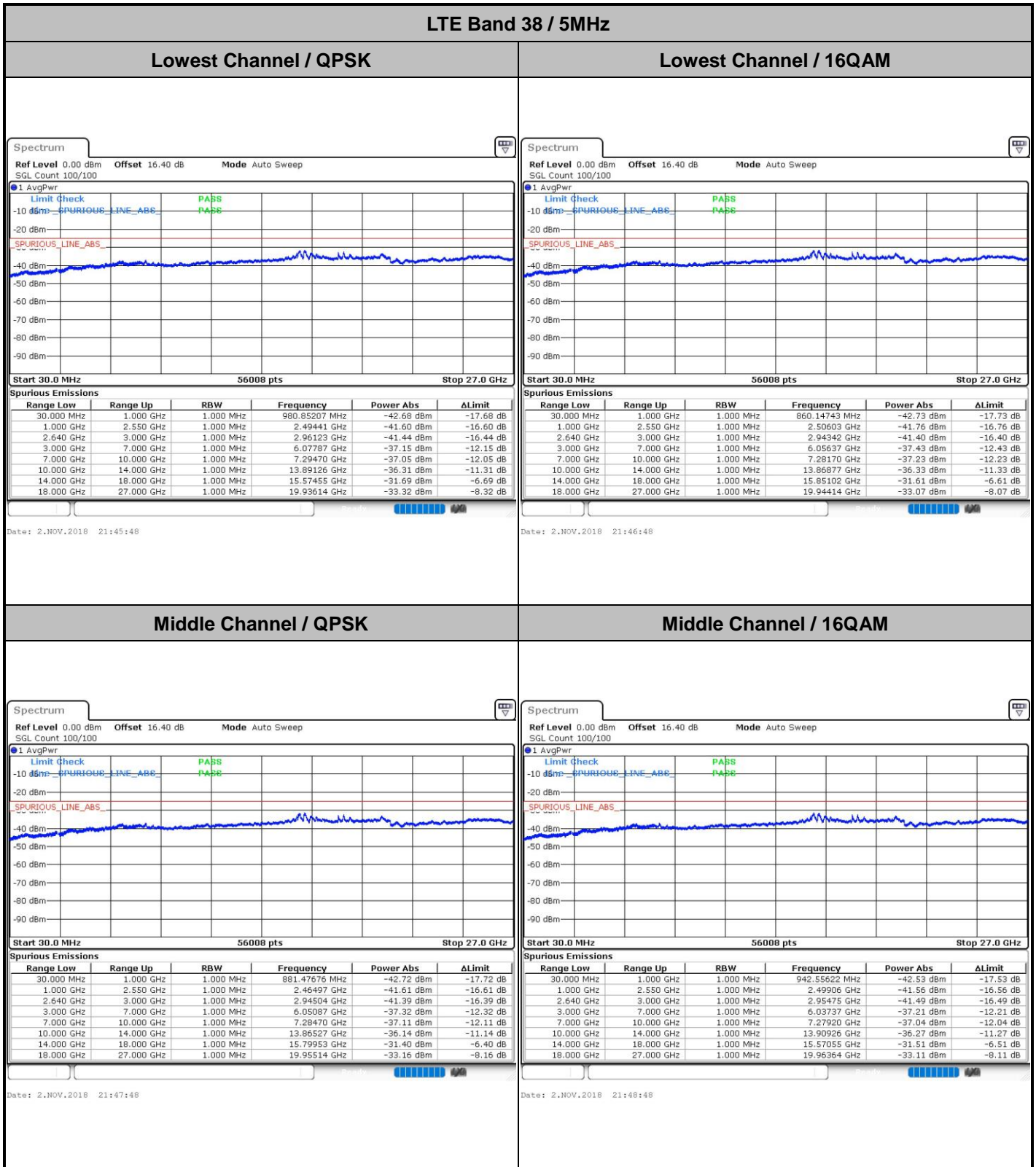




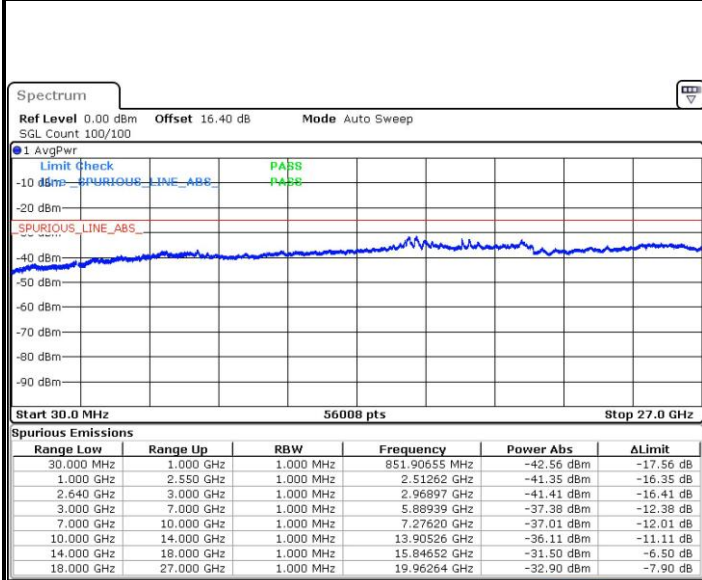
Conducted Spurious Emission





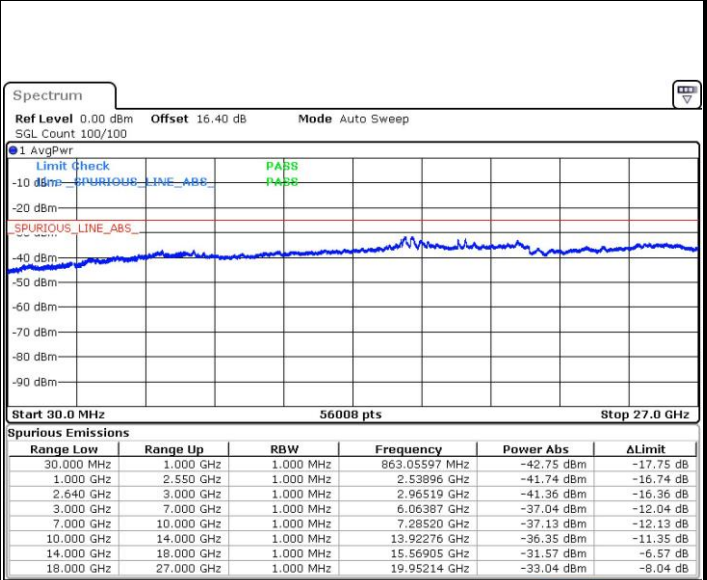
LTE Band 38 / 5MHz

Highest Channel / QPSK



Date: 2.NOV.2018 21:49:47

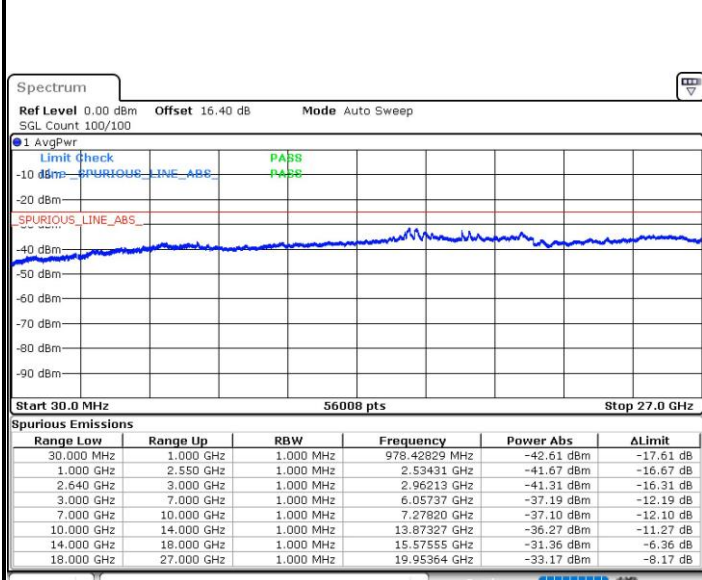
Highest Channel / 16QAM



