

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	23.45
				1	5	23.50
				3	2	22.66
				6	0	22.63
	1732.5	20175		1	0	23.45
				1	5	23.44
				3	2	22.65
				6	0	22.62
	1754.3	20393		1	0	23.19
				1	5	23.20
				3	2	22.80
				6	0	22.53
16QAM	1710.7	19957	1.4	1	0	22.75
				1	5	22.66
				3	2	21.67
				6	0	21.67
	1732.5	20175		1	0	22.81
				1	5	22.63
				3	2	21.77
				6	0	21.74
	1754.3	20393		1	0	22.90
				1	5	22.71
				3	2	21.88
				6	0	21.74
64QAM	1710.7	19957	1.4	1	0	22.99
				1	5	23.01
				3	2	21.73
				6	0	21.77
	1732.5	20175		1	0	23.02
				1	5	22.95
				3	2	22.00
				6	0	21.74
	1754.3	20393		1	0	22.93
				1	5	22.90
				3	2	21.82
				6	0	21.82

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	23.44
				1	14	23.43
				8	4	22.66
	15	0		22.60		
	1732.5	20175		1	0	23.49
				1	14	23.34
				8	4	22.68
	15	0		22.65		
	1753.5	20385		1	0	23.26
1			14	23.13		
8			4	22.78		
15	0	22.51				
16QAM	1711.5	19965	3	1	0	22.62
				1	14	22.53
				8	4	21.78
	15	0		21.72		
	1732.5	20175		1	0	22.80
				1	14	22.68
				8	4	21.81
	15	0		21.83		
	1753.5	20385		1	0	22.91
1			14	22.79		
8			4	21.85		
15	0	21.72				
64QAM	1711.5	19965	3	1	0	23.05
				1	14	23.06
				8	4	21.69
	15	0		21.66		
	1732.5	20175		1	0	23.14
				1	14	22.85
				8	4	21.93
	15	0		21.72		
	1753.5	20385		1	0	22.95
1			14	22.83		
8			4	21.79		
15	0	21.74				

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	23.38
				1	24	23.40
				12	6	22.57
				25	0	22.68
	1732.5	20175		1	0	23.49
				1	24	23.43
				12	6	22.71
				25	0	22.76
	1752.5	20375		1	0	23.28
				1	24	23.17
				12	6	22.68
				25	0	22.62
16QAM	1712.5	19975	5	1	0	22.74
				1	24	22.67
				12	6	21.66
				25	0	21.69
	1732.5	20175		1	0	22.77
				1	24	22.64
				12	6	21.79
				25	0	21.82
	1752.5	20375		1	0	22.85
				1	24	22.81
				12	6	21.81
				25	0	21.76
64QAM	1712.5	19975	5	1	0	23.01
				1	24	22.91
				12	6	21.79
				25	0	21.79
	1732.5	20175		1	0	23.05
				1	24	22.92
				12	6	21.96
				25	0	21.72
	1752.5	20375		1	0	22.97
				1	24	22.80
				12	6	21.84
				25	0	21.84

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	23.36
				1	49	23.41
				24	12	22.68
	50	0		22.63		
	1732.5	20175		1	0	23.51
				1	49	23.45
				24	12	22.68
	50	0		22.75		
	1750	20350		1	0	23.27
1			49	23.12		
24			12	22.81		
50	0	22.62				
16QAM	1715	20000	10	1	0	22.75
				1	49	22.58
				24	12	21.72
	50	0		21.78		
	1732.5	20175		1	0	22.83
				1	49	22.61
				24	12	21.78
	50	0		21.80		
	1750	20350		1	0	22.94
1			49	22.75		
24			12	21.80		
50	0	21.85				
64QAM	1715	20000	10	1	0	23.01
				1	49	22.97
				24	12	21.79
	50	0		21.76		
	1732.5	20175		1	0	23.12
				1	49	22.90
				24	12	22.05
	50	0		21.64		
	1750	20350		1	0	22.98
1			49	22.78		
24			12	21.87		
50	0	21.79				

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	23.36
				1	74	23.46
				40	18	22.67
				75	0	22.62
	1732.5	20175		1	0	23.39
				1	74	23.41
				40	18	22.71
				75	0	22.67
	1747.5	20325		1	0	23.32
				1	74	23.12
				40	18	22.79
				75	0	22.65
16QAM	1717.5	20025	15	1	0	22.72
				1	74	22.61
				40	18	21.79
				75	0	21.64
	1732.5	20175		1	0	22.84
				1	74	22.64
				40	18	21.82
				75	0	21.82
	1747.5	20325		1	0	22.86
				1	74	22.71
				40	18	21.88
				75	0	21.72
64QAM	1717.5	20025	15	1	0	23.01
				1	74	23.06
				40	18	21.81
				75	0	21.75
	1732.5	20175		1	0	23.07
				1	74	22.83
				40	18	22.02
				75	0	21.65
	1747.5	20325		1	0	22.94
				1	74	22.88
				40	18	21.80
				75	0	21.77

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	23.49
				1	99	23.51
				50	25	22.68
				100	0	22.70
	1732.5	20175		1	0	23.53
				1	99	23.48
				50	25	22.71
				100	0	22.76
	1745	20300		1	0	23.32
				1	99	23.25
				50	25	22.82
				100	0	22.66
16QAM	1720	20050	1	0	22.76	
			1	99	22.68	
			50	25	21.79	
			100	0	21.78	
	1732.5	20175	1	0	22.87	
			1	99	22.74	
			50	25	21.83	
			100	0	21.87	
	1745	20300	1	0	22.94	
			1	99	22.85	
			50	25	21.91	
			100	0	21.86	
64QAM	1720	20050	1	0	23.07	
			1	99	23.06	
			50	25	21.81	
			100	0	21.79	
	1732.5	20175	1	0	23.16	
			1	99	22.96	
			50	25	22.05	
			100	0	21.78	
	1745	20300	1	0	22.98	
			1	99	22.92	
			50	25	21.89	
			100	0	21.87	

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	1.0782	Fig.2	1.0796	Fig.3
	1732.5	20175		6	0	1.0799	Fig.4	1.0798	Fig.5	1.0776	Fig.6
	1754.3	20393		6	0	1.0814	Fig.7	1.0795	Fig.8	1.0793	Fig.9
	1711.5	19965	3	15	0	2.6990	Fig.10	2.6966	Fig.11	2.7053	Fig.12
	1732.5	20175		15	0	2.6986	Fig.13	2.6988	Fig.14	2.7085	Fig.15
	1753.5	20385		15	0	2.6984	Fig.16	2.6984	Fig.17	2.7047	Fig.18
	1712.5	19975	5	25	0	4.4718	Fig.19	4.4728	Fig.20	4.4678	Fig.21
	1732.5	20175		25	0	4.4724	Fig.22	4.4706	Fig.23	4.4673	Fig.24
	1752.5	20375		25	0	4.4741	Fig.25	4.4683	Fig.26	4.4696	Fig.27
	1715	20000	10	50	0	8.9581	Fig.28	8.9349	Fig.29	8.9574	Fig.30
	1732.5	20175		50	0	8.9227	Fig.31	8.9448	Fig.32	8.9363	Fig.33
	1750	20350		50	0	8.9370	Fig.34	8.9407	Fig.35	8.9666	Fig.36
	1717.5	20025	15	75	0	13.425	Fig.37	13.376	Fig.38	13.399	Fig.39
	1732.5	20175		75	0	13.407	Fig.40	13.390	Fig.41	13.415	Fig.42
	1747.5	20325		75	0	13.434	Fig.43	13.388	Fig.44	13.406	Fig.45
	1720	20050	20	100	0	17.857	Fig.46	17.865	Fig.47	17.861	Fig.48
	1732.5	20175		100	0	17.874	Fig.49	17.878	Fig.50	17.878	Fig.51
	1745	20300		100	0	17.862	Fig.52	17.853	Fig.53	17.911	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	1.232	Fig.1	1.236	Fig.2	1.233	Fig.3
	1732.5	20175		6	0	1.269	Fig.4	1.228	Fig.5	1.211	Fig.6
	1754.3	20393		6	0	1.256	Fig.7	1.235	Fig.8	1.243	Fig.9
	1711.5	19965	3	15	0	3.023	Fig.10	3.096	Fig.11	3.162	Fig.12
	1732.5	20175		15	0	3.019	Fig.13	3.058	Fig.14	3.034	Fig.15
	1753.5	20385		15	0	3.012	Fig.16	3.136	Fig.17	3.055	Fig.18
	1712.5	19975	5	25	0	5.144	Fig.19	5.195	Fig.20	5.197	Fig.21
	1732.5	20175		25	0	4.995	Fig.22	5.168	Fig.23	5.099	Fig.24
	1752.5	20375		25	0	5.172	Fig.25	5.042	Fig.26	5.006	Fig.27
	1715	20000	10	50	0	9.963	Fig.28	9.746	Fig.29	9.777	Fig.30
	1732.5	20175		50	0	9.782	Fig.31	9.727	Fig.32	9.579	Fig.33
	1750	20350		50	0	9.731	Fig.34	9.753	Fig.35	9.802	Fig.36
	1717.5	20025	15	75	0	14.73	Fig.37	14.70	Fig.38	14.83	Fig.39
	1732.5	20175		75	0	14.58	Fig.40	14.74	Fig.41	14.69	Fig.42
	1747.5	20325		75	0	14.87	Fig.43	14.93	Fig.44	14.86	Fig.45
	1720	20050	20	100	0	19.51	Fig.46	19.66	Fig.47	19.52	Fig.48
	1732.5	20175		100	0	19.68	Fig.49	19.56	Fig.50	19.29	Fig.51
	1745	20300		100	0	19.60	Fig.52	19.69	Fig.53	19.93	Fig.54



