

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	21.89
				1	5	21.81
				3	2	21.10
				6	0	21.04
	1732.5	20175		1	0	21.97
				1	5	21.83
				3	2	21.02
				6	0	21.01
	1754.3	20393		1	0	21.91
				1	5	21.90
				3	2	21.18
				6	0	20.99
16QAM	1710.7	19957	1.4	1	0	21.31
				1	5	21.30
				3	2	20.31
				6	0	20.20
	1732.5	20175		1	0	21.17
				1	5	21.10
				3	2	20.26
				6	0	20.14
	1754.3	20393		1	0	21.19
				1	5	21.25
				3	2	20.30
				6	0	20.10
64QAM	1710.7	19957	1.4	1	0	21.19
				1	5	21.19
				3	2	20.22
				6	0	20.13
	1732.5	20175		1	0	21.23
				1	5	21.13
				3	2	20.16
				6	0	20.09
	1754.3	20393		1	0	21.24
				1	5	21.17
				3	2	20.29
				6	0	20.10

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	21.85
				1	14	21.81
				8	4	21.00
				15	0	20.97
	1732.5	20175		1	0	21.84
				1	14	21.86
				8	4	21.13
				15	0	20.98
	1753.5	20385		1	0	21.97
				1	14	21.95
				8	4	21.11
				15	0	21.05
16QAM	1711.5	19965	3	1	0	21.20
				1	14	21.18
				8	4	20.18
				15	0	20.25
	1732.5	20175		1	0	21.24
				1	14	21.15
				8	4	20.21
				15	0	20.10
	1753.5	20385		1	0	21.28
				1	14	21.27
				8	4	20.22
				15	0	20.20
64QAM	1711.5	19965	3	1	0	21.18
				1	14	21.15
				8	4	20.14
				15	0	20.26
	1732.5	20175		1	0	21.17
				1	14	21.12
				8	4	20.17
				15	0	20.09
	1753.5	20385		1	0	21.27
				1	14	21.25
				8	4	20.25
				15	0	20.24

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	21.91
				1	24	21.92
				12	6	21.02
				25	0	20.95
	1732.5	20175		1	0	21.87
				1	24	21.91
				12	6	21.05
				25	0	20.94
	1752.5	20375		1	0	21.89
				1	24	21.98
				12	6	21.04
				25	0	21.01
16QAM	1712.5	19975	5	1	0	21.30
				1	24	21.30
				12	6	20.26
				25	0	20.17
	1732.5	20175		1	0	21.18
				1	24	21.11
				12	6	20.16
				25	0	20.24
	1752.5	20375		1	0	21.25
				1	24	21.21
				12	6	20.28
				25	0	20.13
64QAM	1712.5	19975	5	1	0	21.24
				1	24	21.16
				12	6	20.22
				25	0	20.16
	1732.5	20175		1	0	21.23
				1	24	21.13
				12	6	20.24
				25	0	20.15
	1752.5	20375		1	0	21.28
				1	24	21.18
				12	6	20.23
				25	0	20.22

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	21.88
				1	49	21.79
				24	12	21.10
				50	0	21.08
	1732.5	20175		1	0	21.91
				1	49	21.90
				24	12	21.13
				50	0	21.07
	1750	20350		1	0	21.94
				1	49	21.98
				24	12	21.04
				50	0	21.04
16QAM	1715	20000	10	1	0	21.26
				1	49	21.26
				24	12	20.20
				50	0	20.16
	1732.5	20175		1	0	21.23
				1	49	21.12
				24	12	20.20
				50	0	20.16
	1750	20350		1	0	21.21
				1	49	21.27
				24	12	20.29
				50	0	20.12
64QAM	1715	20000	10	1	0	21.20
				1	49	21.26
				24	12	20.23
				50	0	20.14
	1732.5	20175		1	0	21.18
				1	49	21.09
				24	12	20.18
				50	0	20.11
	1750	20350		1	0	21.21
				1	49	21.20
				24	12	20.22
				50	0	20.17

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	21.86
				1	74	21.84
				40	18	21.01
				75	0	21.01
	1732.5	20175		1	0	21.88
				1	74	21.93
				40	18	21.01
				75	0	21.05
	1747.5	20325		1	0	21.95
				1	74	21.97
				40	18	21.07
				75	0	20.98
16QAM	1717.5	20025	15	1	0	21.25
				1	74	21.17
				40	18	20.24
				75	0	20.13
	1732.5	20175		1	0	21.24
				1	74	21.18
				40	18	20.16
				75	0	20.20
	1747.5	20325		1	0	21.30
				1	74	21.21
				40	18	20.29
				75	0	20.23
64QAM	1717.5	20025	15	1	0	21.22
				1	74	21.27
				40	18	20.15
				75	0	20.24
	1732.5	20175		1	0	21.15
				1	74	21.11
				40	18	20.15
				75	0	20.17
	1747.5	20325		1	0	21.27
				1	74	21.24
				40	18	20.20
				75	0	20.11

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	21.94
				1	99	21.93
				50	25	21.12
				100	0	21.10
	1732.5	20175		1	0	21.97
				1	99	21.94
				50	25	21.14
				100	0	21.07
	1745	20300		1	0	21.99
				1	99	21.98
				50	25	21.18
				100	0	21.06
16QAM	1720	20050	20	1	0	21.33
				1	99	21.32
				50	25	20.33
				100	0	20.28
	1732.5	20175		1	0	21.27
				1	99	21.24
				50	25	20.29
				100	0	20.24
	1745	20300		1	0	21.31
				1	99	21.28
				50	25	20.36
				100	0	20.24
64QAM	1720	20050	20	1	0	21.32
				1	99	21.27
				50	25	20.27
				100	0	20.26
	1732.5	20175		1	0	21.24
				1	99	21.23
				50	25	20.25
				100	0	20.22
	1745	20300		1	0	21.28
				1	99	21.27
				50	25	20.34
				100	0	20.25

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	1.0894	Fig.1	1.0859	Fig.2	1.0878	Fig.3
	1732.5	20175		6	0	1.0854	Fig.4	1.0904	Fig.5	1.0909	Fig.6
	1754.3	20393		6	0	1.0889	Fig.7	1.0868	Fig.8	1.0888	Fig.9
	1711.5	19965	3	15	0	2.7215	Fig.10	2.7113	Fig.11	2.7239	Fig.12
	1732.5	20175		15	0	2.7165	Fig.13	2.7172	Fig.14	2.7086	Fig.15
	1753.5	20385		15	0	2.7171	Fig.16	2.7223	Fig.17	2.7225	Fig.18
	1712.5	19975	5	25	0	4.4972	Fig.19	4.4909	Fig.20	4.4928	Fig.21
	1732.5	20175		25	0	4.4840	Fig.22	4.5015	Fig.23	4.4949	Fig.24
	1752.5	20375		25	0	4.4911	Fig.25	4.4845	Fig.26	4.4901	Fig.27
	1715	20000	10	50	0	8.9866	Fig.28	8.9588	Fig.29	8.9668	Fig.30
	1732.5	20175		50	0	8.9822	Fig.31	8.9491	Fig.32	8.9824	Fig.33
	1750	20350		50	0	8.9957	Fig.34	8.9541	Fig.35	8.9797	Fig.36
	1717.5	20025	15	75	0	13.382	Fig.37	13.403	Fig.38	13.389	Fig.39
	1732.5	20175		75	0	13.503	Fig.40	13.456	Fig.41	13.426	Fig.42
	1747.5	20325		75	0	13.443	Fig.43	13.402	Fig.44	13.396	Fig.45
	1720	20050	20	100	0	17.855	Fig.46	17.853	Fig.47	17.854	Fig.48
	1732.5	20175		100	0	17.924	Fig.49	17.914	Fig.50	17.935	Fig.51
	1745	20300		100	0	17.905	Fig.52	17.881	Fig.53	17.869	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	1.416	Fig.1	1.424	Fig.2	1.417	Fig.3
	1732.5	20175		6	0	1.444	Fig.4	1.454	Fig.5	1.463	Fig.6
	1754.3	20393		6	0	1.446	Fig.7	1.393	Fig.8	1.429	Fig.9
	1711.5	19965	3	15	0	3.478	Fig.10	3.288	Fig.11	3.264	Fig.12
	1732.5	20175		15	0	3.377	Fig.13	3.427	Fig.14	3.496	Fig.15
	1753.5	20385		15	0	3.353	Fig.16	3.389	Fig.17	3.493	Fig.18
	1712.5	19975	5	25	0	5.298	Fig.19	5.268	Fig.20	5.262	Fig.21
	1732.5	20175		25	0	5.252	Fig.22	5.243	Fig.23	5.365	Fig.24
	1752.5	20375		25	0	5.271	Fig.25	5.216	Fig.26	5.225	Fig.27
	1715	20000	10	50	0	10.30	Fig.28	10.33	Fig.29	10.35	Fig.30
	1732.5	20175		50	0	10.22	Fig.31	10.63	Fig.32	10.24	Fig.33
	1750	20350		50	0	9.944	Fig.34	10.38	Fig.35	10.16	Fig.36
	1717.5	20025	15	75	0	14.99	Fig.37	14.82	Fig.38	14.86	Fig.39
	1732.5	20175		75	0	15.25	Fig.40	14.88	Fig.41	15.19	Fig.42
	1747.5	20325		75	0	14.90	Fig.43	14.68	Fig.44	14.95	Fig.45
	1720	20050	20	100	0	20.34	Fig.46	20.22	Fig.47	20.03	Fig.48
	1732.5	20175		100	0	20.41	Fig.49	20.21	Fig.50	20.17	Fig.51
	1745	20300		100	0	20.16	Fig.52	19.88	Fig.53	20.21	Fig.54

