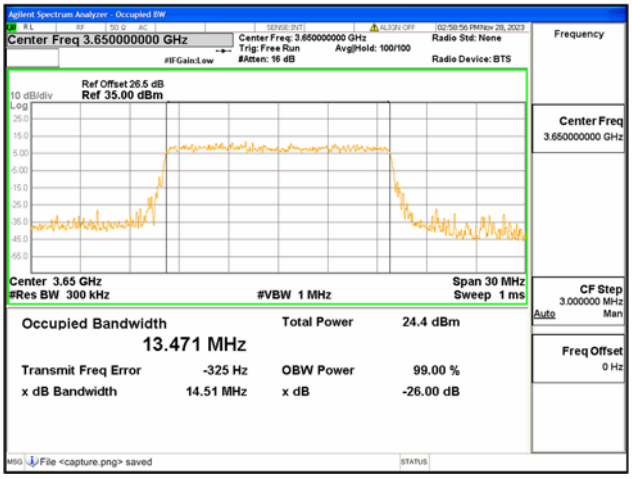
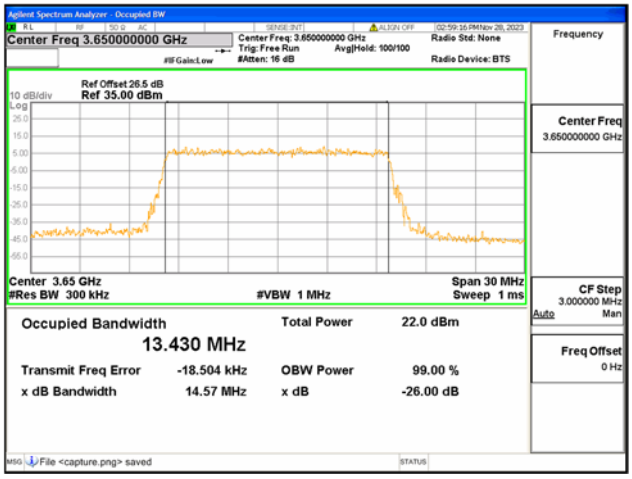
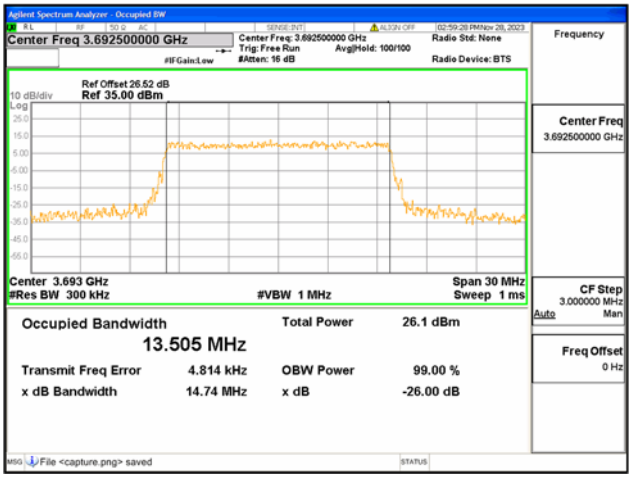


