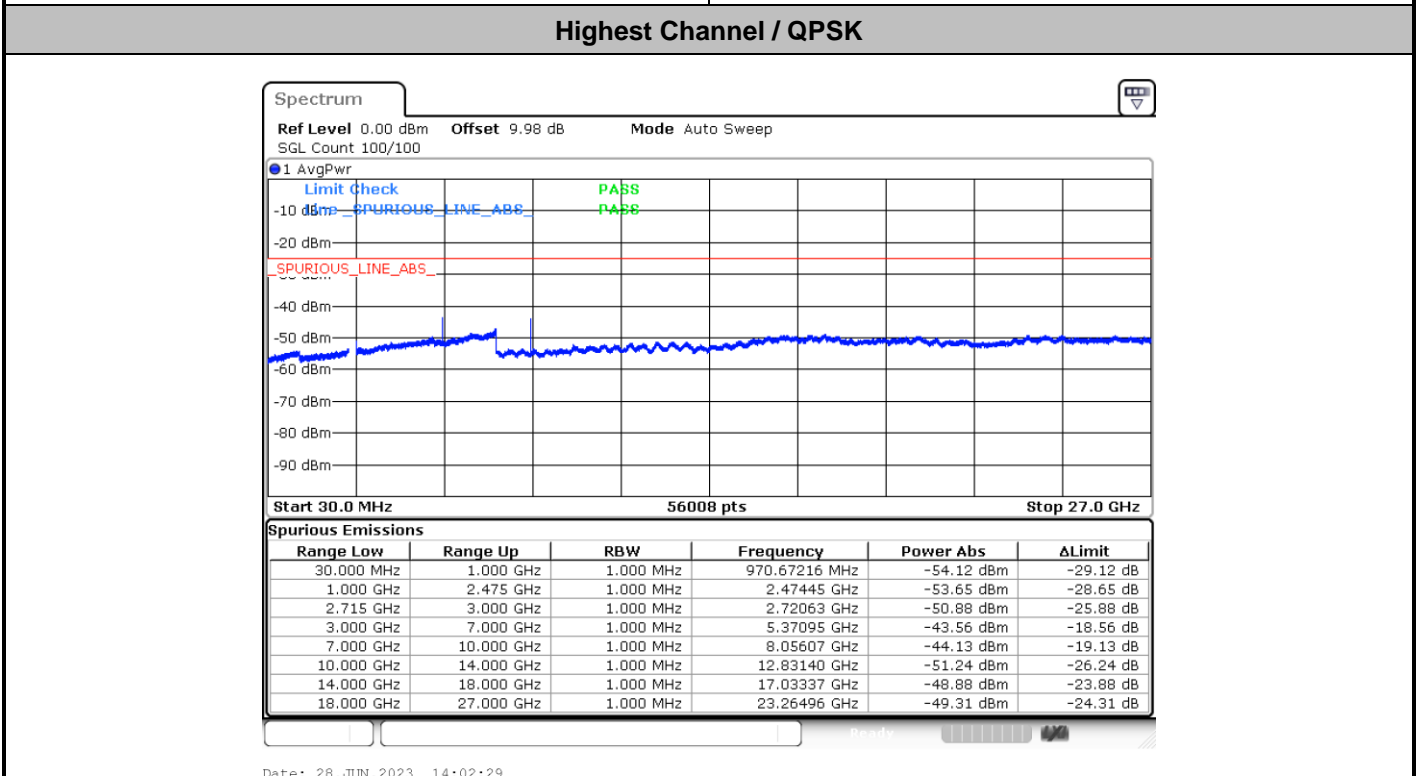
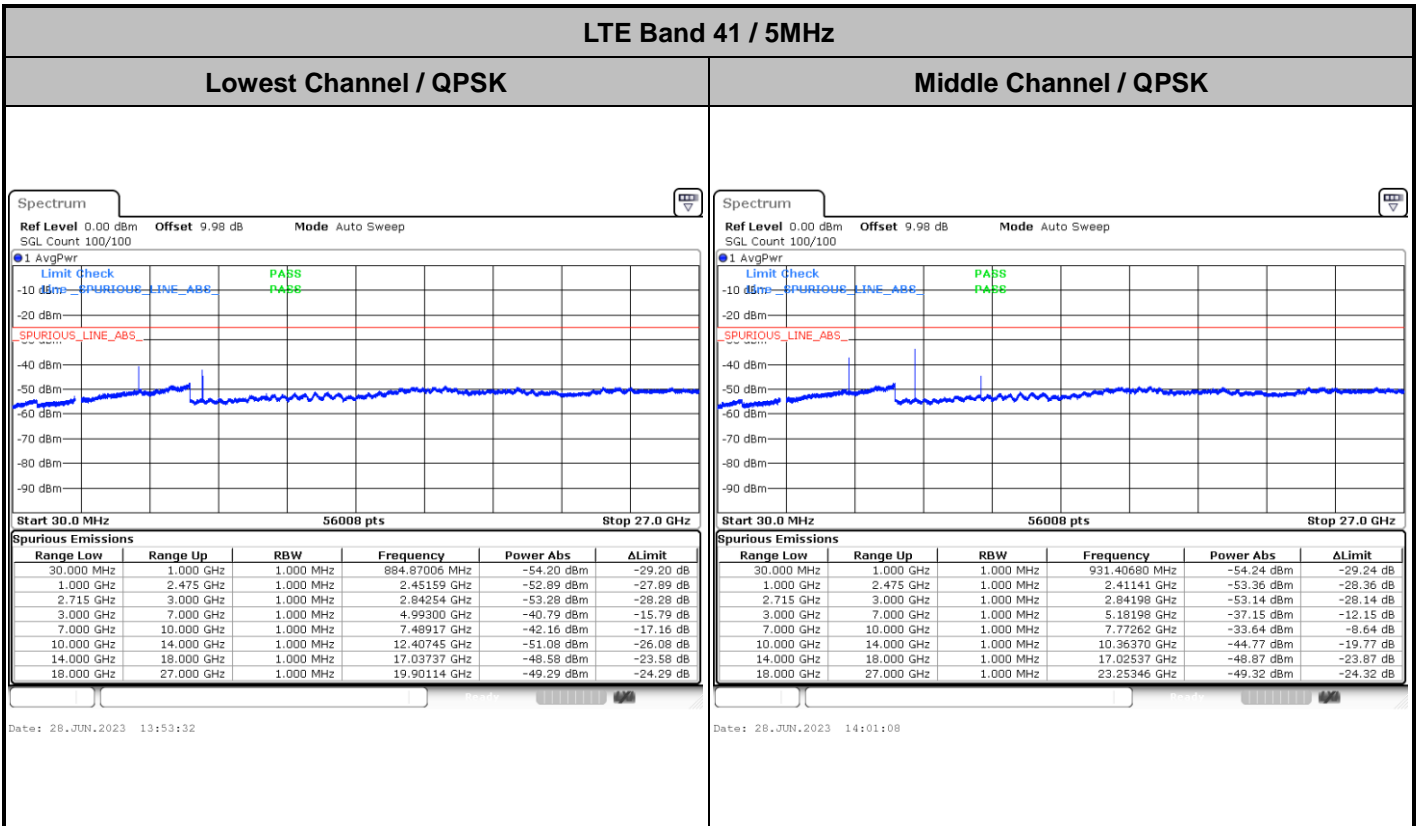




# Conducted Spurious Emission

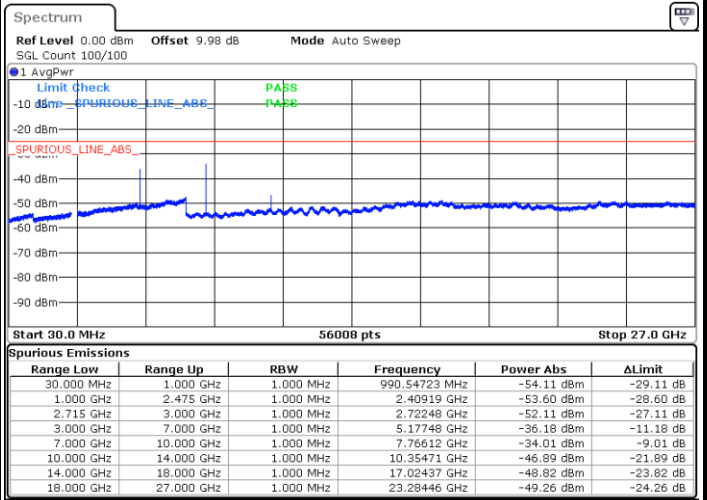
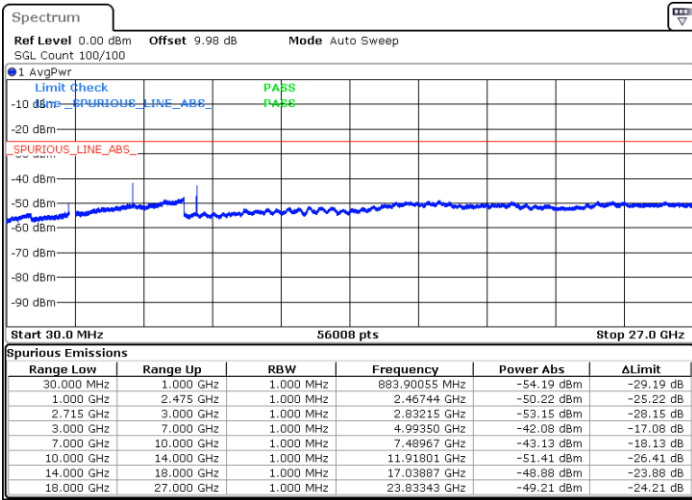




LTE Band 41 / 10MHz

Lowest Channel / QPSK

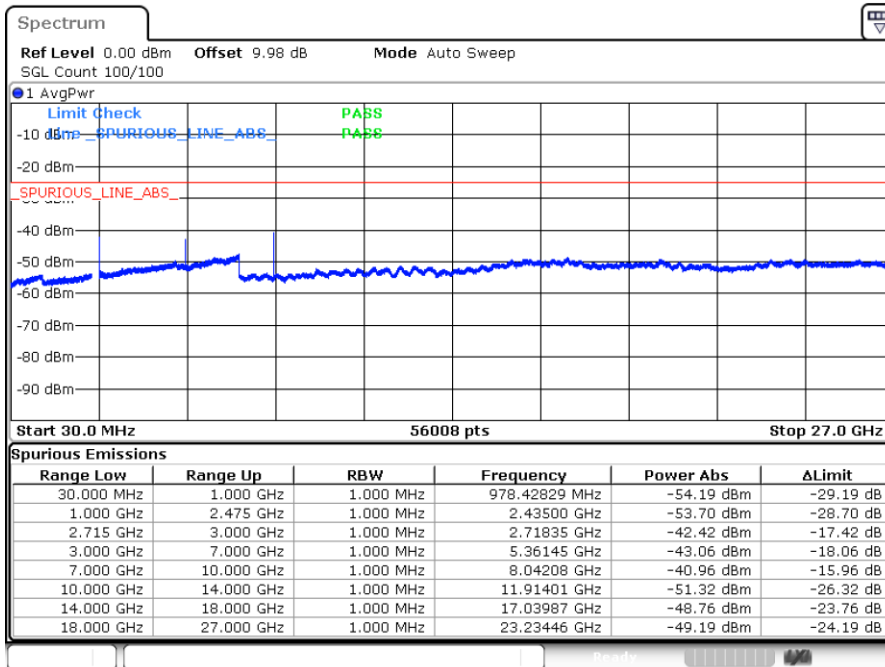
Middle Channel / QPSK



Date: 28 JUN 2023 14:09:53

Date: 28 JUN 2023 14:17:29

Highest Channel / QPSK



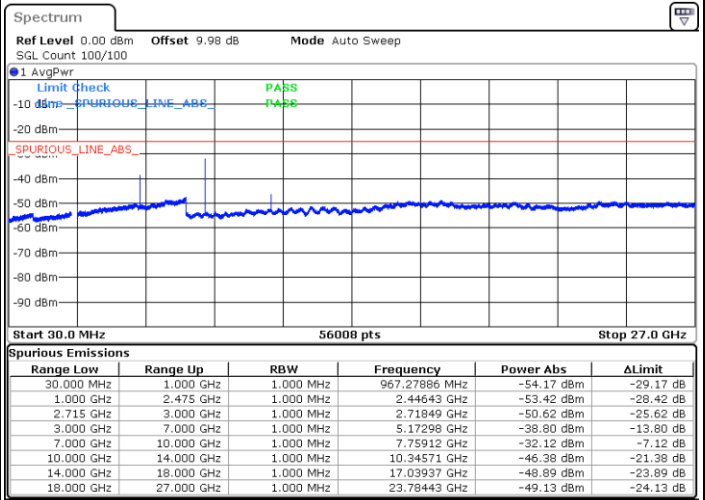
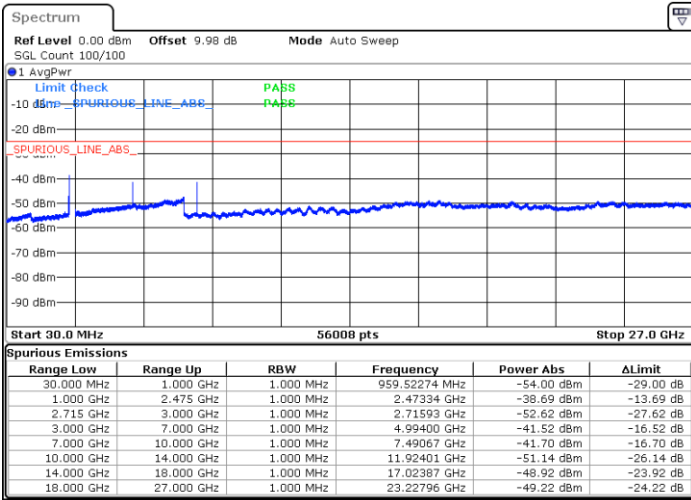
Date: 28 JUN 2023 14:18:51



