

Fig.13

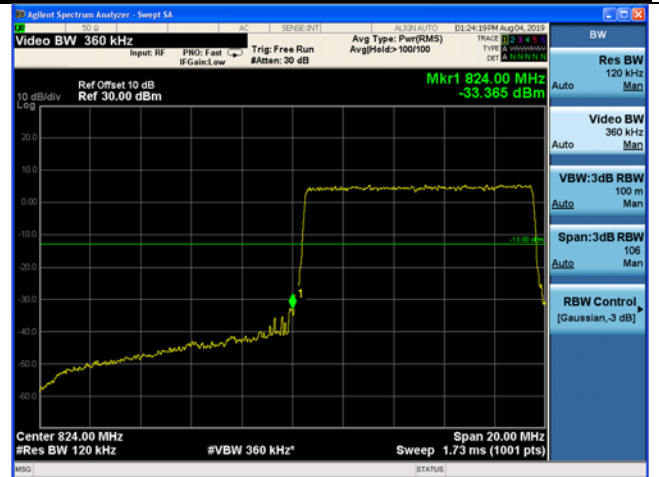


Fig.14

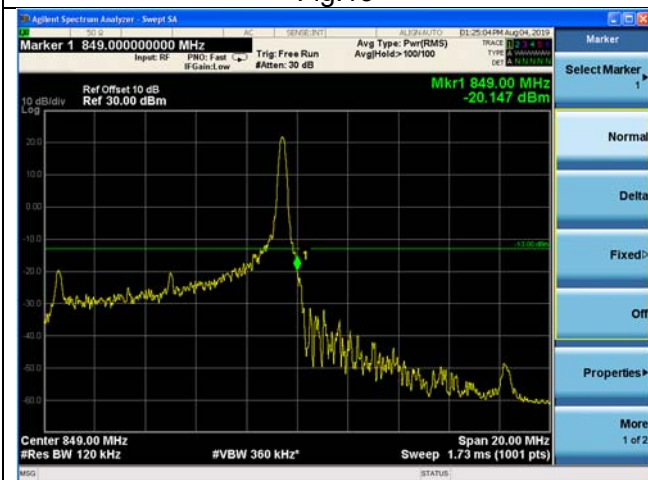


Fig.15



Fig.16

## 6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band5 Low Channel			
		1.4M	3M	5M	10M
-10	NV	0.021	0.040	0.040	0.023
0	NV	-0.034	-0.026	0.007	0.057
+10	NV	0.023	0.048	0.043	-0.139
+20	NV	-0.055	0.019	-0.020	0.035
+30	NV	-0.082	0.042	0.115	-0.066
+40	NV	0.032	-0.040	0.054	0.014
+50	NV	0.104	0.045	0.124	0.072
+55	NV	0.123	0.068	0.053	-0.009
+20	LV	0.041	0.012	-0.021	0.031
+20	HV	0.031	-0.023	0.059	0.015

Temperature(°C)	Voltage	Test Result (ppm) Band5 High Channel			
		1.4M	3M	5M	10M
-10	NV	0.027	0.021	0.026	0.032
0	NV	0.049	0.029	-0.014	0.063
+10	NV	0.024	-0.013	0.011	0.061
+20	NV	0.023	0.015	0.102	-0.055
+30	NV	0.045	0.018	-0.115	0.030
+40	NV	-0.029	0.101	0.027	-0.032
+50	NV	0.030	-0.015	0.019	0.011
+55	NV	0.103	0.028	-0.033	0.109
+20	LV	0.050	0.012	0.025	0.133
+20	HV	-0.013	0.101	-0.014	-0.017

## 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	23.28
				1	5	23.28
				3	2	22.38
				6	0	22.30
	707.5	23095		1	0	23.22
				1	5	23.22
				3	2	22.32
				6	0	22.23
	715.3	23173		1	0	23.14
				1	5	23.14
				3	2	22.41
				6	0	22.42
16QAM	699.7	23017	1.4	1	0	22.41
				1	5	22.41
				3	2	22.33
				6	0	21.05
	707.5	23095		1	0	22.71
				1	5	22.71
				3	2	22.42
				6	0	21.03
	715.3	23173		1	0	22.73
				1	5	22.73
				3	2	22.48
				6	0	21.02
64QAM	699.7	23017	1.4	1	0	22.15
				1	5	22.12
				3	2	21.88
				6	0	21.71
	707.5	23095		1	0	22.21
				1	5	22.32
				3	2	21.82
				6	0	21.74
	715.3	23173		1	0	22.30
				1	5	22.26
				3	2	21.74
				6	0	21.49

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	700.5	23025	3	1	0	23.30
				1	14	23.30
				8	4	22.30
				15	0	22.32
	707.5	23095		1	0	23.23
				1	14	23.23
				8	4	22.17
				15	0	22.20
	714.5	23165		1	0	23.17
				1	14	23.17
				8	4	22.27
				15	0	22.26
16QAM	700.5	23025	3	1	0	22.97
				1	14	22.97
				8	4	21.36
				15	0	21.37
	707.5	23095		1	0	22.34
				1	14	22.34
				8	4	21.52
				15	0	21.32
	714.5	23165		1	0	22.38
				1	14	22.38
				8	4	21.42
				15	0	21.46
64QAM	700.5	23025	3	1	0	22.15
				1	14	22.10
				8	4	21.73
				15	0	21.57
	707.5	23095		1	0	22.25
				1	14	22.29
				8	4	21.74
				15	0	21.68
	714.5	23165		1	0	22.11
				1	14	22.04
				8	4	21.73
				15	0	21.59

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	701.5	23035	5	1	0	<b>23.30</b>
				1	24	<b>23.30</b>
				12	6	22.24
				25	0	22.35
	707.5	23095		1	0	<b>23.57</b>
				1	24	<b>23.57</b>
				12	6	22.23
				25	0	22.34
	713.5	23155		1	0	<b>23.24</b>
				1	24	<b>23.24</b>
				12	6	22.34
				25	0	22.31
16QAM	701.5	23035	5	1	0	22.35
				1	24	22.35
				12	6	21.38
				25	0	21.72
	707.5	23095		1	0	22.51
				1	24	22.51
				12	6	21.37
				25	0	21.42
	713.5	23155		1	0	22.78
				1	24	22.78
				12	6	21.43
				25	0	21.43
64QAM	701.5	23035	5	1	0	22.01
				1	24	22.06
				12	6	21.66
				25	0	21.65
	707.5	23095		1	0	22.16
				1	24	22.12
				12	6	21.80
				25	0	21.78
	713.5	23155		1	0	22.34
				1	24	21.97
				12	6	21.64
				25	0	21.78

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	704	23060	10	1	0	22.23
				1	49	22.23
				24	12	22.21
				50	0	22.22
	707.5	23095		1	0	23.29
				1	49	23.29
				24	12	22.18
				50	0	22.22
	711	23130		1	0	23.26
				1	49	23.26
				24	12	22.28
				50	0	22.24
16QAM	704	23060	10	1	0	22.58
				1	49	22.58
				24	12	21.45
				50	0	21.23
	707.5	23095		1	0	22.75
				1	49	22.75
				24	12	21.41
				50	0	21.23
	711	23130		1	0	22.53
				1	49	22.53
				24	12	21.37
				50	0	21.32
64QAM	704	23060	10	1	0	22.28
				1	49	22.32
				24	12	21.88
				50	0	21.74
	707.5	23095		1	0	22.38
				1	49	22.33
				24	12	21.93
				50	0	21.82
	711	23130		1	0	22.35
				1	49	22.24
				24	12	21.85
				50	0	23.74

## 2 Occupied Bandwidth

Test result

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
12	699.7	23017	1.4	6	0	1.08	Fig.1	1.08	Fig.2	1.08	Fig.3
	707.5	23095		6	0	1.08	Fig.4	1.08	Fig.5	1.08	Fig.6
	715.3	23173		6	0	1.08	Fig.7	1.08	Fig.8	1.08	Fig.9
	700.5	23025	3	15	0	2.70	Fig.10	2.69	Fig.11	2.71	Fig.12
	707.5	23095		15	0	2.70	Fig.13	2.70	Fig.14	2.71	Fig.15
	714.5	23165		15	0	2.70	Fig.16	2.69	Fig.17	2.70	Fig.18
	701.5	23035	5	25	0	4.48	Fig.19	4.47	Fig.20	4.48	Fig.21
	707.5	23095		25	0	4.47	Fig.22	4.46	Fig.23	4.48	Fig.24
	713.5	23155		25	0	4.47	Fig.25	4.46	Fig.26	4.46	Fig.27
	704	23095	10	50	0	9.10	Fig.28	9.05	Fig.29	9.03	Fig.30
	707.5	23095		50	0	9.09	Fig.31	9.04	Fig.32	9.05	Fig.33
711	23130	50		0	9.05	Fig.34	9.02	Fig.35	9.03	Fig.36	

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
12	699.7	23017	1.4	6	0	1.26	Fig.1	1.25	Fig.2	1.23	Fig.3
	707.5	23095		6	0	1.25	Fig.4	1.23	Fig.5	1.22	Fig.6
	715.3	23173		6	0	1.26	Fig.7	1.23	Fig.8	1.24	Fig.9
	700.5	23015	3	15	0	3.01	Fig.10	3.07	Fig.11	3.06	Fig.12
	707.5	23095		15	0	3.00	Fig.13	3.05	Fig.14	3.05	Fig.15
	714.5	23165		15	0	3.02	Fig.16	3.04	Fig.17	3.05	Fig.18
	701.5	23035	5	25	0	5.20	Fig.19	5.04	Fig.20	4.98	Fig.21
	707.5	23095		25	0	5.21	Fig.22	5.19	Fig.23	5.14	Fig.24
	713.5	23155		25	0	5.11	Fig.25	4.92	Fig.26	4.97	Fig.27
	704	23060	10	50	0	10.34	Fig.28	10.32	Fig.29	10.01	Fig.30
	707.5	23095		50	0	10.32	Fig.31	9.98	Fig.32	9.91	Fig.33
711	23130	50		0	10.24	Fig.34	10.14	Fig.35	9.92	Fig.36	

