Appendix H: Test Data for E-UTRA Band 12

Product Name: 4G Phone

Test Model: mindphone 1

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan

H.1 Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	22.61	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	22.73	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	22.75	PASS
Band12	1.4MHz	QPSK	23017	3RB#0	22.84	PASS
Band12	1.4MHz	QPSK	23017	3RB#1	22.85	PASS
Band12	1.4MHz	QPSK	23017	3RB#3	22.81	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	21.88	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	22.95	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	22.95	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	22.86	PASS
Band12	1.4MHz	QPSK	23095	3RB#0	22.92	PASS
Band12	1.4MHz	QPSK	23095	3RB#1	22.81	PASS
Band12	1.4MHz	QPSK	23095	3RB#3	22.95	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	21.86	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	22.98	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	22.92	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	22.86	PASS
Band12	1.4MHz	QPSK	23173	3RB#0	22.89	PASS
Band12	1.4MHz	QPSK	23173	3RB#1	22.91	PASS
Band12	1.4MHz	QPSK	23173	3RB#3	22.91	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	21.76	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.42	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	22.45	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	21.90	PASS
Band12	1.4MHz	16QAM	23017	3RB#0	21.36	PASS
Band12	1.4MHz	16QAM	23017	3RB#1	21.44	PASS
Band12	1.4MHz	16QAM	23017	3RB#3	21.48	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.30	PASS

Band12	1.4MHz	16QAM	23095	1RB#0	21.65	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	21.48	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	21.38	PASS
Band12	1.4MHz	16QAM	23095	3RB#0	21.46	PASS
Band12	1.4MHz	16QAM	23095	3RB#1	21.40	PASS
Band12	1.4MHz	16QAM	23095	3RB#3	21.72	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	20.95	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	22.39	PASS
Band12	1.4MHz	16QAM	23173	1RB#2	22.29	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	22.27	PASS
Band12	1.4MHz	16QAM	23173	3RB#0	21.50	PASS
Band12	1.4MHz	16QAM	23173	3RB#1	21.59	PASS
Band12	1.4MHz	16QAM	23173	3RB#3	21.48	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	21.19	PASS
Band12	3MHz	QPSK	23025	1RB#0	22.71	PASS
Band12	3MHz	QPSK	23025	1RB#8	22.81	PASS
Band12	3MHz	QPSK	23025	1RB#14	22.77	PASS
Band12	3MHz	QPSK	23025	8RB#0	21.80	PASS
Band12	3MHz	QPSK	23025	8RB#4	21.80	PASS
Band12	3MHz	QPSK	23025	8RB#7	21.95	PASS
Band12	3MHz	QPSK	23025	15RB#0	21.80	PASS
Band12	3MHz	QPSK	23095	1RB#0	22.90	PASS
Band12	3MHz	QPSK	23095	1RB#8	22.86	PASS
Band12	3MHz	QPSK	23095	1RB#14	22.93	PASS
Band12	3MHz	QPSK	23095	8RB#0	21.85	PASS
Band12	3MHz	QPSK	23095	8RB#4	21.84	PASS
Band12	3MHz	QPSK	23095	8RB#7	21.91	PASS
Band12	3MHz	QPSK	23095	15RB#0	21.82	PASS
Band12	3MHz	QPSK	23165	1RB#0	23.01	PASS
Band12	3MHz	QPSK	23165	1RB#8	22.95	PASS
Band12	3MHz	QPSK	23165	1RB#14	22.95	PASS
Band12	3MHz	QPSK	23165	8RB#0	21.85	PASS
Band12	3MHz	QPSK	23165	8RB#4	21.97	PASS
Band12	3MHz	QPSK	23165	8RB#7	21.79	PASS
Band12	3MHz	QPSK	23165	15RB#0	21.85	PASS

Band12	3MHz	16QAM	23025	1RB#0	21.52	PASS
Band12	3MHz	16QAM	23025	1RB#8	21.45	PASS
Band12	3MHz	16QAM	23025	1RB#14	21.44	PASS
Band12	3MHz	16QAM	23025	8RB#0	21.34	PASS
Band12	3MHz	16QAM	23025	8RB#4	21.34	PASS
Band12	3MHz	16QAM	23025	8RB#7	21.45	PASS
Band12	3MHz	16QAM	23025	15RB#0	21.15	PASS
Band12	3MHz	16QAM	23095	1RB#0	21.59	PASS
Band12	3MHz	16QAM	23095	1RB#8	21.49	PASS
Band12	3MHz	16QAM	23095	1RB#14	21.39	PASS
Band12	3MHz	16QAM	23095	8RB#0	21.48	PASS
Band12	3MHz	16QAM	23095	8RB#4	21.55	PASS
Band12	3MHz	16QAM	23095	8RB#7	20.78	PASS
Band12	3MHz	16QAM	23095	15RB#0	20.71	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.13	PASS
Band12	3MHz	16QAM	23165	1RB#8	21.98	PASS
Band12	3MHz	16QAM	23165	1RB#14	21.77	PASS
Band12	3MHz	16QAM	23165	8RB#0	20.83	PASS
Band12	3MHz	16QAM	23165	8RB#4	20.85	PASS
Band12	3MHz	16QAM	23165	8RB#7	21.10	PASS
Band12	3MHz	16QAM	23165	15RB#0	20.88	PASS
Band12	5MHz	QPSK	23035	1RB#0	22.90	PASS
Band12	5MHz	QPSK	23035	1RB#12	22.89	PASS
Band12	5MHz	QPSK	23035	1RB#24	22.91	PASS
Band12	5MHz	QPSK	23035	12RB#0	21.83	PASS
Band12	5MHz	QPSK	23035	12RB#6	21.99	PASS
Band12	5MHz	QPSK	23035	12RB#13	21.89	PASS
Band12	5MHz	QPSK	23035	25RB#0	21.89	PASS
Band12	5MHz	QPSK	23095	1RB#0	23.03	PASS
Band12	5MHz	QPSK	23095	1RB#12	22.92	PASS
Band12	5MHz	QPSK	23095	1RB#24	23.03	PASS
Band12	5MHz	QPSK	23095	12RB#0	21.91	PASS
Band12	5MHz	QPSK	23095	12RB#6	21.91	PASS
Band12	5MHz	QPSK	23095	12RB#13	21.68	PASS
Band12	5MHz	QPSK	23095	25RB#0	21.82	PASS

Band12	5MHz	QPSK	23155	1RB#0	23.00	PASS
Band12	5MHz	QPSK	23155	1RB#12	23.00	PASS
Band12	5MHz	QPSK	23155	1RB#24	22.94	PASS
Band12	5MHz	QPSK	23155	12RB#0	21.85	PASS
Band12	5MHz	QPSK	23155	12RB#6	22.05	PASS
Band12	5MHz	QPSK	23155	12RB#13	21.87	PASS
Band12	5MHz	QPSK	23155	25RB#0	21.93	PASS
Band12	5MHz	16QAM	23035	1RB#0	21.36	PASS
Band12	5MHz	16QAM	23035	1RB#12	21.12	PASS
Band12	5MHz	16QAM	23035	1RB#24	21.67	PASS
Band12	5MHz	16QAM	23035	12RB#0	21.33	PASS
Band12	5MHz	16QAM	23035	12RB#6	21.33	PASS
Band12	5MHz	16QAM	23035	12RB#13	21.30	PASS
Band12	5MHz	16QAM	23035	25RB#0	21.46	PASS
Band12	5MHz	16QAM	23095	1RB#0	21.73	PASS
Band12	5MHz	16QAM	23095	1RB#12	21.68	PASS
Band12	5MHz	16QAM	23095	1RB#24	21.76	PASS
Band12	5MHz	16QAM	23095	12RB#0	21.32	PASS
Band12	5MHz	16QAM	23095	12RB#6	21.31	PASS
Band12	5MHz	16QAM	23095	12RB#13	20.64	PASS
Band12	5MHz	16QAM	23095	25RB#0	20.69	PASS
Band12	5MHz	16QAM	23155	1RB#0	21.74	PASS
Band12	5MHz	16QAM	23155	1RB#12	21.85	PASS
Band12	5MHz	16QAM	23155	1RB#24	21.70	PASS
Band12	5MHz	16QAM	23155	12RB#0	20.71	PASS
Band12	5MHz	16QAM	23155	12RB#6	20.67	PASS
Band12	5MHz	16QAM	23155	12RB#13	20.75	PASS
Band12	5MHz	16QAM	23155	25RB#0	20.91	PASS
Band12	10MHz	QPSK	23060	1RB#0	22.82	PASS
Band12	10MHz	QPSK	23060	1RB#24	22.82	PASS
Band12	10MHz	QPSK	23060	1RB#49	22.73	PASS
Band12	10MHz	QPSK	23060	25RB#0	21.70	PASS
Band12	10MHz	QPSK	23060	25RB#12	21.71	PASS
Band12	10MHz	QPSK	23060	25RB#25	21.79	PASS
Band12	10MHz	QPSK	23060	50RB#0	22.33	PASS

