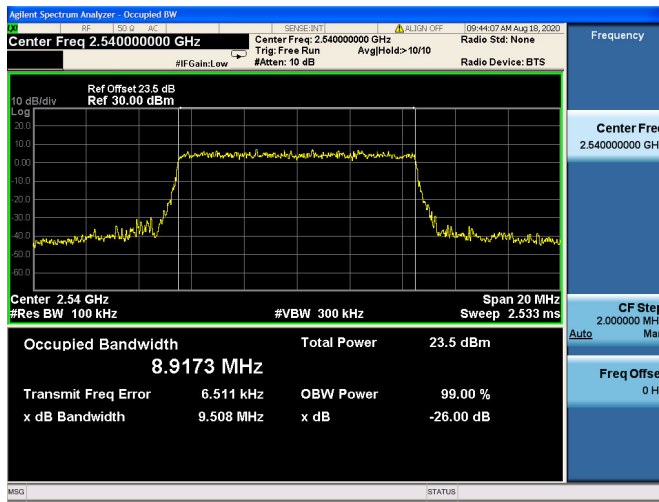
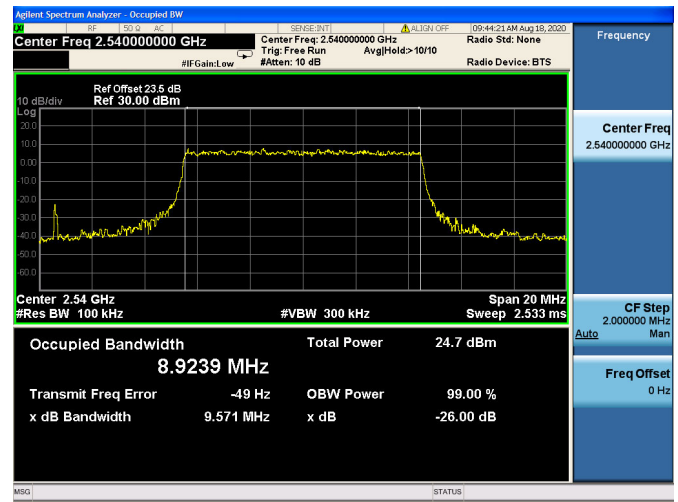




