

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	24.08
				1	5	24.18
				3	2	23.14
				6	0	23.04
	1732.5	20175		1	0	24.38
				1	5	24.47
				3	2	23.00
				6	0	23.26
	1754.3	20393		1	0	24.50
				1	5	24.39
				3	2	23.18
				6	0	23.12
16QAM	1710.7	19957	1.4	1	0	23.28
				1	5	23.24
				3	2	22.22
				6	0	22.16
	1732.5	20175		1	0	23.25
				1	5	23.12
				3	2	22.10
				6	0	22.13
	1754.3	20393		1	0	23.80
				1	5	23.45
				3	2	22.40
				6	0	22.21
64QAM	1710.7	19957	1.4	1	0	22.44
				1	5	22.35
				3	2	22.00
				6	0	21.95
	1732.5	20175		1	0	22.79
				1	5	23.01
				3	2	22.23
				6	0	22.21
	1754.3	20393		1	0	22.66
				1	5	22.82
				3	2	22.29
				6	0	22.29

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	24.09
				1	14	24.20
				8	4	23.06
				15	0	23.01
	1732.5	20175		1	0	24.34
				1	14	24.38
				8	4	22.99
				15	0	23.19
	1753.5	20385		1	0	24.54
				1	14	24.35
				8	4	23.23
				15	0	23.23
16QAM	1711.5	19965	3	1	0	23.30
				1	14	23.15
				8	4	22.16
				15	0	22.18
	1732.5	20175		1	0	23.36
				1	14	23.23
				8	4	22.05
				15	0	22.22
	1753.5	20385		1	0	23.77
				1	14	23.35
				8	4	22.32
				15	0	22.22
64QAM	1711.5	19965	3	1	0	22.40
				1	14	22.35
				8	4	21.93
				15	0	22.04
	1732.5	20175		1	0	22.73
				1	14	23.02
				8	4	22.16
				15	0	22.23
	1753.5	20385		1	0	22.81
				1	14	22.80
				8	4	22.29
				15	0	22.20

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	24.14
				1	24	24.17
				12	6	23.05
				25	0	23.04
	1732.5	20175		1	0	24.32
				1	24	24.39
				12	6	23.12
				25	0	23.22
	1752.5	20375		1	0	24.48
				1	24	24.40
				12	6	23.19
				25	0	23.23
16QAM	1712.5	19975	5	1	0	23.27
				1	24	23.19
				12	6	22.21
				25	0	22.23
	1732.5	20175		1	0	23.21
				1	24	23.15
				12	6	22.03
				25	0	22.20
	1752.5	20375		1	0	23.84
				1	24	23.32
				12	6	22.32
				25	0	22.32
64QAM	1712.5	19975	5	1	0	22.32
				1	24	22.30
				12	6	22.03
				25	0	22.01
	1732.5	20175		1	0	22.76
				1	24	23.02
				12	6	22.22
				25	0	22.20
	1752.5	20375		1	0	22.79
				1	24	22.81
				12	6	22.21
				25	0	22.17

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	24.06
				1	49	24.23
				24	12	23.11
				50	0	23.15
	1732.5	20175		1	0	24.36
				1	49	24.42
				24	12	23.00
				50	0	23.17
	1750	20350		1	0	24.44
				1	49	24.32
				24	12	23.16
				50	0	23.15
16QAM	1715	20000	10	1	0	23.22
				1	49	23.23
				24	12	22.22
				50	0	22.14
	1732.5	20175		1	0	23.31
				1	49	23.13
				24	12	22.10
				50	0	22.22
	1750	20350		1	0	23.82
				1	49	23.32
				24	12	22.36
				50	0	22.21
64QAM	1715	20000	10	1	0	22.42
				1	49	22.44
				24	12	21.92
				50	0	22.09
	1732.5	20175		1	0	22.80
				1	49	22.95
				24	12	22.19
				50	0	22.18
	1750	20350		1	0	22.76
				1	49	22.71
				24	12	22.27
				50	0	22.21

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	24.03
				1	74	24.19
				40	18	23.06
				75	0	23.03
	1732.5	20175		1	0	24.28
				1	74	24.44
				40	18	23.04
				75	0	23.20
	1747.5	20325		1	0	24.51
				1	74	24.34
				40	18	23.24
				75	0	23.23
16QAM	1717.5	20025	15	1	0	23.31
				1	74	23.14
				40	18	22.16
				75	0	22.15
	1732.5	20175		1	0	23.28
				1	74	23.22
				40	18	21.97
				75	0	22.19
	1747.5	20325		1	0	23.86
				1	74	23.37
				40	18	22.45
				75	0	22.31
64QAM	1717.5	20025	15	1	0	22.41
				1	74	22.35
				40	18	22.02
				75	0	22.00
	1732.5	20175		1	0	22.80
				1	74	22.93
				40	18	22.19
				75	0	22.27
	1747.5	20325		1	0	22.72
				1	74	22.75
				40	18	22.23
				75	0	22.18

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	24.18
				1	99	24.31
				50	25	23.18
				100	0	23.15
	1732.5	20175		1	0	24.39
				1	99	24.49
				50	25	23.14
				100	0	23.28
	1745	20300		1	0	24.56
				1	99	24.45
				50	25	23.31
				100	0	23.24
16QAM	1720	20050	20	1	0	23.33
				1	99	23.24
				50	25	22.29
				100	0	22.27
	1732.5	20175		1	0	23.36
				1	99	23.26
				50	25	22.11
				100	0	22.28
	1745	20300		1	0	23.90
				1	99	23.47
				50	25	22.45
				100	0	22.33
64QAM	1720	20050	20	1	0	22.46
				1	99	22.45
				50	25	22.04
				100	0	22.09
	1732.5	20175		1	0	22.81
				1	99	23.06
				50	25	22.23
				100	0	22.32
	1745	20300		1	0	22.81
				1	99	22.86
				50	25	22.30
				100	0	22.32

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	1.0829	Fig.1	1.0810	Fig.2	1.0814	Fig.3
	1732.5	20175		6	0	1.0843	Fig.4	1.0797	Fig.5	1.0777	Fig.6
	1754.3	20393		6	0	1.0821	Fig.7	1.0839	Fig.8	1.0820	Fig.9
	1711.5	19965	3	15	0	2.6910	Fig.10	2.6861	Fig.11	2.6867	Fig.12
	1732.5	20175		15	0	2.6977	Fig.13	2.6978	Fig.14	2.6846	Fig.15
	1753.5	20385		15	0	2.6936	Fig.16	2.6949	Fig.17	2.6944	Fig.18
	1712.5	19975	5	25	0	4.4713	Fig.19	4.4723	Fig.20	4.4728	Fig.21
	1732.5	20175		25	0	4.4879	Fig.22	4.4729	Fig.23	4.4788	Fig.24
	1752.5	20375		25	0	4.4799	Fig.25	4.4898	Fig.26	4.4720	Fig.27
	1715	20000	10	50	0	8.9229	Fig.28	8.9361	Fig.29	8.9284	Fig.30
	1732.5	20175		50	0	8.9403	Fig.31	8.9348	Fig.32	8.9387	Fig.33
	1750	20350		50	0	8.9317	Fig.34	8.9180	Fig.35	8.9163	Fig.36
	1717.5	20025	15	75	0	13.391	Fig.37	13.368	Fig.38	13.365	Fig.39
	1732.5	20175		75	0	13.439	Fig.40	13.372	Fig.41	13.385	Fig.42
	1747.5	20325		75	0	13.391	Fig.43	13.380	Fig.44	13.388	Fig.45
	1720	20050	20	100	0	17.799	Fig.46	17.832	Fig.47	17.826	Fig.48
	1732.5	20175		100	0	17.851	Fig.49	17.835	Fig.50	17.818	Fig.51
	1745	20300		100	0	17.838	Fig.52	17.829	Fig.53	17.812	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	1.314	Fig.1	1.254	Fig.2	1.260	Fig.3
	1732.5	20175		6	0	1.256	Fig.4	1.238	Fig.5	1.253	Fig.6
	1754.3	20393		6	0	1.305	Fig.7	1.298	Fig.8	1.277	Fig.9
	1711.5	19965	3	15	0	2.956	Fig.10	2.933	Fig.11	2.981	Fig.12
	1732.5	20175		15	0	2.985	Fig.13	2.992	Fig.14	2.979	Fig.15
	1753.5	20385		15	0	2.982	Fig.16	2.988	Fig.17	2.985	Fig.18
	1712.5	19975	5	25	0	4.958	Fig.19	4.947	Fig.20	4.940	Fig.21
	1732.5	20175		25	0	4.933	Fig.22	4.919	Fig.23	4.864	Fig.24
	1752.5	20375		25	0	4.975	Fig.25	4.940	Fig.26	4.901	Fig.27
	1715	20000	10	50	0	9.777	Fig.28	9.673	Fig.29	9.755	Fig.30
	1732.5	20175		50	0	9.684	Fig.31	9.858	Fig.32	9.643	Fig.33
	1750	20350		50	0	9.748	Fig.34	9.731	Fig.35	9.611	Fig.36
	1717.5	20025	15	75	0	14.44	Fig.37	14.46	Fig.38	14.39	Fig.39
	1732.5	20175		75	0	14.28	Fig.40	14.38	Fig.41	14.29	Fig.42
	1747.5	20325		75	0	14.29	Fig.43	14.33	Fig.44	14.29	Fig.45
	1720	20050	20	100	0	19.06	Fig.46	19.05	Fig.47	18.96	Fig.48
	1732.5	20175		100	0	18.93	Fig.49	18.97	Fig.50	18.98	Fig.51
	1745	20300		100	0	18.98	Fig.52	19.12	Fig.53	19.20	Fig.54