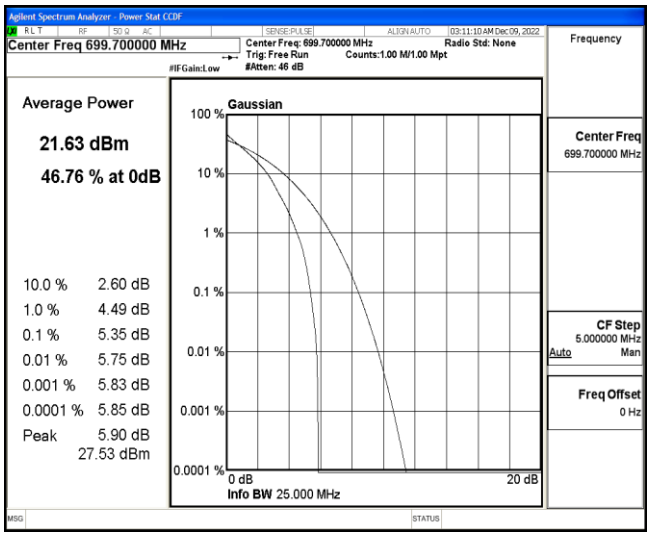
Band12	10MHz	QPSK	23095	1RB#0	23.03	PASS
Band12	10MHz	QPSK	23095	1RB#24	22.68	PASS
Band12	10MHz	QPSK	23095	1RB#49	22.84	PASS
Band12	10MHz	QPSK	23095	25RB#0	21.75	PASS
Band12	10MHz	QPSK	23095	25RB#12	21.75	PASS
Band12	10MHz	QPSK	23095	25RB#25	21.84	PASS
Band12	10MHz	QPSK	23095	50RB#0	21.64	PASS
Band12	10MHz	QPSK	23130	1RB#0	23.01	PASS
Band12	10MHz	QPSK	23130	1RB#24	22.91	PASS
Band12	10MHz	QPSK	23130	1RB#49	22.97	PASS
Band12	10MHz	QPSK	23130	25RB#0	21.69	PASS
Band12	10MHz	QPSK	23130	25RB#12	21.69	PASS
Band12	10MHz	QPSK	23130	25RB#25	21.96	PASS
Band12	10MHz	QPSK	23130	50RB#0	21.91	PASS
Band12	10MHz	16QAM	23060	1RB#0	21.80	PASS
Band12	10MHz	16QAM	23060	1RB#24	22.18	PASS
Band12	10MHz	16QAM	23060	1RB#49	21.55	PASS
Band12	10MHz	16QAM	23060	25RB#0	21.20	PASS
Band12	10MHz	16QAM	23060	25RB#12	21.20	PASS
Band12	10MHz	16QAM	23060	25RB#25	21.26	PASS
Band12	10MHz	16QAM	23060	50RB#0	21.21	PASS
Band12	10MHz	16QAM	23095	1RB#0	21.59	PASS
Band12	10MHz	16QAM	23095	1RB#24	21.40	PASS
Band12	10MHz	16QAM	23095	1RB#49	21.67	PASS
Band12	10MHz	16QAM	23095	25RB#0	21.43	PASS
Band12	10MHz	16QAM	23095	25RB#12	21.50	PASS
Band12	10MHz	16QAM	23095	25RB#25	21.46	PASS
Band12	10MHz	16QAM	23095	50RB#0	20.77	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.32	PASS
Band12	10MHz	16QAM	23130	1RB#24	22.40	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.18	PASS
Band12	10MHz	16QAM	23130	25RB#0	20.87	PASS
Band12	10MHz	16QAM	23130	25RB#12	20.80	PASS
Band12	10MHz	16QAM	23130	25RB#25	21.08	PASS
Band12	10MHz	16QAM	23130	50RB#0	21.29	PASS

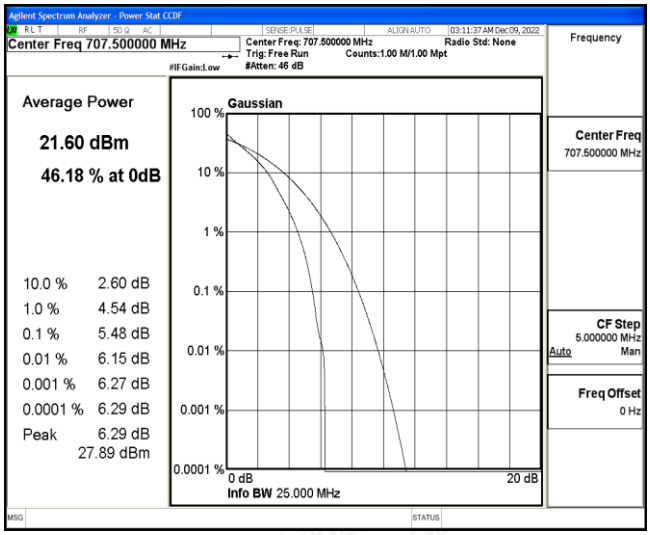
H.2 Peak-to-Average Ratio(CCDF)

Test Result

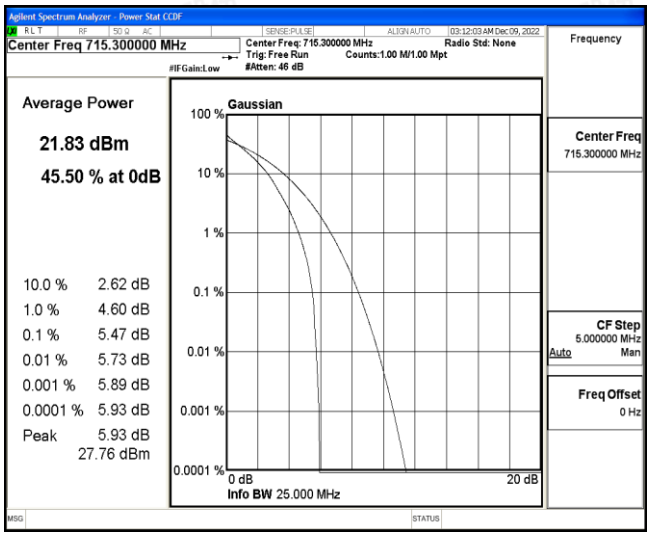
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	5.35	13	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	5.48	13	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	5.47	13	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	6.06	13	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	6.13	13	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	6.06	13	PASS
Band12	3MHz	QPSK	23025	15RB#0	5.45	13	PASS
Band12	3MHz	QPSK	23095	15RB#0	5.55	13	PASS
Band12	3MHz	QPSK	23165	15RB#0	5.35	13	PASS
Band12	3MHz	16QAM	23025	15RB#0	6.13	13	PASS
Band12	3MHz	16QAM	23095	15RB#0	6.41	13	PASS
Band12	3MHz	16QAM	23165	15RB#0	6.28	13	PASS
Band12	5MHz	QPSK	23035	25RB#0	5.54	13	PASS
Band12	5MHz	QPSK	23095	25RB#0	5.54	13	PASS
Band12	5MHz	QPSK	23155	25RB#0	5.35	13	PASS
Band12	5MHz	16QAM	23035	25RB#0	6.16	13	PASS
Band12	5MHz	16QAM	23095	25RB#0	6.40	13	PASS
Band12	5MHz	16QAM	23155	25RB#0	6.22	13	PASS
Band12	10MHz	QPSK	23060	50RB#0	5.41	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.56	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.45	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	6.25	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.36	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	6.14	13	PASS

