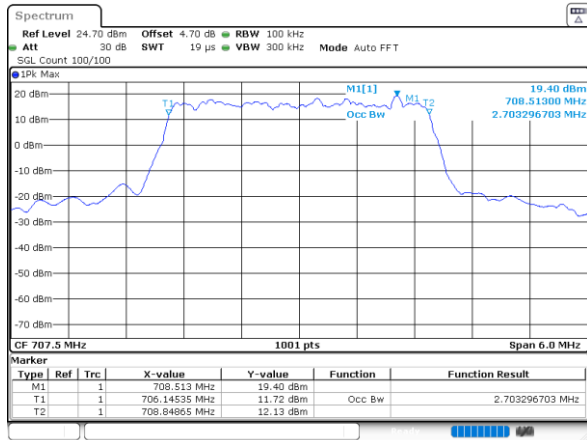


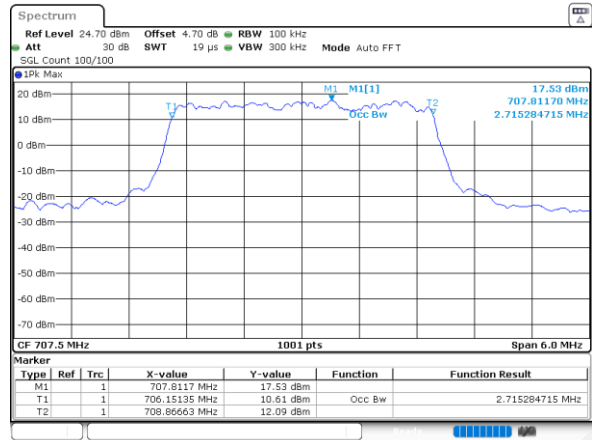


## LTE Band 12

## Middle Channel / 3MHz / QPSK

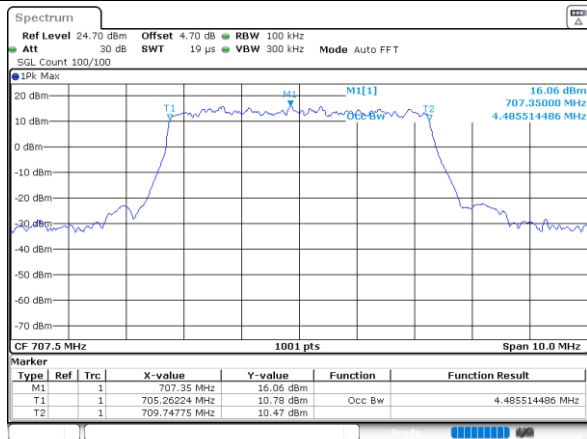


## Middle Channel / 3MHz / 16QAM

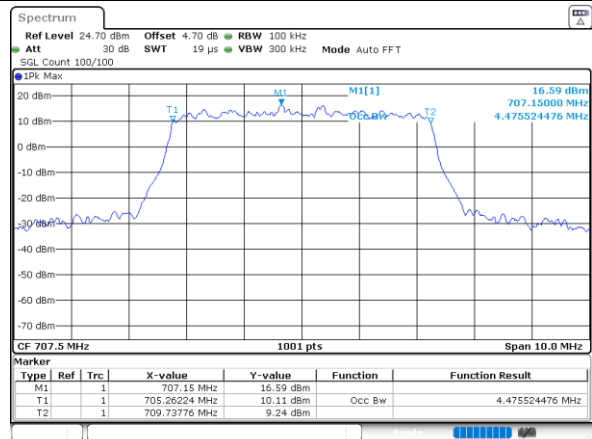


## LTE Band 12

## Middle Channel / 5MHz / QPSK

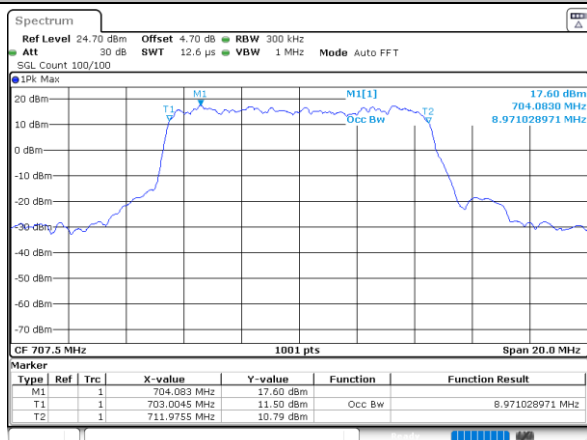


## Middle Channel / 5MHz / 16QAM

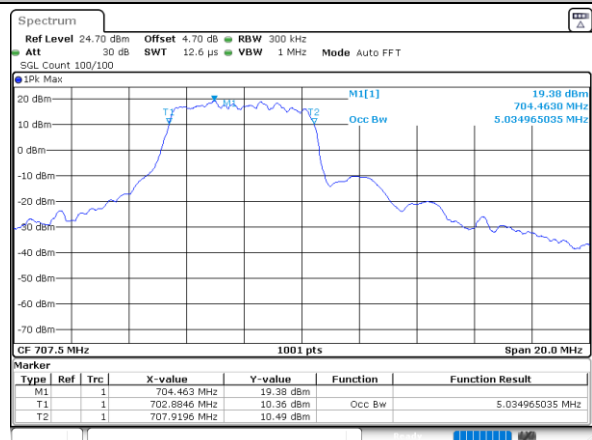


## LTE Band 12

## Middle Channel / 10MHz / QPSK



## Middle Channel / 10MHz / 16QAM

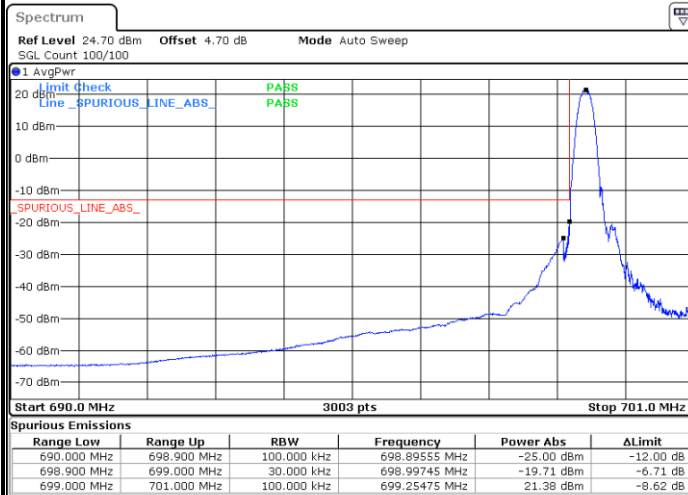




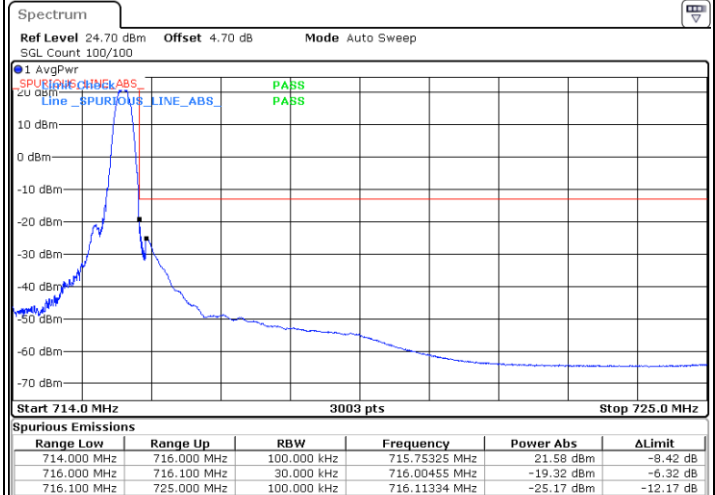
## Conducted Band Edge

### LTE Band 12 / 1.4MHz / QPSK

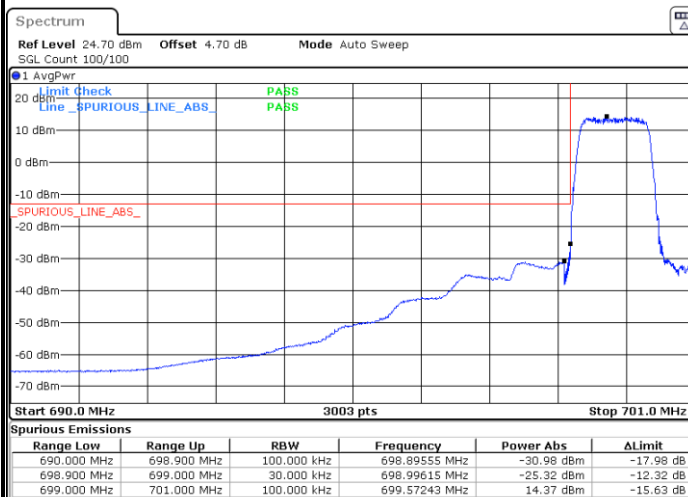
#### Lowest Band Edge / 1RB



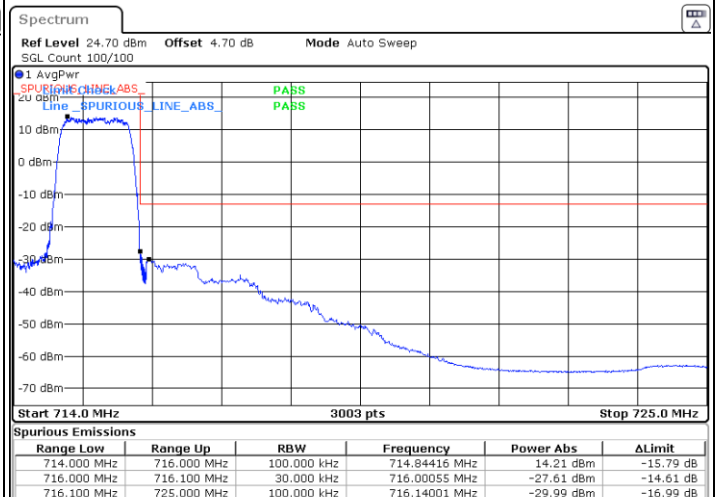
#### Highest Band Edge / 1RB



#### Lowest Band Edge / Full RB



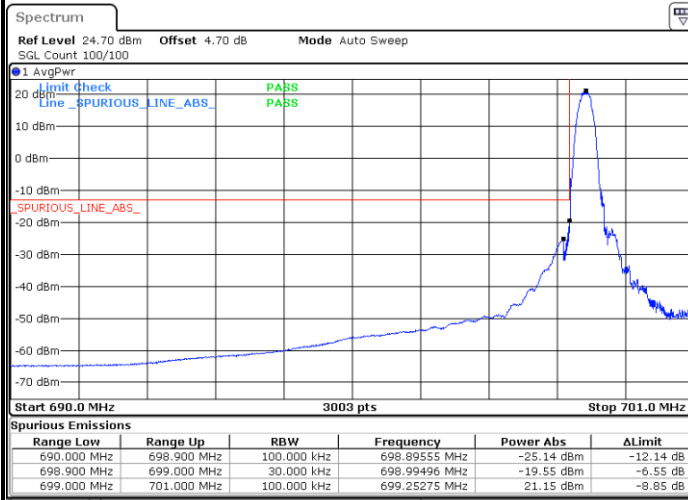
#### Highest Band Edge / Full RB



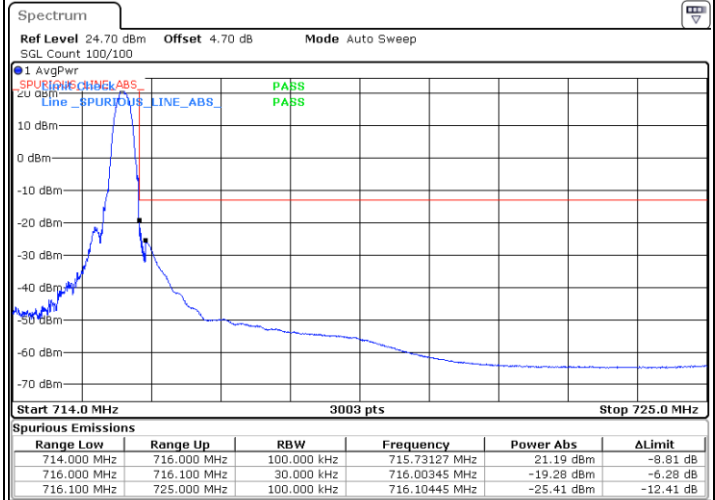


## LTE Band 12 / 1.4MHz / 16QAM

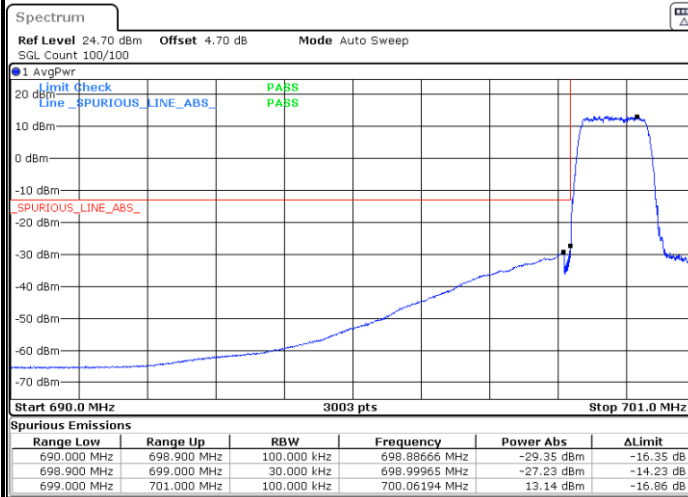
## Lowest Band Edge / 1 RB



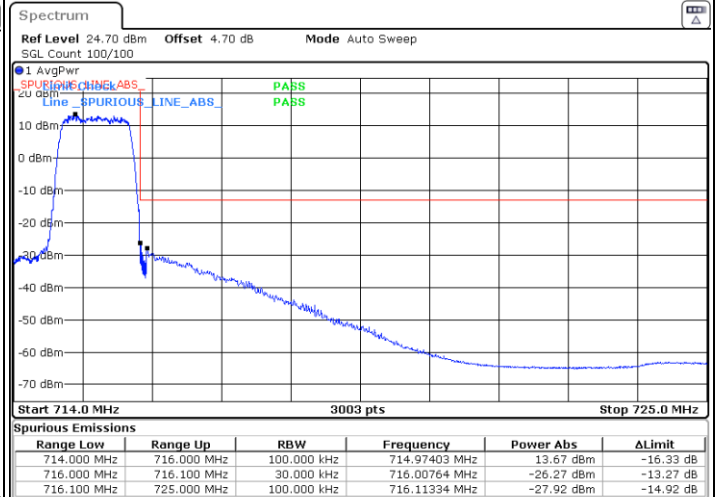
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