Date: 2.NOV.2018 21:50:47

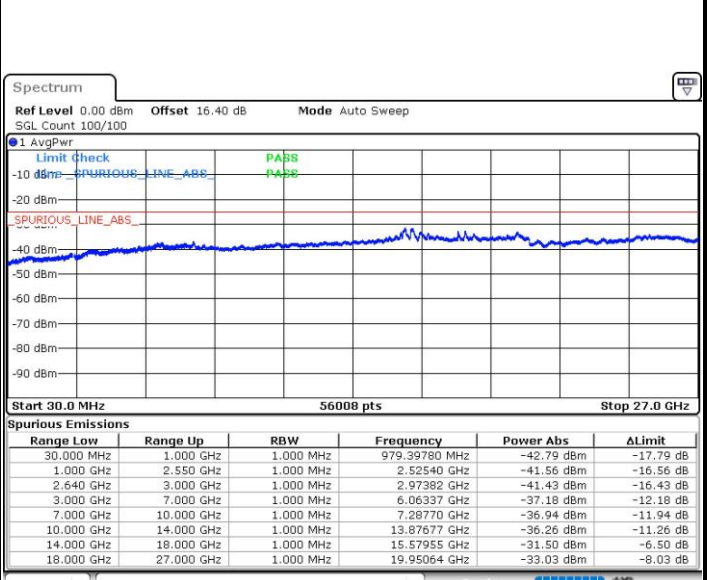
LTE Band 38 / 10MHz

Lowest Channel / QPSK



Date: 2.NOV.2018 21:51:47

Lowest Channel / 16QAM



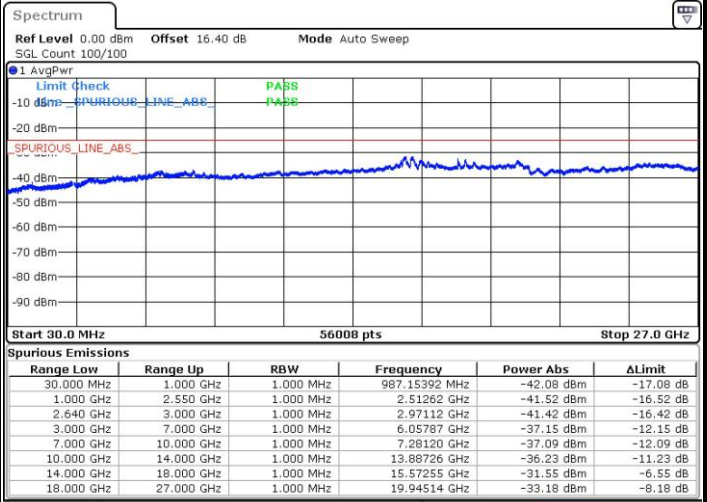
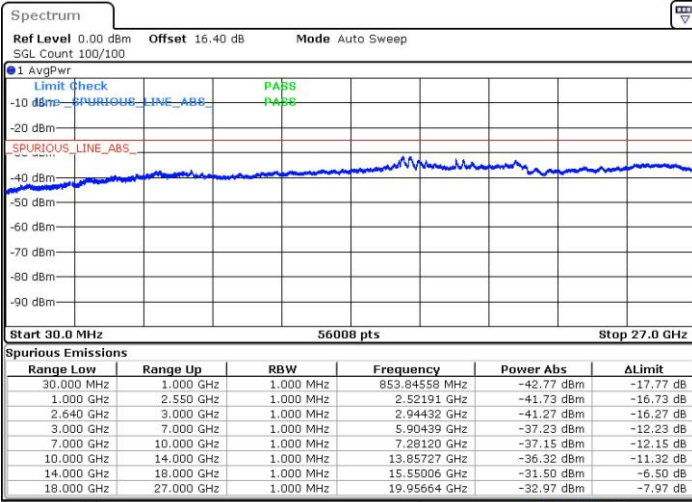
Date: 2.NOV.2018 21:52:47



