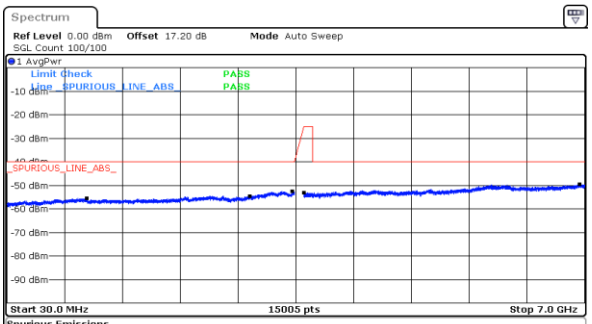
LTE Band 48 / 15MHz

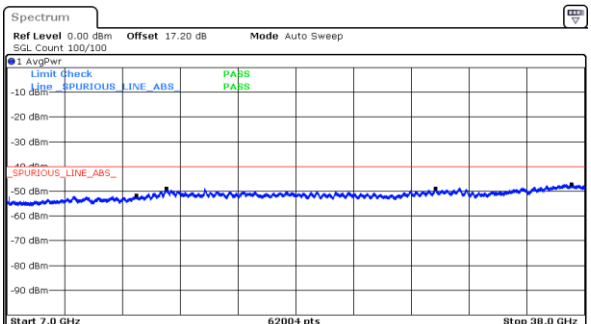
Lowest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	987.63868 MHz	-55.58 dBm	-15.58 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95576 GHz	-54.59 dBm	-14.59 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.47527 GHz	-52.40 dBm	-12.40 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.61049 GHz	-53.05 dBm	-28.05 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.93792 GHz	-49.51 dBm	-9.51 dB

Date: 23.MAY.2023 15:23:27

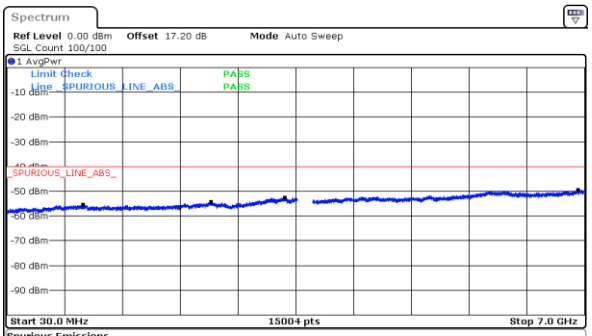


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	13.93325 GHz	-51.83 dBm	-11.83 dB
14.000 GHz	22.000 GHz	1.000 MHz	15.55415 GHz	-48.95 dBm	-8.95 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.97725 GHz	-48.96 dBm	-8.96 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.29879 GHz	-47.16 dBm	-7.16 dB

Date: 23.MAY.2023 15:39:27

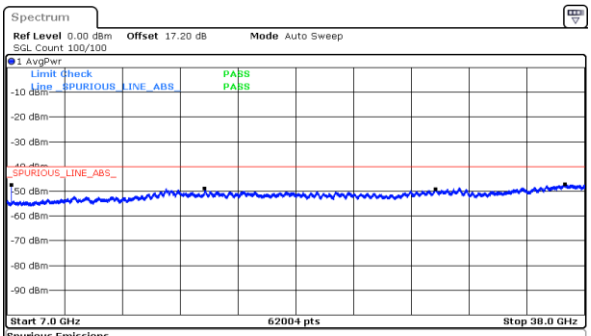
Middle Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	945.94953 MHz	-55.27 dBm	-15.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.49088 GHz	-54.15 dBm	-14.15 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.38313 GHz	-52.52 dBm	-12.52 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.92106 GHz	-49.43 dBm	-9.43 dB

Date: 23.MAY.2023 15:24:45

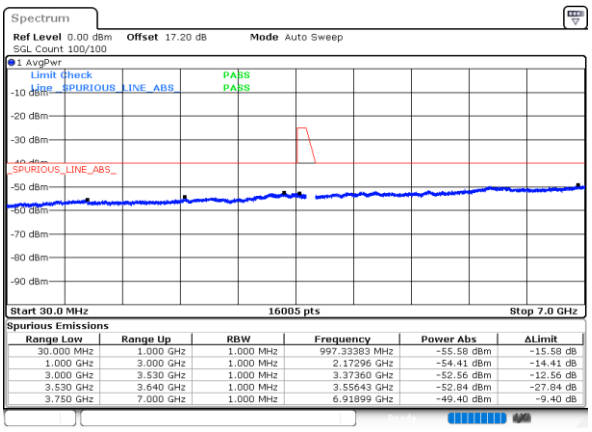


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	7.23673 GHz	-47.49 dBm	-7.49 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.60402 GHz	-48.85 dBm	-8.85 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.99875 GHz	-49.09 dBm	-9.09 dB
30.000 GHz	38.000 GHz	1.000 MHz	36.92232 GHz	-47.11 dBm	-7.11 dB

Date: 23.MAY.2023 15:40:45

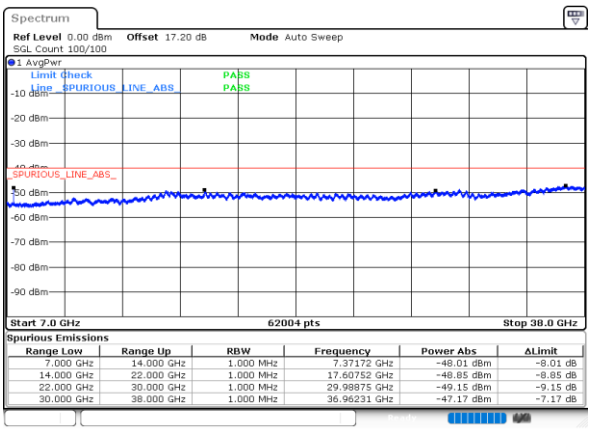
Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	997.33383 MHz	-55.58 dBm	-15.58 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.17296 GHz	-54.41 dBm	-14.41 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.37360 GHz	-52.56 dBm	-12.56 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.55643 GHz	-52.84 dBm	-27.84 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.91899 GHz	-49.40 dBm	-9.40 dB

Date: 23.MAY.2023 15:26:02



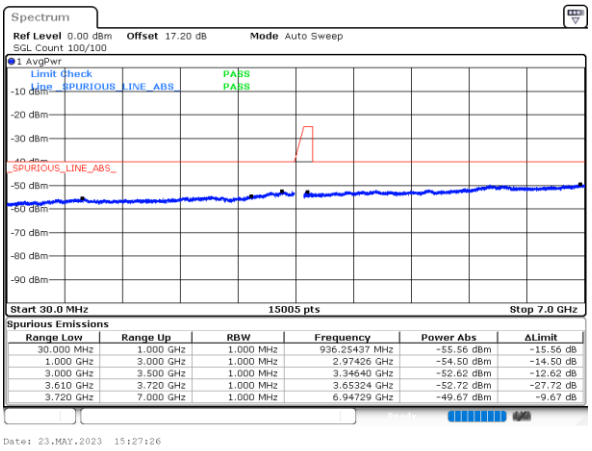
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	7.37172 GHz	-48.01 dBm	-8.01 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.60752 GHz	-48.85 dBm	-8.85 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.98875 GHz	-49.15 dBm	-9.15 dB
30.000 GHz	38.000 GHz	1.000 MHz	36.96231 GHz	-47.17 dBm	-7.17 dB

Date: 23.MAY.2023 15:42:03

LTE Band 48 / 20MHz

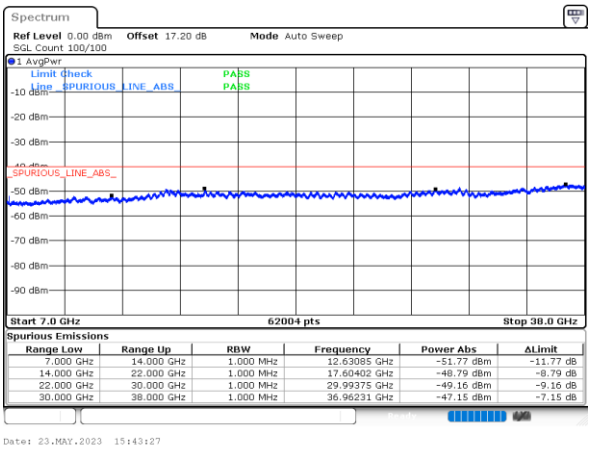
Lowest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	936.25437 MHz	-55.56 dBm	-15.56 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97426 GHz	-54.50 dBm	-14.50 dB
3.000 GHz	3.500 GHz	1.000 MHz	3.34640 GHz	-52.62 dBm	-12.62 dB
3.610 GHz	3.720 GHz	1.000 MHz	3.65324 GHz	-52.72 dBm	-27.72 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.94729 GHz	-49.67 dBm	-9.67 dB

Date: 23.MAY.2023 15:27:26

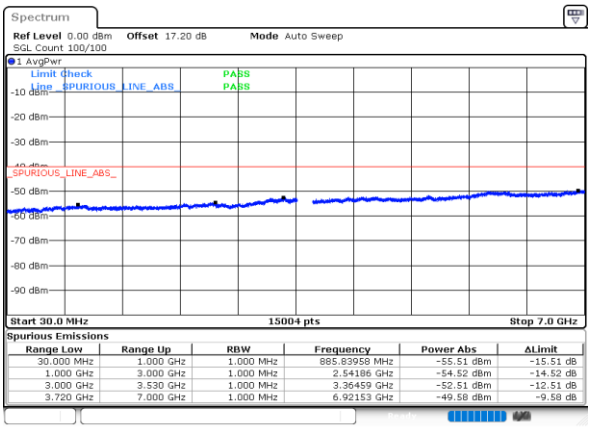


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	12.63085 GHz	-51.77 dBm	-11.77 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.60402 GHz	-48.79 dBm	-8.79 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.99375 GHz	-49.16 dBm	-9.16 dB
30.000 GHz	38.000 GHz	1.000 MHz	36.96231 GHz	-47.15 dBm	-7.15 dB

Date: 23.MAY.2023 15:43:27

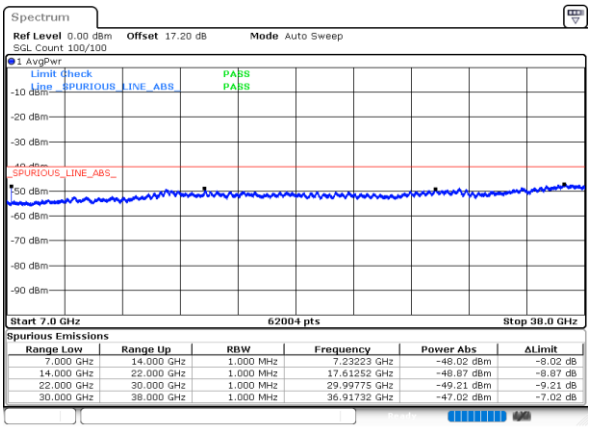
Middle Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	885.83958 MHz	-55.51 dBm	-15.51 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.54186 GHz	-54.52 dBm	-14.52 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.36459 GHz	-52.51 dBm	-12.51 dB
3.720 GHz	7.000 GHz	1.000 MHz	6.92153 GHz	-49.58 dBm	-9.58 dB

Date: 23.MAY.2023 15:28:44

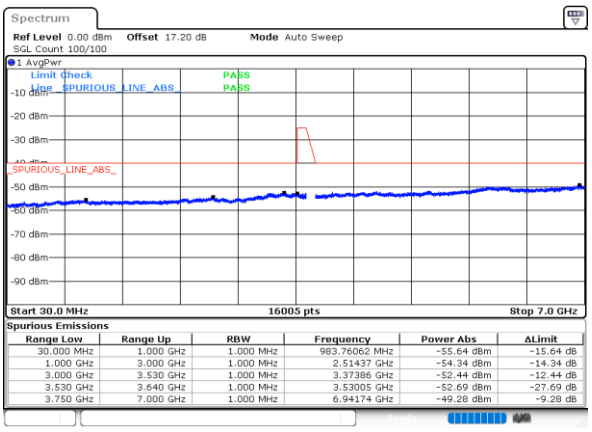


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	7.23223 GHz	-48.02 dBm	-8.02 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.61252 GHz	-48.87 dBm	-8.87 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.99775 GHz	-49.21 dBm	-9.21 dB
30.000 GHz	38.000 GHz	1.000 MHz	36.91732 GHz	-47.02 dBm	-7.02 dB

Date: 23.MAY.2023 15:44:45

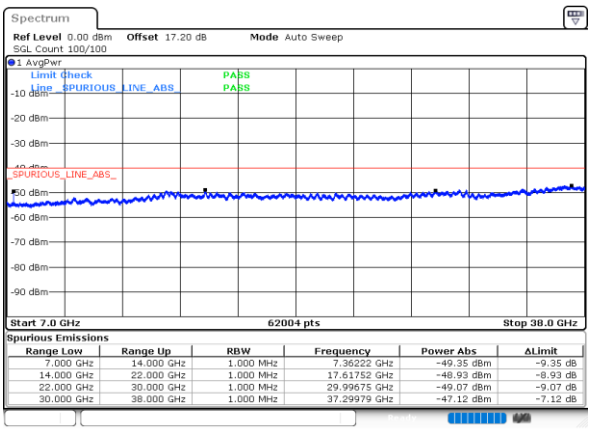
Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.76062 MHz	-55.64 dBm	-15.64 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.51437 GHz	-54.34 dBm	-14.34 dB
3.000 GHz	3.530 GHz	1.000 MHz	3.37386 GHz	-52.44 dBm	-12.44 dB
3.530 GHz	3.640 GHz	1.000 MHz	3.53005 GHz	-52.69 dBm	-27.69 dB
3.750 GHz	7.000 GHz	1.000 MHz	6.94174 GHz	-49.28 dBm	-9.28 dB

Date: 23.MAY.2023 15:30:02



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
7.000 GHz	14.000 GHz	1.000 MHz	7.36222 GHz	-49.35 dBm	-9.35 dB
14.000 GHz	22.000 GHz	1.000 MHz	17.61752 GHz	-48.93 dBm	-8.93 dB
22.000 GHz	30.000 GHz	1.000 MHz	29.99675 GHz	-49.07 dBm	-9.07 dB
30.000 GHz	38.000 GHz	1.000 MHz	37.29979 GHz	-47.12 dBm	-7.12 dB

Date: 23.MAY.2023 15:46:04

Frequency Stability

Test Conditions		LTE Band 48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0019	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0028	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0023	
-20	Normal Voltage	0.0002	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0010	
20	Normal Voltage	0.0019	
20	Battery End Point	0.0017	

Note:

1. Normal Voltage = 3.3 V.；Battery End Point (BEP) = 3.135 V.；Maximum Voltage = 4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 48C

26dB Bandwidth

Mode	LTE Band 48C : 26dB BW(MHz)			
QPSK				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	25.03	29.91	34.83	25.03
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	30.03	35.04	40.04	-

Mode	LTE Band 48C : 26dB BW(MHz)			
16QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	24.98	30.09	35.25	24.88
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	29.91	35.04	39.96	-

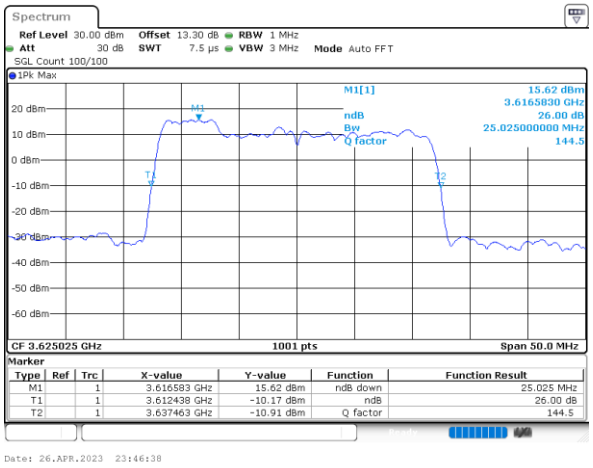
Mode	LTE Band 48C : 26dB BW(MHz)			
64QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	24.88	30.03	34.90	24.88
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	30.03	34.97	39.96	-

Mode	LTE Band 48C : 26dB BW(MHz)			
256QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	24.93	29.91	35.11	24.88
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	29.97	34.90	39.80	-

