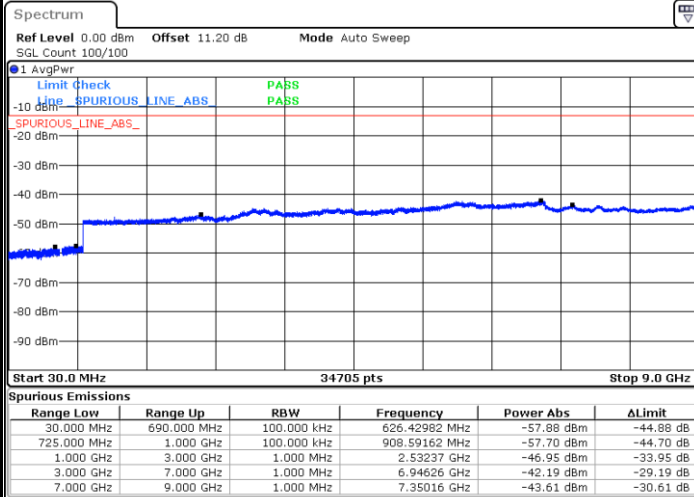




LTE Band 12 / 5MHz

Lowest Channel / QPSK



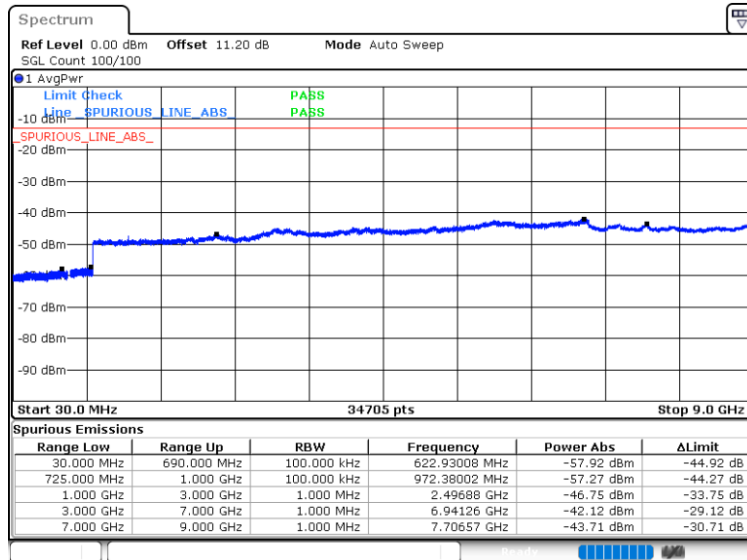
Date: 20.MAY.2023 17:46:57

Middle Channel / QPSK



Date: 20.MAY.2023 17:48:15

Highest Channel / QPSK

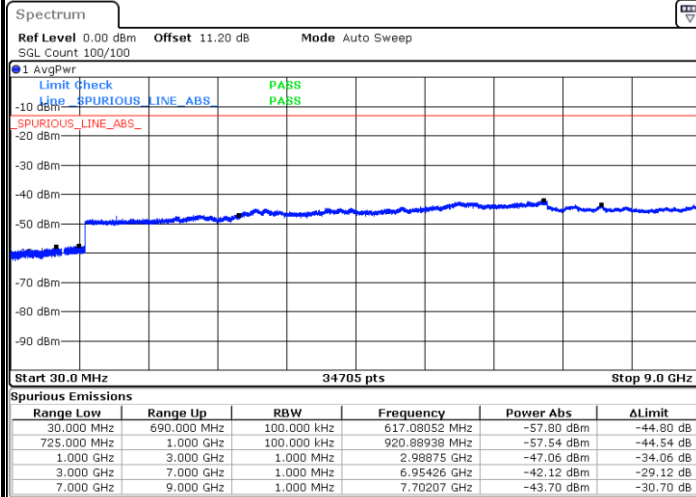


Date: 20.MAY.2023 17:49:33



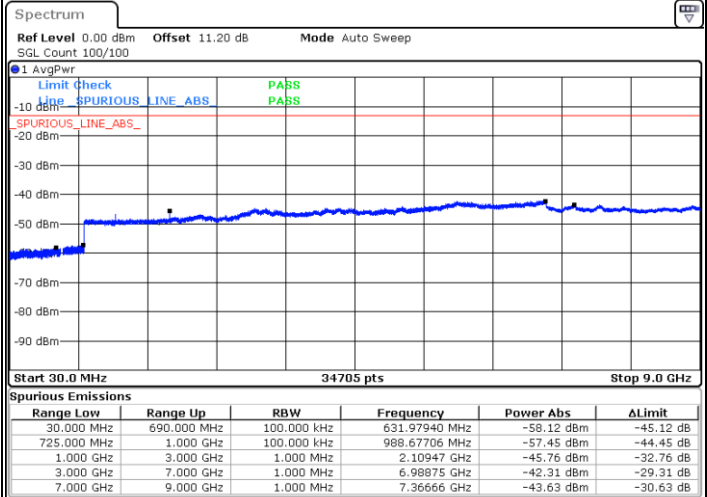
LTE Band 12 / 10MHz

Lowest Channel / QPSK



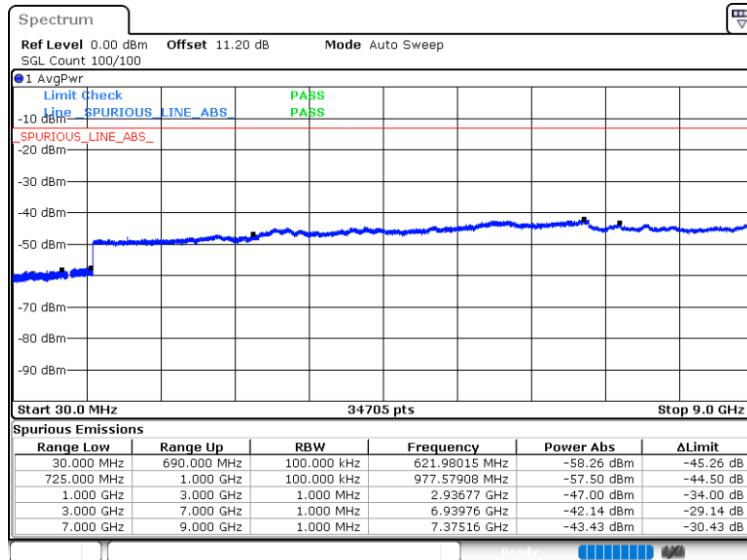
Date: 20.MAY.2023 17:50:56

Middle Channel / QPSK



Date: 20.MAY.2023 17:52:14

Highest Channel / QPSK



Date: 20.MAY.2023 17:53:32

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0096	PASS
40	Normal Voltage	0.0236	
30	Normal Voltage	0.0082	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0096	
0	Normal Voltage	0.0085	
-10	Normal Voltage	0.0225	
-20	Normal Voltage	0.0205	
-30	Normal Voltage	0.0122	
20	Maximum Voltage	0.0219	
20	Normal Voltage	0.0096	
20	Battery End Point	0.0212	

Note:

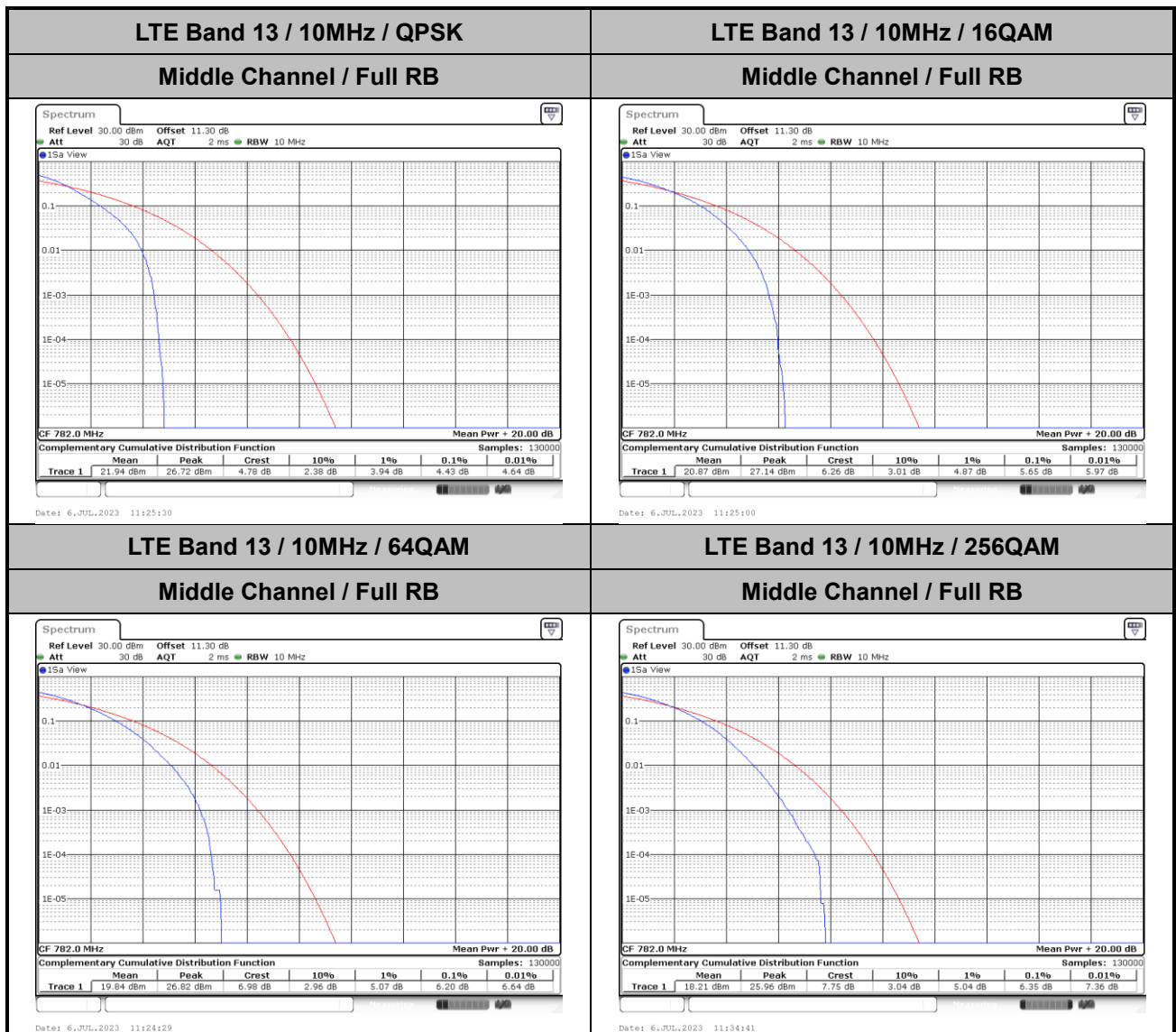
1. Normal Voltage = 3.3 V. ; Battery End Point (BEP) = 3.135 V. ; Maximum Voltage = 4.4 V..
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

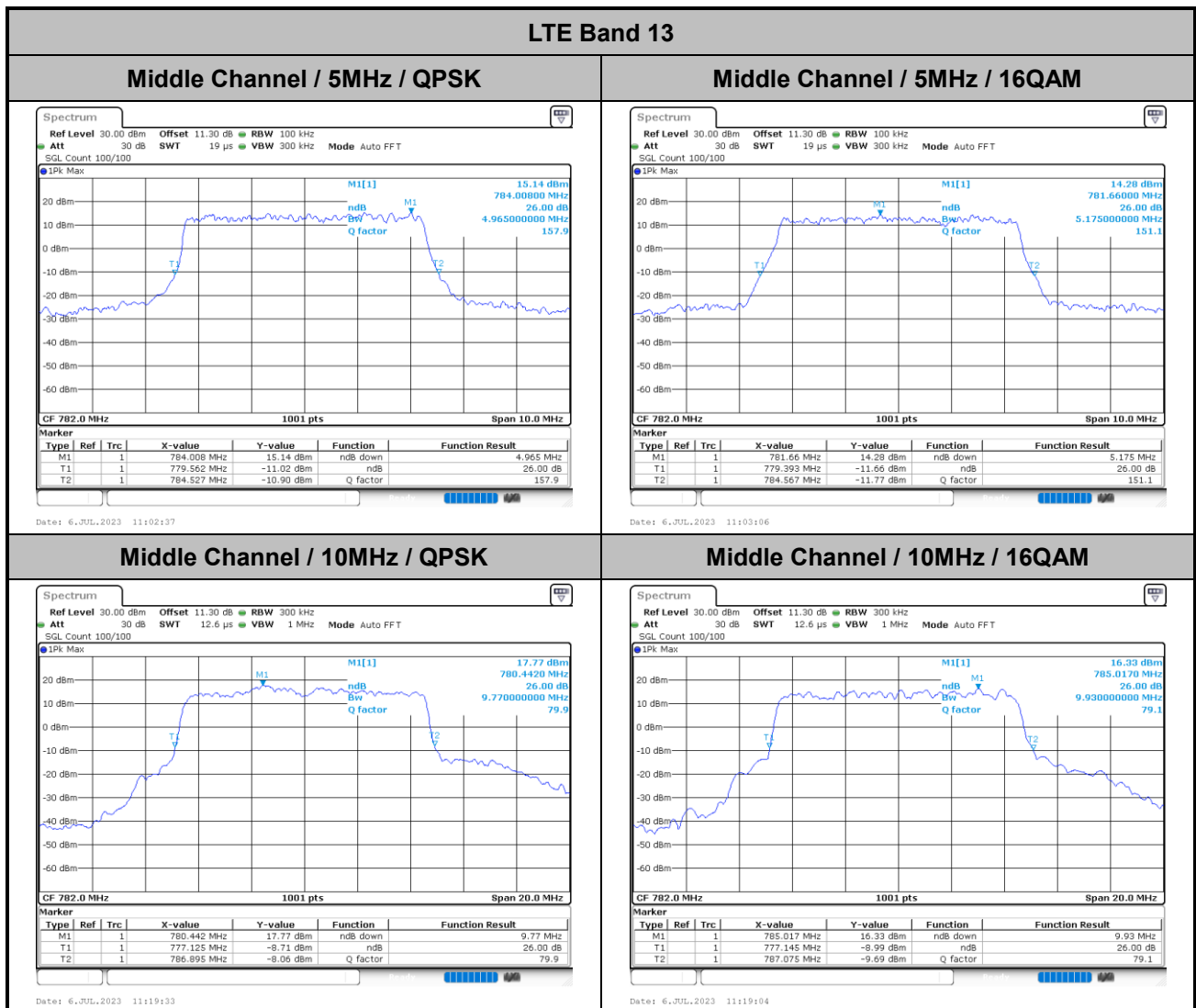
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.43	5.65	6.20	6.35	PASS



