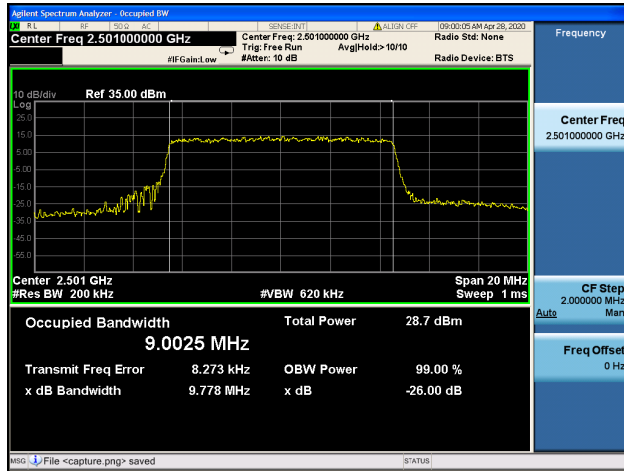
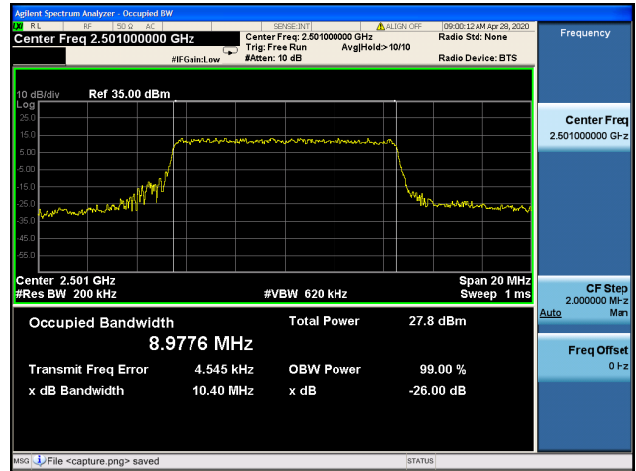
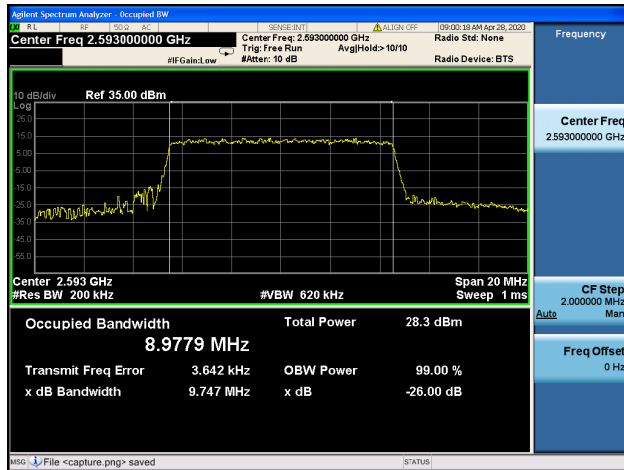
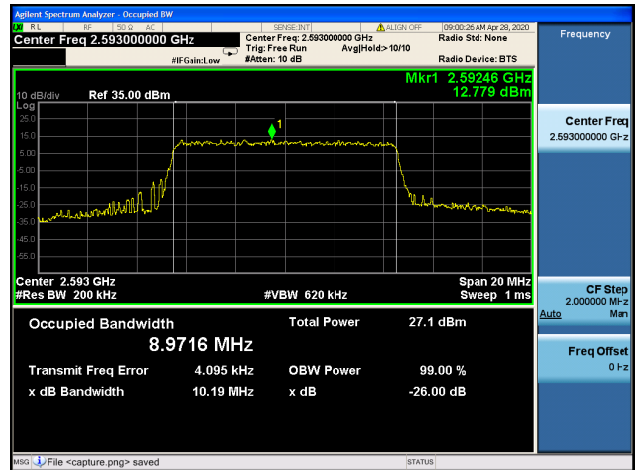
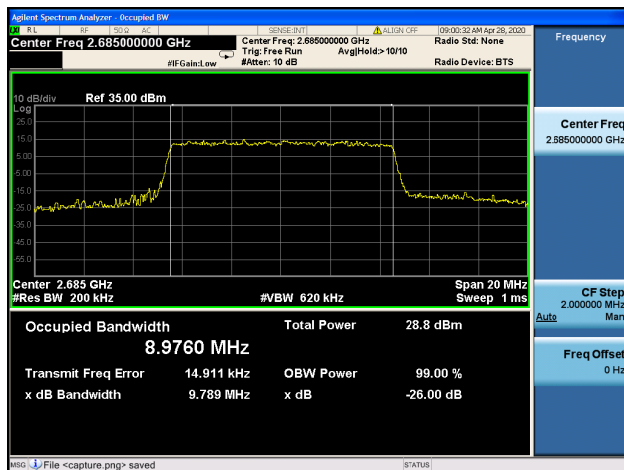
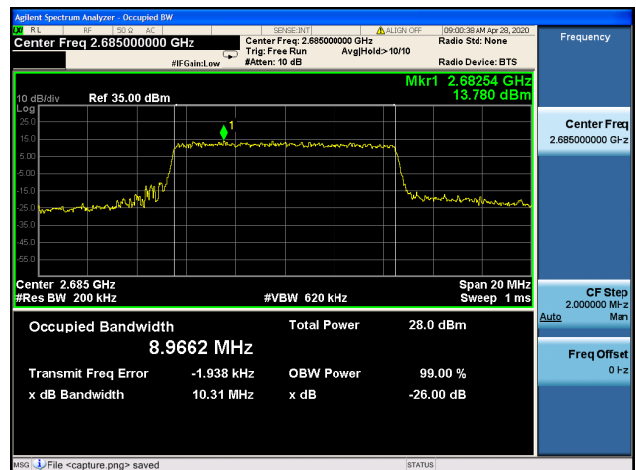
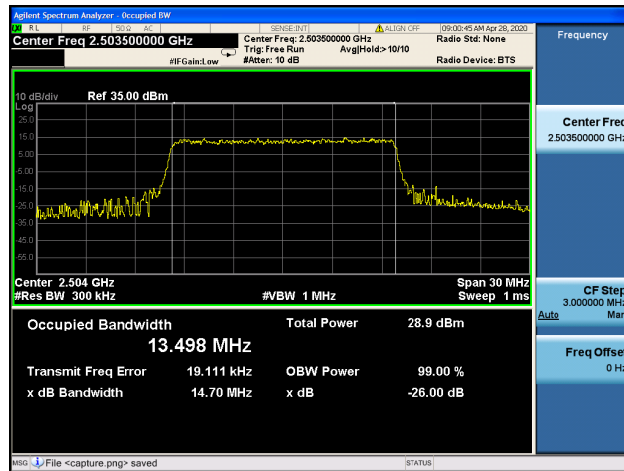
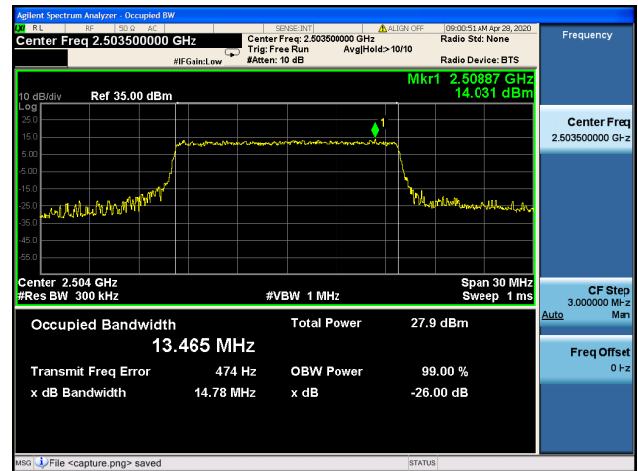
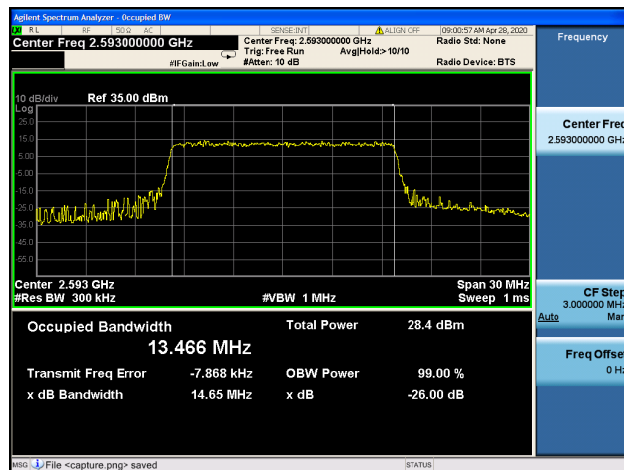
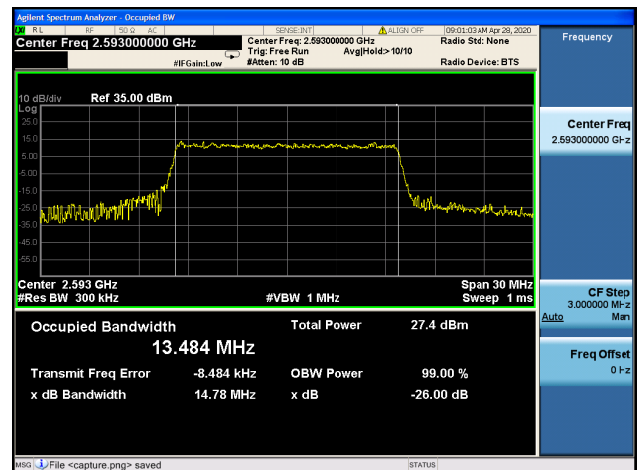
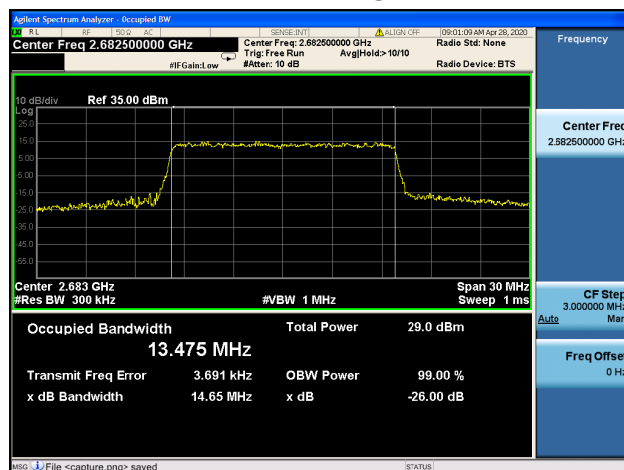
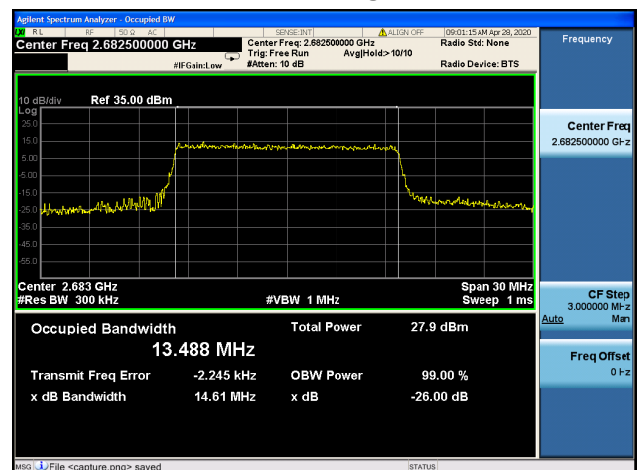
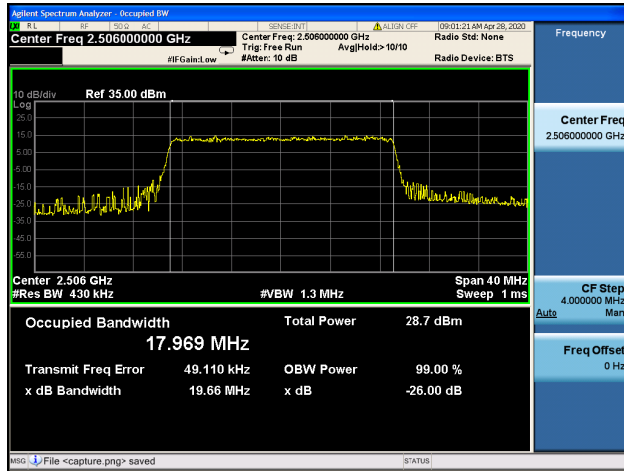
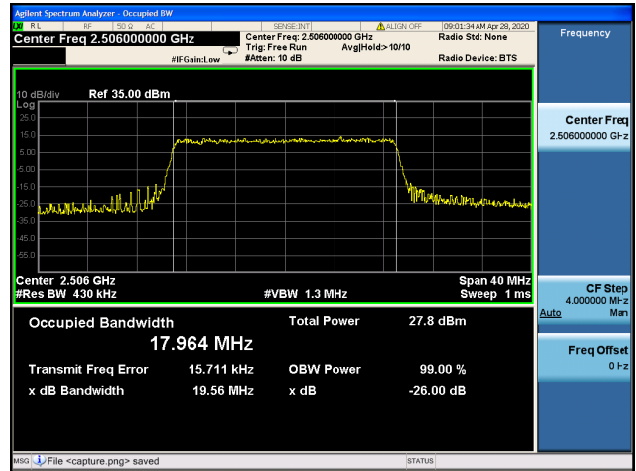
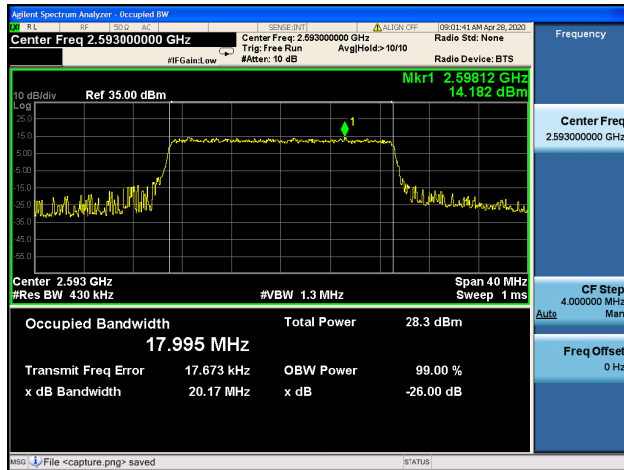
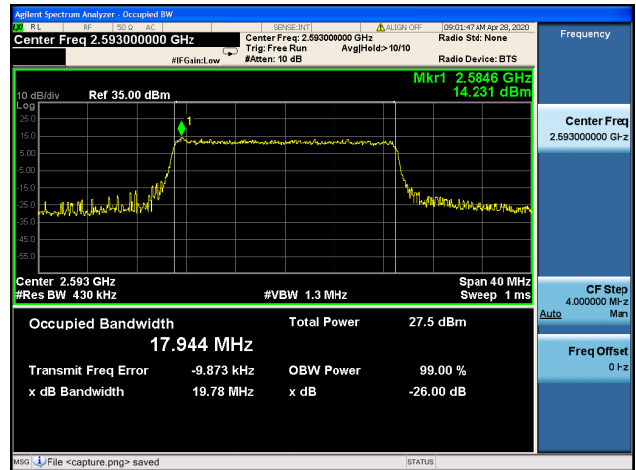
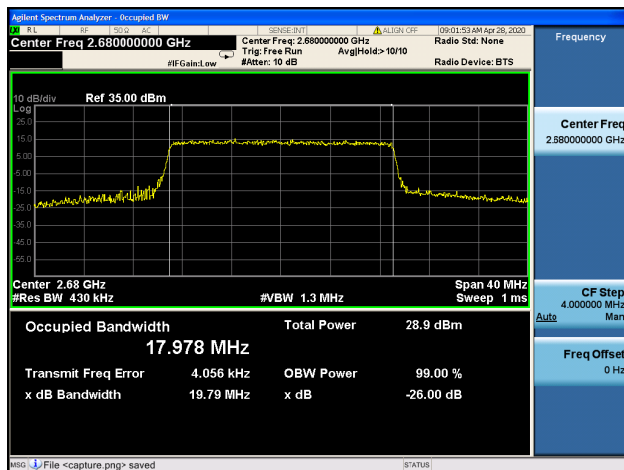
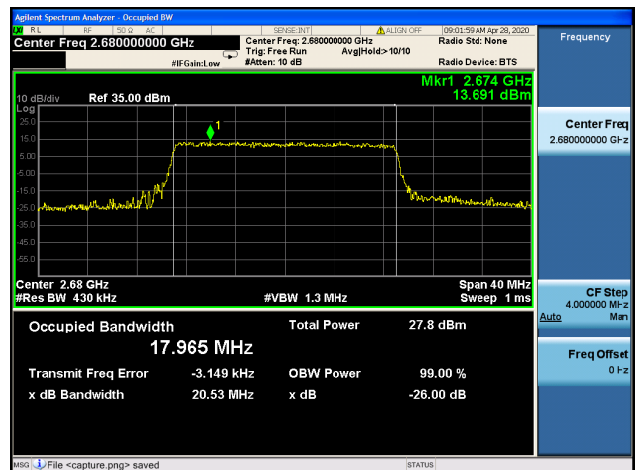


**Band41 / 10MHz / Low CH / QPSK****Band41 / 10MHz / Low CH / 16QAM****Band41 / 10MHz / Mid CH / QPSK****Band41 / 10MHz / Mid CH / 16QAM****Band41 / 10MHz / High CH / QPSK****Band41 / 10MHz / High CH / 16QAM**

**Band41 / 15MHz / Low CH / QPSK****Band41 / 15MHz / Low CH / 16QAM****Band41 / 15MHz / Mid CH / QPSK****Band41 / 15MHz / Mid CH / 16QAM****Band41 / 15MHz / High CH / QPSK****Band41 / 15MHz / High CH / 16QAM**

**Band41 / 20MHz / Low CH / QPSK****Band41 / 20MHz / Low CH / 16QAM****Band41 / 20MHz / Mid CH / QPSK****Band41 / 20MHz / Mid CH / 16QAM****Band41 / 20MHz / High CH / QPSK****Band41 / 20MHz / High CH / 16QAM**

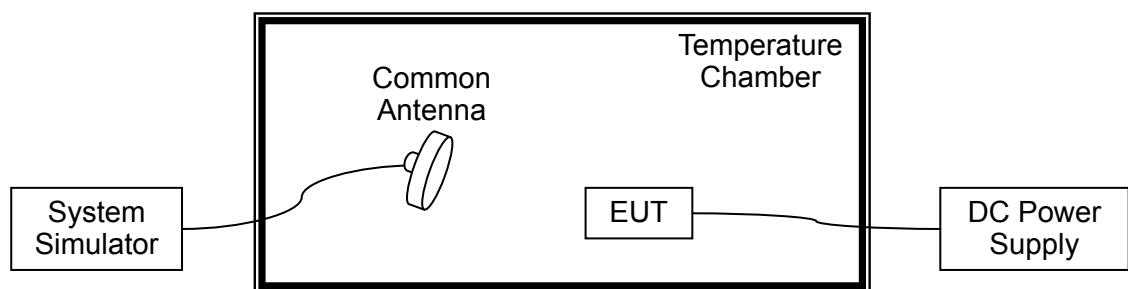
2.3. Frequency Stability

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 -10°C to $+60^{\circ}\text{C}$ 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 5.00VDC, 5.75VDC and 4.25VDC, 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	5.00	+20 (Ref)	53	0.028	PASS
100		-10	-58	-0.031	
100		0	42	0.022	
100		+10	-16	-0.009	
100		+20	-47	-0.025	
100		+30	25	0.013	
100		+40	47	0.025	
100		+50	13	0.007	
100		+60	26	0.014	
115	5.75	+20	-15	-0.008	
85	4.25	+20	53	0.028	

LTE Band 25, QPSK, Channel 23095, Frequency 707.5MHz Limit =Within Authorized Band					
Voltage(%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	5.00	+20 (Ref)	52	0.025	PASS
100		-10	-57	-0.027	
100		0	38	0.018	
100		+10	-43	-0.021	
100		+20	-37	-0.018	
100		+30	73	0.035	
100		+40	-37	-0.044	
100		+50	-52	-0.062	
100		+60	84	0.100	
115	5.75	+20	44	0.052	
85	4.25	+20	79	0.094	



LTE Band 26, QPSK, Channel 26915, Frequency 836.5MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	5.00	+20 (Ref)	52	0.025	PASS
100		-10	-57	-0.027	
100		0	35	0.016	
100		+10	16	0.019	
100		+20	35	0.042	
100		+30	63	0.028	
100		+40	52	0.023	
100		+50	27	0.013	
100		+60	26	0.012	
115	5.75	+20	-42	-0.020	
85	4.25	+20	52	0.025	

LTE Band 41, QPSK, Channel 40620, Frequency 2593MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	5.00	+20 (Ref)	-45	-0.054	PASS
100		-10	-53	-0.064	
100		0	-42	-0.050	
100		+10	16	0.019	
100		+20	35	0.042	
100		+30	-32	-0.038	
100		+40	-53	-0.064	
100		+50	-42	-0.050	
100		+60	-37	-0.044	
115	5.75	+20	-52	-0.062	
85	4.25	+20	84	0.100	

