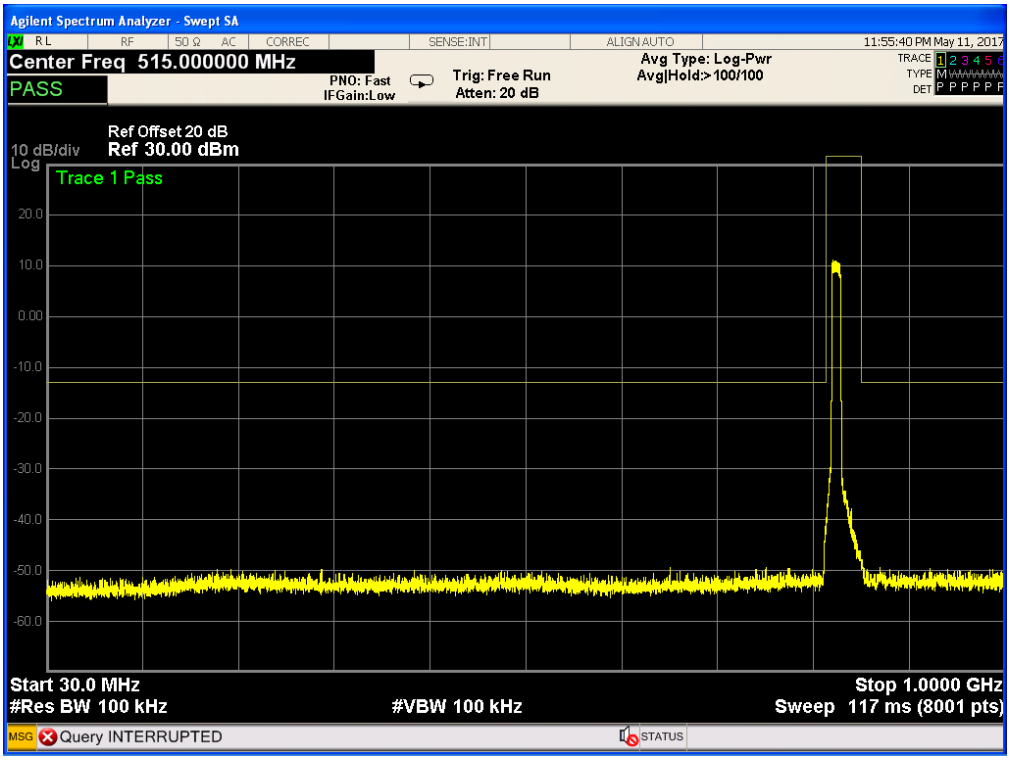
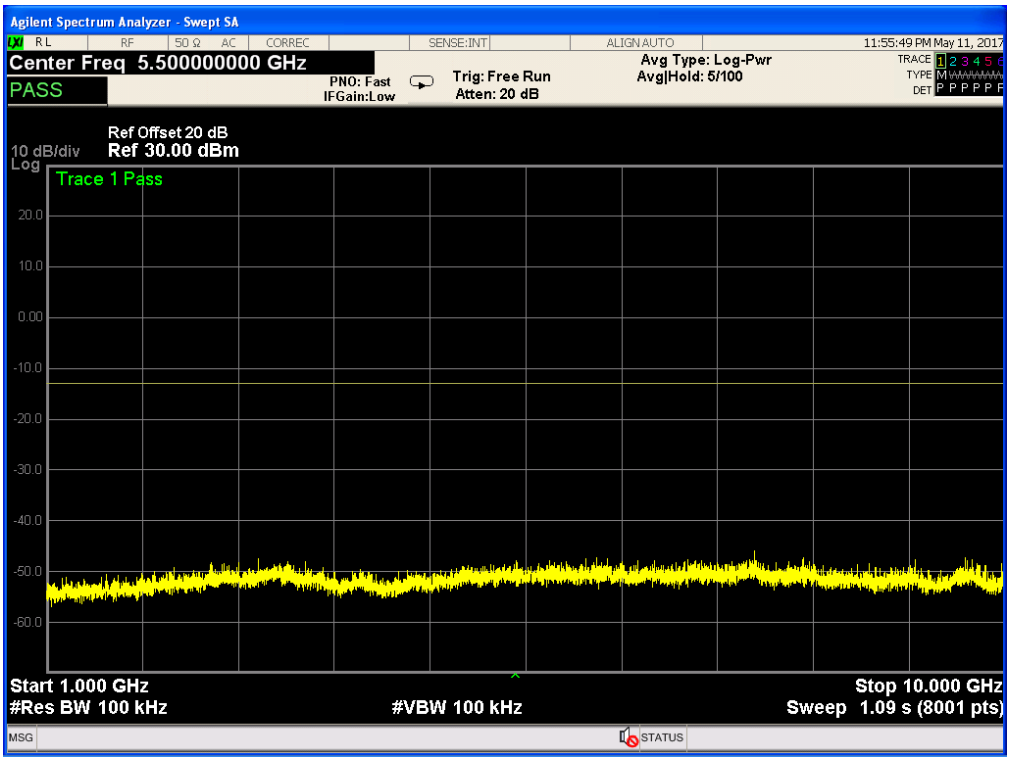
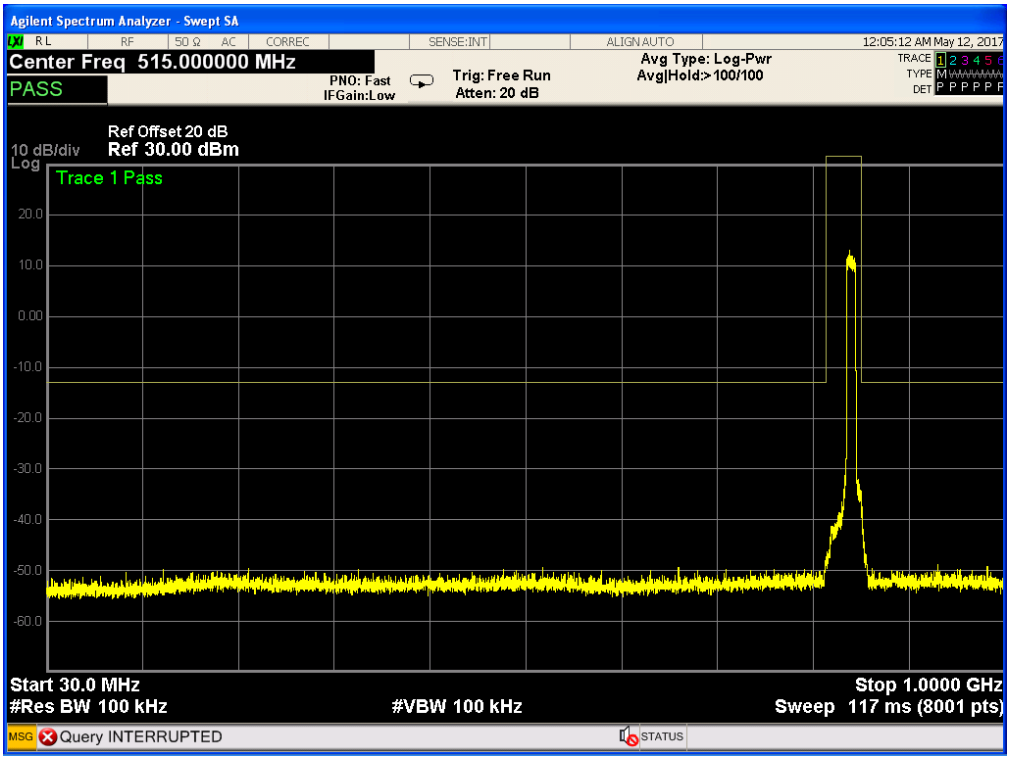
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



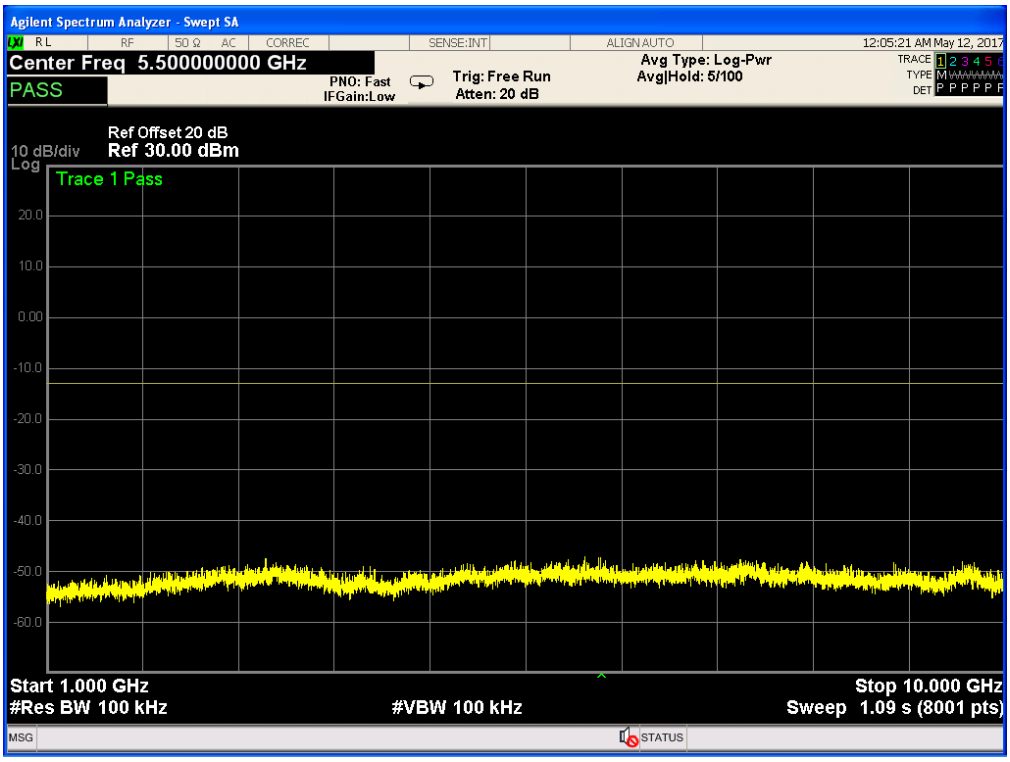
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



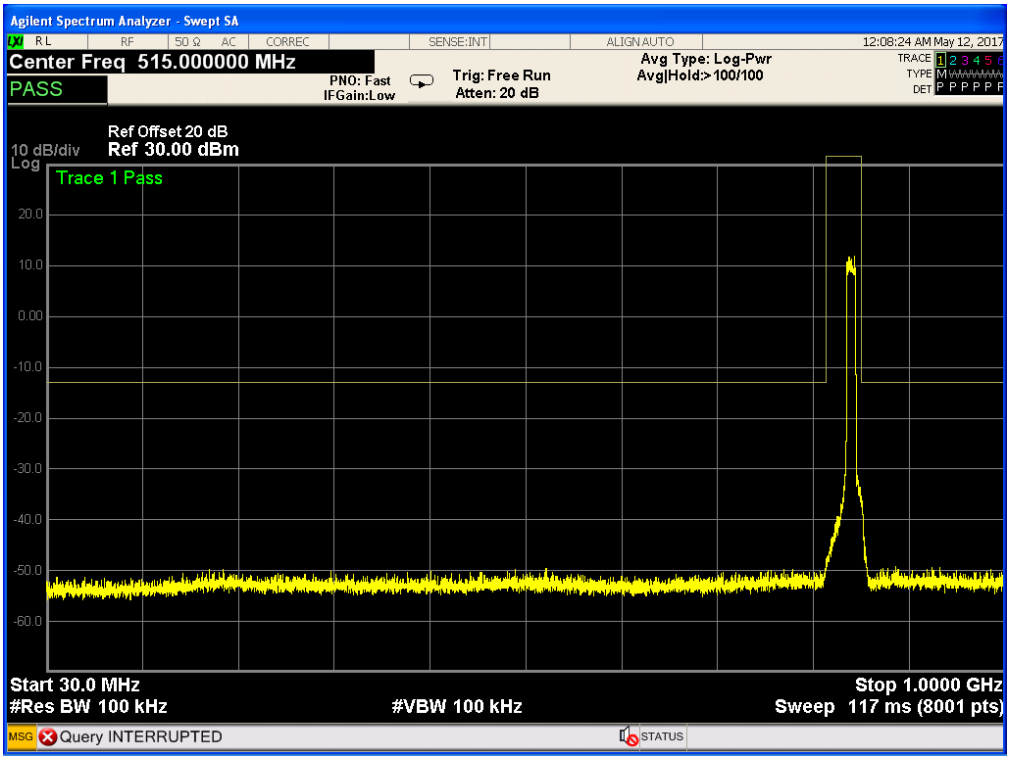
Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



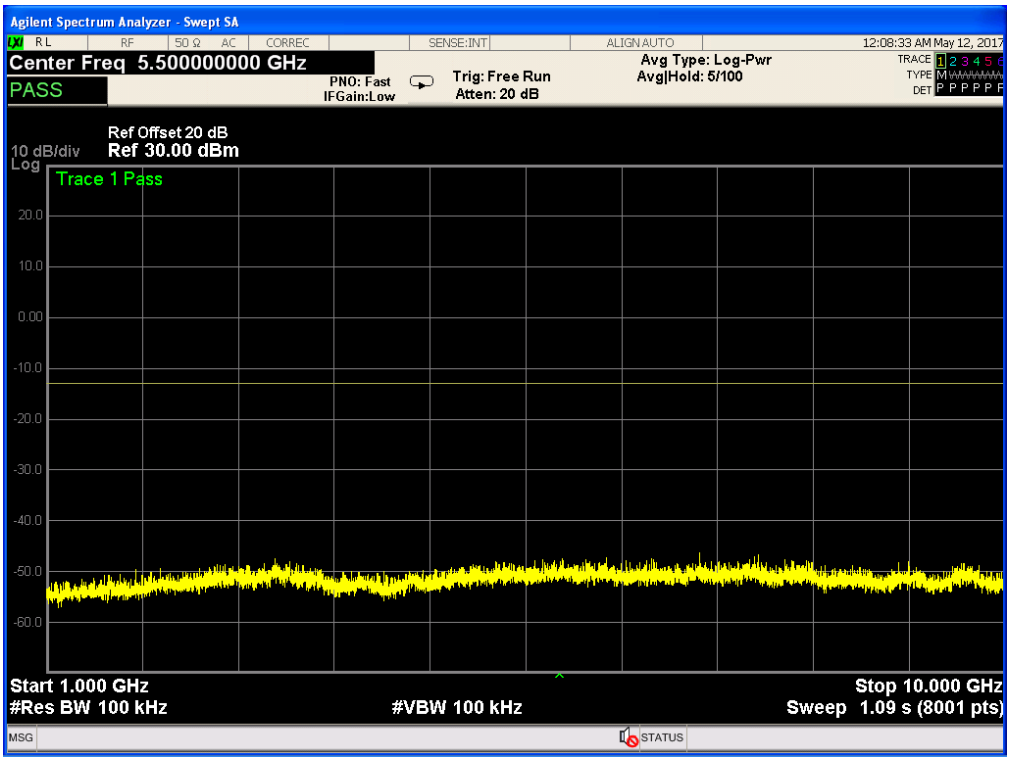
Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

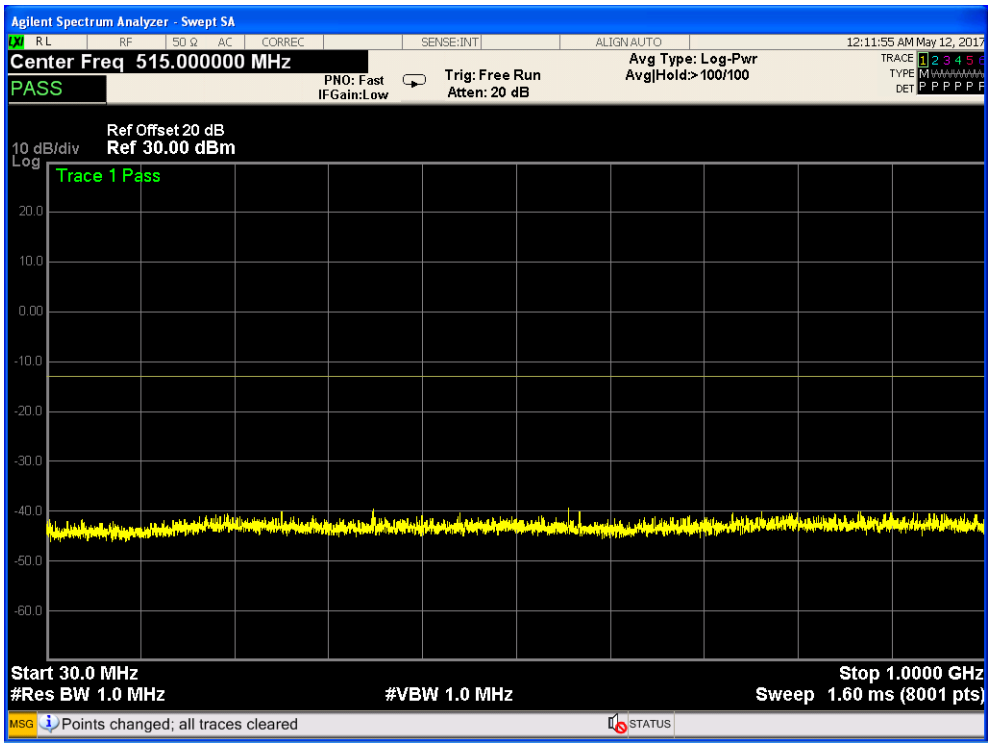


Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

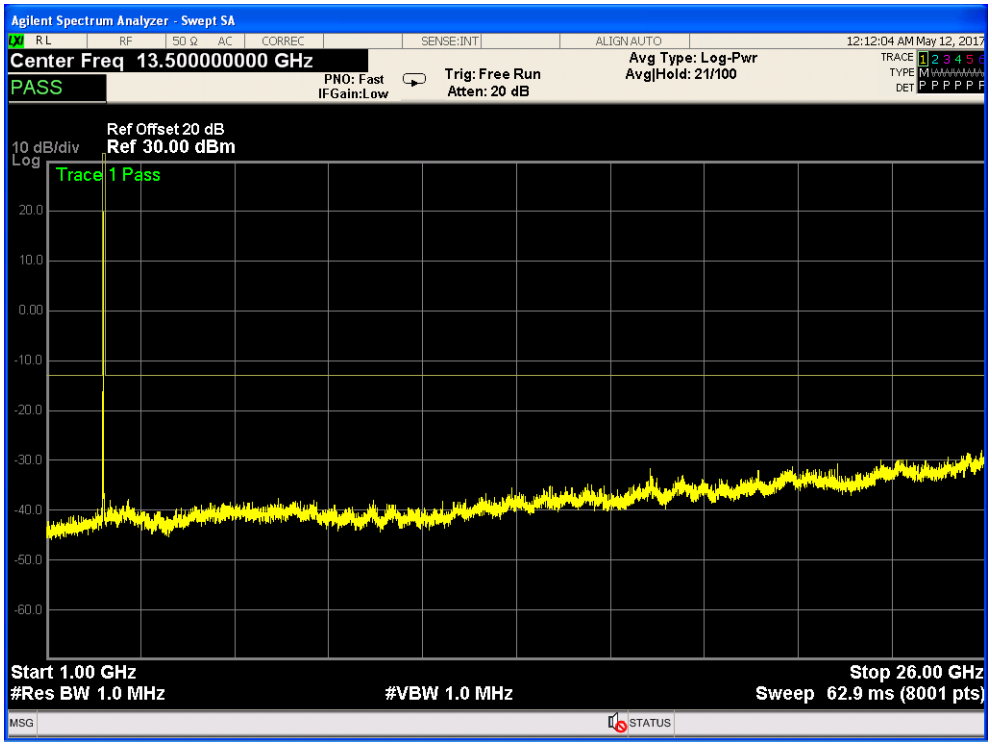


7.4 LTE BAND 7

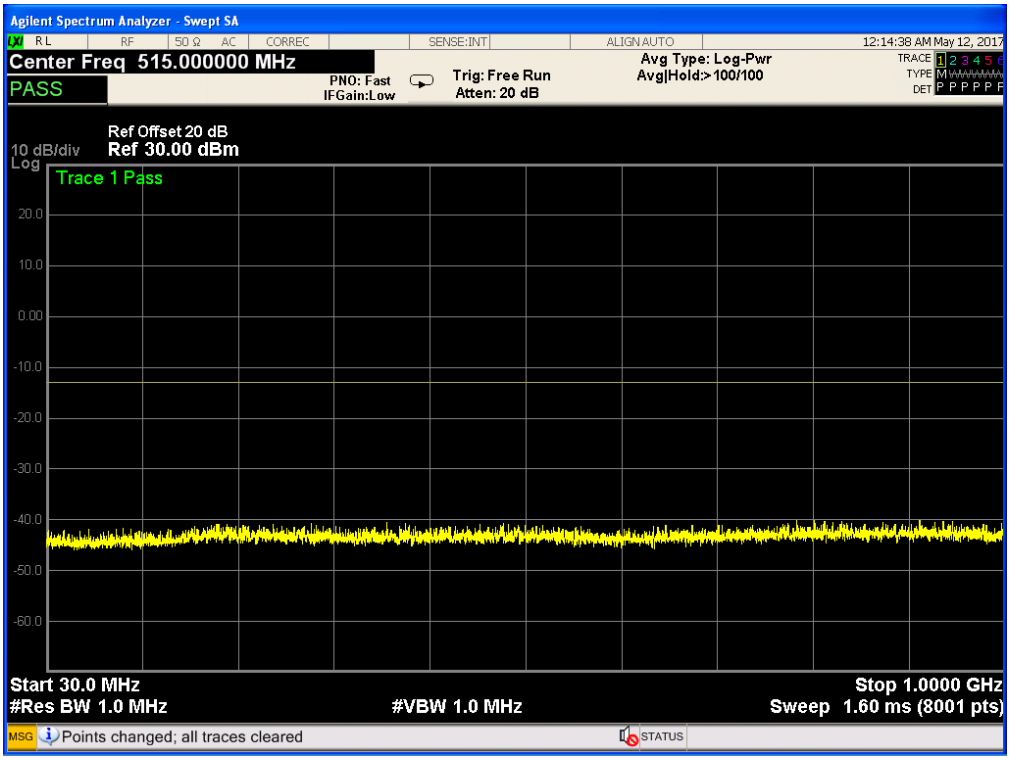
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



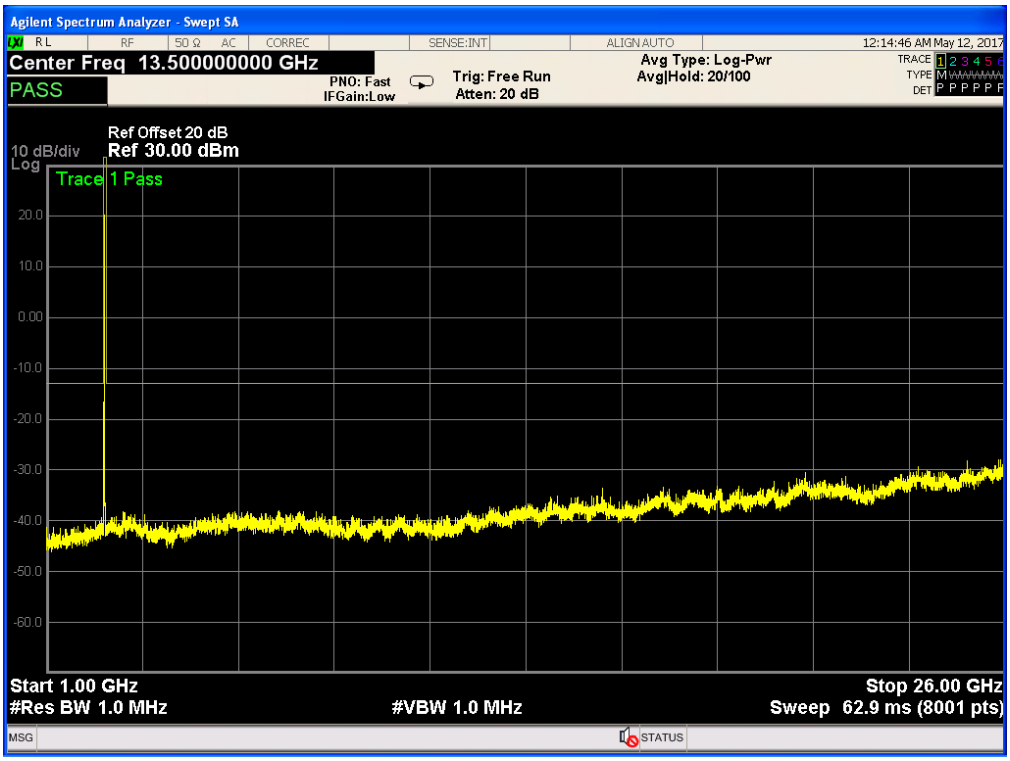
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



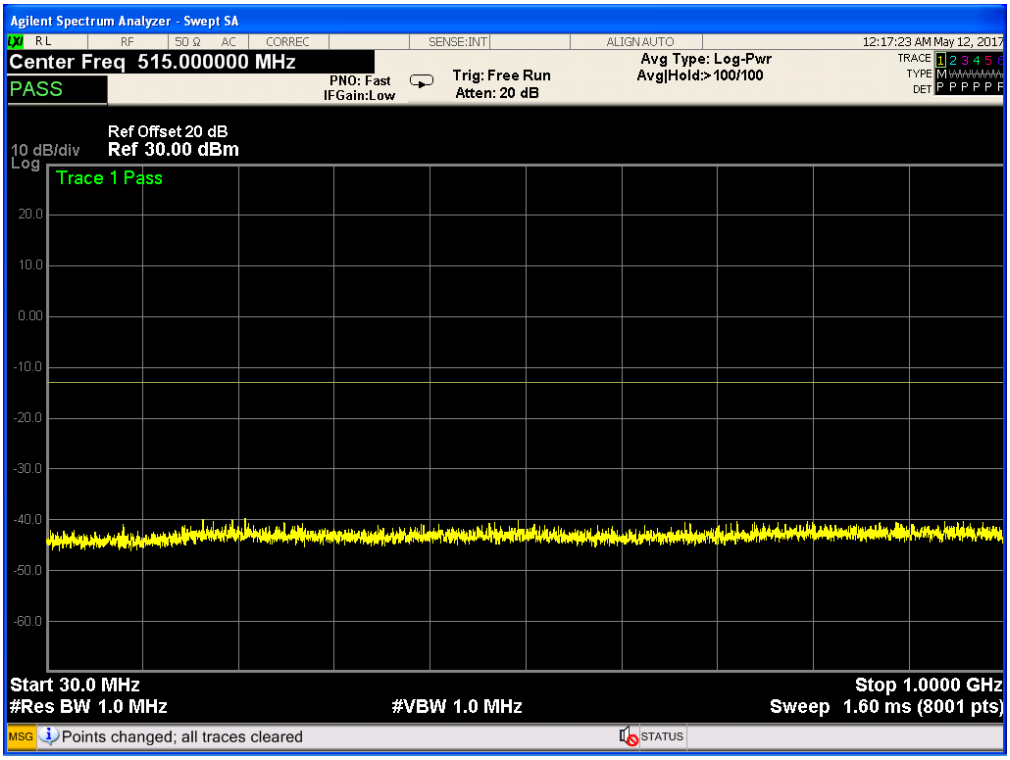
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



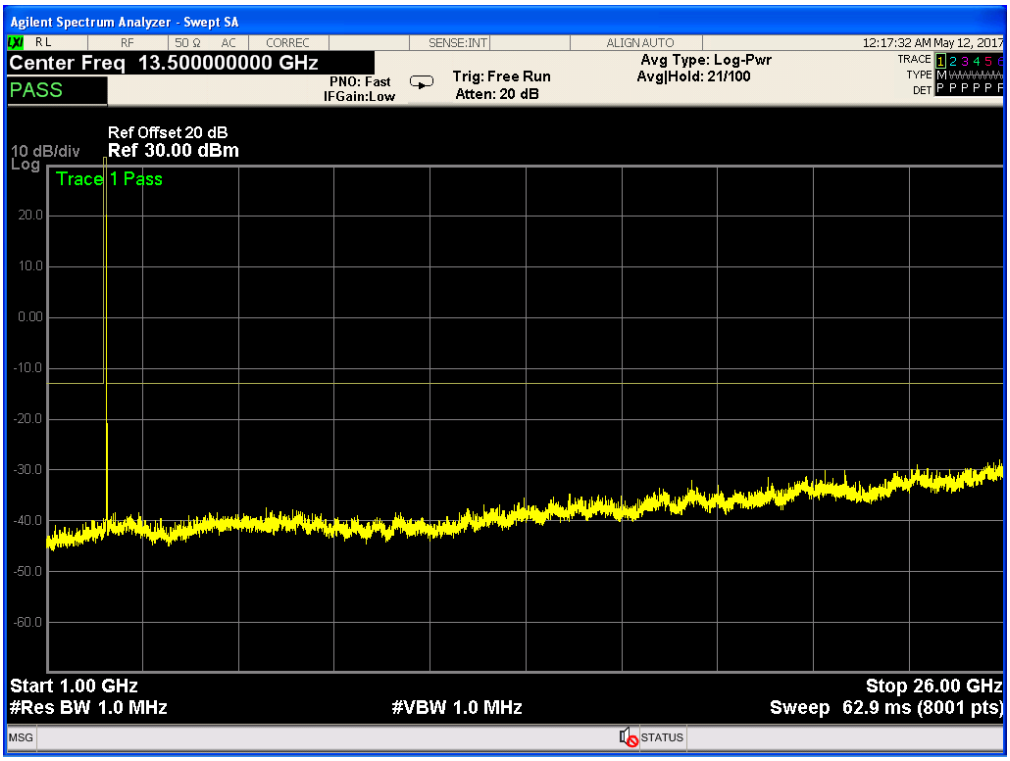
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



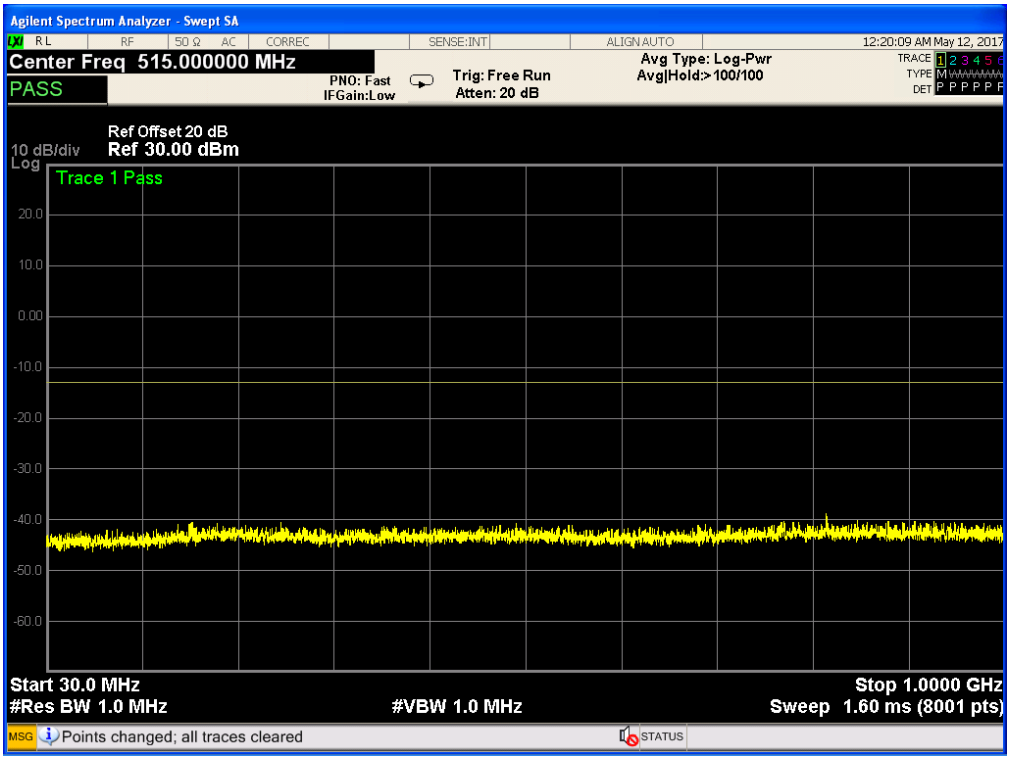
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



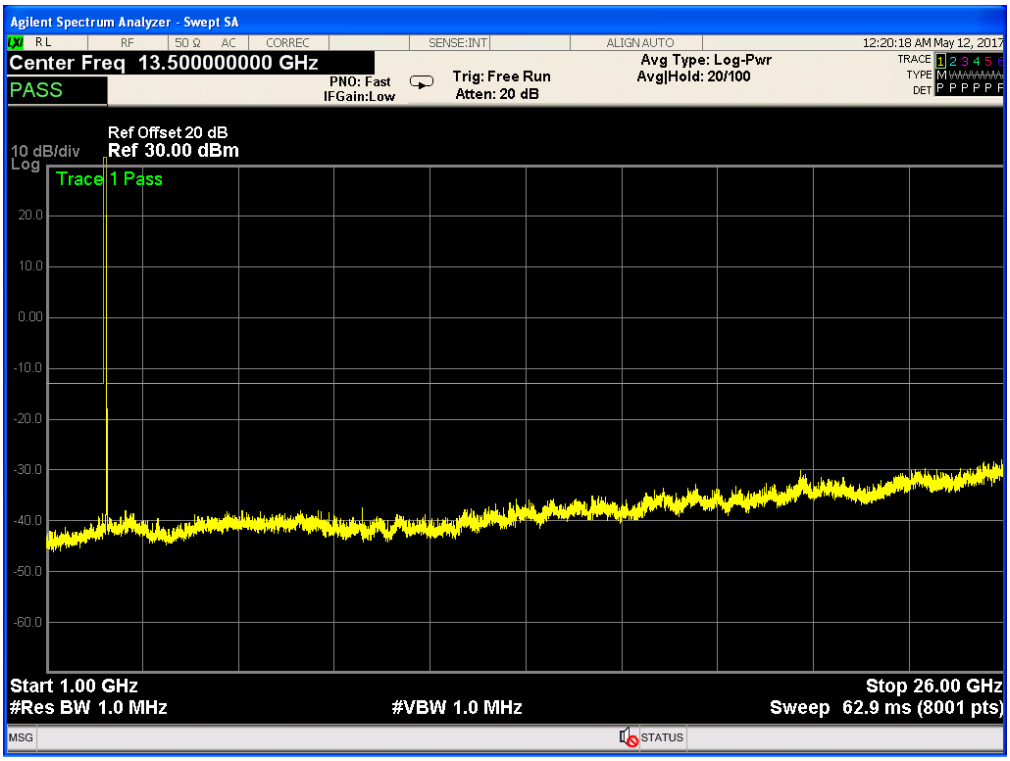
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