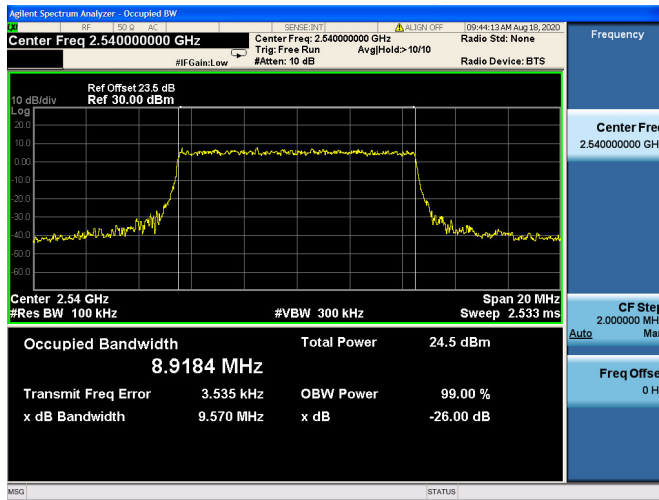
10MHz/QPSK / LCH



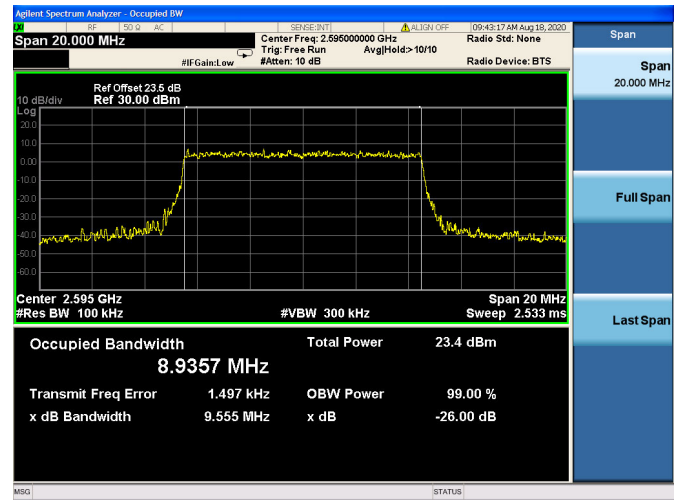
10MHz/16QAM / LCH



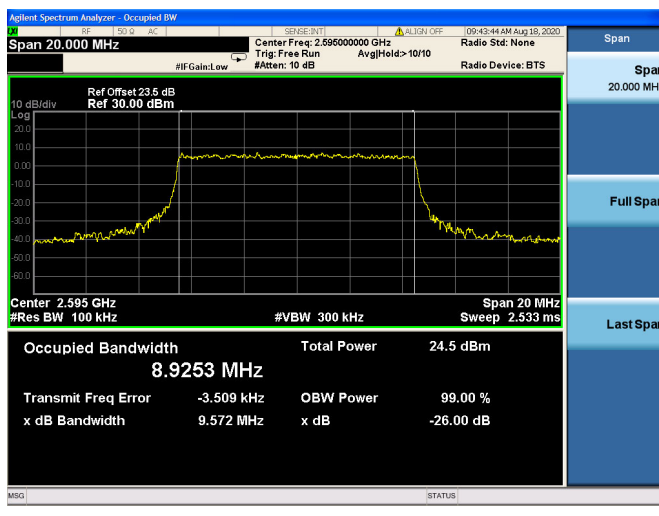
10MHz/ 64QAM / LCH



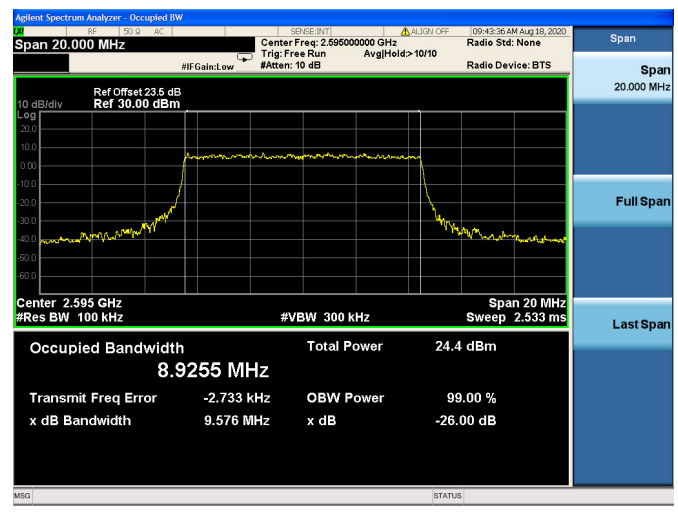
10MHz/QPSK / MCH



10MHz/ 16QAM / MCH

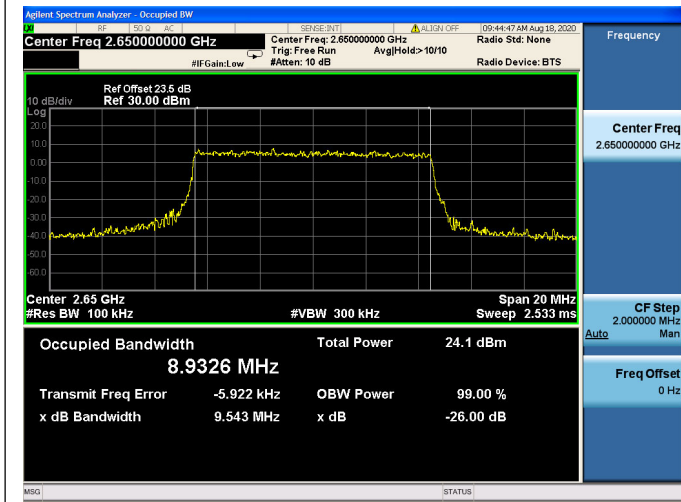


10MHz/ 64QAM / MCH

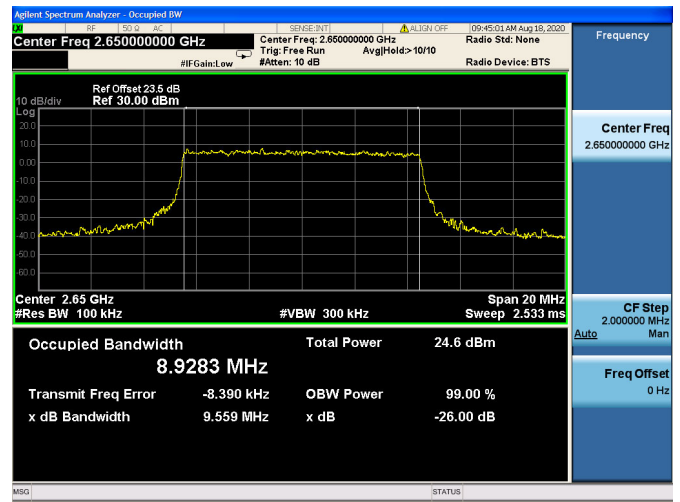




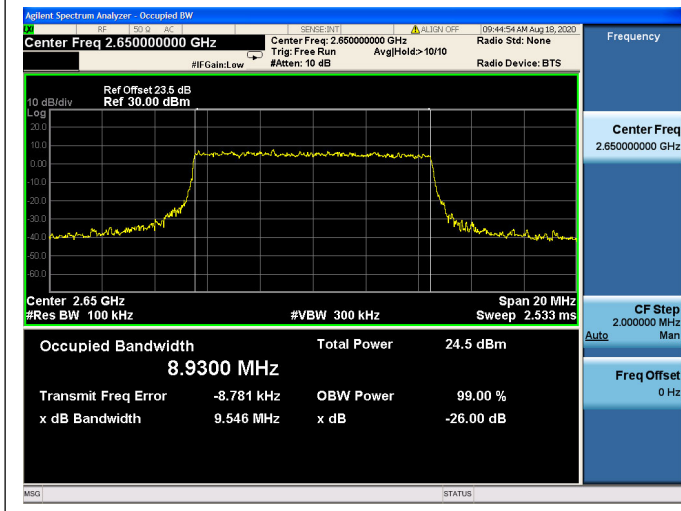
10MHz/ QPSK / HCH



10MHz/ 16QAM / HCH

