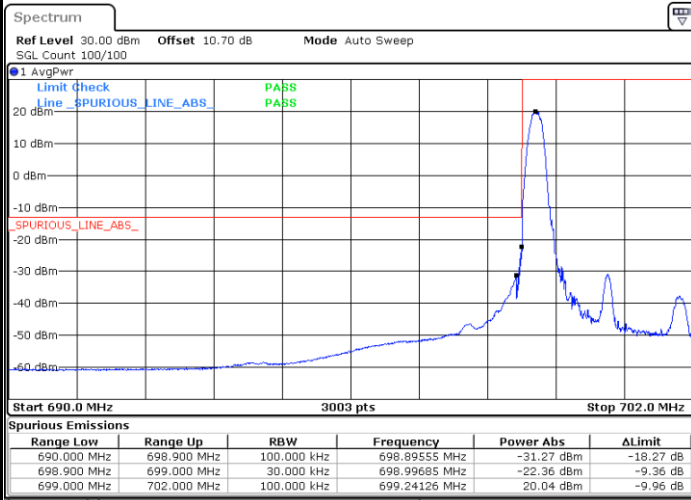




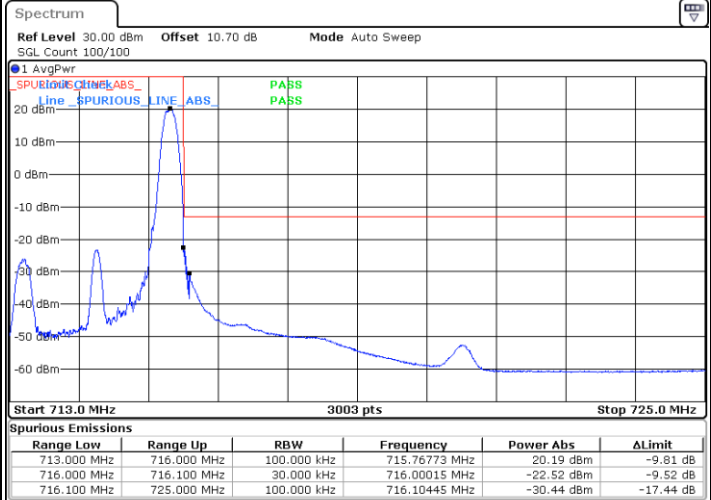
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



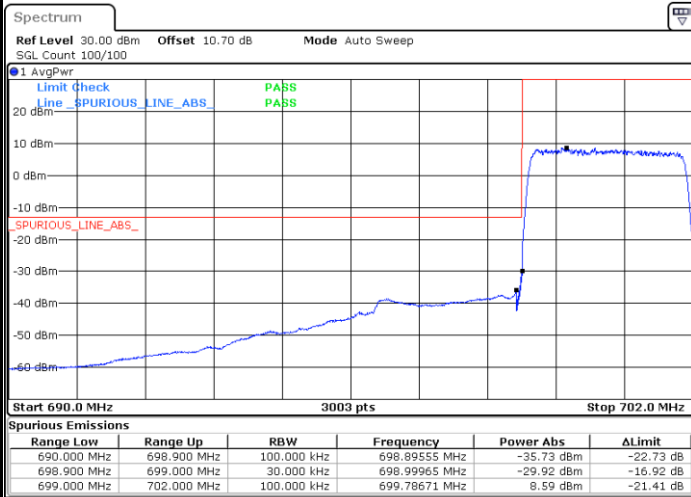
Date: 6 SEP.2019 16:29:07

Highest Band Edge / 1 RB



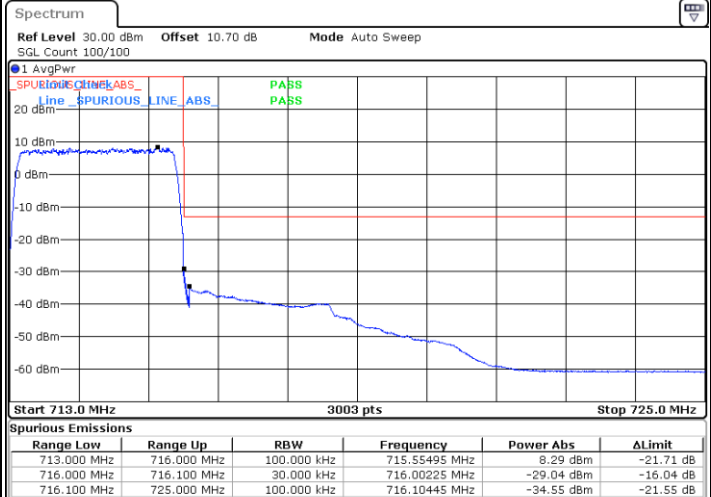
Date: 6 SEP.2019 16:39:57

Lowest Band Edge / Full RB



Date: 6 SEP.2019 17:52:55

Highest Band Edge / Full RB

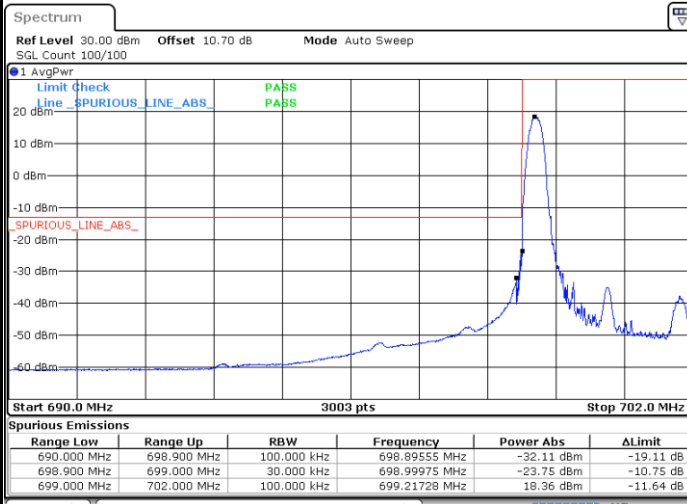


Date: 6 SEP.2019 16:30:08



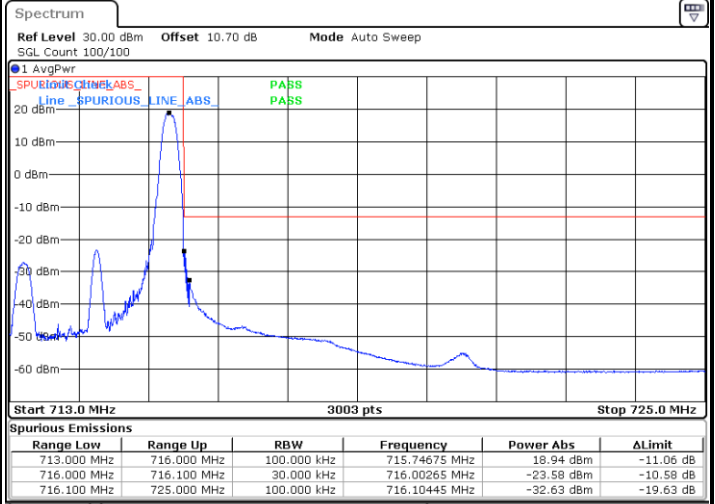
LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