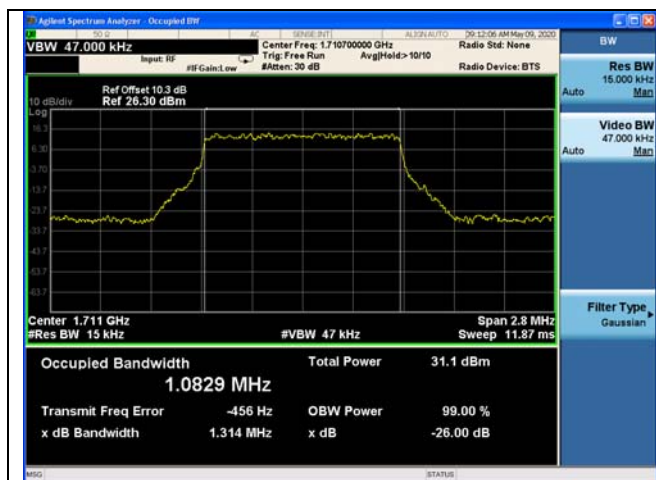


Fig.1

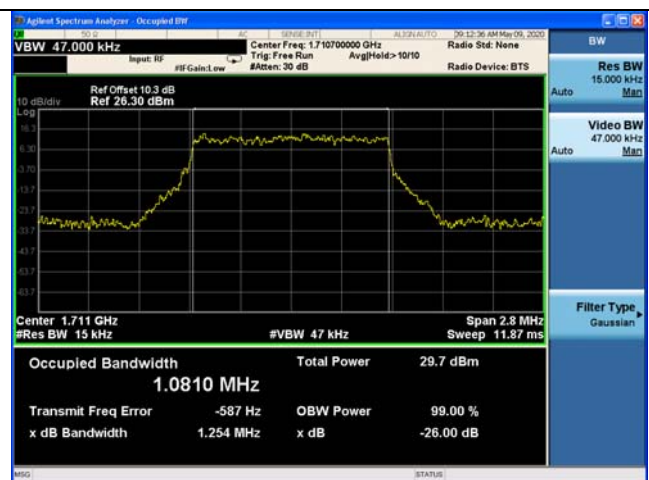


Fig.2

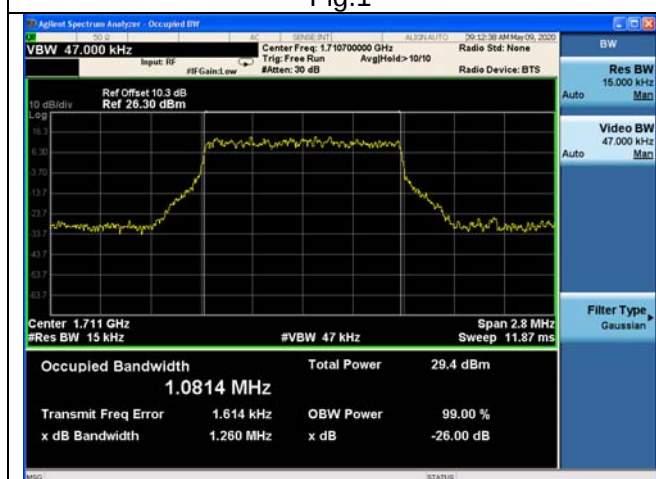


Fig.3

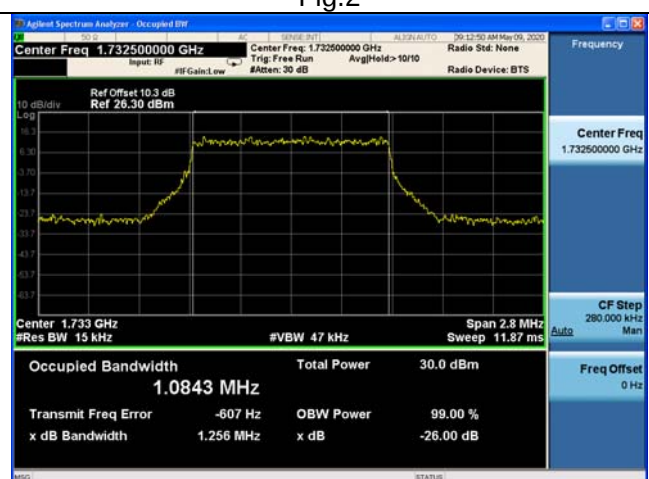


Fig.4

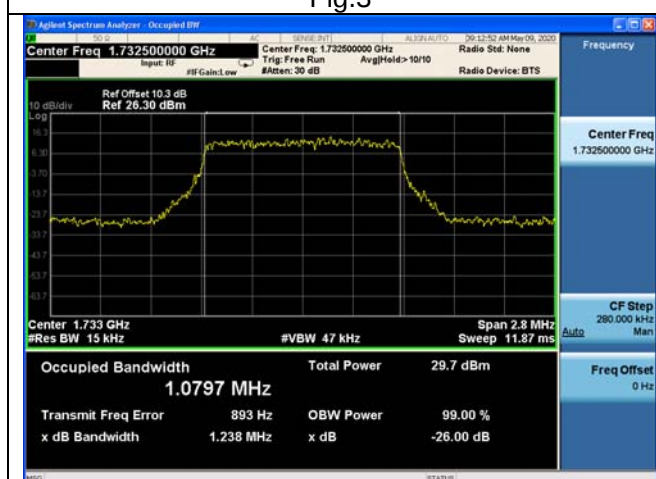


Fig.5

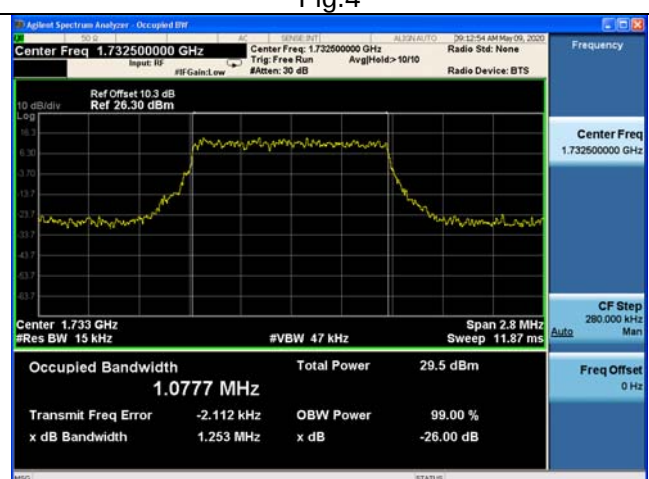


Fig.6

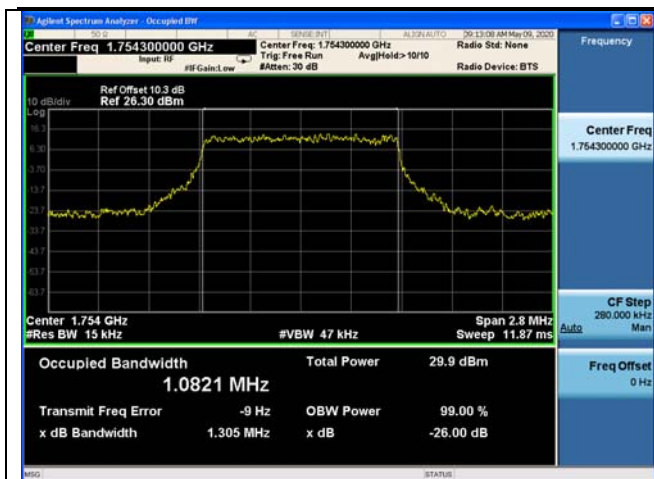


Fig.7

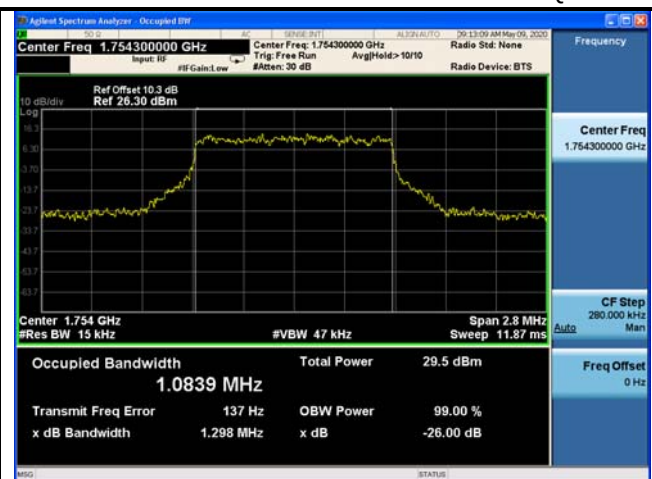


Fig.8

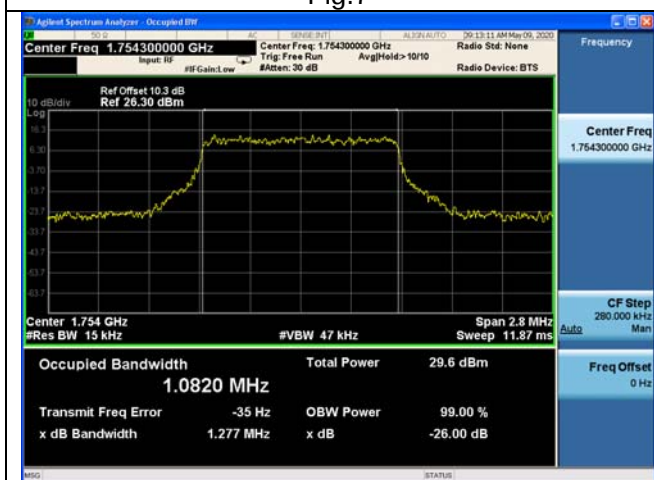


Fig.9

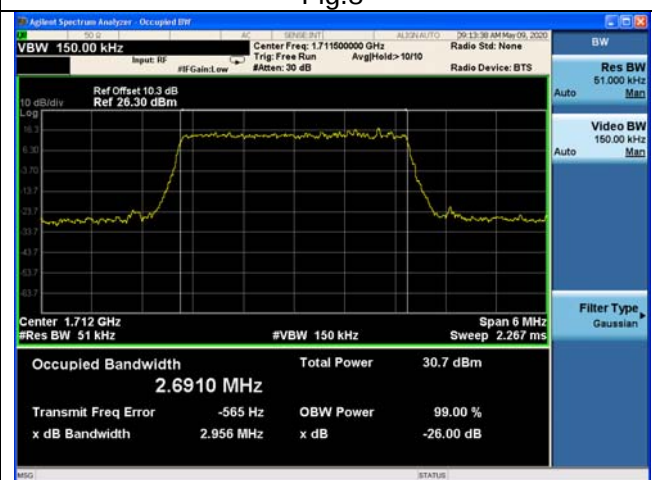


Fig.10

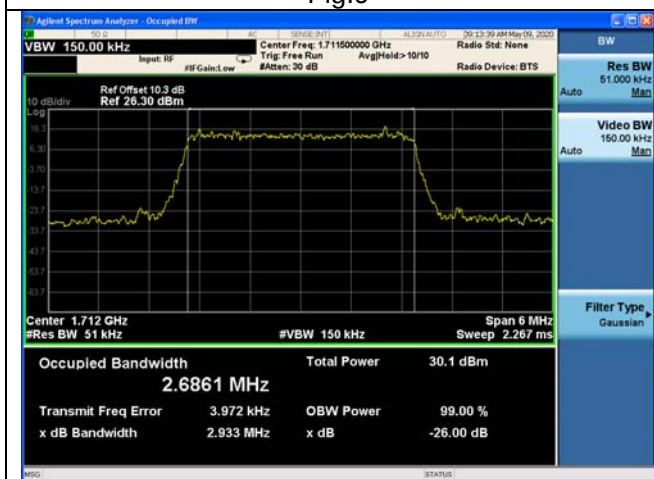


Fig.11

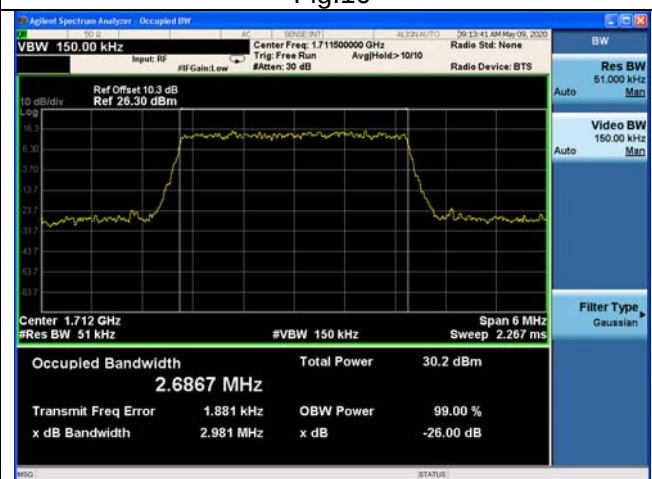


