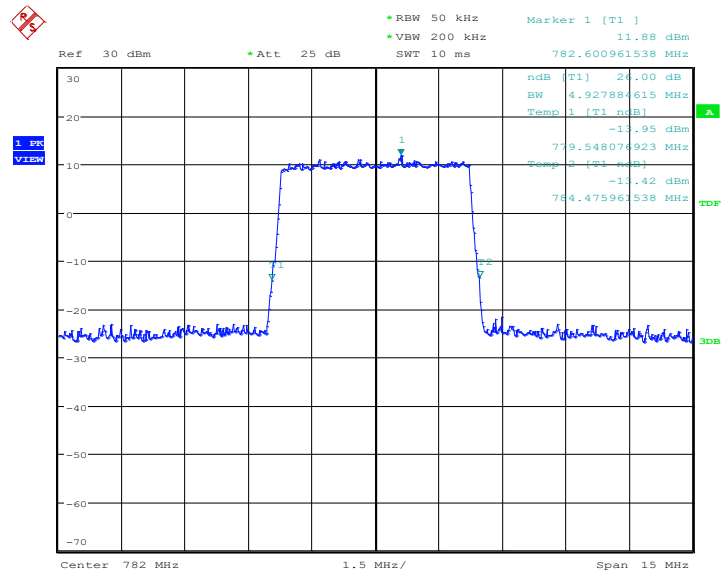
Date: 21.JUL.2021 13:04:03

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



Date: 21.JUL.2021 13:04:19

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

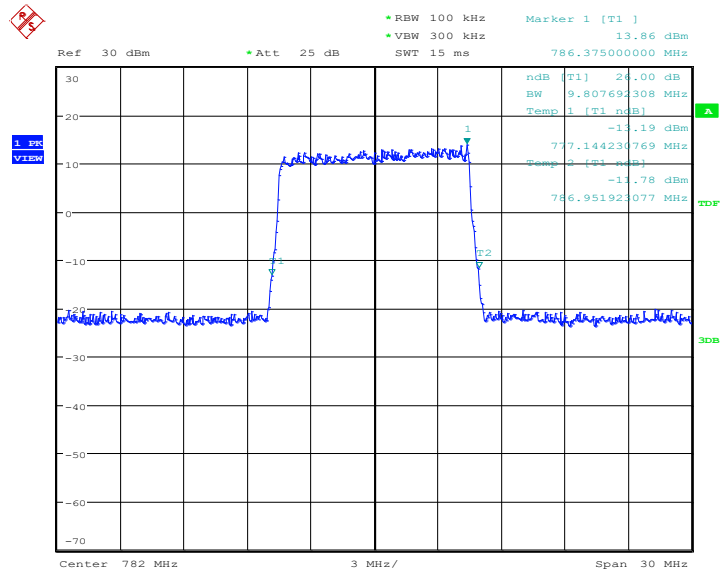


Date: 21.JUL.2021 14:32:51

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

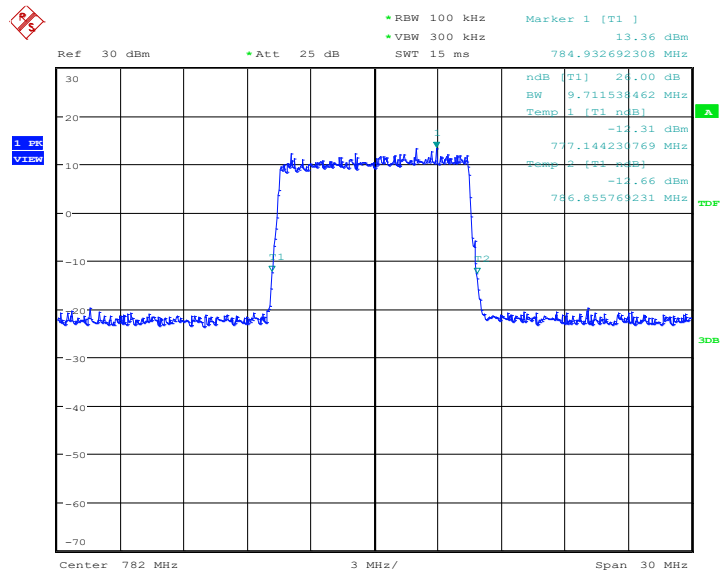
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
782.0	QPSK	16QAM	64QAM
	9807.69	9711.54	9759.62

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



Date: 21.JUL.2021 13:06:21

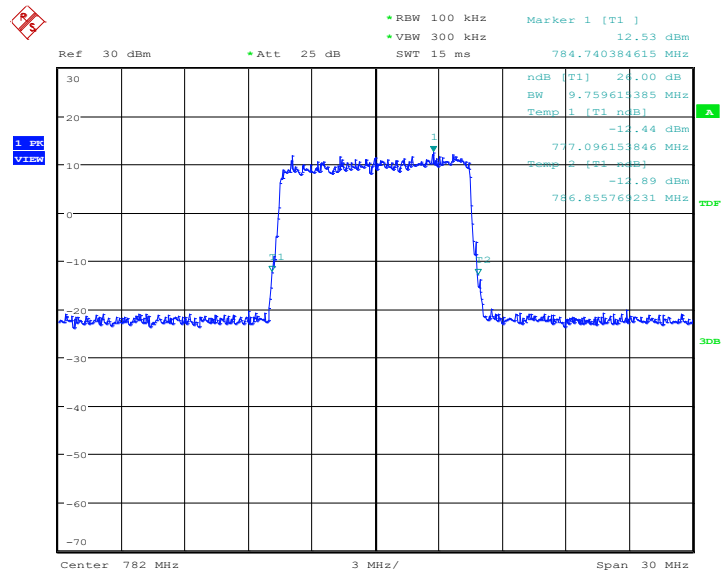
LTE band 13, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 13:06:37



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

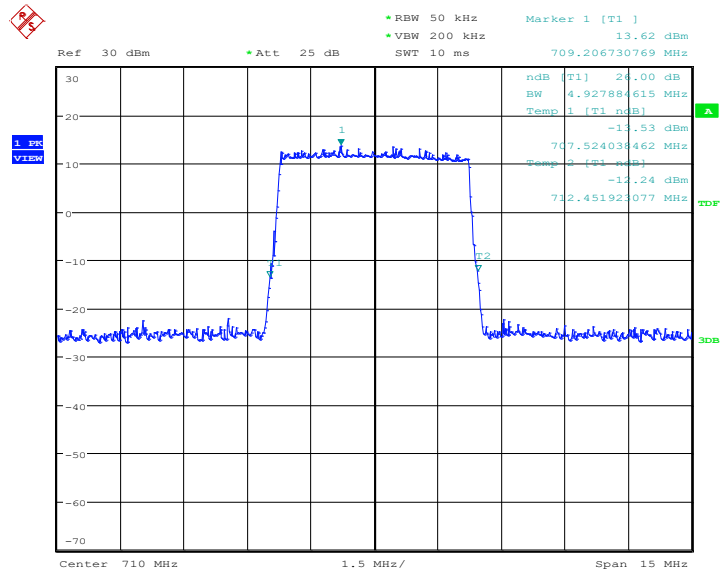


Date: 21.JUL.2021 14:34:39

LTE band 17, 5MHz (-26dBc BW)

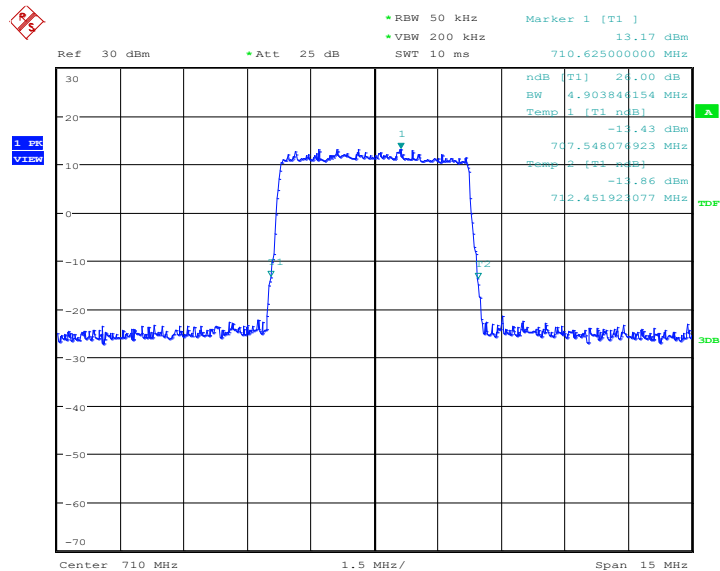
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
710.0	QPSK	16QAM	64QAM
	4927.88	4903.85	4903.85

LTE band 17, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 21.JUL.2021 14:05:09

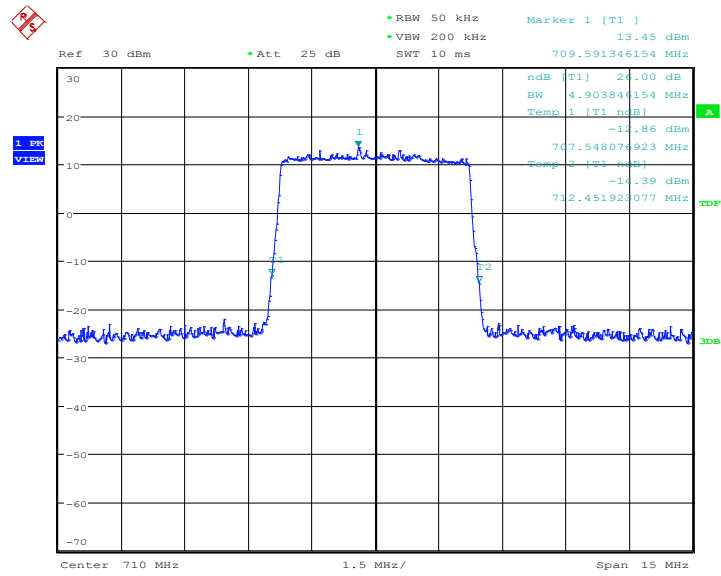
LTE band 17, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 21.JUL.2021 14:05:25



LTE band 17, 5MHz Bandwidth,64QAM (-26dBc BW)

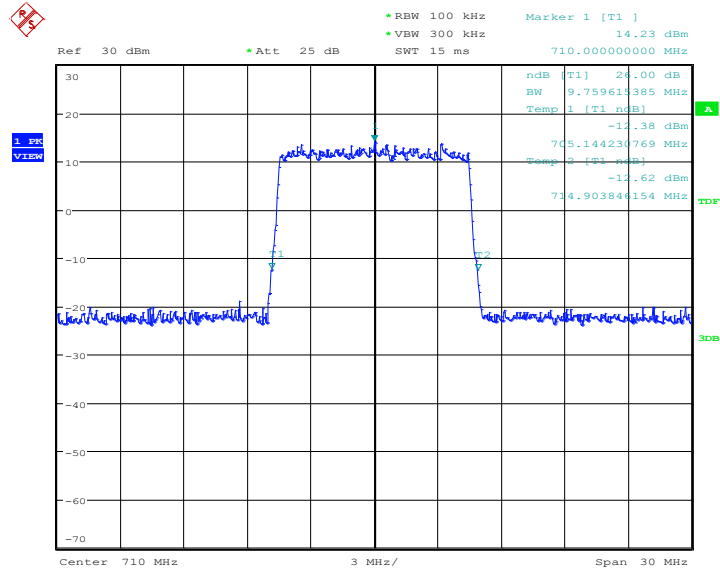


Date: 21.JUL.2021 15:14:08

LTE band 17, 10MHz (-26dBc BW)

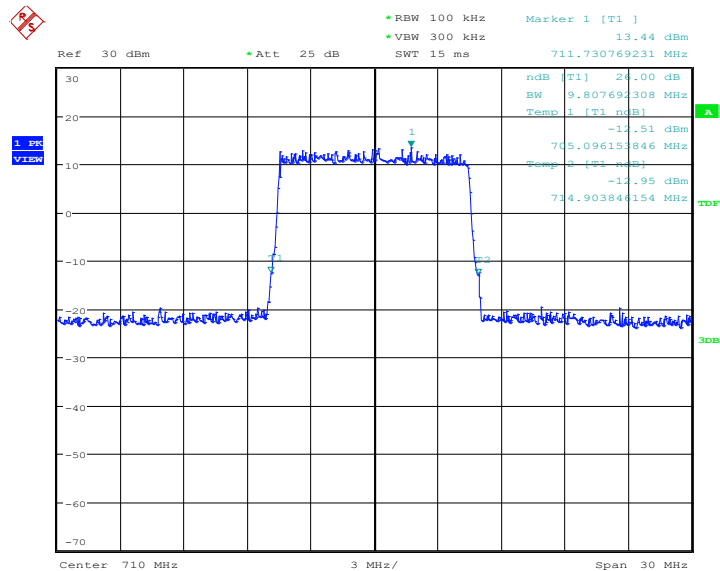
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
710.0	QPSK	16QAM	64QAM
	9759.62	9807.69	9807.69

LTE band 17, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 21.JUL.2021 14:07:27

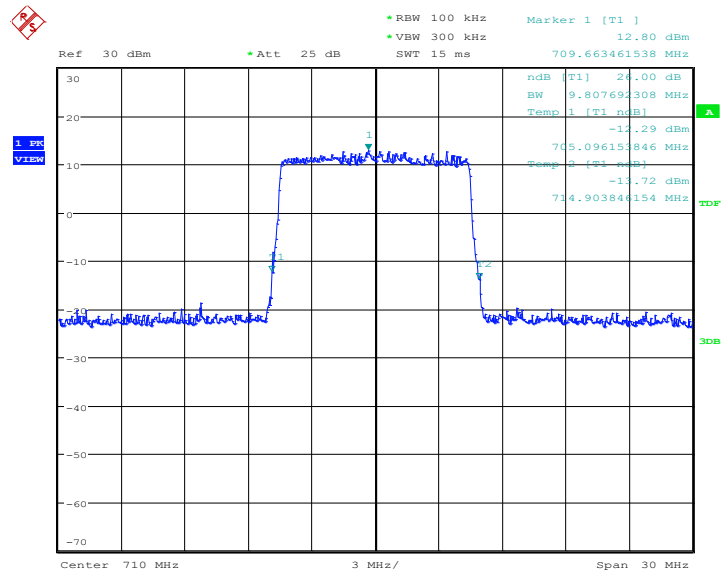
LTE band 17, 10MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 14:07:43



LTE band 17, 10MHz Bandwidth, 64QAM (-26dBc BW)