LTE Band 41 / 15MHz

Lowest Channel / QPSK

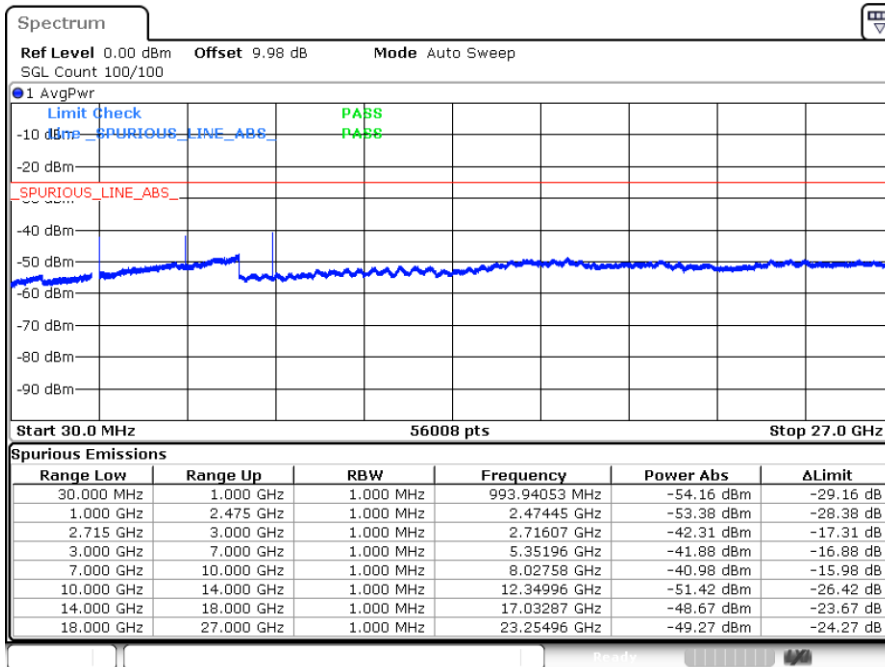
Middle Channel / QPSK



Date: 28 JUN 2023 14:26:14

Date: 28 JUN 2023 14:33:51

Highest Channel / QPSK



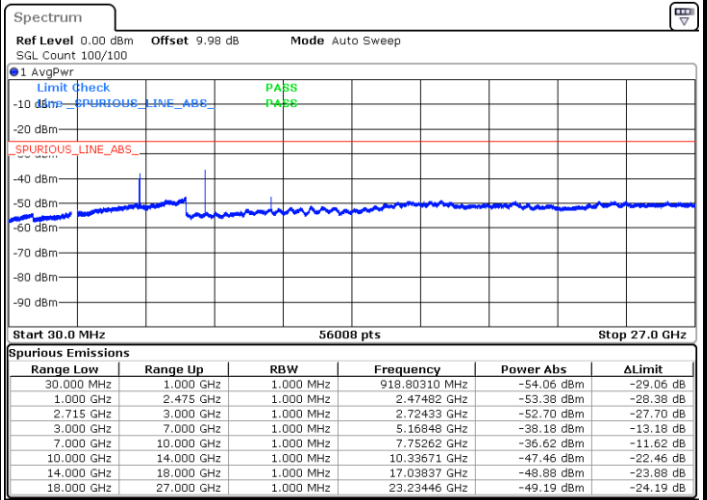
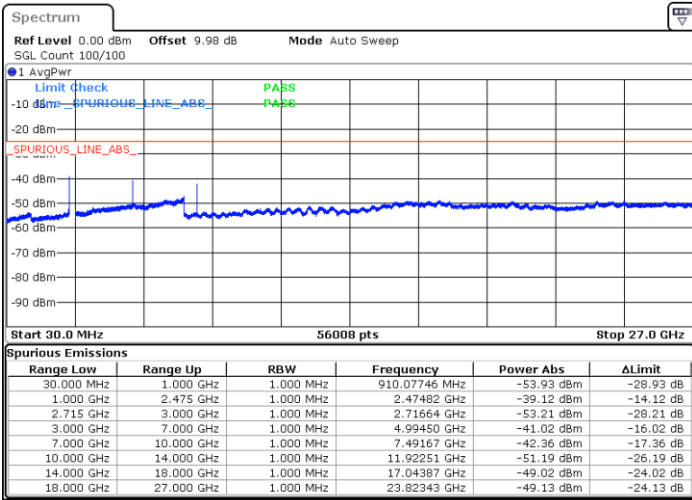
Date: 28 JUN 2023 14:35:12



LTE Band 41 / 20MHz

Lowest Channel / QPSK

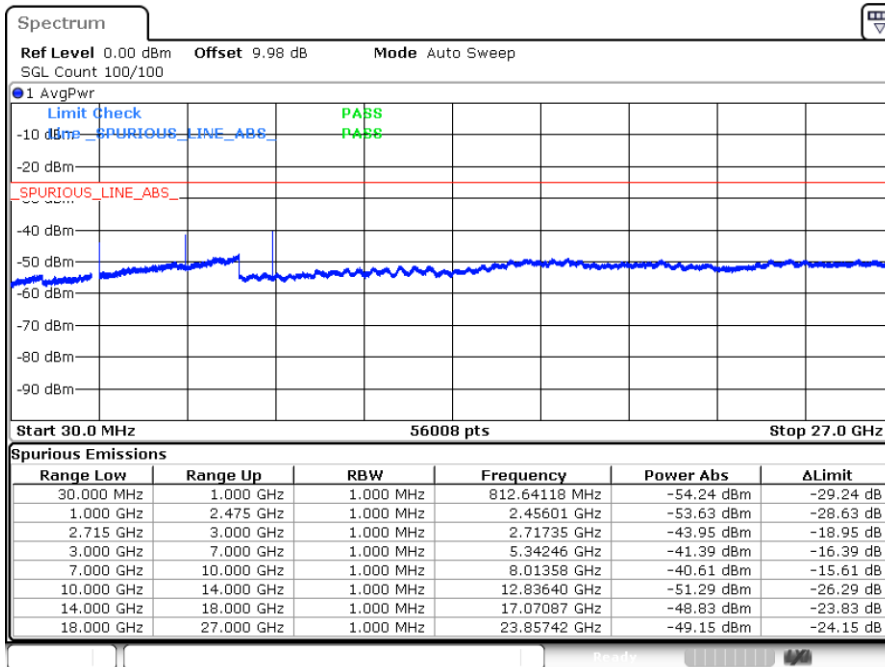
Middle Channel / QPSK



Date: 28 JUN 2023 14:42:34

Date: 28 JUN 2023 14:50:10

Highest Channel / QPSK



Date: 28 JUN 2023 14:51:31



### Frequency Stability

Test Conditions		LTE Band 41 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0019	PASS
40	Normal Voltage	0.0011	
30	Normal Voltage	0.0027	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0016	
0	Normal Voltage	0.0038	
-10	Normal Voltage	0.0034	
-20	Normal Voltage	0.0041	
-30	Normal Voltage	0.0032	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0012	
20	Battery End Point	0.0003	

**Note:**

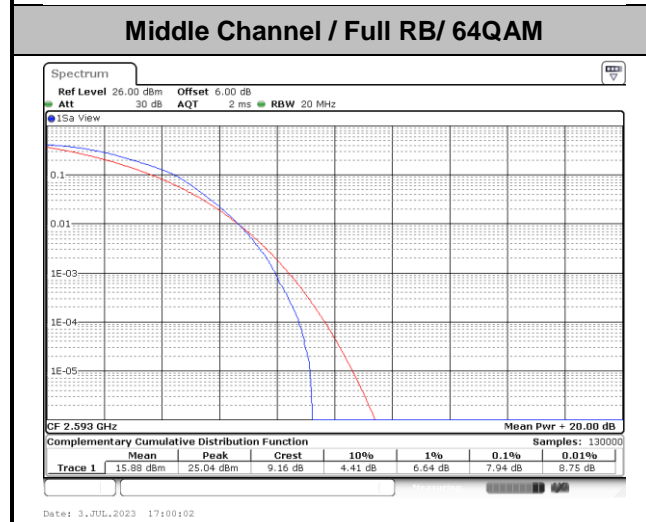
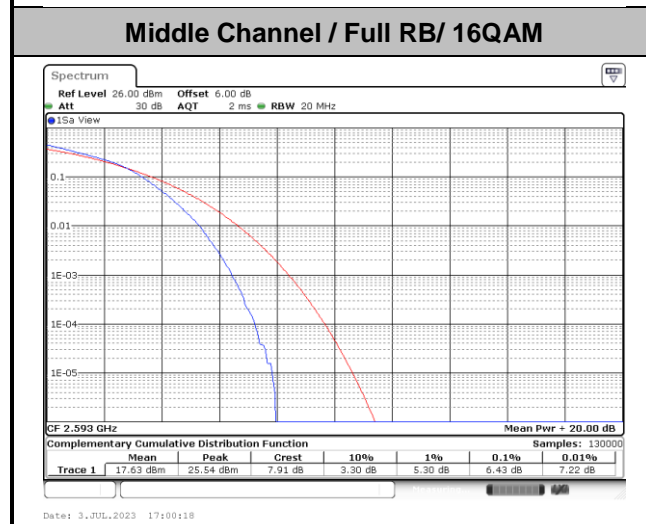
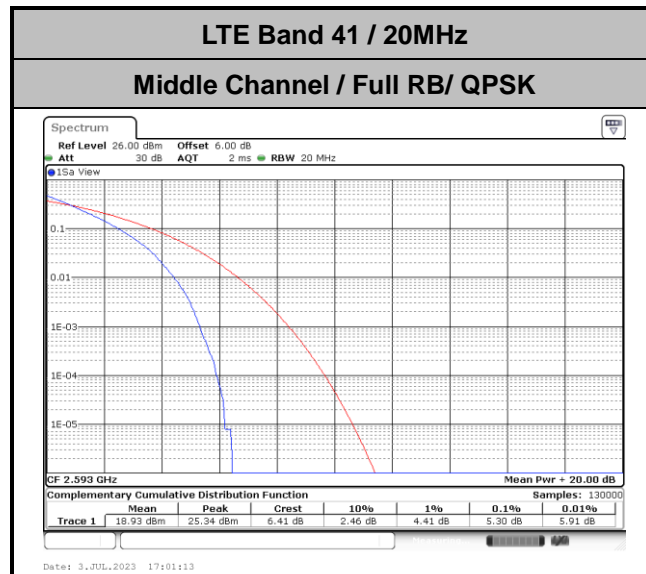
1. Normal Voltage =3.91 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 41 for Other PA

### Peak-to-Average Ratio

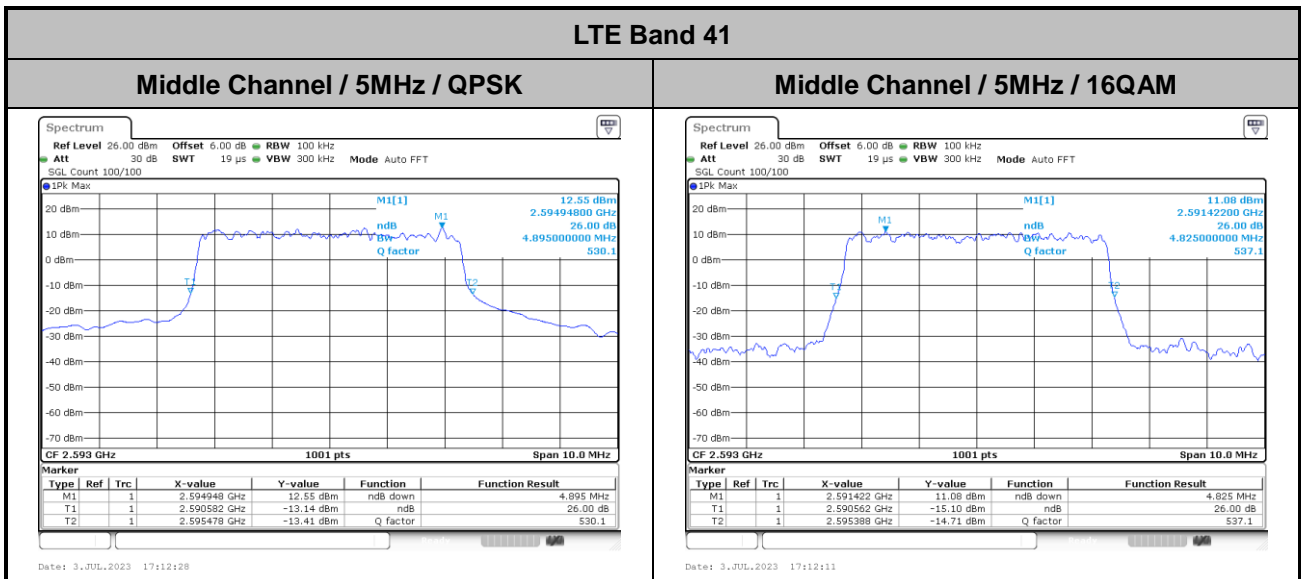
Mode	LTE Band 41 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.3	6.43	7.94	<b>PASS</b>





**26dB Bandwidth**

Mode	LTE Band 41 : 26dB BW(MHz)	
<b>BW</b>	<b>5MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	4.90	4.83
<b>BW</b>	<b>10MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	9.77	9.85
<b>BW</b>	<b>15MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	14.27	14.27
<b>BW</b>	<b>20MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	18.86	18.78

