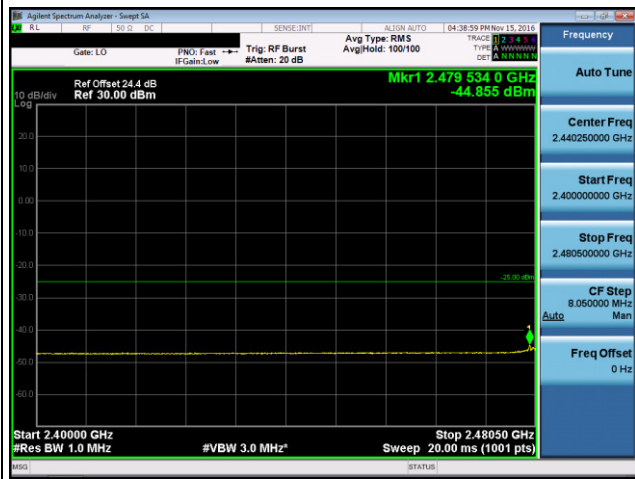
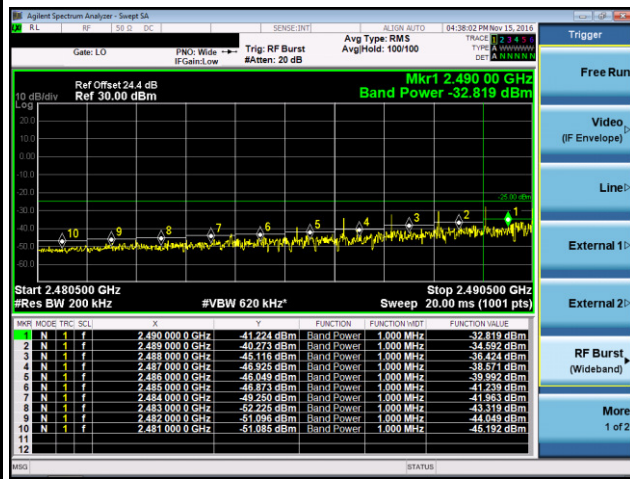
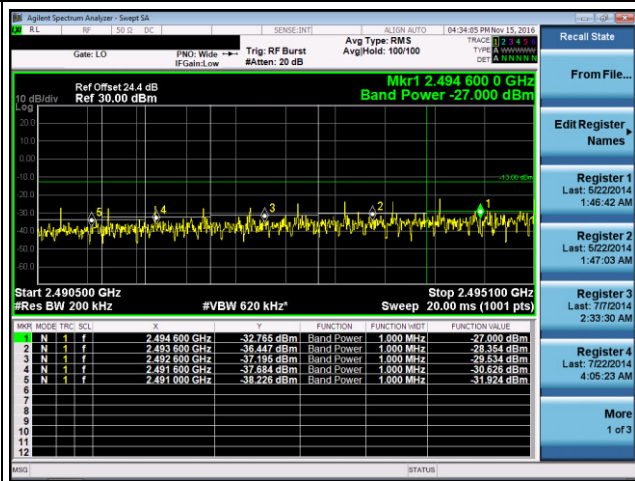
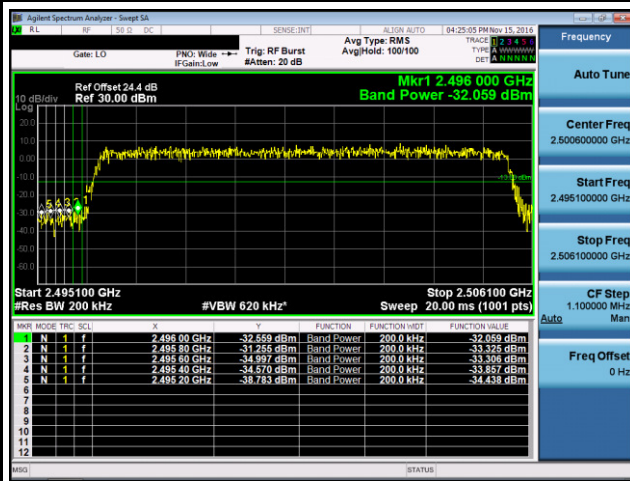


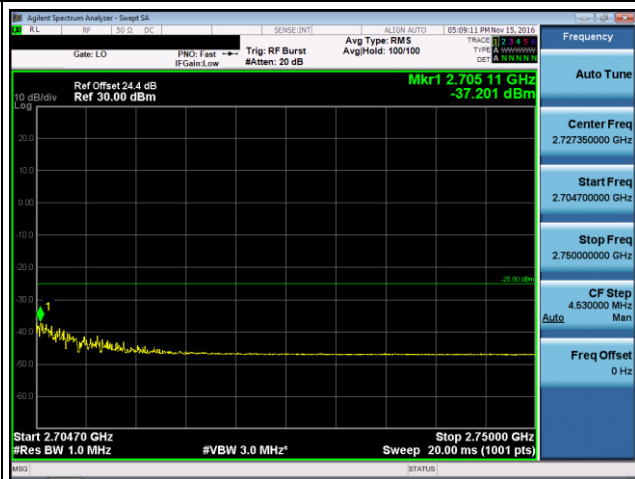
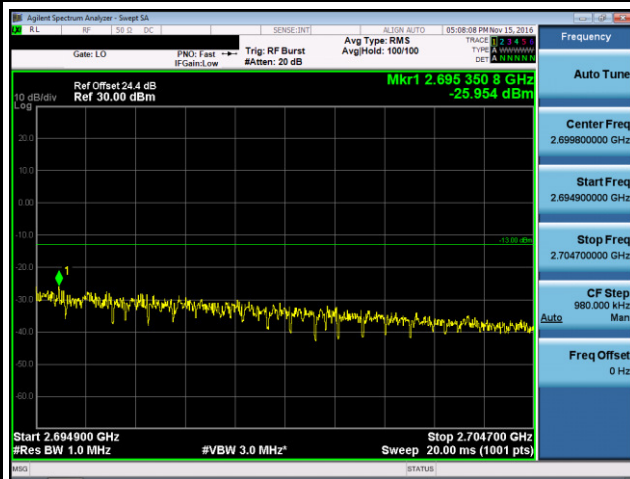
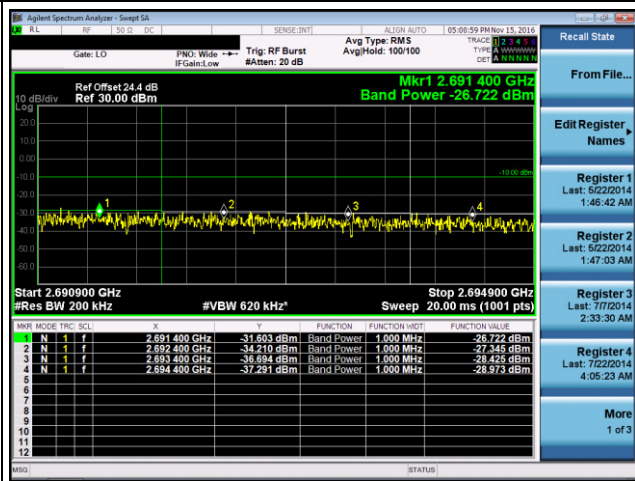
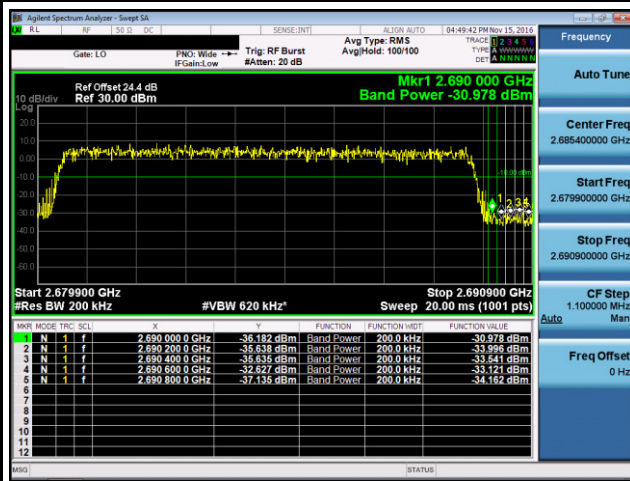
Mode CB: 10MHz, 64QAM

