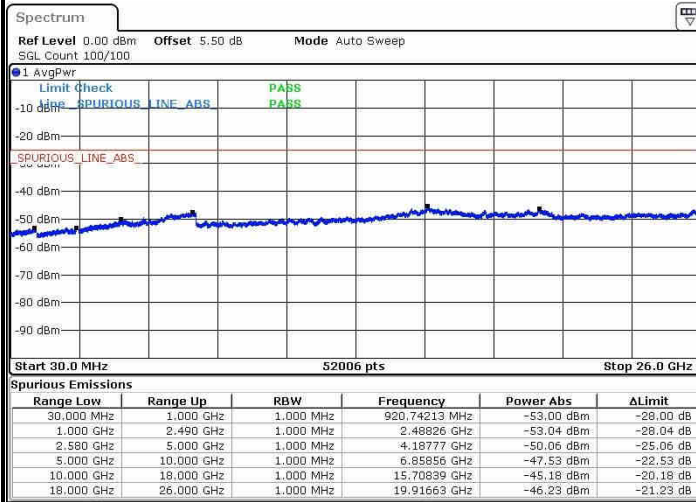




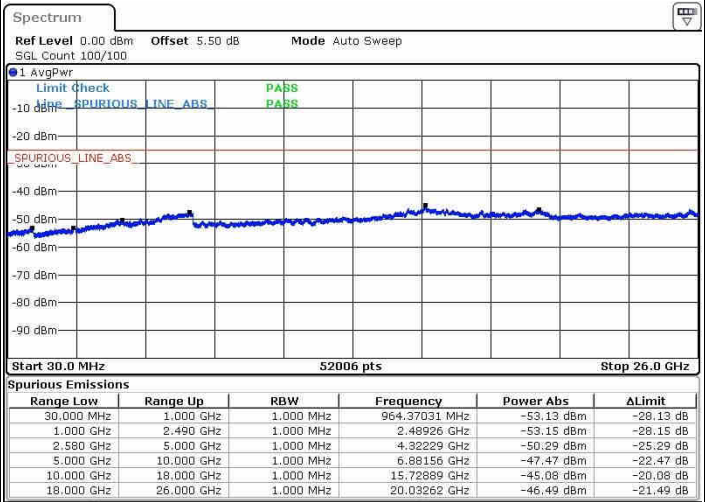
LTE Band 7 / 15MHz+20MHz

Lowest Channel / QPSK



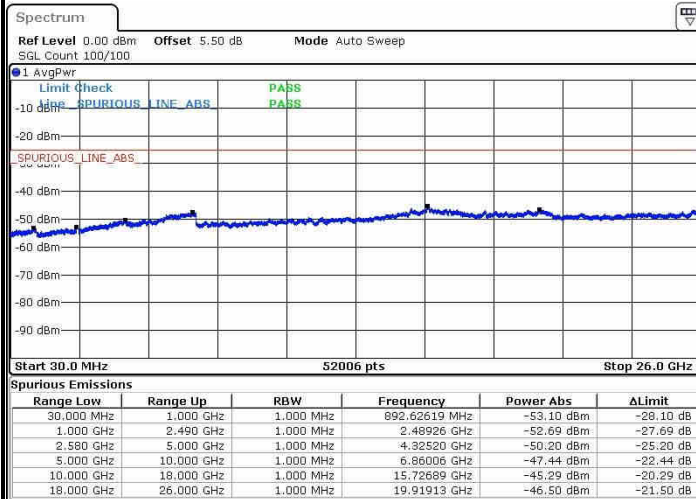
Date: 13 JUN 2019 20:49:22

Lowest Channel / 16QAM



Date: 13 JUN 2019 20:50:11

Lowest Channel / 64QAM

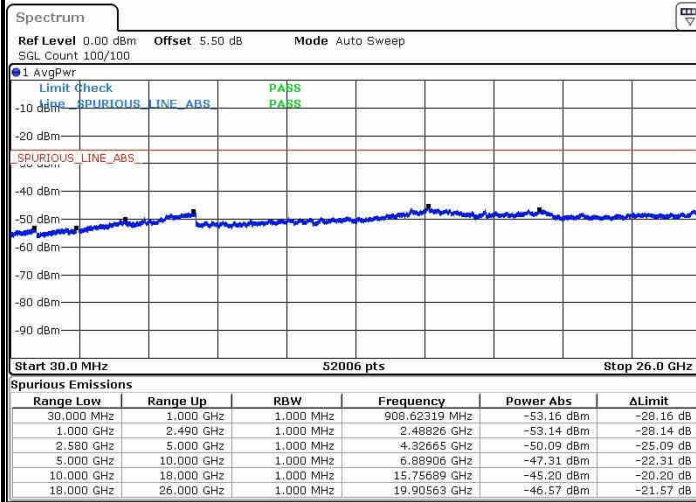


Date: 13 JUN 2019 20:55:05



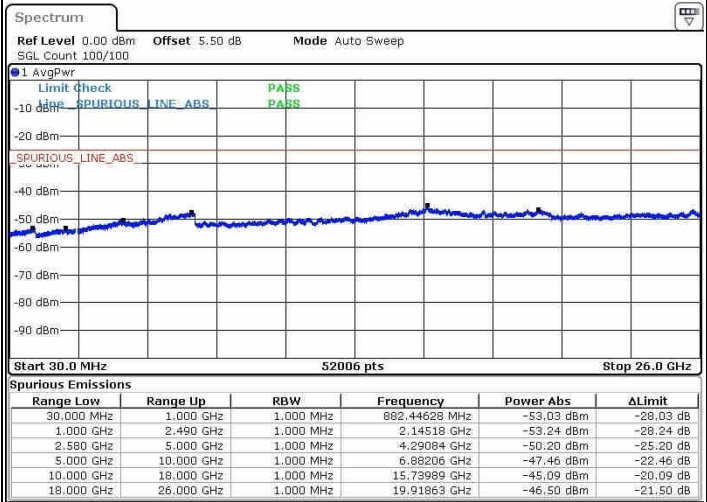
LTE Band 7 / 15MHz+20MHz

Middle Channel / QPSK



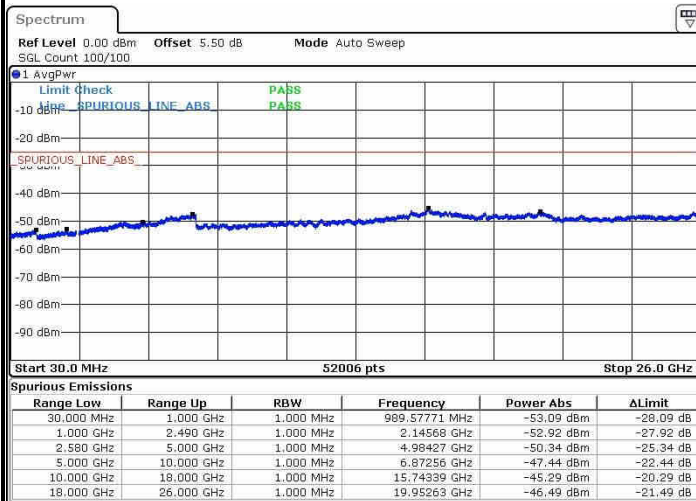
Date: 13 JUN 2019 20:48:10

Middle Channel / 16QAM



Date: 13 JUN 2019 20:47:10

Middle Channel / 64QAM

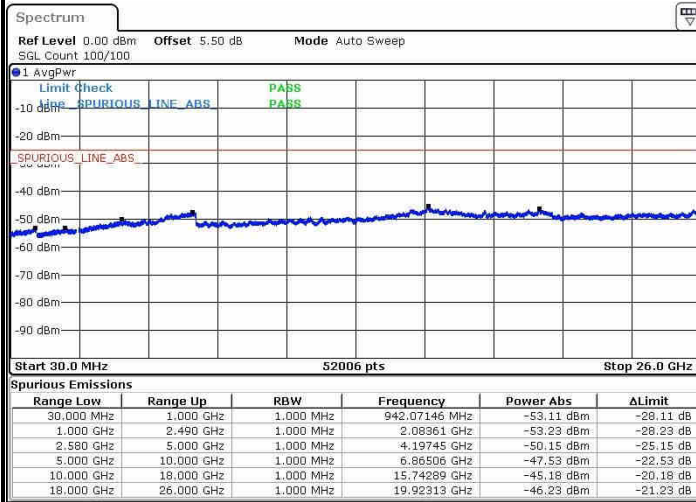


Date: 13 JUN 2019 20:46:22



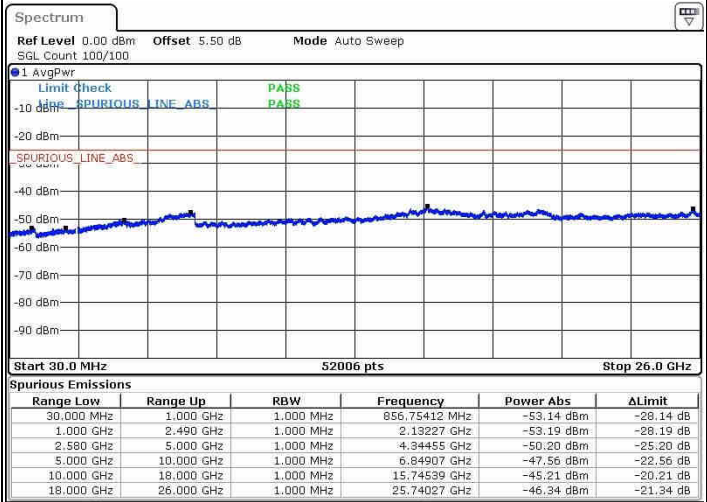
LTE Band 7 / 15MHz+20MHz

Highest Channel / QPSK



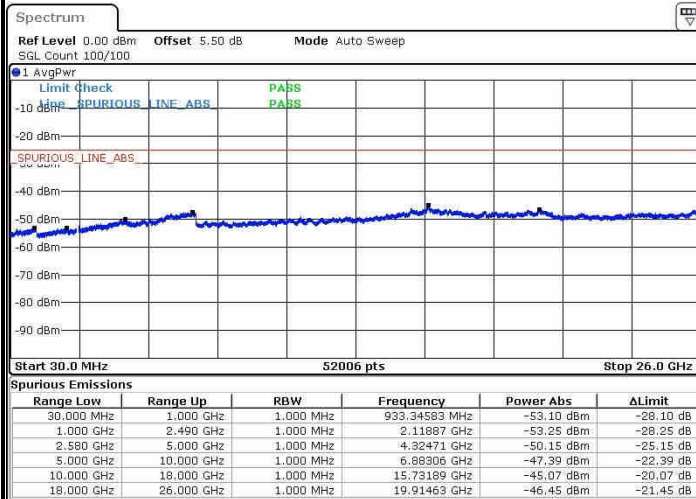
Date: 13 JUN 2019 20:43:25

Highest Channel / 16QAM



Date: 13 JUN 2019 20:44:16

Highest Channel / 64QAM

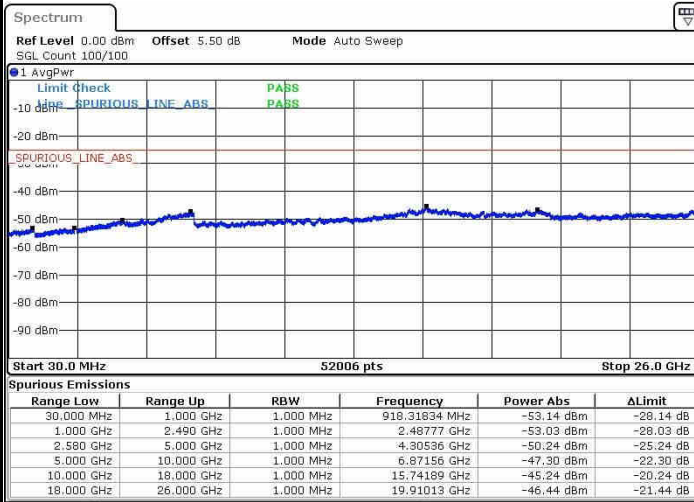


Date: 13 JUN 2019 20:45:12



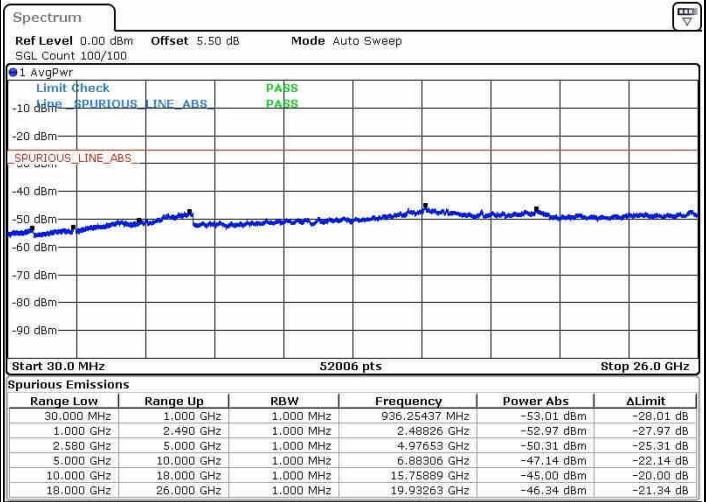
LTE Band 7 / 20MHz+10MHz

Lowest Channel / QPSK



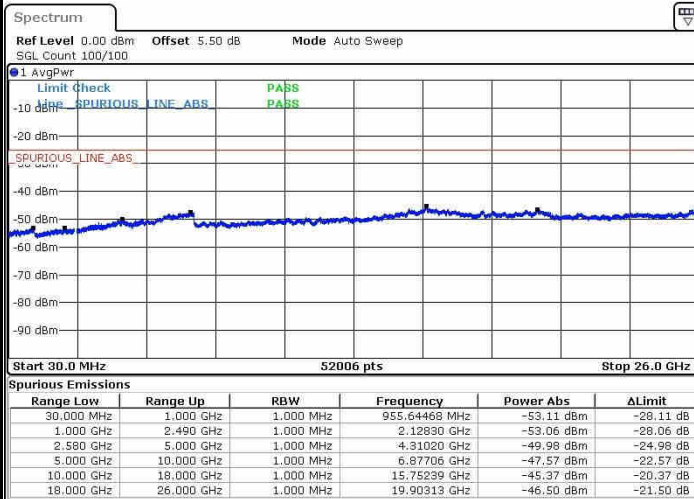
Date: 13 JUN 2019 20:07:23

Lowest Channel / 16QAM



Date: 13 JUN 2019 20:08:24

Lowest Channel / 64QAM

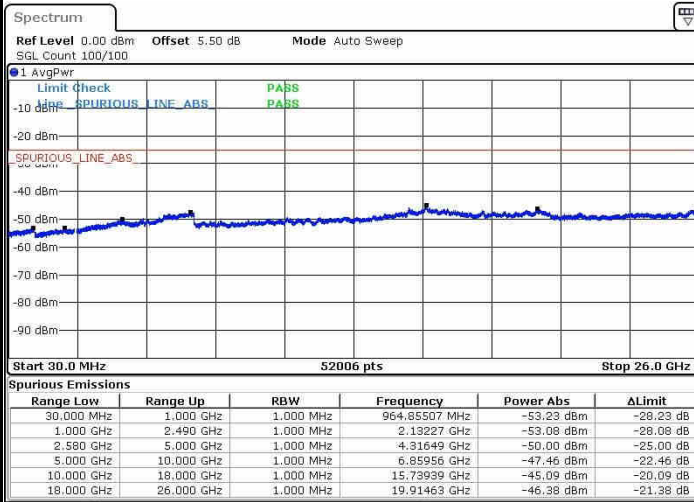


Date: 13 JUN 2019 20:09:20



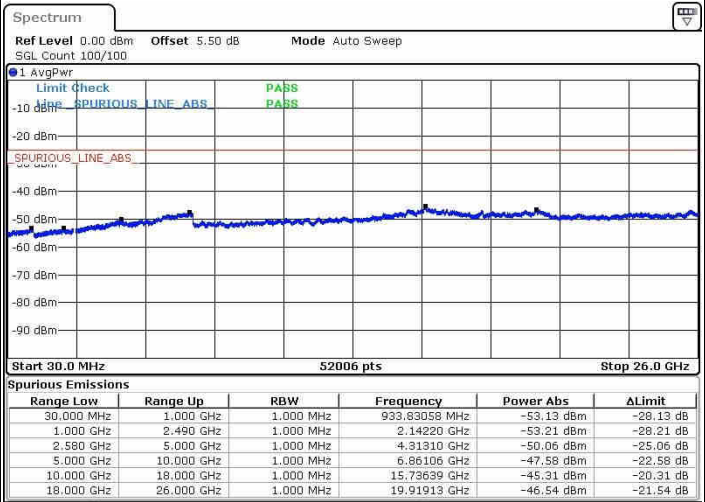