Fig.1

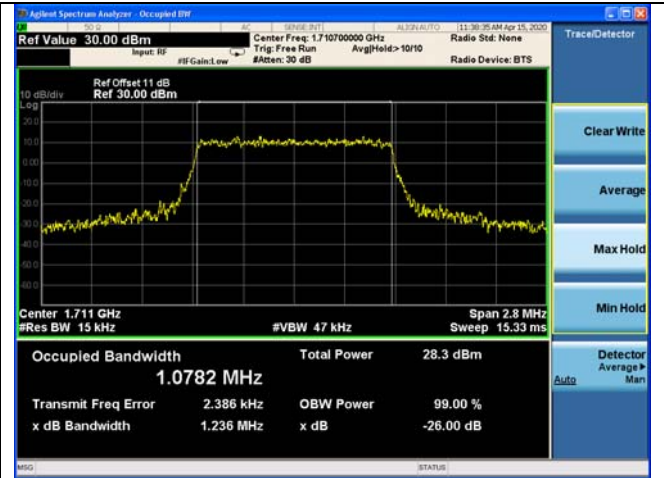


Fig.2

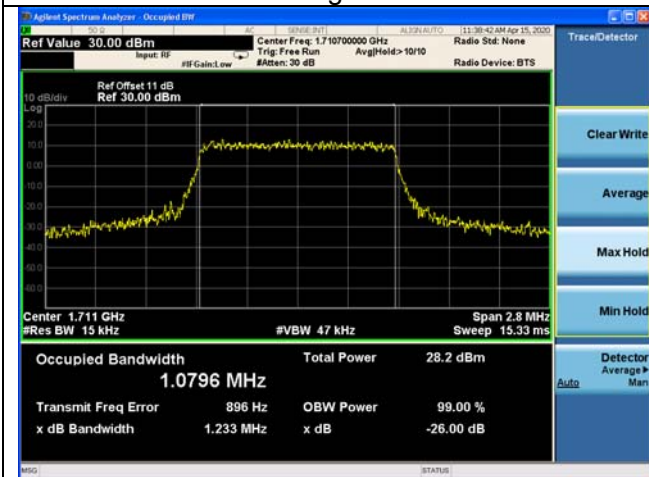


Fig.3

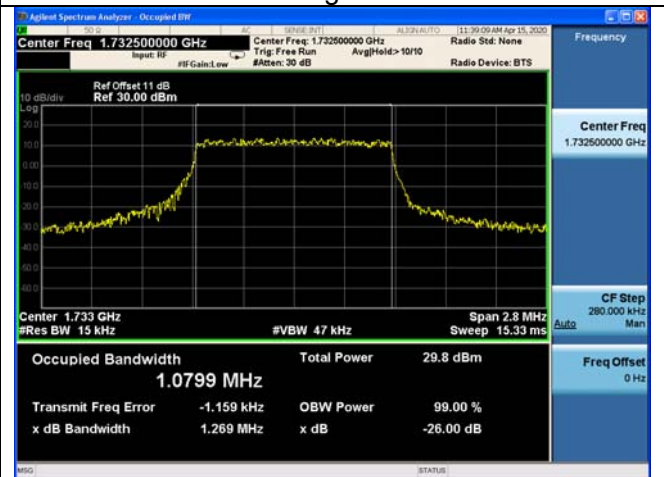


Fig.4

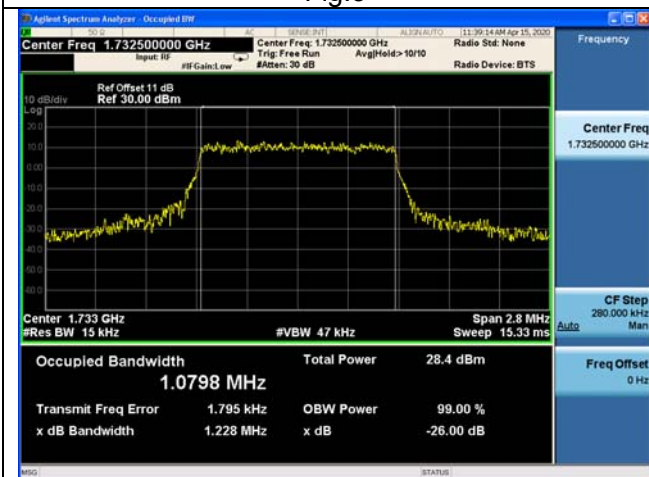


Fig.5

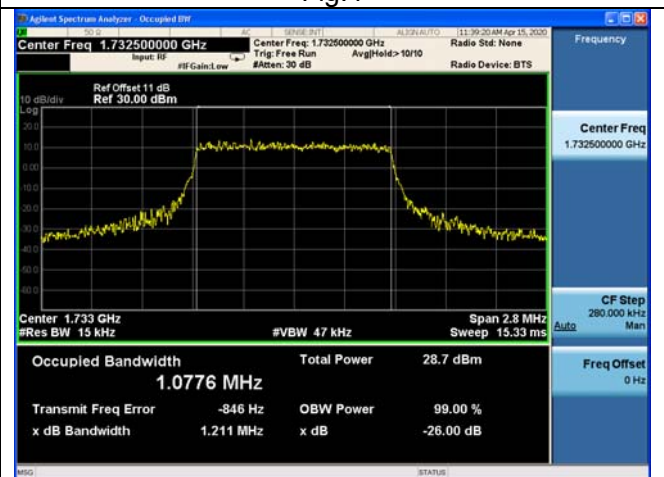


Fig.6

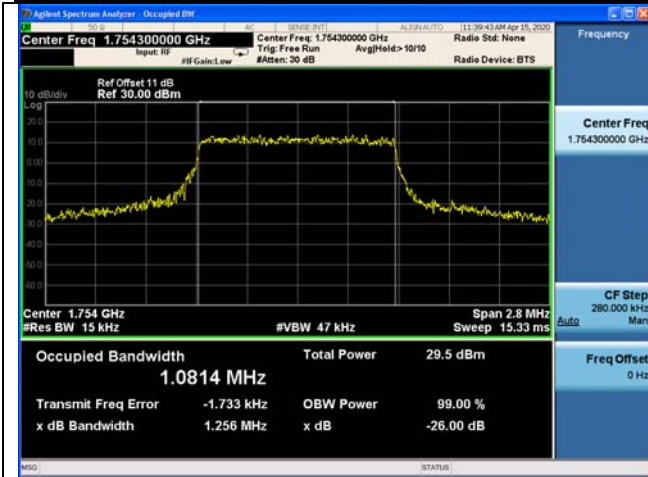


Fig.7

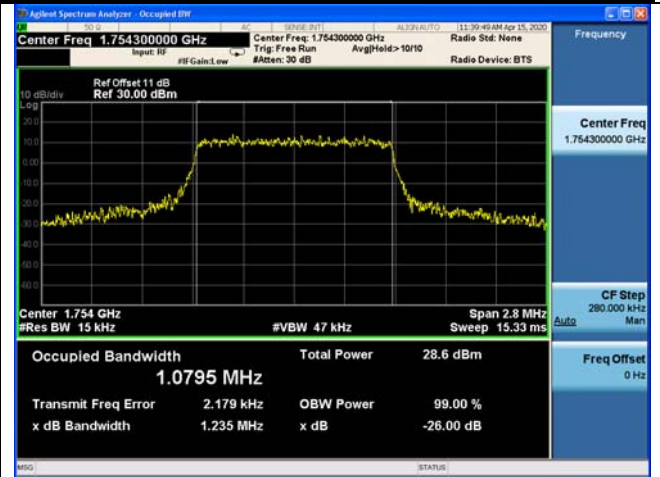


Fig.8

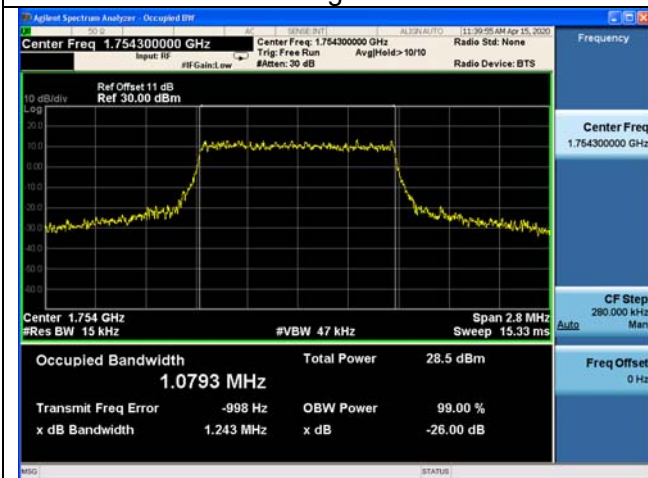


Fig.9

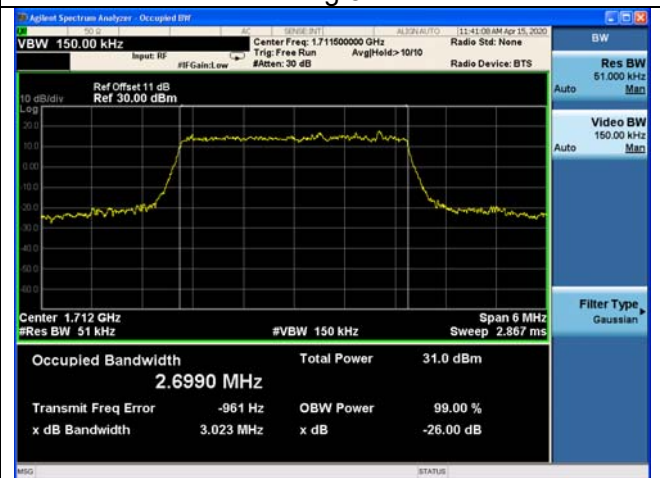


Fig.10

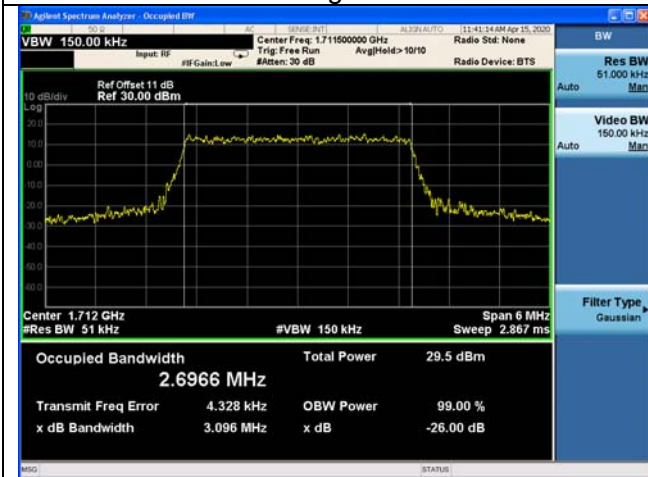


Fig.11

