APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 5

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	824.7	20407	1.4	1	0	23.29
				1	5	23.29
				3	2	22.36
				6	0	22.22
	836.5	20525		1	0	23.26
				1	5	23.26
				3	2	22.32
				6	0	22.14
	848.3	20643		1	0	23.21
				1	5	23.21
				3	2	22.27
				6	0	22.15
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	824.7	20407	1.4	1	0	22.64
				1	5	22.64
				3	2	21.30
				6	0	21.15
	836.5	20525		1	0	22.56
				1	5	22.56
				3	2	21.23
				6	0	21.11
	848.3	20643		1	0	22.55
				1	5	22.55
				3	2	21.24
				6	0	21.10
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	824.7	20407	1.4	1	0	22.57
				1	5	22.64
				3	2	21.24
				6	0	21.20
	836.5	20525		1	0	22.61
				1	5	22.61
				3	2	21.19
				6	0	21.17
	848.3	20643		1	0	22.60
				1	5	22.60
				3	2	21.17
				6	0	21.15

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	825.5	20415	3	1	0	23.21
				1	14	23.21
				8	4	22.28
				15	0	22.14
	836.5	20525		1	0	23.18
				1	14	23.18
				8	4	22.24
				15	0	22.12
	847.5	20635		1	0	23.19
				1	14	23.19
				8	4	22.25
				15	0	22.13
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	825.5	20415	3	1	0	22.62
				1	14	22.62
				8	4	21.28
				15	0	21.17
	836.5	20525		1	0	22.58
				1	14	22.58
				8	4	21.28
				15	0	21.16
	847.5	20635		1	0	22.60
				1	14	22.60
				8	4	21.29
				15	0	21.15
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	825.5	20415	3	1	0	22.62
				1	14	22.57
				8	4	21.17
				15	0	21.13
	836.5	20525		1	0	22.54
				1	14	22.54
				8	4	21.12
				15	0	21.10
	847.5	20635		1	0	22.53
				1	14	22.53
				8	4	21.10
				15	0	21.08

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	826.5	20425	5	1	0	23.24
				1	24	23.24
				12	6	22.31
				25	0	22.17
	836.5	20525		1	0	23.21
				1	24	23.21
				12	6	22.27
				25	0	22.13
	846.5	20625		1	0	23.19
				1	24	23.19
				12	6	22.25
				25	0	22.13
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	826.5	20425	5	1	0	22.62
				1	24	22.62
				12	6	21.28
				25	0	21.19
	836.5	20525		1	0	22.60
				1	24	22.60
				12	6	21.27
				25	0	21.15
	846.5	20625		1	0	22.59
				1	24	22.59
				12	6	21.28
				25	0	21.14
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	826.5	20425	5	1	0	22.61
				1	24	22.60
				12	6	21.20
				25	0	21.16
	836.5	20525		1	0	22.57
				1	24	22.57
				12	6	21.15
				25	0	21.13
	846.5	20625		1	0	22.56
				1	24	22.56
				12	6	21.13
				25	0	21.11

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	829	20450	10	1	0	23.32
				1	49	23.32
				24	12	22.39
				50	0	22.25
	836.5	20525		1	0	23.29
				1	49	23.29
				24	12	22.35
				50	0	22.21
	844	20600		1	0	23.28
				1	49	23.28
				24	12	22.34
				50	0	22.22
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
16QAM	829	20450	10	1	0	22.71
				1	49	22.71
				24	12	21.37
				50	0	21.26
	836.5	20525		1	0	22.67
				1	49	22.67
				24	12	21.34
				50	0	21.22
	844	20600		1	0	22.66
				1	49	22.66
				24	12	21.35
				50	0	21.21
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	829	20450	10	1	0	22.68
				1	49	22.68
				24	12	21.28
				50	0	21.24
	836.5	20525		1	0	22.65
				1	49	22.65
				24	12	21.23
				50	0	21.21
	844	20600		1	0	22.64
				1	49	22.64
				24	12	21.21
				50	0	21.19

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	
5	824.7	20407	1.4	6	0	1.0784	Fig.1	1.0770	Fig.2	1.0776	Fig.3
5	836.5	20525	1.4	6	0	1.0771	Fig.4	1.0755	Fig.5	1.0762	Fig.6
5	848.3	20643	1.4	6	0	1.0754	Fig.7	1.0773	Fig.8	1.0816	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
5	824.7	20407	1.4	6	0	1.248	Fig.1	1.236	Fig.2	1.243	Fig.3
5	836.5	20525	1.4	6	0	1.240	Fig.4	1.229	Fig.5	1.232	Fig.6
5	848.3	20643	1.4	6	0	1.219	Fig.7	1.236	Fig.8	1.245	Fig.9

Fig.1

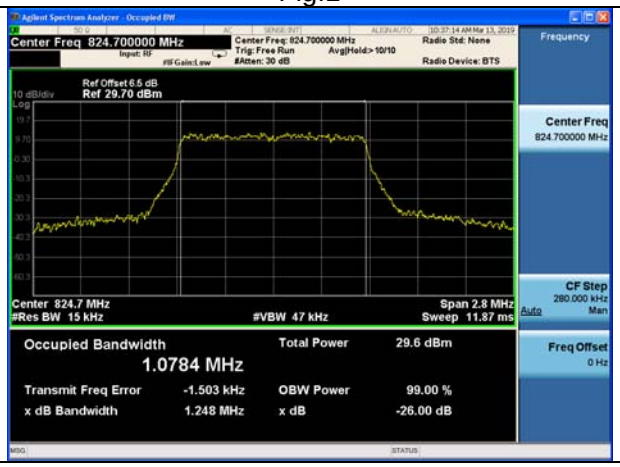


Fig.2

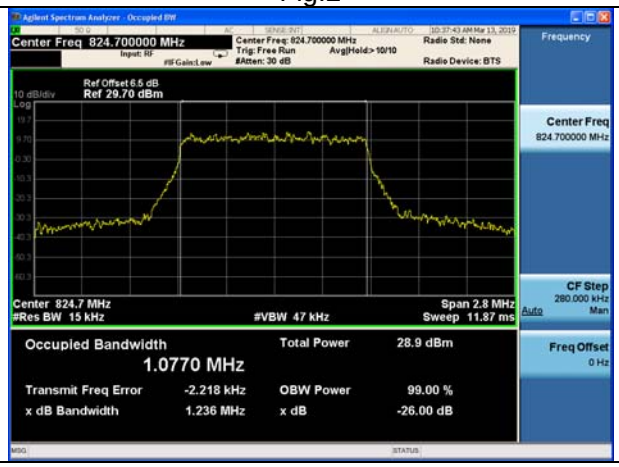


Fig.3

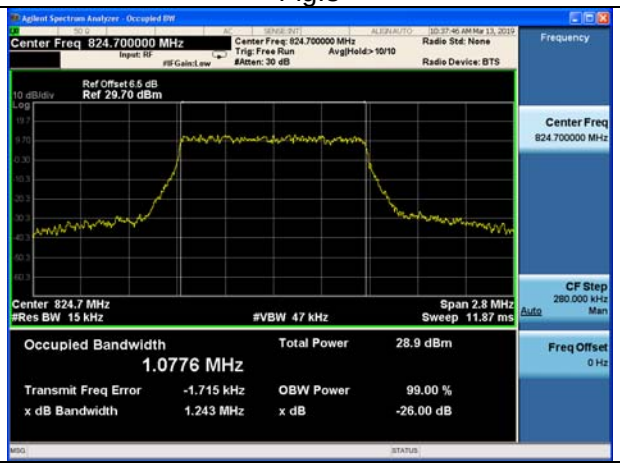


Fig.4

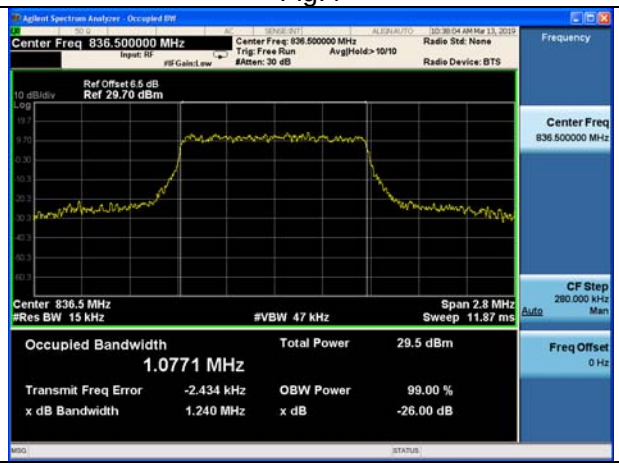


Fig.5

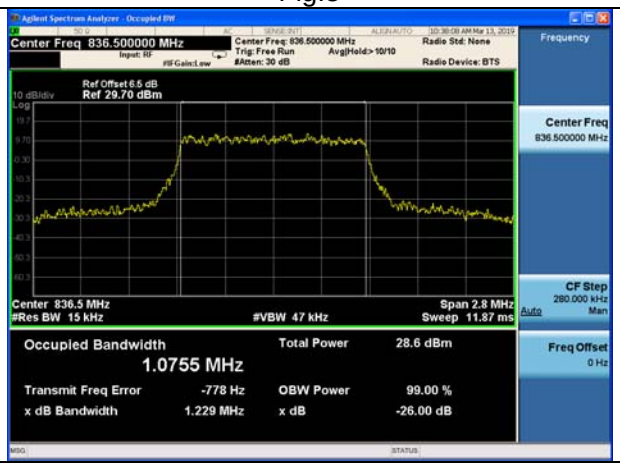


Fig.6

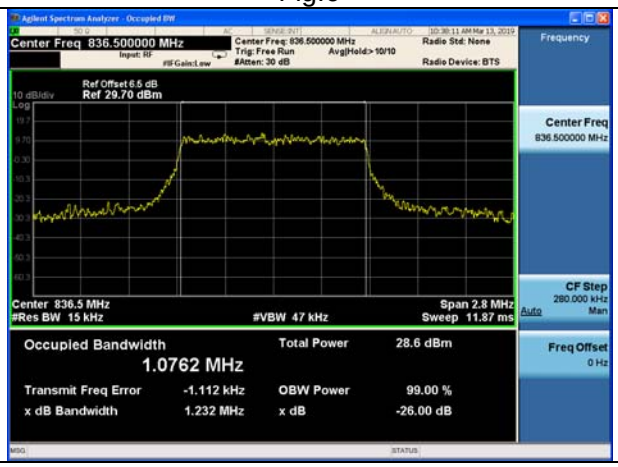


Fig.7

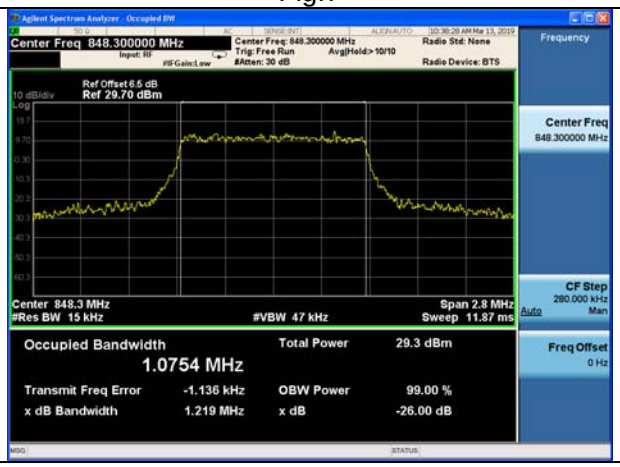


Fig.8

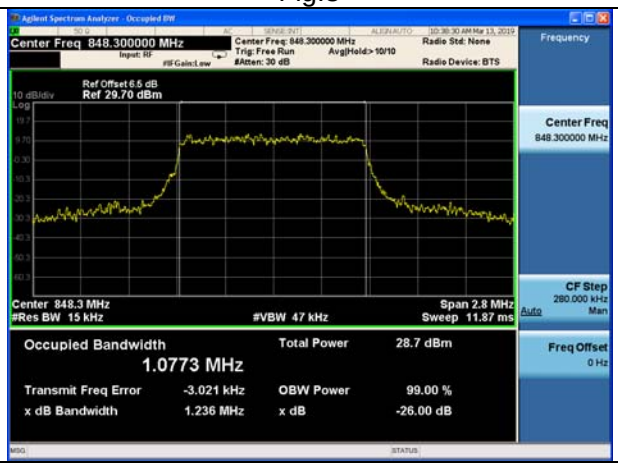
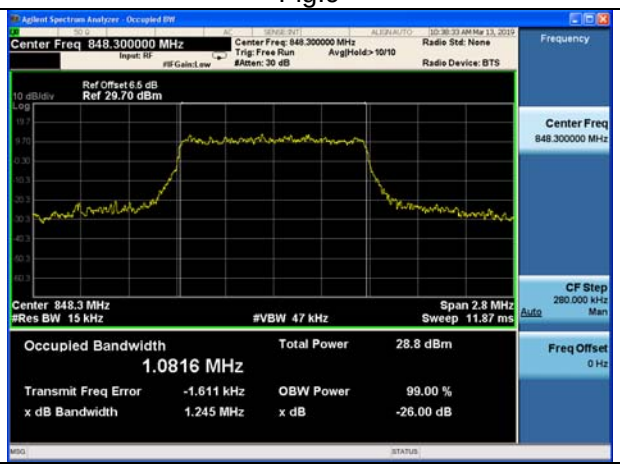


