APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 2

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1850.7	18607	1.4	1	0	23.44
				1	5	23.42
				3	2	22.50
				6	0	22.16
	1880	18900		1	0	23.43
				1	5	23.41
				3	2	22.31
				6	0	22.45
	1909.3	19193		1	0	23.31
				1	5	23.40
				3	2	22.48
				6	0	22.34
16QAM	1850.7	18607	1.4	1	0	22.22
				1	5	22.13
				3	2	21.59
				6	0	21.49
	1880	18900		1	0	22.18
				1	5	22.30
				3	2	21.72
				6	0	21.61
	1909.3	19193		1	0	22.12
				1	5	22.20
				3	2	21.68
				6	0	21.42
64QAM	1850.7	18607	1.4	1	0	22.02
				1	5	22.22
				3	2	21.55
				6	0	21.42
	1880	18900		1	0	22.00
				1	5	22.11
				3	2	21.47
				6	0	21.47
	1909.3	19193		1	0	22.09
				1	5	22.05
				3	2	21.62
				6	0	21.29

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1851.5	18615	3	1	0	23.24
				1	14	23.23
				8	4	22.20
				15	0	22.14
	1880	18900		1	0	23.39
				1	14	23.29
				8	4	22.41
				15	0	22.44
	1908.5	19185		1	0	23.41
				1	14	23.35
				8	4	22.45
				15	0	22.35
16QAM	1851.5	18615	3	1	0	22.04
				1	14	22.10
				8	4	21.69
				15	0	21.52
	1880	18900		1	0	22.25
				1	14	22.26
				8	4	21.55
				15	0	21.43
	1908.5	19185		1	0	22.24
				1	14	22.00
				8	4	21.50
				15	0	21.38
64QAM	1851.5	18615	3	1	0	21.89
				1	14	22.21
				8	4	21.48
				15	0	21.21
	1880	18900		1	0	22.04
				1	14	22.21
				8	4	21.49
				15	0	21.55
	1908.5	19185		1	0	22.02
				1	14	22.03
				8	4	21.55
				15	0	21.23

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1852.5	18625	5	1	0	23.37
				1	24	23.45
				12	6	22.41
				25	0	22.32
	1880	18900		1	0	23.33
				1	24	23.35
				12	6	22.48
				25	0	22.24
	1907.5	19175		1	0	23.34
				1	24	23.48
				12	6	22.39
				25	0	22.27
16QAM	1852.5	18625	5	1	0	22.21
				1	24	22.20
				12	6	21.53
				25	0	21.31
	1880	18900		1	0	22.17
				1	24	22.11
				12	6	21.52
				25	0	21.42
	1907.5	19175		1	0	22.07
				1	24	22.00
				12	6	21.67
				25	0	21.55
64QAM	1852.5	18625	5	1	0	22.23
				1	24	22.18
				12	6	21.49
				25	0	21.27
	1880	18900		1	0	22.16
				1	24	21.99
				12	6	21.66
				25	0	21.33
	1907.5	19175		1	0	22.10
				1	24	22.02
				12	6	21.58
				25	0	21.26

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1855	18650	10	1	0	23.20
				1	49	23.42
				24	12	22.22
				50	0	22.28
	1880	18900		1	0	23.55
				1	49	23.41
				24	12	22.41
				50	0	22.35
	1905	19150		1	0	23.49
				1	49	23.53
				24	12	22.17
				50	0	22.20
16QAM	1855	18650	10	1	0	22.01
				1	49	22.03
				24	12	21.70
				50	0	21.41
	1880	18900		1	0	22.16
				1	49	22.13
				24	12	21.70
				50	0	21.65
	1905	19150		1	0	22.04
				1	49	22.08
				24	12	21.52
				50	0	21.42
64QAM	1855	18650	10	1	0	22.05
				1	49	22.02
				24	12	21.38
				50	0	21.42
	1880	18900		1	0	22.03
				1	49	22.06
				24	12	21.42
				50	0	21.51
	1905	19150		1	0	22.16
				1	49	22.01
				24	12	21.58
				50	0	21.55

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1857.5	18675	15	1	0	23.27
				1	74	23.42
				40	18	22.44
				75	0	22.32
	1880	18900		1	0	23.36
				1	74	23.49
				40	18	22.25
				75	0	22.35
	1902.5	19125		1	0	23.43
				1	74	23.38
				40	18	22.26
				75	0	22.23
16QAM	1857.5	18675	15	1	0	22.07
				1	74	22.22
				40	18	21.72
				75	0	21.60
	1880	18900		1	0	22.21
				1	74	22.26
				40	18	21.66
				75	0	21.67
	1902.5	19125		1	0	22.28
				1	74	21.99
				40	18	21.69
				75	0	21.53
64QAM	1857.5	18675	15	1	0	22.11
				1	74	22.11
				40	18	21.57
				75	0	21.33
	1880	18900		1	0	22.03
				1	74	22.21
				40	18	21.63
				75	0	21.57
	1902.5	19125		1	0	22.08
				1	74	22.00
				40	18	21.46
				75	0	21.22

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1860	18700	20	1	0	**23.55**
				1	99	**23.55**
				50	25	22.48
				100	0	22.50
	1880	18900		1	0	**23.56**
				1	99	**23.56**
				50	25	22.53
				100	0	22.52
	1900	19100		1	0	**23.56**
				1	99	**23.56**
				50	25	22.50
				100	0	22.43
16QAM	1860	18700	20	1	0	22.29
				1	99	22.29
				50	25	21.77
				100	0	21.65
	1880	18900		1	0	22.32
				1	99	22.32
				50	25	21.78
				100	0	21.68
	1900	19100		1	0	22.29
				1	99	22.27
				50	25	21.71
				100	0	21.66
64QAM	1860	18700	20	1	0	22.18
				1	99	22.19
				50	25	21.71
				100	0	21.53
	1880	18900		1	0	22.24
				1	99	22.23
				50	25	21.74
				100	0	21.61
	1900	19100		1	0	22.21
				1	99	22.16
				50	25	21.74
				100	0	21.51

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	
2	1850.7	18607	1.4	6	0	1.1	Fig.1	1.1	Fig.2	1.1	Fig.3
	1880.0	18900		6	0	1.1	Fig.4	1.1	Fig.5	1.1	Fig.6
	1909.3	19193		6	0	1.1	Fig.7	1.1	Fig.8	1.1	Fig.9
	1851.5	18615	3	15	0	2.7	Fig.10	2.7	Fig.11	2.7	Fig.12
	1880.0	18900		15	0	2.7	Fig.13	2.7	Fig.14	2.7	Fig.15
	1908.5	19185		15	0	2.7	Fig.16	2.7	Fig.17	2.7	Fig.18
	1852.5	18625	5	25	0	4.5	Fig.19	4.5	Fig.20	4.5	Fig.21
	1880.0	18900		25	0	4.5	Fig.22	4.5	Fig.23	4.5	Fig.24
	1907.5	19175		25	0	4.5	Fig.25	4.5	Fig.26	4.5	Fig.27
	1855	18650	10	50	0	9.0	Fig.28	9.0	Fig.29	9.0	Fig.30
	1880	18900		50	0	9.0	Fig.31	9.0	Fig.32	9.0	Fig.33
	1905	19150		50	0	9.0	Fig.34	9.0	Fig.35	9.0	Fig.36
	1857.5	18675	15	75	0	13.4	Fig.37	13.4	Fig.38	13.4	Fig.39
	1880.0	18900		75	0	13.3	Fig.40	13.3	Fig.41	13.3	Fig.42
	1902.5	19125		75	0	13.4	Fig.43	13.3	Fig.44	13.4	Fig.45
	1860	18700	20	100	0	17.8	Fig.46	17.8	Fig.47	17.8	Fig.48
	1880	18900		100	0	17.9	Fig.49	17.8	Fig.50	17.8	Fig.51
	1900	19100		100	0	17.7	Fig.52	17.9	Fig.53	17.8	Fig.54

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1850.7	18607	1.4	6	0	1.3	Fig.1	1.3	Fig.2	1.2	Fig.3
	1880.0	18900		6	0	1.3	Fig.4	1.3	Fig.5	1.3	Fig.6
	1909.3	19193		6	0	1.3	Fig.7	1.2	Fig.8	1.3	Fig.9
	1851.5	18615	3	15	0	3.0	Fig.10	3.0	Fig.11	2.9	Fig.12
	1880.0	18900		15	0	3.0	Fig.13	2.9	Fig.14	2.9	Fig.15
	1908.5	19185		15	0	3.0	Fig.16	3.0	Fig.17	2.9	Fig.18
	1852.5	18625	5	25	0	4.9	Fig.19	4.8	Fig.20	4.9	Fig.21
	1880.0	18900		25	0	4.9	Fig.22	4.8	Fig.23	4.8	Fig.24
	1907.5	19175		25	0	4.9	Fig.25	4.9	Fig.26	4.8	Fig.27
	1855	18650	10	50	0	9.9	Fig.28	9.9	Fig.29	9.8	Fig.30
	1880	18900		50	0	9.9	Fig.31	9.8	Fig.32	9.8	Fig.33
	1905	19150		50	0	9.9	Fig.34	9.6	Fig.35	9.8	Fig.36
	1857.5	18675	15	75	0	14.2	Fig.37	14.3	Fig.38	14.0	Fig.39
	1880.0	18900		75	0	14.3	Fig.40	14.0	Fig.41	14.2	Fig.42
	1902.5	19125		75	0	14.2	Fig.43	14.0	Fig.44	14.1	Fig.45
	1860	18700	20	100	0	19.1	Fig.46	19.0	Fig.47	19.0	Fig.48
	1880	18900		100	0	18.9	Fig.49	18.5	Fig.50	18.6	Fig.51
	1900	19100		100	0	19.1	Fig.52	19.1	Fig.53	18.6	Fig.54