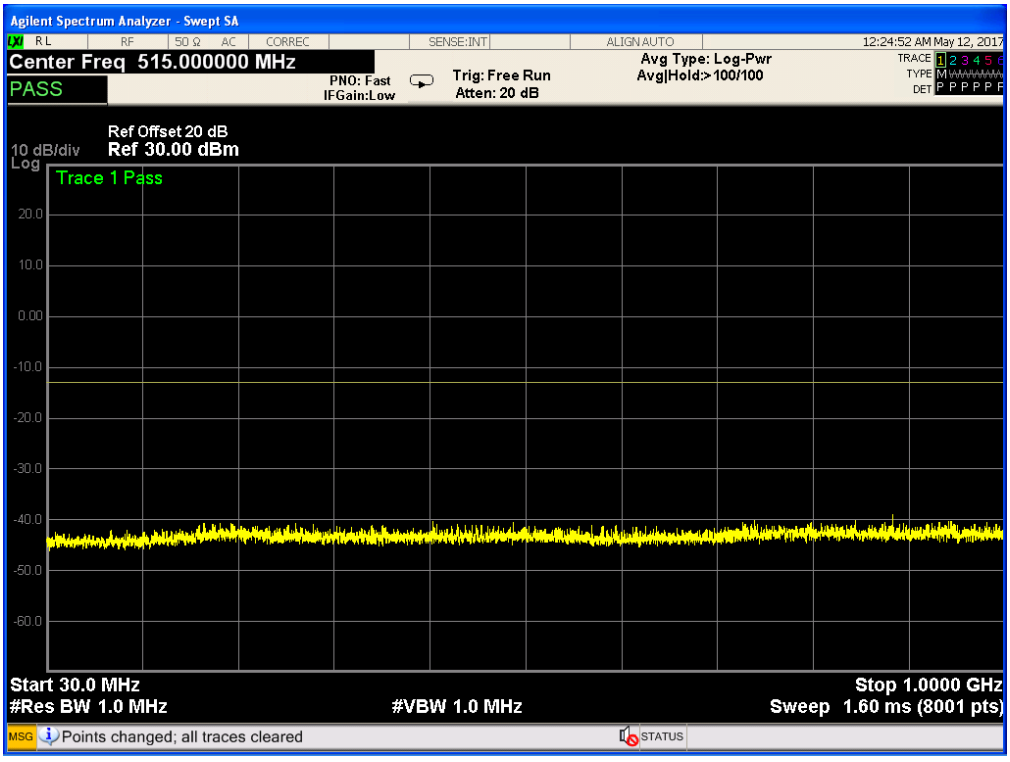
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



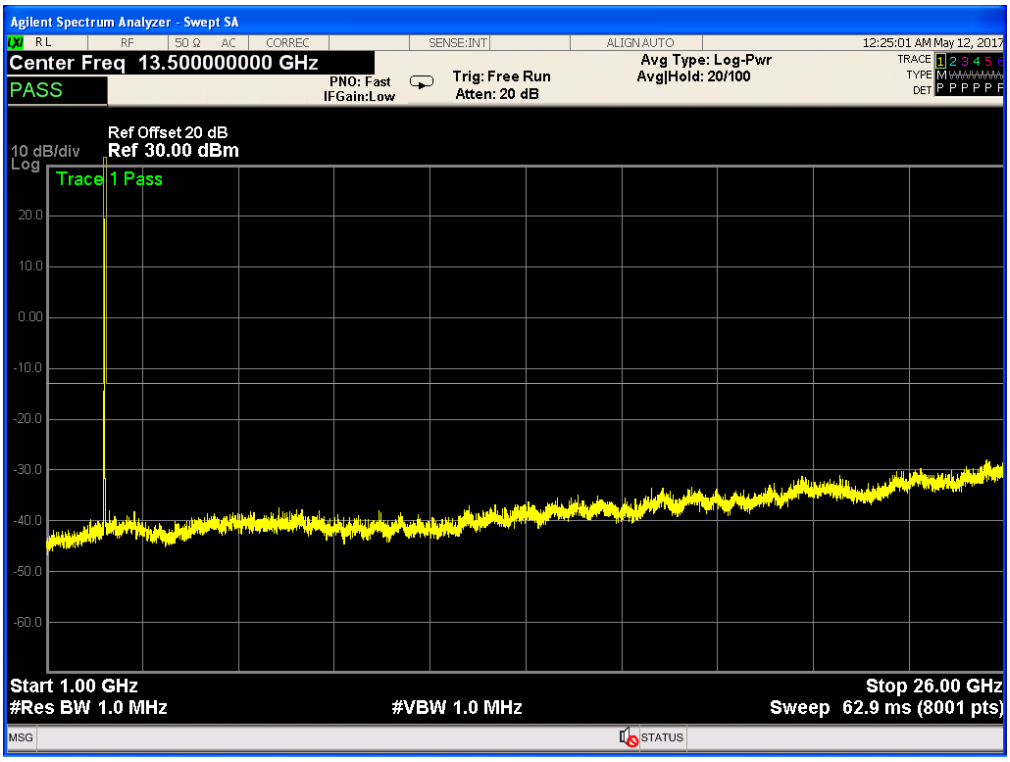
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



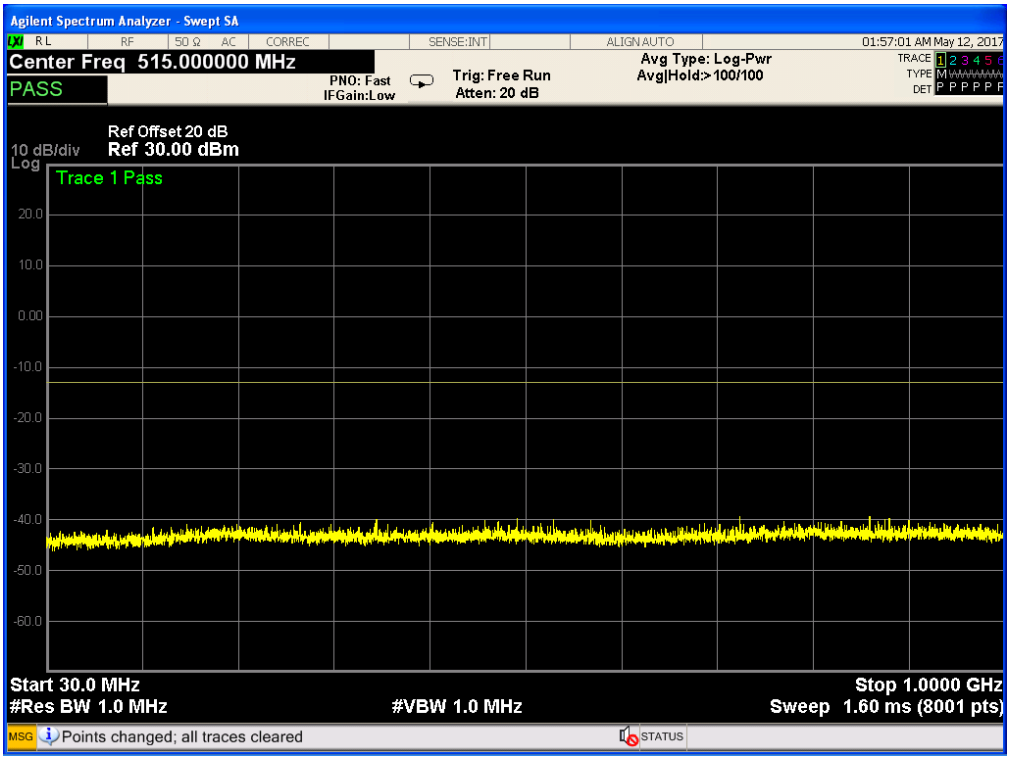
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



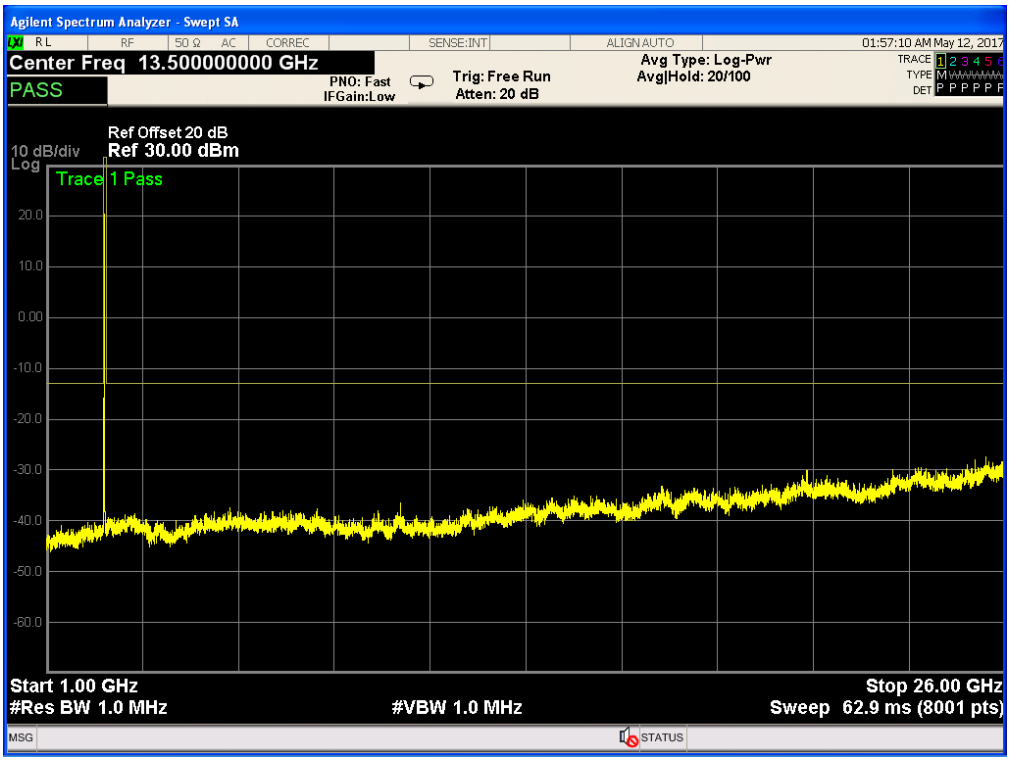
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



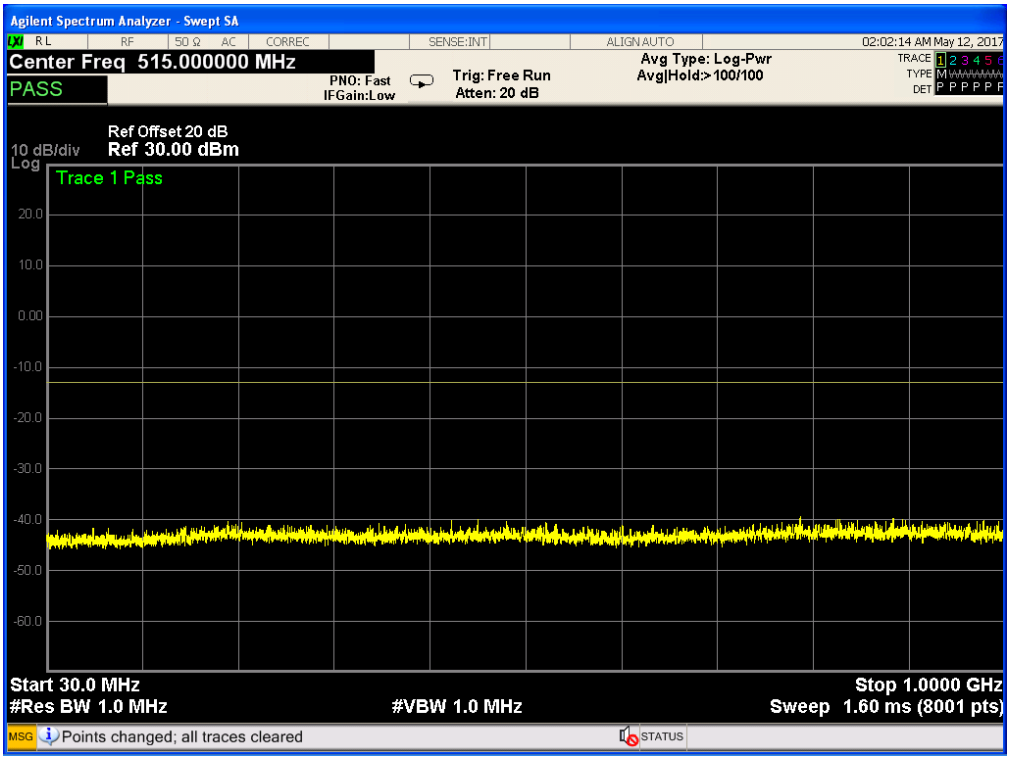
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 25,RB POS. Low,16QAM



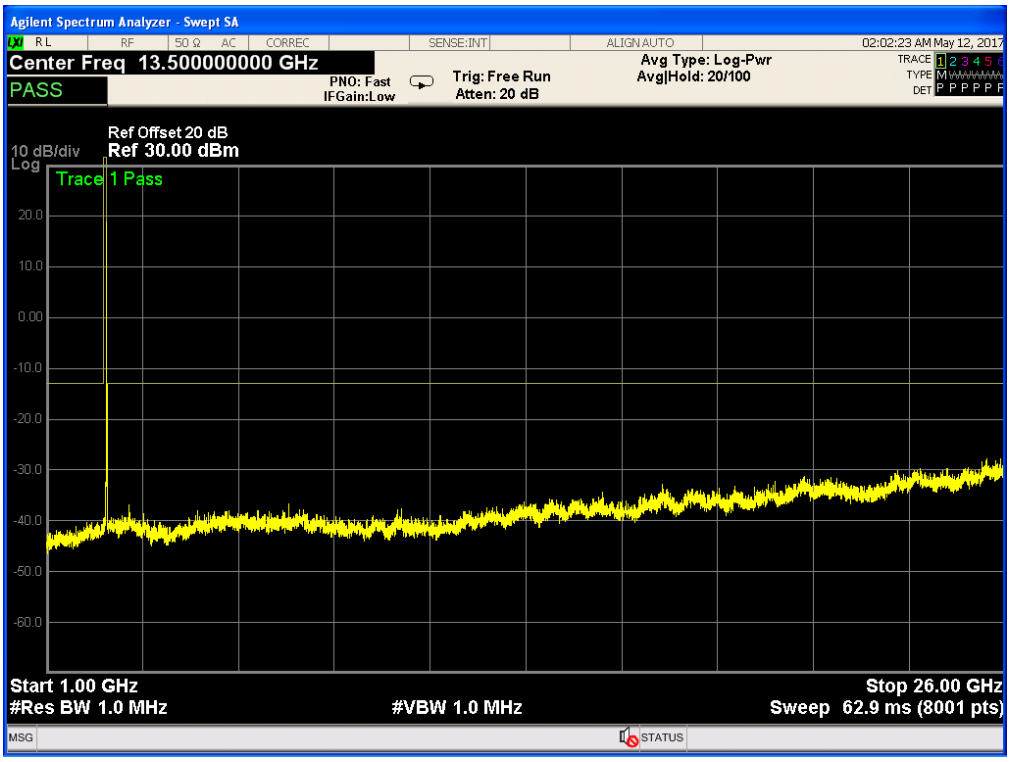
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 25,RB POS. Low,16QAM



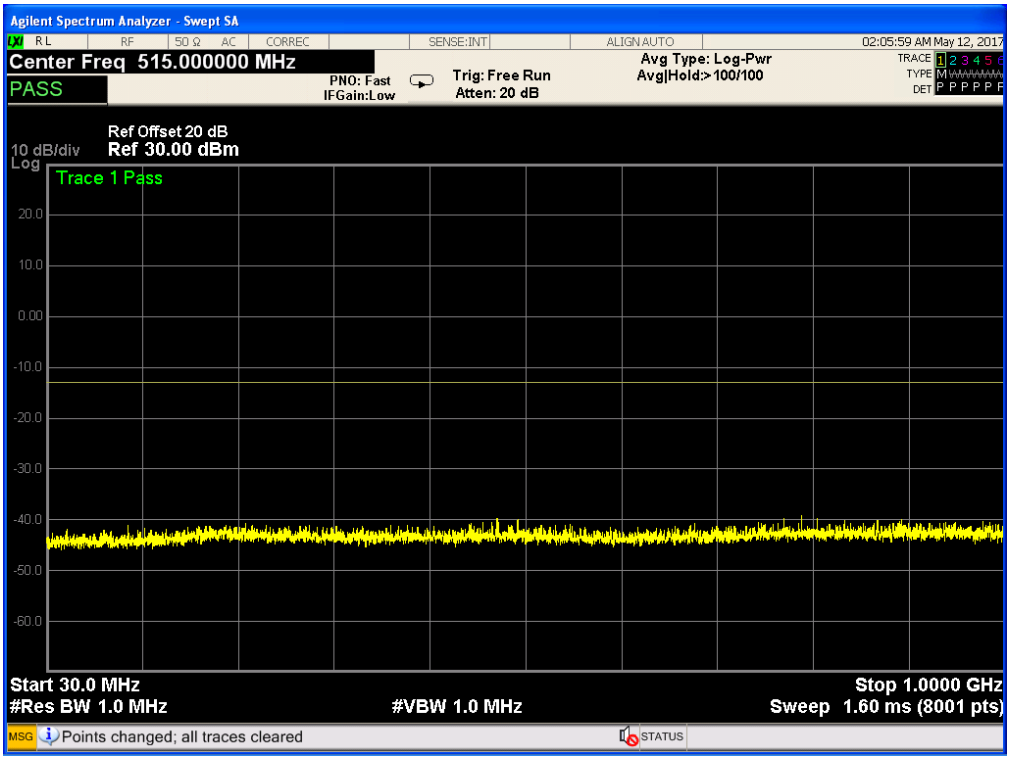
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



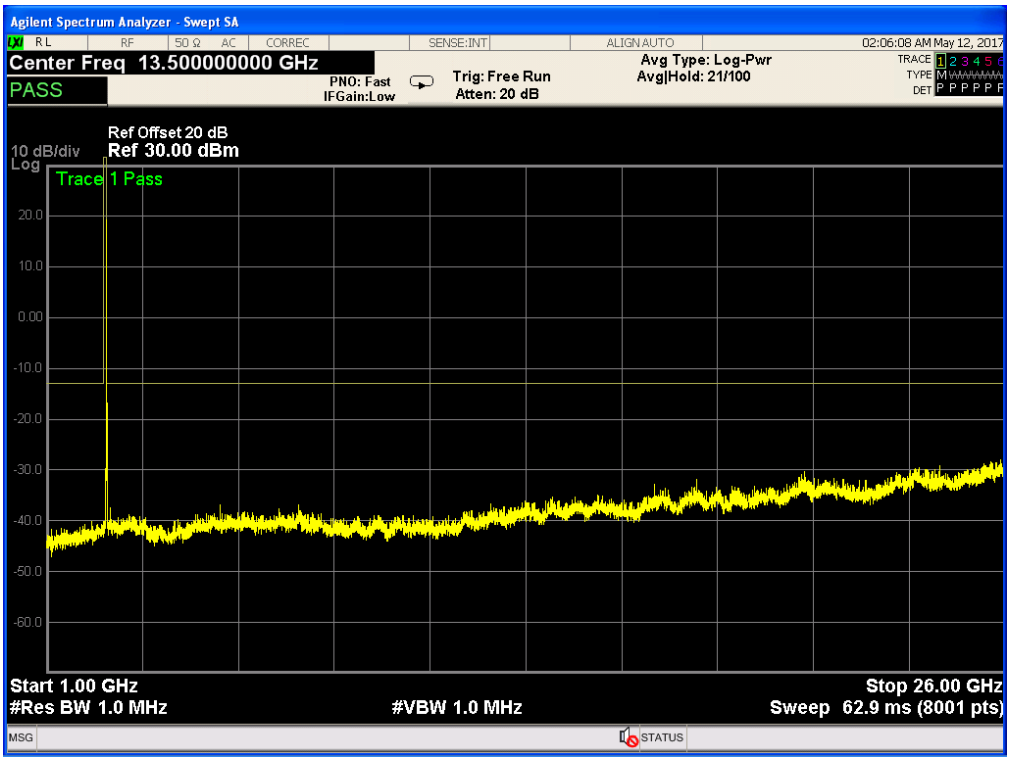
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



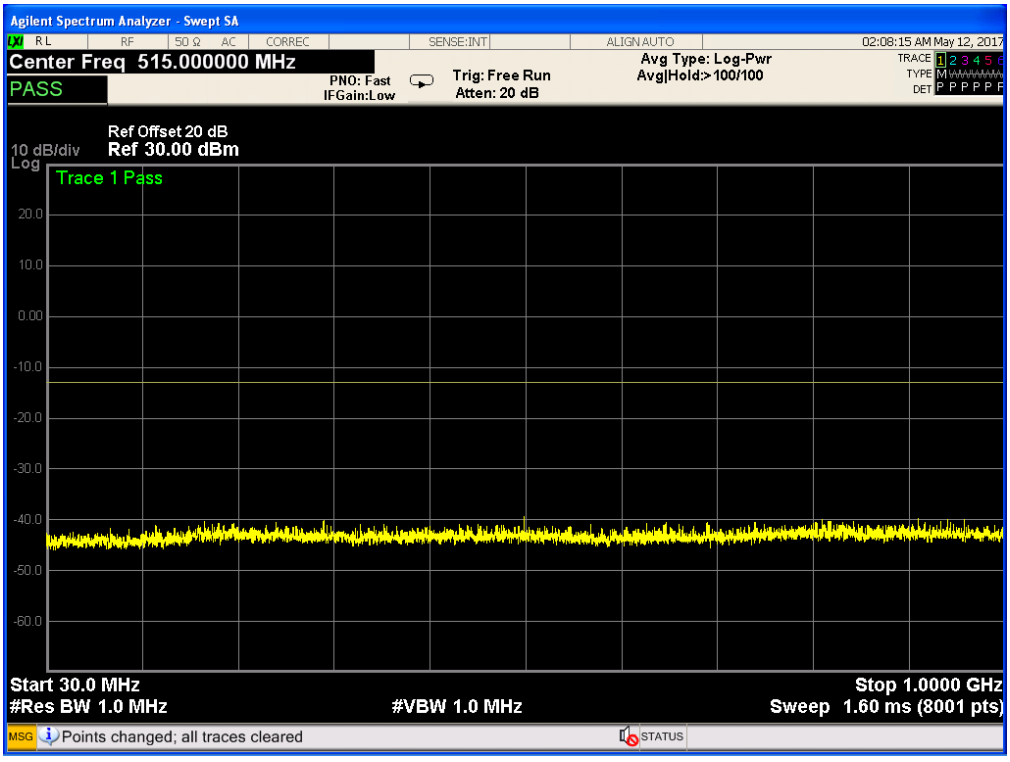
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



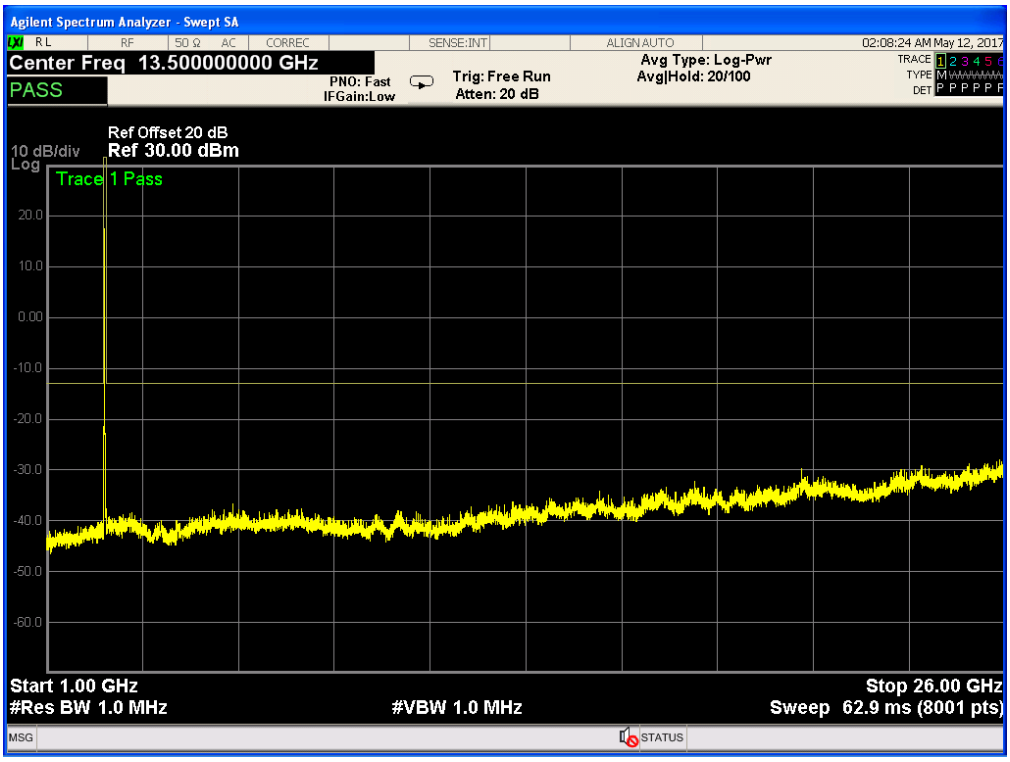
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



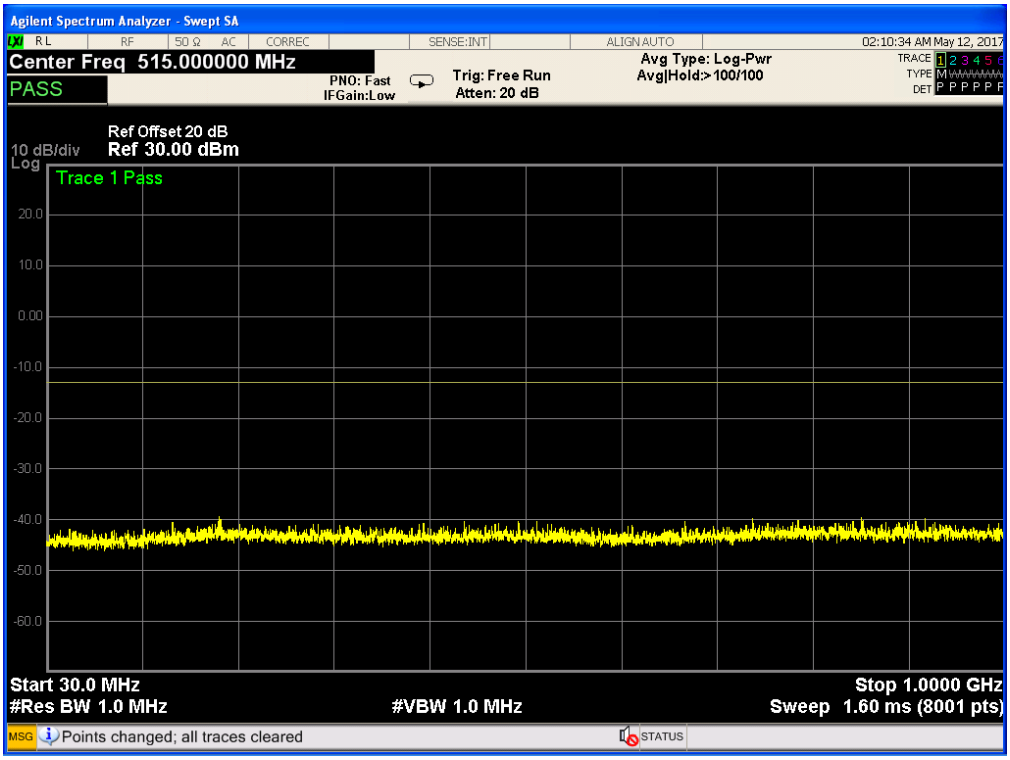
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



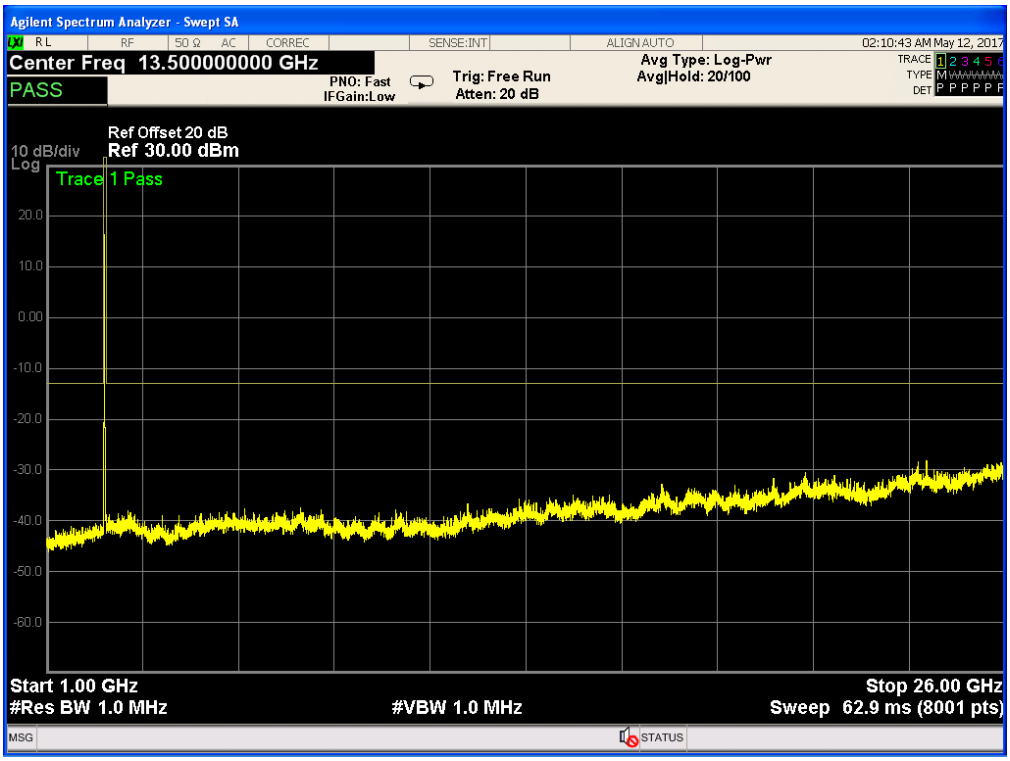
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



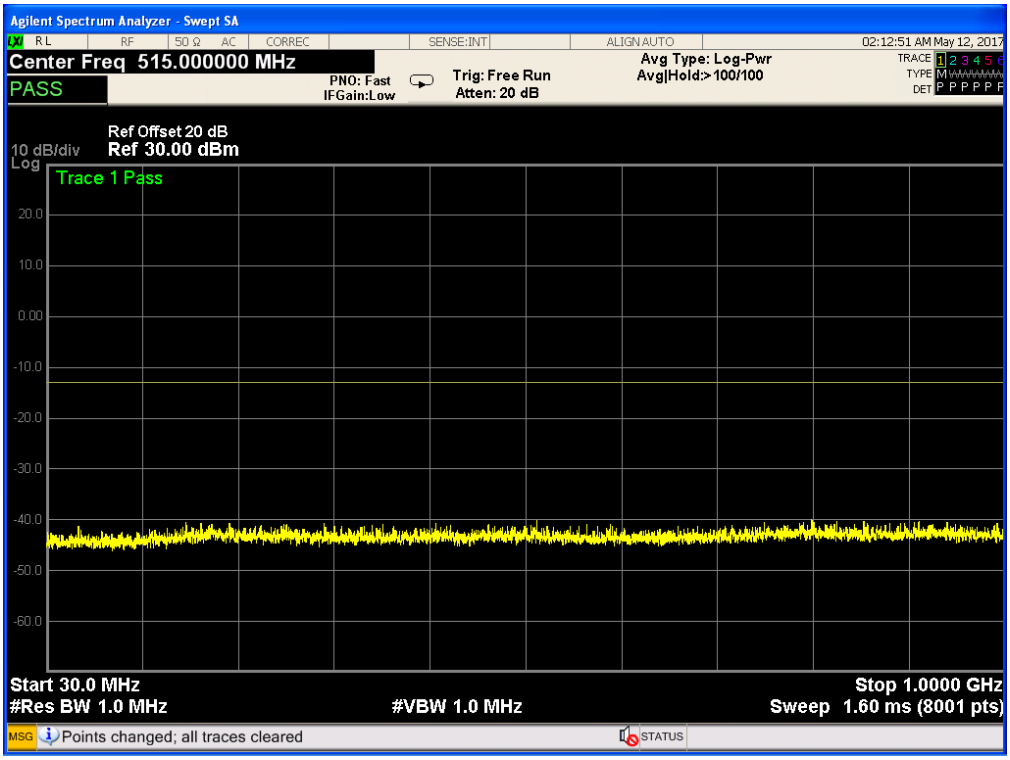
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



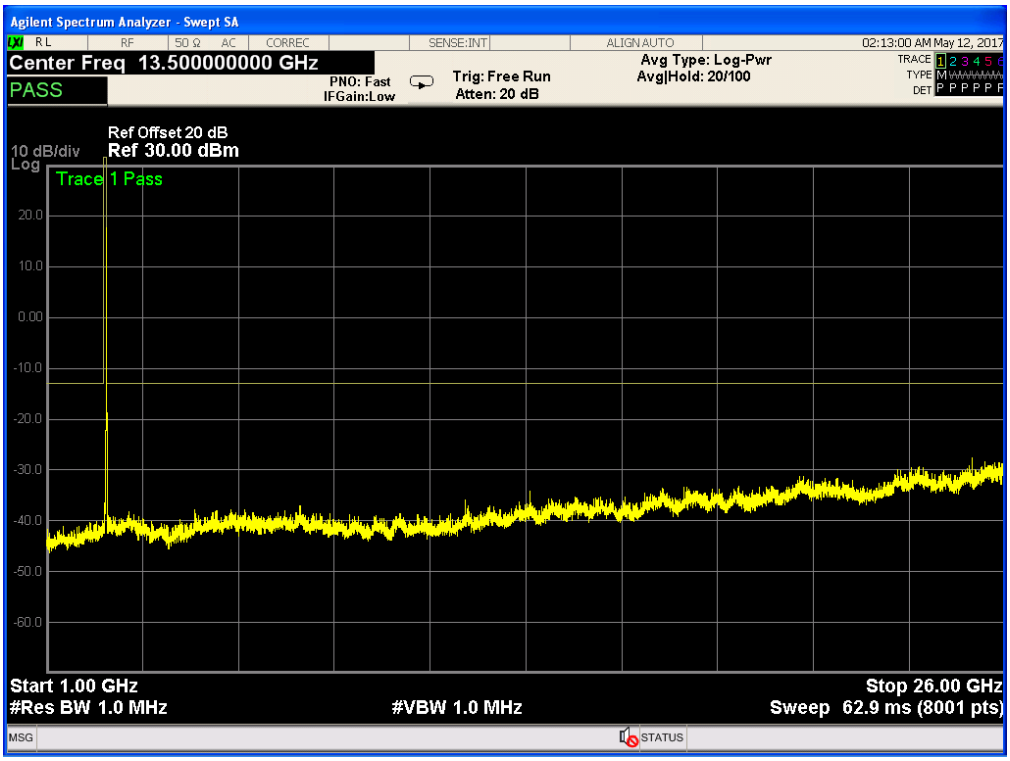
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



