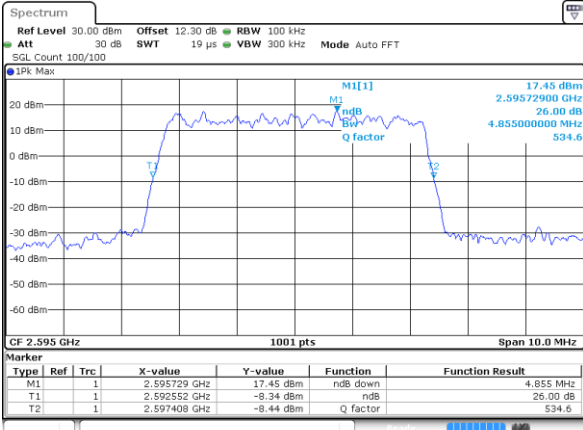




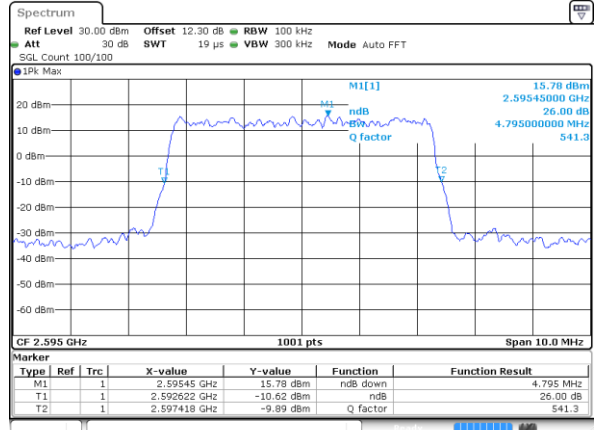
LTE Band 38

Middle Channel / 5MHz / QPSK



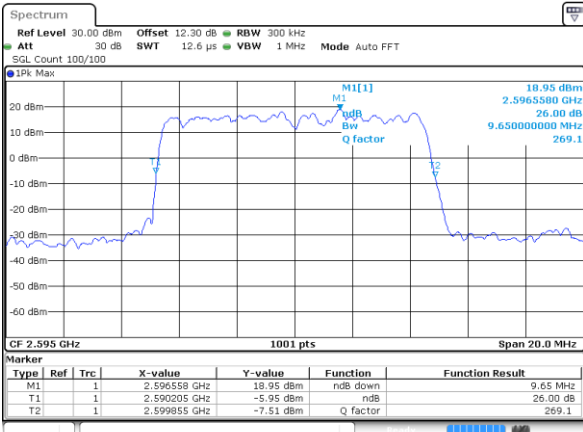
Date: 12 DEC 2020 11:43:00

Middle Channel / 5MHz / 16QAM



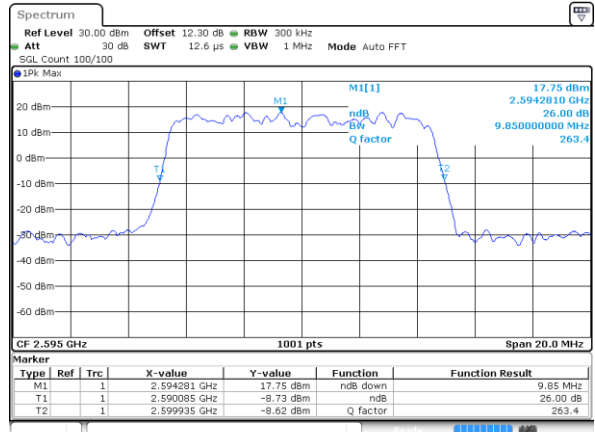
Date: 12 DEC 2020 11:43:11

Middle Channel / 10MHz / QPSK



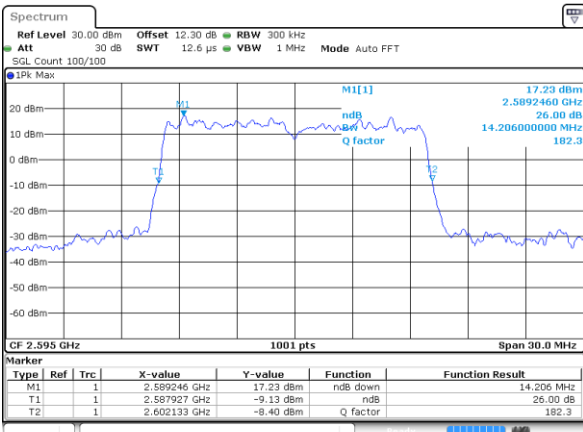
Date: 12 DEC 2020 11:43:48

Middle Channel / 10MHz / 16QAM



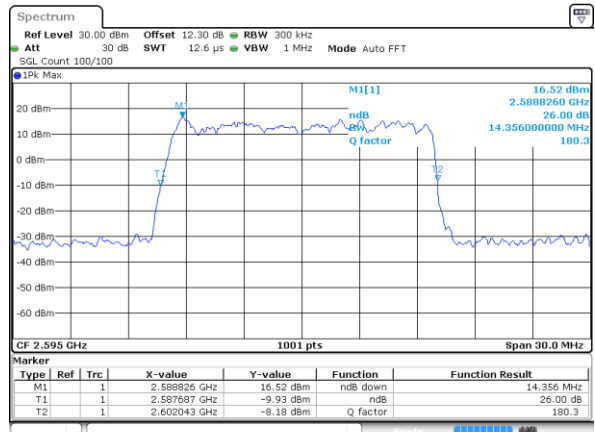
Date: 12 DEC 2020 11:43:59

Middle Channel / 15MHz / QPSK



Date: 12 DEC 2020 11:44:36

Middle Channel / 15MHz / 16QAM

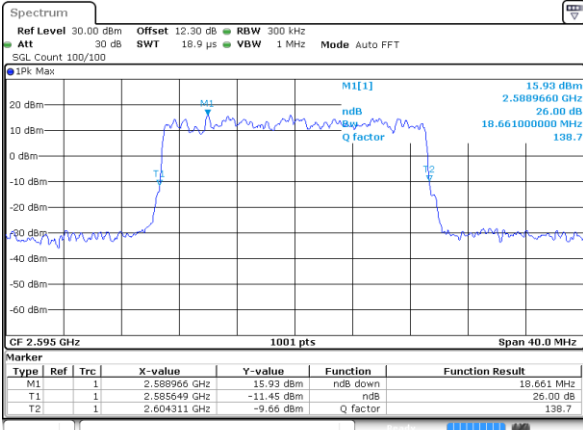


Date: 12 DEC 2020 11:44:47



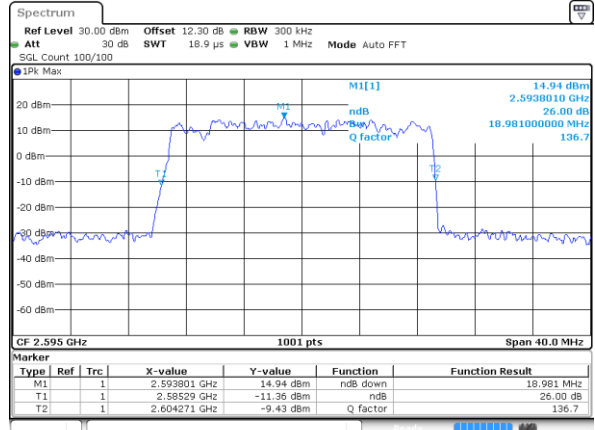
LTE Band 38

Middle Channel / 20MHz / QPSK



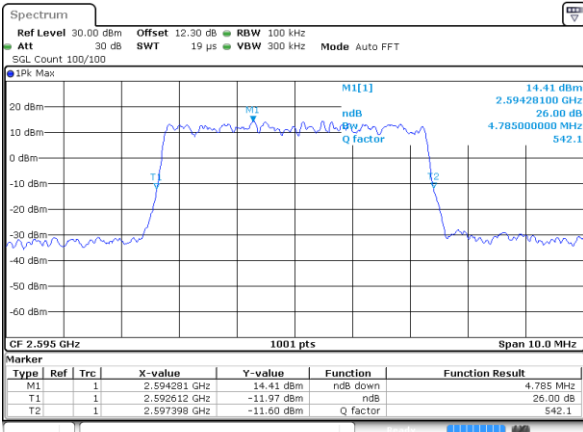
Date: 12 DEC 2020 11:45:23

Middle Channel / 20MHz / 16QAM



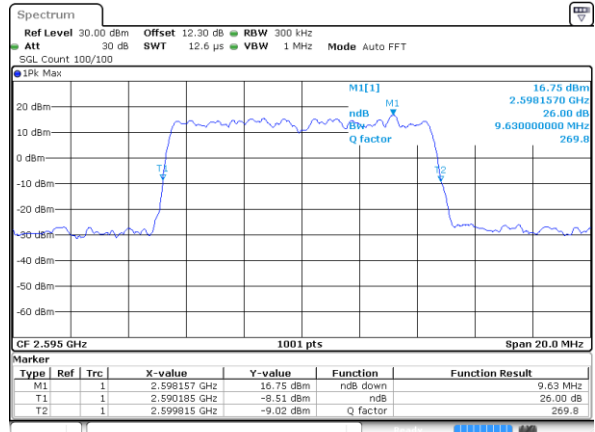
Date: 12 DEC 2020 11:45:35

Middle Channel / 5MHz / 64QAM



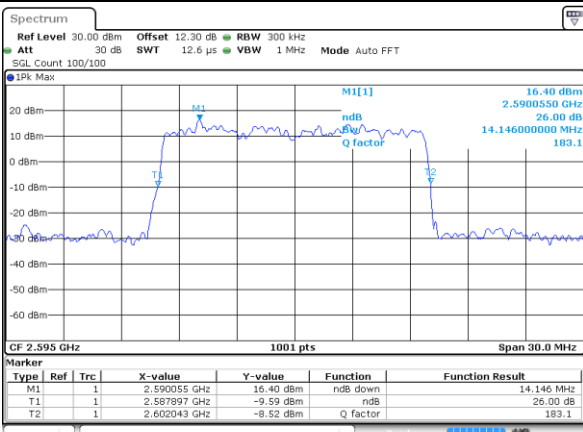
Date: 12 DEC 2020 11:45:59

Middle Channel / 10MHz / 64QAM



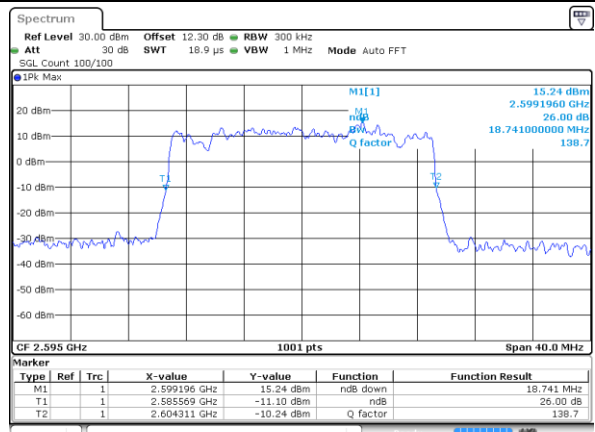
Date: 12 DEC 2020 11:46:23

Middle Channel / 15MHz / 64QAM



Date: 12 DEC 2020 11:46:47

Middle Channel / 20MHz / 64QAM



Date: 12 DEC 2020 11:47:12



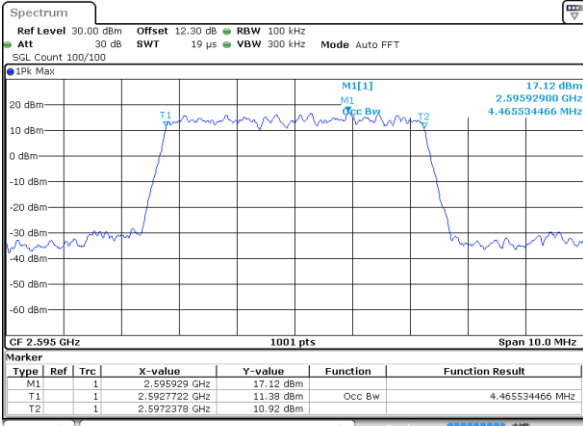
**Occupied Bandwidth**

Mode	LTE Band 38 : 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	4.45	8.99	8.99	13.43	13.37	17.86	17.86
Mode	LTE Band 38 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM	64QAM	256 QAM
Middle CH	-	-	-	-	4.50	-	9.01	-	13.46	value	17.90	-