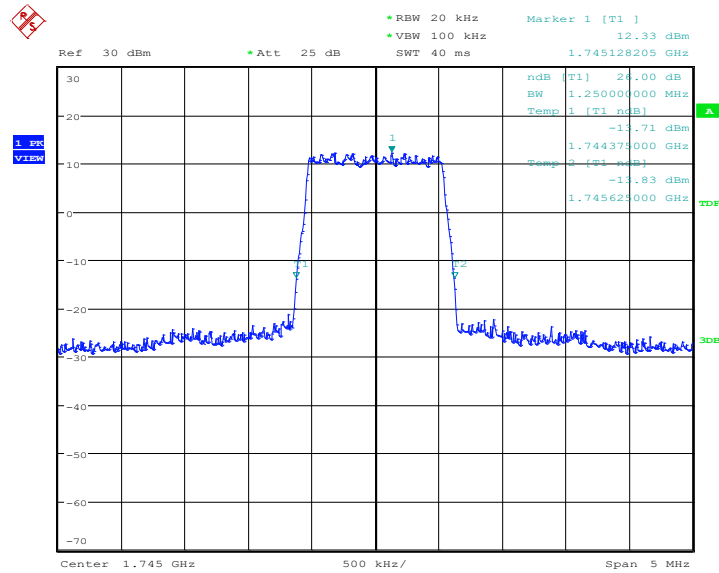


Date: 21.JUL.2021 15:15:56

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

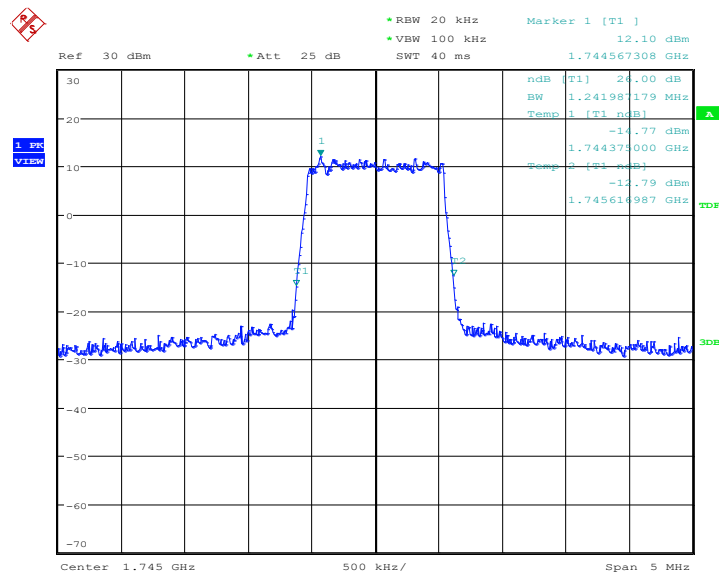
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	1250.00	1241.99	1241.99

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



Date: 21.JUL.2021 14:09:46

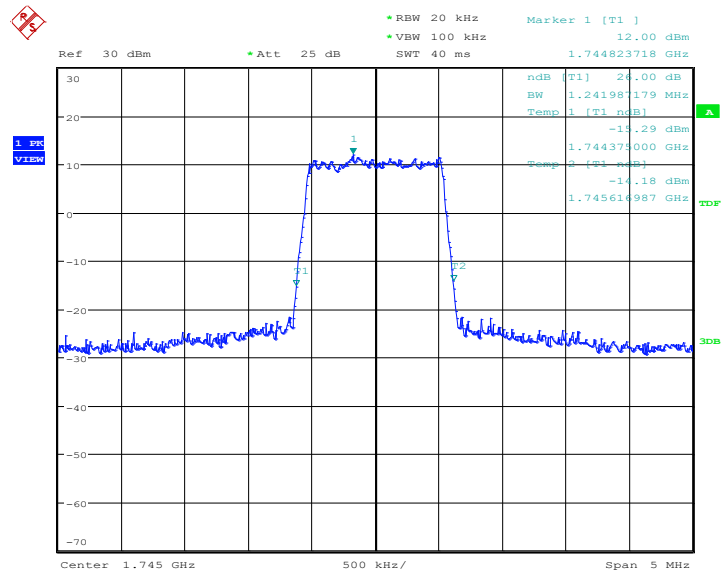
LTE band 66, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



Date: 21.JUL.2021 14:10:02



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

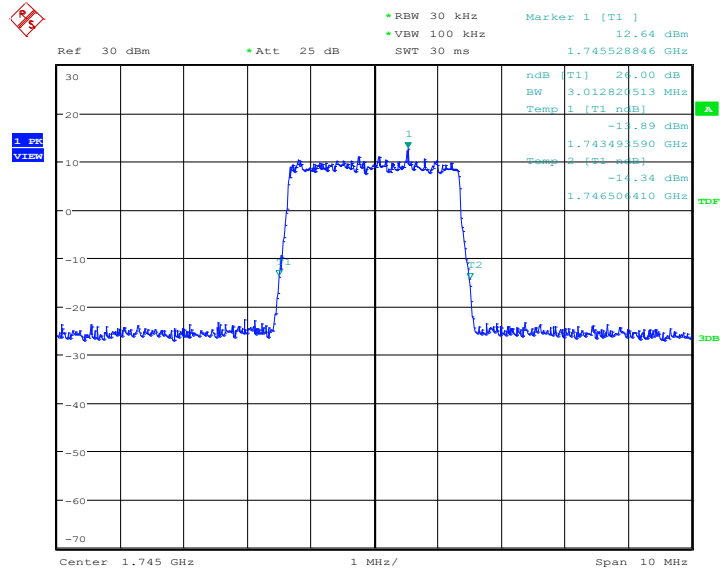


Date: 21.JUL.2021 15:17:49

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

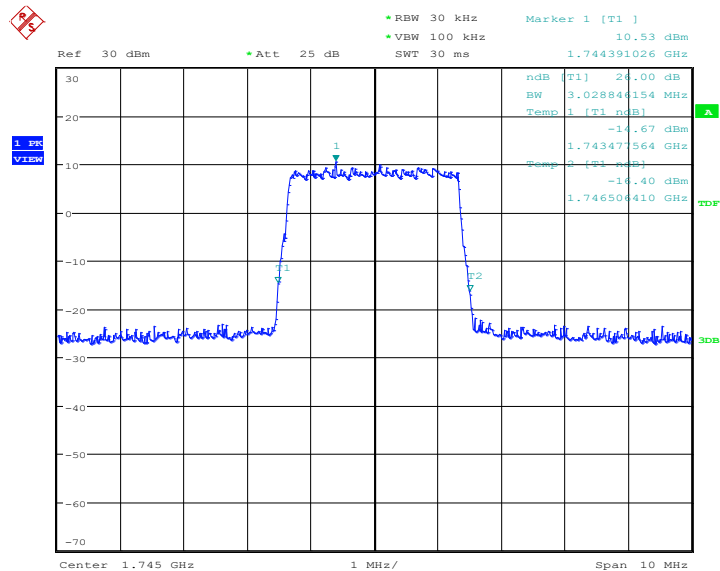
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	3012.82	3028.85	3012.82

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



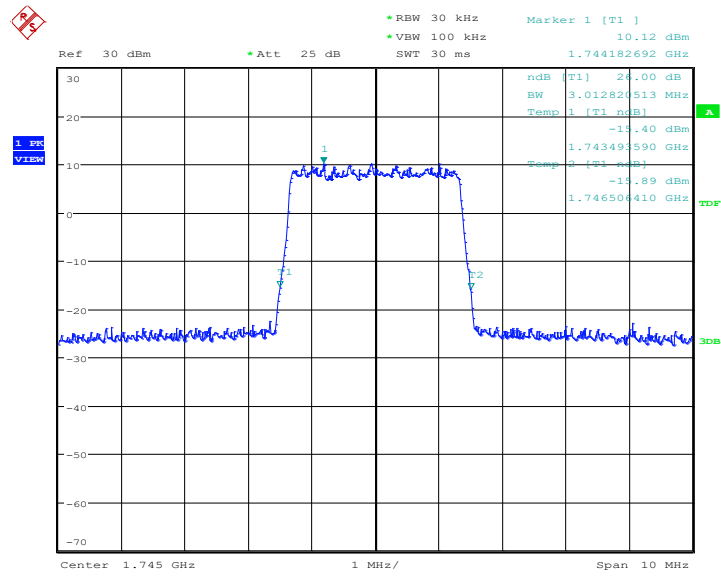
Date: 21.JUL.2021 14:12:04

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



Date: 21.JUL.2021 14:12:19

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

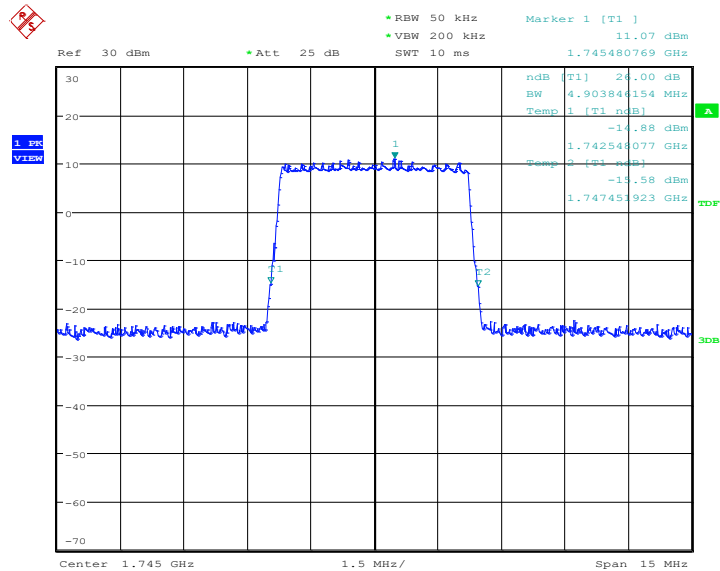


Date: 21.JUL.2021 15:19:37

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

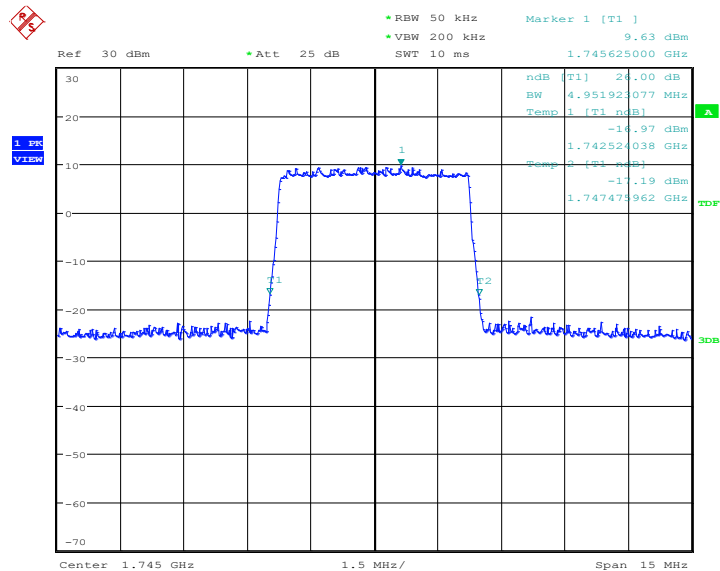
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	4903.85	4951.92	4927.88

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



Date: 21.JUL.2021 14:14:21

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

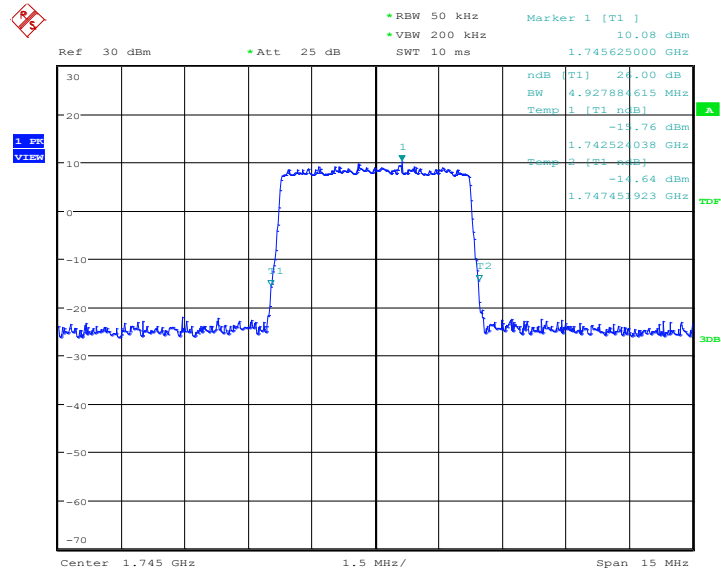


Date: 21.JUL.2021 14:14:37



No. I21N02204-RF-LTE

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

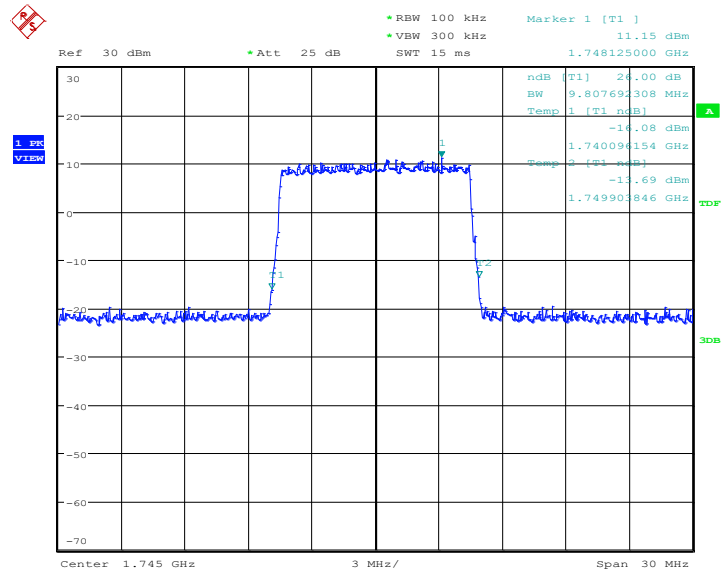


Date: 21.JUL.2021 15:21:25

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

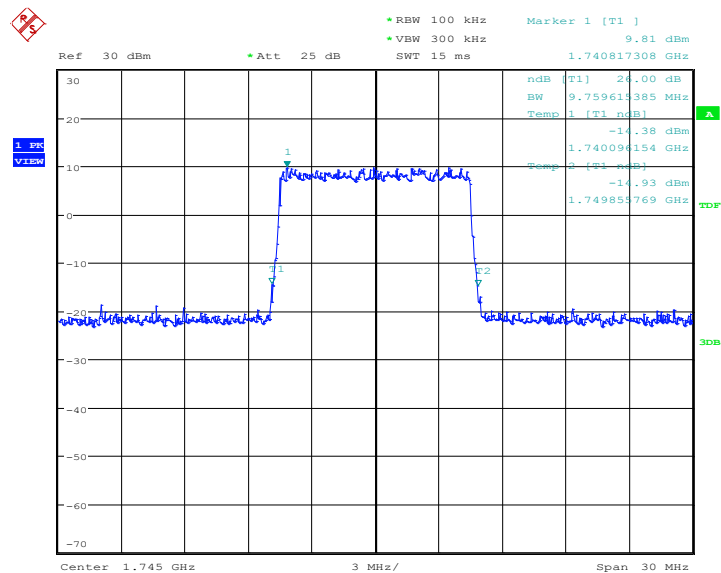
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	9807.69	9759.62	9855.77