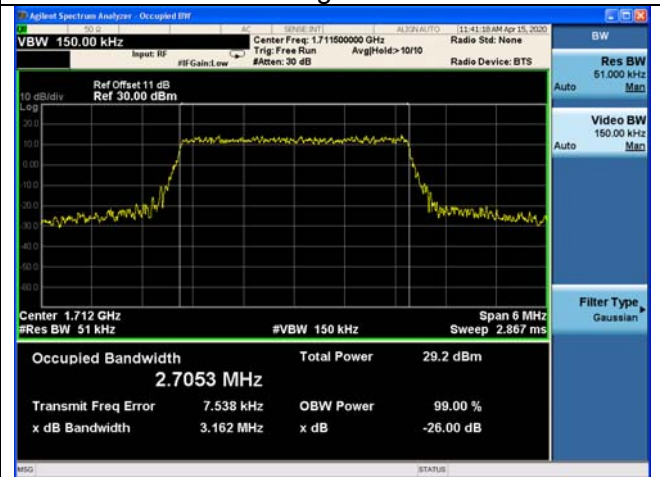


Fig.12



Fig.13

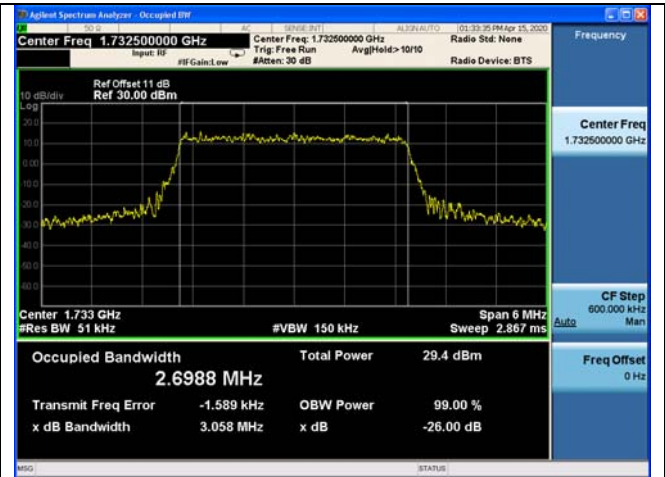


Fig.14

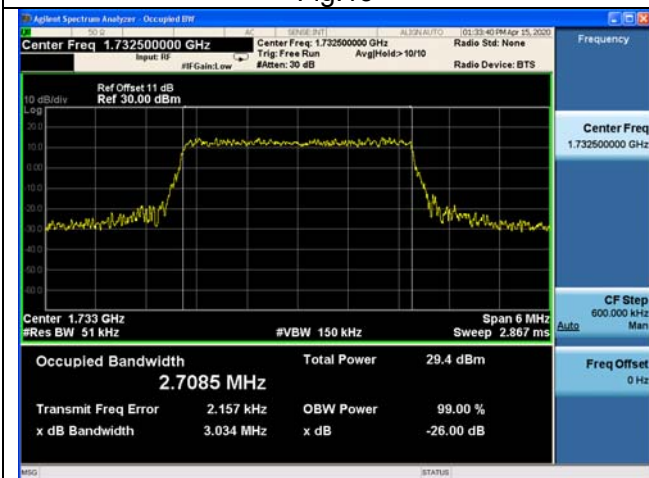


Fig.15

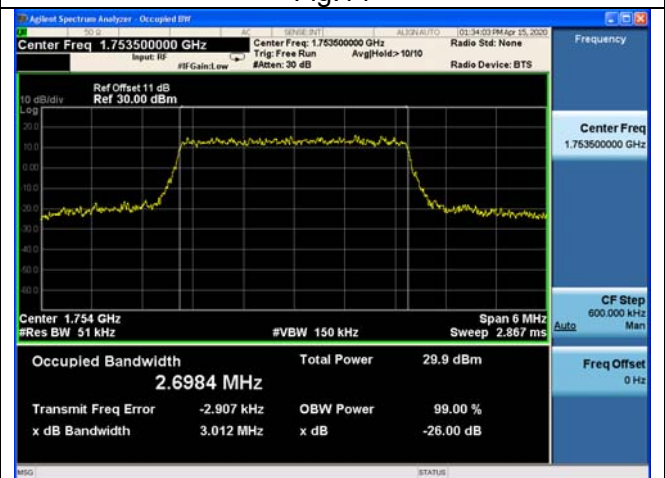


Fig.16

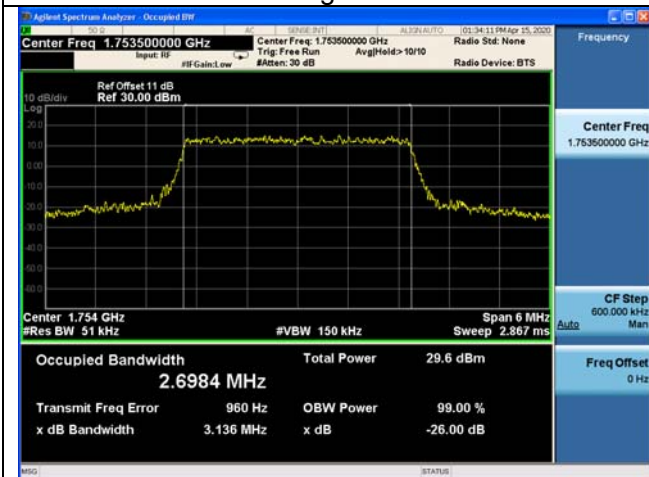


Fig.17

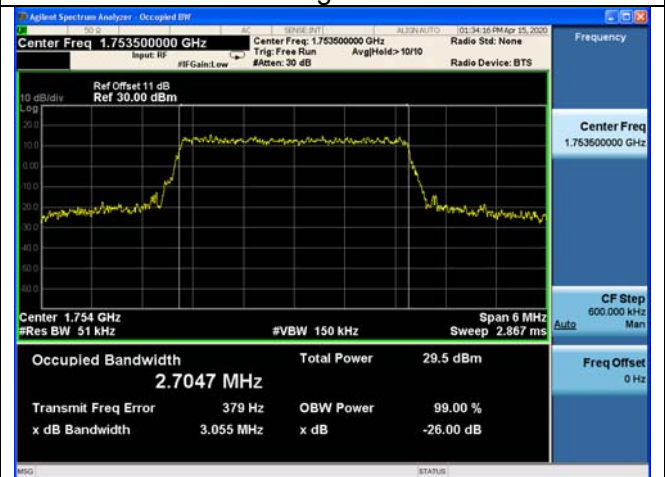


Fig.18



Fig.19

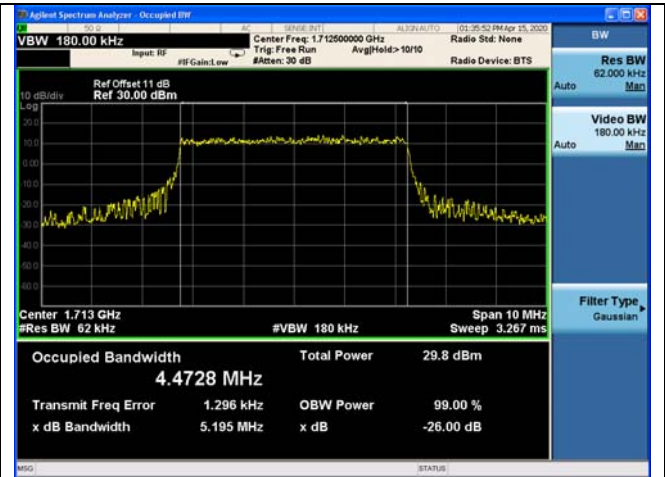


Fig.20

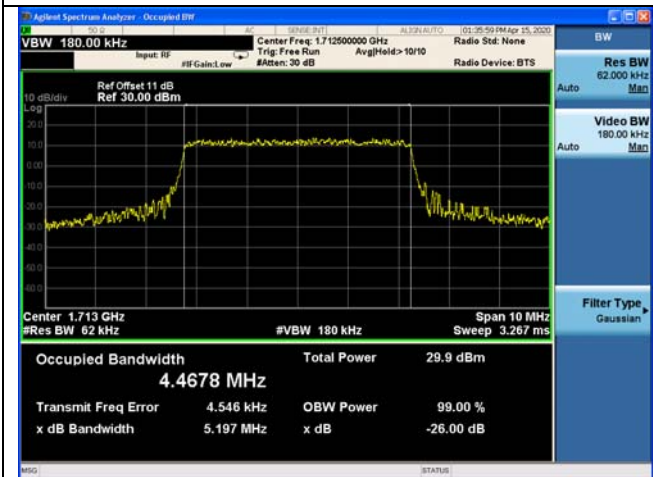


Fig.21

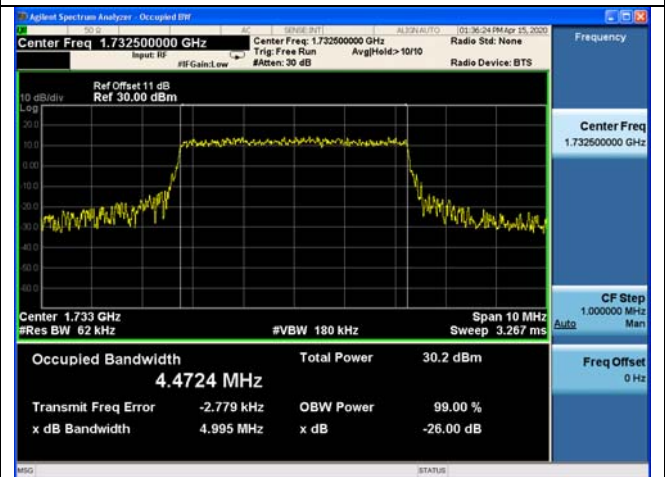


Fig.22

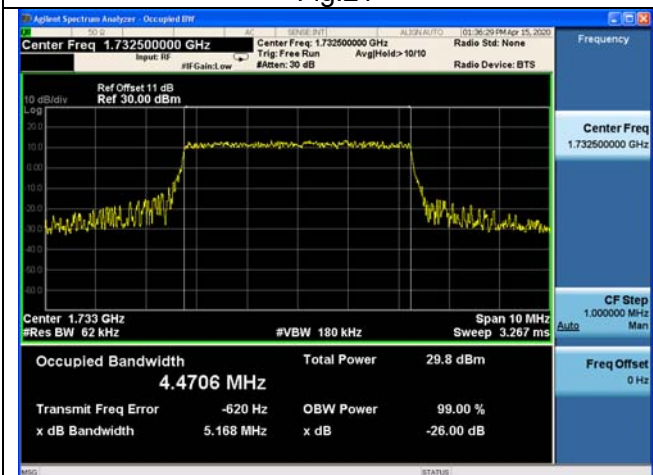