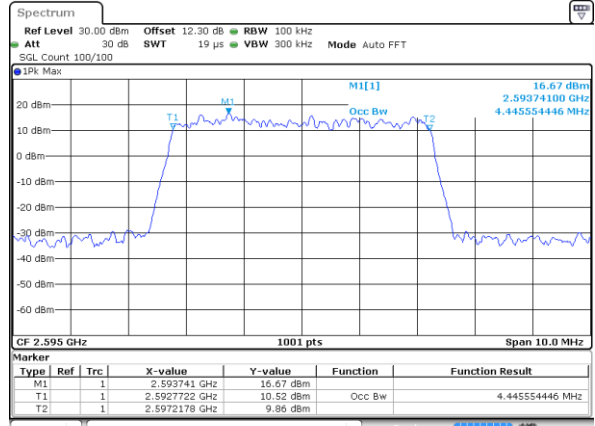
LTE Band 38

Middle Channel / 5MHz / QPSK



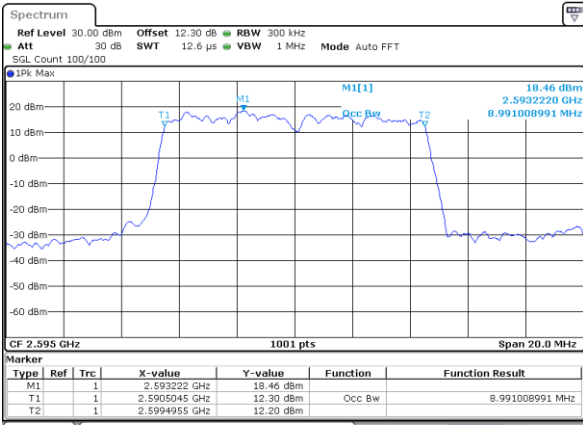
Date: 12 DEC 2020 11:42:37

Middle Channel / 5MHz / 16QAM



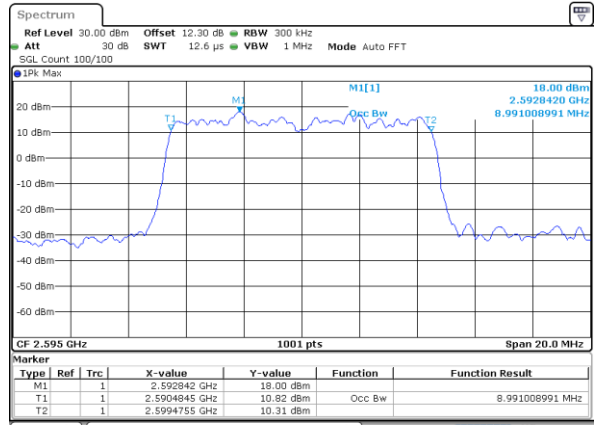
Date: 12 DEC 2020 11:42:49

Middle Channel / 10MHz / QPSK



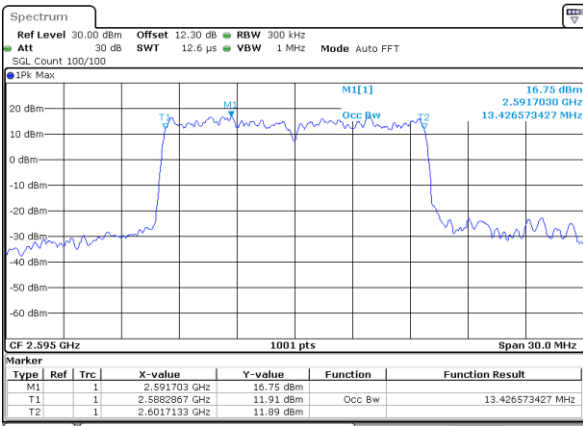
Date: 12 DEC 2020 11:43:24

Middle Channel / 10MHz / 16QAM



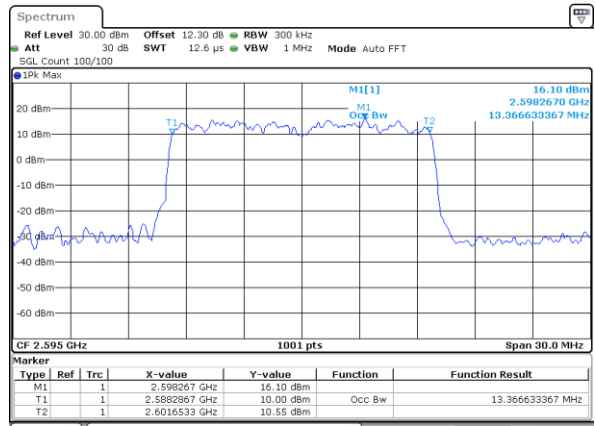
Date: 12 DEC 2020 11:43:36

Middle Channel / 15MHz / QPSK



Date: 12 DEC 2020 11:44:12

Middle Channel / 15MHz / 16QAM

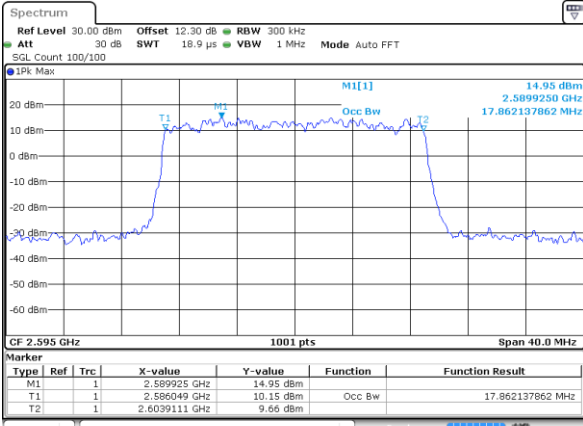


Date: 12 DEC 2020 11:44:24



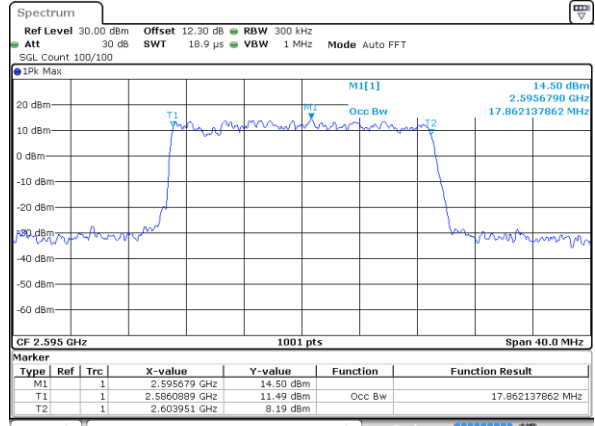
LTE Band 38

Middle Channel / 20MHz / QPSK



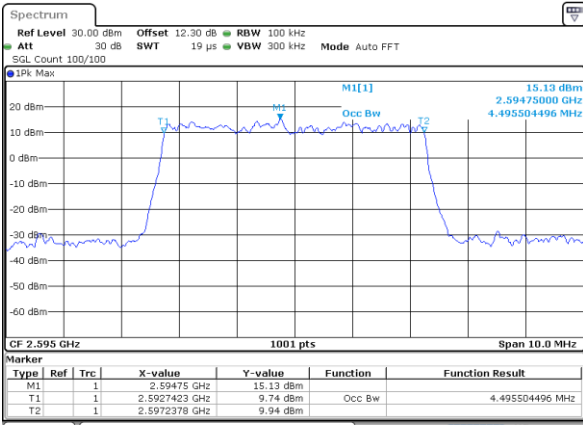
Date: 12 DEC 2020 11:45:00

Middle Channel / 20MHz / 16QAM



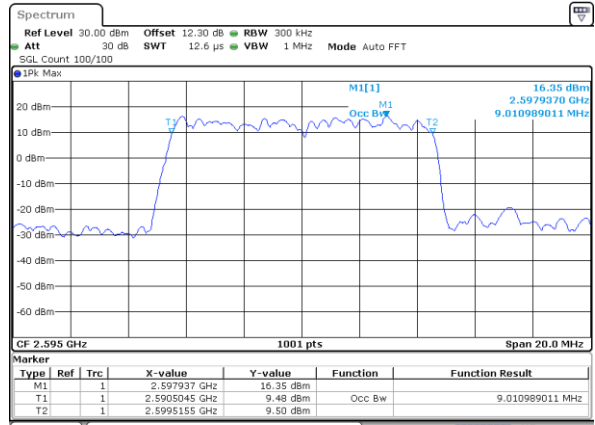
Date: 12 DEC 2020 11:45:12

Middle Channel / 5MHz / 64QAM



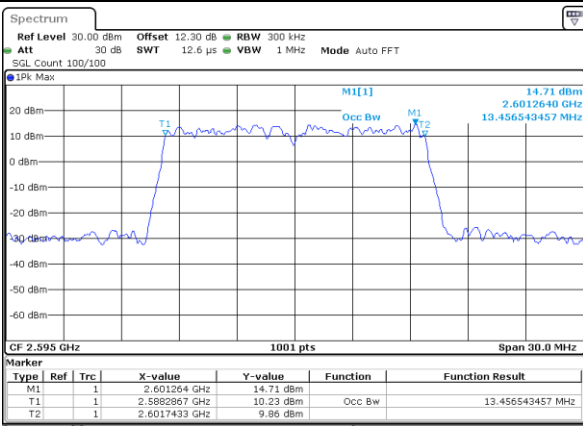
Date: 12 DEC 2020 11:45:48

Middle Channel / 10MHz / 64QAM



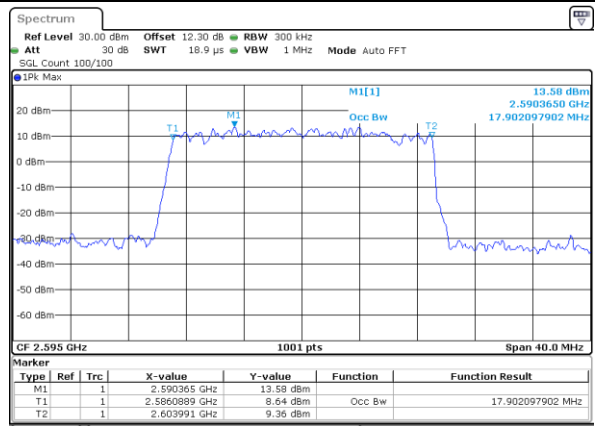
Date: 12 DEC 2020 11:46:12

Middle Channel / 15MHz / 64QAM



Date: 12 DEC 2020 11:46:36

Middle Channel / 20MHz / 64QAM



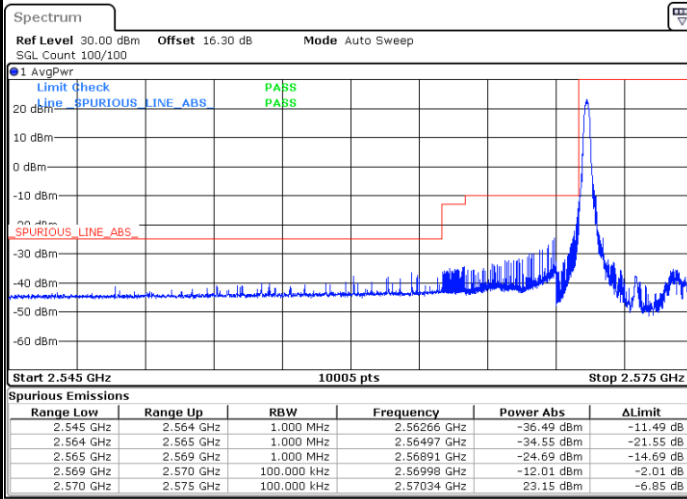
Date: 12 DEC 2020 11:47:00



# Conducted Band Edge

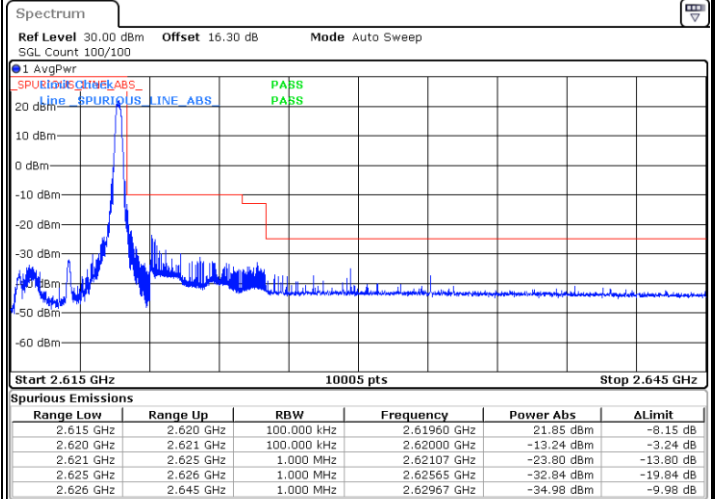
