

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 12

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	699.7	23017	1.4	1	0	23.25
				1	5	23.25
				3	2	22.36
				6	0	22.23
	707.5	23095		1	0	23.22
				1	5	23.22
				3	2	22.34
				6	0	22.17
	715.3	23173		1	0	23.17
				1	5	23.17
				3	2	22.31
				6	0	22.16
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	699.7	23017	1.4	1	0	22.32
				1	5	22.32
				3	2	21.31
				6	0	21.23
	707.5	23095		1	0	22.27
				1	5	22.27
				3	2	21.24
				6	0	21.16
	715.3	23173		1	0	22.26
				1	5	22.26
				3	2	21.23
				6	0	21.14
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	699.7	23017	1.4	1	0	22.17
				1	5	22.17
				3	2	21.25
				6	0	21.19
	707.5	23095		1	0	22.19
				1	5	22.19
				3	2	21.27
				6	0	21.16
	715.3	23173		1	0	22.18
				1	5	22.18
				3	2	21.26
				6	0	21.15

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	700.5	23025	3	1	0	23.24
				1	14	23.24
				8	4	22.35
				15	0	22.22
	707.5	23095		1	0	23.21
				1	14	23.21
				8	4	22.33
				15	0	22.16
	714.5	23165		1	0	23.16
				1	14	23.16
				8	4	22.30
				15	0	22.15
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	700.5	23025	3	1	0	22.30
				1	14	22.30
				8	4	21.29
				15	0	21.21
	707.5	23095		1	0	22.29
				1	14	22.29
				8	4	21.26
				15	0	21.18
	714.5	23165		1	0	22.28
				1	14	22.28
				8	4	21.22
				15	0	21.13
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	700.5	23025	3	1	0	22.16
				1	14	22.16
				8	4	21.24
				15	0	21.15
	707.5	23095		1	0	22.15
				1	14	22.15
				8	4	21.23
				15	0	21.12
	714.5	23165		1	0	22.14
				1	14	22.14
				8	4	21.22
				15	0	21.11

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	701.5	23035	5	1	0	23.22
				1	24	23.22
				12	6	22.33
				25	0	22.20
	707.5	23095		1	0	23.19
				1	24	23.19
				12	6	22.31
				25	0	22.16
	713.5	23155		1	0	23.16
				1	24	23.16
				12	6	22.30
				25	0	22.15
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	701.5	23035	5	1	0	22.31
				1	24	22.29
				12	6	21.28
				25	0	21.20
	707.5	23095		1	0	22.28
				1	24	22.28
				12	6	21.25
				25	0	21.17
	713.5	23155		1	0	22.27
				1	24	22.27
				12	6	21.24
				25	0	21.15
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	701.5	23035	5	1	0	22.18
				1	24	22.16
				12	6	21.24
				25	0	21.15
	707.5	23095		1	0	22.15
				1	24	22.15
				12	6	21.23
				25	0	21.12
	713.5	23155		1	0	22.14
				1	24	22.16
				12	6	21.24
				25	0	21.13

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	704	23060	10	1	0	23.27
				1	49	23.27
				24	12	22.38
				50	0	22.25
	707.5	23095		1	0	23.24
				1	49	23.24
				24	12	22.36
				50	0	22.21
	711	23130		1	0	23.21
				1	49	23.21
				24	12	22.35
				50	0	22.20
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	704	23060	10	1	0	22.36
				1	49	22.36
				24	12	21.35
				50	0	21.27
	707.5	23095		1	0	22.35
				1	49	22.35
				24	12	21.32
				50	0	21.24
	711	23130		1	0	22.34
				1	49	22.34
				24	12	21.31
				50	0	21.22
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	704	23060	10	1	0	22.25
				1	49	22.25
				24	12	21.33
				50	0	21.24
	707.5	23095		1	0	22.24
				1	49	22.24
				24	12	21.32
				50	0	21.21
	711	23130		1	0	22.23
				1	49	22.23
				24	12	21.31
				50	0	21.20

2 Occupied Bandwidth

Test result

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
12	699.7	23017	1.4	6	0	1.0777	Fig.1	1.0783	Fig.2	1.0777	Fig.3
12	707.5	23095	1.4	6	0	1.0782	Fig.4	1.0748	Fig.5	1.0796	Fig.6
12	715.3	23173	1.4	6	0	1.0756	Fig.7	1.0766	Fig.8	1.0771	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
12	699.7	23017	1.4	6	0	1.222	Fig.1	1.233	Fig.2	1.239	Fig.3
12	707.5	23095	1.4	6	0	1.230	Fig.4	1.237	Fig.5	1.229	Fig.6
12	715.3	23173	1.4	6	0	1.242	Fig.7	1.226	Fig.8	1.234	Fig.9