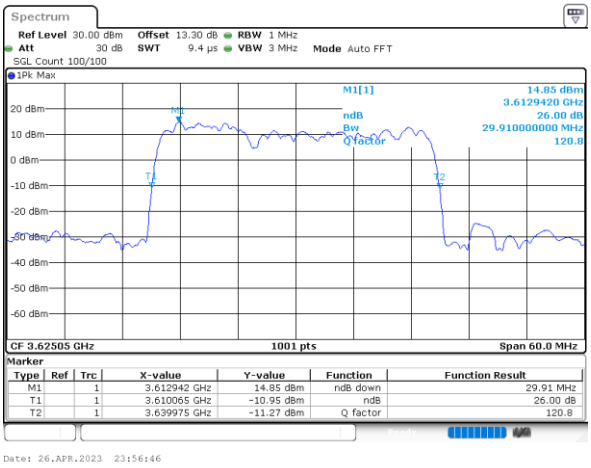
LTE Band 48C

QPSK

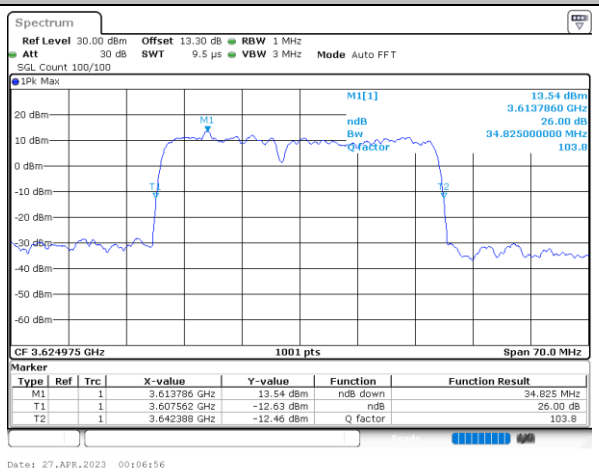
Middle Channel / 5MHz+20MHz



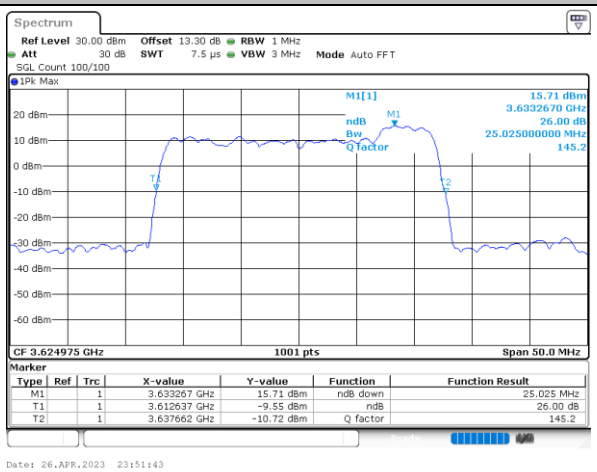
Middle Channel / 10MHz+20MHz



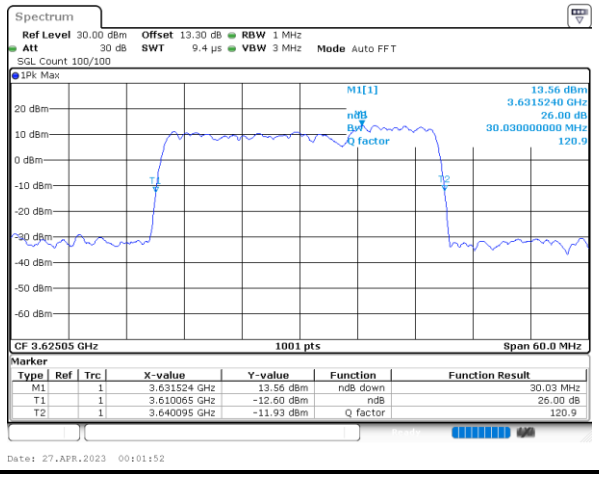
Middle Channel / 15MHz+20MHz



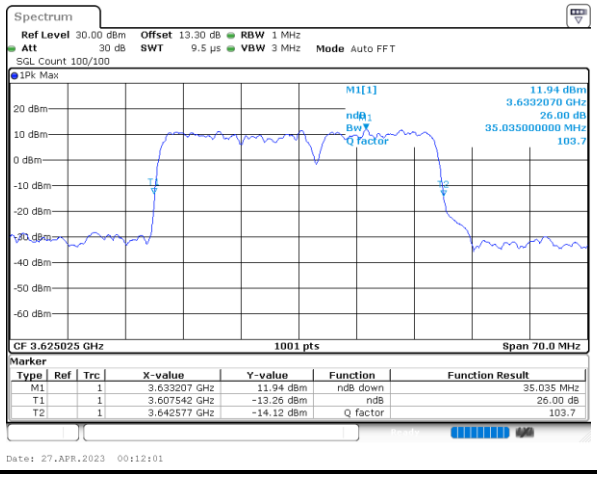
Middle Channel / 20MHz+5MHz

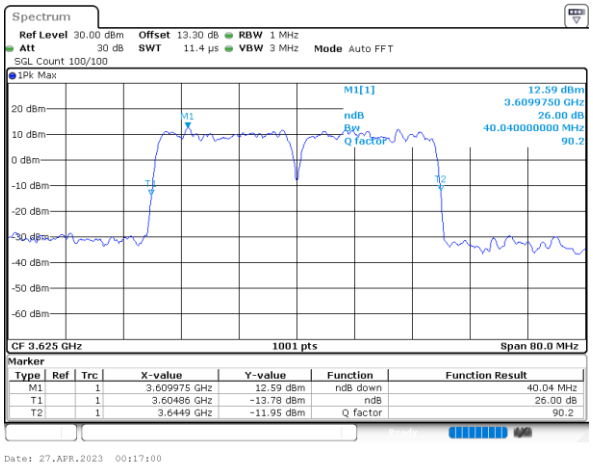


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

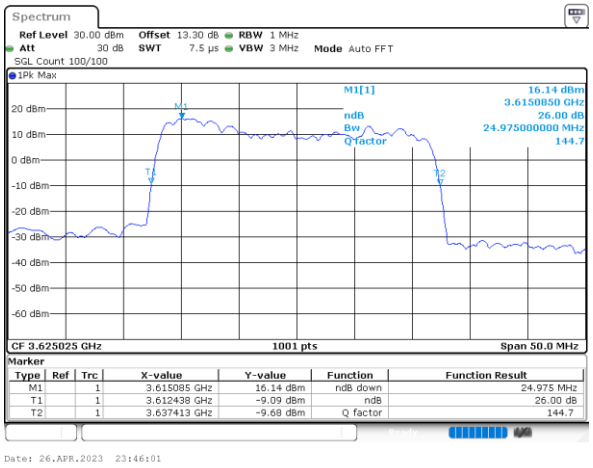


LTE Band 48C	
QPSK	
Middle Channel / 20MHz+20MHz	N/A
	

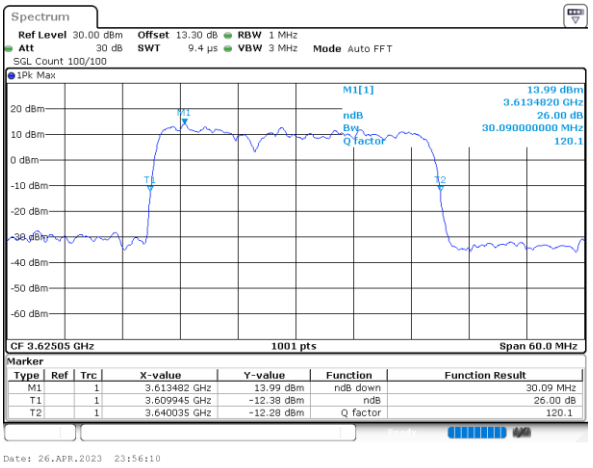
LTE Band 48C

16QAM

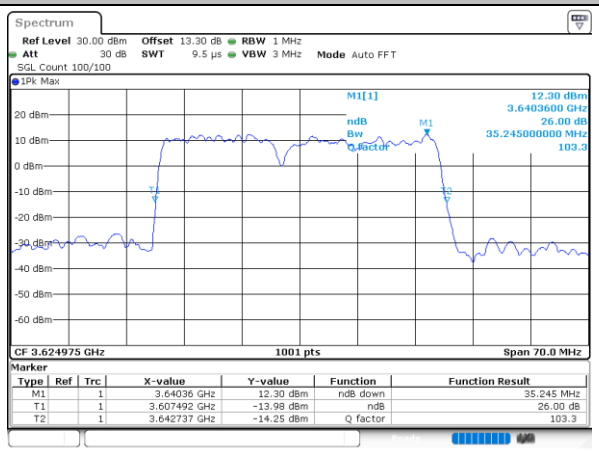
Middle Channel / 5MHz+20MHz



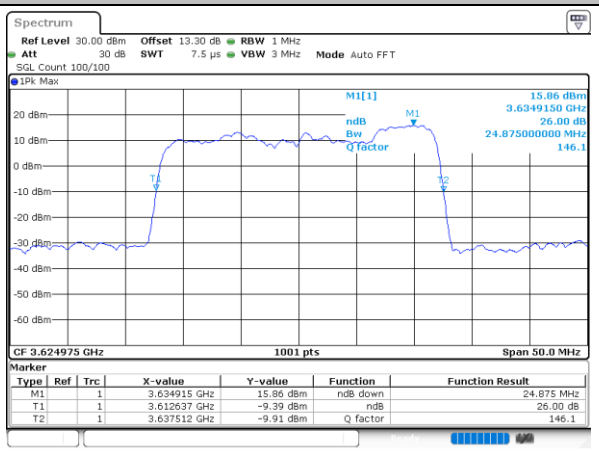
Middle Channel / 10MHz+20MHz



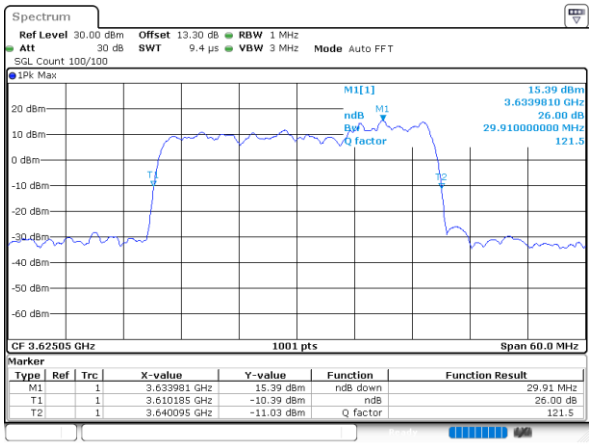
Middle Channel / 15MHz+20MHz



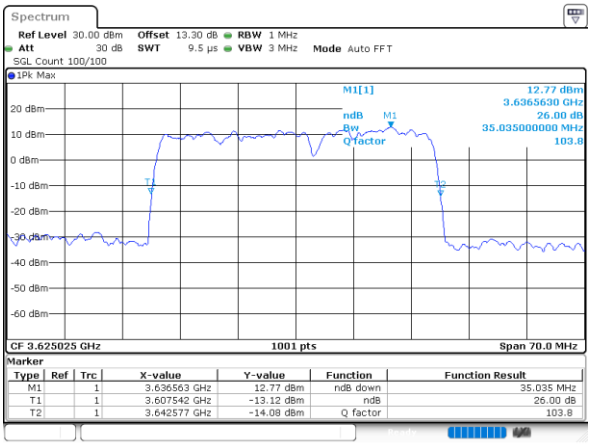
Middle Channel / 20MHz+5MHz

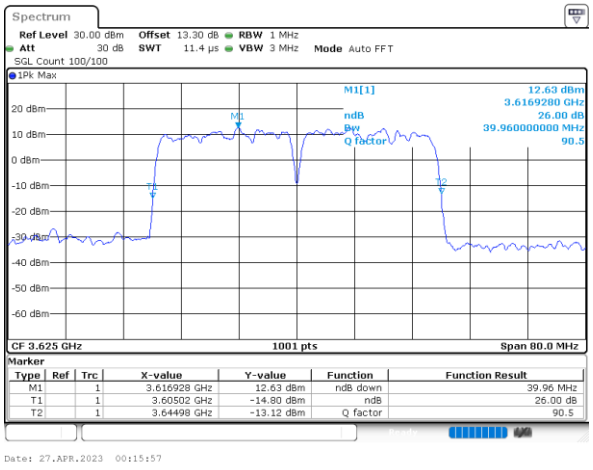


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

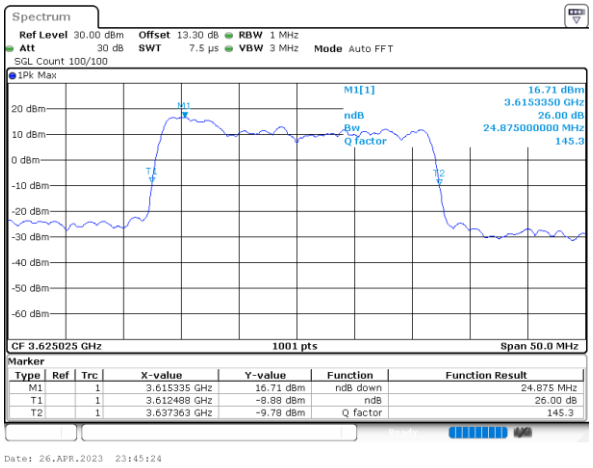


LTE Band 48C	
16QAM	
Middle Channel / 20MHz+20MHz	N/A
	

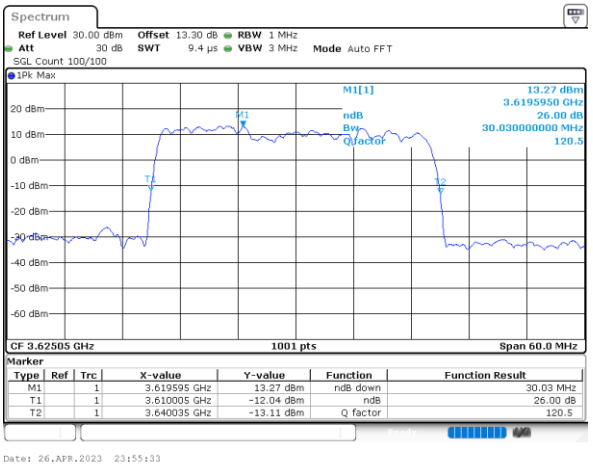
LTE Band 48C

64QAM

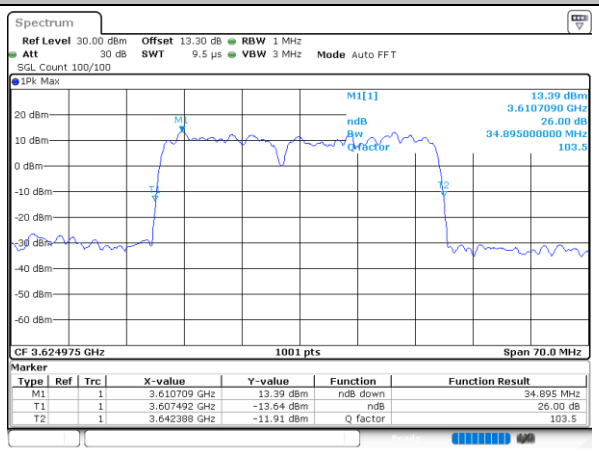
Middle Channel / 5MHz+20MHz



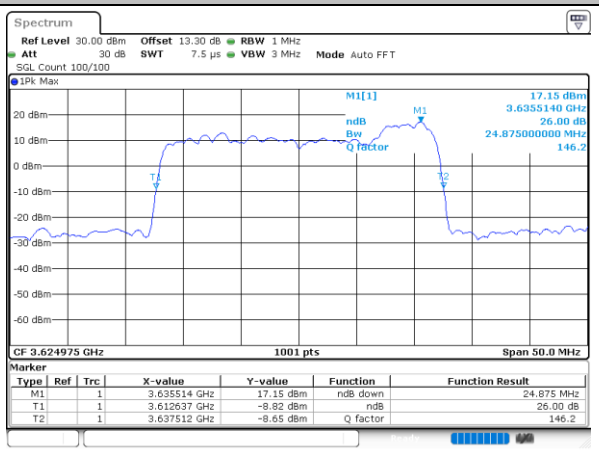
Middle Channel / 10MHz+20MHz



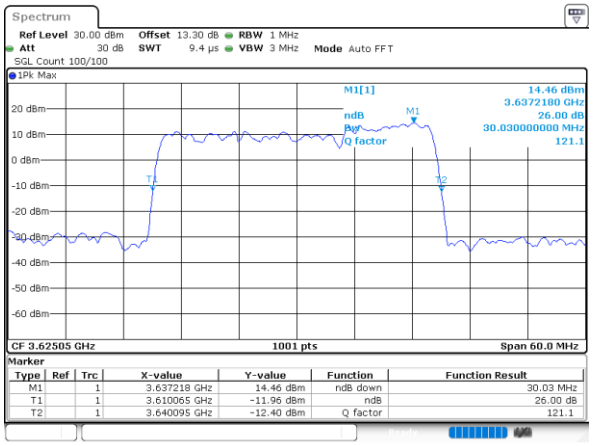
Middle Channel / 15MHz+20MHz



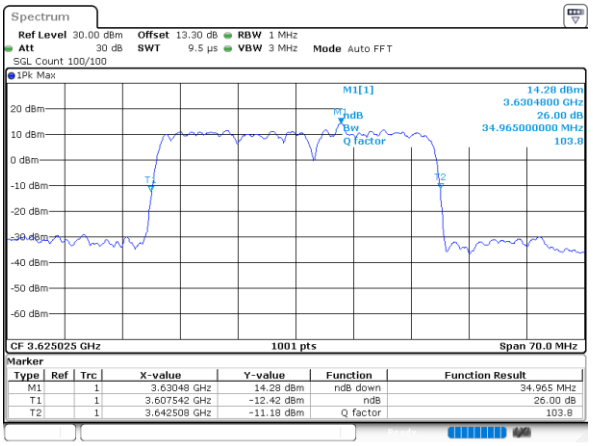
Middle Channel / 20MHz+5MHz

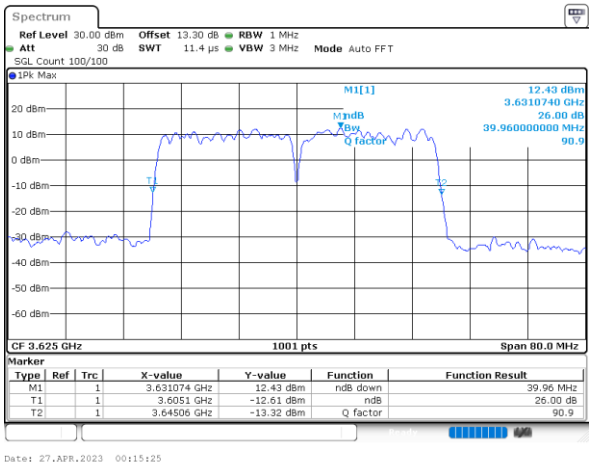


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

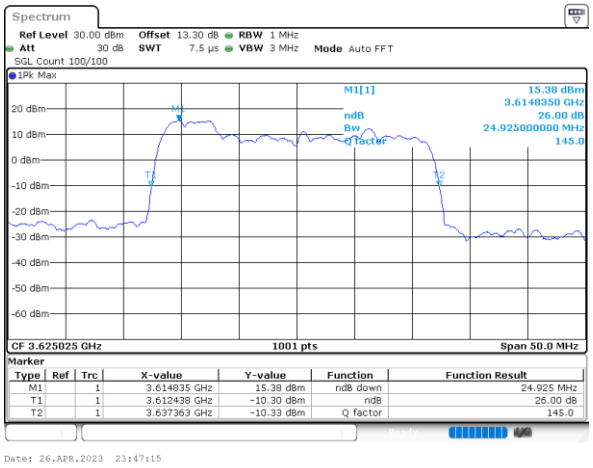


LTE Band 48C	
64QAM	
Middle Channel / 20MHz+20MHz	N/A
	

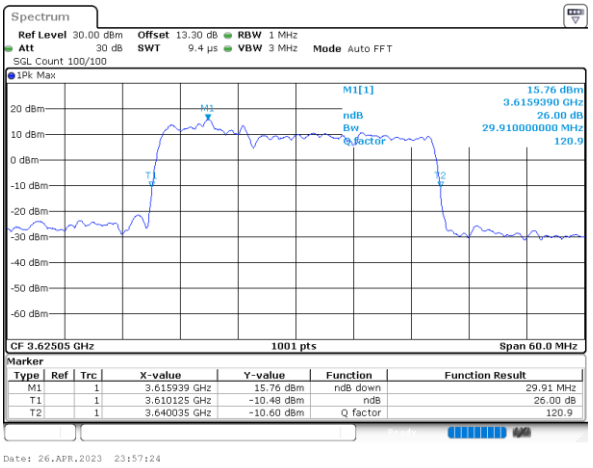
LTE Band 48C

256QAM

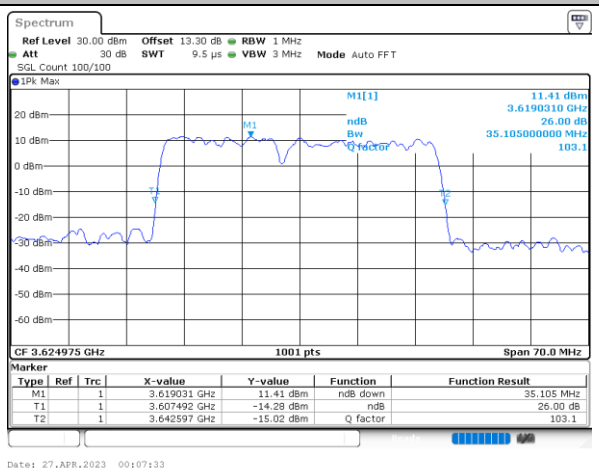
Middle Channel / 5MHz+20MHz



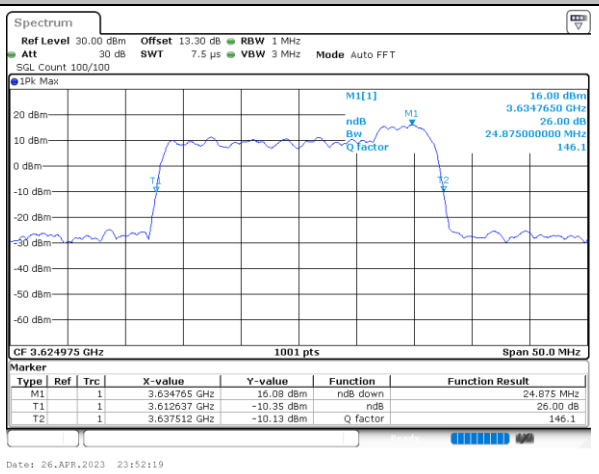
Middle Channel / 10MHz+20MHz



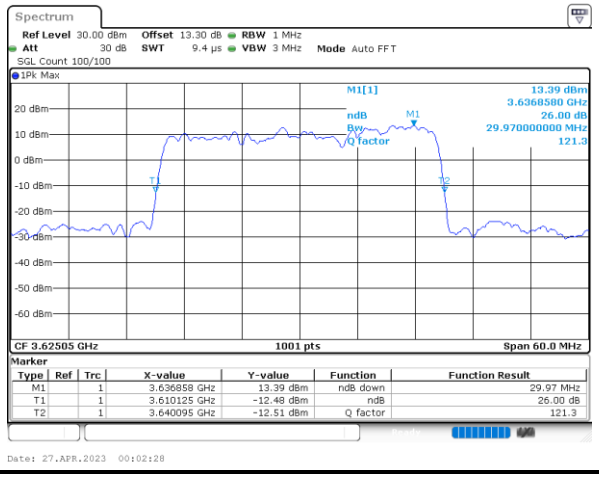
Middle Channel / 15MHz+20MHz



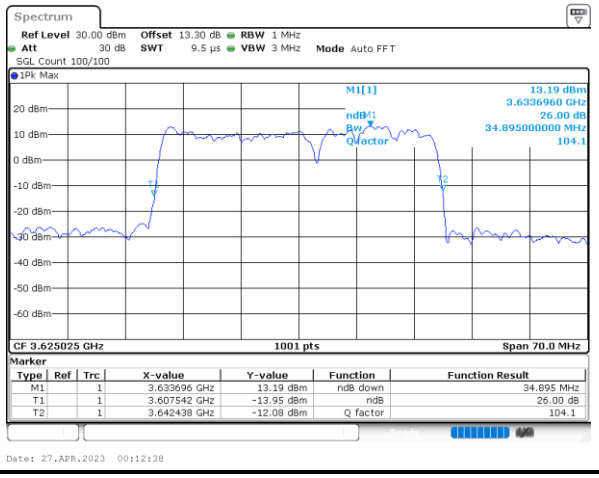
Middle Channel / 20MHz+5MHz

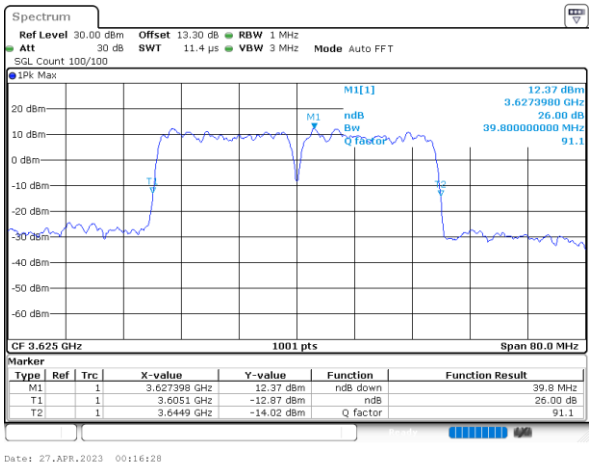


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



LTE Band 48C	
256QAM	
Middle Channel / 20MHz+20MHz	N/A
	

Occupied Bandwidth

Mode	LTE Band 48C : 99%OBW(MHz)			
QPSK				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	23.28	28.17	32.94	23.23
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	28.17	32.87	37.64	-

Mode	LTE Band 48C : 99%OBW(MHz)			
16QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	23.28	27.99	32.87	23.18
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	28.17	32.80	37.80	-

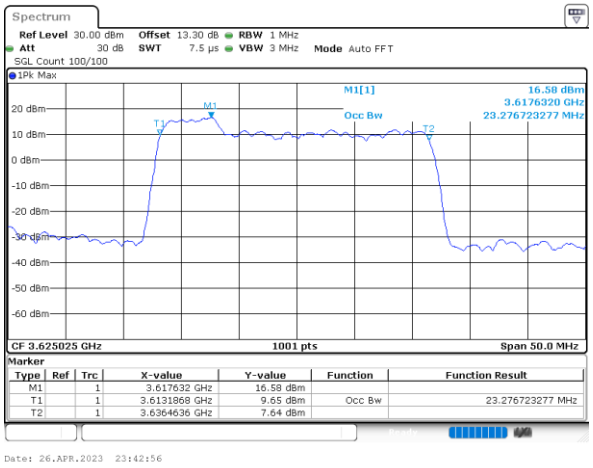
Mode	LTE Band 48C : 99%OBW(MHz)			
64QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	23.43	27.99	32.94	23.03
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	27.99	32.73	37.80	-

Mode	LTE Band 48C : 99%OBW(MHz)			
256QAM				
BW	5MHz+20MHz	10MHz+20MHz	15MHz+20MHz	20MHz+5MHz
Middle CH	23.08	28.05	33.01	23.28
BW	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz	N/A
Middle CH	28.23	33.01	37.40	-

