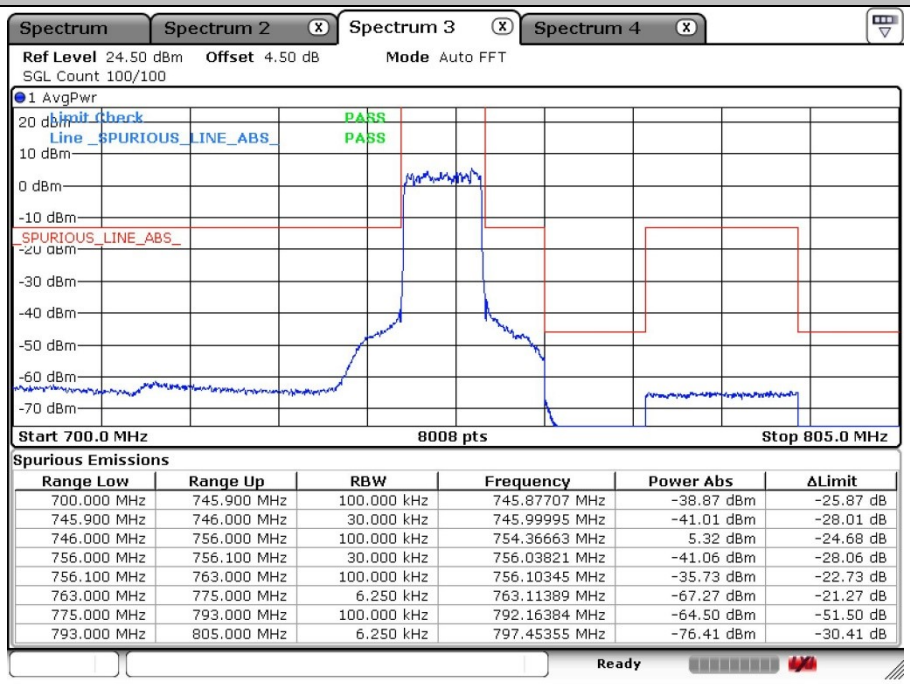
LTE Band 13 / 10MHz / QPSK

Band Edge / Full RB



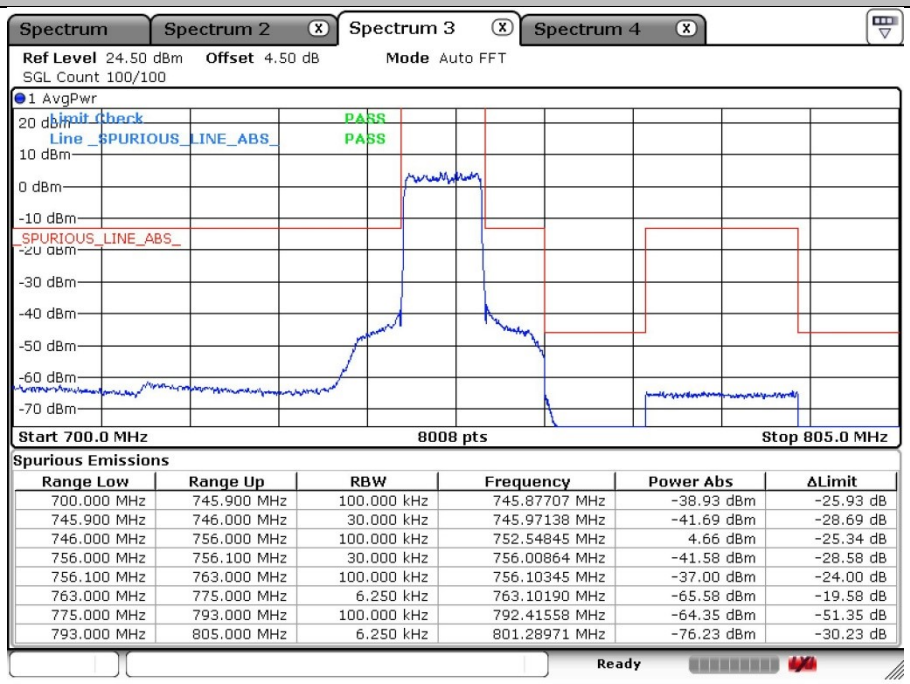
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
700.000 MHz	745.900 MHz	100.000 kHz	745.87707 MHz	-38.87 dBm	-25.87 dB
745.900 MHz	746.000 MHz	30.000 kHz	745.99995 MHz	-41.01 dBm	-28.01 dB
746.000 MHz	756.000 MHz	100.000 kHz	754.36663 MHz	5.32 dBm	-24.68 dB
756.000 MHz	756.100 MHz	30.000 kHz	756.03821 MHz	-41.06 dBm	-28.06 dB
756.100 MHz	763.000 MHz	100.000 kHz	756.10345 MHz	-35.73 dBm	-22.73 dB
763.000 MHz	775.000 MHz	6.250 kHz	763.11389 MHz	-67.27 dBm	-21.27 dB
775.000 MHz	793.000 MHz	100.000 kHz	792.16384 MHz	-64.50 dBm	-51.50 dB
793.000 MHz	805.000 MHz	6.250 kHz	797.45355 MHz	-76.41 dBm	-30.41 dB

Date: 11.SEP.2020 20:31:32

LTE Band 13 / 10MHz / 16QAM

Band Edge / Full RB



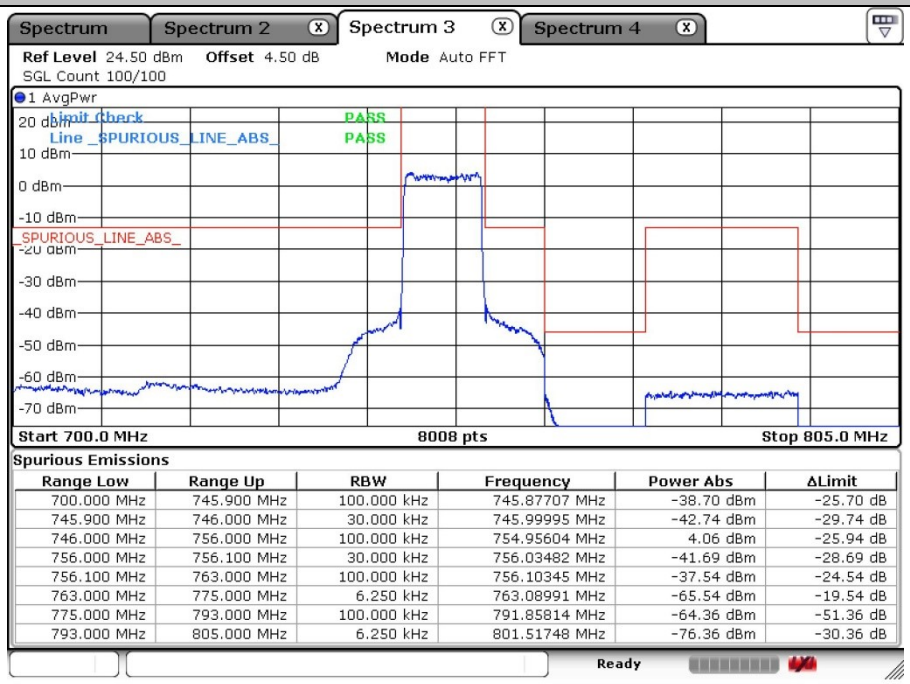
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
700.000 MHz	745.900 MHz	100.000 kHz	745.87707 MHz	-38.93 dBm	-25.93 dB
745.900 MHz	746.000 MHz	30.000 kHz	745.97138 MHz	-41.69 dBm	-28.69 dB
746.000 MHz	756.000 MHz	100.000 kHz	752.54845 MHz	4.66 dBm	-25.34 dB
756.000 MHz	756.100 MHz	30.000 kHz	756.00864 MHz	-41.58 dBm	-28.58 dB
756.100 MHz	763.000 MHz	100.000 kHz	756.10345 MHz	-37.00 dBm	-24.00 dB
763.000 MHz	775.000 MHz	6.250 kHz	763.10190 MHz	-65.58 dBm	-19.58 dB
775.000 MHz	793.000 MHz	100.000 kHz	792.41558 MHz	-64.35 dBm	-51.35 dB
793.000 MHz	805.000 MHz	6.250 kHz	801.28971 MHz	-76.23 dBm	-30.23 dB

Date: 11.SEP.2020 20:35:02

LTE Band 13 / 10MHz / 64QAM

Band Edge / Full RB



Spurious Emissions

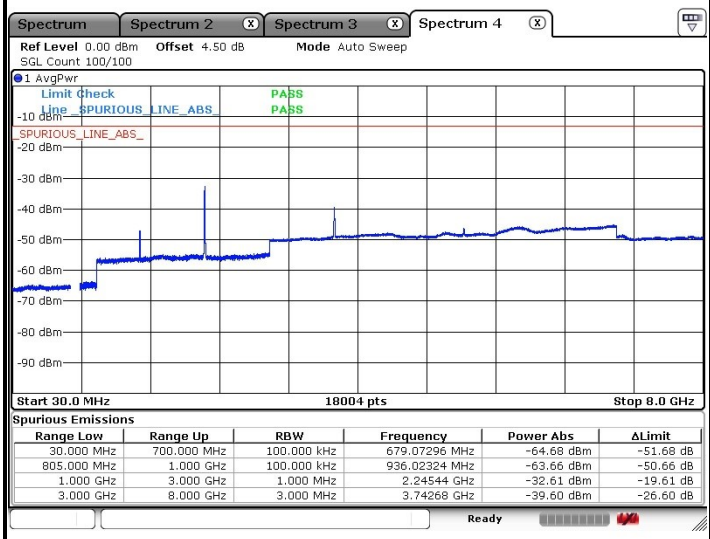
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
700.000 MHz	745.900 MHz	100.000 kHz	745.87707 MHz	-38.70 dBm	-25.70 dB
745.900 MHz	746.000 MHz	30.000 kHz	745.99995 MHz	-42.74 dBm	-29.74 dB
746.000 MHz	756.000 MHz	100.000 kHz	754.95604 MHz	4.06 dBm	-25.94 dB
756.000 MHz	756.100 MHz	30.000 kHz	756.03482 MHz	-41.69 dBm	-28.69 dB
756.100 MHz	763.000 MHz	100.000 kHz	756.10345 MHz	-37.54 dBm	-24.54 dB
763.000 MHz	775.000 MHz	6.250 kHz	763.08991 MHz	-65.54 dBm	-19.54 dB
775.000 MHz	793.000 MHz	100.000 kHz	791.85814 MHz	-64.36 dBm	-51.36 dB
793.000 MHz	805.000 MHz	6.250 kHz	801.51748 MHz	-76.36 dBm	-30.36 dB

