

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 7

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2502.5	20775	5	1	0	23.11
				1	24	23.21
				12	6	22.39
				25	0	22.52
	2535	21100		1	0	23.07
				1	24	23.17
				12	6	22.60
				25	0	22.48
	2567.5	21425		1	0	23.00
				1	24	23.04
				12	6	22.46
				25	0	22.36
16QAM	2502.5	20775	5	1	0	22.21
				1	24	22.20
				12	6	21.60
				25	0	21.68
	2535	21100		1	0	22.20
				1	24	22.27
				12	6	21.64
				25	0	21.72
	2567.5	21425		1	0	22.14
				1	24	22.26
				12	6	21.61
				25	0	21.40
64QAM	2502.5	20775	5	1	0	22.19
				1	24	22.20
				12	6	21.57
				25	0	21.60
	2535	21100		1	0	22.27
				1	24	22.12
				12	6	21.70
				25	0	21.73
	2567.5	21425		1	0	22.19
				1	24	22.12
				12	6	21.59
				25	0	21.54

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2505	20800	10	1	0	23.24
				1	49	23.06
				24	12	22.34
				50	0	22.37
	2535	21100		1	0	23.12
				1	49	23.07
				24	12	22.47
				50	0	22.38
	2565	21400		1	0	23.08
				1	49	23.11
				24	12	22.47
				50	0	22.43
16QAM	2505	20800	10	1	0	22.13
				1	49	22.21
				24	12	21.80
				50	0	21.48
	2535	21100		1	0	22.23
				1	49	22.37
				24	12	21.84
				50	0	21.51
	2565	21400		1	0	22.13
				1	49	22.38
				24	12	21.63
				50	0	21.60
64QAM	2505	20800	10	1	0	22.28
				1	49	22.27
				24	12	21.68
				50	0	21.51
	2535	21100		1	0	22.29
				1	49	22.08
				24	12	21.71
				50	0	21.69
	2565	21400		1	0	22.06
				1	49	22.12
				24	12	21.63
				50	0	21.40

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2507.5	20825	15	1	0	23.26
				1	74	23.30
				40	18	22.55
				75	0	22.42
	2535	21100		1	0	23.08
				1	74	23.27
				40	18	22.54
				75	0	22.46
	2562.5	21375		1	0	23.07
				1	74	23.06
				40	18	22.53
				75	0	22.44
16QAM	2507.5	20825	15	1	0	22.27
				1	74	22.16
				40	18	21.73
				75	0	21.54
	2535	21100		1	0	22.11
				1	74	22.38
				40	18	21.81
				75	0	21.66
	2562.5	21375		1	0	22.22
				1	74	22.20
				40	18	21.72
				75	0	21.66
64QAM	2507.5	20825	15	1	0	22.10
				1	74	22.04
				40	18	21.59
				75	0	21.64
	2535	21100		1	0	22.00
				1	74	22.14
				40	18	21.76
				75	0	21.65
	2562.5	21375		1	0	22.03
				1	74	22.14
				40	18	21.81
				75	0	21.62

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2510	20850	20	1	0	23.35
				1	99	23.35
				50	25	22.65
				100	0	22.59
	2535	21100		1	0	23.36
				1	99	23.36
				50	25	22.68
				100	0	22.67
	2560	21350		1	0	23.31
				1	99	23.31
				50	25	22.62
				100	0	22.66
16QAM	2510	20850	20	1	0	22.34
				1	99	22.37
				50	25	21.82
				100	0	21.66
	2535	21100		1	0	22.38
				1	99	22.38
				50	25	21.86
				100	0	21.76
	2560	21350		1	0	22.29
				1	99	22.33
				50	25	21.80
				100	0	21.72
64QAM	2510	20850	20	1	0	22.22
				1	99	22.31
				50	25	21.84
				100	0	21.69
	2535	21100		1	0	22.30
				1	99	22.33
				50	25	21.84
				100	0	21.74
	2560	21350		1	0	22.23
				1	99	22.29
				50	25	21.83
				100	0	21.67

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	
7	2502.5	20775	5	25	0	4.5	Fig.1	4.5	Fig.2	4.5	Fig.3
	2535	21100		25	0	4.5	Fig.4	4.5	Fig.5	4.5	Fig.6
	2567.5	21425		25	0	4.5	Fig.7	4.5	Fig.8	4.5	Fig.9
	2505	20800	10	50	0	9.0	Fig.10	9.0	Fig.11	9.0	Fig.12
	2535	21100		50	0	9.0	Fig.13	9.0	Fig.14	9.0	Fig.15
	2565	21400		50	0	9.0	Fig.16	9.1	Fig.17	9.0	Fig.18
	2507.5	20825	15	75	0	13.3	Fig.19	13.4	Fig.20	13.4	Fig.21
	2535	21100		75	0	13.4	Fig.22	13.4	Fig.23	13.3	Fig.24
	2562.5	21375		75	0	13.3	Fig.25	13.3	Fig.26	13.3	Fig.27
	2510	20850	20	100	0	17.8	Fig.28	17.8	Fig.29	17.8	Fig.30
	2535	21100		100	0	17.8	Fig.31	17.8	Fig.32	17.8	Fig.33
	2560	21350		100	0	17.7	Fig.34	17.7	Fig.35	17.8	Fig.36