LTE Band 38 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

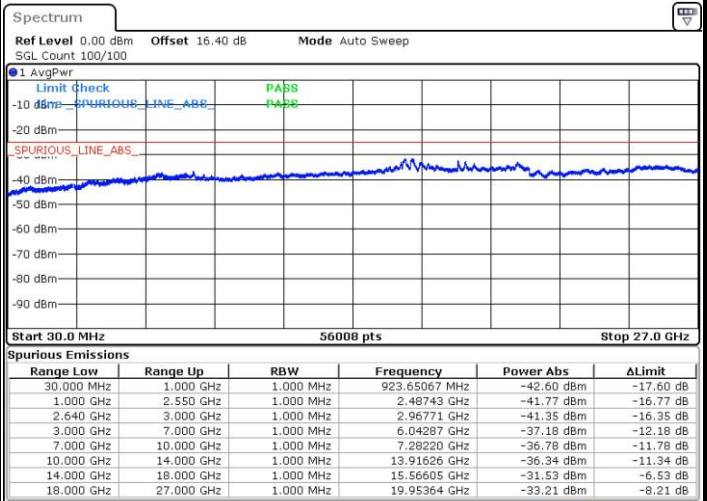
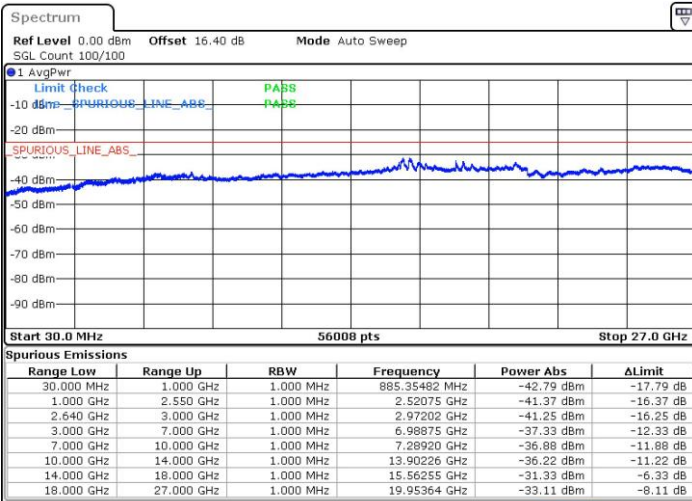


Date: 2.NOV.2018 21:53:46

Date: 2.NOV.2018 21:54:46

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 2.NOV.2018 21:55:46

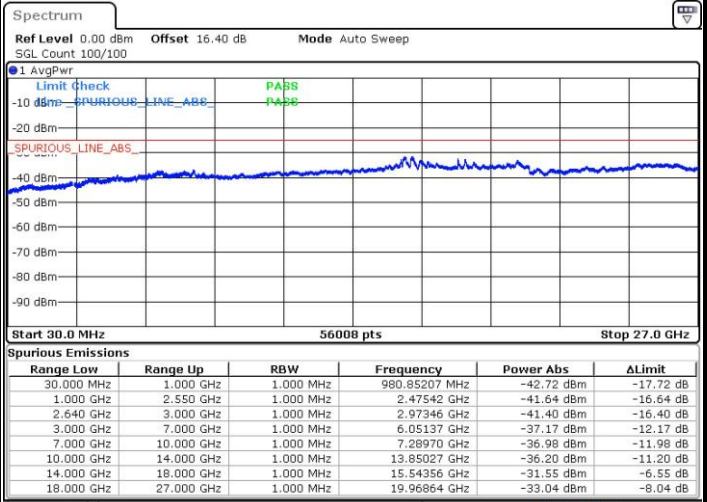
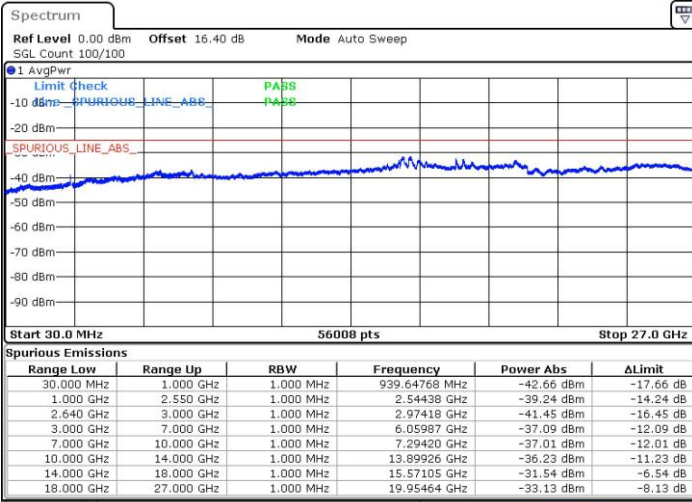
Date: 2.NOV.2018 21:56:46



