

## APPENDIX A – TEST DATA OF CONDUCTED EMISSION

### LTE Band 4

#### 1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1710.7	19957	1.4	1	0	22.33
				1	5	22.19
				3	2	21.72
				6	0	21.55
	1732.5	20175		1	0	22.15
				1	5	22.15
				3	2	21.70
				6	0	21.70
	1754.3	20393		1	0	22.17
				1	5	22.22
				3	2	21.60
				6	0	21.54
16QAM	1710.7	19957	1.4	1	0	21.52
				1	5	21.49
				3	2	20.64
				6	0	20.76
	1732.5	20175		1	0	21.20
				1	5	21.31
				3	2	20.64
				6	0	20.68
	1754.3	20393		1	0	21.31
				1	5	21.23
				3	2	20.68
				6	0	20.65
64QAM	1710.7	19957	1.4	1	0	21.33
				1	5	21.34
				3	2	20.58
				6	0	20.73
	1732.5	20175		1	0	21.31
				1	5	21.36
				3	2	20.69
				6	0	20.59
	1754.3	20393		1	0	21.37
				1	5	21.18
				3	2	20.61
				6	0	20.56

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	22.38
				1	14	22.09
				8	4	21.63
				15	0	21.64
	1732.5	20175		1	0	22.27
				1	14	21.99
				8	4	21.60
				15	0	21.55
	1753.5	20385		1	0	22.17
				1	14	22.22
				8	4	21.55
				15	0	21.50
16QAM	1711.5	19965	3	1	0	21.40
				1	14	21.36
				8	4	20.76
				15	0	20.80
	1732.5	20175		1	0	21.34
				1	14	21.19
				8	4	20.53
				15	0	20.53
	1753.5	20385		1	0	21.17
				1	14	21.20
				8	4	20.58
				15	0	20.70
64QAM	1711.5	19965	3	1	0	21.36
				1	14	21.26
				8	4	20.66
				15	0	20.73
	1732.5	20175		1	0	21.30
				1	14	21.34
				8	4	20.60
				15	0	20.73
	1753.5	20385		1	0	21.22
				1	14	21.36
				8	4	20.61
				15	0	20.64

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	22.40
				1	24	22.10
				12	6	21.68
				25	0	21.60
	1732.5	20175		1	0	22.20
				1	24	22.14
				12	6	21.61
	1752.5	20375		25	0	21.71
				1	0	22.17
1			24	22.11		
12			6	21.60		
16QAM	1712.5	19975	5	25	0	21.56
				1	0	21.37
				1	24	21.49
				12	6	20.66
	1732.5	20175		25	0	20.78
				1	0	21.36
				1	24	21.23
	1752.5	20375		12	6	20.67
				25	0	20.61
1			0	21.24		
1			24	21.24		
64QAM	1712.5	19975	5	12	6	20.63
				25	0	20.63
				1	0	21.32
				1	24	21.42
	1732.5	20175		12	6	20.70
				25	0	20.80
				1	0	21.42
	1752.5	20375		1	24	21.41
				12	6	20.72
25			0	20.57		
1			0	21.25		
				1	24	21.24
				12	6	20.59
				25	0	20.69
				1	0	21.24

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	22.32
				1	49	22.20
				24	12	21.70
				50	0	21.63
	1732.5	20175		1	0	22.27
				1	49	22.00
				24	12	21.67
				50	0	21.62
	1750	20350		1	0	22.20
				1	49	22.24
				24	12	21.62
				50	0	21.51
16QAM	1715	20000	10	1	0	21.48
				1	49	21.46
				24	12	20.71
				50	0	20.77
	1732.5	20175		1	0	21.21
				1	49	21.19
				24	12	20.63
				50	0	20.57
	1750	20350		1	0	21.19
				1	49	21.20
				24	12	20.58
				50	0	20.59
64QAM	1715	20000	10	1	0	21.35
				1	49	21.43
				24	12	20.70
				50	0	20.62
	1732.5	20175		1	0	21.30
				1	49	21.30
				24	12	20.58
				50	0	20.57
	1750	20350		1	0	21.20
				1	49	21.22
				24	12	20.60
				50	0	20.70

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	22.42
				1	74	22.11
				40	18	21.70
	1732.5	20175		75	0	21.56
				1	0	22.10
				1	74	22.10
	1747.5	20325		40	18	21.71
				75	0	21.66
				1	0	22.22
1717.5	20025	15	1	74	22.10	
			40	18	21.54	
			75	0	21.55	
1732.5	20175		1	0	21.41	
			1	74	21.47	
			40	18	20.68	
1747.5	20325		75	0	20.69	
			1	0	21.23	
			1	74	21.22	
1717.5	20025	15	40	18	20.54	
			75	0	20.69	
			1	0	21.34	
1732.5	20175		1	74	21.12	
			40	18	20.66	
			75	0	20.64	
1747.5	20325		1	0	21.33	
			1	74	21.37	
			40	18	20.62	
1717.5	20025	15	75	0	20.79	
			1	0	21.28	
			1	74	21.31	
1732.5	20175		40	18	20.56	
			75	0	20.61	
			1	0	21.26	
1747.5	20325		1	74	21.30	
			40	18	20.65	
			75	0	20.60	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	22.55
				1	99	22.36
				50	25	21.85
				100	0	21.79
	1732.5	20175		1	0	22.39
				1	99	22.28
				50	25	21.82
				100	0	21.84
	1745	20300		1	0	22.44
				1	99	22.39
				50	25	21.78
				100	0	21.79
16QAM	1720	20050	20	1	0	21.63
				1	99	21.62
				50	25	20.87
				100	0	20.91
	1732.5	20175		1	0	21.47
				1	99	21.44
				50	25	20.81
				100	0	20.80
	1745	20300		1	0	21.45
				1	99	21.38
				50	25	20.82
				100	0	20.81
64QAM	1720	20050	20	1	0	21.57
				1	99	21.55
				50	25	20.83
				100	0	20.91
	1732.5	20175		1	0	21.55
				1	99	21.53
				50	25	20.84
				100	0	20.85
	1745	20300		1	0	21.48
				1	99	21.47
				50	25	20.82
				100	0	20.85

## 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	
4	1710.7	19957	1.4	6	0	1.0800	Fig.1	1.0774	Fig.2	1.0806	Fig.3
	1732.5	20175		6	0	1.0745	Fig.4	1.0813	Fig.5	1.0790	Fig.6
	1754.3	20393		6	0	1.0806	Fig.7	1.0794	Fig.8	1.0751	Fig.9
	1711.5	19965	3	15	0	2.6788	Fig.10	2.6844	Fig.11	2.6819	Fig.12
	1732.5	20175		15	0	2.6794	Fig.13	2.6836	Fig.14	2.6887	Fig.15
	1753.5	20385		15	0	2.6856	Fig.16	2.6845	Fig.17	2.6911	Fig.18
	1712.5	19975	5	25	0	4.4671	Fig.19	4.4663	Fig.20	4.4615	Fig.21
	1732.5	20175		25	0	4.4744	Fig.22	4.4781	Fig.23	4.4684	Fig.24
	1752.5	20375		25	0	4.4674	Fig.25	4.4688	Fig.26	4.4840	Fig.27
	1715	20000	10	50	0	8.9328	Fig.28	8.9228	Fig.29	8.9506	Fig.30
	1732.5	20175		50	0	8.9395	Fig.31	8.9156	Fig.32	8.9520	Fig.33
	1750	20350		50	0	8.9448	Fig.34	8.9340	Fig.35	8.9404	Fig.36
	1717.5	20025	15	75	0	13.424	Fig.37	13.379	Fig.38	13.405	Fig.39
	1732.5	20175		75	0	13.398	Fig.40	13.429	Fig.41	13.411	Fig.42
	1747.5	20325		75	0	13.413	Fig.43	13.422	Fig.44	13.388	Fig.45
	1720	20050	20	100	0	17.868	Fig.46	17.890	Fig.47	17.835	Fig.48
	1732.5	20175		100	0	17.851	Fig.49	17.851	Fig.50	17.873	Fig.51
	1745	20300		100	0	17.874	Fig.52	17.852	Fig.53	17.879	Fig.54

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
4	1710.7	19957	1.4	6	0	1.243	Fig.1	1.229	Fig.2	1.234	Fig.3
	1732.5	20175		6	0	1.229	Fig.4	1.252	Fig.5	1.229	Fig.6
	1754.3	20393		6	0	1.248	Fig.7	1.243	Fig.8	1.243	Fig.9
	1711.5	19965	3	15	0	2.886	Fig.10	2.893	Fig.11	2.886	Fig.12
	1732.5	20175		15	0	2.891	Fig.13	2.875	Fig.14	2.892	Fig.15
	1753.5	20385		15	0	2.888	Fig.16	2.883	Fig.17	2.892	Fig.18
	1712.5	19975	5	25	0	4.858	Fig.19	4.791	Fig.20	4.799	Fig.21
	1732.5	20175		25	0	4.802	Fig.22	4.845	Fig.23	4.779	Fig.24
	1752.5	20375		25	0	4.841	Fig.25	4.860	Fig.26	4.753	Fig.27
	1715	20000	10	50	0	9.610	Fig.28	9.491	Fig.29	9.520	Fig.30
	1732.5	20175		50	0	9.597	Fig.31	9.489	Fig.32	9.500	Fig.33
	1750	20350		50	0	9.607	Fig.34	9.518	Fig.35	9.592	Fig.36
	1717.5	20025	15	75	0	14.13	Fig.37	14.29	Fig.38	14.36	Fig.39
	1732.5	20175		75	0	14.32	Fig.40	14.37	Fig.41	14.22	Fig.42
	1747.5	20325		75	0	14.33	Fig.43	14.24	Fig.44	14.27	Fig.45
	1720	20050	20	100	0	19.01	Fig.46	19.05	Fig.47	18.80	Fig.48
	1732.5	20175		100	0	18.86	Fig.49	19.12	Fig.50	18.94	Fig.51
	1745	20300		100	0	18.82	Fig.52	18.82	Fig.53	18.98	Fig.54