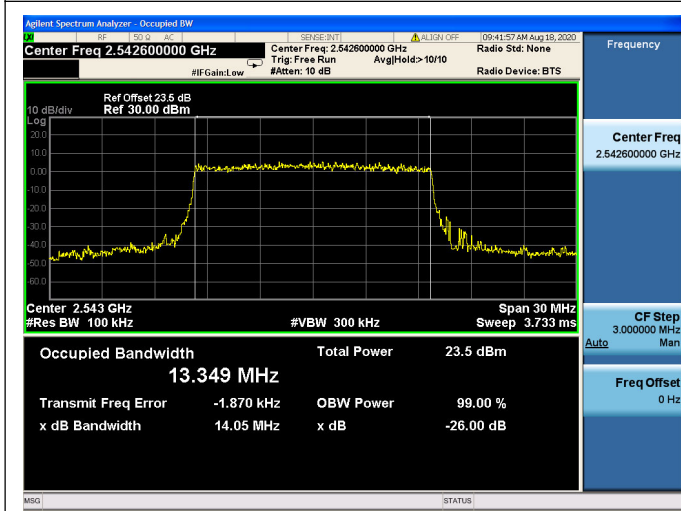


10MHz/ 64QAM / HCH

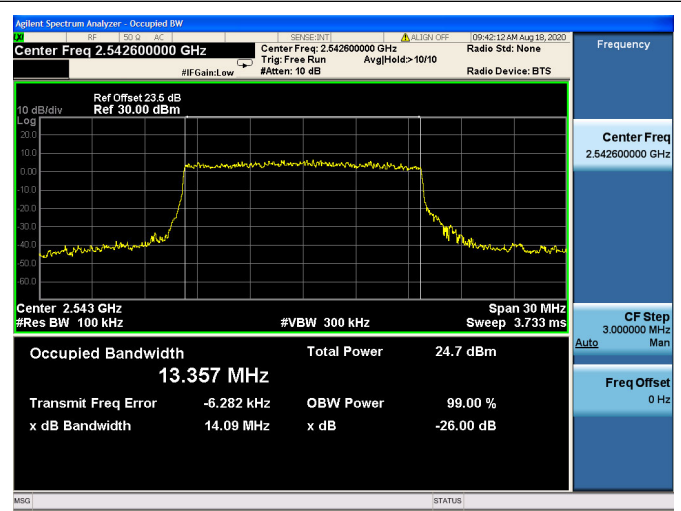




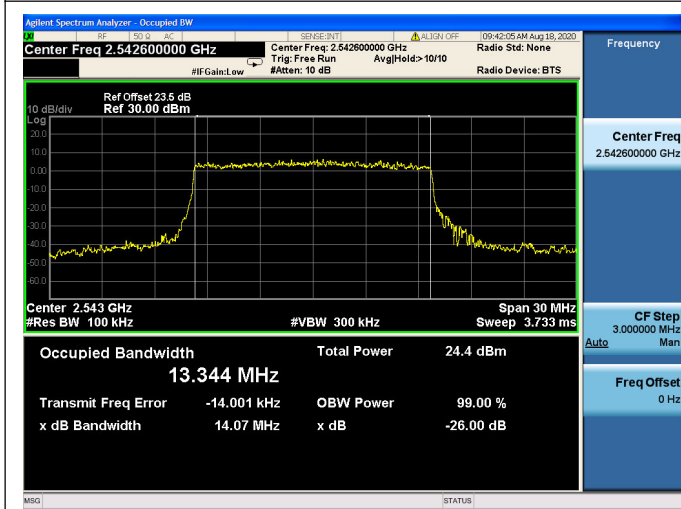
15MHz/QPSK / LCH



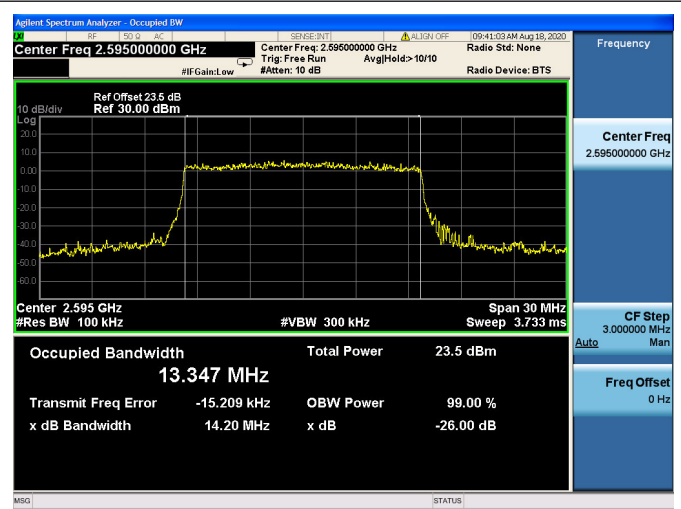
15MHz/16QAM / LCH



15MHz/ 64QAM / LCH



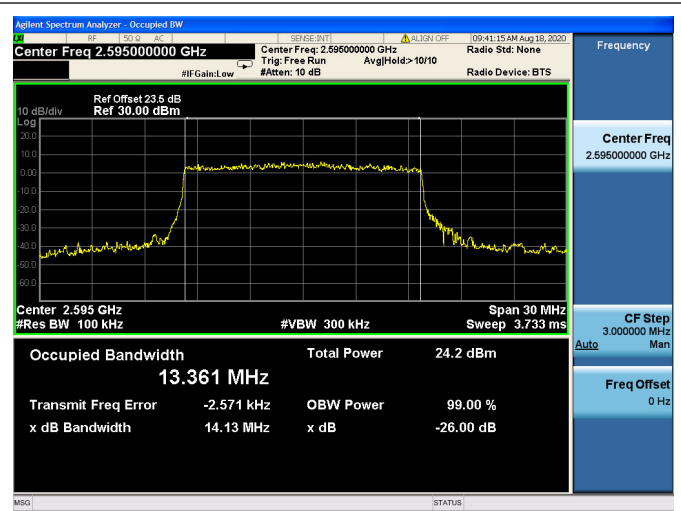
15MHz/QPSK / MCH



15MHz/ 16QAM / MCH

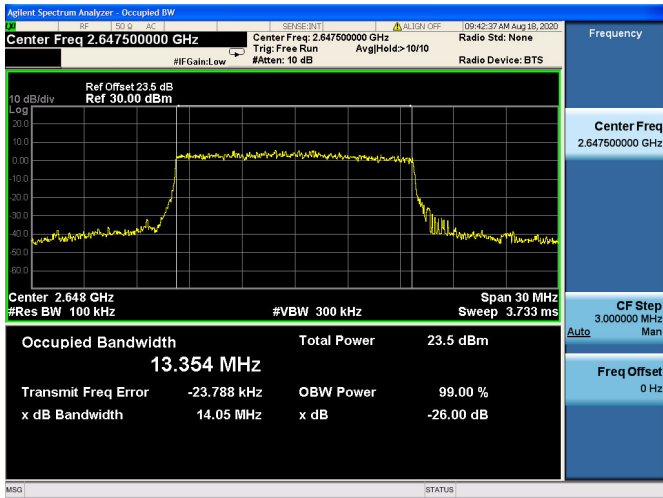


15MHz/ 64QAM / MCH

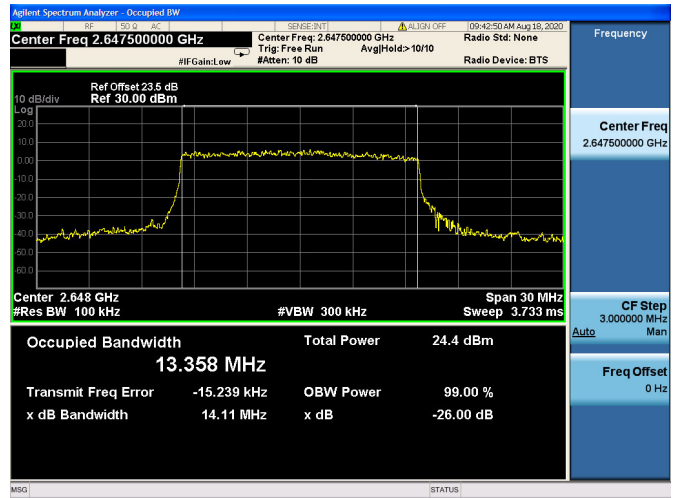




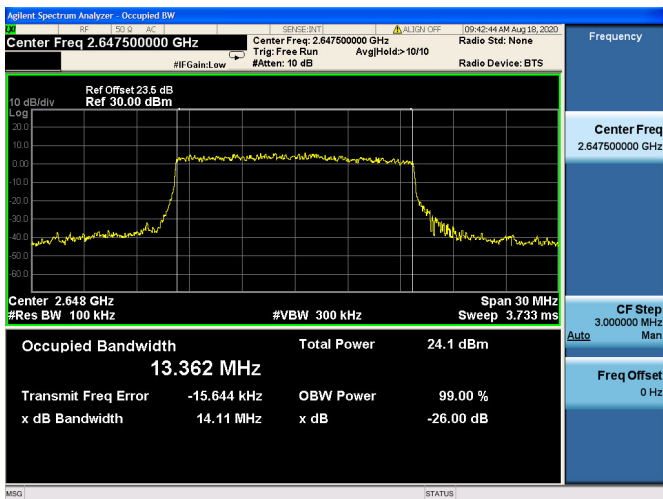