LTE Band 38 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

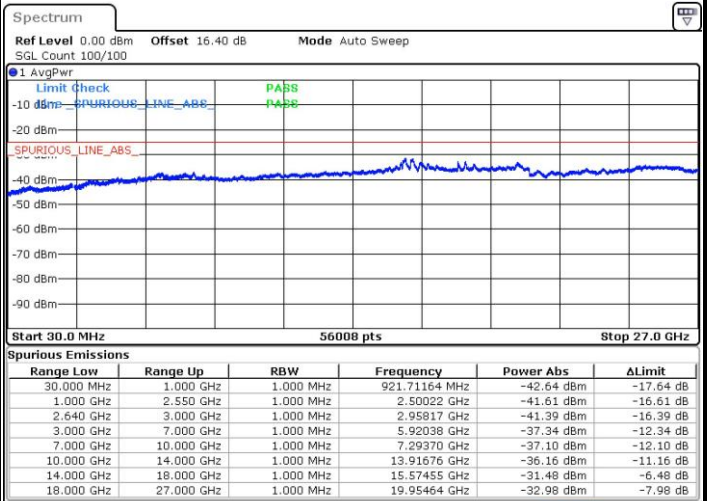
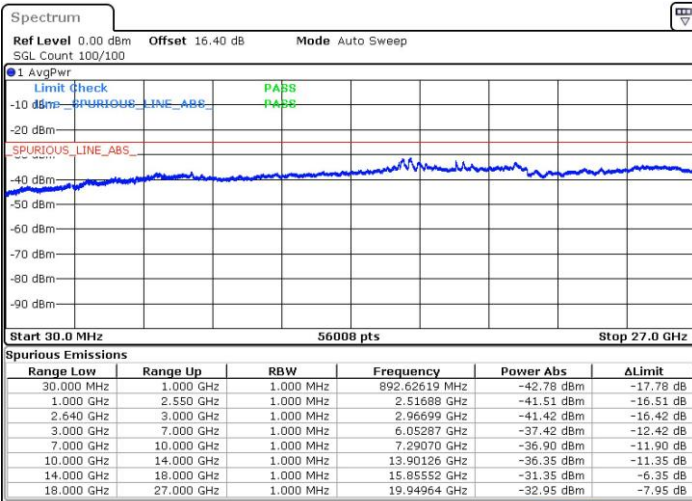