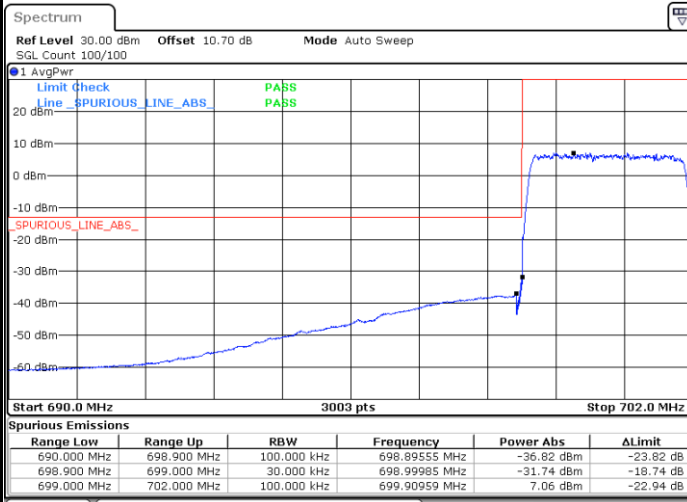
Date: 6 SEP.2019 16:28:06

Highest Band Edge / 1 RB



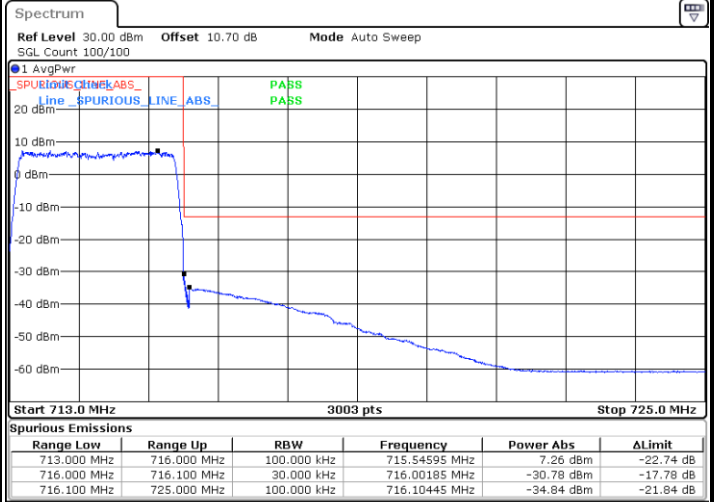
Date: 6 SEP.2019 16:38:56

Lowest Band Edge / Full RB



Date: 6 SEP.2019 16:27:06

Highest Band Edge / Full RB

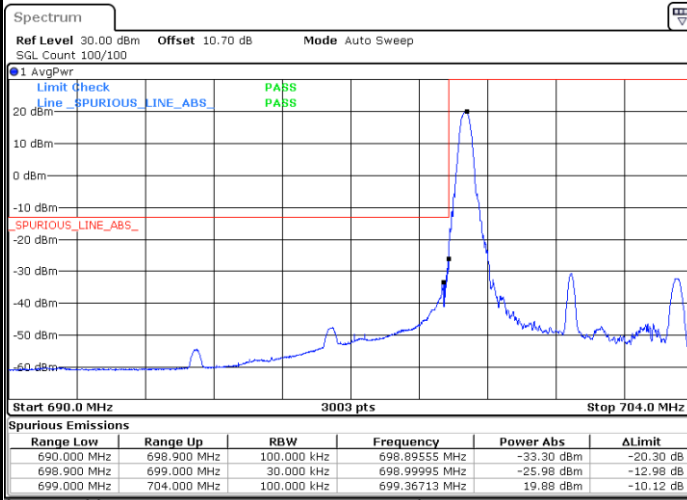


Date: 6 SEP.2019 16:31:09



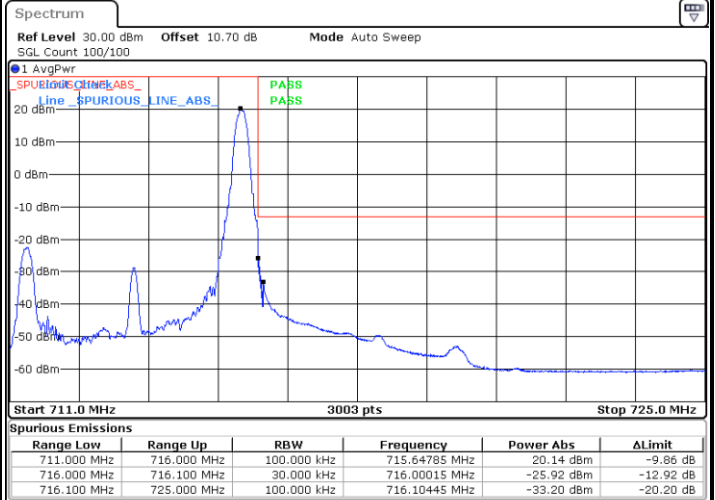
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



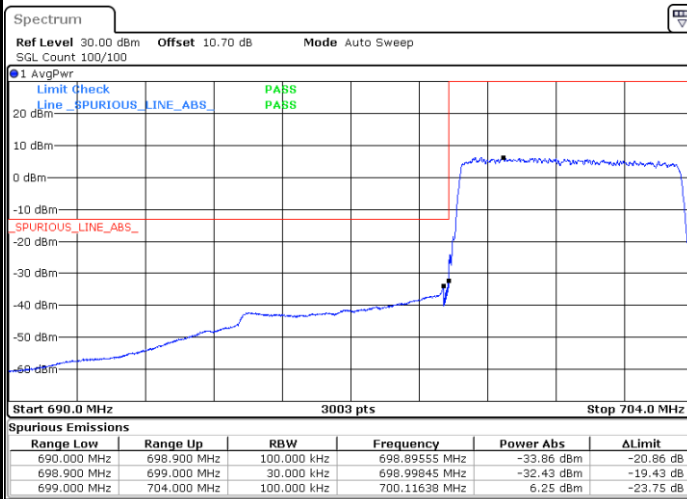
Date: 6 SEP.2019 16:54:45

Highest Band Edge / 1 RB



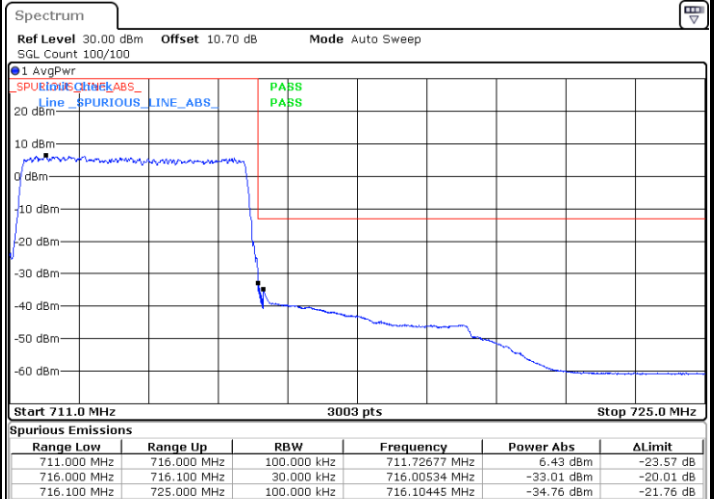
Date: 6 SEP.2019 16:57:48

Lowest Band Edge / Full RB



Date: 6 SEP.2019 16:40:58

Highest Band Edge / Full RB

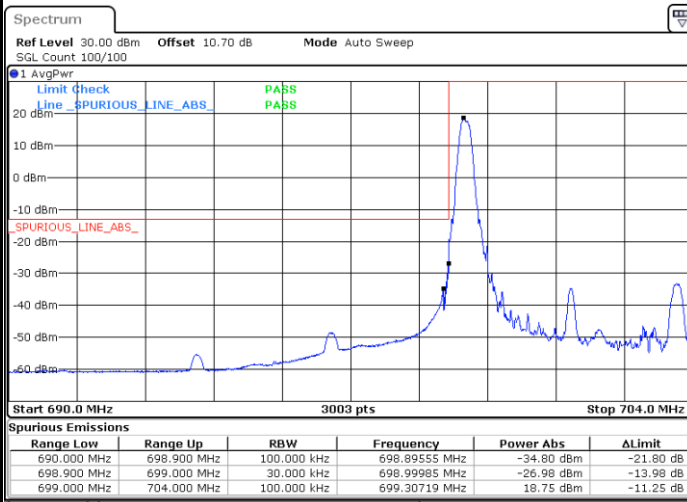


Date: 6 SEP.2019 16:55:46



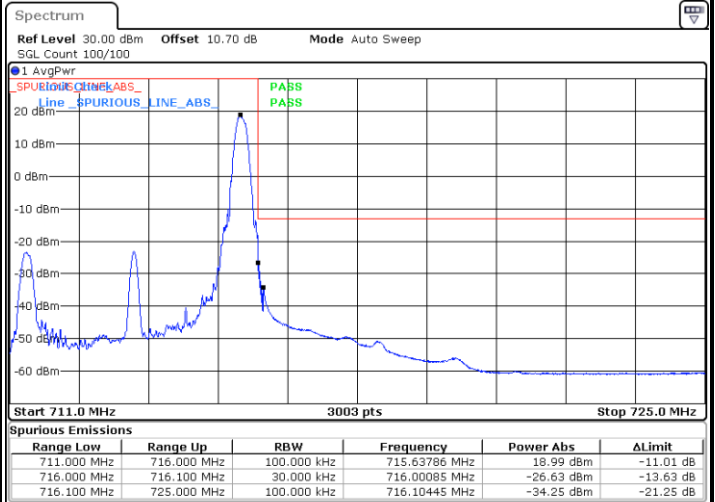
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