15MHz/ QPSK / HCH



15MHz/ 16QAM / HCH

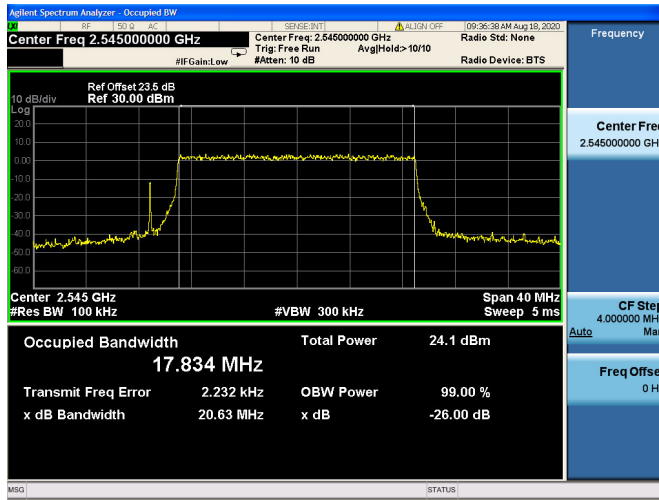


15MHz/ 64QAM / HCH

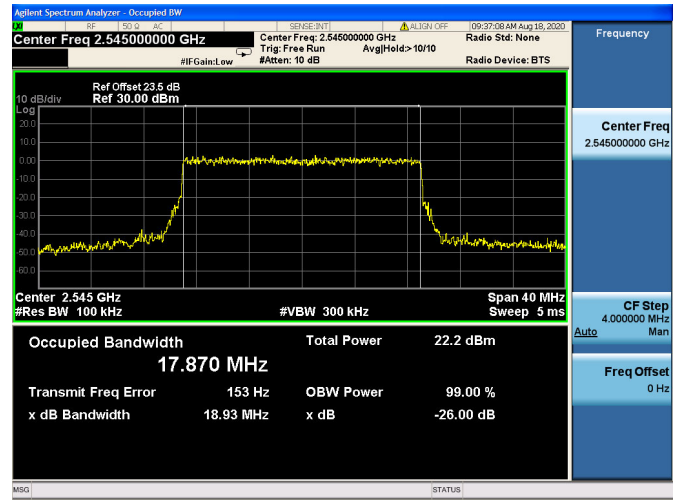




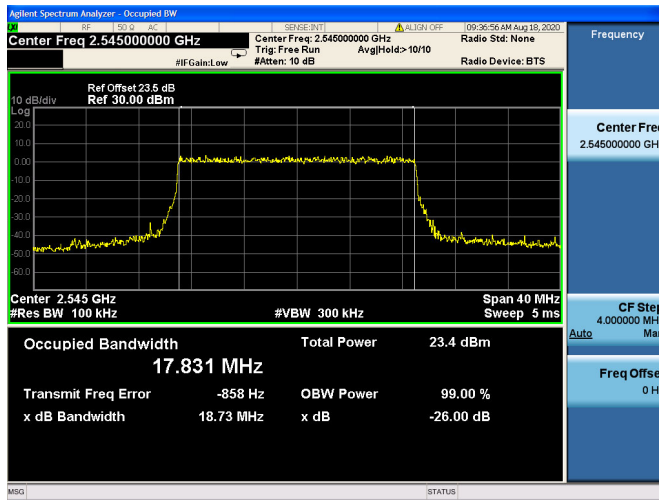
20MHz/QPSK / LCH



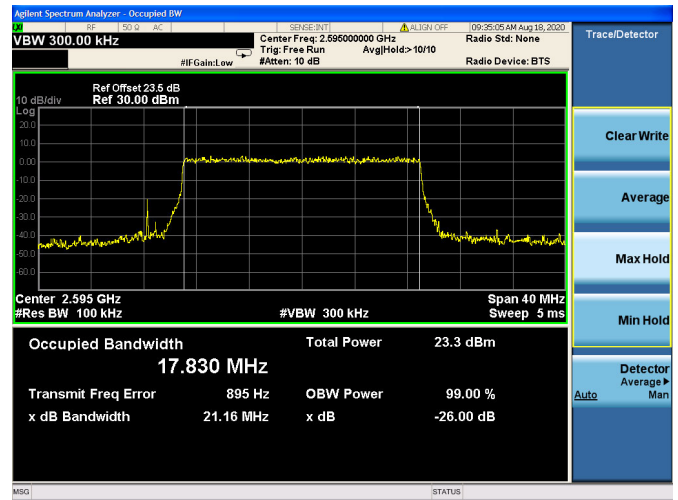
20MHz/16QAM / LCH



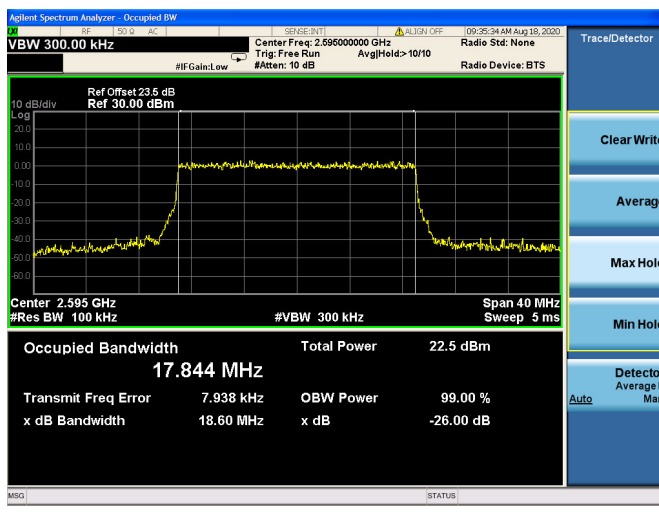
20MHz/ 64QAM / LCH



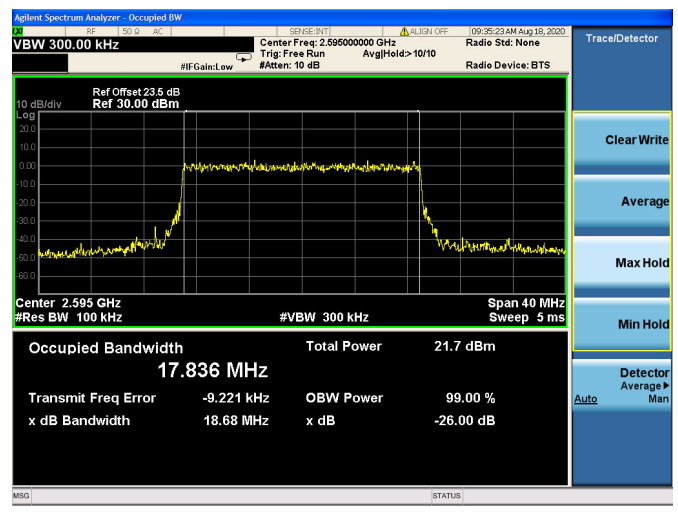
20MHz/QPSK / MCH

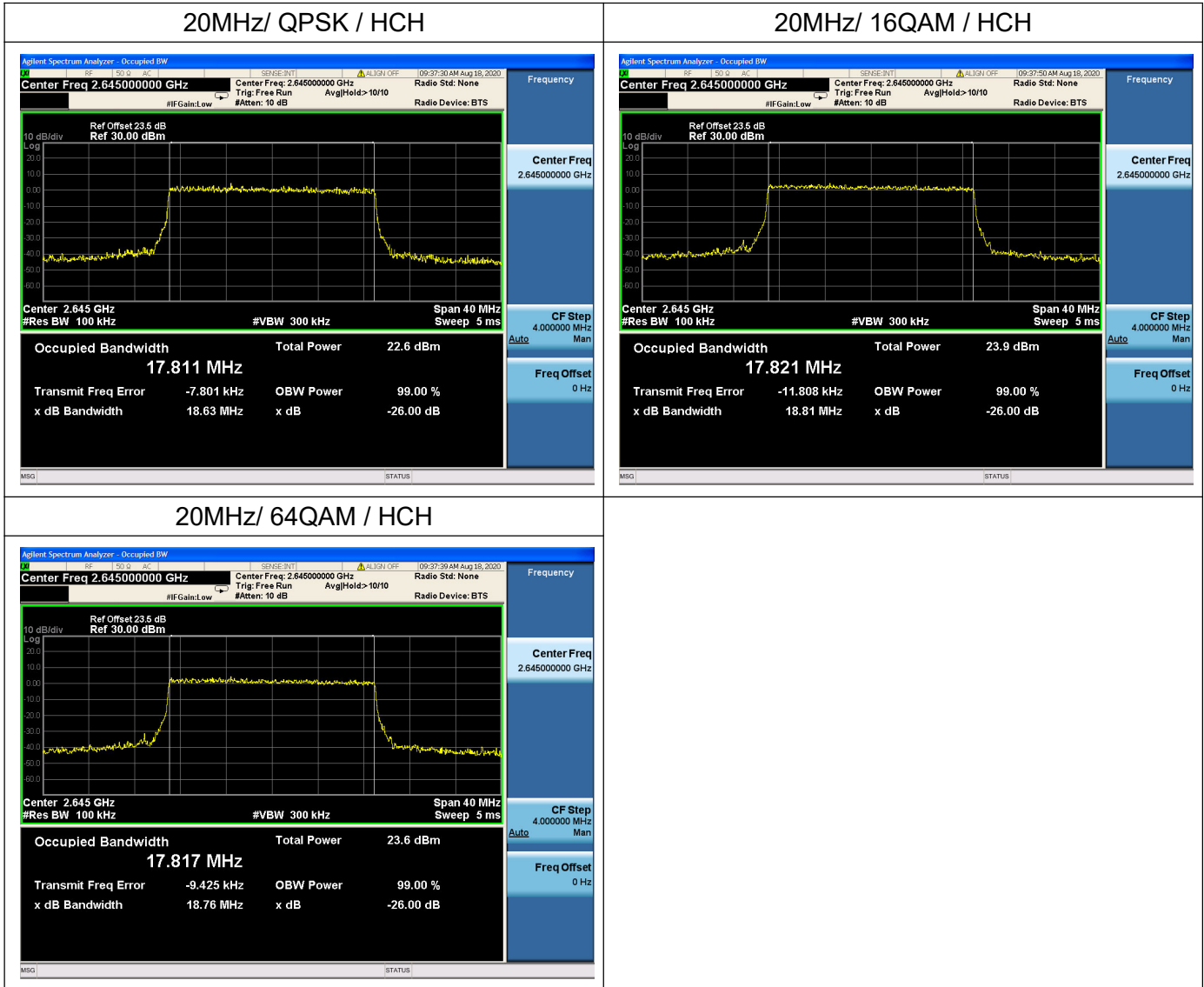


