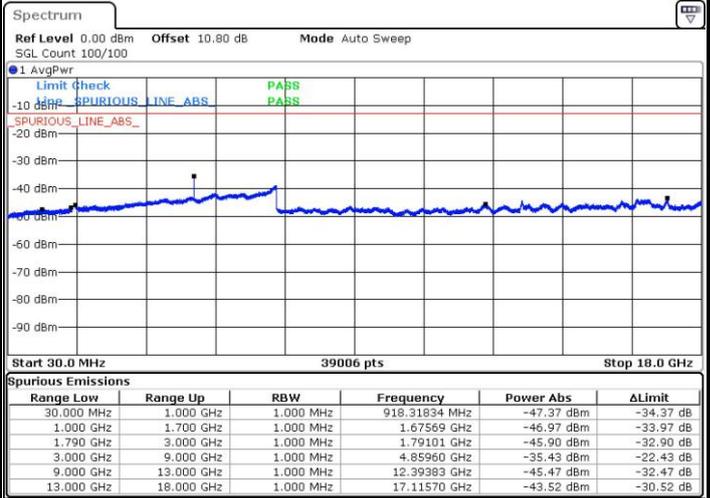
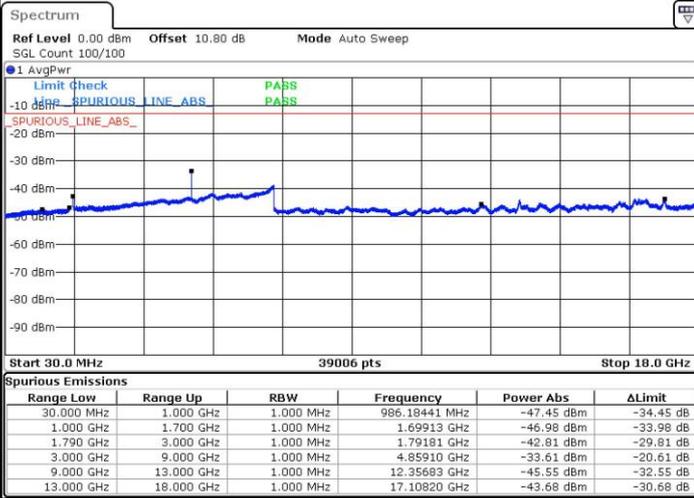




LTE Band 66 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



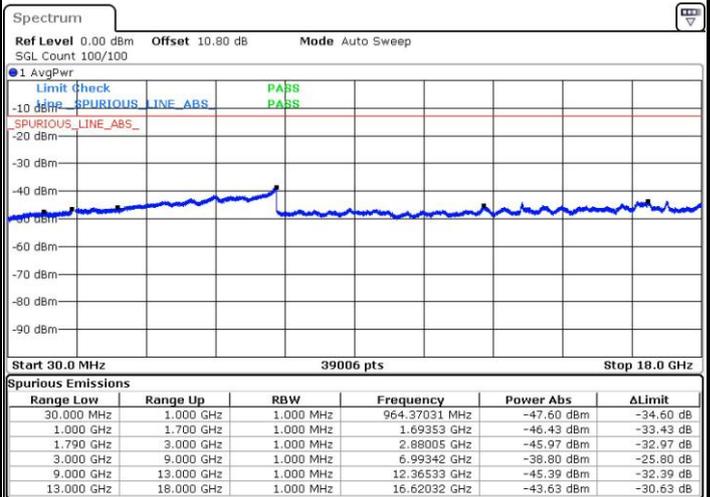
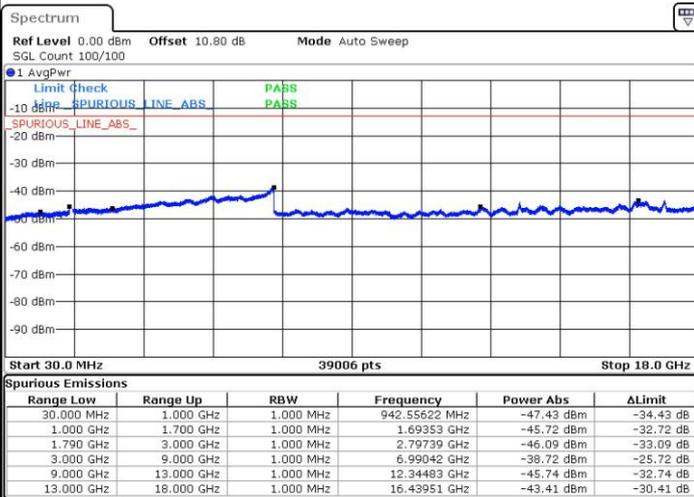
Date: 31.JUL.2019 12:07:49

Date: 31.JUL.2019 12:08:41

LTE Band 66 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 31.JUL.2019 12:14:16

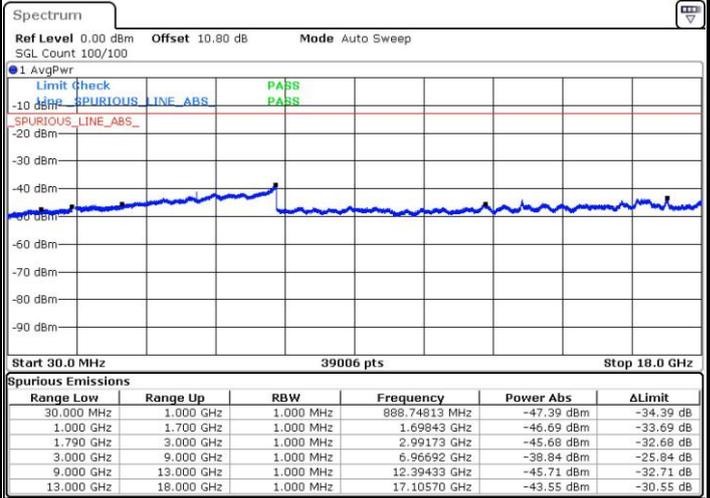
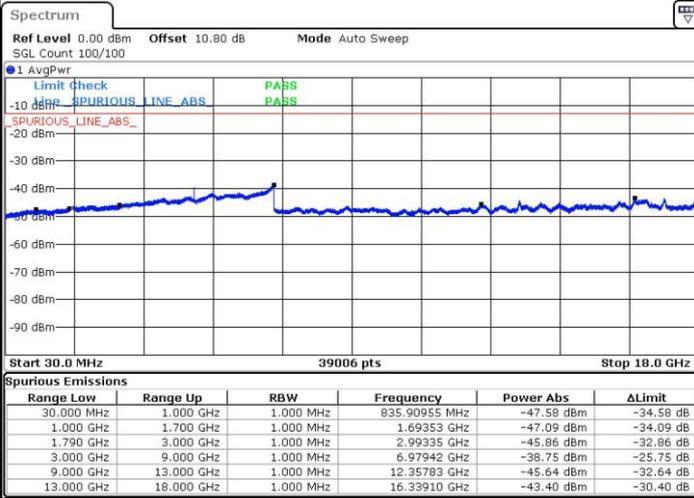
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LTE Band 66 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

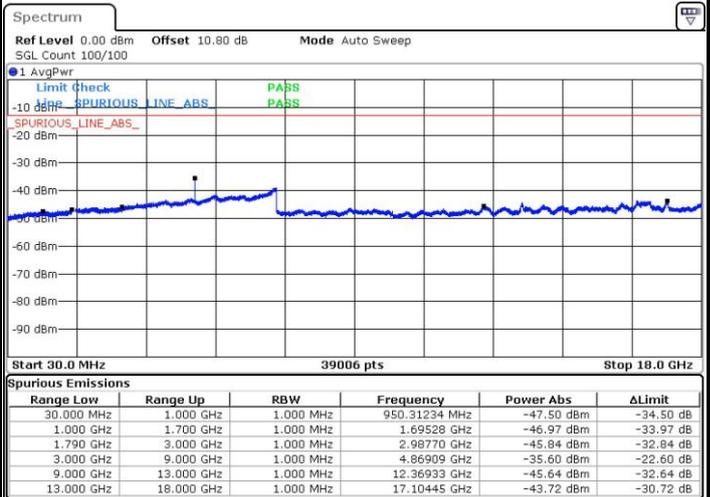
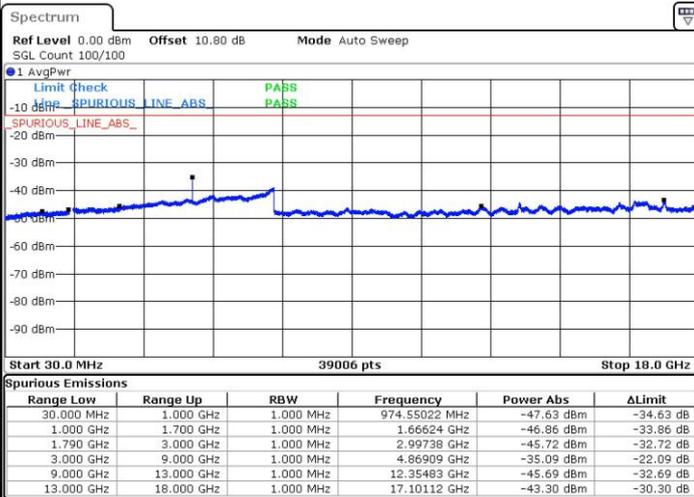