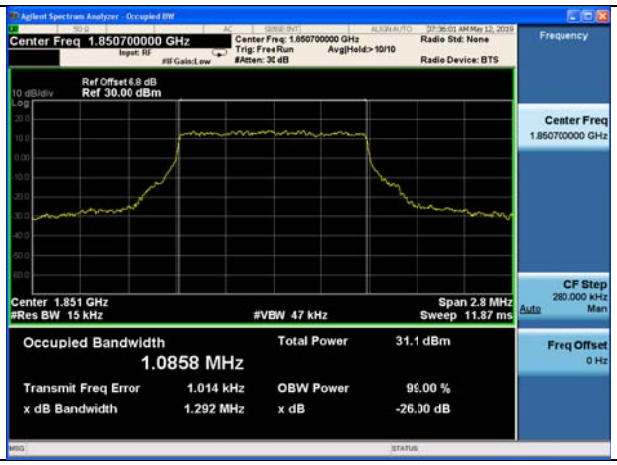


Fig.1

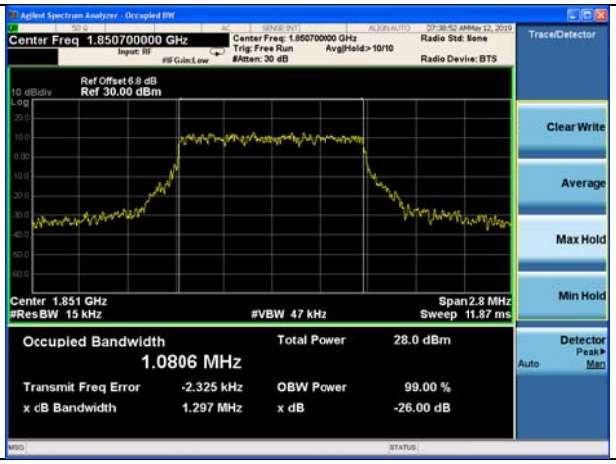


Fig.2

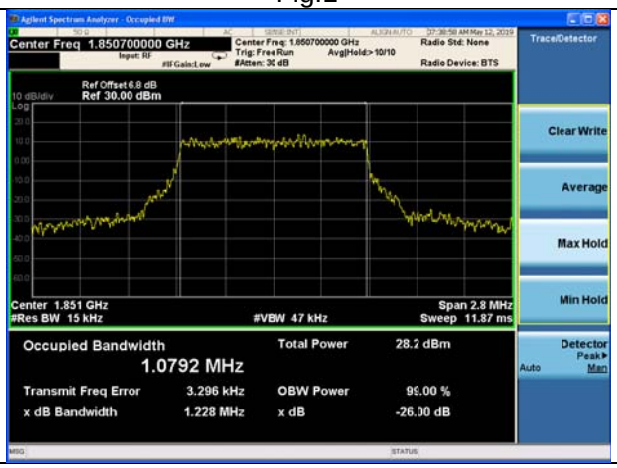


Fig.3

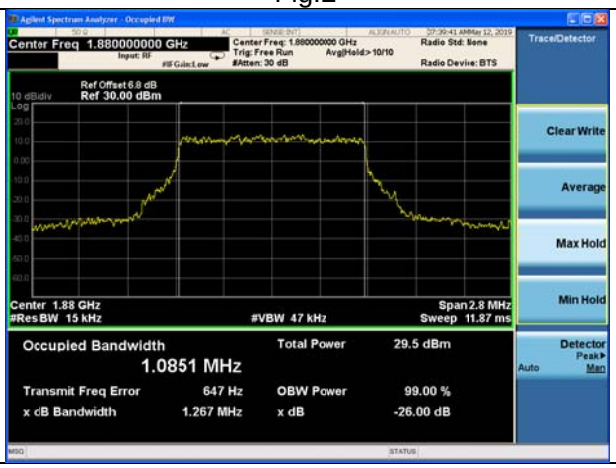


Fig.4

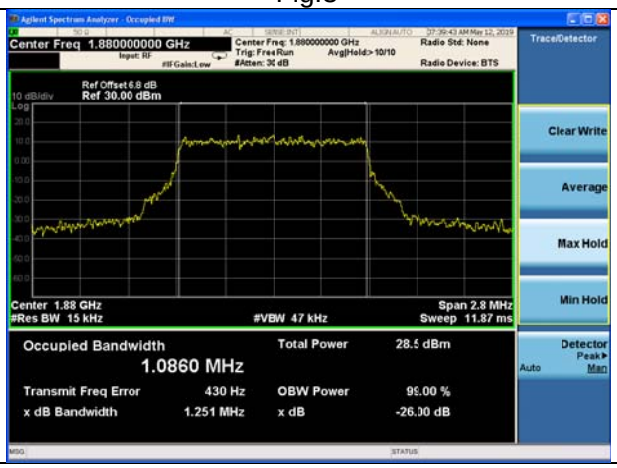


Fig.5

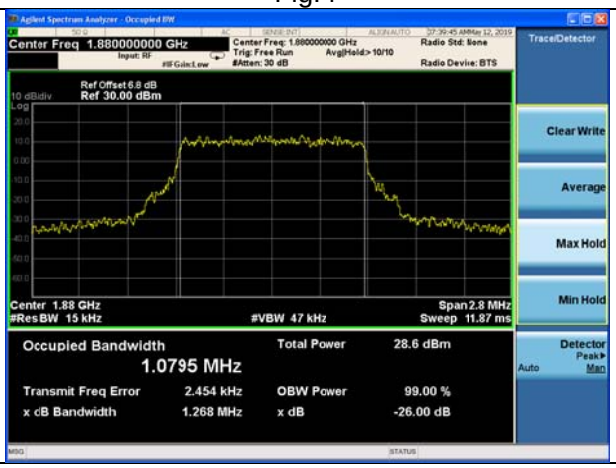


Fig.6

Fig.7

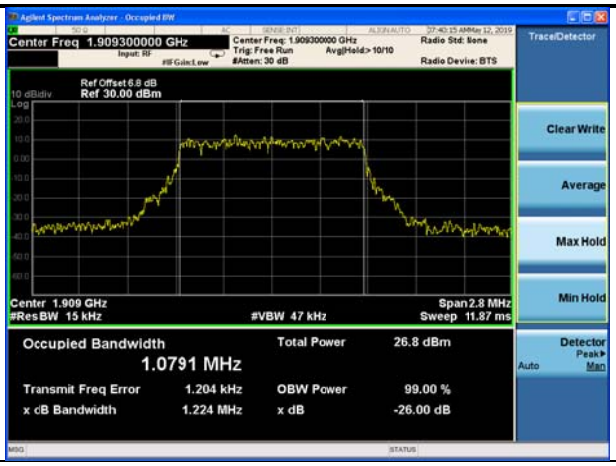


Fig.8

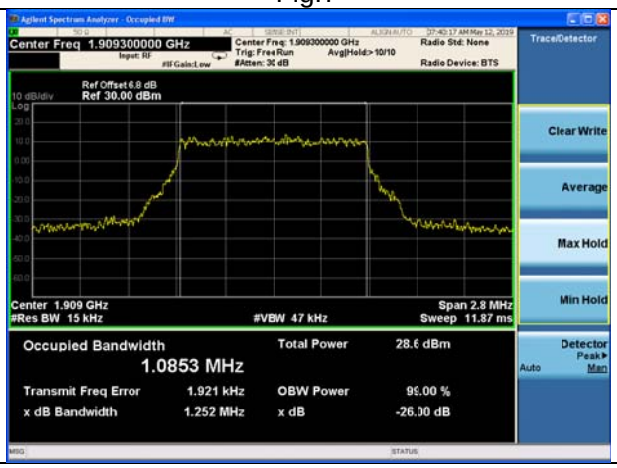


Fig.9

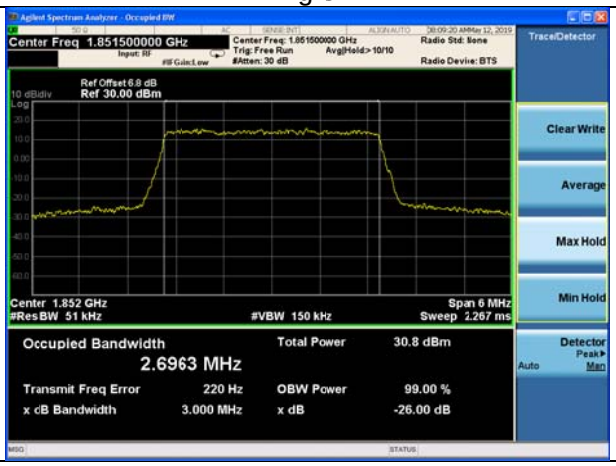


Fig.10

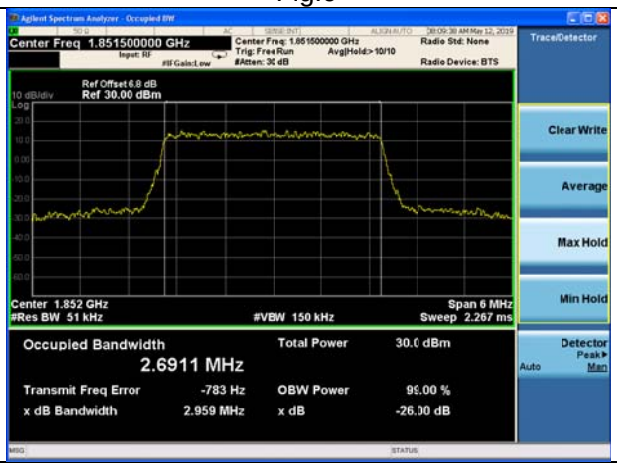


Fig.11

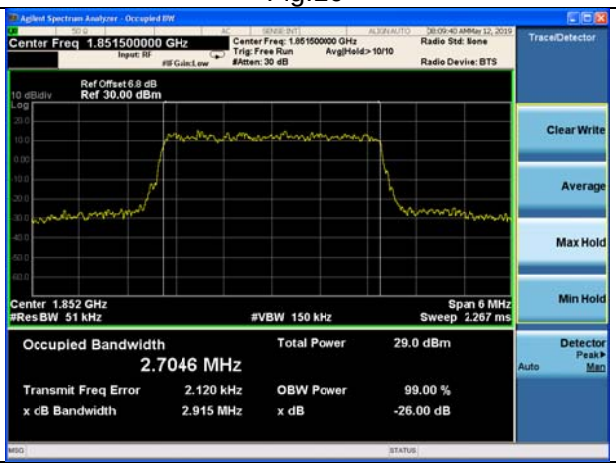


Fig.12

Fig.13

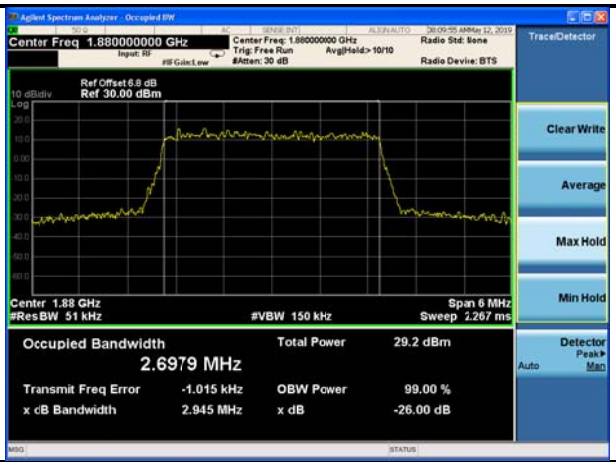