20MHz/ 16QAM / MCH



20MHz/ 64QAM / MCH





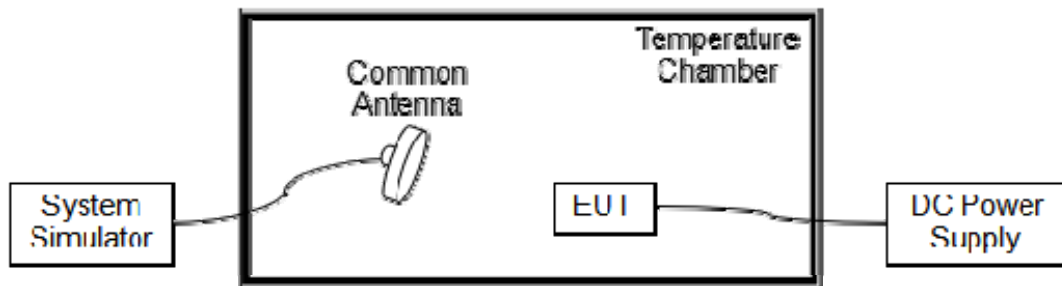
## 2.3. Frequency Stability

### 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  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  at intervals of not more than  $10^{\circ}\text{C}$ .
- (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 3.85VDC, 4.40VDC and 3.00VDC, which are specified by the applicant; the normal temperature here used is  $20^{\circ}\text{C}$ .



