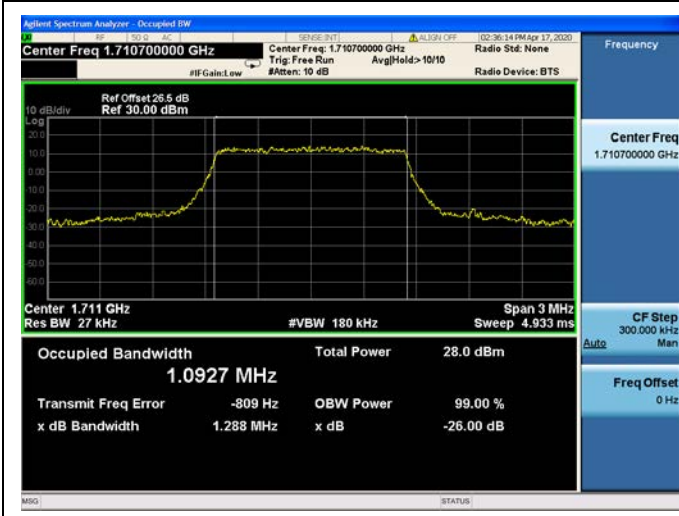
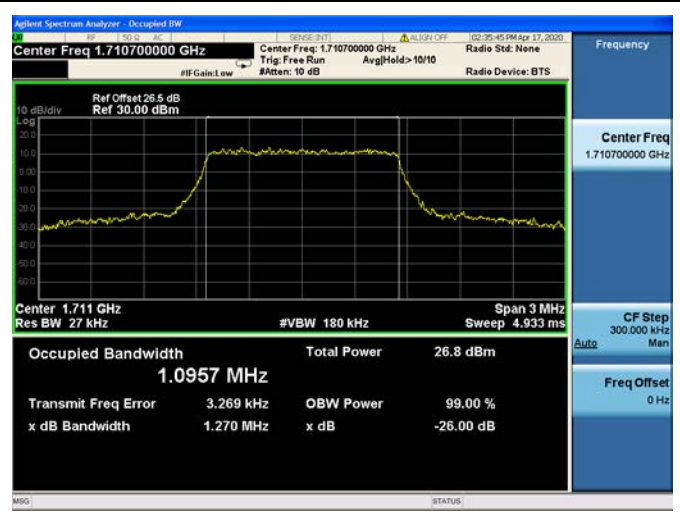




