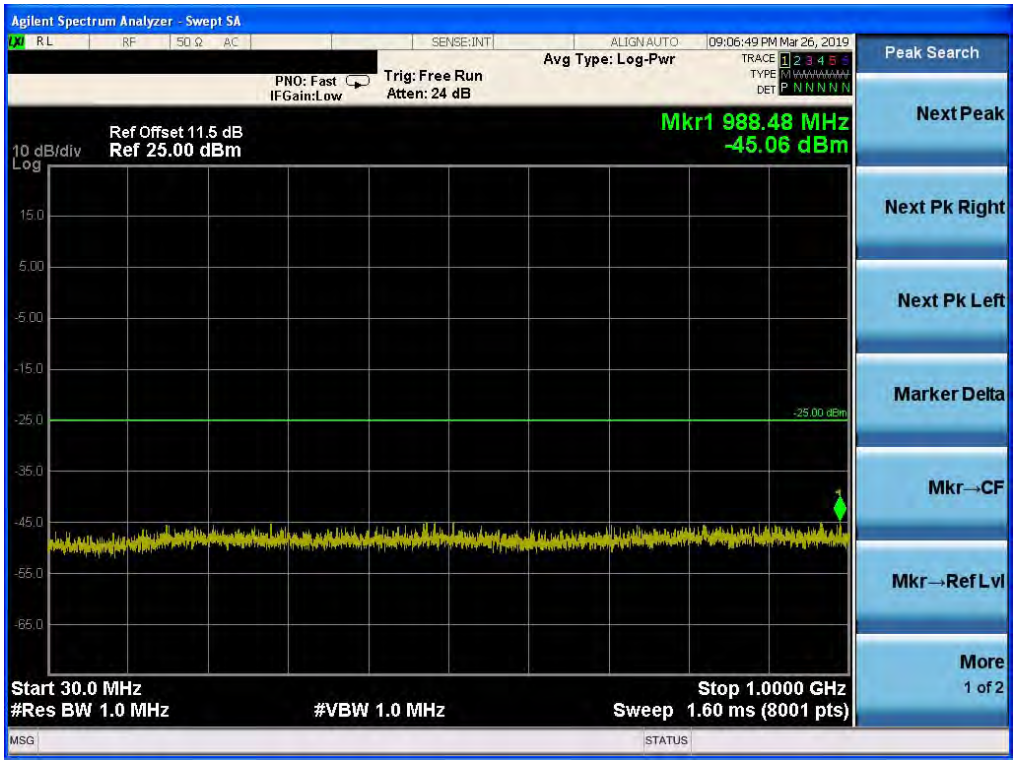
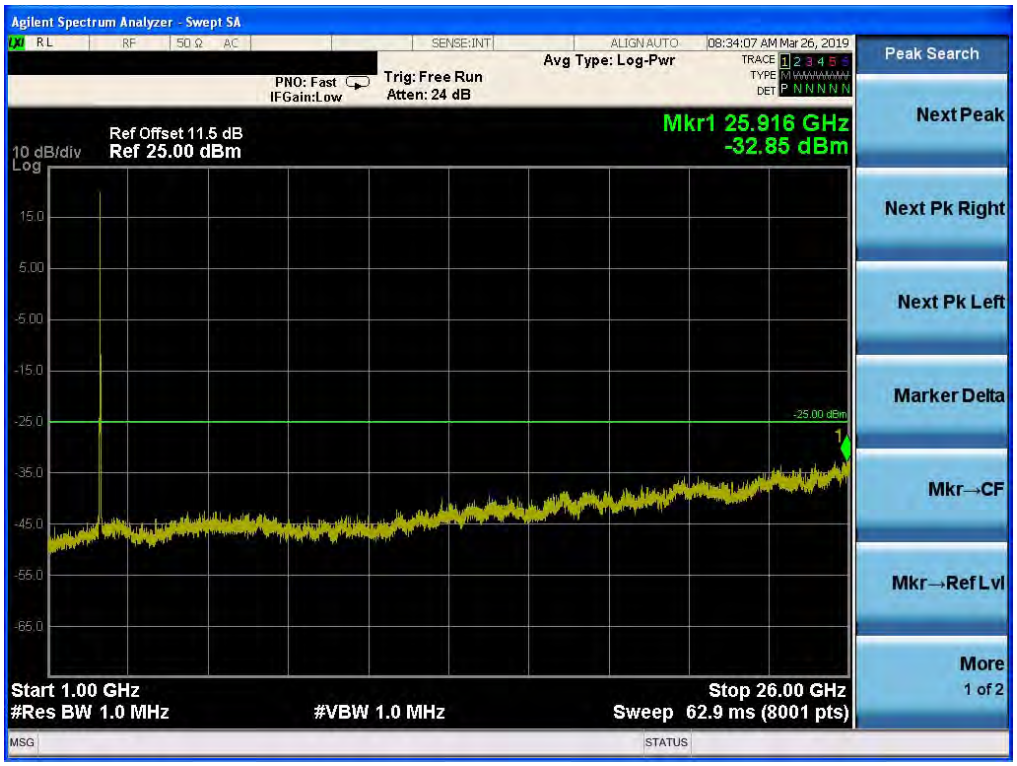
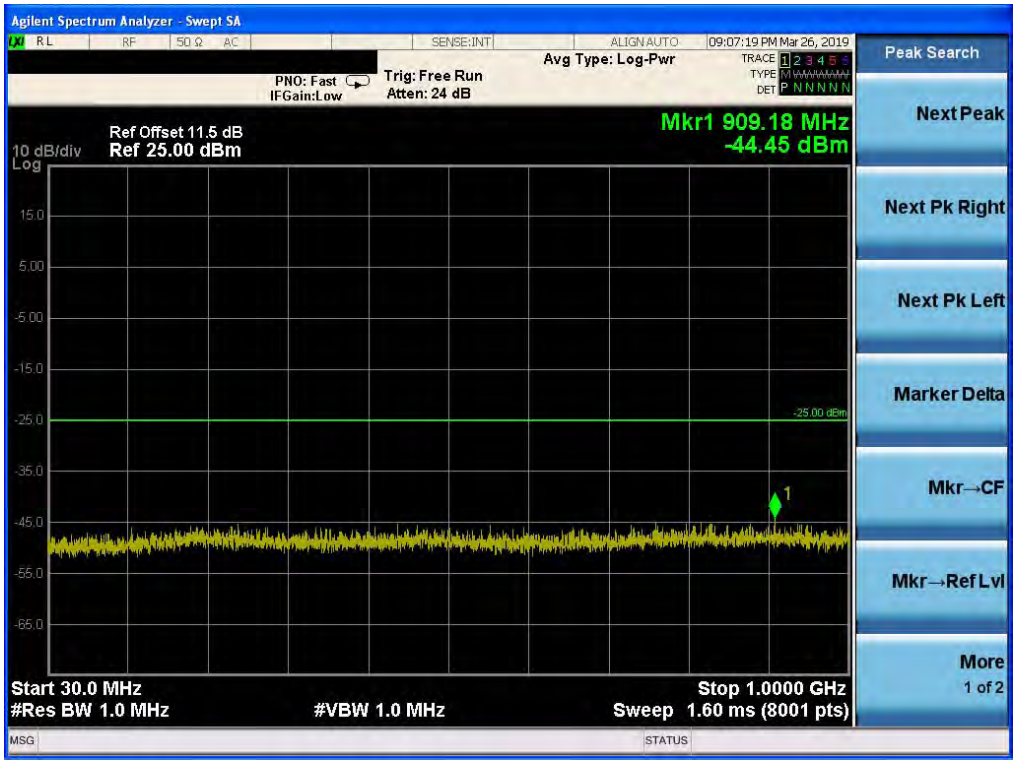
Band 41,UL Channel 41215,UL Frequency 2652.5,BW 10.0,NO. RB 50,RB POS. Low,QPSK



Band 41,UL Channel 41215,UL Frequency 2652.5,BW 10.0,NO. RB 50,RB POS. Low,QPSK

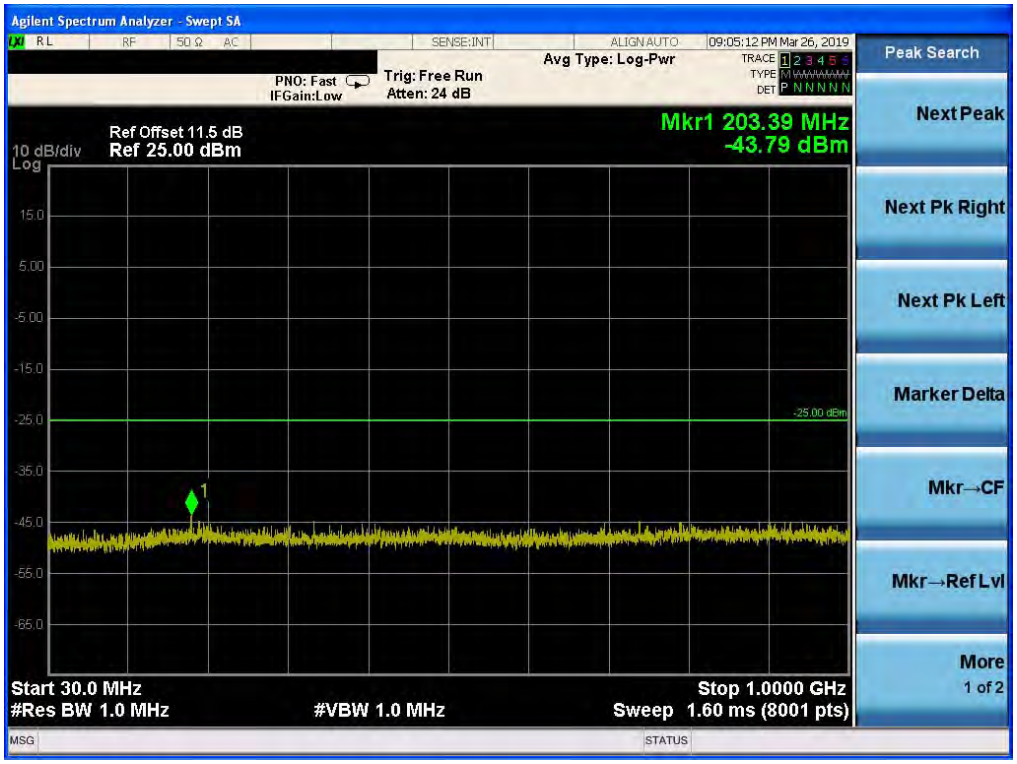


Band 41,UL Channel 41215,UL Frequency 2652.5,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

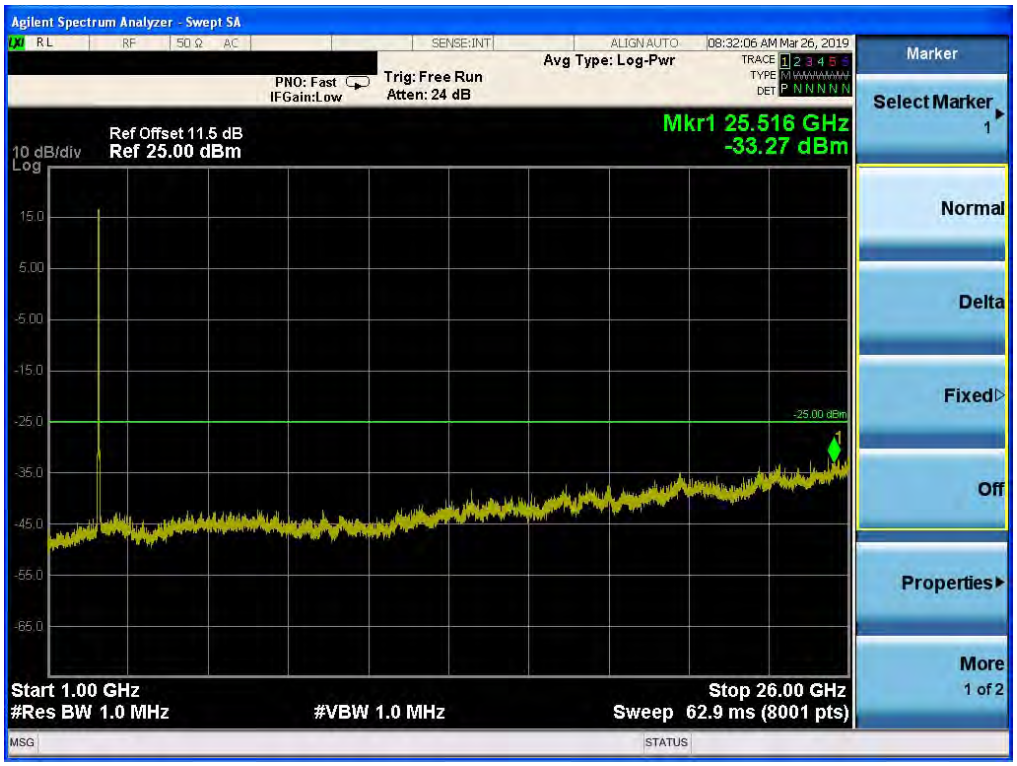


Band 41,UL Channel 41215,UL Frequency 2652.5,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

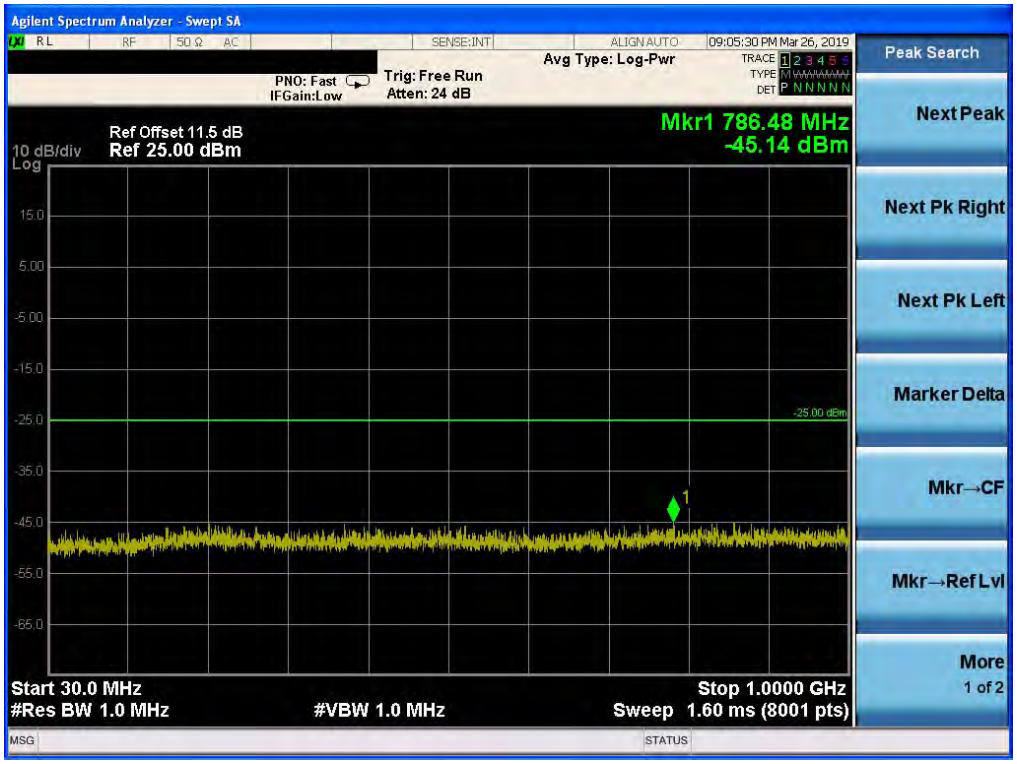
Band 41,UL Channel 40290,UL Frequency 2560.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



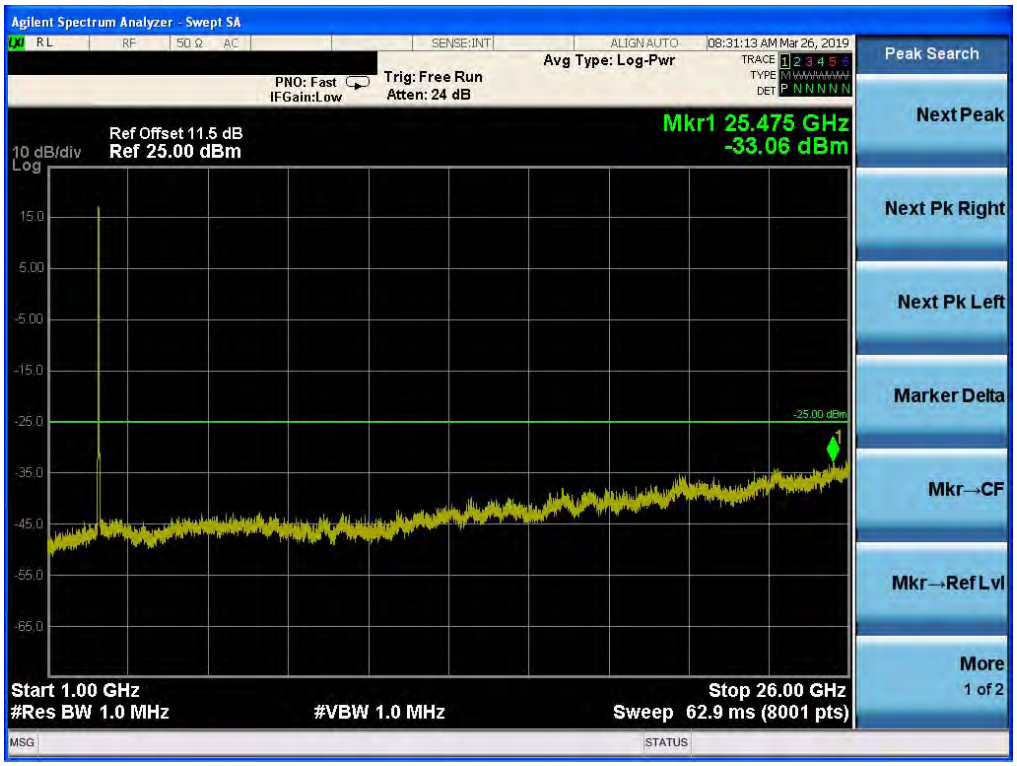
Band 41,UL Channel 40290,UL Frequency 2560.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



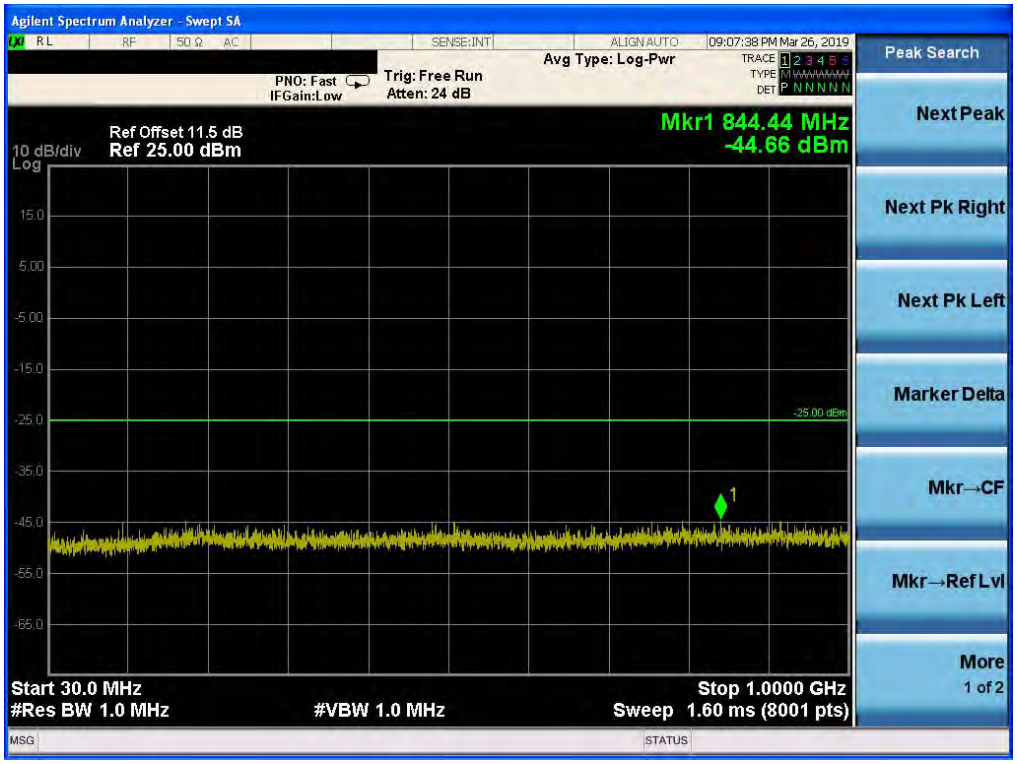
Band 41,UL Channel 40290,UL Frequency 2560.0,BW 15.0,NO. RB 75,RB POS. Low,16-QAM



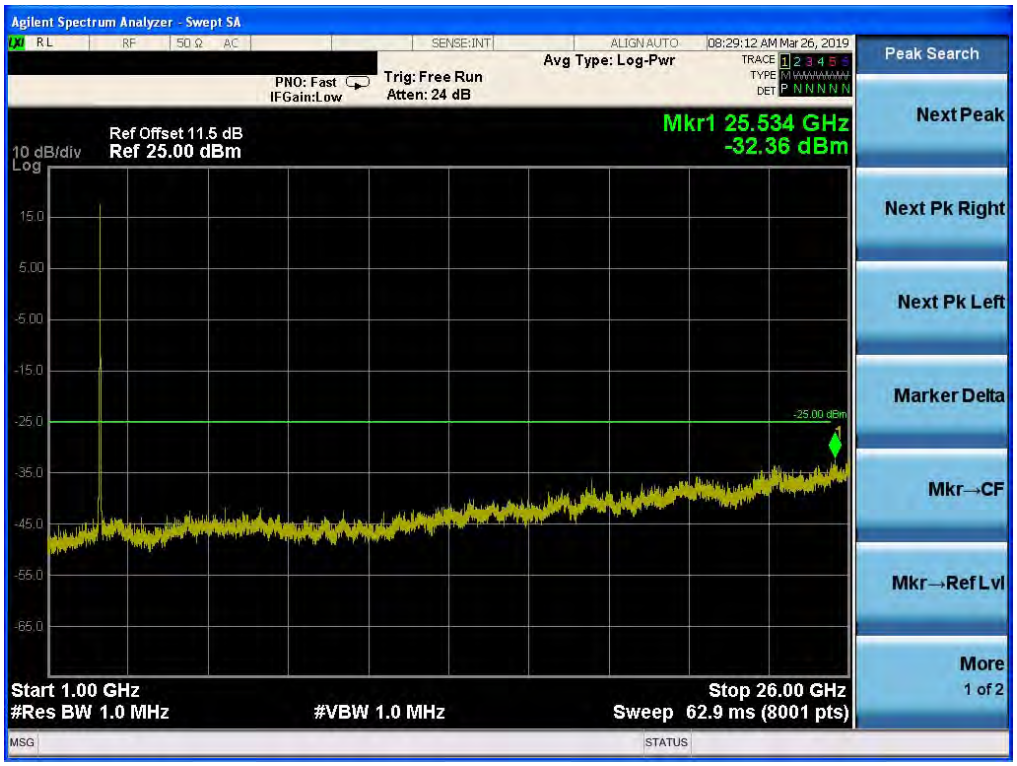
Band 41,UL Channel 40290,UL Frequency 2560.0,BW 15.0,NO. RB 75,RB POS. Low,16-QAM



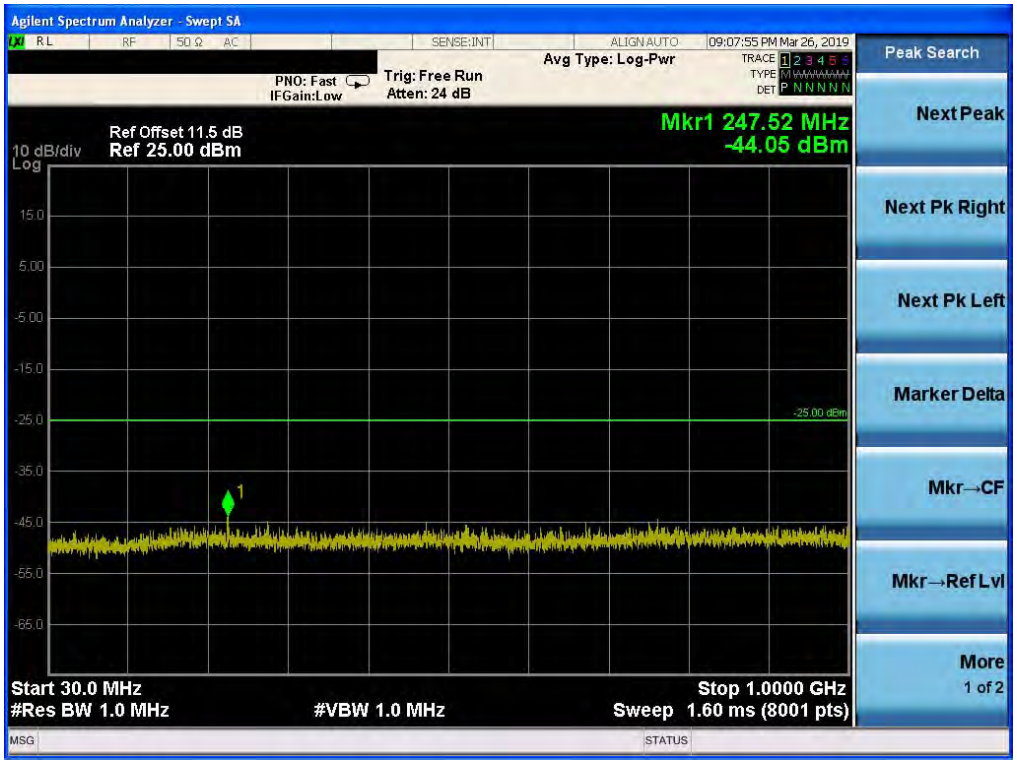
Band 41,UL Channel 41190,UL Frequency 2650.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



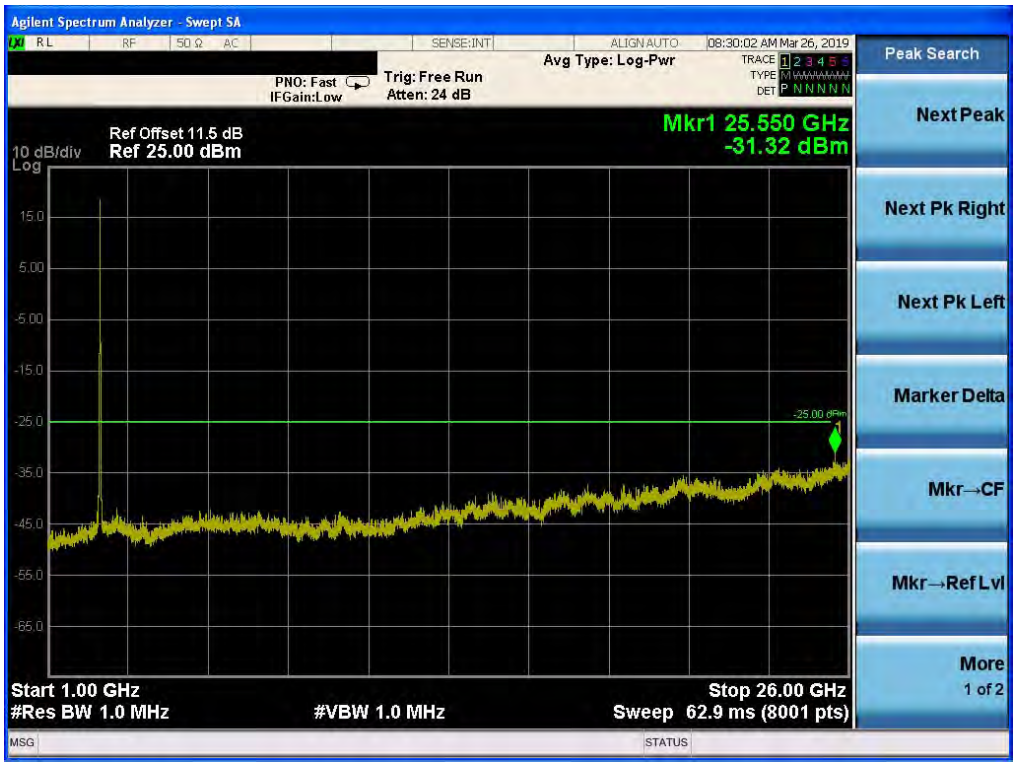
Band 41,UL Channel 41190,UL Frequency 2650.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



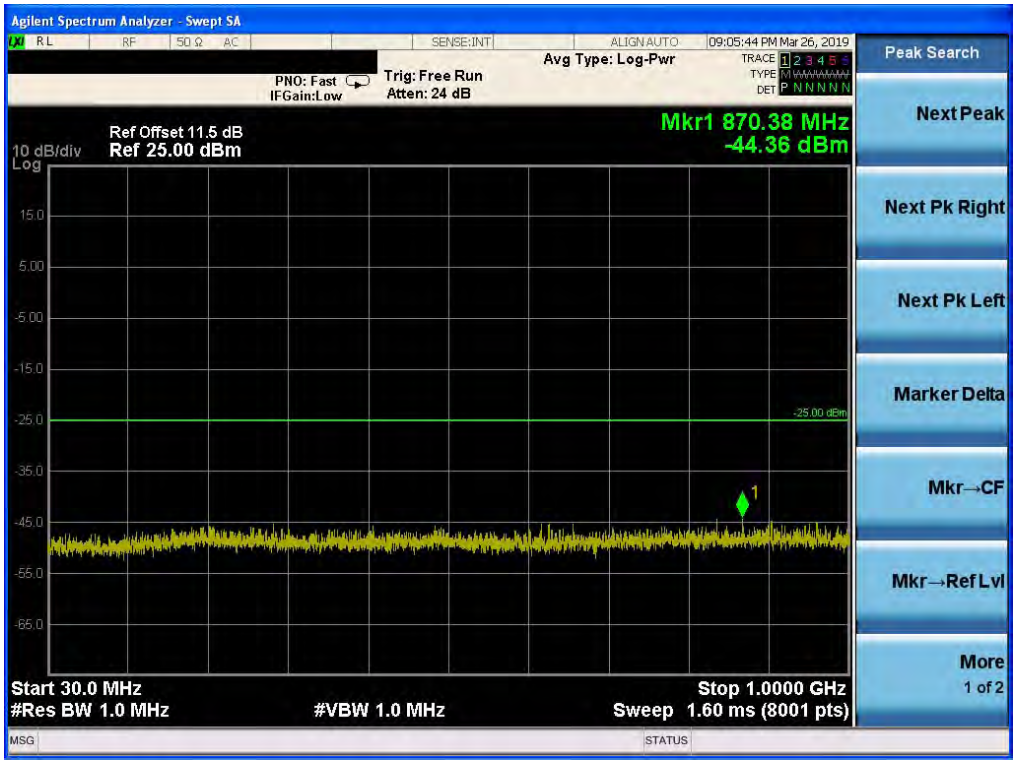
Band 41,UL Channel 41190,UL Frequency 2650.0,BW 15.0,NO. RB 75,RB POS. Low,16-QAM



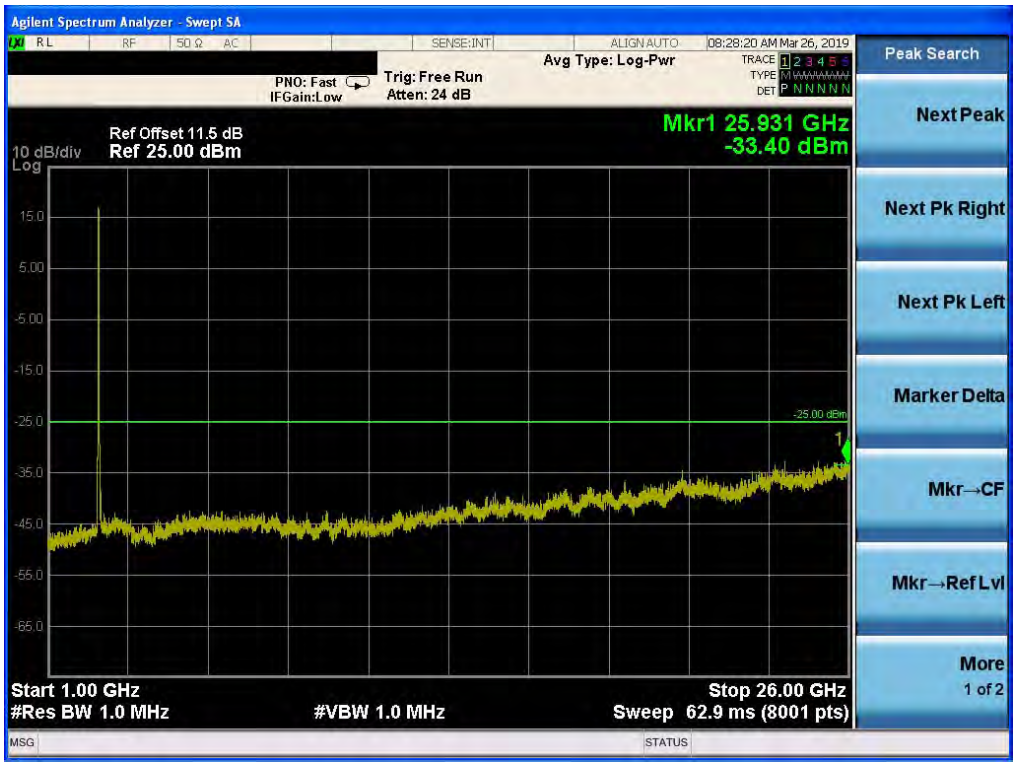
Band 41,UL Channel 41190,UL Frequency 2650.0,BW 15.0,NO. RB 75,RB POS. Low,16-QAM