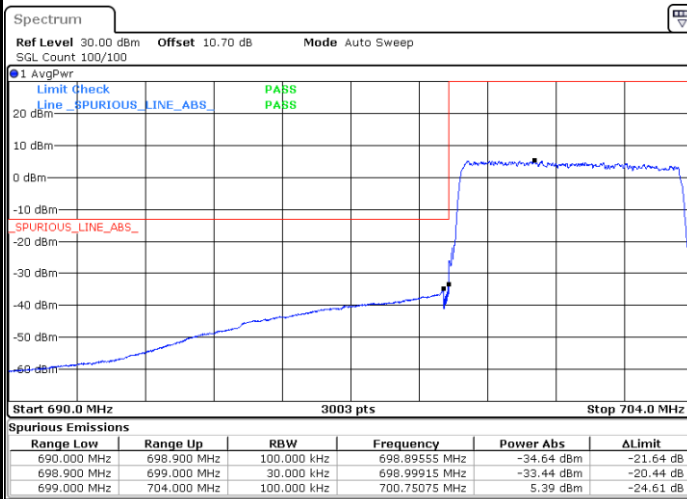
Date: 6 SEP.2019 16:53:45

Highest Band Edge / 1 RB



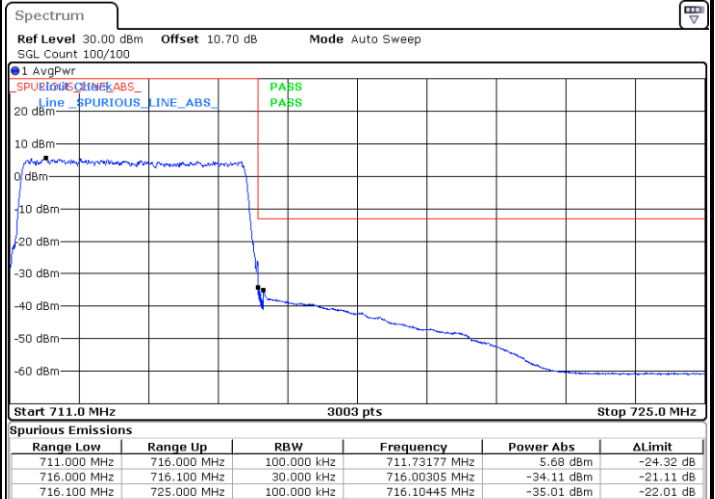
Date: 6 SEP.2019 16:58:49

Lowest Band Edge / Full RB



Date: 6 SEP.2019 16:41:59

Highest Band Edge / Full RB

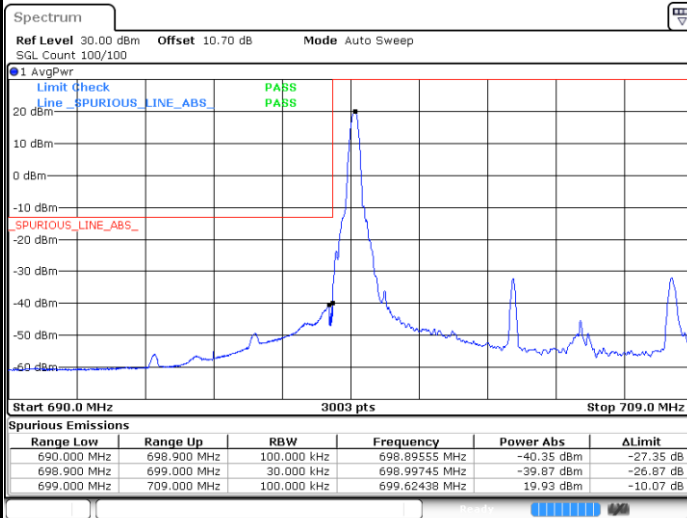


Date: 6 SEP.2019 16:56:47



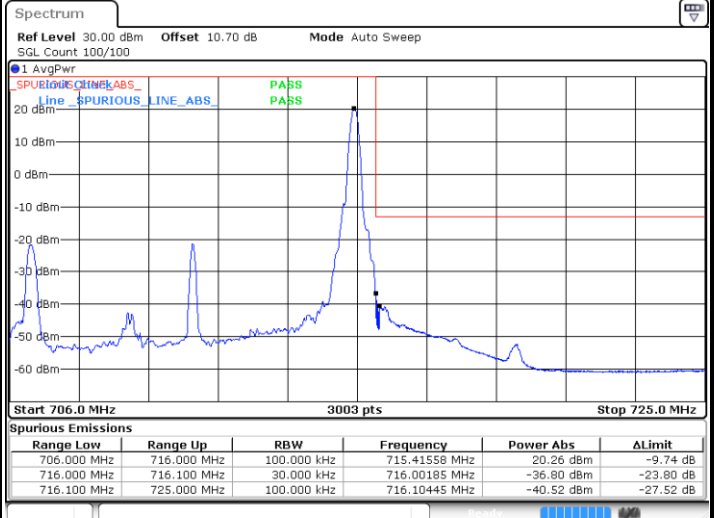
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



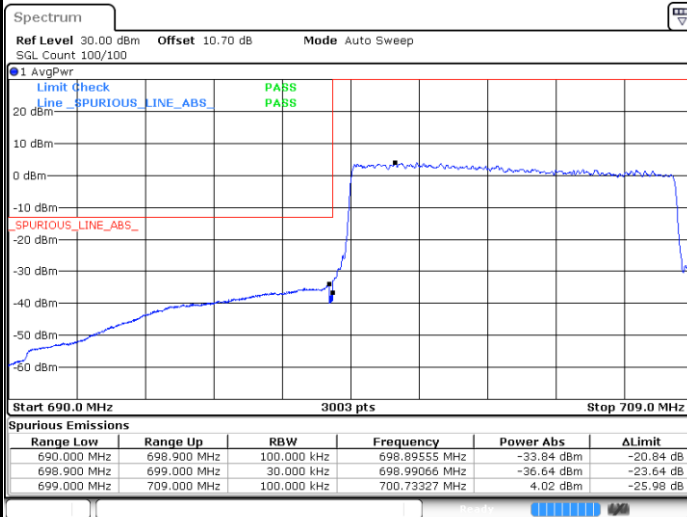
Date: 6 SEP.2019 17:01:51

Highest Band Edge / 1 RB



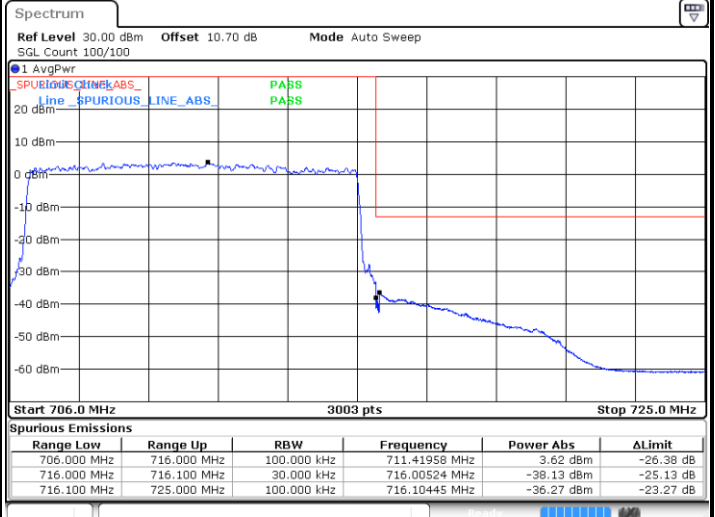
Date: 6 SEP.2019 17:04:54

Lowest Band Edge / Full RB



Date: 6 SEP.2019 16:59:50

Highest Band Edge / Full RB



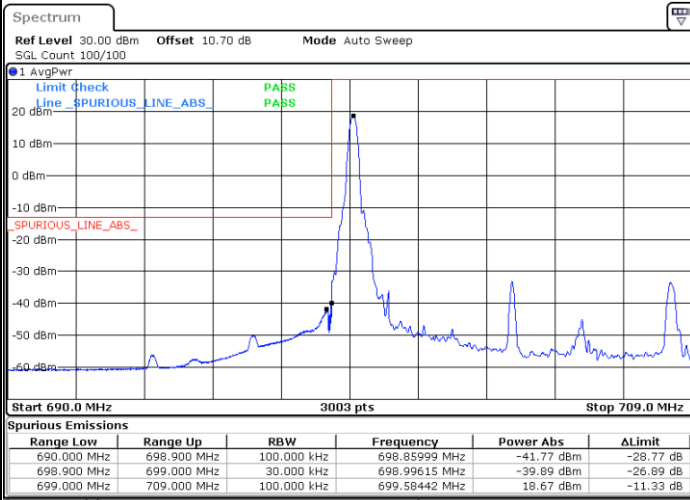
Date: 6 SEP.2019 17:02:52



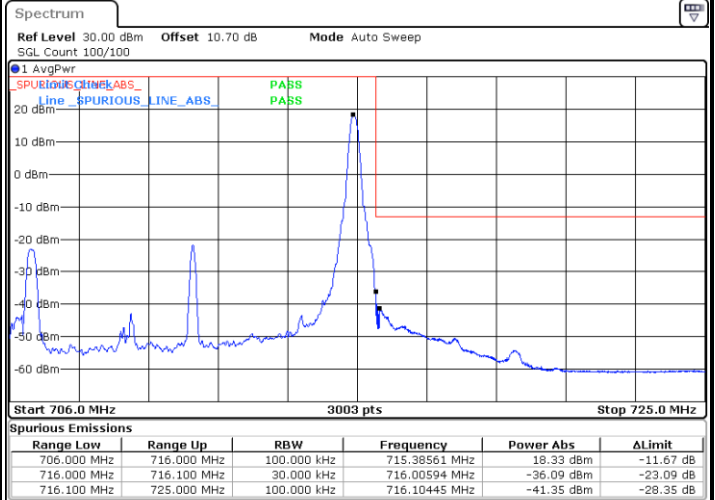
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



