

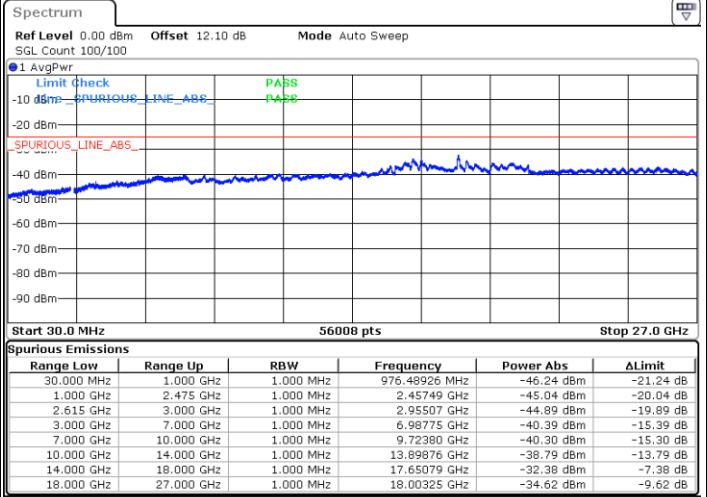
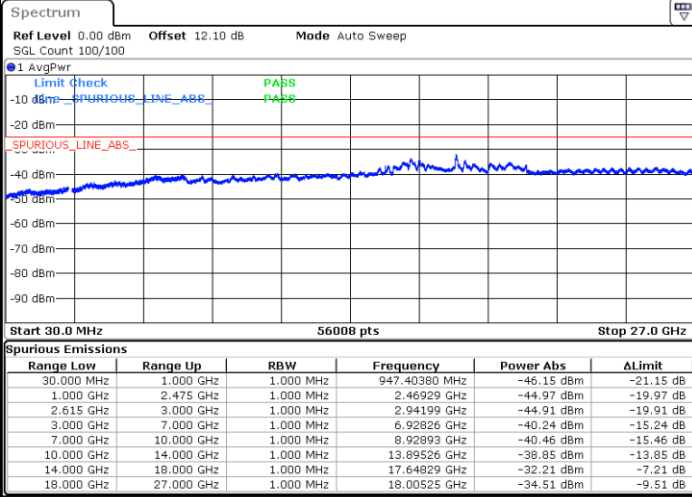


LTE Band 7C / 20MHz+20MHz

QPSK

Lowest Channel / 1RB0 and 1RB99

Lowest Channel / 1RB99 and 1RB0

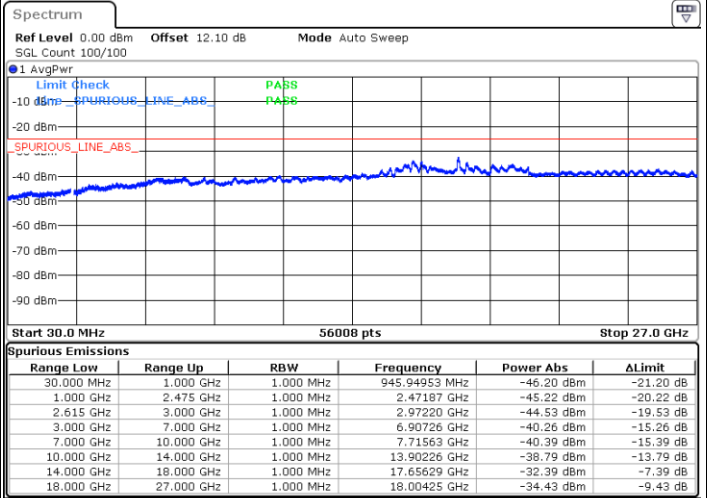
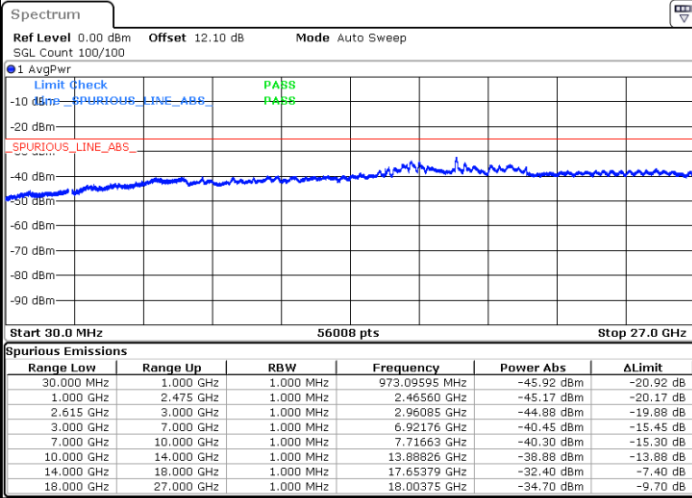


Date: 15.FEB.2023 04:04:07

Date: 15.FEB.2023 04:02:46

MiddleChannel / 1RB0 and 1RB99

Middle Channel / 1RB99 and 1RB0



Date: 15.FEB.2023 04:12:08

Date: 15.FEB.2023 04:13:29

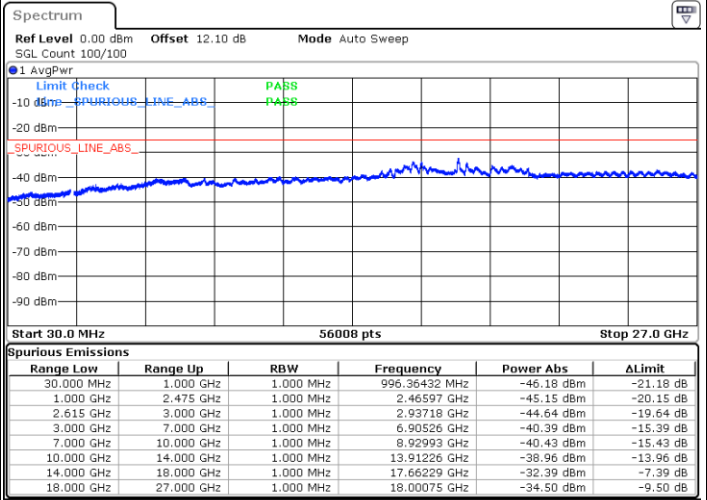
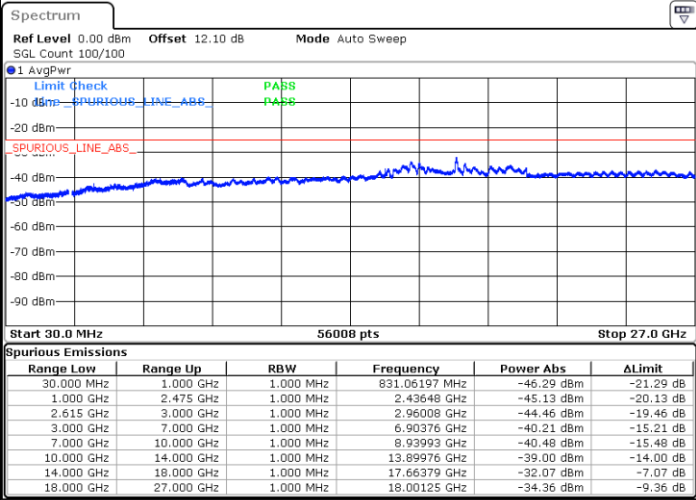


LTE Band 7C / 20MHz+20MHz

QPSK

Highest Channel / 1RB0 and 1RB99

Highest Channel / 1RB99 and 1RB0



Date: 15.FEB.2023 03:47:12

Date: 15.FEB.2023 03:45:51



## LTE Band 12

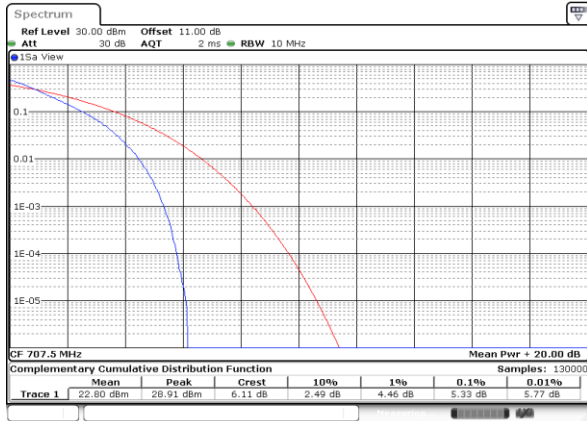
### Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	5.33	6.14	6.43	6.46	<b>PASS</b>



LTE Band 12 / 10MHz / QPSK

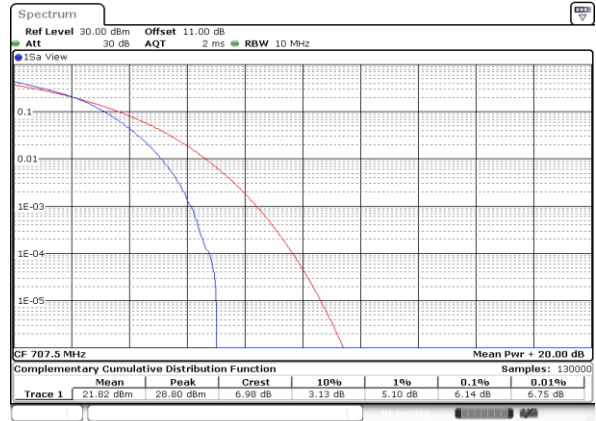
Middle Channel / Full RB



Date: 15\_MAR\_2023 19:08:57

LTE Band 12 / 10MHz / 16QAM

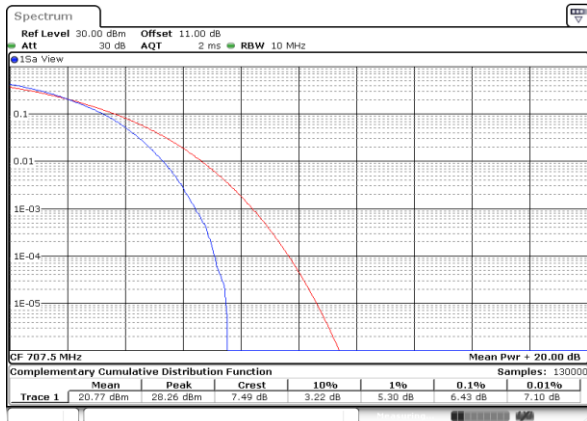
Middle Channel / Full RB



Date: 15\_MAR\_2023 19:08:27

LTE Band 12 / 10MHz / 64QAM

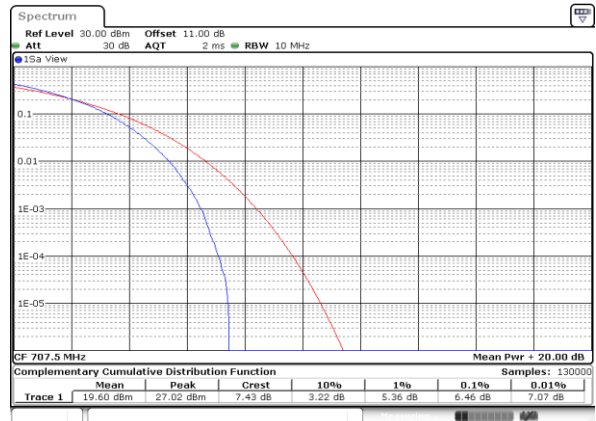
Middle Channel / Full RB



Date: 15\_MAR\_2023 19:07:55

LTE Band 12 / 10MHz / 256QAM

Middle Channel / Full RB



Date: 15\_MAR\_2023 19:22:36



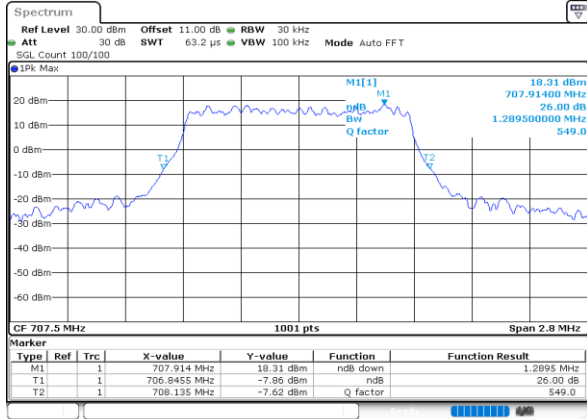
**26dB Bandwidth**

Mode	LTE Band 12 : 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	1.29	1.33	3.12	3.10	5.30	5.11	10.03	10.03	-	-	-	-
Mode	LTE Band 12 : 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	1.29	1.28	3.10	3.15	5.02	5.39	10.21	9.81	-	-	-	-