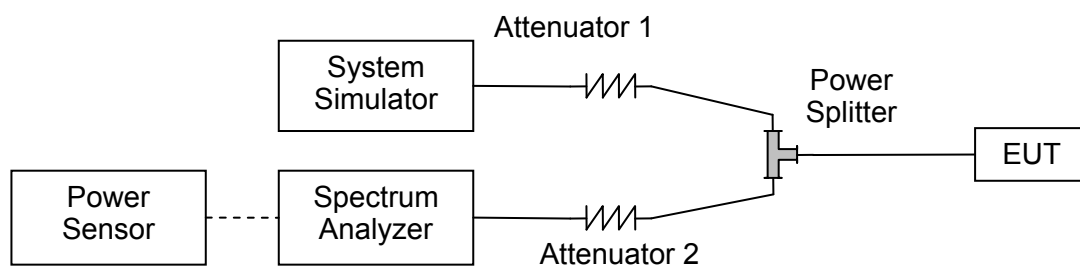
2.4. Peak to Average Radio

2.4.1. Requirement

According to FCC section 24.232(d) and 27.50(d)(5), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

2.4.2. Test Description

A. 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 50 Ohm; 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

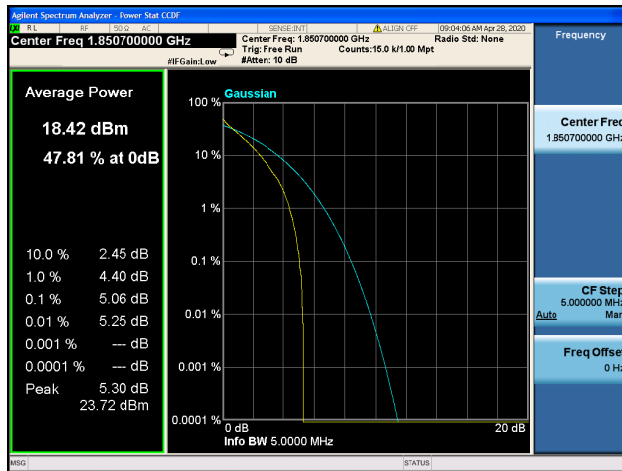
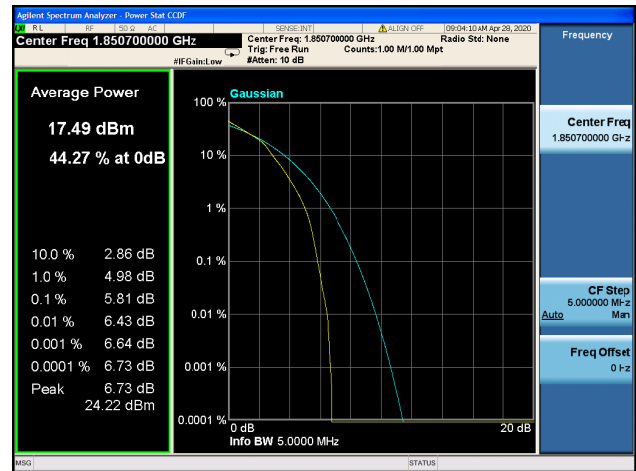
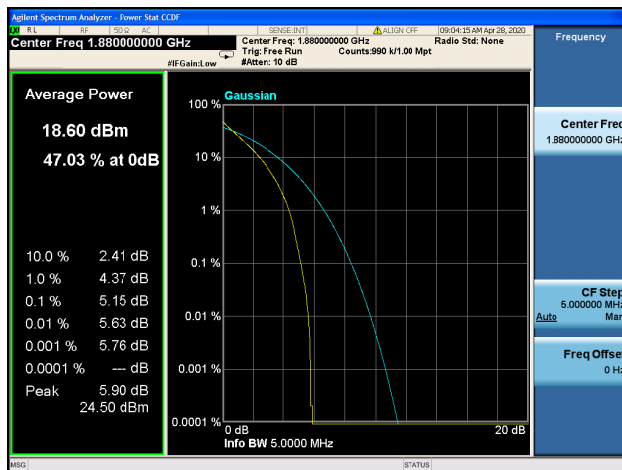
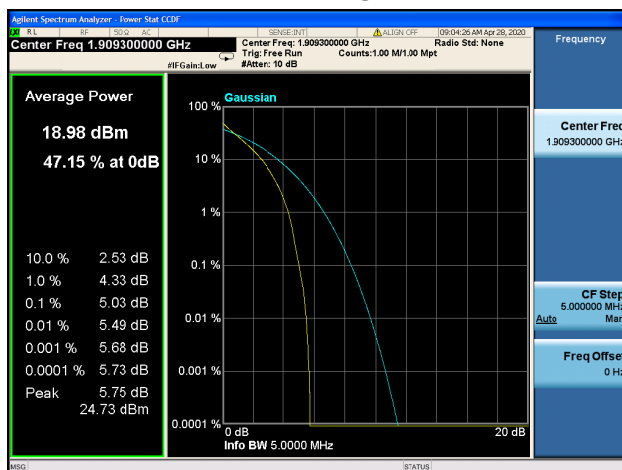
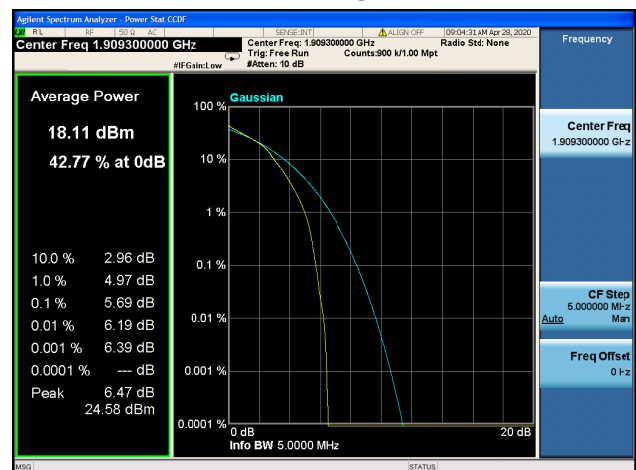
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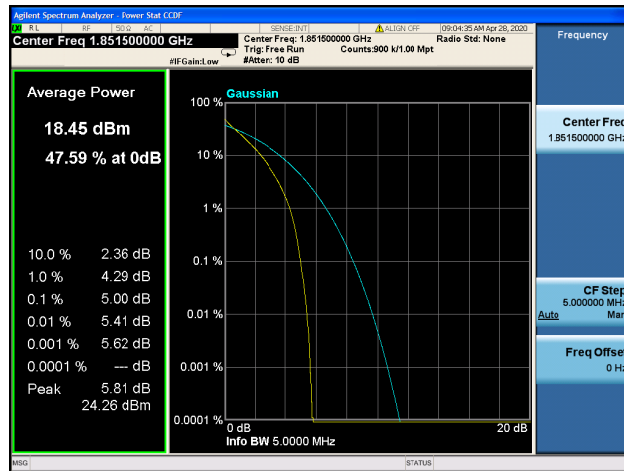
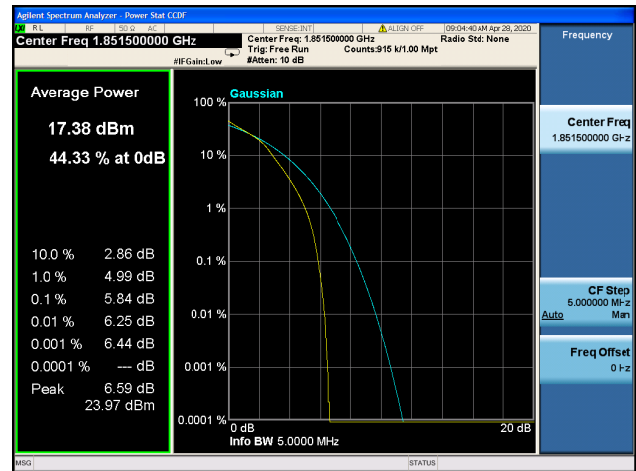
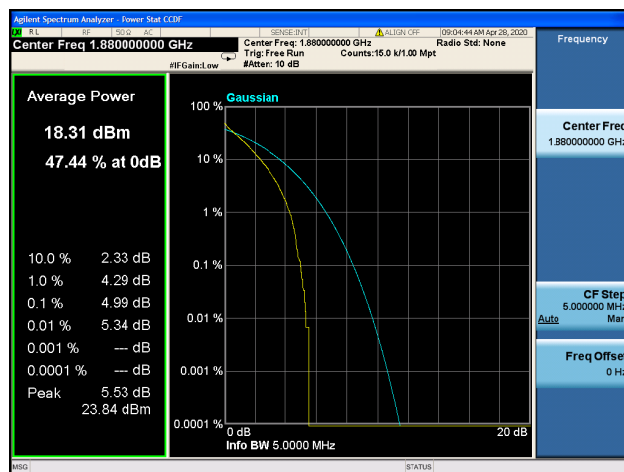
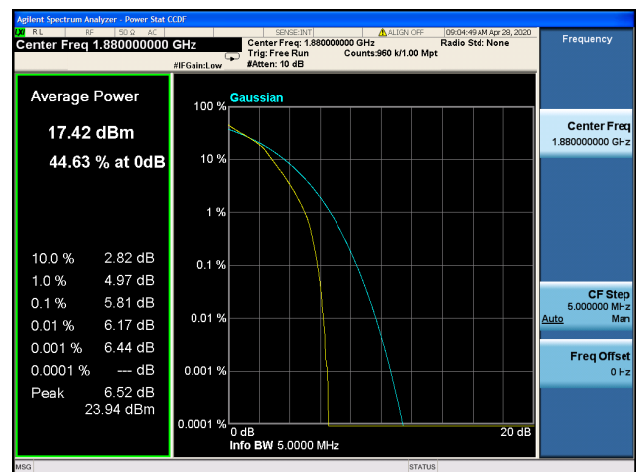
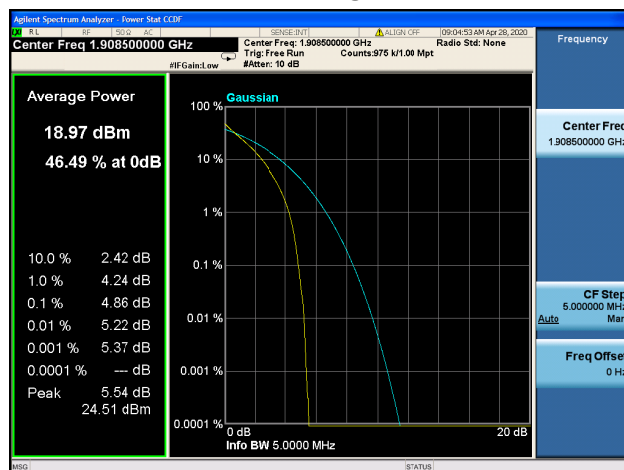
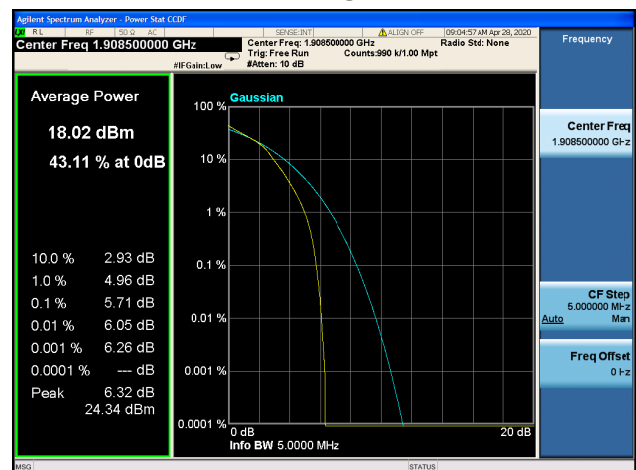


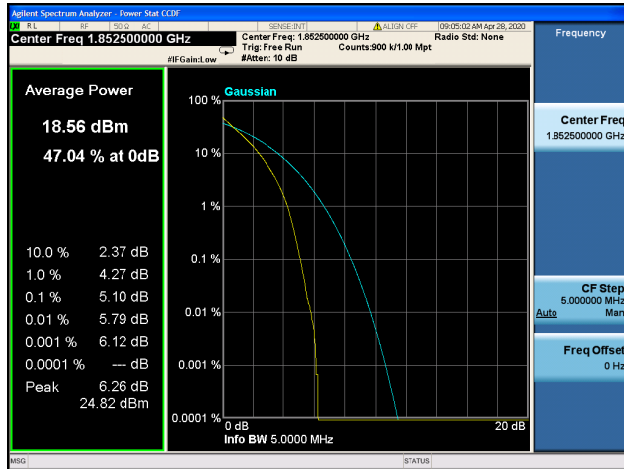
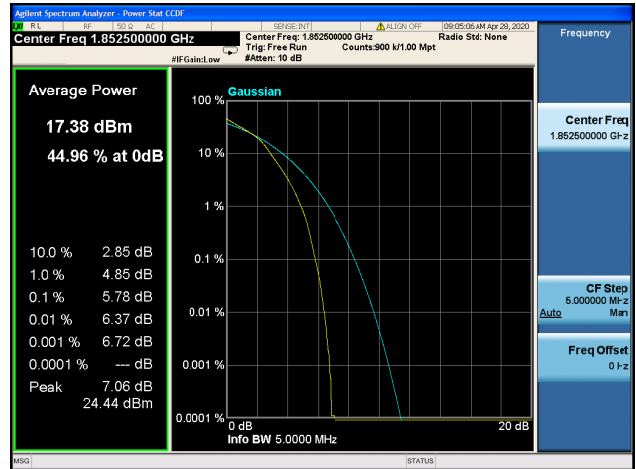
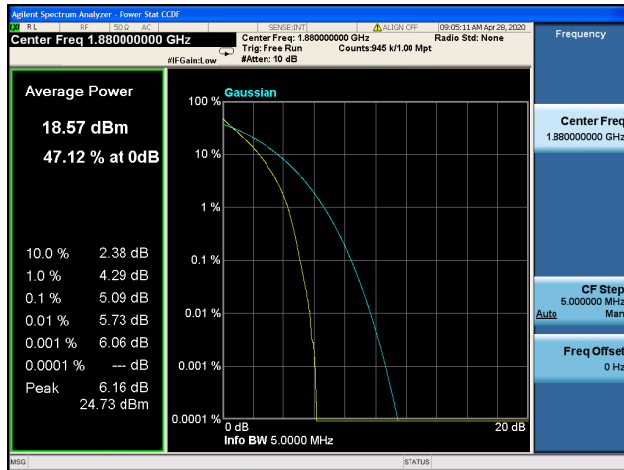
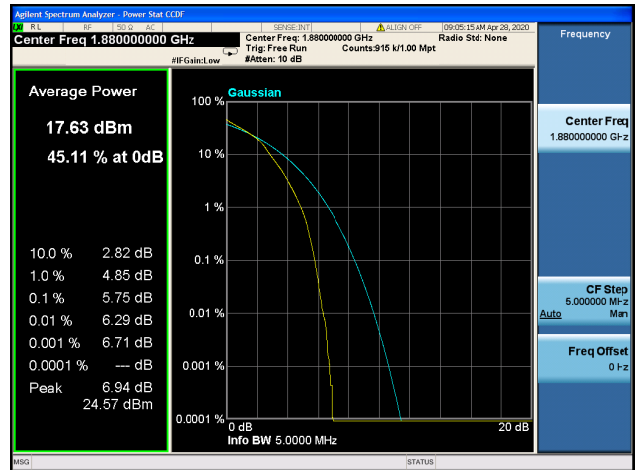
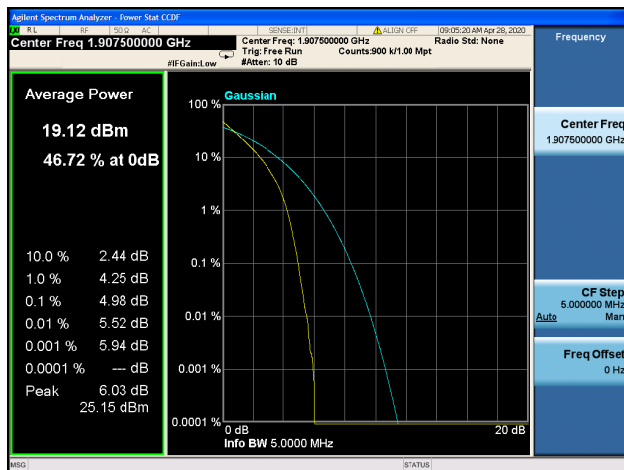
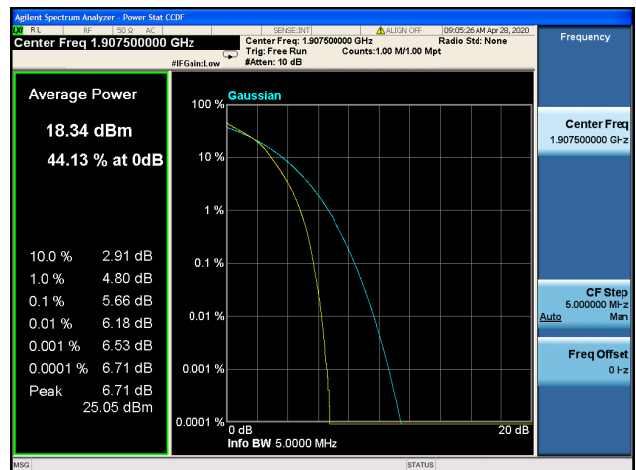
LTE Band 2					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit (dB)	Verdict
1.4	Low	QPSK	5.03	<=13	PASS
1.4	Low	16QAM	5.81	<=13	PASS
1.4	Mid	QPSK	5.14	<=13	PASS
1.4	Mid	16QAM	5.81	<=13	PASS
1.4	High	QPSK	5.03	<=13	PASS
1.4	High	16QAM	5.69	<=13	PASS
3	Low	QPSK	5.00	<=13	PASS
3	Low	16QAM	5.85	<=13	PASS
3	Mid	QPSK	4.99	<=13	PASS
3	Mid	16QAM	5.81	<=13	PASS
3	High	QPSK	4.86	<=13	PASS
3	High	16QAM	5.71	<=13	PASS
5	Low	QPSK	5.11	<=13	PASS
5	Low	16QAM	5.79	<=13	PASS
5	Mid	QPSK	5.09	<=13	PASS
5	Mid	16QAM	5.75	<=13	PASS
5	High	QPSK	4.98	<=13	PASS
5	High	16QAM	5.66	<=13	PASS
10	Low	QPSK	5.17	<=13	PASS
10	Low	16QAM	5.82	<=13	PASS
10	Mid	QPSK	5.06	<=13	PASS
10	Mid	16QAM	5.79	<=13	PASS
10	High	QPSK	4.97	<=13	PASS
10	High	16QAM	5.70	<=13	PASS
15	Low	QPSK	5.12	<=13	PASS
15	Low	16QAM	5.83	<=13	PASS
15	Mid	QPSK	5.01	<=13	PASS
15	Mid	16QAM	5.73	<=13	PASS
15	High	QPSK	4.90	<=13	PASS
15	High	16QAM	5.70	<=13	PASS
20	Low	QPSK	5.27	<=13	PASS
20	Low	16QAM	5.88	<=13	PASS
20	Mid	QPSK	5.03	<=13	PASS
20	Mid	16QAM	5.77	<=13	PASS
20	High	QPSK	4.99	<=13	PASS
20	High	16QAM	5.83	<=13	PASS