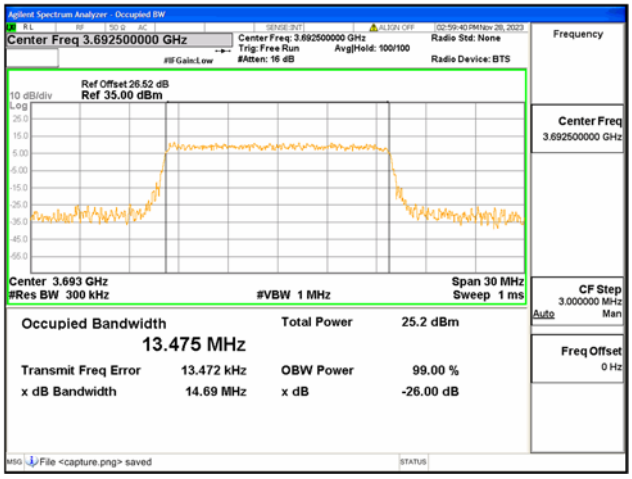
B43 / 15MHz / 64QAM/ Mid CH



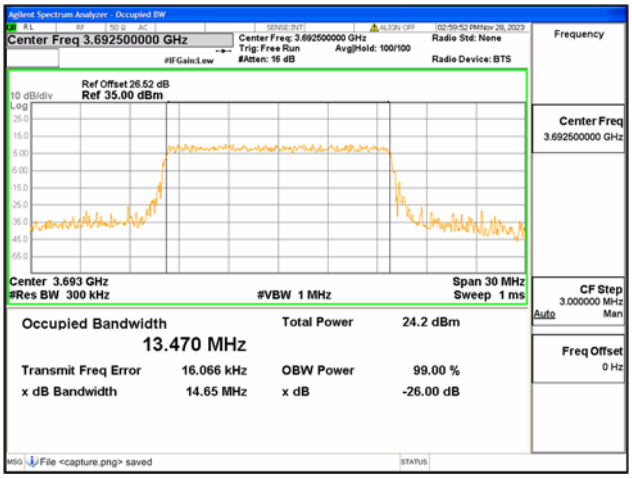
B43 / 15MHz / 256QAM/ Mid CH



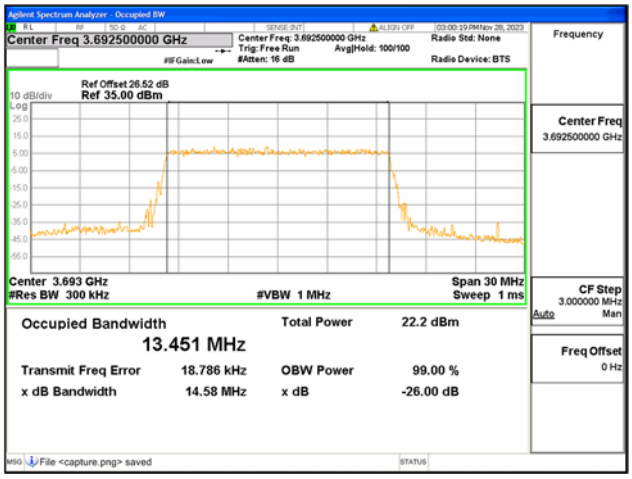
B43 / 15MHz / QPSK/ High CH



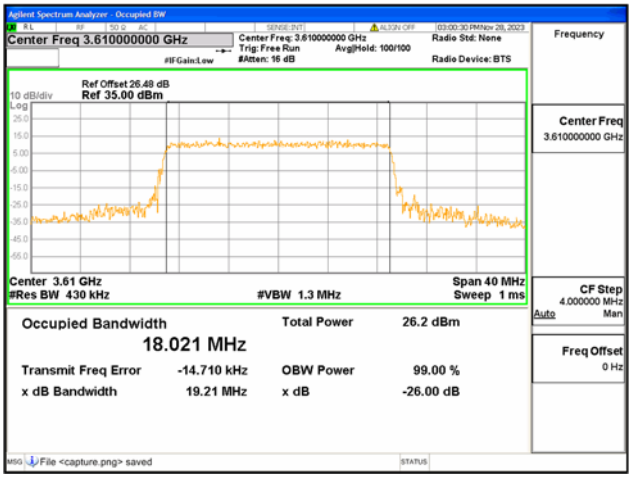
B43 / 15MHz / 16QAM/ High CH



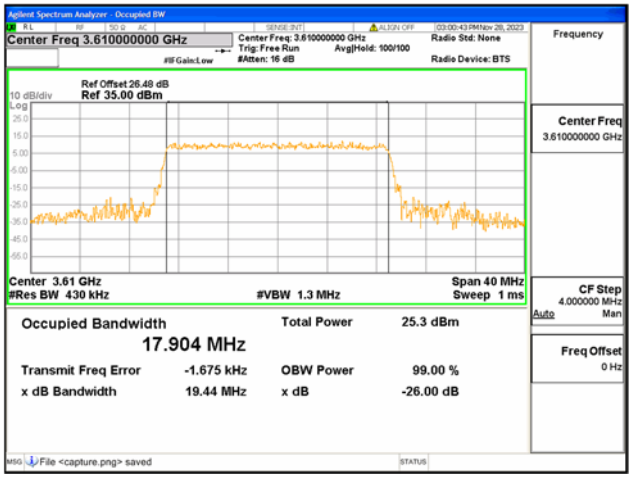
B43 / 15MHz / 64QAM/ High CH



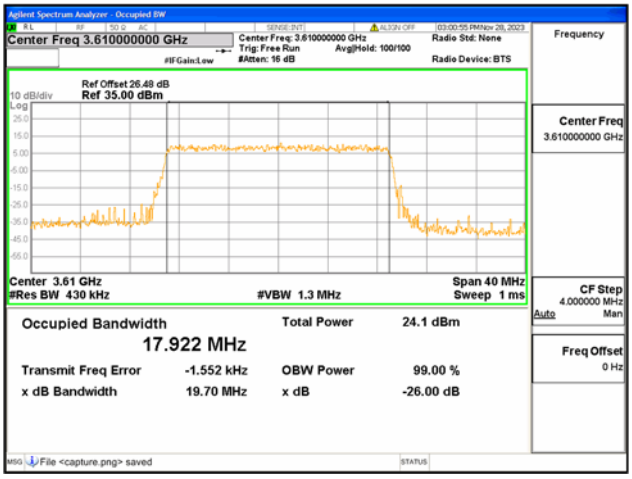
B43 / 15MHz / 256QAM/ High CH



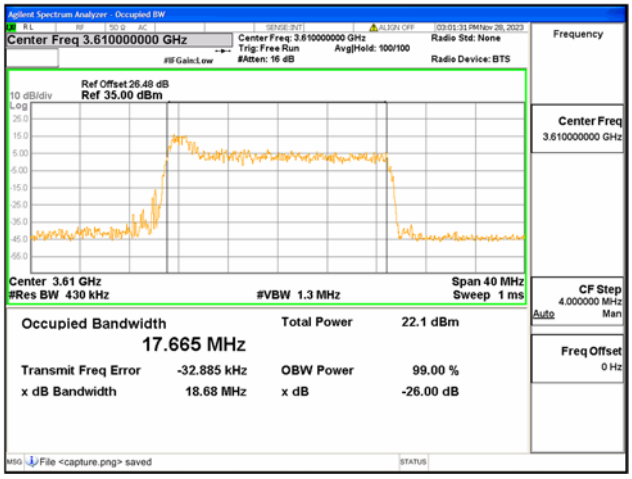
B43 / 20MHz / QPSK/ Low CH



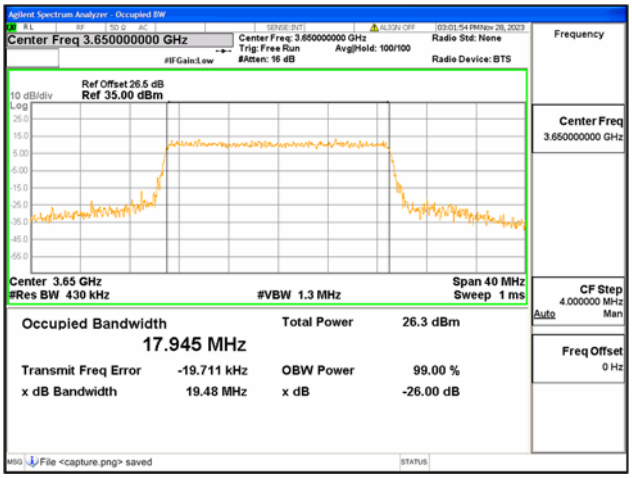
B43 / 20MHz / 16QAM/ Low CH



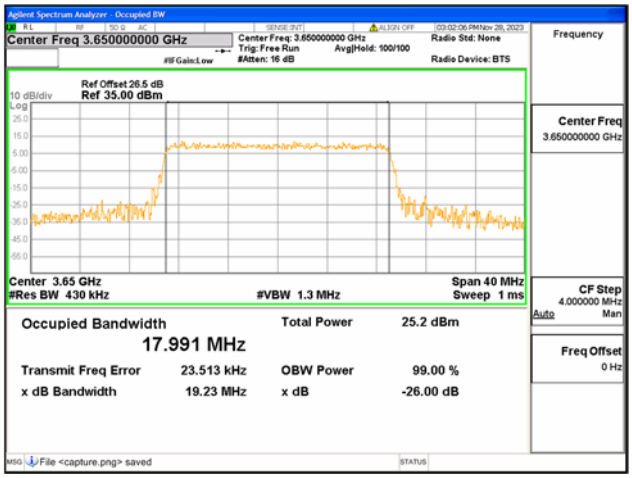
B43 / 20MHz / 64QAM/ Low CH



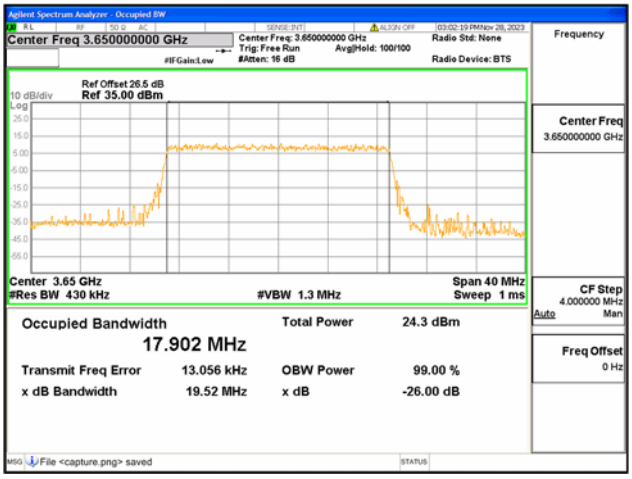
B43 / 20MHz / 256QAM/ Low CH



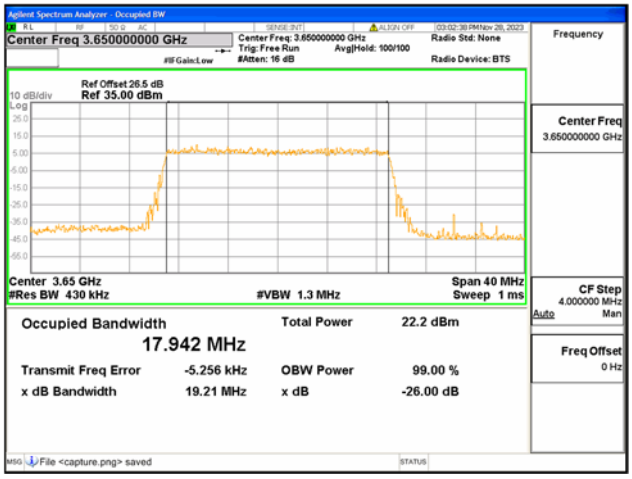
B43 / 20MHz / QPSK/ Mid CH



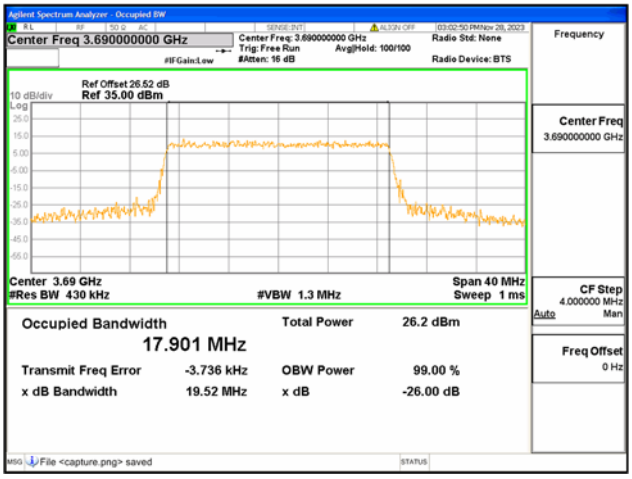
B43 / 20MHz / 16QAM/ Mid CH



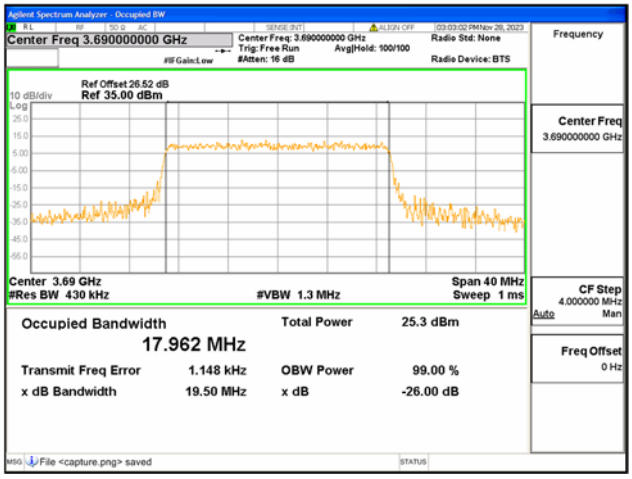
B43 / 20MHz / 64QAM/ Mid CH



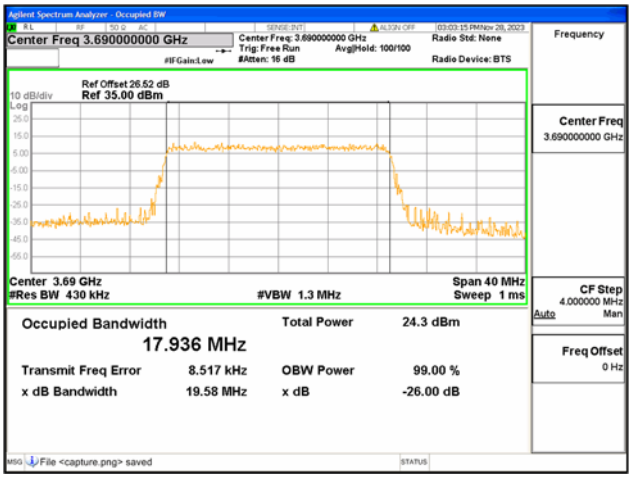
B43 / 20MHz / 256QAM/ Mid CH



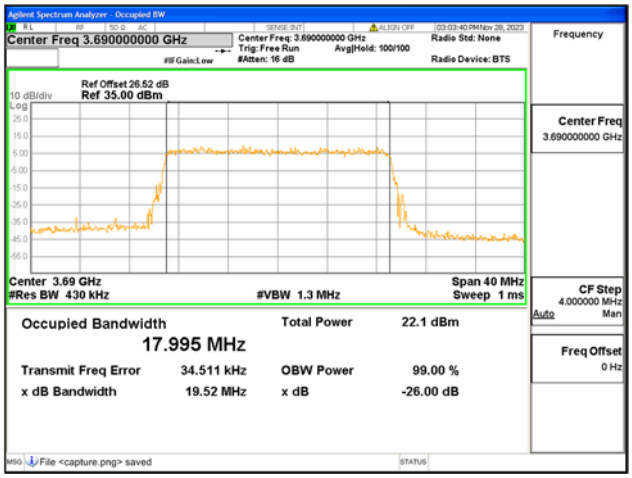
B43 / 20MHz / QPSK/ High CH



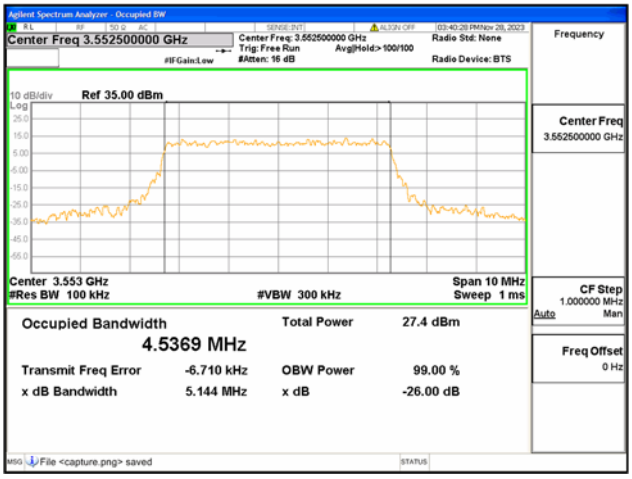
B43 / 20MHz / 16QAM/ High CH



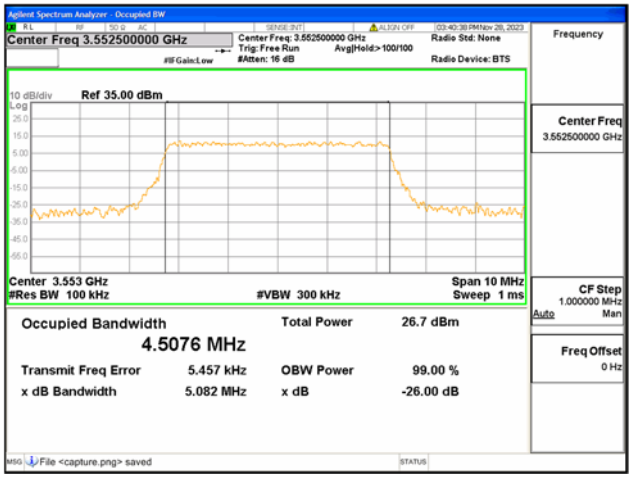
B43 / 20MHz / 64QAM/ High CH



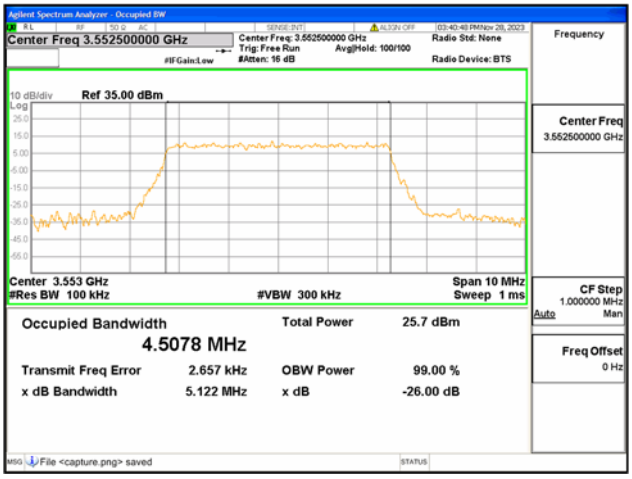
B43 / 20MHz / 256QAM/ High CH



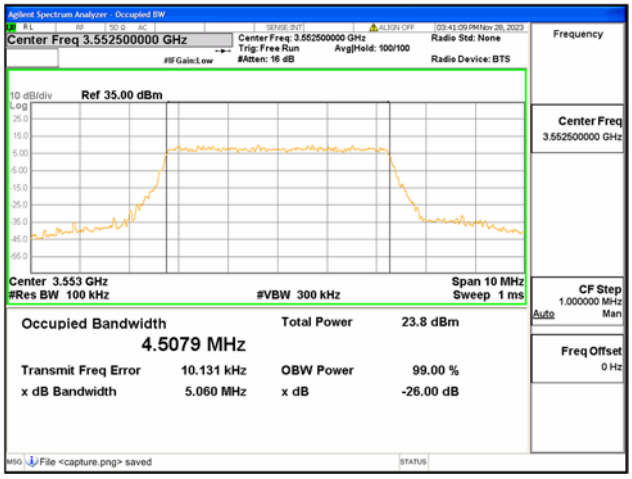
B48 / 5MHz / QPSK/ Low CH



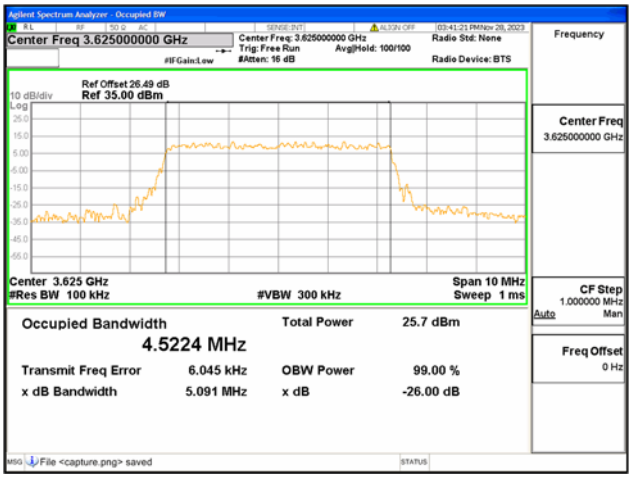
B48 / 5MHz / 16QAM/ Low CH



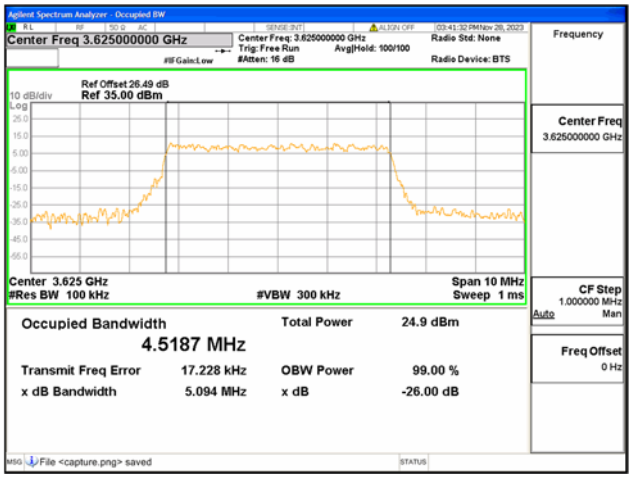
B48 / 5MHz / 64QAM/ Low CH



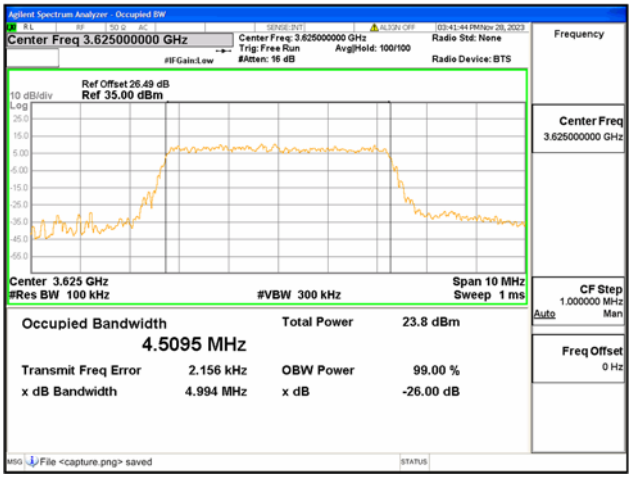
B48 / 5MHz / 256QAM/ Low CH



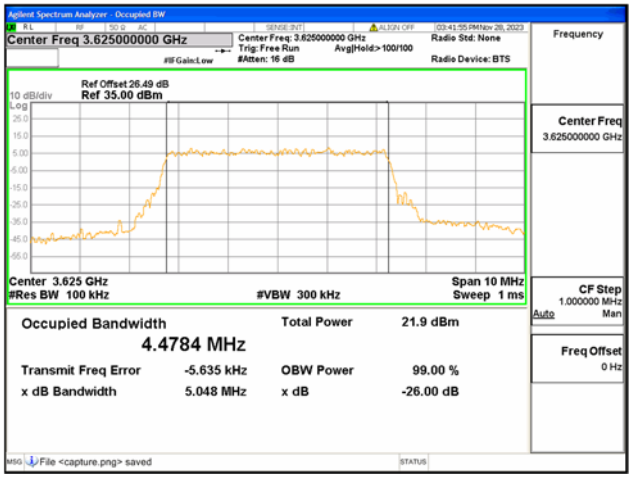