## LTE Band 38 / 5MHz / QPSK

### Lowest Band Edge / 1 RB



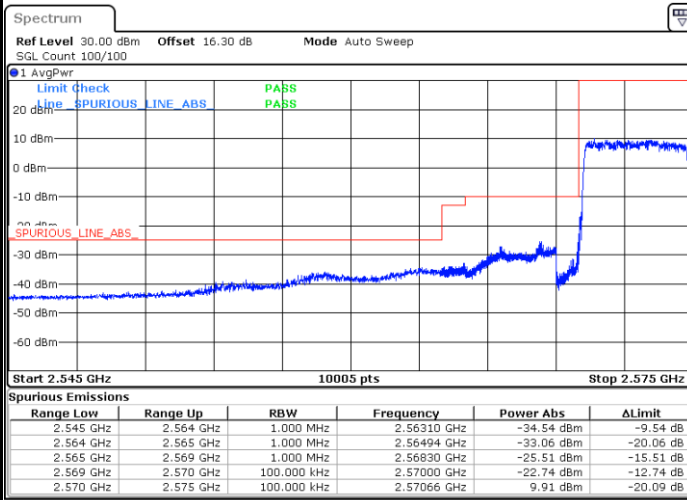
Date: 12.DEC.2020 11:08:28

### Highest Band Edge / 1 RB



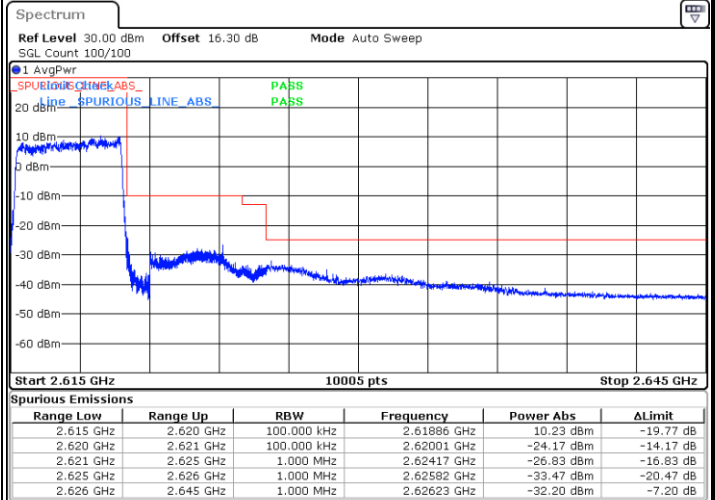
Date: 12.DEC.2020 11:11:12

### Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:09:23

### Highest Band Edge / Full RB

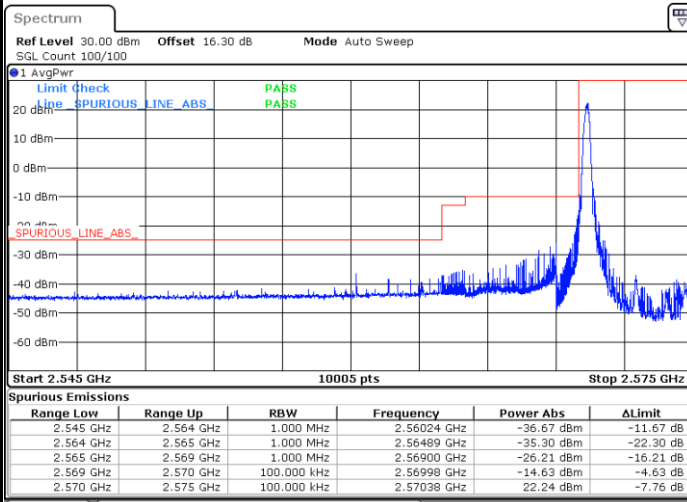


Date: 12.DEC.2020 11:10:17



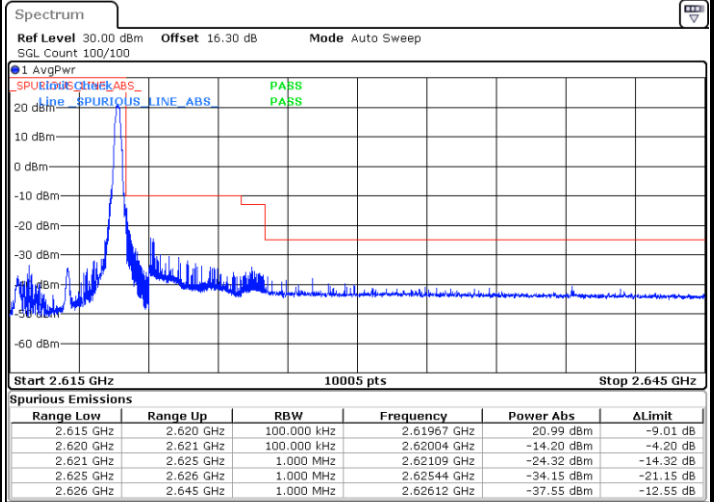
LTE Band 38 / 5MHz / 16QAM

Lowest Band Edge / 1RB



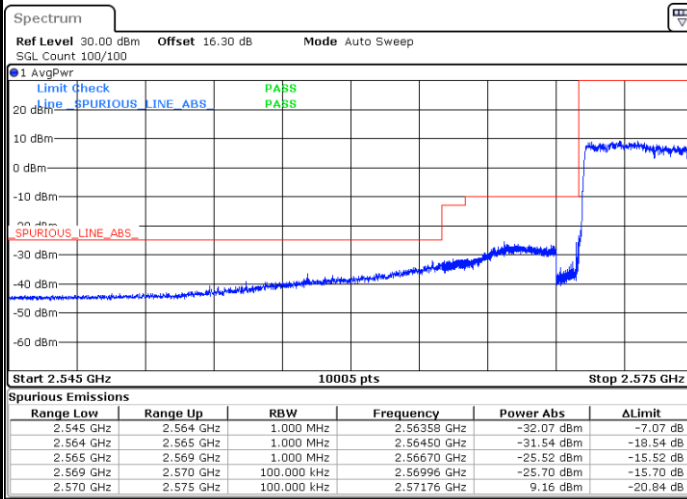
Date: 12.DEC.2020 11:08:55

Highest Band Edge / 1 RB



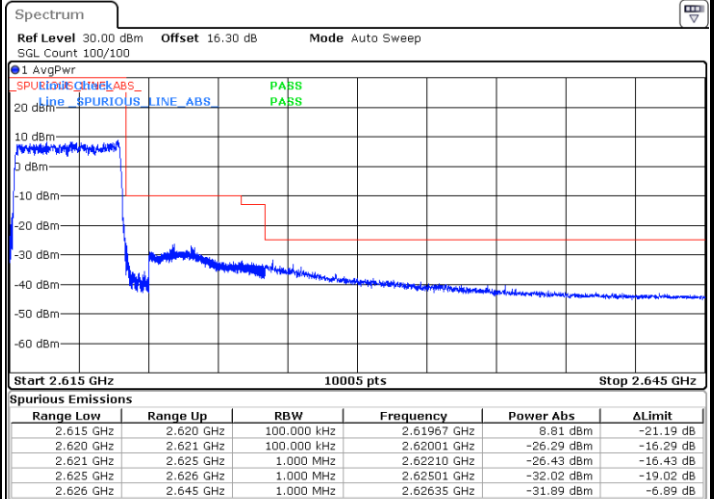
Date: 12.DEC.2020 11:11:39

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:09:50

Highest Band Edge / Full RB

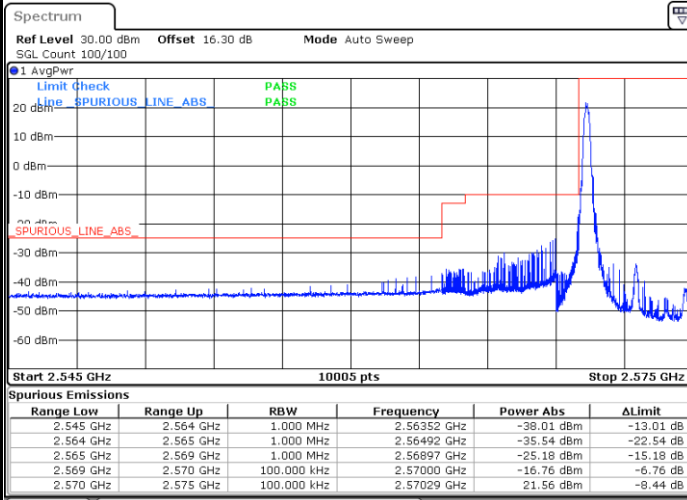


Date: 12.DEC.2020 12:23:03



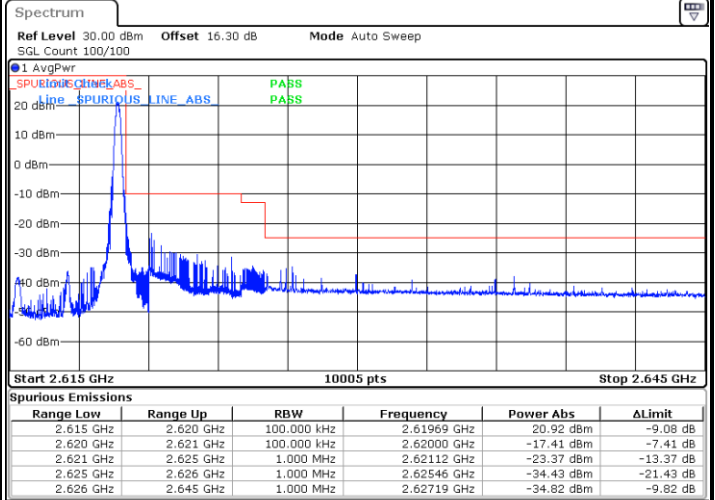
LTE Band 38 / 5MHz / 64QAM

Lowest Band Edge / 1RB



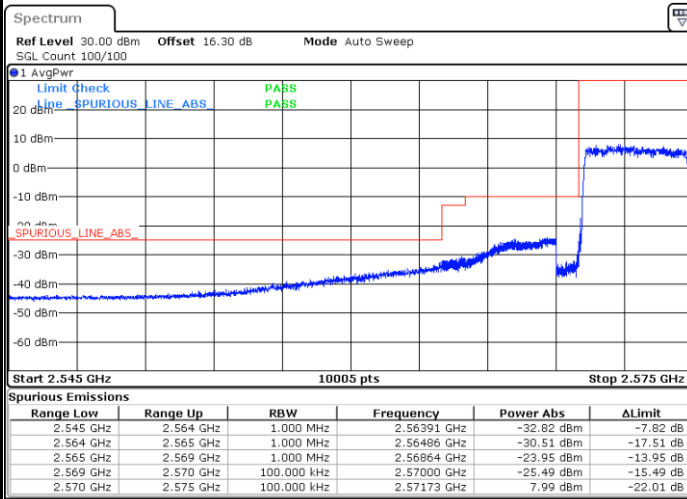
Date: 12.DEC.2020 11:12:07

Highest Band Edge / 1 RB



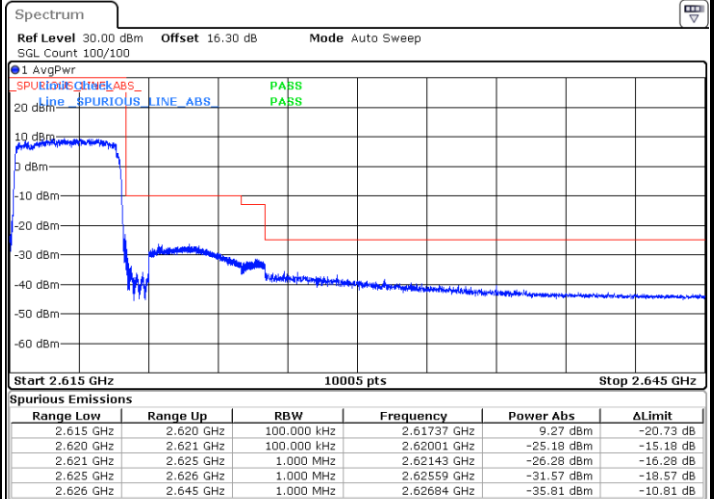
Date: 12.DEC.2020 11:13:28

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:12:34

Highest Band Edge / Full RB



Date: 12.DEC.2020 12:21:04

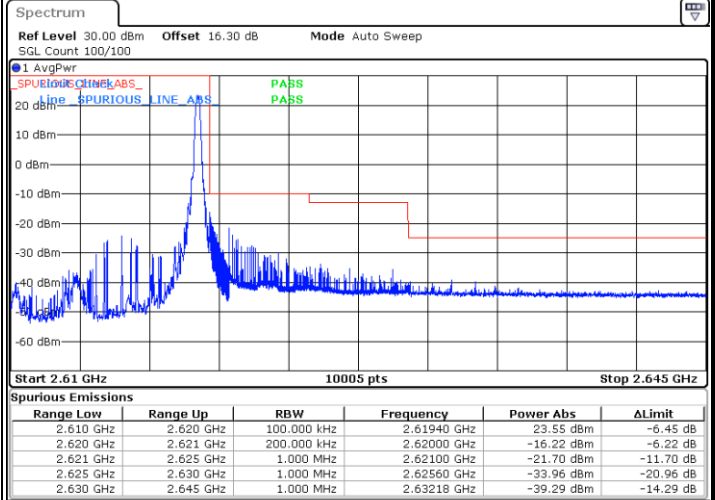
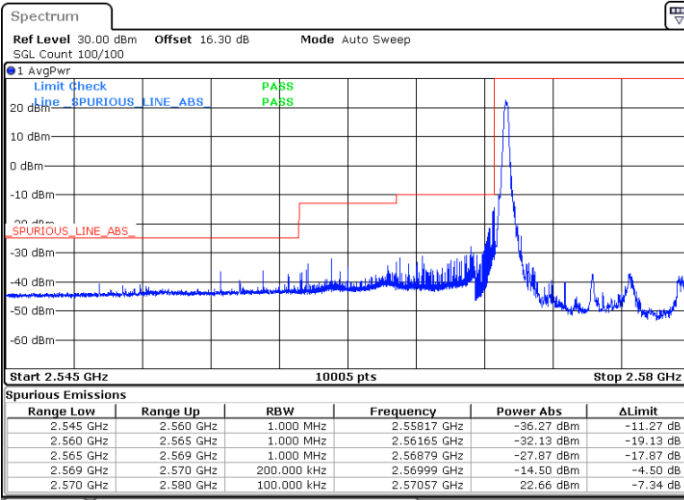