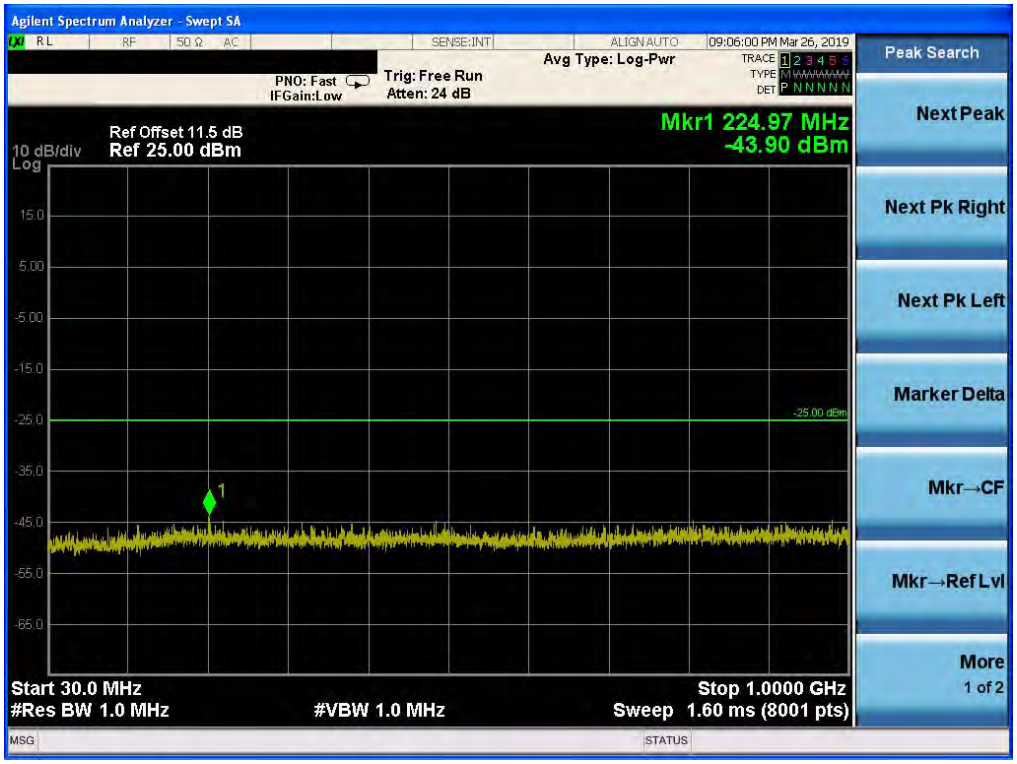
Band 41,UL Channel 40315,UL Frequency 2562.5,BW 20.0,NO. RB 100,RB POS. Low,QPSK



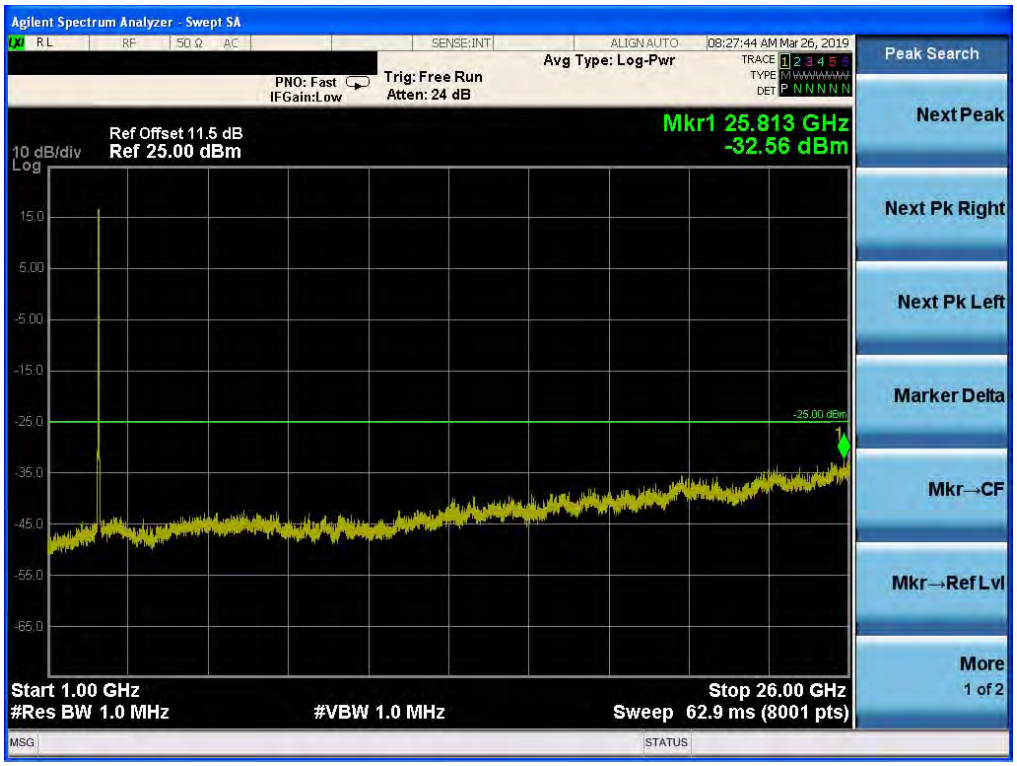
Band 41,UL Channel 40315,UL Frequency 2562.5,BW 20.0,NO. RB 100,RB POS. Low,QPSK



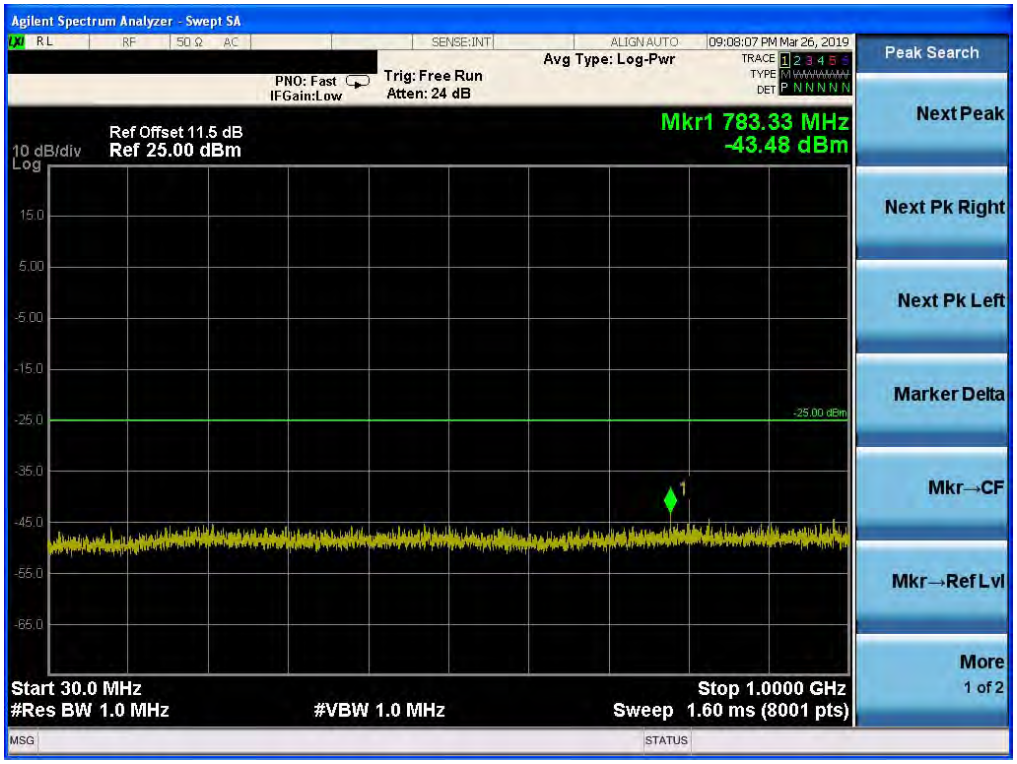
Band 41,UL Channel 40315,UL Frequency 2562.5,BW 20.0,NO. RB 100,RB POS. Low,16-QAM



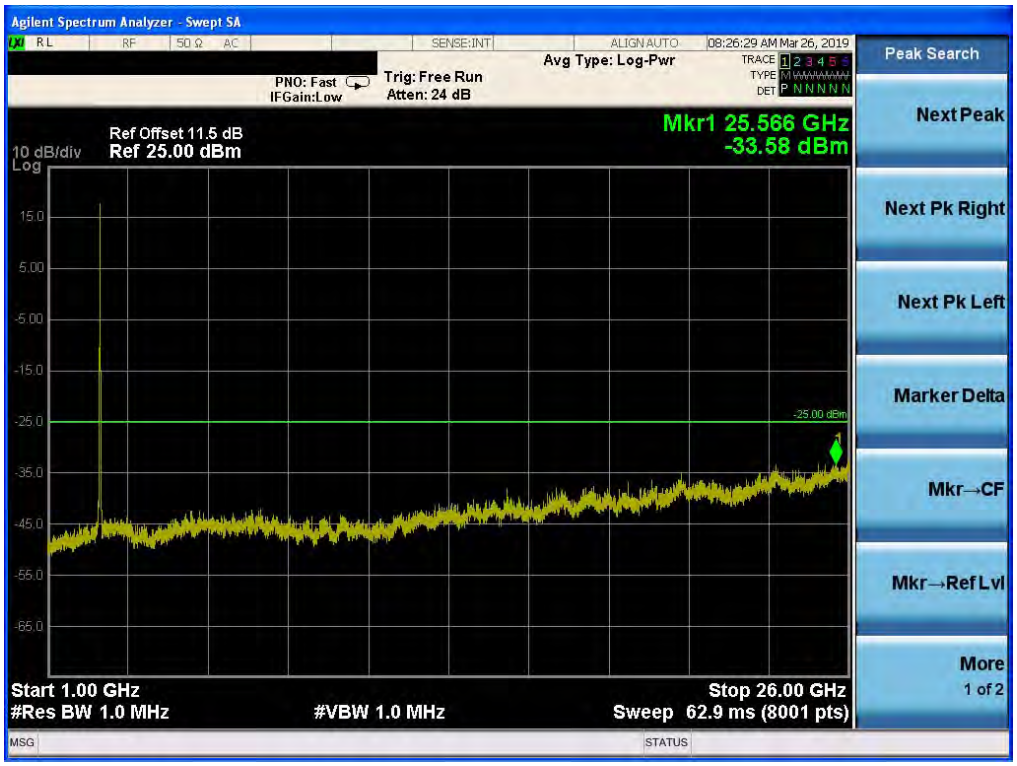
Band 41,UL Channel 40315,UL Frequency 2562.5,BW 20.0,NO. RB 100,RB POS. Low,16-QAM



Band 41,UL Channel 41165,UL Frequency 2647.5,BW 20.0,NO. RB 100,RB POS. Low,QPSK

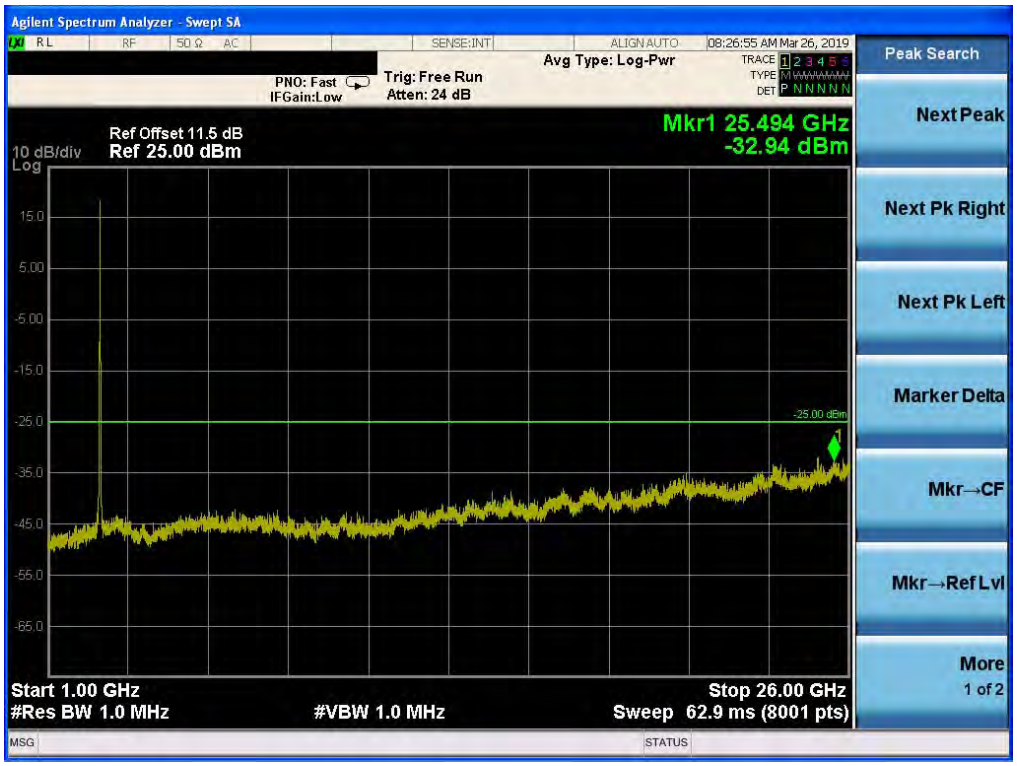


Band 41,UL Channel 41165,UL Frequency 2647.5,BW 20.0,NO. RB 100,RB POS. Low,QPSK



Band 41,UL Channel 41165,UL Frequency 2647.5,BW 20.0,NO. RB 100,RB POS. Low,16-QAM

Band 41,UL Channel 41165,UL Frequency 2647.5,BW 20.0,NO. RB 100,RB POS. Low,16-QAM



8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232 and §27.50

LIMITS:

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17
KDB 971168 v02r01 RF power output using broadband peak and average power meter method.
KDB 971168 D01 Power Meas License Digital Systems v02r01, “Measurement Guidance for Certification of Licensed Digital Transmitters”

MODES TESTED

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 17
LTE Band 41

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	1850.7	-1.63	3.76	28.24	22.85	192.752	Vertical	Pass
		1880	-1.58	3.91	28.22	22.73	187.499	Vertical	Pass
		1909.3	-1.49	3.93	28.20	22.78	189.671	Vertical	Pass
1.4MHz BW 16 QAM	6/0	1850.7	-2.80	3.76	28.24	21.68	147.231	Vertical	Pass
		1880	-2.43	3.91	28.22	21.88	154.170	Vertical	Pass
		1909.3	-2.91	3.93	28.20	21.36	136.773	Vertical	Pass
3.0MHz BW QPSK	15/0	1851.5	-1.55	3.77	28.23	22.91	195.434	Vertical	Pass
		1880	-1.59	3.91	28.24	22.74	187.932	Vertical	Pass
		1908.5	-1.55	3.94	28.25	22.76	188.799	Vertical	Pass
3.0MHz BW 16 QAM	15/0	1851.5	-2.58	3.77	28.23	21.88	154.170	Vertical	Pass
		1880	-2.98	3.91	28.24	21.35	136.458	Vertical	Pass
		1908.5	-3.20	3.94	28.25	21.11	129.122	Vertical	Pass
5.0MHz BW QPSK	25/0	1852.5	-2.65	3.77	28.31	21.89	154.525	Vertical	Pass
		1880	-2.50	3.91	28.22	21.81	151.705	Vertical	Pass
		1907.5	-2.43	3.94	28.20	21.83	152.405	Vertical	Pass
5.0MHz BW 16 QAM	25/0	1852.5	-3.49	3.77	28.31	21.05	127.350	Vertical	Pass
		1880	-3.21	3.91	28.22	21.10	128.825	Vertical	Pass
		1907.5	-3.14	3.94	28.20	21.12	129.420	Vertical	Pass
10.0MHz BW QPSK	50/0	1855	-2.66	3.79	28.33	21.88	154.170	Vertical	Pass
		1880	-2.31	3.95	28.22	21.96	157.036	Vertical	Pass
		1905	-2.29	3.97	28.19	21.93	155.955	Vertical	Pass
10.0MHz BW 16 QAM	50/0	1855	-3.49	3.79	28.33	21.05	127.350	Vertical	Pass
		1880	-3.20	3.95	28.22	21.07	127.938	Vertical	Pass
		1905	-3.24	3.97	28.19	20.98	125.314	Vertical	Pass
15.0MHz BW QPSK	75/0	1857.5	-2.66	3.79	28.34	21.89	154.525	Vertical	Pass
		1880	-2.36	3.95	28.22	21.91	155.239	Vertical	Pass
		1902.5	-2.38	3.97	28.18	21.83	152.405	Vertical	Pass
15.0MHz BW 16 QAM	75/0	1857.5	-3.56	3.79	28.34	20.99	125.603	Vertical	Pass
		1880	-3.35	3.95	28.22	20.92	123.595	Vertical	Pass
		1902.5	-3.26	3.97	28.18	20.95	124.451	Vertical	Pass

20.0MHz BW QPSK	100/0	1860	-2.71	3.81	28.35	21.83	152.405	Vertical	Pass
		1880	-2.31	3.96	28.22	21.95	156.675	Vertical	Pass
		1900	-2.82	4.00	28.16	21.34	136.144	Vertical	Pass
20.0MHz BW 16 QAM	100/0	1860	-3.66	3.81	28.35	20.88	122.462	Vertical	Pass
		1880	-3.40	3.96	28.22	20.86	121.899	Vertical	Pass
		1900	-3.29	4.00	28.16	20.87	122.180	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (EIRP) for Band 2									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	1850.7	-1.62	3.76	28.24	22.86	193.308	Horizontal	Pass
		1880	-1.17	3.91	28.22	23.14	206.112	Horizontal	Pass
		1909.3	-1.44	3.93	28.20	22.83	191.705	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	1850.7	-2.71	3.76	28.24	21.77	150.149	Horizontal	Pass
		1880	-2.13	3.91	28.22	22.18	165.340	Horizontal	Pass
		1909.3	-2.77	3.93	28.20	21.50	141.335	Horizontal	Pass
3.0MHz BW QPSK	15/0	1851.5	-1.27	3.77	28.23	23.19	208.581	Horizontal	Pass
		1880	-1.24	3.91	28.24	23.09	203.666	Horizontal	Pass
		1908.5	-1.52	3.94	28.25	22.79	190.145	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	1851.5	-2.16	3.77	28.23	22.30	169.999	Horizontal	Pass
		1880	-2.84	3.91	28.24	21.49	140.860	Horizontal	Pass
		1908.5	-2.78	3.94	28.25	21.53	142.264	Horizontal	Pass
5.0MHz BW QPSK	25/0	1852.5	-2.34	3.77	28.31	22.20	165.832	Horizontal	Pass
		1880	-2.19	3.91	28.22	22.12	163.054	Horizontal	Pass
		1907.5	-2.40	3.94	28.20	21.86	153.320	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	1852.5	-3.36	3.77	28.31	21.18	131.309	Horizontal	Pass
		1880	-2.92	3.91	28.22	21.39	137.662	Horizontal	Pass
		1907.5	-2.83	3.94	28.20	21.43	138.861	Horizontal	Pass
10.0MHz BW QPSK	50/0	1855	-2.53	3.79	28.33	22.01	158.701	Horizontal	Pass
		1880	-2.05	3.95	28.22	22.22	166.652	Horizontal	Pass
		1905	-2.28	3.97	28.19	21.94	156.409	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	1855	-3.44	3.79	28.33	21.10	128.922	Horizontal	Pass
		1880	-3.09	3.95	28.22	21.18	131.093	Horizontal	Pass
		1905	-3.19	3.97	28.19	21.03	126.763	Horizontal	Pass
15.0MHz BW QPSK	75/0	1857.5	-2.32	3.79	28.34	22.23	166.999	Horizontal	Pass
		1880	-1.95	3.95	28.22	22.32	170.732	Horizontal	Pass
		1902.5	-2.30	3.97	28.18	21.91	155.212	Horizontal	Pass
15.0MHz BW 16 QAM	75/0	1857.5	-3.54	3.79	28.34	21.01	126.184	Horizontal	Pass
		1880	-2.86	3.95	28.22	21.41	138.238	Horizontal	Pass
		1902.5	-2.93	3.97	28.18	21.28	134.197	Horizontal	Pass
20.0MHz BW	100/0	1860	-2.70	3.81	28.35	21.84	152.727	Horizontal	Pass
		1880	-2.10	3.96	28.22	22.16	164.261	Horizontal	Pass

QPSK		1900	-2.58	4.00	28.16	21.58	143.814	Horizontal	Pass
20.0MHz BW 16 QAM	100/0	1860	-3.31	3.81	28.35	21.23	132.628	Horizontal	Pass
		1880	-3.29	3.96	28.22	20.97	124.898	Horizontal	Pass
		1900	-3.21	4.00	28.16	20.95	124.418	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	1710.7	-2.11	3.12	27.58	22.35	171.791	Vertical	Pass
		1732.5	-2.07	3.27	27.61	22.27	168.655	Vertical	Pass
		1754.3	-2.08	3.29	27.63	22.26	168.267	Vertical	Pass
1.4MHz BW 16 QAM	6/0	1710.7	-3.03	3.12	27.58	21.43	138.995	Vertical	Pass
		1732.5	-3.00	3.27	27.61	21.34	136.144	Vertical	Pass
		1754.3	-2.96	3.29	27.63	21.38	137.404	Vertical	Pass
3.0MHz BW QPSK	15/0	1711.5	-2.13	3.13	27.61	22.35	171.791	Vertical	Pass
		1732.5	-1.98	3.27	27.61	22.36	172.187	Vertical	Pass
		1753.5	-2.01	3.30	27.62	22.31	170.216	Vertical	Pass
3.0MHz BW 16 QAM	15/0	1711.5	-3.19	3.13	27.61	21.29	134.586	Vertical	Pass
		1732.5	-3.19	3.27	27.61	21.15	130.317	Vertical	Pass
		1753.5	-2.86	3.30	27.62	21.46	139.959	Vertical	Pass
5.0MHz BW QPSK	25/0	1712.5	-2.16	3.13	27.63	22.34	171.396	Vertical	Pass
		1732.5	-2.08	3.27	27.61	22.26	168.267	Vertical	Pass
		1752.5	-1.85	3.30	27.60	22.45	175.792	Vertical	Pass
5.0MHz BW 16 QAM	25/0	1712.5	-3.27	3.13	27.63	21.23	132.739	Vertical	Pass
		1732.5	-3.03	3.27	27.61	21.31	135.207	Vertical	Pass
		1752.5	-3.02	3.30	27.60	21.28	134.276	Vertical	Pass
10.0MHz BW QPSK	50/0	1715	-2.23	3.15	27.64	22.26	168.267	Vertical	Pass
		1732.5	-2.07	3.31	27.61	22.23	167.109	Vertical	Pass
		1750	-1.59	3.33	27.59	22.67	184.927	Vertical	Pass
10.0MHz BW 16 QAM	50/0	1715	-3.13	3.15	27.64	21.36	136.773	Vertical	Pass
		1732.5	-3.02	3.31	27.61	21.28	134.276	Vertical	Pass
		1750	-2.81	3.33	27.59	21.45	139.637	Vertical	Pass
15.0MHz BW QPSK	75/0	1717.5	-2.03	3.15	27.65	22.47	176.604	Vertical	Pass
		1732.5	-2.17	3.31	27.61	22.13	163.305	Vertical	Pass
		1747.5	-1.88	3.33	27.57	22.36	172.187	Vertical	Pass
15.0MHz BW 16 QAM	75/0	1717.5	-3.19	3.15	27.65	21.31	135.207	Vertical	Pass
		1732.5	-3.05	3.31	27.61	21.25	133.352	Vertical	Pass
		1747.5	-2.79	3.33	27.57	21.45	139.637	Vertical	Pass

20.0MHz BW QPSK	100/0	1720	-2.08	3.17	27.66	22.41	174.181	Vertical	Pass
		1732.5	-1.91	3.32	27.61	22.38	172.982	Vertical	Pass
		1745	-1.78	3.36	27.56	22.42	174.582	Vertical	Pass
20.0MHz BW 16 QAM	100/0	1720	-3.04	3.17	27.66	21.45	139.637	Vertical	Pass
		1732.5	-3.14	3.32	27.61	21.15	130.317	Vertical	Pass
		1745	-2.73	3.36	27.56	21.47	140.281	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	1710.7	-2.09	3.12	27.58	22.37	172.703	Horizontal	Pass
		1732.5	-1.59	3.27	27.61	22.75	188.350	Horizontal	Pass
		1754.3	-1.63	3.29	27.63	22.71	186.524	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	1710.7	-3.03	3.12	27.58	21.43	139.101	Horizontal	Pass
		1732.5	-2.71	3.27	27.61	21.63	145.687	Horizontal	Pass
		1754.3	-2.86	3.29	27.63	21.48	140.448	Horizontal	Pass
3.0MHz BW QPSK	15/0	1711.5	-2.06	3.13	27.61	22.42	174.711	Horizontal	Pass
		1732.5	-1.76	3.27	27.61	22.58	181.183	Horizontal	Pass
		1753.5	-1.56	3.30	27.62	22.76	188.892	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	1711.5	-3.18	3.13	27.61	21.30	134.965	Horizontal	Pass
		1732.5	-3.17	3.27	27.61	21.17	130.894	Horizontal	Pass
		1753.5	-2.62	3.30	27.62	21.70	147.882	Horizontal	Pass
5.0MHz BW QPSK	25/0	1712.5	-2.09	3.13	27.63	22.41	174.263	Horizontal	Pass
		1732.5	-1.62	3.27	27.61	22.72	186.877	Horizontal	Pass
		1752.5	-1.70	3.30	27.60	22.60	181.924	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	1712.5	-3.10	3.13	27.63	21.40	138.184	Horizontal	Pass
		1732.5	-2.90	3.27	27.61	21.44	139.335	Horizontal	Pass
		1752.5	-2.87	3.30	27.60	21.43	139.141	Horizontal	Pass
10.0MHz BW QPSK	50/0	1715	-1.93	3.15	27.64	22.56	180.418	Horizontal	Pass
		1732.5	-1.92	3.31	27.61	22.38	173.024	Horizontal	Pass
		1750	-1.44	3.33	27.59	22.82	191.367	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	1715	-3.08	3.15	27.64	21.41	138.326	Horizontal	Pass
		1732.5	-2.65	3.31	27.61	21.65	146.130	Horizontal	Pass
		1750	-2.61	3.33	27.59	21.65	146.058	Horizontal	Pass
15.0MHz BW QPSK	75/0	1717.5	-1.75	3.15	27.65	22.75	188.184	Horizontal	Pass
		1732.5	-1.70	3.31	27.61	22.60	181.944	Horizontal	Pass
		1747.5	-1.76	3.33	27.57	22.48	177.148	Horizontal	Pass
15.0MHz BW 16 QAM	75/0	1717.5	-2.85	3.15	27.65	21.65	146.144	Horizontal	Pass
		1732.5	-3.02	3.31	27.61	21.28	134.339	Horizontal	Pass
		1747.5	-2.44	3.33	27.57	21.80	151.190	Horizontal	Pass
20.0MHz BW	100/0	1720	-1.67	3.17	27.66	22.82	191.603	Horizontal	Pass
		1732.5	-1.48	3.32	27.61	22.81	190.998	Horizontal	Pass