Fig.12

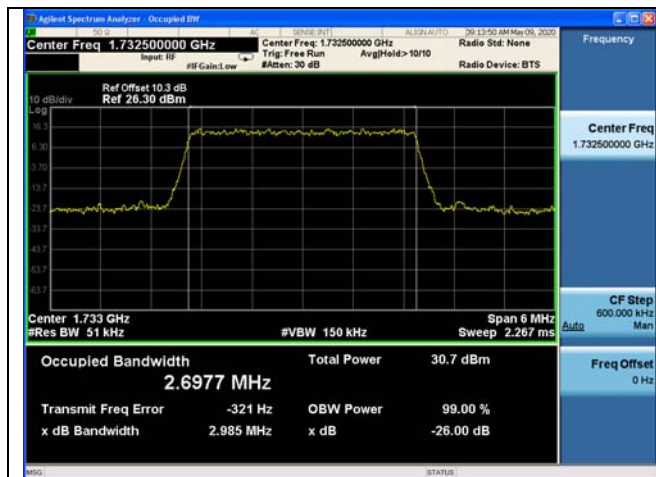


Fig.13

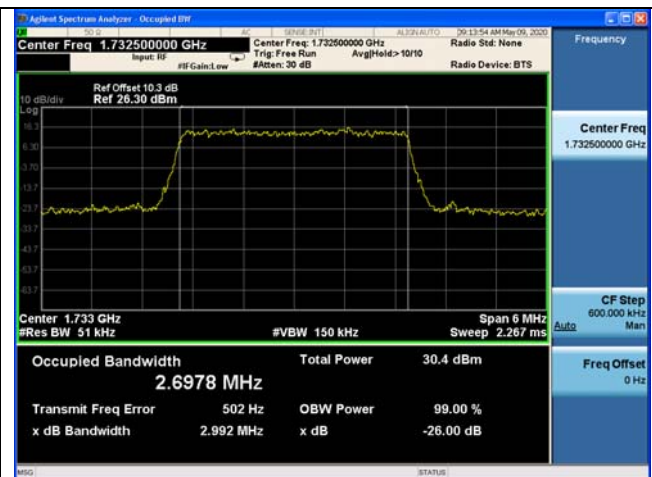


Fig.14

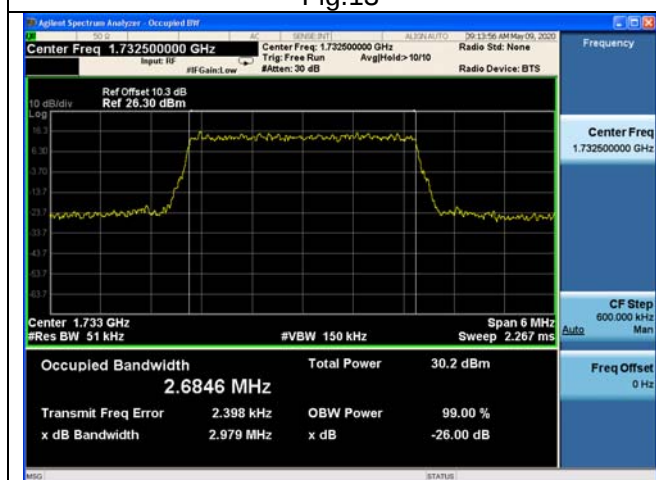


Fig.15

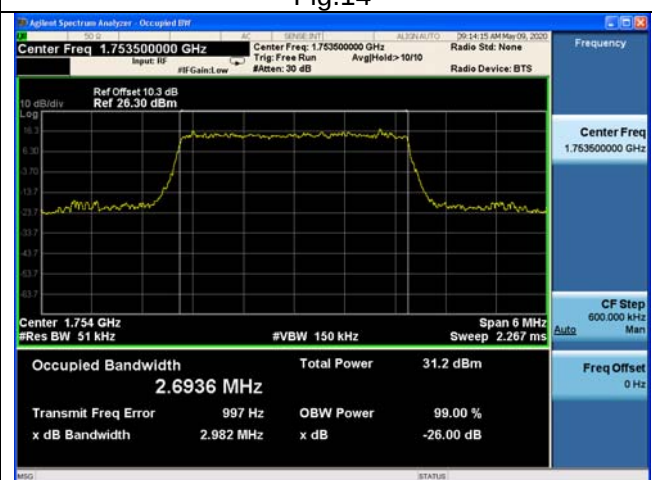


Fig.16

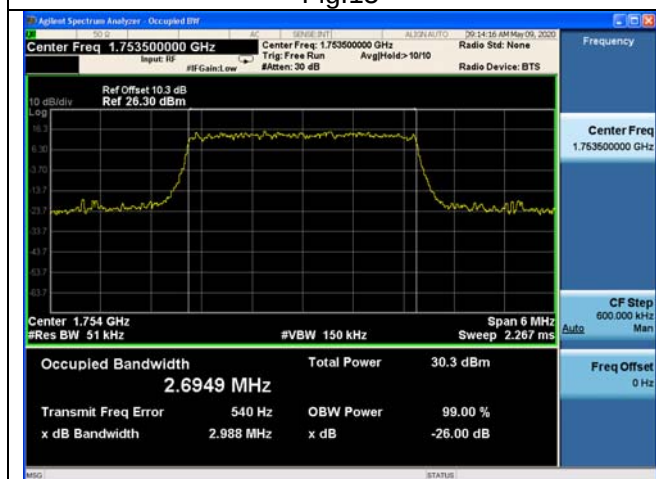


Fig.17

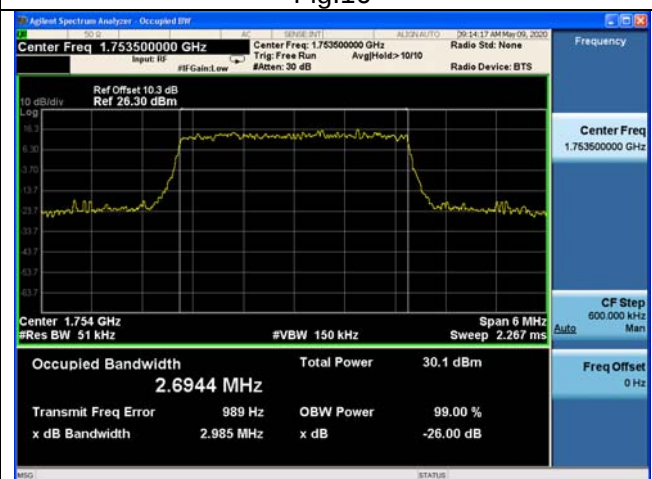


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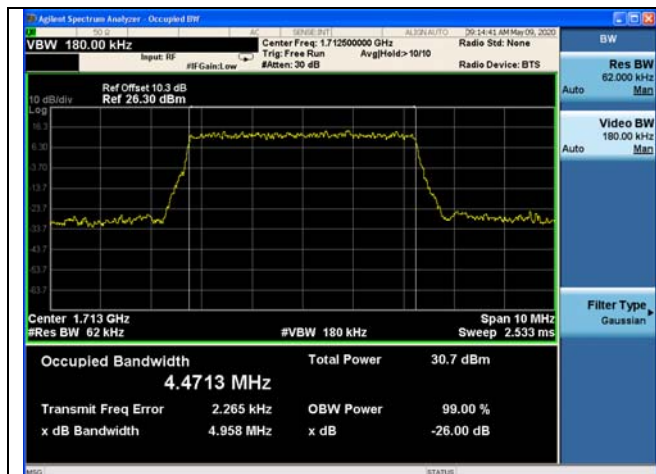


Fig.19

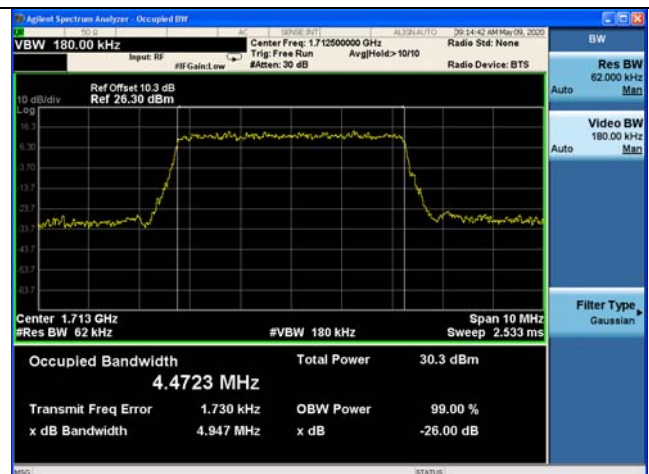


Fig.20

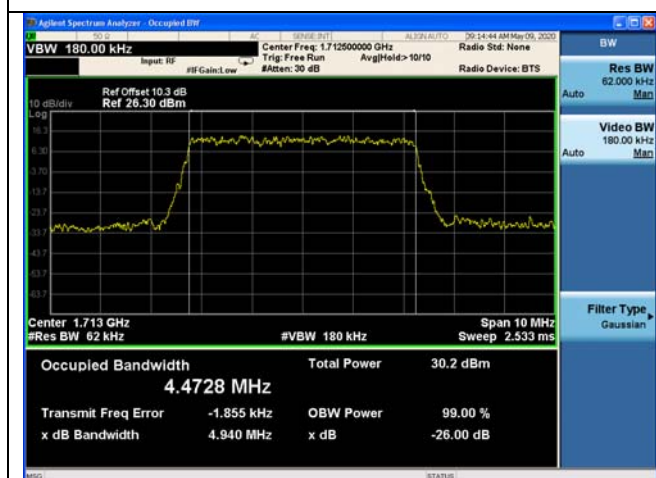


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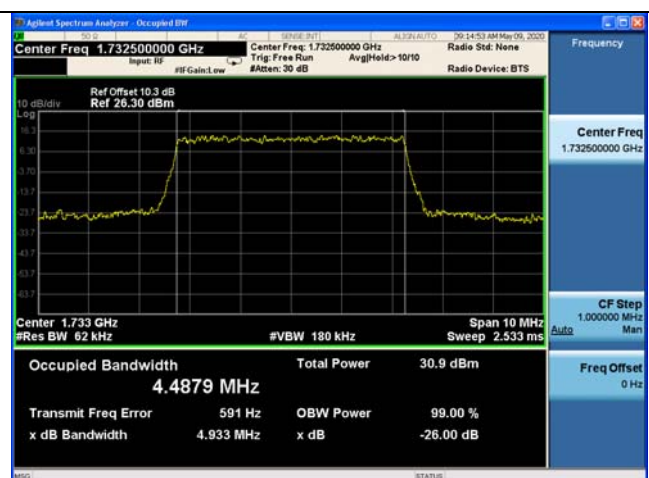