LTE Band 38 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

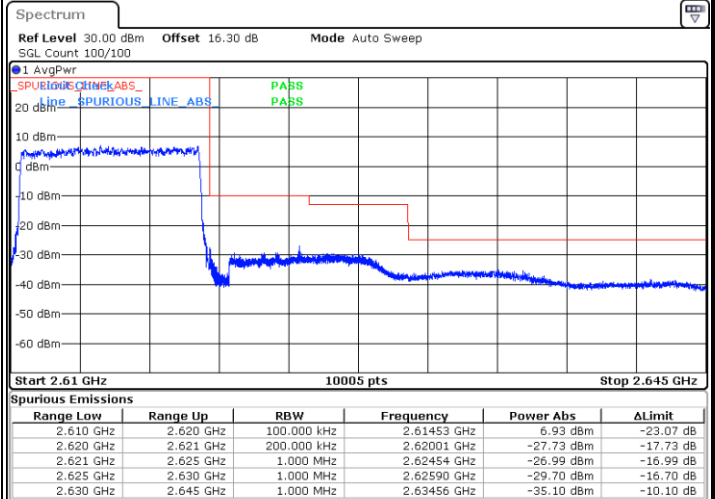
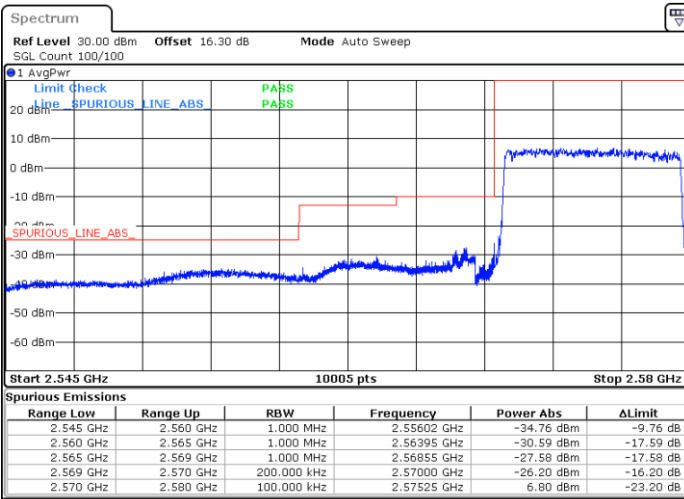


Date: 12.DEC.2020 11:15:46

Date: 12.DEC.2020 11:18:30

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



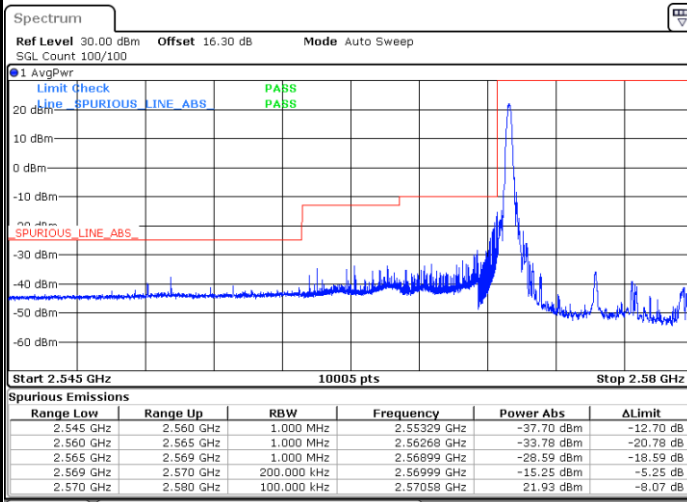
Date: 12.DEC.2020 11:16:41

Date: 12.DEC.2020 11:17:36



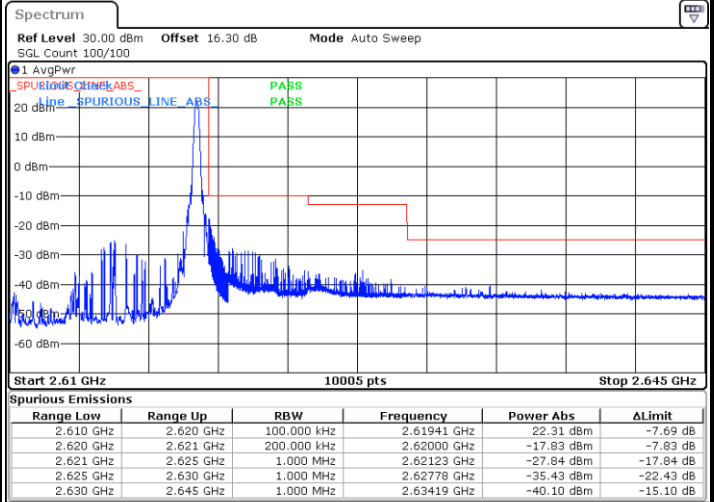
LTE Band 38 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



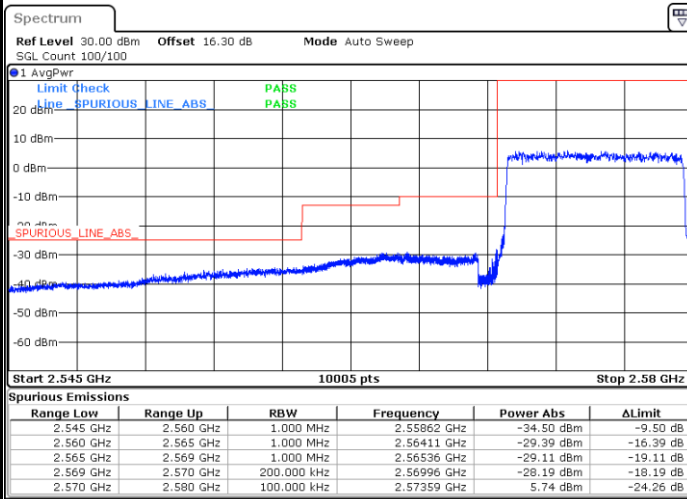
Date: 12.DEC.2020 11:16:14

Highest Band Edge / 1 RB



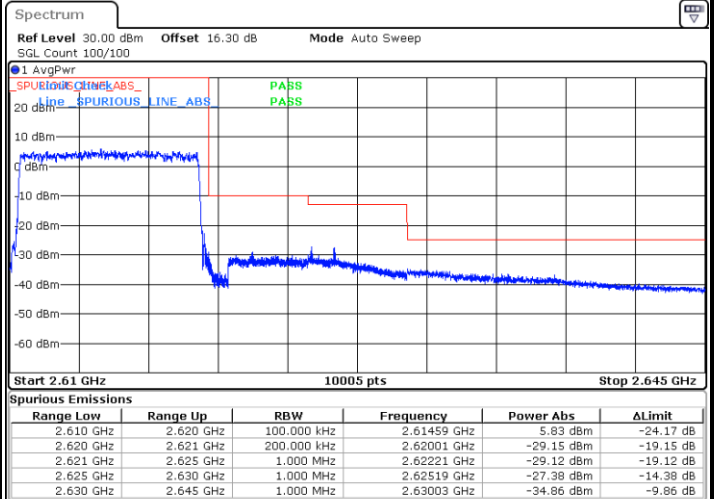
Date: 12.DEC.2020 11:18:58

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:17:09

Highest Band Edge / Full RB

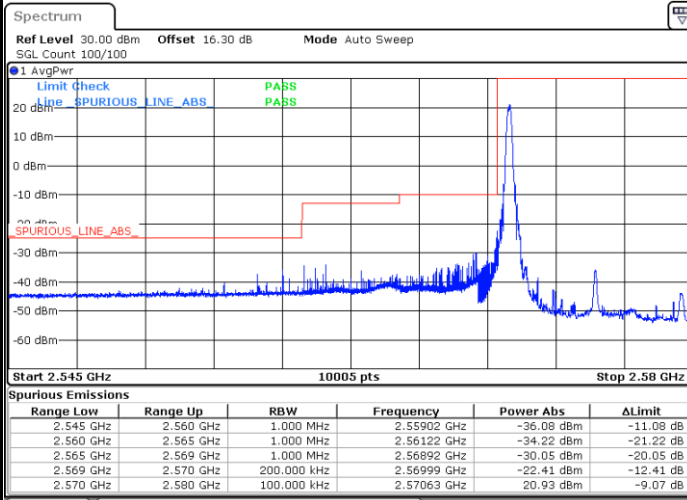


Date: 12.DEC.2020 11:18:03



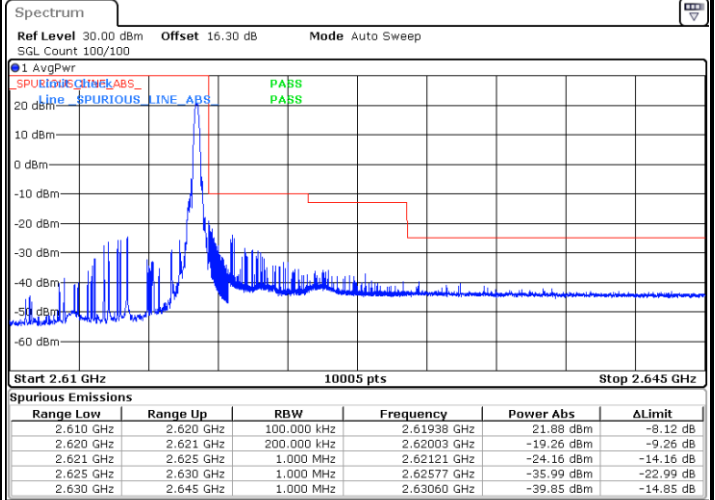
LTE Band 38 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