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
5	825.5	20415	3	15	0	2.6968	Fig.1	2.6968	Fig.2	2.6900	Fig.3
5	836.5	20525	3	15	0	2.6946	Fig.4	2.6922	Fig.5	2.6900	Fig.6
5	847.5	20635	3	15	0	2.6972	Fig.7	2.6980	Fig.8	2.6937	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
5	825.5	20415	3	15	0	2.899	Fig.1	2.890	Fig.2	2.907	Fig.3
5	836.5	20525	3	15	0	2.898	Fig.4	2.924	Fig.5	2.903	Fig.6
5	847.5	20635	3	15	0	2.876	Fig.7	2.882	Fig.8	2.904	Fig.9

Fig.1

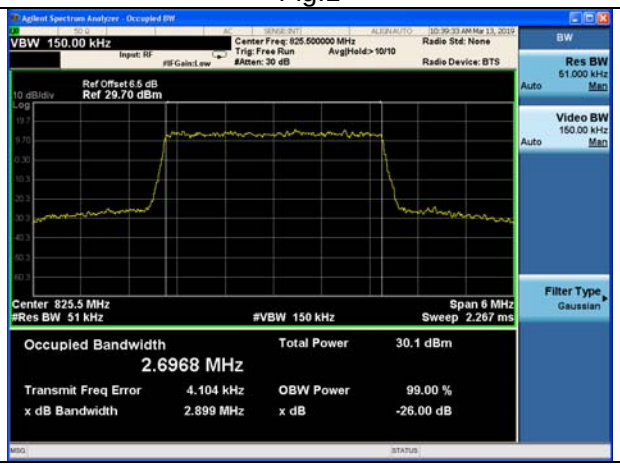


Fig.2

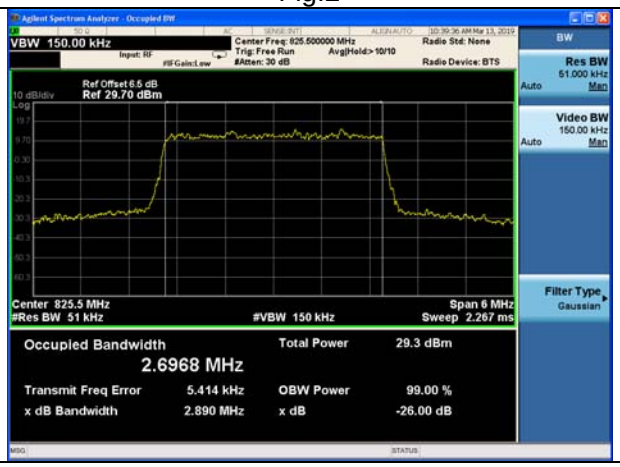


Fig.3

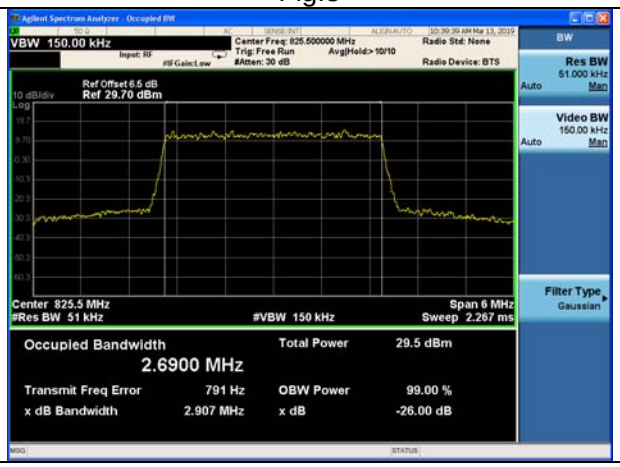


Fig.4

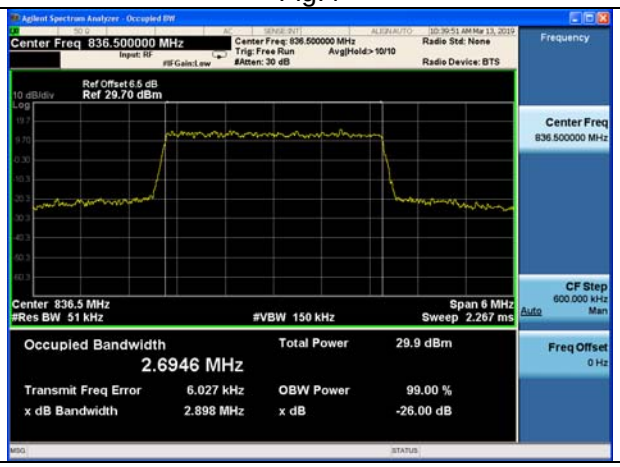


Fig.5

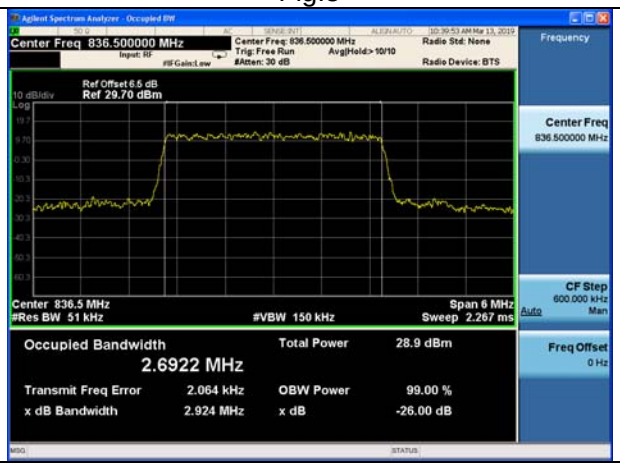


Fig.6

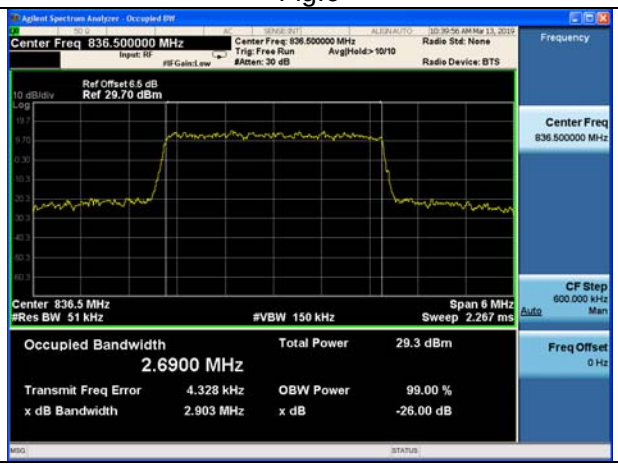


Fig.7

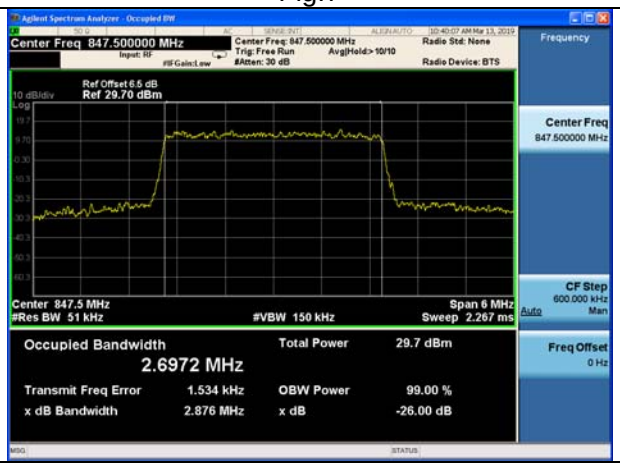


Fig.8

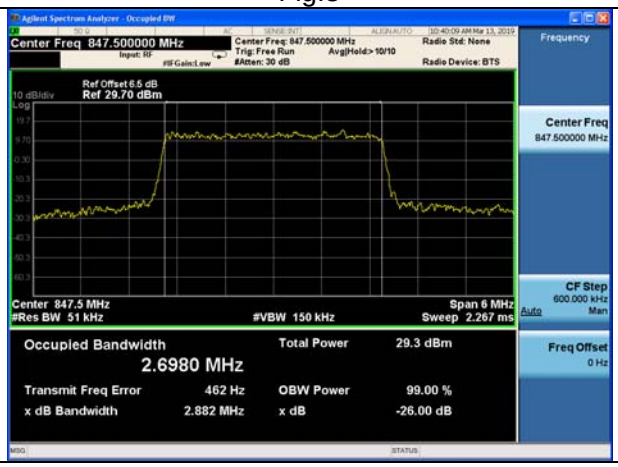
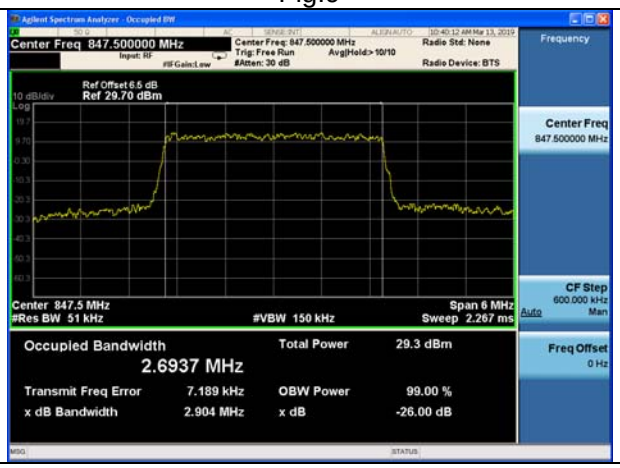


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
5	826.5	20425	5	25	0	4.4841	Fig.1	4.4834	Fig.2	4.4699	Fig.3
5	836.5	20525	5	25	0	4.4950	Fig.4	4.4895	Fig.5	4.4914	Fig.6
5	846.5	20625	5	25	0	4.4827	Fig.7	4.4844	Fig.8	4.4934	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
5	826.5	20425	5	25	0	5.074	Fig.1	5.007	Fig.2	4.994	Fig.3
5	836.5	20525	5	25	0	5.018	Fig.4	5.117	Fig.5	4.978	Fig.6
5	846.5	20625	5	25	0	5.035	Fig.7	5.005	Fig.8	5.056	Fig.9