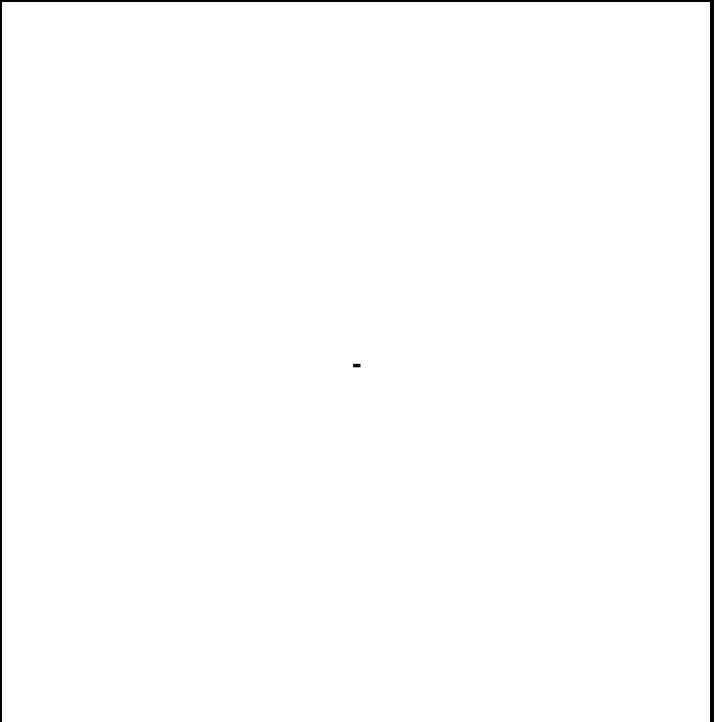
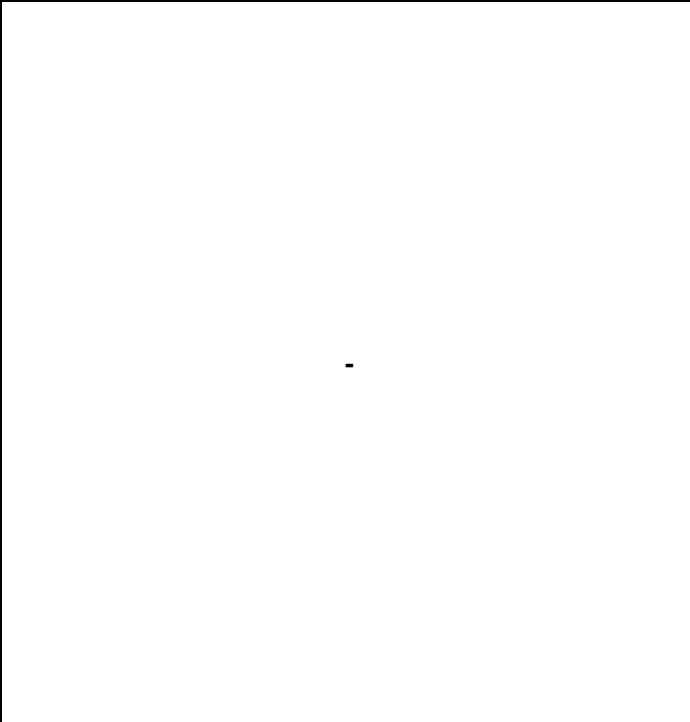
Date: 6 SEP.2019 17:00:51



Date: 6 SEP.2019 17:03:53

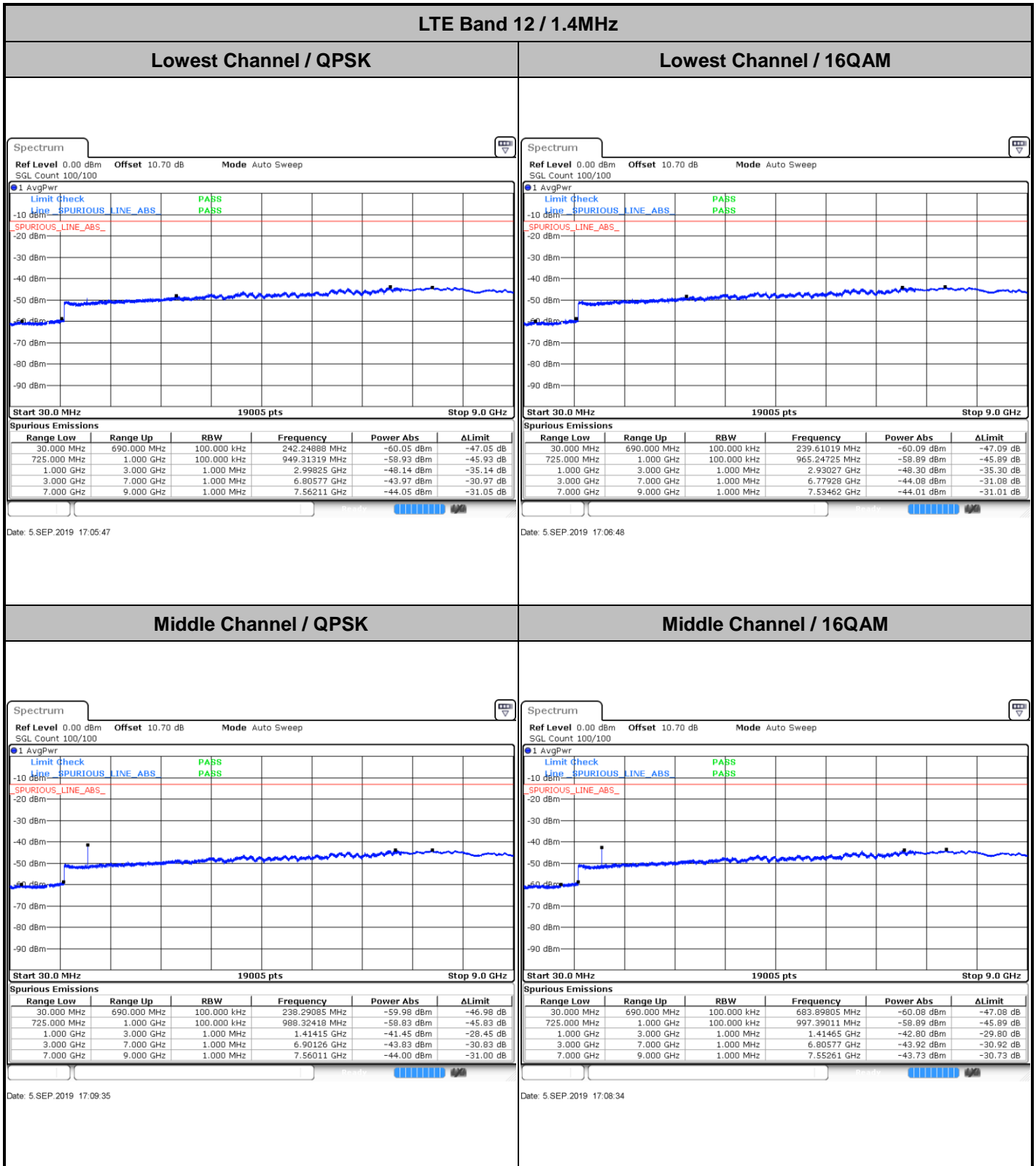
Lowest Band Edge / Full RB

Highest Band Edge / Full RB





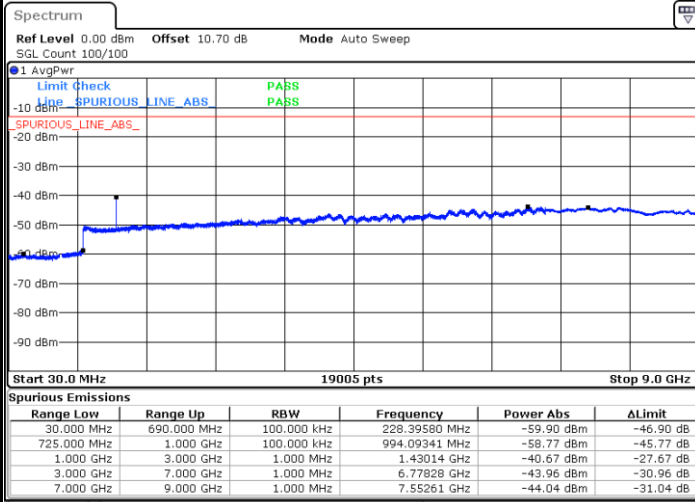
Conducted Spurious Emission





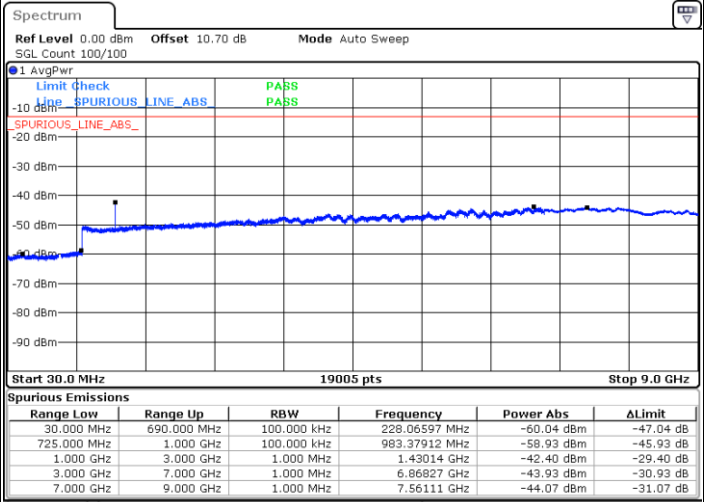
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 5 SEP. 2019 17:14:06