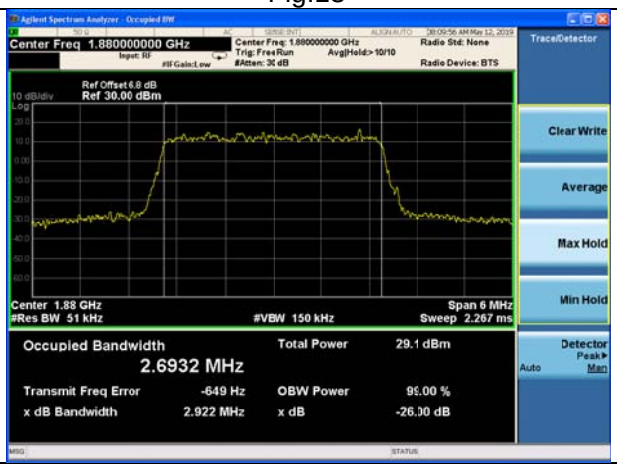


Fig.14



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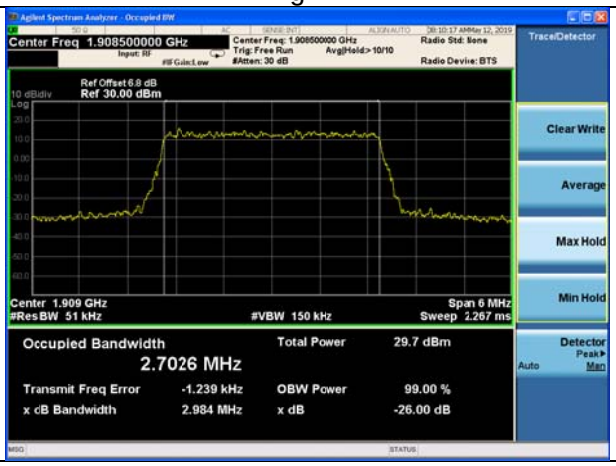


Fig.16

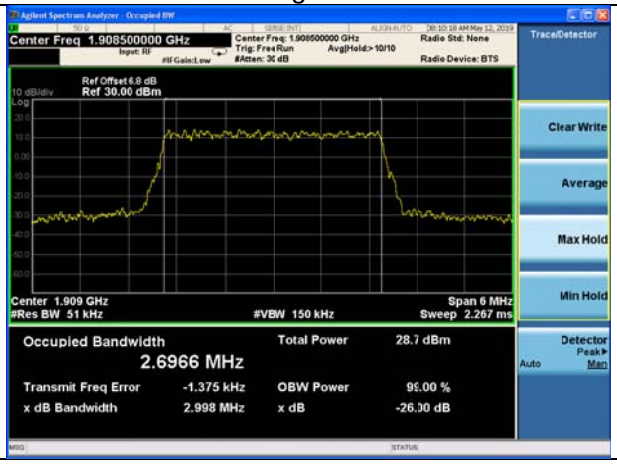


Fig.17

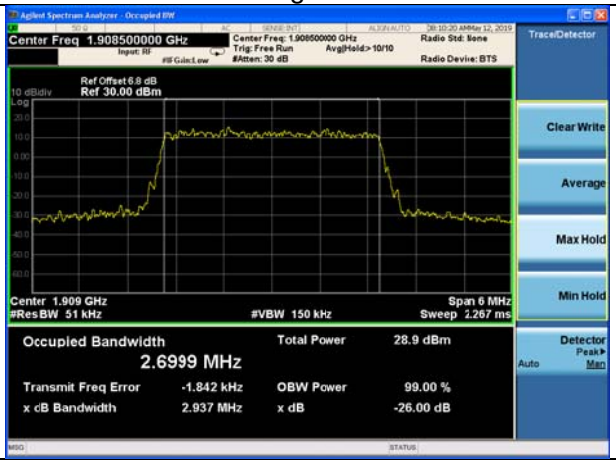


Fig.18

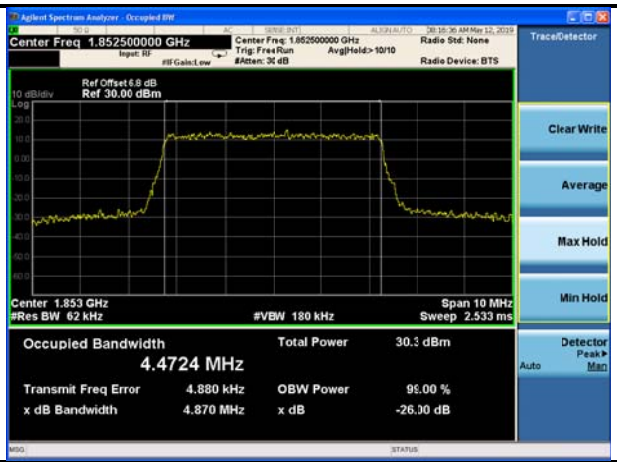


Fig.19

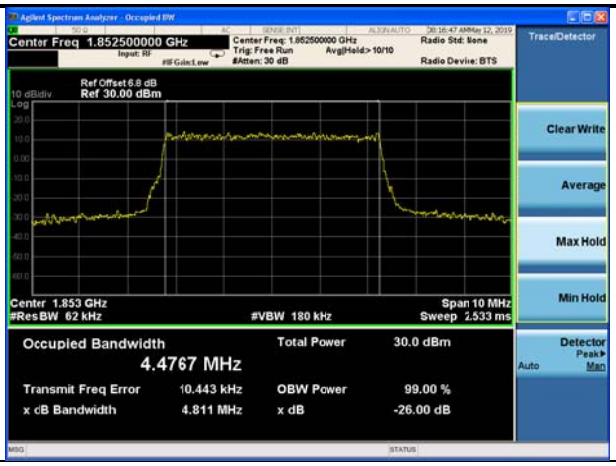


Fig.20

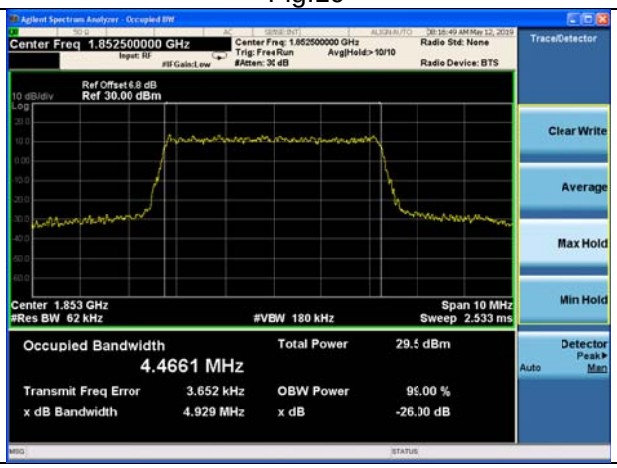


Fig.21

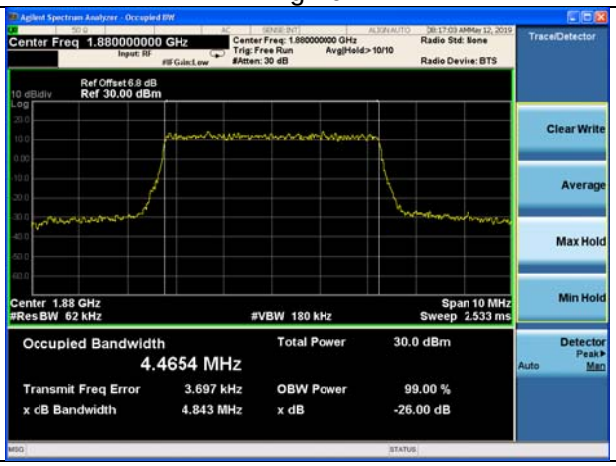
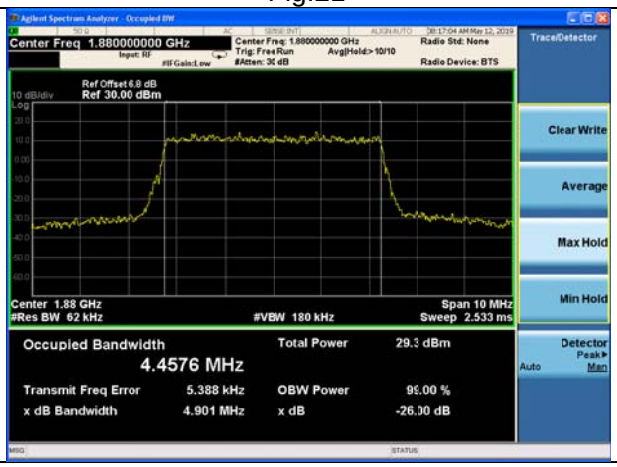


Fig.22



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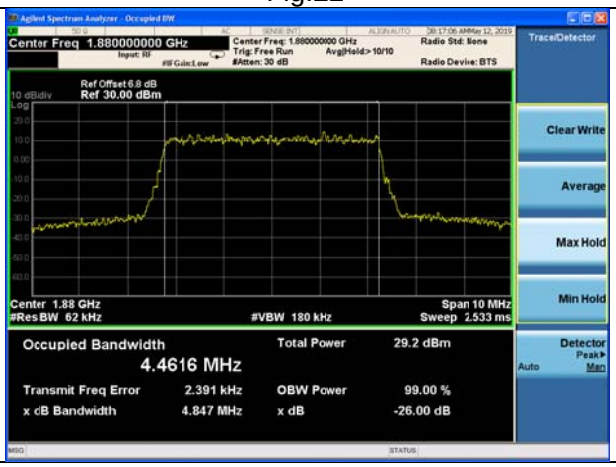