Band 66/ 1.4MHz/ Low CH/QPSK



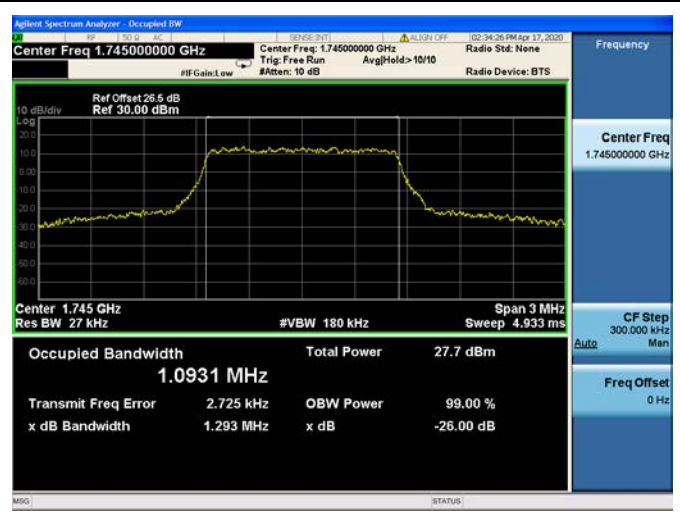
Band 66/ 1.4MHz/ Low CH/16QAM



Band 66/ 1.4MHz/Mid CH/QPSK



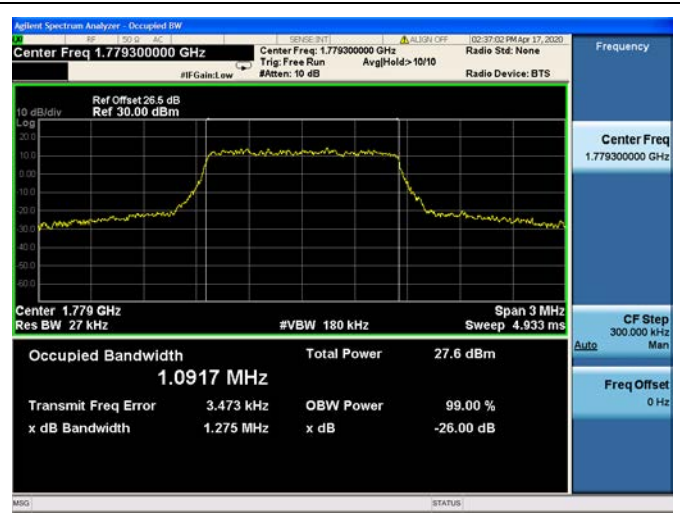
Band 66/ 1.4MHz/Mid CH/16QAM



Band 66/ 1.4MHz/High CH/QPSK



Band 66/ 1.4MHz/High CH/16QAM

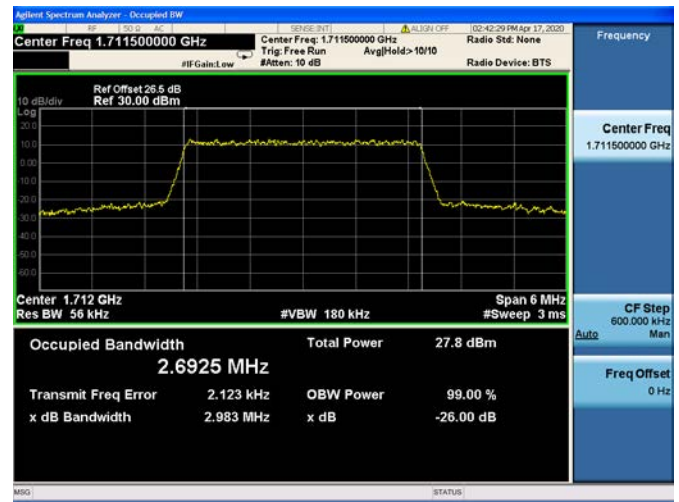




Band 66/ 3MHz/ Low CH/QPSK



Band 66/ 3MHz/ Low CH/16QAM



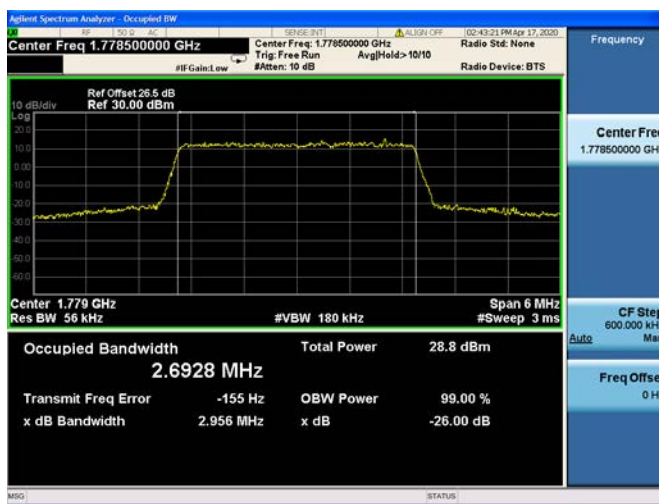
Band 66/ 3MHz/Mid CH/QPSK



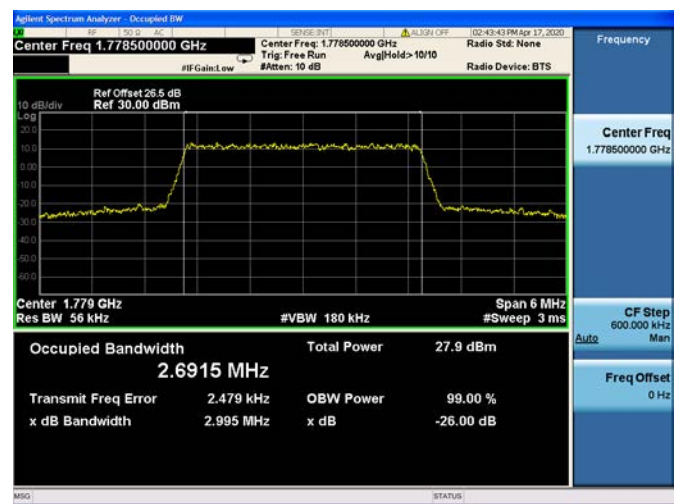
Band 66/ 3MHz/Mid CH/16QAM



Band 66/ 3MHz/High CH/QPSK



Band 66/ 3MHz/High CH/16QAM

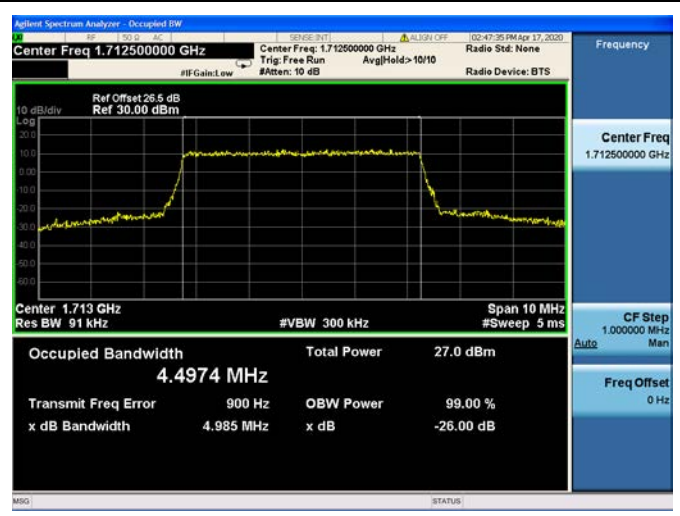




Band 66/ 5MHz/ Low CH/QPSK



Band 66/ 5MHz/ Low CH/16QAM



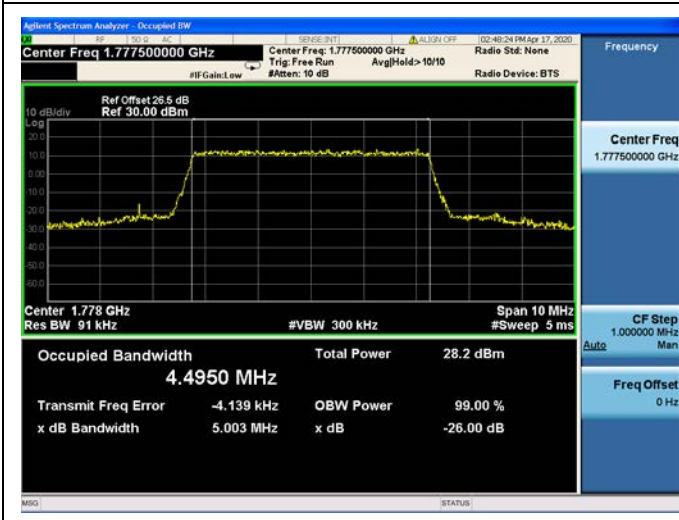
Band 66/ 5MHz/Mid CH/QPSK



Band 66/ 5MHz/Mid CH/16QAM



Band 66/ 5MHz/High CH/QPSK

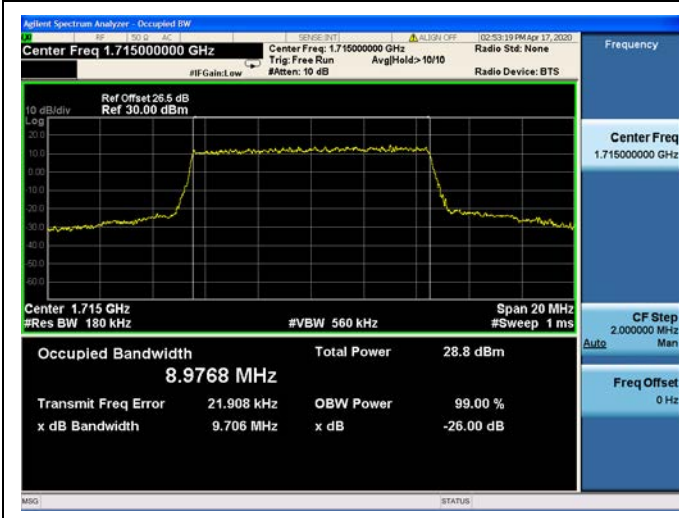


Band 66/ 5MHz/High CH/16QAM

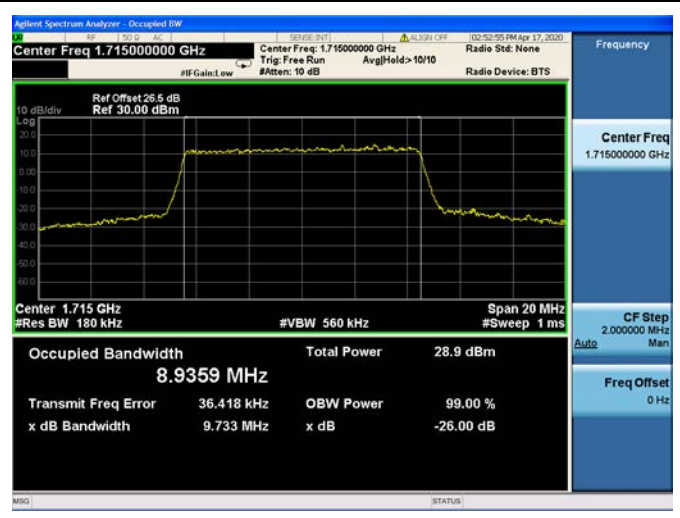




Band 66/ 10MHz/ Low CH/QPSK



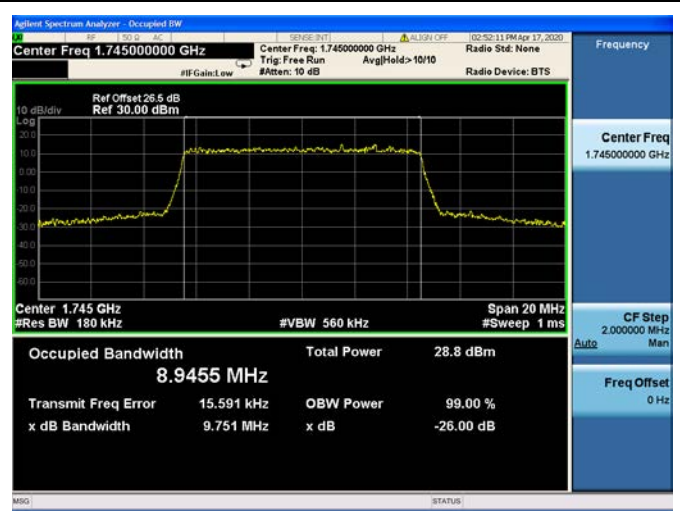
Band 66/ 10MHz/ Low CH/16QAM



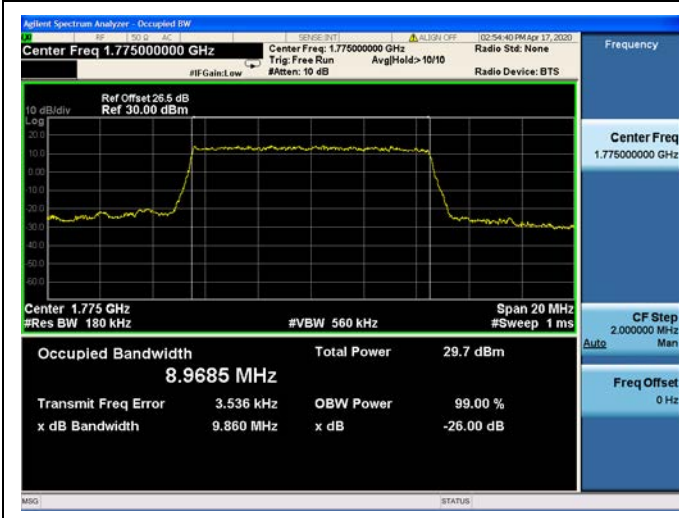
Band 66/ 10MHz/Mid CH/QPSK



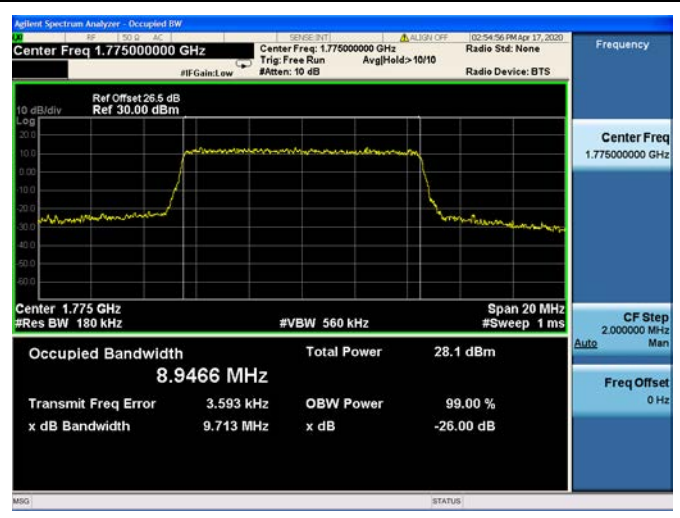
Band 66/ 10MHz/Mid CH/16QAM



Band 66/ 10MHz/High CH/QPSK

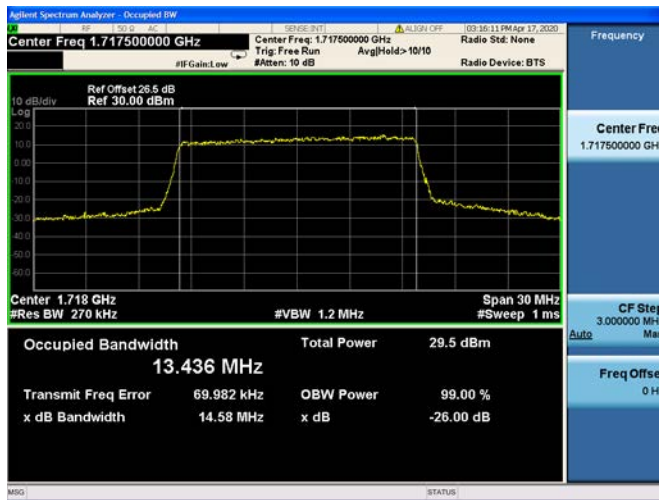


Band 66/ 10MHz/High CH/16QAM

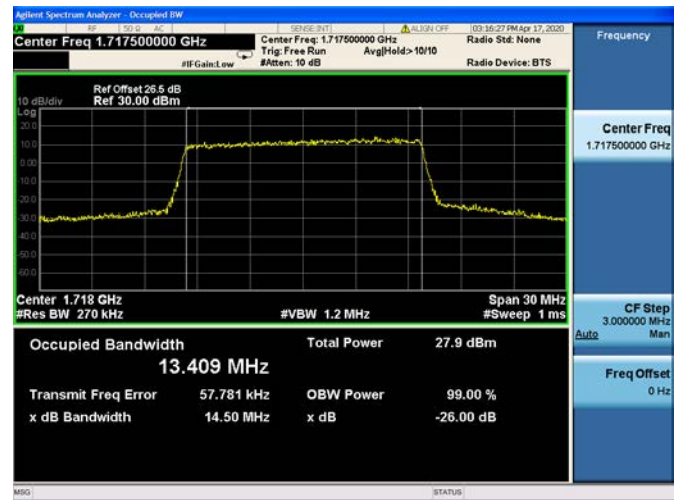




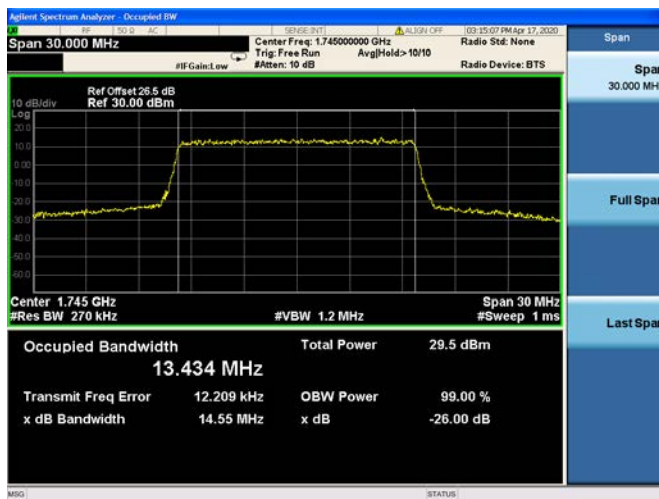
Band 66/ 15MHz/ Low CH/QPSK



Band 66/ 15MHz/ Low CH/16QAM



Band 66/ 15MHz/Mid CH/QPSK



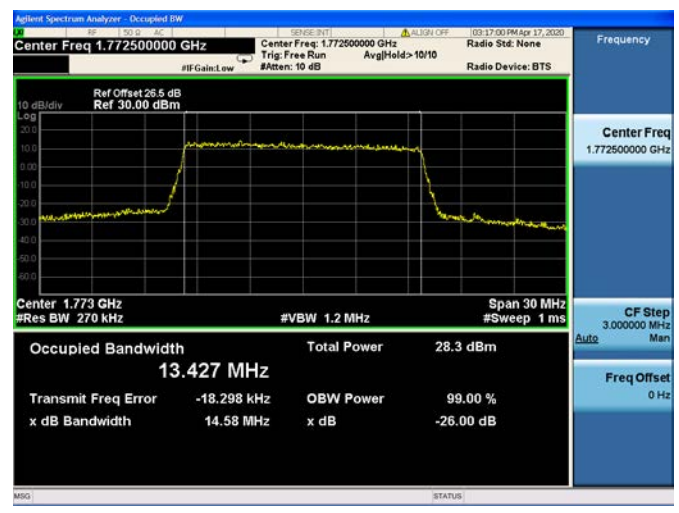
Band 66/ 15MHz/Mid CH/16QAM



Band 66/ 15MHz/High CH/QPSK



Band 66/ 15MHz/High CH/16QAM





Band 66/ 20MHz/ Low CH/QPSK



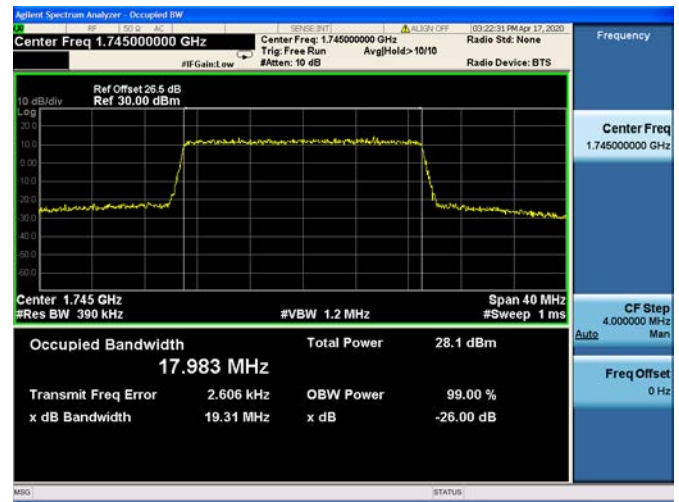
Band 66/ 20MHz/ Low CH/16QAM



Band 66/ 20MHz/Mid CH/QPSK



Band 66/ 20MHz/Mid CH/16QAM



Band 66/ 20MHz/High CH/QPSK



Band 66/ 20MHz/High CH/16QAM



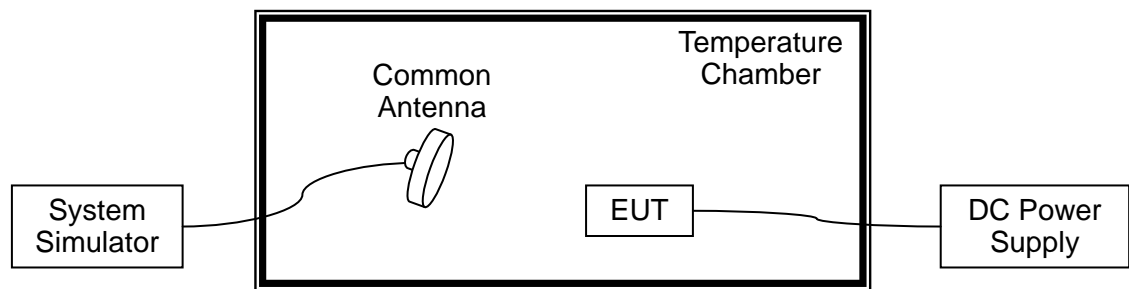
2.3. Frequency Stability

2.3.1. Requirement

According to FCC section 2.1055 & 24.235 & 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. **According to** FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from X°C to X°C at intervals of not more than 10°C.