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



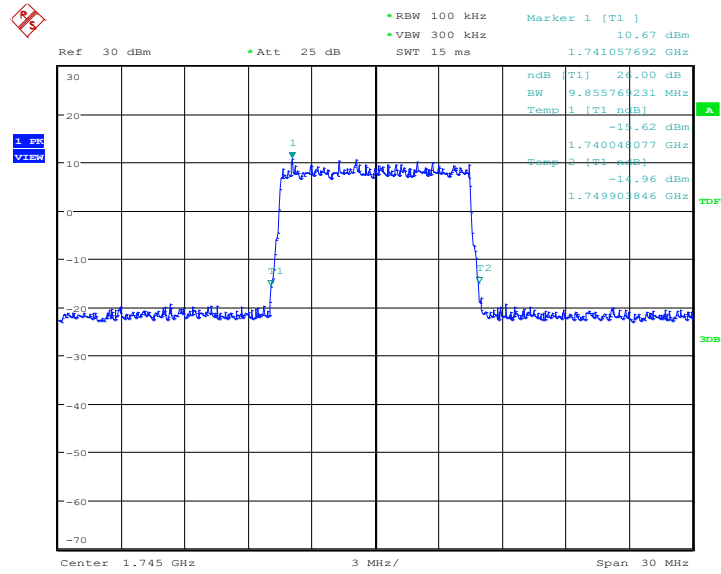
Date: 21.JUL.2021 14:16:39

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



Date: 21.JUL.2021 14:16:55

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

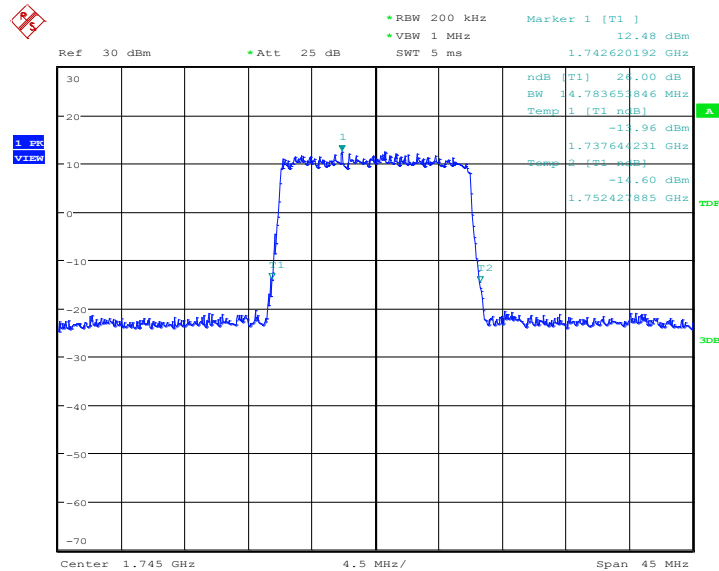


Date: 21.JUL.2021 15:23:13

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

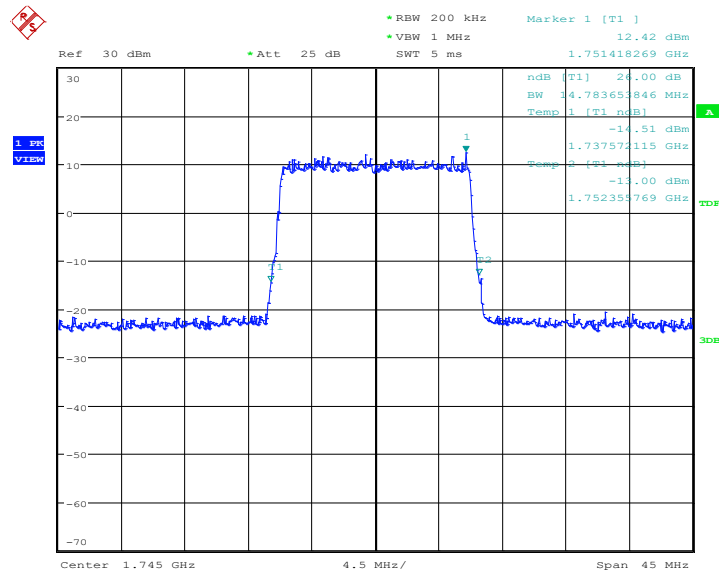
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	14783.65	14783.65	14855.77

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



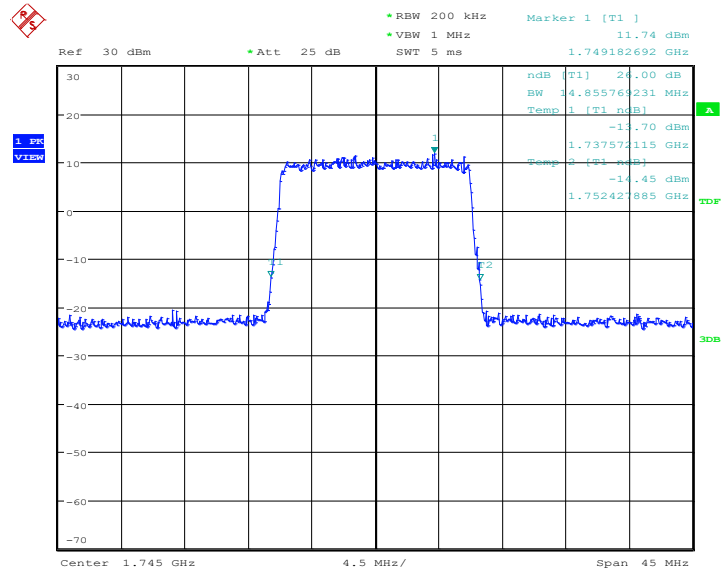
Date: 21.JUL.2021 14:18:57

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



Date: 21.JUL.2021 14:19:13

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

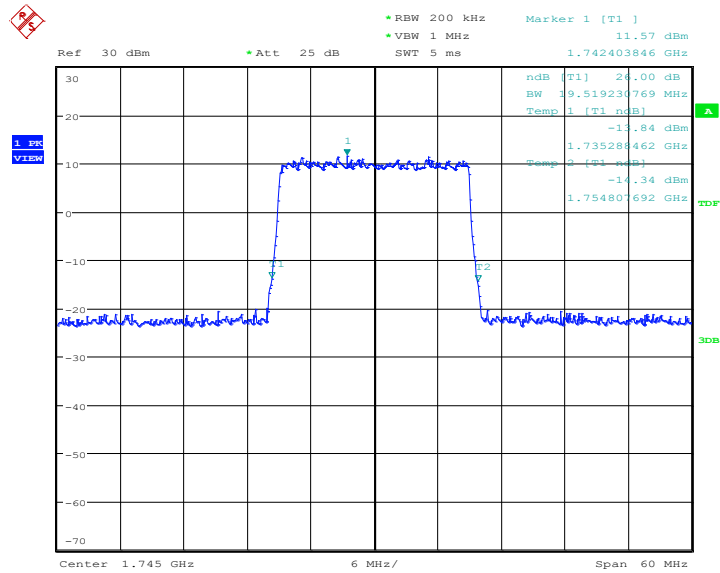


Date: 21.JUL.2021 15:25:02

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

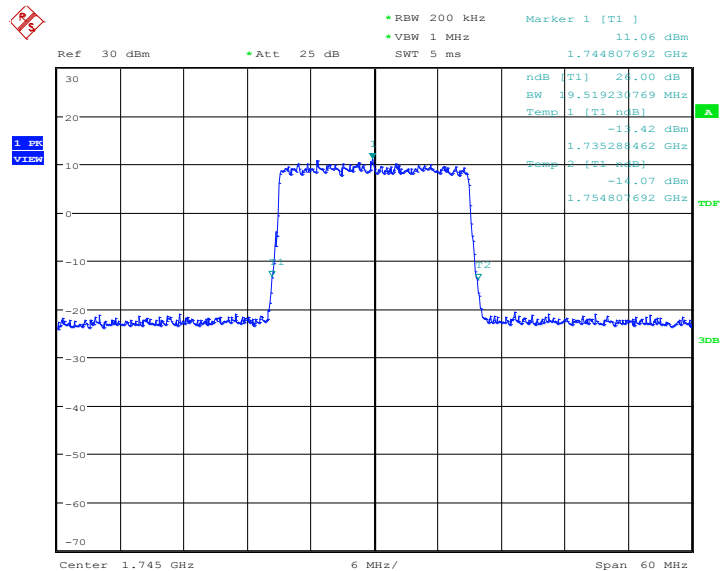
Frequency(MHz)	Emission Bandwidth (-26dBc BW)(kHz)		
1745.0	QPSK	16QAM	64QAM
	19519.23	19519.23	19615.38

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



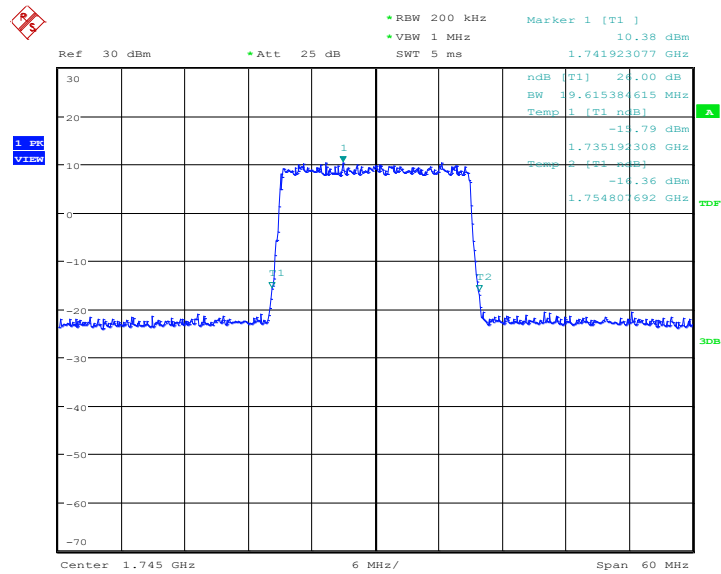
Date: 21.JUL.2021 14:21:15

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



Date: 21.JUL.2021 14:21:31

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



Date: 21.JUL.2021 15:26:50

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

A.6 BAND EDGE COMPLIANCE

Reference

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

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.

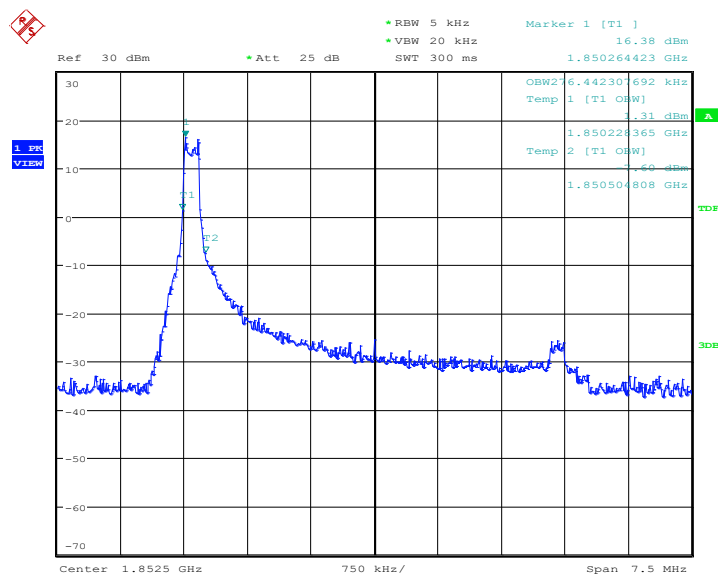
A relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band 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