Date: 2.NOV.2018 21:57:46

Date: 2.NOV.2018 21:58:46

Middle Channel / QPSK

Middle Channel / 16QAM



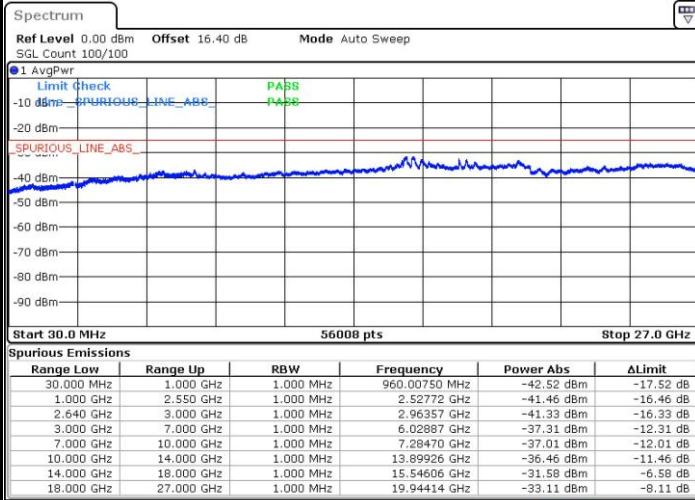
Date: 2.NOV.2018 22:01:51

Date: 2.NOV.2018 22:02:51



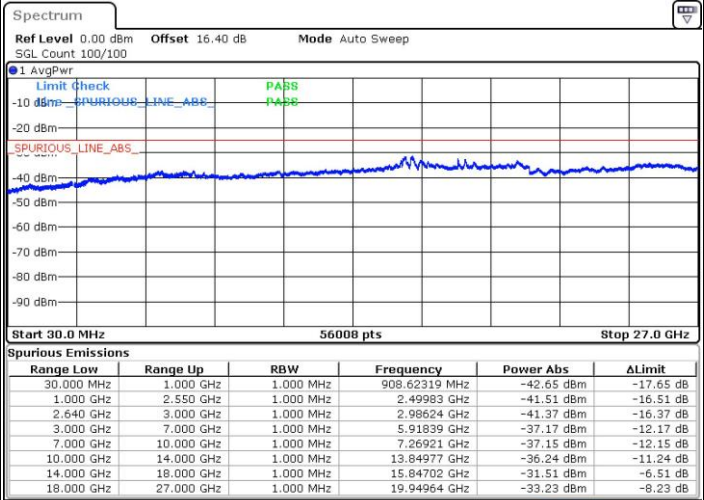
LTE Band 38 / 15MHz

Highest Channel / QPSK



Date: 2.NOV.2018 22:03:51

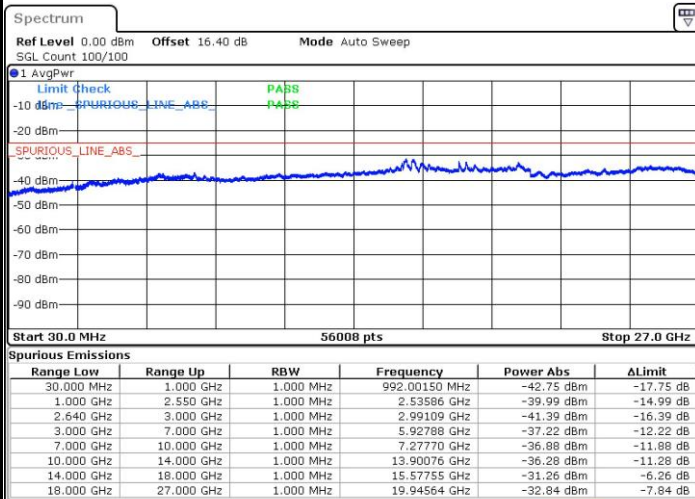
Highest Channel / 16QAM



Date: 2.NOV.2018 22:04:50

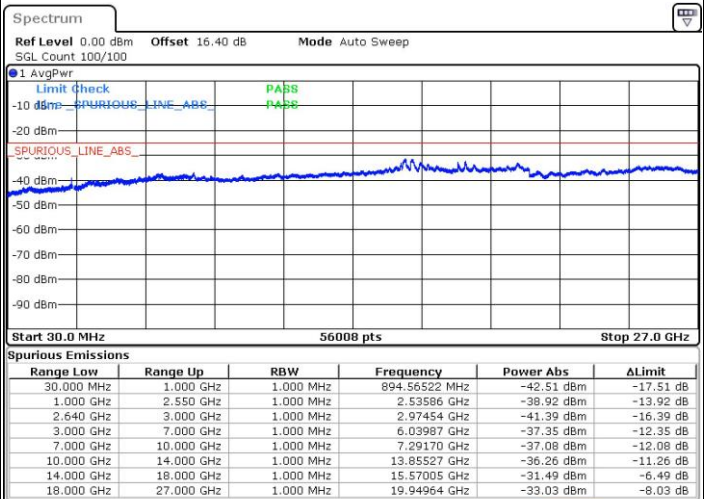
LTE Band 38 / 20MHz

Lowest Channel / QPSK



Date: 2.NOV.2018 22:05:50

Lowest Channel / 16QAM



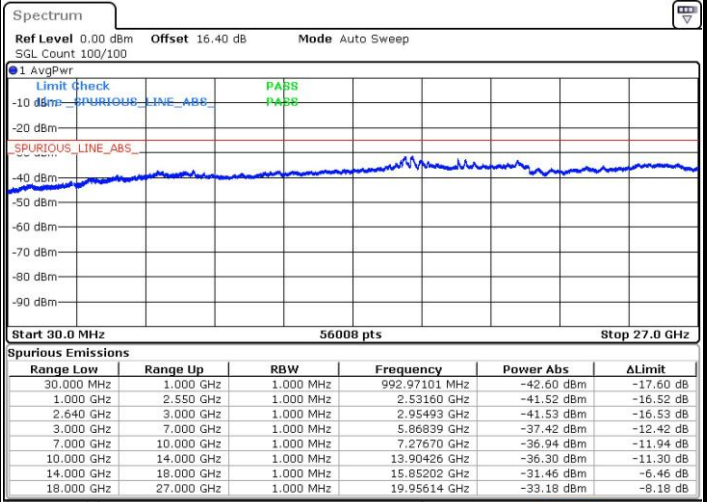
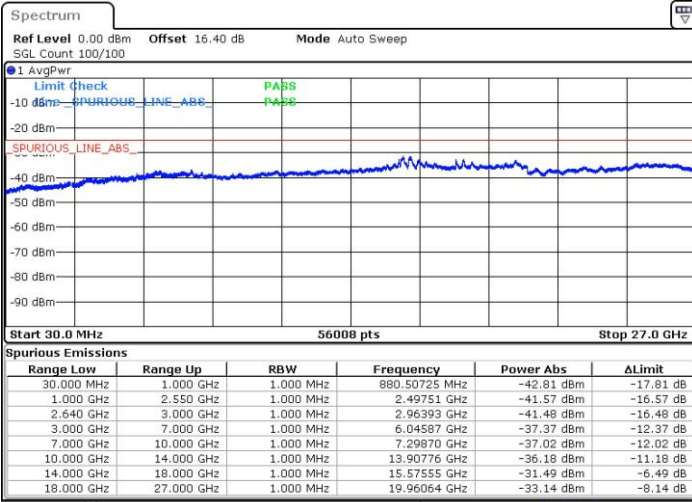
Date: 2.NOV.2018 22:06:50



LTE Band 38 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

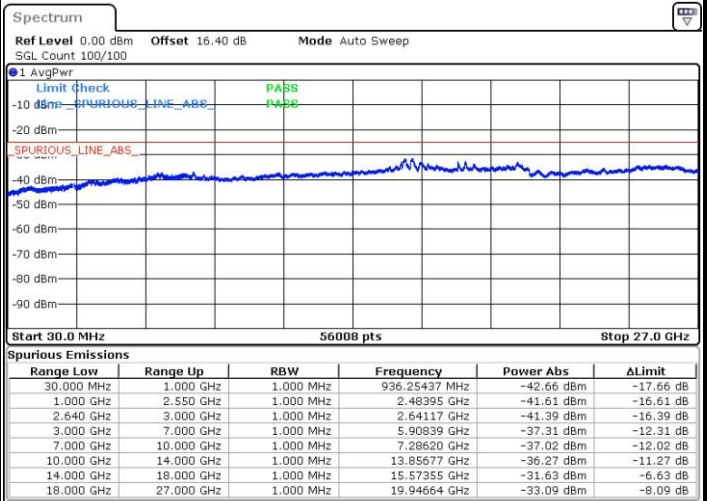
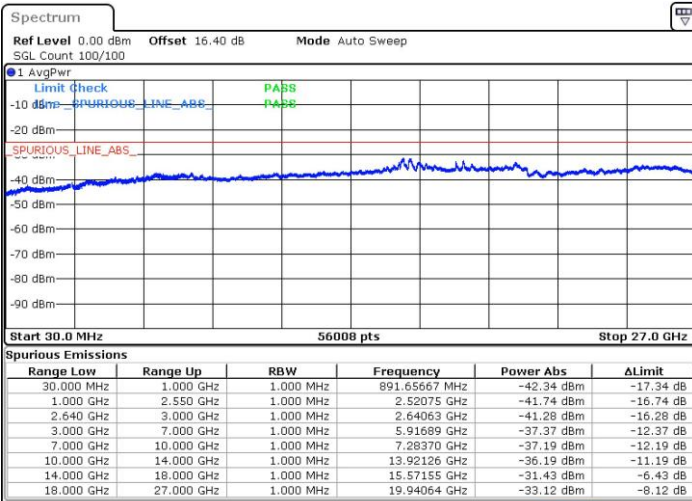