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.2VDC and 3.2VDC, which are specified by the applicant; the normal temperature here used is 20°C.



LTE Band 2, QPSK, Channel 18900, Frequency 1880.0MHz					
Limit =Within Authorized Band					
Voltage(%)	Power(VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.7	+20 (Ref)	53	0.028	PASS
100		-10	66	0.029	
100		0	-58	-0.031	
100		+10	42	0.022	
100		+20	-16	-0.009	
100		+30	-47	-0.025	
100		+40	-66	-0.029	
100		+45	43	0.022	
115		4.2	+20	-15	
85	3.2	+20	53	0.028	

LTE Band 4, QPSK, Channel 20175, Frequency 1732.5MHz					
Limit =Within Authorized Band					
Voltage(%)	Power(VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.7	+20 (Ref)	53	0.031	PASS
100		-10	42	0.024	
100		0	-43	-0.025	
100		+10	-47	-0.027	
100		+20	31	0.018	
100		+30	47	0.027	
100		+40	38	0.018	
100		+45	52	0.025	
115		4.2	+20	-15	
85	3.2	+20	53	0.031	



LTE Band 5, QPSK, Channel 20525, Frequency 836.5MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.7	+20 (Ref)	52	0.025	PASS
100		-10	38	0.018	
100		0	-43	-0.021	
100		+10	-37	-0.018	
100		+20	73	0.035	
100		+30	47	0.022	
100		+40	-41	-0.021	
100		+45	53	0.031	
115	4.2	+20	-42	-0.020	
85	3.2	+20	52	0.025	

LTE Band 13, QPSK, Channel 23230, Frequency 782MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.7	+20 (Ref)	54	0.026	PASS
100		-10	33	0.017	
100		0	-41	-0.021	
100		+10	-32	-0.018	
100		+20	75	0.031	
100		+30	44	0.018	
100		+40	45	0.025	
100		+45	26	0.015	
115	4.2	+20	-41	-0.023	
85	3.2	+20	50	0.022	



LTE Band 66, QPSK, Channel 132322, Frequency 1745MHz						
Limit =Within Authorized Band						
Voltage(%)	Power(VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result	
100	3.7	+20 (Ref)	26	0.015	PASS	
100		-10	45	0.025		
100		0	-27	-0.015		
100		+10	-27	-0.015		
100		+20	25	0.014		
100		+30	56	0.032		
100		+40	-27	-0.030		
100		+45	-65	0.015		
115		4.2	+20	-25		-0.014
85		3.2	+20	26		0.015

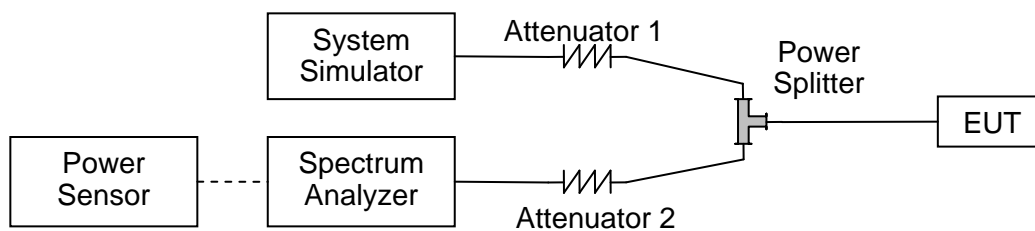
2.4. Peak to Average Ratio

2.4.1. Requirement

According to FCC section 24.232(d) and 27.50(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

2.4.2. Test Description

Test Set:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.