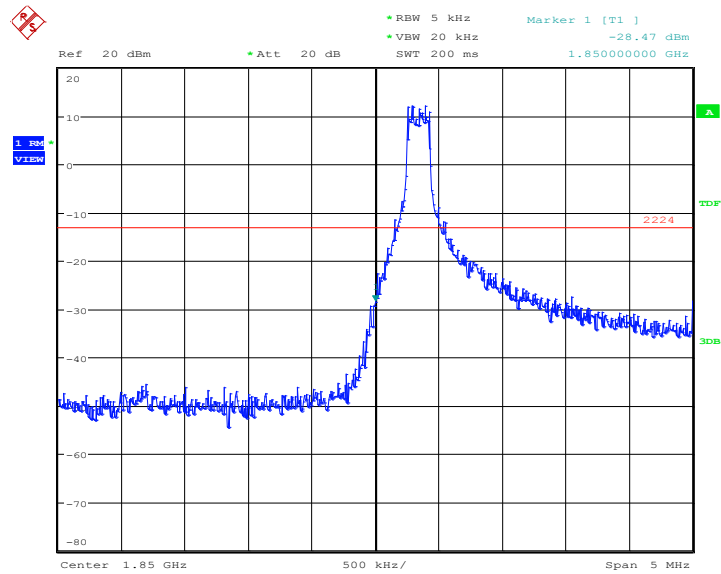
LTE band 2

OBW: 1RB-low_offset



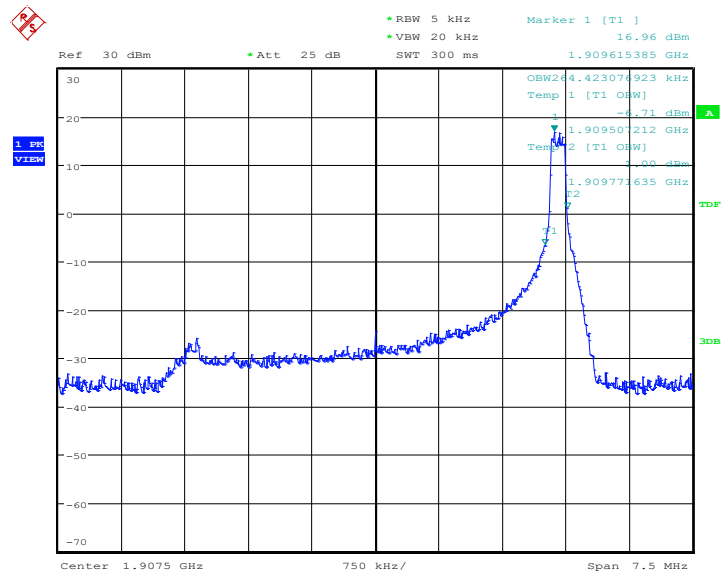
Date: 26.JUL.2021 08:05:56

LOW BAND EDGE BLOCK-1RB-low_offset



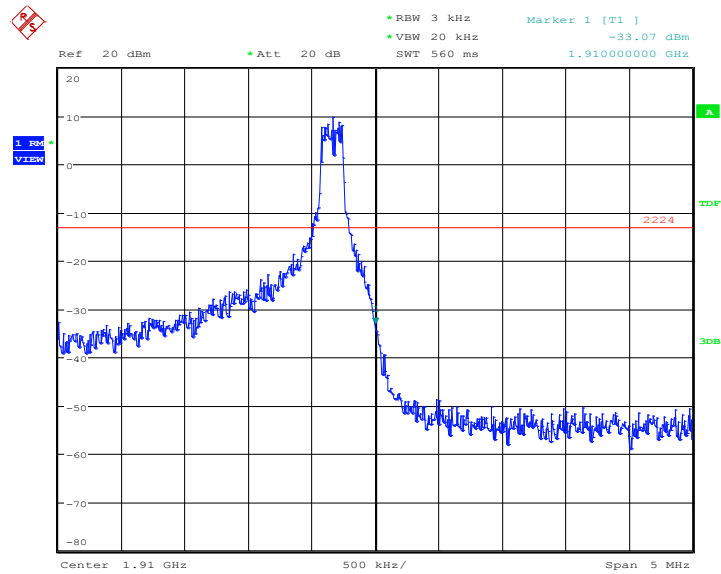
Date: 26.JUL.2021 08:06:40

OBW: 1RB-high_offset



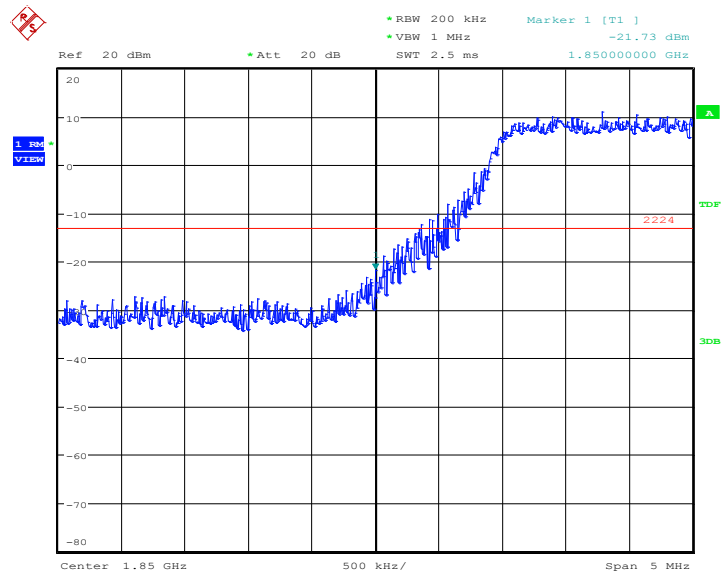
Date: 26.JUL.2021 07:38:05

HIGH BAND EDGE BLOCK-1RB-high_offset



Date: 26.JUL.2021 07:38:49

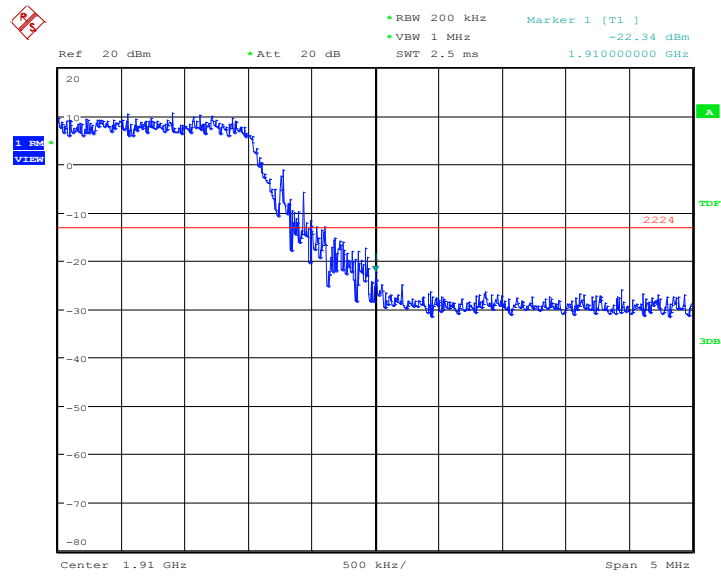
LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:28:12



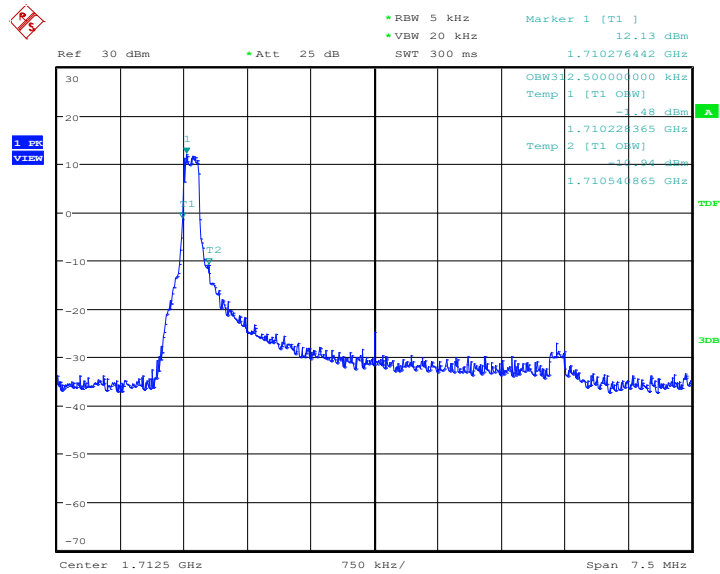
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:28:59

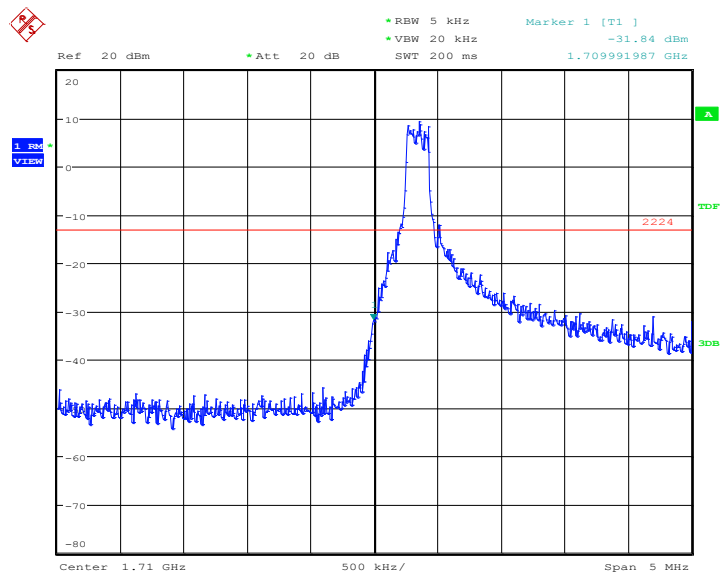
LTE band 4

OBW: 1RB-low_offset



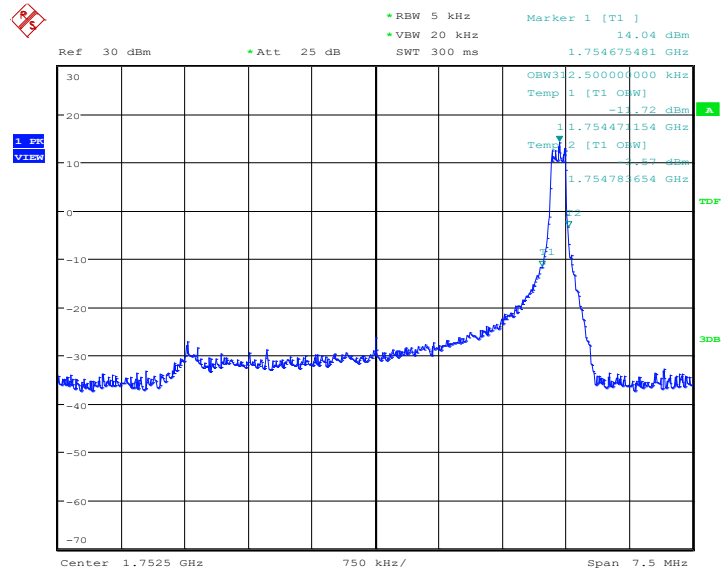
Date: 26.JUL.2021 08:07:38

LOW BAND EDGE BLOCK-1RB-low_offset



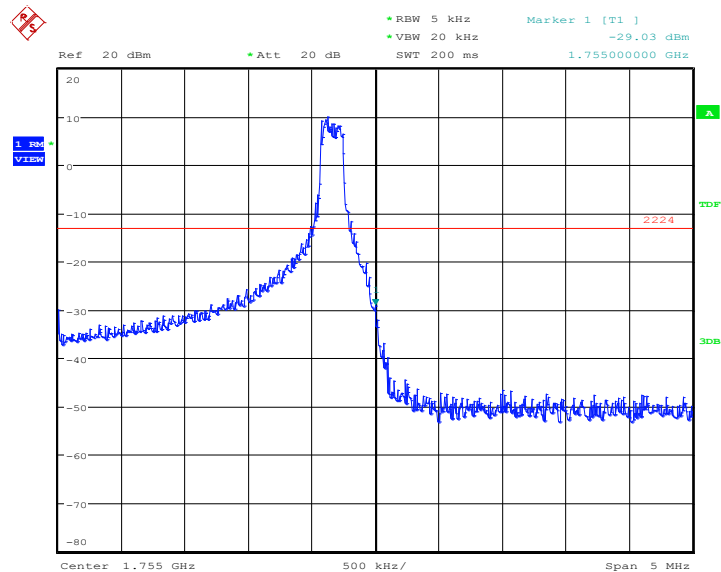
Date: 26.JUL.2021 08:08:22

OBW: 1RB-high_offset



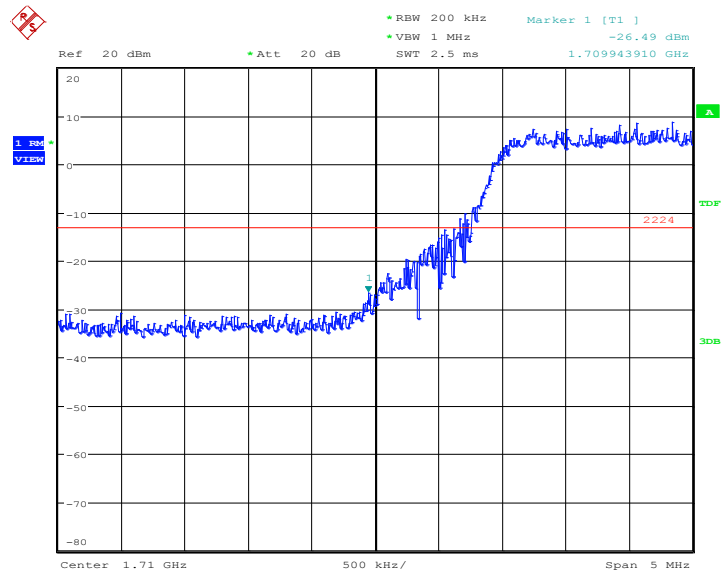
Date: 26.JUL.2021 07:39:47

HIGH BAND EDGE BLOCK-1RB-high_offset



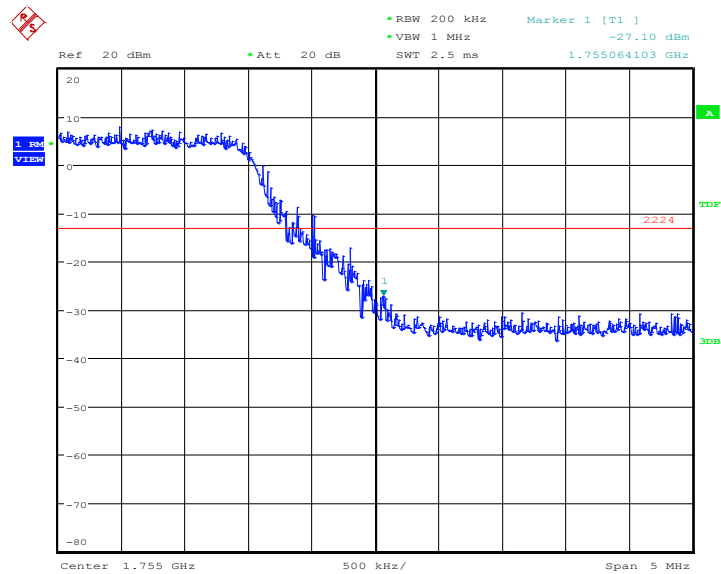
Date: 26.JUL.2021 07:40:31

LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:29:48

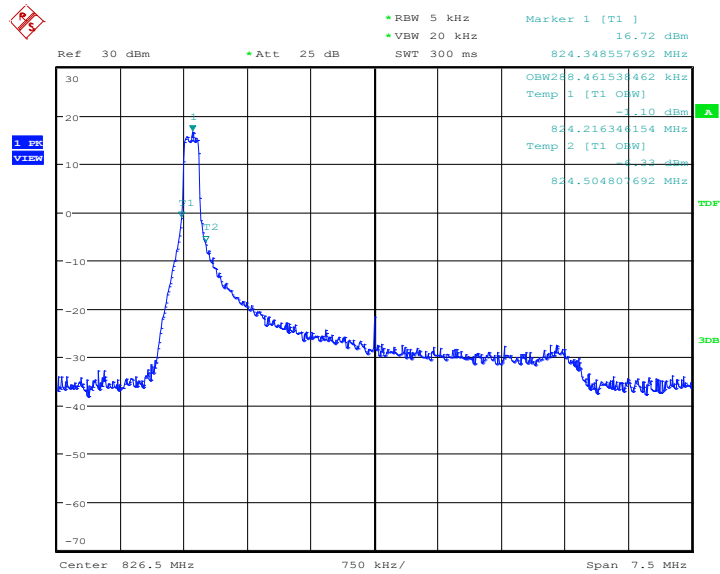
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:30:34

