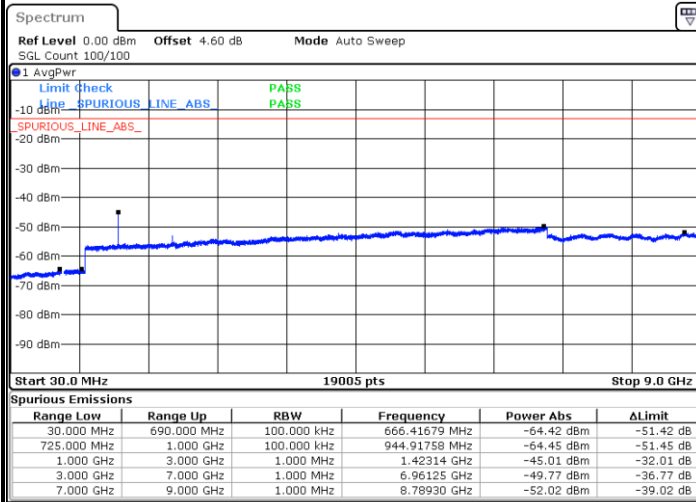




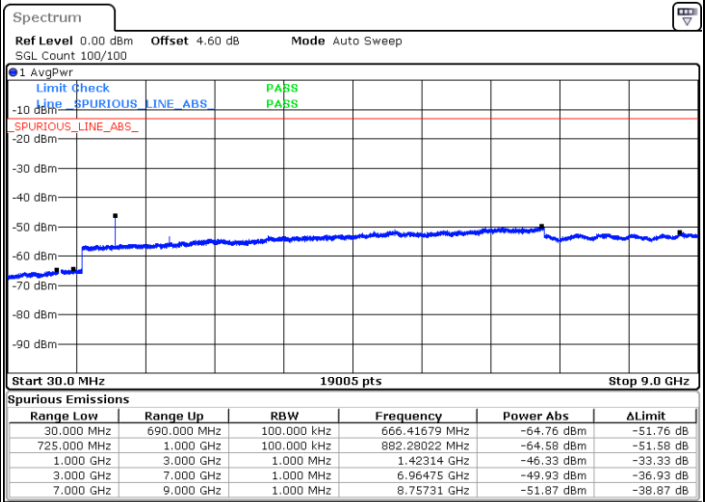
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 25 AUG 2020 23:38:47

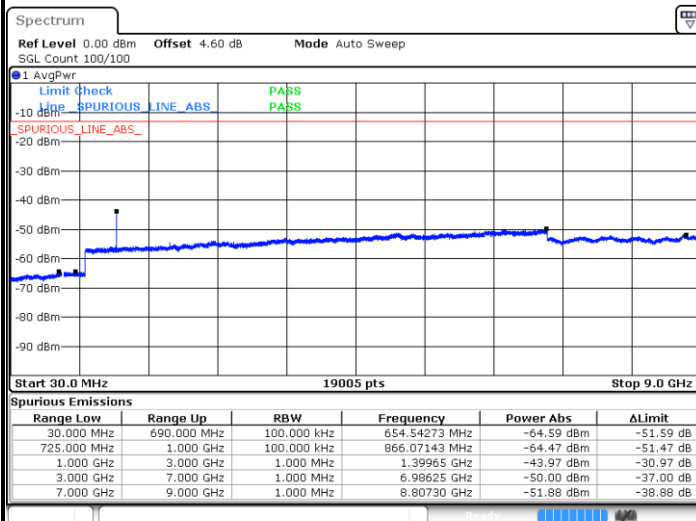
Highest Channel / 16QAM



Date: 25 AUG 2020 23:39:41

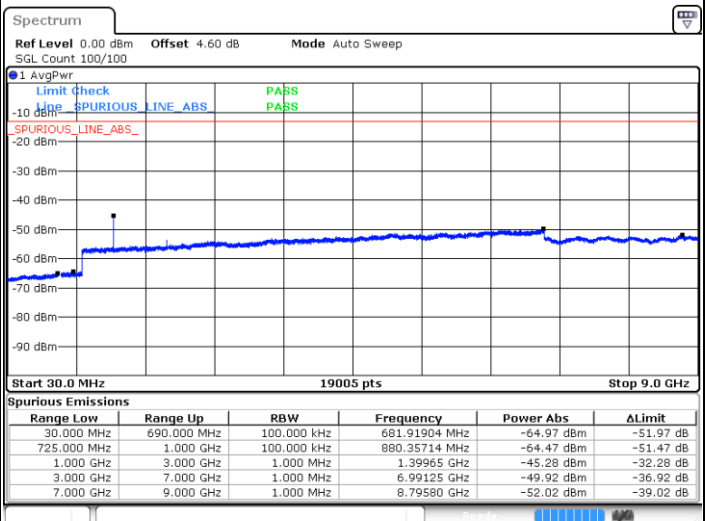
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 25 AUG 2020 23:53:34