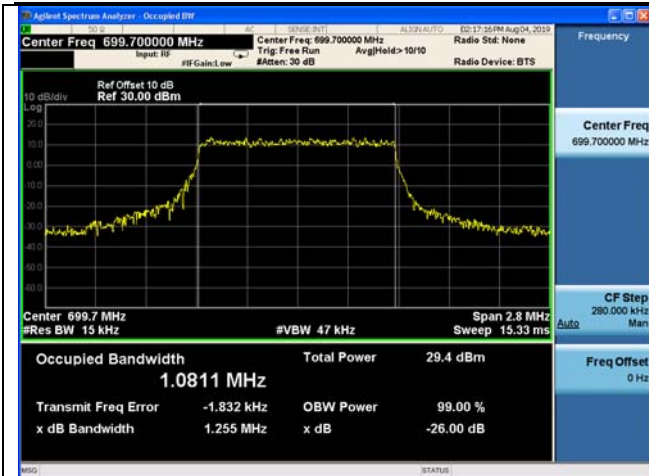


Fig.1

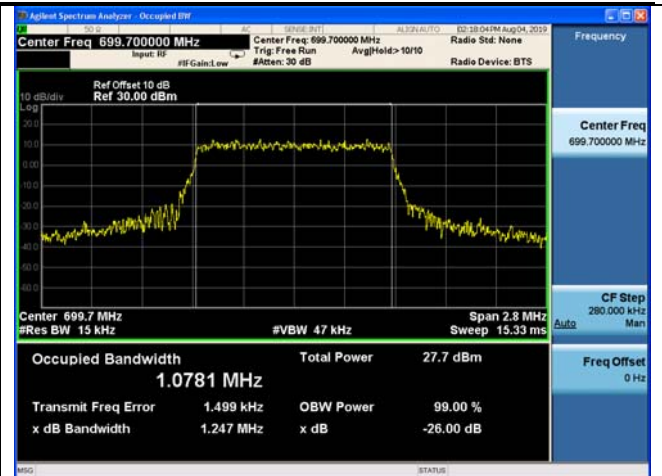


Fig.2

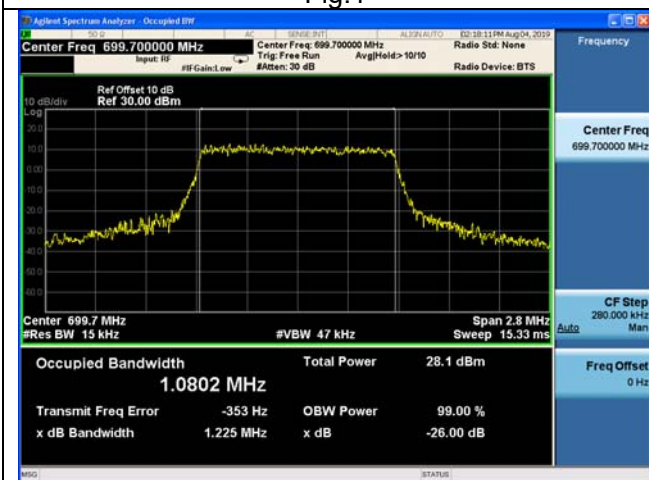


Fig.3

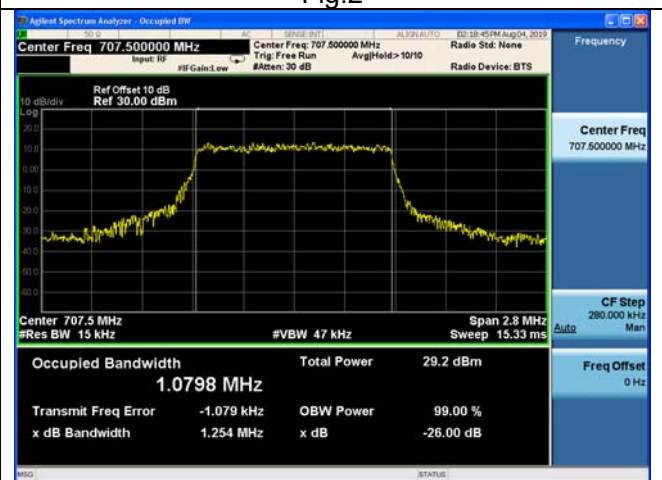


Fig.4

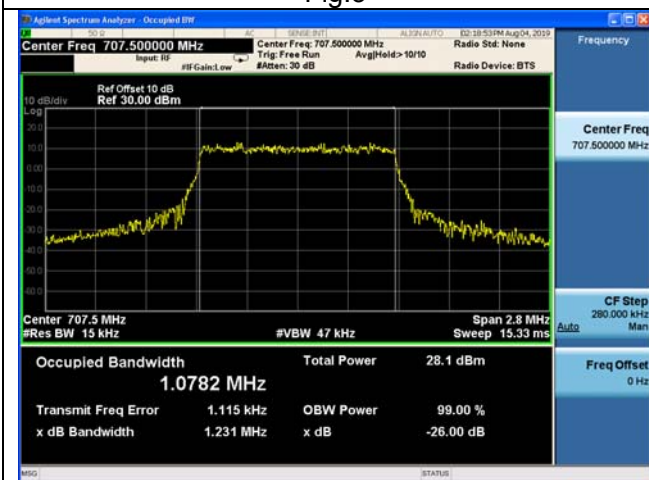


Fig.5

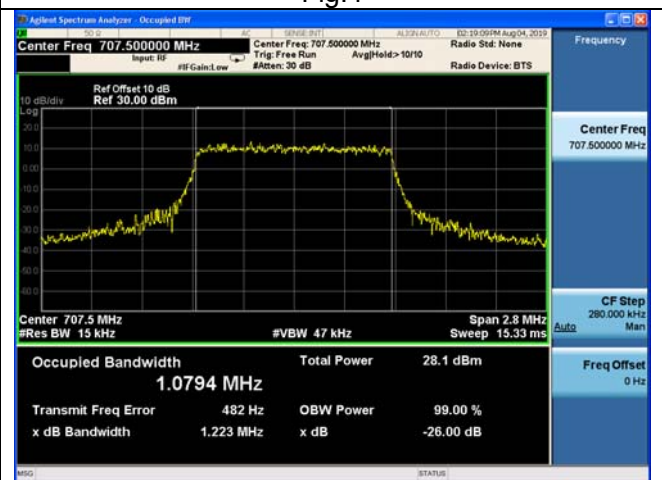


Fig.6



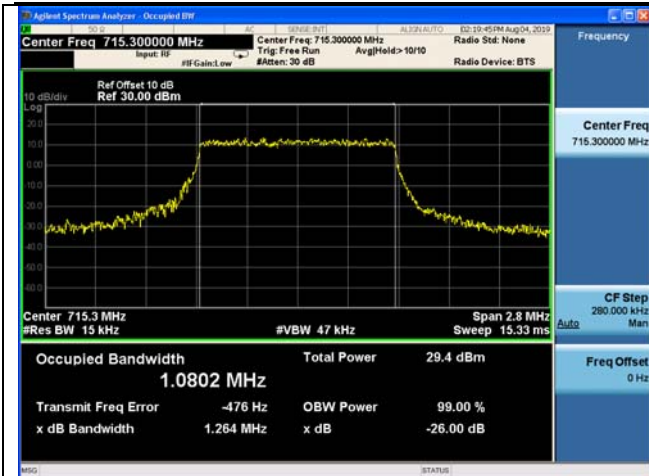


Fig.7

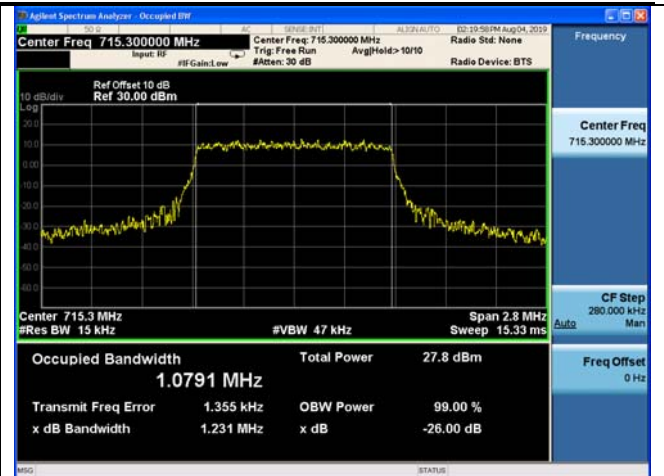


Fig.8

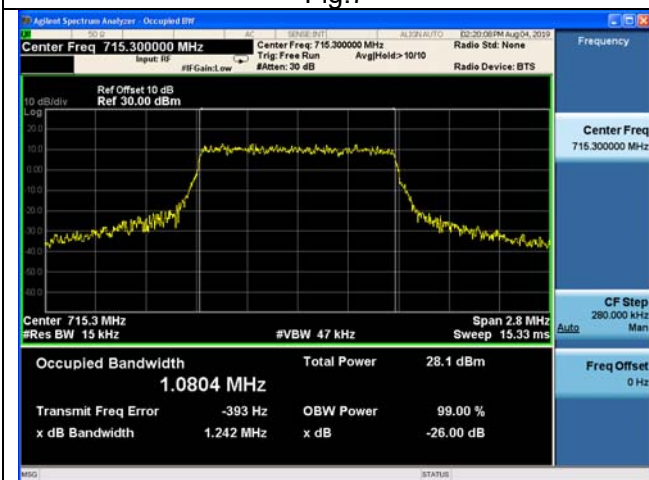


Fig.9

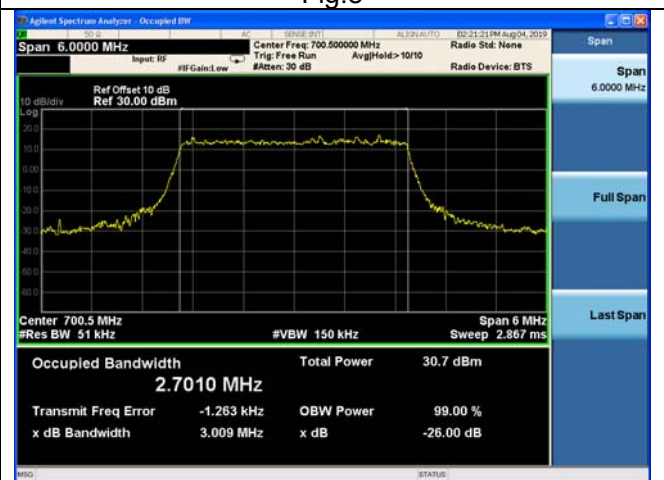


Fig.10

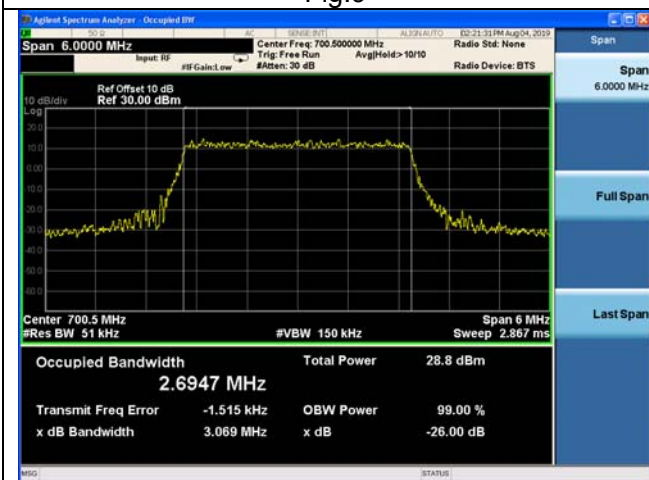


Fig.11

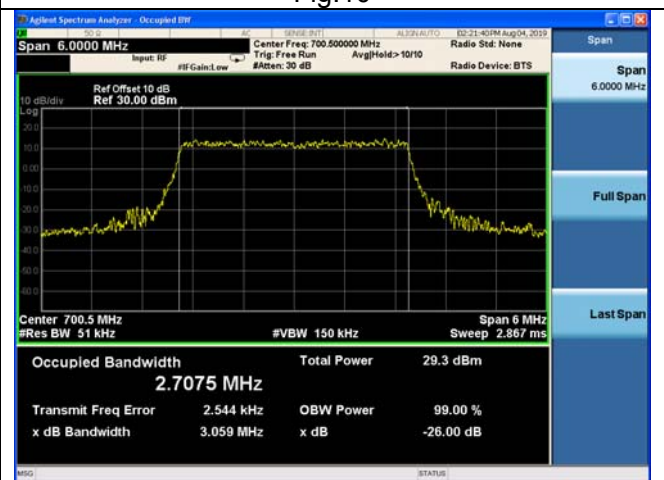


Fig.12

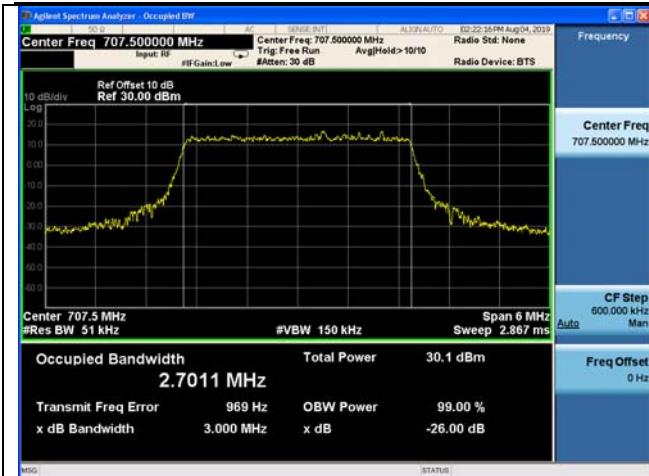


Fig.13

