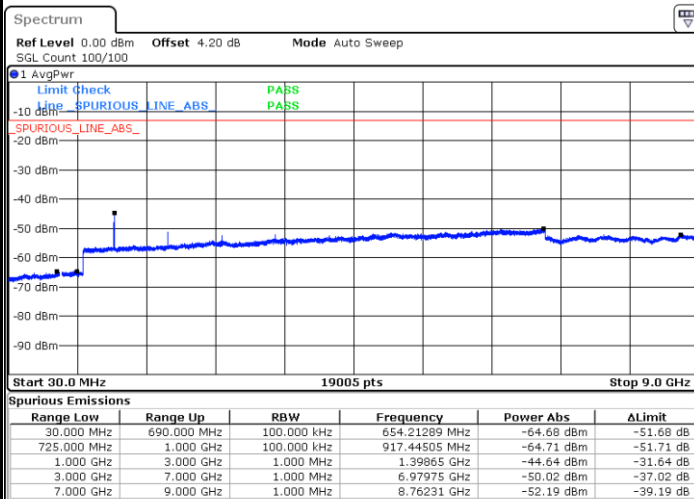




Conducted Spurious Emission

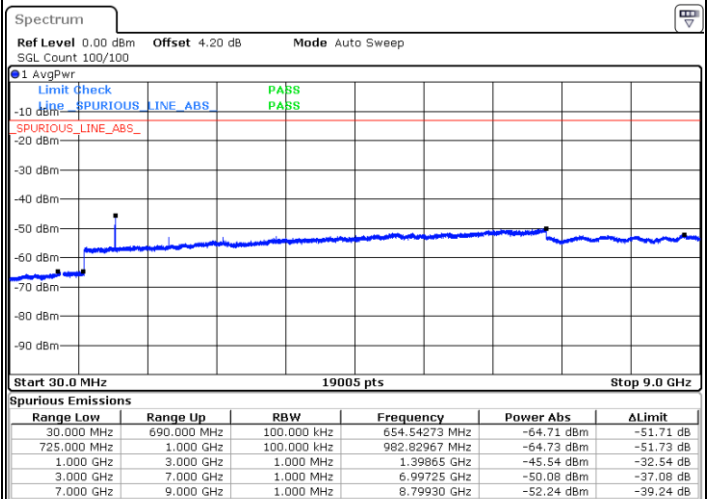
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



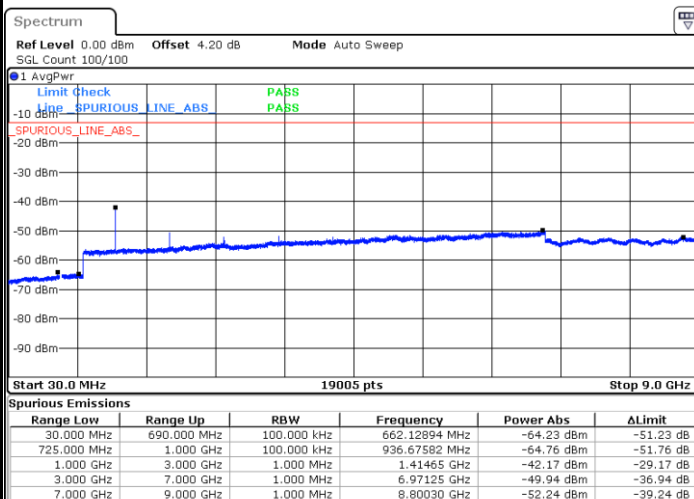
Date: 17.NOV.2020 17:02:33

Lowest Channel / 16QAM



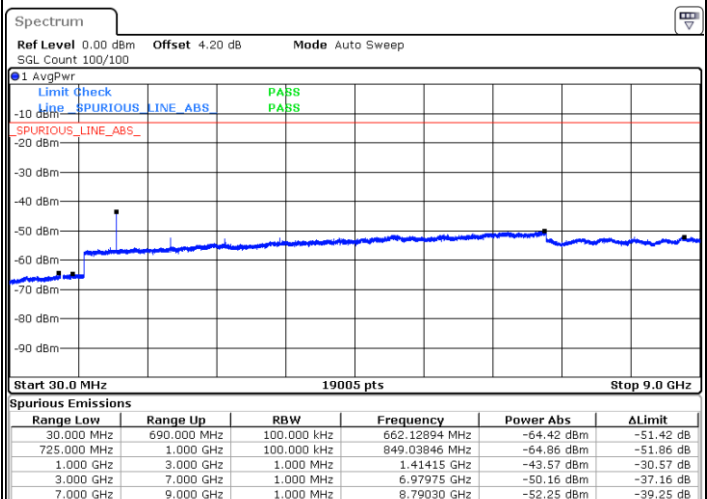
Date: 17.NOV.2020 17:03:27

Middle Channel / QPSK



Date: 17.NOV.2020 17:05:16

Middle Channel / 16QAM

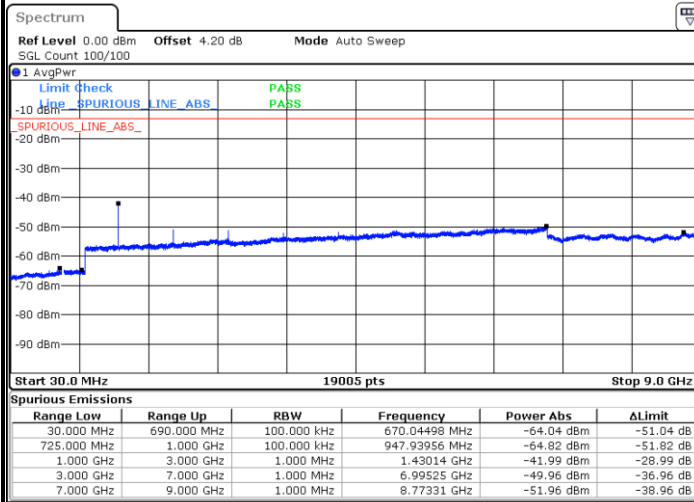


Date: 17.NOV.2020 17:04:22



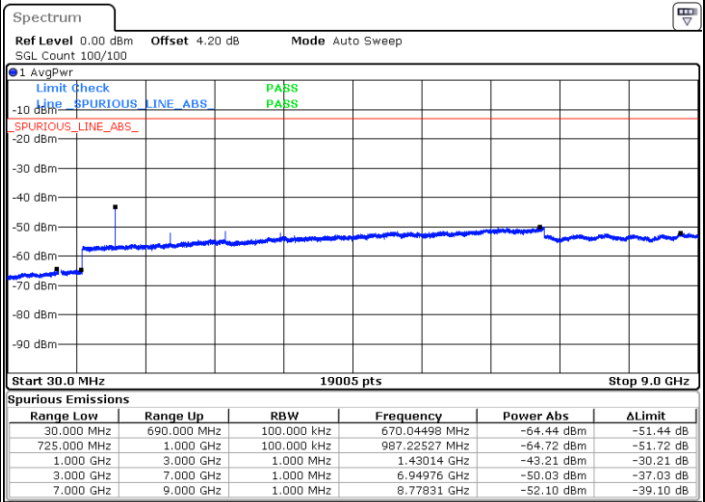
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 17.NOV.2020 17:06:10

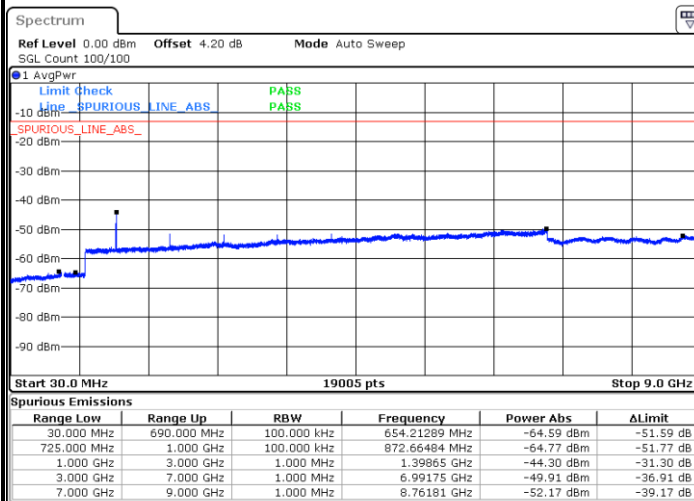
Highest Channel / 16QAM



Date: 17.NOV.2020 17:07:04

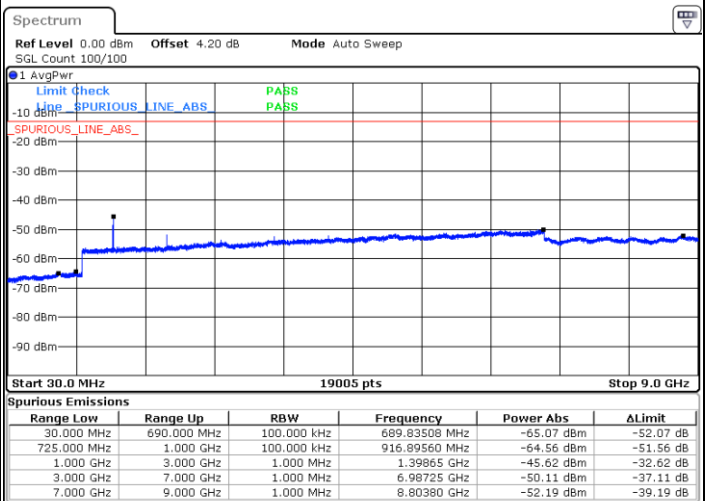
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 17.NOV.2020 17:19:43