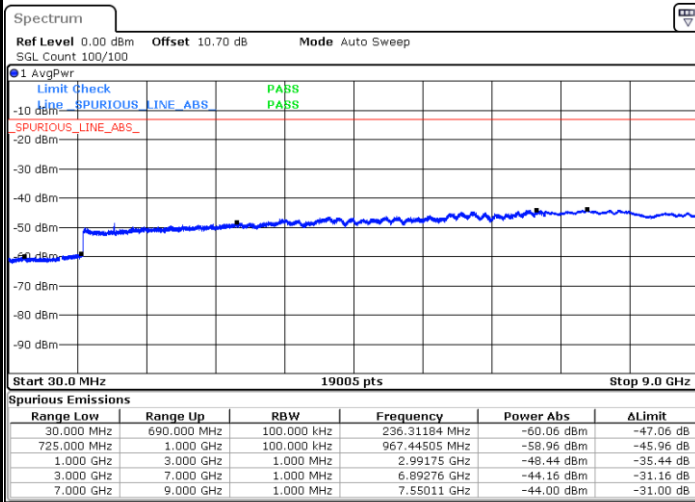
Highest Channel / 16QAM



Date: 5 SEP. 2019 17:15:07

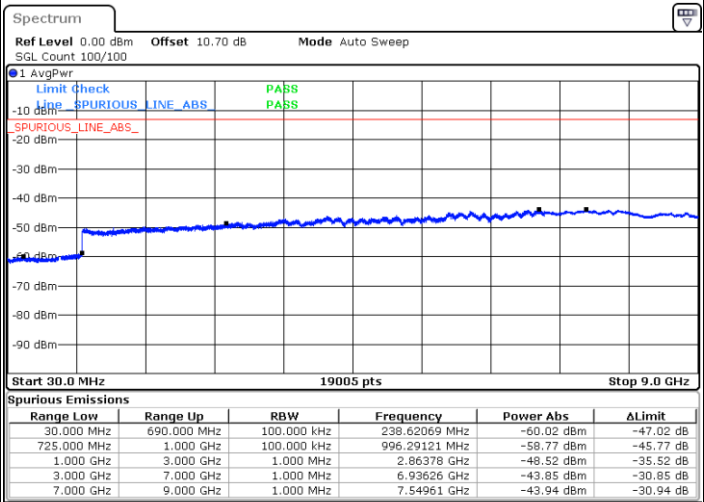
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 5 SEP. 2019 15:27:15

Lowest Channel / 16QAM



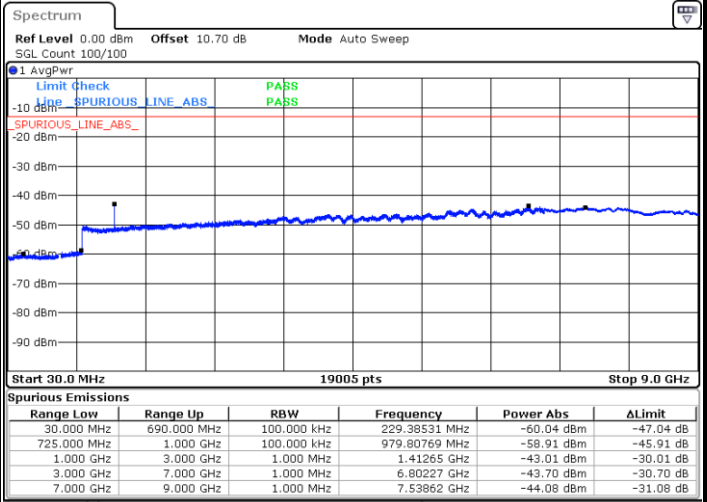
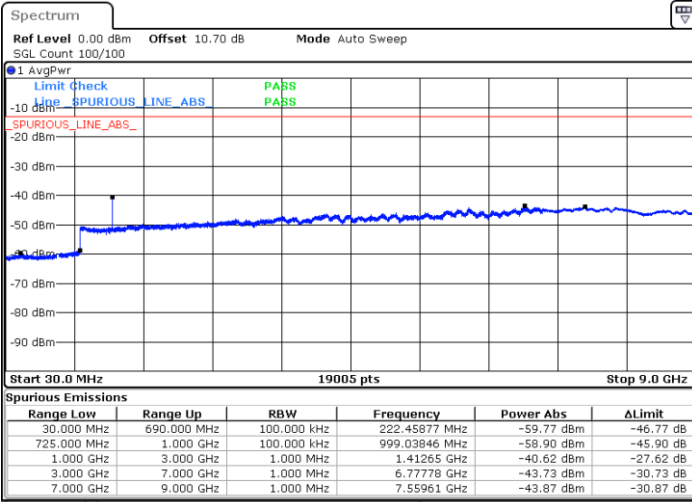
Date: 5 SEP. 2019 15:28:16



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

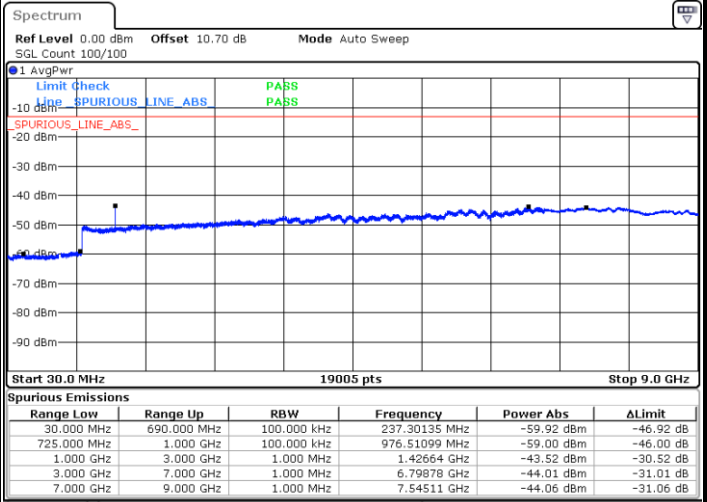
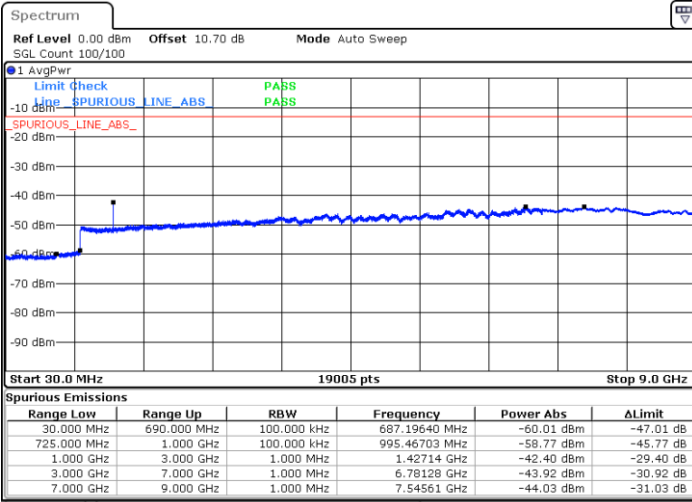