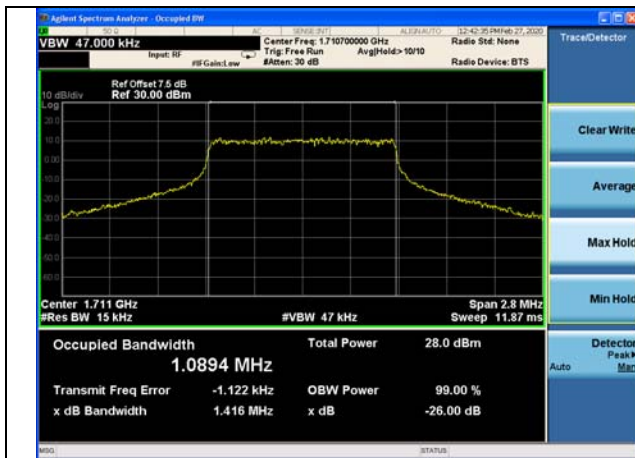


Fig.1

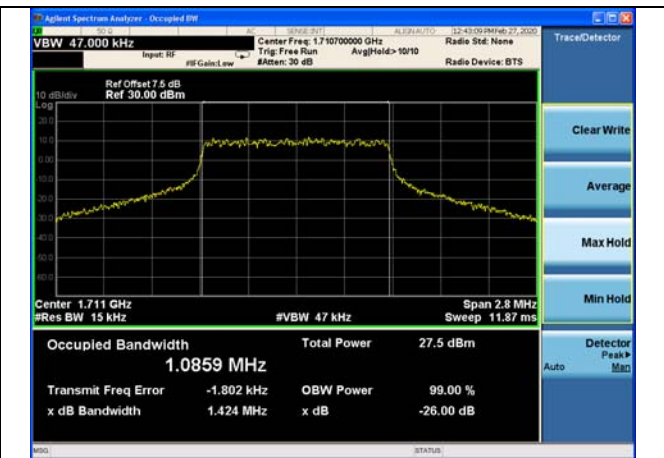


Fig.2

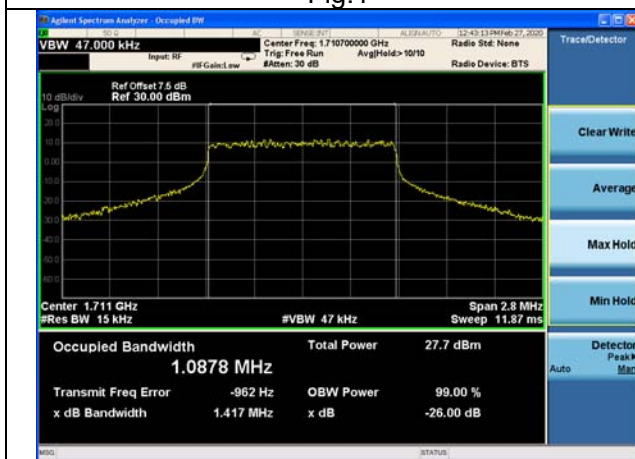


Fig.3

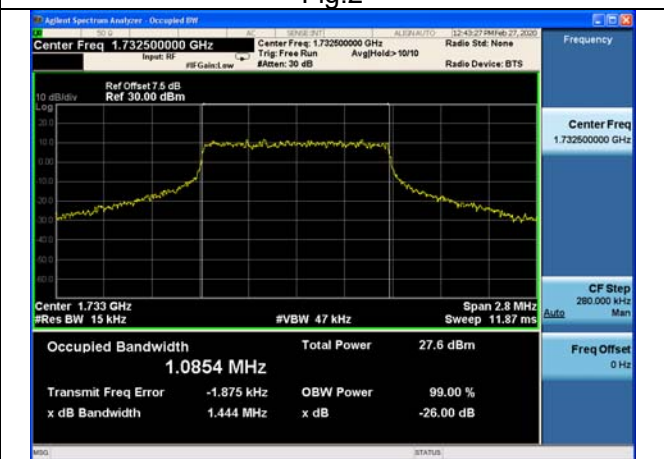


Fig.4

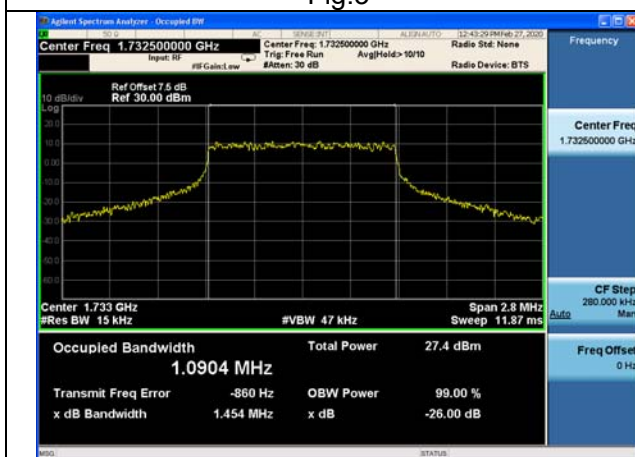


Fig.5

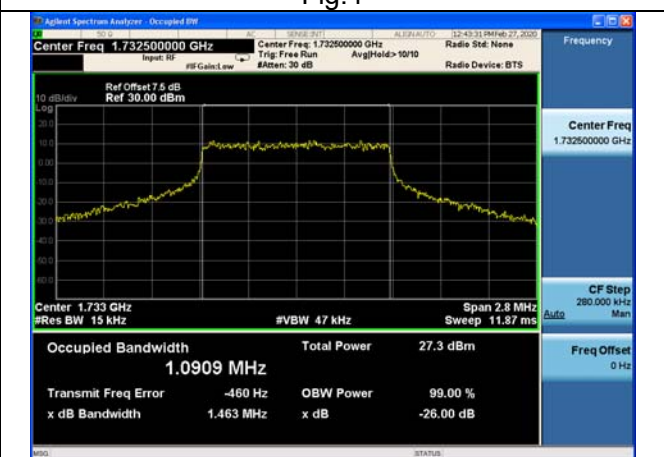


Fig.6

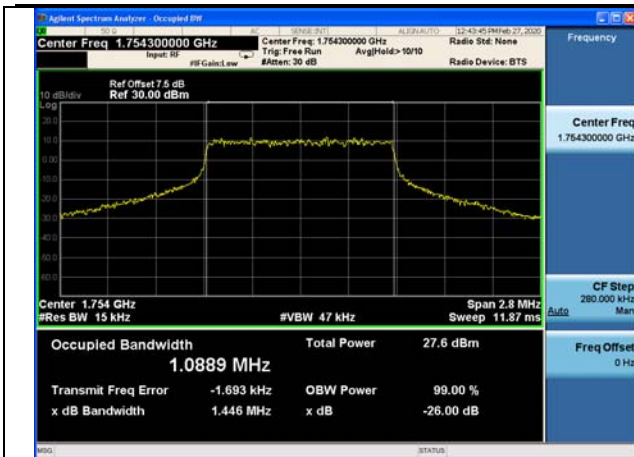


Fig.7

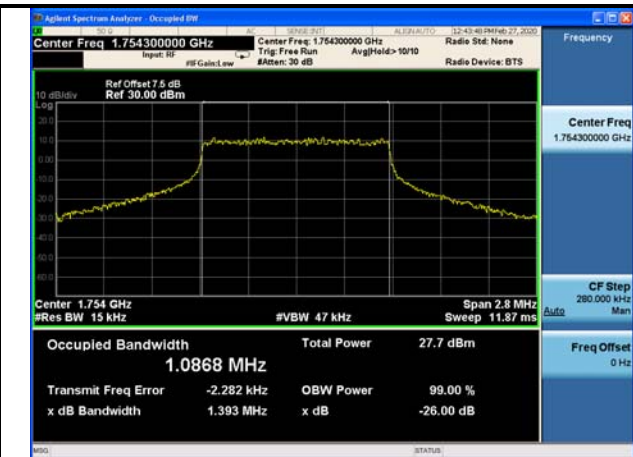


Fig.8

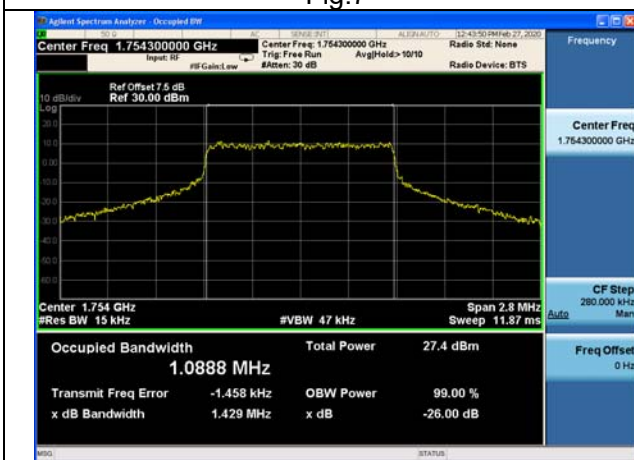


Fig.9

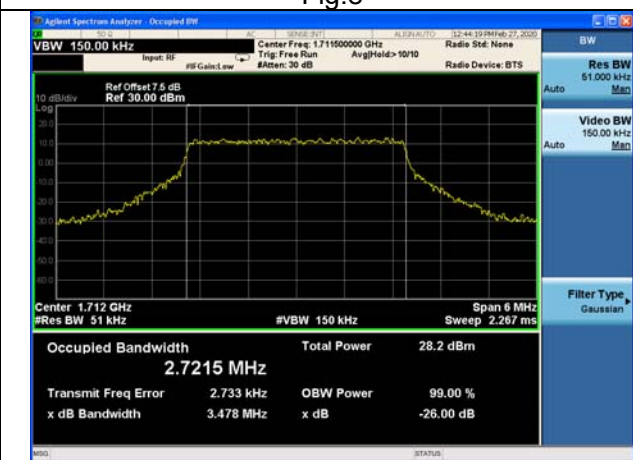