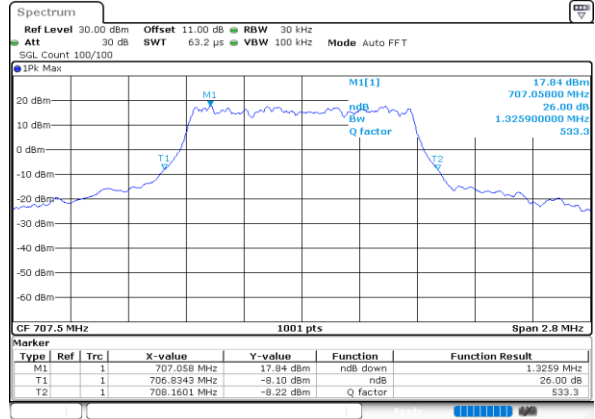
LTE Band 12

Middle Channel / 1.4MHz / QPSK



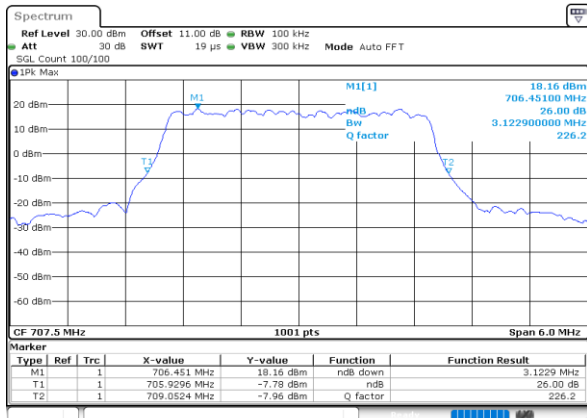
Date: 15.MAR.2023 18:25:01

Middle Channel / 1.4MHz / 16QAM



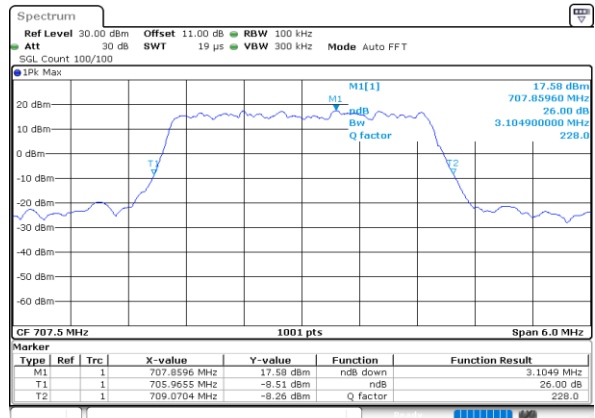
Date: 16.MAR.2023 20:12:03

Middle Channel / 3MHz / QPSK



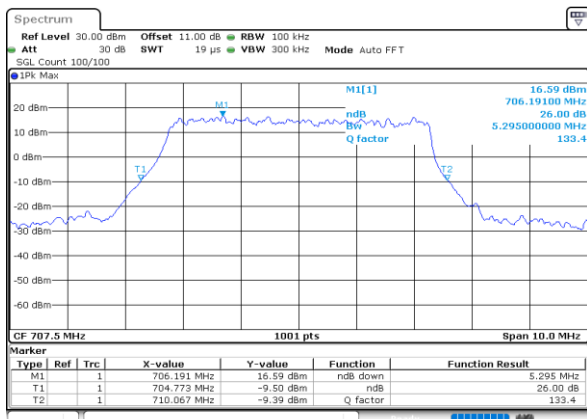
Date: 15.MAR.2023 18:41:32

Middle Channel / 3MHz / 16QAM



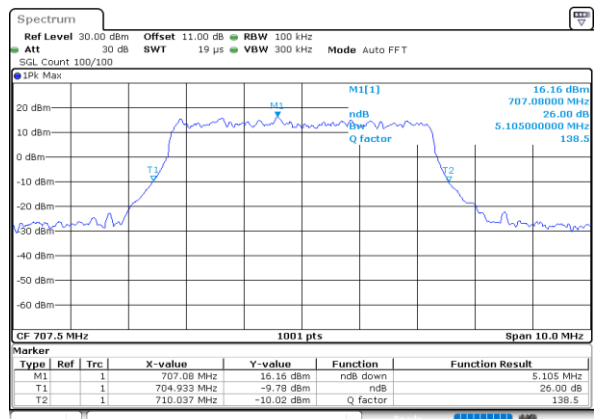
Date: 15.MAR.2023 18:42:01

Middle Channel / 5MHz / QPSK



Date: 15.MAR.2023 18:54:36

Middle Channel / 5MHz / 16QAM

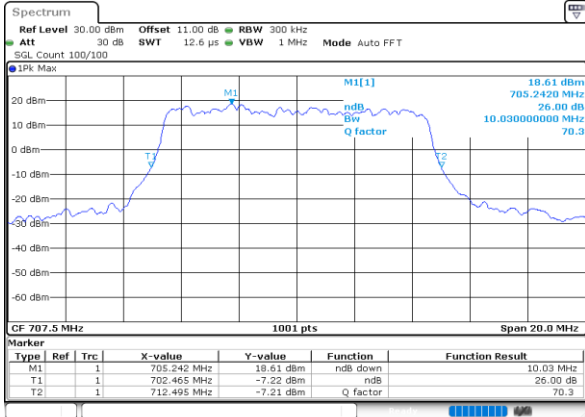


Date: 15.MAR.2023 18:55:06



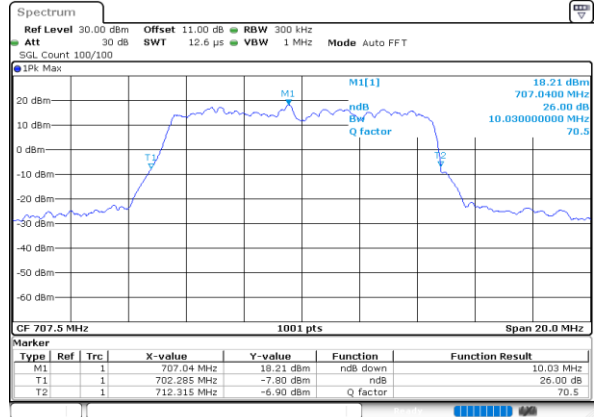
LTE Band 12

Middle Channel / 10MHz / QPSK



Date: 15.MAR.2023 19:02:17

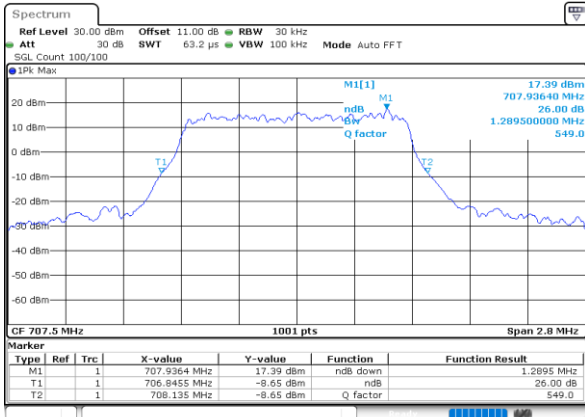
Middle Channel / 10MHz / 16QAM



Date: 15.MAR.2023 19:02:45

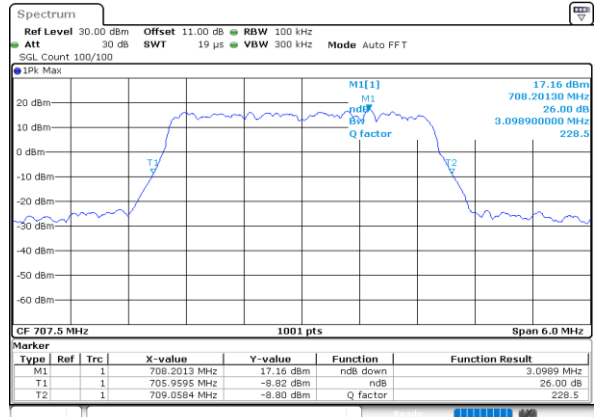
LTE Band 12

Middle Channel / 1.4MHz / 64QAM



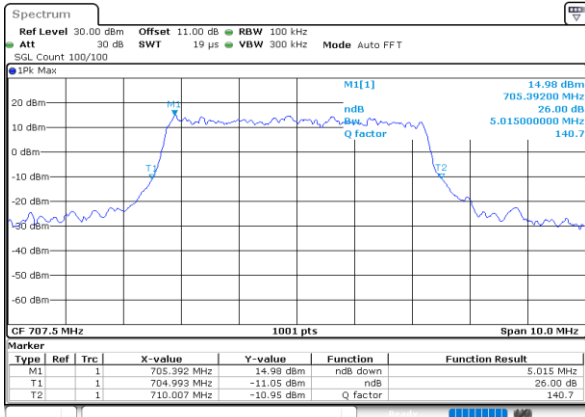
Date: 15.MAR.2023 18:34:24

Middle Channel / 3MHz / 64QAM



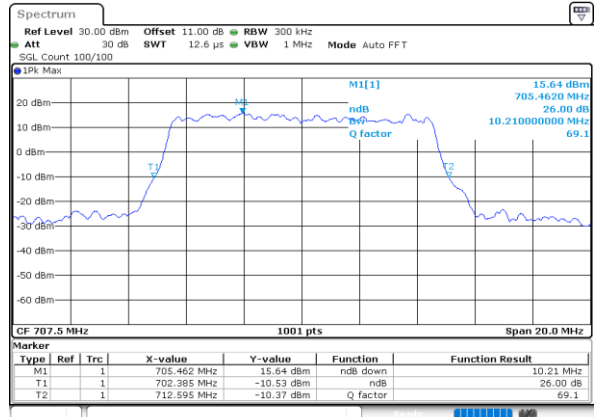
Date: 15.MAR.2023 18:45:43

Middle Channel / 5MHz / 64QAM



Date: 15.MAR.2023 18:50:25

Middle Channel / 10MHz / 64QAM

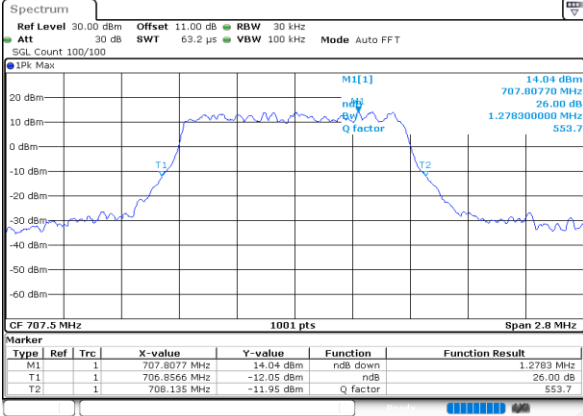


Date: 15.MAR.2023 19:06:27



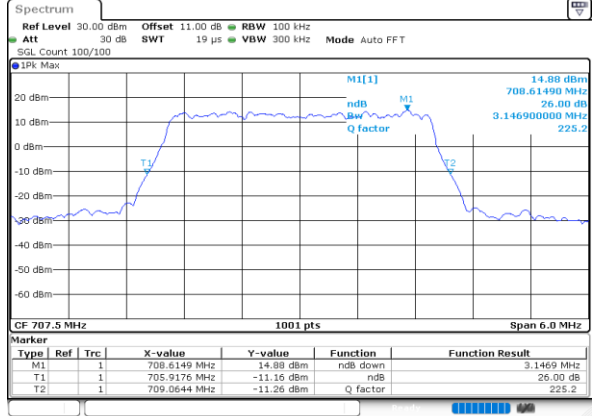
LTE Band 12

Middle Channel / 1.4MHz / 256QAM



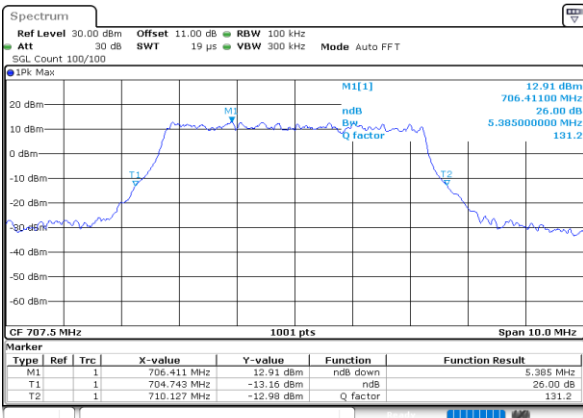
Date: 15.MAR.2023 19:11:46

Middle Channel / 3MHz / 256QAM



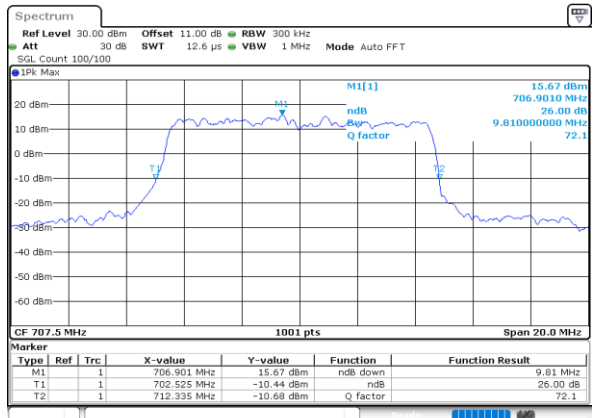
Date: 15.MAR.2023 19:15:34

Middle Channel / 5MHz / 256QAM



Date: 15.MAR.2023 19:18:21

Middle Channel / 10MHz / 256QAM



Date: 15.MAR.2023 19:21:07





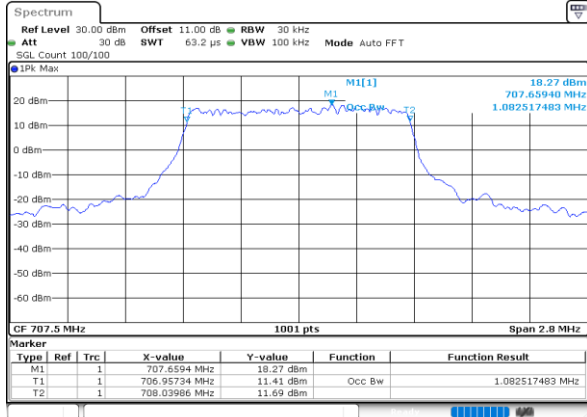
**Occupied Bandwidth**

Mode	LTE Band 12 : 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	1.08	1.10	2.74	2.76	4.53	4.53	9.11	9.11	-	-	-	-
Mode	LTE Band 12 : 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	1.09	1.09	2.72	2.72	4.52	4.50	9.11	9.03	-	-	-	-