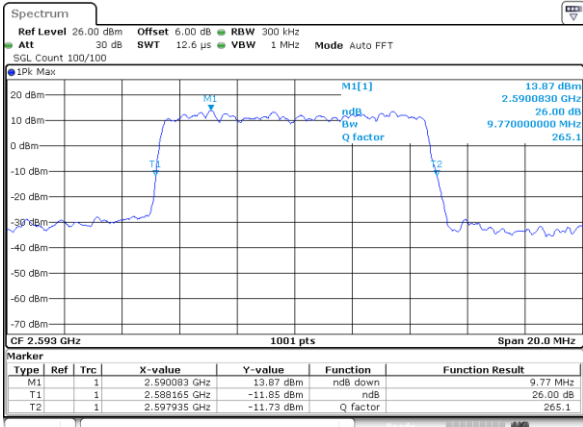






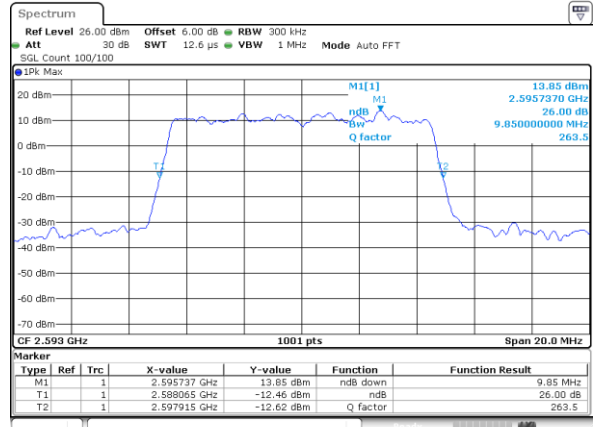
LTE Band 41

Middle Channel / 10MHz / QPSK



Date: 3.JUL.2023 17:04:47

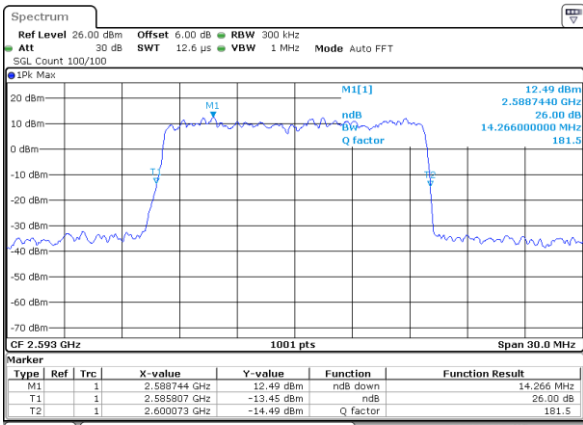
Middle Channel / 10MHz / 16QAM



Date: 3.JUL.2023 17:04:59

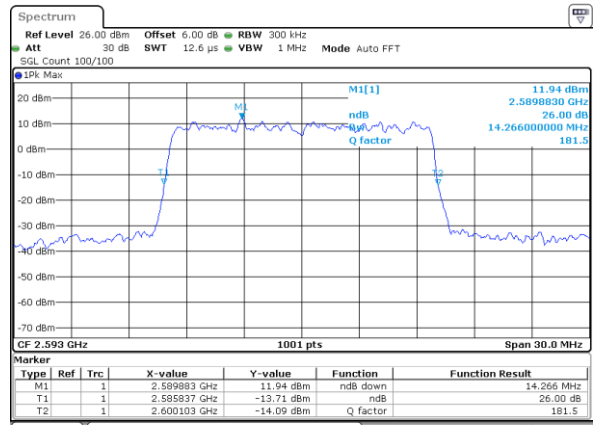
LTE Band 41

Middle Channel / 15MHz / QPSK



Date: 3.JUL.2023 17:02:43

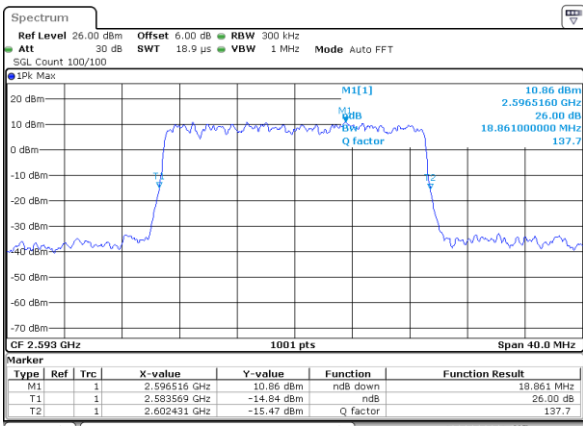
Middle Channel / 15MHz / 16QAM



Date: 3.JUL.2023 17:03:32

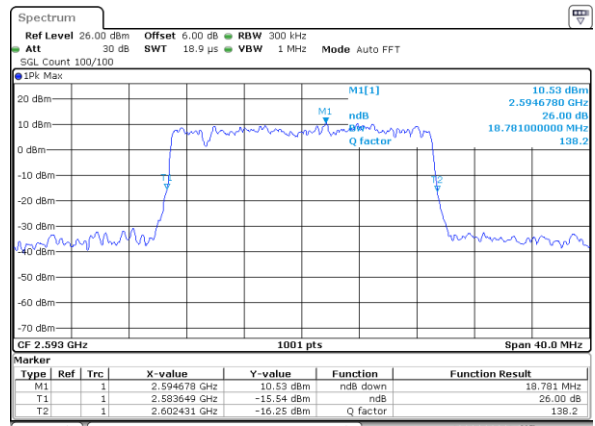
LTE Band 41

Middle Channel / 20MHz / QPSK



Date: 3.JUL.2023 17:01:32

Middle Channel / 20MHz / 16QAM

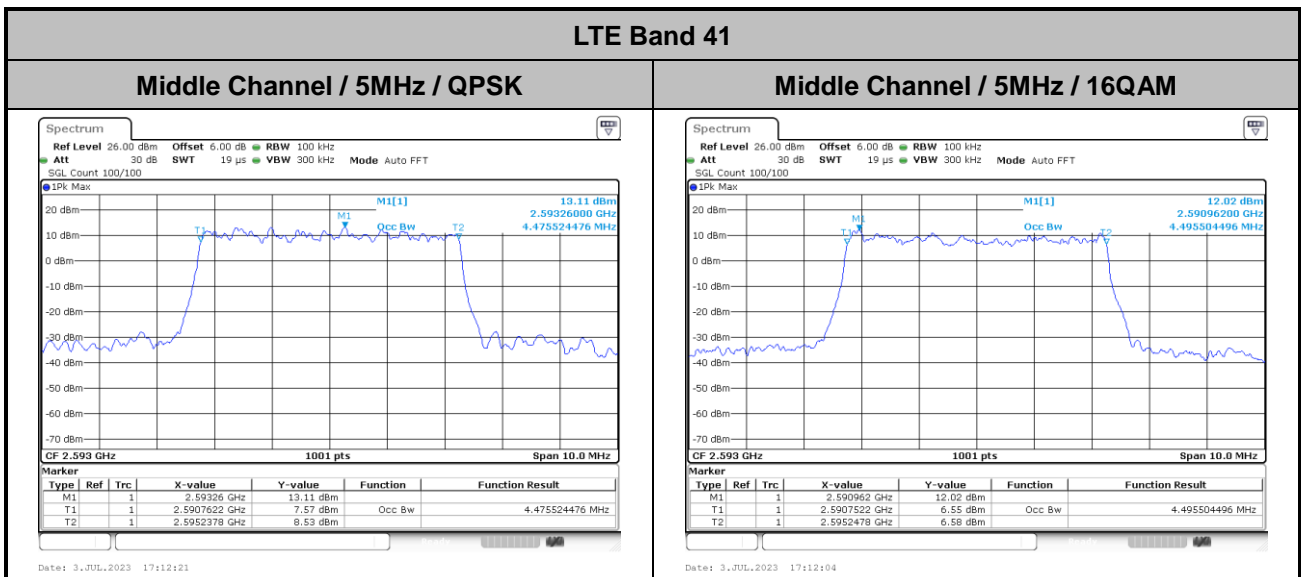


Date: 3.JUL.2023 17:00:33



## Occupied Bandwidth

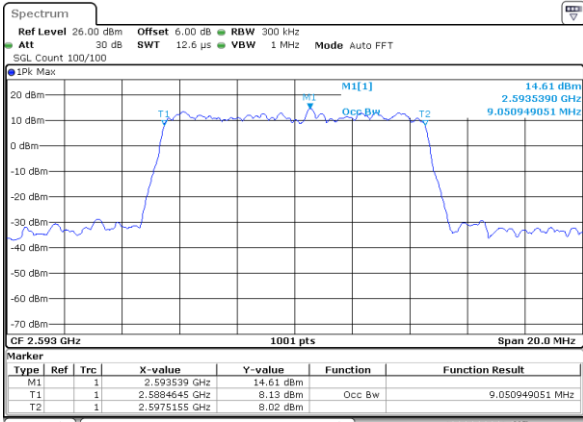
Mode	LTE Band 41 : 99%OBW(MHz)	
<b>BW</b>	<b>5MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	4.48	4.50
<b>BW</b>	<b>10MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	9.05	9.03
<b>BW</b>	<b>15MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	13.49	13.46
<b>BW</b>	<b>20MHz</b>	
<b>Mod.</b>	<b>QPSK</b>	<b>16QAM</b>
<b>Middle CH</b>	17.90	17.86