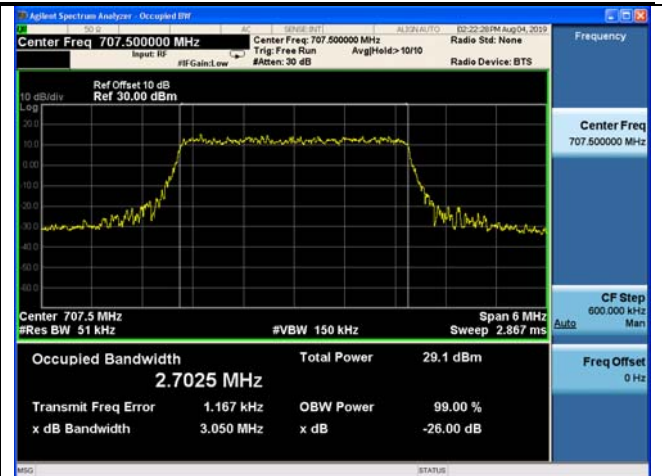


Fig.14

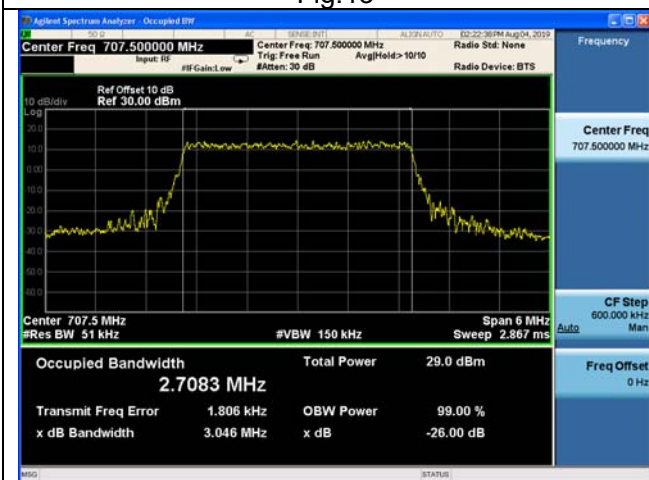


Fig.15

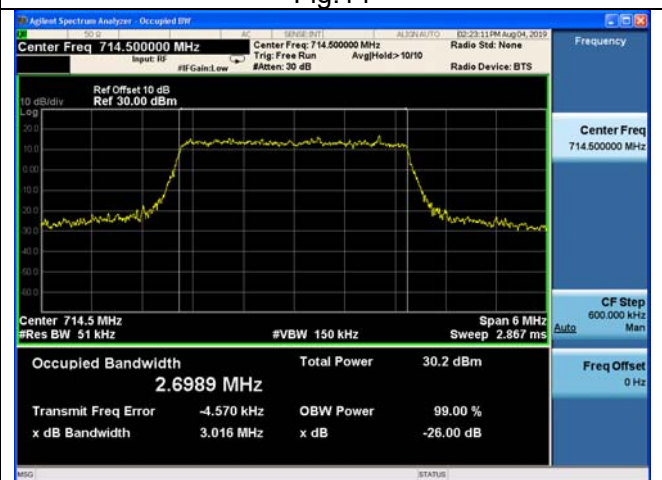


Fig.16

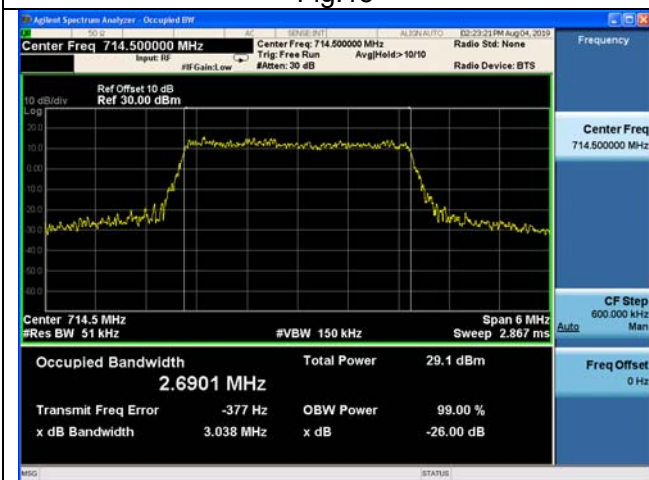


Fig.17

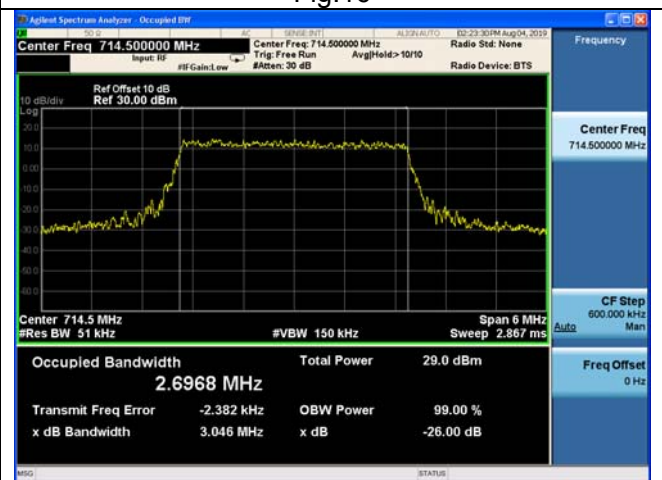


Fig.18

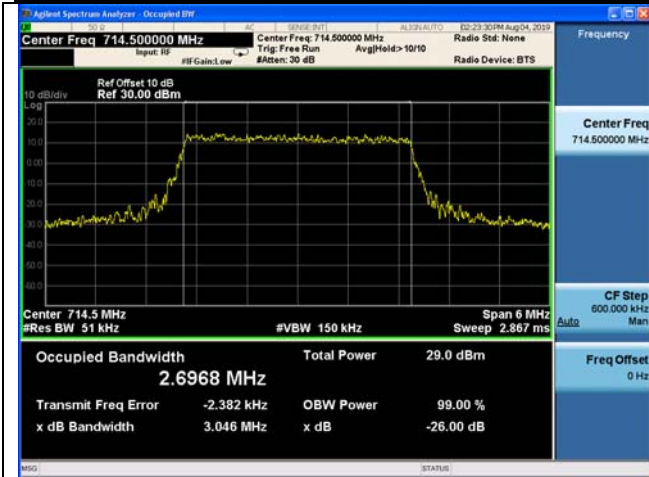


Fig.19

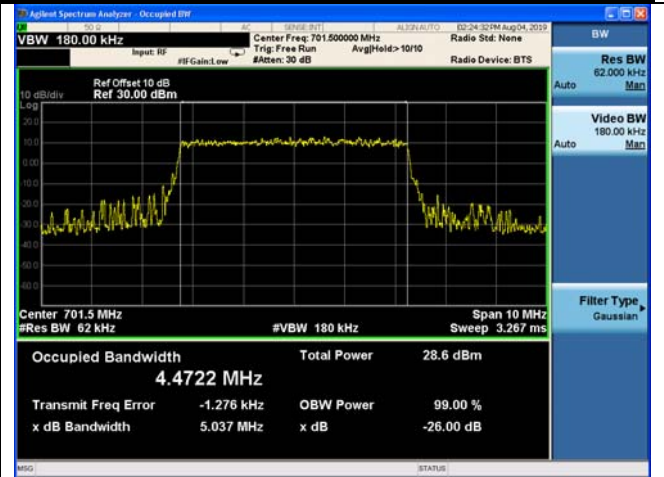


Fig.20

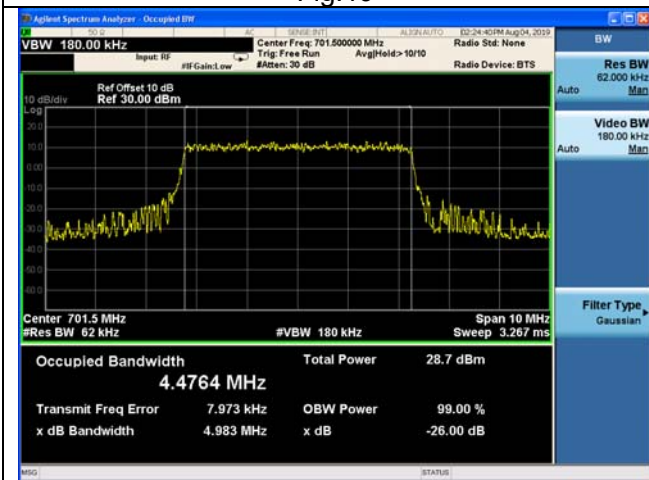


Fig.21

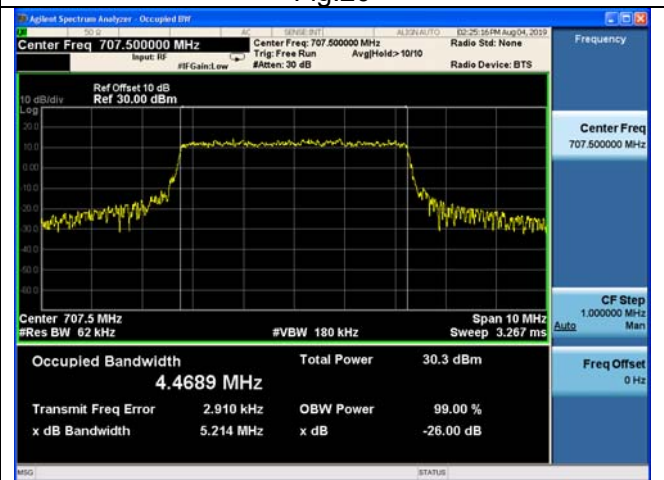


Fig.22

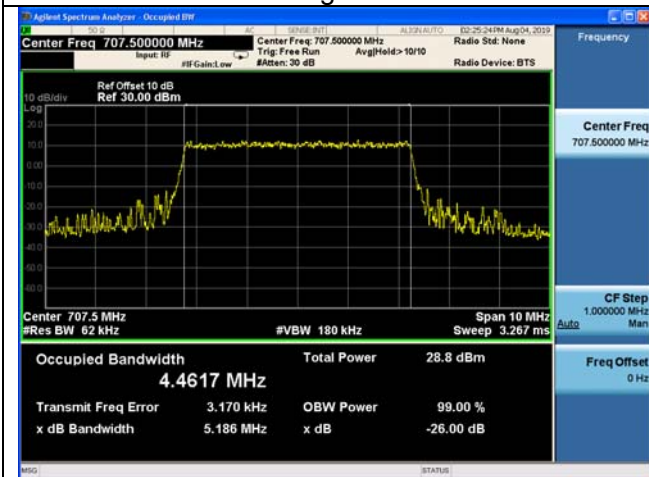


Fig.23

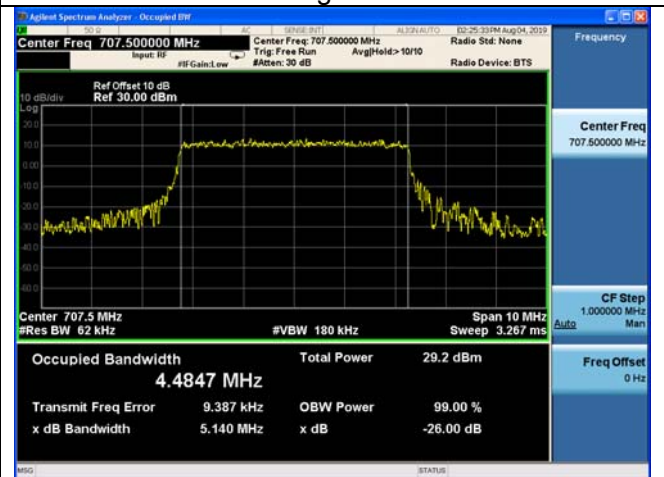


Fig.24

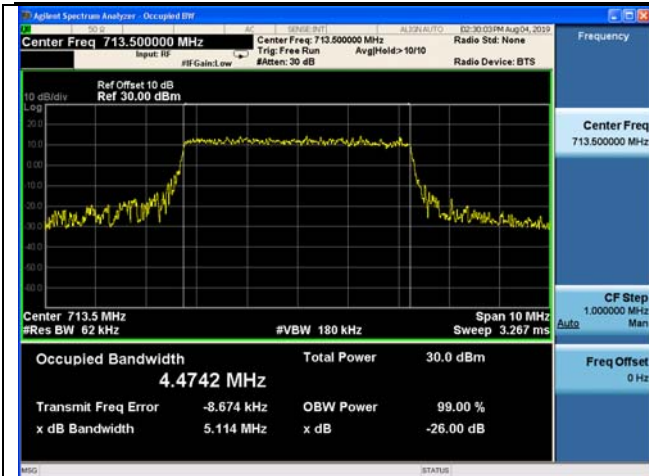


Fig.25

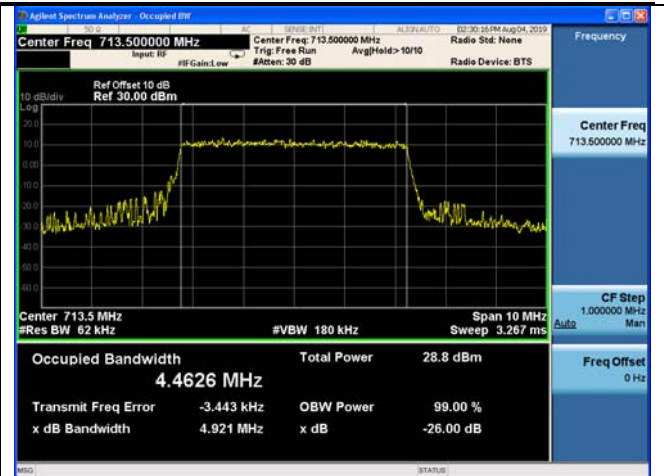


Fig.26

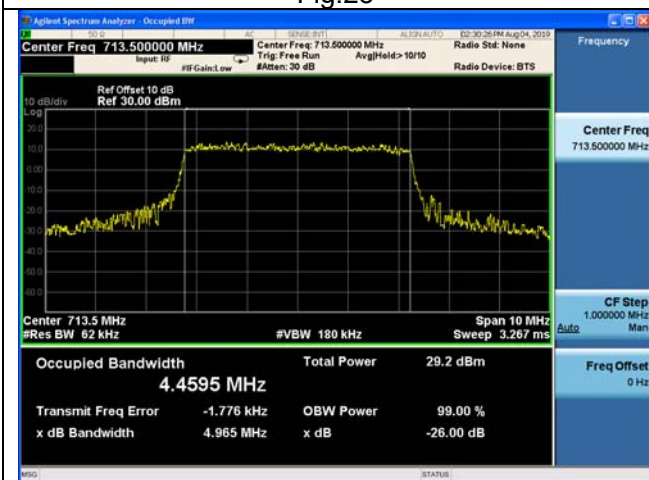