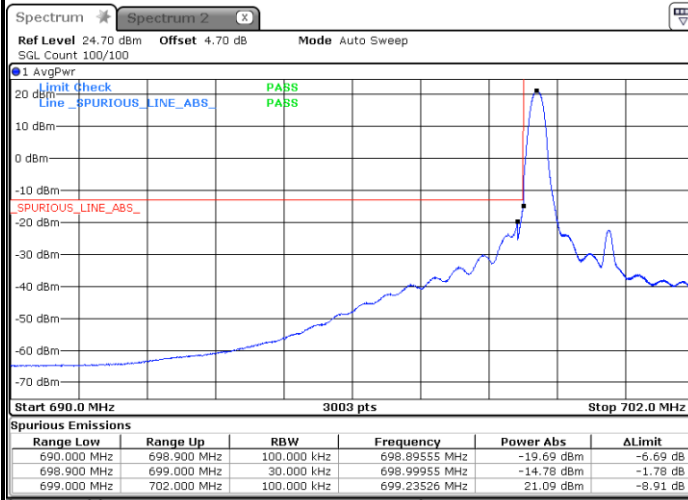
## Highest Band Edge / Full RB



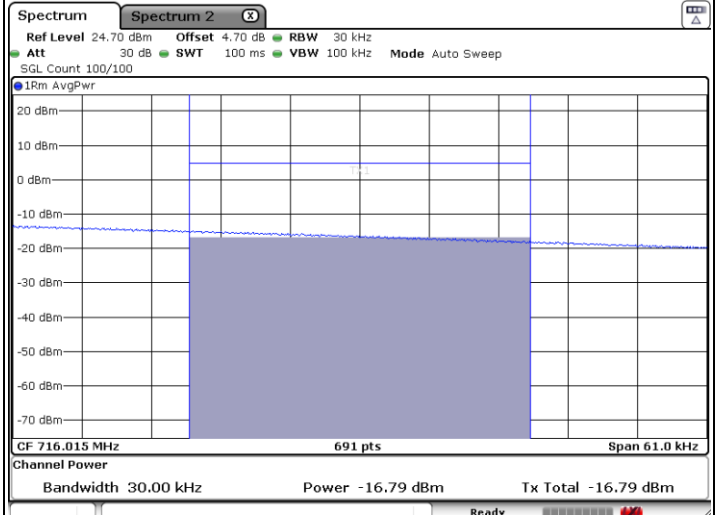
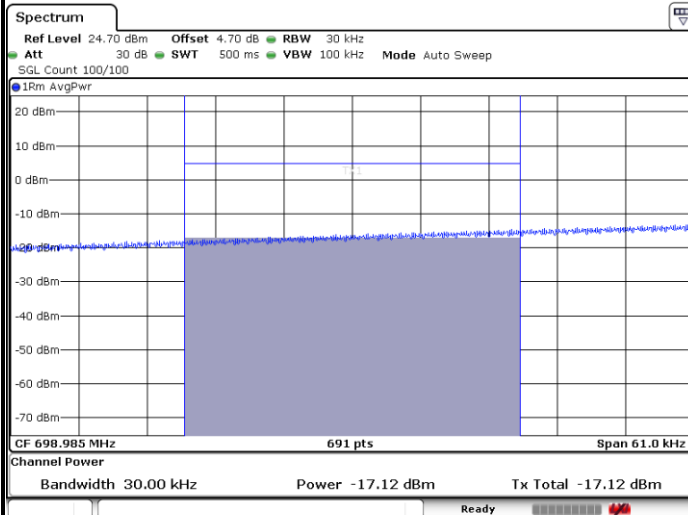
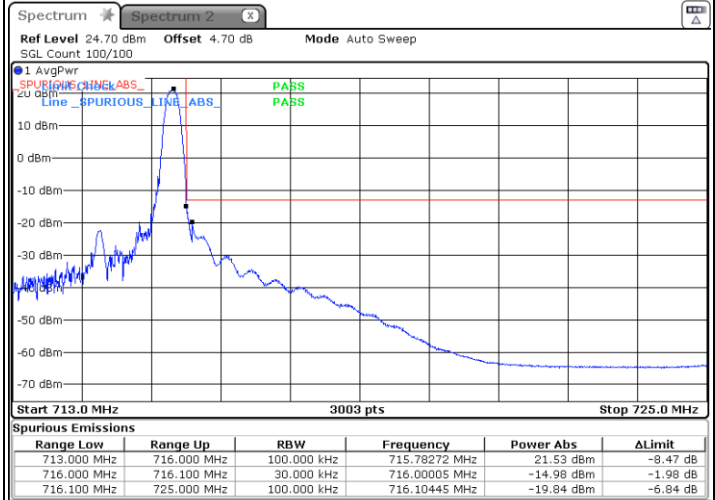


## LTE Band 12 / 3MHz / QPSK

## Lowest Band Edge / 1RB



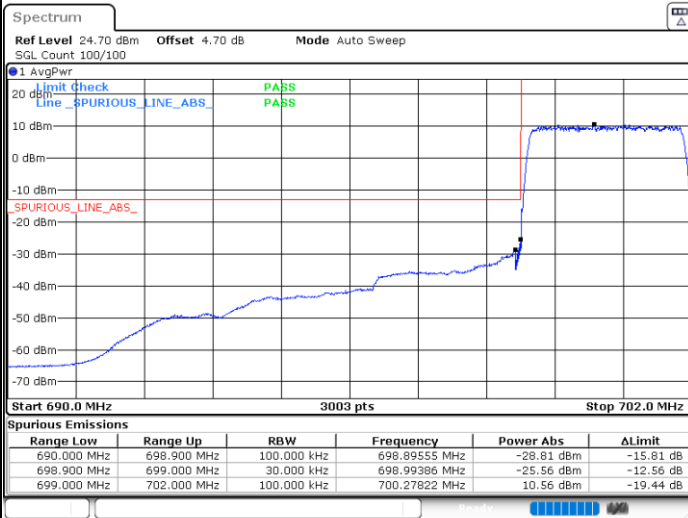
## Highest Band Edge / 1 RB



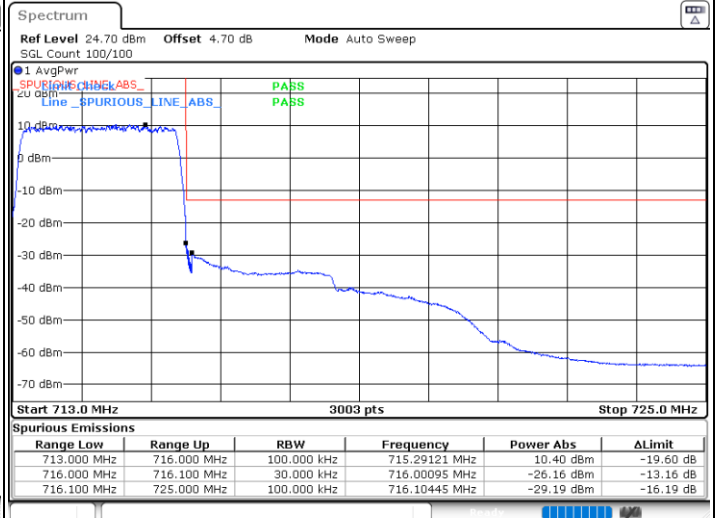


## Lowest Band Edge / Full RB

## Highest Band Edge / Full RB



Date: 27.JUL.2023 21:10:43

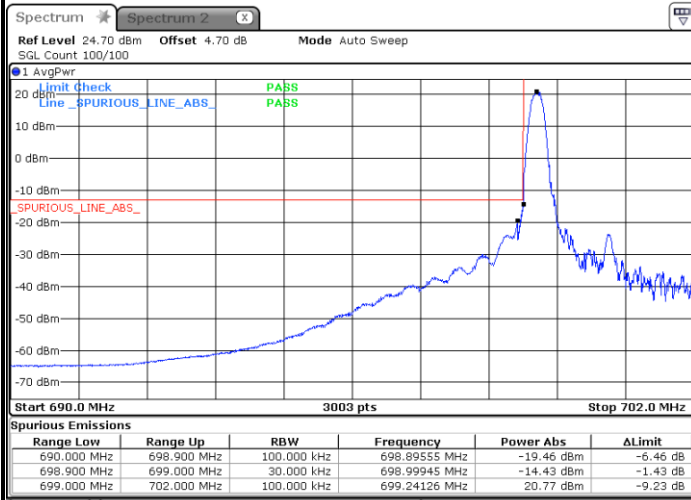


Date: 27.JUL.2023 21:21:25

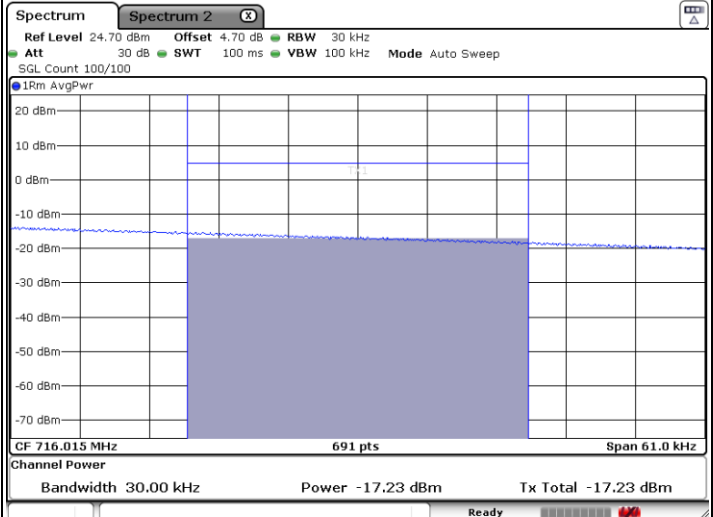
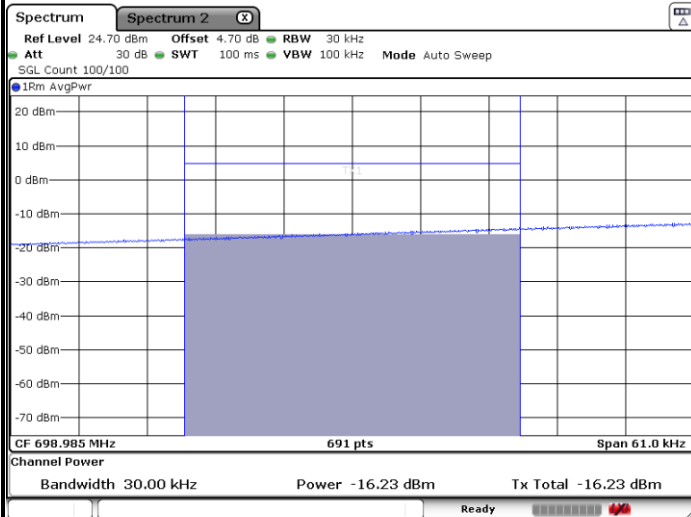