LTE Band 7 / 20MHz+10MHz

Middle Channel / QPSK



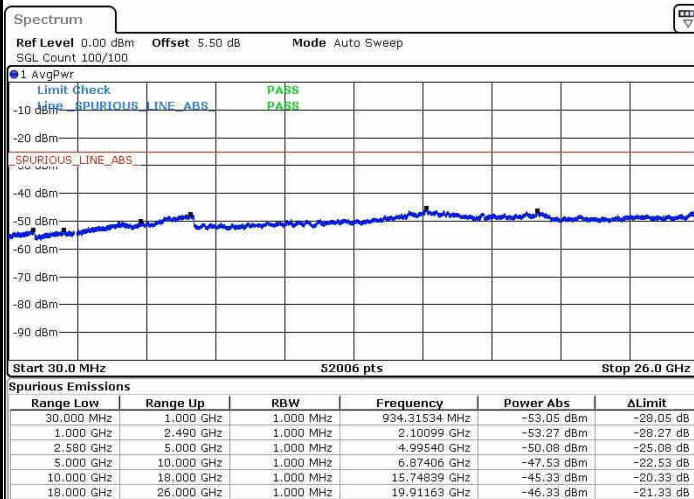
Date: 13 JUN 2019 20:05:41

Middle Channel / 16QAM



Date: 13 JUN 2019 20:04:51

Middle Channel / 64QAM

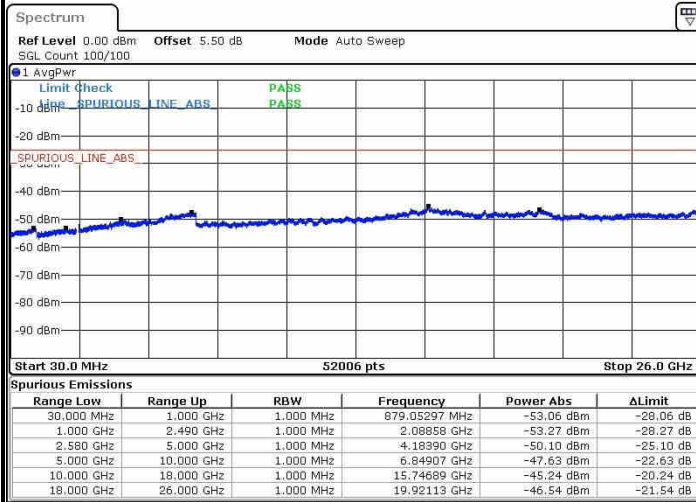


Date: 13 JUN 2019 20:03:32



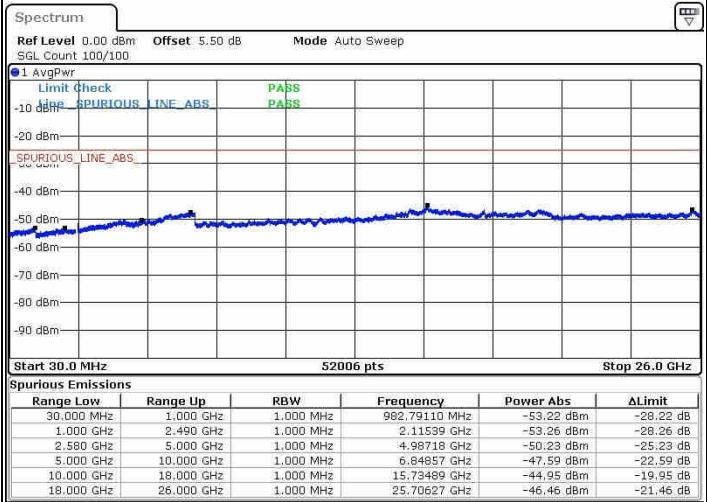
LTE Band 7 / 20MHz+10MHz

Highest Channel / QPSK



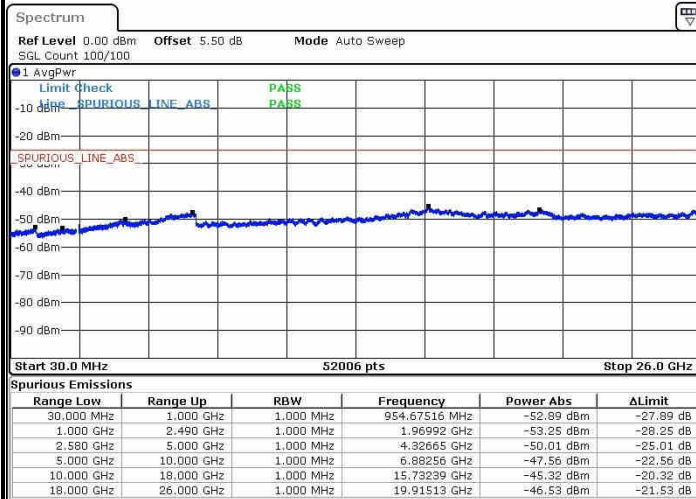
Date: 13 JUN 2019 19:57:05

Highest Channel / 16QAM



Date: 13 JUN 2019 19:58:02

Highest Channel / 64QAM

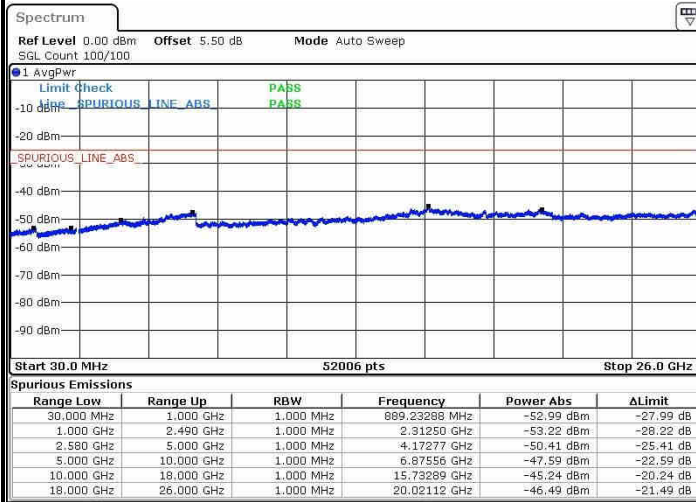


Date: 13 JUN 2019 19:59:05



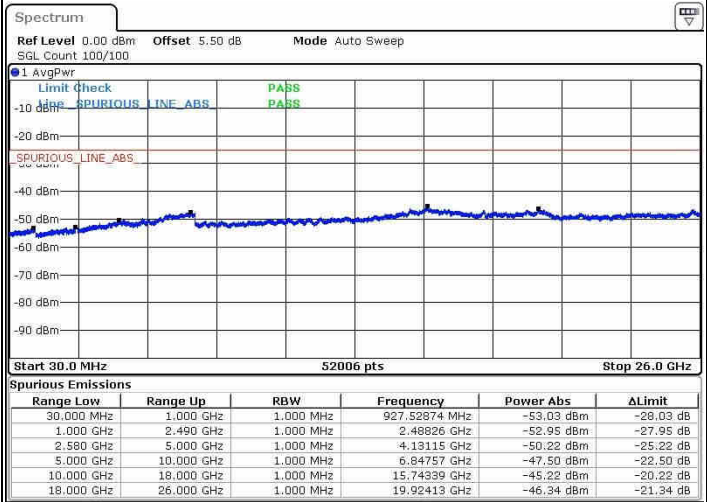
LTE Band 7 / 20MHz+15MHz

Lowest Channel / QPSK



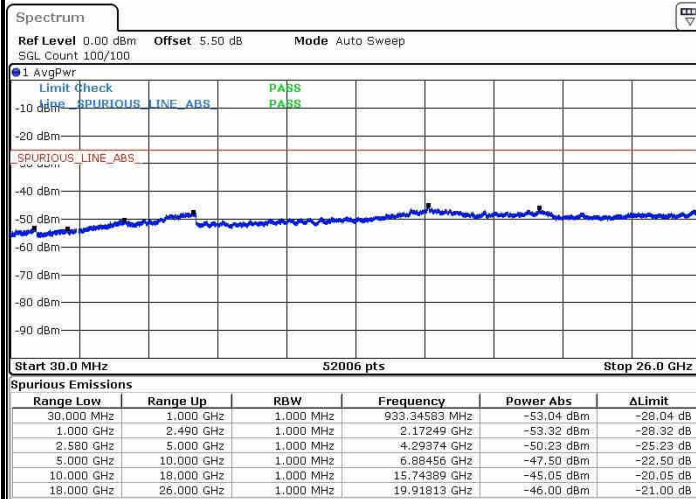
Date: 13 JUN 2019 21:16:01

Lowest Channel / 16QAM



Date: 13 JUN 2019 21:16:51

Lowest Channel / 64QAM

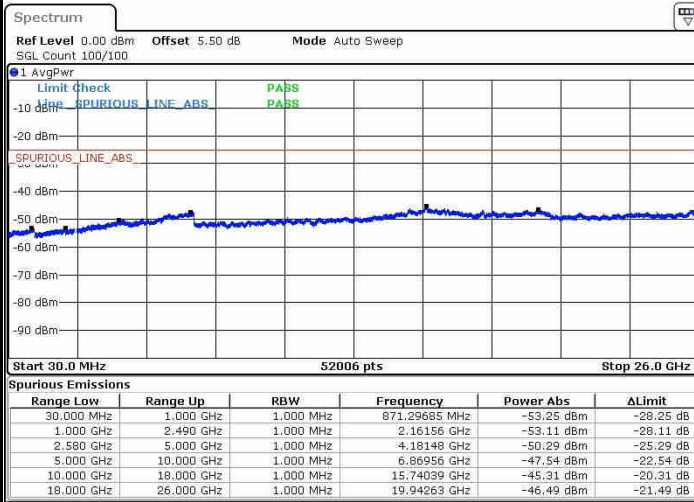


Date: 13 JUN 2019 21:17:53



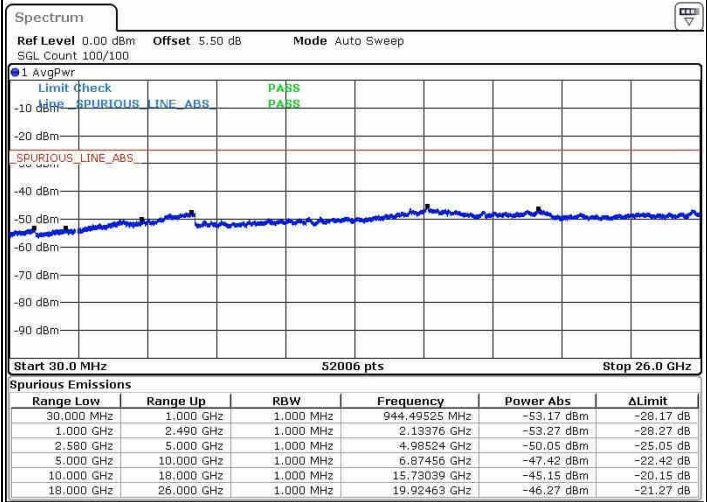
LTE Band 7 / 20MHz+15MHz

Middle Channel / QPSK



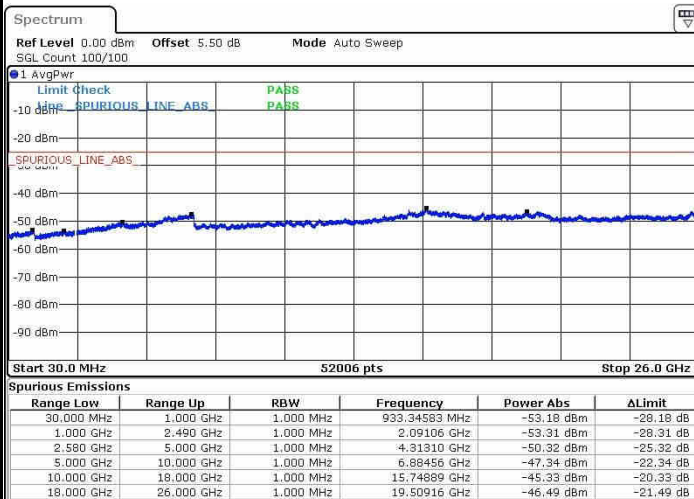
Date: 13 JUN 2019 21:14:49

Middle Channel / 16QAM



Date: 13 JUN 2019 21:13:53

Middle Channel / 64QAM

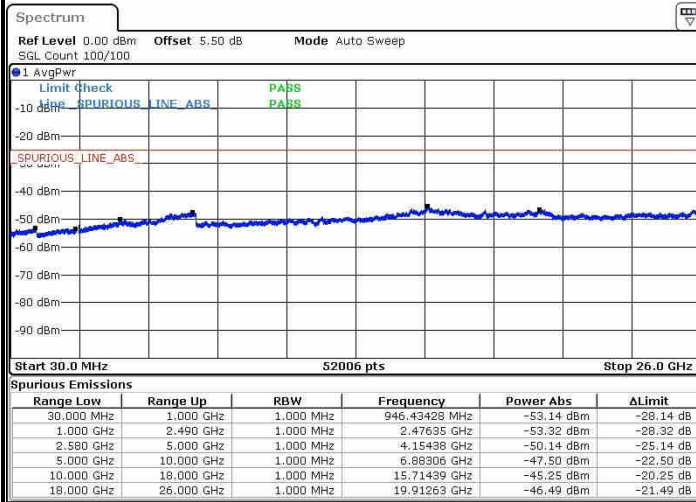


Date: 13 JUN 2019 21:12:14



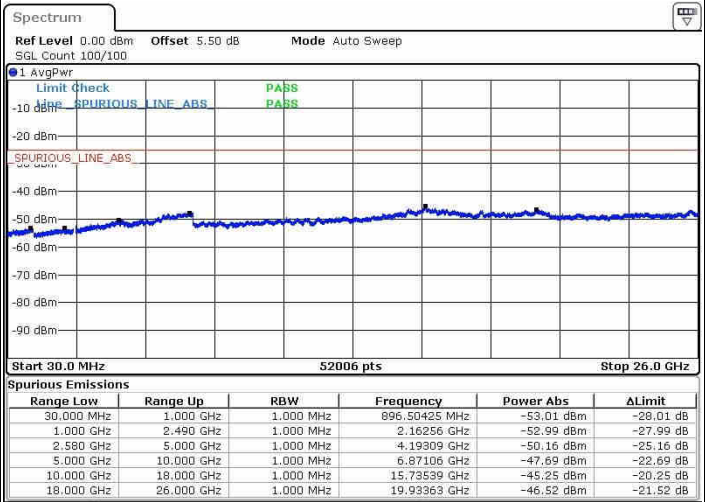
LTE Band 7 / 20MHz+15MHz

Highest Channel / QPSK