Fig.23

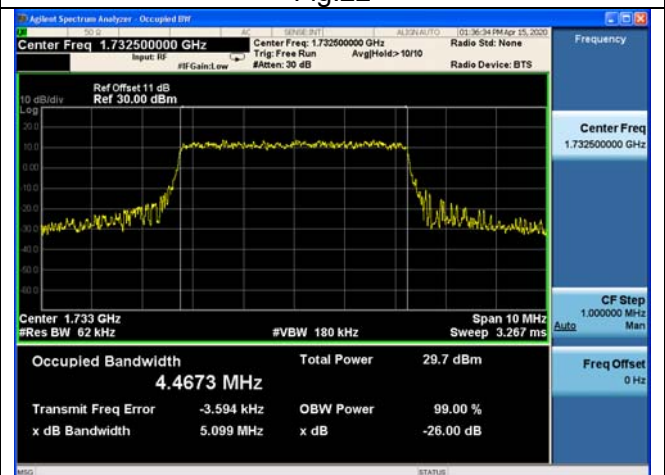


Fig.24

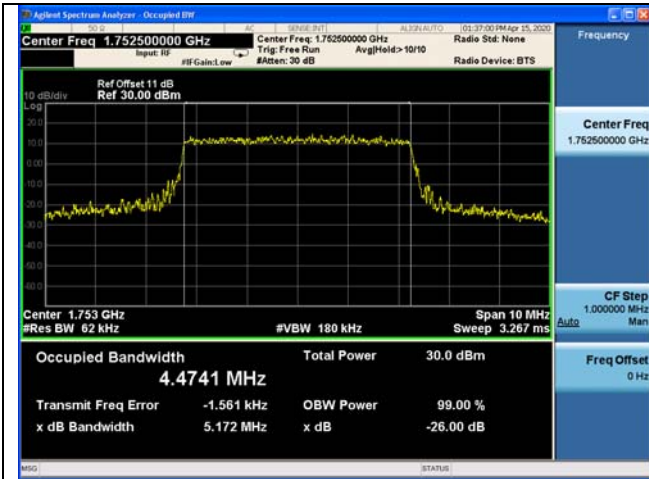


Fig.25



Fig.26

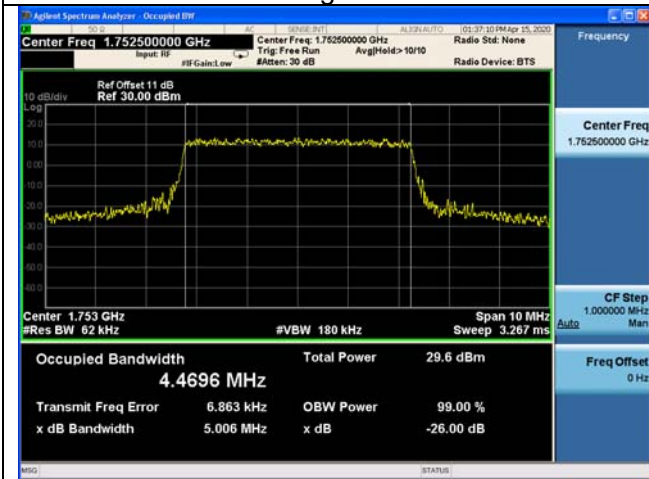


Fig.27



Fig.28

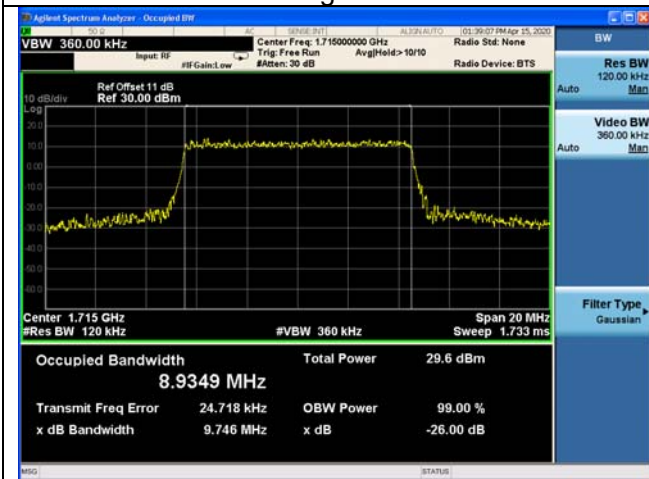


Fig.29

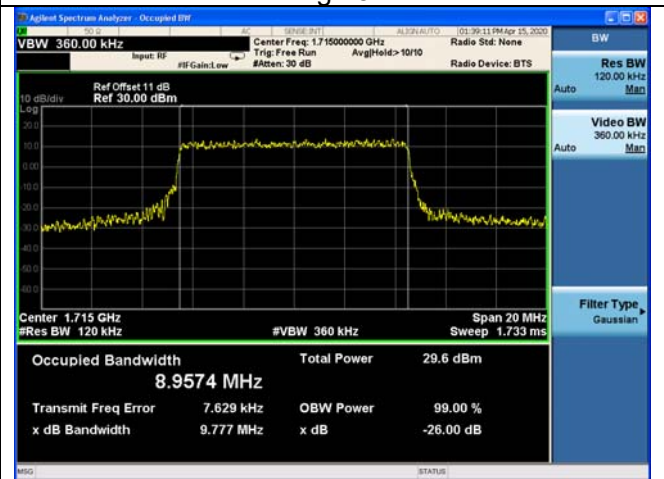


Fig.30

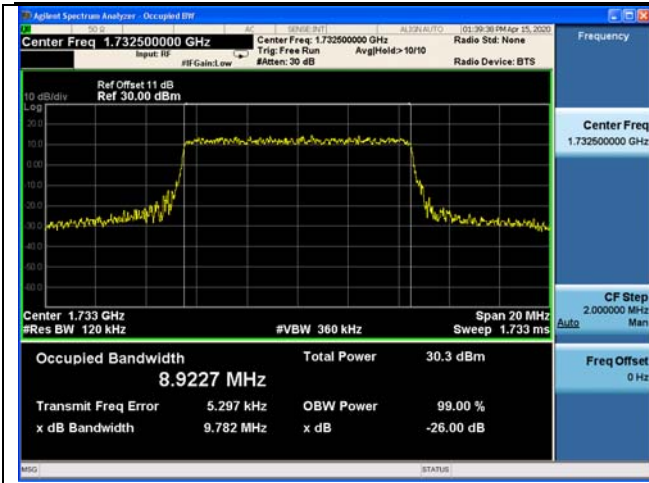


Fig.31

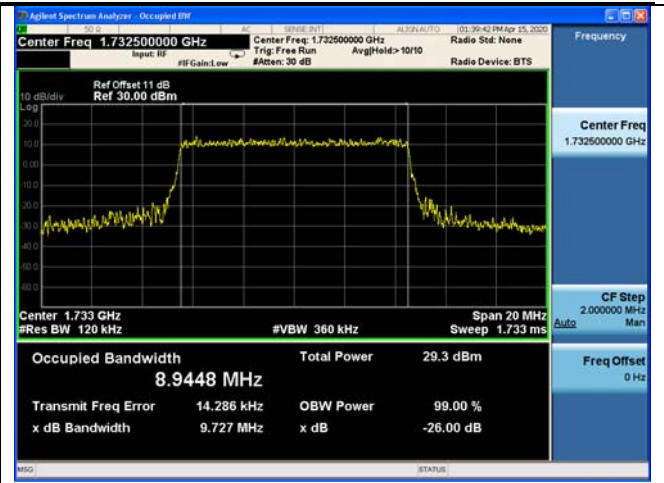


Fig.32

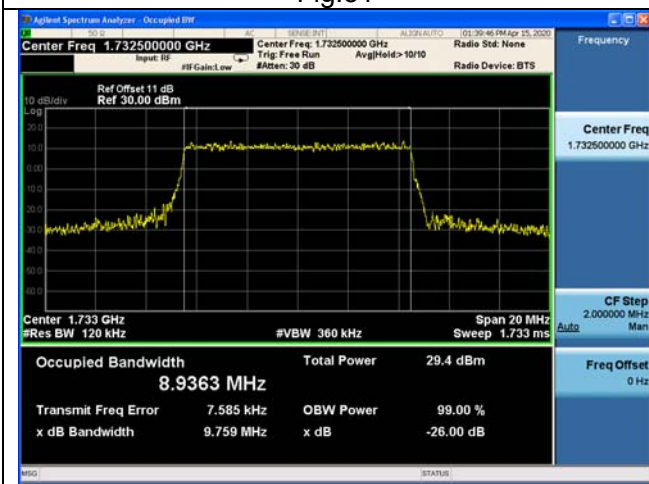


Fig.33

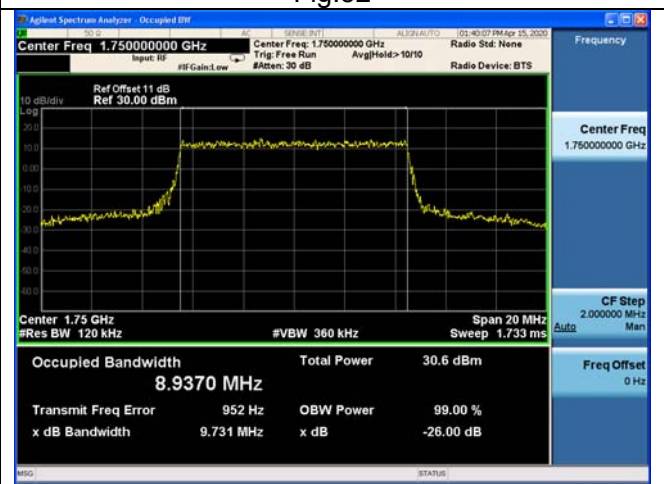


Fig.34