Fig.24

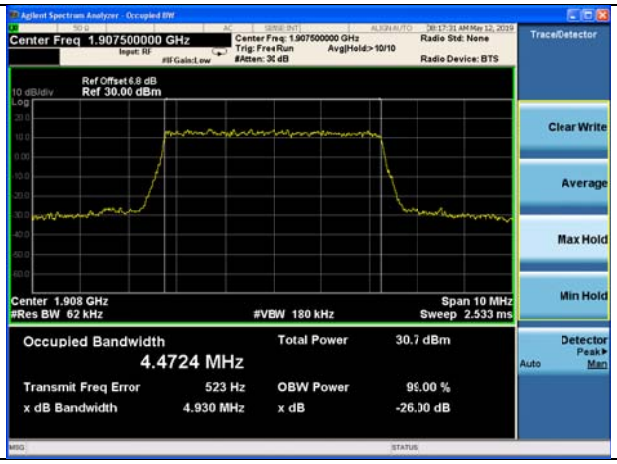


Fig.25

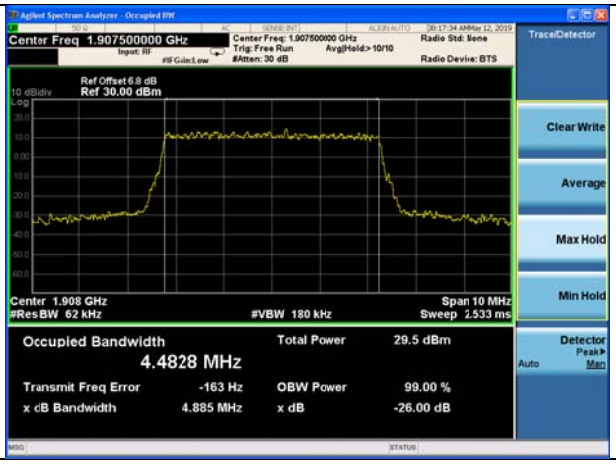


Fig.26

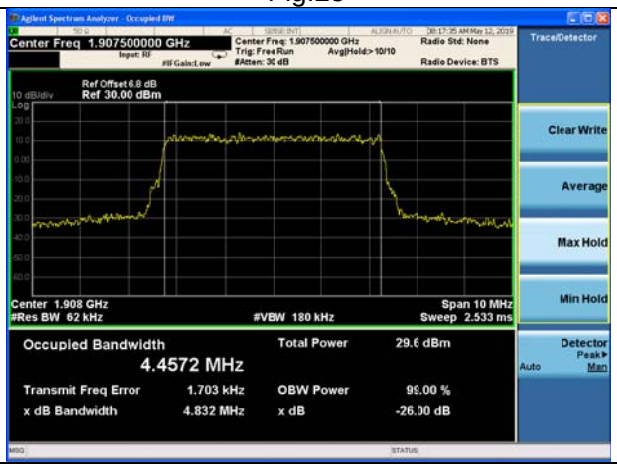


Fig.27

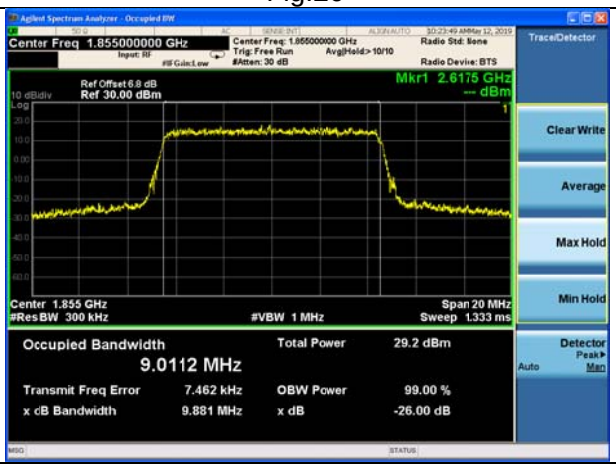
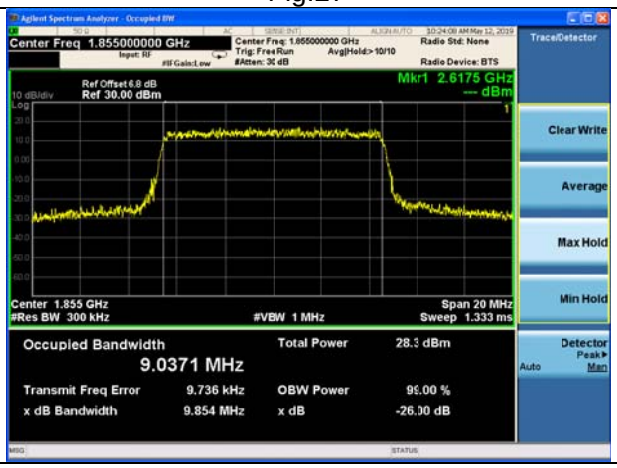


Fig.28



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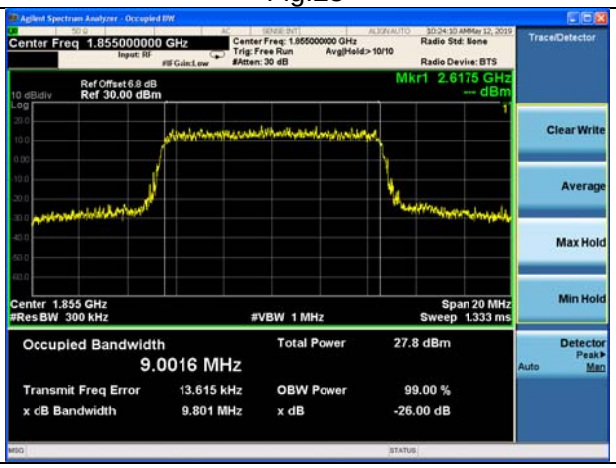
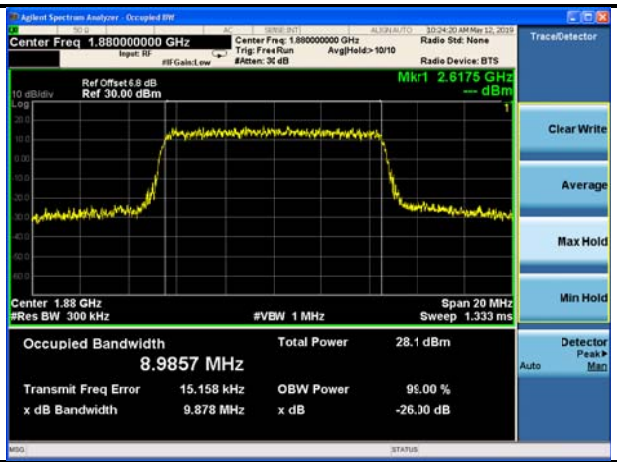


Fig.30



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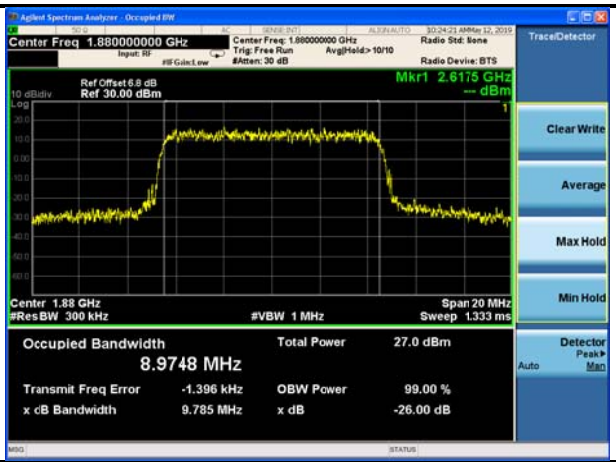