Fig.10

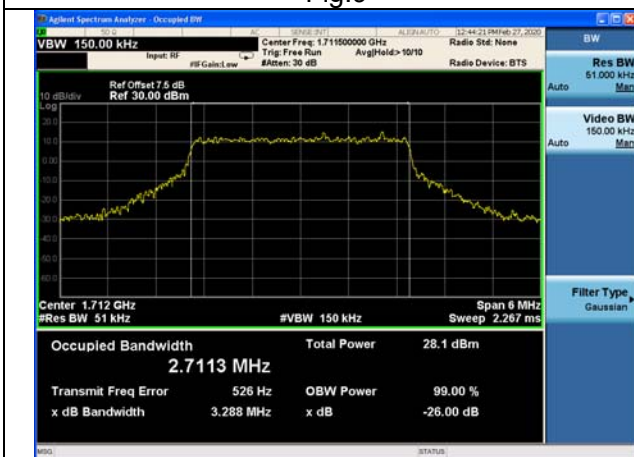


Fig.11

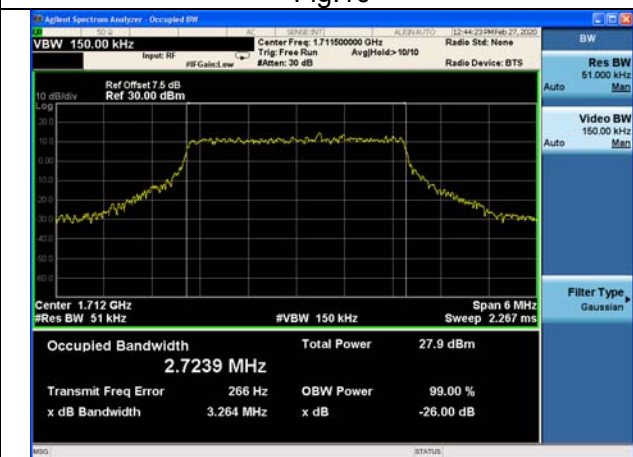


Fig.12

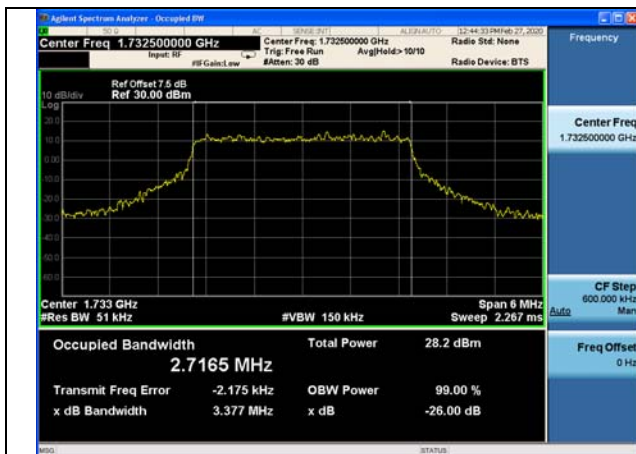


Fig.13



Fig.14

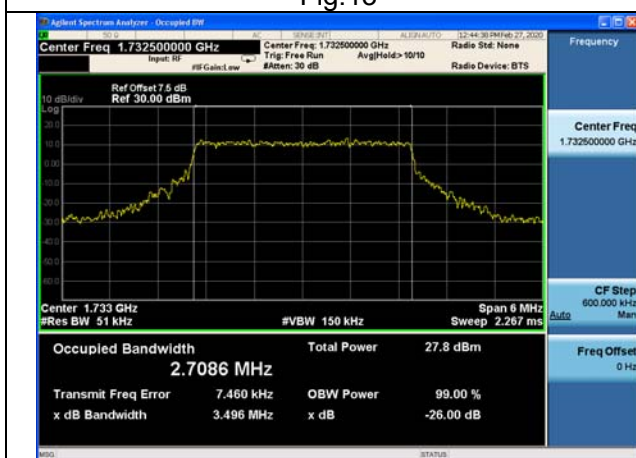


Fig.15

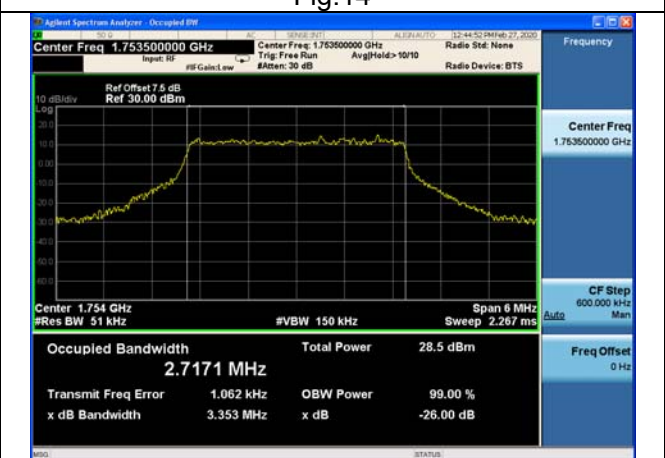


Fig.16

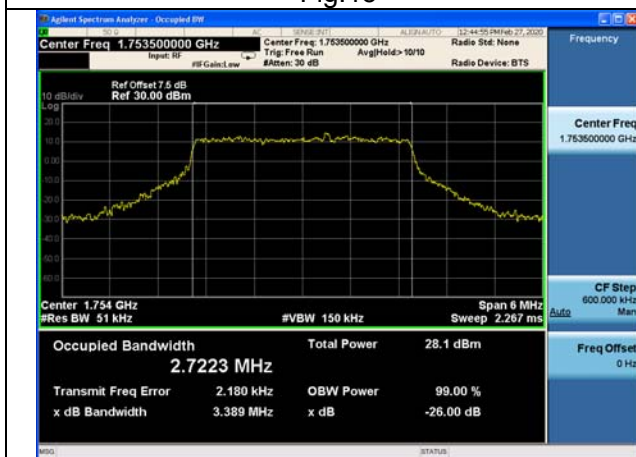


Fig.17

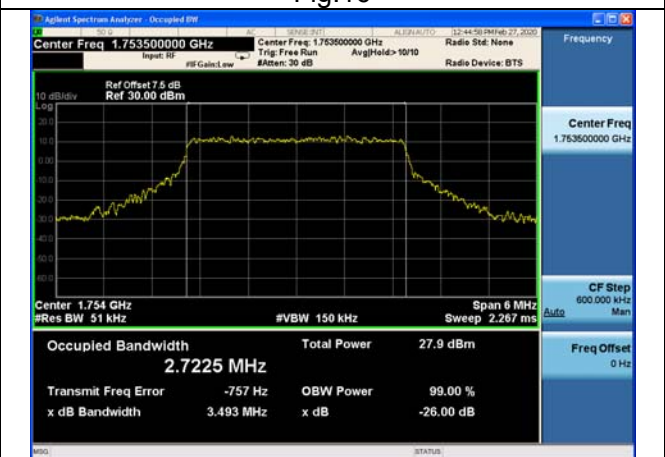


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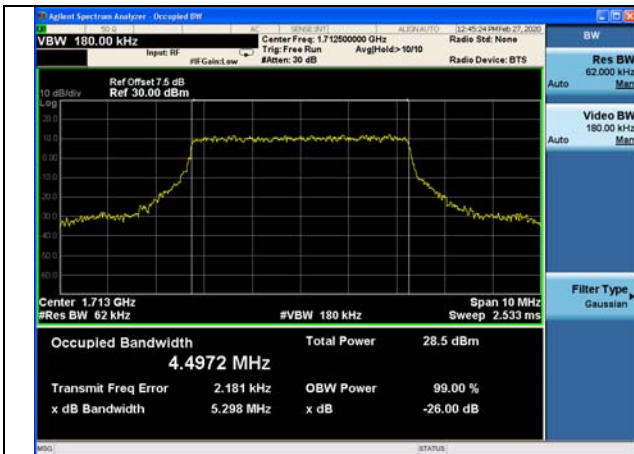