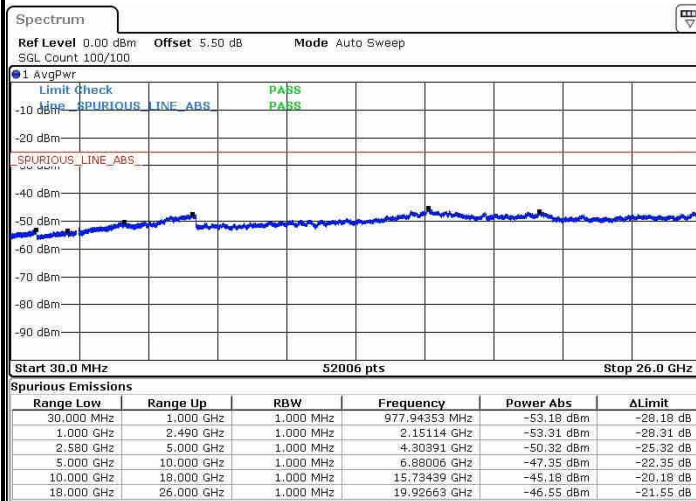
Date: 13 JUN 2019 21:09:26

Highest Channel / 16QAM



Date: 13 JUN 2019 21:10:15

Highest Channel / 64QAM

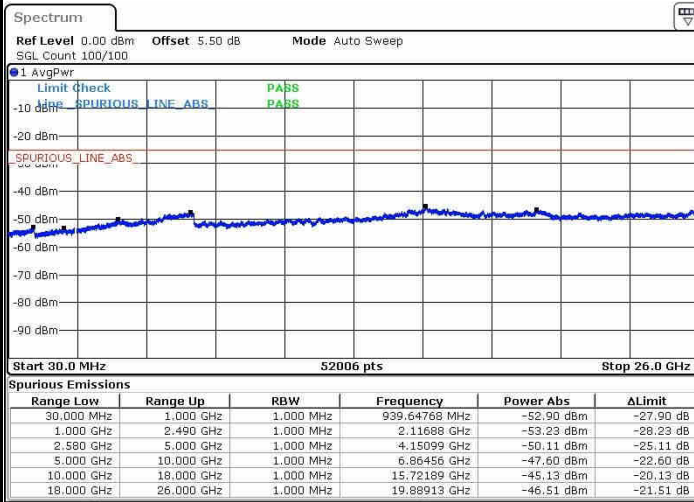


Date: 13 JUN 2019 21:11:04



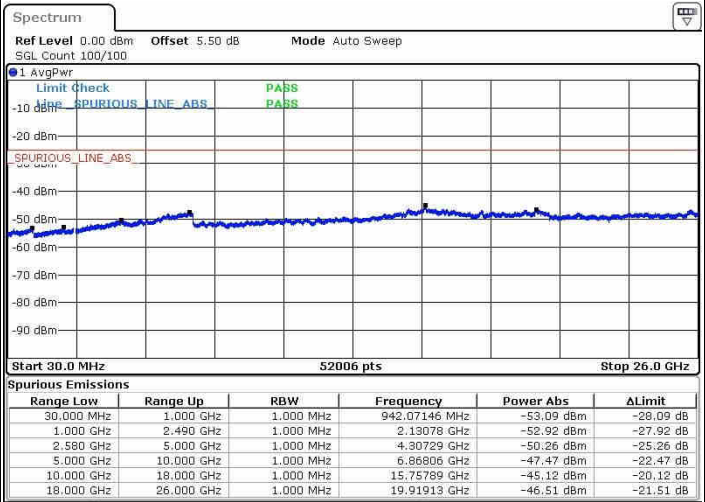
LTE Band 7 / 20MHz+20MHz

Lowest Channel / QPSK



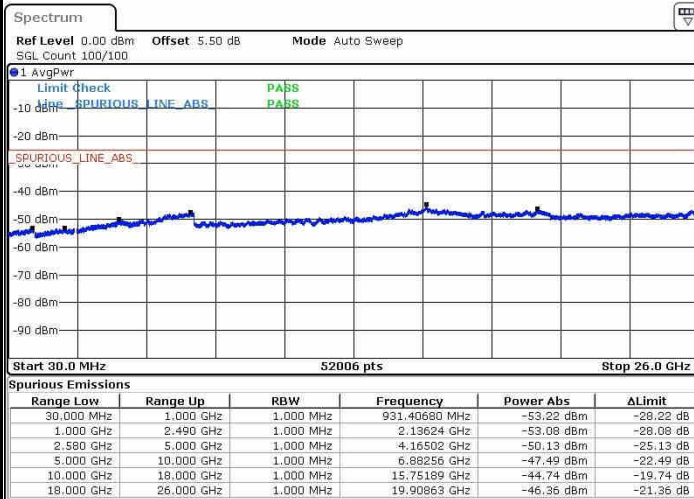
Date: 13 JUN 2019 21:40:29

Lowest Channel / 16QAM



Date: 13 JUN 2019 21:39:42

Lowest Channel / 64QAM

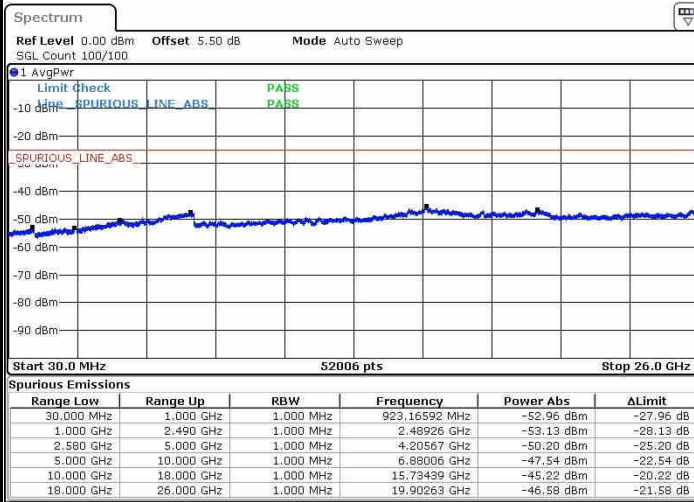


Date: 13 JUN 2019 21:38:54



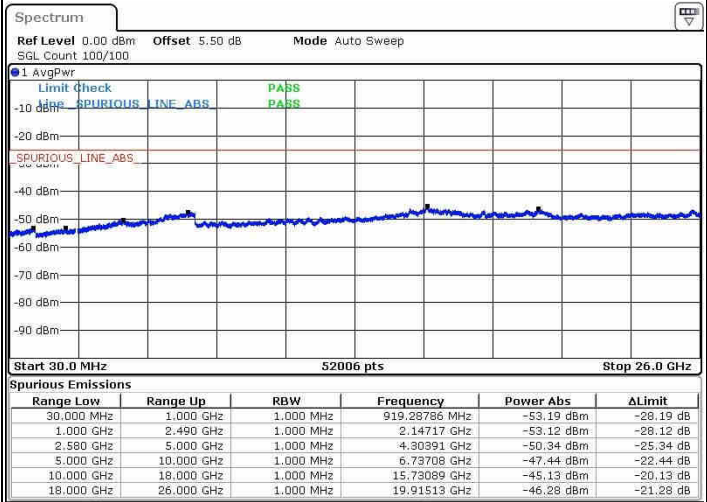
LTE Band 7 / 20MHz+20MHz

Middle Channel / QPSK



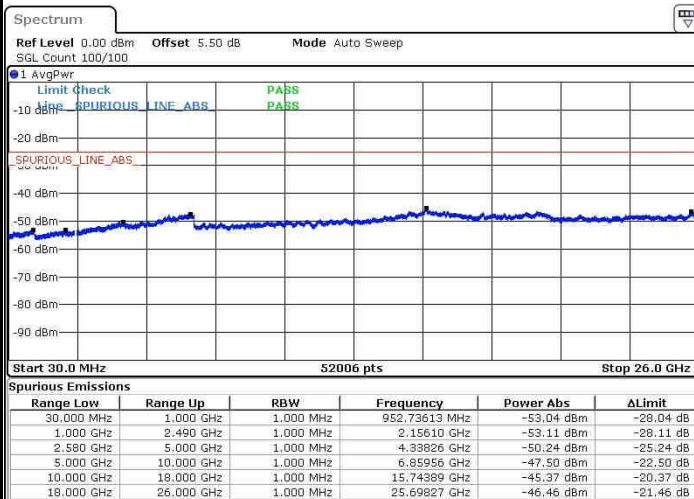
Date: 13 JUN 2019 21:41:51

Middle Channel / 16QAM



Date: 13 JUN 2019 21:42:43

Middle Channel / 64QAM

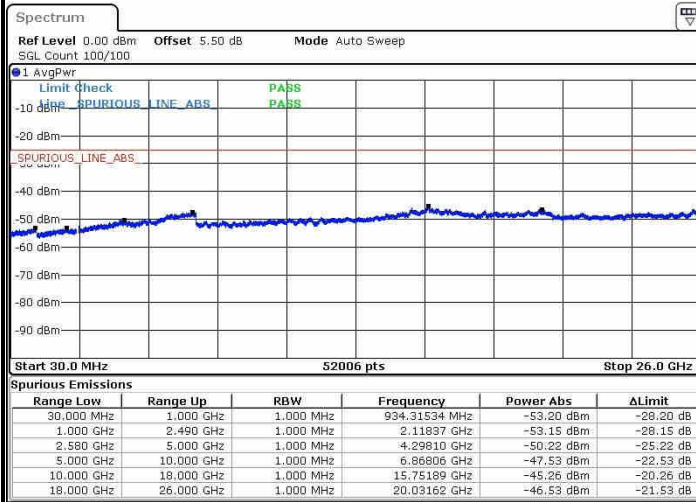


Date: 13 JUN 2019 21:43:48



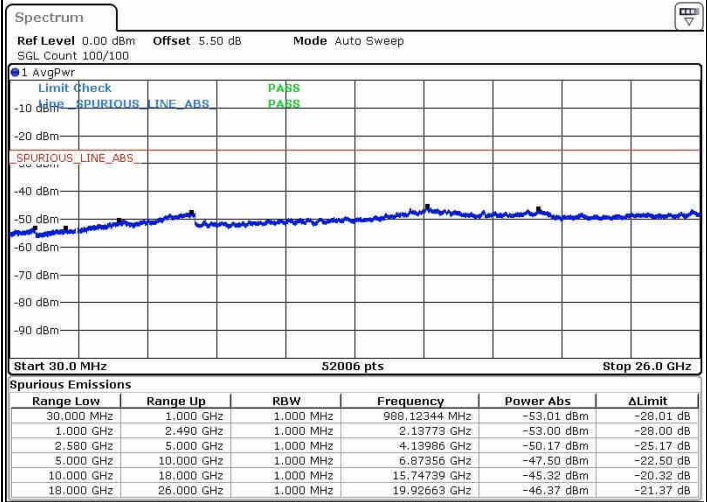
LTE Band 7 / 20MHz+20MHz

Highest Channel / QPSK



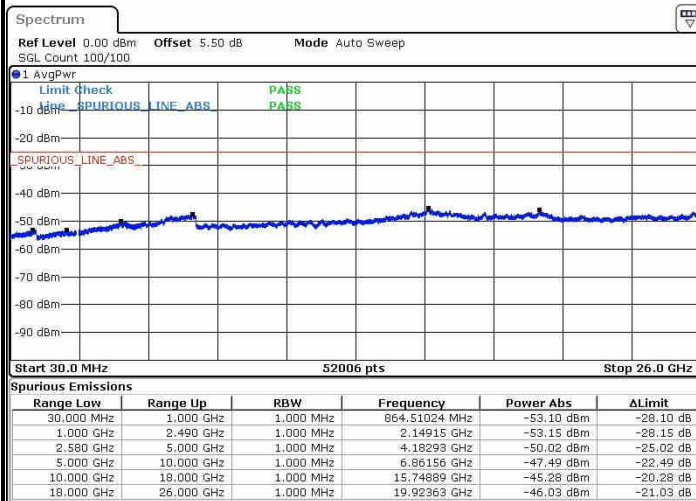
Date: 13 JUN 2019 21:46:31

Highest Channel / 16QAM



Date: 13 JUN 2019 21:45:42

Highest Channel / 64QAM



Date: 13 JUN 2019 21:44:54

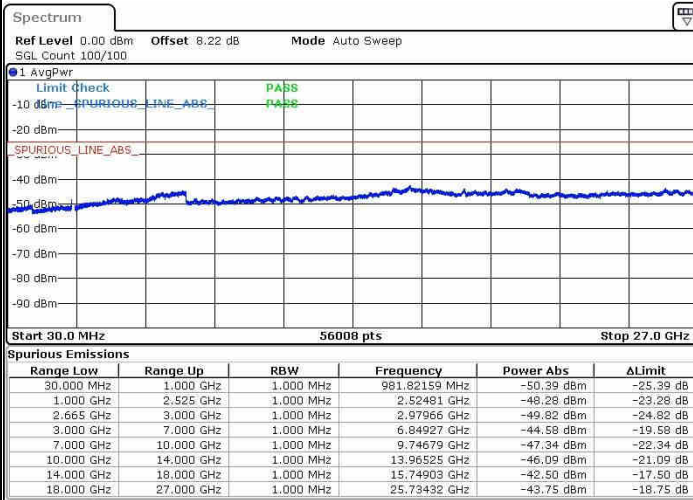


LTE Band 38 / 15MHz+15MHz

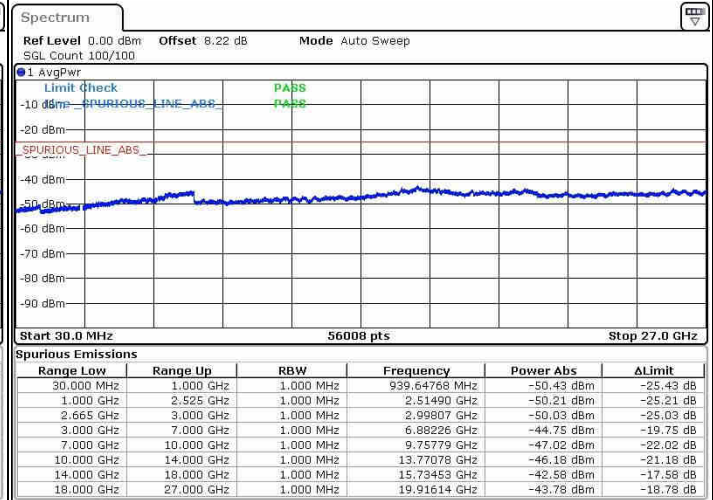
QPSK

Lowest Channel

Middle Channel



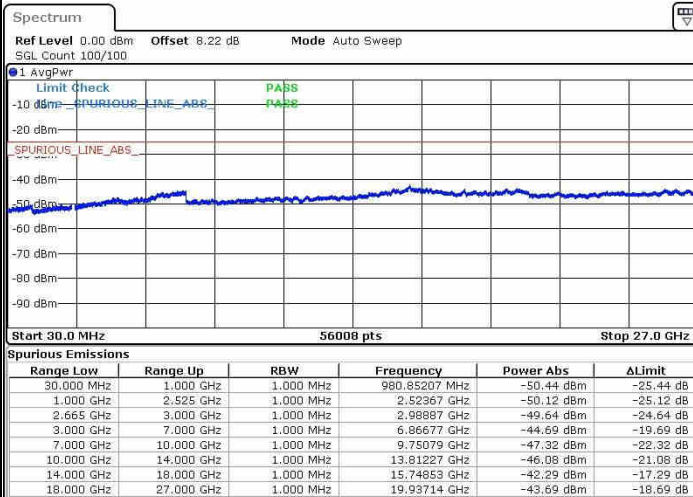
Date: 14 JUN 2019 20:26:11