Fig.27

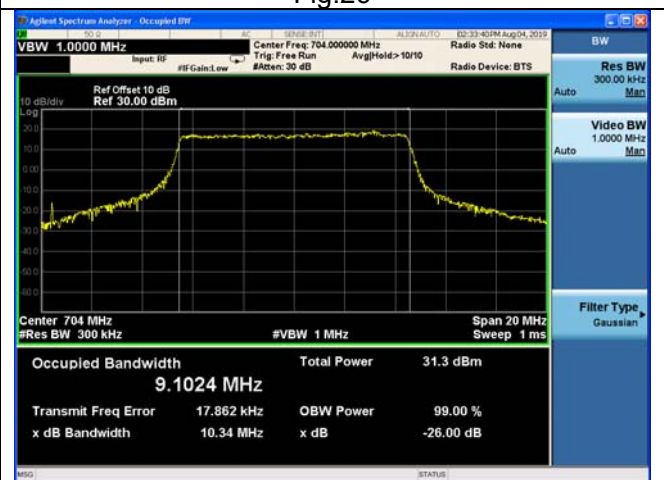


Fig.28

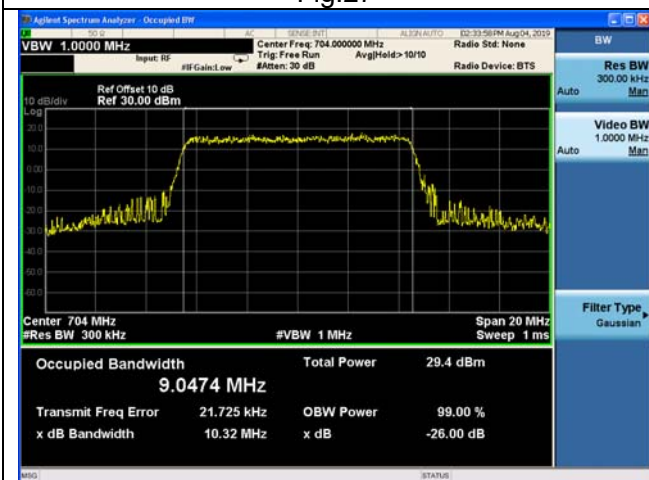


Fig.29

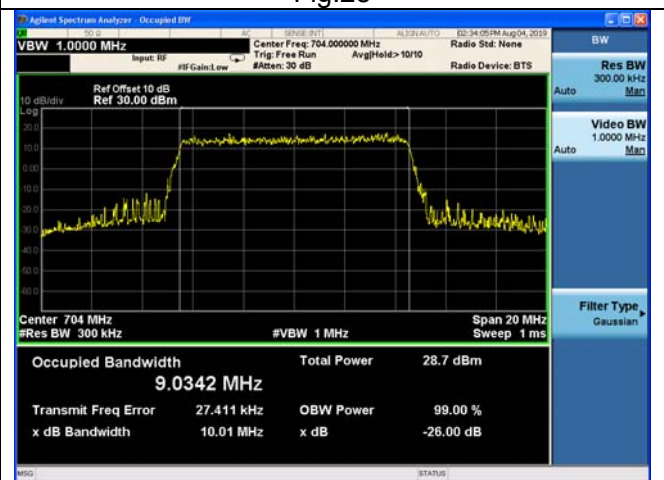


Fig.30

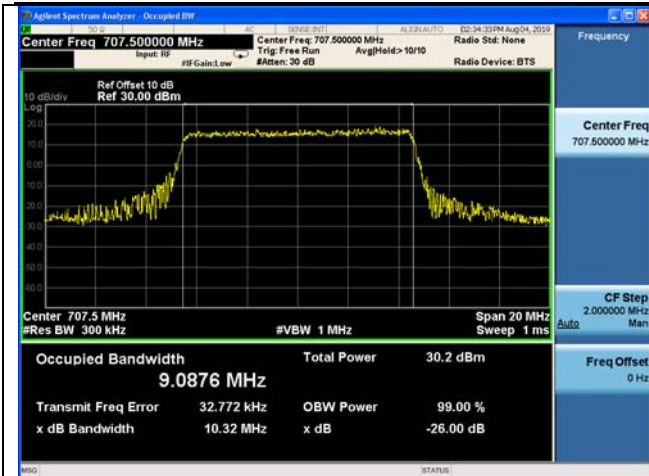


Fig.31

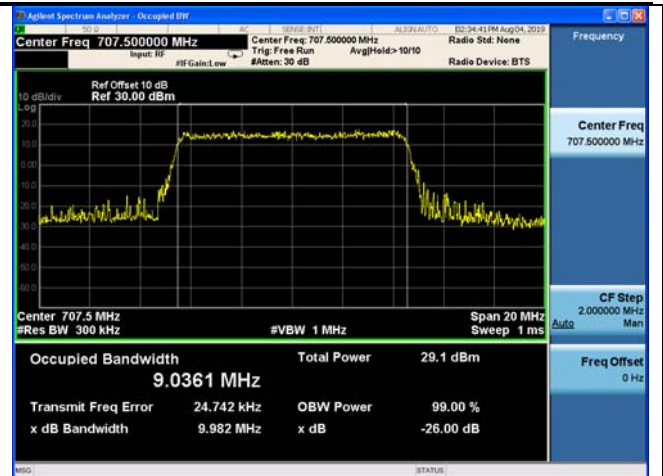


Fig.32

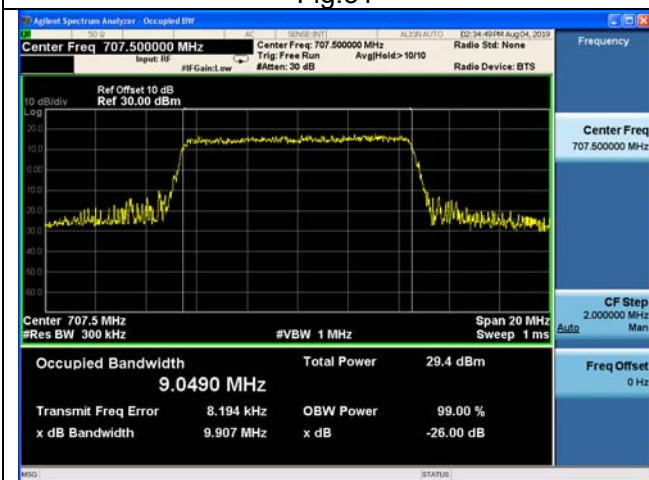


Fig.33

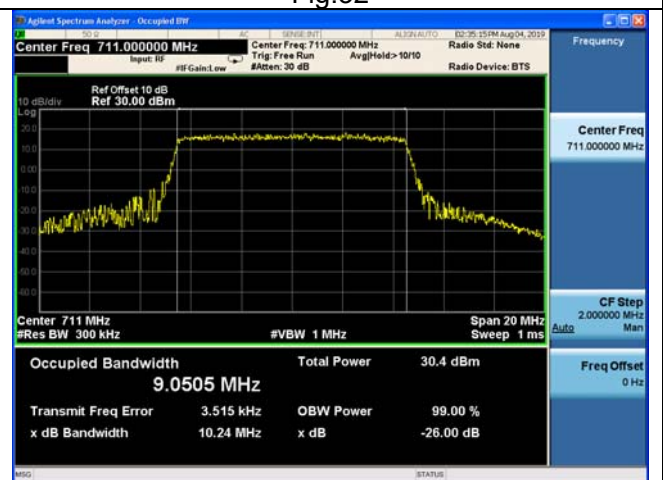


Fig.34

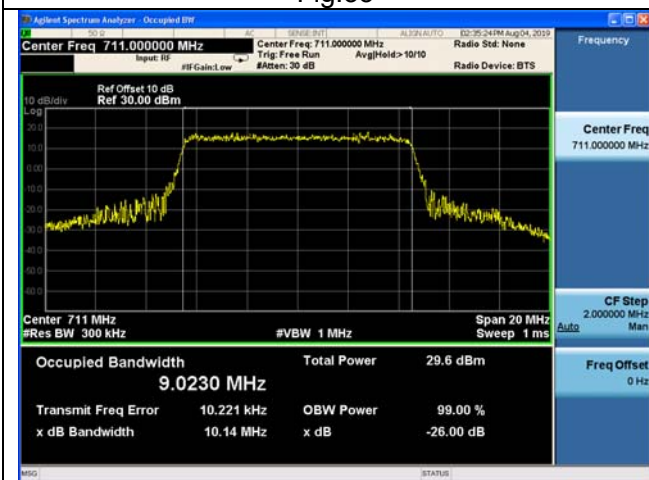


Fig.35

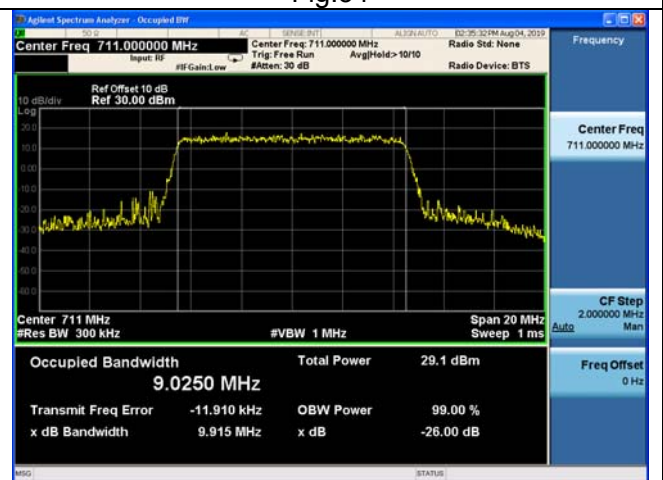


Fig.36

### 3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
12	707.5	23095	1.4	1	0	Fig.1	Fig.2	Fig.3
			3	1	0	Fig.4	Fig.5	Fig.6
			5	1	0	Fig.7	Fig.8	Fig.9
			10	1	0	Fig.10	Fig.11	Fig.12