Date: 2.NOV.2018 22:07:50

Date: 2.NOV.2018 22:08:50

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 2.NOV.2018 22:09:50

Date: 2.NOV.2018 22:10:50



Frequency Stability

Test Conditions		LTE Band 38 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0028	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0000	
20	Maximum Voltage	0.0035	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of ERP/EIRP and Radiated Test

ERP/EIRP

<Main Antenna>

LTE Band 5 / 1.4MHz (Average) (GT - LC = -2.28 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	1	23.52	0.2249	19.09	0.0811
Middle		3	1	23.54	0.2259	19.11	0.0815
Highest		3	1	23.56	0.2270	19.13	0.0818
Lowest	16QAM	1	3	22.84	0.1923	18.41	0.0693
Middle		1	3	22.89	0.1945	18.46	0.0701
Highest		1	3	22.92	0.1959	18.49	0.0706
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz (Average) (GT - LC = -2.28 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.50	0.2239	19.07	0.0807
Middle		1	0	23.47	0.2223	19.04	0.0802
Highest		1	0	23.48	0.2228	19.05	0.0804
Lowest	16QAM	1	14	22.88	0.1941	18.45	0.0700
Middle		1	14	22.81	0.1910	18.38	0.0689
Highest		1	14	22.92	0.1959	18.49	0.0706
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 5MHz (Average) (GT - LC = -2.28 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	12	23.56	0.2270	19.13	0.0818
Middle		1	12	23.55	0.2265	19.12	0.0817
Highest		1	12	23.56	0.2270	19.13	0.0818
Lowest	16QAM	1	12	22.97	0.1982	18.54	0.0714
Middle		1	12	22.96	0.1977	18.53	0.0713
Highest		1	12	22.95	0.1972	18.52	0.0711
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 10MHz (Average) (GT - LC = -2.28 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	25	23.59	0.2286	19.16	0.0824
Middle		1	25	23.59	0.2286	19.16	0.0824
Highest		1	25	23.61	0.2296	19.18	0.0828
Lowest	16QAM	1	25	22.96	0.1977	18.53	0.0713
Middle		1	25	22.94	0.1968	18.51	0.0710
Highest		1	25	22.92	0.1959	18.49	0.0706
Limit	ERP < 7W			Result		PASS	



LTE Band 7 / 5MHz (Average) (GT - LC = -0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	23.39	0.2183	22.69	0.1858
Middle		1	12	23.69	0.2339	22.99	0.1991
Highest		1	12	23.80	0.2399	23.10	0.2042
Lowest	16QAM	1	24	22.34	0.1714	21.64	0.1459
Middle		1	24	22.67	0.1849	21.97	0.1574
Highest		1	24	22.98	0.1986	22.28	0.1690
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 10MHz (Average) (GT - LC = -0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	23.29	0.2133	22.59	0.1816
Middle		1	25	23.62	0.2301	22.92	0.1959
Highest		1	25	23.84	0.2421	23.14	0.2061
Lowest	16QAM	1	0	22.43	0.1750	21.73	0.1489
Middle		1	0	22.64	0.1837	21.94	0.1563
Highest		1	0	22.98	0.1986	22.28	0.1690
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 15MHz (Average) (GT - LC = -0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	23.34	0.2158	22.64	0.1837
Middle		1	37	23.67	0.2328	22.97	0.1982
Highest		1	37	23.80	0.2399	23.10	0.2042
Lowest	16QAM	1	37	22.57	0.1807	21.87	0.1538
Middle		1	37	22.90	0.1950	22.20	0.1660
Highest		1	37	22.99	0.1991	22.29	0.1694
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 20MHz (Average) (GT - LC = -0.7 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	23.34	0.2158	22.64	0.1837
Middle		1	49	23.63	0.2307	22.93	0.1963
Highest		1	49	23.85	0.2427	23.15	0.2065
Lowest	16QAM	1	49	22.53	0.1791	21.83	0.1524
Middle		1	49	22.80	0.1905	22.10	0.1622
Highest		1	49	23.00	0.1995	22.30	0.1698
Limit	EIRP < 2W			Result		PASS	



LTE Band 38 / 5MHz (Peak) (GT - LC = -0.84 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	23.59	0.2286	22.75	0.1884
Middle		1	12	23.59	0.2286	22.75	0.1884
Highest		1	12	23.52	0.2249	22.68	0.1854
Lowest	16QAM	1	12	22.97	0.1982	22.13	0.1633
Middle		1	12	23.00	0.1995	22.16	0.1644
Highest		1	12	22.89	0.1945	22.05	0.1603
Limit	EIRP < 2W			Result		PASS	