Test Graphs

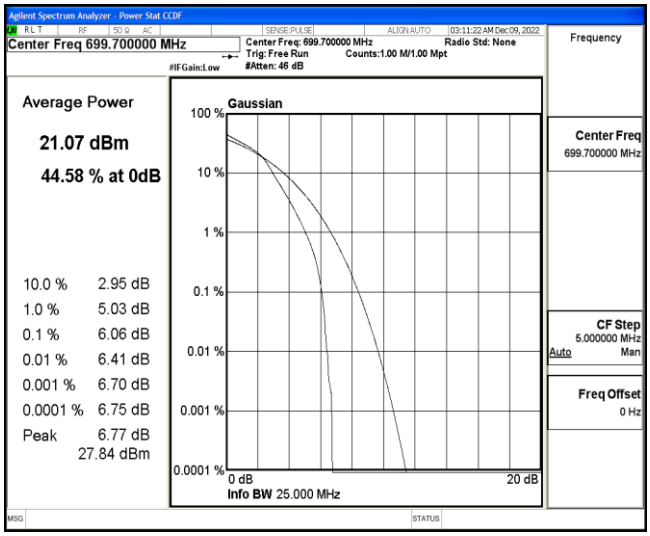
Band12-1.4MHz-QPSK-23017-6RB#0


Band12-1.4MHz-QPSK-23095-6RB#0


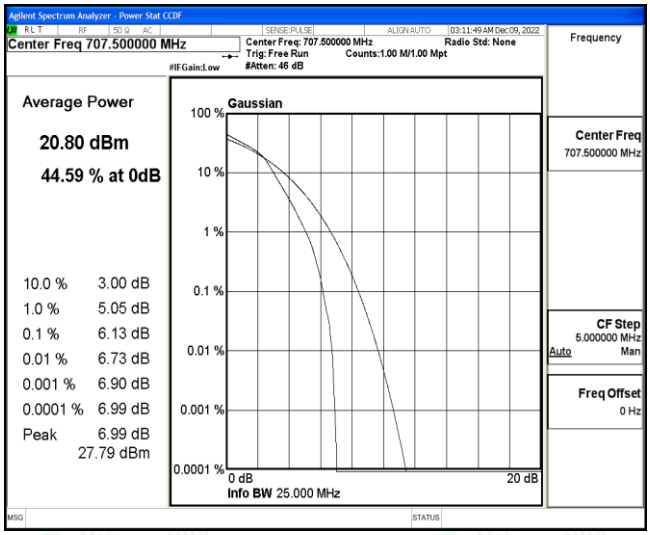
Band12-1.4MHz-QPSK-23173-6RB#0



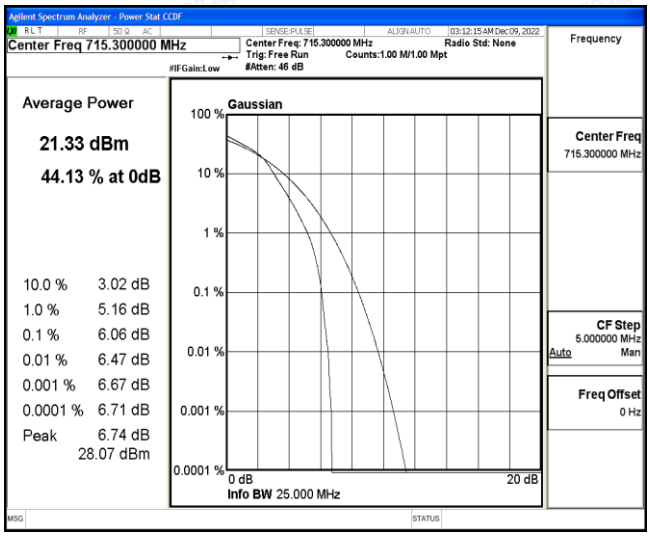
Band12-1.4MHz-16QAM-23017-6RB#0



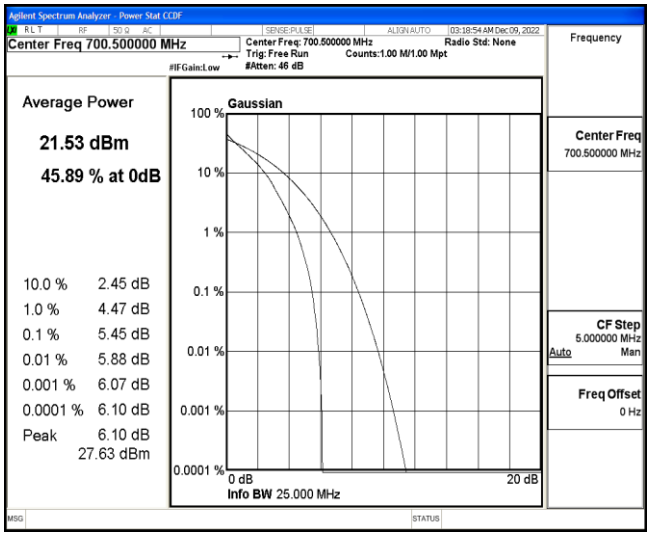
Band12-1.4MHz-16QAM-23095-6RB#0



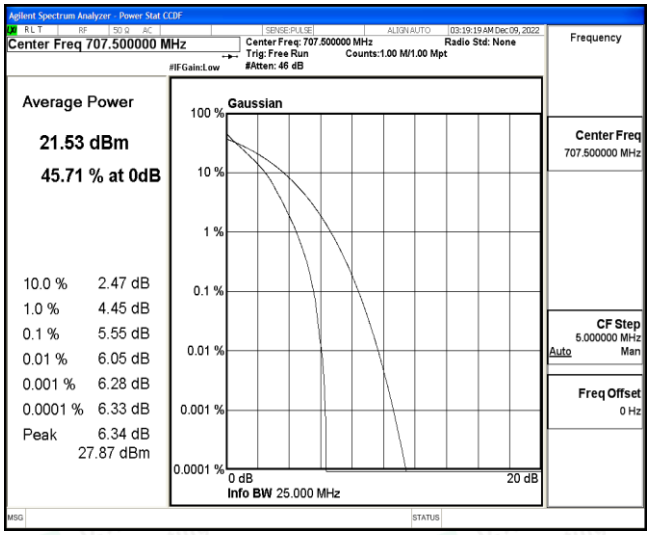
Band12-1.4MHz-16QAM-23173-6RB#0



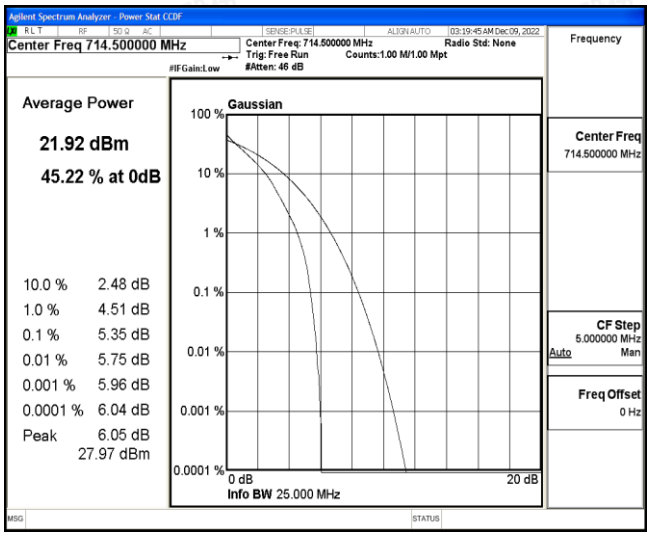
Band12-3MHz-QPSK-23025-15RB#0



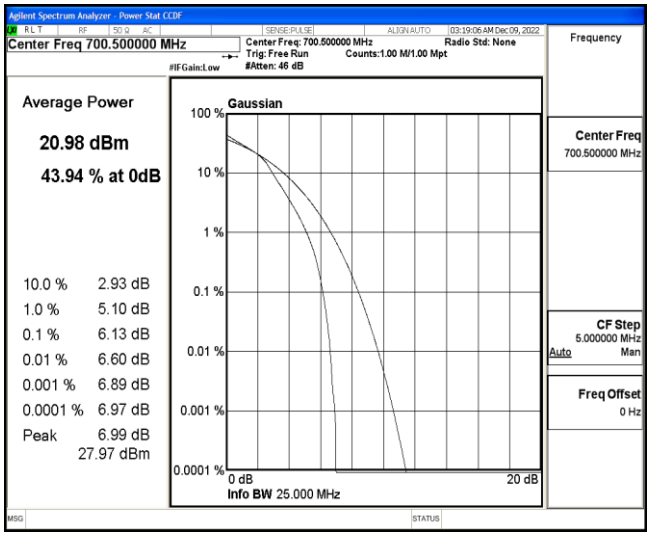
Band12-3MHz-QPSK-23095-15RB#0



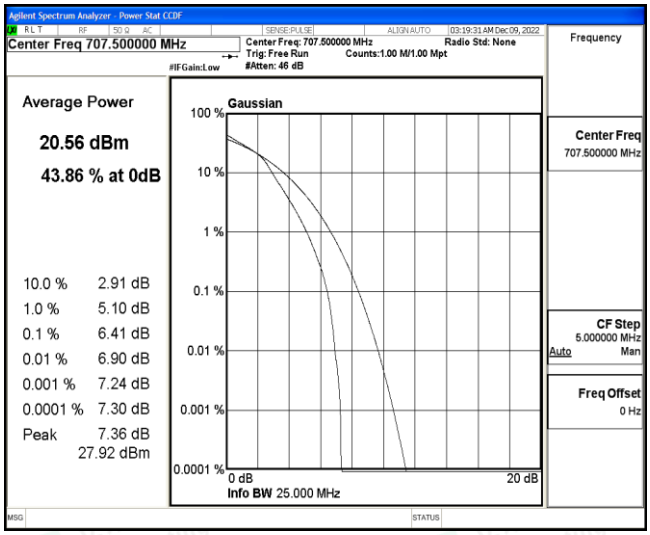
Band12-3MHz-QPSK-23165-15RB#0



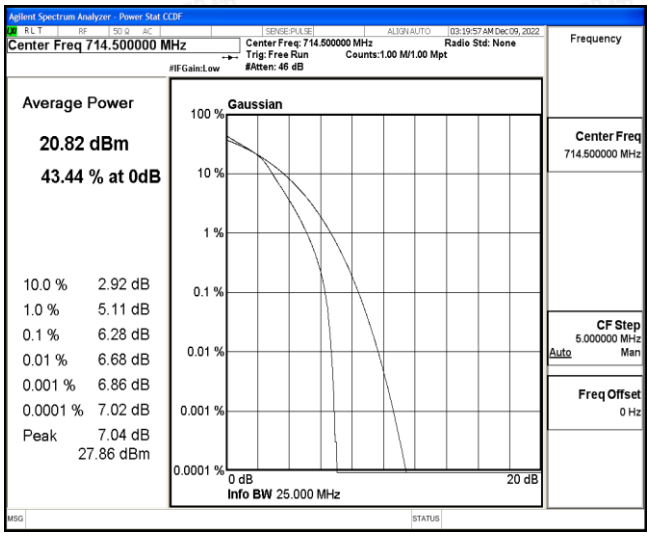
Band12-3MHz-16QAM-23025-15RB#0



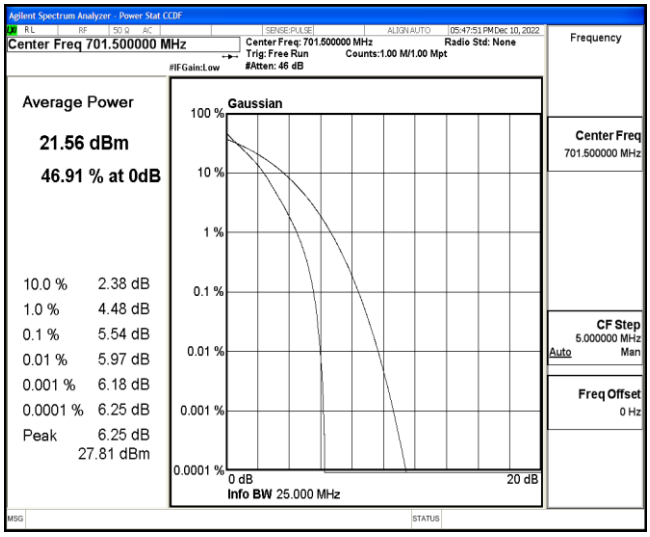
Band12-3MHz-16QAM-23095-15RB#0



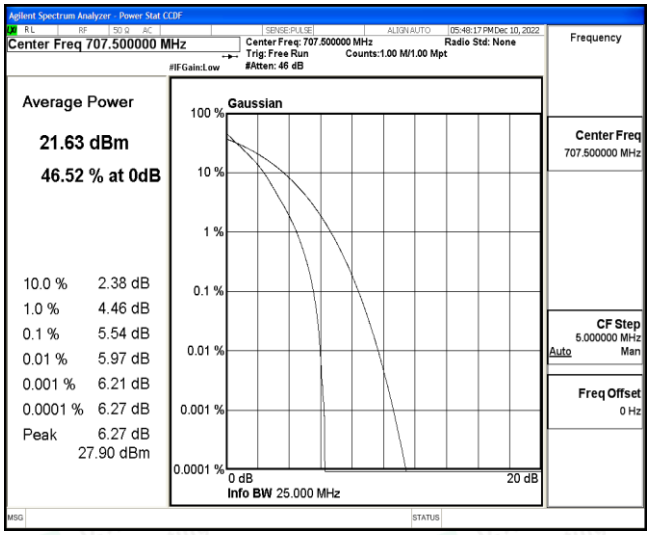
Band12-3MHz-16QAM-23165-15RB#0



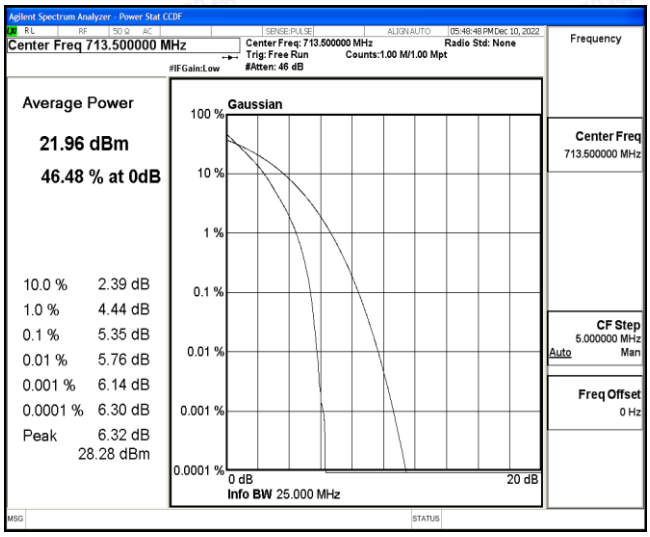
Band12-5MHz-QPSK-23035-25RB#0



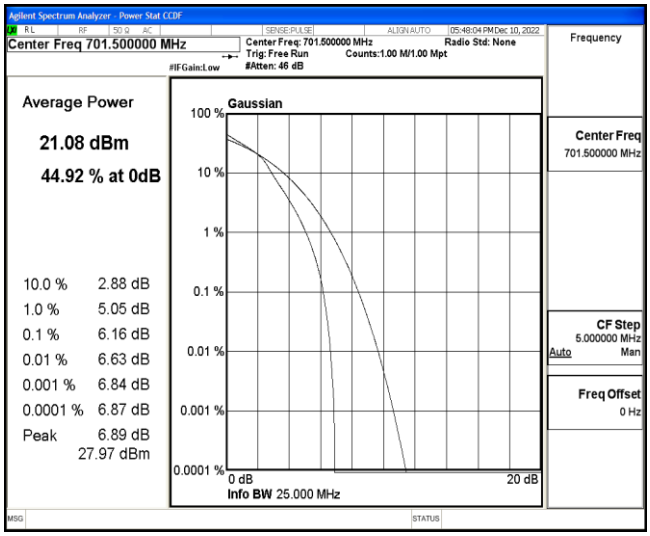
Band12-5MHz-QPSK-23095-25RB#0



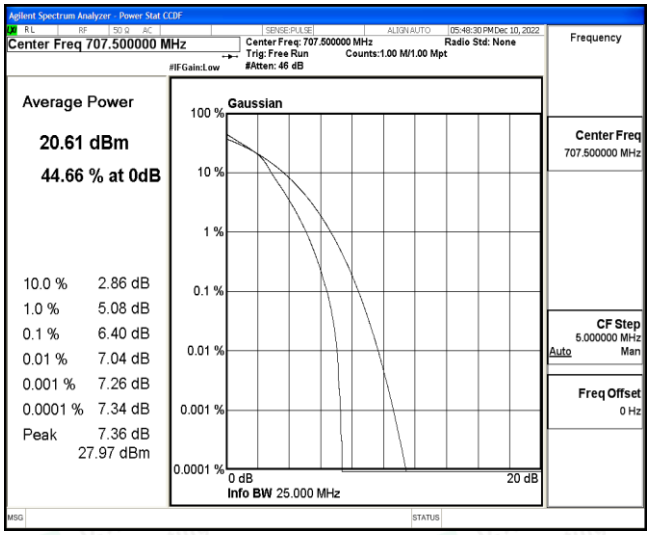
Band12-5MHz-QPSK-23155-25RB#0



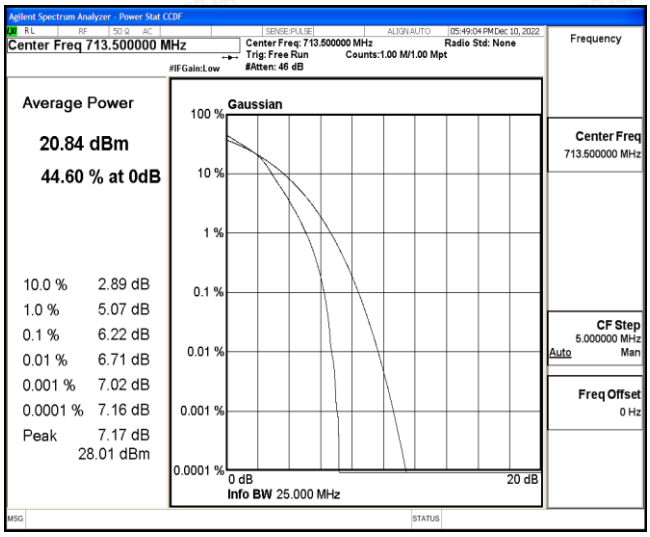
Band12-5MHz-16QAM-23035-25RB#0



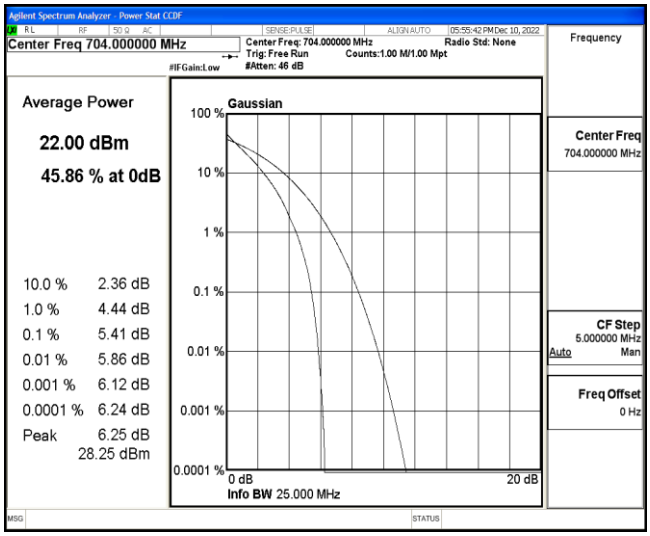
Band12-5MHz-16QAM-23095-25RB#0



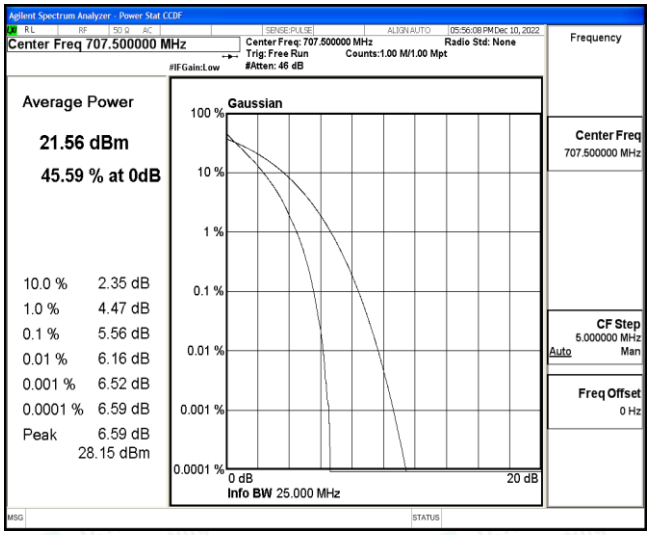