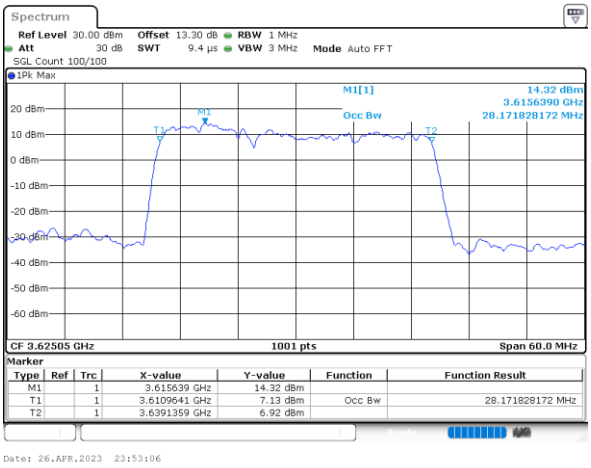
LTE Band 48C

QPSK

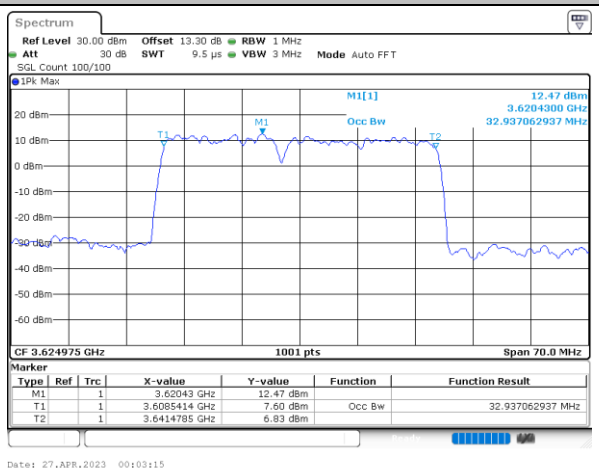
Middle Channel / 5MHz+20MHz



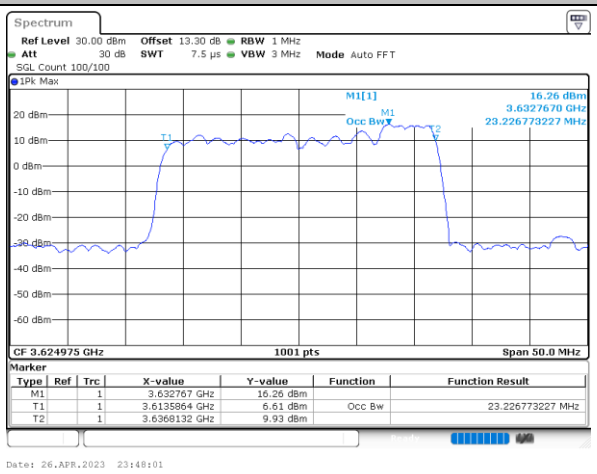
Middle Channel / 10MHz+20MHz



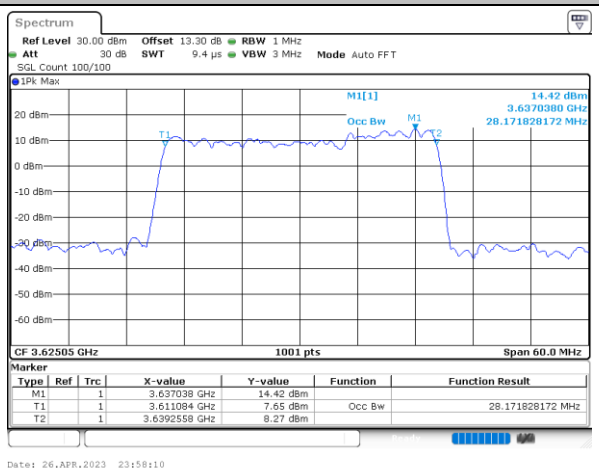
Middle Channel / 15MHz+20MHz



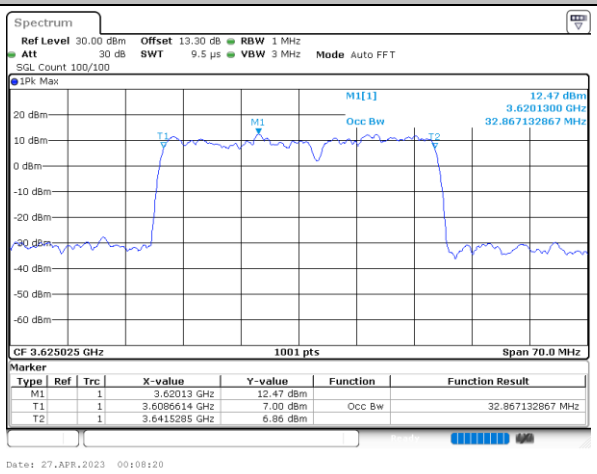
Middle Channel / 20MHz+5MHz

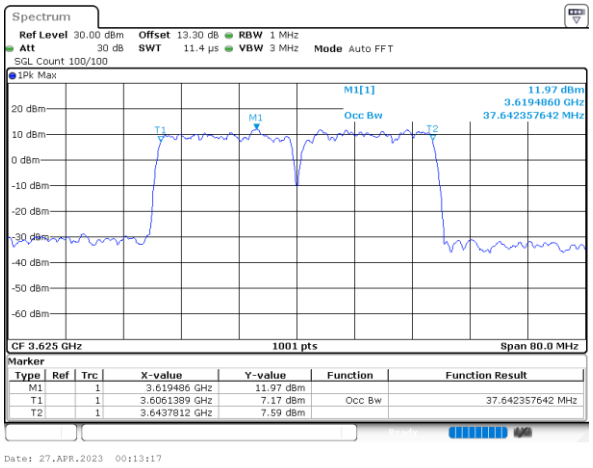


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

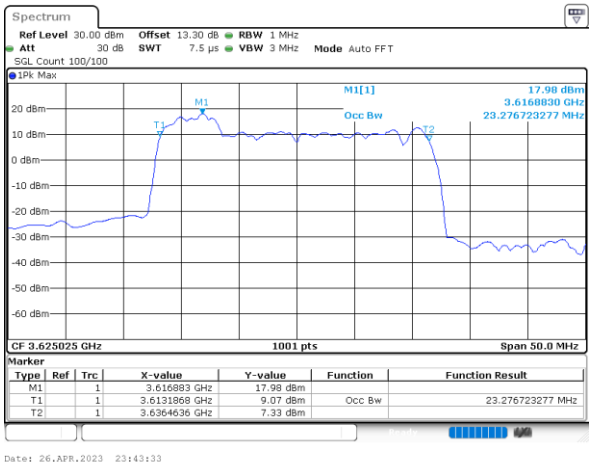


LTE Band 48C	
QPSK	
Middle Channel / 20MHz+20MHz	N/A
	

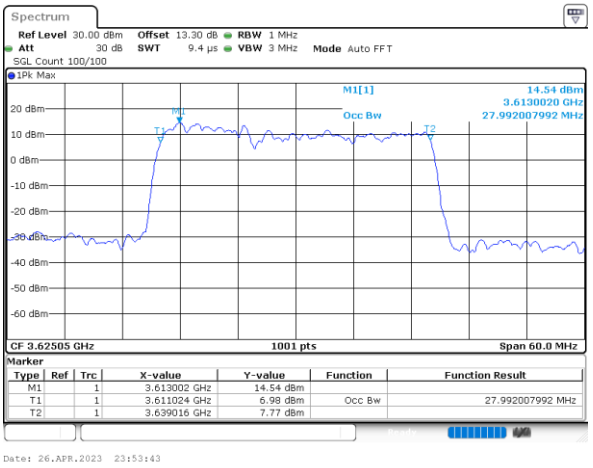
LTE Band 48C

16QAM

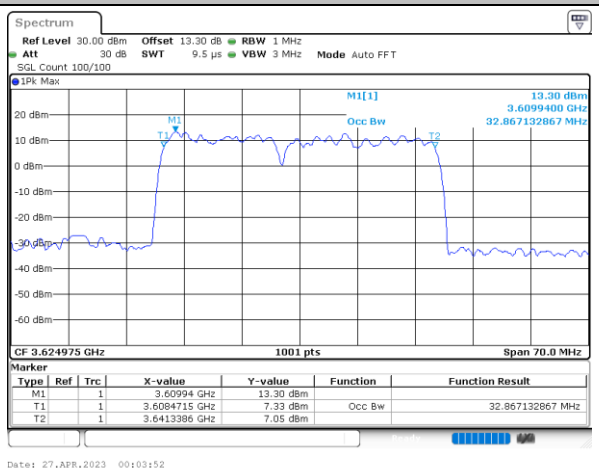
Middle Channel / 5MHz+20MHz



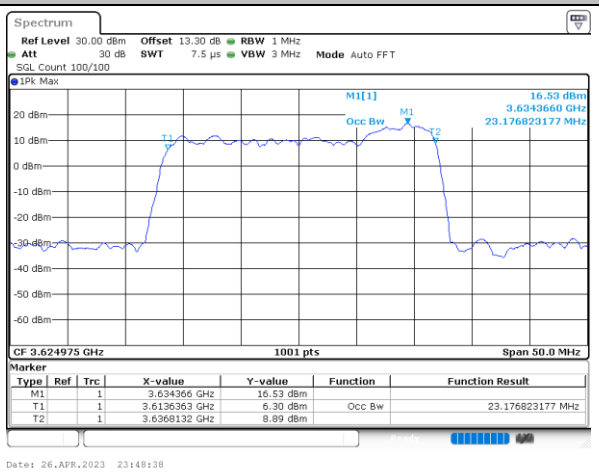
Middle Channel / 10MHz+20MHz



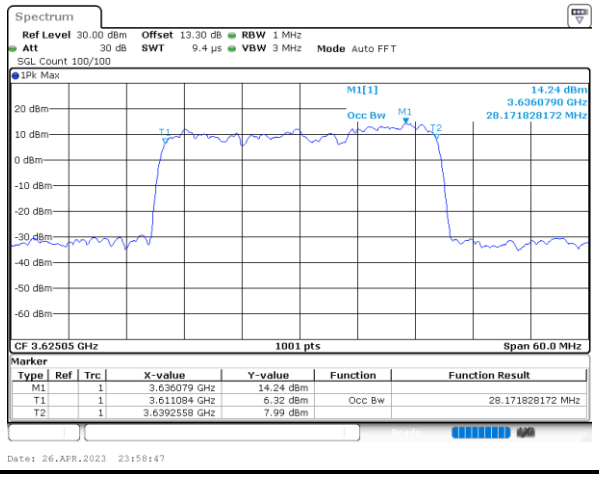
Middle Channel / 15MHz+20MHz



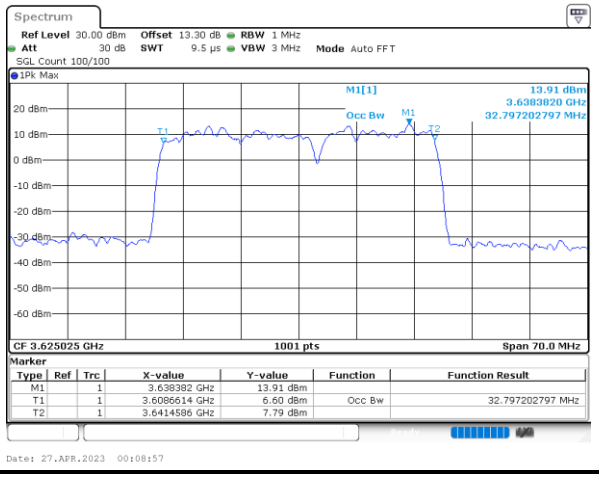
Middle Channel / 20MHz+5MHz

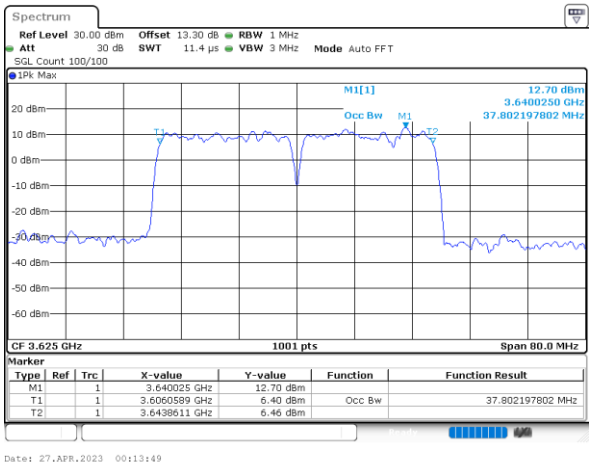


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

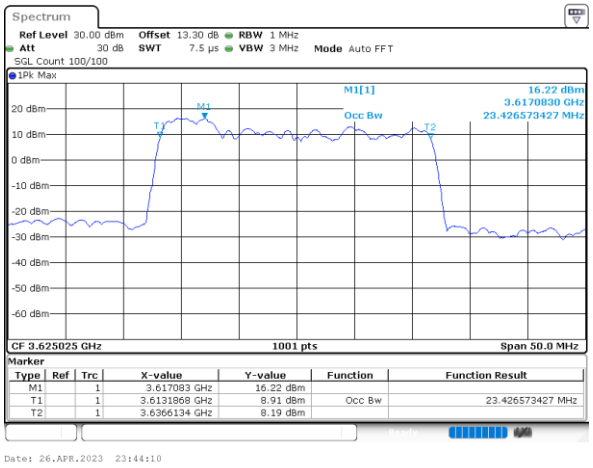


LTE Band 48C	
16QAM	
Middle Channel / 20MHz+20MHz	N/A
	

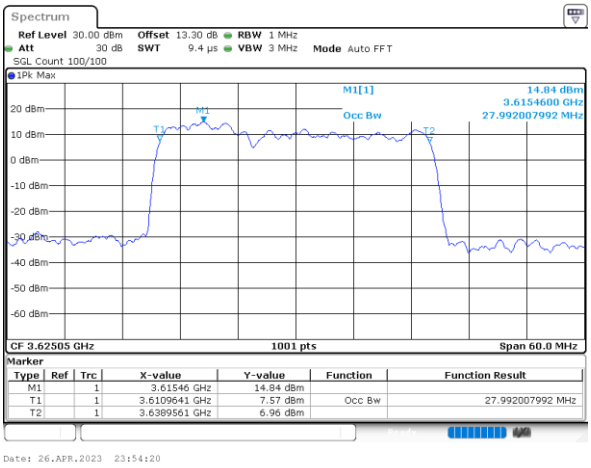
LTE Band 48C

64QAM

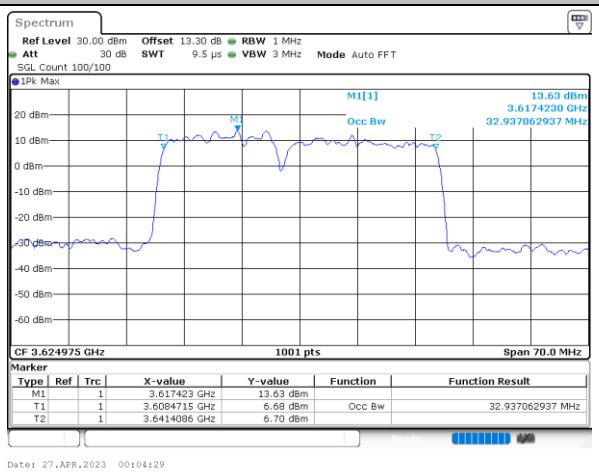
Middle Channel / 5MHz+20MHz



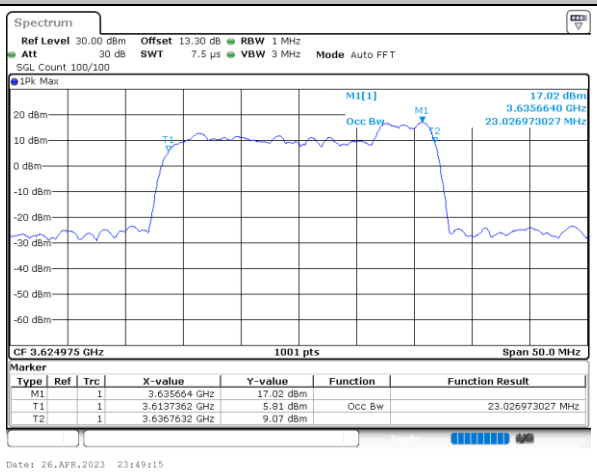
Middle Channel / 10MHz+20MHz



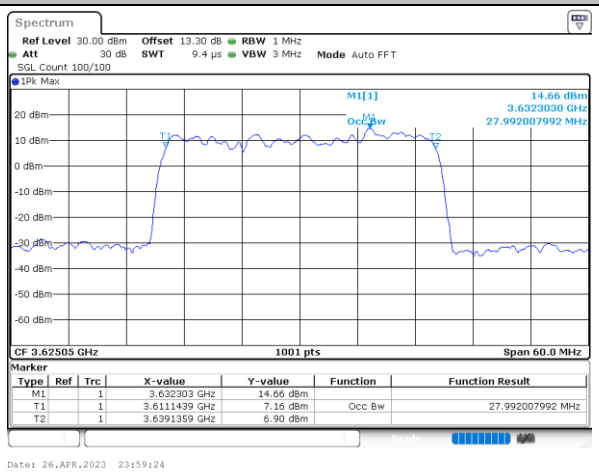
Middle Channel / 15MHz+20MHz



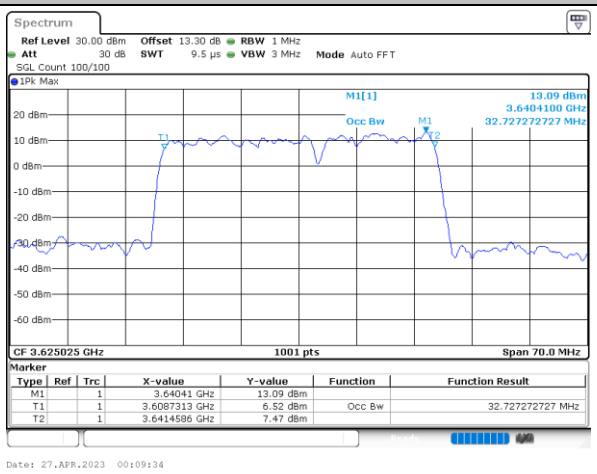
Middle Channel / 20MHz+5MHz

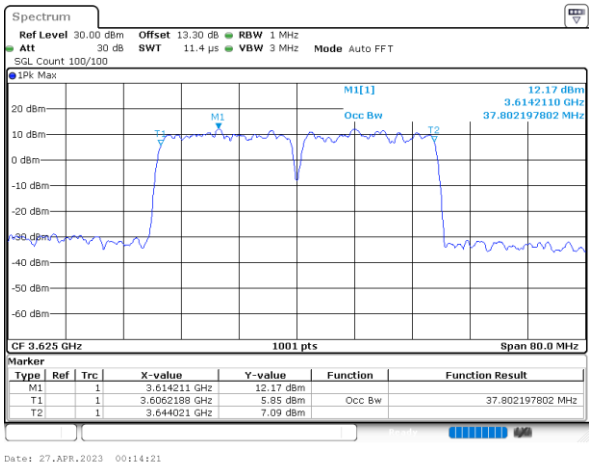


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz

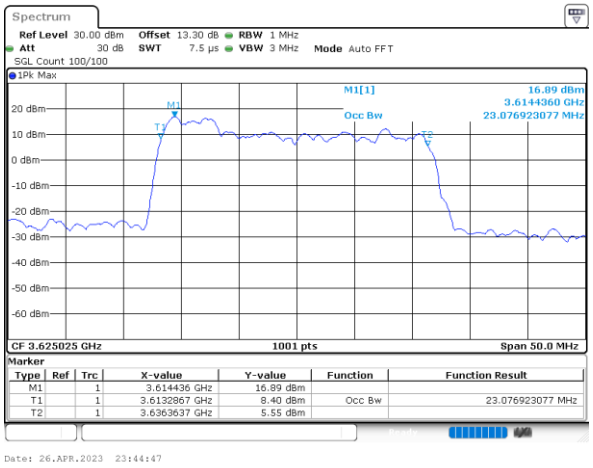


LTE Band 48C	
64QAM	
Middle Channel / 20MHz+20MHz	N/A
	

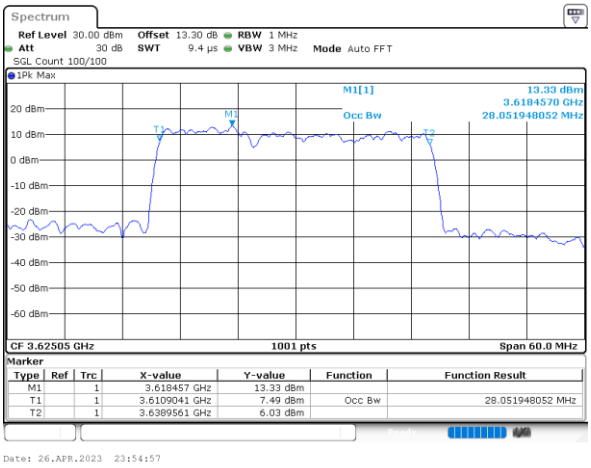
LTE Band 48C

256QAM

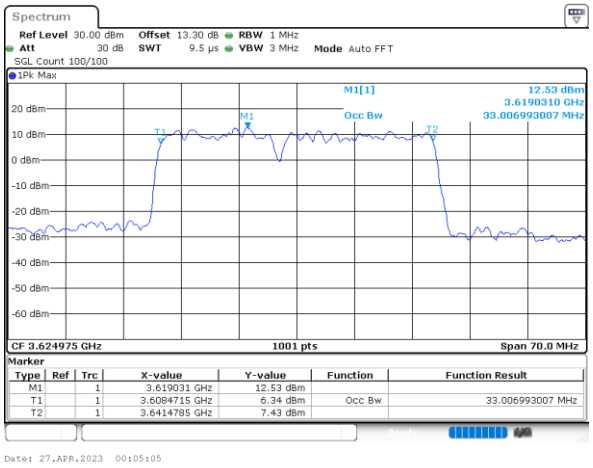
Middle Channel / 5MHz+20MHz



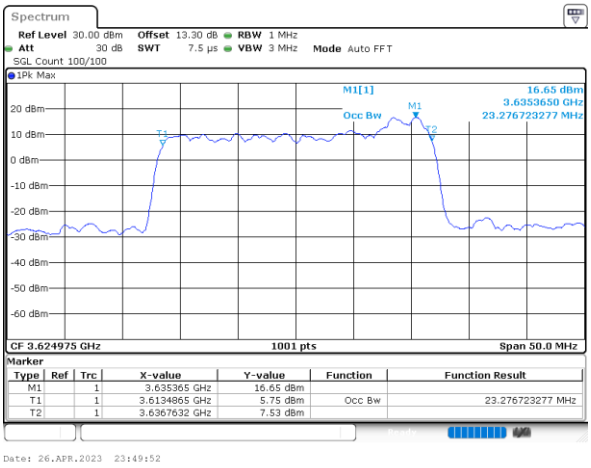
Middle Channel / 10MHz+20MHz



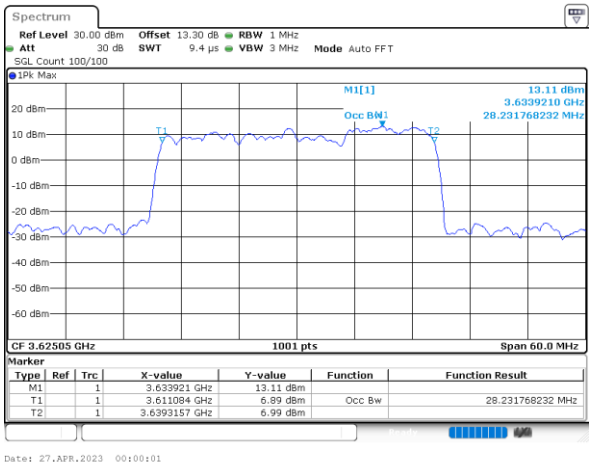
Middle Channel / 15MHz+20MHz



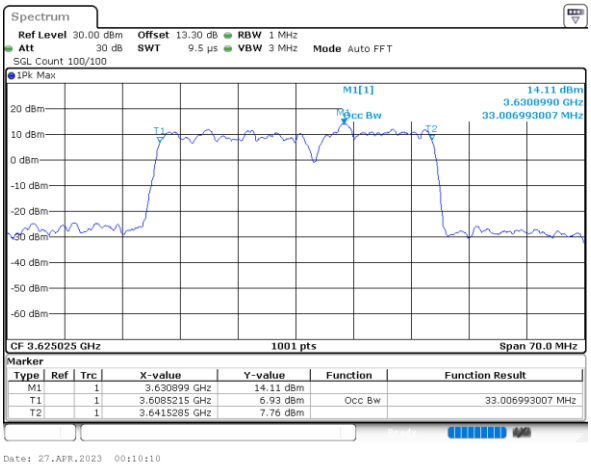
Middle Channel / 20MHz+5MHz

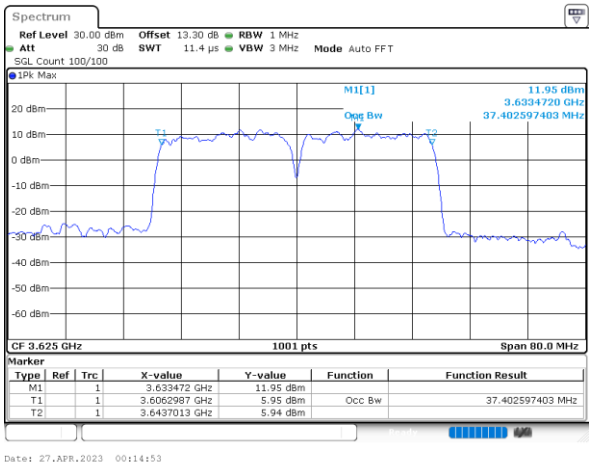


Middle Channel / 20MHz+10MHz



Middle Channel / 20MHz+15MHz



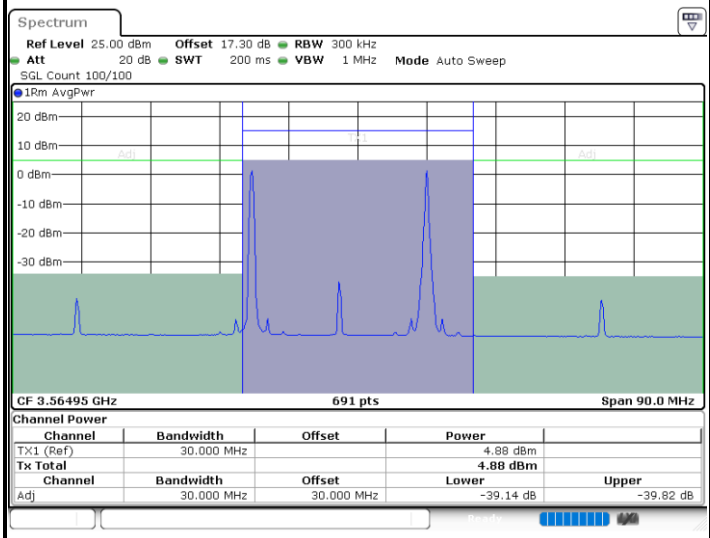
LTE Band 48C	
256QAM	
Middle Channel / 20MHz+20MHz	N/A
	

ACLR

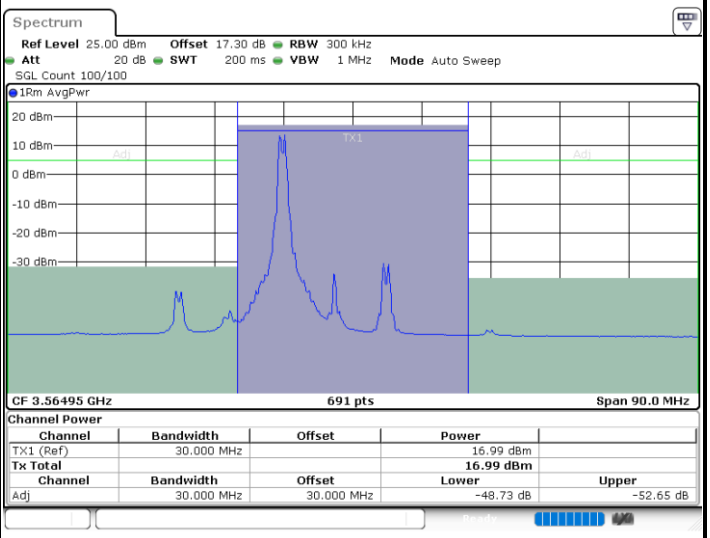
LTE Band 48C / 5MHz+20MHz

QPSK

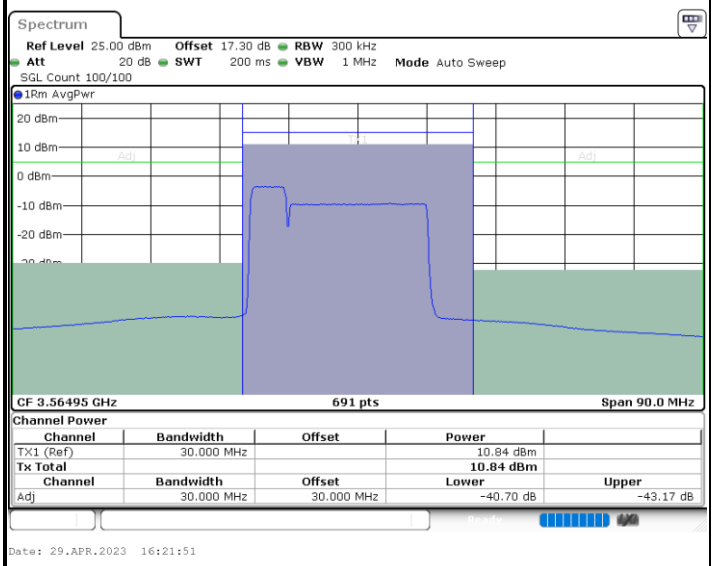
Lowest Channel / 1RB0 and 1RB99



Lowest Channel / 1RB24 and 1RB0



Lowest Channel / FullRB

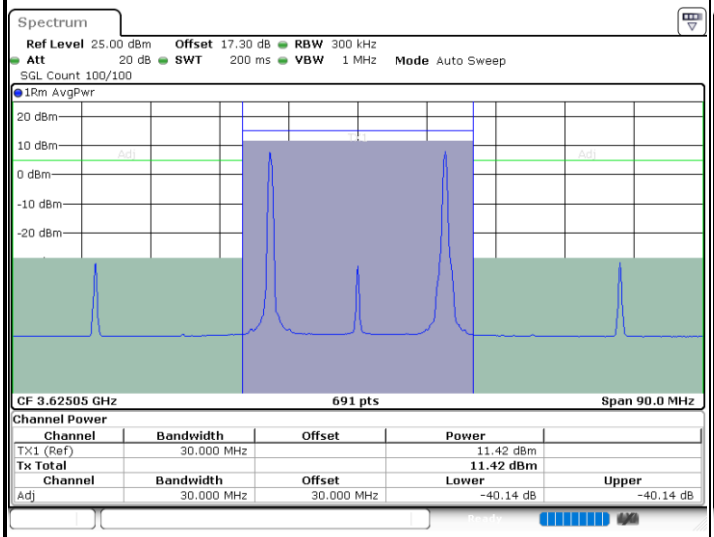


N/A

LTE Band 48C / 5MHz+20MHz

QPSK

Middle Channel / 1RB0 and 1RB99

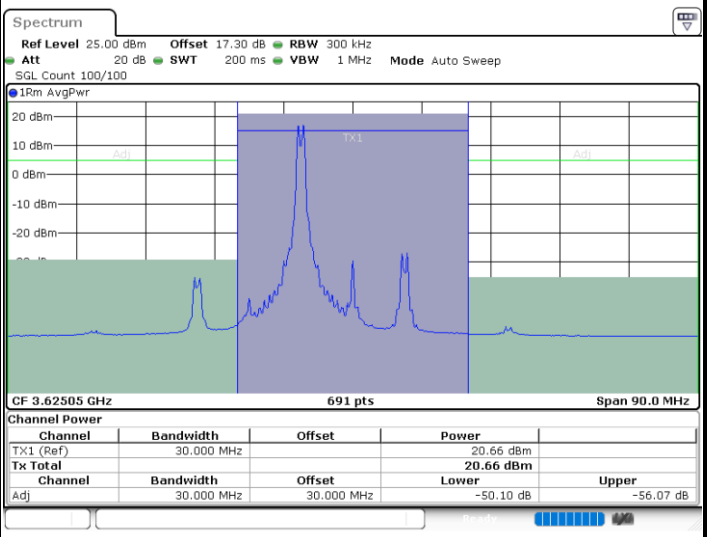


Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	30.000 MHz		11.42 dBm	
Tx Total			11.42 dBm	
Channel	**Bandwidth**	**Offset**	**Lower**	**Upper**
Adj	30.000 MHz	30.000 MHz	-40.14 dB	-40.14 dB