Date: 31.JUL.2019 12:16:46

Date: 31.JUL.2019 12:17:38

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 31.JUL.2019 12:23:13

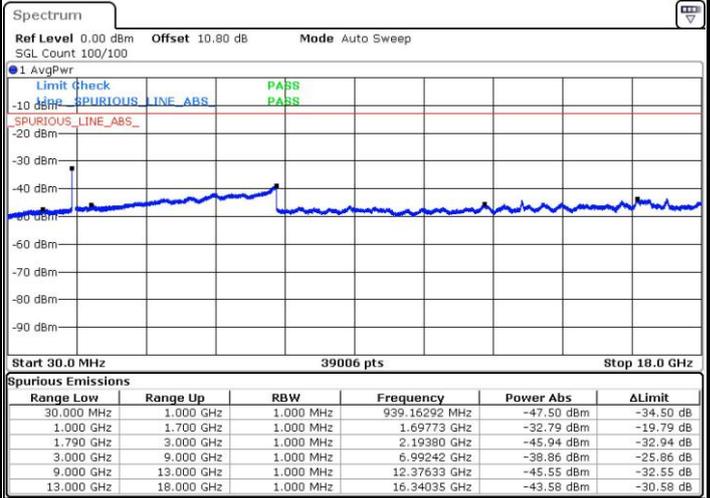
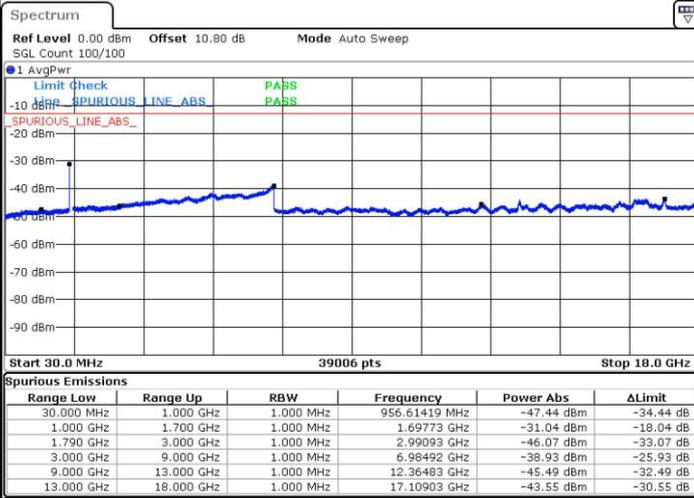
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LTE Band 66 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

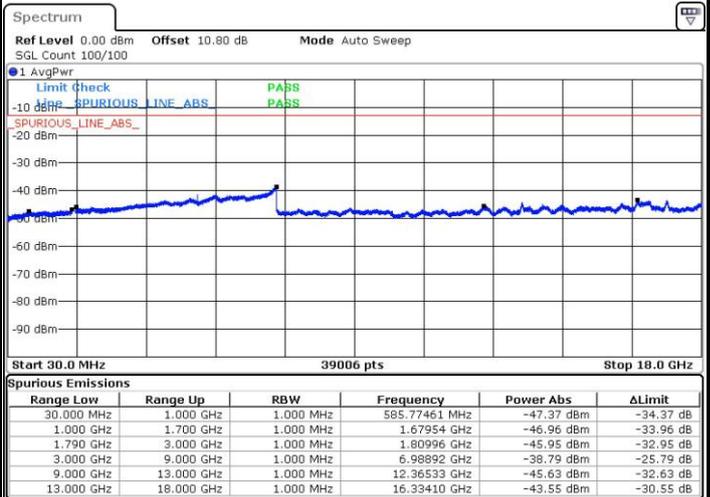
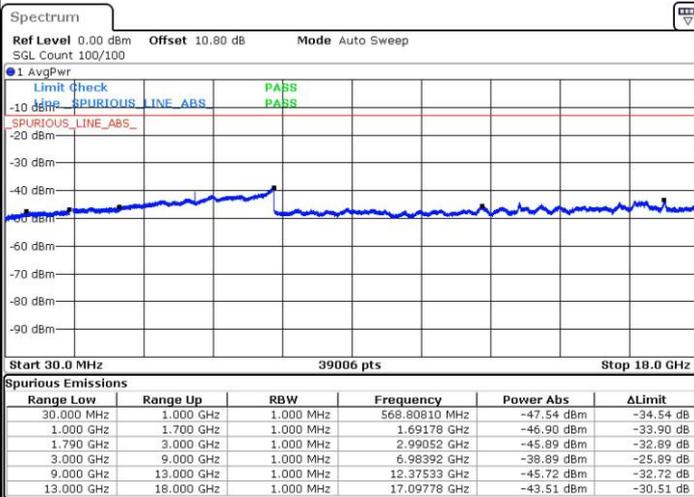


Date: 31.JUL.2019 12:31:28

Date: 31.JUL.2019 12:32:20

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 31.JUL.2019 12:33:58

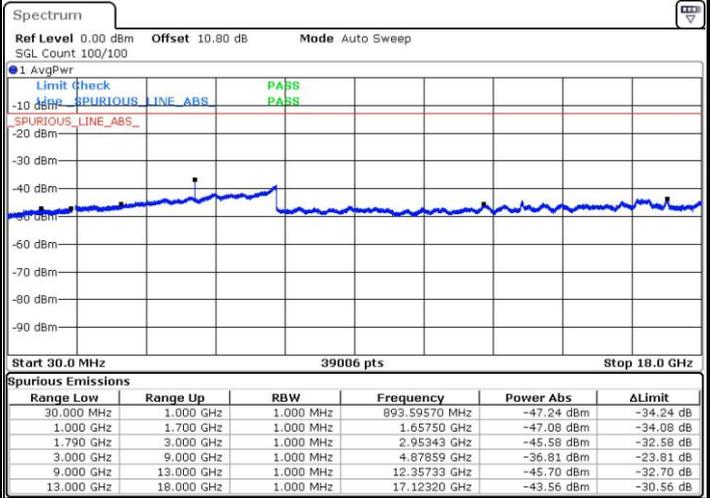
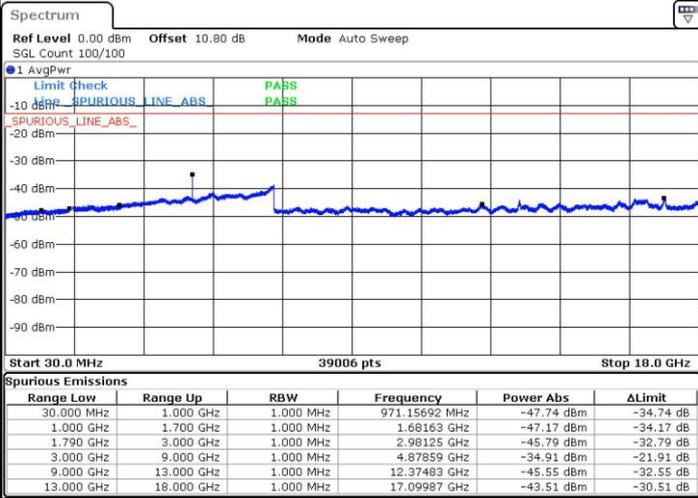
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LTE Band 66 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM



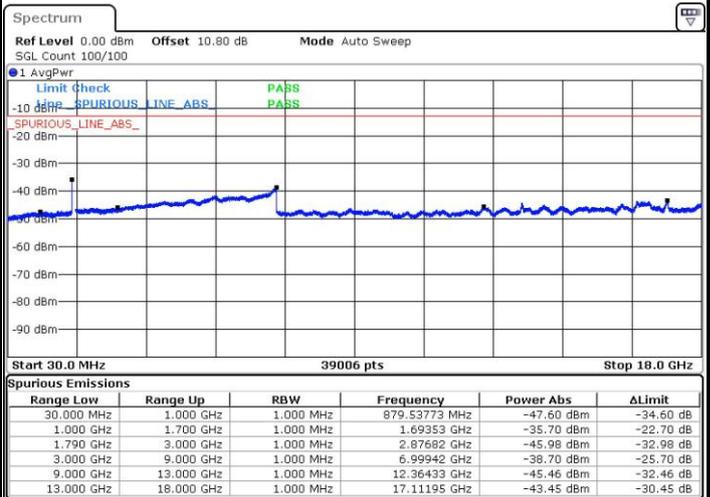
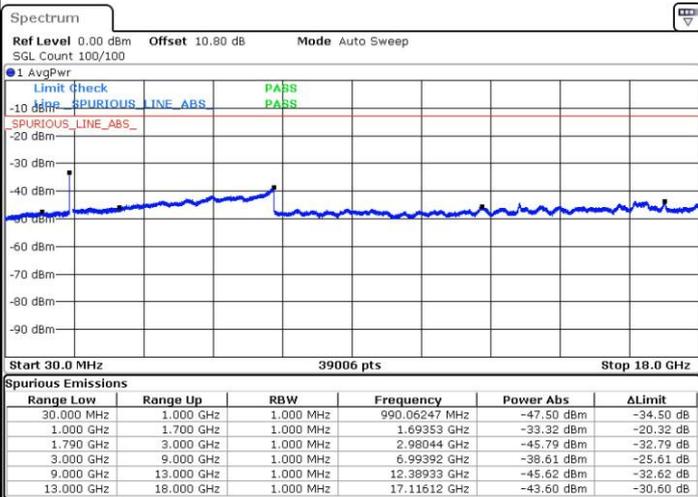
Date: 31.JUL.2019 12:40:26