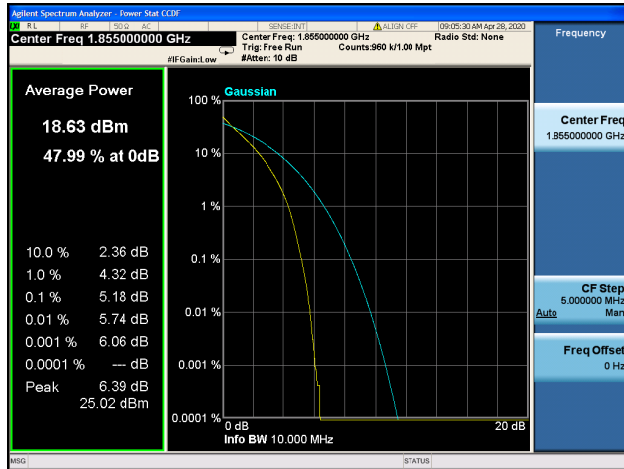
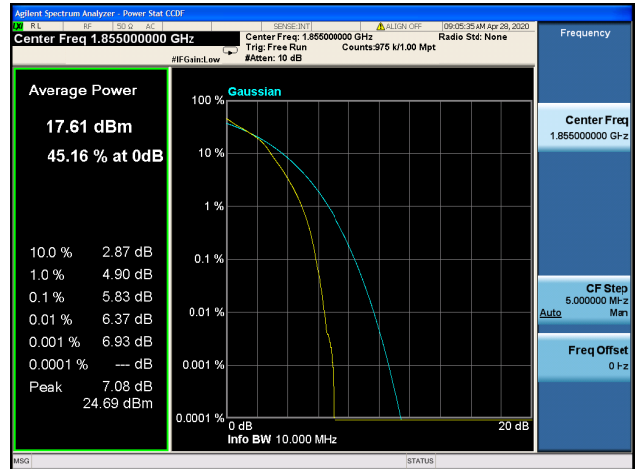
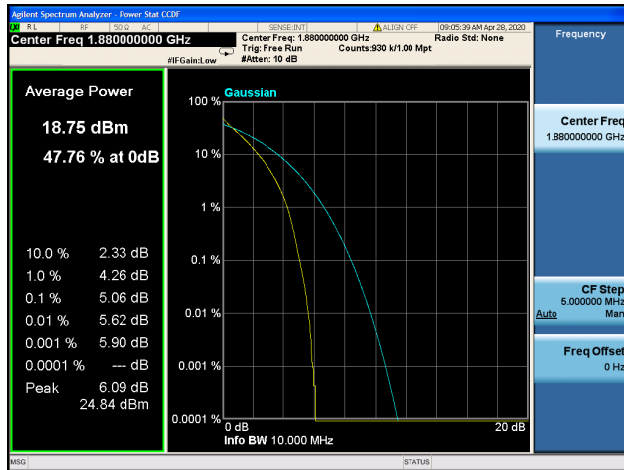
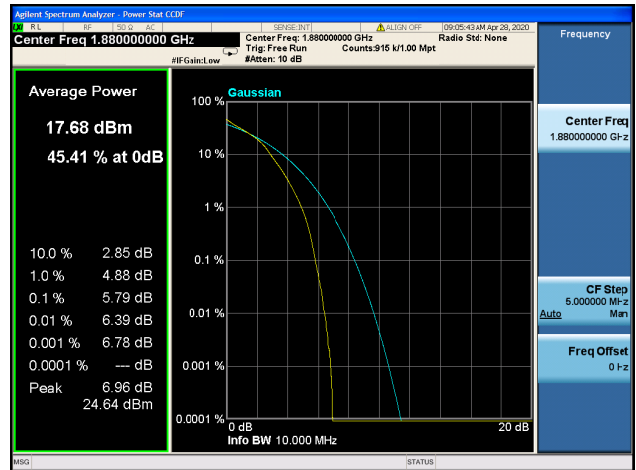
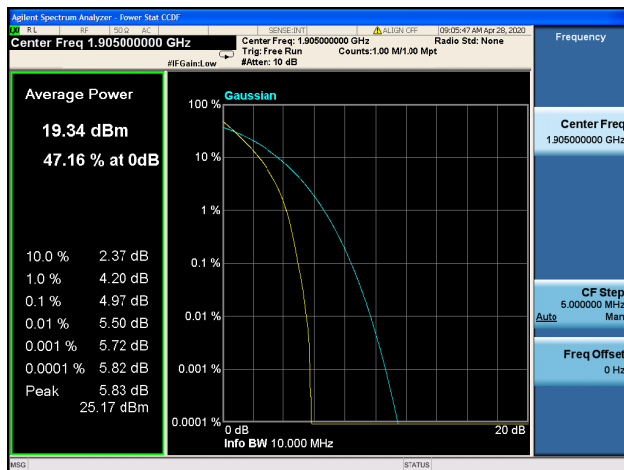
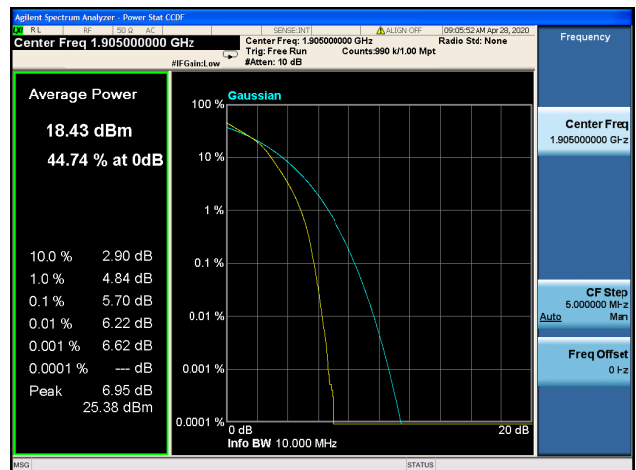


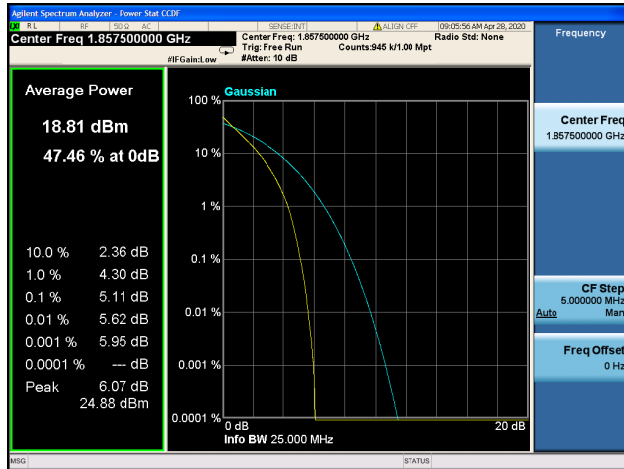
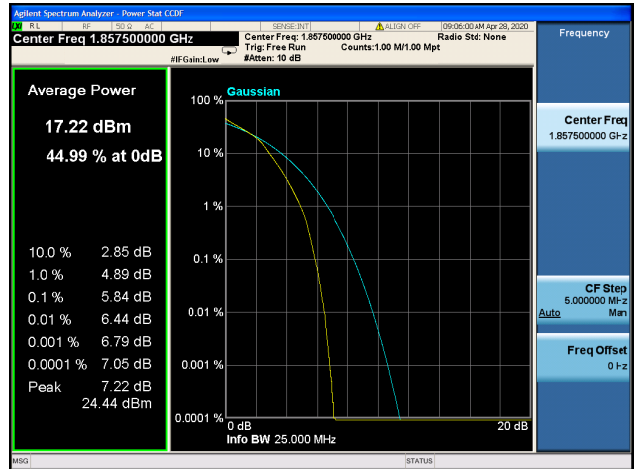
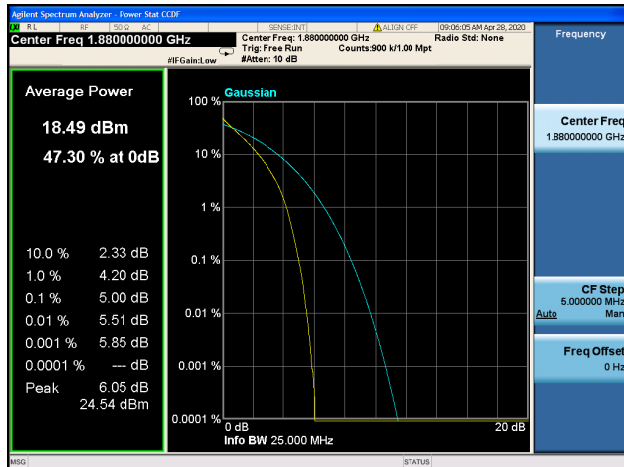
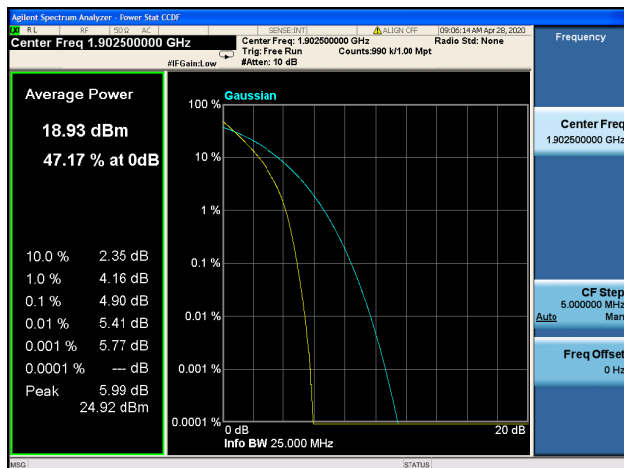
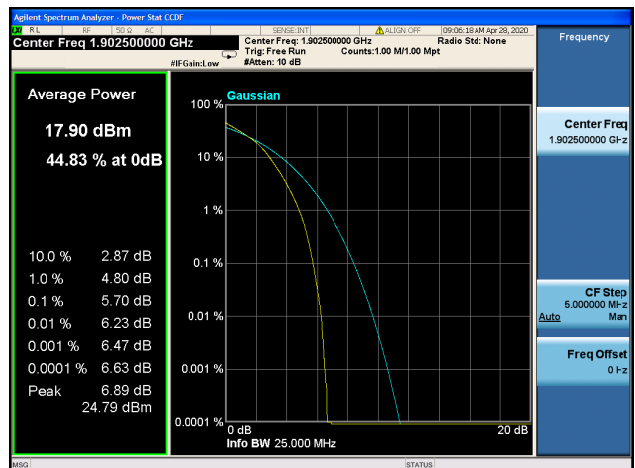
LTE Band 25					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit (dB)	Verdict
1.4	Low	QPSK	5.52	<=13	PASS
1.4	Low	16QAM	6.26	<=13	PASS
1.4	Mid	QPSK	5.19	<=13	PASS
1.4	Mid	16QAM	5.77	<=13	PASS
1.4	High	QPSK	5.04	<=13	PASS
1.4	High	16QAM	5.74	<=13	PASS
3	Low	QPSK	5.38	<=13	PASS
3	Low	16QAM	5.75	<=13	PASS
3	Mid	QPSK	4.93	<=13	PASS
3	Mid	16QAM	5.75	<=13	PASS
3	High	QPSK	4.97	<=13	PASS
3	High	16QAM	5.81	<=13	PASS
5	Low	QPSK	5.57	<=13	PASS
5	Low	16QAM	5.72	<=13	PASS
5	Mid	QPSK	5.11	<=13	PASS
5	Mid	16QAM	5.71	<=13	PASS
5	High	QPSK	5.12	<=13	PASS
5	High	16QAM	5.83	<=13	PASS
10	Low	QPSK	5.42	<=13	PASS
10	Low	16QAM	6.30	<=13	PASS
10	Mid	QPSK	5.09	<=13	PASS
10	Mid	16QAM	5.74	<=13	PASS
10	High	QPSK	5.37	<=13	PASS
10	High	16QAM	6.24	<=13	PASS
15	Low	QPSK	5.05	<=13	PASS
15	Low	16QAM	5.71	<=13	PASS
15	Mid	QPSK	4.97	<=13	PASS
15	Mid	16QAM	5.67	<=13	PASS
15	High	QPSK	5.09	<=13	PASS
15	High	16QAM	5.79	<=13	PASS
20	Low	QPSK	5.44	<=13	PASS
20	Low	16QAM	5.80	<=13	PASS
20	Mid	QPSK	4.99	<=13	PASS
20	Mid	16QAM	5.75	<=13	PASS
20	High	QPSK	5.04	<=13	PASS
20	High	16QAM	5.82	<=13	PASS

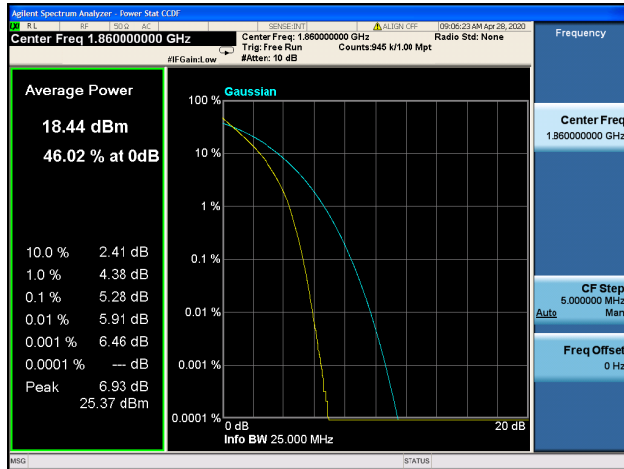
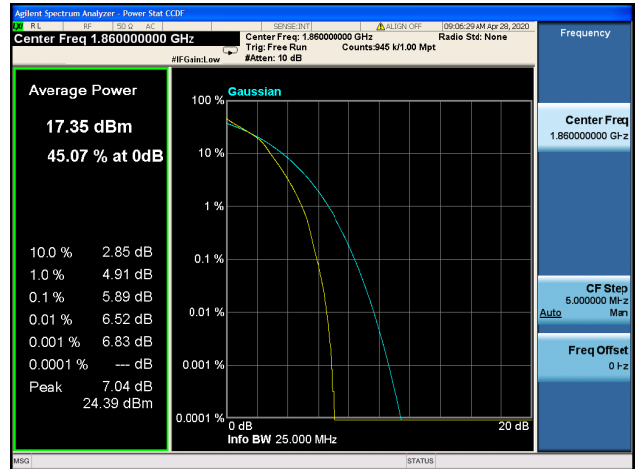
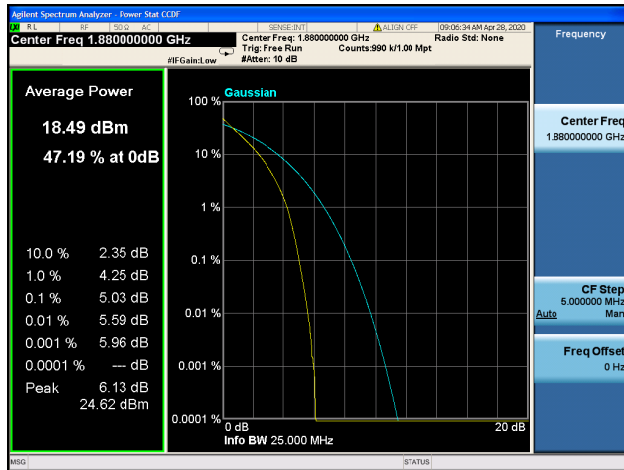
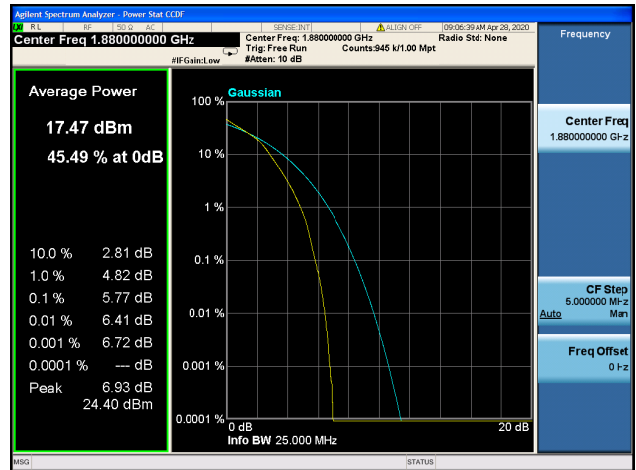
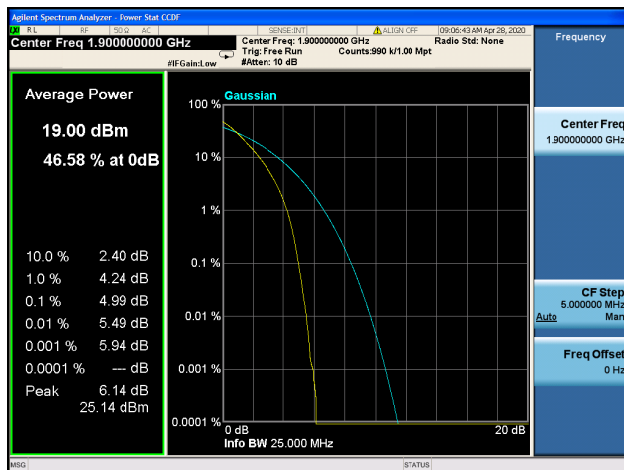
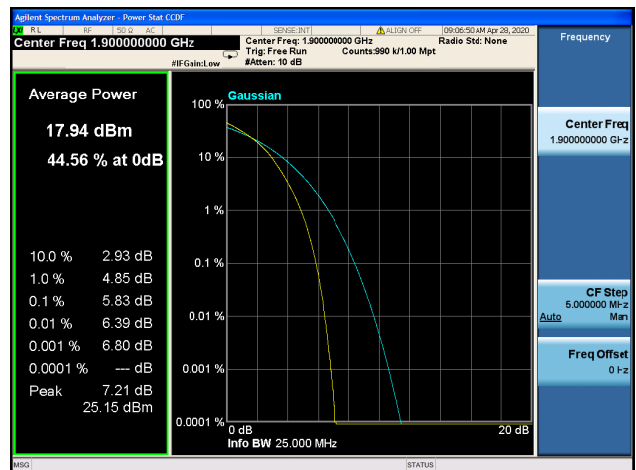
**Band2 / 1.4MHz / Low CH / QPSK****Band2 / 1.4MHz / Low CH / 16QAM****Band2 / 1.4MHz / Mid CH / QPSK****Band2 / 1.4MHz / Mid CH / 16QAM****Band2 / 1.4MHz / High CH / QPSK****Band2 / 1.4MHz / High CH / 16QAM**

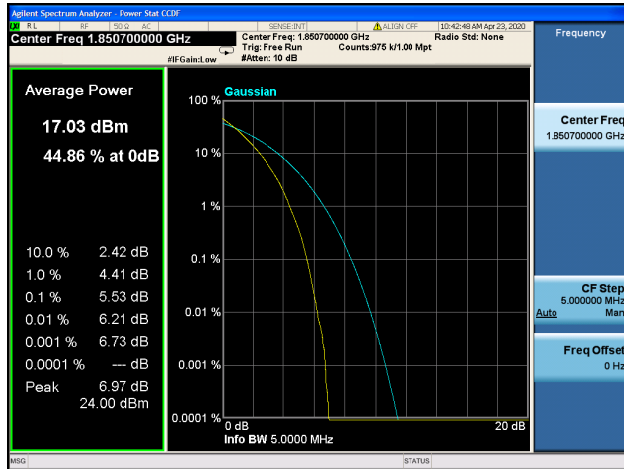
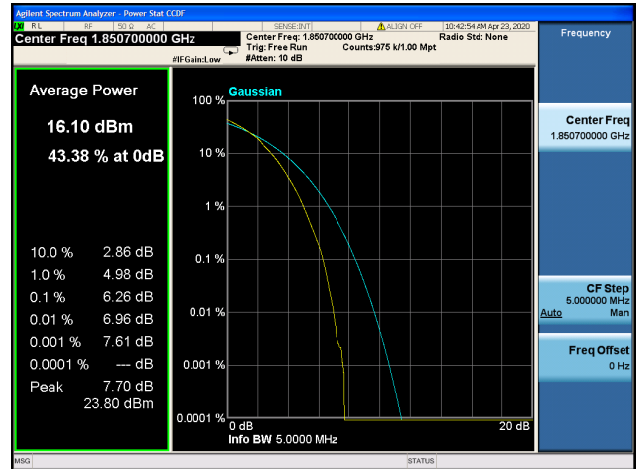
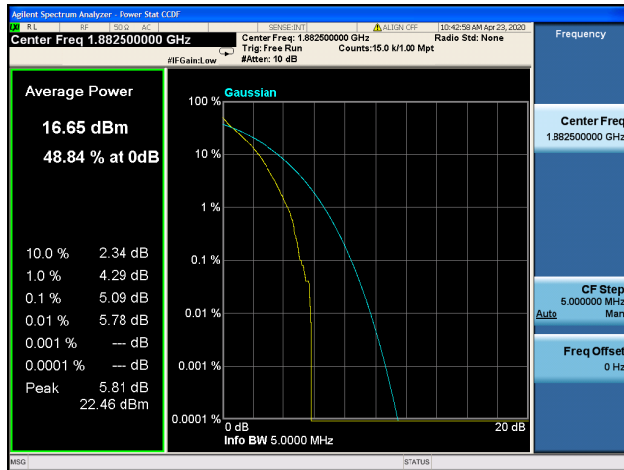
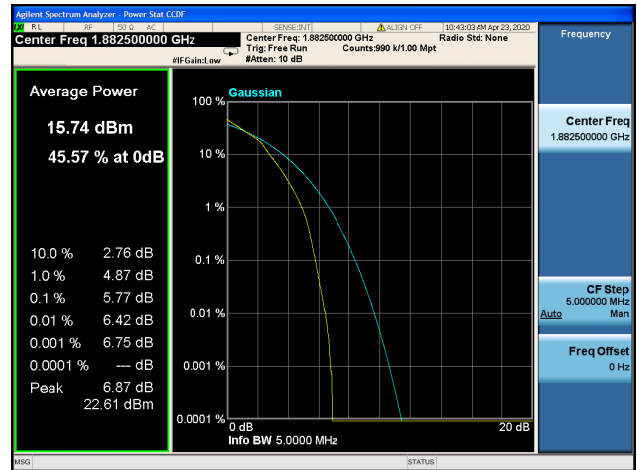
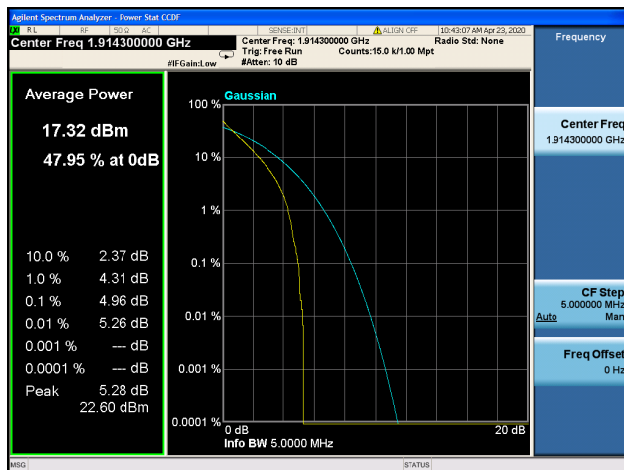
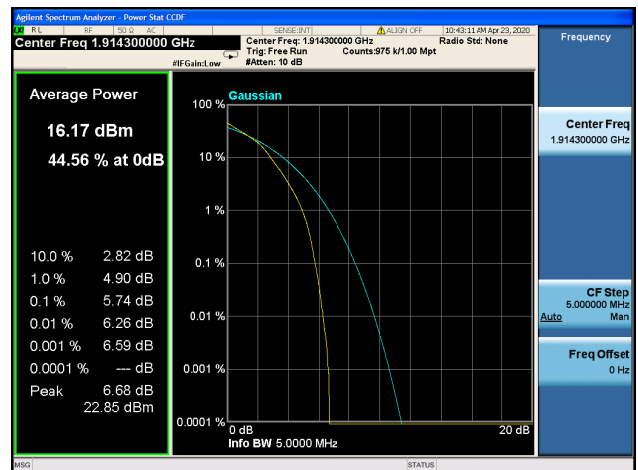
**Band2 / 3MHz / Low CH / QPSK****Band2 / 3MHz / Low CH / 16QAM****Band2 / 3MHz / Mid CH / QPSK****Band2 / 3MHz / Mid CH / 16QAM****Band2 / 3MHz / High CH / QPSK****Band2 / 3MHz / High CH / 16QAM**