Fig.19

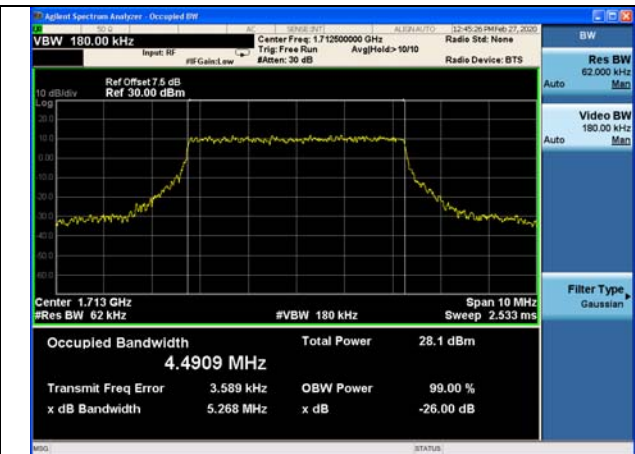


Fig.20

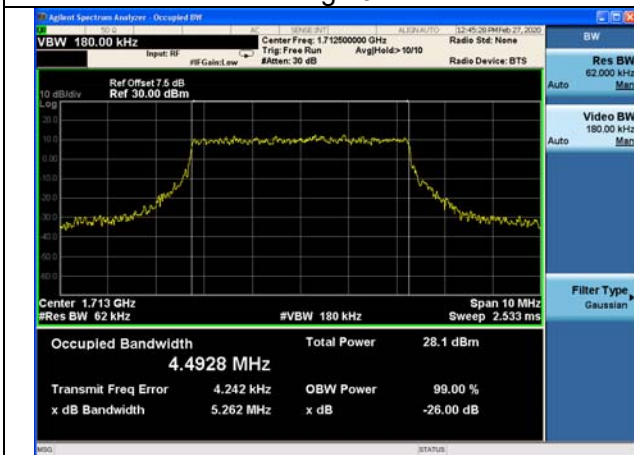


Fig.21

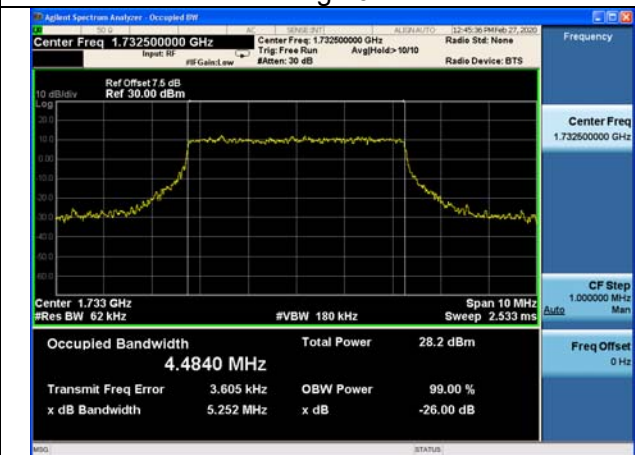


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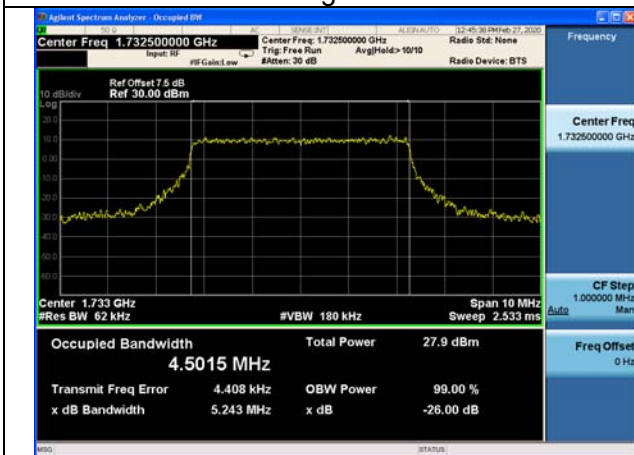