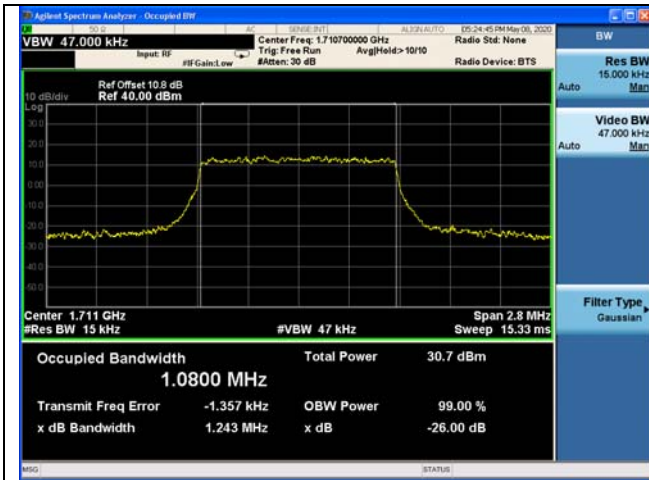


Fig.1

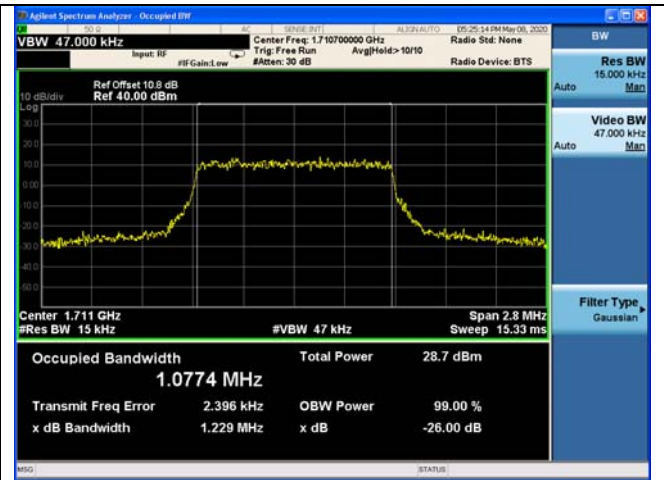


Fig.2

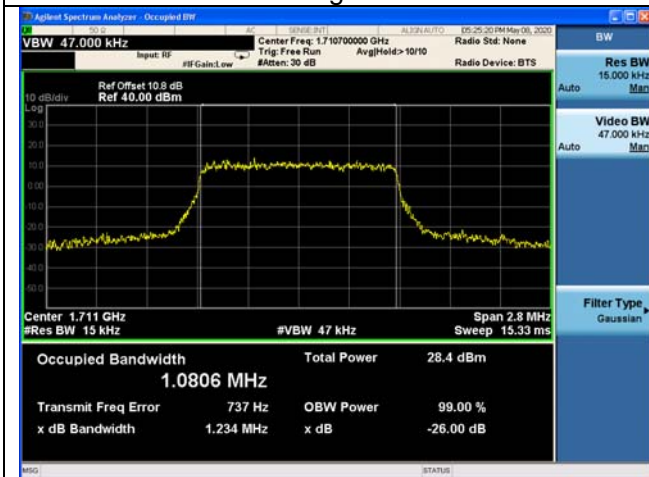


Fig.3

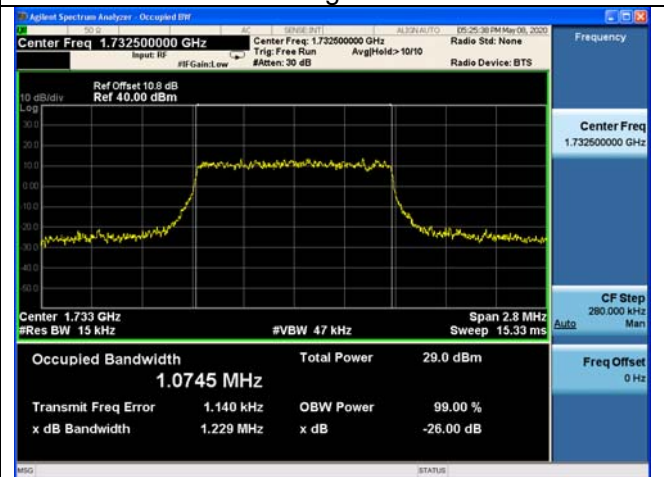


Fig.4

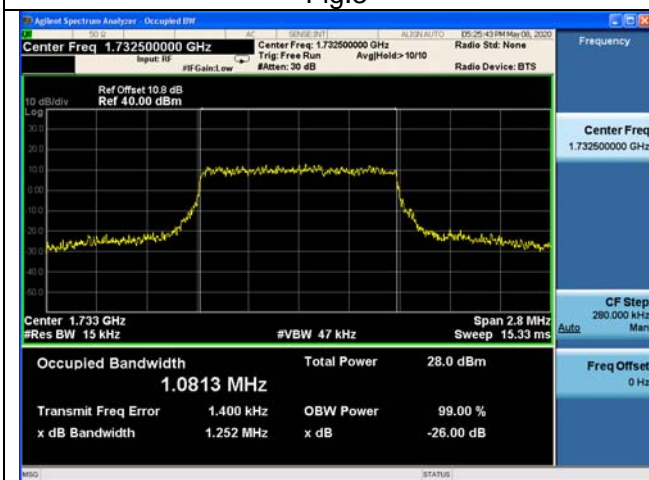


Fig.5

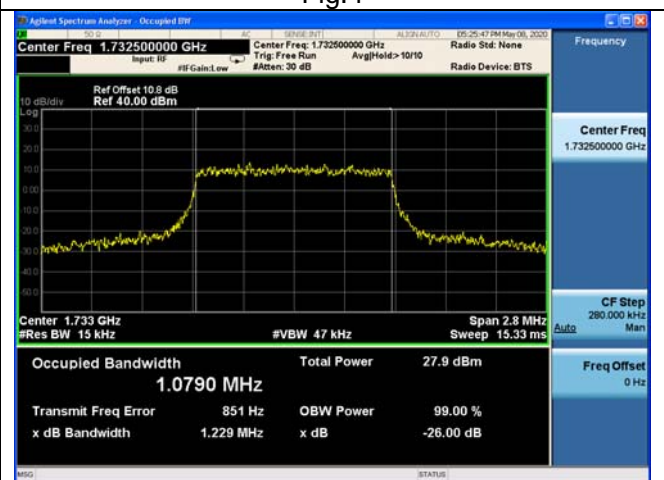


Fig.6



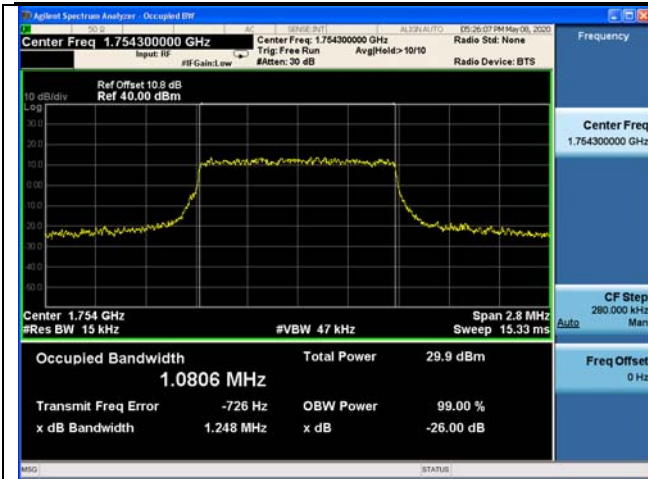


Fig.7

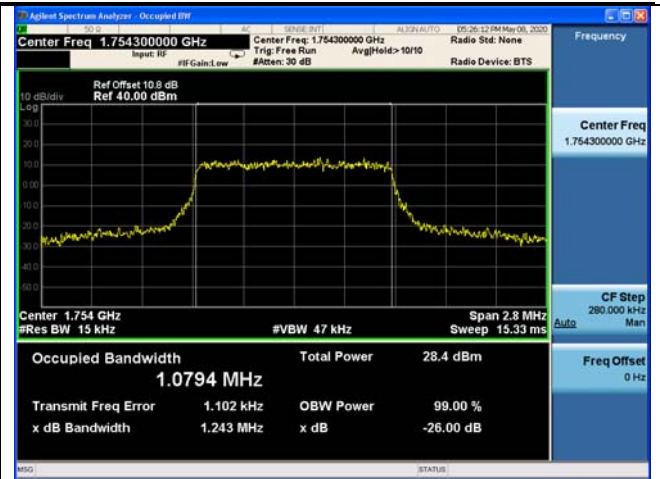


Fig.8

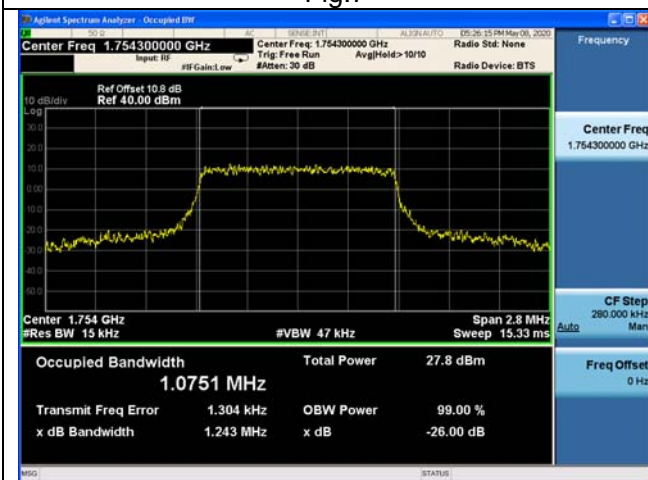


Fig.9

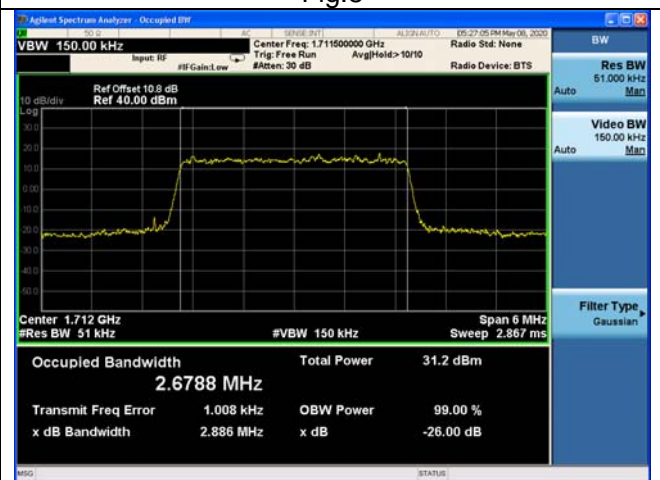


Fig.10

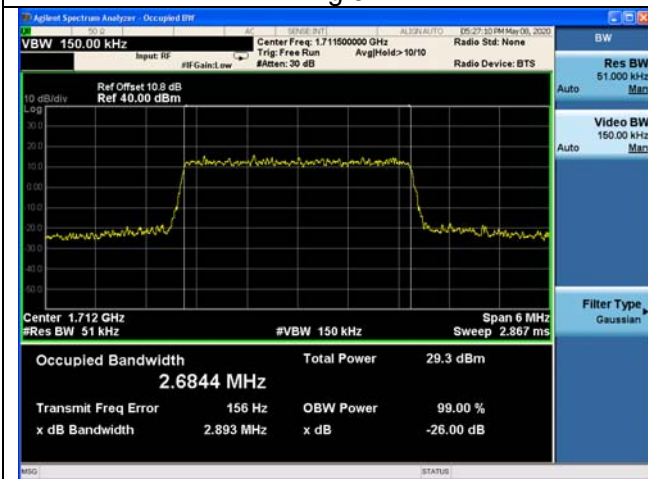


Fig.11

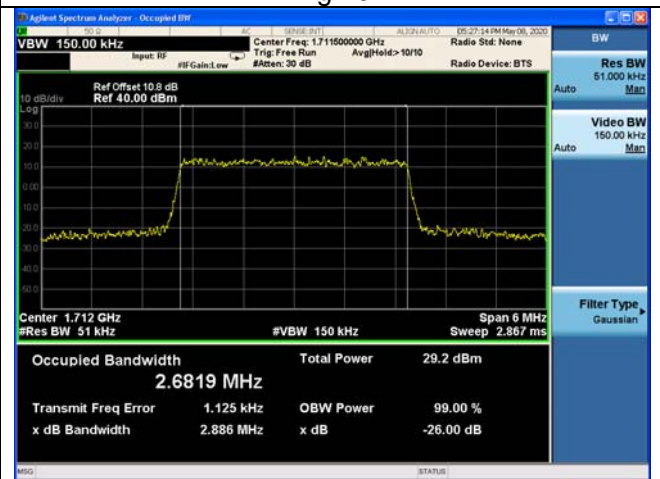