Fig.32

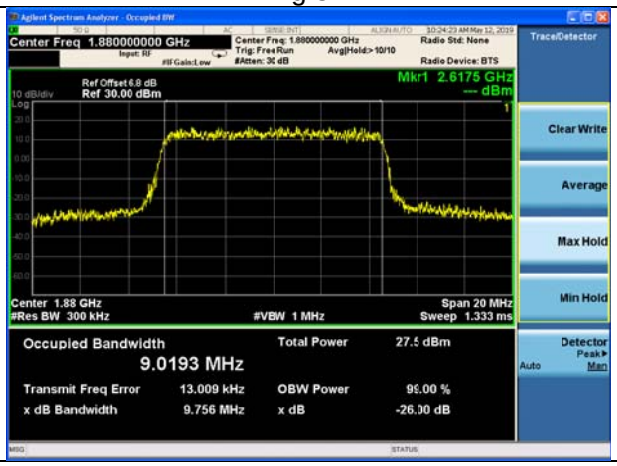

Fig.33

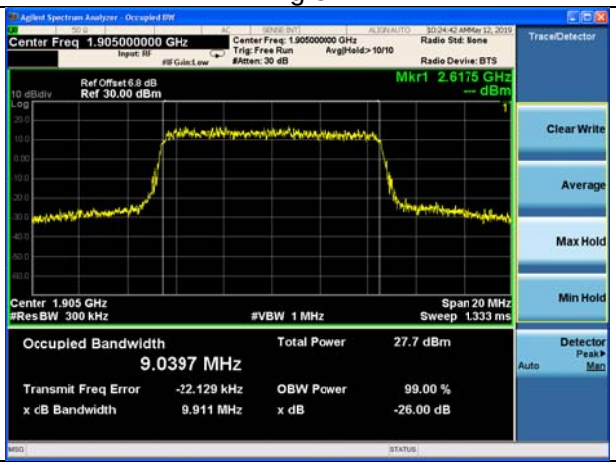

Fig.34

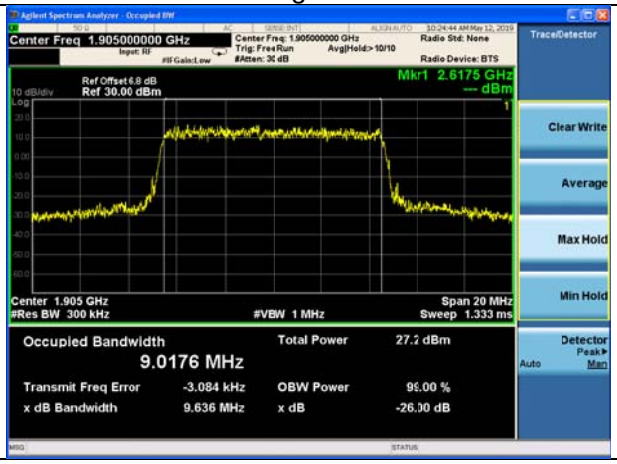

Fig.35

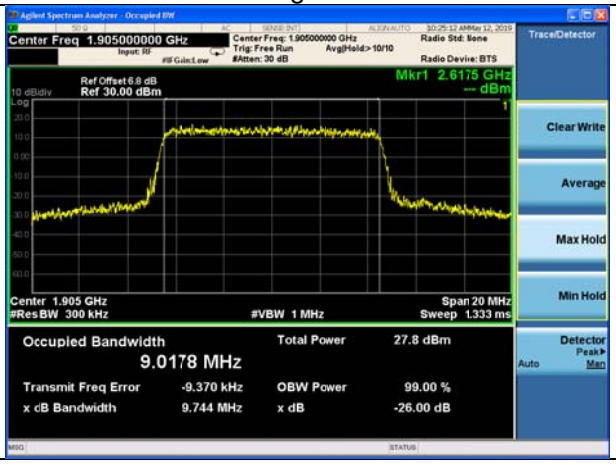

Fig.36

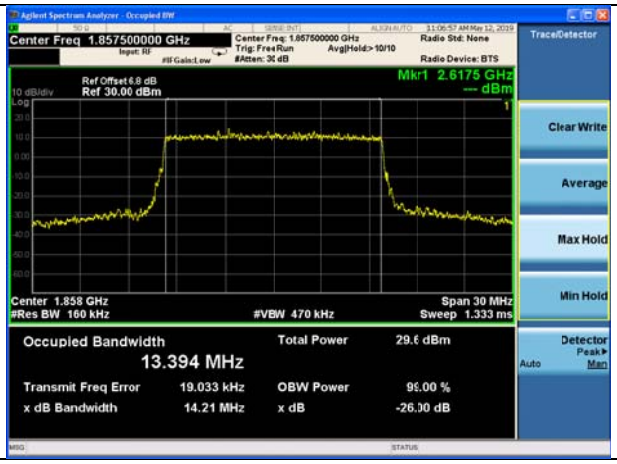

Fig.37

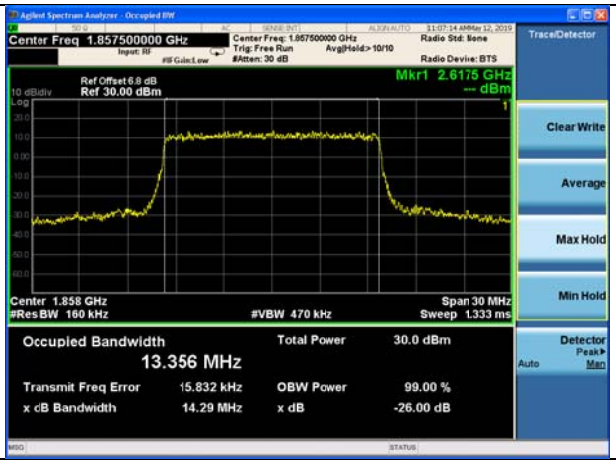

Fig.38

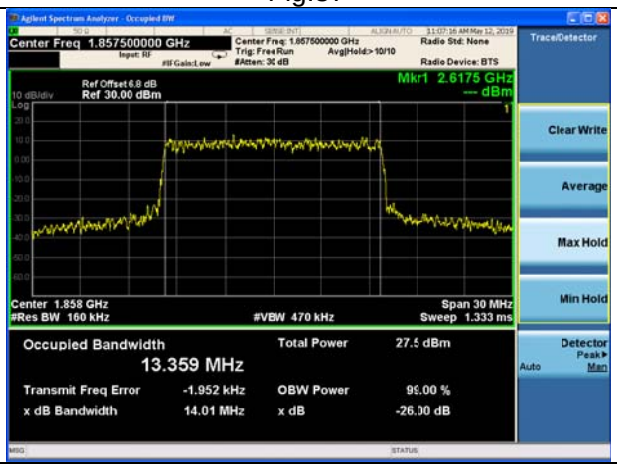

Fig.39

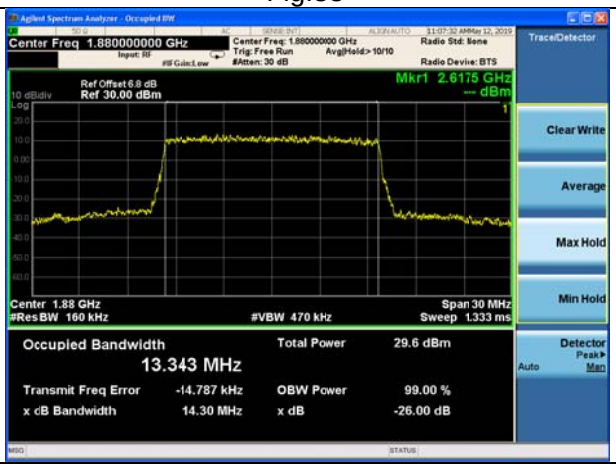

Fig.40

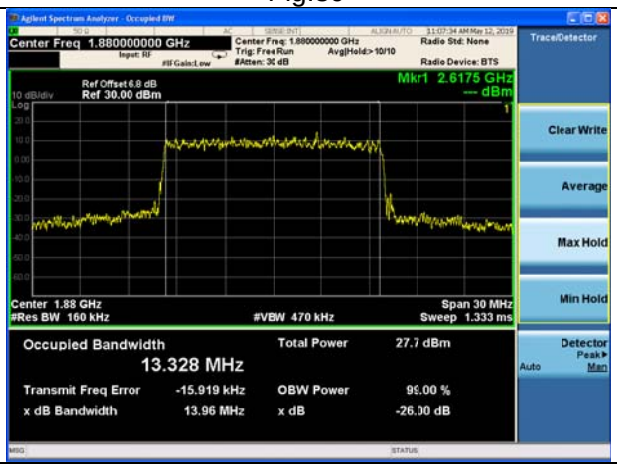

Fig.41

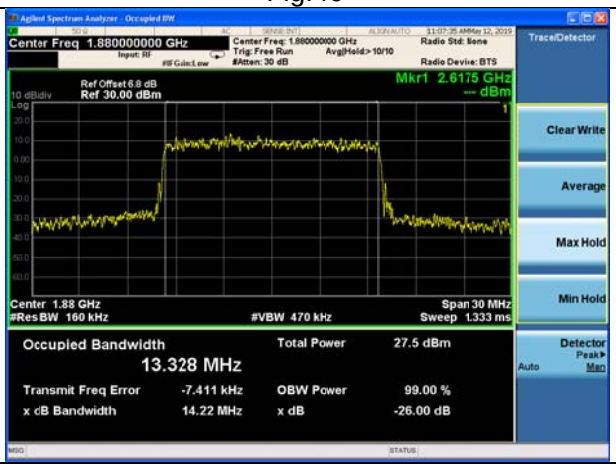

Fig.42

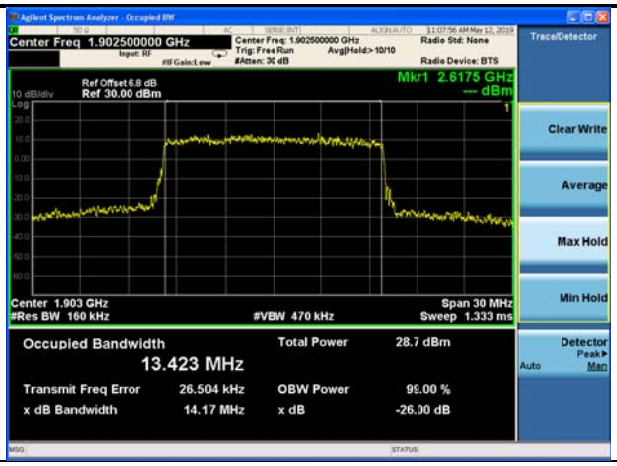

Fig.43

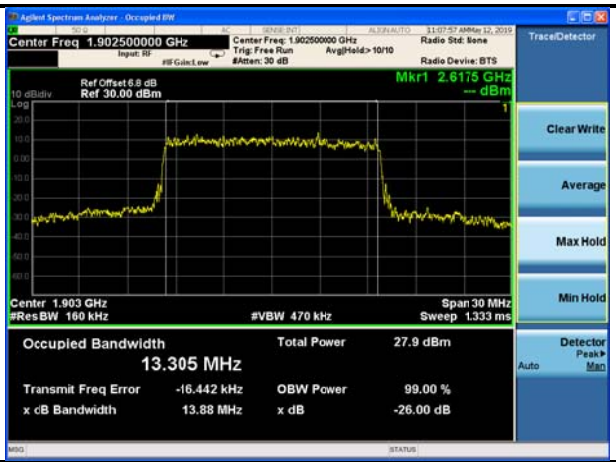

Fig.44

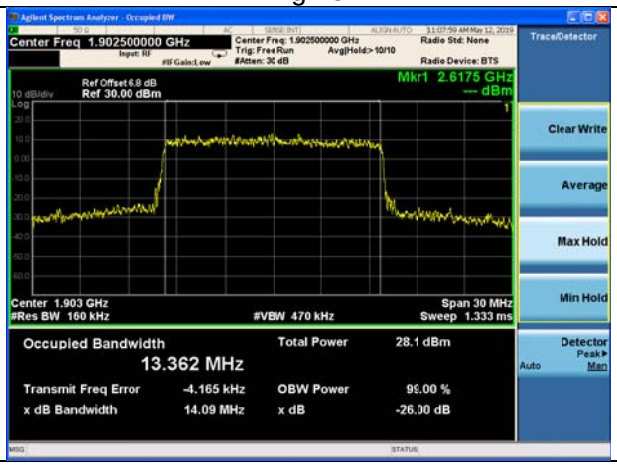

Fig.45

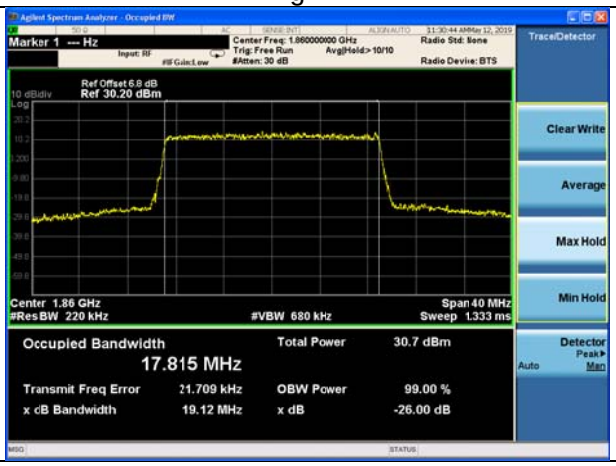

Fig.46

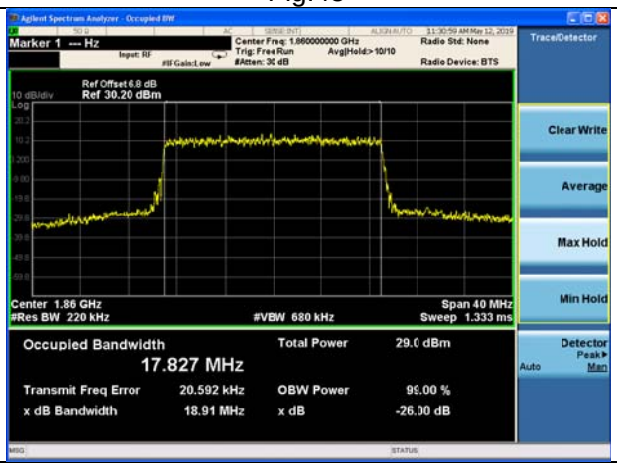

Fig.47

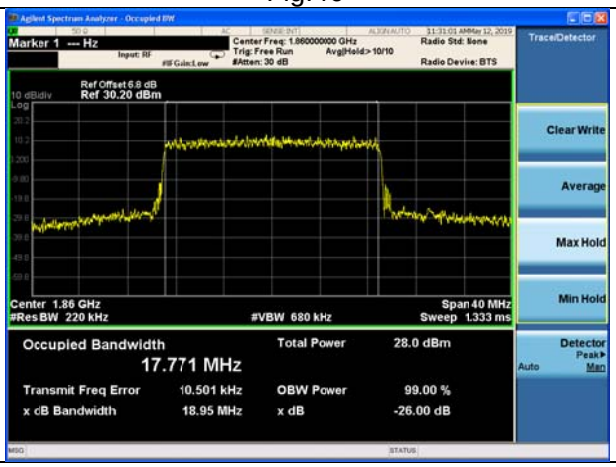

Fig.48

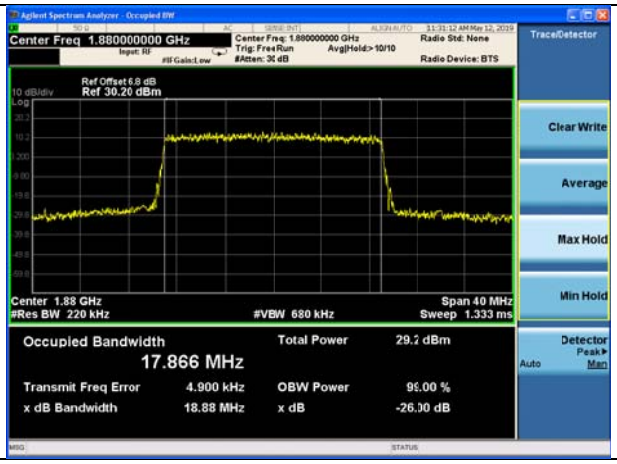

Fig.49

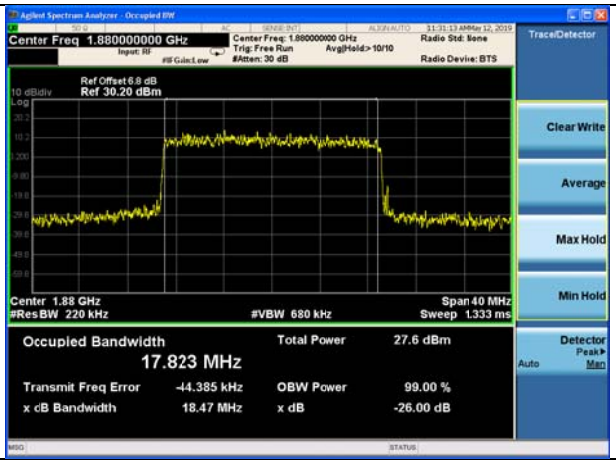

Fig.50

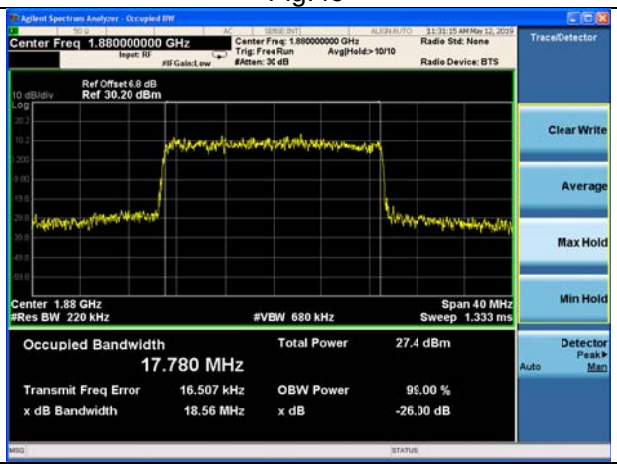

Fig.51

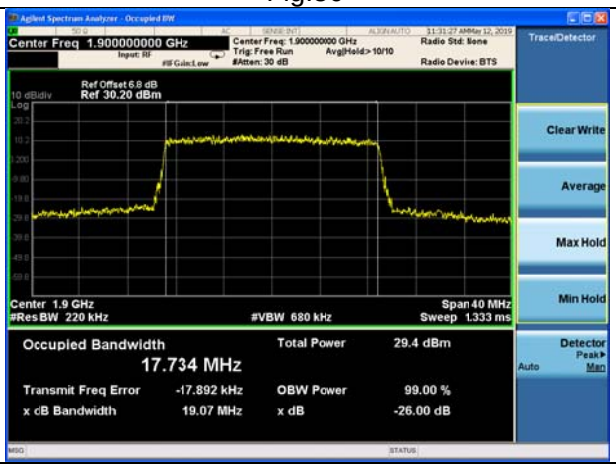

Fig.52

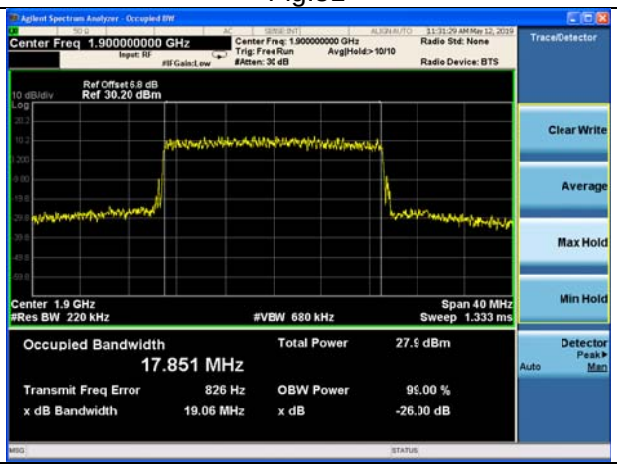

Fig.53

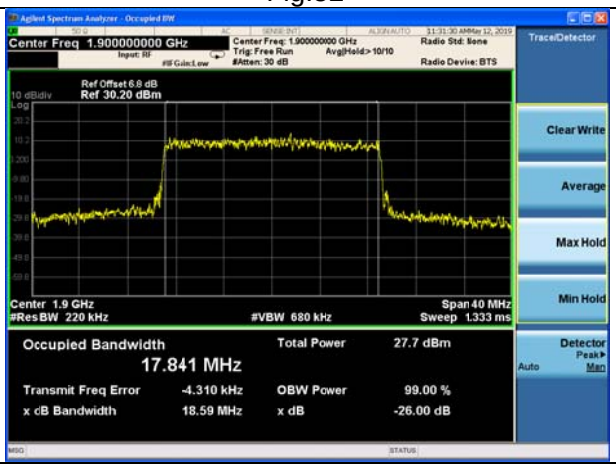