Fig.22

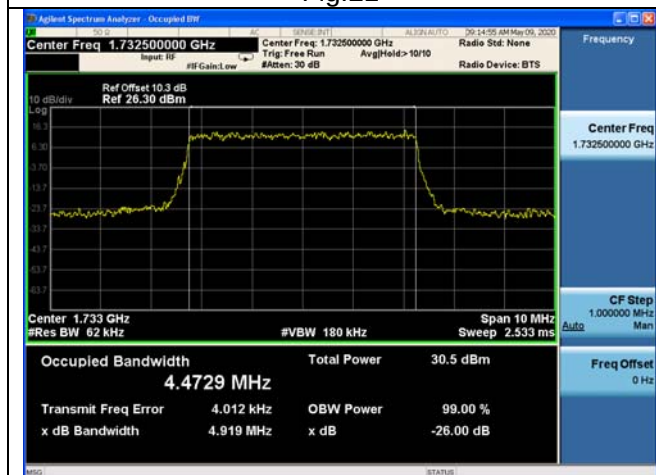


Fig.23

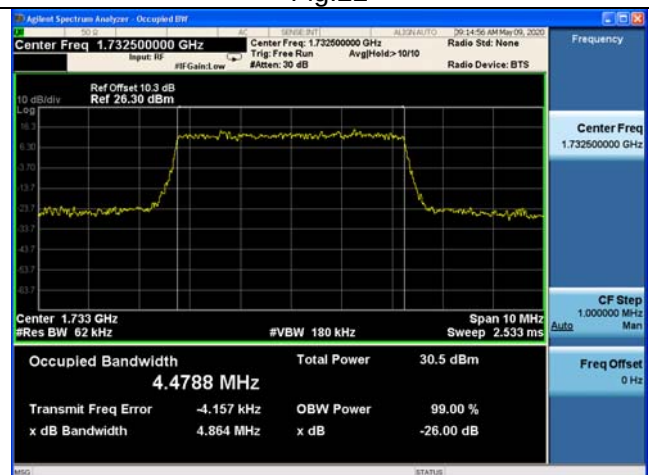


Fig.24

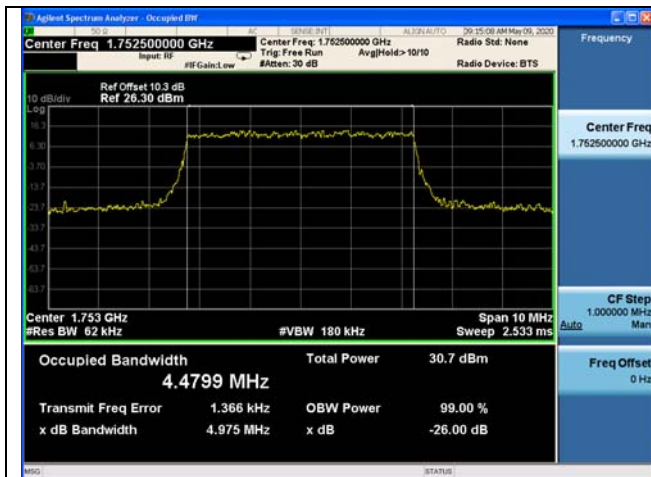


Fig.25

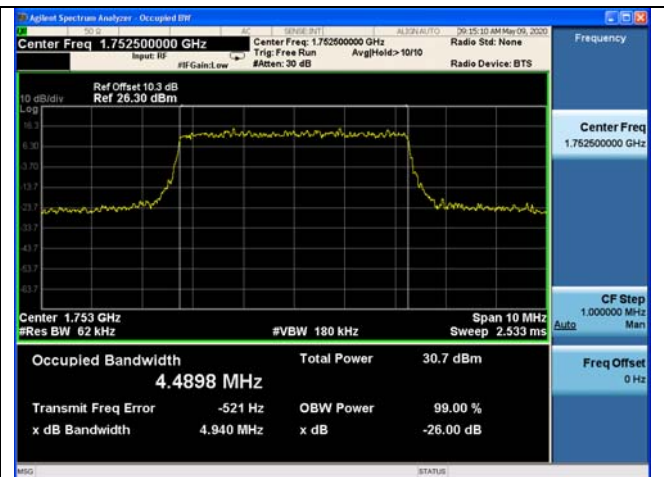


Fig.26

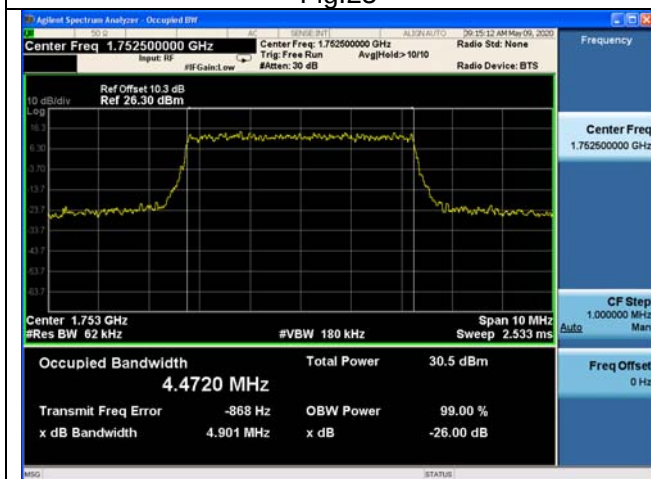


Fig.27

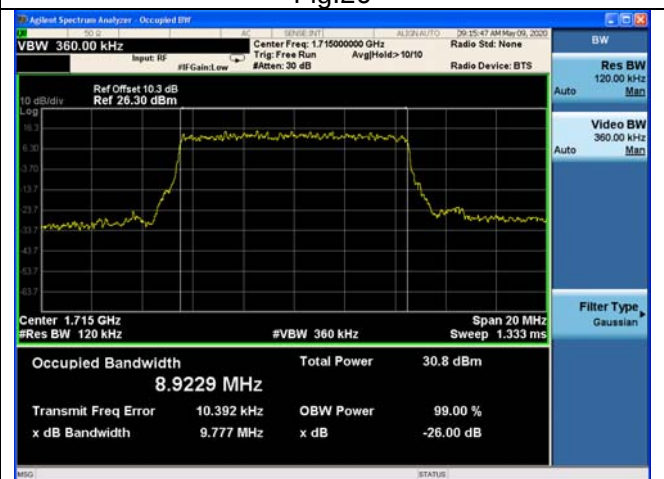


Fig.28

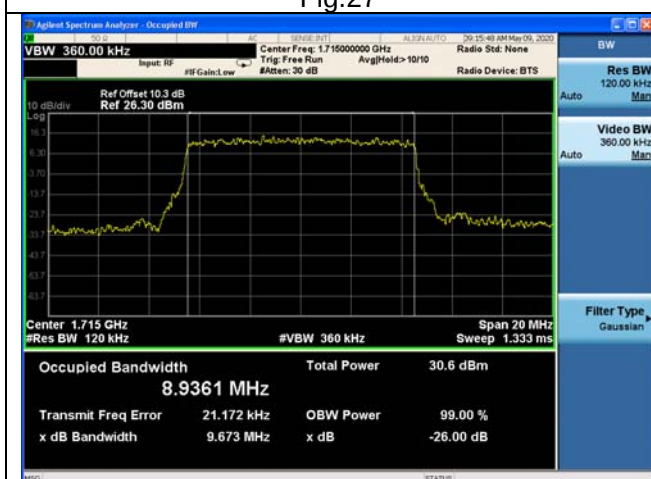


Fig.29

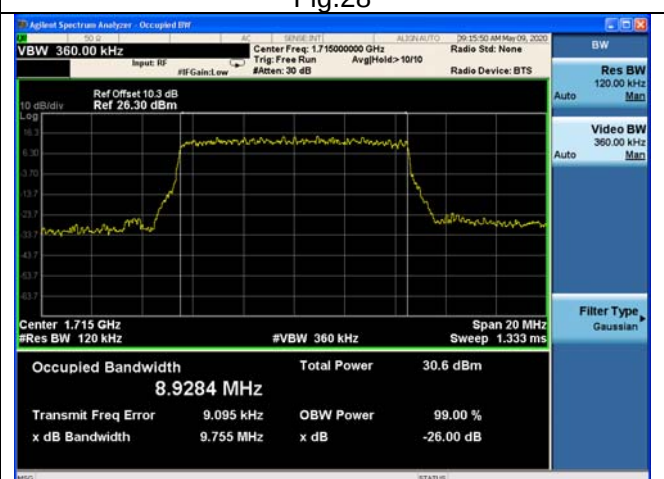


Fig.30

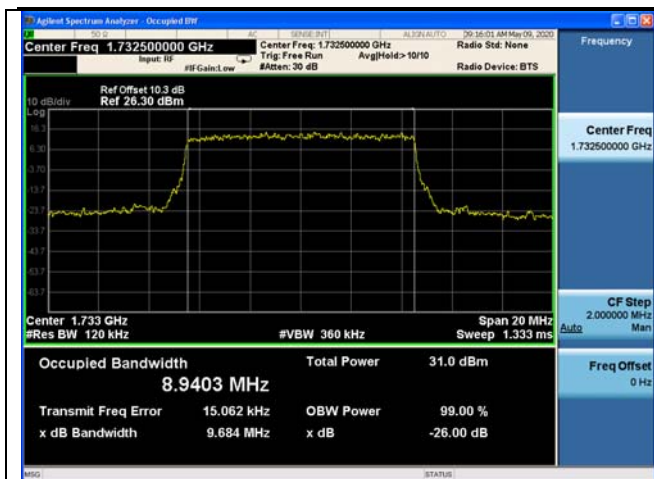


Fig.31

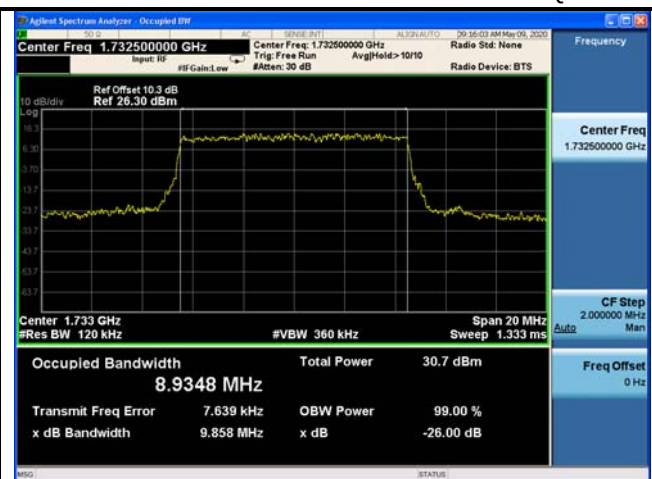


Fig.32

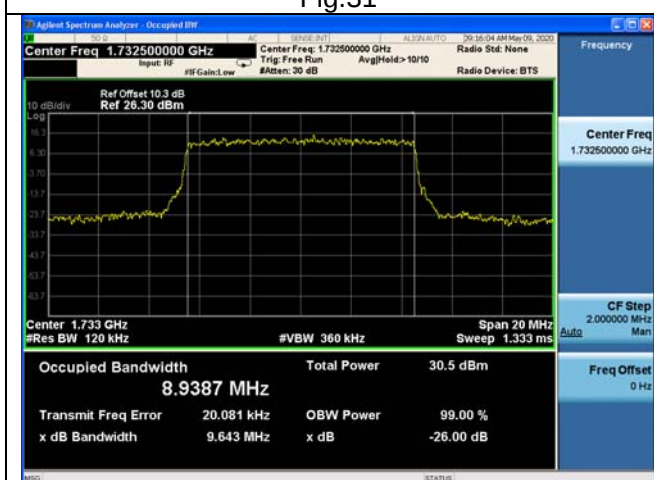


Fig.33

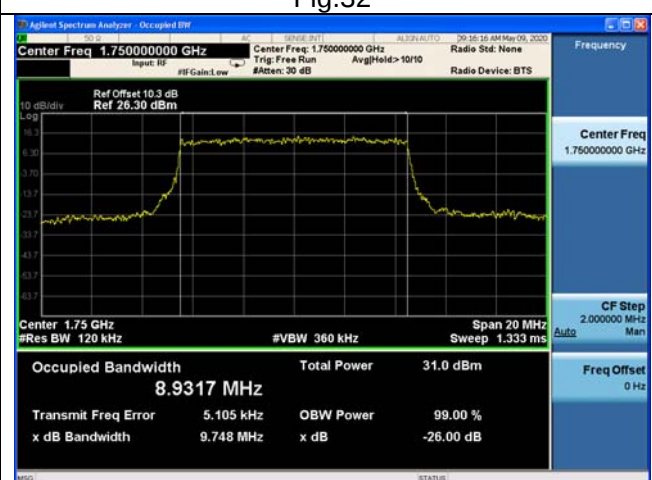


Fig.34

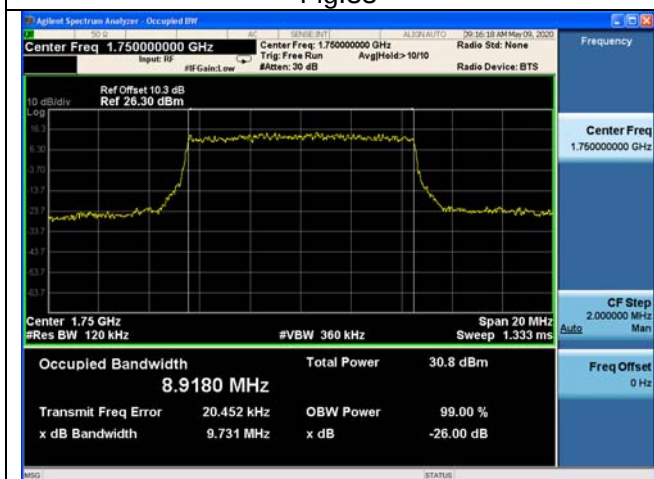


Fig.35

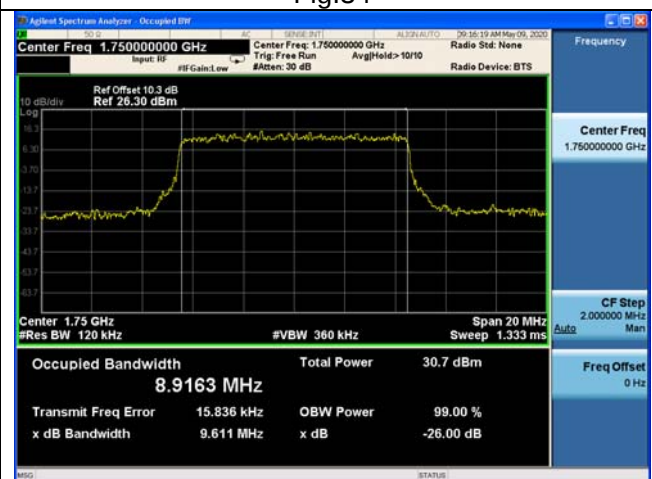


Fig.36

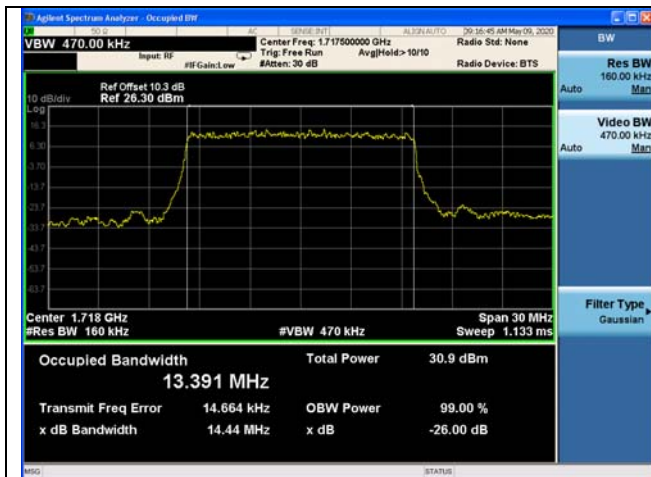


Fig.37

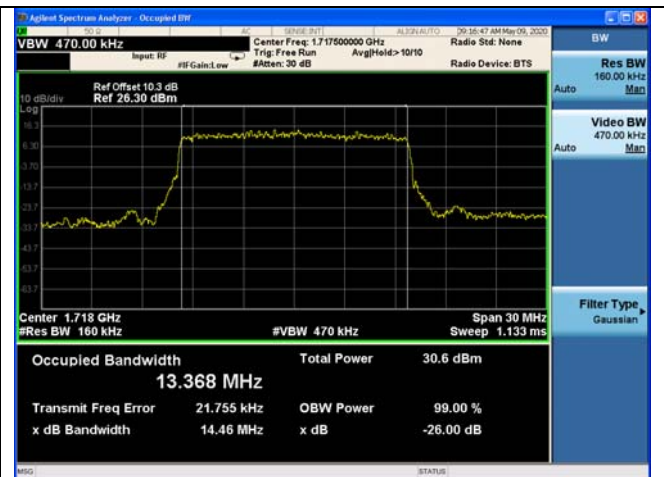


Fig.38