Lowest Channel / 16QAM

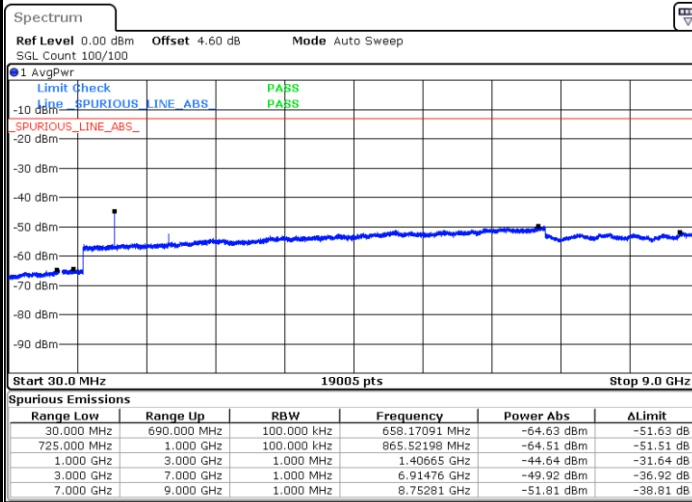


Date: 25 AUG 2020 23:54:29



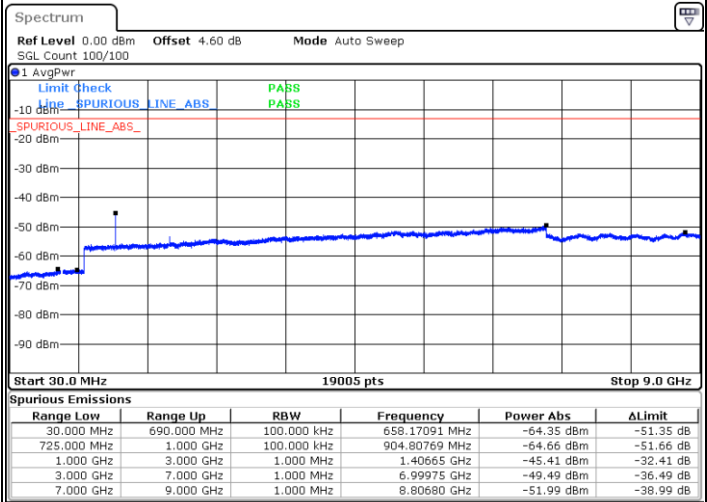
LTE Band 12 / 10MHz

Middle Channel / QPSK



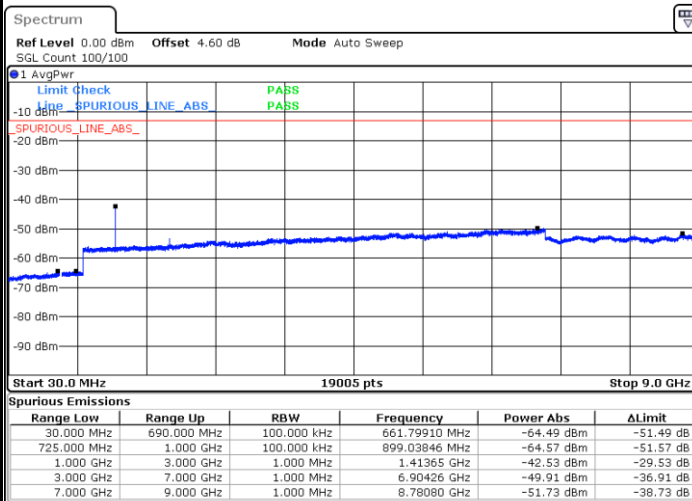
Date: 25 AUG 2020 23:56:17

Middle Channel / 16QAM



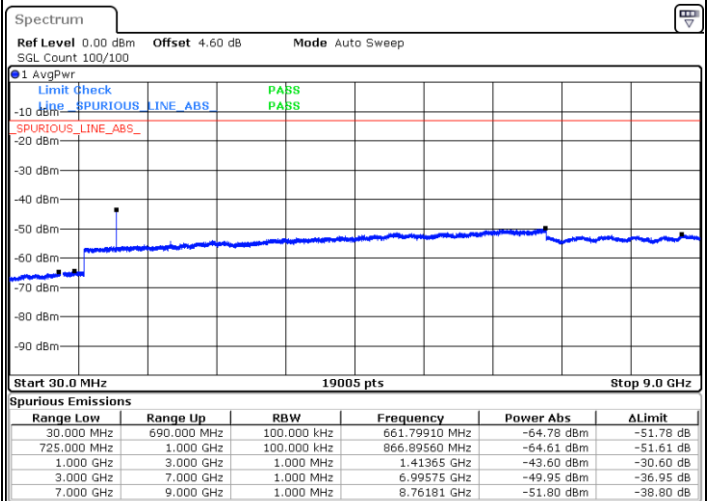
Date: 25 AUG 2020 23:55:23

Highest Channel / QPSK



Date: 25 AUG 2020 23:57:11

Highest Channel / 16QAM



Date: 25 AUG 2020 23:58:06

**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	0.0026	PASS
40	Normal Voltage	0.0025	
30	Normal Voltage	0.0008	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0016	
0	Normal Voltage	0.0036	
-10	Normal Voltage	0.0008	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0023	
20	Maximum Voltage	0.0004	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0023	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.4 V..
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

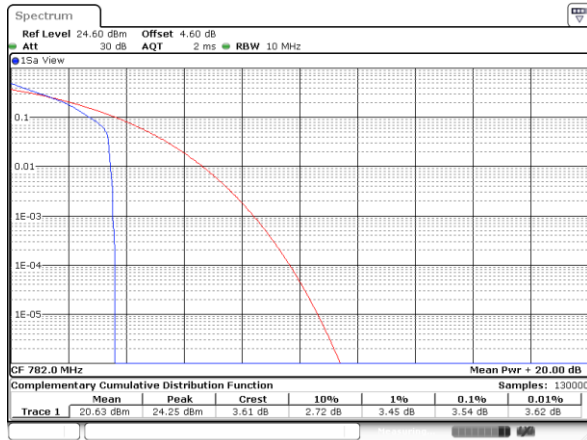
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.54	4.75	4.61	6.00	
Highest CH	-	-	-	-	



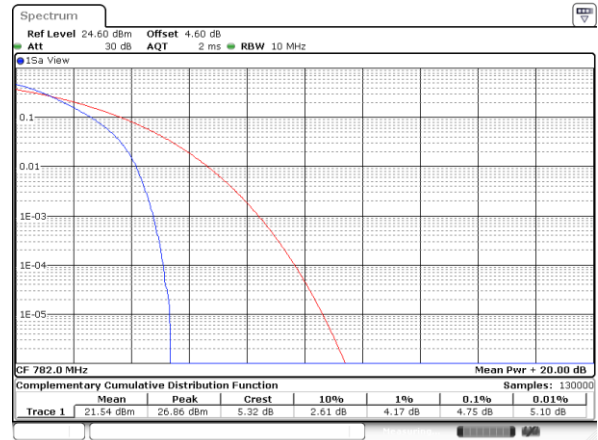
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 26 AUG 2020 01:07:46

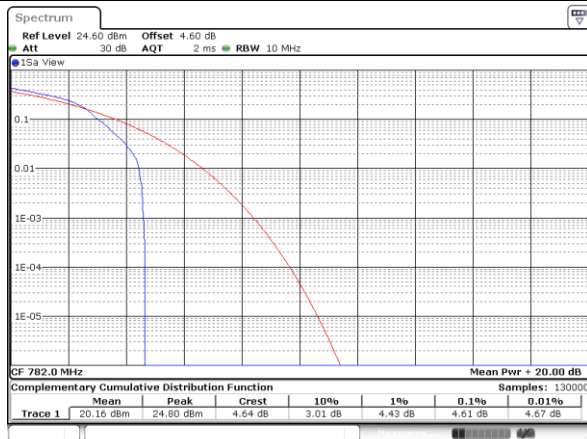
Middle Channel / Full RB



Date: 26 AUG 2020 01:08:14

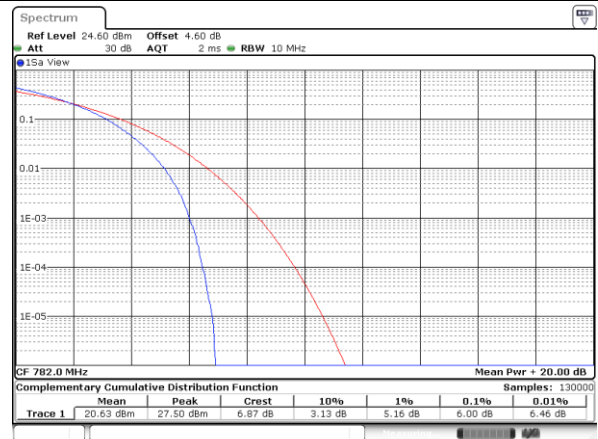
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 26 AUG 2020 01:07:55

Middle Channel / Full RB



Date: 26 AUG 2020 01:08:05



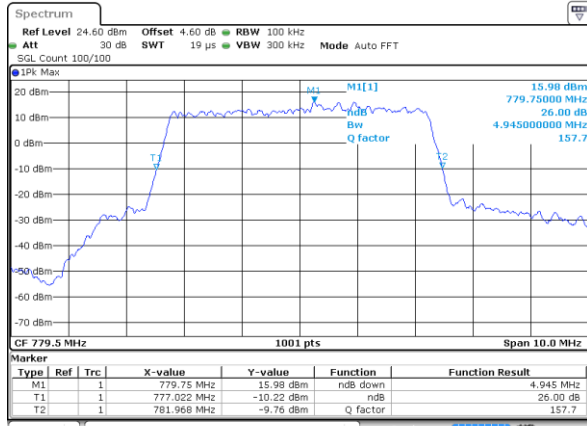
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.95	4.85	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	4.93	9.67	9.71	-	-	-	-
Highest CH	-	-	-	-	4.91	4.86	-	-	-	-	-	-