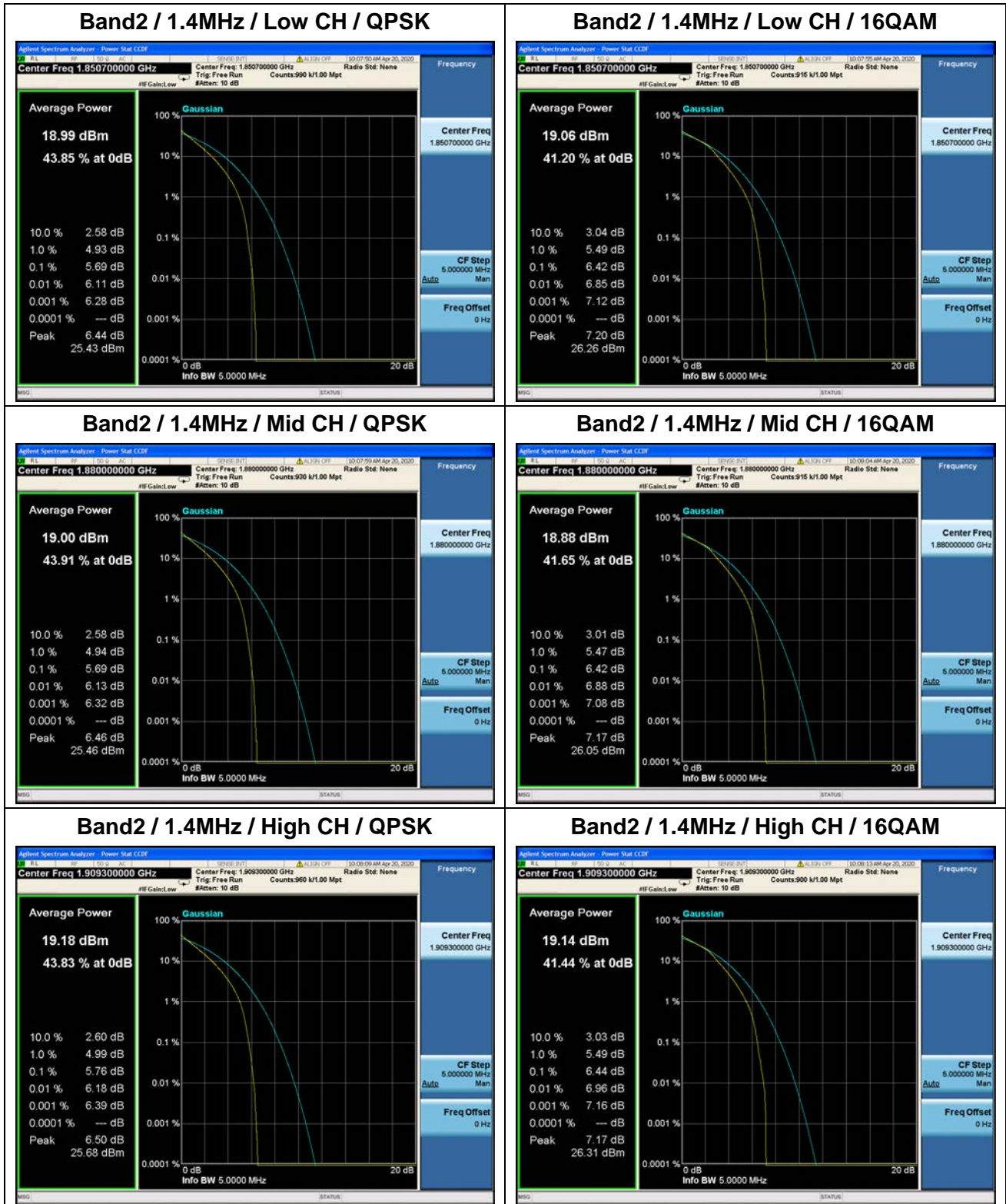
LTE Band 2					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit (dB)	Verdict
1.4	Low	QPSK	5.69	<=13	PASS
	Low	16QAM	6.44	<=13	PASS
	Mid	QPSK	5.69	<=13	PASS
	Mid	16QAM	6.43	<=13	PASS
	High	QPSK	5.76	<=13	PASS
	High	16QAM	6.44	<=13	PASS
3	Low	QPSK	5.90	<=13	PASS
	Low	16QAM	6.59	<=13	PASS
	Mid	QPSK	5.71	<=13	PASS
	Mid	16QAM	6.54	<=13	PASS
	High	QPSK	5.71	<=13	PASS
	High	16QAM	6.59	<=13	PASS
5	Low	QPSK	5.64	<=13	PASS
	Low	16QAM	6.47	<=13	PASS
	Mid	QPSK	5.58	<=13	PASS
	Mid	16QAM	6.33	<=13	PASS
	High	QPSK	5.53	<=13	PASS
	High	16QAM	6.34	<=13	PASS
10	Low	QPSK	5.53	<=13	PASS
	Low	16QAM	6.31	<=13	PASS
	Mid	QPSK	5.49	<=13	PASS
	Mid	16QAM	6.22	<=13	PASS
	High	QPSK	5.34	<=13	PASS
	High	16QAM	6.15	<=13	PASS
15	Low	QPSK	5.53	<=13	PASS
	Low	16QAM	6.35	<=13	PASS
	Mid	QPSK	5.51	<=13	PASS
	Mid	16QAM	6.23	<=13	PASS
	High	QPSK	5.23	<=13	PASS
	High	16QAM	6.15	<=13	PASS
20	Low	QPSK	5.43	<=13	PASS
	Low	16QAM	6.32	<=13	PASS
	Mid	QPSK	5.33	<=13	PASS
	Mid	16QAM	6.22	<=13	PASS
	High	QPSK	5.27	<=13	PASS
	High	16QAM	6.20	<=13	PASS