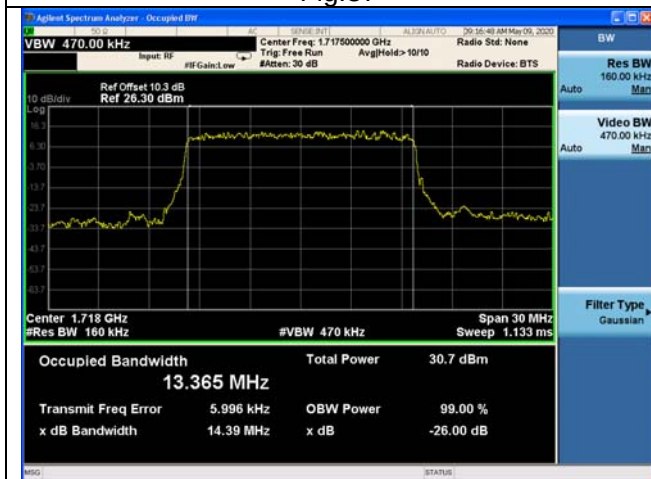


Fig.39



Fig.40

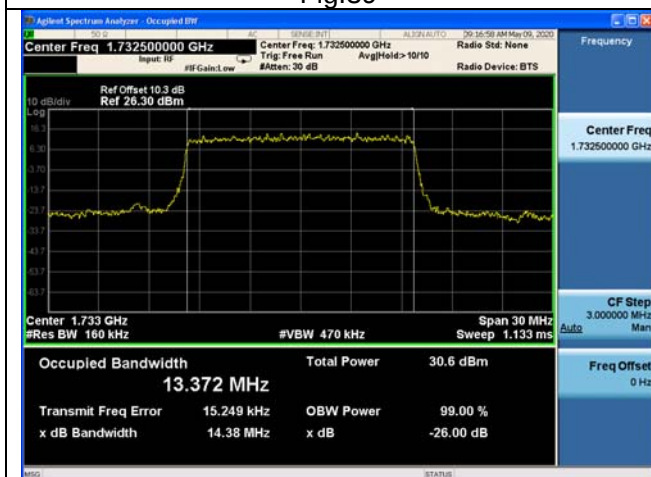


Fig.41

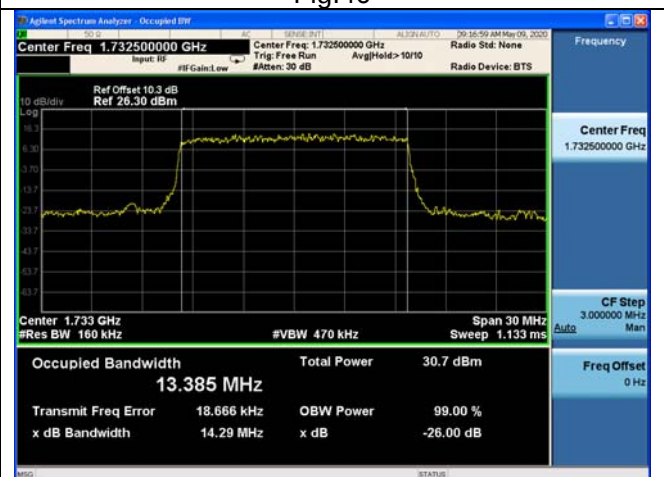


Fig.42

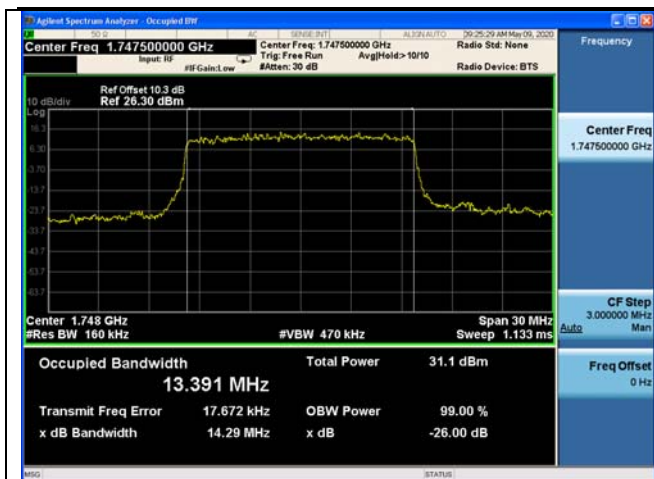


Fig.43

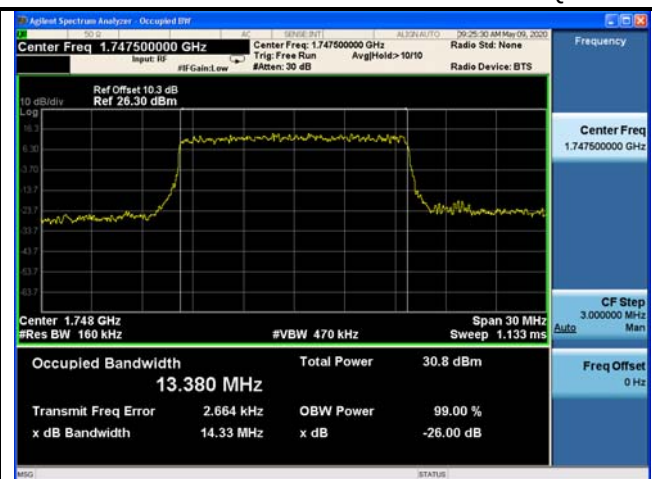


Fig.44

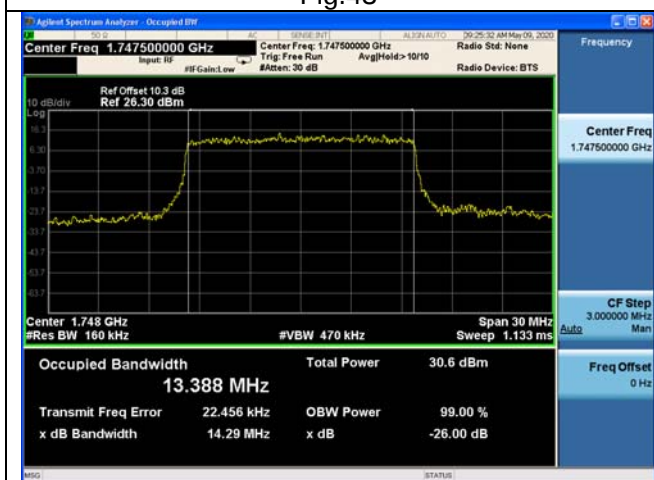


Fig.45

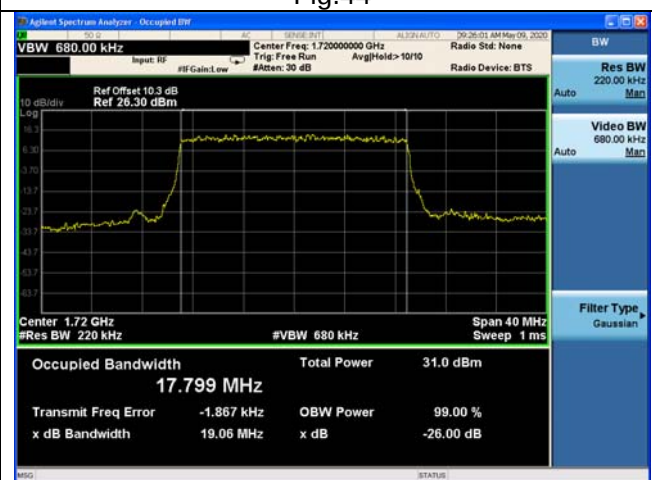


Fig.46

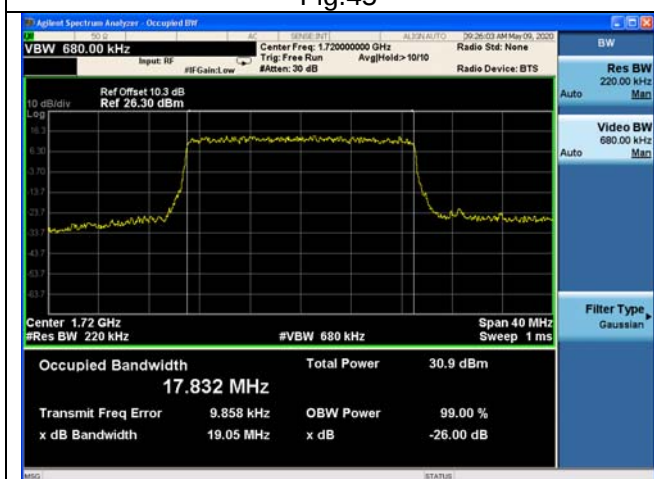


Fig.47

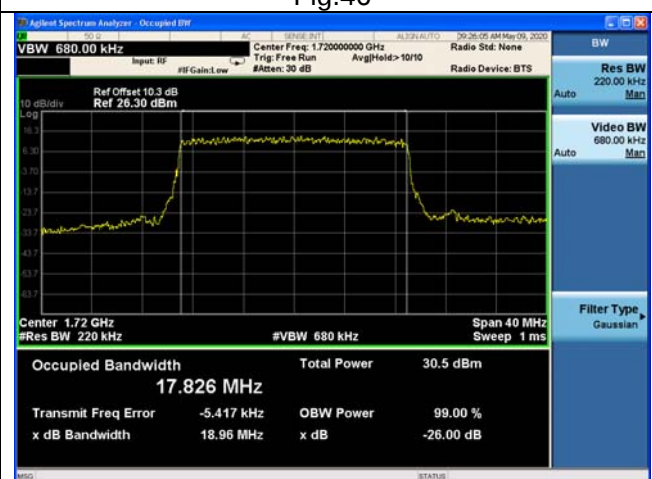


Fig.48

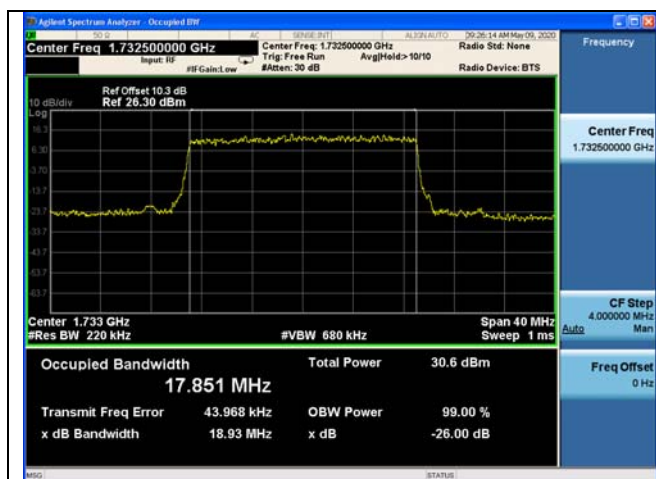


Fig.49

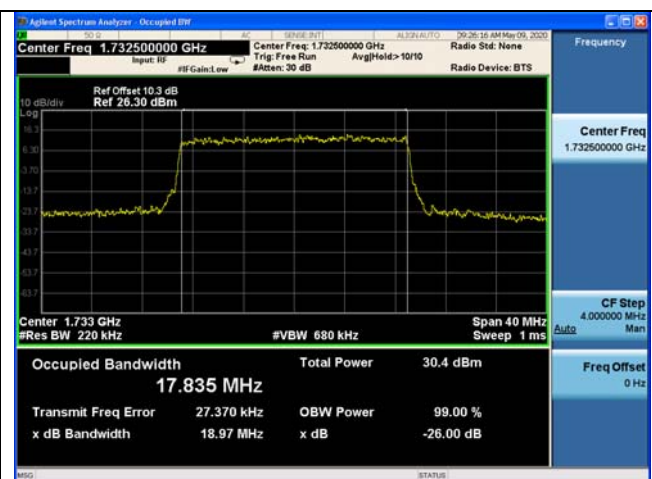


Fig.50

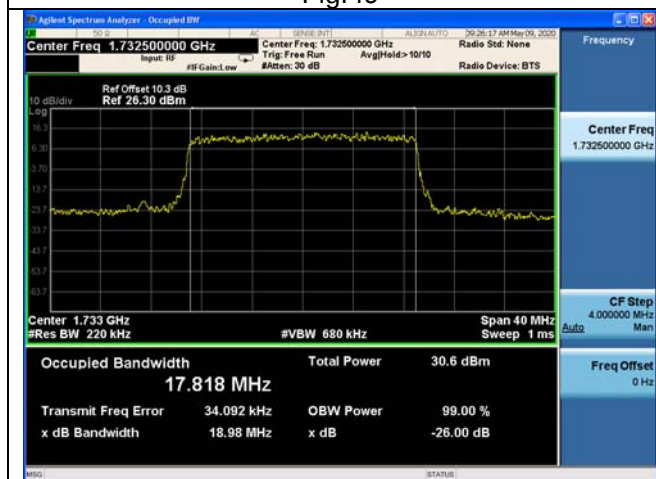


Fig.51

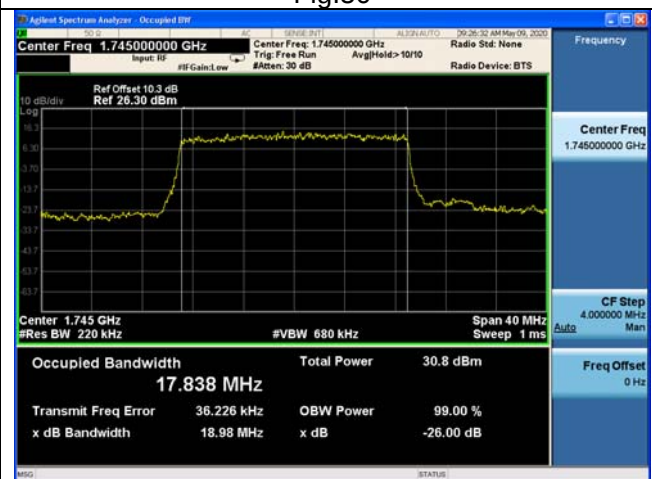


Fig.52

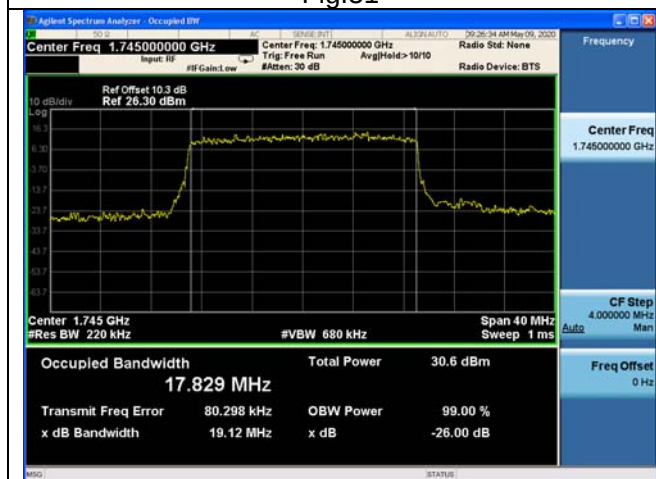


Fig.53

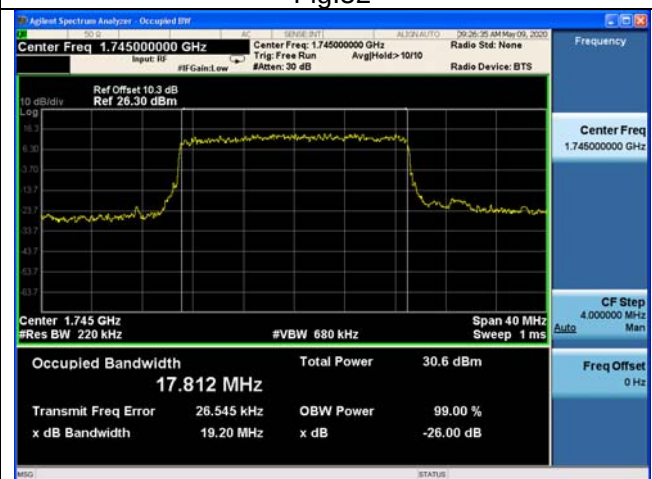


Fig.54

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

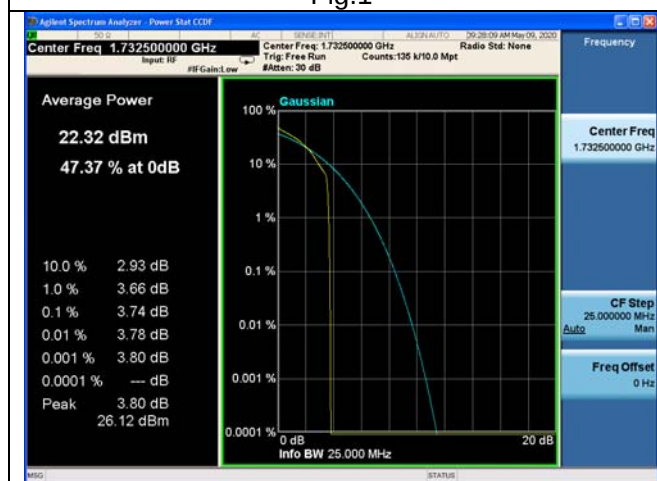