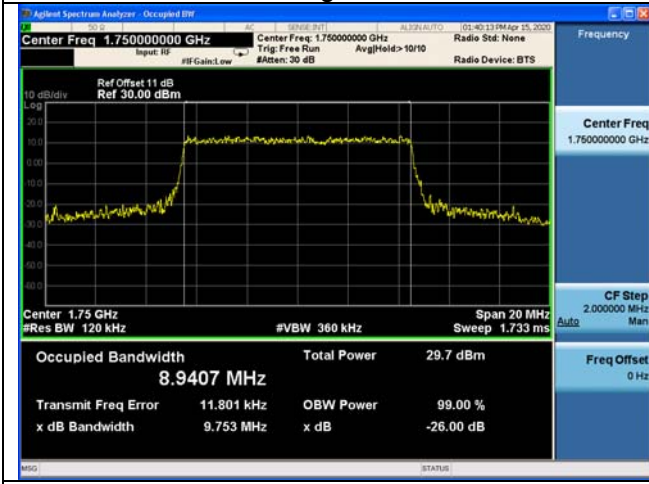


Fig.35

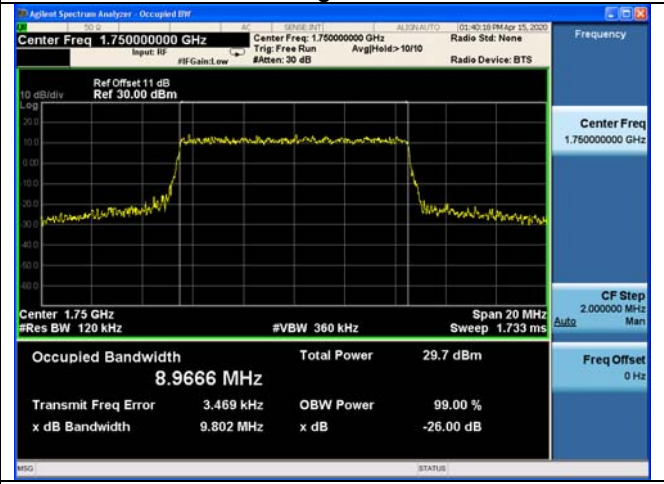


Fig.36

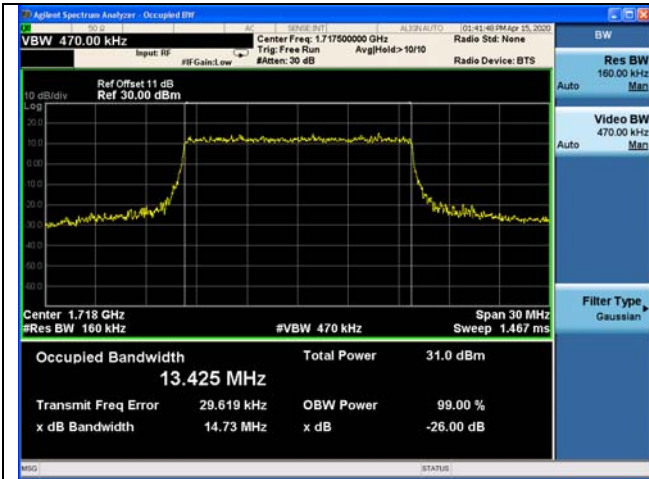


Fig.37

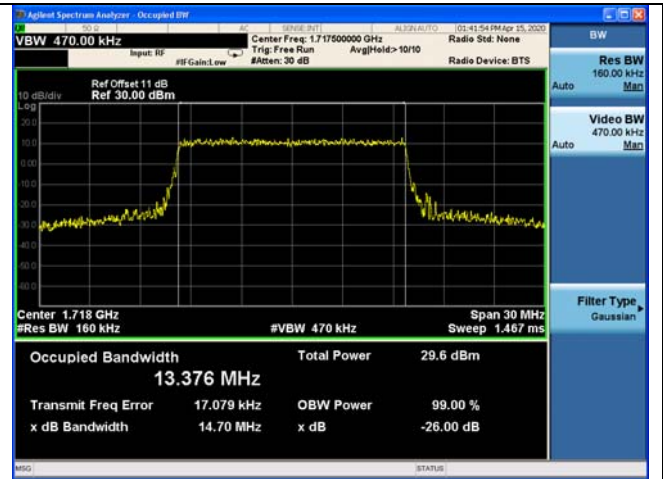


Fig.38

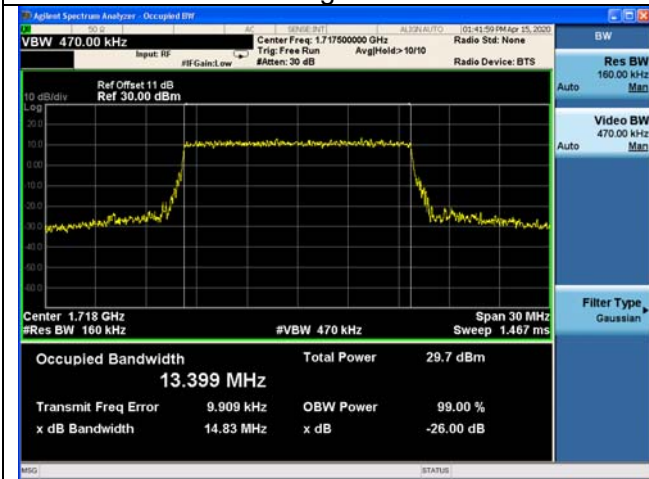


Fig.39



Fig.40

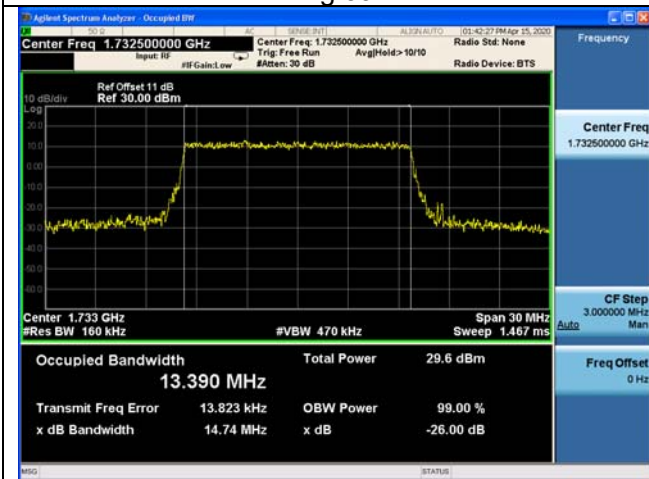


Fig.41

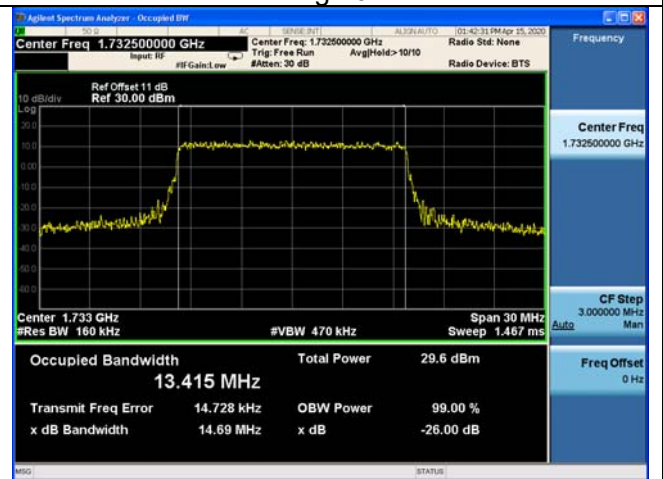


Fig.42

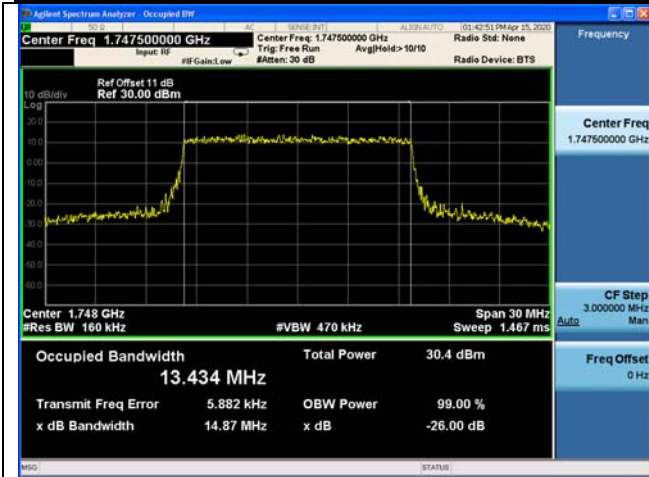


Fig.43



Fig.44

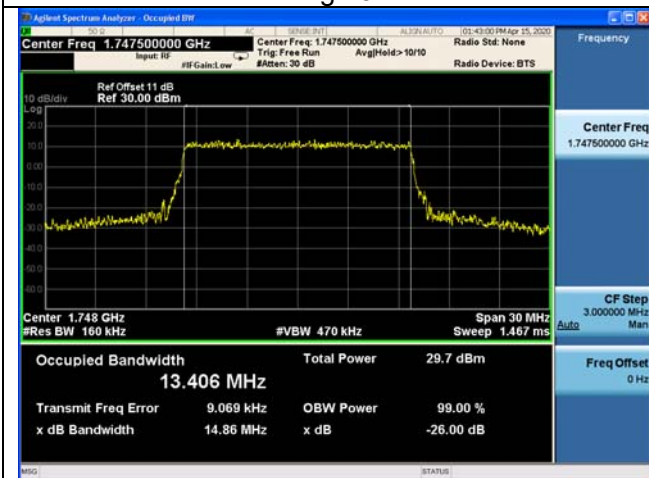


Fig.45

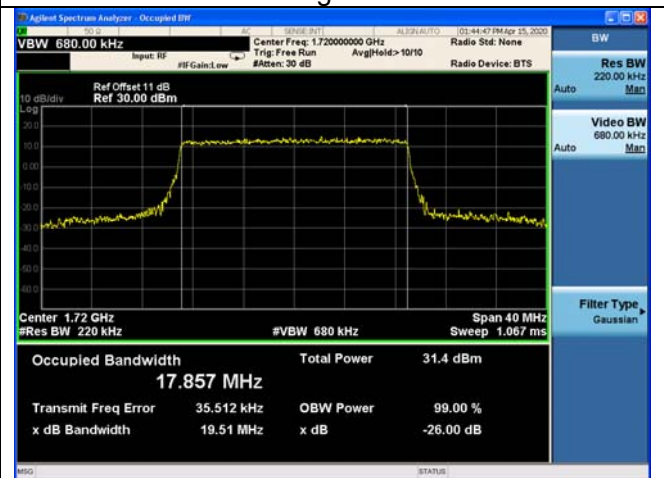


Fig.46

