

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 2

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1850.7	18607	1.4	1	0	23.46	
				1	5	23.46	
				3	2	22.68	
				6	0	22.57	
	1880	18900		1	0	23.44	
				1	5	23.44	
				3	2	22.70	
				6	0	22.61	
	1909.3	19193		1	0	23.45	
				1	5	23.45	
				3	2	22.76	
				6	0	22.68	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
16QAM	1850.7	18607	1.4	1	0	22.71	
				1	5	22.71	
				3	2	21.59	
				6	0	21.51	
	1880	18900		1	0	22.74	
				1	5	22.74	
				3	2	21.68	
				6	0	21.54	
	1909.3	19193		1	0	22.76	
				1	5	22.76	
				3	2	21.73	
				6	0	21.67	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
64QAM	1850.7	18607	1.4	1	0	22.46	
				1	5	22.46	
				3	2	21.57	
				6	0	21.49	
	1880	18900		1	0	22.48	
				1	5	22.48	
				3	2	21.60	
				6	0	21.53	
	1909.3	19193		1	0	22.53	
				1	5	22.53	
				3	2	21.64	
				6	0	21.60	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1851.5	18615	3	1	0	23.43	
				1	14	23.43	
				8	4	22.65	
				15	0	22.54	
	1880	18900		1	0	23.41	
				1	14	23.41	
				8	4	22.67	
				15	0	22.58	
	1908.5	19185		1	0	23.42	
				1	14	23.42	
				8	4	22.73	
				15	0	22.65	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
16QAM	1851.5	18615	3	1	0	22.68	
				1	14	22.68	
				8	4	21.56	
				15	0	21.48	
	1880	18900		1	0	22.71	
				1	14	22.71	
				8	4	21.65	
				15	0	21.51	
	1908.5	19185		1	0	22.73	
				1	14	22.73	
				8	4	21.70	
				15	0	21.64	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
64QAM	1851.5	18615	3	1	0	22.43	
				1	14	22.43	
				8	4	21.54	
				15	0	21.46	
	1880	18900		1	0	22.45	
				1	14	22.45	
				8	4	21.57	
				15	0	21.50	
	1908.5	19185		1	0	22.50	
				1	14	22.50	
				8	4	21.61	
				15	0	21.57	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1852.5	18625	5	1	0	23.42	
				1	24	23.42	
				12	6	22.64	
				25	0	22.53	
				1	0	23.40	
	1880	18900		1	24	23.40	
				12	6	22.66	
				25	0	22.57	
				1	0	23.41	
				1	24	23.41	
16QAM	1907.5	19175		12	6	22.72	
				25	0	22.64	
				1	0	23.41	
				1	24	23.41	
				12	6	22.72	
	1852.5	18625		25	0	21.47	
				1	0	22.70	
				1	24	22.70	
				12	6	21.64	
				25	0	21.50	
64QAM	1880	18900		1	0	22.72	
				1	24	22.72	
				12	6	21.69	
				25	0	21.63	
	1907.5	19175		1	0	22.42	
				1	24	22.42	
				12	6	21.53	
				25	0	21.45	
				1	0	22.44	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1855	18650	10	1	0	23.48	
				1	49	23.48	
				24	12	22.70	
				50	0	22.59	
				1	0	23.46	
	1880	18900		1	49	23.46	
				24	12	22.72	
				50	0	22.63	
				1	0	23.47	
				1	49	23.47	
16QAM	1905	19150		24	12	22.78	
				50	0	22.70	
				1	0	22.73	
				1	49	22.73	
				24	12	21.61	
	1855	18650		50	0	21.53	
				1	0	22.76	
				1	49	22.76	
				24	12	21.70	
				50	0	21.56	
64QAM	1880	18900		1	0	22.78	
				1	49	22.78	
				24	12	21.75	
				50	0	21.69	
	1905	19150		1	0	22.48	
				1	49	22.48	
				24	12	21.59	
				50	0	21.51	
				1	0	22.50	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1857.5	18675	15	1	0	23.52	
				1	74	23.52	
				40	18	22.74	
				75	0	22.63	
	1880	18900		1	0	23.50	
				1	74	23.50	
				40	18	22.76	
				75	0	22.67	
	1902.5	19125		1	0	23.51	
				1	74	23.51	
				40	18	22.82	
				75	0	22.74	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
16QAM	1857.5	18675	15	1	0	22.77	
				1	74	22.77	
				40	18	21.65	
				75	0	21.57	
	1880	18900		1	0	22.80	
				1	74	22.80	
				40	18	21.74	
				75	0	21.60	
	1902.5	19125		1	0	22.81	
				1	74	22.81	
				40	18	21.79	
				75	0	21.73	
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
64QAM	1857.5	18675	15	1	0	22.52	
				1	74	22.52	
				40	18	21.63	
				75	0	21.55	
	1880	18900		1	0	22.54	
				1	74	22.54	
				40	18	21.66	
				75	0	21.59	
	1902.5	19125		1	0	22.59	
				1	74	22.59	
				40	18	21.70	
				75	0	21.66	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	
QPSK	1860	18700	20	1	0	23.54	
				1	99	23.54	
				50	25	22.76	
				100	0	22.65	
				1	0	23.52	
	1880	18900		1	99	23.52	
				50	25	22.78	
				100	0	22.69	
				1	0	23.53	
				1	99	23.53	
16QAM	1900	19100		50	25	22.84	
				100	0	22.76	
				1	0	23.53	
				1	99	23.53	
				50	25	22.84	
	1860	18700		100	0	22.79	
				1	0	22.79	
				1	99	22.79	
				50	25	21.67	
				100	0	21.59	
64QAM	1880	18900		1	0	22.82	
				1	99	22.82	
				50	25	21.76	
				100	0	21.62	
				1	0	22.84	
	1900	19100		1	99	22.84	
				50	25	21.81	
				100	0	21.75	
				1	0	22.54	
				1	99	22.54	
16QAM	1860	18700		50	25	21.65	
				100	0	21.57	
				1	0	22.56	
				1	99	22.56	
				50	25	21.68	
	1880	18900		100	0	21.61	
				1	0	22.61	
				1	99	22.61	
				50	25	21.72	
				100	0	21.68	

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	
2	1850.7	18607	1.4	6	0	1.0782	Fig.1	1.0757	Fig.2	1.0780	Fig.3
2	1880.0	18900	1.4	6	0	1.0776	Fig.4	1.0799	Fig.5	1.0824	Fig.6
2	1909.3	19193	1.4	6	0	1.0793	Fig.7	1.0792	Fig.8	1.0788	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1850.7	18607	1.4	6	0	1.250	Fig.1	1.231	Fig.2	1.247	Fig.3
2	1880.0	18900	1.4	6	0	1.274	Fig.4	1.260	Fig.5	1.280	Fig.6
2	1909.3	19193	1.4	6	0	1.272	Fig.7	1.278	Fig.8	1.274	Fig.9