QPSK		1745	-1.72	3.36	27.56	22.48	177.090	Horizontal	Pass
20.0MHz BW 16QAM	100/0	1720	-3.01	3.17	27.66	21.48	140.752	Horizontal	Pass
		1732.5	-2.80	3.32	27.61	21.49	140.943	Horizontal	Pass
		1745	-2.44	3.36	27.56	21.76	149.968	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	824.7	6.40	2.01	19.68	2.15	21.92	155.597	Vertical	Pass
		836.5	6.22	2.01	19.77	2.15	21.83	152.405	Vertical	Pass
		848.3	6.11	2.02	19.82	2.15	21.76	149.968	Vertical	Pass
1.4MHz BW 16 QAM	6/0	824.7	5.44	2.01	19.68	2.15	20.96	124.738	Vertical	Pass
		836.5	5.03	2.01	19.77	2.15	20.64	115.878	Vertical	Pass
		848.3	5.39	2.02	19.82	2.15	21.04	127.057	Vertical	Pass
3.0MHz BW QPSK	15/0	825.5	6.42	2.01	19.70	2.15	21.96	157.036	Vertical	Pass
		836.5	6.25	2.01	19.77	2.15	21.86	153.462	Vertical	Pass
		847.5	6.23	2.02	19.81	2.15	21.87	153.815	Vertical	Pass
3.0MHz BW 16 QAM	15/0	825.5	5.32	2.01	19.70	2.15	20.86	121.899	Vertical	Pass
		836.5	5.42	2.01	19.77	2.15	21.03	126.765	Vertical	Pass
		847.5	5.20	2.02	19.81	2.15	20.84	121.339	Vertical	Pass
5.0MHz BW QPSK	25/0	826.5	5.81	2.01	19.71	2.15	21.36	136.773	Vertical	Pass
		836.5	5.81	2.01	19.77	2.15	21.42	138.676	Vertical	Pass
		846.5	5.90	2.02	19.79	2.15	21.52	141.906	Vertical	Pass
5.0MHz BW 16 QAM	25/0	826.5	5.02	2.01	19.71	2.15	20.57	114.025	Vertical	Pass
		836.5	5.07	2.01	19.77	2.15	20.68	116.950	Vertical	Pass
		846.5	4.83	2.02	19.79	2.15	20.45	110.917	Vertical	Pass
10.0MHz BW QPSK	50/0	829	5.99	2.01	19.73	2.15	21.56	143.219	Vertical	Pass
		836.5	6.01	2.01	19.77	2.15	21.62	145.211	Vertical	Pass
		844	5.80	2.02	19.78	2.15	21.41	138.357	Vertical	Pass
10.0MHz BW QAM	50/0	829	4.99	2.01	19.73	2.15	20.56	113.763	Vertical	Pass
		836.5	4.87	2.01	19.77	2.15	20.48	111.686	Vertical	Pass
		844	4.85	2.02	19.78	2.15	20.46	111.173	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (ERP) for Band 5										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	824.7	6.48	2.01	19.68	2.15	22.00	158.602	Horizontal	Pass
		836.5	6.37	2.01	19.77	2.15	21.98	157.647	Horizontal	Pass
		848.3	6.19	2.02	19.82	2.15	21.84	152.715	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	824.7	5.91	2.01	19.68	2.15	21.43	138.873	Horizontal	Pass
		836.5	5.45	2.01	19.77	2.15	21.06	127.743	Horizontal	Pass
		848.3	5.51	2.02	19.82	2.15	21.16	130.541	Horizontal	Pass
3.0MHz BW QPSK	15/0	825.5	6.68	2.01	19.70	2.15	22.22	166.704	Horizontal	Pass
		836.5	6.38	2.01	19.77	2.15	21.99	158.211	Horizontal	Pass
		847.5	6.64	2.02	19.81	2.15	22.28	168.986	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	825.5	5.34	2.01	19.70	2.15	20.88	122.559	Horizontal	Pass
		836.5	5.61	2.01	19.77	2.15	21.22	132.567	Horizontal	Pass
		847.5	5.42	2.02	19.81	2.15	21.06	127.637	Horizontal	Pass
5.0MHz BW QPSK	25/0	826.5	6.10	2.01	19.71	2.15	21.65	146.182	Horizontal	Pass
		836.5	6.03	2.01	19.77	2.15	21.64	146.038	Horizontal	Pass
		846.5	6.24	2.02	19.79	2.15	21.86	153.452	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	826.5	5.42	2.01	19.71	2.15	20.97	124.974	Horizontal	Pass
		836.5	5.45	2.01	19.77	2.15	21.06	127.676	Horizontal	Pass
		846.5	5.03	2.02	19.79	2.15	20.65	116.110	Horizontal	Pass
10.0MHz BW QPSK	50/0	829	6.26	2.01	19.73	2.15	21.83	152.409	Horizontal	Pass
		836.5	6.42	2.01	19.77	2.15	22.03	159.510	Horizontal	Pass
		844	6.18	2.02	19.78	2.15	21.79	151.022	Horizontal	Pass
10.0MHz BW QAM	50/0	829	5.36	2.01	19.73	2.15	20.93	123.951	Horizontal	Pass
		836.5	4.93	2.01	19.77	2.15	20.54	113.156	Horizontal	Pass
		844	5.21	2.02	19.78	2.15	20.82	120.740	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	2502.5	-0.58	4.54	27.75	22.63	183.231	Vertical	Pass
		2535	-0.28	4.69	27.72	22.75	188.365	Vertical	Pass
		2567.5	-0.47	4.71	27.71	22.53	179.061	Vertical	Pass
5.0MHz BW 16 QAM	25/0	2502.5	-1.70	4.54	27.75	21.51	141.579	Vertical	Pass
		2535	-1.24	4.69	27.72	21.79	151.008	Vertical	Pass
		2567.5	-1.38	4.71	27.71	21.62	145.211	Vertical	Pass
10.0MHz BW QPSK	50/0	2505	-0.43	4.55	27.76	22.78	189.671	Vertical	Pass
		2535	-0.17	4.69	27.72	22.86	193.197	Vertical	Pass
		2565	-0.24	4.72	27.70	22.74	187.932	Vertical	Pass
10.0MHz BW 16 QAM	50/0	2505	-1.46	4.55	27.76	21.75	149.624	Vertical	Pass
		2535	-1.37	4.69	27.72	21.66	146.555	Vertical	Pass
		2565	-1.35	4.72	27.70	21.63	145.546	Vertical	Pass
15.0MHz BW QPSK	75/0	2507.5	-0.49	4.55	27.77	22.73	187.499	Vertical	Pass
		2535	-0.25	4.69	27.72	22.78	189.671	Vertical	Pass
		2562.5	-0.22	4.72	27.69	22.75	188.365	Vertical	Pass
15.0MHz BW 16 QAM	75/0	2507.5	-1.53	4.55	27.77	21.69	147.571	Vertical	Pass
		2535	-1.28	4.69	27.72	21.75	149.624	Vertical	Pass
		2562.5	-1.24	4.72	27.69	21.73	148.936	Vertical	Pass
20.0MHz BW QPSK	100/0	2510	-0.45	4.57	27.78	22.76	188.799	Vertical	Pass
		2535	-0.10	4.73	27.72	22.89	194.536	Vertical	Pass
		2560	-0.22	4.75	27.68	22.71	186.638	Vertical	Pass
20.0MHz BW 16 QAM	100/0	2510	-1.43	4.57	27.78	21.78	150.661	Vertical	Pass
		2535	-1.25	4.73	27.72	21.74	149.279	Vertical	Pass
		2560	-1.17	4.75	27.68	21.76	149.968	Vertical	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (EIRP) for Band 7									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	2502.5	-0.26	4.54	27.75	22.95	197.434	Horizontal	Pass
		2535	0.15	4.69	27.72	23.18	207.874	Horizontal	Pass
		2567.5	-0.36	4.71	27.71	22.64	183.500	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	2502.5	-1.29	4.54	27.75	21.92	155.718	Horizontal	Pass
		2535	-0.98	4.69	27.72	22.05	160.283	Horizontal	Pass
		2567.5	-1.04	4.71	27.71	21.96	156.893	Horizontal	Pass
10.0MHz BW QPSK	50/0	2505	-0.17	4.55	27.76	23.04	201.212	Horizontal	Pass
		2535	0.04	4.69	27.72	23.07	202.839	Horizontal	Pass
		2565	-0.05	4.72	27.70	22.93	196.139	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	2505	-1.07	4.55	27.76	22.14	163.699	Horizontal	Pass
		2535	-1.03	4.69	27.72	22.00	158.371	Horizontal	Pass
		2565	-0.87	4.72	27.70	22.11	162.389	Horizontal	Pass
15.0MHz BW QPSK	75/0	2507.5	-0.15	4.55	27.77	23.07	202.760	Horizontal	Pass
		2535	-0.02	4.69	27.72	23.01	199.795	Horizontal	Pass
		2562.5	0.18	4.72	27.69	23.15	206.526	Horizontal	Pass
15.0MHz BW 16 QAM	75/0	2507.5	-1.49	4.55	27.77	21.73	148.886	Horizontal	Pass
		2535	-0.98	4.69	27.72	22.05	160.257	Horizontal	Pass
		2562.5	-0.99	4.72	27.69	21.98	157.740	Horizontal	Pass
20.0MHz BW QPSK	100/ 0	2510	-0.11	4.57	27.78	23.10	204.174	Horizontal	Pass
		2535	-0.03	4.73	27.72	22.96	197.727	Horizontal	Pass
		2560	0.26	4.75	27.68	23.19	208.388	Horizontal	Pass
20.0MHz BW 16 QAM	100/ 0	2510	-1.05	4.57	27.78	22.16	164.368	Horizontal	Pass
		2535	-1.05	4.73	27.72	21.94	156.268	Horizontal	Pass
		2560	-0.79	4.75	27.68	22.14	163.515	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	699.7	6.21	1.91	19.21	2.15	21.36	136.842	Vertical	Pass
		707.5	6.89	1.91	19.26	2.15	22.09	161.900	Vertical	Pass
		715.3	6.46	1.93	19.34	2.15	21.72	148.555	Vertical	Pass
1.4MHz BW 16 QAM	6/0	699.7	4.92	1.91	19.21	2.15	20.07	101.534	Vertical	Pass
		707.5	5.09	1.91	19.26	2.15	20.29	106.971	Vertical	Pass
		715.3	4.95	1.93	19.34	2.15	20.21	105.021	Vertical	Pass
3.0MHz BW QPSK	15/0	700.5	6.40	1.91	19.21	2.15	21.55	142.821	Vertical	Pass
		707.5	6.58	1.91	19.26	2.15	21.78	150.488	Vertical	Pass
		714.5	6.20	1.93	19.34	2.15	21.46	139.823	Vertical	Pass
3.0MHz BW 16 QAM	15/0	700.5	5.59	1.91	19.21	2.15	20.74	118.654	Vertical	Pass
		707.5	5.01	1.91	19.26	2.15	20.21	105.037	Vertical	Pass
		714.5	5.94	1.93	19.34	2.15	21.20	131.926	Vertical	Pass
5.0MHz BW QPSK	25/0	701.5	6.16	1.91	19.23	2.15	21.33	135.804	Vertical	Pass
		707.5	6.39	1.91	19.26	2.15	21.59	144.297	Vertical	Pass
		713.5	6.10	1.92	19.33	2.15	21.36	136.711	Vertical	Pass
5.0MHz BW 16 QAM	25/0	701.5	5.26	1.91	19.23	2.15	20.43	110.324	Vertical	Pass
		707.5	5.50	1.91	19.26	2.15	20.70	117.385	Vertical	Pass
		713.5	5.41	1.92	19.33	2.15	20.67	116.723	Vertical	Pass
10.0MHz BW QPSK	50/0	704	6.33	1.91	19.25	2.15	21.52	141.749	Vertical	Pass
		707.5	6.44	1.91	19.26	2.15	21.64	146.003	Vertical	Pass
		711	6.18	1.92	19.32	2.15	21.43	138.836	Vertical	Pass
10.0MHz BW 16 QAM	50/0	704	5.32	1.91	19.25	2.15	20.51	112.398	Vertical	Pass
		707.5	5.63	1.91	19.26	2.15	20.83	121.131	Vertical	Pass
		711	5.66	1.92	19.32	2.15	20.91	123.244	Vertical	Pass

Radiated Power (EIRP) for Band 12										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	699.7	6.00	1.91	19.21	2.15	21.15	130.339	Horizontal	Pass
		707.5	6.99	1.91	19.26	2.15	22.19	165.419	Horizontal	Pass
		715.3	6.20	1.93	19.34	2.15	21.46	140.115	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	699.7	4.90	1.91	19.21	2.15	20.05	101.196	Horizontal	Pass
		707.5	4.86	1.91	19.26	2.15	20.06	101.473	Horizontal	Pass
		715.3	4.72	1.93	19.34	2.15	19.98	99.432	Horizontal	Pass
3.0MHz BW QPSK	15/0	700.5	6.32	1.91	19.21	2.15	21.47	140.390	Horizontal	Pass
		707.5	6.25	1.91	19.26	2.15	21.45	139.525	Horizontal	Pass
		714.5	6.42	1.93	19.34	2.15	21.68	147.099	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	700.5	5.30	1.91	19.21	2.15	20.45	110.897	Horizontal	Pass
		707.5	5.46	1.91	19.26	2.15	20.66	116.436	Horizontal	Pass
		714.5	6.00	1.93	19.34	2.15	21.26	133.577	Horizontal	Pass
5.0MHz BW QPSK	25/0	701.5	6.78	1.91	19.23	2.15	21.95	156.629	Horizontal	Pass
		707.5	6.31	1.91	19.26	2.15	21.51	141.667	Horizontal	Pass
		713.5	5.96	1.92	19.33	2.15	21.22	132.287	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	701.5	5.30	1.91	19.23	2.15	20.47	111.355	Horizontal	Pass
		707.5	6.00	1.91	19.26	2.15	21.20	131.900	Horizontal	Pass
		713.5	5.61	1.92	19.33	2.15	20.87	122.107	Horizontal	Pass
10.0MHz BW QPSK	50/0	704	6.70	1.91	19.25	2.15	21.89	154.675	Horizontal	Pass
		707.5	6.06	1.91	19.26	2.15	21.26	133.514	Horizontal	Pass
		711	6.88	1.92	19.32	2.15	22.13	163.118	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	704	5.30	1.91	19.25	2.15	20.49	112.061	Horizontal	Pass
		707.5	5.90	1.91	19.26	2.15	21.10	128.898	Horizontal	Pass
		711	5.35	1.92	19.32	2.15	20.60	114.747	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.7 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	706.5	6.85	1.91	19.23	2.15	22.02	159.294	Vertical	Pass
		710	6.54	1.91	19.26	2.15	21.74	149.264	Vertical	Pass
		713.5	5.90	1.92	19.33	2.15	21.16	130.477	Vertical	Pass
5.0MHz BW 16 QAM	25/0	706.5	5.62	1.91	19.23	2.15	20.79	120.035	Vertical	Pass
		710	5.91	1.91	19.26	2.15	21.11	129.250	Vertical	Pass
		713.5	5.69	1.92	19.33	2.15	20.95	124.329	Vertical	Pass
10.0MHz BW QPSK	50/0	709	6.70	1.91	19.25	2.15	21.89	154.579	Vertical	Pass
		710	6.38	1.91	19.26	2.15	21.58	143.912	Vertical	Pass
		711	6.47	1.92	19.32	2.15	21.72	148.438	Vertical	Pass
10.0MHz BW 16 QAM	50/0	709	5.06	1.91	19.25	2.15	20.25	105.849	Vertical	Pass
		710	5.18	1.91	19.26	2.15	20.38	109.139	Vertical	Pass
		711	5.11	1.92	19.32	2.15	20.36	108.628	Vertical	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	706.5	6.28	1.91	19.23	2.15	21.45	139.671	Horizontal	Pass
		710	6.26	1.91	19.26	2.15	21.46	140.110	Horizontal	Pass
		713.5	6.78	1.92	19.33	2.15	22.04	159.855	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	706.5	5.83	1.91	19.23	2.15	21.00	126.026	Horizontal	Pass
		710	5.20	1.91	19.26	2.15	20.40	109.542	Horizontal	Pass
		713.5	5.41	1.92	19.33	2.15	20.67	116.626	Horizontal	Pass
10.0MHz BW QPSK	50/0	709	6.89	1.91	19.25	2.15	22.08	161.517	Horizontal	Pass
		710	6.75	1.91	19.26	2.15	21.95	156.695	Horizontal	Pass
		711	6.54	1.92	19.32	2.15	21.79	150.847	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	709	5.42	1.91	19.25	2.15	20.61	115.187	Horizontal	Pass
		710	5.43	1.91	19.26	2.15	20.63	115.672	Horizontal	Pass
		711	5.10	1.92	19.32	2.15	20.35	108.309	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

8.8 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	2557.5	0.61	4.75	27.68	23.54	225.749	Horizontal	Pass
		2605	0.62	4.75	27.72	23.59	228.471	Horizontal	Pass
		2652.5	0.26	4.78	27.78	23.26	211.961	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	2557.5	0.03	4.75	27.68	22.96	197.714	Horizontal	Pass
		2605	-0.58	4.75	27.72	22.39	173.441	Horizontal	Pass
		2652.5	-0.65	4.78	27.78	22.35	171.653	Horizontal	Pass
10.0MHz BW QPSK	50/0	2560	0.72	4.75	27.68	23.65	231.523	Horizontal	Pass
		2605	0.61	4.75	27.72	23.58	228.206	Horizontal	Pass
		2650	0.36	4.78	27.78	23.36	216.862	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	2560	-0.31	4.75	27.68	22.62	182.776	Horizontal	Pass
		2605	-0.53	4.75	27.72	22.44	175.344	Horizontal	Pass
		2650	-0.43	4.77	27.78	22.58	181.288	Horizontal	Pass
15.0MHz BW QPSK	75/0	2562.5	0.61	4.75	27.68	23.54	225.828	Horizontal	Pass
		2605	0.61	4.75	27.72	23.58	227.832	Horizontal	Pass
		2648.5	0.72	4.78	27.78	23.72	235.302	Horizontal	Pass
15.0MHz BW 16 QAM	75/0	2562.5	-0.10	4.75	27.68	22.83	191.785	Horizontal	Pass
		2605	-0.32	4.75	27.72	22.65	183.923	Horizontal	Pass
		2648.5	-0.46	4.77	27.78	22.55	179.972	Horizontal	Pass
20.0MHz BW QPSK	100/ 0	2565	0.60	4.75	27.68	23.53	225.282	Horizontal	Pass
		2605	0.75	4.75	27.72	23.72	235.256	Horizontal	Pass
		2645	0.66	4.78	27.78	23.66	232.501	Horizontal	Pass
20.0MHz BW 16 QAM	100/ 0	2565	-0.02	4.75	27.68	22.91	195.353	Horizontal	Pass
		2605	-0.60	4.75	27.72	22.37	172.590	Horizontal	Pass
		2645	-0.46	4.77	27.78	22.55	179.796	Horizontal	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (EIRP) for Band 41									
Mode	RB/ RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz BW QPSK	25/0	2557.5	0.33	4.75	27.68	23.26	211.836	Vertical	Pass
		2605	0.27	4.75	27.72	23.24	210.863	Vertical	Pass
		2652.5	0.15	4.78	27.78	23.15	206.538	Vertical	Pass
5.0MHz BW 16 QAM	25/0	2557.5	-0.18	4.75	27.68	22.75	188.365	Vertical	Pass
		2605	-0.72	4.75	27.72	22.25	167.880	Vertical	Pass
		2652.5	-1.02	4.78	27.78	21.98	157.761	Vertical	Pass
10.0MHz BW QPSK	50/0	2560	0.52	4.75	27.68	23.45	221.309	Vertical	Pass
		2605	0.42	4.75	27.72	23.39	218.273	Vertical	Pass
		2650	0.29	4.78	27.78	23.29	213.304	Vertical	Pass
10.0MHz BW 16 QAM	50/0	2560	-0.47	4.75	27.68	22.46	176.198	Vertical	Pass
		2605	-0.72	4.75	27.72	22.25	167.880	Vertical	Pass
		2650	-0.77	4.77	27.78	22.24	167.494	Vertical	Pass
15.0MHz BW QPSK	75/0	2562.5	0.43	4.75	27.68	23.36	216.770	Vertical	Pass
		2605	0.44	4.75	27.72	23.41	219.280	Vertical	Pass
		2648.5	0.29	4.78	27.78	23.29	213.304	Vertical	Pass
15.0MHz BW 16 QAM	75/0	2562.5	-0.47	4.75	27.68	22.46	176.198	Vertical	Pass
		2605	-0.52	4.75	27.72	22.45	175.792	Vertical	Pass
		2648.5	-0.66	4.77	27.78	22.35	171.791	Vertical	Pass
20.0MHz BW QPSK	100/ 0	2565	0.52	4.75	27.68	23.45	221.309	Vertical	Pass
		2605	0.39	4.75	27.72	23.36	216.770	Vertical	Pass
		2645	0.29	4.78	27.78	23.29	213.304	Vertical	Pass
20.0MHz BW 16 QAM	100/ 0	2565	-0.48	4.75	27.68	22.45	175.792	Vertical	Pass
		2605	-0.60	4.75	27.72	22.37	172.584	Vertical	Pass
		2645	-0.70	4.77	27.78	22.31	170.216	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238 and §27.53

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:
a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and
b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 17
LTE Band 41

RESULTS

PASS

9.1 LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3701.4	-53.04	4.04	33.51	-23.57	-13	-10.57	Horizontal
3701.4	-55.32	4.04	33.51	-25.85	-13	-12.85	Vertical
5552.1	-57.38	5.24	35.84	-26.78	-13	-13.78	Vertical
5552.1	-68.12	5.24	35.84	-37.52	-13	-24.52	Horizontal
Test Results for Mid Channel 1880MHz							
3760	-53.95	4.04	33.56	-24.43	-13	-11.43	Horizontal
3760	-54.57	4.04	33.56	-25.05	-13	-12.05	Vertical
5640	-55.16	5.24	35.91	-24.49	-13	-11.49	Vertical
5640	-57.62	5.24	35.91	-26.95	-13	-13.95	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-53.33	4.04	34.00	-23.37	-13	-10.37	Horizontal
3818.6	-55.78	4.04	34.00	-25.82	-13	-12.82	Vertical
5727.9	-58.02	5.24	36.04	-27.22	-13	-14.22	Vertical
5727.9	-57.73	5.24	36.04	-26.93	-13	-13.93	Horizontal

QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3720	-58.07	4.07	33.54	-28.60	-13	-15.60	Horizontal
3720	-52.34	4.07	33.54	-22.87	-13	-9.87	Vertical
5580	-59.44	5.28	35.86	-28.86	-13	-15.86	Vertical
5580	-60.40	5.28	35.86	-29.82	-13	-16.82	Horizontal
Test Results for Mid Channel 1880MHz							
3760	-57.61	4.04	33.56	-28.09	-13	-15.09	Horizontal
3760	-54.36	4.04	33.56	-24.84	-13	-11.84	Vertical
5640	-58.40	5.24	35.91	-27.73	-13	-14.73	Vertical
5640	-59.12	5.24	35.91	-28.45	-13	-15.45	Horizontal
Test Results for High Channel 1900MHz							
3800	-56.13	4.04	34.00	-26.17	-13	-13.17	Horizontal
3800	-57.48	4.04	34.00	-27.52	-13	-14.52	Vertical
5700	-58.76	5.24	36.04	-27.96	-13	-14.96	Vertical
5700	-57.37	5.24	36.04	-26.57	-13	-13.57	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.2 LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3421.4	-60.57	4.02	29.80	-34.79	-13	-21.79	Horizontal
3421.4	-58.19	4.02	29.80	-32.41	-13	-19.41	Vertical
5132.1	-61.32	5.24	35.84	-30.72	-13	-17.72	Vertical
5132.1	-63.10	5.24	35.84	-32.50	-13	-19.50	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465	-52.10	4.03	30.00	-26.13	-13	-13.13	Horizontal
3465	-55.70	4.03	30.00	-29.73	-13	-16.73	Vertical
5197.5	-58.92	5.25	35.86	-28.31	-13	-15.31	Vertical
5197.5	-57.29	5.25	35.86	-26.68	-13	-13.68	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-51.69	4.05	30.01	-25.73	-13	-12.73	Horizontal
3508.6	-58.57	4.05	30.01	-32.61	-13	-19.61	Vertical
5262.9	-57.56	5.26	35.86	-26.96	-13	-13.96	Vertical
5262.9	-56.56	5.26	35.86	-25.96	-13	-12.96	Horizontal

QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3440	-59.34	4.02	29.8	-33.56	-13	-20.56	Horizontal
3440	-53.96	4.02	29.8	-28.18	-13	-15.18	Vertical
5160	-60.24	5.24	35.84	-29.64	-13	-16.64	Vertical
5160	-63.05	5.24	35.84	-32.45	-13	-19.45	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465	-59.27	4.03	30	-33.30	-13	-20.30	Horizontal
3465	-54.99	4.03	30	-29.02	-13	-16.02	Vertical
5197.5	-60.01	5.25	35.86	-29.40	-13	-16.40	Vertical
5197.5	-61.29	5.25	35.86	-30.68	-13	-17.68	Horizontal
Test Results for High Channel 1745MHz							
2490	-57.98	2.91	27.68	-33.21	-13	-20.21	Horizontal
3490	-59.39	2.91	27.68	-34.62	-13	-21.62	Vertical
5235	-60.47	5.26	35.86	-29.87	-13	-16.87	Vertical
5235	-57.94	5.26	35.86	-27.34	-13	-14.34	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.3 LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1649.4	-51.19	2.78	27.50	-26.47	-13	-13.47	Horizontal
1649.4	-51.50	2.78	27.50	-26.78	-13	-13.78	Vertical
2474.1	-52.75	2.90	27.80	-27.85	-13	-14.85	Vertical
2474.1	-50.13	2.90	27.80	-25.23	-13	-12.23	Horizontal
Test Results For Mid Channel 836.5MHz							
1673	-49.51	2.78	27.48	-24.81	-13	-11.81	Horizontal
1673	-49.28	2.78	27.48	-24.58	-13	-11.58	Vertical
2509.5	-48.24	2.91	27.70	-23.45	-13	-10.45	Vertical
2509.5	-48.16	2.91	27.70	-23.37	-13	-10.37	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-47.24	2.78	27.43	-22.59	-13	-9.59	Horizontal
1696.6	-49.15	2.78	27.43	-24.50	-13	-11.50	Vertical
2544.9	-49.75	2.92	27.74	-24.93	-13	-11.93	Vertical
2544.9	-50.70	2.92	27.74	-25.88	-13	-12.88	Horizontal

QPSK EIRP POWER FOR LTE BAND 5 (10MHZ BANDWIDTH)

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1658	-50.98	2.78	27.50	-26.26	-13	-13.26	Horizontal
1658	-49.92	2.78	27.50	-25.20	-13	-12.20	Vertical
2487	-49.32	2.90	27.80	-24.42	-13	-11.42	Vertical
2487	-48.72	2.90	27.80	-23.82	-13	-10.82	Horizontal
Test Results For Mid Channel 836.5MHz							
1673	-51.83	2.78	27.48	-27.13	-13	-14.13	Horizontal
1673	-49.45	2.78	27.48	-24.75	-13	-11.75	Vertical
2509.5	-53.69	2.91	27.70	-28.90	-13	-15.90	Vertical
2509.5	-51.63	2.91	27.70	-26.84	-13	-13.84	Horizontal
Test Results for High Channel 844MHz							
1688	-54.14	2.78	27.43	-29.49	-13	-16.49	Horizontal
1688	-51.07	2.78	27.43	-26.42	-13	-13.42	Vertical
2532	-48.92	2.92	27.74	-24.10	-13	-11.10	Vertical
2532	-48.22	2.92	27.74	-23.40	-13	-10.40	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.4 LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5005	-64.35	5.23	35.81	-33.77	-25	-8.77	Horizontal
5005	-63.18	5.23	35.81	-32.60	-25	-7.60	Vertical
7507.5	-64.09	5.67	36.85	-32.91	-25	-7.91	Vertical
7507.5	-70.83	5.67	36.85	-39.65	-25	-14.65	Horizontal
Test Results for Mid Channel 2535MHz							
5070	-65.19	5.23	35.82	-34.6	-25	-9.60	Horizontal
5070	-66.81	5.23	35.82	-36.22	-25	-11.22	Vertical
7605	-64.08	5.67	36.85	-32.90	-25	-7.90	Vertical
7605	-65.17	5.67	36.85	-33.99	-25	-8.99	Horizontal
Test Results for High Channel 2567.5MHz							
5135	-65.54	5.24	35.83	-34.95	-25	-9.95	Horizontal
5135	-66.08	5.24	35.83	-35.49	-25	-10.49	Vertical
7702.5	-63.18	5.68	36.87	-31.99	-25	-6.99	Vertical
7702.5	-67.06	5.68	36.87	-35.87	-25	-10.87	Horizontal

QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 2510MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5020	-66.08	5.23	35.82	-35.49	-25	-10.49	Horizontal
5020	-65.18	5.23	35.82	-34.59	-25	-9.59	Vertical
7530	-67.31	5.67	36.86	-36.12	-25	-11.12	Vertical
7530	-66.33	5.67	36.86	-35.14	-25	-10.14	Horizontal
Test Results for Mid Channel 2535MHz							
5070	-65.86	5.23	35.82	-35.27	-25	-10.27	Horizontal
5070	-64.09	5.23	35.82	-33.50	-25	-8.50	Vertical
7605	-66.28	5.67	36.85	-35.10	-25	-10.10	Vertical
7605	-64.56	5.67	36.85	-33.38	-25	-8.38	Horizontal
Test Results for High Channel 2560MHz							
5120	-67.18	5.24	35.83	-36.59	-25	-11.59	Horizontal
5120	-64.38	5.24	35.83	-33.79	-25	-8.79	Vertical
7680	-65.64	5.7	36.88	-34.46	-25	-9.46	Vertical
7680	-63.56	5.7	36.88	-32.38	-25	-7.38	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.5 LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1399.4	-49.30	2.60	27.20	-24.70	-13	-11.70	Horizontal
1399.4	-50.20	2.60	27.20	-25.60	-13	-12.60	Vertical
2099.1	-50.34	2.85	27.54	-25.65	-13	-12.65	Vertical
2099.1	-49.35	2.85	27.54	-24.66	-13	-11.66	Horizontal
Test Results For Mid Channel 707.5MHz							
1415	-52.16	2.61	27.28	-27.49	-13	-14.49	Horizontal
1415	-49.92	2.61	27.28	-25.25	-13	-12.25	Vertical
2122.5	-48.23	2.87	27.59	-23.51	-13	-10.51	Vertical
2122.5	-52.73	2.87	27.59	-28.01	-13	-15.01	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-52.36	2.63	27.28	-27.71	-13	-14.71	Horizontal
1430.6	-56.90	2.63	27.28	-32.25	-13	-19.25	Vertical
2145.9	-53.64	2.88	27.60	-28.92	-13	-15.92	Vertical
2145.9	-52.00	2.88	27.60	-27.28	-13	-14.28	Horizontal

QPSK EIRP POWER FOR LTE BAND 12 (10MHZ BANDWIDTH)

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1408	-49.96	2.61	27.26	-25.31	-13	-12.31	Horizontal
1408	-53.42	2.61	27.26	-28.77	-13	-15.77	Vertical
2112	-52.60	2.87	27.58	-27.89	-13	-14.89	Vertical
2112	-53.68	2.87	27.58	-28.97	-13	-15.97	Horizontal
Test Results for Mid Channel 707.5MHz							
1408	-49.96	2.61	27.26	-25.31	-13	-12.31	Horizontal
1408	-53.42	2.61	27.26	-28.77	-13	-15.77	Vertical
2112	-52.60	2.87	27.58	-27.89	-13	-14.89	Vertical
2112	-53.68	2.87	27.58	-28.97	-13	-15.97	Horizontal
Test Results for High Channel 711MHz							
1422	-54.54	2.62	27.28	-29.88	-13	-16.88	Horizontal
1422	-50.15	2.62	27.28	-25.49	-13	-12.49	Vertical
2133	-53.80	2.87	27.60	-29.07	-13	-16.07	Vertical
2133	-57.48	2.87	27.60	-32.75	-13	-19.75	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.6 LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (5MHZ BANDWIDTH)

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1413	-51.18	2.61	27.28	-26.51	-13	-13.51	Horizontal
1413	-51.19	2.61	27.28	-26.52	-13	-13.52	Vertical
2119.5	-52.72	2.87	27.59	-28.00	-13	-15.00	Vertical
2119.5	-50.36	2.87	27.59	-25.64	-13	-12.64	Horizontal
Test Results For Mid Channel 710MHz							
1420	-50.01	2.62	27.30	-25.33	-13	-12.33	Horizontal
1420	-49.44	2.62	27.30	-24.76	-13	-11.76	Vertical
2130	-48.32	2.87	27.62	-23.57	-13	-10.57	Vertical
2130	-48.55	2.87	27.62	-23.80	-13	-10.80	Horizontal
Test Results for High Channel 713.5MHz							
1427	-47.64	2.66	27.28	-23.02	-13	-10.02	Horizontal
1427	-49.62	2.66	27.28	-25.00	-13	-12.00	Vertical
2140.5	-50.09	2.88	27.60	-25.37	-13	-12.37	Vertical
2140.5	-50.39	2.88	27.60	-25.67	-13	-12.67	Horizontal

QPSK EIRP POWER FOR LTE BAND 17 (10MHZ BANDWIDTH)

Test Results for Low Channel 709MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1418	-51.06	2.62	27.30	-26.38	-13	-13.38	Horizontal
1418	-49.58	2.62	27.30	-24.90	-13	-11.90	Vertical
2127	-49.86	2.87	27.62	-25.11	-13	-12.11	Vertical
2127	-48.57	2.87	27.62	-23.82	-13	-10.82	Horizontal
Test Results for Mid Channel 710MHz							
1420	-52.38	2.62	27.30	-27.70	-13	-14.70	Horizontal
1420	-49.05	2.62	27.30	-24.37	-13	-11.37	Vertical
2130	-53.96	2.87	27.62	-29.21	-13	-16.21	Vertical
2130	-51.52	2.87	27.62	-26.77	-13	-13.77	Horizontal
Test Results for High Channel 711MHz							
1422	-53.44	2.62	27.30	-28.76	-13	-15.76	Horizontal
1422	-50.65	2.62	27.30	-25.97	-13	-12.97	Vertical
2133	-48.63	2.87	27.62	-23.88	-13	-10.88	Vertical
2133	-48.25	2.87	27.62	-23.50	-13	-10.50	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

9.7 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (5MHZ BANDWIDTH)

Test Results for Low Channel 2555MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5110	-67.26	4.01	29.8	-41.47	-25	-16.47	Horizontal
5110	-65.61	4.01	29.8	-39.82	-25	-14.82	Vertical
7665	-65.65	5.16	35.84	-34.97	-25	-9.97	Vertical
7665	-64.55	5.16	35.84	-33.87	-25	-8.87	Horizontal
Test Results for Mid Channel 2605MHz							
5210	-66.03	4.11	30	-40.14	-25	-15.14	Horizontal
5210	-63.59	4.11	30	-37.70	-25	-12.70	Vertical
7815	-65.13	5.34	35.86	-34.61	-25	-9.61	Vertical
7815	-62.57	5.34	35.86	-32.05	-25	-7.05	Horizontal
Test Results for High Channel 2655MHz							
5310	-66.84	4.04	30.01	-40.87	-25	-15.87	Horizontal
5310	-64.51	4.04	30.01	-38.54	-25	-13.54	Vertical
7965	-67.09	5.13	35.86	-36.36	-25	-11.36	Vertical
7965	-63.59	5.13	35.86	-32.86	-25	-7.86	Horizontal

QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 2562.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5125	-68.16	4.05	29.8	-42.41	-25	-17.41	Horizontal
5125	-65.24	4.05	29.8	-39.49	-25	-14.49	Vertical
7687.5	-66.29	5.21	35.84	-35.66	-25	-10.66	Vertical
7687.5	-65.92	5.21	35.84	-35.29	-25	-10.29	Horizontal
Test Results for Mid Channel 2605MHz							
5210	-68.03	4.11	30	-42.14	-25	-17.14	Horizontal
5210	-66.24	4.11	30	-40.35	-25	-15.35	Vertical
7815	-67.53	5.34	35.86	-37.01	-25	-12.01	Vertical
7815	-64.18	5.34	35.86	-33.66	-25	-8.66	Horizontal
Test Results for High Channel 2647.5MHz							
5295	-66.82	2.64	27.68	-41.78	-25	-16.78	Horizontal
5295	-63.64	2.64	27.68	-38.60	-25	-13.60	Vertical
7942.5	-68.06	5.22	35.86	-37.42	-25	-12.42	Vertical
7942.5	-66.72	5.22	35.86	-36.08	-25	-11.08	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

10. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

Temp. = −30° to +50°C

Voltage =low voltage, DC 3.2V, Normal, DC 3.7V and High voltage, DC DC 4.2V.

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to -30ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

LTE Band 2

LTE Band 4

LTE Band 5

LTE Band 7

LTE Band 12

LTE Band 17

LTE Band 41

RESULTS

See the following pages.