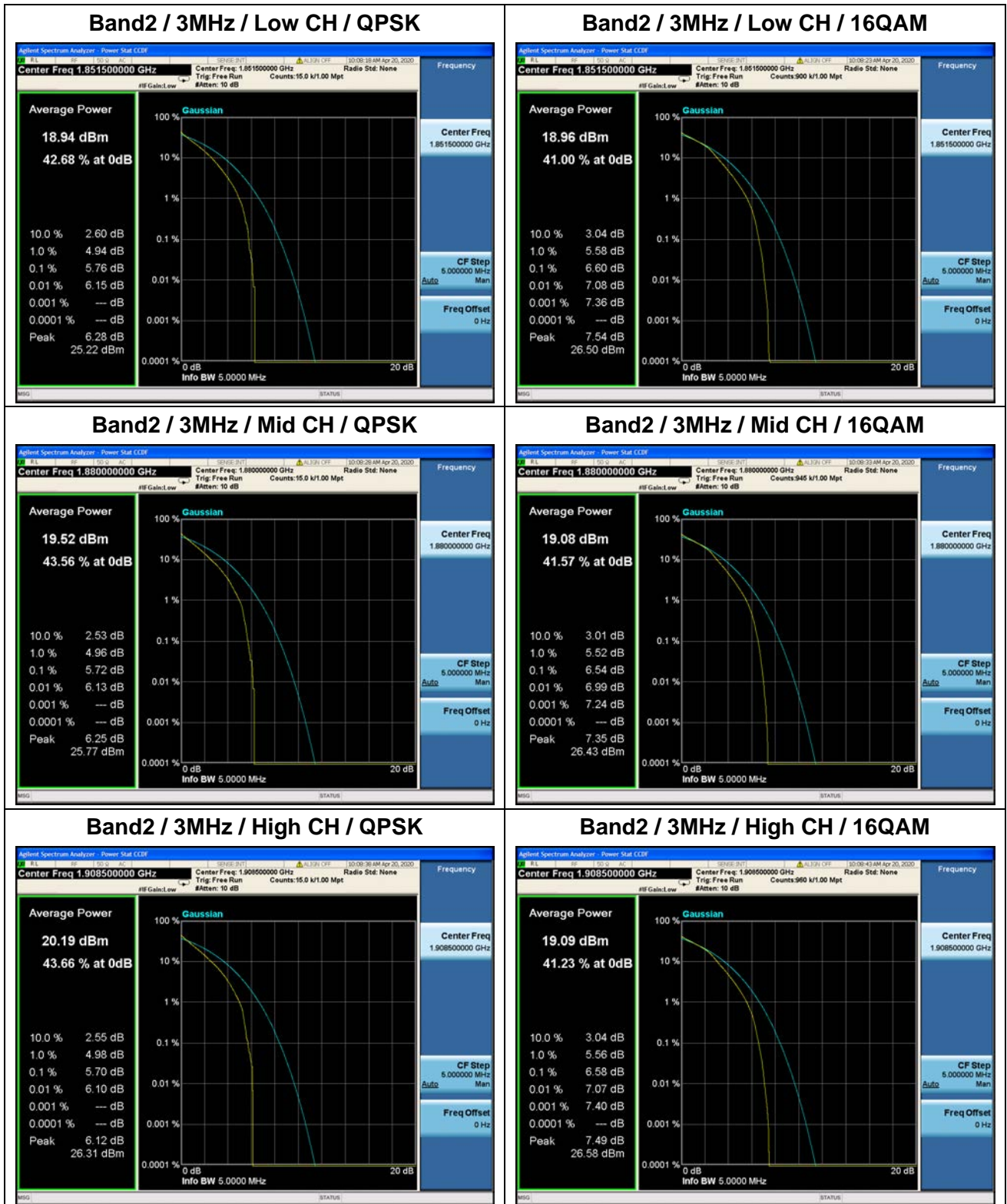


LTE Band 4					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit (dB)	Verdict
1.4	Low	QPSK	5.28	<=13	PASS
	Low	16QAM	6.05	<=13	PASS
	Mid	QPSK	4.87	<=13	PASS
	Mid	16QAM	5.77	<=13	PASS
	High	QPSK	5.69	<=13	PASS
	High	16QAM	6.47	<=13	PASS
3	Low	QPSK	5.50	<=13	PASS
	Low	16QAM	6.38	<=13	PASS
	Mid	QPSK	5.00	<=13	PASS
	Mid	16QAM	5.86	<=13	PASS
	High	QPSK	5.79	<=13	PASS
	High	16QAM	6.64	<=13	PASS
5	Low	QPSK	5.52	<=13	PASS
	Low	16QAM	6.26	<=13	PASS
	Mid	QPSK	5.11	<=13	PASS
	Mid	16QAM	5.93	<=13	PASS
	High	QPSK	5.58	<=13	PASS
	High	16QAM	6.37	<=13	PASS
10	Low	QPSK	5.57	<=13	PASS
	Low	16QAM	6.31	<=13	PASS
	Mid	QPSK	5.08	<=13	PASS
	Mid	16QAM	5.88	<=13	PASS
	High	QPSK	5.52	<=13	PASS
	High	16QAM	6.34	<=13	PASS
15	Low	QPSK	5.51	<=13	PASS
	Low	16QAM	6.28	<=13	PASS
	Mid	QPSK	4.98	<=13	PASS
	Mid	16QAM	5.83	<=13	PASS
	High	QPSK	5.55	<=13	PASS
	High	16QAM	6.31	<=13	PASS
20	Low	QPSK	5.16	<=13	PASS
	Low	16QAM	6.15	<=13	PASS
	Mid	QPSK	5.06	<=13	PASS
	Mid	16QAM	5.92	<=13	PASS
	High	QPSK	5.34	<=13	PASS
	High	16QAM	6.23	<=13	PASS



LTE Band 66					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit (dB)	Verdict
1.4	Low	QPSK	4.31	<=13	PASS
	Low	16QAM	4.29	<=13	PASS
	Mid	QPSK	4.84	<=13	PASS
	Mid	16QAM	4.79	<=13	PASS
	High	QPSK	3.94	<=13	PASS
	High	16QAM	3.76	<=13	PASS
3	Low	QPSK	4.70	<=13	PASS
	Low	16QAM	4.71	<=13	PASS
	Mid	QPSK	4.92	<=13	PASS
	Mid	16QAM	4.92	<=13	PASS
	High	QPSK	4.19	<=13	PASS
	High	16QAM	4.14	<=13	PASS
5	Low	QPSK	4.94	<=13	PASS
	Low	16QAM	4.98	<=13	PASS
	Mid	QPSK	4.98	<=13	PASS
	Mid	16QAM	4.99	<=13	PASS
	High	QPSK	4.76	<=13	PASS
	High	16QAM	5.37	<=13	PASS
10	Low	QPSK	5.38	<=13	PASS
	Low	16QAM	5.40	<=13	PASS
	Mid	QPSK	5.46	<=13	PASS
	Mid	16QAM	5.27	<=13	PASS
	High	QPSK	5.30	<=13	PASS
	High	16QAM	5.27	<=13	PASS
15	Low	QPSK	6.41	<=13	PASS
	Low	16QAM	5.94	<=13	PASS
	Mid	QPSK	5.67	<=13	PASS
	Mid	16QAM	4.95	<=13	PASS
	High	QPSK	5.30	<=13	PASS
	High	16QAM	5.13	<=13	PASS
20	Low	QPSK	6.06	<=13	PASS
	Low	16QAM	6.12	<=13	PASS
	Mid	QPSK	5.45	<=13	PASS
	Mid	16QAM	5.53	<=13	PASS
	High	QPSK	5.24	<=13	PASS
	High	16QAM	5.42	<=13	PASS



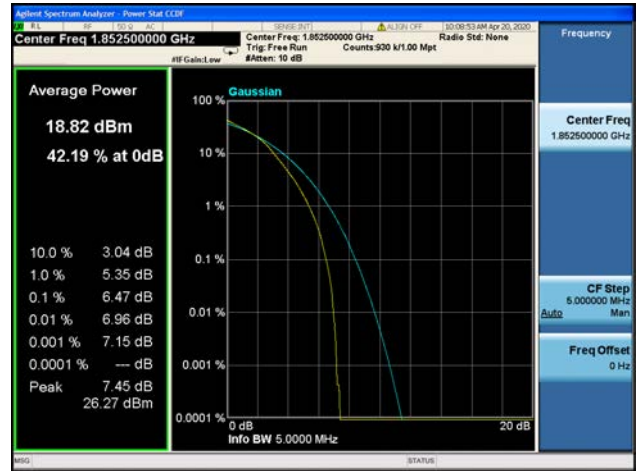




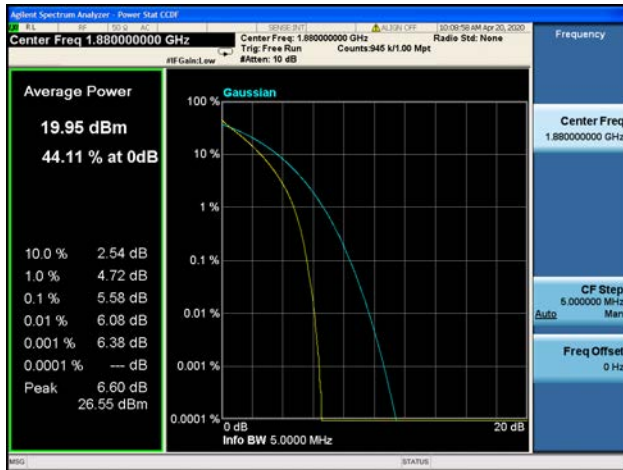
Band2 / 5MHz / Low CH / QPSK



Band2 / 5MHz / Low CH / 16QAM



Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / Mid CH / 16QAM



Band2 / 5MHz / High CH / QPSK

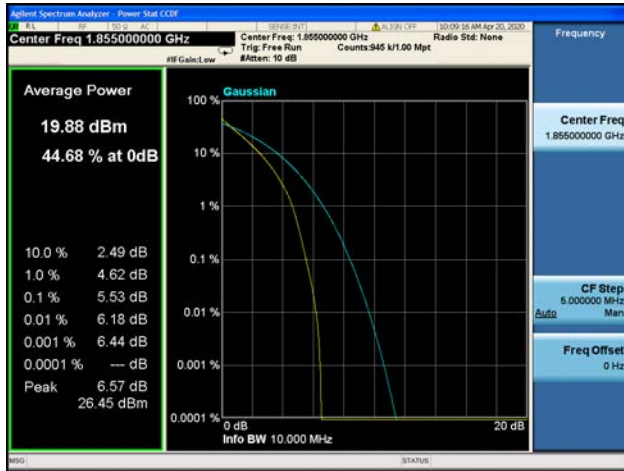


Band2 / 5MHz / High CH / 16QAM





Band2 / 10MHz / Low CH / QPSK



Band2 / 10MHz / Low CH / 16QAM



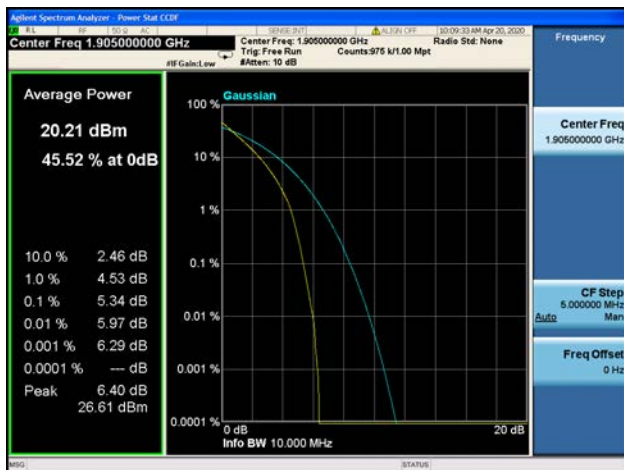
Band2 / 10MHz / Mid CH / QPSK



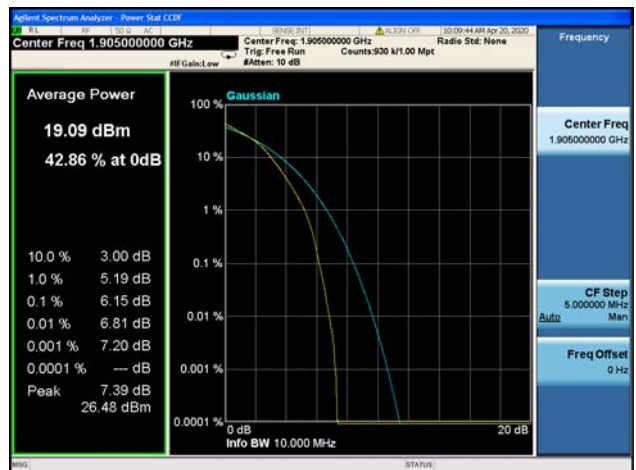
Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / High CH / QPSK