Fig.1



Fig.2

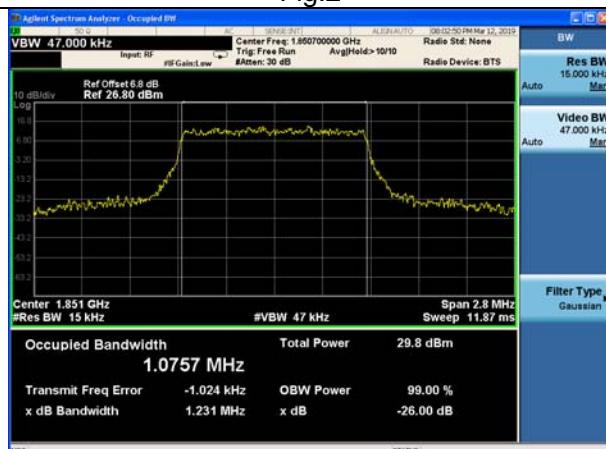


Fig.3



Fig.4

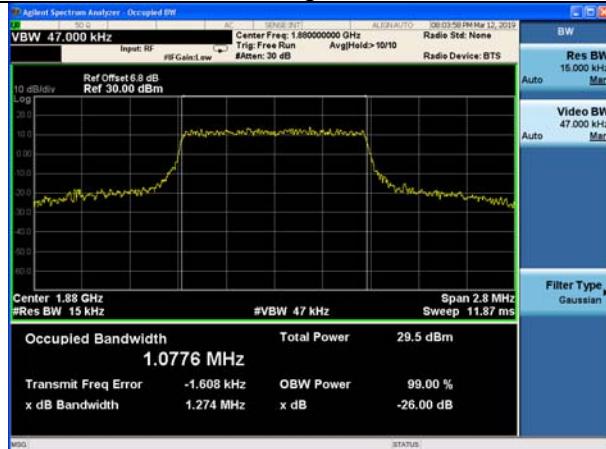


Fig.5

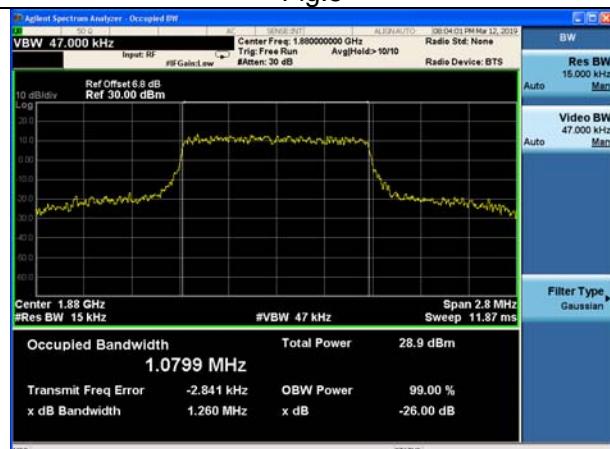


Fig.6

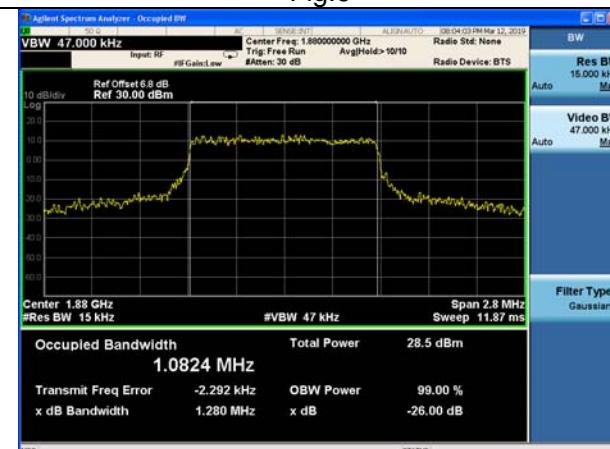


Fig.7

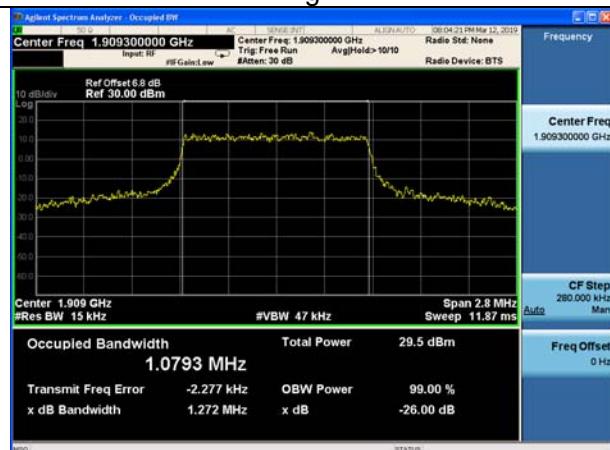


Fig.8

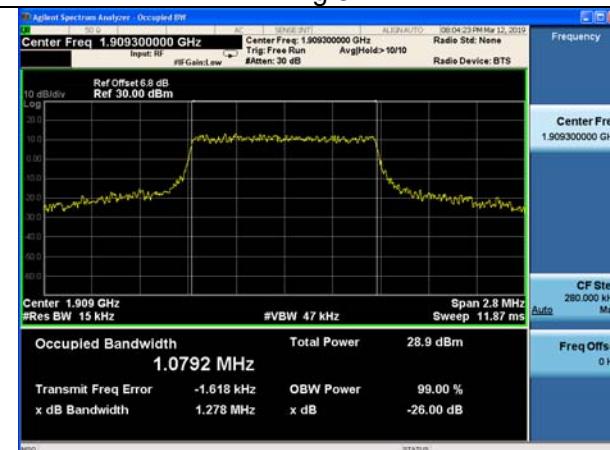
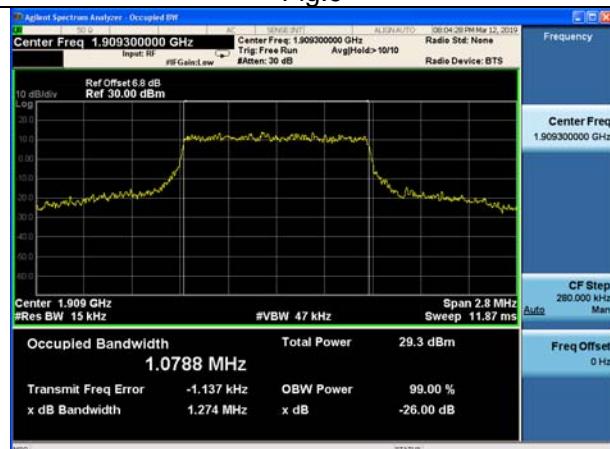


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1851.5	18615	3	15	0	2.6980	Fig.1	2.6798	Fig.2	2.7088	Fig.3
2	1880.0	18900	3	15	0	2.7013	Fig.4	2.7053	Fig.5	2.7051	Fig.6
2	1908.5	19185	3	15	0	2.6993	Fig.7	2.7000	Fig.8	2.7012	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1851.5	18615	3	15	0	2.913	Fig.1	2.890	Fig.2	2.907	Fig.3
2	1880.0	18900	3	15	0	2.911	Fig.4	2.902	Fig.5	2.914	Fig.6
2	1908.5	19185	3	15	0	2.931	Fig.7	2.916	Fig.8	2.914	Fig.9



Fig.5

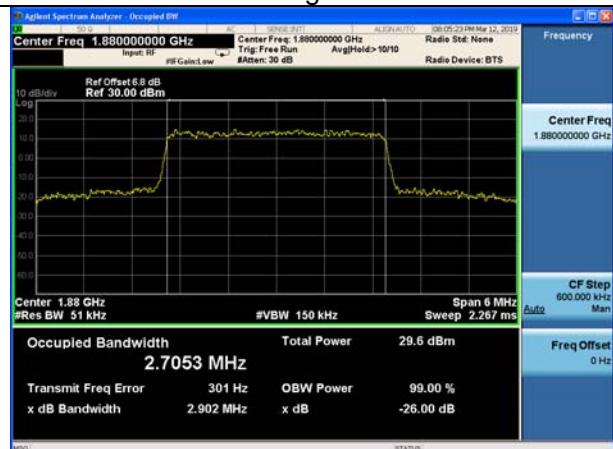


Fig.6

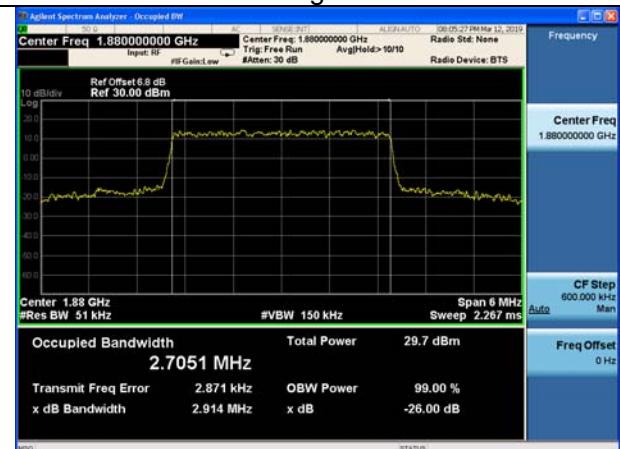


Fig.7

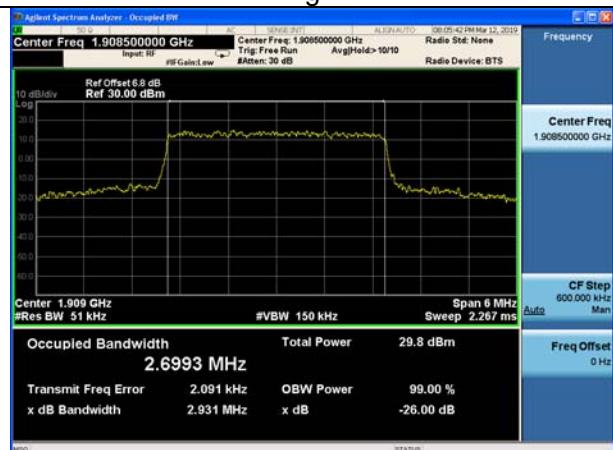


Fig.8

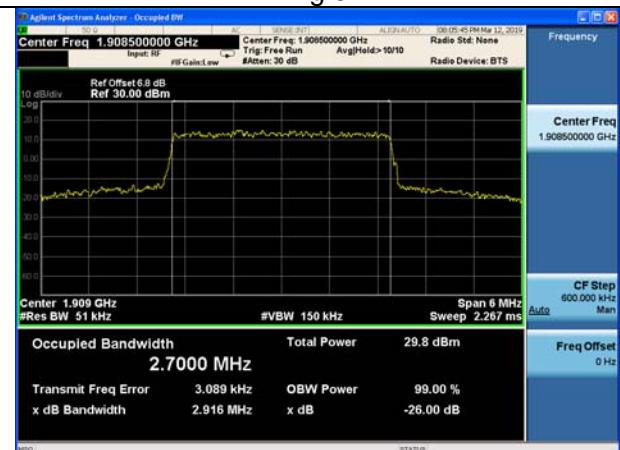
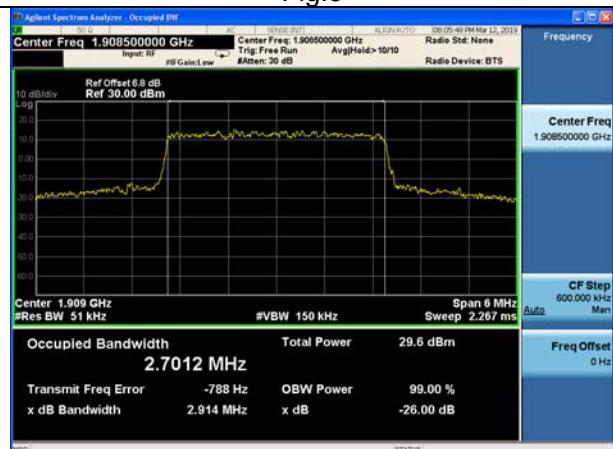


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1852.5	18625	5	25	0	4.4937	Fig.1	4.4864	Fig.2	4.4898	Fig.3
2	1880.0	18900	5	25	0	4.5027	Fig.4	4.4837	Fig.5	4.4917	Fig.6
2	1907.5	19175	5	25	0	4.4772	Fig.7	4.4931	Fig.8	4.4920	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1852.5	18625	5	25	0	5.086	Fig.1	4.983	Fig.2	5.012	Fig.3
2	1880.0	18900	5	25	0	5.110	Fig.4	5.140	Fig.5	5.022	Fig.6
2	1907.5	19175	5	25	0	5.043	Fig.7	5.085	Fig.8	5.143	Fig.9