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
7	2502.5	20775	5	25	0	4.9	Fig.1	4.8	Fig.2	4.8	Fig.3
	2535	21100		25	0	4.9	Fig.4	4.9	Fig.5	4.9	Fig.6
	2567.5	21425		25	0	4.8	Fig.7	4.9	Fig.8	4.8	Fig.9
	2505	20800	10	50	0	9.8	Fig.10	9.8	Fig.11	9.9	Fig.12
	2535	21100		50	0	9.9	Fig.13	9.8	Fig.14	9.7	Fig.15
	2565	21400		50	0	10.0	Fig.16	9.8	Fig.17	9.6	Fig.18
	2507.5	20825	15	75	0	14.3	Fig.19	14.3	Fig.20	14.2	Fig.21
	2535	21100		75	0	14.3	Fig.22	14.1	Fig.23	14.2	Fig.24
	2562.5	21375		75	0	14.3	Fig.25	13.9	Fig.26	13.9	Fig.27
	2510	20850	20	100	0	19.1	Fig.28	18.8	Fig.29	18.9	Fig.30
	2535	21100		100	0	19.0	Fig.31	19.0	Fig.32	18.9	Fig.33
	2560	21350		100	0	18.8	Fig.34	18.8	Fig.35	18.7	Fig.36

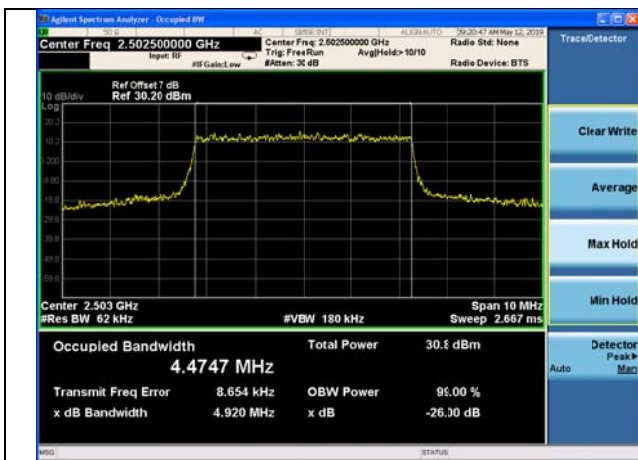


Fig.1