**26dB Bandwidth**

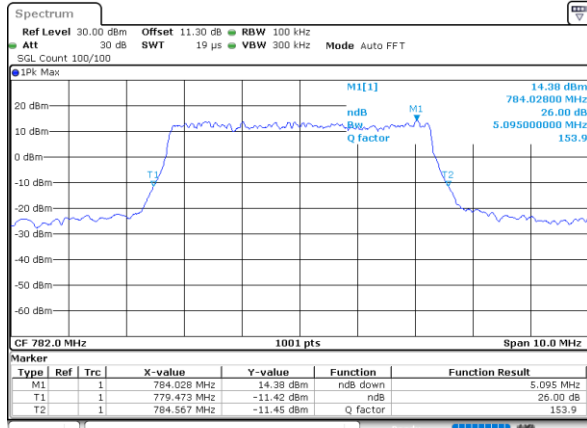
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.97	5.18	9.77	9.93	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	-	-	5.10	5.08	9.83	9.71	-	-	-	-



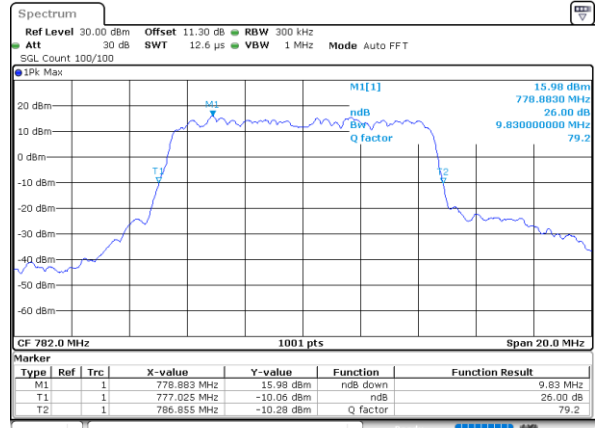


LTE Band 13

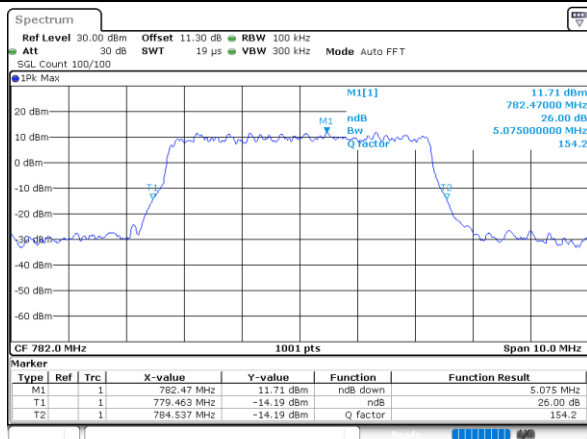
Middle Channel / 5MHz / 64QAM



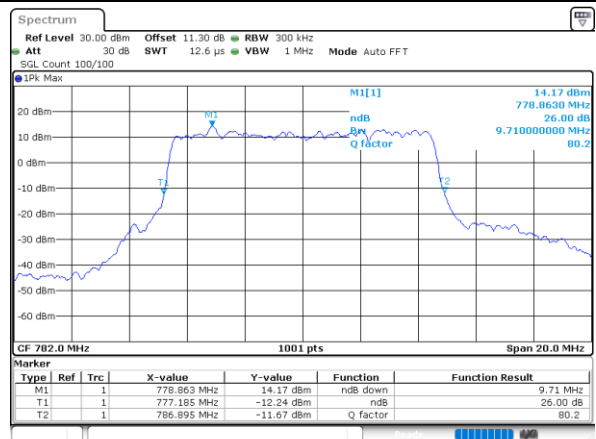
Middle Channel / 10MHz / 64QAM



Middle Channel / 5MHz / 256QAM

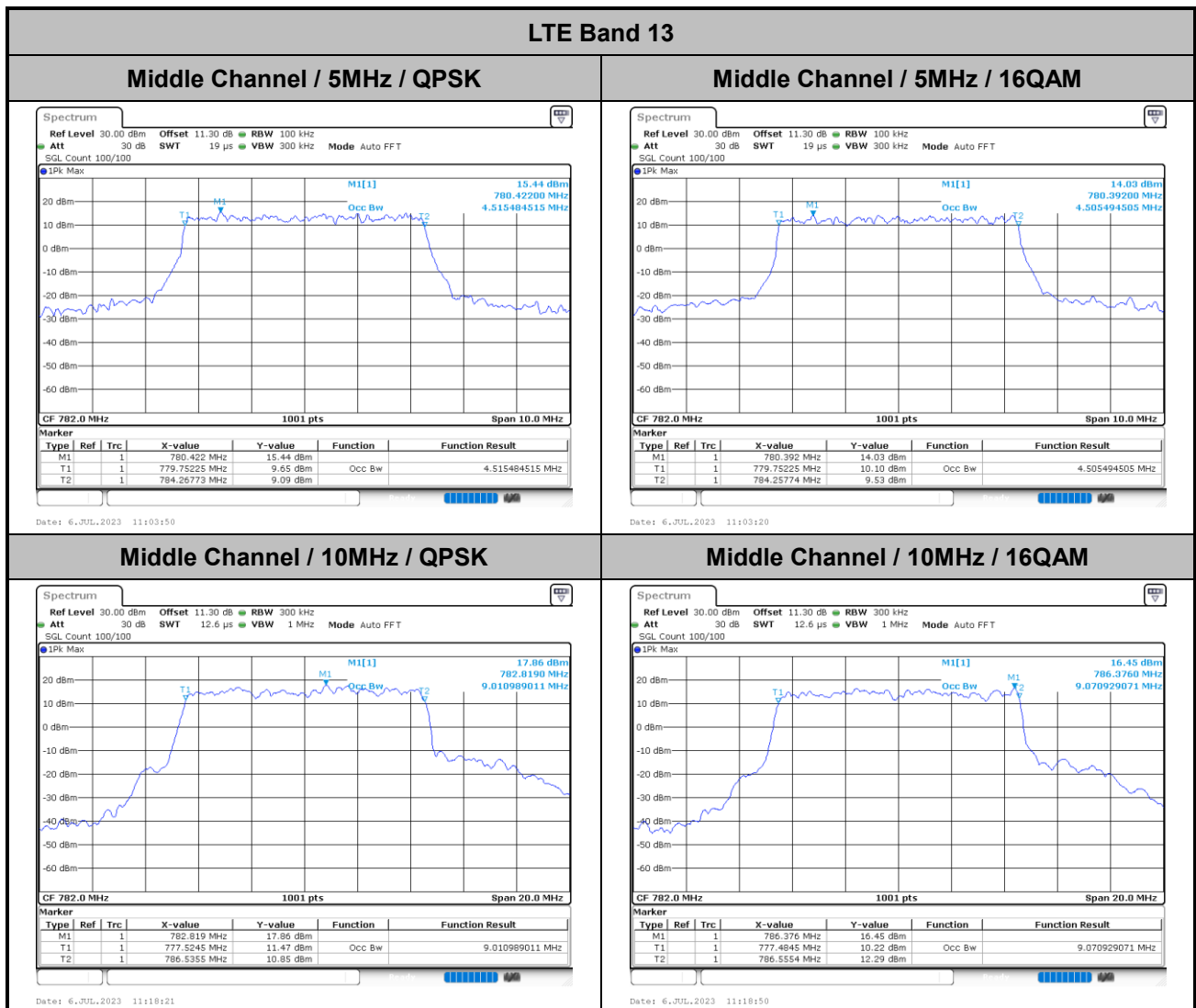


Middle Channel / 10MHz / 256QAM



**Occupied Bandwidth**

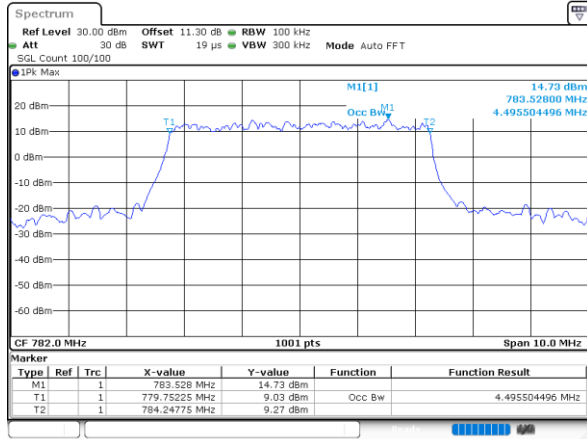
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.52	4.51	9.01	9.07	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	-	-	4.50	4.51	9.01	8.99	-	-	-	-