Fig.3



Fig.4



Fig.5



Fig.6



Fig.7



Fig.8



Fig.9



Fig.10



Fig.11



Fig.12



Fig.13

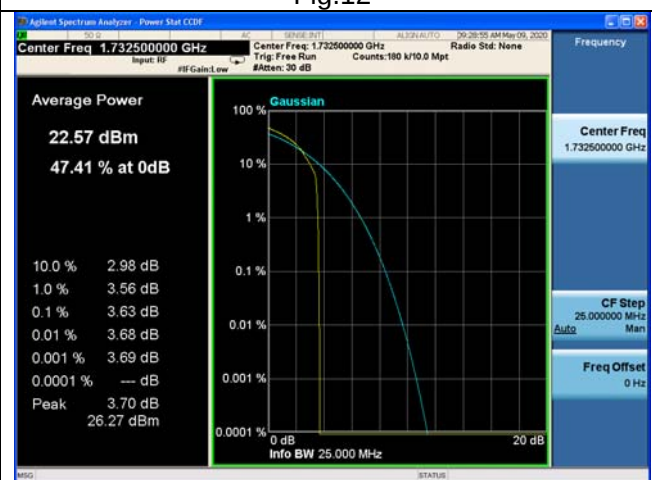


Fig.14

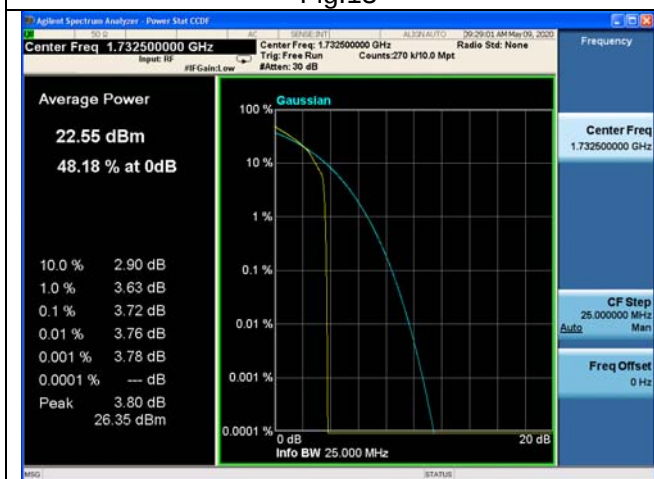


Fig.15



Fig.16

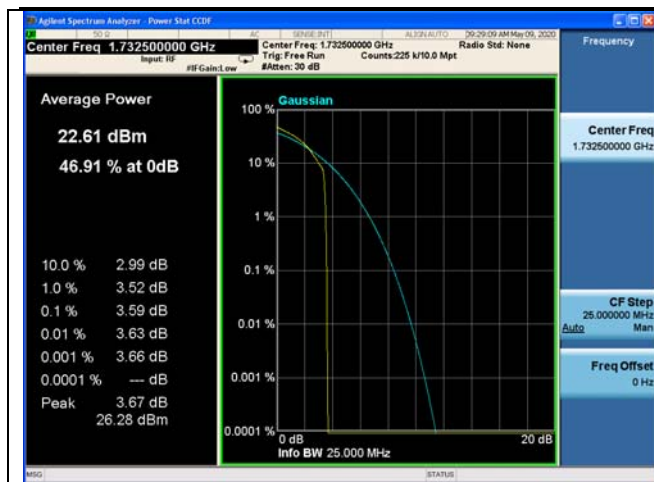


Fig.17

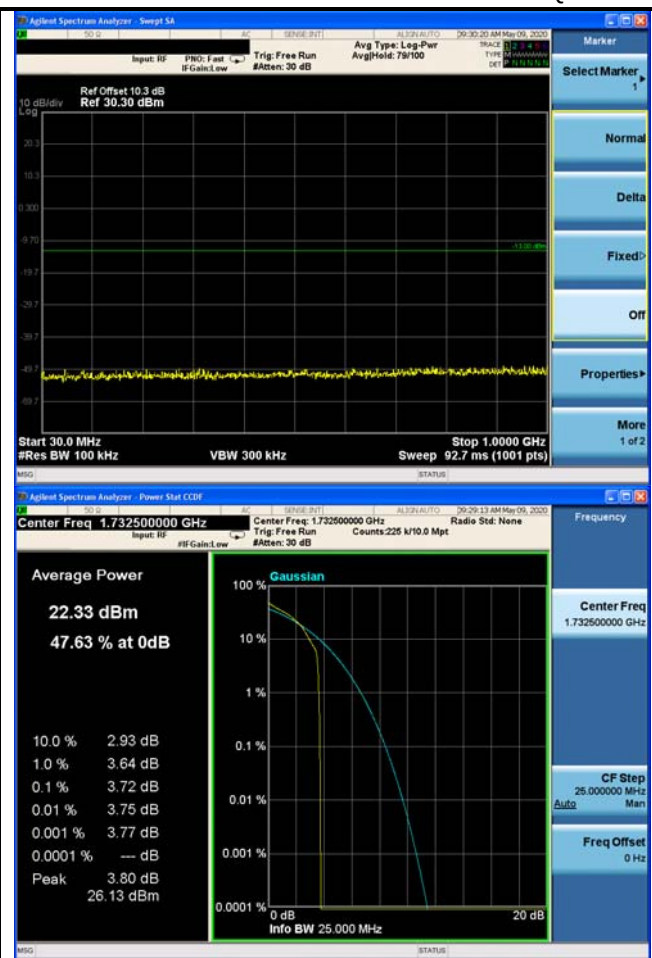


Fig.18

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

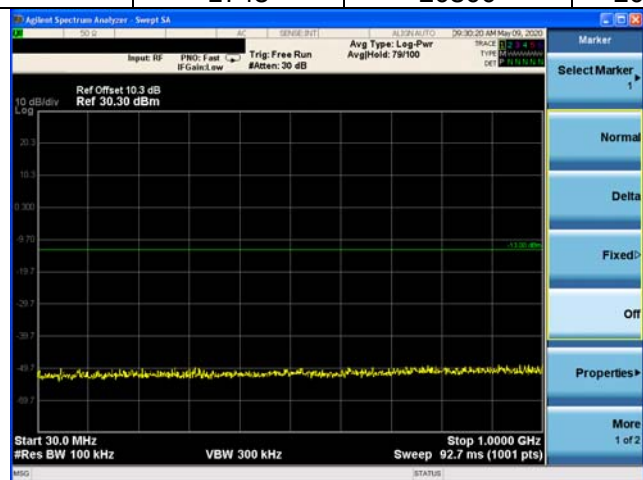


Fig.1

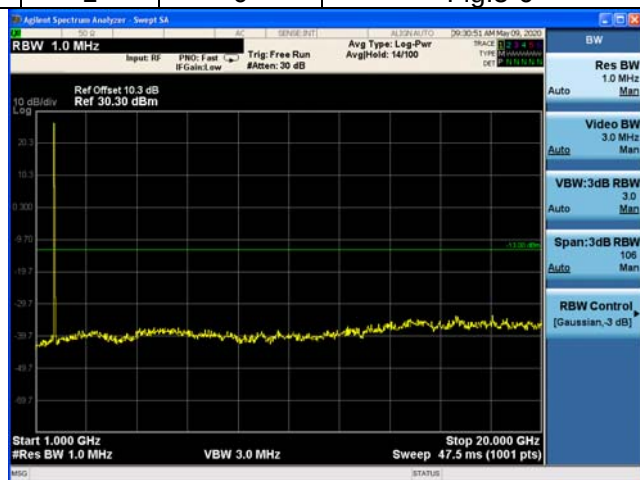


Fig.2

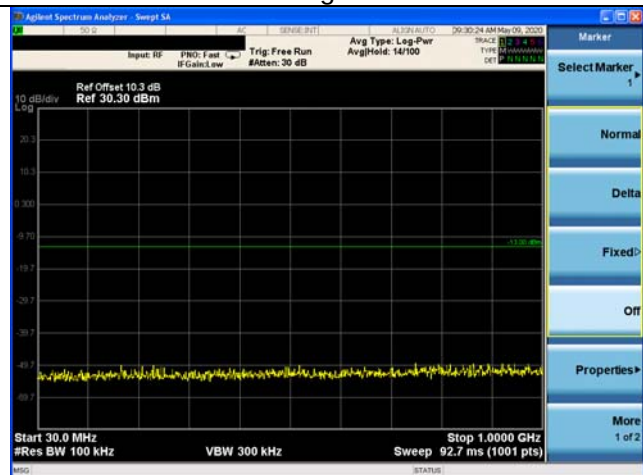


Fig3



Fig4

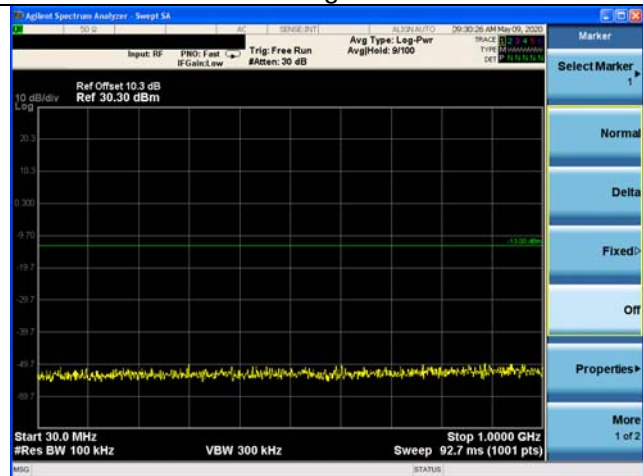


Fig5



Fig6

5 Band Edges Compliance

Test result

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

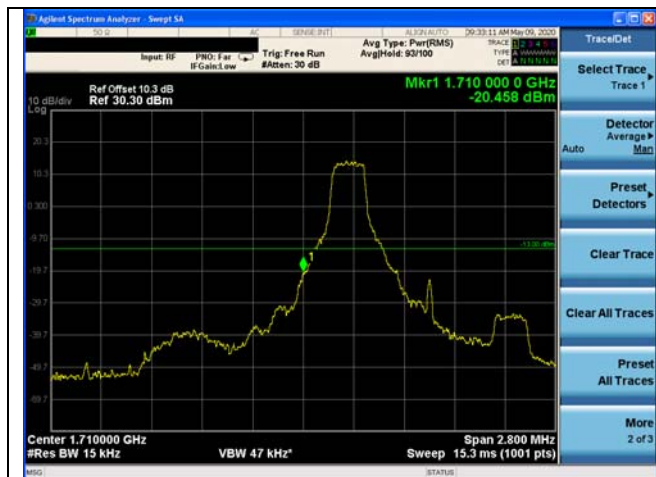


Fig.1



Fig.2

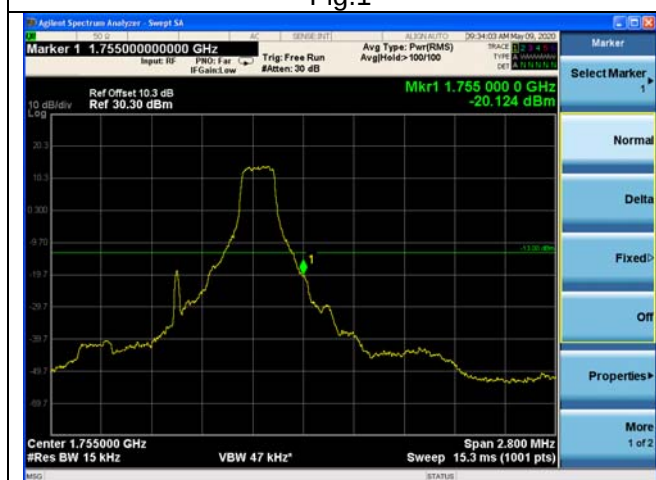


Fig.3



Fig.4

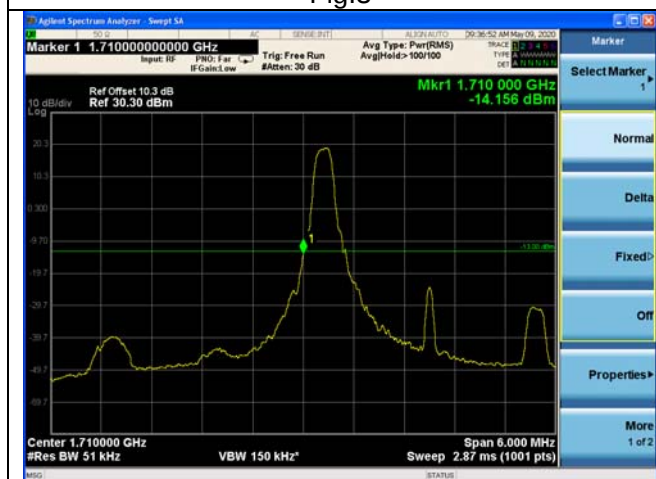