Low Channel



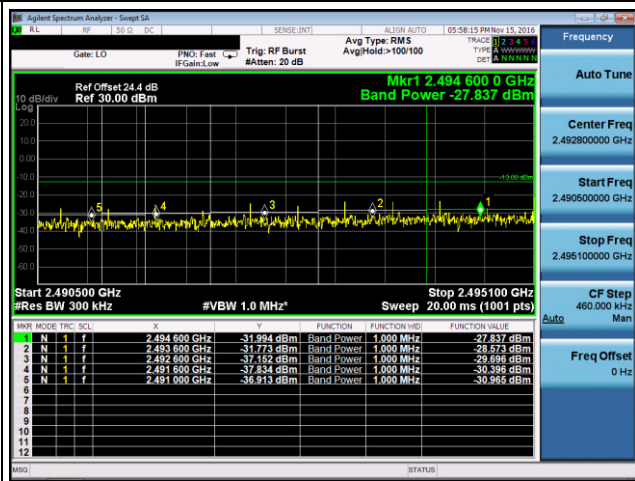
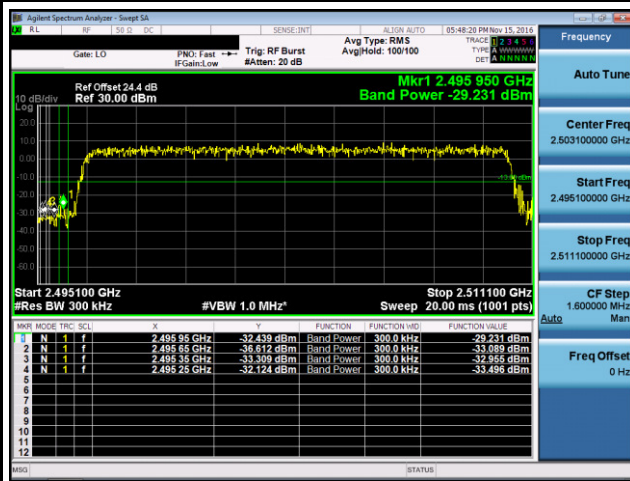
Mode CB: 10MHz, 64QAM

High Channel



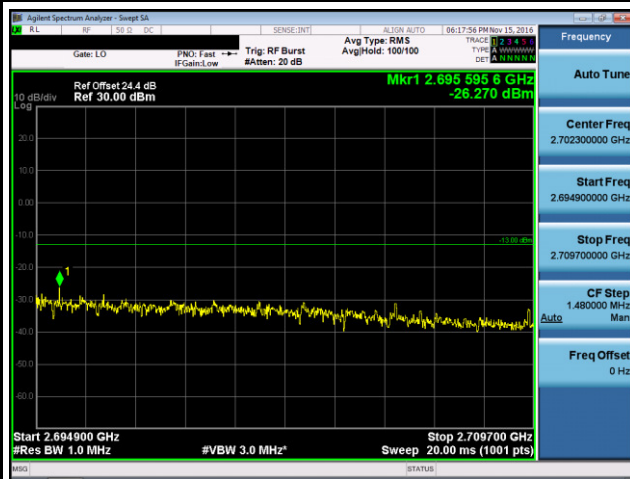
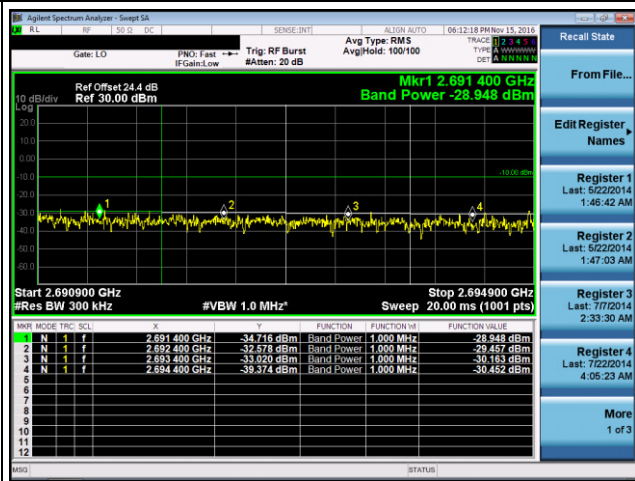
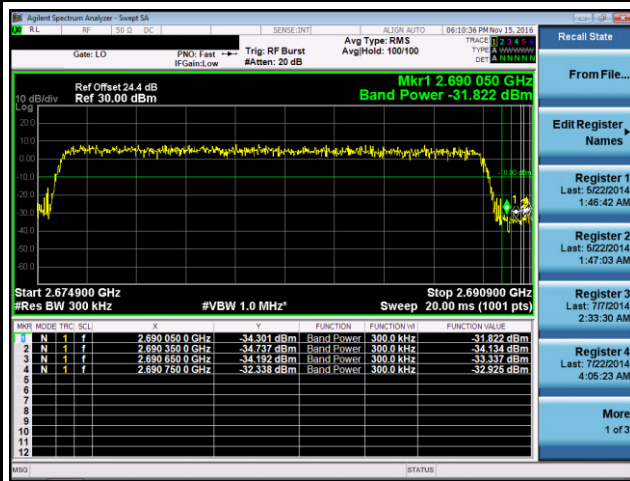
Mode CB: 15MHz, QPSK

Low Channel



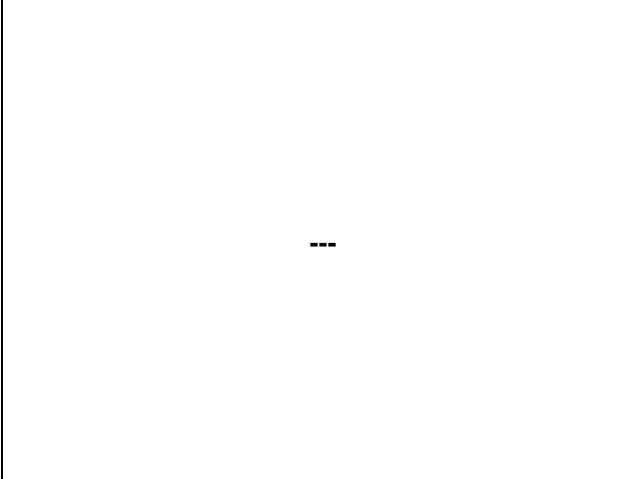
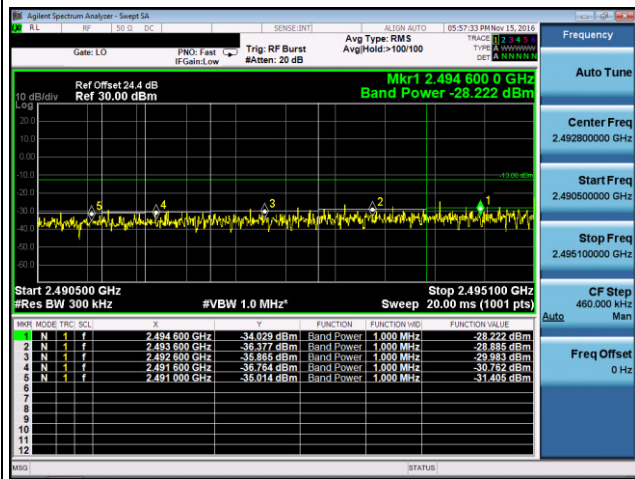
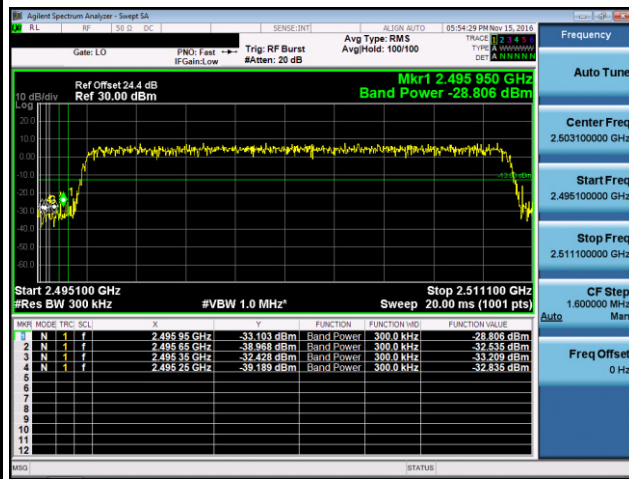
Mode CB: 15MHz, QPSK