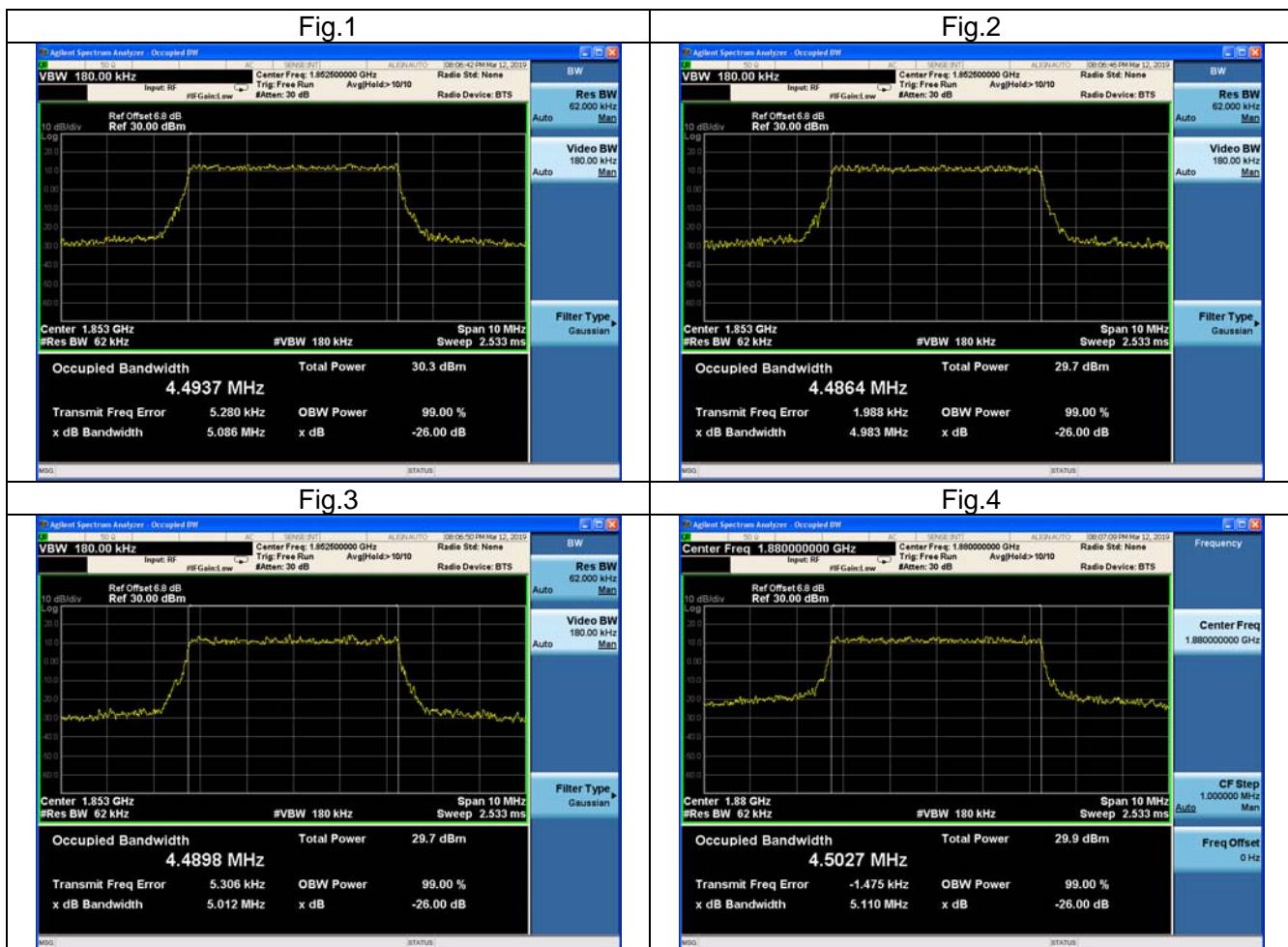


Fig.5



Fig.6

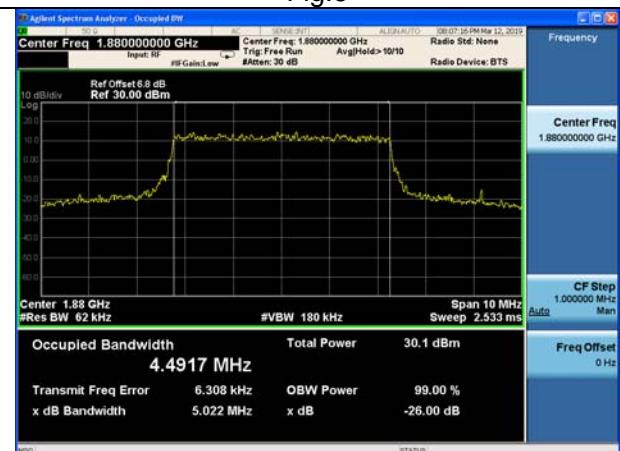


Fig.7

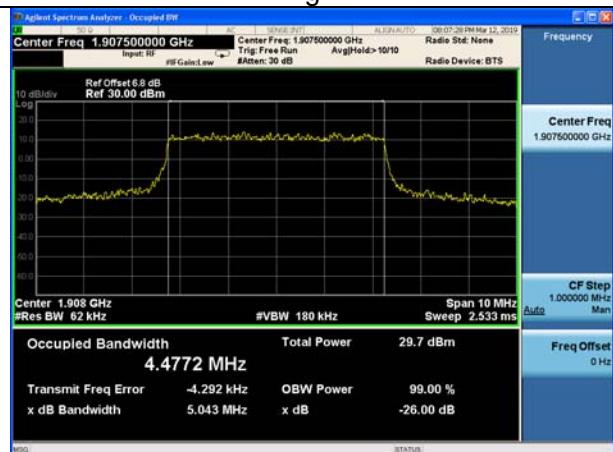


Fig.8

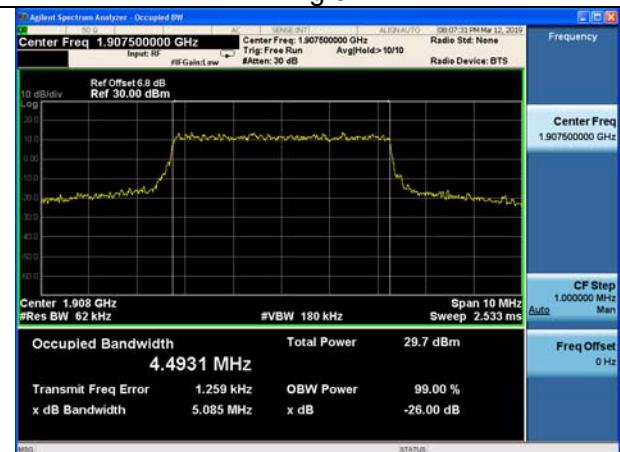
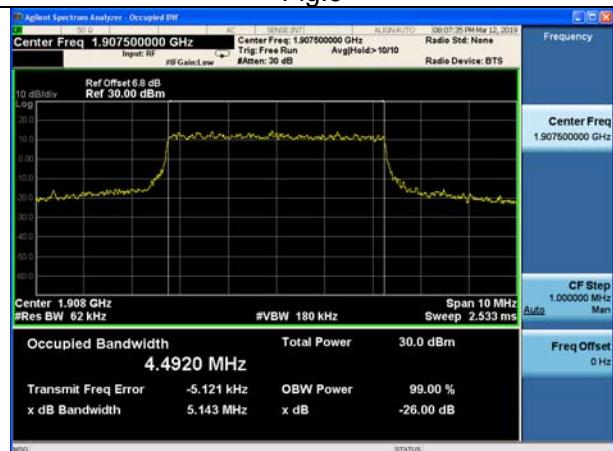


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1855	18650	10	50	0	8.9616	Fig.1	8.9551	Fig.2	8.9590	Fig.3
2	1880	18900	10	50	0	8.9826	Fig.4	8.9736	Fig.5	8.9802	Fig.6
2	1905	19150	10	50	0	8.9609	Fig.7	8.9465	Fig.8	8.9408	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1855	18650	10	50	0	9.940	Fig.1	9.873	Fig.2	9.901	Fig.3
2	1880	18900	10	50	0	9.782	Fig.4	9.841	Fig.5	9.862	Fig.6
2	1905	19150	10	50	0	9.928	Fig.7	9.944	Fig.8	9.806	Fig.9



