

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	23.72
				1	5	23.77
				3	2	22.55
				6	0	22.56
	1732.5	20175		1	0	23.55
				1	5	23.55
				3	2	22.47
				6	0	22.35
	1754.3	20393		1	0	23.52
				1	5	23.51
				3	2	22.59
				6	0	22.48
16QAM	1710.7	19957	1.4	1	0	23.03
				1	5	23.09
				3	2	21.64
				6	0	21.61
	1732.5	20175		1	0	22.95
				1	5	22.97
				3	2	21.64
				6	0	21.67
	1754.3	20393		1	0	22.74
				1	5	22.69
				3	2	21.55
				6	0	21.64

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	23.77
				1	14	23.76
				8	4	22.55
				15	0	22.58
	1732.5	20175		1	0	23.59
				1	14	23.61
				8	4	22.48
				15	0	22.44
	1753.5	20385		1	0	23.50
				1	14	23.51
				8	4	22.53
				15	0	22.46
16QAM	1711.5	19965	3	1	0	23.03
				1	14	23.08
				8	4	21.64
				15	0	21.62
	1732.5	20175		1	0	22.99
				1	14	22.90
				8	4	21.65
				15	0	21.65
	1753.5	20385		1	0	22.75
				1	14	22.68
				8	4	21.61
				15	0	21.69

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	23.72
				1	24	23.76
				12	6	22.53
				25	0	22.56
	1732.5	20175		1	0	23.59
				1	24	23.57
				12	6	22.54
				25	0	22.43
	1752.5	20375		1	0	23.57
				1	24	23.54
				12	6	22.56
				25	0	22.46
16QAM	1712.5	19975	5	1	0	23.04
				1	24	23.04
				12	6	21.61
				25	0	21.59
	1732.5	20175		1	0	22.94
				1	24	22.98
				12	6	21.63
				25	0	21.61
	1752.5	20375		1	0	22.71
				1	24	22.74
				12	6	21.56
				25	0	21.69

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	23.76
				1	49	23.79
				24	12	22.55
				50	0	22.61
	1732.5	20175		1	0	23.55
				1	49	23.55
				24	12	22.56
				50	0	22.39
	1750	20350		1	0	23.54
				1	49	23.55
				24	12	22.49
				50	0	22.49
16QAM	1715	20000	10	1	0	23.06
				1	49	23.10
				24	12	21.68
				50	0	21.59
	1732.5	20175		1	0	22.96
				1	49	22.92
				24	12	21.68
				50	0	21.62
	1750	20350		1	0	22.68
				1	49	22.71
				24	12	21.57
				50	0	21.67

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	23.76
				1	74	23.79
				40	18	22.53
				75	0	22.58
	1732.5	20175		1	0	23.54
				1	74	23.55
				40	18	22.48
				75	0	22.44
	1747.5	20325		1	0	23.54
				1	74	23.54
				40	18	22.55
				75	0	22.54
16QAM	1717.5	20025	15	1	0	23.07
				1	74	23.10
				40	18	21.69
				75	0	21.64
	1732.5	20175		1	0	22.99
				1	74	22.94
				40	18	21.67
				75	0	21.65
	1747.5	20325		1	0	22.71
				1	74	22.70
				40	18	21.56
				75	0	21.63

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	23.84
				1	99	23.84
				50	25	22.65
				100	0	22.66
	1732.5	20175		1	0	23.65
				1	99	23.65
				50	25	22.60
				100	0	22.48
	1745	20300		1	0	23.60
				1	99	23.60
				50	25	22.62
				100	0	22.58
16QAM	1720	20050	20	1	0	23.15
				1	99	23.15
				50	25	21.73
				100	0	21.68
	1732.5	20175		1	0	23.03
				1	99	23.03
				50	25	21.72
				100	0	21.71
	1745	20300		1	0	22.79
				1	99	22.79
				50	25	21.67
				100	0	21.74

2 Occupied Bandwidth

Test result

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)			
						QPSK		16-QAM	
4	1710.7	19957	1.4	6	0	1.0800	Fig.1	1.0790	Fig.2
	1732.5	20175		6	0	1.0806	Fig.3	1.0784	Fig.4
	1754.3	20393		6	0	1.0760	Fig.5	1.0809	Fig.6
	1711.5	19965	3	15	0	2.6881	Fig.7	2.7001	Fig.8
	1732.5	20175		15	0	2.6931	Fig.9	2.7022	Fig.10
	1753.5	20385		15	0	2.6974	Fig.11	2.6913	Fig.12
	1712.5	19975	5	25	0	4.4741	Fig.13	4.4545	Fig.14
	1732.5	20175		25	0	4.4573	Fig.15	4.4781	Fig.16
	1752.5	20375		25	0	4.4707	Fig.17	4.4633	Fig.18
	1715	20000	10	50	0	8.9674	Fig.19	8.9437	Fig.20
	1732.5	20175		50	0	8.9435	Fig.21	8.9126	Fig.22
	1750	20350		50	0	8.9573	Fig.23	8.9685	Fig.24
	1717.5	20025	15	75	0	13.401	Fig.25	13.382	Fig.26
	1732.5	20175		75	0	13.394	Fig.27	13.409	Fig.28
	1747.5	20325		75	0	13.446	Fig.29	13.453	Fig.30
	1720	20050	20	100	0	17.889	Fig.31	17.881	Fig.32
	1732.5	20175		100	0	17.841	Fig.33	17.871	Fig.34
	1745	20300		100	0	17.919	Fig.35	17.882	Fig.36

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)			
						QPSK		16-QAM	
4	1710.7	19957	1.4	6	0	1.225	Fig.1	1.214	Fig.2
	1732.5	20175		6	0	1.219	Fig.3	1.210	Fig.4
	1754.3	20393		6	0	1.216	Fig.5	1.206	Fig.6
	1711.5	19965	3	15	0	3.036	Fig.7	3.021	Fig.8
	1732.5	20175		15	0	3.001	Fig.9	2.989	Fig.10
	1753.5	20385		15	0	3.005	Fig.11	3.021	Fig.12
	1712.5	19975	5	25	0	4.859	Fig.13	4.867	Fig.14
	1732.5	20175		25	0	4.888	Fig.15	4.839	Fig.16
	1752.5	20375		25	0	4.879	Fig.17	4.860	Fig.18
	1715	20000	10	50	0	9.837	Fig.19	9.737	Fig.20
	1732.5	20175		50	0	9.764	Fig.21	9.632	Fig.22
	1750	20350		50	0	9.667	Fig.23	9.694	Fig.24
	1717.5	20025	15	75	0	14.66	Fig.25	14.45	Fig.26
	1732.5	20175		75	0	14.52	Fig.27	14.57	Fig.28
	1747.5	20325		75	0	14.60	Fig.29	14.55	Fig.30
	1720	20050	20	100	0	19.00	Fig.31	19.28	Fig.32
	1732.5	20175		100	0	19.19	Fig.33	19.44	Fig.34
	1745	20300		100	0	19.29	Fig.35	19.36	Fig.36