Date: 14 JUN 2019 20:31:17

Highest Channel

N/A



Date: 14 JUN 2019 20:32:42

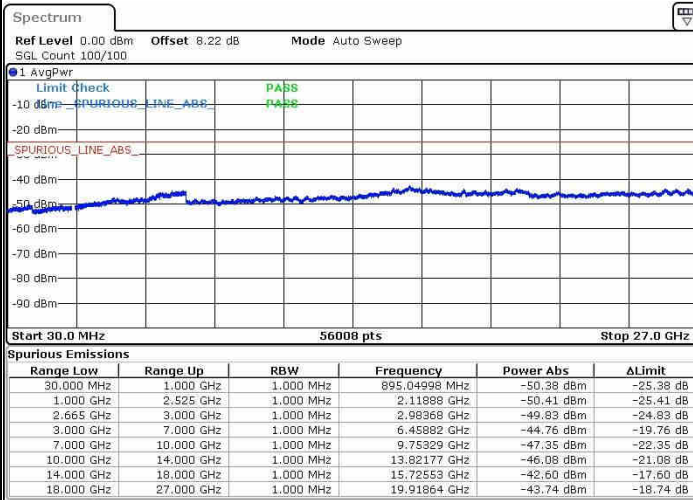


LTE Band 38 / 15MHz+15MHz

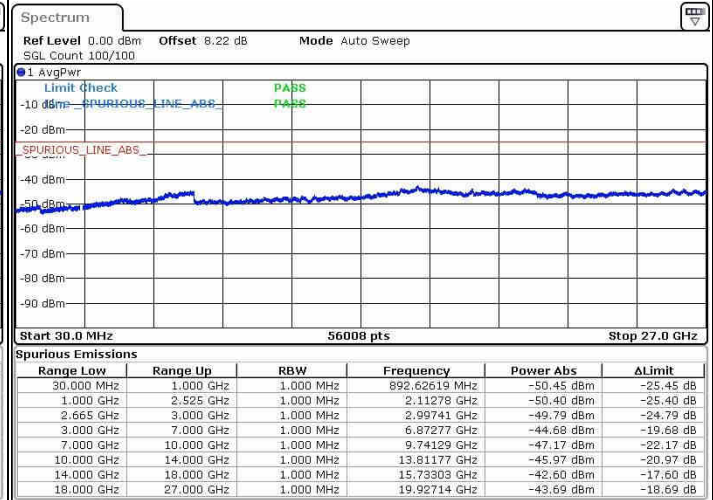
16QAM

Lowest Channel

Middle Channel



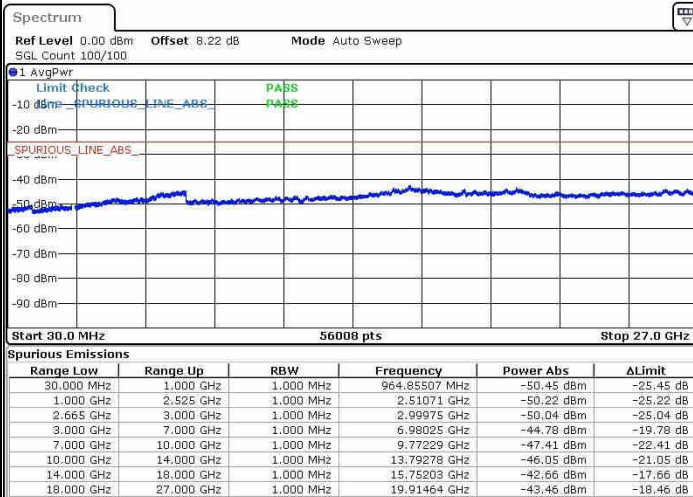
Date: 14 JUN 2019 20:27:01



Date: 14 JUN 2019 20:30:17

Highest Channel

N/A



Date: 14 JUN 2019 20:33:59

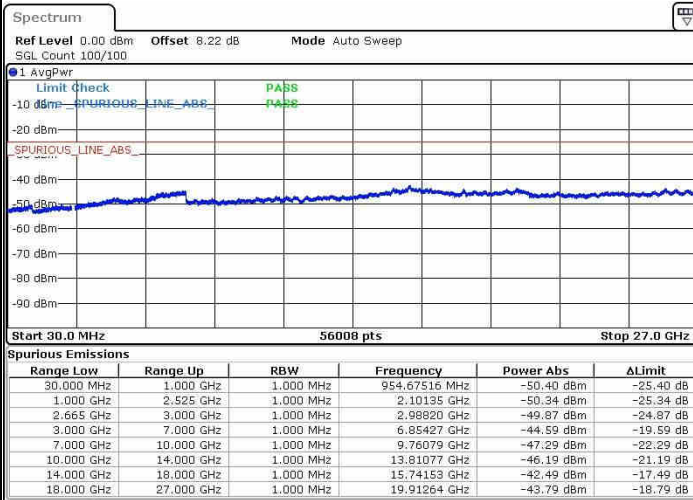


LTE Band 38 / 15MHz+15MHz

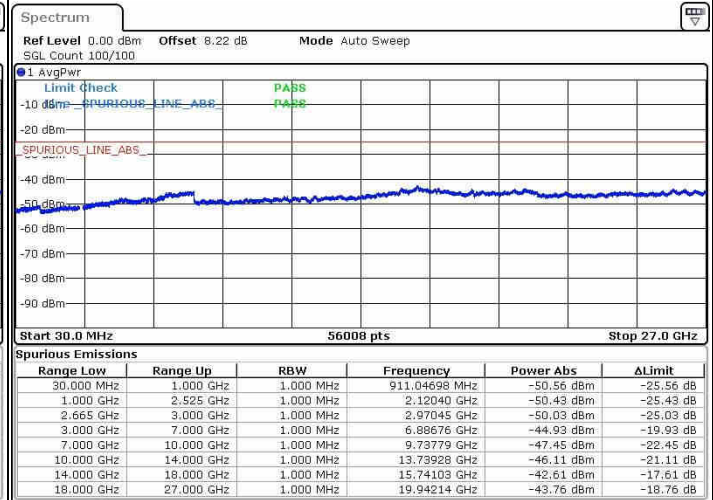
64QAM

Lowest Channel

Middle Channel



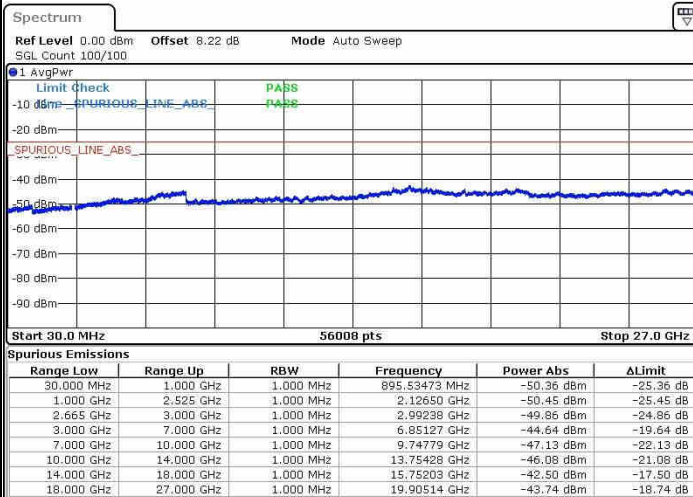
Date: 14 JUN 2019 20:27:52



Date: 14 JUN 2019 20:29:21

Highest Channel

N/A



Date: 14 JUN 2019 20:34:49

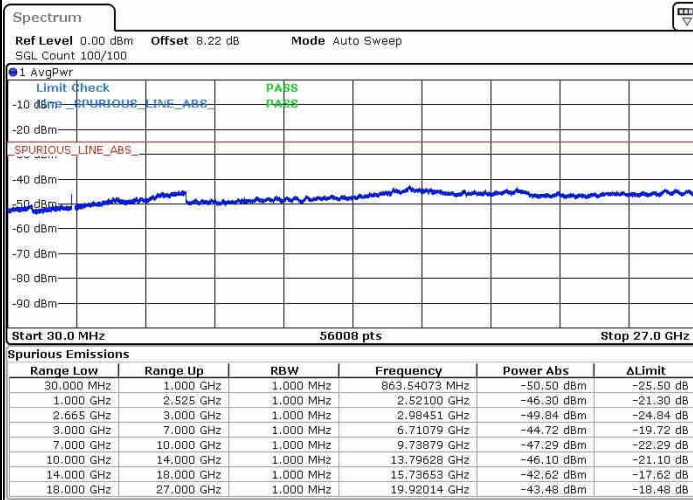


LTE Band 38 / 20MHz+20MHz

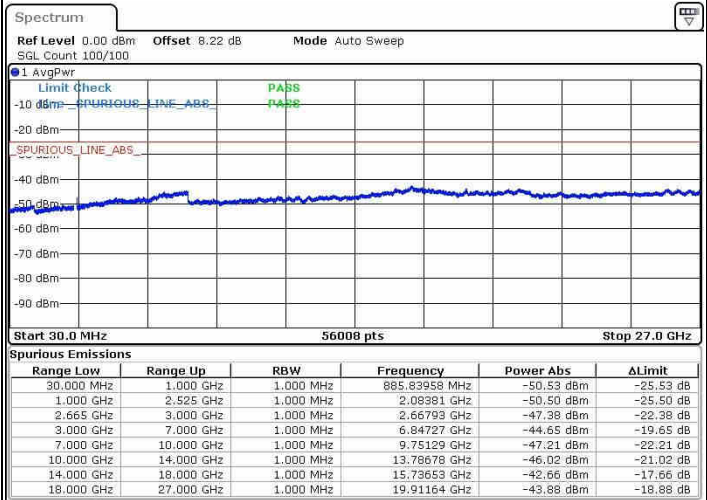
QPSK

Lowest Channel

Middle Channel



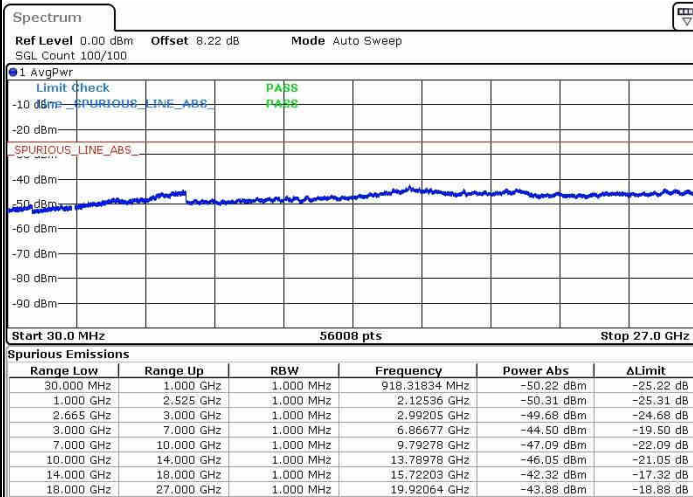
Date: 14 JUN 2019 20:54:16



Date: 14 JUN 2019 20:48:44

Highest Channel

N/A



Date: 14 JUN 2019 20:47:25

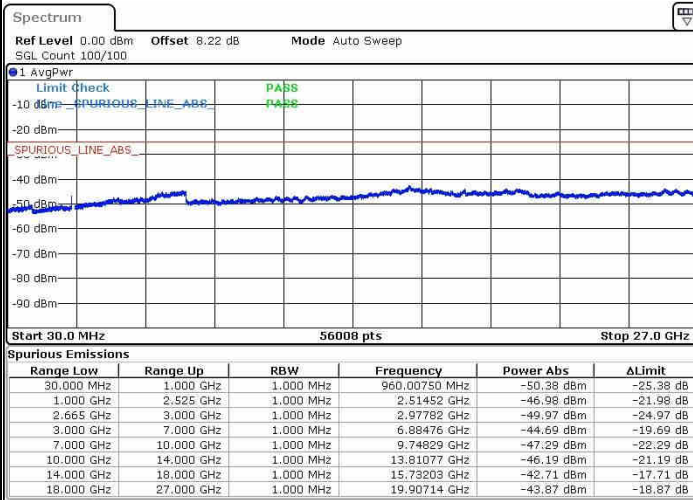


LTE Band 38 / 20MHz+20MHz

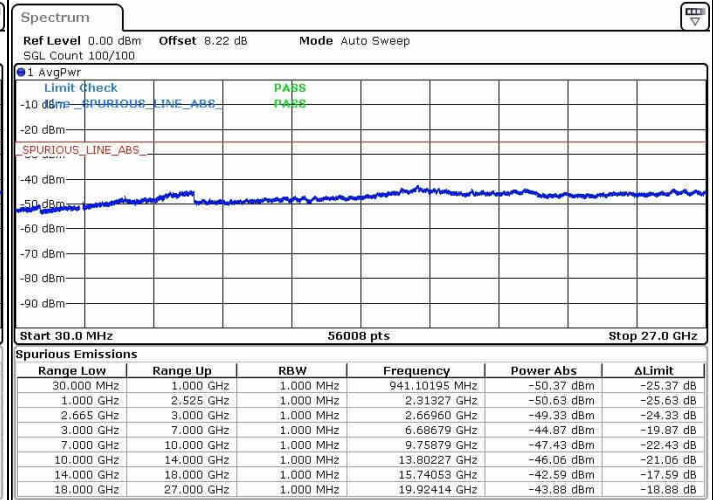
16QAM

Lowest Channel

Middle Channel



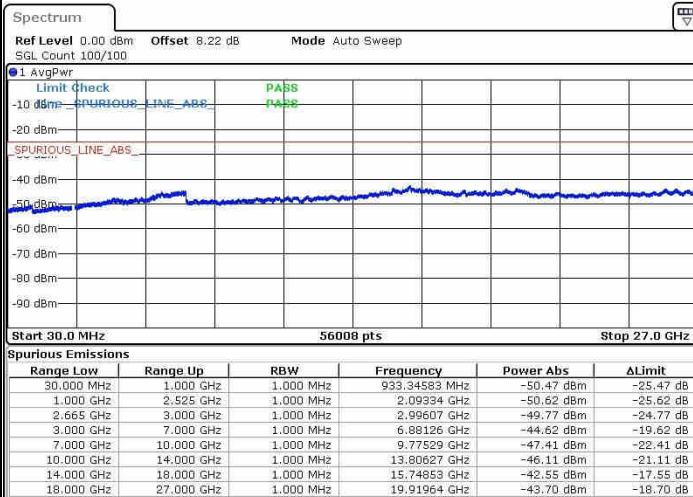
Date: 14 JUN 2019 20:55:06



Date: 14 JUN 2019 20:52:48

Highest Channel

N/A



Date: 14 JUN 2019 20:46:25

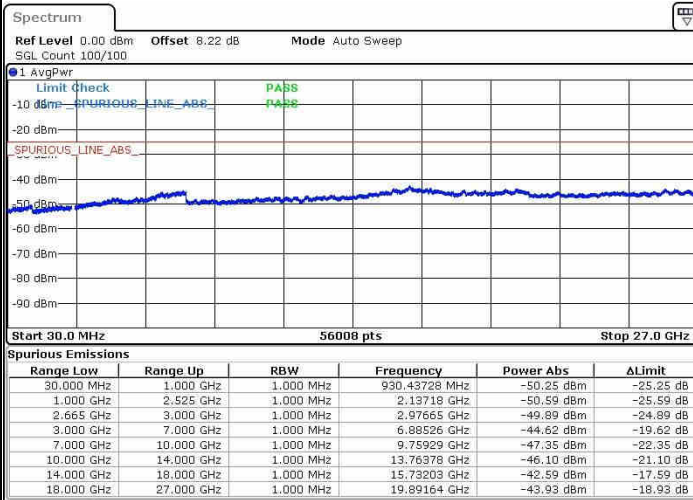