Fig.5

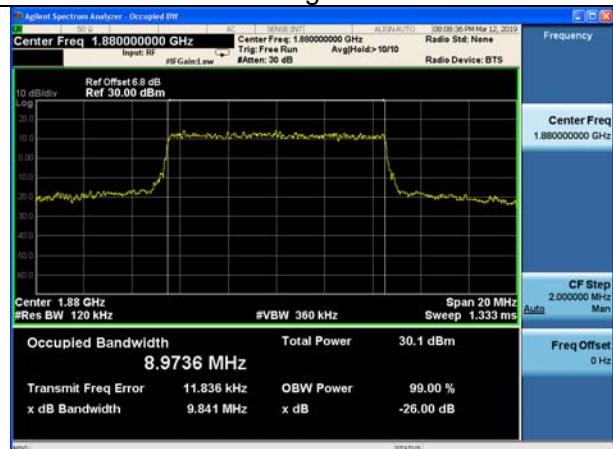


Fig.6

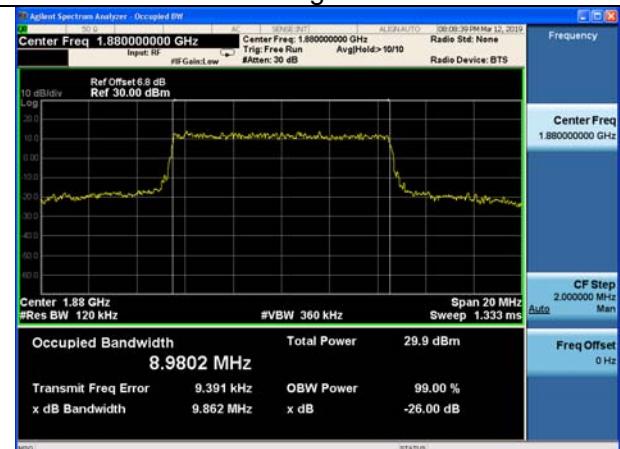


Fig.7

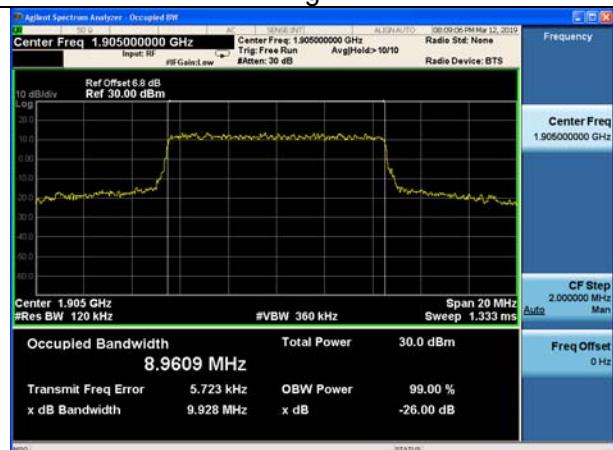


Fig.8

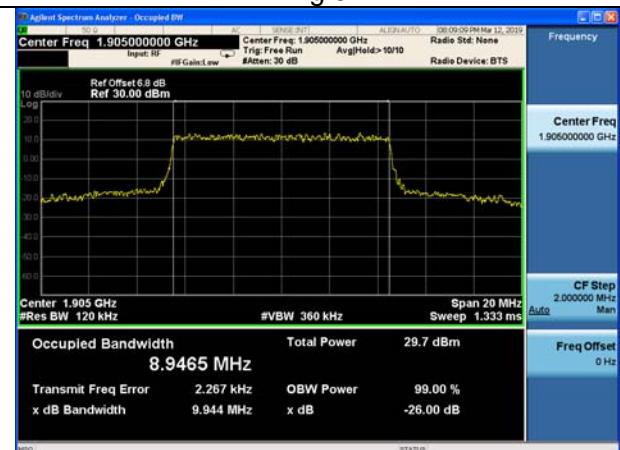
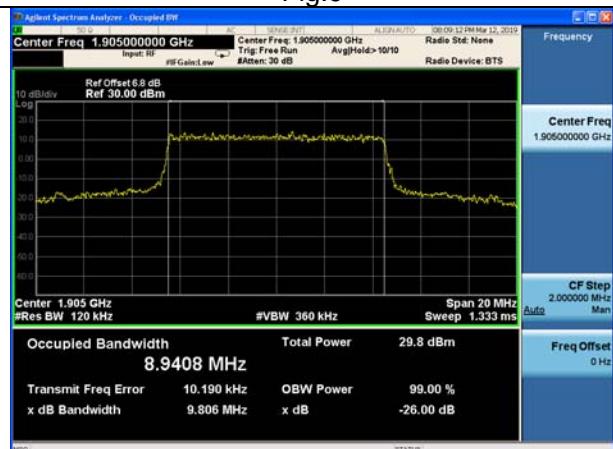


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1857.5	18675	15	75	0	13.423	Fig.1	13.434	Fig.2	13.426	Fig.3
2	1880.0	18900	15	75	0	13.465	Fig.4	13.445	Fig.5	13.437	Fig.6
2	1902.5	19125	15	75	0	13.423	Fig.7	13.459	Fig.8	13.454	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1857.5	18675	15	75	0	14.54	Fig.1	14.63	Fig.2	14.75	Fig.3
2	1880.0	18900	15	75	0	14.53	Fig.4	14.74	Fig.5	14.75	Fig.6
2	1902.5	19125	15	75	0	14.75	Fig.7	14.82	Fig.8	14.78	Fig.9



Fig.5

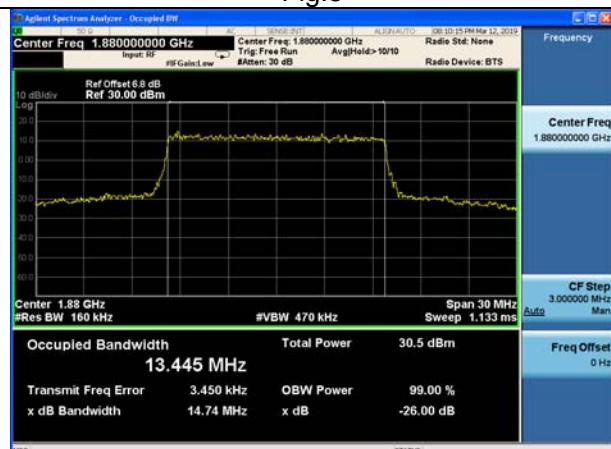


Fig.6

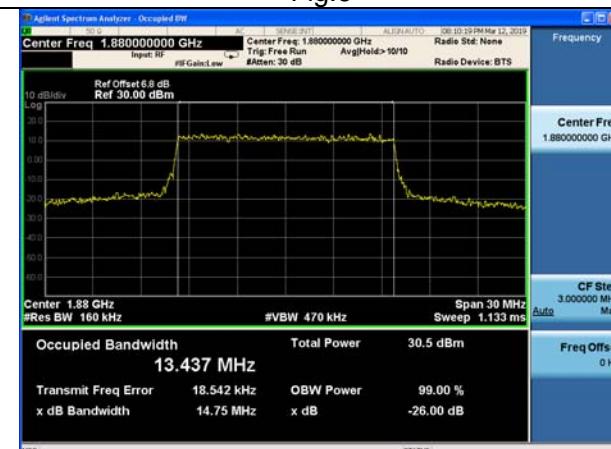


Fig.7

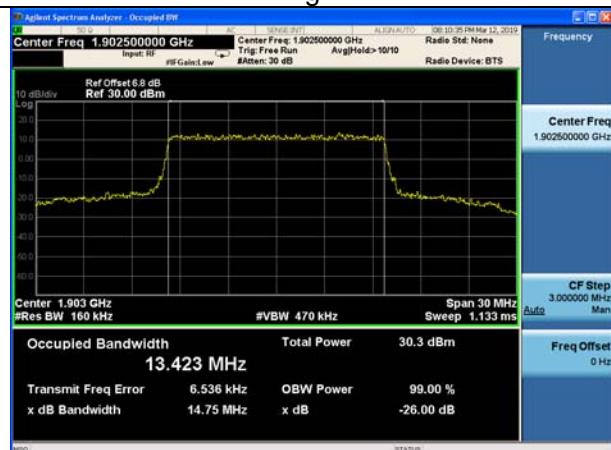


Fig.8

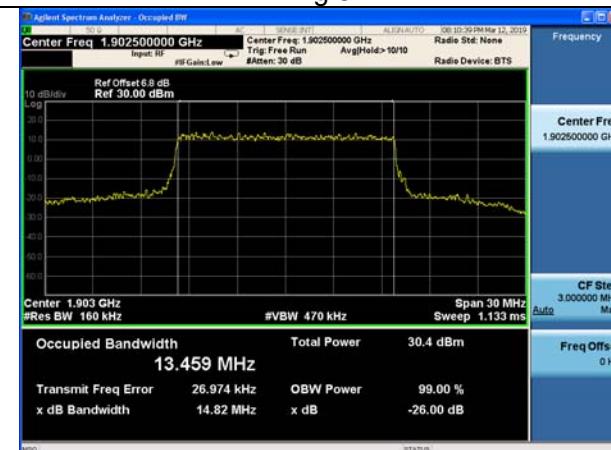
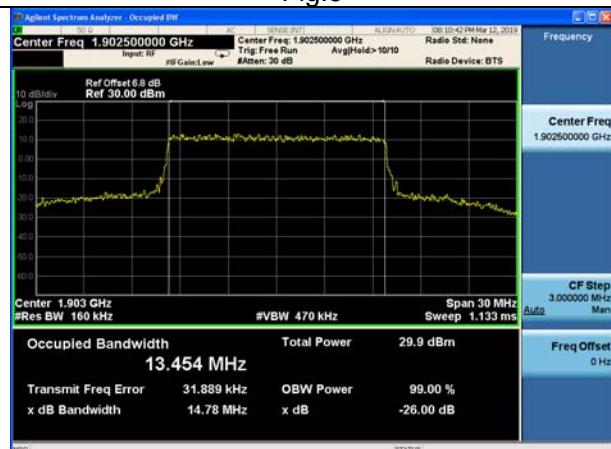


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1860	18700	20	100	0	17.908	Fig.1	17.910	Fig.2	17.915	Fig.3
2	1880	18900	20	100	0	17.868	Fig.4	17.880	Fig.5	17.853	Fig.6
2	1900	19100	20	100	0	17.904	Fig.7	17.834	Fig.8	17.871	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1860	18700	20	100	0	19.34	Fig.1	19.28	Fig.2	19.19	Fig.3
2	1880	18900	20	100	0	19.27	Fig.4	19.41	Fig.5	19.41	Fig.6
2	1900	19100	20	100	0	19.33	Fig.7	19.37	Fig.8	19.35	Fig.9