Band12-5MHz-16QAM-23155-25RB#0



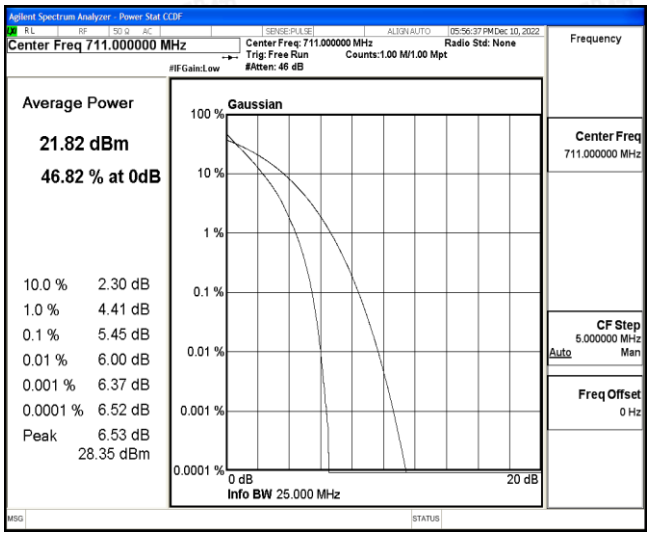
Band12-10MHz-QPSK-23060-50RB#0



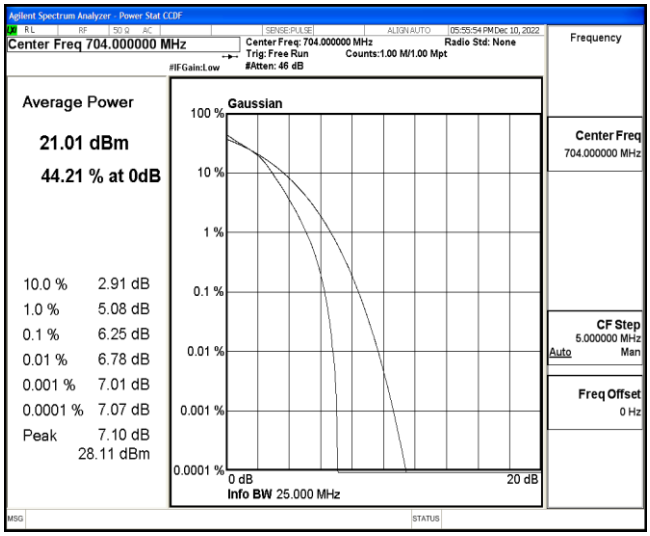
Band12-10MHz-QPSK-23095-50RB#0



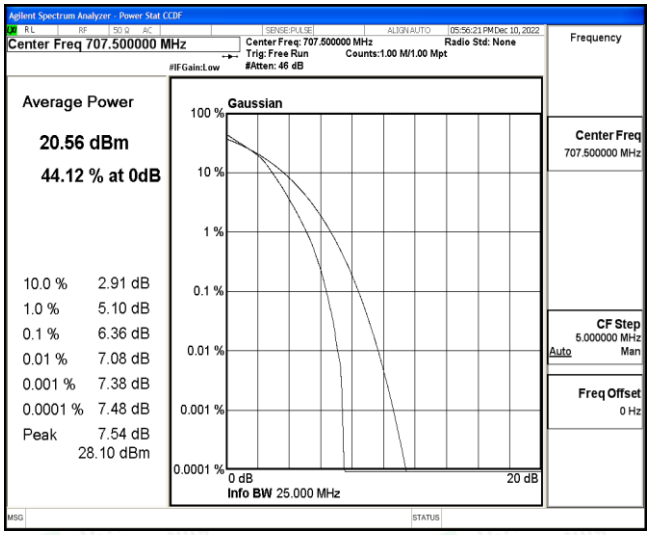
Band12-10MHz-QPSK-23130-50RB#0



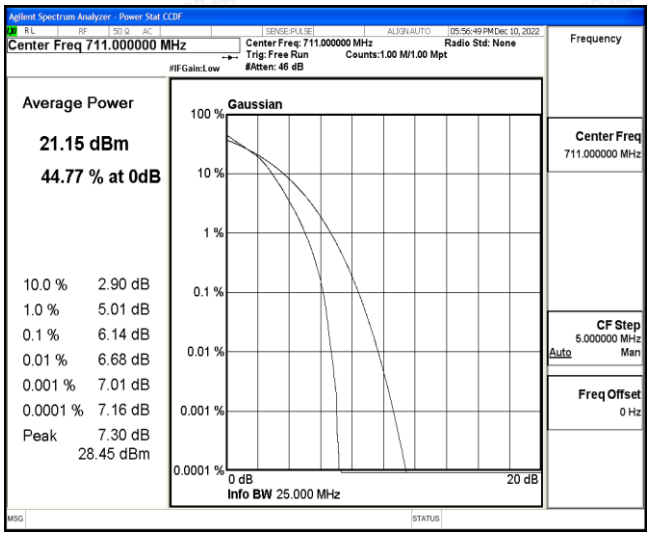
Band12-10MHz-16QAM-23060-50RB#0



Band12-10MHz-16QAM-23095-50RB#0



Band12-10MHz-16QAM-23130-50RB#0


Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 711.000000 MHz
Center Freq: 711.000000 MHz
Trig: Free Run
#Atten: 46 dB
Counts:1.00 M/1.00 Mpt
Radio Std: None
Frequency
Average Power
21.15 dBm
44.77 % at 0dB
10.0 % 2.90 dB
1.0 % 5.01 dB
0.1 % 6.14 dB
0.01 % 6.68 dB
0.001 % 7.01 dB
0.0001 % 7.16 dB
Peak 7.30 dB
28.45 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 25.000 MHz
Center Freq
711.000000 MHz
CF Step
5.000000 MHz
Auto Man
Freq Offset
0 Hz

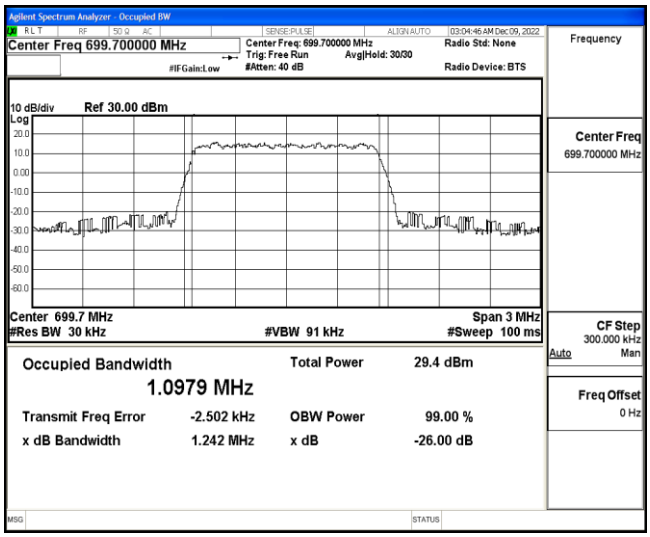
H.3 26dB Bandwidth and Occupied Bandwidth

Test Result

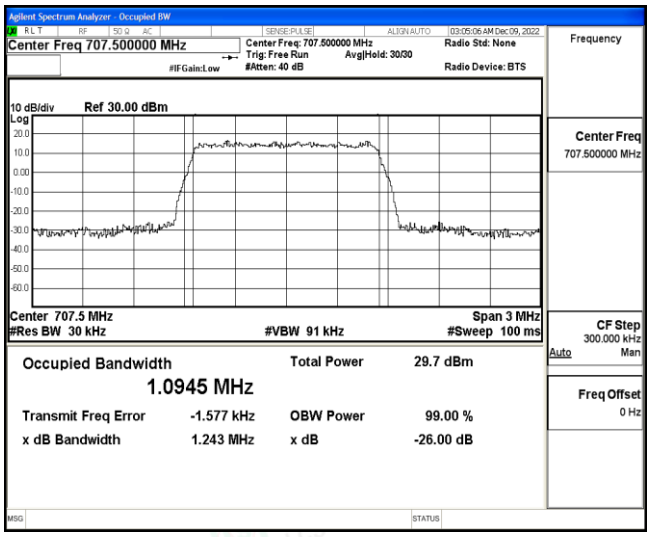
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.0979	1.242	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.0945	1.243	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.0962	1.246	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.1046	1.251	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.0945	1.243	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.0907	1.239	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.7062	3.007	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.7076	3.039	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.7072	3.033	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.7023	3.032	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.7048	3.045	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.7038	3.018	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.5238	4.990	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.4992	4.977	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.5036	4.988	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.4993	4.964	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.5296	5.006	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.5268	4.999	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.9801	9.874	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.9914	9.885	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.9694	9.886	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.9956	9.902	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.9846	9.932	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.9668	9.923	PASS