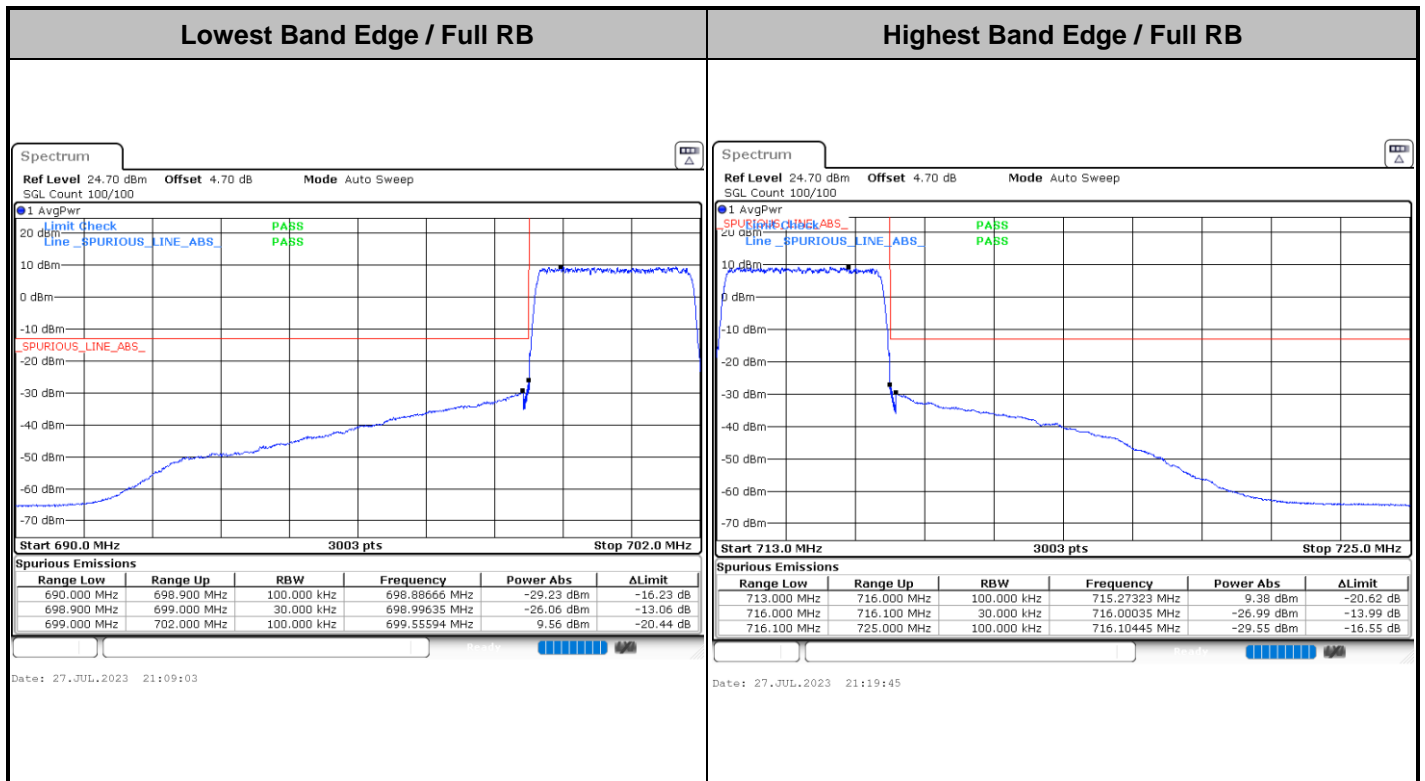
## LTE Band 12 / 3MHz / 16QAM

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB

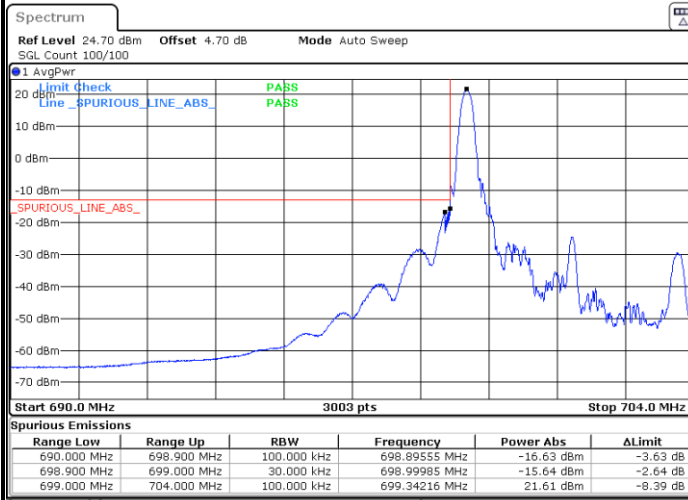




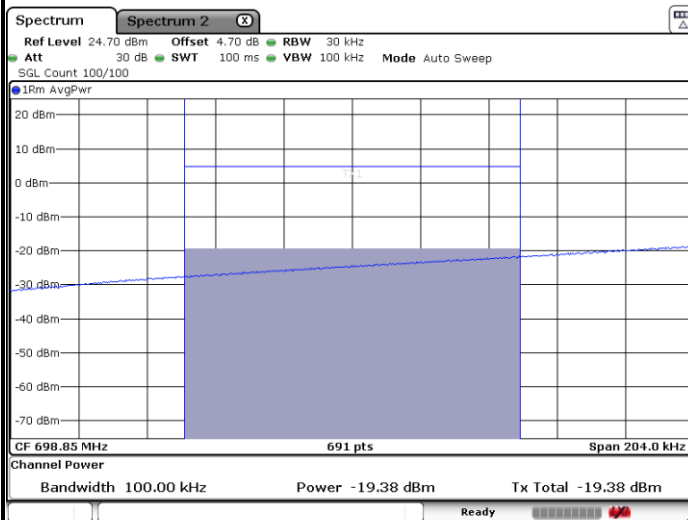


## LTE Band 12 / 5MHz / QPSK

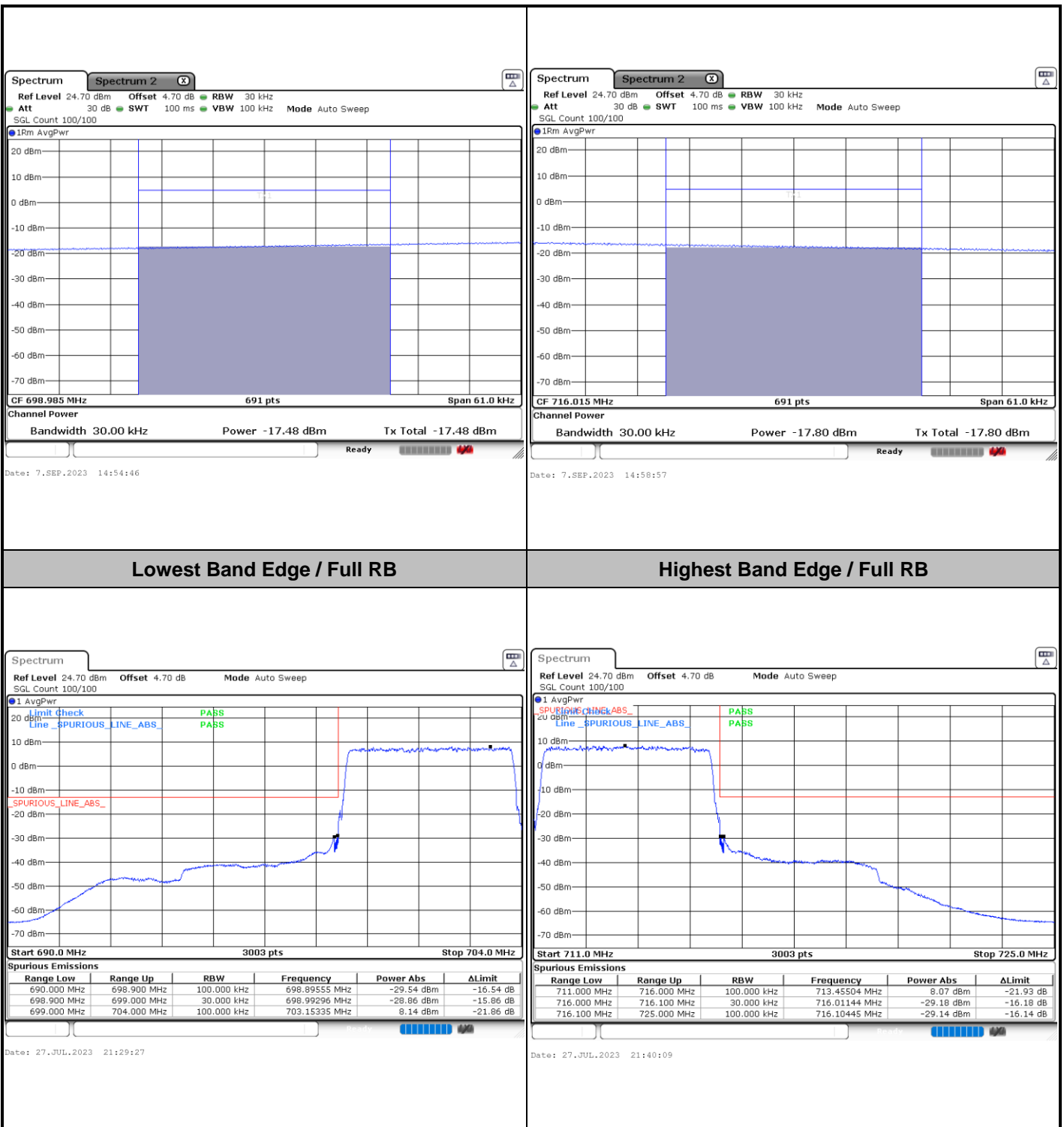
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



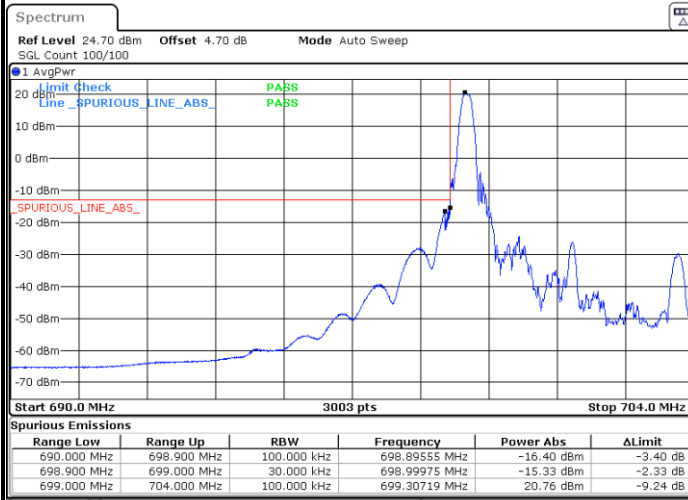




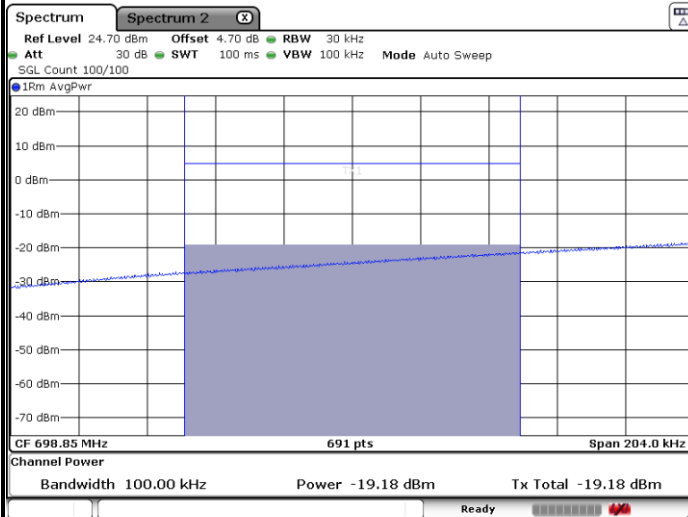
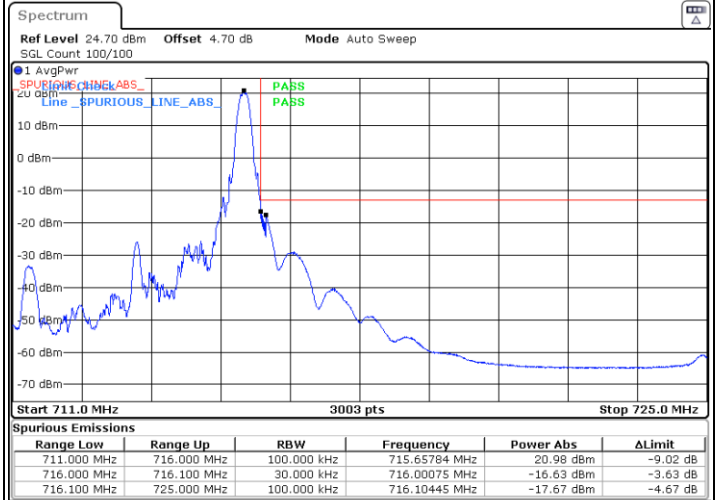