Date: 29.APR.2023 16:37:12

Middle Channel / 1RB24 and 1RB0

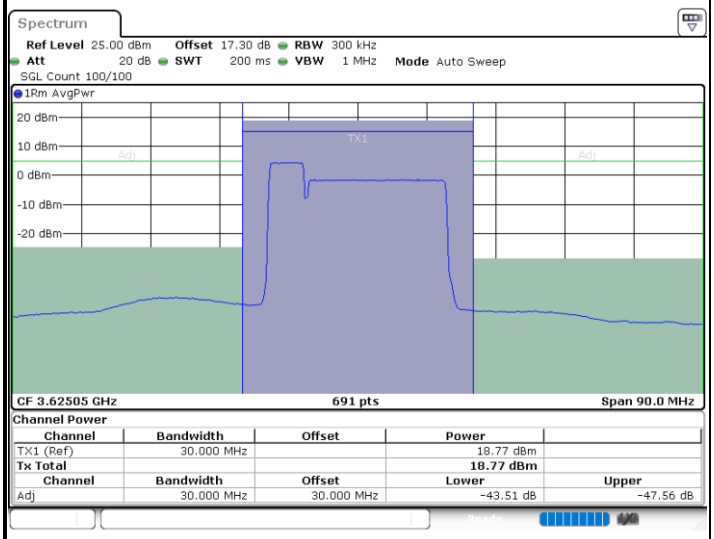


Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	30.000 MHz		20.66 dBm	
Tx Total			20.66 dBm	
Channel	**Bandwidth**	**Offset**	**Lower**	**Upper**
Adj	30.000 MHz	30.000 MHz	-50.10 dB	-56.07 dB

Date: 29.APR.2023 16:38:08

Middle Channel / FullRB



Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	30.000 MHz		18.77 dBm	
Tx Total			18.77 dBm	
Channel	**Bandwidth**	**Offset**	**Lower**	**Upper**
Adj	30.000 MHz	30.000 MHz	-43.51 dB	-47.56 dB

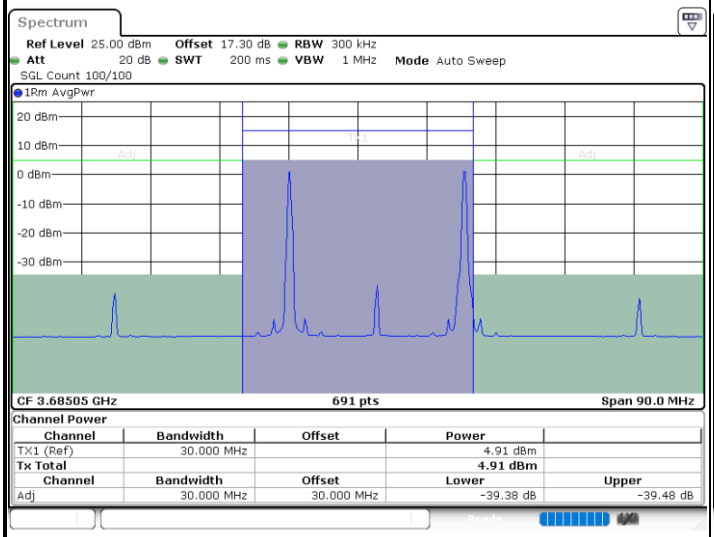
Date: 29.APR.2023 16:32:34

N/A

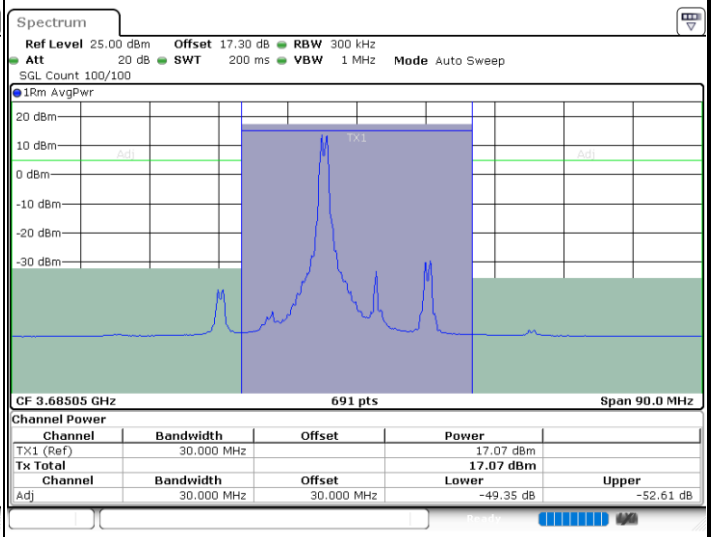
LTE Band 48C / 5MHz+20MHz

QPSK

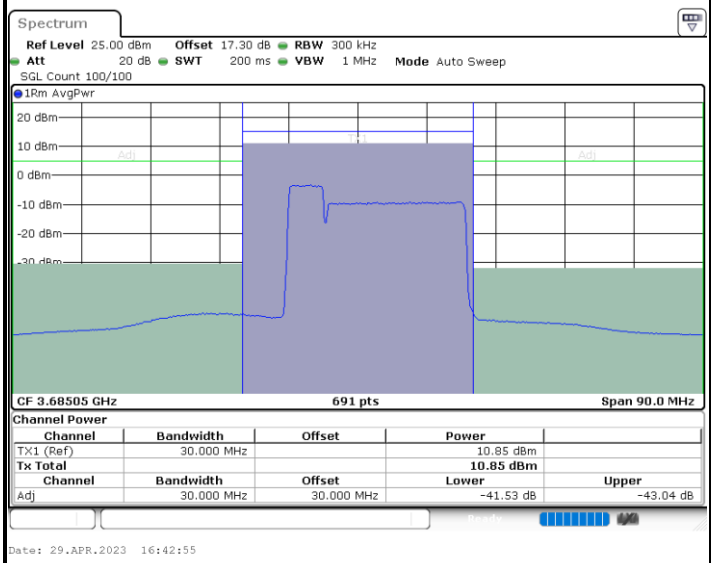
Highest Channel / 1RB0 and 1RB99



Highest Channel / 1RB24 and 1RB0



Highest Channel / FullRB

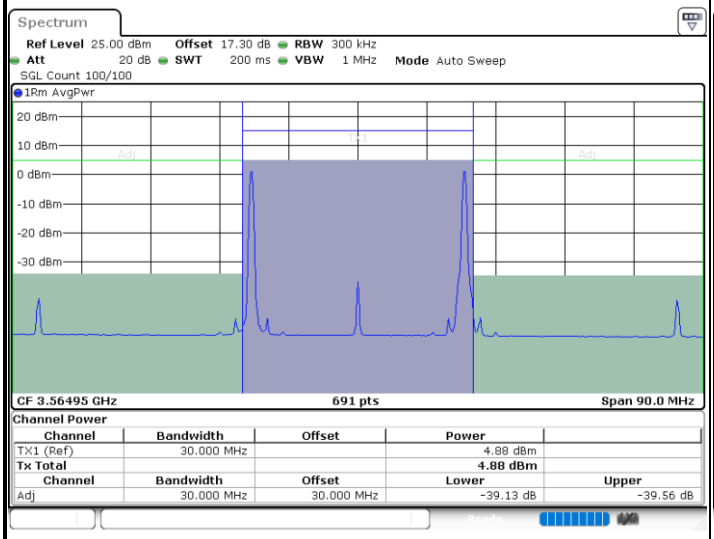


N/A

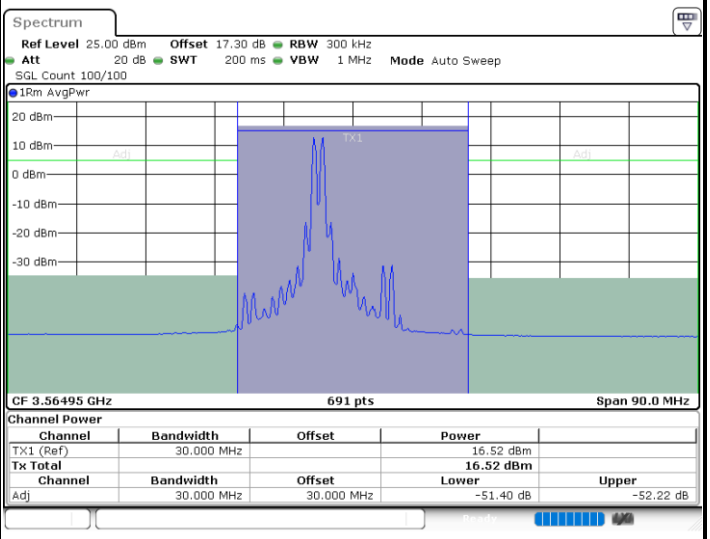
LTE Band 48C / 10MHz+20MHz

QPSK

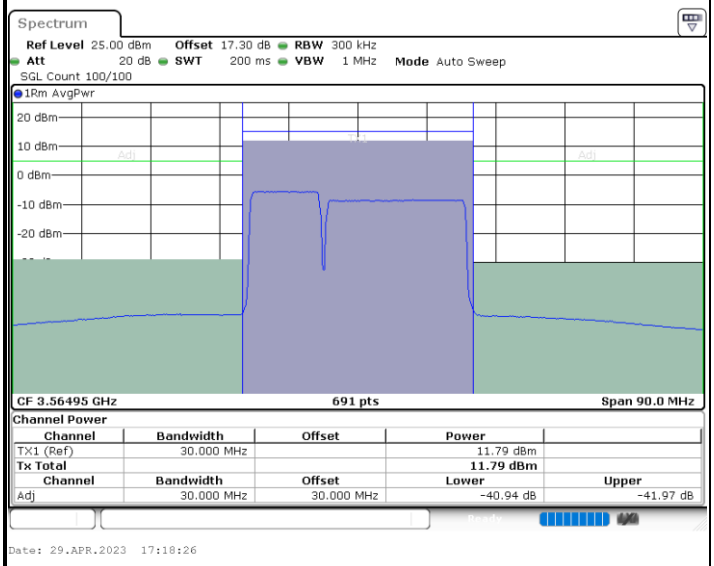
Lowest Channel / 1RB0 and 1RB99



Lowest Channel / 1RB49 and 1RB0



Lowest Channel / FullRB

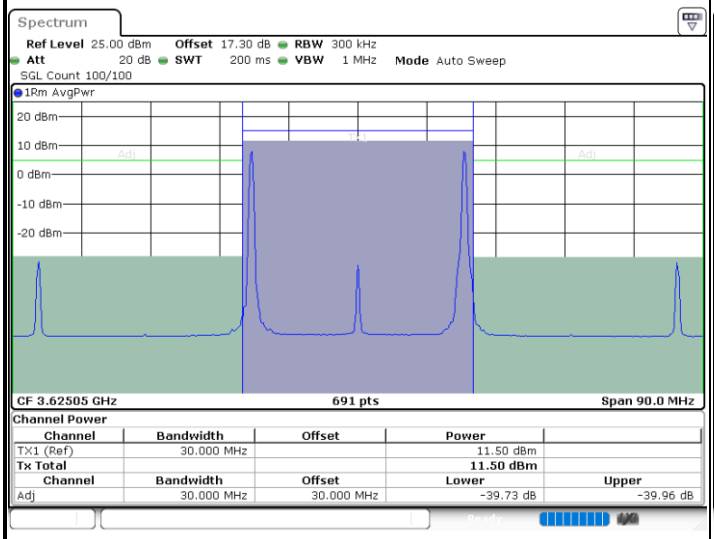


N/A

LTE Band 48C / 10MHz+20MHz

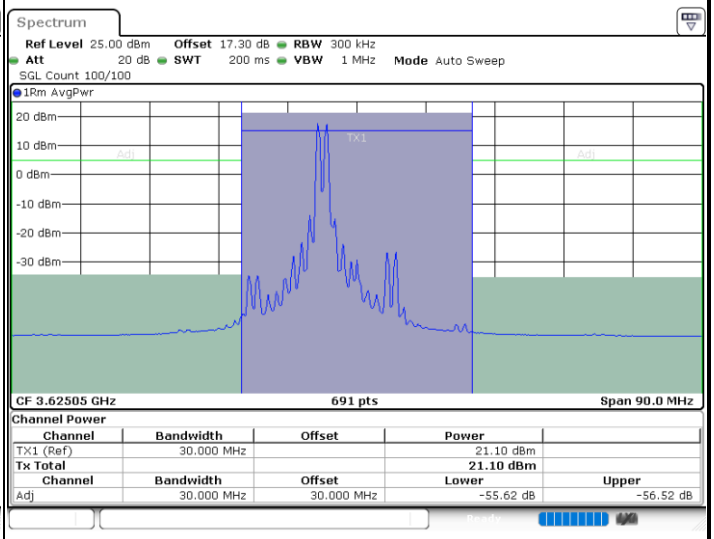
QPSK

Middle Channel / 1RB0 and 1RB99



Date: 29.APR.2023 17:31:38

Middle Channel / 1RB49 and 1RB0



Date: 29.APR.2023 17:32:34

Middle Channel / FullRB

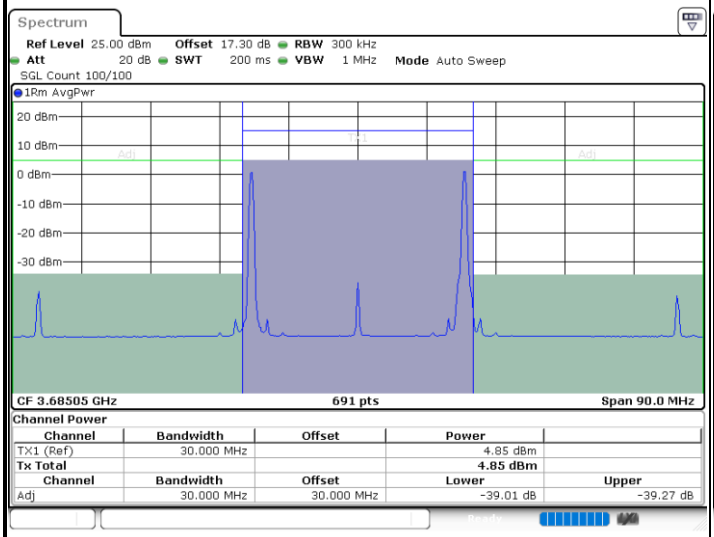
Date: 29.APR.2023 17:26:58

N/A

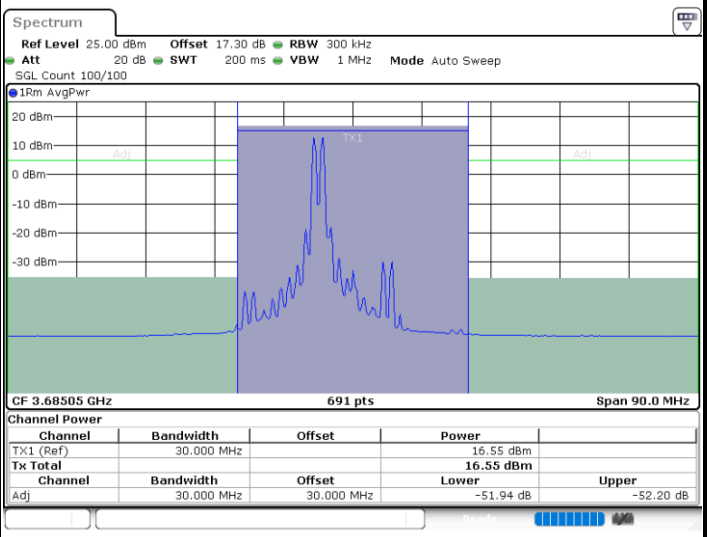
LTE Band 48C / 10MHz+20MHz

QPSK

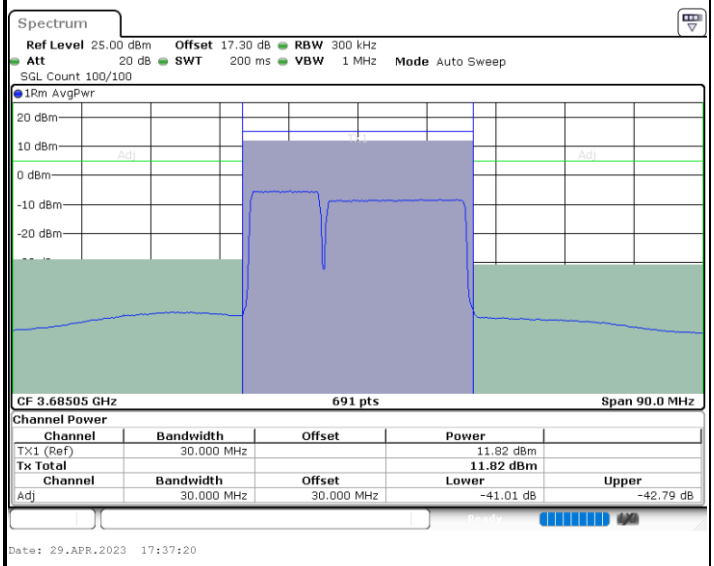
Highest Channel / 1RB0 and 1RB99



Highest Channel / 1RB49 and 1RB0



Highest Channel / FullRB

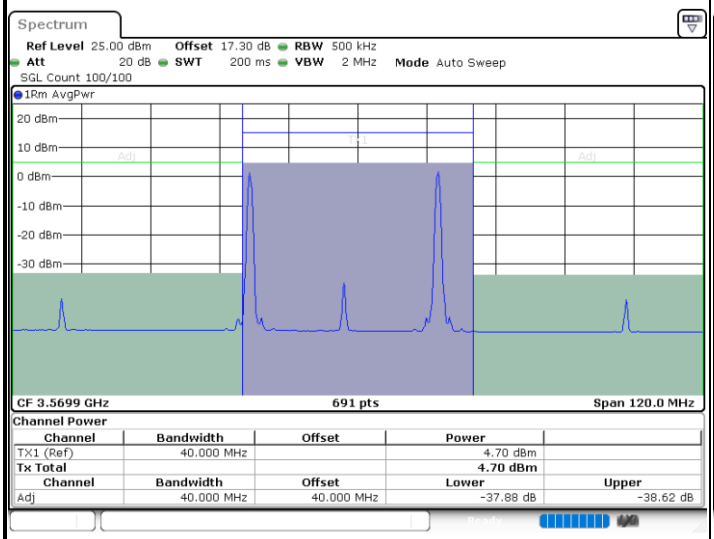


N/A

LTE Band 48C / 15MHz+20MHz

QPSK

Lowest Channel / 1RB0 and 1RB99

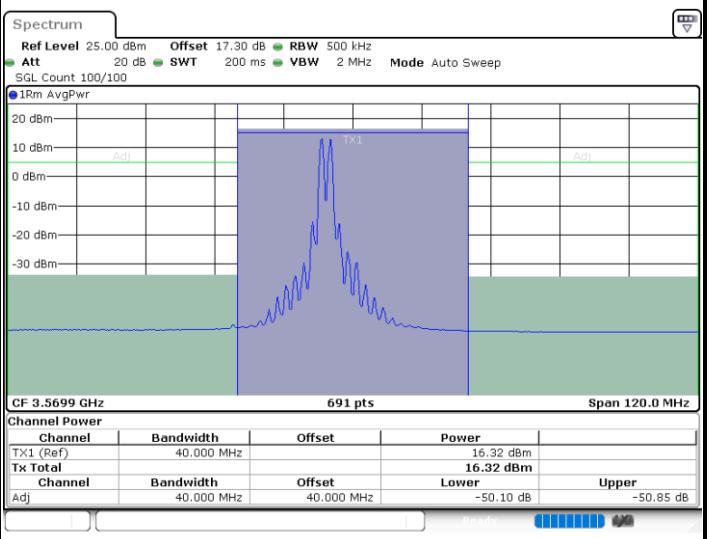


Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	40.000 MHz		4.70 dBm	
Tx Total			4.70 dBm	
Channel	Bandwidth	Offset	Lower	Upper
Adj	40.000 MHz	40.000 MHz	-37.88 dB	-38.62 dB