Test Graphs

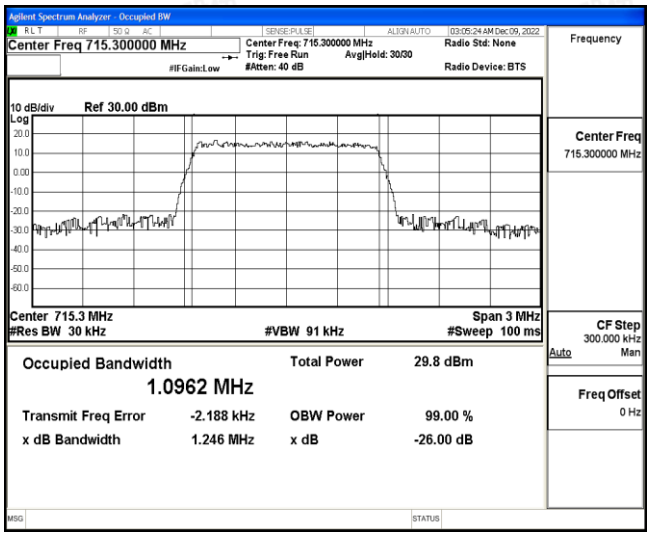
Band12-1.4MHz-QPSK-23017-6RB#0



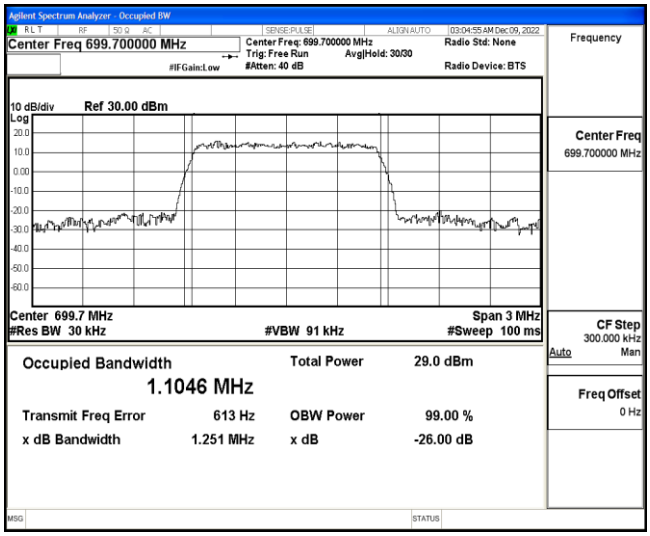
Band12-1.4MHz-QPSK-23095-6RB#0



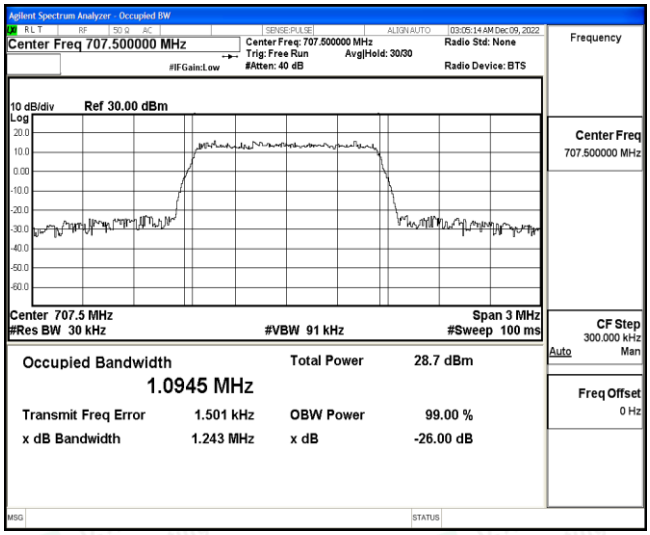
Band12-1.4MHz-QPSK-23173-6RB#0



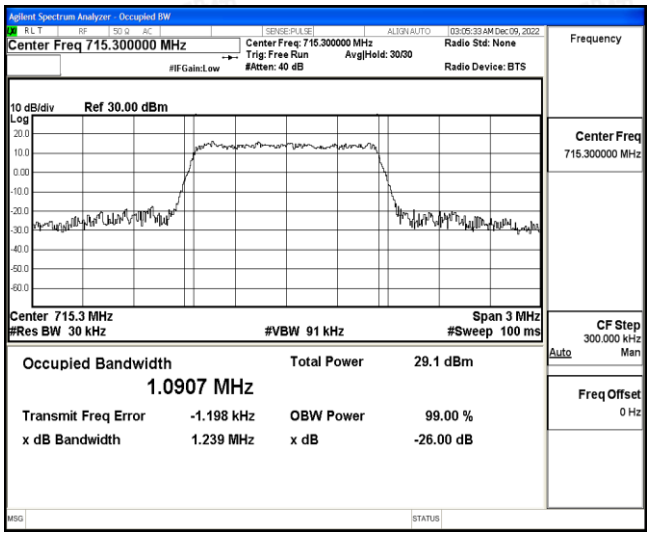
Band12-1.4MHz-16QAM-23017-6RB#0



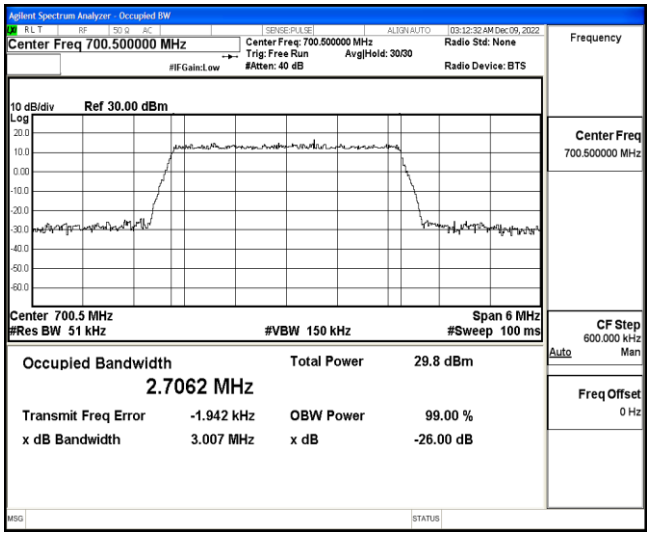
Band12-1.4MHz-16QAM-23095-6RB#0



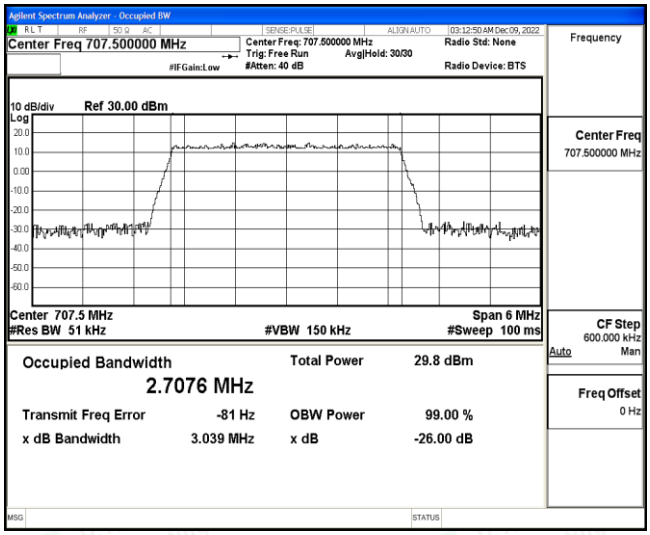
Band12-1.4MHz-16QAM-23173-6RB#0



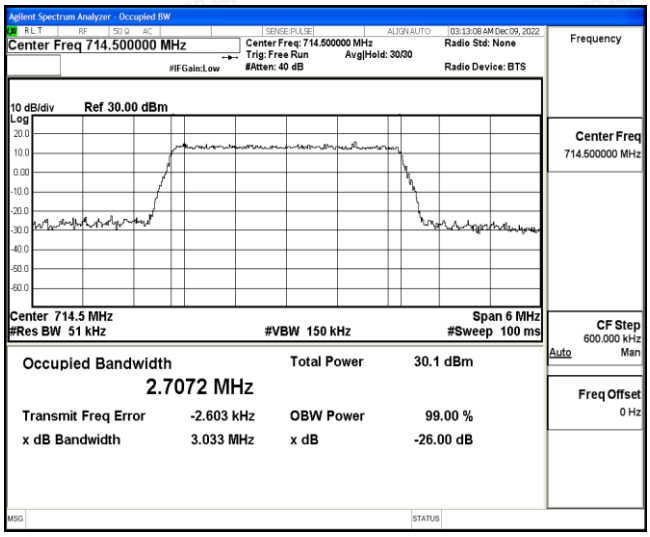
Band12-3MHz-QPSK-23025-15RB#0



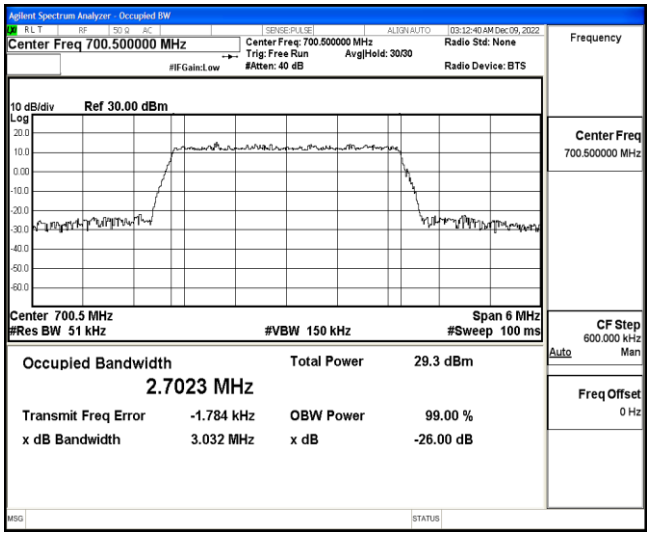
Band12-3MHz-QPSK-23095-15RB#0



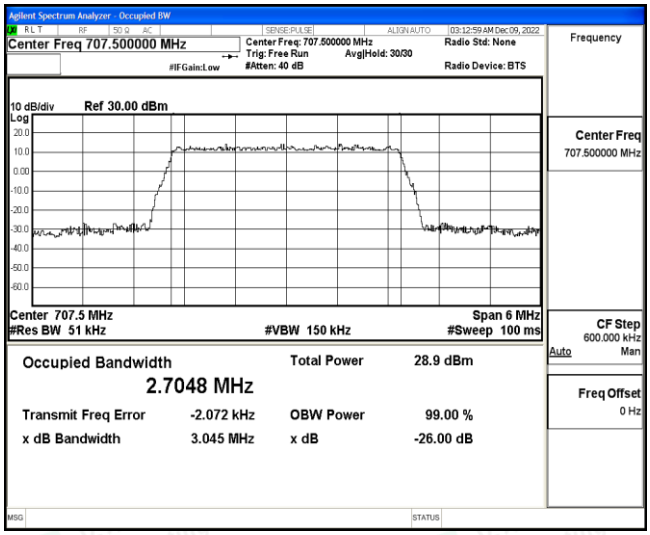
Band12-3MHz-QPSK-23165-15RB#0



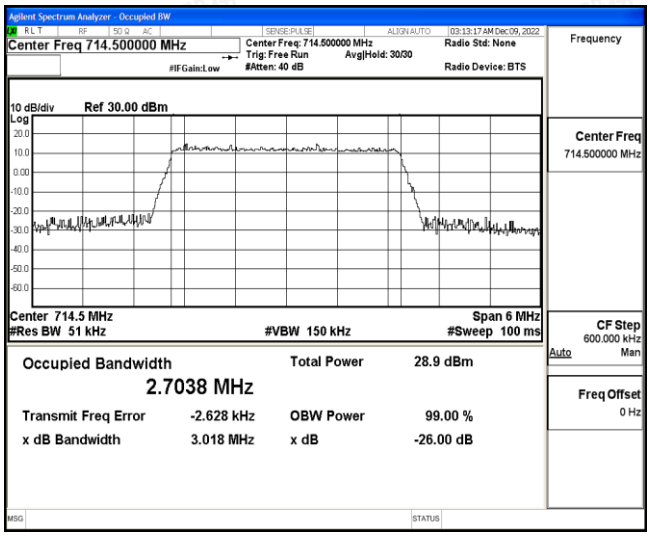
Band12-3MHz-16QAM-23025-15RB#0



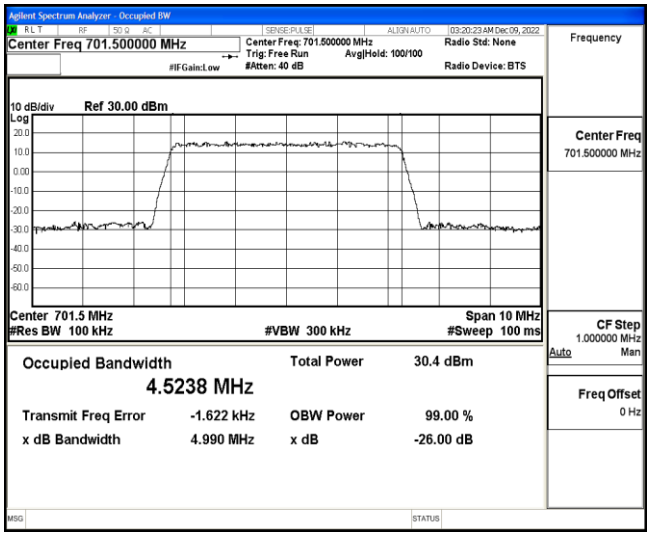
Band12-3MHz-16QAM-23095-15RB#0



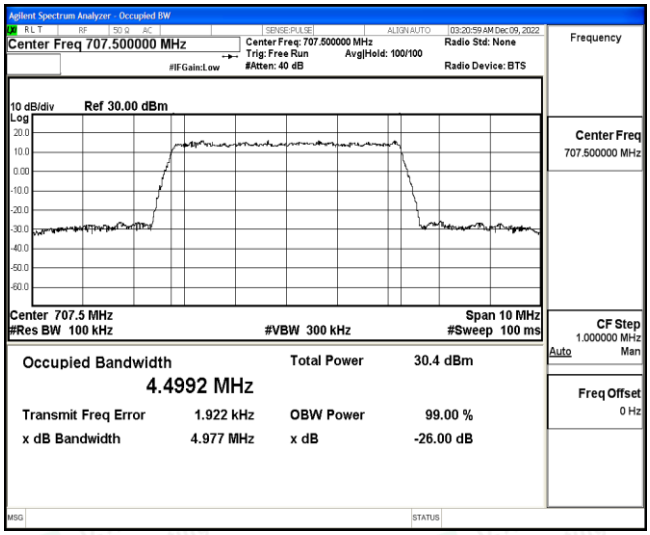
Band12-3MHz-16QAM-23165-15RB#0



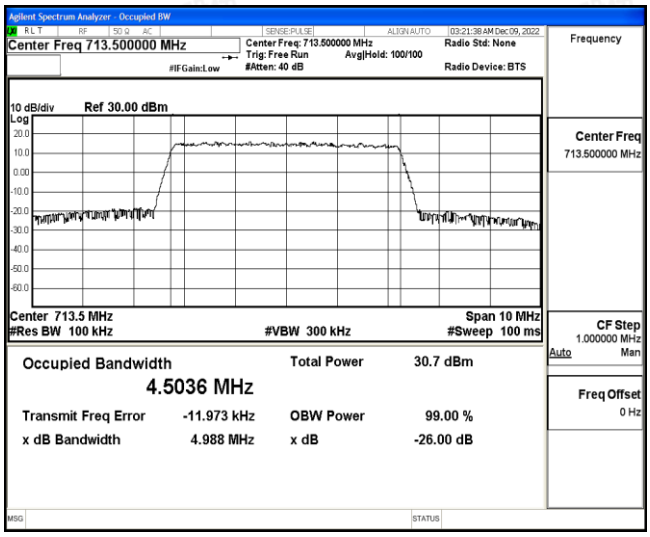
Band12-5MHz-QPSK-23035-25RB#0



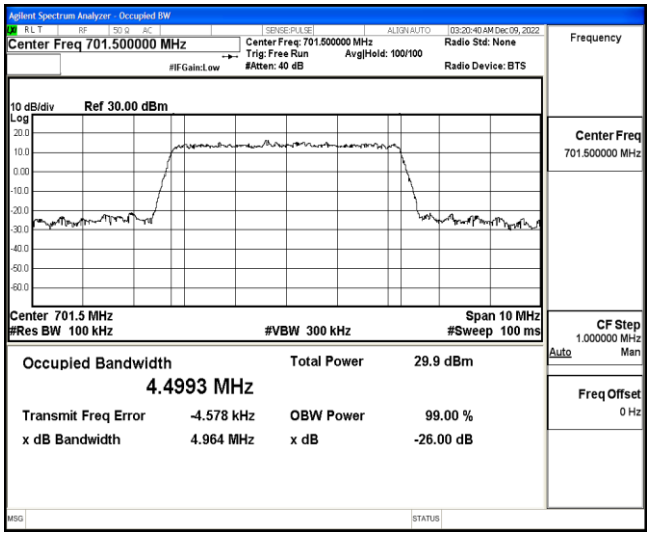
Band12-5MHz-QPSK-23095-25RB#0



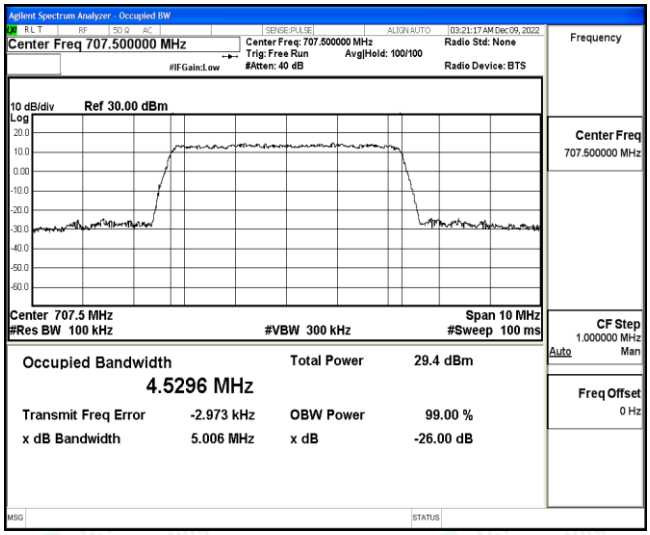
Band12-5MHz-QPSK-23155-25RB#0



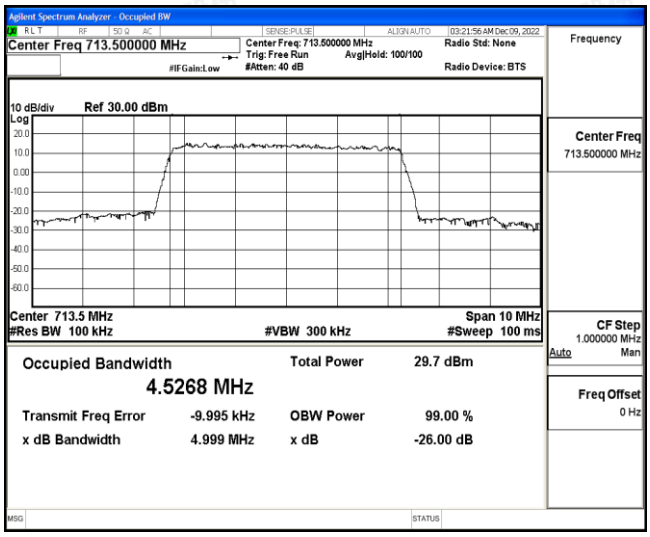
