RF Test Data for LTE (Conducted Measurement)

Product Name: FastHelp Home Emergency Alert Device – V4-4G
Trade Mark: FastHelp
Test Model: FH-V4-4G
Sample ID: TZ210702403-1#
FCC ID: 2AJG4-FH-V4-4G

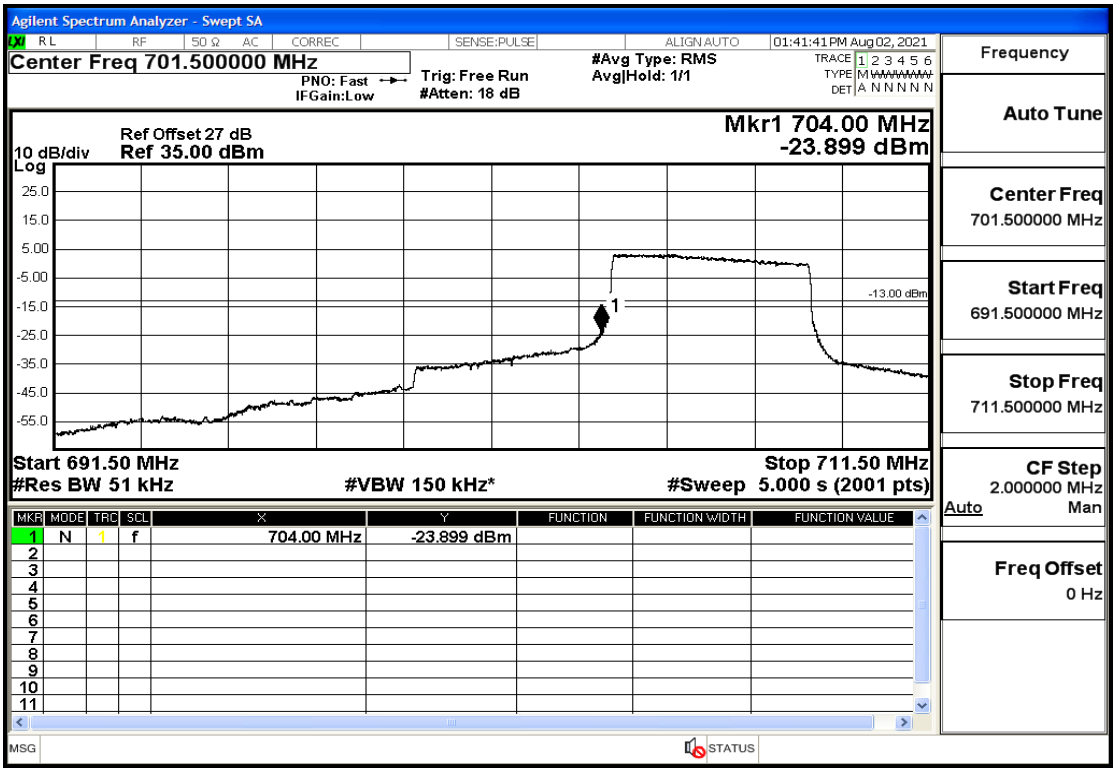
Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
Remark:	For LTE Band17

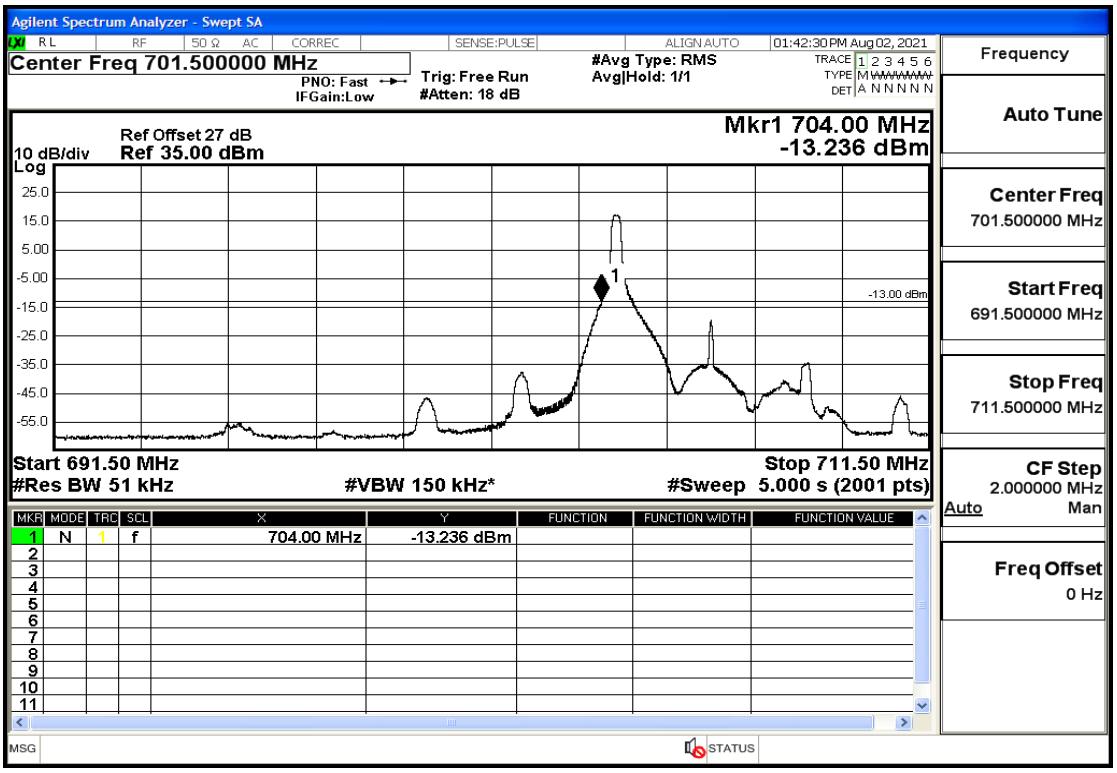
Band Edge and Emission Mask

Band	Bandwidth(MHz)	UL Frequency(MHz)	Modulation	RB Size	RB Offset	Conclusion
Band17	5	706.5	QPSK	25	LOW	Pass
Band17	5	706.5	QPSK	1	LOW	Pass
Band17	5	706.5	16QAM	25	LOW	Pass
Band17	5	706.5	16QAM	1	LOW	Pass
Band17	5	713.5	QPSK	25	LOW	Pass
Band17	5	713.5	QPSK	1	HIGH	Pass
Band17	5	713.5	16QAM	25	LOW	Pass
Band17	5	713.5	16QAM	1	HIGH	Pass