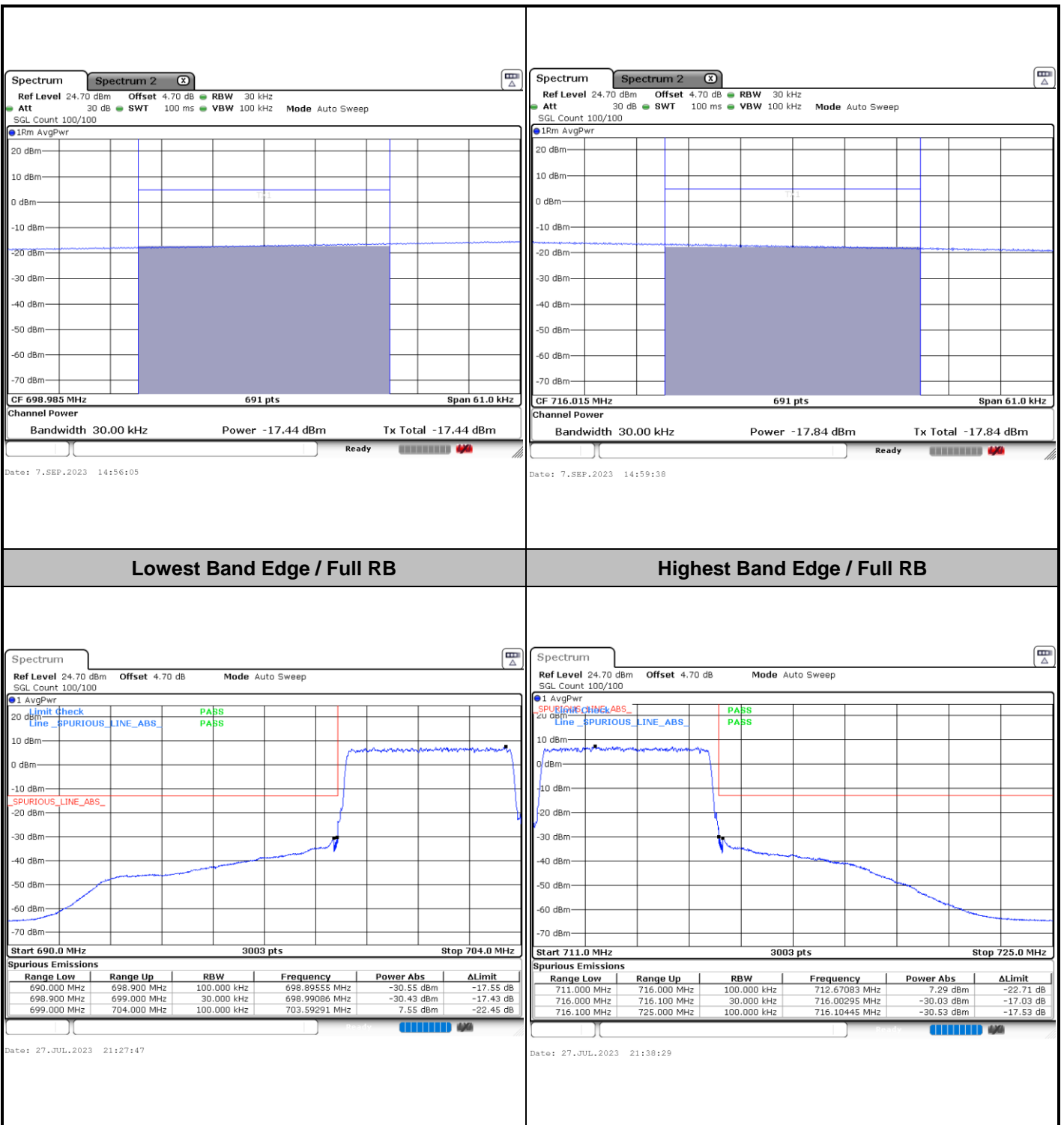
## LTE Band 12 / 5MHz / 16QAM

## Lowest Band Edge / 1RB



## Highest Band Edge / 1 RB

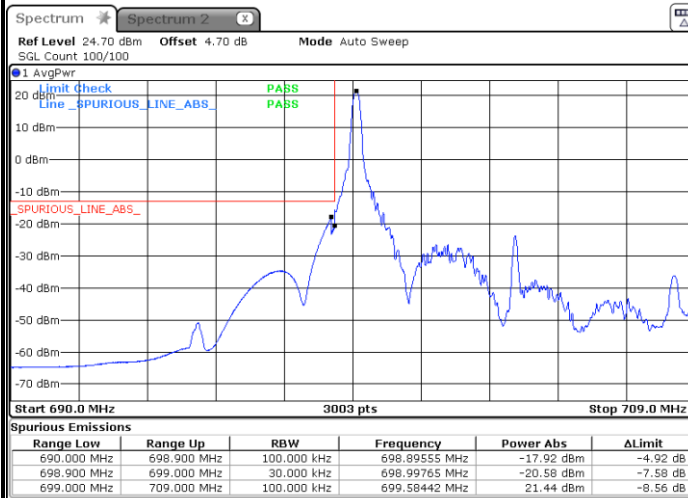




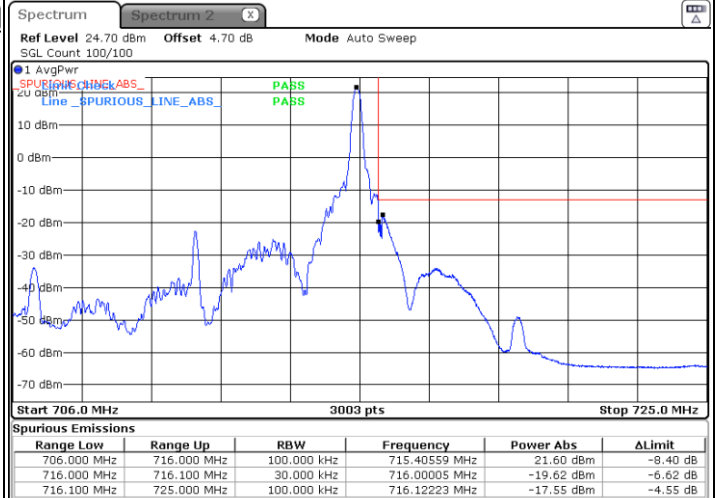


## LTE Band 12 / 10MHz / QPSK

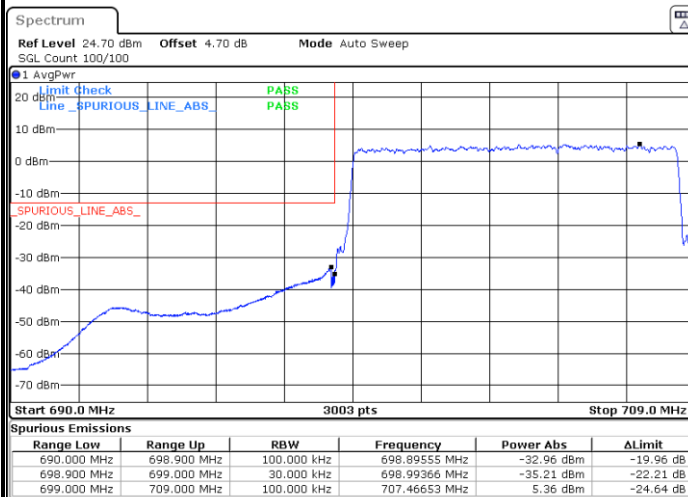
## Lowest Band Edge / 1 RB



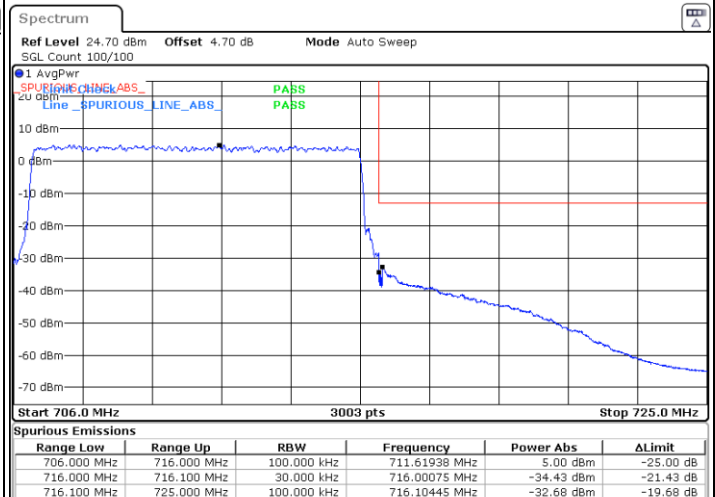
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



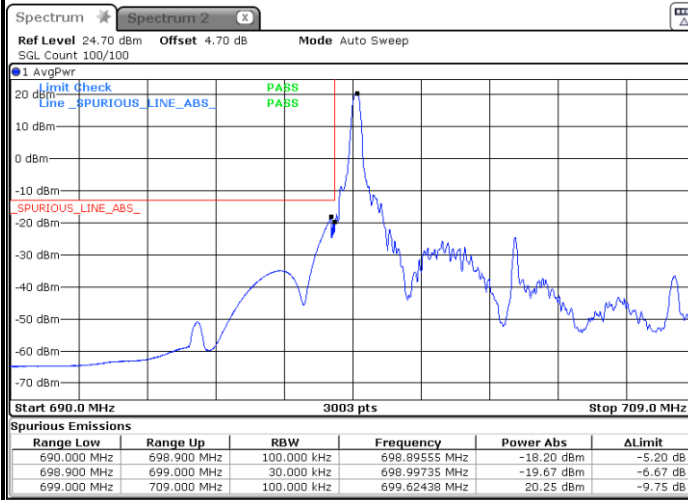
## Highest Band Edge / Full RB



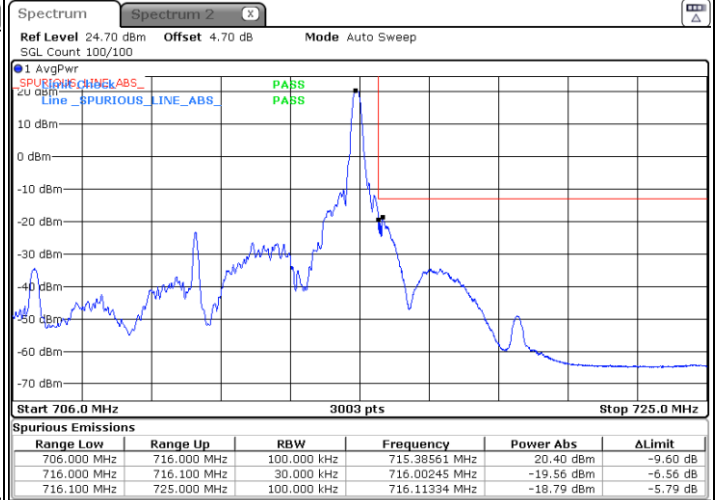


## LTE Band 12 / 10MHz / 16QAM

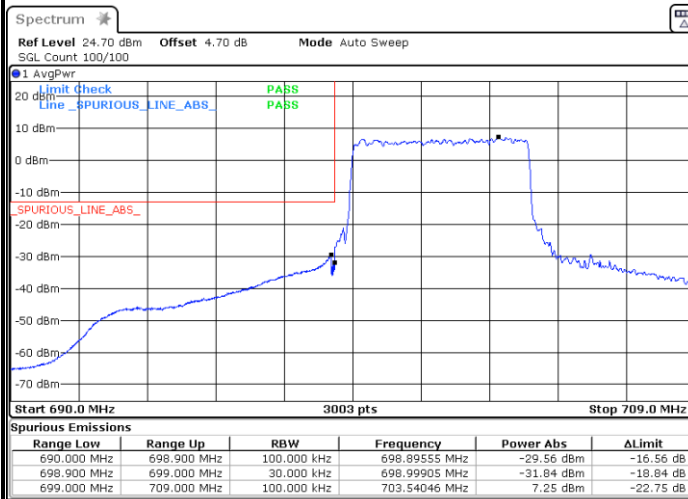
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