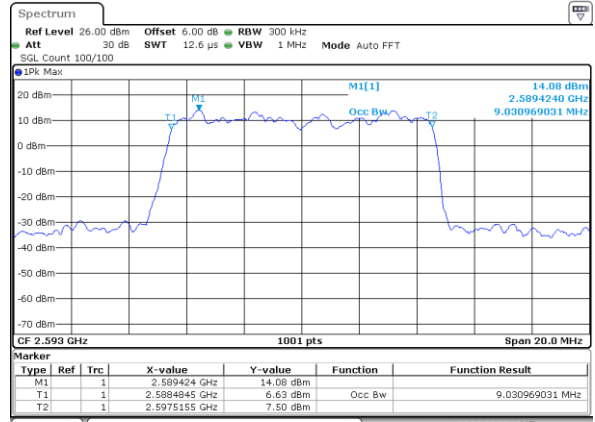
LTE Band 41

Middle Channel / 10MHz / QPSK



Date: 3..JUL.2023 17:04:39

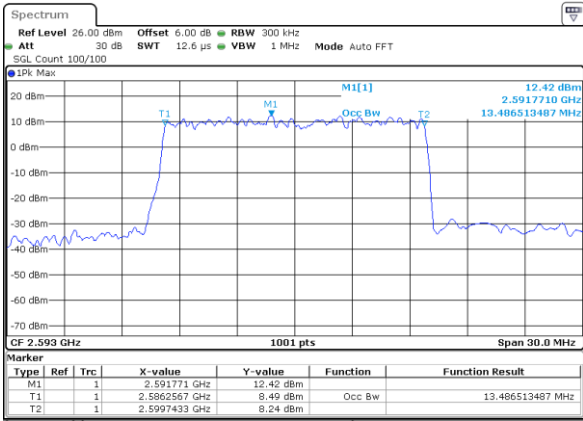
Middle Channel / 10MHz / 16QAM



Date: 3..JUL.2023 17:05:06

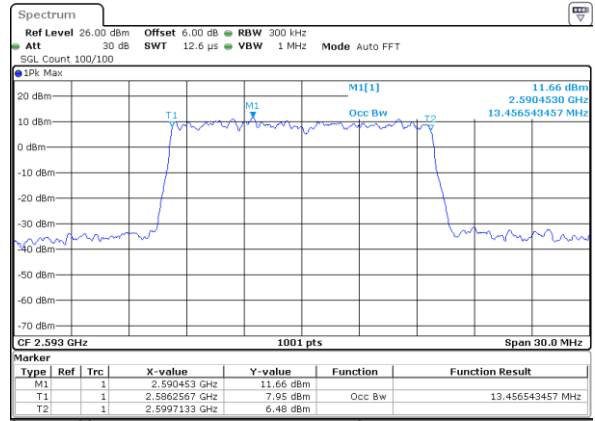
LTE Band 41

Middle Channel / 15MHz / QPSK



Date: 3..JUL.2023 17:02:51

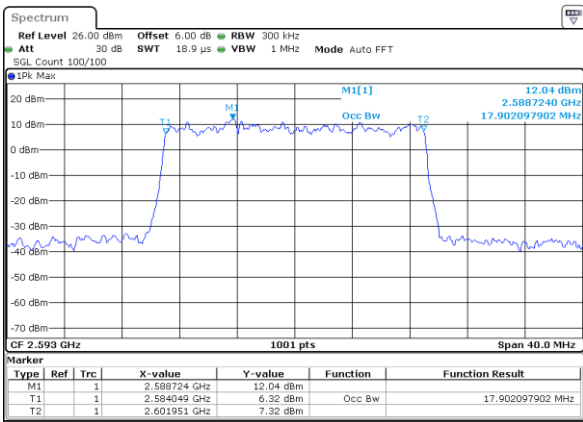
Middle Channel / 15MHz / 16QAM



Date: 3..JUL.2023 17:03:24

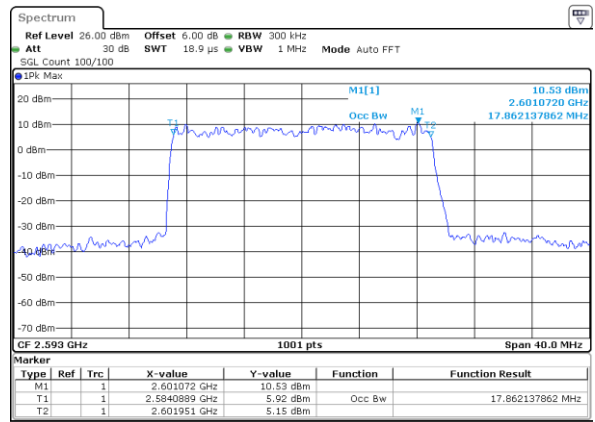
LTE Band 41

Middle Channel / 20MHz / QPSK



Date: 3..JUL.2023 17:01:21

Middle Channel / 20MHz / 16QAM



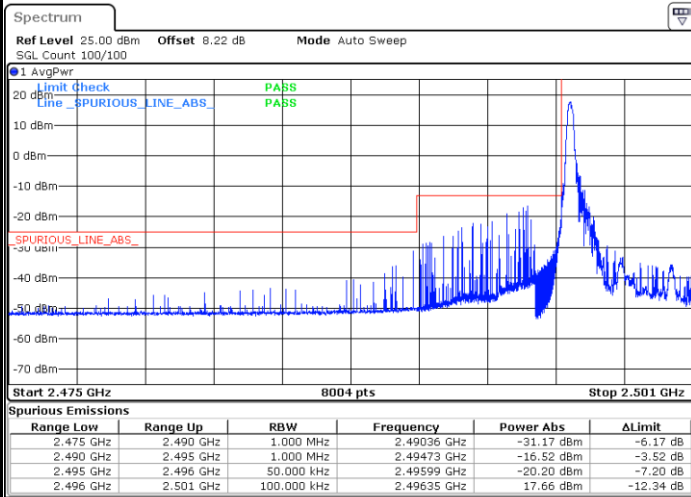
Date: 3..JUL.2023 17:00:25



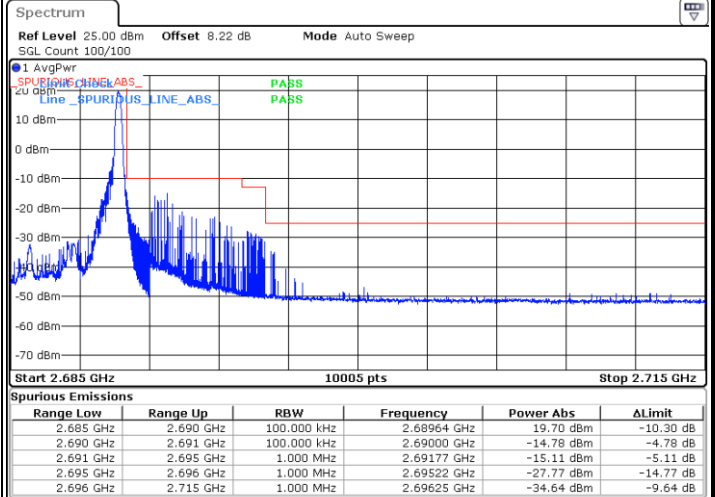
# Conducted Band Edge

## LTE Band 41 / 5MHz / QPSK

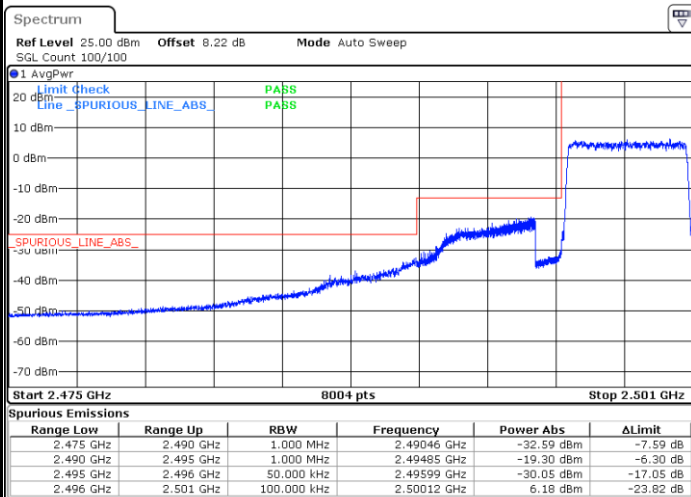
### Lowest Band Edge / 1 RB



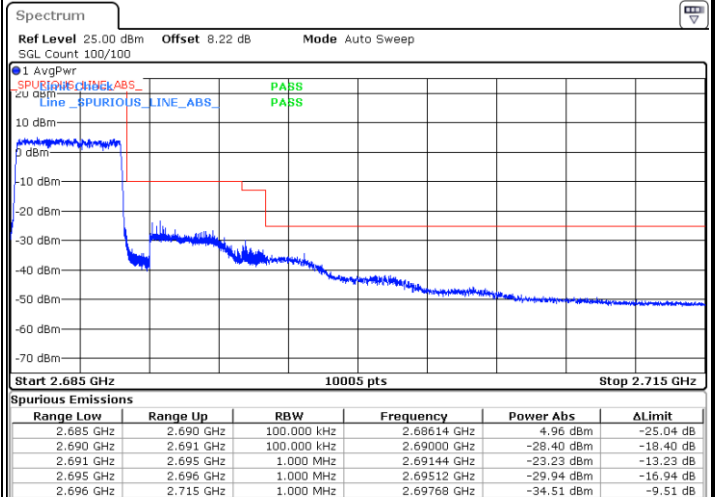
### Highest Band Edge / 1 RB



### Lowest Band Edge / Full RB



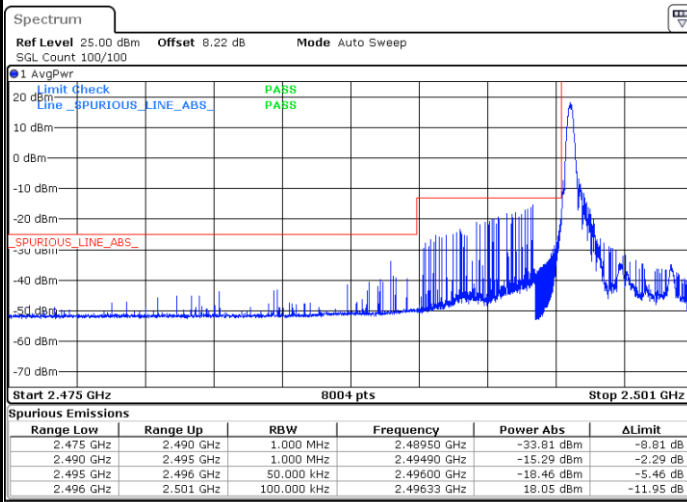
### Highest Band Edge / Full RB





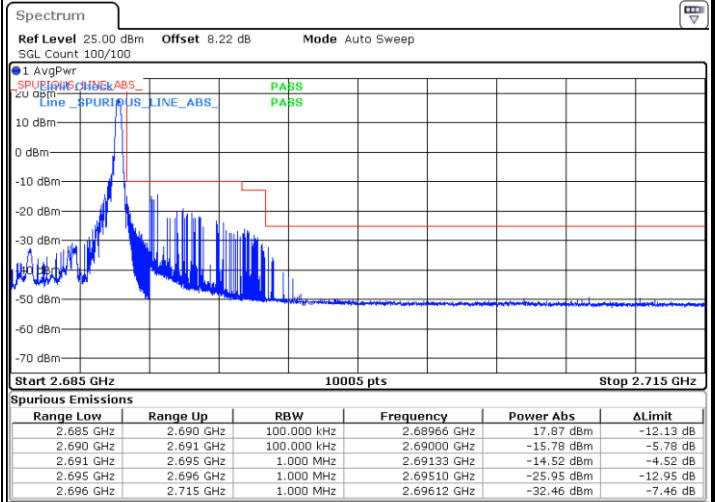
LTE Band 41 / 5MHz / 16QAM

Lowest Band Edge / 1RB



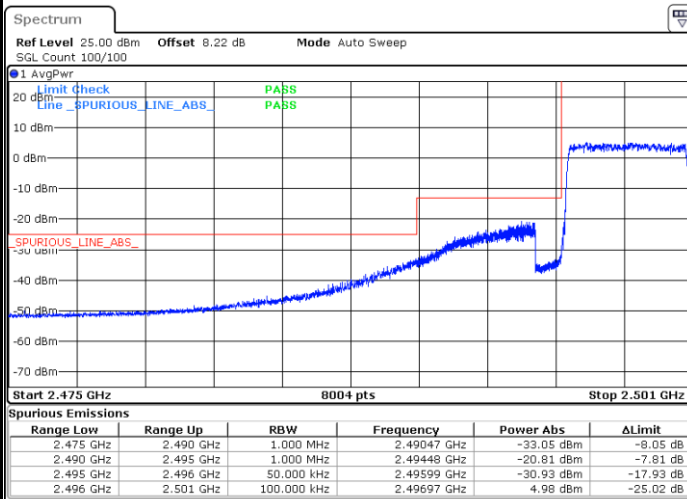
Date: 3.JUL.2023 15:28:48

Highest Band Edge / 1 RB



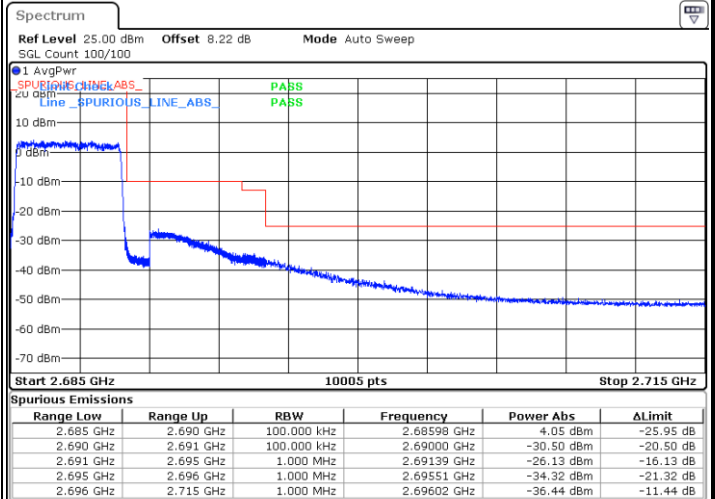
Date: 3.JUL.2023 16:13:15

Lowest Band Edge / Full RB



Date: 3.JUL.2023 15:32:54

Highest Band Edge / Full RB

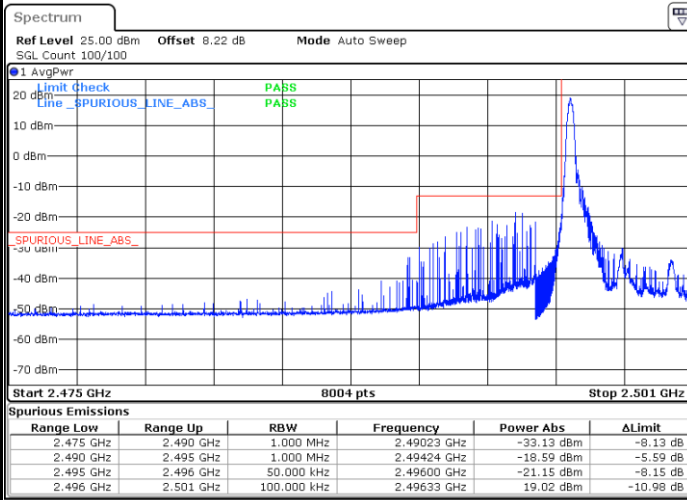


Date: 3.JUL.2023 16:15:22



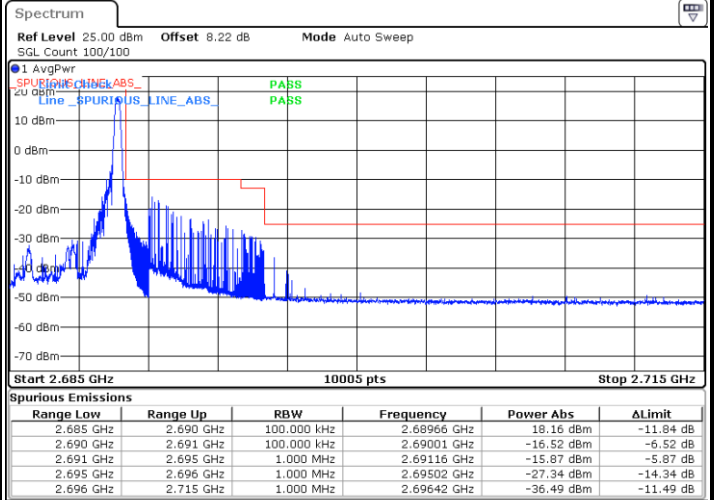
LTE Band 41 / 5MHz / 64QAM

Lowest Band Edge / 1RB



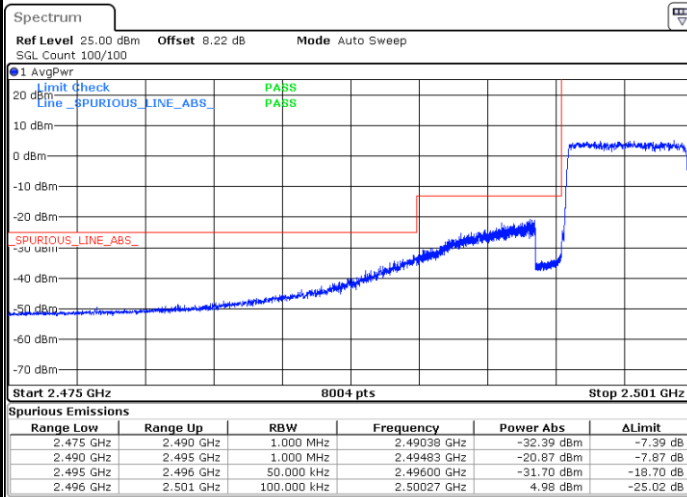
Date: 3.JUL.2023 15:31:33

Highest Band Edge / 1 RB



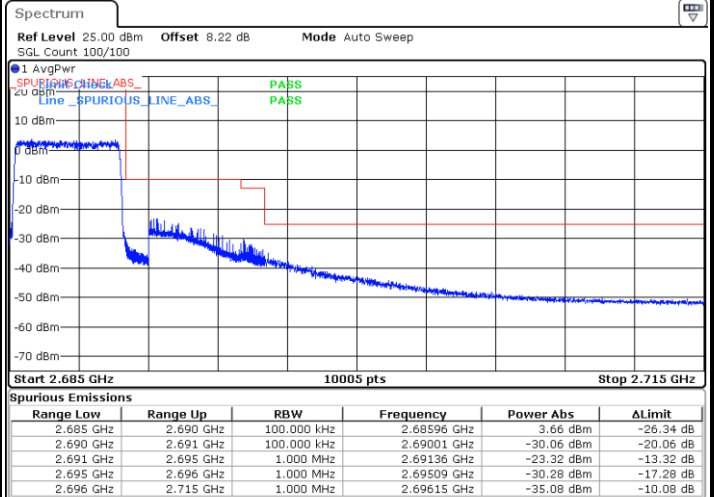
Date: 3.JUL.2023 16:13:44

Lowest Band Edge / Full RB



Date: 3.JUL.2023 15:32:19

Highest Band Edge / Full RB

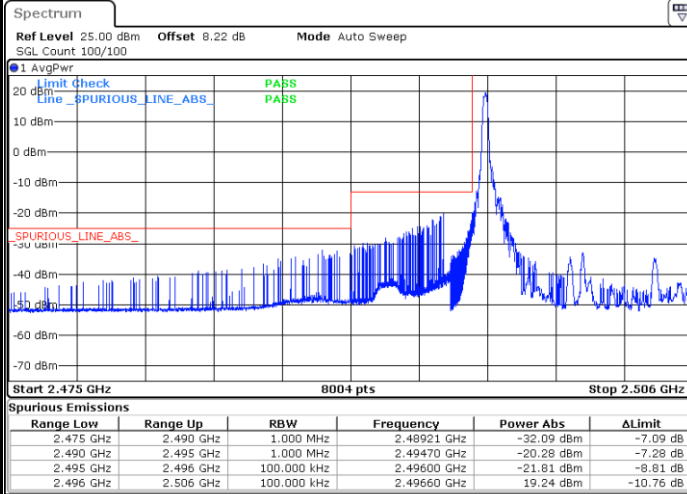


Date: 3.JUL.2023 16:17:26



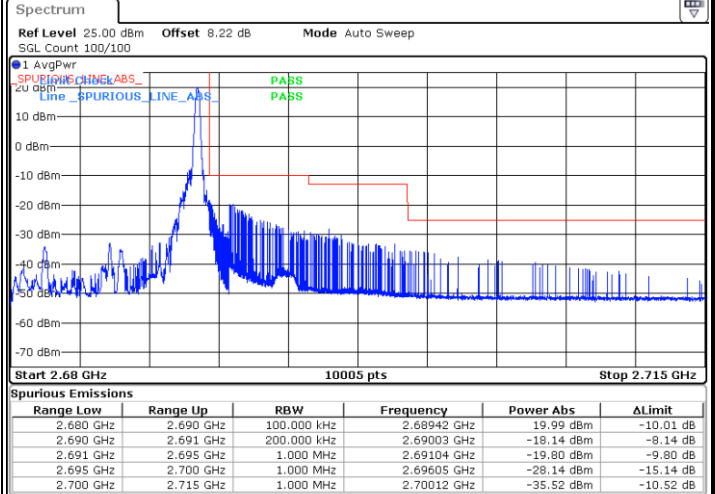
LTE Band 41 / 10MHz / QPSK

Lowest Band Edge / 1 RB



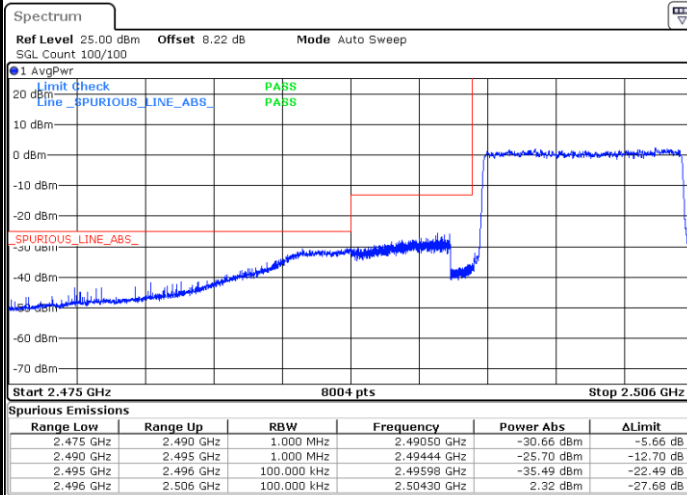
Date: 3.JUL.2023 16:19:36

Highest Band Edge / 1 RB



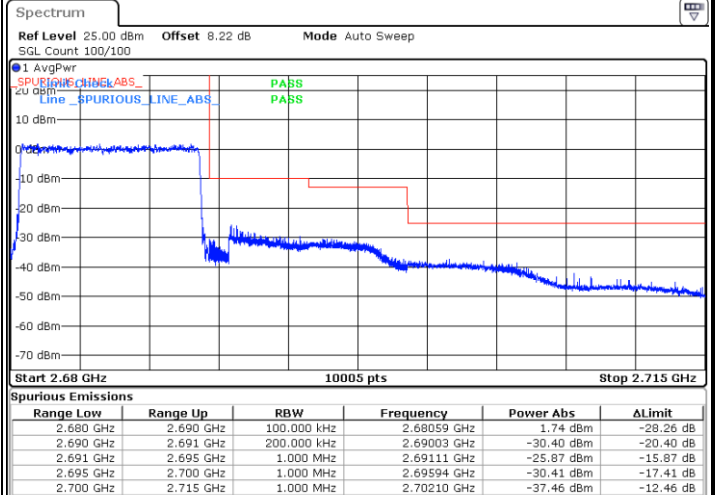
Date: 3.JUL.2023 16:27:08

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:23:01

Highest Band Edge / Full RB

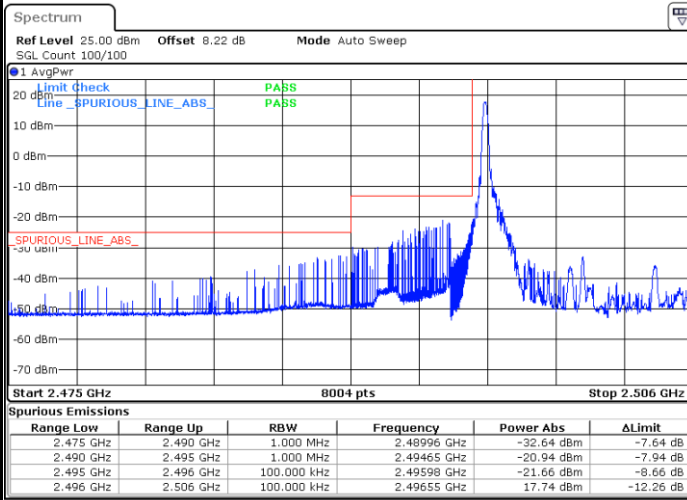


Date: 3.JUL.2023 16:28:33



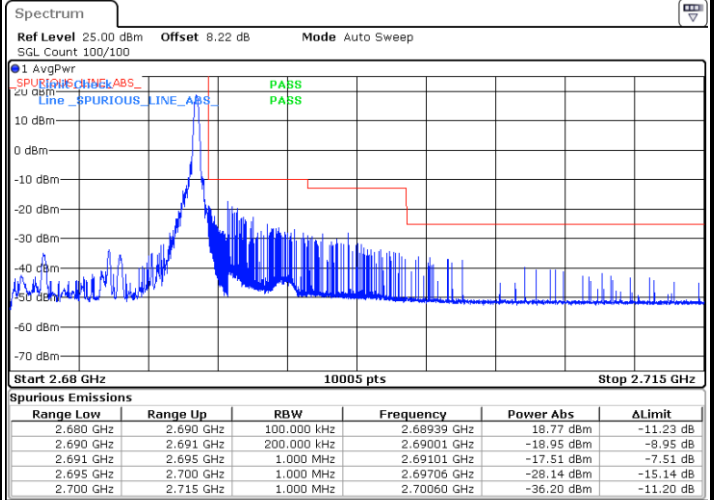
LTE Band 41 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



