

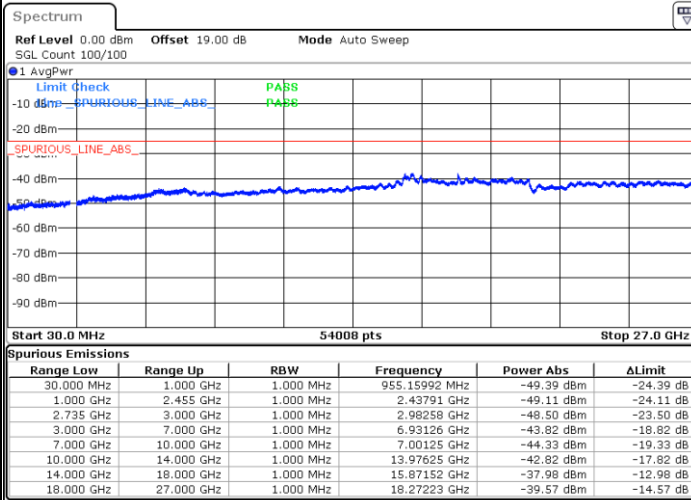


LTE Band 41C / 20MHz+10MHz

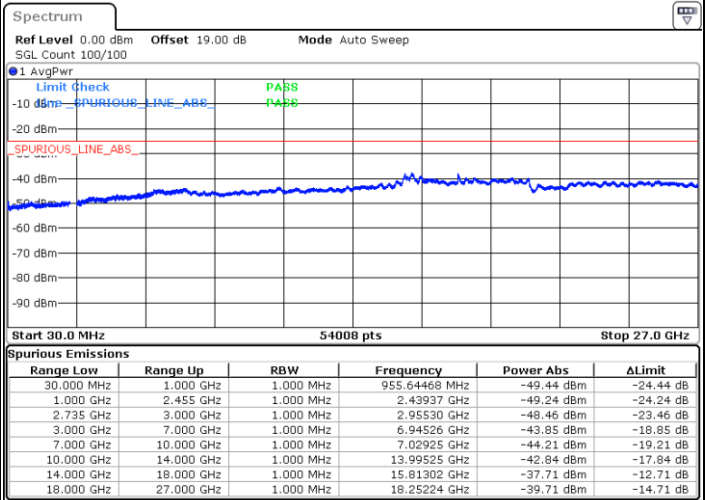
QPSK

Lowest Channel / 1RB99 and 1RB0

Middle Channel / 1RB99 and 1RB0

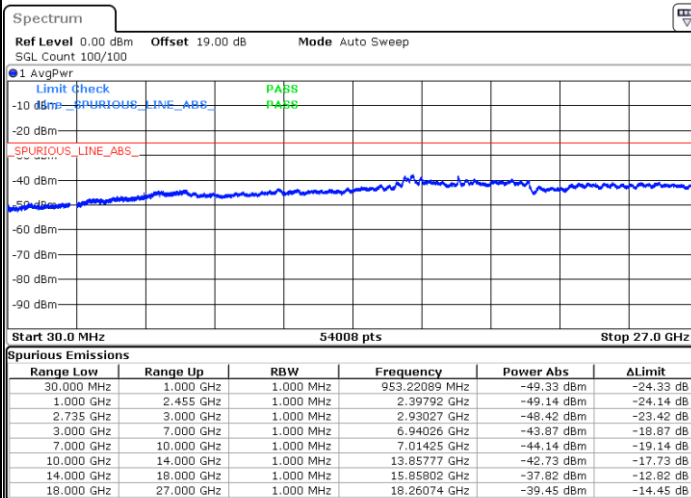


Date: 11.APR.2024 21:06:10



Date: 11.APR.2024 21:04:39

Highest Channel / 1RB99 and 1RB0



Date: 11.APR.2024 21:39:09

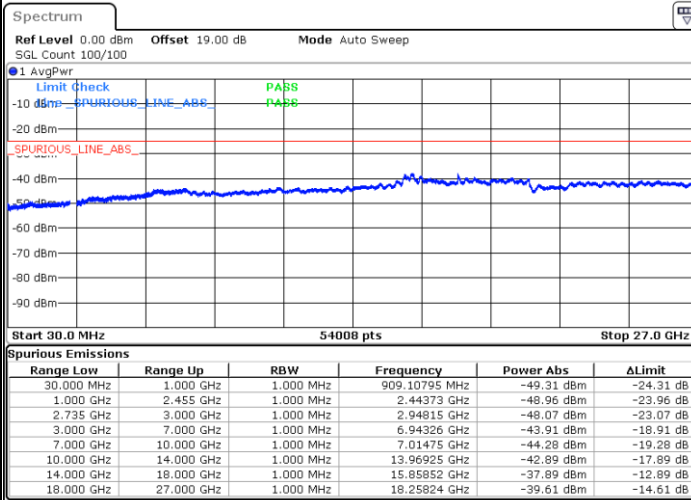


LTE Band 41C / 20MHz+15MHz

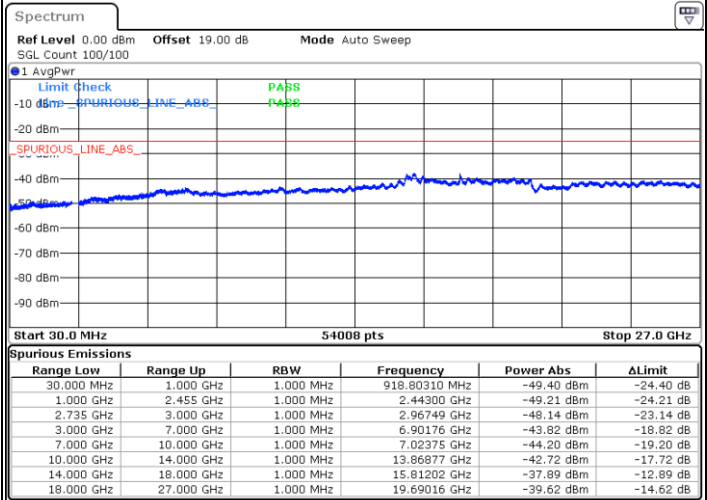
QPSK

Lowest Channel / 1RB99 and 1RB0

Middle Channel / 1RB99 and 1RB0

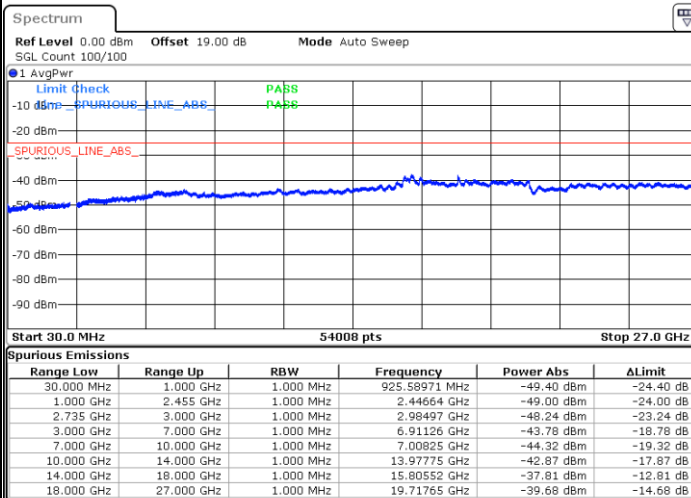


Date: 11.APR.2024 22:54:42



Date: 11.APR.2024 22:53:11

Highest Channel / 1RB99 and 1RB0



Date: 11.APR.2024 23:22:22

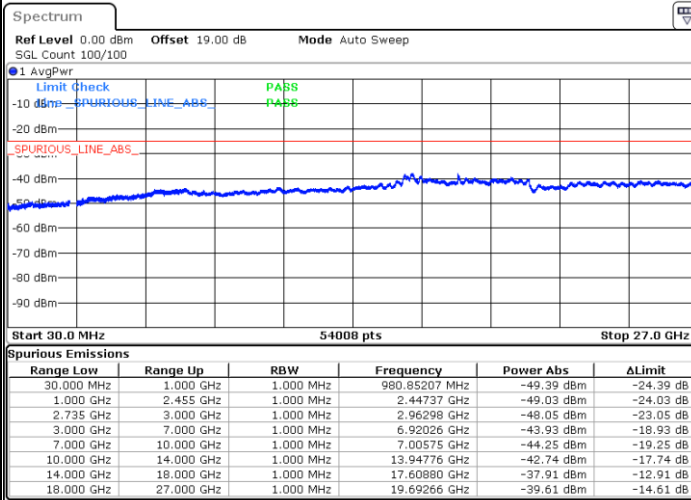


LTE Band 41C / 20MHz+20MHz

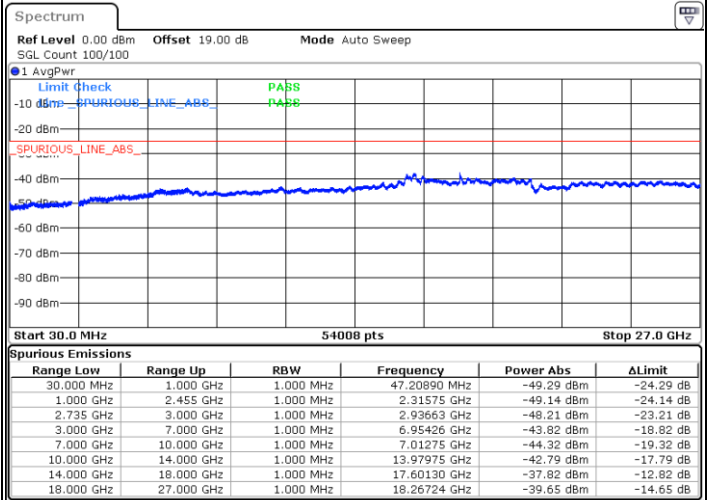
QPSK

Lowest Channel / 1RB99 and 1RB0

Middle Channel / 1RB99 and 1RB0

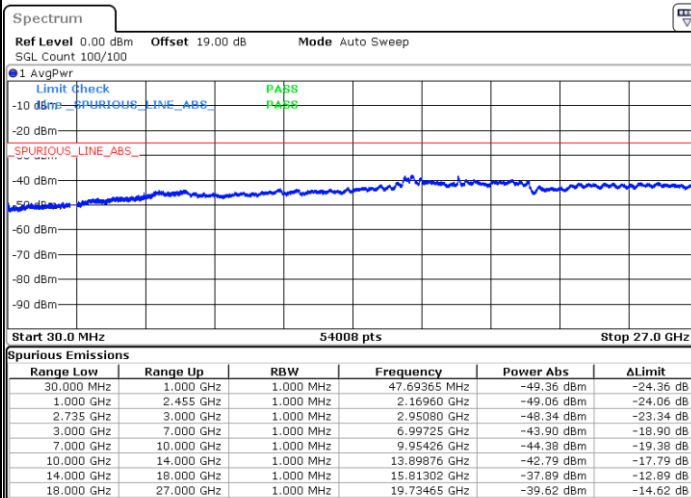


Date: 11.APR.2024 23:27:44



Date: 11.APR.2024 23:26:18

Highest Channel / 1RB99 and 1RB0



Date: 11.APR.2024 23:53:37



A7. LTE Band 71

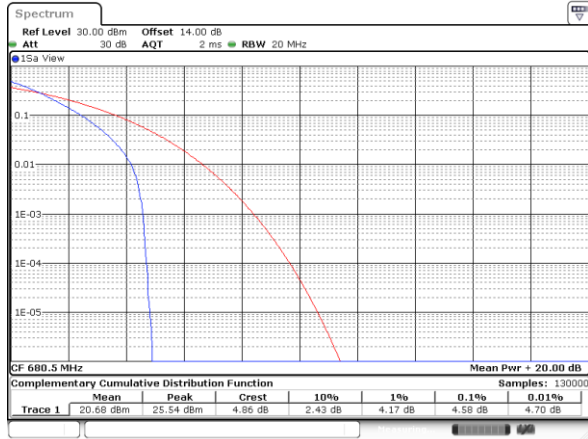
A7.1 Peak-to-Average Ratio

Mode	LTE Band 71 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	4.58	5.74	6.38	PASS



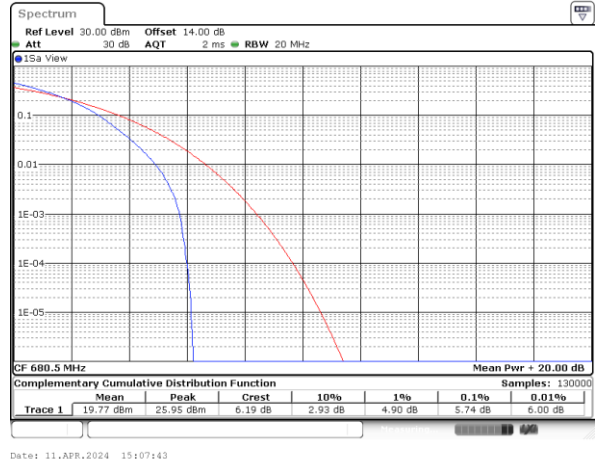
LTE Band 71 / 20MHz / QPSK

Middle Channel / Full RB



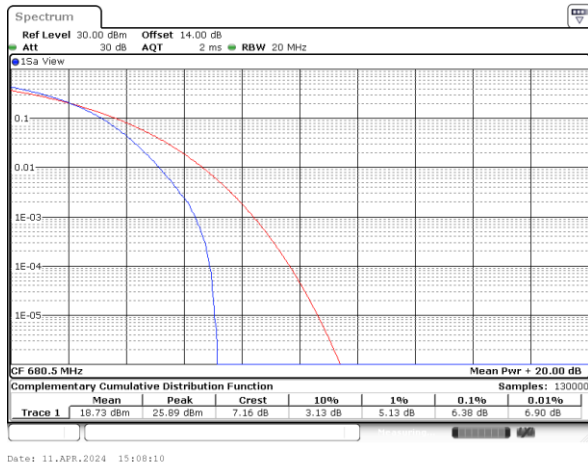
LTE Band 71 / 20MHz / 16QAM

Middle Channel / Full RB



LTE Band 71 / 20MHz / 64QAM

Middle Channel / Full RB





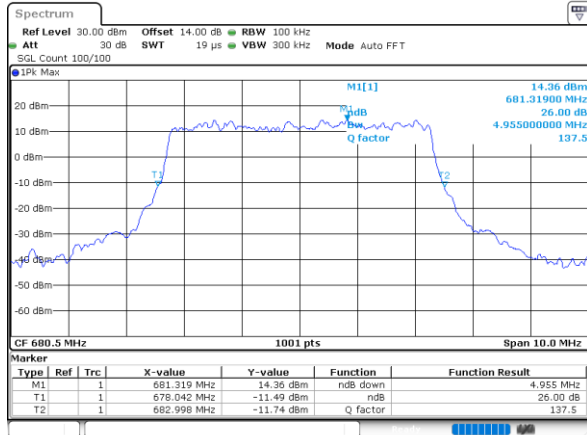
A7.2 26dB Bandwidth

Mode	LTE Band 71 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	4.96	4.97	9.97	9.69	14.57	14.21	19.30	19.22