10.1 LTE BAND 2

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1880	-5	-0.002660	2.5
3.7	1880	-5.1	-0.002713	2.5
4.2	1880	-4.6	-0.002447	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	-5.2	-0.002766	2.5
Extreme (50C)	1880	-4.9	-0.002606	2.5
Extreme (40C)	1880	-6.3	-0.003351	2.5
Extreme (30C)	1880	-2.8	-0.001489	2.5
Extreme (10C)	1880	-3.7	-0.001968	2.5
Extreme (0C)	1880	-4.8	-0.002553	2.5
Extreme (-10C)	1880	-5.5	-0.002926	2.5
Extreme (-20C)	1880	-4.3	-0.002287	2.5
Extreme (-30C)	1880	-3.9	-0.002074	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1880	-6.9	-0.003670	2.5
3.7	1880	-11.3	-0.006011	2.5
4.2	1880	-8.2	-0.004362	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	-11.2	-0.005957	2.5
Extreme (50C)	1880	-6.9	-0.003670	2.5
Extreme (40C)	1880	-5.8	-0.003085	2.5
Extreme (30C)	1880	-10.5	-0.005585	2.5
Extreme (10C)	1880	-10.3	-0.005479	2.5
Extreme (0C)	1880	-6.8	-0.003617	2.5
Extreme (-10C)	1880	-7.9	-0.004202	2.5
Extreme (-20C)	1880	-9.2	-0.004894	2.5
Extreme (-30C)	1880	-6.3	-0.003351	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.2 LTE BAND 4

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1732.5	-3.7	-0.002136	2.5
3.7	1732.5	-2.2	-0.001270	2.5
4.2	1732.5	-6.3	-0.003636	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	-5.9	-0.003405	2.5
Extreme (50C)	1732.5	-4.2	-0.002424	2.5
Extreme (40C)	1732.5	-5.8	-0.003348	2.5
Extreme (30C)	1732.5	-7.3	-0.004214	2.5
Extreme (10C)	1732.5	-6.1	-0.003521	2.5
Extreme (0C)	1732.5	-4.3	-0.002482	2.5
Extreme (-10C)	1732.5	-7.9	-0.004560	2.5
Extreme (-20C)	1732.5	-8.5	-0.004906	2.5
Extreme (-30C)	1732.5	-8.1	-0.004675	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1732.5	-6.3	-0.003636	2.5
3.7	1732.5	-4.5	-0.002597	2.5
4.2	1732.5	-6.9	-0.003983	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	-5.9	-0.003405	2.5
Extreme (50C)	1732.5	-6.2	-0.003579	2.5
Extreme (40C)	1732.5	-6.9	-0.003983	2.5
Extreme (30C)	1732.5	-7.1	-0.004098	2.5
Extreme (10C)	1732.5	-5.8	-0.003348	2.5
Extreme (0C)	1732.5	-5.6	-0.003232	2.5
Extreme (-10C)	1732.5	-8.6	-0.004964	2.5
Extreme (-20C)	1732.5	-6.9	-0.003983	2.5
Extreme (-30C)	1732.5	-6.3	-0.003636	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.3 LTE BAND 5

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	-3.9	-0.004662	2.5
3.7	836.5	-3.2	-0.003825	2.5
4.2	836.5	-4.7	-0.005619	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	-6.9	-0.008249	2.5
Extreme (50C)	836.5	-5.2	-0.006216	2.5
Extreme (40C)	836.5	-5.6	-0.006695	2.5
Extreme (30C)	836.5	-3.6	-0.004304	2.5
Extreme (10C)	836.5	-6.5	-0.007770	2.5
Extreme (0C)	836.5	-7.9	-0.009444	2.5
Extreme (-10C)	836.5	-8.2	-0.009803	2.5
Extreme (-20C)	836.5	-4.9	-0.005858	2.5
Extreme (-30C)	836.5	-5.5	-0.006575	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	-6.6	-0.007890	2.5
3.7	836.5	-7.2	-0.008607	2.5
4.2	836.5	-6.8	-0.008129	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	-6.9	-0.008249	2.5
Extreme (50C)	836.5	-8.9	-0.010640	2.5
Extreme (40C)	836.5	-9.1	-0.010879	2.5
Extreme (30C)	836.5	-10.4	-0.012433	2.5
Extreme (10C)	836.5	-11.3	-0.013509	2.5
Extreme (0C)	836.5	-9.7	-0.011596	2.5
Extreme (-10C)	836.5	-8.6	-0.010281	2.5
Extreme (-20C)	836.5	-10.3	-0.012313	2.5
Extreme (-30C)	836.5	-10.3	-0.012313	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.4 LTE BAND 7

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2535	-6.1	-0.002406	2.5
3.7	2535	-9.2	-0.003629	2.5
4.2	2535	-9.6	-0.003787	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	-8.1	-0.003195	2.5
Extreme (50C)	2535	-6.9	-0.002722	2.5
Extreme (40C)	2535	5.3	0.002091	2.5
Extreme (30C)	2535	4.6	0.001815	2.5
Extreme (10C)	2535	4.7	0.001854	2.5
Extreme (0C)	2535	-7.6	-0.002998	2.5
Extreme (-10C)	2535	-6.5	-0.002564	2.5
Extreme (-20C)	2535	-10.2	-0.004024	2.5
Extreme (-30C)	2535	-12.5	-0.004931	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2535	-8.6	-0.003393	2.5
3.7	2535	-7	-0.002761	2.5
4.2	2535	-9.6	-0.003787	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	-6.9	-0.002722	2.5
Extreme (50C)	2535	-9.2	-0.003629	2.5
Extreme (40C)	2535	-9.5	-0.003748	2.5
Extreme (30C)	2535	-10.2	-0.004024	2.5
Extreme (10C)	2535	-11.3	-0.004458	2.5
Extreme (0C)	2535	-9.7	-0.003826	2.5
Extreme (-10C)	2535	-8.6	-0.003393	2.5
Extreme (-20C)	2535	-8.6	-0.003393	2.5
Extreme (-30C)	2535	-9.1	-0.003590	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.5 LTE BAND 12

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	707.5	-5.3	-0.007491	2.5
3.7	707.5	-5.6	-0.007915	2.5
4.2	707.5	-5.1	-0.007208	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	707.5	-5.4	-0.007633	2.5
Extreme (50C)	707.5	-5.9	-0.008339	2.5
Extreme (40C)	707.5	-5.1	-0.007208	2.5
Extreme (30C)	707.5	-6.2	-0.008763	2.5
Extreme (10C)	707.5	-5.8	-0.008198	2.5
Extreme (0C)	707.5	-4.9	-0.006926	2.5
Extreme (-10C)	707.5	-5.3	-0.007491	2.5
Extreme (-20C)	707.5	-5.4	-0.007633	2.5
Extreme (-30C)	707.5	-6.2	-0.008763	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 12 16QAM, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	707.5	-9.3	-0.013145	2.5
3.7	707.5	-9.1	-0.012862	2.5
4.2	707.5	-9.7	-0.013710	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	707.5	-8.6	-0.012155	2.5
Extreme (50C)	707.5	-4.6	-0.006502	2.5
Extreme (40C)	707.5	-6.2	-0.008763	2.5
Extreme (30C)	707.5	-8.7	-0.012297	2.5
Extreme (10C)	707.5	-6.4	-0.009046	2.5
Extreme (0C)	707.5	-4.9	-0.006926	2.5
Extreme (-10C)	707.5	-7.8	-0.011025	2.5
Extreme (-20C)	707.5	-8.5	-0.012014	2.5
Extreme (-30C)	707.5	-8.2	-0.011590	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.6 LTE BAND 17

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	710.0	-9.1	-0.012817	2.5
3.7	710.0	-9.7	-0.013662	2.5
4.2	710.0	-9.3	-0.013099	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	710.0	-9.5	-0.013380	2.5
Extreme (50C)	710.0	-6.4	-0.009014	2.5
Extreme (40C)	710.0	-5.8	-0.008169	2.5
Extreme (30C)	710.0	-9.4	-0.013239	2.5
Extreme (10C)	710.0	-9.1	-0.012817	2.5
Extreme (0C)	710.0	-6.3	-0.008873	2.5
Extreme (-10C)	710.0	-7.8	-0.010986	2.5
Extreme (-20C)	710.0	-8.8	-0.012394	2.5
Extreme (-30C)	710.0	-8.5	-0.011972	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 16QAM, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	710.0	-14.2	-0.020000	2.5
3.7	710.0	-13.5	-0.019014	2.5
4.2	710.0	-13.2	-0.018592	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	710.0	-13.6	-0.019155	2.5
Extreme (50C)	710.0	-14.5	-0.020423	2.5
Extreme (40C)	710.0	-13.2	-0.018592	2.5
Extreme (30C)	710.0	-13.9	-0.019577	2.5
Extreme (10C)	710.0	-14.7	-0.020704	2.5
Extreme (0C)	710.0	-13.8	-0.019437	2.5
Extreme (-10C)	710.0	-15.2	-0.021408	2.5
Extreme (-20C)	710.0	-13.1	-0.018451	2.5
Extreme (-30C)	710.0	-15.8	-0.022254	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.7 LTE BAND 41

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40740 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2605.0	10.4	0.014700	2.5
3.7	2605.0	12.5	0.017668	2.5
4.2	2605.0	9.8	0.013852	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40740 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2605.0	10.5	0.014841	2.5
Extreme (50C)	2605.0	12.3	0.017385	2.5
Extreme (40C)	2605.0	10.3	0.014558	2.5
Extreme (30C)	2605.0	11.6	0.016396	2.5
Extreme (10C)	2605.0	10.5	0.014841	2.5
Extreme (0C)	2605.0	9.8	0.013852	2.5
Extreme (-10C)	2605.0	10.4	0.014700	2.5
Extreme (-20C)	2605.0	12.5	0.017668	2.5
Extreme (-30C)	2605.0	9.6	0.013569	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40740 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2605.0	10.7	0.015124	2.5
3.7	2605.0	14.6	0.020636	2.5
4.2	2605.0	12.3	0.017385	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40740 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2605.0	10.9	0.015406	2.5
Extreme (50C)	2605.0	11.6	0.016396	2.5
Extreme (40C)	2605.0	12.5	0.017668	2.5
Extreme (30C)	2605.0	11.1	0.015689	2.5
Extreme (10C)	2605.0	9.8	0.013852	2.5
Extreme (0C)	2605.0	8.6	0.012155	2.5
Extreme (-10C)	2605.0	7.9	0.011166	2.5
Extreme (-20C)	2605.0	8.9	0.012580	2.5
Extreme (-30C)	2605.0	11.5	0.016254	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

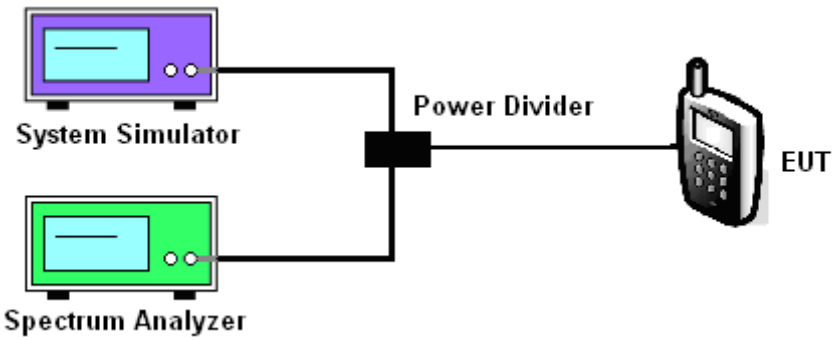
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. For GSM/EGPRS operating modes:
   a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
   b. Set EUT in maximum power output, and triggered the burst signal.
   c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
4. For UMTS operating modes:
   a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
   b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

11.4 Test Setup



MODES TESTED

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 17
LTE Band 41

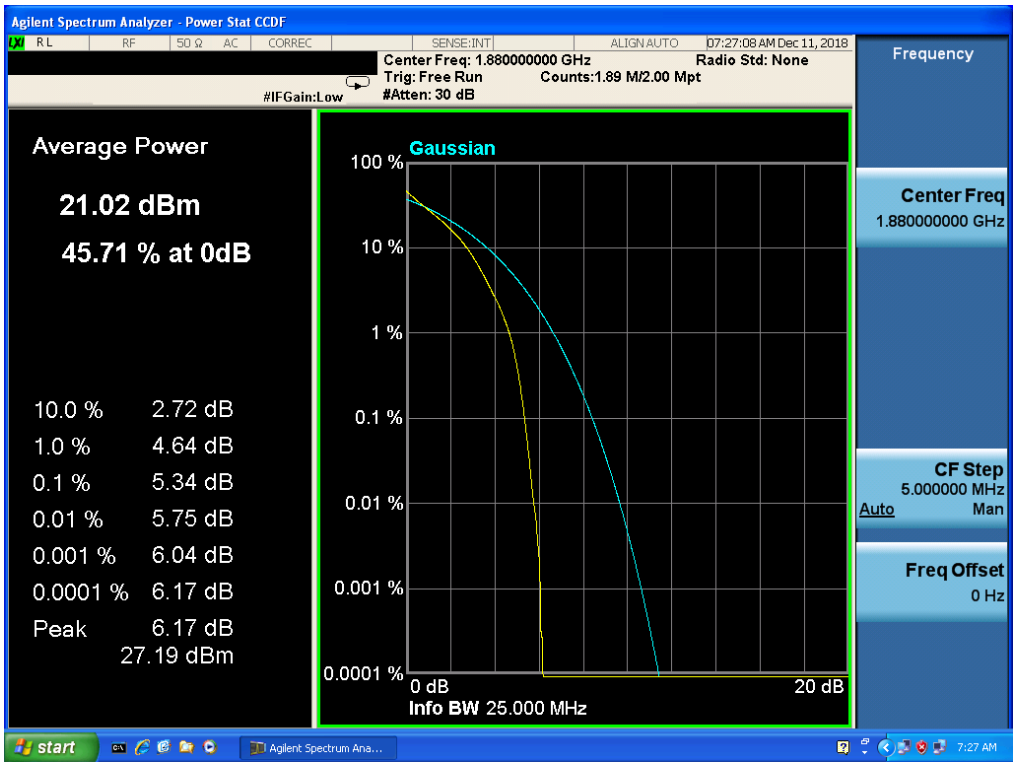
BAND	CHANNEL	Frequency [MHz]	BANDWIDTH	NO. RB	RB POS.	MODULATION	PAR [dB]
2	18900	1880.0	1.4	1	Low	QPSK	5.34
2	18900	1880.0	1.4	1	Low	16-QAM	6.07
2	18900	1880.0	3.0	1	Low	QPSK	5.45
2	18900	1880.0	3.0	1	Low	16-QAM	6.29
2	18900	1880.0	5.0	1	Low	QPSK	5.41
2	18900	1880.0	5.0	1	Low	16-QAM	6.23
2	18900	1880.0	10.0	1	Low	QPSK	5.45
2	18900	1880.0	10.0	1	Low	16-QAM	6.28
2	18900	1880.0	15.0	1	Low	QPSK	5.56
2	18900	1880.0	15.0	1	Low	16-QAM	6.30
2	18900	1880.0	20.0	1	Low	QPSK	5.35
2	18900	1880.0	20.0	1	Low	16-QAM	6.22
4	20175	1732.5	1.4	1	Low	QPSK	5.14
4	20175	1732.5	1.4	1	Low	16-QAM	5.97
4	20175	1732.5	3.0	1	Low	QPSK	5.23
4	20175	1732.5	3.0	1	Low	16-QAM	6.07
4	20175	1732.5	5.0	1	Low	QPSK	5.21
4	20175	1732.5	5.0	1	Low	16-QAM	6.03
4	20175	1732.5	10.0	1	Low	QPSK	5.27
4	20175	1732.5	10.0	1	Low	16-QAM	6.11

4	20175	1732.5	15.0	1	Low	QPSK	5.42
4	20175	1732.5	15.0	1	Low	16-QAM	6.17
4	20175	1732.5	20.0	1	Low	QPSK	5.29
4	20175	1732.5	20.0	1	Low	16-QAM	6.12
5	20525	836.5	1.4	1	Low	QPSK	4.14
5	20525	836.5	1.4	1	Low	16-QAM	4.96
5	20525	836.5	3.0	1	Low	QPSK	4.24
5	20525	836.5	3.0	1	Low	16-QAM	5.06
5	20525	836.5	5.0	1	Low	QPSK	4.20
5	20525	836.5	5.0	1	Low	16-QAM	5.01
5	20525	836.5	10.0	1	Low	QPSK	4.35
5	20525	836.5	10.0	1	Low	16-QAM	5.18
7	21100	2535.0	5.0	1	Low	QPSK	4.94
7	21100	2535.0	5.0	1	Low	16-QAM	5.82
7	21100	2535.0	10.0	1	Low	QPSK	5.11
7	21100	2535.0	10.0	1	Low	16-QAM	5.98
7	21100	2535.0	15.0	1	Low	QPSK	5.18
7	21100	2535.0	15.0	1	Low	16-QAM	5.97
7	21100	2535.0	20.0	1	Low	QPSK	5.10
7	21100	2535.0	20.0	1	Low	16-QAM	5.92
12	23095	707.5	1.4	1	Low	QPSK	3.94
12	23095	707.5	1.4	1	Low	16-QAM	4.87

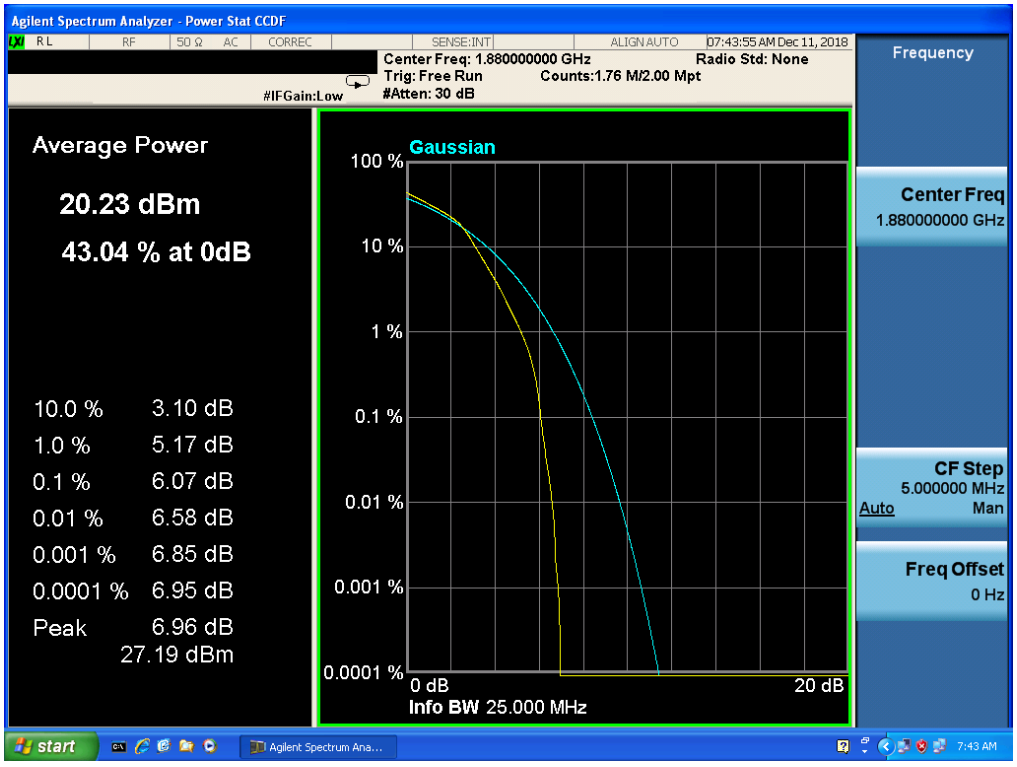
12	23095	707.5	3.0	1	Low	QPSK	3.99
12	23095	707.5	3.0	1	Low	16-QAM	4.81
12	23095	707.5	5.0	1	Low	QPSK	4.01
12	23095	707.5	5.0	1	Low	16-QAM	4.92
12	23095	707.5	10.0	1	Low	QPSK	4.14
12	23095	707.5	10.0	1	Low	16-QAM	4.62
17	23790	710.0	5.0	1	Low	QPSK	3.83
17	23790	710.0	5.0	1	Low	16-QAM	4.70
17	23790	710.0	10.0	1	Low	QPSK	3.96
17	23790	710.0	10.0	1	Low	16-QAM	4.72
41	40740	2605.0	5.0	1	Low	QPSK	5.34
41	40740	2605.0	5.0	1	Low	16-QAM	6.43
41	40740	2605.0	10.0	1	Low	QPSK	5.75
41	40740	2605.0	10.0	1	Low	16-QAM	6.61
41	40740	2605.0	15.0	1	Low	QPSK	5.80
41	40740	2605.0	15.0	1	Low	16-QAM	6.59
41	40740	2605.0	20.0	1	Low	QPSK	5.55
41	40740	2605.0	20.0	1	Low	16-QAM	6.41

11.5 LTE BAND 2

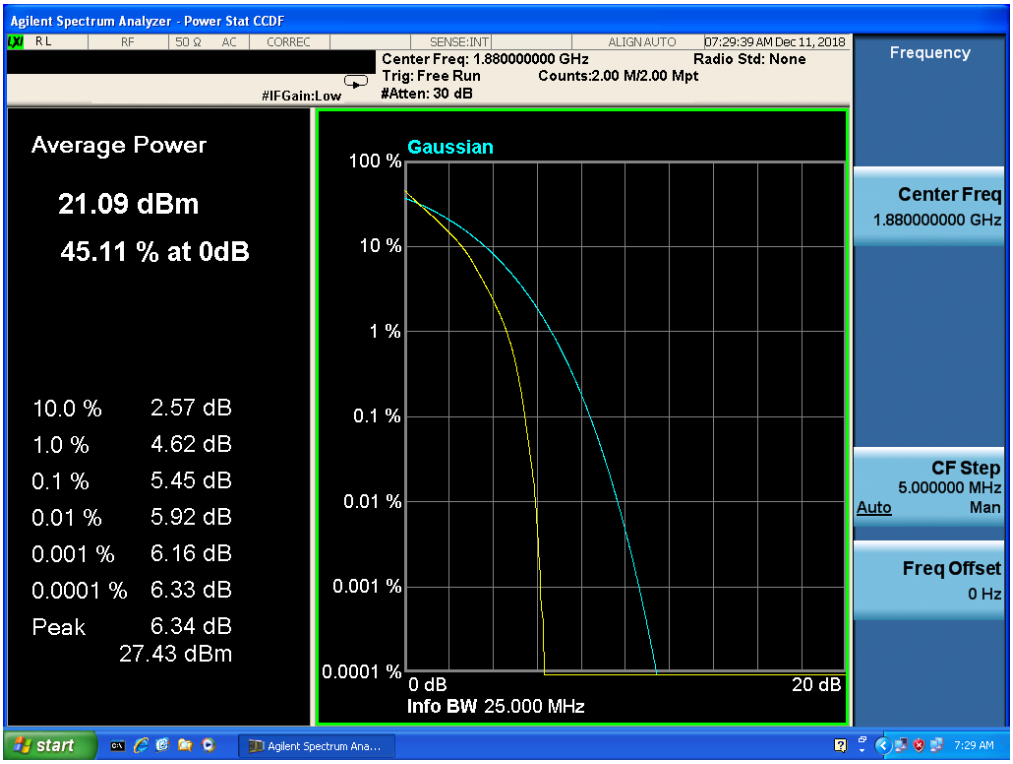
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,QPSK



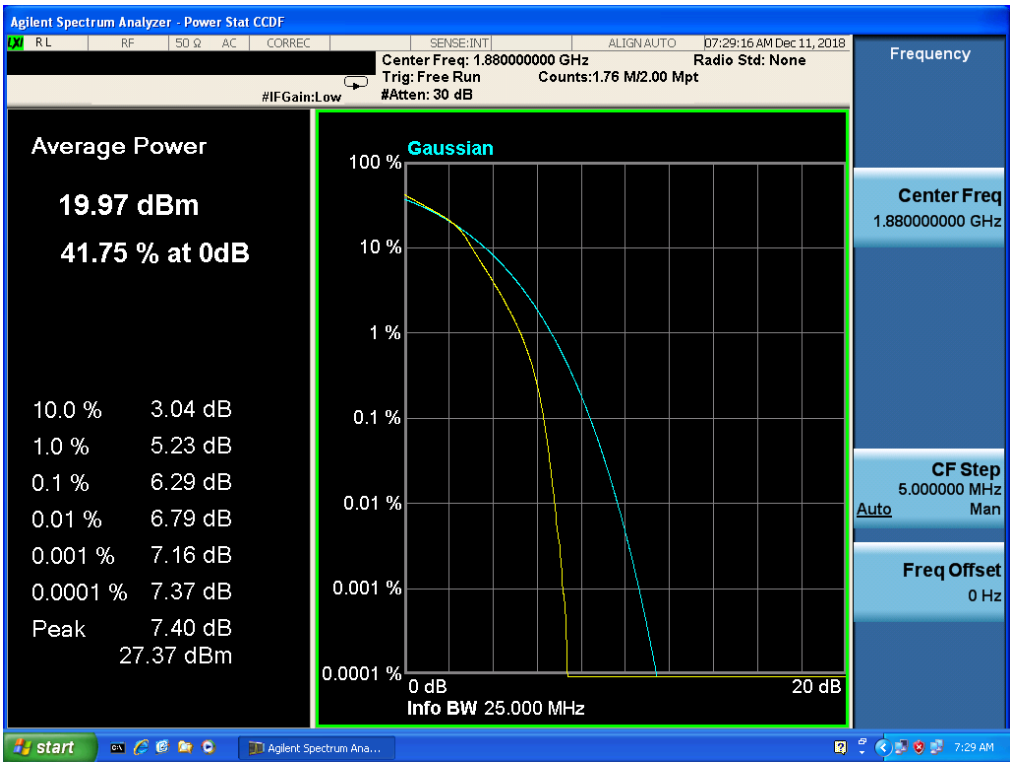
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



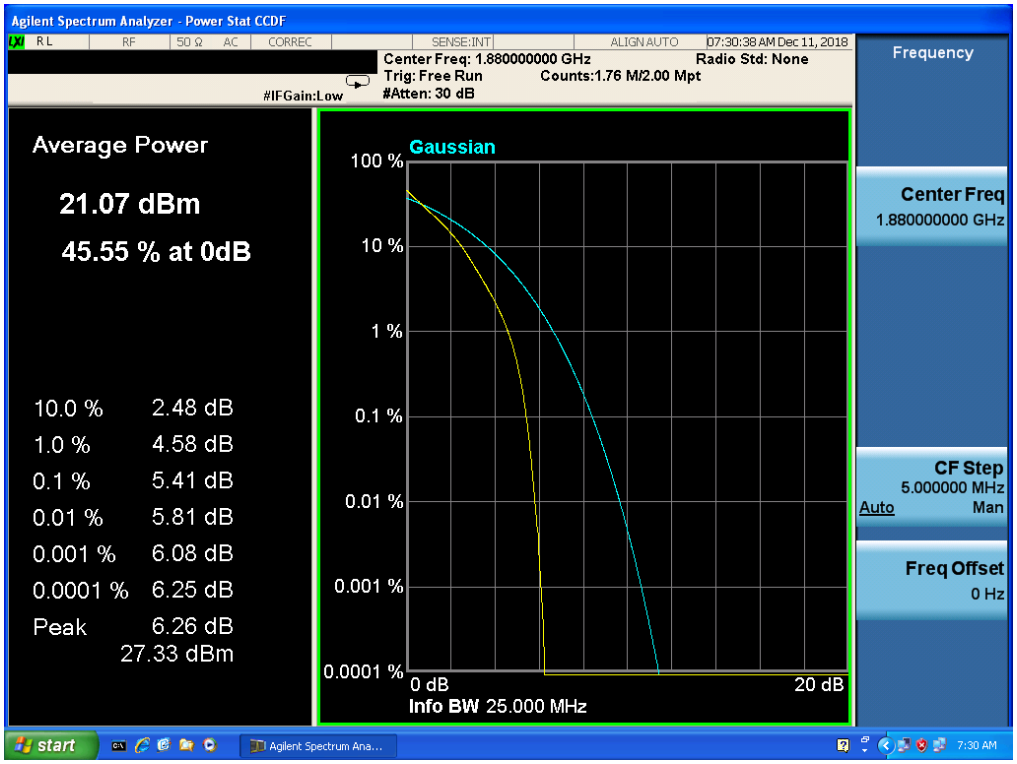
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,QPSK



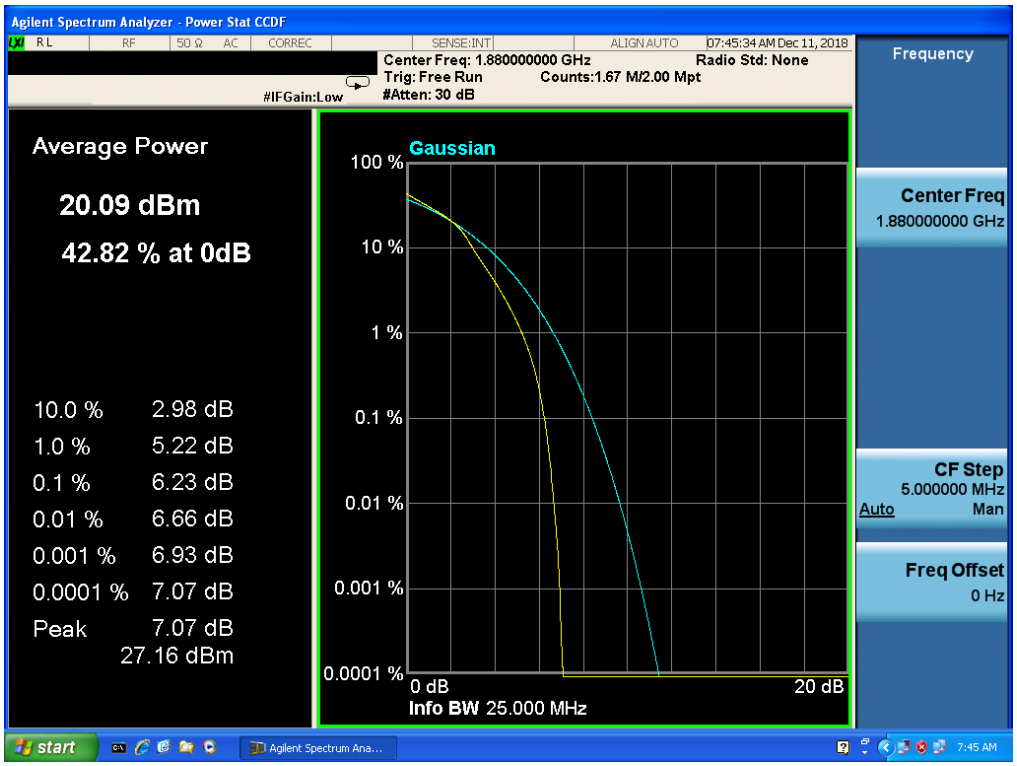
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



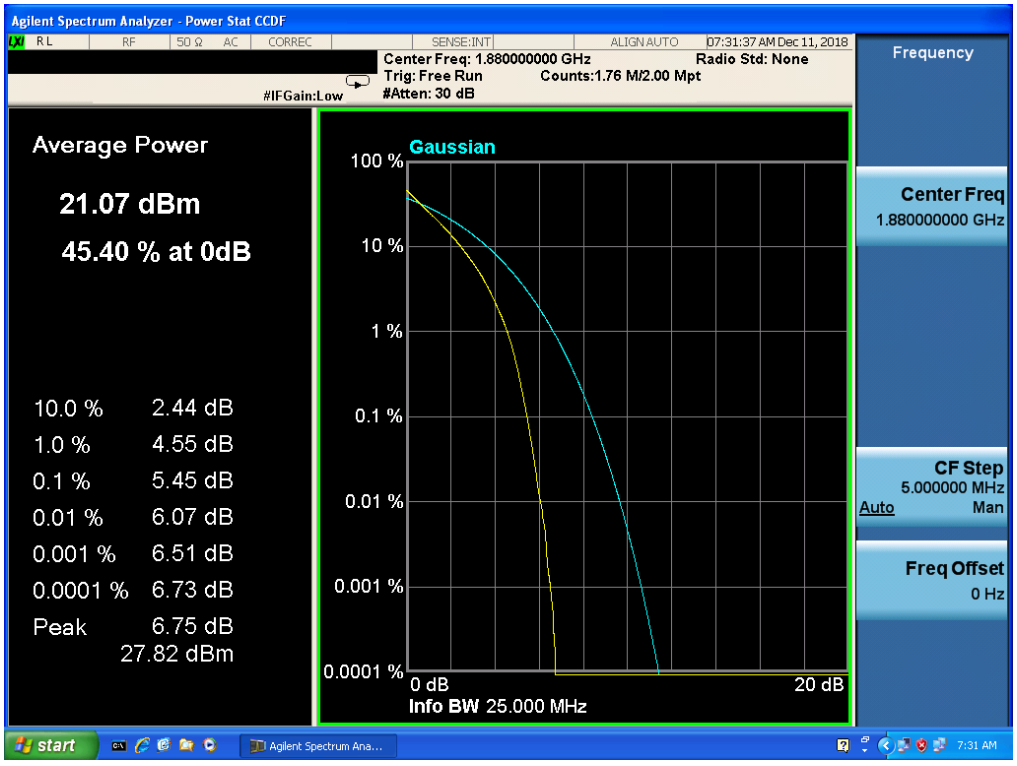
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



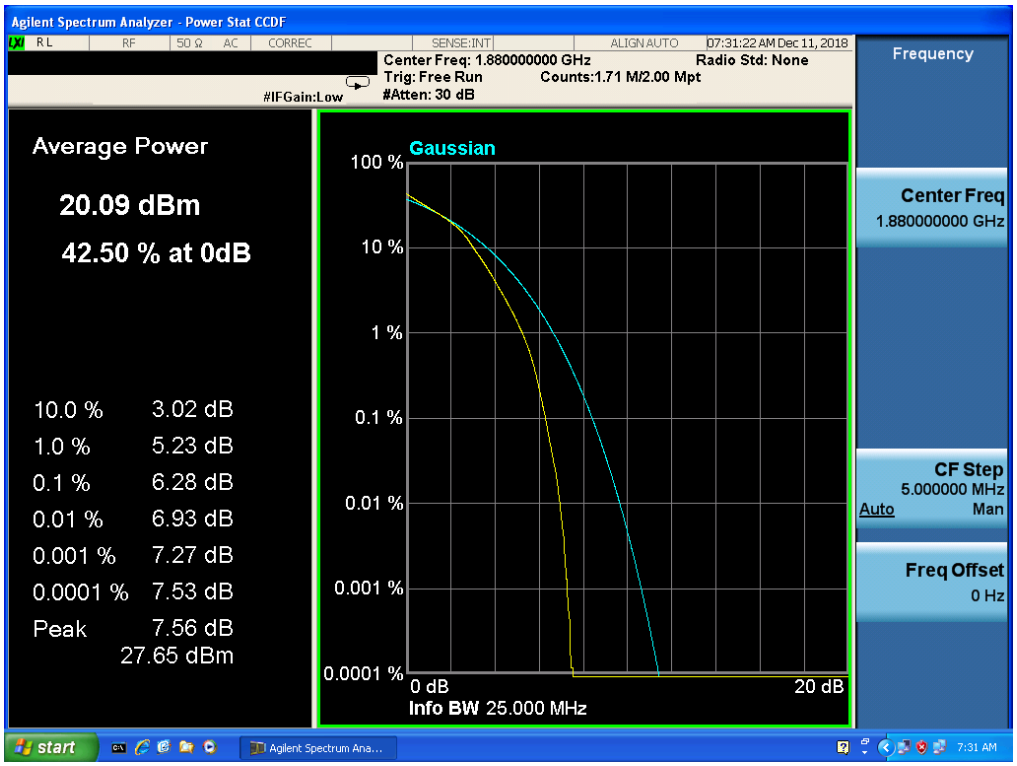
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