LTE Band 38 / 20MHz+20MHz

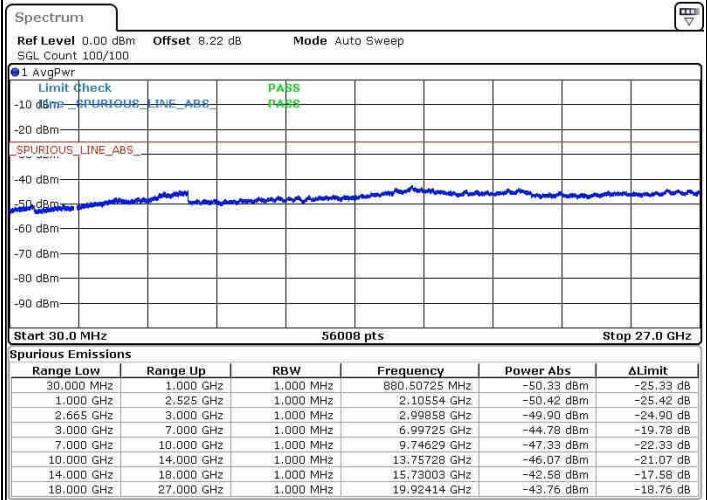
64QAM

Lowest Channel

Middle Channel



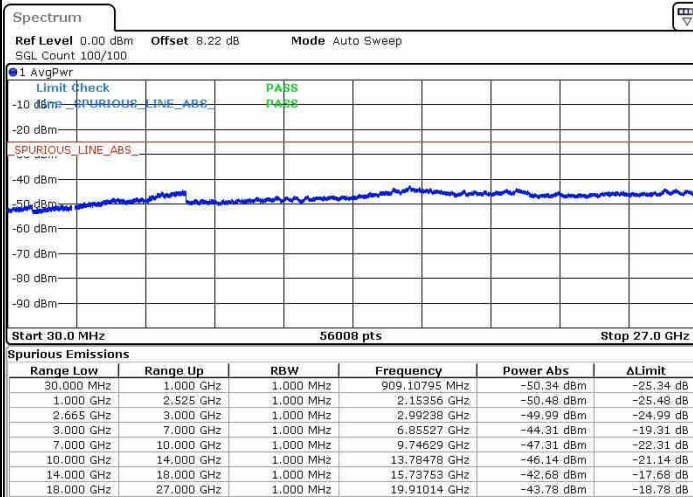
Date: 14 JUN 2019 20:56:05



Date: 14 JUN 2019 20:51:55

Highest Channel

N/A



Date: 14 JUN 2019 20:45:35

**Frequency Stability**

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0019	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0022	
-10	Normal Voltage	0.0026	
-20	Normal Voltage	0.0003	
-30	Normal Voltage	0.0027	
20	Maximum Voltage	0.0003	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0022	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.7 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0029	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0031	
0	Normal Voltage	0.0018	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0021	
20	Maximum Voltage	0.0010	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.7 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0050	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0056	
0	Normal Voltage	0.0059	
-10	Normal Voltage	0.0051	
-20	Normal Voltage	0.0023	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0060	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0012	

Note: Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.7 V. ; Maximum Voltage =4.4 V.



Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0050	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0057	
0	Normal Voltage	0.0059	
-10	Normal Voltage	0.0051	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0060	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.7 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0050	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0057	
0	Normal Voltage	0.0054	
-10	Normal Voltage	0.0051	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0060	
20	Maximum Voltage	0.0051	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.7 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

Pre-scanned in three orthogonal panels, X, Y, Z for WWAN Bottom / Top Antenna which can't transmit simultaneously. The worse cases were recorded in this report.

LTE Band 2 / 20MHz / QPSK for Bottom Antenna								
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	-57.24	-13	-44.24	-69.50	2.641	14.90	H
	5613	-44.21	-13	-31.21	-56.07	2.94	14.80	H
	7488	-51.88	-13	-38.88	-61.65	3.39	13.16	H
	3741	-58.02	-13	-45.02	-70.28	2.64	14.90	V
	5613	-53.63	-13	-40.63	-65.49	2.94	14.80	V
	7488	-51.21	-13	-38.21	-60.98	3.39	13.16	V

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

LTE Band 4 / 20MHz / QPSK for Bottom Antenna								
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	-61.78	-13	-48.78	-72.52	2.604	13.34	H
	5172	-57.95	-13	-44.95	-68.46	3.011	13.52	H
	6900	-54.40	-13	-41.40	-64.60	3.271	13.47	H
	3447	-61.47	-13	-48.47	-72.21	2.604	13.34	V
	5172	-49.77	-13	-36.77	-60.28	3.011	13.52	V
	6900	-54.67	-13	-41.67	-64.87	3.271	13.47	V

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

LTE Band 5 / 10MHz / QPSK for Bottom Antenna								
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	-68.54	-13	-55.54	-75.51	1.58	10.70	H
	2496	-60.69	-13	-47.69	-68.94	2.102	12.50	H
	3330	-64.30	-13	-51.30	-73.19	2.856	13.90	H
	1664	-69.01	-13	-56.01	-75.98	1.58	10.70	V
	2496	-61.32	-13	-48.32	-69.57	2.10	12.50	V
	3328	-64.41	-13	-51.41	-73.30	2.86	13.90	V

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



LTE Band 7 / 20MHz / QPSK for Bottom Antenna								
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	-51.67	-25	-26.67	-61.88	3.03	13.24	H
	7580	-60.05	-25	-35.05	-69.50	3.56	13.01	H
	10100	-55.53	-25	-30.53	-65.05	3.92	13.44	H
	12630	-47.65	-25	-22.65	-57.57	4.44	14.36	H
	5052	-59.76	-25	-34.76	-69.97	3.03	13.24	V
	7580	-59.42	-25	-34.42	-68.87	3.56	13.01	V
	10100	-54.97	-25	-29.97	-64.49	3.92	13.44	V
	12630	-43.82	-25	-18.82	-53.74	4.44	14.36	V

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

LTE Band 38 / 20MHz / QPSK for Bottom Antenna								