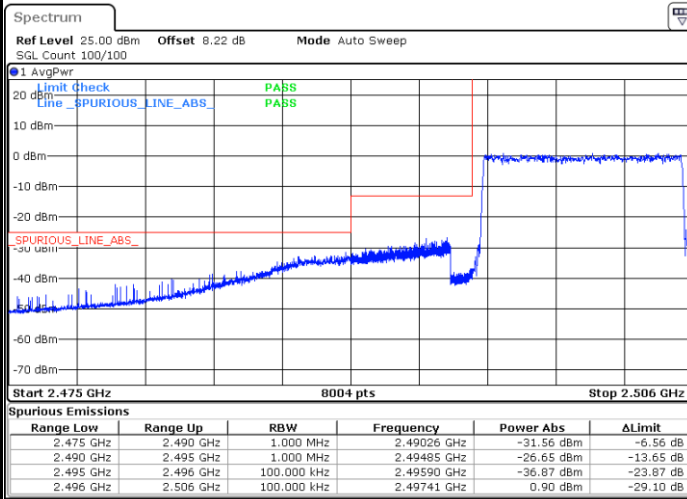
Date: 3.JUL.2023 16:21:32

Highest Band Edge / 1 RB



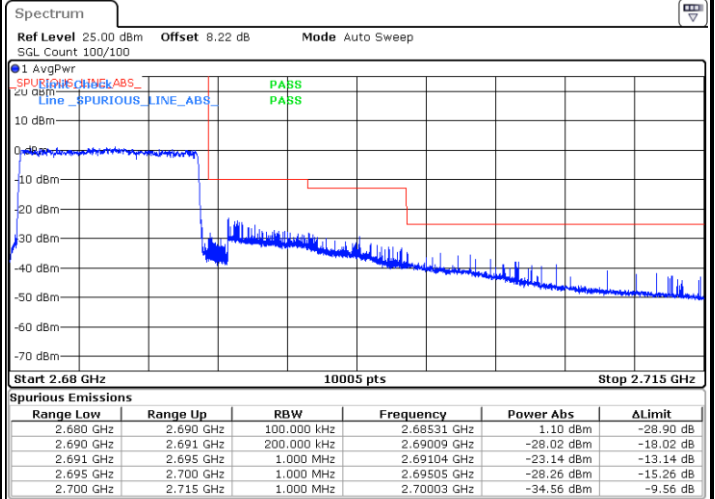
Date: 3.JUL.2023 16:27:21

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:22:38

Highest Band Edge / Full RB



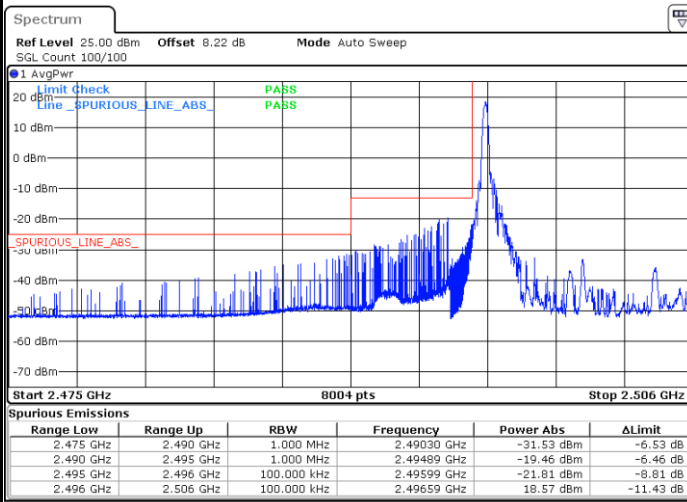
Date: 3.JUL.2023 16:28:06





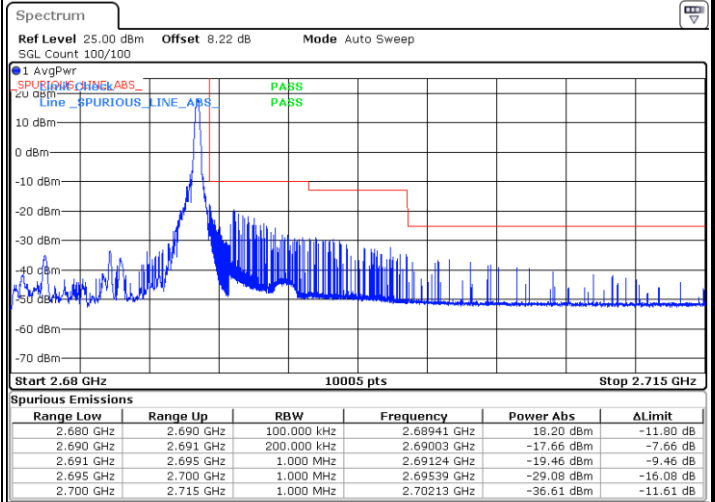
LTE Band 41 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



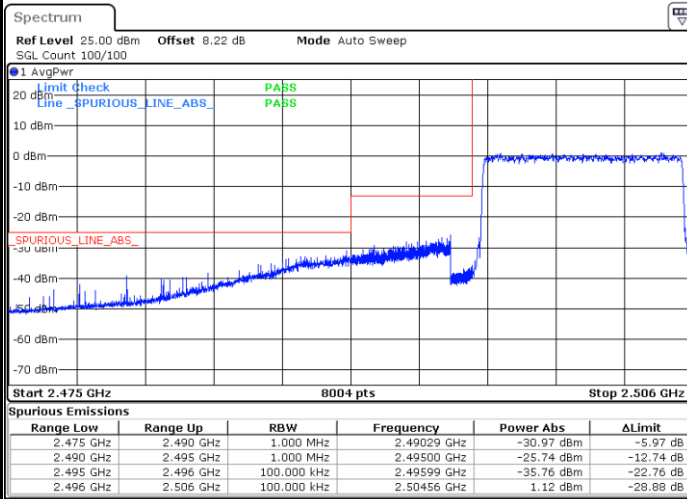
Date: 3.JUL.2023 16:21:52

Highest Band Edge / 1 RB



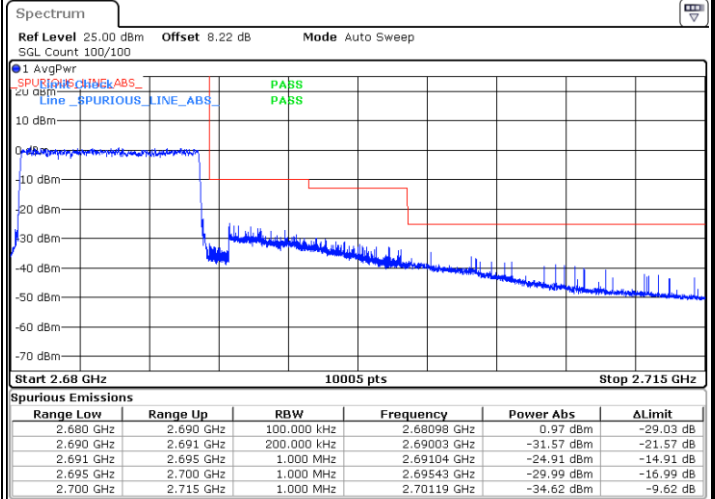
Date: 3.JUL.2023 16:27:33

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:22:18

Highest Band Edge / Full RB

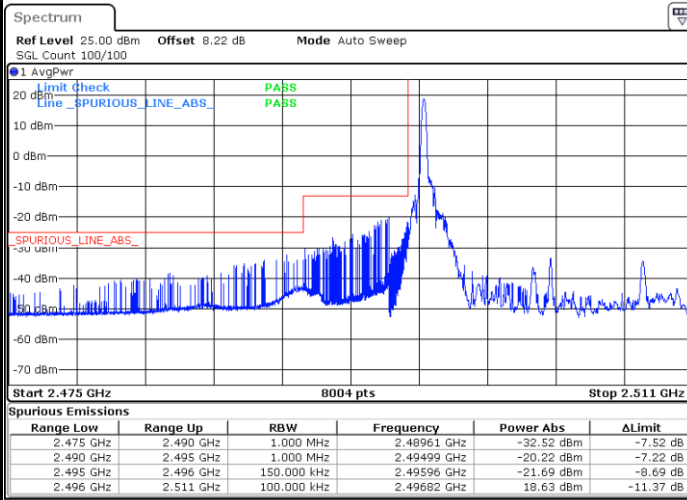


Date: 3.JUL.2023 16:27:52



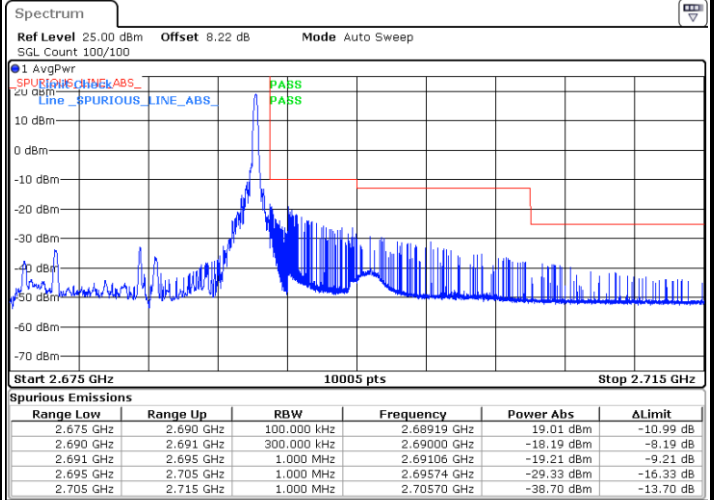
LTE Band 41 / 15MHz / QPSK

Lowest Band Edge / 1 RB



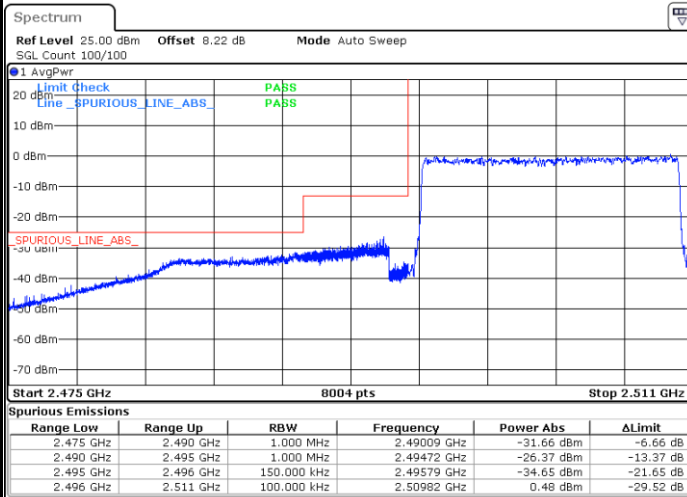
Date: 3.JUL.2023 16:30:25

Highest Band Edge / 1 RB



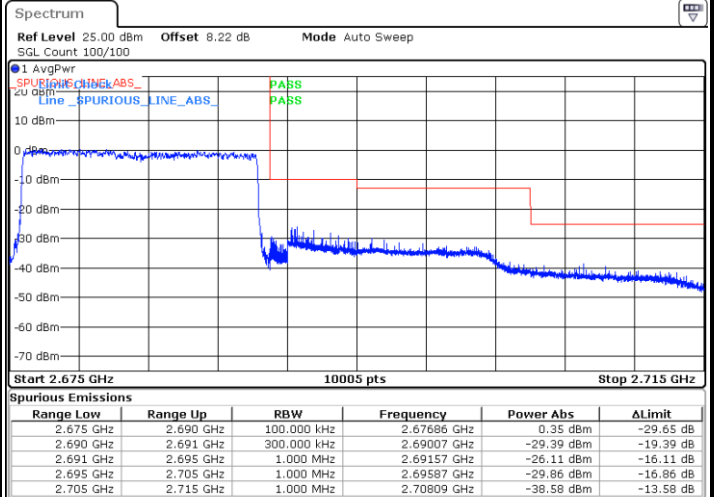
Date: 3.JUL.2023 16:37:53

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:33:51

Highest Band Edge / Full RB

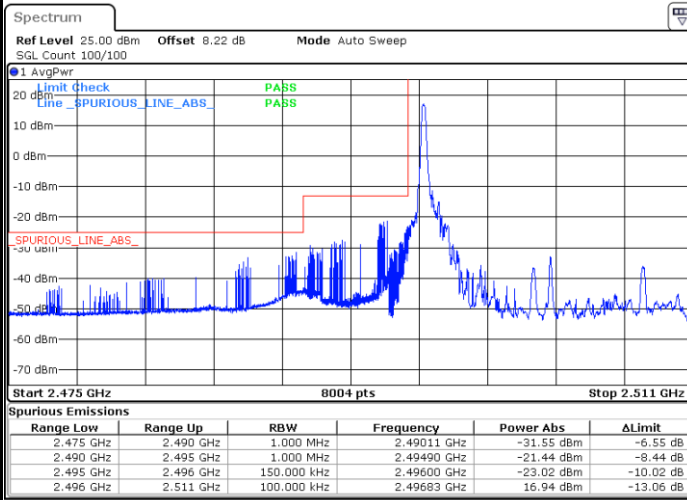


Date: 3.JUL.2023 16:39:37



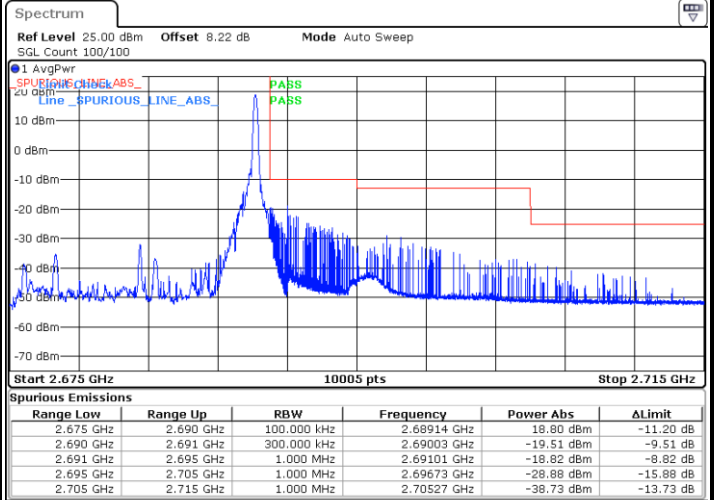
LTE Band 41 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