High Channel



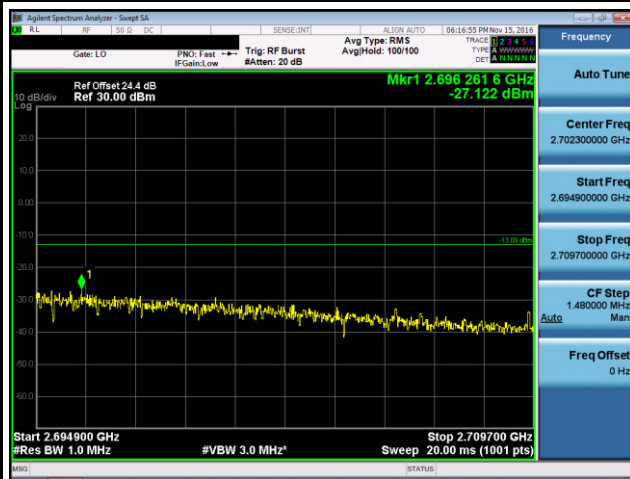
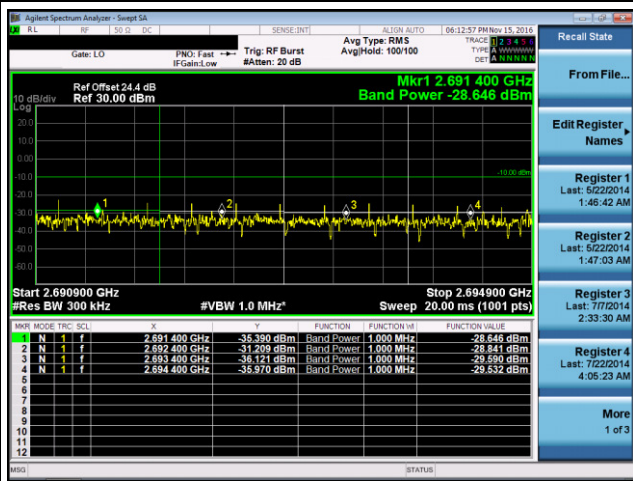
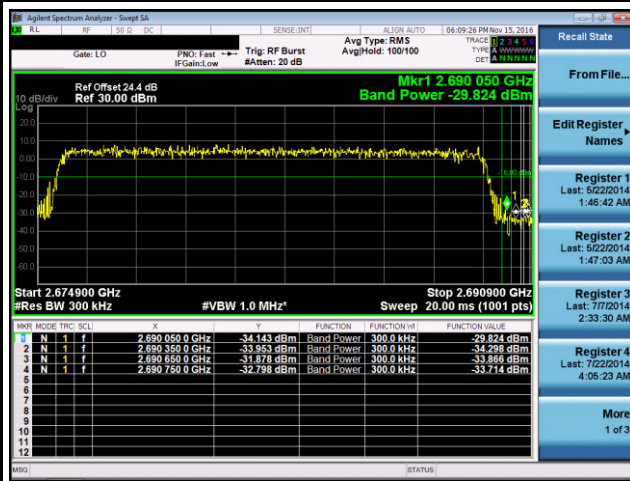
Mode CB: 15MHz, 16QAM

Low Channel



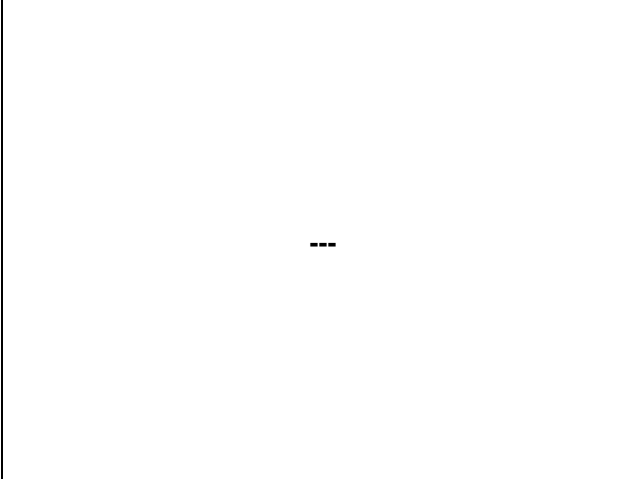
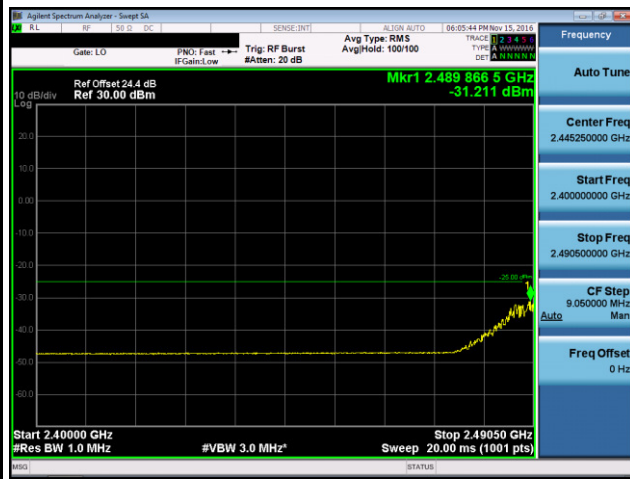
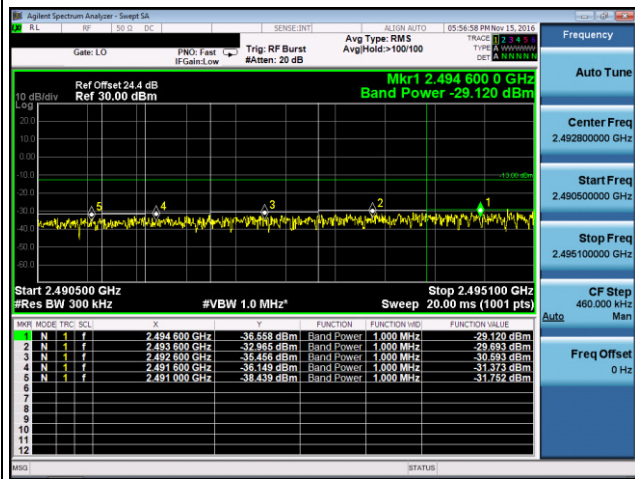
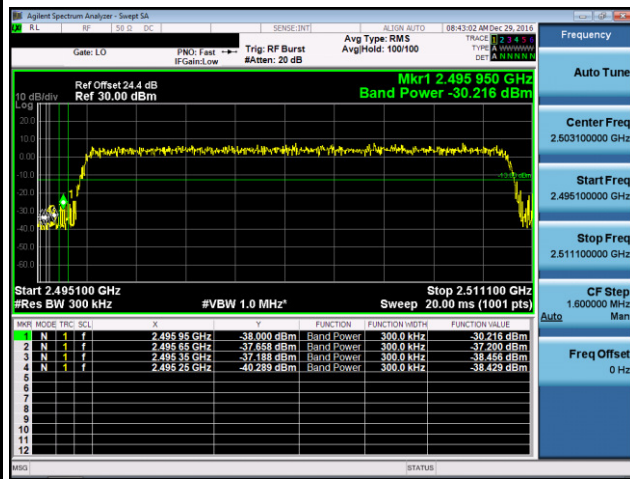
Mode CB: 15MHz, 16QAM