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	5172	-57.04	-25	-32.04	-67.25	3.03	13.24	H
	7760	-58.53	-25	-33.53	-67.98	3.56	13.01	H
	10340	-52.03	-25	-27.03	-61.55	3.92	13.44	H
	5172	-64.84	-25	-39.84	-75.05	3.03	13.24	V
	7760	-59.83	-25	-34.83	-69.28	3.56	13.01	V
	10340	-50.97	-25	-25.97	-60.49	3.92	13.44	V

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



For CA:

LTE Band 7C_CA / 20M+20M / QPSK for Bottom Antenna								
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	5272	-65.16	-25	-40.16	-75.37	3.03	13.24	H
	7908.57	-60.11	-25	-35.11	-69.56	3.56	13.01	H
	10540	-57.06	-25	-32.06	-66.58	3.92	13.44	H
	5272	-65.06	-25	-40.06	-75.27	3.03	13.24	V
	7908	-60.07	-25	-35.07	-69.52	3.56	13.01	V
	10540	-57.41	-25	-32.41	-66.93	3.92	13.44	V

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

LTE Band 38C_CA / 20M+20M / QPSK for Bottom Antenna								
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	5152	-55.71	-25	-30.71	-65.92	3.03	13.24	H
	7728	-60.22	-25	-35.22	-69.67	3.56	13.01	H
	10300	-54.42	-25	-29.42	-63.94	3.92	13.44	H
	12880	-52.37	-25	-27.37	-62.29	4.44	14.36	H
	5152	-64.16	-25	-39.16	-74.37	3.03	13.24	V
	7728	-59.98	-25	-34.98	-69.43	3.56	13.01	V
	10300	-54.52	-25	-29.52	-64.04	3.92	13.44	V
	12880	-46.36	-25	-21.36	-56.28	4.44	14.36	V

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