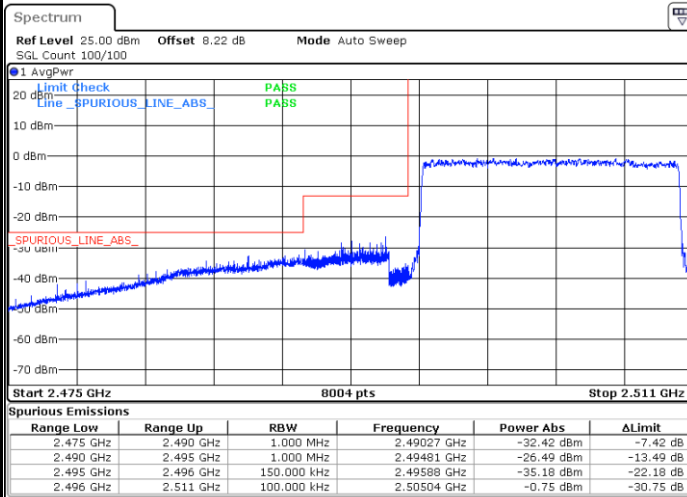
Date: 3.JUL.2023 16:30:44

Highest Band Edge / 1 RB



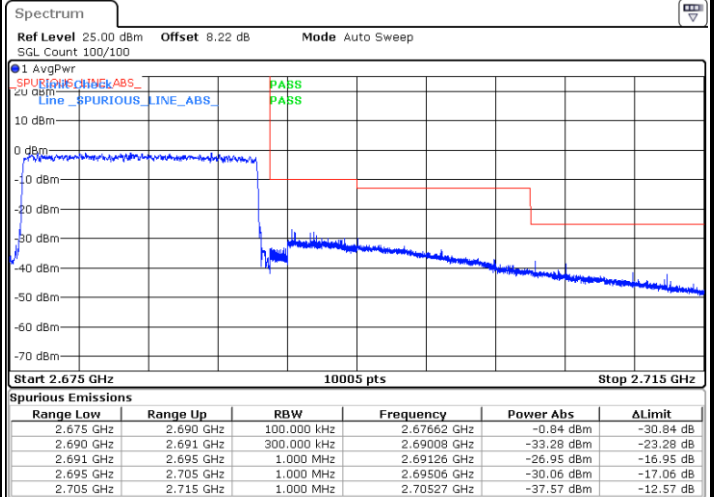
Date: 3.JUL.2023 16:38:16

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:33:27

Highest Band Edge / Full RB

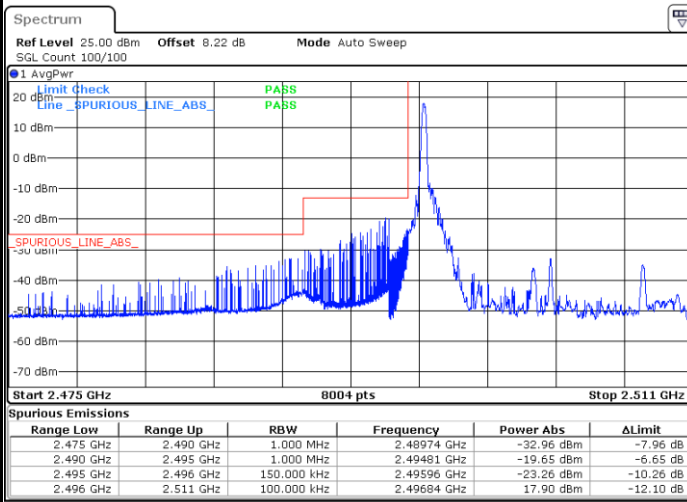


Date: 3.JUL.2023 16:39:19



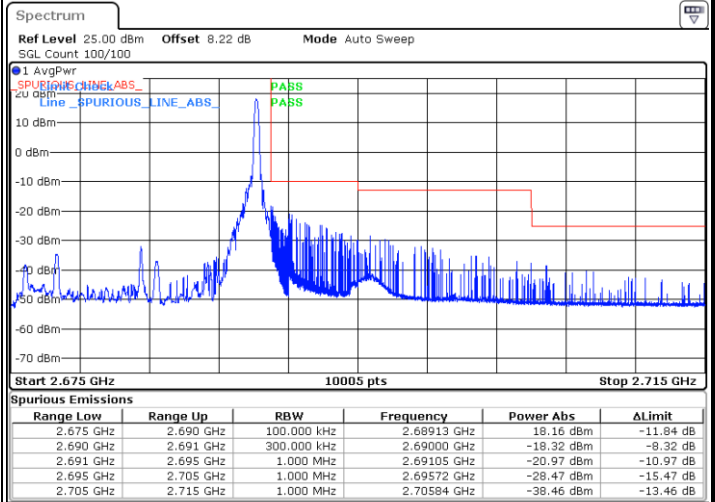
LTE Band 41 / 15MHz / 64QAM

Lowest Band Edge / 1 RB



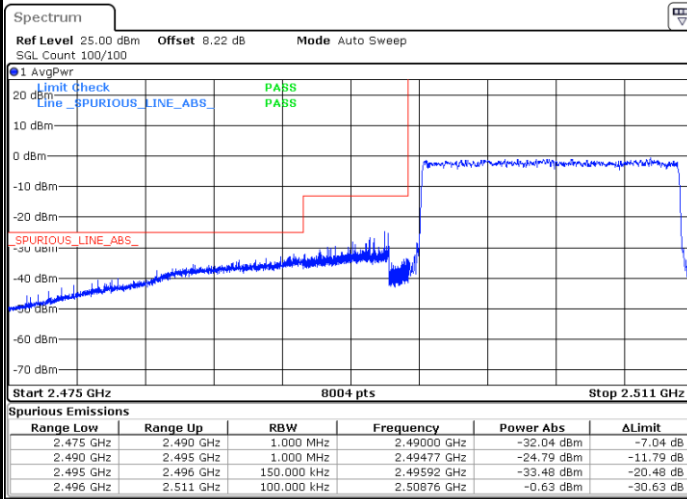
Date: 3.JUL.2023 16:31:04

Highest Band Edge / 1 RB



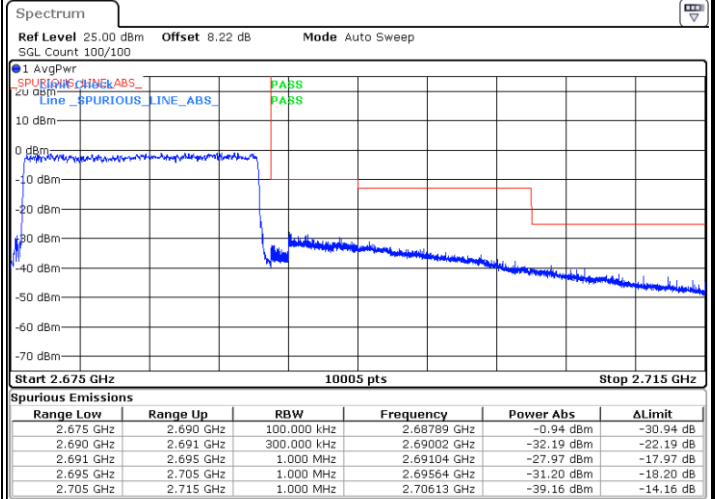
Date: 3.JUL.2023 16:38:35

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:31:23

Highest Band Edge / Full RB

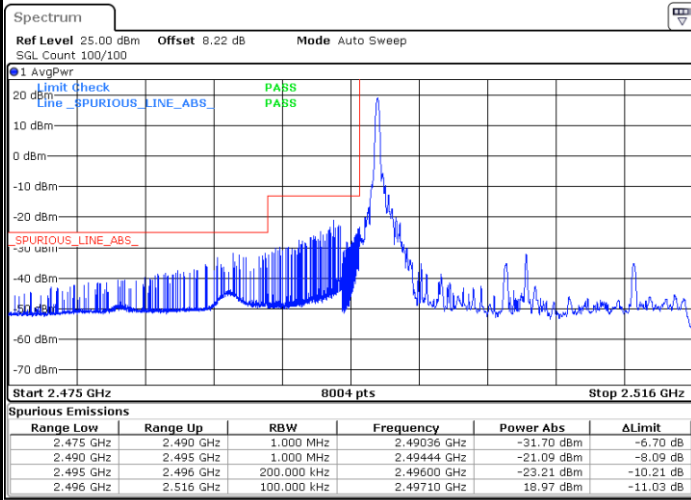


Date: 3.JUL.2023 16:39:01



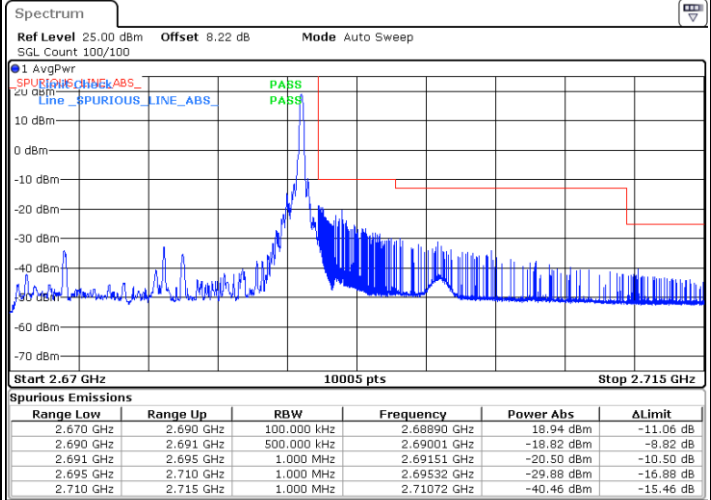
LTE Band 41 / 20MHz / QPSK

Lowest Band Edge / 1 RB



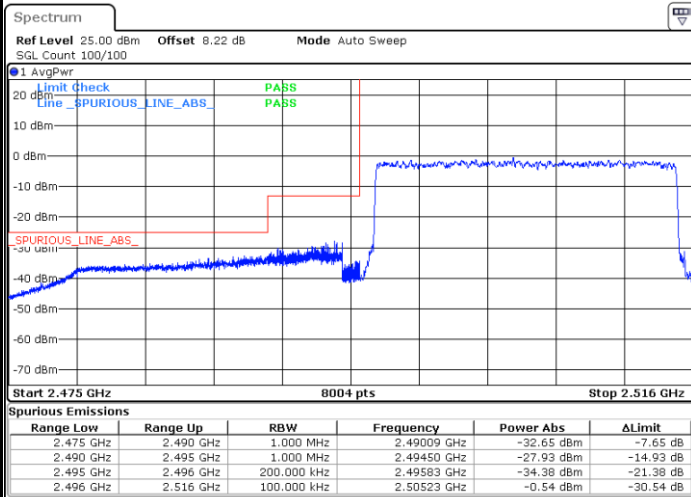
Date: 3.JUL.2023 16:42:11

Highest Band Edge / 1 RB



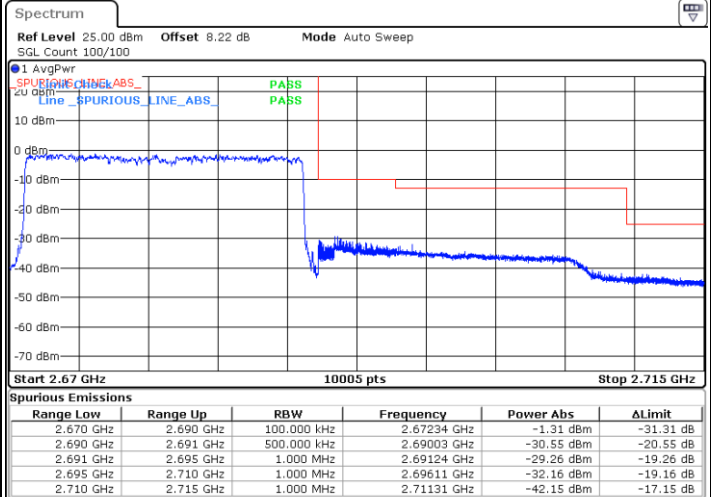
Date: 3.JUL.2023 16:47:36

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:43:34

Highest Band Edge / Full RB

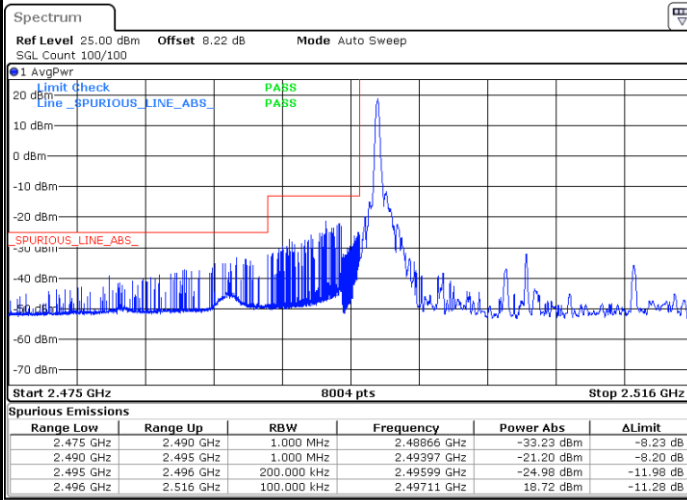


Date: 3.JUL.2023 16:50:49

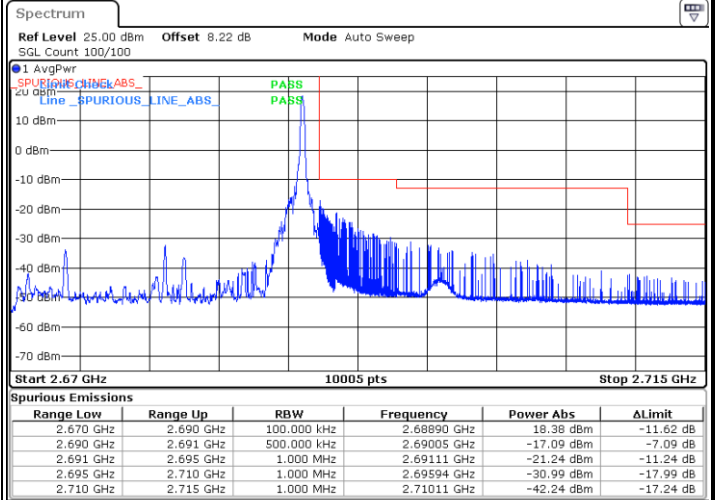


LTE Band 41 / 20MHz / 16QAM

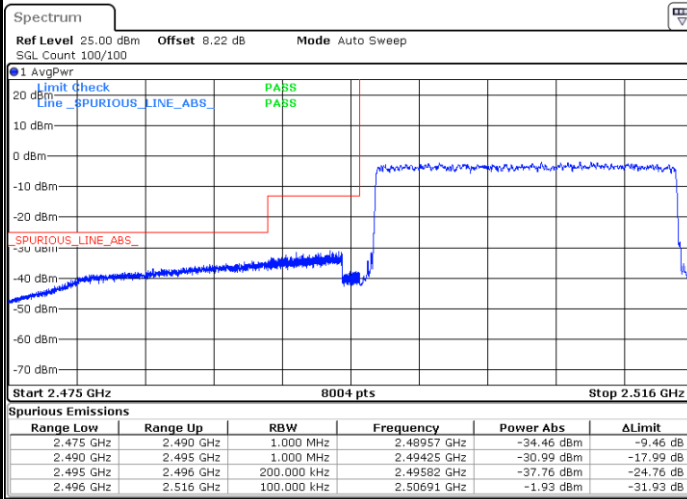
Lowest Band Edge / 1 RB



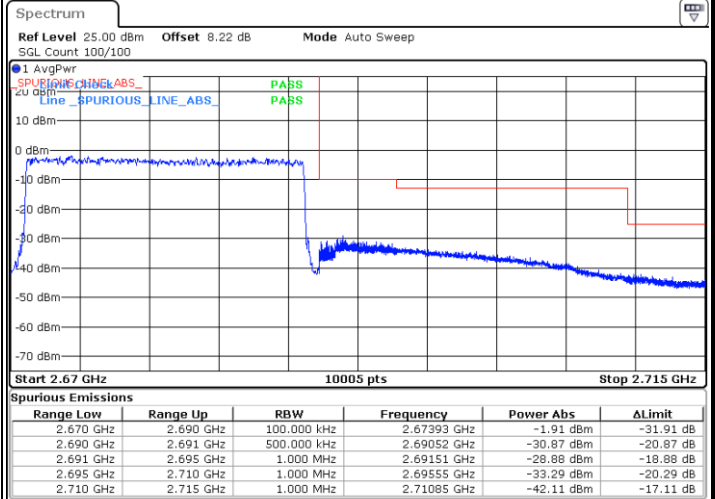
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