High Channel



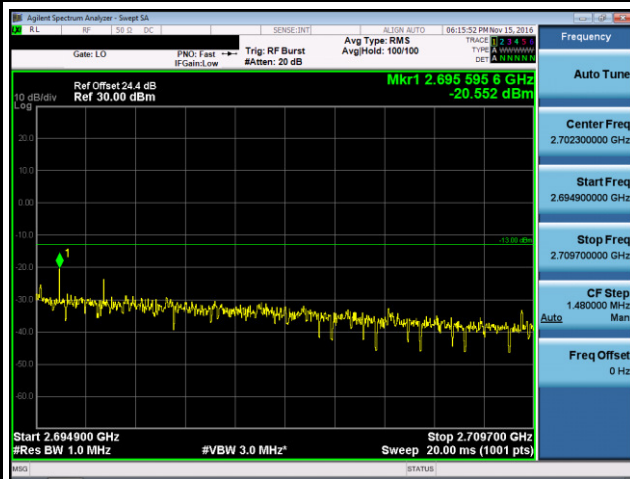
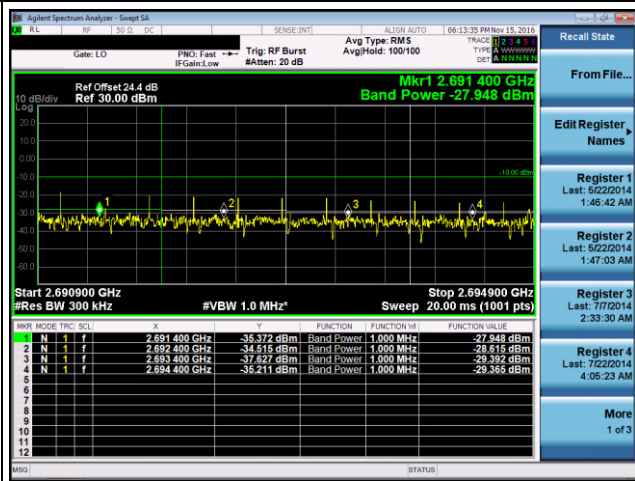
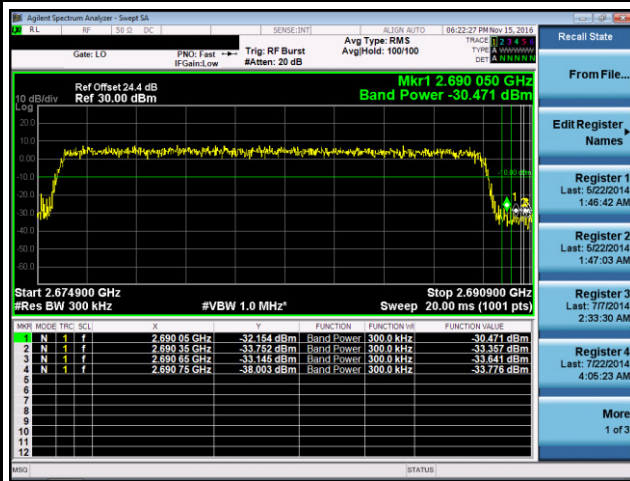
Mode CB: 15MHz, 64QAM

Low Channel



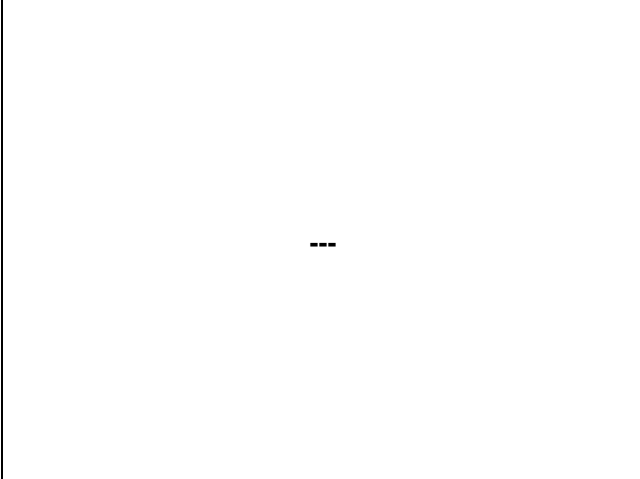
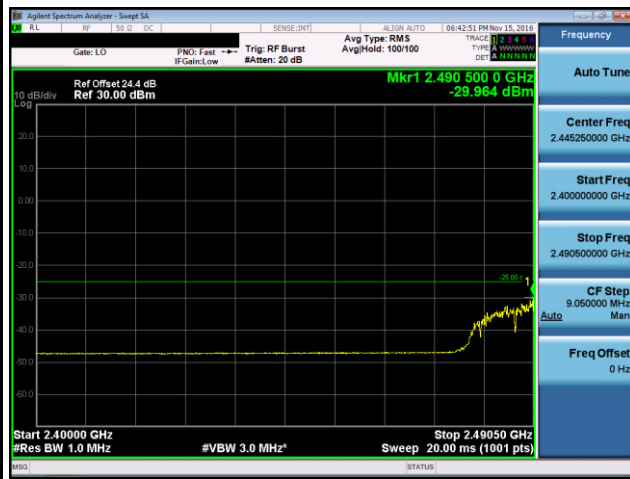
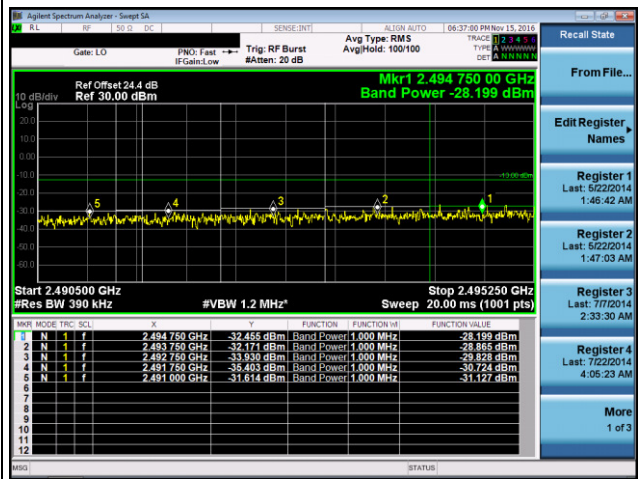
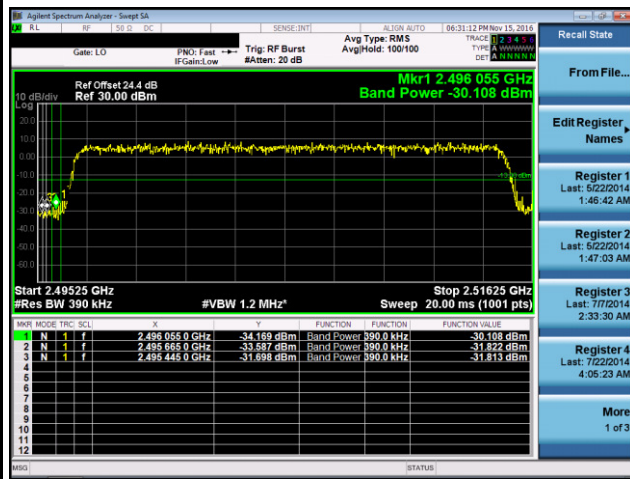
Mode CB: 15MHz, 64QAM