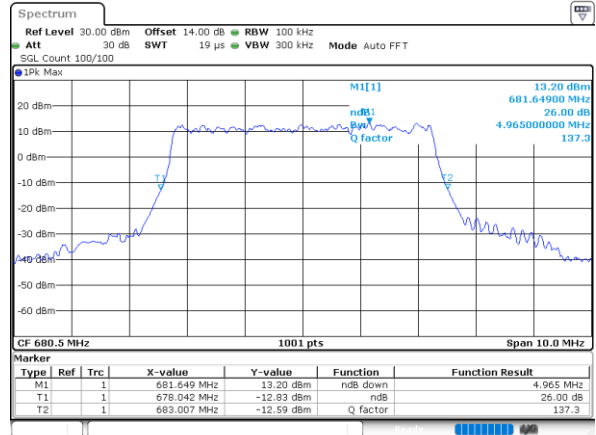


LTE Band 71

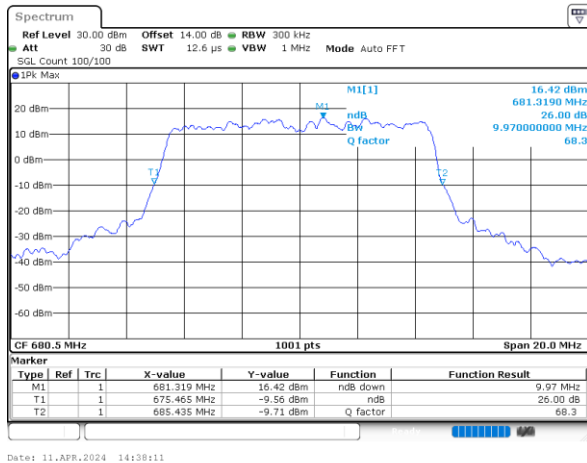
Middle Channel / 5MHz / QPSK



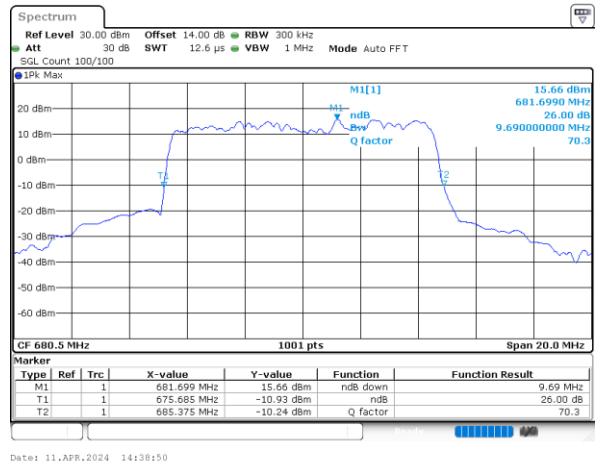
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



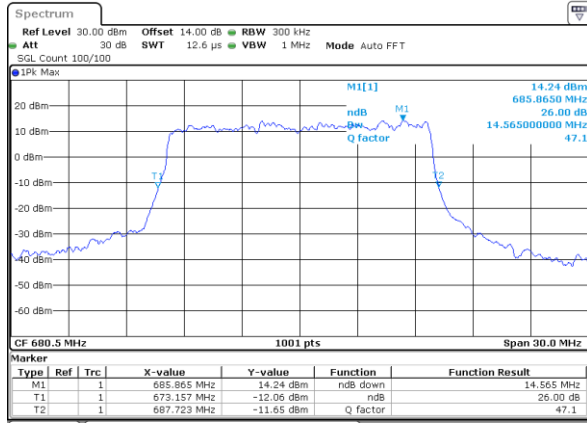
Middle Channel / 10MHz / 16QAM



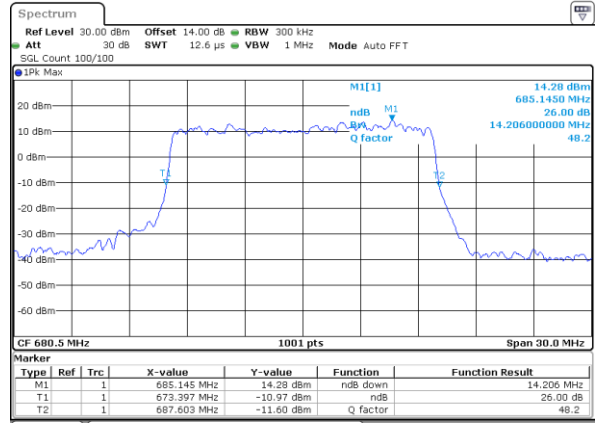


LTE Band 71

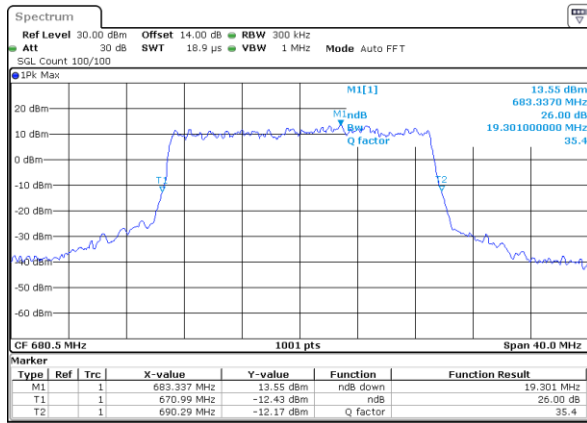
Middle Channel / 15MHz / QPSK



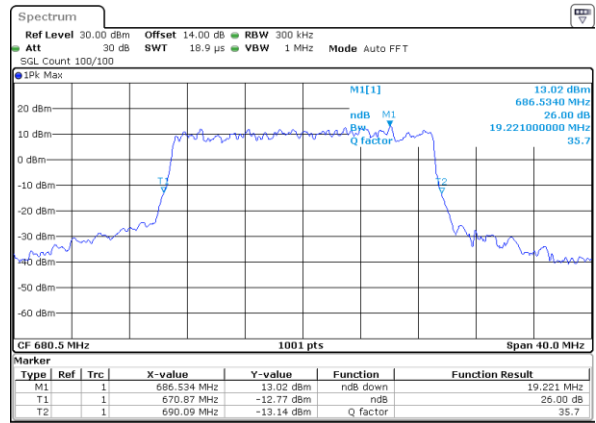
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM





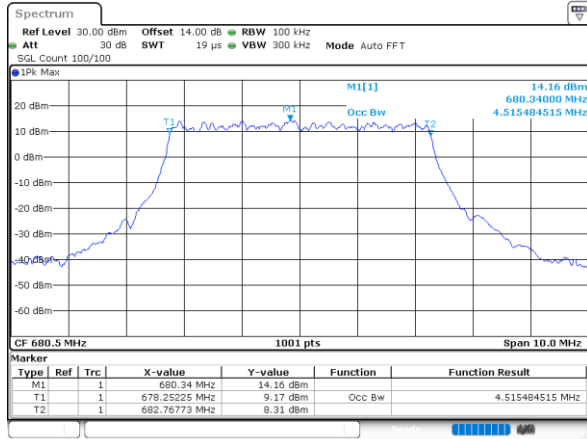
A7.3 Occupied Bandwidth

Mode	LTE Band 71 : 99%OBW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	4.52	4.48	9.07	9.07	13.46	13.43	17.86	17.86



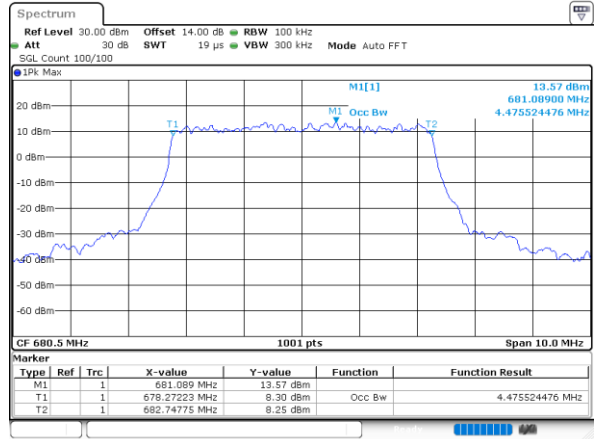
LTE Band 71

Middle Channel / 5MHz / QPSK



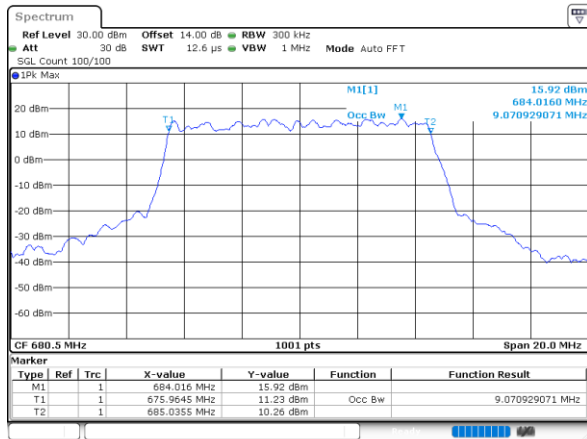
Date: 11.APR.2024 14:23:49

Middle Channel / 5MHz / 16QAM



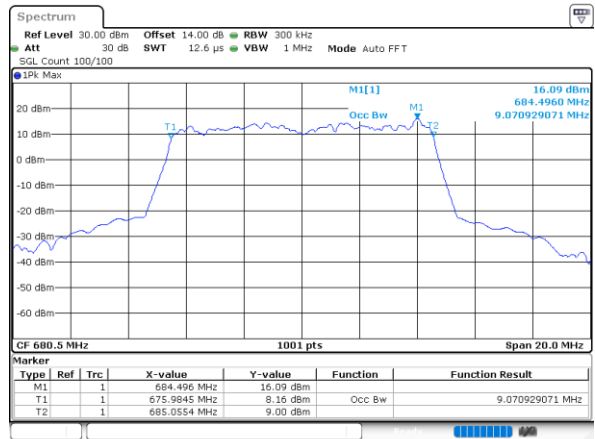
Date: 11.APR.2024 14:24:29

Middle Channel / 10MHz / QPSK



Date: 11.APR.2024 14:37:57

Middle Channel / 10MHz / 16QAM

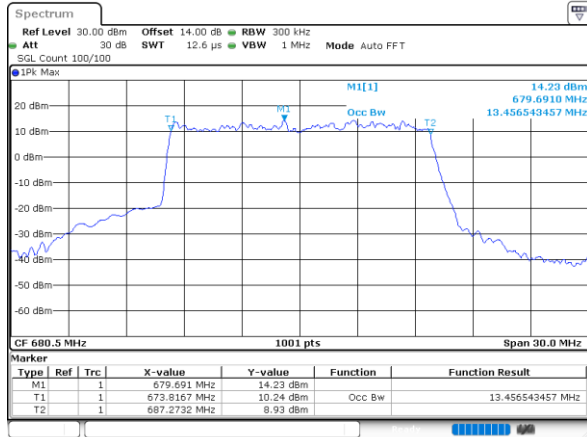


Date: 11.APR.2024 14:38:36

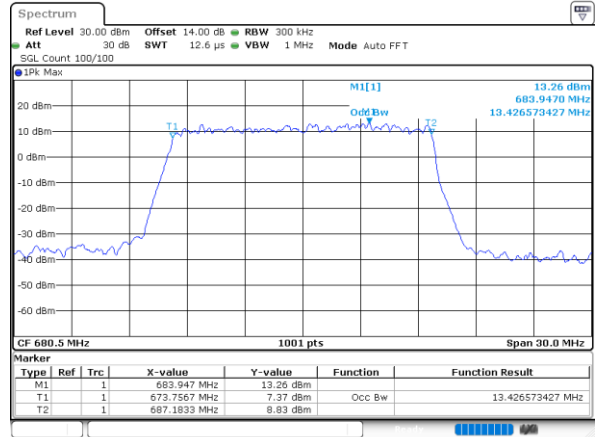


LTE Band 71

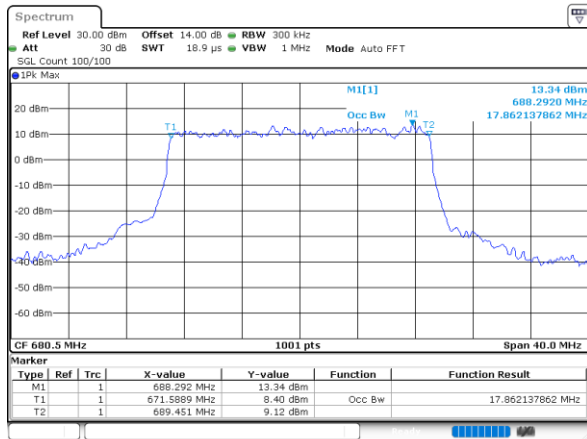
Middle Channel / 15MHz / QPSK



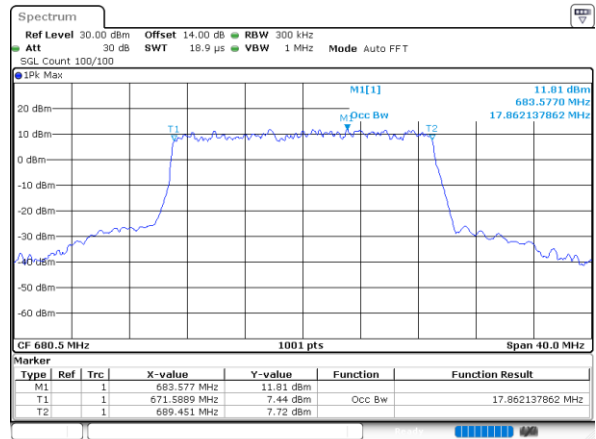
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