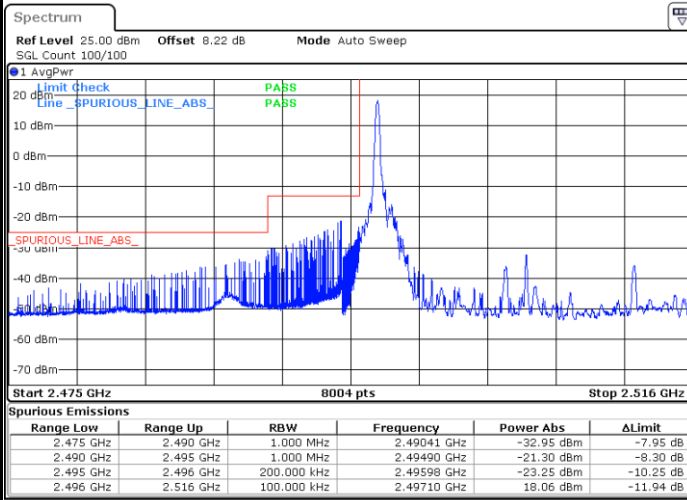
Highest Band Edge / Full RB





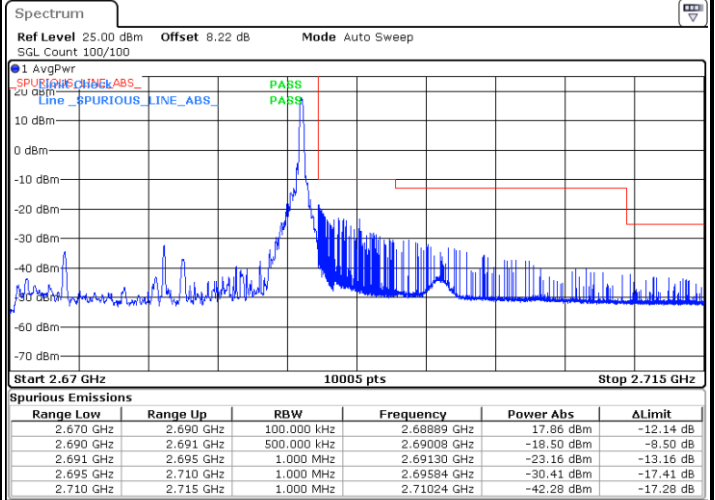
LTE Band 41 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



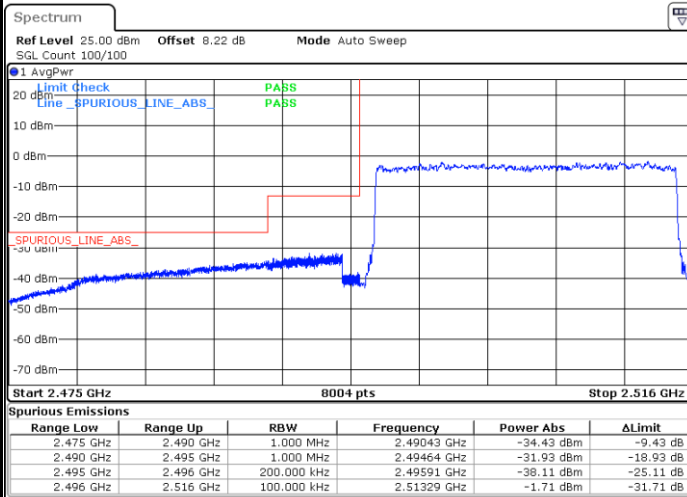
Date: 3.JUL.2023 16:42:40

Highest Band Edge / 1 RB



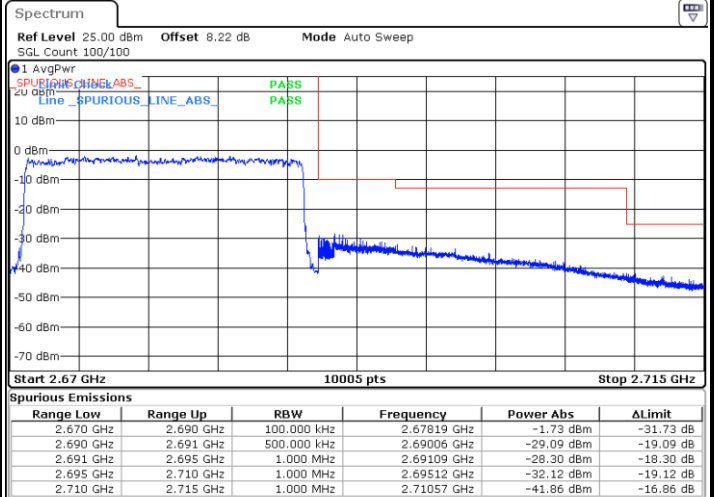
Date: 3.JUL.2023 16:49:33

Lowest Band Edge / Full RB



Date: 3.JUL.2023 16:42:57

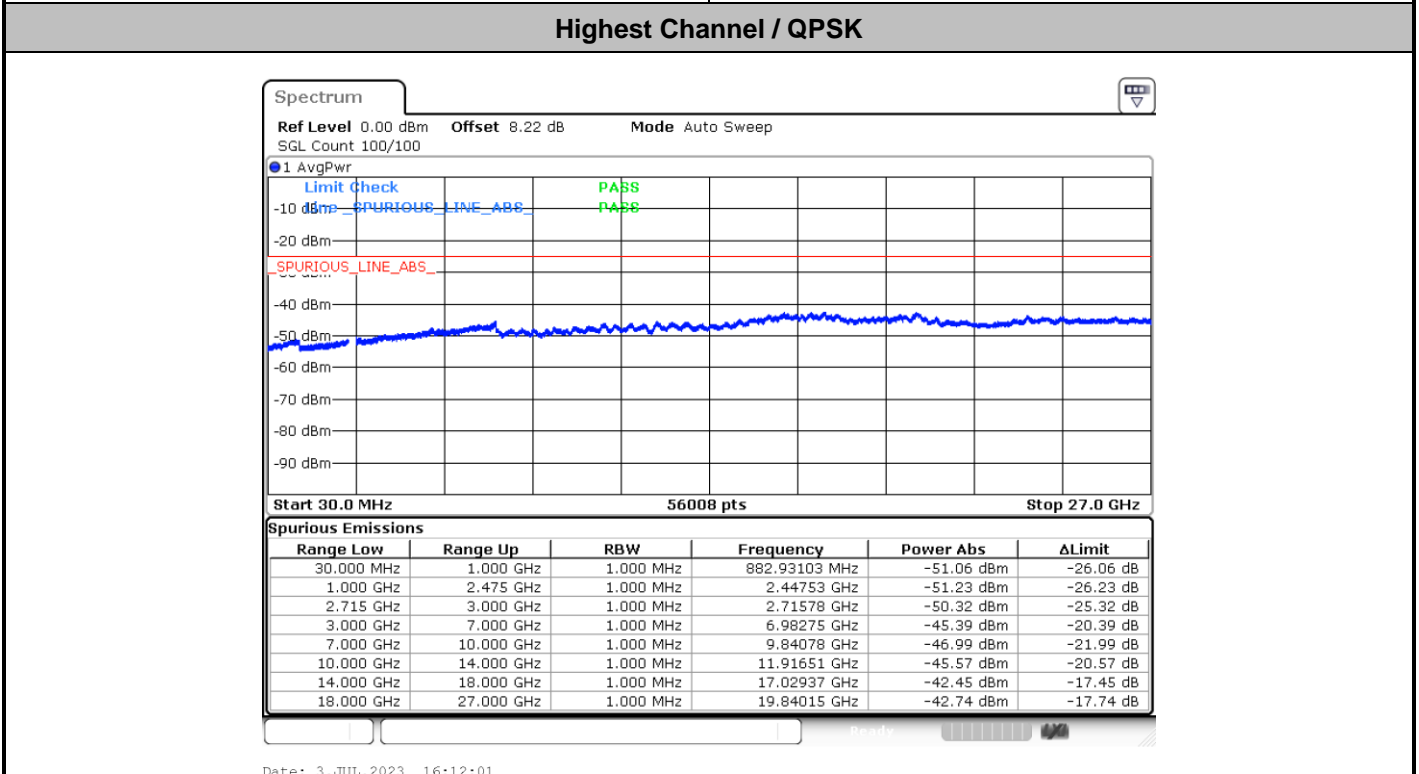
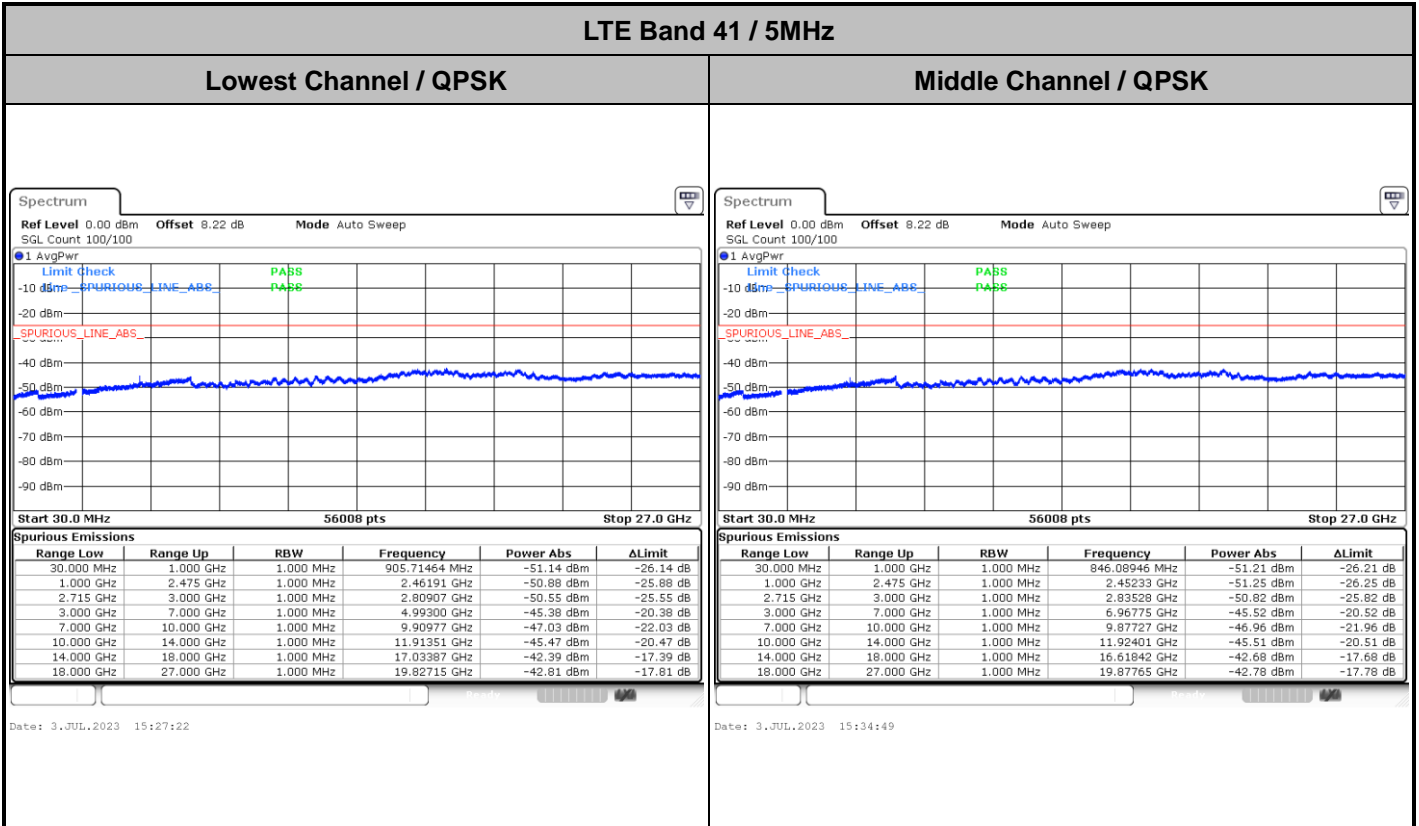
Highest Band Edge / Full RB



Date: 3.JUL.2023 16:50:17



# Conducted Spurious Emission



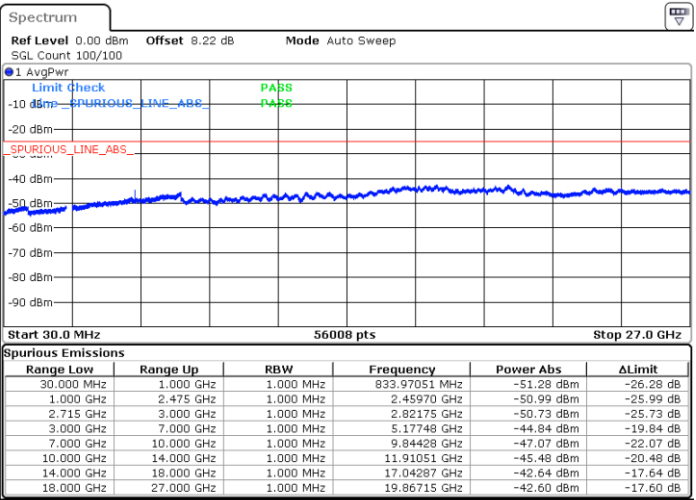
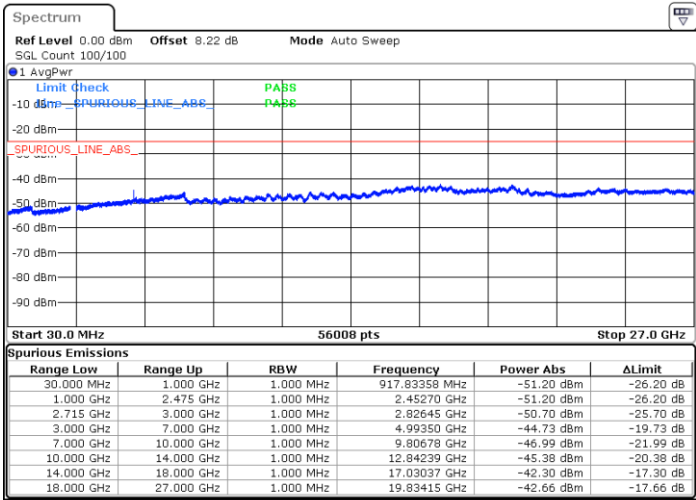