High Channel



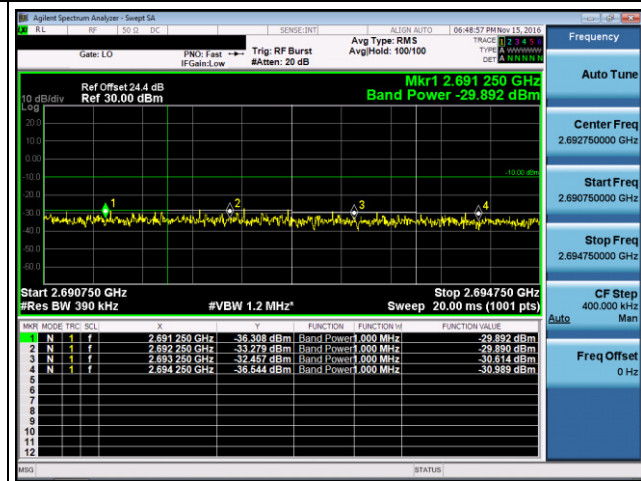
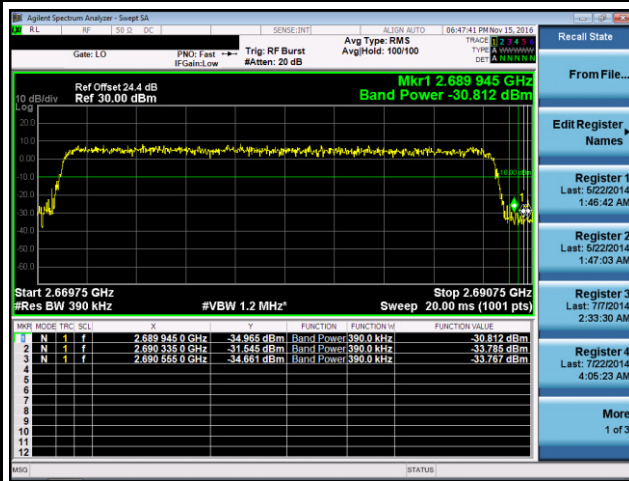
Mode CB: 20MHz, QPSK

Low Channel



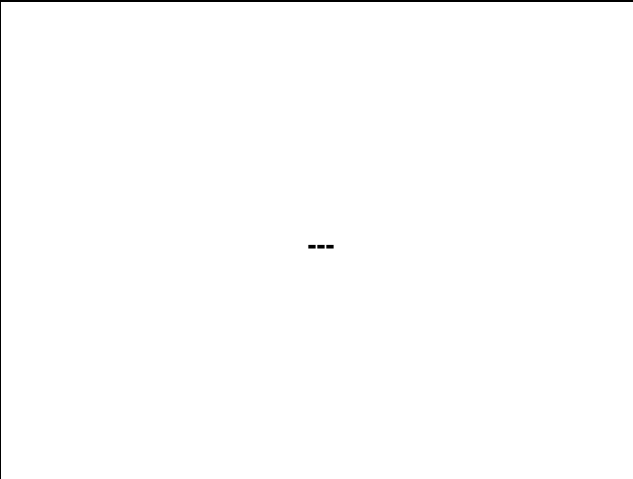
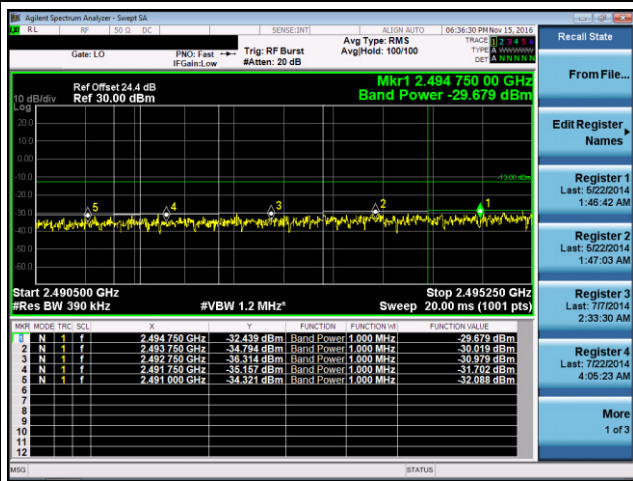
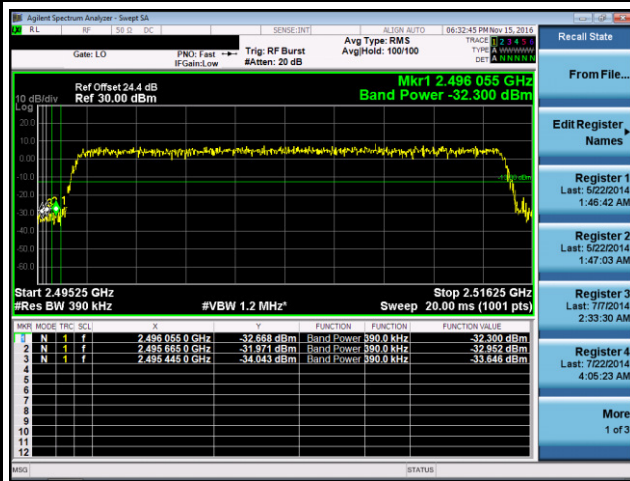
Mode CB: 20MHz, QPSK

High Channel



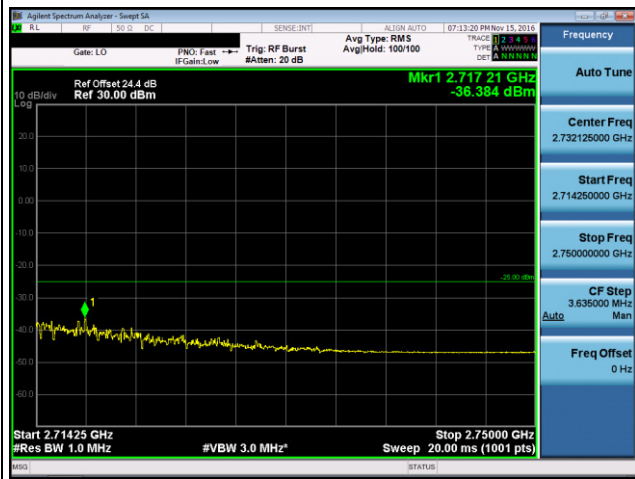
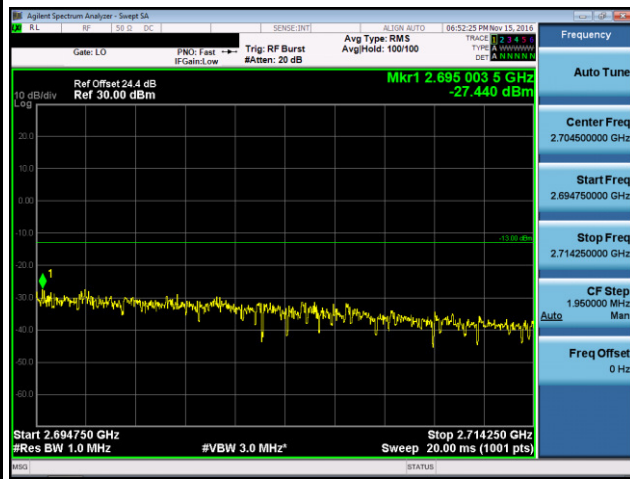
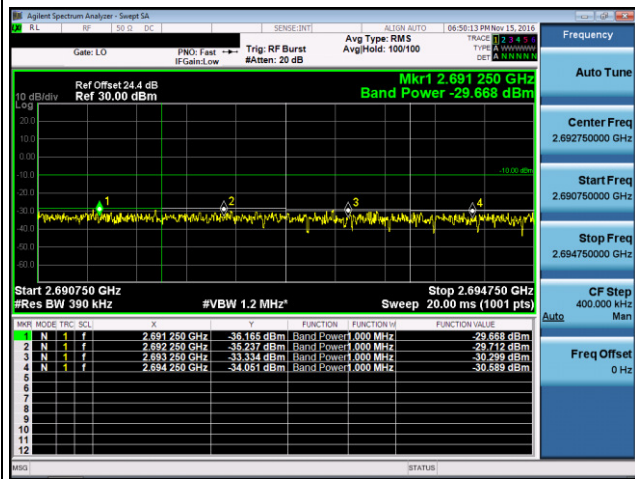
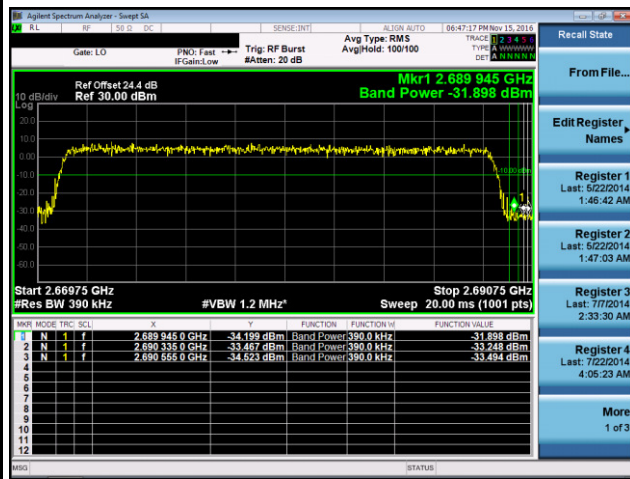
Mode CB: 20MHz, 16QAM