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	3.87	+20 (Ref)	53	0.028	PASS
100		-30	50	0.027	
100		-20	49	0.026	
100		-10	51	0.027	
100		0	43	0.023	
100		+10	-57	-0.030	
100		+20	42	0.022	
100		+30	-17	-0.009	
100		+40	-48	-0.026	
100		+50	44	0.023	
115	4.45	+20	-14	-0.007	
85	3.30	+20	54	0.029	

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	3.87	+20 (Ref)	52	0.030	PASS
100		-30	49	0.028	
100		-20	52	0.030	
100		-10	38	0.022	
100		0	44	0.025	
100		+10	-44	-0.025	
100		+20	-47	-0.027	
		+30	39	0.023	
100		+40	31	0.018	
100		+50	48	0.028	
115	4.45	+20	-16	-0.009	
85	3.30	+20	54	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	3.85	+20(Ref)	36	0.043	PASS
100		-30	38	0.045	
100		-20	37	0.044	
100		-10	41	0.049	
100		0	-31	-0.037	
100		+10	-52	-0.062	
100		+20	-42	-0.050	
100		+30	-38	-0.045	
100		+40	44	0.053	
100		+50	-52	-0.062	
115		4.40	+20	44	
85	3.00	+20	78	0.093	

LTE Band 7, QPSK, Channel 21100, Frequency 2535MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20 (Ref)	53	0.021	PASS
100		-30	47	0.019	
100		-20	50	0.020	
100		-10	45	0.018	
100		0	34	0.013	
100		+10	-43	-0.017	
100		+20	-32	-0.013	
100		+30	75	0.030	
100		+40	44	0.017	
100		+50	48	0.019	
115		4.45	+20	-42	
85	3.30	+20	50	0.020	



LTE Band 38, QPSK, Channel 38000, Frequency 2595MHz					
Limit=±1ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	-44	-0.017	PASS
100		-30	47	0.018	
100		-20	44	0.017	
100		-10	35	0.013	
100		0	35	0.013	
100		+10	-34	-0.013	
100		+20	-53	-0.020	
100		+30	36	0.014	
100		+40	-45	-0.017	
			+50	38	
115	4.40	+50	-53	-0.020	
85	3.00	+20	82	0.032	

LTE Band 40, QPSK, Channel 38750, Frequency 2310MHz					
Limit =±1ppm					
Voltage(%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	36	0.016	PASS
100		-30	47	0.020	
100		-20	33	0.014	
100		-10	38	0.016	
100		0	63	0.027	
100		+10	55	0.024	
100		+20	-54	-0.023	
100		+30	-66	-0.029	
100		+40	-44	-0.019	
100		+50	40	0.017	
115	4.40	+20	83	0.036	
85	3.00	+20	53	0.023	



LTE Band 41, QPSK, Channel 40640, Frequency 2595MHz					
Limit =±1ppm					
Voltage(%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	27	0.010	PASS
100		-30	36	0.014	
100		-20	41	0.016	
100		-10	34	0.013	
100		0	37	0.014	
100		+10	46	0.018	
100		+20	-61	-0.024	
100		+30	-72	-0.028	
100		+40	-52	-0.020	
100		+50	50	0.019	
115		4.40	+20	67	
85	3.00	+20	40	0.015	





LTE Band 2					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.57	<=13	PASS
1.4	Low	16QAM	5.66	<=13	PASS
1.4	Low	64QAM	5.63	<=13	PASS
1.4	Mid	QPSK	4.88	<=13	PASS
1.4	Mid	16QAM	5.91	<=13	PASS
1.4	Mid	64QAM	5.89	<=13	PASS
1.4	High	QPSK	4.59	<=13	PASS
1.4	High	16QAM	5.61	<=13	PASS
1.4	High	64QAM	5.61	<=13	PASS
3	Low	QPSK	4.53	<=13	PASS
3	Low	16QAM	5.73	<=13	PASS
3	Low	64QAM	5.69	<=13	PASS
3	Mid	QPSK	4.74	<=13	PASS
3	Mid	16QAM	6.00	<=13	PASS
3	Mid	64QAM	5.94	<=13	PASS
3	High	QPSK	4.56	<=13	PASS
3	High	16QAM	5.78	<=13	PASS
3	High	64QAM	5.73	<=13	PASS
5	Low	QPSK	4.73	<=13	PASS
5	Low	16QAM	5.76	<=13	PASS
5	Low	64QAM	5.76	<=13	PASS
5	Mid	QPSK	4.88	<=13	PASS
5	Mid	16QAM	5.96	<=13	PASS
5	Mid	64QAM	5.95	<=13	PASS
5	High	QPSK	4.79	<=13	PASS
5	High	16QAM	5.81	<=13	PASS
5	High	64QAM	5.82	<=13	PASS
10	Low	QPSK	4.97	<=13	PASS
10	Low	16QAM	5.98	<=13	PASS
10	Low	64QAM	5.97	<=13	PASS
10	Mid	QPSK	4.90	<=13	PASS
10	Mid	16QAM	5.99	<=13	PASS
10	Mid	64QAM	5.99	<=13	PASS
10	High	QPSK	4.77	<=13	PASS
10	High	16QAM	5.90	<=13	PASS
10	High	64QAM	5.91	<=13	PASS



15	Low	QPSK	5.83	<=13	PASS
15	Low	16QAM	4.58	<=13	PASS
15	Low	64QAM	5.82	<=13	PASS
15	Mid	QPSK	5.80	<=13	PASS
15	Mid	16QAM	4.64	<=13	PASS
15	Mid	64QAM	5.87	<=13	PASS
15	High	QPSK	5.86	<=13	PASS
15	High	16QAM	4.93	<=13	PASS
15	High	64QAM	6.01	<=13	PASS
20	Low	QPSK	5.99	<=13	PASS
20	Low	16QAM	4.73	<=13	PASS
20	Low	64QAM	5.91	<=13	PASS
20	Mid	QPSK	5.90	<=13	PASS
20	Mid	16QAM	4.92	<=13	PASS
20	Mid	64QAM	6.04	<=13	PASS
20	High	QPSK	6.00	<=13	PASS
20	High	16QAM	5.83	<=13	PASS
20	High	64QAM	4.58	<=13	PASS



LTE Band 4					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.60	<=13	PASS
1.4	Low	16QAM	5.66	<=13	PASS
1.4	Low	64QAM	5.65	<=13	PASS
1.4	Mid	QPSK	4.31	<=13	PASS
1.4	Mid	16QAM	5.31	<=13	PASS
1.4	Mid	64QAM	5.33	<=13	PASS
1.4	High	QPSK	4.44	<=13	PASS
1.4	High	16QAM	5.44	<=13	PASS
1.4	High	64QAM	5.46	<=13	PASS
3	Low	QPSK	4.55	<=13	PASS
3	Low	16QAM	5.79	<=13	PASS
3	Low	64QAM	5.73	<=13	PASS
3	Mid	QPSK	4.29	<=13	PASS
3	Mid	16QAM	5.47	<=13	PASS
3	Mid	64QAM	5.46	<=13	PASS
3	High	QPSK	4.40	<=13	PASS
3	High	16QAM	5.57	<=13	PASS
3	High	64QAM	5.51	<=13	PASS
5	Low	QPSK	4.76	<=13	PASS
5	Low	16QAM	5.80	<=13	PASS
5	Low	64QAM	5.67	<=13	PASS
5	Mid	QPSK	4.55	<=13	PASS
5	Mid	16QAM	5.59	<=13	PASS
5	Mid	64QAM	5.56	<=13	PASS
5	High	QPSK	4.65	<=13	PASS
5	High	16QAM	5.65	<=13	PASS
5	High	64QAM	5.65	<=13	PASS
10	Low	QPSK	4.74	<=13	PASS
10	Low	16QAM	5.87	<=13	PASS
10	Low	64QAM	5.77	<=13	PASS
10	Mid	QPSK	4.58	<=13	PASS
10	Mid	16QAM	5.60	<=13	PASS
10	Mid	64QAM	5.61	<=13	PASS
10	High	QPSK	4.72	<=13	PASS
10	High	16QAM	5.76	<=13	PASS
10	High	64QAM	5.77	<=13	PASS