Fig.23

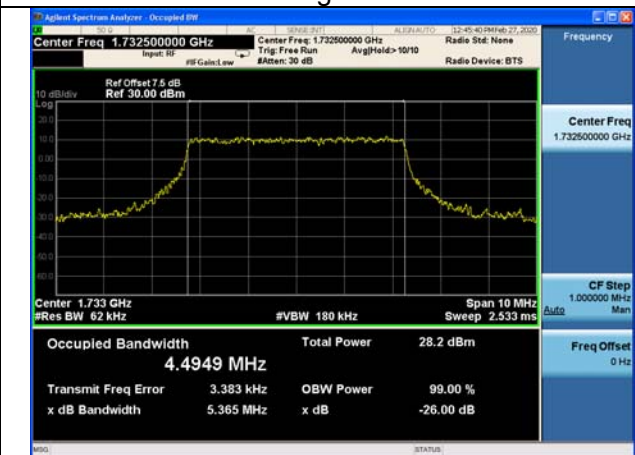


Fig.24

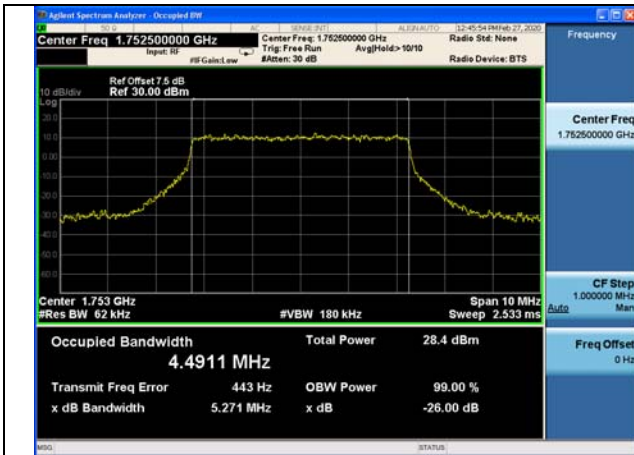


Fig.25



Fig.26

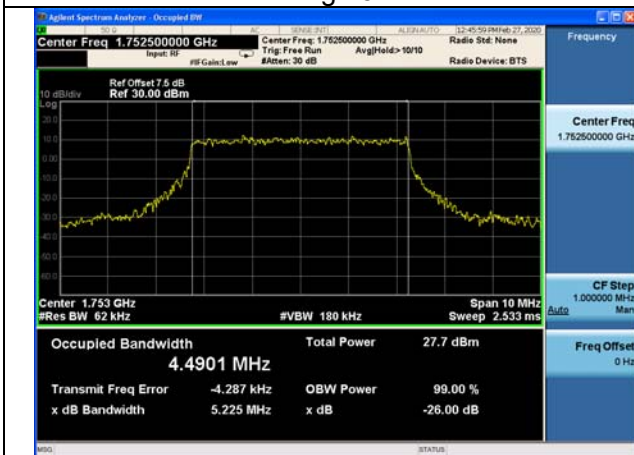


Fig.27



Fig.28

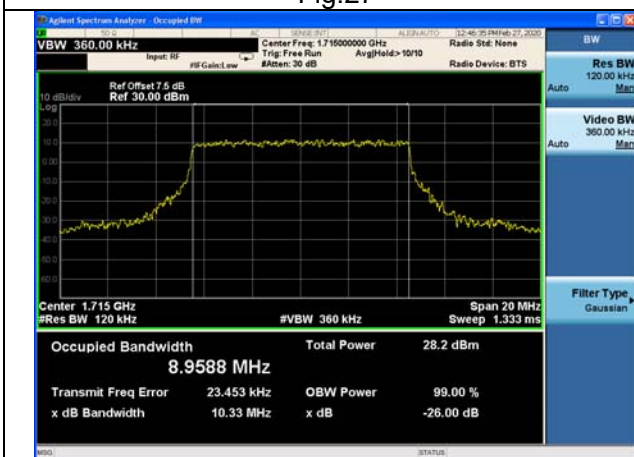


Fig.29



Fig.30

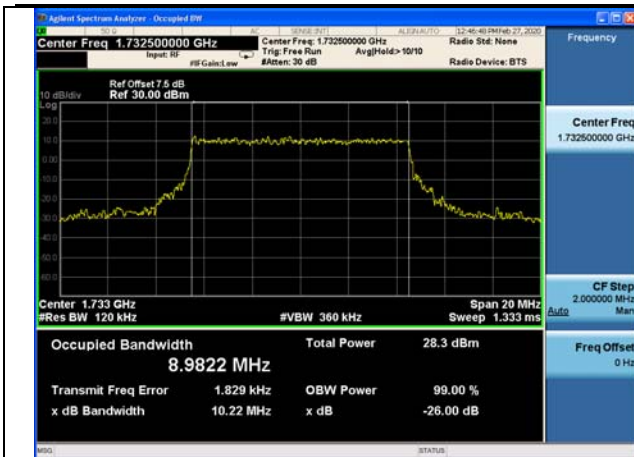


Fig.31

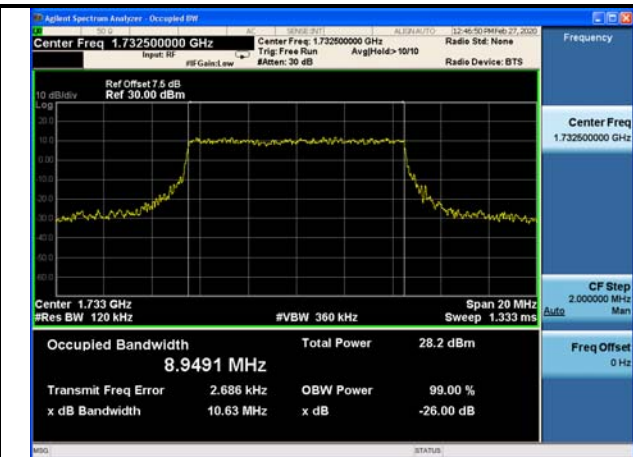


Fig.32

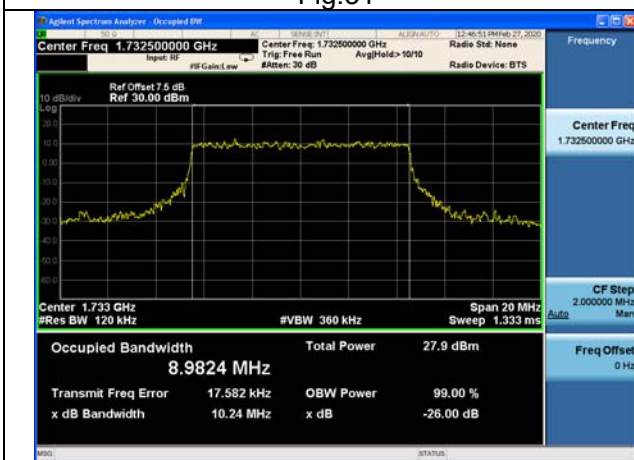


Fig.33

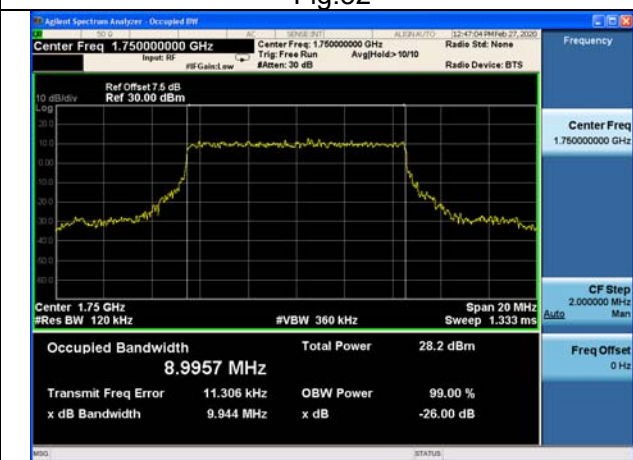


Fig.34

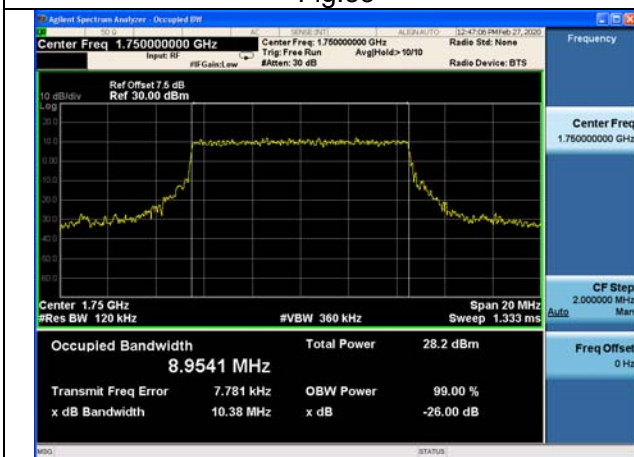


Fig.35

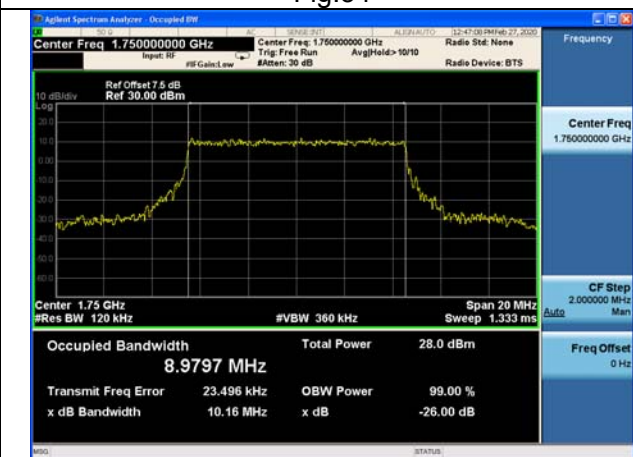


Fig.36

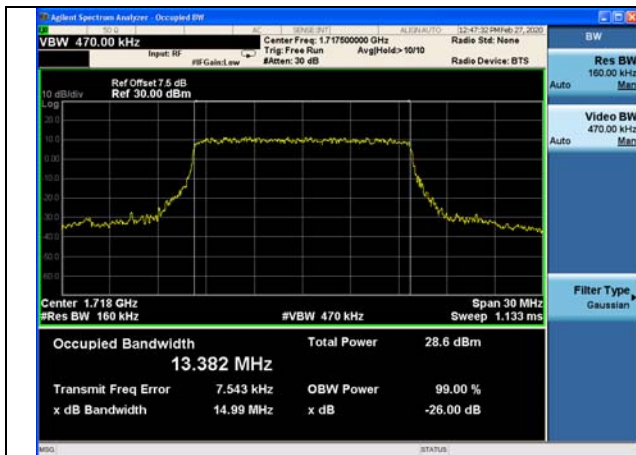


Fig.37

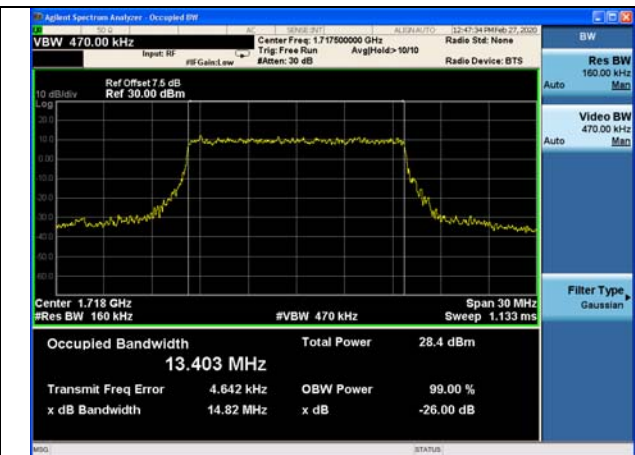


Fig.38

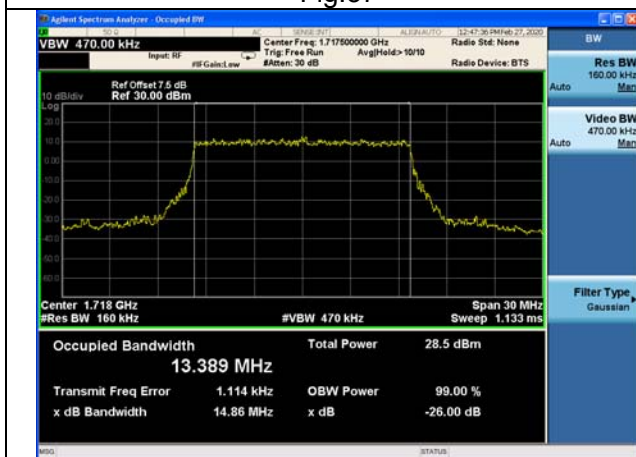


Fig.39