Date: 31.JUL.2019 12:41:18

LTE Band 66 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 31.JUL.2019 12:46:52

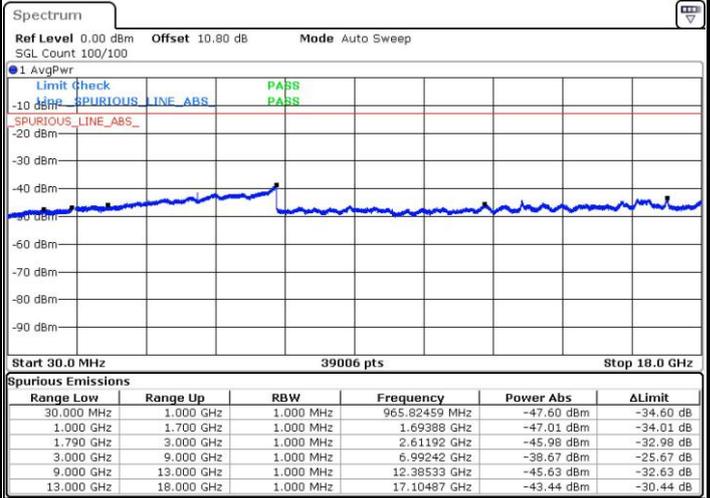
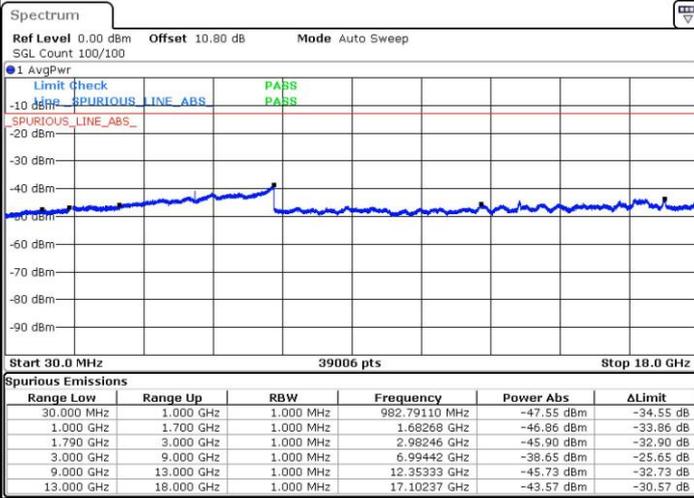
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LTE Band 66 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

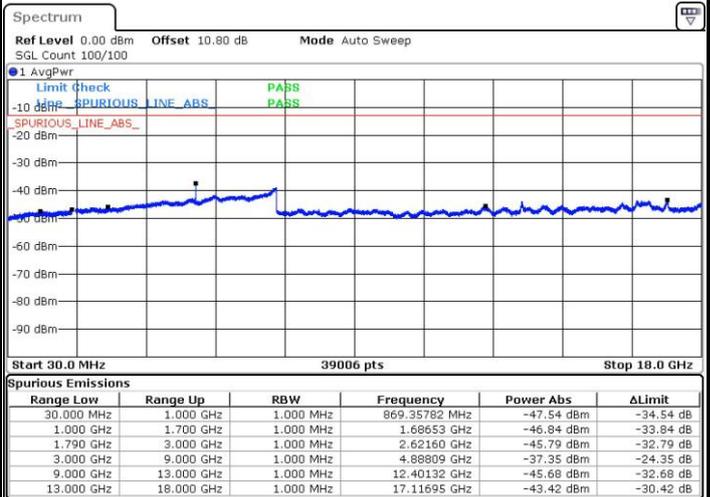
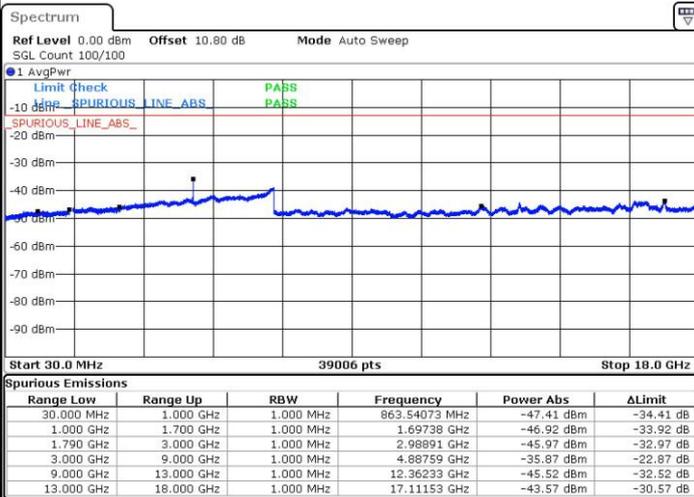


Date: 31.JUL.2019 12:49:22

Date: 31.JUL.2019 12:50:14

Highest Channel / QPSK

Highest Channel / 16QAM



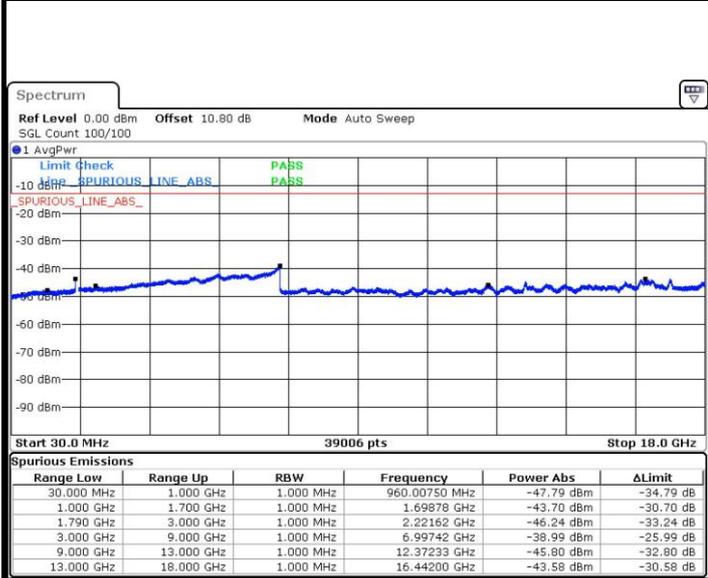
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Date: 31.JUL.2019 12:56:40