## Highest Band Edge / Full RB

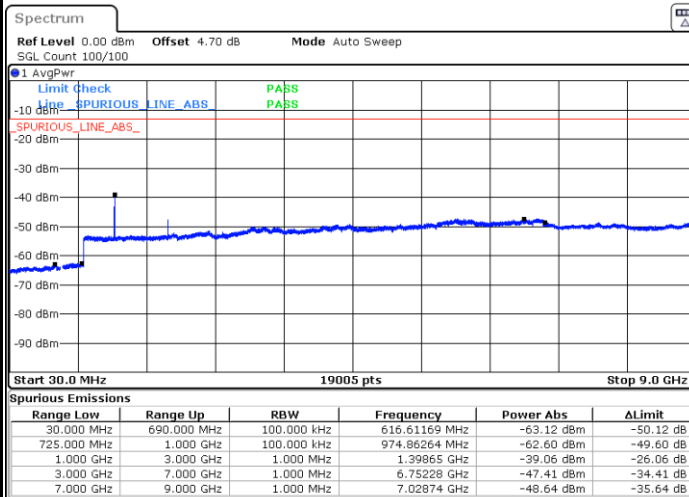




## Conducted Spurious Emission

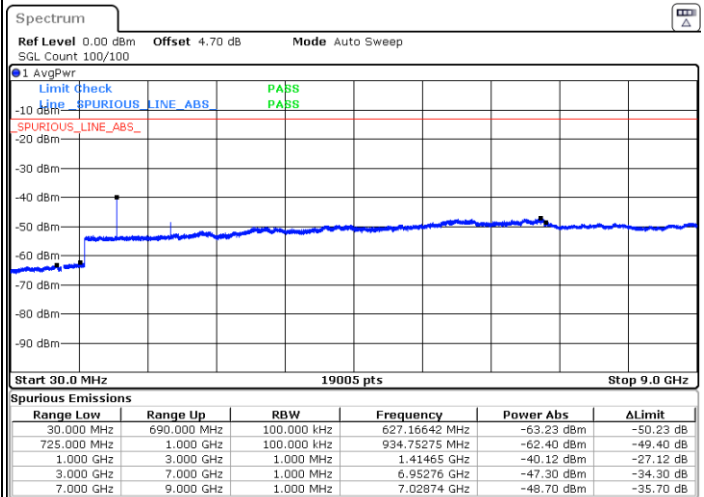
### LTE Band 12 / 1.4MHz

#### Lowest Channel / QPSK



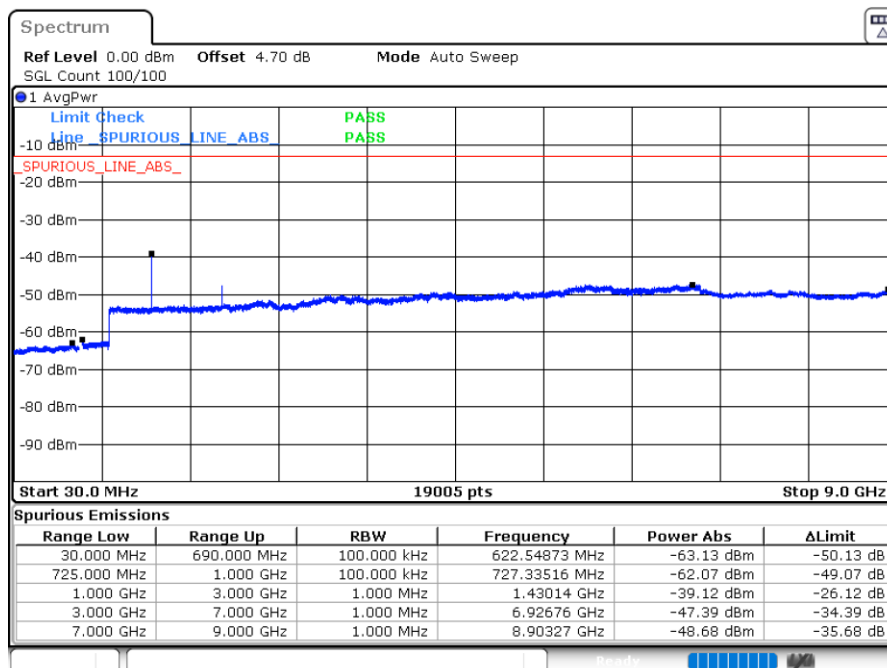
Date: 27.JUL.2023 20:45:20

#### Middle Channel / QPSK



Date: 27.JUL.2023 20:54:43

#### Highest Channel / QPSK

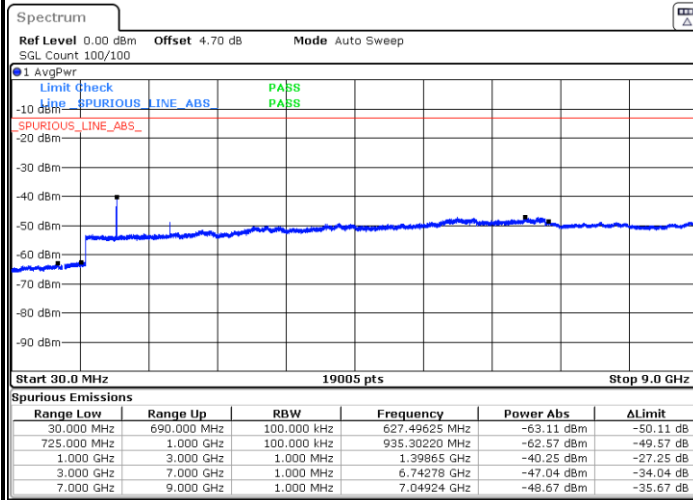


Date: 27.JUL.2023 20:56:03



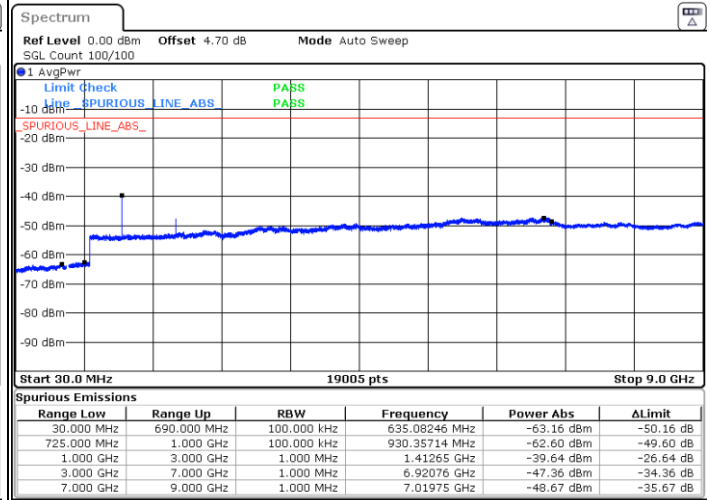
## LTE Band 12 / 3MHz

## Lowest Channel / QPSK



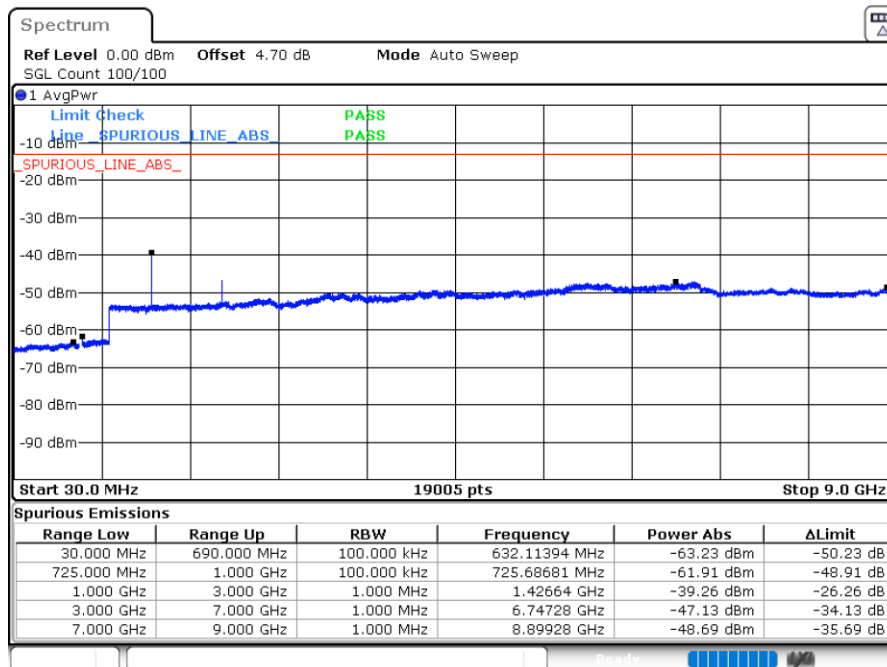
Date: 27.JUL.2023 21:04:03

## Middle Channel / QPSK



Date: 27.JUL.2023 21:13:26

## Highest Channel / QPSK

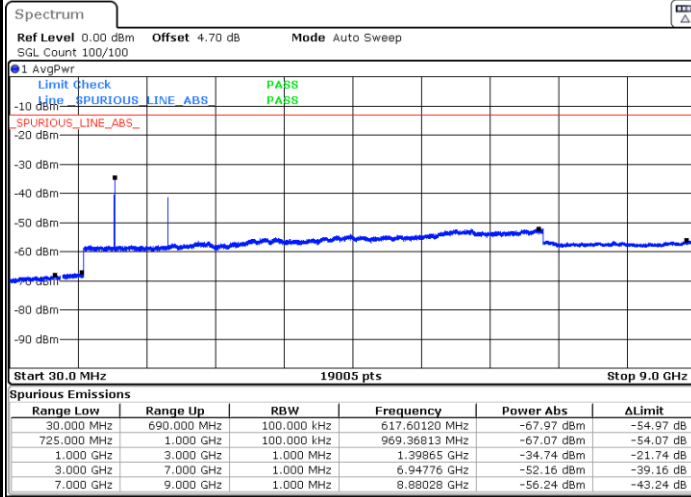


Date: 27.JUL.2023 21:14:46



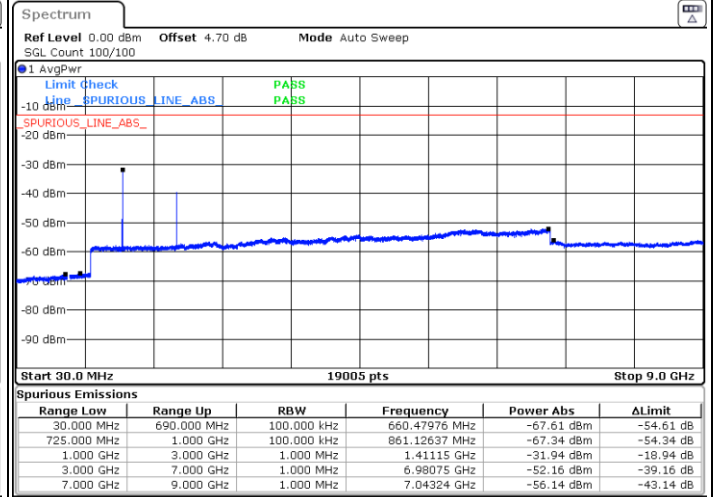
## LTE Band 12 / 5MHz

## Lowest Channel / QPSK



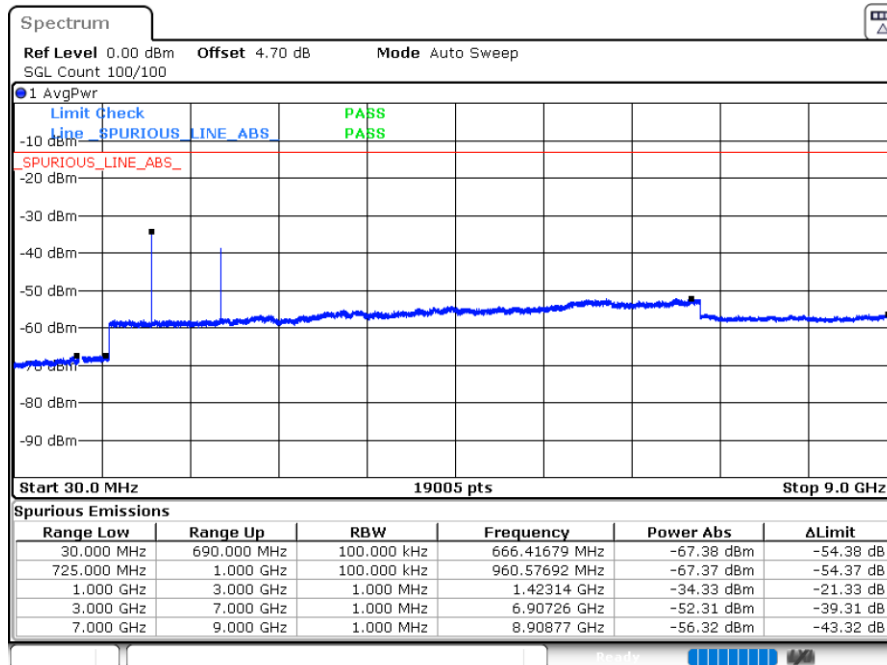
Date: 27.JUL.2023 21:22:46

## Middle Channel / QPSK



Date: 27.JUL.2023 21:32:10

## Highest Channel / QPSK



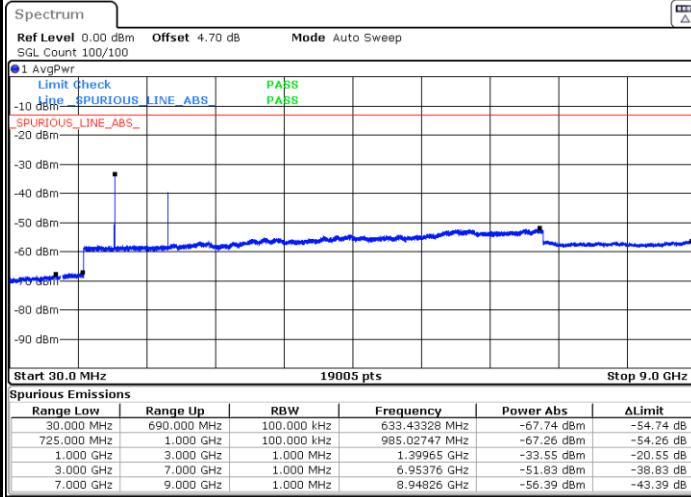
Date: 27.JUL.2023 21:33:29





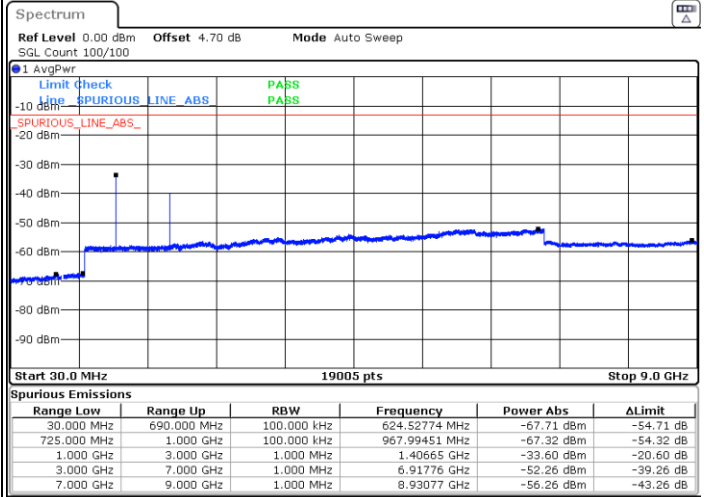
## LTE Band 12 / 10MHz

## Lowest Channel / QPSK



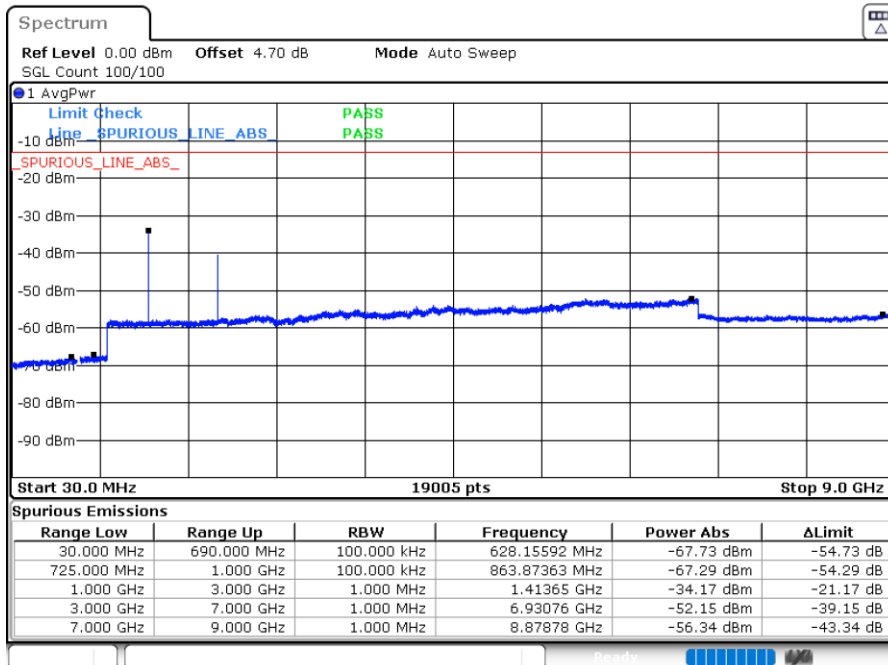
Date: 27.JUL.2023 21:41:30

## Middle Channel / QPSK



Date: 27.JUL.2023 21:47:49

## Highest Channel / QPSK



Date: 27.JUL.2023 21:49:09

## 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	0.0037	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0022	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0018	
-10	Normal Voltage	0.0036	
-20	Normal Voltage	0.0024	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0009	
20	Normal Voltage	0.0027	
20	Minimum Voltage	0.0013	

**Note:**

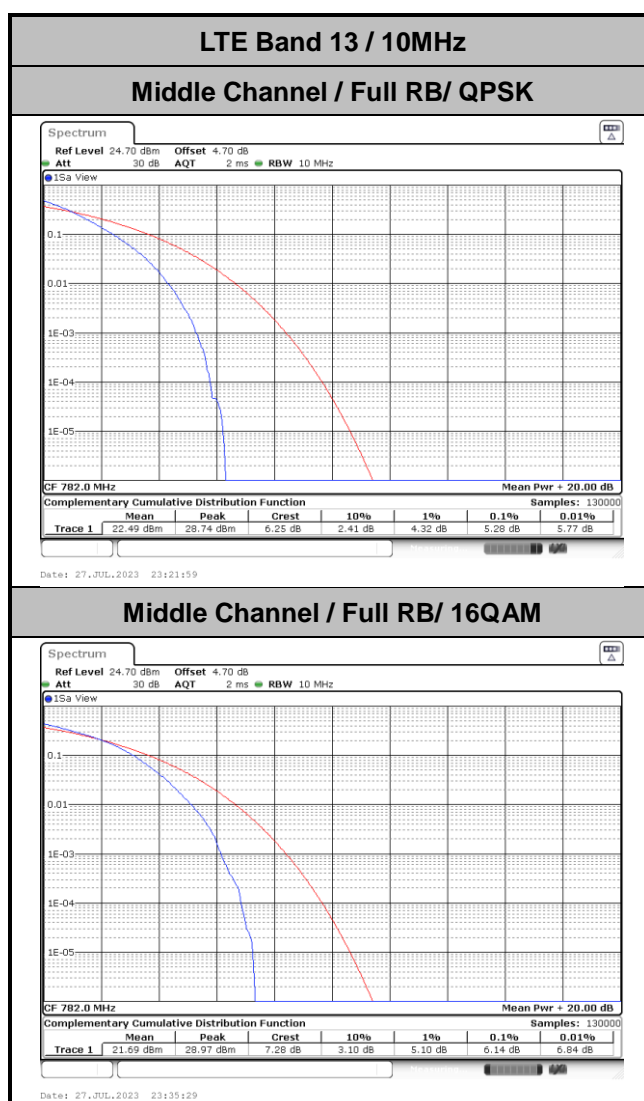
1. Normal Voltage =3.8 V. ; Minimum Voltage =3.3 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 13

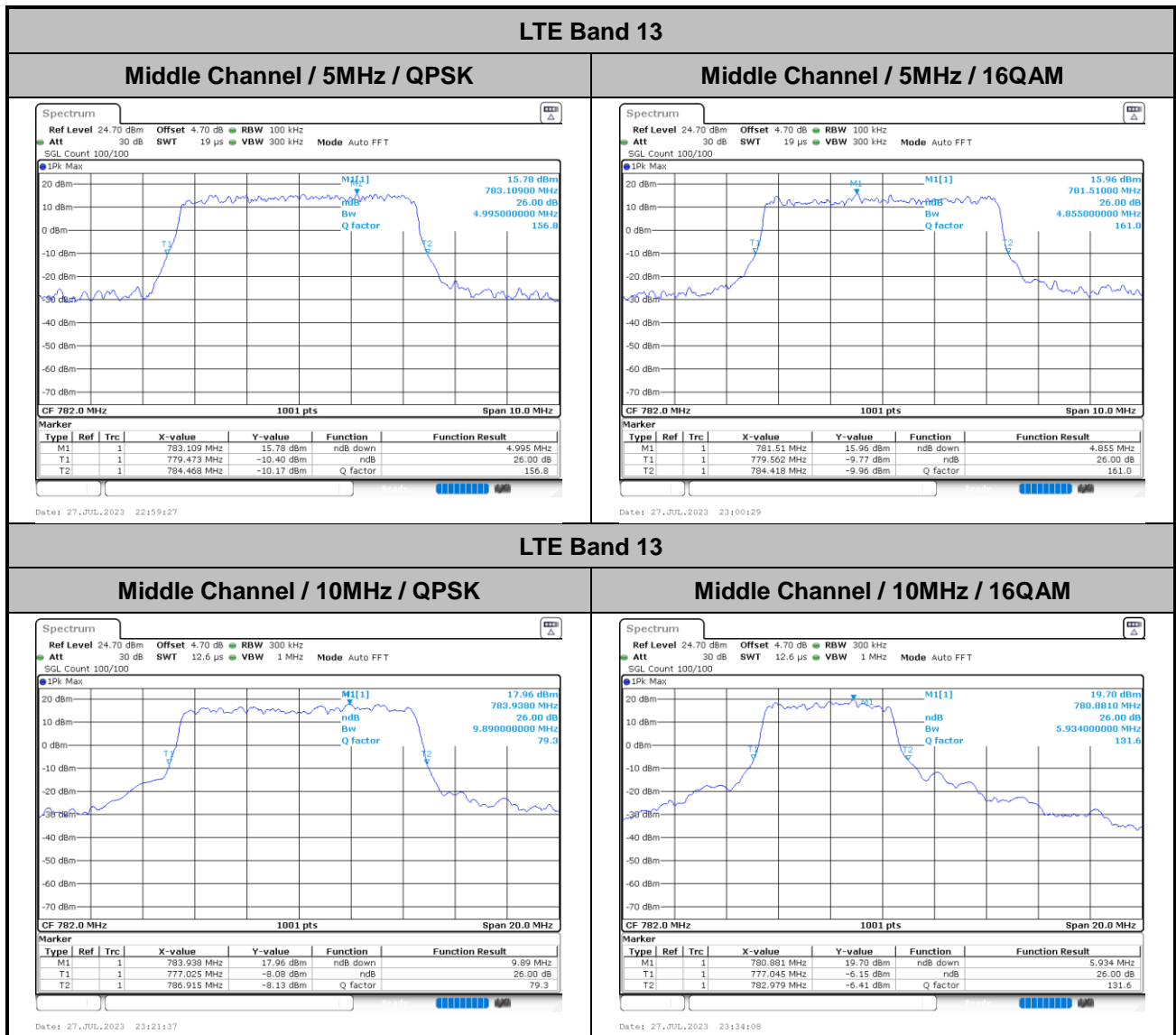
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	5.28	6.14	PASS