Lowest Channel / 16QAM

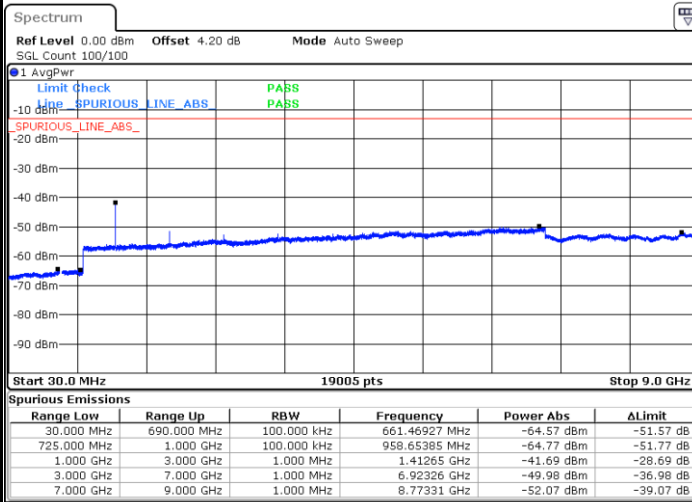


Date: 17.NOV.2020 17:20:37



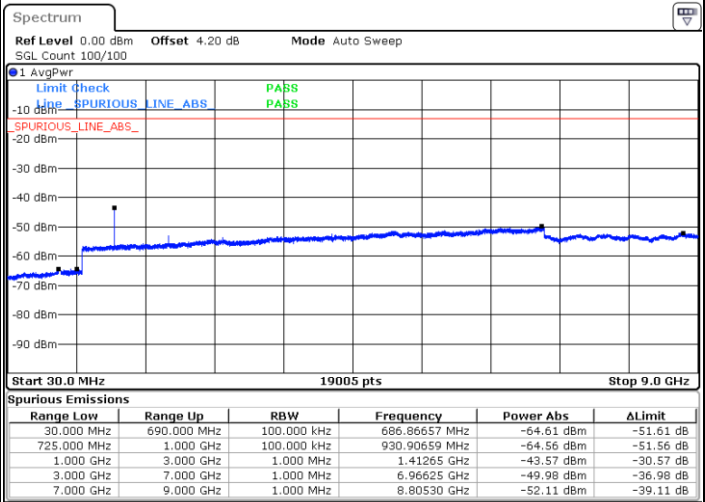
LTE Band 12 / 3MHz

Middle Channel / QPSK



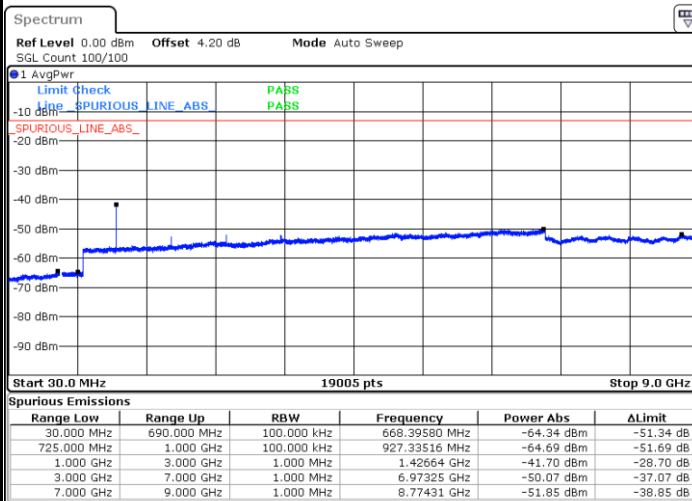
Date: 17.NOV.2020 17:22:25

Middle Channel / 16QAM



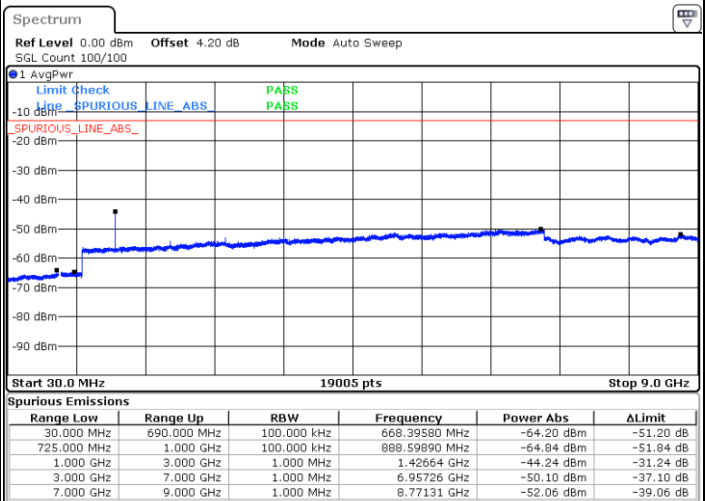
Date: 17.NOV.2020 17:21:31

Highest Channel / QPSK



Date: 17.NOV.2020 17:23:20

Highest Channel / 16QAM

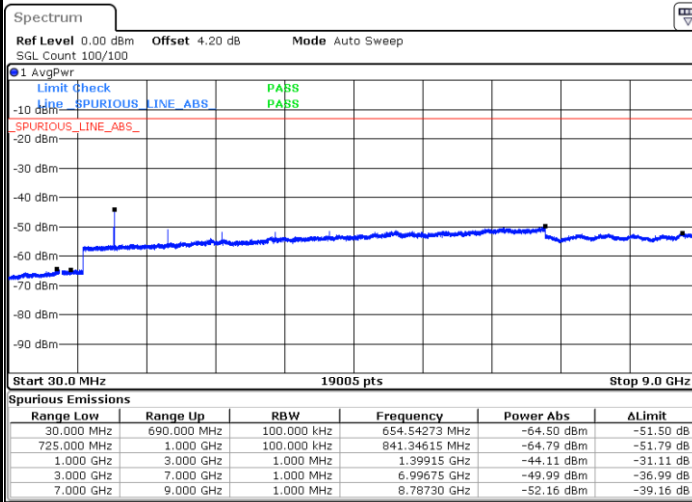


Date: 17.NOV.2020 17:24:14



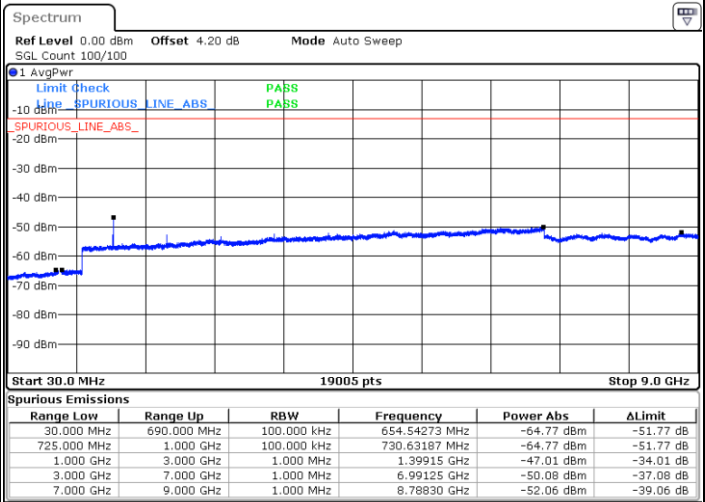
LTE Band 12 / 5MHz

Lowest Channel / QPSK



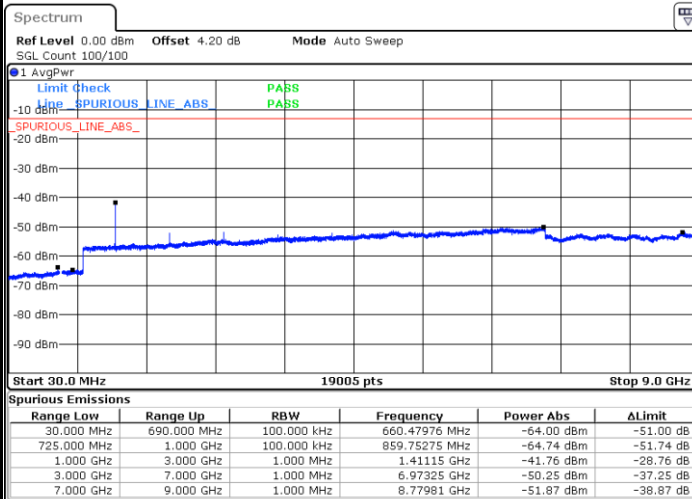
Date: 17.NOV.2020 17:38:00

Lowest Channel / 16QAM



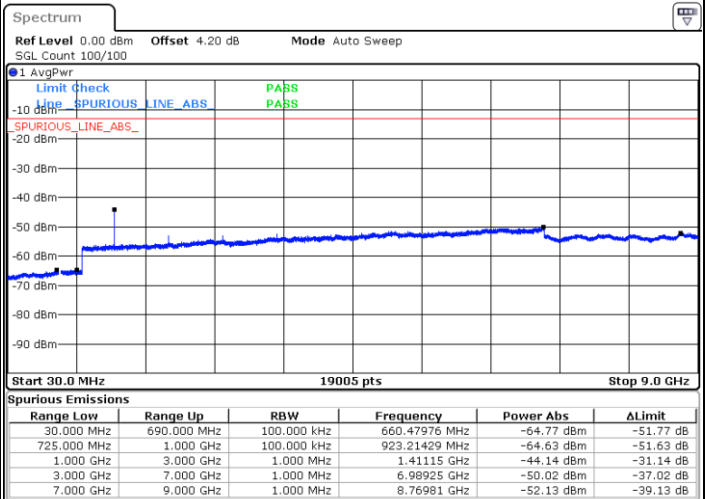
Date: 17.NOV.2020 17:38:55

Middle Channel / QPSK



Date: 17.NOV.2020 17:40:43

Middle Channel / 16QAM

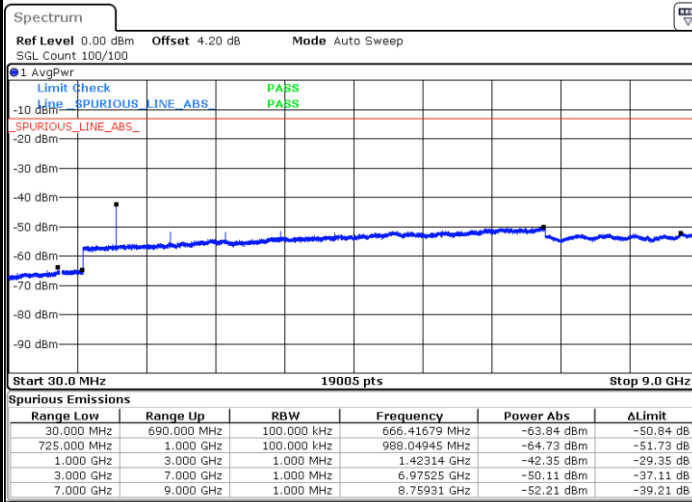


Date: 17.NOV.2020 17:39:49



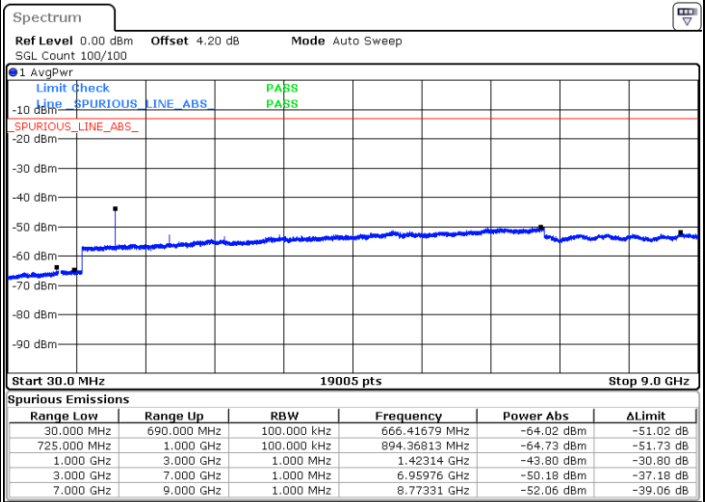
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 17.NOV.2020 17:41:37

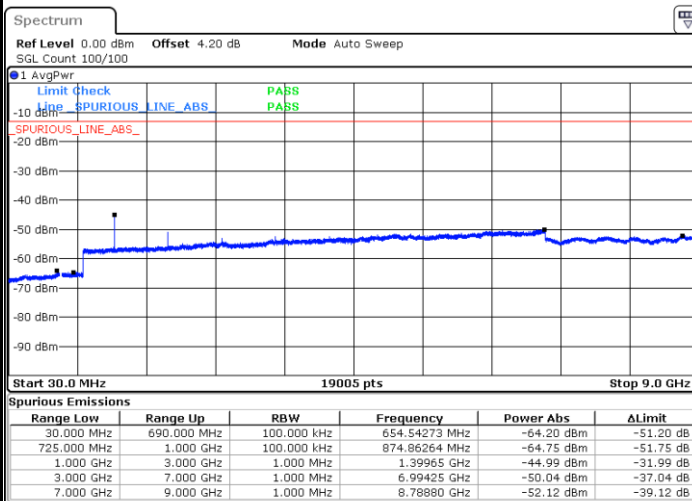
Highest Channel / 16QAM



Date: 17.NOV.2020 17:42:32

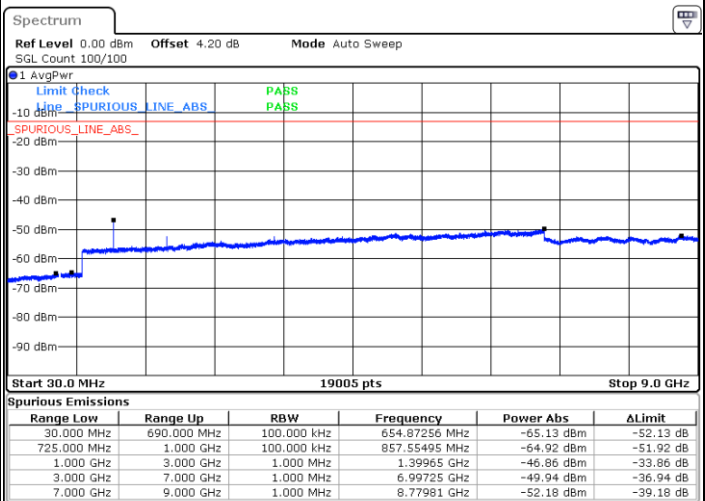
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 17.NOV.2020 18:48:06

Lowest Channel / 16QAM

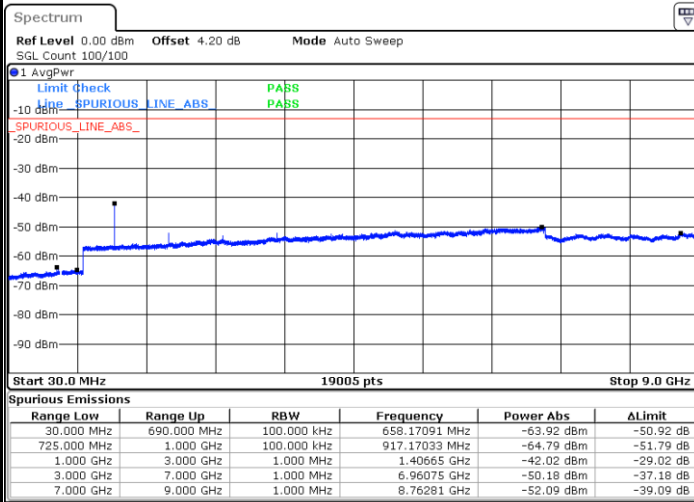


Date: 17.NOV.2020 18:49:00



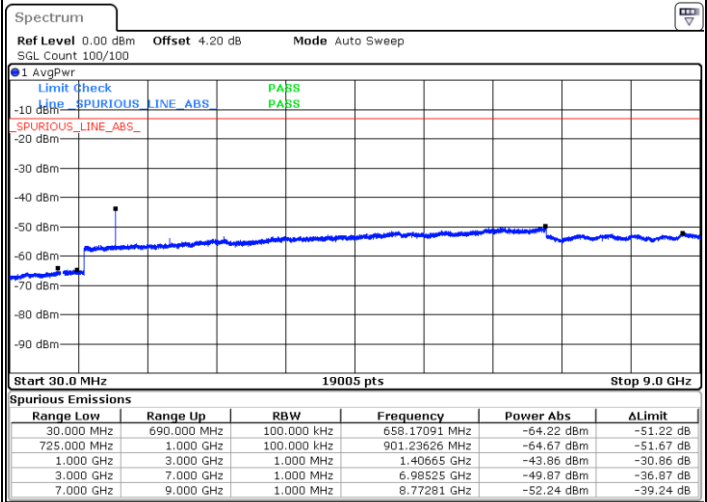
LTE Band 12 / 10MHz

Middle Channel / QPSK



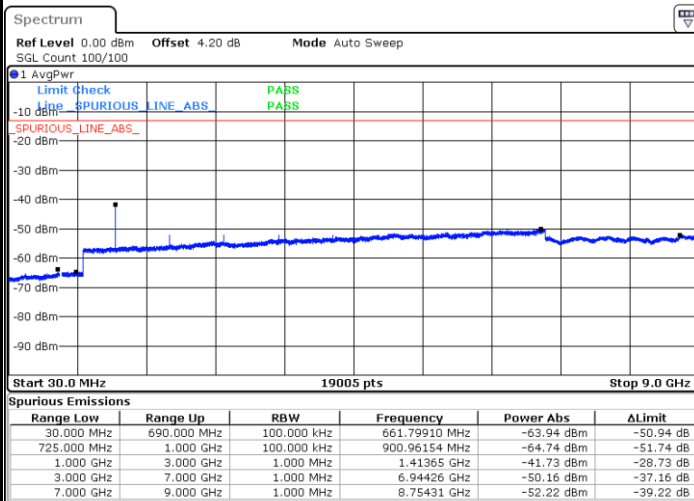
Date: 17.NOV.2020 18:50:49

Middle Channel / 16QAM



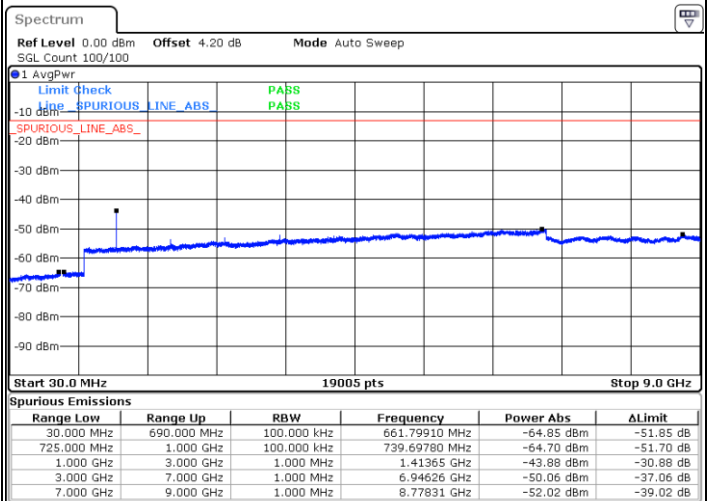
Date: 17.NOV.2020 18:49:54

Highest Channel / QPSK



Date: 17.NOV.2020 18:51:43

Highest Channel / 16QAM



Date: 17.NOV.2020 18:52:37

**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	0.0030	PASS
40	Normal Voltage	0.0020	
30	Normal Voltage	0.0010	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0021	
-20	Normal Voltage	0.0047	
-30	Normal Voltage	0.0038	
20	Maximum Voltage	0.0048	
20	Normal Voltage	0.0016	
20	Battery End Point	0.0076	