Date: 11.SEP.2020 20:39:26

Conducted Spurious Emission

LTE Band 13 / 5MHz

Lowest Channel / QPSK

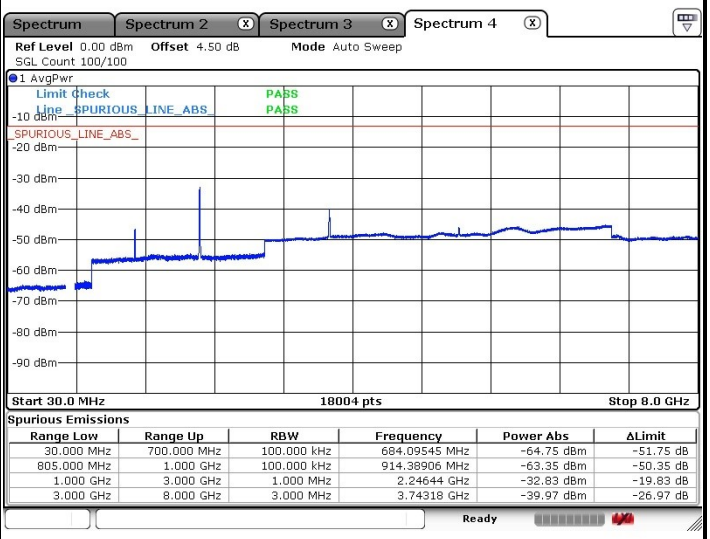


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	679.07296 MHz	-64.68 dBm	-51.68 dB
805.000 MHz	1.000 GHz	100.000 kHz	936.02324 MHz	-63.66 dBm	-50.66 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.24544 GHz	-32.61 dBm	-19.61 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.74268 GHz	-39.60 dBm	-26.60 dB

Date: 11.SEP.2020 20:54:53

Lowest Channel / 16QAM

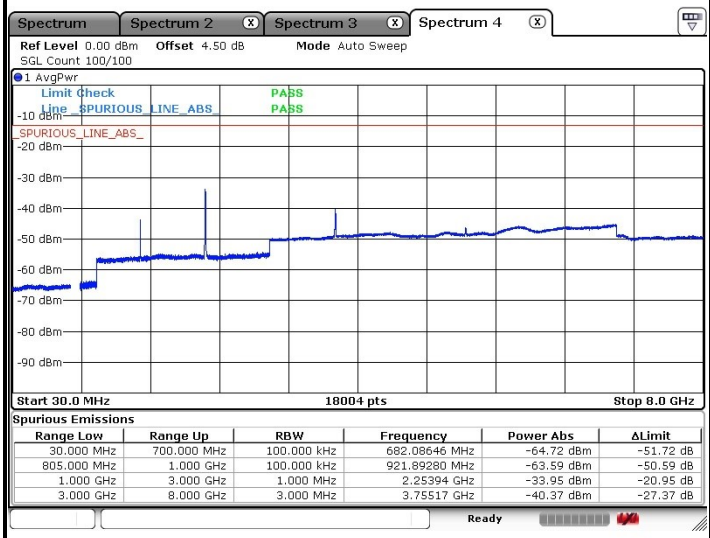


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	684.09545 MHz	-64.75 dBm	-51.75 dB
805.000 MHz	1.000 GHz	100.000 kHz	914.38906 MHz	-63.35 dBm	-50.35 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.24644 GHz	-32.83 dBm	-19.83 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.74318 GHz	-39.97 dBm	-26.97 dB

Date: 11.SEP.2020 20:50:17

Middle Channel / QPSK

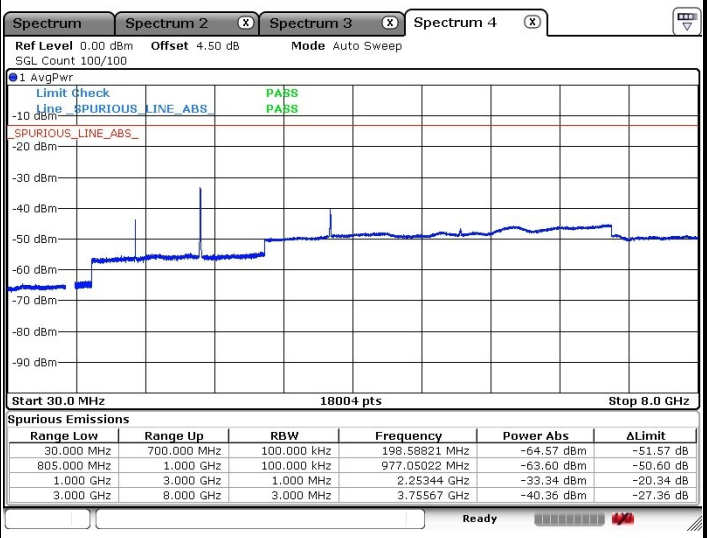


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	682.08646 MHz	-64.72 dBm	-51.72 dB
805.000 MHz	1.000 GHz	100.000 kHz	921.89280 MHz	-63.59 dBm	-50.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25394 GHz	-33.95 dBm	-20.95 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75517 GHz	-40.37 dBm	-27.37 dB

Date: 11.SEP.2020 20:59:38

Middle Channel / 16QAM



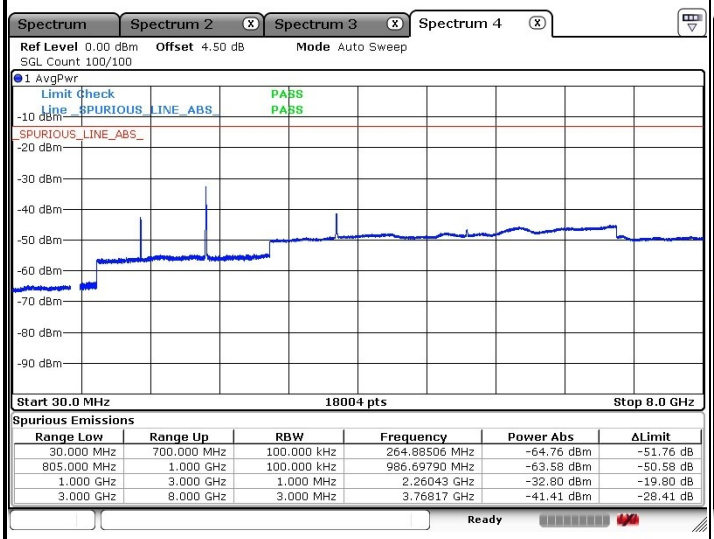
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	198.58821 MHz	-64.57 dBm	-51.57 dB
805.000 MHz	1.000 GHz	100.000 kHz	977.05022 MHz	-63.60 dBm	-50.60 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25344 GHz	-33.34 dBm	-20.34 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75567 GHz	-40.36 dBm	-27.36 dB

Date: 11.SEP.2020 21:04:36

LTE Band 13 / 5MHz

Highest Channel / QPSK

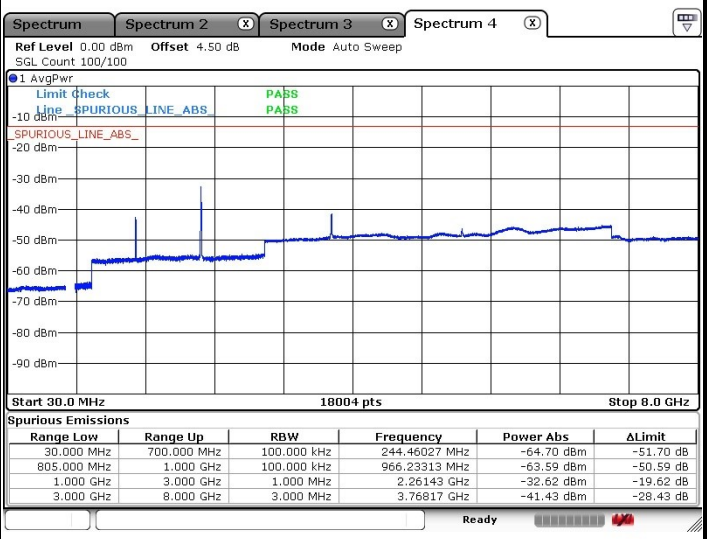


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	264.88506 MHz	-64.76 dBm	-51.76 dB
805.000 MHz	1.000 GHz	100.000 kHz	986.69790 MHz	-63.58 dBm	-50.58 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.26043 GHz	-32.80 dBm	-19.80 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.76817 GHz	-41.41 dBm	-28.41 dB

Date: 11.SEP.2020 21:23:17

Highest Channel / 16QAM



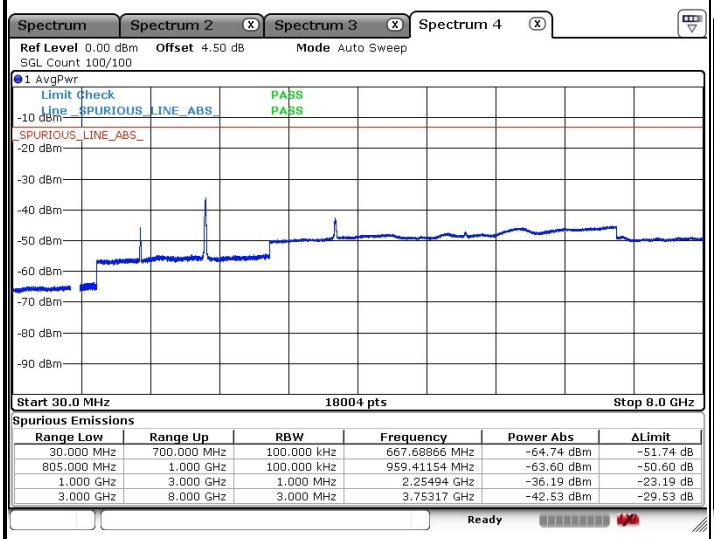
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	244.46027 MHz	-64.70 dBm	-51.70 dB
805.000 MHz	1.000 GHz	100.000 kHz	966.23313 MHz	-63.59 dBm	-50.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.26143 GHz	-32.62 dBm	-19.62 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.76817 GHz	-41.43 dBm	-28.43 dB

Date: 11.SEP.2020 21:19:31

LTE Band 13 / 10MHz

Middle Channel / QPSK

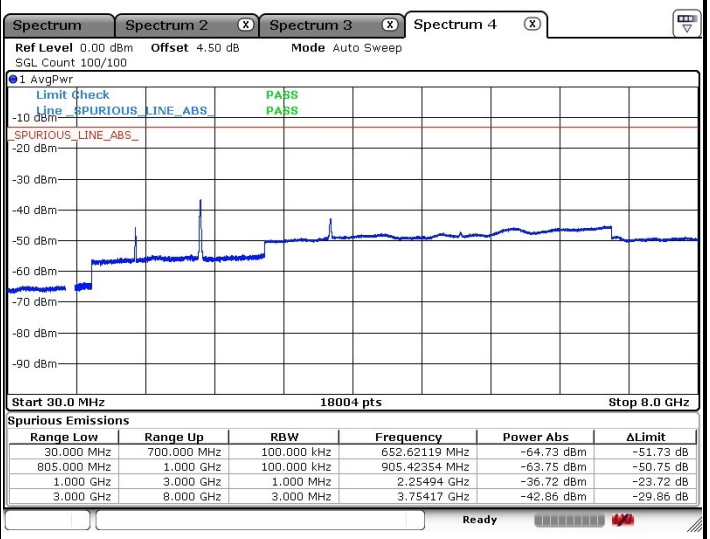


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	667.68866 MHz	-64.74 dBm	-51.74 dB
805.000 MHz	1.000 GHz	100.000 kHz	959.41154 MHz	-63.60 dBm	-50.60 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25494 GHz	-36.19 dBm	-23.19 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75317 GHz	-42.53 dBm	-29.53 dB