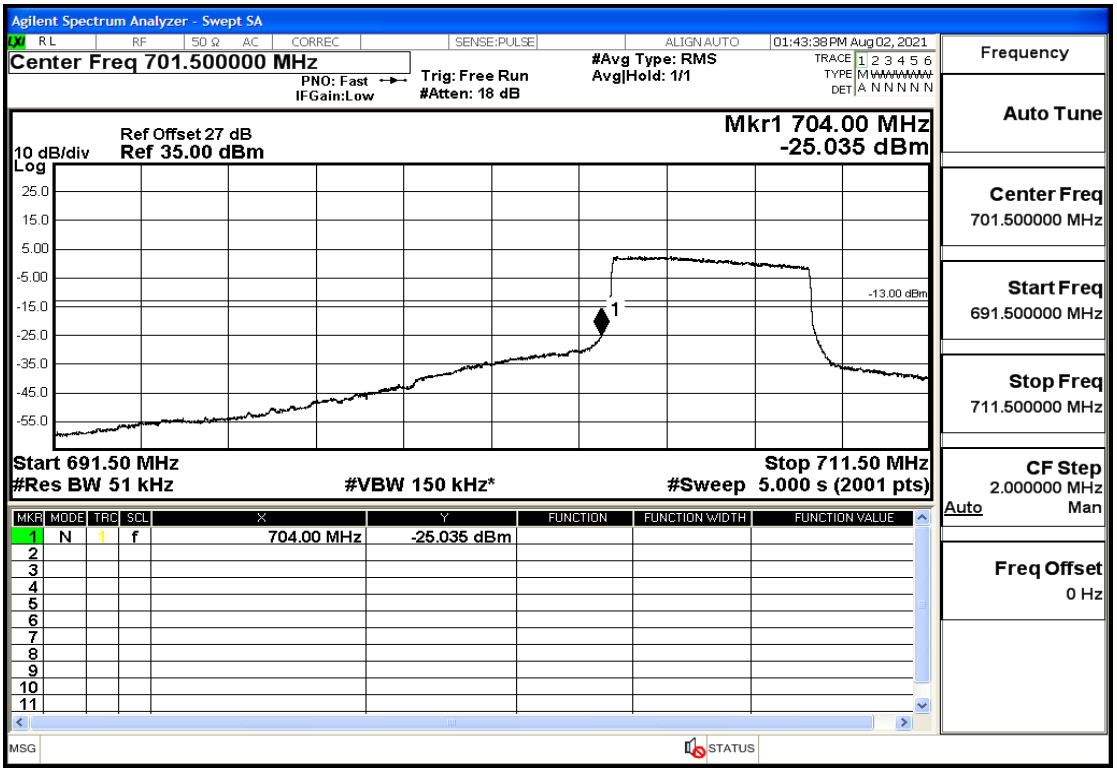
Band17-5-706.5-QPSK-25#LOW@Pass



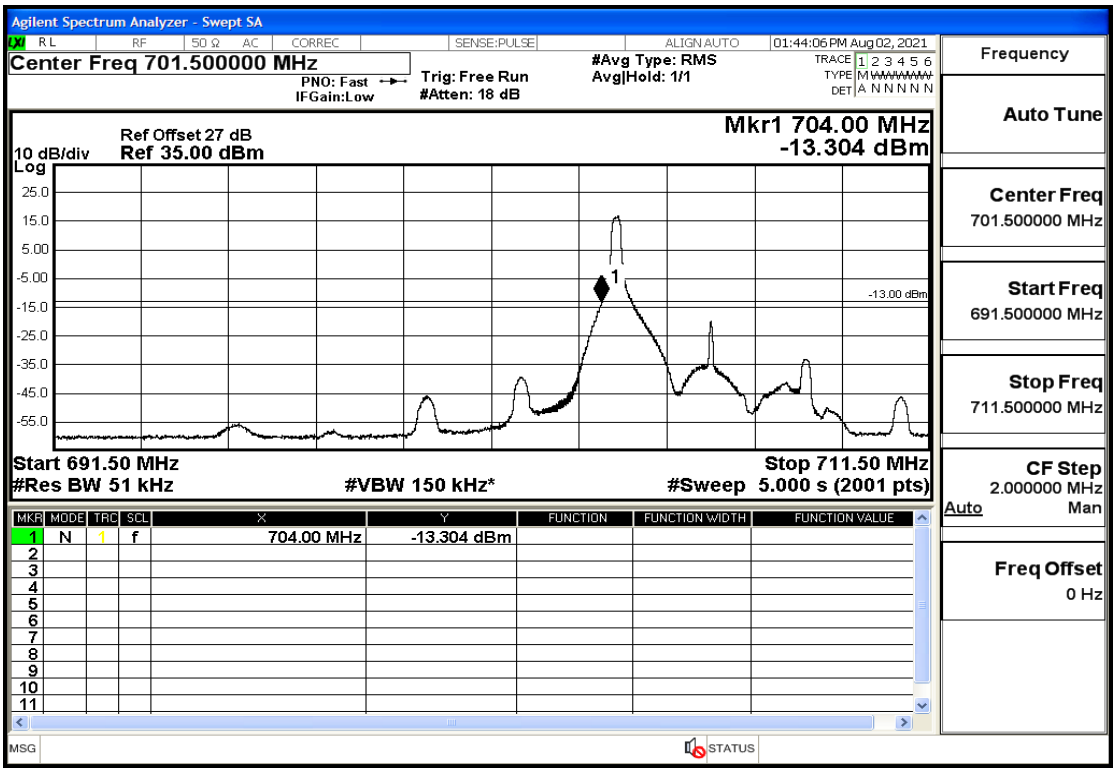
Band17-5-706.5-QPSK-1#LOW@Pass



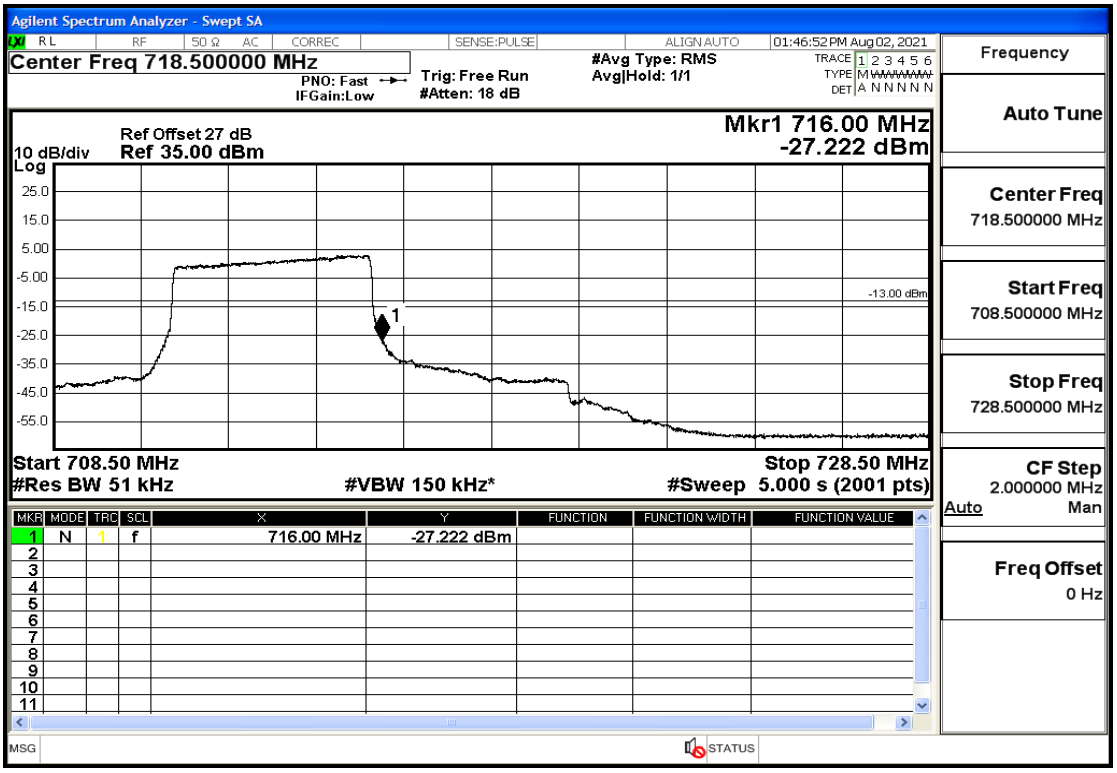
Band17-5-706.5-16QAM-25#LOW@Pass



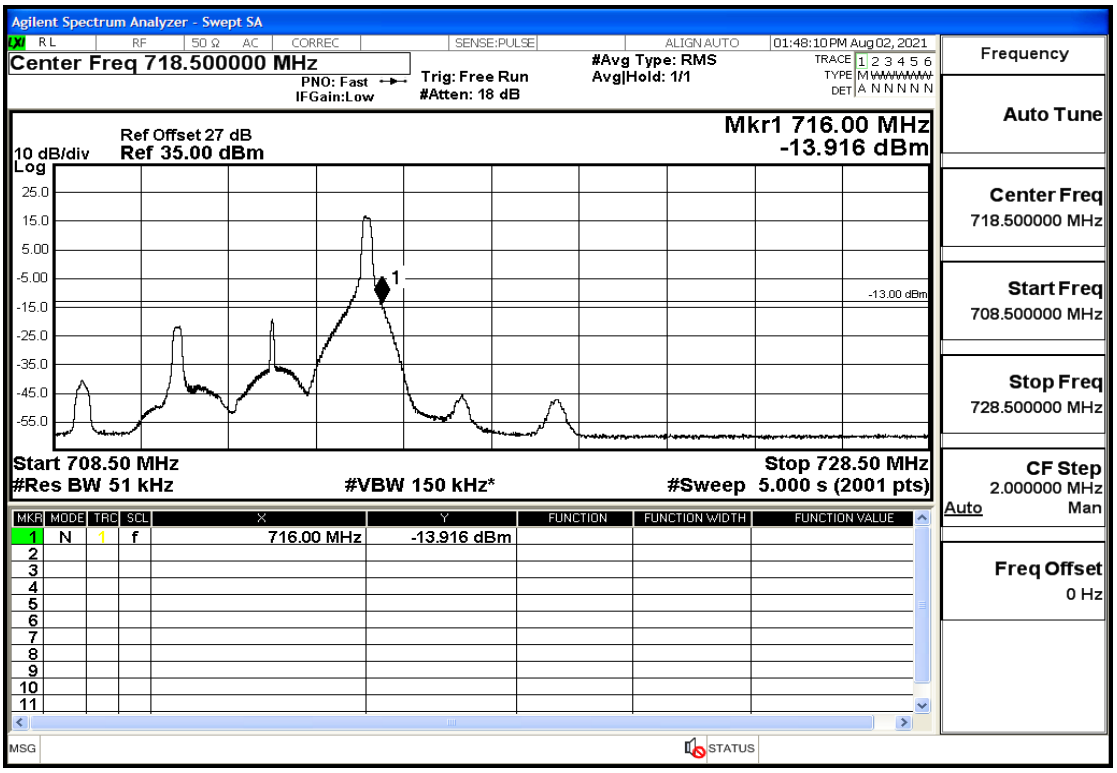
Band17-5-706.5-16QAM-1#LOW@Pass



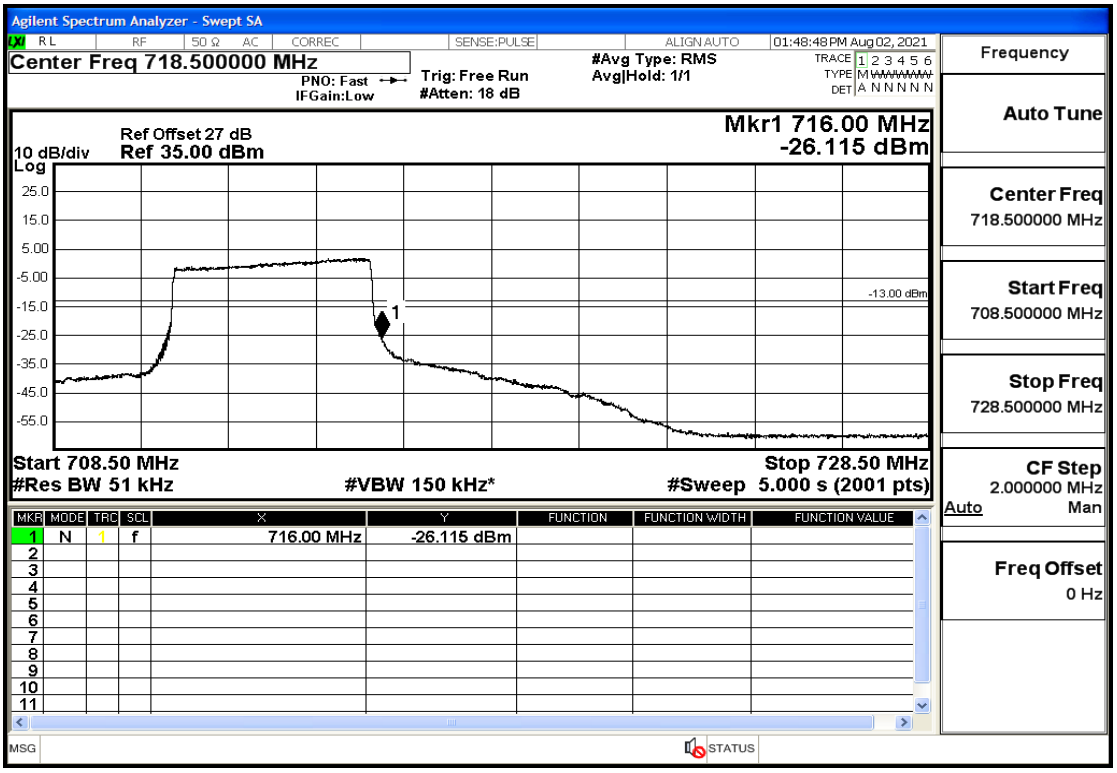
Band17-5-713.5-QPSK-25#LOW@Pass



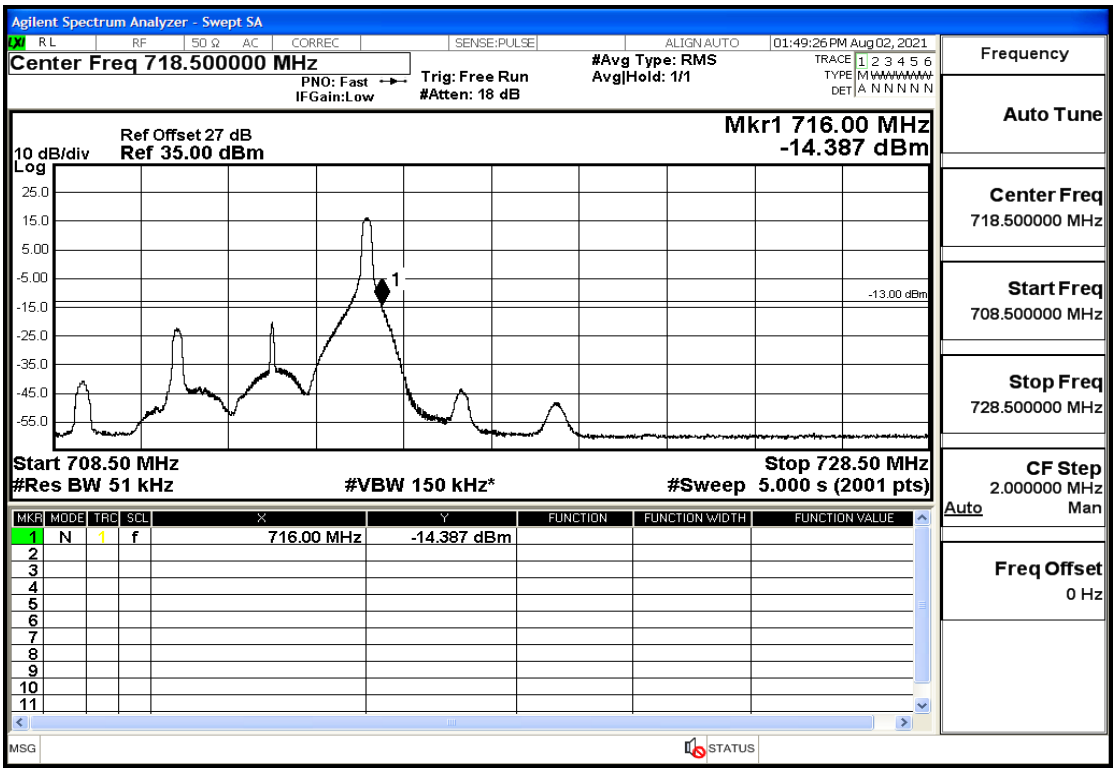
Band17-5-713.5-QPSK-1#HIGH@Pass



Band17-5-713.5-16QAM-25#LOW@Pass



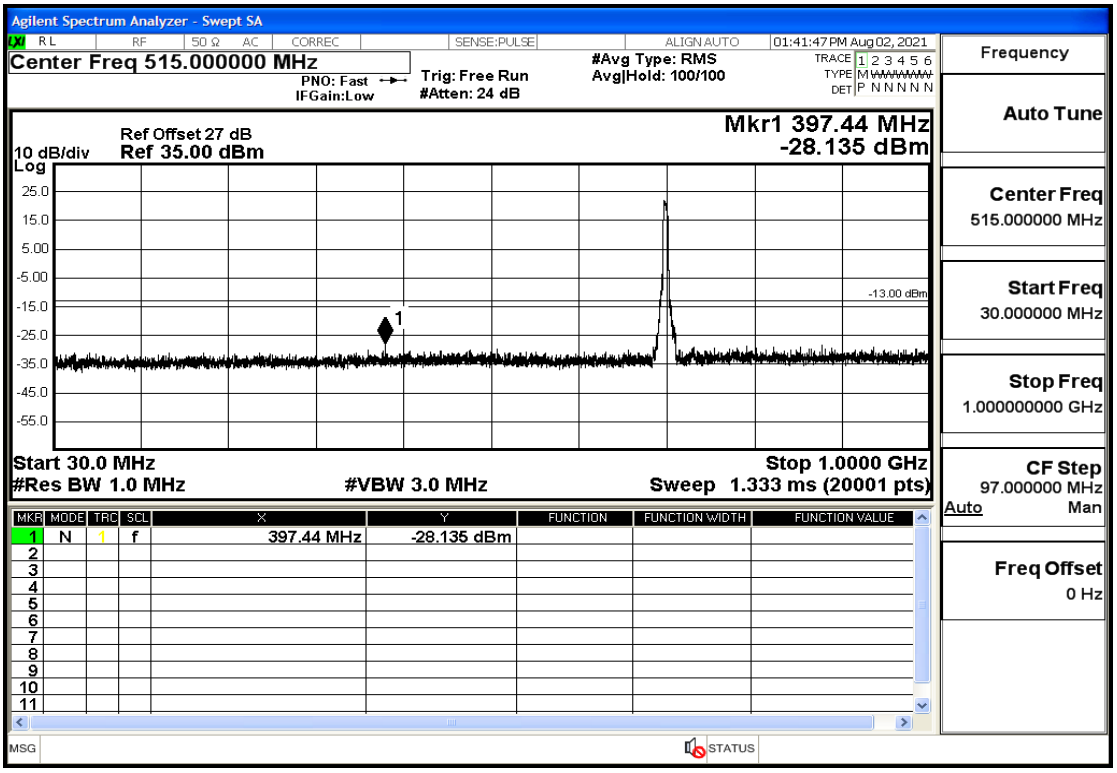
Band17-5-713.5-16QAM-1#HIGH@Pass



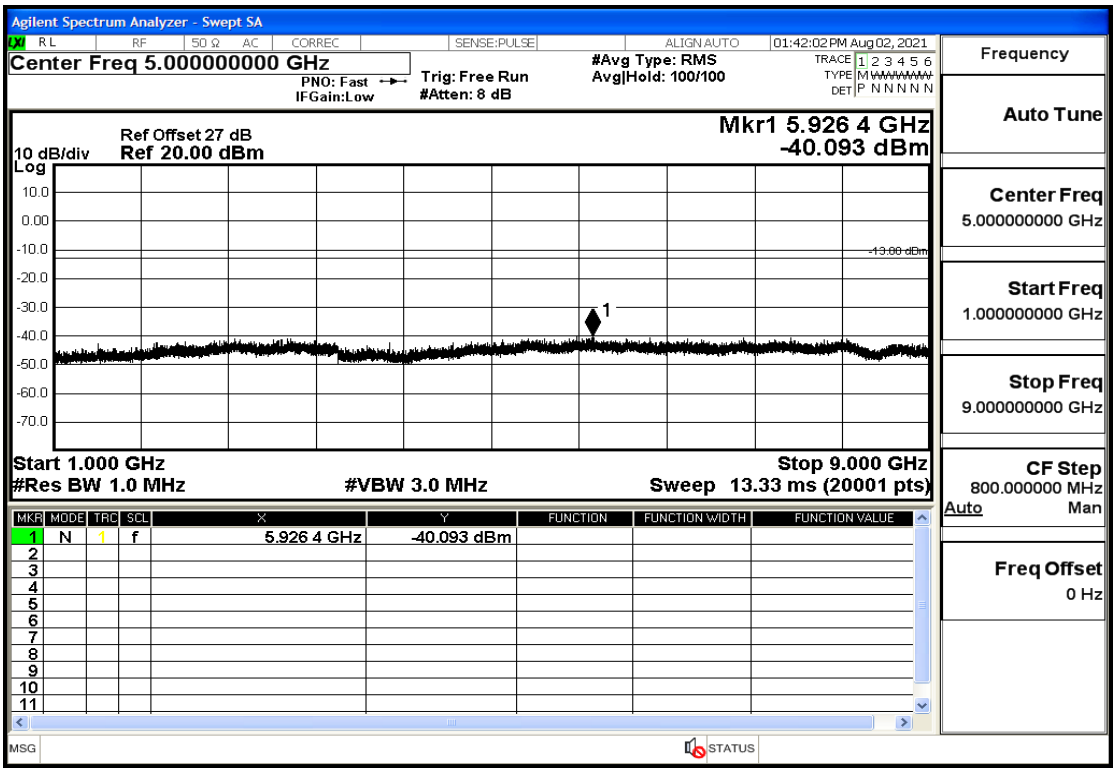
Conducted Spurious Emission

Band	Bandwidth(MHz)	UL Frequency(MHz)	Modulation	RB Size	RB Offset	Test Condition	Transmitter Spurious Emission(Pass/Fail)