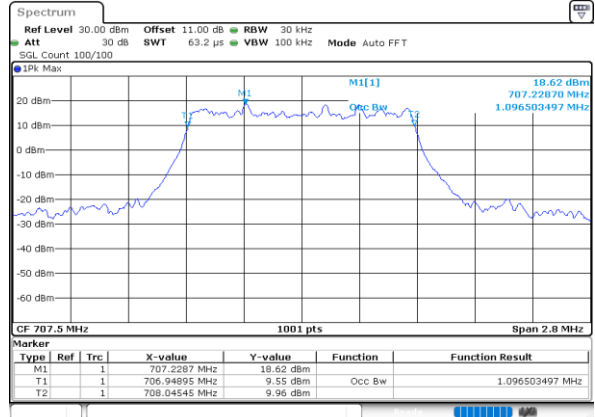
LTE Band 12

Middle Channel / 1.4MHz / QPSK



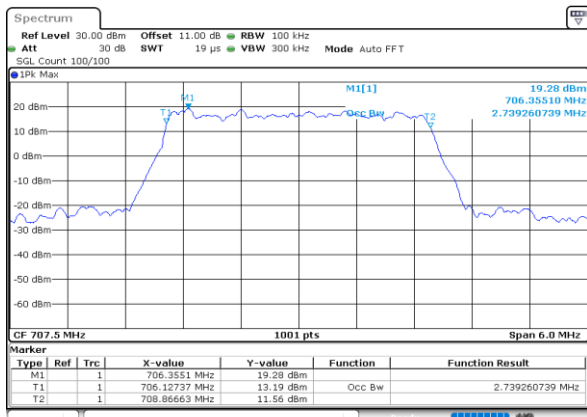
Date: 15.MAR.2023 18:24:47

Middle Channel / 1.4MHz / 16QAM



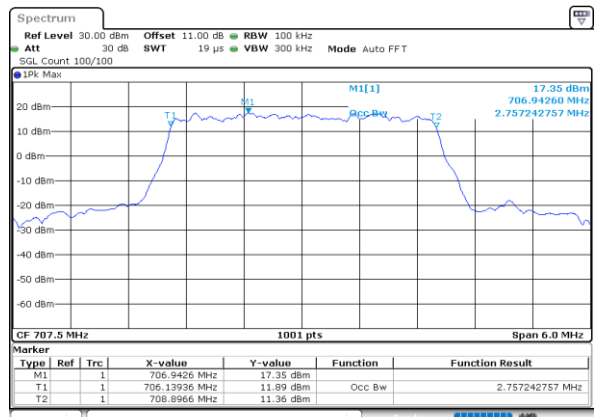
Date: 15.MAR.2023 18:24:18

Middle Channel / 3MHz / QPSK



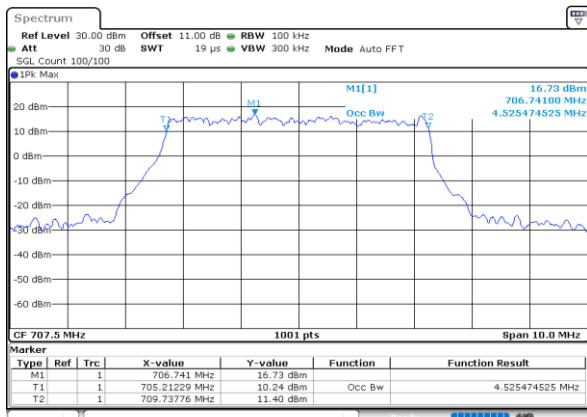
Date: 15.MAR.2023 18:41:18

Middle Channel / 3MHz / 16QAM



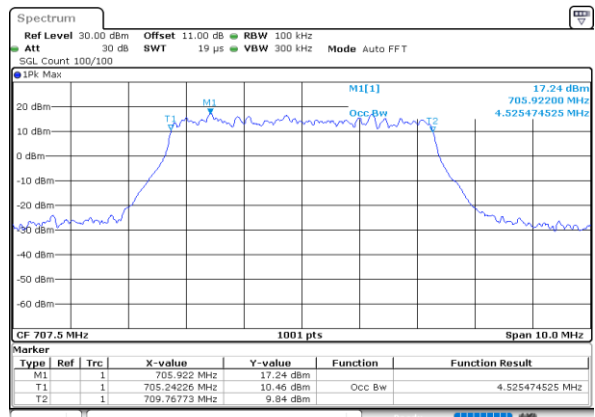
Date: 15.MAR.2023 18:40:49

Middle Channel / 5MHz / QPSK



Date: 15.MAR.2023 18:54:22

Middle Channel / 5MHz / 16QAM

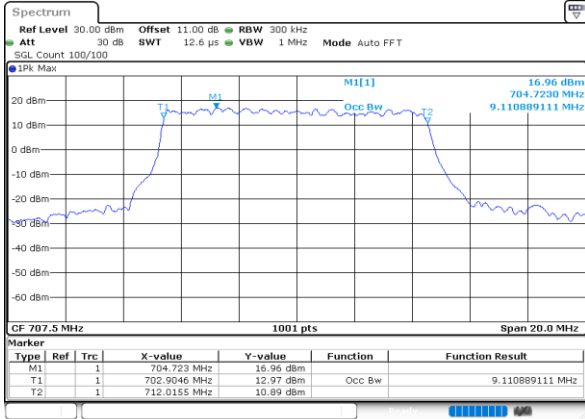


Date: 15.MAR.2023 18:53:53



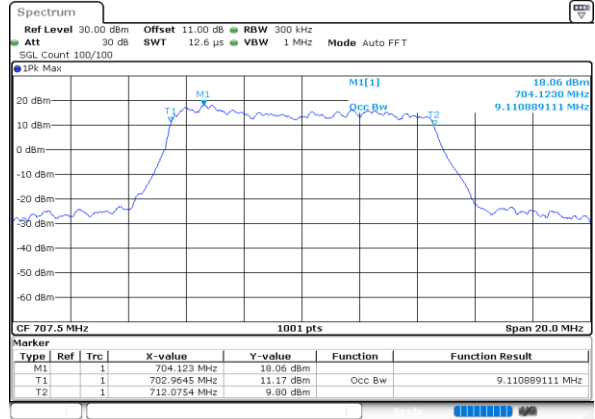
LTE Band 12

Middle Channel / 10MHz / QPSK



Date: 15.MAR.2023 19:02:03

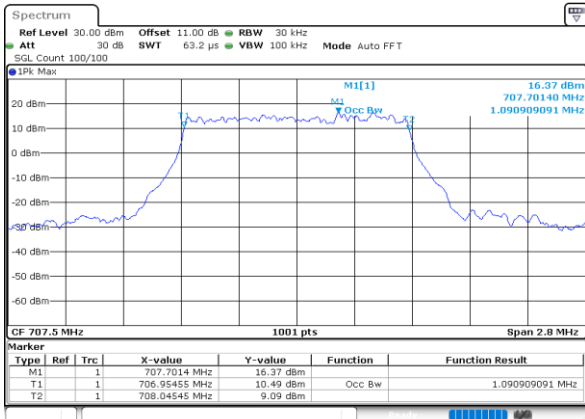
Middle Channel / 10MHz / 16QAM



Date: 15.MAR.2023 19:01:34

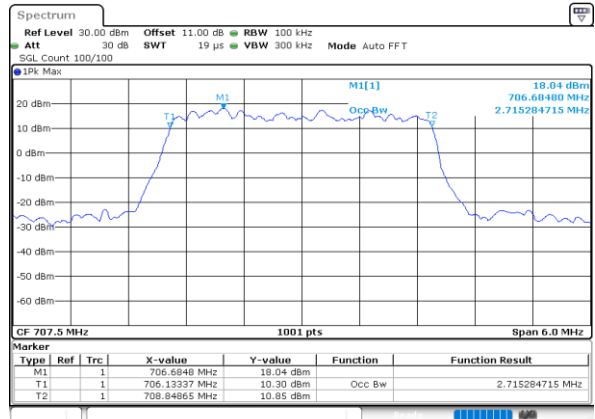
LTE Band 12

Middle Channel / 1.4MHz / 64QAM



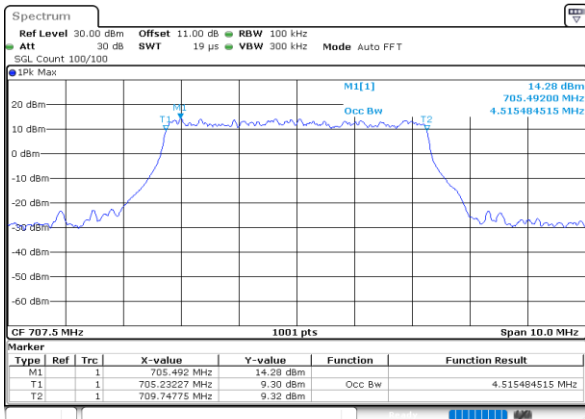
Date: 15.MAR.2023 18:34:10

Middle Channel / 3MHz / 64QAM



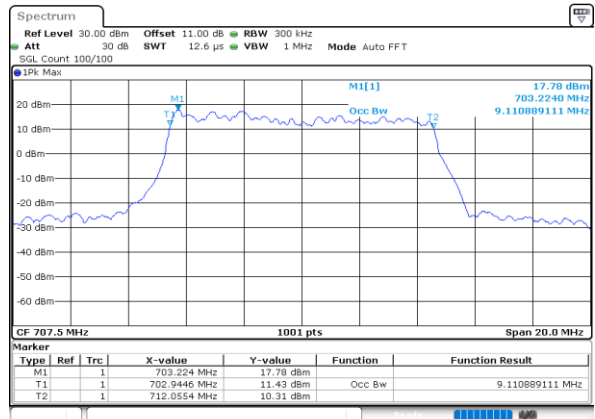
Date: 15.MAR.2023 18:45:29

Middle Channel / 5MHz / 64QAM



Date: 15.MAR.2023 18:50:11

Middle Channel / 10MHz / 64QAM

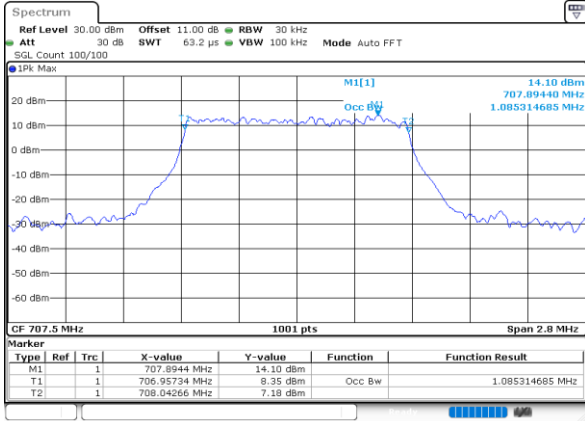


Date: 15.MAR.2023 19:06:13



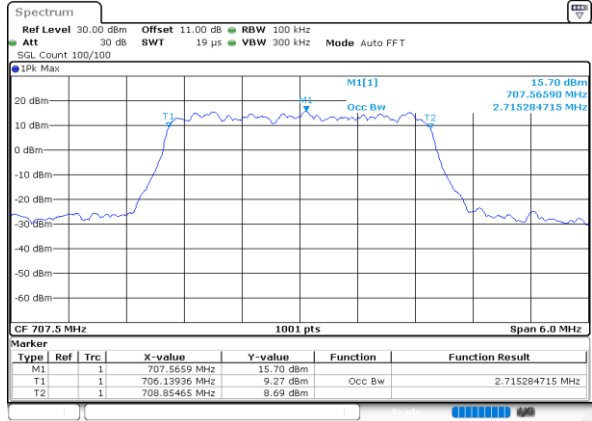
LTE Band 12

Middle Channel / 1.4MHz / 256QAM



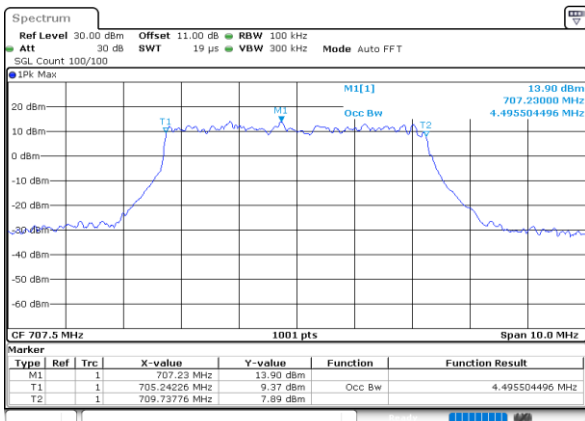
Date: 15.MAR.2023 19:11:01

Middle Channel / 3MHz / 256QAM



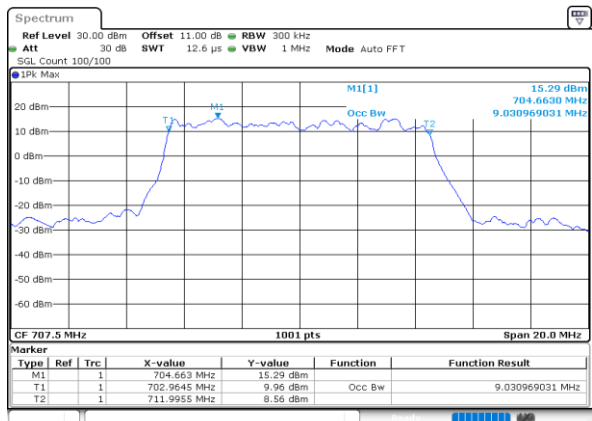
Date: 15.MAR.2023 19:15:20