Date: 2.MAY.2023 11:57:15

Lowest Channel / 1RB74 and 1RB0

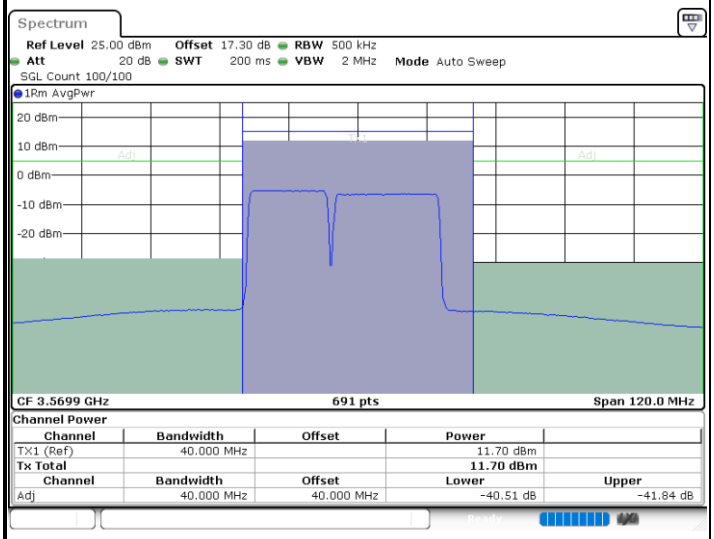


Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	40.000 MHz		16.32 dBm	
Tx Total			16.32 dBm	
Channel	Bandwidth	Offset	Lower	Upper
Adj	40.000 MHz	40.000 MHz	-50.10 dB	-50.85 dB

Date: 2.MAY.2023 11:58:11

Lowest Channel / FullRB



Channel Power

Channel	Bandwidth	Offset	Power	
TX1 (Ref)	40.000 MHz		11.70 dBm	
Tx Total			11.70 dBm	
Channel	Bandwidth	Offset	Lower	Upper
Adj	40.000 MHz	40.000 MHz	-40.51 dB	-41.84 dB