OB17	5	706.5	QPSK	25	LOW	30mHz-1GHz	Pass
OB17	5	706.5	QPSK	25	LOW	1GHz-9GHz	Pass
OB17	5	706.5	QPSK	1	LOW	30mHz-1GHz	Pass
OB17	5	706.5	QPSK	1	LOW	1GHz-9GHz	Pass
OB17	5	706.5	QPSK	1	HIGH	30mHz-1GHz	Pass
OB17	5	706.5	QPSK	1	HIGH	1GHz-9GHz	Pass
OB17	5	710	QPSK	25	LOW	30mHz-1GHz	Pass
OB17	5	710	QPSK	25	LOW	1GHz-9GHz	Pass
OB17	5	710	QPSK	1	LOW	30mHz-1GHz	Pass
OB17	5	710	QPSK	1	LOW	1GHz-9GHz	Pass
OB17	5	710	QPSK	1	HIGH	30mHz-1GHz	Pass
OB17	5	710	QPSK	1	HIGH	1GHz-9GHz	Pass
OB17	5	713.5	QPSK	25	LOW	30mHz-1GHz	Pass
OB17	5	713.5	QPSK	25	LOW	1GHz-9GHz	Pass
OB17	5	713.5	QPSK	1	LOW	30mHz-1GHz	Pass
OB17	5	713.5	QPSK	1	LOW	1GHz-9GHz	Pass
OB17	5	713.5	QPSK	1	HIGH	30mHz-1GHz	Pass
OB17	5	713.5	QPSK	1	HIGH	1GHz-9GHz	Pass

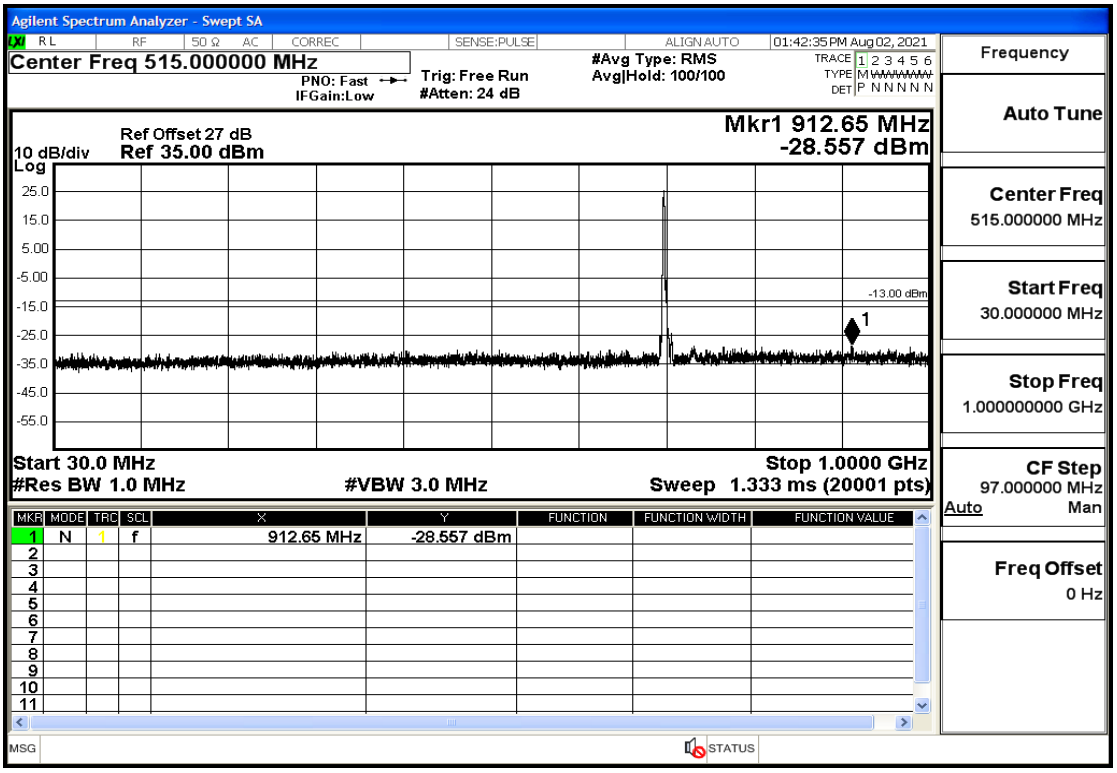
OB17-5-706.5-QPSK-25#LOW@30mHz-1GHz@Pass