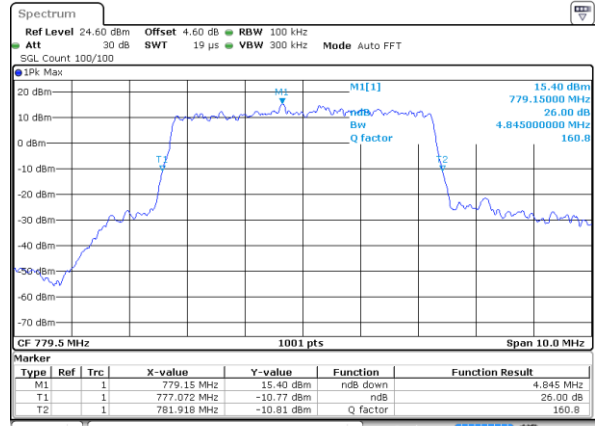


LTE Band 13

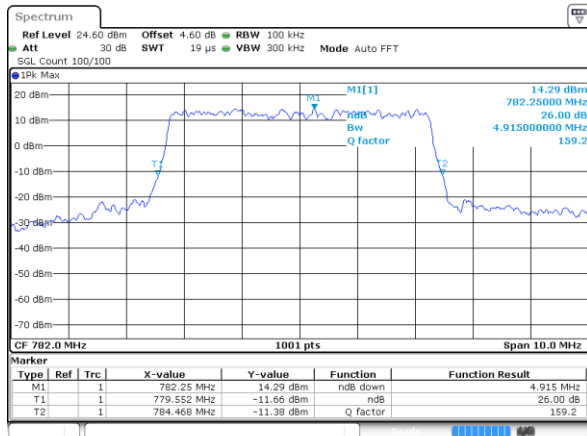
Lowest Channel / 5MHz / QPSK



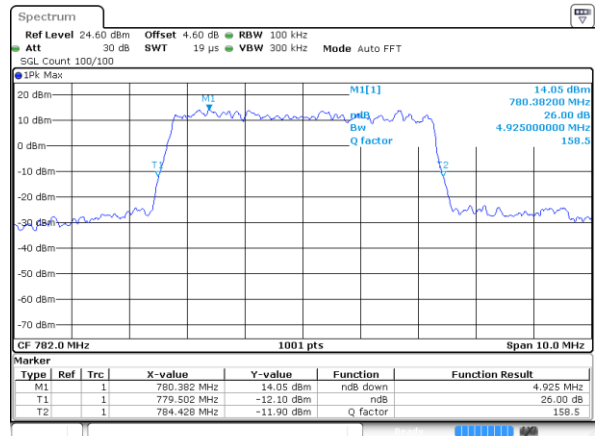
Lowest Channel / 5MHz / 16QAM



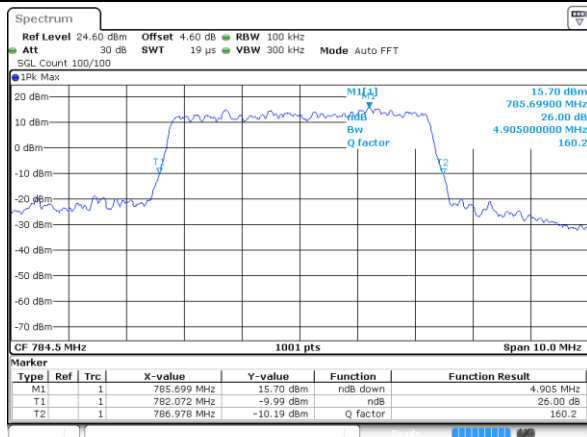
Middle Channel / 5MHz / QPSK



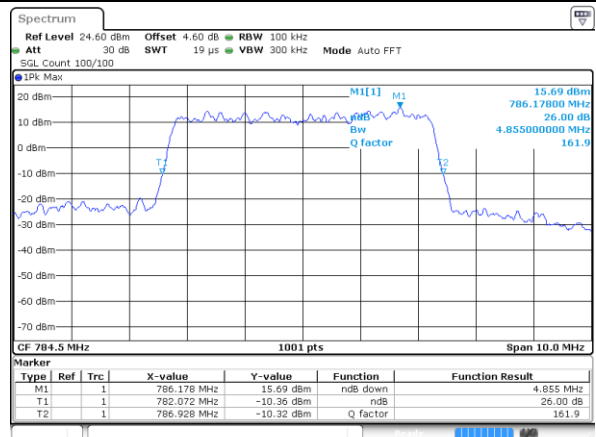
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



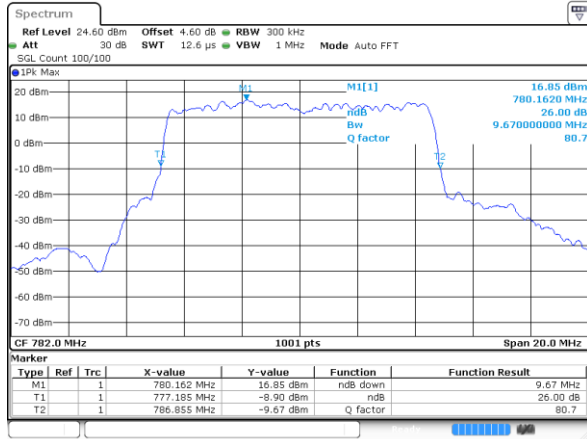
Highest Channel / 5MHz / 16QAM





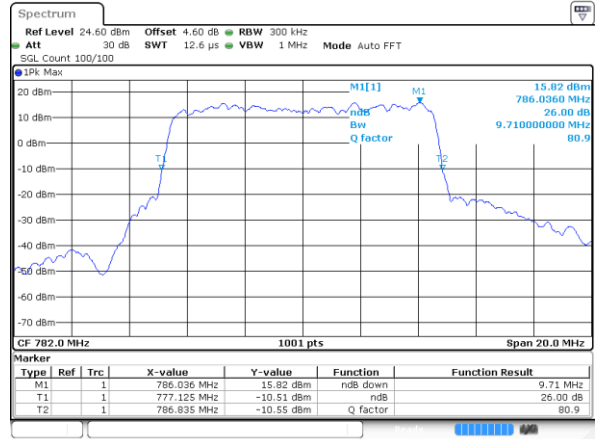
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 26 AUG 2020 00:54:15

Middle Channel / 10MHz / 16QAM



Date: 26 AUG 2020 00:54:05



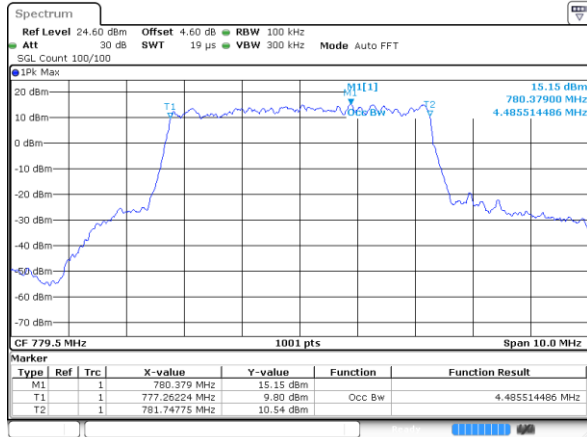
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.47	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	8.97	8.99	-	-	-	-
Highest CH	-	-	-	-	4.52	4.49	-	-	-	-	-	-