15	Low	QPSK	4.59	<=13	PASS
15	Low	16QAM	5.82	<=13	PASS
15	Low	64QAM	5.74	<=13	PASS
15	Mid	QPSK	4.46	<=13	PASS
15	Mid	16QAM	5.65	<=13	PASS
15	Mid	64QAM	5.62	<=13	PASS
15	High	QPSK	4.48	<=13	PASS
15	High	16QAM	5.64	<=13	PASS
15	High	64QAM	5.63	<=13	PASS
20	Low	QPSK	4.71	<=13	PASS
20	Low	16QAM	5.84	<=13	PASS
20	Low	64QAM	5.81	<=13	PASS
20	Mid	QPSK	4.43	<=13	PASS
20	Mid	16QAM	5.55	<=13	PASS
20	Mid	64QAM	5.53	<=13	PASS
20	High	QPSK	4.66	<=13	PASS
20	High	16QAM	5.76	<=13	PASS
20	High	64QAM	5.76	<=13	PASS





LTE Band 7					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	4.76	<=13	PASS
5	Low	16QAM	5.79	<=13	PASS
5	Low	64QAM	5.80	<=13	PASS
5	Mid	QPSK	4.82	<=13	PASS
5	Mid	16QAM	5.96	<=13	PASS
5	Mid	64QAM	5.90	<=13	PASS
5	High	QPSK	4.79	<=13	PASS
5	High	16QAM	5.89	<=13	PASS
5	High	64QAM	5.87	<=13	PASS
10	Low	QPSK	4.74	<=13	PASS
10	Low	16QAM	5.82	<=13	PASS
10	Low	64QAM	5.82	<=13	PASS
10	Mid	QPSK	4.86	<=13	PASS
10	Mid	16QAM	5.94	<=13	PASS
10	Mid	64QAM	5.92	<=13	PASS
10	High	QPSK	4.88	<=13	PASS
10	High	16QAM	5.98	<=13	PASS
10	High	64QAM	5.98	<=13	PASS
15	Low	QPSK	4.48	<=13	PASS
15	Low	16QAM	5.66	<=13	PASS
15	Low	64QAM	5.66	<=13	PASS
15	Mid	QPSK	4.58	<=13	PASS
15	Mid	16QAM	5.82	<=13	PASS
15	Mid	64QAM	5.81	<=13	PASS
15	High	QPSK	4.57	<=13	PASS
15	High	16QAM	5.78	<=13	PASS
15	High	64QAM	5.78	<=13	PASS
20	Low	QPSK	4.65	<=13	PASS
20	Low	16QAM	5.78	<=13	PASS
20	Low	64QAM	5.77	<=13	PASS
20	Mid	QPSK	4.70	<=13	PASS
20	Mid	16QAM	5.85	<=13	PASS
20	Mid	64QAM	5.83	<=13	PASS
20	High	QPSK	4.77	<=13	PASS
20	High	16QAM	5.91	<=13	PASS
20	High	64QAM	5.89	<=13	PASS



LTE Band 38					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	8.54	<=13	PASS
5	Low	16QAM	8.53	<=13	PASS
5	Low	64QAM	8.17	<=13	PASS
5	Mid	QPSK	8.24	<=13	PASS
5	Mid	16QAM	8.54	<=13	PASS
5	Mid	64QAM	8.47	<=13	PASS
5	High	QPSK	8.66	<=13	PASS
5	High	16QAM	8.56	<=13	PASS
5	High	64QAM	8.53	<=13	PASS
10	Low	QPSK	8.85	<=13	PASS
10	Low	16QAM	8.58	<=13	PASS
10	Low	64QAM	8.38	<=13	PASS
10	Mid	QPSK	8.67	<=13	PASS
10	Mid	16QAM	8.50	<=13	PASS
10	Mid	64QAM	8.60	<=13	PASS
10	High	QPSK	8.38	<=13	PASS
10	High	16QAM	8.59	<=13	PASS
10	High	64QAM	8.57	<=13	PASS
15	Low	QPSK	9.29	<=13	PASS
15	Low	16QAM	9.51	<=13	PASS
15	Low	64QAM	9.34	<=13	PASS
15	Mid	QPSK	9.53	<=13	PASS
15	Mid	16QAM	9.49	<=13	PASS
15	Mid	64QAM	10.52	<=13	PASS
15	High	QPSK	9.22	<=13	PASS
15	High	16QAM	9.47	<=13	PASS
15	High	64QAM	9.35	<=13	PASS
20	Low	QPSK	10.07	<=13	PASS
20	Low	16QAM	10.74	<=13	PASS
20	Low	64QAM	10.13	<=13	PASS
20	Mid	QPSK	10.18	<=13	PASS
20	Mid	16QAM	10.08	<=13	PASS
20	Mid	64QAM	9.69	<=13	PASS
20	High	QPSK	10.55	<=13	PASS
20	High	16QAM	9.61	<=13	PASS
20	High	64QAM	10.43	<=13	PASS



LTE Band 40(2305MHz-2315MHz)					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	8.27	<=13	PASS
5	Low	16QAM	8.77	<=13	PASS
5	Low	64QAM	7.40	<=13	PASS
5	Mid	QPSK	9.29	<=13	PASS
5	Mid	16QAM	9.00	<=13	PASS
5	Mid	64QAM	9.15	<=13	PASS
5	High	QPSK	8.78	<=13	PASS
5	High	16QAM	8.88	<=13	PASS
5	High	64QAM	9.01	<=13	PASS
10	Mid	QPSK	8.37	<=13	PASS
10	Mid	16QAM	8.43	<=13	PASS
10	Mid	64QAM	8.38	<=13	PASS