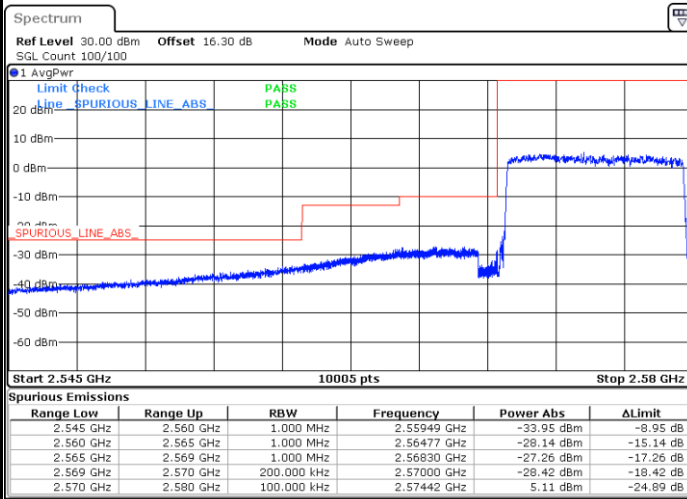
Date: 12.DEC.2020 11:13:57

Highest Band Edge / 1 RB



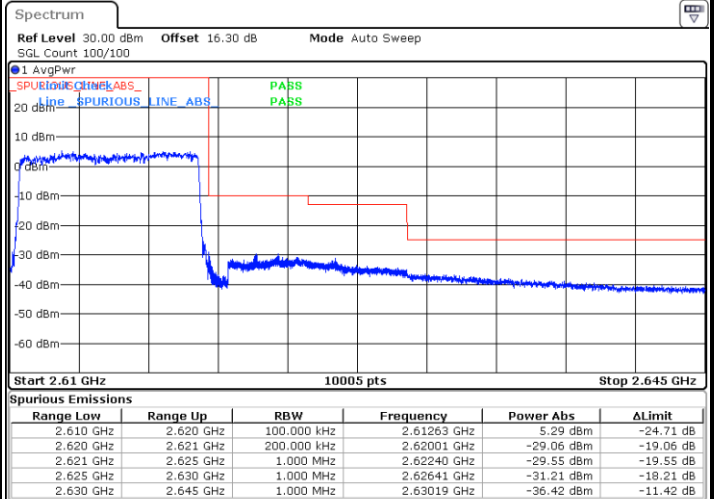
Date: 12.DEC.2020 11:15:19

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:14:25

Highest Band Edge / Full RB

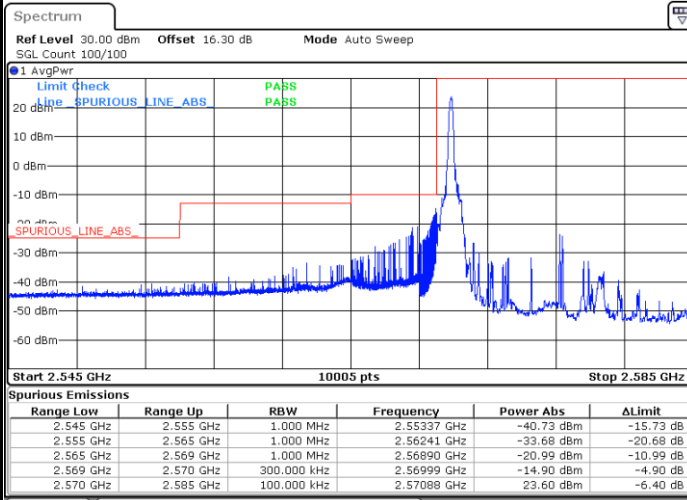


Date: 12.DEC.2020 12:24:39



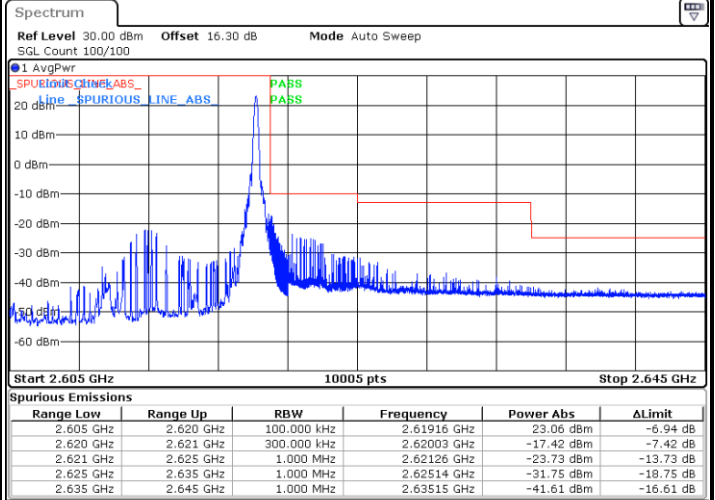
LTE Band 38 / 15MHz / QPSK

Lowest Band Edge / 1 RB



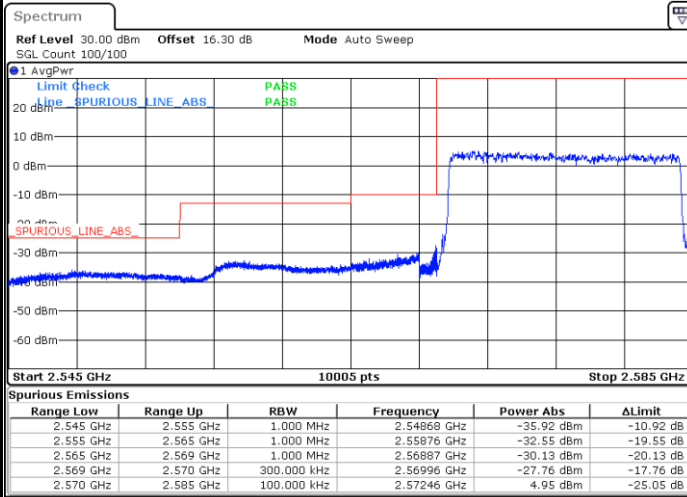
Date: 12.DEC.2020 11:19:27

Highest Band Edge / 1 RB



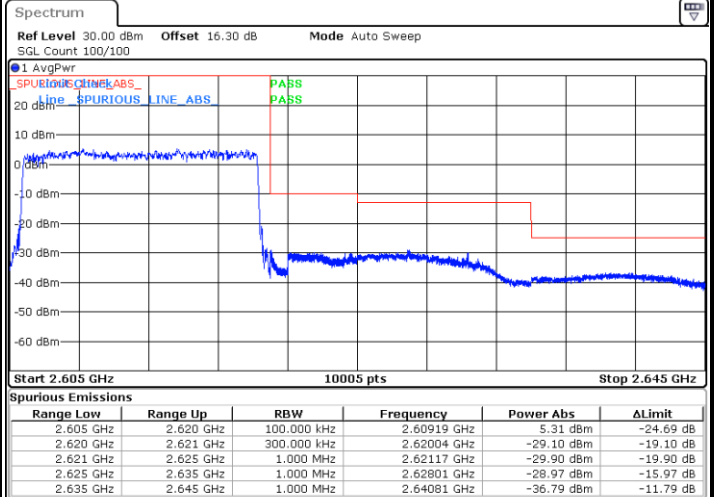
Date: 12.DEC.2020 11:22:11

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:20:21

Highest Band Edge / Full RB

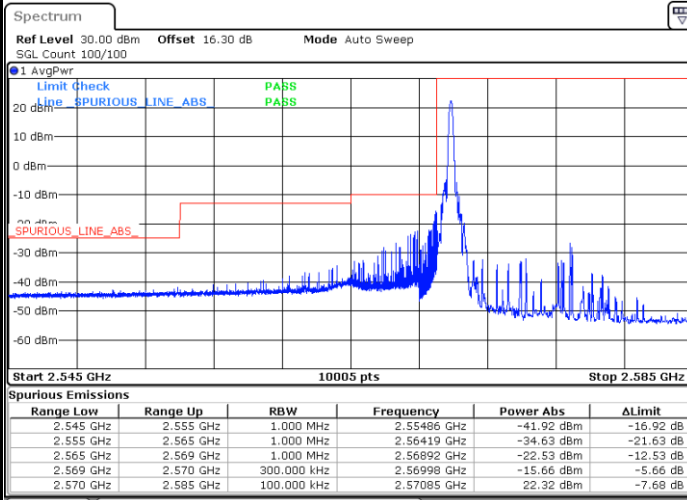


Date: 12.DEC.2020 11:21:16



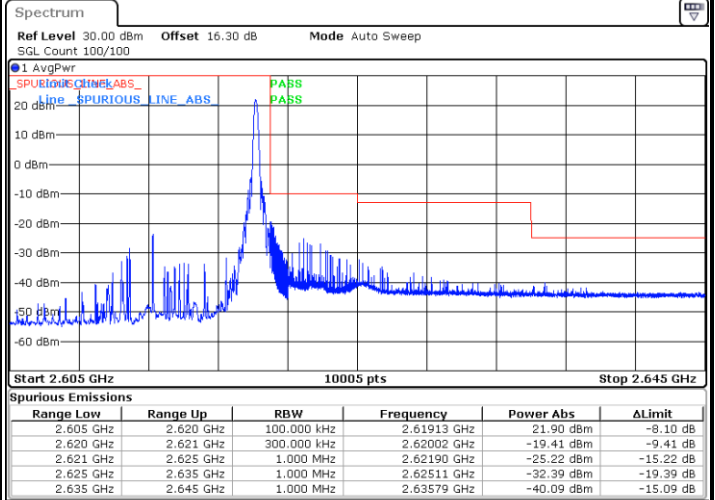
LTE Band 38 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