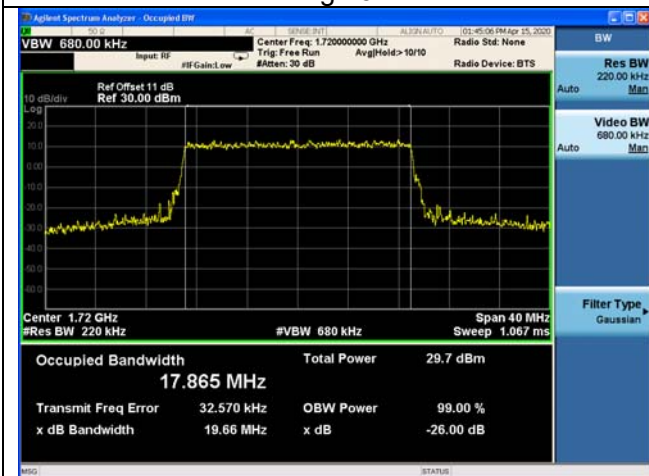


Fig.47

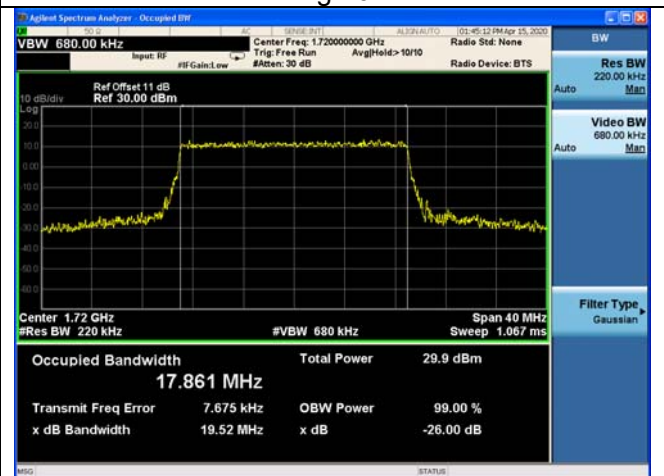


Fig.48

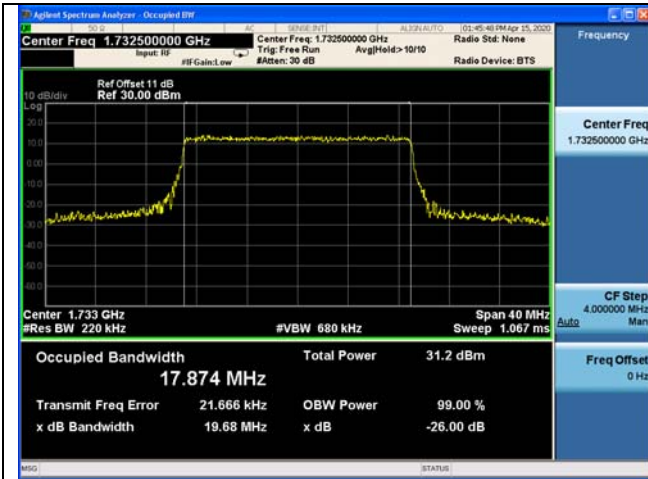


Fig.49



Fig.50

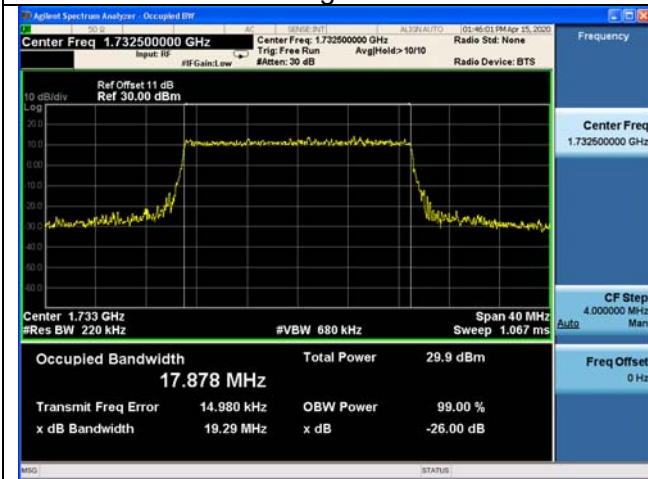


Fig.51



Fig.52

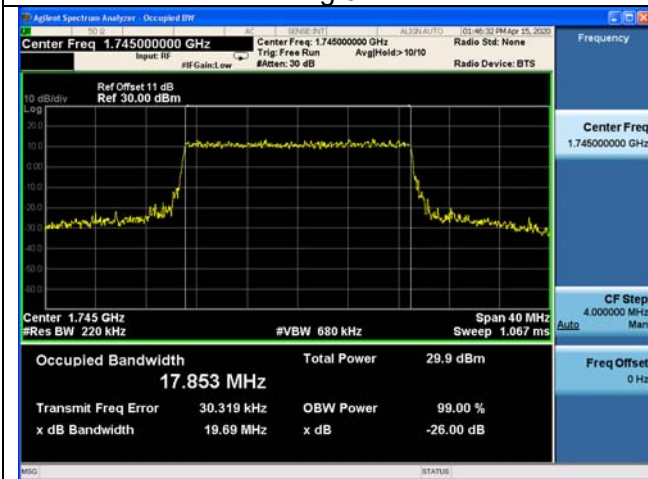


Fig.53

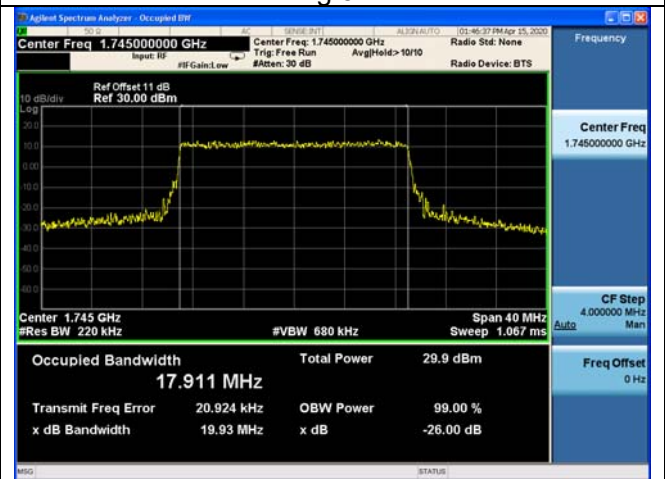


Fig.54

3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
4	1732.5	20175	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
			15	1	0	Fig.13	Fig.14	Fig.15
			20	1	0	Fig.16	Fig.17	Fig.18