Fig.1

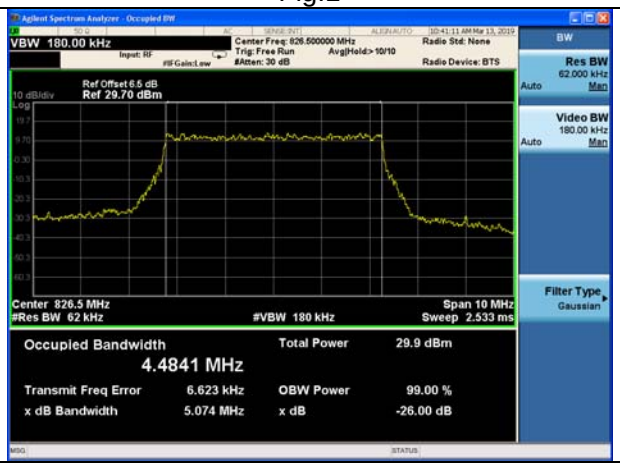


Fig.2

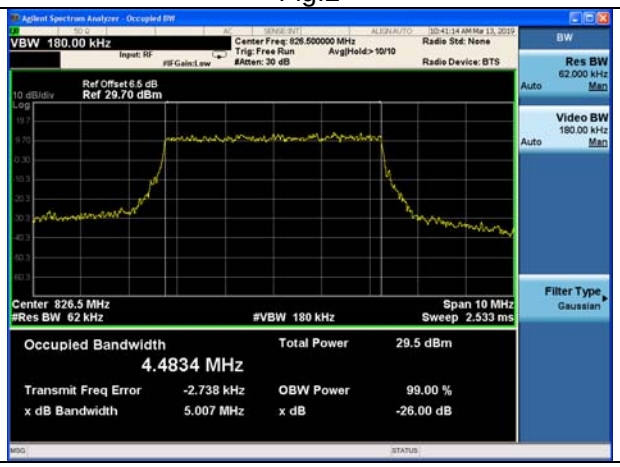


Fig.3

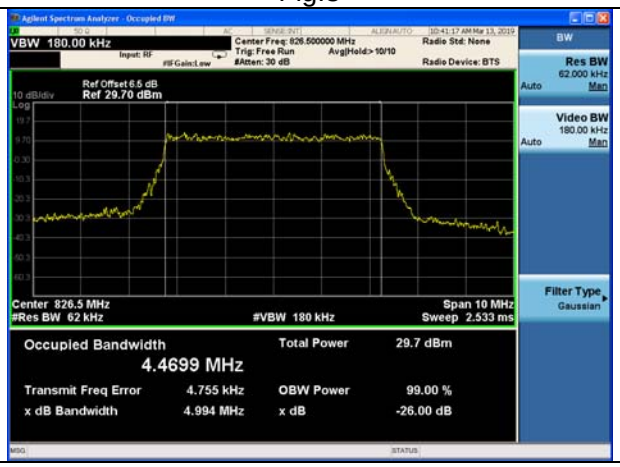


Fig.4

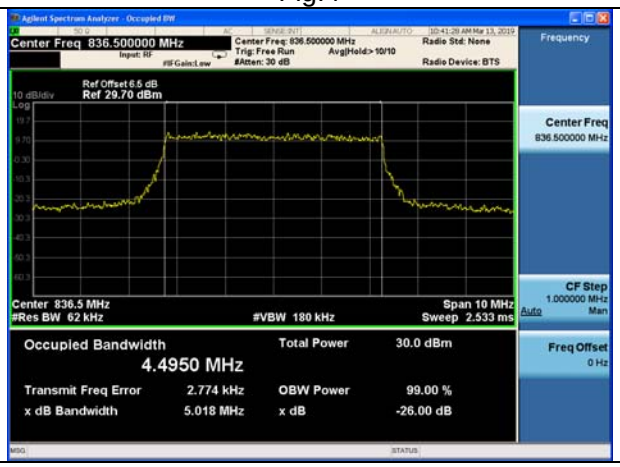


Fig.5

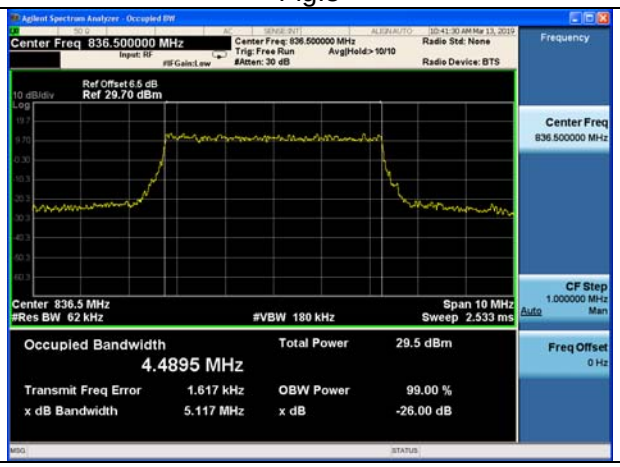


Fig.6

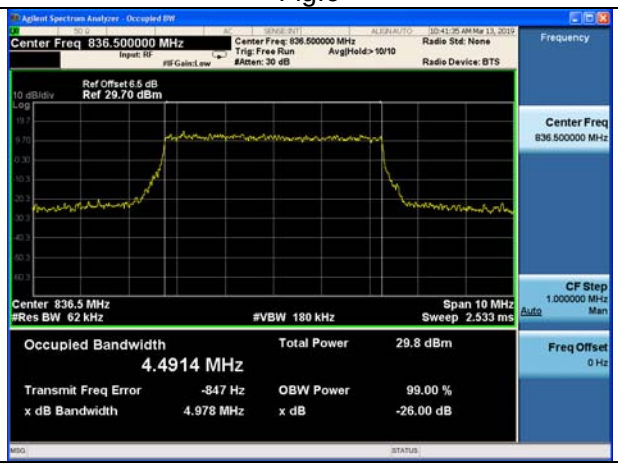


Fig.7

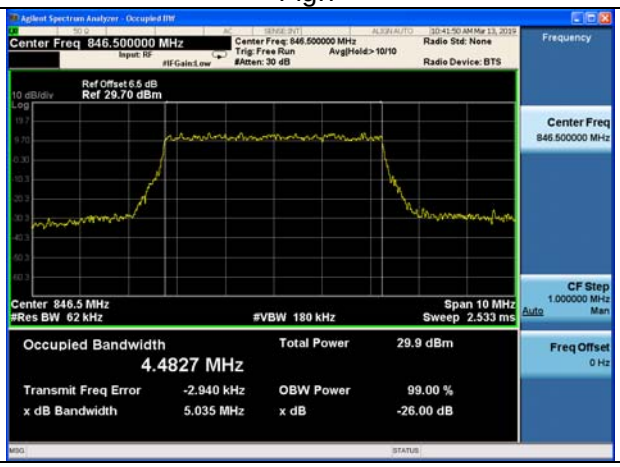


Fig.8

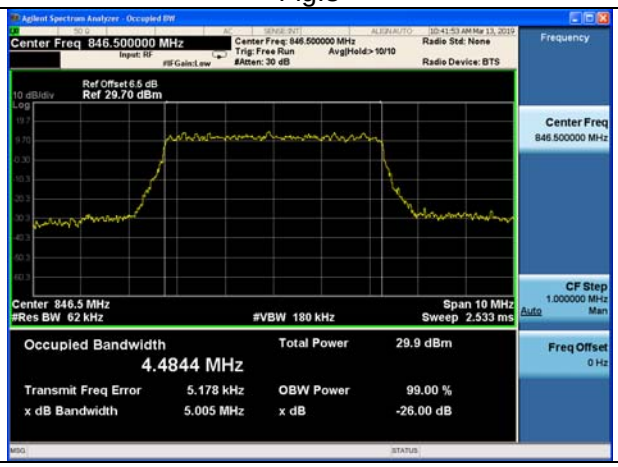
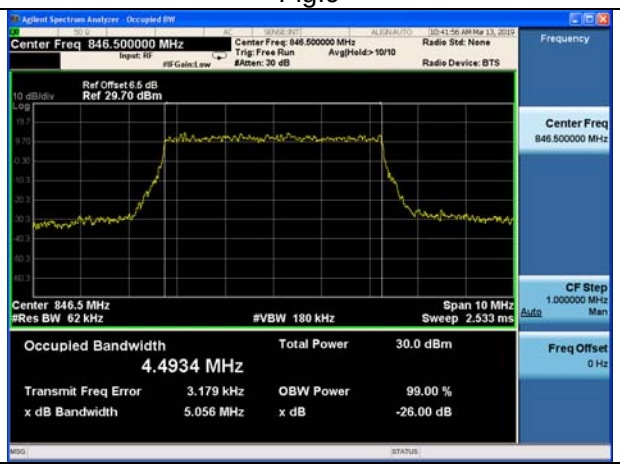


Fig.9



Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
5	829	20450	10	50	0	8.9613	Fig.1	8.9581	Fig.2	8.9573	Fig.3
5	836.5	20525	10	50	0	8.9622	Fig.4	8.9527	Fig.5	8.9833	Fig.6
5	844	20600	10	50	0	8.9528	Fig.7	8.9447	Fig.8	8.9523	Fig.9

Band	Carrier frequency (MHz)	Channel(Low)	BW	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
5	829	20450	10	50	0	9.914	Fig.1	9.981	Fig.2	9.978	Fig.3
5	836.5	20525	10	50	0	9.890	Fig.4	9.792	Fig.5	9.870	Fig.6
5	844	20600	10	50	0	9.916	Fig.7	9.769	Fig.8	9.921	Fig.9