Note:

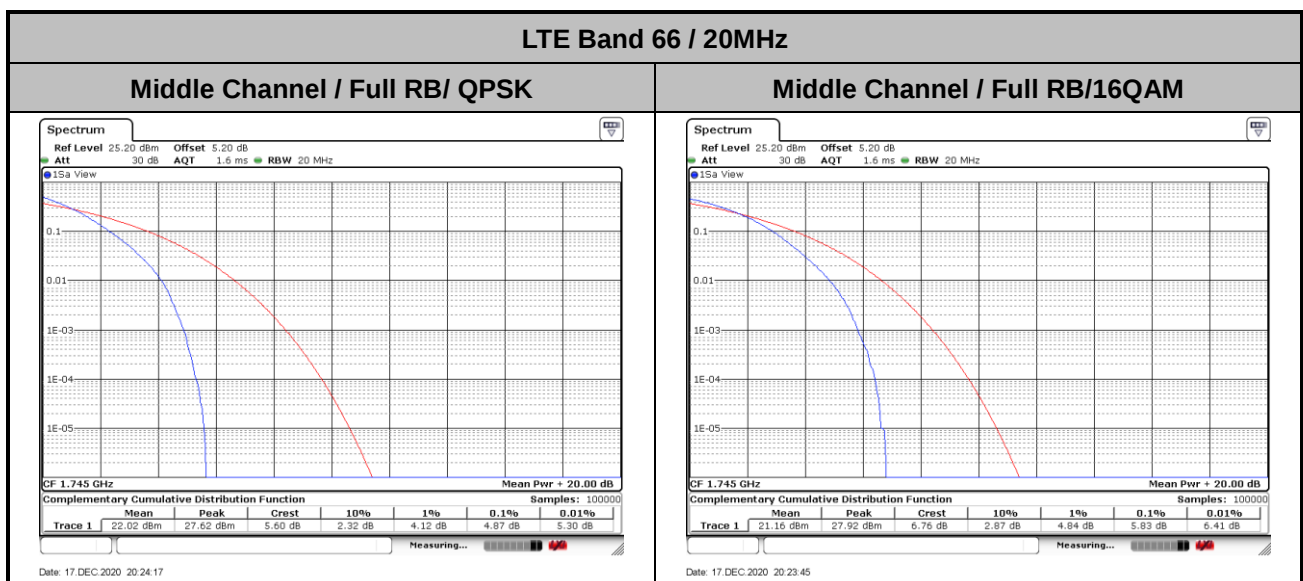
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6V. ; Maximum Voltage =4.3V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 66

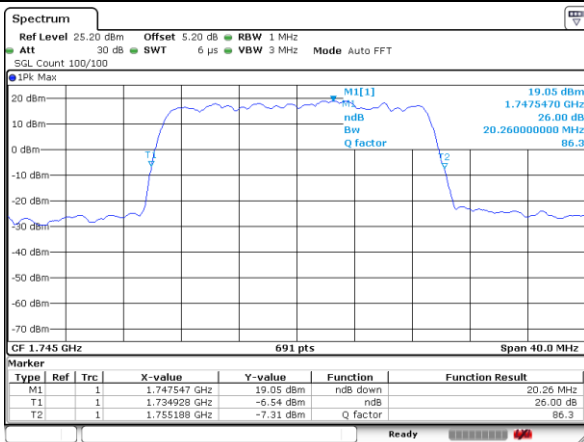
Peak-to-Average Ratio

Mode	LTE Band 66 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.87	5.83	PASS

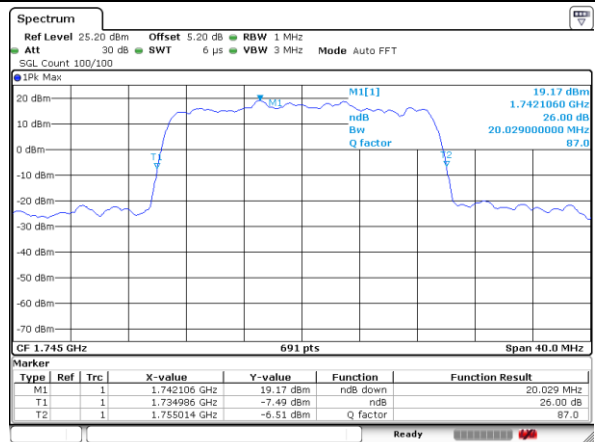


**26dB Bandwidth****LTE Band 66 : 26dB BW(MHz)**

BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	20.260	20.029

LTE Band 66**Middle Channel / 20MHz / QPSK**

Date: 17 DEC 2020 20:27:00

Middle Channel / 20MHz / 16QAM

Date: 17 DEC 2020 20:28:08



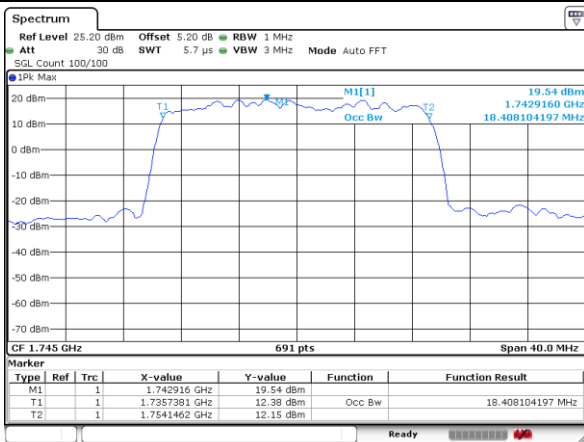
Occupied Bandwidth

LTE Band 66 : 99%OBW(MHz)

BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.408	18.177

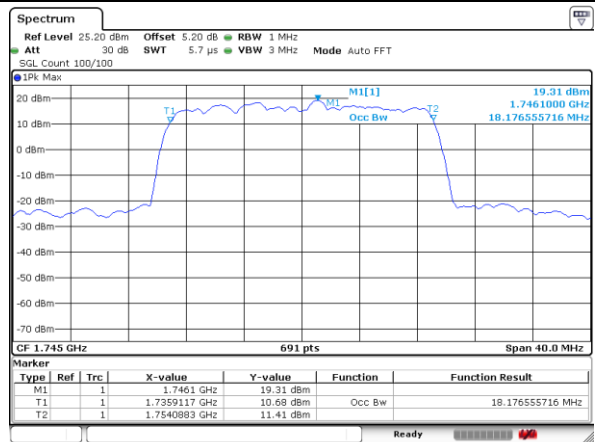
LTE Band 66

Middle Channel / 20MHz / QPSK



Date: 17 DEC 2020 20:30:55

Middle Channel / 20MHz / 16QAM



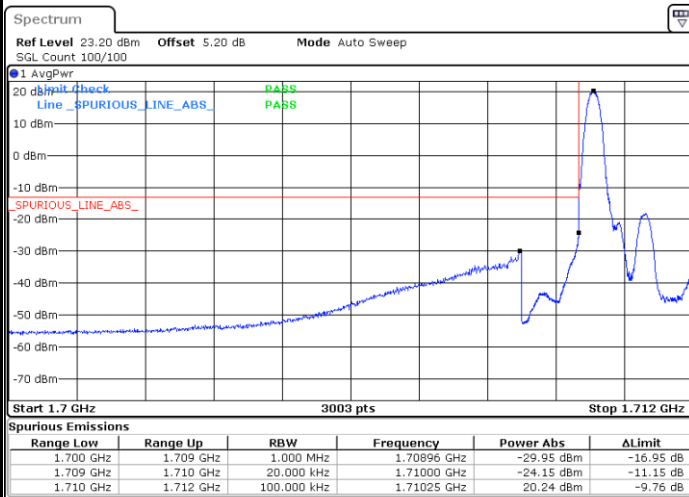
Date: 17 DEC 2020 20:30:22



Conducted Band Edge

LTE Band 66 / 1.4MHz / QPSK

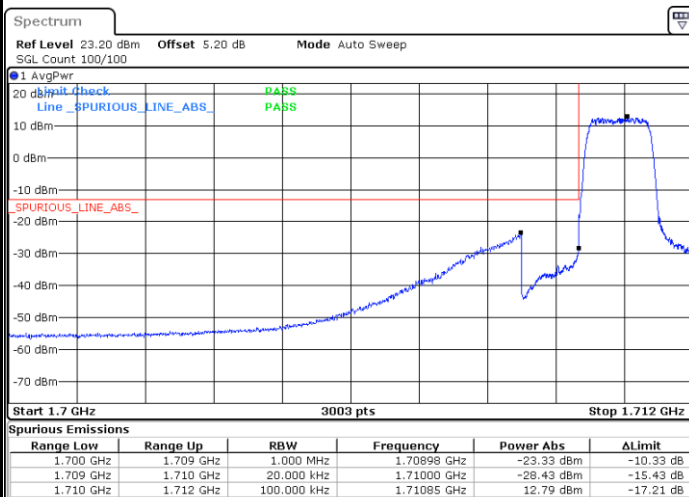
Lowest Band Edge / 1RB



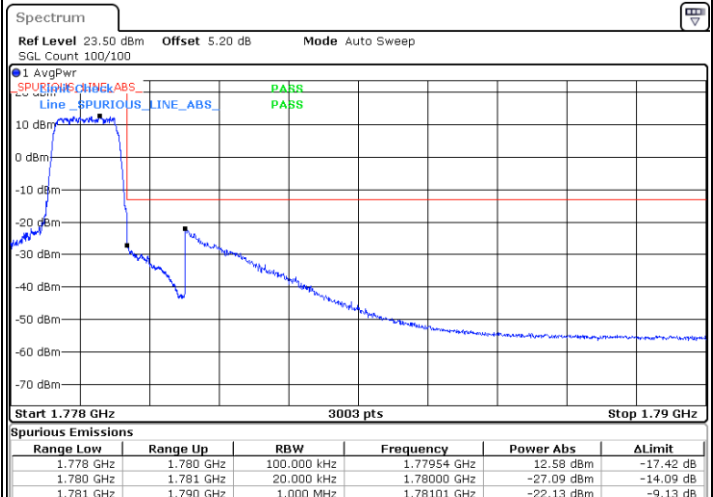
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