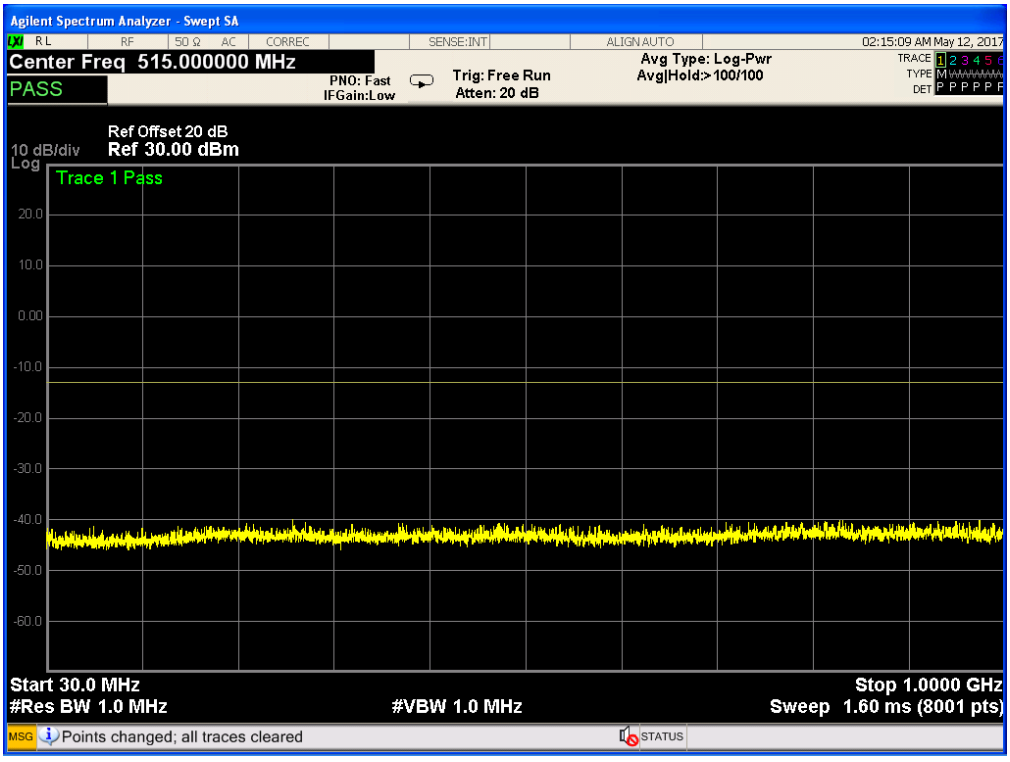
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



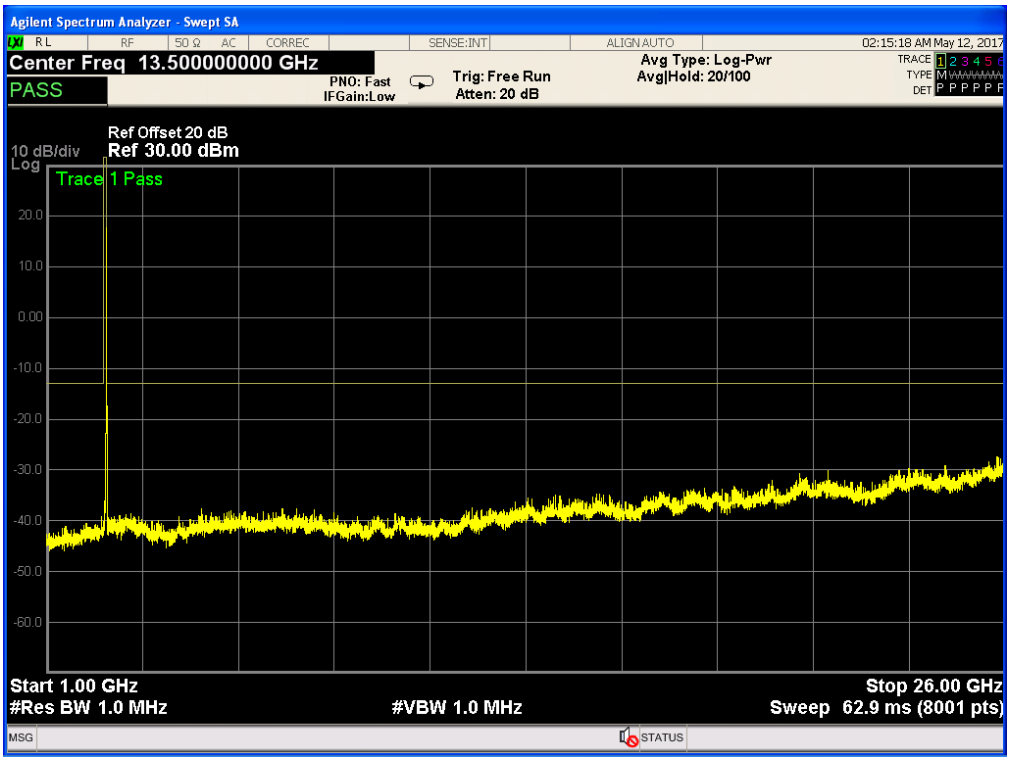
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



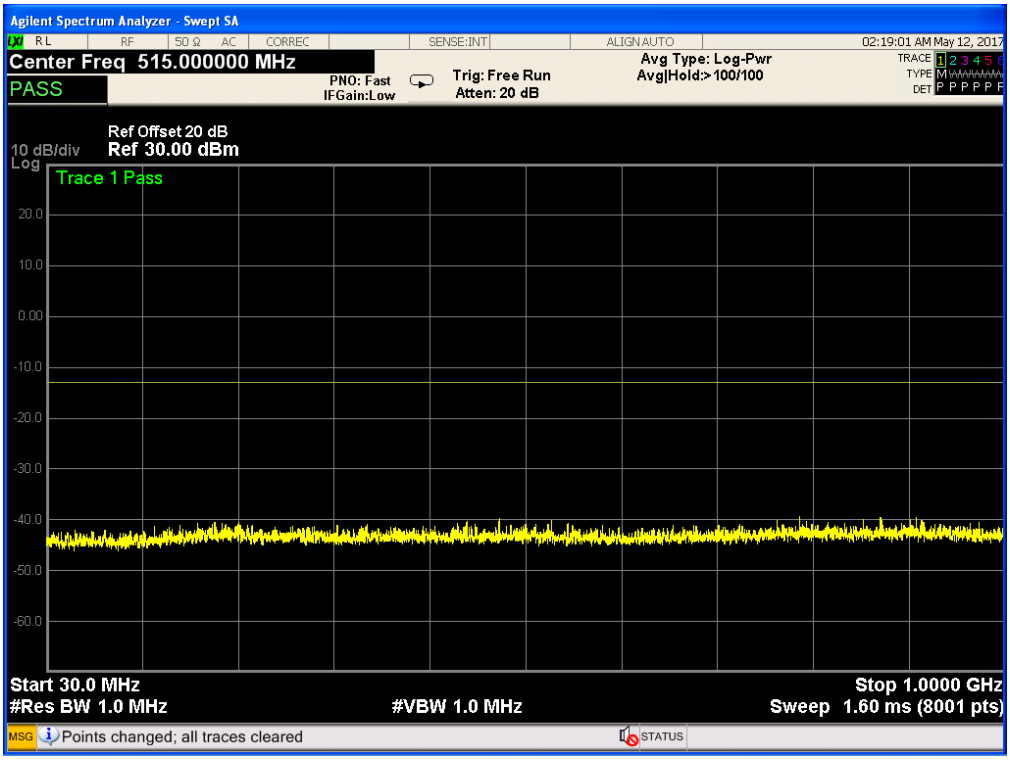
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



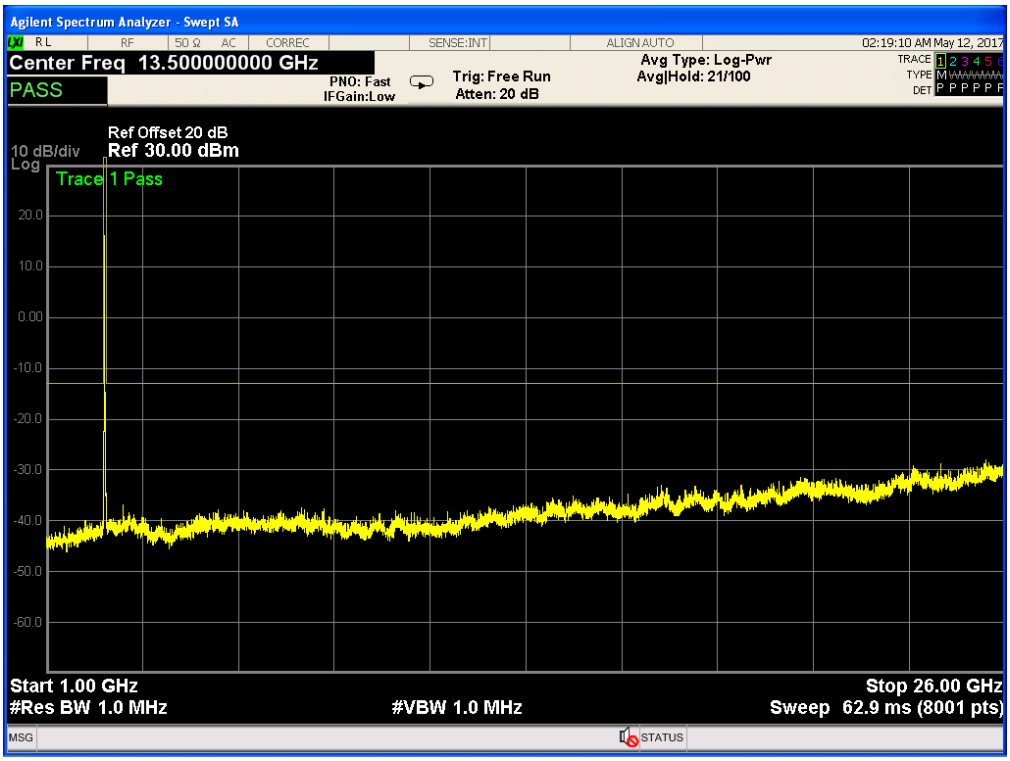
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



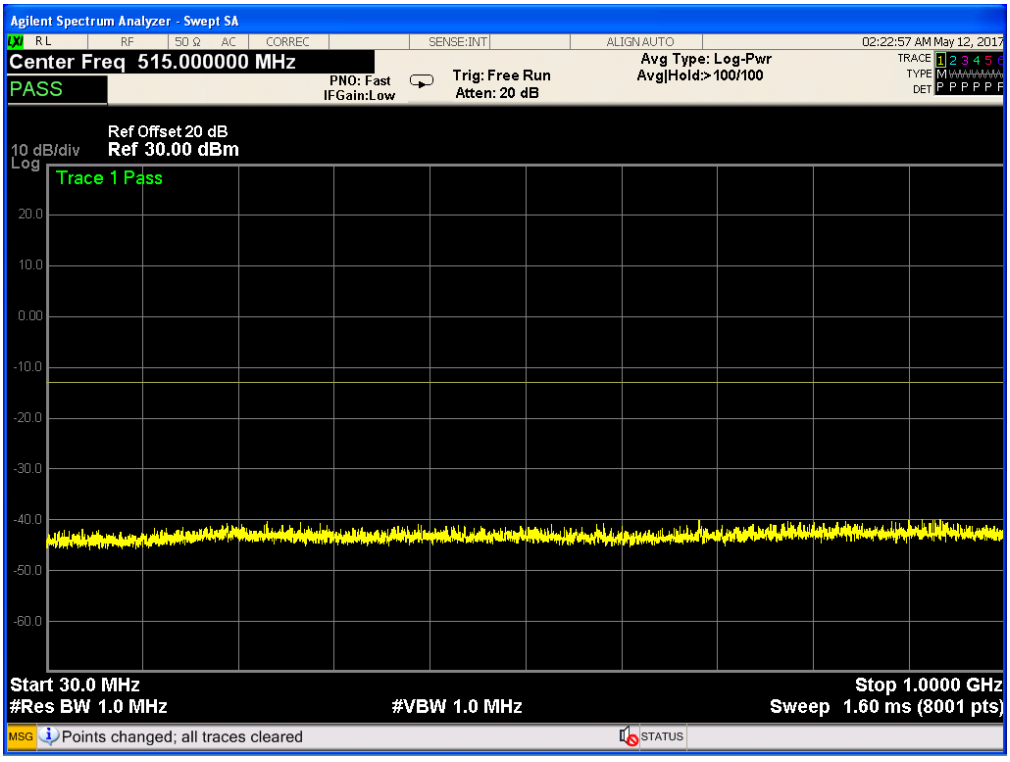
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



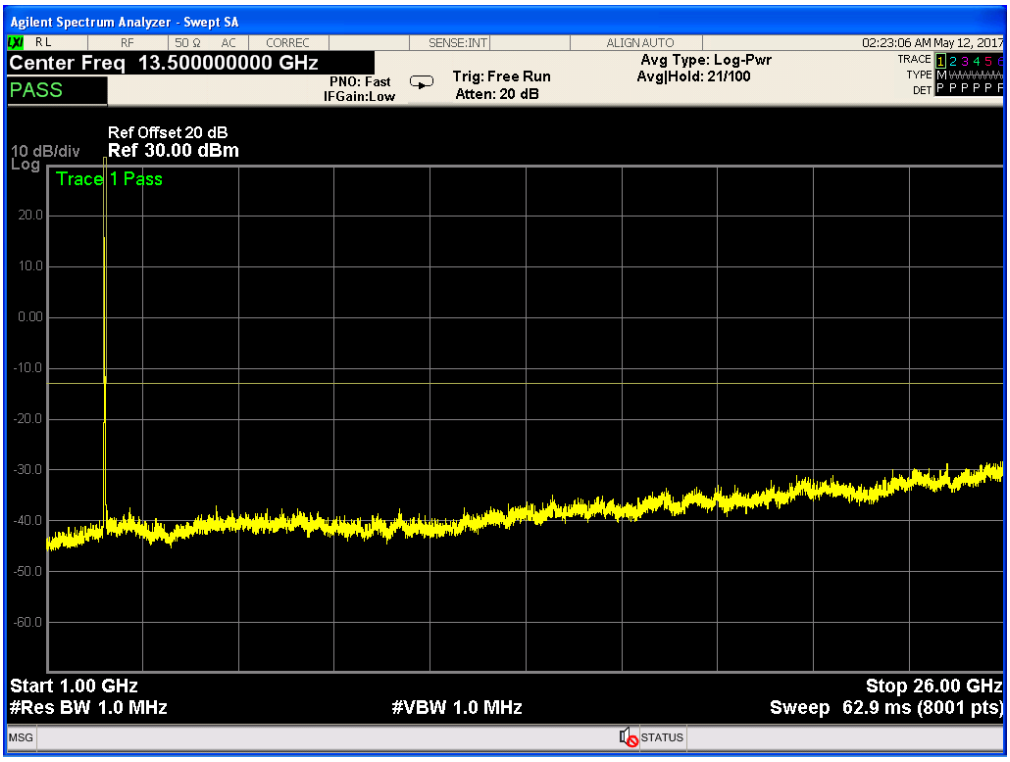
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



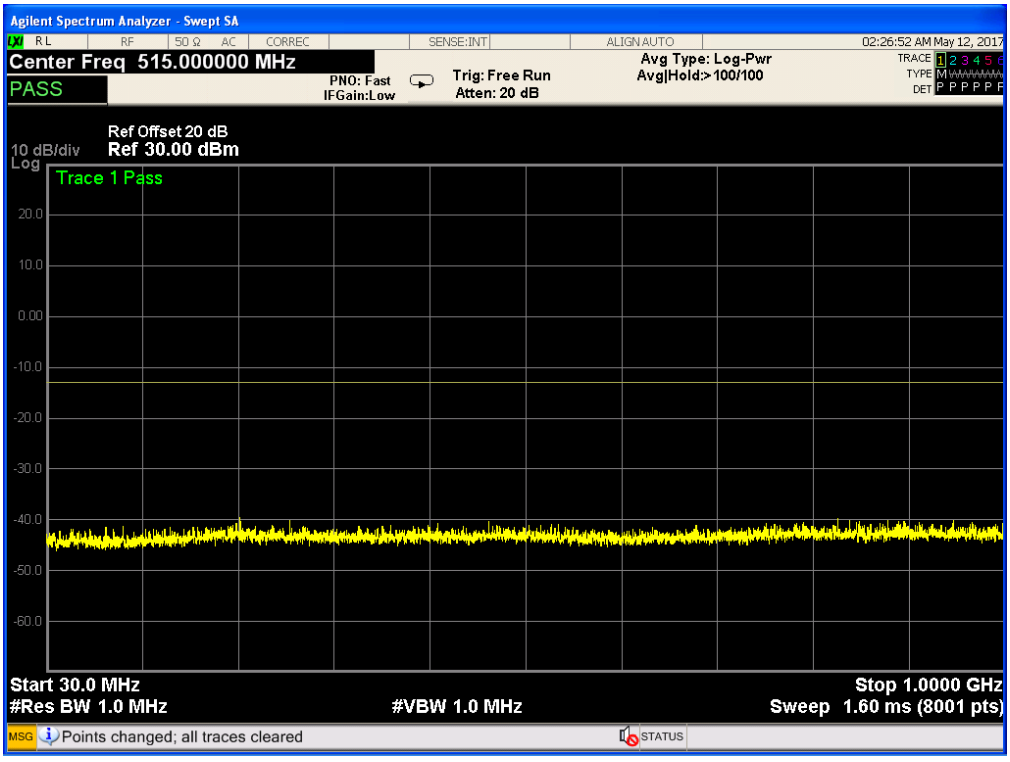
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



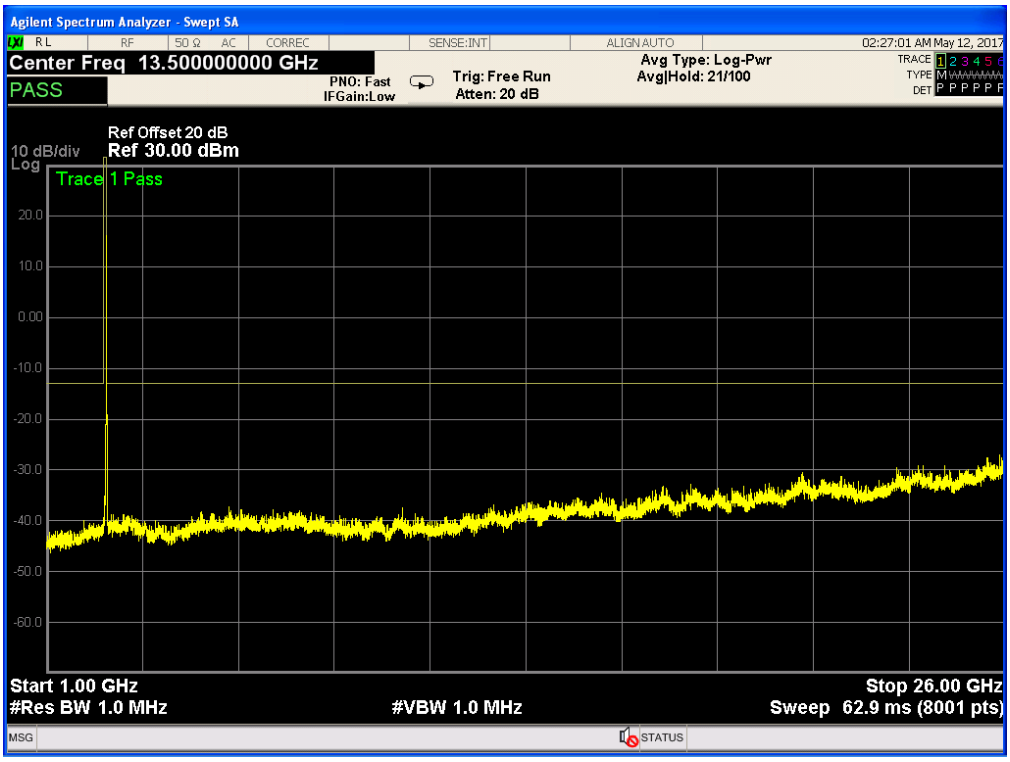
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



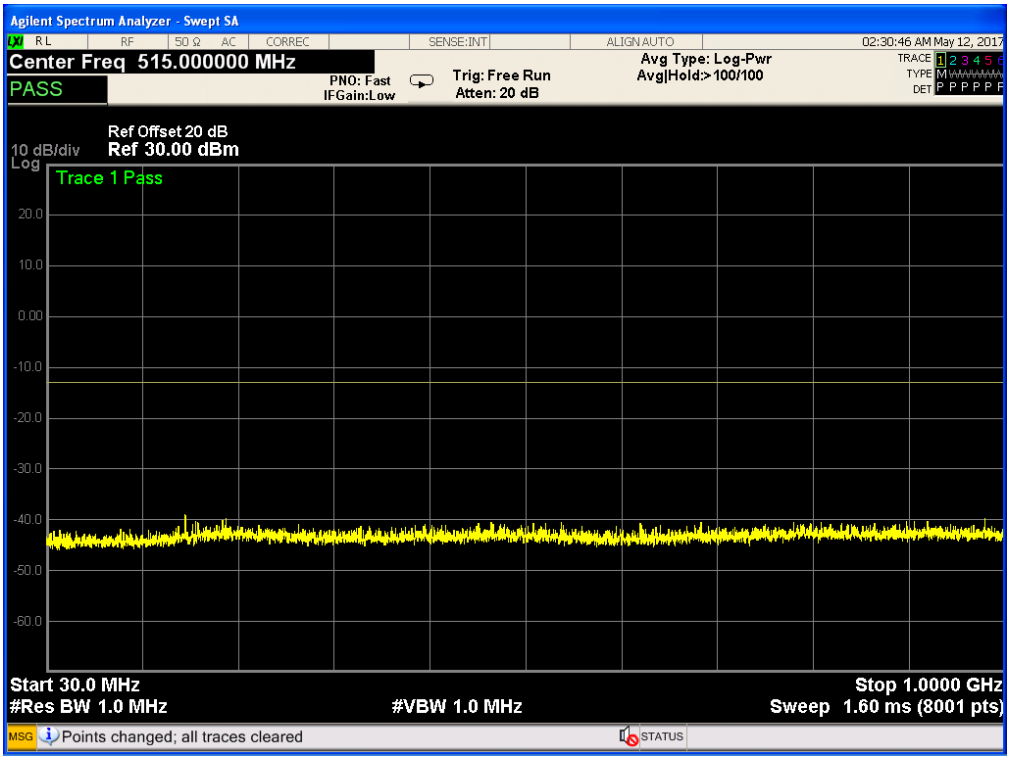
Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



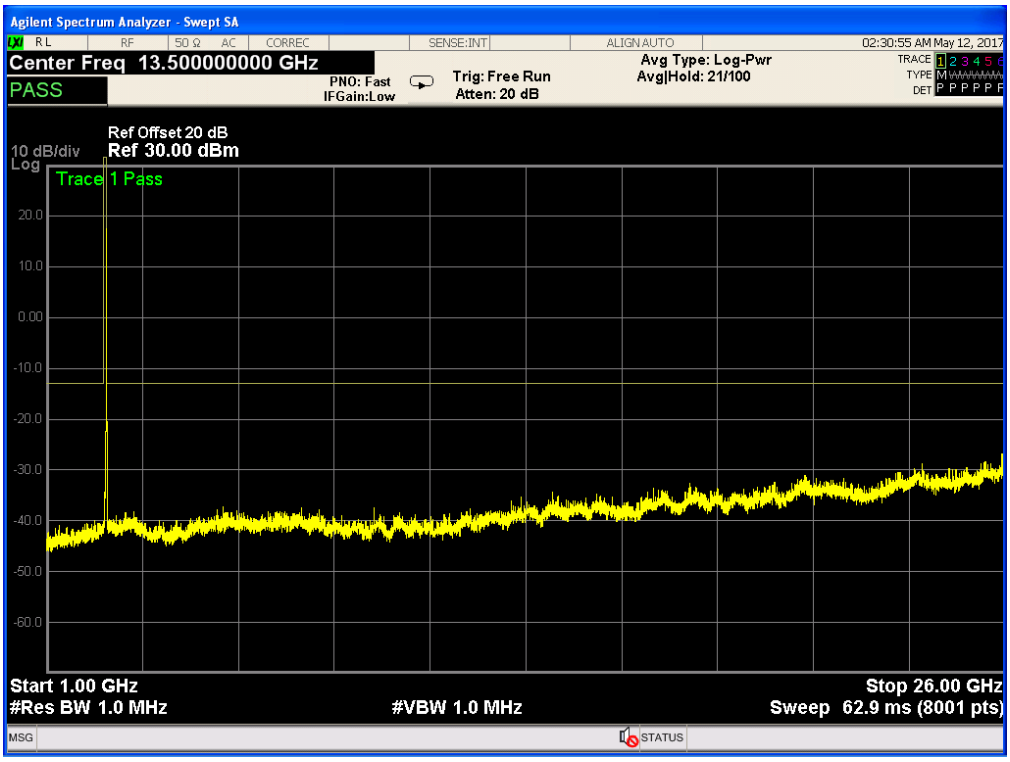
Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



8. Radiated Spurious Emission

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 / EIA 603C 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

RESULTS

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 Band QPSK	6/0	1850.7	-2.78	3.76	28.24	21.70	147.911	Horizontal	Pass
		1880	-2.54	3.91	28.22	21.77	150.314	Horizontal	Pass
		1909.3	-2.23	3.93	28.2	22.04	159.956	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-2.62	3.76	28.24	21.86	153.462	Horizontal	Pass
		1880	-2.22	3.91	28.22	22.09	161.808	Horizontal	Pass
		1909.3	-2.84	3.93	28.2	21.43	138.995	Horizontal	Pass
3.0MHz Band QPSK	15/0	1851.5	-2.30	3.77	28.23	22.16	164.437	Horizontal	Pass
		1880	-2.48	3.91	28.24	21.85	153.109	Horizontal	Pass
		1908.5	-2.27	3.94	28.25	22.04	159.956	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-2.62	3.77	28.23	21.84	152.757	Horizontal	Pass
		1880	-2.93	3.91	28.24	21.40	138.038	Horizontal	Pass
		1908.5	-2.06	3.94	28.25	22.25	167.880	Horizontal	Pass
5.0MHz Band QPSK	25/0	1852.5	-2.72	3.77	28.31	21.82	152.055	Horizontal	Pass
		1880	-2.20	3.91	28.22	22.11	162.555	Horizontal	Pass
		1907.5	-2.29	3.94	28.2	21.97	157.398	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-2.90	3.77	28.31	21.64	145.881	Horizontal	Pass
		1880	-2.06	3.91	28.22	22.25	167.880	Horizontal	Pass
		1907.5	-2.27	3.94	28.2	21.99	158.125	Horizontal	Pass
10.0MHz Band QPSK	50/0	1855	-2.44	3.79	28.33	22.10	162.181	Horizontal	Pass
		1880	-2.89	3.95	28.22	21.38	137.404	Horizontal	Pass
		1905	-2.46	3.97	28.19	21.76	149.968	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1855	-3.00	3.79	28.33	21.54	142.561	Horizontal	Pass
		1880	-2.80	3.95	28.22	21.47	140.281	Horizontal	Pass
		1905	-2.10	3.97	28.19	22.12	162.930	Horizontal	Pass
15.0MHz Band QPSK	75/0	1857.5	-2.76	3.79	28.34	21.79	151.008	Horizontal	Pass
		1880	-2.20	3.95	28.22	22.07	161.065	Horizontal	Pass
		1902.5	-2.59	3.97	28.18	21.62	145.211	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-2.64	3.79	28.34	21.91	155.239	Horizontal	Pass
		1880	-2.52	3.95	28.22	21.75	149.624	Horizontal	Pass
		1902.5	-2.56	3.97	28.18	21.65	146.218	Horizontal	Pass

20.0MHz Band QPSK	100/0	1860	-2.11	3.81	28.35	22.43	174.985	Horizontal	Pass
		1880	-2.03	3.96	28.22	22.23	167.109	Horizontal	Pass
		1900	-2.11	4	28.16	22.05	160.325	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1860	-2.23	3.81	28.35	22.31	170.216	Horizontal	Pass
		1880	-2.49	3.96	28.22	21.77	150.314	Horizontal	Pass
		1900	-2.91	4	28.16	21.25	133.352	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 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 Band QPSK	6/0	1850.7	-2.57	3.76	28.24	21.91	155.239	Vertical	Pass
		1880	-2.15	3.91	28.22	22.16	164.437	Vertical	Pass
		1909.3	-2.11	3.93	28.2	22.16	164.437	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-2.56	3.76	28.24	21.92	155.597	Vertical	Pass
		1880	-2.40	3.91	28.22	21.91	155.239	Vertical	Pass
		1909.3	-2.32	3.93	28.2	21.95	156.675	Vertical	Pass
3.0MHz Band QPSK	15/0	1851.5	-2.70	3.77	28.23	21.76	149.968	Vertical	Pass
		1880	-2.97	3.91	28.24	21.36	136.773	Vertical	Pass
		1908.5	-2.17	3.94	28.25	22.14	163.682	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-2.11	3.77	28.23	22.35	171.791	Vertical	Pass
		1880	-2.93	3.91	28.24	21.40	138.038	Vertical	Pass
		1908.5	-2.16	3.94	28.25	22.15	164.059	Vertical	Pass
5.0MHz Band QPSK	25/0	1852.5	-2.45	3.77	28.31	22.09	161.808	Vertical	Pass
		1880	-2.38	3.91	28.22	21.93	155.955	Vertical	Pass
		1907.5	-2.65	3.94	28.2	21.61	144.877	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-2.00	3.77	28.31	22.54	179.473	Vertical	Pass
		1880	-2.13	3.91	28.22	22.18	165.196	Vertical	Pass
		1907.5	-2.19	3.94	28.2	22.07	161.065	Vertical	Pass
10.0MHz Band QPSK	50/0	1855	-2.10	3.79	28.33	22.44	175.388	Vertical	Pass
		1880	-2.91	3.95	28.22	21.36	136.773	Vertical	Pass
		1905	-2.58	3.97	28.19	21.64	145.881	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1855	-2.35	3.79	28.33	22.19	165.577	Vertical	Pass
		1880	-2.01	3.95	28.22	22.26	168.267	Vertical	Pass
		1905	-2.46	3.97	28.19	21.76	149.968	Vertical	Pass
15.0MHz Band QPSK	75/0	1857.5	-2.00	3.79	28.34	**22.55**	**179.887**	Vertical	Pass
		1880	-1.99	3.95	28.22	22.28	169.044	Vertical	Pass
		1902.5	-2.25	3.97	28.18	21.96	157.036	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-2.22	3.79	28.34	22.33	171.002	Vertical	Pass
		1880	-2.96	3.95	28.22	21.31	135.207	Vertical	Pass
		1902.5	-2.89	3.97	28.18	21.32	135.519	Vertical	Pass
20.0MHz Band	100/ 0	1860	-2.64	3.81	28.35	21.90	154.882	Vertical	Pass
		1880	-2.90	3.96	28.22	21.36	136.773	Vertical	Pass

QPSK		1900	-2.24	4	28.16	21.92	155.597	Vertical	Pass
20.0MHz Band 16 QAM	100/0	1860	-2.40	3.81	28.35	22.14	163.682	Vertical	Pass
		1880	-2.09	3.96	28.22	22.17	164.816	Vertical	Pass
		1900	-2.19	4	28.16	21.97	157.398	Vertical	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 Band QPSK	6/0	1710.7	-2.60	3.12	27.58	21.86	153.462	Horizontal	Pass
		1732.5	-2.18	3.27	27.61	22.16	164.437	Horizontal	Pass
		1754.3	-2.14	3.29	27.63	22.20	165.959	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-2.59	3.12	27.58	21.87	153.815	Horizontal	Pass
		1732.5	-2.43	3.27	27.61	21.91	155.239	Horizontal	Pass
		1754.3	-2.35	3.29	27.63	21.99	158.125	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	-2.73	3.13	27.61	21.75	149.624	Horizontal	Pass
		1732.5	-3.00	3.27	27.61	21.34	136.144	Horizontal	Pass
		1753.5	-2.20	3.3	27.62	22.12	162.930	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-2.14	3.13	27.61	22.34	171.396	Horizontal	Pass
		1732.5	-2.96	3.27	27.61	21.38	137.404	Horizontal	Pass
		1753.5	-2.19	3.3	27.62	22.13	163.305	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	-2.48	3.13	27.63	22.02	159.221	Horizontal	Pass
		1732.5	-2.41	3.27	27.61	21.93	155.955	Horizontal	Pass
		1752.5	-2.68	3.3	27.6	21.62	145.211	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-2.03	3.13	27.63	22.47	176.604	Horizontal	Pass
		1732.5	-2.16	3.27	27.61	22.18	165.196	Horizontal	Pass
		1752.5	-2.22	3.3	27.6	22.08	161.436	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	-2.13	3.15	27.64	22.36	172.187	Horizontal	Pass
		1732.5	-2.94	3.31	27.61	21.36	136.773	Horizontal	Pass
		1750	-2.61	3.33	27.59	21.65	146.218	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	-2.38	3.15	27.64	22.11	162.555	Horizontal	Pass
		1732.5	-2.04	3.31	27.61	22.26	168.267	Horizontal	Pass
		1750	-2.49	3.33	27.59	21.77	150.314	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	-2.03	3.15	27.65	**22.47**	**176.604**	Horizontal	Pass
		1732.5	-2.02	3.31	27.61	22.28	169.044	Horizontal	Pass
		1747.5	-2.28	3.33	27.57	21.96	157.036	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-2.25	3.15	27.65	22.25	167.880	Horizontal	Pass
		1732.5	-2.99	3.31	27.61	21.31	135.207	Horizontal	Pass
		1747.5	-2.92	3.33	27.57	21.32	135.519	Horizontal	Pass