Date: 11.SEP.2020 20:32:00

Middle Channel / 16QAM



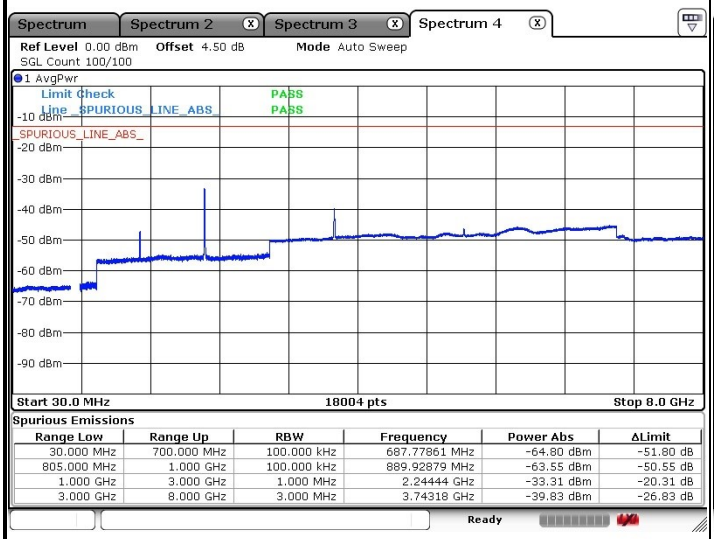
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	652.62119 MHz	-64.73 dBm	-51.73 dB
805.000 MHz	1.000 GHz	100.000 kHz	905.42354 MHz	-63.75 dBm	-50.75 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25494 GHz	-36.72 dBm	-23.72 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75417 GHz	-42.86 dBm	-29.86 dB

Date: 11.SEP.2020 20:34:33

LTE Band 13 / 5MHz

Lowest Channel / 64QAM

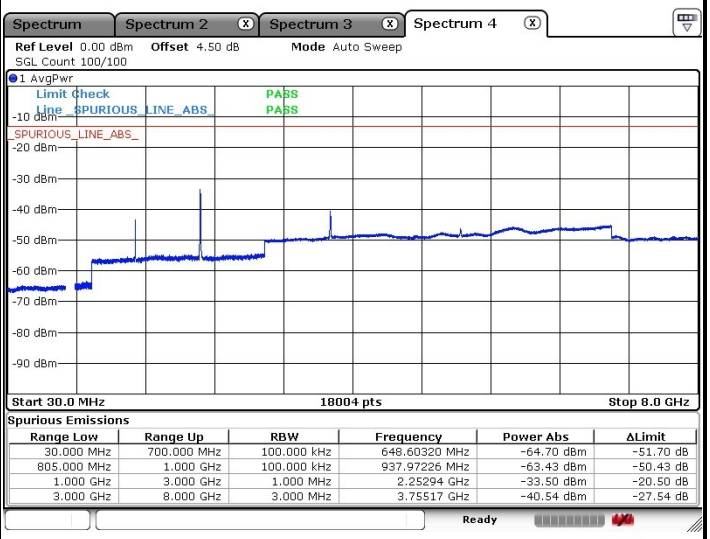


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	687.77861 MHz	-64.80 dBm	-51.80 dB
805.000 MHz	1.000 GHz	100.000 kHz	889.92879 MHz	-63.55 dBm	-50.55 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.24444 GHz	-33.31 dBm	-20.31 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.74318 GHz	-39.83 dBm	-26.83 dB

Date: 11.SEP.2020 20:46:15

Middle Channel / 64QAM

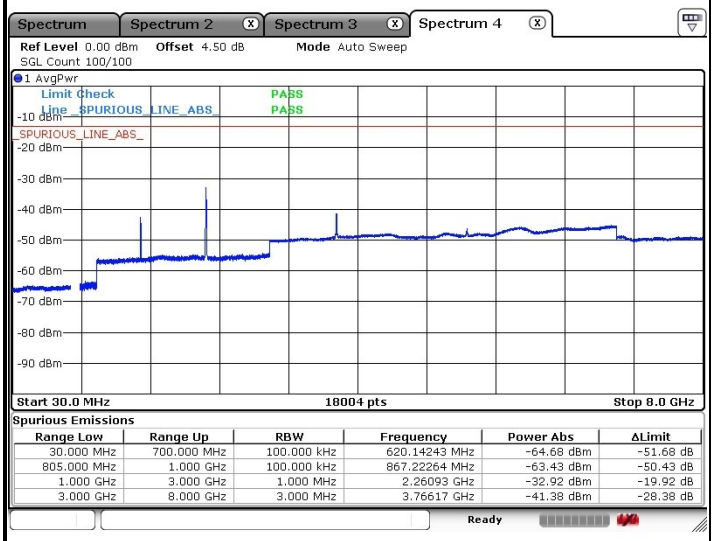


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	648.60320 MHz	-64.70 dBm	-51.70 dB
805.000 MHz	1.000 GHz	100.000 kHz	937.97226 MHz	-63.43 dBm	-50.43 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25294 GHz	-33.50 dBm	-20.50 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75517 GHz	-40.54 dBm	-27.54 dB

Date: 11.SEP.2020 21:08:28

Highest Channel / 64QAM

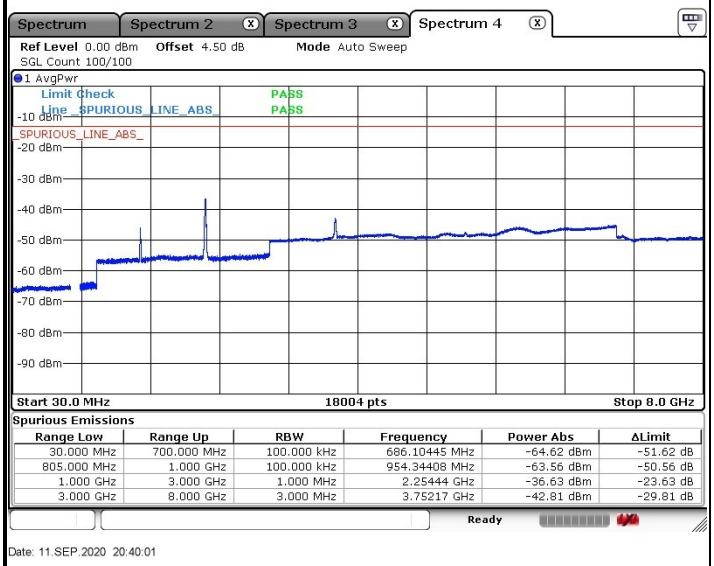


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	620.14243 MHz	-64.68 dBm	-51.68 dB
805.000 MHz	1.000 GHz	100.000 kHz	867.22264 MHz	-63.43 dBm	-50.43 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.26093 GHz	-32.92 dBm	-19.92 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.76617 GHz	-41.38 dBm	-28.38 dB

Date: 11.SEP.2020 21:14:15

LTE Band 13 / 10MHz	
Middle Channel / 64QAM	



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	700.000 MHz	100.000 kHz	686.10445 MHz	-64.62 dBm	-51.62 dB
805.000 MHz	1.000 GHz	100.000 kHz	954.34408 MHz	-63.56 dBm	-50.56 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25444 GHz	-36.63 dBm	-23.63 dB
3.000 GHz	8.000 GHz	3.000 MHz	3.75217 GHz	-42.81 dBm	-29.81 dB

Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0016	PASS
40	Normal Voltage	0.0007	
30	Normal Voltage	0.0041	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0057	
0	Normal Voltage	0.0065	
-10	Normal Voltage	0.0011	
-20	Normal Voltage	0.0054	
-30	Normal Voltage	0.0068	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0009	
20	Battery End Point	0.0042	

Note:

1. Normal Voltage =12V. ; Battery End Point (BEP) =10.5V. ; Maximum Voltage =13.5 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

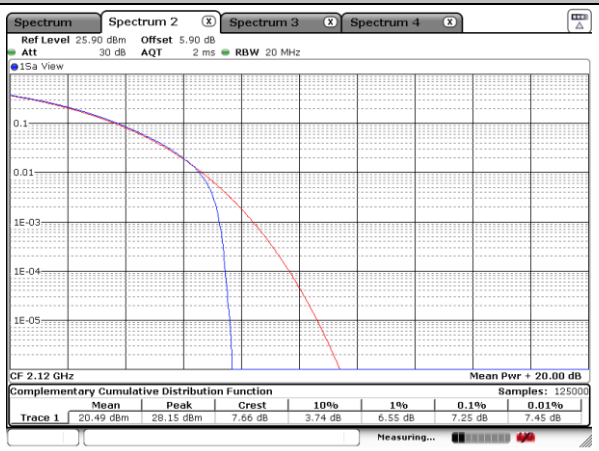
LTE Band 66 MIMO<Ant.1>

Peak-to-Average Ratio

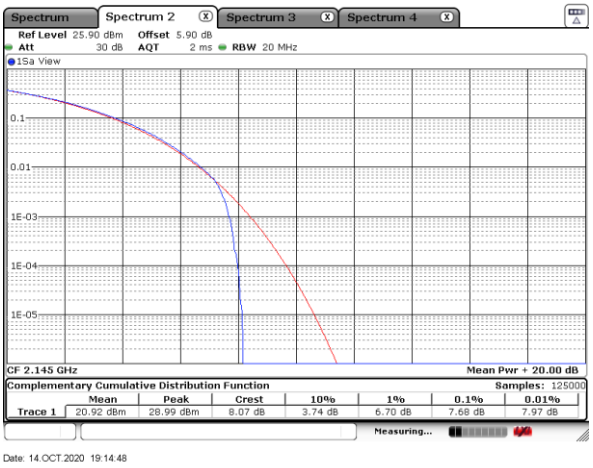
Mode	LTE Band 66 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Lowest CH	7.25	7.54	PASS
Middle CH	7.68	7.51	
Highest CH	6.17	7.51	
Mode	LTE Band 66 / 20MHz		
Mod.	64QAM	-	Limit: 13dB
RB Size	Full RB	-	Result
Lowest CH	7.54	-	PASS
Middle CH	7.54	-	
Highest CH	7.42	-	