Middle Channel / 5MHz / 256QAM



Date: 15.MAR.2023 19:18:07

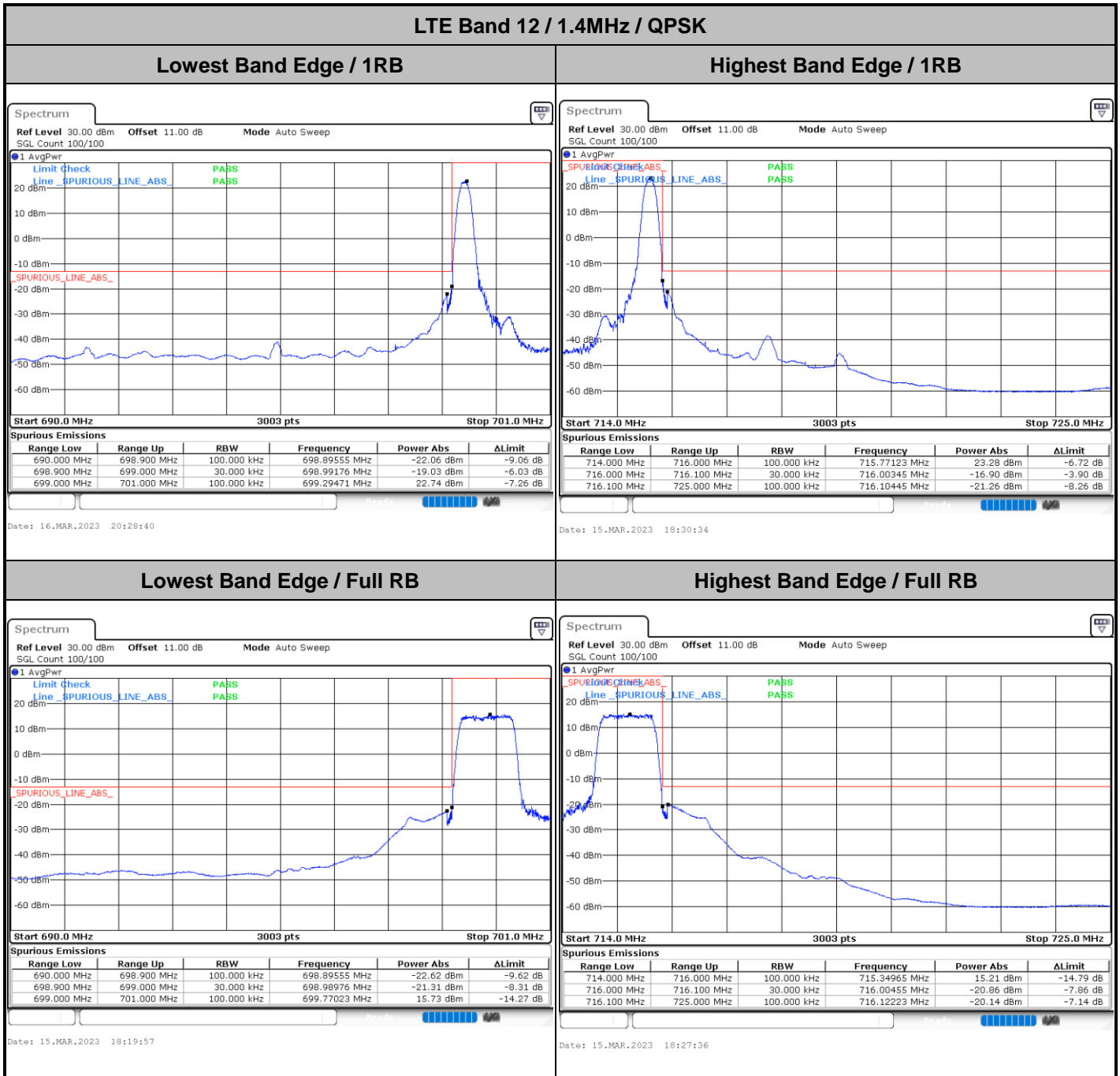
Middle Channel / 10MHz / 256QAM



Date: 15.MAR.2023 19:20:53



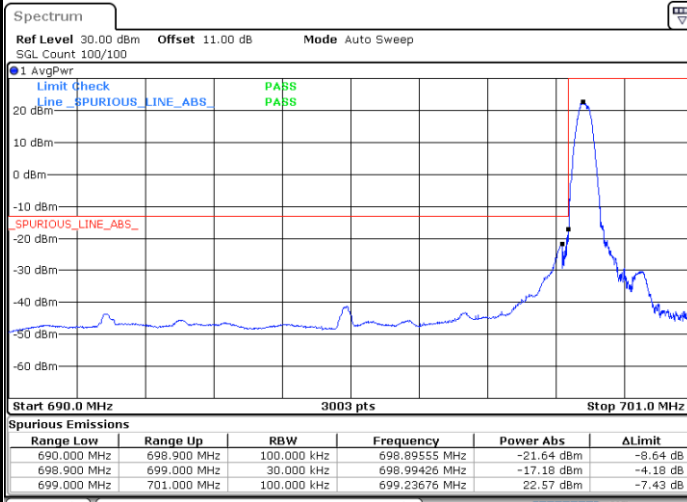
# Conducted Band Edge





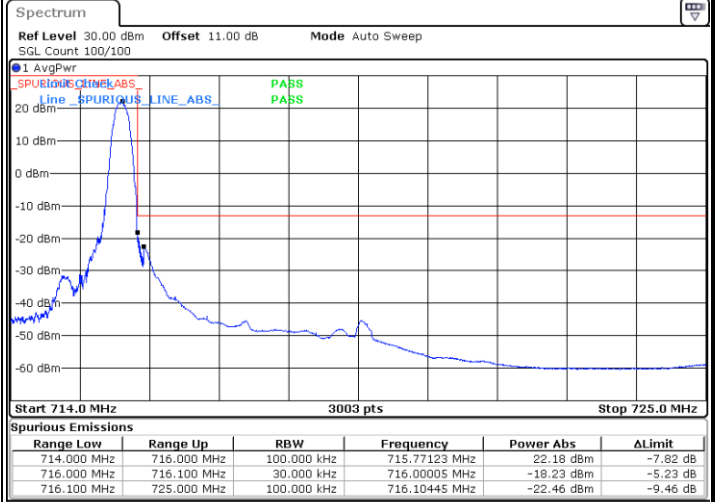
LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



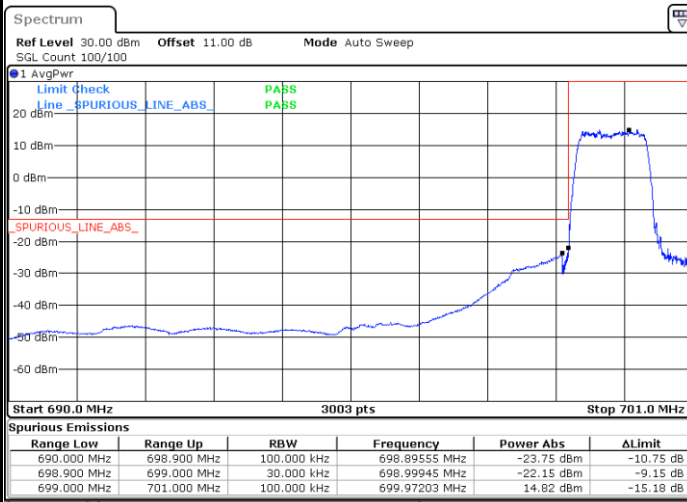
Date: 15.MAR.2023 18:21:56

Highest Band Edge / 1 RB



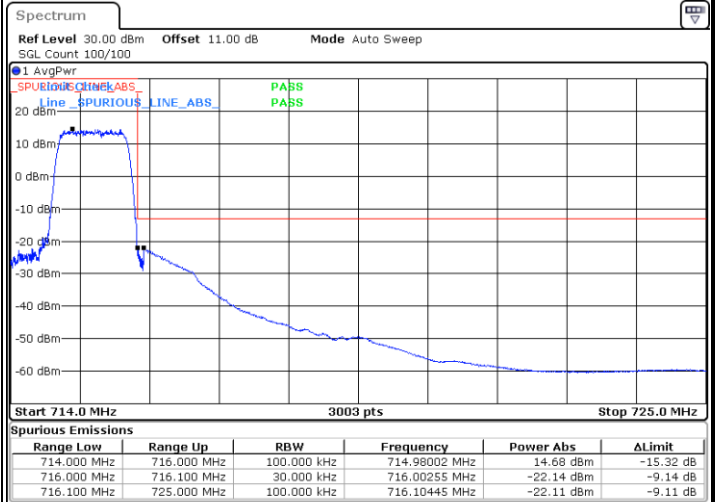
Date: 15.MAR.2023 18:29:34

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:20:56

Highest Band Edge / Full RB

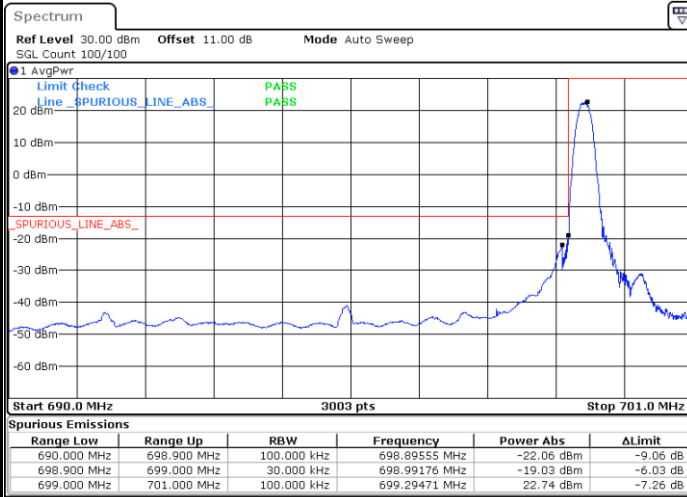


Date: 15.MAR.2023 18:28:35



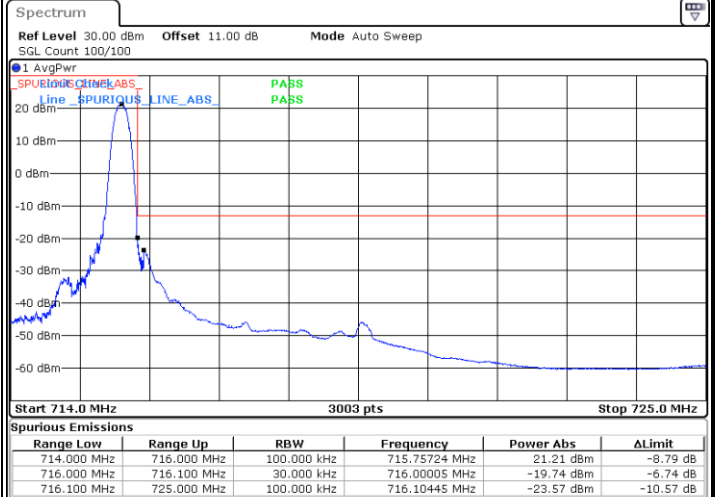
LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



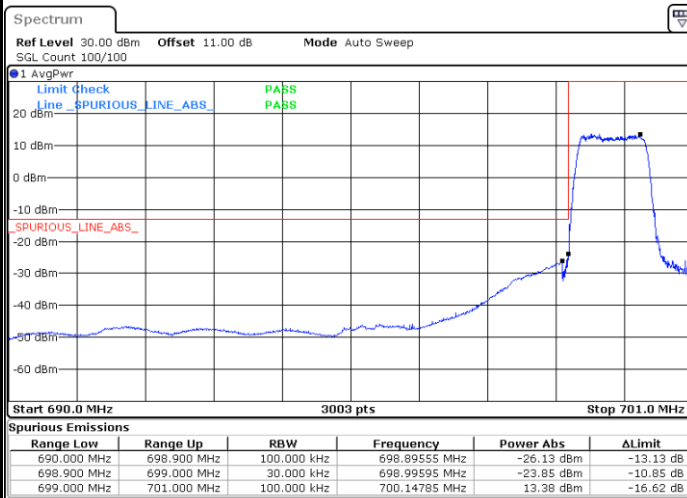
Date: 16.MAR.2023 20:28:40

Highest Band Edge / 1 RB



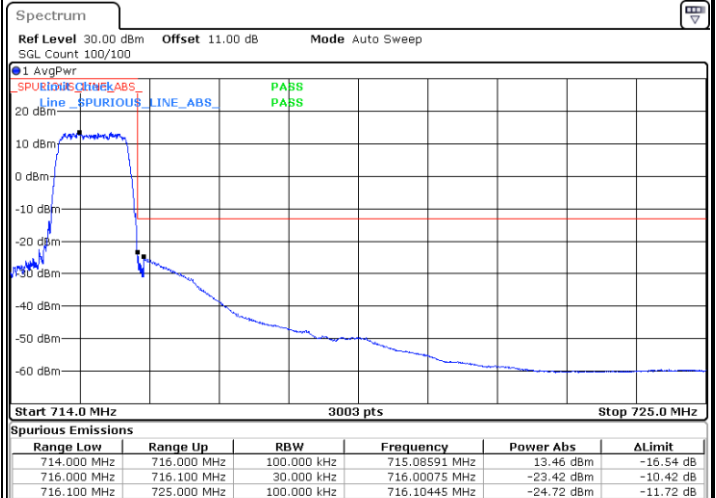
Date: 15.MAR.2023 18:36:22

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:32:41

Highest Band Edge / Full RB

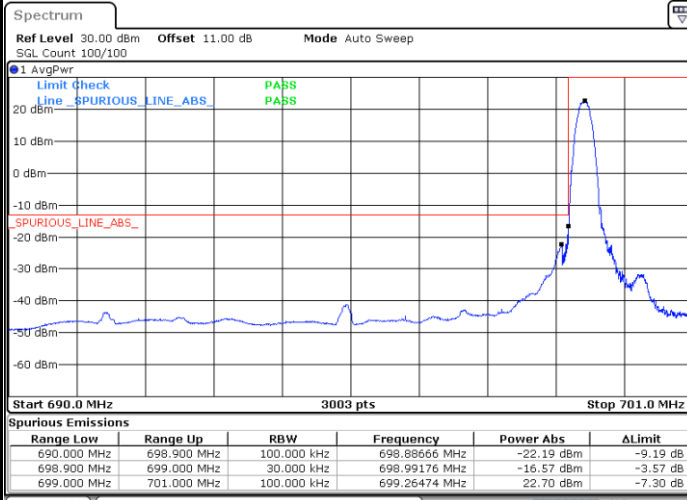


Date: 15.MAR.2023 18:35:23



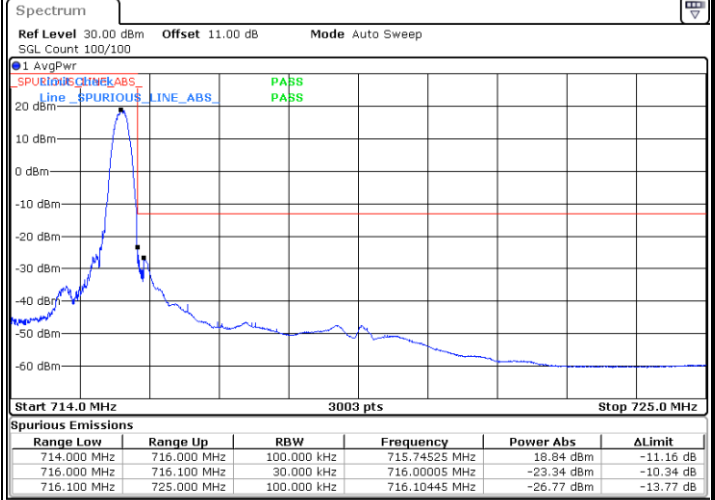
LTE Band 12 / 1.4MHz / 256QAM

Lowest Band Edge / 1 RB



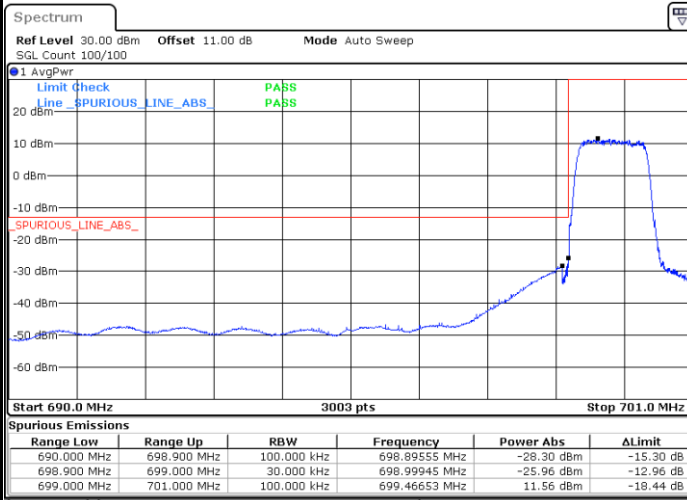
Date: 16.MAR.2023 20:31:11

Highest Band Edge / 1 RB



Date: 16.MAR.2023 20:27:35

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:10:03

Highest Band Edge / Full RB



Date: 15.MAR.2023 19:12:44

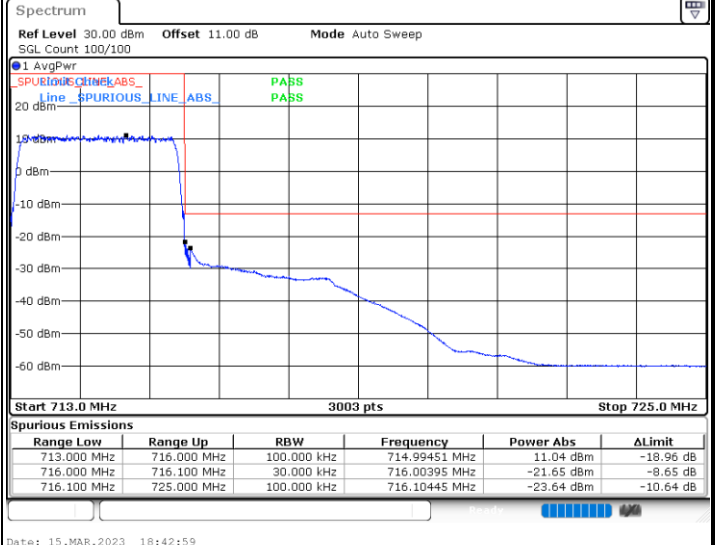
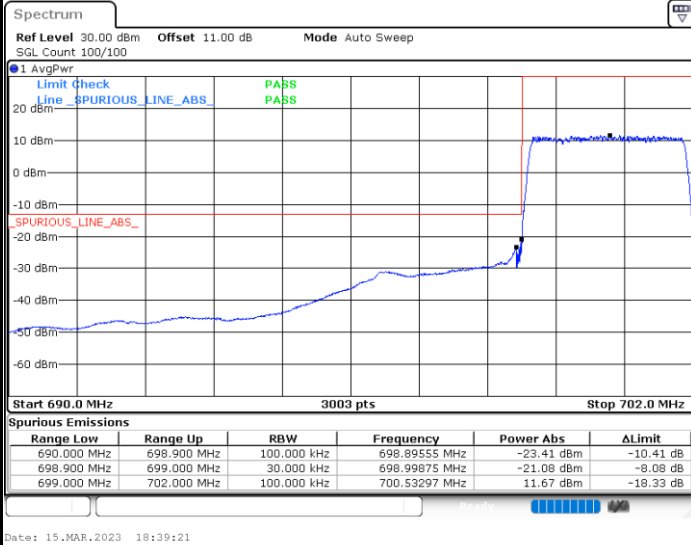




LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / Full RB

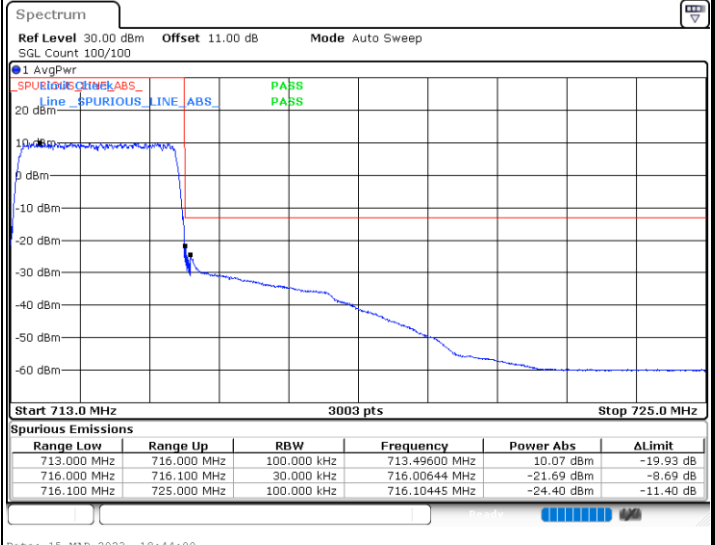
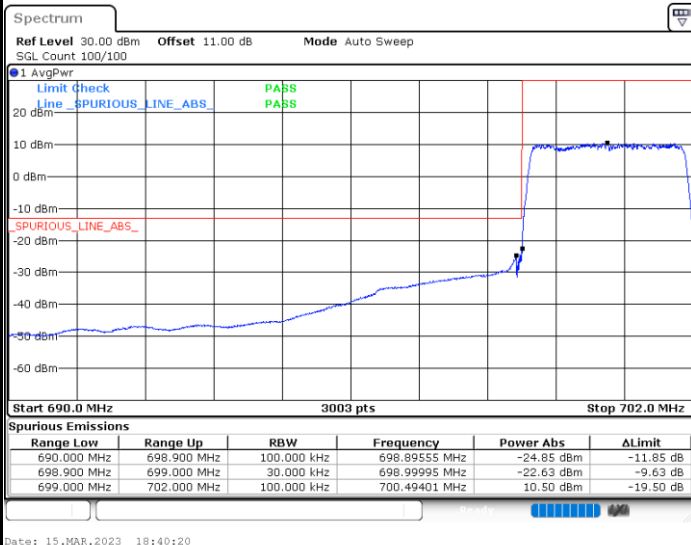
Highest Band Edge / Full RB



LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / Full RB

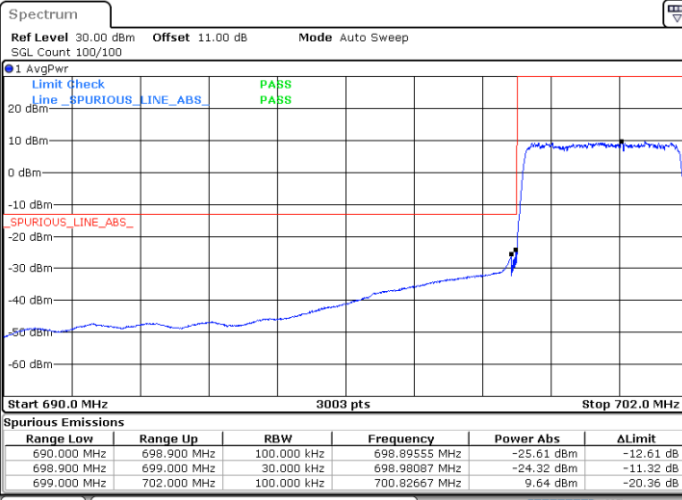
Highest Band Edge / Full RB





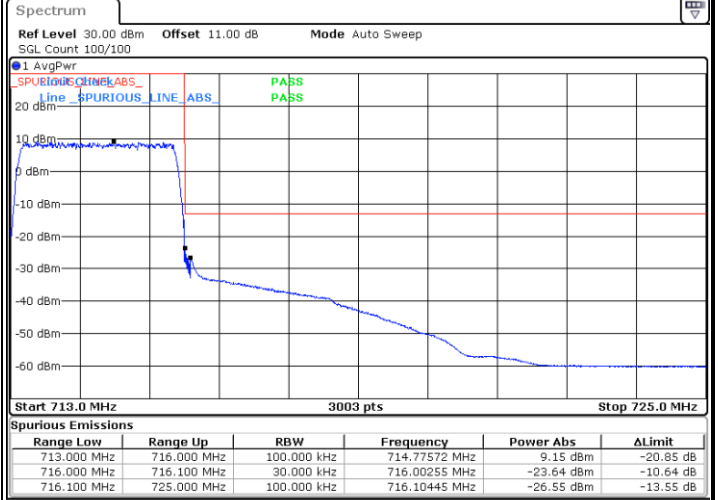
LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:44:59

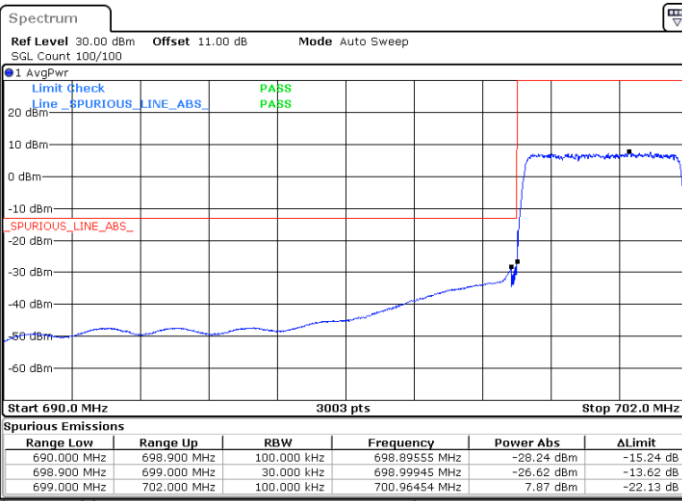
Highest Band Edge / Full RB



Date: 15.MAR.2023 18:46:42

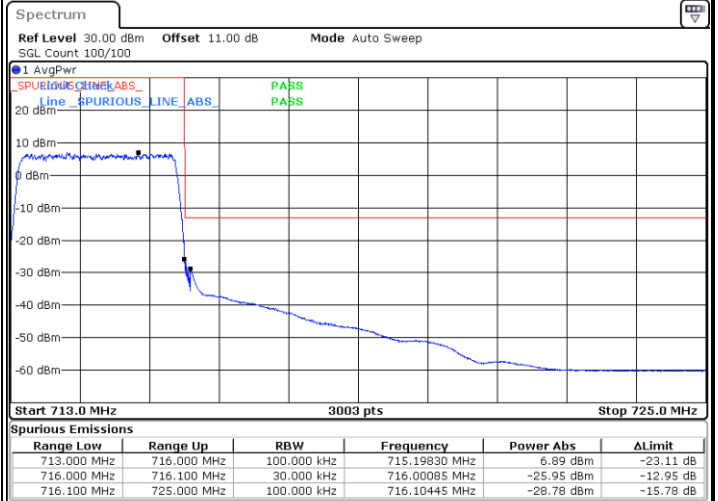
LTE Band 12 / 3MHz / 256QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:14:50

Highest Band Edge / Full RB

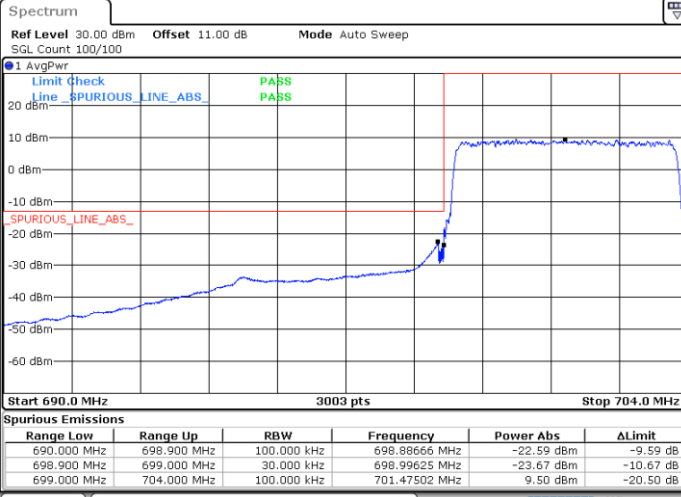


Date: 15.MAR.2023 19:16:32



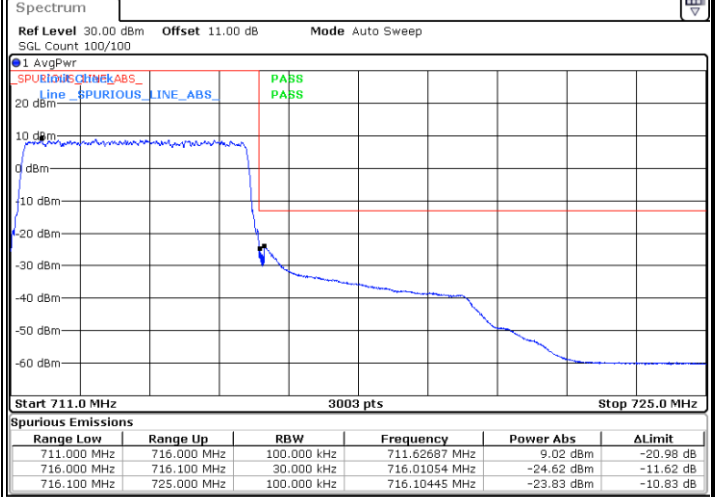
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:52:22

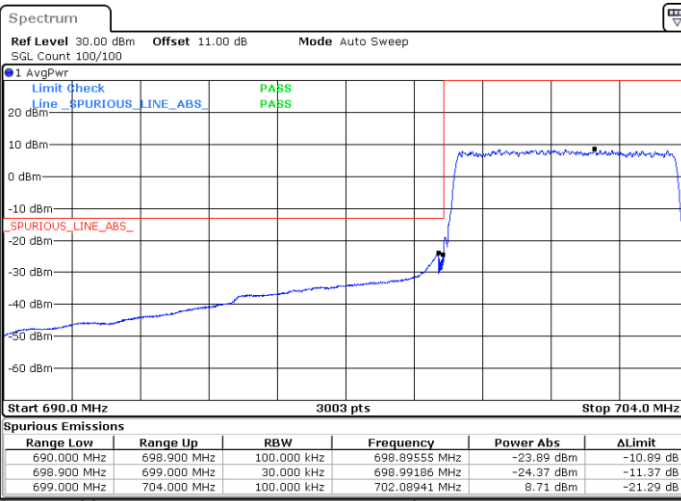
Highest Band Edge / Full RB



Date: 15.MAR.2023 18:56:04

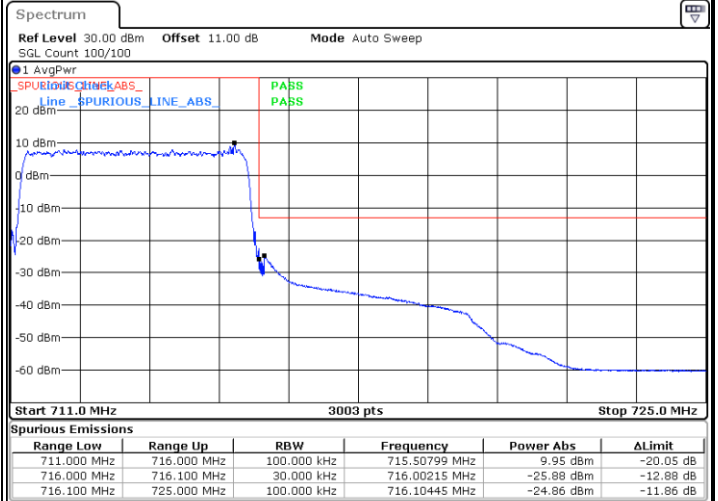
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:53:23

Highest Band Edge / Full RB

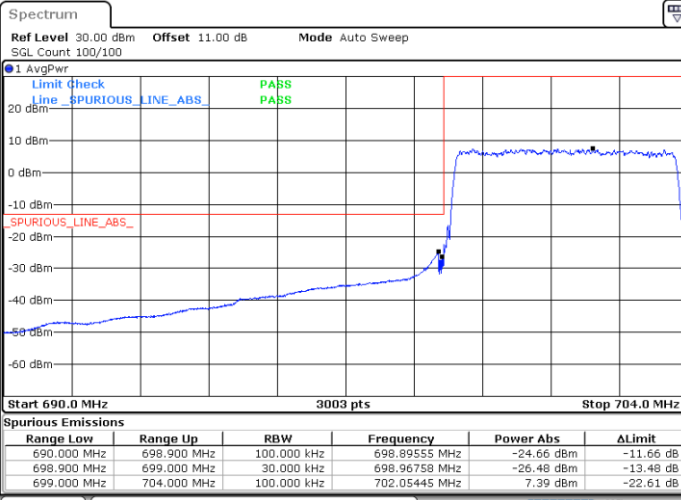


Date: 15.MAR.2023 18:57:03



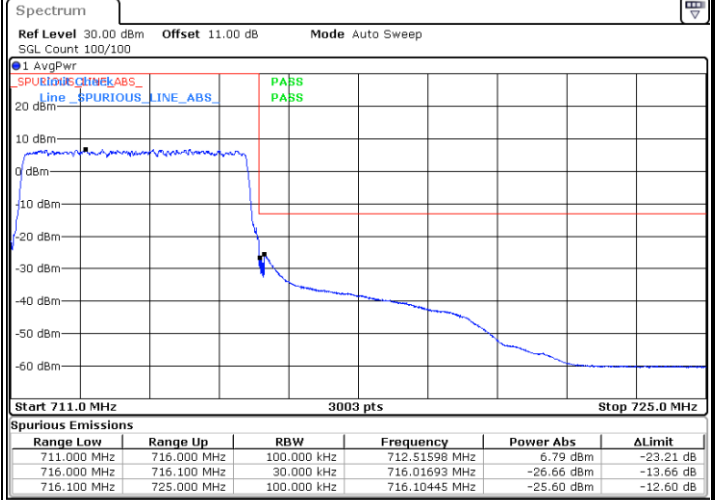
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 18:49:42