20.0MHz Band QPSK	100/0	1720	-2.67	3.17	27.66	21.82	152.055	Horizontal	Pass
		1732.5	-2.93	3.32	27.61	21.36	136.773	Horizontal	Pass
		1745	-2.27	3.36	27.56	21.93	155.955	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	-2.43	3.17	27.66	22.06	160.694	Horizontal	Pass
		1732.5	-2.12	3.32	27.61	22.17	164.816	Horizontal	Pass
		1745	-2.22	3.36	27.56	21.98	157.761	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 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 Band QPSK	6/0	1710.7	-2.12	3.12	27.58	22.34	171.396	Vertical	Pass
		1732.5	-3.01	3.27	27.61	21.33	135.831	Vertical	Pass
		1754.3	-2.98	3.29	27.63	21.36	136.773	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-2.78	3.12	27.58	21.68	147.231	Vertical	Pass
		1732.5	-2.57	3.27	27.61	21.77	150.314	Vertical	Pass
		1754.3	-2.54	3.29	27.63	21.80	151.356	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-2.57	3.13	27.61	21.91	155.239	Vertical	Pass
		1732.5	-2.86	3.27	27.61	21.48	140.605	Vertical	Pass
		1753.5	-2.43	3.3	27.62	21.89	154.525	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-2.69	3.13	27.61	21.79	151.008	Vertical	Pass
		1732.5	-2.86	3.27	27.61	21.48	140.605	Vertical	Pass
		1753.5	-2.51	3.3	27.62	21.81	151.705	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-2.83	3.13	27.63	21.67	146.893	Vertical	Pass
		1732.5	-2.99	3.27	27.61	21.35	136.458	Vertical	Pass
		1752.5	-2.08	3.3	27.6	22.22	166.725	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-2.92	3.13	27.63	21.58	143.880	Vertical	Pass
		1732.5	-2.23	3.27	27.61	22.11	162.555	Vertical	Pass
		1752.5	-2.74	3.3	27.6	21.56	143.219	Vertical	Pass
10.0MHz Band QPSK	50/0	1715	-2.02	3.15	27.64	22.47	176.604	Vertical	Pass
		1732.5	-2.59	3.31	27.61	21.71	148.252	Vertical	Pass
		1750	-2.12	3.33	27.59	22.14	163.682	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1715	-2.97	3.15	27.64	21.52	141.906	Vertical	Pass
		1732.5	-2.13	3.31	27.61	22.17	164.816	Vertical	Pass
		1750	-2.09	3.33	27.59	22.17	164.816	Vertical	Pass
15.0MHz Band QPSK	75/0	1717.5	-2.44	3.15	27.65	22.06	160.694	Vertical	Pass
		1732.5	-2.52	3.31	27.61	21.78	150.661	Vertical	Pass
		1747.5	-2.32	3.33	27.57	21.92	155.597	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-2.06	3.15	27.65	22.44	175.388	Vertical	Pass
		1732.5	-2.38	3.31	27.61	21.92	155.597	Vertical	Pass
		1747.5	-2.48	3.33	27.57	21.76	149.968	Vertical	Pass
20.0MH	100/0	1720	-2.96	3.17	27.66	21.53	142.233	Vertical	Pass

z Band		1732.5	-2.19	3.32	27.61	22.10	162.181	Vertical	Pass
QPSK		1745	-2.04	3.36	27.56	22.16	164.437	Vertical	Pass
20.0MH		1720	-2.46	3.17	27.66	22.03	159.588	Vertical	Pass
z Band	100/0	1732.5	-2.93	3.32	27.61	21.36	136.773	Vertical	Pass
16 QAM		1745	-2.65	3.36	27.56	21.55	142.889	Vertical	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. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	7.29	2.01	19.68	2.15	22.81	190.985	Horizontal	Pass
		836.5	7.14	2.01	19.77	2.15	22.75	188.365	Horizontal	Pass
		848.3	7.81	2.02	19.82	2.15	23.46	221.820	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	7.88	2.01	19.68	2.15	23.40	218.776	Horizontal	Pass
		836.5	7.01	2.01	19.77	2.15	22.62	182.810	Horizontal	Pass
		848.3	7.48	2.02	19.82	2.15	23.13	205.589	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	7.78	2.01	19.7	2.15	23.32	214.783	Horizontal	Pass
		836.5	7.90	2.01	19.77	2.15	23.51	224.388	Horizontal	Pass
		847.5	7.17	2.02	19.81	2.15	22.81	190.985	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	7.25	2.01	19.7	2.15	22.79	190.108	Horizontal	Pass
		836.5	7.24	2.01	19.77	2.15	22.85	192.752	Horizontal	Pass
		847.5	7.24	2.02	19.81	2.15	22.88	194.089	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	7.76	2.01	19.71	2.15	23.31	214.289	Horizontal	Pass
		836.5	7.61	2.01	19.77	2.15	23.22	209.894	Horizontal	Pass
		846.5	7.03	2.02	19.79	2.15	22.65	184.077	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	7.66	2.01	19.71	2.15	23.21	209.411	Horizontal	Pass
		836.5	7.72	2.01	19.77	2.15	23.33	215.278	Horizontal	Pass
		846.5	7.87	2.02	19.79	2.15	23.49	223.357	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	7.98	2.01	19.73	2.15	23.55	226.464	Horizontal	Pass
		836.5	7.34	2.01	19.77	2.15	22.95	197.242	Horizontal	Pass
		844	7.58	2.02	19.78	2.15	23.19	208.449	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	7.75	2.01	19.73	2.15	23.32	214.783	Horizontal	Pass
		836.5	7.75	2.01	19.77	2.15	23.36	216.770	Horizontal	Pass
		844	7.82	2.02	19.78	2.15	23.43	220.293	Horizontal	Pass

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. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	7.62	2.01	19.68	2.15	23.14	206.063	Vertical	Pass
		836.5	7.80	2.01	19.77	2.15	23.41	219.280	Vertical	Pass
		848.3	7.93	2.02	19.82	2.15	**23.58**	**228.034**	Vertical	Pass
1.4MHz Band 16 QAM	6/0	824.7	7.12	2.01	19.68	2.15	22.64	183.654	Vertical	Pass
		836.5	7.67	2.01	19.77	2.15	23.28	212.814	Vertical	Pass
		848.3	7.86	2.02	19.82	2.15	23.51	224.388	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	7.80	2.01	19.7	2.15	23.34	215.774	Vertical	Pass
		836.5	7.79	2.01	19.77	2.15	23.40	218.776	Vertical	Pass
		847.5	7.11	2.02	19.81	2.15	22.75	188.365	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	7.31	2.01	19.7	2.15	22.85	192.752	Vertical	Pass
		836.5	7.32	2.01	19.77	2.15	22.93	196.336	Vertical	Pass
		847.5	7.86	2.02	19.81	2.15	23.50	223.872	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	7.09	2.01	19.71	2.15	22.64	183.654	Vertical	Pass
		836.5	7.92	2.01	19.77	2.15	23.53	225.424	Vertical	Pass
		846.5	7.32	2.02	19.79	2.15	22.94	196.789	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	7.56	2.01	19.71	2.15	23.11	204.644	Vertical	Pass
		836.5	7.29	2.01	19.77	2.15	22.90	194.984	Vertical	Pass
		846.5	7.38	2.02	19.79	2.15	23.00	199.526	Vertical	Pass
10.0MHz Band QPSK	50/0	829	7.76	2.01	19.73	2.15	23.33	215.278	Vertical	Pass
		836.5	7.53	2.01	19.77	2.15	23.14	206.063	Vertical	Pass
		844	7.32	2.02	19.78	2.15	22.93	196.336	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	7.21	2.01	19.73	2.15	22.78	189.671	Vertical	Pass
		836.5	7.20	2.01	19.77	2.15	22.81	190.985	Vertical	Pass
		844	7.31	2.02	19.78	2.15	22.92	195.884	Vertical	Pass

Note:
SG Level= Signal generator output
Max. ERP 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 Band QPSK	25/0	2502.5	-0.98	4.54	27.75	22.23	167.109	Horizontal	Pass
		2535	-0.47	4.69	27.72	22.56	180.302	Horizontal	Pass
		2567.5	-0.70	4.71	27.71	22.30	169.824	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2502.5	-0.77	4.54	27.75	22.44	175.388	Horizontal	Pass
		2535	-1.00	4.69	27.72	22.03	159.588	Horizontal	Pass
		2567.5	-0.24	4.71	27.71	22.76	188.799	Horizontal	Pass
10.0MHz Band QPSK	50/0	2505	-0.92	4.55	27.76	22.29	169.434	Horizontal	Pass
		2535	-0.84	4.69	27.72	22.19	165.577	Horizontal	Pass
		2565	-0.10	4.72	27.7	22.88	194.089	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2505	-0.26	4.55	27.76	22.95	197.242	Horizontal	Pass
		2535	-0.06	4.69	27.72	22.97	198.153	Horizontal	Pass
		2565	-0.08	4.72	27.7	22.90	194.984	Horizontal	Pass
15.0MHz Band QPSK	75/0	2507.5	-0.44	4.55	27.77	22.78	189.671	Horizontal	Pass
		2535	-0.04	4.69	27.72	22.99	199.067	Horizontal	Pass
		2562.5	-0.39	4.72	27.69	22.58	181.134	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-0.22	4.55	27.77	23.00	199.526	Horizontal	Pass
		2535	-1.01	4.69	27.72	22.02	159.221	Horizontal	Pass
		2562.5	-0.55	4.72	27.69	22.42	174.582	Horizontal	Pass
20.0MHz Band QPSK	100/ 0	2510	-0.65	4.57	27.78	22.56	180.302	Horizontal	Pass
		2535	-0.34	4.73	27.72	22.65	184.077	Horizontal	Pass
		2560	-0.74	4.75	27.68	22.19	165.577	Horizontal	Pass
20.0MHz Band 16 QAM	100/ 0	2510	-0.52	4.57	27.78	22.69	185.780	Horizontal	Pass
		2535	-0.16	4.73	27.72	22.83	191.867	Horizontal	Pass
		2560	-0.10	4.75	27.68	22.83	191.867	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 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 Band QPSK	25/0	2502.5	-0.53	4.54	27.75	22.68	185.353	Vertical	Pass
		2535	-0.17	4.69	27.72	22.86	193.197	Vertical	Pass
		2567.5	-0.09	4.71	27.71	22.91	195.434	Vertical	Pass
5.0MHz Band 16 QAM	25/0	2502.5	-0.14	4.54	27.75	**23.07**	**202.768**	Vertical	Pass
		2535	-0.77	4.69	27.72	22.26	168.267	Vertical	Pass
		2567.5	-0.57	4.71	27.71	22.43	174.985	Vertical	Pass
10.0MHz Band QPSK	50/0	2505	-0.45	4.55	27.76	22.76	188.799	Vertical	Pass
		2535	-0.93	4.69	27.72	22.10	162.181	Vertical	Pass
		2565	-0.87	4.72	27.7	22.11	162.555	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2505	-0.69	4.55	27.76	22.52	178.649	Vertical	Pass
		2535	-0.34	4.69	27.72	22.69	185.780	Vertical	Pass
		2565	-0.01	4.72	27.7	22.97	198.153	Vertical	Pass
15.0MHz Band QPSK	75/0	2507.5	-0.99	4.55	27.77	22.23	167.109	Vertical	Pass
		2535	-0.37	4.69	27.72	22.66	184.502	Vertical	Pass
		2562.5	-0.05	4.72	27.69	22.92	195.884	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-0.36	4.55	27.77	22.86	193.197	Vertical	Pass
		2535	-0.14	4.69	27.72	22.89	194.536	Vertical	Pass
		2562.5	-0.87	4.72	27.69	22.10	162.181	Vertical	Pass
20.0MHz Band QPSK	100/ 0	2510	-0.91	4.57	27.78	22.30	169.824	Vertical	Pass
		2535	-0.41	4.73	27.72	22.58	181.134	Vertical	Pass
		2560	-0.78	4.75	27.68	22.15	164.059	Vertical	Pass
20.0MHz Band 16 QAM	100/ 0	2510	-0.97	4.57	27.78	22.24	167.494	Vertical	Pass
		2535	-0.73	4.73	27.72	22.26	168.267	Vertical	Pass
		2560	-0.37	4.75	27.68	22.56	180.302	Vertical	Pass

Note:

SG Level= Signal generator output

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

9. FIELD STRENGTH OF SPURIOUS RADIATION

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

RESULTS

PASS

9.1 LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4.0MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3701.4	-34.66	12.42	-22.24	-13	-9.24	Horizontal
3701.4	-35.74	12.42	-23.32	-13	-10.32	Vertical
5552.1	-37.83	14.12	-23.71	-13	-10.71	Vertical
5552.1	-36.79	14.12	-22.67	-13	-9.67	Horizontal
Test Results for Mid Channel 1732.5MHz						
3760	-35.26	11.76	-23.5	-13	-10.5	Horizontal
3760	-35.74	11.76	-23.98	-13	-10.98	Vertical
5640	-37.10	14.56	-22.54	-13	-9.54	Vertical
5640	-37.61	14.56	-23.05	-13	-10.05	Horizontal
Test Results for High Channel 1754.3MHz						
3818.6	-33.56	11.87	-21.69	-13	-8.69	Horizontal
3818.6	-36.81	11.87	-24.94	-13	-11.94	Vertical
5727.9	-40.13	14.66	-25.47	-13	-12.47	Vertical
5727.9	-35.66	14.66	-21	-13	-8	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3720	-33.66	12.42	-21.24	-13	-8.24	Horizontal
3720	-35.67	12.42	-23.25	-13	-10.25	Vertical
5580	-36.89	14.12	-22.77	-13	-9.77	Vertical
5580	-36.84	14.12	-22.72	-13	-9.72	Horizontal
Test Results for Mid Channel 1732.5MHz						
3760	-35.69	11.76	-23.93	-13	-10.93	Horizontal
3760	-36.74	11.76	-24.98	-13	-11.98	Vertical
5640	-34.76	14.56	-20.2	-13	-7.2	Vertical
5640	-36.84	14.56	-22.28	-13	-9.28	Horizontal
Test Results for High Channel 1754.3MHz						
3800	-34.56	11.87	-22.69	-13	-9.69	Horizontal
3800	-33.51	11.87	-21.64	-13	-8.64	Vertical
5700	-35.67	14.66	-21.01	-13	-8.01	Vertical
5700	-34.56	14.66	-19.9	-13	-6.9	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 (1.4.0MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3421.4	-34.60	12.42	-22.18	-13	-9.18	Horizontal
3421.4	-34.41	12.42	-21.99	-13	-8.99	Vertical
5132.1	-37.10	14.12	-22.98	-13	-9.98	Vertical
5132.1	-34.82	14.12	-20.7	-13	-7.7	Horizontal
Test Results for Mid Channel 1732.5MHz						
3465	-35.67	11.76	-23.91	-13	-10.91	Horizontal
3465	-34.56	11.76	-22.8	-13	-9.8	Vertical
5197.5	-35.74	14.56	-21.18	-13	-8.18	Vertical
5197.5	-37.81	14.56	-23.25	-13	-10.25	Horizontal
Test Results for High Channel 1754.3MHz						
3508.6	-34.40	11.87	-22.53	-13	-9.53	Horizontal
3508.6	-34.76	11.87	-22.89	-13	-9.89	Vertical
5262.9	-40.11	14.66	-25.45	-13	-12.45	Vertical
5262.9	-34.61	14.66	-19.95	-13	-6.95	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3440	-36.84	12.42	-24.42	-13	-11.42	Horizontal
3440	-34.62	12.42	-22.2	-13	-9.2	Vertical
5160	-35.73	14.12	-21.61	-13	-8.61	Vertical
5160	-35.76	14.12	-21.64	-13	-8.64	Horizontal
Test Results for Mid Channel 1732.5MHz						
3465	-39.03	11.76	-27.27	-13	-14.27	Horizontal
3465	-36.77	11.76	-25.01	-13	-12.01	Vertical
5197.5	-34.56	14.56	-20	-13	-7	Vertical
5197.5	-36.80	14.56	-22.24	-13	-9.24	Horizontal
Test Results for High Channel 1754.3MHz						
2490	-34.60	11.87	-22.73	-13	-9.73	Horizontal
3490	-35.71	11.87	-23.84	-13	-10.84	Vertical

5235	-40.11	14.66	-25.45	-13	-12.45	Vertical
5235	-37.93	14.66	-23.27	-13	-10.27	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 (1.4.0MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1649.4	-36.64	12.42	-24.1	-13	-11.1	Horizontal
1649.4	-34.53	12.42	-21.99	-13	-8.99	Vertical
2474.1	-33.81	14.12	-19.57	-13	-6.57	Vertical
2474.1	-36.69	14.12	-22.45	-13	-9.45	Horizontal
Test Results for Mid Channel 836.5MHz						
1673	-35.59	11.76	-23.8	-13	-10.8	Horizontal
1673	-33.50	11.76	-21.71	-13	-8.71	Vertical
2509.5	-36.58	14.56	-21.99	-13	-8.99	Vertical
2509.5	-36.59	14.56	-22	-13	-9	Horizontal
Test Results for High Channel 848.3MHz						
1696.6	-33.25	11.87	-21.35	-13	-8.35	Horizontal
1696.6	-34.99	11.87	-23.09	-13	-10.09	Vertical
2544.9	-37.59	14.66	-22.9	-13	-9.9	Vertical
2544.9	-35.65	14.66	-20.96	-13	-7.96	Horizontal

QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1658	-32.27	12.42	-19.82	-13	-6.82	Horizontal
1658	-33.39	12.42	-20.94	-13	-7.94	Vertical
2487	-36.72	14.12	-22.57	-13	-9.57	Vertical
2487	-34.50	14.12	-20.35	-13	-7.35	Horizontal
Test Results for Mid Channel 836.5MHz						
1673	-32.55	11.76	-20.76	-13	-7.76	Horizontal
1673	-35.59	11.76	-23.8	-13	-10.8	Vertical
2509.5	-34.44	14.56	-19.85	-13	-6.85	Vertical
2509.5	-36.72	14.56	-22.13	-13	-9.13	Horizontal
Test Results for High Channel 848.3MHz						
1688	-33.29	11.87	-21.39	-13	-8.39	Horizontal

1688	-34.44	11.87	-22.54	-13	-9.54	Vertical
2532	-39.71	14.66	-25.02	-13	-12.02	Vertical
2532	-36.70	14.66	-22.01	-13	-9.01	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)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5005	-34.61	12.42	-22.19	-13	-9.19	Horizontal
5005	-35.67	12.42	-23.25	-13	-10.25	Vertical
7507.5	-37.74	14.12	-23.62	-13	-10.62	Vertical
7507.5	-35.79	14.12	-21.67	-13	-8.67	Horizontal
Test Results for Mid Channel 2535MHz						
5070	-37.09	11.76	-25.33	-13	-12.33	Horizontal
5070	-35.76	11.76	-24	-13	-11	Vertical
7605	-36.79	14.56	-22.23	-13	-9.23	Vertical
7605	-39.01	14.56	-24.45	-13	-11.45	Horizontal
Test Results for High Channel 2567.5MHz						
5135	-34.56	11.87	-22.69	-13	-9.69	Horizontal
5135	-33.41	11.87	-21.54	-13	-8.54	Vertical
7702.5	-36.82	14.66	-22.16	-13	-9.16	Vertical
7702.5	-37.26	14.66	-22.6	-13	-9.6	Horizontal

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

Test Results for Low Channel 2502.5MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5020	-36.84	12.42	-24.42	-13	-11.42	Horizontal
5020	-35.66	12.42	-23.24	-13	-10.24	Vertical
7530	-36.84	14.12	-22.72	-13	-9.72	Vertical
7530	-37.62	14.12	-23.5	-13	-10.5	Horizontal
Test Results for Mid Channel 2535MHz						
5070	-36.80	11.76	-25.04	-13	-12.04	Horizontal
5070	-37.66	11.76	-25.9	-13	-12.9	Vertical
7605	-34.56	14.56	-20	-13	-7	Vertical
7605	-37.93	14.56	-23.37	-13	-10.37	Horizontal

Test Results for High Channel 2567.5MHz						
5120	-34.61	11.87	-22.74	-13	-9.74	Horizontal
5120	-35.67	11.87	-23.8	-13	-10.8	Vertical
7680	-39.84	14.66	-25.18	-13	-12.18	Vertical
7680	-35.61	14.66	-20.95	-13	-7.95	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, 3.6VDC, Normal, 3.8VDC and High voltage, 4.4VDC.

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

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)				
3.8	1880	-10.3	-0.005479	2.5
3.6	1880	-8.5	-0.004521	2.5
4.4	1880	-14.7	-0.007819	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 (25° C)	1880	-8.6	-0.004574	2.5
Extreme (50° C)	1880	-4.8	-0.002553	2.5
Extreme (40° C)	1880	-8.9	-0.004734	2.5
Extreme (30° C)	1880	-6.0	-0.003191	2.5
Extreme (10° C)	1880	-7.5	-0.003989	2.5
Extreme (0° C)	1880	-7.2	-0.003830	2.5
Extreme (-10° C)	1880	7.8	0.004149	2.5
Extreme (-20° C)	1880	-4.3	-0.002287	2.5
Extreme (-30° C)	1880	-9.5	-0.005053	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)				
3.8	1880	-6.1	-0.003245	2.5
3.6	1880	10.5	0.005585	2.5
4.4	1880	-13.8	-0.007340	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 (25° C)	1880	-7.8	-0.004149	2.5
Extreme (50° C)	1880	-5.6	-0.002979	2.5
Extreme (40° C)	1880	-10.1	-0.005372	2.5
Extreme (30° C)	1880	-6.2	-0.003298	2.5
Extreme (10° C)	1880	-7.7	-0.004096	2.5
Extreme (0° C)	1880	-5.1	-0.002713	2.5
Extreme (-10° C)	1880	8.0	0.004255	2.5
Extreme (-20° C)	1880	-6.6	-0.003511	2.5
Extreme (-30° C)	1880	-9.8	-0.005213	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)				
3.8	1732.5	-4.2	-0.002424	2.5
3.6	1732.5	14.4	**0.008312**	2.5
4.4	1732.5	-12.5	-0.007215	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 (25° C)	1732.5	-7.4	-0.004271	2.5
Extreme (50° C)	1732.5	-7.2	-0.004156	2.5
Extreme (40° C)	1732.5	-8.5	-0.004906	2.5
Extreme (30° C)	1732.5	-3.9	-0.002251	2.5
Extreme (10° C)	1732.5	-6.2	-0.003579	2.5
Extreme (0° C)	1732.5	-3.4	-0.001962	2.5
Extreme (-10° C)	1732.5	9.2	0.005310	2.5
Extreme (-20° C)	1732.5	-6.6	-0.003810	2.5
Extreme (-30° C)	1732.5	-7.3	-0.004214	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)				
3.8	1732.5	-6.2	-0.003579	2.5
3.6	1732.5	6.5	0.003752	2.5
4.4	1732.5	-9.2	-0.005310	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 (25° C)	1732.5	-11.5	-0.006638	2.5
Extreme (50° C)	1732.5	-9.2	-0.005310	2.5
Extreme (40° C)	1732.5	-8.3	-0.004791	2.5
Extreme (30° C)	1732.5	-7.4	-0.004271	2.5
Extreme (10° C)	1732.5	-6.0	-0.003463	2.5
Extreme (0° C)	1732.5	6.5	0.003752	2.5
Extreme (-10° C)	1732.5	6.0	0.003463	2.5
Extreme (-20° C)	1732.5	7.9	0.004560	2.5
Extreme (-30° C)	1732.5	-10.3	-0.005945	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 4 QPSK, (CH 20175 RB size 100 RB Offset 0 10MHz BANDWIDTH)				
3.8	836.5	-5.3	-0.006336	2.5
3.6	836.5	11.6	0.013867	2.5
4.4	836.5	-11.8	-0.014106	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH 20175 RB size 100 RB Offset 0 10MHz BANDWIDTH)				
Normal (25° C)	836.5	-8.5	-0.010161	2.5
Extreme (50° C)	836.5	-4.8	-0.005738	2.5
Extreme (40° C)	836.5	-8.6	-0.010281	2.5
Extreme (30° C)	836.5	-6.0	-0.007173	2.5
Extreme (10° C)	836.5	-7.9	-0.009444	2.5
Extreme (0° C)	836.5	-9.7	-0.011596	2.5
Extreme (-10° C)	836.5	-6.2	-0.007412	2.5
Extreme (-20° C)	836.5	-7.1	-0.008488	2.5
Extreme (-30° C)	836.5	-7.8	-0.009325	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 20175 RB size 100 RB Offset 0 10MHz BANDWIDTH)				
3.8	836.5	-14.5	-0.017334	2.5
3.6	836.5	-9.6	-0.011476	2.5
4.4	836.5	-9.0	-0.010759	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH 20175 RB size 100 RB Offset 0 10MHz BANDWIDTH)				
Normal (25° C)	836.5	-8.5	-0.010161	2.5
Extreme (50° C)	836.5	-7.8	-0.009325	2.5
Extreme (40° C)	836.5	-11.3	-0.013509	2.5
Extreme (30° C)	836.5	-11.1	-0.013270	2.5
Extreme (10° C)	836.5	-6.5	-0.007770	2.5
Extreme (0° C)	836.5	-7.0	-0.008368	2.5
Extreme (-10° C)	836.5	-6.8	-0.008129	2.5
Extreme (-20° C)	836.5	-11.0	-0.013150	2.5
Extreme (-30° C)	836.5	-8.4	-0.010042	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)				
3.8	2535	-39.1	**-0.015056**	2.5
3.6	2535	-25.7	-0.009774	2.5
4.4	2535	-23.4	-0.008888	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 (25° C)	2535	20.9	0.007979	2.5
Extreme (50° C)	2535	-22.7	-0.009215	2.5
Extreme (40° C)	2535	19.7	0.007505	2.5
Extreme (30° C)	2535	-18.9	-0.007731	2.5
Extreme (10° C)	2535	-21.3	-0.008679	2.5
Extreme (0° C)	2535	32.7	0.012899	2.5
Extreme (-10° C)	2535	-25.8	-0.010178	2.5
Extreme (-20° C)	2535	-10.7	-0.004221	2.5
Extreme (-30° C)	2535	-30.0	-0.011834	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)				
3.8	2535	16.1	0.006351	2.5
3.6	2535	-16.2	-0.006391	2.5
4.4	2535	-31.5	-0.012426	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 (25° C)	2535	-16.6	-0.006548	2.5
Extreme (50° C)	2535	-19.7	-0.007771	2.5
Extreme (40° C)	2535	-25.3	-0.009980	2.5
Extreme (30° C)	2535	-11.8	-0.004655	2.5
Extreme (10° C)	2535	22.6	0.008915	2.5
Extreme (0° C)	2535	20.5	0.008087	2.5
Extreme (-10° C)	2535	18.6	0.007337	2.5
Extreme (-20° C)	2535	16.7	0.006588	2.5
Extreme (-30° C)	2535	21.6	0.008521	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.

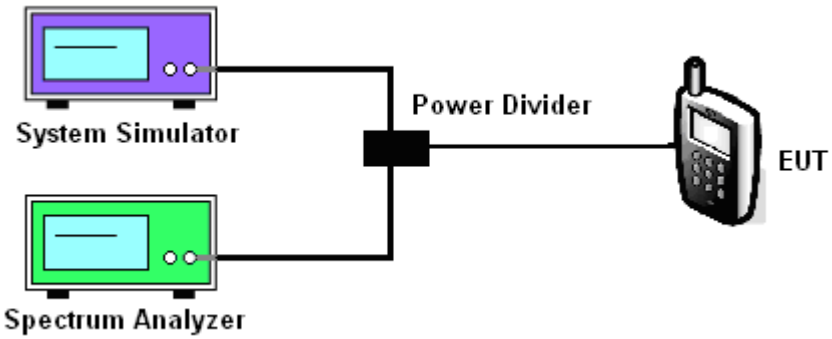
11.2 Measuring Instruments

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

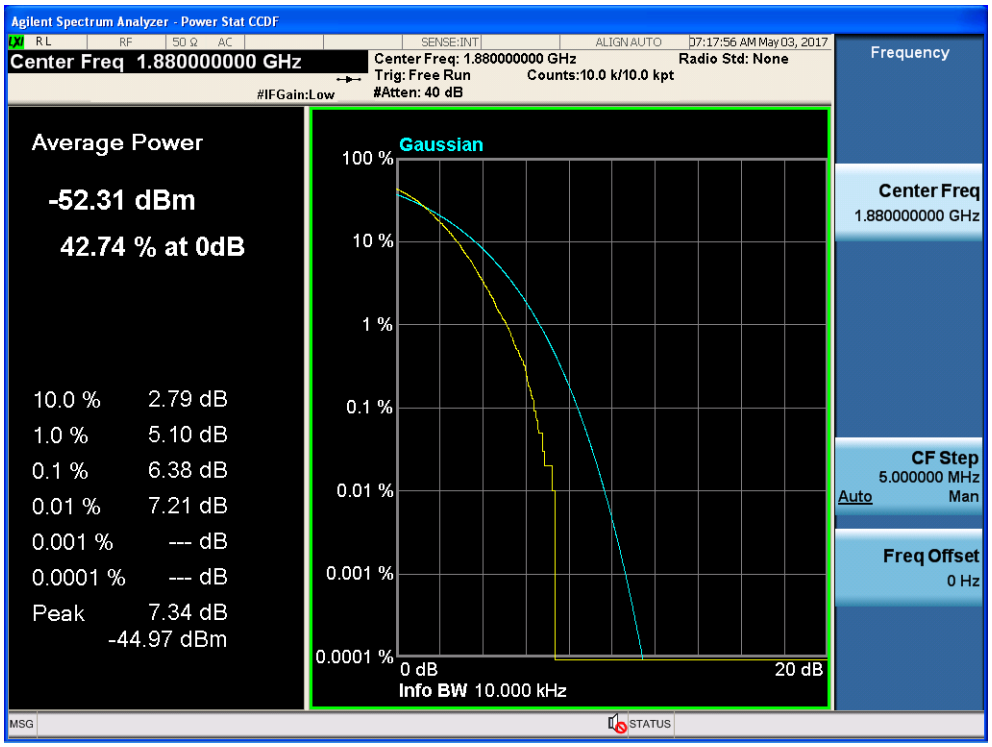
BAND	CHANNEL	Frequency [MHz]	BANDWIDTH	NO. RB	RB POS.	MODULATION	PAR [dB]
2	18900	1880.0	1.4	1	Low	QPSK	6.38
2	18900	1880.0	1.4	1	Low	16QAM	6.47
2	18900	1880.0	3.0	1	Low	QPSK	3.50
2	18900	1880.0	3.0	1	Low	16QAM	3.31
2	18900	1880.0	5.0	1	Low	QPSK	2.79
2	18900	1880.0	5.0	1	Low	16QAM	2.53
2	18900	1880.0	10.0	1	Low	QPSK	3.43
2	18900	1880.0	10.0	1	Low	16QAM	3.49
2	18900	1880.0	15.0	1	Low	QPSK	3.40
2	18900	1880.0	15.0	1	Low	16QAM	3.20
2	18900	1880.0	20.0	1	Low	QPSK	2.47
2	18900	1880.0	20.0	1	Low	16QAM	2.56
4	20175	1732.5	1.4	1	Low	QPSK	6.82
4	20175	1732.5	1.4	1	Low	16QAM	6.68
4	20175	1732.5	3.0	1	Low	QPSK	2.96
4	20175	1732.5	3.0	1	Low	16QAM	3.02
4	20175	1732.5	5.0	1	Low	QPSK	3.12
4	20175	1732.5	5.0	1	Low	16QAM	3.24
4	20175	1732.5	10.0	1	Low	QPSK	2.67
4	20175	1732.5	10.0	1	Low	16QAM	3.00

4	20175	1732.5	15.0	1	Low	QPSK	2.94
4	20175	1732.5	15.0	1	Low	16QAM	2.87
4	20175	1732.5	20.0	1	Low	QPSK	3.58
4	20175	1732.5	20.0	1	Low	16QAM	3.52
5	20407	824.7	1.4	1	Low	QPSK	6.58
5	20407	824.7	1.4	1	Low	16-QAM	6.91
5	20525	836.5	1.4	1	Low	QPSK	6.25
5	20525	836.5	1.4	1	Low	16-QAM	6.49
5	20643	848.3	1.4	1	Low	QPSK	6.20
5	20643	848.3	1.4	1	Low	16-QAM	7.78
5	20415	825.5	3.0	1	Low	QPSK	4.75
5	20415	825.5	3.0	1	Low	16-QAM	4.88
5	20525	836.5	3.0	1	Low	QPSK	3.59
5	20525	836.5	3.0	1	Low	16-QAM	4.11
5	20635	847.5	3.0	1	Low	QPSK	4.47
5	20635	847.5	3.0	1	Low	16-QAM	4.52
5	20425	826.5	5.0	1	Low	QPSK	3.75
5	20425	826.5	5.0	1	Low	16-QAM	3.53
5	20525	836.5	5.0	1	Low	QPSK	3.19
5	20525	836.5	5.0	1	Low	16-QAM	3.62
5	20625	846.5	5.0	1	Low	QPSK	5.71
5	20625	846.5	5.0	1	Low	16-QAM	4.73