LTE Band 66 / 20MHz / QPSK

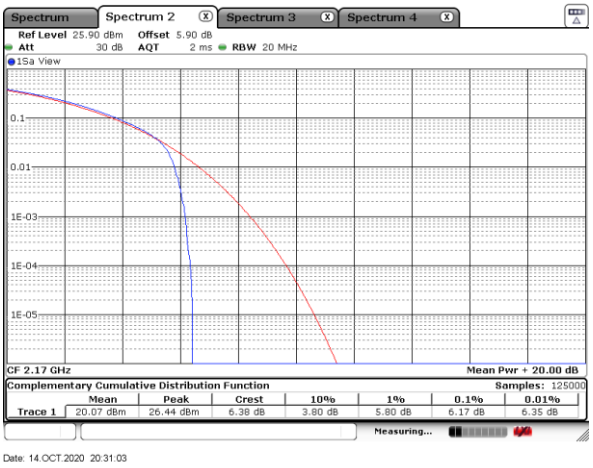
Lowest Channel / Full RB



Middle Channel / Full RB

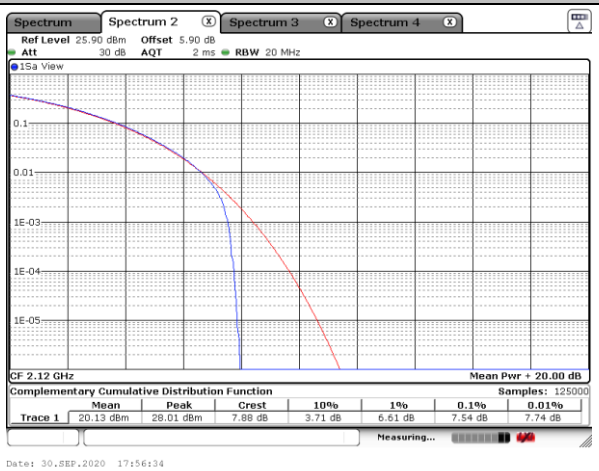


Highest Channel / Full RB

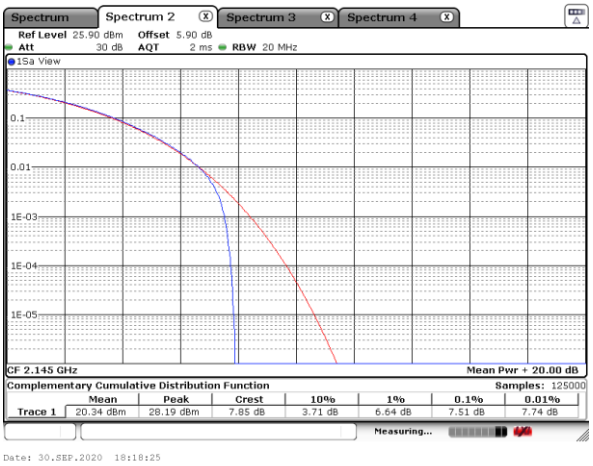


LTE Band 66 / 20MHz / 16QAM

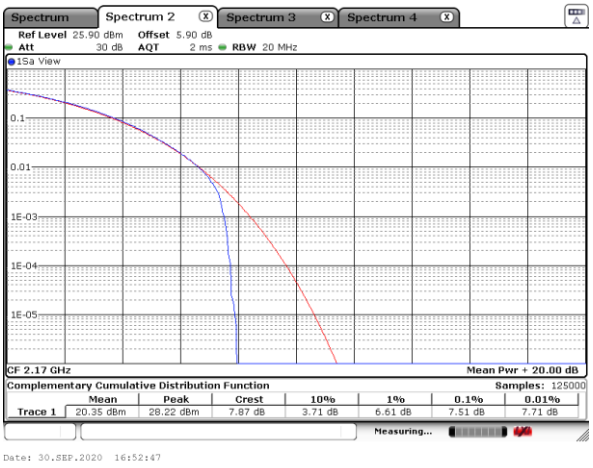
Lowest Channel / Full RB



Middle Channel / Full RB

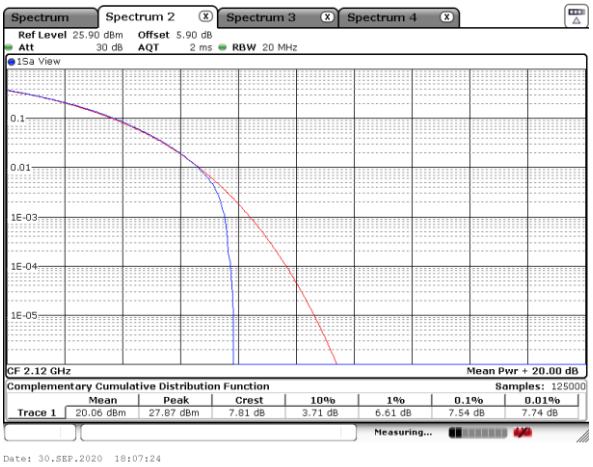


Highest Channel / Full RB

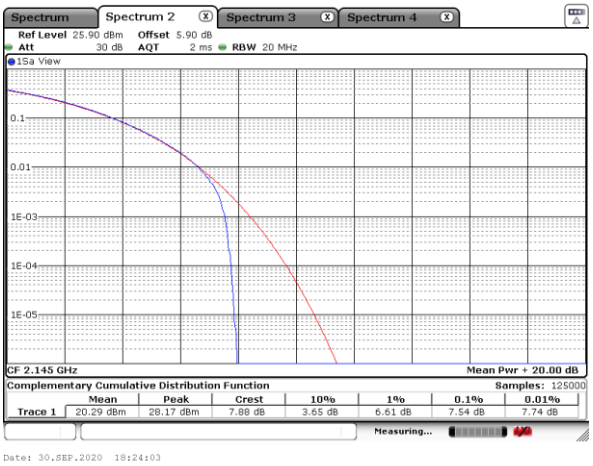


LTE Band 66 / 20MHz / 64QAM

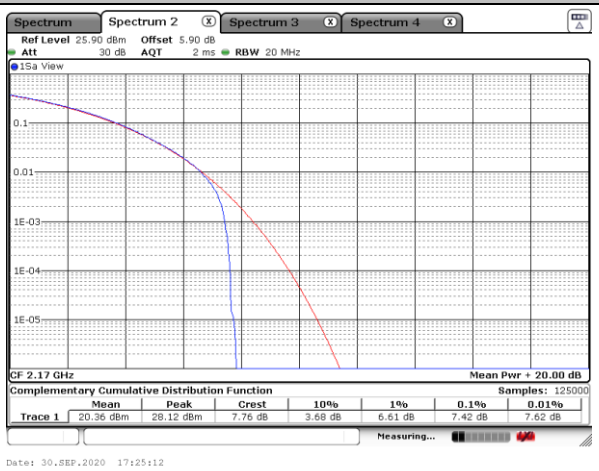
Lowest Channel / Full RB



Middle Channel / Full RB



Highest Channel / Full RB



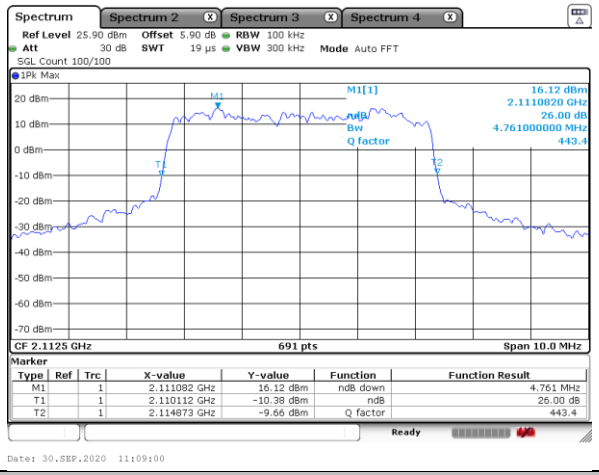
26dB Bandwidth

Mode	LTE Band 66 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.76	4.73	9.67	9.64	14.20	14.20	20.67	20.09
Middle CH	4.75	4.76	9.70	9.73	14.24	14.28	20.43	20.20
Highest CH	4.72	4.72	9.73	9.73	14.20	14.24	20.09	20.32

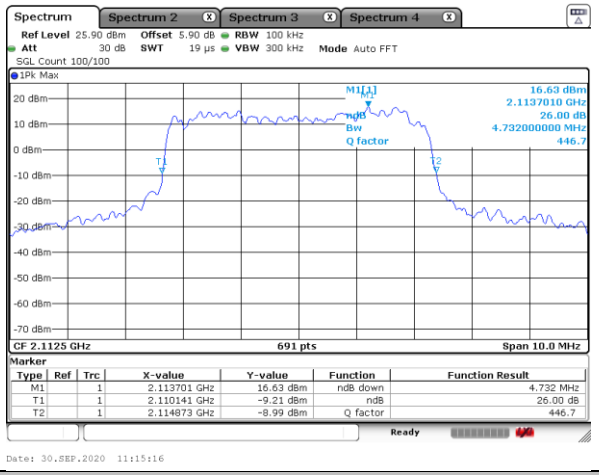
Mode	LTE Band 66 : 26dB BW(MHz)			
BW	5MHz	10MHz	15MHz	20MHz
Mod.	64QAM	64QAM	64QAM	64QAM
Lowest CH	4.81	9.73	14.29	20.15
Middle CH	4.78	9.67	14.11	20.26
Highest CH	4.75	9.70	14.15	20.20

LTE Band 66

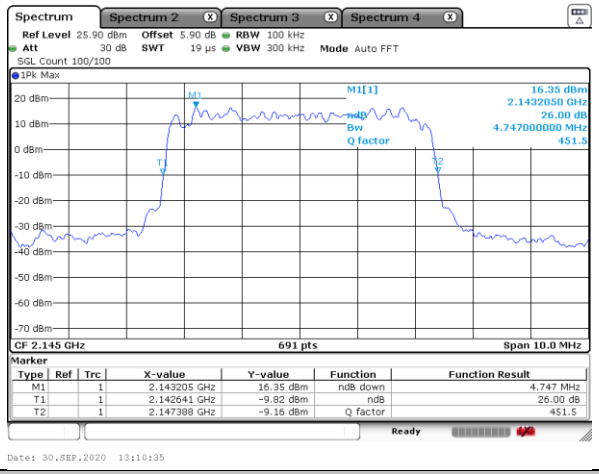
Lowest Channel / 5MHz / QPSK



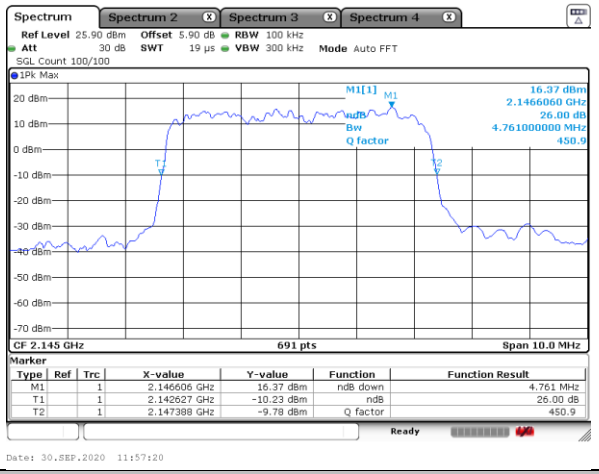
Lowest Channel / 5MHz / 16QAM



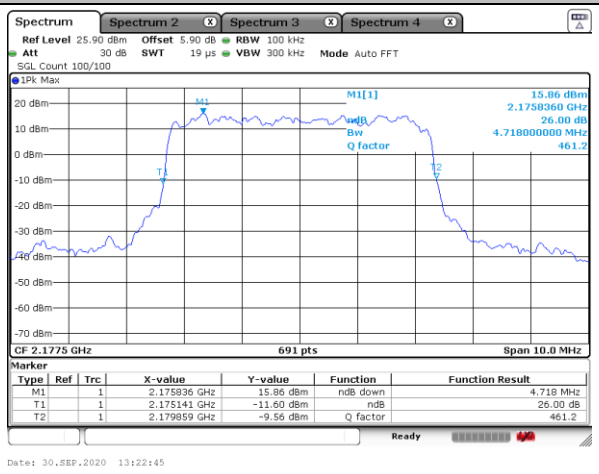
Middle Channel / 5MHz / QPSK



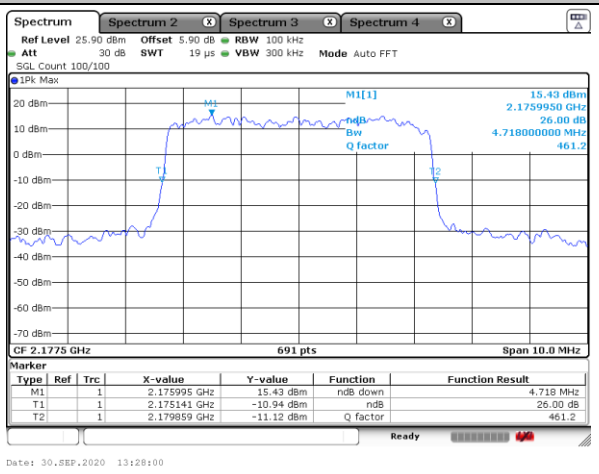
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