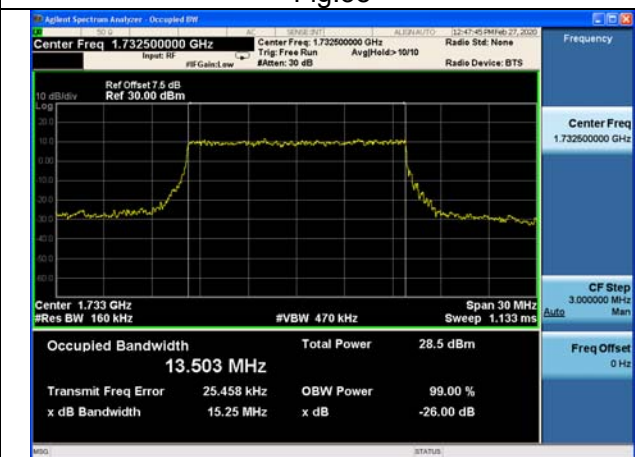


Fig.40

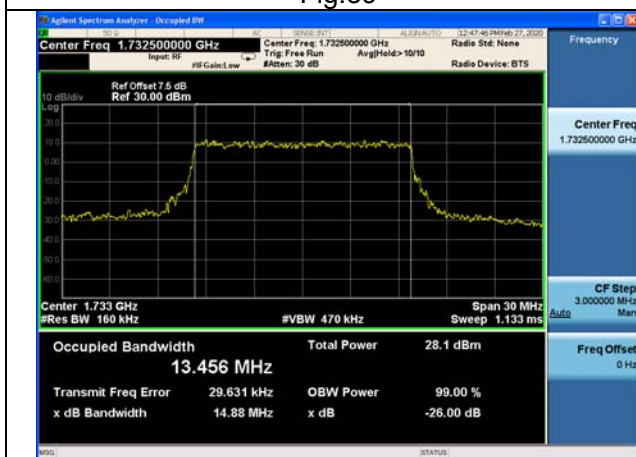


Fig.41

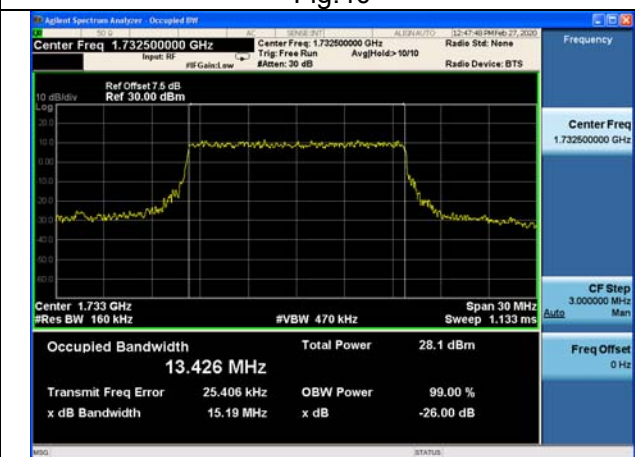


Fig.42

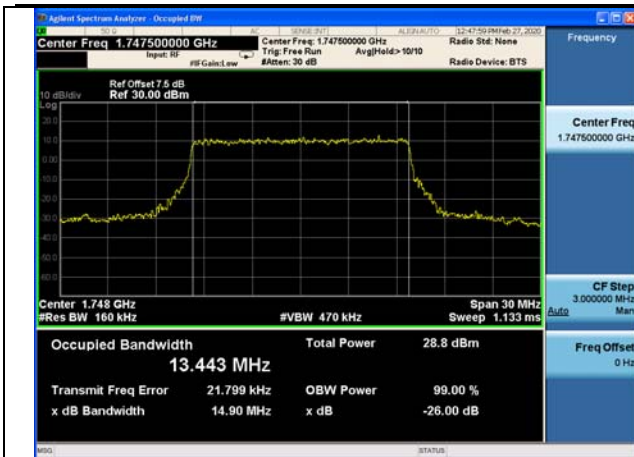


Fig.43

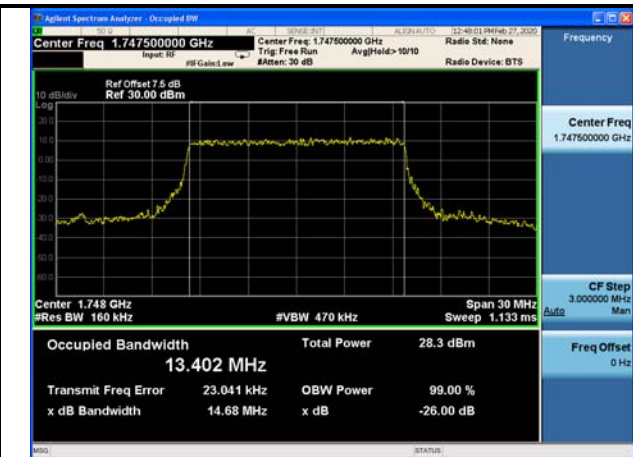


Fig.44

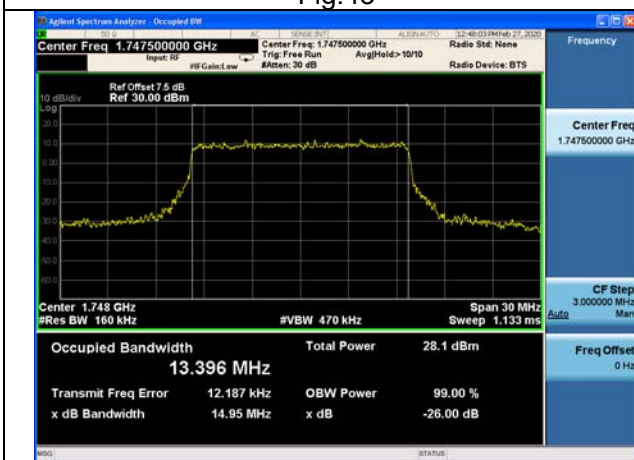


Fig.45

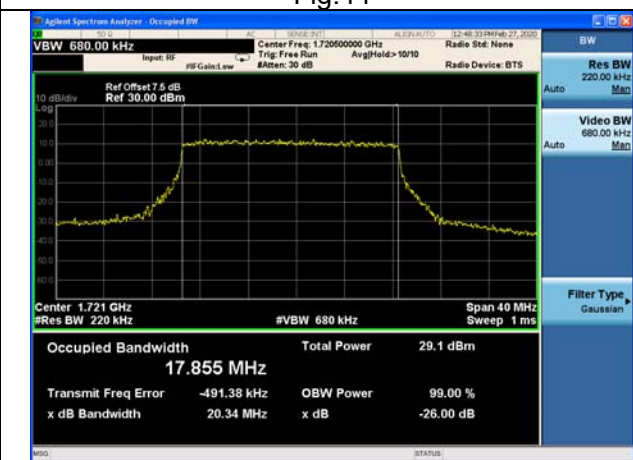


Fig.46

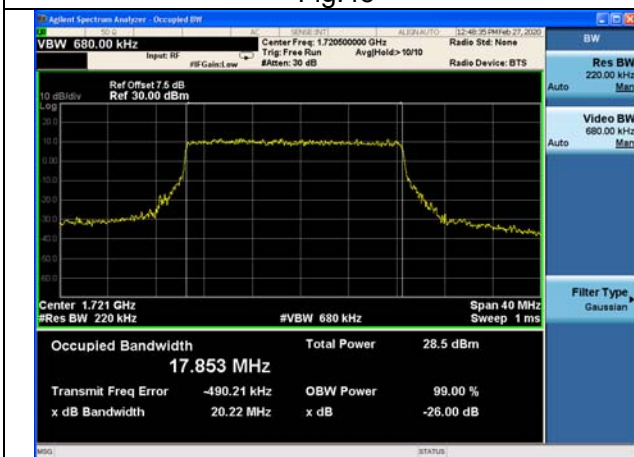


Fig.47

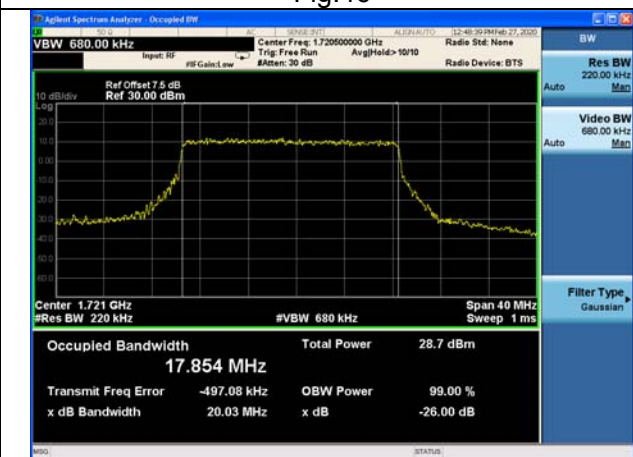


Fig.48

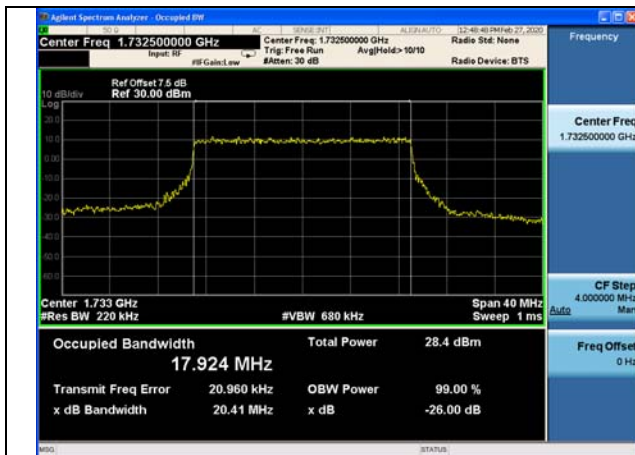


Fig.49

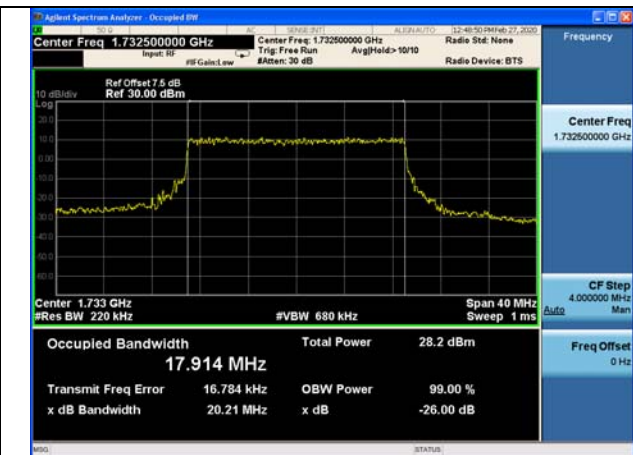


Fig.50

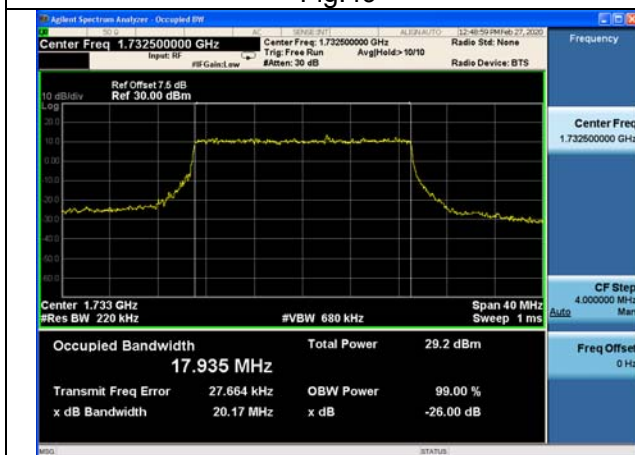


Fig.51

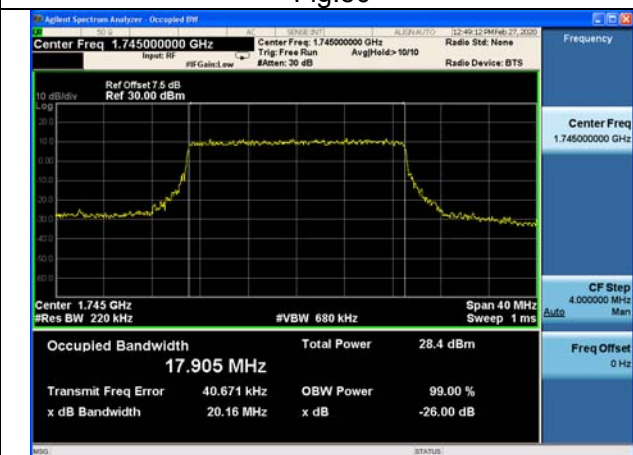


Fig.52

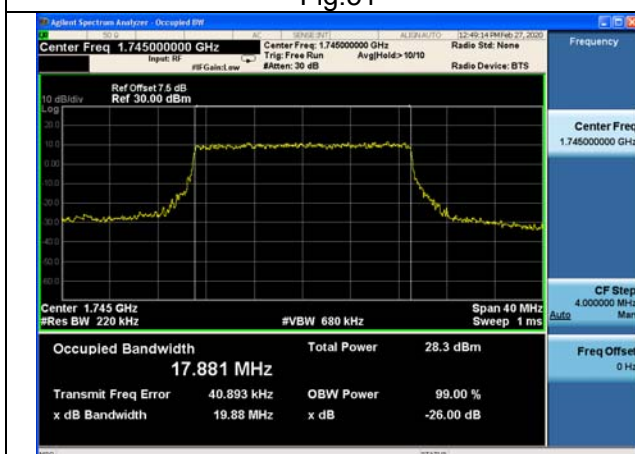