B48 / 5MHz / QPSK/ Mid CH



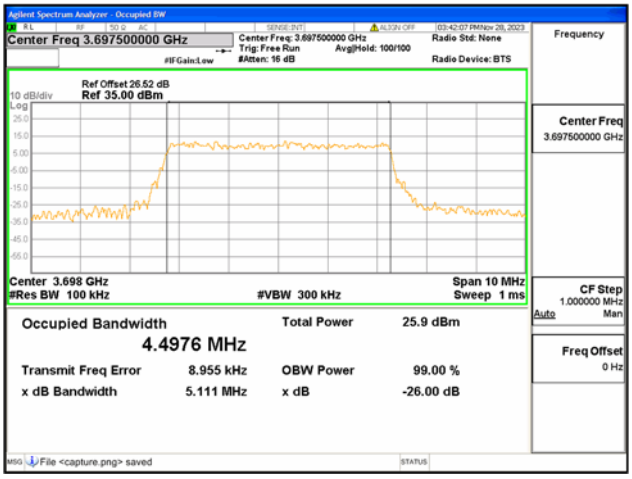
B48 / 5MHz / 16QAM/ Mid CH



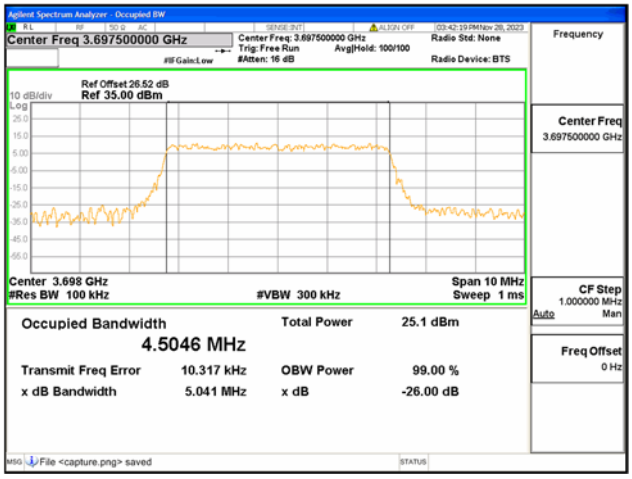
B48 / 5MHz / 64QAM/ Mid CH



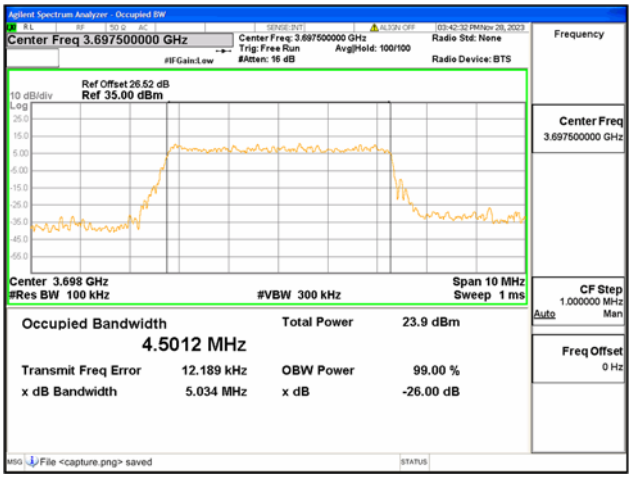
B48 / 5MHz / 256QAM/ Mid CH



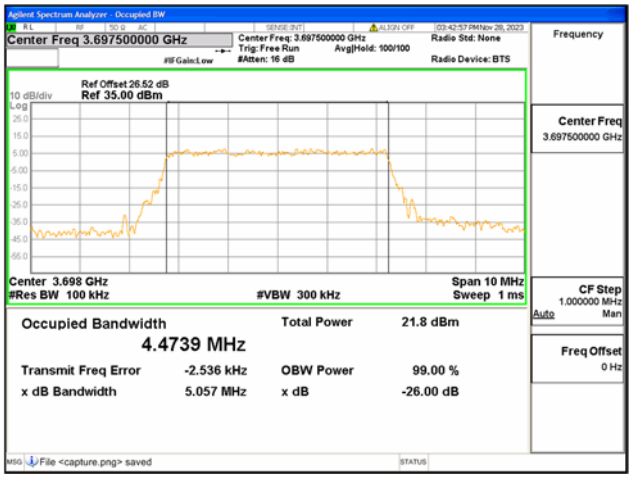
B48 / 5MHz / QPSK/ High CH



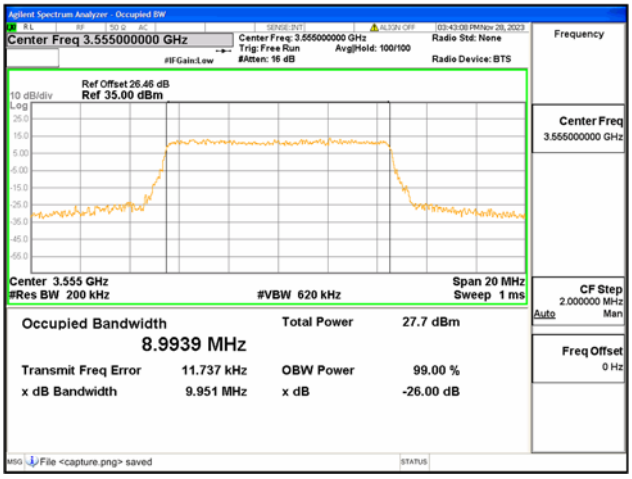
B48 / 5MHz / 16QAM/ High CH



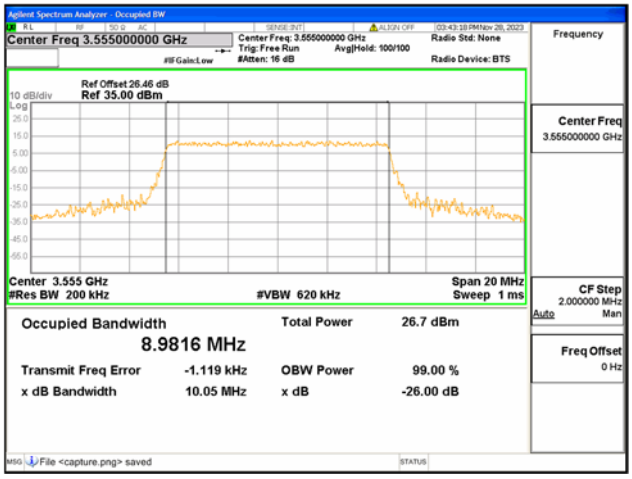
B48 / 5MHz / 64QAM/ High CH



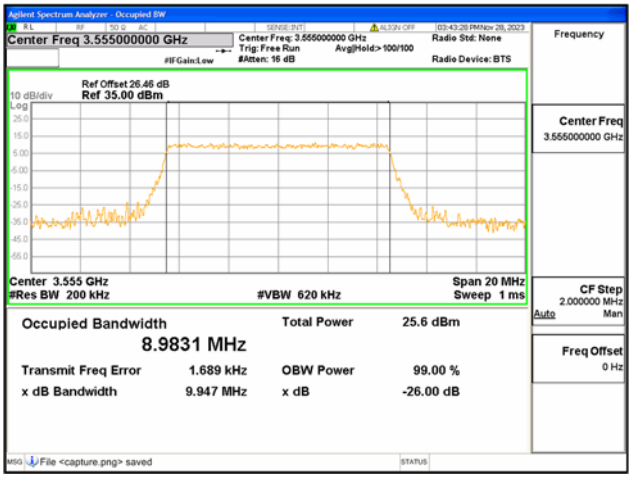
B48 / 5MHz / 256QAM/ High CH



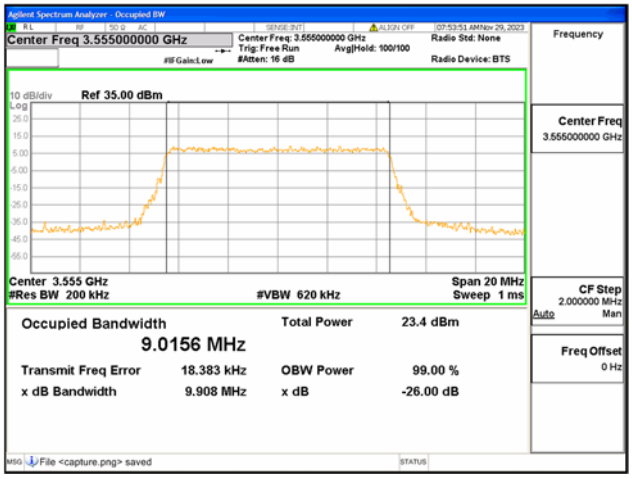
B48 / 10MHz / QPSK/ Low CH



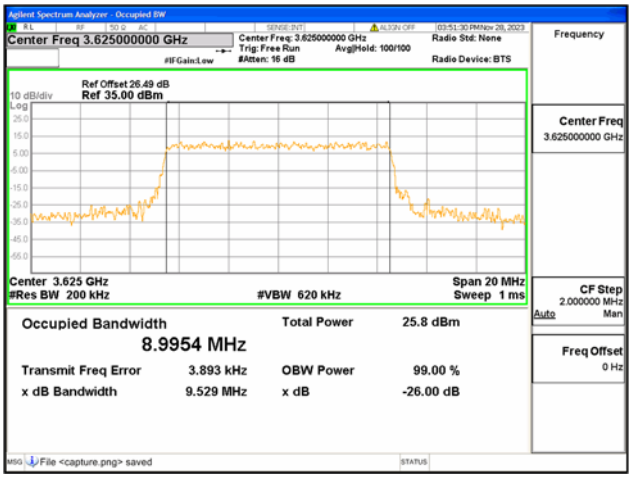
B48 / 10MHz / 16QAM/ Low CH



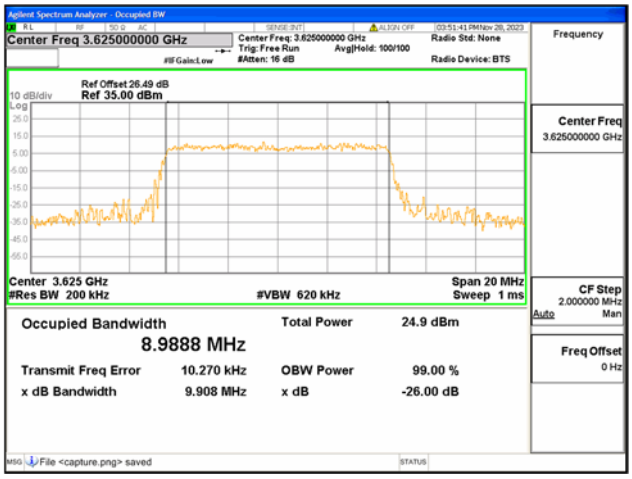
B48 / 10MHz / 64QAM/ Low CH



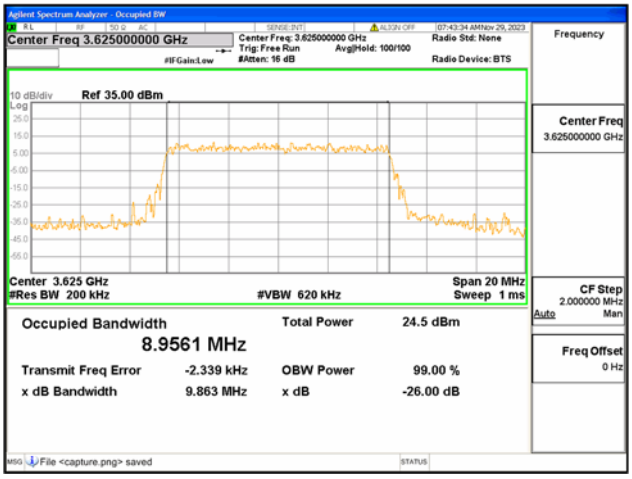
B48 / 10MHz / 256QAM/ Low CH



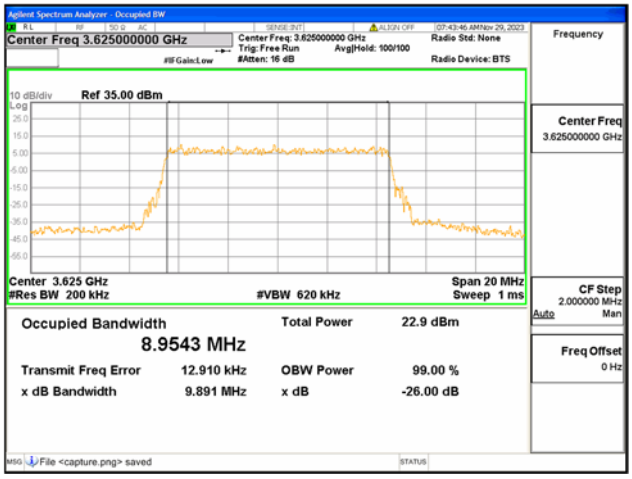
B48 / 10MHz / QPSK/ Mid CH



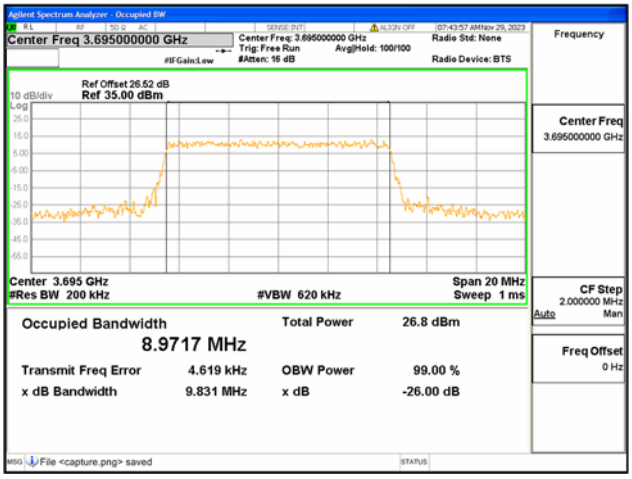
B48 / 10MHz / 16QAM/ Mid CH



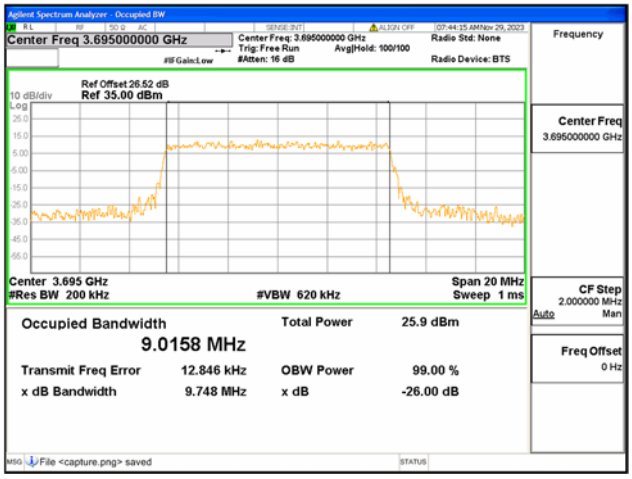
B48 / 10MHz / 64QAM/ Mid CH



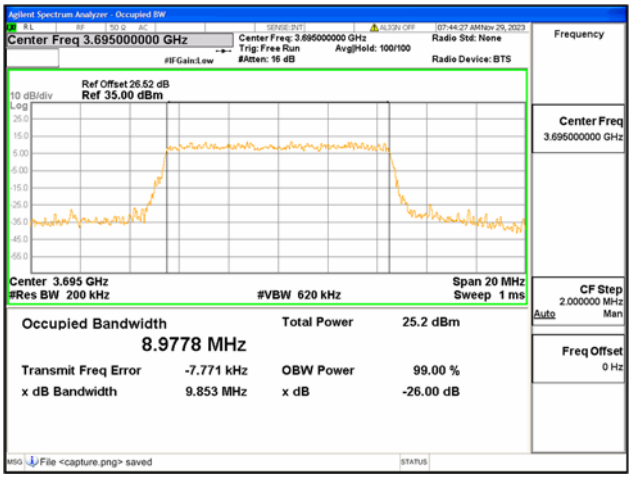
B48 / 10MHz / 256QAM/ Mid CH



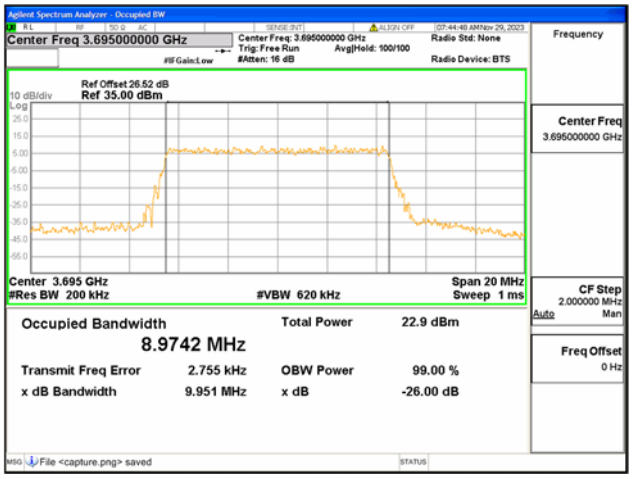
B48 / 10MHz / QPSK/ High CH



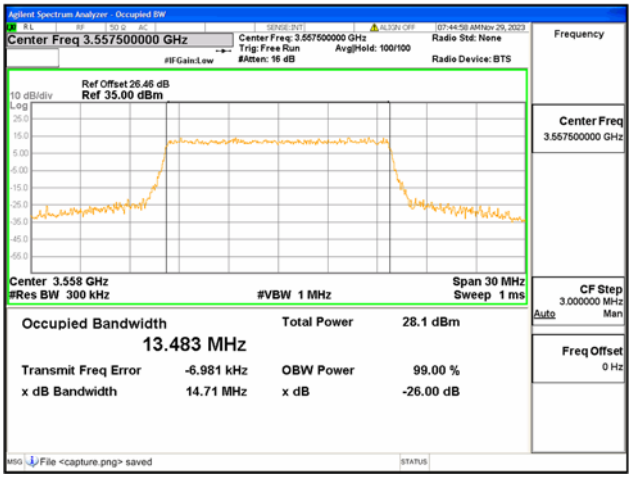
B48 / 10MHz / 16QAM/ High CH



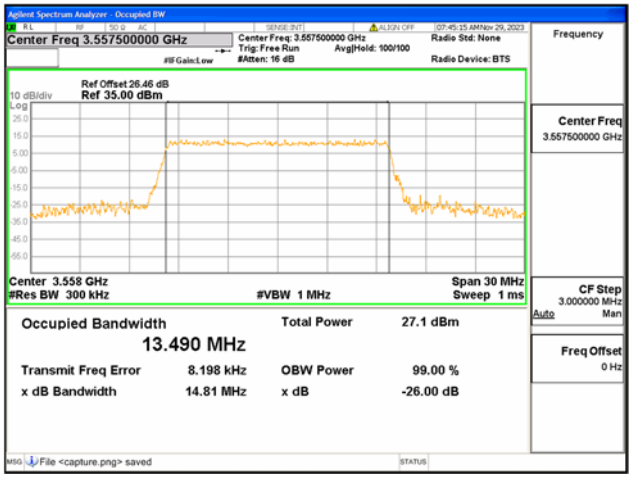
B48 / 10MHz / 64QAM/ High CH



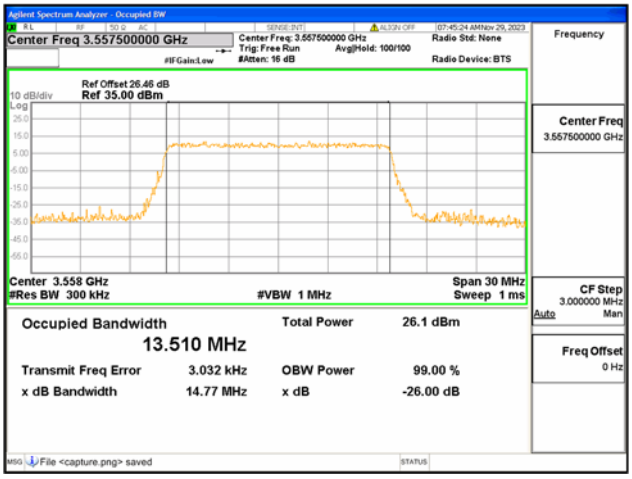
B48 / 10MHz / 256QAM/ High CH



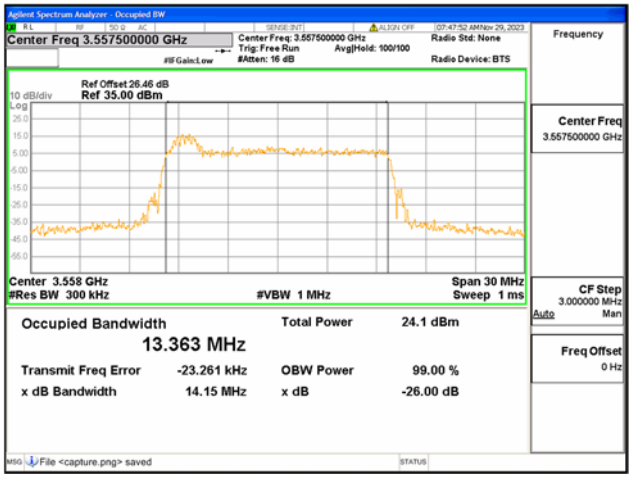
B48 / 15MHz / QPSK/ Low CH



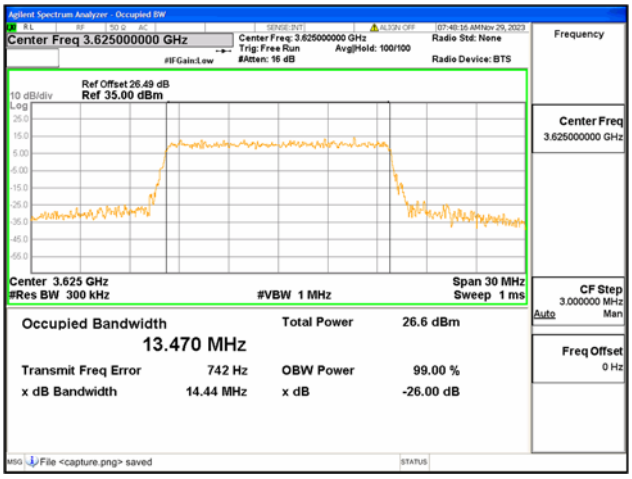
B48 / 15MHz / 16QAM/ Low CH



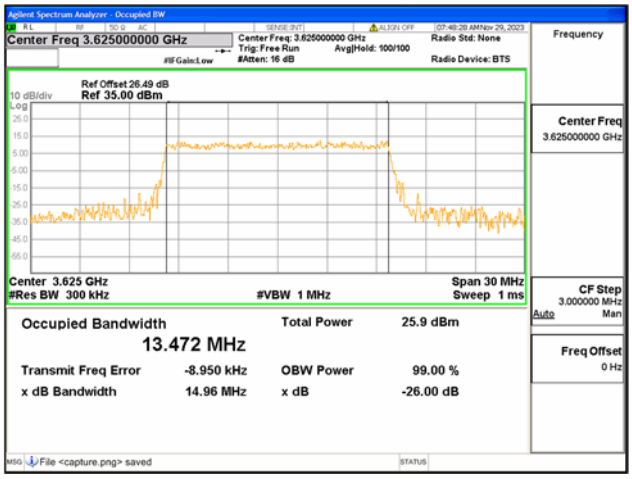
B48 / 15MHz / 64QAM/ Low CH



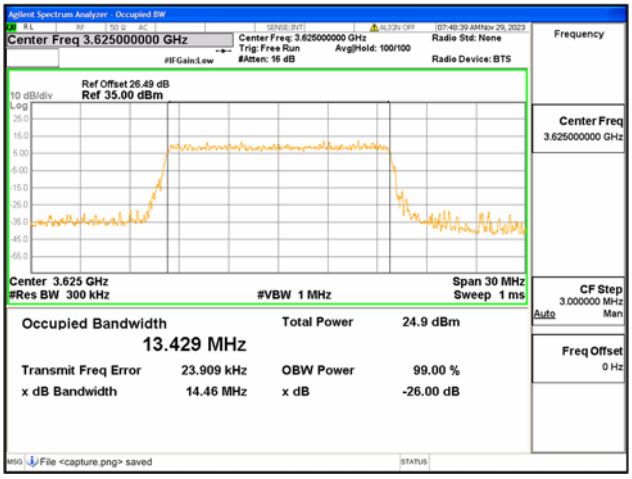