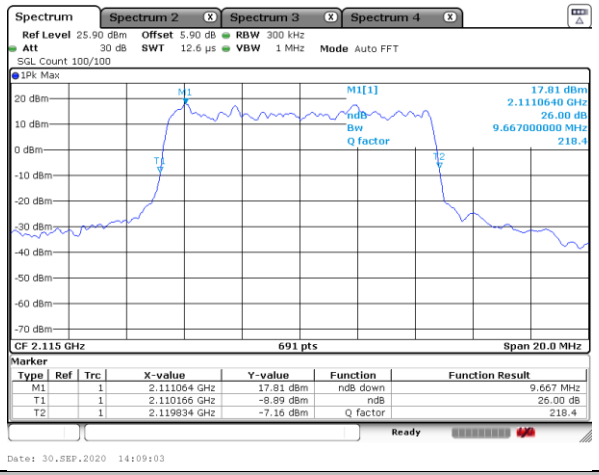


Highest Channel / 5MHz / 16QAM

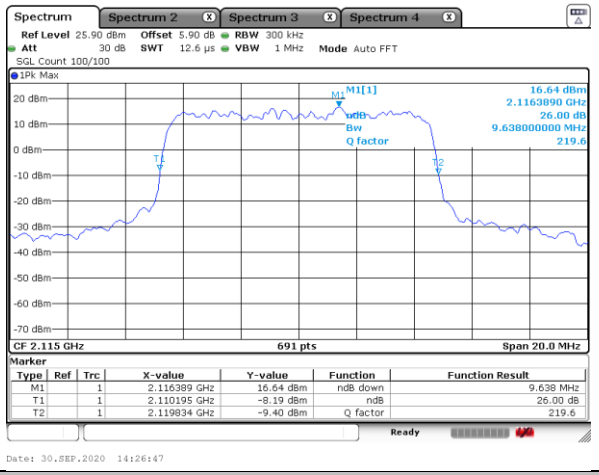


LTE Band 66

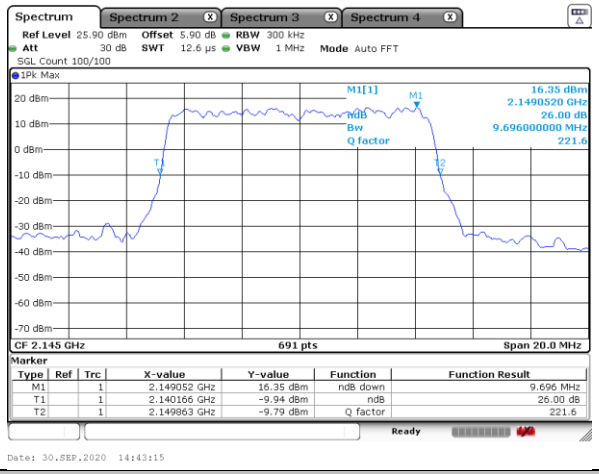
Lowest Channel / 10MHz / QPSK



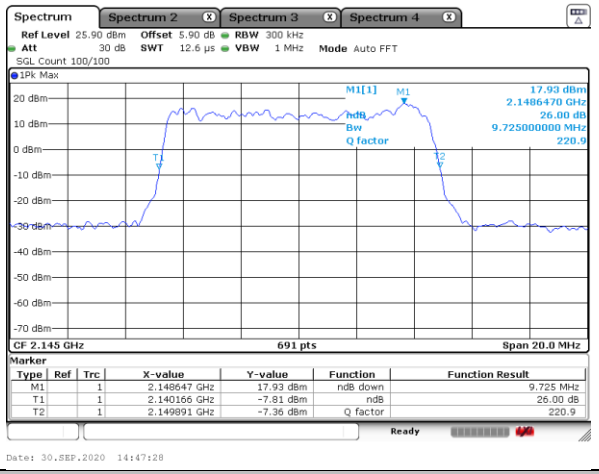
Lowest Channel / 10MHz / 16QAM



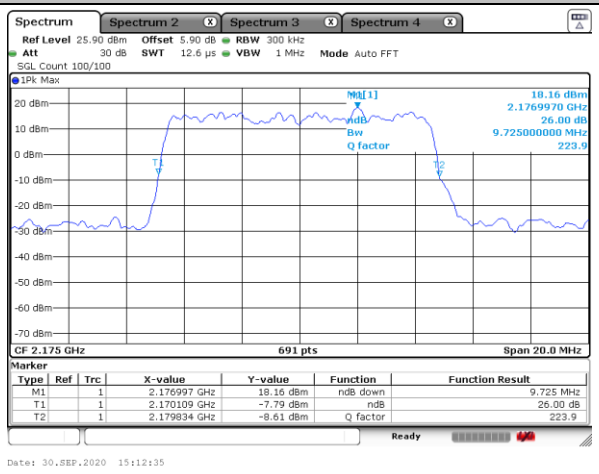
Middle Channel / 10MHz / QPSK



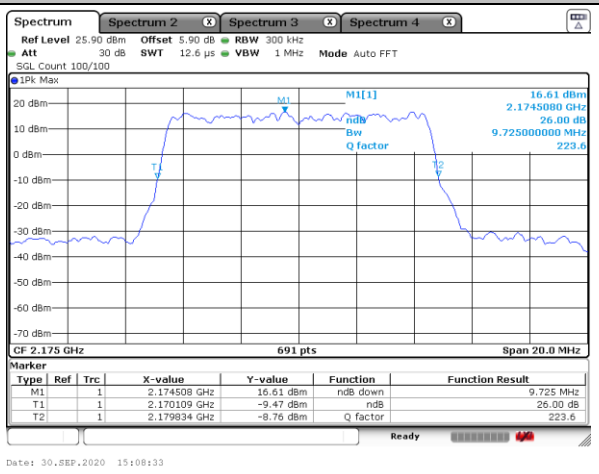
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

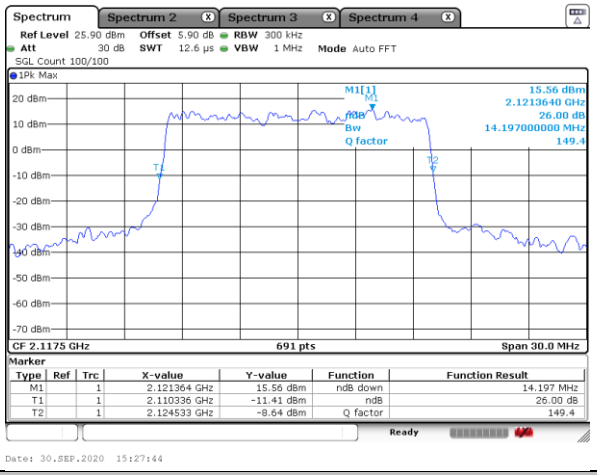


Highest Channel / 10MHz / 16QAM

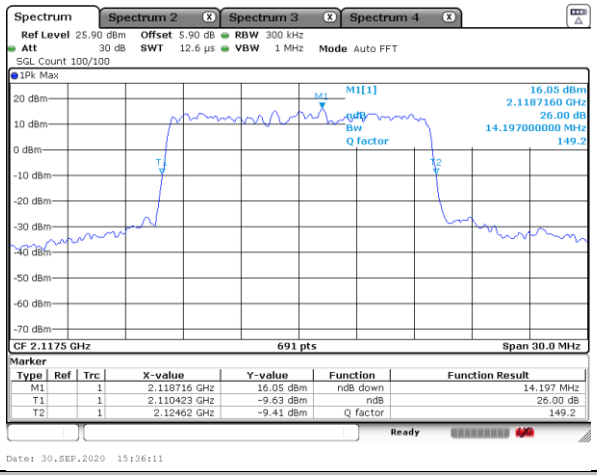


LTE Band 66

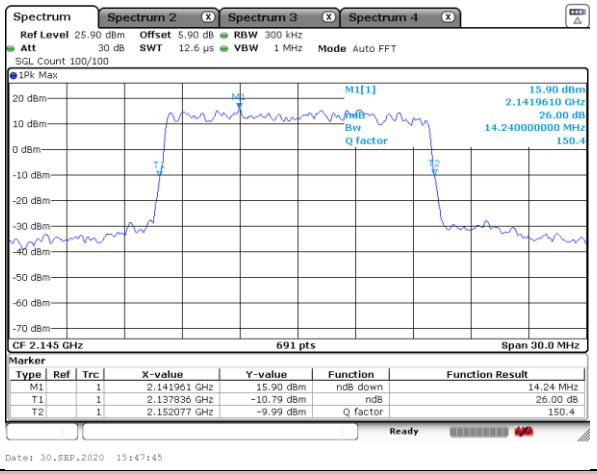
Lowest Channel / 15MHz / QPSK



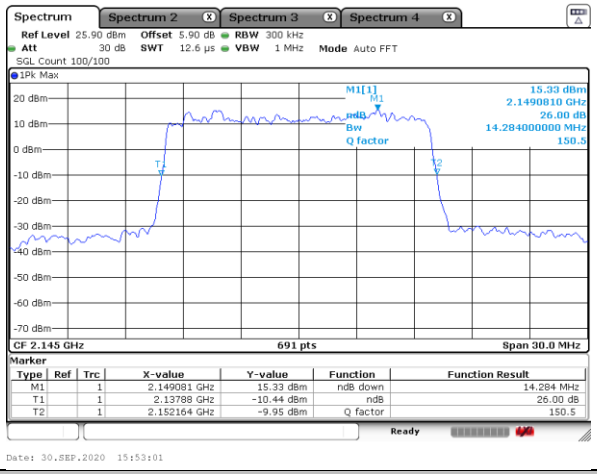
Lowest Channel / 15MHz / 16QAM



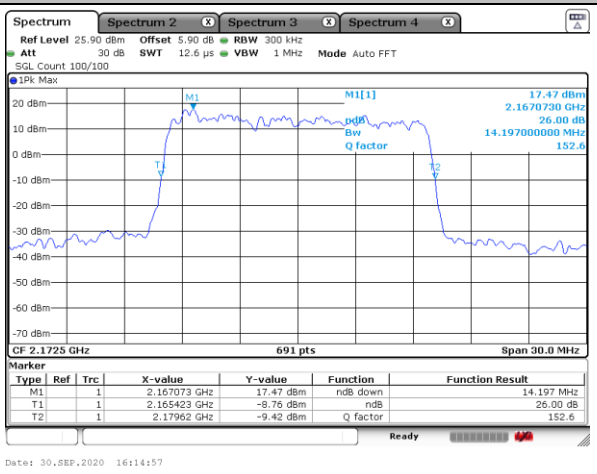
Middle Channel / 15MHz / QPSK



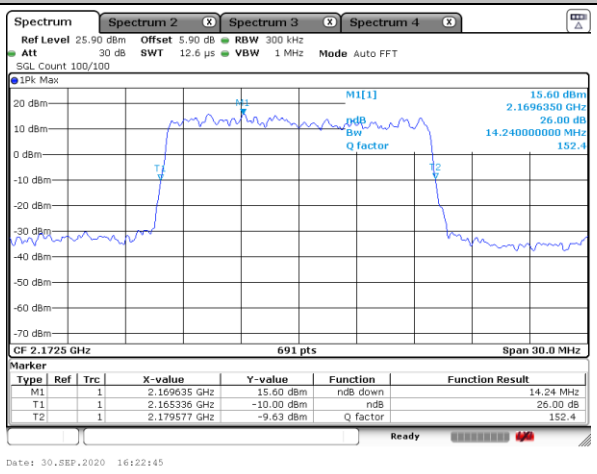
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