Fig.1

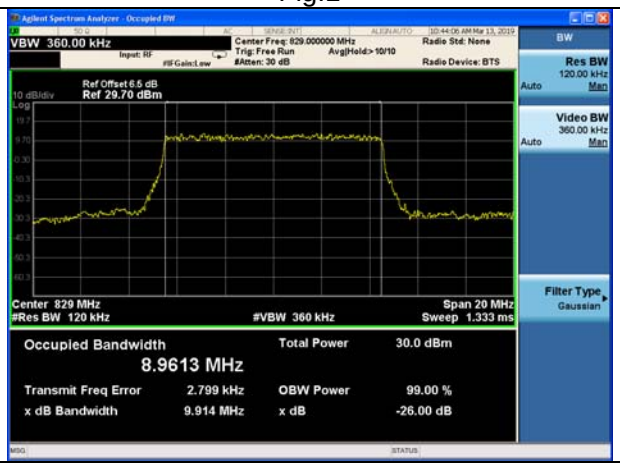


Fig.2

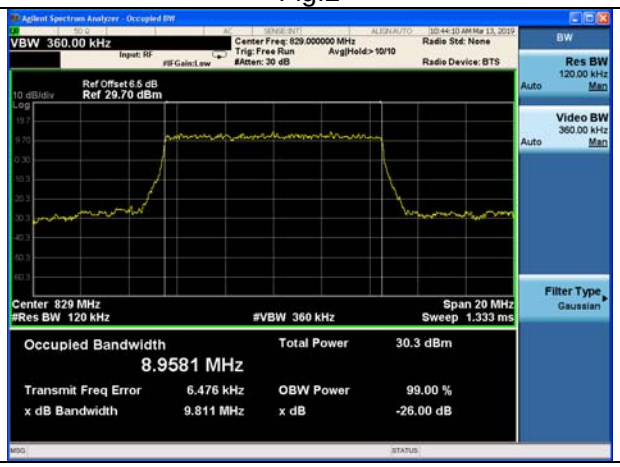


Fig.3

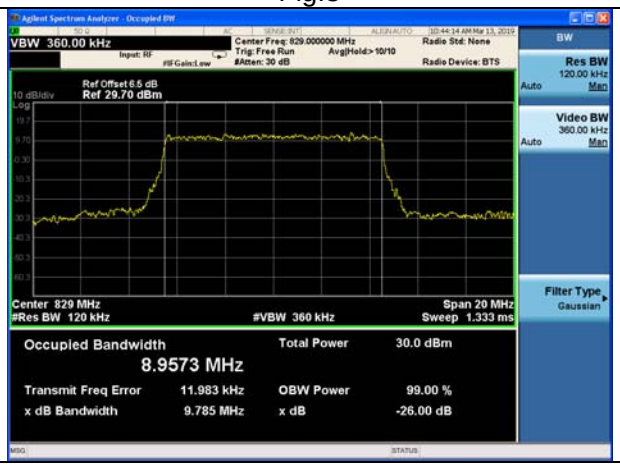


Fig.4

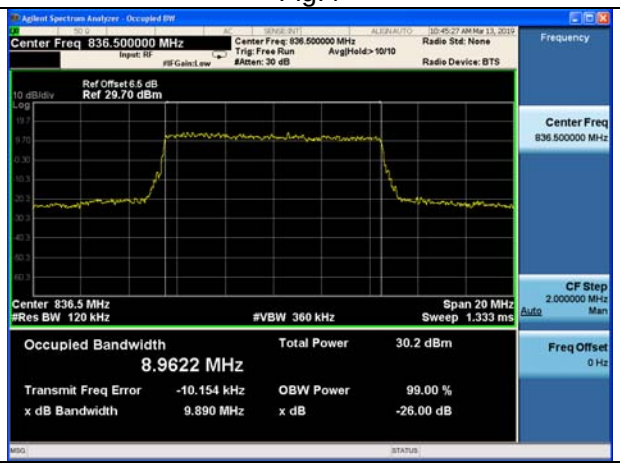


Fig.5

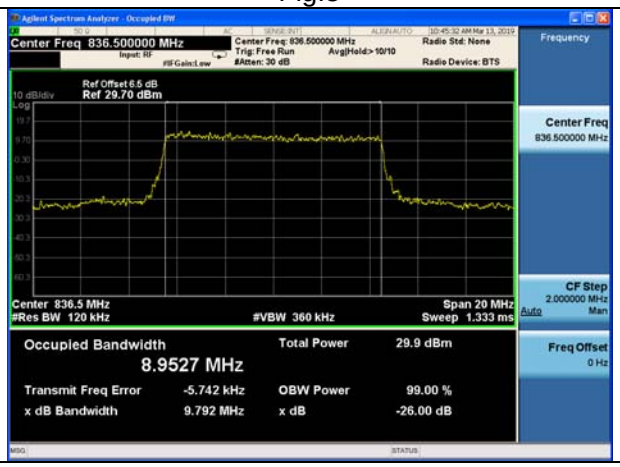


Fig.6

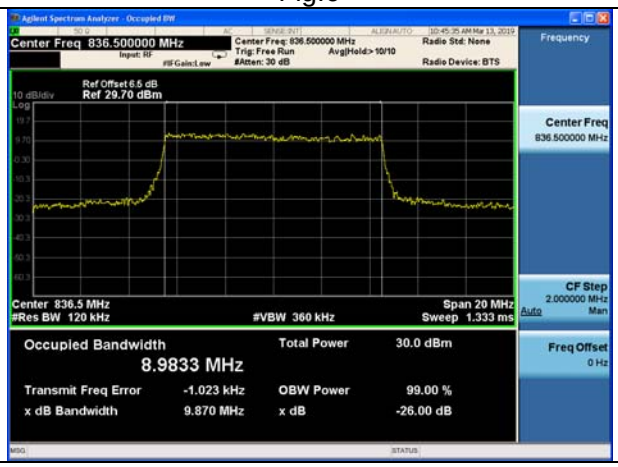


Fig.7

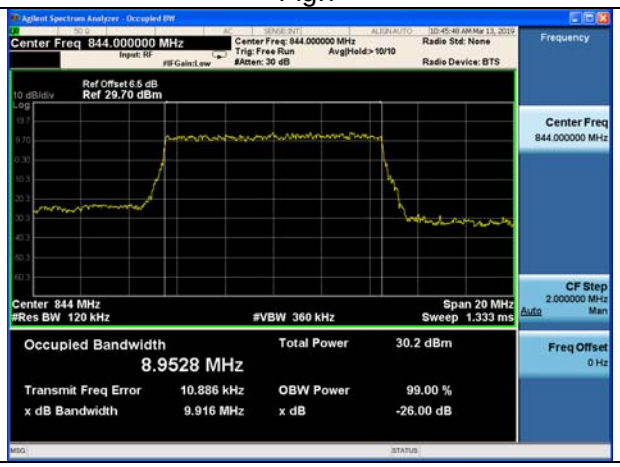


Fig.8

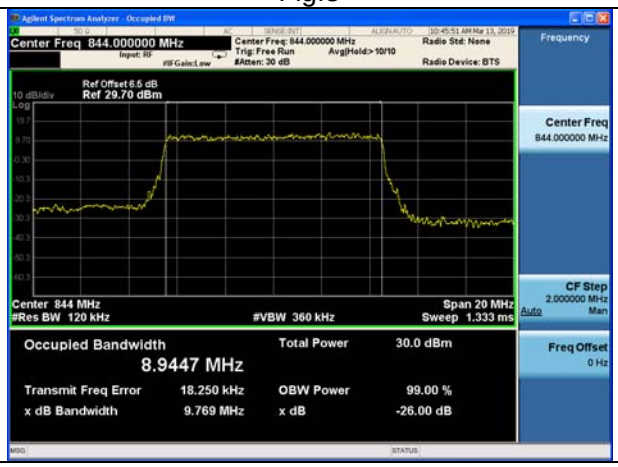
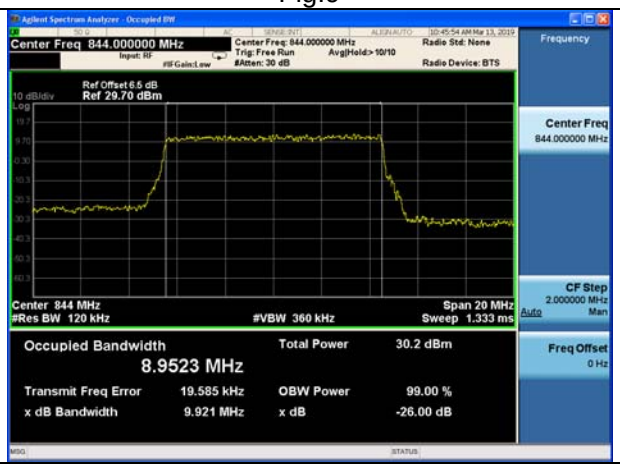
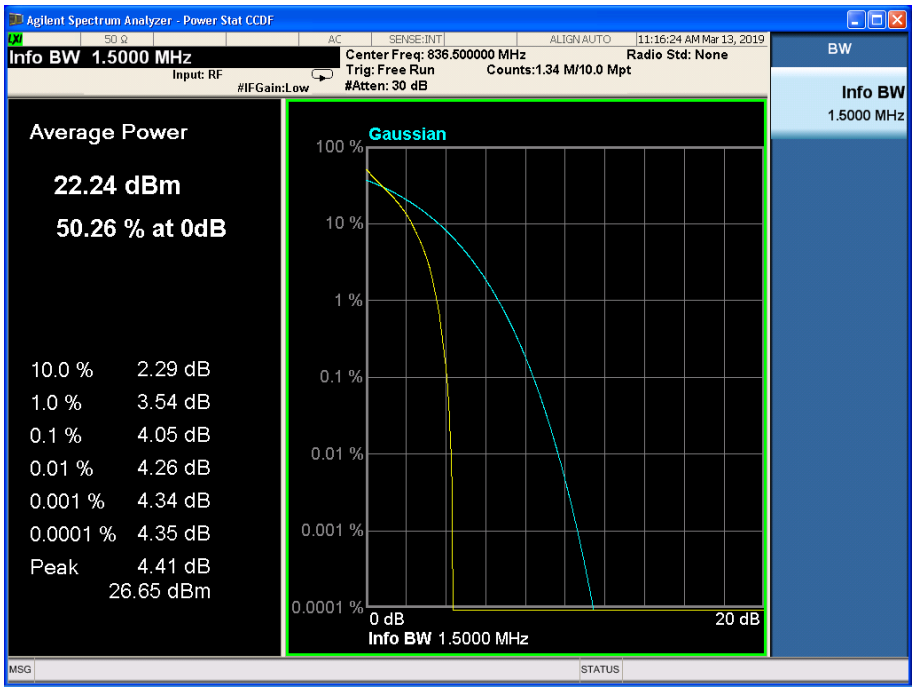


Fig.9

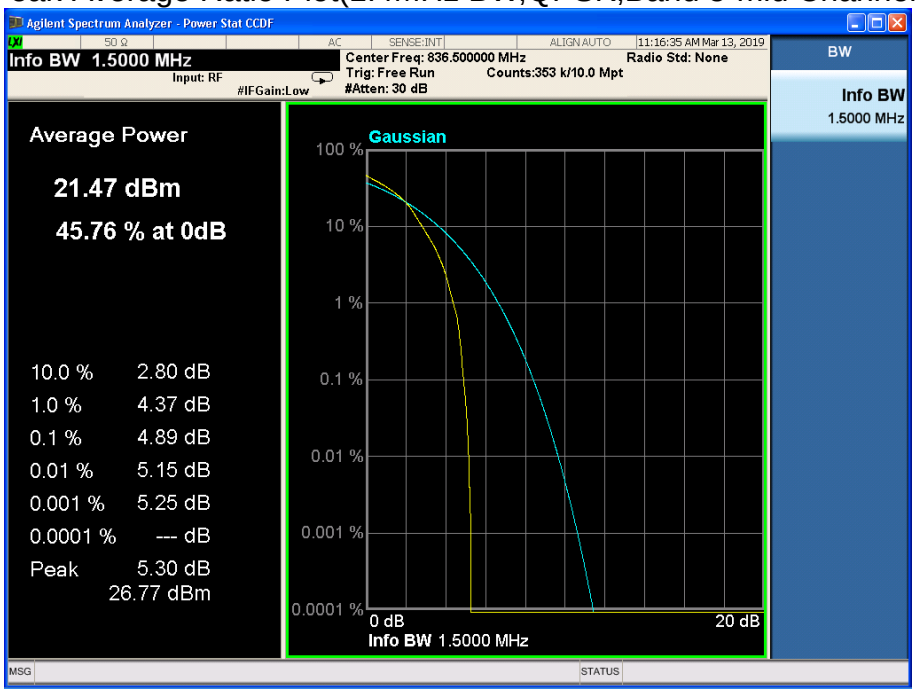


3 Peak-Average Ratio

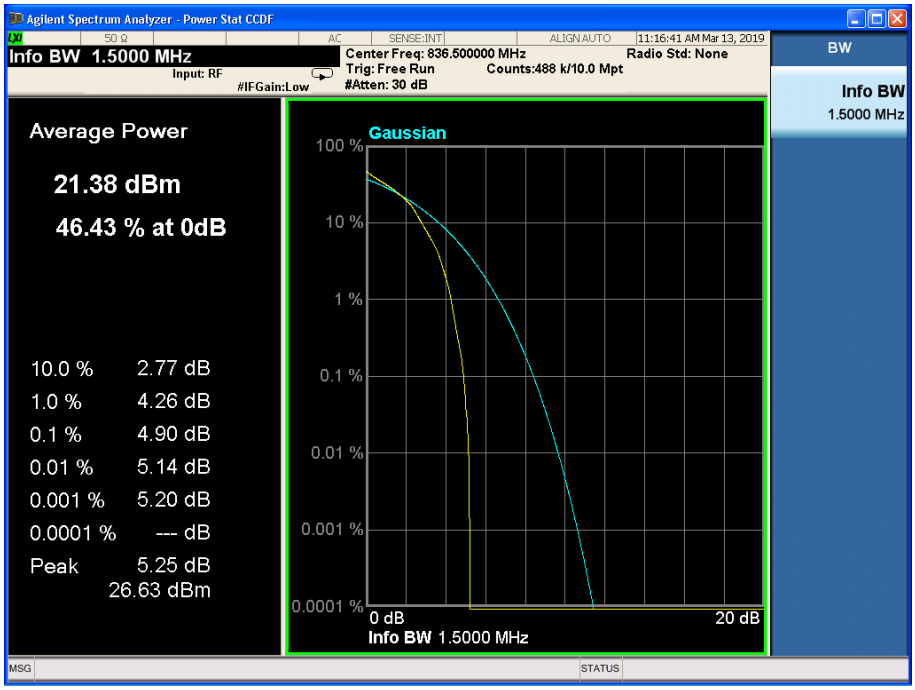
Test result:



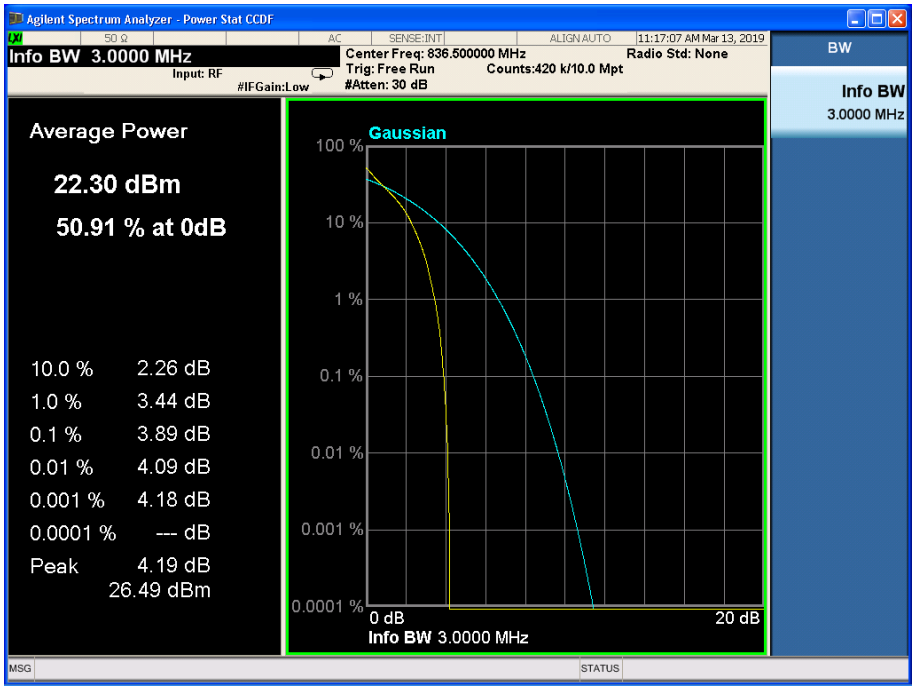
Peak-Average Ratio Plot(1.4MHz BW,QPSK,Band 5-mid Channel)



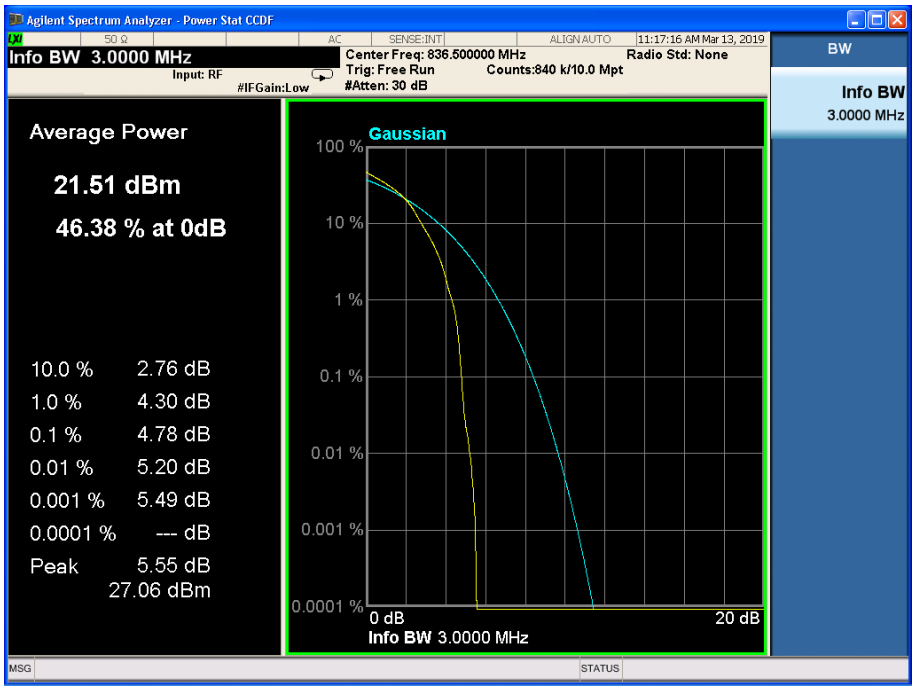
Peak-Average Ratio Plot(1.4MHz BW,16QAM,Band 5-mid Channel)



Peak-Average Ratio Plot(1.4MHz BW,64QAM,Band 5-mid Channel)

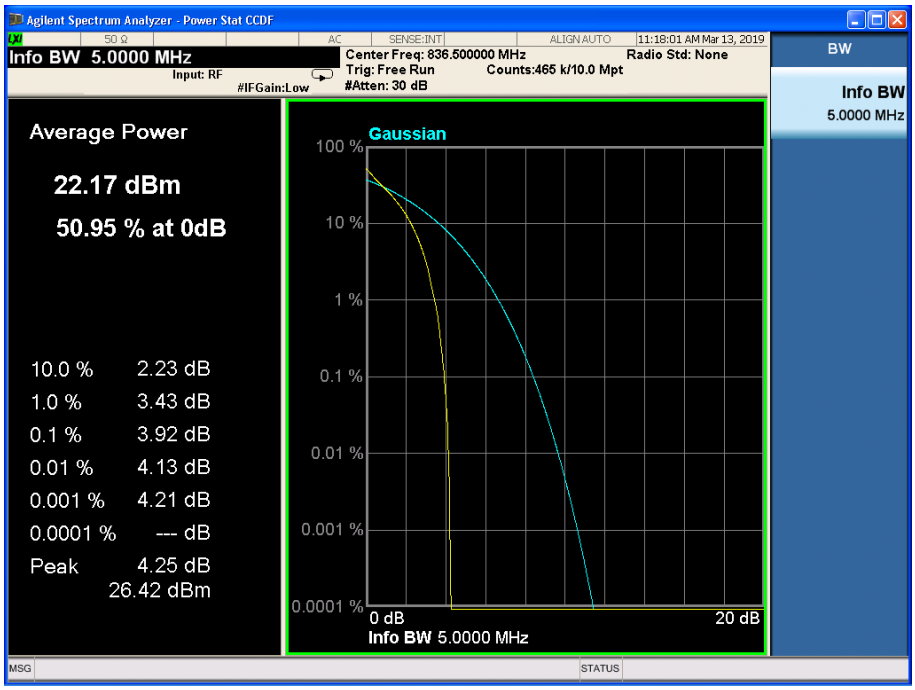


Peak-Average Ratio Plot(3MHz BW,QPSK,Band 5-mid Channel)

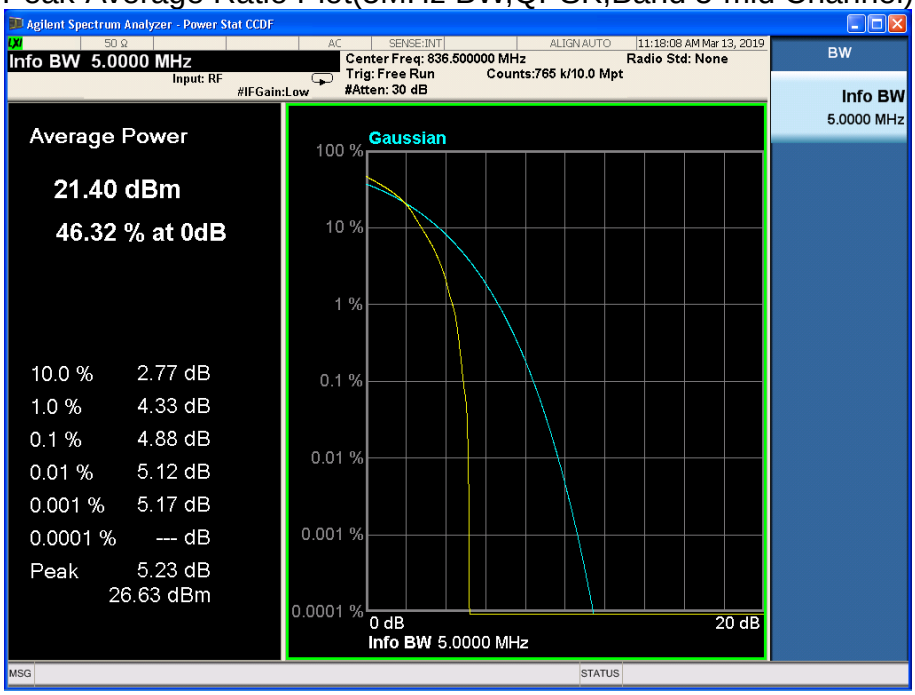


Peak-Average Ratio Plot(3MHz BW,16QAM,Band 5-mid Channel)

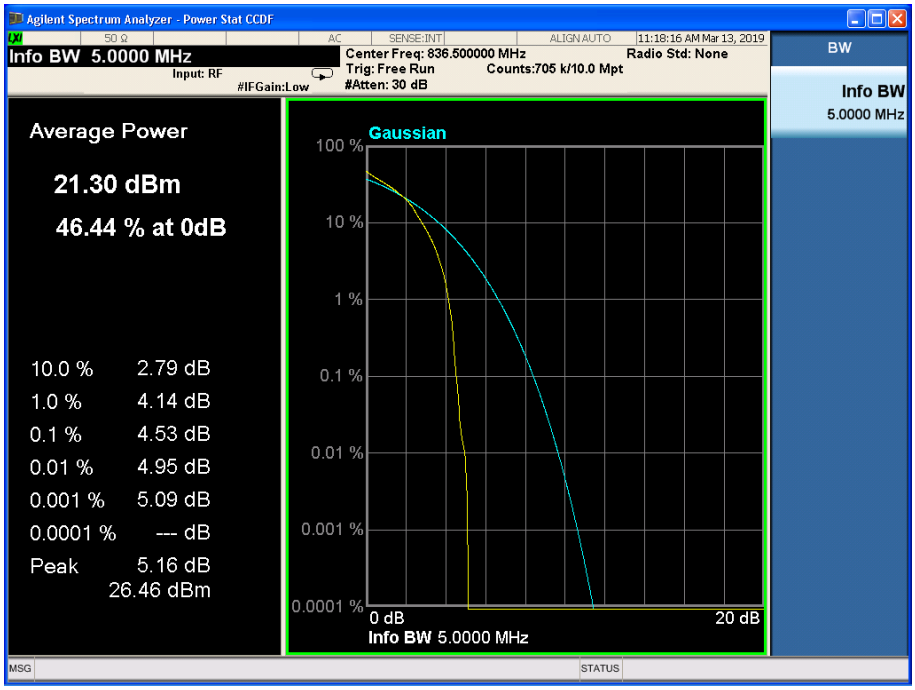
Peak-Average Ratio Plot(3MHz BW,64QAM,Band 5-mid Channel)



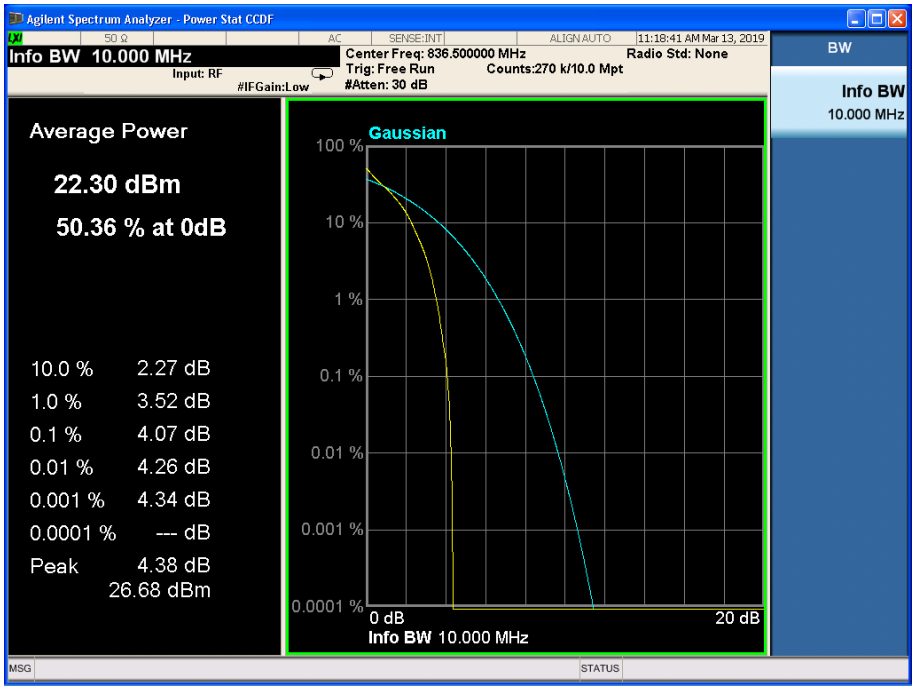
Peak-Average Ratio Plot(5MHz BW,QPSK,Band 5-mid Channel)