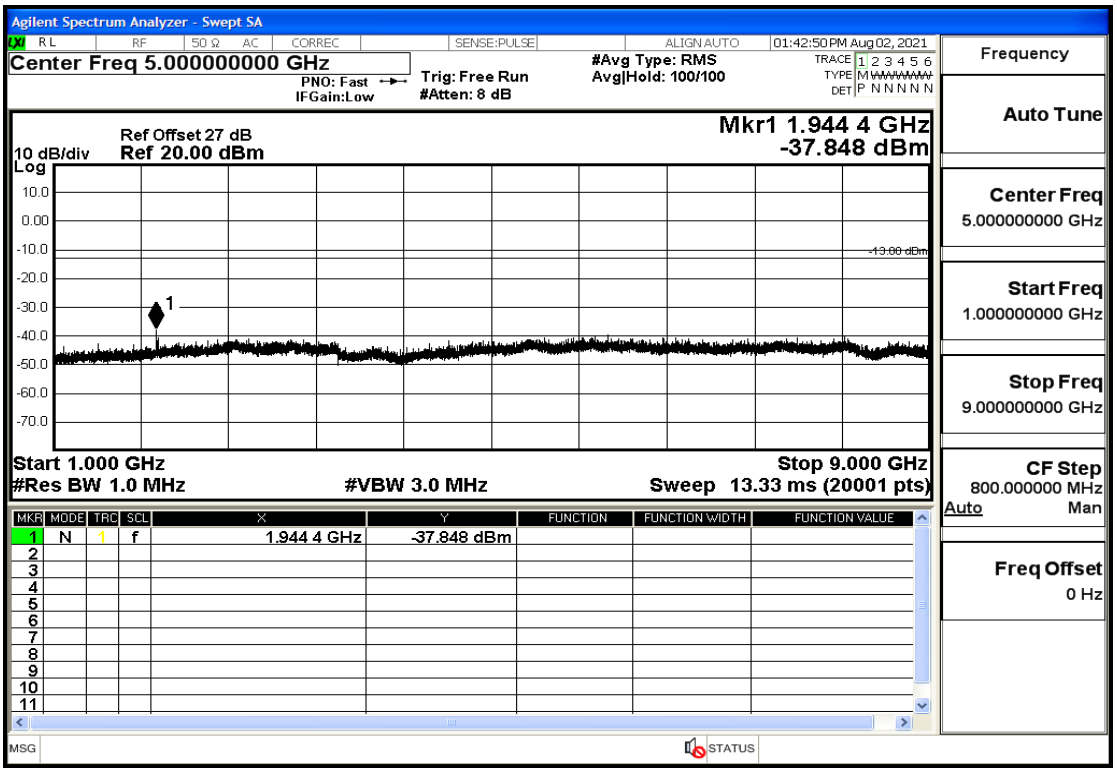
OB17-5-706.5-QPSK-25#LOW@1GHz-9GHz@Pass



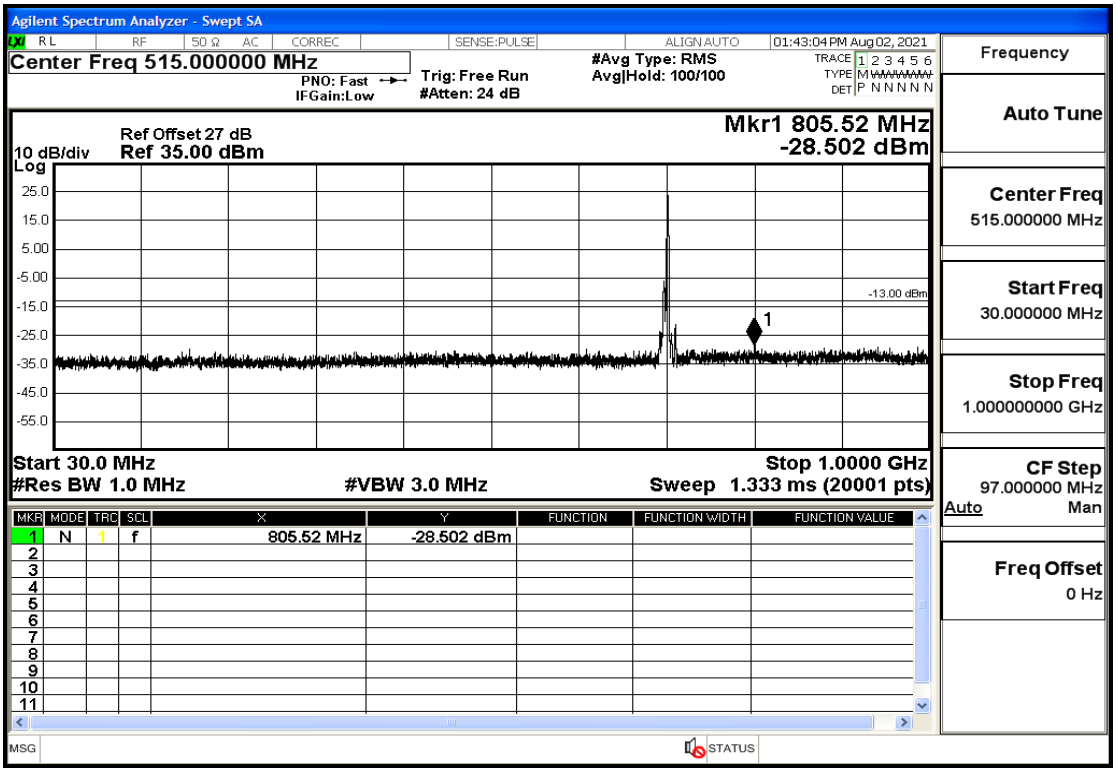
OB17-5-706.5-QPSK-1#LOW@30mHz-1GHz@Pass



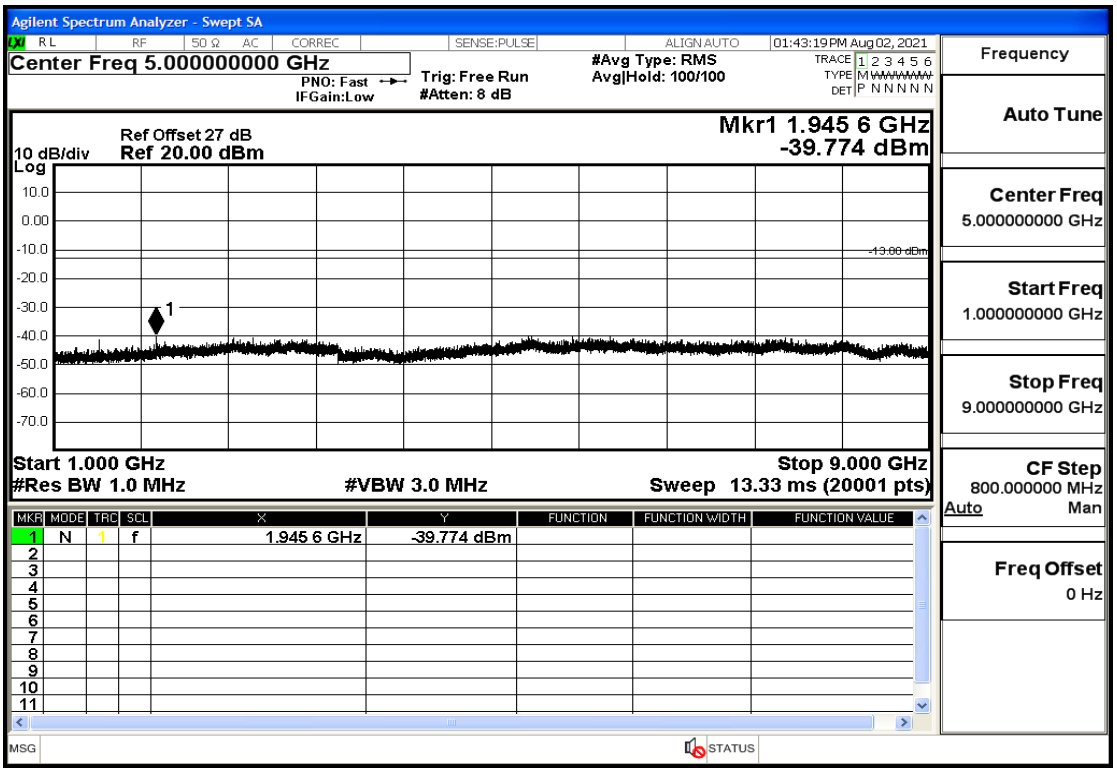
OB17-5-706.5-QPSK-1#LOW@1GHz-9GHz@Pass



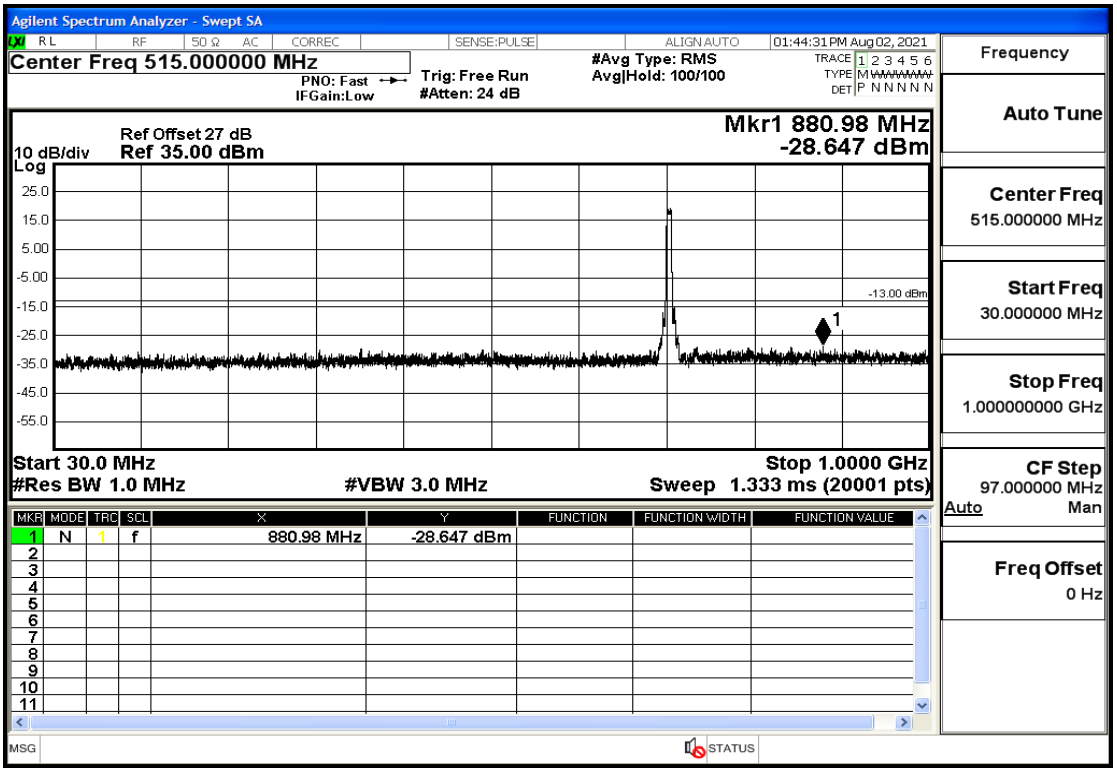
OB17-5-706.5-QPSK-1#HIGH@30mHz-1GHz@Pass