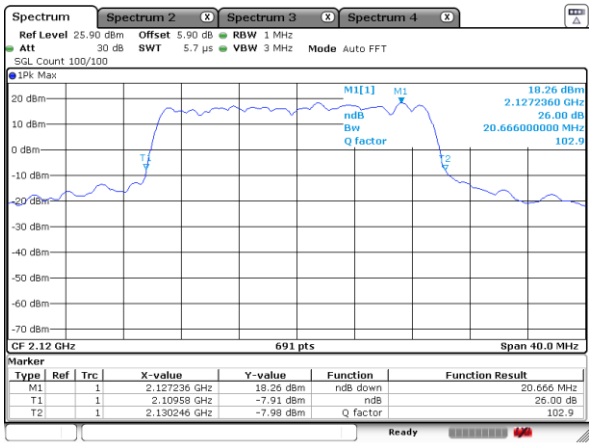


Highest Channel / 15MHz / 16QAM

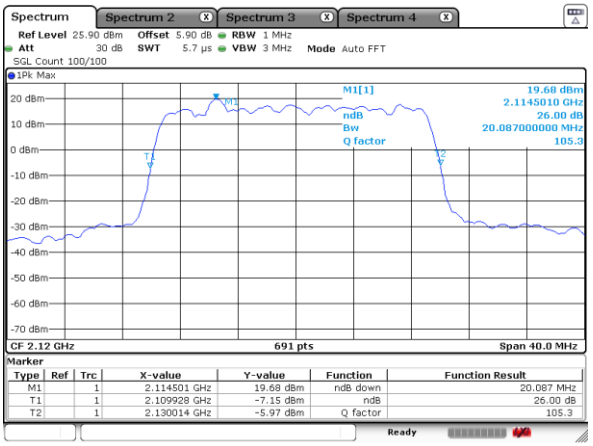


LTE Band 66

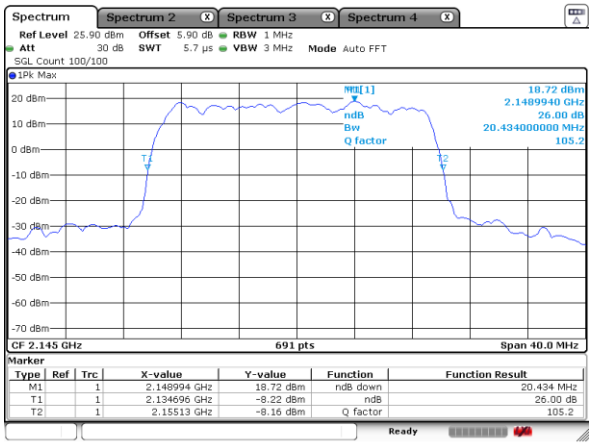
Lowest Channel / 20MHz / QPSK



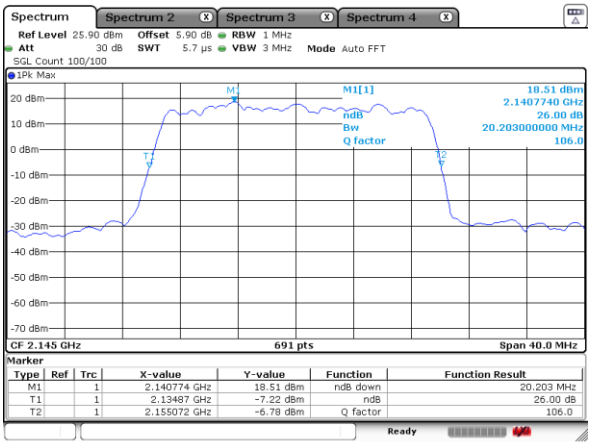
Lowest Channel / 20MHz / 16QAM



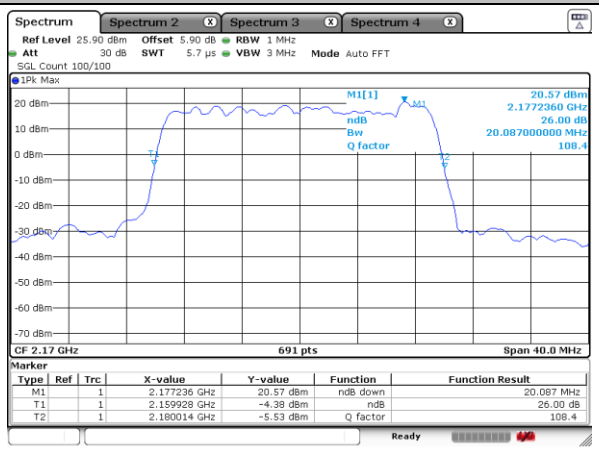
Middle Channel / 20MHz / QPSK



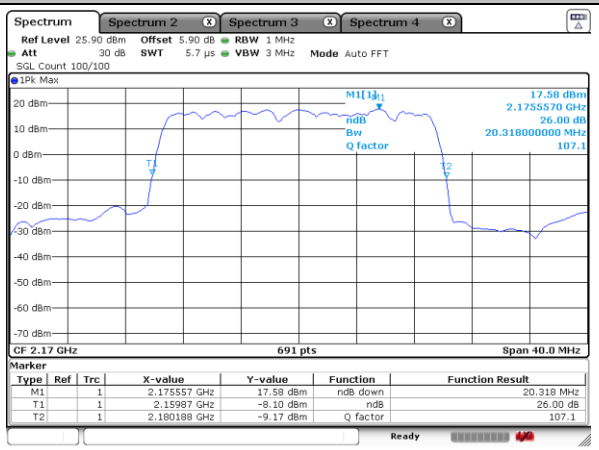
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

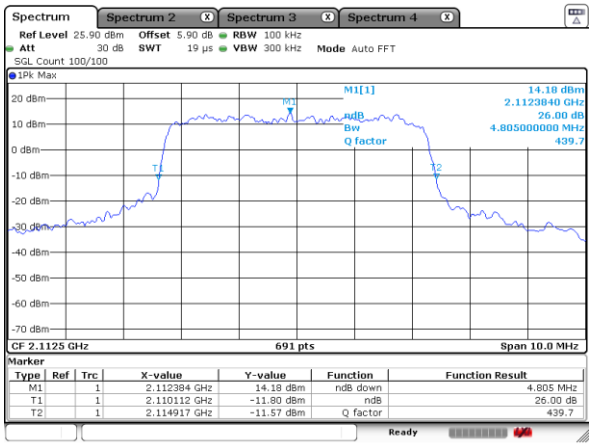


Highest Channel / 20MHz / 16QAM

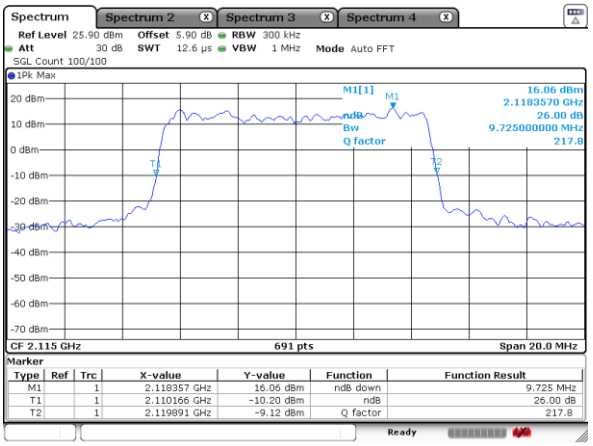


LTE Band 66

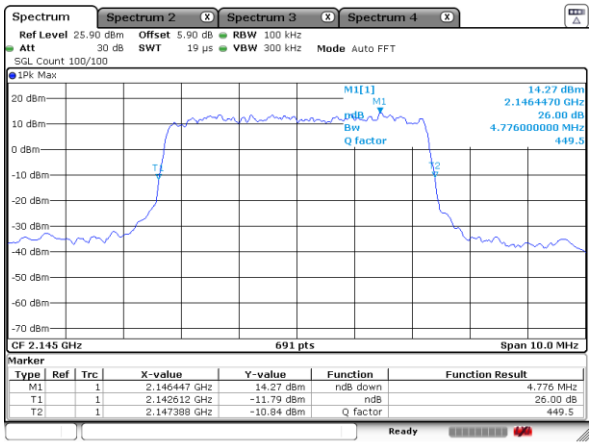
Lowest Channel / 5MHz / 64QAM



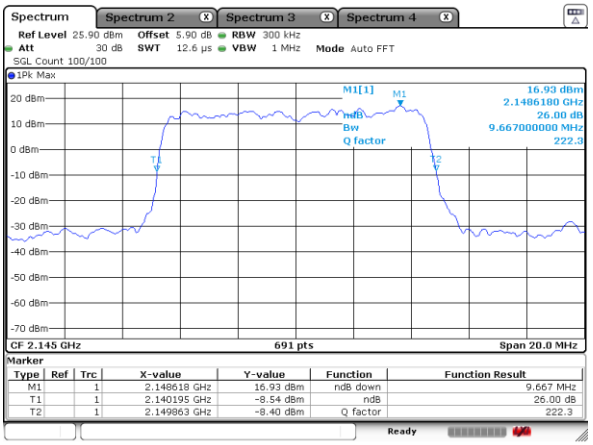
Lowest Channel / 10MHz / 64QAM



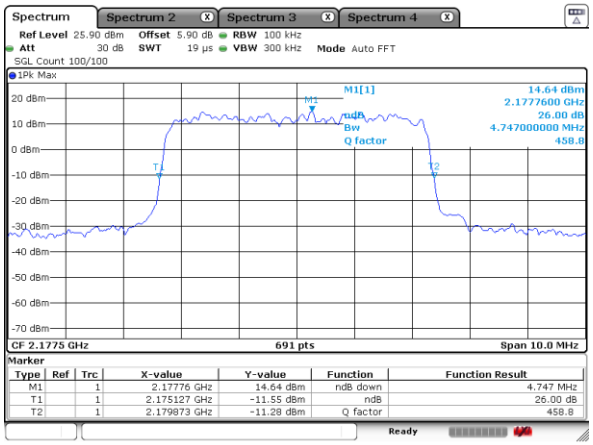
Middle Channel / 5MHz / 64QAM



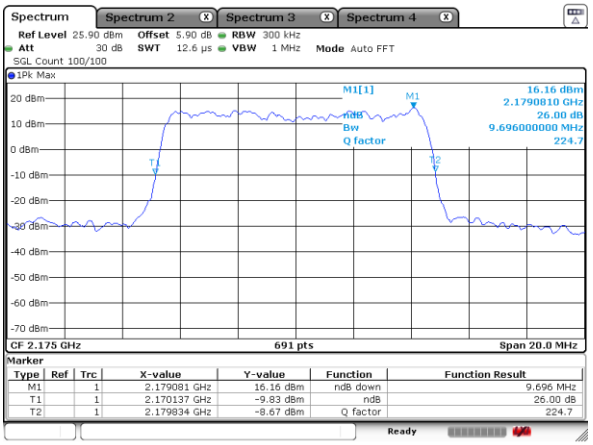
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