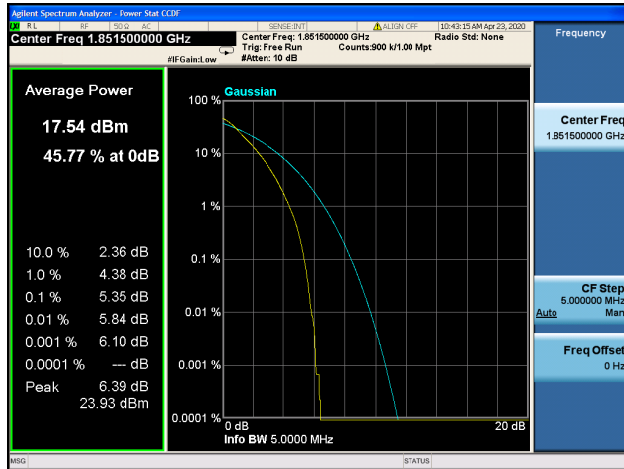
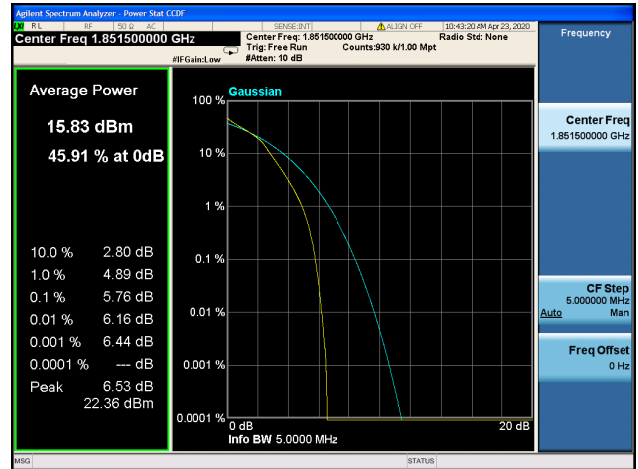
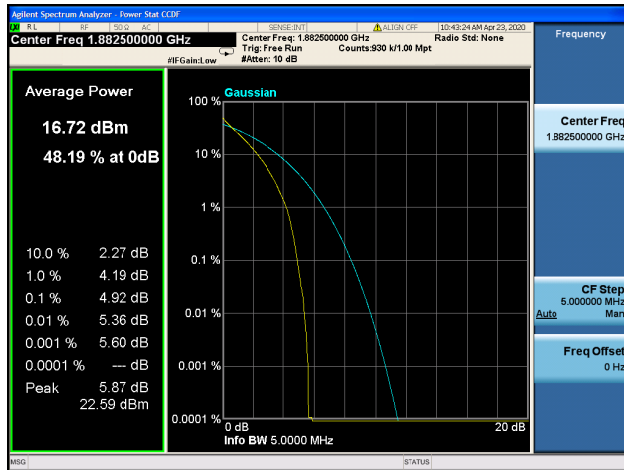
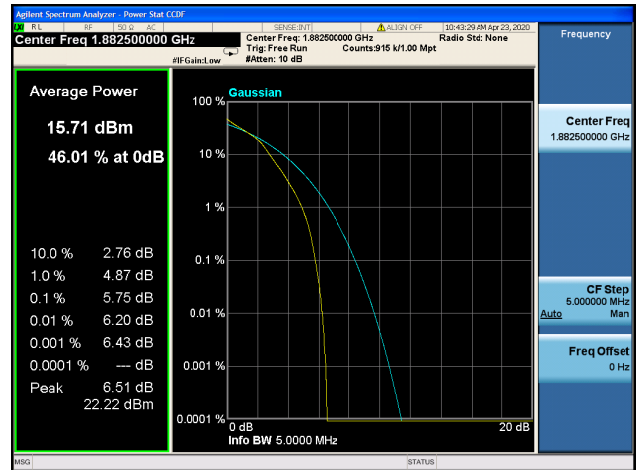
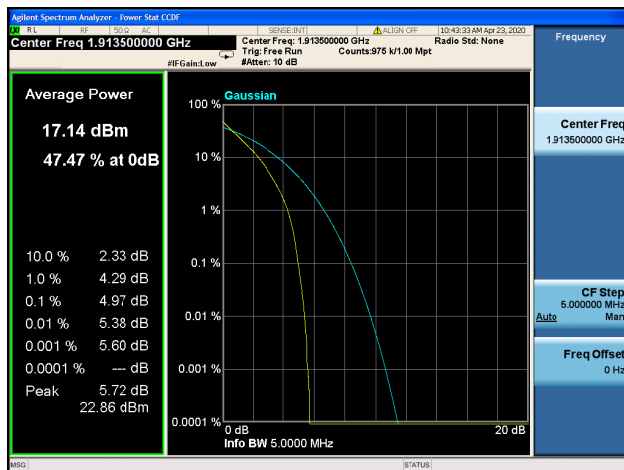
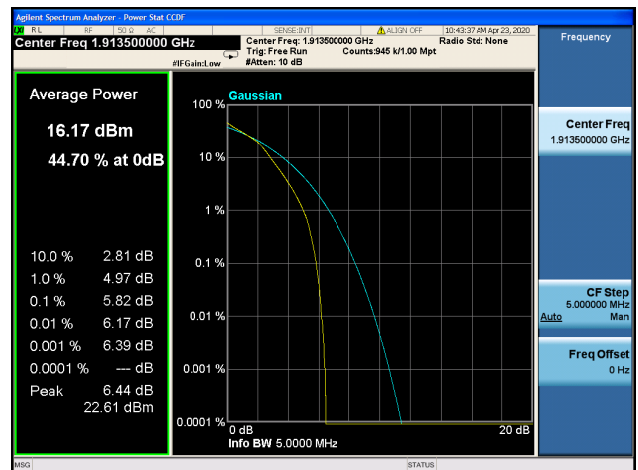
**Band2 / 5MHz / Low CH / QPSK****Band2 / 5MHz / Low CH / 16QAM****Band2 / 5MHz / Mid CH / QPSK****Band2 / 5MHz / Mid CH / 16QAM****Band2 / 5MHz / High CH / QPSK****Band2 / 5MHz / High CH / 16QAM**

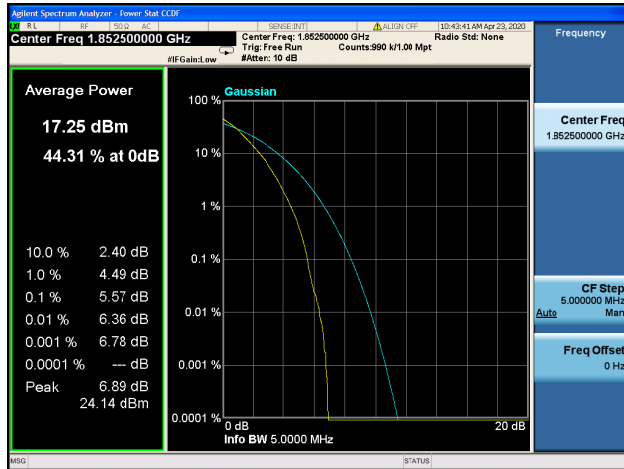
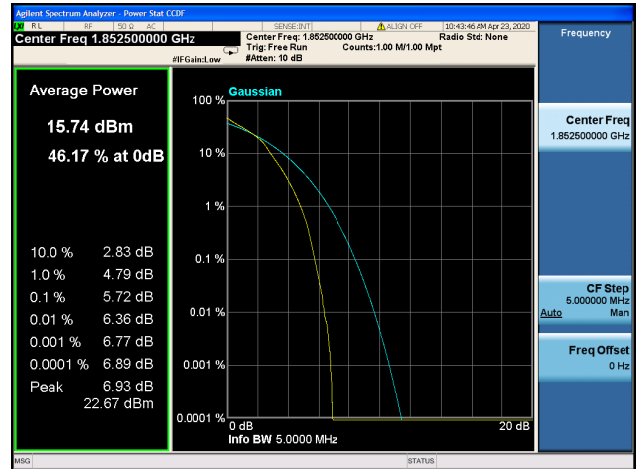
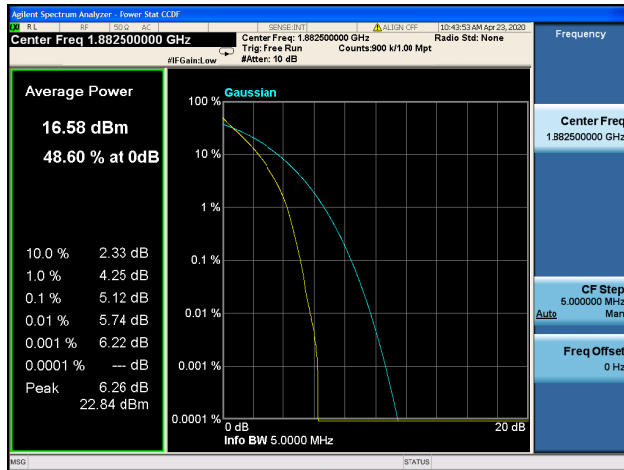
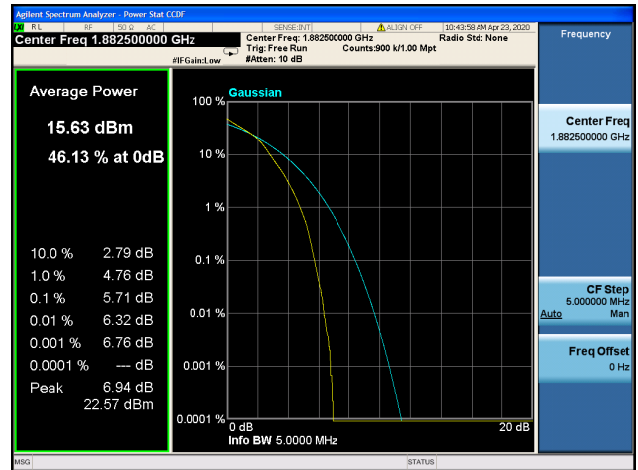
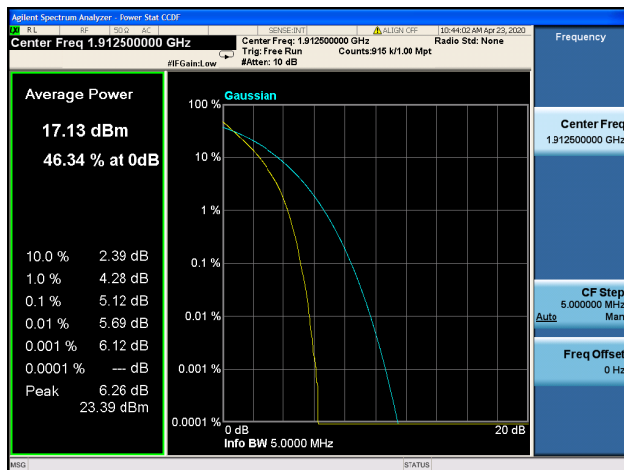
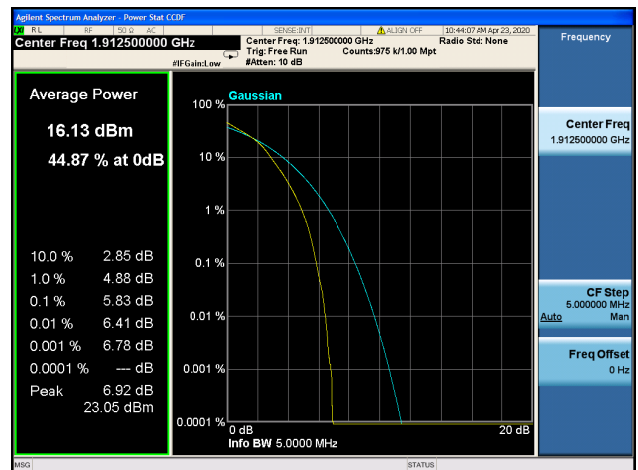
**Band2 / 10MHz / Low CH / QPSK****Band2 / 10MHz / Low CH / 16QAM****Band2 / 10MHz / Mid CH / QPSK****Band2 / 10MHz / Mid CH / 16QAM****Band2 / 10MHz / High CH / QPSK****Band2 / 10MHz / High CH / 16QAM**

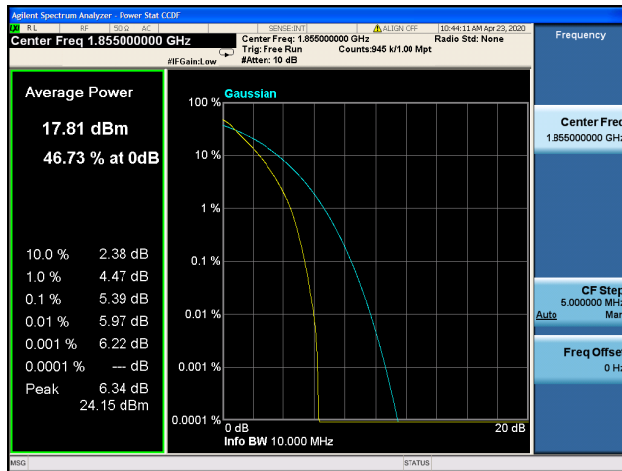
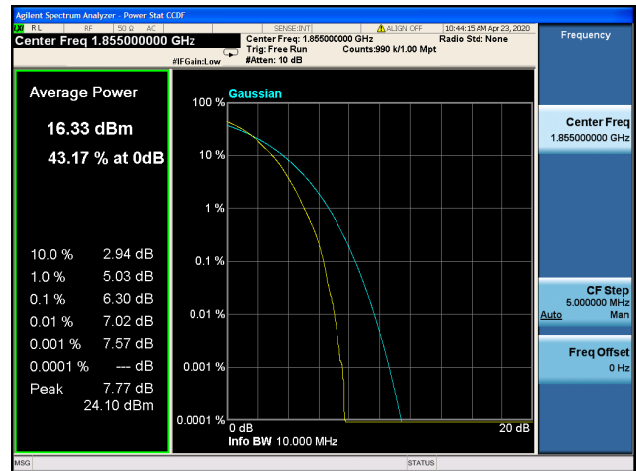
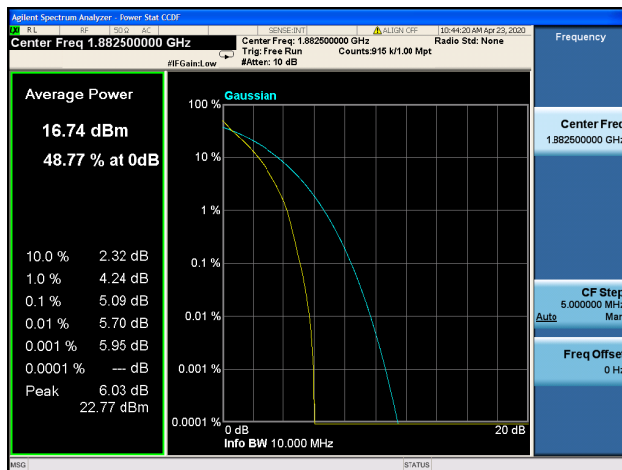
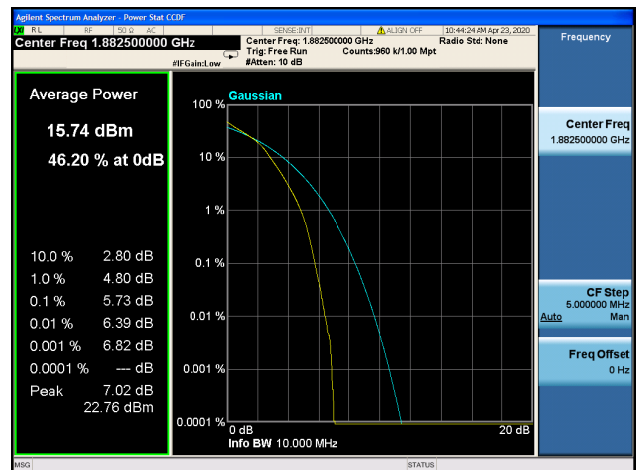
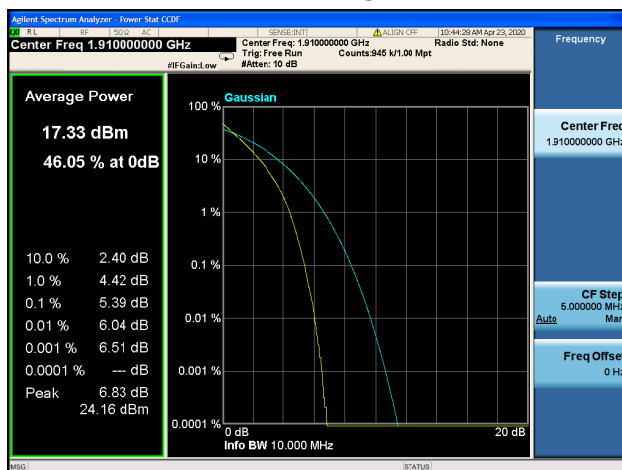
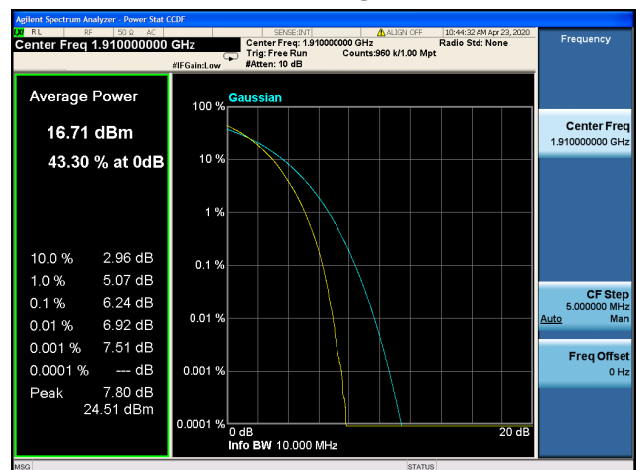
**Band2 / 15MHz / Low CH / QPSK****Band2 / 15MHz / Low CH / 16QAM****Band2 / 15MHz / Mid CH / QPSK****Band2 / 15MHz / Mid CH / 16QAM****Band2 / 15MHz / High CH / QPSK****Band2 / 15MHz / High CH / 16QAM**