B48 / 15MHz / 256QAM/ Low CH



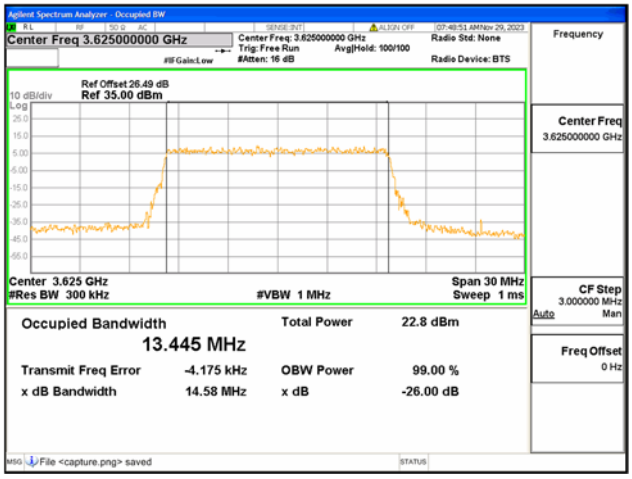
B48 / 15MHz / QPSK/ Mid CH



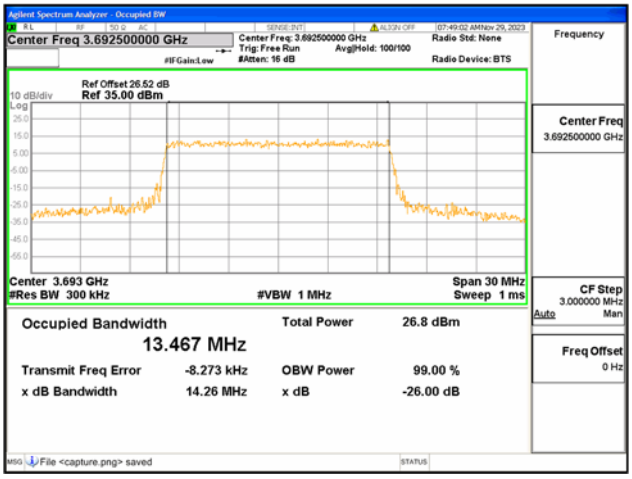
B48 / 15MHz / 16QAM/ Mid CH



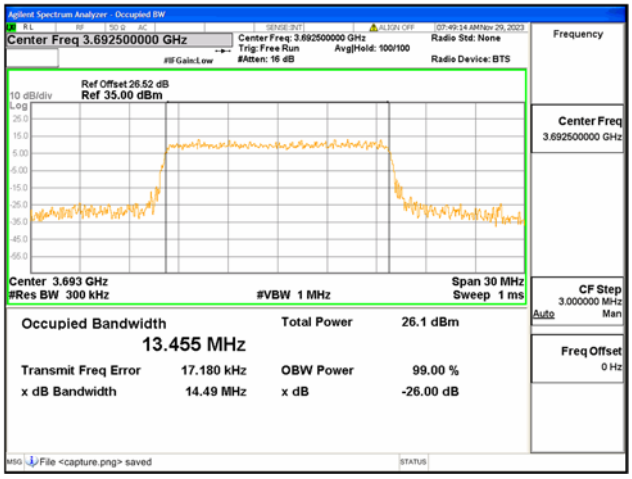
B48 / 15MHz / 64QAM/ Mid CH



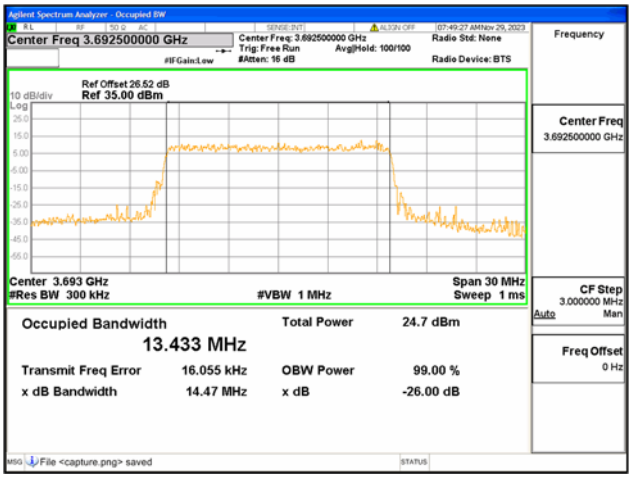
B48 / 15MHz / 256QAM/ Mid CH



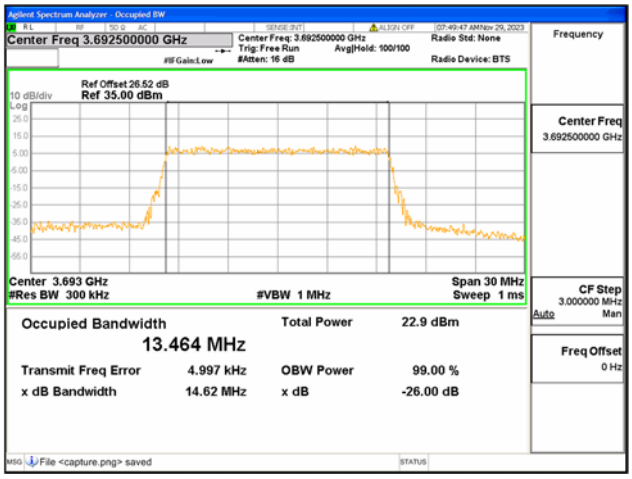
B48 / 15MHz / QPSK/ High CH



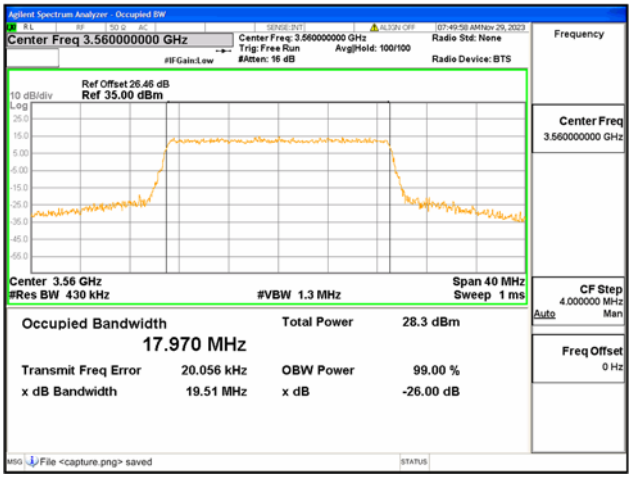
B48 / 15MHz / 16QAM/ High CH



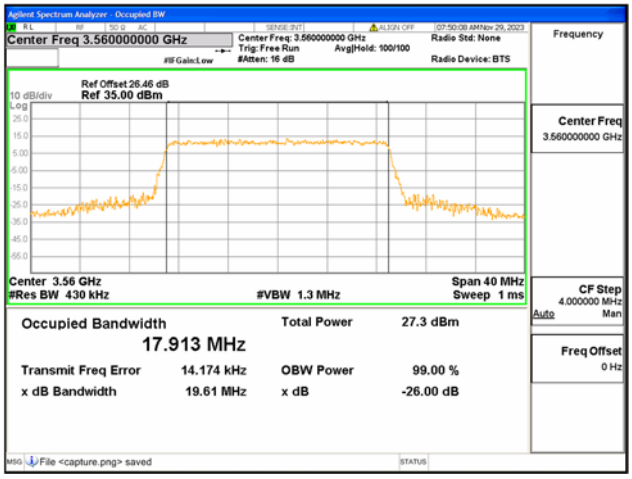
B48 / 15MHz / 64QAM/ High CH



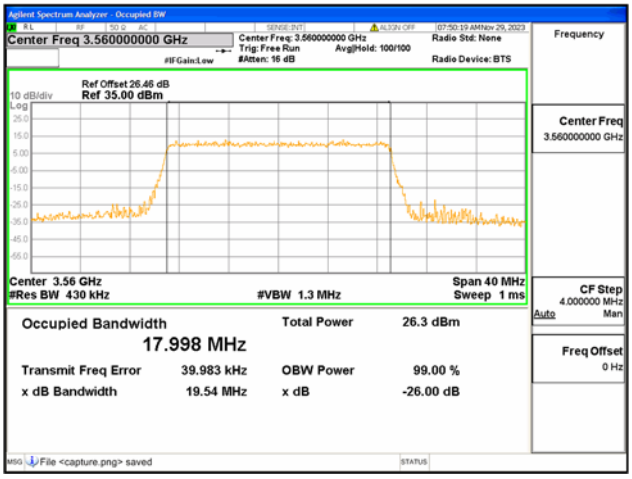
B48 / 15MHz / 256QAM/ High CH



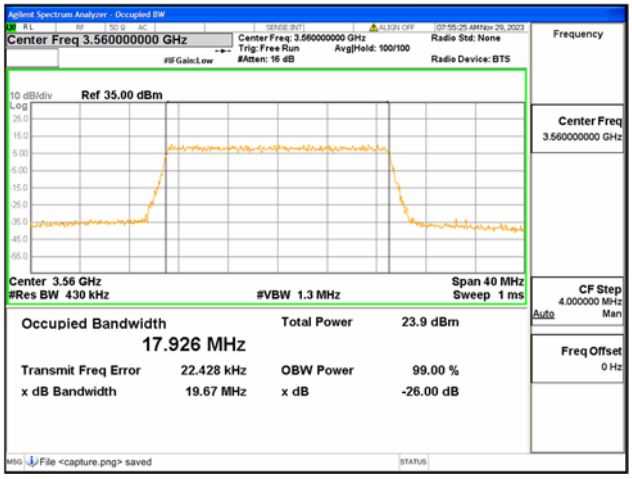
B48 / 20MHz / QPSK/ Low CH



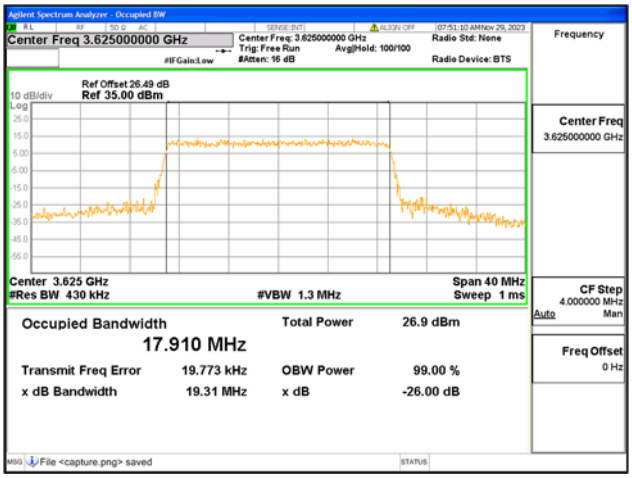
B48 / 20MHz / 16QAM/ Low CH



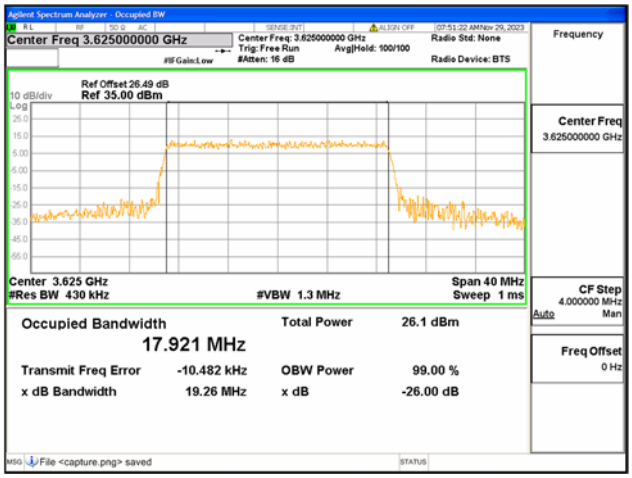
B48 / 20MHz / 64QAM/ Low CH



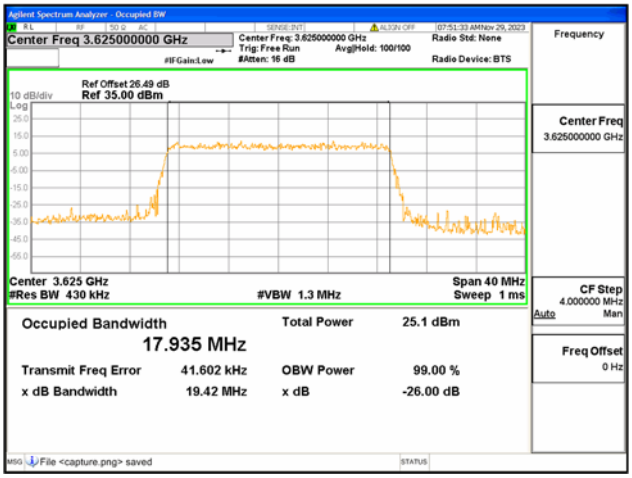
B48 / 20MHz / 256QAM/ Low CH



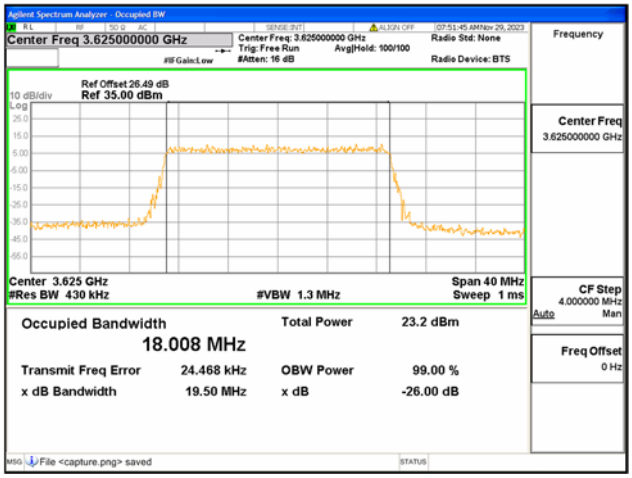
B48 / 20MHz / QPSK/ Mid CH



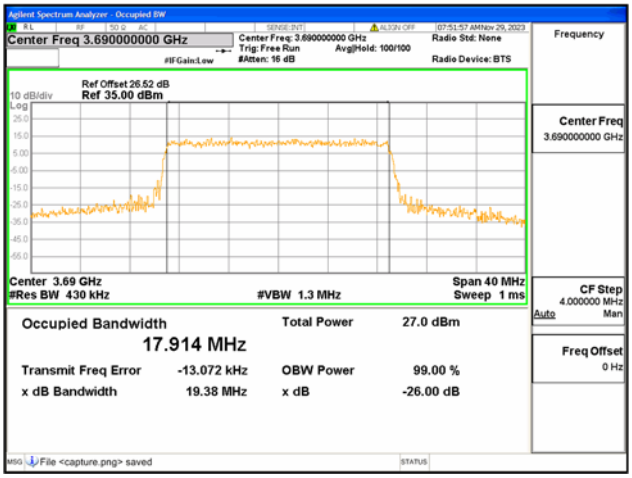
B48 / 20MHz / 16QAM/ Mid CH



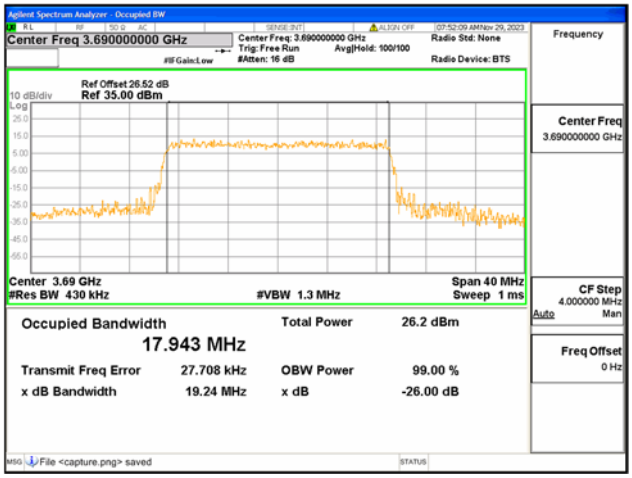
B48 / 20MHz / 64QAM/ Mid CH



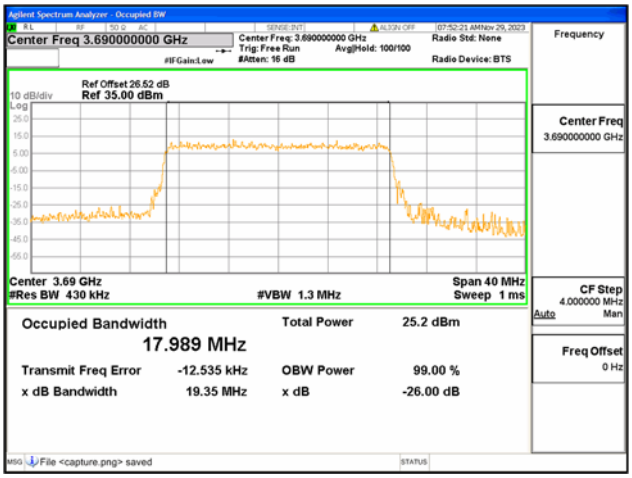
B48 / 20MHz / 256QAM/ Mid CH



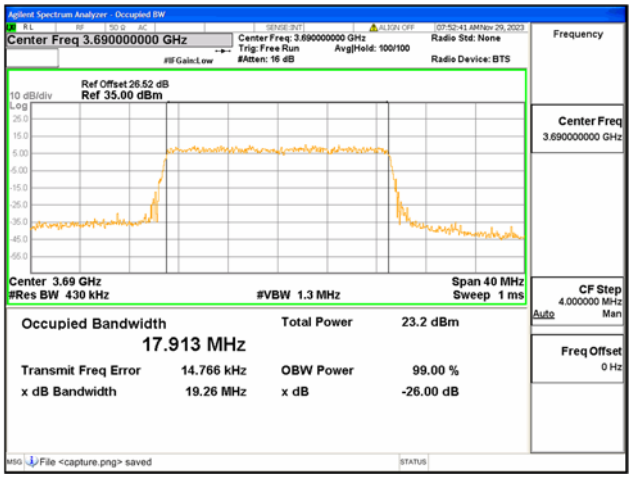
B48 / 20MHz / QPSK/ High CH



B48 / 20MHz / 16QAM/ High CH



B48 / 20MHz / 64QAM/ High CH



B48 / 20MHz / 256QAM/ High CH

2.3. Frequency Stability

2.3.1.Requirement

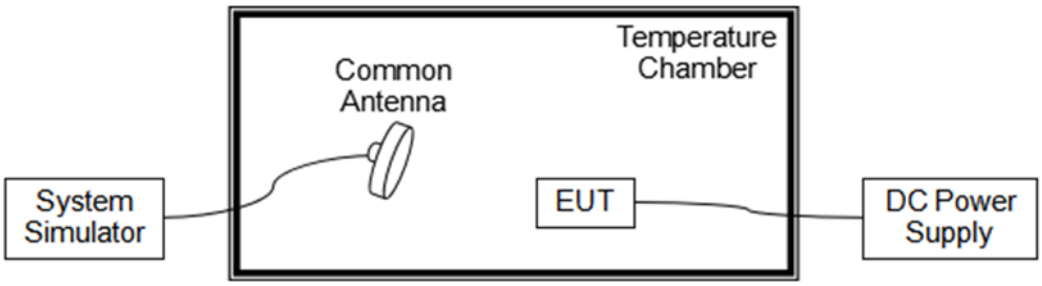
According to FCC section 2.1055 & 90.213, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30°C to +50°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.