Fig.1

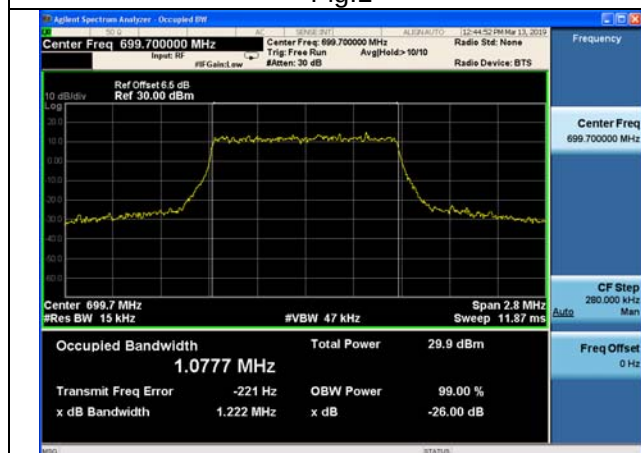


Fig.2

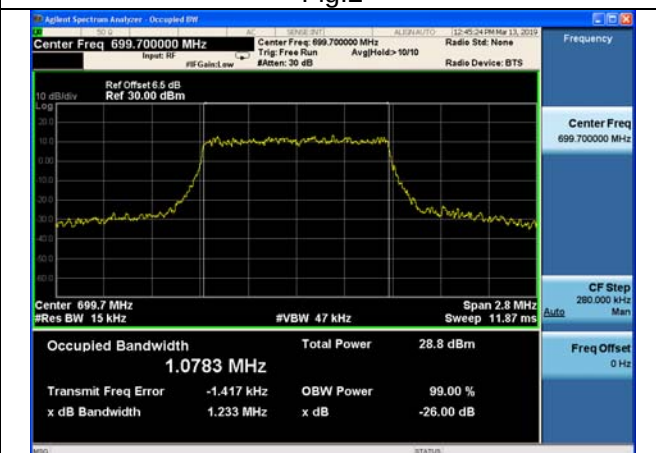


Fig.3

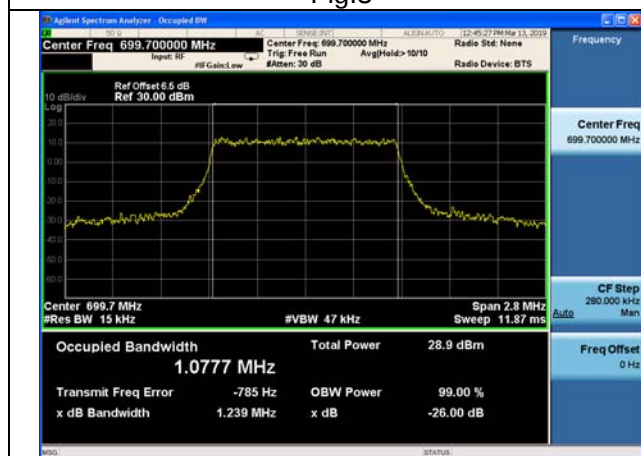


Fig.4

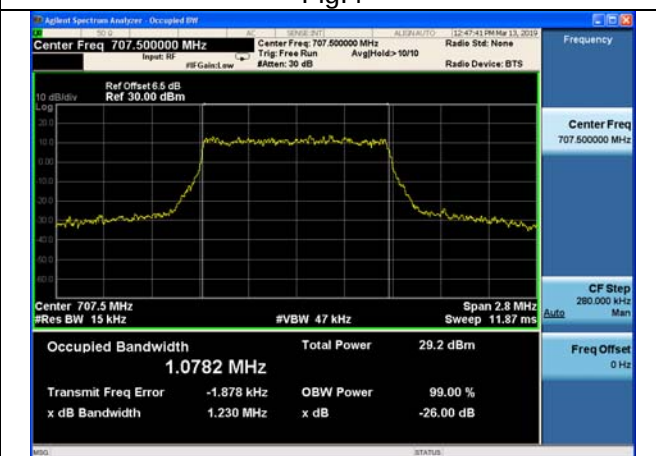


Fig.5

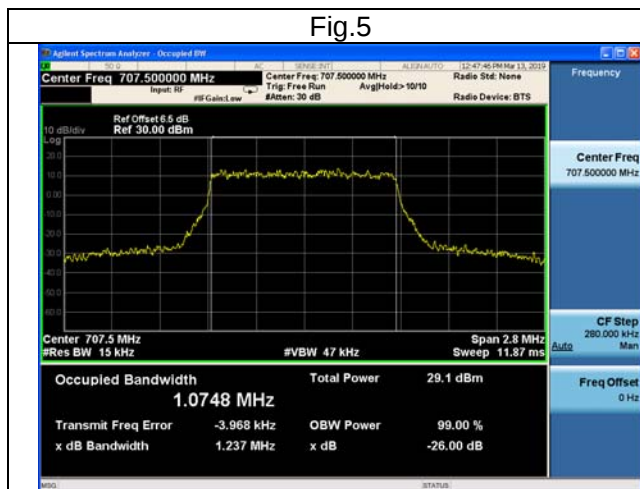


Fig.6

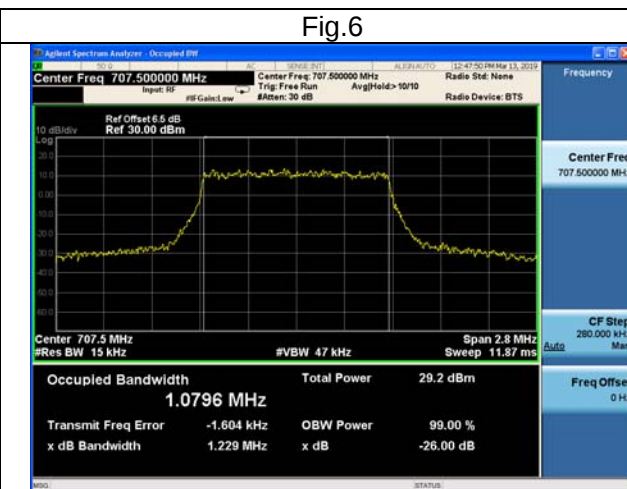


Fig.7

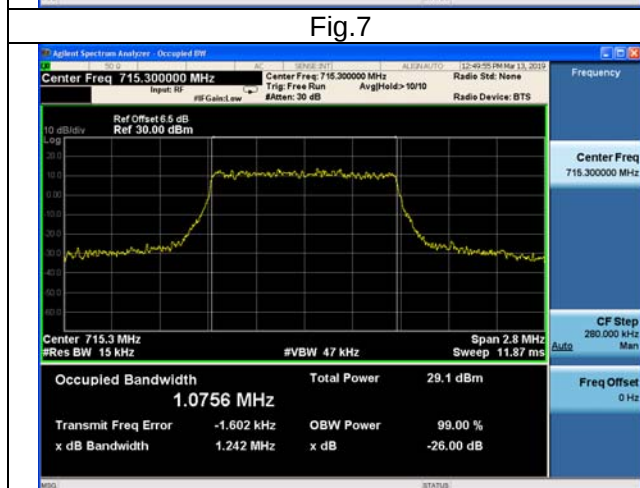


Fig.8

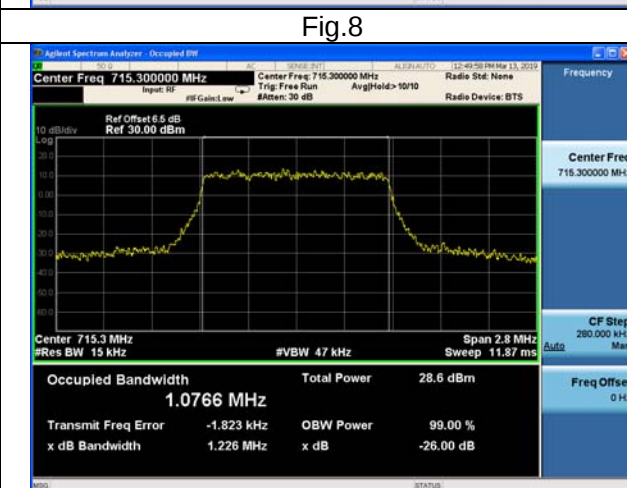
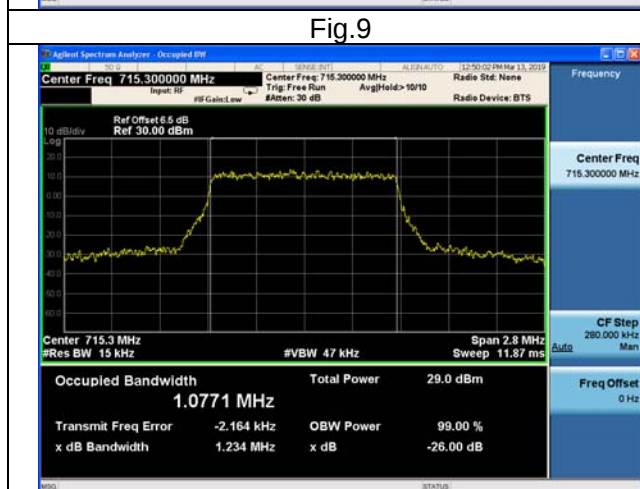


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
12	700.5	23025	3	15	0	2.6893	Fig.1	2.7039	Fig.2	2.6824	Fig.3
12	707.5	23095	3	15	0	2.6970	Fig.4	2.7021	Fig.5	2.6981	Fig.6
12	714.5	23165	3	15	0	2.6960	Fig.7	2.6953	Fig.8	2.6868	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
12	700.5	23025	3	15	0	2.885	Fig.1	2.929	Fig.2	2.873	Fig.3
12	707.5	23095	3	15	0	2.903	Fig.4	2.883	Fig.5	2.889	Fig.6
12	714.5	23165	3	15	0	2.907	Fig.7	2.901	Fig.8	2.909	Fig.9

Fig.1



Fig.2



Fig.3



Fig.4

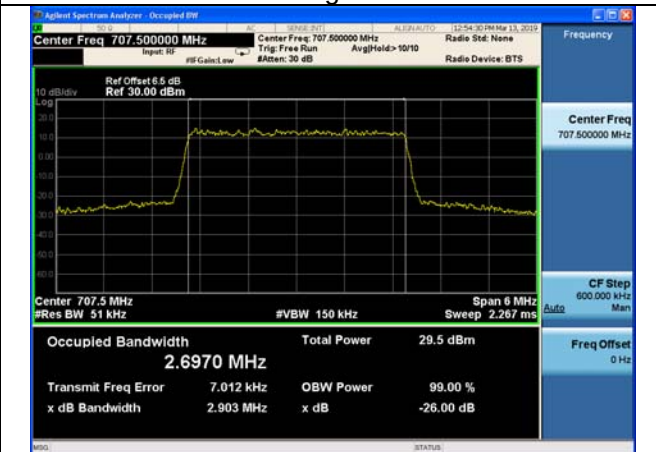


Fig.5

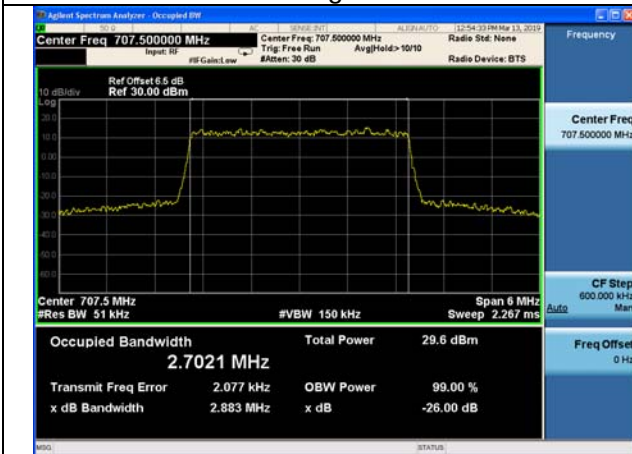


Fig.6

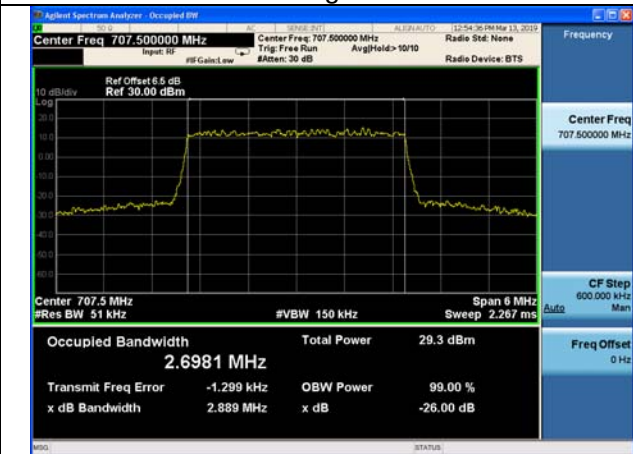


Fig.7

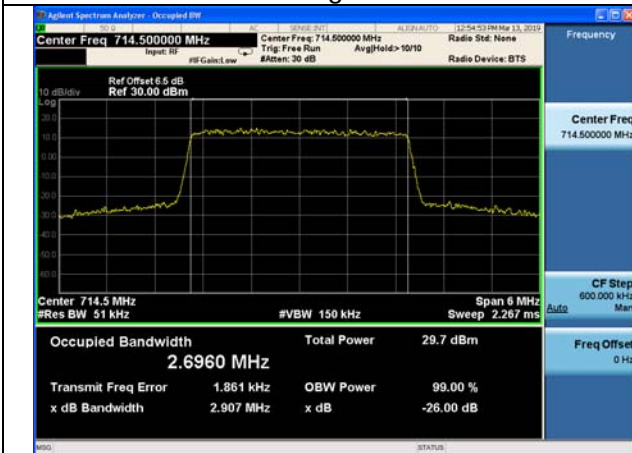


Fig.8

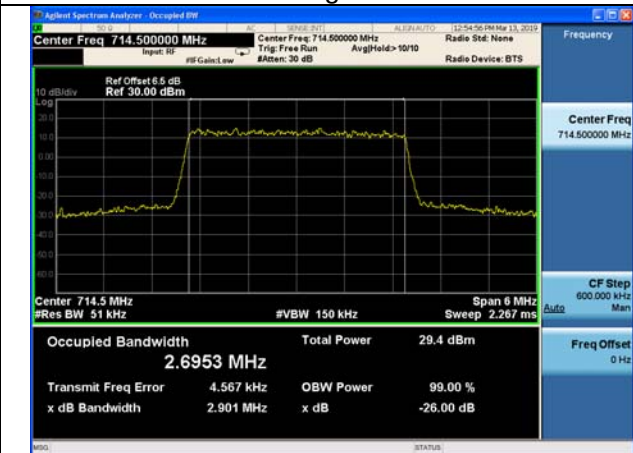
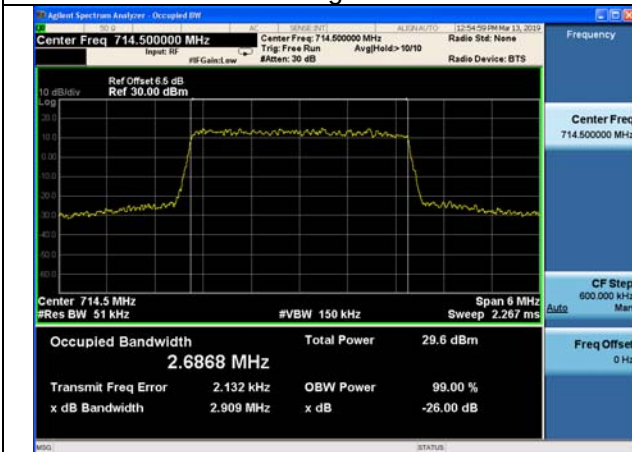


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
12	701.5	23035	5	25	0	4.4811	Fig.1	4.4827	Fig.2	4.4897	Fig.3
12	707.5	23095	5	25	0	4.4983	Fig.4	4.4981	Fig.5	4.4940	Fig.6
12	713.5	23155	5	25	0	4.4856	Fig.7	4.4696	Fig.8	4.4799	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
12	701.5	23035	5	25	0	4.903	Fig.1	5.010	Fig.2	4.968	Fig.3
12	707.5	23095	5	25	0	5.059	Fig.4	5.074	Fig.5	5.004	Fig.6
12	713.5	23155	5	25	0	5.045	Fig.7	4.947	Fig.8	4.983	Fig.9