Low Channel



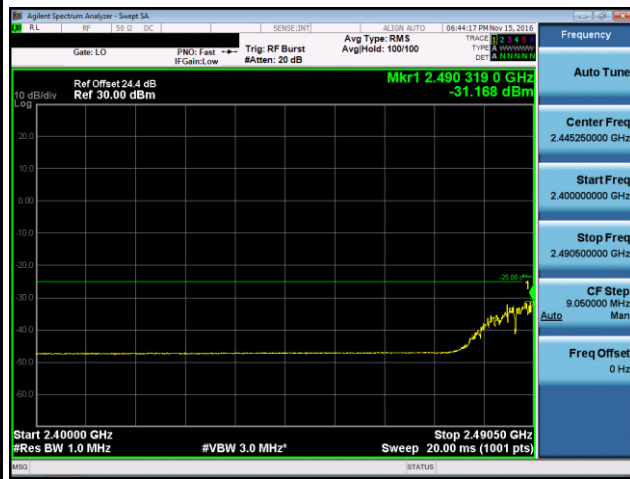
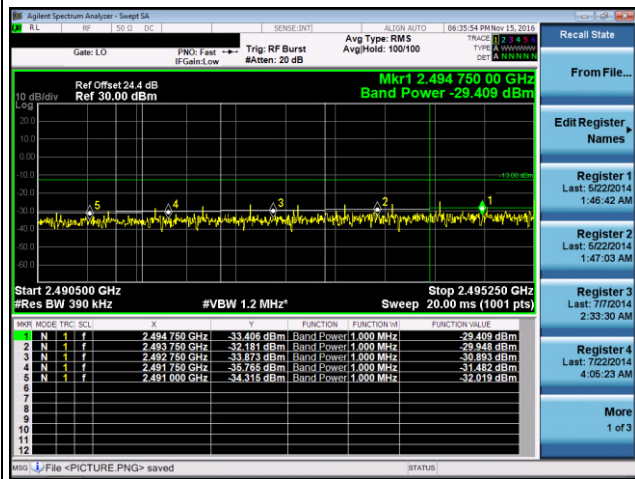
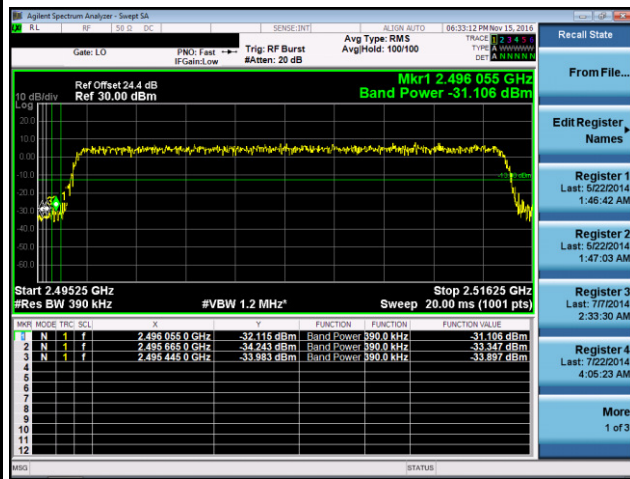
Mode CB: 20MHz, 16QAM

High Channel



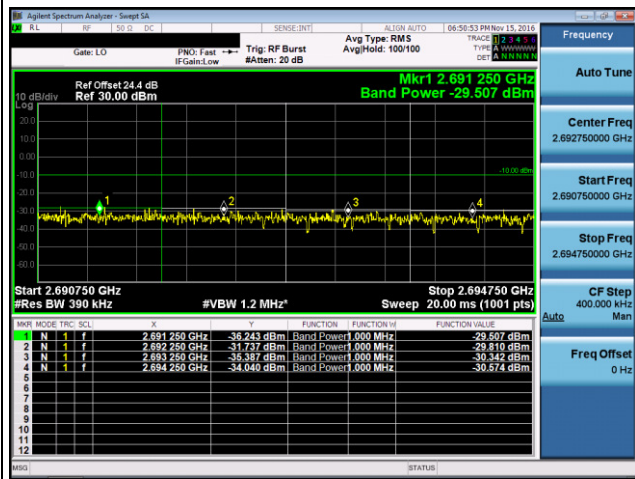
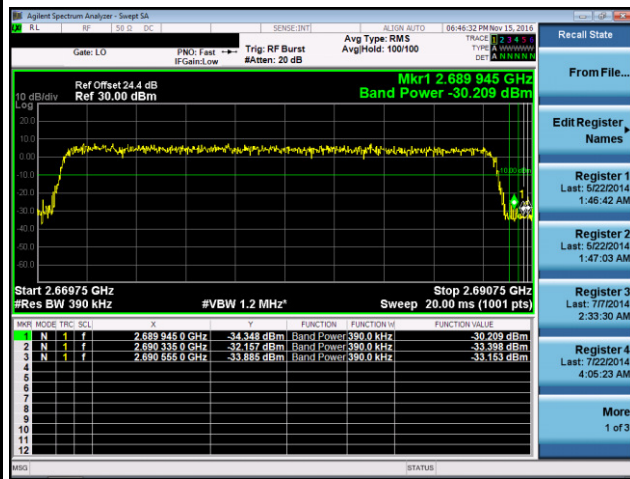
Mode CB: 20MHz, 64QAM