Note: The operating temperature of EUT is from -20°C to 55°C, which are specified by the applicant.

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 3.85V, 4.20V and 3.40V, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 42, 256QAM, Channel 52490, Frequency 3500.0MHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
Normal	3.85	+20(Ref)	19	0.005	PASS
Normal		-20	20	**0.006**	
Normal		-10	-18	-0.005	
Normal		0	-12	-0.003	
Normal		+10	18	0.005	
Normal		+20	20	**0.006**	
Normal		+30	18	0.005	
Normal		+40	-9	-0.003	
Normal		+50	16	0.005	
Normal		+55	14	0.004	
High	4.20	+20	-13	-0.004	
BATT.ENDPOINT	3.40	+20	15	0.004	

LTE Band 43, 256QAM, Channel 45090, Frequency 3750MHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
Normal	3.85	+20(Ref)	15	0.004	PASS
Normal		-20	20	**0.005**	
Normal		-10	18	0.005	
Normal		0	17	0.005	
Normal		+10	14	0.004	
Normal		+20	-13	-0.003	
Normal		+30	-10	-0.003	
Normal		+40	16	0.004	
Normal		+50	9	0.002	
Normal		+55	14	0.004	
High	4.20	+20	-20	-0.005	
BATT.ENDPOINT	3.40	+20	-16	-0.004	

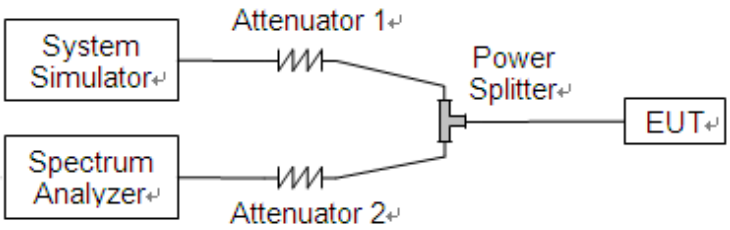
LTE Band 48, 256QAM, Channel 55990, Frequency 3625.0MHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp(°C)**	**Fre. Dev.(Hz)**	**Deviation (ppm)**	**Result**
Normal	3.85	+20(Ref)	-19	-0.005	PASS
Normal		-20	-8	-0.002	
Normal		-10	15	0.004	
Normal		0	16	0.004	
Normal		+10	22	**0.006**	
Normal		+20	15	0.004	
Normal		+30	-2	-0.001	
Normal		+40	19	0.005	
Normal		+50	2	0.001	
Normal		+55	17	0.005	
High	4.20	+20	19	0.005	
BATT.ENDPOINT	3.40	+20	-17	-0.005	

2.4. Peak to Average Radio

2.4.1.Requirement