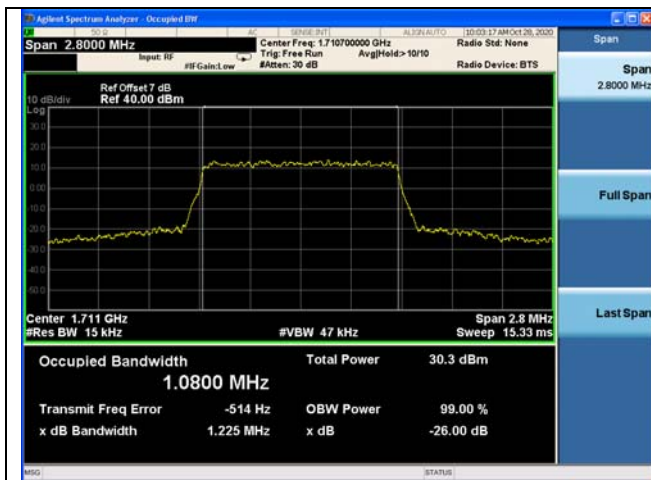


Fig.1

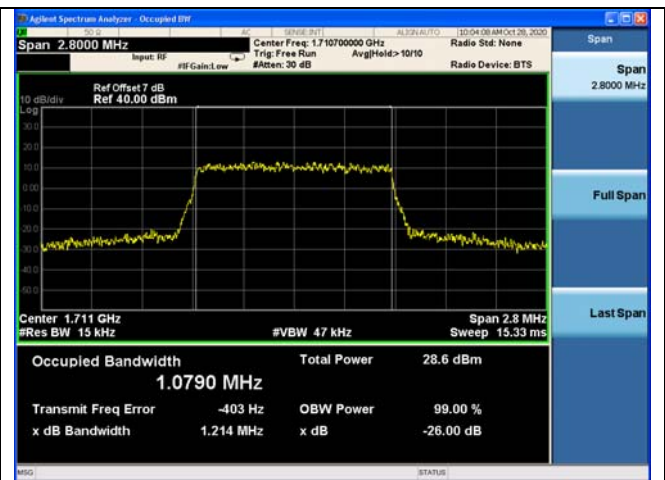


Fig.2

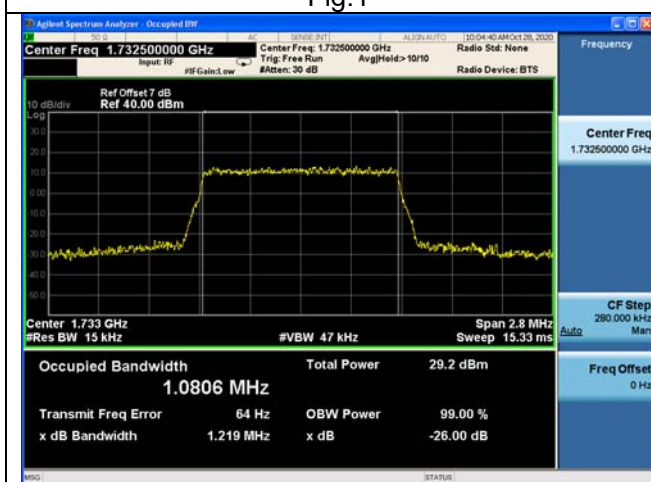


Fig.3

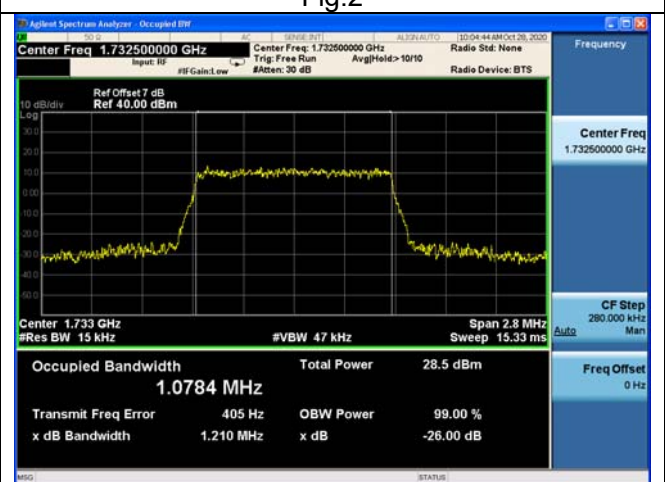


Fig.4

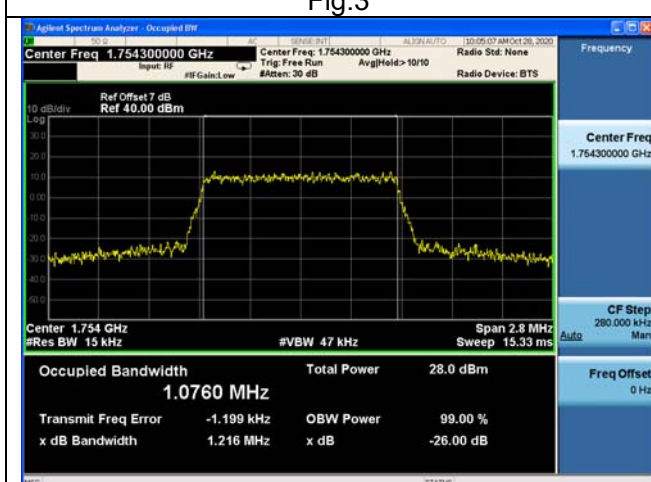


Fig.5

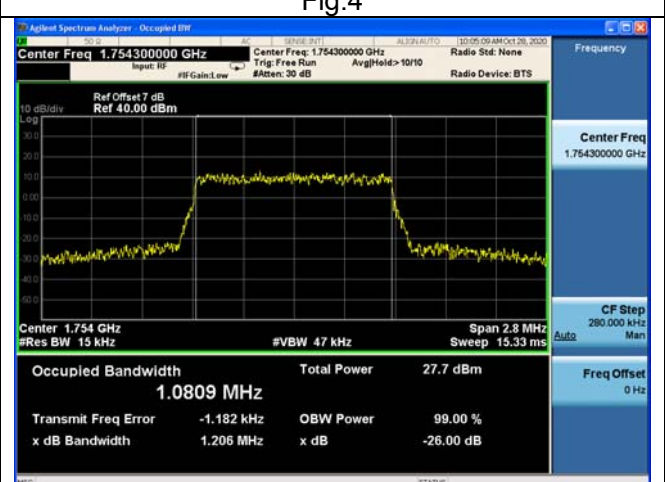


Fig.6

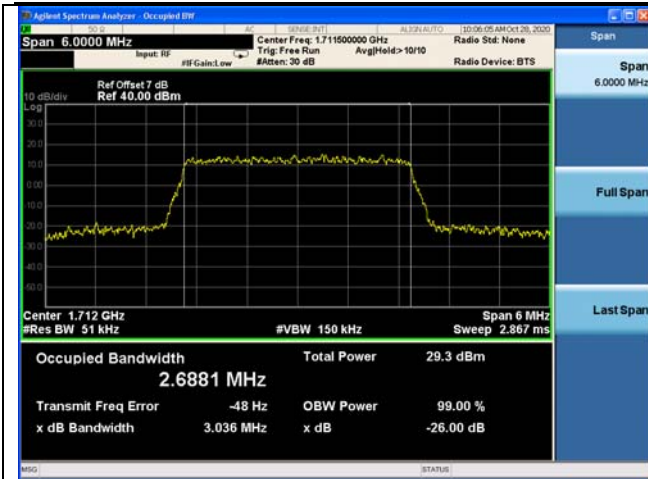


Fig.7

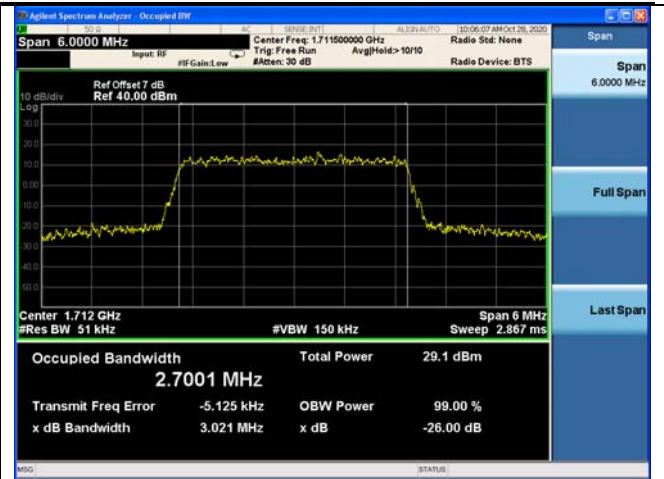


Fig.8

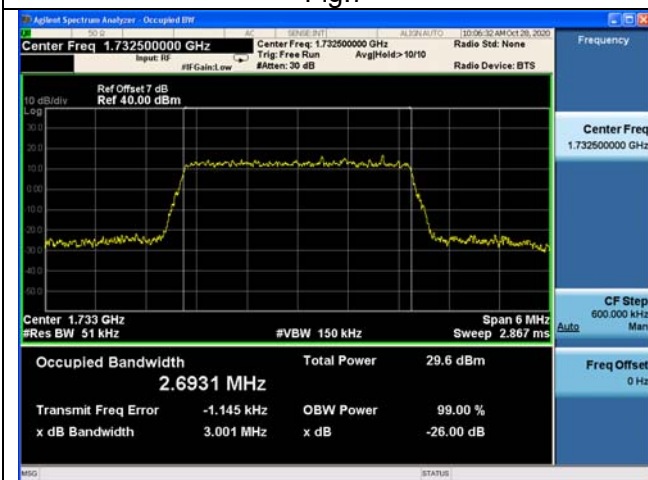


Fig.9