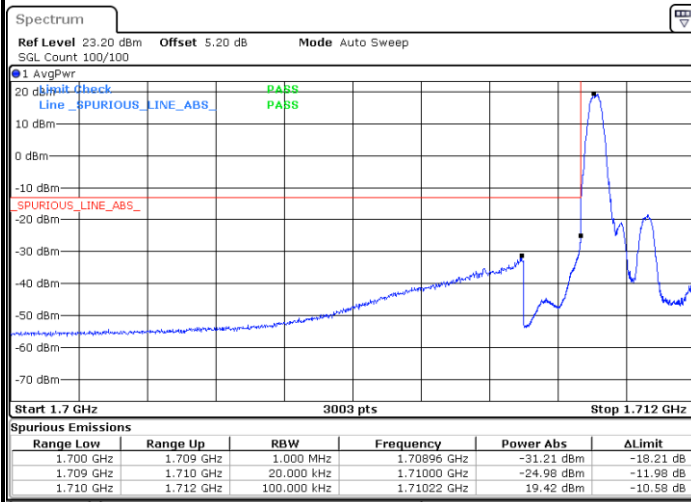
Highest Band Edge / Full RB



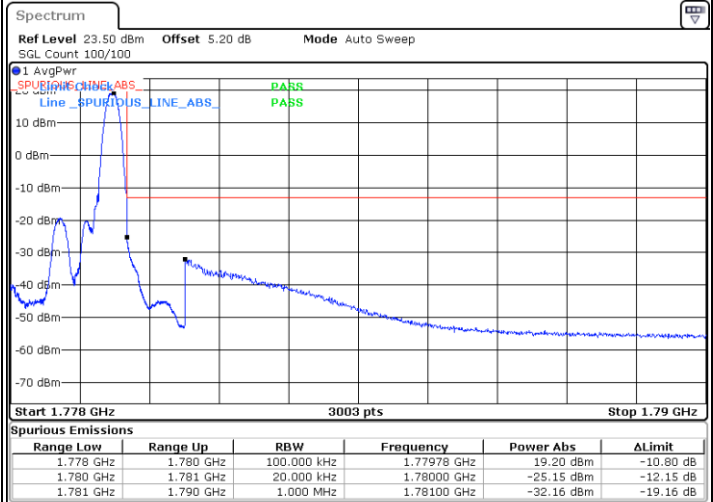


LTE Band 66 / 1.4MHz / 16QAM

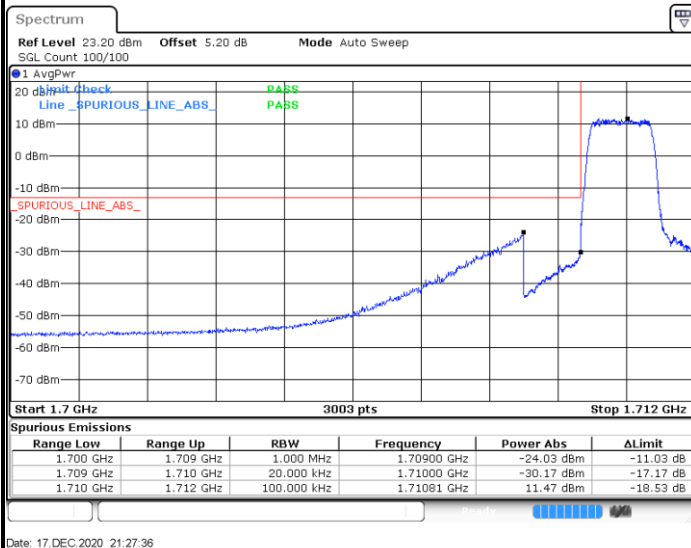
Lowest Band Edge / 1 RB



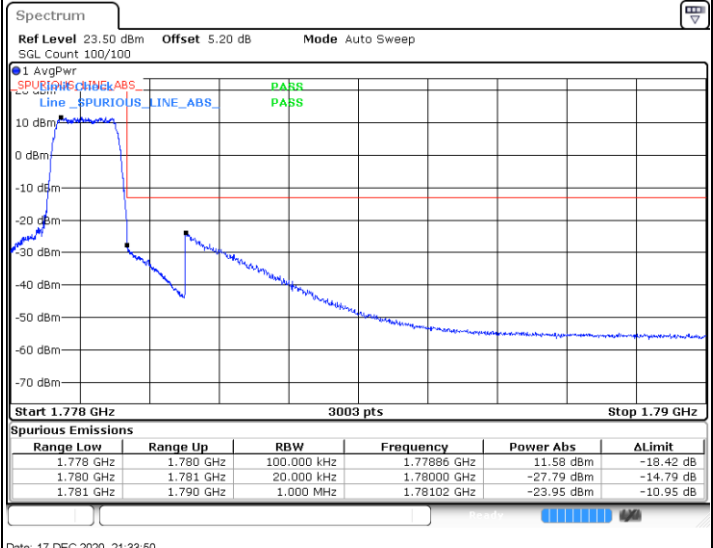
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



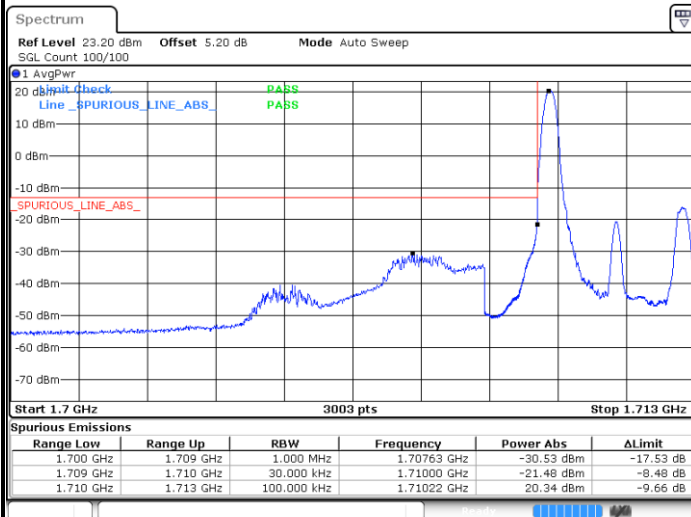
Highest Band Edge / Full RB



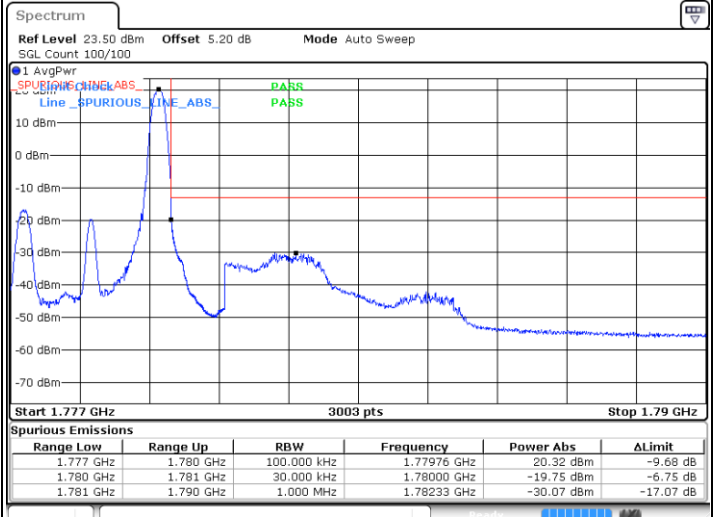


LTE Band 66 / 3MHz / QPSK

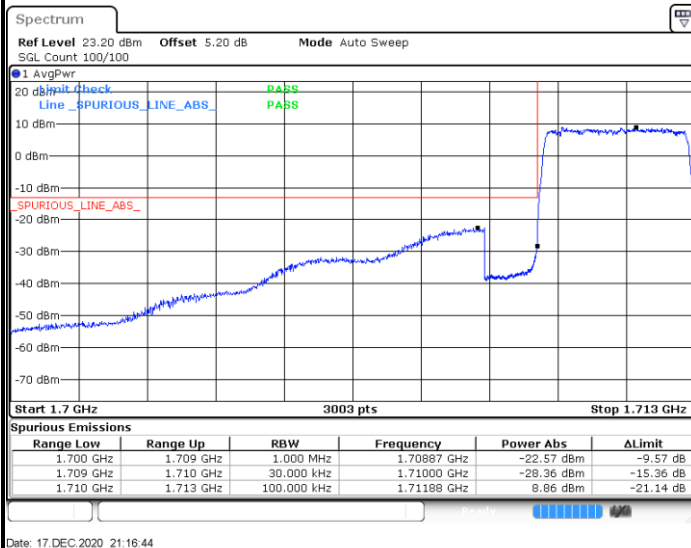
Lowest Band Edge / 1RB



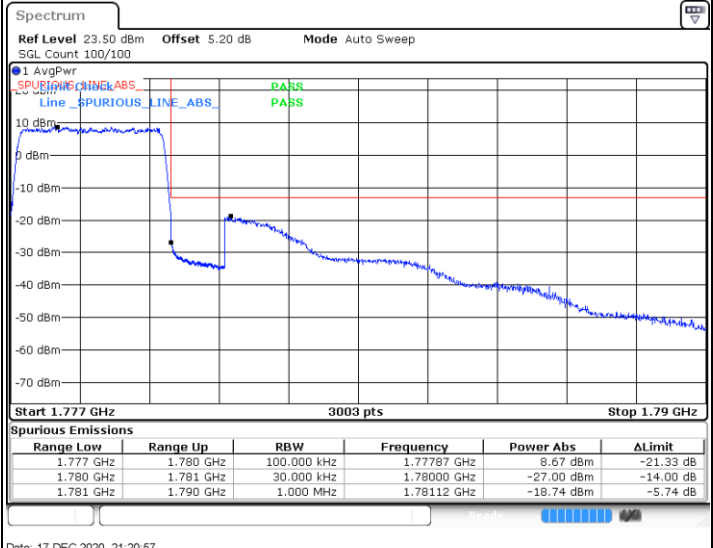
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



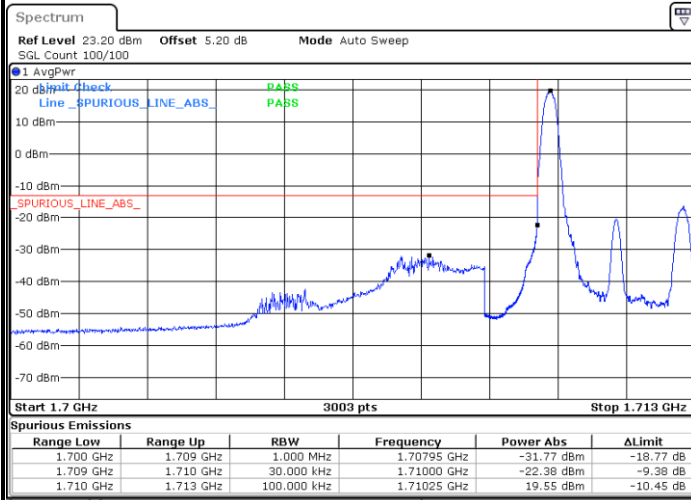
Highest Band Edge / Full RB



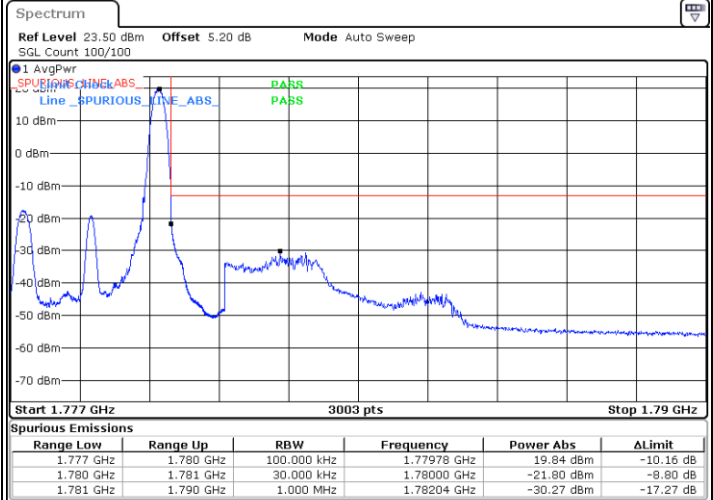


LTE Band 66 / 3MHz / 16QAM

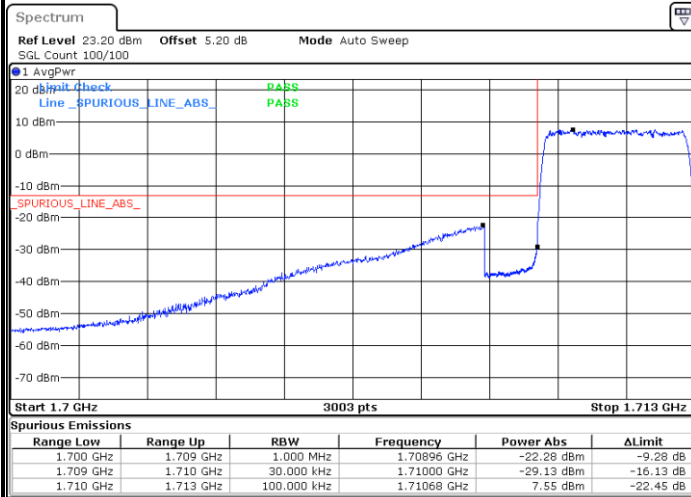
Lowest Band Edge / 1 RB



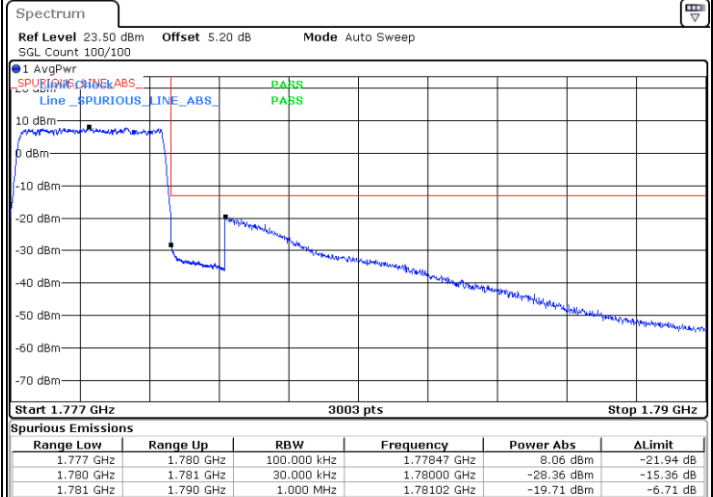
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