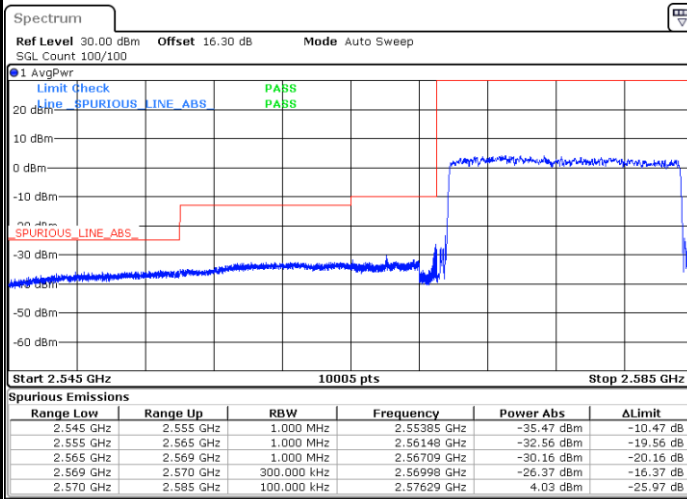
Date: 12.DEC.2020 11:19:54

Highest Band Edge / 1 RB



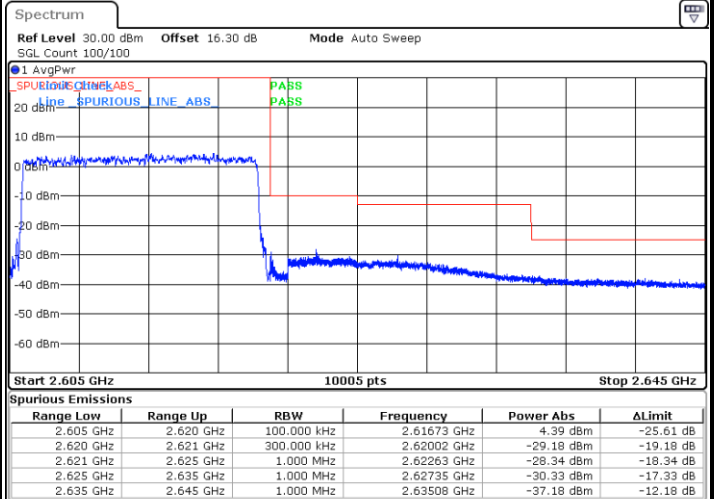
Date: 12.DEC.2020 11:22:38

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:20:49

Highest Band Edge / Full RB

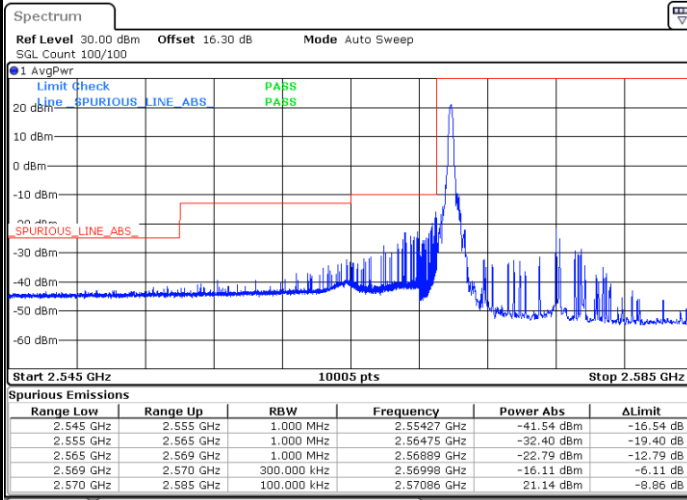


Date: 12.DEC.2020 11:21:44



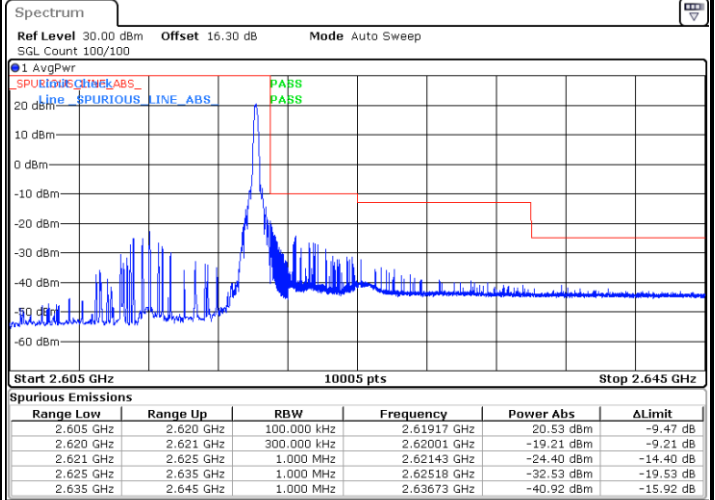
LTE Band 38 / 15MHz / 64QAM

Lowest Band Edge / 1 RB



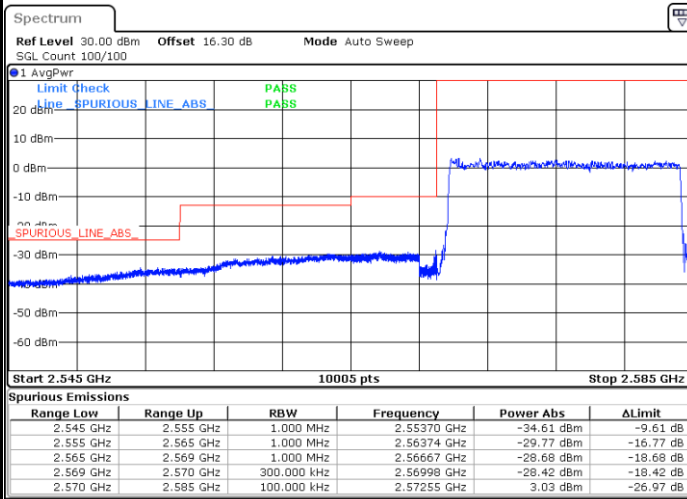
Date: 12.DEC.2020 11:23:05

Highest Band Edge / 1 RB



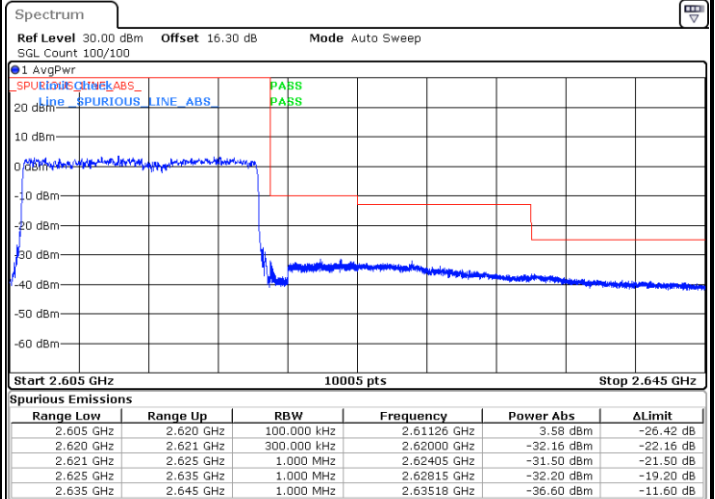
Date: 12.DEC.2020 11:24:27

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:23:32

Highest Band Edge / Full RB

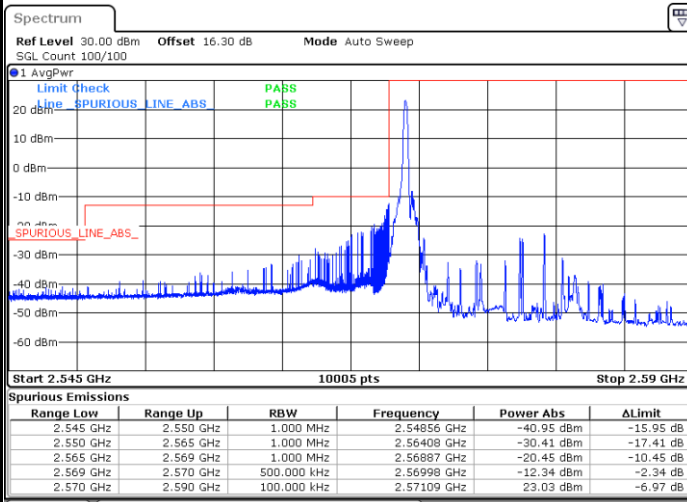


Date: 12.DEC.2020 11:24:00



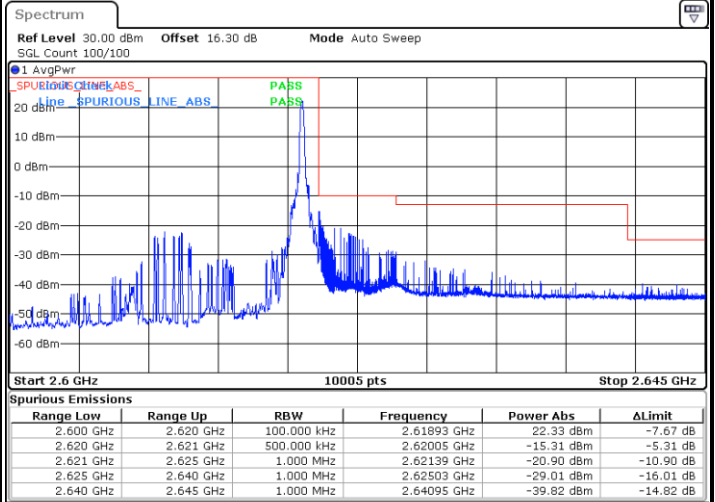
LTE Band 38 / 20MHz / QPSK

Lowest Band Edge / 1 RB



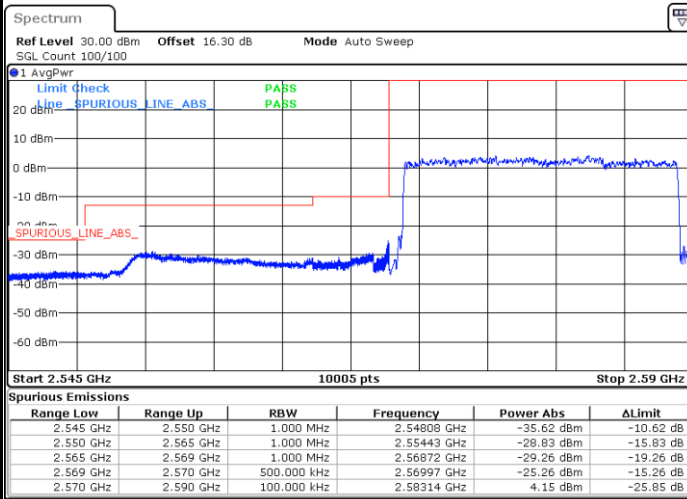
Date: 12.DEC.2020 11:24:56

Highest Band Edge / 1 RB



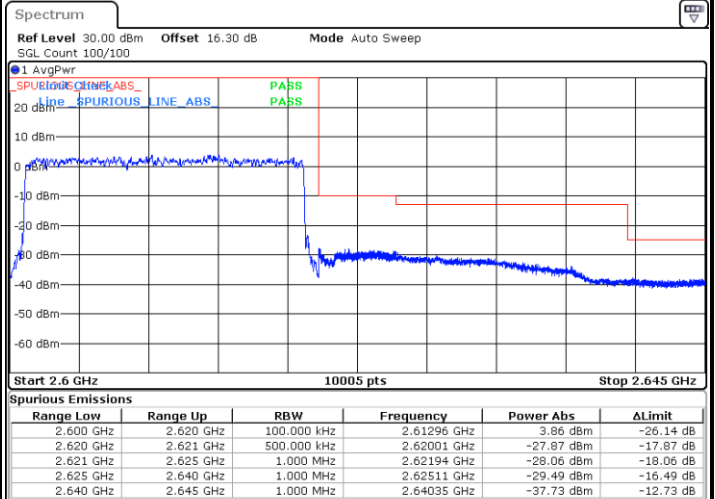
Date: 12.DEC.2020 11:27:39

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:25:51

Highest Band Edge / Full RB



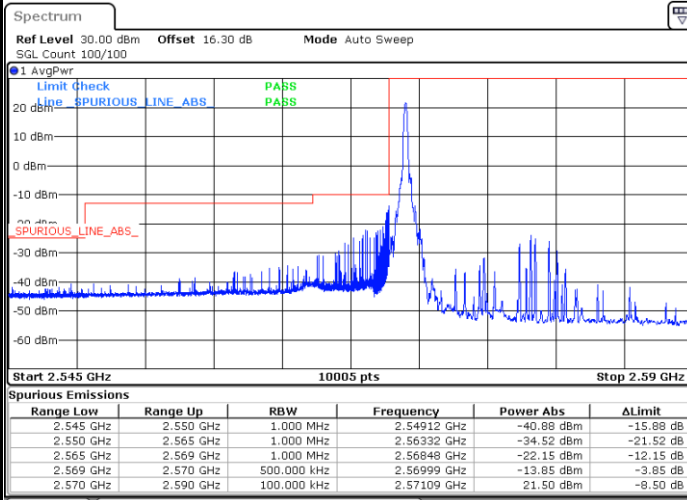
Date: 12.DEC.2020 11:26:45





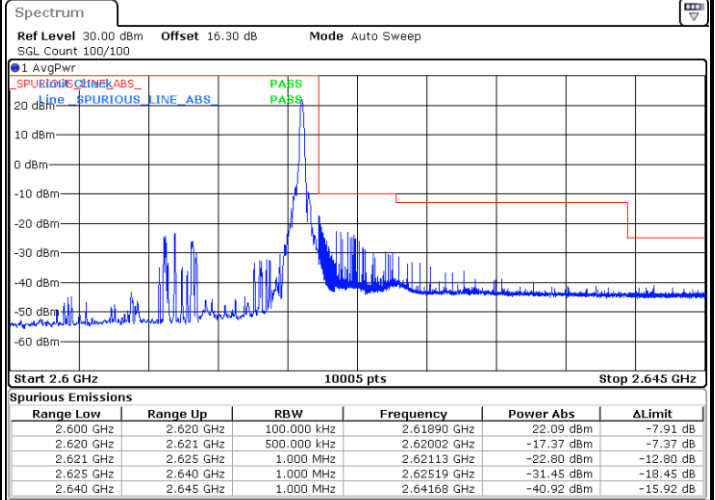
LTE Band 38 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



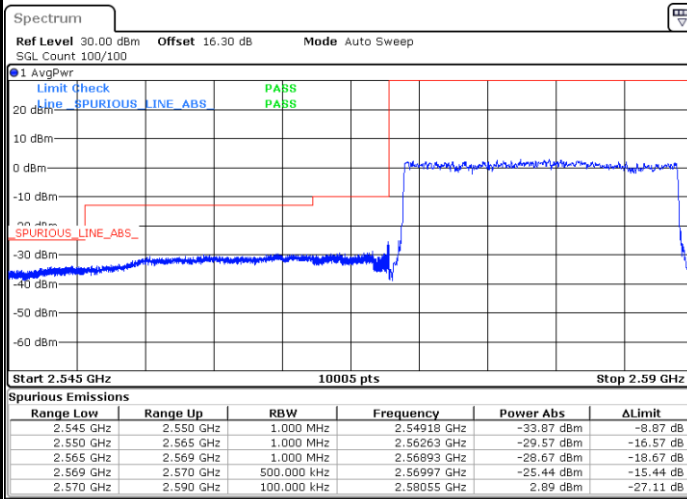
Date: 12.DEC.2020 11:25:23

Highest Band Edge / 1 RB



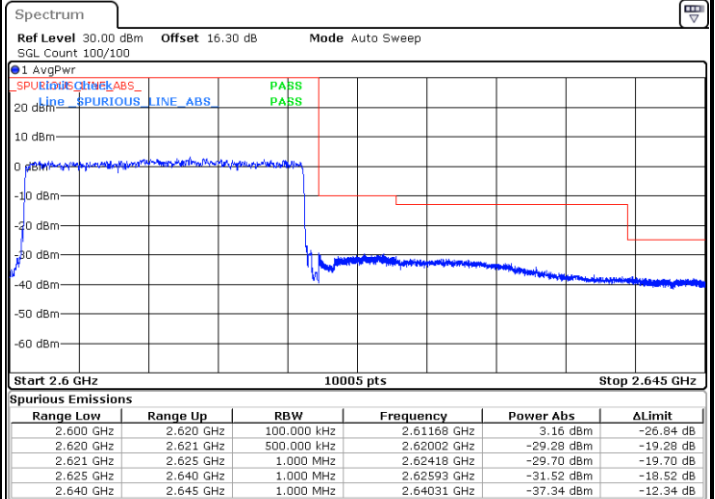
Date: 12.DEC.2020 11:28:07

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:26:18

Highest Band Edge / Full RB



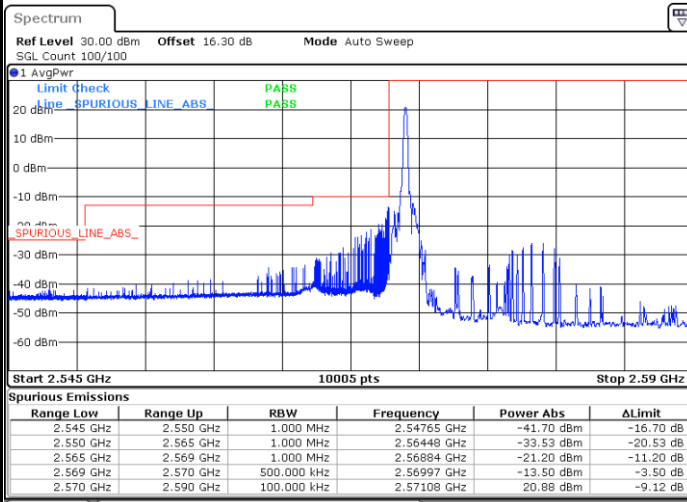
Date: 12.DEC.2020 11:27:12





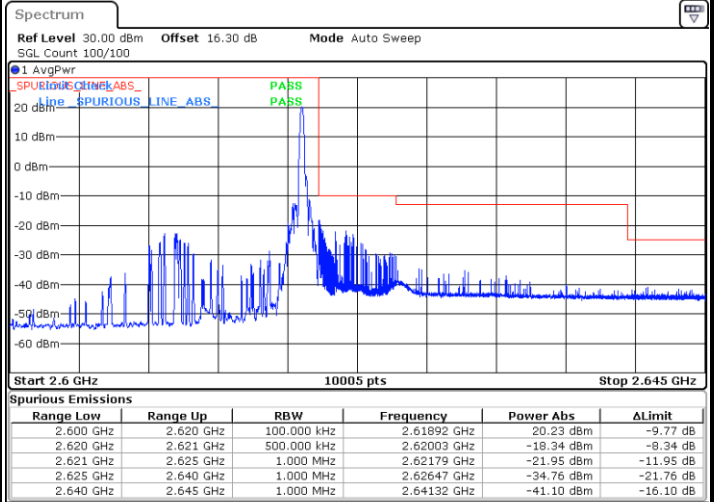
LTE Band 38 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