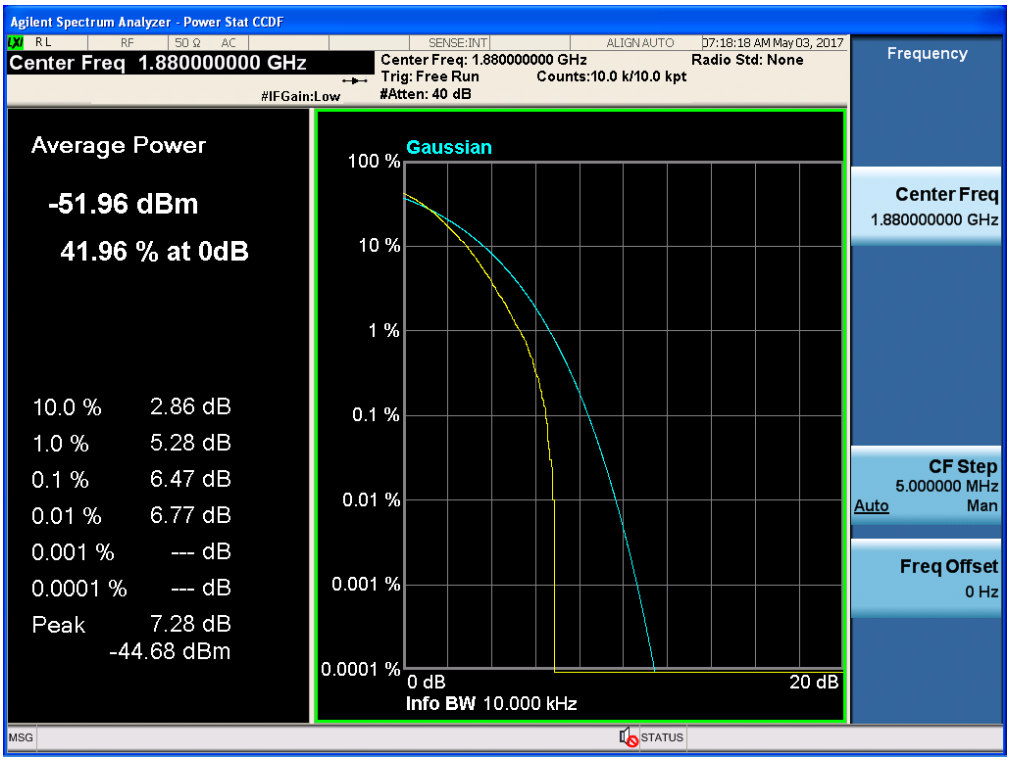
5	20407	824.7	1.4	1	Low	QPSK	5.76
5	20407	824.7	1.4	1	Low	16-QAM	5.24
5	20450	829.0	10.0	1	Low	QPSK	8.28
5	20450	829.0	10.0	1	Low	16-QAM	8.43
5	20525	836.5	10.0	1	Low	QPSK	4.92
5	20525	836.5	10.0	1	Low	16-QAM	5.41
7	21100	2535.0	5.0	1	Low	QPSK	2.98
7	21100	2535.0	5.0	1	Low	16QAM	2.98
7	21100	2535.0	10.0	1	Low	QPSK	2.81
7	21100	2535.0	10.0	1	Low	16QAM	2.60
7	21100	2535.0	15.0	1	Low	QPSK	3.12
7	21100	2535.0	15.0	1	Low	16QAM	3.01
7	21100	2535.0	20.0	1	Low	QPSK	2.62
7	21100	2535.0	20.0	1	Low	16QAM	2.50

11.5 LTE BAND 2

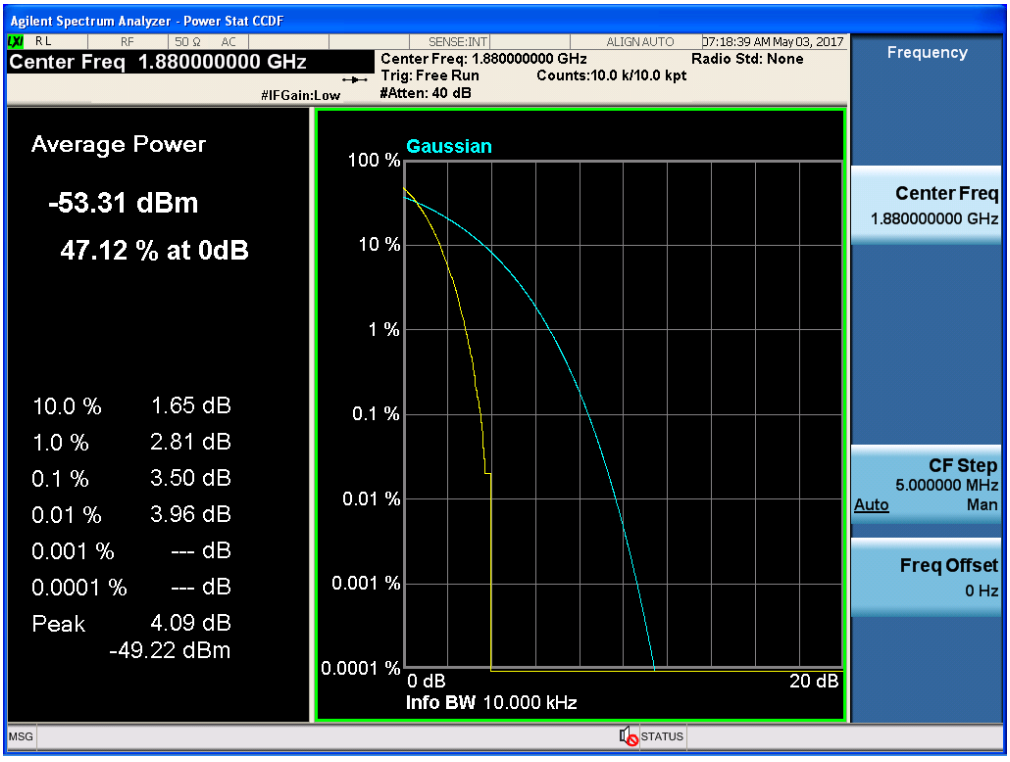
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,QPSK



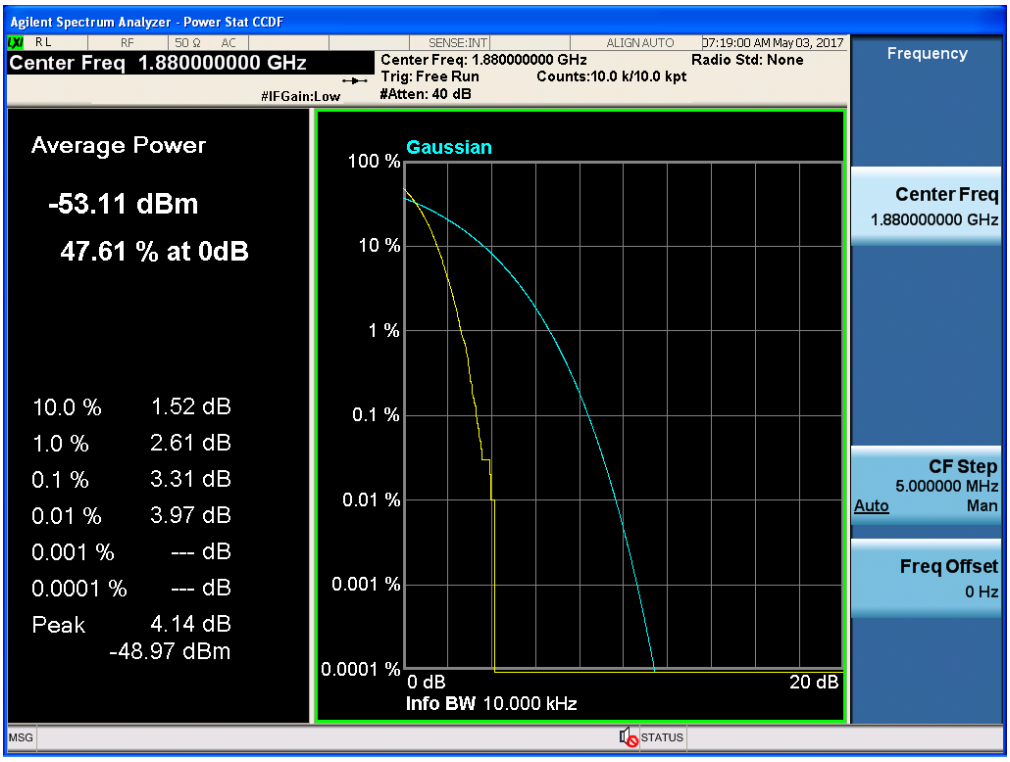
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,16QAM



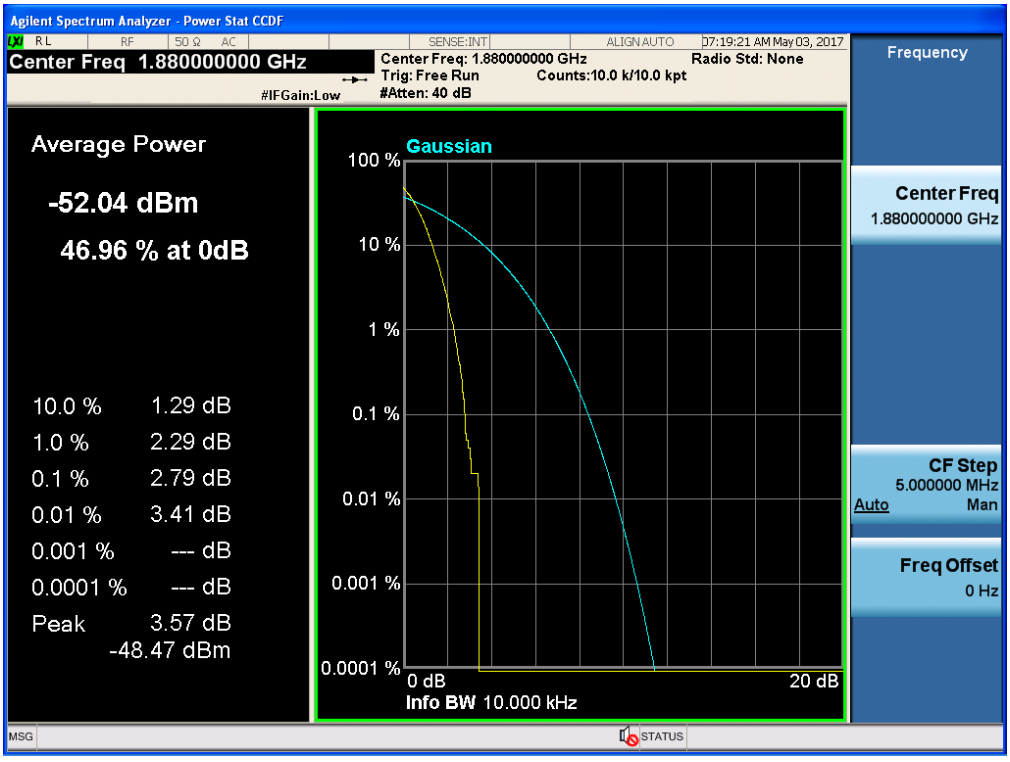
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,QPSK



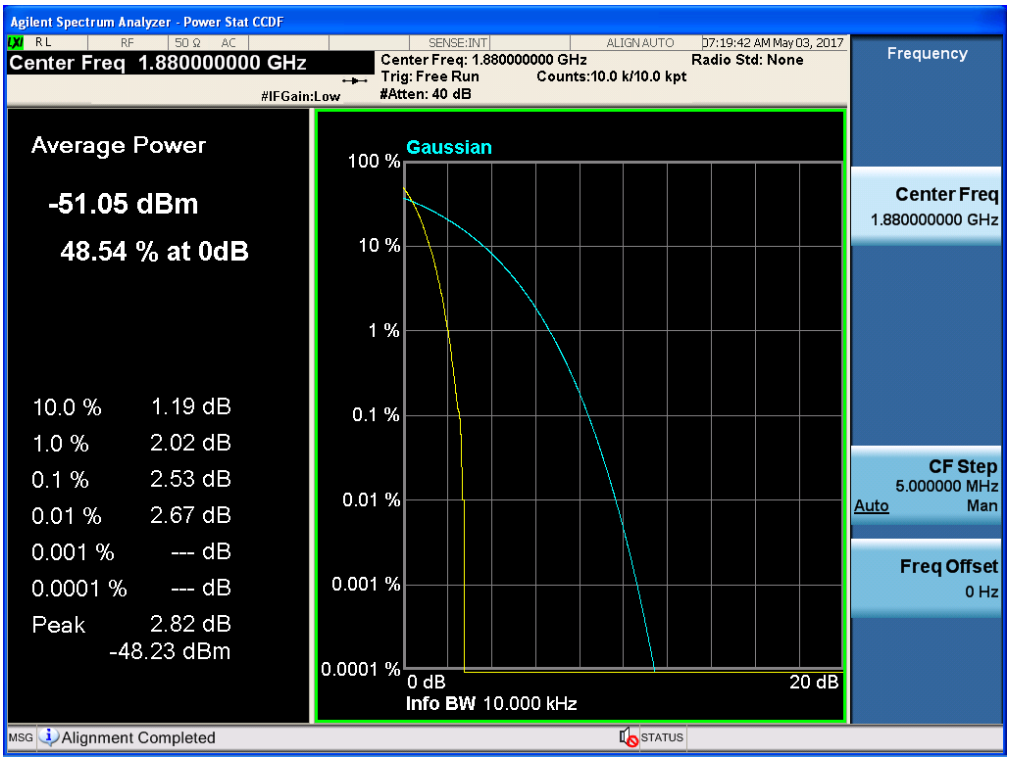
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,16QAM



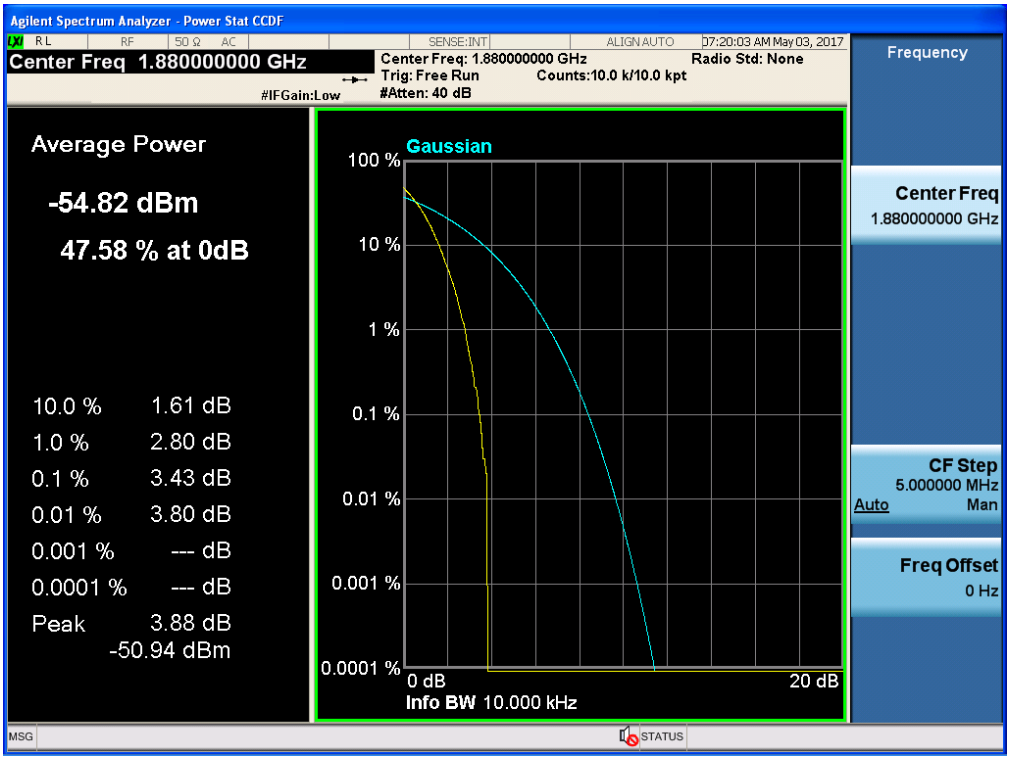
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



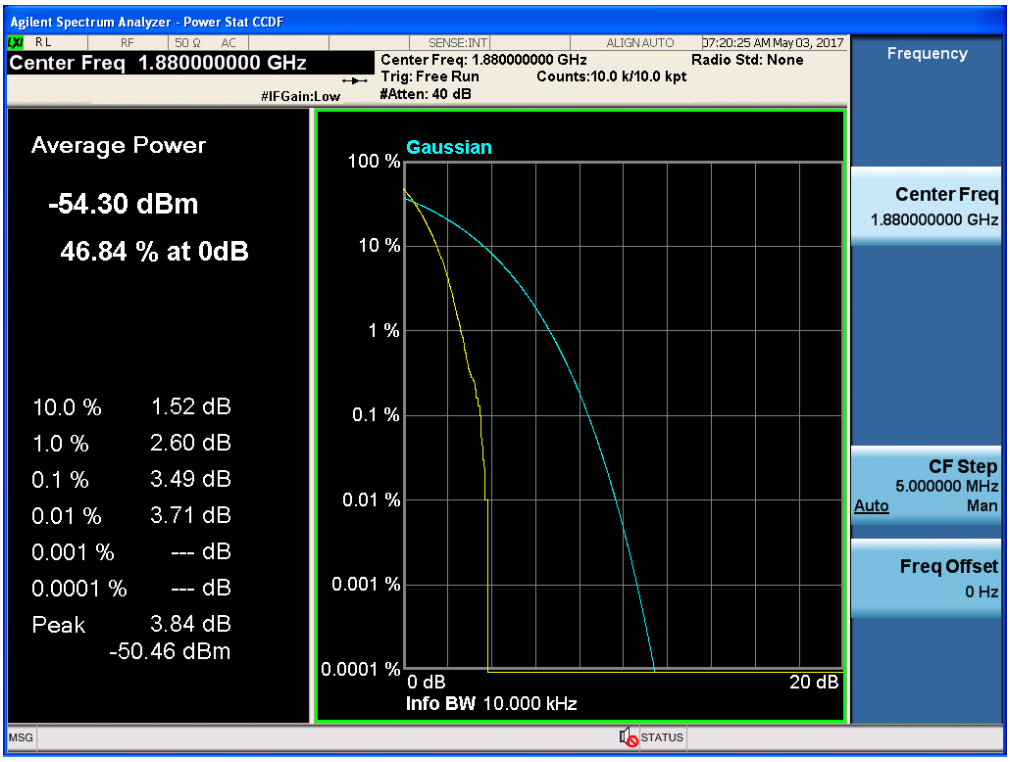
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,16QAM



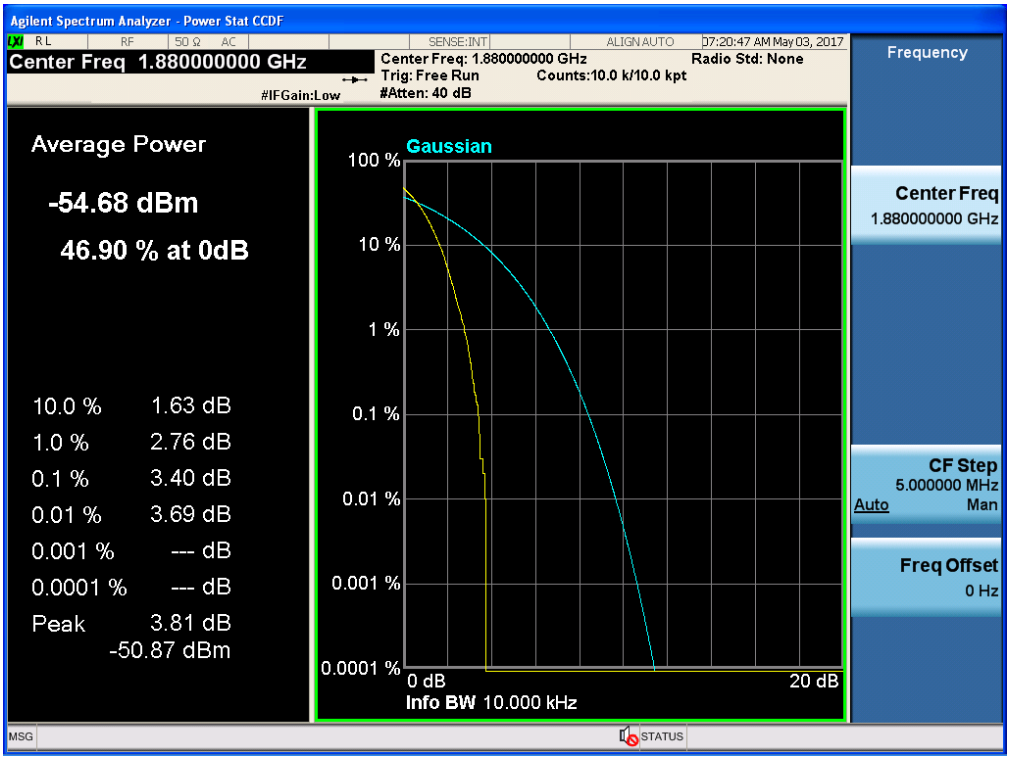
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



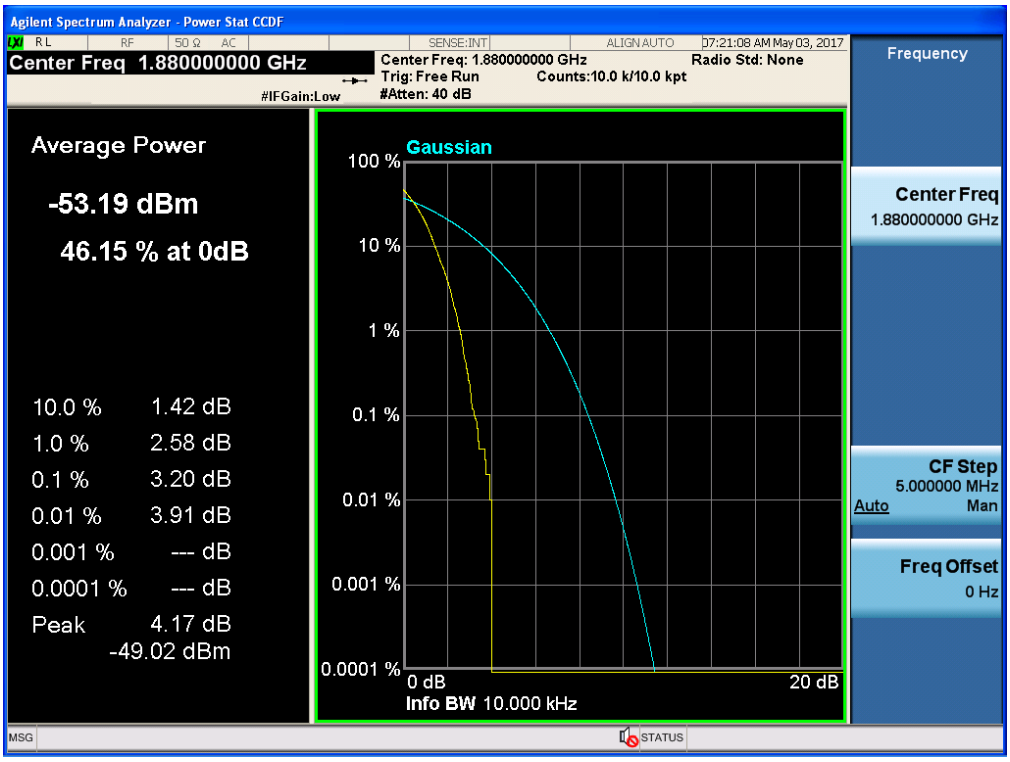
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



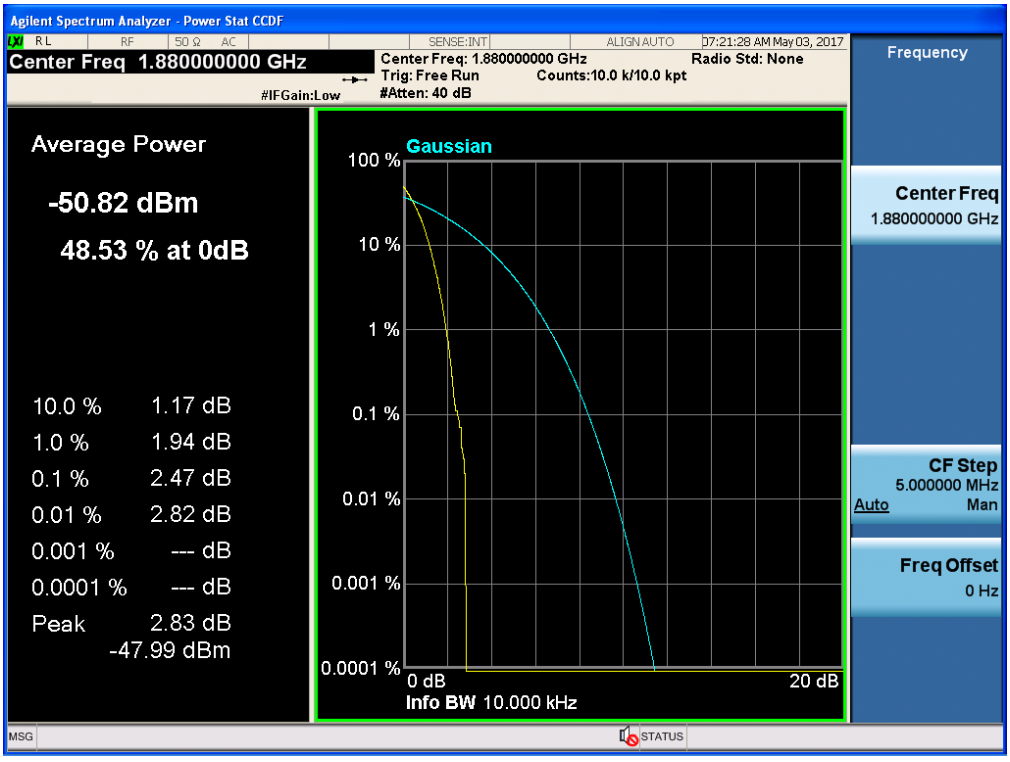
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



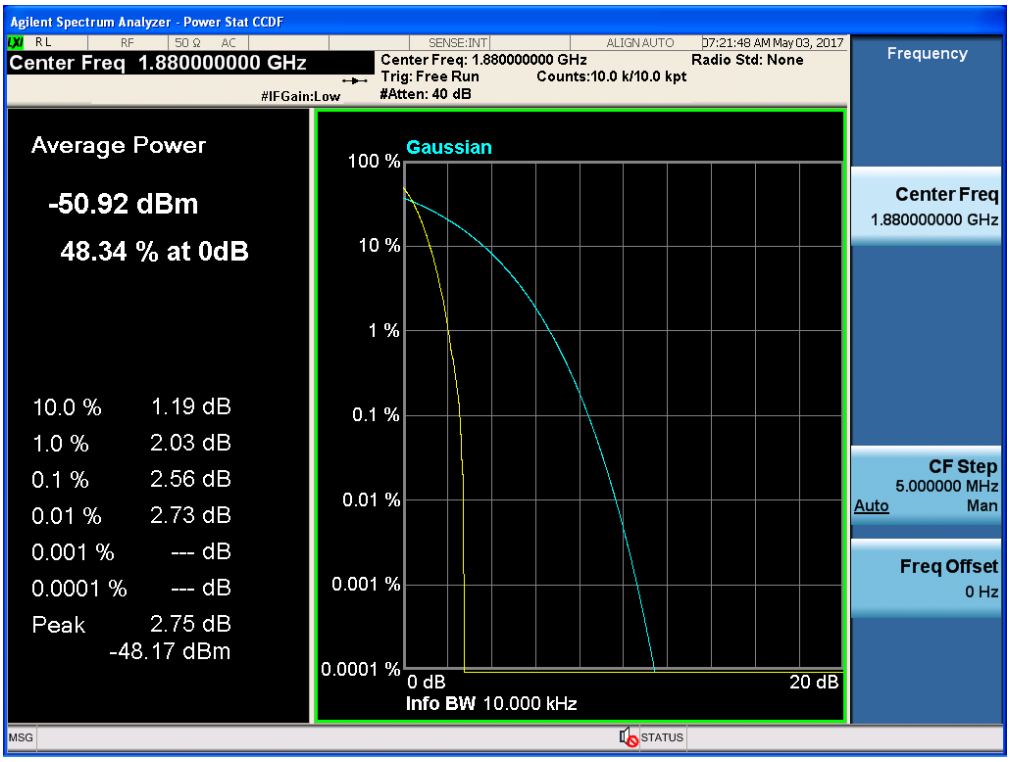
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,16QAM



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

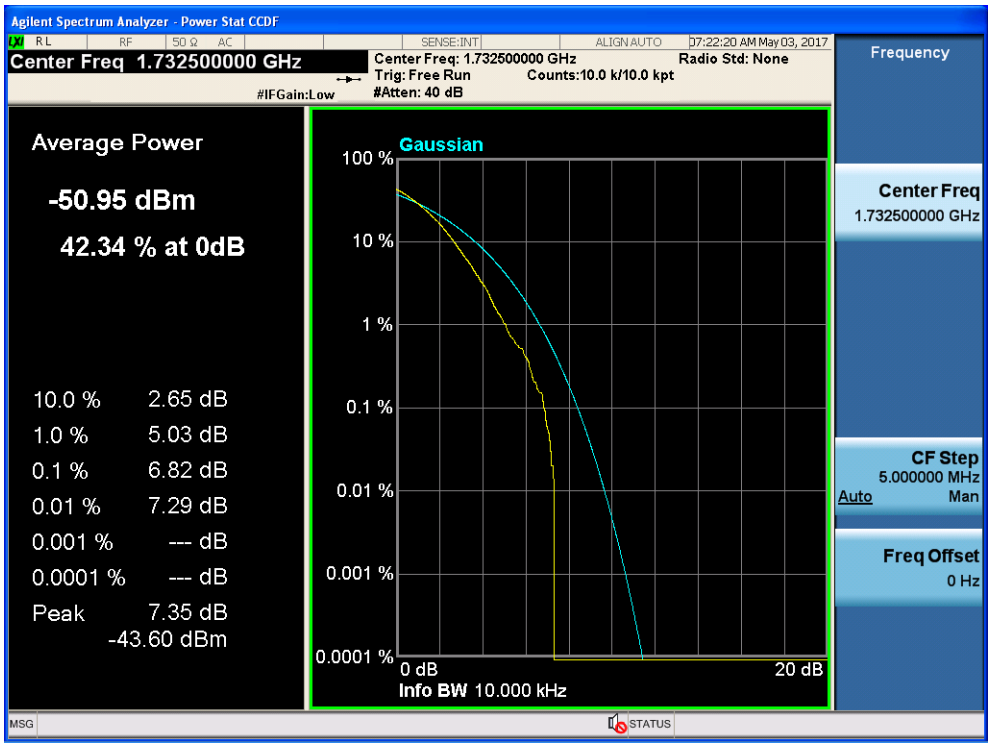


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM

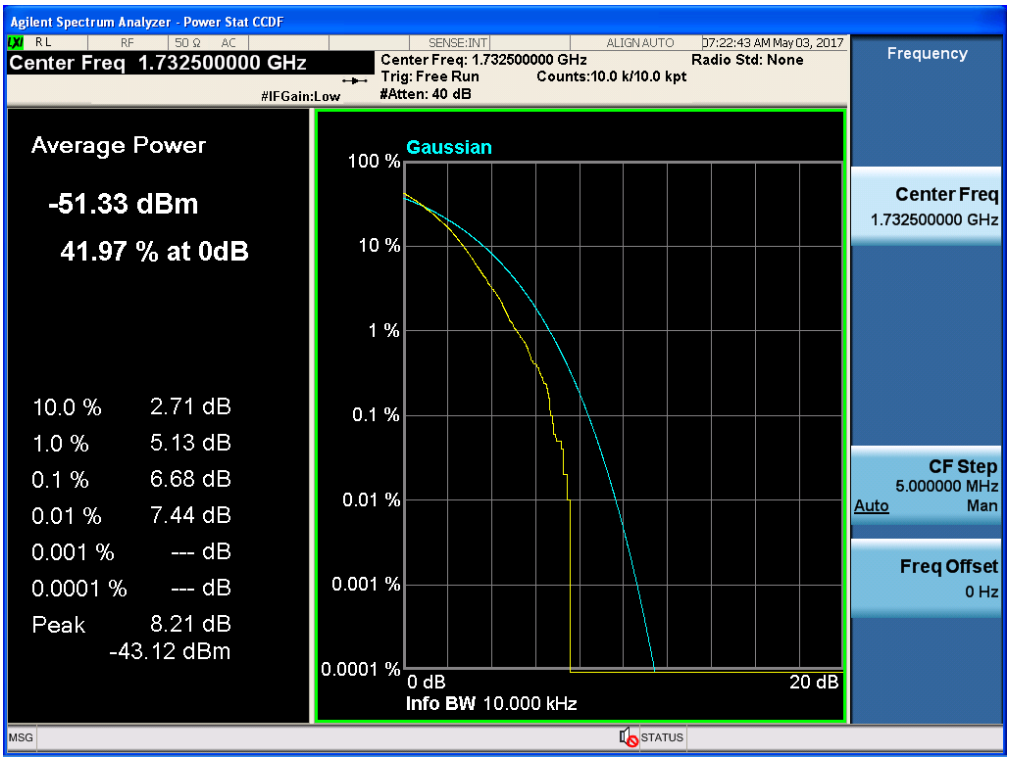


11.6 LTE BAND 4

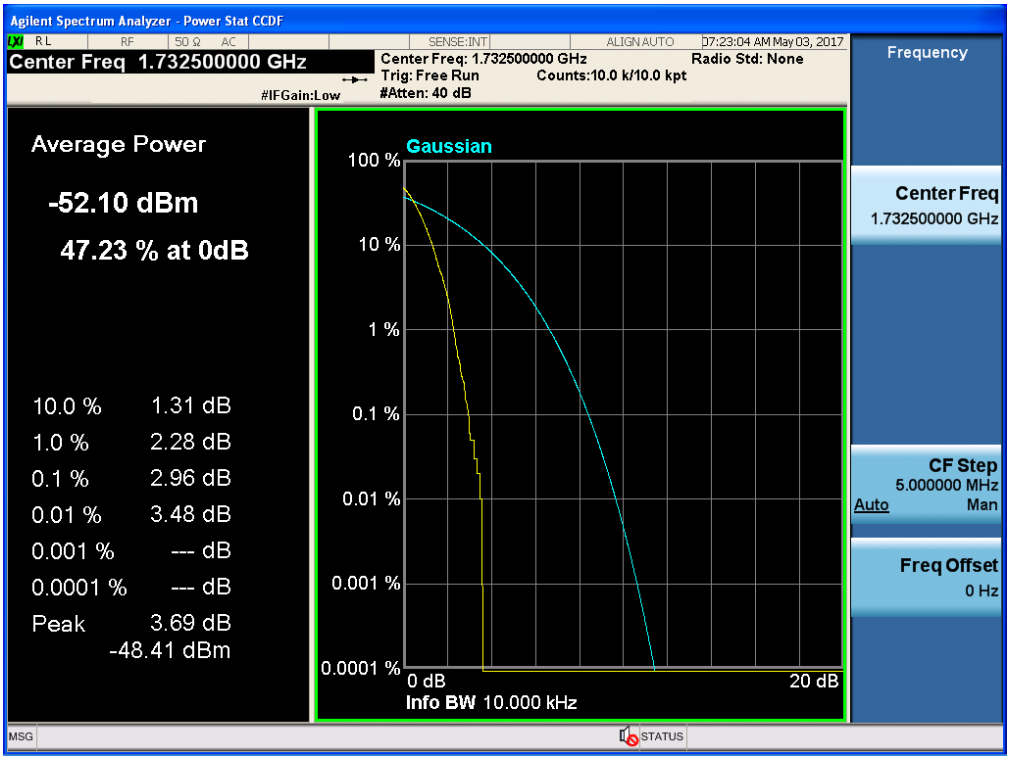
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