According to FCC 96.41(g), the peak-to-average power ratio (PAPR) of any CBSD transmitter output power must not exceed 13 dB.

2.4.2.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 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

LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	Peak to Average Radio(dB)	Verdict
B42	5	Low	43115	3552.5	QPSK	5.56	PASS
B42	5	Low	43115	3552.5	16QAM	6.44	PASS
B42	5	Low	43115	3552.5	64QAM	6.83	PASS
B42	5	Low	43115	3552.5	256QAM	7.00	PASS
B42	5	Mid	43340	3575	QPSK	5.54	PASS
B42	5	Mid	43340	3575	16QAM	6.41	PASS
B42	5	Mid	43340	3575	64QAM	6.79	PASS
B42	5	Mid	43340	3575	256QAM	6.93	PASS
B42	5	High	43565	3597.5	QPSK	5.54	PASS
B42	5	High	43565	3597.5	16QAM	6.40	PASS
B42	5	High	43565	3597.5	64QAM	6.77	PASS
B42	5	High	43565	3597.5	256QAM	6.88	PASS
B42	10	Low	43140	3555	QPSK	5.54	PASS
B42	10	Low	43140	3555	16QAM	6.38	PASS
B42	10	Low	43140	3555	64QAM	6.75	PASS
B42	10	Low	43140	3555	256QAM	6.90	PASS
B42	10	Mid	43340	3575	QPSK	5.49	PASS
B42	10	Mid	43340	3575	16QAM	6.34	PASS
B42	10	Mid	43340	3575	64QAM	6.70	PASS
B42	10	Mid	43340	3575	256QAM	6.83	PASS
B42	10	High	43540	3595	QPSK	5.48	PASS
B42	10	High	43540	3595	16QAM	6.35	PASS
B42	10	High	43540	3595	64QAM	6.70	PASS
B42	10	High	43540	3595	256QAM	6.80	PASS
B42	15	Low	43165	3557.5	QPSK	5.39	PASS
B42	15	Low	43165	3557.5	16QAM	6.28	PASS
B42	15	Low	43165	3557.5	64QAM	6.73	PASS
B42	15	Low	43165	3557.5	256QAM	6.80	PASS
B42	15	Mid	43340	3575	QPSK	5.35	PASS
B42	15	Mid	43340	3575	16QAM	6.27	PASS
B42	15	Mid	43340	3575	64QAM	6.69	PASS
B42	15	Mid	43340	3575	256QAM	6.80	PASS
B42	15	High	43515	3592.5	QPSK	5.42	PASS
B42	15	High	43515	3592.5	16QAM	6.24	PASS
B42	15	High	43515	3592.5	64QAM	6.66	PASS