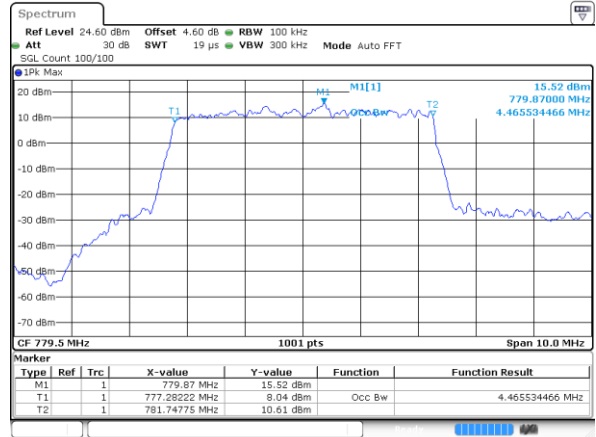


LTE Band 13

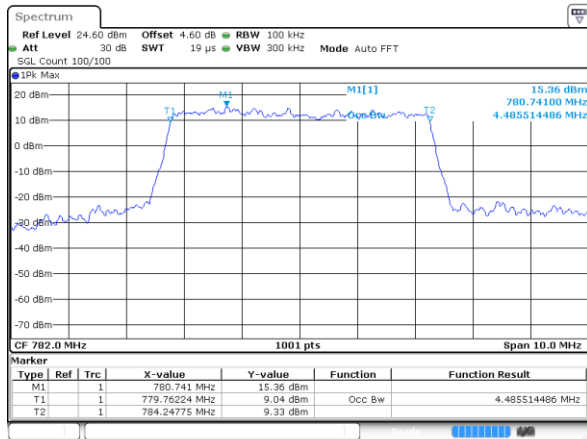
Lowest Channel / 5MHz / QPSK



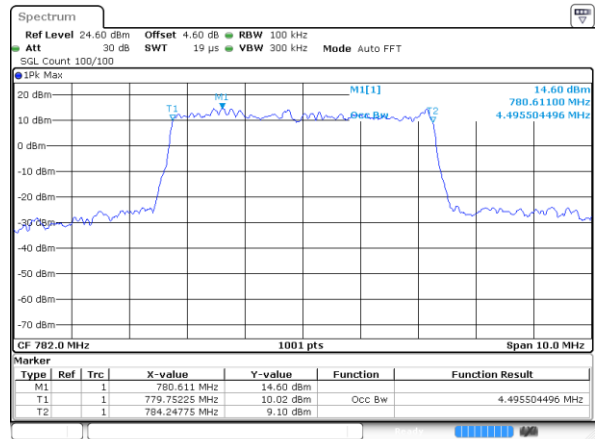
Lowest Channel / 5MHz / 16QAM



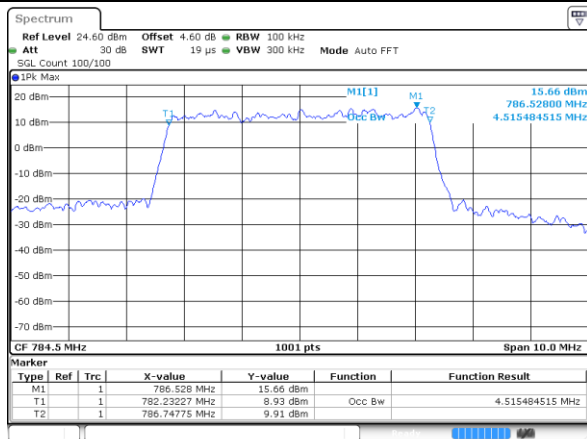
Middle Channel / 5MHz / QPSK



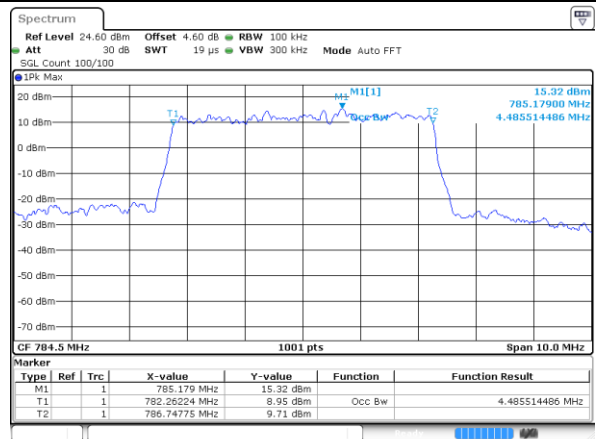
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



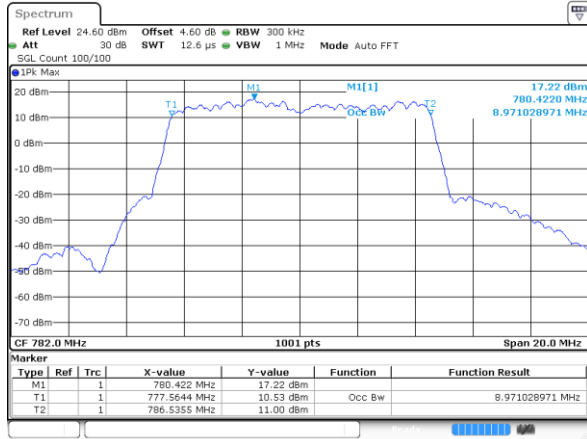
Highest Channel / 5MHz / 16QAM



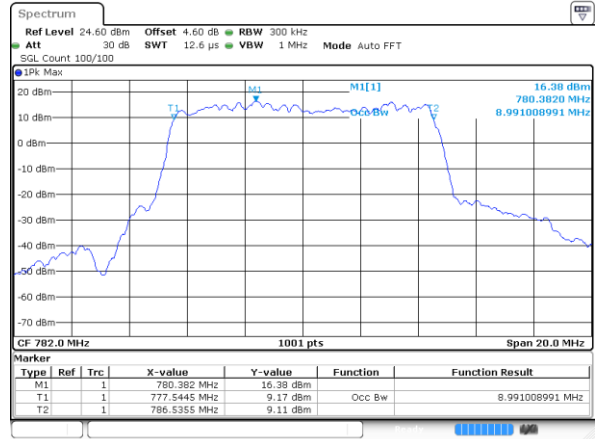


LTE Band 13

Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM

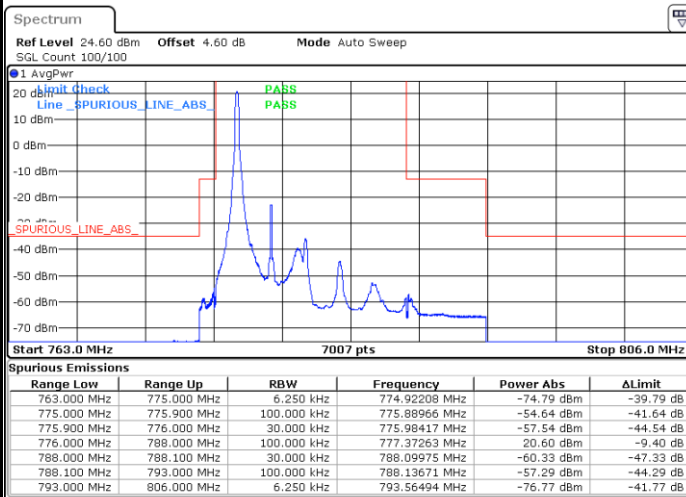




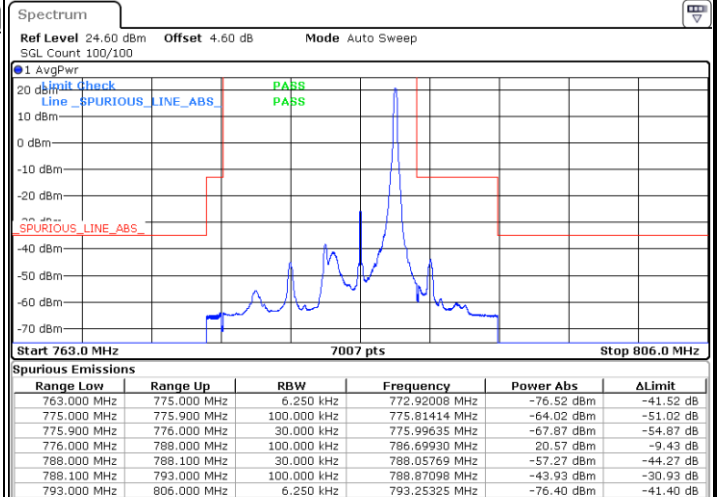
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