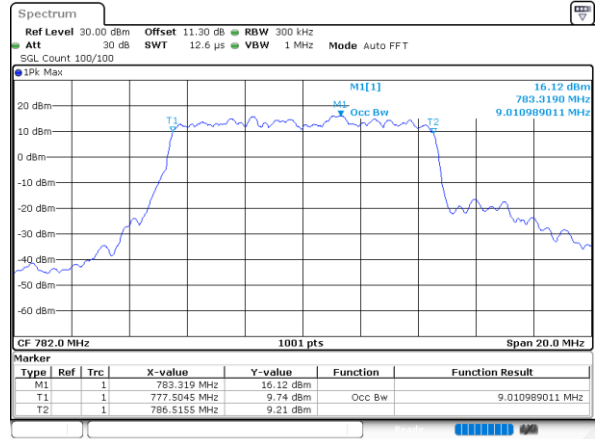


LTE Band 13

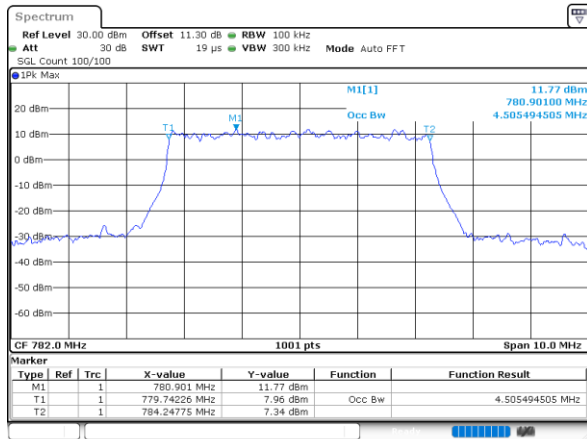
Middle Channel / 5MHz / 64QAM



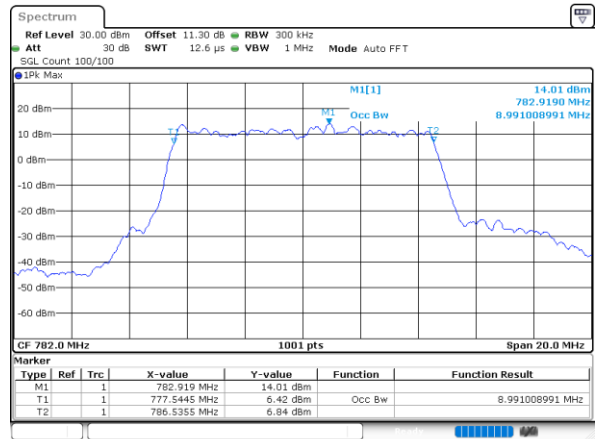
Middle Channel / 10MHz / 64QAM

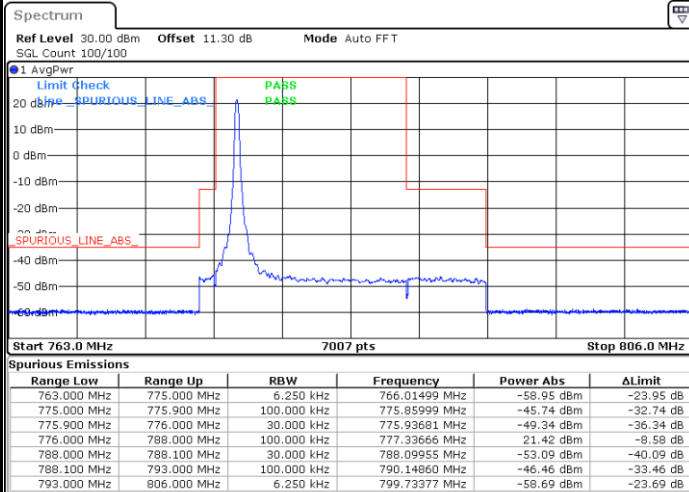
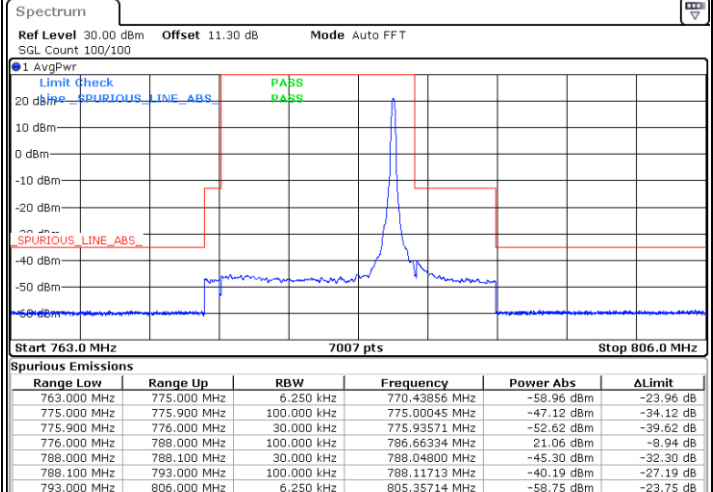
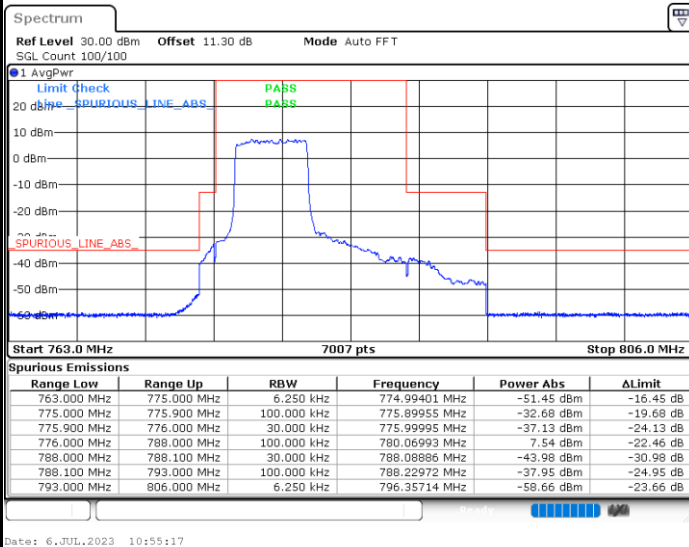
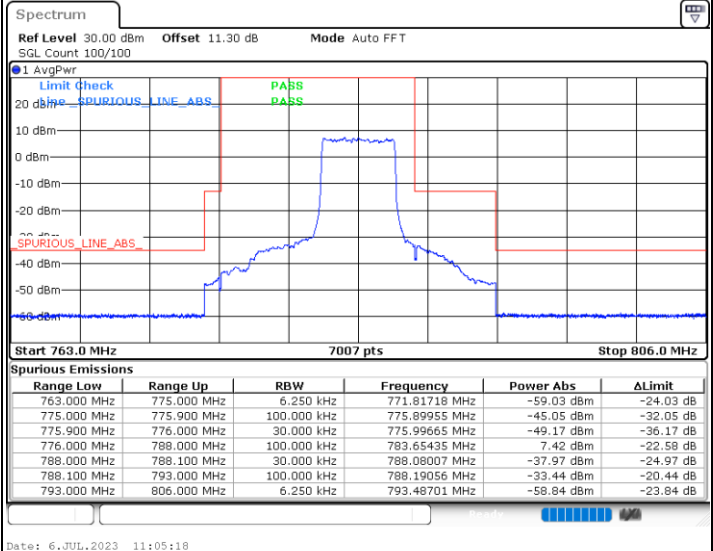


Middle Channel / 5MHz / 256QAM



Middle Channel / 10MHz / 256QAM

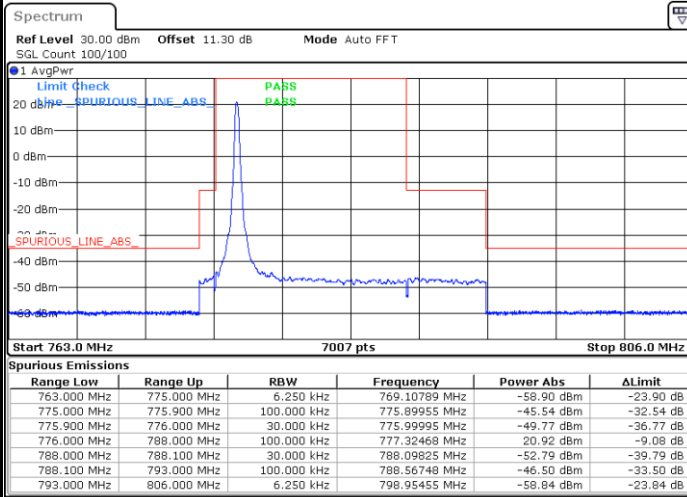


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

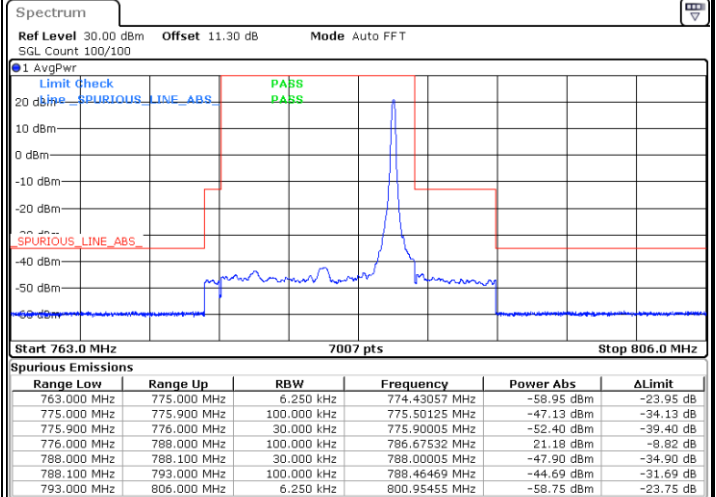


LTE Band 13 / 5MHz / 16QAM

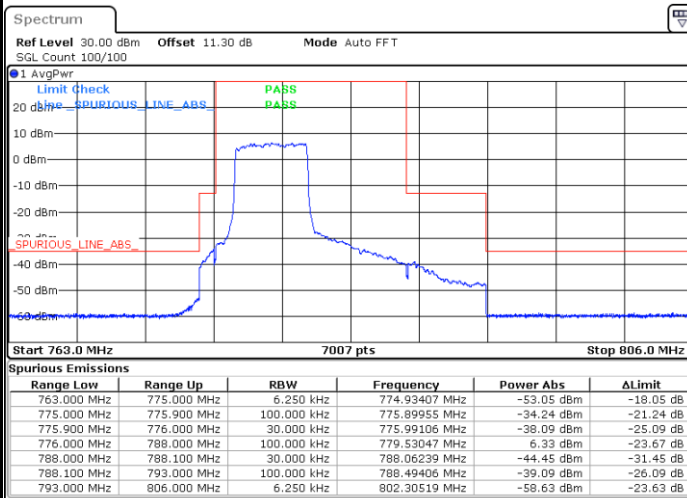
Lowest Band Edge / 1 RB



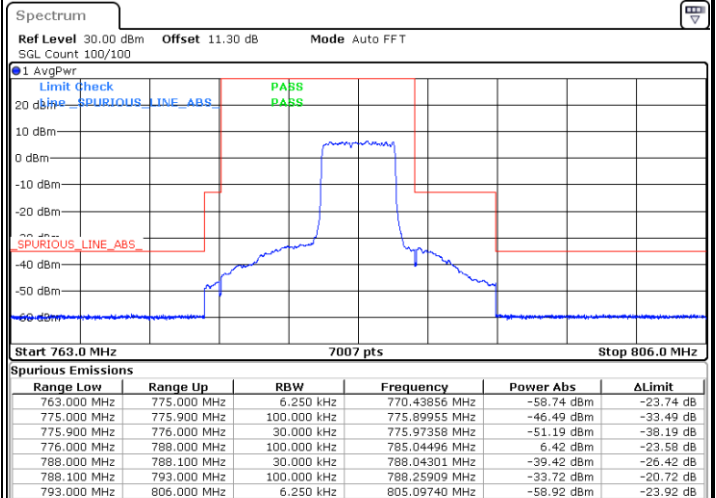
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



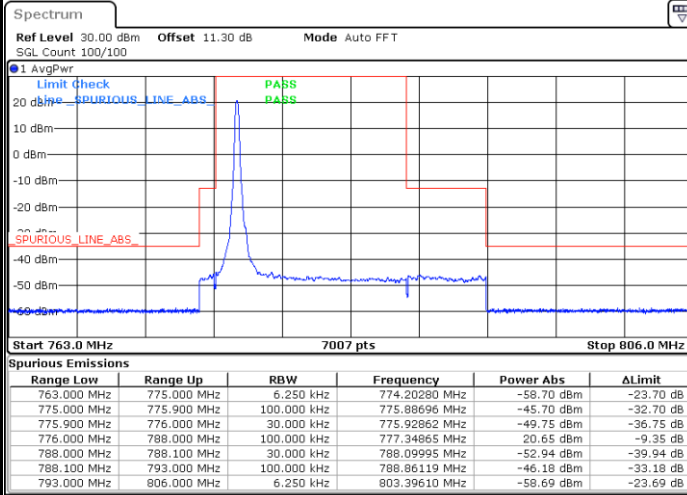
Highest Band Edge / Full RB





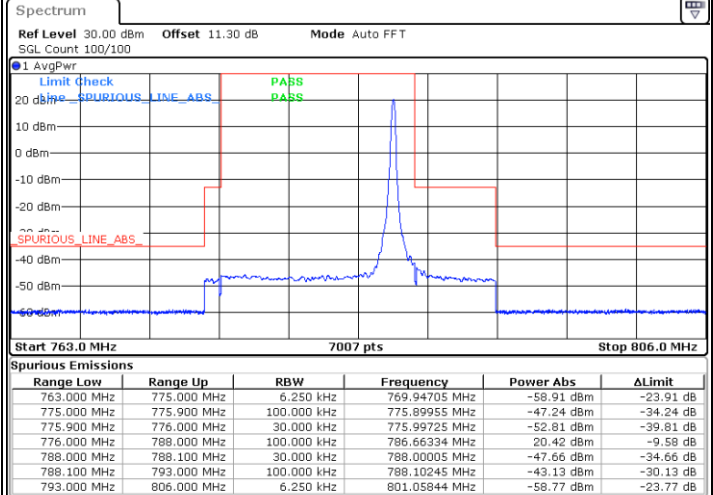
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