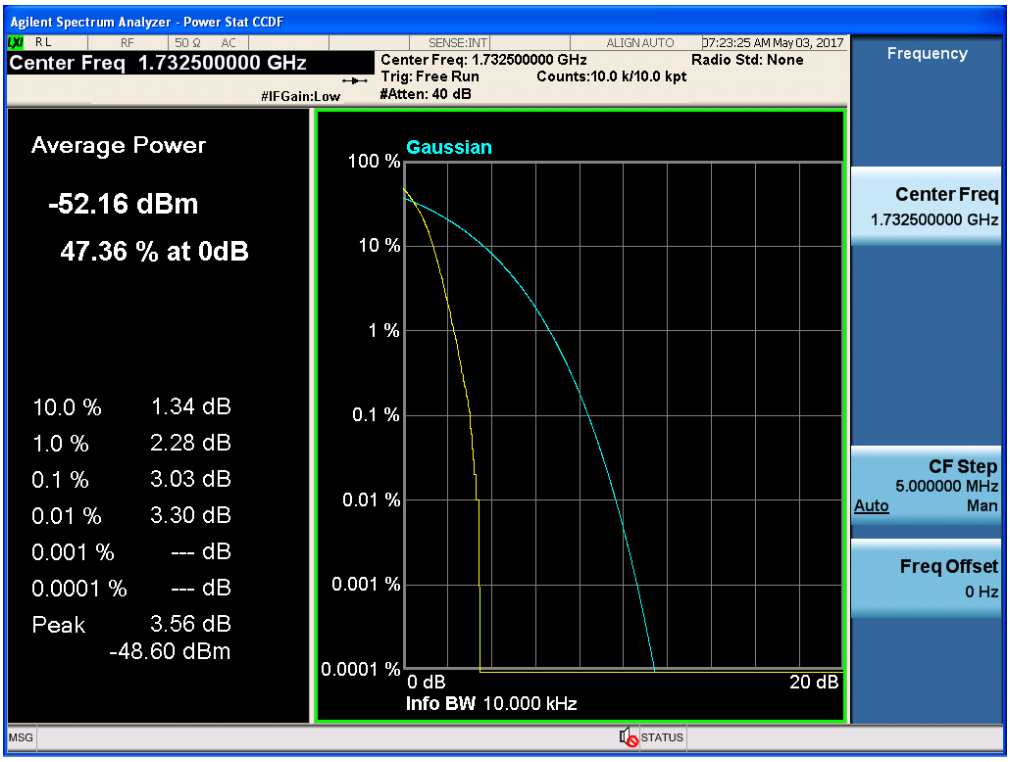
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,16QAM



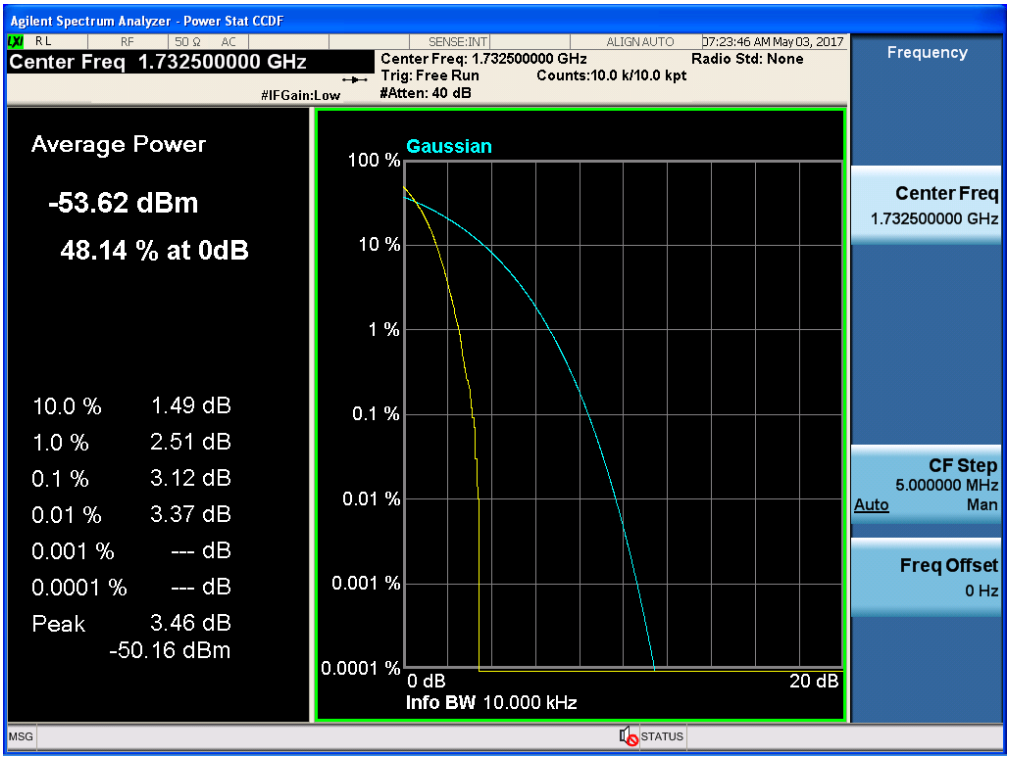
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



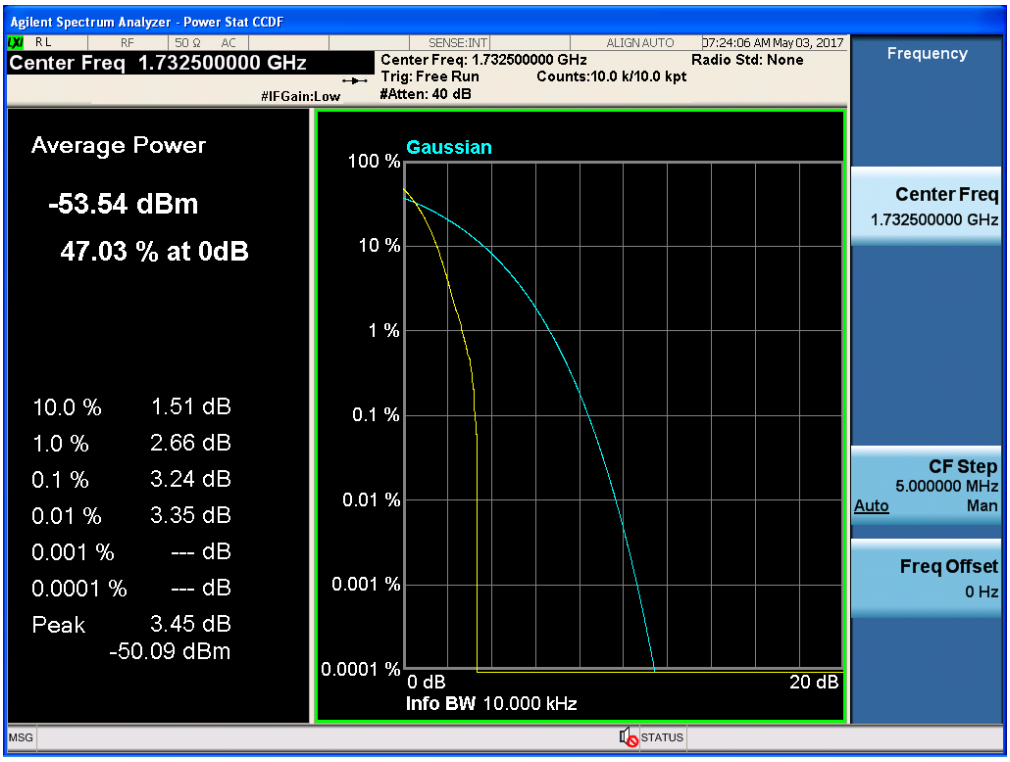
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



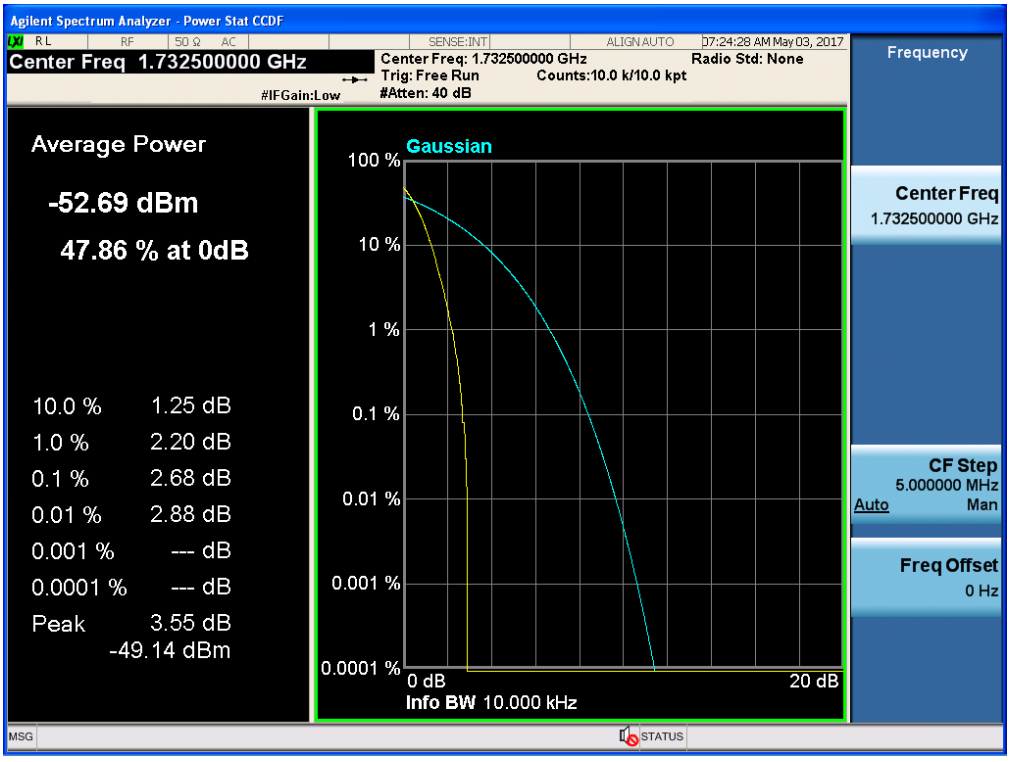
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



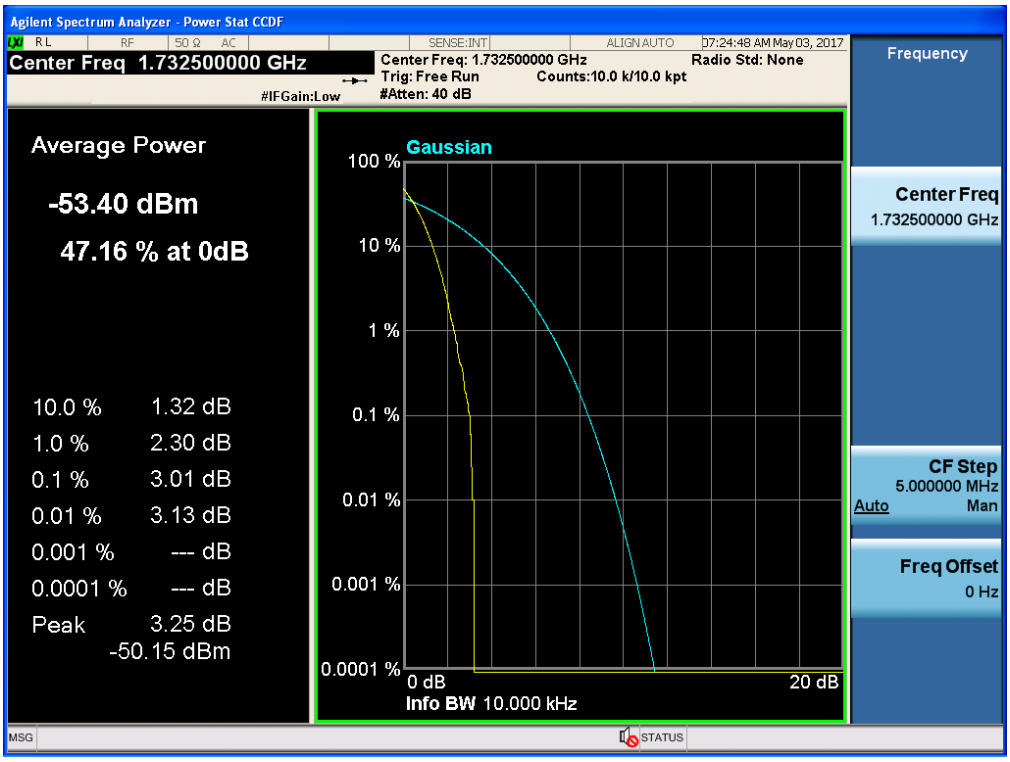
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



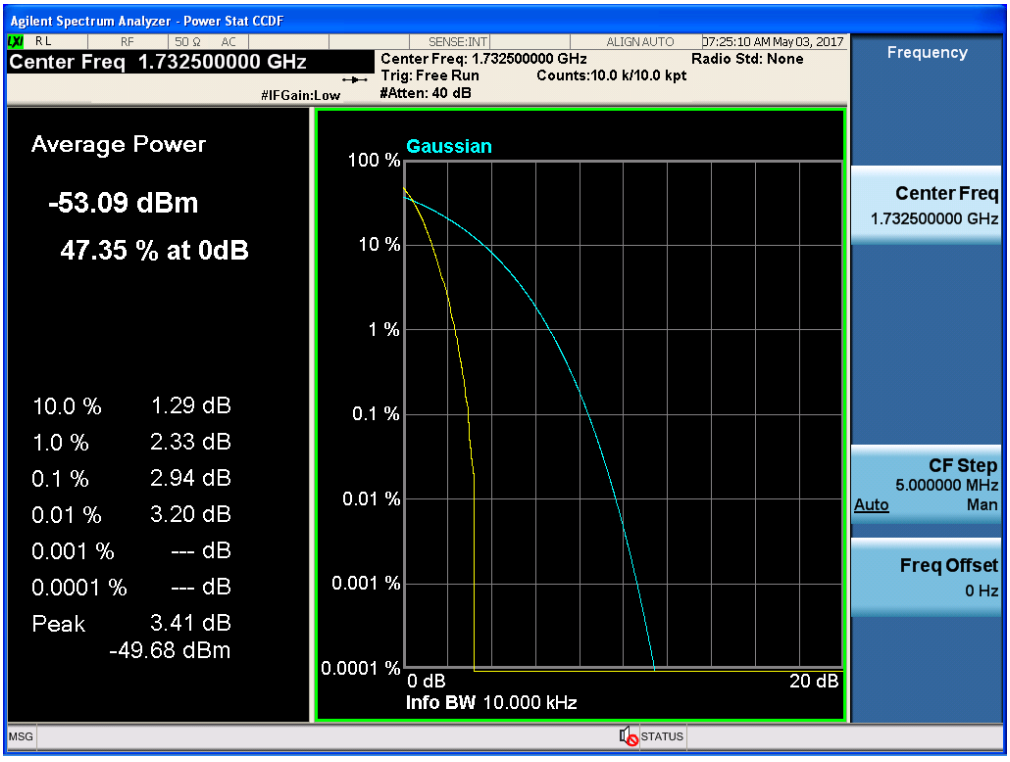
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK



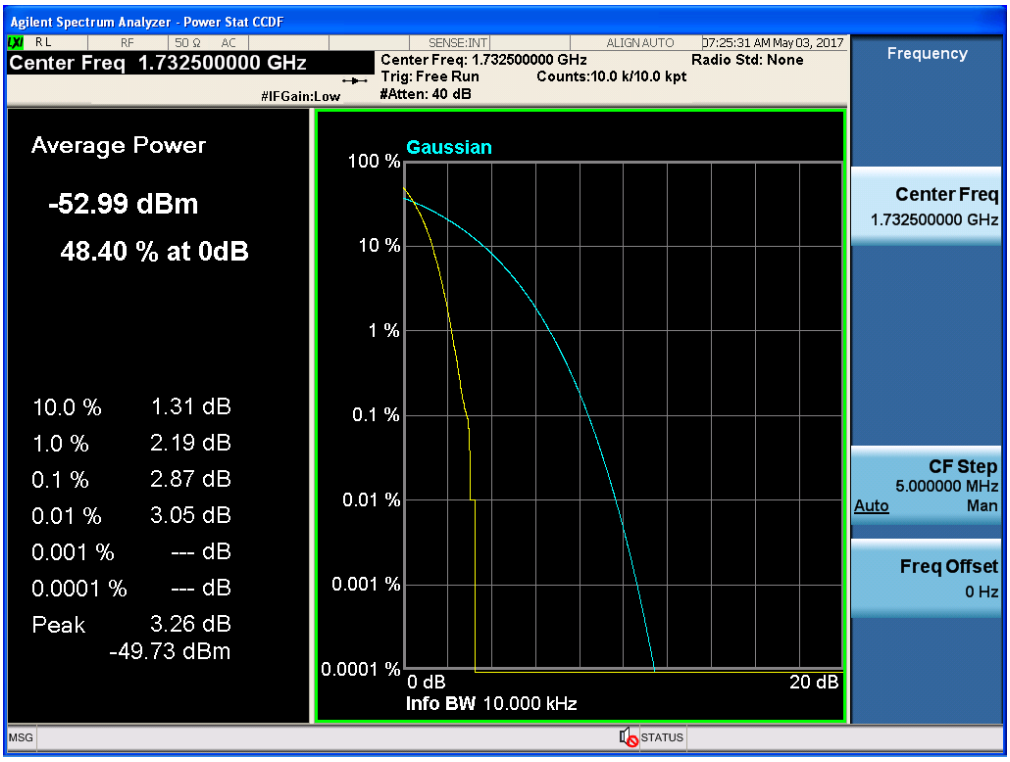
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,16QAM



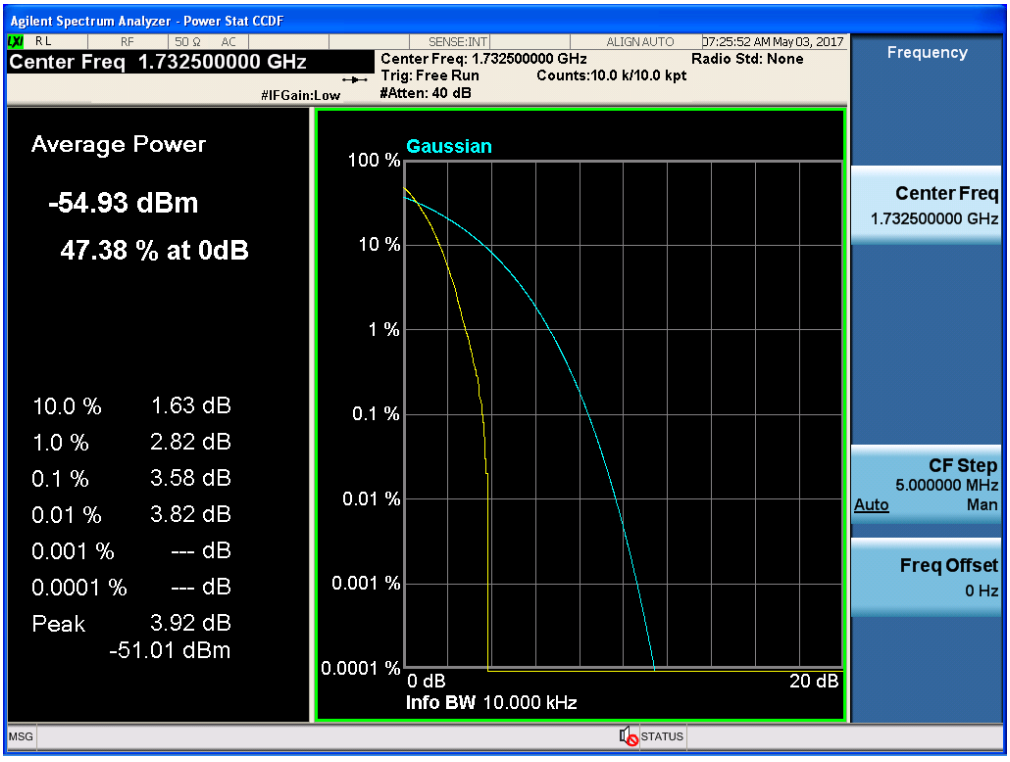
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



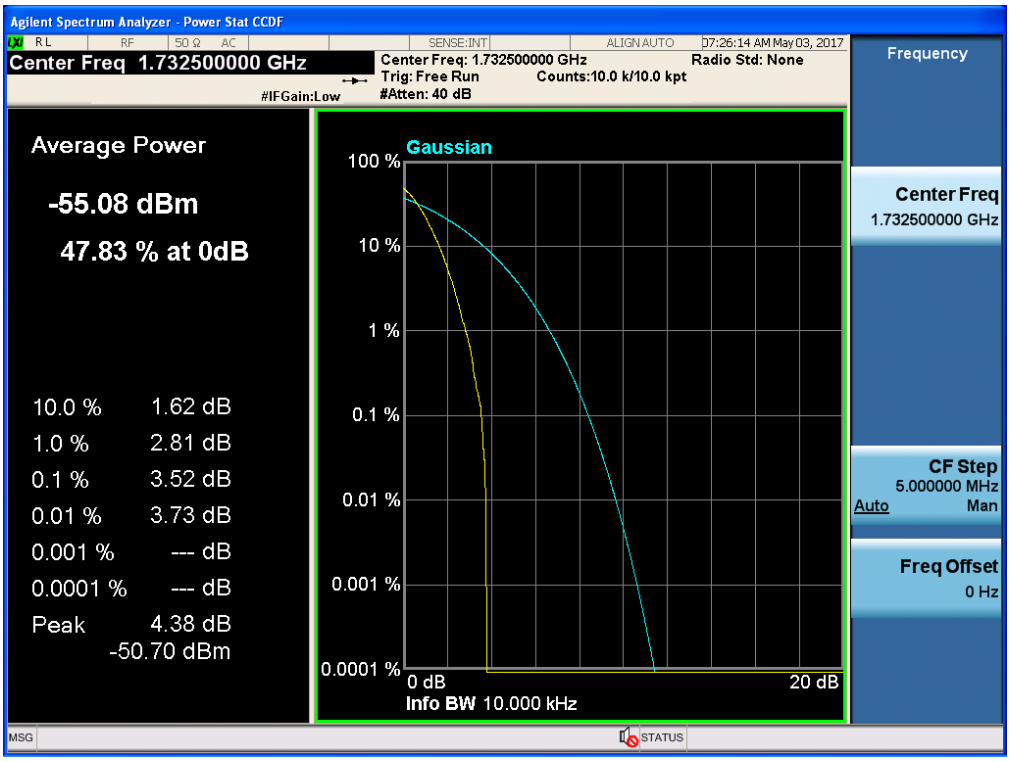
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



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

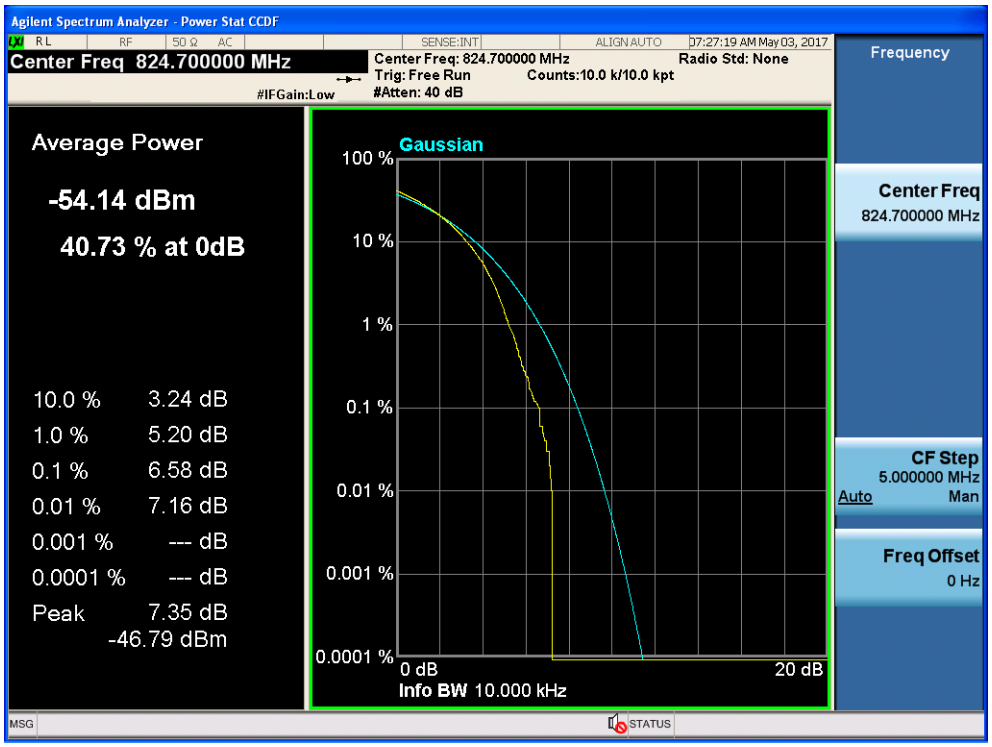


Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 1,RB POS. Low,16QAM

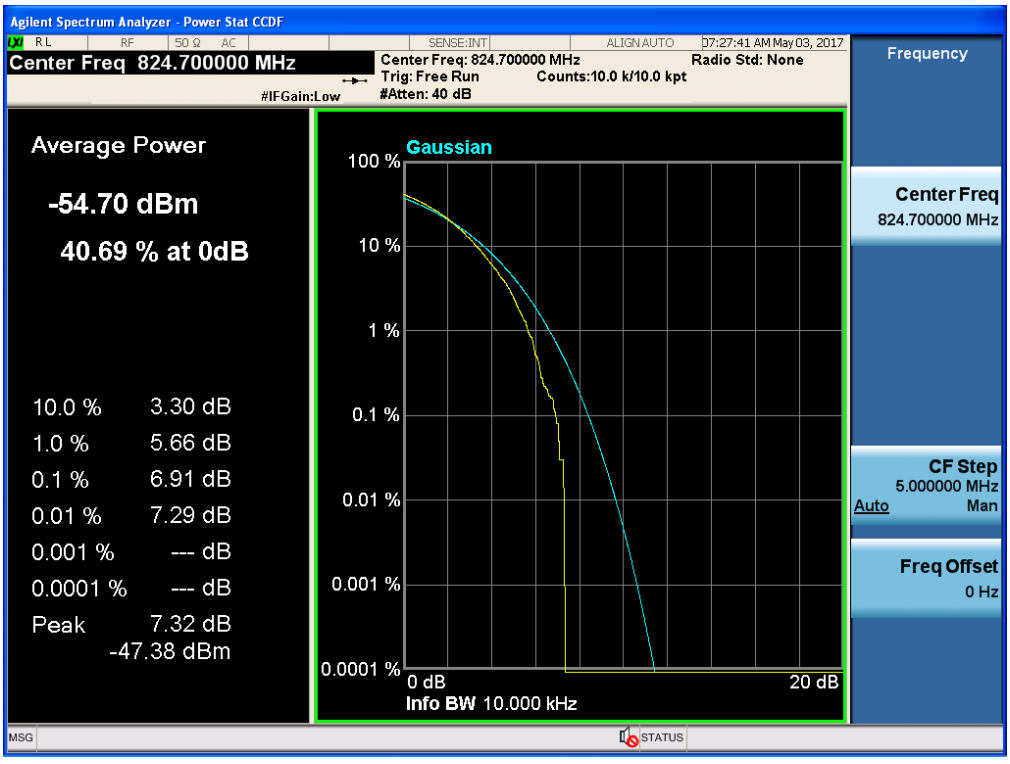


11.7 LTE BAND 5

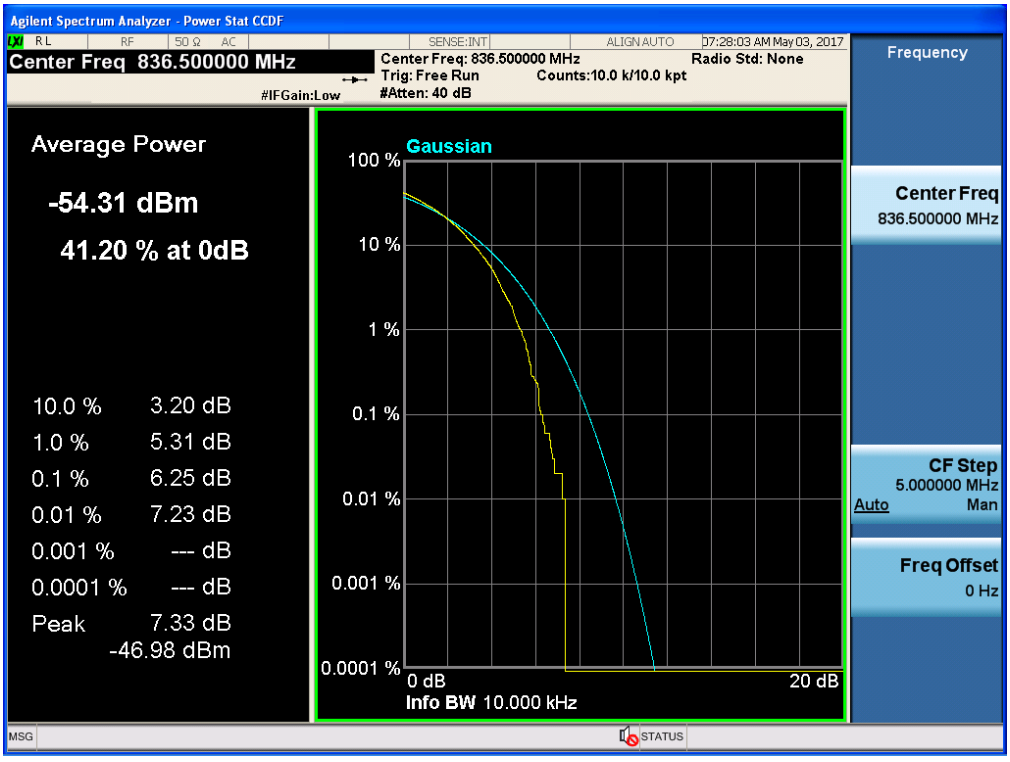
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



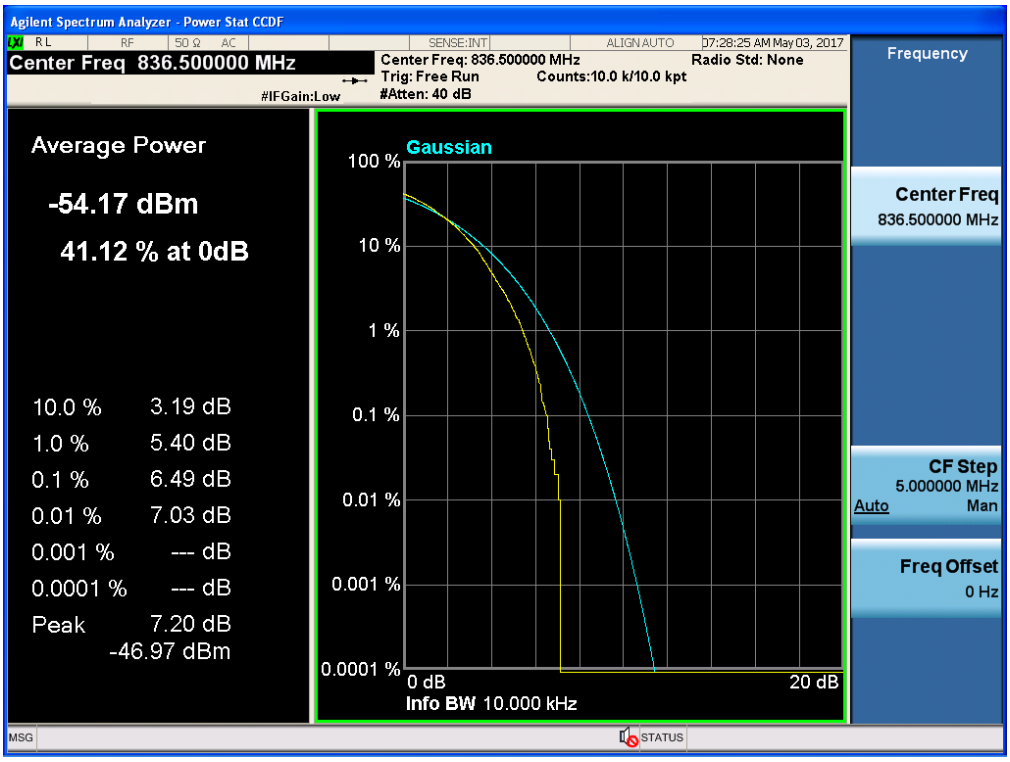
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



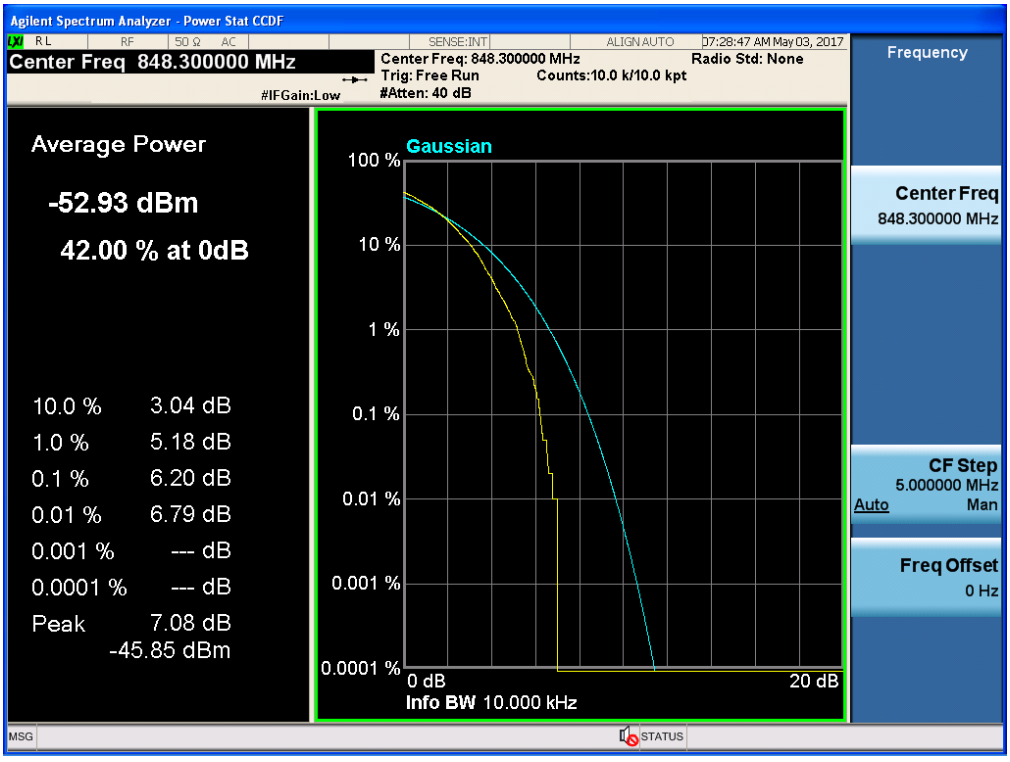
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