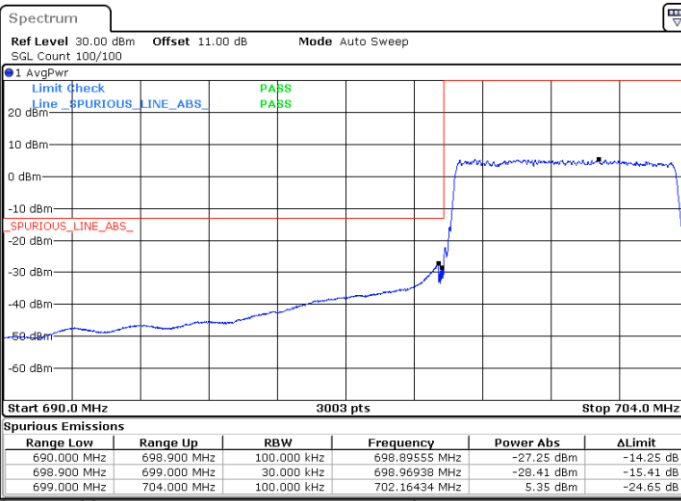
Highest Band Edge / Full RB



Date: 15.MAR.2023 18:51:23

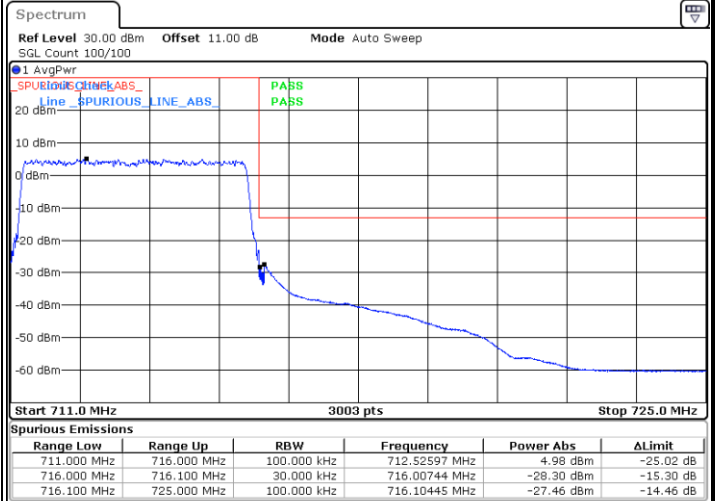
LTE Band 12 / 5MHz / 256QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:17:37

Highest Band Edge / Full RB

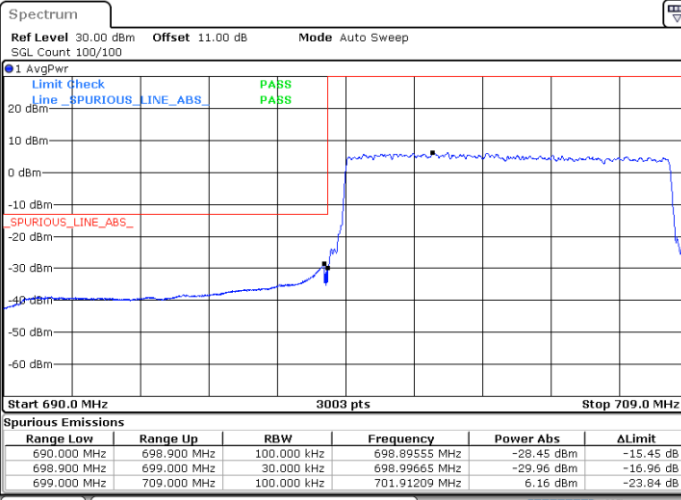


Date: 15.MAR.2023 19:19:19



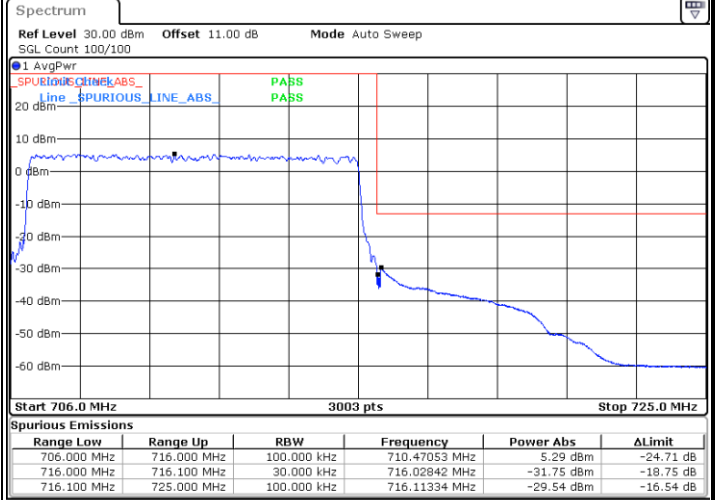
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:00:05

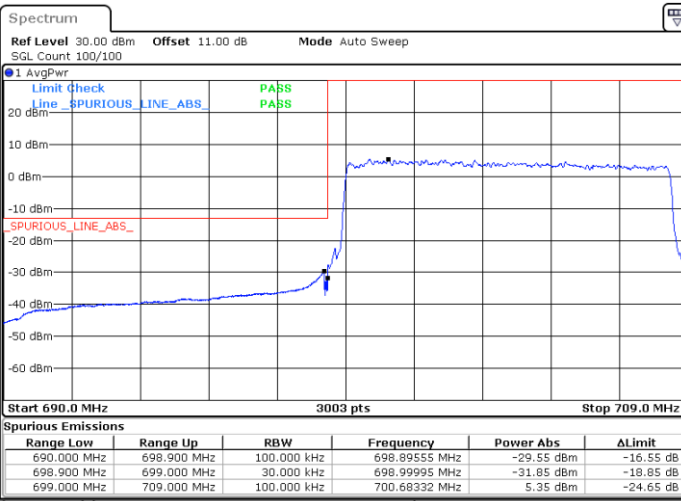
Highest Band Edge / Full RB



Date: 15.MAR.2023 19:03:44

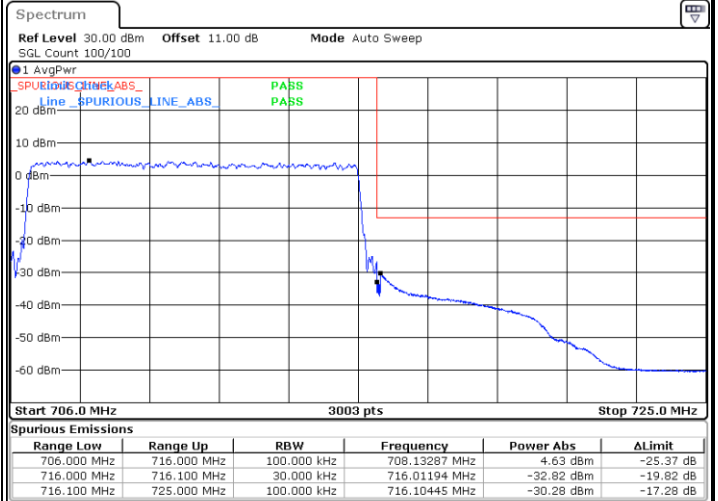
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:01:04

Highest Band Edge / Full RB

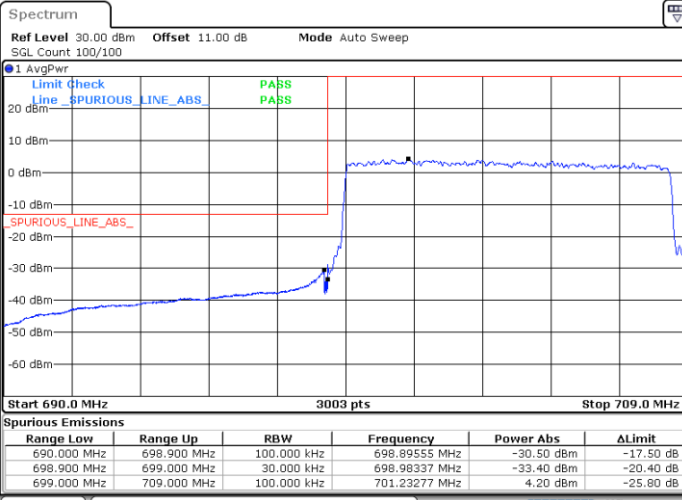


Date: 15.MAR.2023 19:04:43



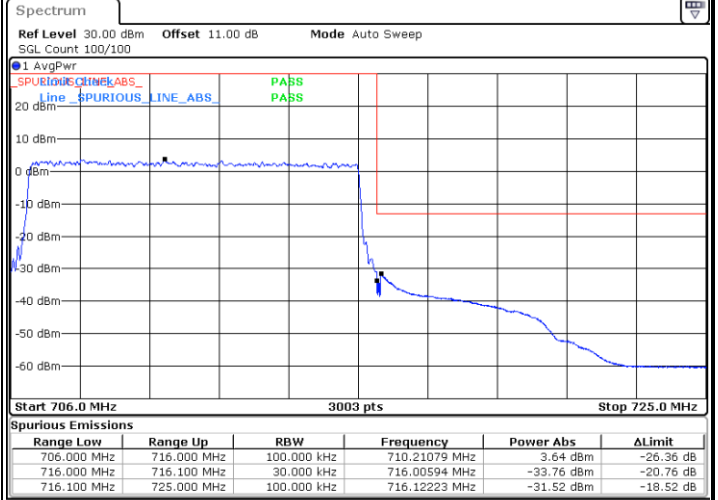
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:05:42

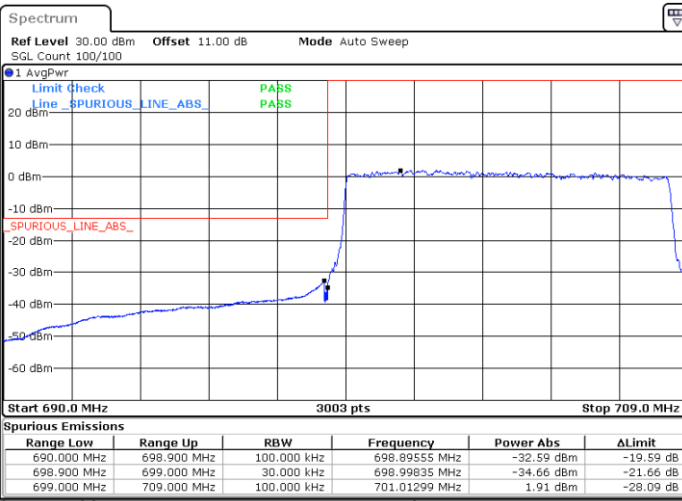
Highest Band Edge / Full RB



Date: 15.MAR.2023 19:07:25

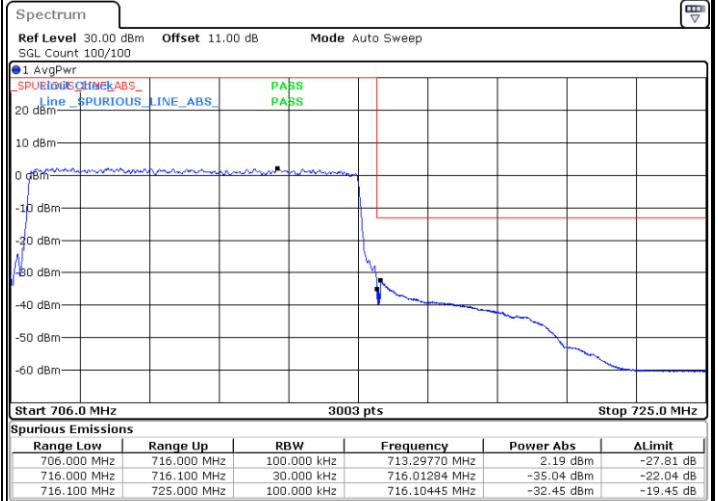
LTE Band 12 / 10MHz / 256QAM

Lowest Band Edge / Full RB



Date: 15.MAR.2023 19:20:23

Highest Band Edge / Full RB



Date: 15.MAR.2023 19:22:05



# Conducted Spurious Emission

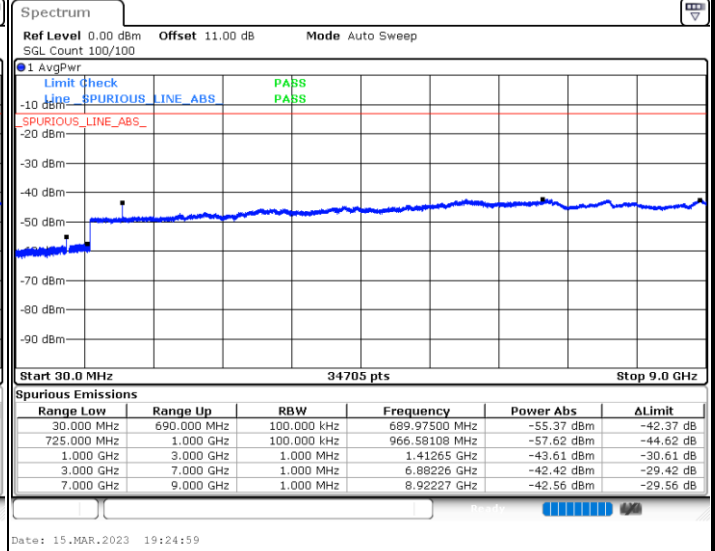
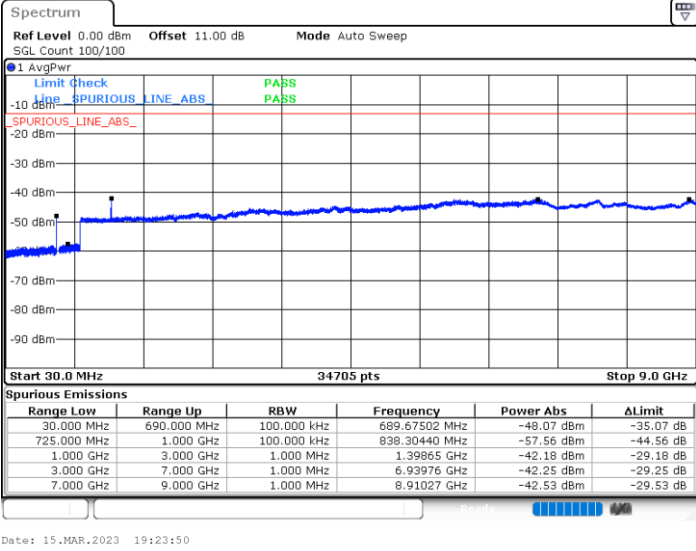