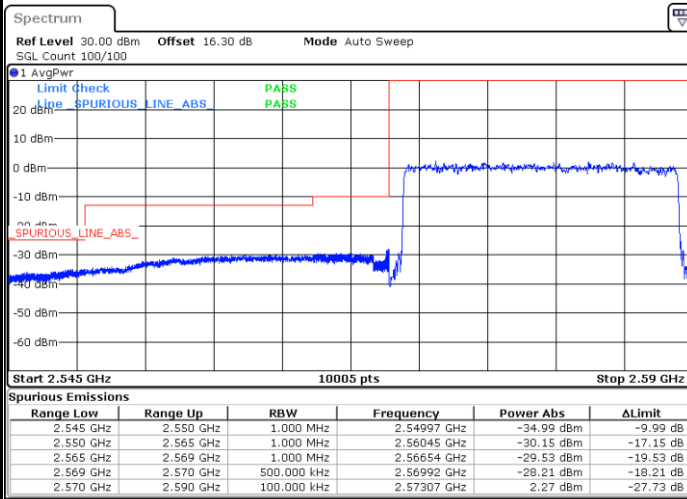
Date: 12.DEC.2020 11:28:34

Highest Band Edge / 1 RB



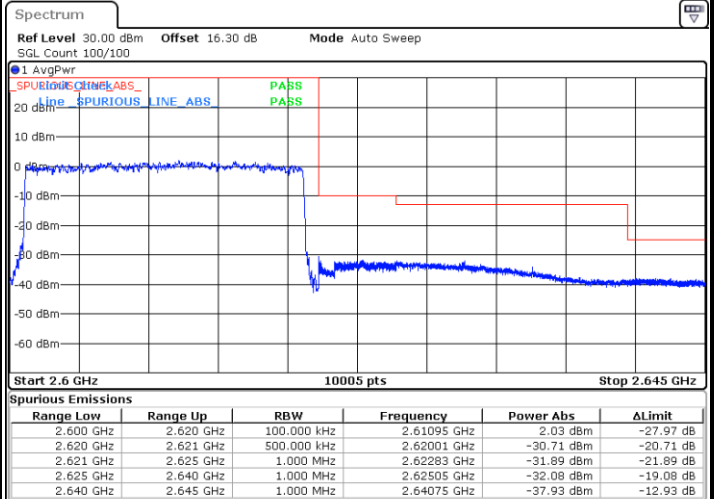
Date: 12.DEC.2020 11:29:56

Lowest Band Edge / Full RB



Date: 12.DEC.2020 11:29:01

Highest Band Edge / Full RB



Date: 12.DEC.2020 11:29:29

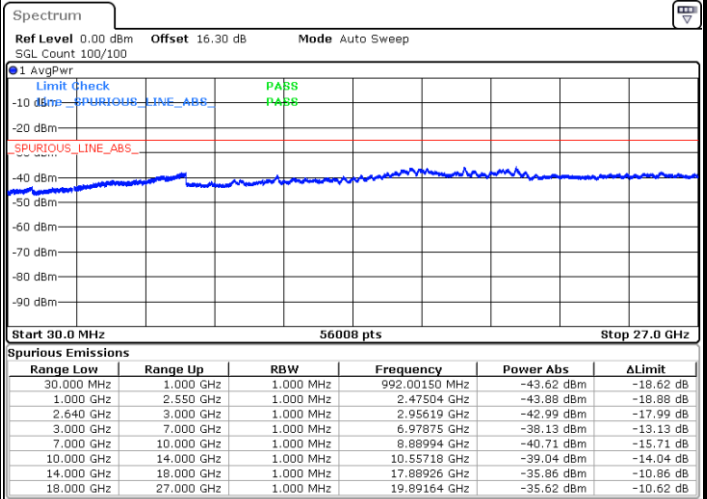
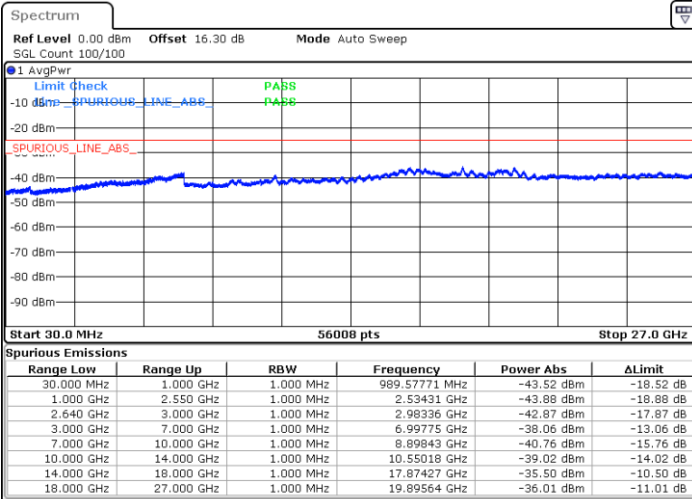


# Conducted Spurious Emission

## LTE Band 38 / 5MHz

### Lowest Channel / QPSK

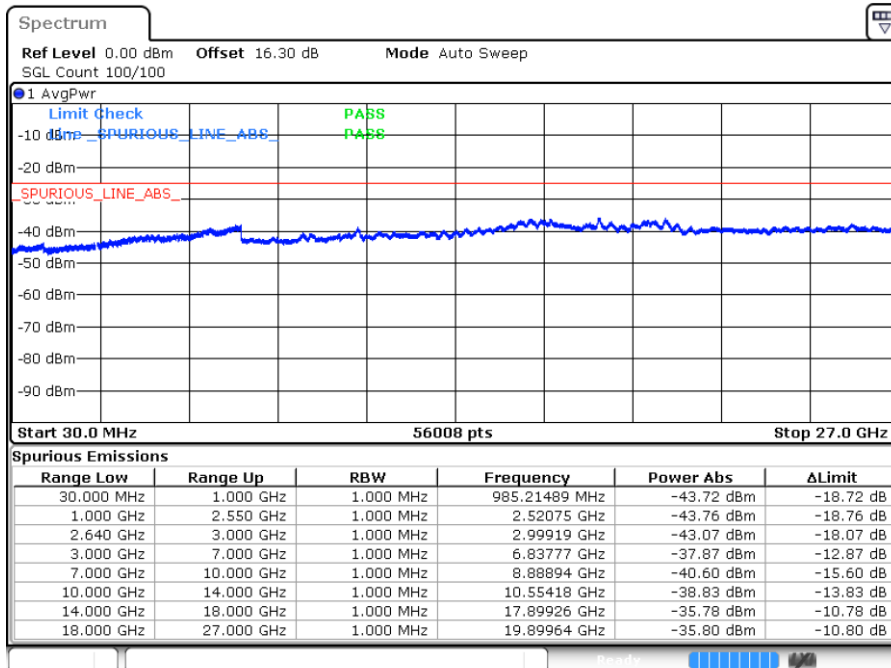
### Middle Channel / QPSK



Date: 12.DEC.2020 11:30:51

Date: 12.DEC.2020 11:31:45

### Highest Channel / QPSK

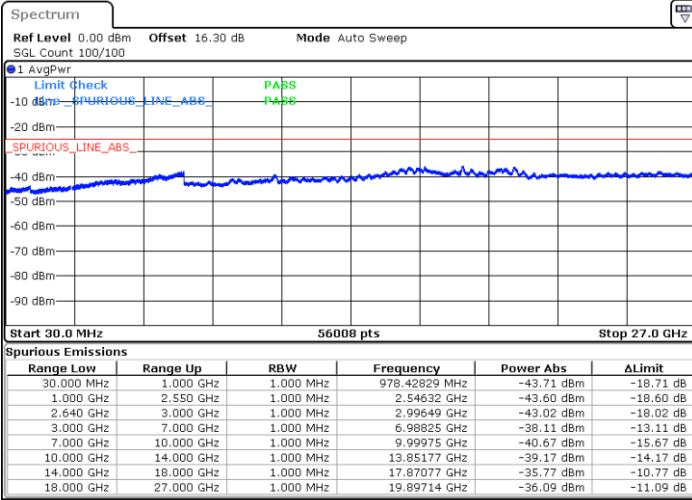




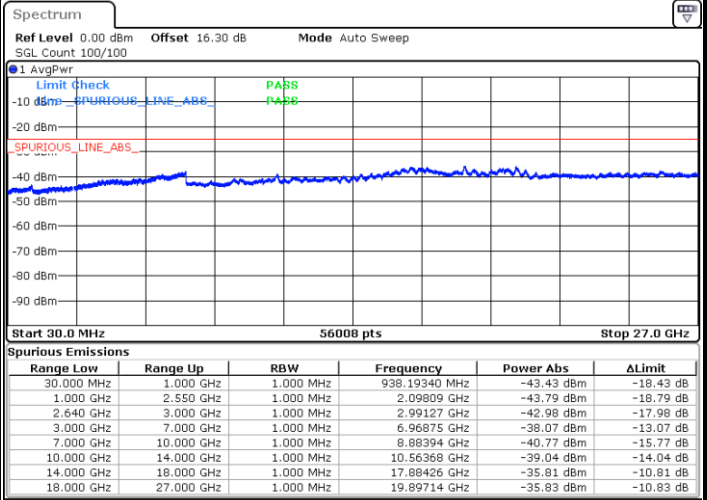
LTE Band 38 / 10MHz

Lowest Channel / QPSK

Middle Channel / QPSK

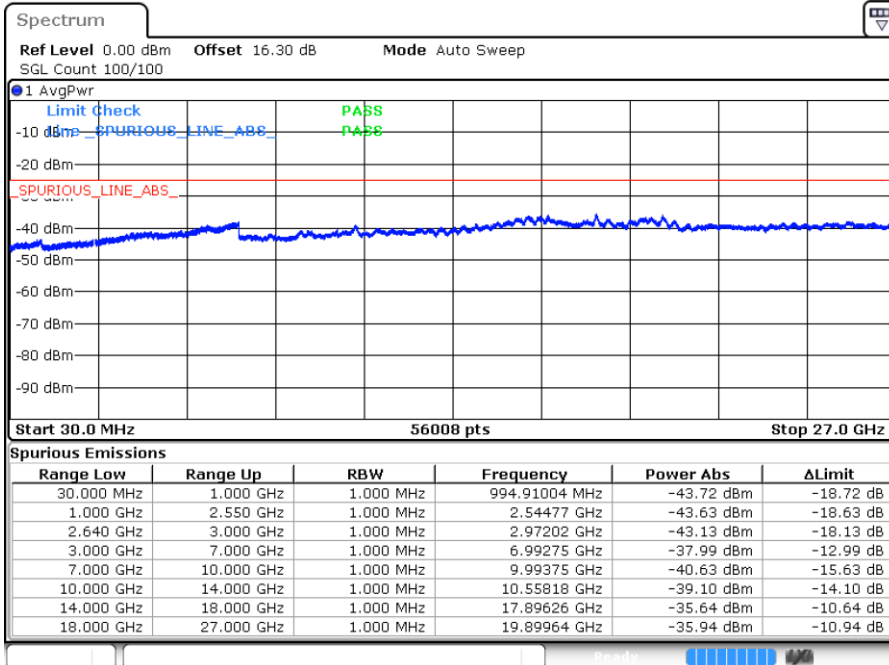


Date: 12.DEC.2020 11:33:34



Date: 12.DEC.2020 11:34:28

Highest Channel / QPSK



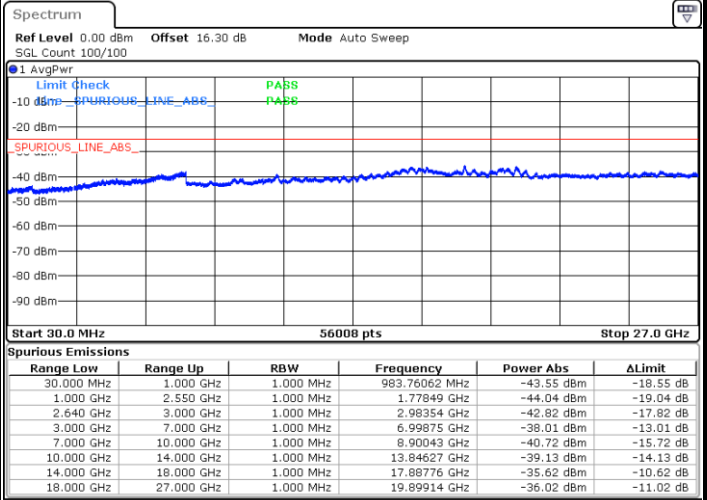
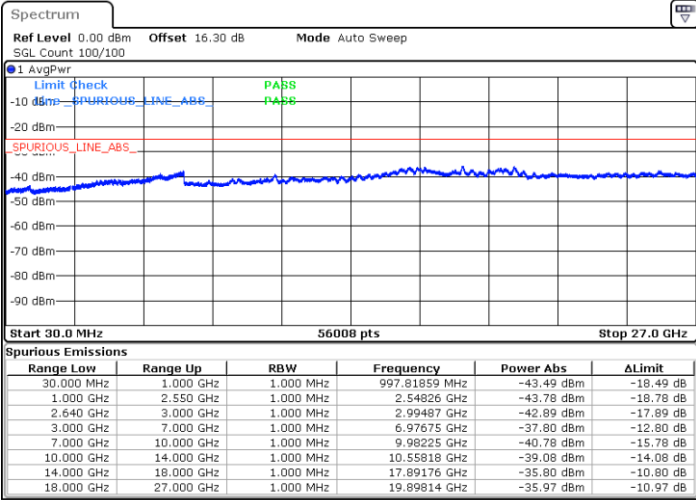
Date: 12.DEC.2020 11:35:22