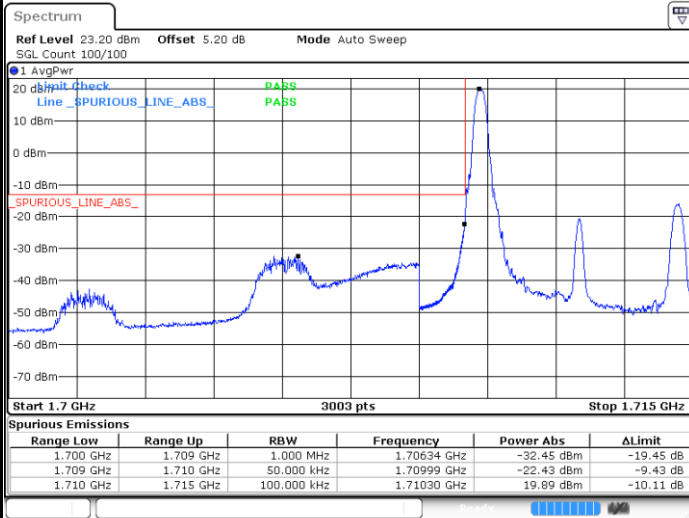
Highest Band Edge / Full RB



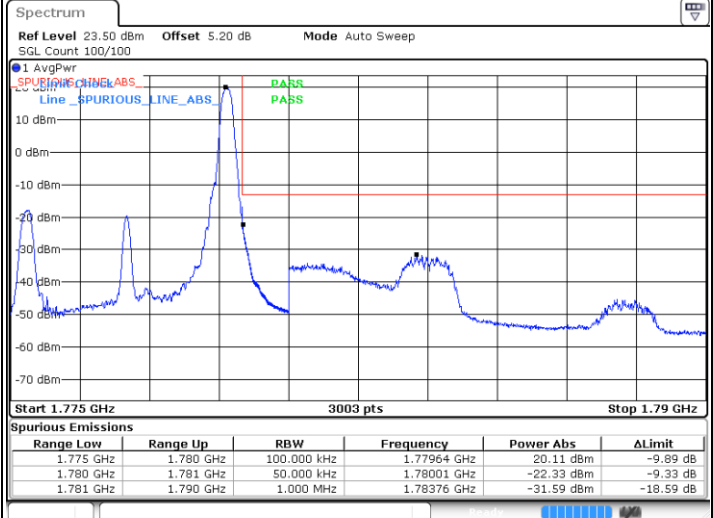


LTE Band 66 / 5MHz / QPSK

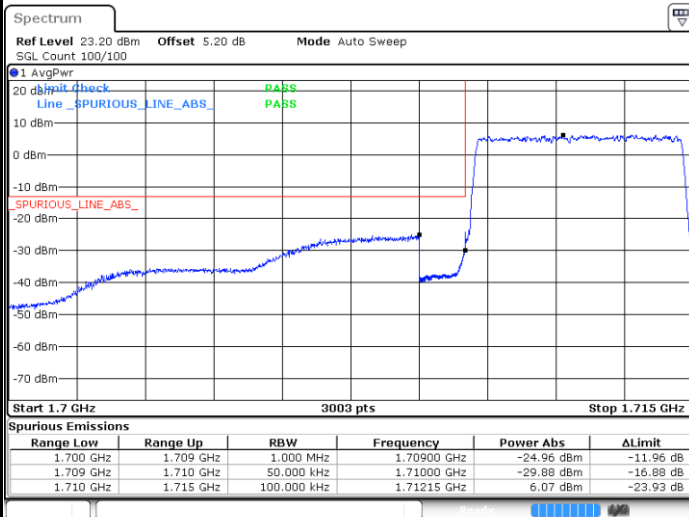
Lowest Band Edge / 1 RB



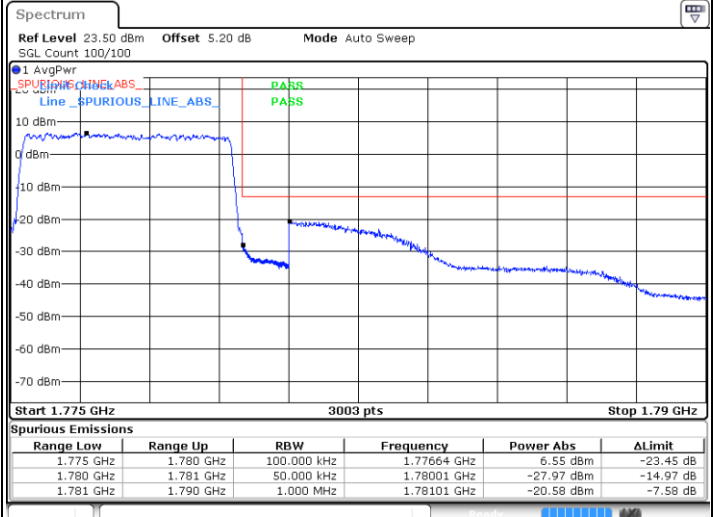
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



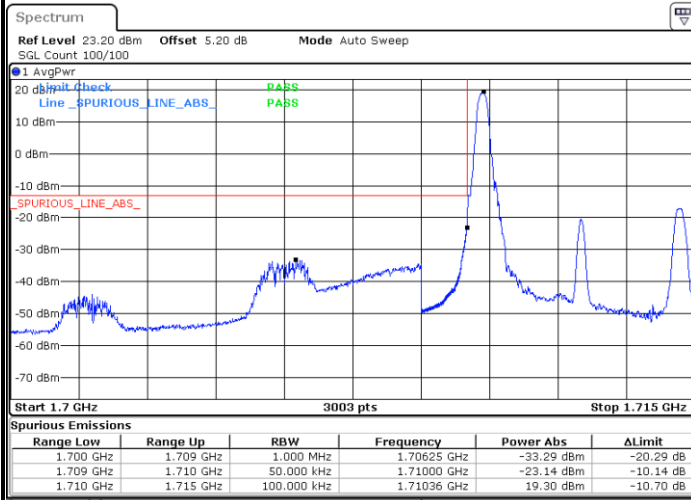
Highest Band Edge / Full RB



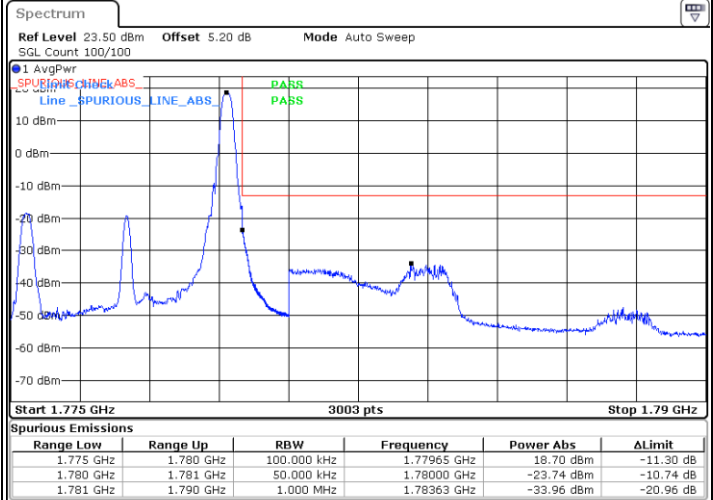


LTE Band 66 / 5MHz / 16QAM

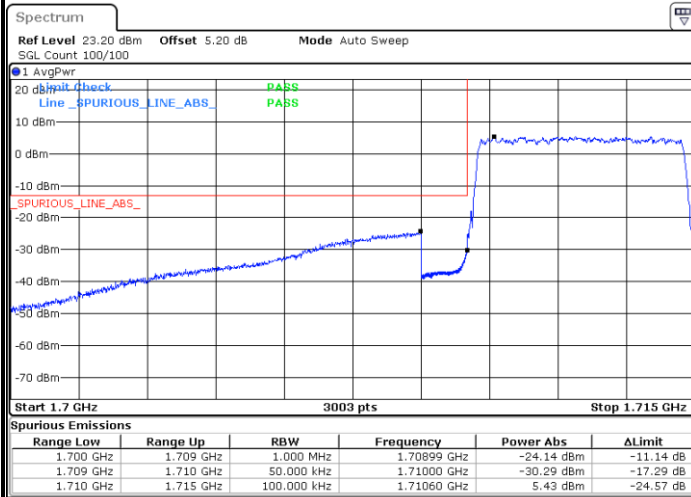
Lowest Band Edge / 1RB



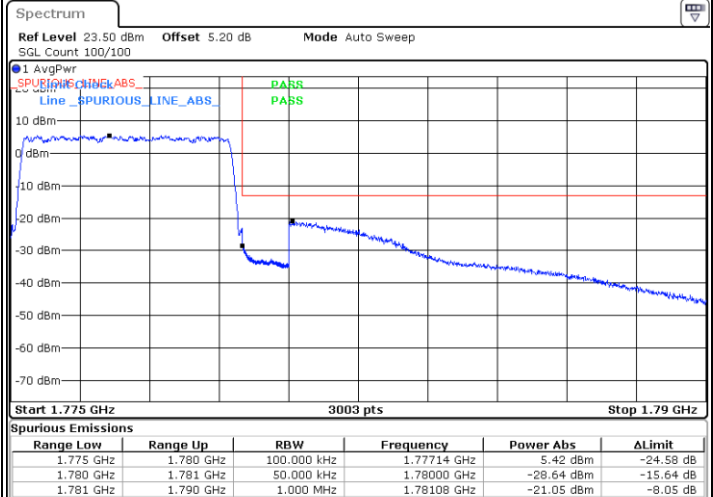
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



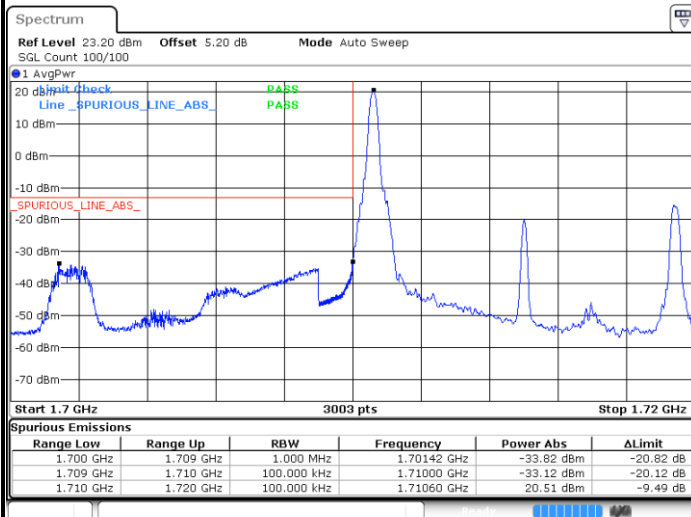
Highest Band Edge / Full RB



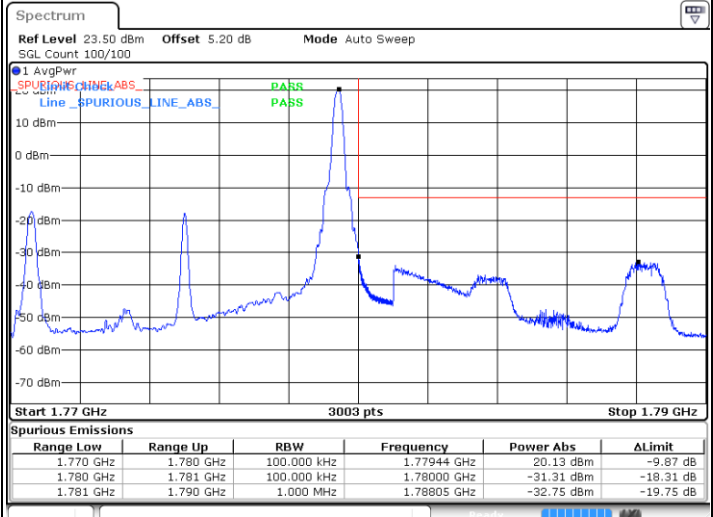


LTE Band 66 / 10MHz / QPSK

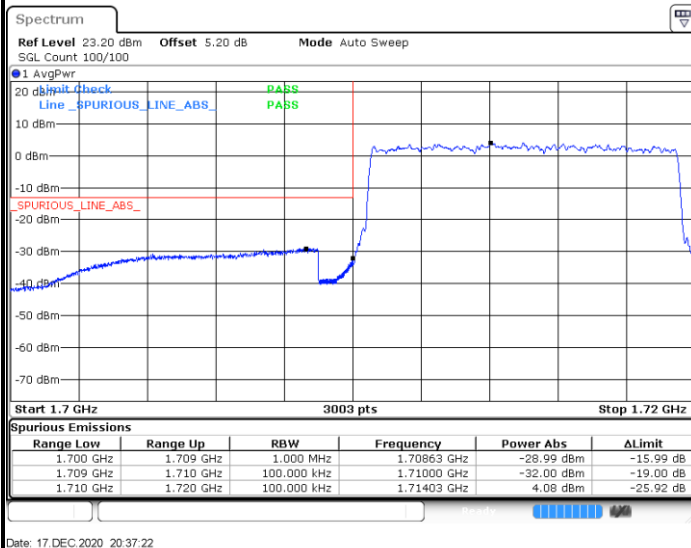
Lowest Band Edge / 1 RB



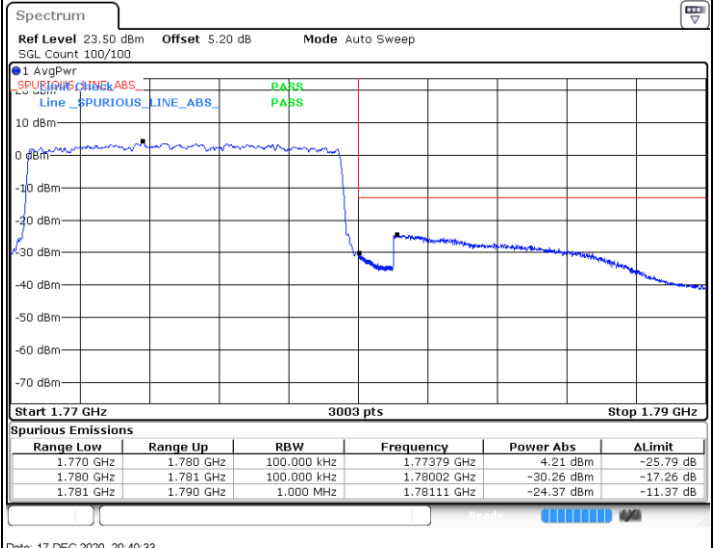
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