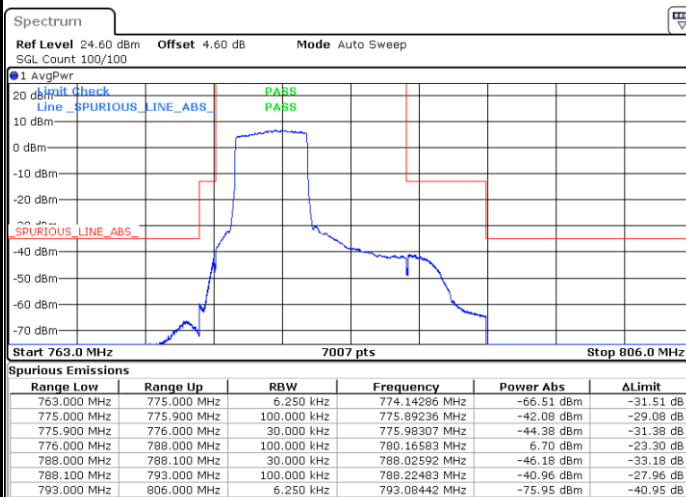
Lowest Band Edge / 1 RB



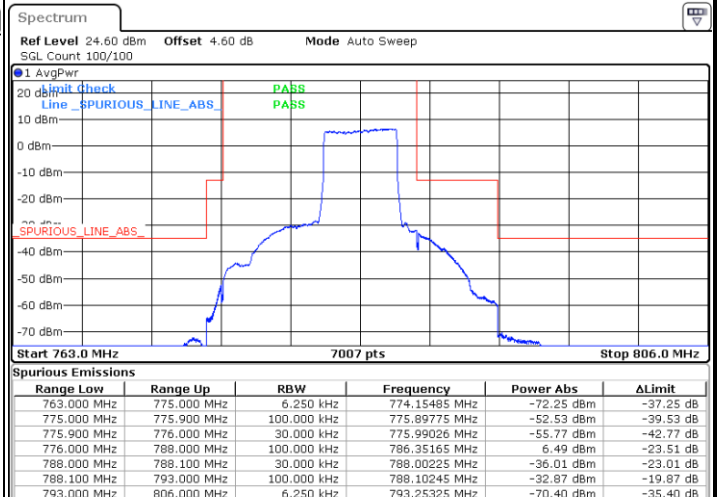
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



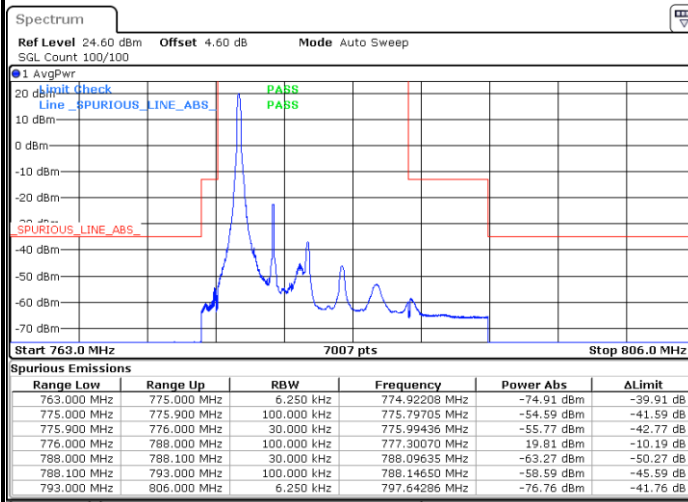
Highest Band Edge / Full RB





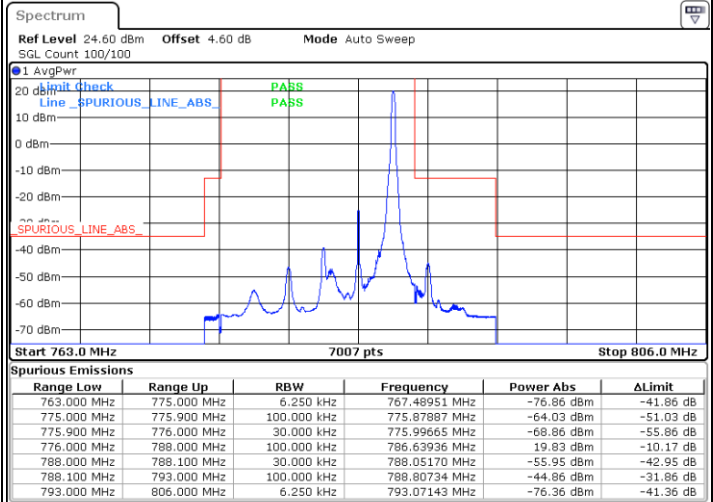
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