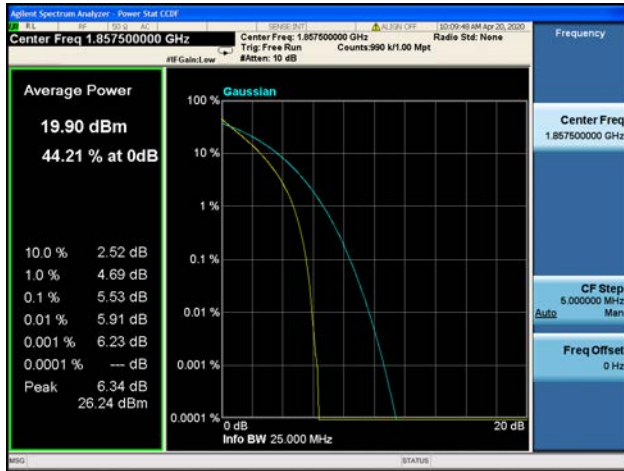


Band2 / 10MHz / High CH / 16QAM





Band2 / 15MHz / Low CH / QPSK



Band2 / 15MHz / Low CH / 16QAM



Band2 / 15MHz / Mid CH / QPSK



Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / High CH / QPSK



Band2 / 15MHz / High CH / 16QAM





Band2 / 20MHz / Low CH / QPSK



Band2 / 20MHz / Low CH / 16QAM



Band2 / 20MHz / Mid CH / QPSK



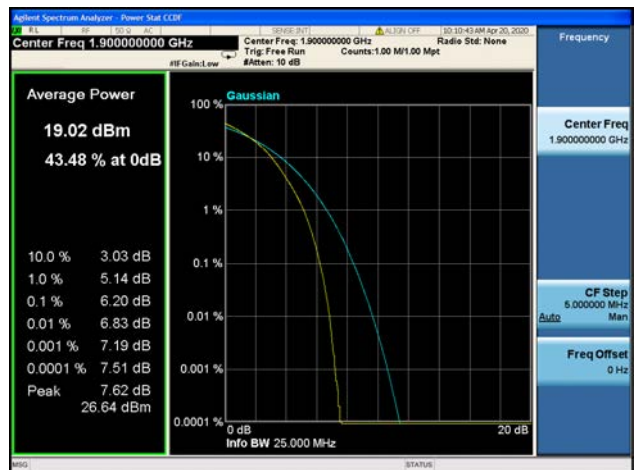
Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / High CH / QPSK



Band2 / 20MHz / High CH / 16QAM





Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Mid CH / QPSK



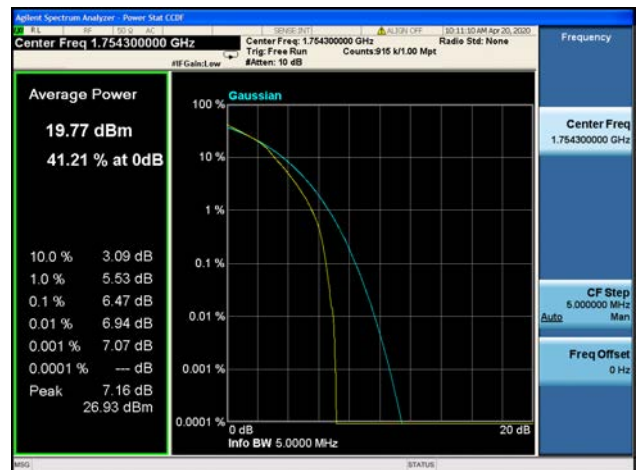
Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / High CH / QPSK



Band4 / 1.4MHz / High CH / 16QAM





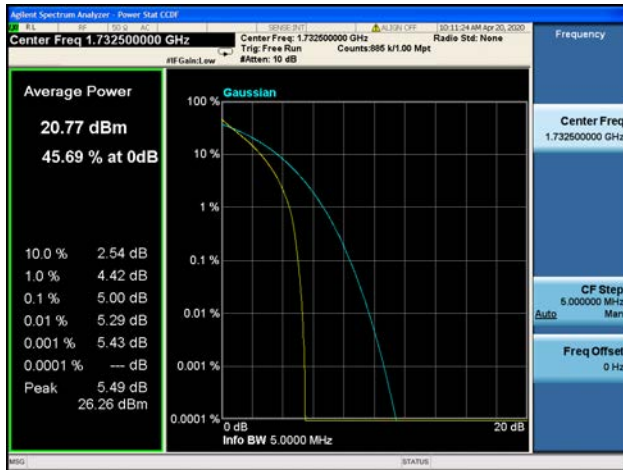
Band4 / 3MHz / Low CH / QPSK



Band4 / 3MHz / Low CH / 16QAM



Band4 / 3MHz / Mid CH / QPSK



Band4 / 3MHz / Mid CH / 16QAM



Band4 / 3MHz / High CH / QPSK



Band4 / 3MHz / High CH / 16QAM

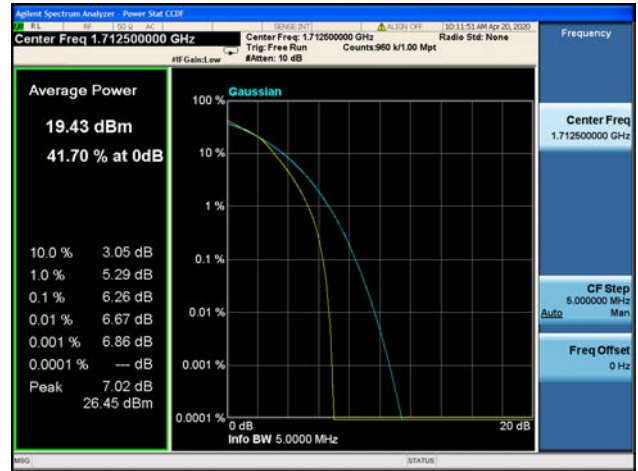




Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / Mid CH / 16QAM



Band4 / 5MHz / High CH / QPSK

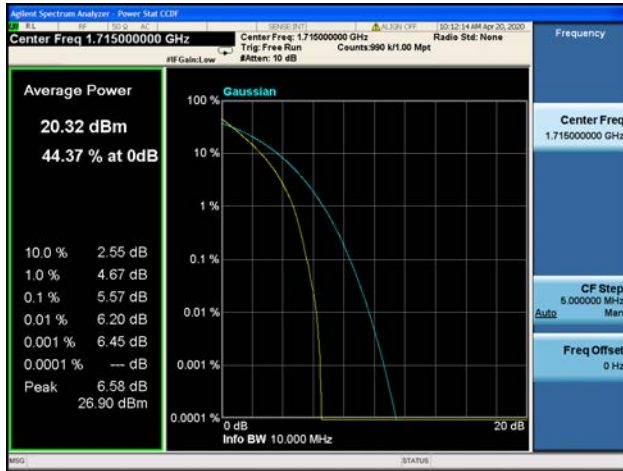


Band4 / 5MHz / High CH / 16QAM





Band4 / 10MHz / Low CH / QPSK



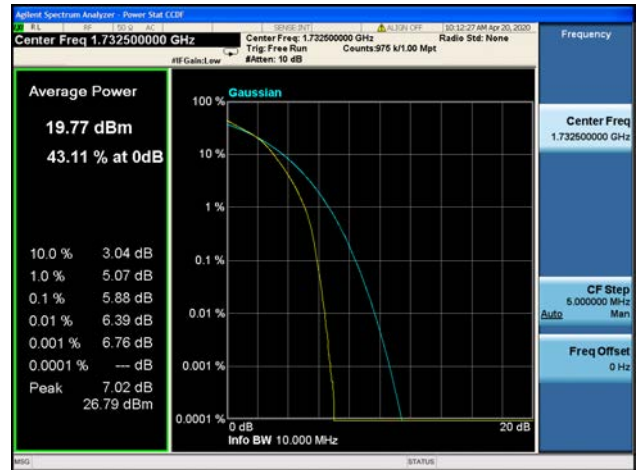
Band4 / 10MHz / Low CH / 16QAM



Band4 / 10MHz / Mid CH / QPSK



Band4 / 10MHz / Mid CH / 16QAM



Band4 / 10MHz / High CH / QPSK



Band4 / 10MHz / High CH / 16QAM

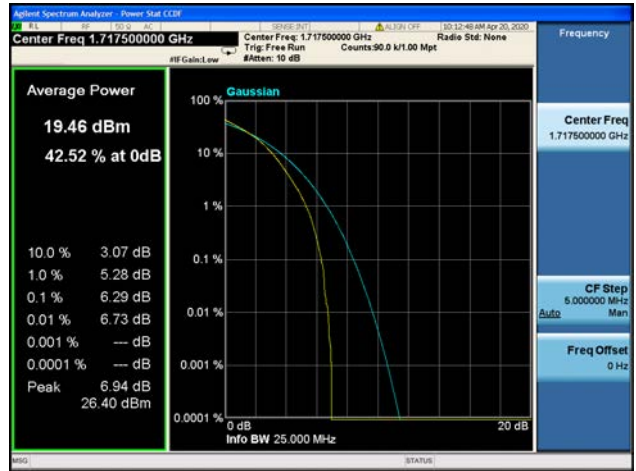




Band4 / 15MHz / Low CH / QPSK



Band4 / 15MHz / Low CH / 16QAM



Band4 / 15MHz / Mid CH / QPSK



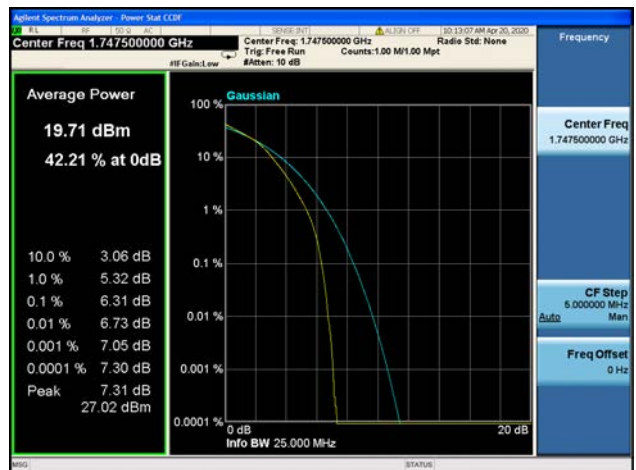
Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / High CH / QPSK