**26dB Bandwidth**

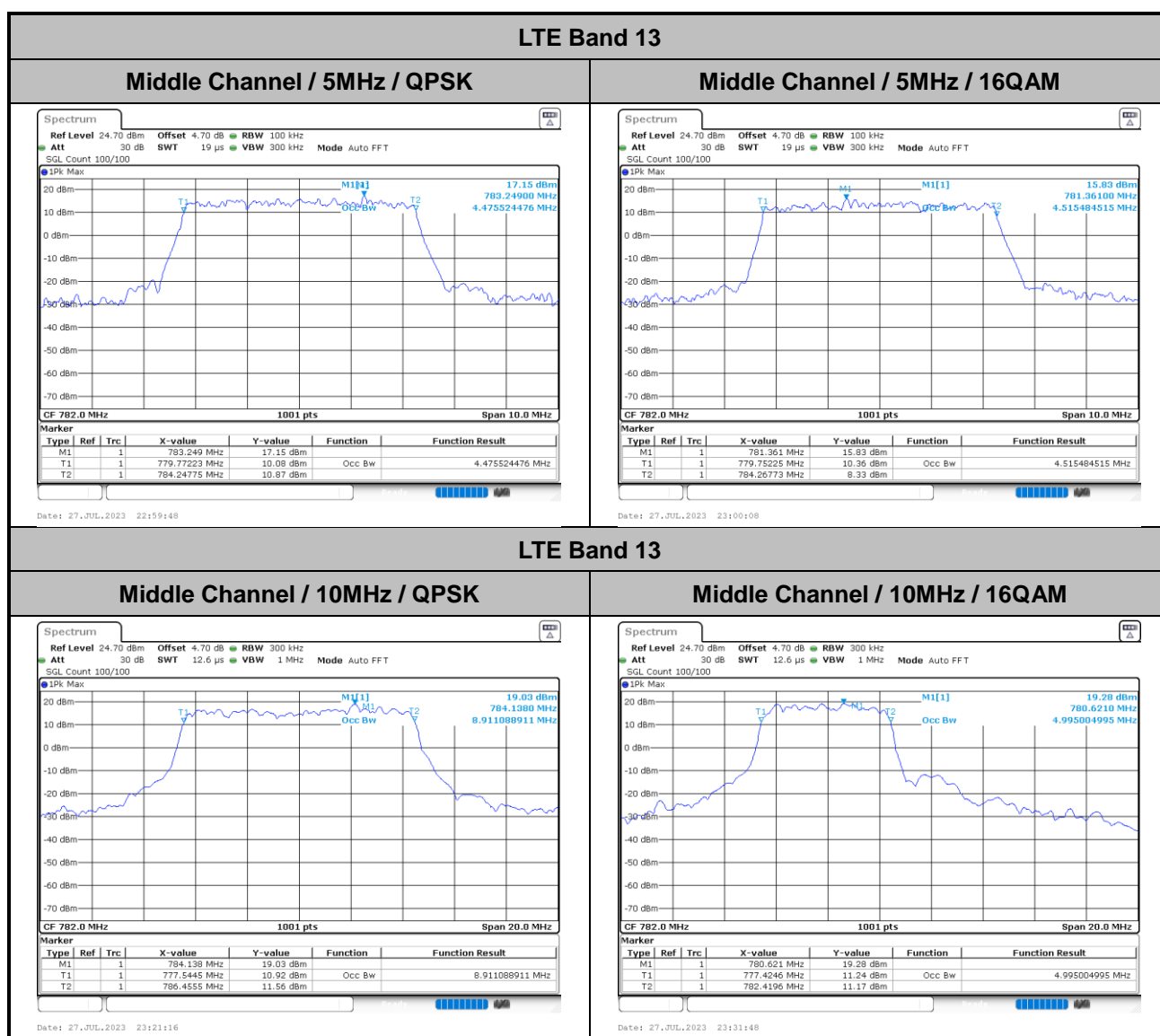
Mode	LTE Band 13 : 26dB BW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	5.00	4.86
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.89	5.93

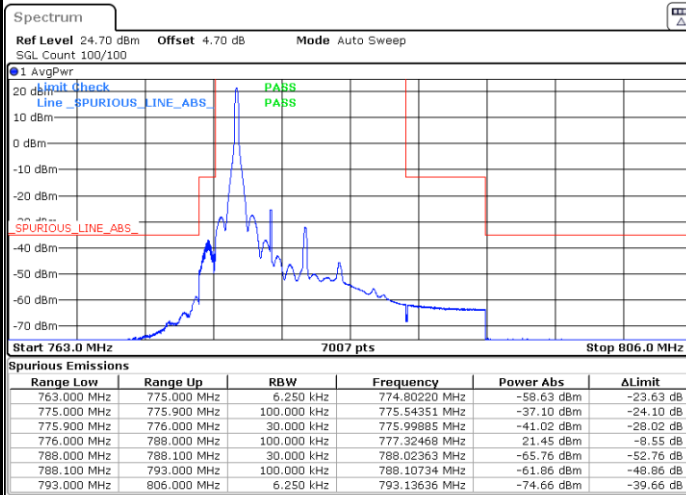
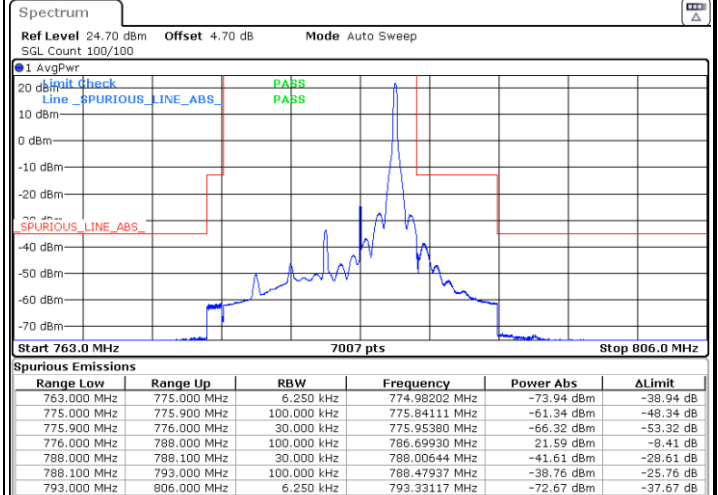
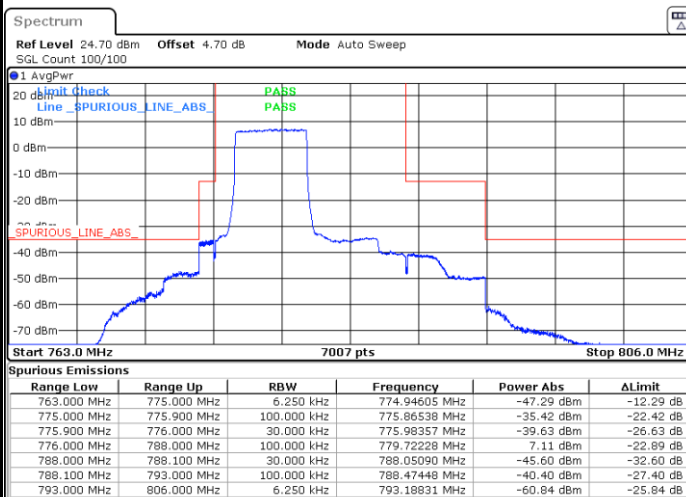
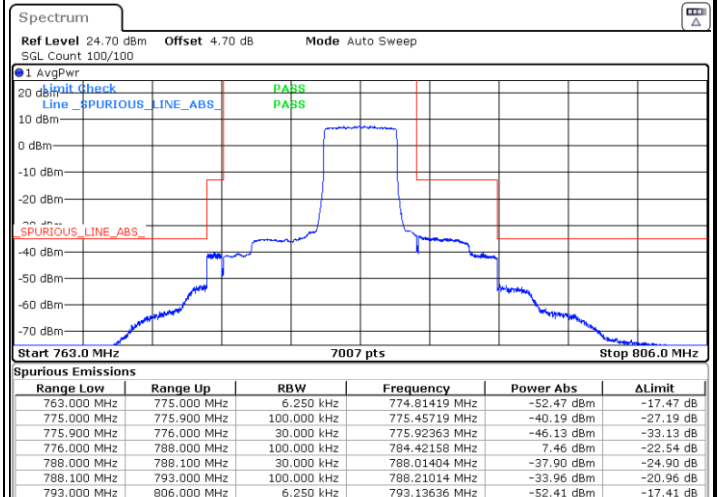




## Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.48	4.52
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	8.91	5.00

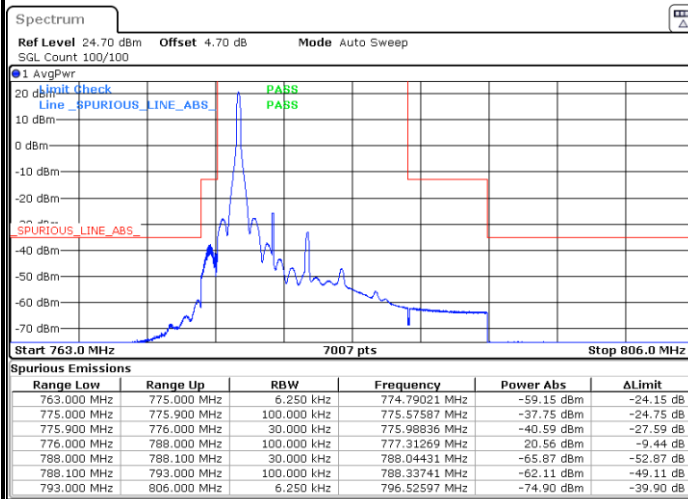


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

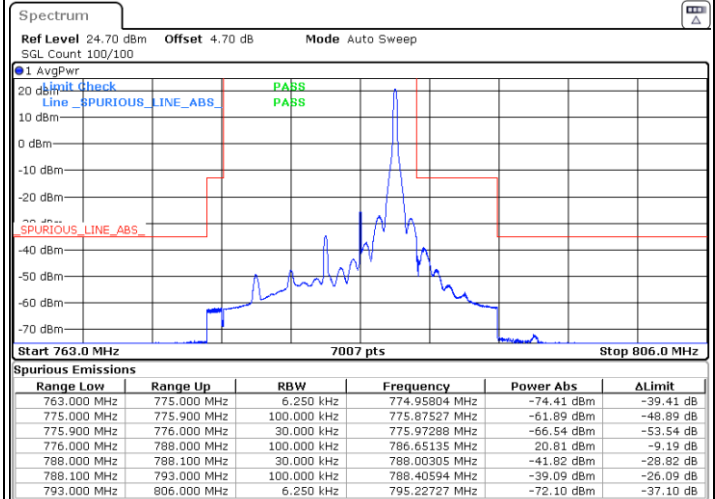


## LTE Band 13 / 5MHz / 16QAM

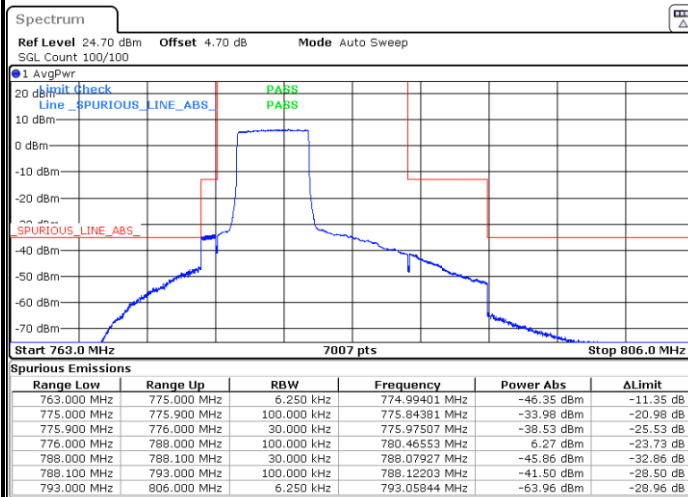
## Lowest Band Edge / 1RB



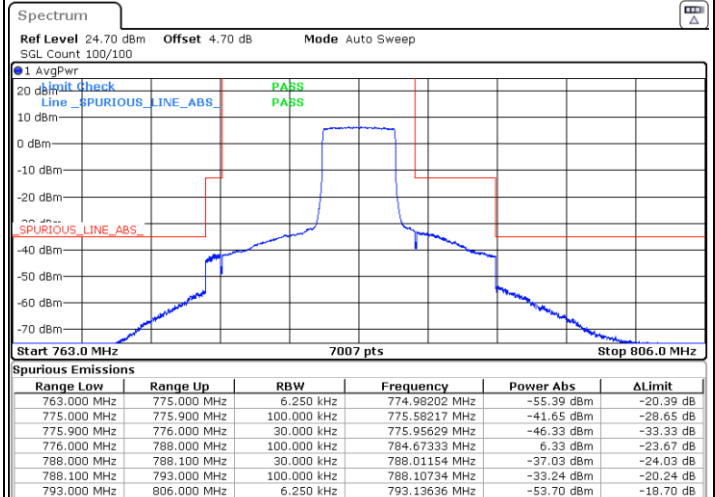
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