Fig.54

3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
2	1880.0	18900	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

Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 1.880000000 GHz
Center Freq: 1.880000000 GHz
Trig: Free Run
Counts:955 k/10.0 Mpt
#Atten: 30 dB
Radio Std: None
Frequency
Average Power
21.71 dBm
42.02 % at 0dB
10.0 % 2.99 dB
1.0 % 5.35 dB
0.1 % 5.57 dB
0.01 % 5.63 dB
0.001 % 5.66 dB
0.0001 % --- dB
Peak 5.73 dB
27.44 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 25.000 MHz
Center Freq
1.880000000 GHz
CF Step
25.000000 MHz
Auto Man
Freq Offset
0 Hz

Fig.17

Agilent Spectrum Analyzer - Power Stat CCDF
Center Freq 1.880000000 GHz
Center Freq: 1.880000000 GHz
Trig: Free Run
Counts:1.58 M/10.0 Mpt
#Atten: 30 dB
Radio Std: None
Frequency
Average Power
21.43 dBm
42.42 % at 0dB
10.0 % 3.00 dB
1.0 % 5.20 dB
0.1 % 5.72 dB
0.01 % 5.81 dB
0.001 % 5.85 dB
0.0001 % 5.87 dB
Peak 6.03 dB
27.46 dBm
Gaussian
100 %
10 %
1 %
0.1 %
0.01 %
0.001 %
0.0001 %
0 dB
20 dB
Info BW 25.000 MHz
Center Freq
1.880000000 GHz
CF Step
25.000000 MHz
Auto Man
Freq Offset
0 Hz