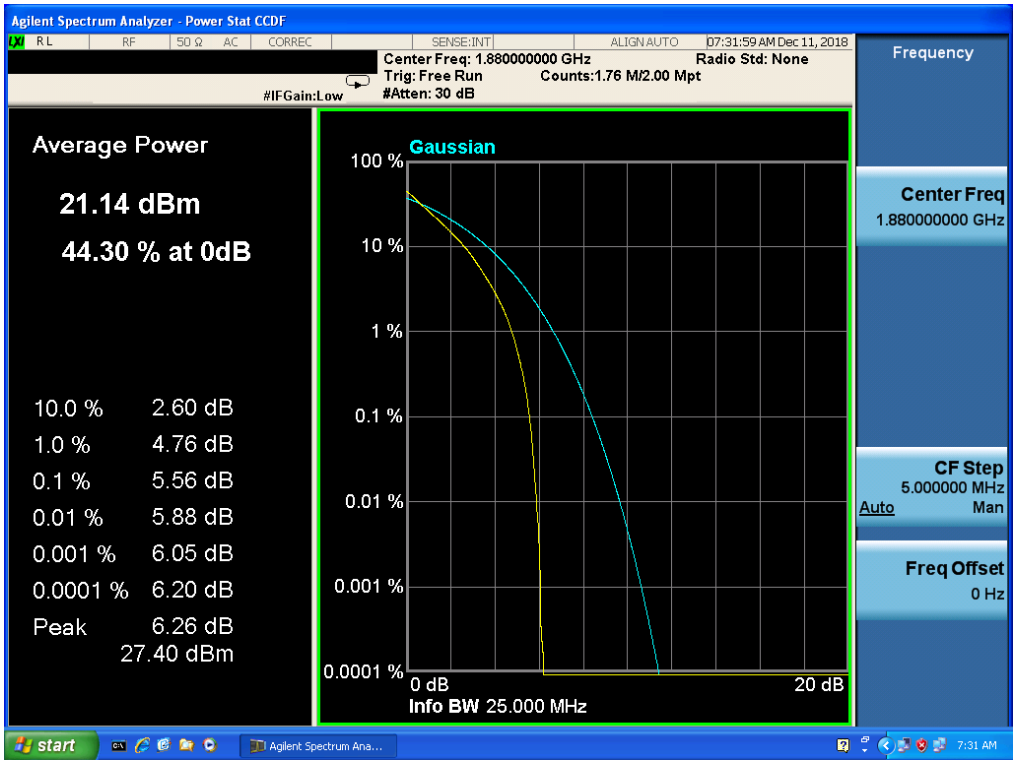
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



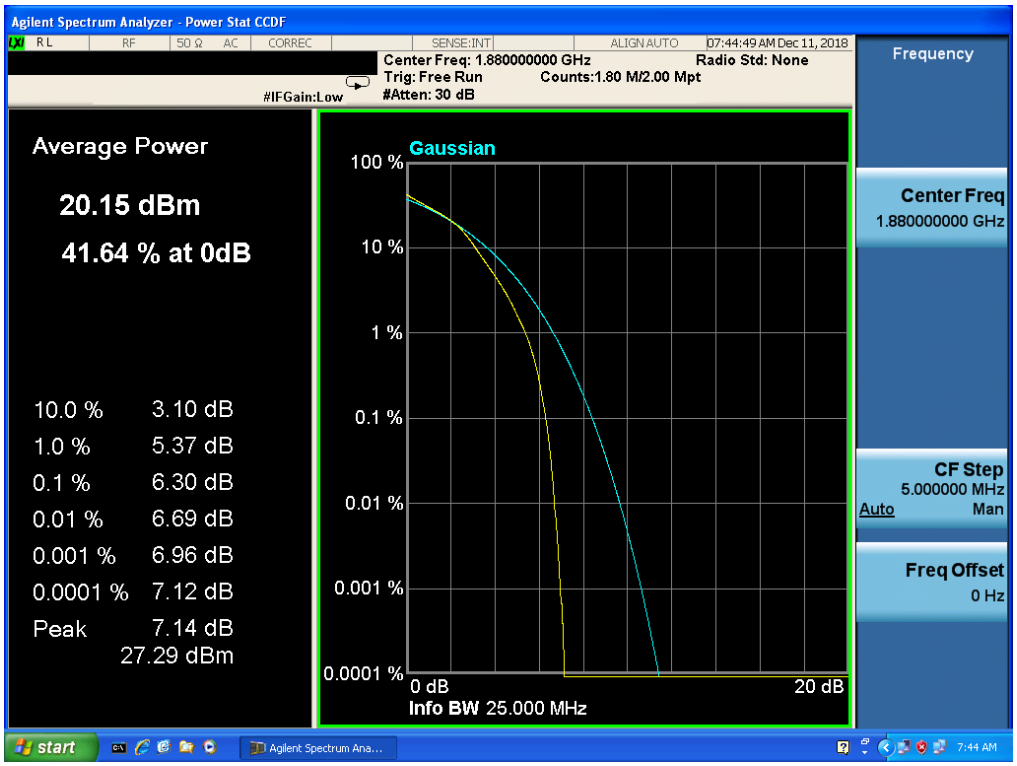
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



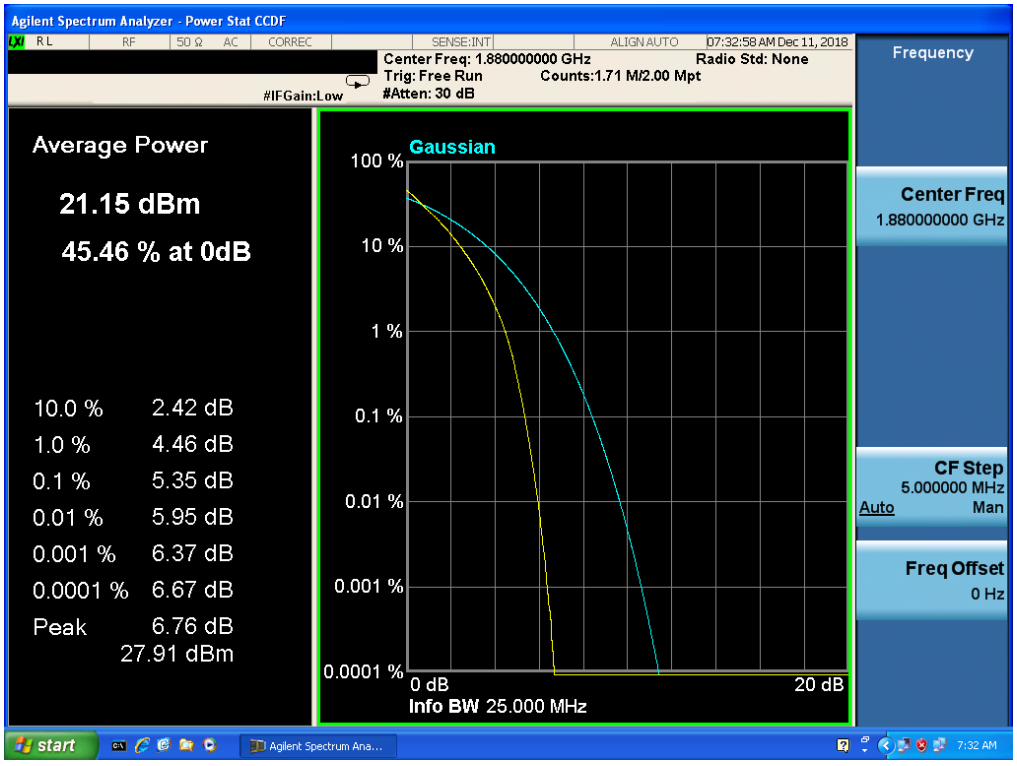
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



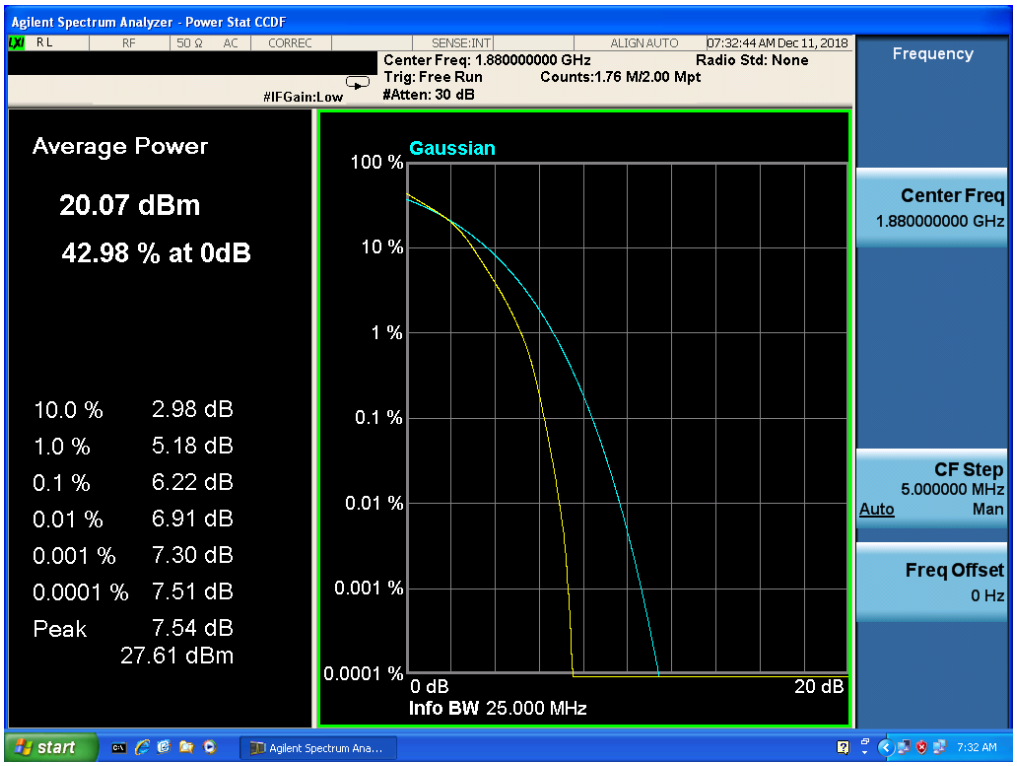
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK

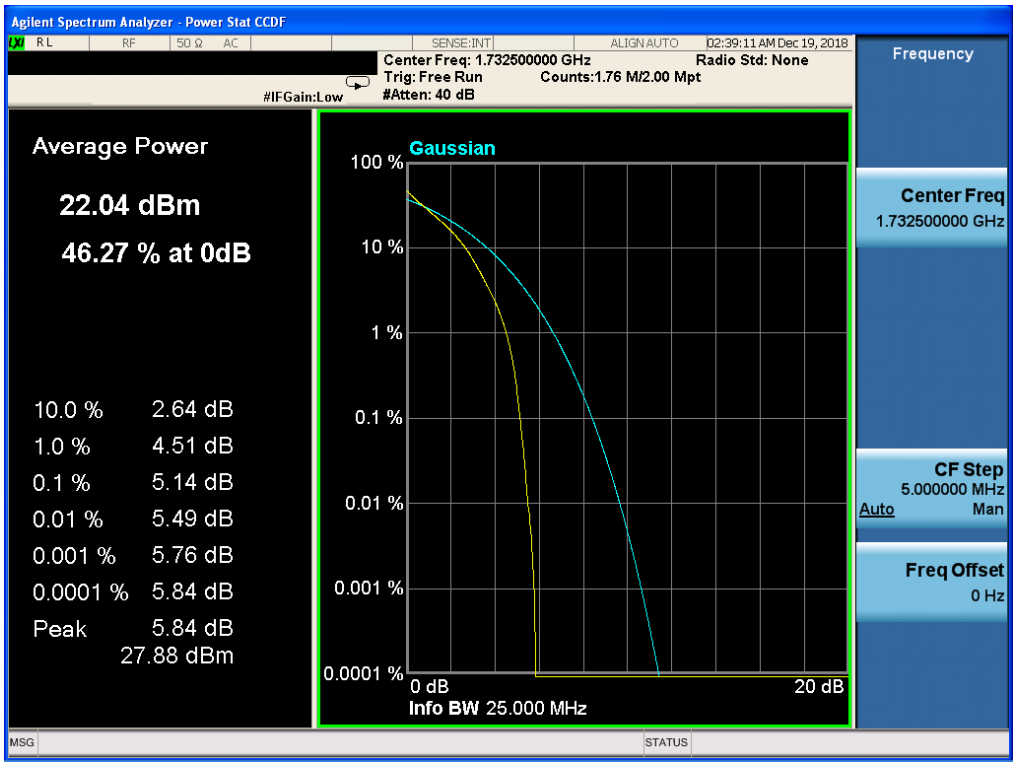


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 1,RB POS. Low,16-QAM

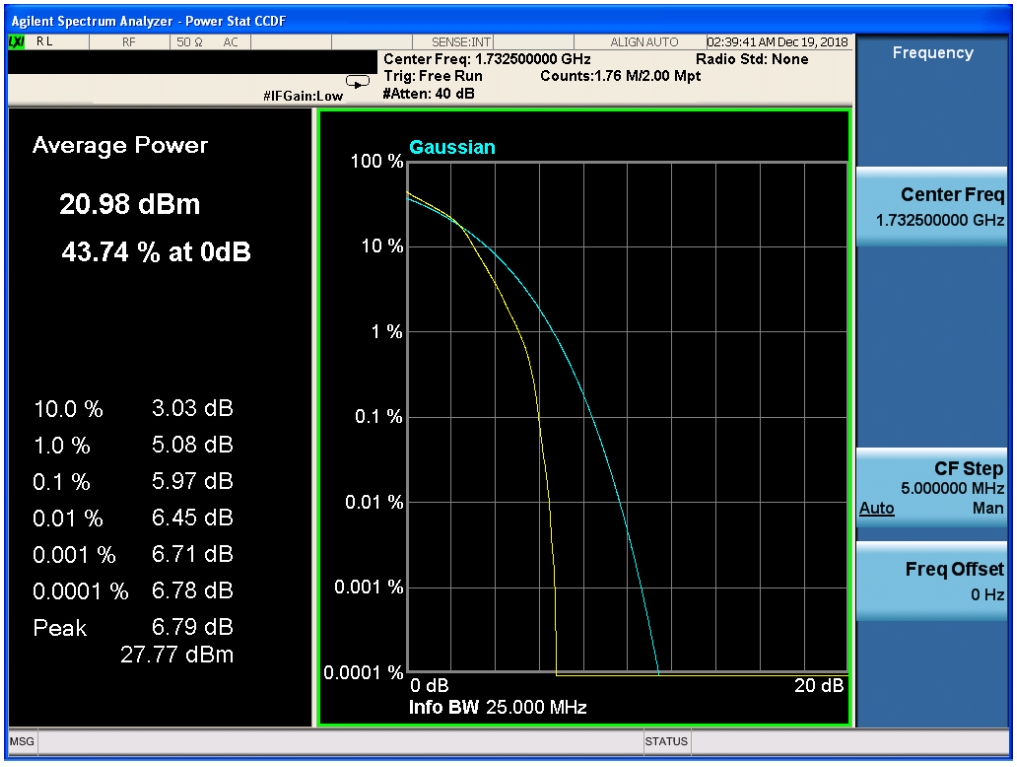


11.6 LTE BAND 4

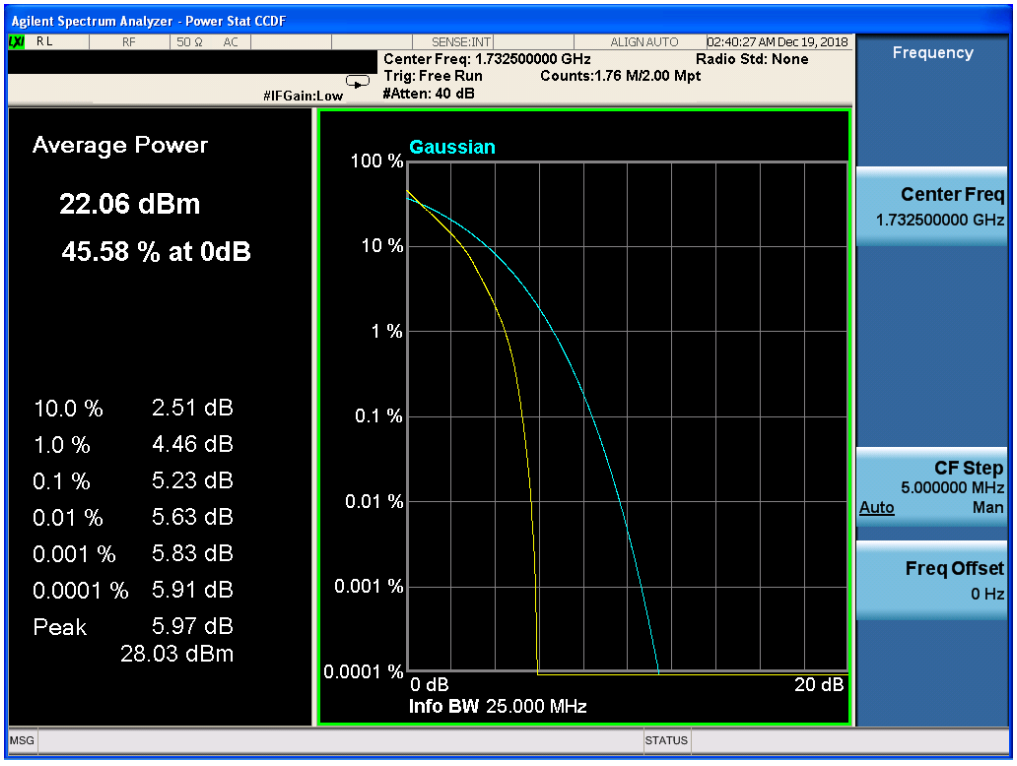
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



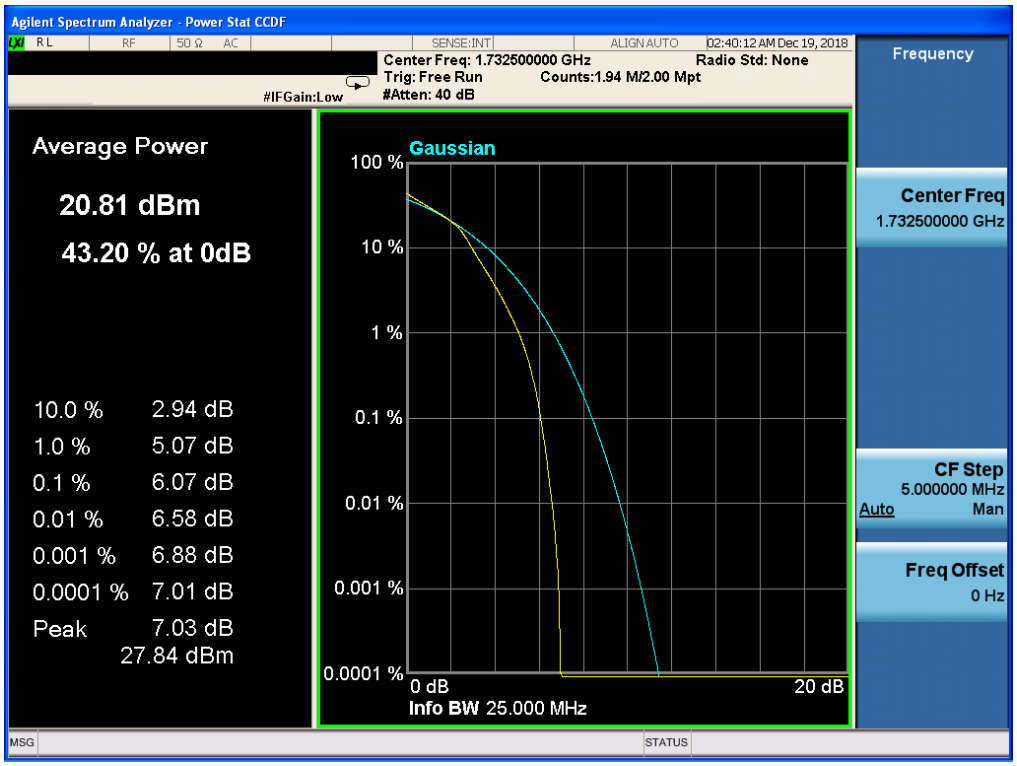
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



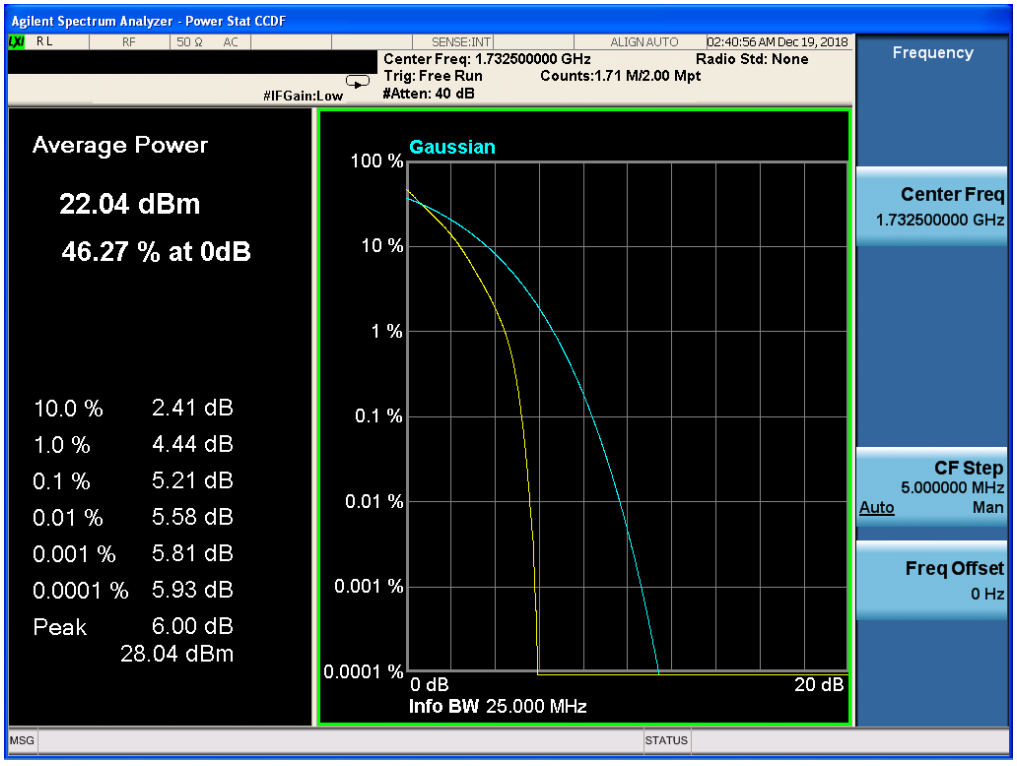
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



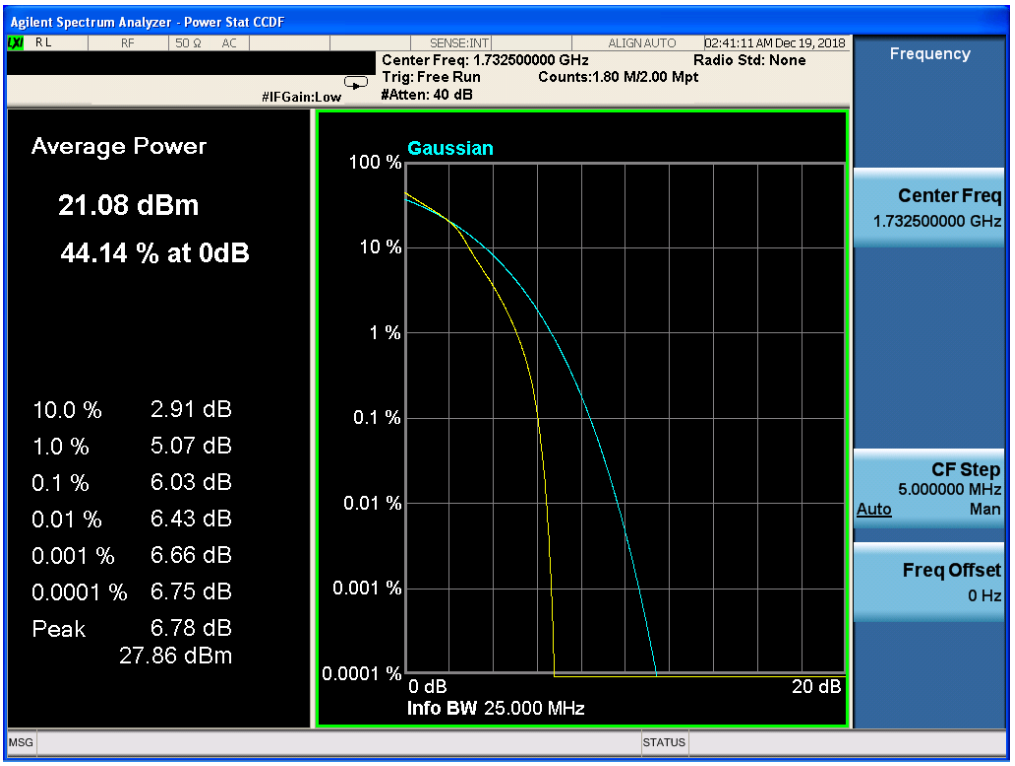
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



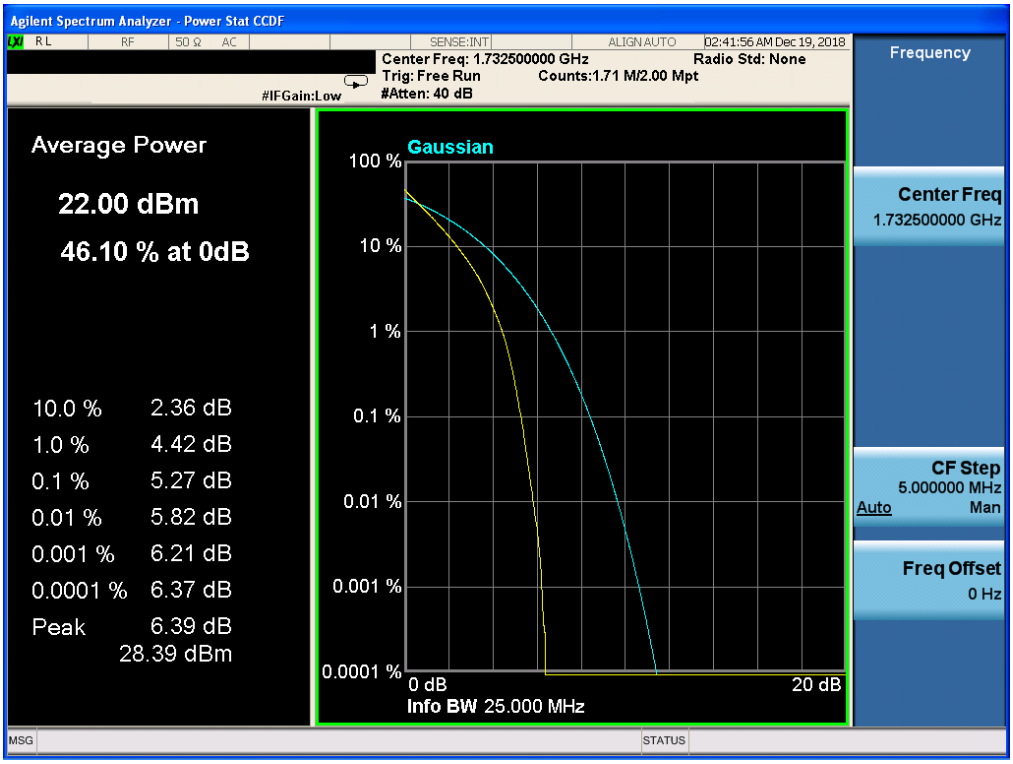
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



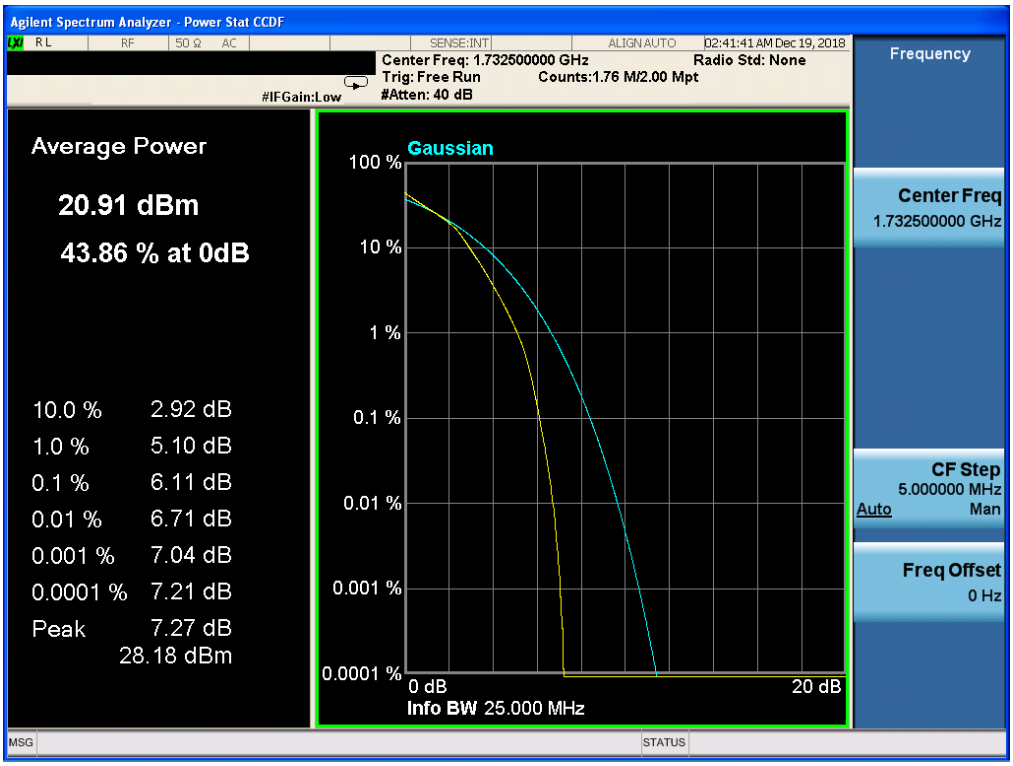
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



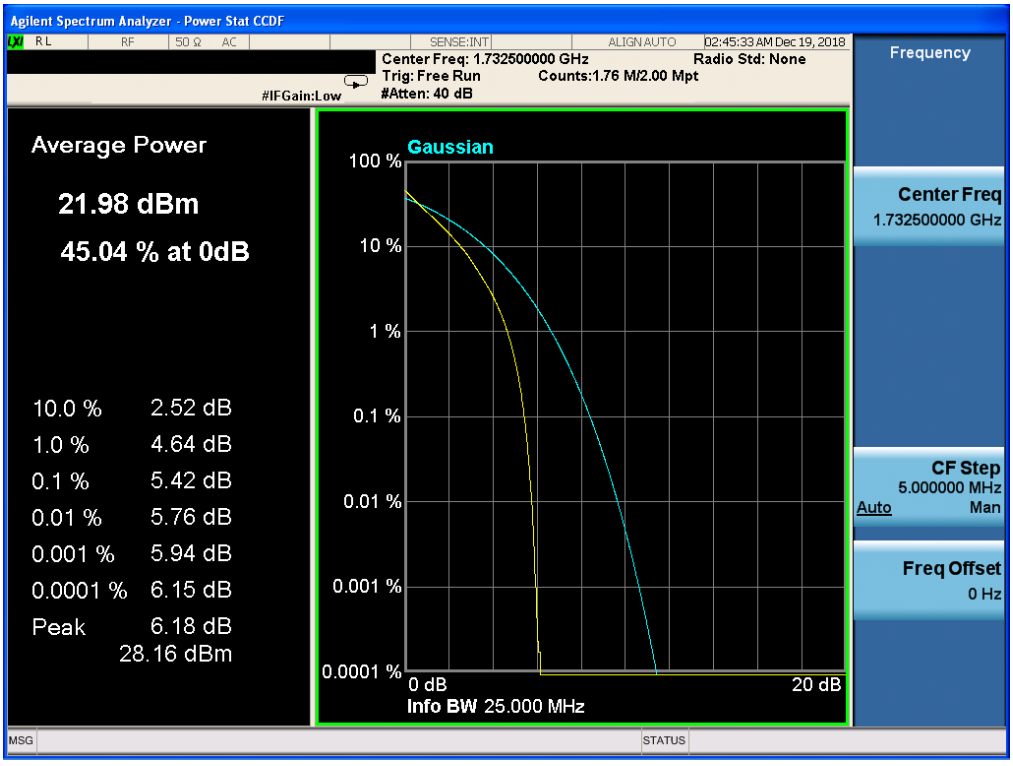
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK