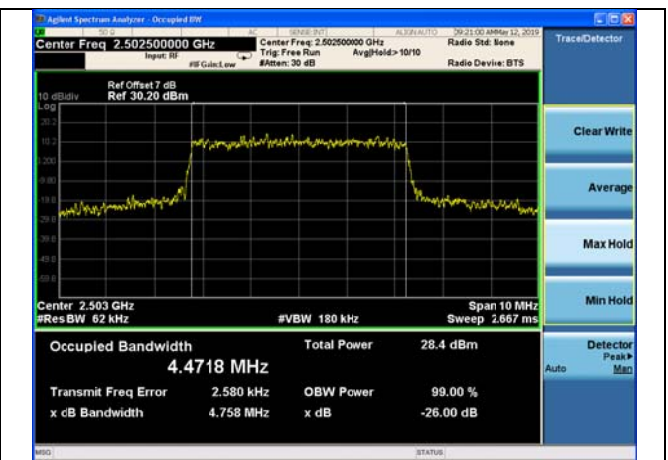


Fig.2

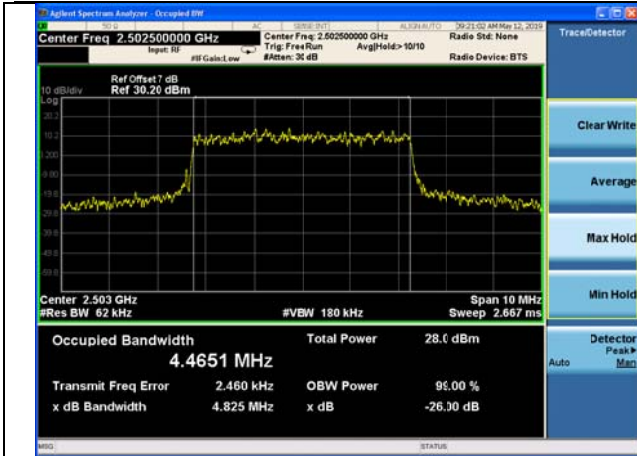


Fig.3



Fig.4

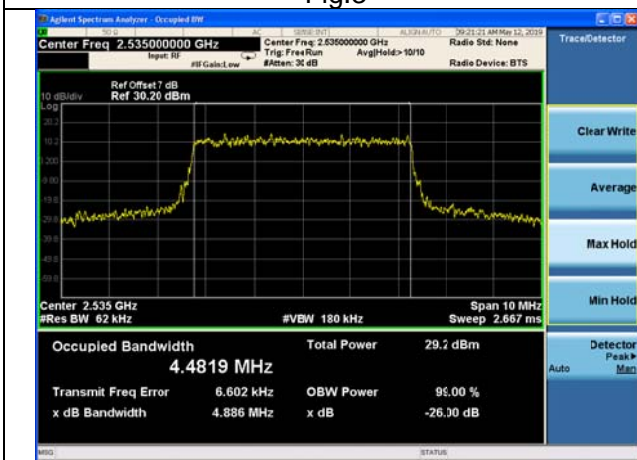


Fig.5

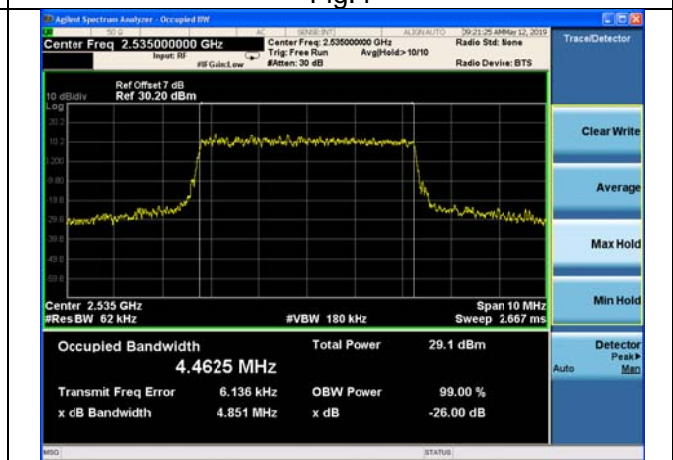


Fig.6

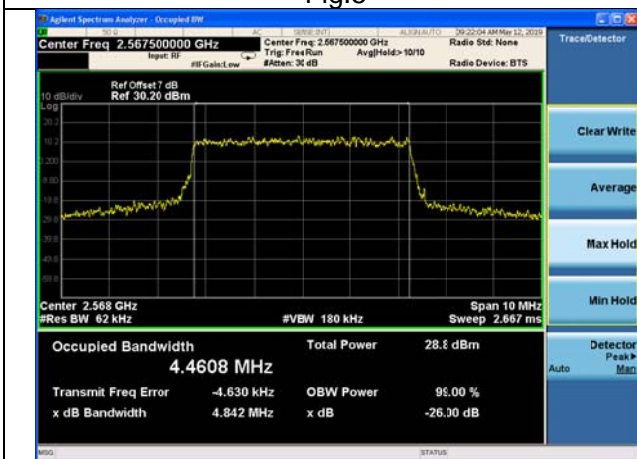


Fig.7

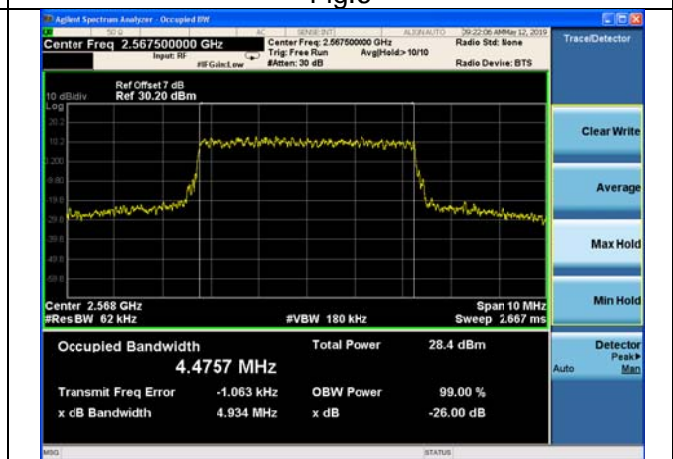


Fig.8

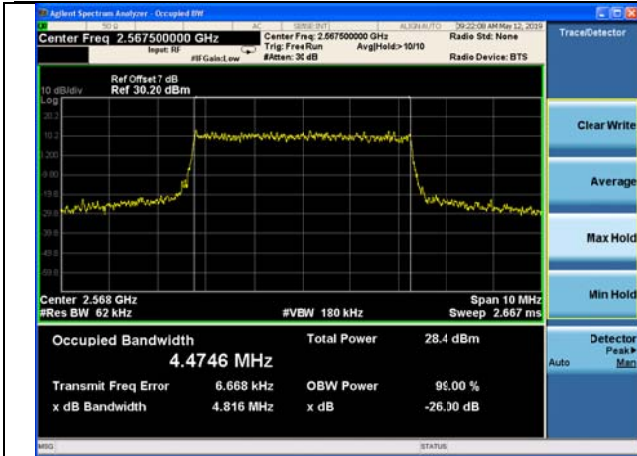


Fig.9



Fig.10

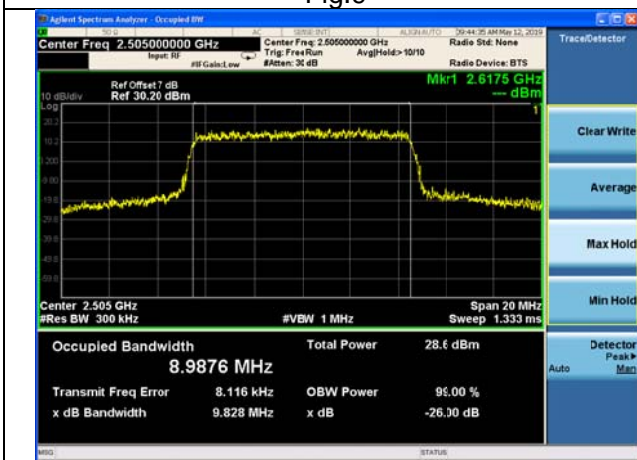