Fig.18

4 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
2	1860	18700	20	1	0	Fig.1
	1880	18900	20	1	0	Fig.2
	1900	19100	20	1	0	Fig.3

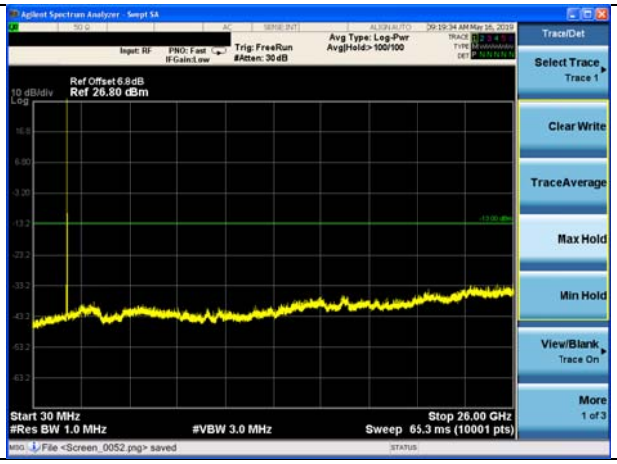

Fig.1

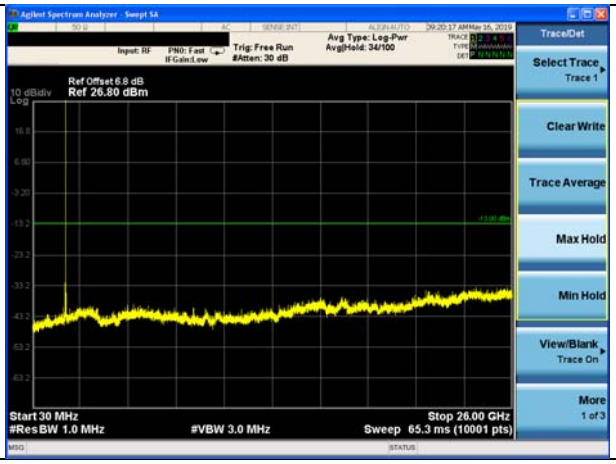

Fig.2

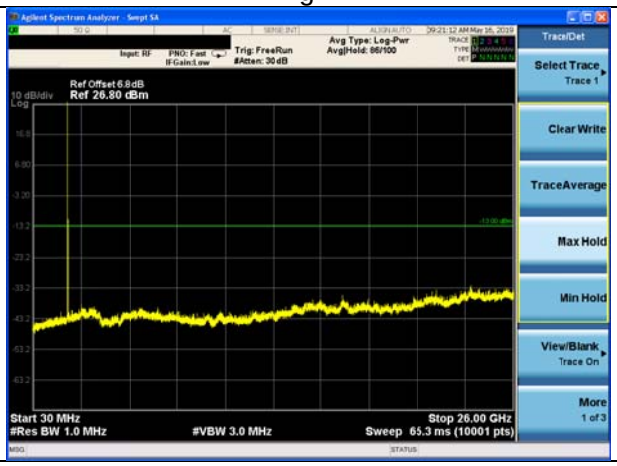

Fig3

5 Band Edges Compliance

Test result

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
2	1850.7	18607	1.4	1	0	Fig.1
				6	0	Fig.2
	1909.3	19193		1	5	Fig.3
				6	0	Fig.4
	1851.5	18615	3	1	0	Fig.5
				15	0	Fig.6
	1908.5	19185		1	14	Fig.7
				15	0	Fig.8
	1852.5	18625	5	1	0	Fig.9
				25	0	Fig.10
	1907.5	19175		1	24	Fig.11
				25	0	Fig.12
	1855	18650	10	1	0	Fig.13
				50	0	Fig.14
	1905	19150		1	49	Fig.15
				50	0	Fig.16
	1857.5	18675	15	1	0	Fig.17
				75	0	Fig.18
	1902.5	19125		1	74	Fig.19
				75	0	Fig.20
	1860	18700	20	1	0	Fig.21
				100	0	Fig.22
	1900	19100		1	99	Fig.23
				100	0	Fig.24