Low Channel



Mode CB: 20MHz, 64QAM

High Channel

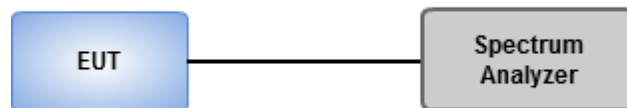


3.5 Emission and Occupied Bandwidth

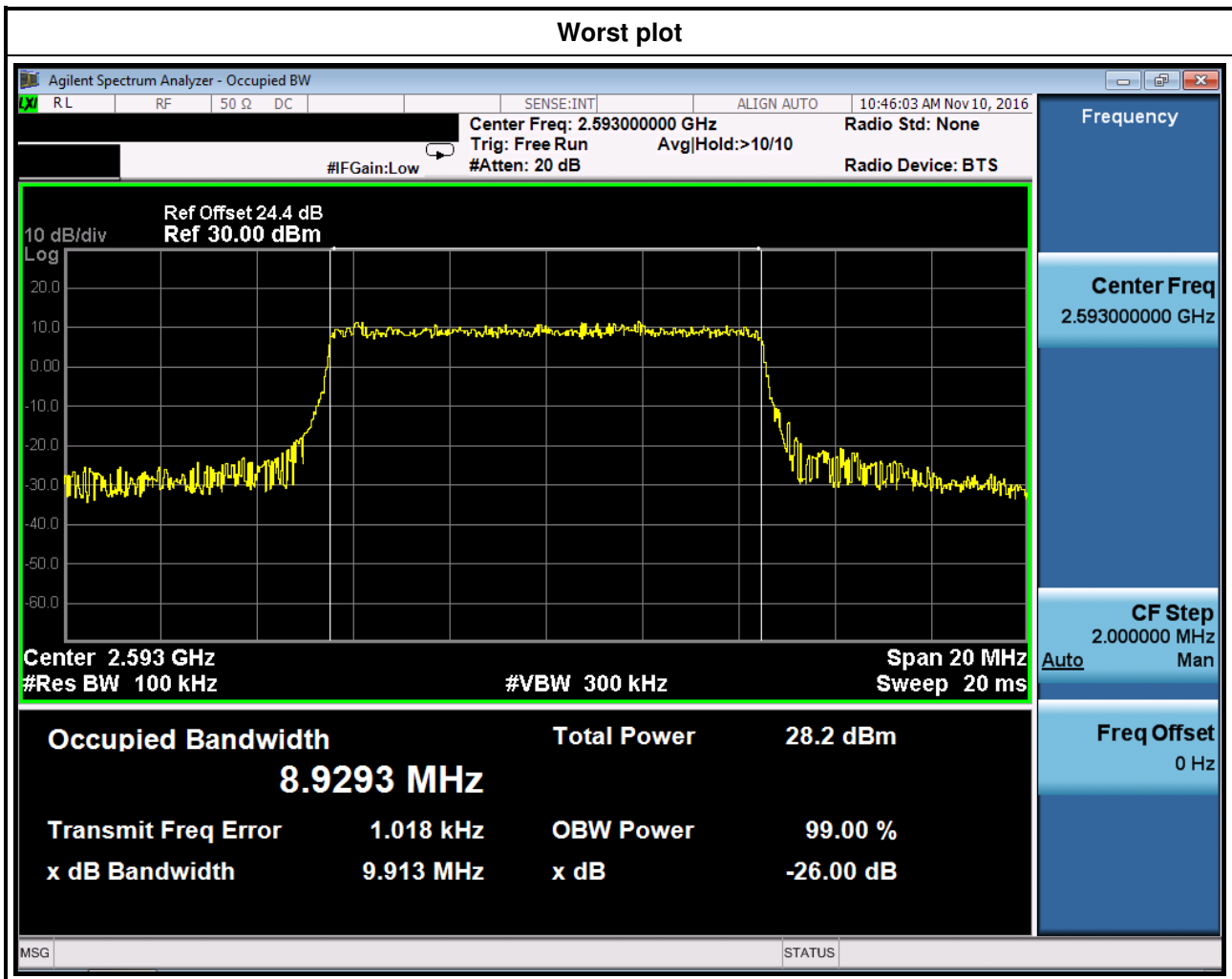
3.5.1 Test Procedures

1. Set resolution bandwidth (RBW) = 51~200 kHz, Video bandwidth=160 ~ 620kHz for 5 ~ 20 MHz channel bandwidth
2. Set Detector = Peak, Trace mode = max hold, Sweep = auto couple, Allow the trace to stabilize.
3. Using 26dB and occupied bandwidth measurement function of spectrum analyzer to measure bandwidth