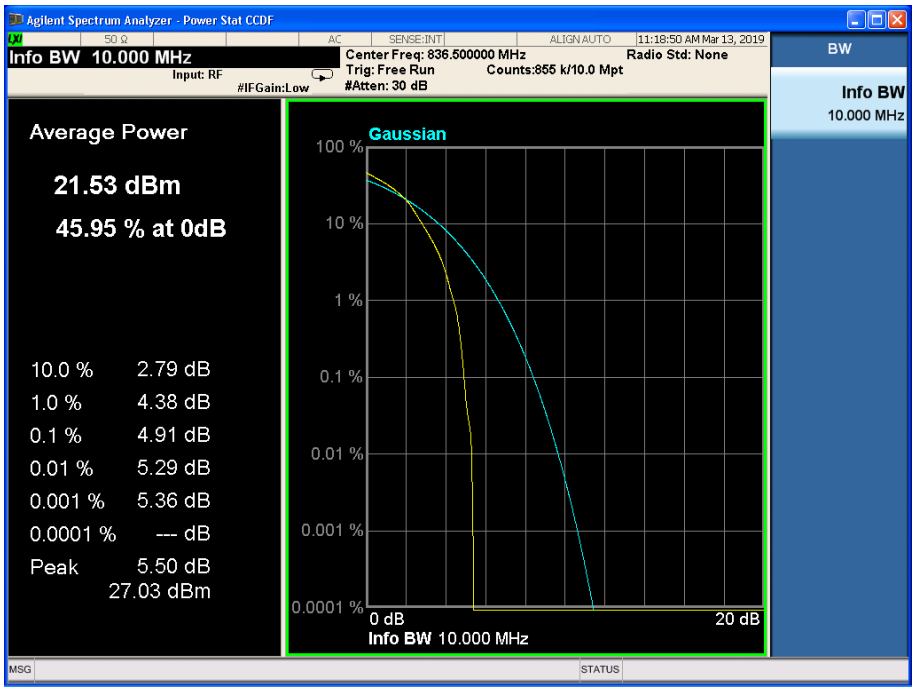
Peak-Average Ratio Plot(5MHz BW,16QAM,Band 5-mid Channel)



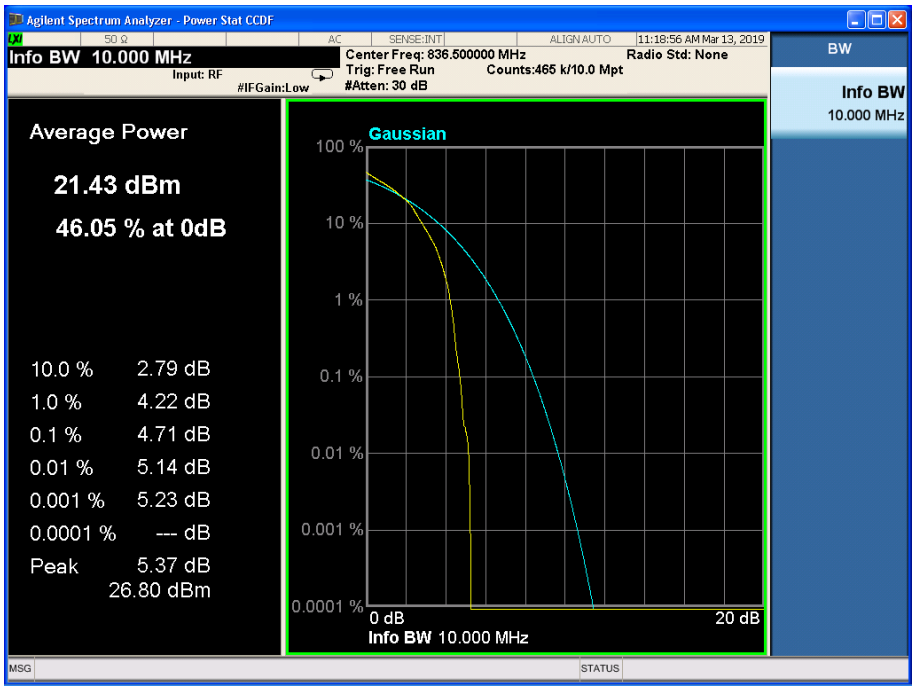
Peak-Average Ratio Plot(5MHz BW,64QAM,Band 5-mid Channel)



Peak-Average Ratio Plot(10MHz BW,QPSK,Band 5-mid Channel)



Peak-Average Ratio Plot(10MHz BW,16QAM,Band 5-mid Channel)



Peak-Average Ratio Plot(10MHz BW,64QAM,Band 5-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
5	829	20450	10	1	0	Fig.1

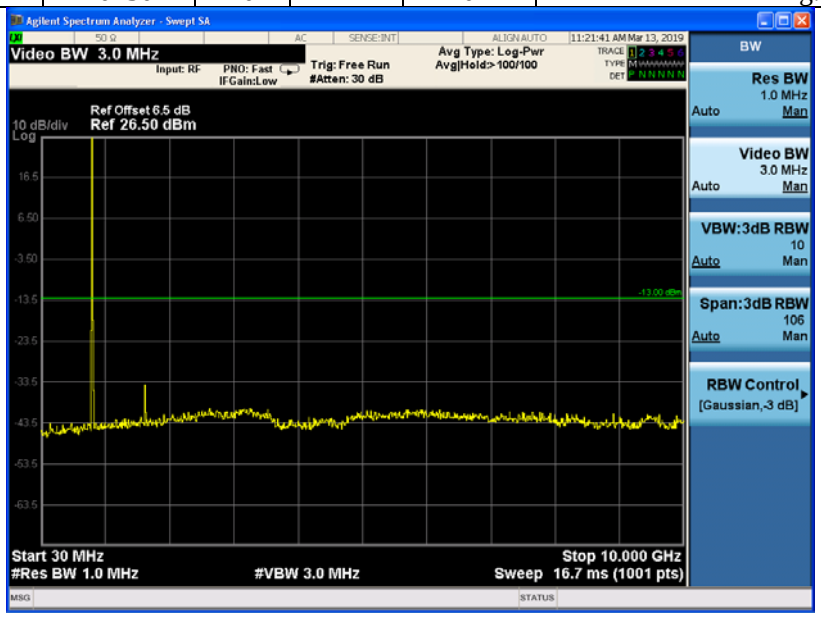


Fig.1

Band	Carrier frequency (MHz)	Channel (Mid)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
5	836.5	20525	10	1	0	Fig.1

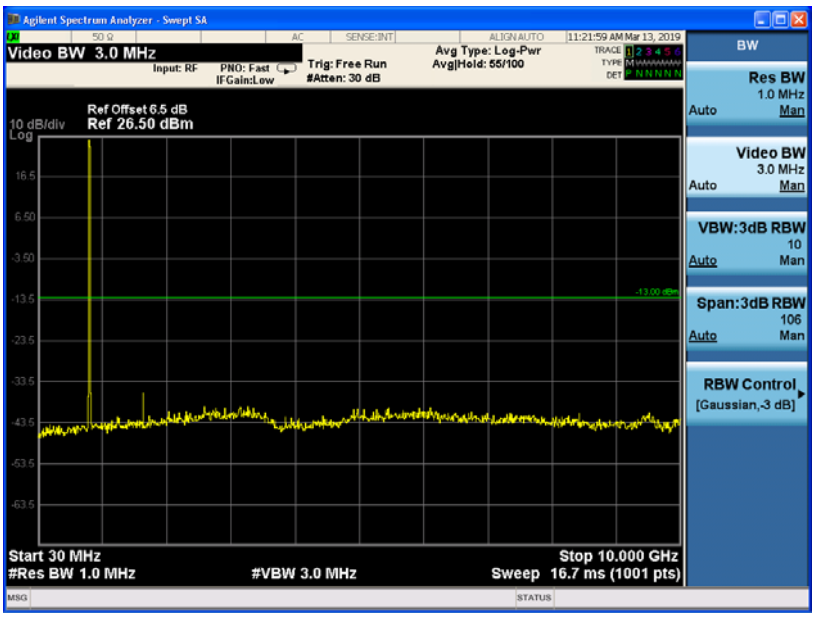


Fig.1

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
5	844	20600	10	1	0	Fig.1

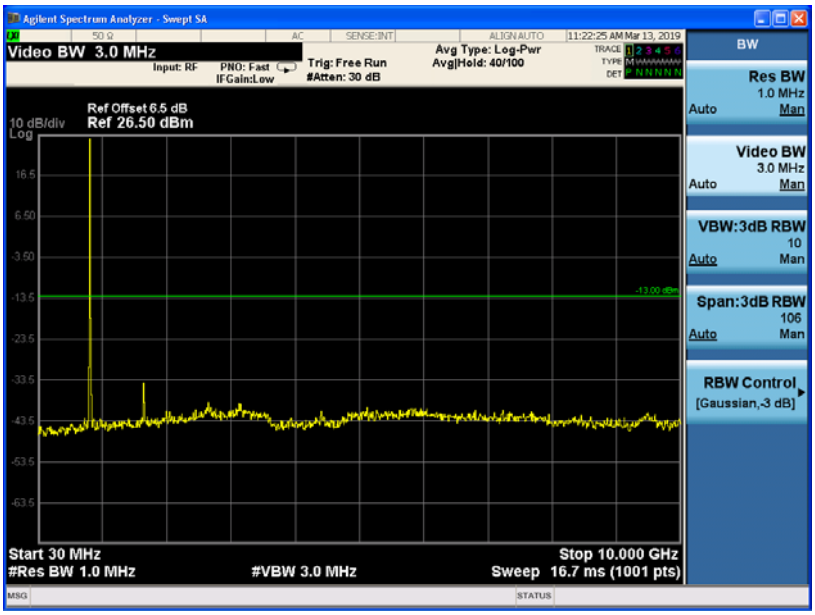


Fig.1

5 Band Edges Compliance

Test result

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	824.7	20407	1.4	1	0	Fig.1
				6	0	Fig.4