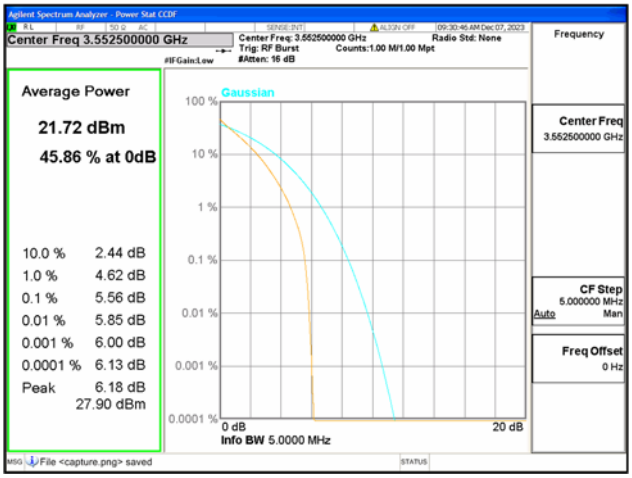
B42	15	High	43515	3592.5	256QAM	6.78	PASS
B42	20	Low	43190	3560	QPSK	5.41	PASS
B42	20	Low	43190	3560	16QAM	6.29	PASS
B42	20	Low	43190	3560	64QAM	6.64	PASS
B42	20	Low	43190	3560	256QAM	6.84	PASS
B42	20	Mid	43340	3575	QPSK	5.43	PASS
B42	20	Mid	43340	3575	16QAM	6.30	PASS
B42	20	Mid	43340	3575	64QAM	6.70	PASS
B42	20	Mid	43340	3575	256QAM	6.86	PASS
B42	20	High	43490	3590	QPSK	5.43	PASS
B42	20	High	43490	3590	16QAM	6.30	PASS
B42	20	High	43490	3590	64QAM	6.71	PASS
B42	20	High	43490	3590	256QAM	6.84	PASS

LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	Peak to Average Radio(dB)	Verdict
B43	5	Low	43615	3602.5	QPSK	5.73	PASS
B43	5	Low	43615	3602.5	16QAM	6.66	PASS
B43	5	Low	43615	3602.5	64QAM	6.62	PASS
B43	5	Low	43615	3602.5	256QAM	6.97	PASS
B43	5	Mid	44090	3650	QPSK	5.71	PASS
B43	5	Mid	44090	3650	16QAM	6.57	PASS
B43	5	Mid	44090	3650	64QAM	6.90	PASS
B43	5	Mid	44090	3650	256QAM	6.97	PASS
B43	5	High	44565	3697.5	QPSK	5.76	PASS
B43	5	High	44565	3697.5	16QAM	6.61	PASS
B43	5	High	44565	3697.5	64QAM	6.88	PASS
B43	5	High	44565	3697.5	256QAM	6.91	PASS
B43	10	Low	43640	3605	QPSK	5.77	PASS
B43	10	Low	43640	3605	16QAM	6.56	PASS
B43	10	Low	43640	3605	64QAM	6.91	PASS
B43	10	Low	43640	3605	256QAM	6.94	PASS
B43	10	Mid	44090	3650	QPSK	5.65	PASS
B43	10	Mid	44090	3650	16QAM	6.49	PASS
B43	10	Mid	44090	3650	64QAM	6.79	PASS
B43	10	Mid	44090	3650	256QAM	6.91	PASS
B43	10	High	44540	3695	QPSK	5.72	PASS
B43	10	High	44540	3695	16QAM	6.52	PASS
B43	10	High	44540	3695	64QAM	6.82	PASS
B43	10	High	44540	3695	256QAM	6.82	PASS
B43	15	Low	43665	3607.5	QPSK	5.55	PASS
B43	15	Low	43665	3607.5	16QAM	6.45	PASS
B43	15	Low	43665	3607.5	64QAM	6.83	PASS
B43	15	Low	43665	3607.5	256QAM	6.97	PASS
B43	15	Mid	44090	3650	QPSK	5.58	PASS
B43	15	Mid	44090	3650	16QAM	6.37	PASS
B43	15	Mid	44090	3650	64QAM	6.79	PASS
B43	15	Mid	44090	3650	256QAM	6.84	PASS
B43	15	High	44515	3692.5	QPSK	5.47	PASS
B43	15	High	44515	3692.5	16QAM	6.37	PASS
B43	15	High	44515	3692.5	64QAM	6.72	PASS

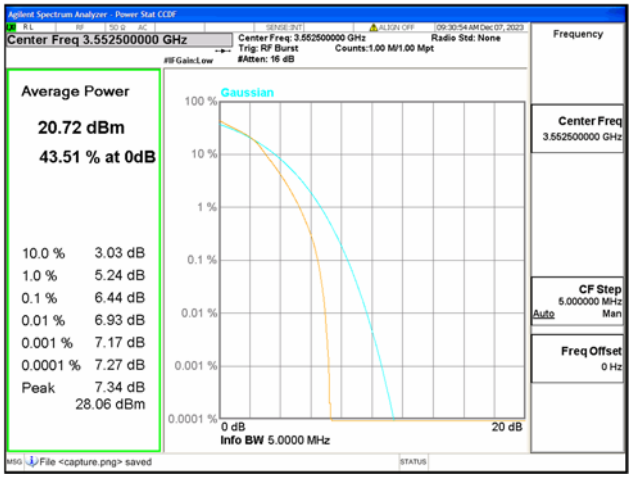
B43	15	High	44515	3692.5	256QAM	6.78	PASS
B43	20	Low	43690	3610	QPSK	5.55	PASS
B43	20	Low	43690	3610	16QAM	6.50	PASS
B43	20	Low	43690	3610	64QAM	6.90	PASS
B43	20	Low	43690	3610	256QAM	6.90	PASS
B43	20	Mid	44090	3650	QPSK	5.53	PASS
B43	20	Mid	44090	3650	16QAM	6.45	PASS
B43	20	Mid	44090	3650	64QAM	6.71	PASS
B43	20	Mid	44090	3650	256QAM	6.90	PASS
B43	20	High	44490	3690	QPSK	5.49	PASS
B43	20	High	44490	3690	16QAM	6.39	PASS
B43	20	High	44490	3690	64QAM	6.72	PASS
B43	20	High	44490	3690	256QAM	6.73	PASS

LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	Peak to Average Radio(dB)	Verdict
B48	5	Low	55265	3552.5	QPSK	5.60	PASS
B48	5	Low	55265	3552.5	16QAM	6.50	PASS
B48	5	Low	55265	3552.5	64QAM	6.93	PASS
B48	5	Low	55265	3552.5	256QAM	8.24	PASS
B48	5	Mid	55990	3625	QPSK	5.60	PASS
B48	5	Mid	55990	3625	16QAM	6.46	PASS
B48	5	Mid	55990	3625	64QAM	6.84	PASS
B48	5	Mid	55990	3625	256QAM	7.00	PASS
B48	5	High	56715	3697.5	QPSK	5.59	PASS
B48	5	High	56715	3697.5	16QAM	6.48	PASS
B48	5	High	56715	3697.5	64QAM	6.76	PASS
B48	5	High	56715	3697.5	256QAM	7.90	PASS
B48	10	Low	55290	3555	QPSK	5.56	PASS
B48	10	Low	55290	3555	16QAM	6.42	PASS
B48	10	Low	55290	3555	64QAM	6.80	PASS
B48	10	Low	55290	3555	256QAM	6.46	PASS
B48	10	Mid	55990	3625	QPSK	5.54	PASS
B48	10	Mid	55990	3625	16QAM	6.42	PASS
B48	10	Mid	55990	3625	64QAM	6.75	PASS
B48	10	Mid	55990	3625	256QAM	6.86	PASS
B48	10	High	56690	3695	QPSK	5.55	PASS
B48	10	High	56690	3695	16QAM	6.40	PASS
B48	10	High	56690	3695	64QAM	6.73	PASS
B48	10	High	56690	3695	256QAM	6.80	PASS
B48	15	Low	55315	3557.5	QPSK	5.43	PASS
B48	15	Low	55315	3557.5	16QAM	6.33	PASS
B48	15	Low	55315	3557.5	64QAM	6.76	PASS
B48	15	Low	55315	3557.5	256QAM	5.29	PASS
B48	15	Mid	55990	3625	QPSK	5.45	PASS
B48	15	Mid	55990	3625	16QAM	6.29	PASS
B48	15	Mid	55990	3625	64QAM	6.67	PASS
B48	15	Mid	55990	3625	256QAM	6.81	PASS
B48	15	High	56665	3692.5	QPSK	5.41	PASS
B48	15	High	56665	3692.5	16QAM	6.28	PASS
B48	15	High	56665	3692.5	64QAM	6.66	PASS

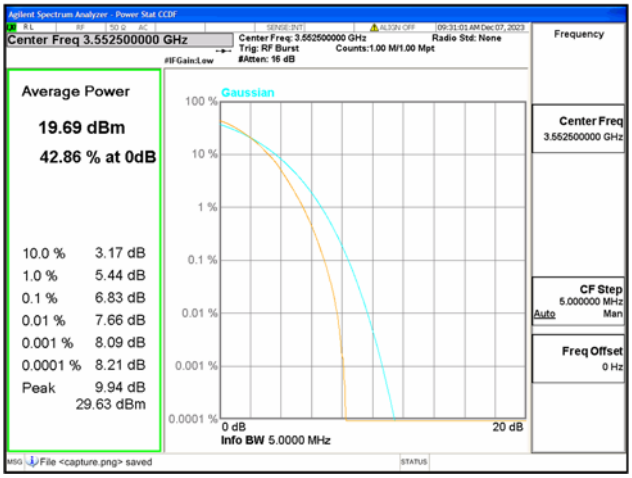
B48	15	High	56665	3692.5	256QAM	6.69	PASS
B48	20	Low	55340	3560	QPSK	5.46	PASS
B48	20	Low	55340	3560	16QAM	6.38	PASS
B48	20	Low	55340	3560	64QAM	6.79	PASS
B48	20	Low	55340	3560	256QAM	6.88	PASS
B48	20	Mid	55990	3625	QPSK	5.50	PASS
B48	20	Mid	55990	3625	16QAM	6.37	PASS
B48	20	Mid	55990	3625	64QAM	6.69	PASS
B48	20	Mid	55990	3625	256QAM	6.81	PASS
B48	20	High	56640	3690	QPSK	5.51	PASS
B48	20	High	56640	3690	16QAM	6.35	PASS
B48	20	High	56640	3690	64QAM	6.65	PASS
B48	20	High	56640	3690	256QAM	5.10	PASS