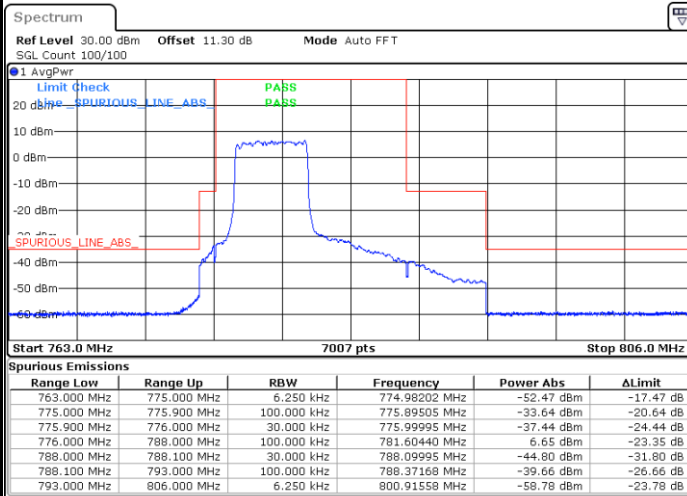
Date: 6.JUL.2023 11:14:04

Highest Band Edge / 1 RB



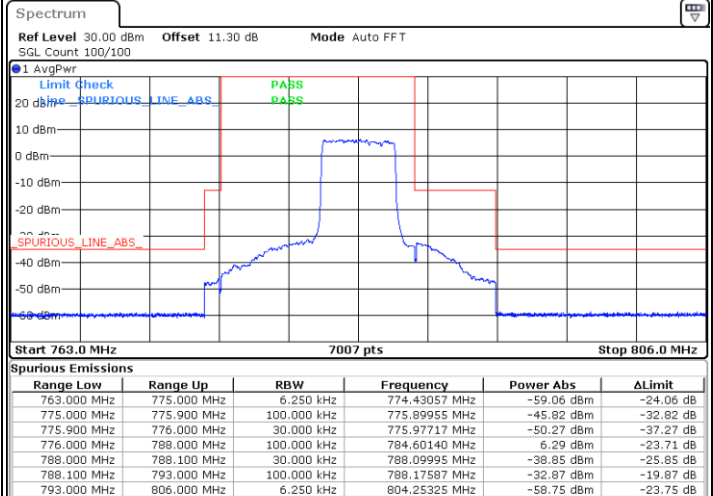
Date: 6.JUL.2023 11:17:46

Lowest Band Edge / Full RB



Date: 6.JUL.2023 11:12:34

Highest Band Edge / Full RB

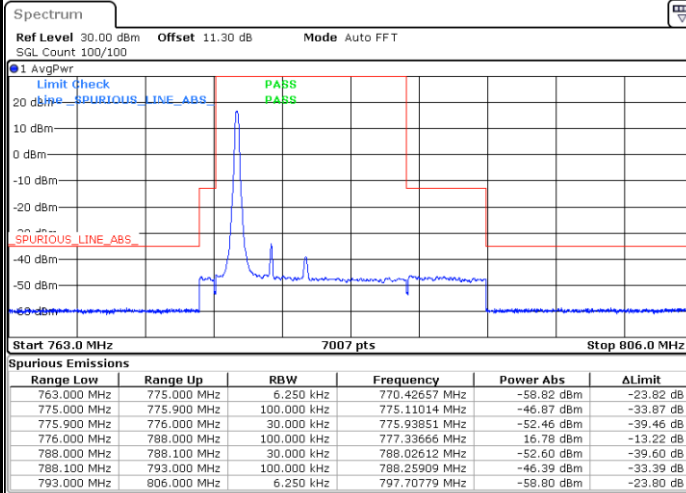


Date: 6.JUL.2023 11:16:16



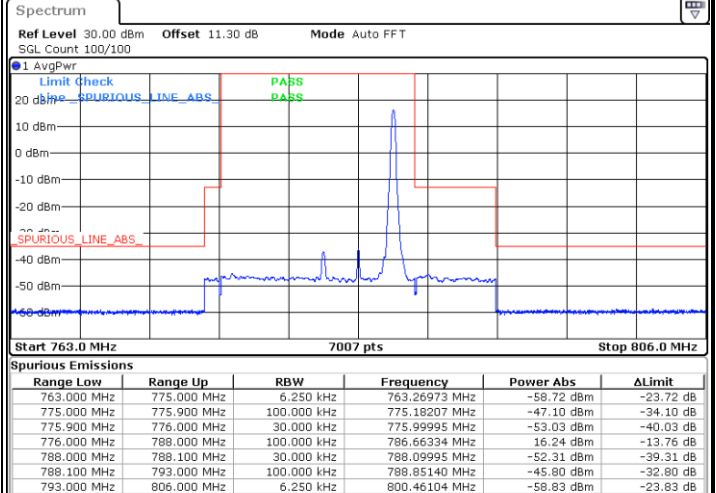
LTE Band 13 / 5MHz / 256QAM

Lowest Band Edge / 1 RB



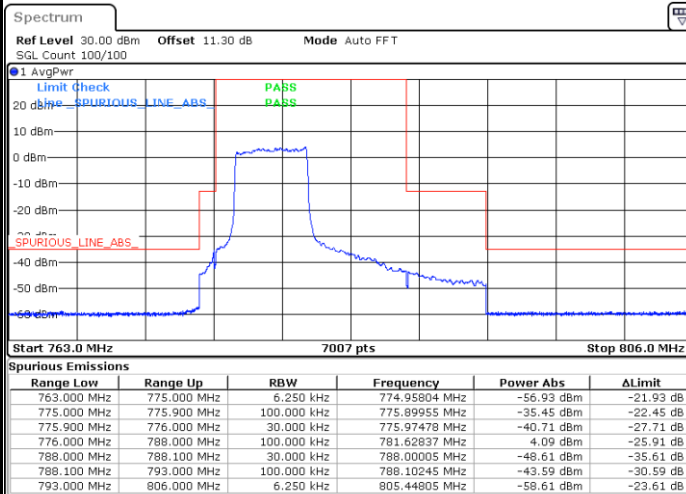
Date: 6.JUL.2023 11:28:37

Highest Band Edge / 1 RB



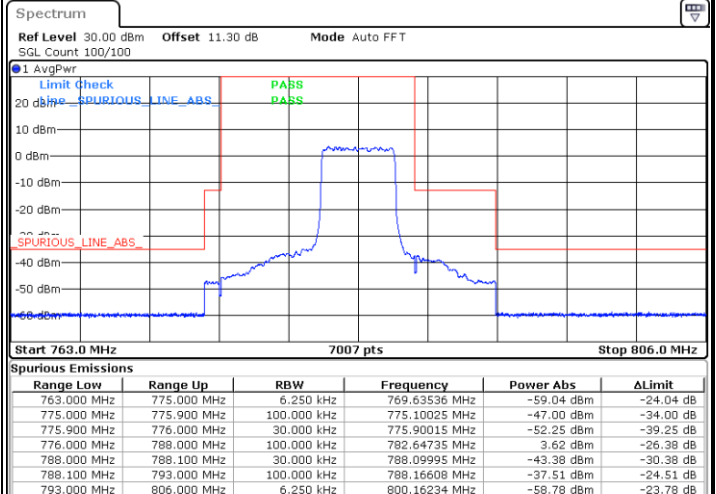
Date: 6.JUL.2023 11:32:23

Lowest Band Edge / Full RB



Date: 6.JUL.2023 11:27:05

Highest Band Edge / Full RB



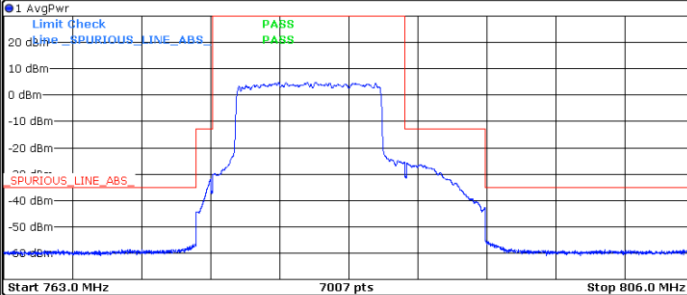
Date: 6.JUL.2023 11:30:50



LTE Band 13 / 10MHz / QPSK

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.30 dB Mode Auto FFT
SGL Count 100/100

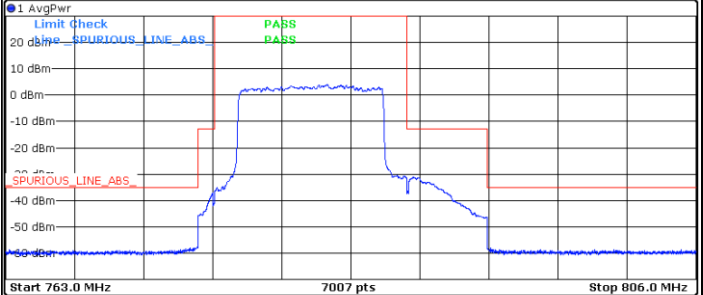
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.98202 MHz	-56.32 dBm	-21.32 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-31.74 dBm	-18.74 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99995 MHz	-36.20 dBm	-23.20 dB
776.000 MHz	788.000 MHz	100.000 kHz	782.41958 MHz	-4.86 dBm	-25.14 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.02532 MHz	-30.79 dBm	-17.79 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.11713 MHz	-25.70 dBm	-12.70 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.01948 MHz	-55.31 dBm	-20.31 dB

Date: 6.JUL.2023 11:20:46

LTE Band 13 / 10MHz / 16QAM

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.30 dB Mode Auto FFT
SGL Count 100/100

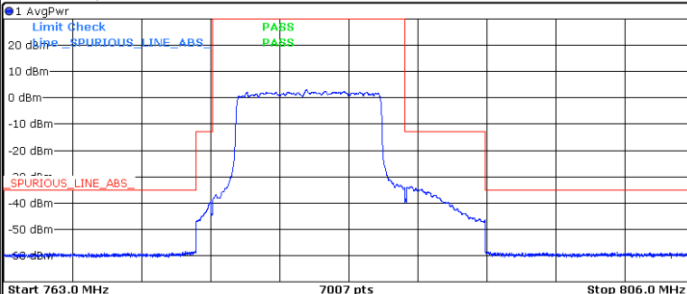
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.98202 MHz	-57.71 dBm	-22.71 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-37.11 dBm	-24.11 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99995 MHz	-41.03 dBm	-28.03 dB
776.000 MHz	788.000 MHz	100.000 kHz	783.04296 MHz	-3.97 dBm	-26.03 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.03462 MHz	-36.53 dBm	-23.53 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.38147 MHz	-31.23 dBm	-18.23 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.20130 MHz	-58.18 dBm	-23.18 dB

Date: 6.JUL.2023 11:22:15

LTE Band 13 / 10MHz / 64QAM

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.30 dB Mode Auto FFT
SGL Count 100/100

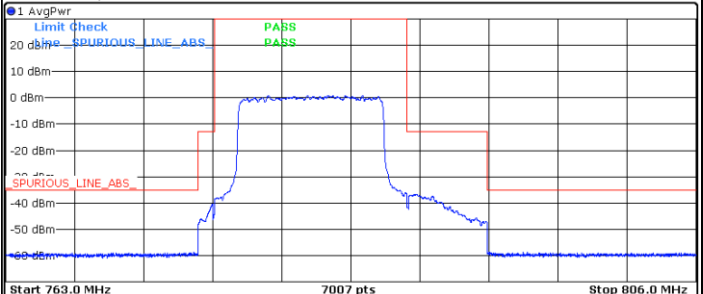
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.97003 MHz	-58.24 dBm	-23.24 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-39.52 dBm	-26.52 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.97228 MHz	-43.96 dBm	-30.96 dB
776.000 MHz	788.000 MHz	100.000 kHz	781.84416 MHz	2.99 dBm	-27.01 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.04481 MHz	-38.46 dBm	-25.46 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.35699 MHz	-33.66 dBm	-20.66 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.05844 MHz	-58.64 dBm	-23.64 dB

Date: 6.JUL.2023 11:24:12

LTE Band 13 / 10MHz / 256QAM

Band Edge / Full RB

Spectrum

Ref Level 30.00 dBm Offset 11.30 dB Mode Auto FFT
SGL Count 100/100

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.69431 MHz	-58.60 dBm	-23.60 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.89955 MHz	-40.34 dBm	-27.34 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99755 MHz	-44.17 dBm	-31.17 dB
776.000 MHz	788.000 MHz	100.000 kHz	785.22478 MHz	0.85 dBm	-29.15 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00005 MHz	-41.64 dBm	-28.64 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.59685 MHz	-36.71 dBm	-23.71 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.13636 MHz	-58.61 dBm	-23.61 dB