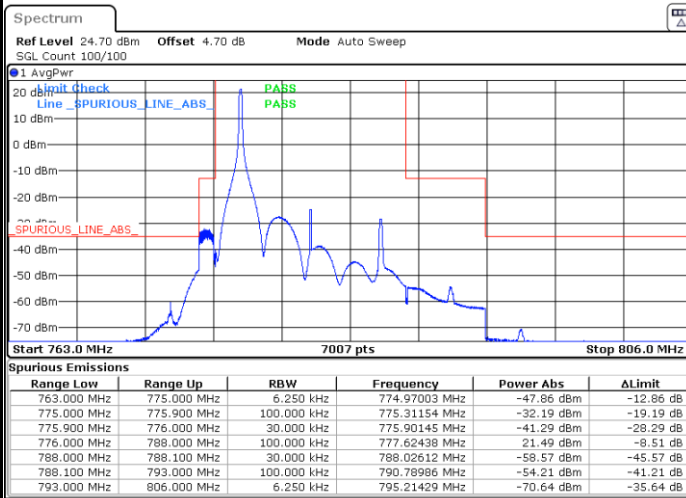
## Highest Band Edge / Full RB



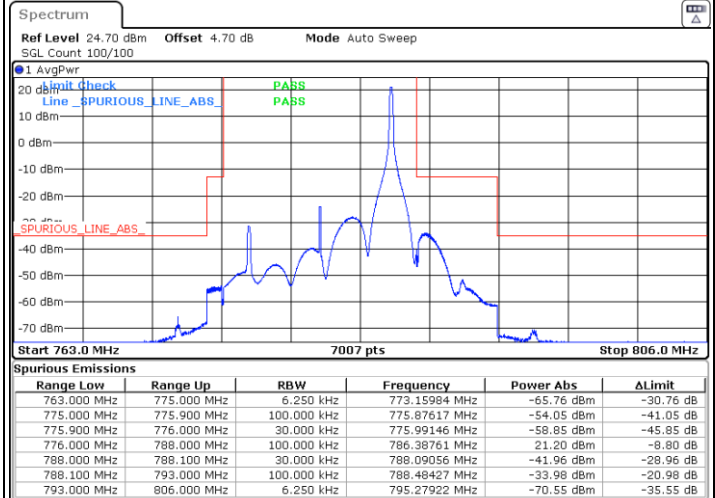


## LTE Band 13 / 10MHz / QPSK

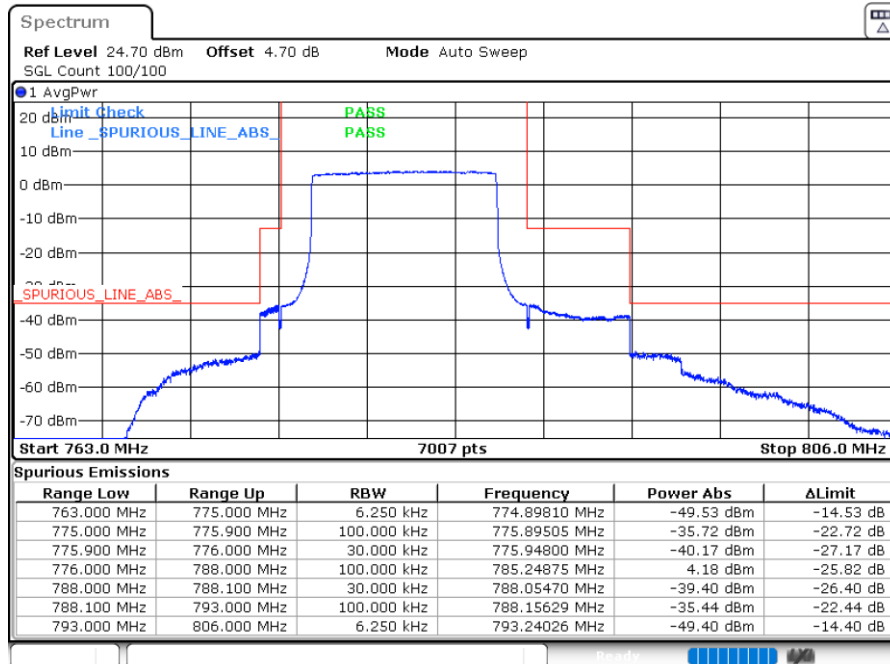
## middle Band Edge / 1 RB



## middle Band Edge / 1 RB



## middle Band Edge / Full RB

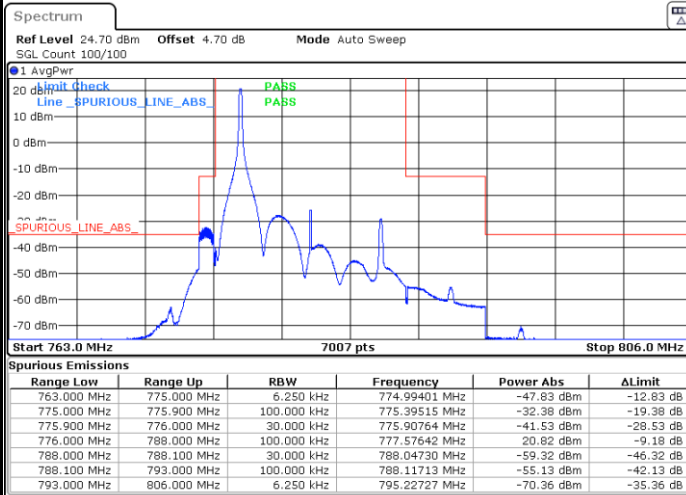






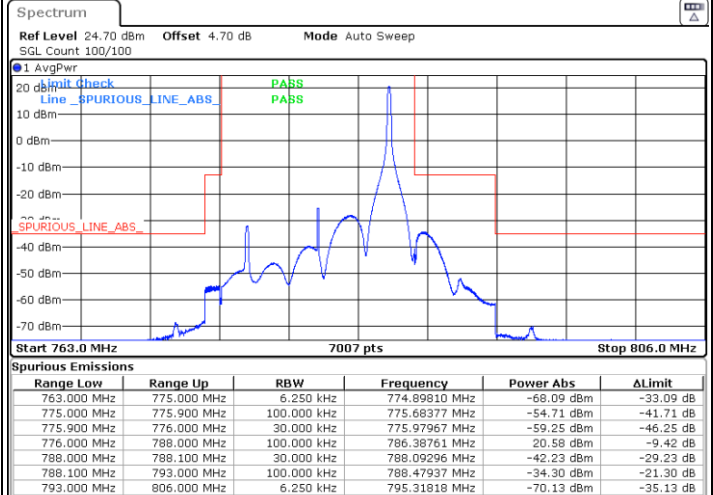
## LTE Band 13 / 10MHz / 16QAM

## middle Band Edge / 1 RB



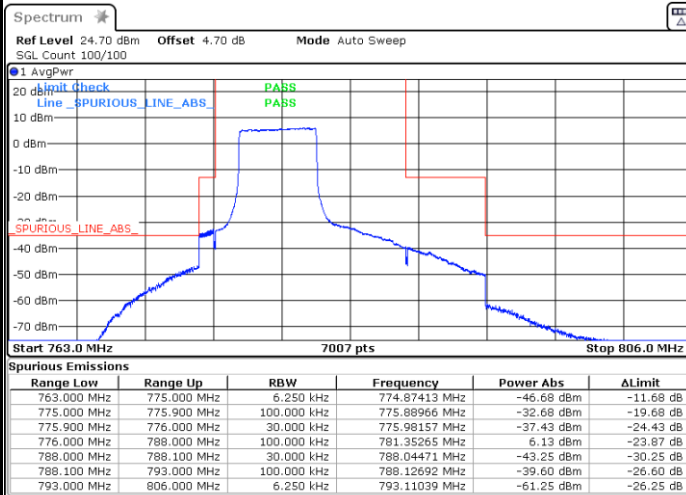
Date: 27.JUL.2023 23:15:27

## middle Band Edge / 1 RB



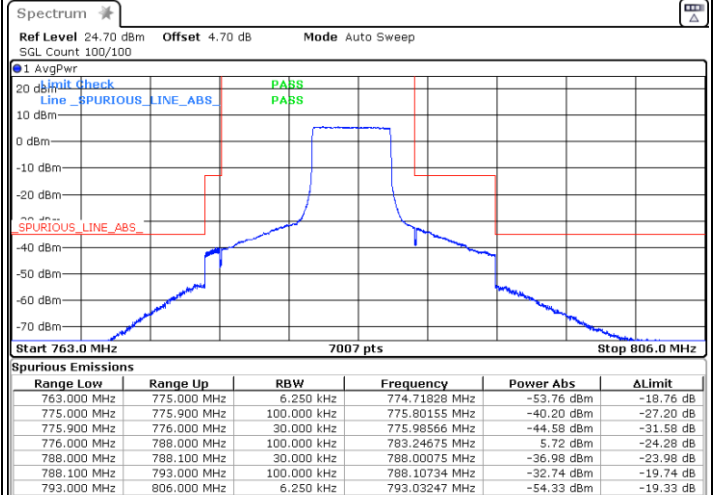
Date: 27.JUL.2023 23:17:16

## middle Band Edge / 27 RB 0



Date: 27.JUL.2023 23:30:54

## middle Band Edge / 27 RB 23



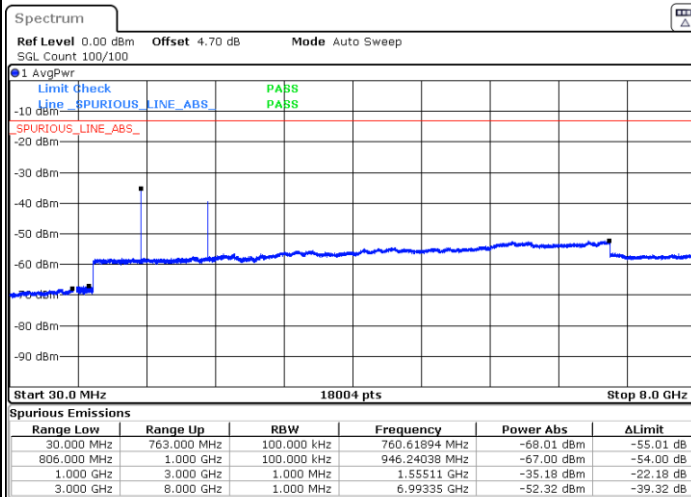
Date: 27.JUL.2023 23:49:54



## Conducted Spurious Emission

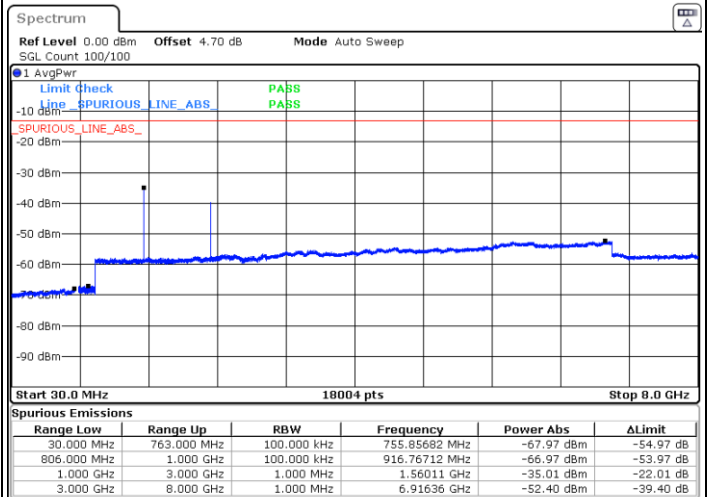
### LTE Band 13 / 5MHz

#### Lowest Channel / QPSK



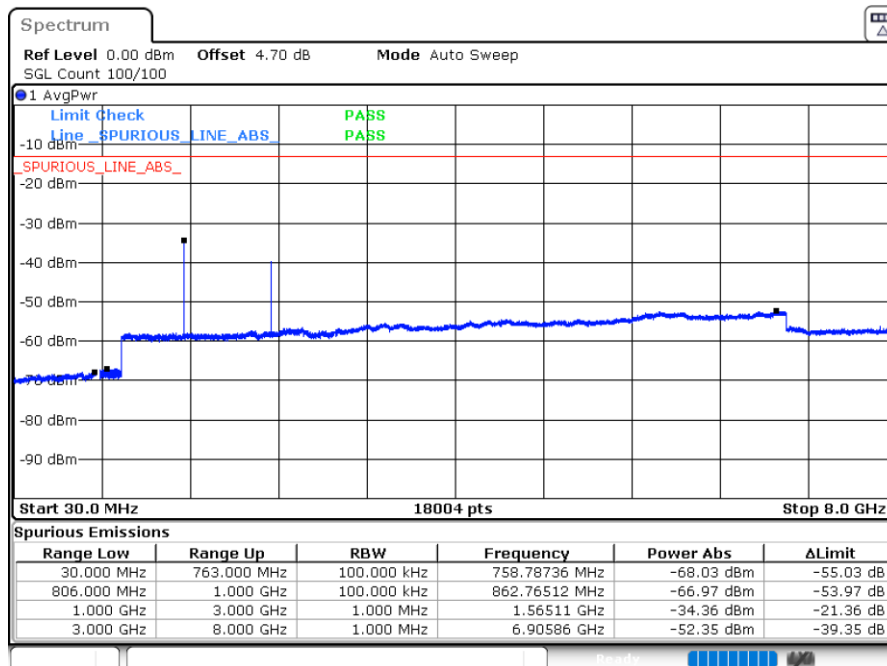
Date: 27.JUL.2023 22:51:46

#### Middle Channel / QPSK



Date: 27.JUL.2023 23:01:48

#### Highest Channel / QPSK

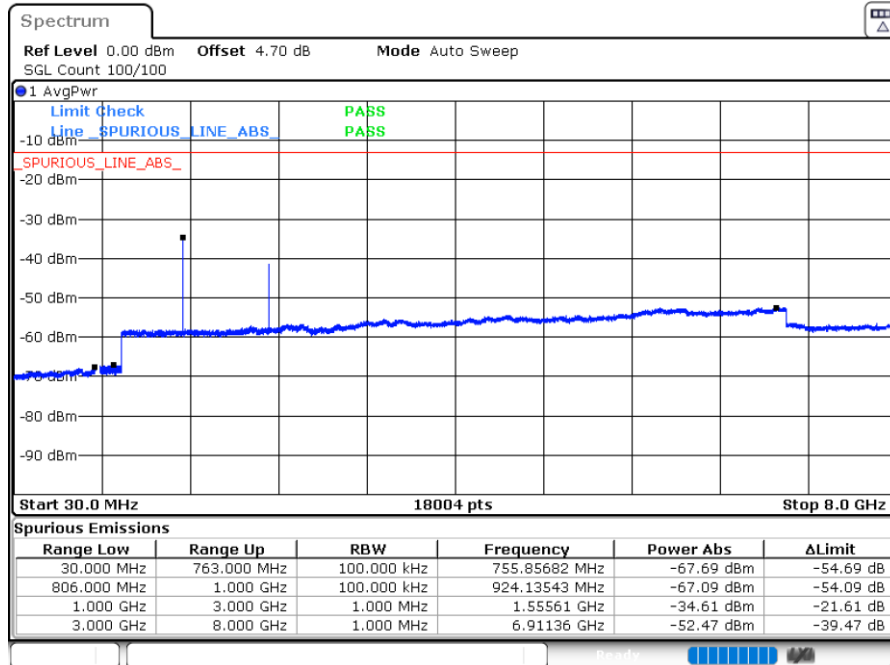


Date: 27.JUL.2023 23:03:08



LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 27 JUL 2023 23:11:48

## 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	0.0037	PASS
40	Normal Voltage	0.0025	
30	Normal Voltage	0.0019	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0029	
-20	Normal Voltage	0.0036	
-30	Normal Voltage	0.0033	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0008	
20	Minimum Voltage	0.0033	