Band12-5MHz-16QAM-23035-25RB#0



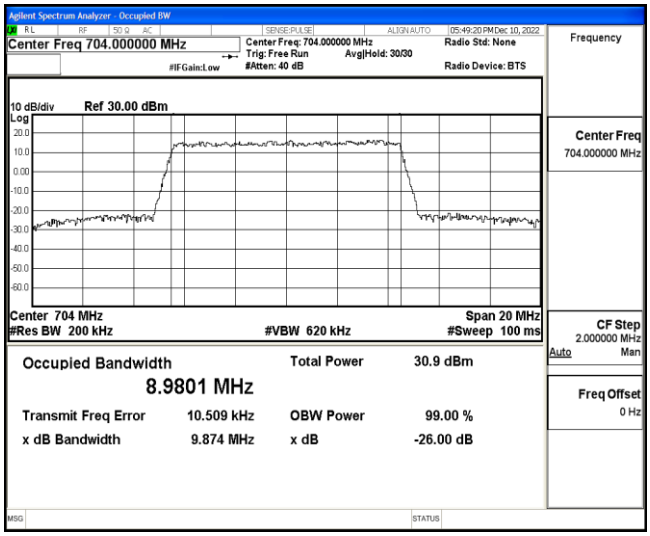
Band12-5MHz-16QAM-23095-25RB#0



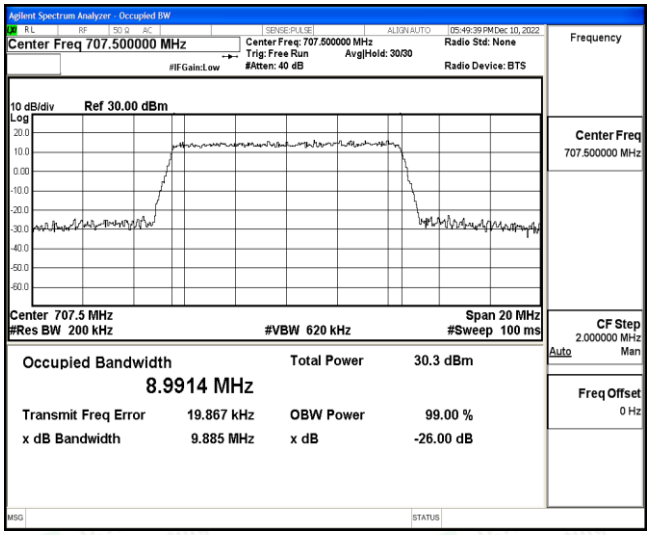
Band12-5MHz-16QAM-23155-25RB#0



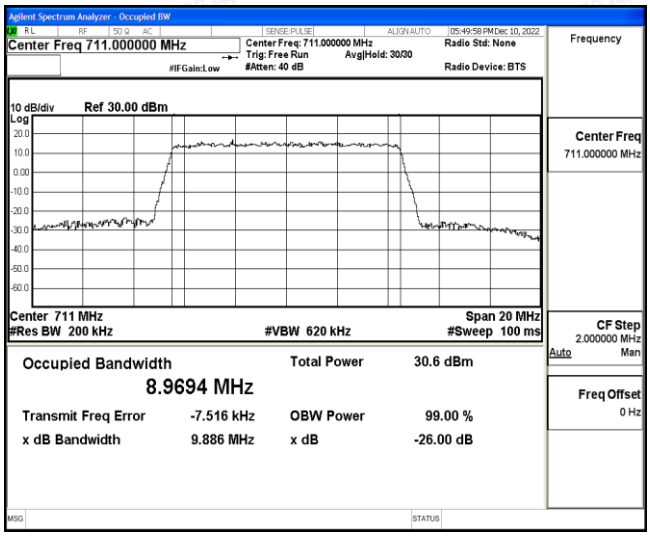
Band12-10MHz-QPSK-23060-50RB#0



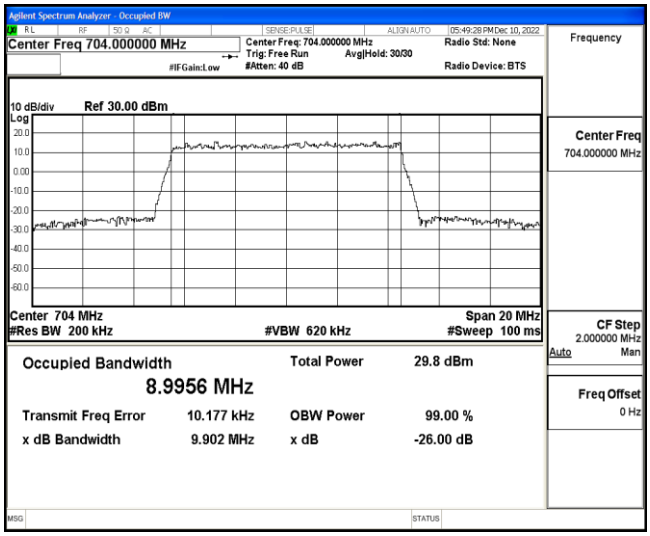
Band12-10MHz-QPSK-23095-50RB#0



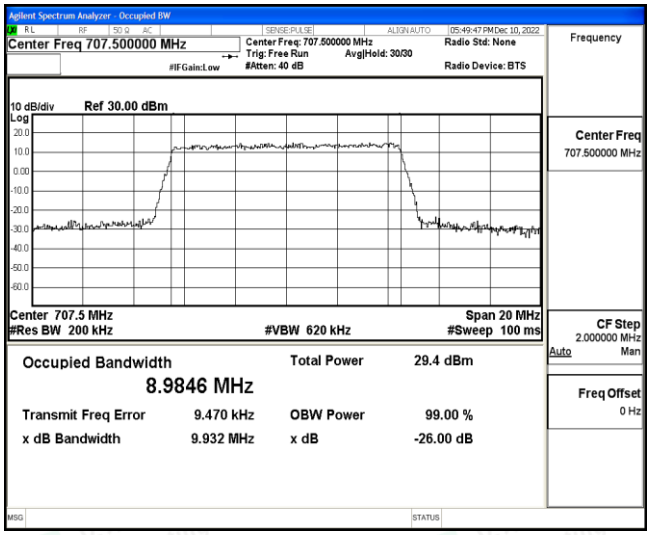
Band12-10MHz-QPSK-23130-50RB#0



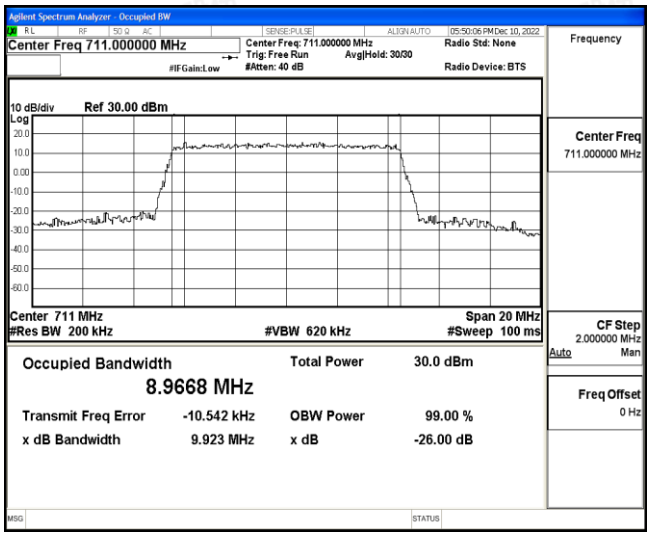
Band12-10MHz-16QAM-23060-50RB#0



Band12-10MHz-16QAM-23095-50RB#0



Band12-10MHz-16QAM-23130-50RB#0


Agilent Spectrum Analyzer - Occupied BW
Center Freq 711.000000 MHz
Center Freq: 711.000000 MHz
Trig: Free Run
Avg|Hold: 30/30
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
05:50:06 PM Dec 10, 2022
Frequency
10 dB/div
Ref 30.00 dBm
Log
Center 711 MHz
#Res BW 200 kHz
#VBW 620 kHz
Span 20 MHz
#Sweep 100 ms
Center Freq
711.000000 MHz
CF Step
2.000000 MHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
8.9668 MHz
Total Power 30.0 dBm
Transmit Freq Error -10.542 kHz
OBW Power 99.00 %
x dB Bandwidth 9.923 MHz
x dB -26.00 dB
MSG
STATUS

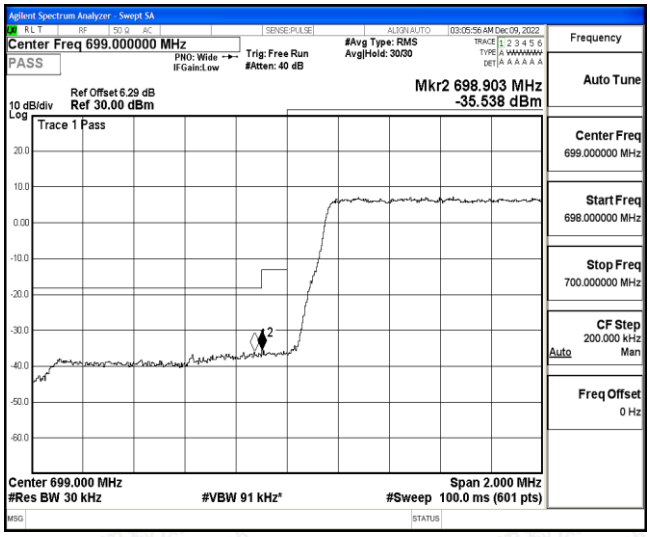
H.4 Band Edge