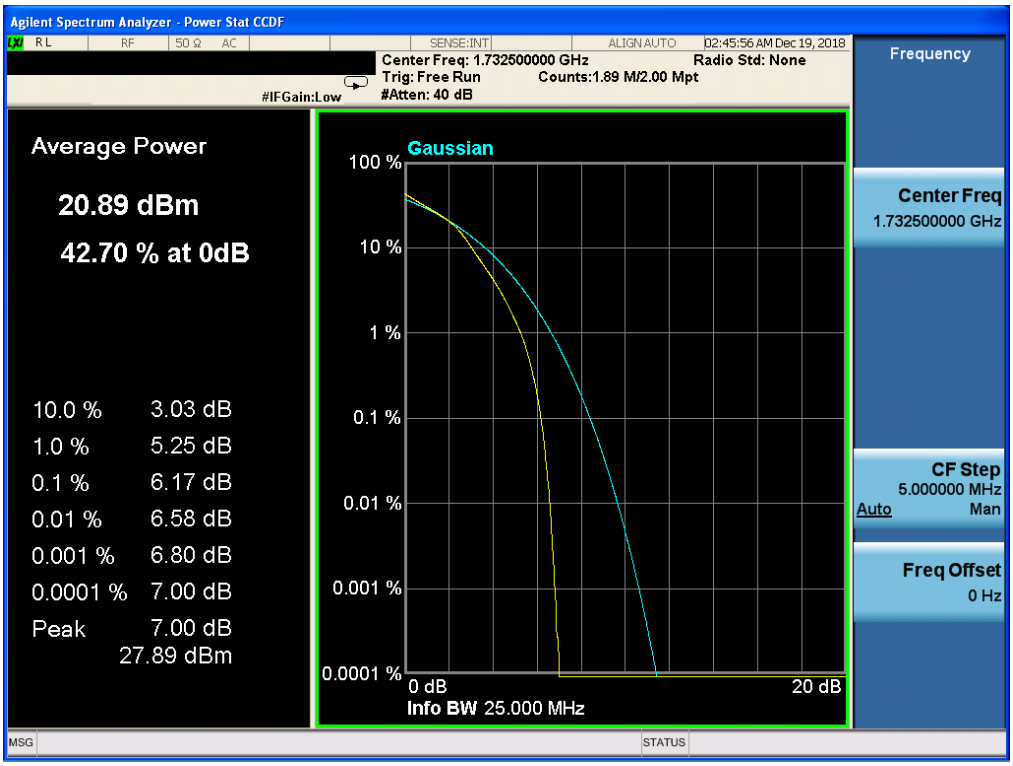
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



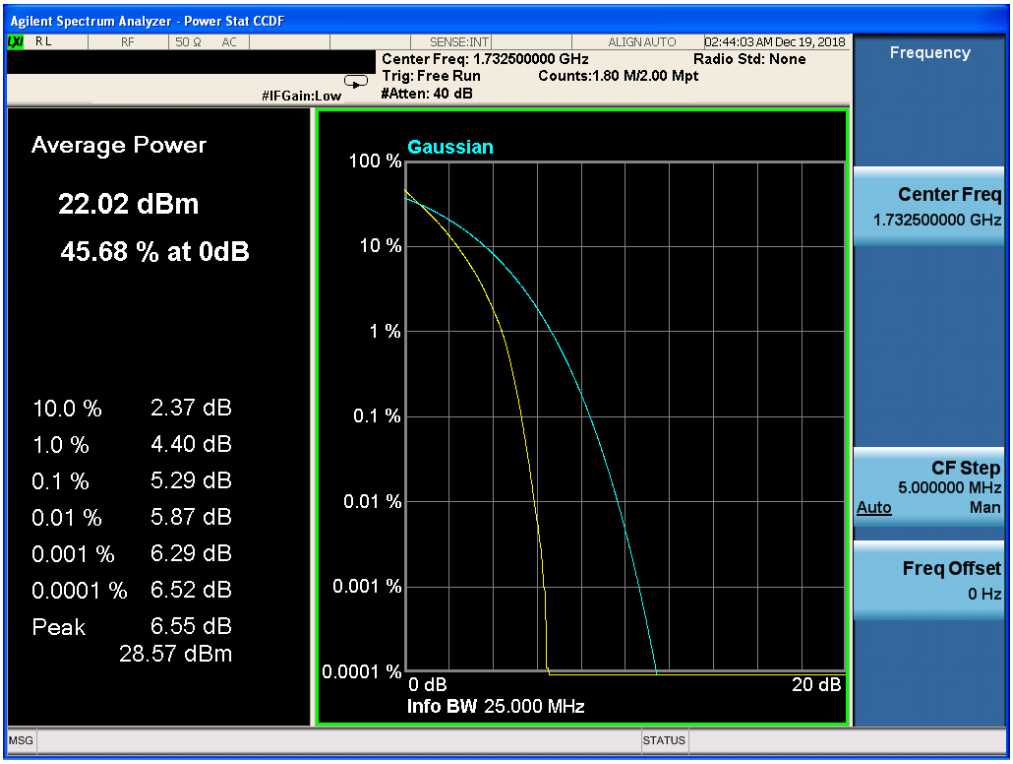
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



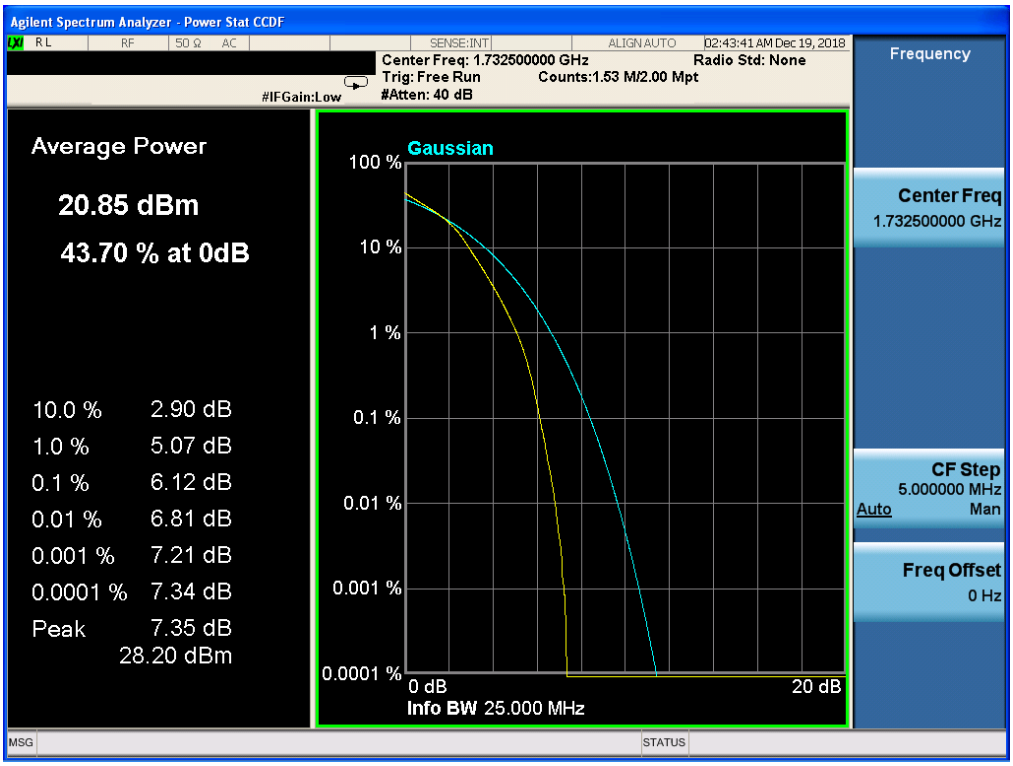
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 1,RB POS. Low,QPSK

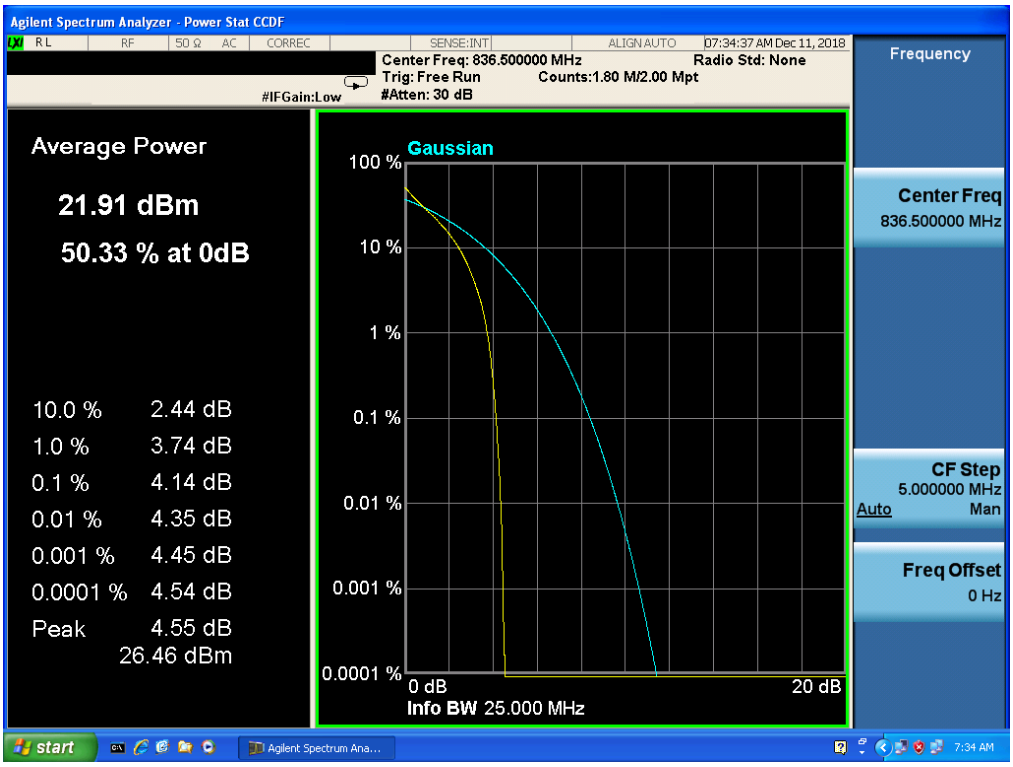


Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 1,RB POS. Low,16-QAM

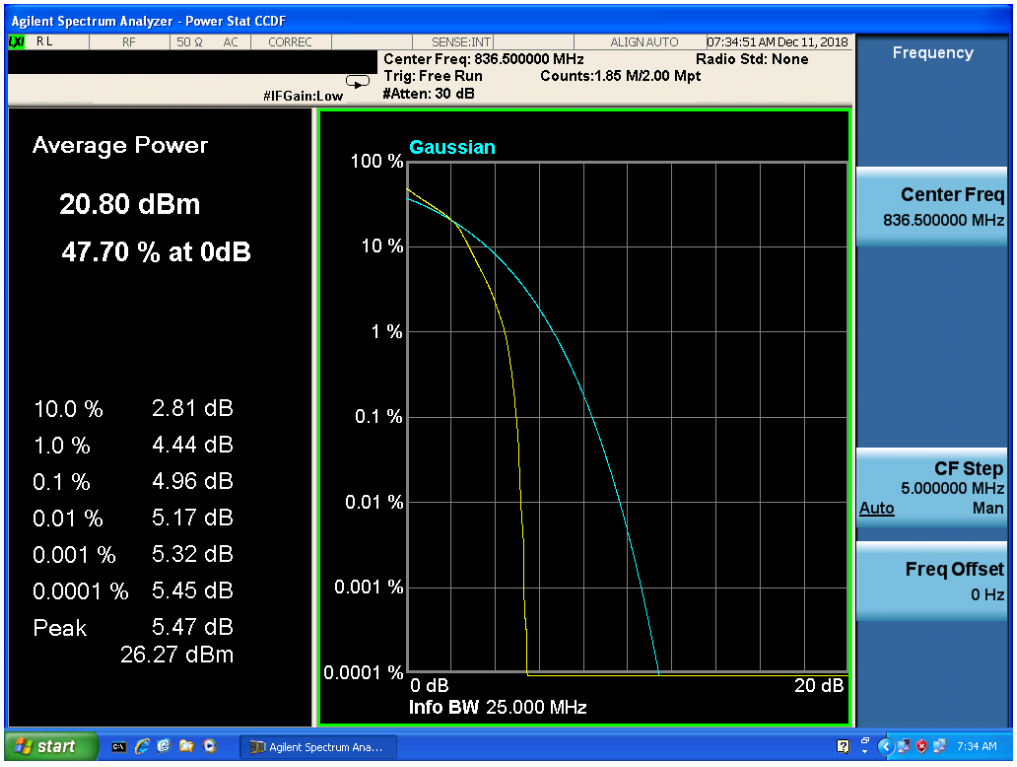


11.7 LTE BAND 5

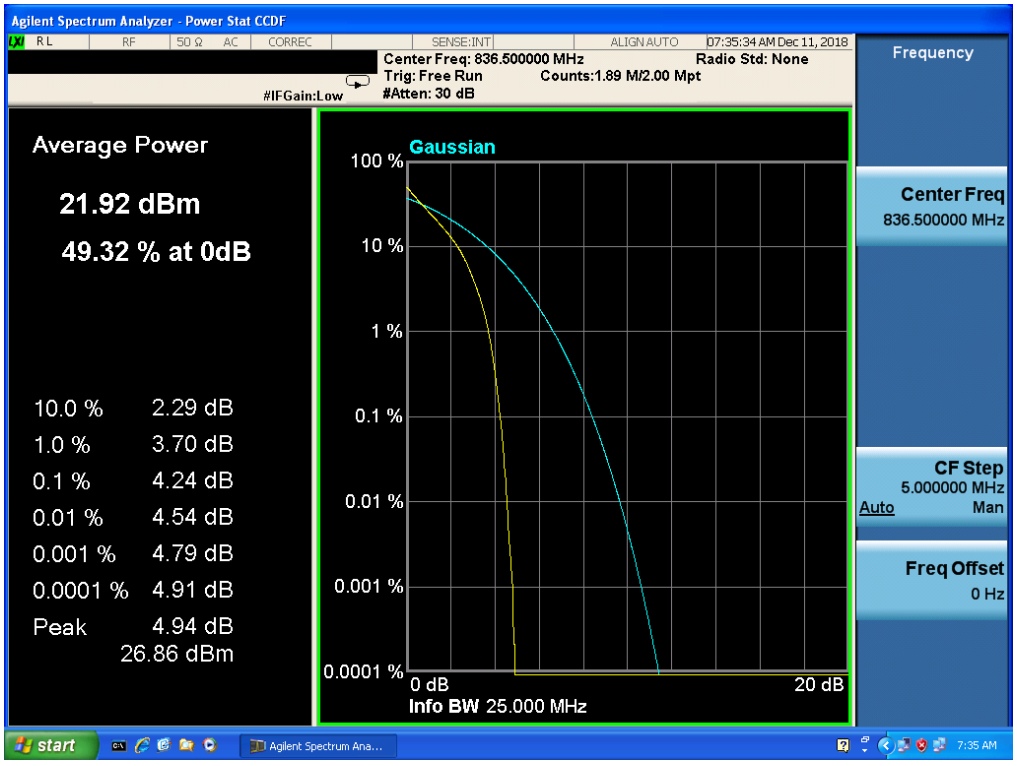
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



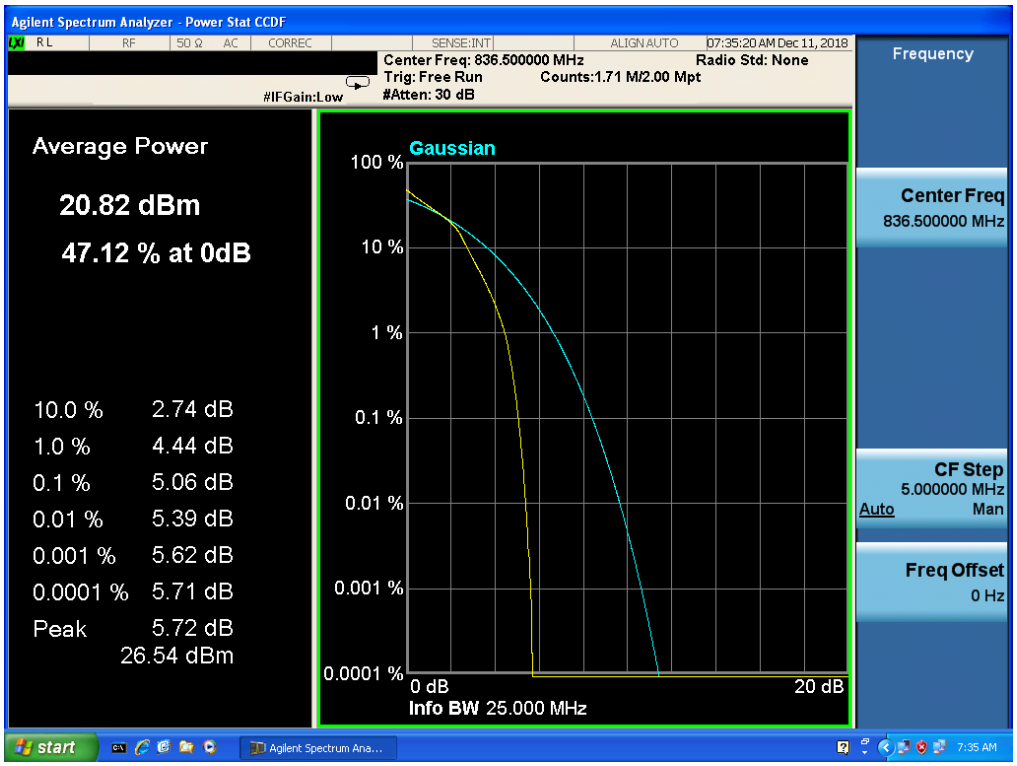
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



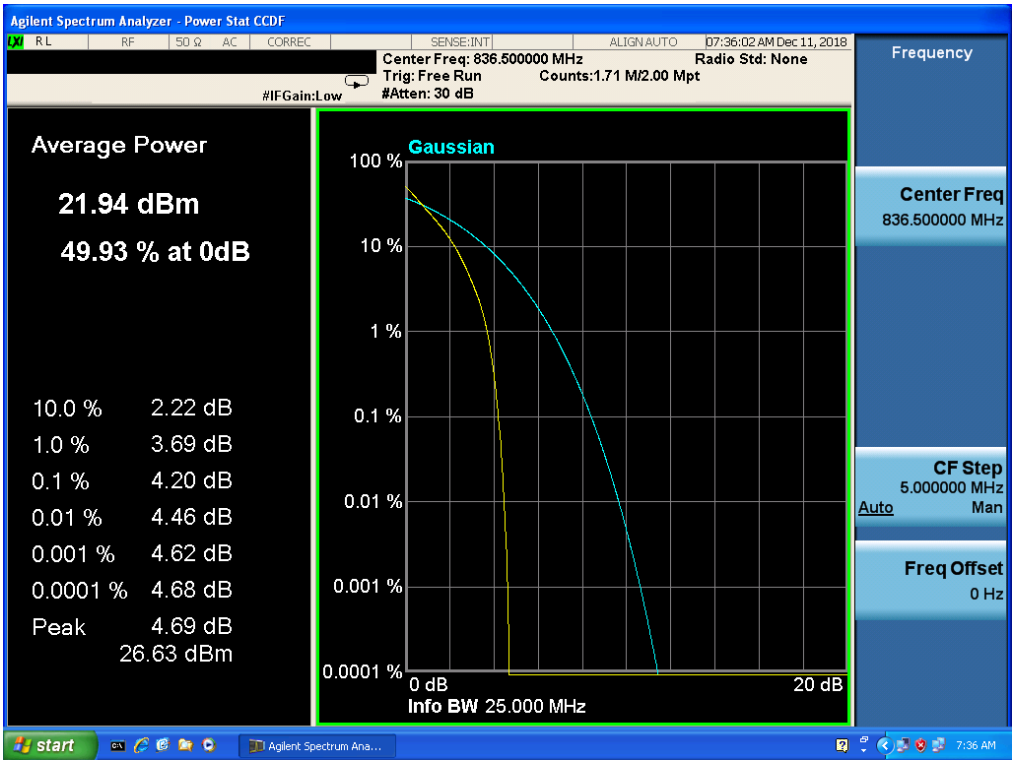
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



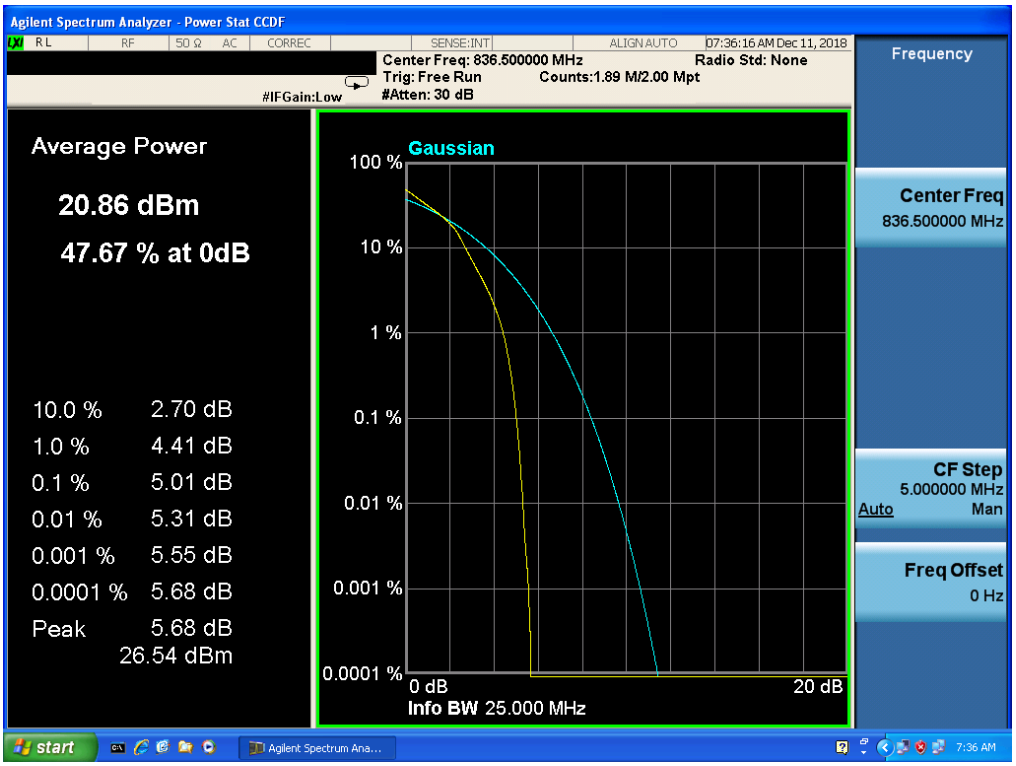
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



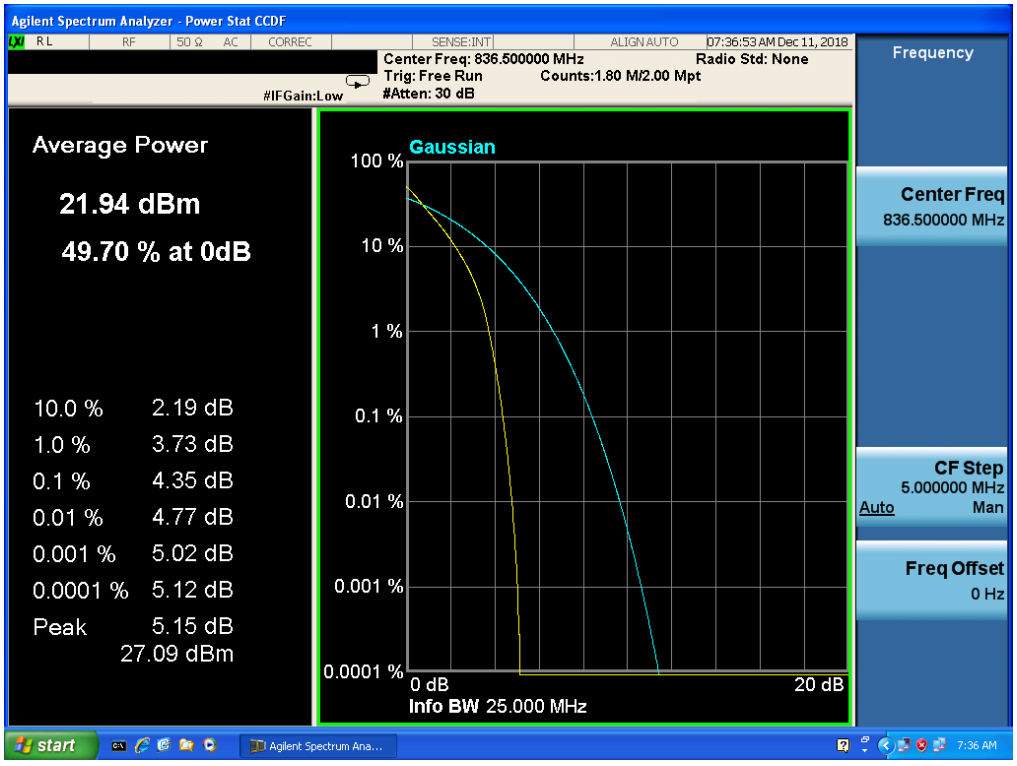
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



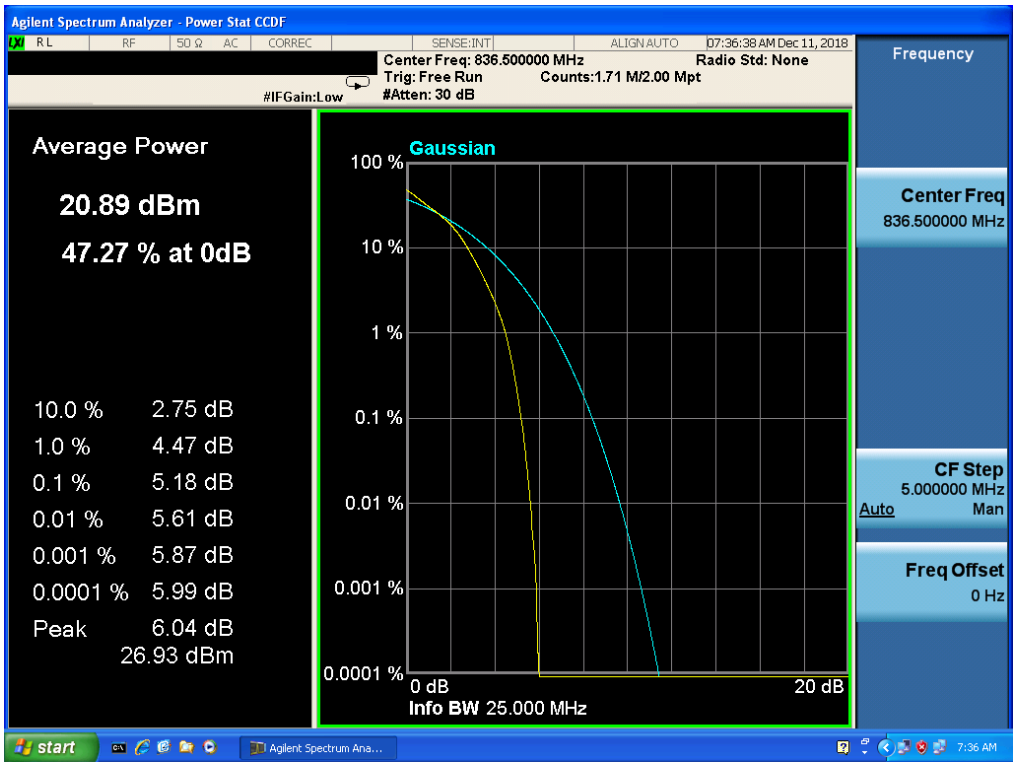
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK

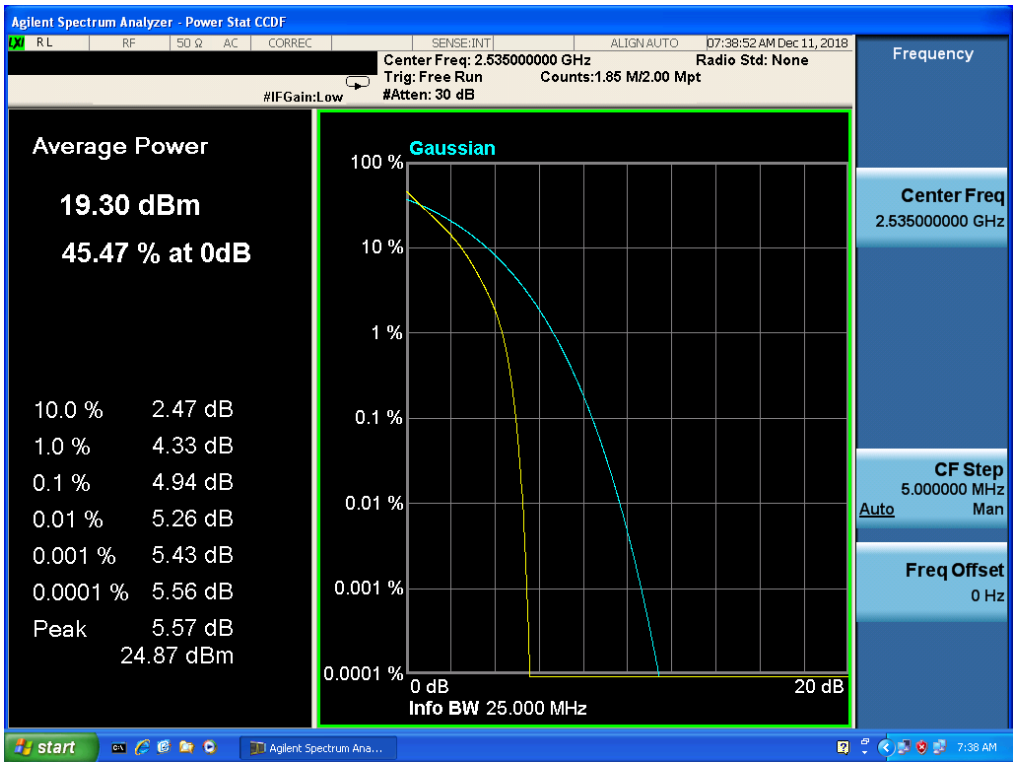


Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

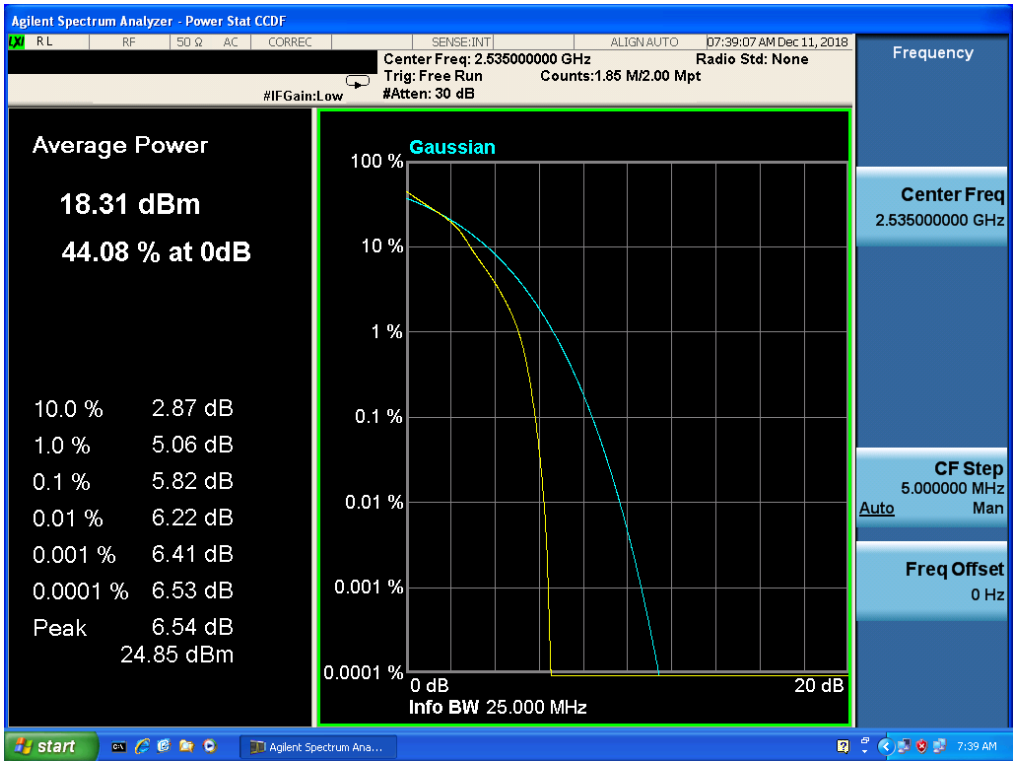


11.8 LTE BAND 7

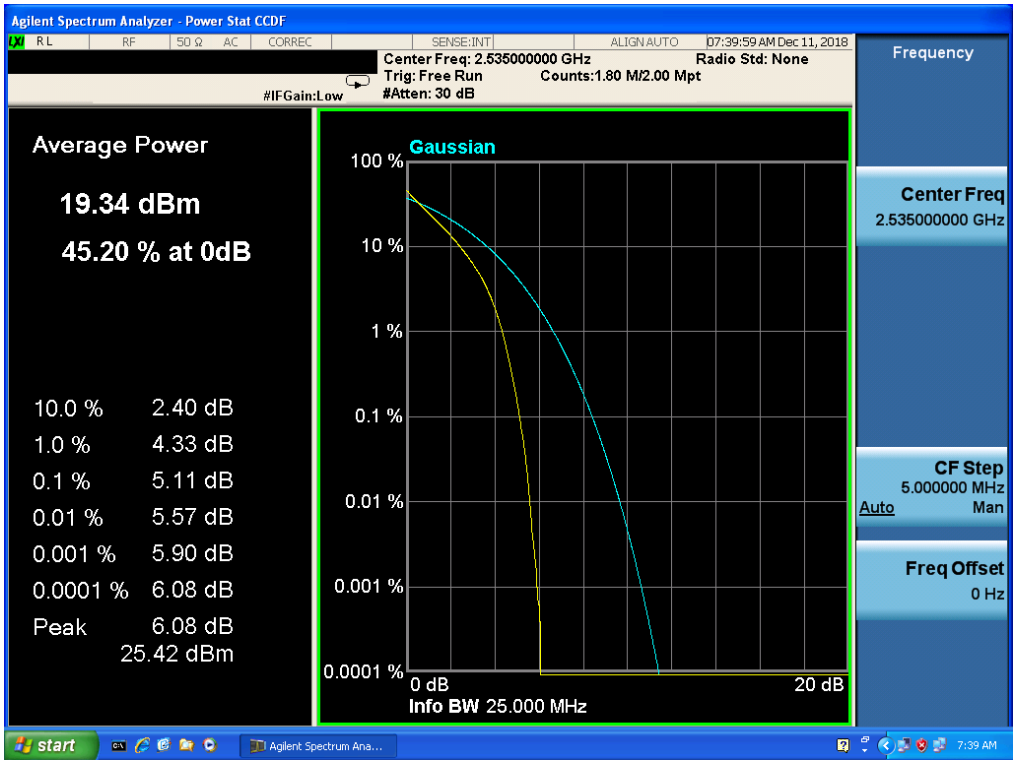
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 25,RB POS. Low,QPSK