Fig.5

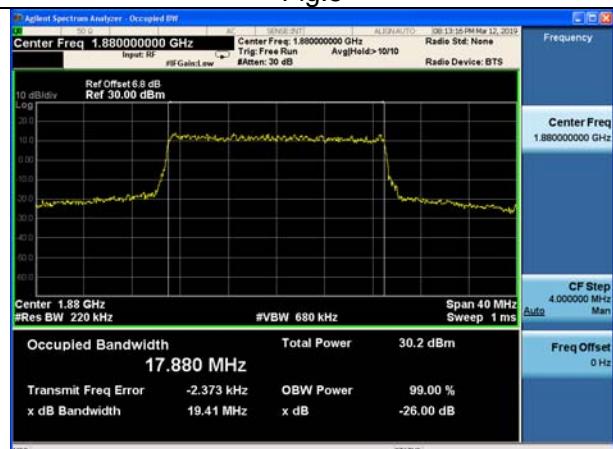


Fig.6

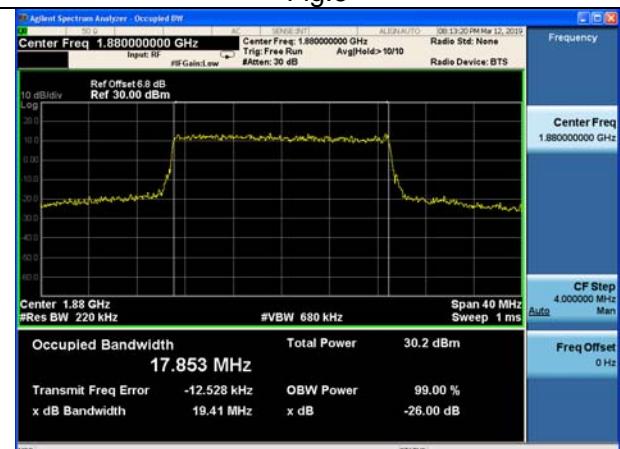


Fig.7

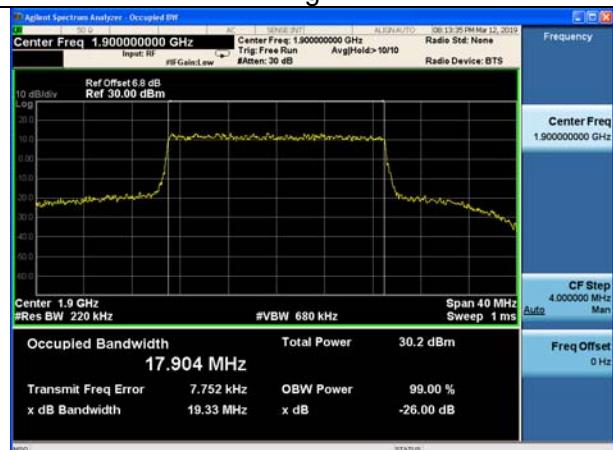


Fig.8

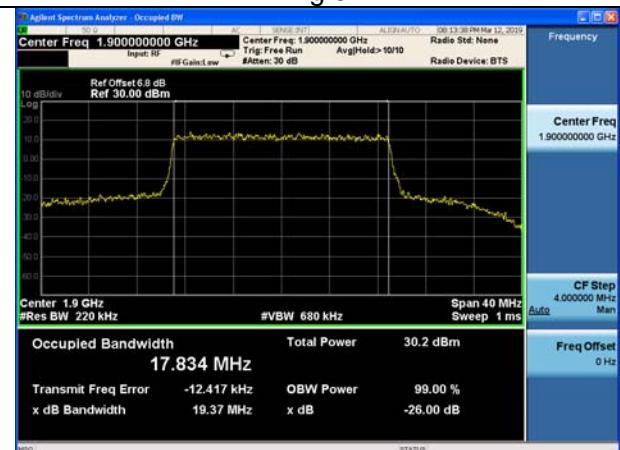
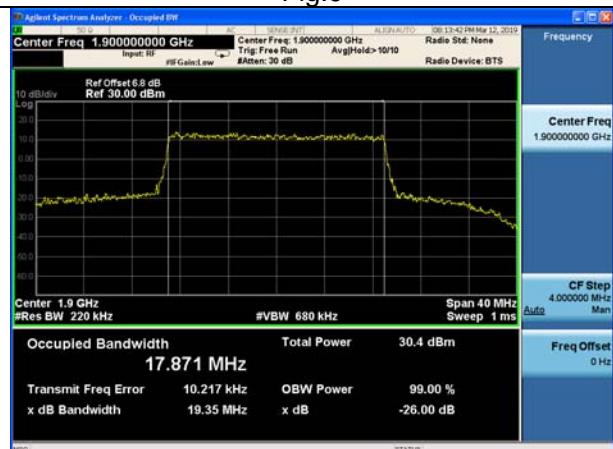


Fig.9



3 Peak-Average Ratio

Test result:



Peak-Average Ratio Plot(1.4MHz BW,QPSK,Band 2-mid Channel)



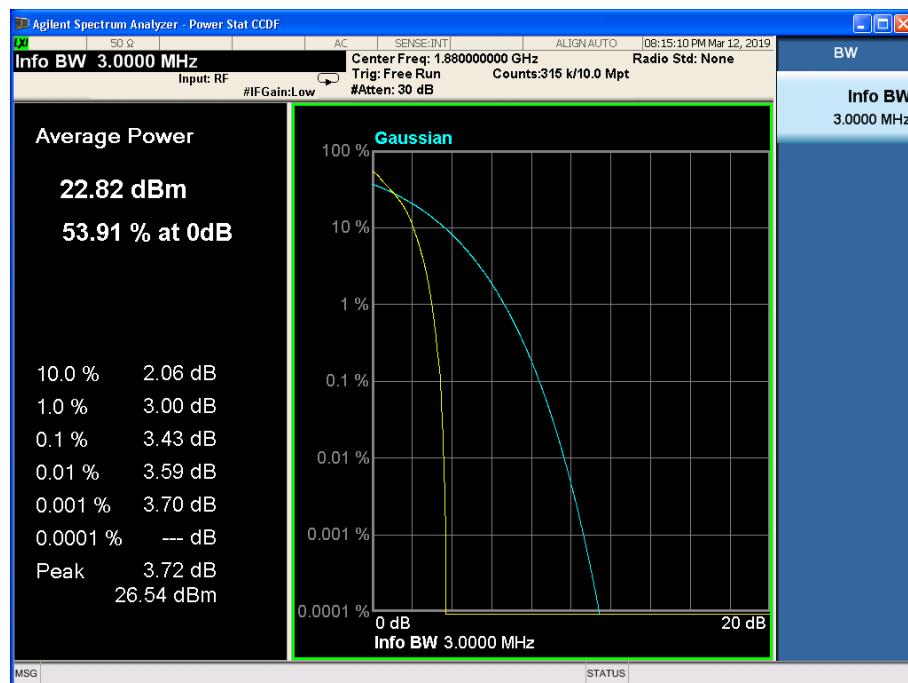
Peak-Average Ratio Plot(1.4MHz BW,16QAM,Band 2-mid Channel)



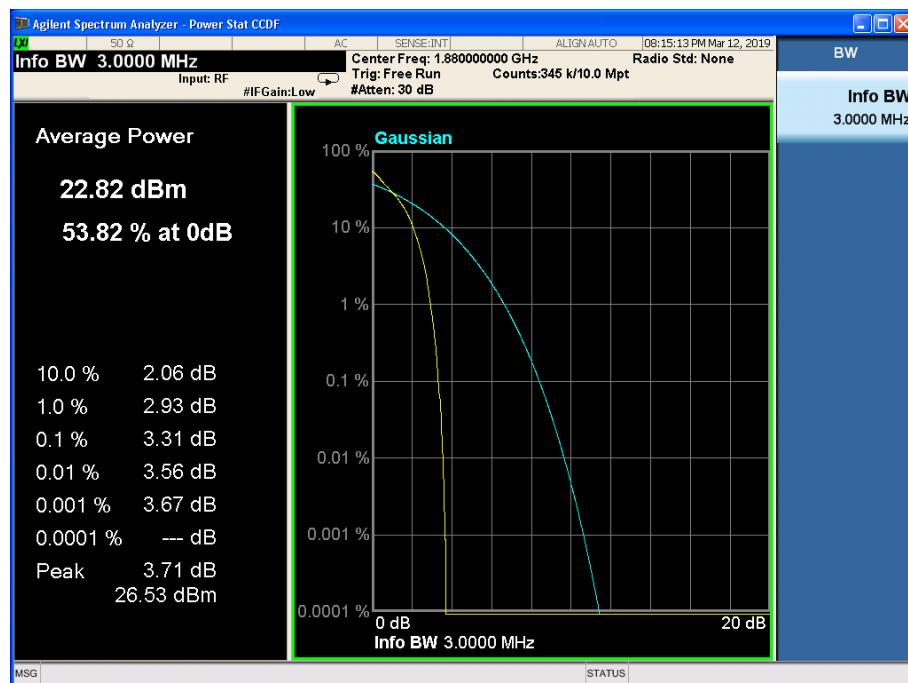
Peak-Average Ratio Plot(1.4MHz BW,64QAM,Band 2-mid Channel)