Fig.1

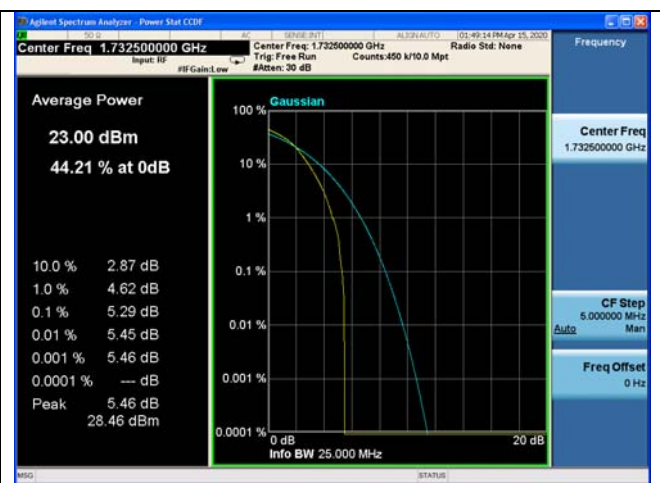


Fig.2



Fig.3



Fig.4

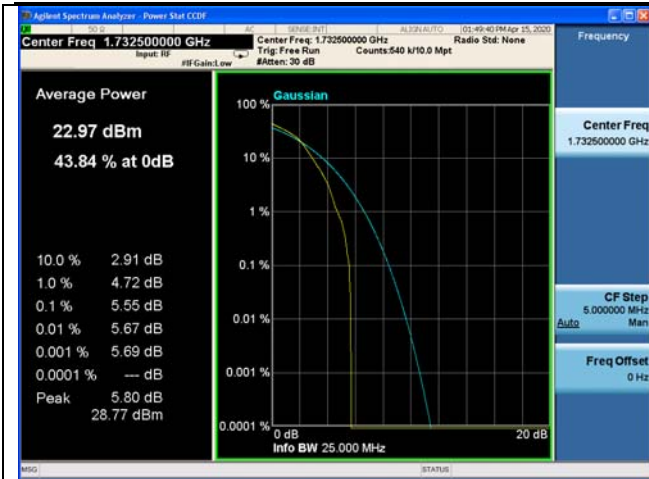


Fig.5



Fig.6



Fig.7



Fig.8

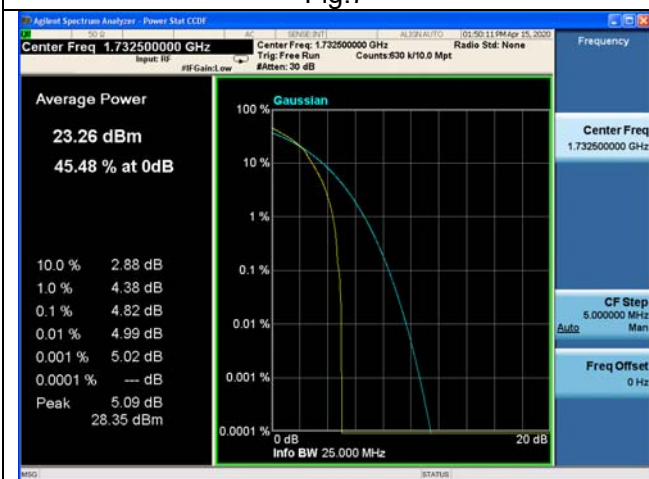


Fig.9



Fig.10

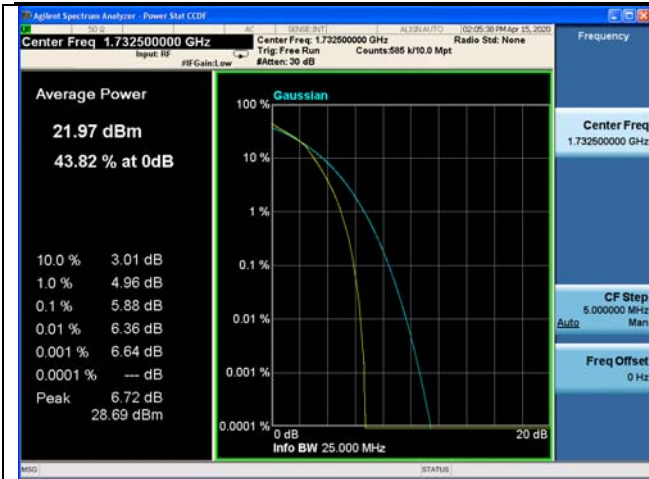


Fig.11

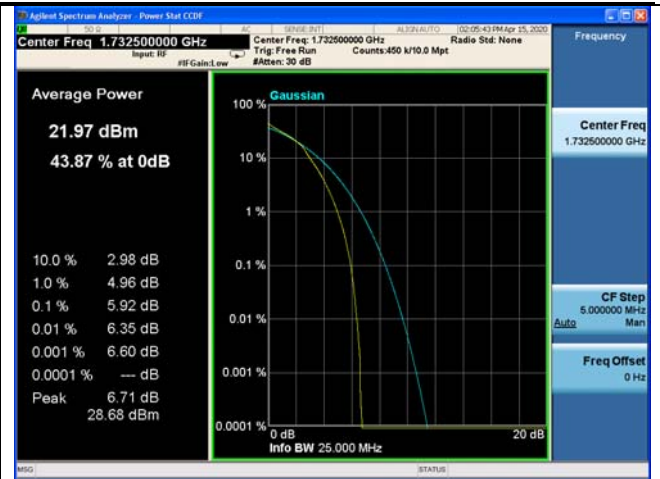


Fig.12



Fig.13



Fig.14

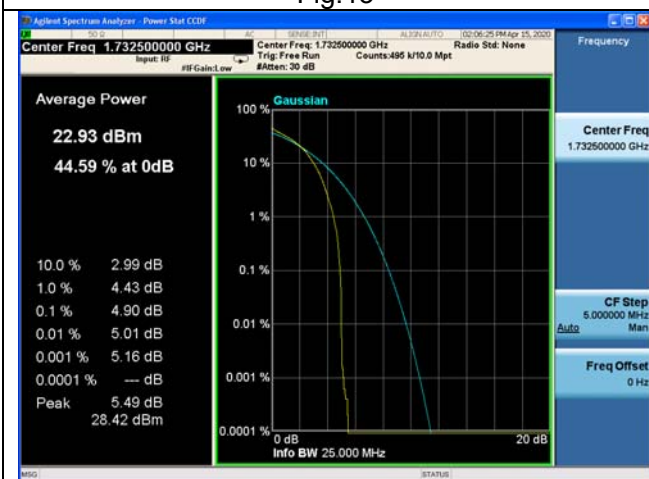


Fig.15



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

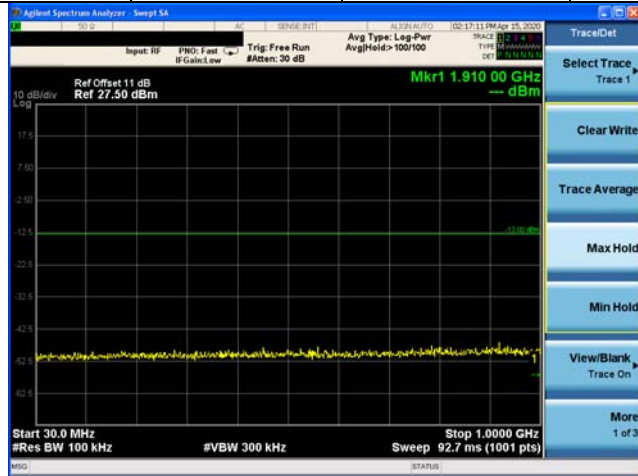


Fig.1



Fig.2

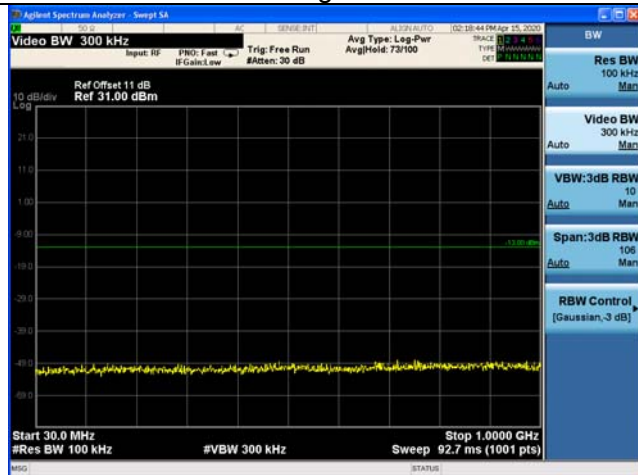


Fig3

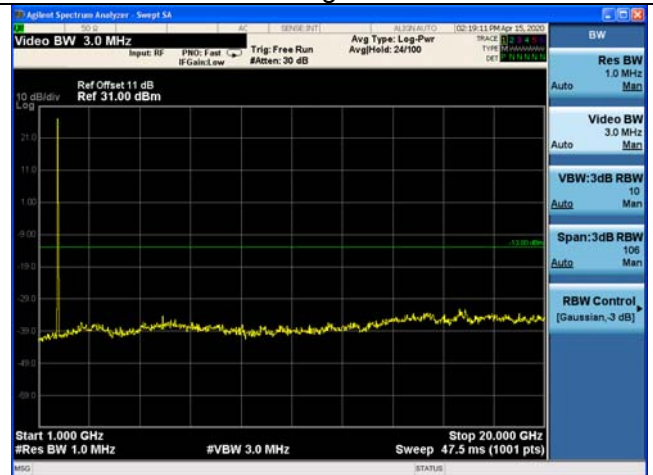


Fig4

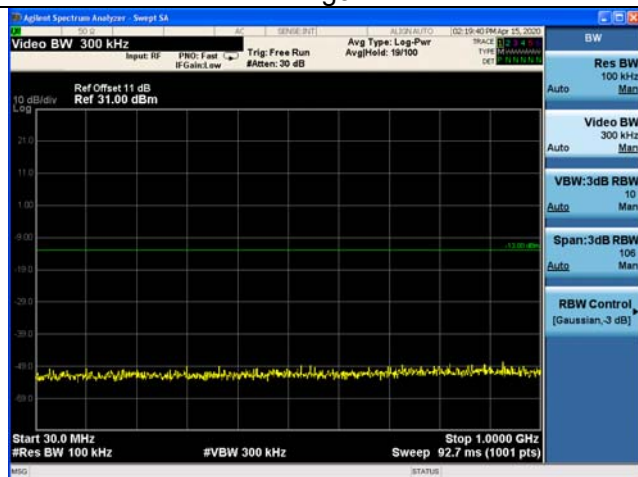


Fig5	Fig6
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5 Band Edges Compliance

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	
				1753.5	20385	1	14
	15	0				Fig.8	
	1712.5	19975		5	1	0	Fig.9
					25	0	Fig.10
	1752.5	20375	1		24	Fig.11	
			25		0	Fig.12	
	1715	20000	10	1	0	Fig.13	
				50	0	Fig.14	
	1750	20350		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
	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