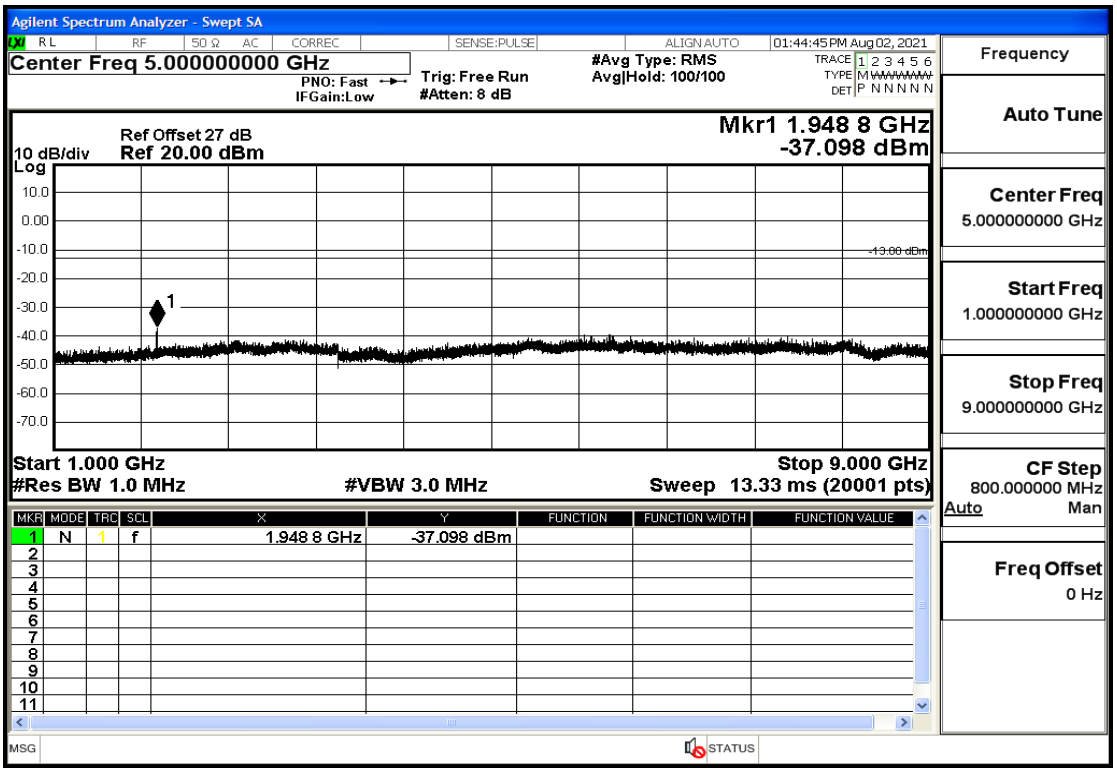
OB17-5-706.5-QPSK-1#HIGH@1GHz-9GHz@Pass



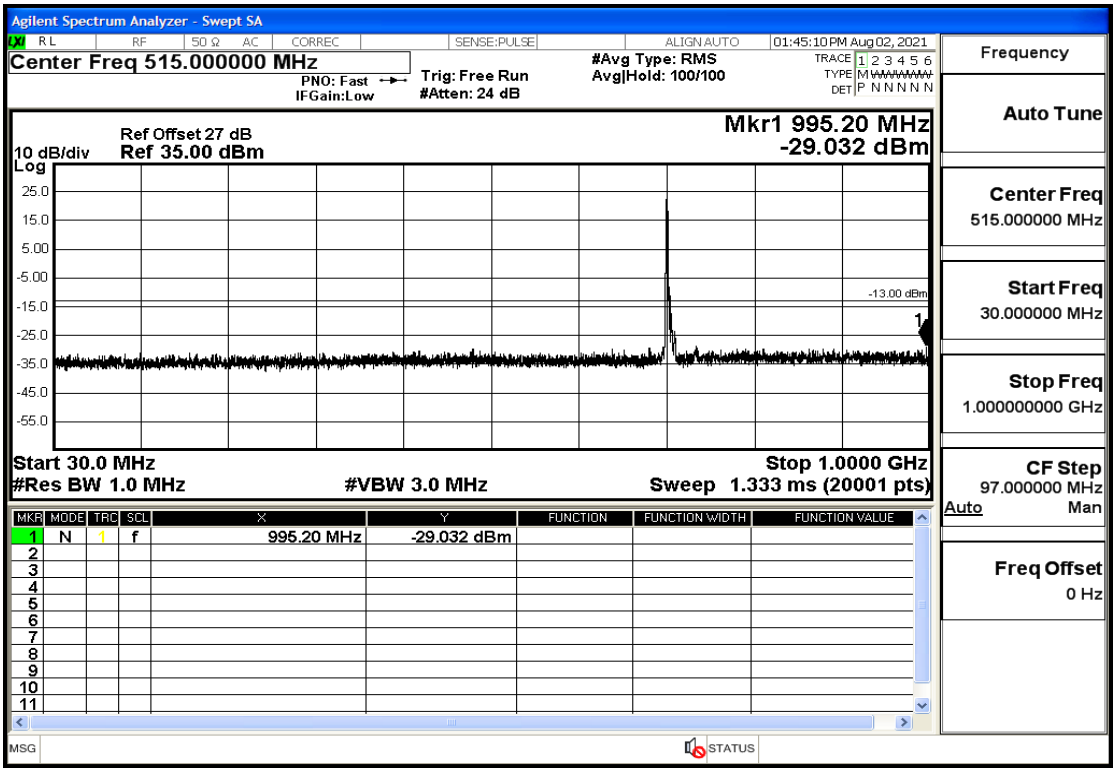
OB17-5-710-QPSK-25#LOW@30mHz-1GHz@Pass



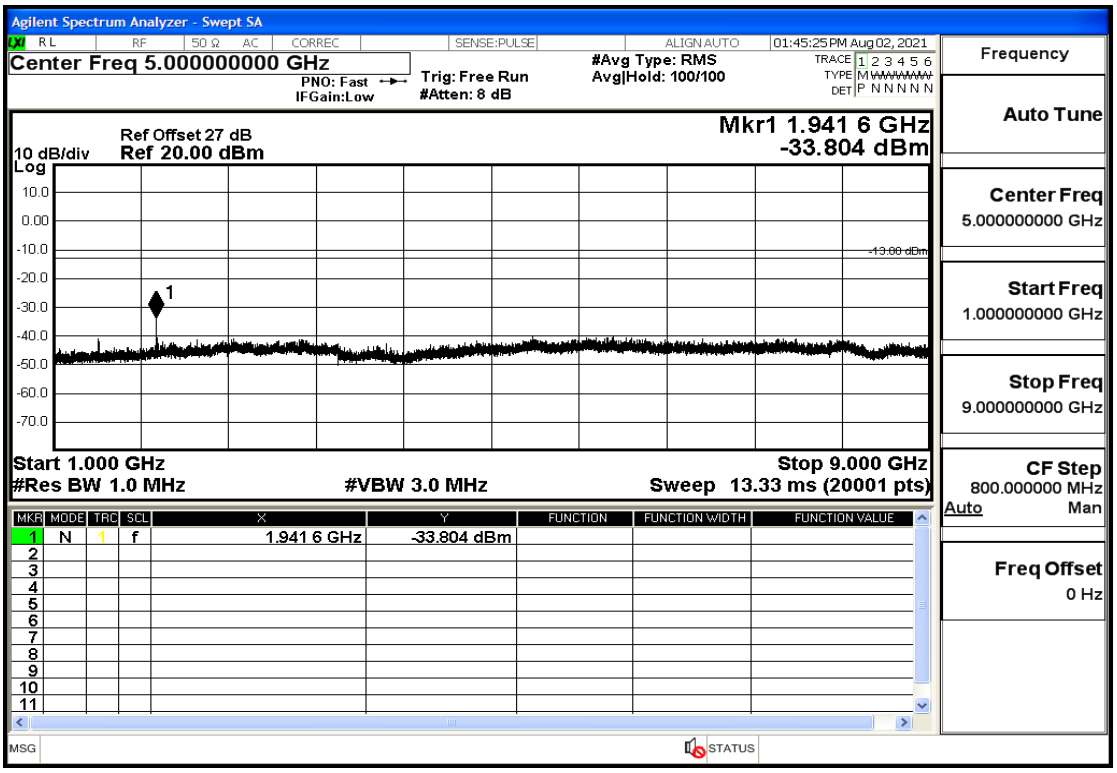
OB17-5-710-QPSK-25#LOW@1GHz-9GHz@Pass



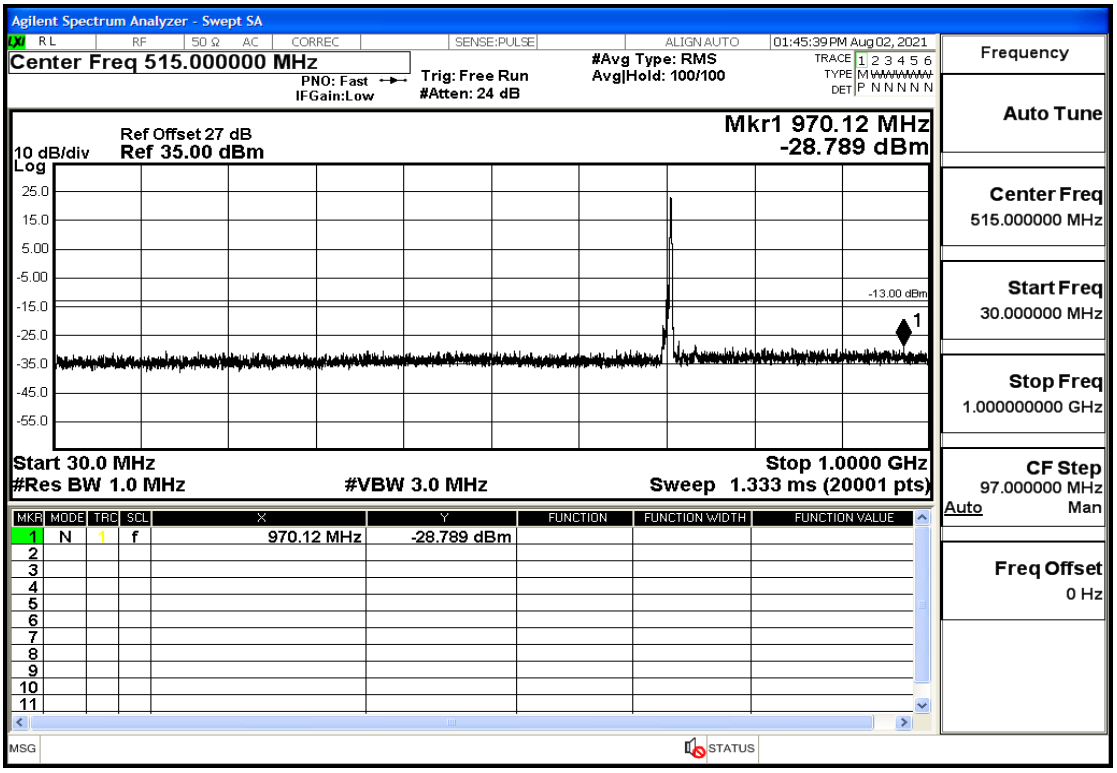
OB17-5-710-QPSK-1#LOW@30mHz-1GHz@Pass