Fig.12

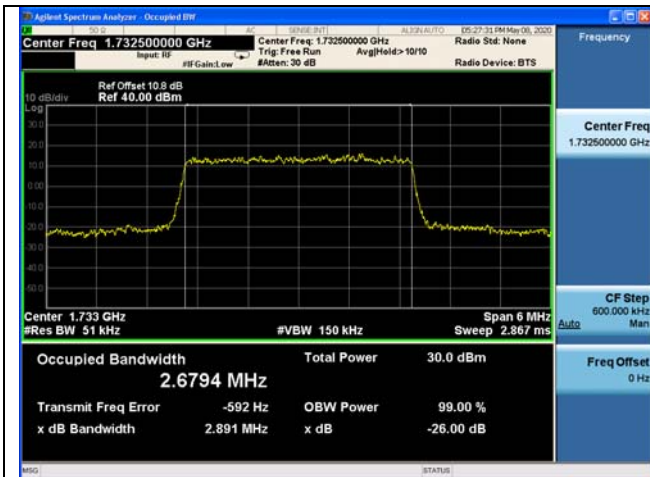


Fig.13

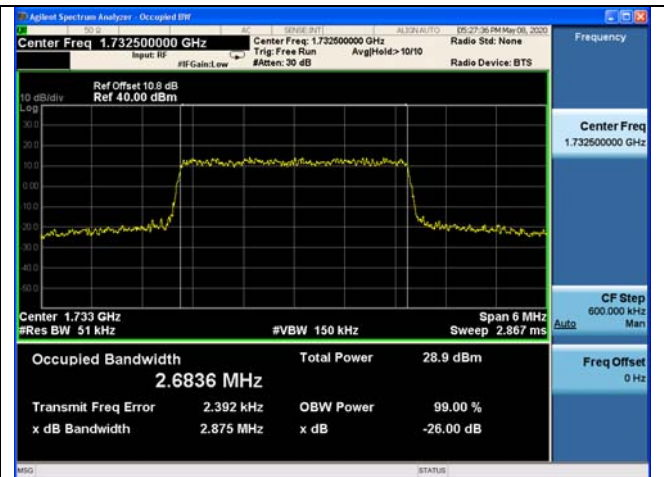


Fig.14

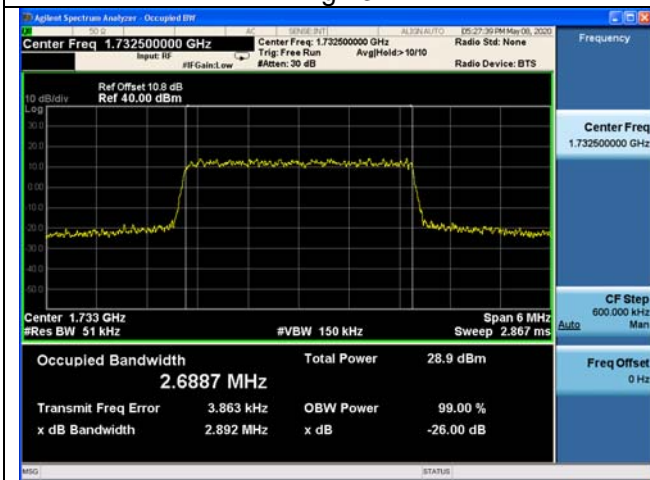


Fig.15

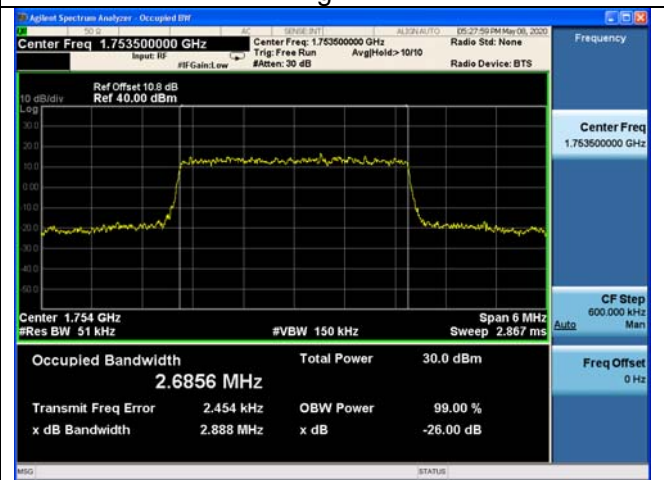


Fig.16

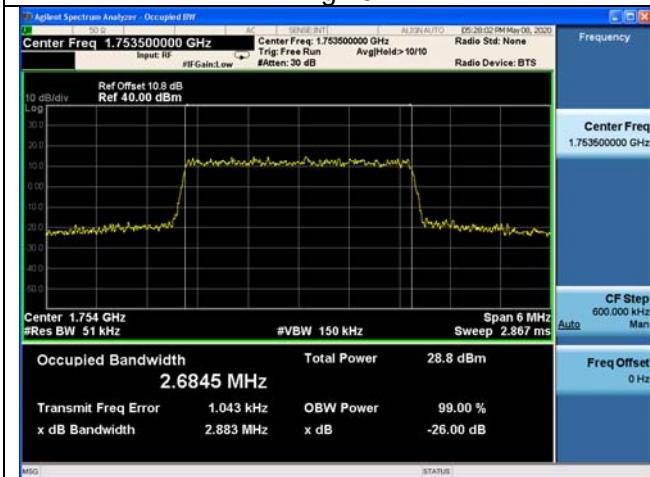


Fig.17

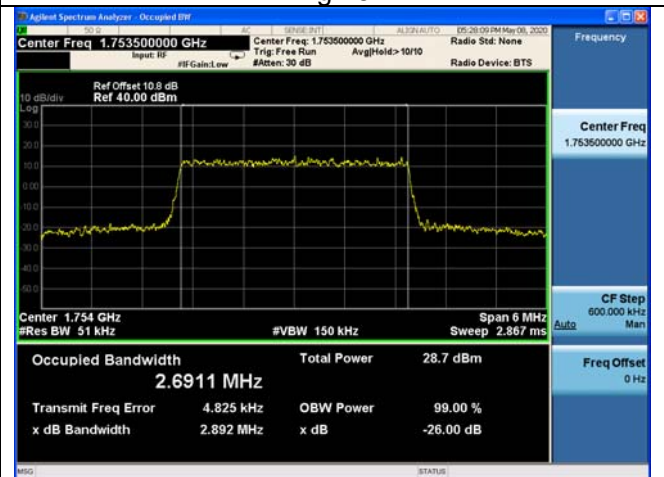


Fig.18

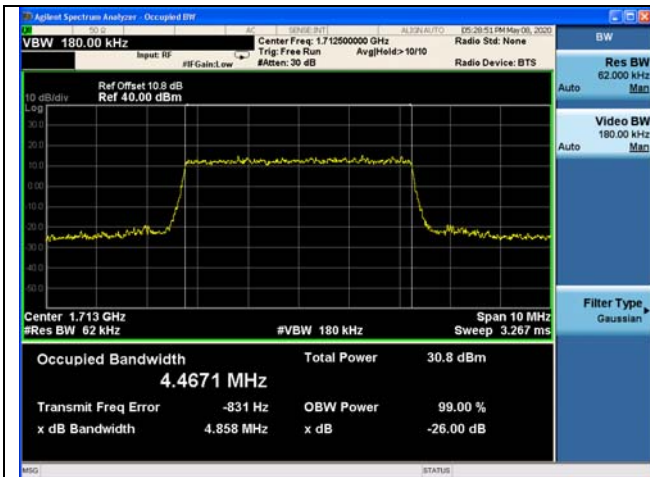


Fig.19

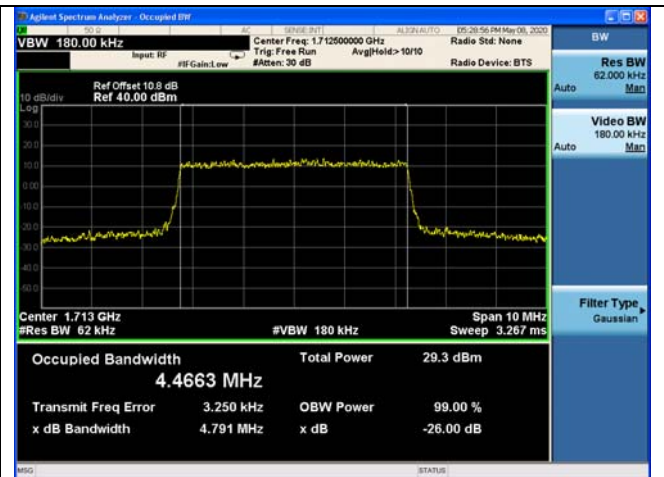


Fig.20

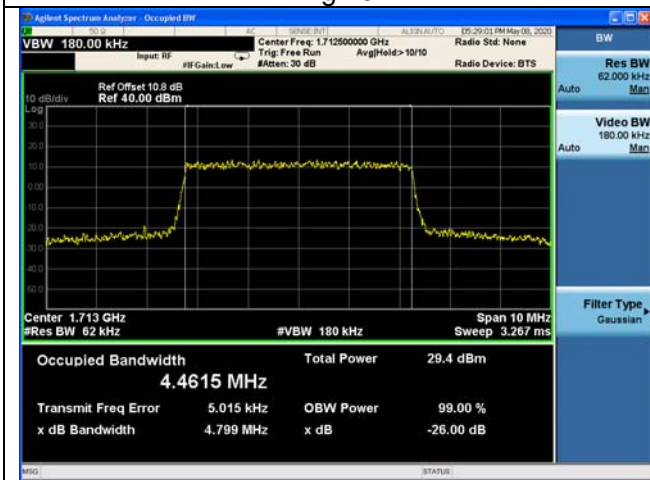


Fig.21

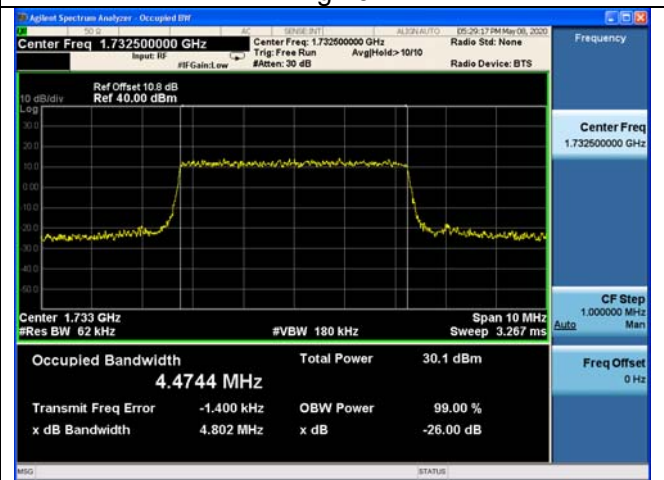


Fig.22

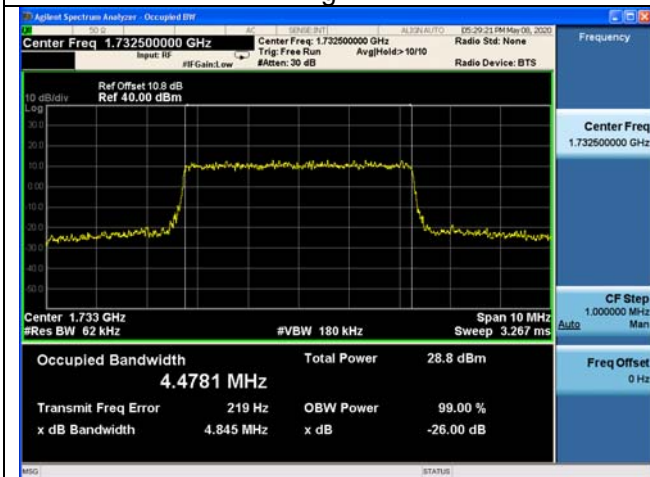


Fig.23