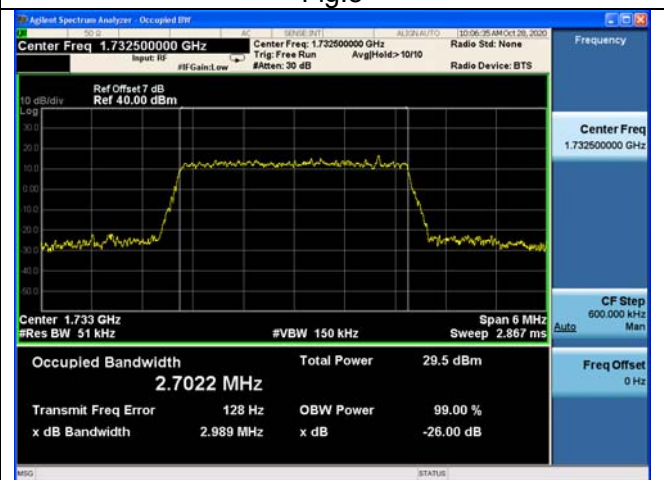


Fig.10

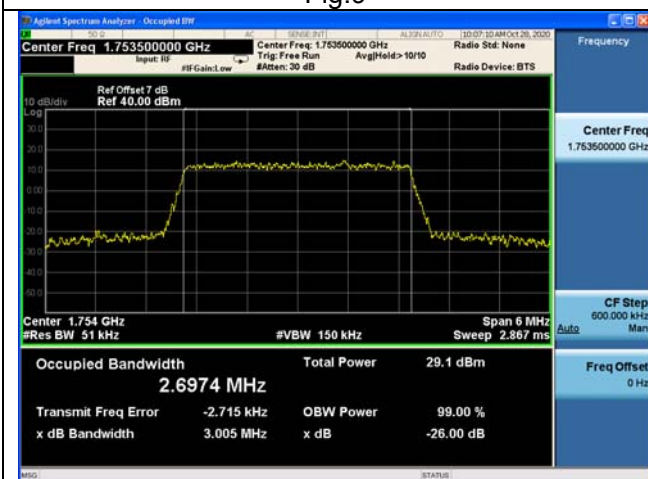


Fig.11

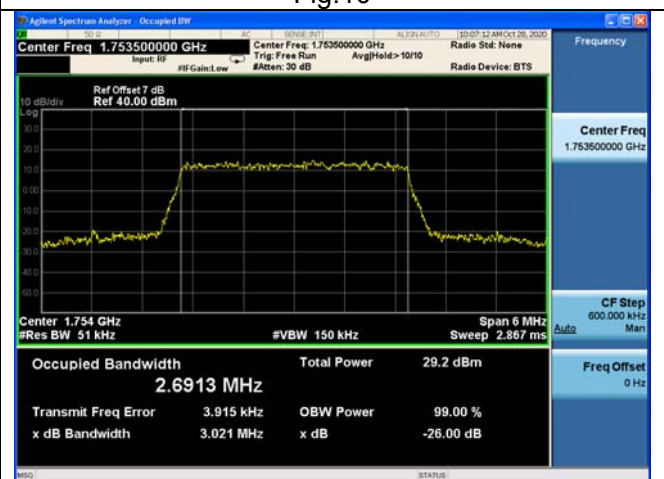


Fig.12

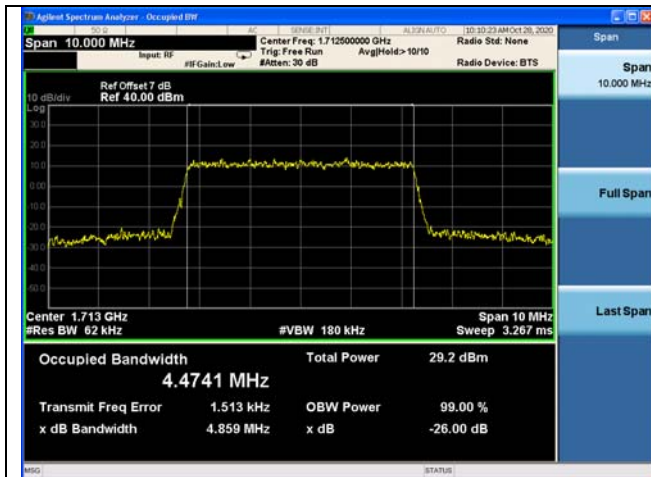


Fig.13

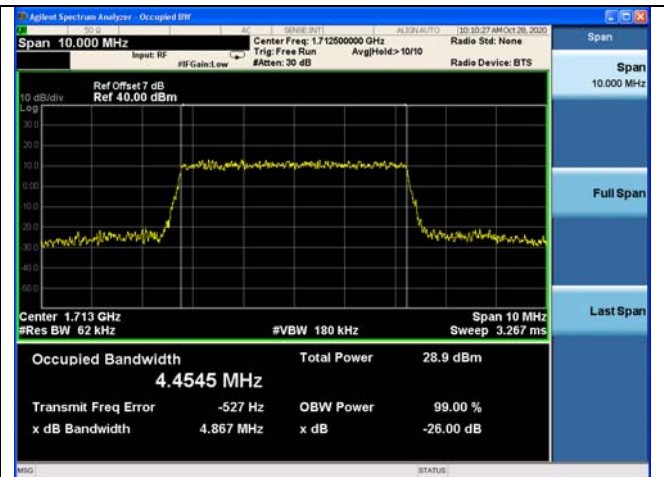


Fig.14

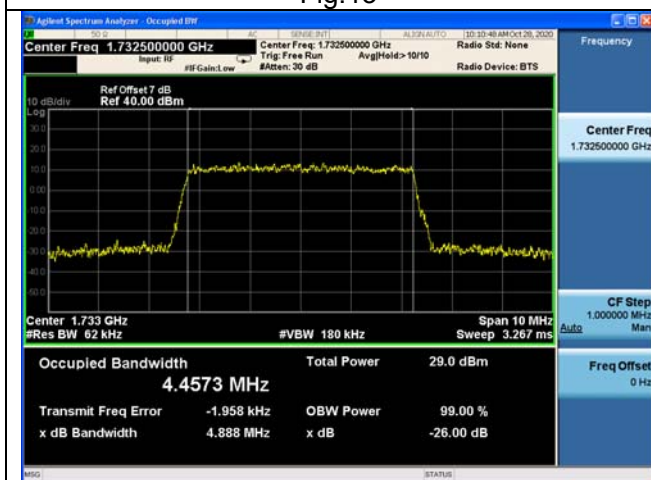


Fig.15

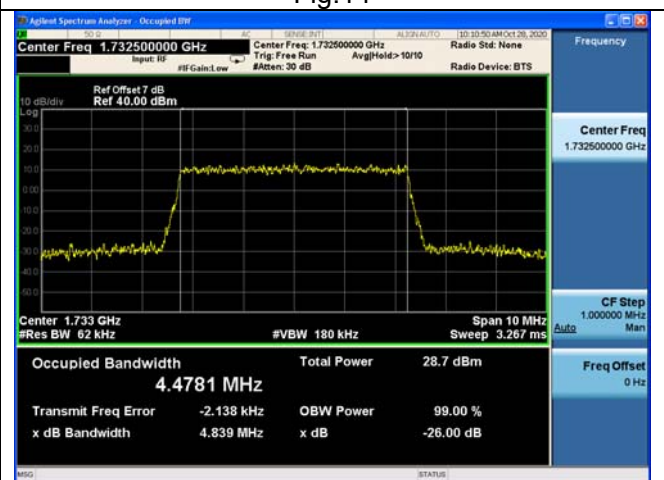


Fig.16

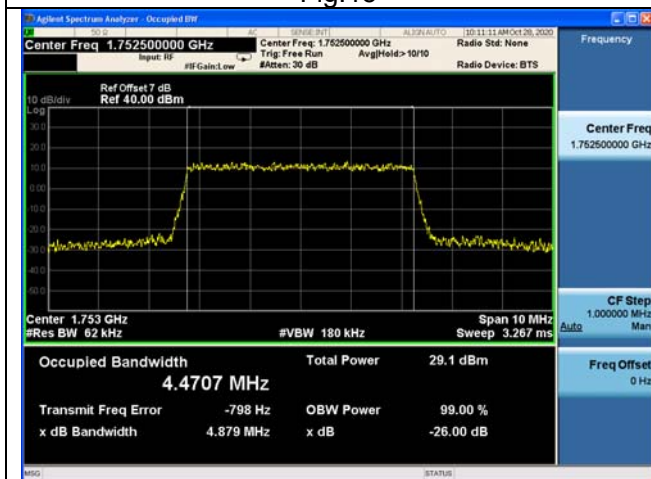


Fig.17

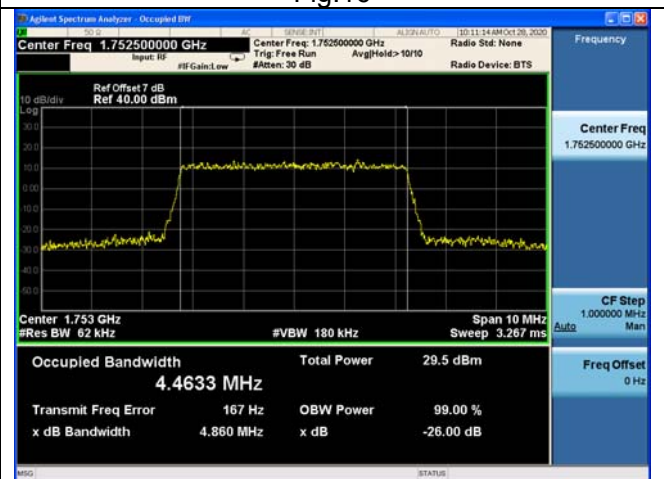


Fig.18

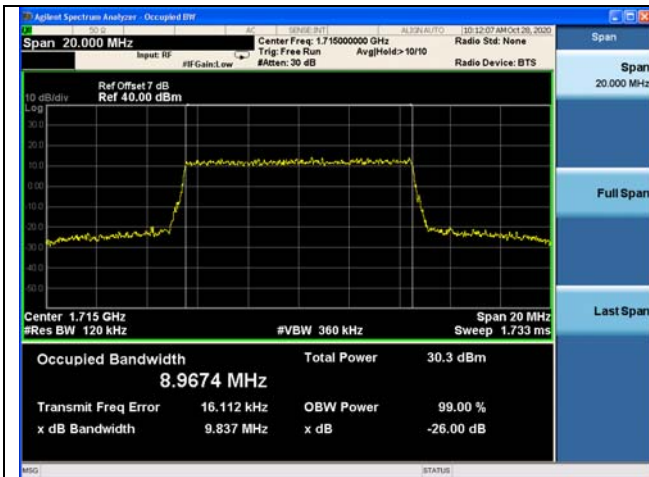