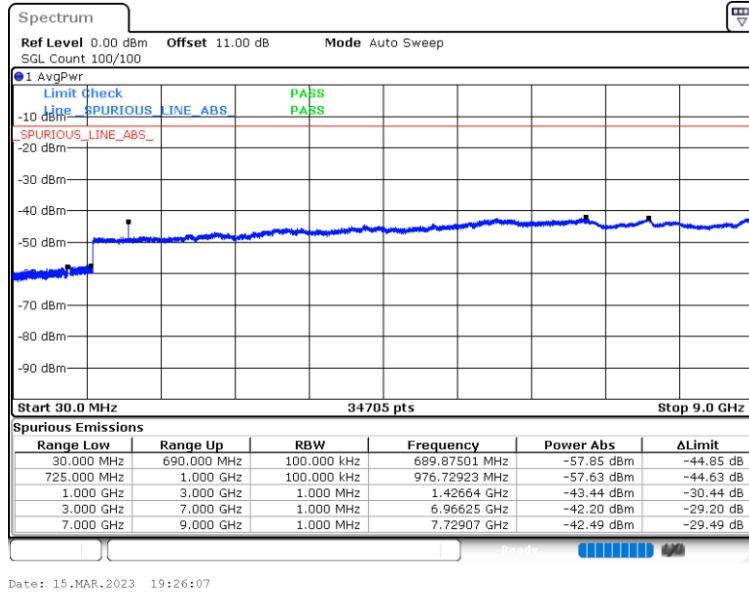
LTE Band 12 / 3MHz

Lowest Channel / QPSK

Middle Channel / QPSK



Highest Channel / QPSK



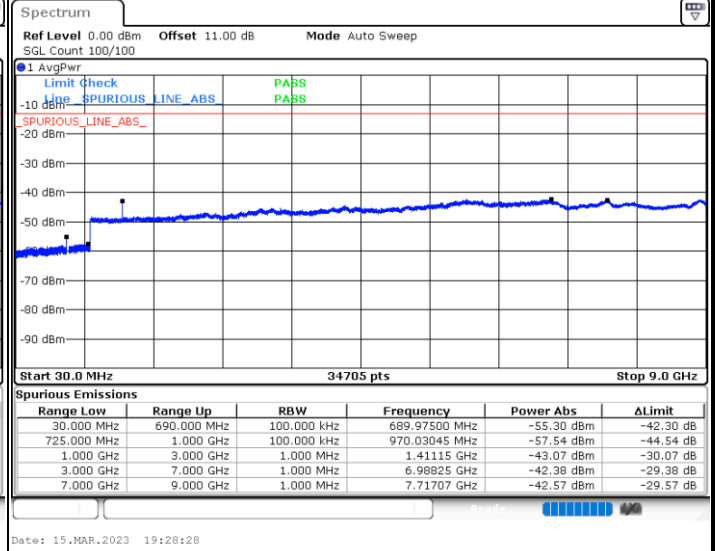
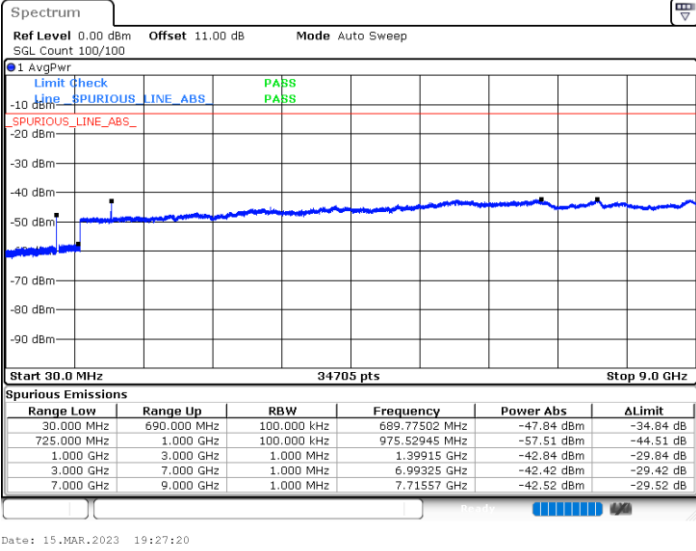




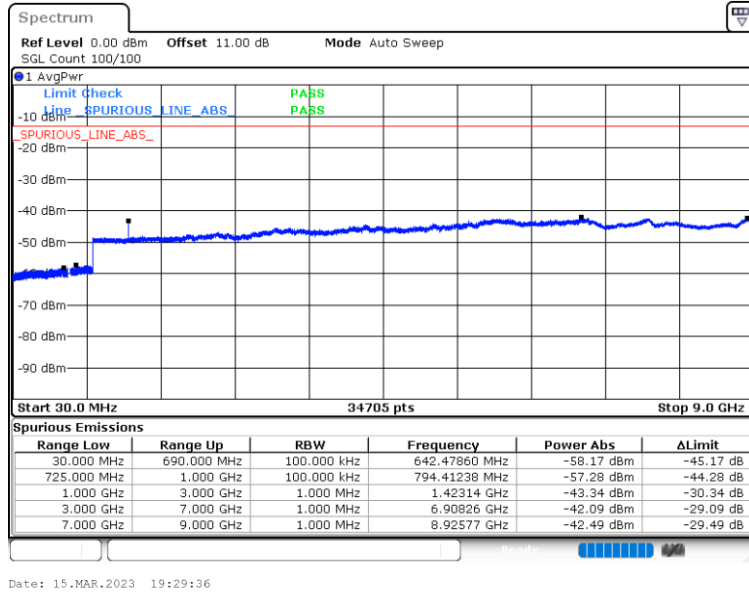
LTE Band 12 / 5MHz

Lowest Channel / QPSK

Middle Channel / QPSK



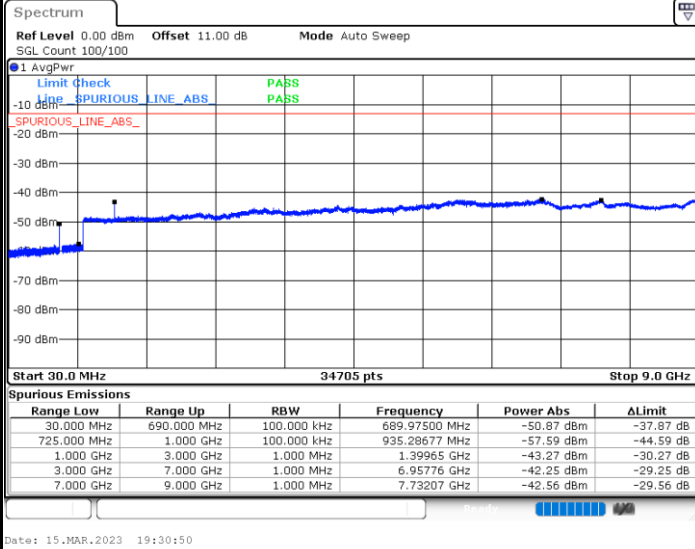
Highest Channel / QPSK



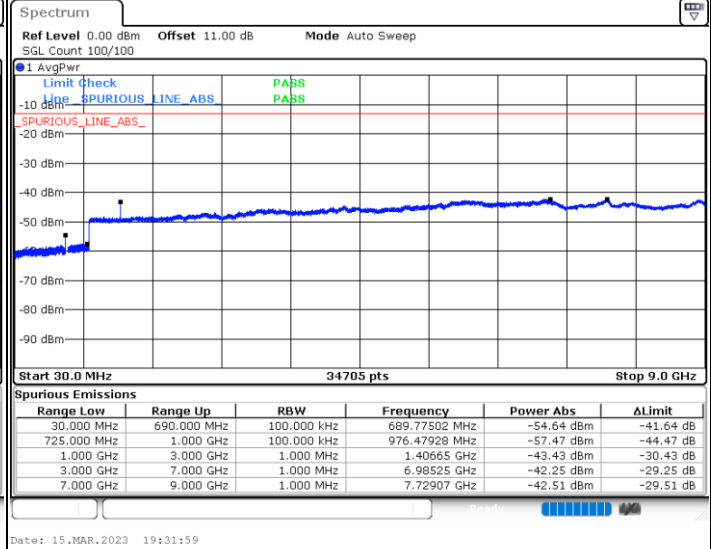


LTE Band 12 / 10MHz

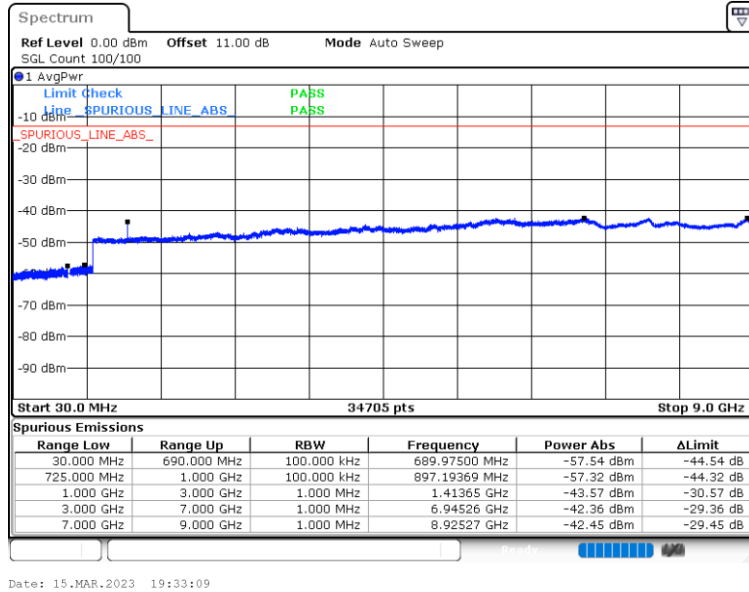
Lowest Channel / QPSK



Middle Channel / QPSK



Highest Channel / QPSK





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	0.0038	PASS
40	Normal Voltage	0.0147	
30	Normal Voltage	0.0126	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0184	
0	Normal Voltage	0.0136	
-10	Normal Voltage	0.0154	
-20	Normal Voltage	0.0048	
-30	Normal Voltage	0.0253	
20	Maximum Voltage	0.0155	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

Note:

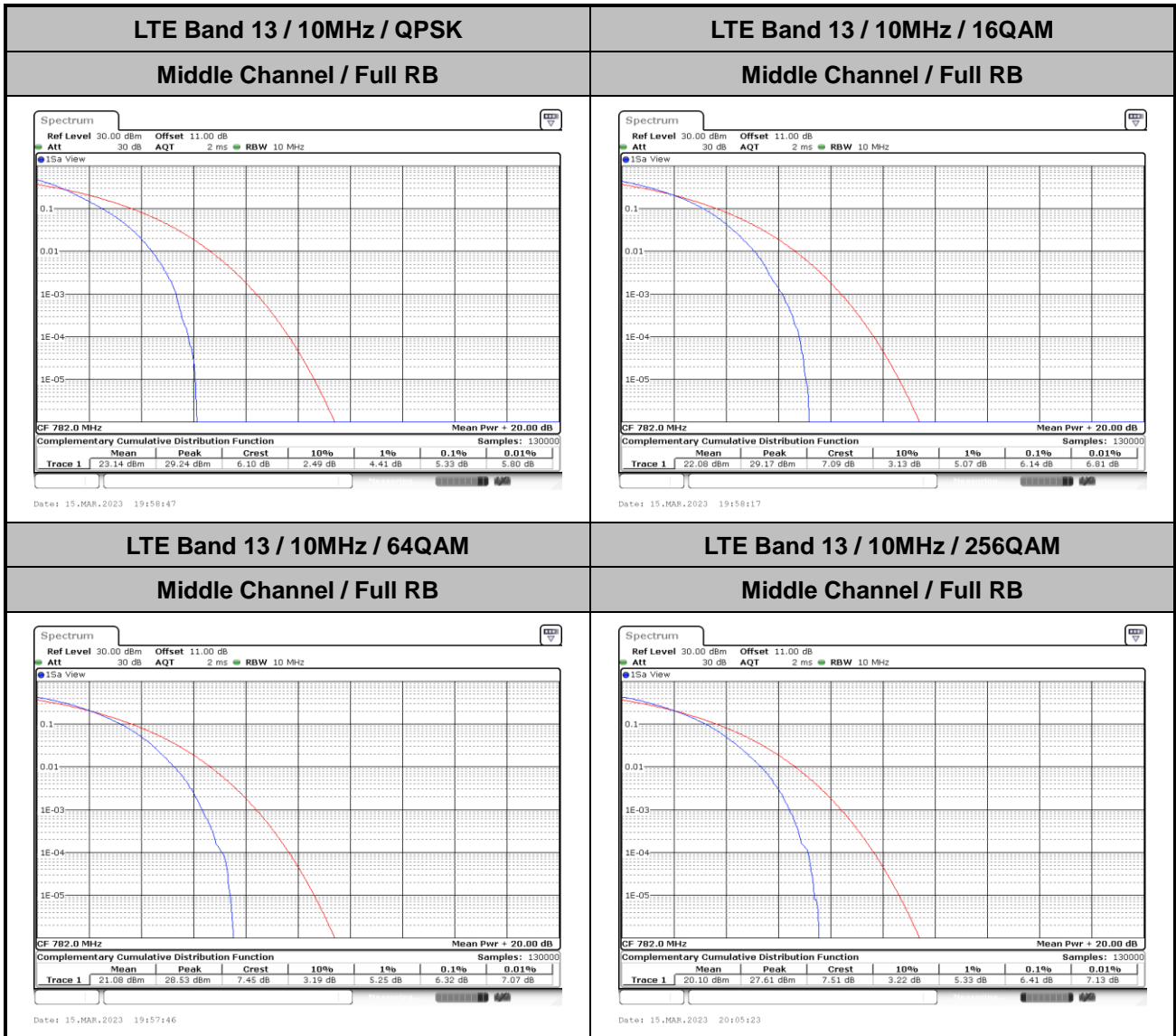
1. Normal Voltage = 3.89 V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage = 4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