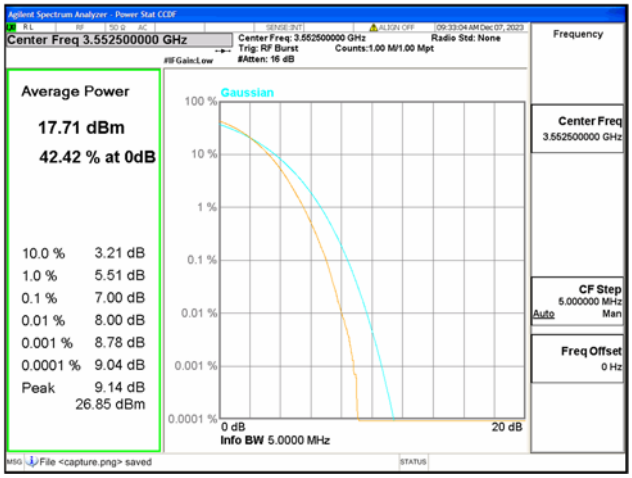
B42 / 5MHz / Low CH / QPSK



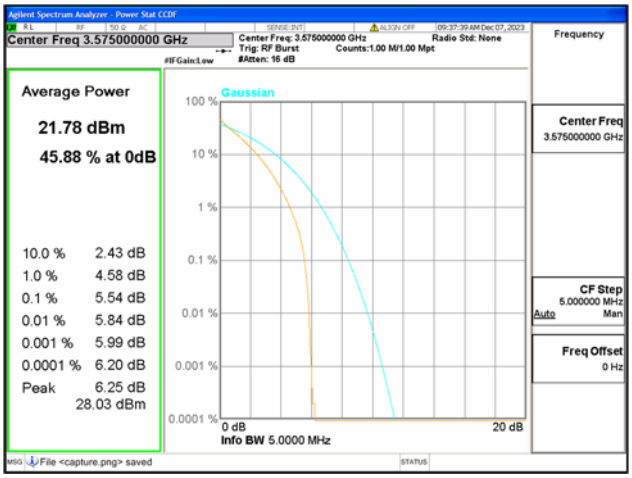
B42 / 5MHz / Low CH / 16QAM



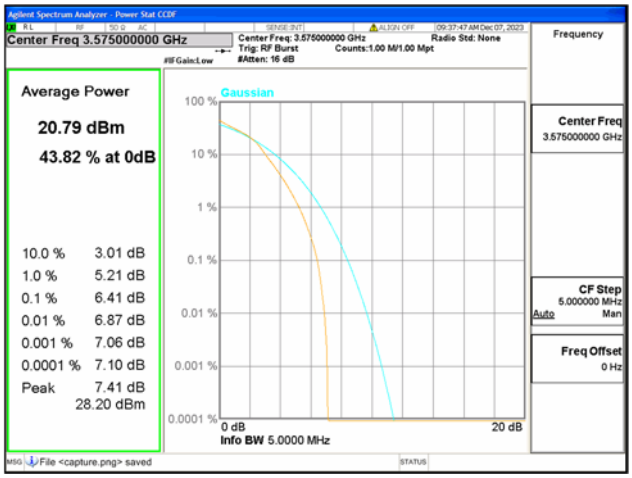
B42 / 5MHz / Low CH / 64QAM



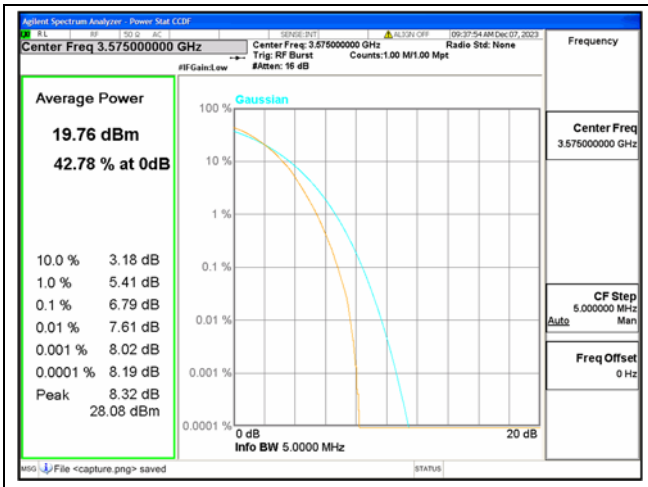
B42 / 5MHz / Low CH / 256QAM



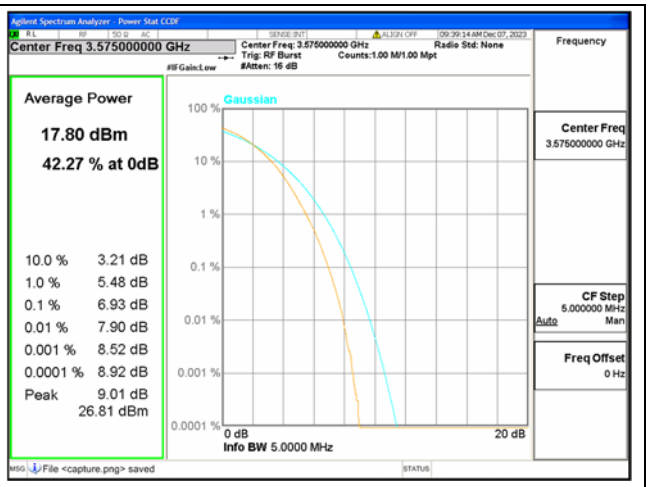
B42 / 5MHz / Mid CH / QPSK



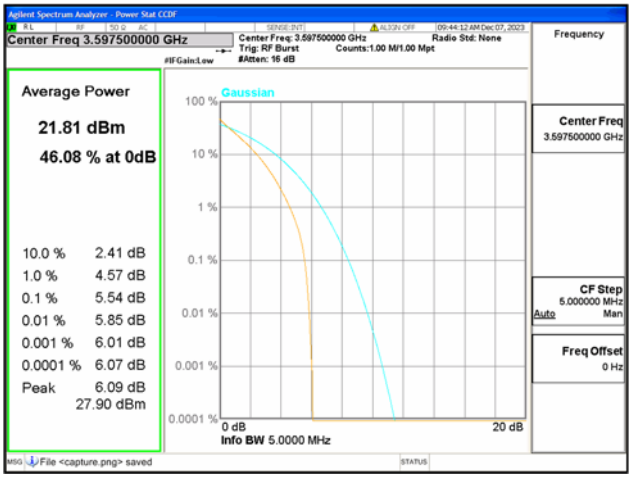
B42 / 5MHz / Mid CH / 16QAM



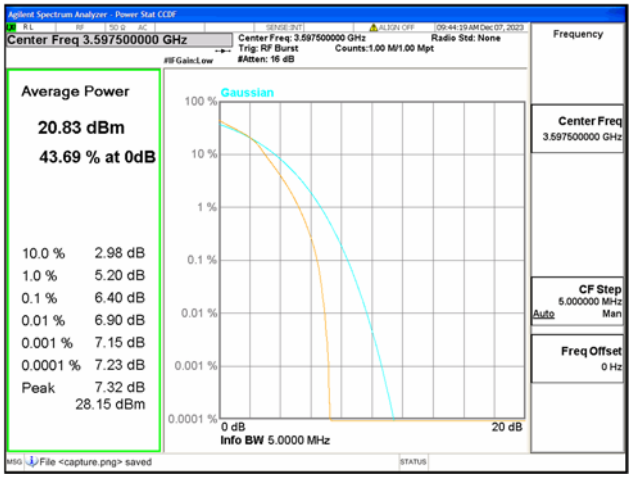
B42 / 5MHz / Mid CH / 64QAM



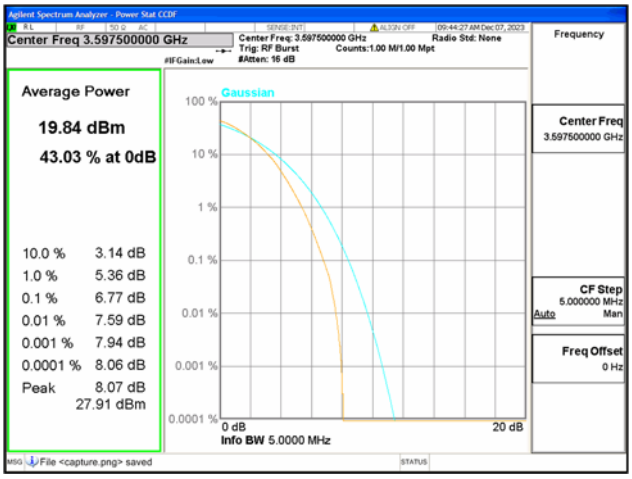
B42 / 5MHz / Mid CH / 256QAM



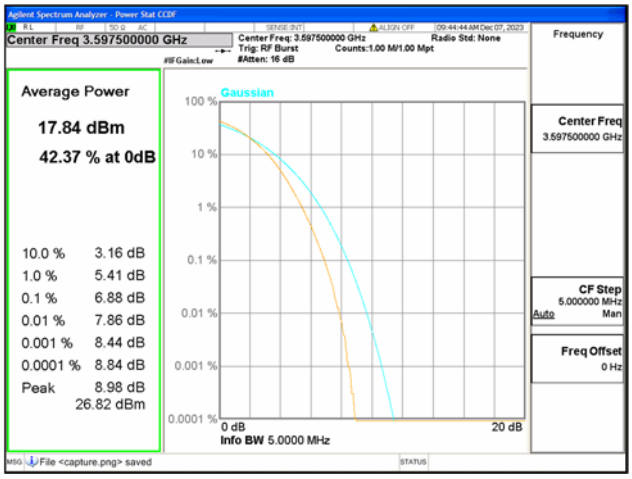
B42 / 5MHz / High CH / QPSK



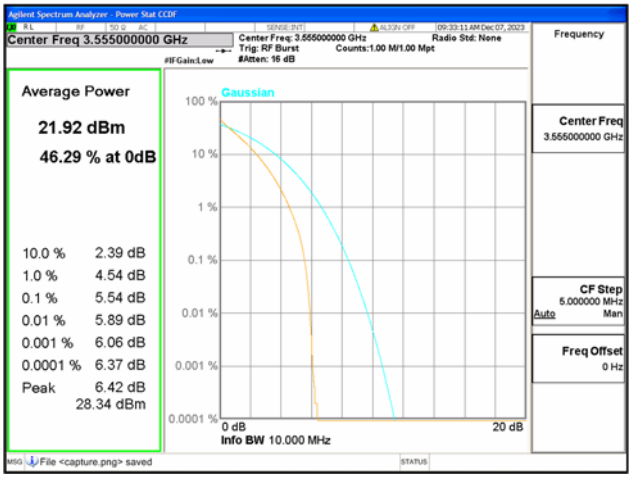
B42 / 5MHz / High CH / 16QAM



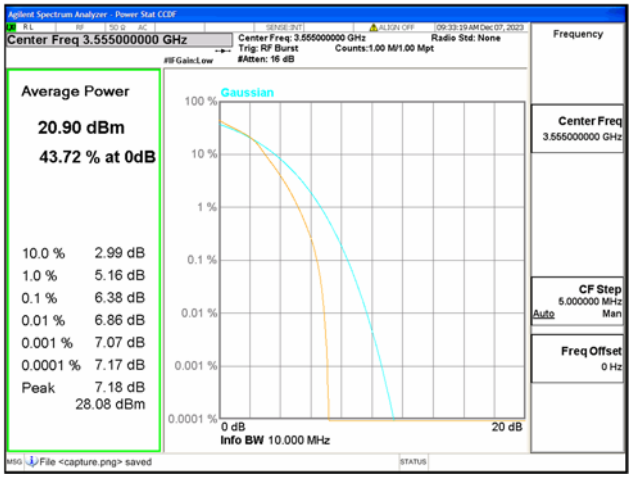
B42 / 5MHz / High CH / 64QAM



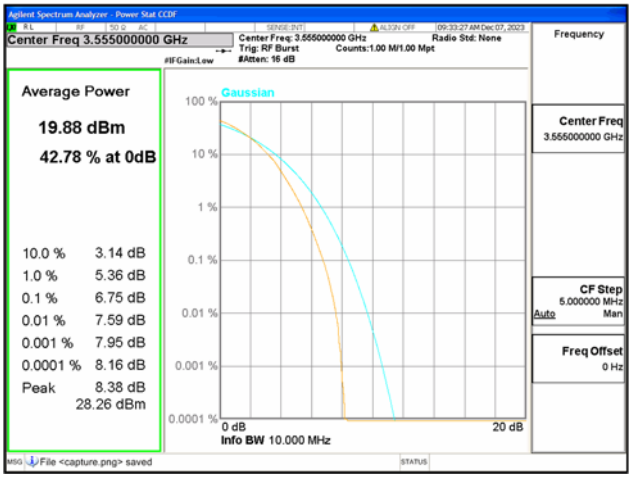
B42 / 5MHz / High CH / 256QAM



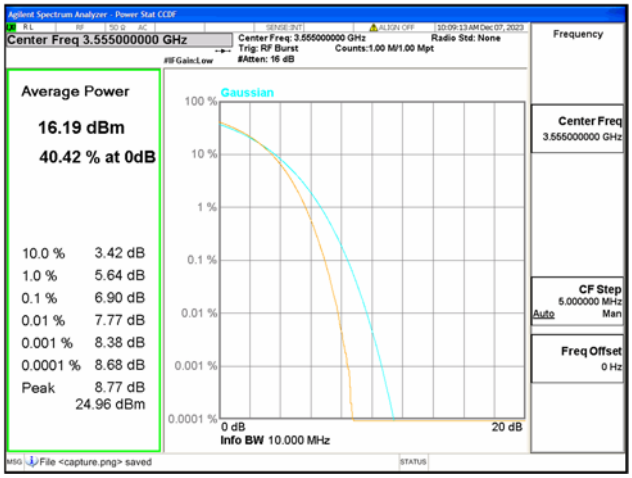
B42 / 10MHz / Low CH / QPSK



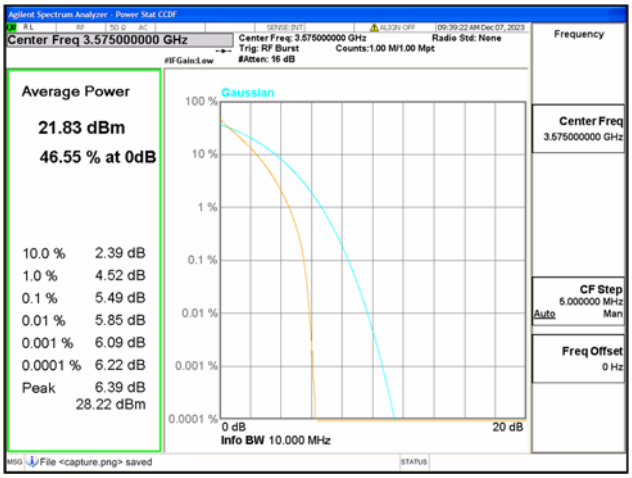
B42 / 10MHz / Low CH / 16QAM



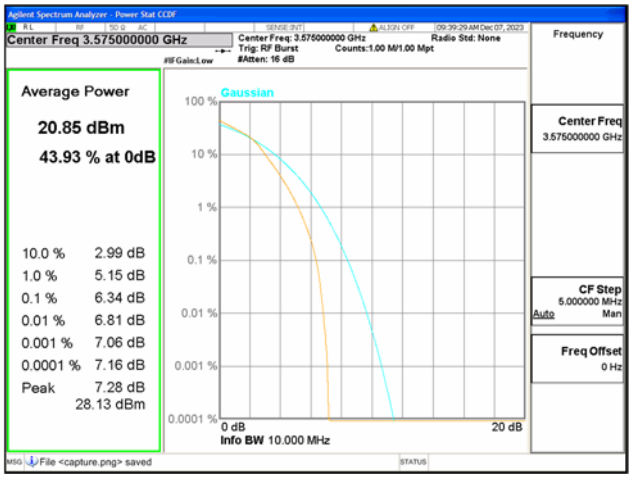
B42 / 10MHz / Low CH / 64QAM



B42 / 10MHz / Low CH / 256QAM



B42 / 10MHz / Mid CH / QPSK



B42 / 10MHz / Mid CH / 16QAM