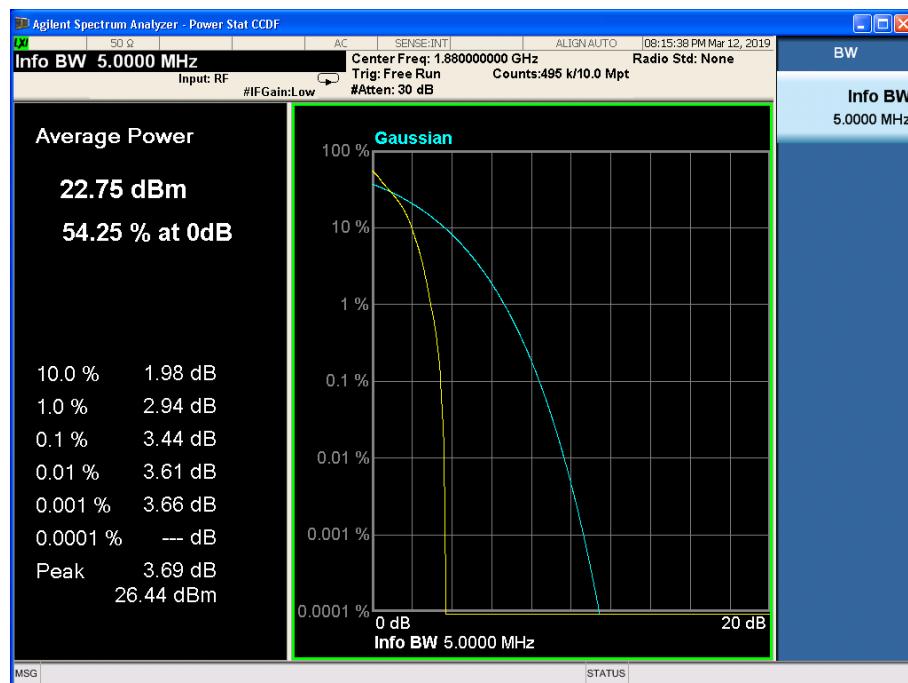
Peak-Average Ratio Plot(3MHz BW,QPSK,Band 2-mid Channel)



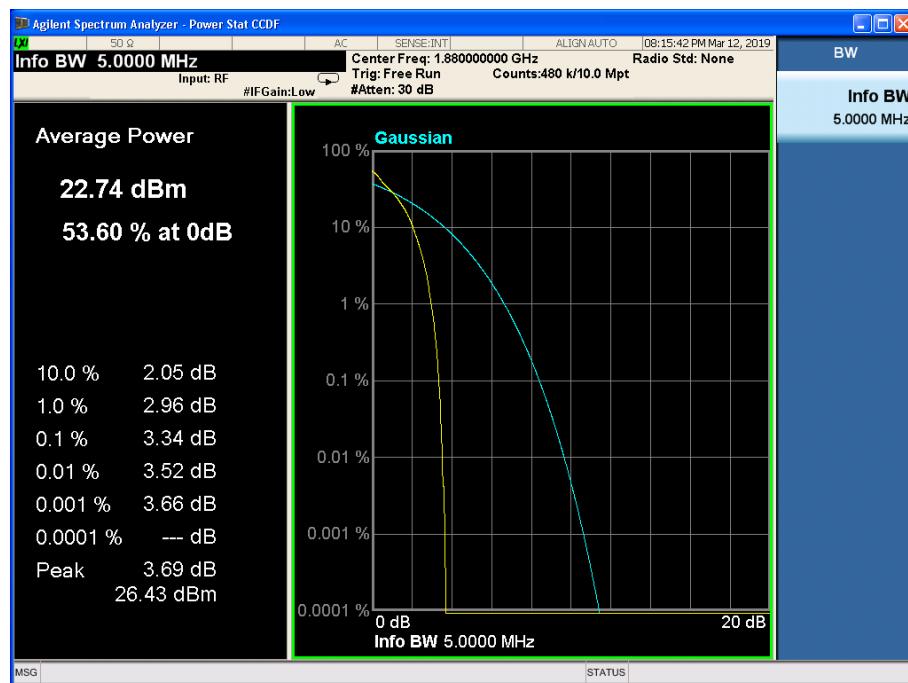
Peak-Average Ratio Plot(3MHz BW,16QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(3MHz BW,64QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(5MHz BW,QPSK,Band 2-mid Channel)



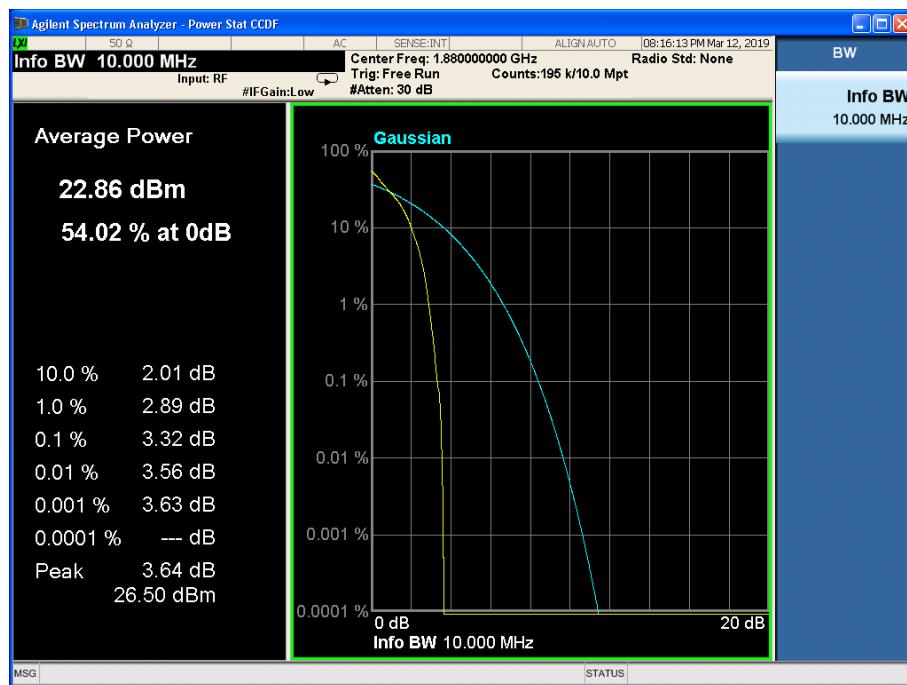
Peak-Average Ratio Plot(5MHz BW,16QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(5MHz BW,64QAM,Band 2-mid Channel)



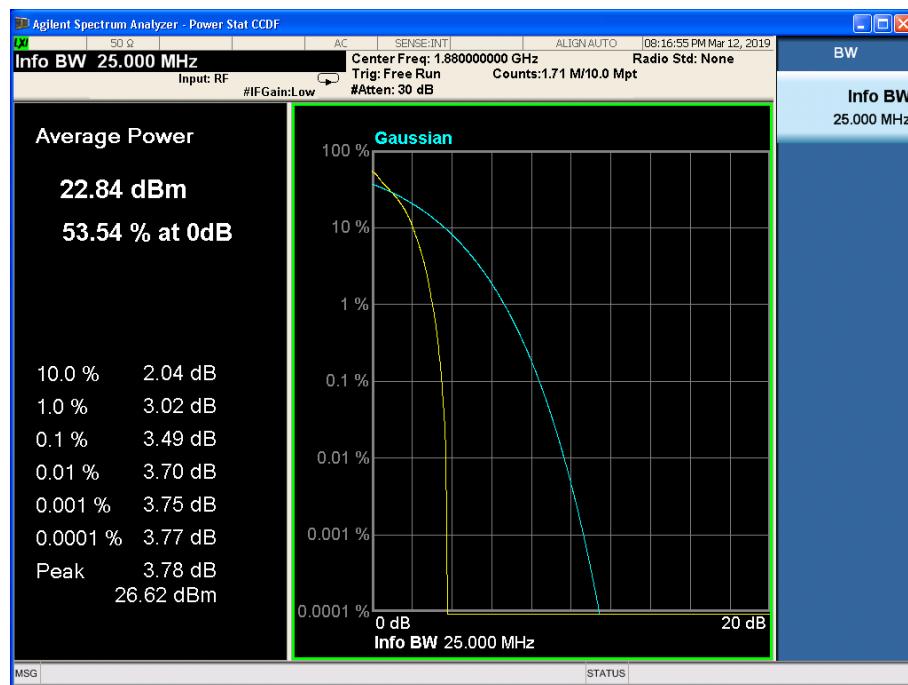
Peak-Average Ratio Plot(10MHz BW,QPSK,Band 2-mid Channel)



Peak-Average Ratio Plot(10MHz BW,16QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(10MHz BW,64QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(15MHz BW,QPSK,Band 2-mid Channel)



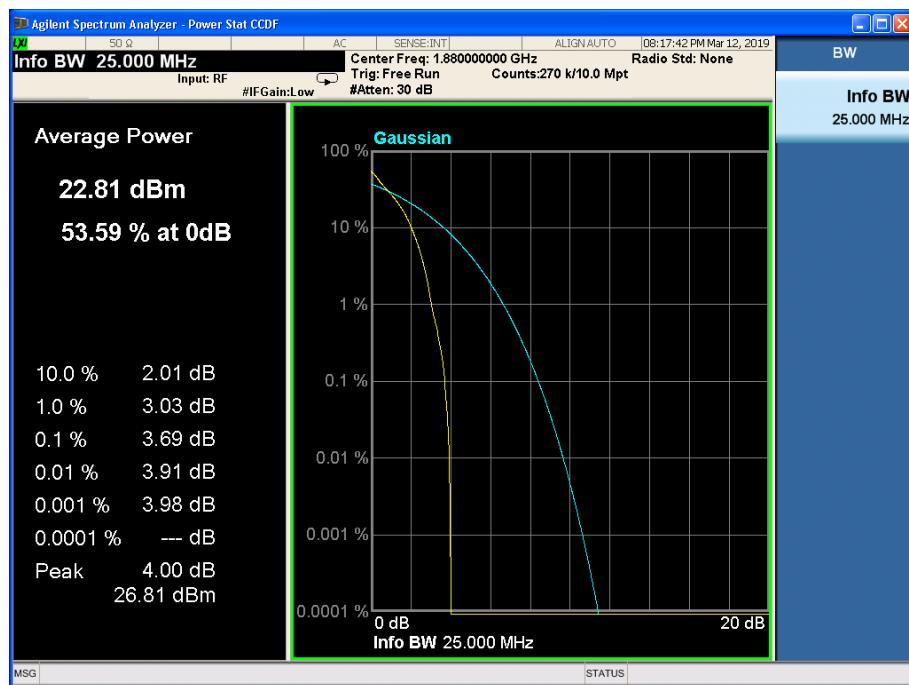
Peak-Average Ratio Plot(15MHz BW,16QAM,Band 2-mid Channel)