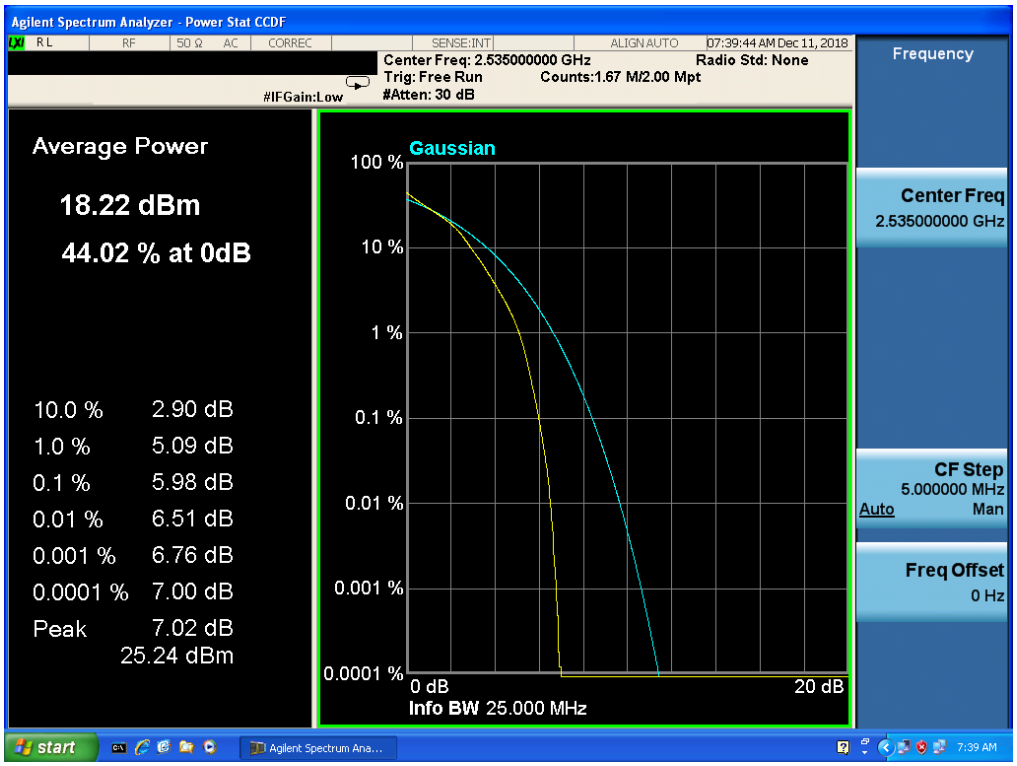
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



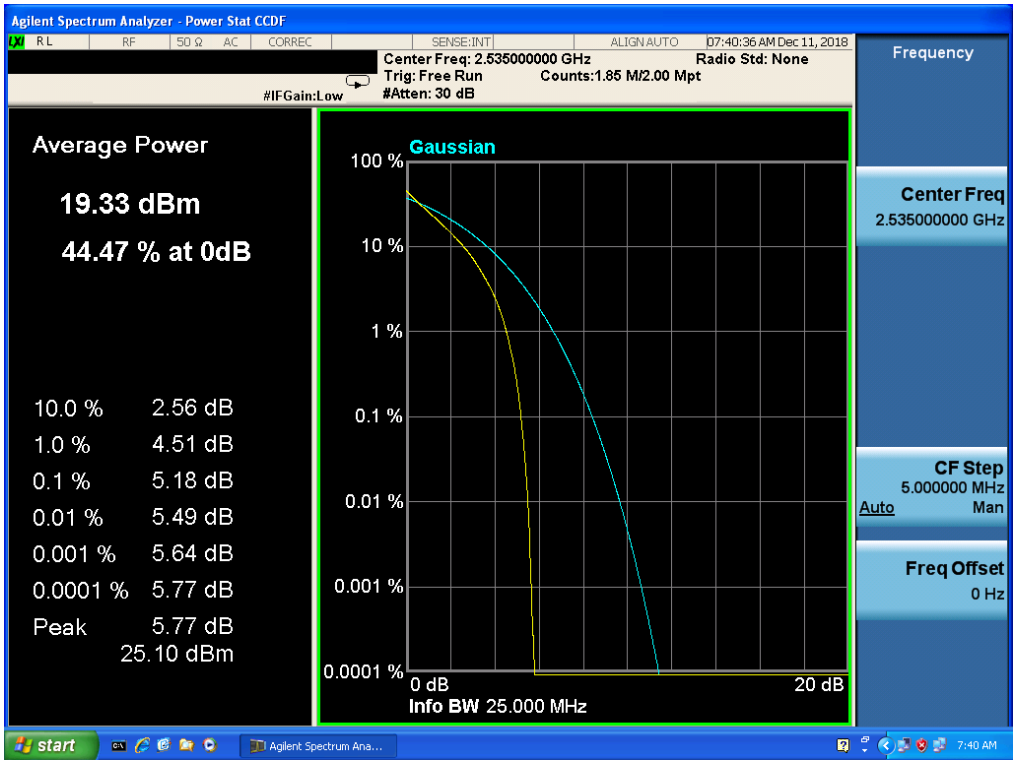
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



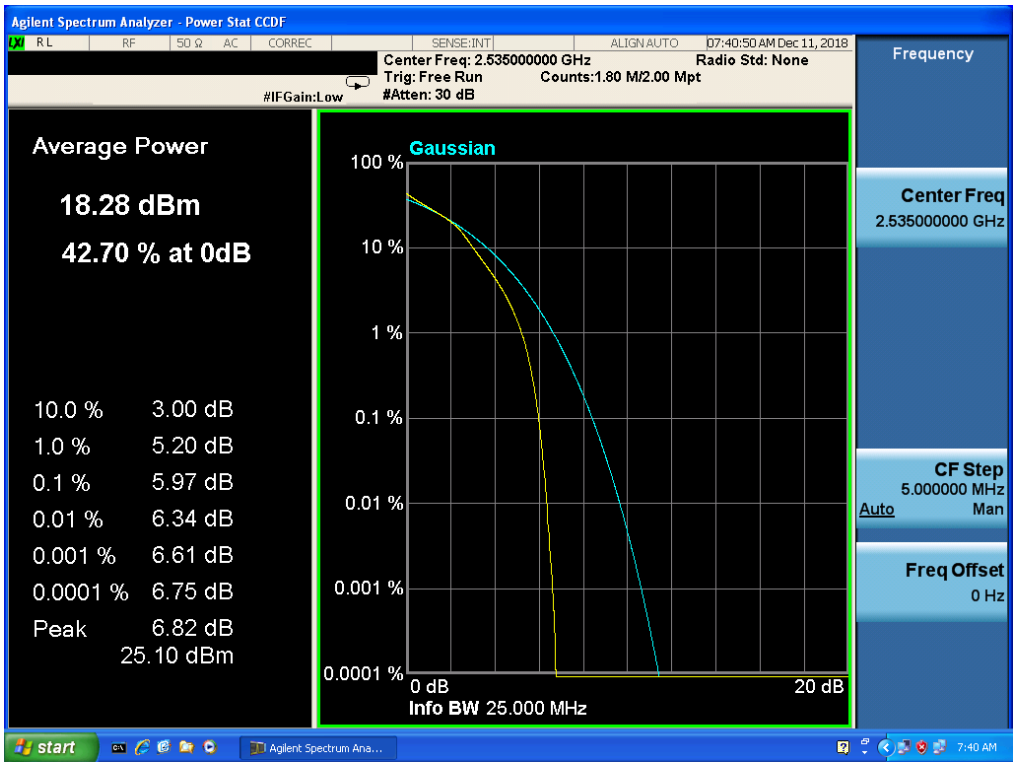
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



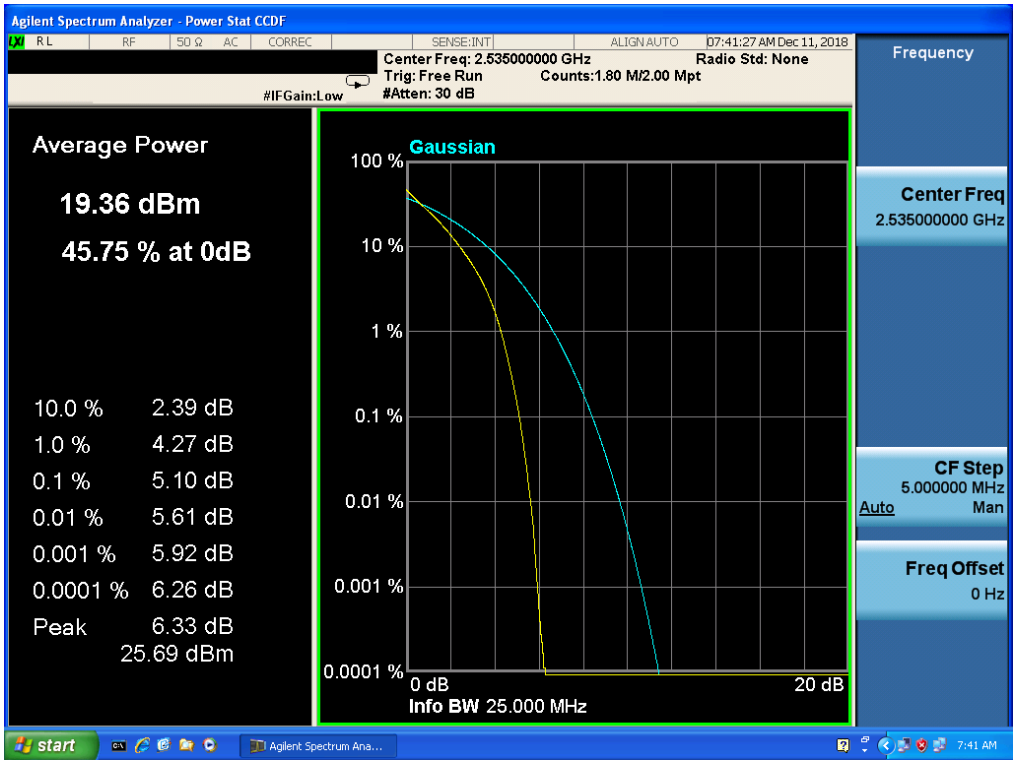
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



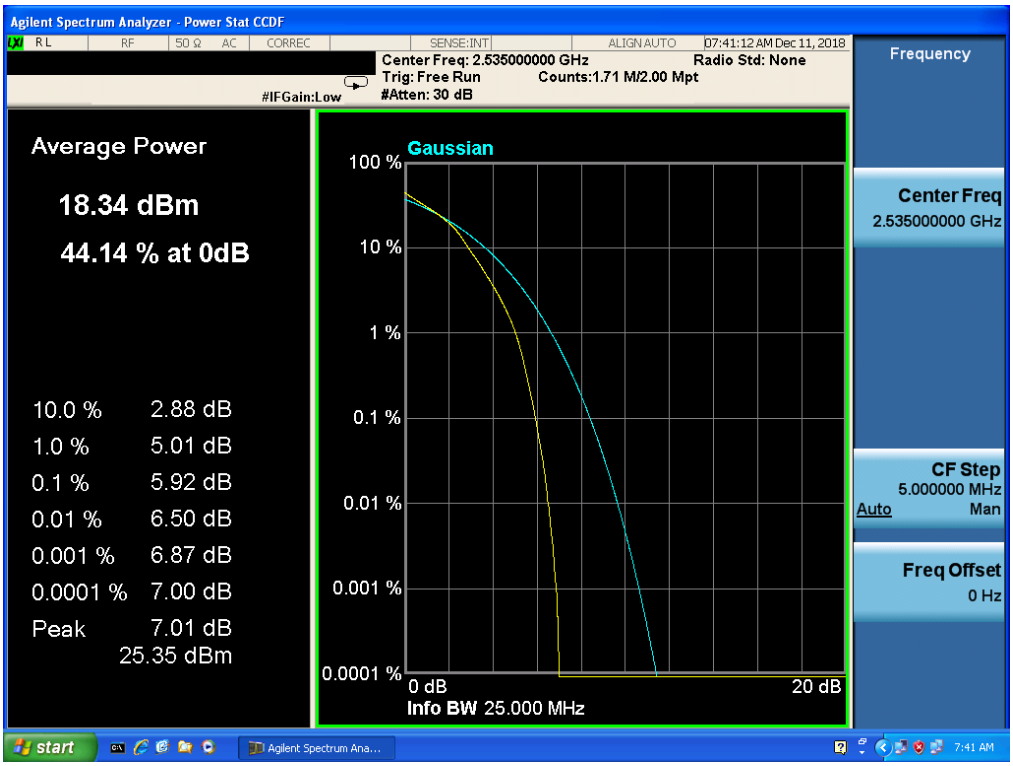
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



Band 7,UL Channel 21100,UL Frequency 2535.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK

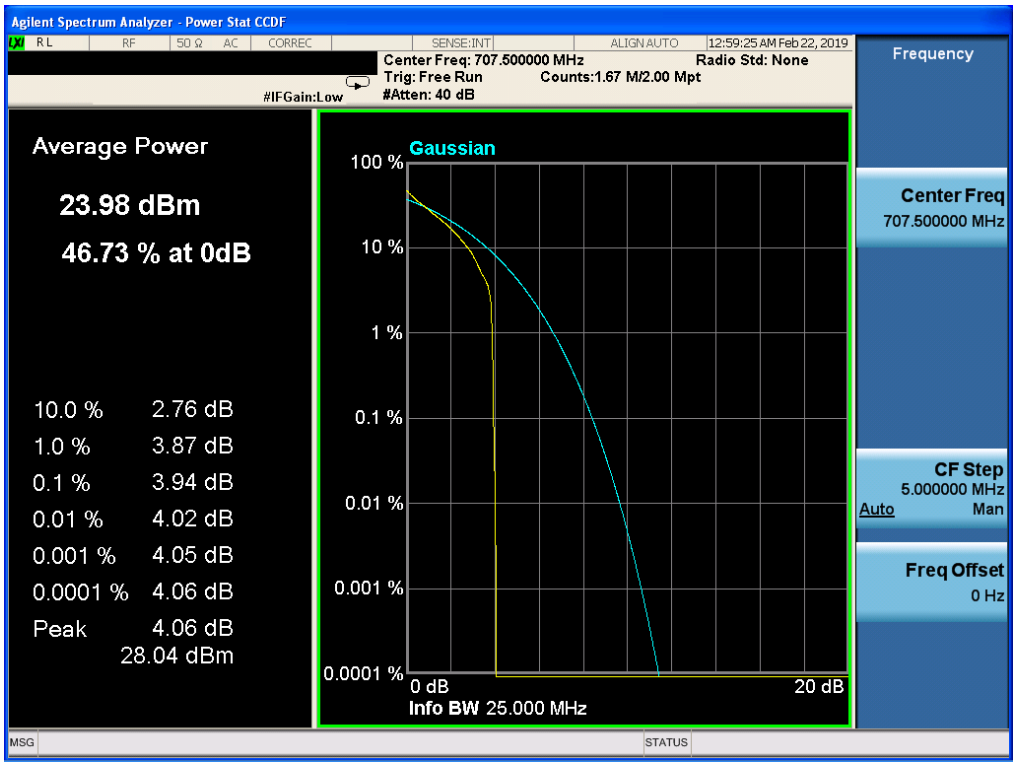


Band 7,UL Channel 21100,UL Frequency 2535.0,BW 20.0,NO. RB 1,RB POS. Low,16-QAM

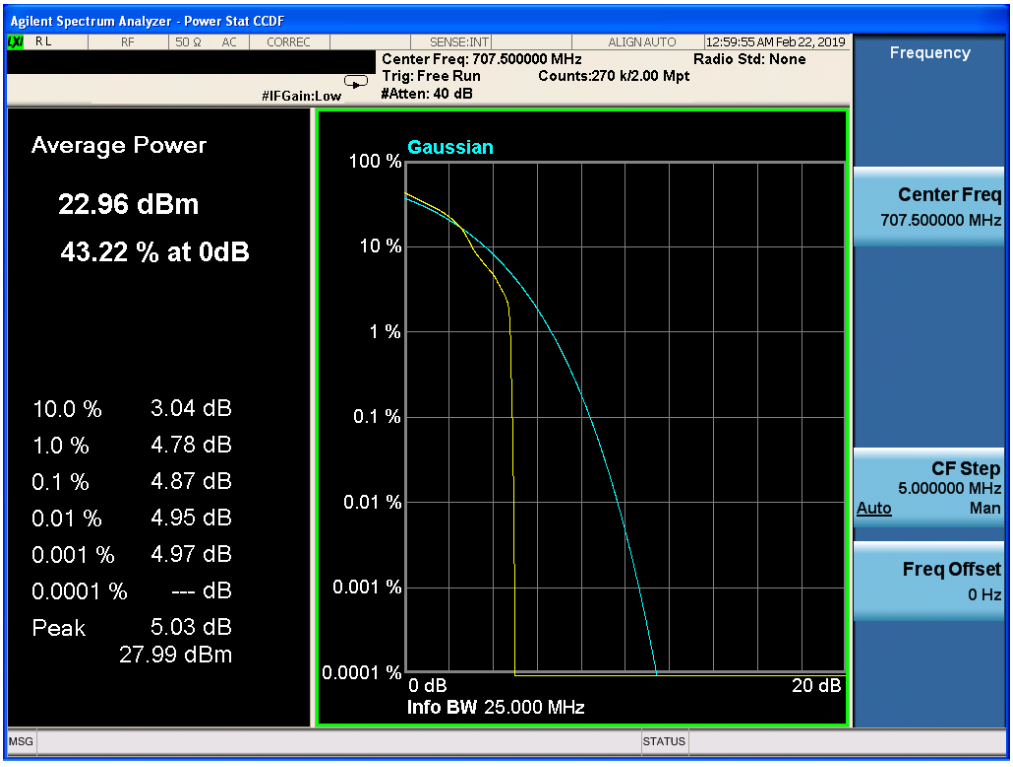


11.9 LTE BAND 12

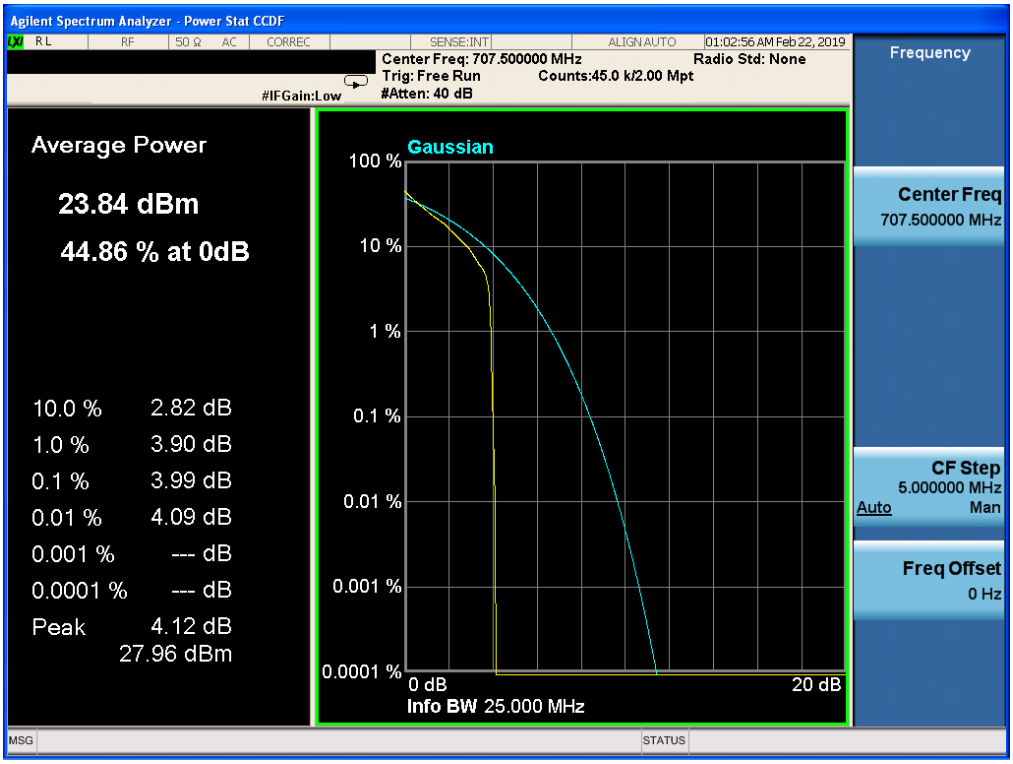
Band 12,UL Channel 23095,UL Frequency 707.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



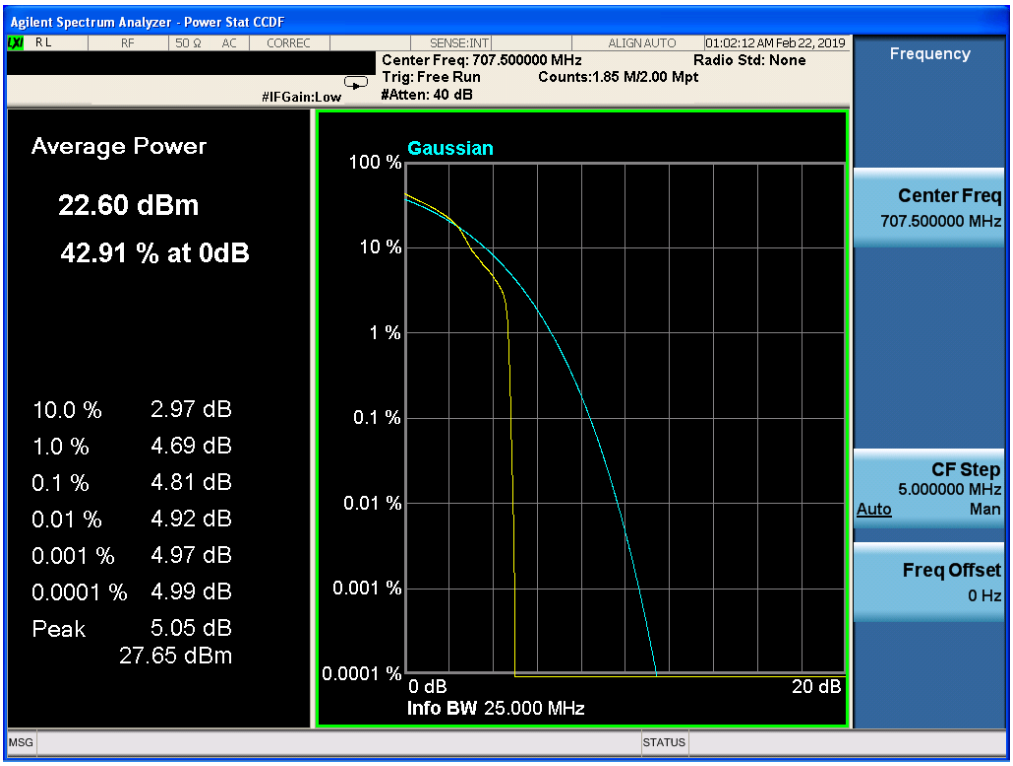
Band 12,UL Channel 23095,UL Frequency 707.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



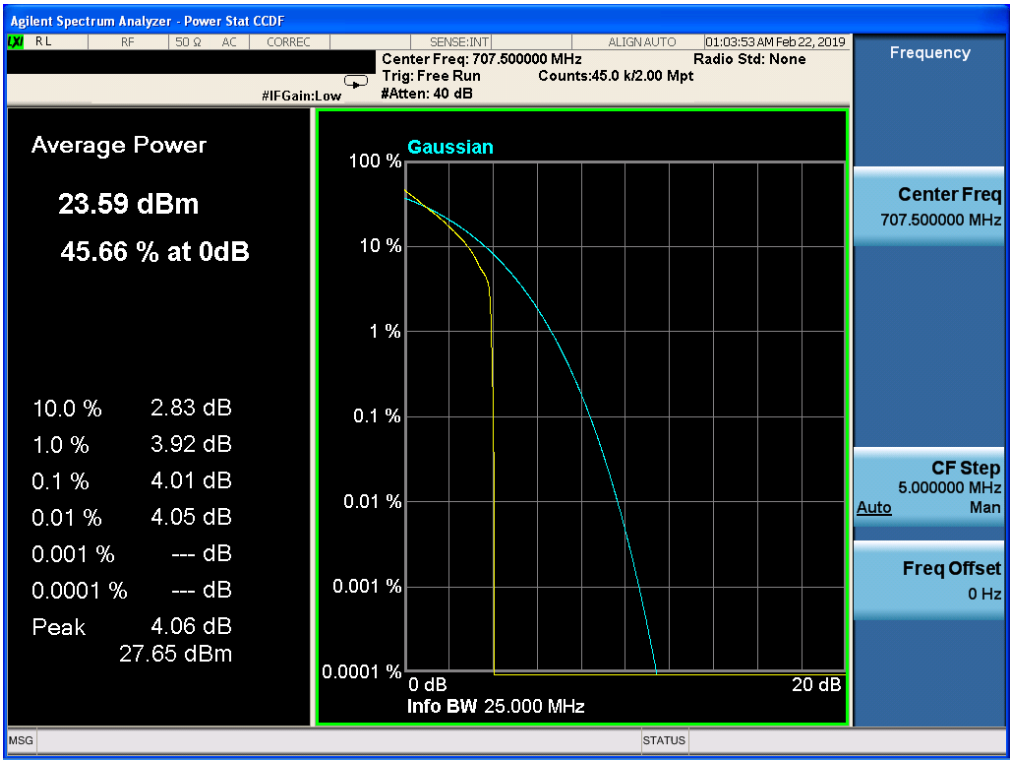
Band 12,UL Channel 23095,UL Frequency 707.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



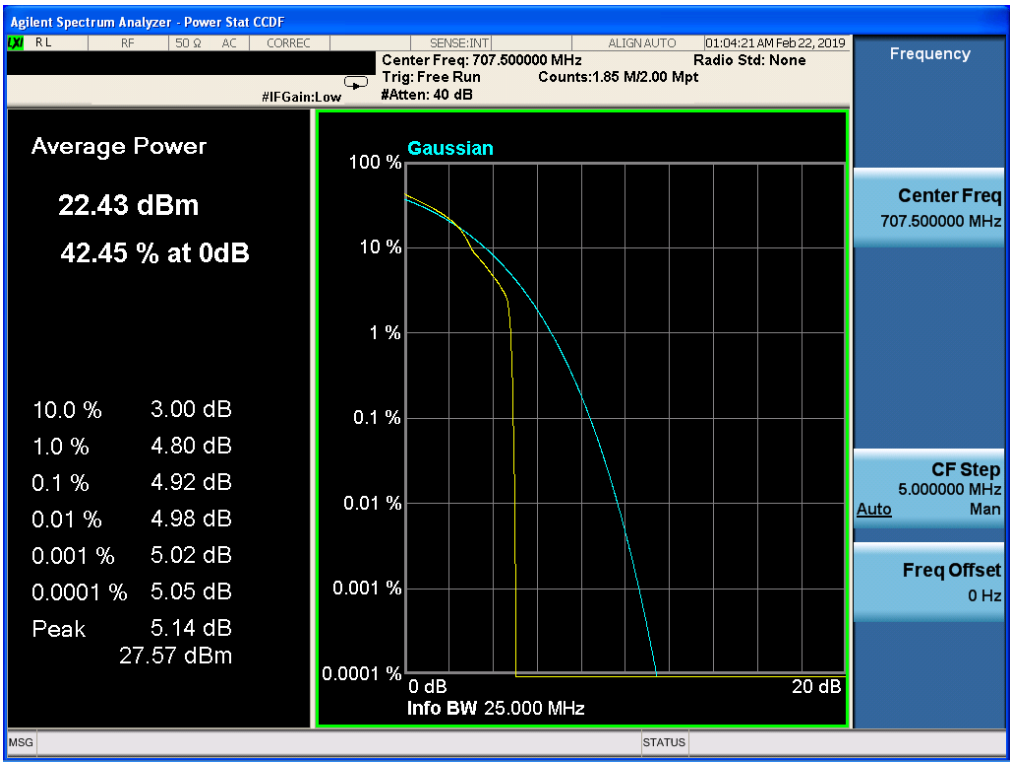
Band 12,UL Channel 23095,UL Frequency 707.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



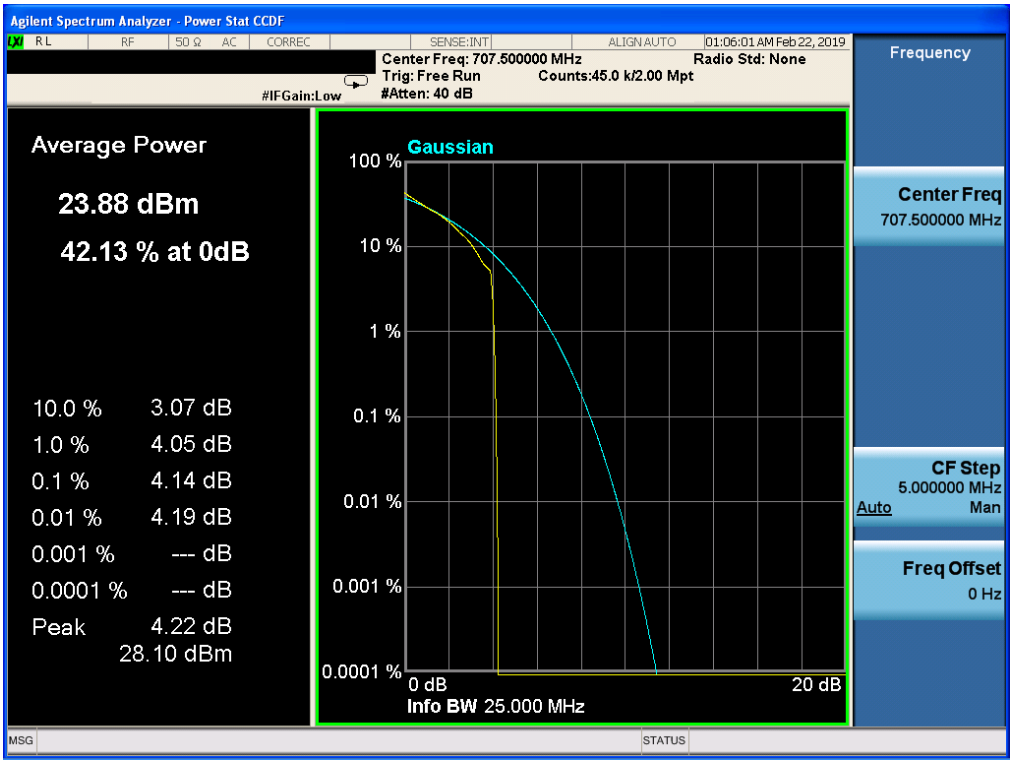
Band 12,UL Channel 23095,UL Frequency 707.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