Test Result

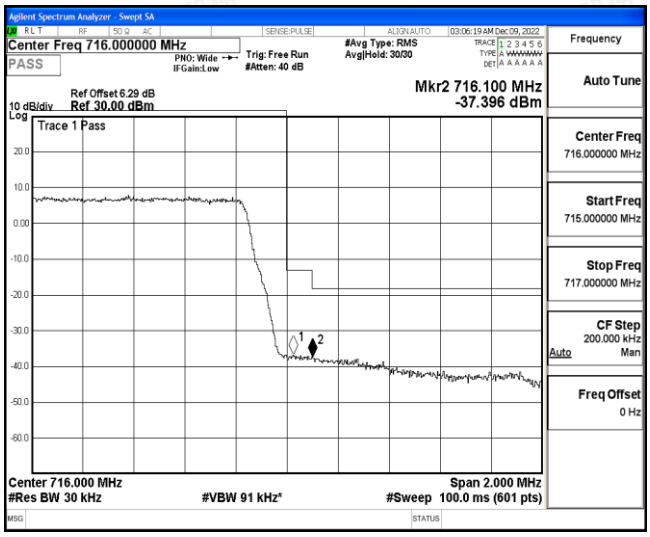
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	-36.00,-35.54	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	-36.77,-37.40	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	-34.88,-34.21	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	-35.20,-35.38	PASS
Band12	3MHz	QPSK	23025	15RB#0	-36.64,-22.67	PASS
Band12	3MHz	QPSK	23165	15RB#0	-23.54,-35.68	PASS
Band12	3MHz	16QAM	23025	15RB#0	-35.49,-23.53	PASS
Band12	3MHz	16QAM	23165	15RB#0	-24.54,-37.77	PASS
Band12	5MHz	QPSK	23035	25RB#0	-28.28	PASS
Band12	5MHz	QPSK	23155	25RB#0	-28.40	PASS
Band12	5MHz	16QAM	23035	25RB#0	-27.82	PASS
Band12	5MHz	16QAM	23155	25RB#0	-28.79	PASS
Band12	10MHz	QPSK	23060	50RB#0	-34.92,-30.91	PASS
Band12	10MHz	QPSK	23130	50RB#0	-31.52,-35.64	PASS
Band12	10MHz	16QAM	23060	50RB#0	-34.16,-31.21	PASS
Band12	10MHz	16QAM	23130	50RB#0	-31.91,-35.43	PASS

Test Graphs

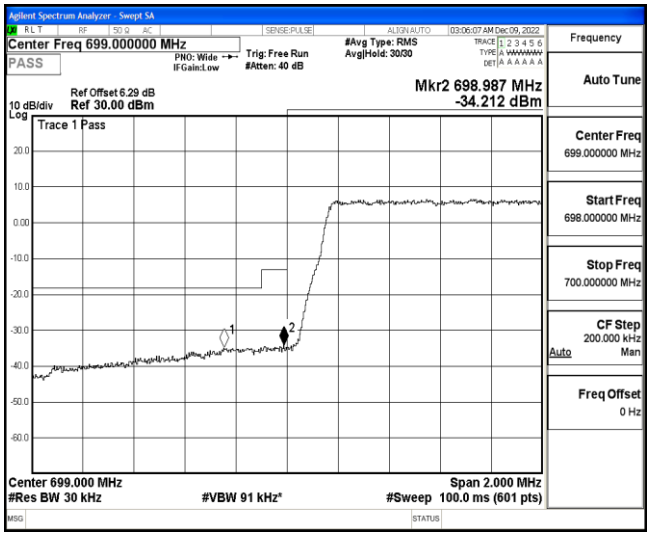
Band12-1.4MHz-QPSK-23017-6RB#0



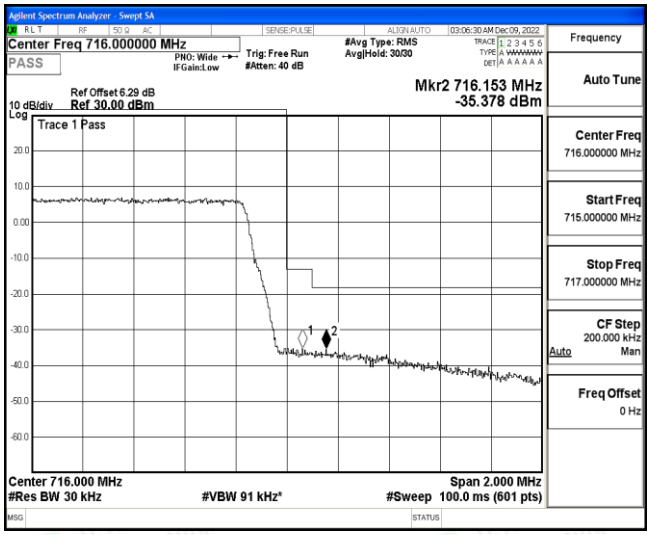
Band12-1.4MHz-QPSK-23173-6RB#0



Band12-1.4MHz-16QAM-23017-6RB#0



Band12-1.4MHz-16QAM-23173-6RB#0



Band12-3MHz-QPSK-23025-15RB#0