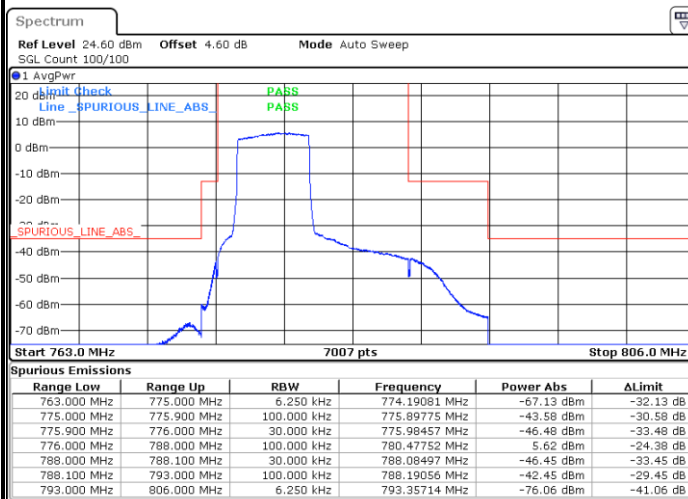
Date: 26 AUG 2020 00:24:45

Highest Band Edge / 1 RB



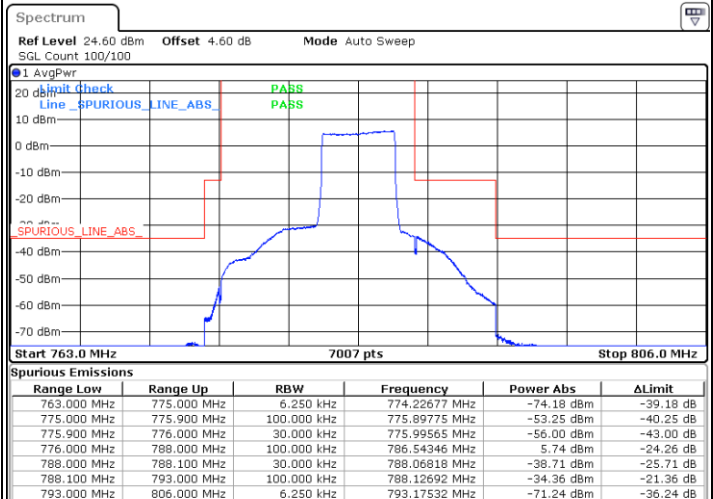
Date: 26 AUG 2020 00:36:12

Lowest Band Edge / Full RB



Date: 26 AUG 2020 00:18:03

Highest Band Edge / Full RB

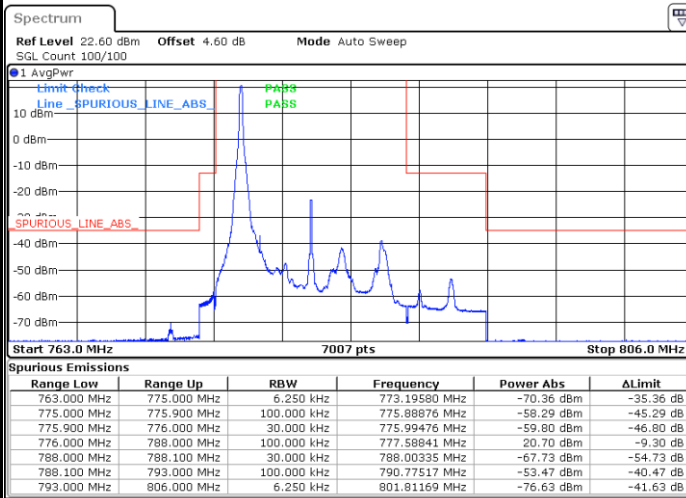


Date: 26 AUG 2020 00:31:19



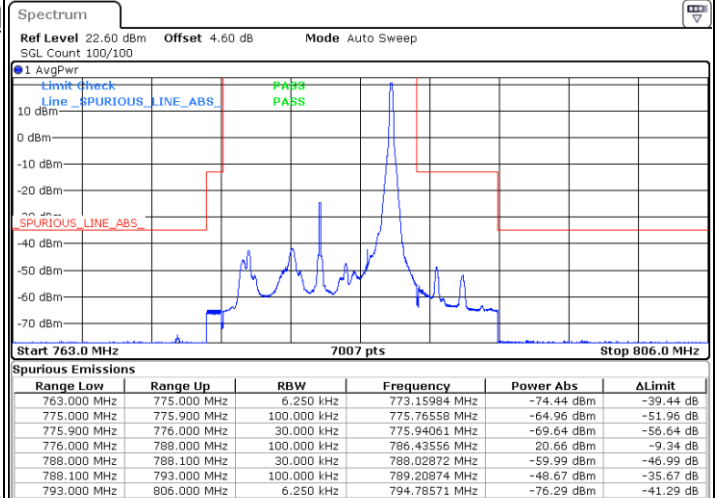
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



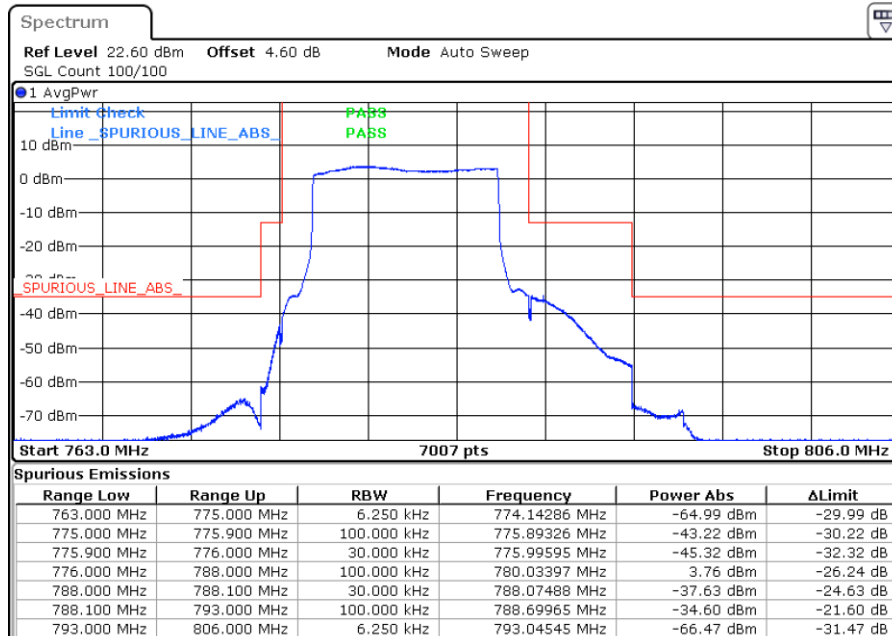
Date: 26 AUG 2020 00:57:50

Highest Band Edge / 1 RB



Date: 26 AUG 2020 01:04:20

Band Edge / Full RB

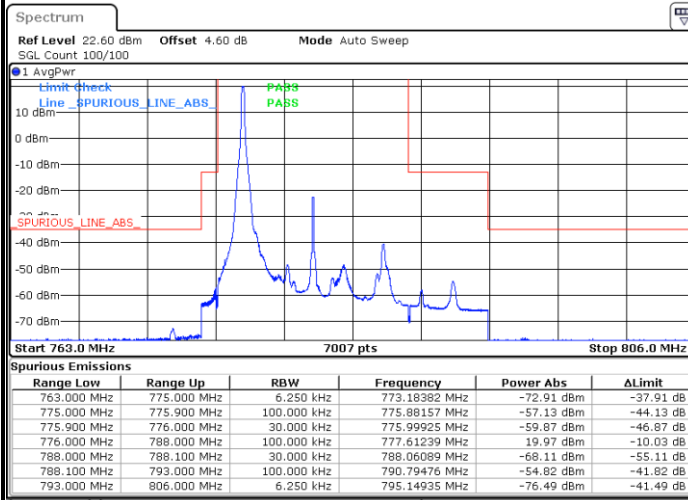


Date: 26 AUG 2020 00:59:28



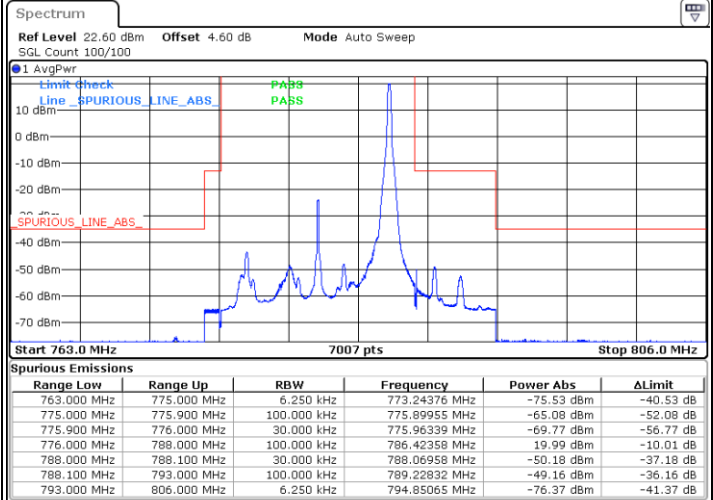
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