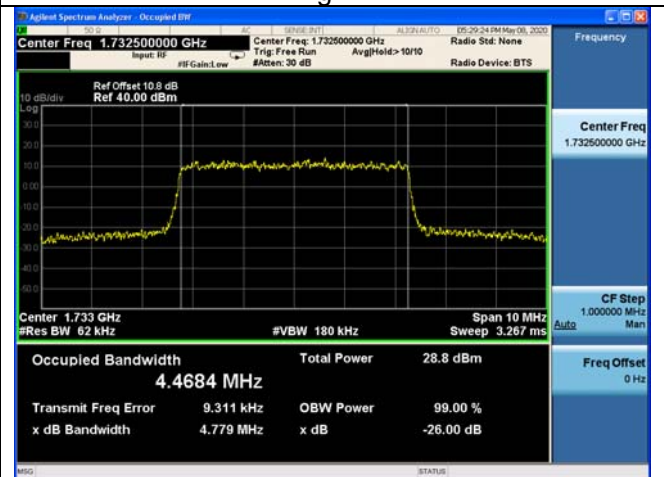


Fig.24



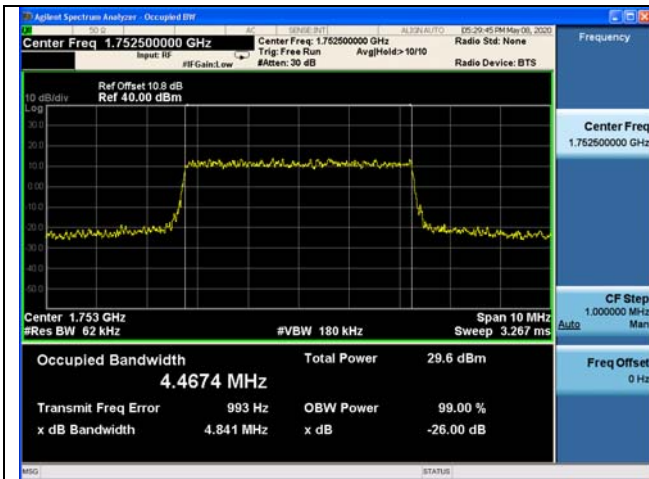


Fig.25

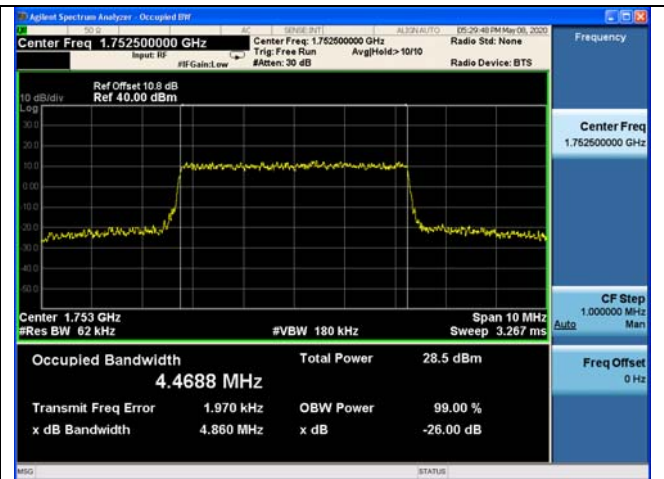


Fig.26

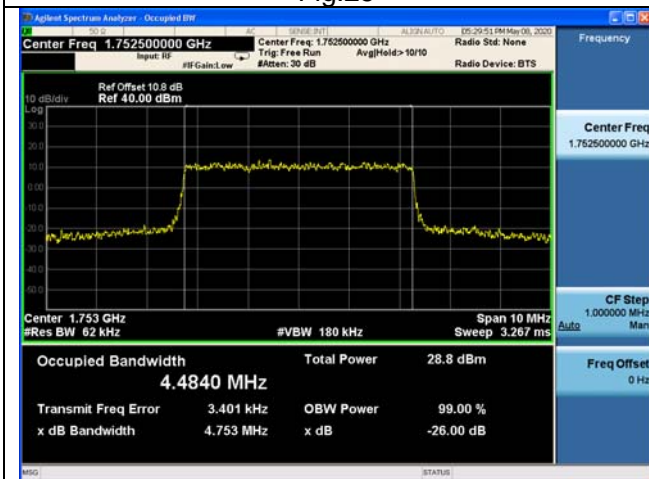


Fig.27

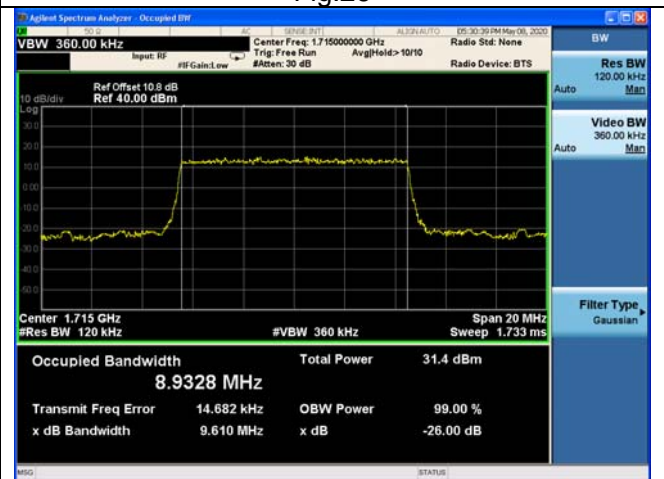


Fig.28

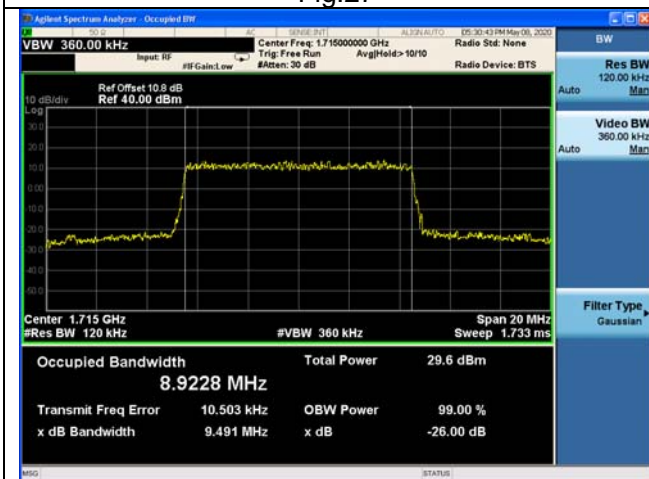


Fig.29

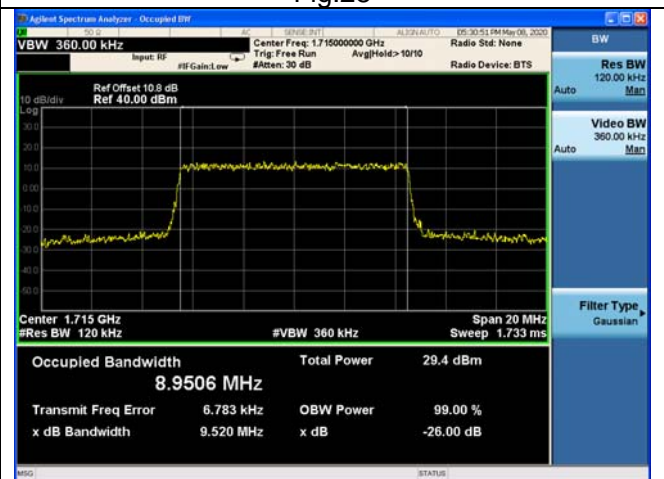


Fig.30

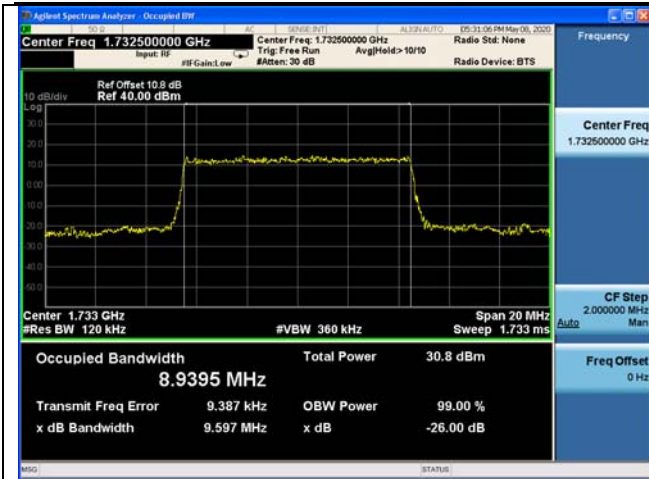


Fig.31

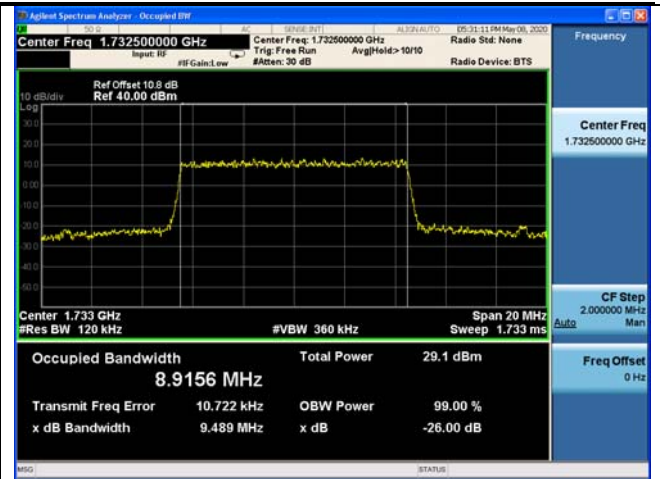


Fig.32

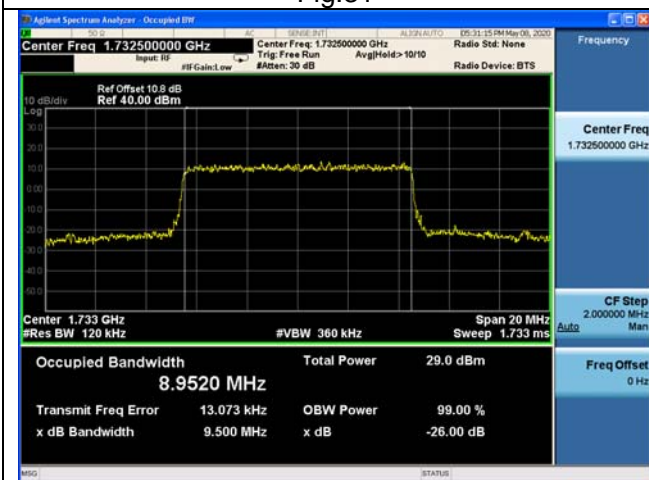


Fig.33

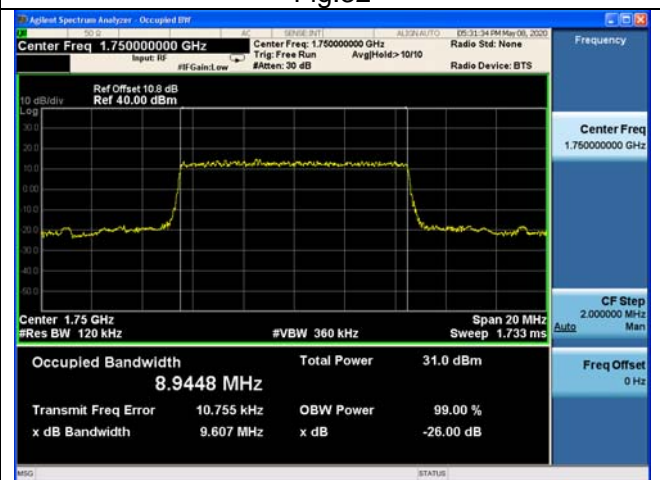


Fig.34

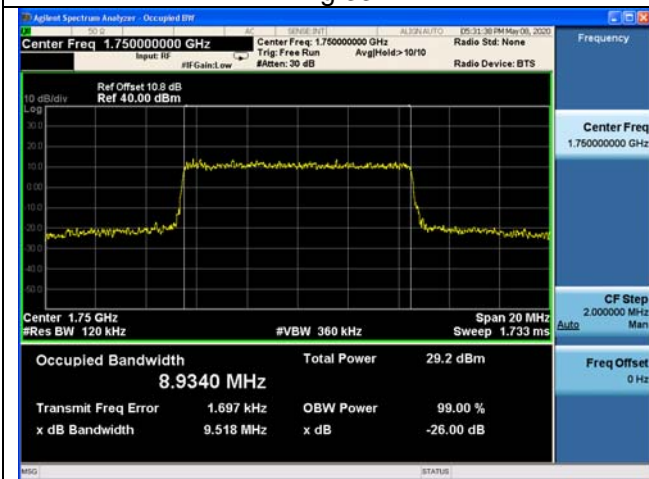