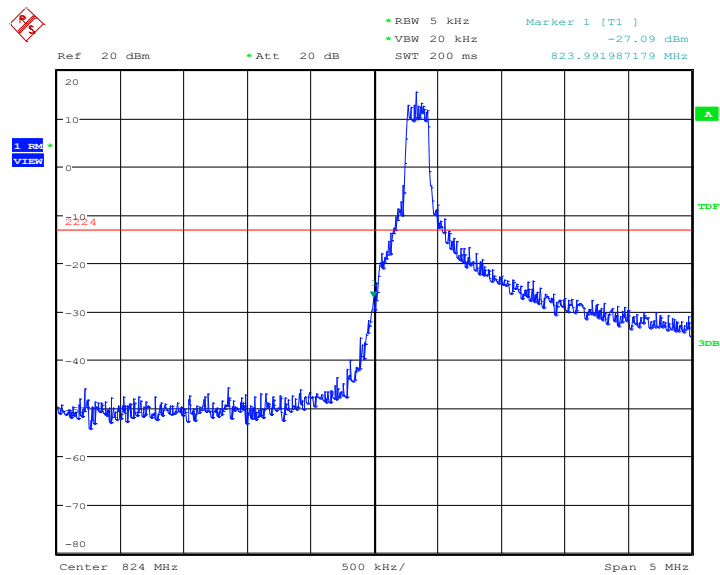
LTE band 5

OBW: 1RB-low_offset



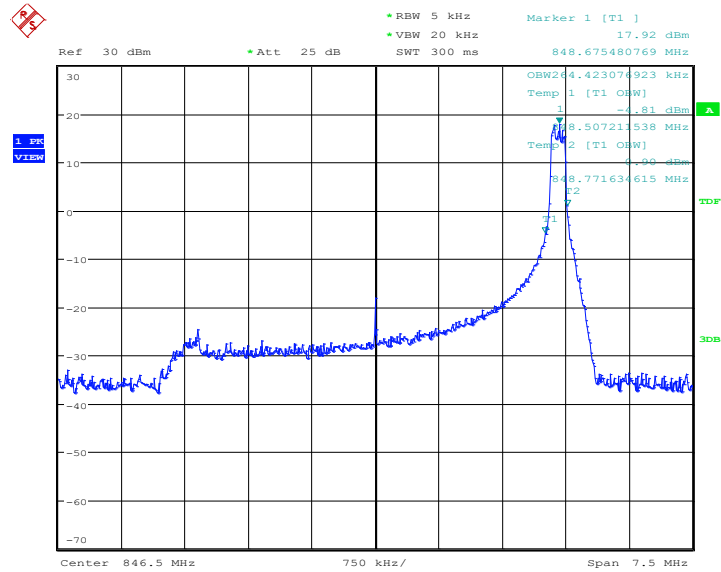
Date: 26.JUL.2021 08:04:16

LOW BAND EDGE BLOCK-1RB-low_offset



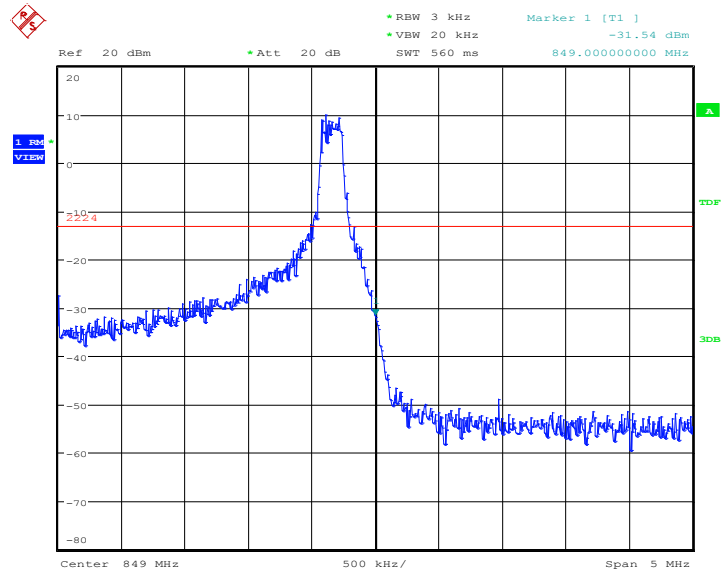
Date: 26.JUL.2021 08:05:00

OBW: 1RB-high_offset



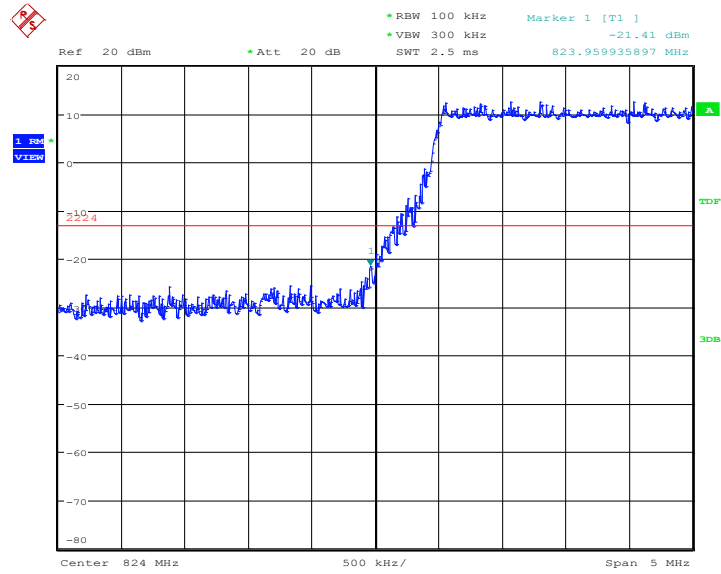
Date: 26.JUL.2021 07:36:25

HIGH BAND EDGE BLOCK-1RB-high_offset



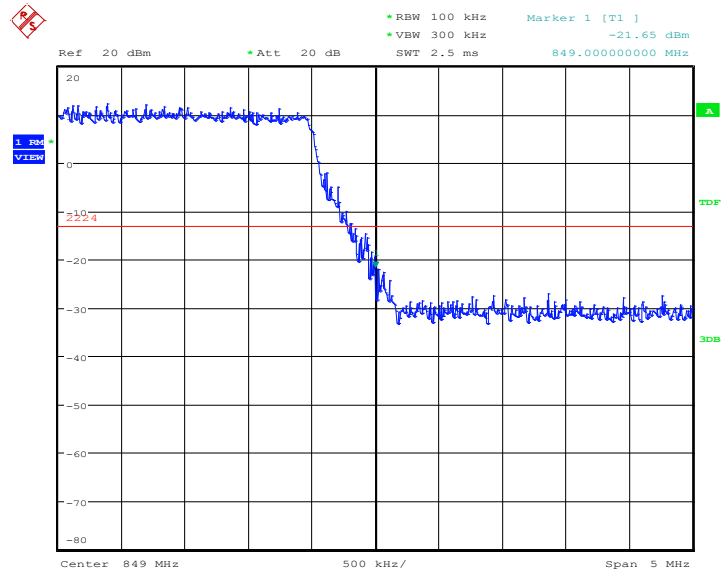
Date: 26.JUL.2021 07:37:09

LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 26.JUL.2021 07:33:59

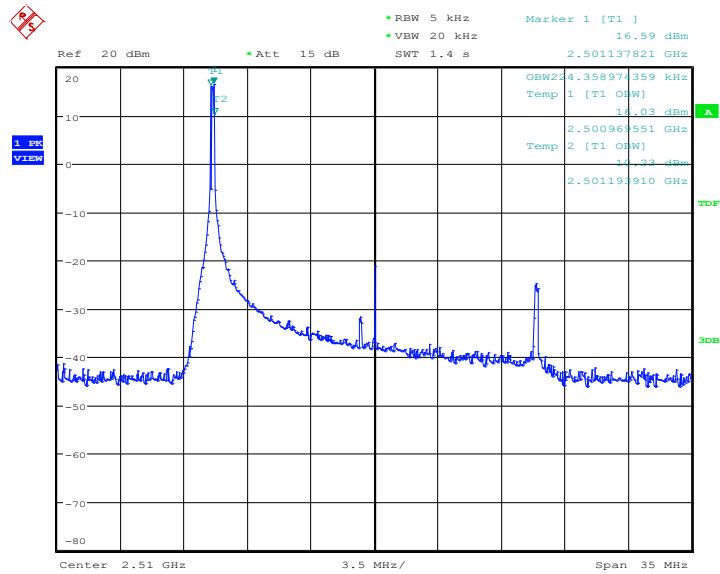
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 26.JUL.2021 07:34:45