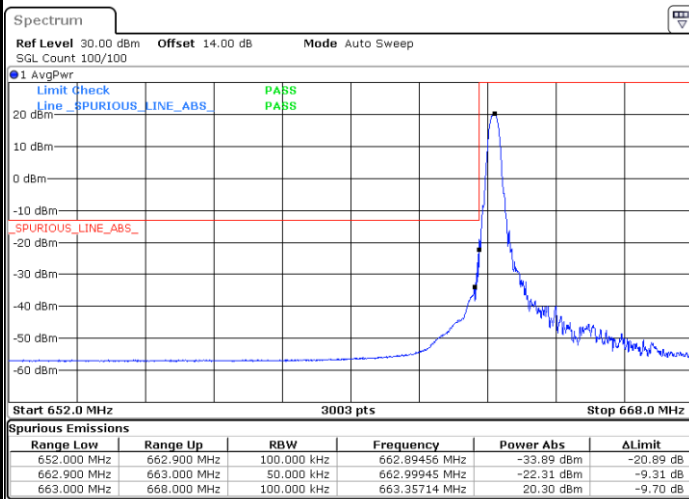




A7.4 Conducted Band Edge

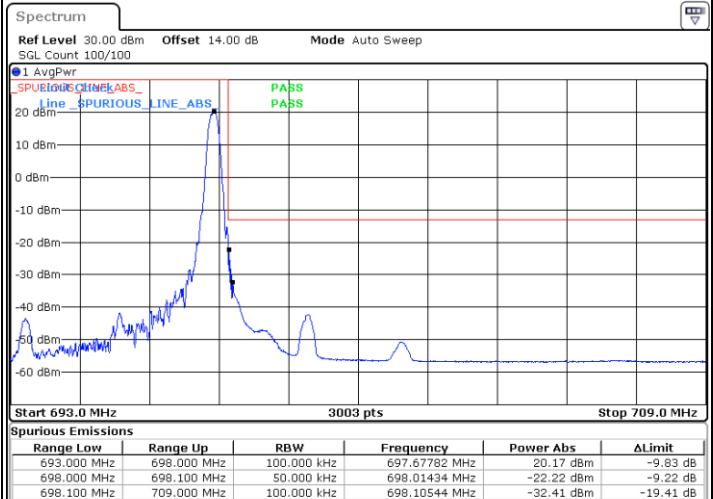
LTE Band 71 / 5MHz / QPSK

Lowest Band Edge / 1 RB



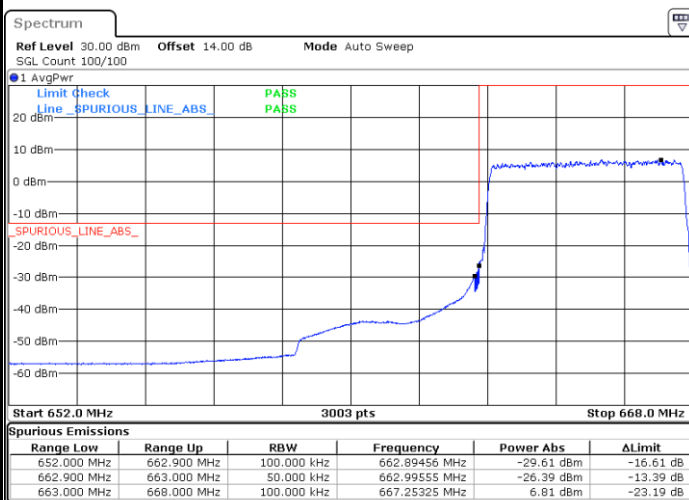
Date: 11.APR.2024 14:17:45

Highest Band Edge / 1 RB



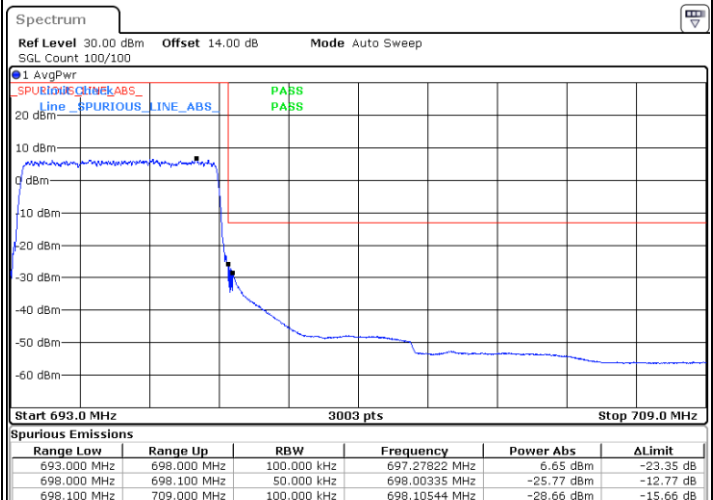
Date: 11.APR.2024 14:25:32

Lowest Band Edge / Full RB



Date: 11.APR.2024 14:20:14

Highest Band Edge / Full RB

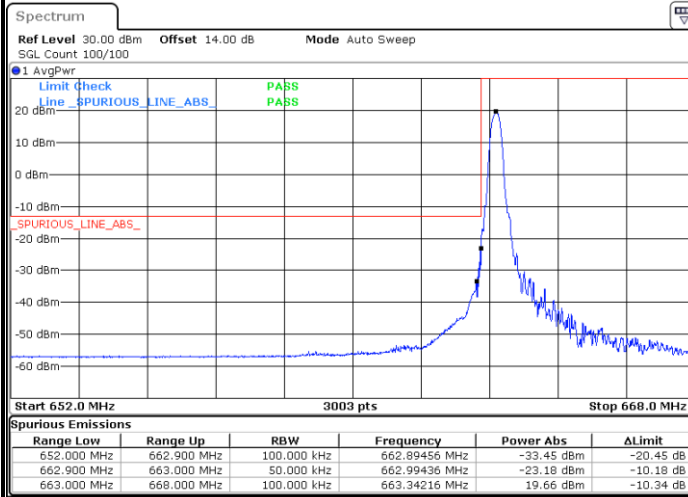


Date: 11.APR.2024 14:28:05

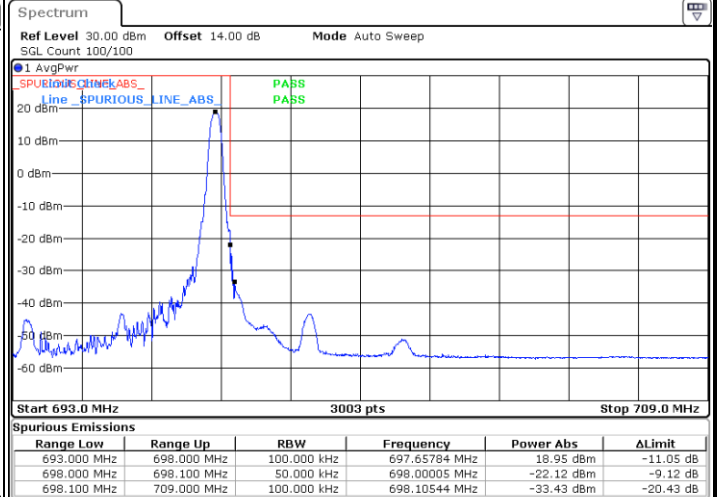


LTE Band 71 / 5MHz / 16QAM

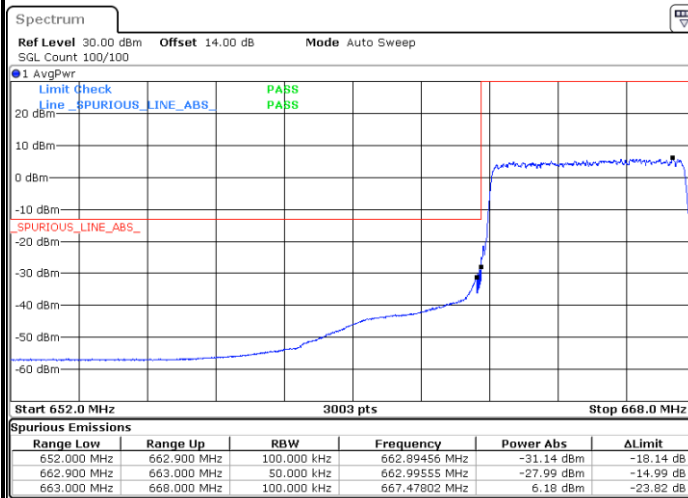
Lowest Band Edge / 1RB



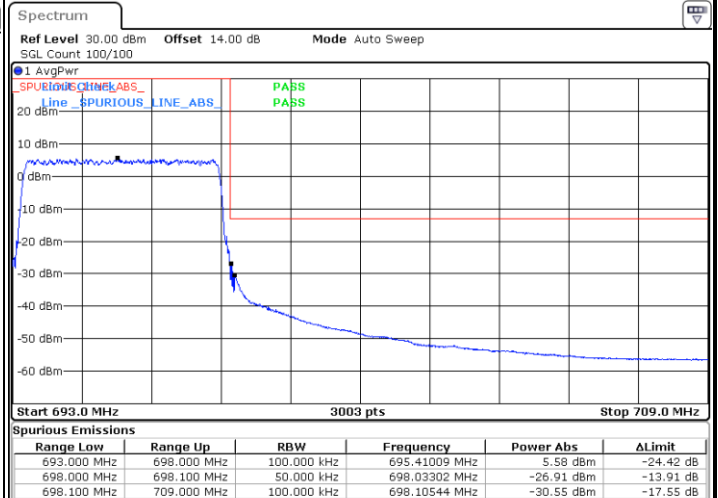
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



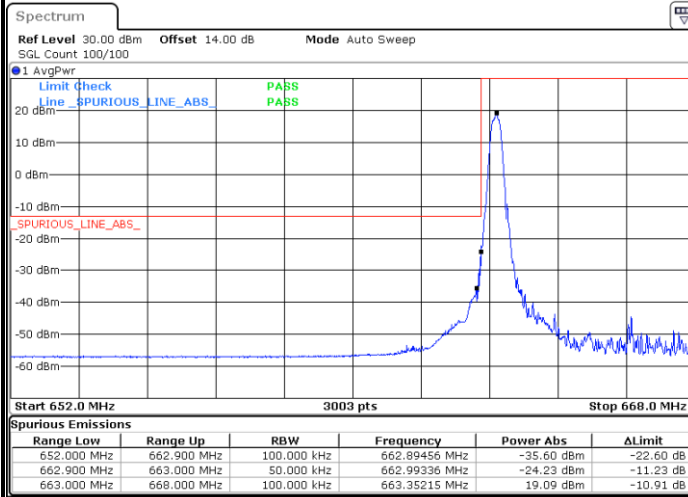
Highest Band Edge / Full RB



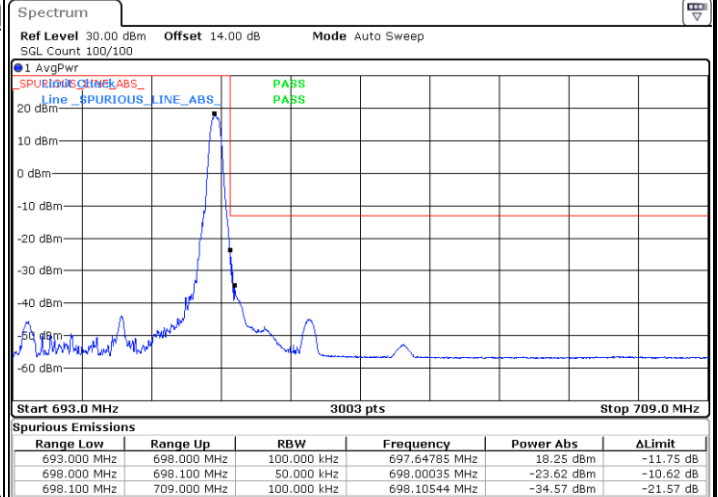


LTE Band 71 / 5MHz / 64QAM

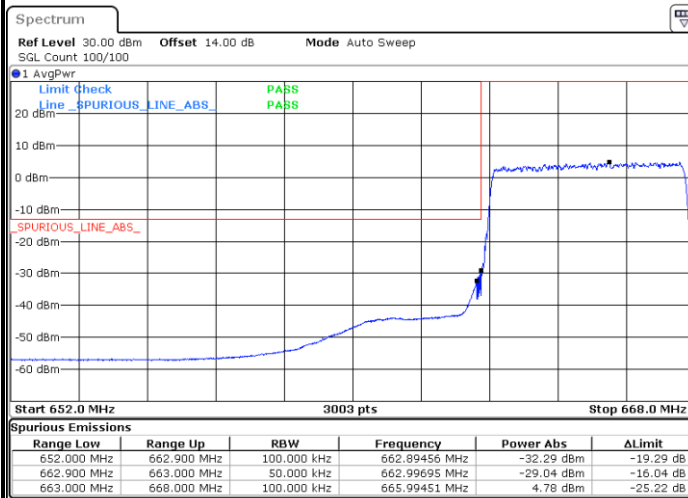
Lowest Band Edge / 1RB



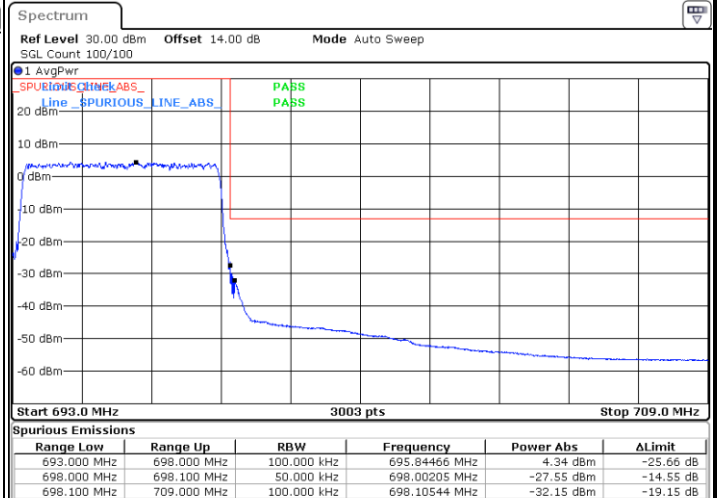
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