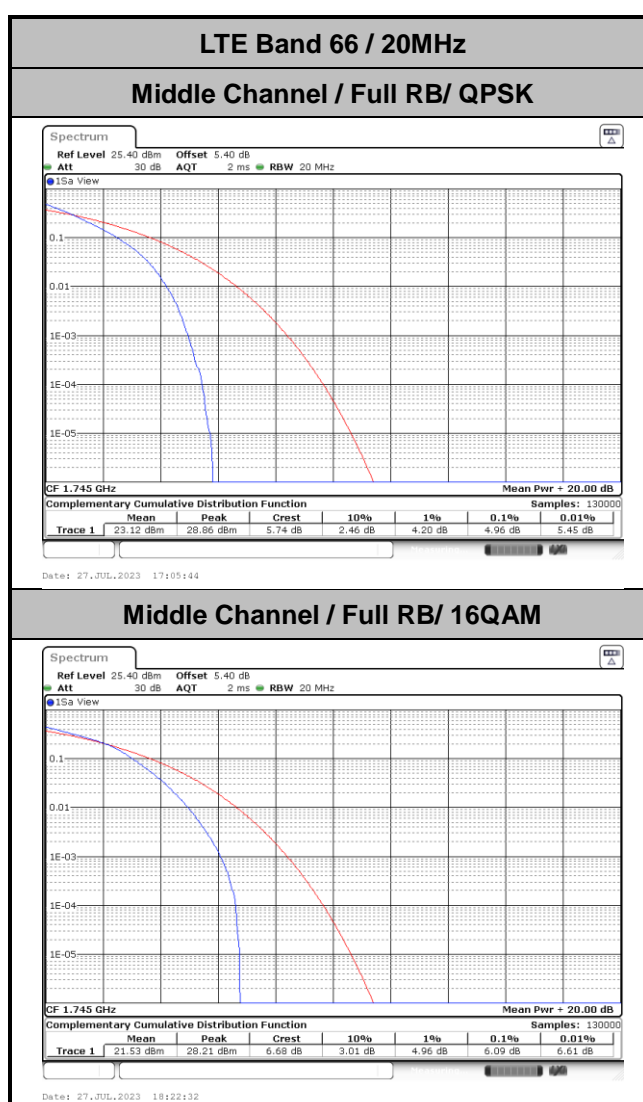
**Note:**

1. Normal Voltage =3.8 V. ; Minimum Voltage =3.3V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

# LTE Band 66

## Peak-to-Average Ratio

Mode	LTE Band 66 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.96	6.09	PASS



**26dB Bandwidth**

Mode	LTE Band 66 : 26dB BW(MHz) Full RB	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.25	1.26
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	3.07	3.09
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.93	4.92
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.79	5.97
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	14.72	6.38
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.90	6.15

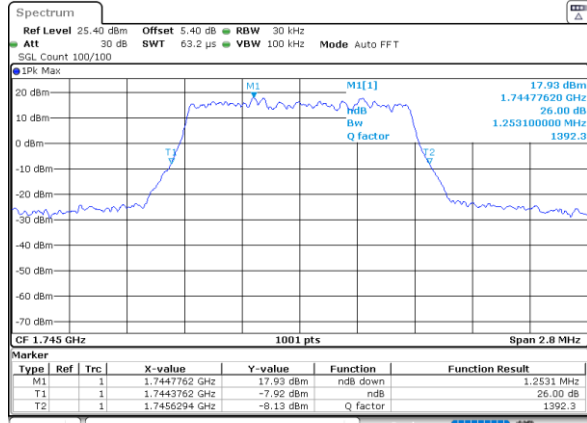
Mode	LTE Band 66 : 26dB BW(MHz) 1RB	
<b>BW</b>	<b>3MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>L CH 1RB</b>	0.54	0.56
<b>H CH 1RB</b>	0.64	0.59
<b>BW</b>	<b>5MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>L CH 1RB</b>	0.75	0.66
<b>H CH 1RB</b>	0.89	0.86
<b>BW</b>	<b>10MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>L CH 1RB</b>	1.52	1.30
<b>H CH 1RB</b>	1.80	1.72
<b>BW</b>	<b>15MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>L CH 1RB</b>	1.86	1.92
<b>H CH 1RB</b>	1.98	1.77
<b>BW</b>	<b>20MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>L CH 1RB</b>	1.88	1.68
<b>H CH 1RB</b>	1.92	1.56



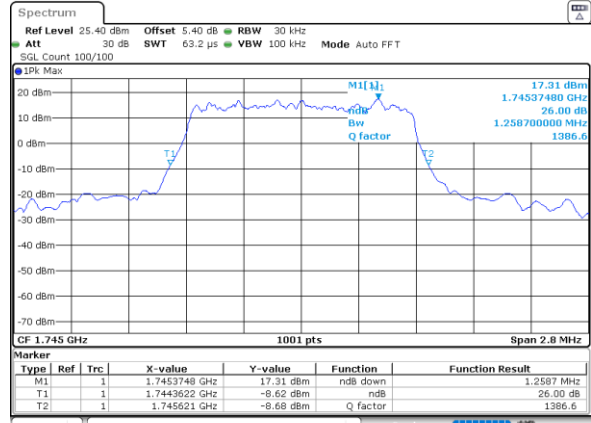
## Full RB (Middle CH):

## LTE Band 66

## Middle Channel / 1.4MHz / QPSK

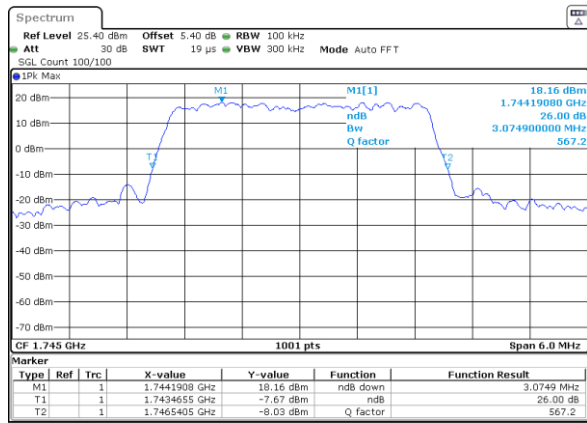


## Middle Channel / 1.4MHz / 16QAM

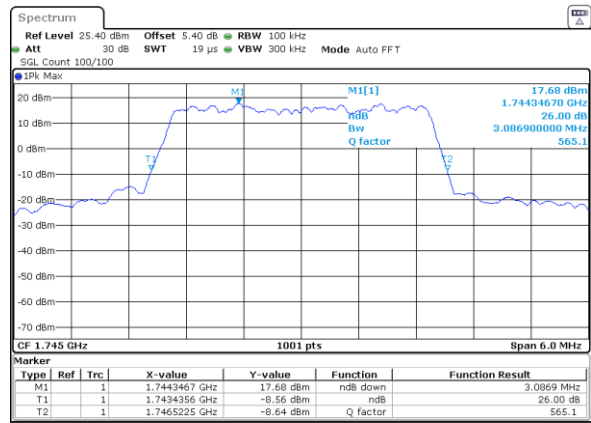


## LTE Band 66

## Middle Channel / 3MHz / QPSK

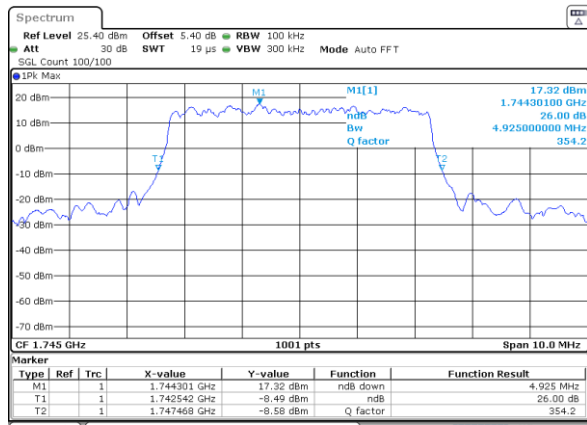


## Middle Channel / 3MHz / 16QAM

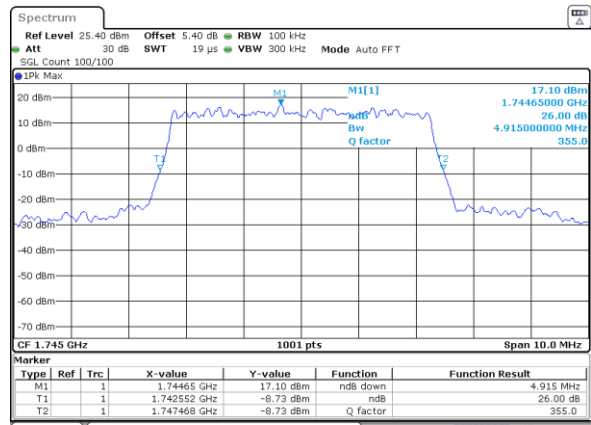


## LTE Band 66

## Middle Channel / 5MHz / QPSK



## Middle Channel / 5MHz / 16QAM

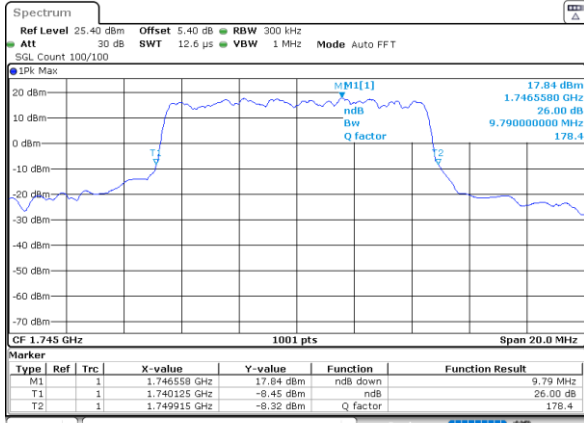




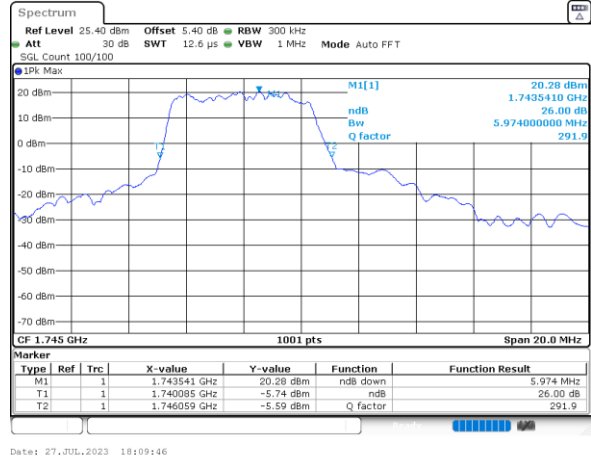


## LTE Band 66

## Middle Channel / 10MHz / QPSK

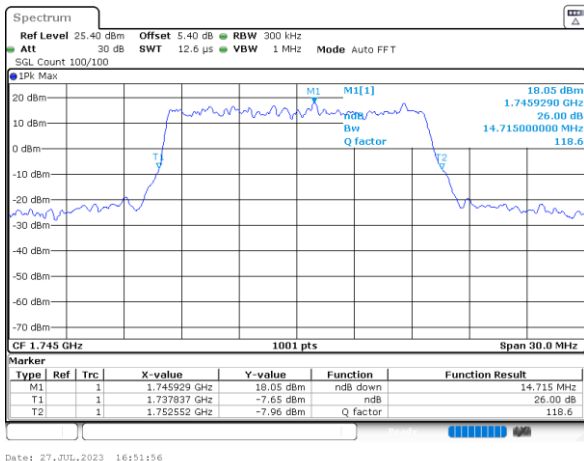


## Middle Channel / 10MHz / 16QAM

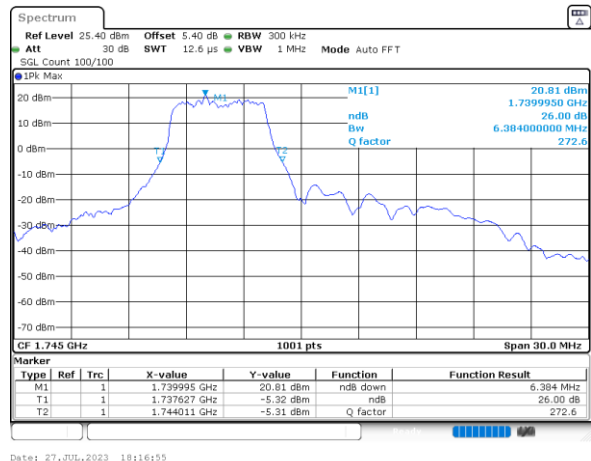


## LTE Band 66

## Middle Channel / 15MHz / QPSK

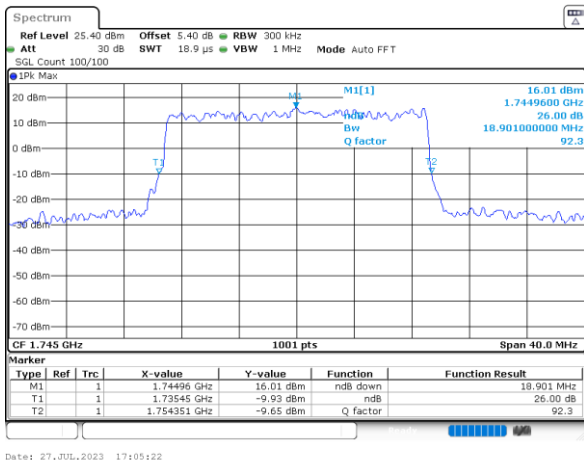


## Middle Channel / 15MHz / 16QAM



## LTE Band 66

## Middle Channel / 20MHz / QPSK



## Middle Channel / 20MHz / 16QAM