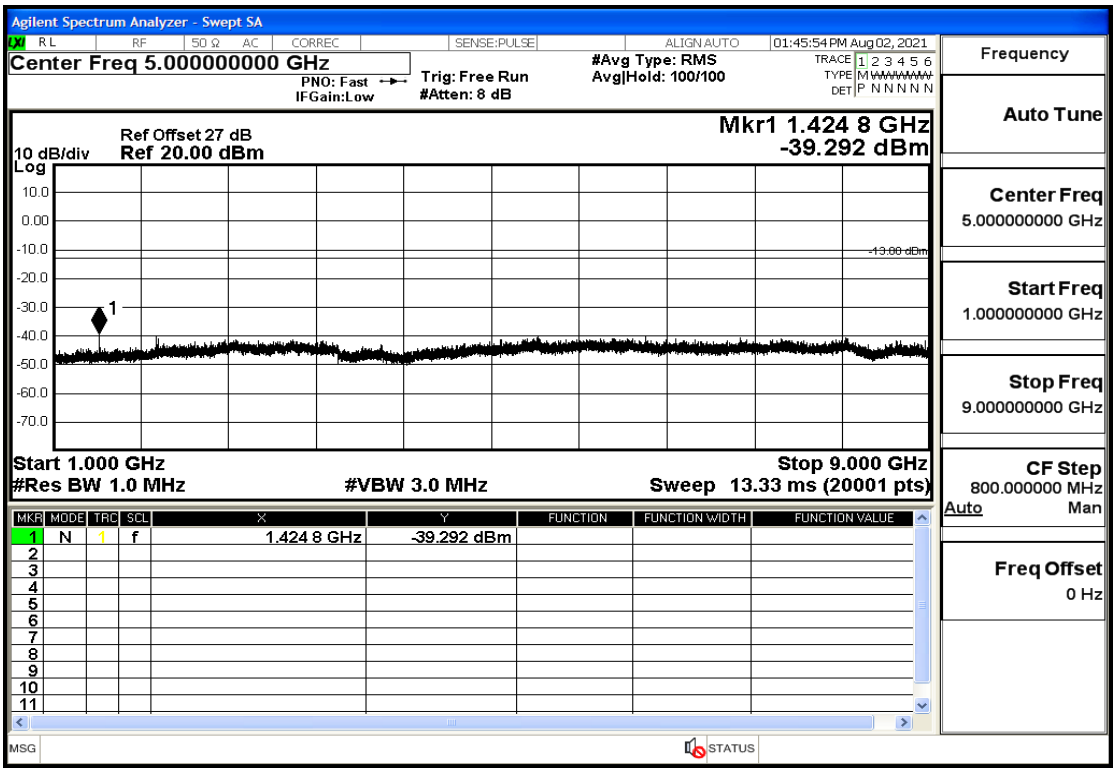
OB17-5-710-QPSK-1#LOW@1GHz-9GHz@Pass



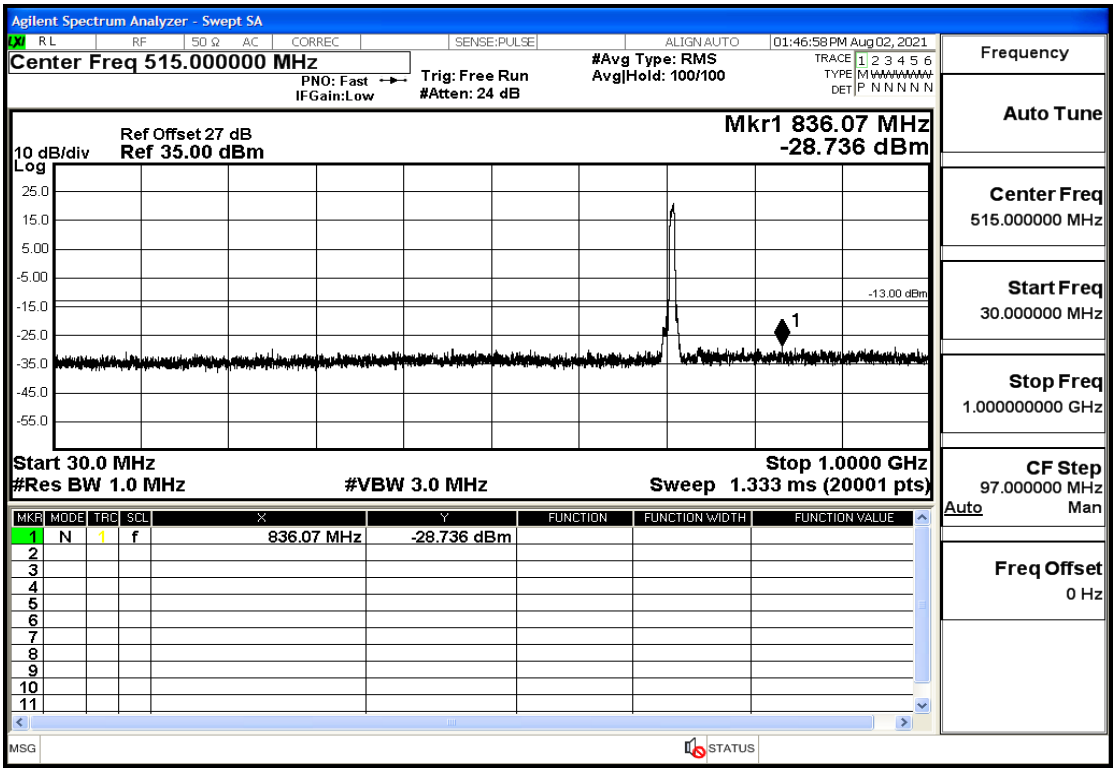
OB17-5-710-QPSK-1#HIGH@30mHz-1GHz@Pass



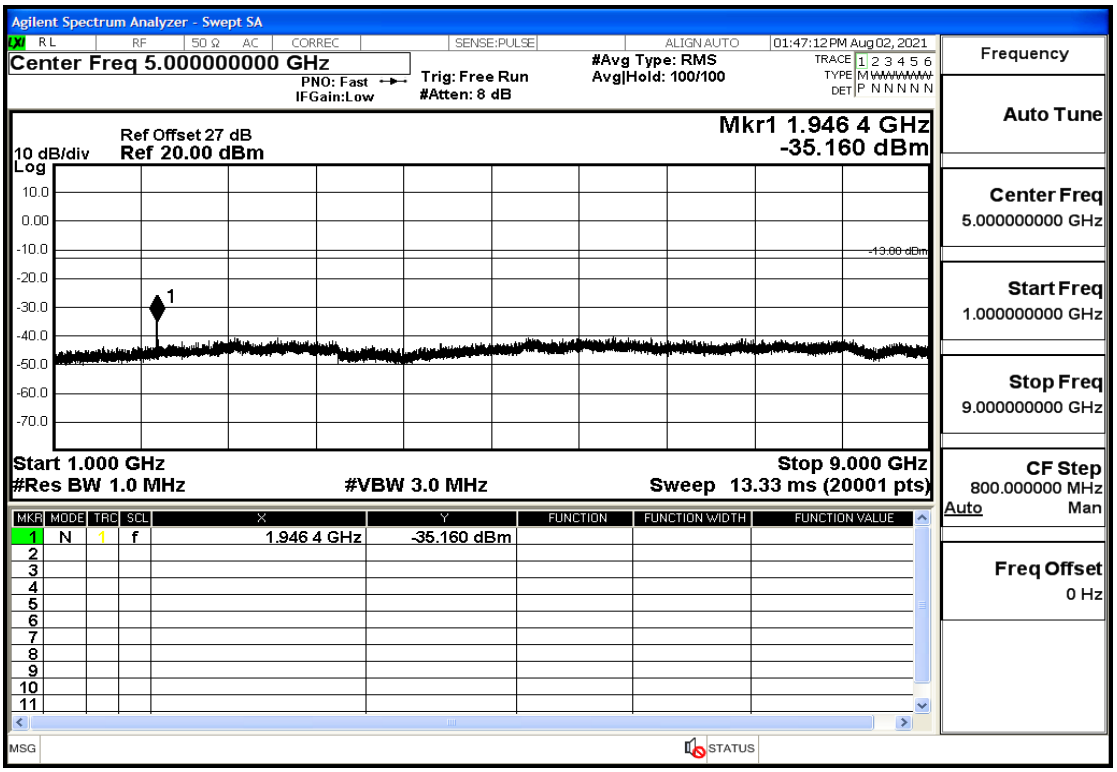
OB17-5-710-QPSK-1#HIGH@1GHz-9GHz@Pass



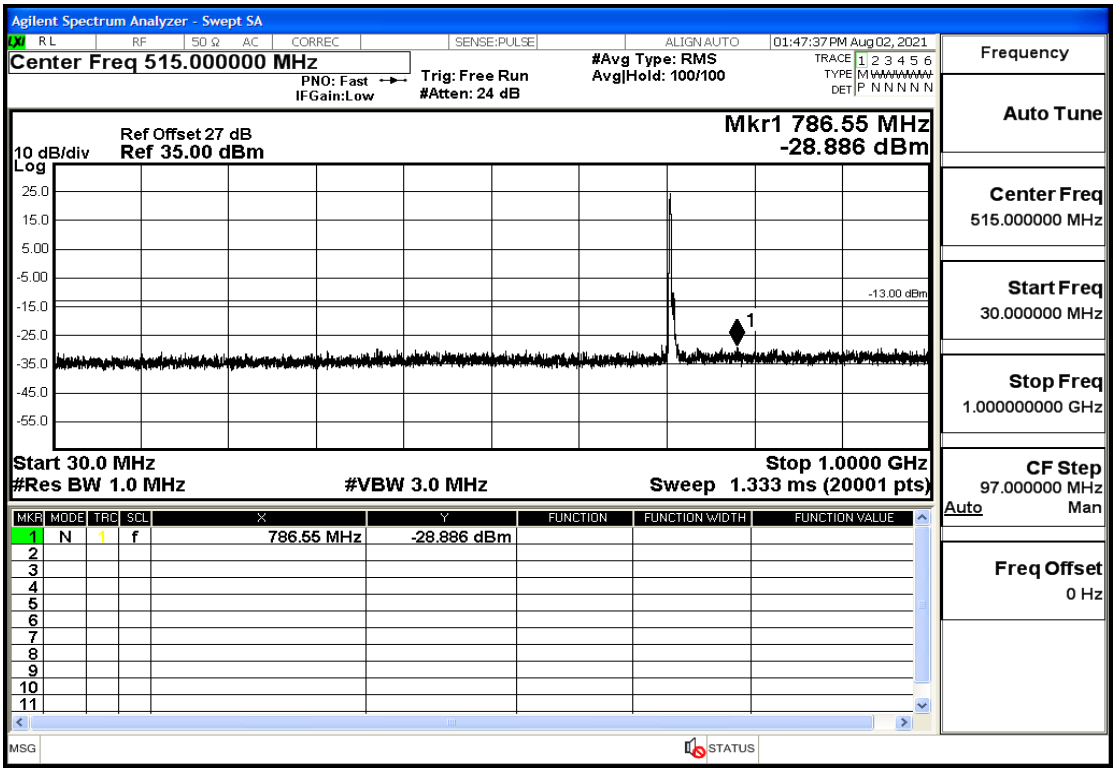
OB17-5-713.5-QPSK-25#LOW@30mHz-1GHz@Pass