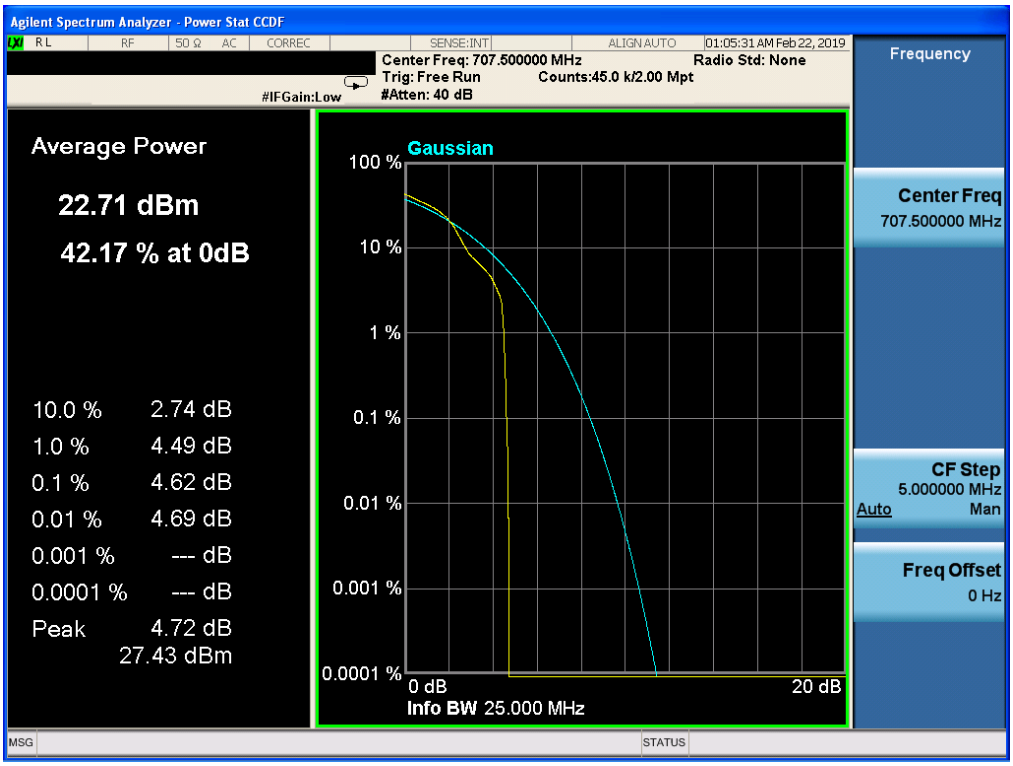
Band 12,UL Channel 23095,UL Frequency 707.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



Band 12,UL Channel 23095,UL Frequency 707.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK

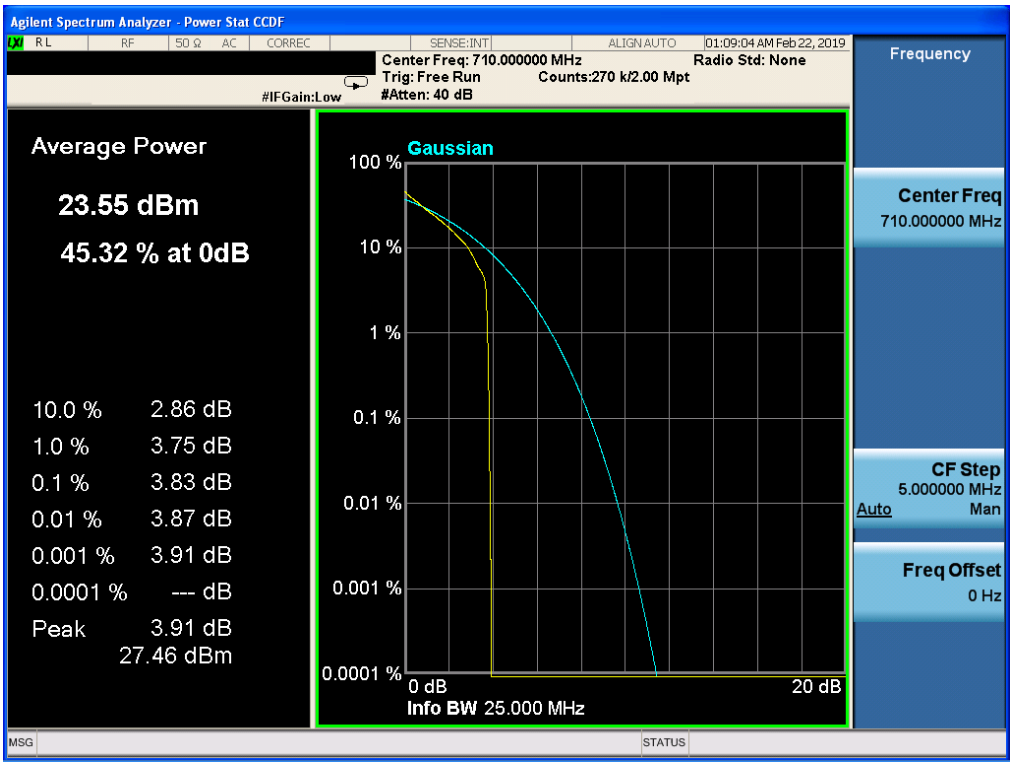


Band 12,UL Channel 23095,UL Frequency 707.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

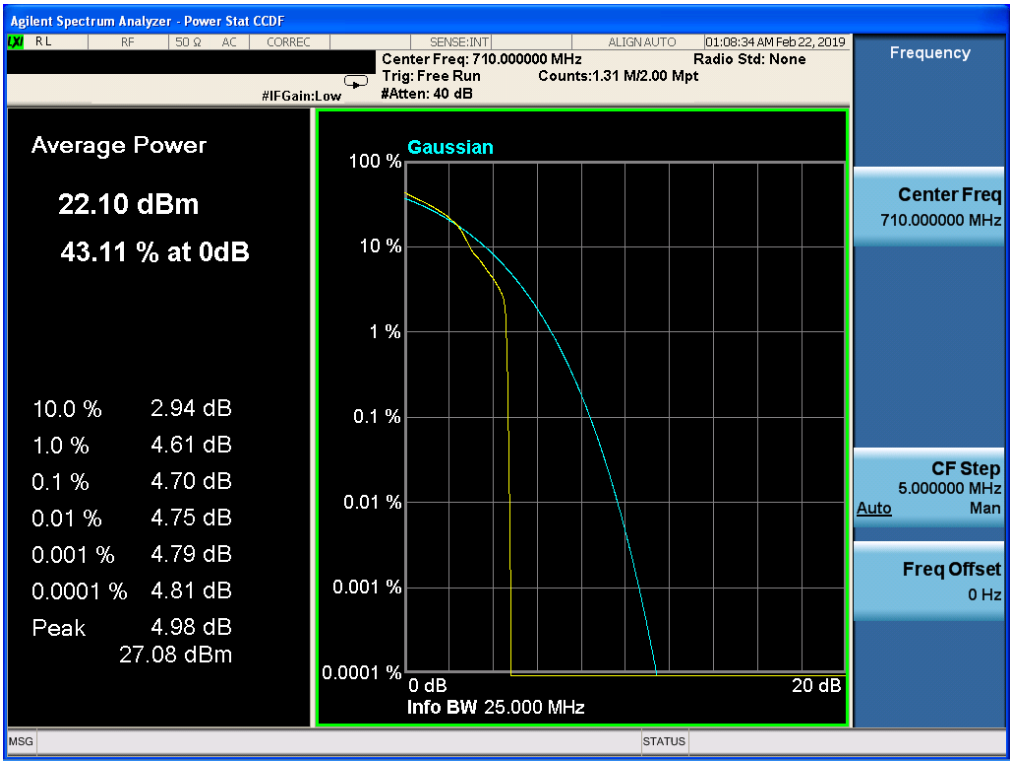


11.10 LTE BAND 17

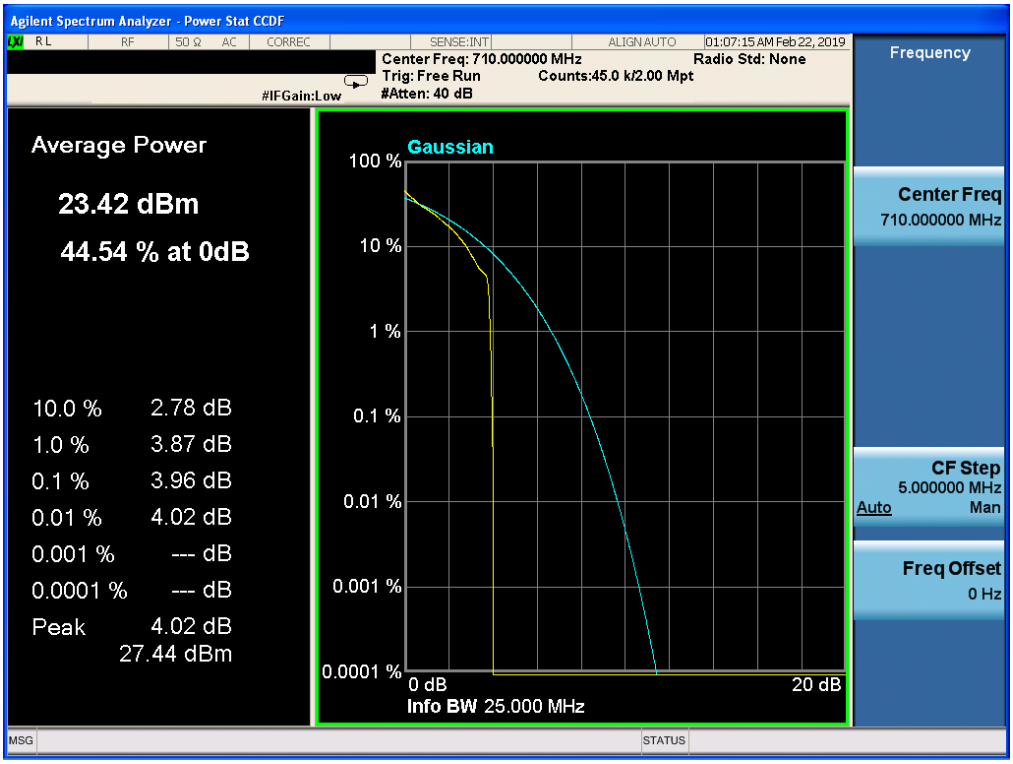
Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 25,RB POS. Low,QPSK



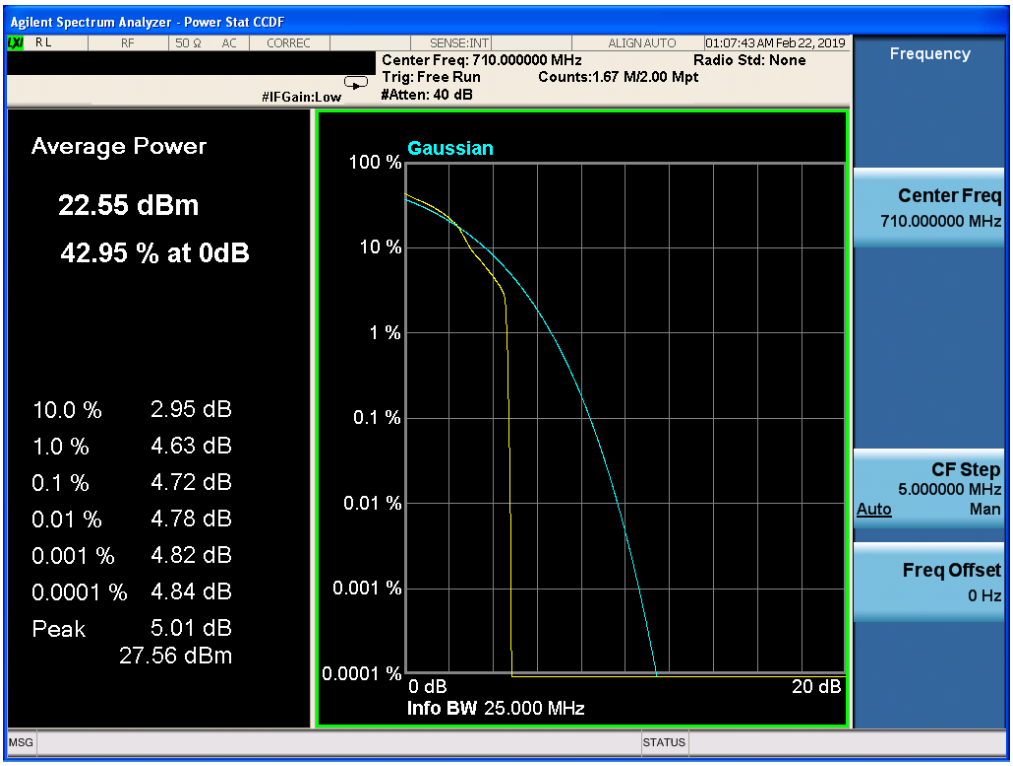
Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK

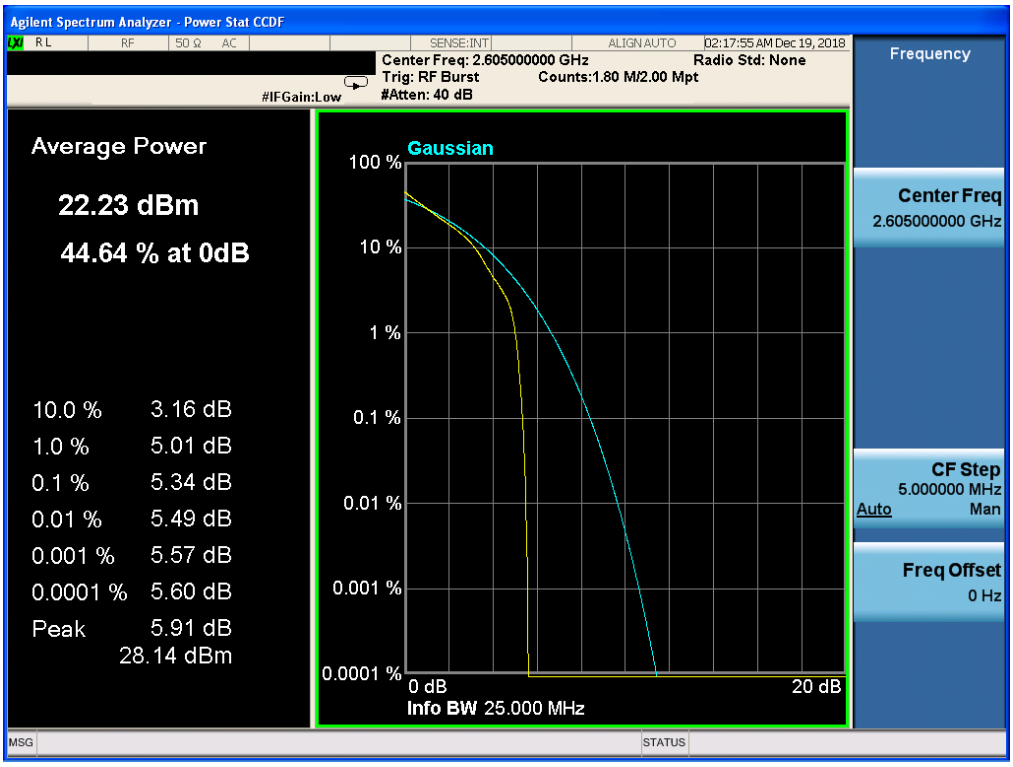


Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

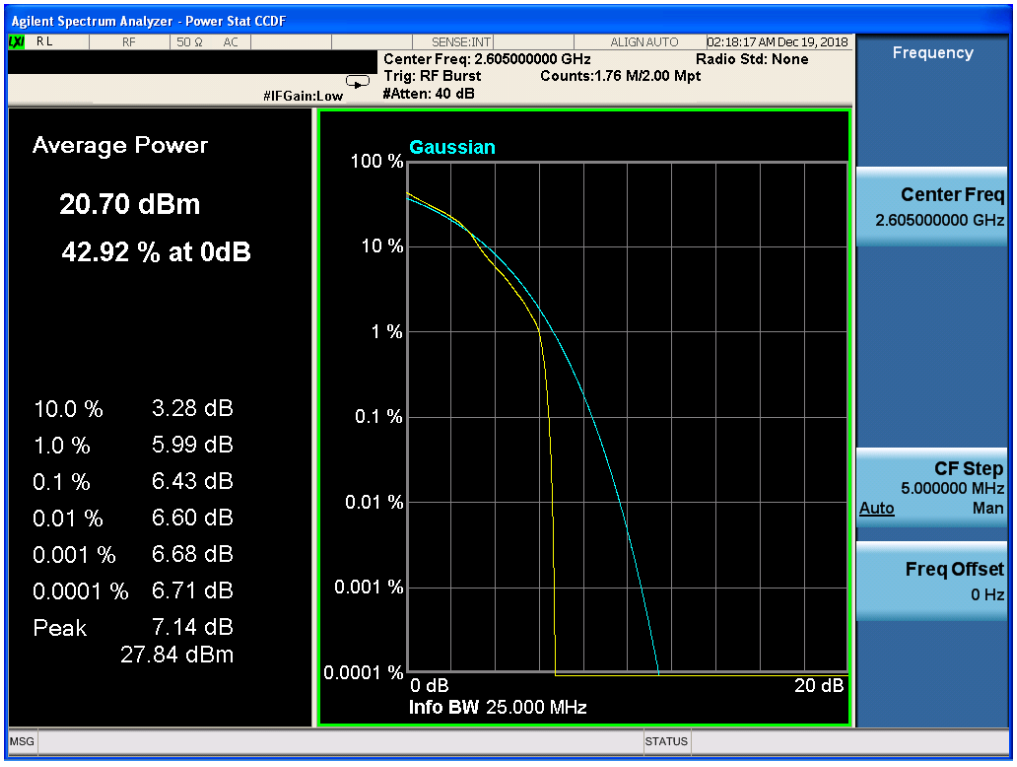


11.11 LTE BAND 41

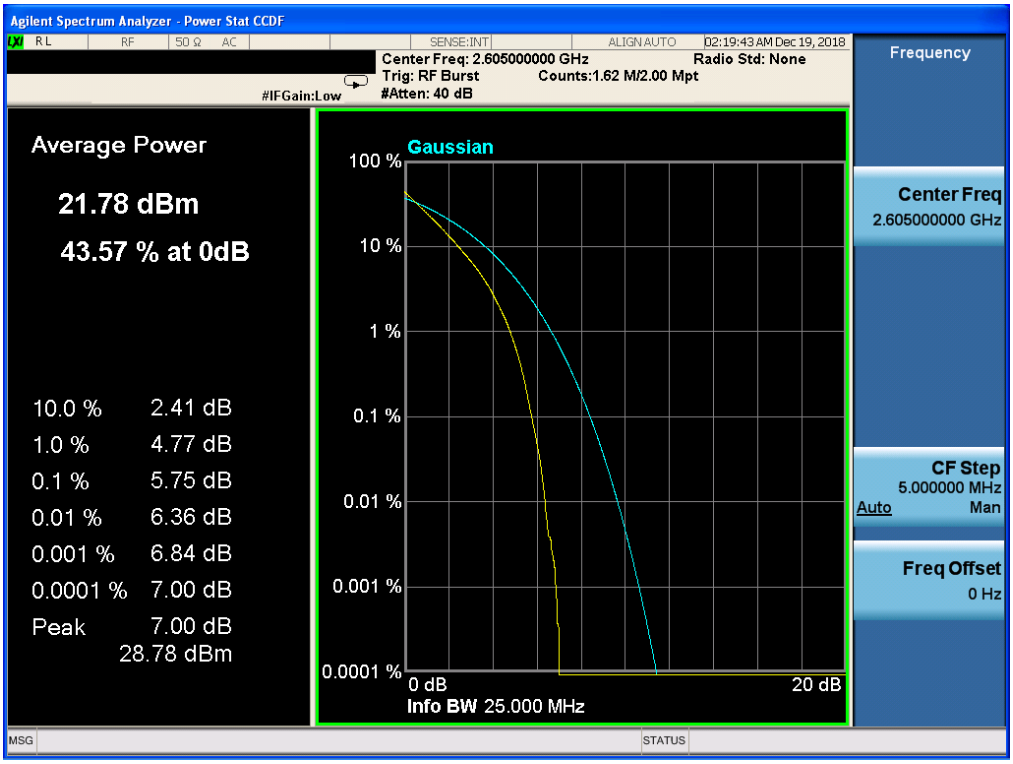
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



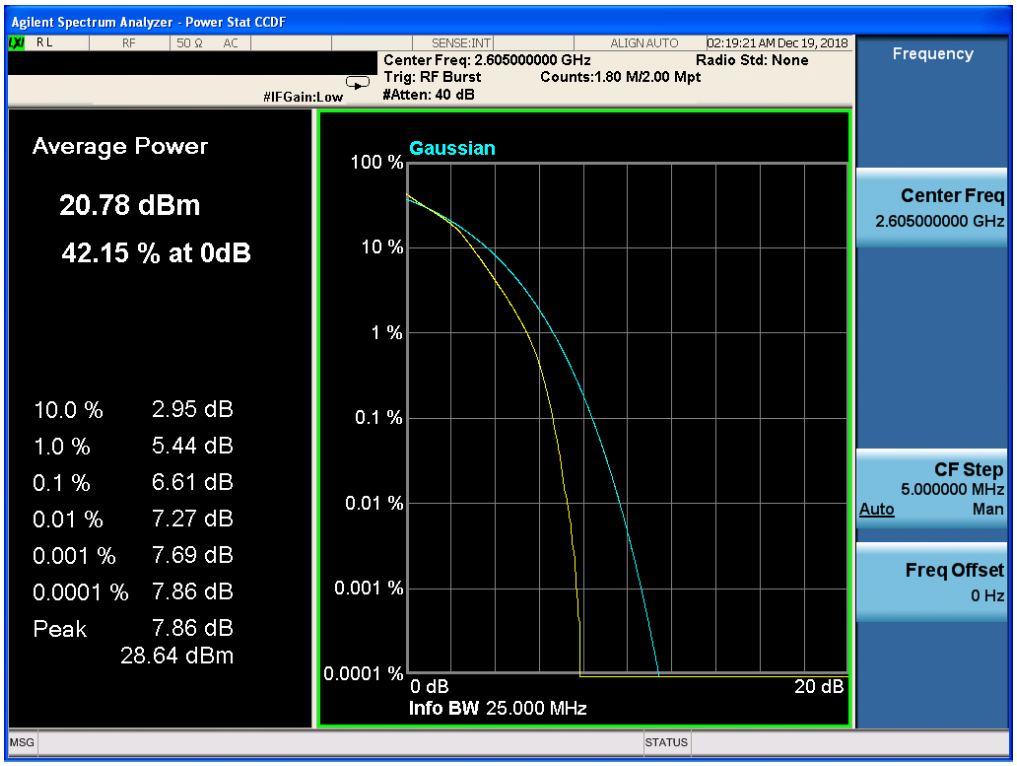
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



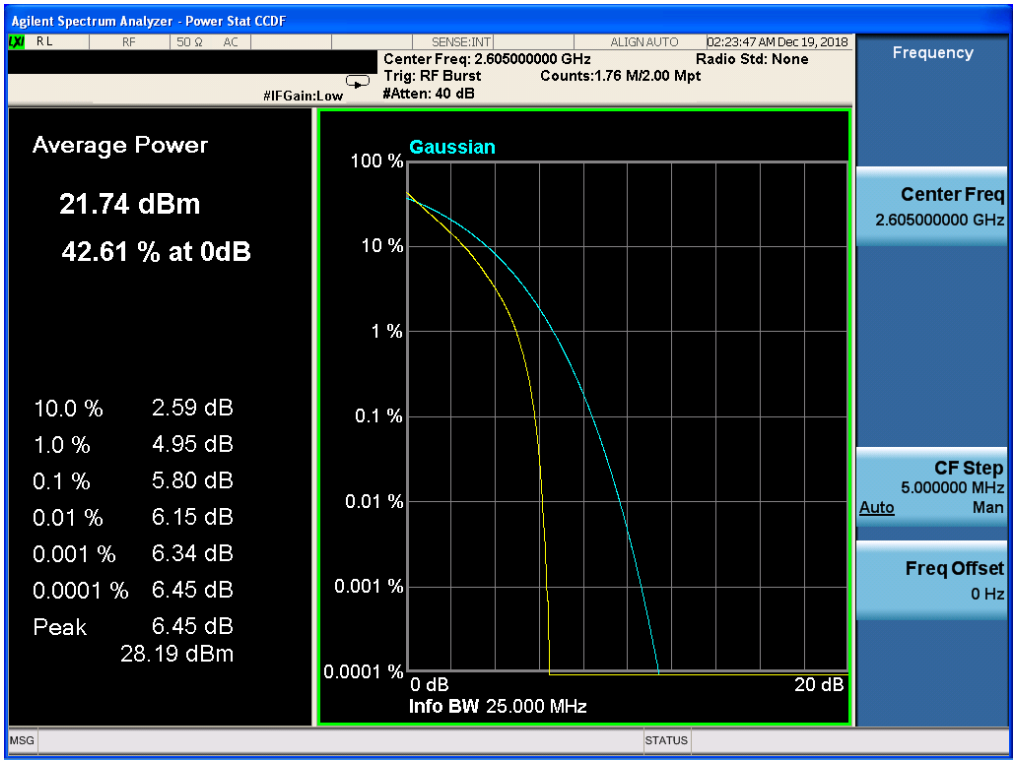
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



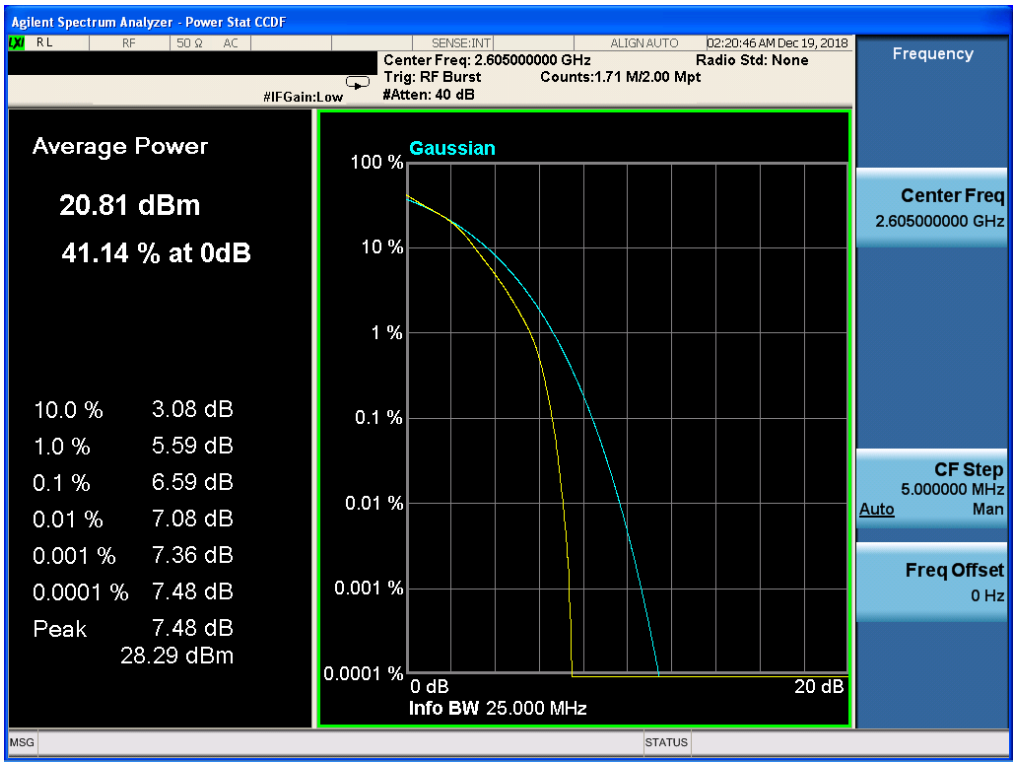
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



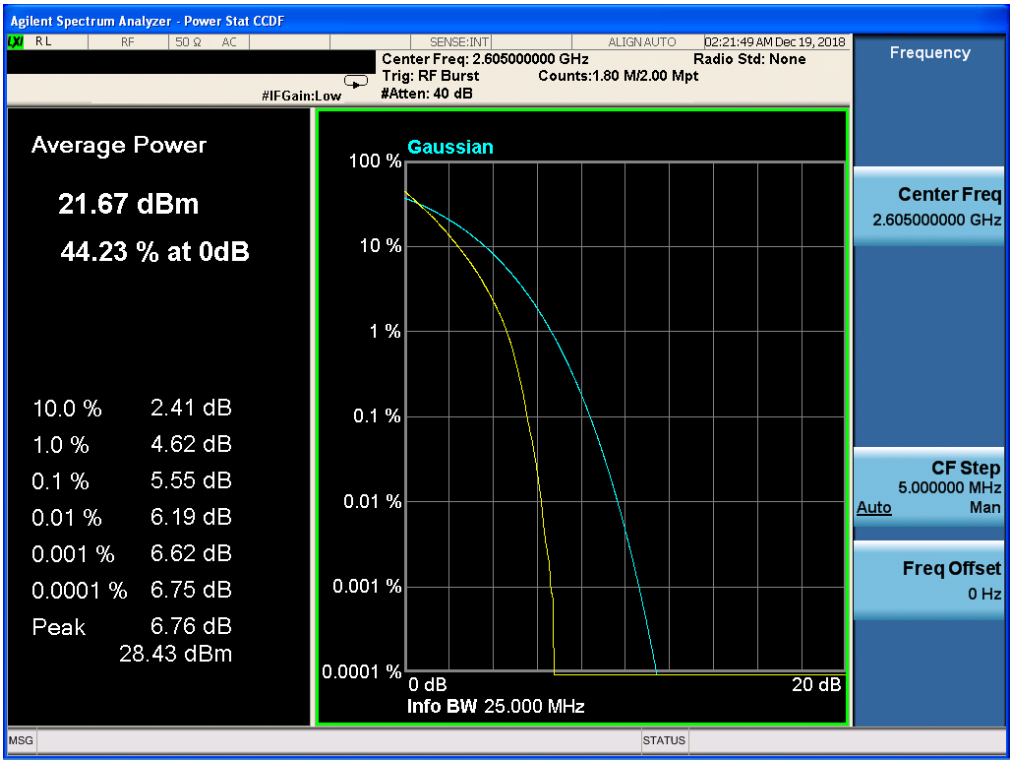
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



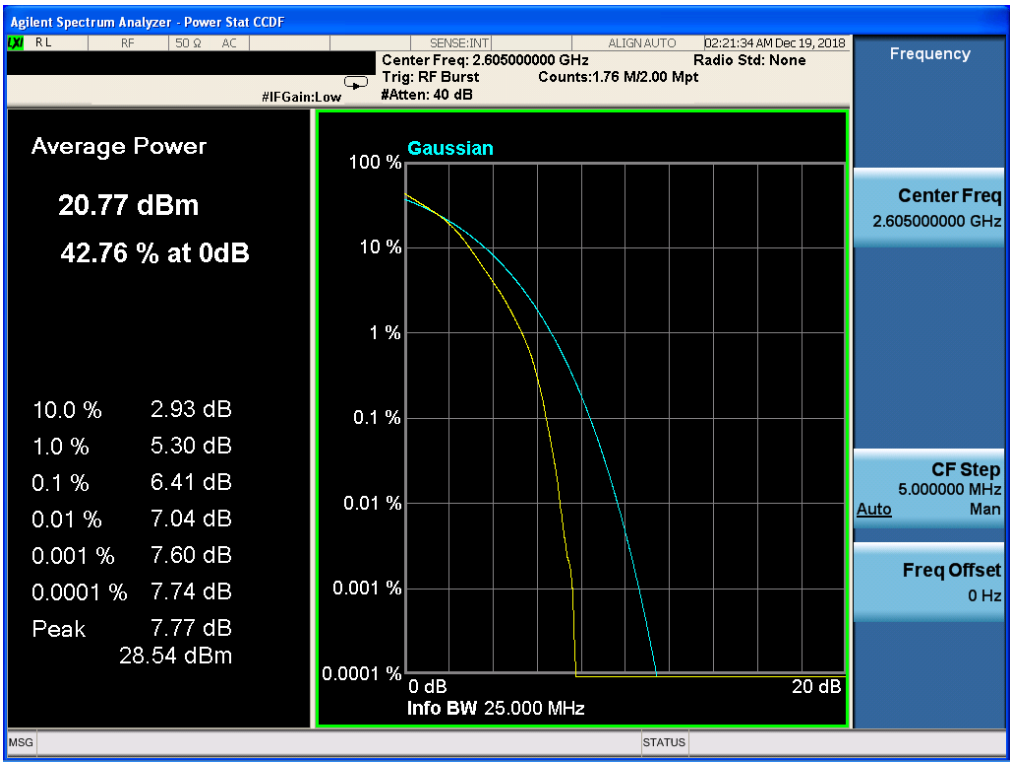
Band 41,UL Channel 40740,UL Frequency 2605.0,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



Band 41,UL Channel 40740,UL Frequency 2605.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



Band 41,UL Channel 40740,UL Frequency 2605.0,BW 20.0,NO. RB 1,RB POS. Low,16-QAM



----END OF REPORT----