Fig.1

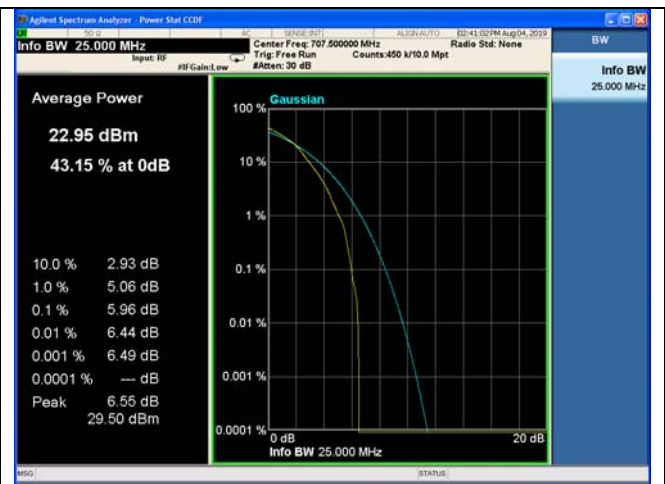


Fig.2

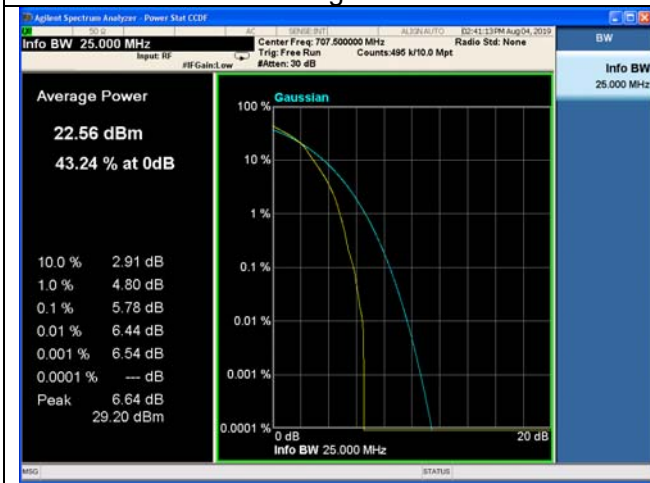


Fig.3



Fig.4

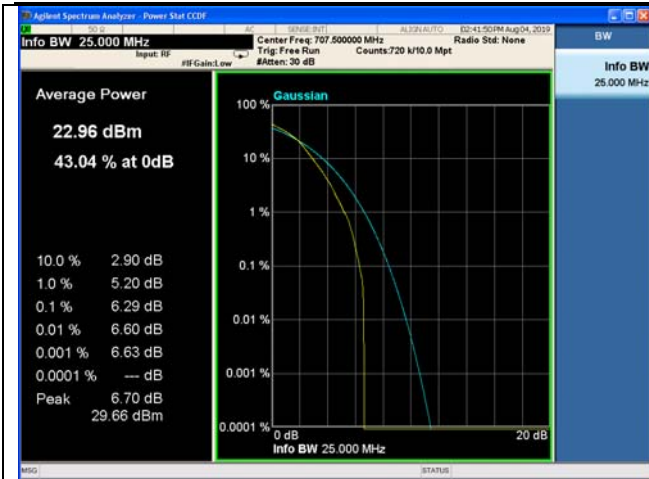


Fig.5



Fig.6

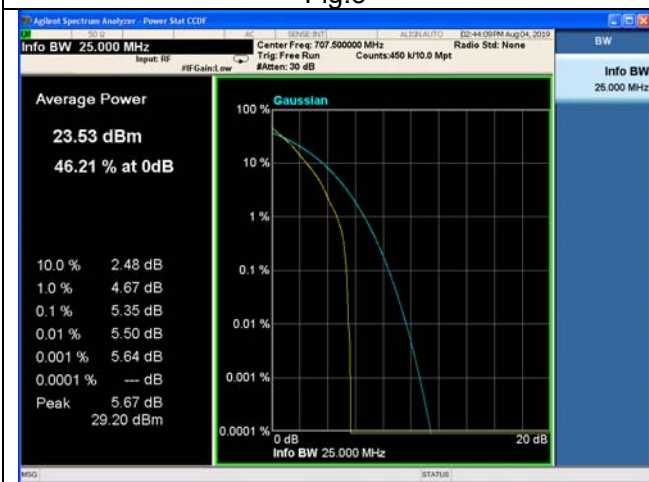


Fig.7



Fig.8

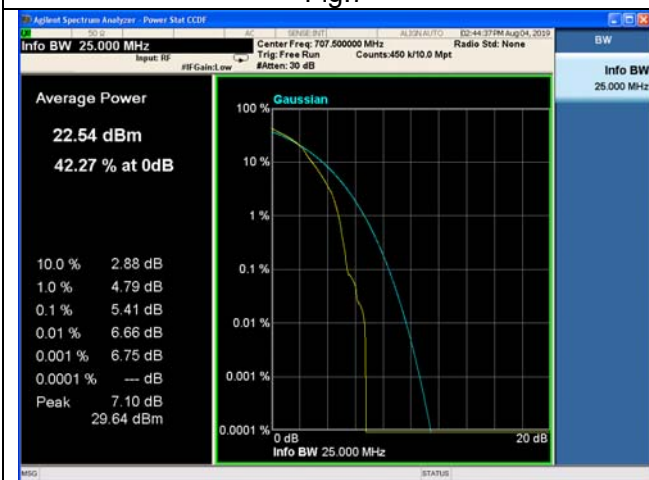


Fig.9

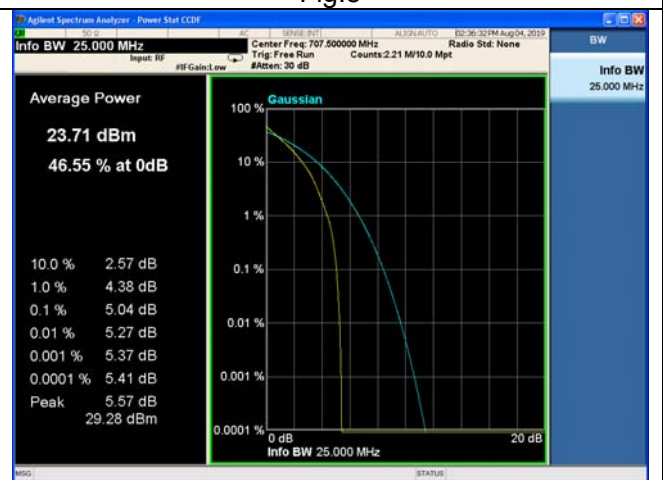


Fig.10



Fig.11



Fig.12



**4 Spurious Emissions at antenna terminal**

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
12	704	23060	10	1	0	Fig.1
	707.5	23095	10	1	0	Fig.2
	711	23173	10	1	0	Fig.3



Fig.1

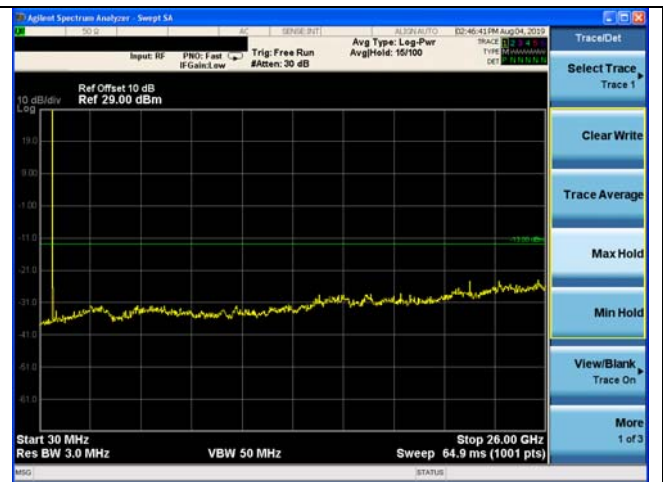


Fig.2

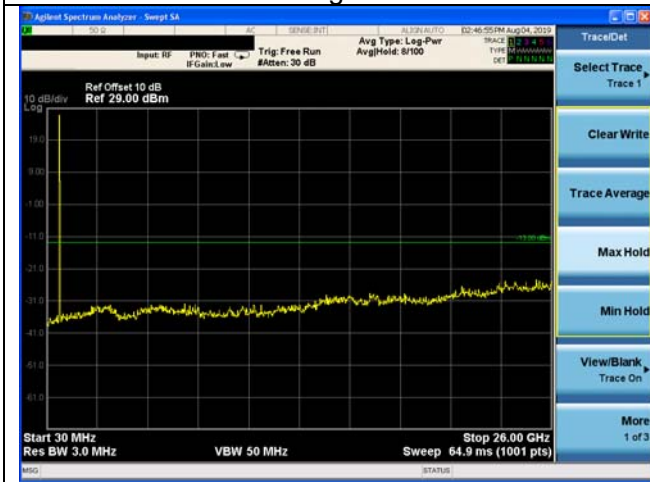


Fig3

**5 Band Edges Compliance**

Test result

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
12	699.7	23017	1.4	1	0	Fig.1
				6	0	Fig.2
	715.3	23173		1	5	Fig.3
				6	0	Fig.4
	700.5	23025	3	1	0	Fig.5
				15	0	Fig.6
	714.5	23165		1	14	Fig.7
				15	0	Fig.8
	701.5	23035	5	1	0	Fig.9
				25	0	Fig.10
	713.5	23155		1	24	Fig.11
				25	0	Fig.12
	704	23060	10	1	0	Fig.13
				50	0	Fig.14
	711	23130		1	49	Fig.15
				50	0	Fig.16