Date: 5 SEP.2019 15:31:03

Date: 5 SEP.2019 15:30:03

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 5 SEP.2019 15:35:35

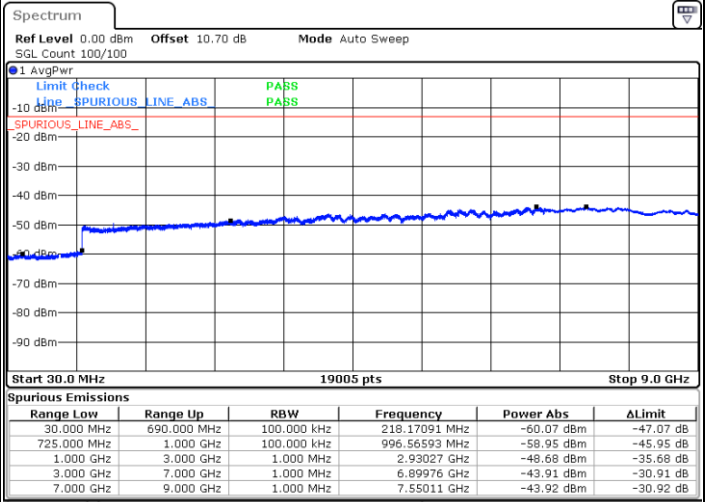
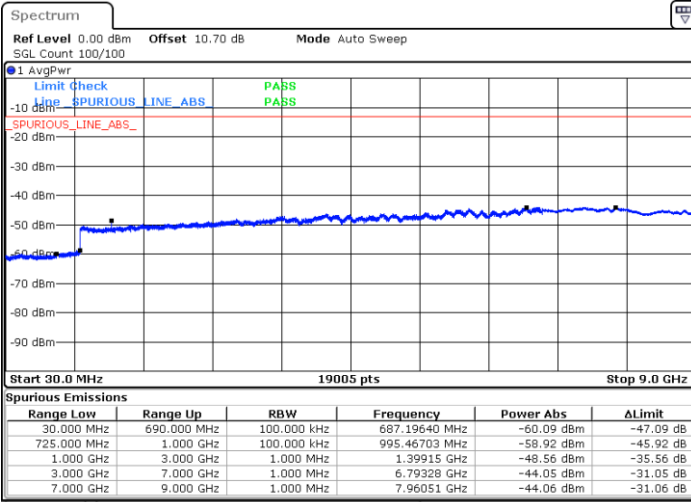
Date: 5 SEP.2019 15:36:35



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

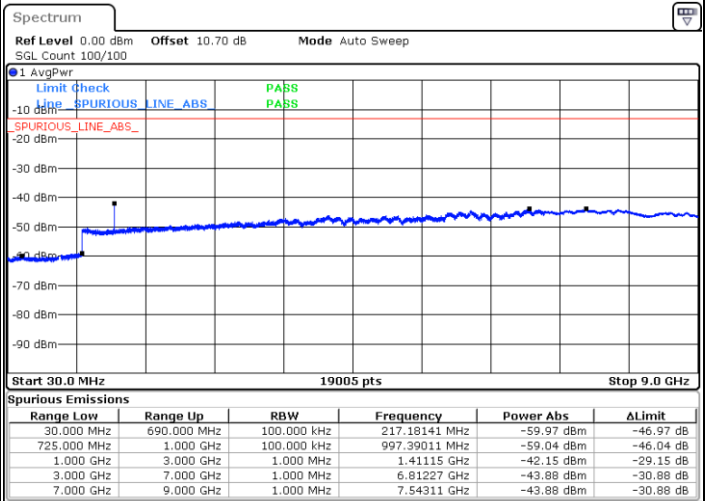
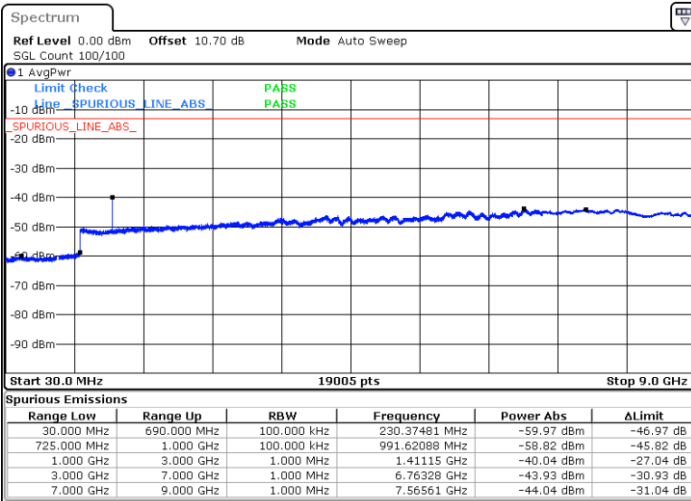


Date: 5 SEP.2019 15:41:08

Date: 5 SEP.2019 15:42:09

Middle Channel / QPSK

Middle Channel / 16QAM



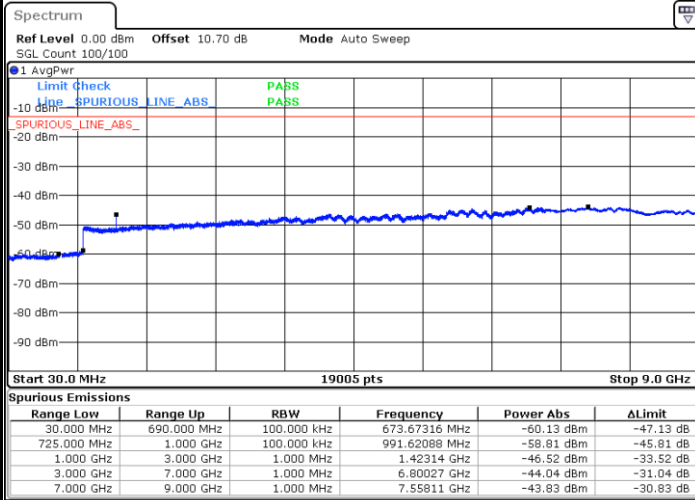
Date: 5 SEP.2019 15:44:56

Date: 5 SEP.2019 15:43:56



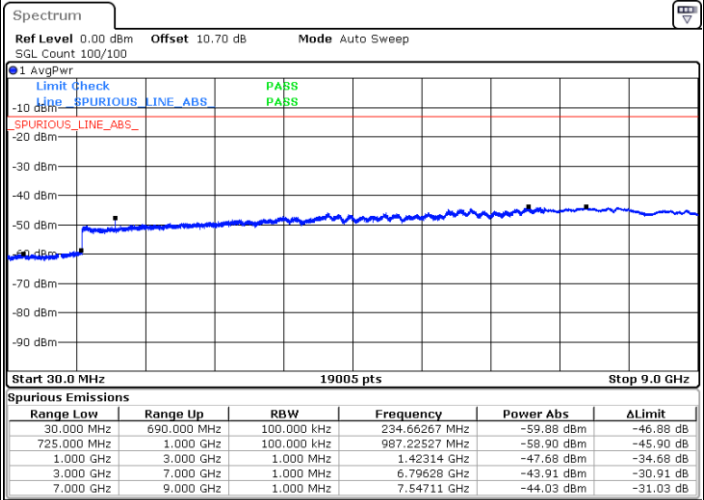
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 5 SEP. 2019 15:50:29

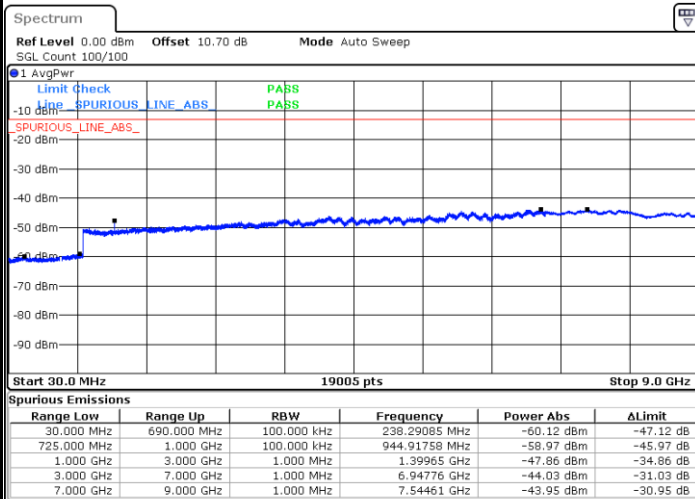
Highest Channel / 16QAM



Date: 5 SEP. 2019 15:49:29

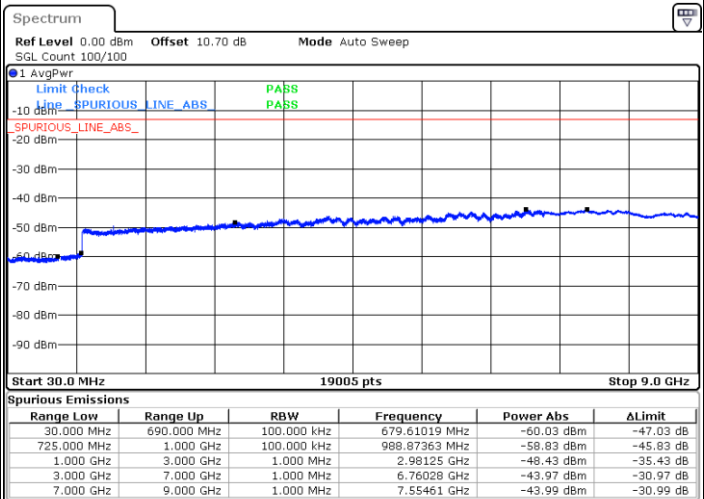
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 5 SEP. 2019 15:53:57