Fig.35

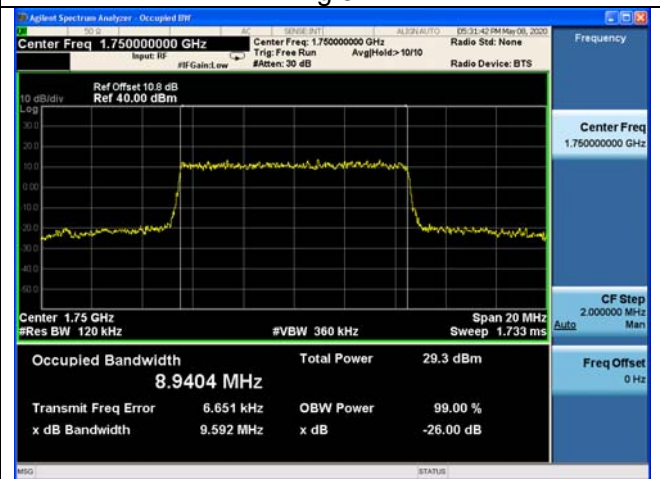


Fig.36

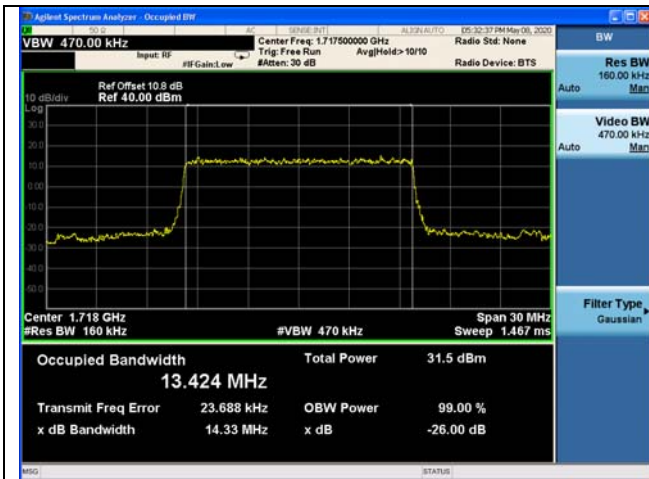


Fig.37

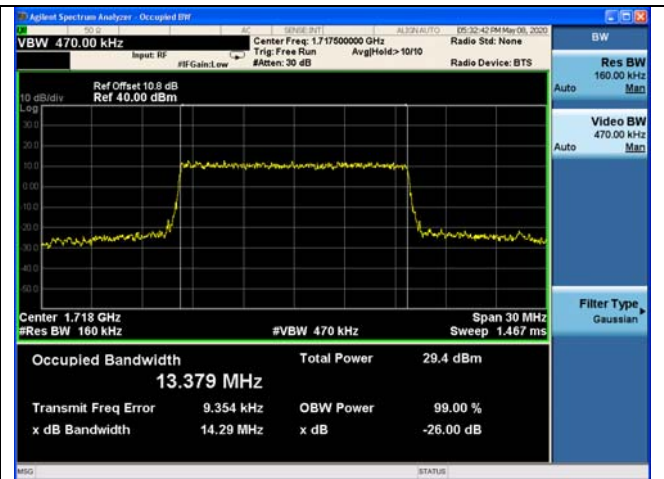


Fig.38

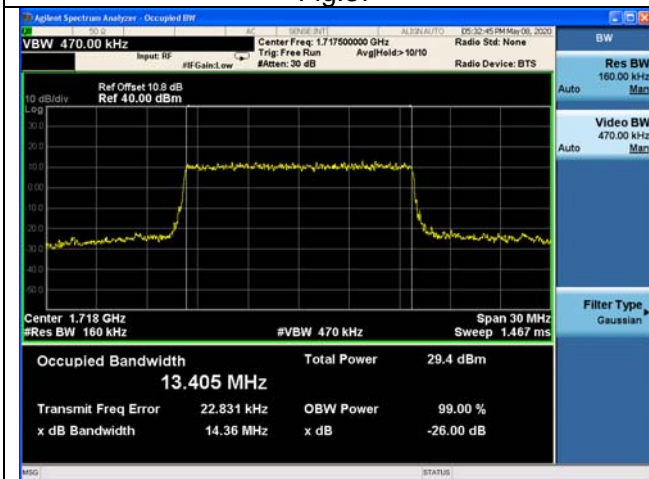


Fig.39

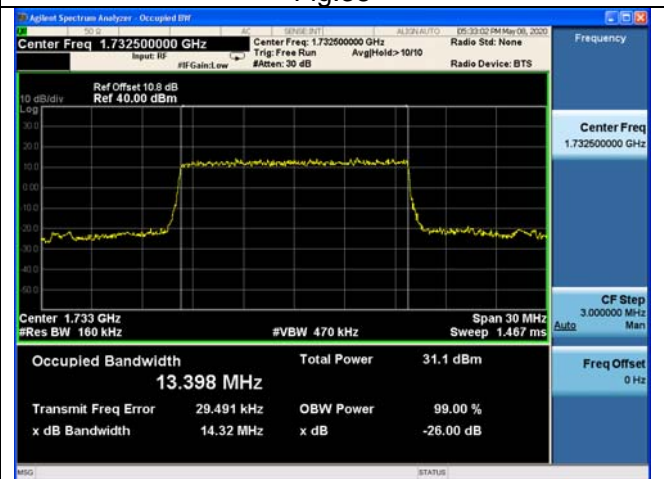


Fig.40

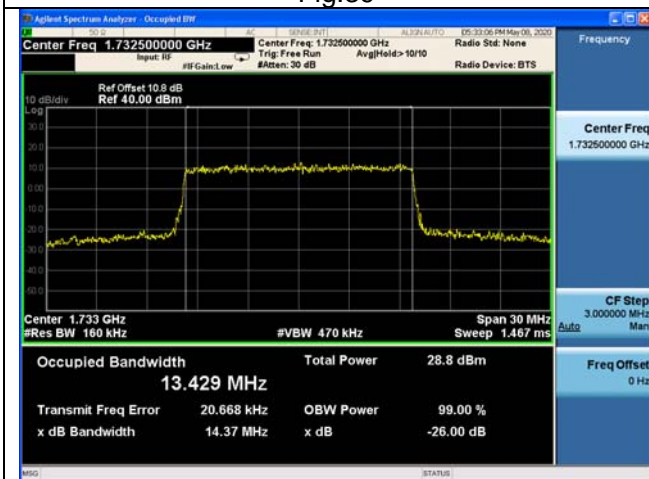


Fig.41

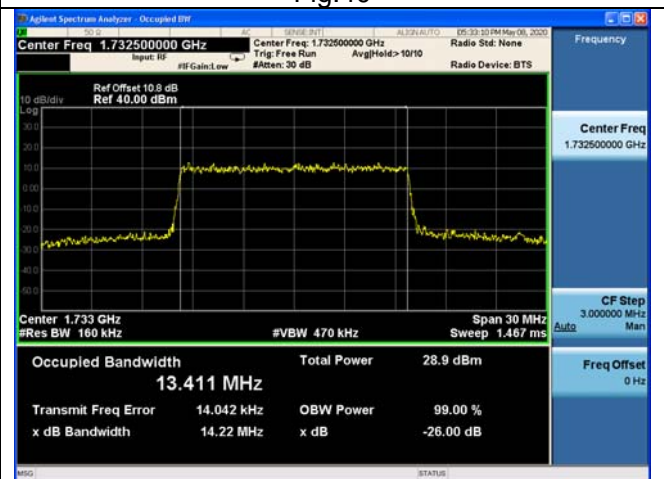


Fig.42



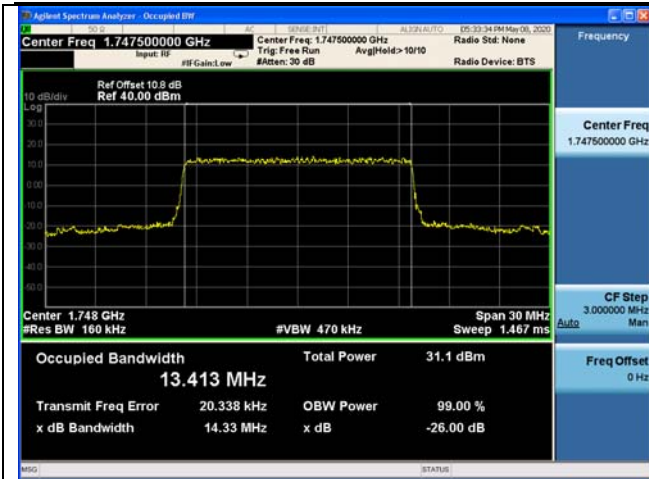


Fig.43

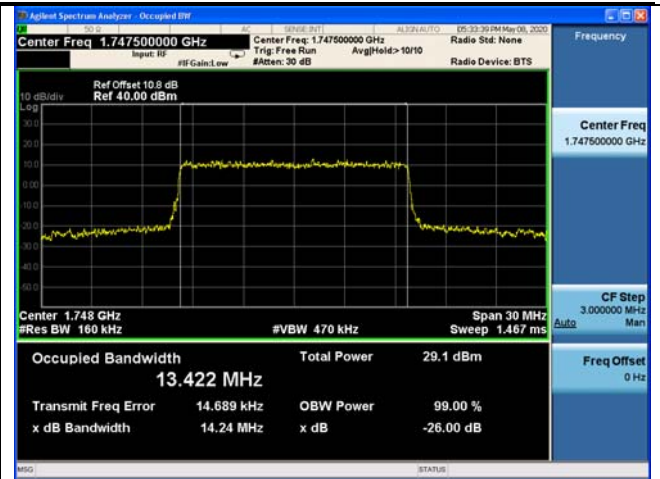


Fig.44

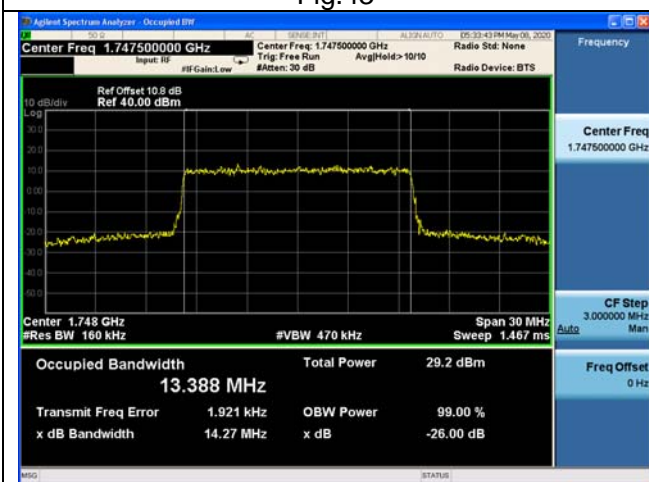


Fig.45

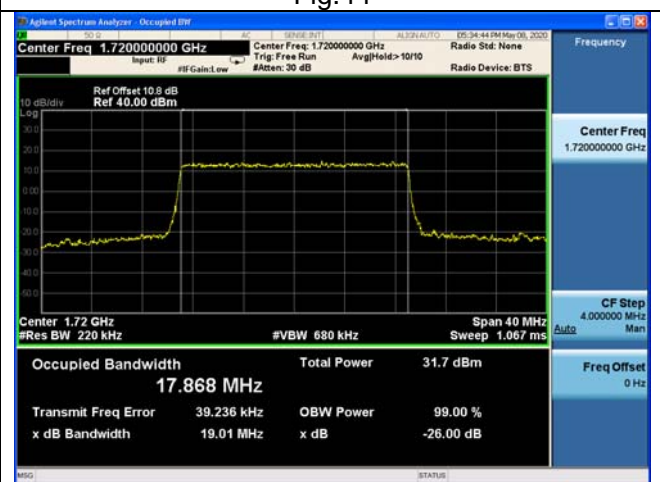


Fig.46