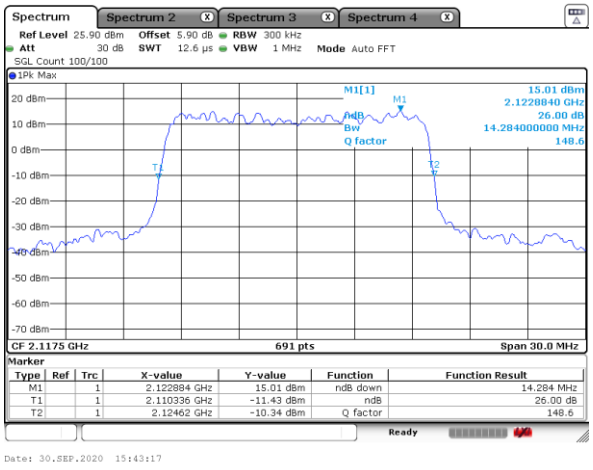


Highest Channel / 10MHz / 64QAM

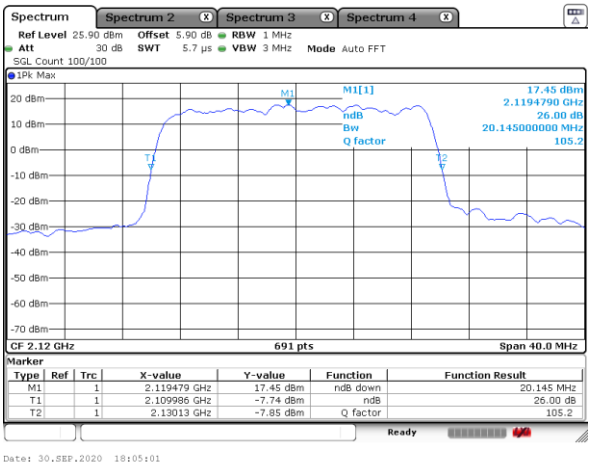


LTE Band 66

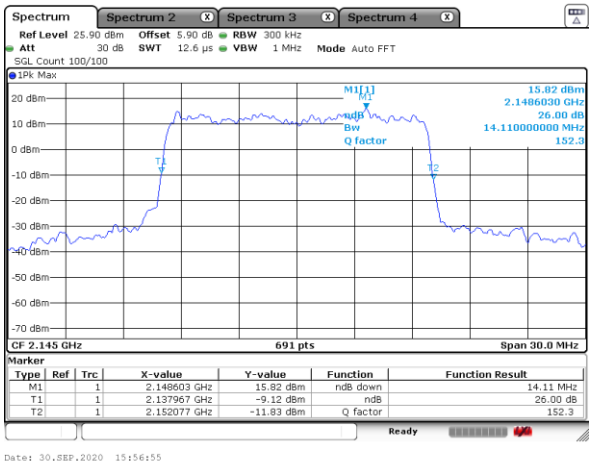
Lowest Channel / 15MHz / 64QAM



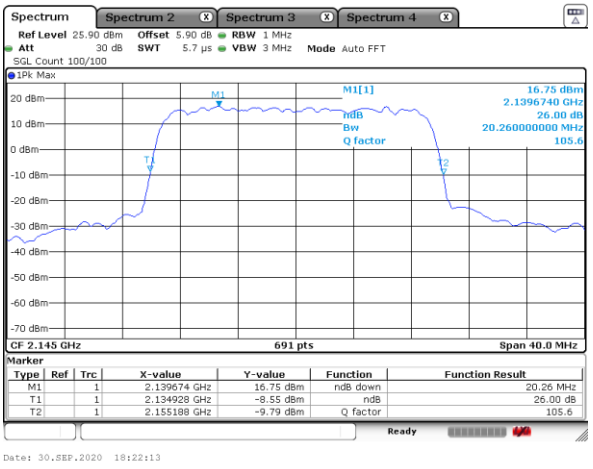
Lowest Channel / 20MHz / 64QAM



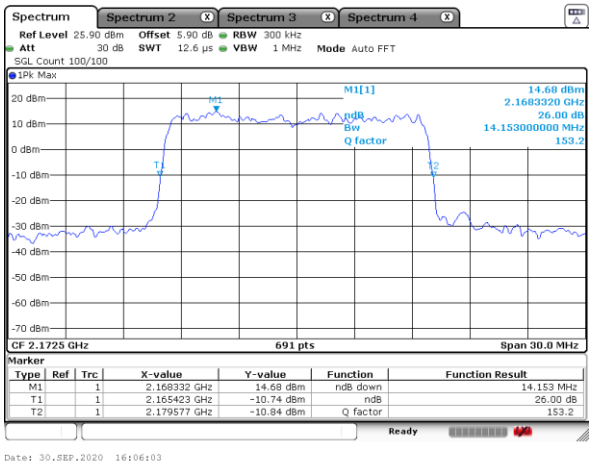
Middle Channel / 15MHz / 64QAM



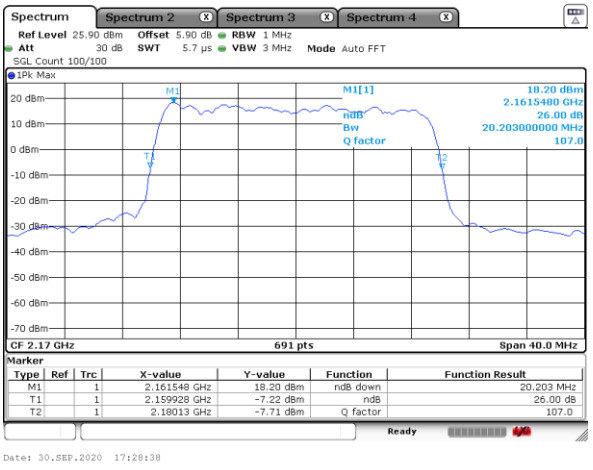
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



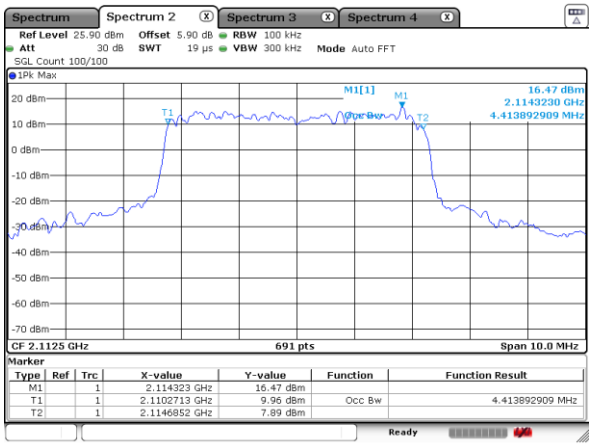
Occupied Bandwidth

Mode	LTE Band 66 : 99%OBW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.41	4.46	9.00	9.03	13.42	13.42	18.58	18.35
Middle CH	4.44	4.44	9.06	9.06	13.29	13.42	18.70	18.35
Highest CH	4.44	4.44	9.03	9.00	13.42	13.37	19.39	18.41

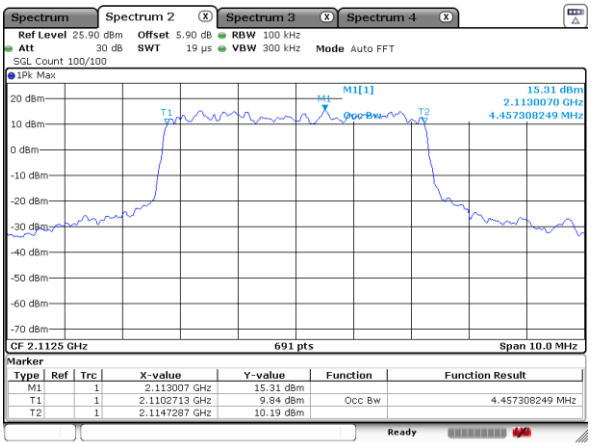
Mode	LTE Band 66 : 99%OBW(MHz)			
BW	5MHz	10MHz	15MHz	20MHz
Mod.	64QAM	64QAM	64QAM	64QAM
Lowest CH	4.43	9.03	13.42	18.29
Middle CH	4.44	9.03	13.29	18.46
Highest CH	4.44	8.97	13.33	18.29

LTE Band 66

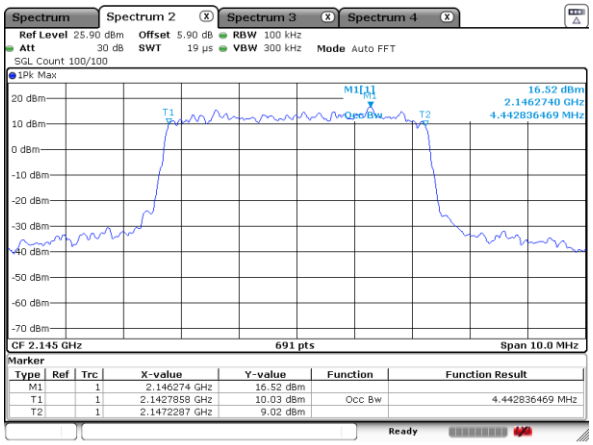
Lowest Channel / 5MHz / QPSK



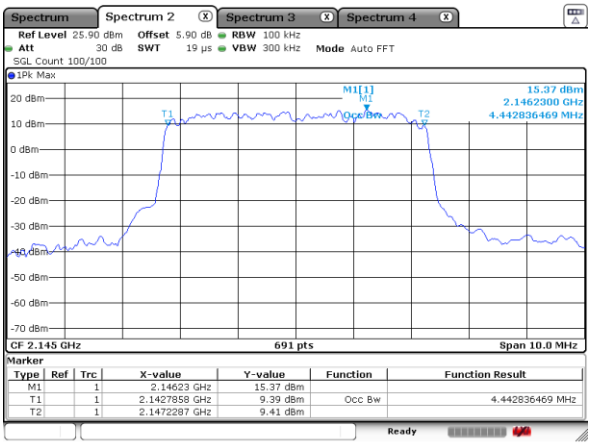
Lowest Channel / 5MHz / 16QAM



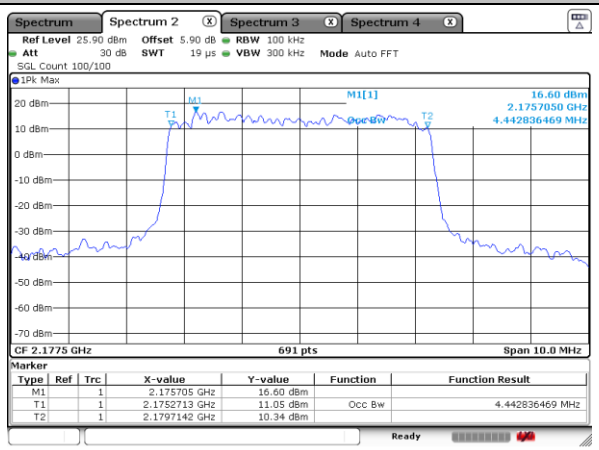
Middle Channel / 5MHz / QPSK



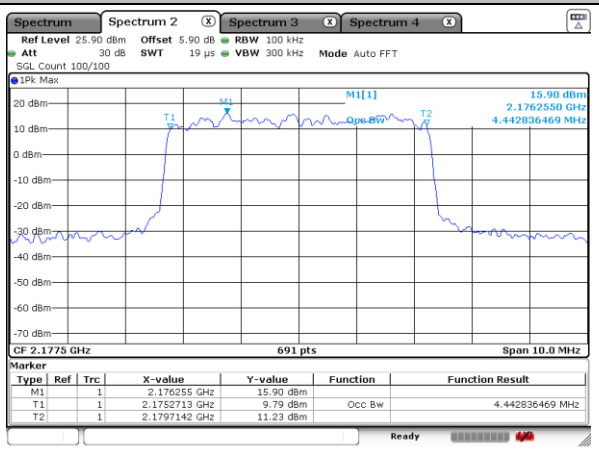
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