Fig.1

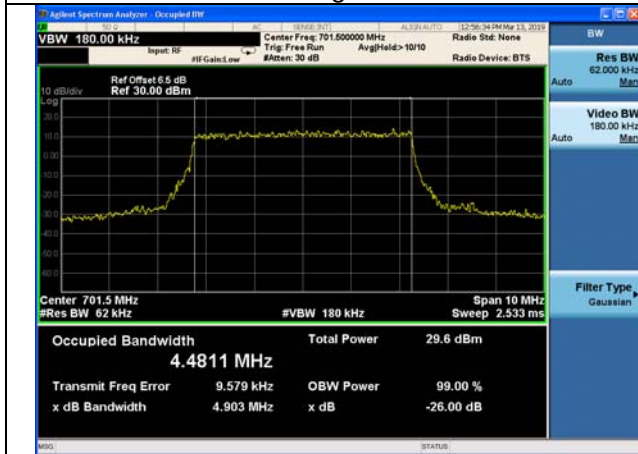


Fig.2



Fig.3

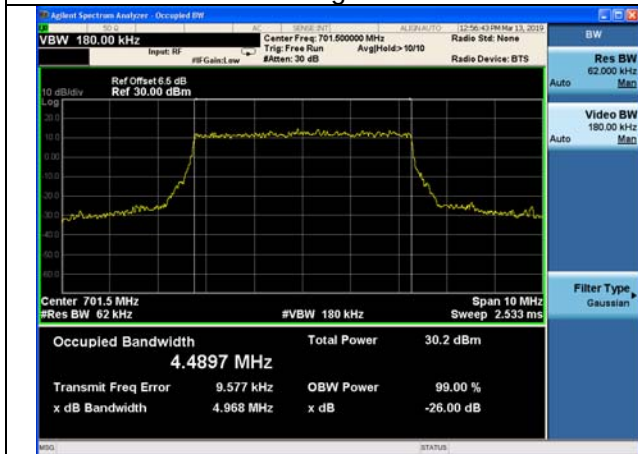


Fig.4

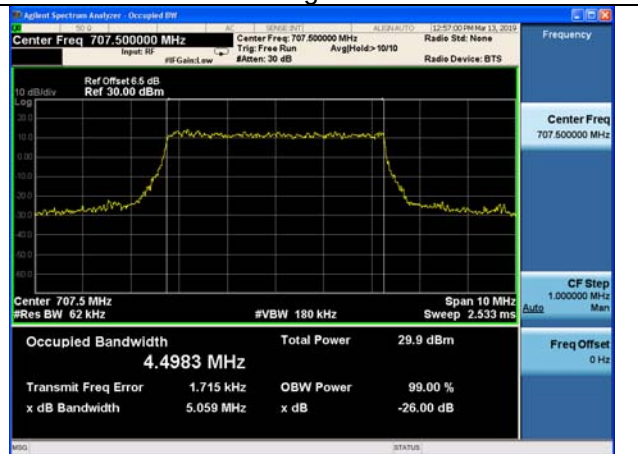


Fig.5

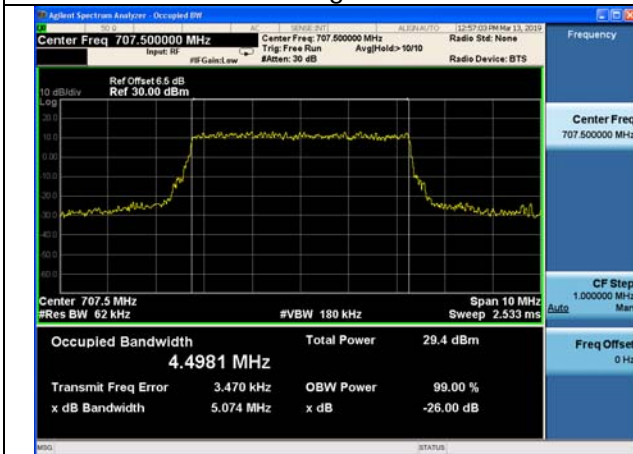


Fig.6

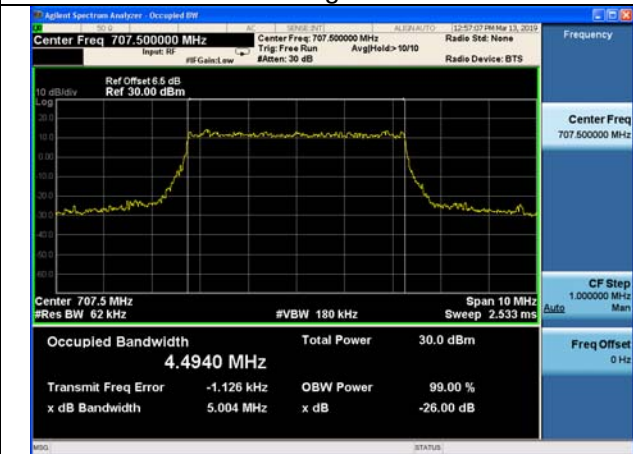


Fig.7



Fig.8

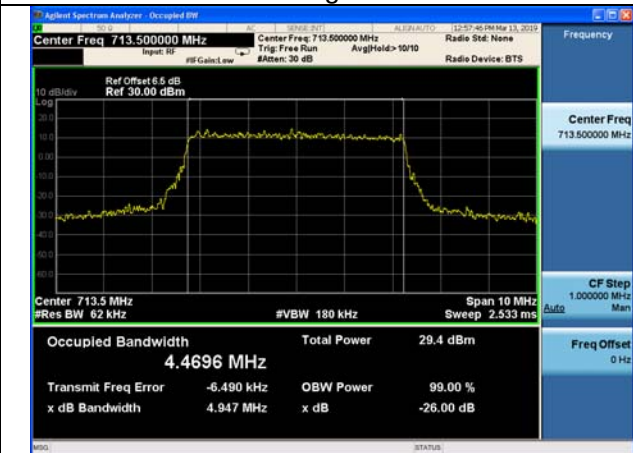
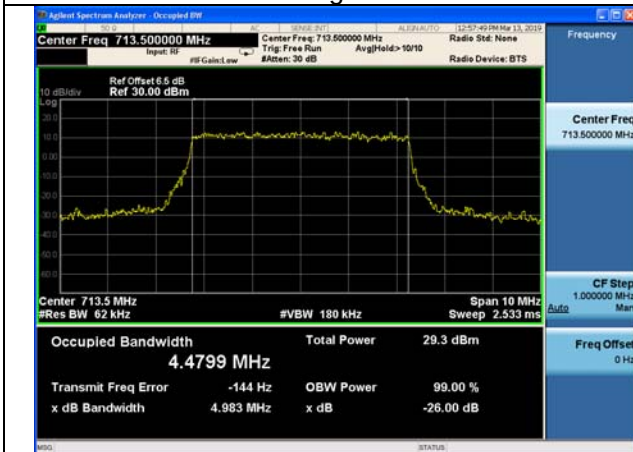


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
12	704	23060	10	50	0	9.9558	Fig.1	8.9293	Fig.2	8.9385	Fig.3
12	707.5	23095	10	50	0	9.9775	Fig.4	8.9696	Fig.5	8.9722	Fig.6
12	711	23130	10	50	0	8.9673	Fig.7	8.9614	Fig.8	8.9542	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
12	704	23060	10	50	0	9.743	Fig.1	9.794	Fig.2	9.729	Fig.3
12	707.5	23095	10	50	0	9.873	Fig.4	9.915	Fig.5	9.940	Fig.6
12	711	23130	10	50	0	9.808	Fig.7	9.894	Fig.8	9.868	Fig.9