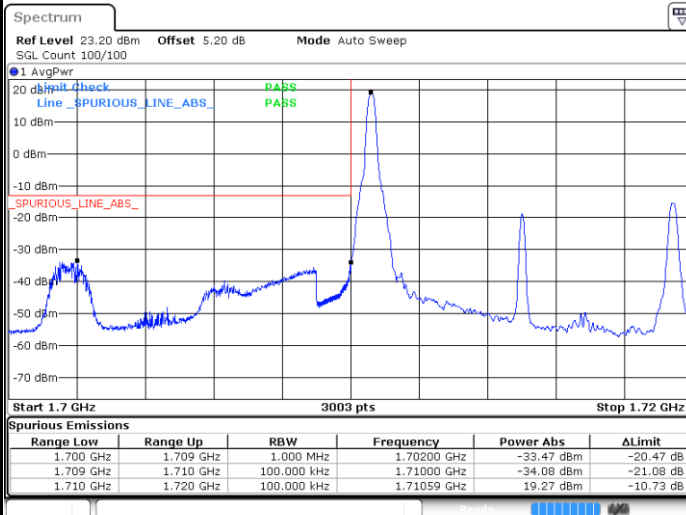
Highest Band Edge / Full RB



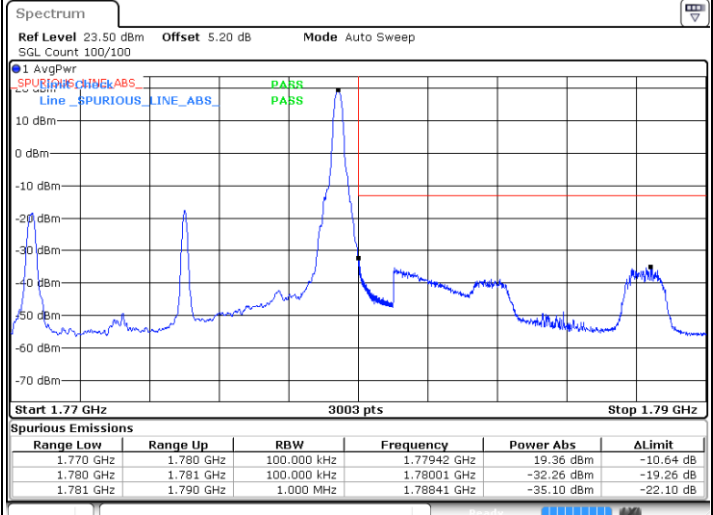


LTE Band 66 / 10MHz / 16QAM

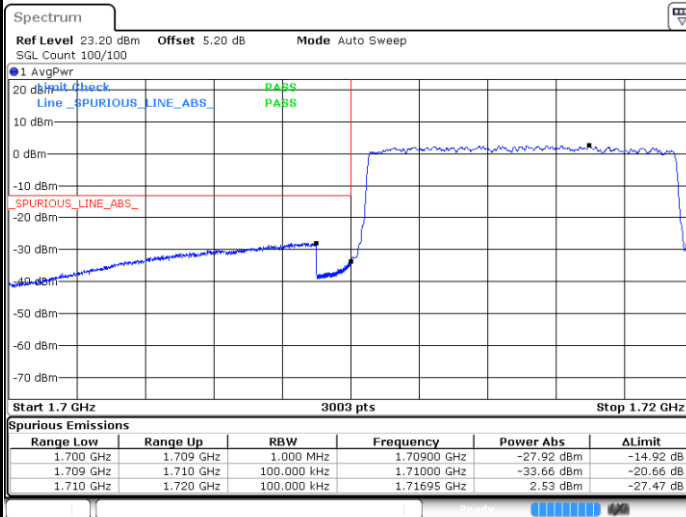
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB





Highest Band Edge / 1 RB



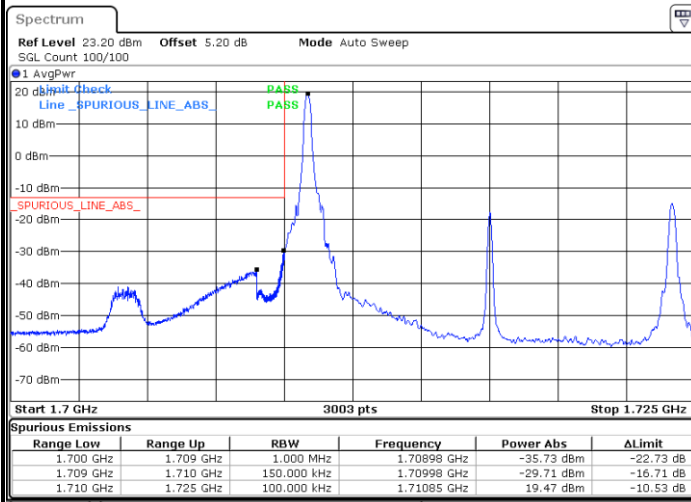
Highest Band Edge / Full RB



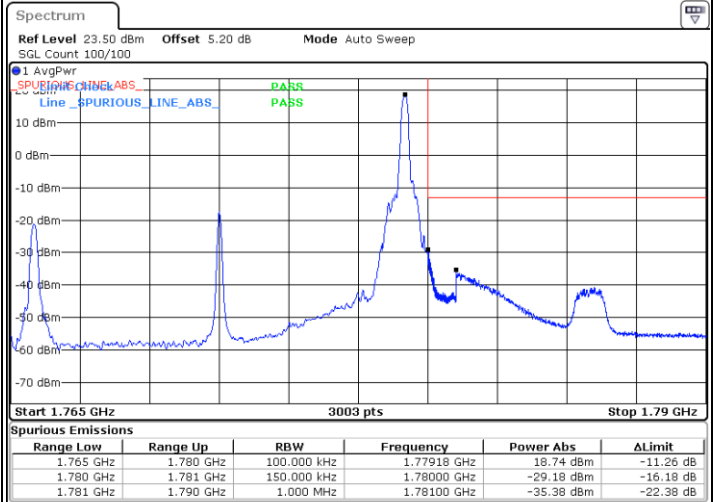


LTE Band 66 / 15MHz / 16QAM

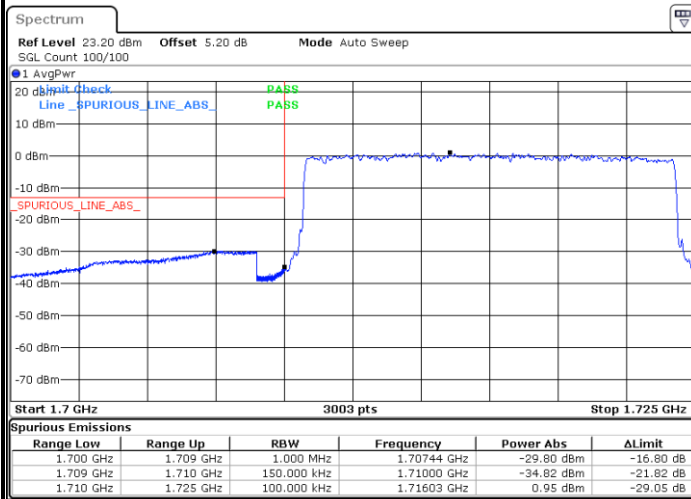
Lowest Band Edge / 1 RB



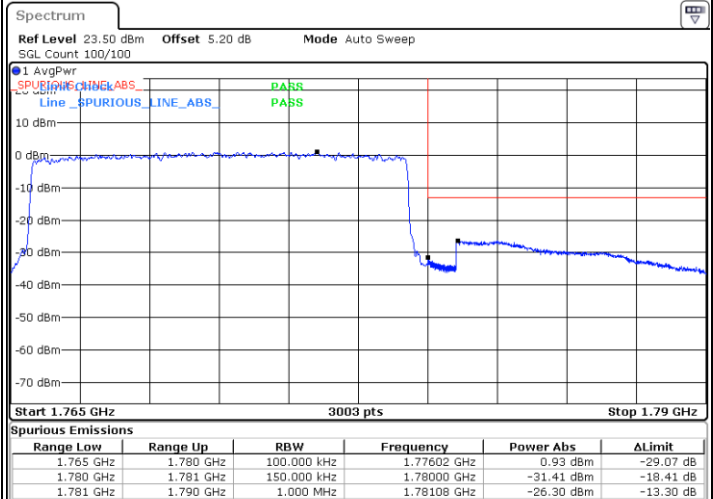
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



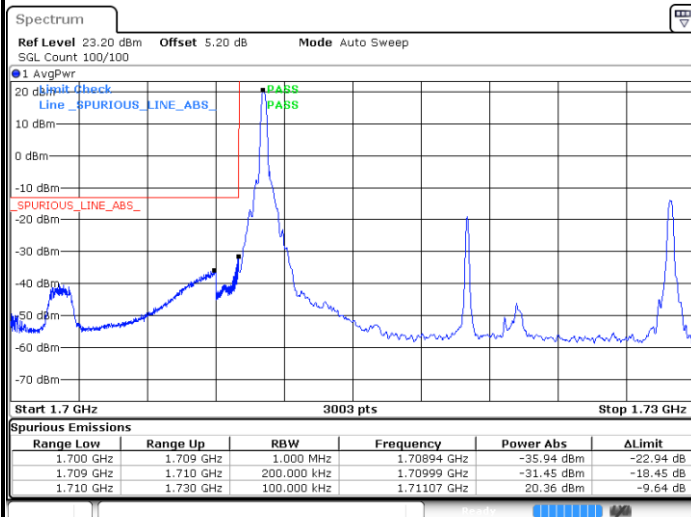
Highest Band Edge / Full RB



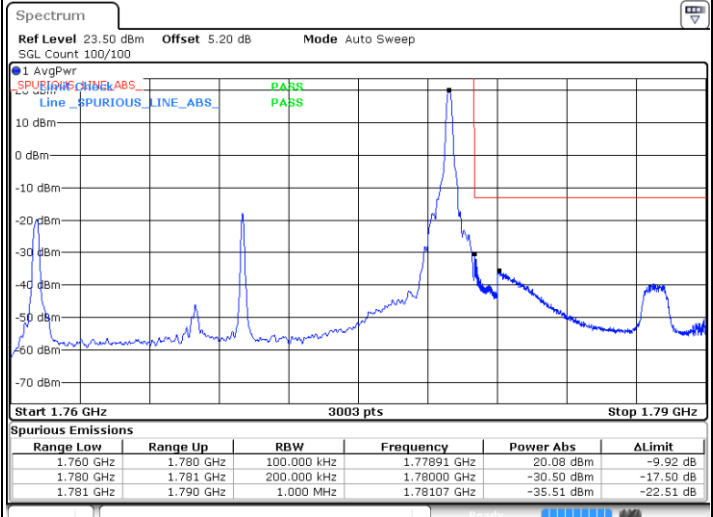


LTE Band 66 / 20MHz / QPSK

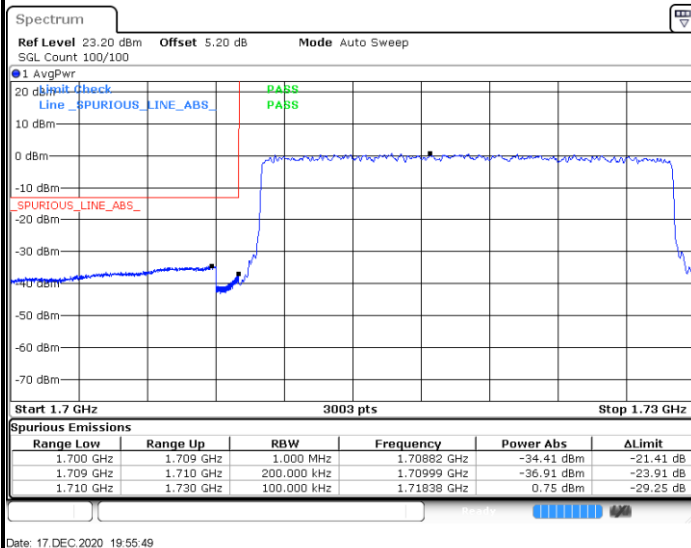
Lowest Band Edge / 1 RB



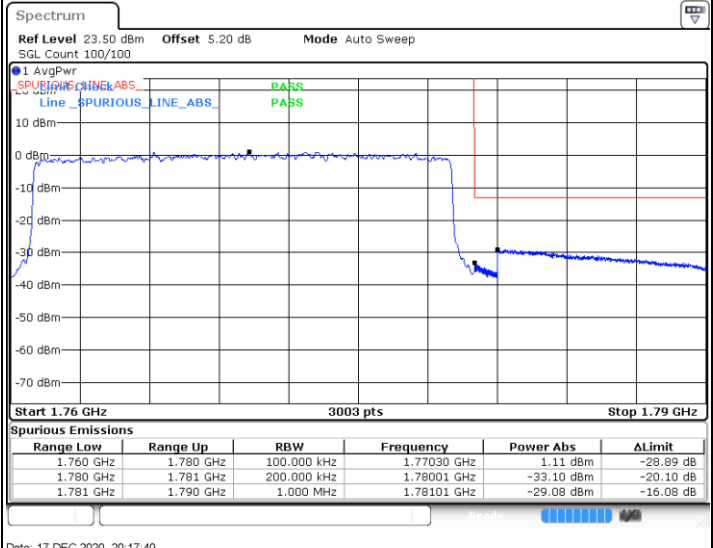
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB