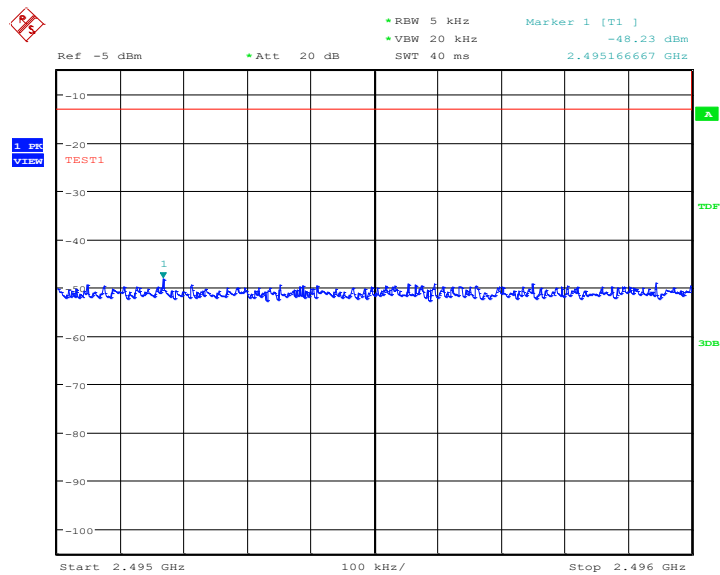
LTE band 7

OBW: 1RB-low_offset

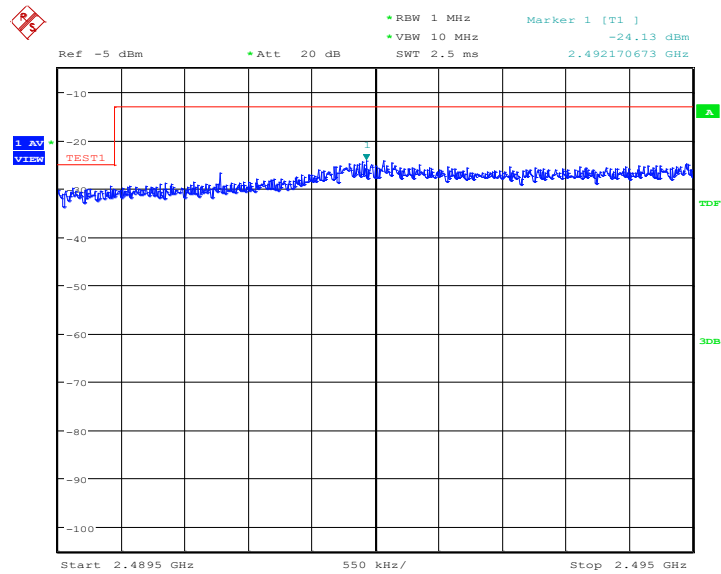


Date: 26.JUL.2021 13:54:18

LOW BAND EDGE BLOCK-1RB-low_offset

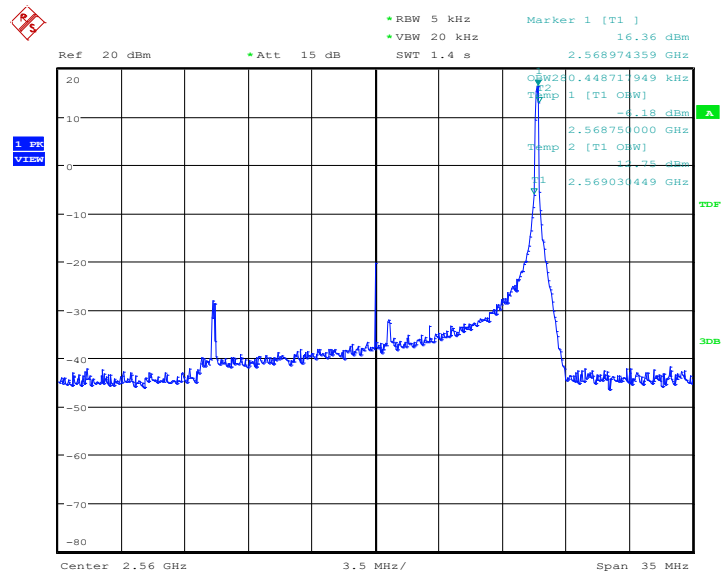


Date: 26.JUL.2021 14:16:00



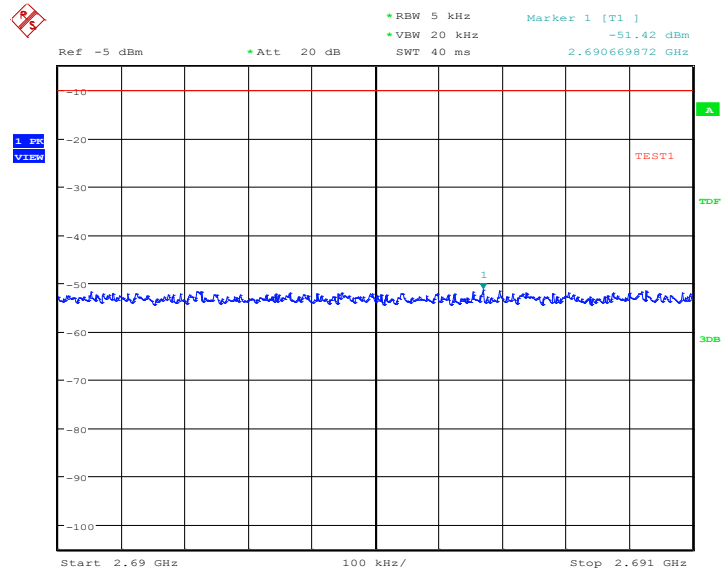
Date: 26.JUL.2021 14:13:32

OBW: 1RB-high_offset

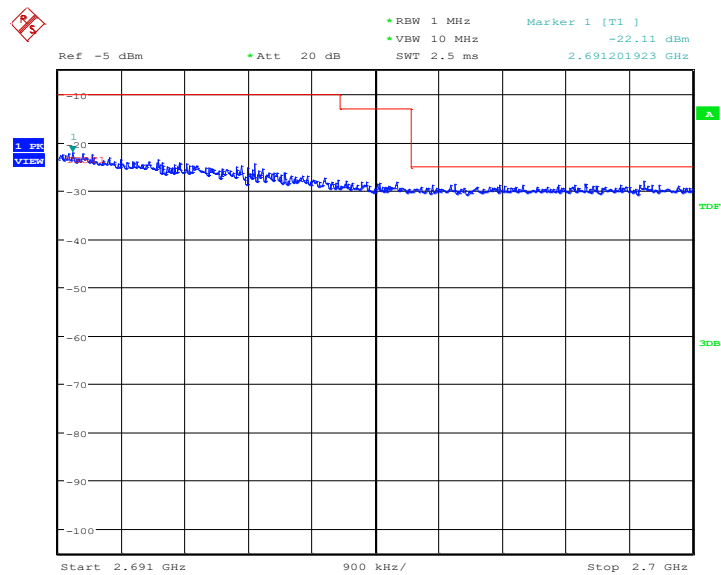


Date: 26.JUL.2021 13:55:44

HIGH BAND EDGE BLOCK-1RB-high_offset

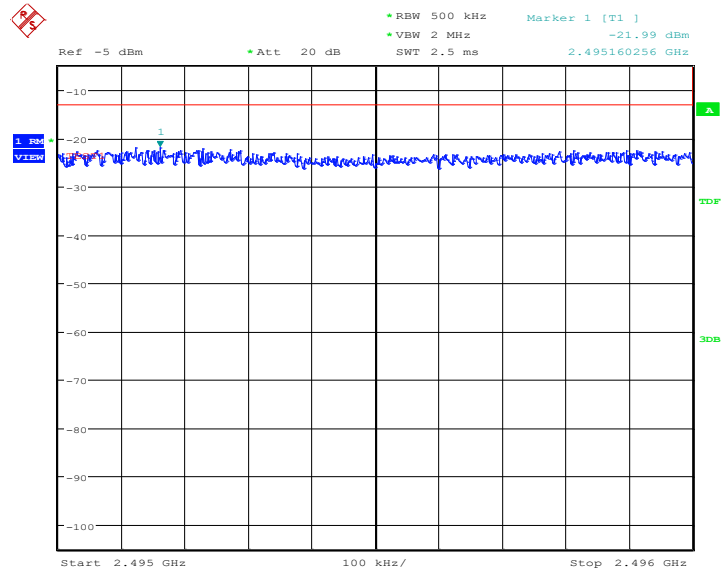


Date: 26.JUL.2021 13:58:59

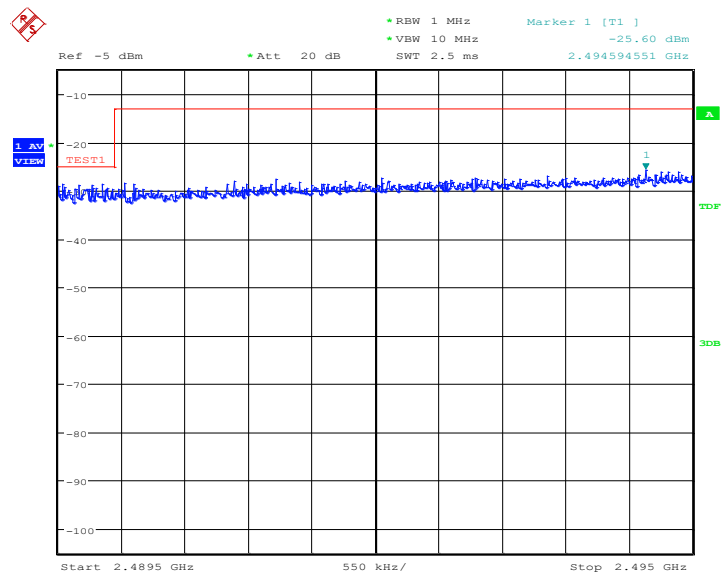


Date: 26.JUL.2021 14:06:00

LOW BAND EDGE BLOCK-20MHz-100%RB

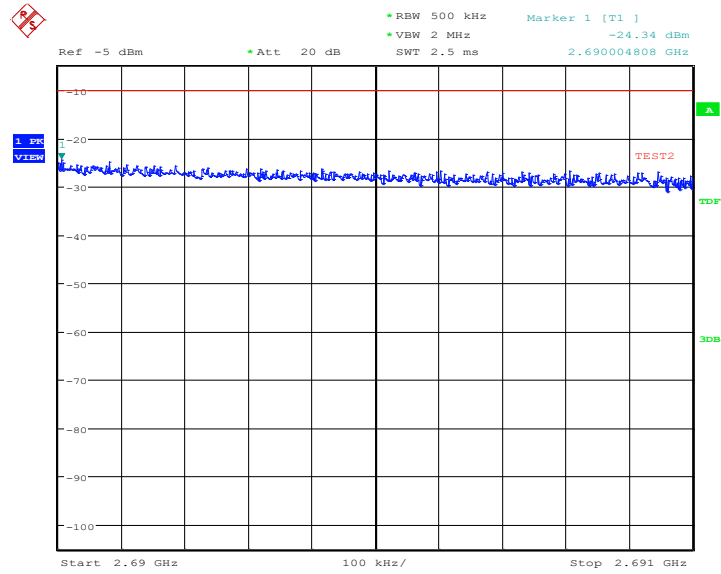


Date: 26.JUL.2021 14:09:25

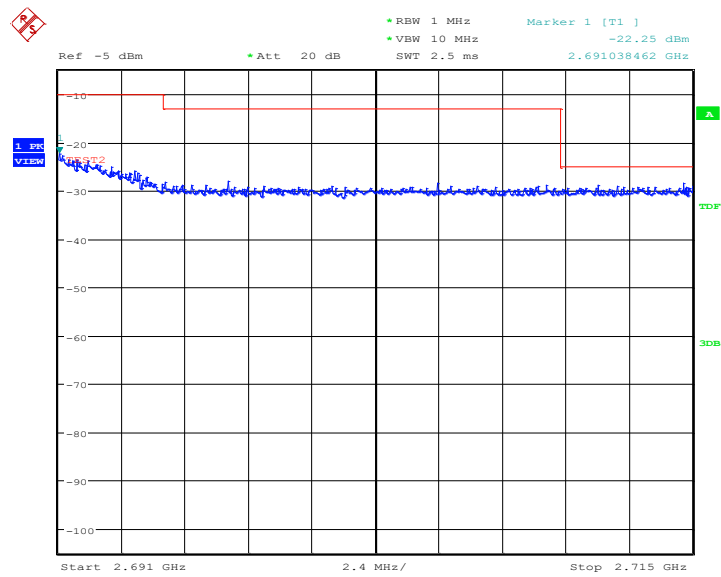


Date: 26.JUL.2021 14:11:20

HIGH BAND EDGE BLOCK-20MHz-100%RB



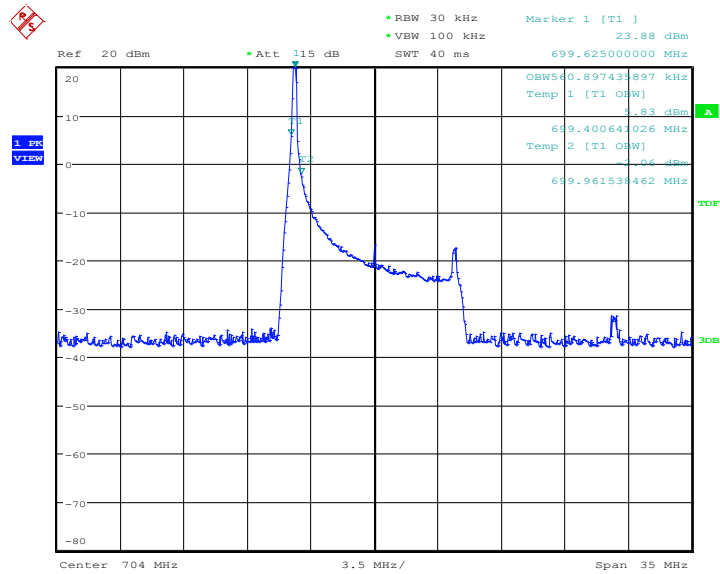
Date: 26.JUL.2021 14:07:57



Date: 26.JUL.2021 14:04:14

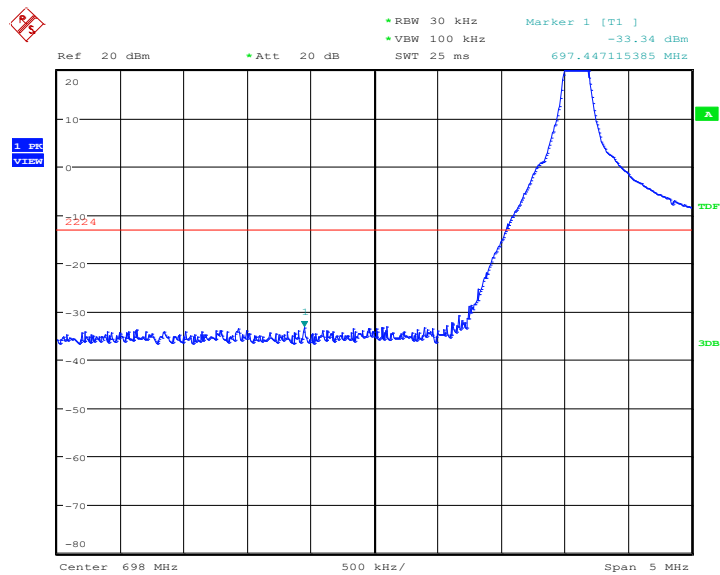
LTE band 12

OBW: 1RB-low_offset



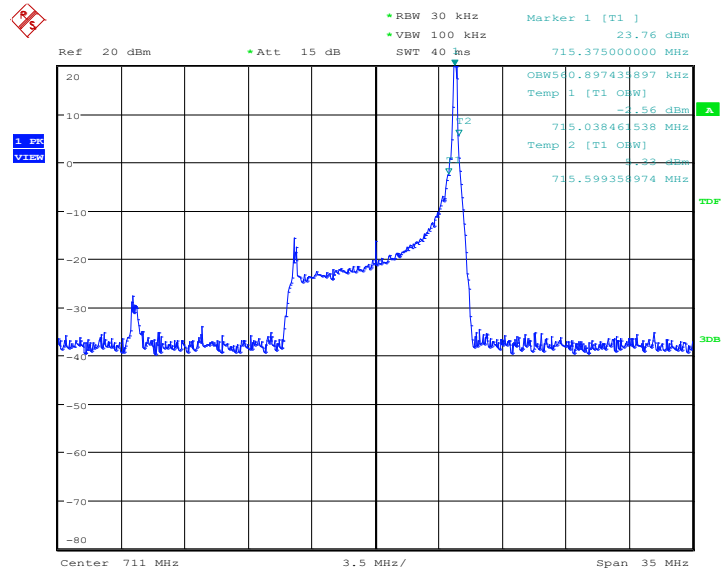
Date: 26.JUL.2021 13:23:58

LOW BAND EDGE BLOCK-1RB-low_offset



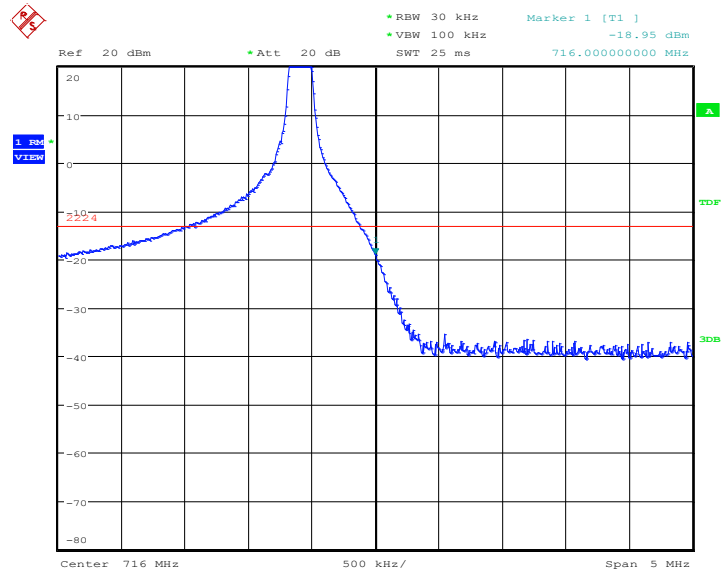
Date: 26.JUL.2021 13:29:16

OBW: 1RB-high_offset



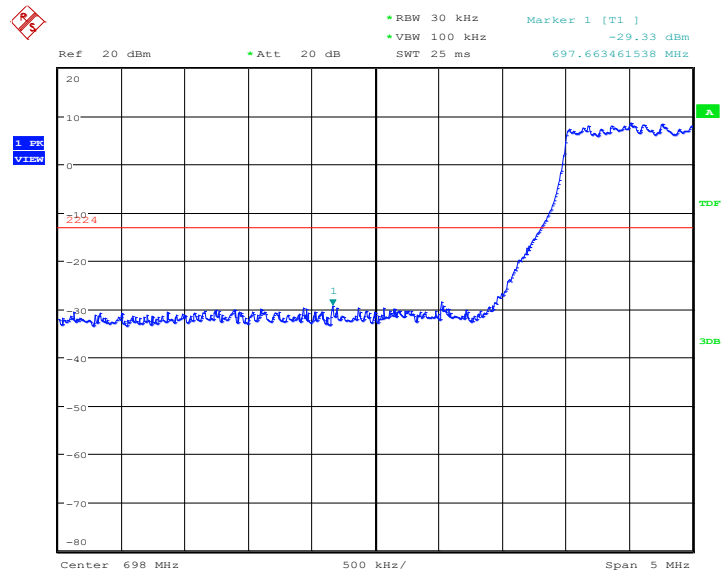
Date: 26.JUL.2021 13:24:54

HIGH BAND EDGE BLOCK-1RB-high_offset



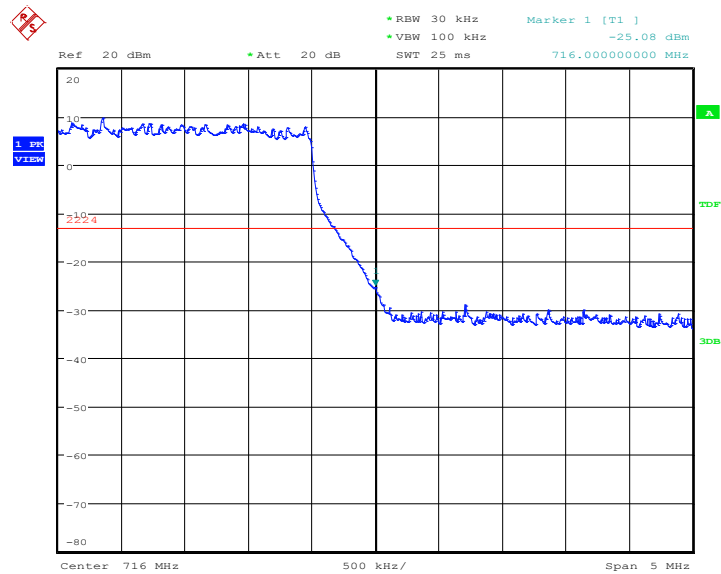
Date: 26.JUL.2021 13:26:22

LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 26.JUL.2021 13:28:13

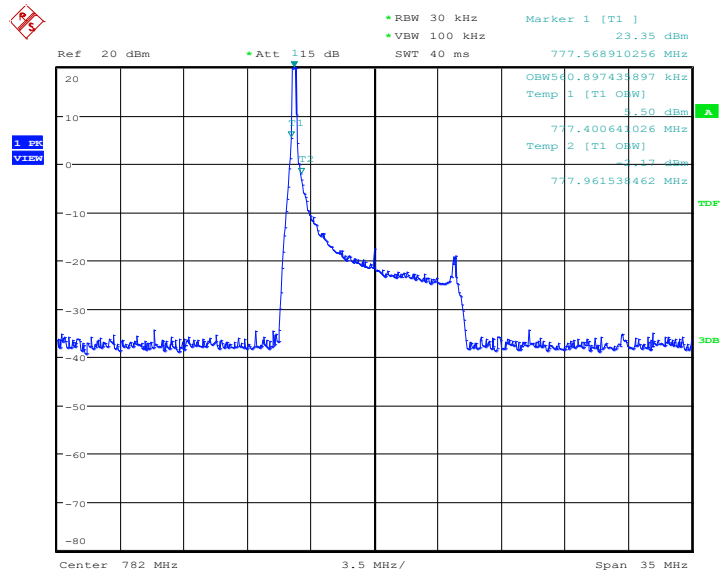
HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 26.JUL.2021 13:27:07