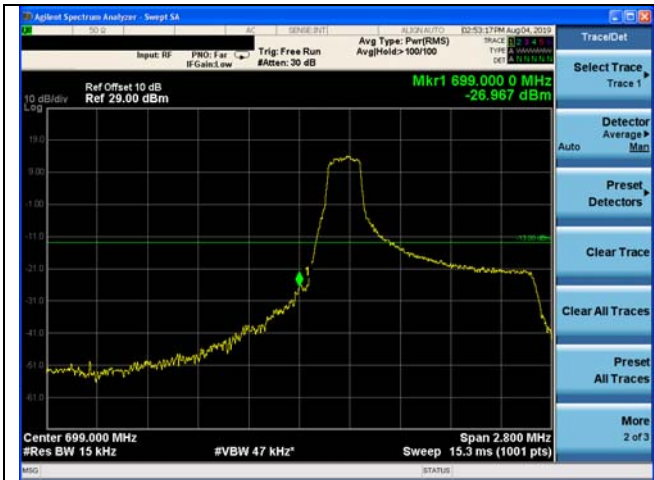


Fig.1



Fig.2



Fig.3



Fig.4

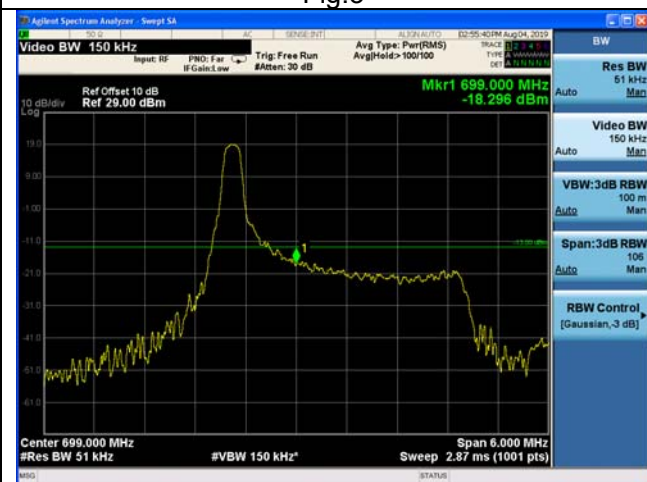


Fig.5

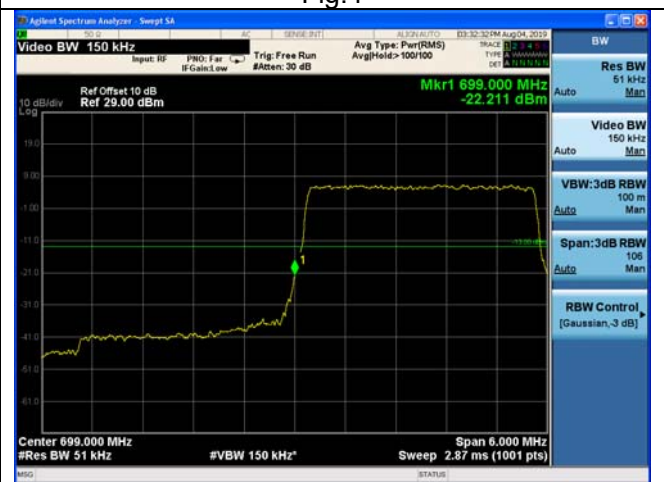


Fig.6



Fig.7



Fig.8

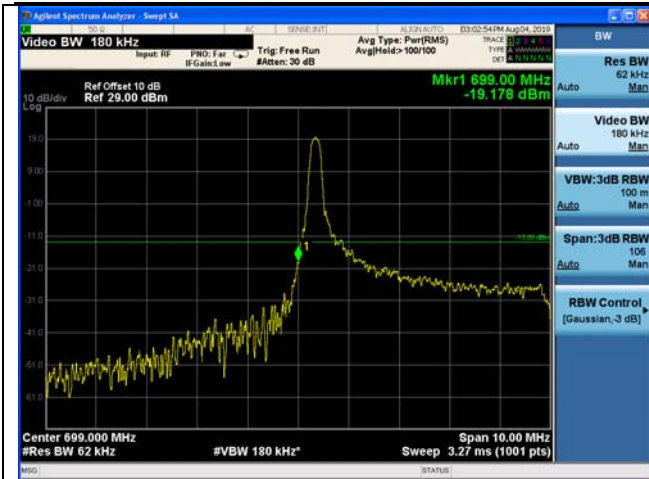


Fig.9

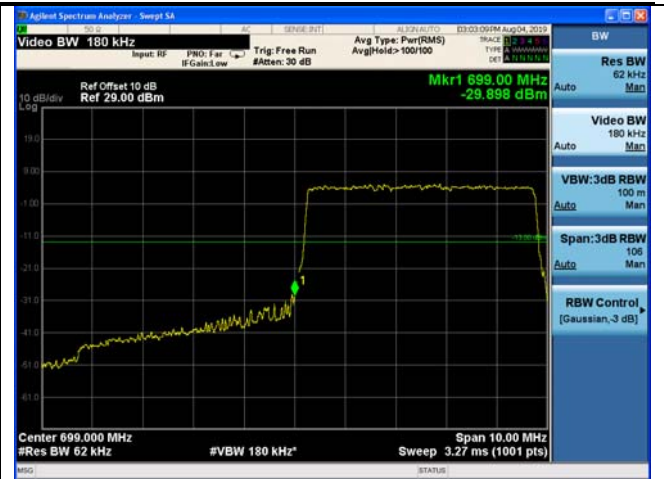


Fig.10

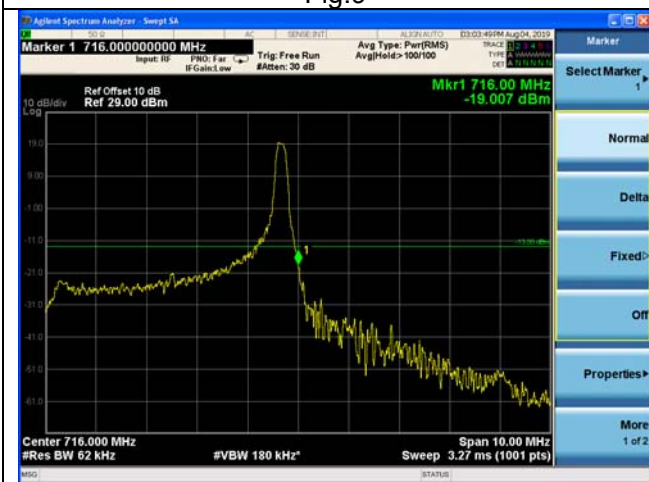


Fig.11



Fig.12

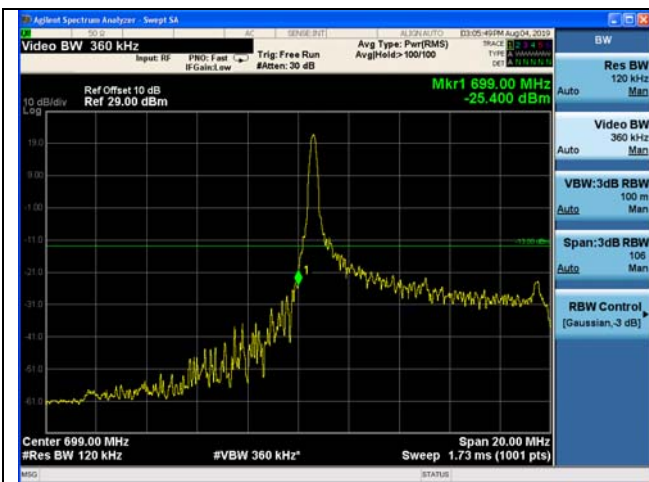


Fig.13

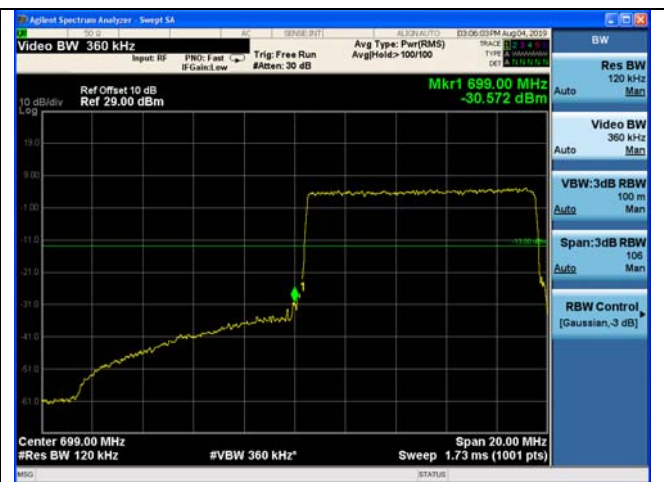


Fig.14

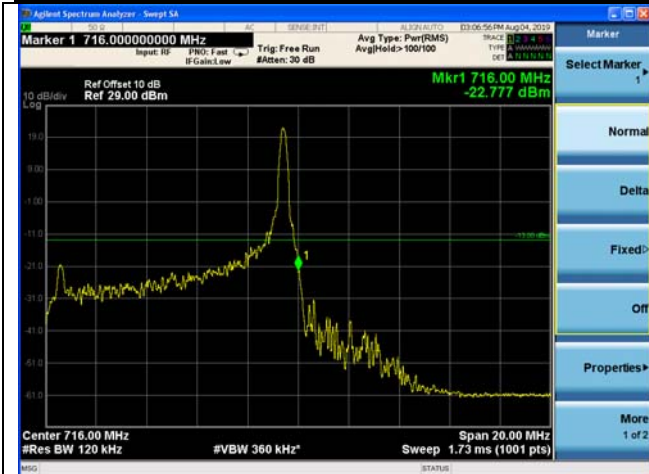


Fig.15



Fig.16

## 6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band12 Low Channel			
		1.4M	3M	5M	10M
-10	NV	0.086	0.006	0.109	0.033
0	NV	0.075	0.042	-0.008	-0.092
+10	NV	-0.123	0.077	0.087	0.109
+20	NV	0.056	0.013	0.073	0.006
+30	NV	0.080	-0.046	-0.142	0.019
+40	NV	0.078	0.037	0.031	0.003
+50	NV	0.116	0.039	0.128	-0.072
+55	NV	-0.015	0.023	0.016	0.057
+20	LV	0.079	-0.012	0.102	0.078
+20	HV	0.058	0.077	0.048	0.055

Temperature(°C)	Voltage	Test Result (ppm) Band12 High Channel			
		1.4M	3M	5M	10M
-10	NV	0.058	0.129	0.055	0.033
0	NV	-0.029	0.097	0.031	-0.068
+10	NV	0.081	-0.053	0.113	0.066
+20	NV	-0.092	0.020	-0.105	0.049
+30	NV	0.060	0.021	0.120	0.079
+40	NV	0.069	0.139	0.095	0.037
+50	NV	0.028	-0.084	-0.042	0.021
+55	NV	0.023	0.088	0.038	0.019
+20	LV	0.073	0.073	0.047	0.136
+20	HV	-0.086	0.139	0.065	0.015

**APPENDIX A – TEST DATA OF CONDUCTED EMISSION**

**LTE Band 13  
1 RF Power Output**

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	779.5	23205	5	1	0	23.37
				1	24	23.37
				12	6	22.27
				25	0	22.26
	782	23230		1	0	23.31
				1	24	23.31
				12	6	22.32
				25	0	22.27
	784.5	23255		1	0	23.23
				1	24	23.23
				12	6	22.27
				25	0	22.32
16QAM	779.5	23205	5	1	0	23.17
				1	24	23.17
				12	6	21.42
				25	0	21.56
	782	23230		1	0	23.12
				1	24	23.12
				12	6	21.67
				25	0	21.38
	784.5	23255		1	0	22.81
				1	24	22.81
				12	6	21.34
				25	0	21.32
64QAM	779.5	23205	5	1	0	22.79
				1	24	22.82
				12	6	21.51
				25	0	21.59
	782	23230		1	0	22.88
				1	24	22.72
				12	6	21.82
				25	0	21.64
	784.5	23255		1	0	22.77
				1	24	22.63
				12	6	21.79
				25	0	21.54

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	782	23230	10	1	0	<b>23.54</b>
				1	49	<b>23.54</b>
				24	12	22.29
				50	0	22.25
16QAM	782	23230	10	1	0	22.46
				1	49	22.46
				24	12	21.69
				50	0	21.33
64QAM	782	23230	10	1	0	22.96
				1	49	22.94
				24	12	21.86
				50	0	21.78



**2 Occupied Bandwidth**  
Test result

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
13	779.5	23205	5	25	0	4.48	Fig.1	4.47	Fig.2	4.48	Fig.3
	782	23230		25	0	4.46	Fig.4	4.47	Fig.5	4.47	Fig.6
	784.5	23255		25	0	4.48	Fig.7	4.48	Fig.8	4.45	Fig.9
	782	23230	10	50	0	9.09	Fig.10	8.99	Fig.11	9.03	Fig.12

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
13	779.5	23205	5	25	0	5.13	Fig.1	5.00	Fig.2	4.91	Fig.3
	782	23230		25	0	5.05	Fig.4	5.00	Fig.5	4.96	Fig.6
	784.5	23255		25	0	5.13	Fig.7	5.28	Fig.8	4.65	Fig.9
	782	23230	10	50	0	10.38	Fig.10	9.98	Fig.11	10.04	Fig.12