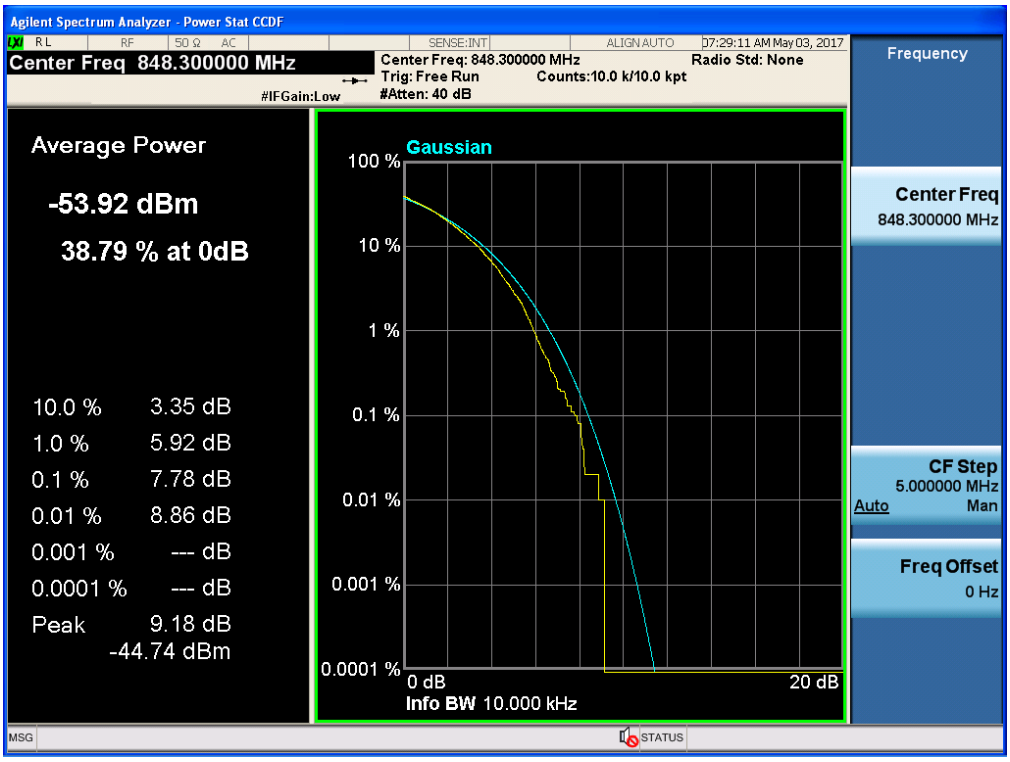
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



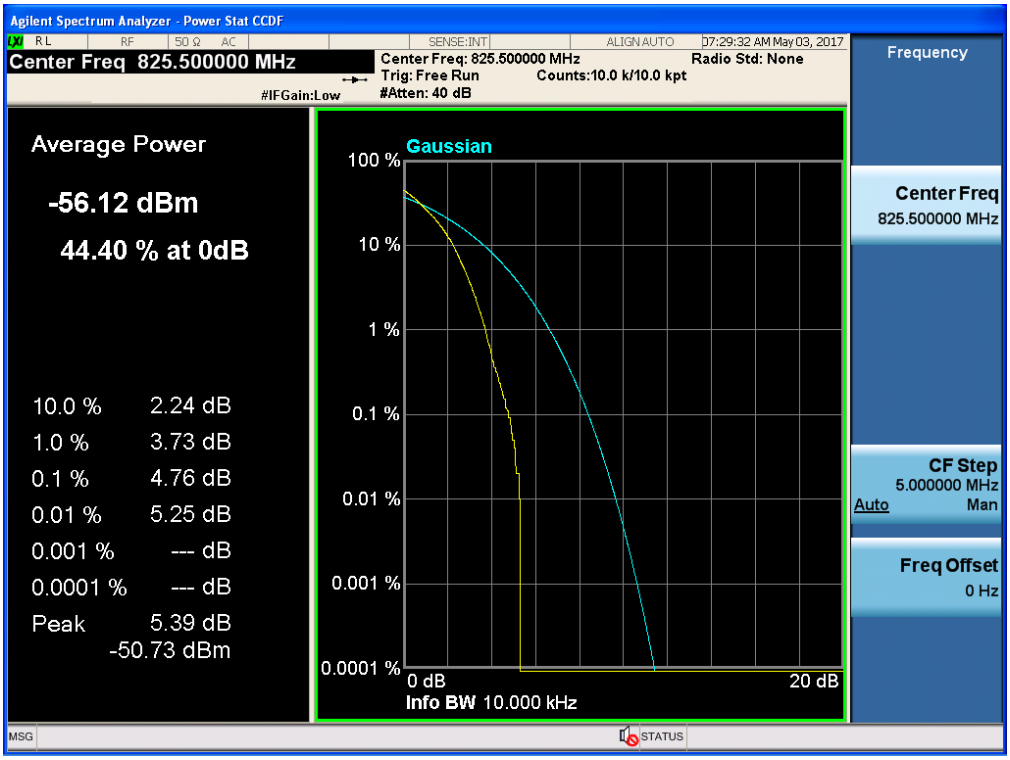
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



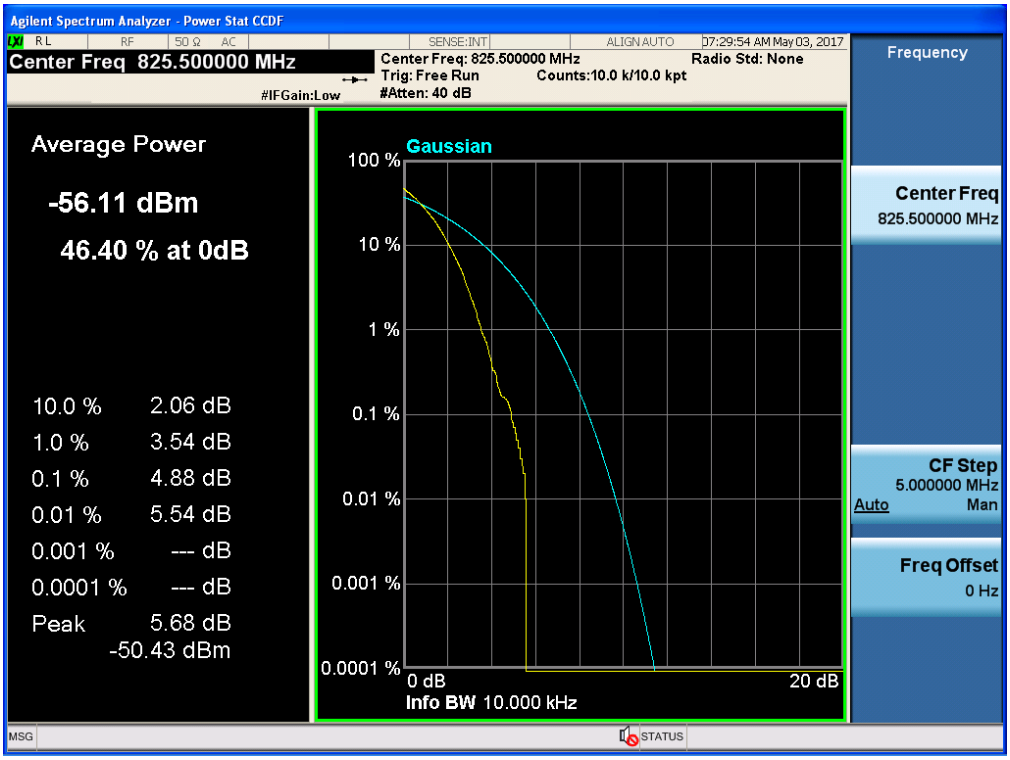
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



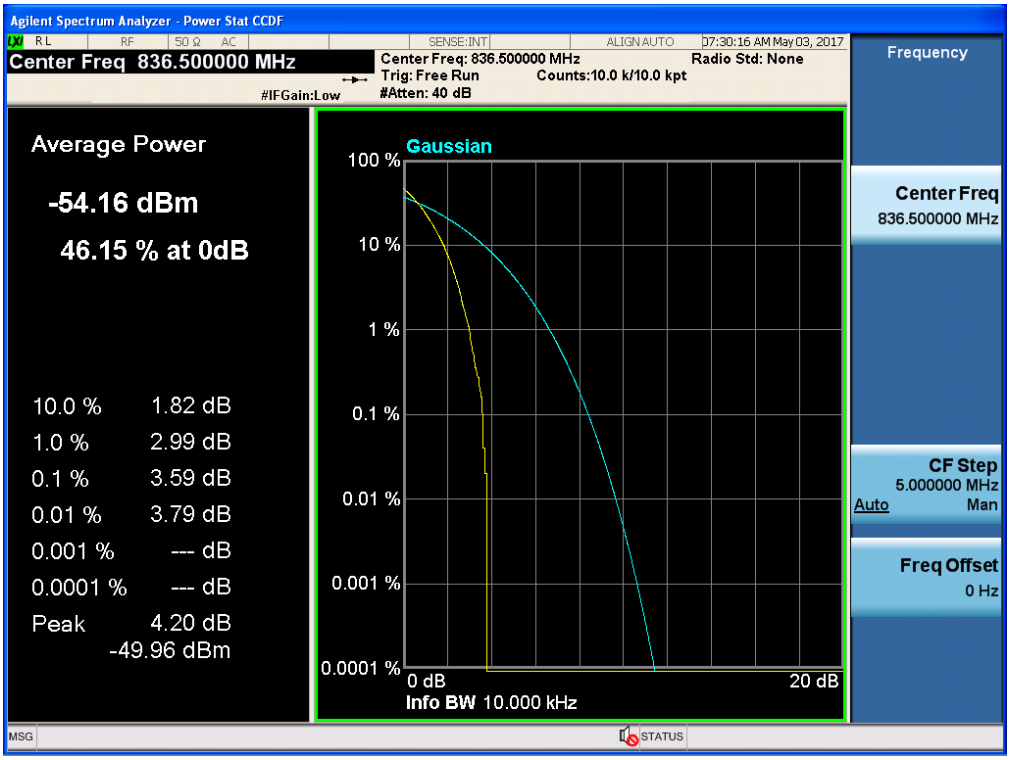
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



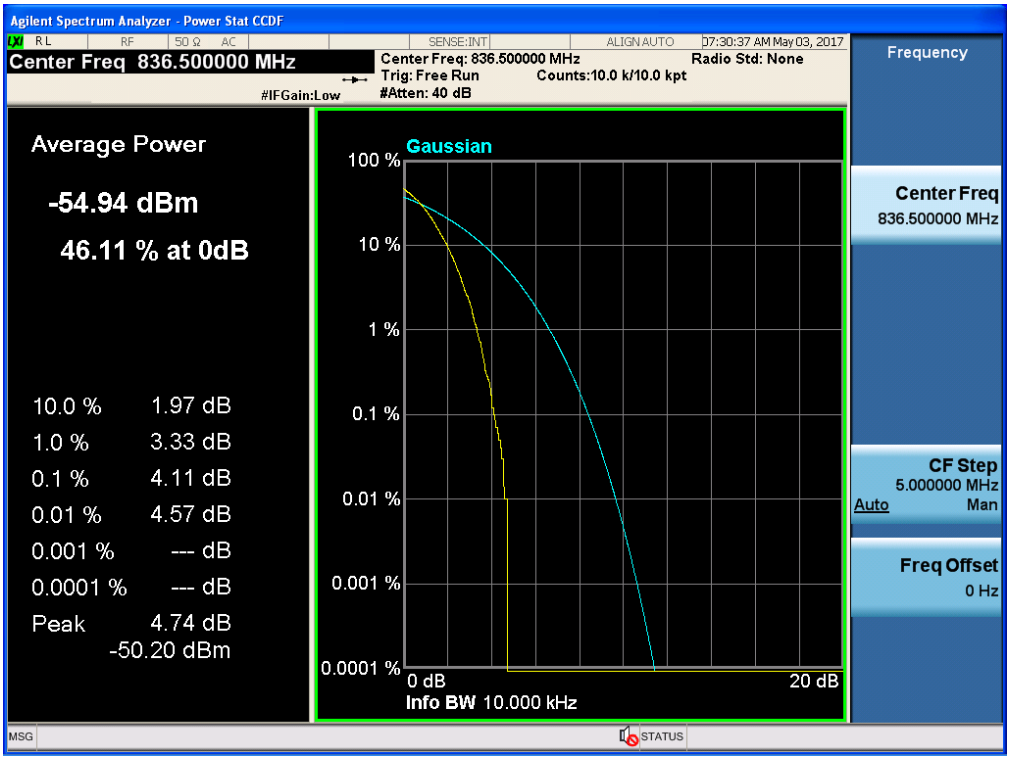
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



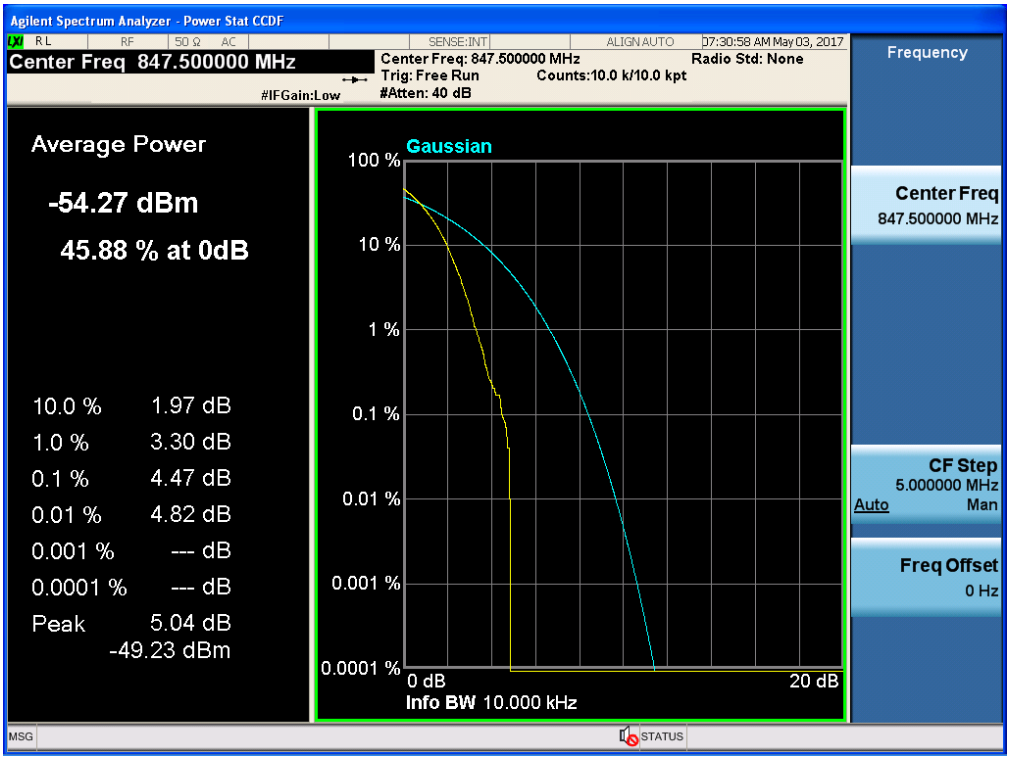
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



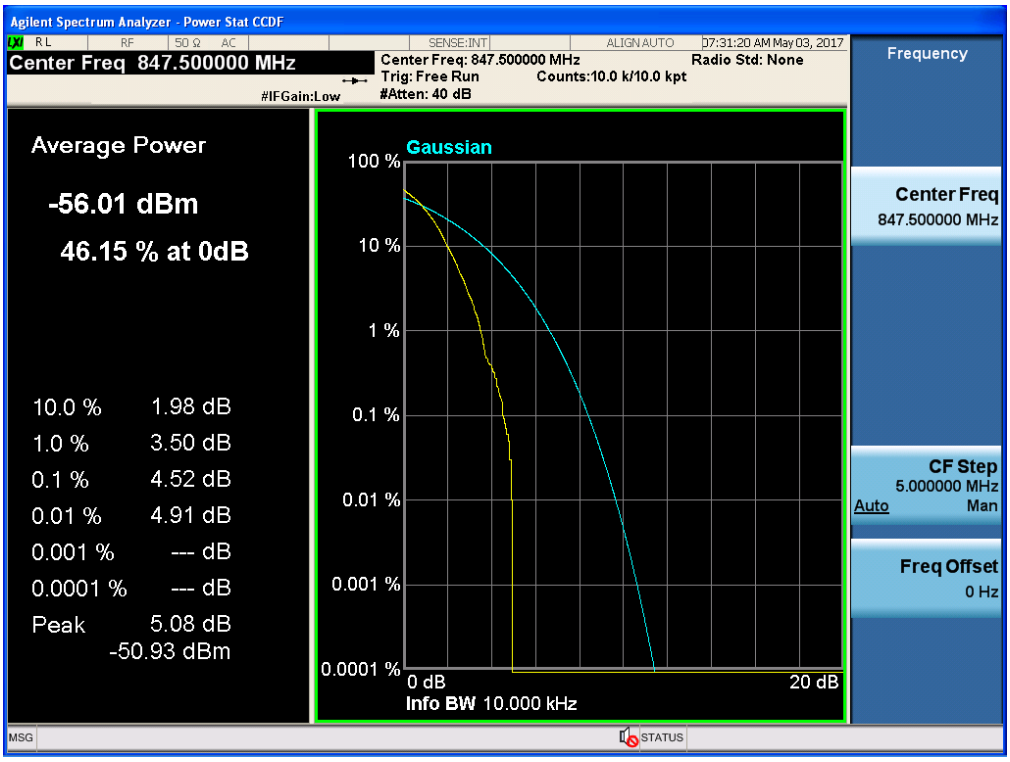
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



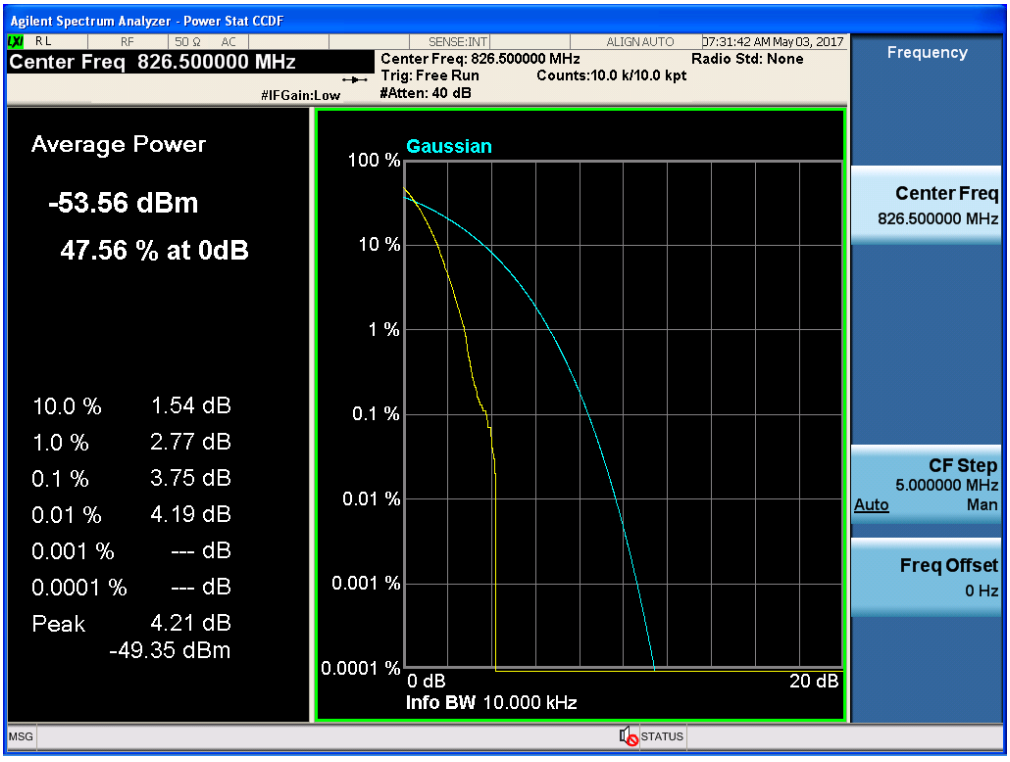
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



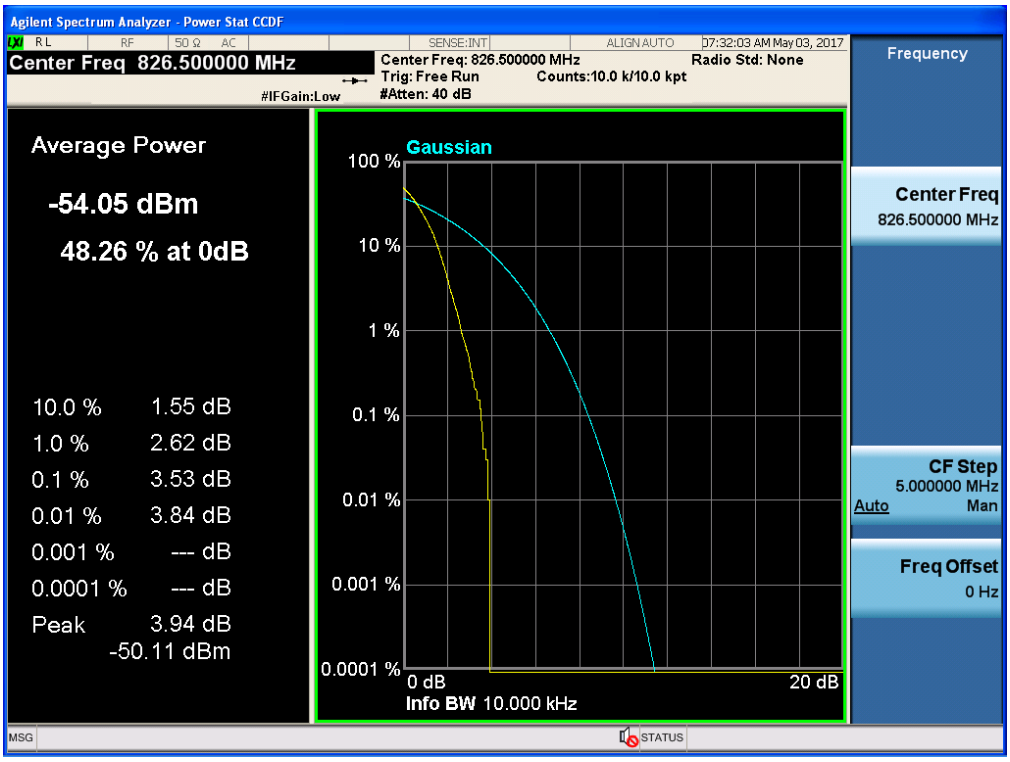
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



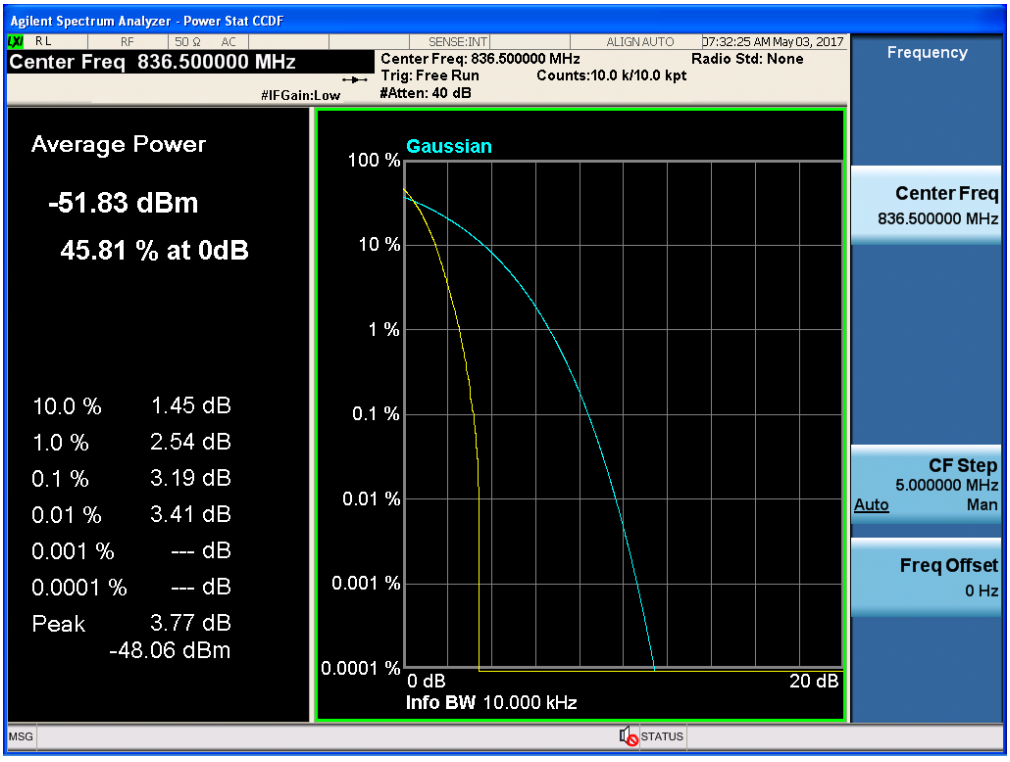
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



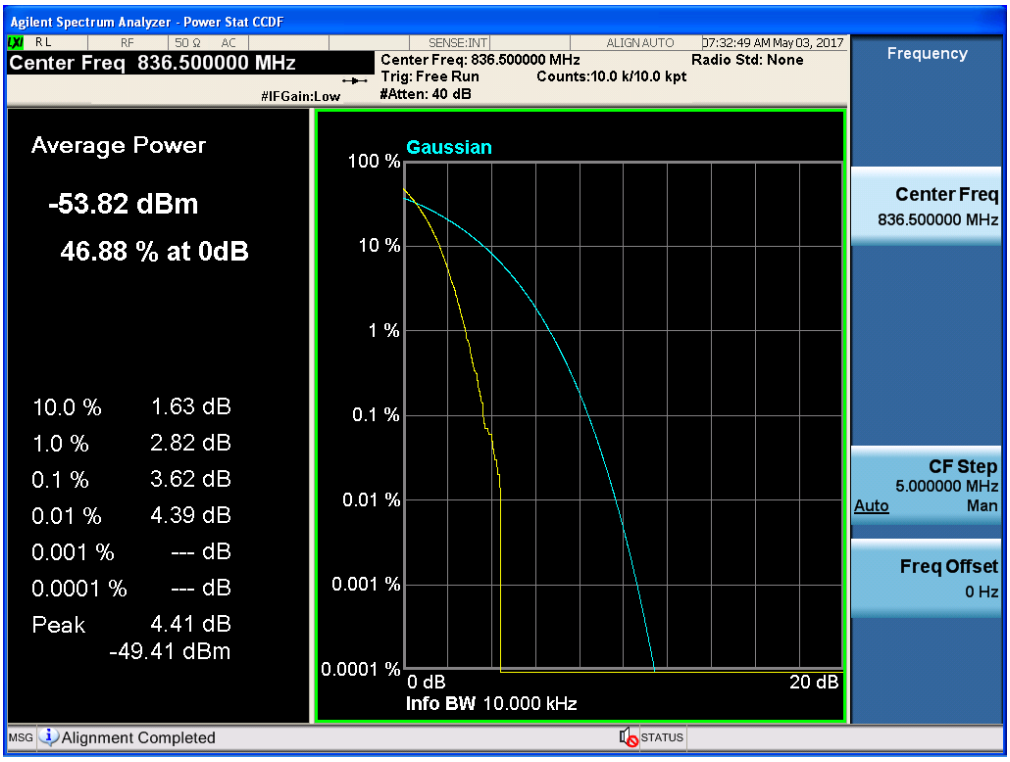
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



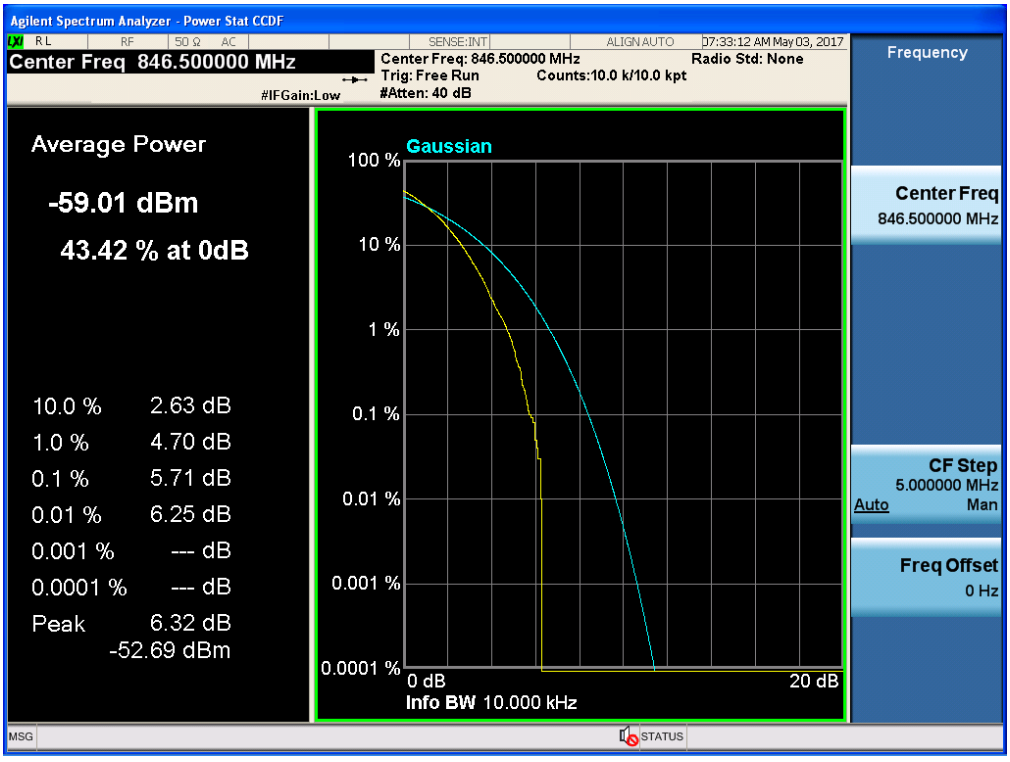
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



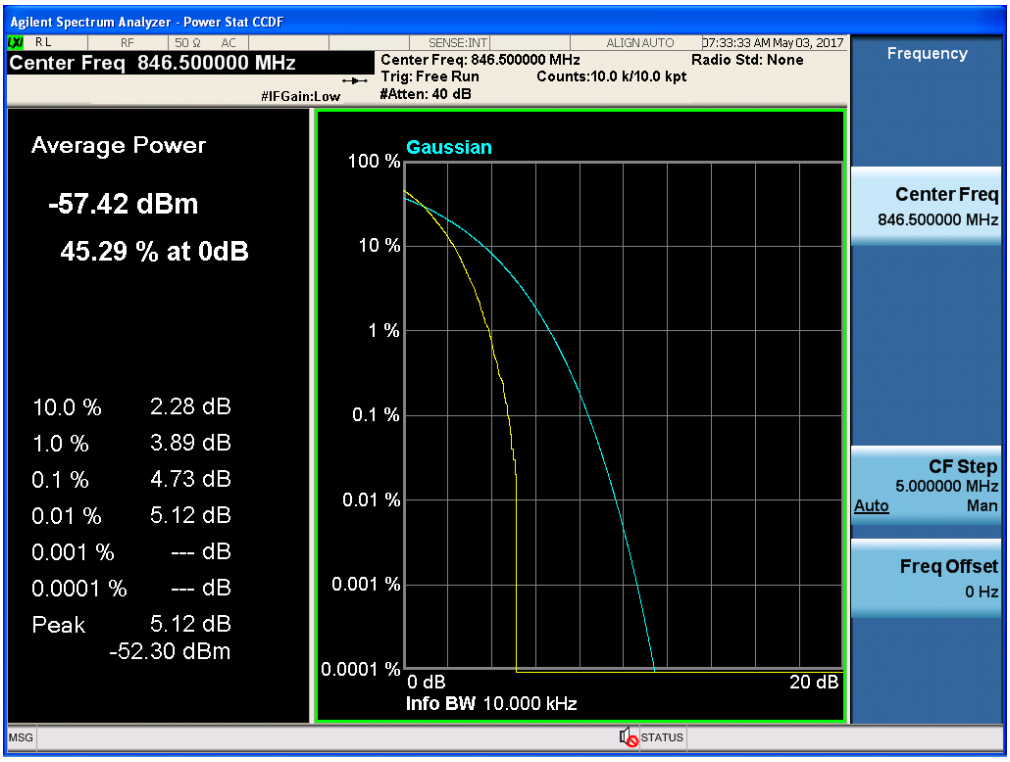
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