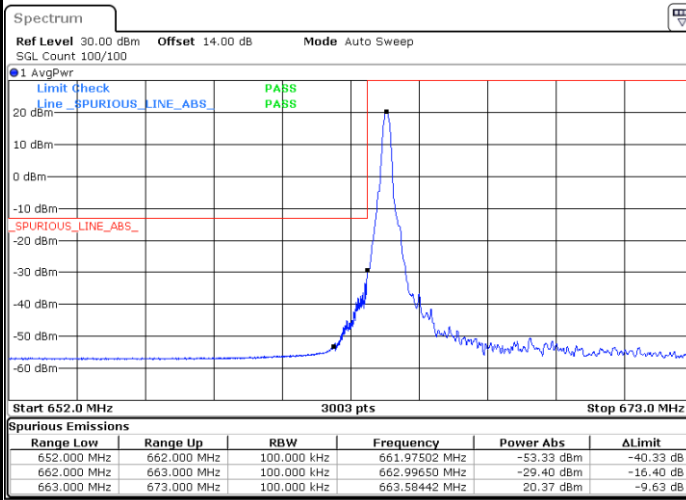
Highest Band Edge / Full RB



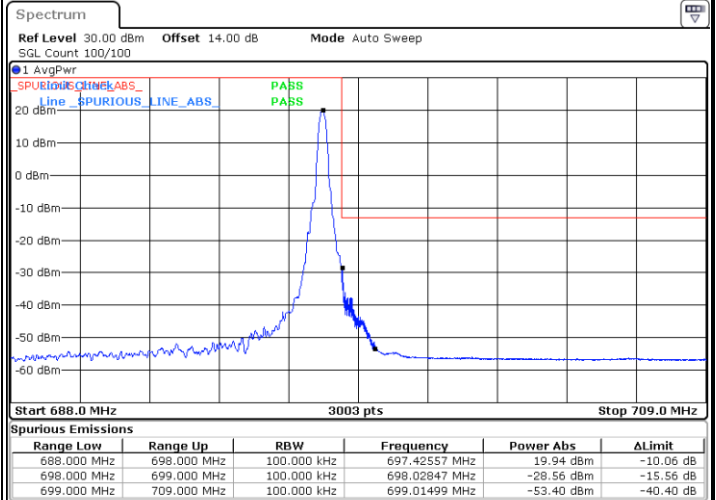


LTE Band 71 / 10MHz / QPSK

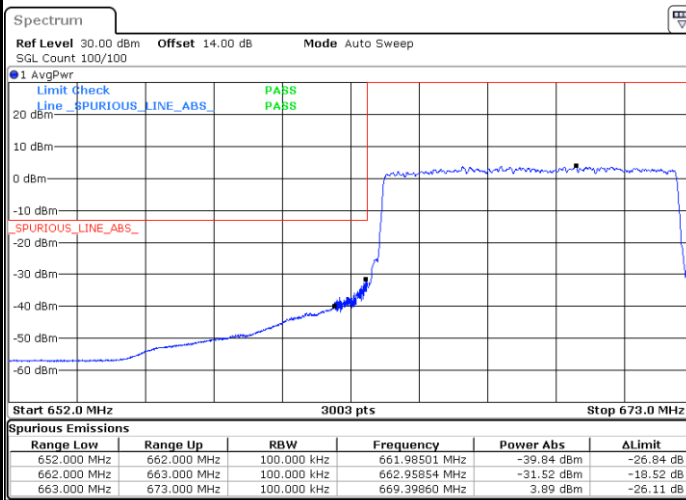
Lowest Band Edge / 1 RB



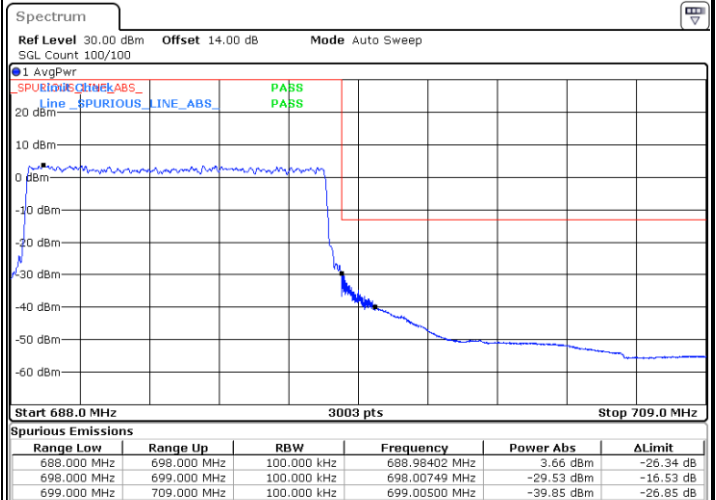
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



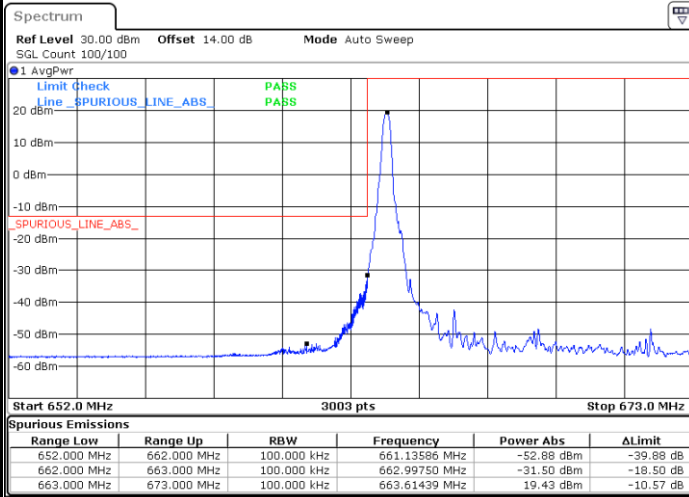
Highest Band Edge / Full RB



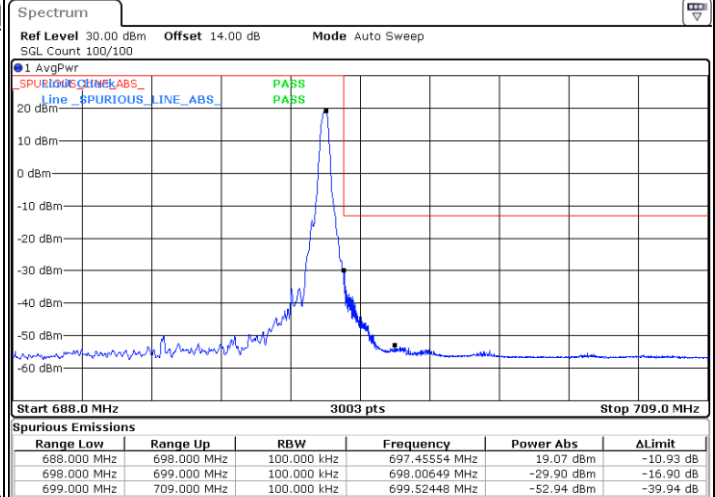


LTE Band 71 / 10MHz / 16QAM

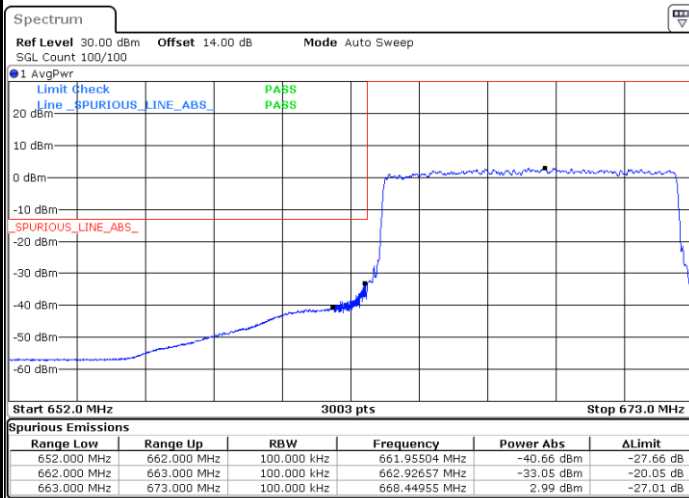
Lowest Band Edge / 1RB



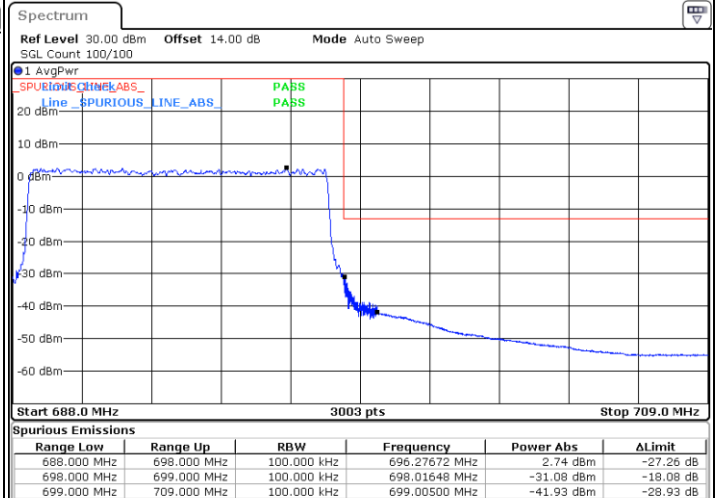
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



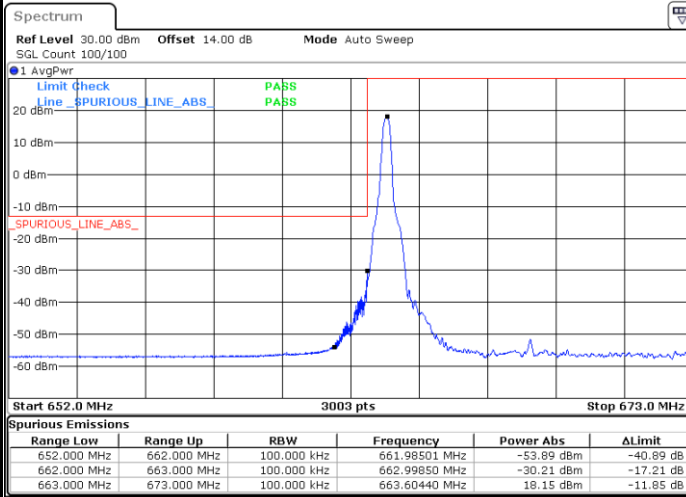
Highest Band Edge / Full RB



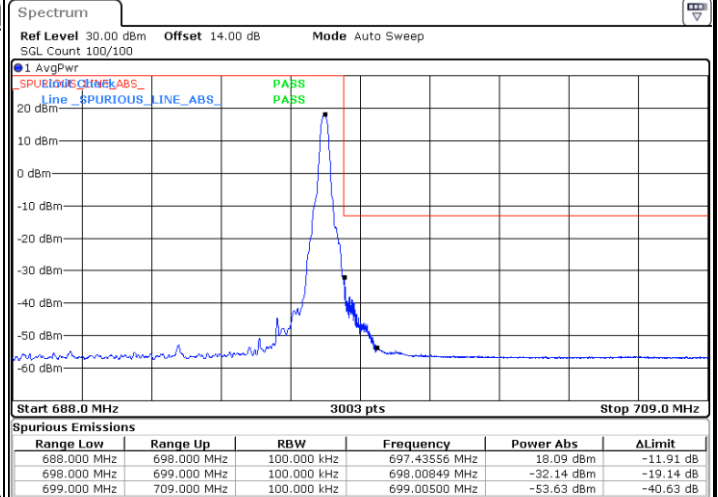


LTE Band 71 / 10MHz / 64QAM

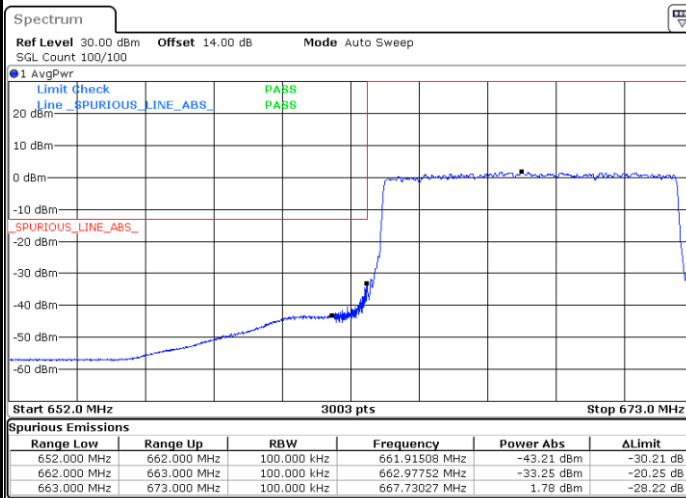
Lowest Band Edge / 1RB



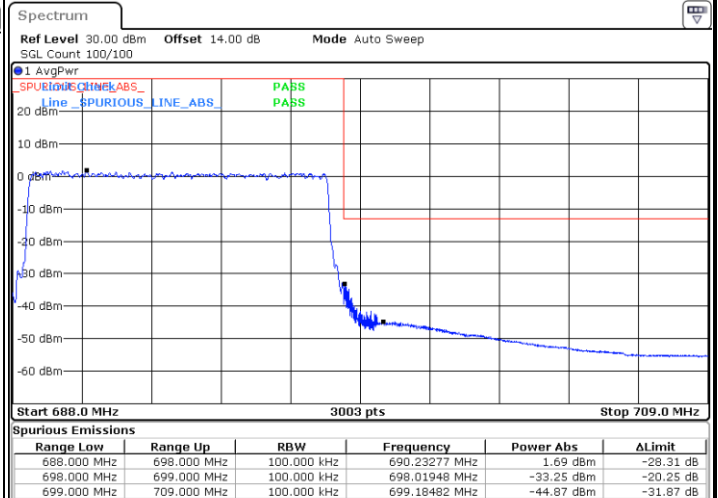
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