Fig.11

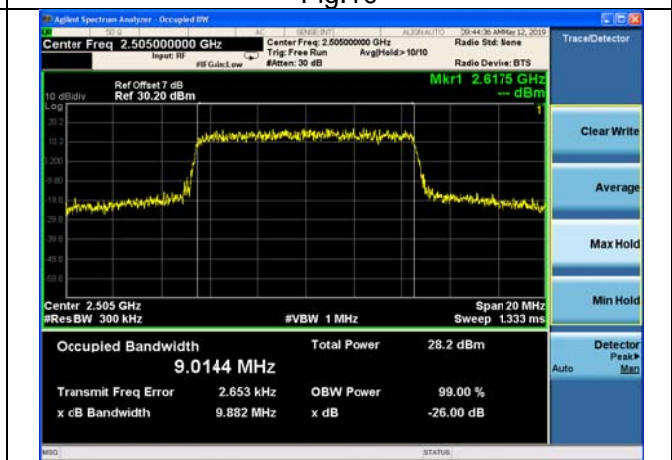


Fig.12

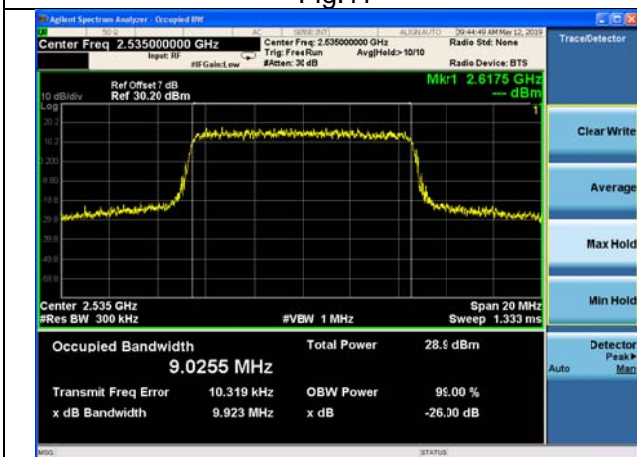


Fig.13

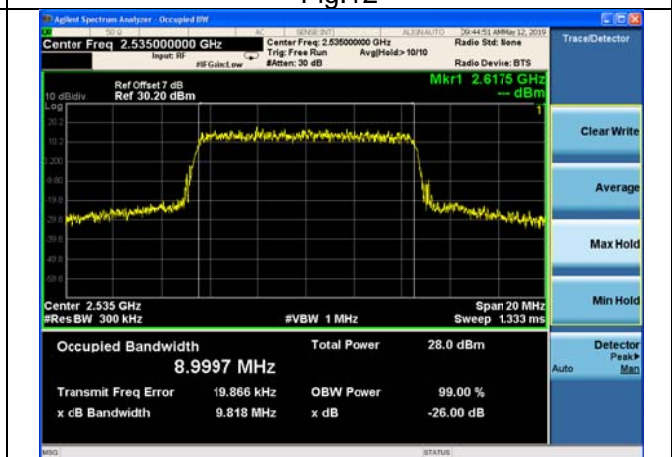


Fig.14

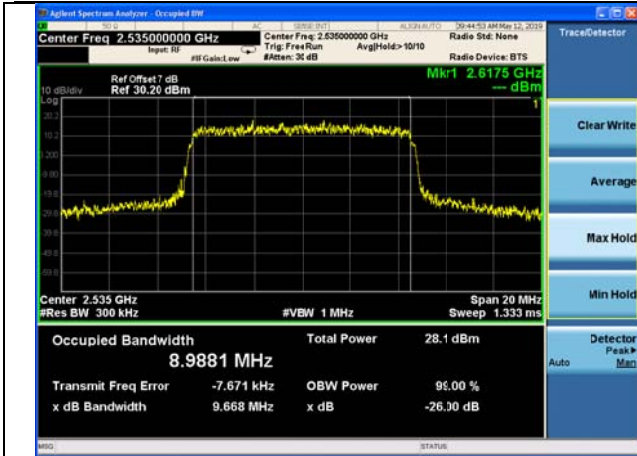


Fig.15

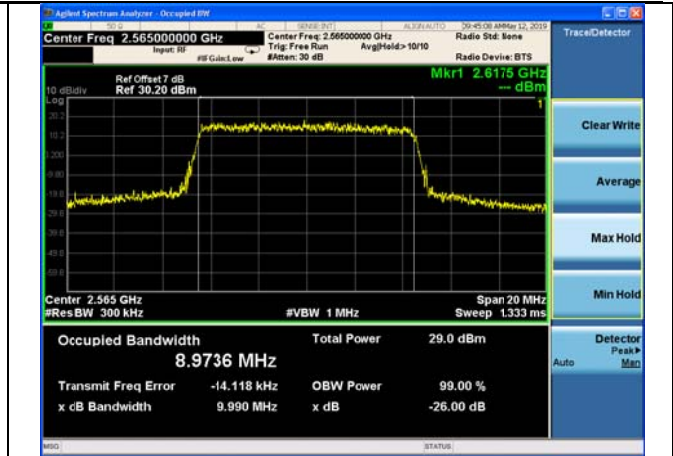


Fig.16

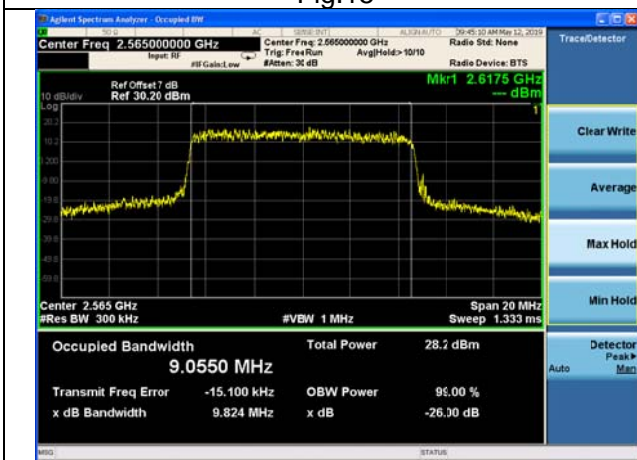


Fig.17

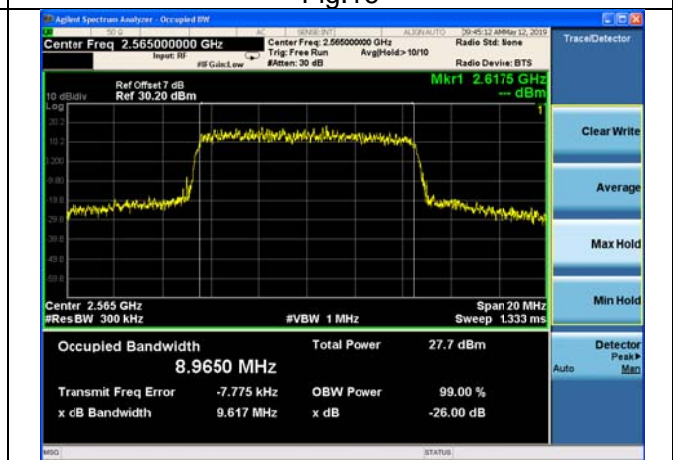


Fig.18