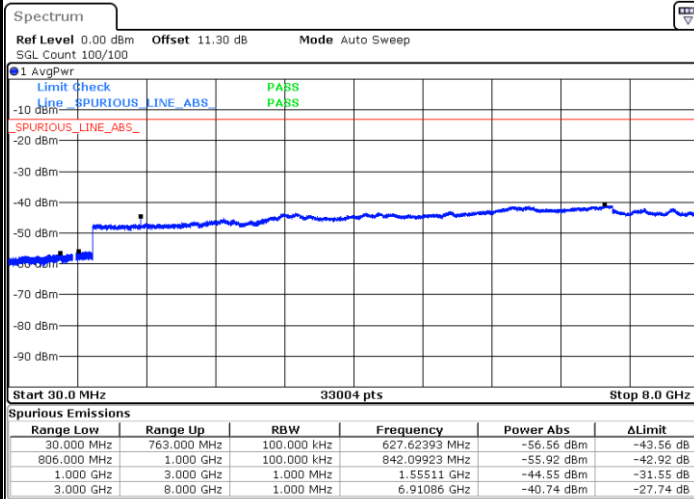
Date: 6.JUL.2023 11:34:25



Conducted Spurious Emission

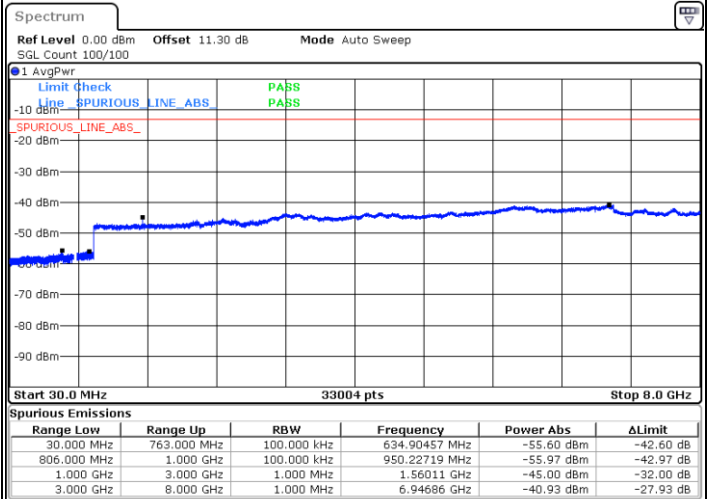
LTE Band 13 / 5MHz

Lowest Channel / QPSK



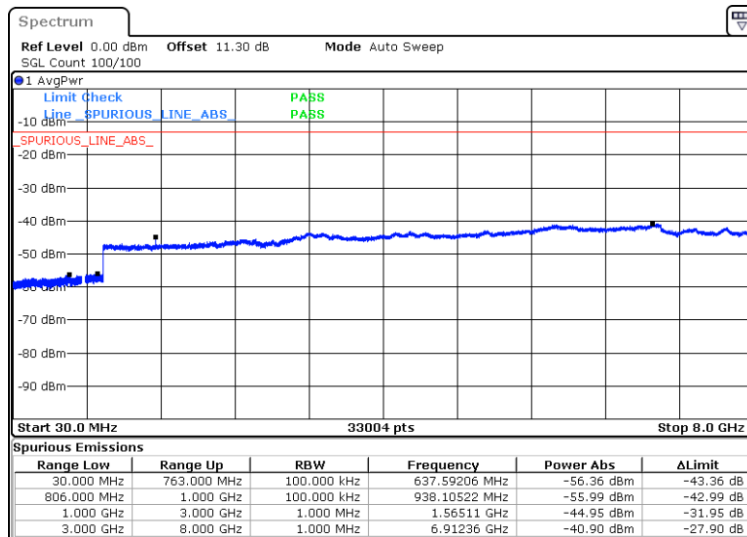
Date: 6.JUL.2023 11:00:49

Middle Channel / QPSK



Date: 6.JUL.2023 11:02:07

Highest Channel / QPSK

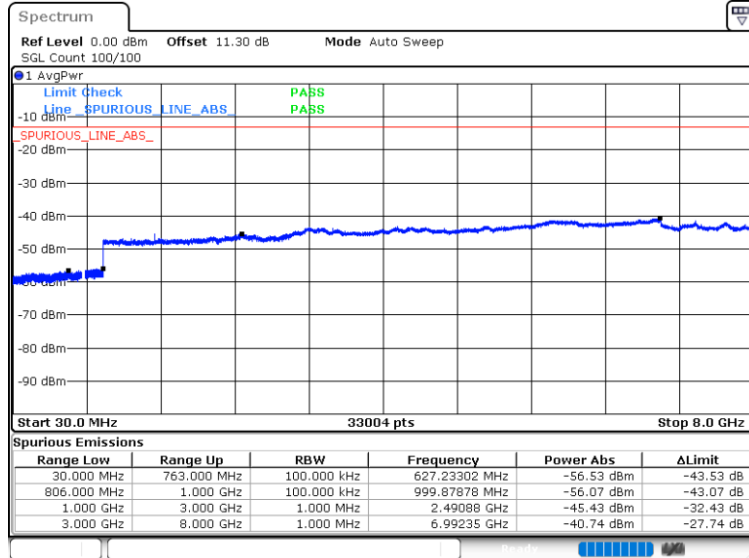


Date: 6.JUL.2023 11:11:05



LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 6.JUL.2023 11:35:59

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	0.0083	PASS
40	Normal Voltage	0.0035	
30	Normal Voltage	0.0058	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0083	
0	Normal Voltage	0.0015	
-10	Normal Voltage	0.0074	
-20	Normal Voltage	0.0042	
-30	Normal Voltage	0.0036	
20	Maximum Voltage	0.0095	
20	Normal Voltage	0.0083	
20	Battery End Point	0.0005	

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 25

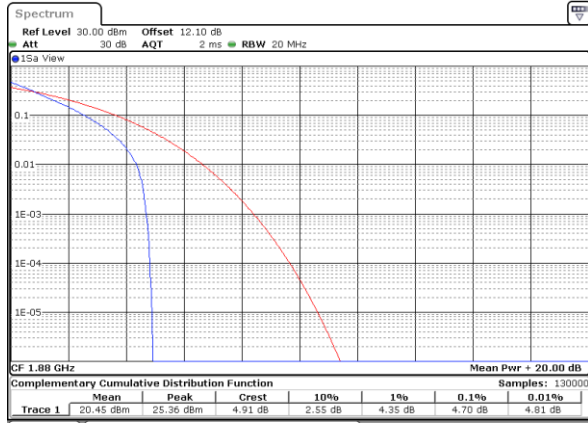
Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.70	5.68	6.29	6.64	PASS



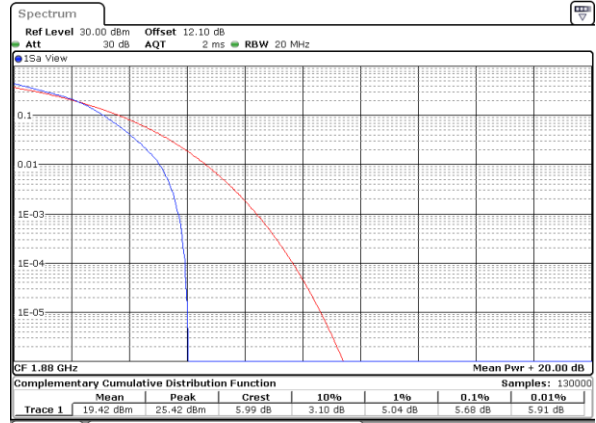
LTE Band 25 / 20MHz / QPSK

Middle Channel / Full RB



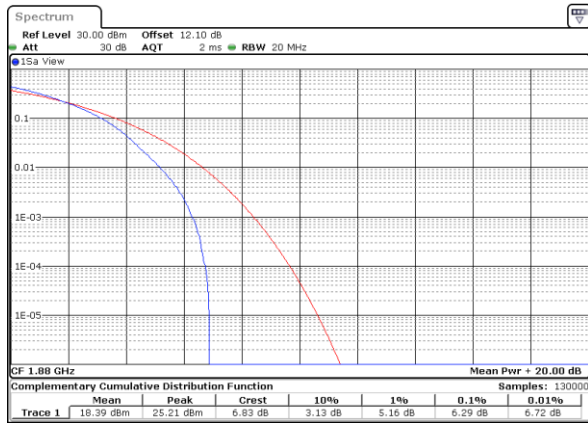
LTE Band 25 / 20MHz / 16QAM

Middle Channel / Full RB



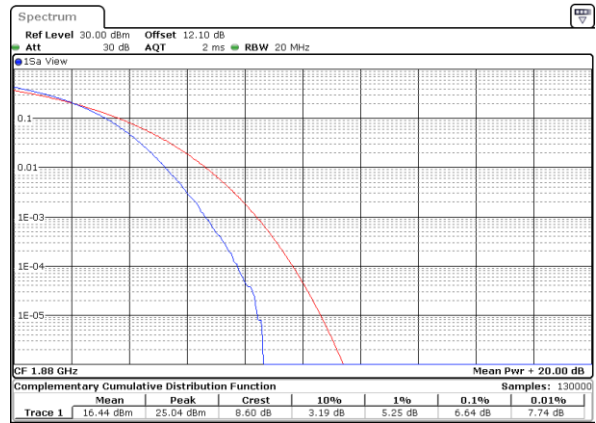
LTE Band 25 / 20MHz / 64QAM

Middle Channel / Full RB



LTE Band 25 / 20MHz / 256QAM

Middle Channel / Full RB



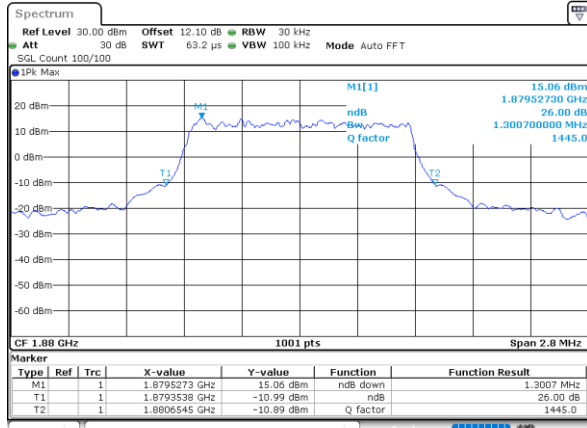
**26dB Bandwidth**

Mode	LTE Band 25 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.30	1.33	3.05	3.08	5.17	5.06	9.93	9.87	14.36	14.75	19.10	18.94
Mode	LTE Band 25 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.35	1.34	3.11	3.08	5.01	5.15	9.79	10.03	14.63	14.69	19.66	19.34