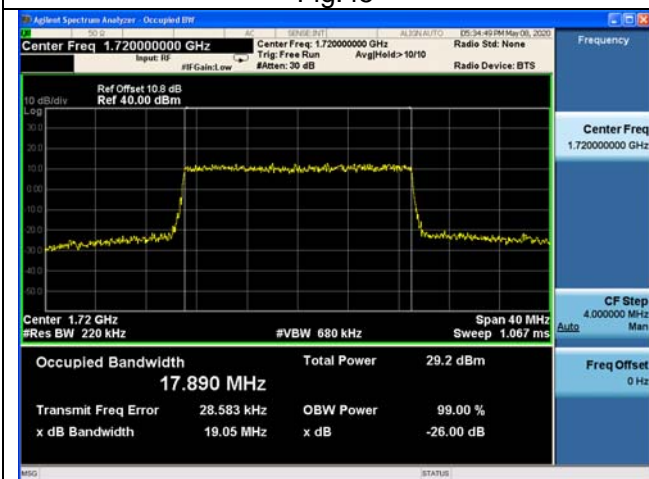


Fig.47

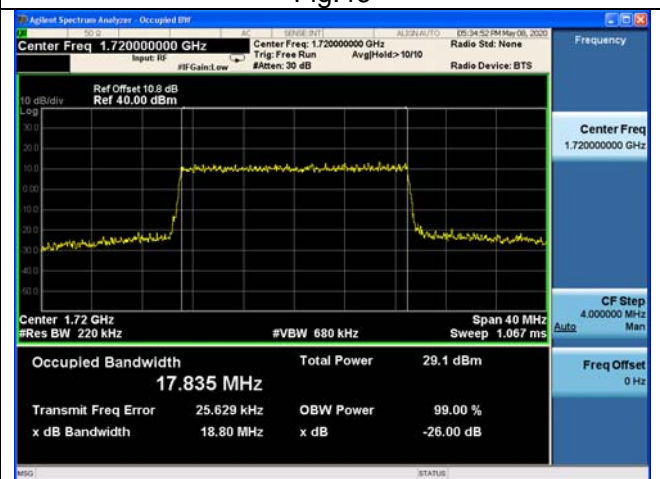


Fig.48

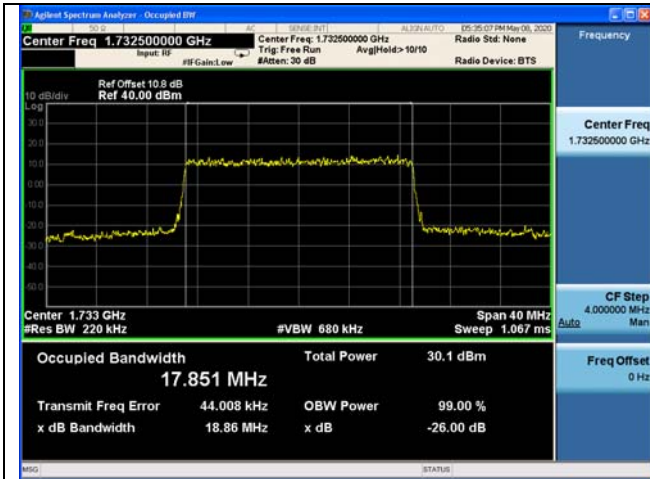


Fig.49

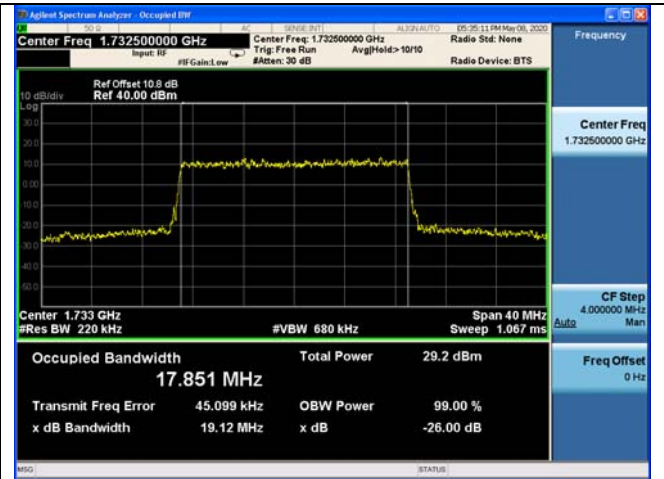


Fig.50

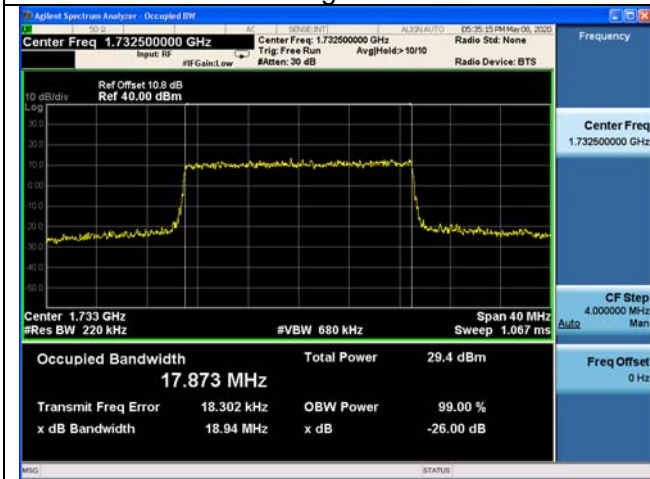


Fig.51

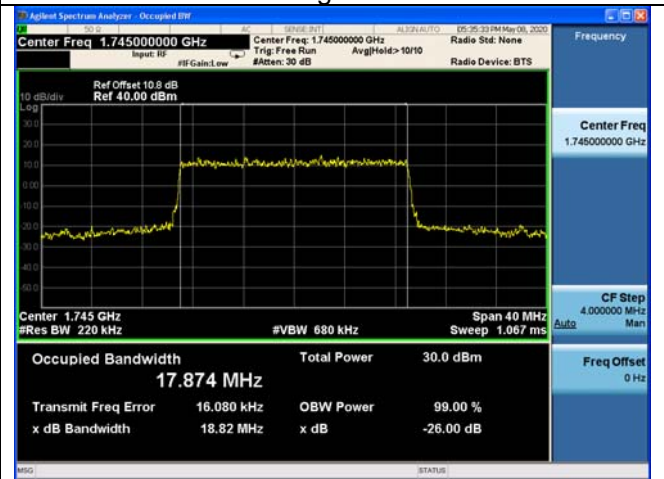


Fig.52

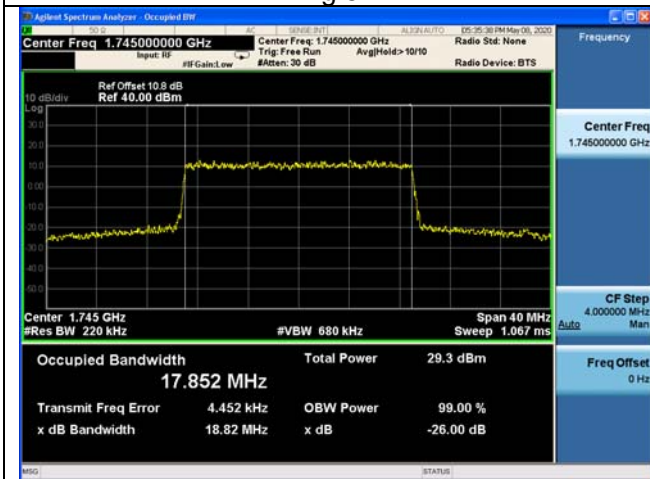


Fig.53

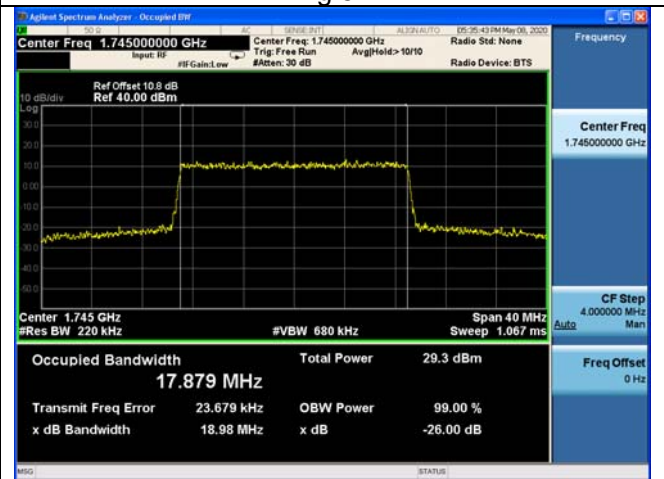


Fig.54



### 3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
4	1732.5	20175	5	1	0	Fig.1	Fig.2	Fig.3
			10	1	0	Fig.4	Fig.5	Fig.6
			15	1	0	Fig.7	Fig.8	Fig.9
			20	1	0	Fig.10	Fig.11	Fig.12