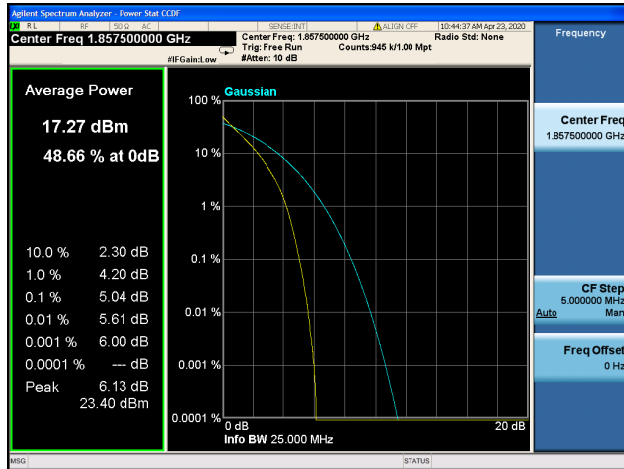
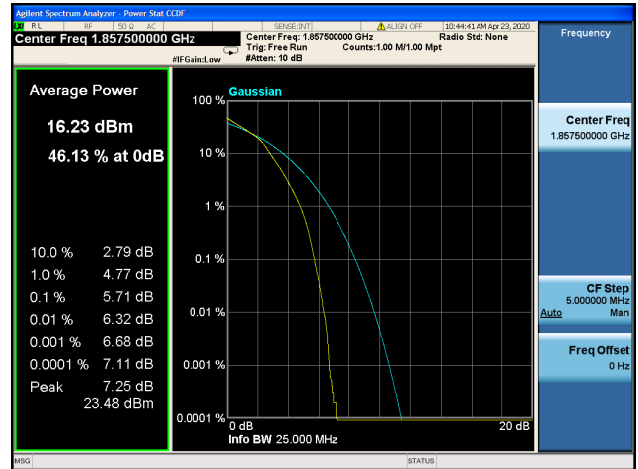
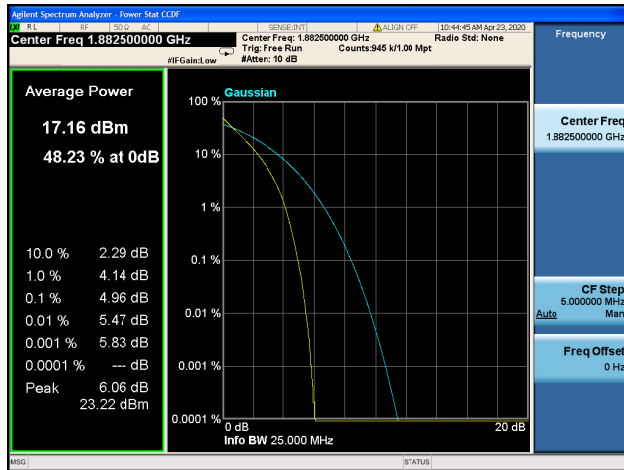
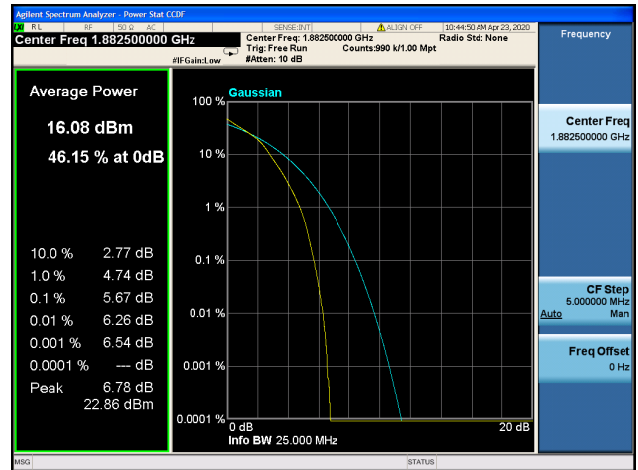
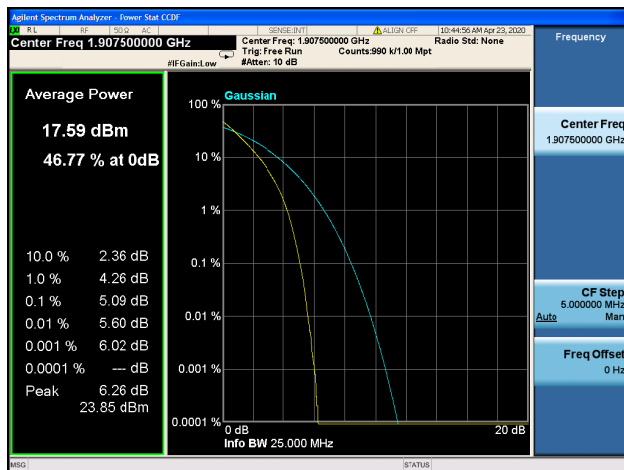
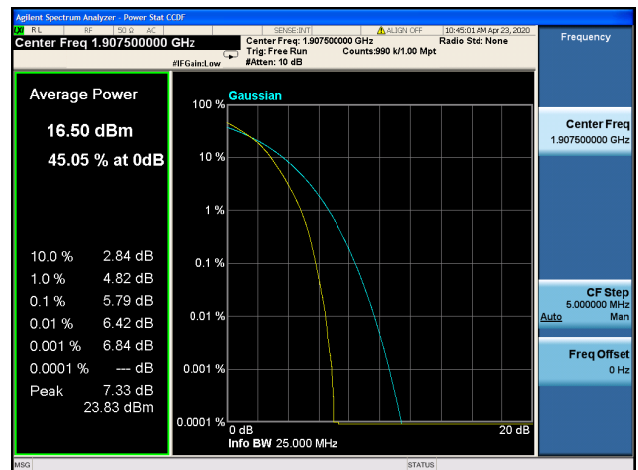
**Band2 / 20MHz / Low CH / QPSK****Band2 / 20MHz / Low CH / 16QAM****Band2 / 20MHz / Mid CH / QPSK****Band2 / 20MHz / Mid CH / 16QAM****Band2 / 20MHz / High CH / QPSK****Band2 / 20MHz / High CH / 16QAM**

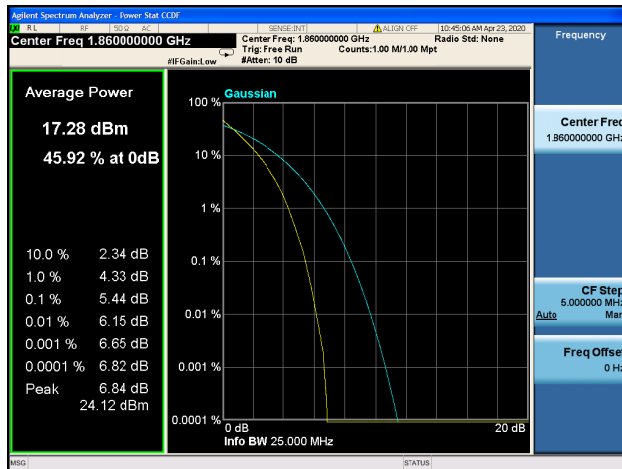
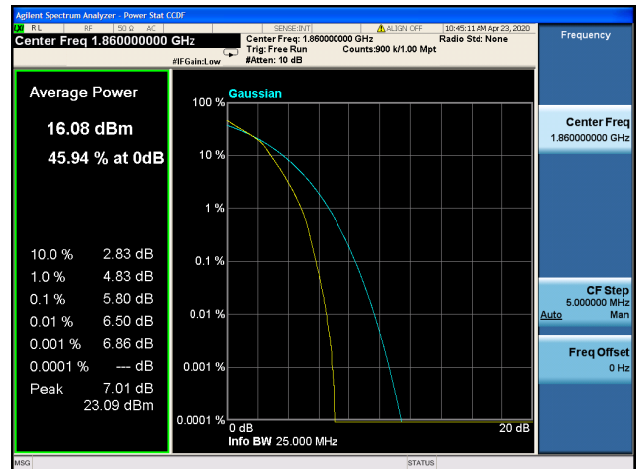
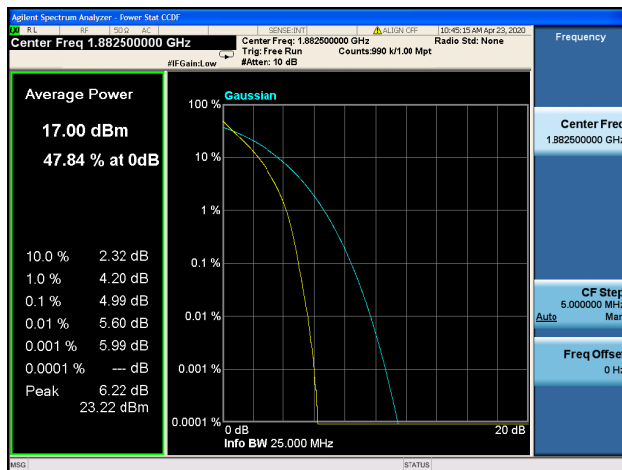
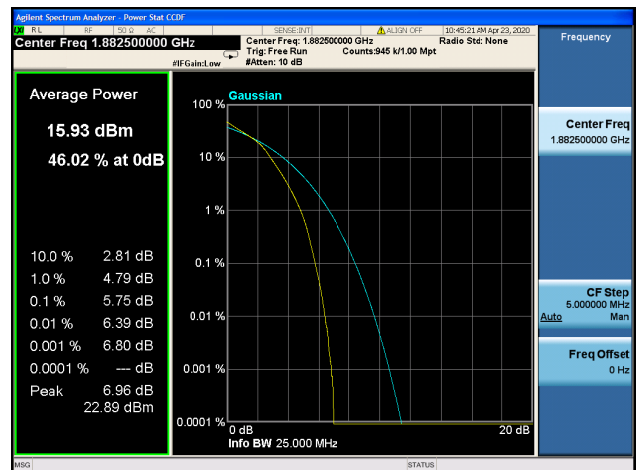
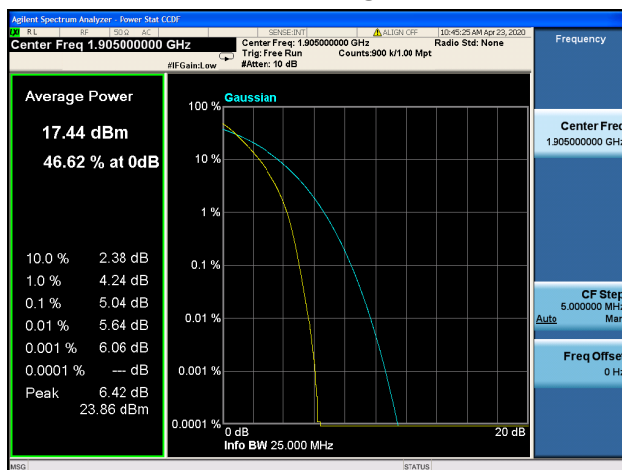
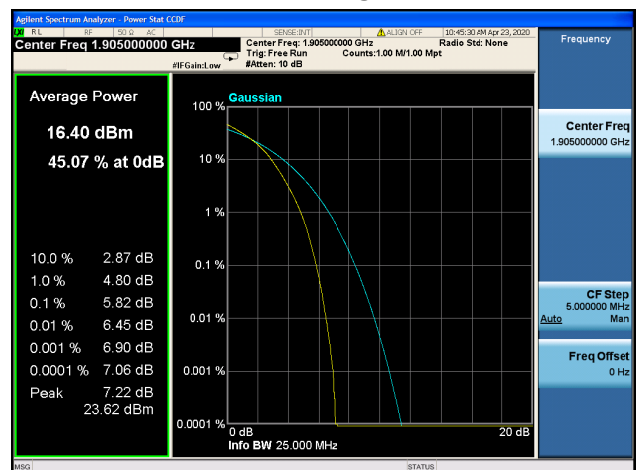
**Band25 / 1.4MHz / Low CH / QPSK****Band25 / 1.4MHz / Low CH / 16QAM****Band25 / 1.4MHz / Mid CH / QPSK****Band25 / 1.4MHz / Mid CH / 16QAM****Band25 / 1.4MHz / High CH / QPSK****Band25 / 1.4MHz / High CH / 16QAM**

**Band25 / 3MHz / Low CH / QPSK****Band25 / 3MHz / Low CH / 16QAM****Band25 / 3MHz / Mid CH / QPSK****Band25 / 3MHz / Mid CH / 16QAM****Band25 / 3MHz / High CH / QPSK****Band25 / 3MHz / High CH / 16QAM**

**Band25 / 5MHz / Low CH / QPSK****Band25 / 5MHz / Low CH / 16QAM****Band25 / 5MHz / Mid CH / QPSK****Band25 / 5MHz / Mid CH / 16QAM****Band25 / 5MHz / High CH / QPSK****Band25 / 5MHz / High CH / 16QAM**

**Band25 / 10MHz / Low CH / QPSK****Band25 / 10MHz / Low CH / 16QAM****Band25 / 10MHz / Mid CH / QPSK****Band25 / 10MHz / Mid CH / 16QAM****Band25 / 10MHz / High CH / QPSK****Band25 / 10MHz / High CH / 16QAM**

**Band25 / 15MHz / Low CH / QPSK****Band25 / 15MHz / Low CH / 16QAM****Band25 / 15MHz / Mid CH / QPSK****Band25 / 15MHz / Mid CH / 16QAM****Band25 / 15MHz / High CH / QPSK****Band25 / 15MHz / High CH / 16QAM**

**Band25 / 20MHz / Low CH / QPSK****Band25 / 20MHz / Low CH / 16QAM****Band25 / 20MHz / Mid CH / QPSK****Band25 / 20MHz / Mid CH / 16QAM****Band25 / 20MHz / High CH / QPSK****Band25 / 20MHz / High CH / 16QAM**

2.5. Conducted Spurious Emissions

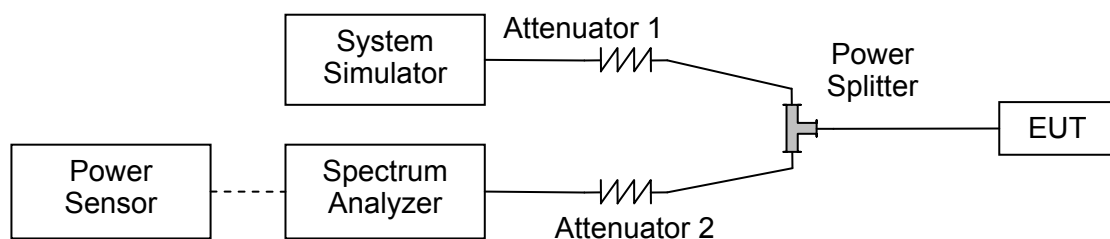
2.5.1. Requirement

According to FCC section 2.1051, 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. This calculated to be -13dBm.

Additional requirement for LTE Band 41:

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 $55 + 10 \log(P)$ dB. This calculated to be -25dBm.

2.5.2. Test Description



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 50 Ohm; 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.

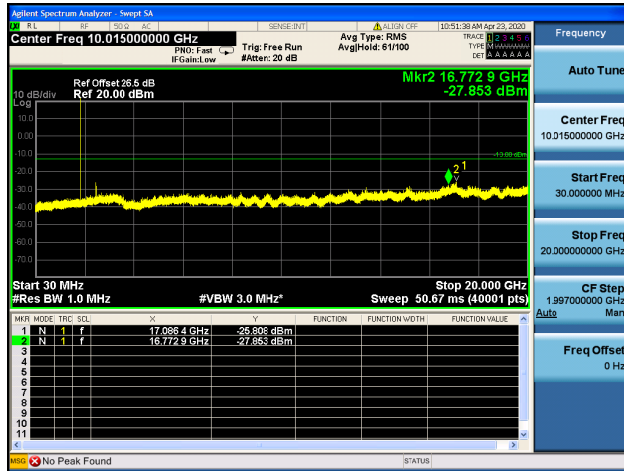
2.5.3. Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