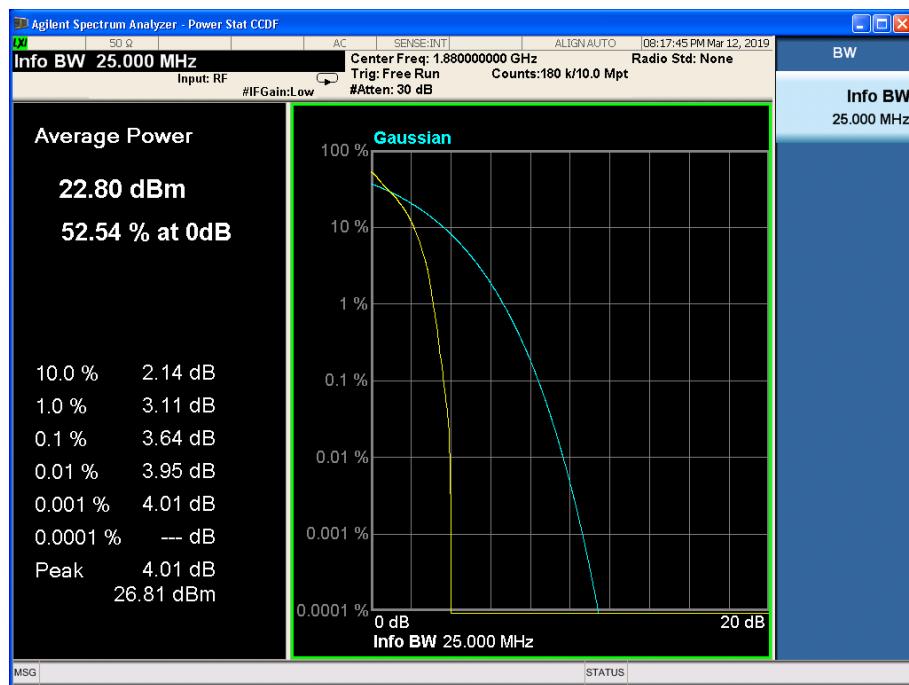
Peak-Average Ratio Plot(15MHz BW,64QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(20MHz BW,QPSK,Band 2-mid Channel)



Peak-Average Ratio Plot(20MHz BW,16QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(20MHz BW,64QAM,Band 2-mid Channel)

4 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
2	1860	18700	20	1	0	Fig.1



Fig.1

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
2	1880	18900	20	1	0	Fig.1



Fig.1

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
2	1900	19100	20	1	0	Fig.1

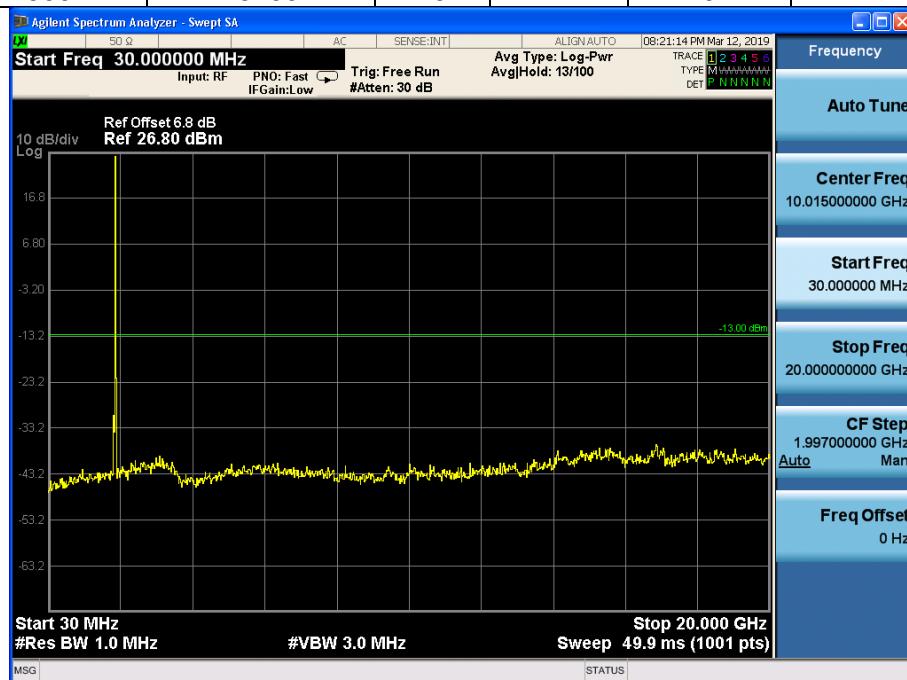


Fig.1

5 Band Edges Compliance

Test result

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1850.7	18607	1.4	1	0	Fig.1
				6	0	Fig.4

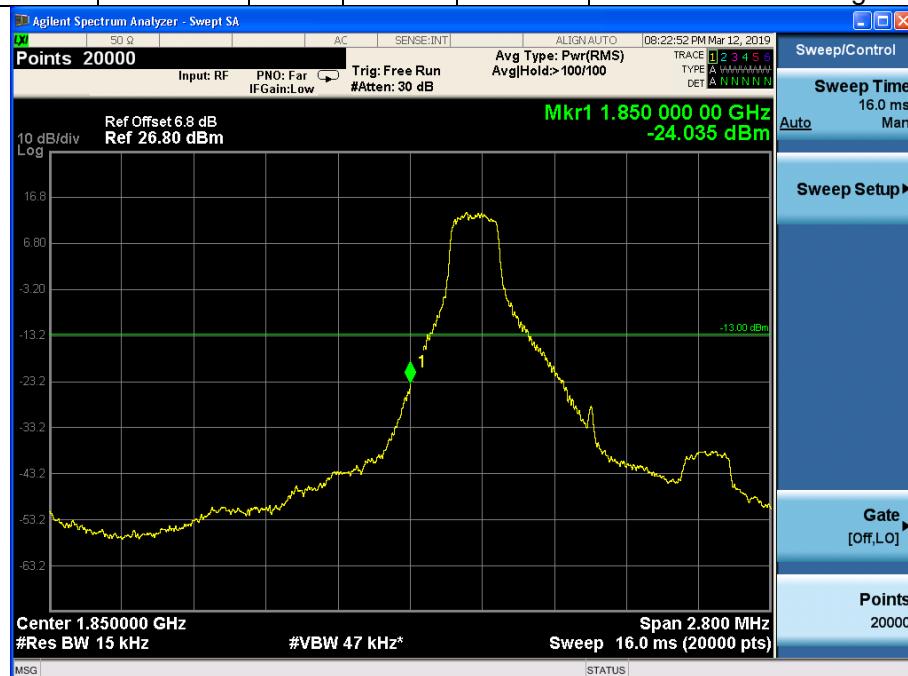


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1909.3	19193	1.4	1	5	Fig.1
				6	0	Fig.4

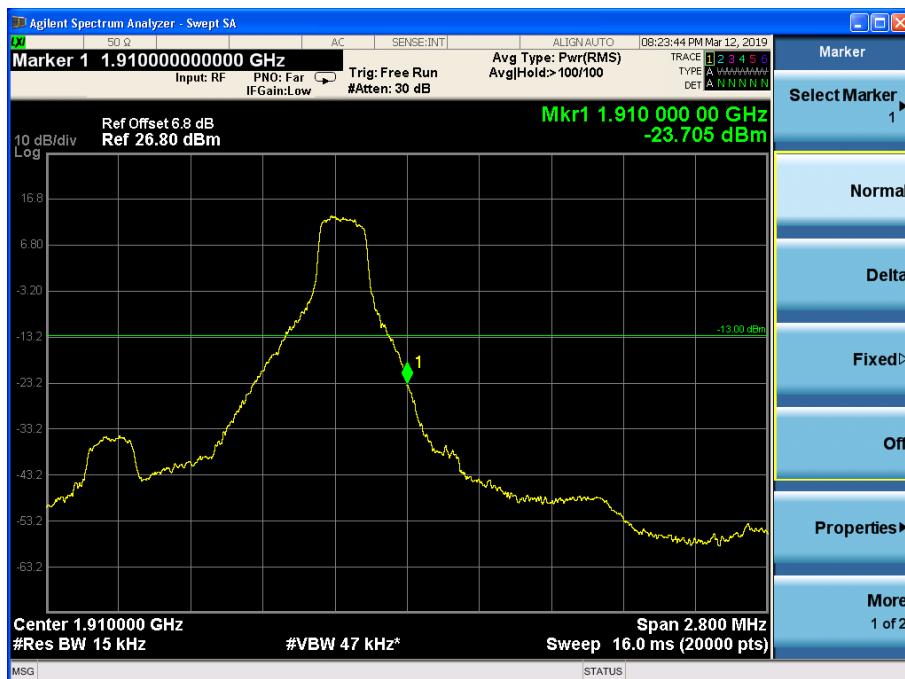


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1851.5	18615	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 Edges Plot
						QPSK
2	1908.5	19185	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 Edges Plot
						QPSK
2	1852.5	18625	5	1	0	Fig.1
				25	0	Fig.4