Fig.19

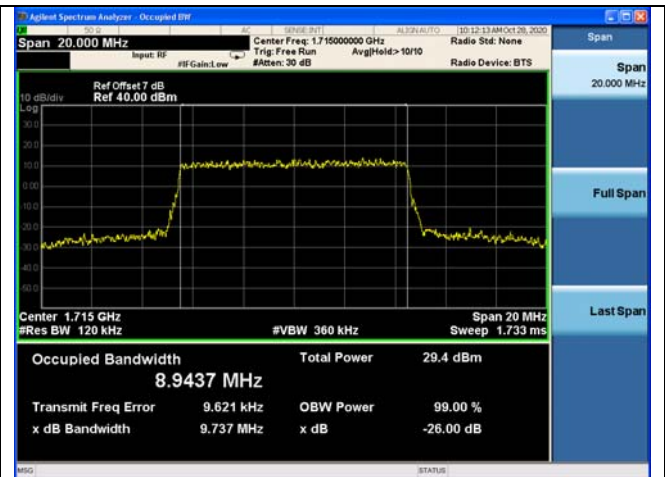


Fig.20

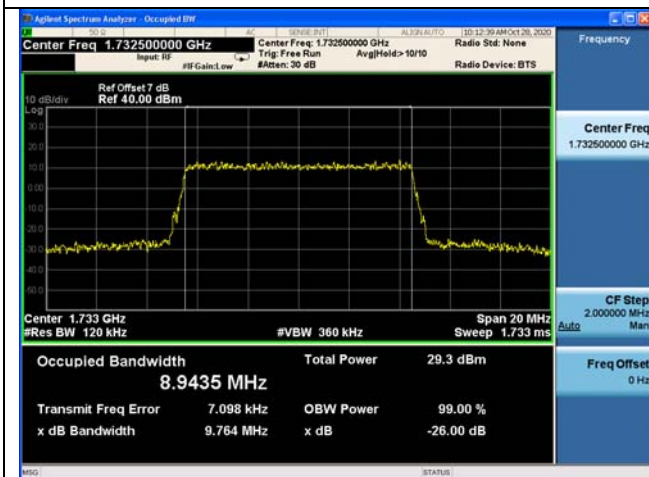


Fig.21

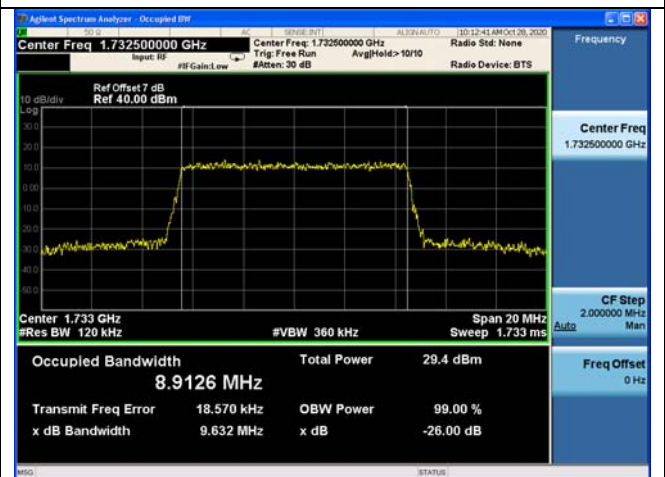


Fig.22

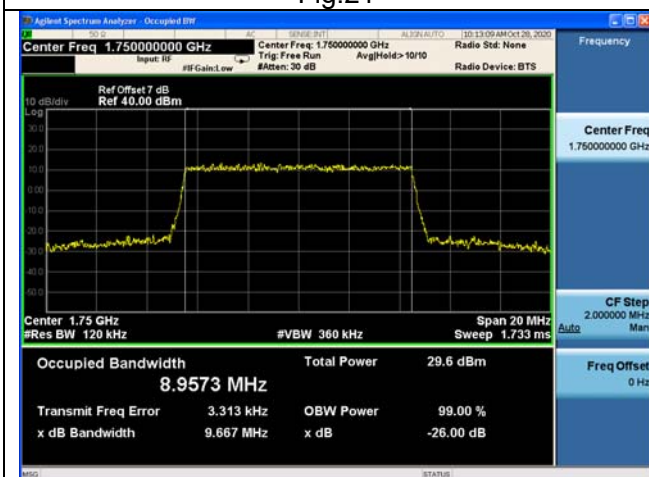


Fig.23

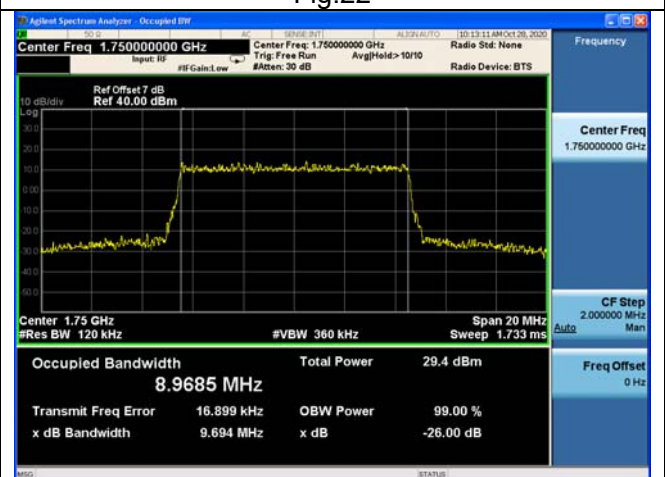


Fig.24

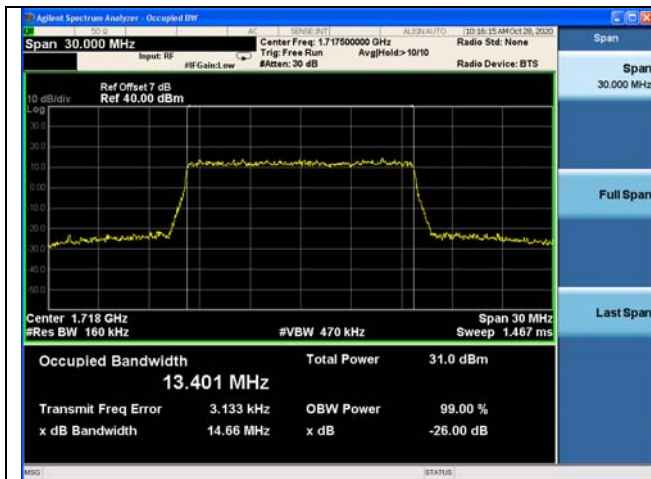


Fig.25

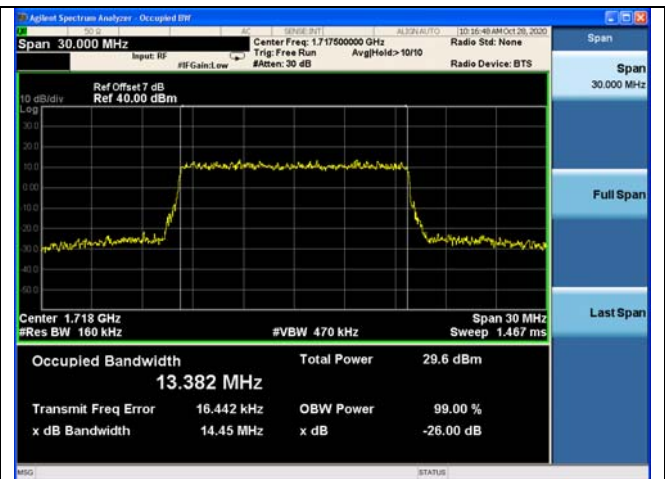


Fig.26

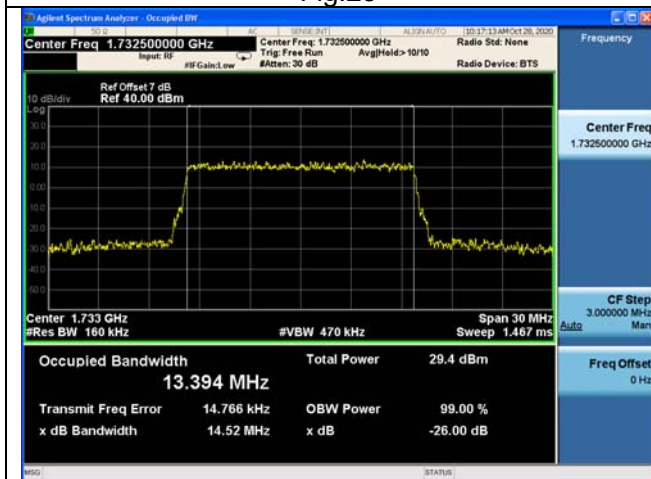


Fig.27

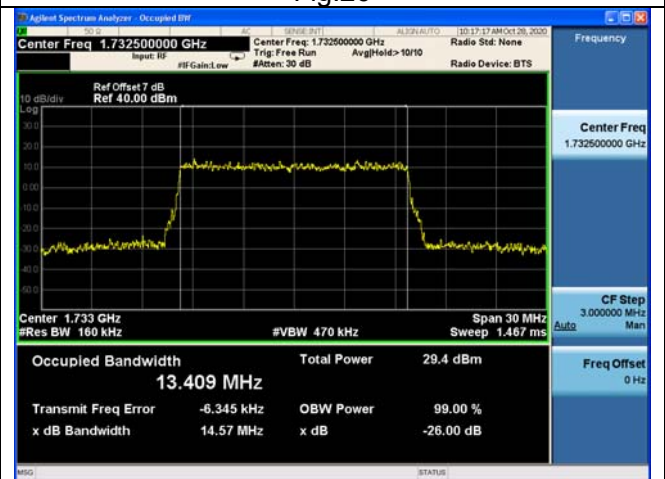