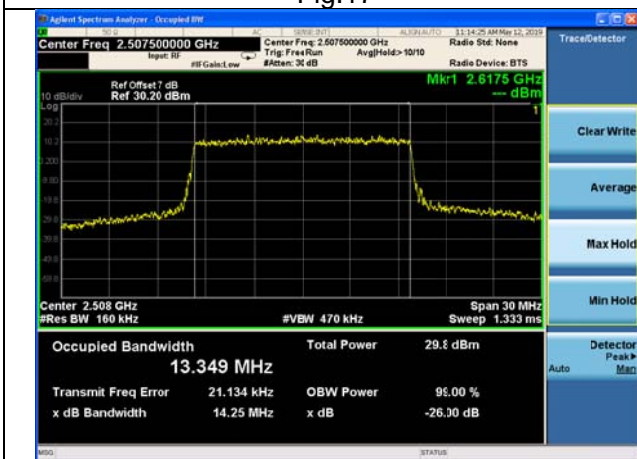


Fig.19

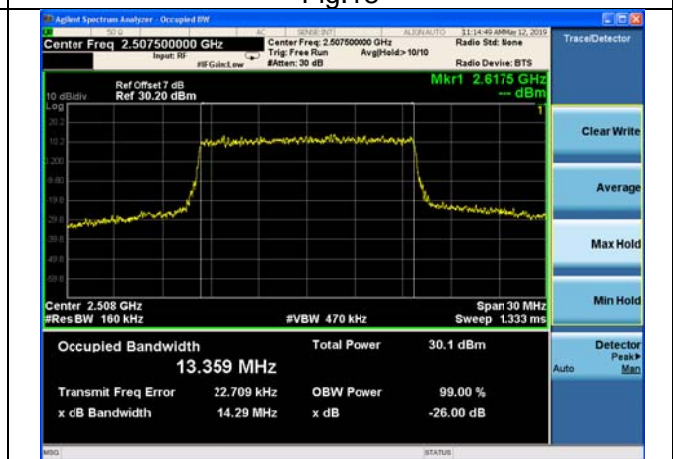


Fig.20

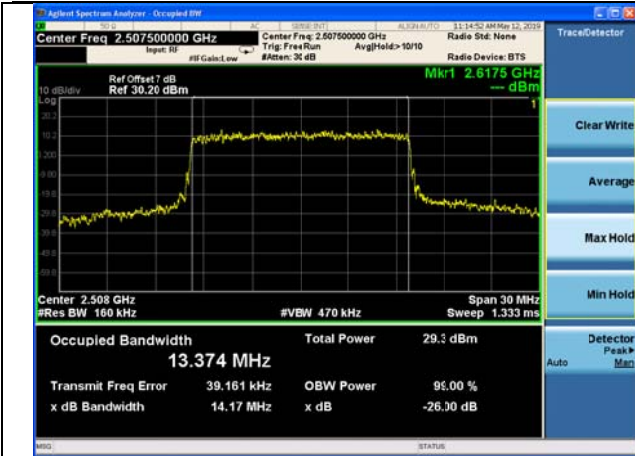


Fig.21

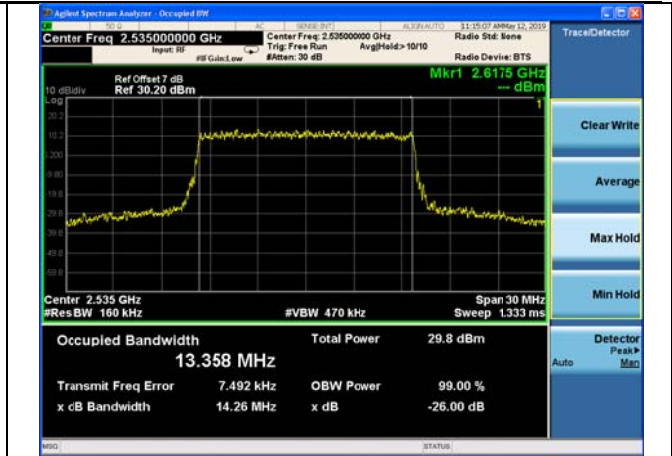


Fig.22

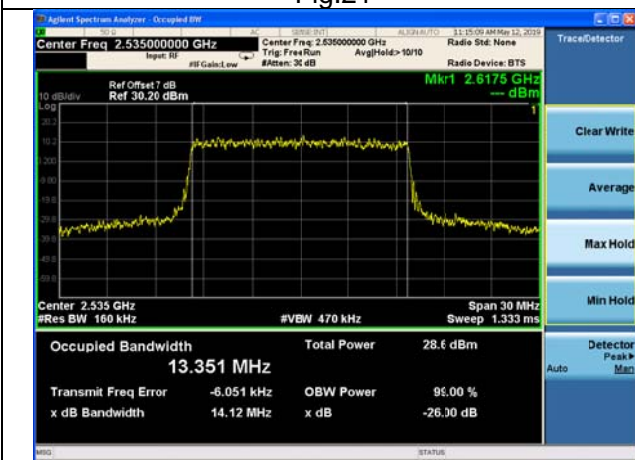


Fig.23

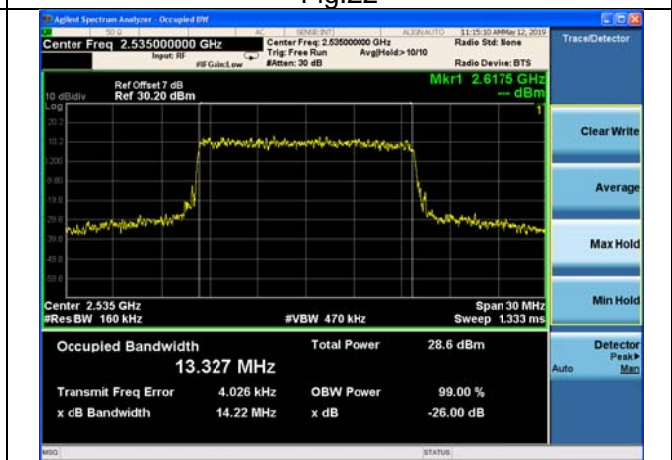


Fig.24

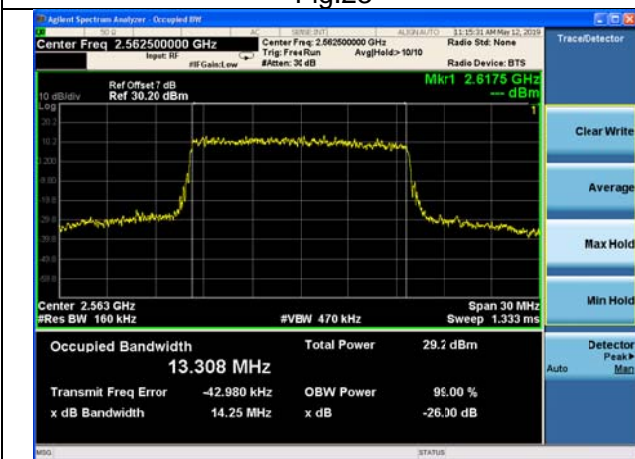


Fig.25

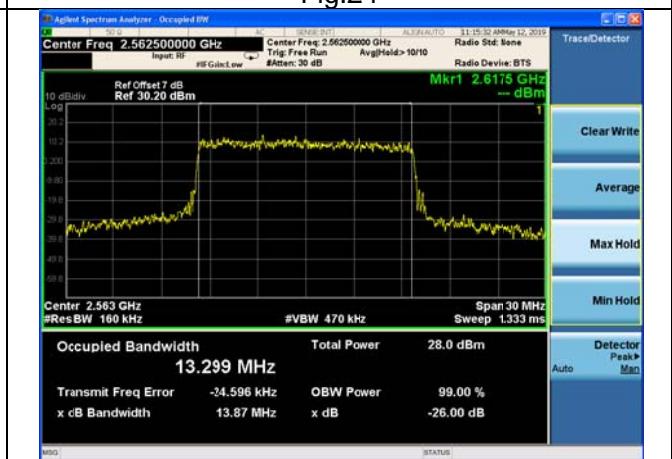