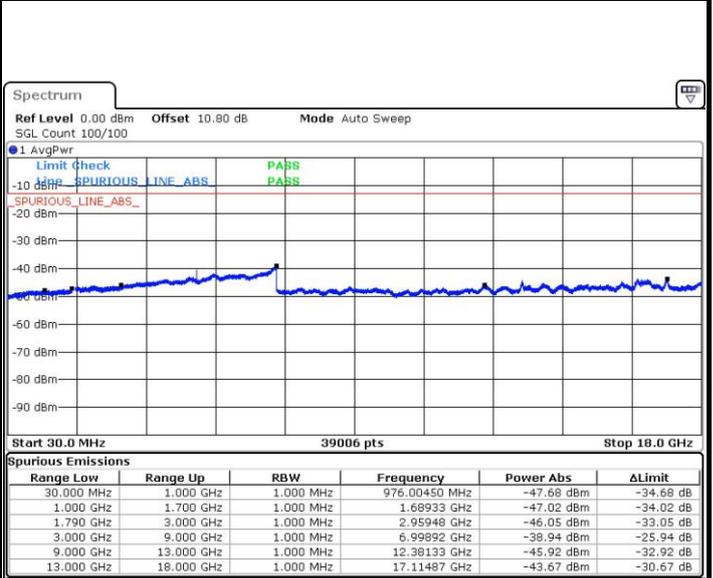
LTE Band 66 / 1.4MHz

Lowest Channel / 64QAM



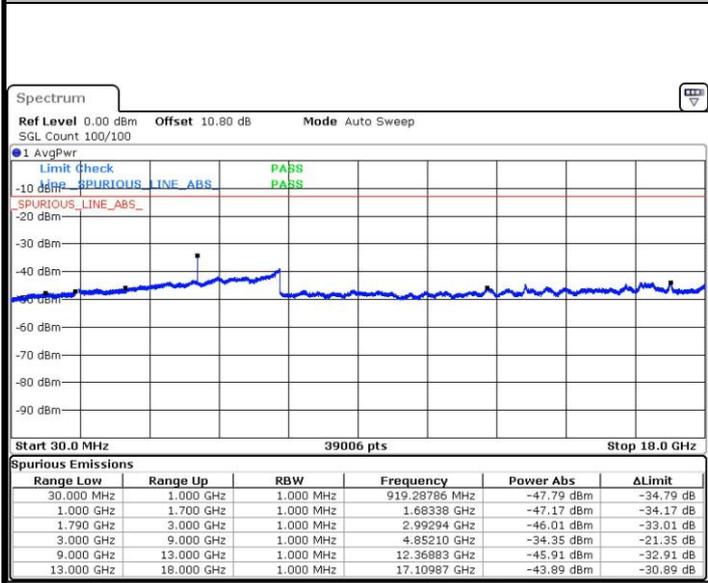
Date: 1.AUG.2019 06:52:21

Middle Channel / 64QAM



Date: 1.AUG.2019 06:53:35

Highest Channel / 64QAM



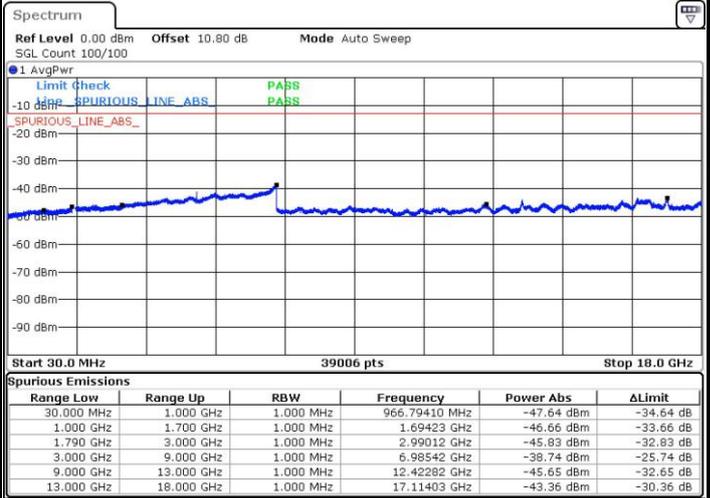
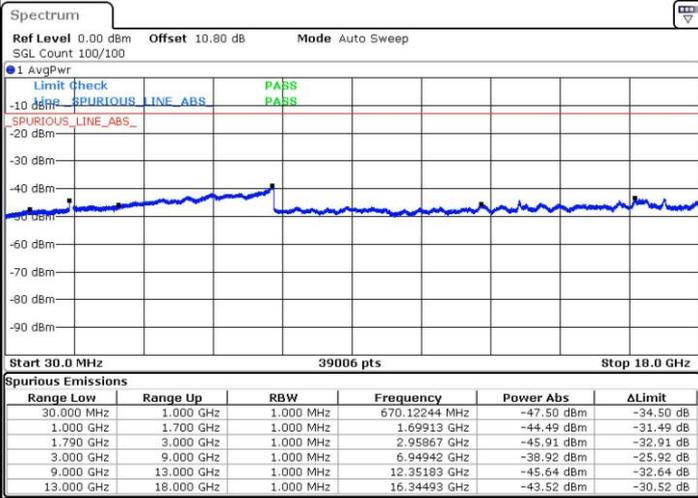
Date: 1.AUG.2019 06:56:57



LTE Band 66 / 3MHz

Lowest Channel / 64QAM

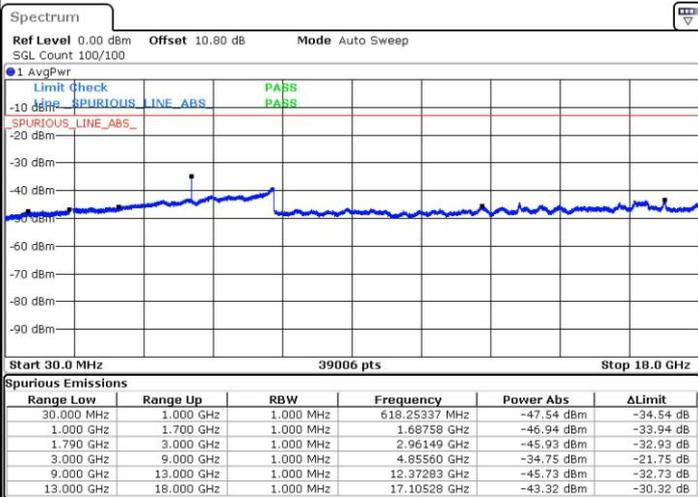
Middle Channel / 64QAM



Date: 31.JUL.2019 13:28:56

Date: 31.JUL.2019 13:30:11

Highest Channel / 64QAM



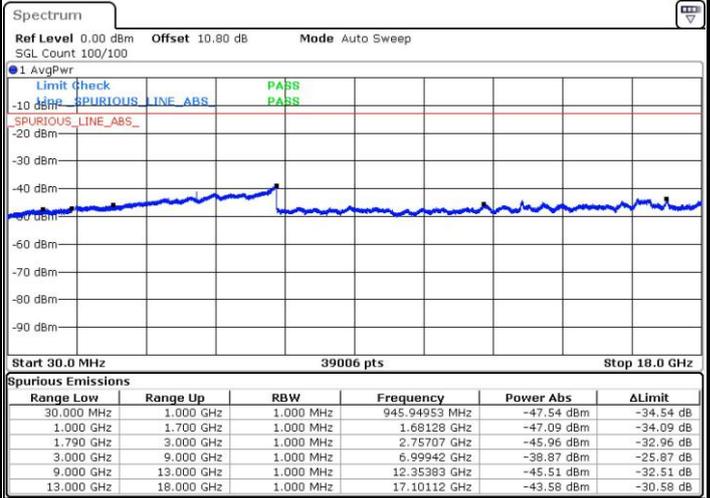
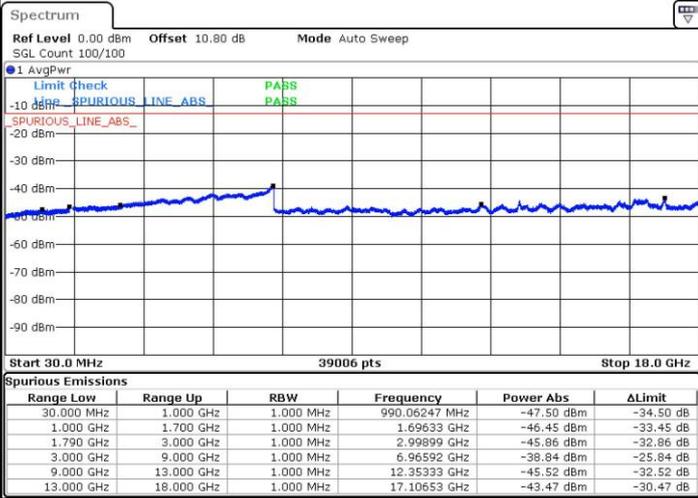
Date: 31.JUL.2019 13:33:24