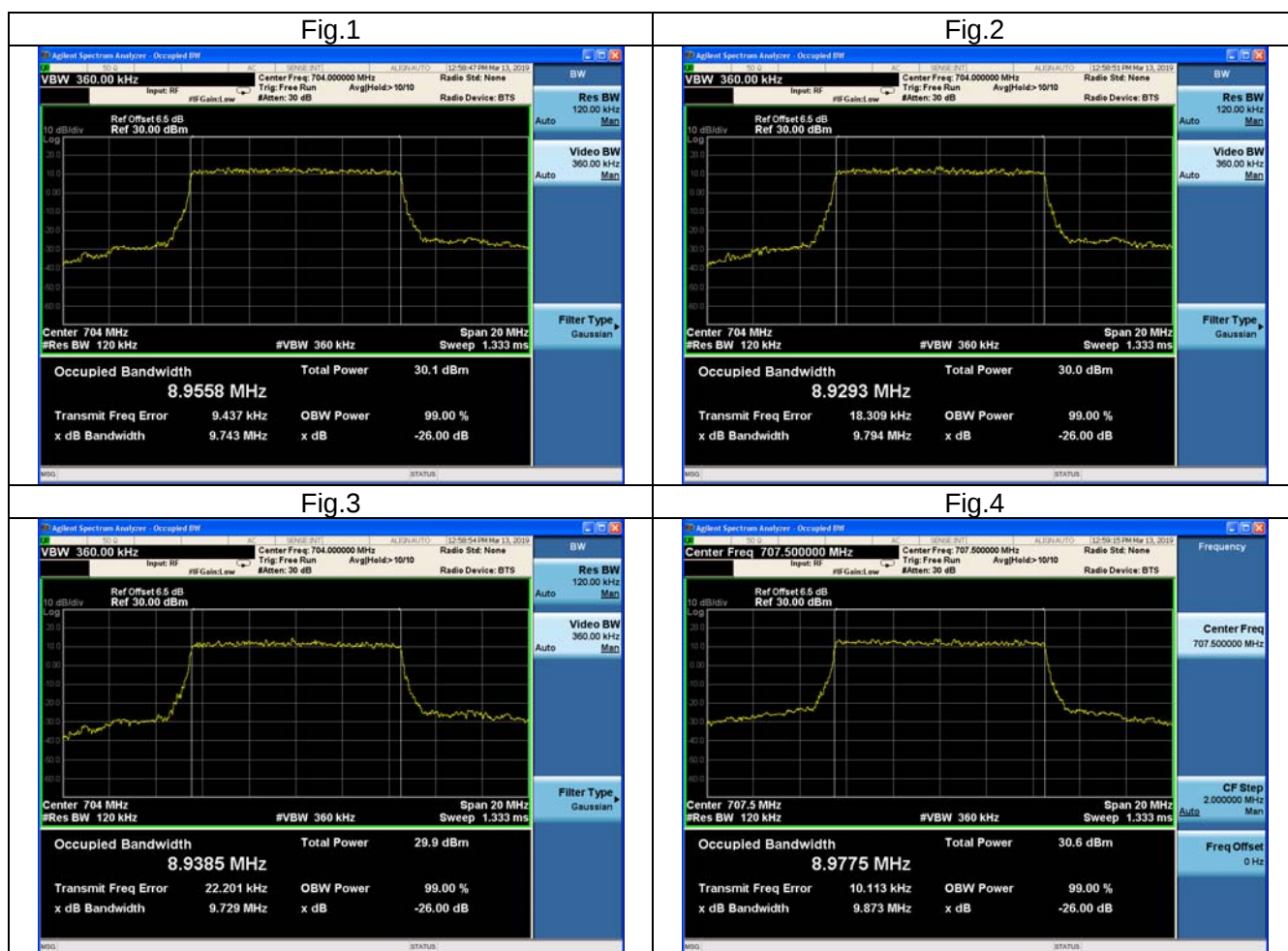


Fig.5

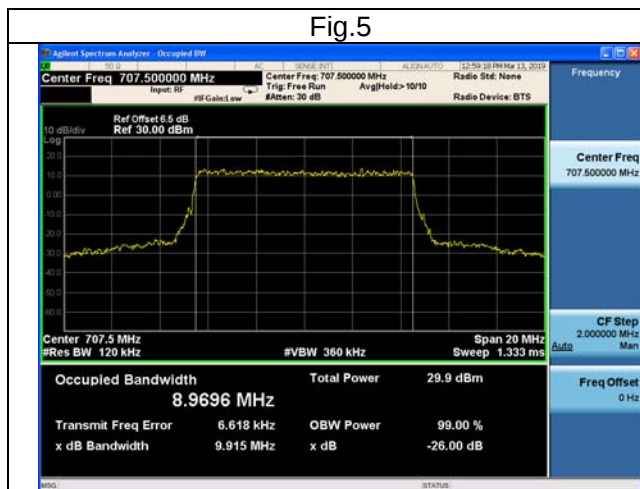


Fig.6

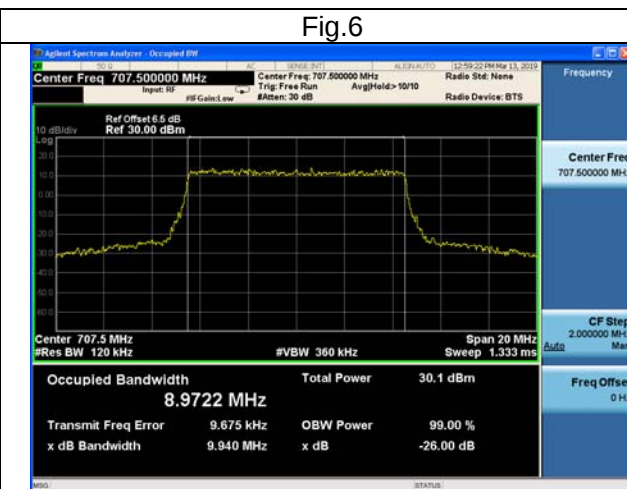


Fig.7

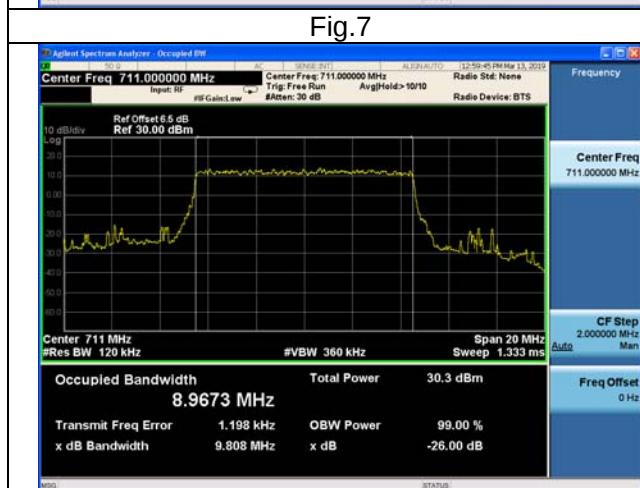
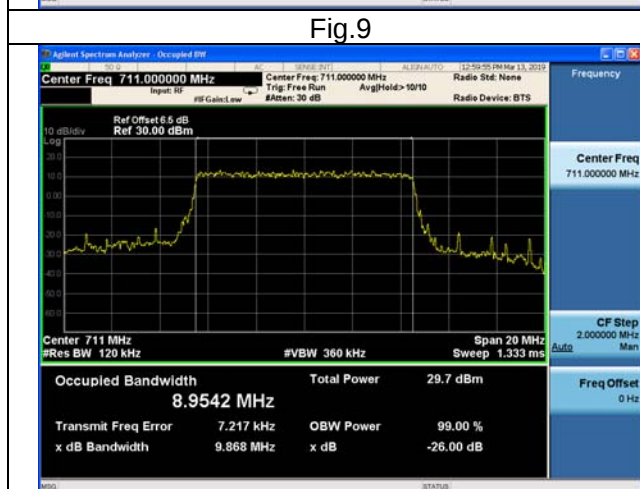


Fig.8

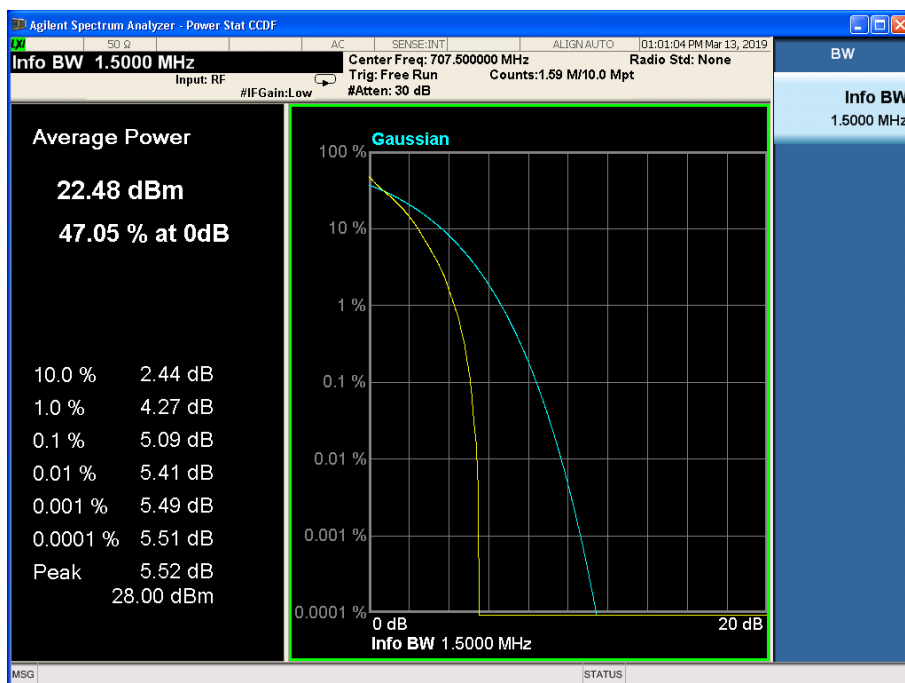


Fig.9

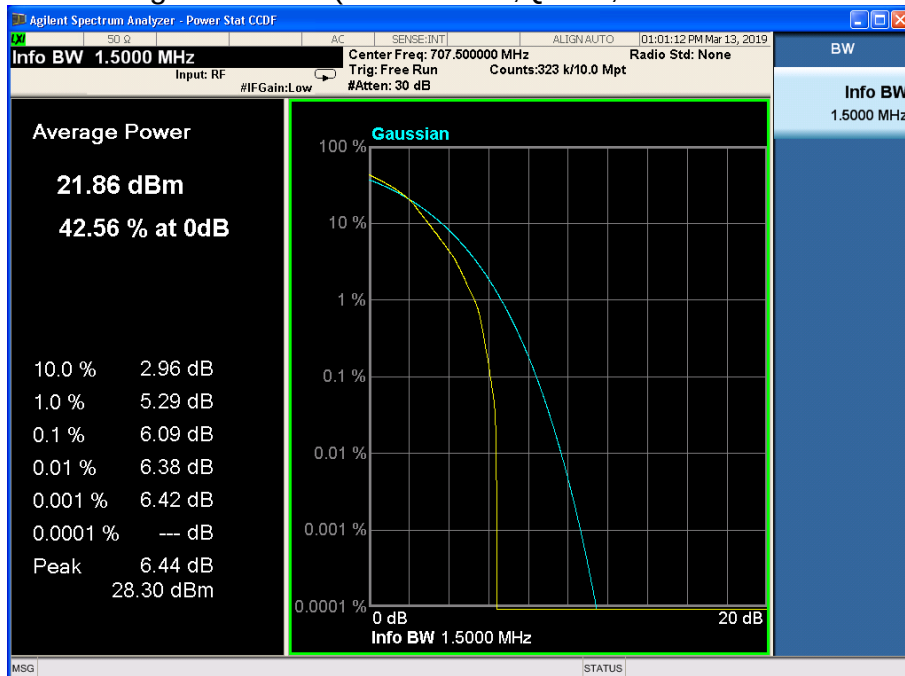


3 Peak-Average Ratio

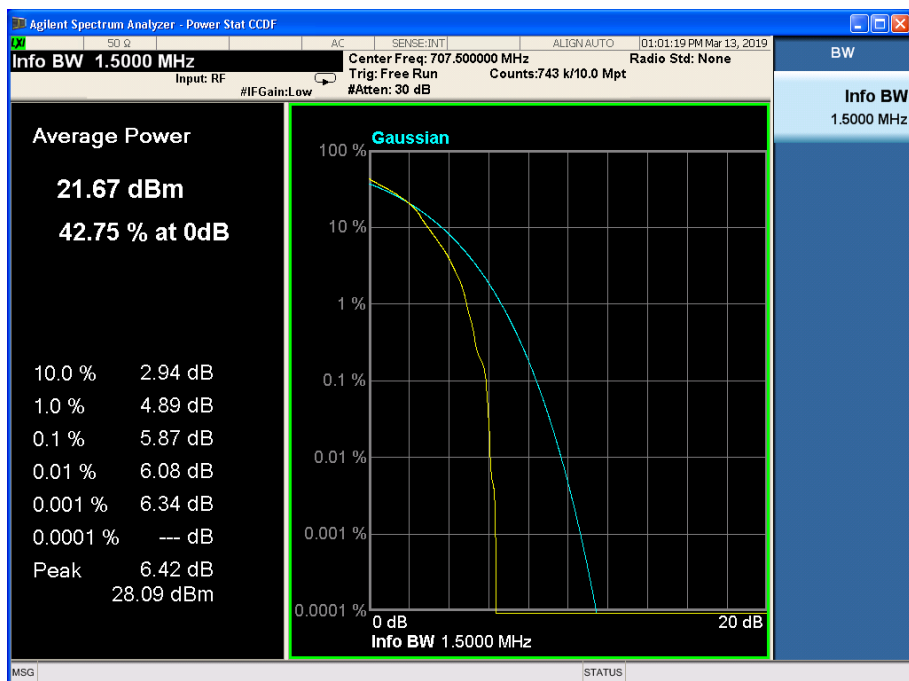
Test result:



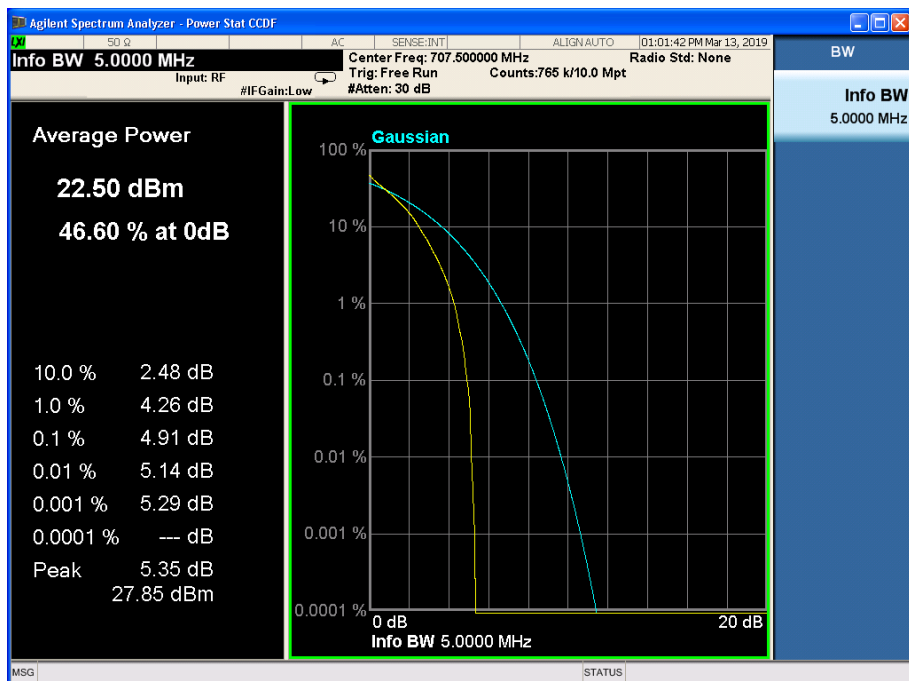
Peak-Average Ratio Plot(1.4MHz BW,QPSK,Band 12-mid Channel)