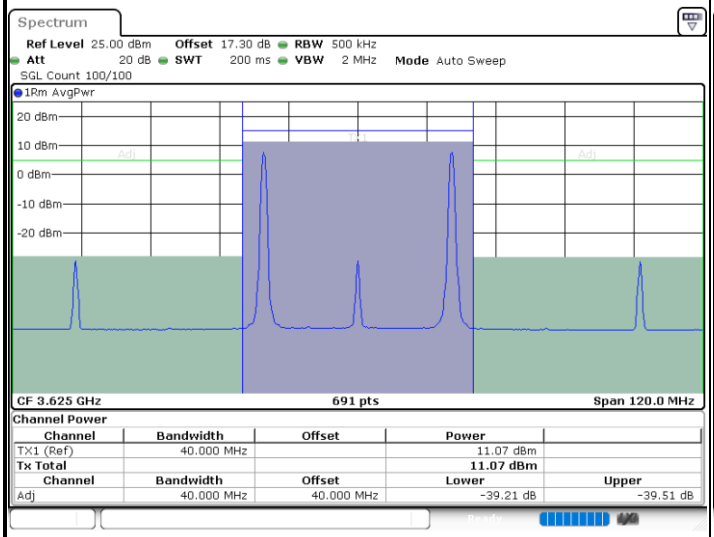
Date: 2.MAY.2023 11:52:34

N/A

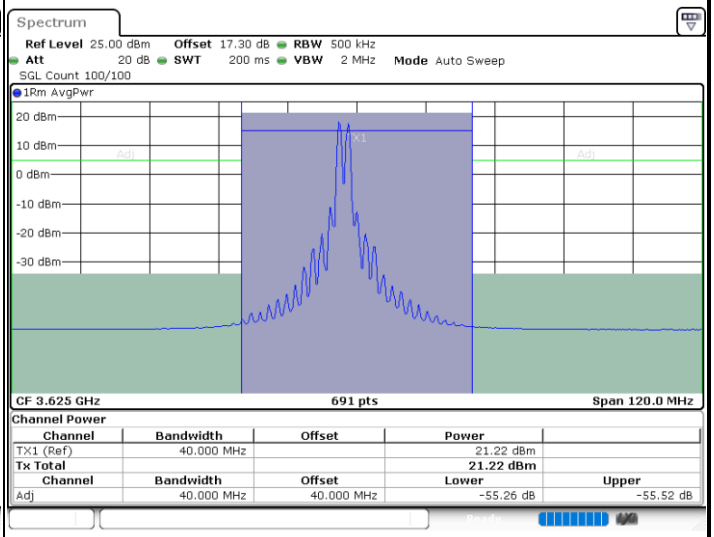
LTE Band 48C / 15MHz+20MHz

QPSK

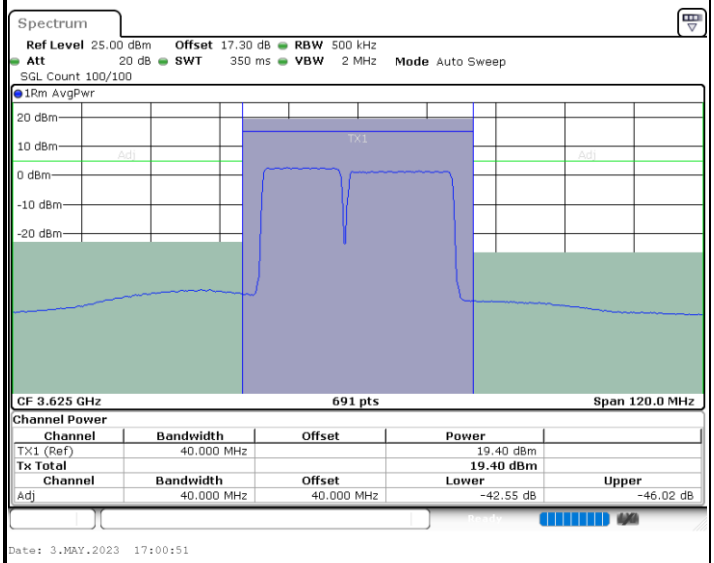
Middle Channel / 1RB0 and 1RB99



Middle Channel / 1RB74 and 1RB0



Middle Channel / FullRB

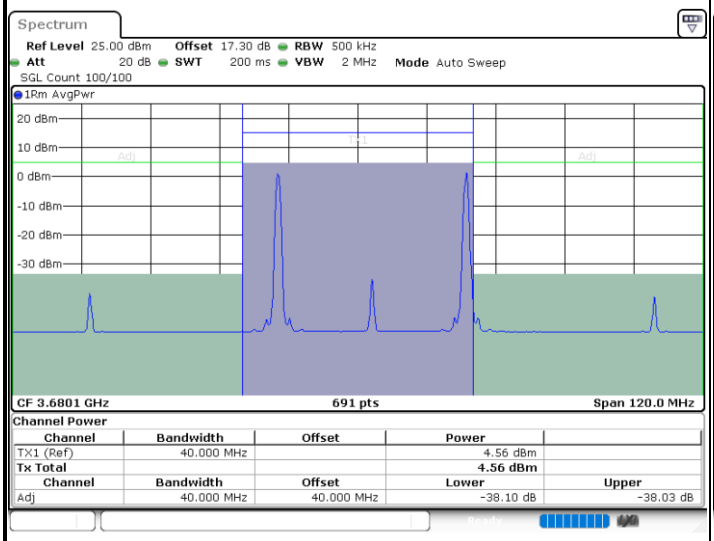


N/A

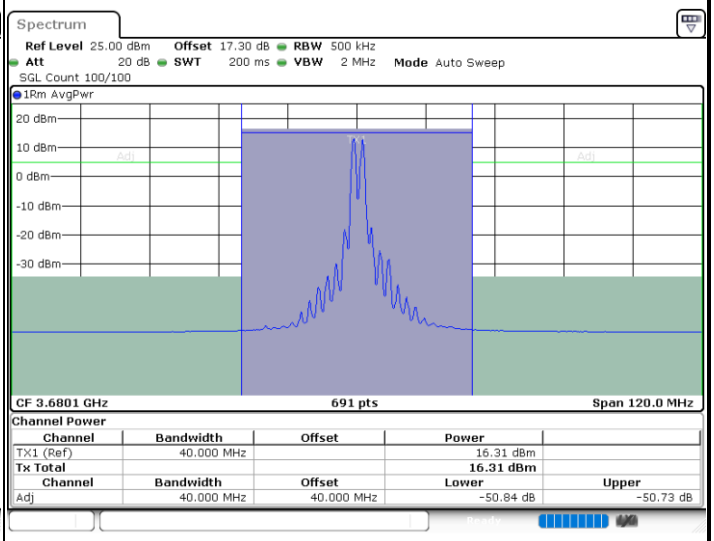
LTE Band 48C / 15MHz+20MHz

QPSK

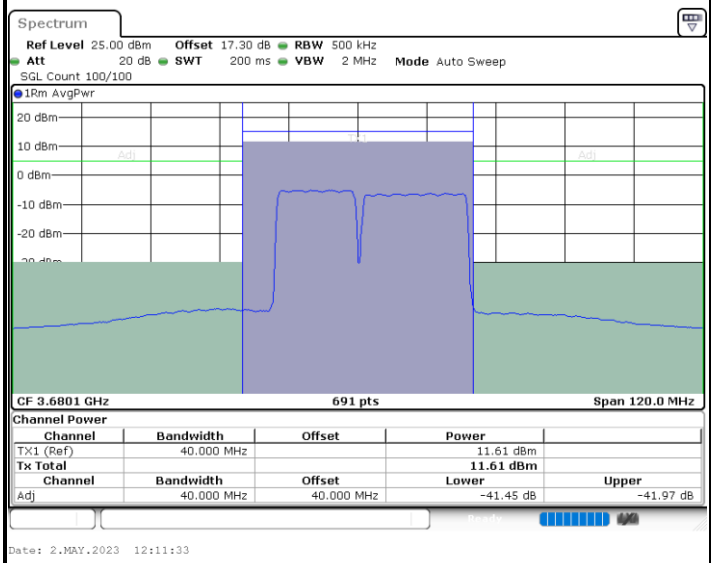
Highest Channel / 1RB0 and 1RB99



Highest Channel / 1RB74 and 1RB0



Highest Channel / FullRB

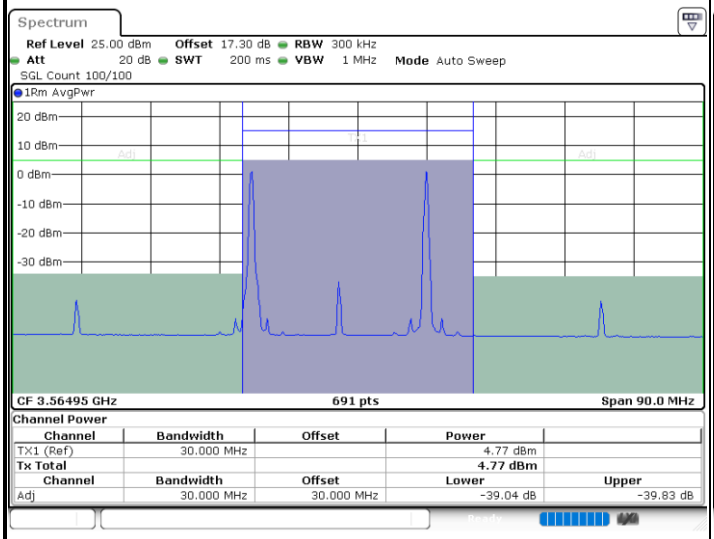


N/A

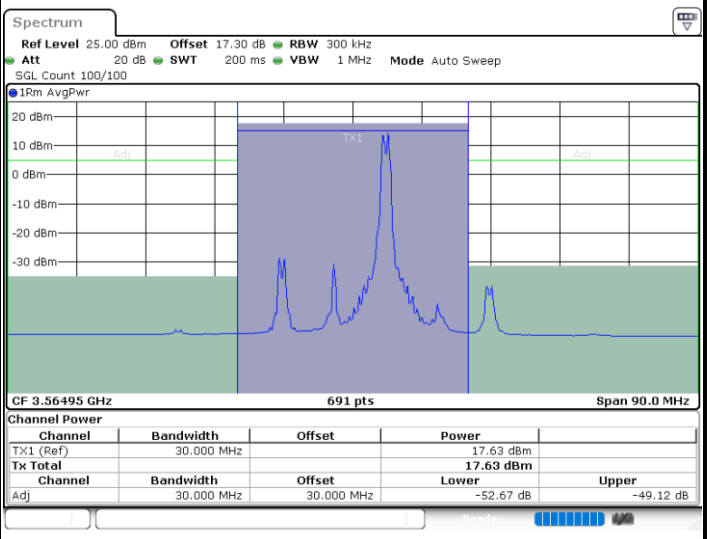
LTE Band 48C / 20MHz+5MHz

QPSK

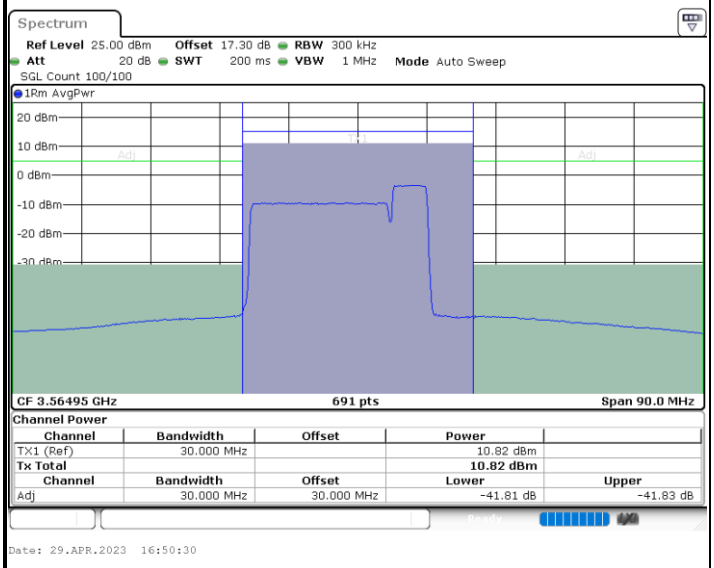
Lowest Channel / 1RB0 and 1RB24



Lowest Channel / 1RB99 and 1RB0



Lowest Channel / FullRB

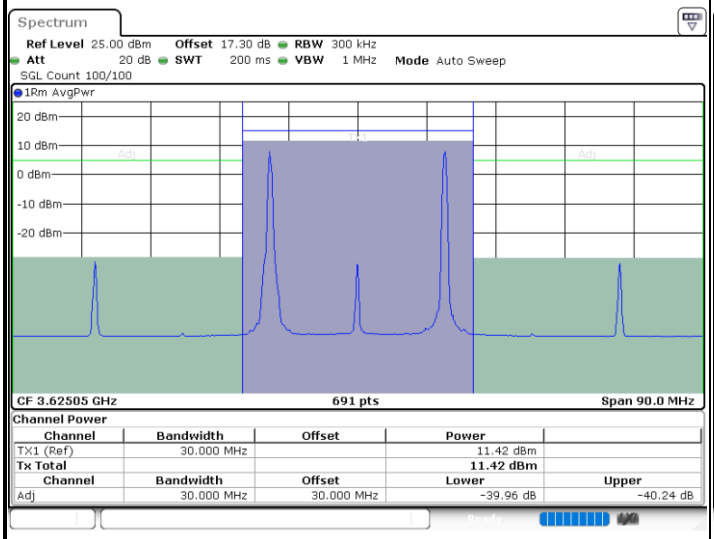


N/A

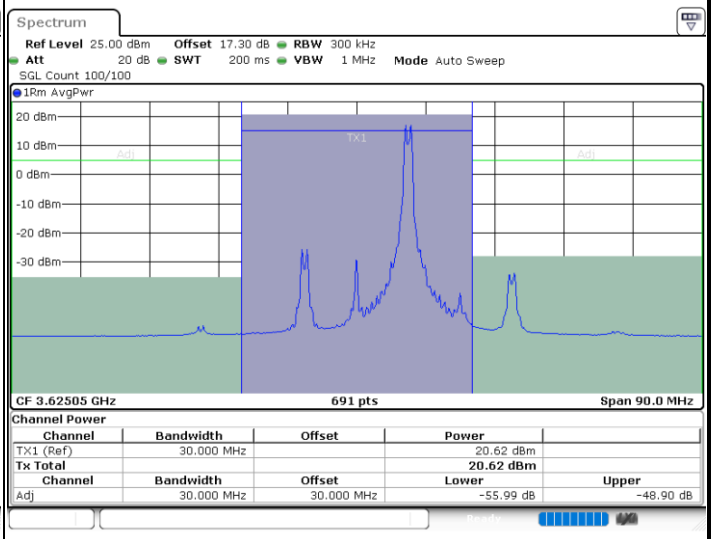
LTE Band 48C / 20MHz+5MHz

QPSK

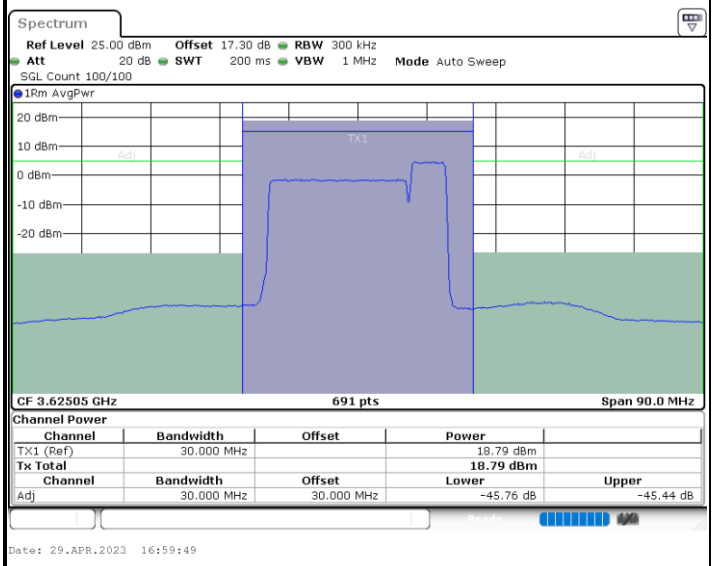
Middle Channel / 1RB0 and 1RB24



Middle Channel / 1RB99 and 1RB0



Middle Channel / FullRB

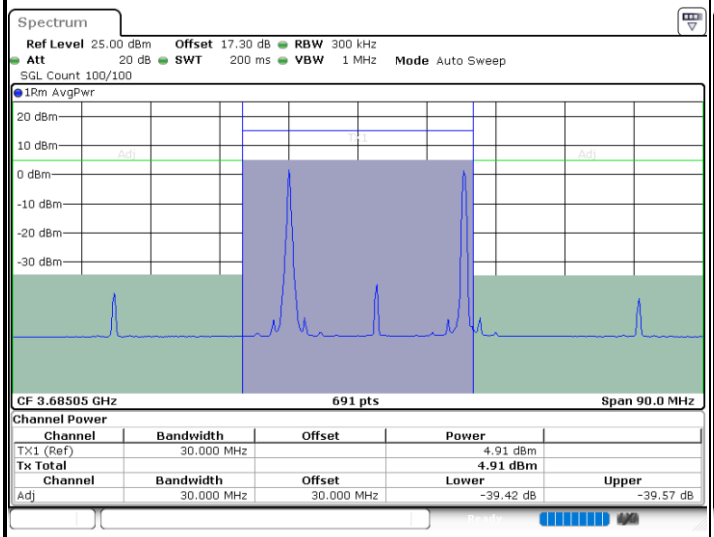


N/A

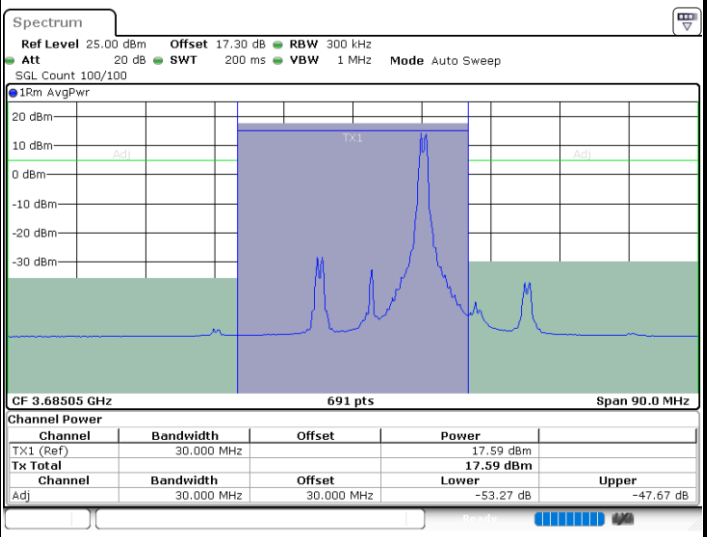