LTE Band 66 / 5MHz

Lowest Channel / 64QAM

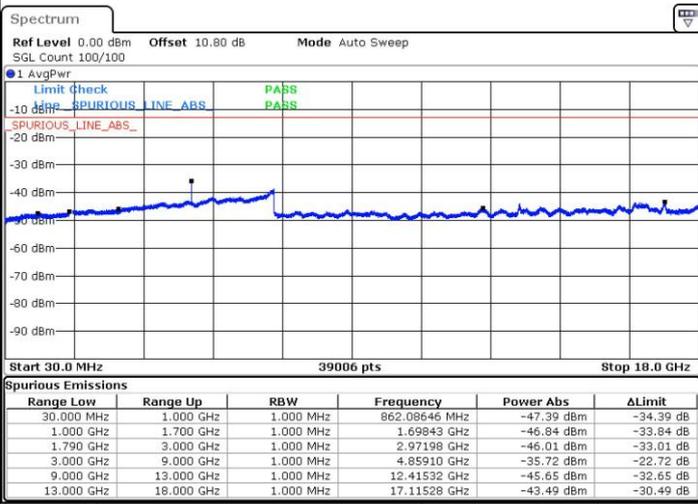
Middle Channel / 64QAM



Date: 31.JUL.2019 13:36:38

Date: 31.JUL.2019 13:37:53

Highest Channel / 64QAM



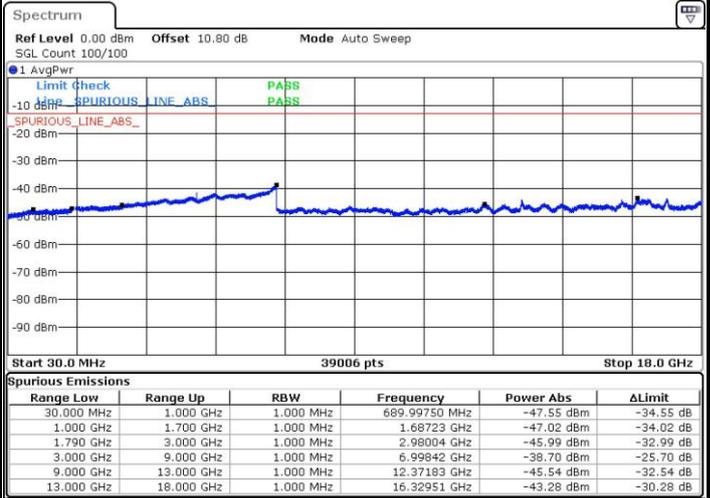
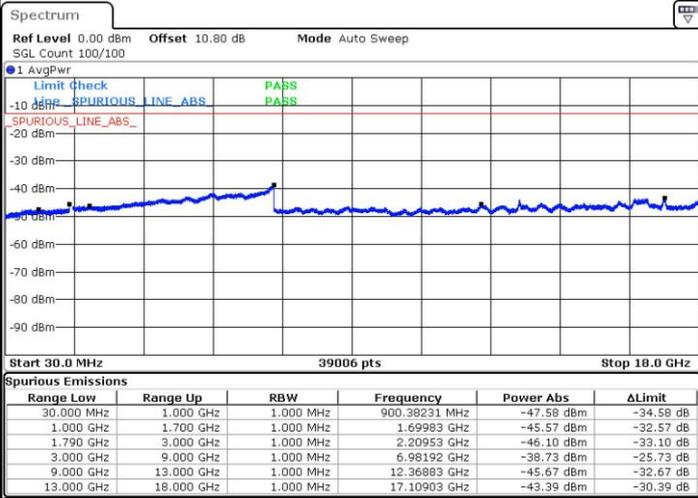
Date: 31.JUL.2019 13:41:06



LTE Band 66 / 10MHz

Lowest Channel / 64QAM

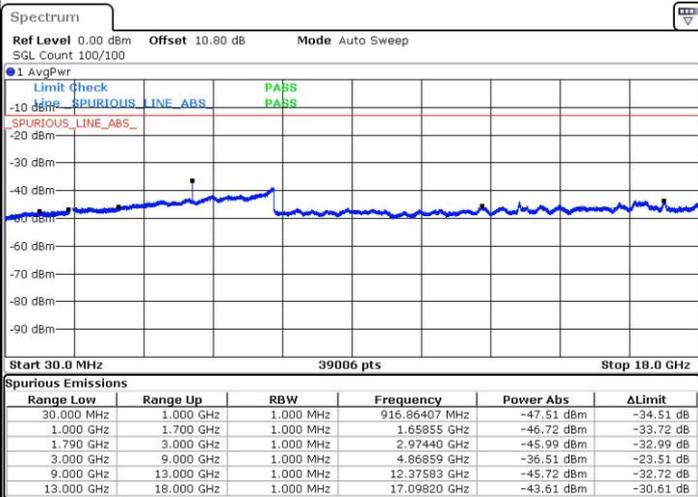
Middle Channel / 64QAM



Date: 31.JUL.2019 13:44:19

Date: 31.JUL.2019 13:45:34

Highest Channel / 64QAM



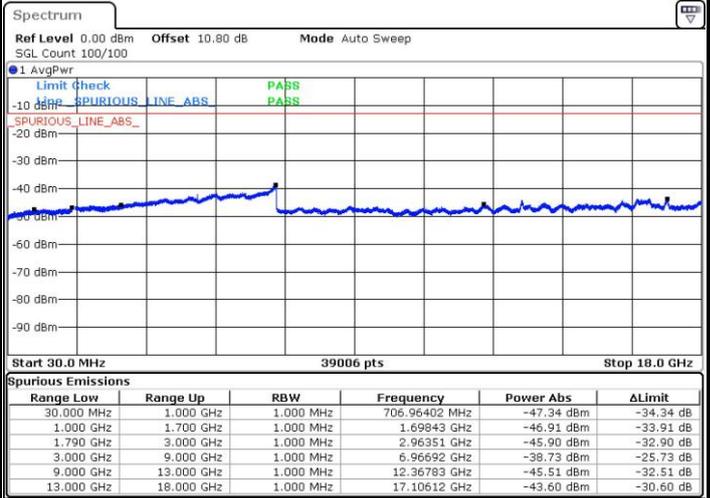
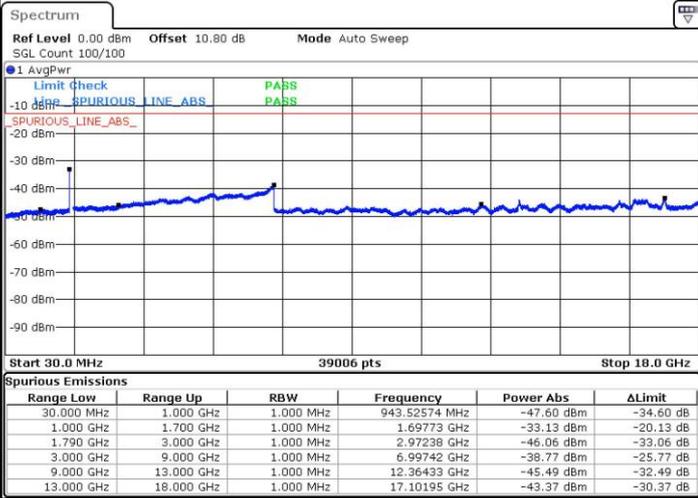
Date: 31.JUL.2019 13:48:47



LTE Band 66 / 15MHz

Lowest Channel / 64QAM

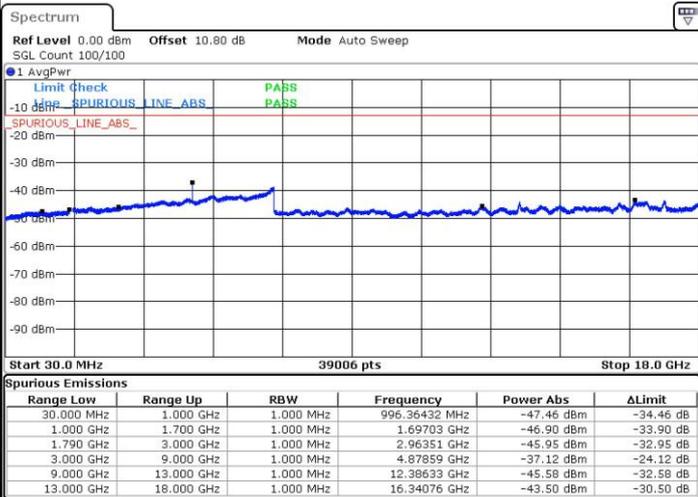
Middle Channel / 64QAM



Date: 31.JUL.2019 13:52:01

Date: 31.JUL.2019 13:53:16

Highest Channel / 64QAM



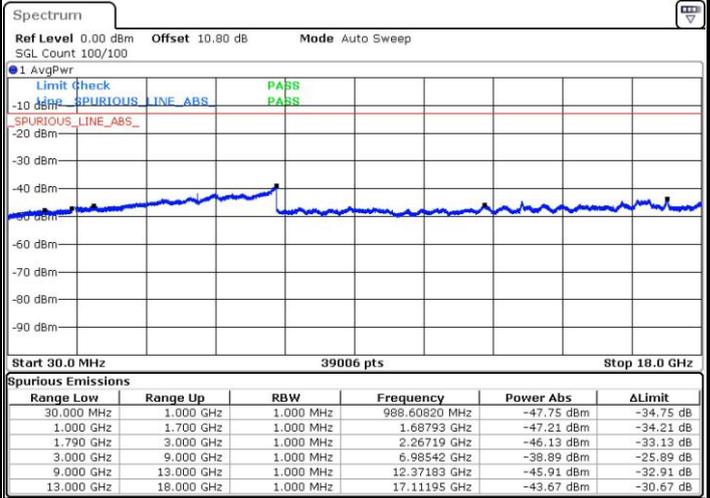
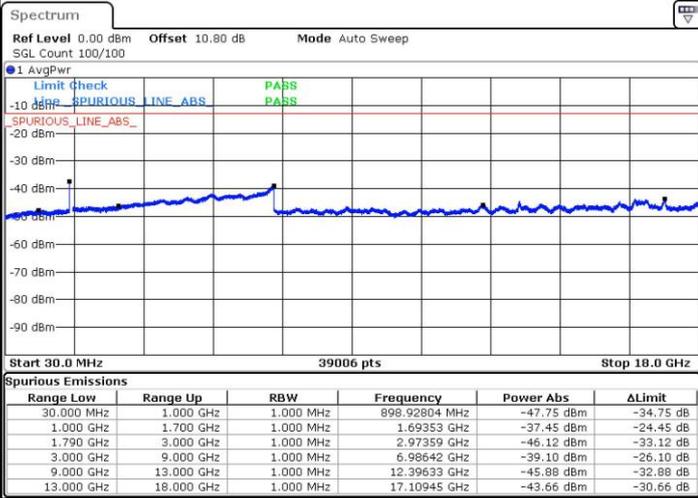
Date: 31.JUL.2019 13:56:29