Fig.53

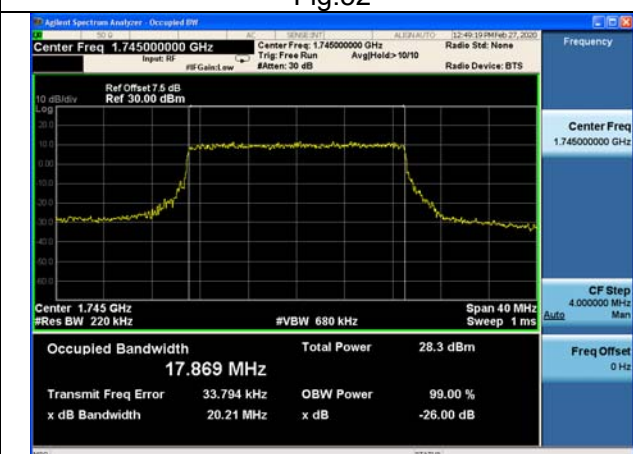


Fig.54

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

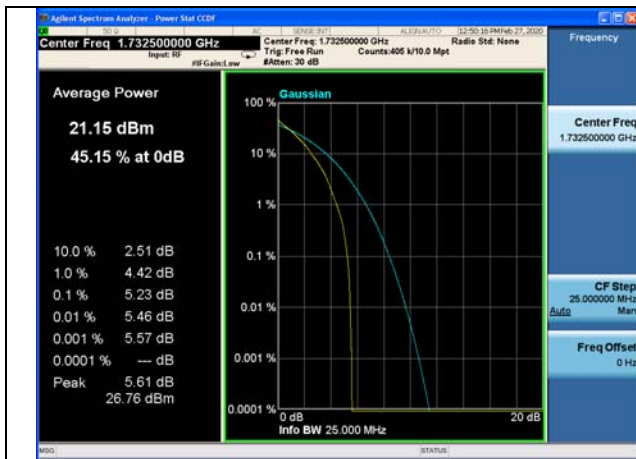


Fig.1



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

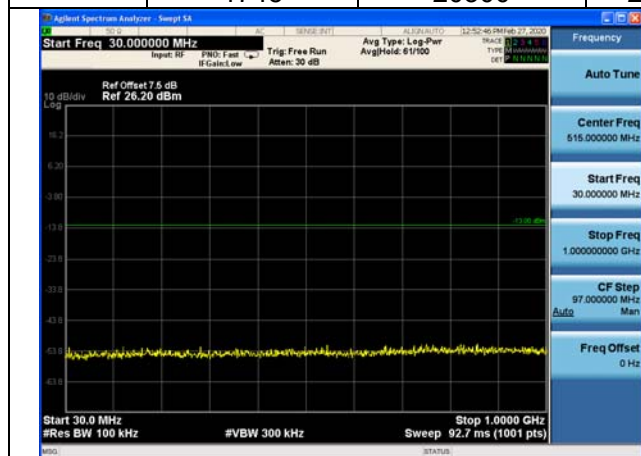


Fig.1

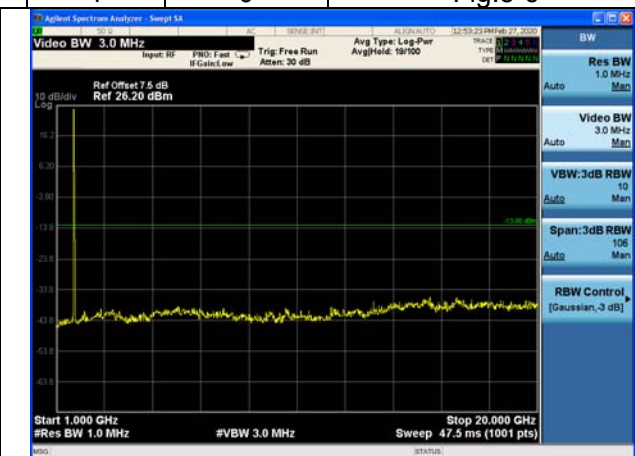


Fig.2

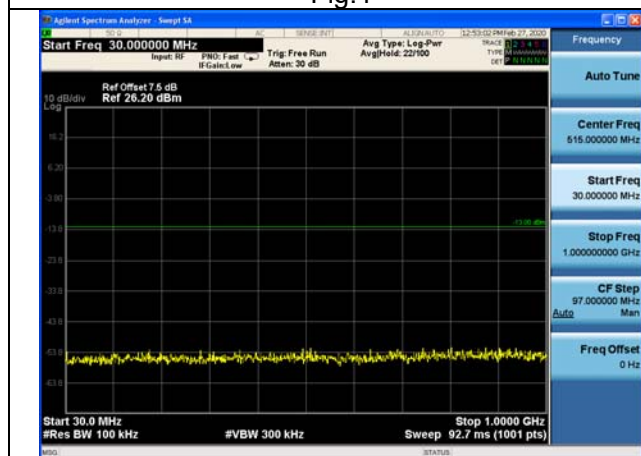


Fig3

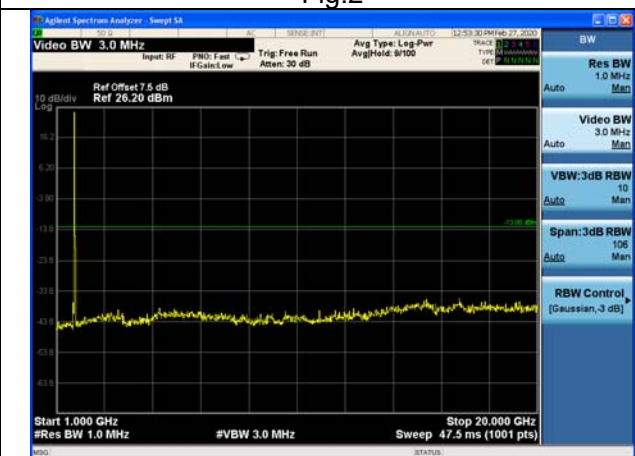


Fig4

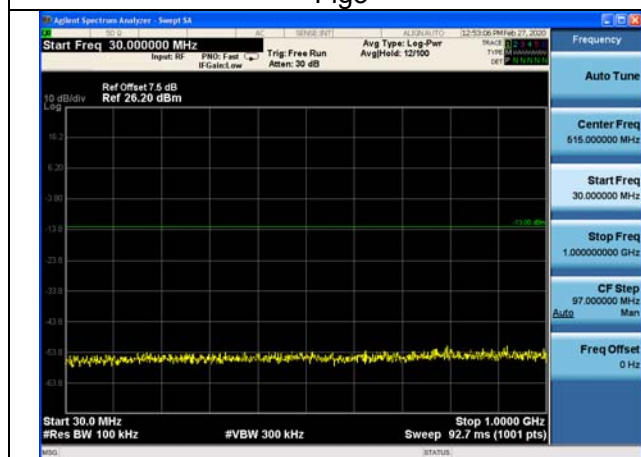


Fig5

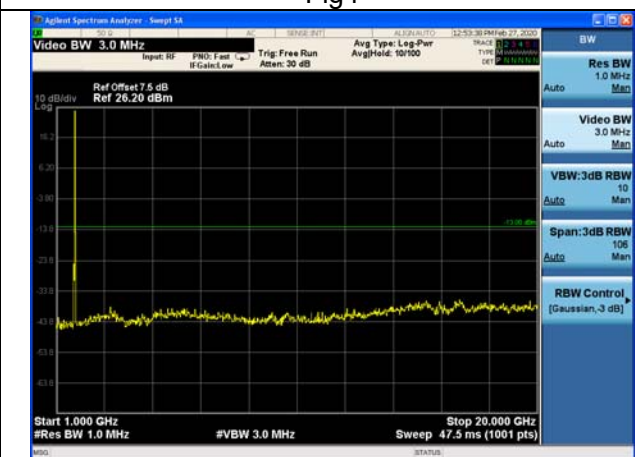


Fig6

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	Fig.7
				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	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