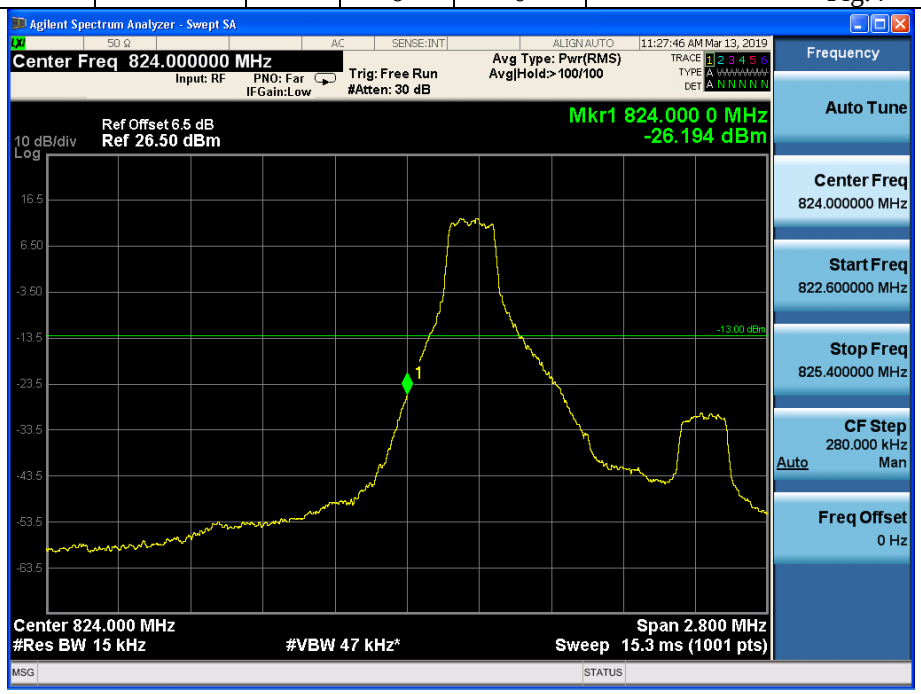


Fig.1

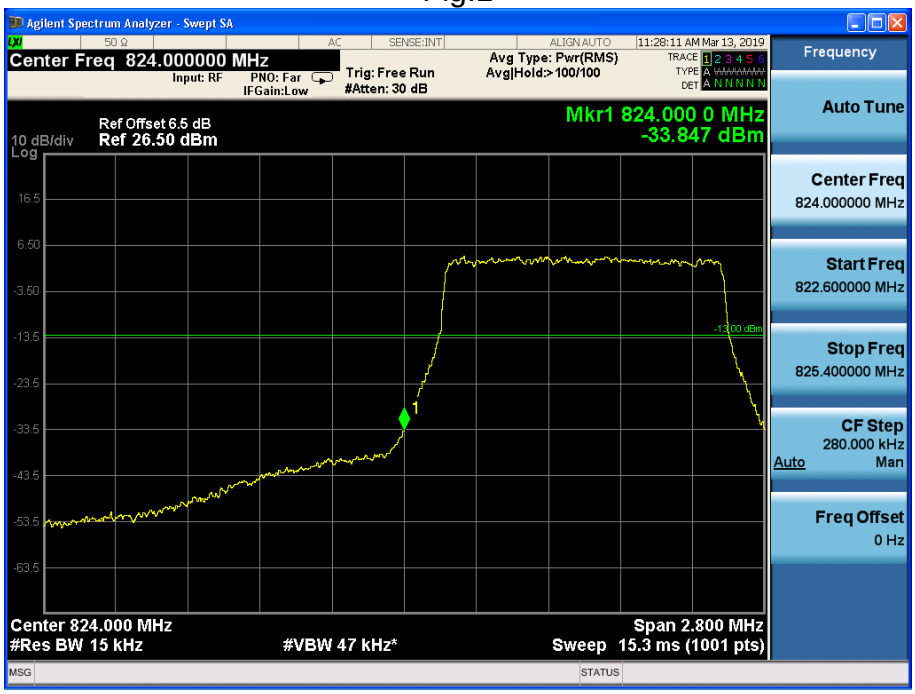


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	848.3	20643	1.4	1	5	Fig.1
				6	0	Fig.4

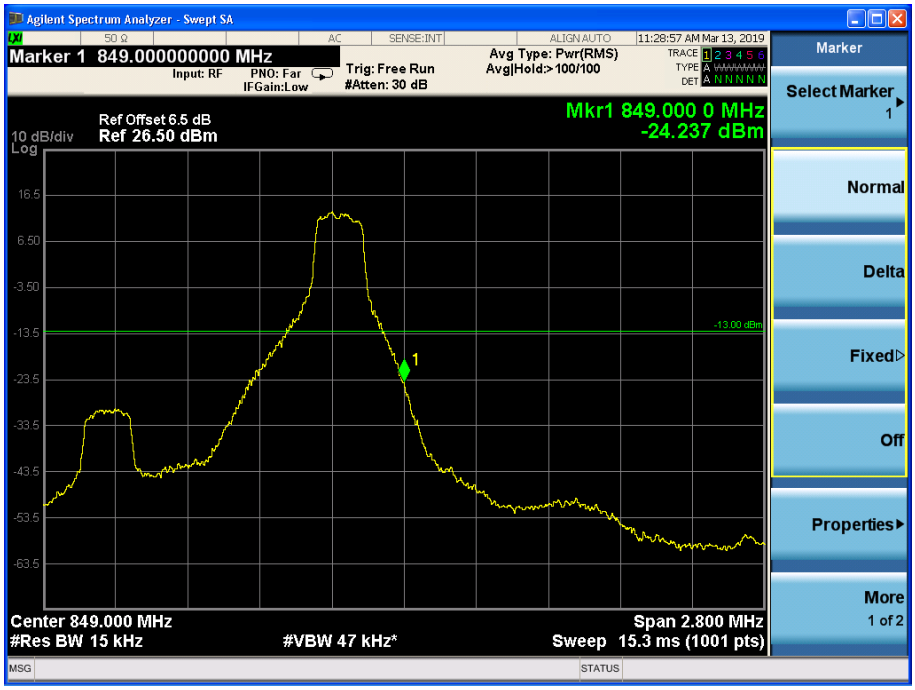


Fig.1

Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	825.5	20415	3	1	0	Fig.1
				15	0	Fig.4

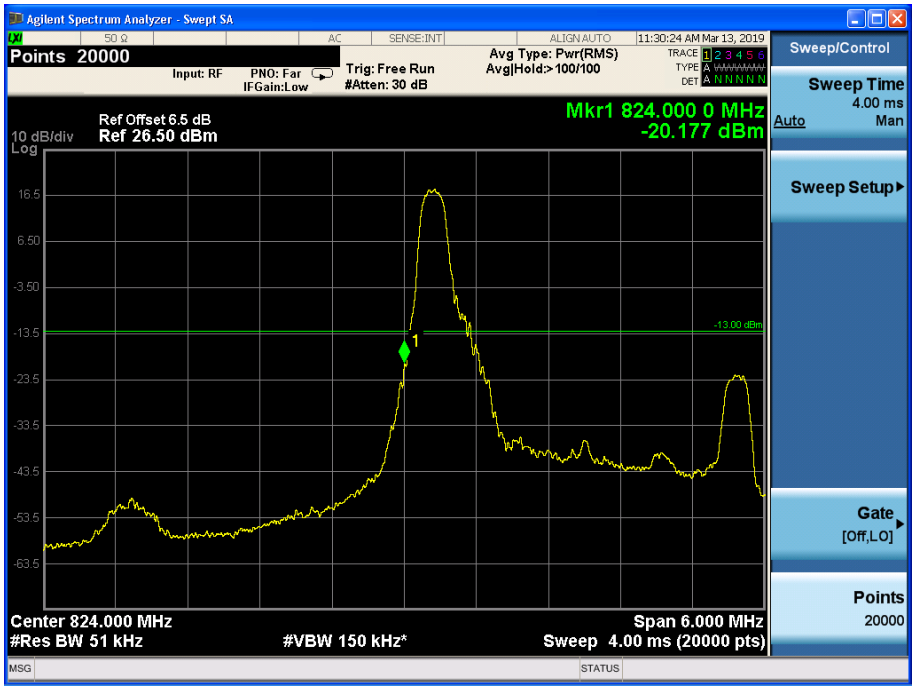


Fig.1

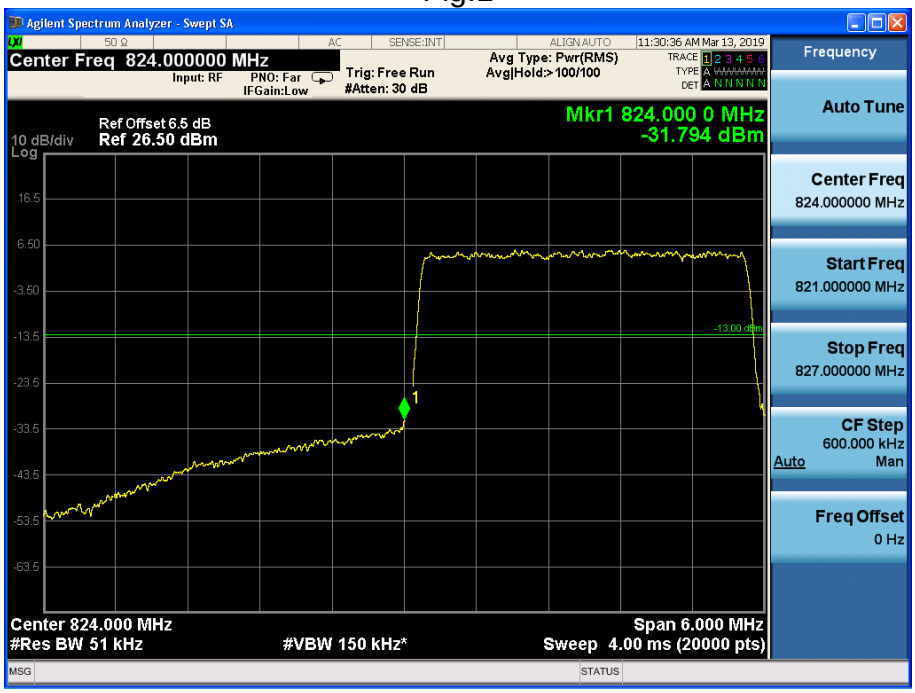


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	847.5	20635	3	1	14	Fig.1
				15	0	Fig.4

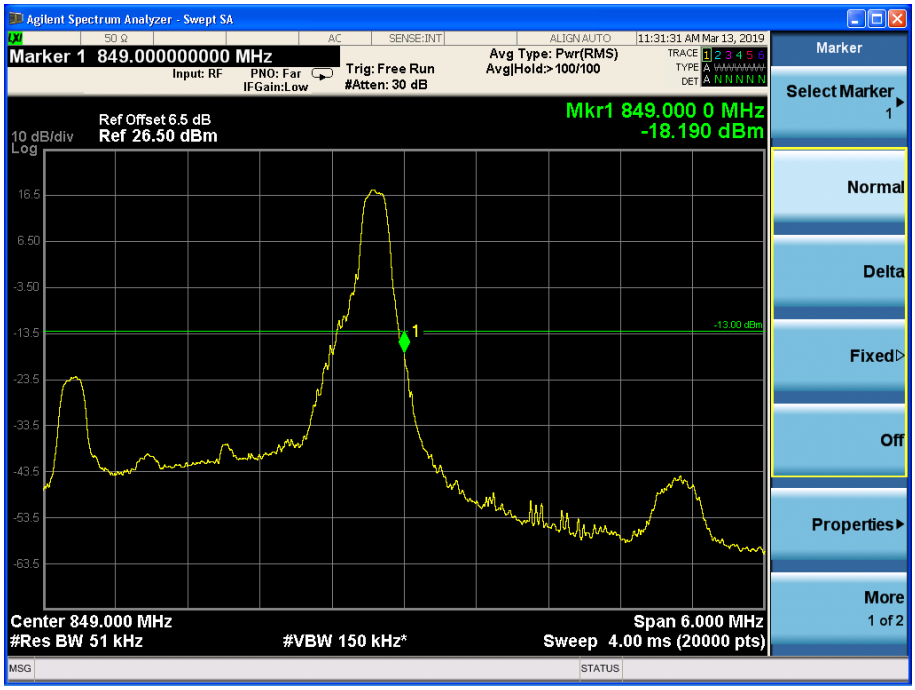


Fig.1

Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	826.5	20425	5	1	0	Fig.1
				25	0	Fig.4