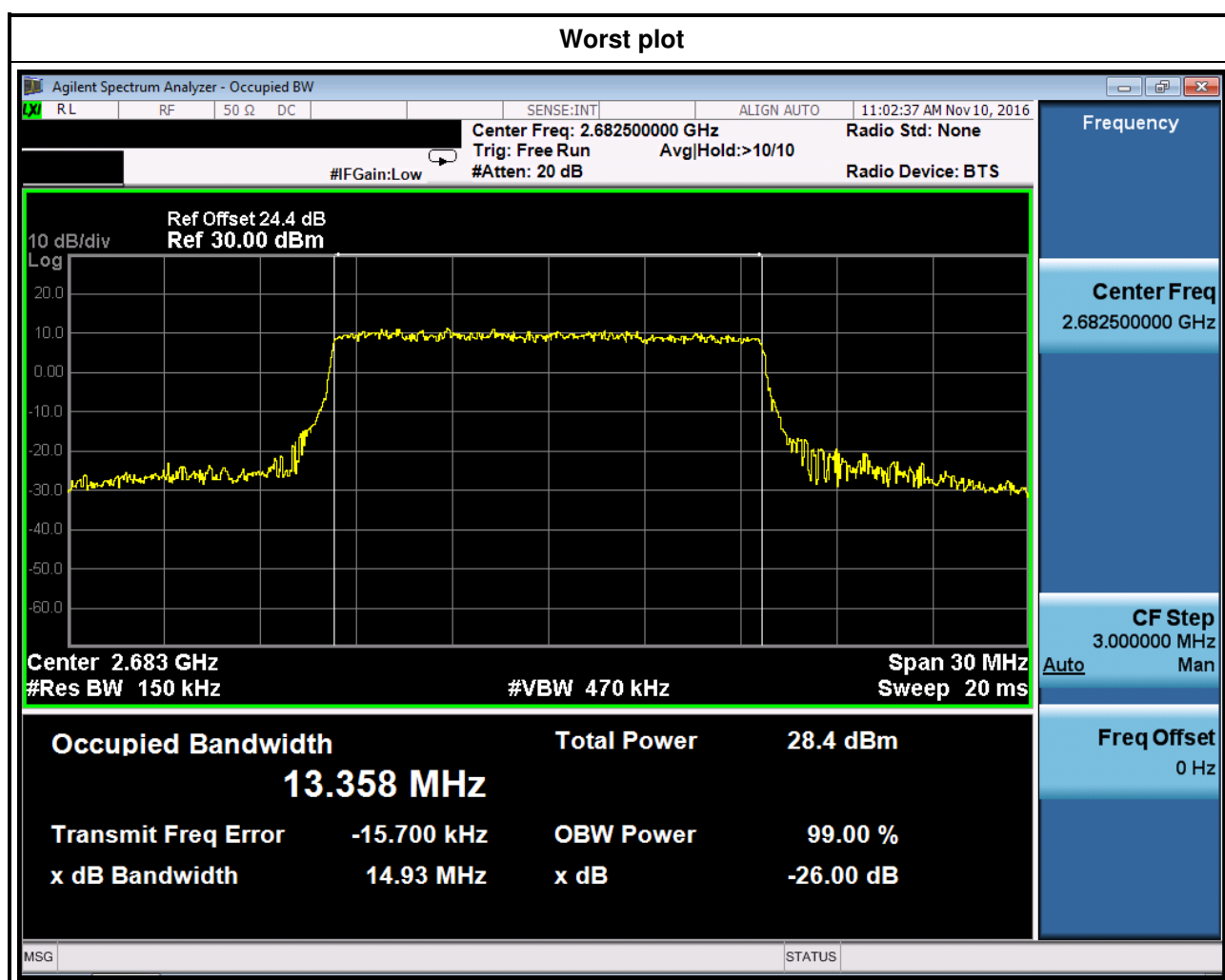
3.5.2 Test Setup



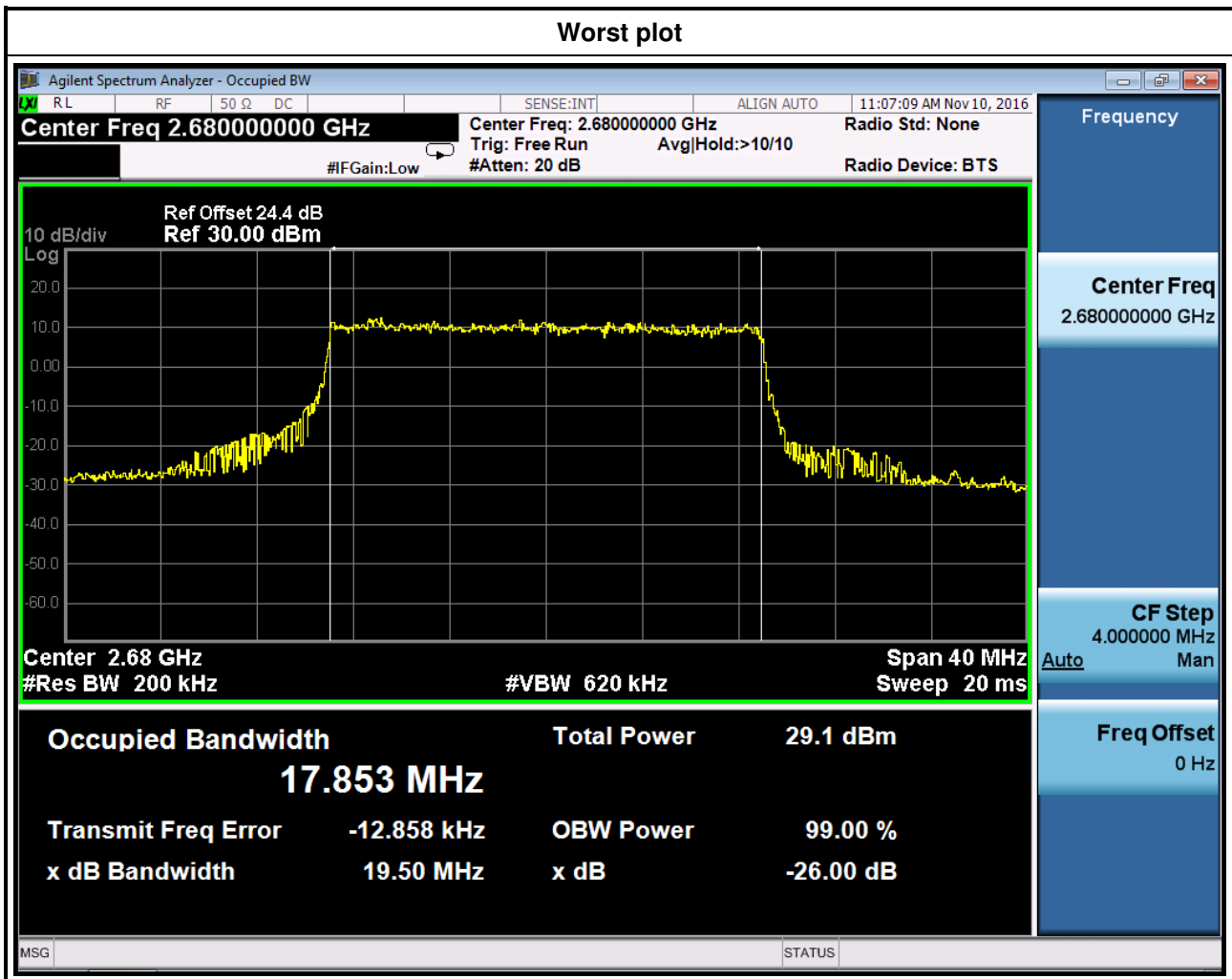
Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
10	QPSK	2501.0	9.878	8.94
10	QPSK	2593.0	9.819	8.95
10	QPSK	2685.0	9.855	8.94
10	16QAM	2501.0	9.847	8.91
10	16QAM	2593.0	9.913	8.93
10	16QAM	2685.0	9.881	8.92
10	64QAM	2501.0	9.811	8.95
10	64QAM	2593.0	9.814	8.96
10	64QAM	2685.0	9.899	8.96



Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
15	QPSK	2503.5	14.81	13.41
15	QPSK	2593.0	14.89	13.43
15	QPSK	2682.5	14.85	13.41
15	16QAM	2503.5	14.83	13.39
15	16QAM	2593.0	14.89	13.39
15	16QAM	2682.5	14.80	13.38
15	64QAM	2503.5	14.89	13.38
15	64QAM	2593.0	14.81	13.40
15	64QAM	2682.5	14.93	13.36



Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
20	QPSK	2506.0	19.49	17.86
20	QPSK	2593.0	19.46	17.87
20	QPSK	2680.0	19.50	17.85
20	16QAM	2506.0	19.45	17.91
20	16QAM	2593.0	19.45	17.88
20	16QAM	2680.0	19.49	17.92
20	64QAM	2506.0	19.48	17.83
20	64QAM	2593.0	19.45	17.84
20	64QAM	2680.0	19.47	17.82



3.6 Frequency Stability

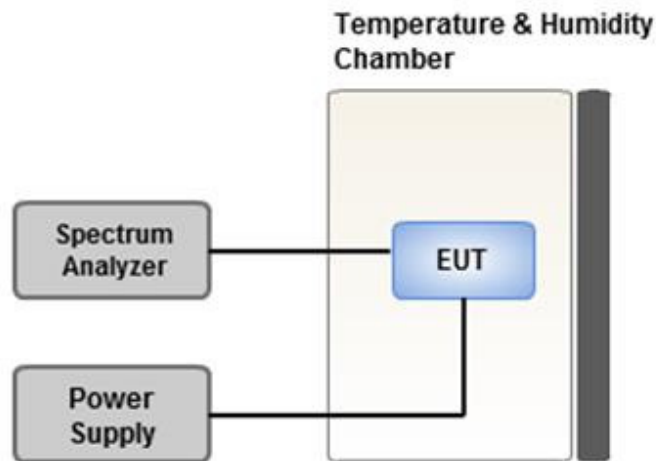
3.6.1 Limit of Frequency Stability

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation

3.6.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -30~50°C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Channel Bandwidth: 5MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.026	2.5
T20°C Vmin	0.022	2.5
T50°C Vnom	0.023	2.5
T40°C Vnom	0.033	2.5
T30°C Vnom	0.027	2.5
T20°C Vnom	0.024	2.5
T10°C Vnom	0.025	2.5
T0°C Vnom	0.022	2.5
T-10°C Vnom	0.022	2.5
T-20°C Vnom	0.020	2.5
T-30°C Vnom	0.023	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 50	Tmin [°C]: -30

Channel Bandwidth: 10MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.030	2.5
T20°C Vmin	0.024	2.5
T50°C Vnom	0.029	2.5
T40°C Vnom	0.027	2.5
T30°C Vnom	0.027	2.5
T20°C Vnom	0.025	2.5
T10°C Vnom	0.023	2.5
T0°C Vnom	0.028	2.5
T-10°C Vnom	0.029	2.5
T-20°C Vnom	0.032	2.5
T-30°C Vnom	0.032	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 50	Tmin [°C]: -30

Channel Bandwidth: 15MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.034	2.5
T20°C Vmin	0.028	2.5
T50°C Vnom	0.030	2.5
T40°C Vnom	0.022	2.5
T30°C Vnom	0.023	2.5
T20°C Vnom	0.025	2.5
T10°C Vnom	0.027	2.5
T0°C Vnom	0.033	2.5
T-10°C Vnom	0.025	2.5
T-20°C Vnom	0.021	2.5
T-30°C Vnom	0.033	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 50	Tmin [°C]: -30

Channel Bandwidth: 20MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.035	2.5
T20°C Vmin	0.034	2.5
T50°C Vnom	0.034	2.5
T40°C Vnom	0.036	2.5
T30°C Vnom	0.035	2.5
T20°C Vnom	0.034	2.5
T10°C Vnom	0.030	2.5
T0°C Vnom	0.038	2.5
T-10°C Vnom	0.039	2.5
T-20°C Vnom	0.040	2.5
T-30°C Vnom	0.034	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 50	Tmin [°C]: -30

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

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Kwei Shan

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No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
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Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C..

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==