LTE Band 38 / 15MHz

Lowest Channel / QPSK

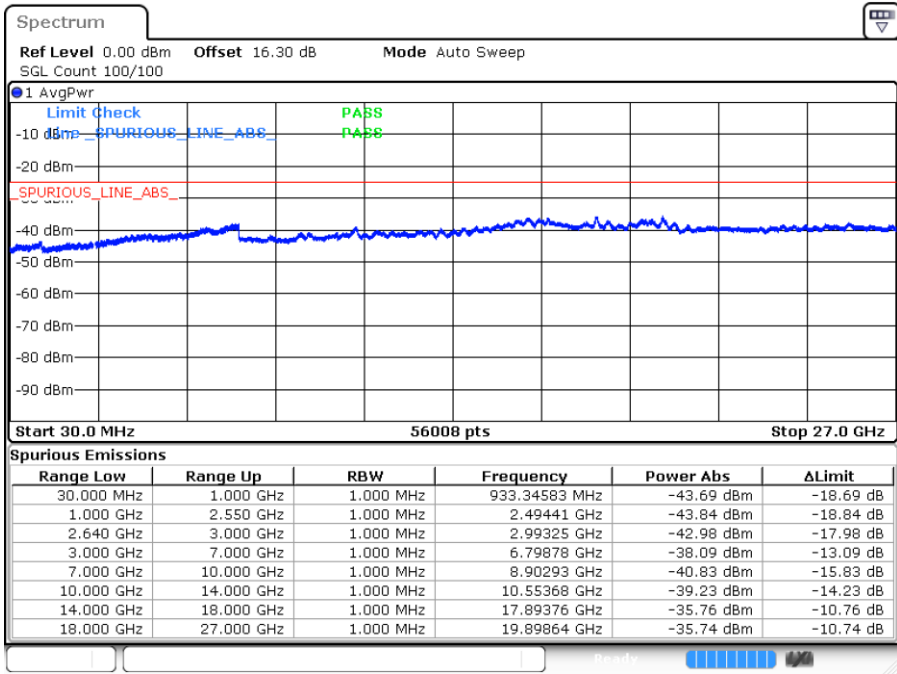
Middle Channel / QPSK



Date: 12.DEC.2020 11:36:17

Date: 12.DEC.2020 11:37:11

Highest Channel / QPSK



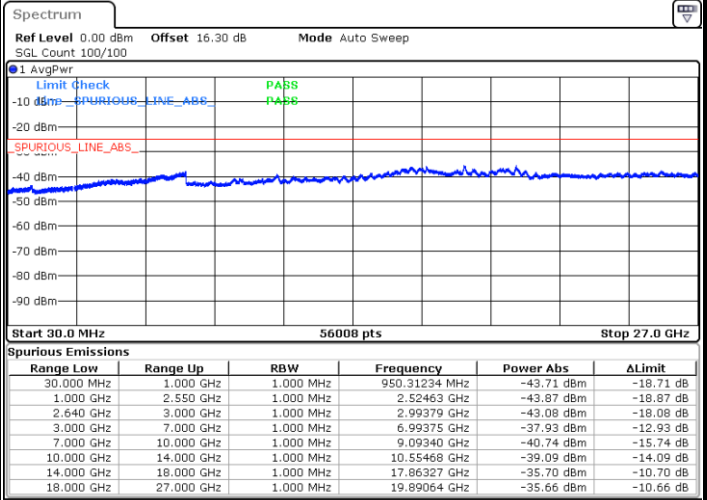
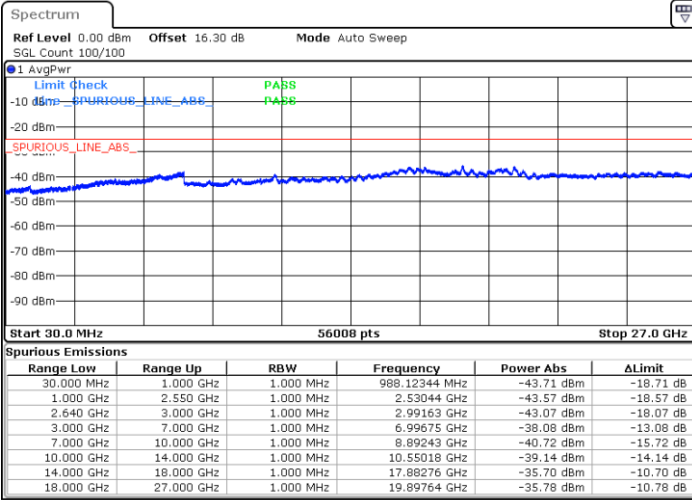
Date: 12.DEC.2020 11:38:04



LTE Band 38 / 20MHz

Lowest Channel / QPSK

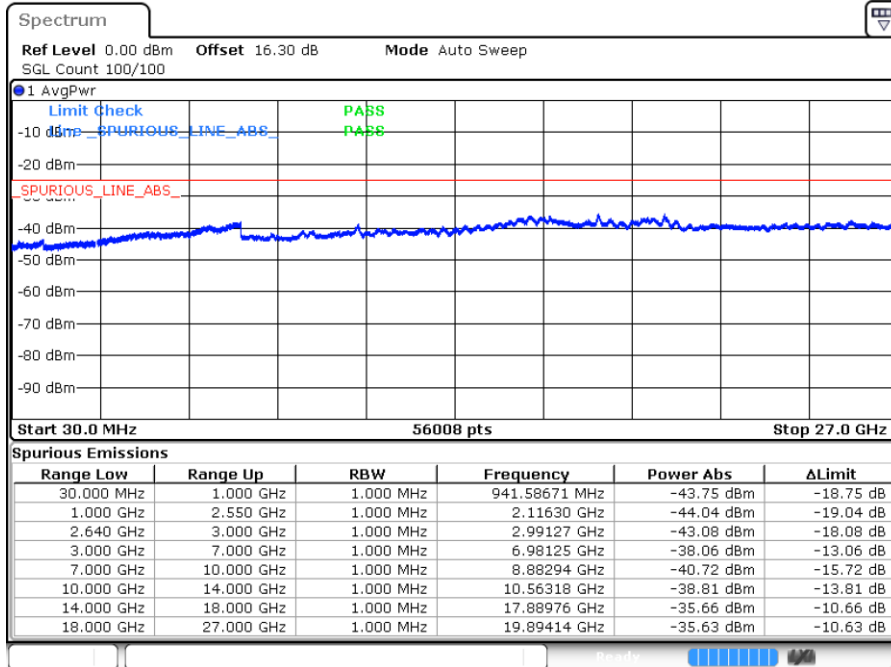
Middle Channel / QPSK



Date: 12.DEC.2020 11:39:00

Date: 12.DEC.2020 11:39:54

Highest Channel / QPSK



Date: 12.DEC.2020 11:40:47



Frequency Stability

Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0036	PASS
40	Normal Voltage	0.0050	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0026	
-10	Normal Voltage	0.0055	
-20	Normal Voltage	0.0029	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0023	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



### Appendix B. Test Results of Radiated Test

<Primary Antenna>

<Ant. 2>

### LTE Band 38 (HPUE)

LTE Band 38 (HPUE) / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5177	-64.14	-25	-39.14	-57.7	-73.99	2.29	12.14	H
	7767	-60.46	-25	-35.46	-58.93	-69.31	2.11	10.96	H
	10355	-59.35	-25	-34.35	-62.23	-68.93	2.36	11.94	H
									H
									H
									H
	5177	-61.27	-25	-36.27	-55.39	-71.12	2.29	12.14	V
	7767	-58.47	-25	-33.47	-57	-67.32	2.11	10.96	V
	10355	-58.98	-25	-33.98	-61.61	-68.56	2.36	11.94	V
									V
									V
									V
Middle	5207	-64.84	-25	-39.84	-58.51	-74.71	2.28	12.14	H
	7811	-58.13	-25	-33.13	-56.77	-67.14	2.11	11.12	H
	10415	-58.48	-25	-33.48	-61.47	-67.99	2.46	11.97	H
									H
									H
									H
	5207	-61.95	-25	-36.95	-56.17	-71.82	2.28	12.14	V
	7811	-57.60	-25	-32.60	-56.29	-66.61	2.11	11.12	V
	10415	-58.66	-25	-33.66	-61.51	-68.17	2.46	11.97	V
									V
									V
									V



Highest	5240	-64.87	-25	-39.87	-58.62	-74.76	2.26	12.15	H
	7858	-59.73	-25	-34.73	-58.69	-68.91	2.11	11.29	H
	10475	-59.08	-25	-34.08	-62.16	-68.52	2.55	11.99	H
									H
									H
									H
									H
	5240	-61.36	-25	-36.36	-55.65	-71.25	2.26	12.15	V
	7858	-58.44	-25	-33.44	-57.37	-67.62	2.11	11.29	V
	10475	-58.53	-25	-33.53	-61.59	-67.97	2.55	11.99	V
									V
									V
									V
									V

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





**LTE Band 7C CA**

LTE Band 7C_CA / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5037	-61.78	-25	-36.78	-54.88	-71.54	2.34	12.11	H
	7557	-61.32	-25	-36.32	-59.48	-69.41	2.11	10.21	H
	10082.5	-59.32	-25	-34.32	-61.73	-69.22	1.93	11.83	H
									H
									H
									H
									H
	5037	-60.69	-25	-35.69	-54.4	-70.45	2.34	12.11	V
	7557	-60.44	-25	-35.44	-58.56	-68.53	2.11	10.21	V
	10082.5	-60.19	-25	-35.19	-61.83	-70.09	1.93	11.83	V
									V
									V
									V
									V
Middle	5065	-63.33	-25	-38.33	-56.53	-73.11	2.33	12.11	H
	7599	-59.71	-25	-34.71	-57.64	-67.95	2.11	10.36	H
	10140	-58.94	-25	-33.94	-61.45	-68.77	2.02	11.86	H
									H
									H
									H
	5065	-60.59	-25	-35.59	-54.39	-70.37	2.33	12.11	V
	7599	-58.14	-25	-33.14	-56.1	-66.38	2.11	10.36	V
	10140	-59.31	-25	-34.31	-61.16	-69.14	2.02	11.86	V
									V
									V
									V
									V
									V



Highest	5100	-57.69	-25	-32.69	-51	-67.49	2.32	12.12	H
	7648	-60.07	-25	-35.07	-58.14	-68.49	2.11	10.53	H
	10198	-59.81	-25	-34.81	-62.42	-69.58	2.11	11.88	H
									H
									H
									H
									H
	5100	-57.60	-25	-32.60	-51.5	-67.40	2.32	12.12	V
	7648	-57.61	-25	-32.61	-55.73	-66.03	2.11	10.53	V
	10198	-60.09	-25	-35.09	-62.15	-69.86	2.11	11.88	V
									V
									V
									V
									V

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



<ASDIV Antenna>

<Ant. 0>

**LTE Band 38 (HPUE)**

LTE Band 38 (HPUE) / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5142	-59.18	-25	-34.18	-52.63	-69.01	2.30	12.13	H
	7711	-60.97	-25	-35.97	-59.25	-69.62	2.11	10.76	H
	10280.5	-58.84	-25	-33.84	-61.59	-68.51	2.24	11.91	H
									H
									H
									H
	5142	-55.96	-25	-30.96	-49.98	-65.79	2.30	12.13	V
	7711	-61.00	-25	-36.00	-59.33	-69.65	2.11	10.76	V
	10280.5	-59.12	-25	-34.12	-61.48	-68.79	2.24	11.91	V
									V
									V
									V
Middle	5170	-59.42	-25	-34.42	-52.96	-69.26	2.29	12.13	H
	7760	-60.30	-25	-35.30	-58.74	-69.12	2.11	10.94	H
	10346.5	-59.46	-25	-34.46	-62.32	-69.05	2.35	11.94	H
									H
									H
									H
	5170	-54.70	-25	-29.70	-48.8	-64.54	2.29	12.13	V
	7760	-58.90	-25	-33.90	-57.41	-67.72	2.11	10.94	V
	10346.5	-59.67	-25	-34.67	-62.27	-69.26	2.35	11.94	V
									V
									V
									V



Highest	5205	-59.11	-25	-34.11	-52.77	-68.98	2.28	12.14	H
	7802	-58.53	-25	-33.53	-57.11	-67.51	2.11	11.09	H
	10412.5	-58.35	-25	-33.35	-61.33	-67.86	2.45	11.96	H
									H
									H
									H
									H
	5205	-55.47	-25	-30.47	-49.67	-65.34	2.28	12.14	V
	7802	-57.69	-25	-32.69	-56.34	-66.67	2.11	11.09	V
	10412.5	-58.41	-25	-33.41	-61.26	-67.92	2.45	11.96	V
									V
									V
									V
									V

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



**LTE Band 7C CA**

LTE Band 7C_CA / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5037	-55.99	-25	-30.99	-49.09	-65.75	2.34	12.11	H
	7557	-61.37	-25	-36.37	-59.53	-69.46	2.11	10.21	H
	10082.5	-59.55	-25	-34.55	-61.96	-69.45	1.93	11.83	H
									H
									H
									H
									H
	5037	-54.97	-25	-29.97	-48.68	-64.73	2.34	12.11	V
	7557	-59.48	-25	-34.48	-57.6	-67.57	2.11	10.21	V
	10082.5	-60.84	-25	-35.84	-62.48	-70.74	1.93	11.83	V
									V
									V
									V
									V
Middle	5065	-60.76	-25	-35.76	-53.96	-70.54	2.33	12.11	H
	7599	-55.08	-25	-30.08	-53.01	-63.32	2.11	10.36	H
	10140	-58.78	-25	-33.78	-61.29	-68.61	2.02	11.86	H
									H
									H
									H
									H
	5065	-58.56	-25	-33.56	-52.36	-68.34	2.33	12.11	V
	7599	-58.14	-25	-33.14	-56.1	-66.38	2.11	10.36	V
	10140	-59.96	-25	-34.96	-61.81	-69.79	2.02	11.86	V
									V
									V
									V
									V



Highest	5100	-64.09	-25	-39.09	-57.4	-73.89	2.32	12.12	H
	7648	-60.60	-25	-35.60	-58.67	-69.02	2.11	10.53	H
	10198	-60.24	-25	-35.24	-62.85	-70.01	2.11	11.88	H
									H
									H
									H
									H
	5100	-63.67	-25	-38.67	-57.57	-73.47	2.32	12.12	V
	7648	-58.12	-25	-33.12	-56.24	-66.54	2.11	10.53	V
	10198	-60.44	-25	-35.44	-62.5	-70.21	2.11	11.88	V
									V
									V
									V
									V

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

————THE END————