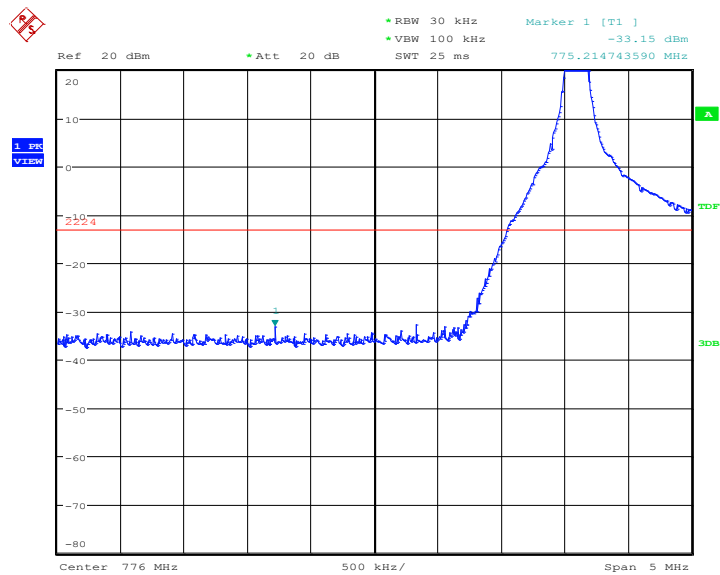
LTE band 13

OBW: 1RB-low_offset

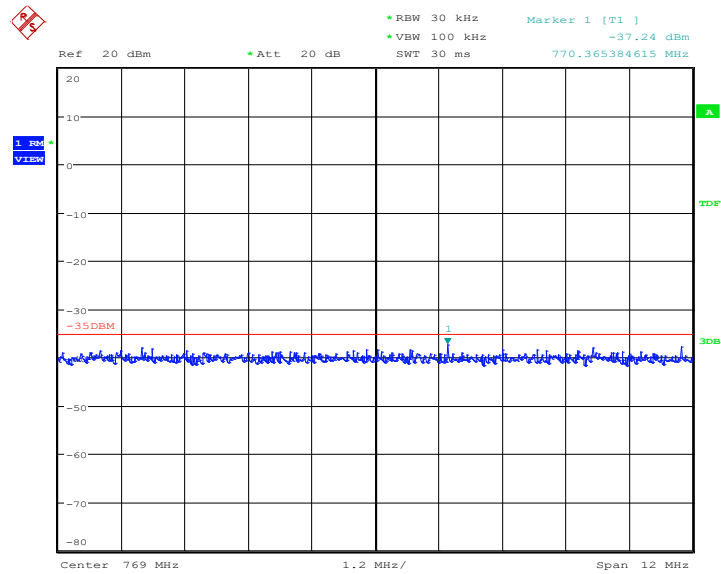


Date: 26.JUL.2021 13:39:31

LOW BAND EDGE BLOCK-1RB-low_offset

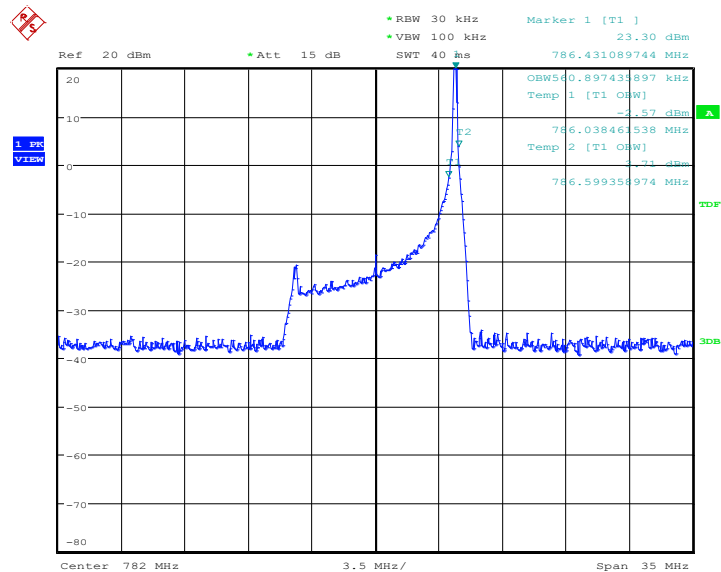


Date: 26.JUL.2021 13:49:32



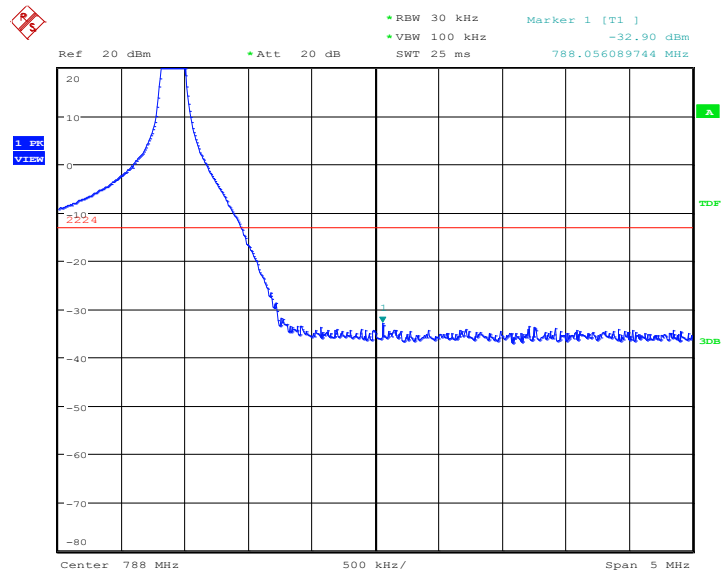
Date: 26.JUL.2021 13:50:23

OBW: 1RB-high_offset

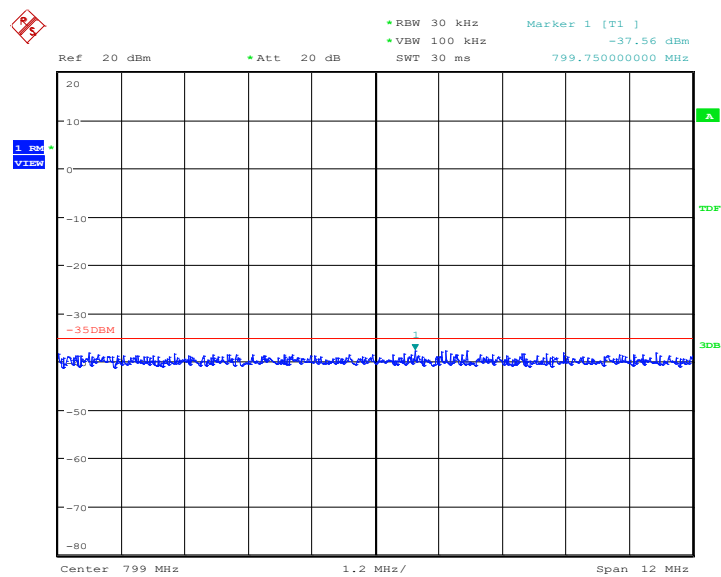


Date: 26.JUL.2021 13:40:20

HIGH BAND EDGE BLOCK-1RB-high_offset

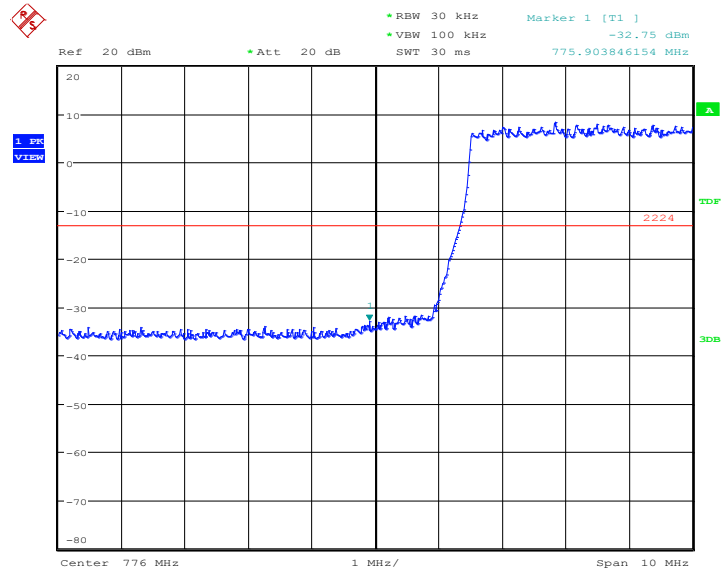


Date: 26.JUL.2021 13:42:10

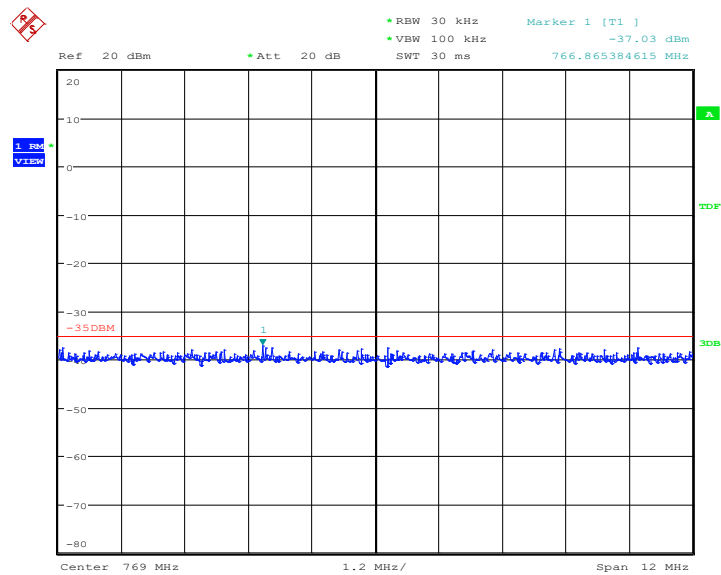


Date: 26.JUL.2021 13:43:30

LOW BAND EDGE BLOCK-10MHz-100%RB

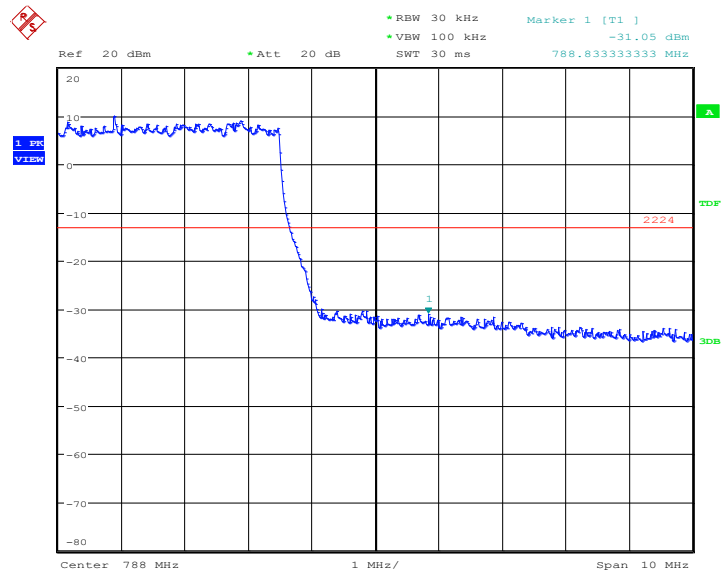


Date: 26.JUL.2021 13:48:32

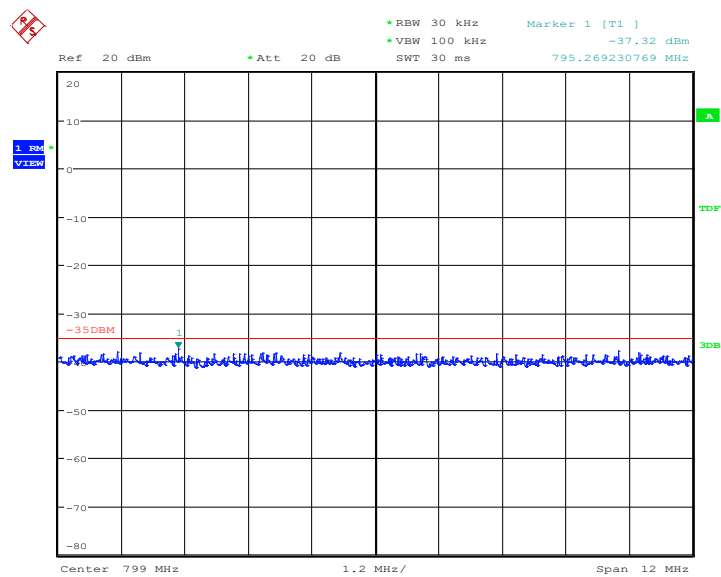


Date: 26.JUL.2021 13:51:24

HIGH BAND EDGE BLOCK-10MHz-100%RB



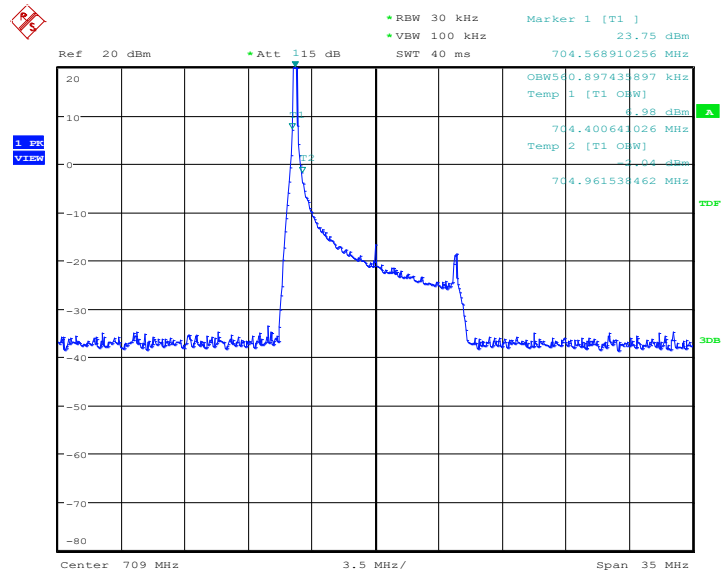
Date: 26.JUL.2021 13:46:58



Date: 26.JUL.2021 13:45:15

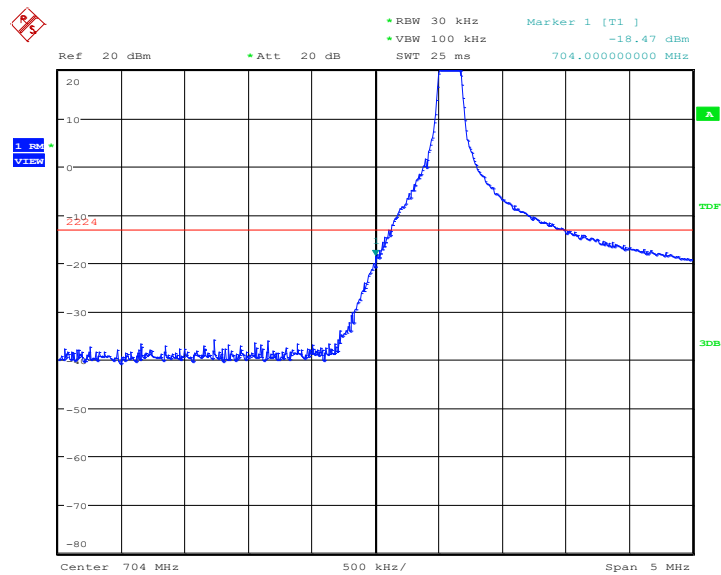
LTE band 17

OBW: 1RB-low_offset



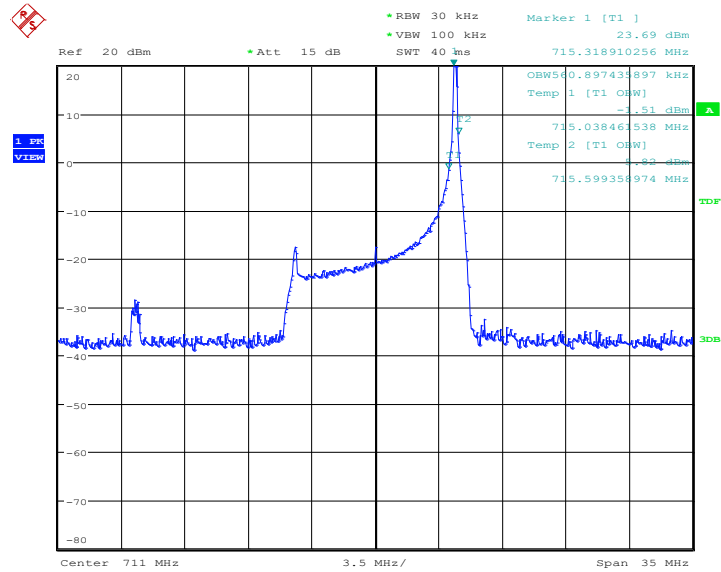
Date: 26.JUL.2021 13:34:08

LOW BAND EDGE BLOCK-1RB-low_offset



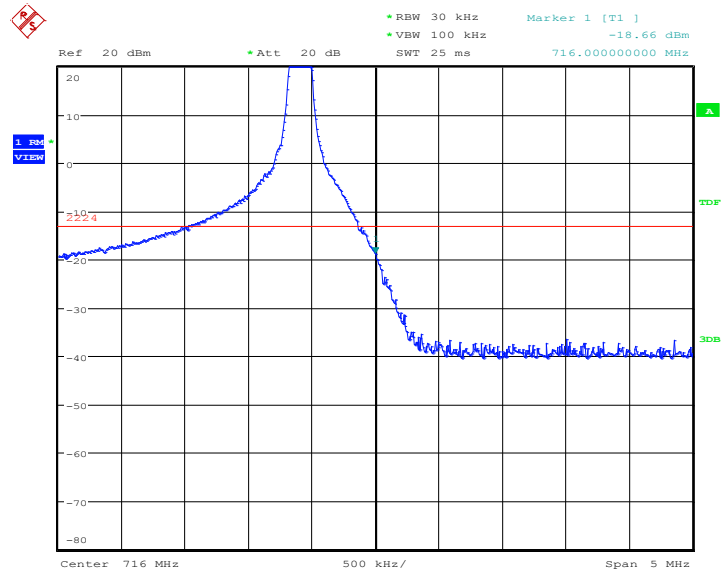
Date: 26.JUL.2021 13:31:16

OBW: 1RB-high_offset



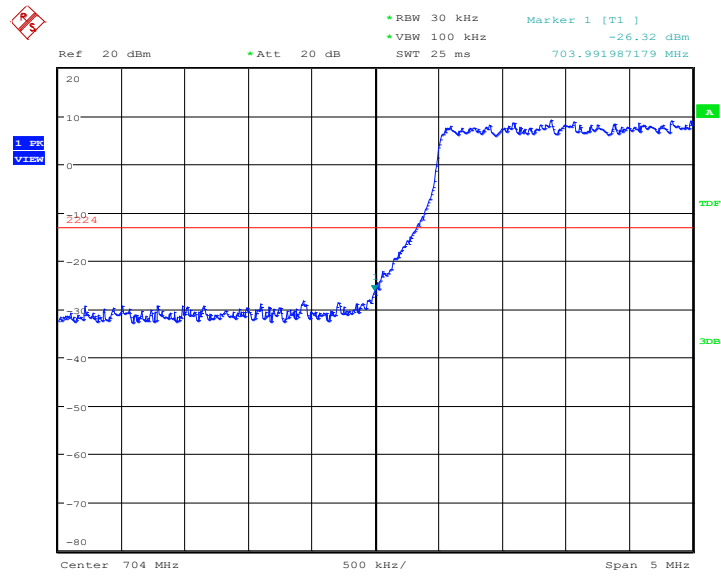
Date: 26.JUL.2021 13:33:35

HIGH BAND EDGE BLOCK-1RB-high_offset



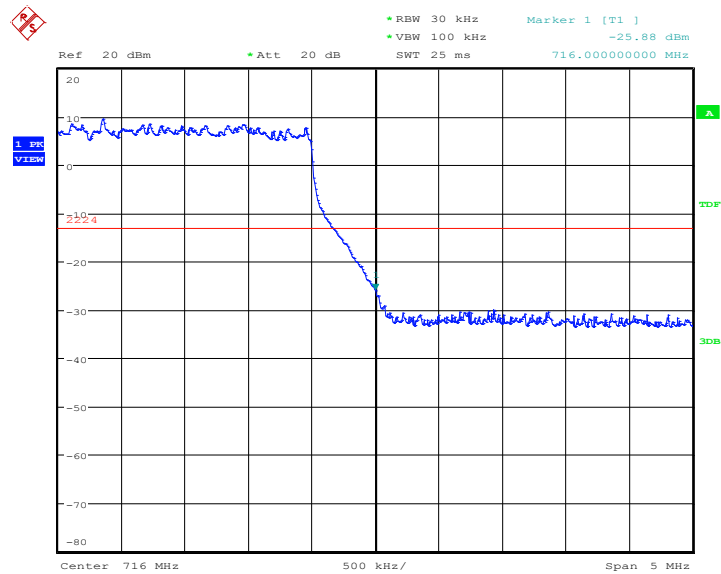
Date: 26.JUL.2021 13:37:20