Fig.28

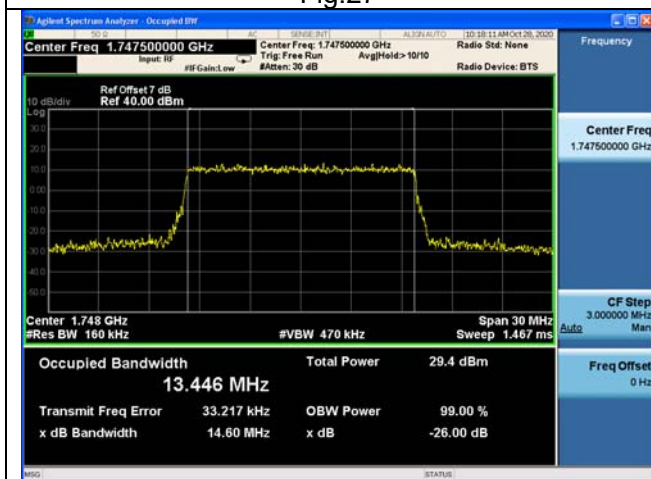


Fig.29

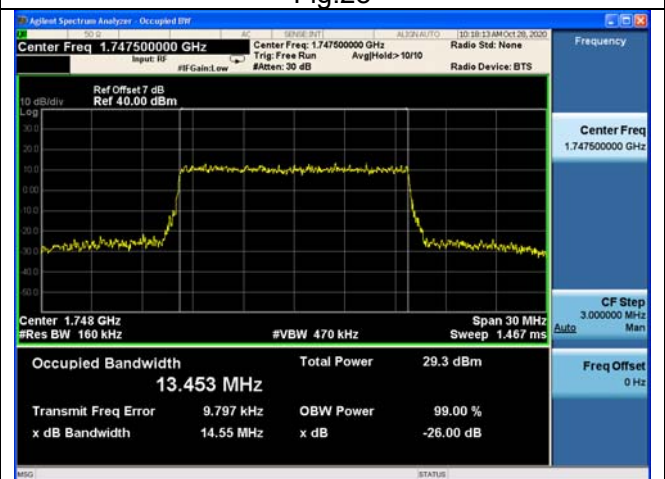


Fig.30

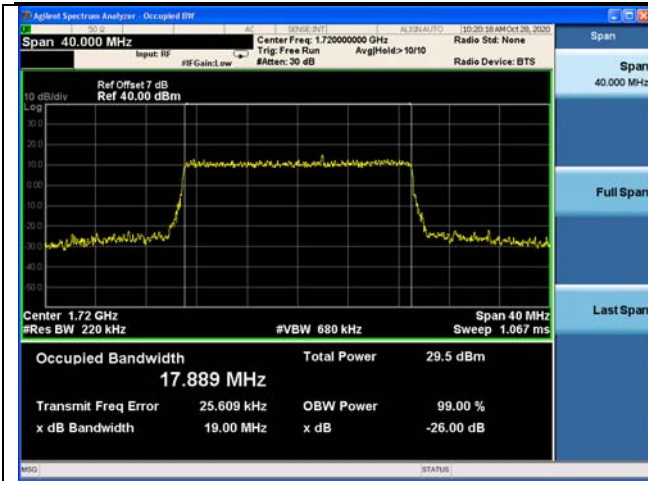


Fig.31

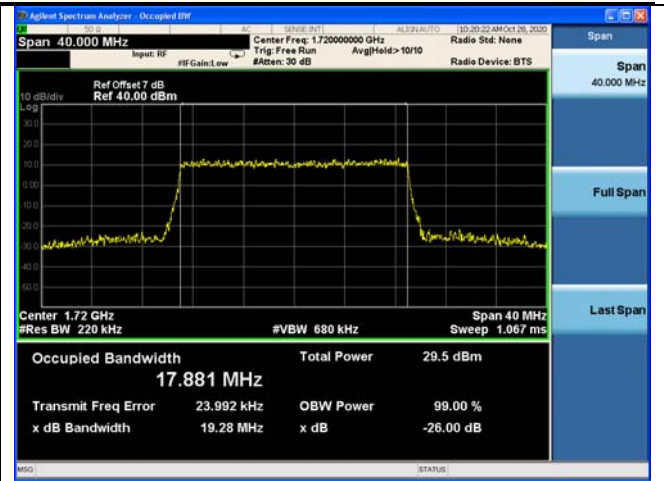


Fig.32

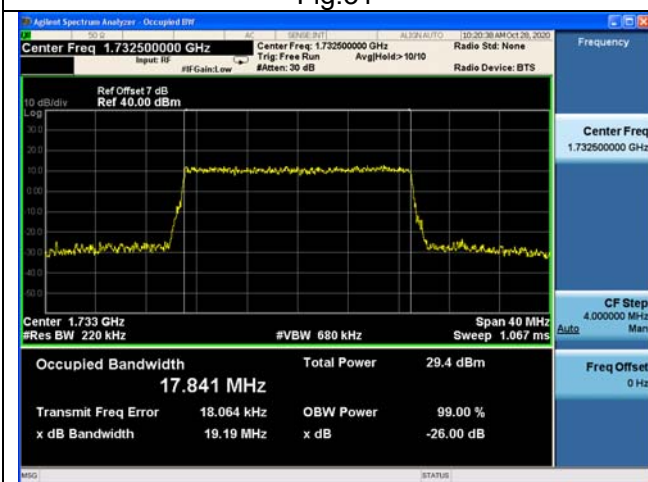


Fig.33

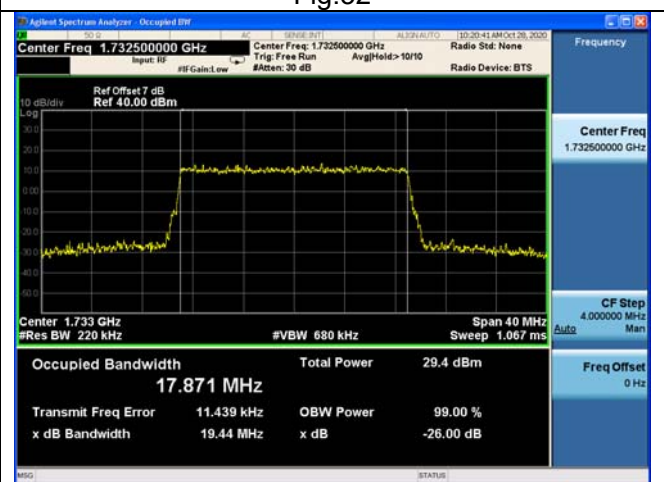


Fig.34

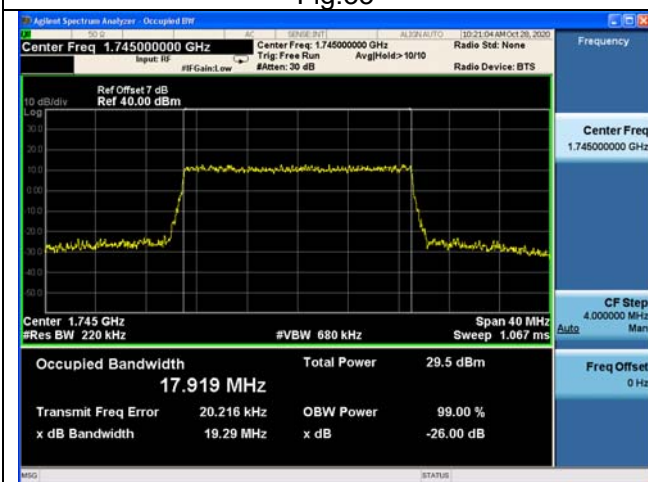


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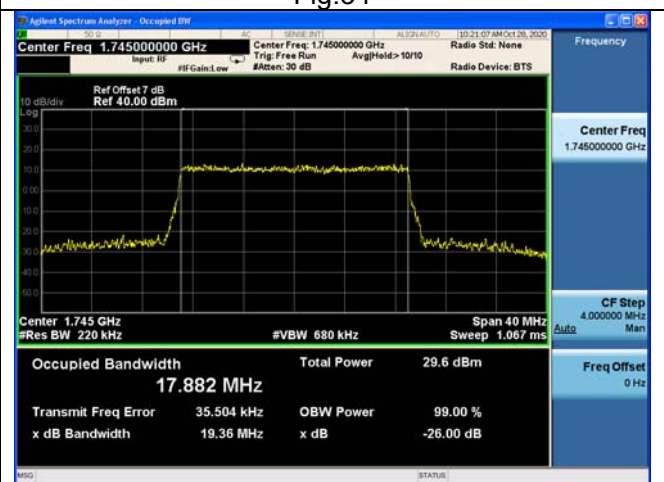