Lowest Channel / 16QAM



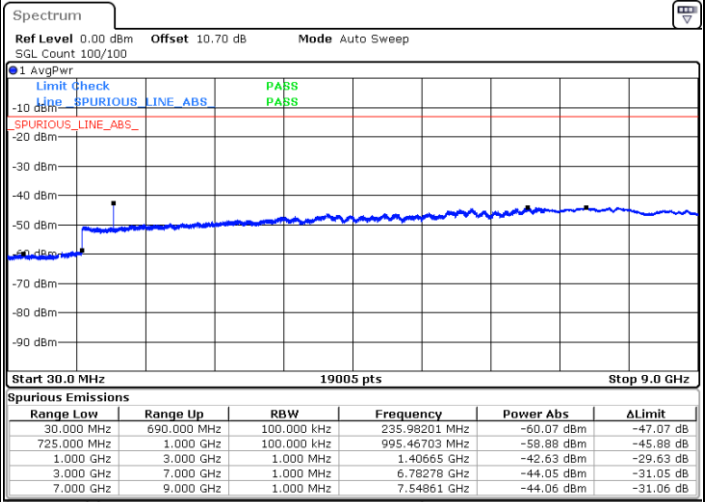
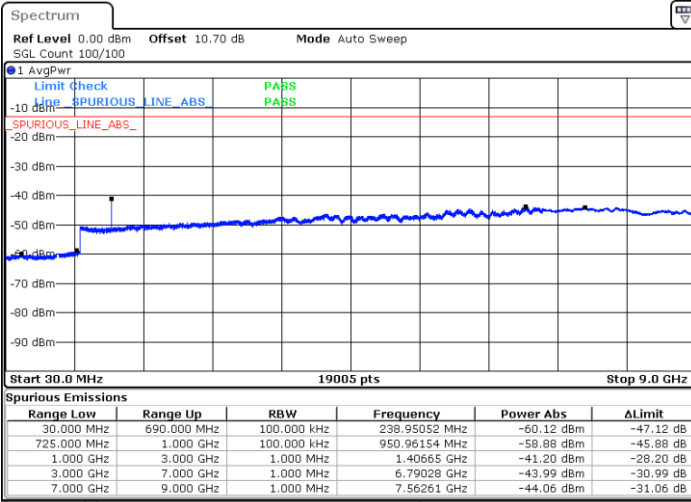
Date: 5 SEP. 2019 15:54:58



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

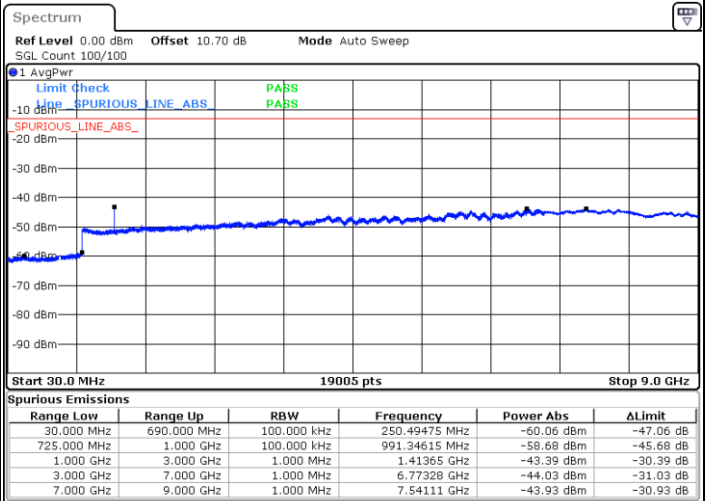
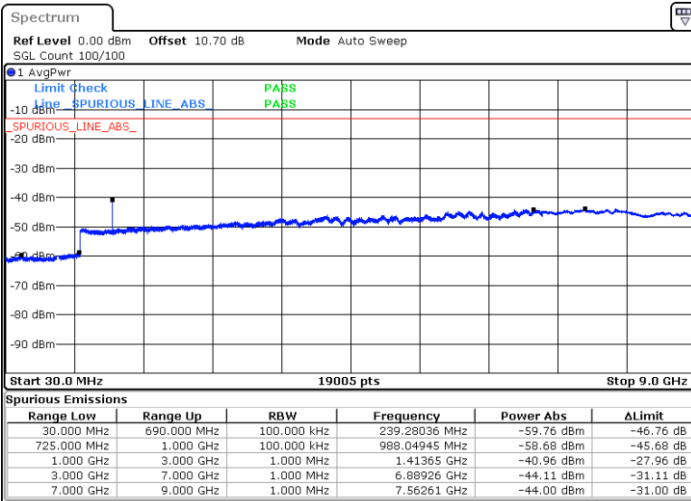


Date: 5 SEP.2019 15:57:22

Date: 5 SEP.2019 15:56:21

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 5 SEP.2019 16:45:35

Date: 5 SEP.2019 16:46:35



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	0.0059	PASS
40	Normal Voltage	0.0089	
30	Normal Voltage	0.0085	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0092	
0	Normal Voltage	0.0034	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0058	
-30	Normal Voltage	0.0033	
20	Maximum Voltage	0.0064	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0088	

Note:

1. Normal Voltage =4.0 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 ERP/EIRP and Radiated Test

ERP/EIRP

LTE Band 2 / 1.4MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	3	22.44	0.1754	23.34	0.2158
Middle		1	3	22.28	0.1690	23.18	0.2080
Highest		1	3	22.75	0.1884	23.65	0.2317
Lowest	16QAM	1	5	21.18	0.1312	22.08	0.1614
Middle		1	5	21.19	0.1315	22.09	0.1618
Highest		1	5	21.79	0.1510	22.69	0.1858
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 3MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	22.33	0.1710	23.23	0.2104
Middle		1	8	22.41	0.1742	23.31	0.2143
Highest		1	8	22.63	0.1832	23.53	0.2254
Lowest	16QAM	1	0	21.05	0.1274	21.95	0.1567
Middle		1	0	21.13	0.1297	22.03	0.1596
Highest		1	0	21.61	0.1449	22.51	0.1782
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 5MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	22.32	0.1706	23.22	0.2099
Middle		1	12	22.54	0.1795	23.44	0.2208
Highest		1	12	22.76	0.1888	23.66	0.2323
Lowest	16QAM	1	0	20.95	0.1245	21.85	0.1531
Middle		1	0	21.19	0.1315	22.09	0.1618
Highest		1	0	21.56	0.1432	22.46	0.1762
Limit	EIRP < 2W			Result		PASS	



LTE Band 2 / 10MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	22.53	0.1791	23.43	0.2203
Middle		1	25	22.60	0.1820	23.50	0.2239
Highest		1	25	22.69	0.1858	23.59	0.2286
Lowest	16QAM	1	25	21.53	0.1422	22.43	0.1750
Middle		1	25	21.36	0.1368	22.26	0.1683
Highest		1	25	21.74	0.1493	22.64	0.1837
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 15MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	22.39	0.1734	23.29	0.2133
Middle		1	37	22.32	0.1706	23.22	0.2099
Highest		1	37	22.62	0.1828	23.52	0.2249
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 20MHz (Average) (GT - LC = 0.9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.41	0.1742	23.31	0.2143
Middle		1	0	22.56	0.1803	23.46	0.2218
Highest		1	0	22.80	0.1905	23.70	0.2344
Limit	EIRP < 2W			Result		PASS	



LTE Band 4 / 1.4MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	3	22.99	0.1991	22.19	0.1656
Middle		3	3	22.92	0.1959	22.12	0.1629
Highest		3	3	22.98	0.1986	22.18	0.1652
Lowest	16QAM	1	3	21.99	0.1581	21.19	0.1315
Middle		1	3	21.89	0.1545	21.09	0.1285
Highest		1	3	21.84	0.1528	21.04	0.1271
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 3MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	22.98	0.1986	22.18	0.1652
Middle		1	8	22.94	0.1968	22.14	0.1637
Highest		1	8	22.99	0.1991	22.19	0.1656
Lowest	16QAM	1	0	21.66	0.1466	20.86	0.1219
Middle		1	0	21.67	0.1469	20.87	0.1222
Highest		1	0	21.92	0.1556	21.12	0.1294
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 5MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.91	0.1954	22.11	0.1626
Middle		1	0	22.88	0.1941	22.08	0.1614
Highest		1	0	22.98	0.1986	22.18	0.1652
Lowest	16QAM	1	12	21.98	0.1578	21.18	0.1312
Middle		1	12	21.76	0.1500	20.96	0.1247
Highest		1	12	21.68	0.1472	20.88	0.1225
Limit	EIRP < 1W			Result		PASS	