Highest Band Edge / 1 RB

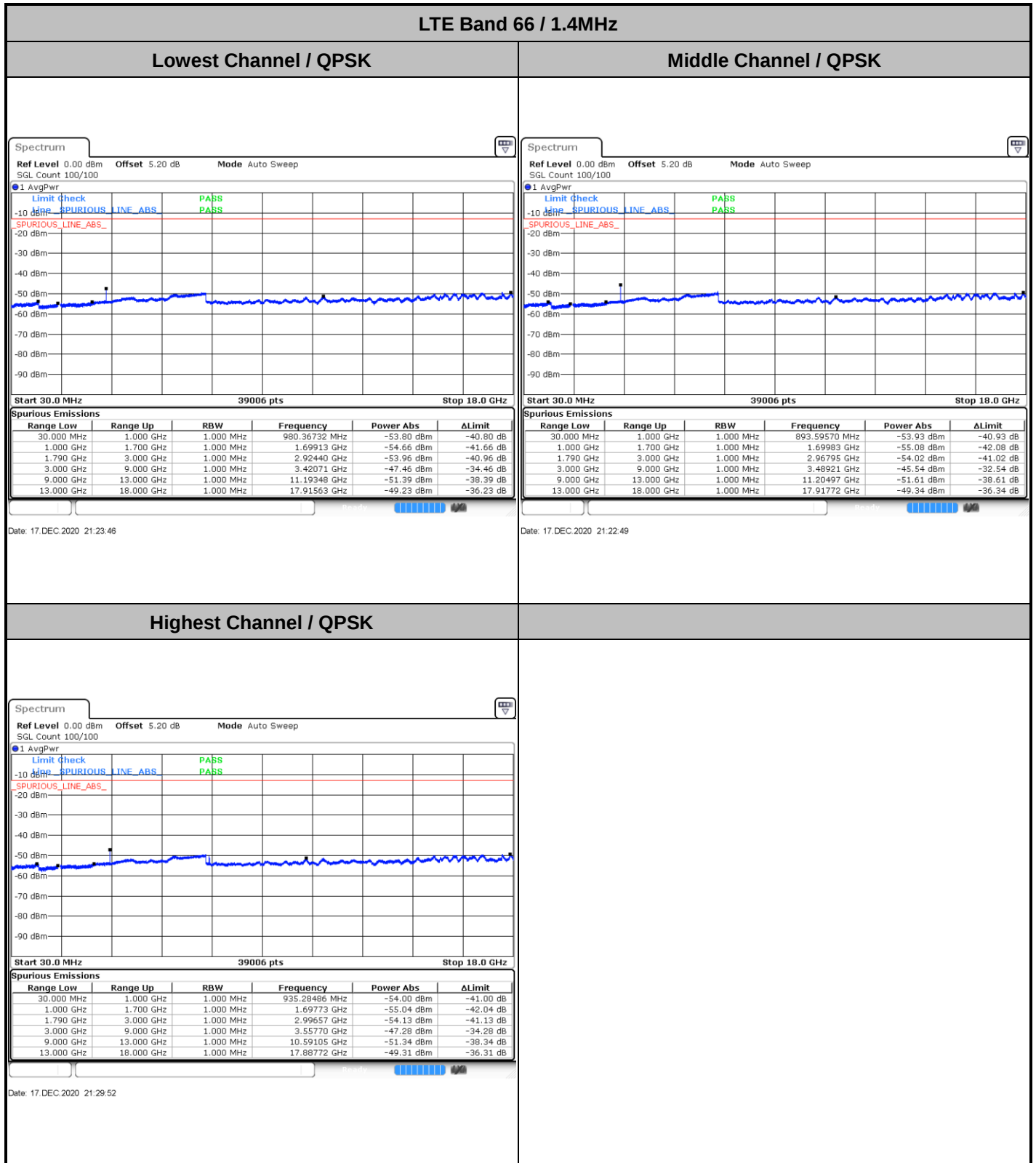


Highest Band Edge / Full RB





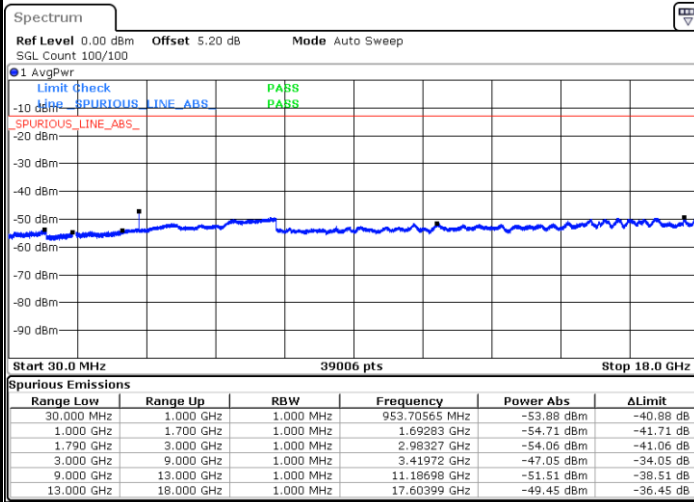
Conducted Spurious Emission





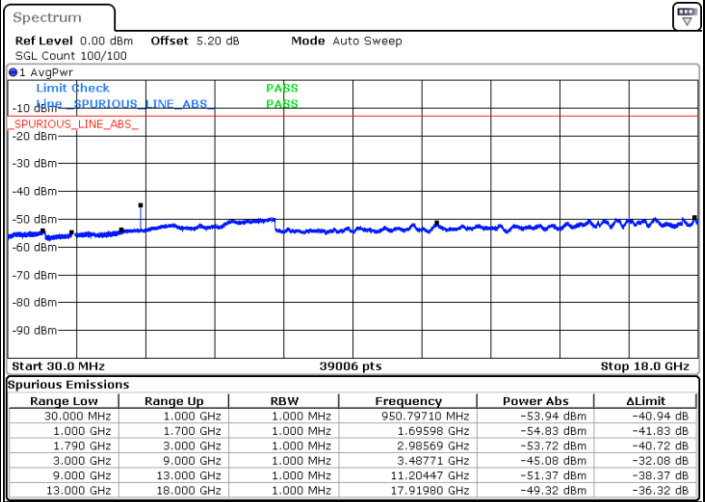
LTE Band 66 / 3MHz

Lowest Channel / QPSK



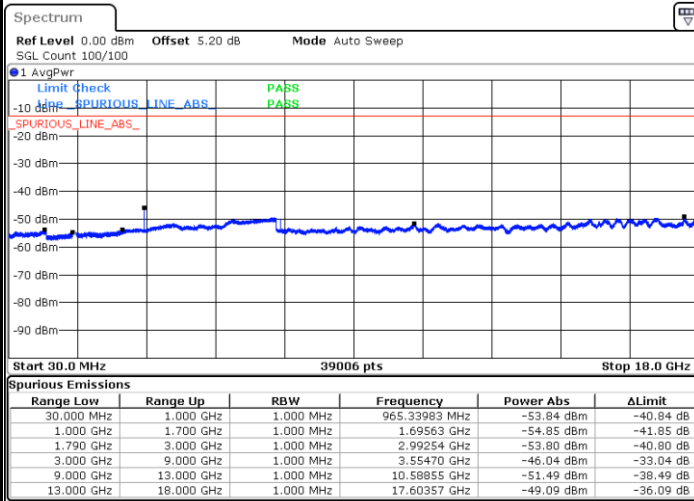
Date: 17.DEC.2020 21:13:48

Middle Channel / QPSK



Date: 17.DEC.2020 21:12:46

Highest Channel / QPSK

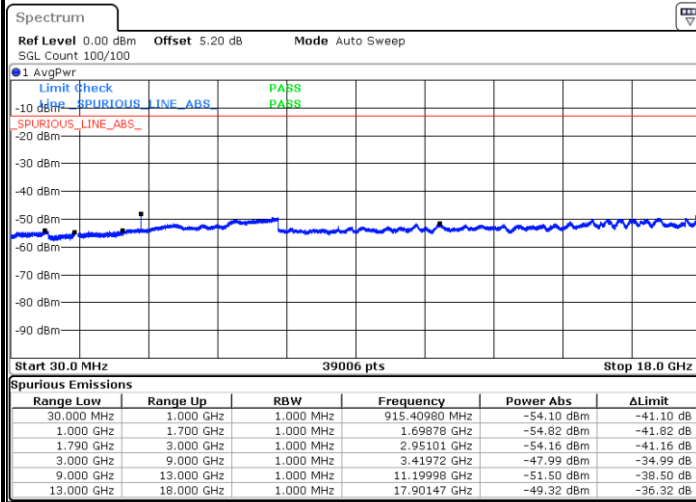


Date: 17.DEC.2020 21:17:57



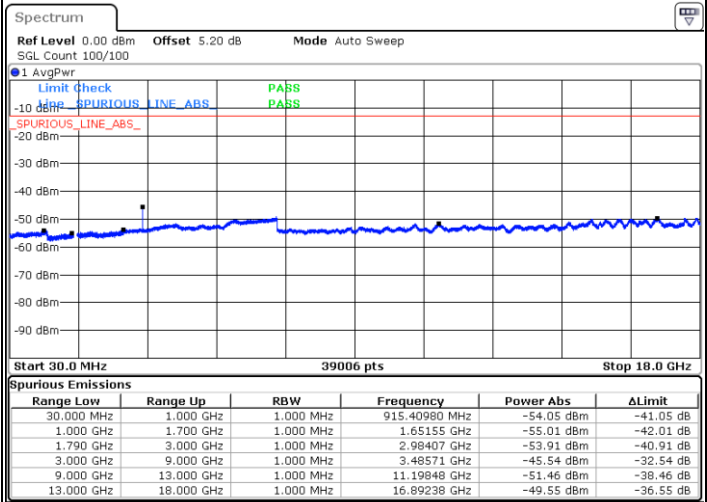
LTE Band 66 / 5MHz

Lowest Channel / QPSK



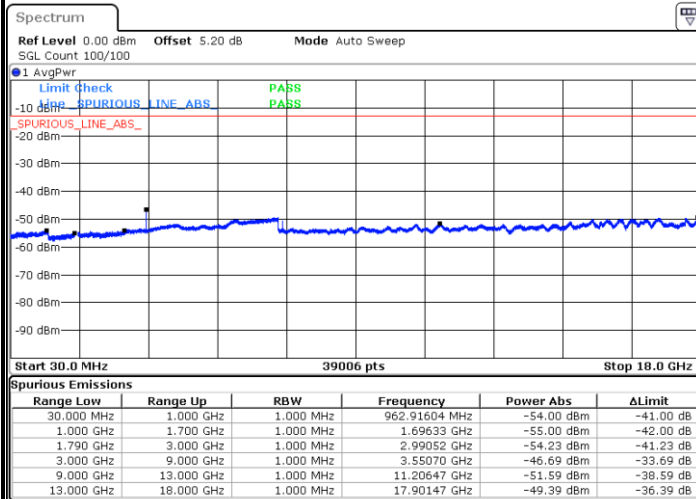
Date: 17.DEC.2020 20:42:52

Middle Channel / QPSK



Date: 17.DEC.2020 20:41:54

Highest Channel / QPSK

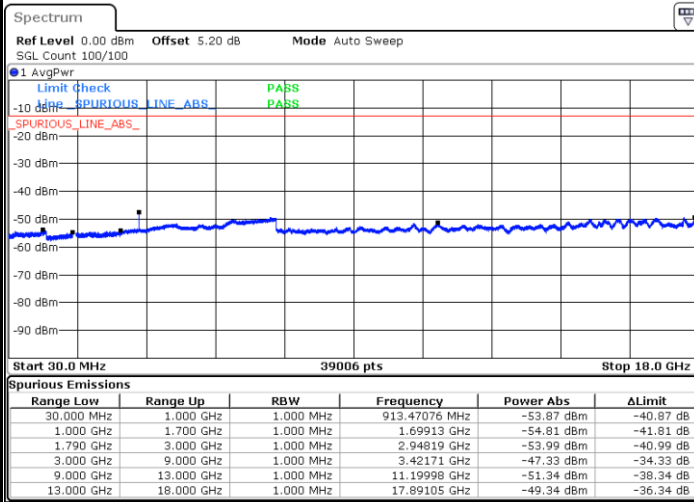


Date: 17.DEC.2020 20:46:09



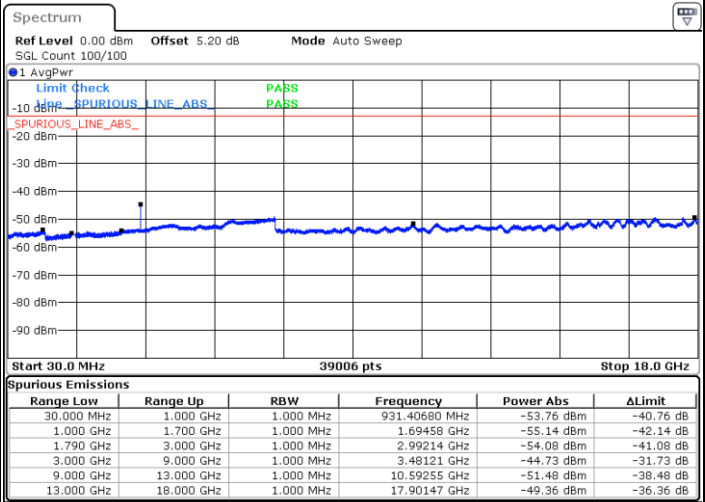
LTE Band 66 / 10MHz

Lowest Channel / QPSK



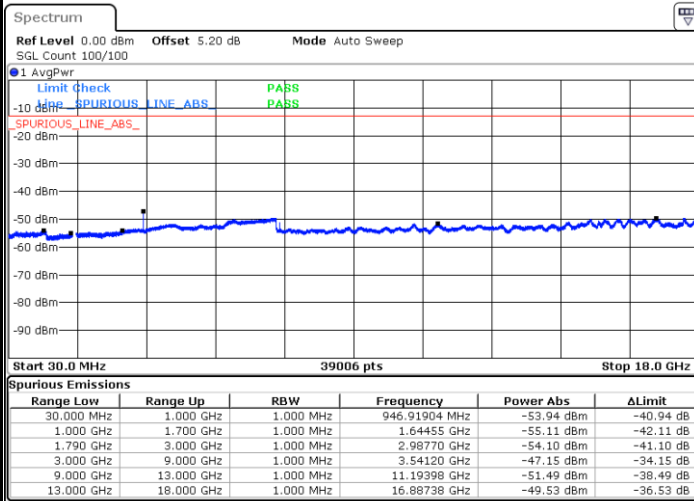
Date: 17.DEC.2020 20:35:43

Middle Channel / QPSK



Date: 17.DEC.2020 20:34:40

Highest Channel / QPSK

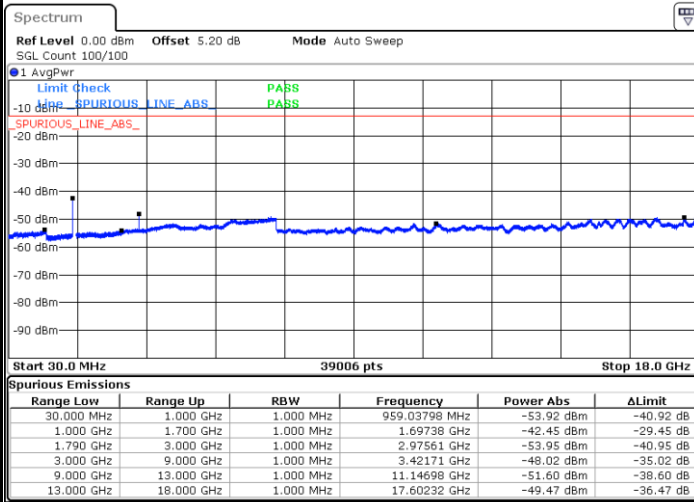


Date: 17.DEC.2020 20:38:48



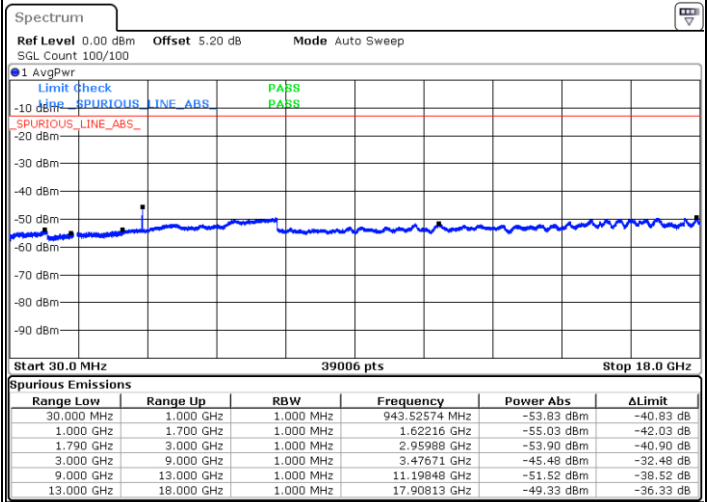
LTE Band 66 / 15MHz

Lowest Channel / QPSK



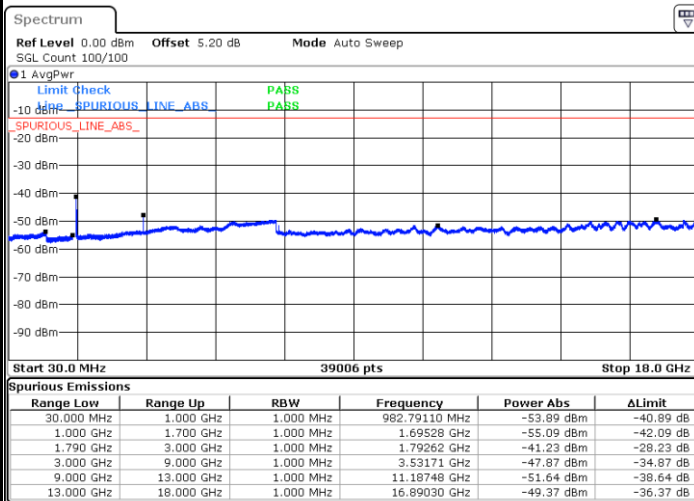
Date: 17. DEC. 2020 20:27:31

Middle Channel / QPSK



Date: 17. DEC. 2020 20:23:16

Highest Channel / QPSK

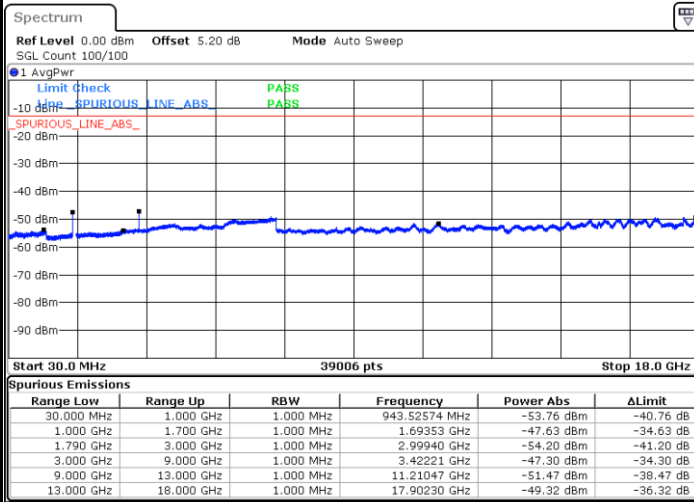


Date: 17. DEC. 2020 20:30:45



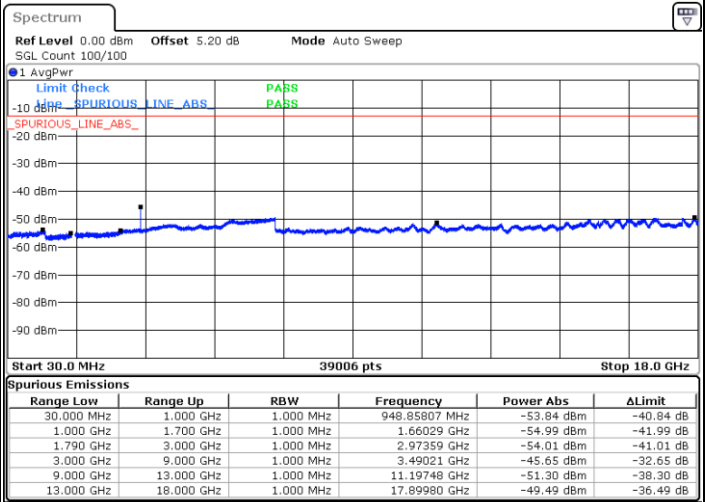
LTE Band 66 / 20MHz

Lowest Channel / QPSK



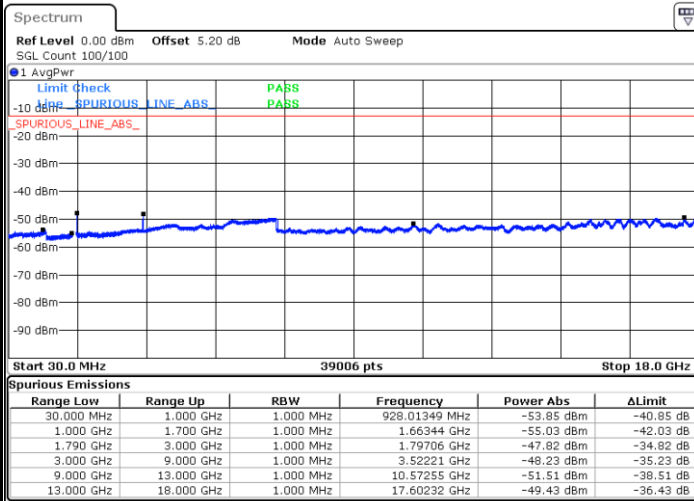
Date: 17.DEC.2020 19:52:38

Middle Channel / QPSK



Date: 17.DEC.2020 19:50:09

Highest Channel / QPSK



Date: 17.DEC.2020 20:08:07

Frequency Stability

Test Conditions		LTE Band 66 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0025	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0002	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0018	
20	Normal Voltage	0.0006	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

LTE Band 2 / 20MHz / 16QAM								
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)
Lowest	3702	-61.37	-13	-48.37	-73.63	2.641	14.90	H
	5553	-57.46	-13	-44.46	-69.32	2.94	14.80	H
	7404	-52.80	-13	-39.80	-62.57	3.39	13.16	H
	3702	-61.21	-13	-48.21	-73.47	2.64	14.90	V
	5553	-57.44	-13	-44.44	-69.30	2.94	14.80	V
	7404	-52.18	-13	-39.18	-61.95	3.39	13.16	V
Middle	3741	-60.75	-13	-47.75	-73.01	2.64	14.90	H
	5613	-57.02	-13	-44.02	-68.88	2.94	14.80	H
	7488	-51.92	-13	-38.92	-61.69	3.39	13.16	H
	3741	-61.03	-13	-48.03	-73.29	2.64	14.90	V
	5613	-57.35	-13	-44.35	-69.21	2.94	14.80	V
	7488	-51.45	-13	-38.45	-61.22	3.39	13.16	V
Highest	3783	-61.37	-13	-48.37	-73.63	2.64	14.90	H
	5673	-57.73	-13	-44.73	-69.59	2.94	14.80	H
	7560	-52.37	-13	-39.37	-62.14	3.39	13.16	H
	3783	-61.35	-13	-48.35	-73.61	2.64	14.90	V
	5673	-57.73	-13	-44.73	-69.59	2.94	14.80	V
	7560	-51.85	-13	-38.85	-61.62	3.39	13.16	V

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



LTE Band 12 / 10MHz / QPSK								
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)
Lowest	1400	-66.13	-13	-53.13	-73.10	1.58	10.70	H