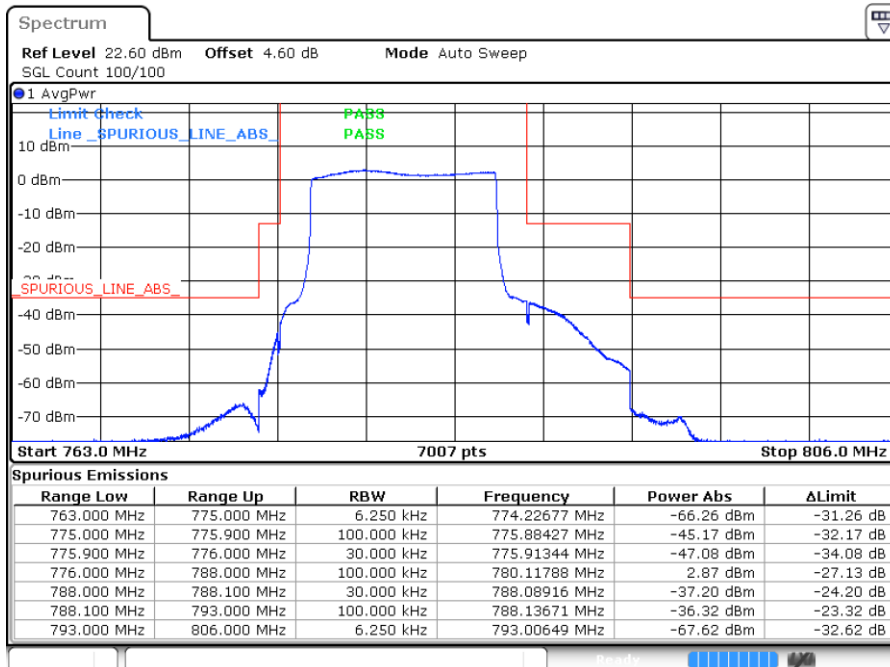
Date: 26 AUG 2020 00:56:13

Highest Band Edge / 1 RB



Date: 26 AUG 2020 01:02:43

Band Edge / Full RB



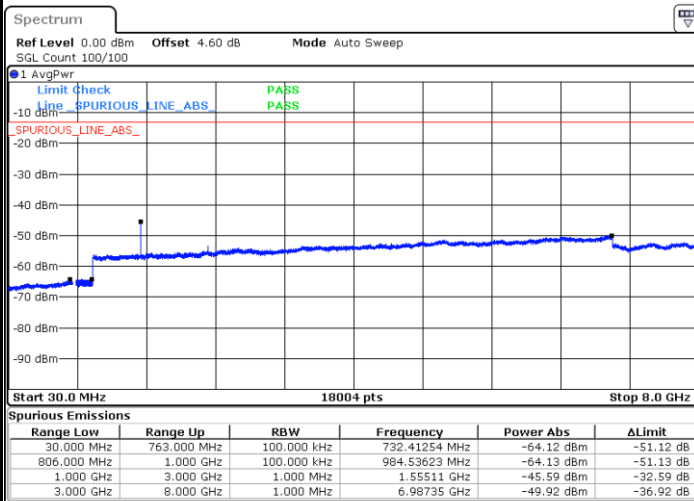
Date: 26 AUG 2020 01:01:05



Conducted Spurious Emission

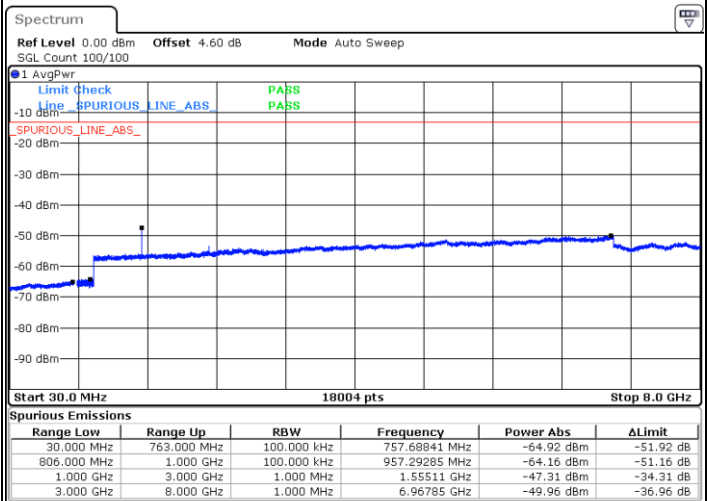
LTE Band 13 / 5MHz

Lowest Channel / QPSK



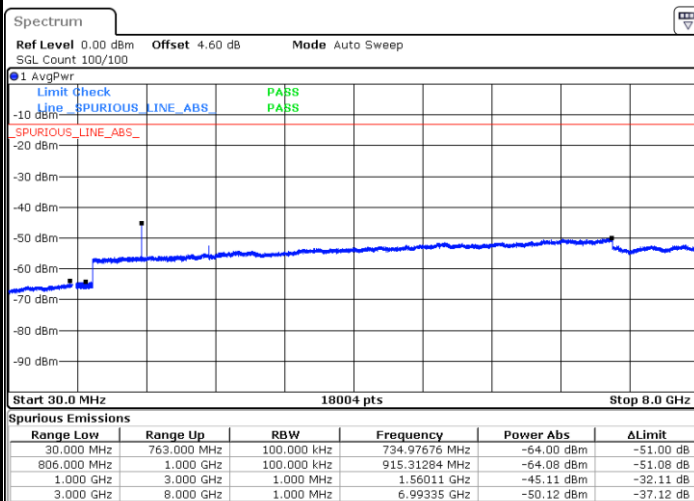
Date: 26 AUG 2020 00:26:33

Lowest Channel / 16QAM



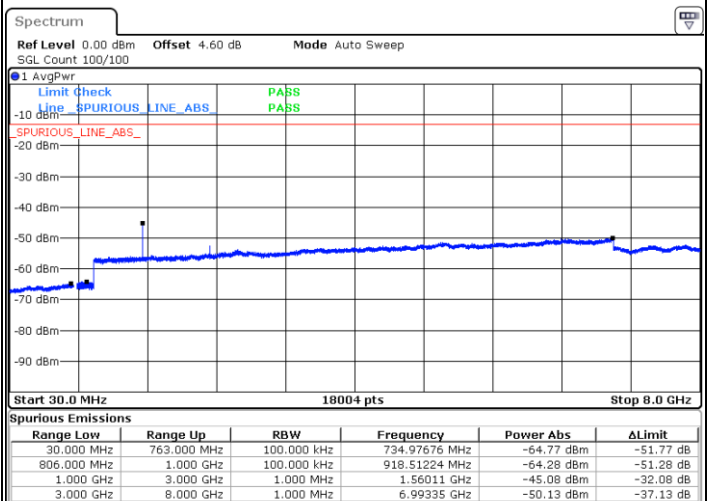
Date: 26 AUG 2020 00:25:39

Middle Channel / QPSK



Date: 26 AUG 2020 00:28:07

Middle Channel / 16QAM

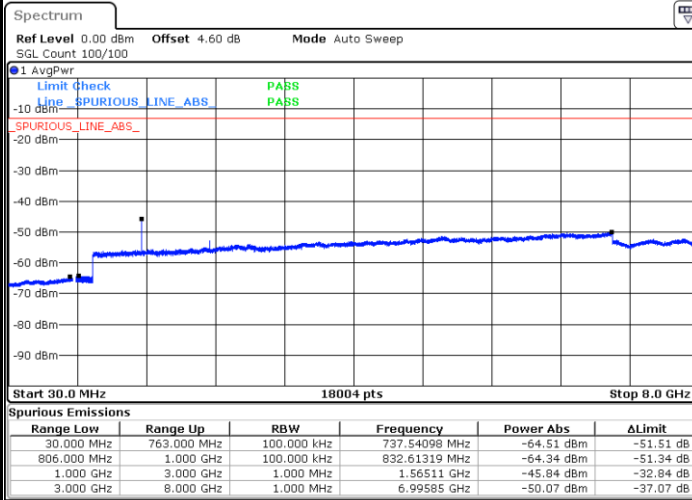


Date: 26 AUG 2020 00:29:01



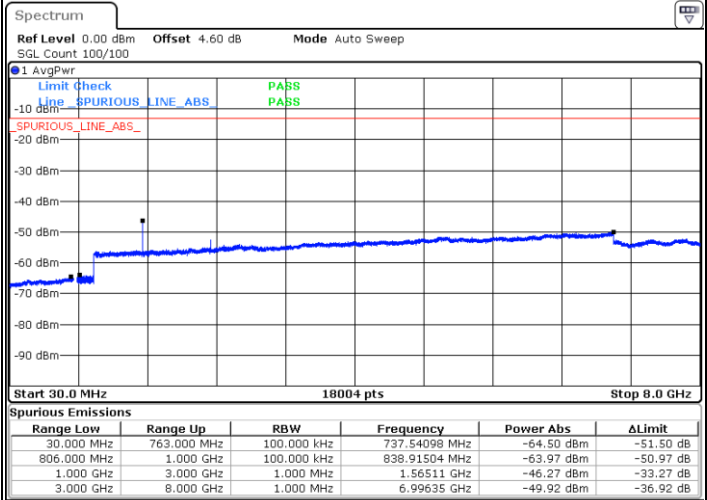
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 26 AUG 2020 00:37:59