LTE Band 4 / 10MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	22.96	0.1977	22.16	0.1644
Middle		1	25	22.75	0.1884	21.95	0.1567
Highest		1	25	22.87	0.1936	22.07	0.1611
Lowest	16QAM	1	25	21.93	0.1560	21.13	0.1297
Middle		1	25	21.97	0.1574	21.17	0.1309
Highest		1	25	21.89	0.1545	21.09	0.1285
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 15MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	22.98	0.1986	22.18	0.1652
Middle		1	37	22.95	0.1972	22.15	0.1641
Highest		1	37	22.88	0.1941	22.08	0.1614
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 20MHz (Average) (GT - LC = -0.8 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.97	0.1982	22.17	0.1648
Middle		1	0	23.00	0.1995	22.20	0.1660
Highest		1	0	22.99	0.1991	22.19	0.1656
Limit	EIRP < 1W			Result		PASS	



LTE Band 12 / 1.4MHz (Average) (GT - LC = -4.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	3	23.50	0.2239	16.85	0.0484
Middle		1	3	23.78	0.2388	17.13	0.0516
Highest		1	3	23.98	0.2500	17.33	0.0541
Lowest	16QAM	1	5	22.33	0.1710	15.68	0.0370
Middle		1	5	22.68	0.1854	16.03	0.0401
Highest		1	5	22.83	0.1919	16.18	0.0415
Limit	ERP < 3W			Result		PASS	

LTE Band 12 / 3MHz (Average) (GT - LC = -4.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	14	23.48	0.2228	16.83	0.0482
Middle		1	14	23.88	0.2443	17.23	0.0528
Highest		1	14	23.99	0.2506	17.34	0.0542
Lowest	16QAM	1	14	22.51	0.1782	15.86	0.0385
Middle		1	14	22.70	0.1862	16.05	0.0403
Highest		1	14	22.91	0.1954	16.26	0.0423
Limit	ERP < 3W			Result		PASS	

LTE Band 12 / 5MHz (Average) (GT - LC = -4.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	12	23.47	0.2223	16.82	0.0481
Middle		1	12	23.94	0.2477	17.29	0.0536
Highest		1	12	23.95	0.2483	17.30	0.0537
Lowest	16QAM	1	12	22.63	0.1832	15.98	0.0396
Middle		1	12	22.85	0.1928	16.20	0.0417
Highest		1	12	22.69	0.1858	16.04	0.0402
Limit	ERP < 3W			Result		PASS	



LTE Band 12 / 10MHz (Average) (GT - LC = -4.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.78	0.2388	17.13	0.0516
Middle		1	0	24.00	0.2512	17.35	0.0543
Highest		1	0	23.94	0.2477	17.29	0.0536
Lowest	16QAM	1	25	22.62	0.1828	15.97	0.0395
Middle		1	25	22.73	0.1875	16.08	0.0406
Highest		1	25	22.80	0.1905	16.15	0.0412
Limit	ERP < 3W			Result		PASS	



Radiated Spurious Emission

Part 24E LTE Band 2

LTE Band 2/ 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	3702	-50.02	-13	-37.02	-67	-61.81	0.72	12.52	H
	5553	-54.38	-13	-41.38	-76.15	-66.55	1.00	13.17	H
	7404	-52.48	-13	-39.48	-77.56	-61.87	1.18	10.57	H
									H
									H
									H
	3702	-51.78	-13	-38.78	-69.93	-63.57	0.72	12.52	V
	5553	-54.21	-13	-41.21	-76.11	-66.38	1.00	13.17	V
	7404	-52.81	-13	-39.81	-77.68	-62.2	1.18	10.57	V
									V
Middle	3744	-50.07	-13	-37.07	-67.16	-61.87	0.70	12.50	H
	5616	-55.02	-13	-42.02	-76.72	-67.17	0.98	13.13	H
	7488	-52.47	-13	-39.47	-77.38	-61.71	1.18	10.42	H
									H
									H
									H
	3744	-49.24	-13	-36.24	-67.52	-61.04	0.70	12.50	V
	5616	-54.79	-13	-41.79	-76.66	-66.94	0.98	13.13	V
	7488	-52.48	-13	-39.48	-77.47	-61.72	1.18	10.42	V
									V
Highest	3782	-56.83	-13	-43.83	-74	-68.64	0.68	12.49	H
	5673	-54.45	-13	-41.45	-76.15	-66.56	0.99	13.10	H
	7564	-52.10	-13	-39.10	-77.12	-61.5	1.18	10.58	H
									H
									H
									H
	3782	-55.11	-13	-42.11	-73.5	-66.92	0.68	12.49	V
	5673	-54.36	-13	-41.36	-76.24	-66.47	0.99	13.10	V
	7564	-52.46	-13	-39.46	-77.36	-61.86	1.18	10.58	V
									V

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



Part 27L LTE Band 4

LTE Band 4 / 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	3438	-55.63	-13	-42.63	-72.82	-67.27	0.78	12.41	H
	5160	-55.73	-13	-42.73	-76.35	-67.27	0.98	12.52	H
	6876	-53.42	-13	-40.42	-77.06	-64.11	0.89	11.57	H
									H
									H
									H
	3438	-52.38	-13	-39.38	-69.66	-64.02	0.78	12.41	V
	5160	-55.38	-13	-42.38	-76.17	-66.92	0.98	12.52	V
	6876	-52.95	-13	-39.95	-77.02	-63.64	0.89	11.57	V
									V
									V
									V
Middle	3464	-54.87	-13	-41.87	-72.07	-66.58	0.78	12.49	H
	5196	-53.31	-13	-40.31	-74	-64.91	0.99	12.59	H
	6928	-53.12	-13	-40.12	-76.86	-63.58	1.00	11.46	H
									H
									H
									H
	3464	-53.36	-13	-40.36	-70.95	-65.07	0.78	12.49	V
	5196	-54.36	-13	-41.36	-75.21	-65.96	0.99	12.59	V
	6928	-52.64	-13	-39.64	-76.76	-63.1	1.00	11.46	V
									V
									V
									V
Highest	3492	-55.98	-13	-42.98	-73.22	-67.78	0.78	12.58	H
	5238	-56.37	-13	-43.37	-77.2	-68.04	1.01	12.68	H
	6984	-52.31	-13	-39.31	-76.14	-62.52	1.13	11.34	H
									H
									H
									H
	3492	-48.87	-13	-35.87	-67.08	-60.67	0.78	12.58	V
	5238	-56.28	-13	-43.28	-77.25	-67.95	1.01	12.68	V
	6984	-51.57	-13	-38.57	-75.72	-61.78	1.13	11.34	V
									V
									V
									V

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



Part 27H LTE Band 12

LTE Band 12 / 10MHz / QPSK									
Channel	Frequency (MHz)	ERP (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	1416	-54.83	-13.00	-41.83	-66.00	-60.97	0.50	8.80	H
	2128	-49.34	-13.00	-36.34	-63.26	-57.10	0.59	10.50	H
	2832	-58.58	-13.00	-45.58	-73.05	-66.72	0.71	11.00	H
									H
									H
									H
	1416	-52.46	-13.00	-39.46	-63.43	-58.60	0.50	8.80	V
	2128	-53.15	-13.00	-40.15	-66.96	-60.91	0.59	10.50	V
	2832	-58.91	-13.00	-45.91	-73.70	-67.05	0.71	11.00	V
									V
									V
									V
Middle	1424	-49.71	-13.00	-36.71	-61.04	-55.90	0.50	8.84	H
	2136	-50.08	-13.00	-37.08	-64.00	-57.85	0.59	10.51	H
	2848	-58.14	-13.00	-45.14	-72.66	-66.29	0.71	11.01	H
									H
									H
									H
	1424	-45.16	-13.00	-32.16	-56.00	-51.35	0.50	8.84	V
	2136	-52.94	-13.00	-39.94	-66.75	-60.71	0.59	10.51	V
	2848	-59.34	-13.00	-46.34	-74.14	-67.49	0.71	11.01	V
									V
									V
									V
Highest	1432	-49.69	-13.00	-36.69	-61.00	-55.93	0.50	8.89	H
	2144	-50.69	-13.00	-37.69	-64.90	-58.46	0.59	10.52	H
	2864	-57.30	-13.00	-44.30	-71.87	-65.45	0.72	11.02	H
									H
									H
									H
	1432	-50.11	-13.00	-37.11	-60.96	-56.35	0.50	8.89	V
	2144	-51.34	-13.00	-38.34	-65.50	-59.11	0.59	10.52	V
	2864	-58.30	-13.00	-45.30	-73.11	-66.45	0.72	11.02	V
									V
									V
									V

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