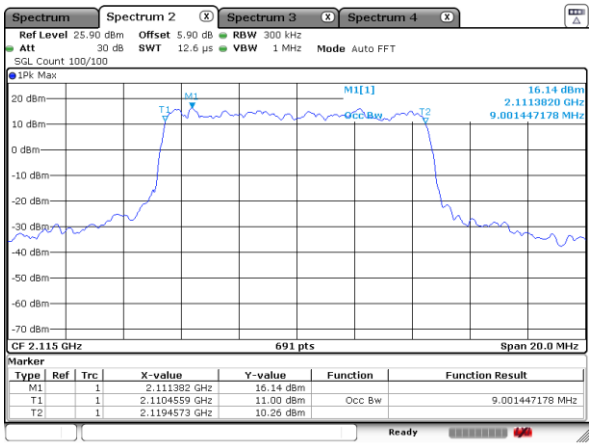


Highest Channel / 5MHz / 16QAM

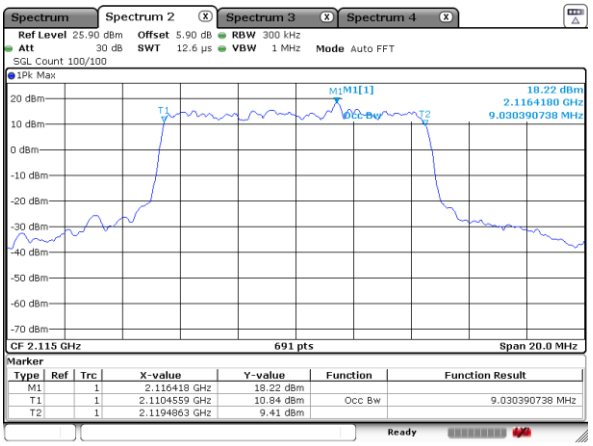


LTE Band 66

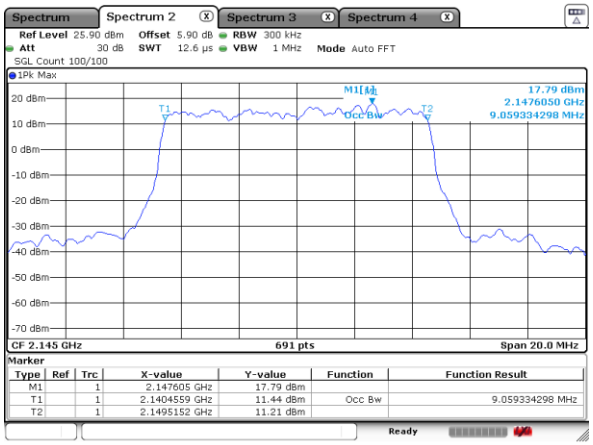
Lowest Channel / 10MHz / QPSK



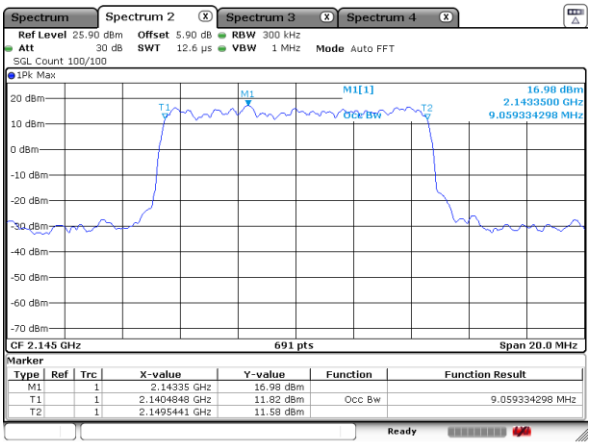
Lowest Channel / 10MHz / 16QAM



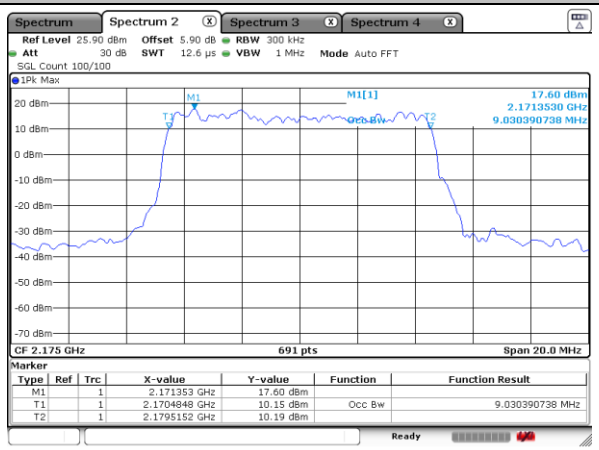
Middle Channel / 10MHz / QPSK



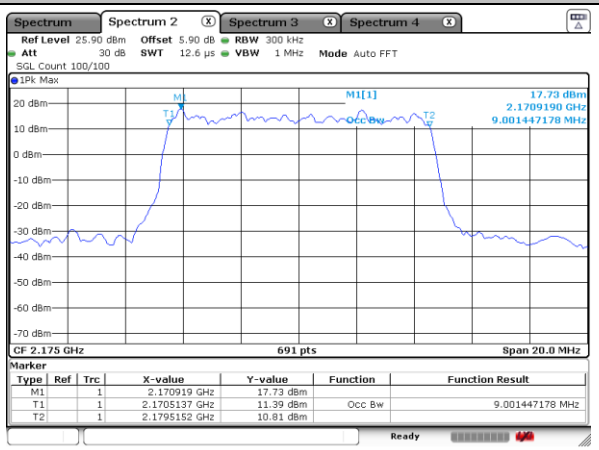
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

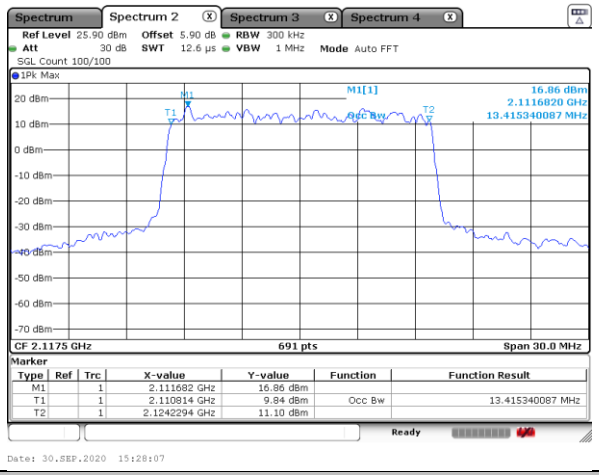


Highest Channel / 10MHz / 16QAM

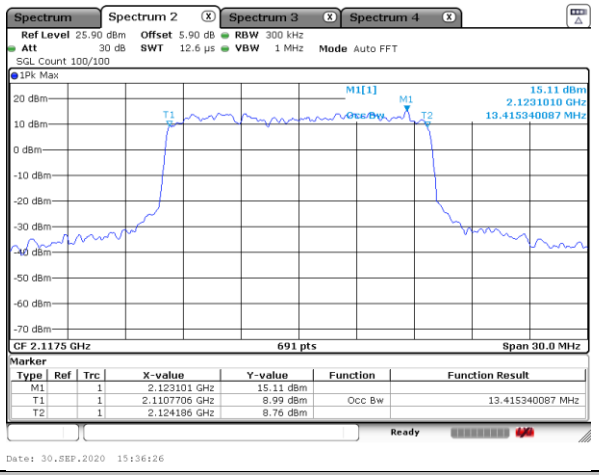


LTE Band 66

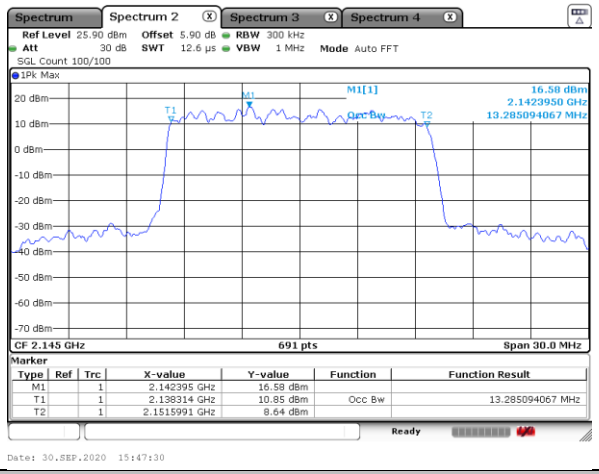
Lowest Channel / 15MHz / QPSK



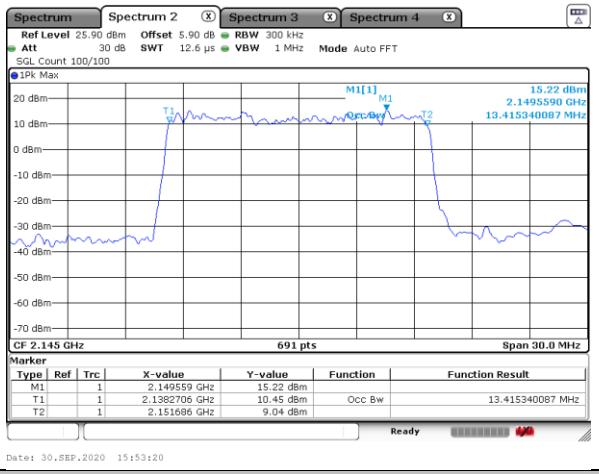
Lowest Channel / 15MHz / 16QAM



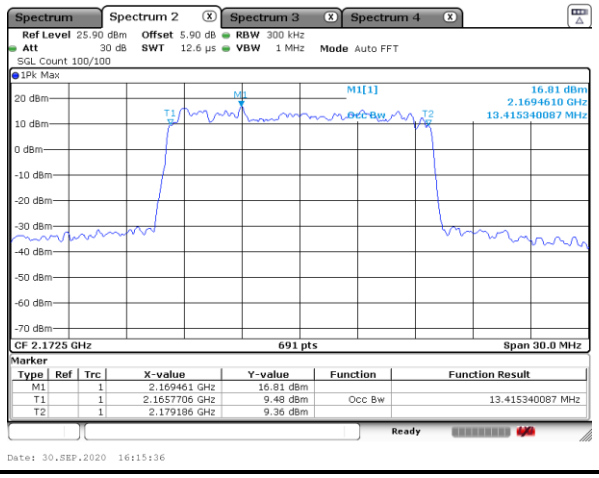
Middle Channel / 15MHz / QPSK



Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



Highest Channel / 15MHz / 16QAM