Fig.26

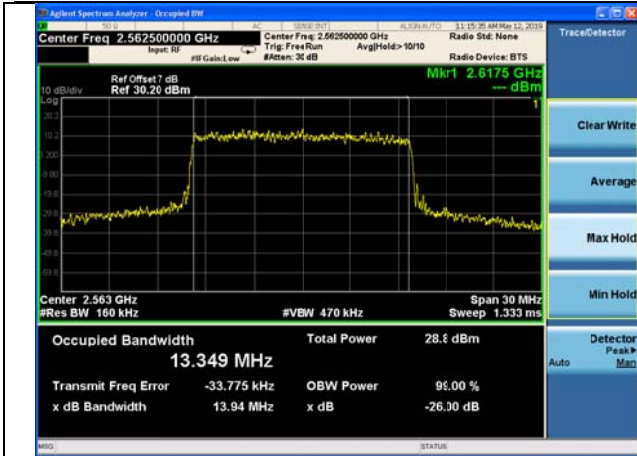


Fig.27

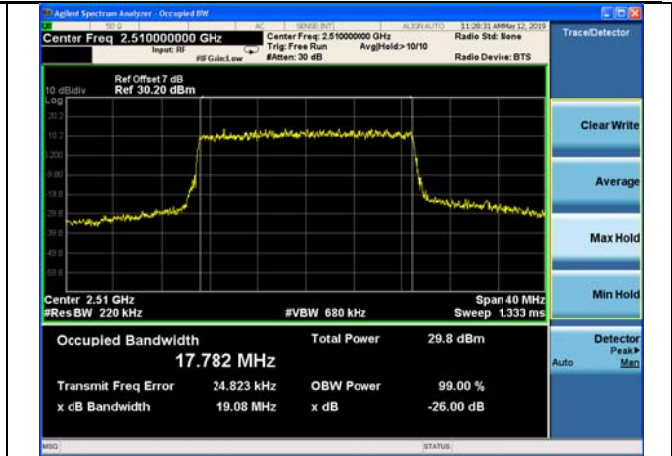


Fig.28

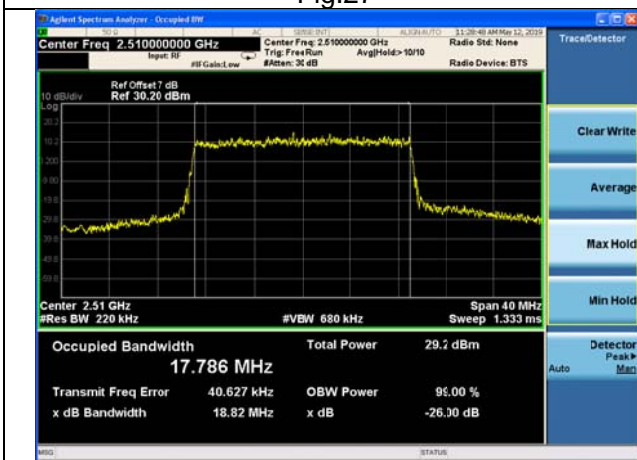


Fig.29

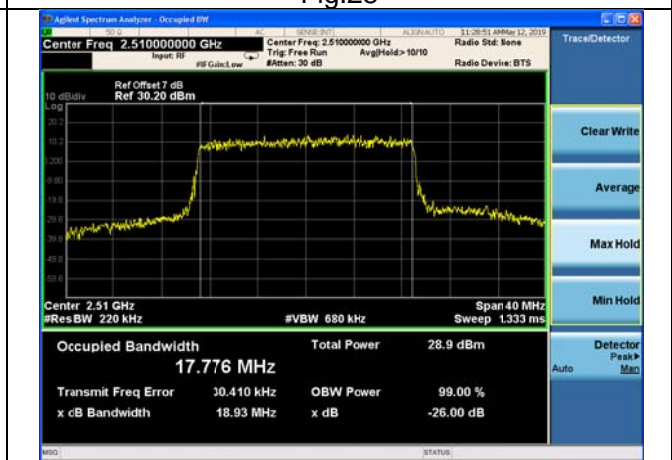


Fig.30

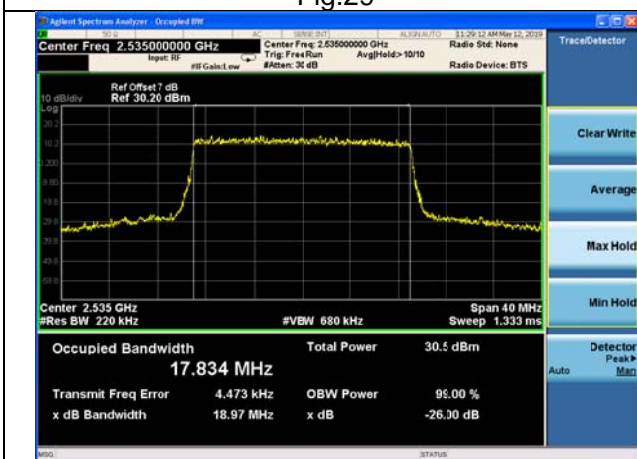


Fig.31

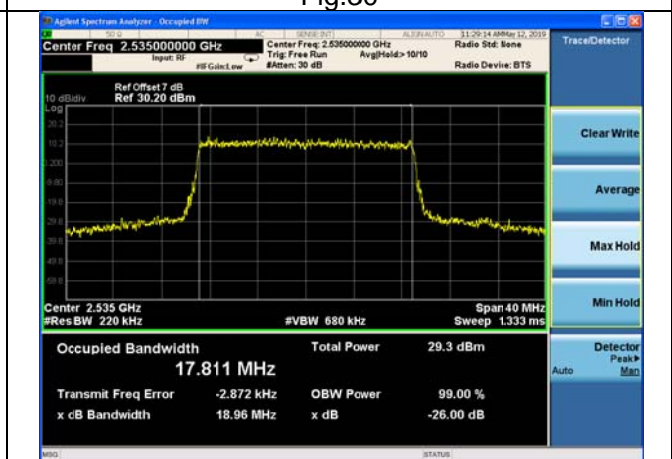


Fig.32

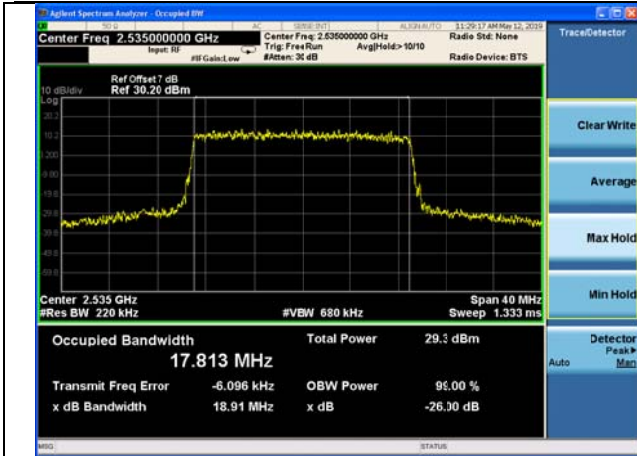


Fig.33