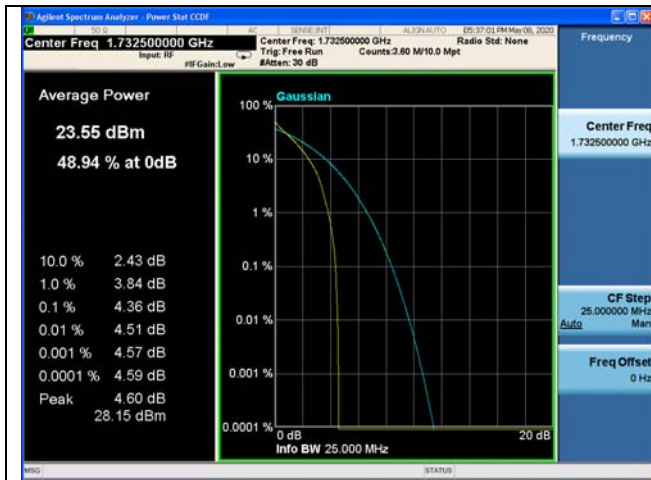


Fig.1



Fig.2



Fig.3

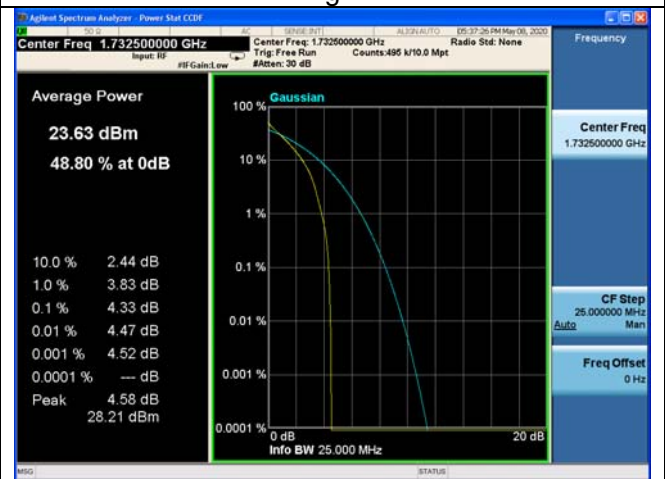


Fig.4

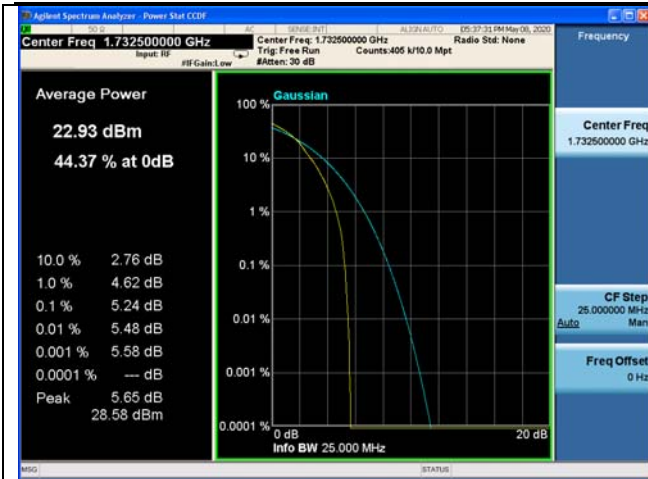


Fig.5



Fig.6



Fig.7



Fig.8



Fig.9



Fig.10

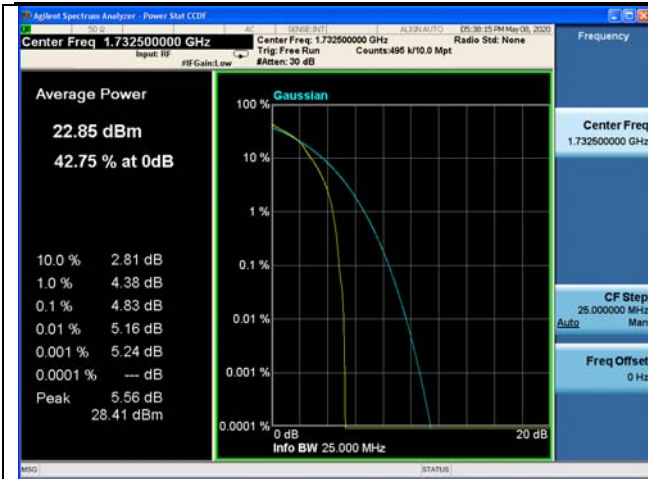


Fig.11



Fig.12



Fig.13

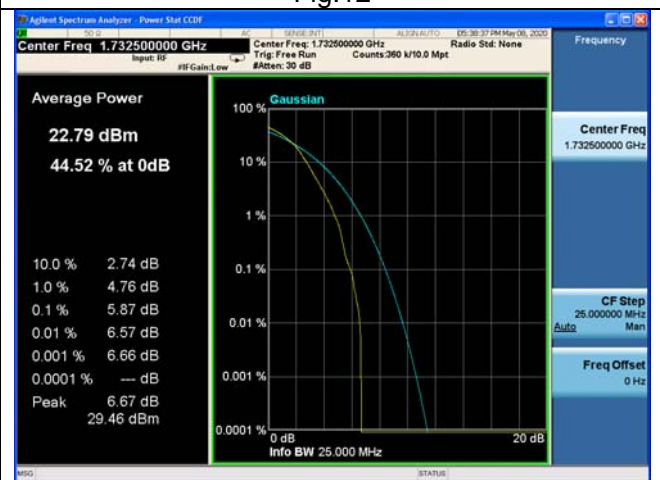


Fig.14



Fig.15



Fig.16



Fig.17



Fig.18



**4 Spurious Emissions at antenna terminal**

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
4	1720	20050	20	1	0	Fig.1-2
	1732.5	20175	20	1	0	Fig.3-4
	1745	20300	20	1	0	Fig.5-6

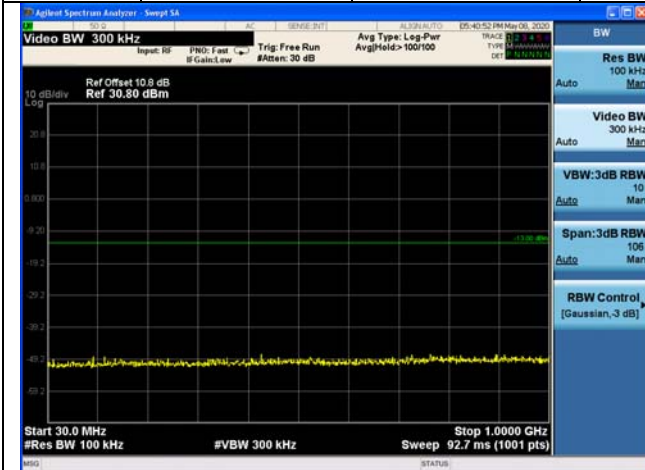


Fig.1

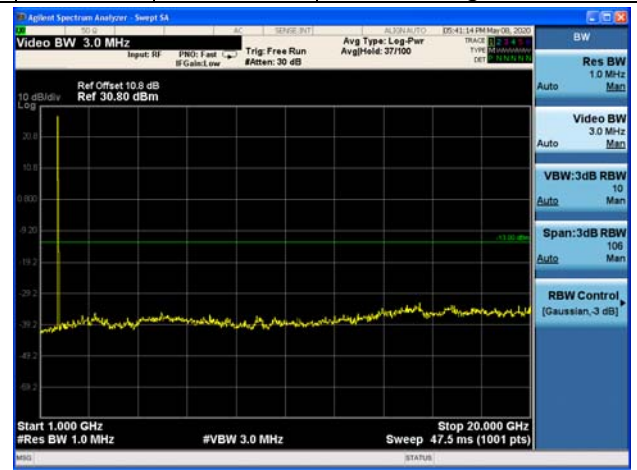


Fig.2

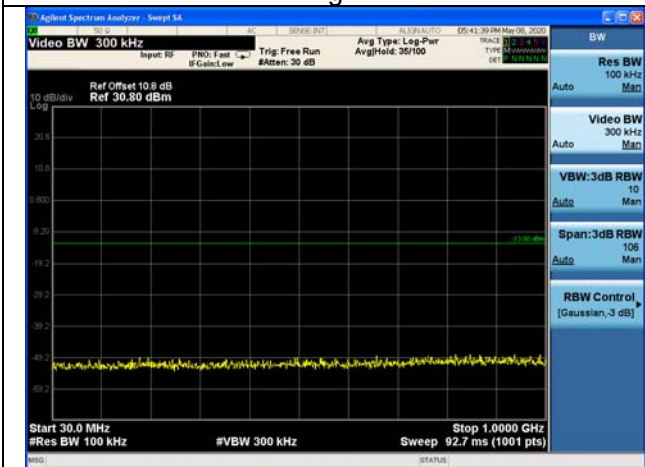


Fig3



Fig4

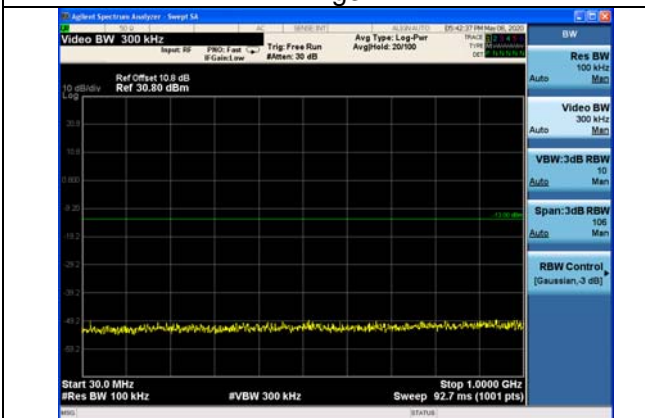


Fig5



Fig6

**5 Band Edges Compliance**

Test result

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot	
						QPSK	
4	1710.7	19957	1.4	1	0	Fig.1	
				6	0	Fig.2	
	1754.3	20393		1	5	Fig.3	
				6	0	Fig.4	
	1711.5	19965	3	1	0	Fig.5	
				15	0	Fig.6	
				1	14	Fig.7	
	1753.5	20385		15	0	Fig.8	
				1	0	Fig.9	
	1712.5	19975		5	25	0	Fig.10
			1		24	Fig.11	
	1752.5	20375	25		0	Fig.12	
			1		0	Fig.13	
	1715	20000	10	50	0	Fig.14	
				1	49	Fig.15	
				50	0	Fig.16	
	1717.5	20025		15	1	0	Fig.17
					75	0	Fig.18
	1747.5	20325			1	74	Fig.19
			75		0	Fig.20	
1720	20050	20	1	0	Fig.21		
			100	0	Fig.22		
1745	20300		1	99	Fig.23		
			100	0	Fig.24		