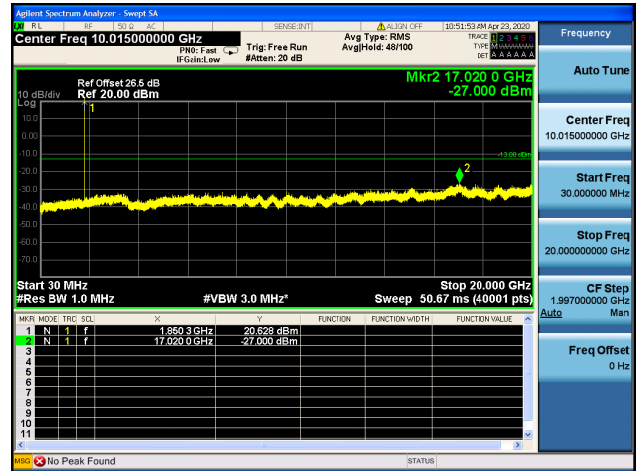
2.5.4. Test Result



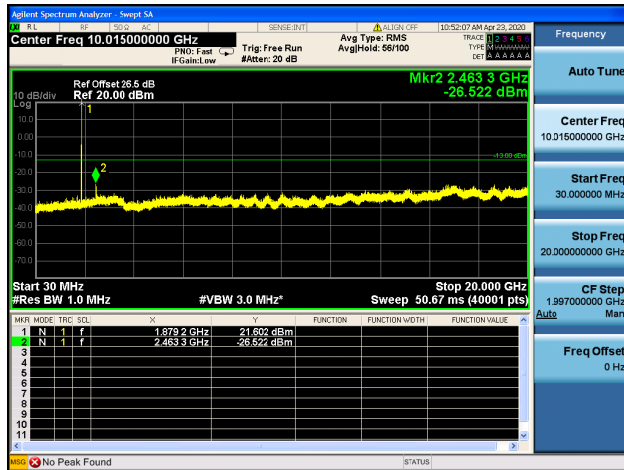
Band2 / 1.4MHz / Low CH / QPSK



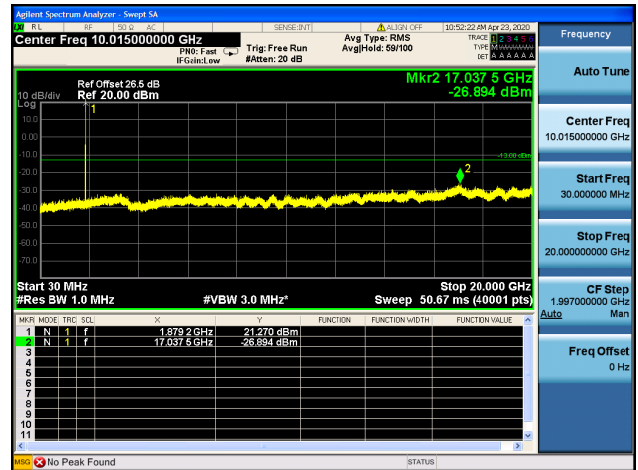
Band2 / 1.4MHz / Low CH / 16QAM



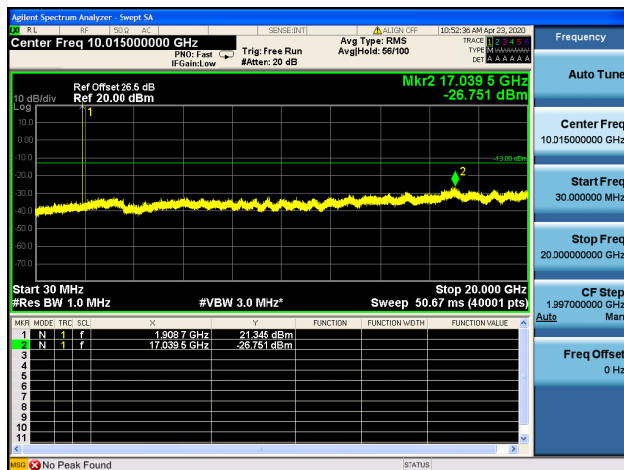
Band2 / 1.4MHz / Mid CH / QPSK



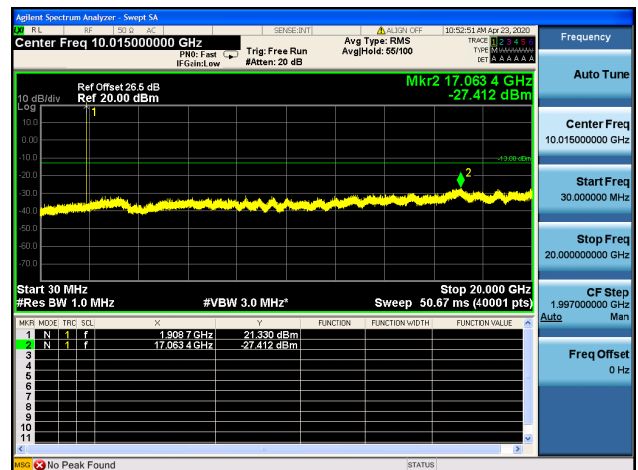
Band2 / 1.4MHz / Mid CH / 16QAM



Band2 / 1.4MHz / High CH / QPSK

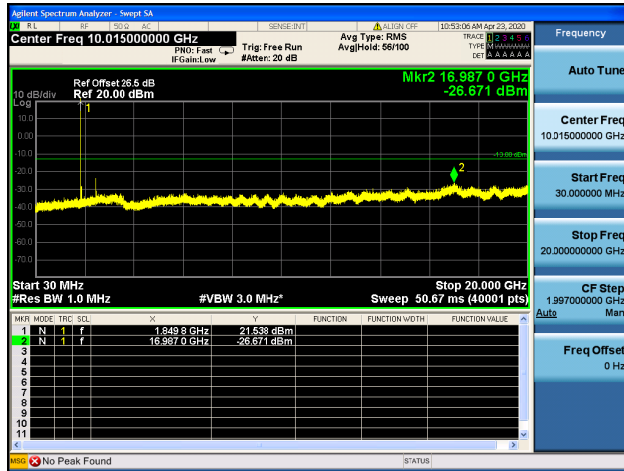


Band2 / 1.4MHz / High CH / 16QAM

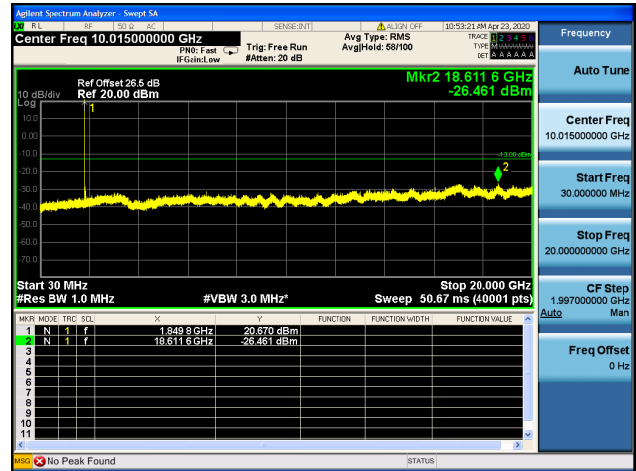




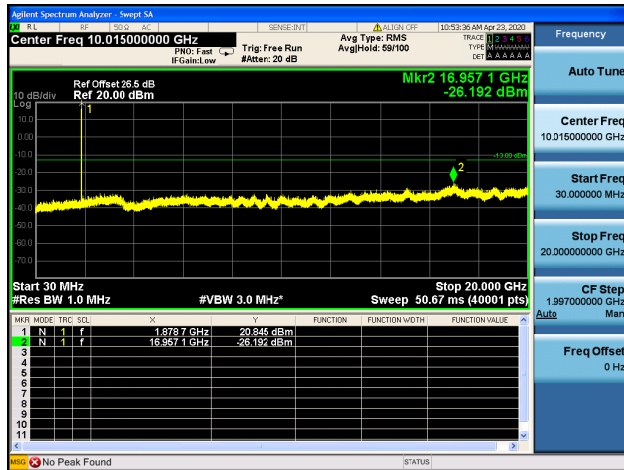
Band2 / 3MHz / Low CH / QPSK



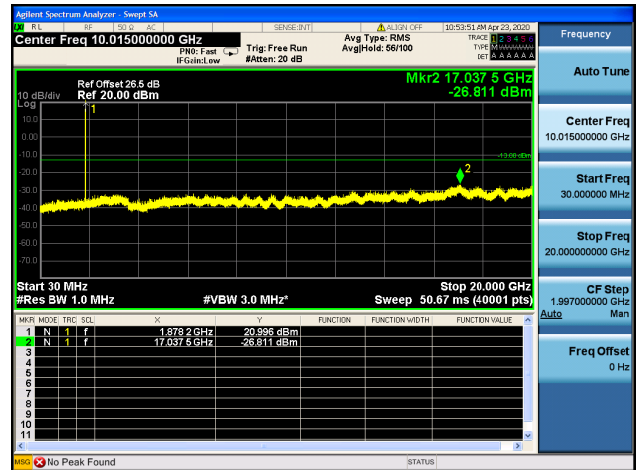
Band2 / 3MHz / Low CH / 16QAM



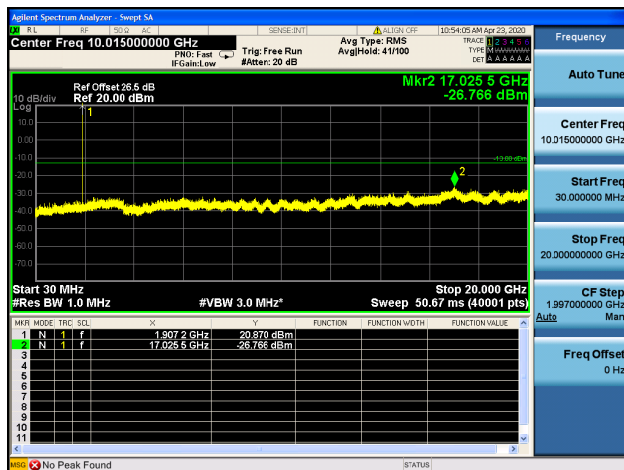
Band2 / 3MHz / Mid CH / QPSK



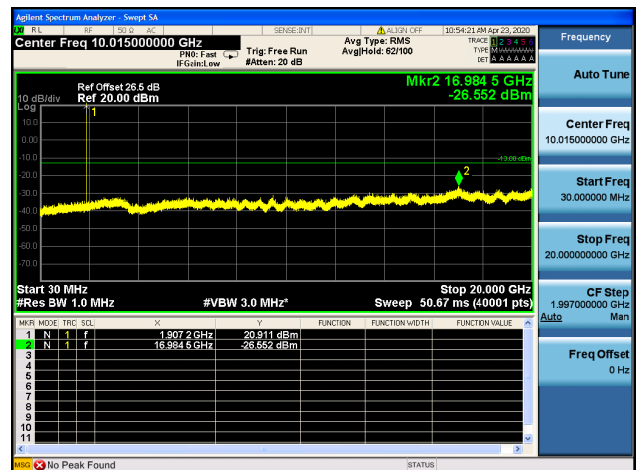
Band2 / 3MHz / Mid CH / 16QAM



Band2 / 3MHz / High CH / QPSK

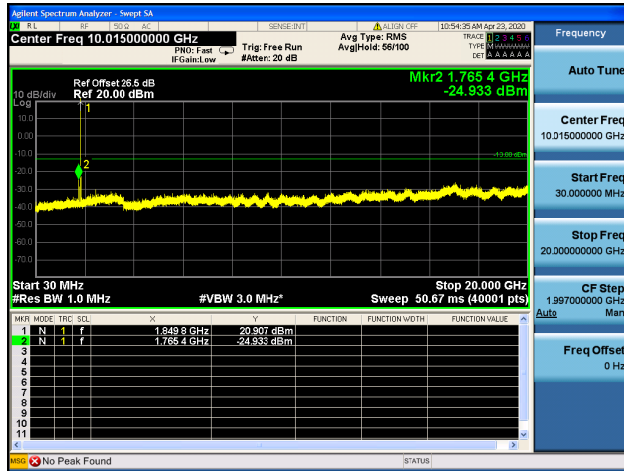


Band2 / 3MHz / High CH / 16QAM

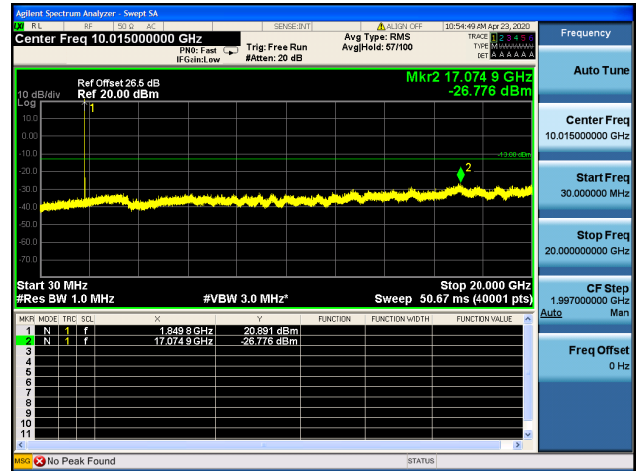




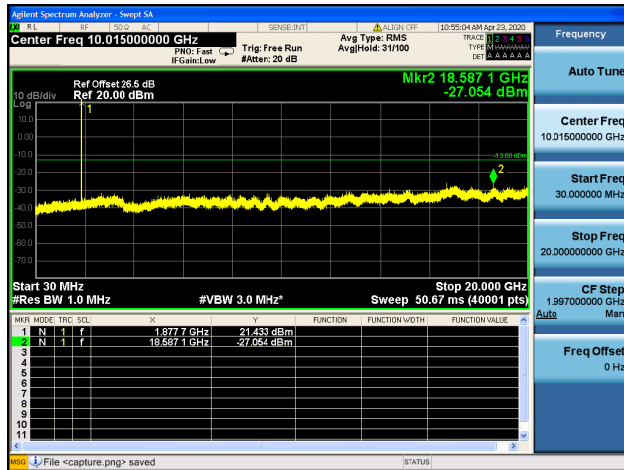
Band2 / 5MHz / Low CH / QPSK



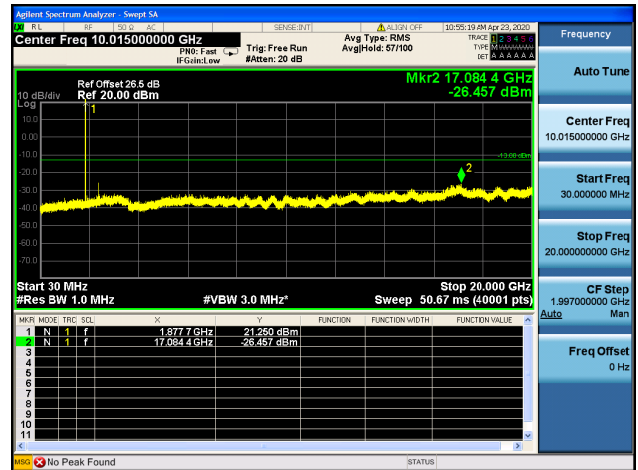
Band2 / 5MHz / Low CH / 16QAM



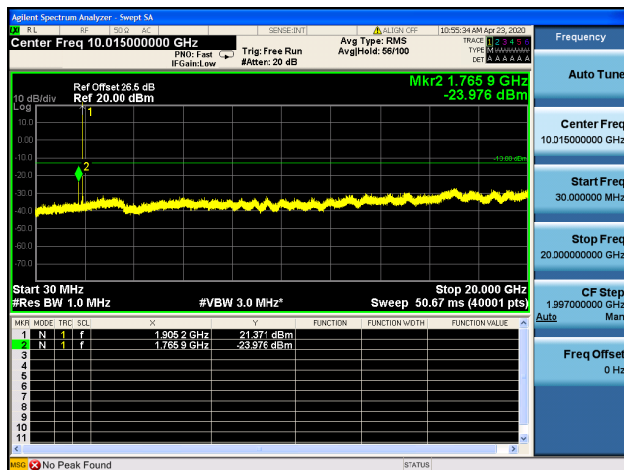
Band2 / 5MHz / Mid CH / QPSK



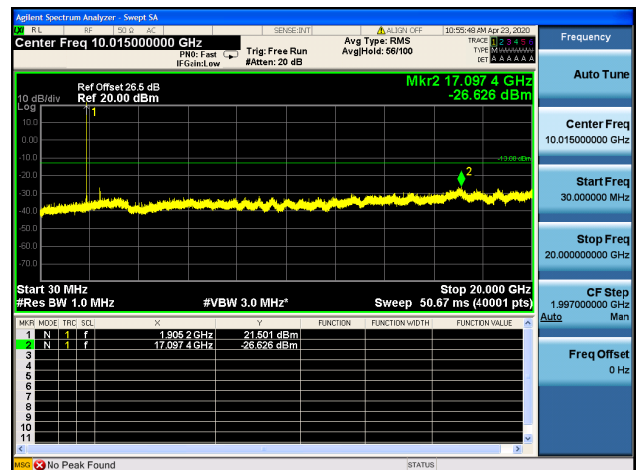
Band2 / 5MHz / Mid CH / 16QAM



Band2 / 5MHz / High CH / QPSK

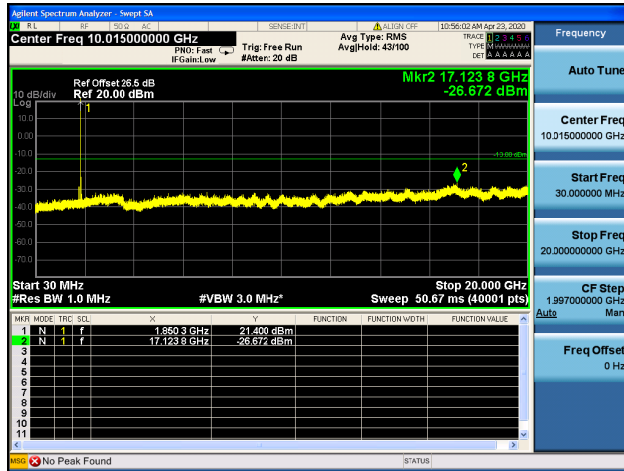


Band2 / 5MHz / High CH / 16QAM

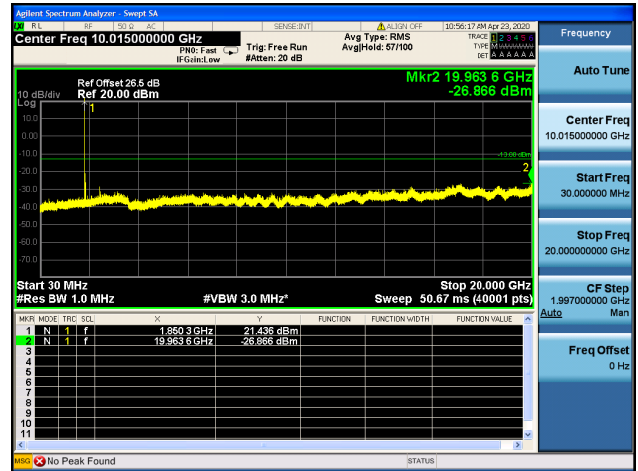




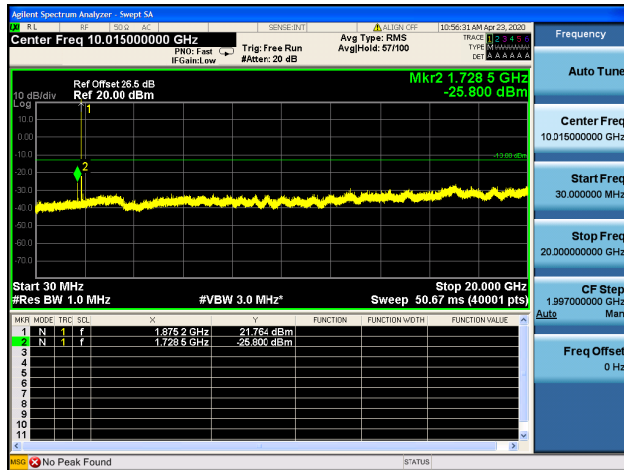
Band2 / 10MHz / Low CH / QPSK



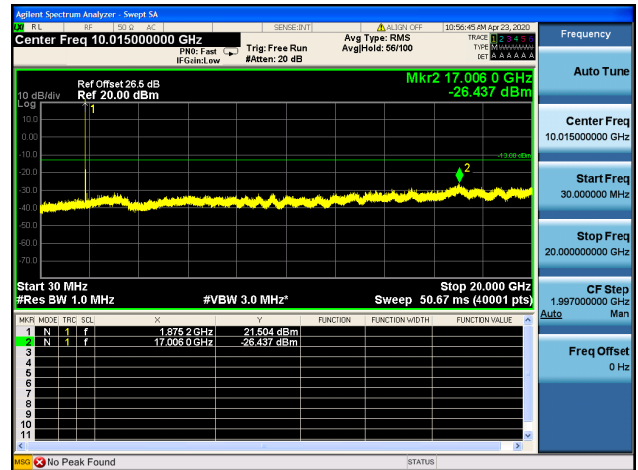
Band2 / 10MHz / Low CH / 16QAM



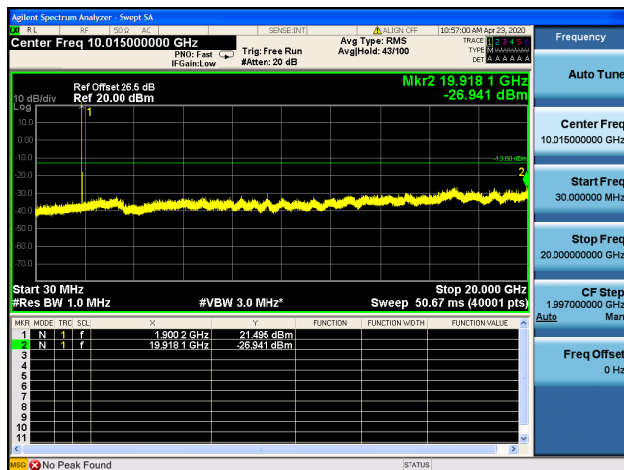
Band2 / 10MHz / Mid CH / QPSK



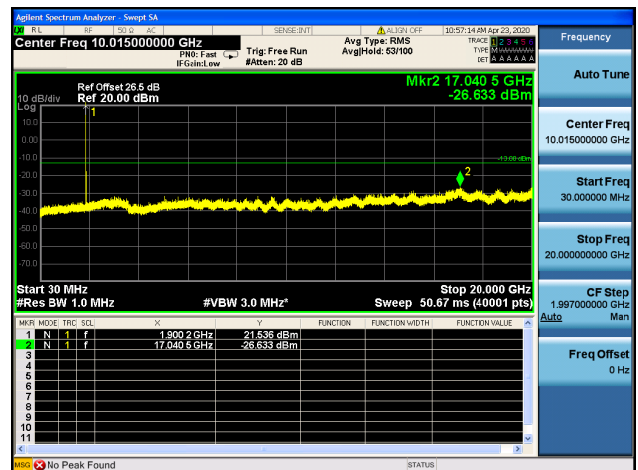
Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / High CH / QPSK

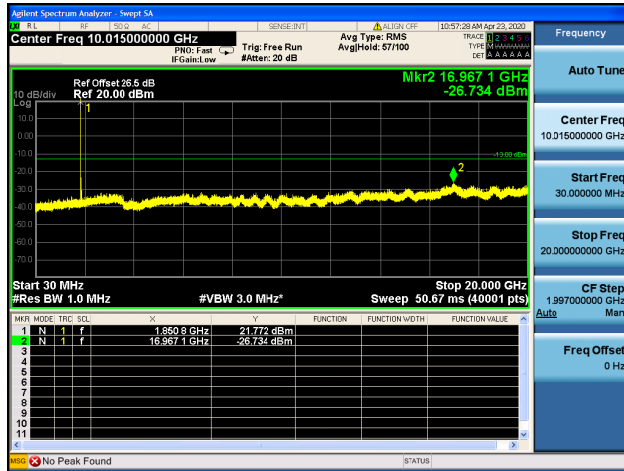


Band2 / 10MHz / High CH / 16QAM

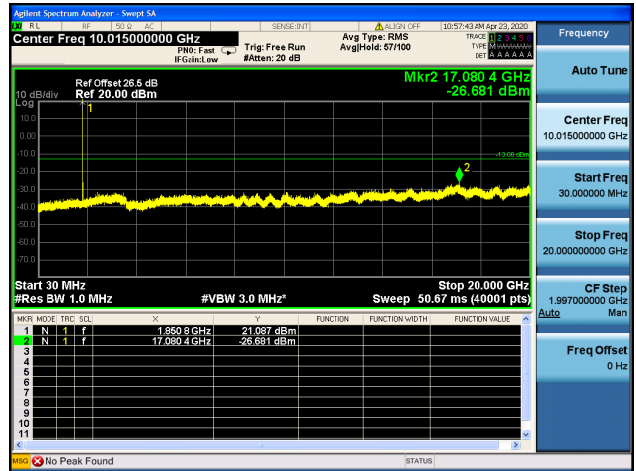




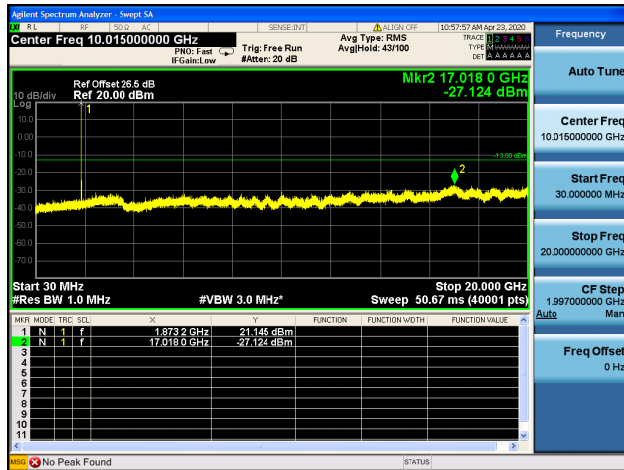
Band2 / 15MHz / Low CH / QPSK



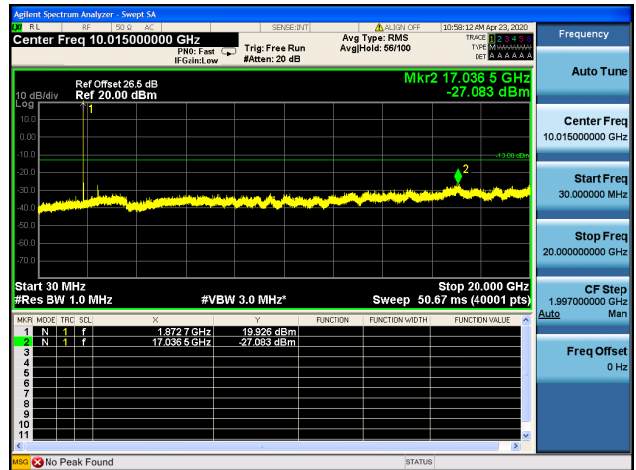
Band2 / 15MHz / Low CH / 16QAM



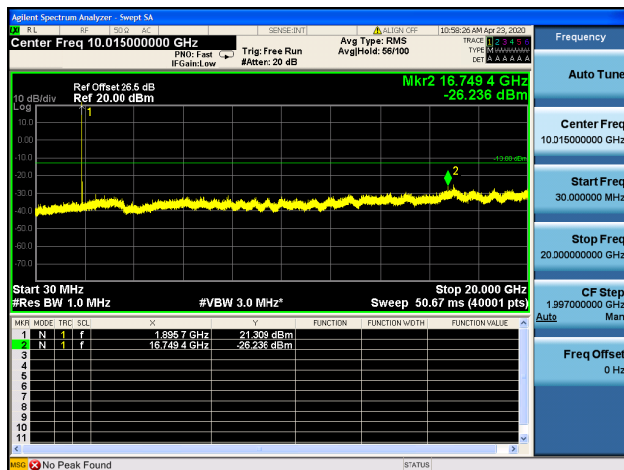
Band2 / 15MHz / Mid CH / QPSK



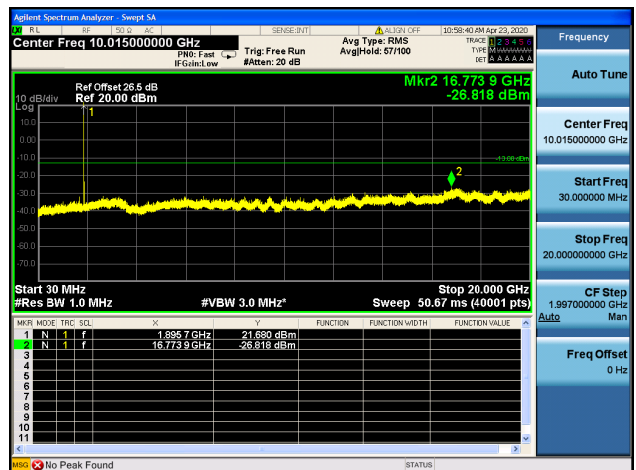
Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / High CH / QPSK