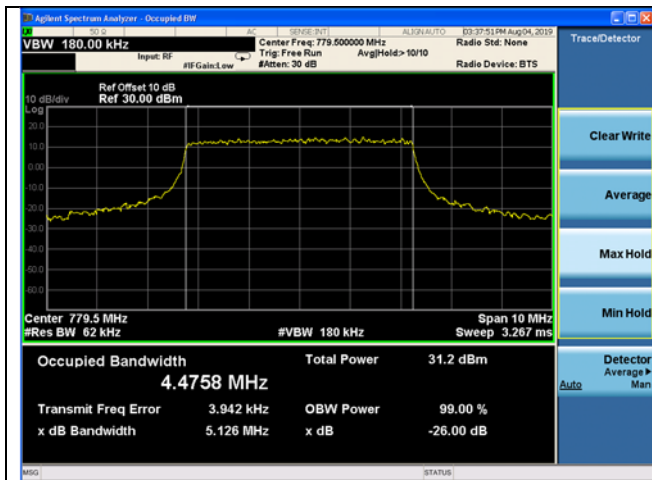


Fig.1

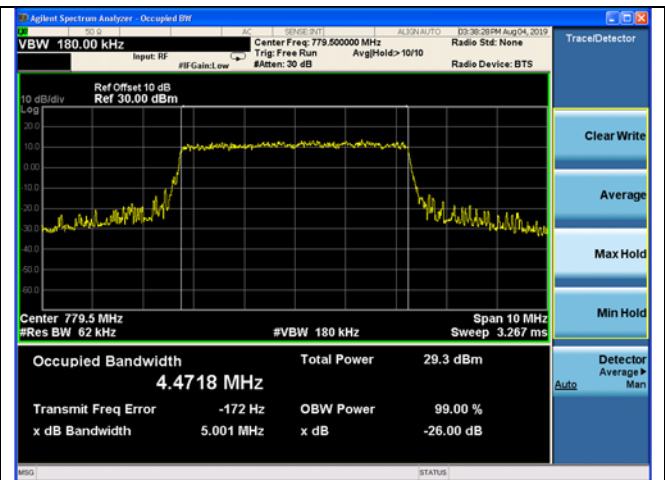


Fig.2

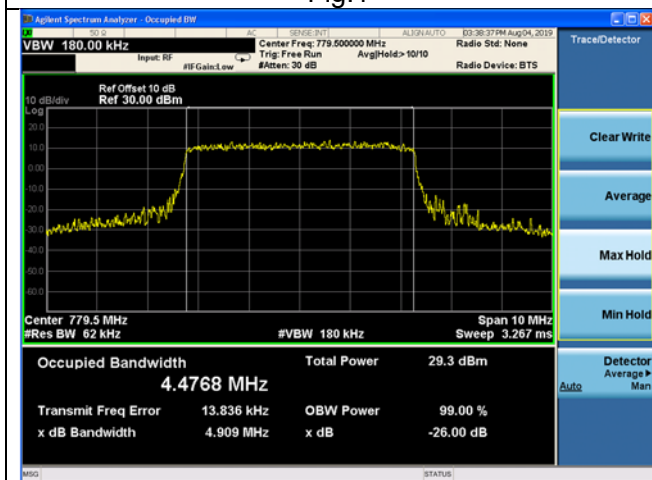


Fig.3

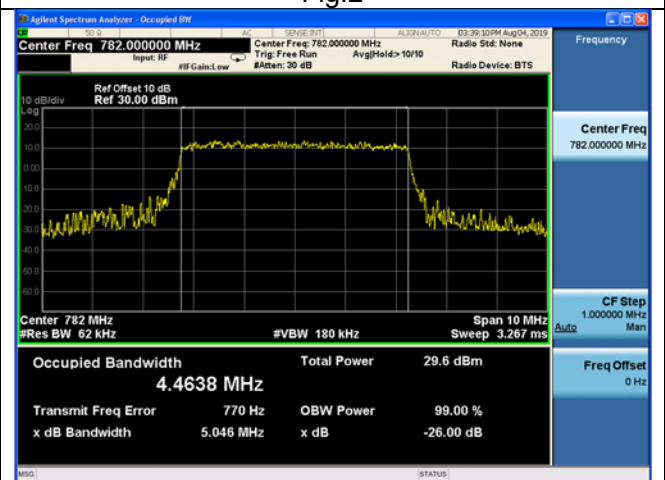


Fig.4

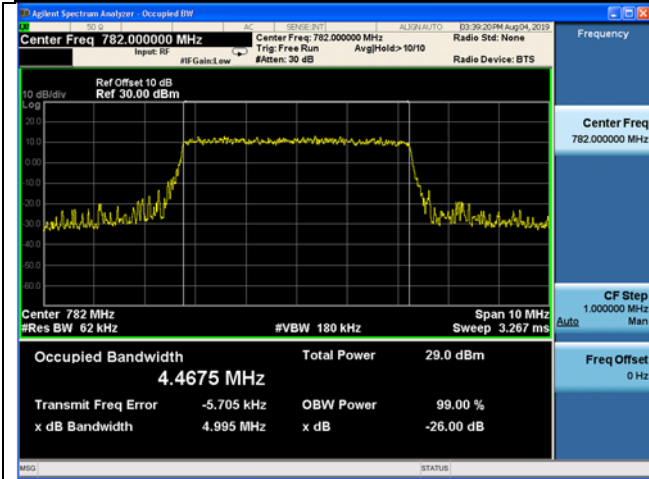


Fig.5

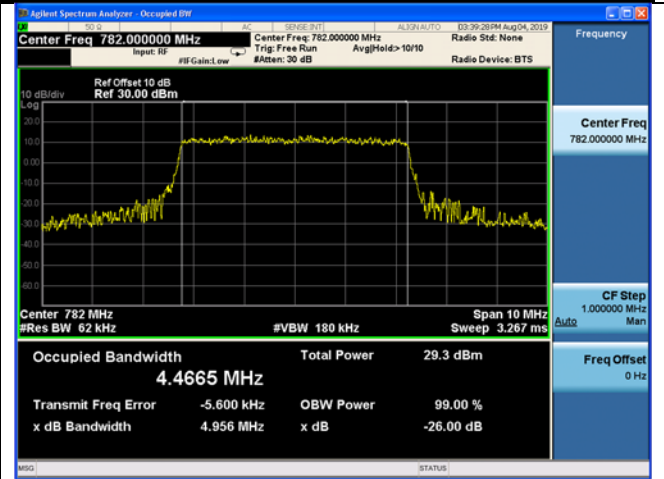


Fig.6

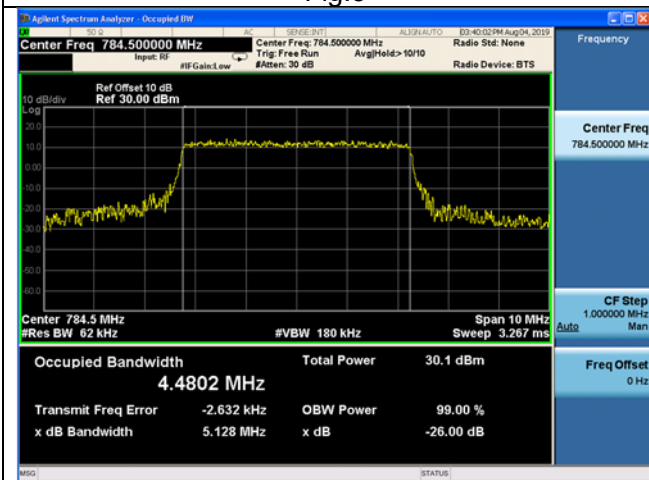


Fig.7

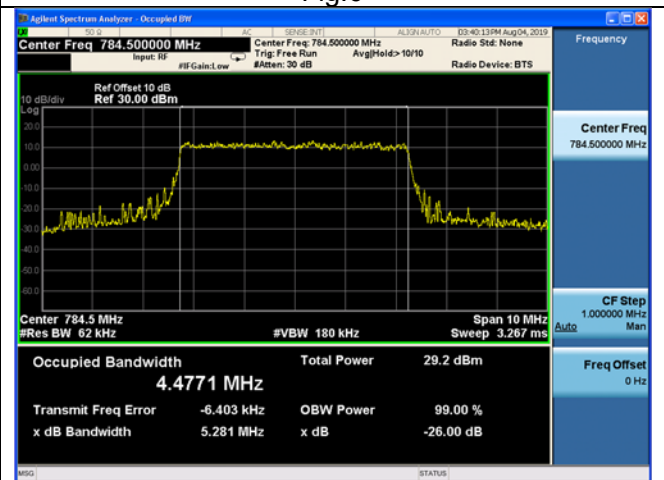


Fig.8

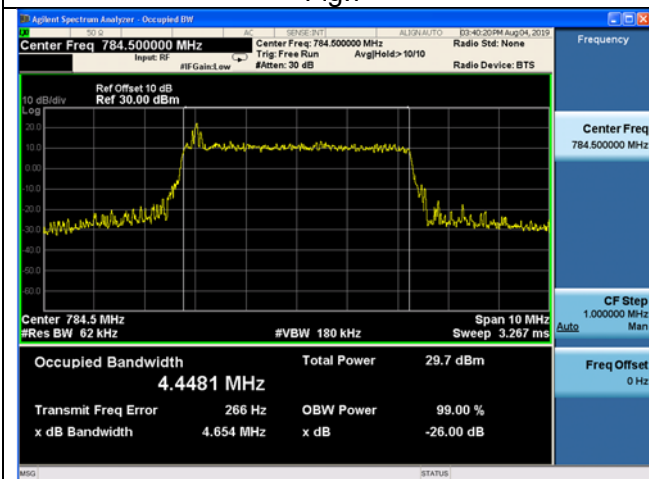


Fig.9

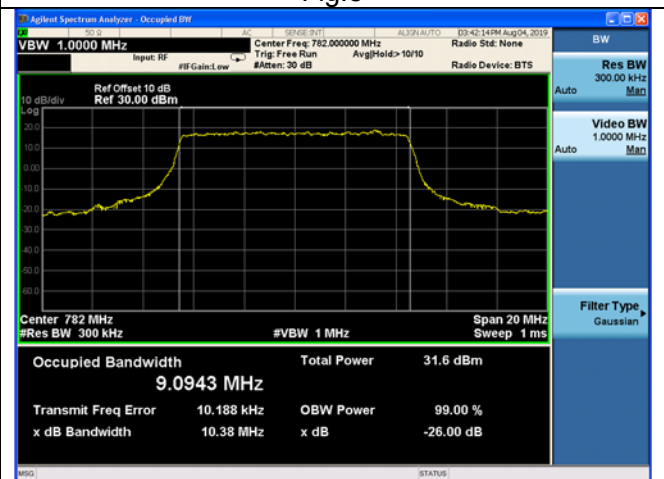


Fig.10

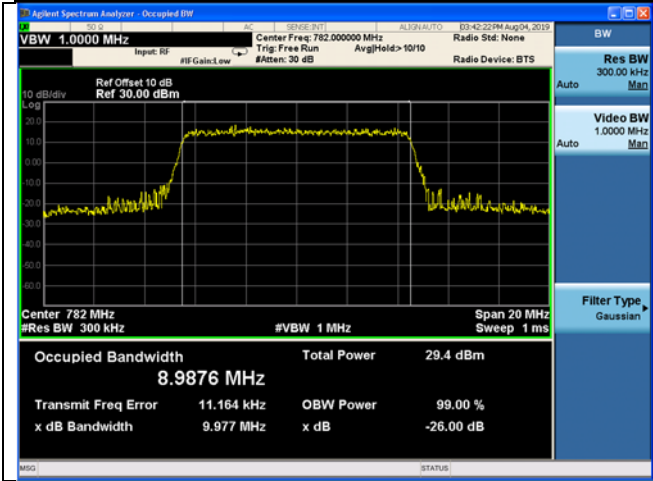


Fig.11

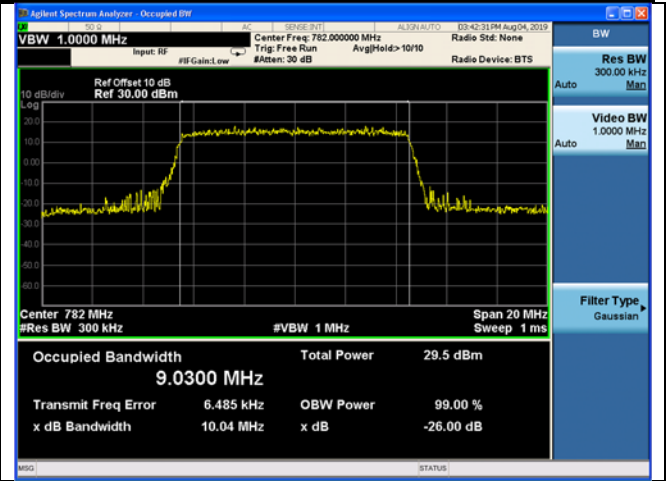


Fig.12

### 3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
13	782	23230	5	1	0	Fig.1	Fig.2	Fig.3
			10	1	0	Fig.4	Fig.5	Fig.6

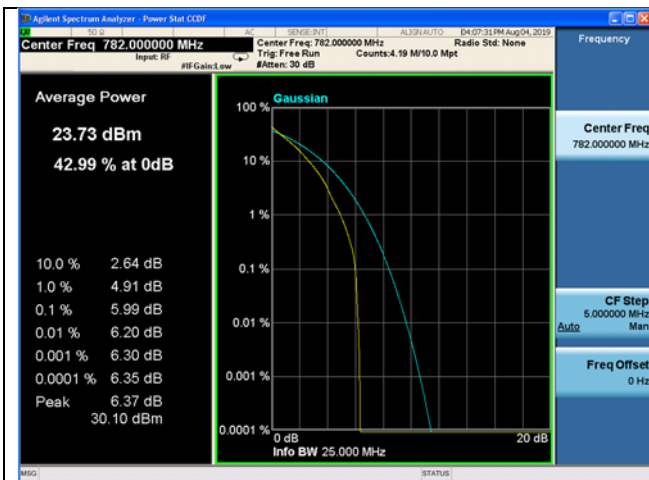


Fig.1

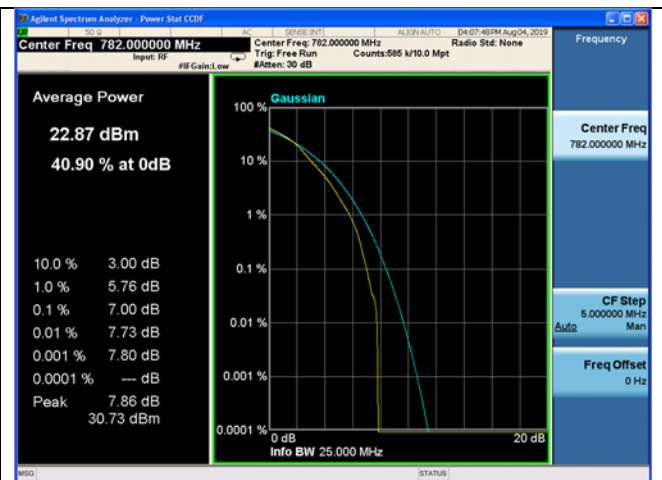


Fig.2

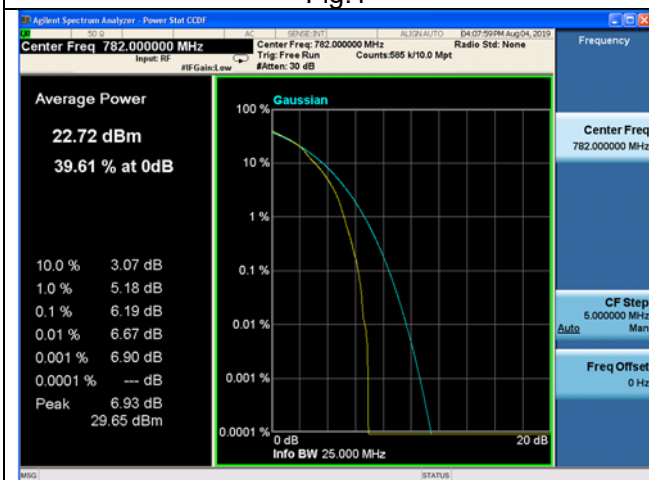


Fig.3



Fig.4

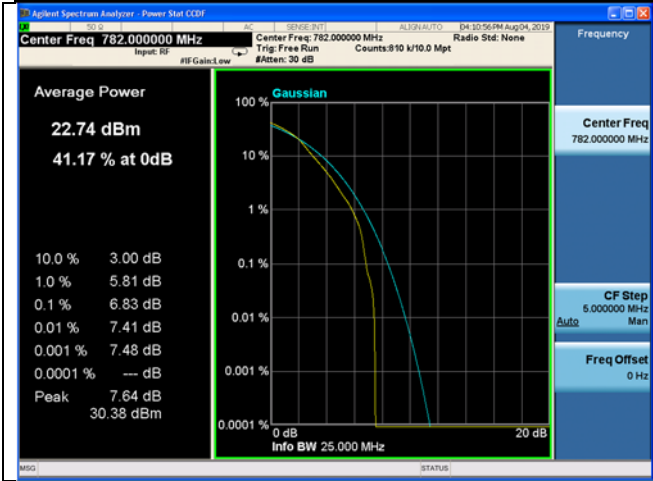


Fig.5

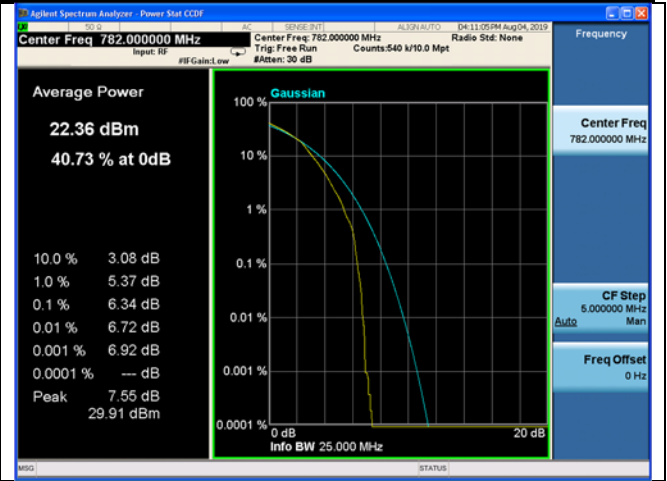


Fig.6

#### 4 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
13	782	23230	10	1	0	Fig.1

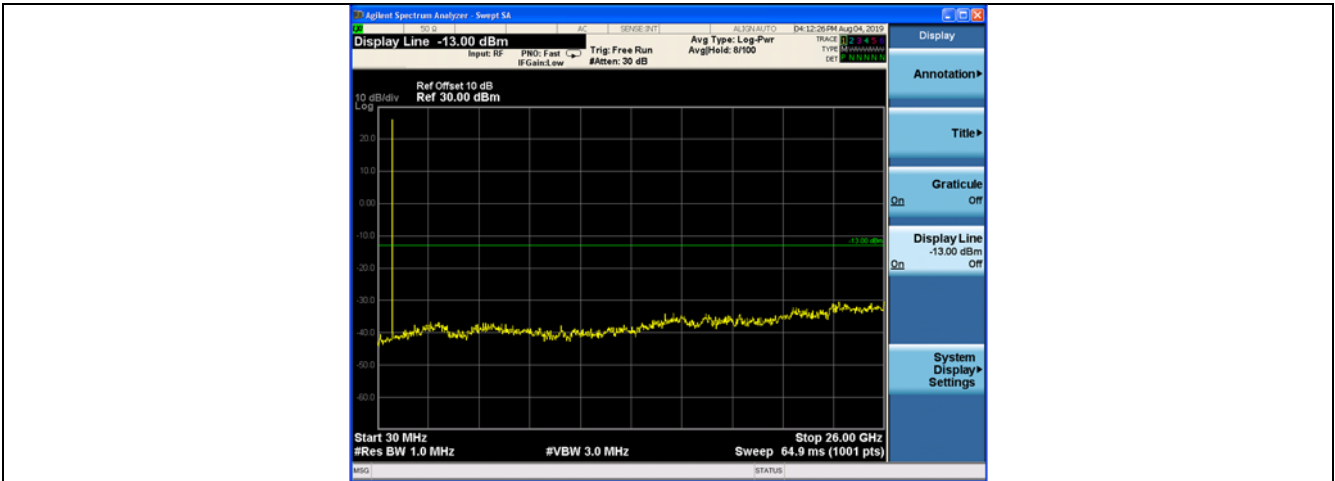


Fig.1

**5 Band Edges Compliance**  
Test result

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot	
						QPSK	
13	779.5	23205	5	1	0	Fig.1	
				25	0	Fig.2	
	784.5	23255		1	24	Fig.3	
				25	0	Fig.4	
	782	23230	10	1	0	Fig.5	
				50	0	Fig.6	
			782	23230	1	49	Fig.7
					50	0	Fig.8