LTE Band 66 / 20MHz

Lowest Channel / 64QAM

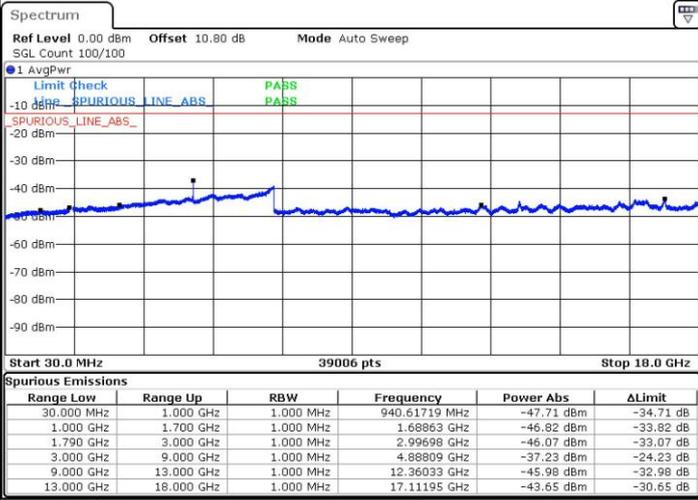
Middle Channel / 64QAM



Date: 1.AUG.2019 06:44:29

Date: 1.AUG.2019 06:45:44

Highest Channel / 64QAM



Date: 1.AUG.2019 06:48:58



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	0.0019	PASS
40	Normal Voltage	0.0033	
30	Normal Voltage	0.0019	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0025	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0018	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0013	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 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 25 / 1.4MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	1	24.37	0.2735	22.07	0.1611
Middle		3	1	24.50	0.2818	22.20	0.1660
Highest		3	1	24.47	0.2799	22.17	0.1648
Lowest	16QAM	1	3	23.18	0.2080	20.88	0.1225
Middle		1	3	23.28	0.2128	20.98	0.1253
Highest		1	3	23.24	0.2109	20.94	0.1242
Lowest	64QAM	1	3	22.11	0.1626	19.81	0.0957
Middle		1	3	22.24	0.1675	19.94	0.0986
Highest		1	3	22.23	0.1671	19.93	0.0984
Limit	EIRP < 2W			Result		PASS	

LTE Band 25 / 3MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	24.44	0.2780	22.14	0.1637
Middle		1	8	24.53	0.2838	22.23	0.1671
Highest		1	8	24.47	0.2799	22.17	0.1648
Lowest	16QAM	1	8	23.15	0.2065	20.85	0.1216
Middle		1	8	23.25	0.2113	20.95	0.1245
Highest		1	8	23.21	0.2094	20.91	0.1233
Lowest	64QAM	1	8	22.13	0.1633	19.83	0.0962
Middle		1	8	22.22	0.1667	19.92	0.0982
Highest		1	8	22.22	0.1667	19.92	0.0982
Limit	EIRP < 2W			Result		PASS	

LTE Band 25 / 5MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	24	24.38	0.2742	22.08	0.1614
Middle		1	24	24.52	0.2831	22.22	0.1667
Highest		1	24	24.46	0.2793	22.16	0.1644
Lowest	16QAM	1	24	23.19	0.2084	20.89	0.1227
Middle		1	24	23.31	0.2143	21.01	0.1262
Highest		1	24	23.18	0.2080	20.88	0.1225
Lowest	64QAM	1	24	22.11	0.1626	19.81	0.0957
Middle		1	24	22.24	0.1675	19.94	0.0986
Highest		1	24	22.18	0.1652	19.88	0.0973
Limit	EIRP < 2W			Result		PASS	



LTE Band 25 / 10MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.41	0.2761	22.11	0.1626
Middle		1	0	24.45	0.2786	22.15	0.1641
Highest		1	0	24.38	0.2742	22.08	0.1614
Lowest	16QAM	1	0	23.13	0.2056	20.83	0.1211
Middle		1	0	23.21	0.2094	20.91	0.1233
Highest		1	0	23.15	0.2065	20.85	0.1216
Lowest	64QAM	1	0	22.11	0.1626	19.81	0.0957
Middle		1	0	22.21	0.1663	19.91	0.0979
Highest		1	0	22.12	0.1629	19.82	0.0959
Limit	EIRP < 2W		Result		PASS		

LTE Band 25 / 15MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.57	0.2864	22.27	0.1687
Middle		1	0	24.74	0.2979	22.44	0.1754
Highest		1	0	24.70	0.2951	22.40	0.1738
Lowest	16QAM	1	0	23.36	0.2168	21.06	0.1276
Middle		1	0	23.50	0.2239	21.20	0.1318
Highest		1	0	23.49	0.2234	21.19	0.1315
Lowest	64QAM	1	0	22.32	0.1706	20.02	0.1005
Middle		1	0	22.47	0.1766	20.17	0.1040
Highest		1	0	22.43	0.1750	20.13	0.1030
Limit	EIRP < 2W		Result		PASS		

LTE Band 25 / 20MHz (Average) (GT - LC = -2.3 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.73	0.2972	22.43	0.1750
Middle		1	0	24.75	0.2985	22.45	0.1758
Highest		1	0	24.73	0.2972	22.43	0.1750
Lowest	16QAM	1	0	23.50	0.2239	21.20	0.1318
Middle		1	0	23.51	0.2244	21.21	0.1321
Highest		1	0	23.51	0.2244	21.21	0.1321
Lowest	64QAM	1	0	22.45	0.1758	20.15	0.1035
Middle		1	0	22.48	0.1770	20.18	0.1042
Highest		1	0	22.45	0.1758	20.15	0.1035
Limit	EIRP < 2W		Result		PASS		



LTE Band 13 / 5MHz (Average) (GT - LC = -2.8 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	24	24.43	0.2773	19.48	0.0887
Middle		1	24	24.44	0.2780	19.49	0.0889
Highest		1	24	24.40	0.2754	19.45	0.0881
Lowest	16QAM	1	12	23.09	0.2037	18.14	0.0652
Middle		1	12	23.17	0.2075	18.22	0.0664
Highest		1	12	23.21	0.2094	18.26	0.0670
Lowest	64QAM	1	24	22.13	0.1633	17.18	0.0522
Middle		1	24	22.18	0.1652	17.23	0.0528
Highest		1	24	22.08	0.1614	17.13	0.0516
Limit	ERP < 3W			Result		PASS	

LTE Band 13 / 10MHz (Average) (GT - LC = -2.8 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	-	-	-	-	-	-
Middle		1	25	24.45	0.2786	19.50	0.0891
Highest		-	-	-	-	-	-
Lowest	16QAM	-	-	-	-	-	-
Middle		1	49	23.21	0.2094	18.26	0.0670
Highest		-	-	-	-	-	-
Lowest	64QAM	-	-	-	-	-	-
Middle		1	49	22.17	0.1648	17.22	0.0527
Highest		-	-	-	-	-	-
Limit	ERP < 3W			Result		PASS	



LTE Band 26 / 1.4MHz (Average) (GT - LC = -3.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	3	24.92	0.3105	19.27	0.0845
Middle		1	3	24.94	0.3119	19.29	0.0849
Highest		1	3	23.67	0.2328	18.02	0.0634
Lowest	16QAM	1	3	23.80	0.2399	18.15	0.0653
Middle		1	3	23.78	0.2388	18.13	0.0650
Highest		1	3	23.10	0.2042	17.45	0.0556
Lowest	64QAM	1	3	22.74	0.1879	17.09	0.0512
Middle		1	3	22.76	0.1888	17.11	0.0514
Highest		1	3	22.18	0.1652	16.53	0.0450
Limit	ERP < 7W			Result		PASS	

LTE Band 26 / 3MHz (Average) (GT - LC = -3.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	8	24.90	0.3090	19.25	0.0841
Middle		1	8	24.90	0.3090	19.25	0.0841
Highest		1	8	24.16	0.2606	18.51	0.0710
Lowest	16QAM	1	8	23.75	0.2371	18.10	0.0646
Middle		1	8	23.73	0.2360	18.08	0.0643
Highest		1	8	23.55	0.2265	17.90	0.0617
Lowest	64QAM	1	8	22.76	0.1888	17.11	0.0514
Middle		1	8	22.79	0.1901	17.14	0.0518
Highest		1	8	22.52	0.1786	16.87	0.0486
Limit	ERP < 7W			Result		PASS	