	2098	-66.52	-13	-53.52	-74.77	2.102	12.50	H
	2798	-65.51	-13	-52.51	-74.40	2.856	13.90	H
	3498	-63.93	-13	-50.93	-72.39	2.689	13.30	H
	1400	-65.13	-13	-52.13	-72.10	1.58	10.70	V
	2098	-65.25	-13	-52.25	-73.50	2.10	12.50	V
	2798	-65.29	-13	-52.29	-74.18	2.86	13.90	V
	3498	-64.17	-13	-51.17	-72.63	2.69	13.30	V
Middle	1406	-68.05	-13	-55.05	-75.02	1.58	10.70	H
	2110	-66.65	-13	-53.65	-74.90	2.102	12.50	H
	2812	-65.46	-13	-52.46	-74.35	2.856	13.90	H
	3516	-63.66	-13	-50.66	-72.12	2.689	13.30	H
	1406	-65.98	-13	-52.98	-72.95	1.58	10.70	V
	2110	-64.97	-13	-51.97	-73.22	2.10	12.50	V
	2812	-65.17	-13	-52.17	-74.06	2.86	13.90	V
	3516	-63.71	-13	-50.71	-72.17	2.69	13.30	V
Highest	1414	-66.26	-13	-53.26	-73.23	1.58	10.70	H
	2120	-66.94	-13	-53.94	-75.19	2.102	12.50	H
	2826	-65.00	-13	-52.00	-73.89	2.856	13.90	H
	3534	-63.89	-13	-50.89	-72.35	2.689	13.30	H
	1414	-64.72	-13	-51.72	-71.69	1.58	10.70	V
	2120	-65.75	-13	-52.75	-74.00	2.10	12.50	V
	2826	-64.75	-13	-51.75	-73.64	2.86	13.90	V
	3534	-64.12	-13	-51.12	-72.58	2.69	13.30	V

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



LTE Band 4 / 20MHz / QPSK								
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)
Lowest	3423	-61.94	-13	-48.94	-72.68	2.604	13.34	H
	5133	-56.15	-13	-43.15	-66.66	3.011	13.52	H
	6840	-53.77	-13	-40.77	-63.97	3.271	13.47	H
	3423	-62.15	-13	-49.15	-72.89	2.604	13.34	V
	5133	-56.26	-13	-43.26	-66.77	3.011	13.52	V
	6840	-53.21	-13	-40.21	-63.41	3.271	13.47	V
Middle	3447	-61.80	-13	-48.80	-72.54	2.604	13.34	H
	5172	-53.23	-13	-40.23	-63.74	3.011	13.52	H
	6900	-53.59	-13	-40.59	-63.79	3.271	13.47	H
	3447	-61.97	-13	-48.97	-72.71	2.604	13.34	V
	5172	-52.85	-13	-39.85	-63.36	3.011	13.52	V
	6900	-53.29	-13	-40.29	-63.49	3.271	13.47	V
Highest	3741	-60.69	-13	-47.69	-71.43	2.604	13.34	H
	5208	-56.82	-13	-43.82	-67.33	3.011	13.52	H
	6948	-53.87	-13	-40.87	-64.07	3.271	13.47	H
	3741	-60.67	-13	-47.67	-71.41	2.604	13.34	V
	5208	-57.00	-13	-44.00	-67.51	3.011	13.52	V
	6948	-53.42	-13	-40.42	-63.62	3.271	13.47	V

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



LTE Band 66 / 20MHz / QPSK								
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)
Lowest	3423	-57.73	-13	-44.73	-68.47	2.604	13.34	H
	5133	-54.32	-13	-41.32	-64.83	3.011	13.52	H
	6840	-53.65	-13	-40.65	-63.85	3.271	13.47	H
	3423	-57.89	-13	-44.89	-68.63	2.604	13.34	V
	5133	-54.65	-13	-41.65	-65.16	3.011	13.52	V
	6840	-53.62	-13	-40.62	-63.82	3.271	13.47	V
Middle	3471	-57.10	-13	-44.10	-67.84	2.604	13.34	H
	5208	-53.85	-13	-40.85	-64.36	3.011	13.52	H
	6948	-53.73	-13	-40.73	-63.93	3.271	13.47	H
	3471	-57.39	-13	-44.39	-68.13	2.604	13.34	V
	5208	-54.09	-13	-41.09	-64.60	3.011	13.52	V
	6948	-53.68	-13	-40.68	-63.88	3.271	13.47	V
Highest	3522	-57.39	-13	-44.39	-68.13	2.604	13.34	H
	5283	-54.50	-13	-41.50	-65.01	3.011	13.52	H
	7044	-53.03	-13	-40.03	-63.23	3.271	13.47	H
	3522	-57.27	-13	-44.27	-68.01	2.604	13.34	V
	5283	-54.71	-13	-41.71	-65.22	3.011	13.52	V
	7044	-53.46	-13	-40.46	-63.66	3.271	13.47	V

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