Emission Mask Edge

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot	
						QPSK	
13	779.5	23205	5	1	0	Fig.9	
				25	0	Fig.10	
	784.5	23255		1	24	Fig.11	
				25	0	Fig.12	
	782	23230	10	1	0	Fig.13	
				50	0	Fig.14	
			782	23230	1	49	Fig.15
					50	0	Fig.16

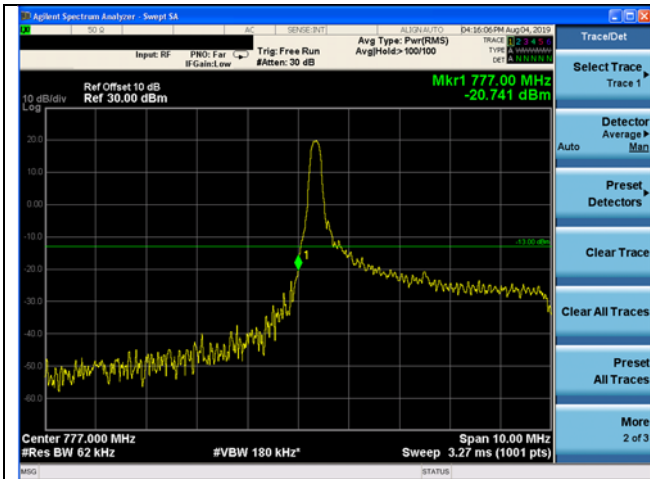


Fig.1

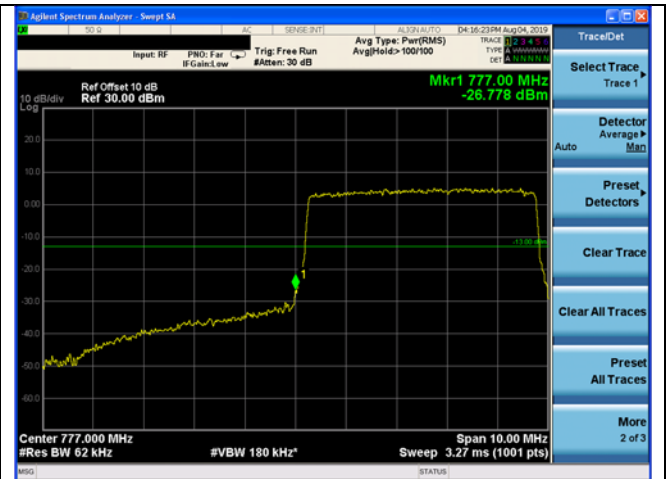


Fig.2

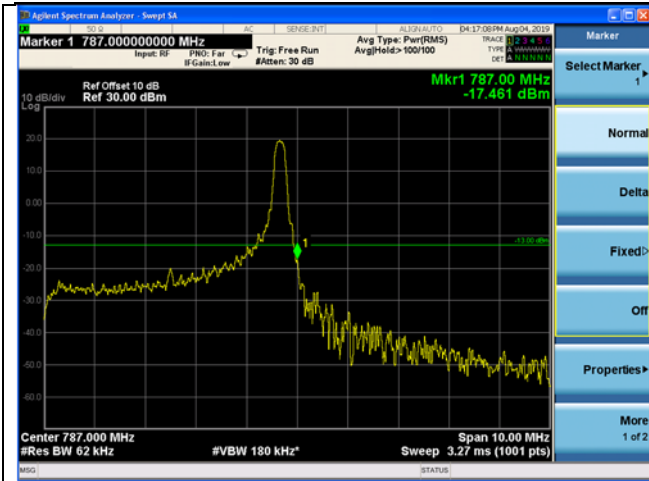


Fig.3



Fig.4

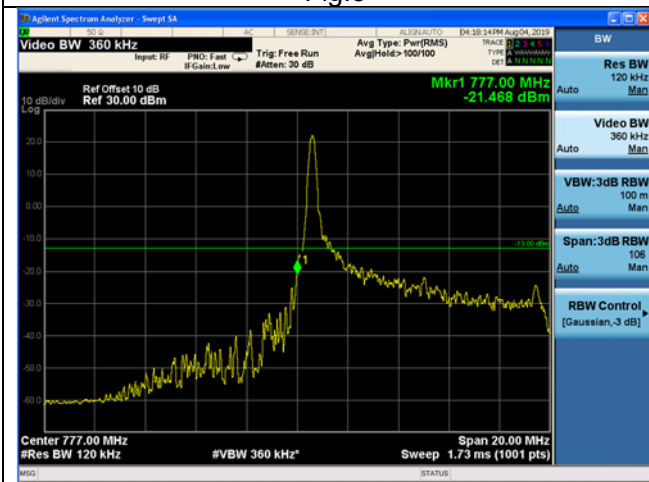


Fig.5

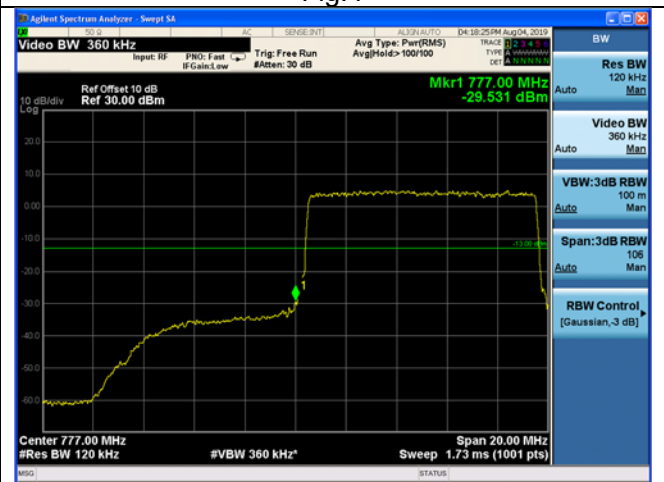


Fig.6

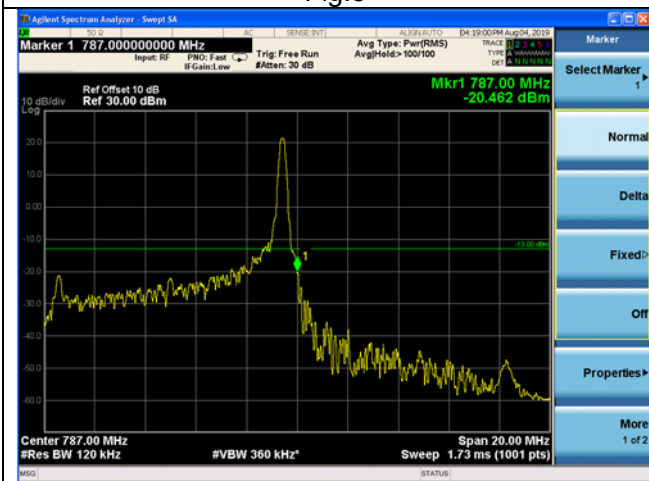


Fig.7



Fig.8

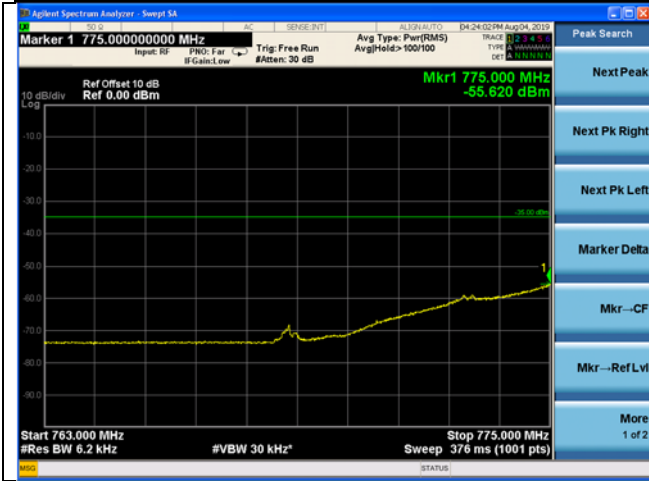


Fig.9



Fig.10

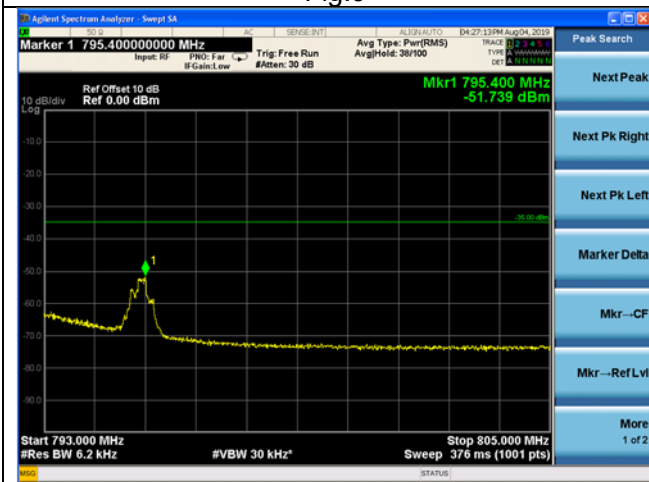


Fig.11

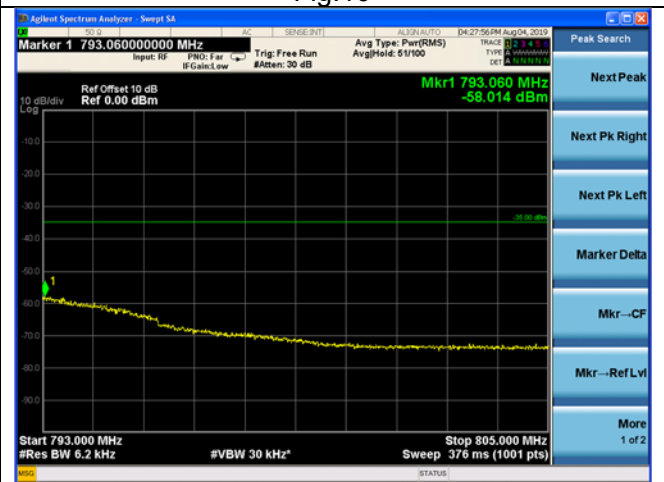


Fig.12

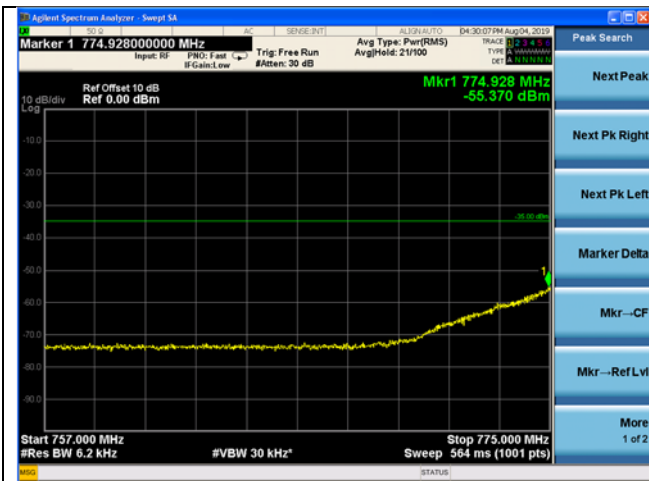


Fig.13

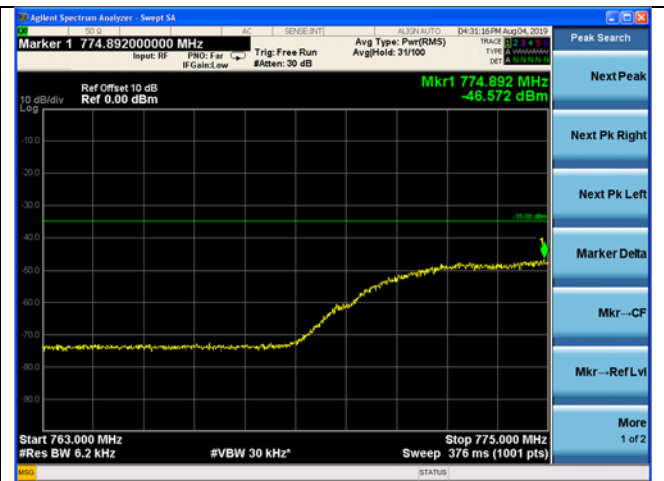


Fig.14