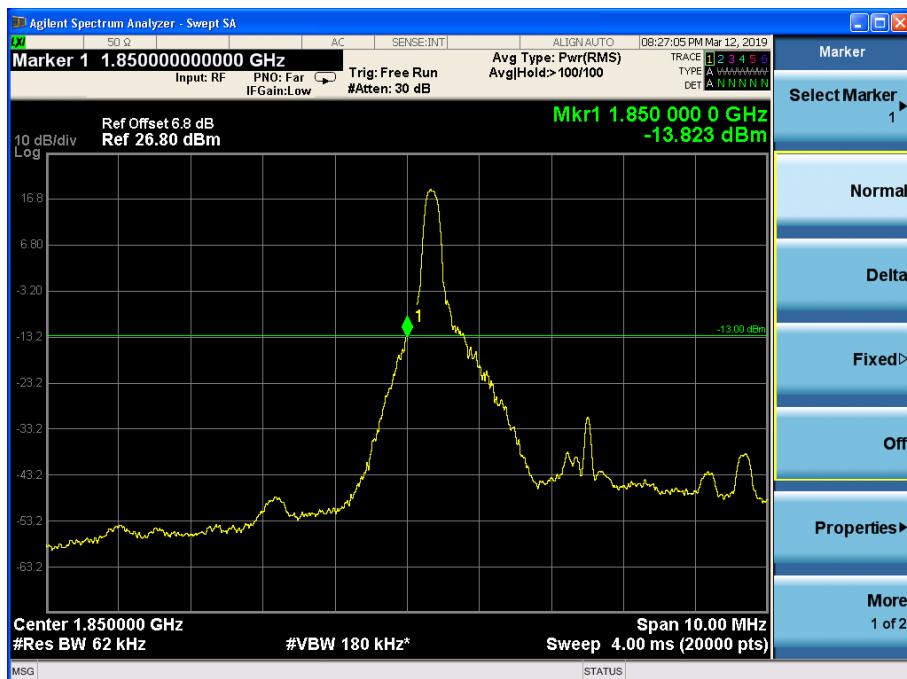


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1907.5	19175	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 Edges Plot
						QPSK
2	1855	18650	10	1	0	Fig.1
				50	0	Fig.4



Fig.1

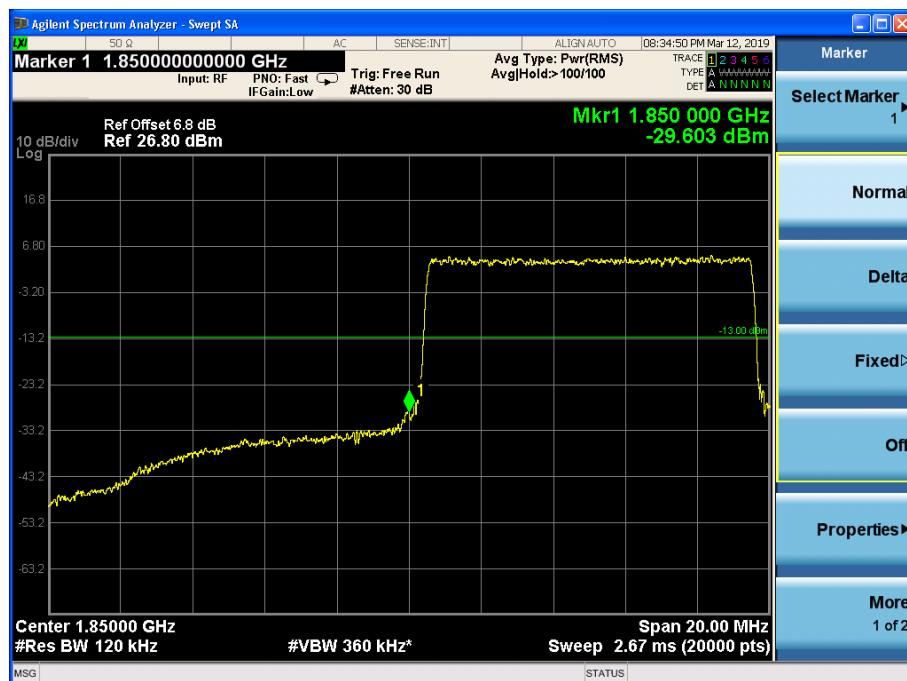


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1905	19150	10	1	49	Fig.1
				50	0	Fig.4



Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1857.5	18675	15	1	0	Fig.1
				75	0	Fig.4

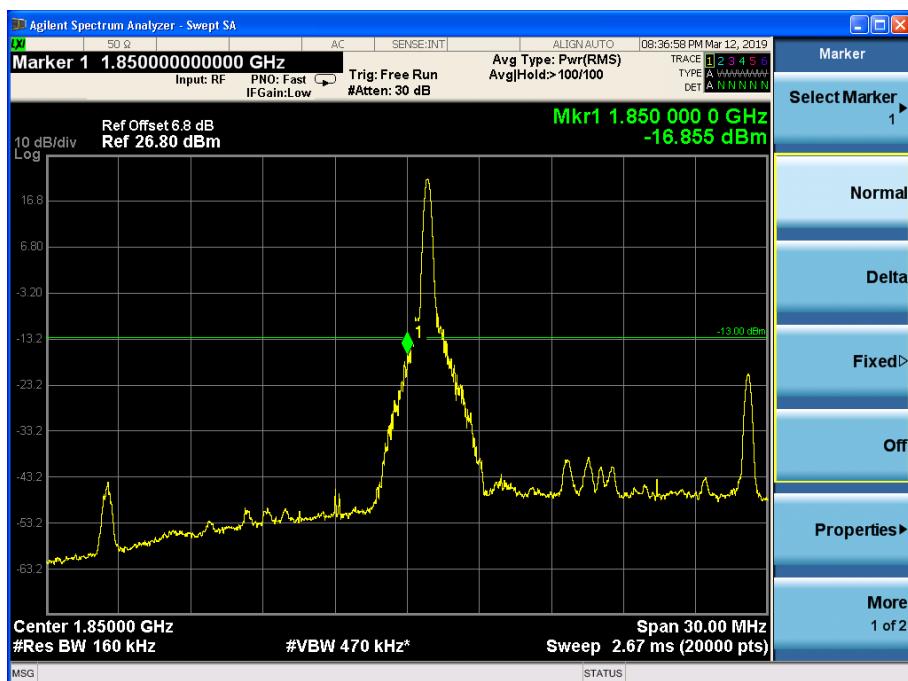


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1902.5	19125	15	1	74	Fig.1
				75	0	Fig.4



Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1860	18700	20	1	0	Fig.1
				100	0	Fig.4

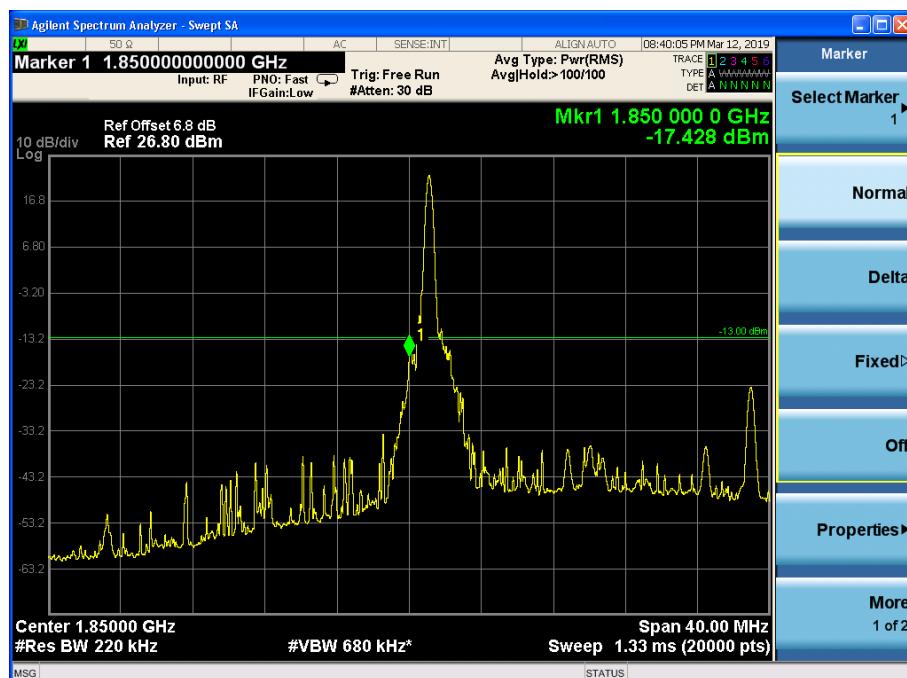


Fig.1



Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1900	19100	20	1	99	Fig.1
				100	0	Fig.4



Fig.1



Fig.4

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band2 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.102	0.001	0.023	0.119	0.136	0.096
0	NV	0.004	0.026	0.011	0.110	0.009	0.118
+10	NV	0.021	0.058	0.086	0.028	0.064	0.117
+20	NV	0.015	0.048	0.074	0.042	0.016	0.116
+30	NV	0.102	0.107	0.011	0.064	0.040	0.068
+40	NV	0.067	0.020	0.002	0.119	0.058	0.025
+50	NV	0.065	0.018	0.148	0.019	0.099	0.047
+55	NV	0.032	0.067	0.073	0.007	0.138	0.058
+20	LV	0.043	0.004	0.077	0.068	0.135	0.038
+20	HV	0.094	0.101	0.125	0.086	0.043	0.067

Temperature(°C)	Voltage	Test Result (ppm) Band2 High Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.056	0.090	0.061	0.031	0.032	0.135
0	NV	0.070	0.049	0.105	0.005	0.097	0.157
+10	NV	0.006	0.098	0.146	0.017	0.111	0.001
+20	NV	0.108	0.103	0.088	0.026	0.098	0.067
+30	NV	0.081	0.011	0.091	0.092	0.050	0.111
+40	NV	0.032	0.104	0.053	0.083	0.015	0.150
+50	NV	0.107	0.004	0.107	0.100	0.012	0.111
+55	NV	0.108	0.071	0.085	0.118	0.087	0.049
+20	LV	0.104	0.011	0.088	0.006	0.025	0.053
+20	HV	0.067	0.049	0.066	0.043	0.129	0.086