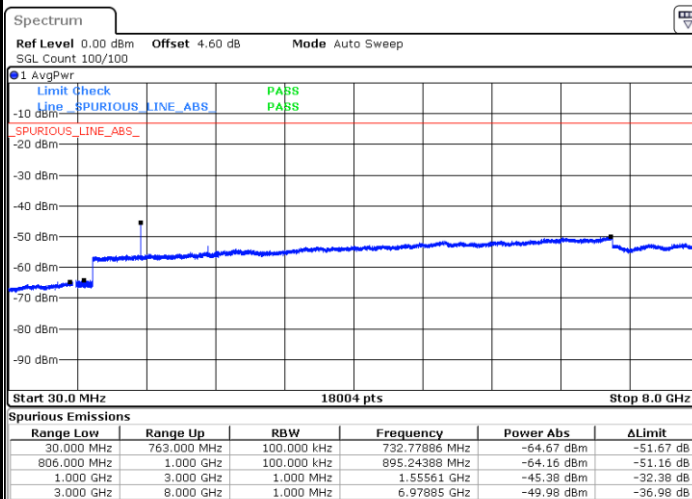
Highest Channel / 16QAM



Date: 26 AUG 2020 00:37:05

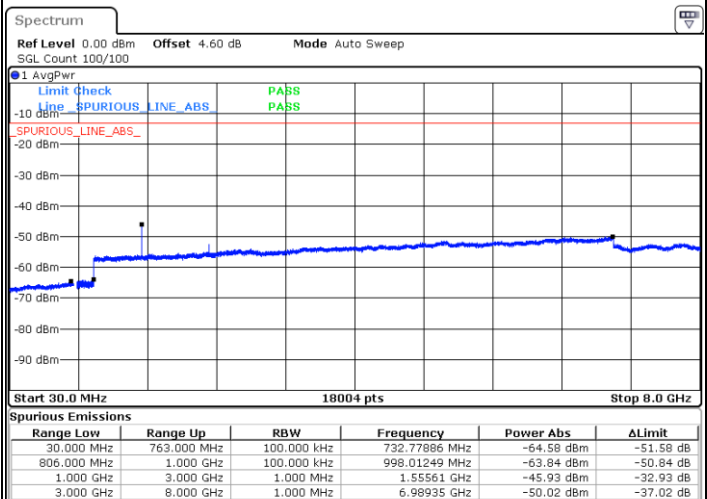
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 26 AUG 2020 00:53:00

Middle Channel / 16QAM



Date: 26 AUG 2020 00:53:55

Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0022	PASS
40	Normal Voltage	0.0029	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0032	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0021	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0027	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.4 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 / 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)
Middle	3741	-59.15	-13	-46.15	-71.41	2.64	14.90	H
	5613	-55.57	-13	-42.57	-67.43	2.94	14.80	H
	7488	-51.98	-13	-38.98	-61.75	3.39	13.16	H
	3741	-56.77	-13	-43.77	-69.03	2.64	14.90	V
	5613	-55.89	-13	-42.89	-67.75	2.94	14.80	V
	7488	-51.51	-13	-38.51	-61.28	3.39	13.16	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)
Middle	3447	-60.67	-13	-47.67	-67.36	1.75	8.44	H
	5172	-46.17	-13	-33.17	-54.59	1.94	10.36	H
	6900	-53.96	-13	-40.96	-63.20	2.47	11.71	H
	3447	-59.70	-13	-46.70	-66.39	1.75	8.44	V
	5172	-42.24	-13	-29.24	-50.66	1.94	10.36	V
	6900	-54.03	-13	-41.03	-63.27	2.47	11.71	V

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

LTE Band 5 / 10MHz / QPSK								
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	1664	-51.01	-13	-38.01	-54.25	1.11	6.50	H
	2496	-61.23	-13	-48.23	-63.85	1.43	6.20	H
	3330	-58.08	-13	-45.08	-62.52	1.71	8.30	H
	4158	-54.56	-13	-41.56	-59.28	1.93	8.80	H
	1664	-48.37	-13	-35.37	-51.61	1.11	6.50	V
	2496	-57.73	-13	-44.73	-60.35	1.43	6.20	V
	3330	-52.57	-13	-39.57	-57.01	1.71	8.30	V
	4158	-49.55	-13	-36.55	-54.27	1.93	8.80	V

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



LTE Band 7 / 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)
Middle	5052	-60.77	-25	-35.77	-70.98	3.03	13.24	H
	7580	-46.59	-25	-21.59	-56.04	3.56	13.01	H
	10100	-53.84	-25	-28.84	-63.36	3.92	13.44	H
	5052	-61.01	-25	-36.01	-71.22	3.03	13.24	V
	7580	-41.41	-25	-16.41	-50.86	3.56	13.01	V
	10100	-53.79	-25	-28.79	-63.31	3.92	13.44	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)
Middle	1406	-63.07	-13	-50.07	-70.04	1.58	10.70	H
	2108	-67.10	-13	-54.10	-75.35	2.102	12.50	H
	2812	-65.47	-13	-52.47	-74.36	2.856	13.90	H
	3516	-63.49	-13	-50.49	-71.95	2.689	13.30	H
	1406	-62.17	-13	-49.17	-69.14	1.58	10.70	V
	2108	-66.32	-13	-53.32	-74.57	2.10	12.50	V
	2812	-65.46	-13	-52.46	-74.35	2.86	13.90	V
	3516	-63.50	-13	-50.50	-71.96	2.69	13.30	V

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



LTE Band 13 / 5MHz / QPSK								
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	-68.58	-42.15	-26.43	-71.21	1.09	5.87	H
	2340	-67.06	-13	-54.06	-69.46	1.37	5.92	H
	3120	-65.00	-13	-52.00	-68.89	1.64	7.68	H
	1560	-68.61	-42.15	-26.46	-71.24	1.09	5.87	V
	2340	-67.15	-13	-54.15	-69.55	1.37	5.92	V
	3120	-64.53	-13	-51.53	-68.42	1.64	7.68	V

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

LTE Band 13 / 10MHz / QPSK								
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	1556	-67.35	-13	-54.35	-69.98	1.09	5.87	H
	2332	-66.96	-13	-53.96	-69.36	1.37	5.92	H
	3108	-64.59	-13	-51.59	-68.48	1.64	7.68	H
	1556	-67.61	-13	-54.61	-70.24	1.09	5.87	V
	2332	-66.48	-13	-53.48	-68.88	1.37	5.92	V
	3108	-64.54	-13	-51.54	-68.43	1.64	7.68	V

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