LTE Band 26 / 5MHz (Average) (GT - LC = -3.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	24	24.89	0.3083	19.24	0.0839
Middle		1	24	24.79	0.3013	19.14	0.0820
Highest		1	24	23.37	0.2173	17.72	0.0592
Lowest	16QAM	1	12	23.79	0.2393	18.14	0.0652
Middle		1	12	23.77	0.2382	18.12	0.0649
Highest		1	12	23.55	0.2265	17.90	0.0617
Lowest	64QAM	1	12	22.76	0.1888	17.11	0.0514
Middle		1	12	22.72	0.1871	17.07	0.0509
Highest		1	12	22.53	0.1791	16.88	0.0488
Limit	ERP < 7W			Result		PASS	



LTE Band 26 / 10MHz (Average) (GT - LC = -3.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	24.95	0.3126	19.30	0.0851
Middle		1	0	24.62	0.2897	18.97	0.0789
Highest		1	0	24.24	0.2655	18.59	0.0723
Lowest	16QAM	1	0	23.81	0.2404	18.16	0.0655
Middle		1	0	23.76	0.2377	18.11	0.0647
Highest		1	0	23.47	0.2223	17.82	0.0605
Lowest	64QAM	1	0	22.80	0.1905	17.15	0.0519
Middle		1	0	22.71	0.1866	17.06	0.0508
Highest		1	0	22.46	0.1762	16.81	0.0480
Limit	ERP < 7W			Result		PASS	

LTE Band 26 / 15MHz (Average) (GT - LC = -3.5 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	24.99	0.3155	19.34	0.0859
Middle		1	0	24.96	0.3133	19.31	0.0853
Highest		1	0	24.73	0.2972	19.08	0.0809
Lowest	16QAM	1	74	23.88	0.2443	18.23	0.0665
Middle		1	74	23.87	0.2438	18.22	0.0664
Highest		1	74	23.56	0.2270	17.91	0.0618
Lowest	64QAM	1	0	22.78	0.1897	17.13	0.0516
Middle		1	0	22.79	0.1901	17.14	0.0518
Highest		1	0	22.52	0.1786	16.87	0.0486
Limit	ERP < 7W			Result		PASS	



LTE Band 66 / 1.4MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	1	24.87	0.3069	23.37	0.2173
Middle		3	1	24.80	0.3020	23.30	0.2138
Highest		3	1	23.95	0.2483	22.45	0.1758
Lowest	16QAM	1	3	23.59	0.2286	22.09	0.1618
Middle		1	3	23.56	0.2270	22.06	0.1607
Highest		1	3	23.17	0.2075	21.67	0.1469
Lowest	64QAM	1	3	22.56	0.1803	21.06	0.1276
Middle		1	3	22.53	0.1791	21.03	0.1268
Highest		1	3	22.08	0.1614	20.58	0.1143
Limit	EIRP < 1W			Result		PASS	

LTE Band 66 / 3MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	24.82	0.3034	23.32	0.2148
Middle		1	8	24.79	0.3013	23.29	0.2133
Highest		1	8	24.00	0.2512	22.50	0.1778
Lowest	16QAM	1	8	23.55	0.2265	22.05	0.1603
Middle		1	8	23.56	0.2270	22.06	0.1607
Highest		1	8	23.21	0.2094	21.71	0.1483
Lowest	64QAM	1	8	22.54	0.1795	21.04	0.1271
Middle		1	8	22.49	0.1774	20.99	0.1256
Highest		1	8	22.21	0.1663	20.71	0.1178
Limit	EIRP < 1W			Result		PASS	

LTE Band 66 / 5MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	24	24.88	0.3076	23.38	0.2178
Middle		1	24	24.82	0.3034	23.32	0.2148
Highest		1	24	23.80	0.2399	22.30	0.1698
Lowest	16QAM	1	24	23.62	0.2301	22.12	0.1629
Middle		1	24	23.56	0.2270	22.06	0.1607
Highest		1	24	23.07	0.2028	21.57	0.1435
Lowest	64QAM	1	24	22.57	0.1807	21.07	0.1279
Middle		1	24	22.57	0.1807	21.07	0.1279
Highest		1	24	22.02	0.1592	20.52	0.1127
Limit	EIRP < 1W			Result		PASS	



LTE Band 66 / 10MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.80	0.3020	23.30	0.2138
Middle		1	0	24.76	0.2992	23.26	0.2118
Highest		1	0	24.42	0.2767	22.92	0.1959
Lowest	16QAM	1	0	23.57	0.2275	22.07	0.1611
Middle		1	0	23.54	0.2259	22.04	0.1600
Highest		1	0	23.18	0.2080	21.68	0.1472
Lowest	64QAM	1	0	22.56	0.1803	21.06	0.1276
Middle		1	0	22.48	0.1770	20.98	0.1253
Highest		1	0	22.17	0.1648	20.67	0.1167
Limit	EIRP < 1W		Result		PASS		

LTE Band 66 / 15MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.96	0.3133	23.46	0.2218
Middle		1	0	24.95	0.3126	23.45	0.2213
Highest		1	0	24.58	0.2871	23.08	0.2032
Lowest	16QAM	1	0	23.87	0.2438	22.37	0.1726
Middle		1	0	23.88	0.2443	22.38	0.1730
Highest		1	0	23.44	0.2208	21.94	0.1563
Lowest	64QAM	1	0	22.73	0.1875	21.23	0.1327
Middle		1	0	22.74	0.1879	21.24	0.1330
Highest		1	0	22.40	0.1738	20.90	0.1230
Limit	EIRP < 1W		Result		PASS		

LTE Band 66 / 20MHz (Average) (GT - LC = -1.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.93	0.3112	23.43	0.2203
Middle		1	0	24.97	0.3141	23.47	0.2223
Highest		1	0	24.57	0.2864	23.07	0.2028
Lowest	16QAM	1	0	23.84	0.2421	22.34	0.1714
Middle		1	0	23.79	0.2393	22.29	0.1694
Highest		1	0	23.50	0.2239	22.00	0.1585
Lowest	64QAM	1	0	22.83	0.1919	21.33	0.1358
Middle		1	0	22.77	0.1892	21.27	0.1340
Highest		1	0	22.45	0.1758	20.95	0.1245
Limit	EIRP < 1W		Result		PASS		



Radiated Spurious Emission

LTE Band 13

LTE Band 13 / 5MHz / 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	1560	-63.31	-42.15	-21.16	-74.36	-68.40	1.19	8.43	H
	2344	-60.51	-13	-47.51	-75.64	-67.32	1.42	10.38	H
	3126	-59.57	-13	-46.57	-75.92	-67.13	1.56	11.28	H
									H
									H
									H
	1560	-63.61	-42.15	-21.46	-74.44	-68.70	1.19	8.43	V
	2344	-60.27	-13	-47.27	-75.93	-67.08	1.42	10.38	V
	3126	-59.85	-13	-46.85	-76.46	-67.41	1.56	11.28	V
									V
									V
									V
Middle	1568	-63.28	-42.15	-21.13	-74.24	-68.39	1.20	8.46	H
	2352	-60.62	-13	-47.62	-75.68	-67.44	1.42	10.38	H
	3136	-59.97	-13	-46.97	-76.35	-67.56	1.57	11.31	H
									H
									H
									H
	1568	-63.44	-42.15	-21.29	-74.19	-68.55	1.20	8.46	V
	2352	-60.51	-13	-47.51	-76.11	-67.33	1.42	10.38	V
	3136	-59.45	-13	-46.45	-76.07	-67.04	1.57	11.31	V
									V
									V
									V



Highest	1573	-64.21	-42.15	-22.06	-75.12	-69.34	1.20	8.48	H
	2359	-60.68	-13	-47.68	-75.69	-67.50	1.42	10.39	H
	3146	-60.14	-13	-47.14	-76.57	-67.75	1.58	11.34	H
									H
									H
									H
									H
	1573	-64.22	-42.15	-22.07	-74.93	-69.35	1.20	8.48	V
	2359	-60.57	-13	-47.57	-76.12	-67.39	1.42	10.39	V
	3146	-59.78	-13	-46.78	-76.43	-67.39	1.58	11.34	V
									V
									V
									V
									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)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1560	-63.56	-42.15	-21.41	-74.61	-68.65	1.19	8.43	H
	2344	-60.89	-13	-47.89	-76.02	-67.70	1.42	10.38	H
	3128	-59.79	-13	-46.79	-76.15	-67.36	1.56	11.28	H
									H
									H
									H
									H
	1560	-63.65	-42.15	-21.50	-74.48	-68.74	1.19	8.43	V
	2344	-60.44	-13	-47.44	-76.1	-67.25	1.42	10.38	V
	3128	-59.63	-13	-46.63	-76.24	-67.20	1.56	11.28	V
									V
									V
									V
									V