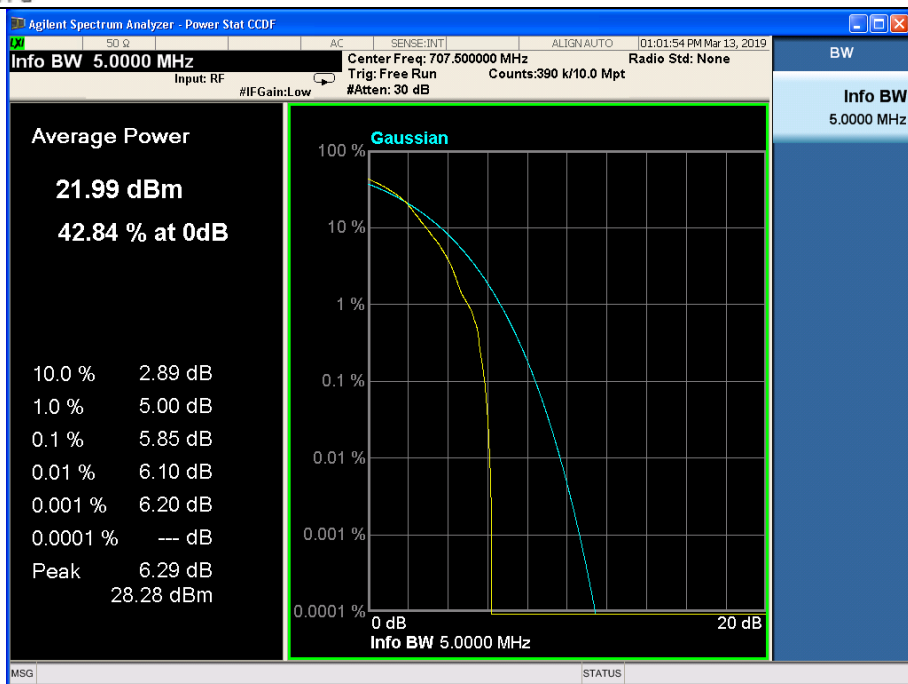
Peak-Average Ratio Plot(1.4MHz BW,16QAM,Band 12-mid Channel)



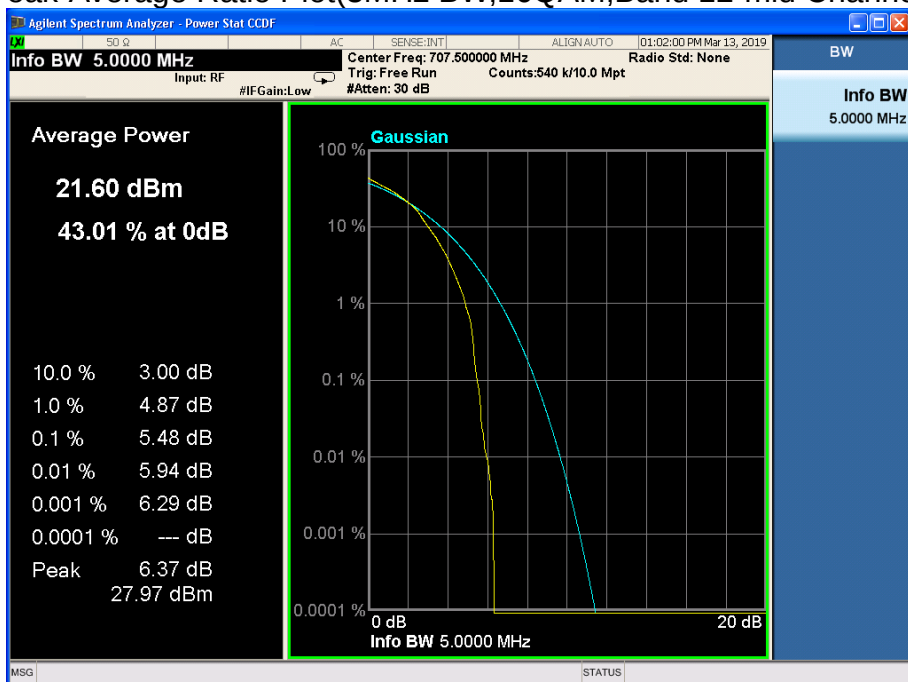
Peak-Average Ratio Plot(1.4MHz BW,64QAM,Band 12-mid Channel)



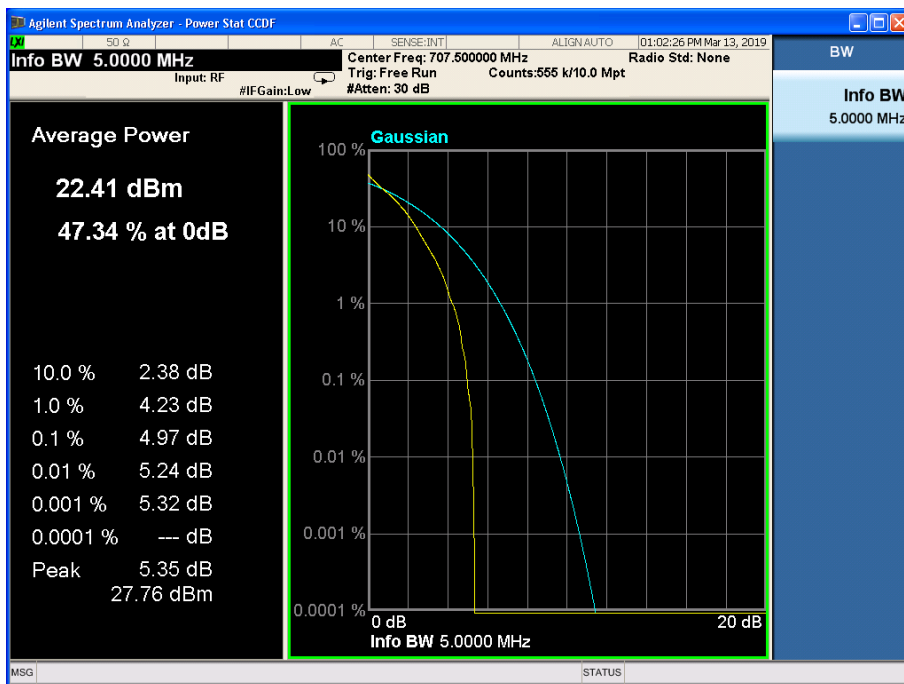
Peak-Average Ratio Plot(3MHz BW,QPSK,Band 12-mid Channel)



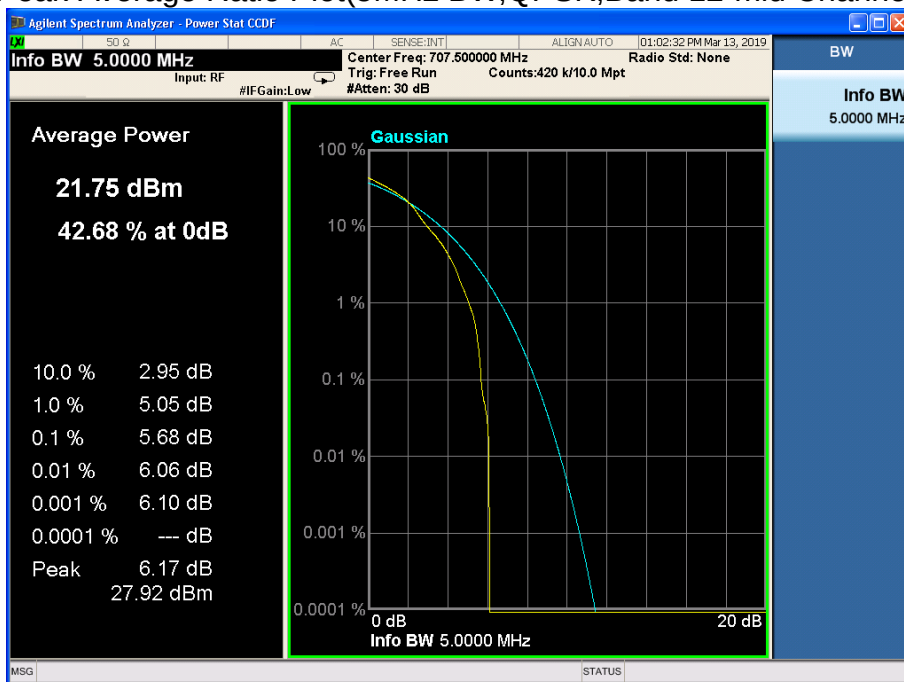
Peak-Average Ratio Plot(3MHz BW,16QAM,Band 12-mid Channel)



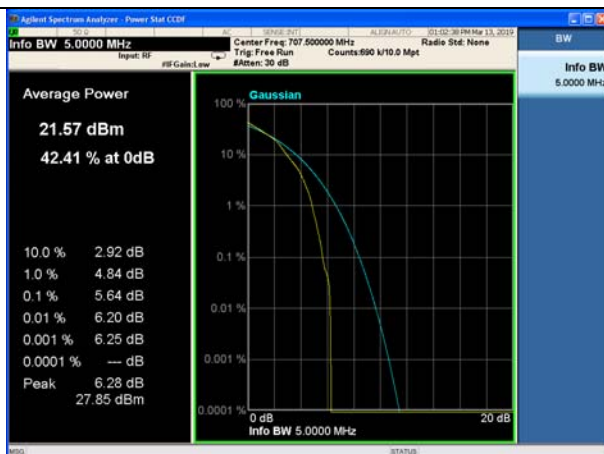
Peak-Average Ratio Plot(3MHz BW,64QAM,Band 12-mid Channel)



Peak-Average Ratio Plot(5MHz BW,QPSK,Band 12-mid Channel)



Peak-Average Ratio Plot(5MHz BW,16QAM,Band 12-mid Channel)



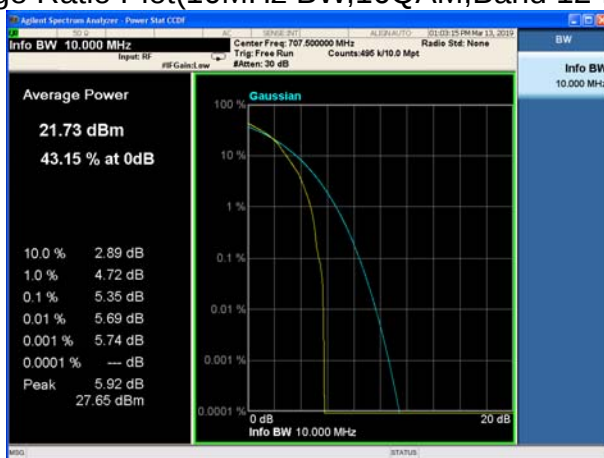
Peak-Average Ratio Plot(5MHz BW,64QAM,Band 12-mid Channel)



Peak-Average Ratio Plot(10MHz BW,QPSK,Band 12-mid Channel)



Peak-Average Ratio Plot(10MHz BW,16QAM,Band 12-mid Channel)



Peak-Average Ratio Plot(10MHz BW,64QAM,Band 12-mid Channel)

4 Spurious Emissions at antenna terminal

Test result

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
12	704	23060	10	1	0	Fig.1

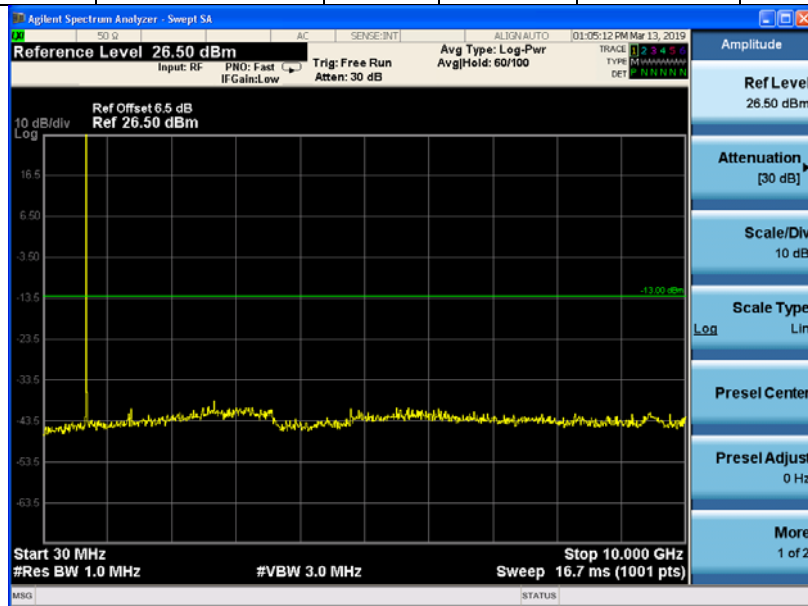


Fig.1

Band	Carrier frequency (MHz)	Channel(Mid)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
12	707.5	23095	10	1	0	Fig.1