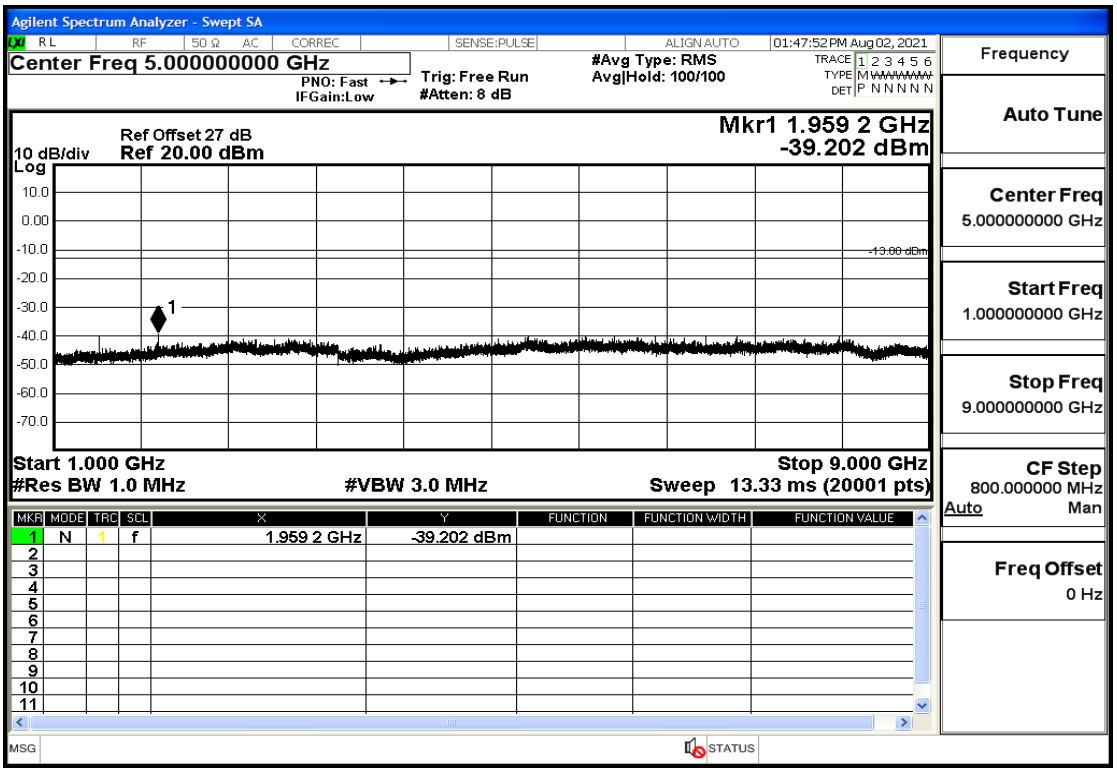
OB17-5-713.5-QPSK-25#LOW@1GHz-9GHz@Pass



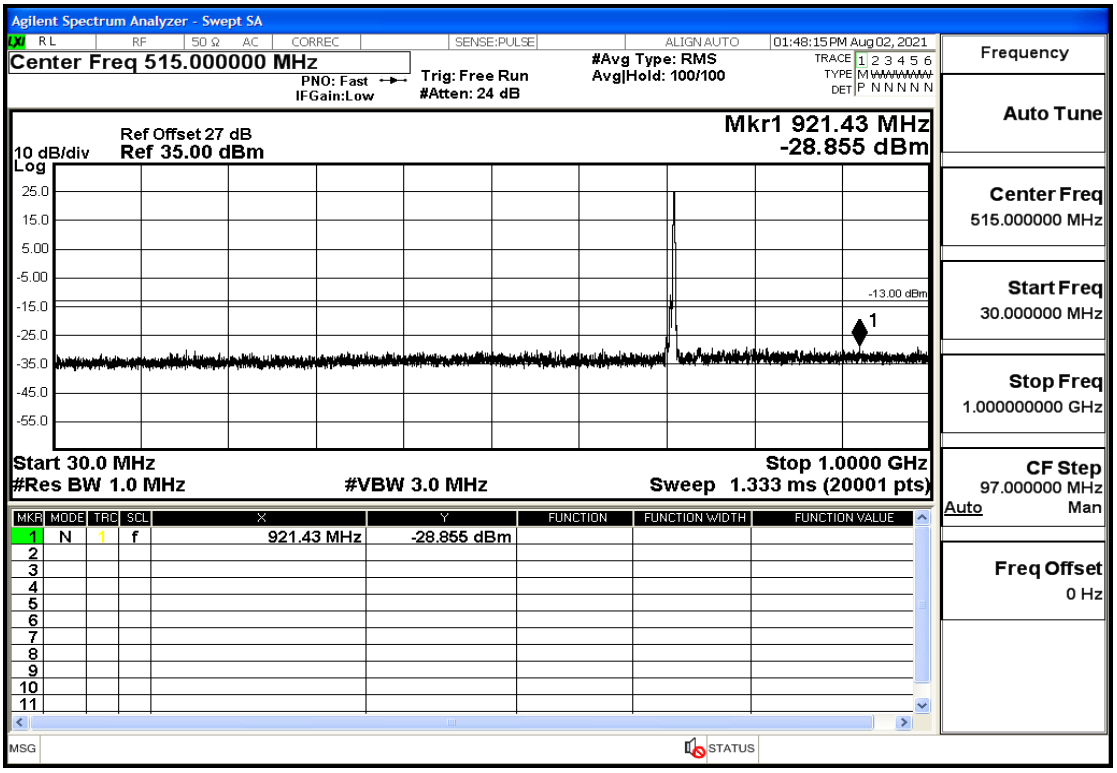
OB17-5-713.5-QPSK-1#LOW@30mHz-1GHz@Pass



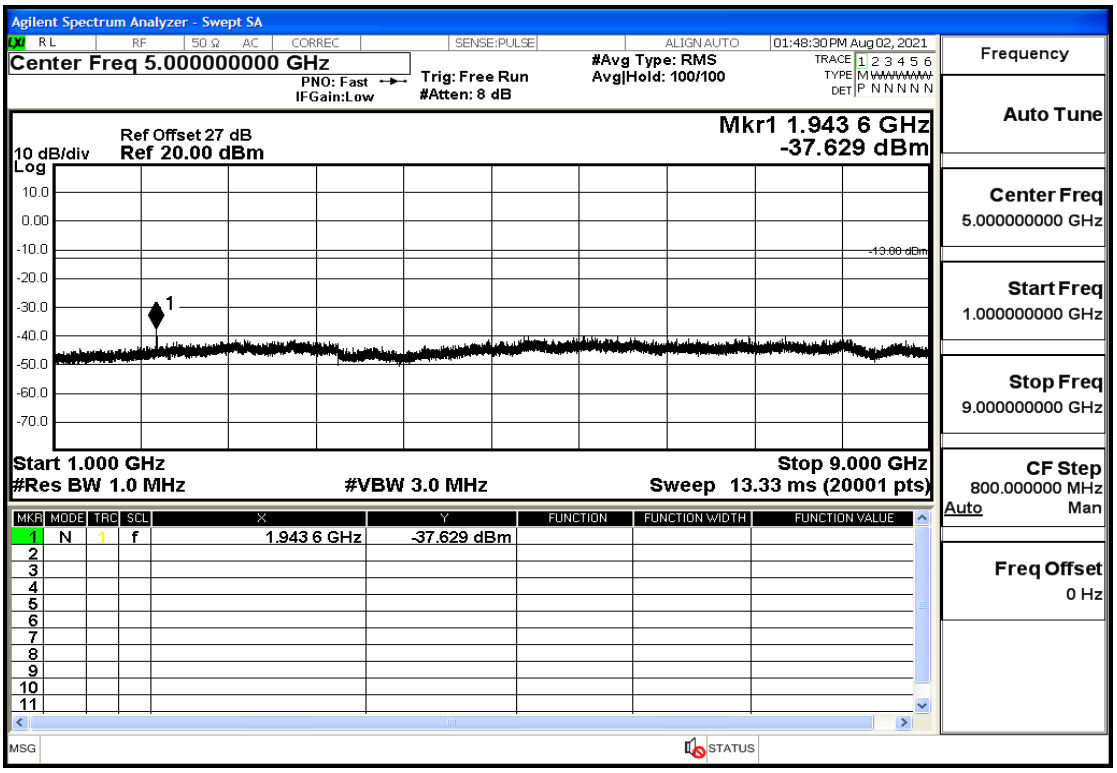
OB17-5-713.5-QPSK-1#LOW@1GHz-9GHz@Pass



OB17-5-713.5-QPSK-1#HIGH@30mHz-1GHz@Pass



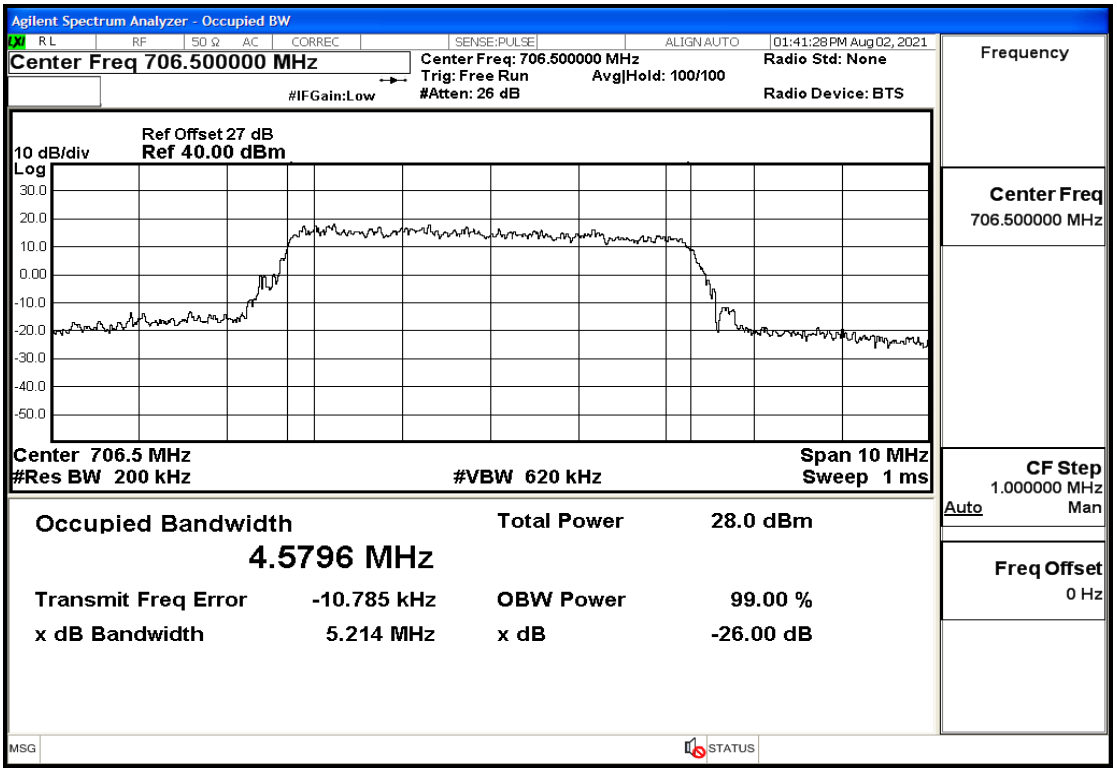
OB17-5-713.5-QPSK-1#HIGH@1GHz-9GHz@Pass



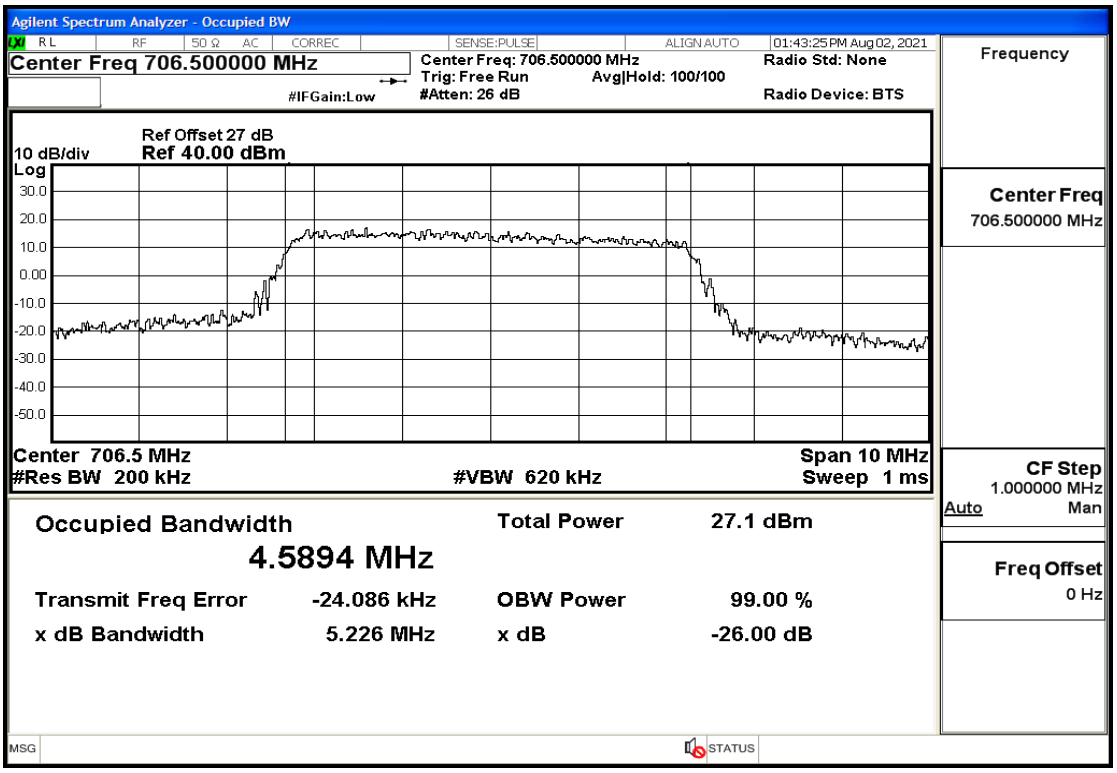
Emission bandwidth and OBW

Band	Bandwidth(MHz)	UL Frequency(MHz)	Modulation	RB Size	RB Offset	Occupied Bandwidth(KHz)	Emission Bandwidth(KHz)	Limit
Band17	5	706.5	QPSK	25	LOW	4579.6	5214	No limit
Band17	5	706.5	16QAM	25	LOW	4589.4	5226	No limit
Band17	5	710	QPSK	25	LOW	4595.5	5297	No limit
Band17	5	710	16QAM	25	LOW	4603.3	5337	No limit
Band17	5	713.5	QPSK	25	LOW	4578.4	5239	No limit
Band17	5	713.5	16QAM	25	LOW	4588.7	5241	No limit

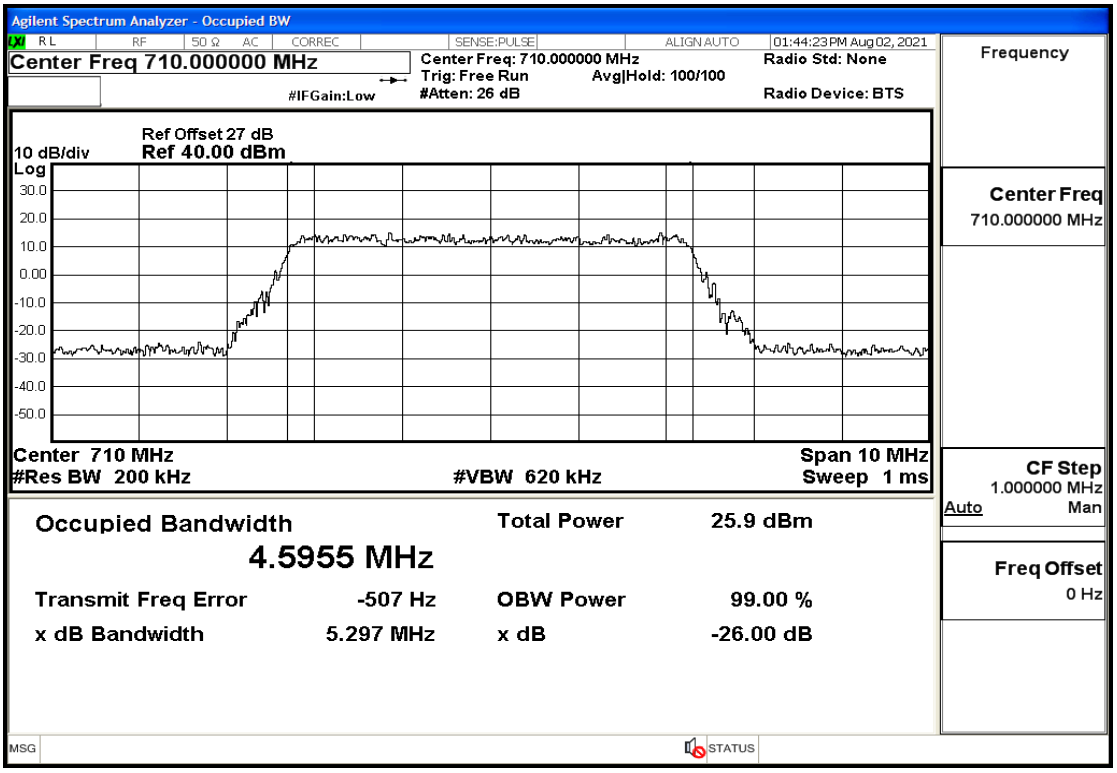
Band17-5-706.5-QPSK-25#LOW@26dB and 99PCT Bandwidth



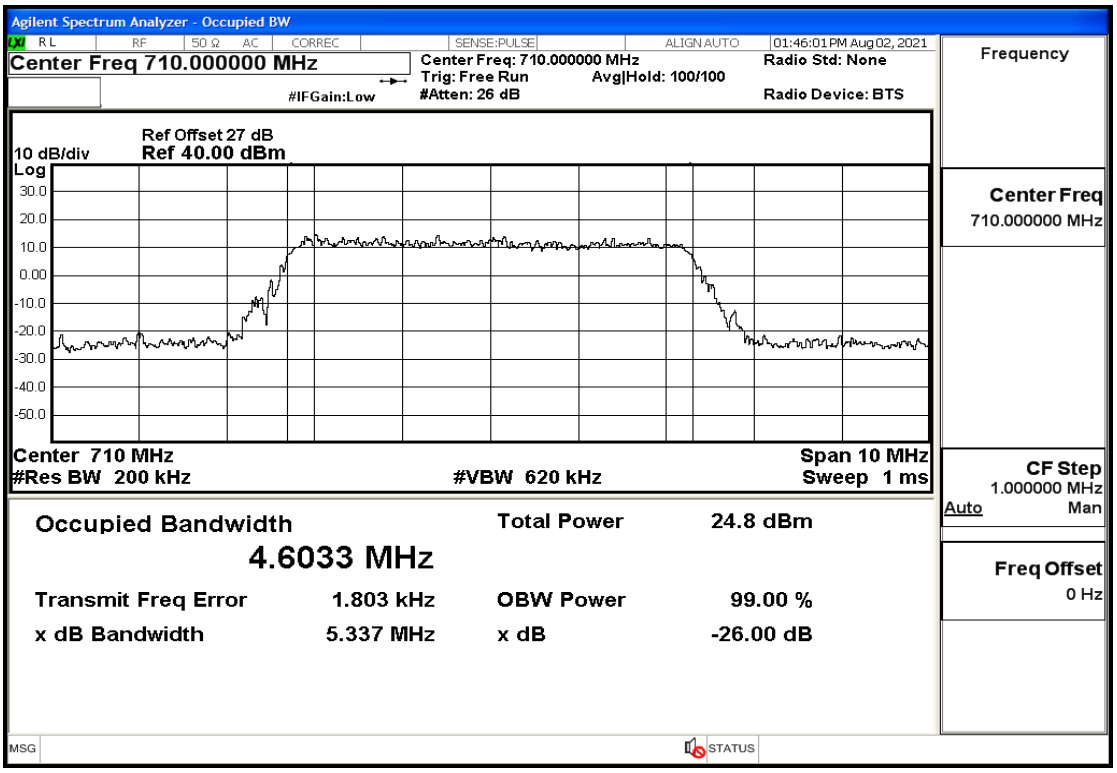
Band17-5-706.5-16QAM-25#LOW@26dB and 99PCT Bandwidth