Fig.36

3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM
4	1732.5	20175	1.4	1	0	Fig.1	Fig.2
			3	1	0	Fig.3	Fig.4
			5	1	0	Fig.5	Fig.6
			10	1	0	Fig.7	Fig.8
			15	1	0	Fig.9	Fig.10
			20	1	0	Fig.11	Fig.12



Fig.1

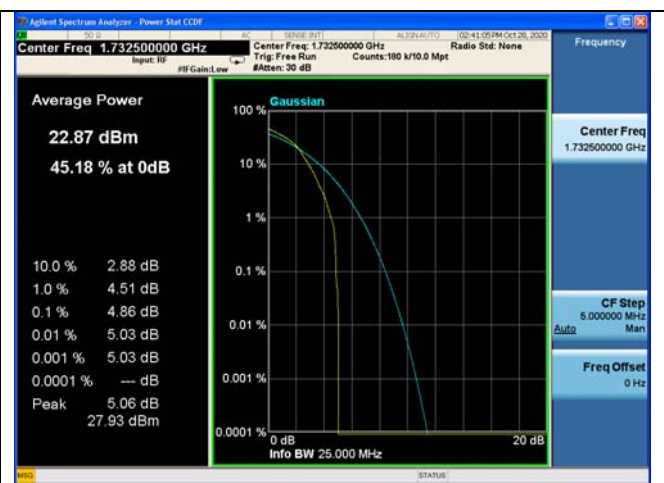


Fig.2



Fig.3



Fig.4

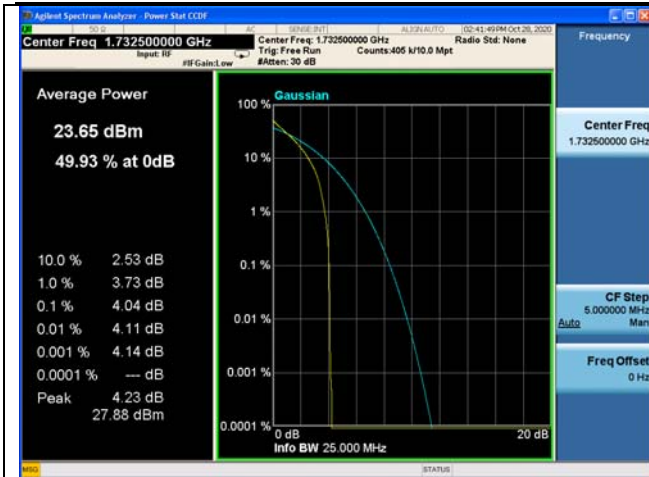


Fig.5

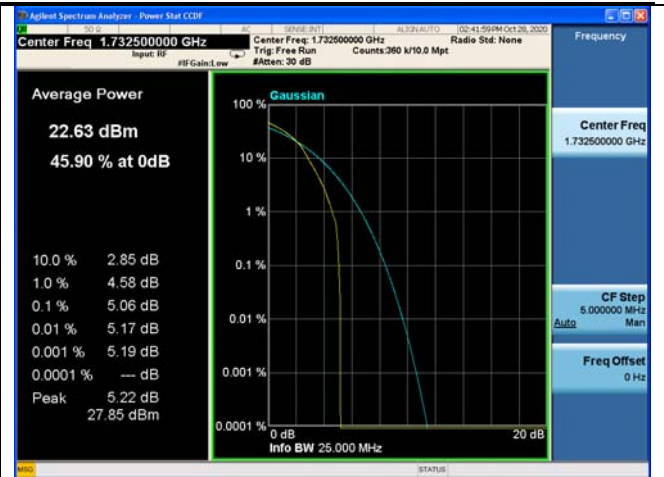


Fig.6



Fig.7

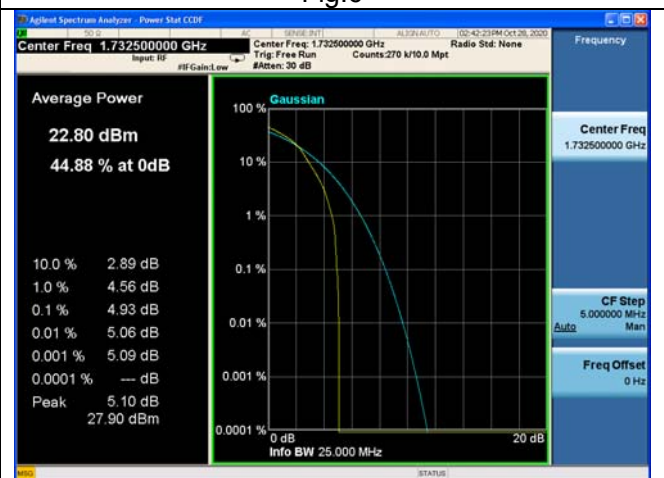


Fig.8



Fig.9

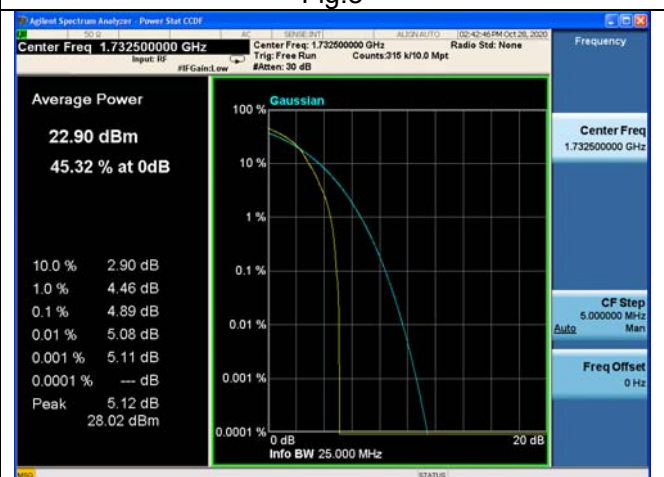


Fig.10



Fig.11

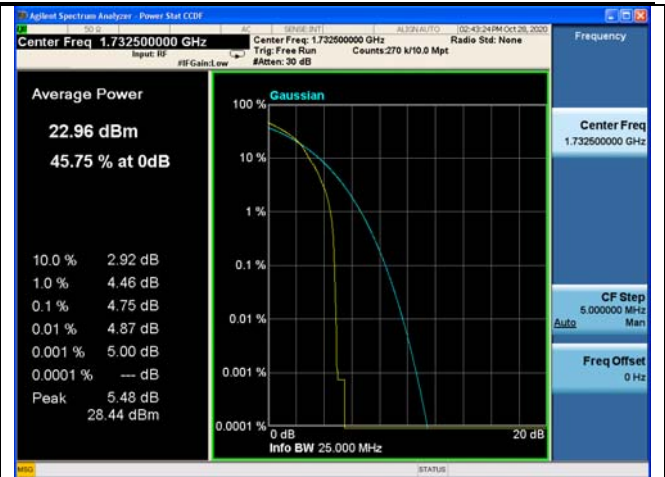


Fig.12

4 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
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