Fig.5



Fig.6

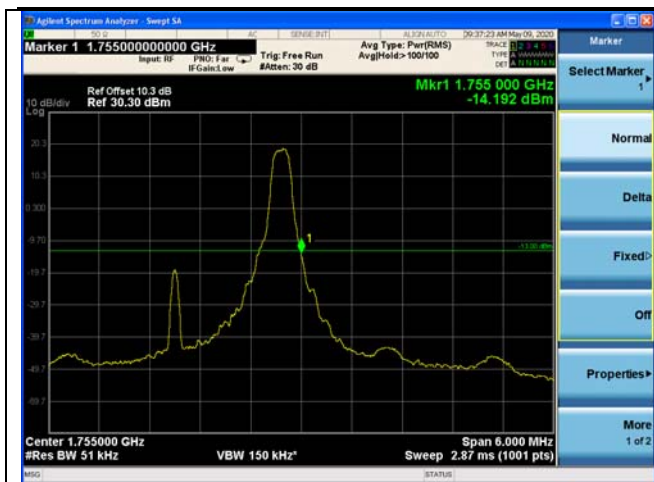


Fig.7



Fig.8

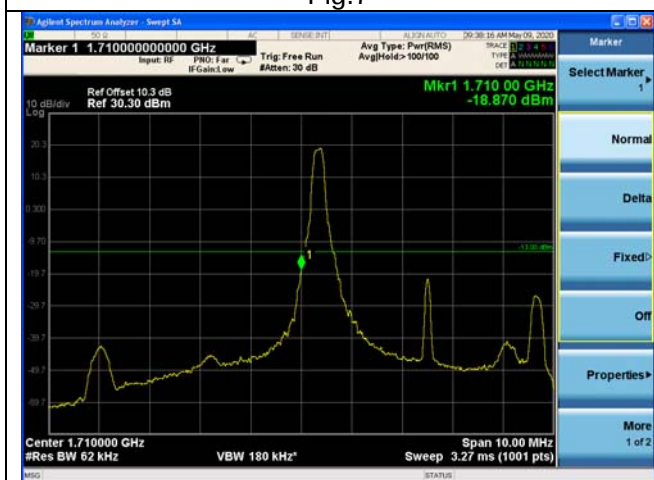


Fig.9



Fig.10

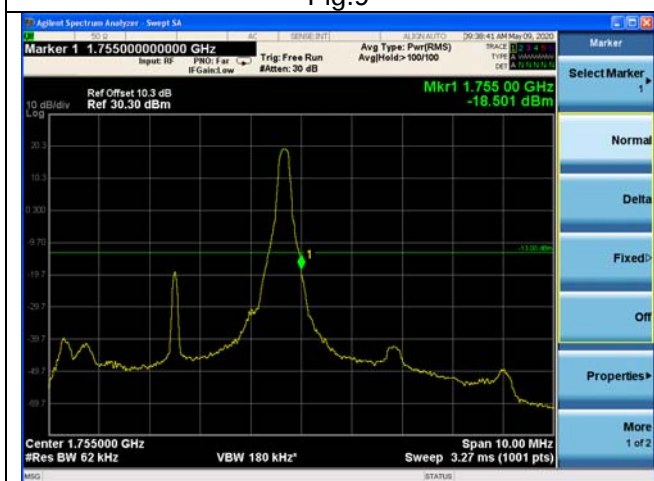


Fig.11



Fig.12

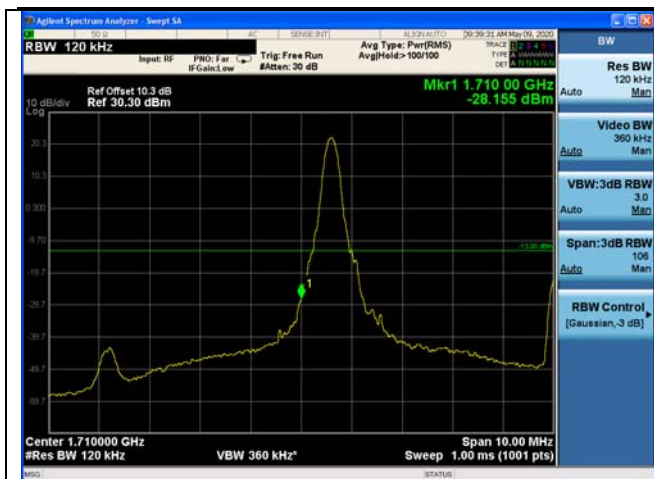


Fig.13



Fig.14

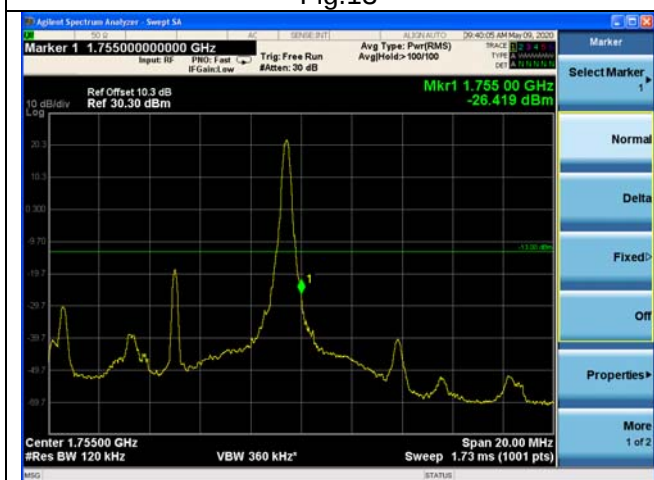


Fig.15



Fig.16

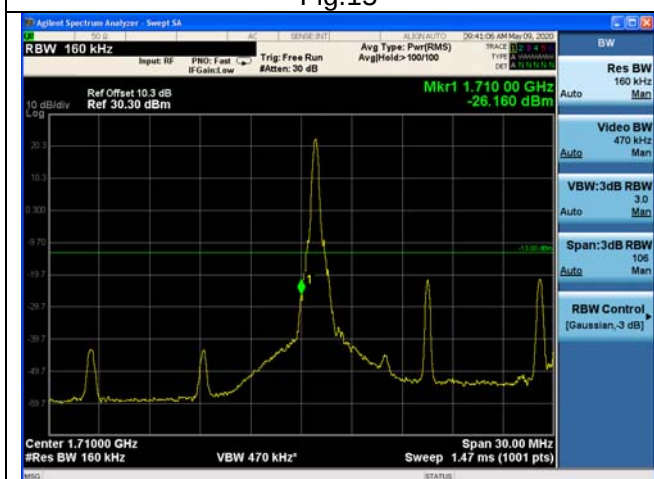


Fig.17



Fig.18

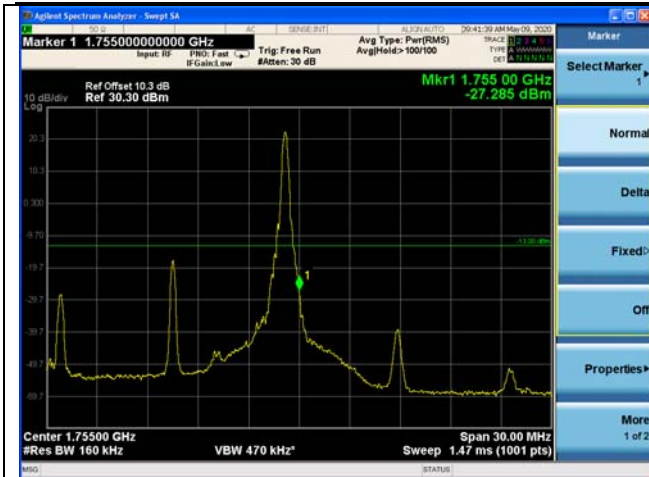


Fig.19



Fig.20

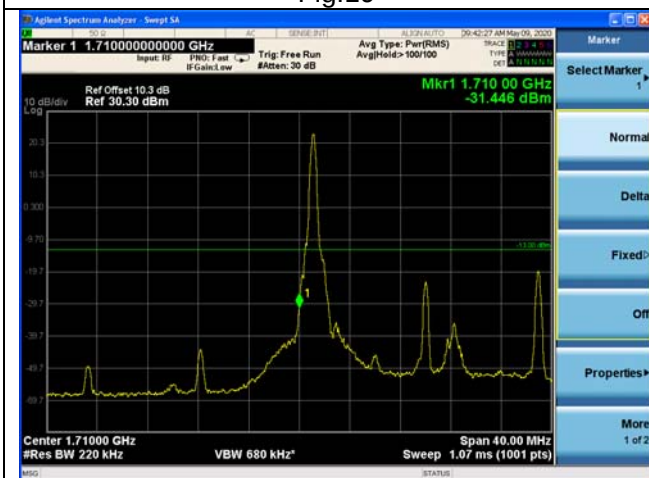


Fig.21



Fig.22

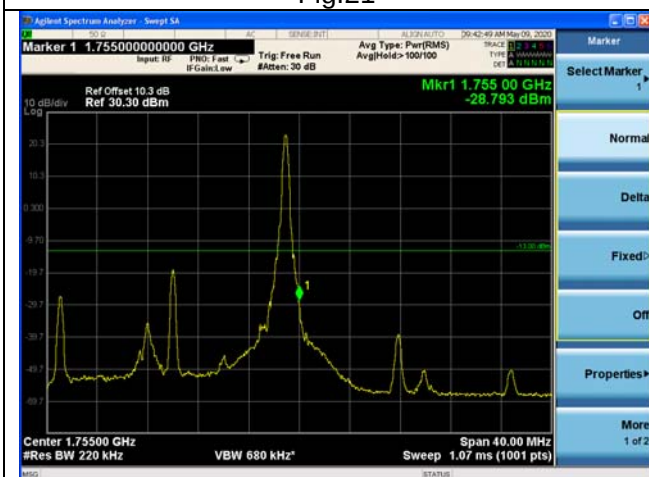


Fig.23



Fig.24

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band4 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.043	-0.056	-0.097	-0.093	0.062	-0.015
0	NV	-0.028	-0.025	-0.093	0.058	0.063	-0.046
+10	NV	-0.069	-0.003	-0.084	0.085	0.072	-0.007
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.029	0.066	0.006	-0.024	0.087	0.015
+40	NV	-0.032	-0.069	0.093	0.055	0.056	0.000
+50	NV	0.008	-0.014	0.045	0.046	-0.093	-0.014
+55	NV	0.056	0.029	0.099	0.022	0.068	0.096
+20	LV	-0.047	-0.040	0.051	-0.071	-0.015	0.023
+20	HV	0.085	0.075	0.055	-0.026	-0.017	0.100

Temperature(°C)	Voltage	Test Result (ppm) Band4 High Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.080	0.089	0.012	0.036	0.005	-0.006
0	NV	0.087	0.089	-0.042	0.056	-0.041	0.050
+10	NV	-0.088	-0.076	0.012	-0.068	0.100	-0.066
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.067	-0.072	0.036	-0.076	0.052	0.100
+40	NV	0.006	-0.007	-0.053	0.030	-0.059	-0.011
+50	NV	-0.019	0.001	0.013	-0.059	0.015	-0.091
+55	NV	0.015	-0.066	-0.003	0.056	0.017	-0.021
+20	LV	0.088	0.000	0.063	-0.013	-0.011	-0.015
+20	HV	-0.061	0.052	-0.006	0.058	0.051	0.040