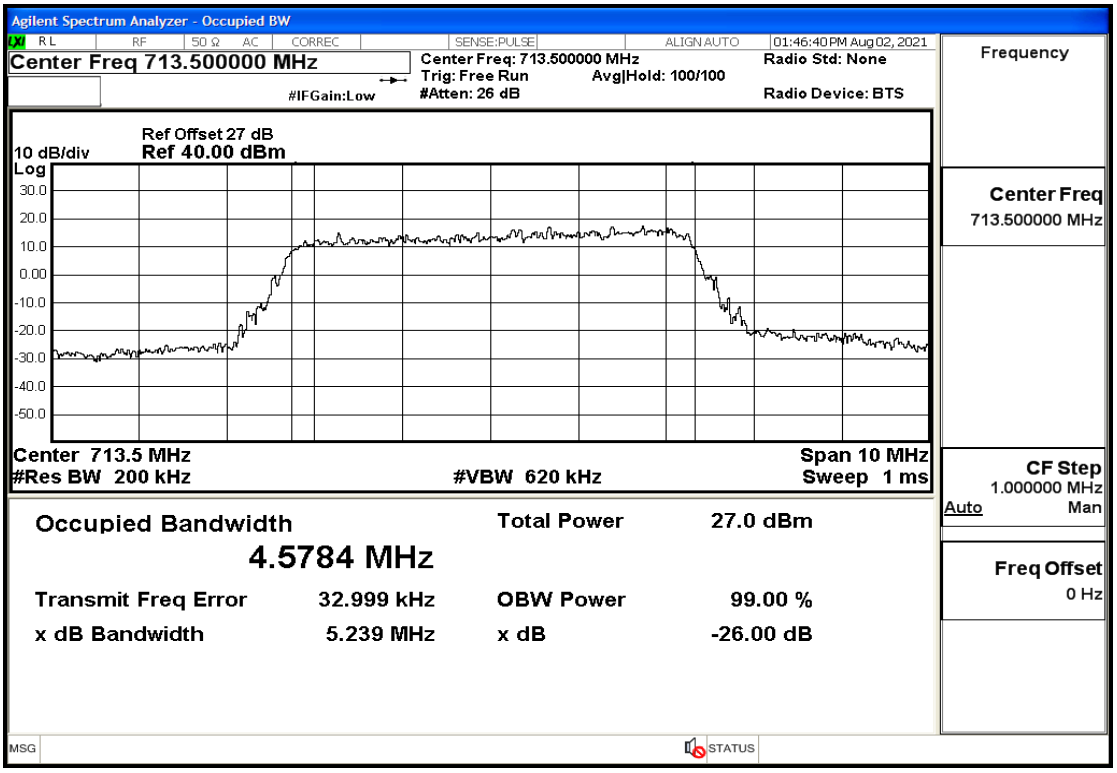
Band17-5-710-QPSK-25#LOW@26dB and 99PCT Bandwidth



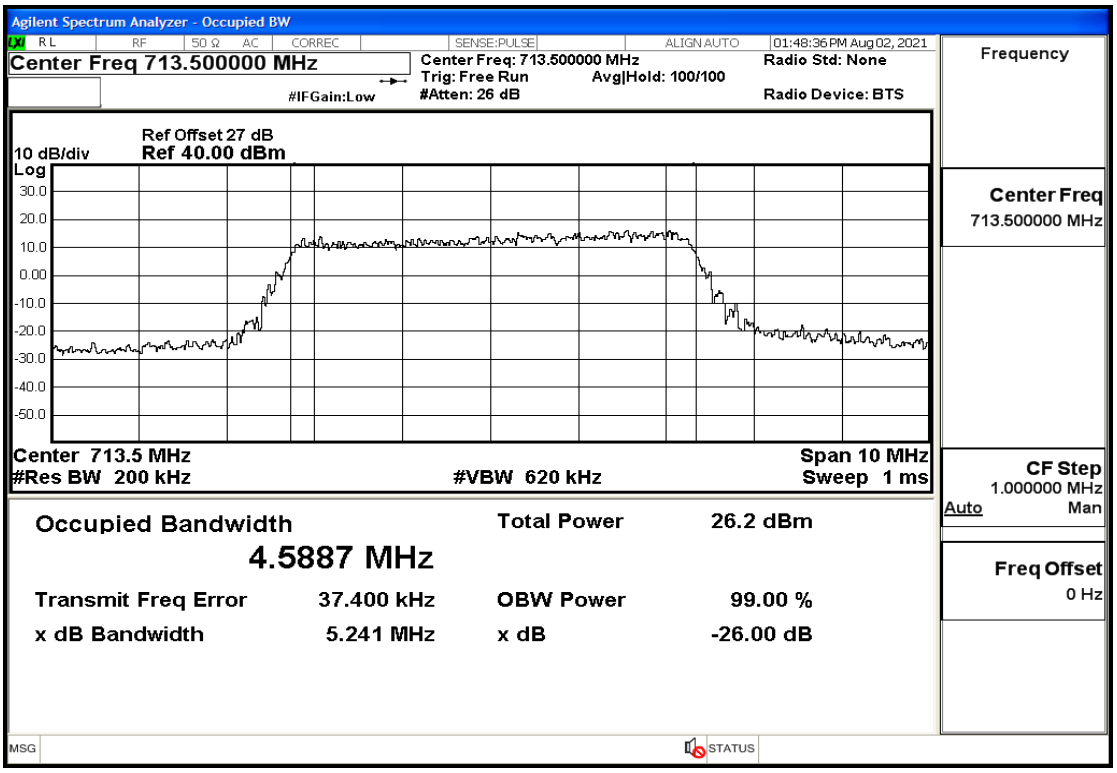
Band17-5-710-16QAM-25#LOW@26dB and 99PCT Bandwidth



Band17-5-713.5-QPSK-25#LOW@26dB and 99PCT Bandwidth



Band17-5-713.5-16QAM-25#LOW@26dB and 99PCT Bandwidth



Frequency Stability

Test Conditions		LTE Band 17 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0692	PASS
40	Normal Voltage	0.0347	
30	Normal Voltage	0.0163	
20(Ref.)	Normal Voltage	0.0242	
10	Normal Voltage	0.0635	
0	Normal Voltage	0.0192	
-10	Normal Voltage	0.0445	
-20	Normal Voltage	0.0375	
-30	Normal Voltage	0.0165	
20	Maximum Voltage	0.0171	
20	Normal Voltage	0.0245	
20	Battery End Point	0.0605	

Peak and Average Power

Band	Bandwidth(MHz)	UL Frequency(MHz)	Modulation	RB Size	RB Offset	Average Power	Peak Power	Peak to Average(dB)	limit(dB)	AntGain(dBi)	ERP/EIRP(dBm)	Limit(dBm)	Conclusion
Band17	5	706.5	QPSK	25	LOW	21.18	26.76	5.58	13	0.62	19.65	34.8	Pass
Band17	5	706.5	QPSK	12	LOW	21.98	26.35	4.37	13	0.62	20.45	34.8	Pass
Band17	5	706.5	QPSK	12	MID	21.99	26.56	4.57	13	0.62	20.46	34.8	Pass
Band17	5	706.5	QPSK	12	HIGH	20.49	26.21	5.72	13	0.62	18.96	34.8	Pass
Band17	5	706.5	QPSK	1	LOW	22.85	27.03	4.18	13	0.62	21.32	34.8	Pass
Band17	5	706.5	QPSK	1	MID	22.1	26.77	4.67	13	0.62	20.57	34.8	Pass
Band17	5	706.5	QPSK	1	HIGH	20.5	26.9	6.4	13	0.62	18.97	34.8	Pass
Band17	5	706.5	16QAM	25	LOW	20.41	27.06	6.65	13	0.62	18.88	34.8	Pass
Band17	5	706.5	16QAM	12	LOW	20.98	26.57	5.59	13	0.62	19.45	34.8	Pass
Band17	5	706.5	16QAM	12	MID	21	26.51	5.51	13	0.62	19.47	34.8	Pass
Band17	5	706.5	16QAM	12	HIGH	19.54	26.2	6.66	13	0.62	18.01	34.8	Pass
Band17	5	706.5	16QAM	1	LOW	21.83	26.26	4.43	13	0.62	20.3	34.8	Pass
Band17	5	706.5	16QAM	1	MID	21.16	25.86	4.7	13	0.62	19.63	34.8	Pass
Band17	5	706.5	16QAM	1	HIGH	19.66	25.62	5.96	13	0.62	18.13	34.8	Pass
Band17	5	710	QPSK	25	LOW	19.28	26.32	7.04	13	0.62	17.75	34.8	Pass
Band17	5	710	QPSK	12	LOW	19.52	26.41	6.89	13	0.62	17.99	34.8	Pass
Band17	5	710	QPSK	12	MID	19.54	26.44	6.9	13	0.62	18.01	34.8	Pass
Band17	5	710	QPSK	12	HIGH	18.84	25.89	7.05	13	0.62	17.31	34.8	Pass
Band17	5	710	QPSK	1	LOW	20.95	26.05	5.1	13	0.62	19.42	34.8	Pass
Band17	5	710	QPSK	1	MID	20.01	25.6	5.59	13	0.62	18.48	34.8	Pass
Band17	5	710	QPSK	1	HIGH	19.79	25.73	5.94	13	0.62	18.26	34.8	Pass
Band17	5	710	16QAM	25	LOW	18.25	26.62	8.37	13	0.62	16.72	34.8	Pass
Band17	5	710	16QAM	12	LOW	18.64	25.43	6.79	13	0.62	17.11	34.8	Pass
Band17	5	710	16QAM	12	MID	18.69	25.47	6.78	13	0.62	17.16	34.8	Pass
Band17	5	710	16QAM	12	HIGH	18.06	25.04	6.98	13	0.62	16.53	34.8	Pass
Band17	5	710	16QAM	1	LOW	20.27	25.8	5.53	13	0.62	18.74	34.8	Pass
Band17	5	710	16QAM	1	MID	19.44	25.53	6.09	13	0.62	17.91	34.8	Pass
Band17	5	710	16QAM	1	HIGH	19.11	25.38	6.27	13	0.62	17.58	34.8	Pass
Band17	5	713.5	QPSK	25	LOW	20.33	26.61	6.28	13	0.62	18.8	34.8	Pass
Band17	5	713.5	QPSK	12	LOW	19.07	25.27	6.2	13	0.62	17.54	34.8	Pass
Band17	5	713.5	QPSK	12	MID	19.06	25.3	6.24	13	0.62	17.53	34.8	Pass
Band17	5	713.5	QPSK	12	HIGH	21.16	26.54	5.38	13	0.62	19.63	34.8	Pass
Band17	5	713.5	QPSK	1	LOW	19.51	25.63	6.12	13	0.62	17.98	34.8	Pass
Band17	5	713.5	QPSK	1	MID	21.17	26.76	5.59	13	0.62	19.64	34.8	Pass
Band17	5	713.5	QPSK	1	HIGH	22.04	26.19	4.15	13	0.62	20.51	34.8	Pass
Band17	5	713.5	16QAM	25	LOW	19.42	27.25	7.83	13	0.62	17.89	34.8	Pass
Band17	5	713.5	16QAM	12	LOW	18.17	25.18	7.01	13	0.62	16.64	34.8	Pass
Band17	5	713.5	16QAM	12	MID	18.17	25.17	7	13	0.62	16.64	34.8	Pass
Band17	5	713.5	16QAM	12	HIGH	20.25	26.53	6.28	13	0.62	18.72	34.8	Pass
Band17	5	713.5	16QAM	1	LOW	18.67	25.63	6.96	13	0.62	17.14	34.8	Pass

Band17	5	713.5	16QAM	1	MID	20.27	26.86	6.59	13	0.62	18.74	34.8	Pass
Band17	5	713.5	16QAM	1	HIGH	21.29	26.2	4.91	13	0.62	19.76	34.8	Pass