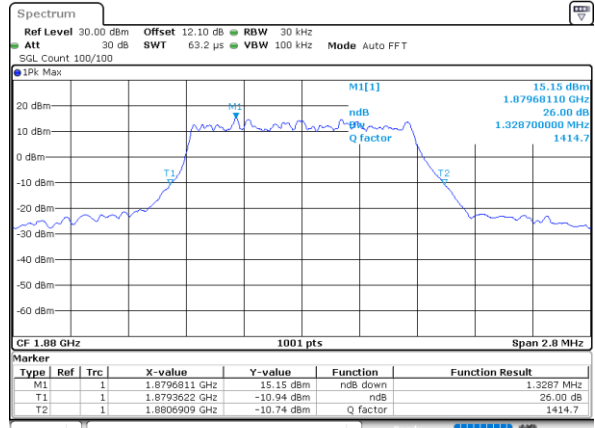
LTE Band 25

Middle Channel / 1.4MHz / QPSK



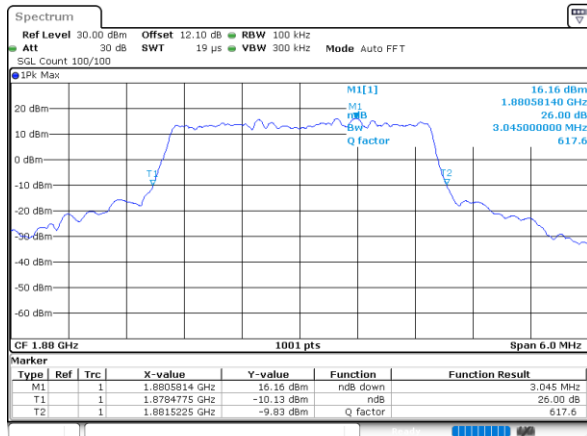
Date: 22.MAY.2023 15:18:53

Middle Channel / 1.4MHz / 16QAM



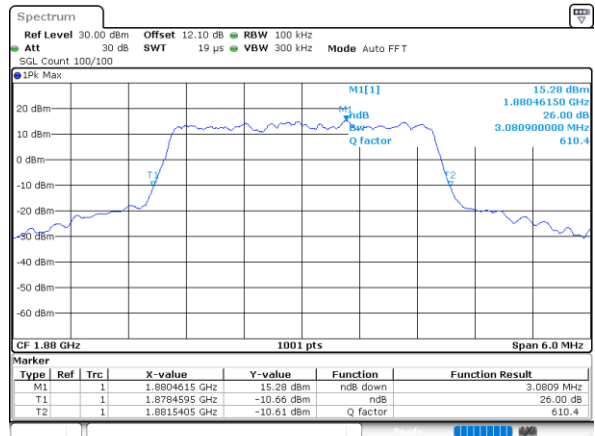
Date: 22.MAY.2023 15:19:22

Middle Channel / 3MHz / QPSK



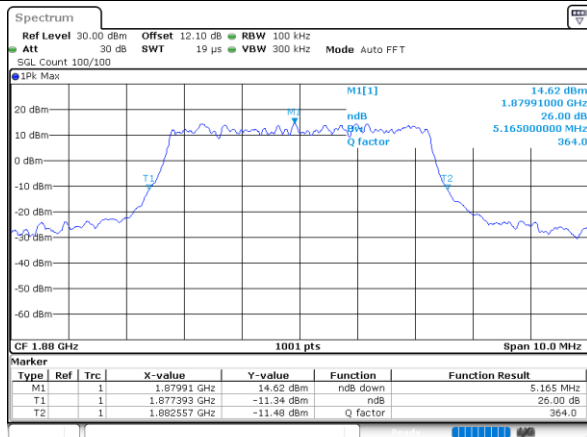
Date: 22.MAY.2023 15:40:58

Middle Channel / 3MHz / 16QAM



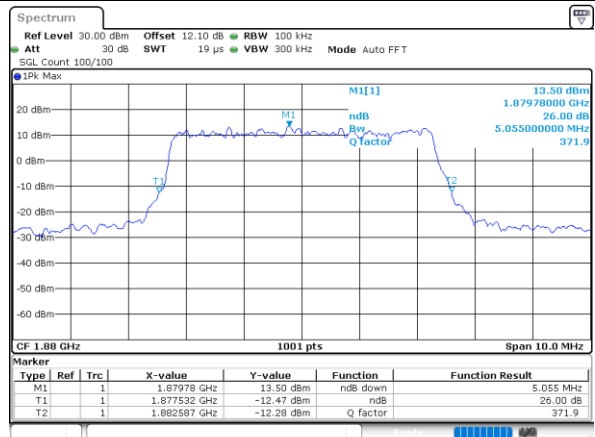
Date: 22.MAY.2023 15:41:28

Middle Channel / 5MHz / QPSK



Date: 22.MAY.2023 15:48:21

Middle Channel / 5MHz / 16QAM

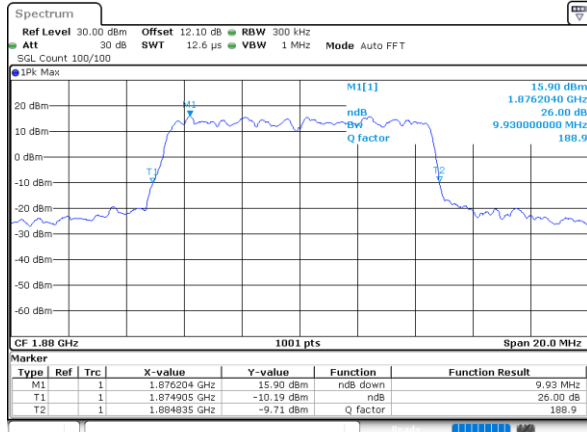


Date: 22.MAY.2023 15:48:50



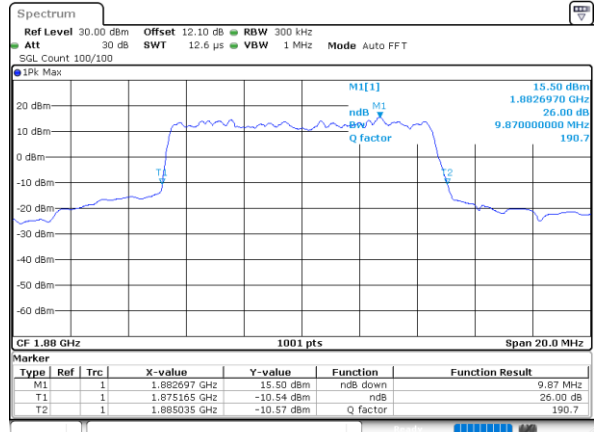
LTE Band 25

Middle Channel / 10MHz / QPSK



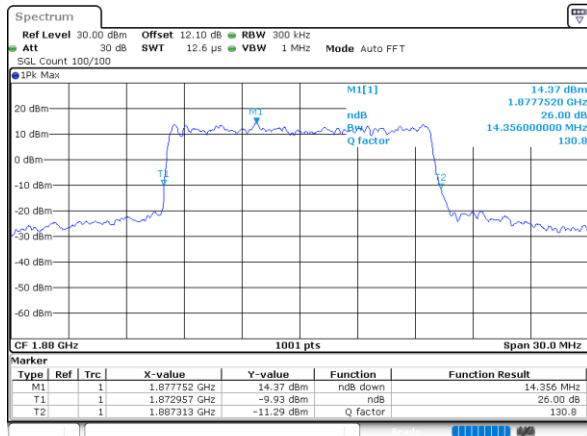
Date: 22.MAY.2023 15:59:06

Middle Channel / 10MHz / 16QAM



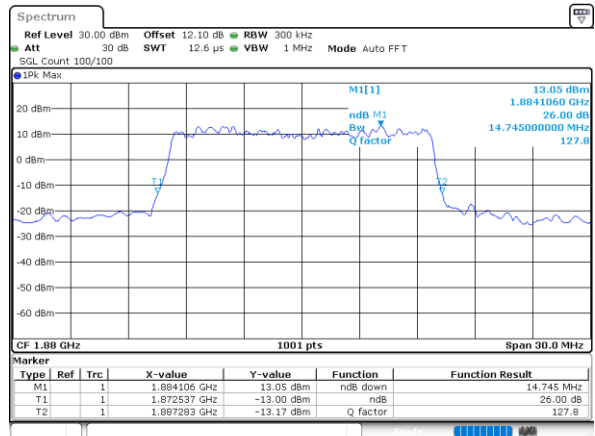
Date: 22.MAY.2023 15:59:36

Middle Channel / 15MHz / QPSK



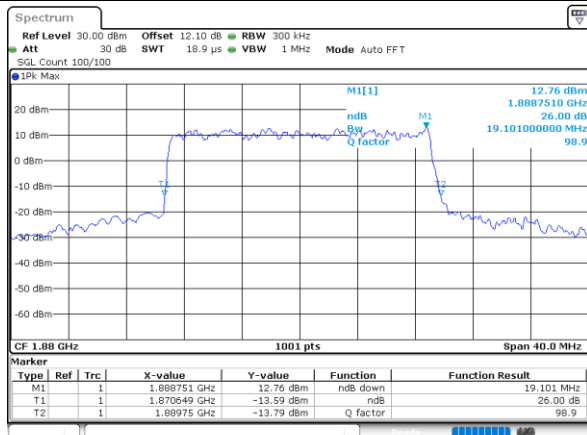
Date: 22.MAY.2023 16:13:14

Middle Channel / 15MHz / 16QAM



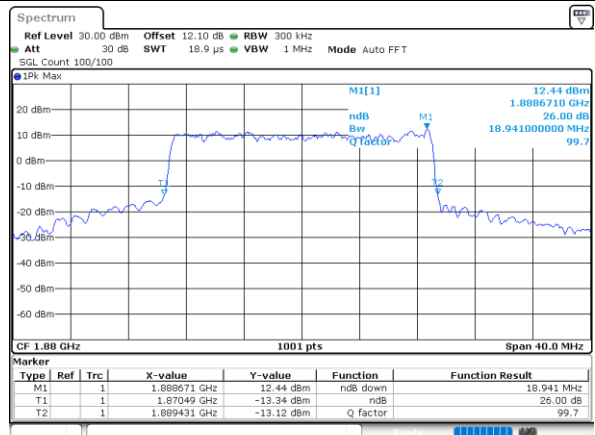
Date: 22.MAY.2023 16:13:44

Middle Channel / 20MHz / QPSK



Date: 22.MAY.2023 16:20:38

Middle Channel / 20MHz / 16QAM

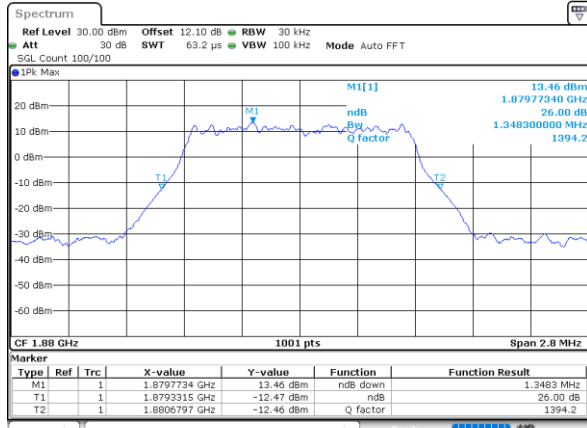


Date: 22.MAY.2023 16:21:07

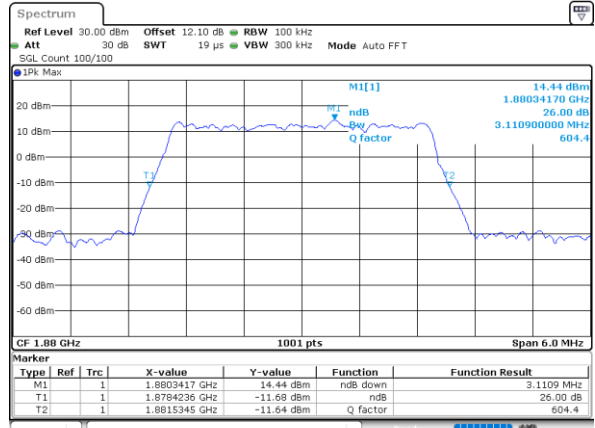


LTE Band 25

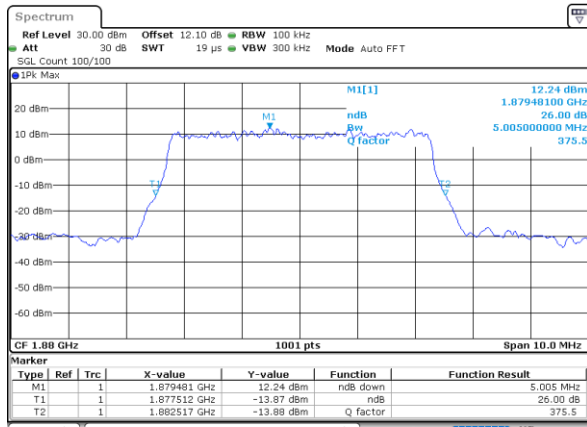
Middle Channel / 1.4MHz / 64QAM



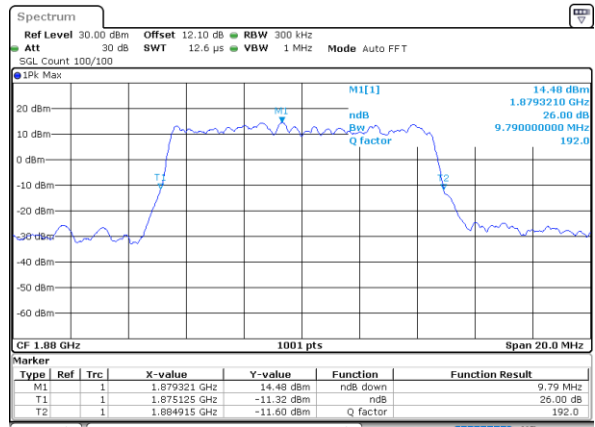
Middle Channel / 3MHz / 64QAM



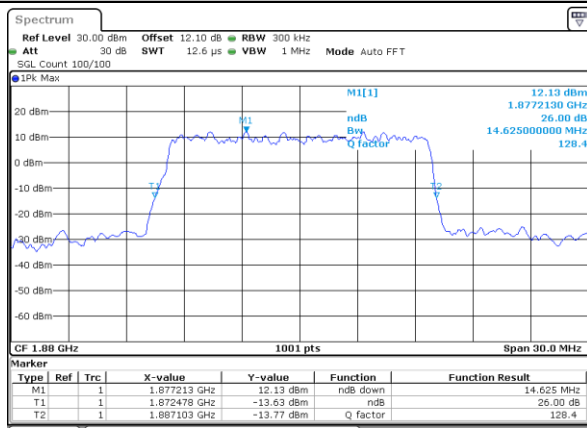
Middle Channel / 5MHz / 64QAM



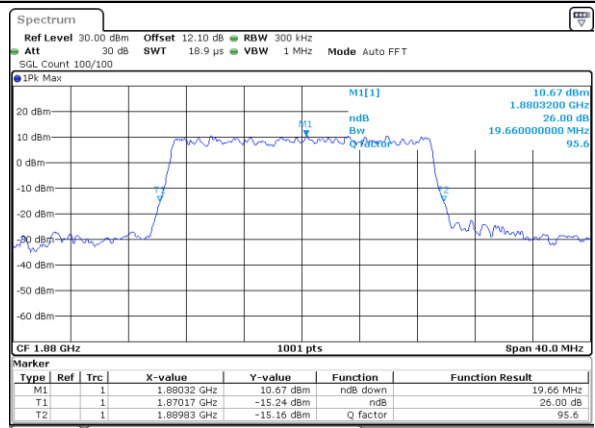
Middle Channel / 10MHz / 64QAM



Middle Channel / 15MHz / 64QAM