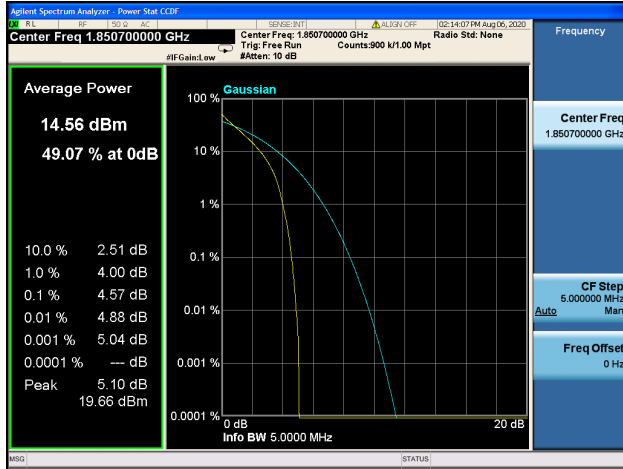
LTE Band 40(2350Hz-2360MHz)					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	8.12	<=13	PASS
5	Low	16QAM	9.25	<=13	PASS
5	Low	64QAM	8.16	<=13	PASS
5	Mid	QPSK	8.09	<=13	PASS
5	Mid	16QAM	8.79	<=13	PASS
5	Mid	64QAM	8.97	<=13	PASS
5	High	QPSK	8.23	<=13	PASS
5	High	16QAM	8.70	<=13	PASS
5	High	64QAM	8.99	<=13	PASS
10	Mid	QPSK	8.61	<=13	PASS
10	Mid	16QAM	8.61	<=13	PASS
10	Mid	64QAM	8.11	<=13	PASS



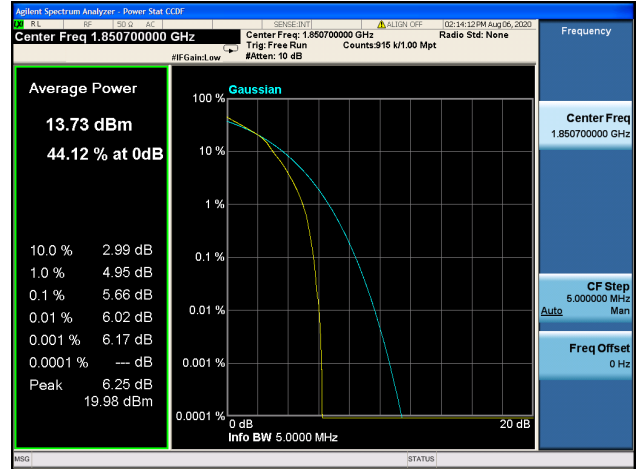
LTE Band 41					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	8.92	<=13	PASS
5	Low	16QAM	8.29	<=13	PASS
5	Low	64QAM	8.18	<=13	PASS
5	Mid	QPSK	8.11	<=13	PASS
5	Mid	16QAM	8.94	<=13	PASS
5	Mid	64QAM	8.22	<=13	PASS
5	High	QPSK	9.23	<=13	PASS
5	High	16QAM	8.17	<=13	PASS
5	High	64QAM	8.31	<=13	PASS
10	Low	QPSK	8.21	<=13	PASS
10	Low	16QAM	8.81	<=13	PASS
10	Low	64QAM	8.61	<=13	PASS
10	Mid	QPSK	8.49	<=13	PASS
10	Mid	16QAM	8.36	<=13	PASS
10	Mid	64QAM	8.27	<=13	PASS
10	High	QPSK	8.42	<=13	PASS
10	High	16QAM	8.56	<=13	PASS
10	High	64QAM	8.52	<=13	PASS
15	Low	QPSK	9.64	<=13	PASS
15	Low	16QAM	8.71	<=13	PASS
15	Low	64QAM	9.79	<=13	PASS
15	Mid	QPSK	9.06	<=13	PASS
15	Mid	16QAM	9.58	<=13	PASS
15	Mid	64QAM	9.34	<=13	PASS
15	High	QPSK	9.42	<=13	PASS
15	High	16QAM	9.11	<=13	PASS
15	High	64QAM	9.50	<=13	PASS
20	Low	QPSK	11.07	<=13	PASS
20	Low	16QAM	9.93	<=13	PASS
20	Low	64QAM	10.14	<=13	PASS
20	Mid	QPSK	10.17	<=13	PASS
20	Mid	16QAM	10.23	<=13	PASS
20	Mid	64QAM	10.23	<=13	PASS
20	High	QPSK	9.97	<=13	PASS
20	High	16QAM	10.15	<=13	PASS
20	High	64QAM	10.26	<=13	PASS



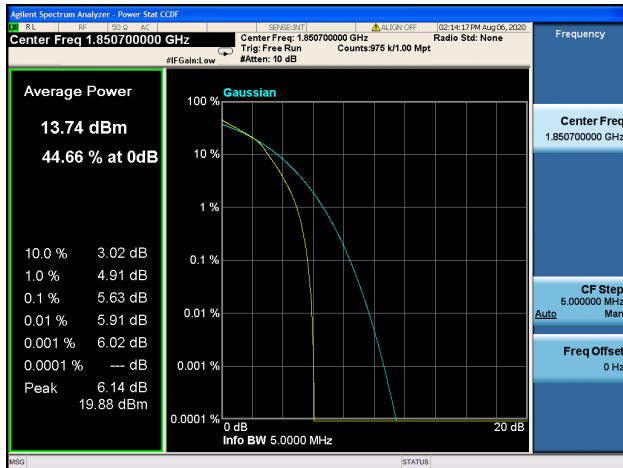
Band2 / 1.4MHz / Low CH / QPSK



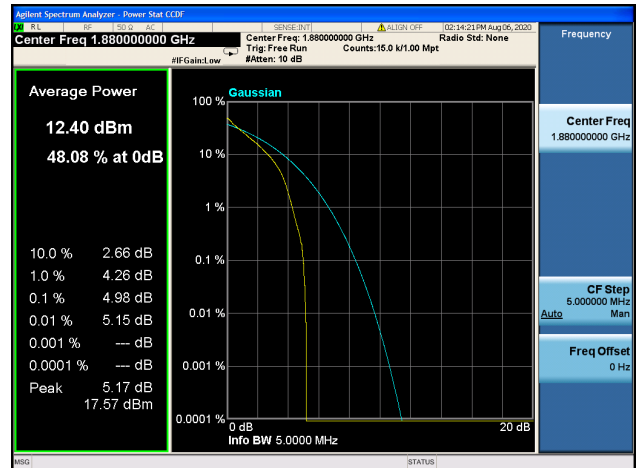
Band2 / 1.4MHz / Low CH / 16QAM



Band2 / 1.4MHz / Low CH / 64QAM



Band2 / 1.4MHz / Mid CH / QPSK



Band2 / 1.4MHz / Mid CH / 16QAM



Band2 / 1.4MHz / Mid CH / 64QAM