LTE Band 38 / 10MHz (Peak) (GT - LC = -0.84 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	23.58	0.2280	22.74	0.1879
Middle		1	25	23.59	0.2286	22.75	0.1884
Highest		1	25	23.57	0.2275	22.73	0.1875
Lowest	16QAM	1	0	22.94	0.1968	22.10	0.1622
Middle		1	0	22.98	0.1986	22.14	0.1637
Highest		1	0	22.95	0.1972	22.11	0.1626
Limit	EIRP < 2W			Result		PASS	

LTE Band 38 / 15MHz (Peak) (GT - LC = -0.84 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.56	0.2270	22.72	0.1871
Middle		1	0	23.59	0.2286	22.75	0.1884
Highest		1	0	23.58	0.2280	22.74	0.1879
Lowest	16QAM	1	37	22.95	0.1972	22.11	0.1626
Middle		1	37	22.99	0.1991	22.15	0.1641
Highest		1	37	22.90	0.1950	22.06	0.1607
Limit	EIRP < 2W			Result		PASS	

LTE Band 38 / 20MHz (Peak) (GT - LC = -0.84 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	23.60	0.2291	22.76	0.1888
Middle		1	49	23.57	0.2275	22.73	0.1875
Highest		1	49	23.53	0.2254	22.69	0.1858
Lowest	16QAM	1	49	22.99	0.1991	22.15	0.1641
Middle		1	49	23.00	0.1995	22.16	0.1644
Highest		1	49	22.91	0.1954	22.07	0.1611
Limit	EIRP < 2W			Result		PASS	



<Aux. Antenna>

LTE Band 5 / 1.4MHz (Average) (GT - LC = -3.57 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	1	23.52	0.2249	17.80	0.0603
Middle		3	1	23.54	0.2259	17.82	0.0605
Highest		3	1	23.56	0.2270	17.84	0.0608
Lowest	16QAM	1	3	22.84	0.1923	17.12	0.0515
Middle		1	3	22.89	0.1945	17.17	0.0521
Highest		1	3	22.92	0.1959	17.20	0.0525
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz (Average) (GT - LC = -3.57 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.50	0.2239	17.78	0.0600
Middle		1	0	23.47	0.2223	17.75	0.0596
Highest		1	0	23.48	0.2228	17.76	0.0597
Lowest	16QAM	1	14	22.88	0.1941	17.16	0.0520
Middle		1	14	22.81	0.1910	17.09	0.0512
Highest		1	14	22.92	0.1959	17.20	0.0525
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 5MHz (Average) (GT - LC = -3.57 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	12	23.56	0.2270	17.84	0.0608
Middle		1	12	23.55	0.2265	17.83	0.0607
Highest		1	12	23.56	0.2270	17.84	0.0608
Lowest	16QAM	1	12	22.97	0.1982	17.25	0.0531
Middle		1	12	22.96	0.1977	17.24	0.0530
Highest		1	12	22.95	0.1972	17.23	0.0528
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 10MHz (Average) (GT - LC = -3.57 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	25	23.59	0.2286	17.87	0.0612
Middle		1	25	23.59	0.2286	17.87	0.0612
Highest		1	25	23.61	0.2296	17.89	0.0615
Lowest	16QAM	1	25	22.96	0.1977	17.24	0.0530
Middle		1	25	22.94	0.1968	17.22	0.0527
Highest		1	25	22.92	0.1959	17.20	0.0525
Limit	ERP < 7W			Result		PASS	



Radiated Spurious Emission

<Main Antenna>

Part 22H LTE Band 5

LTE Band 5 / 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	1654	-56.77	-13	-43.77	-69.32	-62.18	1.23	8.79	H
	2480	-56.24	-13	-43.24	-71.57	-63.14	1.44	10.48	H
	3304	-55.71	-13	-42.71	-72.78	-63.66	1.71	11.81	H
									H
									H
									H
									H
	1654	-59.91	-13	-46.91	-70.17	-65.32	1.23	8.79	V
	2480	-55.82	-13	-42.82	-70.54	-62.72	1.44	10.48	V
	3304	-54.52	-13	-41.52	-71.14	-62.47	1.71	11.81	V
									V
									V
									V
									V



Middle	1672	-56.43	-13	-43.43	-69.19	-61.90	1.24	8.85	H
	2512	-55.05	-13	-42.05	-70.2	-61.97	1.44	10.51	H
	3344	-49.36	-13	-36.36	-66.3	-57.40	1.74	11.93	H
									H
									H
									H
									H
	1672	-58.54	-13	-45.54	-68.87	-64.01	1.24	8.85	V
	2512	-56.66	-13	-43.66	-71.36	-63.58	1.44	10.51	V
	3344	-50.33	-13	-37.33	-66.81	-58.37	1.74	11.93	V
									V
									V
									V
									V
Highest	1696	-55.04	-13	-42.04	-68.24	-60.59	1.24	8.94	H
	2536	-55.85	-13	-42.85	-70.94	-62.79	1.44	10.53	H
	3384	-57.98	-13	-44.98	-74.71	-66.11	1.77	12.05	H
									H
									H
									H
									H
	1696	-60.93	-13	-47.93	-71.47	-66.48	1.24	8.94	V
	2536	-56.07	-13	-43.07	-70.75	-63.01	1.44	10.53	V
	3384	-57.10	-13	-44.10	-73.37	-65.23	1.77	12.05	V
									V
									V
									V
									V
								V	

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



Part 27M LTE Band 7

Table with 10 columns: 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). Rows are grouped into 'Lowest' and 'Middle' categories.