LTE Band 41 / 10MHz

Lowest Channel / QPSK

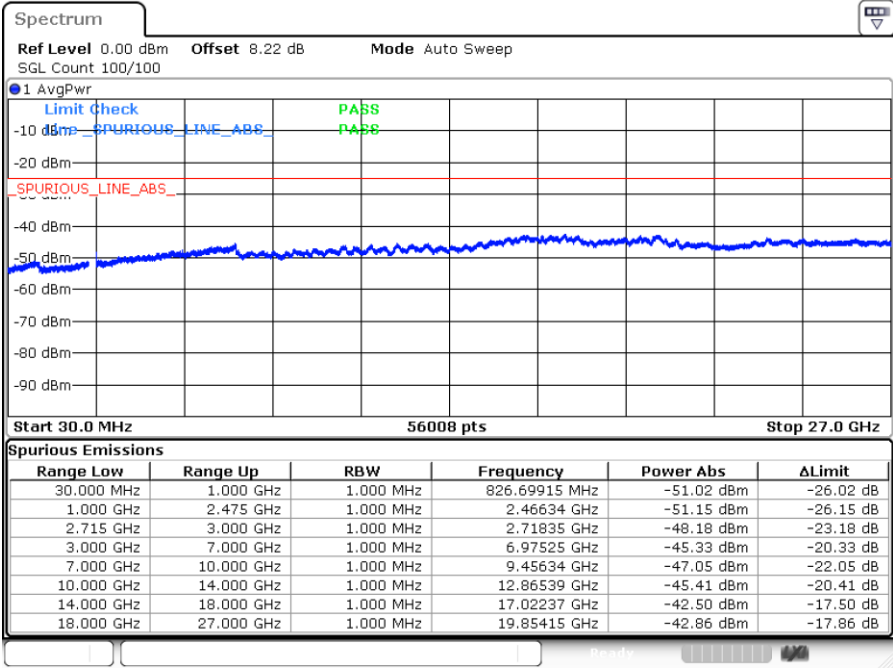
Middle Channel / QPSK



Date: 3.JUL.2023 16:20:30

Date: 3.JUL.2023 16:24:51

Highest Channel / QPSK



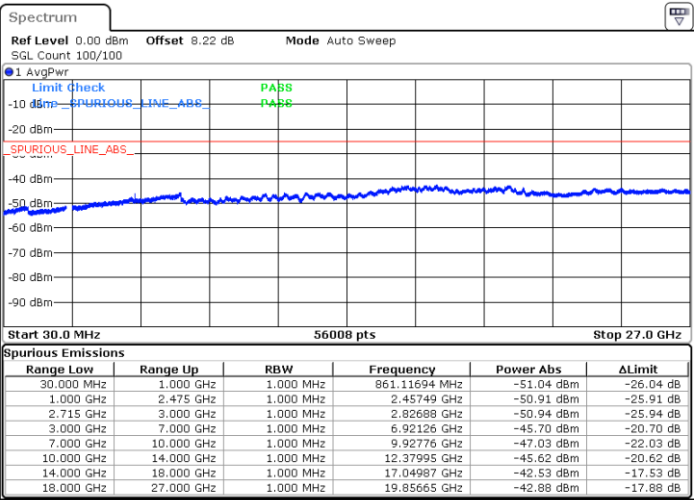
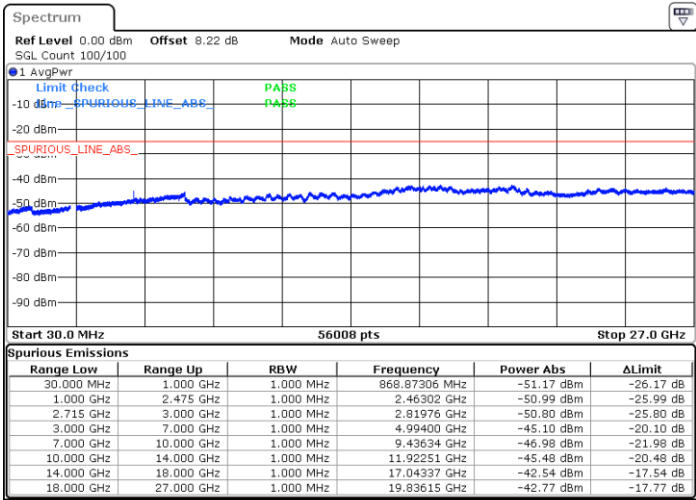
Date: 3.JUL.2023 16:26:48



LTE Band 41 / 15MHz

Lowest Channel / QPSK

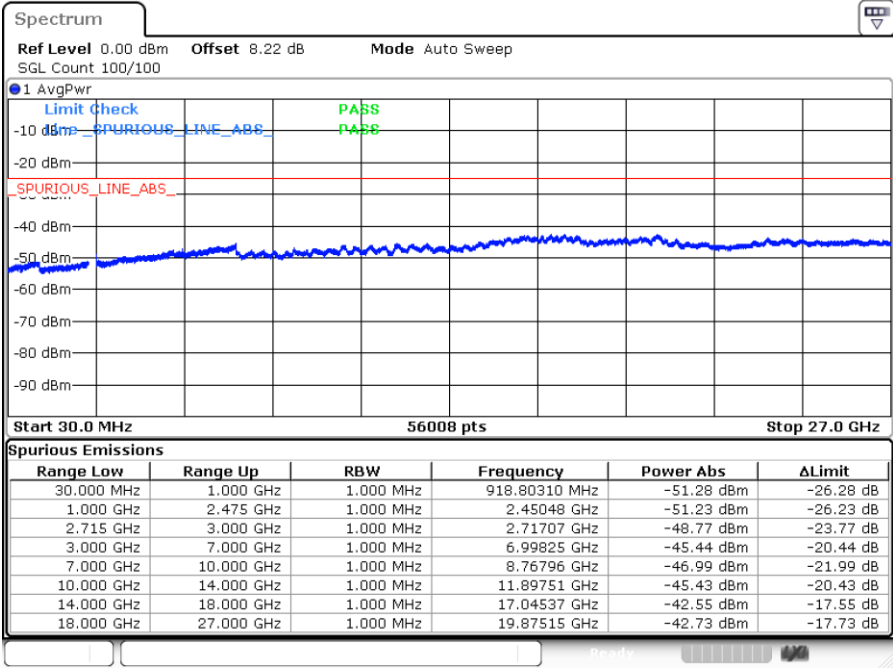
Middle Channel / QPSK



Date: 3.JUL.2023 16:30:12

Date: 3.JUL.2023 16:35:17

Highest Channel / QPSK



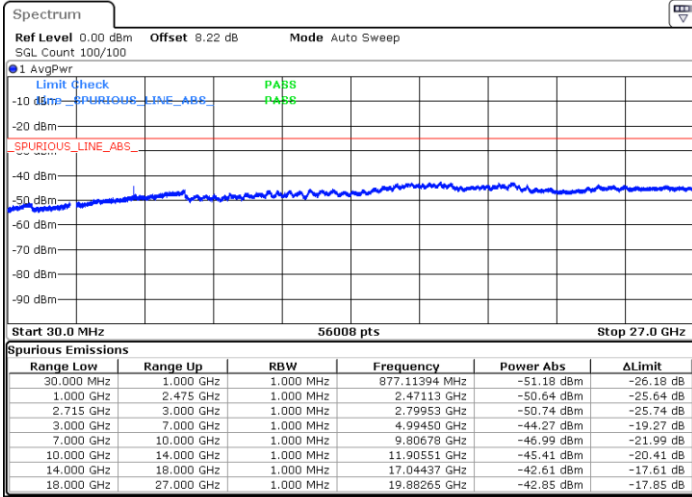
Date: 3.JUL.2023 16:37:12



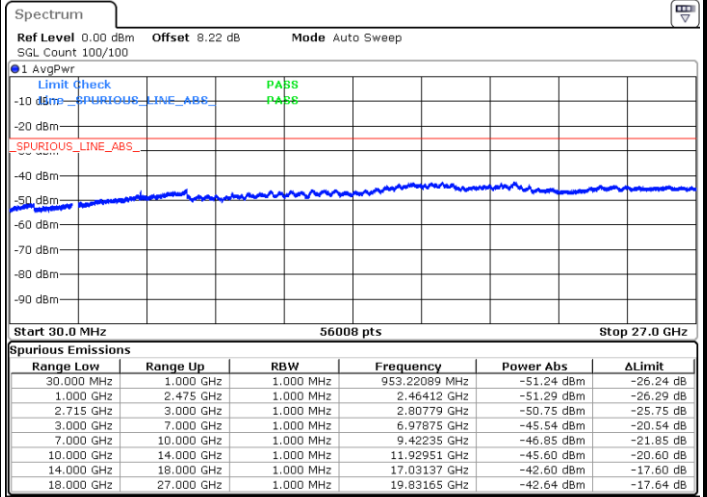
LTE Band 41 / 20MHz

Lowest Channel / QPSK

Middle Channel / QPSK

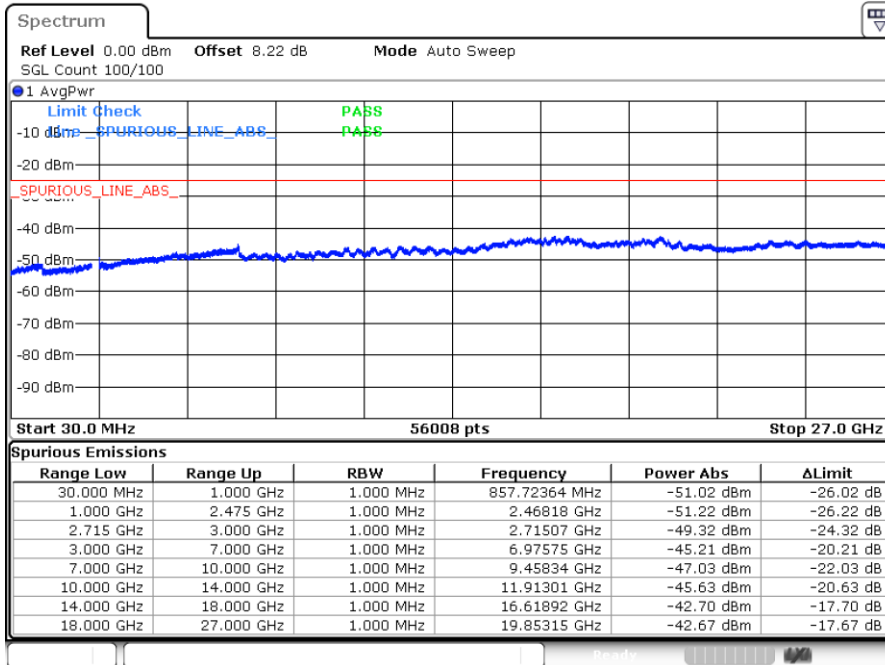


Date: 3.JUL.2023 16:41:56



Date: 3.JUL.2023 16:45:24

Highest Channel / QPSK



Date: 3.JUL.2023 16:47:00



Frequency Stability

Test Conditions		LTE Band 41 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0029	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0022	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0027	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0009	
20	Normal Voltage	0.0032	
20	Battery End Point	0.0017	

Note:

1. Normal Voltage =3.91V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## Appendix B. Test Results of Radiated Test

### Radiated Spurious Emission

Test Engineer :	Carl Ni	Temperature :	23~25°C
		Relative Humidity :	41~42%

LTE Band 2 / 20MHz / QPSK for Ant 0								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3735	-56.96	-13	-43.96	-69.22	2.64	14.90	H
	5610	-55.11	-13	-42.11	-66.97	2.94	14.80	H
	7485	-52.61	-13	-39.61	-62.38	3.39	13.16	H
	3735	-56.96	-13	-43.96	-69.22	2.64	14.90	V
	5610	-55.24	-13	-42.24	-67.10	2.94	14.80	V
	7485	-52.78	-13	-39.78	-62.55	3.39	13.16	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 38C_CA / 20MHz+20MHz / QPSK for Ant 4								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
PCC Middle (1RB0)	5148	-63.35	-25	-38.35	-73.56	3.03	13.24	H
	7724	-61.79	-25	-36.79	-71.24	3.56	13.01	H
	10300	-61.13	-25	-36.13	-70.65	3.92	13.44	H
	5148	-63.24	-25	-38.24	-73.45	3.03	13.24	V
	7724	-62.10	-25	-37.10	-71.55	3.56	13.01	V
	10300	-58.73	-25	-33.73	-68.25	3.92	13.44	V
SCC Middle (1RBMax)	5190	-62.52	-25	-37.52	-72.73	3.03	13.24	H
	7780	-62.01	-25	-37.01	-71.46	3.56	13.01	H
	10370	-61.09	-25	-36.09	-70.61	3.92	13.44	H
	5190	-62.43	-25	-37.43	-72.64	3.03	13.24	V
	7780	-62.26	-25	-37.26	-71.71	3.56	13.01	V
	10370	-61.79	-25	-36.79	-71.31	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 41 / 20MHz / QPSK for Ant 4								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5162	-58.44	-25	-33.44	-68.65	3.03	13.24	H
	7752	-54.81	-25	-29.81	-64.26	3.56	13.01	H
	10342	-50.80	-25	-25.80	-60.32	3.92	13.44	H
	12918	-58.87	-25	-33.87	-67.91	4.39	13.43	H
	5162	-57.38	-25	-32.38	-67.59	3.03	13.24	V
	7752	-52.97	-25	-27.97	-62.42	3.56	13.01	V
	10342	-44.19	-25	-19.19	-53.71	3.92	13.44	V
12918	-56.56	-25	-31.56	-65.60	4.39	13.43	V	

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

For Other PA:

ENDC_7A-N5A (ANT4+0)								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5050	-62.79	-25	-37.79	-73.00	3.03	13.24	H
	7584	-62.44	-25	-37.44	-71.89	3.56	13.01	H
	10104	-61.40	-25	-36.40	-70.92	3.92	13.44	H
	5050	-63.14	-25	-38.14	-73.35	3.03	13.24	V
	7584	-62.44	-25	-37.44	-71.89	3.56	13.01	V
	10104	-61.71	-25	-36.71	-71.23	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

ENDC_38A-N78A (ANT1+5)								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5176	-62.98	-25	-37.98	-73.19	3.03	13.24	H
	7758	-61.90	-25	-36.90	-71.35	3.56	13.01	H
	10342	-60.97	-25	-35.97	-70.49	3.92	13.44	H
	5176	-62.89	-25	-37.89	-73.10	3.03	13.24	V
	7758	-61.47	-25	-36.47	-70.92	3.56	13.01	V
	10342	-61.33	-25	-36.33	-70.85	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



ENDC_41A-N78A (ANT1+5)								
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5162	-63.08	-25	-38.08	-73.29	3.03	13.24	H
	7752	-61.55	-25	-36.55	-71.00	3.56	13.01	H
	10342	-60.96	-25	-35.96	-70.48	3.92	13.44	H
	5162	-63.21	-25	-38.21	-73.42	3.03	13.24	V
	7752	-61.54	-25	-36.54	-70.99	3.56	13.01	V
	10342	-61.80	-25	-36.80	-71.32	3.92	13.44	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.