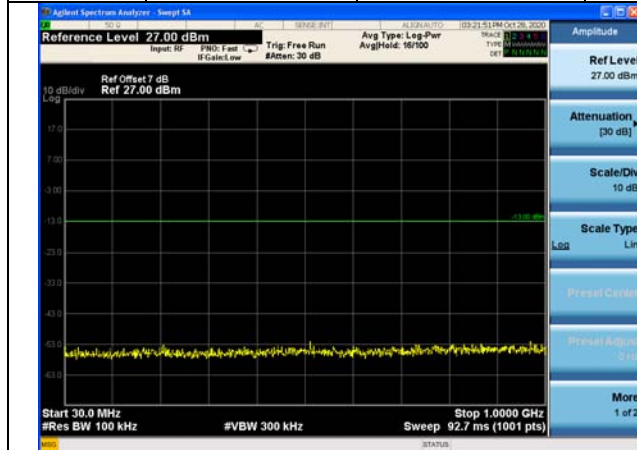


Fig.1



Fig.2

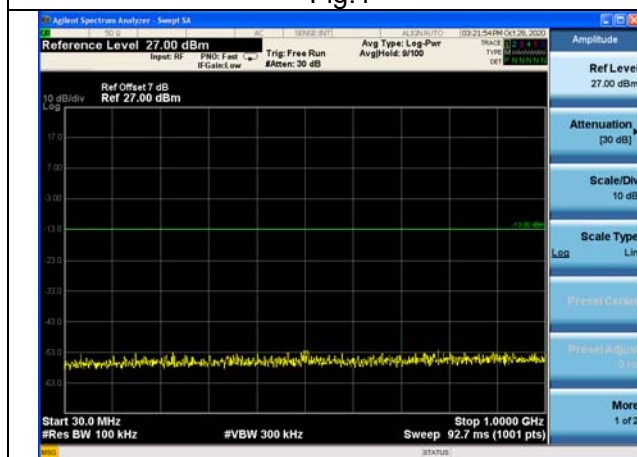


Fig3



Fig4

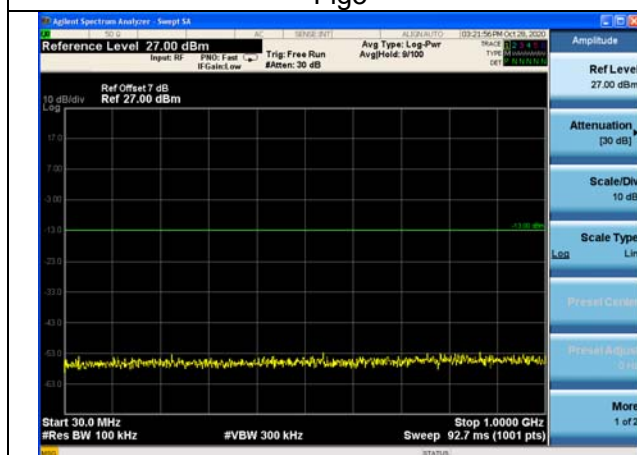


Fig5



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

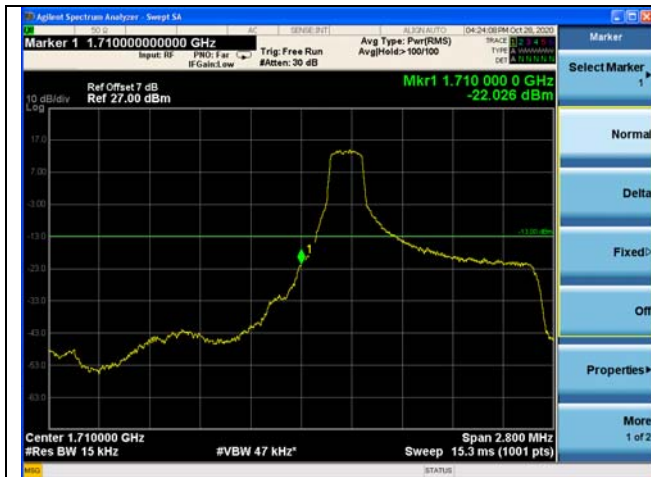


Fig.1



Fig.2

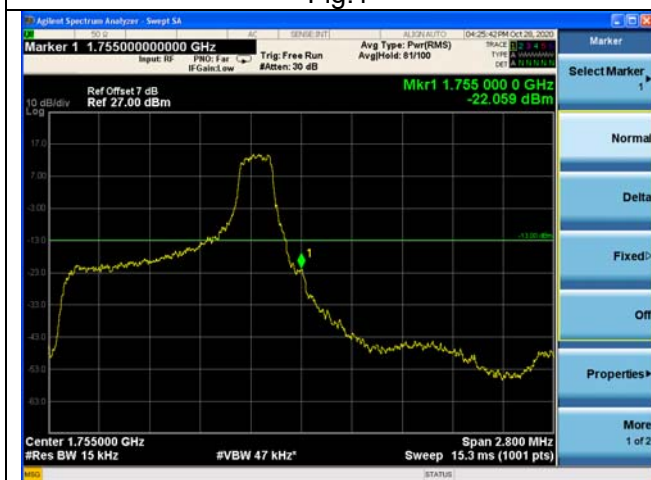


Fig.3



Fig.4

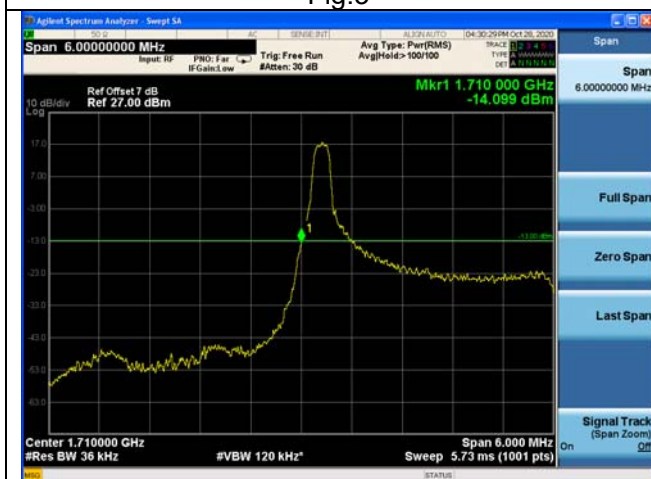


Fig.5

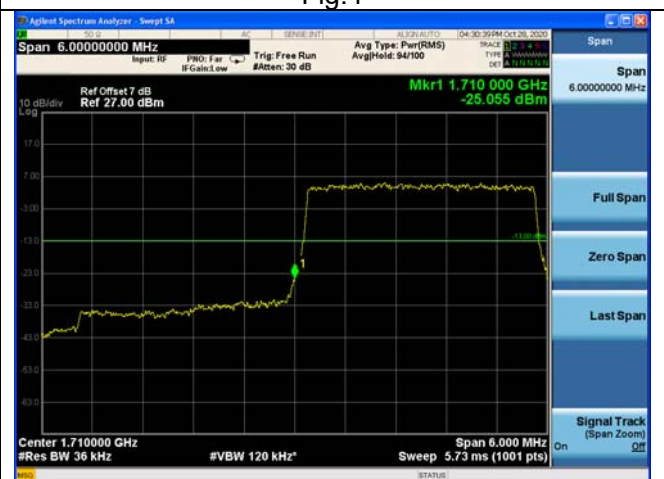


Fig.6

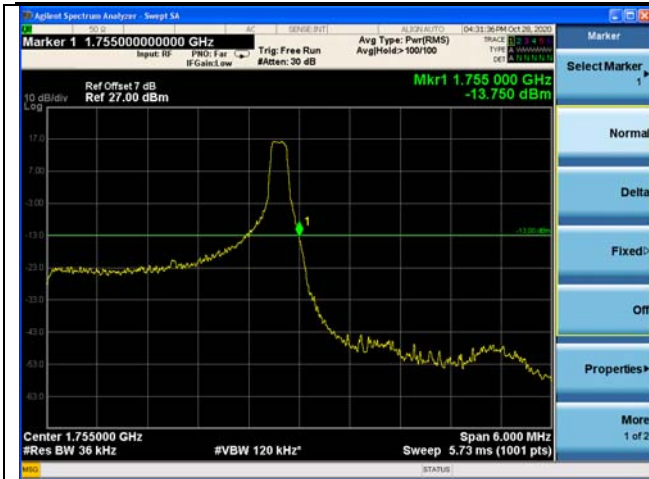


Fig.7



Fig.8

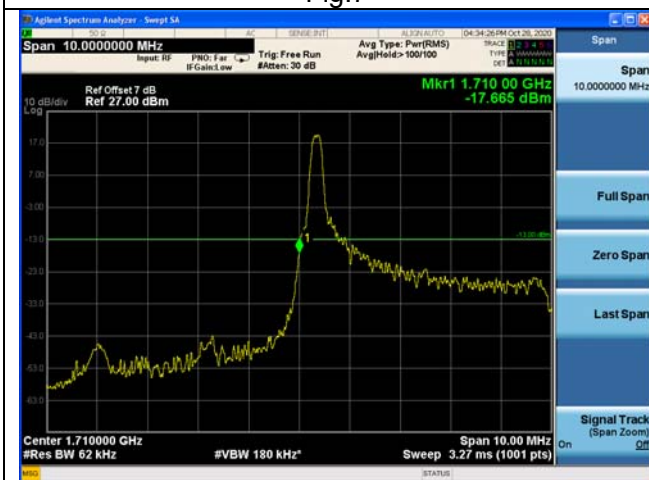


Fig.9



Fig.10

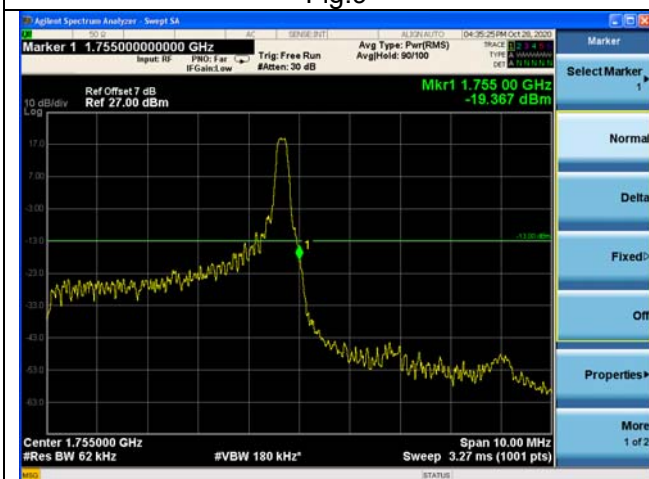


Fig.11



Fig.12

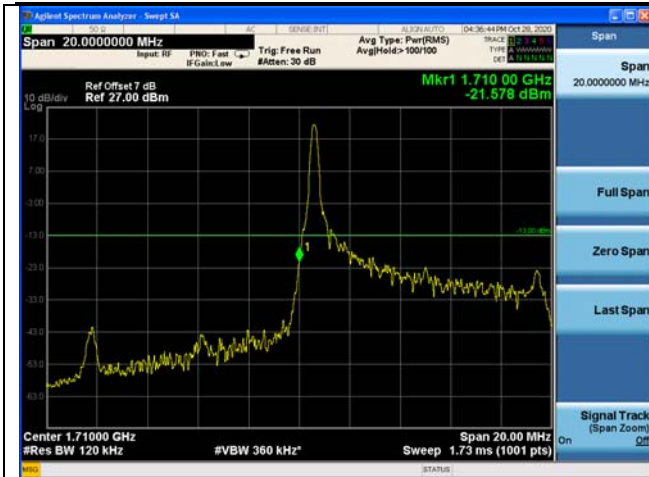


Fig.13



Fig.14

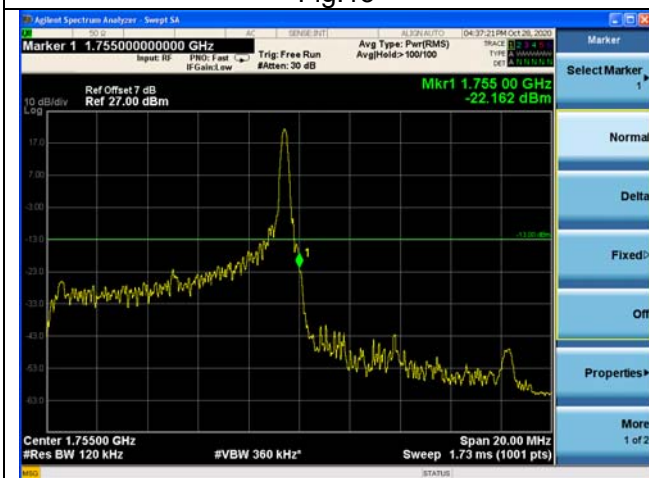


Fig.15



Fig.16

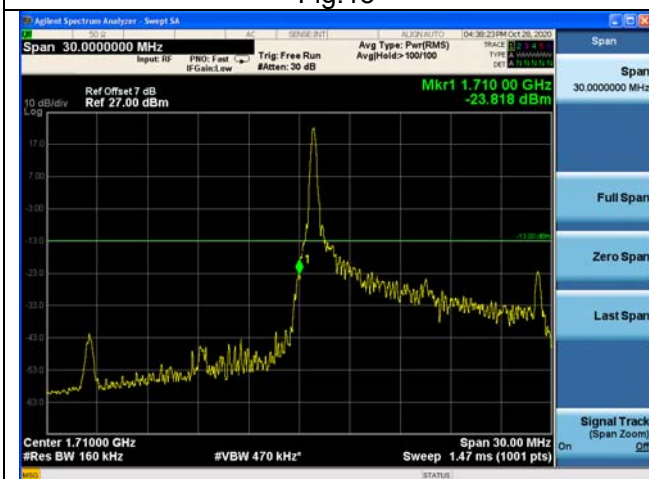


Fig.17

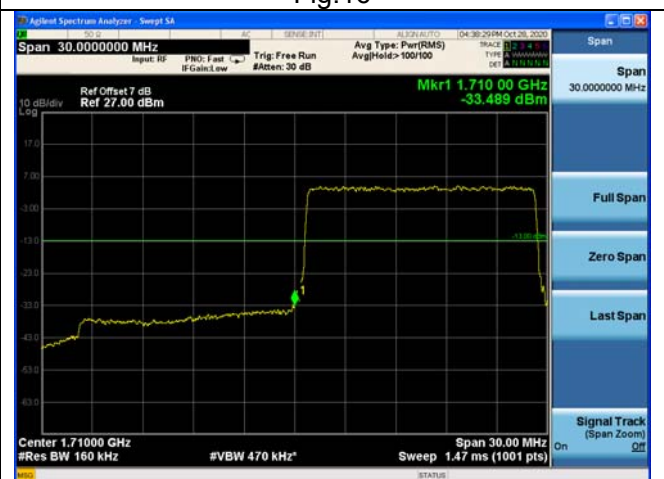


Fig.18

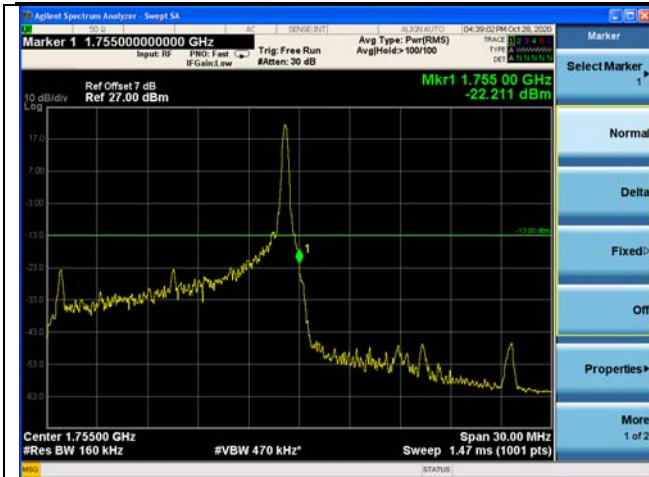


Fig.19



Fig.20

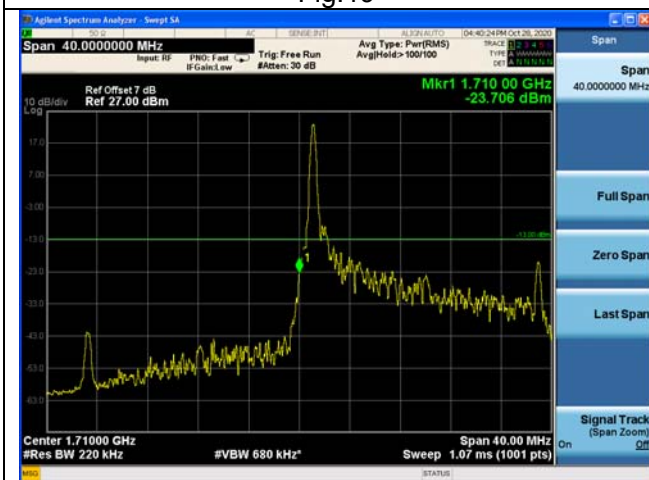


Fig.21



Fig.22

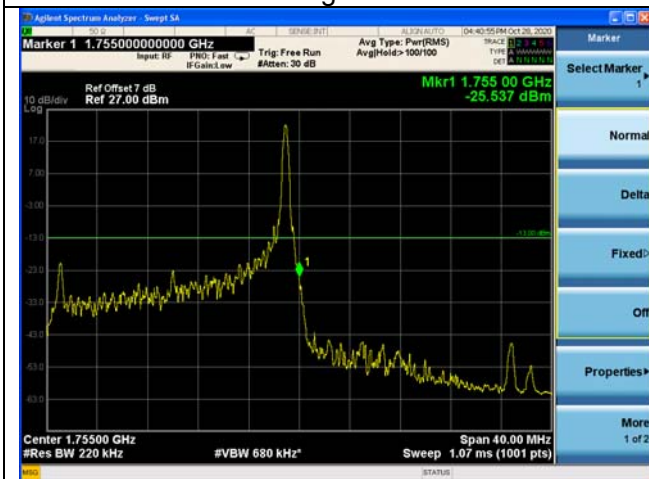


Fig.23



Fig.24

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band4 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-20	NV	0.018	-0.004	-0.003	0.010	-0.035	-0.007