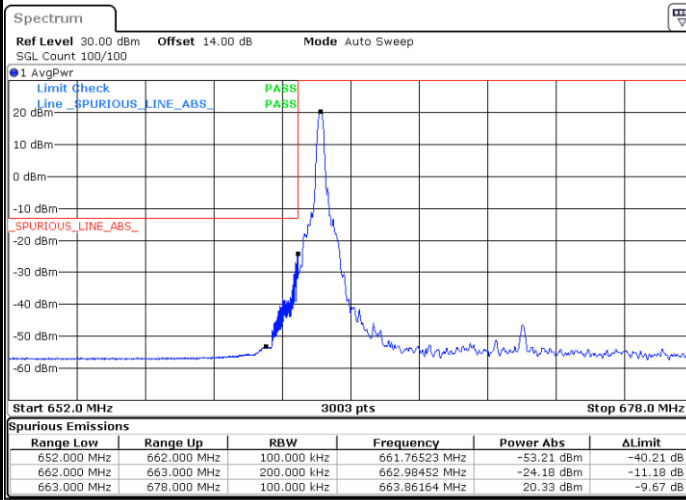
Highest Band Edge / Full RB



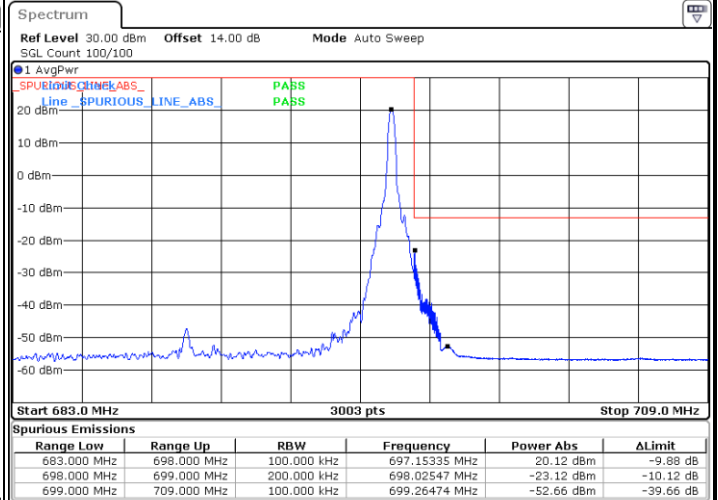


LTE Band 71 / 15MHz / QPSK

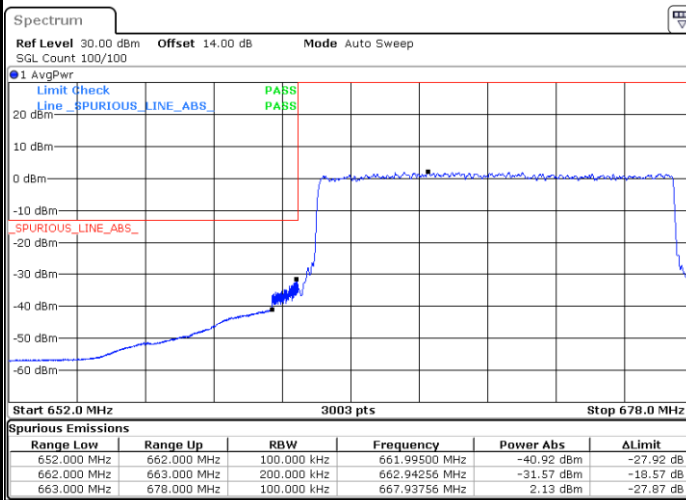
Lowest Band Edge / 1 RB



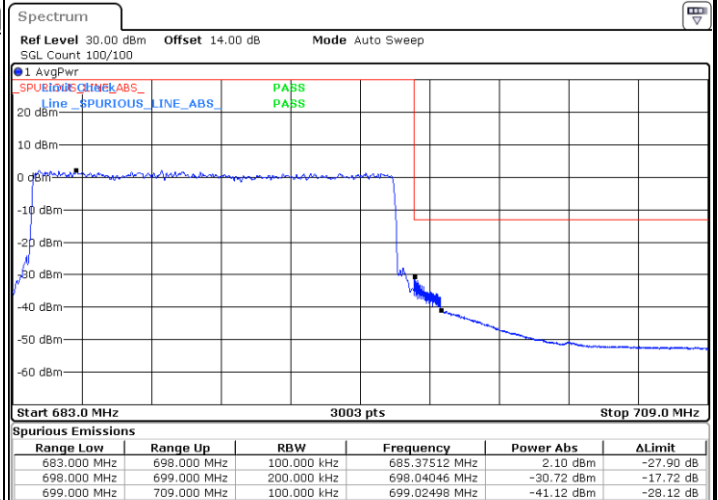
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



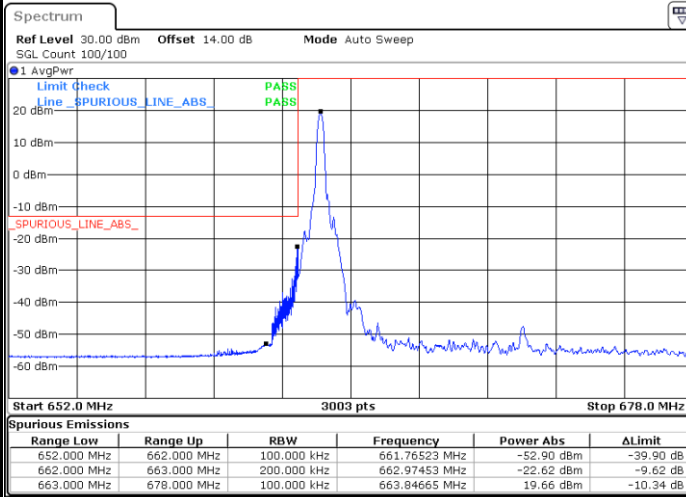
Highest Band Edge / Full RB



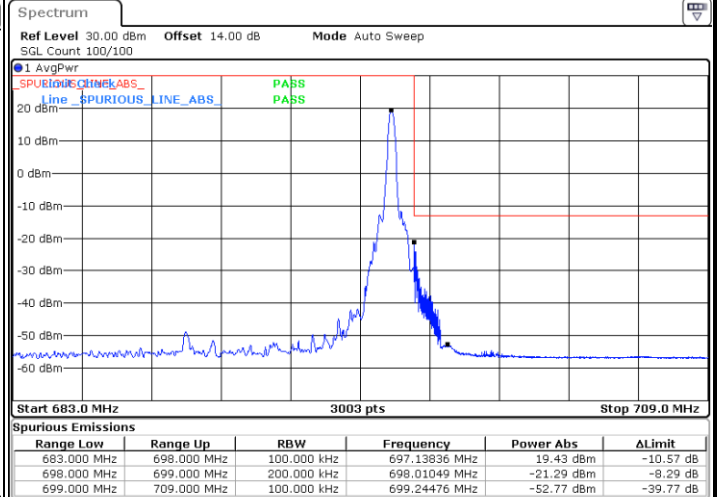


LTE Band 71 / 15MHz / 16QAM

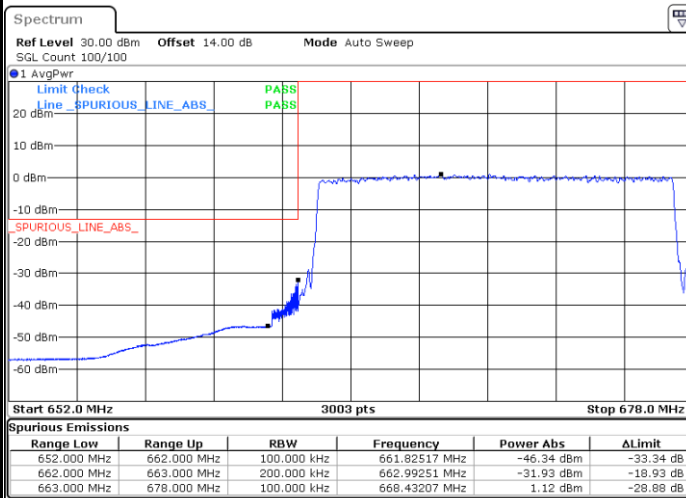
Lowest Band Edge / 1RB



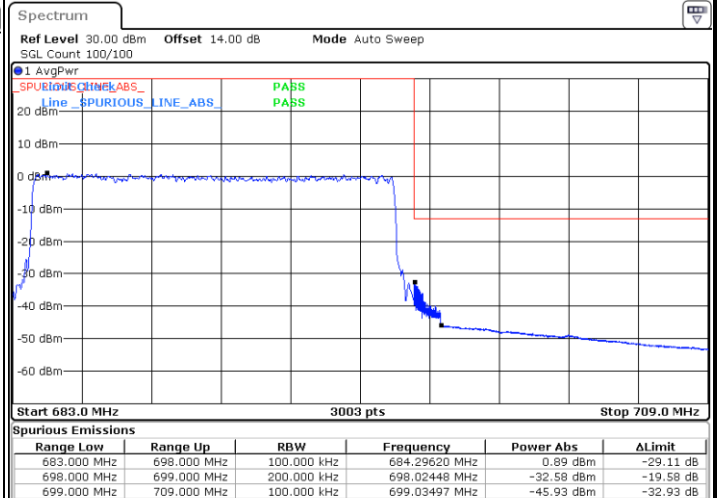
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



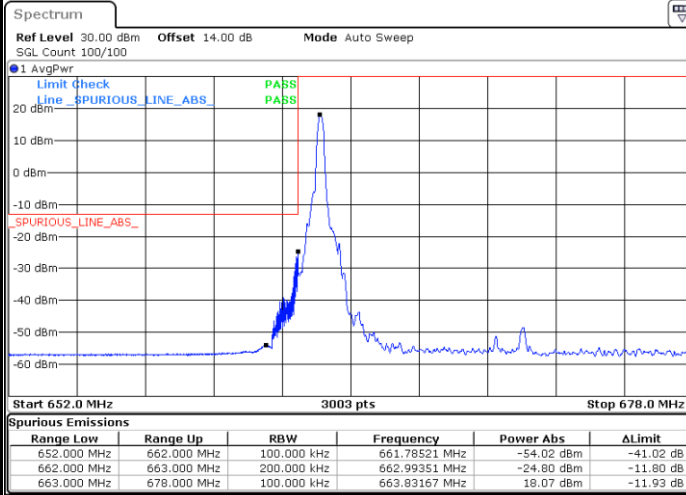
Highest Band Edge / Full RB



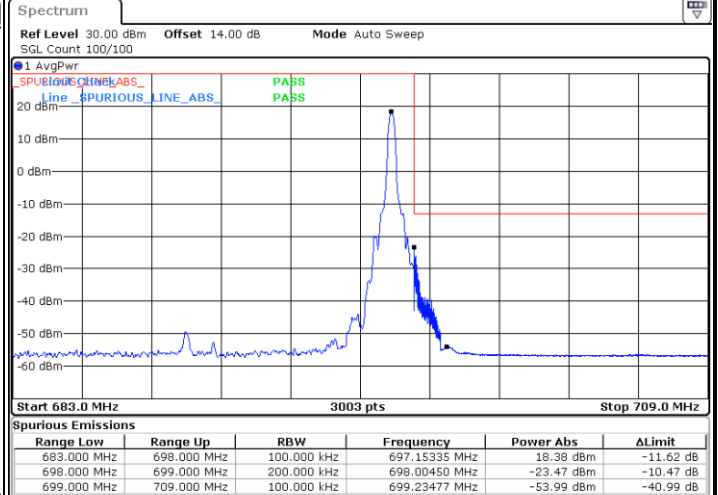


LTE Band 71 / 15MHz / 64QAM

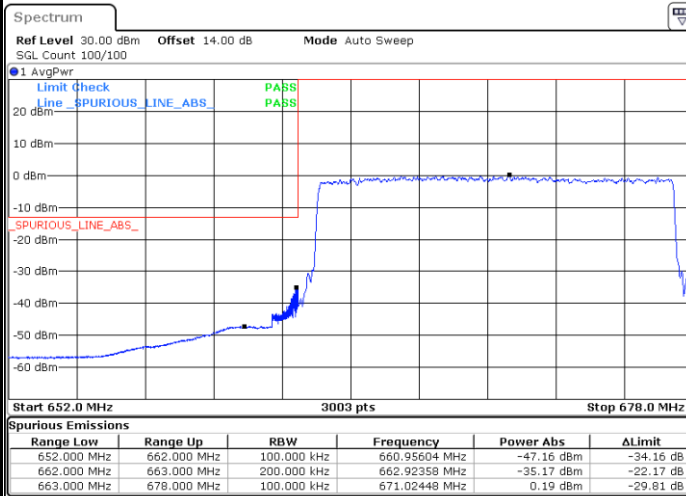
Lowest Band Edge / 1RB



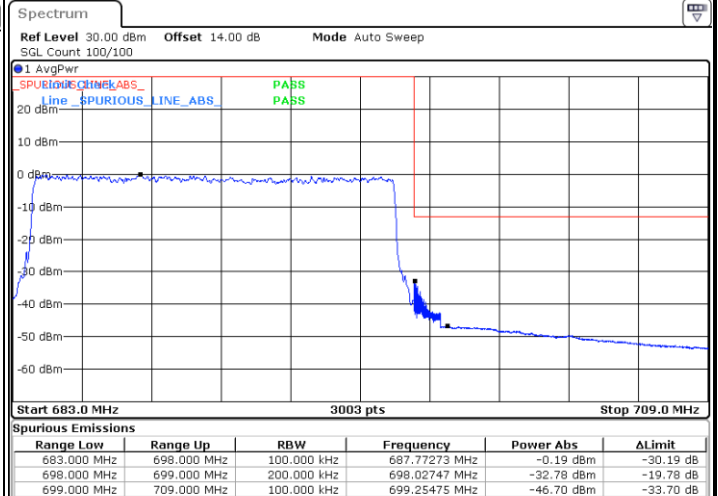
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