## 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	5.33	6.14	6.32	6.41	<b>PASS</b>





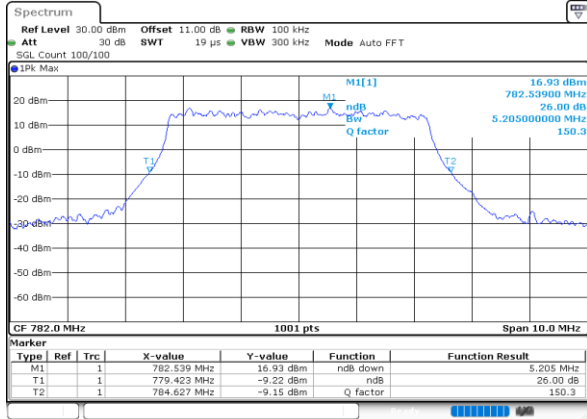
**26dB Bandwidth**

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	-	-	-	-	5.21	5.25	10.01	10.05	-	-	-	-
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	-	-	-	-	5.09	5.20	9.99	9.85	-	-	-	-



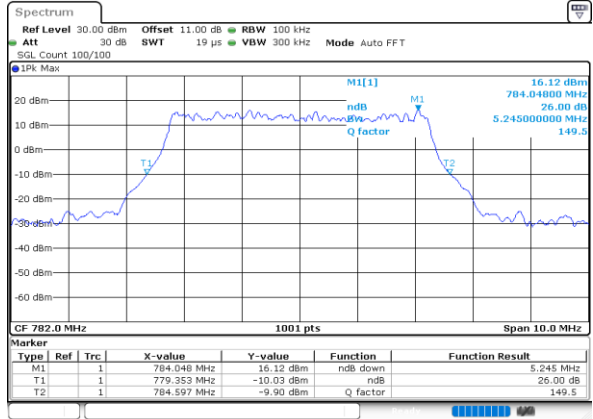
LTE Band 13

Middle Channel / 5MHz / QPSK



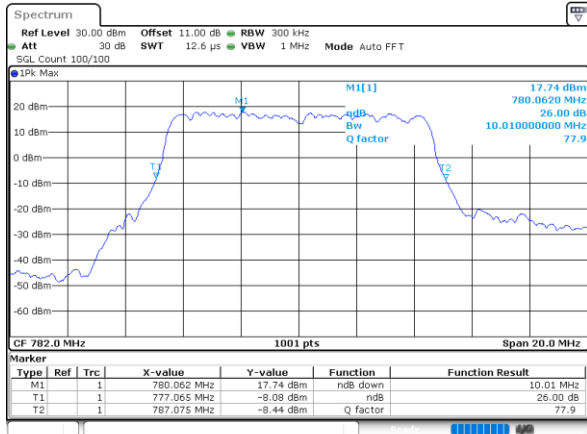
Date: 15.MAR.2023 19:41:37

Middle Channel / 5MHz / 16QAM



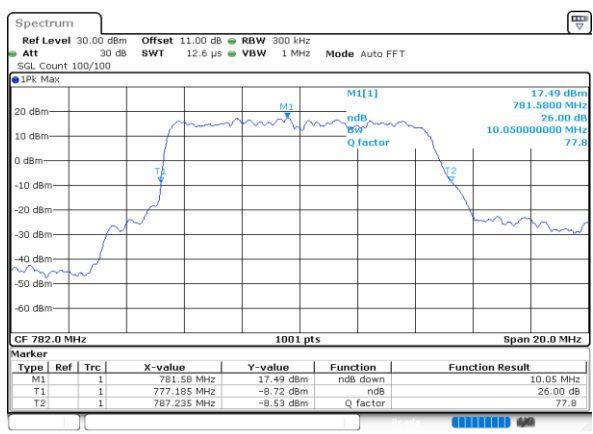
Date: 15.MAR.2023 19:42:06

Middle Channel / 10MHz / QPSK



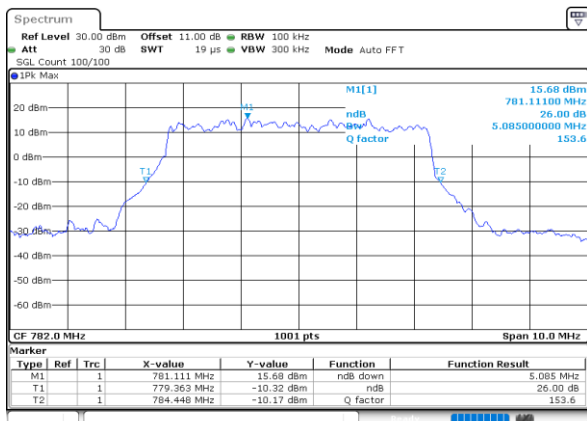
Date: 15.MAR.2023 19:54:22

Middle Channel / 10MHz / 16QAM



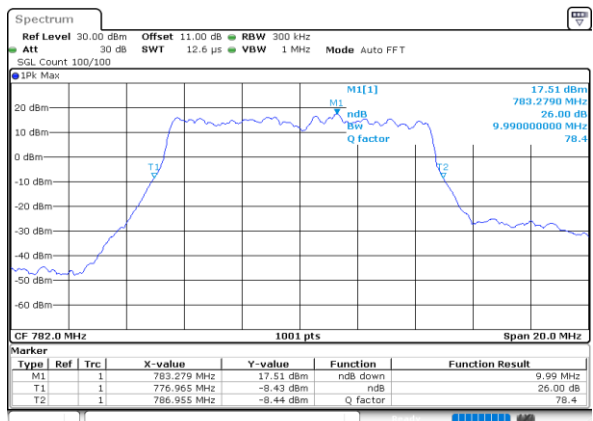
Date: 15.MAR.2023 19:53:53

Middle Channel / 5MHz / 64QAM



Date: 15.MAR.2023 19:50:22

Middle Channel / 10MHz / 64QAM



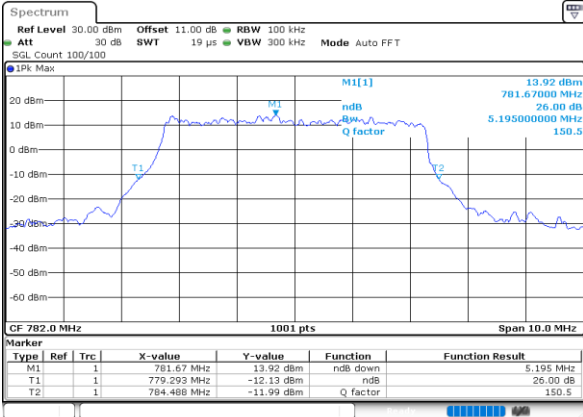
Date: 15.MAR.2023 19:56:47



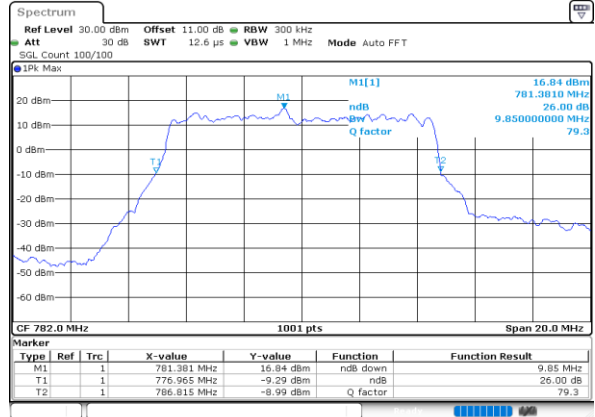
LTE Band 13

Middle Channel / 5MHz / 256QAM

Middle Channel / 10MHz / 256QAM



Date: 15.MAR.2023 20:01:21



Date: 15.MAR.2023 20:04:24





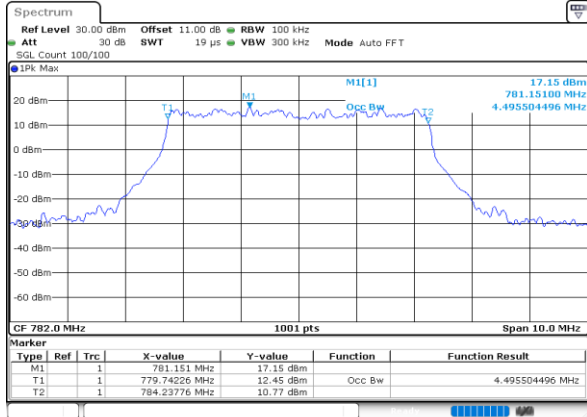
**Occupied Bandwidth**

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	-	-	-	-	4.50	4.50	9.07	8.99	-	-	-	-
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	-	-	-	-	4.48	4.50	9.07	9.03	-	-	-	-



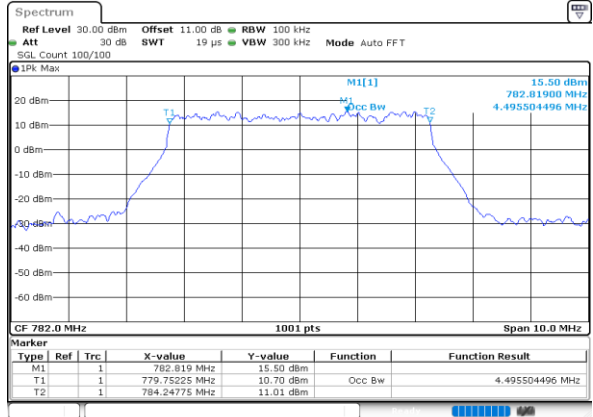
LTE Band 13

Middle Channel / 5MHz / QPSK



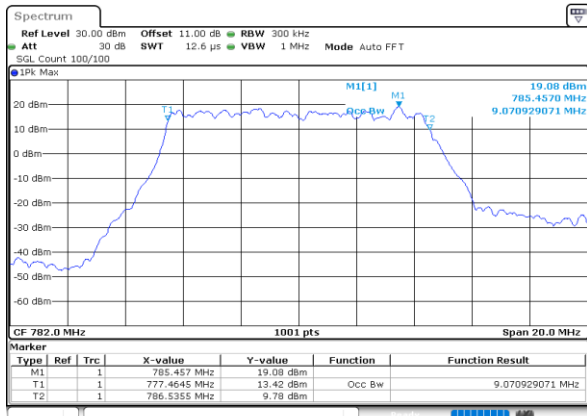
Date: 15.MAR.2023 19:42:46

Middle Channel / 5MHz / 16QAM



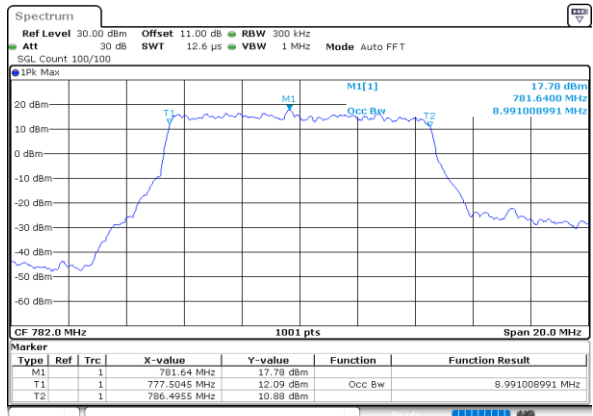
Date: 15.MAR.2023 19:42:20

Middle Channel / 10MHz / QPSK



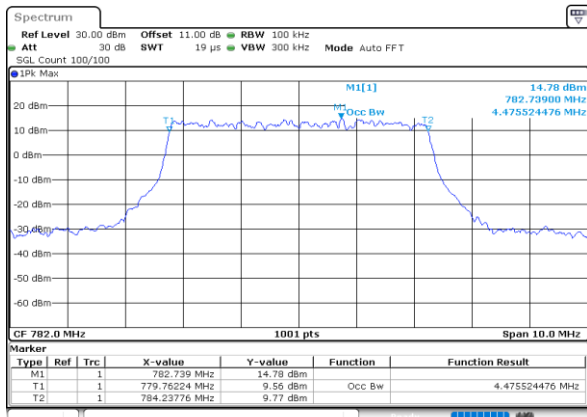
Date: 15.MAR.2023 19:53:10

Middle Channel / 10MHz / 16QAM



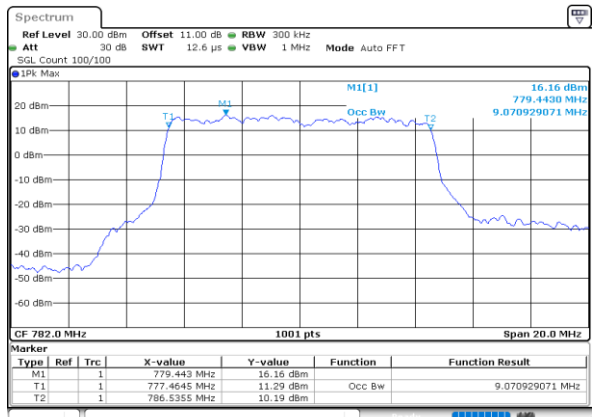
Date: 15.MAR.2023 19:53:39

Middle Channel / 5MHz / 64QAM



Date: 15.MAR.2023 19:50:36

Middle Channel / 10MHz / 64QAM



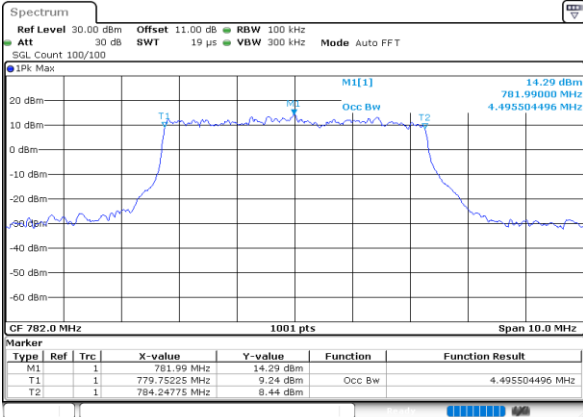
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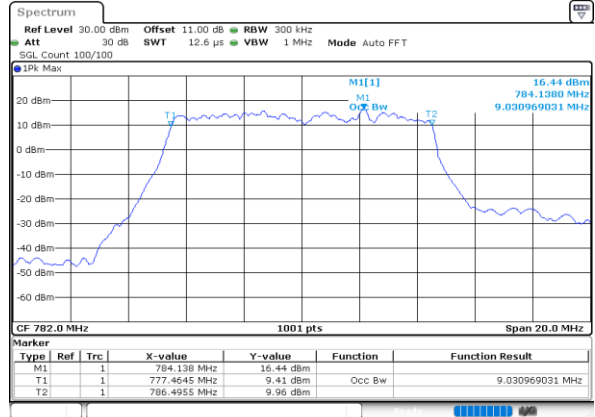
LTE Band 13

Middle Channel / 5MHz / 256QAM

Middle Channel / 10MHz / 256QAM



Date: 15.MAR.2023 20:01:05



Date: 15.MAR.2023 20:04:09