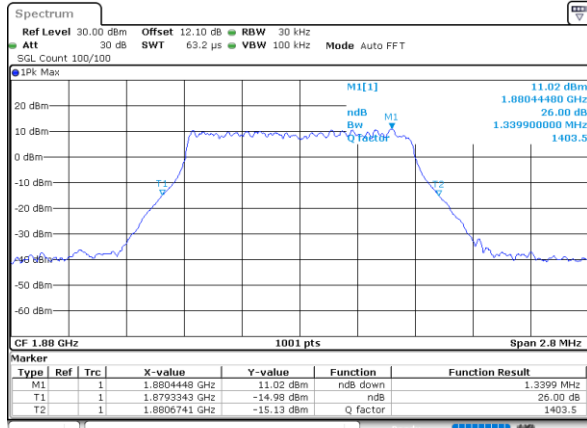
Middle Channel / 20MHz / 64QAM



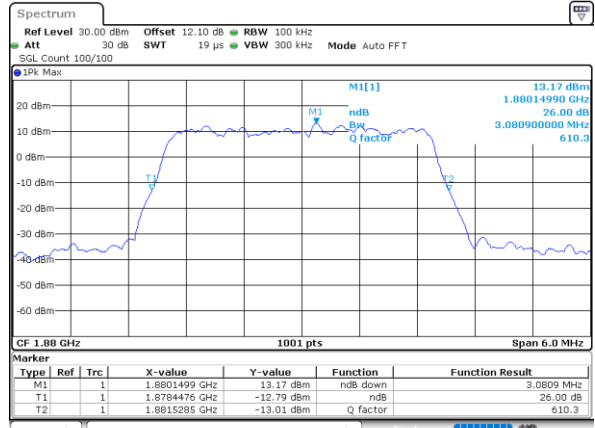


LTE Band 25

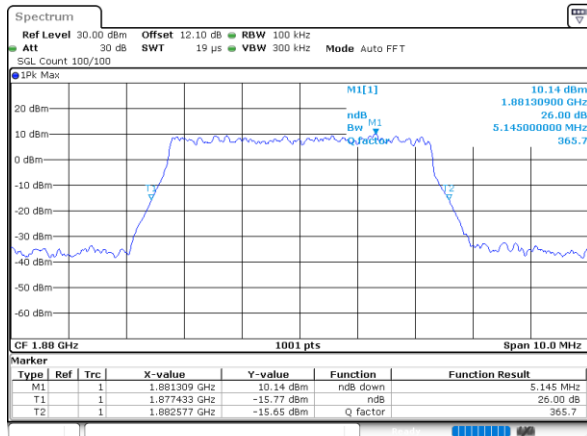
Middle Channel / 1.4MHz / 256QAM



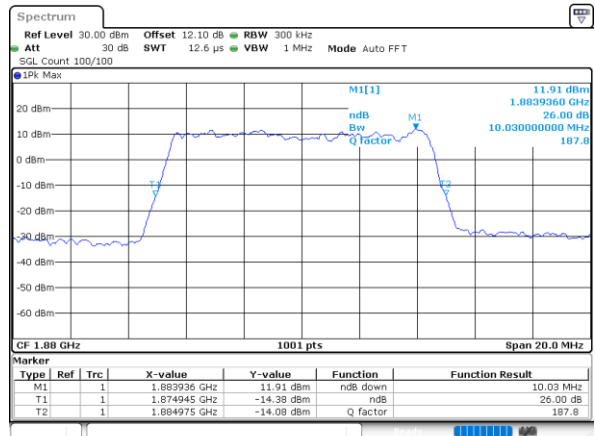
Middle Channel / 3MHz / 256QAM



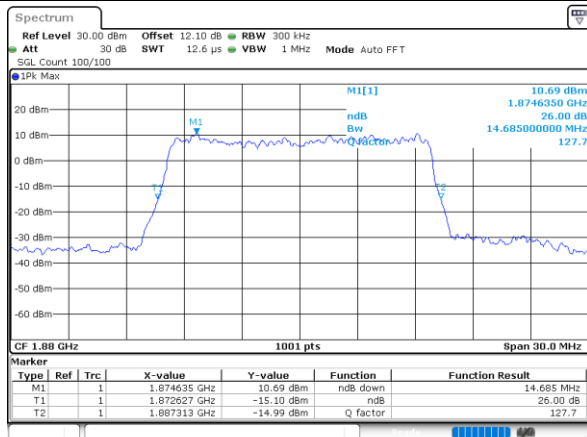
Middle Channel / 5MHz / 256QAM



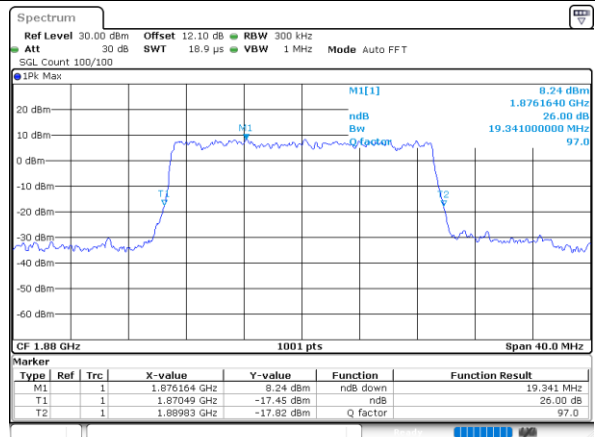
Middle Channel / 10MHz / 256QAM



Middle Channel / 15MHz / 256QAM



Middle Channel / 20MHz / 256QAM



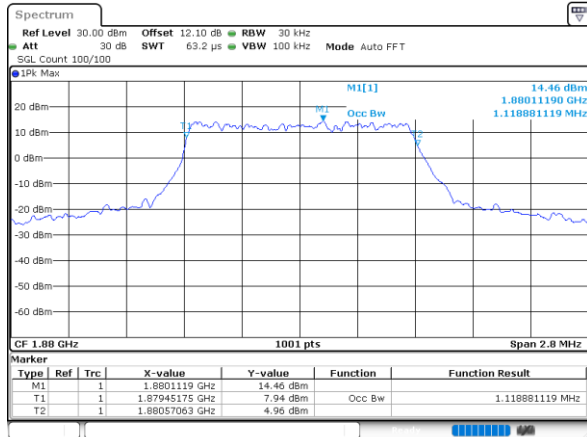
**Occupied Bandwidth**

Mode	LTE Band 25 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.12	1.10	2.74	2.73	4.48	4.49	9.13	9.09	13.40	13.43	17.98	17.90
Mode	LTE Band 25 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	1.10	1.09	2.73	2.73	4.50	4.51	9.07	9.05	13.49	13.58	17.86	17.90

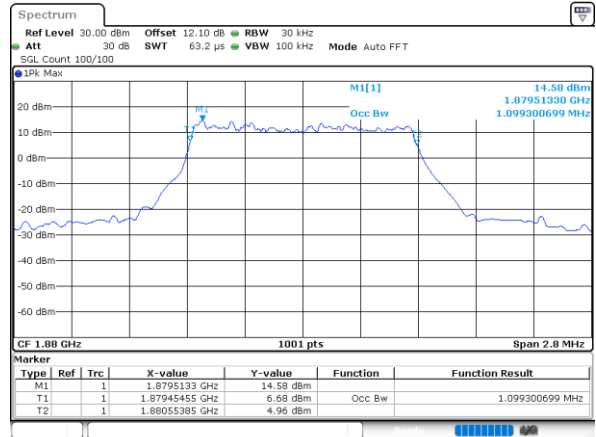


LTE Band 25

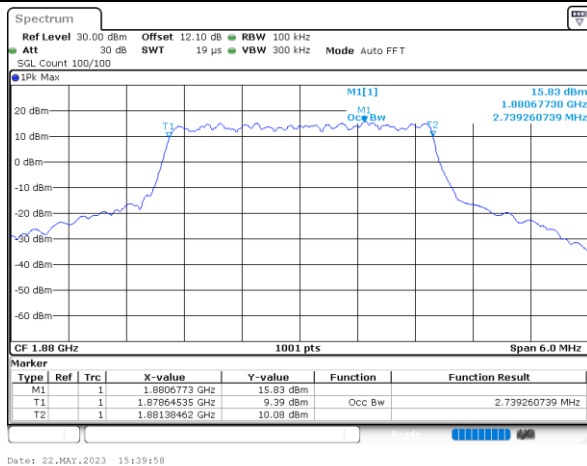
Middle Channel / 1.4MHz / QPSK



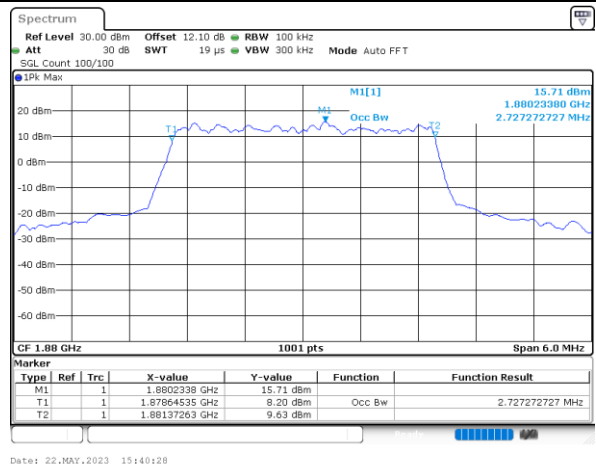
Middle Channel / 1.4MHz / 16QAM



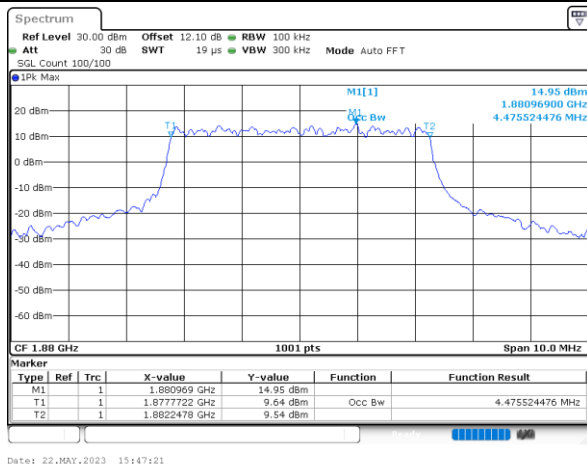
Middle Channel / 3MHz / QPSK



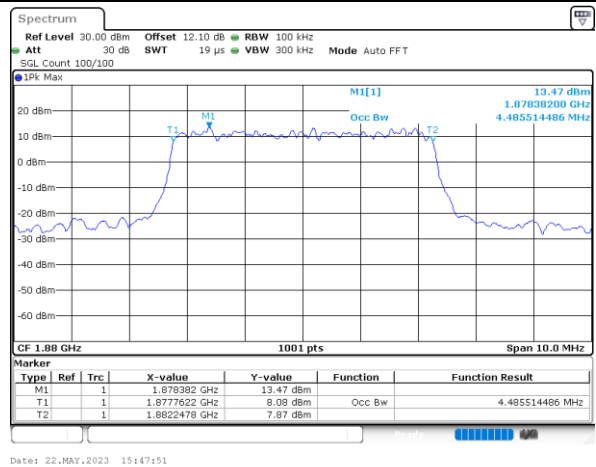
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



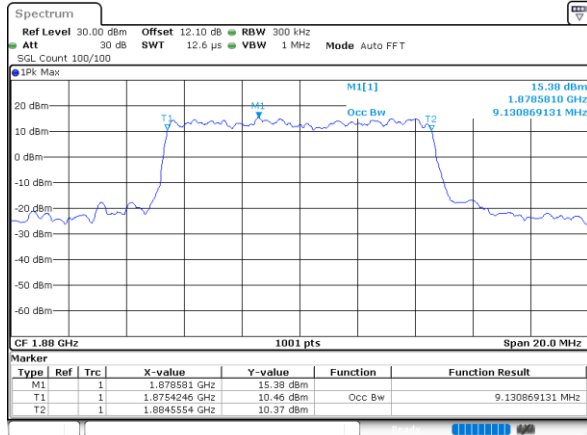
Middle Channel / 5MHz / 16QAM



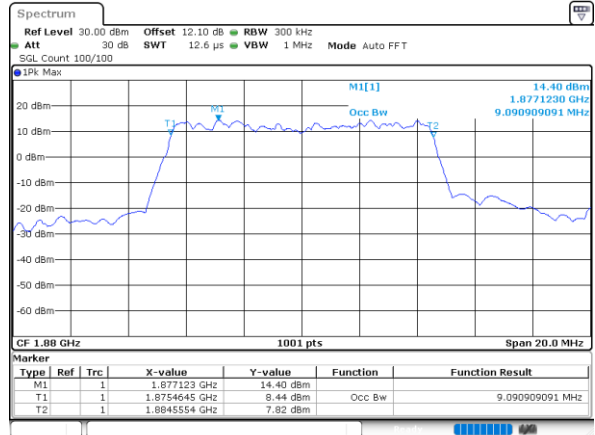


LTE Band 25

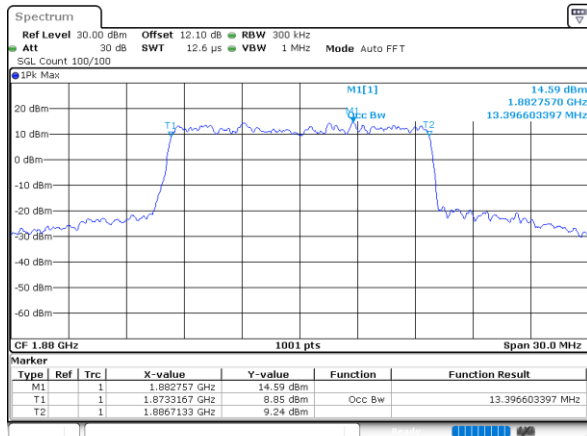
Middle Channel / 10MHz / QPSK



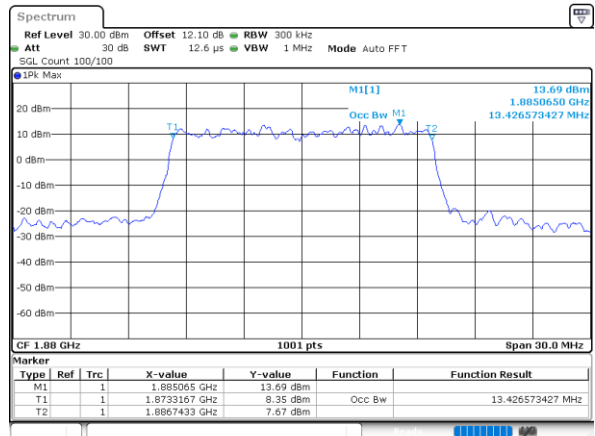
Middle Channel / 10MHz / 16QAM



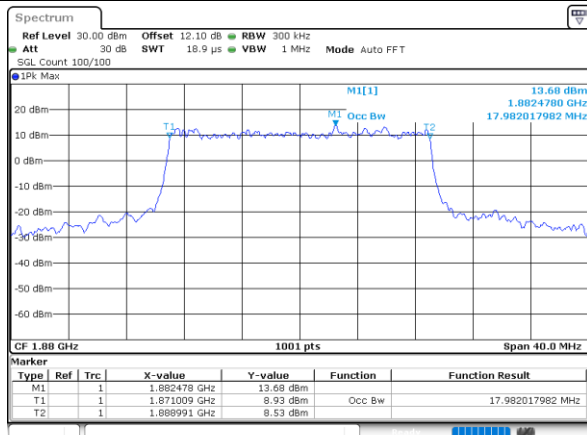
Middle Channel / 15MHz / QPSK



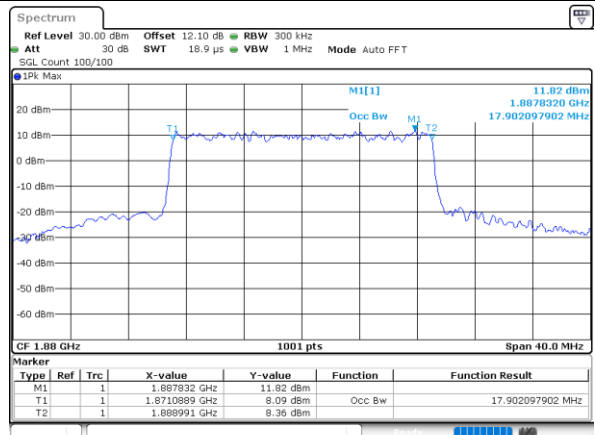
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