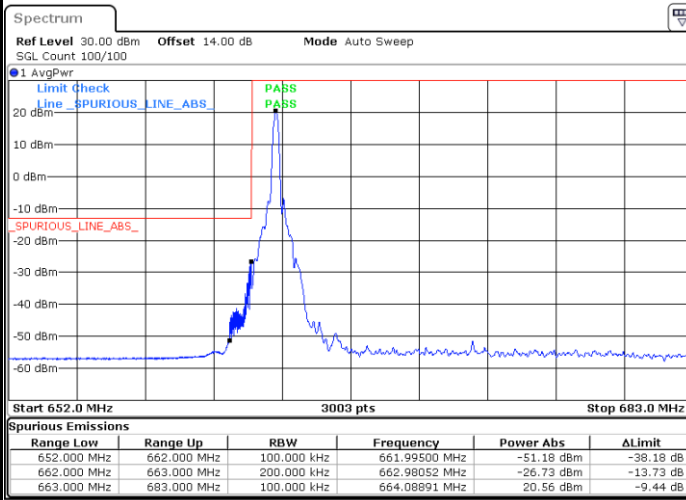
Highest Band Edge / Full RB



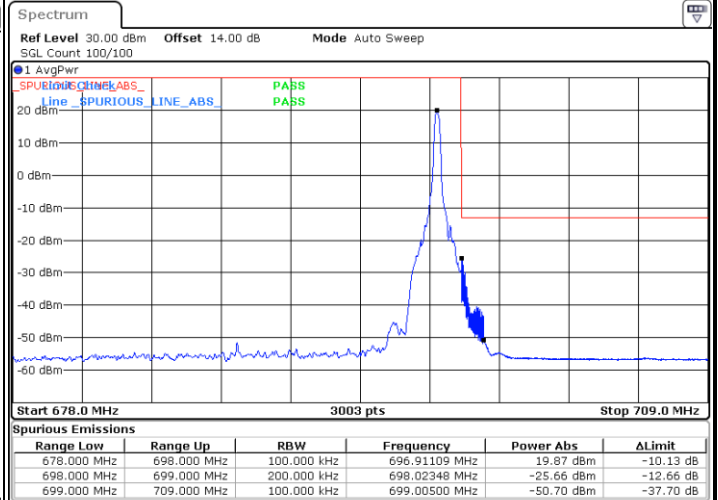


LTE Band 71 / 20MHz / QPSK

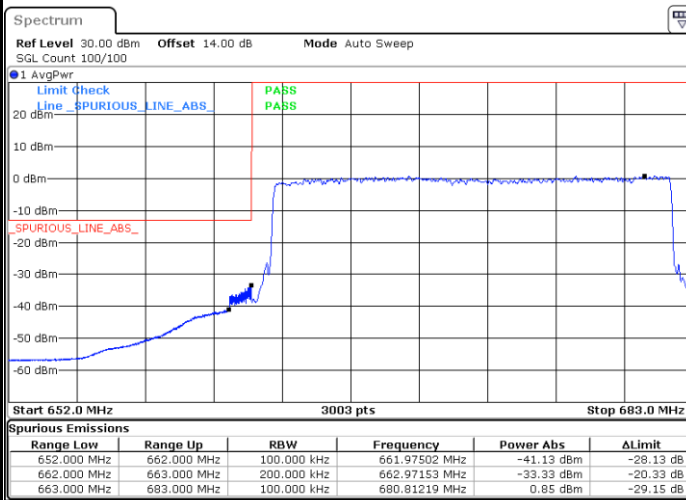
Lowest Band Edge / 1 RB



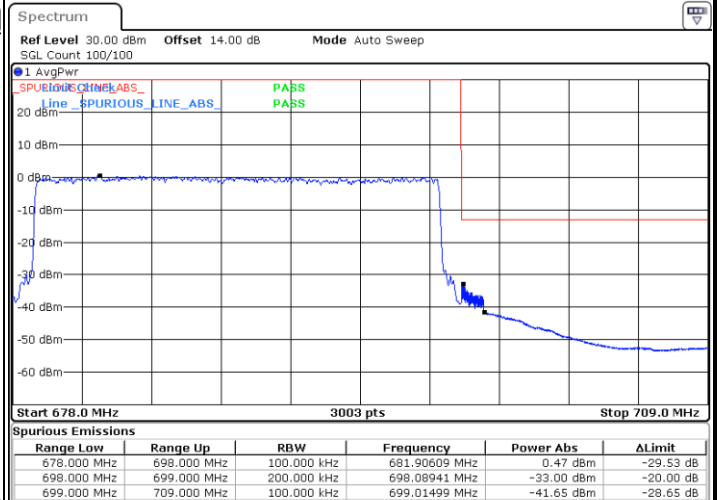
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



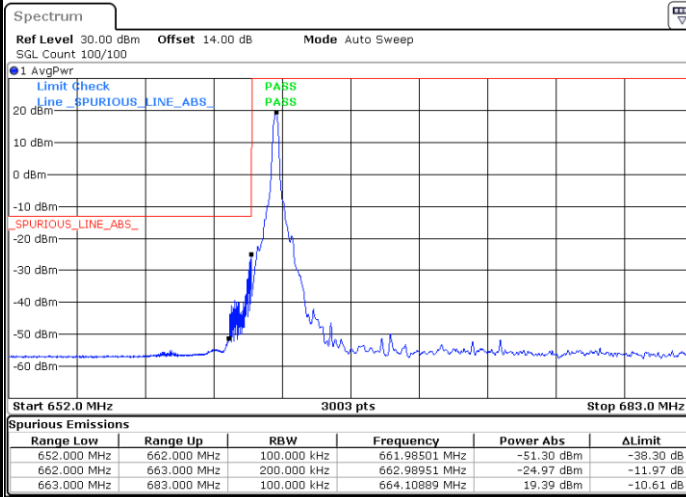
Highest Band Edge / Full RB



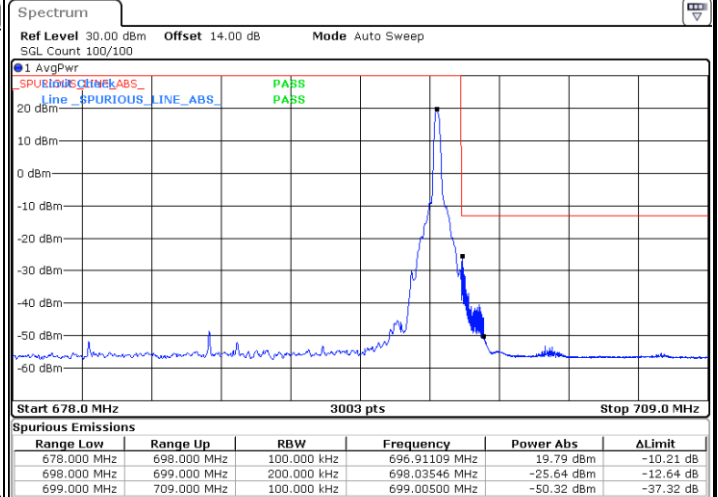


LTE Band 71 / 20MHz / 16QAM

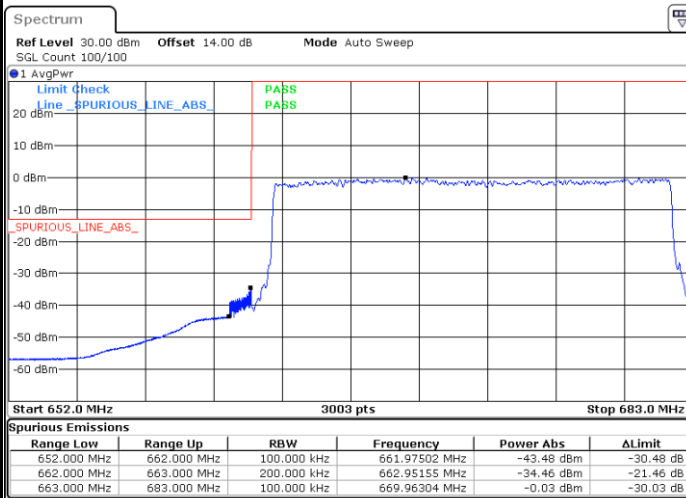
Lowest Band Edge / 1RB



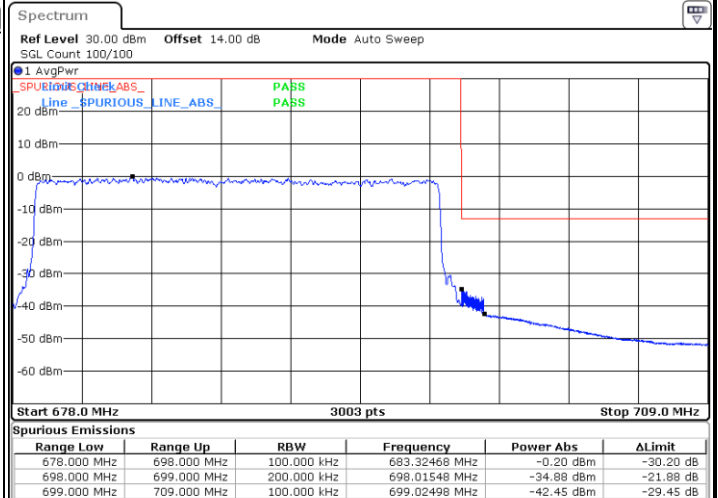
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



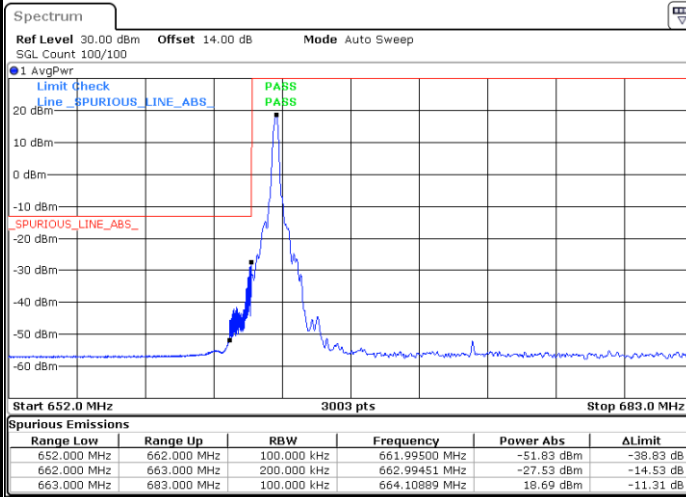
Highest Band Edge / Full RB



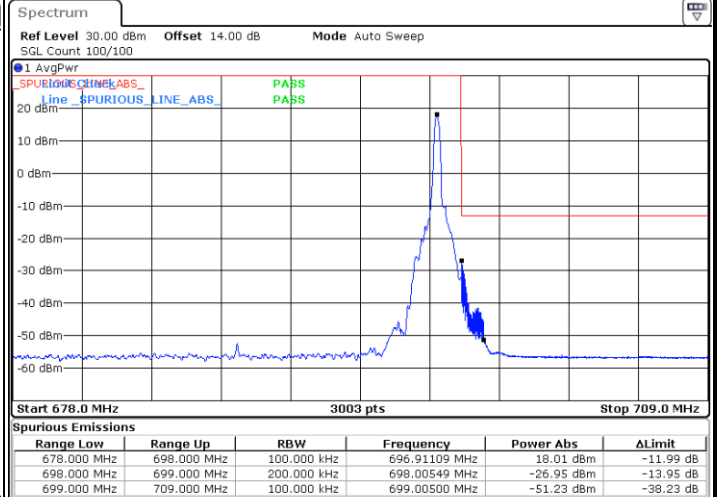


LTE Band 71 / 20MHz / 64QAM

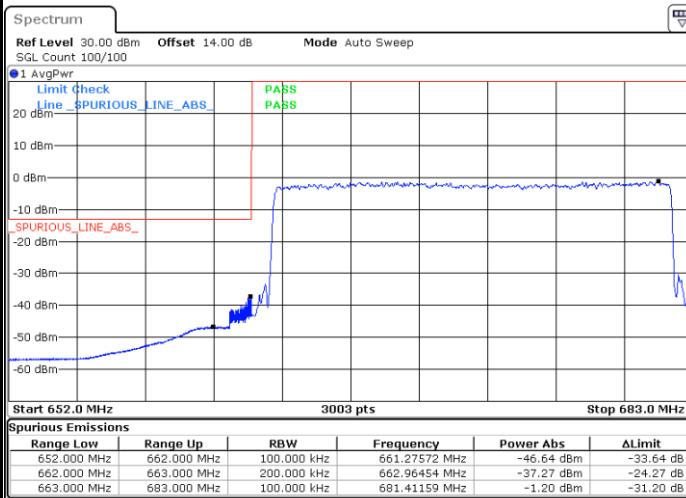
Lowest Band Edge / 1RB



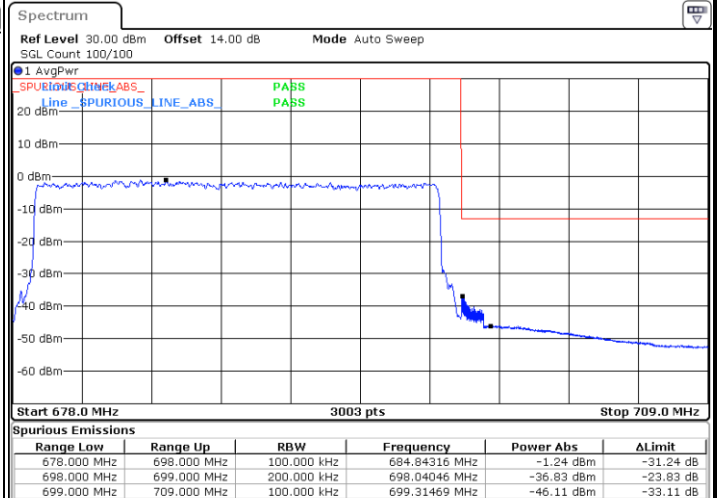
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