Band4 / 15MHz / High CH / 16QAM

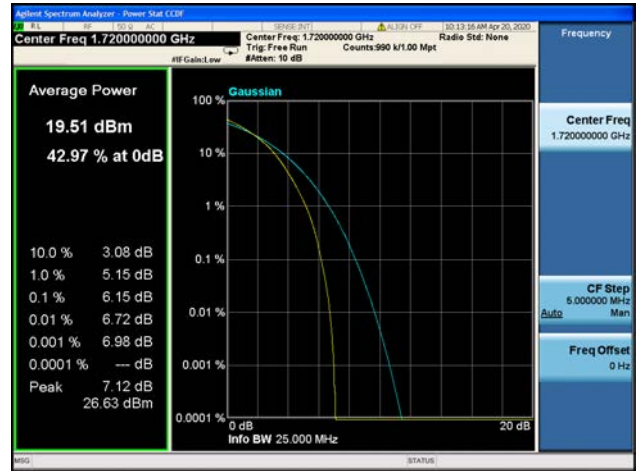




Band4 / 20MHz / Low CH / QPSK



Band4 / 20MHz / Low CH / 16QAM



Band4 / 20MHz / Mid CH / QPSK



Band4 / 20MHz / Mid CH / 16QAM



Band4 / 20MHz / High CH / QPSK



Band4 / 20MHz / High CH / 16QAM





Band 66/ 1.4MHz/ Low CH/QPSK



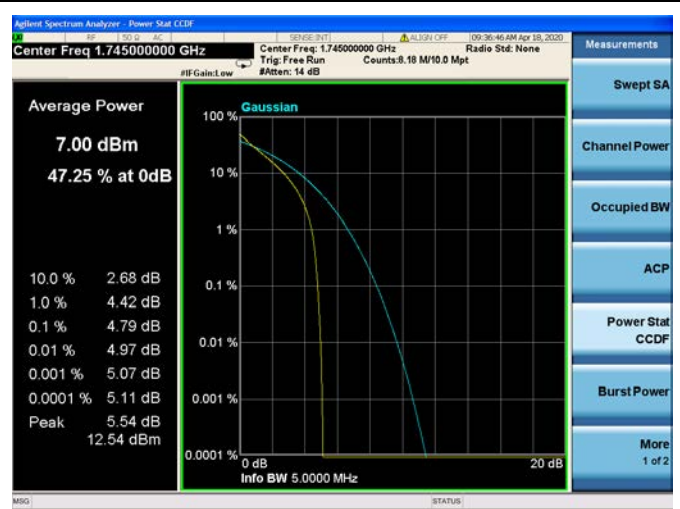
Band 66/ 1.4MHz/ Low CH/16QAM



Band 66/ 1.4MHz/Mid CH/QPSK



Band 66/ 1.4MHz/Mid CH/16QAM



Band 66/ 1.4MHz/High CH/QPSK

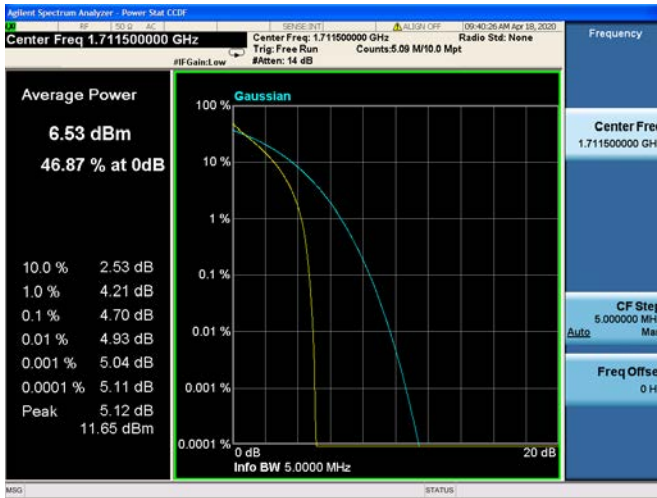


Band 66/ 1.4MHz/High CH/16QAM

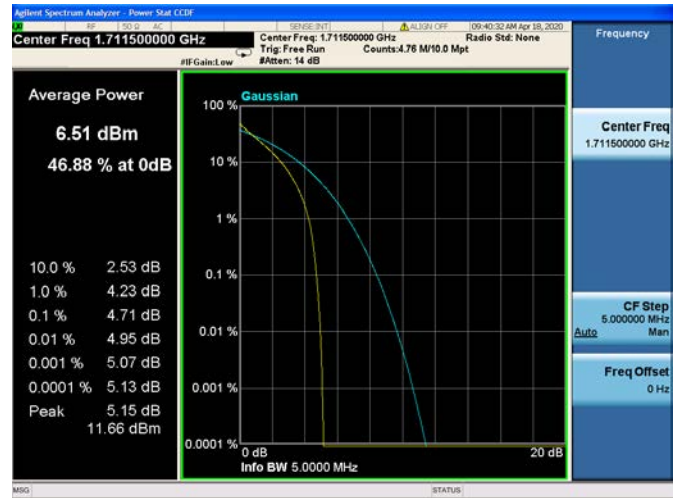




Band 66/ 3MHz/ Low CH/QPSK



Band 66/ 3MHz/ Low CH/16QAM



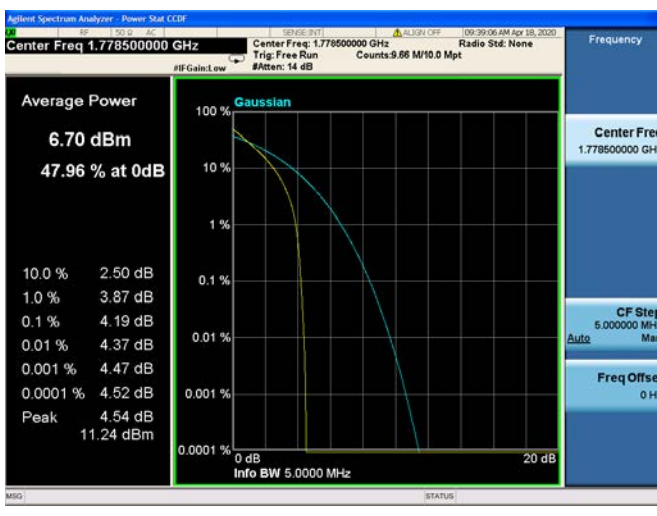
Band 66/ 3MHz/Mid CH/QPSK



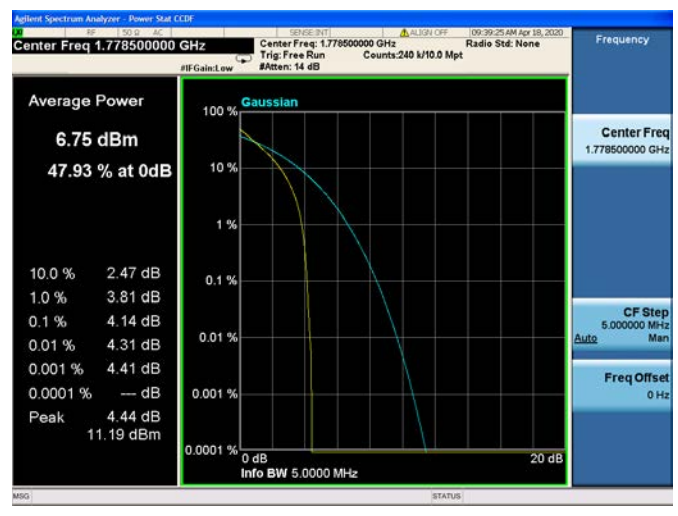
Band 66/ 3MHz/Mid CH/16QAM



Band 66/ 3MHz/High CH/QPSK

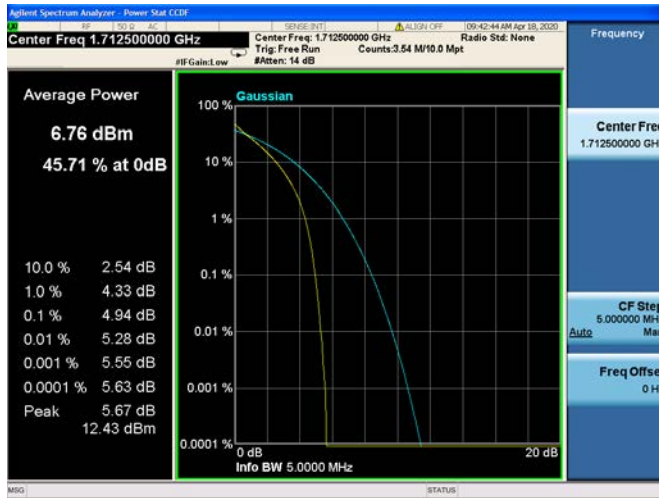