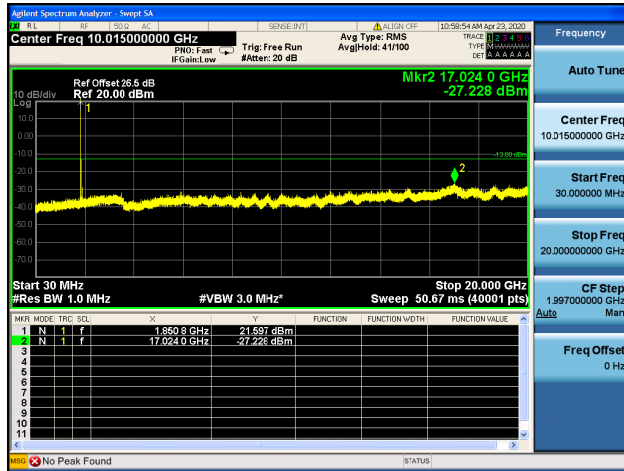


Band2 / 15MHz / High CH / 16QAM

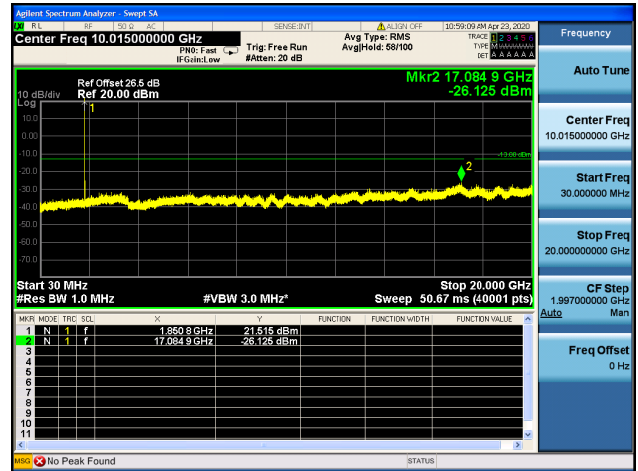




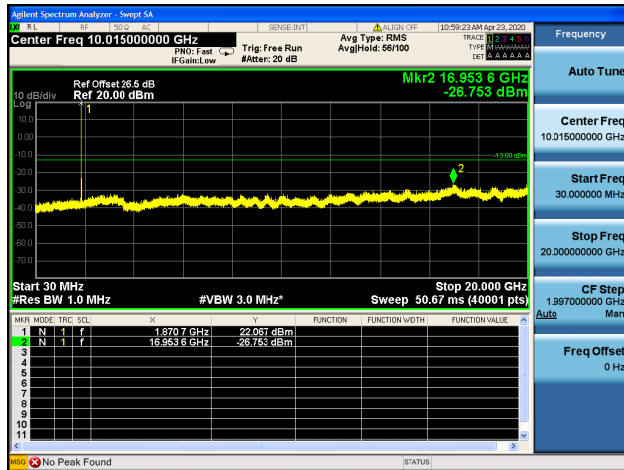
Band2 / 20MHz / Low CH / QPSK



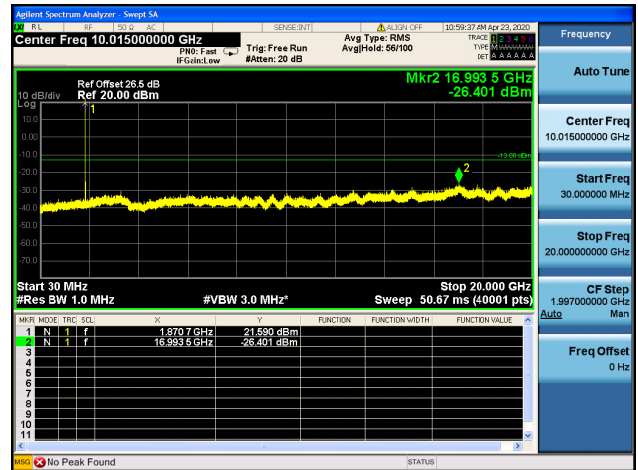
Band2 / 20MHz / Low CH / 16QAM



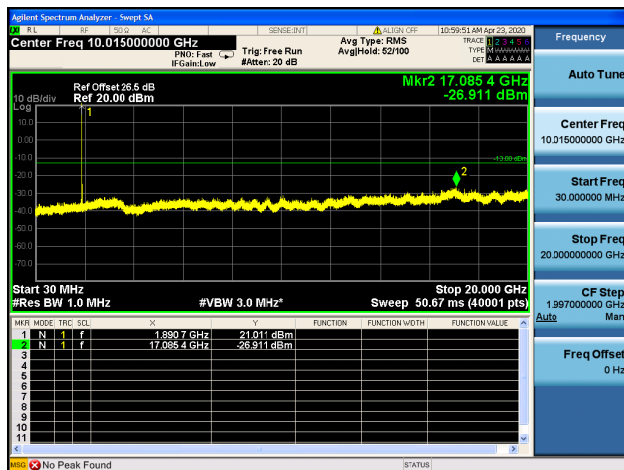
Band2 / 20MHz / Mid CH / QPSK



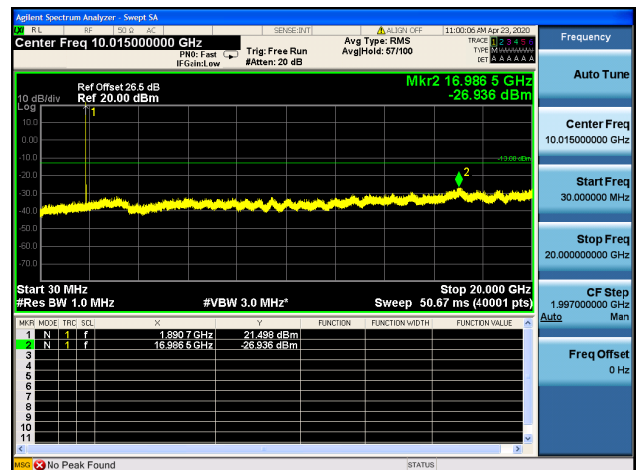
Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / High CH / QPSK