LTE Band 48C / 20MHz+5MHz

QPSK

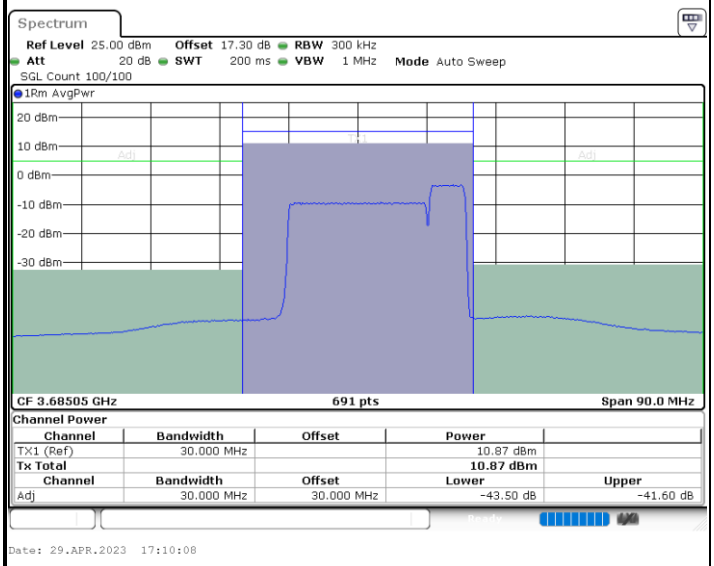
Highest Channel / 1RB0 and 1RB24



Highest Channel / 1RB99 and 1RB0



Highest Channel / FullRB

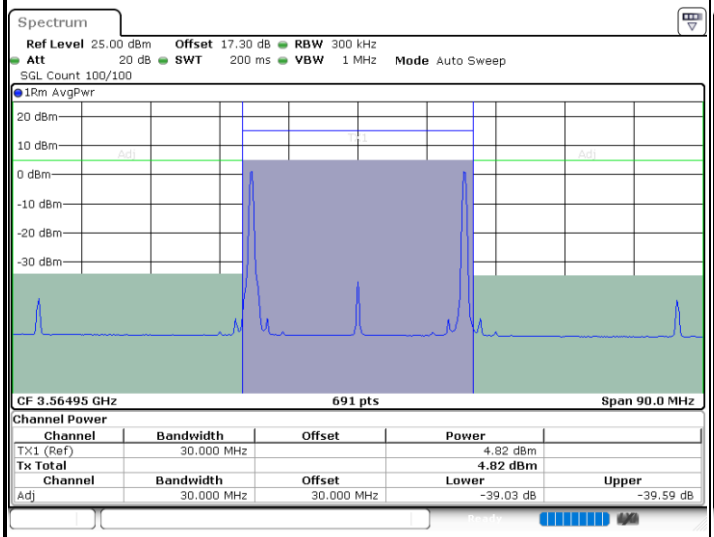


N/A

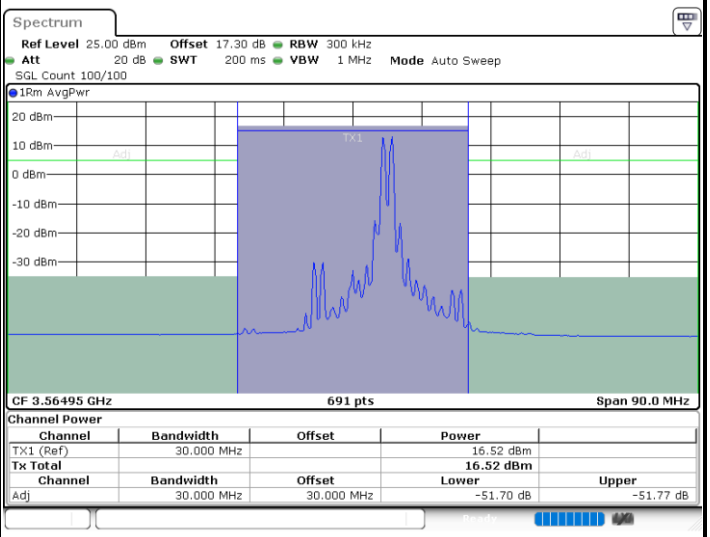
LTE Band 48C / 20MHz+10MHz

QPSK

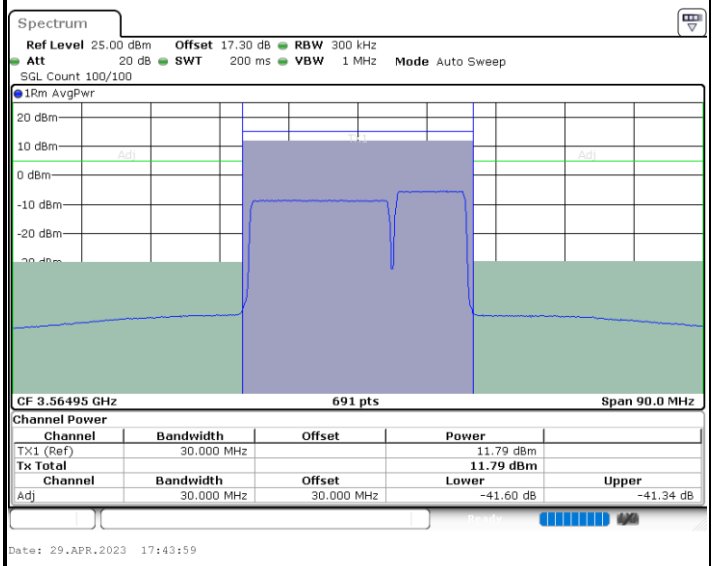
Lowest Channel / 1RB0 and 1RB49



Lowest Channel / 1RB99 and 1RB0



Lowest Channel / FullRB

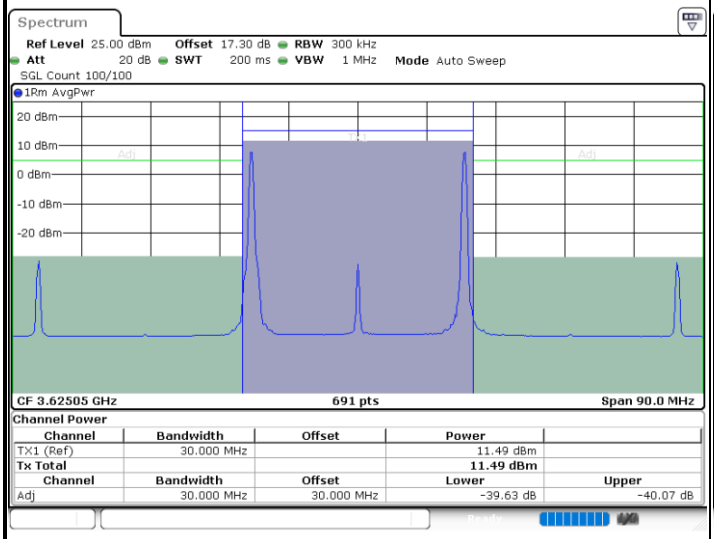


N/A

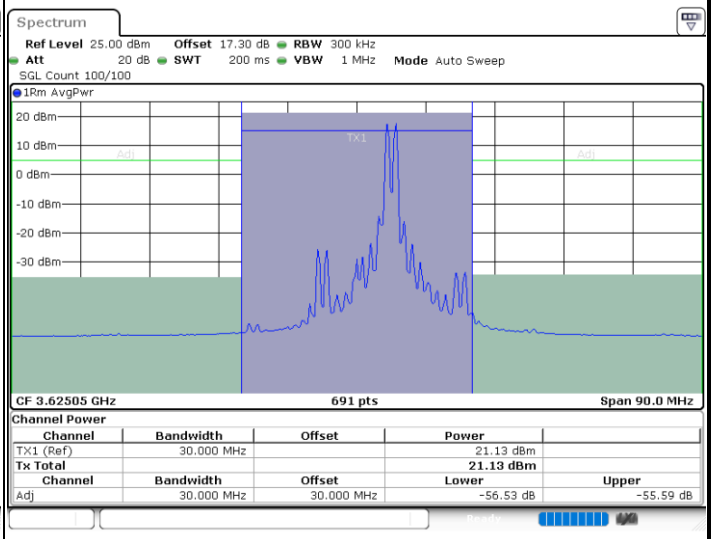
LTE Band 48C / 20MHz+10MHz

QPSK

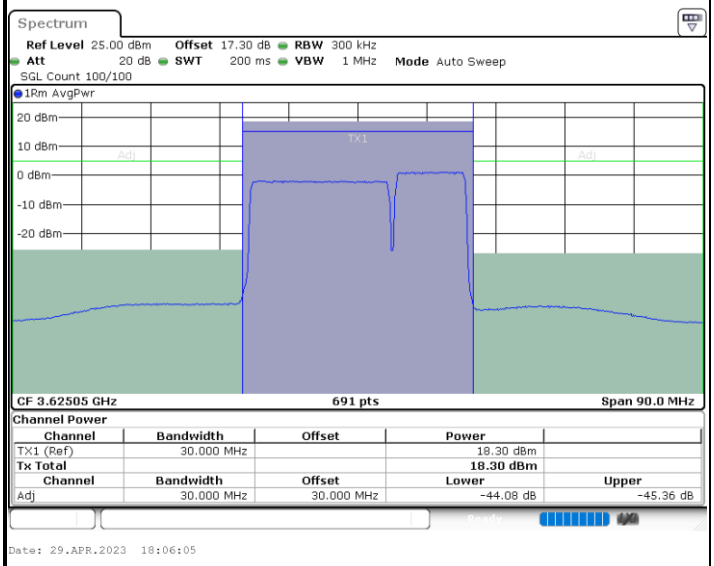
Middle Channel / 1RB0 and 1RB49



Middle Channel / 1RB99 and 1RB0



Middle Channel / FullRB

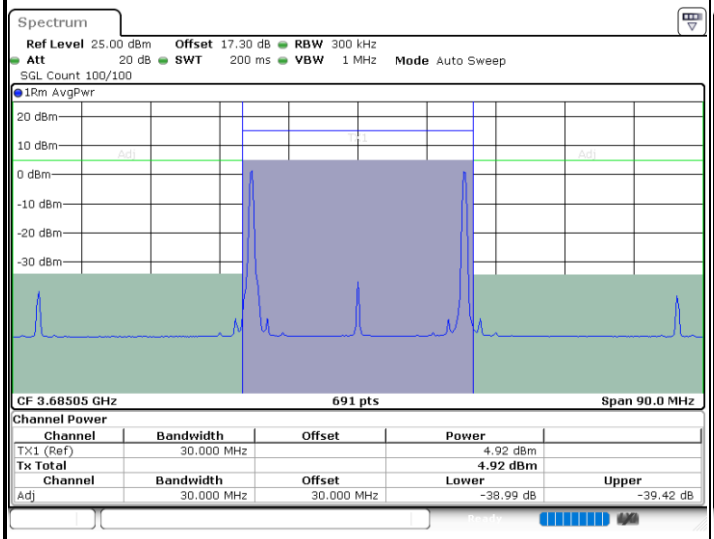


N/A

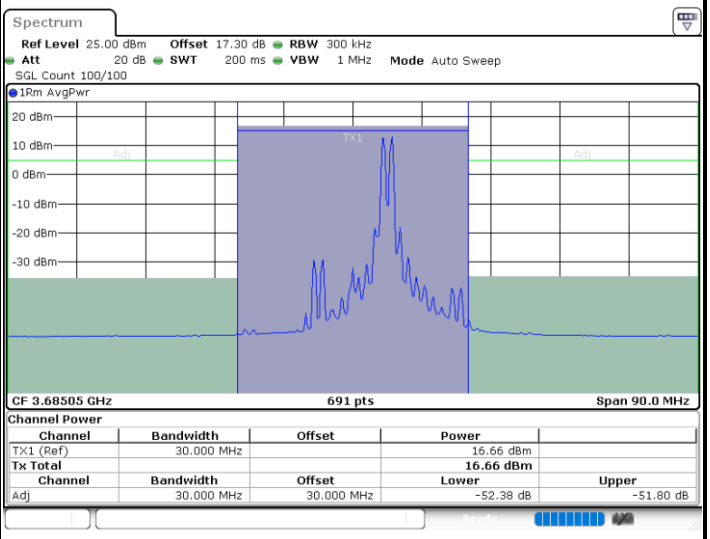
LTE Band 48C / 20MHz+10MHz

QPSK

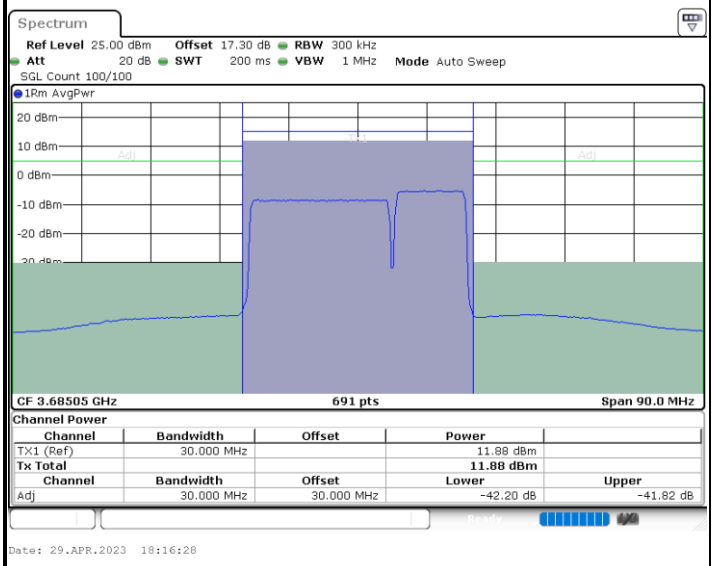
Highest Channel / 1RB0 and 1RB49



Highest Channel / 1RB99 and 1RB0



Highest Channel / FullRB

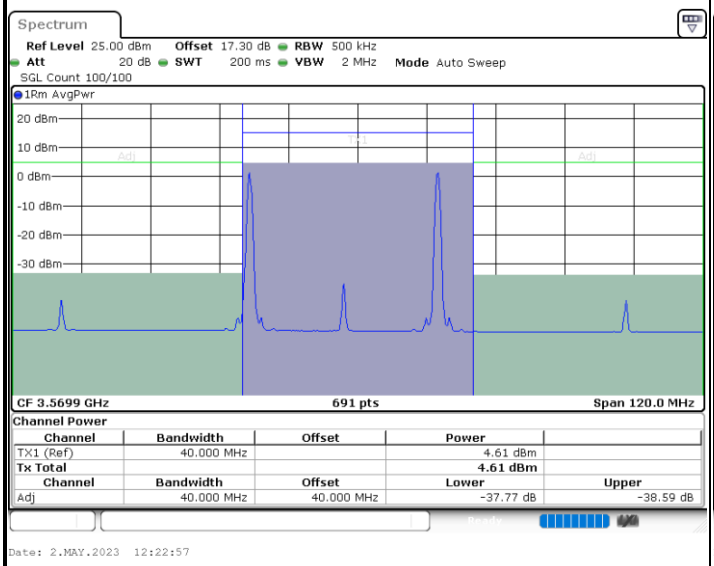


N/A

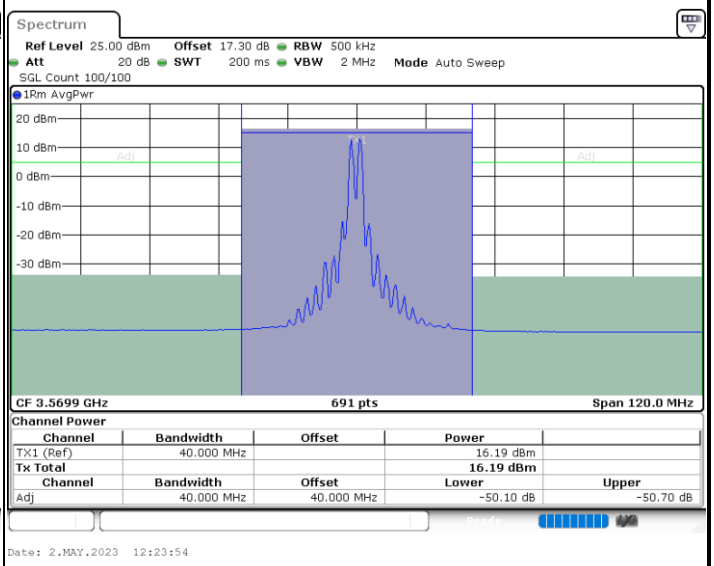
LTE Band 48C / 20MHz+15MHz

QPSK

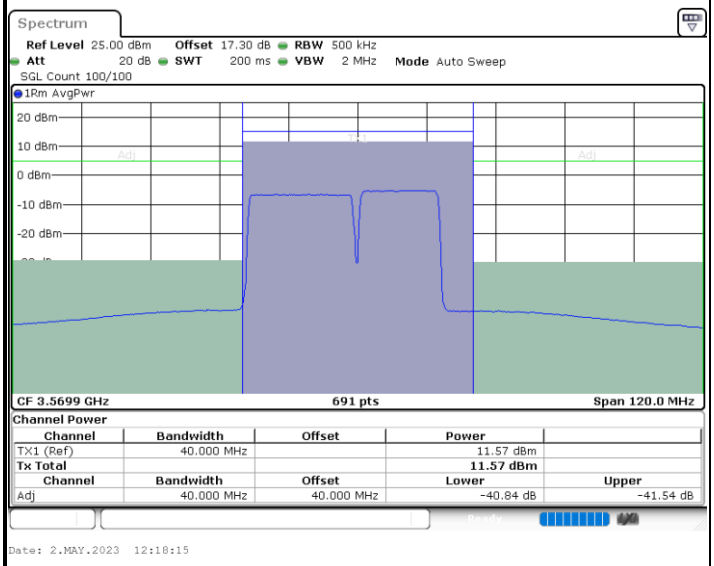