Fig.1

Fig.2

Fig.3

Fig.4

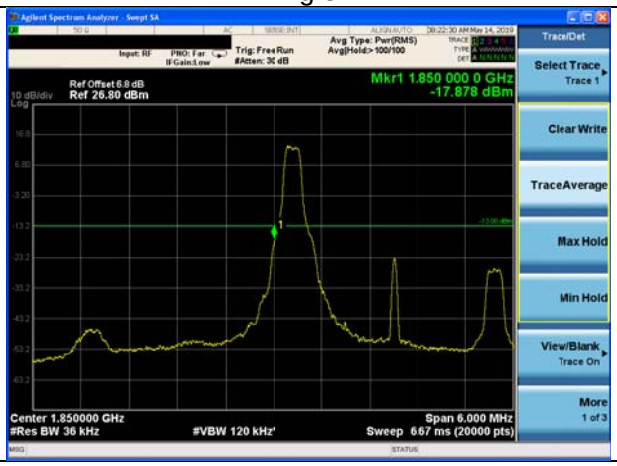

Fig.5

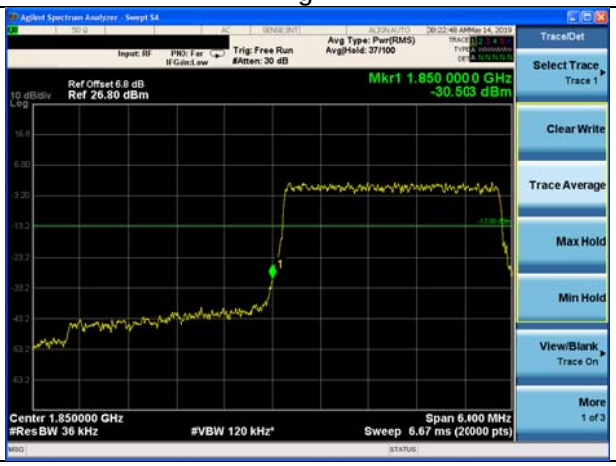

Fig.6

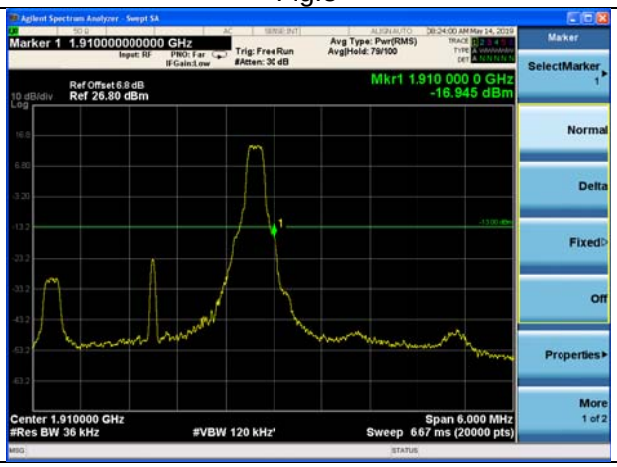

Fig.7

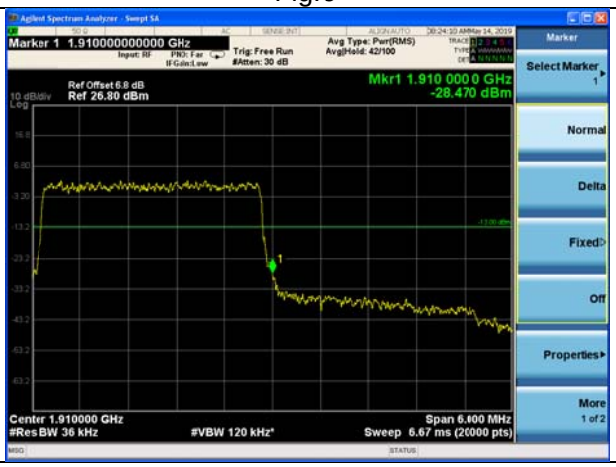

Fig.8

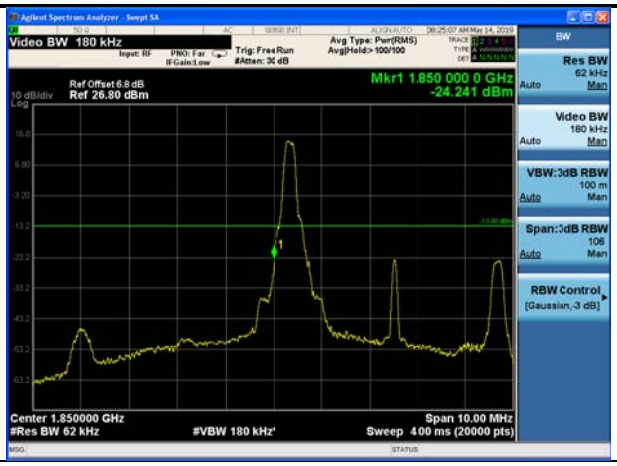

Fig.9

Fig.10

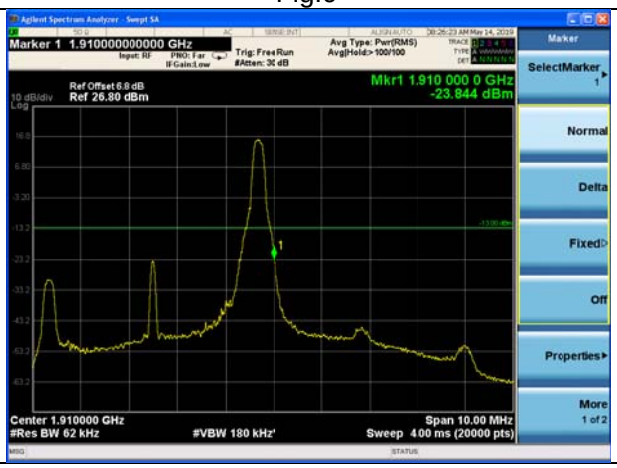

Fig.11

Fig.12

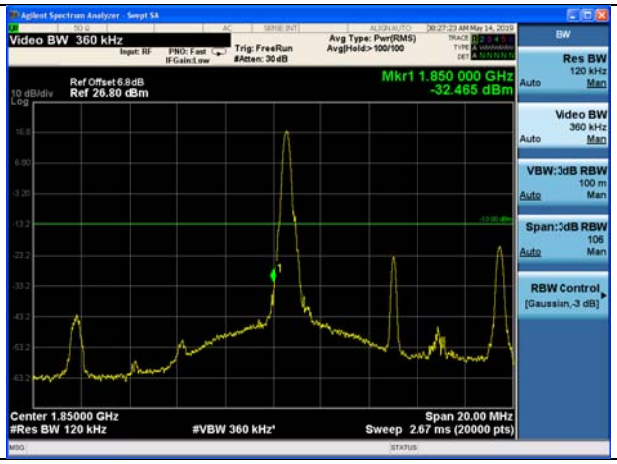

Fig.13

Fig.14

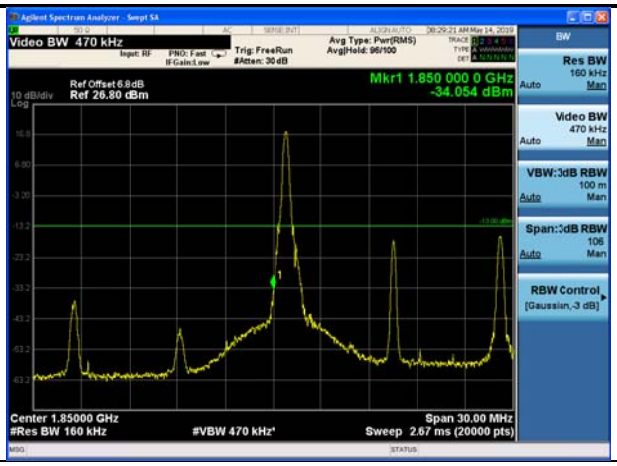

Fig.15

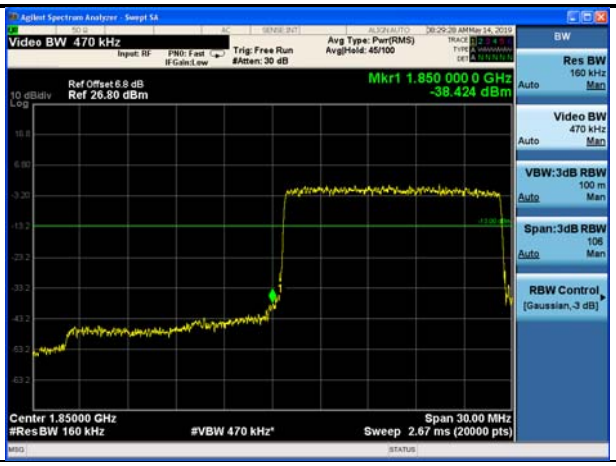

Fig.16

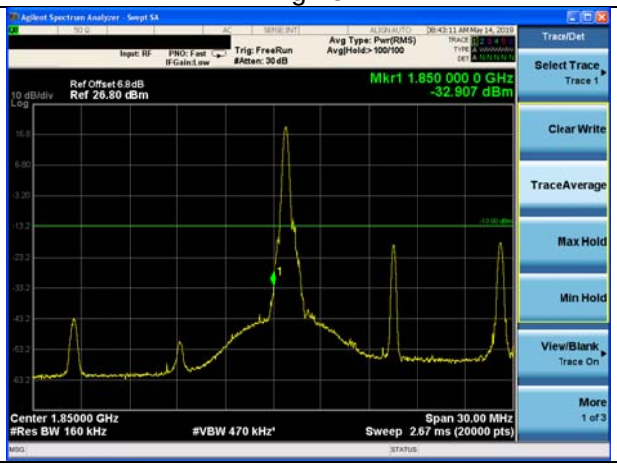

Fig.17

Fig.18

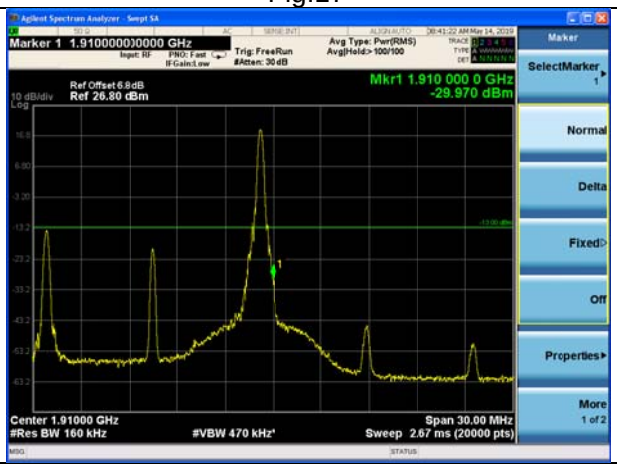

Fig.19

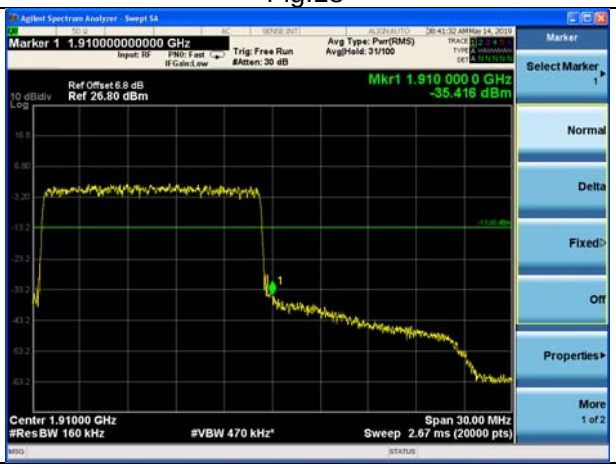

Fig.20

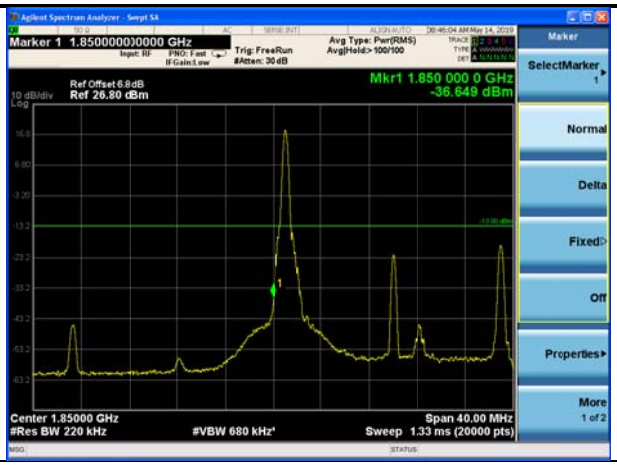

Fig.21

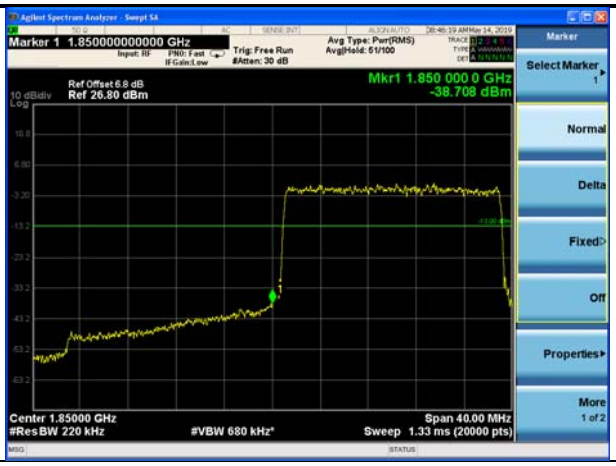

Fig.22

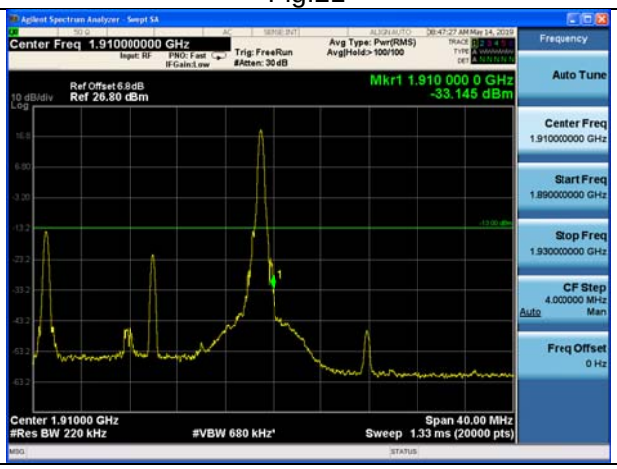

Fig.23

Fig.24

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band2 Low Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.105	-0.001	0.023	0.120	0.135	0.097
0	NV	0.004	0.026	0.012	0.110	0.007	0.120
+10	NV	0.021	0.058	0.086	0.030	0.063	0.118
+20	NV	0.016	0.048	0.074	0.043	0.016	0.116
+30	NV	0.103	0.107	0.012	0.066	0.039	0.068
+40	NV	0.067	0.018	0.003	0.120	0.058	0.027
+50	NV	0.066	0.017	0.150	0.020	0.097	0.047
+20	LV	0.044	0.004	0.078	0.068	0.134	0.038
+20	HV	0.095	0.101	0.126	0.087	0.041	0.068

Temperature(°C)	Voltage	Test Result (ppm) Band2 High Channel					
		1.4M	3M	5M	10M	15M	20M
-10	NV	0.068	0.089	0.062	0.032	0.032	0.137
0	NV	0.070	0.048	0.106	0.005	0.096	0.159
+10	NV	0.007	0.097	0.148	0.019	0.109	0.003
+20	NV	0.110	0.101	0.090	0.027	0.098	0.067
+30	NV	0.082	0.011	0.092	0.092	0.049	0.111
+40	NV	0.032	0.104	0.053	0.084	0.014	0.151
+50	NV	0.108	0.003	0.109	0.100	0.011	0.111
+20	LV	0.106	0.011	0.088	0.007	0.024	0.054
+20	HV	0.067	0.048	0.067	0.044	0.128	0.088