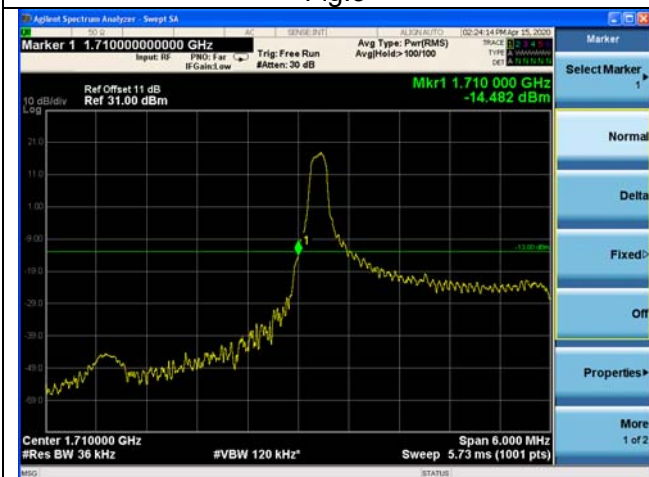


Fig.5

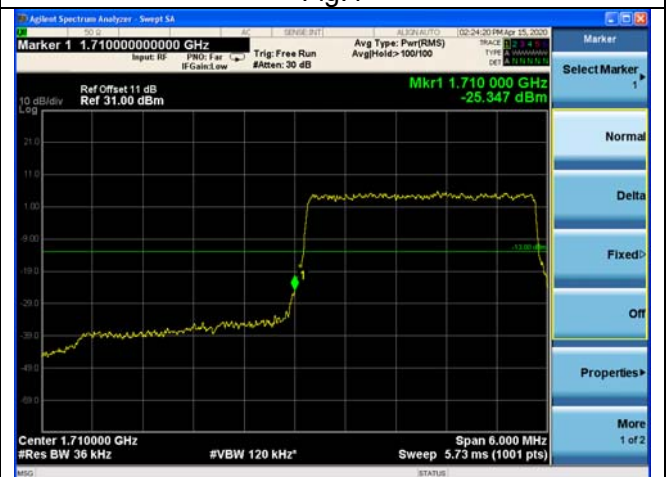


Fig.6

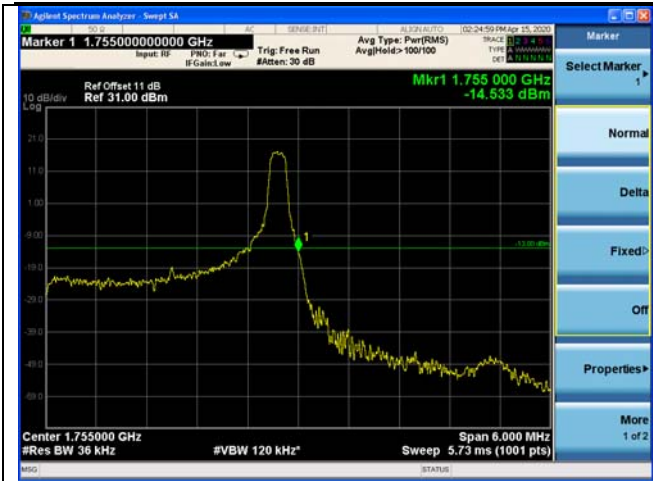


Fig.7



Fig.8

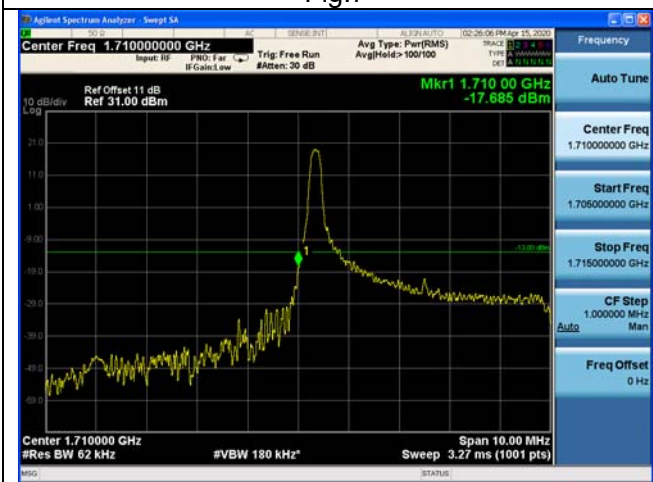


Fig.9

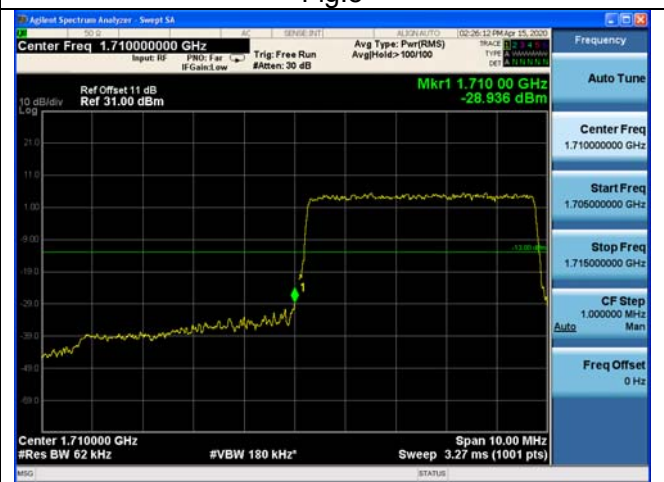


Fig.10

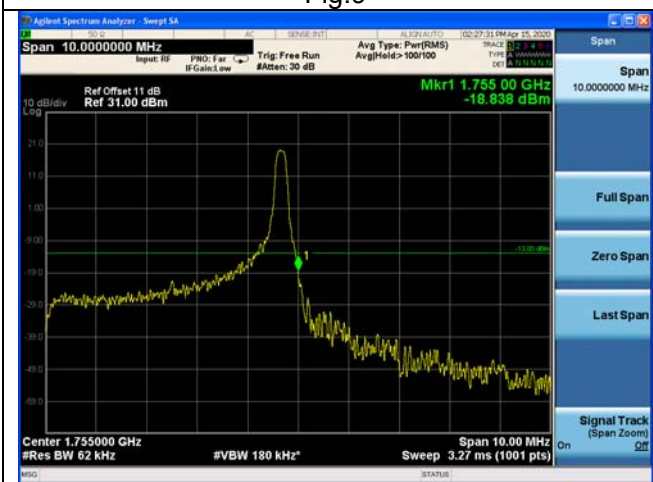


Fig.11



Fig.12

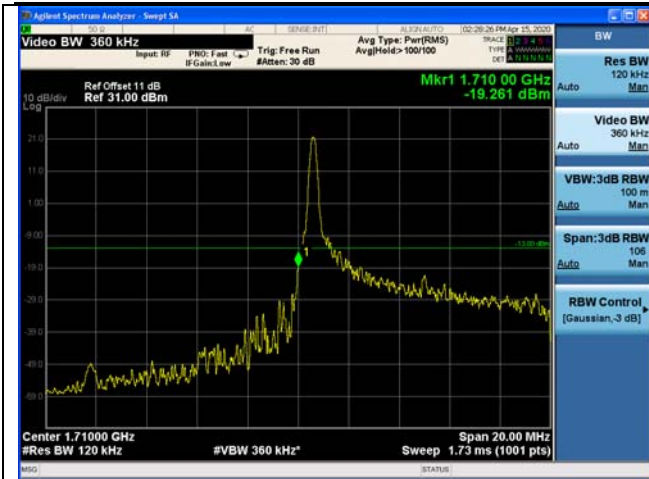


Fig.13



Fig.14



Fig.15



Fig.16

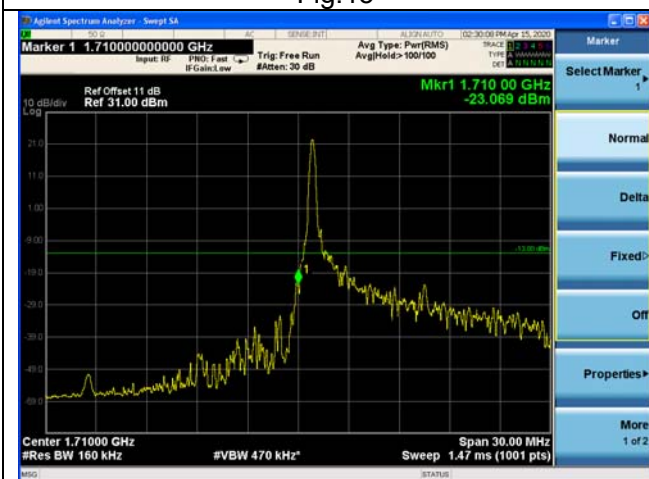


Fig.17



Fig.18



Fig.19



Fig.20

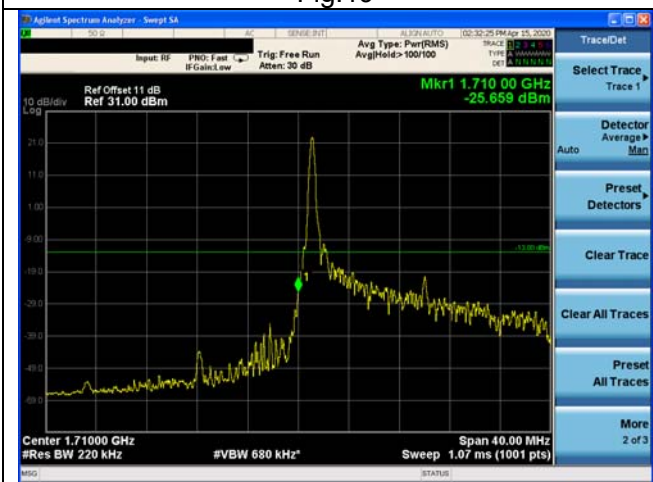


Fig.21



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
-30	NV	-0.019	0.083	-0.001	0.033	0.015	-0.061
-20	NV	0.005	0.009	-0.074	-0.004	0.034	0.016
-10	NV	0.017	-0.041	0.067	0.005	-0.021	-0.048
0	NV	0.078	0.018	0.028	-0.009	-0.035	0.003
+10	NV	-0.041	0.067	0.076	-0.018	0.025	-0.019
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.024	0.034	-0.069	-0.033	0.002	-0.030
+40	NV	0.001	-0.090	0.004	-0.044	-0.008	0.021
+50	NV	0.069	0.080	0.044	-0.055	0.025	0.029
+20	LV	0.013	-0.025	-0.035	0.053	0.018	0.005
+20	HV	0.037	0.034	-0.015	0.015	0.024	-0.001

Temperature(°C)	Voltage	Test Result (ppm) Band4 High Channel					
		1.4M	3M	5M	10M	15M	20M
-30	NV	-0.013	0.052	-0.029	-0.010	-0.007	0.046
-20	NV	0.023	0.046	-0.006	0.040	0.022	-0.016
-10	NV	-0.020	-0.011	-0.045	0.063	-0.035	0.003
0	NV	-0.011	0.086	-0.003	-0.002	-0.062	0.006
+10	NV	-0.010	-0.034	0.055	-0.024	0.006	-0.041
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	-0.012	-0.018	0.037	0.043	-0.039	0.109
+40	NV	0.015	0.012	0.017	0.017	0.052	0.014
+50	NV	-0.001	-0.036	-0.026	-0.010	-0.011	0.046
+20	LV	-0.004	0.021	0.045	0.012	0.007	-0.059
+20	HV	0.045	-0.011	0.071	0.027	0.021	0.016