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



LTE Band 25

LTE Band 25 / 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	3700	-58.77	-13	-45.77	-76.86	-69.08	1.97	12.28	H
	5555	-56.67	-13	-43.67	-77.46	-66.80	2.14	12.28	H
	7403	-51.58	-13	-38.58	-77.18	-59.58	2.17	10.17	H
									H
									H
									H
									H
	3700	-57.80	-13	-44.80	-76.41	-68.11	1.97	12.28	V
	5555	-55.89	-13	-42.89	-77.3	-66.02	2.14	12.28	V
	7403	-50.99	-13	-37.99	-76.55	-58.99	2.17	10.17	V
									V
									V
									V
									V
Middle	3742	-58.33	-13	-45.33	-76.5	-68.59	2.00	12.25	H
	5611	-56.38	-13	-43.38	-77.15	-66.61	2.13	12.36	H
	7487	-51.57	-13	-38.57	-77.03	-59.47	2.12	10.02	H
									H
									H
									H
									H
	3742	-57.54	-13	-44.54	-76.22	-67.80	2.00	12.25	V
	5611	-55.65	-13	-42.65	-77.07	-65.88	2.13	12.36	V
	7487	-51.45	-13	-38.45	-76.78	-59.35	2.12	10.02	V
									V
									V
									V
									V



Highest	3812	-57.52	-13	-44.52	-75.8	-67.70	2.03	12.21	H
	5712	-55.00	-13	-42.00	-76.36	-65.39	2.11	12.50	H
	7620	-50.59	-13	-37.59	-75.4	-58.91	2.11	10.43	H
									H
									H
									H
									H
	3812	-57.13	-13	-44.13	-75.89	-67.31	2.03	12.21	V
	5712	-54.40	-13	-41.40	-76.32	-64.79	2.11	12.50	V
	7620	-50.48	-13	-37.48	-75.33	-58.80	2.11	10.43	V
									V
									V
									V
									V

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



LTE Band 26

LTE Band 26 / 15MHz / 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	1648	-64.50	-13	-51.50	-75.22	-69.89	1.23	8.76	H
	2472	-61.45	-13	-48.45	-75.98	-68.34	1.44	10.48	H
	3296	-60.50	-13	-47.50	-76.55	-68.44	1.70	11.79	H
									H
									H
									H
									H
	1648	-62.38	-13	-49.38	-72.98	-67.77	1.23	8.76	V
	2472	-61.40	-13	-48.40	-76.22	-68.29	1.44	10.48	V
	3296	-60.29	-13	-47.29	-76.74	-68.23	1.70	11.79	V
									V
									V
									V
									V
Middle	1656	-64.38	-13	-51.38	-75.11	-69.79	1.23	8.79	H
	2488	-61.44	-13	-48.44	-75.93	-68.34	1.44	10.49	H
	3320	-60.73	-13	-47.73	-76.64	-68.72	1.72	11.86	H
									H
									H
									H
									H
	1656	-61.64	-13	-48.64	-72.24	-67.05	1.23	8.79	V
	2488	-61.02	-13	-48.02	-75.75	-67.92	1.44	10.49	V
	3320	-60.28	-13	-47.28	-76.65	-68.27	1.72	11.86	V
									V
									V
									V
									V



Highest	1672	-63.43	-13	-50.43	-74.19	-68.90	1.24	8.85	H
	2504	-61.75	-13	-48.75	-76.21	-68.66	1.44	10.50	H
	3339	-60.59	-13	-47.59	-76.37	-68.62	1.74	11.92	H
									H
									H
									H
									H
	1672	-63.31	-13	-50.31	-73.96	-68.78	1.24	8.85	V
	2504	-61.51	-13	-48.51	-76.16	-68.42	1.44	10.50	V
	3339	-59.98	-13	-46.98	-76.28	-68.01	1.74	11.92	V
									V
									V
									V
									V

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



LTE Band 66

LTE Band 66 / 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	3420	-59.91	-13	-46.91	-76.24	-70.27	1.80	12.16	H
	5135	-56.59	-13	-43.59	-77.24	-66.41	2.30	12.13	H
	6843	-53.14	-13	-40.14	-76.79	-61.83	2.37	11.06	H
									H
									H
									H
									H
	3420	-59.35	-13	-46.35	-76.31	-69.71	1.80	12.16	V
	5135	-55.66	-13	-42.66	-76.88	-65.48	2.30	12.13	V
	6843	-52.15	-13	-39.15	-76.35	-60.84	2.37	11.06	V
									V
									V
									V
									V
Middle	3469	-59.19	-13	-46.19	-76.05	-69.65	1.84	12.31	H
	5205	-57.06	-13	-44.06	-77.76	-66.93	2.28	12.14	H
	6941	-52.75	-13	-39.75	-76.69	-61.31	2.40	10.96	H
									H
									H
									H
									H
	3469	-59.06	-13	-46.06	-76.44	-69.52	1.84	12.31	V
	5205	-56.24	-13	-43.24	-77.48	-66.11	2.28	12.14	V
	6941	-52.39	-13	-39.39	-76.95	-60.95	2.40	10.96	V
									V
									V
									V
									V



Highest	3525	-58.98	-13	-45.98	-76.35	-69.48	1.88	12.39	H
	5282	-56.49	-13	-43.49	-77.27	-66.40	2.24	12.16	H
	7046	-51.97	-13	-38.97	-76.32	-60.40	2.39	10.82	H
									H
									H
									H
									H
	3525	-58.64	-13	-45.64	-76.49	-69.14	1.88	12.39	V
	5282	-56.09	-13	-43.09	-77.4	-66.00	2.24	12.16	V
	7046	-51.52	-13	-38.52	-76.47	-59.95	2.39	10.82	V
									V
									V
									V
									V

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



Verification and validation of Mobile Country Code

1. For this product when the Mobile Country Code (=MCC) is set to US MCC, the below bands will be disabled.

-LTE B19

-LTE B38

-LTE B40

-LTE B46

The following pages show that when US MCC is connected on the base station, LTE B19/38/40/46 cannot be registered and no capability (i.e. disabled). On the other hand, when non-US MCC is connected, the above bands are able to register and have capability.



Verification and validation of Mobile Country Code

➤ UE don't show B19, B38, B40, B46 with US MCC (310)

The screenshot shows the test software interface with the following details:

- Phone1:** LTE, 30.70#038
- UL Channel:** 20525 ch, Operation Band 5
- TPC Pattern:** All +3dB, Channel Bandwidth 10 MHz
- Input Level:** 35.0 dBm, Output Level -57.2 dBm
- MNC:** [1+CI] MNC, This sets MNC (Mobile Network Code) of LAI (Local Area Identification).
- MT8821C:** 2019/08/12 11:05, RF Output: On
- Measurement:** SequenceMonitor (Idle state), UE Report (IMEI, UE Category, etc.)
- Signaling Trace:** Shows paging messages from SFN 149, 21, and 277.

The screenshot shows the test software interface with a 'UE Capability Information Viewer' dialog box open. The dialog displays the following information:

- Access Stratum Release:** Rel14
- UE Category:** 4,6,8,11
- UE Category DL:** 11,16,19
- UE Category UL:** 5
- Supported Band:** 2,4,5,12,13,25,26,29,41,66
- Band Combinations:** A table with DL CA Config and UL CA Config columns.

DL CA Config	UL CA Config
5A	5A
26A	26A
12A	12A
13A	13A
4A	4A
66A	66A

The background interface shows the UE is in a 'Connected' state with UE Power at 16.4 dBm.



Verification and validation of Mobile Country Code

➤ UE Shows B19, B38, B40, B46 with Non-US MCC (440)

The screenshot shows the UE configuration interface with the following details:

- Phone1:** LTE, 30.70#038
- UL Channel:** 18300 ch, Operation Band 1
- TPC Pattern:** All +3dB, Channel Bandwidth 10 MHz
- Input Level:** 35.0 dBm, Output Level -57.2 dBm
- Operation Band:** BAND (This sets the operating band (see Table 2.1.2-4).)
- MT8821C:** 2019/08/12 11:27, RF Output: On
- UE Power:** -16.4 dBm
- Measurement:** SequenceMonitor (Idle state), UE Report (IMSI(DEC), IMEI, UE Category, etc.)
- Signaling Trace:** Shows RRCConnectionRelease at 00:05:46.167 (00:38.535).

The screenshot shows the UE configuration interface with a dialog box open:

- Phone1:** LTE, 30.70#038
- UL Channel:** 18300 ch, Operation Band 1
- TPC Pattern:** All +3dB, Channel Bandwidth 10 MHz
- Input Level:** 35.0 dBm, Output Level -57.2 dBm
- Input Level (ILVL):** This sets the RF signal level to be input into MT8820C/MT8821C.
- MT8821C:** 2019/08/14 18:02, RF Output: On
- UE Power:** 4.7 dBm
- Measurement:** SequenceMonitor (Connected state)
- Signaling Trace:** Shows SecurityModeComplete at 01:06:35.282 (00:00.000).
- Dialog Box (UE Capability Information Viewer):**
 - Access Stratum Release: Rel14
 - UE Category: 4,6,9,11
 - UE Category DL: 11,16,18
 - UE Category UL: 5
 - Supported Band: 1,2,3,4,5,7,8,12,13,17,19,20,25,26,28,29,32,34,38,39,4,0,41,46,66
 - Band Combinations:

DL CA Config	UL CA Config
1A	1A
8A	8A
41A	41A
12A	12A
28A	28A
3A	3A