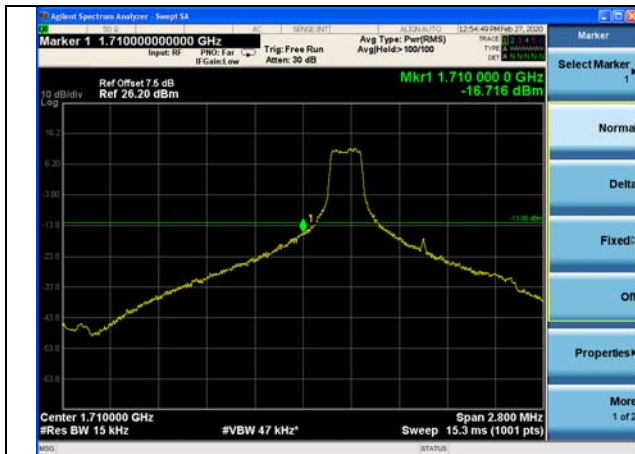


Fig.1



Fig.2



Fig.3



Fig.4

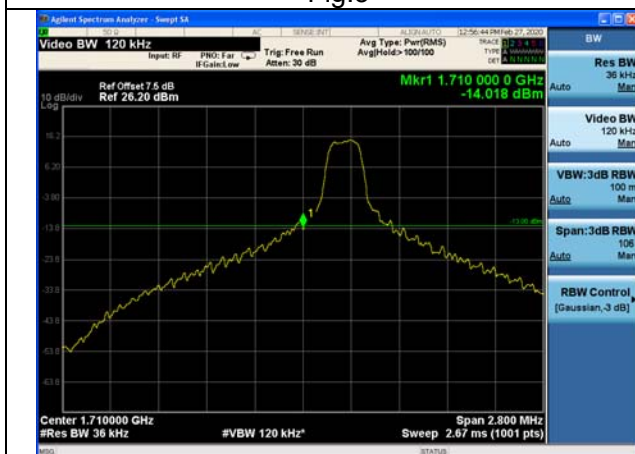


Fig.5



Fig.6

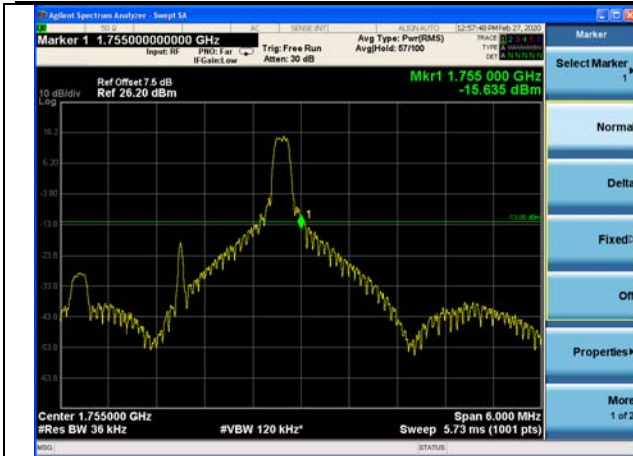


Fig.7

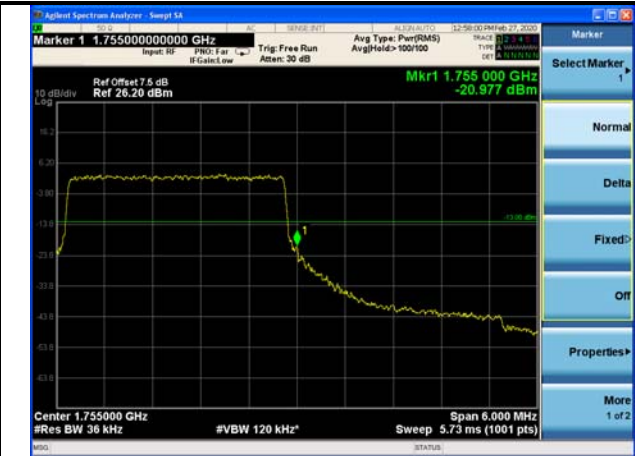


Fig.8

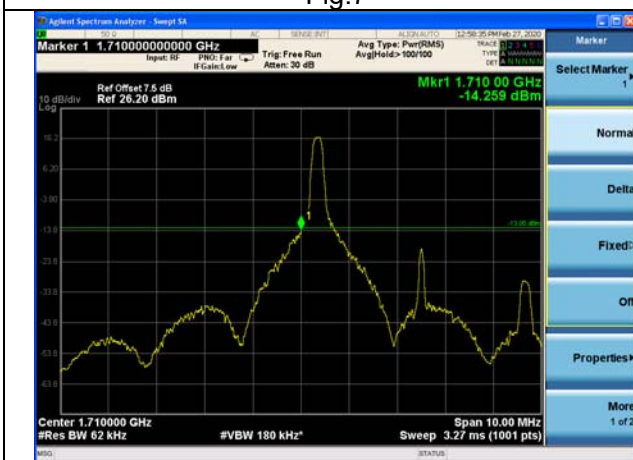


Fig.9

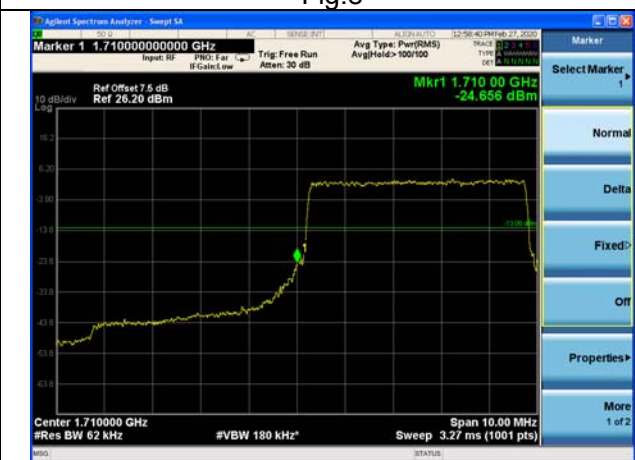


Fig.10



Fig.11



Fig.12

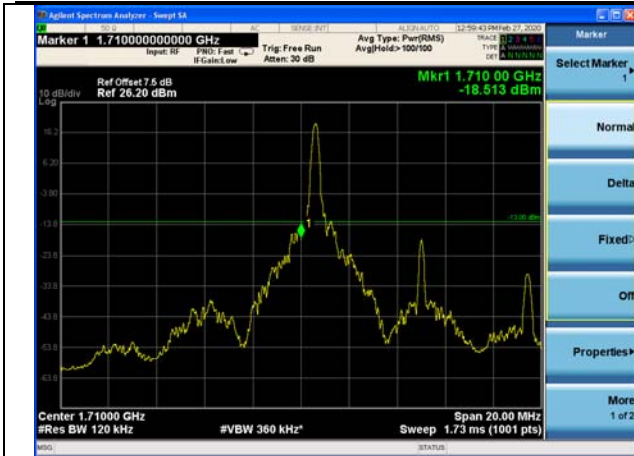


Fig.13

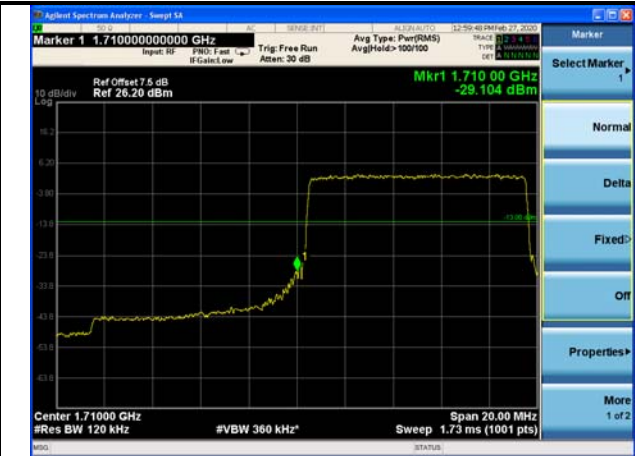


Fig.14

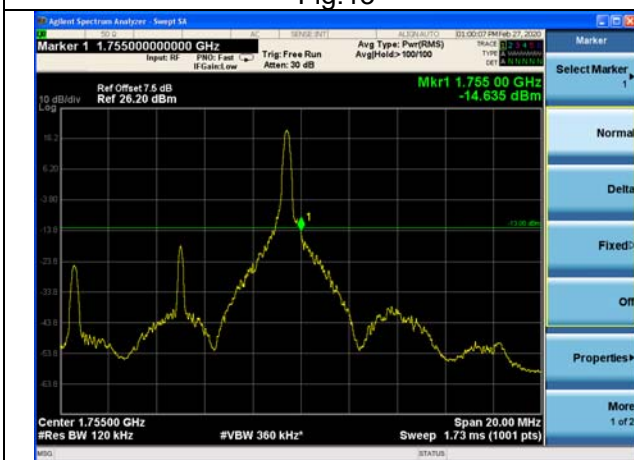


Fig.15



Fig.16



Fig.17

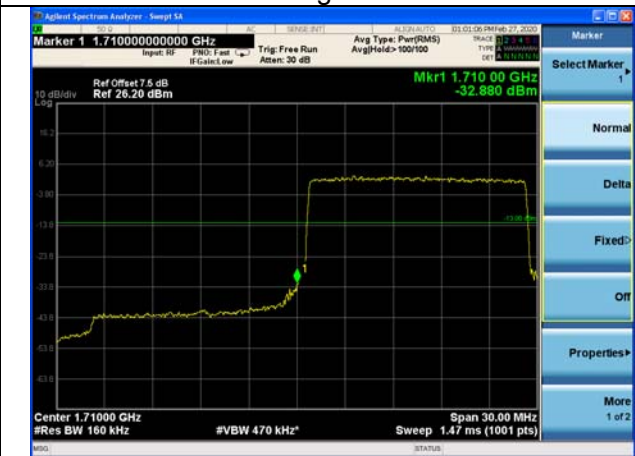


Fig.18



Fig.19



Fig.20



Fig.21

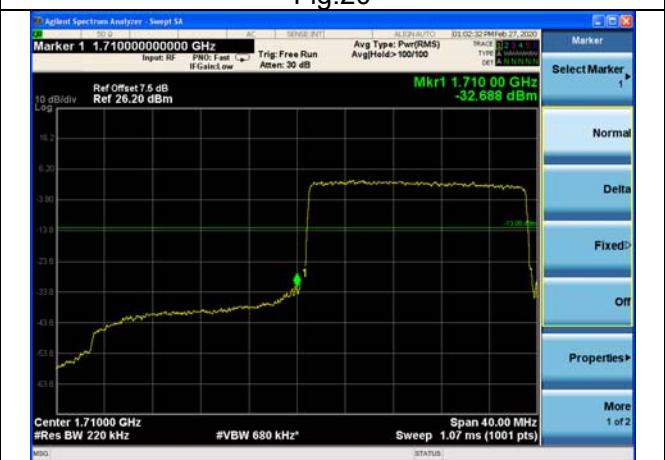


Fig.22

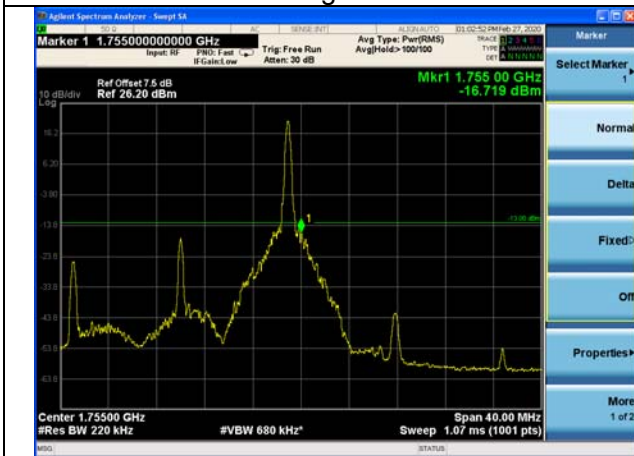


Fig.23



Fig.24

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band4 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-20	NV	-0.009	0.011	-0.047	-0.003	0.015	0.022
-10	NV	0.016	-0.022	0.059	0.030	-0.035	-0.037
0	NV	0.077	-0.017	0.023	-0.010	-0.039	-0.010
+10	NV	-0.004	0.052	0.085	0.001	0.010	-0.020
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.033	0.032	-0.044	-0.010	-0.011	-0.046
+40	NV	-0.008	-0.078	0.023	-0.030	-0.040	0.039
+50	NV	0.050	0.059	0.021	-0.027	0.054	0.021
+55	NV	-0.043	0.064	-0.014	0.027	-0.001	-0.037
+20	LV	0.015	0.001	-0.043	0.071	0.006	-0.009
+20	HV	0.049	0.031	-0.016	0.006	0.027	-0.022

Temperature(°C)	Voltage	Test Result (ppm) Band4 High Channel					
		1.4M	3M	5M	10M	15M	20M
-20	NV	0.027	0.023	-0.027	0.045	0.010	0.006
-10	NV	-0.041	0.005	-0.028	0.065	-0.011	0.041
0	NV	0.005	0.053	0.022	-0.013	-0.027	0.031
+10	NV	0.028	-0.026	0.063	-0.037	0.024	-0.048
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	-0.027	-0.024	0.019	0.051	-0.035	0.097
+40	NV	-0.024	0.031	0.033	0.042	0.053	0.043
+50	NV	0.000	-0.024	-0.008	-0.005	-0.013	0.051
+55	NV	0.011	0.027	-0.038	-0.008	-0.020	0.059
+20	LV	0.021	0.037	0.017	0.038	0.004	-0.046
+20	HV	0.047	-0.024	0.062	0.019	0.005	0.010