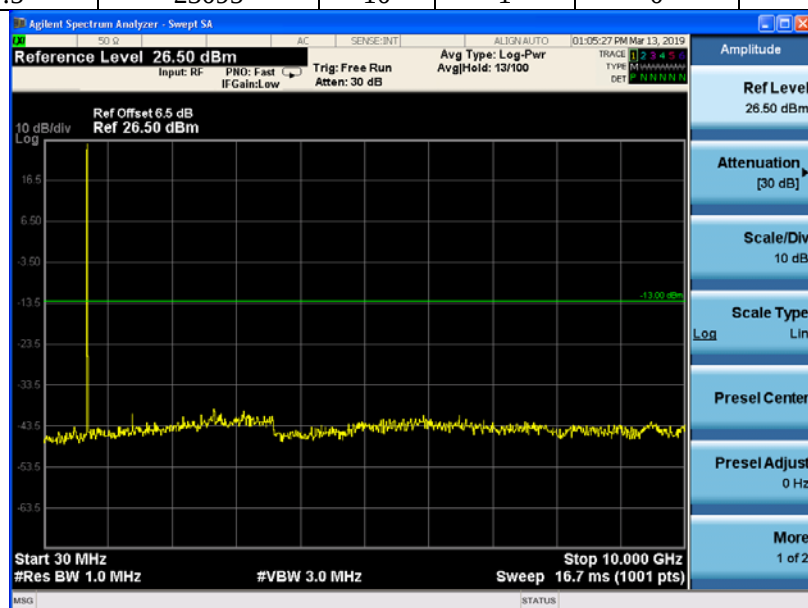


Fig.1

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Conducted Spurious Plot	
						QPSK	16-QAM
12	711	23130	10	1	0	Fig.1	Fig.8

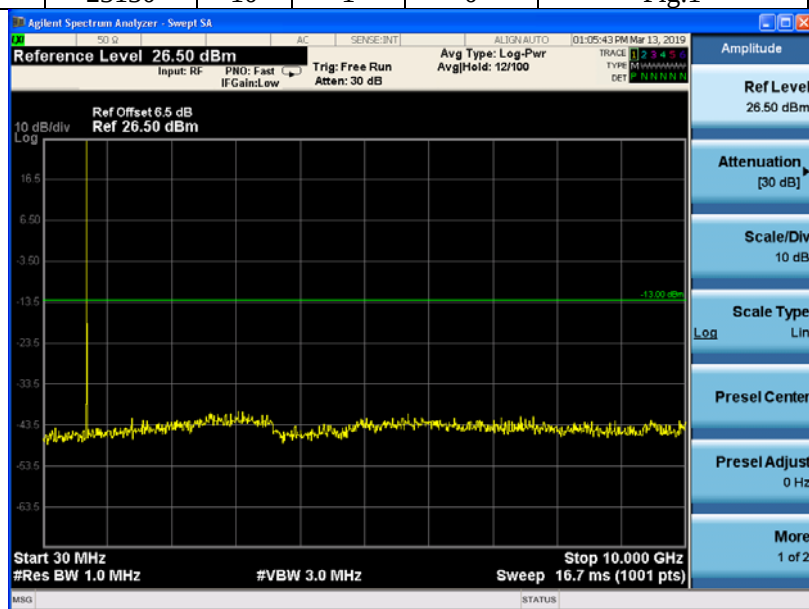


Fig.1

5 Band Edges Compliance

Test result

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	699.7	23017	1.4	1	0	Fig.1
				6	0	Fig.4

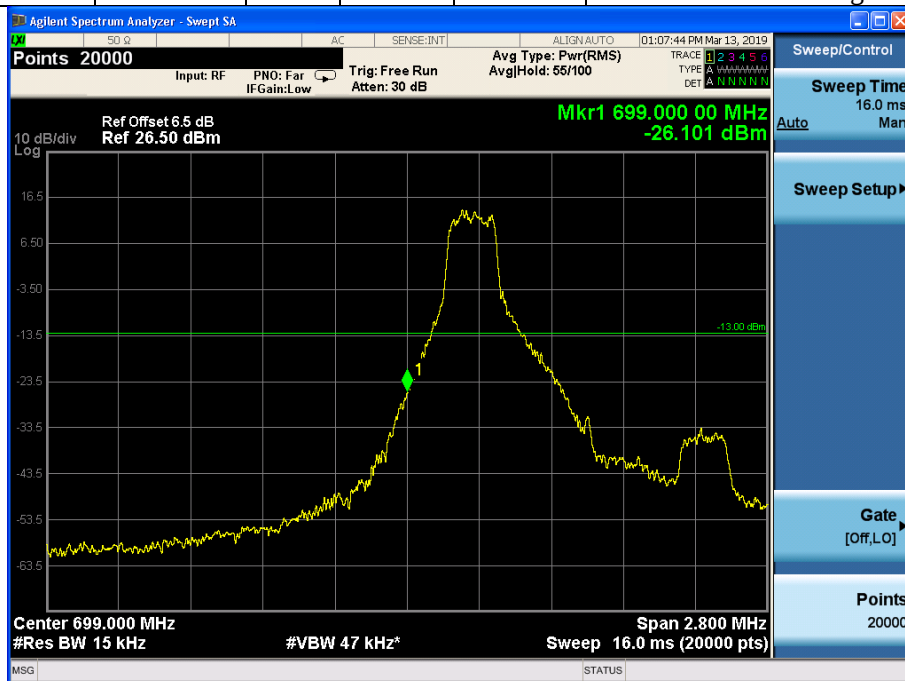


Fig.1

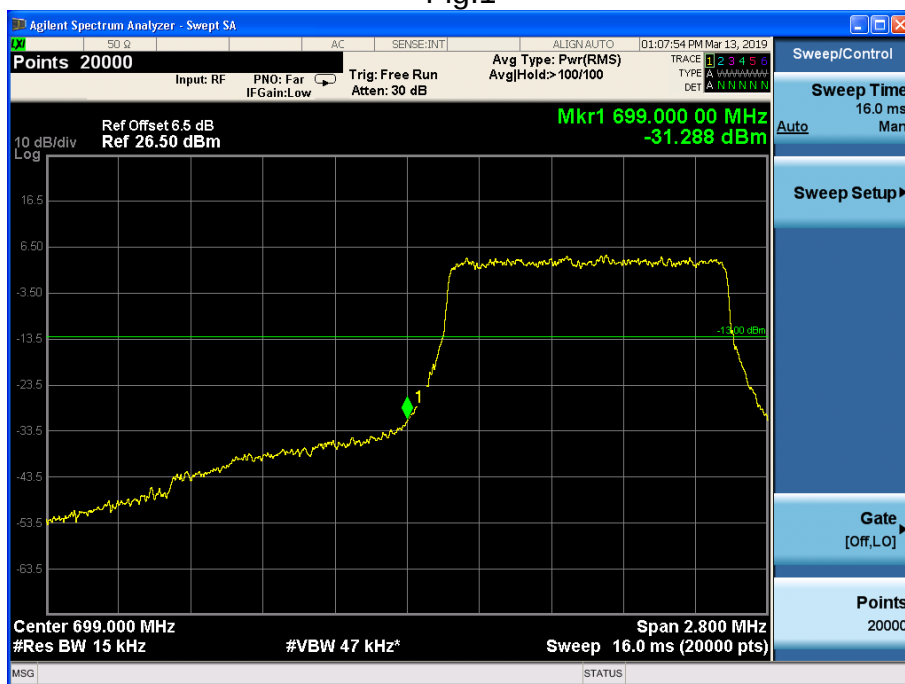


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	715.3	23173	1.4	1	5	Fig.1
				6	0	Fig.4

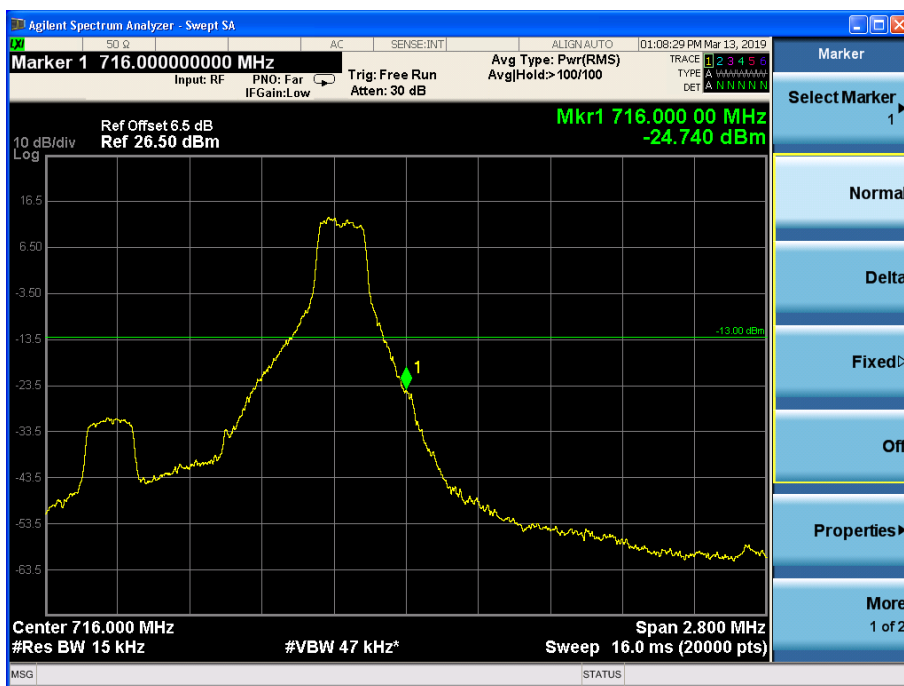


Fig.1

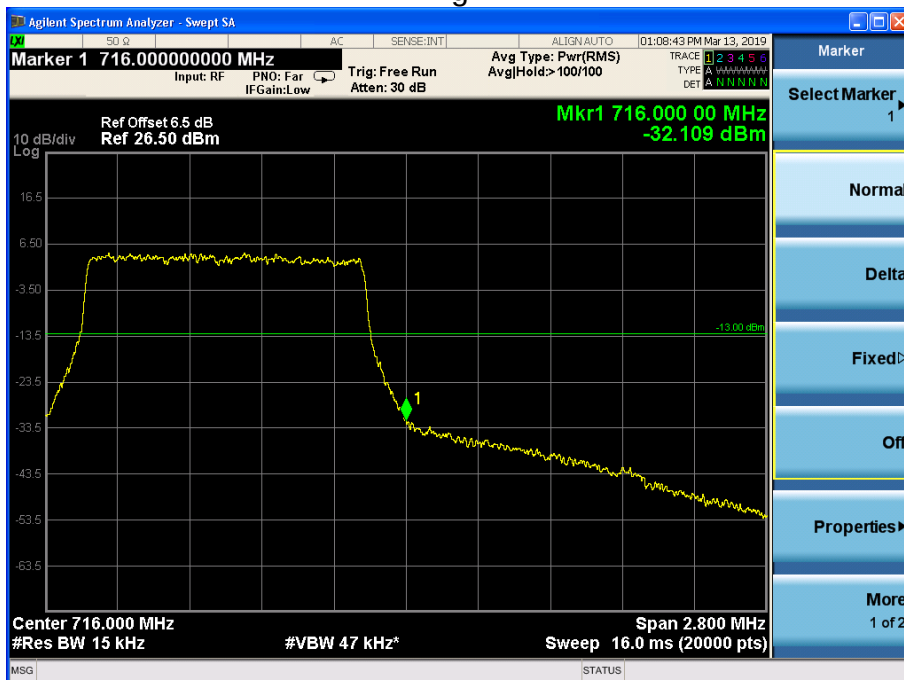


Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	700.5	23025	3	1	0	Fig.1
				15	0	Fig.4