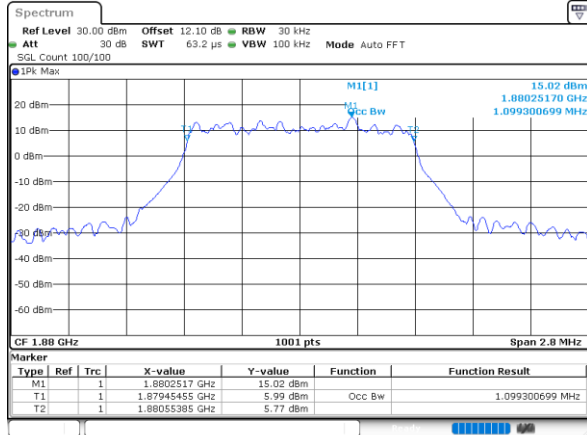
Middle Channel / 20MHz / 16QAM



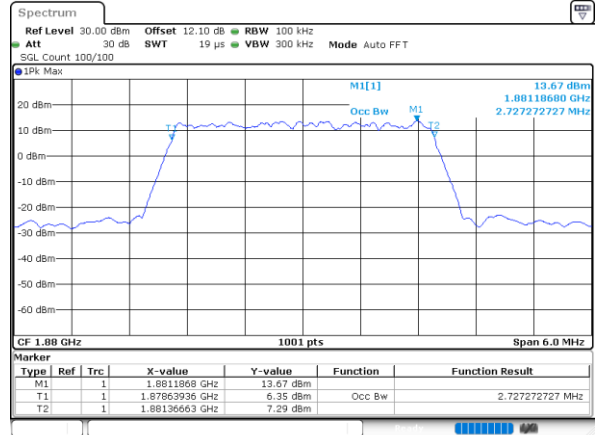


LTE Band 25

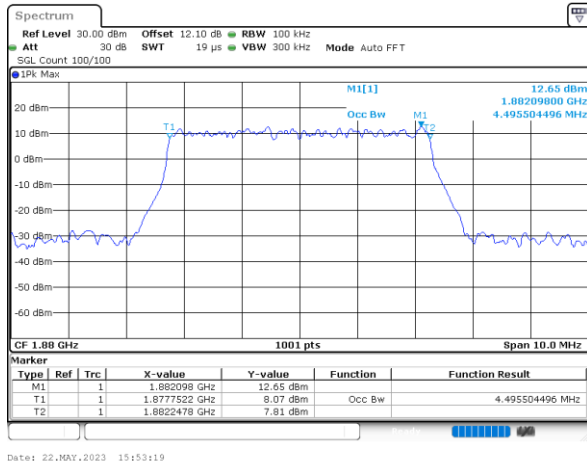
Middle Channel / 1.4MHz / 64QAM



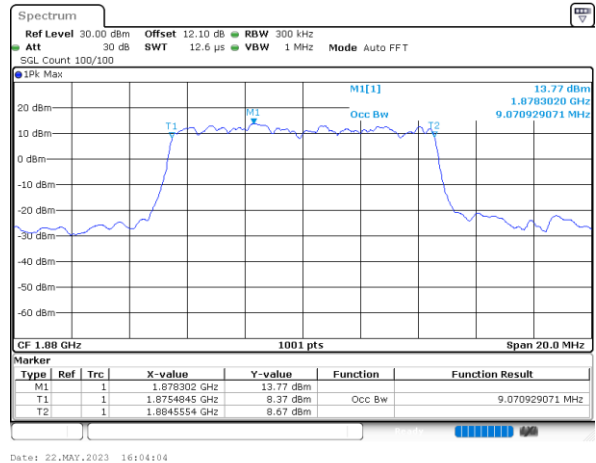
Middle Channel / 3MHz / 64QAM



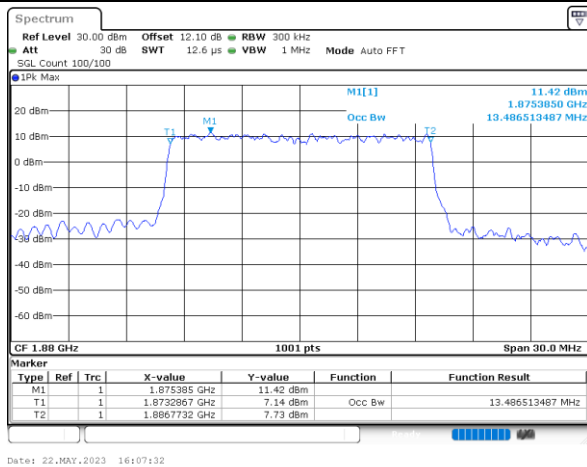
Middle Channel / 5MHz / 64QAM



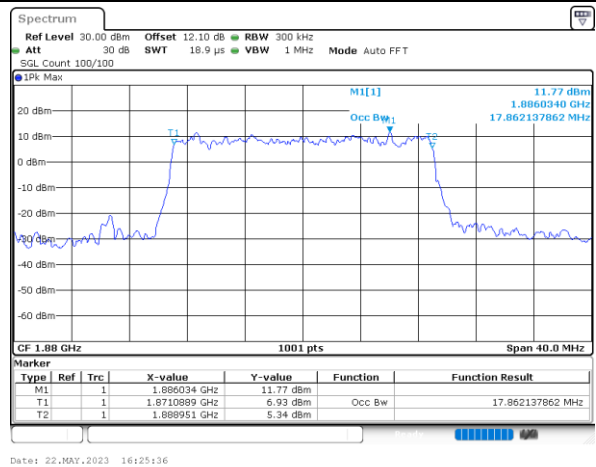
Middle Channel / 10MHz / 64QAM



Middle Channel / 15MHz / 64QAM



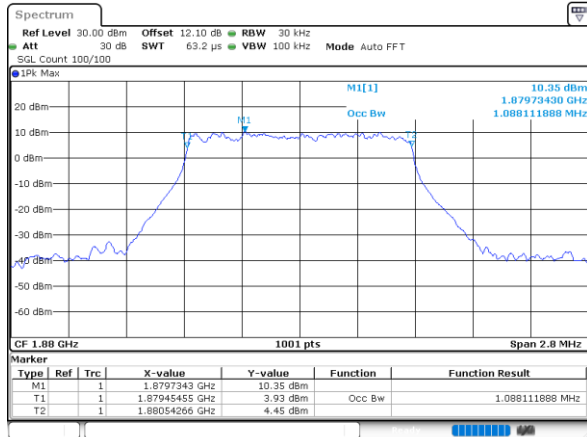
Middle Channel / 20MHz / 64QAM



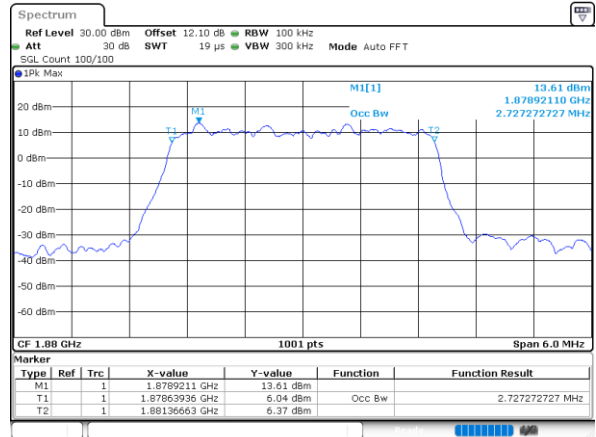


LTE Band 25

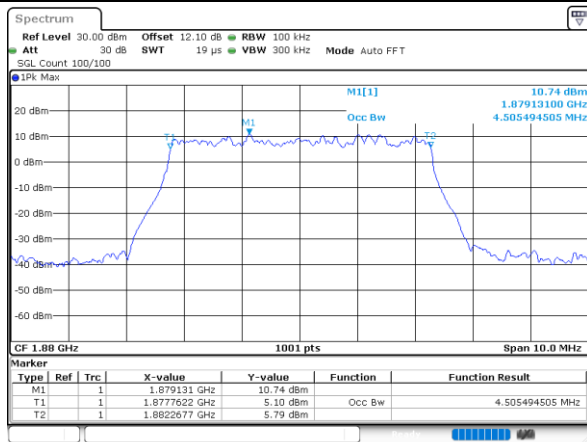
Middle Channel / 1.4MHz / 256QAM



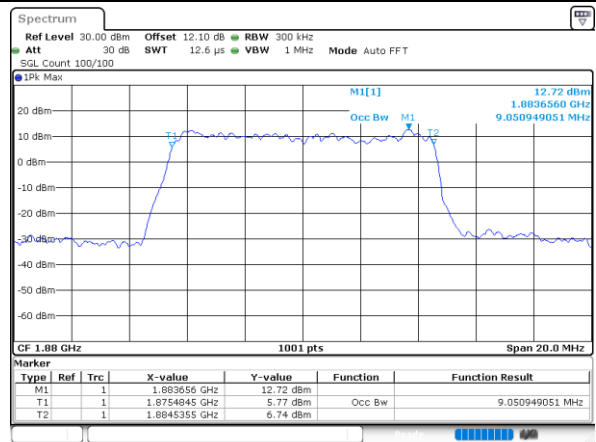
Middle Channel / 3MHz / 256QAM



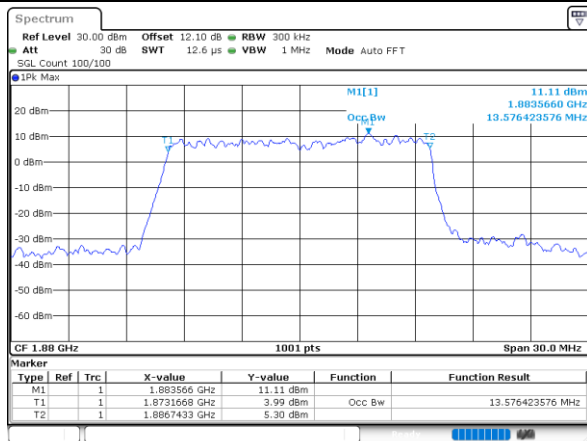
Middle Channel / 5MHz / 256QAM



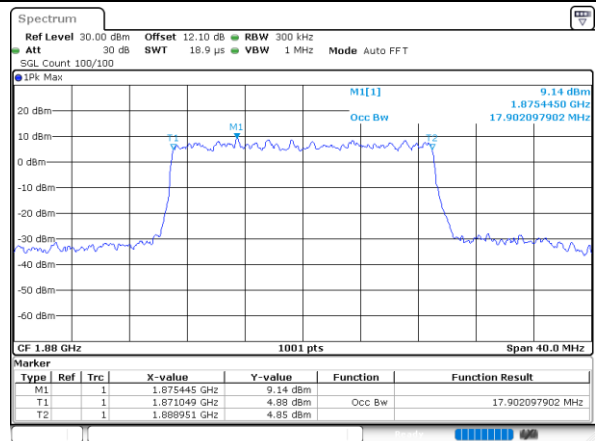
Middle Channel / 10MHz / 256QAM



Middle Channel / 15MHz / 256QAM



Middle Channel / 20MHz / 256QAM

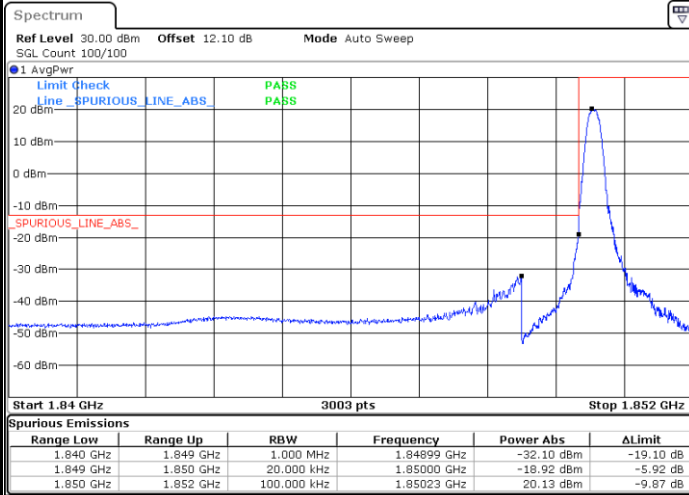




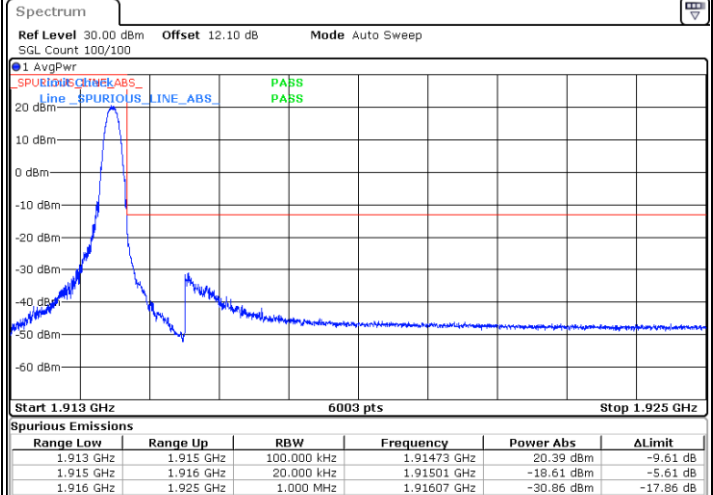
Conducted Band Edge

LTE Band 25 / 1.4MHz / QPSK

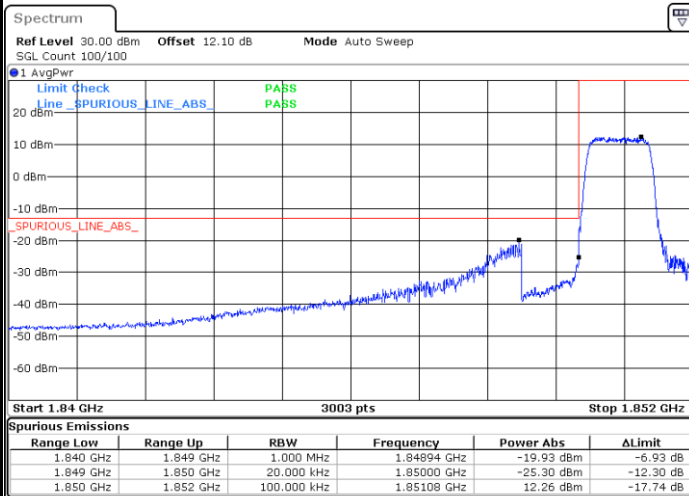
Lowest Band Edge / 1RB



Highest Band Edge / 1RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