Lowest Channel / 1RB0 and 1RB74



Lowest Channel / 1RB99 and 1RB0



Lowest Channel / FullRB

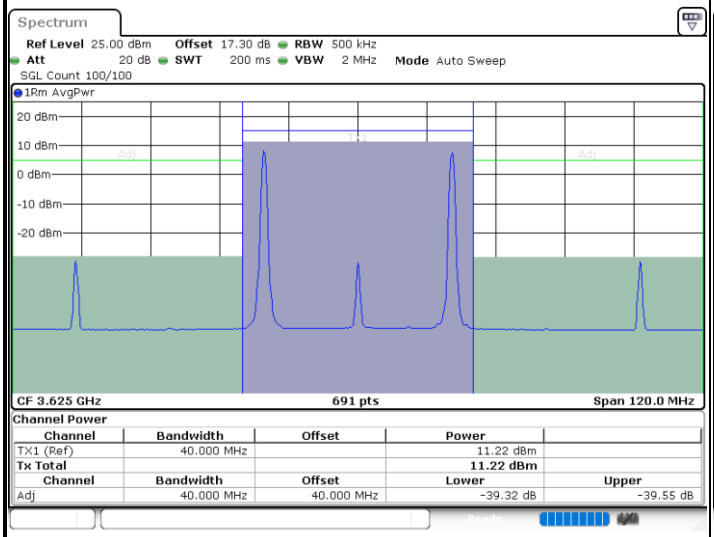


N/A

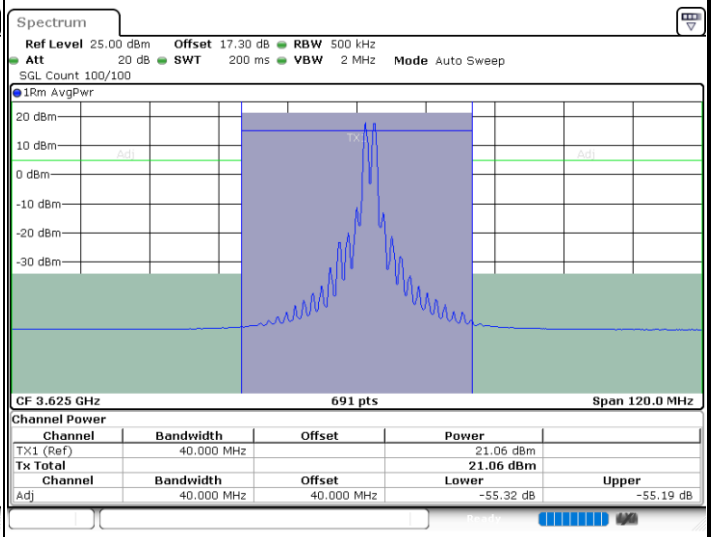
LTE Band 48C / 20MHz+15MHz

QPSK

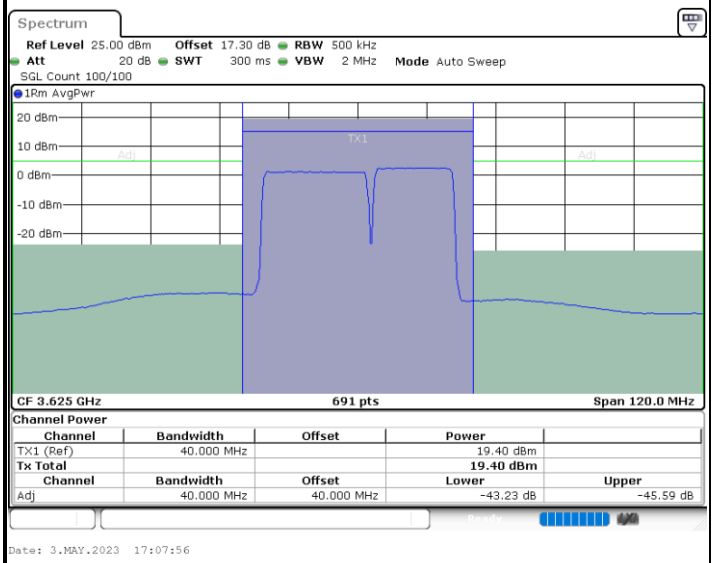
Middle Channel / 1RB0 and 1RB74



Middle Channel / 1RB99 and 1RB0



Middle Channel / FullRB

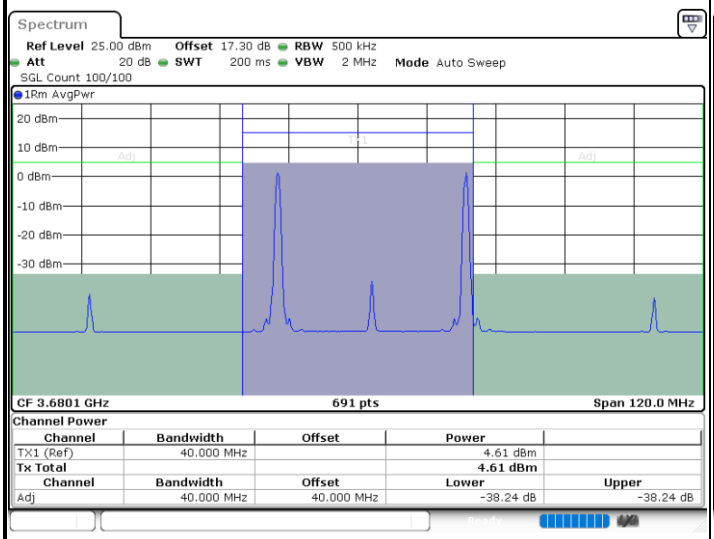


N/A

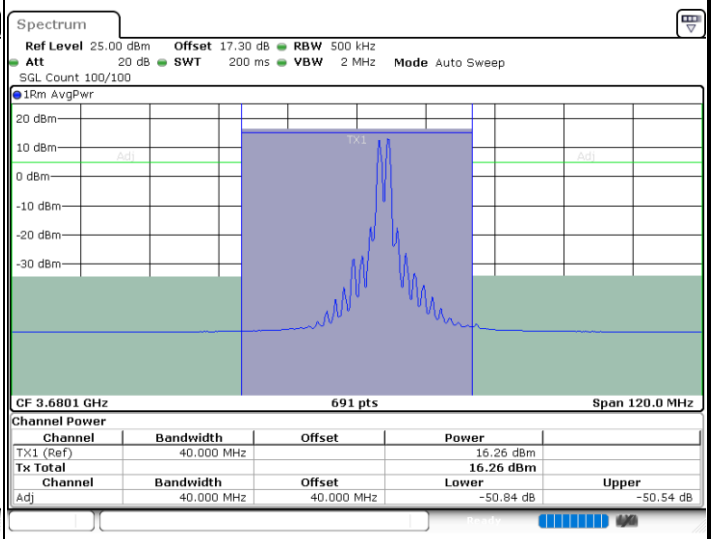
LTE Band 48C / 20MHz+15MHz

QPSK

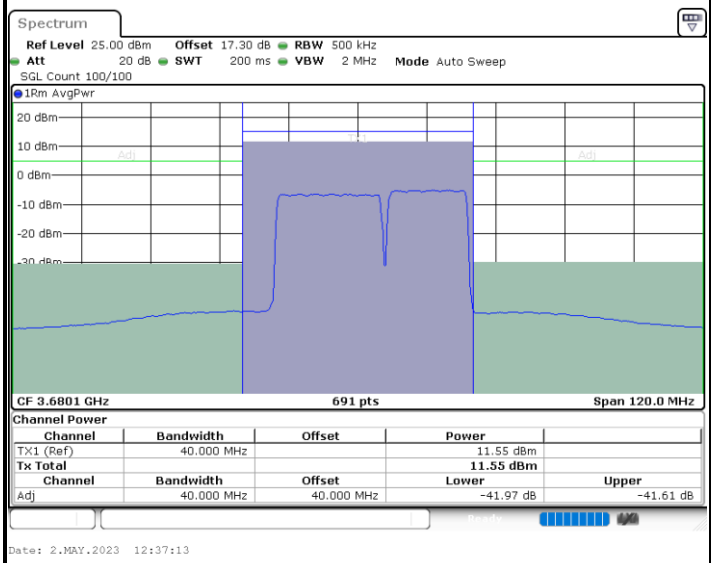
Highest Channel / 1RB0 and 1RB74



Highest Channel / 1RB99 and 1RB0



Highest Channel / FullRB

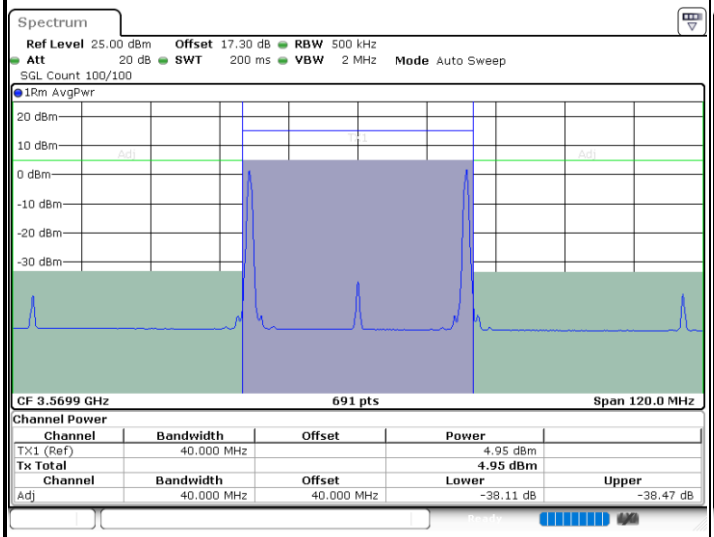


N/A

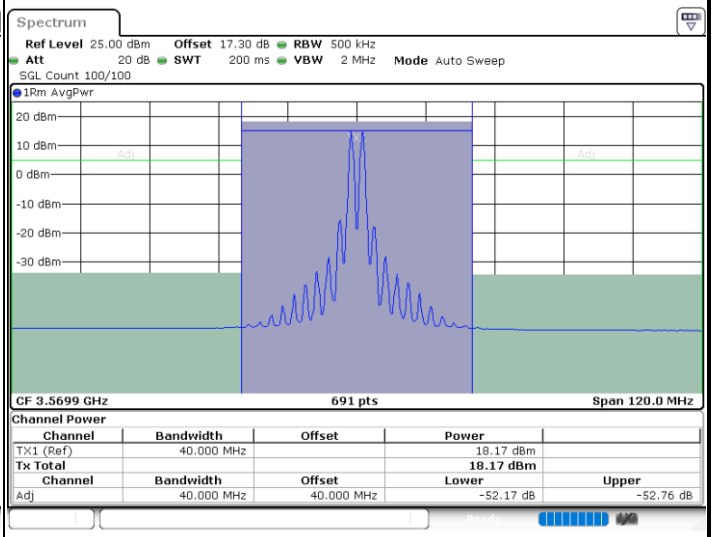
LTE Band 48C / 20MHz+20MHz

QPSK

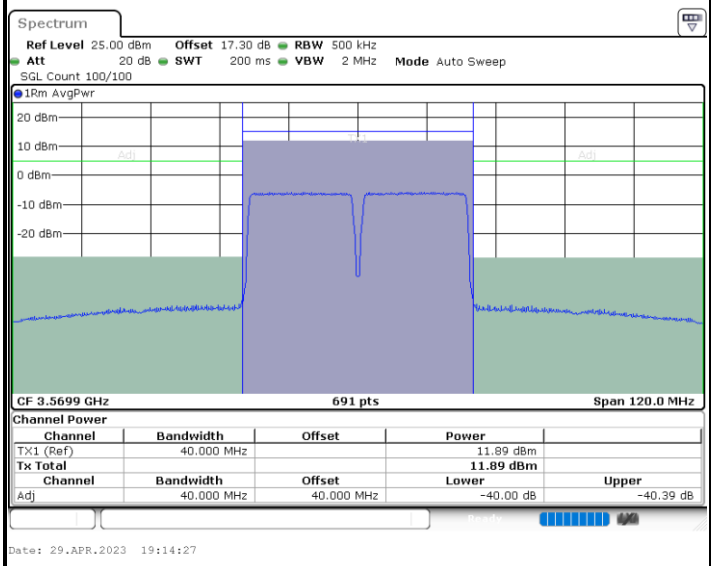
Lowest Channel / 1RB0 and 1RB99



Lowest Channel / 1RB99 and 1RB0



Lowest Channel / FullRB

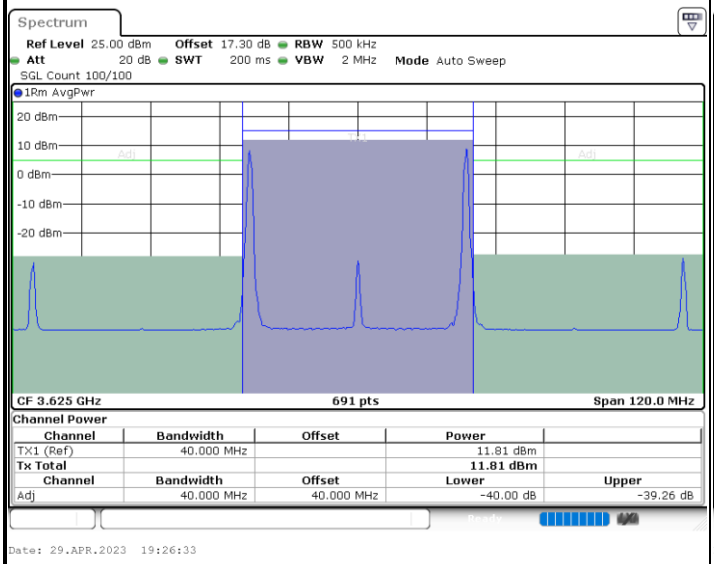


N/A

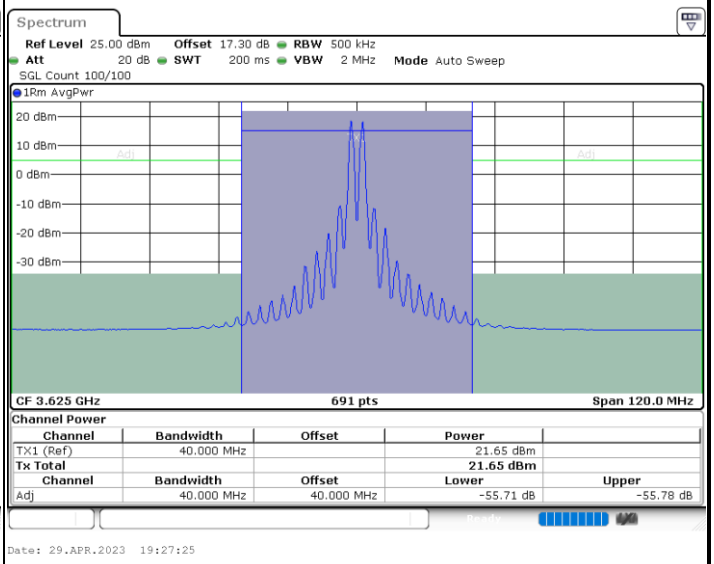
LTE Band 48C / 20MHz+20MHz

QPSK

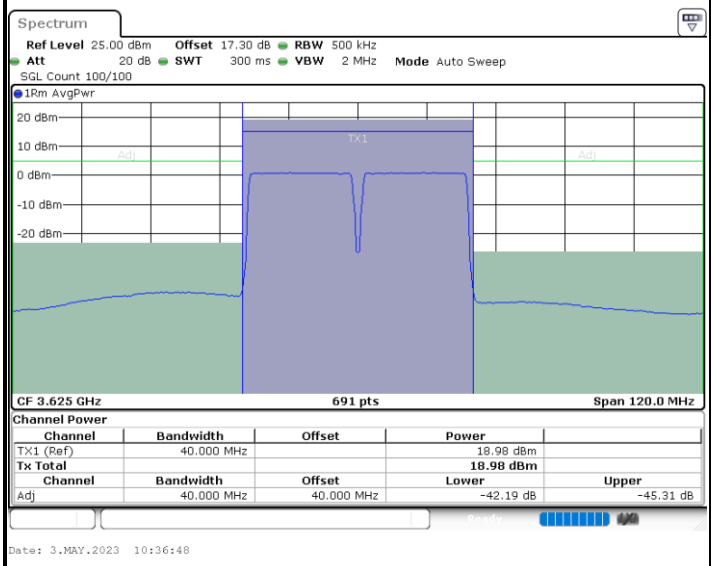
MiddleChannel / 1RB0 and 1RB99



Middle Channel / 1RB99 and 1RB0



Middle Channel / FullRB



N/A