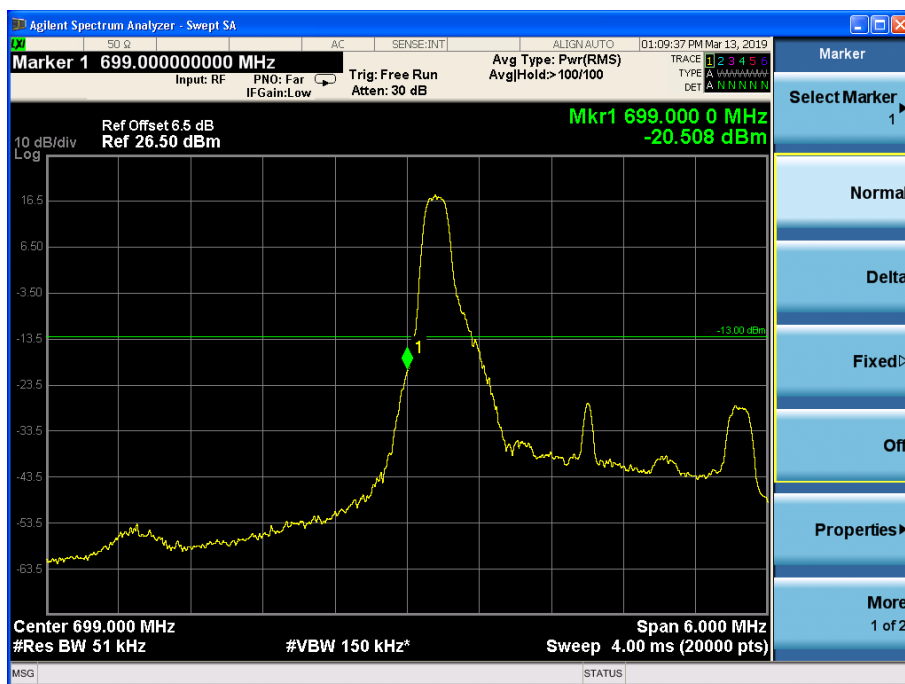


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	714.5	23165	3	1	14	Fig.1
				15	0	Fig.4

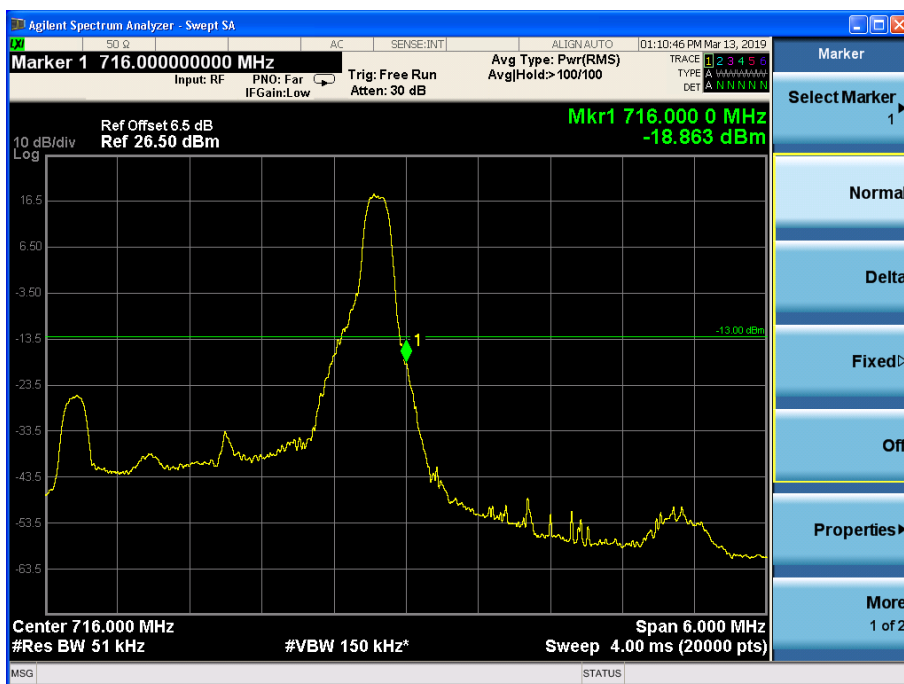


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	701.5	23035	5	1	0	Fig.1
				25	0	Fig.4

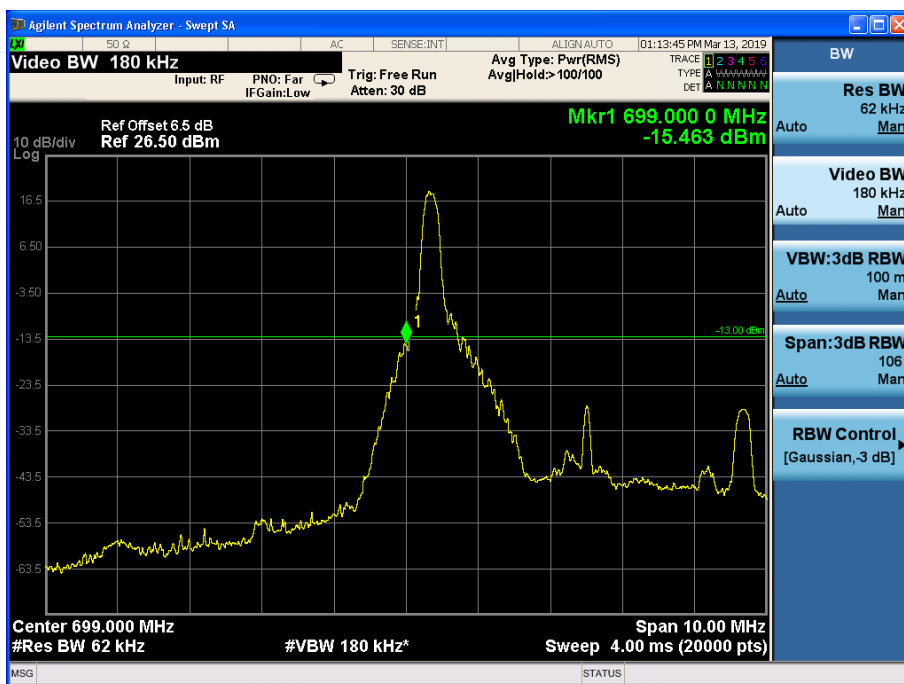


Fig.1

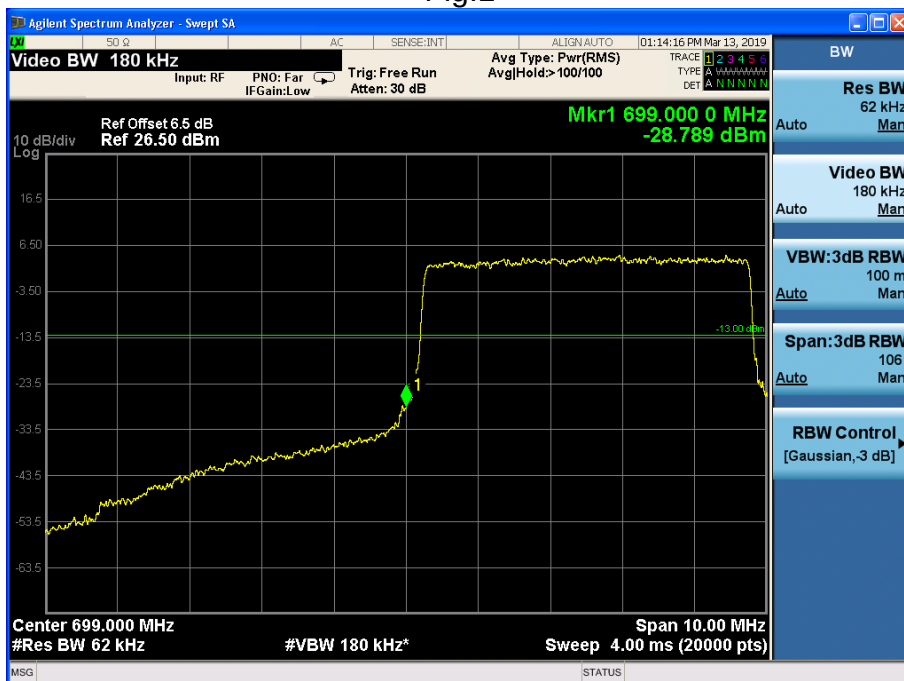


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	713.5	23155	5	1	24	Fig.1
				25	0	Fig.4