LOW BAND EDGE BLOCK-5MHz-100%RB



Date: 26.JUL.2021 13:35:46

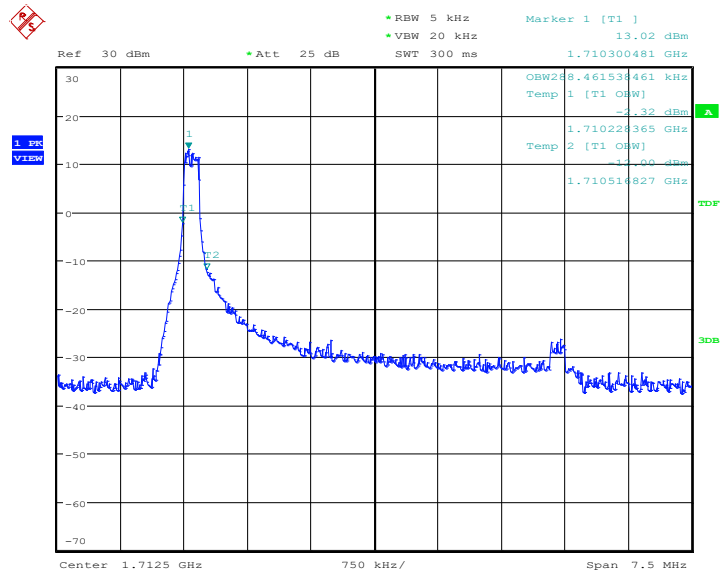
HIGH BAND EDGE BLOCK-5MHz-100%RB



Date: 26.JUL.2021 13:36:37

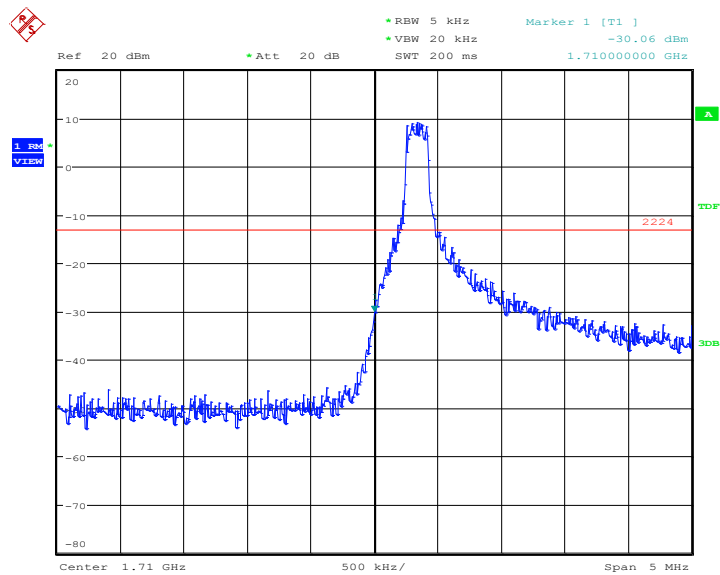
LTE band 66

OBW: 1RB-low_offset



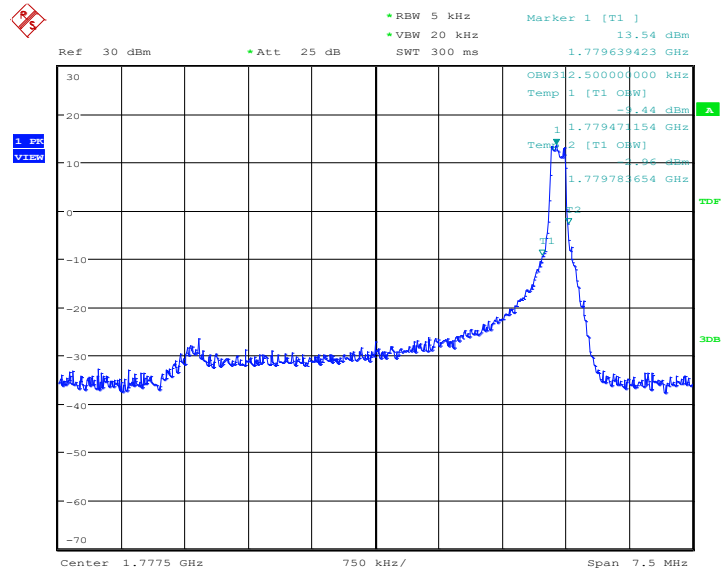
Date: 26.JUL.2021 08:09:18

LOW BAND EDGE BLOCK-1RB-low_offset



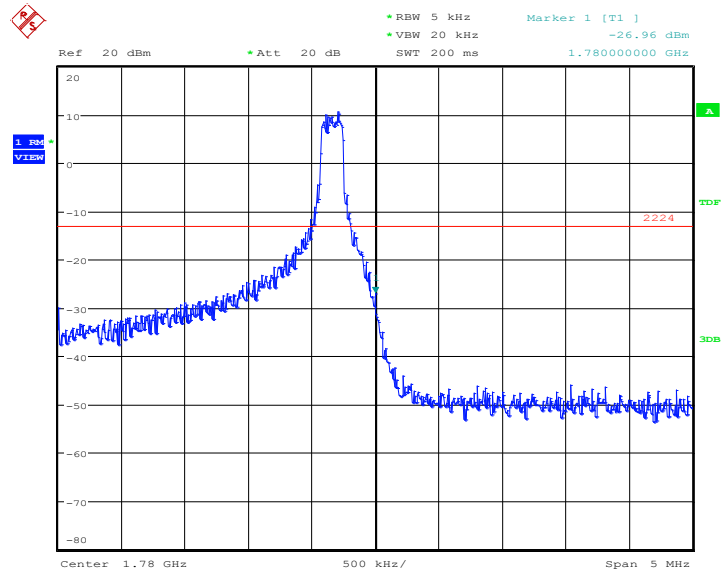
Date: 26.JUL.2021 08:10:02

OBW: 1RB-high_offset



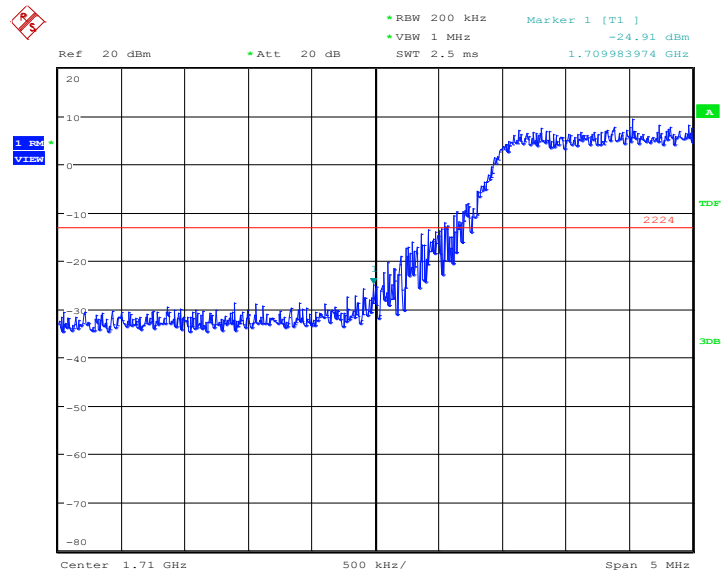
Date: 26.JUL.2021 07:41:29

HIGH BAND EDGE BLOCK-1RB-high_offset



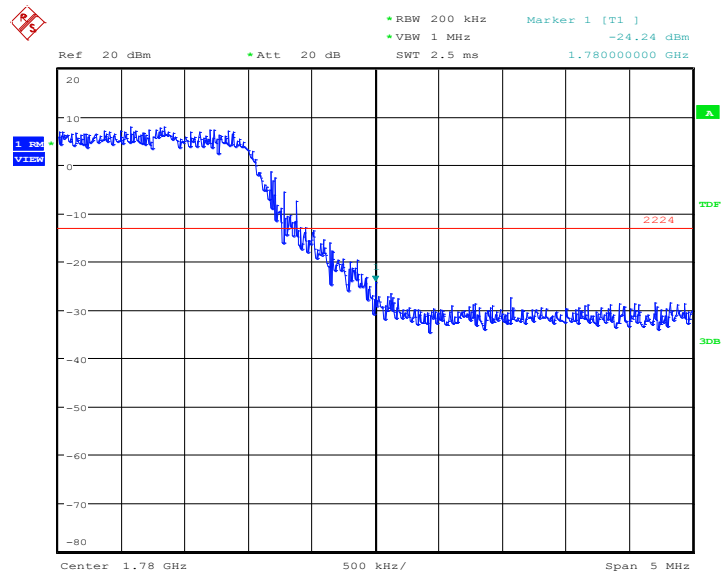
Date: 26.JUL.2021 07:42:13

LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:31:22

HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 26.JUL.2021 07:32:08

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.

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

Part 27.53(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 2337 MHz;



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.

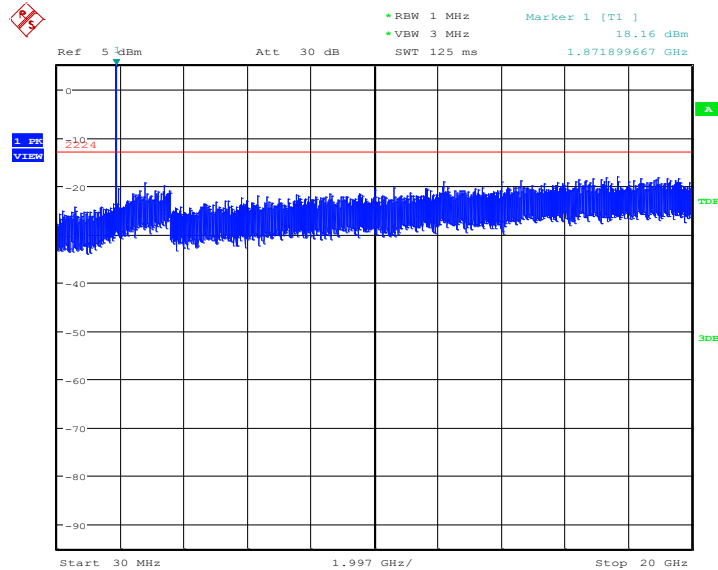
A. 7.3 Measurement result

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.

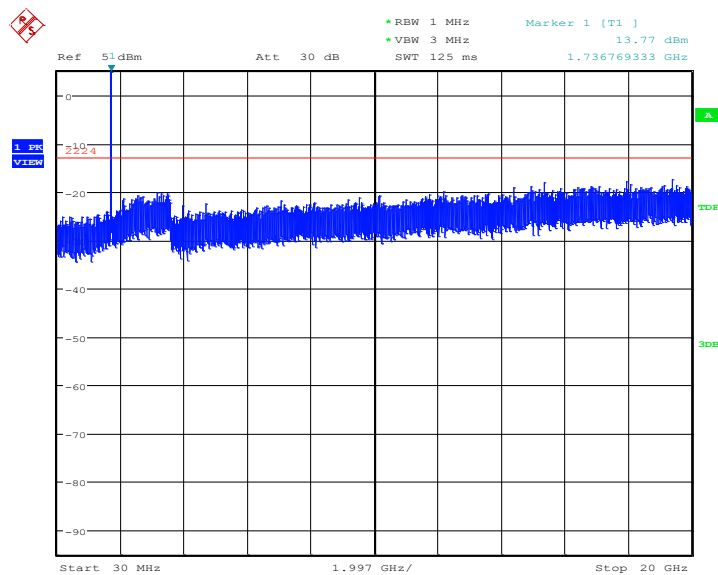


Date: 26.JUL.2021 07:19:48

LTE band 4 : 30MHz – 20GHz

Spurious emission limit –13dBm.

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



Date: 26.JUL.2021 07:21:41