-10	NV	-0.026	0.010	0.014	-0.011	-0.015	-0.032
0	NV	0.007	0.022	-0.011	0.012	-0.026	0.010
+10	NV	0.011	-0.034	0.012	0.019	-0.022	-0.011
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	0.018	0.002	0.032	-0.012	0.007	0.008
+40	NV	-0.020	0.011	0.020	0.015	0.025	0.021
+50	NV	-0.025	0.028	0.028	-0.023	0.015	0.012
+55	NV	0.004	0.001	0.016	-0.008	-0.023	0.004
+20	LV	0.006	0.011	0.001	0.012	0.012	0.033
+20	HV	-0.032	-0.036	0.013	-0.036	0.009	-0.011

Temperature(°C)	Voltage	Test Result (ppm) Band4 High Channel					
		1.4M	3M	5M	10M	15M	20M
-20	NV	0.020	-0.005	0.023	-0.013	-0.035	-0.024
-10	NV	-0.006	-0.027	0.009	0.000	0.011	0.028
0	NV	-0.021	-0.029	0.017	-0.002	-0.033	-0.003
+10	NV	-0.016	0.025	-0.035	0.012	0.034	-0.018
+20	NV	0.000	0.000	0.000	0.000	0.000	0.000
+30	NV	-0.010	-0.023	0.021	-0.020	0.015	-0.016
+40	NV	-0.035	-0.027	0.010	0.002	-0.035	-0.022
+50	NV	0.023	0.025	-0.011	-0.017	0.038	-0.003
+55	NV	0.014	-0.010	-0.035	-0.028	0.008	0.009
+20	LV	0.029	-0.021	0.005	-0.011	-0.006	-0.027
+20	HV	-0.002	-0.013	0.015	0.014	-0.036	-0.019