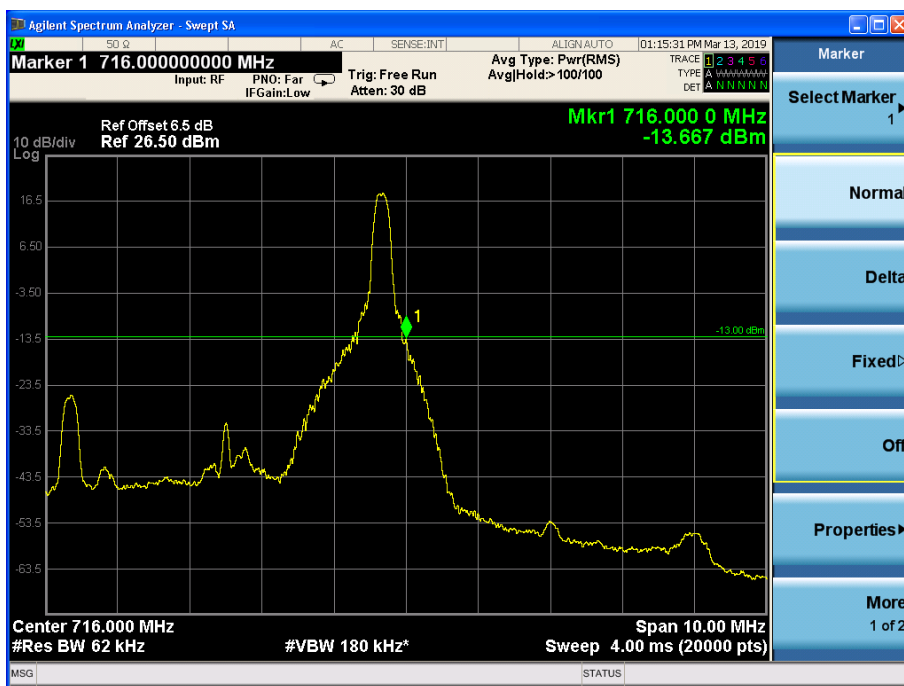


Fig.1

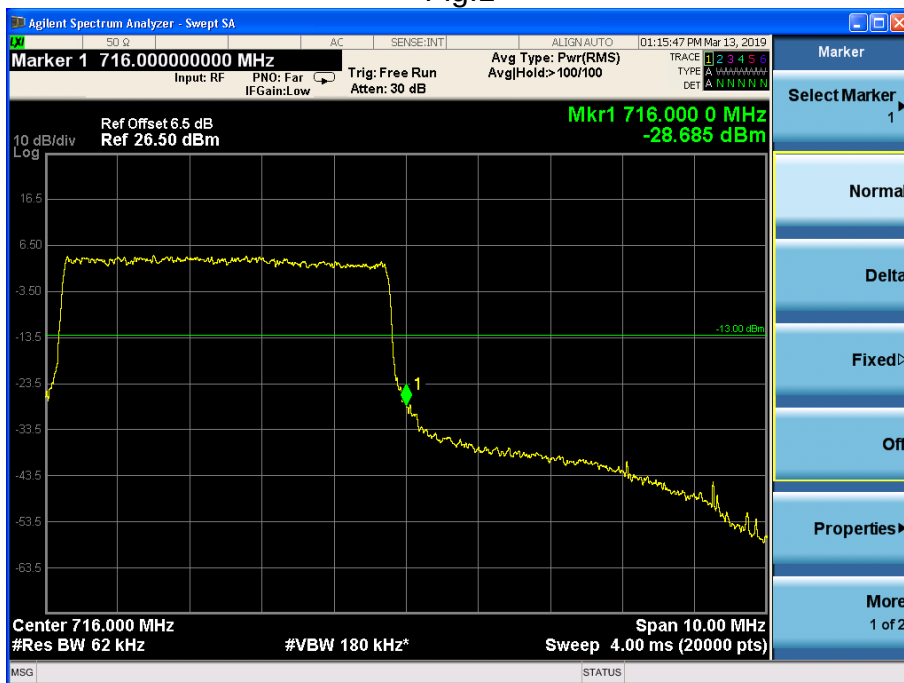


Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	704	23060	10	1	0	Fig.1
				50	0	Fig.4

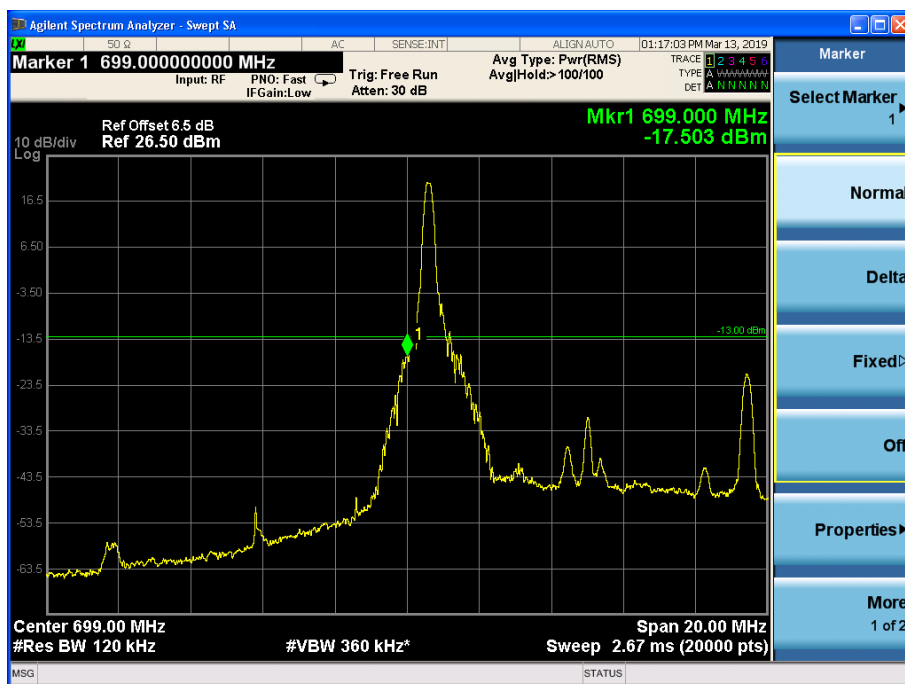


Fig.1

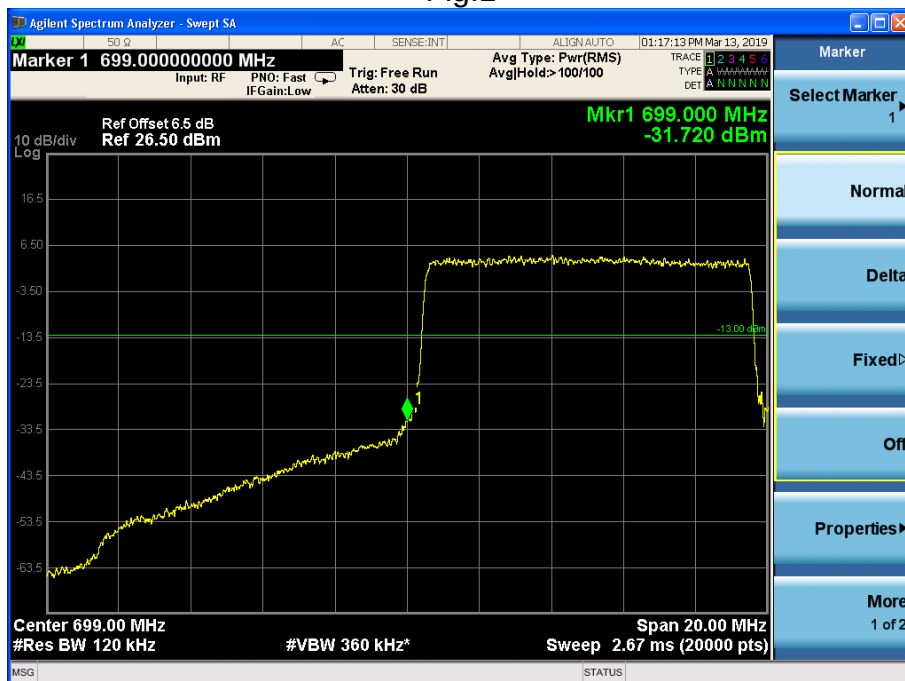


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
12	711	23130	10	1	49	Fig.1
				50	0	Fig.4

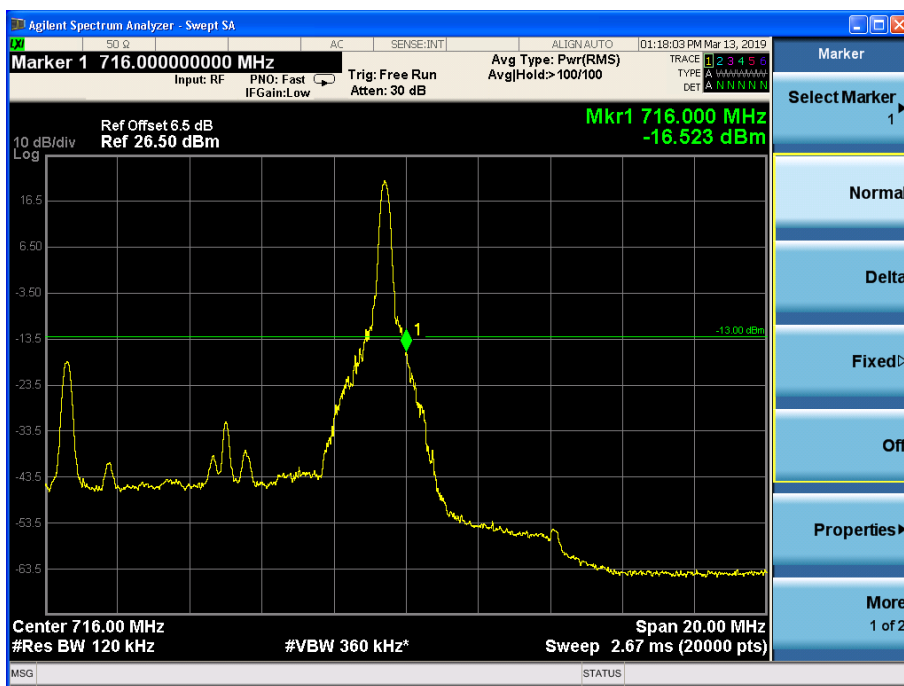


Fig.1

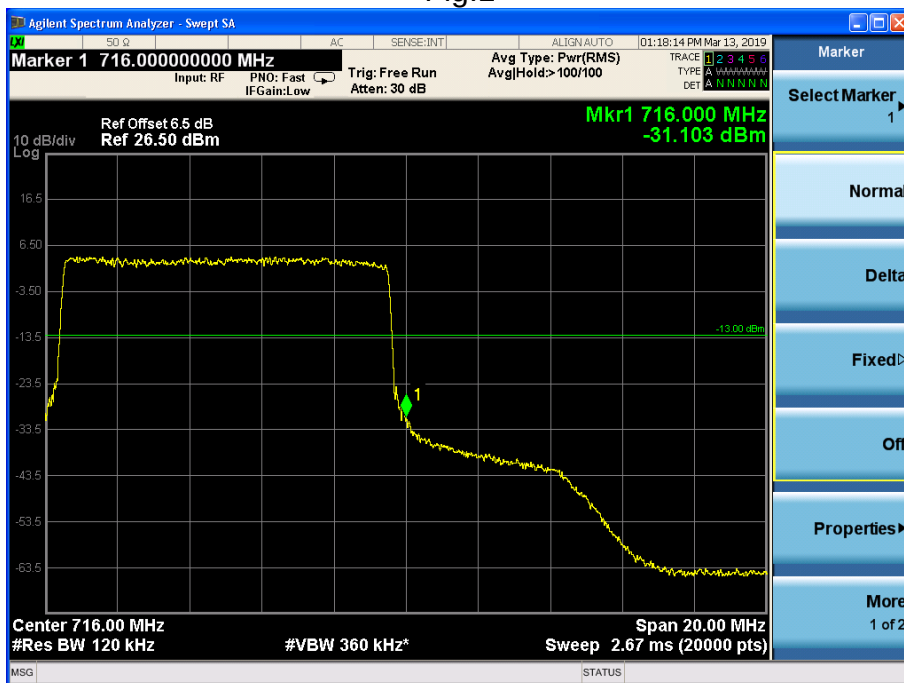


Fig.4

6 Frequency Stability

Test result:

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band12 Low Channel			
		1.4M	3M	5M	10M
-10	NV	0.098	0.005	0.014	0.106
0	NV	0.072	0.065	0.058	0.090
+10	NV	0.053	0.079	0.148	0.014
+20	NV	0.059	0.012	0.122	0.034
+30	NV	0.103	0.061	0.060	0.095
+40	NV	0.080	0.087	0.022	0.020
+50	NV	0.080	0.025	0.072	0.090
+55	NV	0.098	0.045	0.032	0.047
+20	LV	0.131	0.029	0.008	0.035
+20	HV	0.007	0.079	0.087	0.103

Temperature(°C)	Voltage	Test Result (ppm) Band12 High Channel			
		1.4M	3M	5M	10M
-10	NV	0.142	0.040	0.120	0.053
0	NV	0.123	0.096	0.143	0.118
+10	NV	0.005	0.019	0.124	0.091
+20	NV	0.010	0.021	0.148	0.095
+30	NV	0.093	0.019	0.051	0.081
+40	NV	0.068	0.050	0.135	0.092
+50	NV	0.093	0.066	0.035	0.155
+55	NV	0.071	0.018	0.072	0.058
+20	LV	0.114	0.113	0.146	0.108
+20	HV	0.105	0.103	0.076	0.040