Band 66/ 3MHz/High CH/16QAM

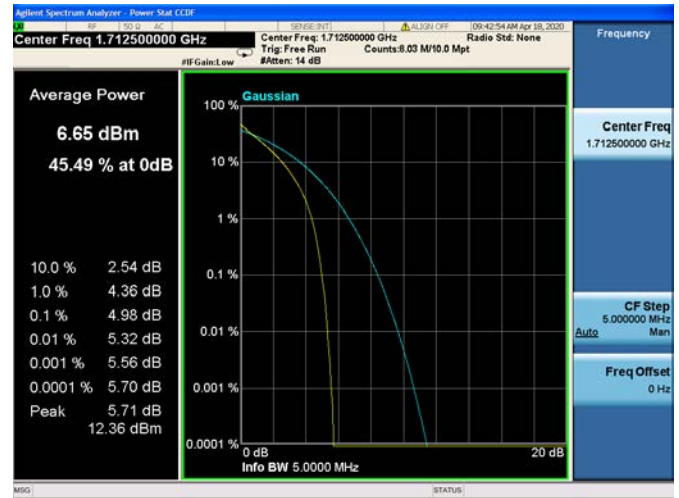




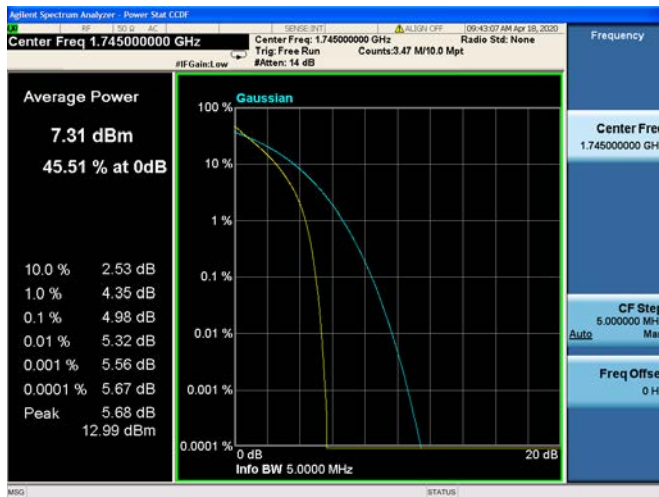
Band 66/ 5MHz/ Low CH/QPSK



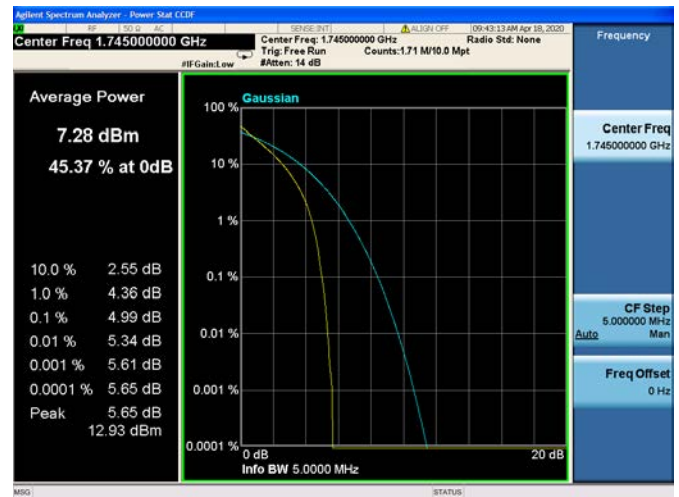
Band 66/ 5MHz/ Low CH/16QAM



Band 66/ 5MHz/Mid CH/QPSK



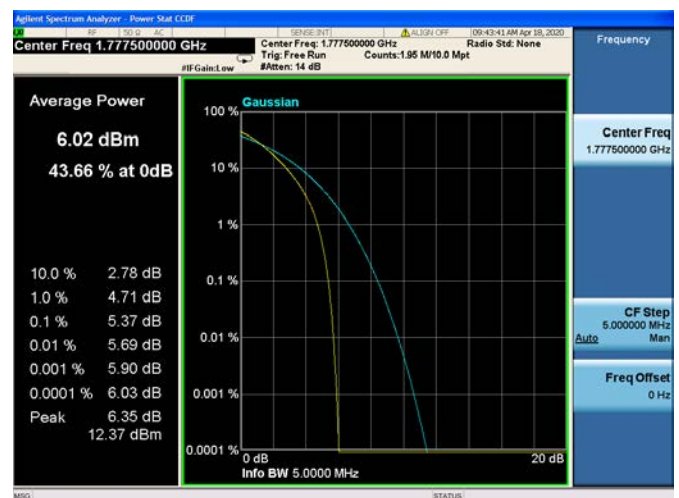
Band 66/ 5MHz/Mid CH/16QAM



Band 66/ 5MHz/High CH/QPSK



Band 66/ 5MHz/High CH/16QAM





Band 66/ 10MHz/ Low CH/QPSK



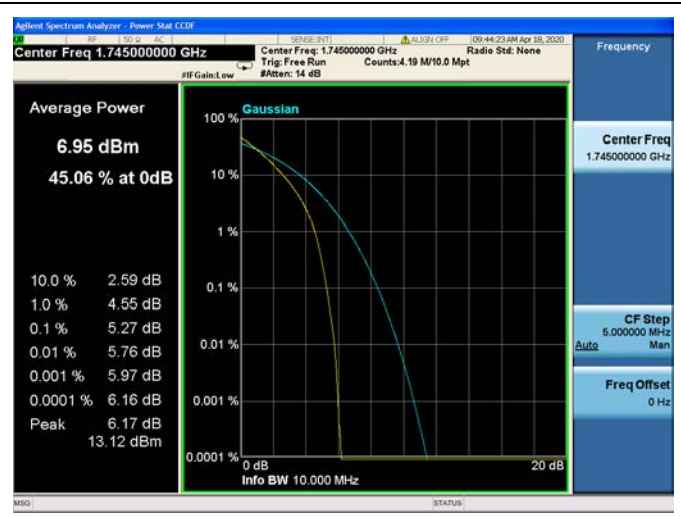
Band 66/ 10MHz/ Low CH/16QAM



Band 66/ 10MHz/Mid CH/QPSK

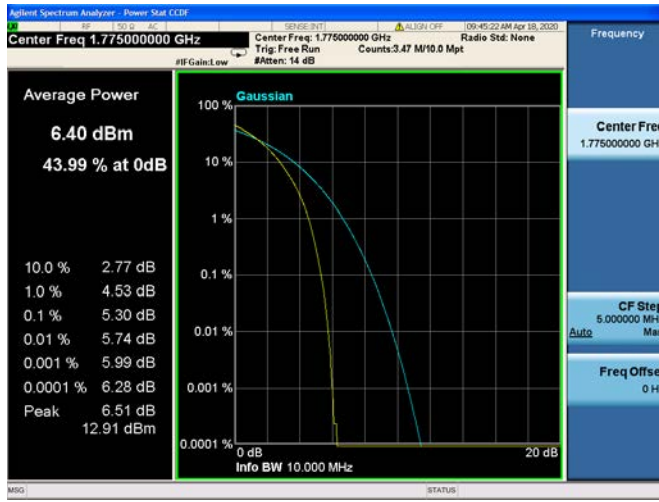


Band 66/ 10MHz/Mid CH/16QAM

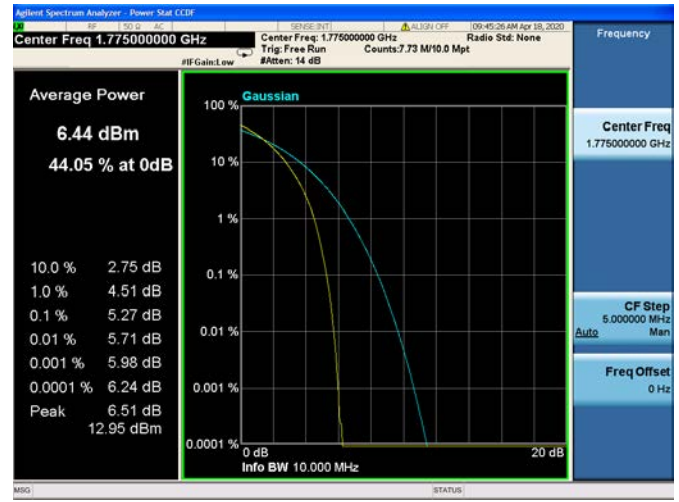




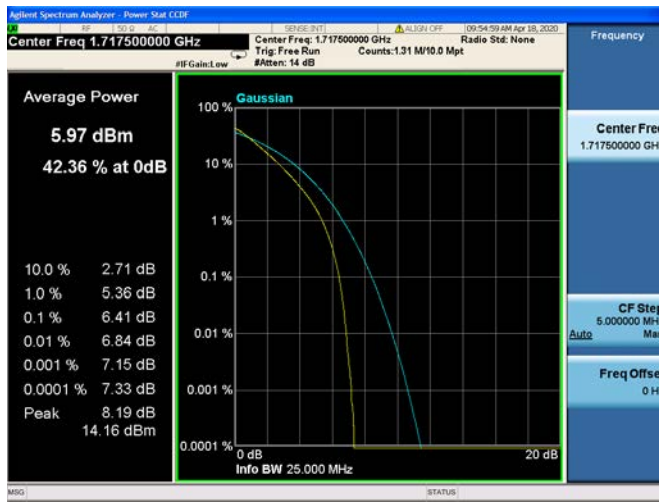
Band 66/ 10MHz/High CH/QPSK



Band 66/ 10MHz/High CH/16QAM



Band 66/ 15MHz/ Low CH/QPSK



Band 66/ 15MHz/ Low CH/16QAM



Band 66/ 15MHz/Mid CH/QPSK



Band 66/ 15MHz/Mid CH/16QAM