Fig.1



Fig.2

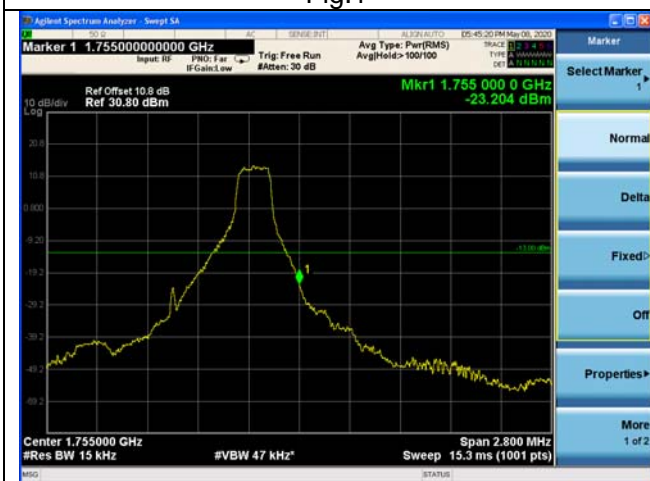


Fig.3



Fig.4

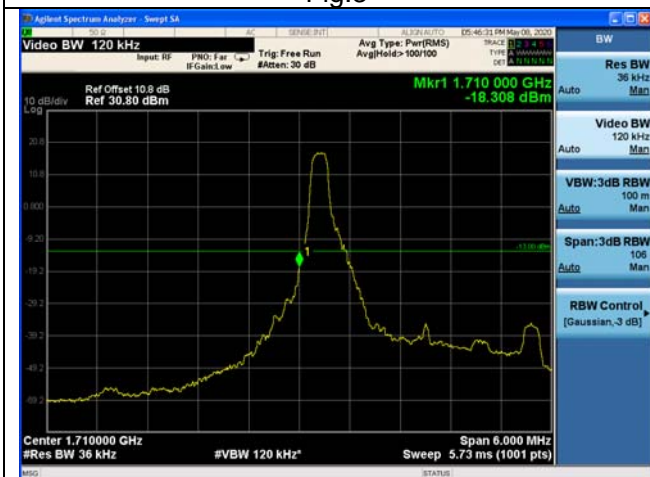


Fig.5

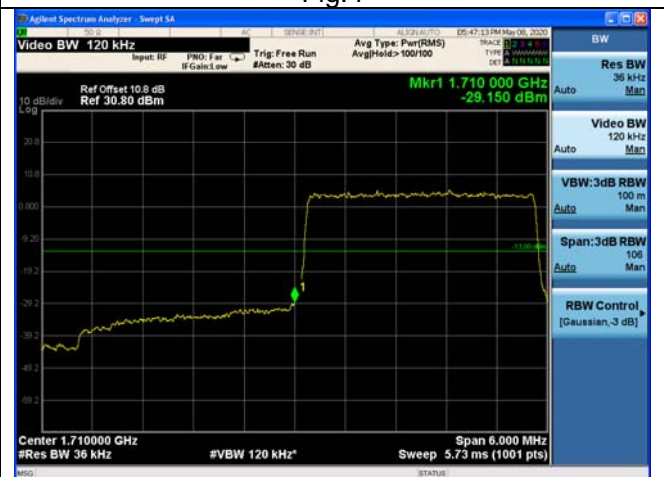


Fig.6

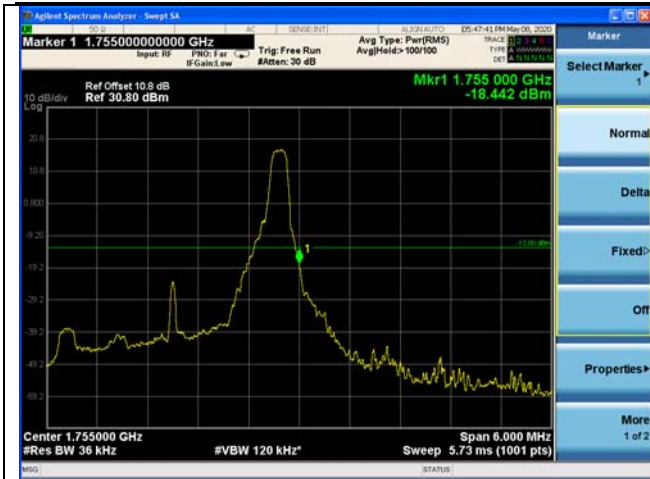


Fig.7



Fig.8



Fig.9

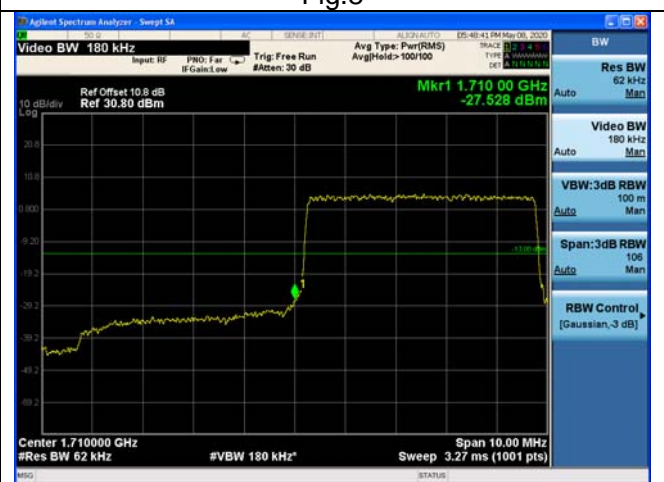


Fig.10

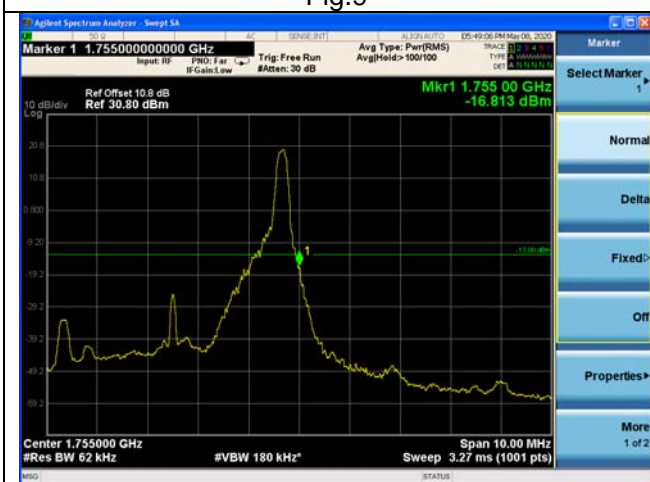


Fig.11



Fig.12





Fig.13



Fig.14



Fig.15



Fig.16



Fig.17



Fig.18

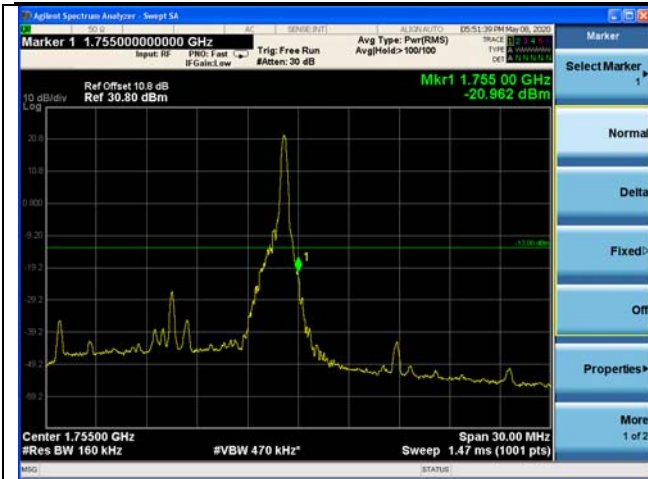


Fig.19



Fig.20



Fig.21



Fig.22

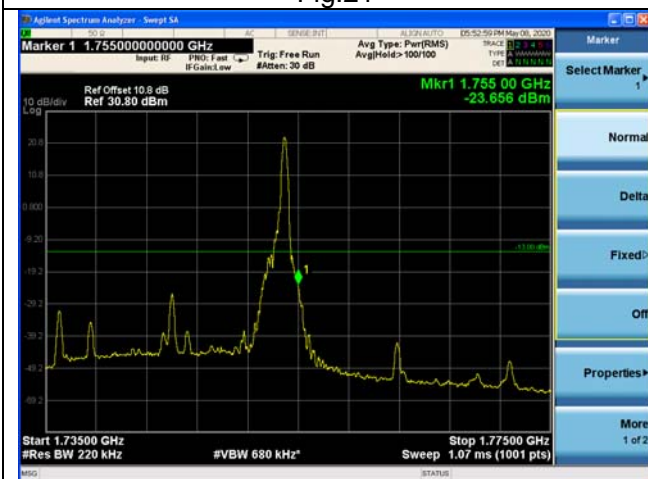


Fig.23



Fig.24

## 6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band4 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.040	0.006	0.086	0.056	0.024	-0.020
0	NV	0.062	-0.044	-0.003	-0.022	0.066	0.028
+10	NV	-0.031	0.033	0.061	-0.024	-0.001	-0.038
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.022	0.003	-0.057	-0.037	-0.034	0.062
+40	NV	-0.026	-0.100	0.005	-0.048	-0.056	0.010
+50	NV	0.027	0.035	-0.005	-0.045	0.032	0.003
+55	NV	-0.056	0.043	0.043	0.004	-0.015	-0.054
+20	LV	-0.009	-0.011	0.057	0.060	-0.012	-0.021
+20	HV	0.027	0.012	-0.039	-0.015	0.014	-0.050

Temperature(°C)	Voltage	Test Result (ppm) Band4 High Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	-0.029	0.027	-0.005	0.088	0.008	0.070
0	NV	-0.007	0.036	-0.007	-0.031	-0.052	0.016
+10	NV	0.004	-0.054	0.036	-0.056	0.002	-0.067
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.044	-0.053	0.001	0.035	-0.053	0.086
+40	NV	-0.041	0.009	0.008	0.017	0.041	-0.022
+50	NV	-0.029	-0.050	-0.022	-0.030	-0.036	0.026
+55	NV	0.001	0.012	-0.057	-0.020	0.042	0.033
+20	LV	-0.003	0.019	-0.007	0.019	-0.025	-0.068
+20	HV	0.029	-0.035	0.044	0.004	-0.019	0.017