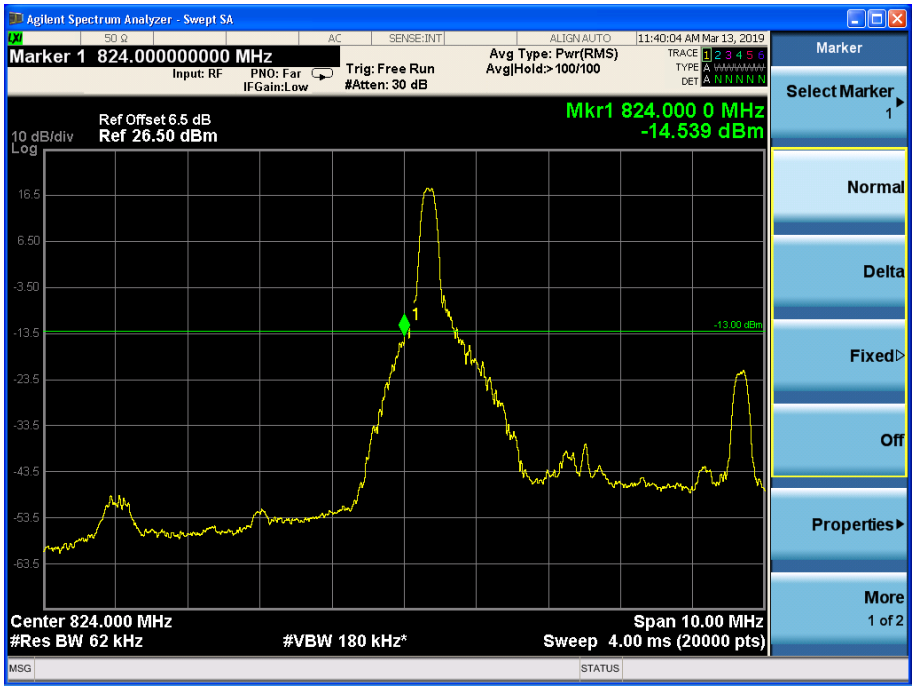


Fig.1

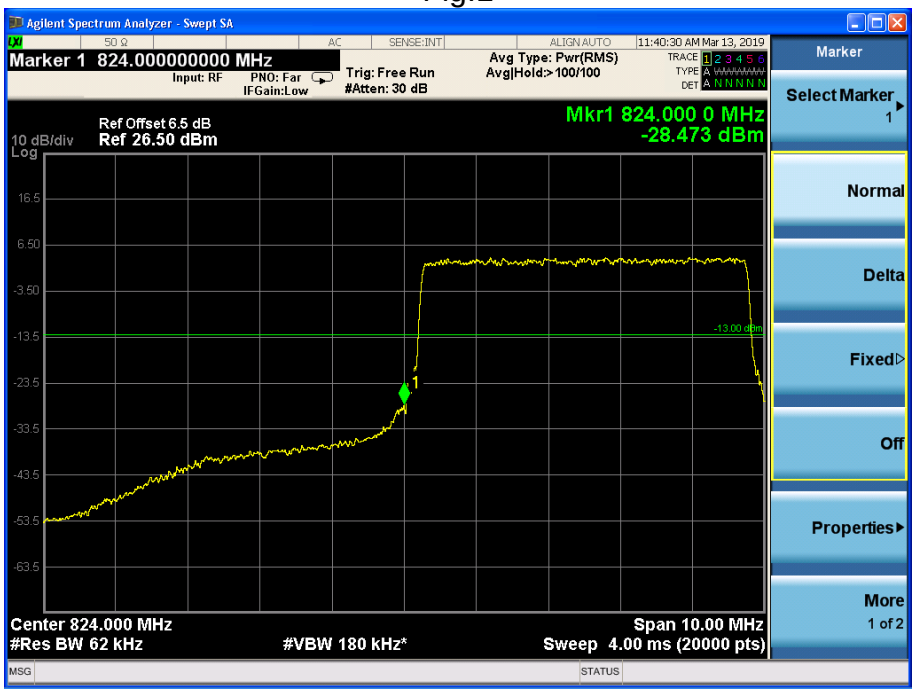


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	846.5	20625	5	1	24	Fig.1
				25	0	Fig.4

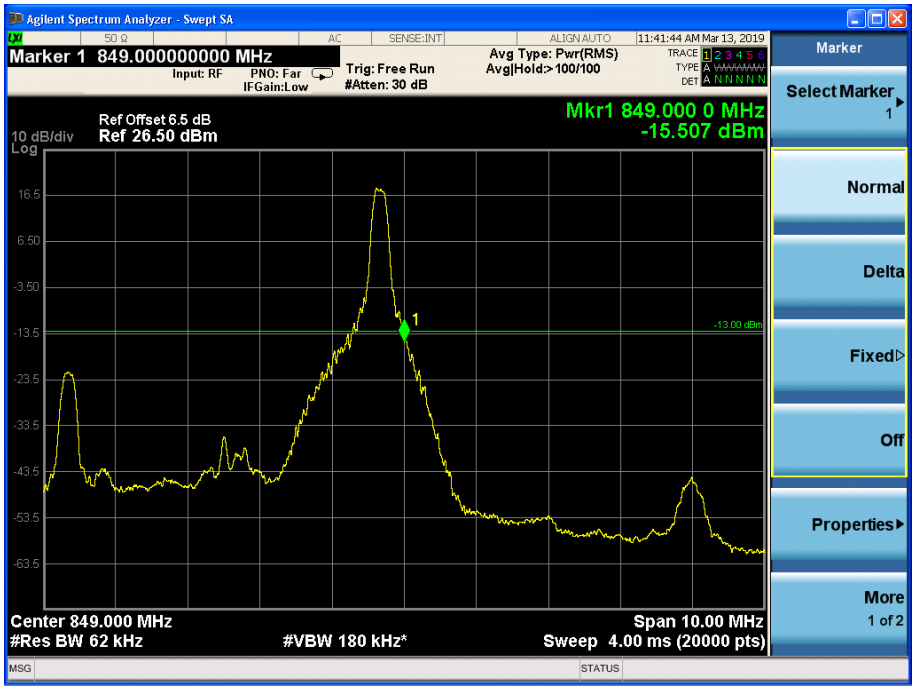


Fig.1

Fig.4

Band	Carrier frequency (MHz)	Channel (Low)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	829	20450	10	1	49	Fig.1
				50	0	Fig.4

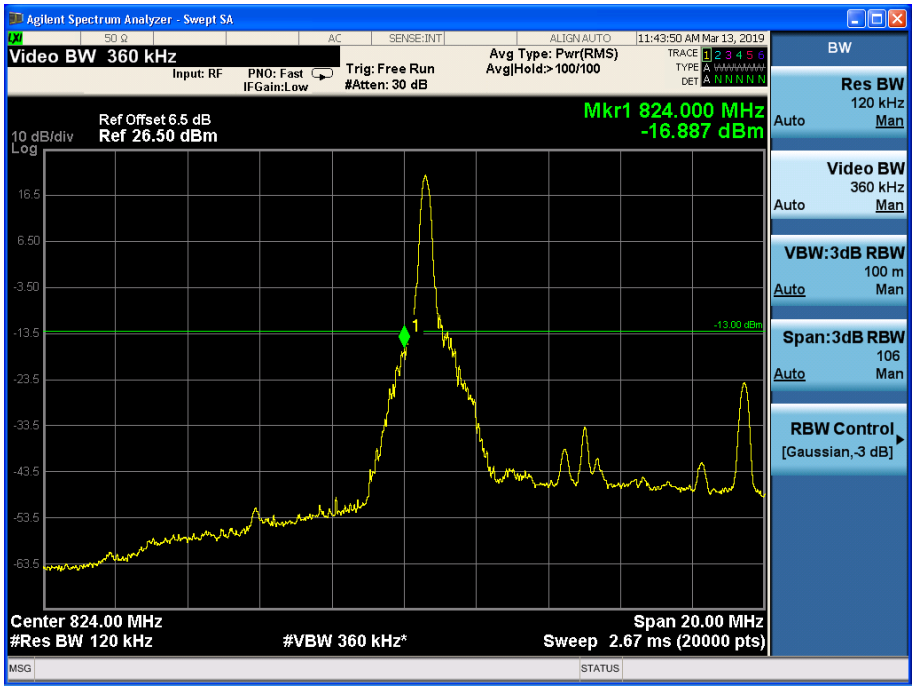


Fig.1

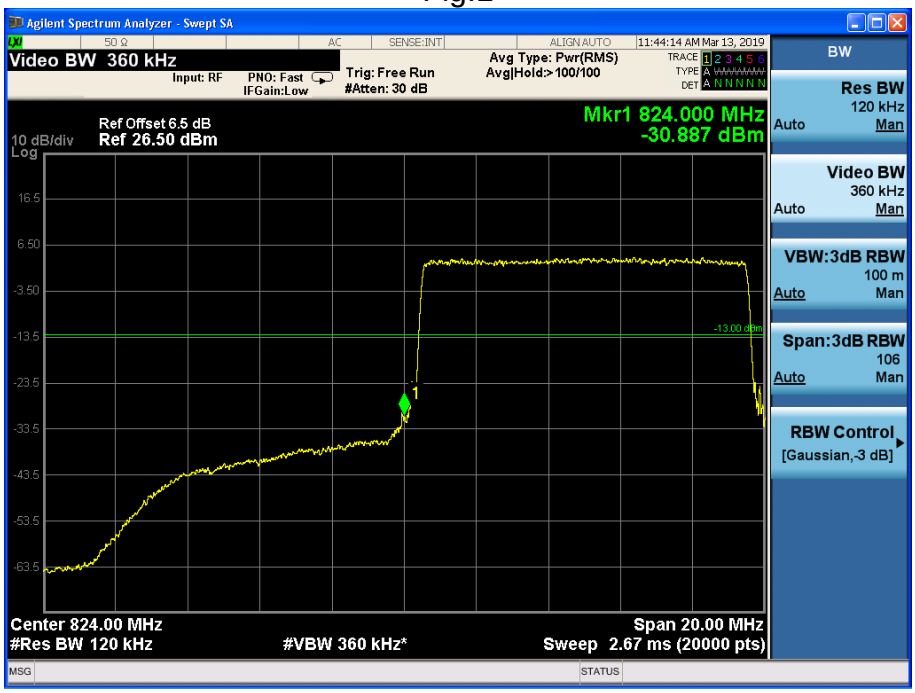


Fig.4

Band	Carrier frequency (MHz)	Channel (High)	BW	RB Size	RB Offset	Band EdgesPlot
						QPSK
5	844	20600	10	1	49	Fig.1
				50	0	Fig.4

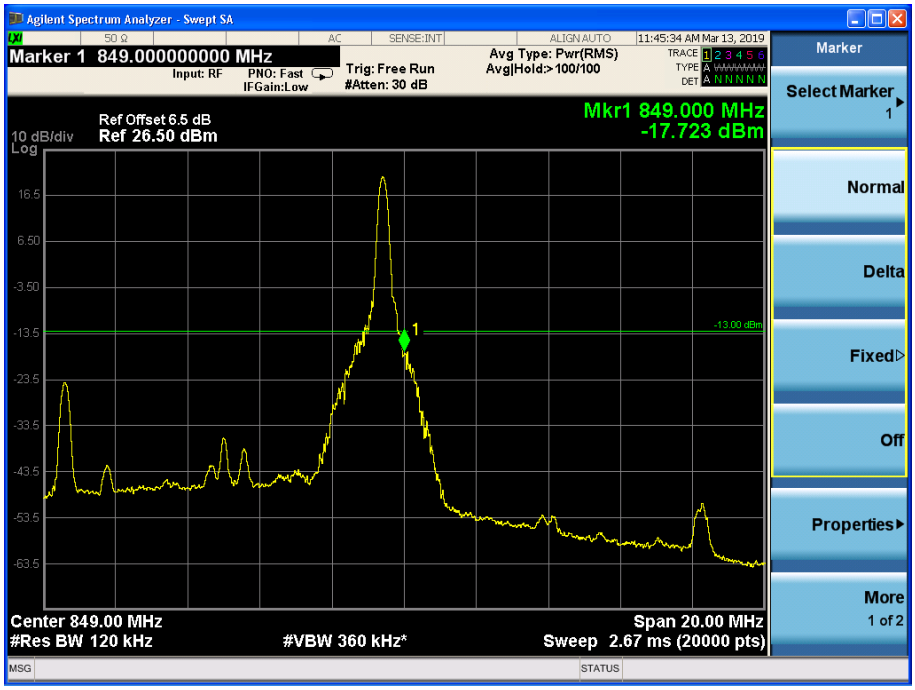


Fig.1

Fig.4

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band5 Low Channel			
		1.4M	3M	5M	10M
-10	NV	0.067	0.011	0.099	0.032
0	NV	0.075	0.047	0.005	0.086
+10	NV	0.122	0.079	0.081	0.109
+20	NV	0.052	0.020	0.070	0.003
+30	NV	0.080	0.044	0.143	0.014
+40	NV	0.081	0.041	0.033	0.003
+50	NV	0.113	0.037	0.122	0.071
+55	NV	0.107	0.063	0.093	0.055
+20	LV	0.079	0.012	0.099	0.080
+20	HV	0.059	0.075	0.048	0.054

Temperature(°C)	Voltage	Test Result (ppm) Band5 High Channel			
		1.4M	3M	5M	10M
-10	NV	0.048	0.129	0.055	0.034
0	NV	0.028	0.099	0.033	0.066
+10	NV	0.082	0.054	0.110	0.068
+20	NV	0.092	0.024	0.100	0.049
+30	NV	0.054	0.020	0.114	0.079
+40	NV	0.069	0.142	0.097	0.036
+50	NV	0.029	0.087	0.038	0.021
+55	NV	0.103	0.149	0.060	0.023
+20	LV	0.068	0.073	0.043	0.138
+20	HV	0.081	0.142	0.063	0.017