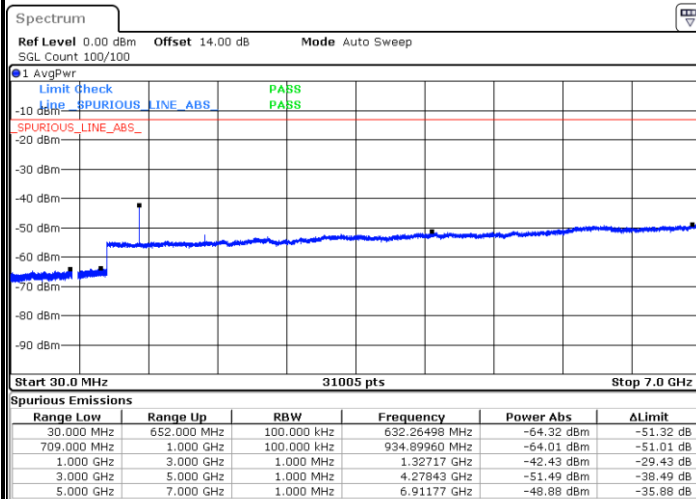




A7.5 Conducted Spurious Emission

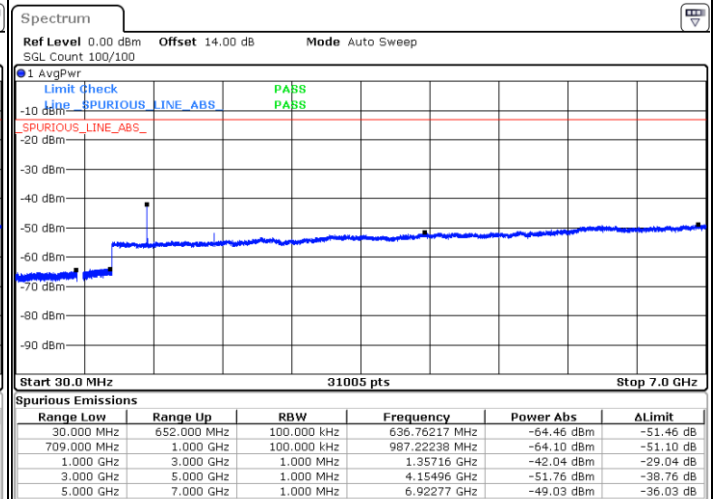
LTE Band 71 / 5MHz

Lowest Channel / QPSK



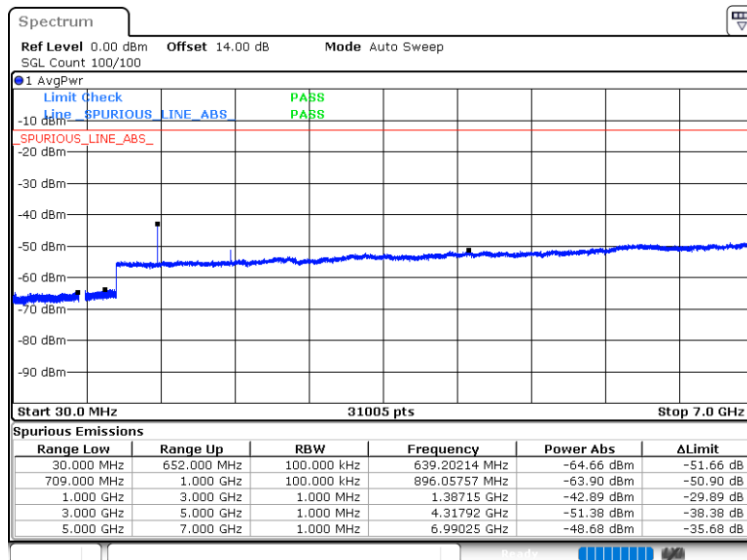
Date: 11.APR.2024 14:22:39

Middle Channel / QPSK



Date: 11.APR.2024 14:23:23

Highest Channel / QPSK

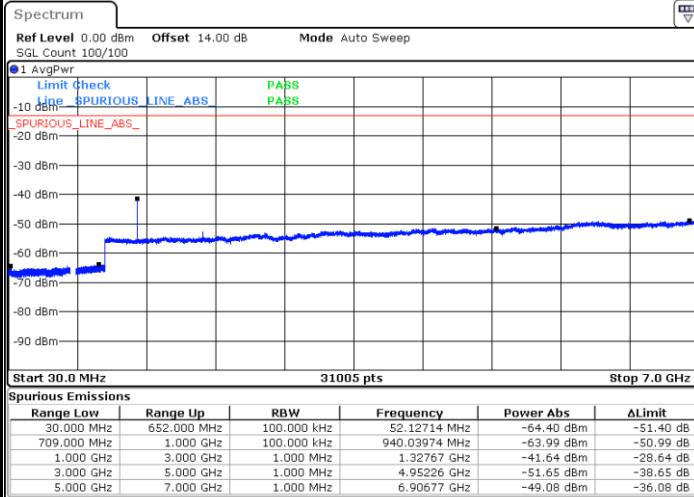


Date: 11.APR.2024 14:30:31



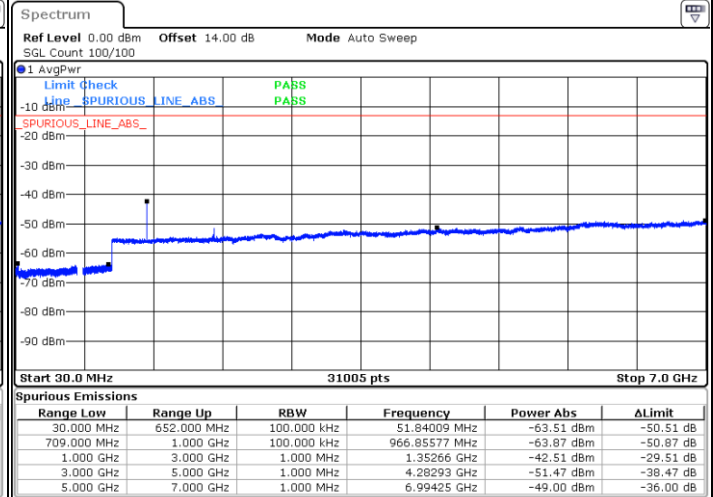
LTE Band 71 / 10MHz

Lowest Channel / QPSK



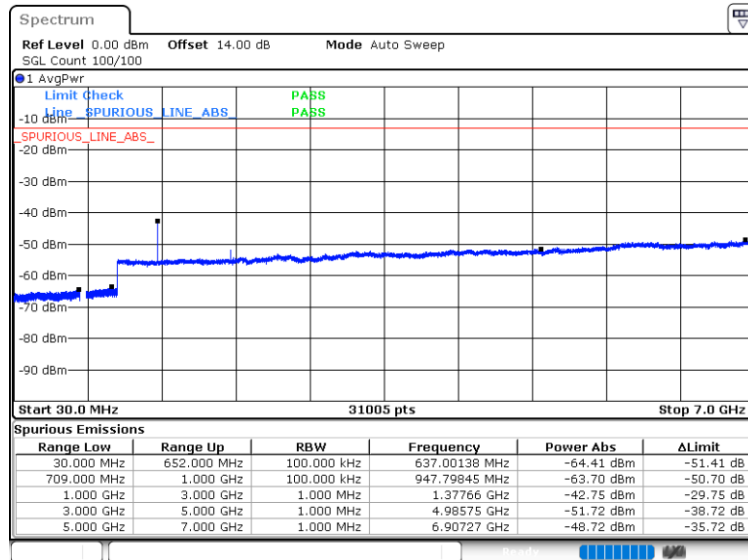
Date: 11.APR.2024 14:36:47

Middle Channel / QPSK



Date: 11.APR.2024 14:37:31

Highest Channel / QPSK

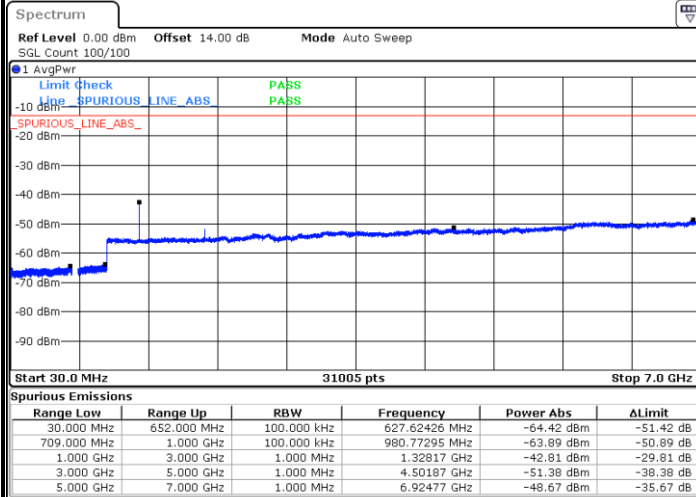


Date: 11.APR.2024 14:44:29



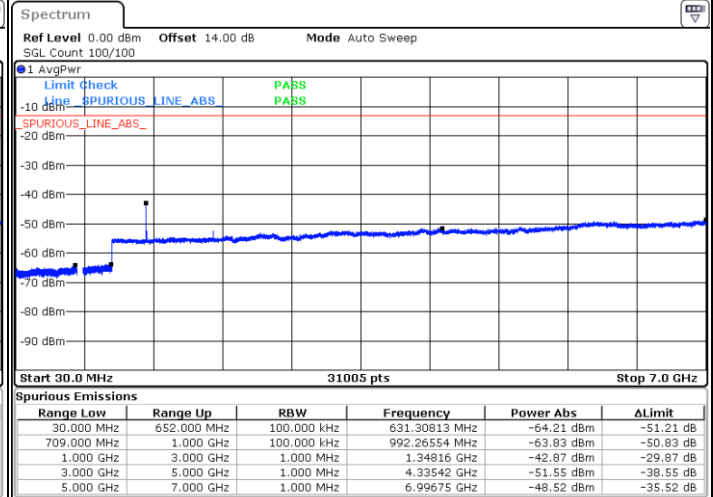
LTE Band 71 / 15MHz

Lowest Channel / QPSK



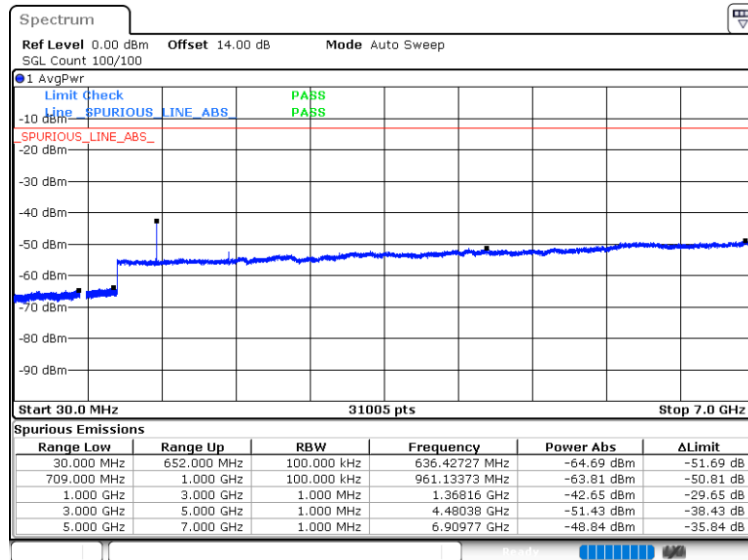
Date: 11.APR.2024 14:50:46

Middle Channel / QPSK



Date: 11.APR.2024 14:51:30

Highest Channel / QPSK

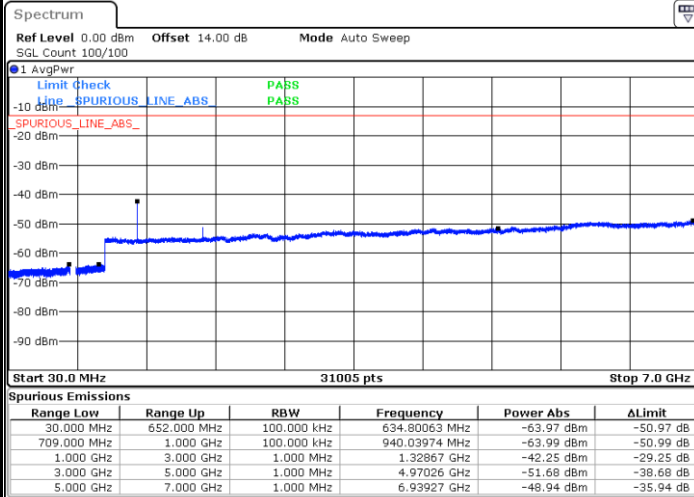


Date: 11.APR.2024 14:58:29



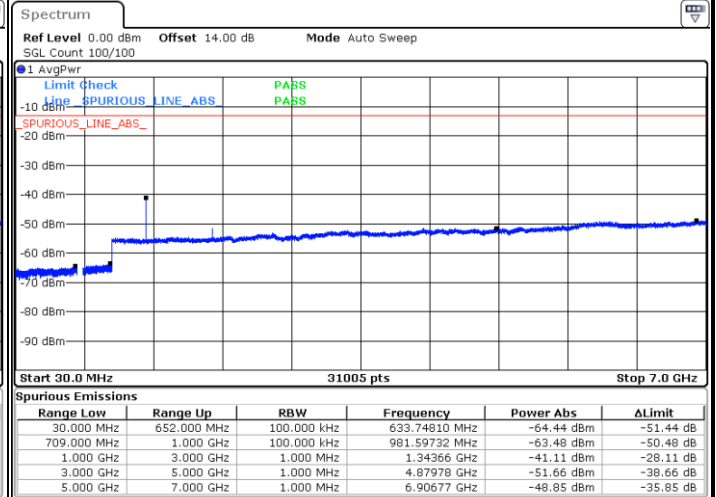
LTE Band 71 / 20MHz

Lowest Channel / QPSK



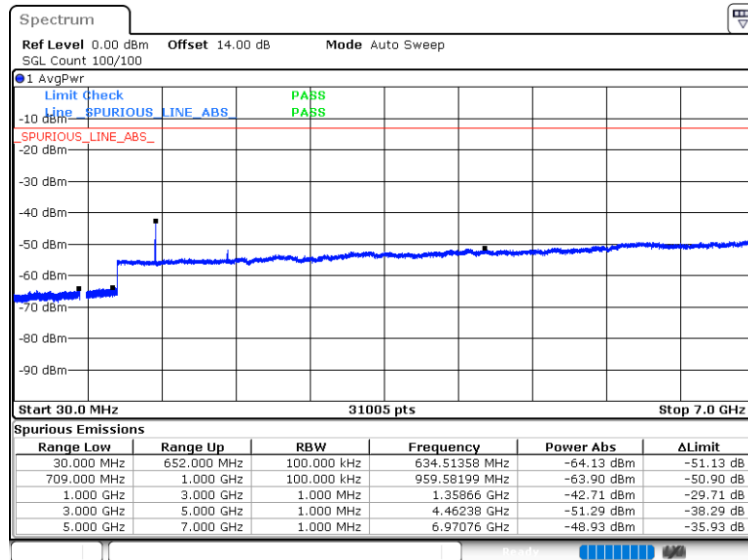
Date: 11.APR.2024 15:04:46

Middle Channel / QPSK



Date: 11.APR.2024 15:05:31

Highest Channel / QPSK



Date: 11.APR.2024 15:13:50



A7.6 Frequency Stability

Test Conditions		LTE Band 71 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0028	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0010	
-20	Normal Voltage	0.0028	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Minimum Voltage	0.0006	