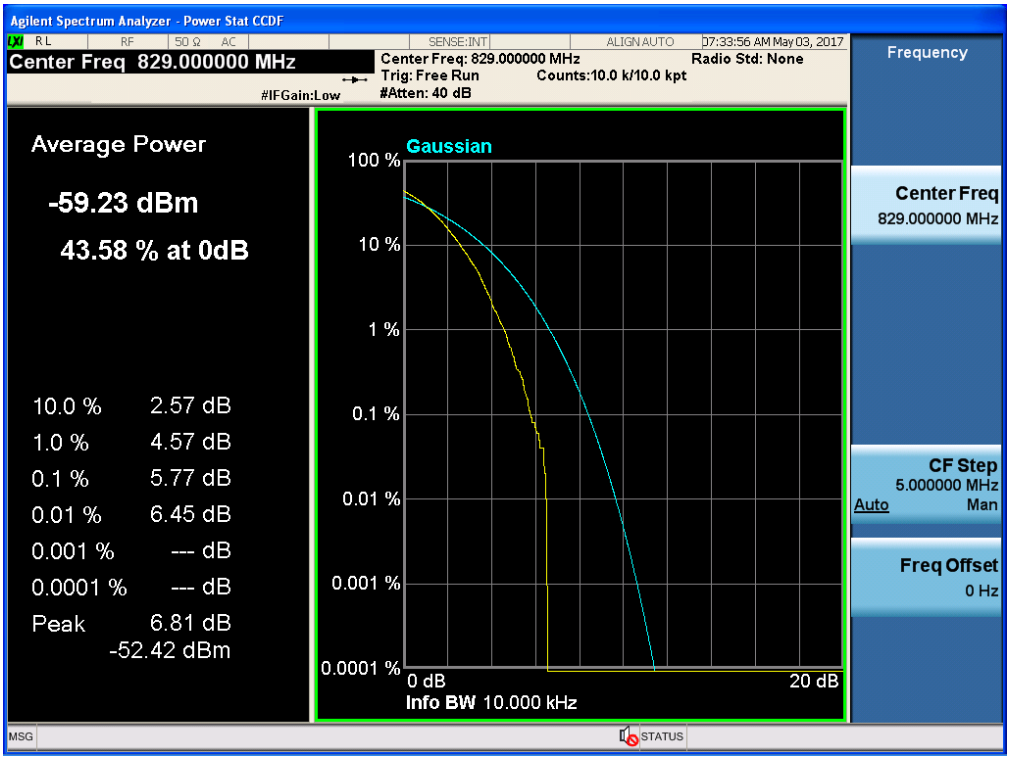
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



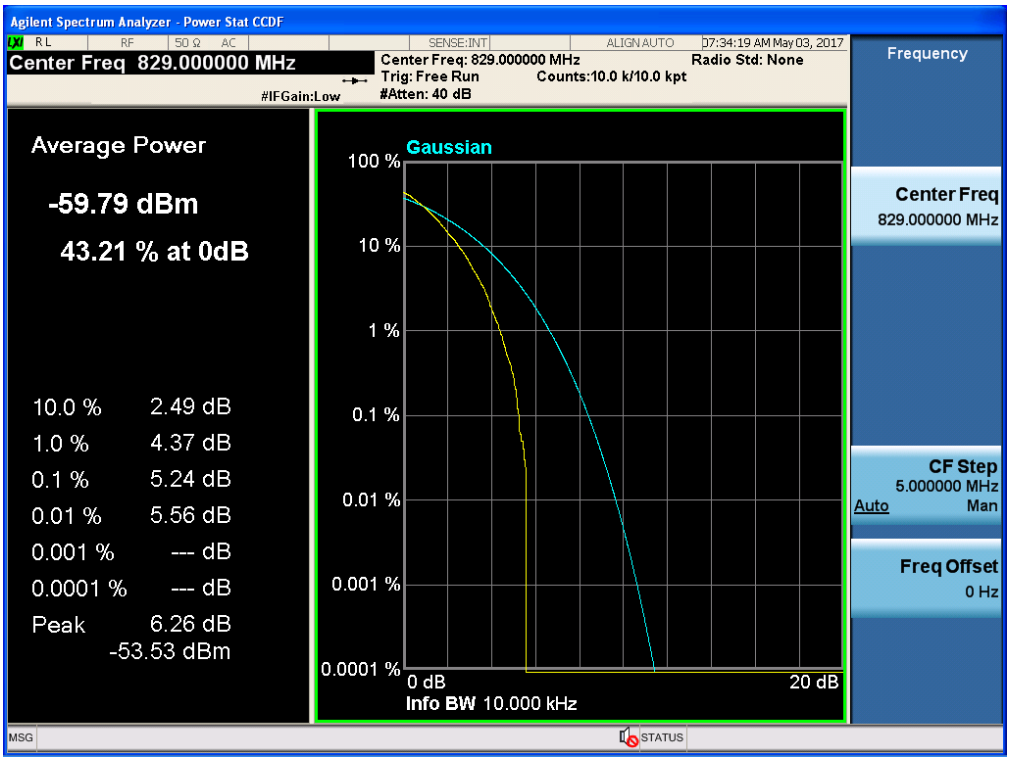
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



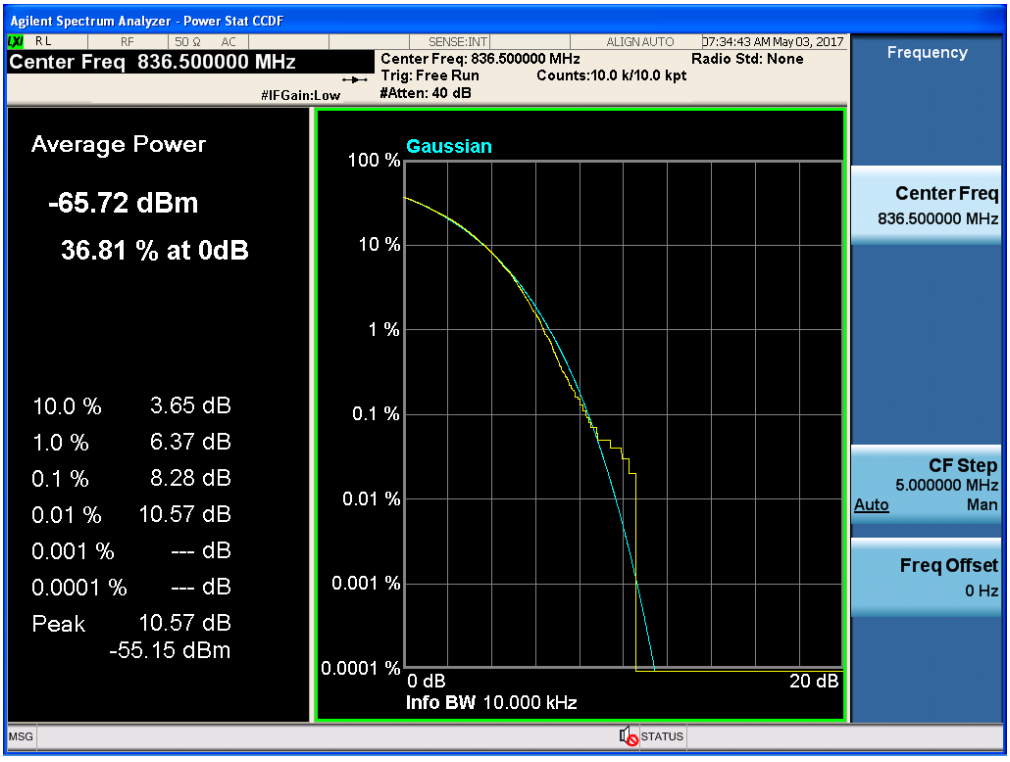
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



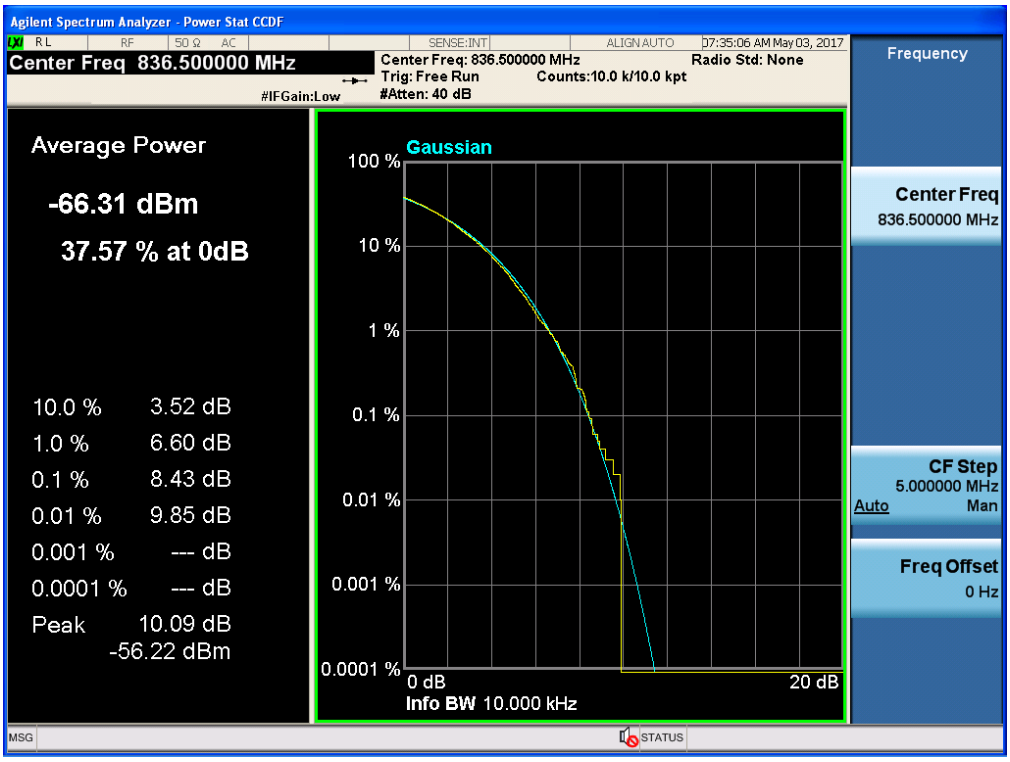
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



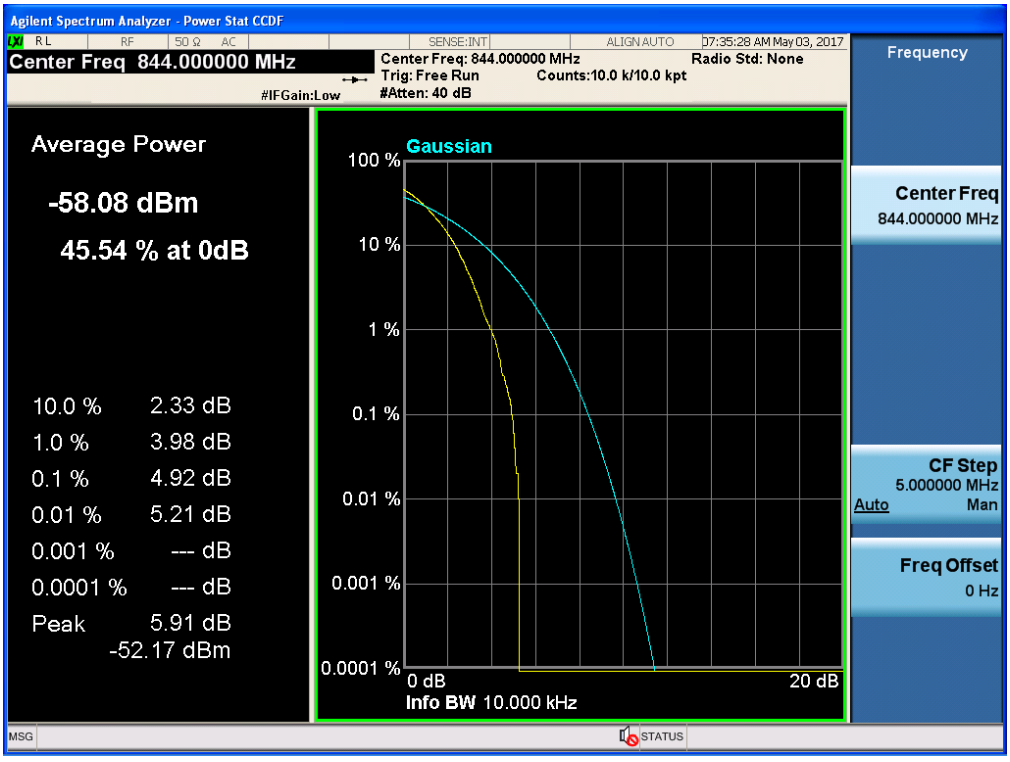
Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK



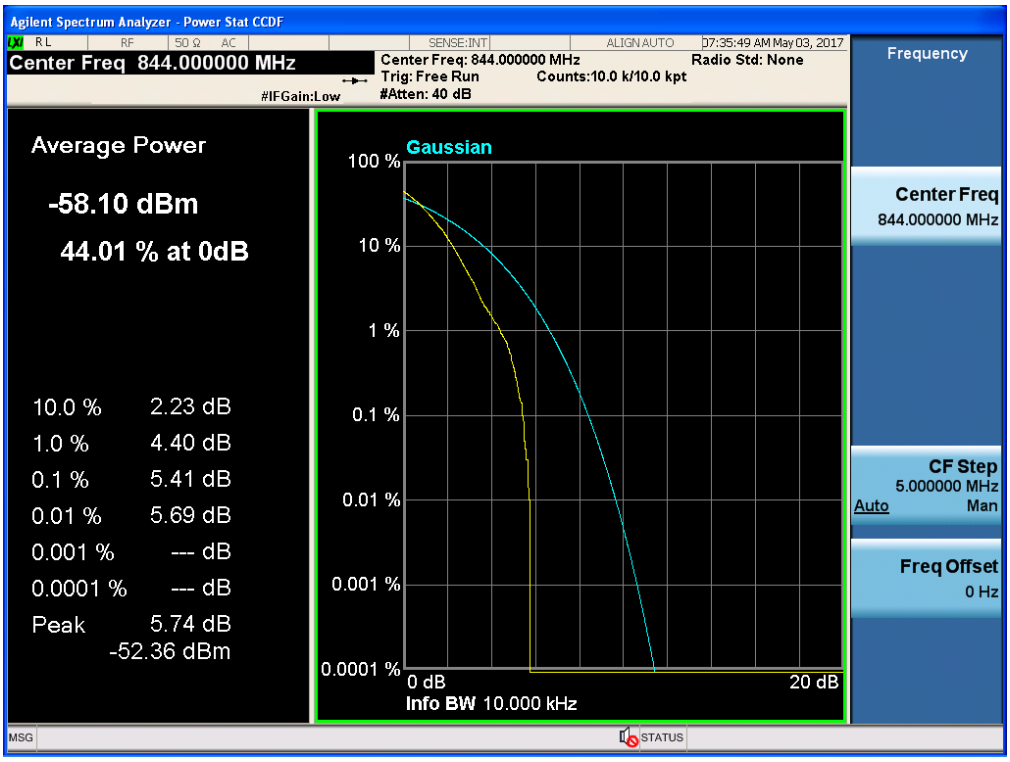
Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK

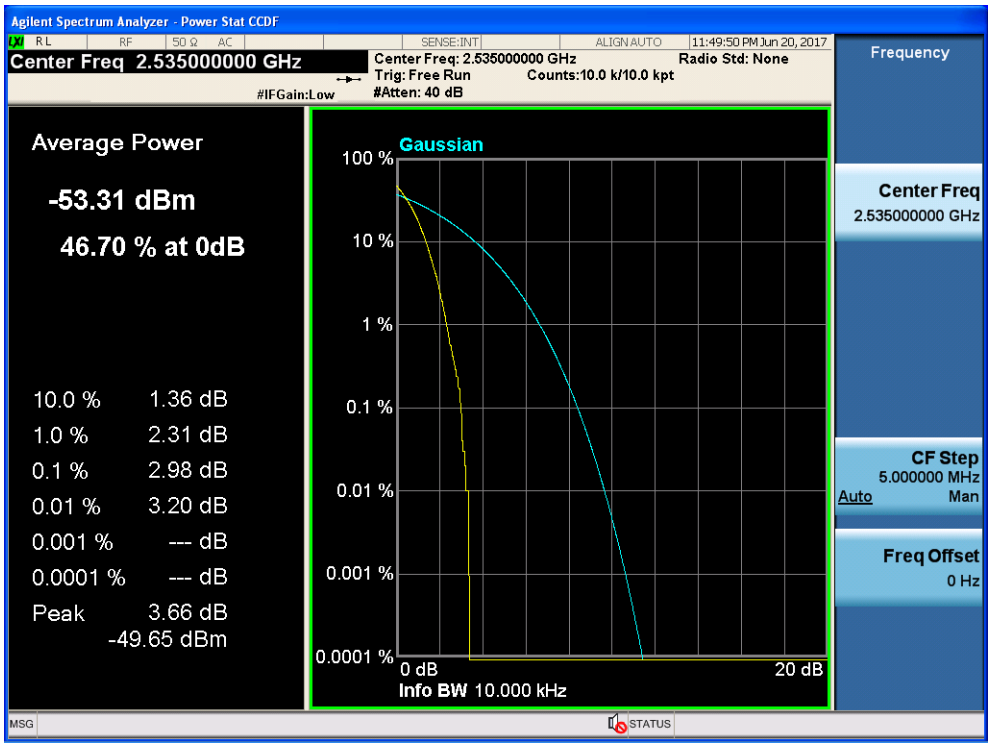


Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

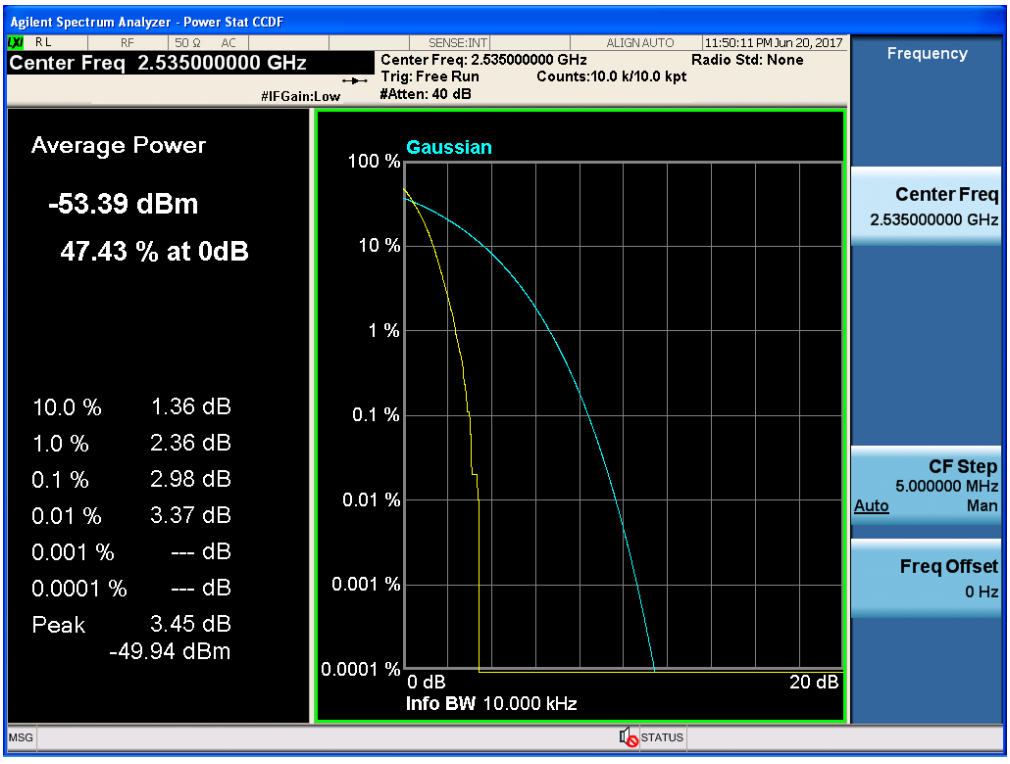


11.8 LTE BAND 7

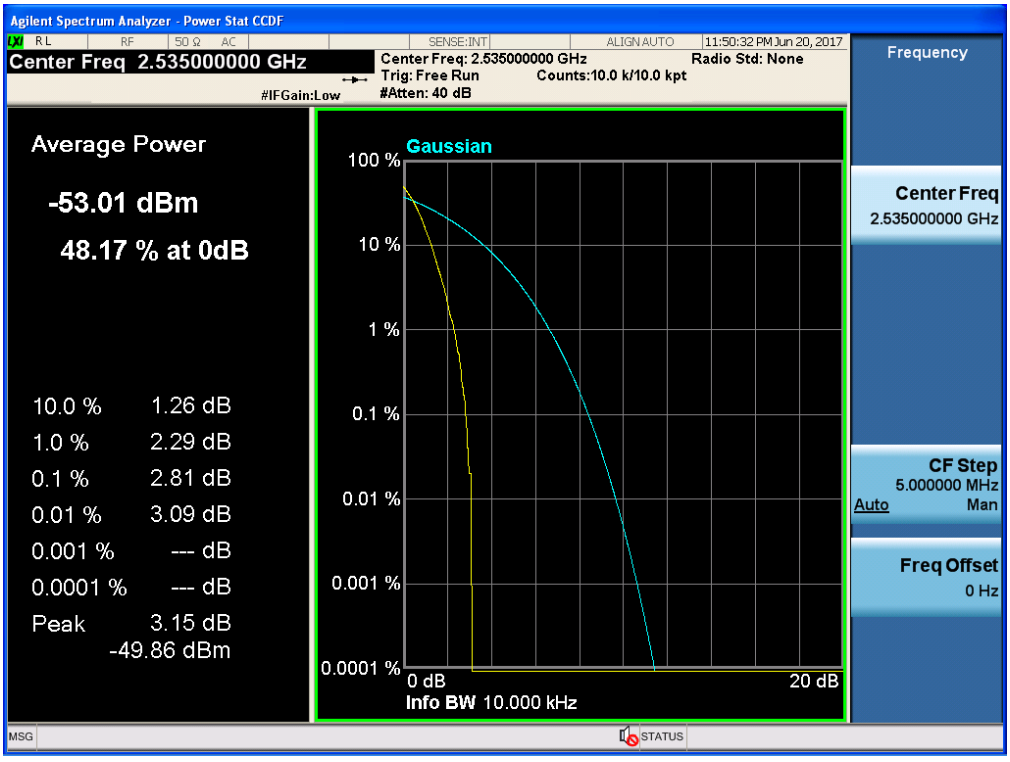
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



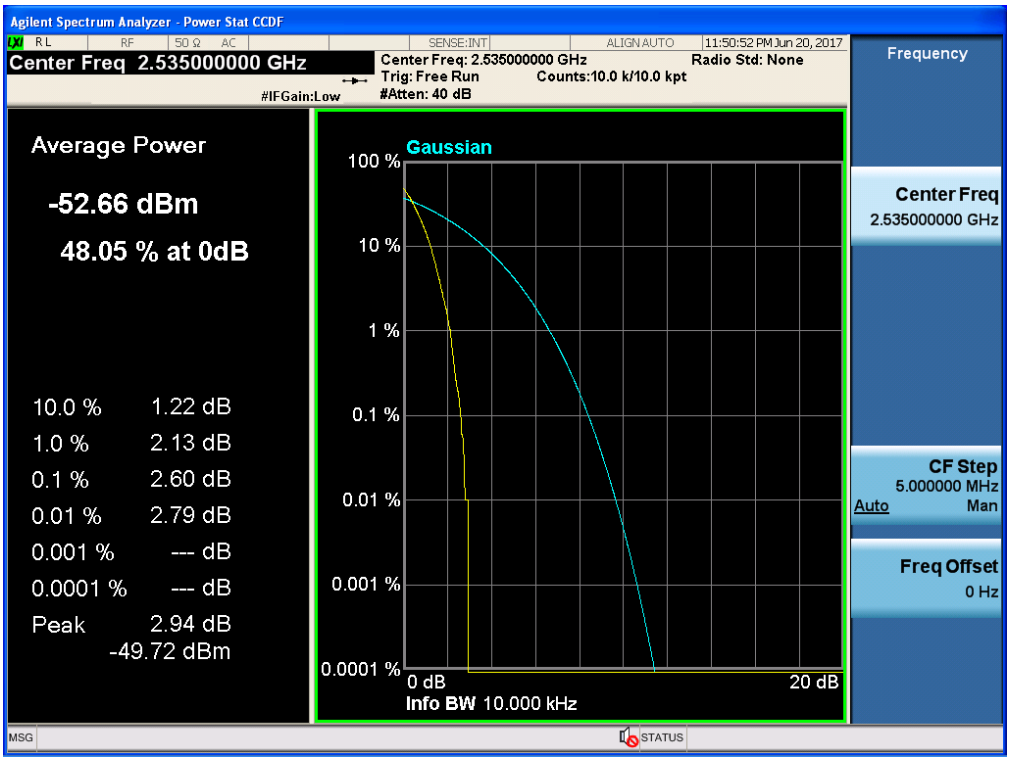
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 1,RB POS. Low,16QAM



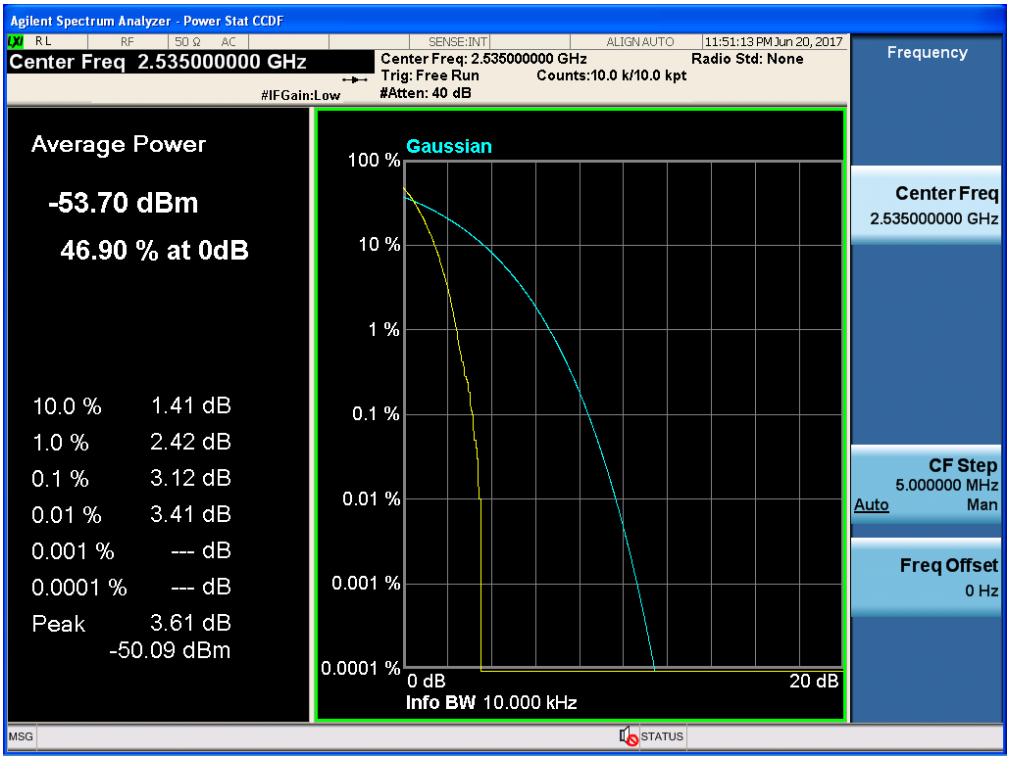
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



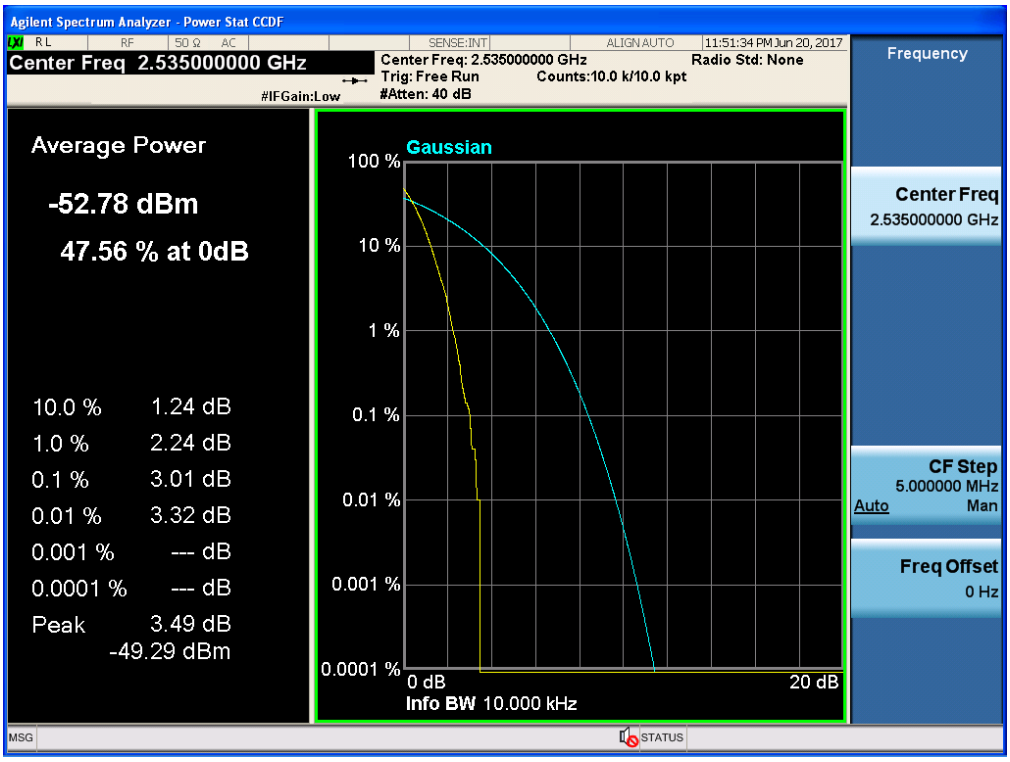
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



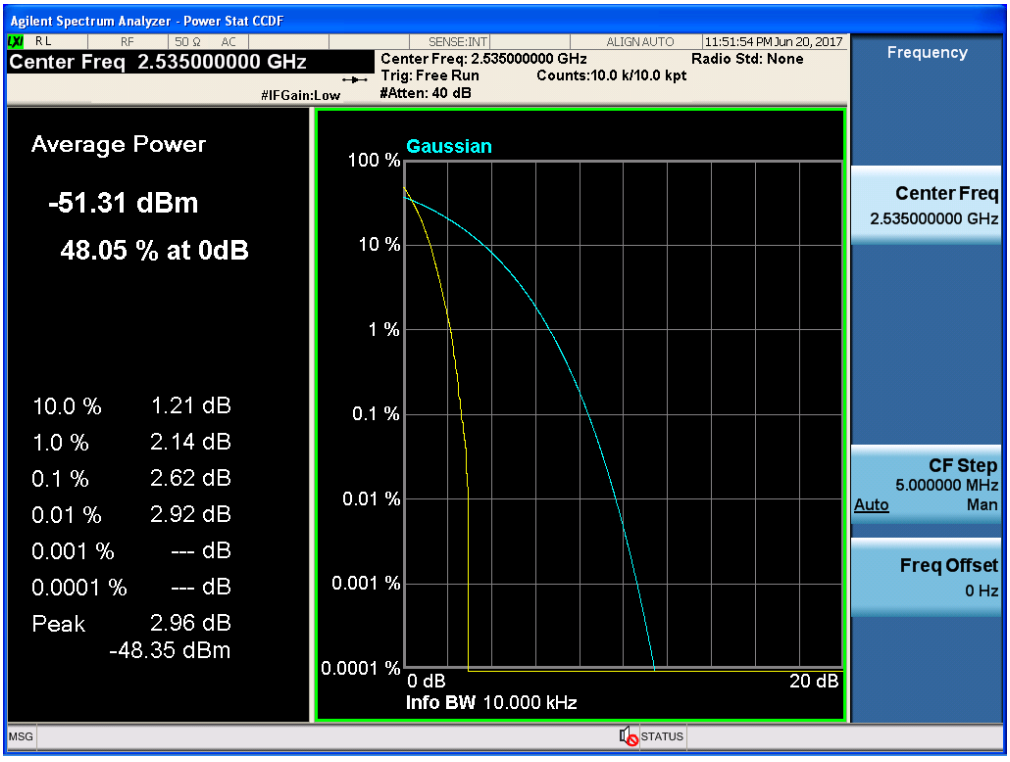
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



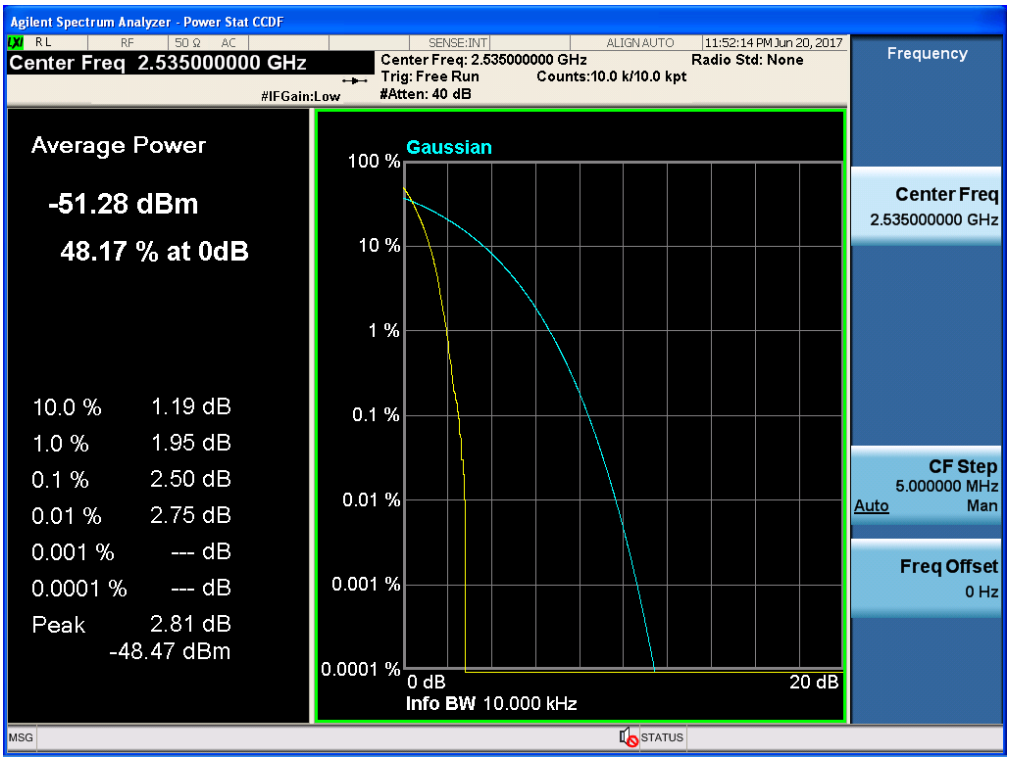
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,16QAM



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,16QAM



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