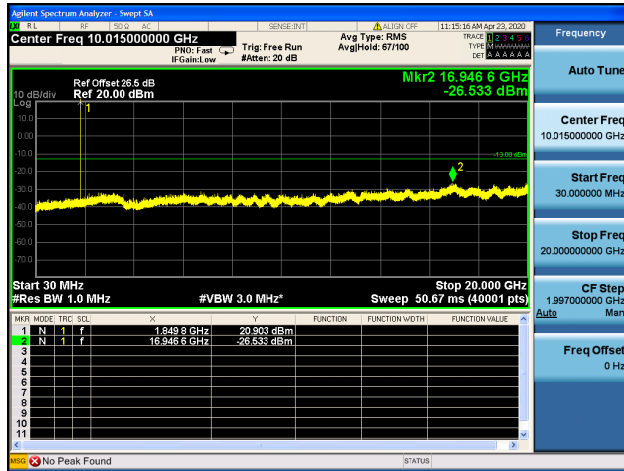


Band2 / 20MHz / High CH / 16QAM

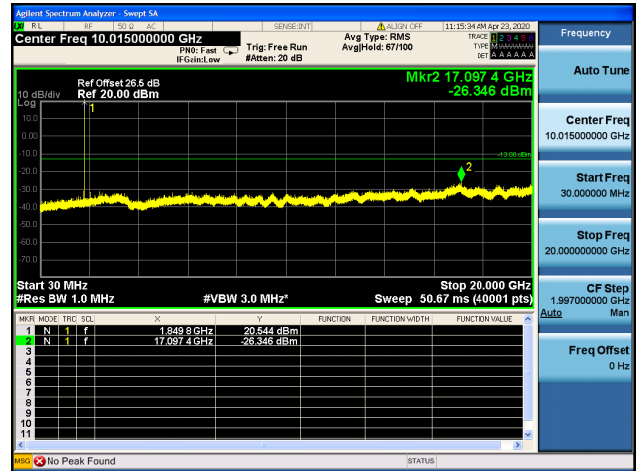




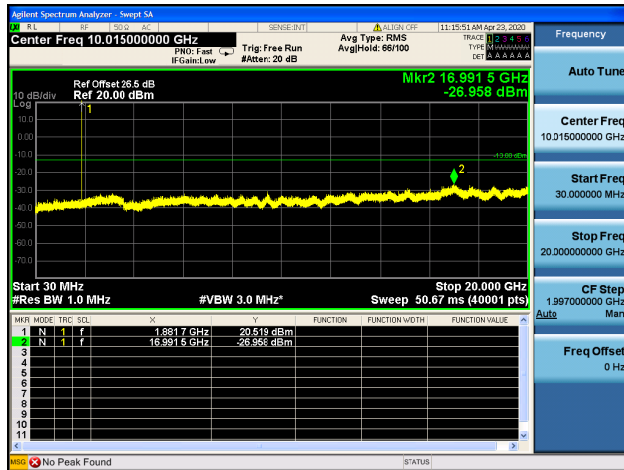
Band25 / 1.4MHz / Low CH / QPSK



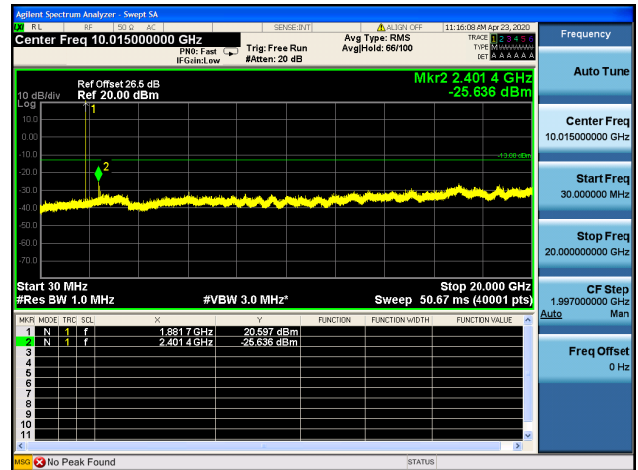
Band25 / 1.4MHz / Low CH / 16QAM



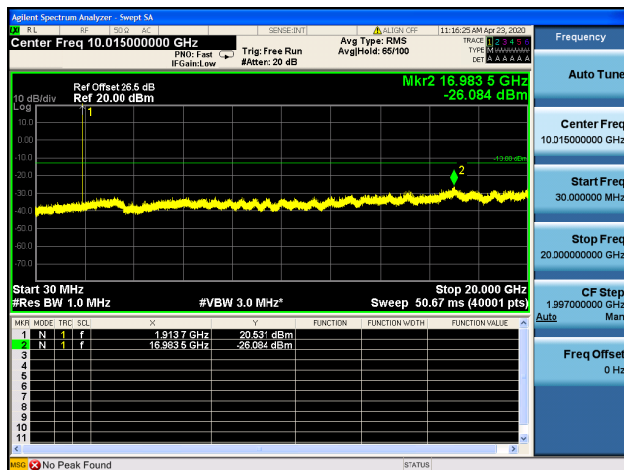
Band25 / 1.4MHz / Mid CH / QPSK



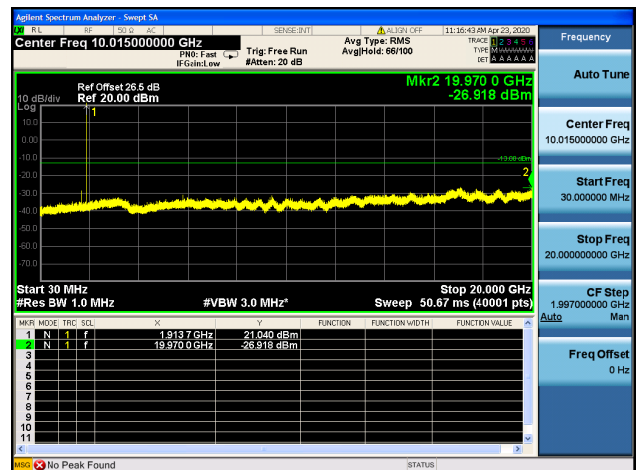
Band25 / 1.4MHz / Mid CH / 16QAM



Band25 / 1.4MHz / High CH / QPSK

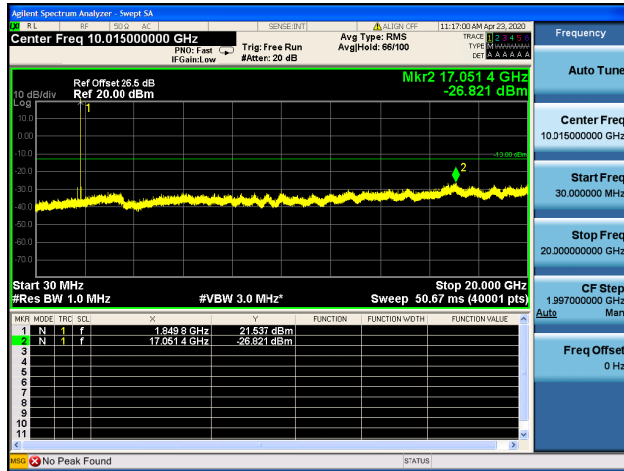


Band25 / 1.4MHz / High CH / 16QAM

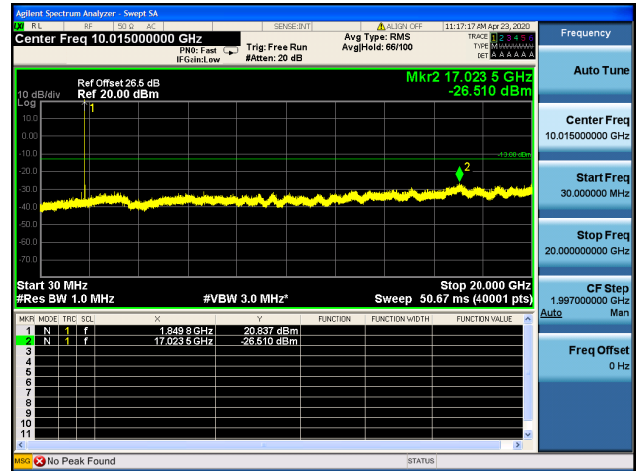




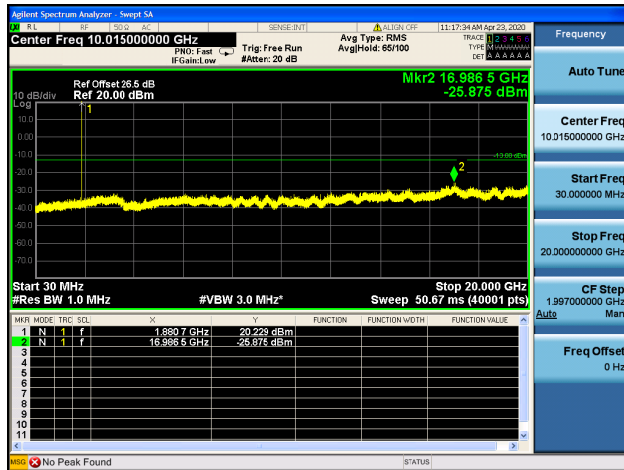
Band25 / 3MHz / Low CH / QPSK



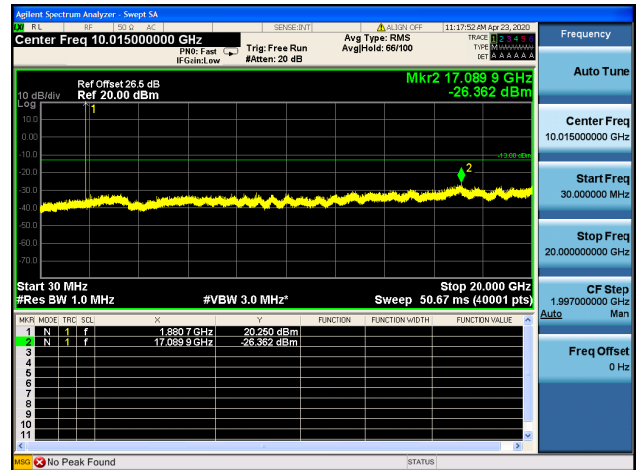
Band25 / 3MHz / Low CH / 16QAM



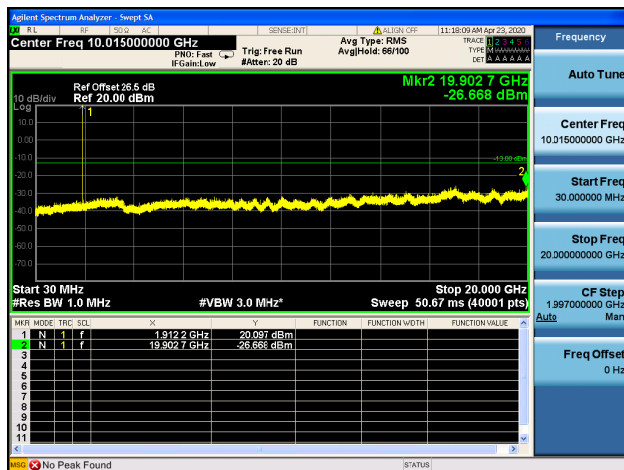
Band25 / 3MHz / Mid CH / QPSK



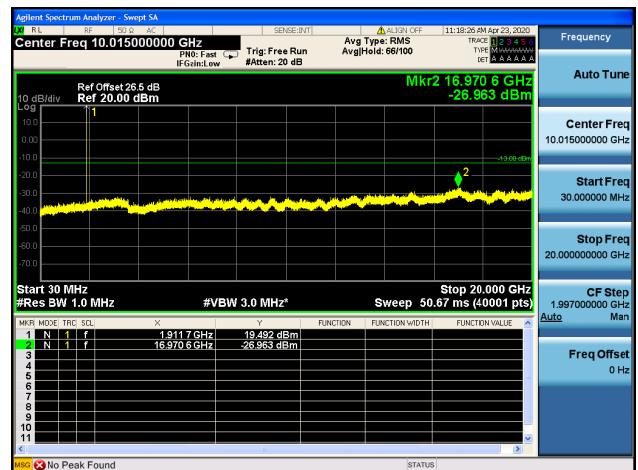
Band25 / 3MHz / Mid CH / 16QAM



Band25 / 3MHz / High CH / QPSK

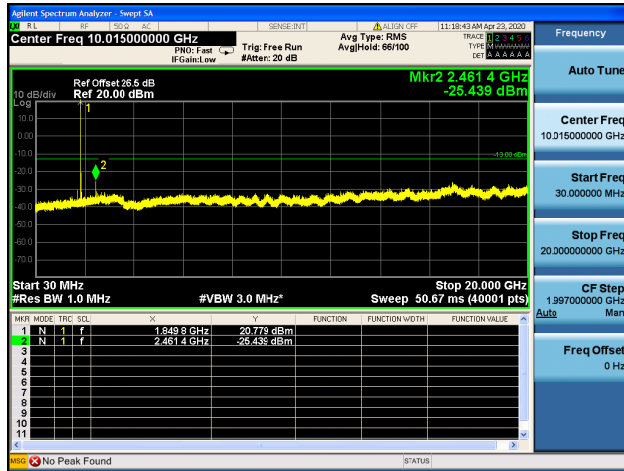


Band25 / 3MHz / High CH / 16QAM

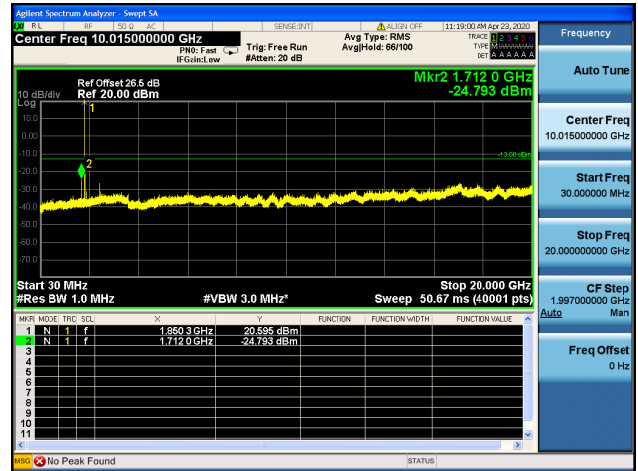




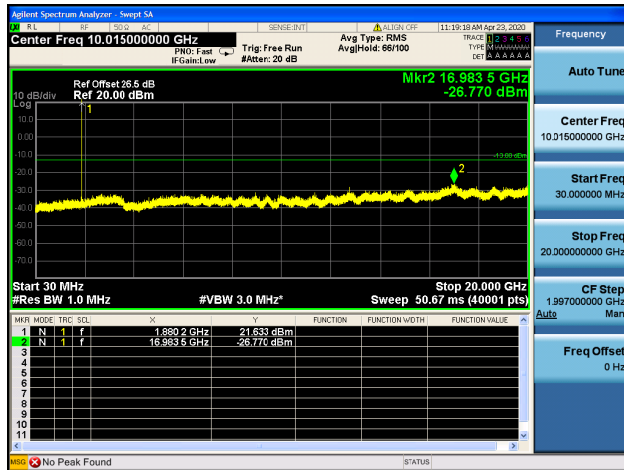
Band25 / 5MHz / Low CH / QPSK



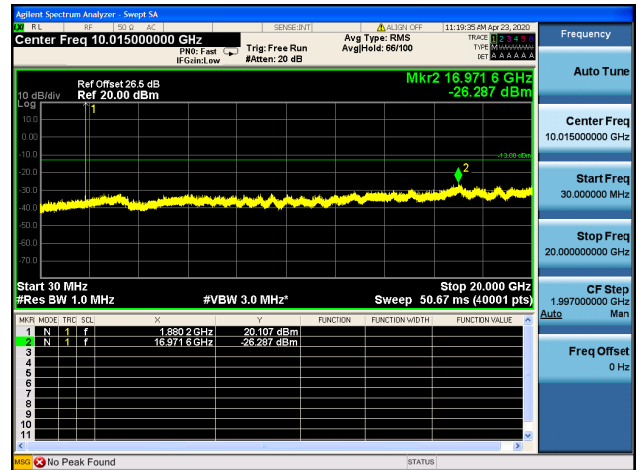
Band25 / 5MHz / Low CH / 16QAM



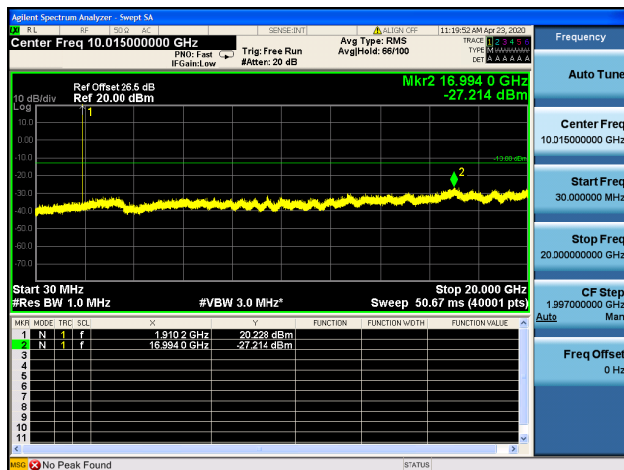
Band25 / 5MHz / Mid CH / QPSK



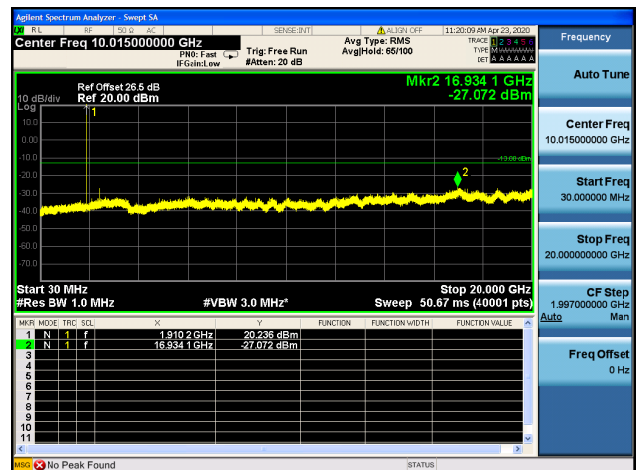
Band25 / 5MHz / Mid CH / 16QAM



Band25 / 5MHz / High CH / QPSK

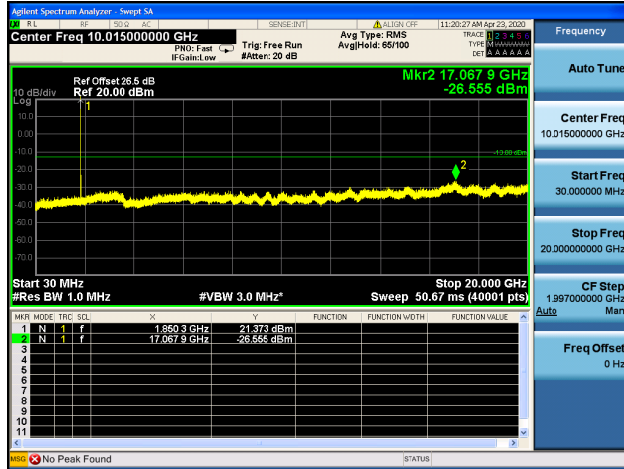


Band25 / 5MHz / High CH / 16QAM

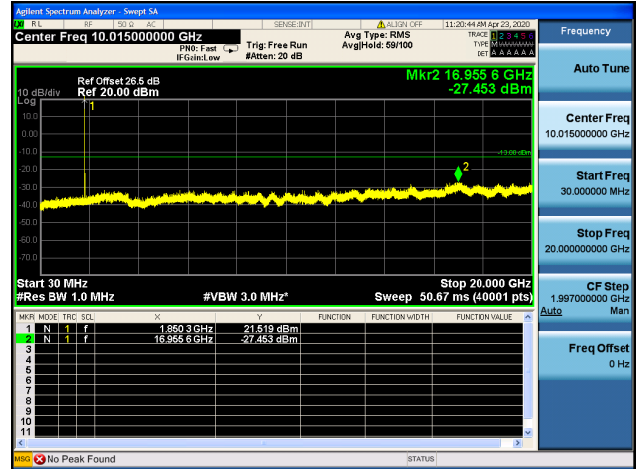




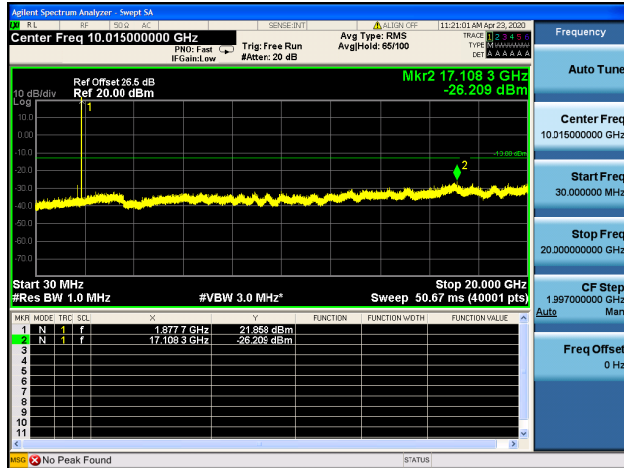
Band25 / 10MHz / Low CH / QPSK



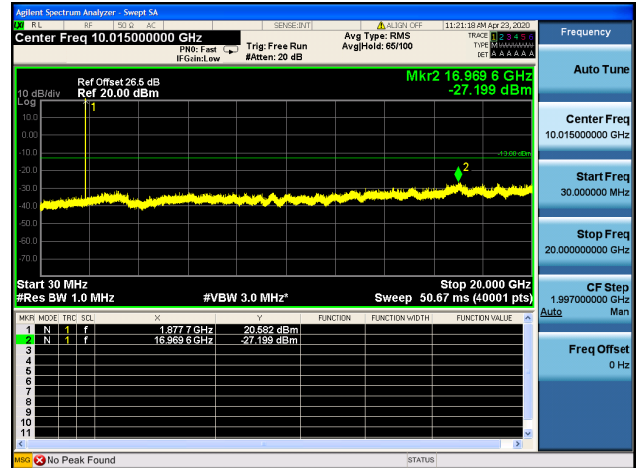
Band25 / 10MHz / Low CH / 16QAM



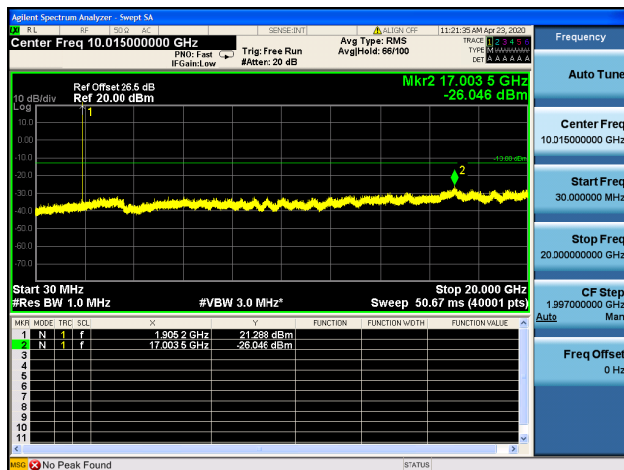
Band25 / 10MHz / Mid CH / QPSK



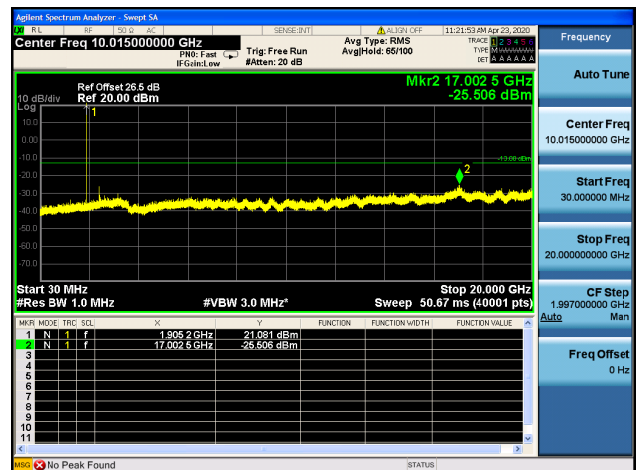
Band25 / 10MHz / Mid CH / 16QAM



Band25 / 10MHz / High CH / QPSK

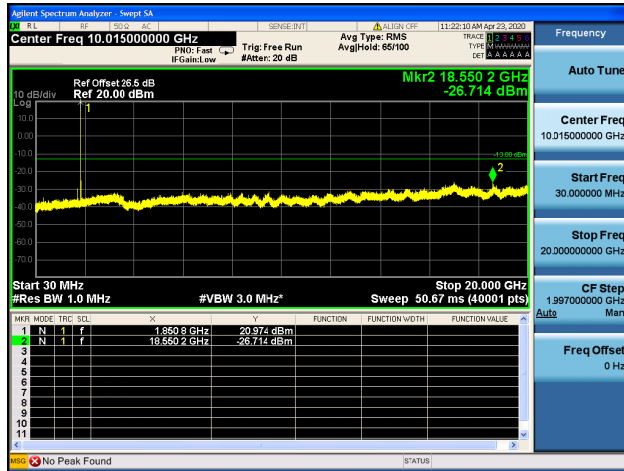


Band25 / 10MHz / High CH / 16QAM

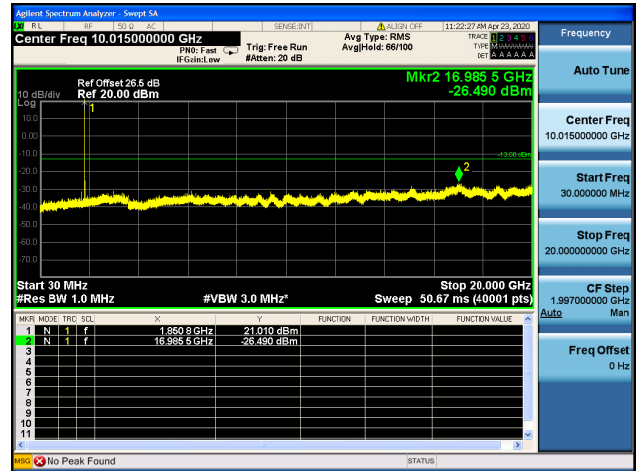




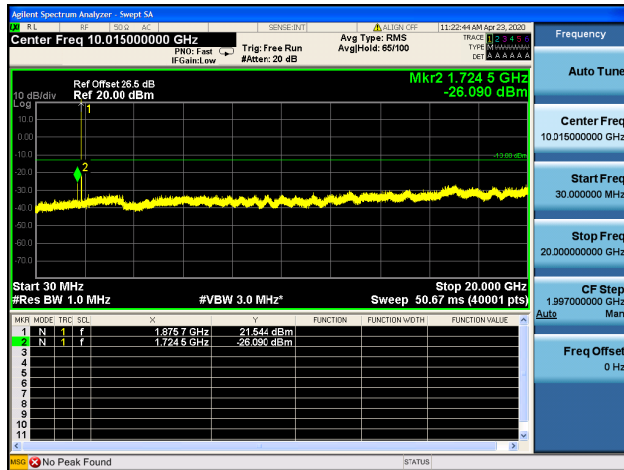
Band25 / 15MHz / Low CH / QPSK



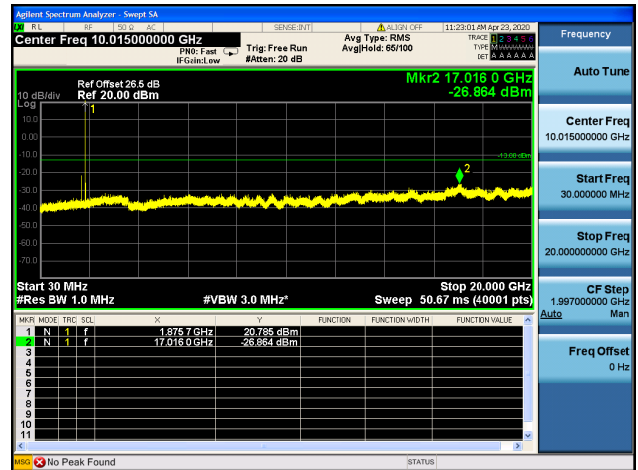
Band25 / 15MHz / Low CH / 16QAM



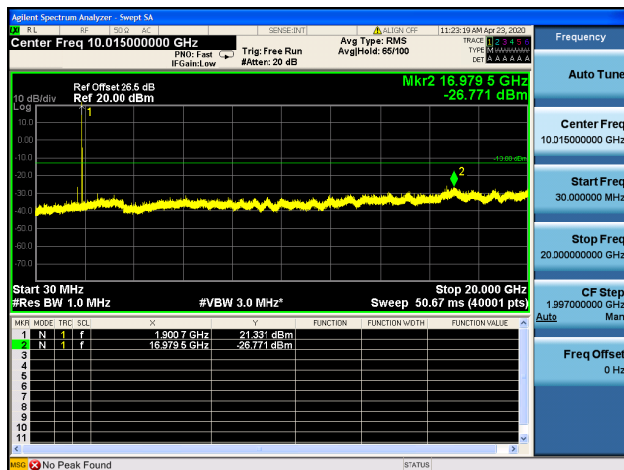
Band25 / 15MHz / Mid CH / QPSK



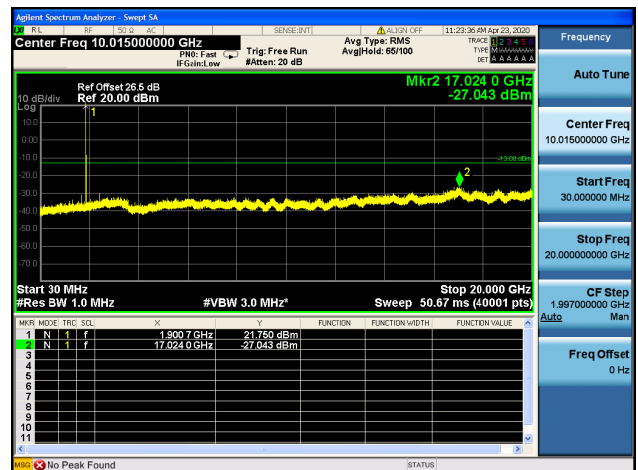
Band25 / 15MHz / Mid CH / 16QAM



Band25 / 15MHz / High CH / QPSK

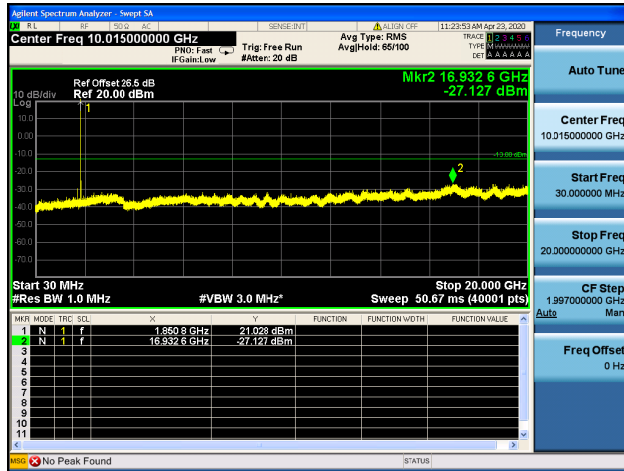


Band25 / 15MHz / High CH / 16QAM

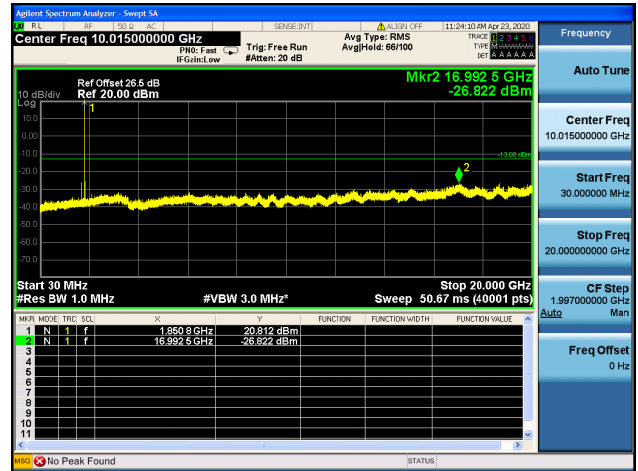




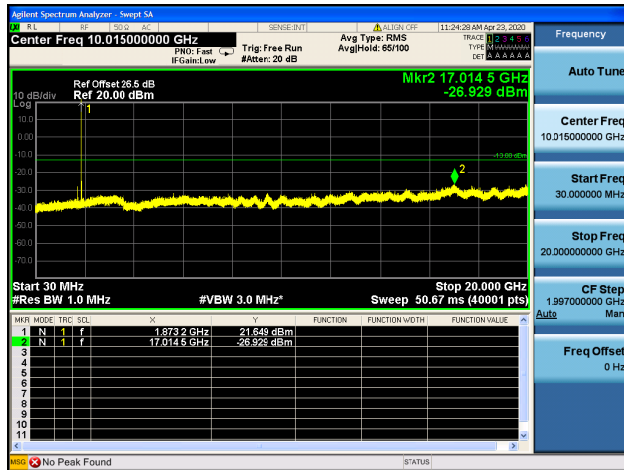
Band25 / 20MHz / Low CH / QPSK



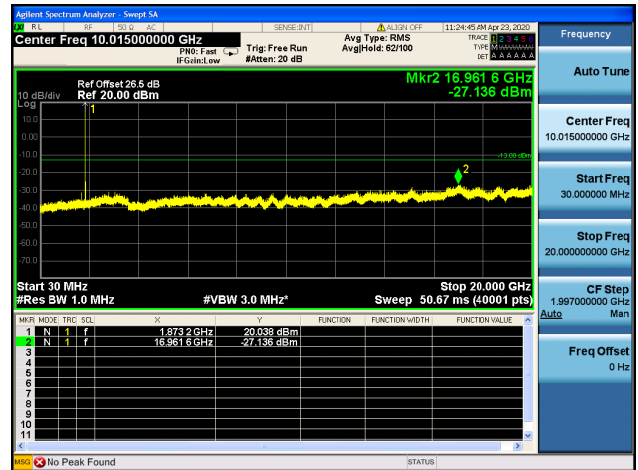
Band25 / 20MHz / Low CH / 16QAM



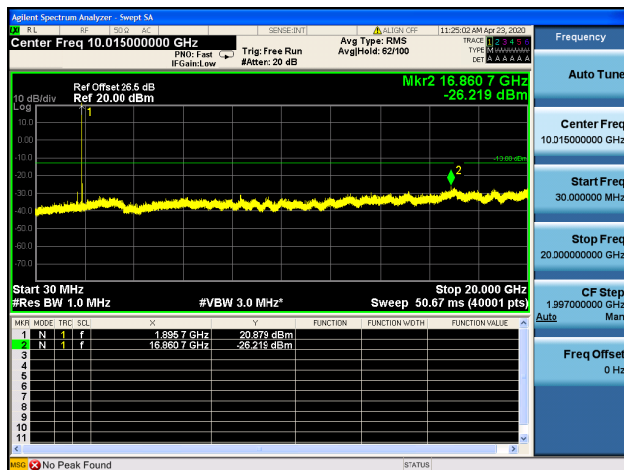
Band25 / 20MHz / Mid CH / QPSK



Band25 / 20MHz / Mid CH / 16QAM



Band25 / 20MHz / High CH / QPSK



Band25 / 20MHz / High CH / 16QAM