Highest	5124	-38.27	-25	-13.27	-31.55	-48.09	2.31	12.12	H
	7680	-39.80	-25	-14.80	-38.31	-48.33	2.11	10.65	H
	10236	-48.29	-25	-23.29	-52.71	-58.01	2.17	11.89	H
	12804	-50.03	-25	-25.03	-54.89	-60.44	2.53	12.94	H
	15356	-39.17	-25	-14.17	-46.67	-51.58	2.47	14.88	H
	17921	-51.68	-25	-26.68	-62.57	-58.12	2.64	9.08	H
									H
	5124	-43.51	-25	-18.51	-36.74	-53.33	2.31	12.12	V
	7680	-40.91	-25	-15.91	-39	-49.44	2.11	10.65	V
	10236	-54.69	-25	-29.69	-58.33	-64.41	2.17	11.89	V
	12804	-52.65	-25	-27.65	-56.63	-63.06	2.53	12.94	V
	15356	-45.76	-25	-20.76	-52.32	-58.17	2.47	14.88	V
	17921	-48.57	-25	-23.57	-64.51	-55.01	2.64	9.08	V
									V

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



Part 27M LTE Band 38

LTE Band 38 / 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	5160	-37.40	-25	-12.40	-30.8	-47.24	2.29	12.13	H
	7740	-42.55	-25	-17.55	-40.99	-51.30	2.11	10.86	H
	10320	-47.84	-25	-22.84	-52.19	-57.46	2.31	11.93	H
	12900	-49.41	-25	-24.41	-54.29	-59.71	2.52	12.82	H
	15483	-36.52	-25	-11.52	-44.29	-49.64	2.40	15.52	H
									H
									H
	5160	-46.96	-25	-21.96	-40.29	-56.80	2.29	12.13	V
	7740	-44.21	-25	-19.21	-42.24	-52.96	2.11	10.86	V
	10320	-55.72	-25	-30.72	-59.44	-65.34	2.31	11.93	V
	12900	-55.72	-25	-30.72	-55.45	-66.02	2.52	12.82	V
	15483	-46.72	-25	-21.72	-53.99	-59.84	2.40	15.52	V
									V
									V
Middle	5184	-39.61	-25	-14.61	-33.12	-49.46	2.28	12.14	H
	7788	-40.61	-25	-15.61	-38.99	-49.53	2.11	11.04	H
	10380	-47.33	-25	-22.33	-51.69	-56.88	2.40	11.95	H
	12972	-47.83	-25	-22.83	-52.73	-58.05	2.51	12.73	H
	15575	-41.83	-25	-16.83	-49.76	-55.27	2.42	15.86	H
									H
									H
	5184	-47.29	-25	-22.29	-40.68	-57.14	2.28	12.14	V
	7788	-42.05	-25	-17.05	-40.02	-50.97	2.11	11.04	V
	10380	-55.35	-25	-30.35	-59.12	-64.90	2.40	11.95	V
	12972	-49.37	-25	-24.37	-53.25	-59.59	2.51	12.73	V
	15575	-44.57	-25	-19.57	-51.83	-58.01	2.42	15.86	V
									V
									V



Highest	5220	-39.78	-25	-14.78	-33.4	-49.65	2.27	12.14	H
	7824	-42.58	-25	-17.58	-41.38	-51.63	2.11	11.17	H
	10440	-47.76	-25	-22.76	-52.1	-57.24	2.50	11.98	H
	13056	-48.27	-25	-23.27	-53.29	-58.46	2.51	12.70	H
	15655	-45.55	-25	-20.55	-53.61	-59.23	2.44	16.13	H
									H
									H
	5220	-49.82	-25	-24.82	-43.37	-59.69	2.27	12.14	V
	7824	-44.29	-25	-19.29	-42.66	-53.34	2.11	11.17	V
	10440	-54.68	-25	-29.68	-58.51	-64.16	2.50	11.98	V
	13056	-52.71	-25	-27.71	-56.73	-62.90	2.51	12.70	V
	15655	-51.43	-25	-26.43	-58.71	-65.11	2.44	16.13	V
									V
									V

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



<Aux. Antenna>

Part 22H LTE Band 5

LTE Band 5 / 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	1656	-57.91	-13	-44.91	-70.46	-63.32	1.23	8.79	H
	2480	-54.97	-13	-41.97	-70.3	-61.87	1.44	10.48	H
	3304	-54.79	-13	-41.79	-71.86	-62.74	1.71	11.81	H
									H
									H
									H
									H
	1656	-59.88	-13	-46.88	-70.14	-65.29	1.23	8.79	V
	2480	-57.88	-13	-44.88	-72.6	-64.78	1.44	10.48	V
	3304	-55.88	-13	-42.88	-72.5	-63.83	1.71	11.81	V
									V
									V
									V
									V



Middle	1672	-58.31	-13	-45.31	-71.07	-63.78	1.24	8.85	H
	2512	-54.35	-13	-41.35	-69.5	-61.27	1.44	10.51	H
	3344	-55.32	-13	-42.32	-72.26	-63.36	1.74	11.93	H
									H
									H
									H
									H
	1672	-57.71	-13	-44.71	-68.05	-63.18	1.24	8.85	V
	2512	-58.52	-13	-45.52	-73.22	-65.44	1.44	10.51	V
	3344	-55.40	-13	-42.40	-71.88	-63.44	1.74	11.93	V
									V
									V
									V
									V
Highest	1696	-59.38	-13	-46.38	-72.58	-64.93	1.24	8.94	H
	2536	-56.18	-13	-43.18	-71.27	-63.12	1.44	10.53	H
	3384	-50.95	-13	-37.95	-67.68	-59.08	1.77	12.05	H
									H
									H
									H
									H
	1696	-58.58	-13	-45.58	-69.12	-64.13	1.24	8.94	V
	2536	-58.03	-13	-45.03	-72.72	-64.97	1.44	10.53	V
	3384	-50.80	-13	-37.80	-67.07	-58.93	1.77	12.05	V
									V
									V
									V
									V
								V	

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