Note:

1. Normal Voltage = 12 V. ; Minimum Voltage = 10.8 V. ; Maximum Voltage = 13.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

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

Sample 1:

LTE Band 7 / 20MHz / QPSK / ANT9								
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	-60.44	-25	-35.44	-70.65	3.03	13.24	H
	7584	-41.47	-25	-16.47	-50.92	3.56	13.01	H
	10104	-54.19	-25	-29.19	-63.71	3.92	13.44	H
	5050	-60.73	-25	-35.73	-70.94	3.03	13.24	V
	7584	-43.57	-25	-18.57	-53.02	3.56	13.01	V
	10104	-54.15	-25	-29.15	-63.67	3.92	13.44	V

LTE Band 12 / 10MHz / QPSK / ANT0								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1408	-68.30	-13	-55.30	-75.27	1.58	10.70	H
	2112	-62.79	-13	-49.79	-71.04	2.102	12.50	H
	2816	-60.20	-13	-47.20	-69.09	2.856	13.90	H
	1408	-67.95	-13	-54.95	-74.92	1.58	10.70	V
	2112	-62.22	-13	-49.22	-70.47	2.10	12.50	V
	2816	-58.73	-13	-45.73	-67.62	2.86	13.90	V

LTE Band 13 / 10MHz / QPSK / ANT0								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1552	-67.78	-13	-54.78	-70.41	1.09	5.87	H
	2336	-62.23	-13	-49.23	-64.63	1.37	5.92	H
	3112	-61.13	-13	-48.13	-65.02	1.64	7.68	H
	1552	-67.07	-13	-54.07	-69.70	1.09	5.87	V
	2336	-60.60	-13	-47.60	-63.00	1.37	5.92	V
	3112	-60.89	-13	-47.89	-64.78	1.64	7.68	V



LTE Band 13 / 5MHz / QPSK / ANT0								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1560	-67.09	-42.15	-24.94	-69.72	1.09	5.87	H
	2336	-61.83	-13	-48.83	-64.23	1.37	5.92	H
	3120	-61.17	-13	-48.17	-65.06	1.64	7.68	H
	1560	-66.18	-42.15	-24.03	-68.81	1.09	5.87	V
	2336	-60.30	-13	-47.30	-62.70	1.37	5.92	V
	3120	-60.95	-13	-47.95	-64.84	1.64	7.68	V

LTE Band 41 / 20MHz / QPSK / ANT9								
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	5148	-62.10	-25	-37.10	-72.31	3.03	13.24	H
	7724	-48.85	-25	-23.85	-58.30	3.56	13.01	H
	10300	-53.43	-25	-28.43	-62.95	3.92	13.44	H
	5148	-59.16	-25	-34.16	-69.37	3.03	13.24	V
	7724	-47.34	-25	-22.34	-56.79	3.56	13.01	V
	10300	-50.27	-25	-25.27	-59.79	3.92	13.44	V

LTE Band 41C / 20MHz+20MHz / QPSK / Ant9								
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	5148	-63.95	-25	-38.95	-74.16	3.03	13.24	H
	7724	-55.93	-25	-30.93	-65.38	3.56	13.01	H
	10300	-59.59	-25	-34.59	-69.11	3.92	13.44	H
	5190	-64.34	-25	-39.34	-74.55	3.03	13.24	H
	7780	-62.41	-25	-37.41	-71.86	3.56	13.01	H
	10370	-61.12	-25	-36.12	-70.64	3.92	13.44	H
	5148	-63.62	-25	-38.62	-73.83	3.03	13.24	V
	7724	-56.91	-25	-31.91	-66.36	3.56	13.01	V
	10300	-61.27	-25	-36.27	-70.79	3.92	13.44	V
	5190	-64.07	-25	-39.07	-74.28	3.03	13.24	V
	7780	-62.97	-25	-37.97	-72.42	3.56	13.01	V
	10370	-62.12	-25	-37.12	-71.64	3.92	13.44	V



LTE Band 71 / 20MHz / QPSK / ANT0								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1344	-68.47	-13	-55.47	-70.22	1.02	4.92	H
	2016	-62.73	-13	-49.73	-64.70	1.27	5.39	H
	2688	-60.24	-13	-47.24	-63.17	1.49	6.57	H
	1344	-67.54	-13	-54.54	-69.29	1.02	4.92	V
	2016	-62.18	-13	-49.18	-64.15	1.27	5.39	V
	2688	-59.78	-13	-46.78	-62.71	1.49	6.57	V

Sample 2:

LTE Band 7 / 20MHz / QPSK / ANT9								
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	-63.09	-25	-38.09	-73.30	3.03	13.24	H
	7584	-46.49	-25	-21.49	-55.94	3.56	13.01	H
	10104	-52.63	-25	-27.63	-62.15	3.92	13.44	H
	5050	-63.96	-25	-38.96	-74.17	3.03	13.24	V
	7584	-46.51	-25	-21.51	-55.96	3.56	13.01	V
	10104	-54.91	-25	-29.91	-64.43	3.92	13.44	V

Sample 3:

LTE Band 7 / 20MHz / QPSK / ANT9								
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	-63.18	-25	-38.18	-73.39	3.03	13.24	H
	7584	-45.79	-25	-20.79	-55.24	3.56	13.01	H
	10104	-58.85	-25	-33.85	-68.37	3.92	13.44	H
	5050	-65.44	-25	-40.44	-75.65	3.03	13.24	V
	7584	-49.44	-25	-24.44	-58.89	3.56	13.01	V
	10104	-60.17	-25	-35.17	-69.69	3.92	13.44	V

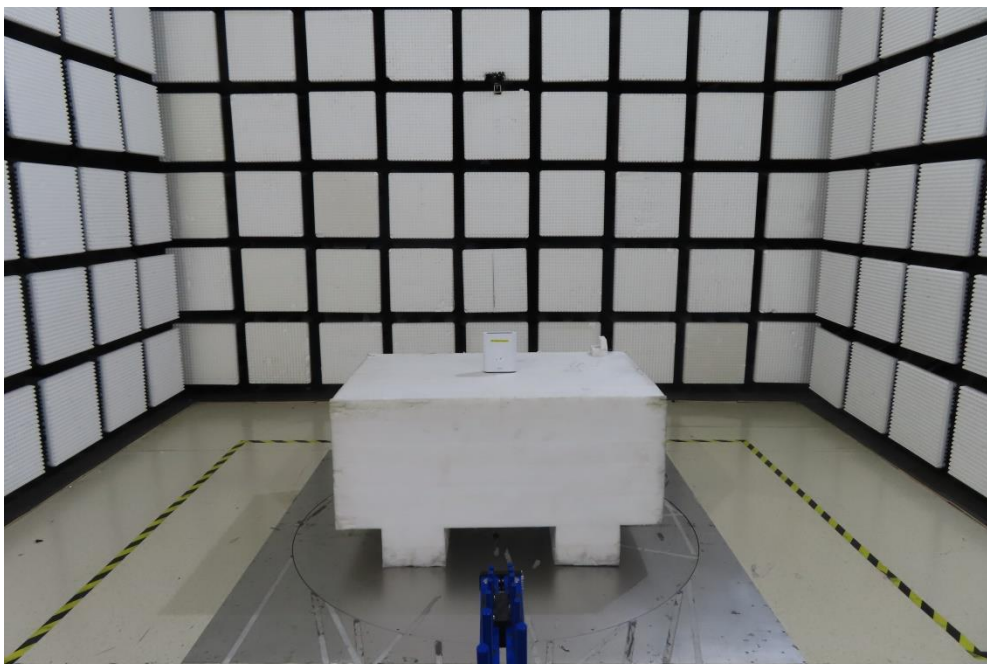
Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Appendix C. Setup Photographs

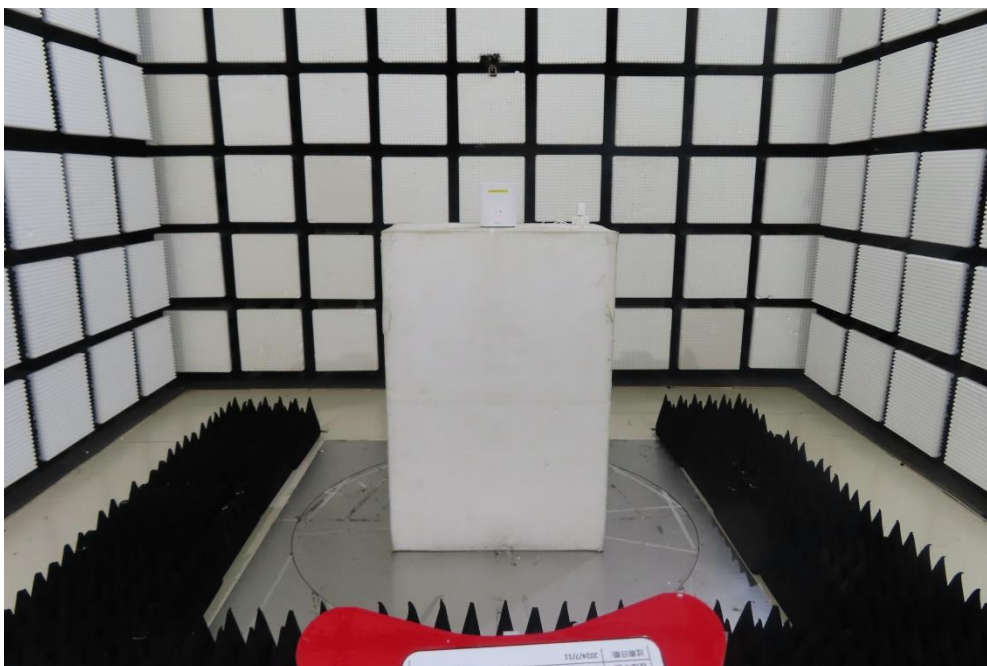
<Radiated Emission>

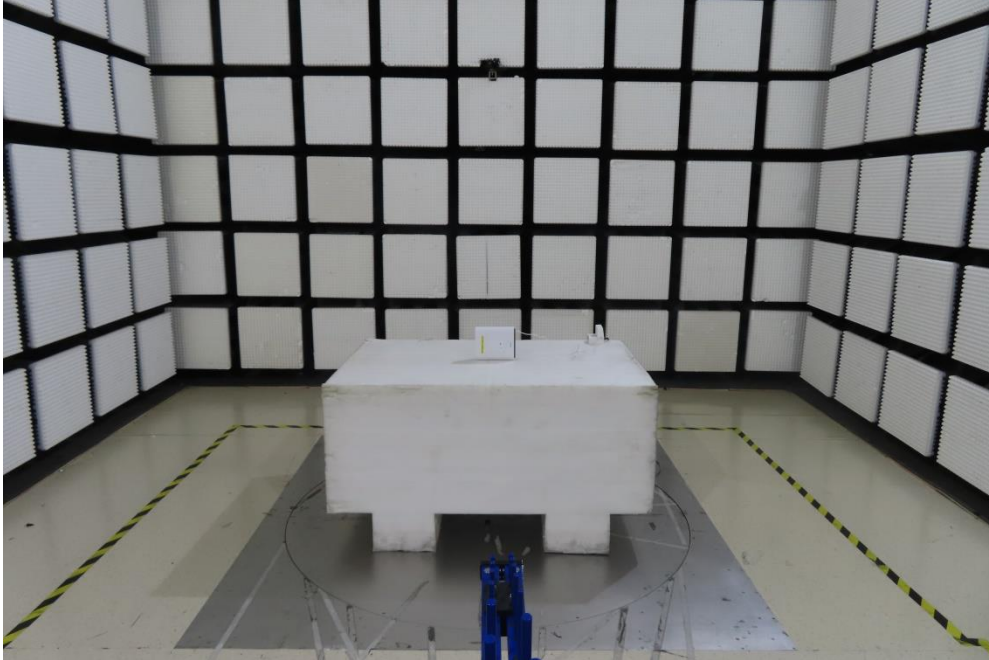
Y Plane for LTE Band12/13/71

LF



HF



Z Plane for LTE Band7/41/41C**LF****HF**