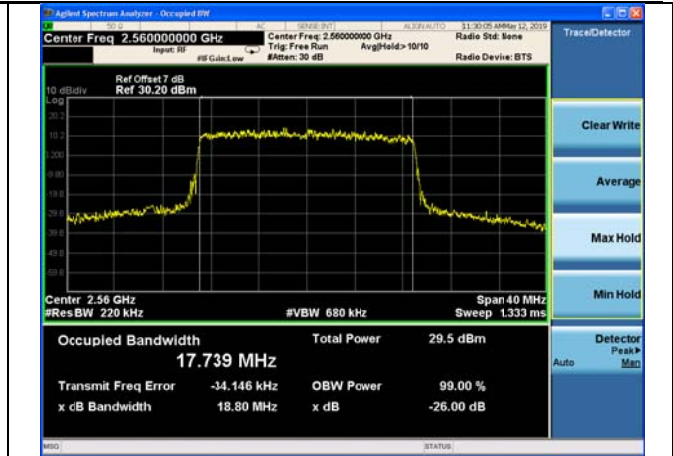


Fig.34

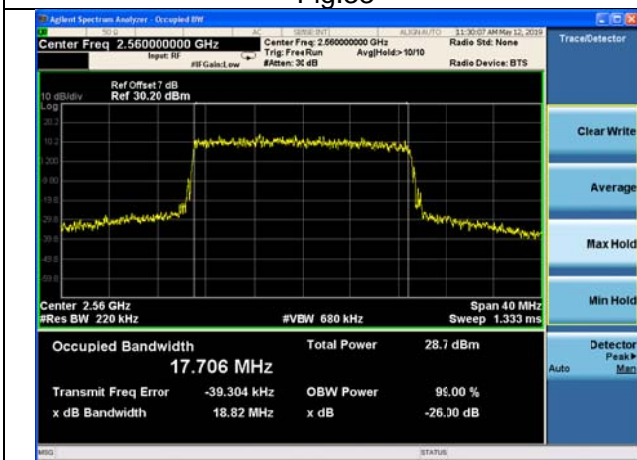


Fig.35

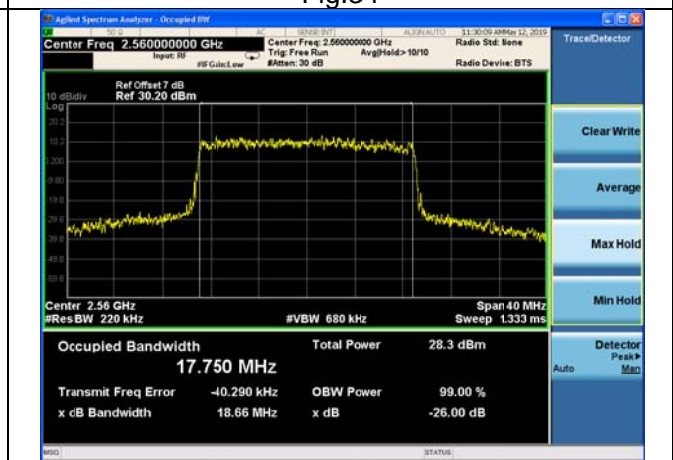


Fig.36

3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
7	2535	21100	5	1	0	Fig.1	Fig.2	Fig.3
			10	1	0	Fig.4	Fig.5	Fig.6
			15	1	0	Fig.7	Fig.8	Fig.9
			20	1	0	Fig.10	Fig.11	Fig.12

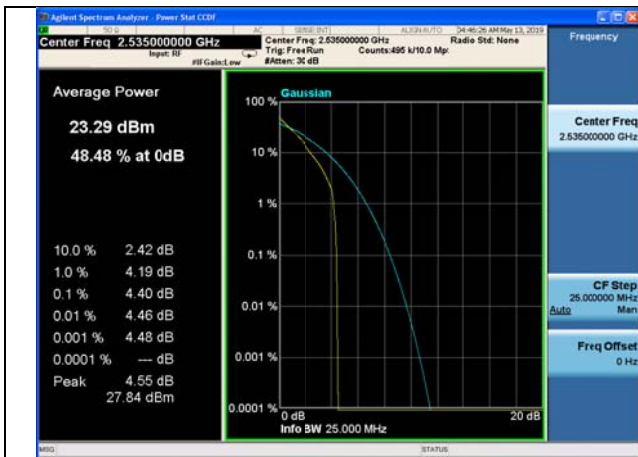


Fig.1



Fig.2

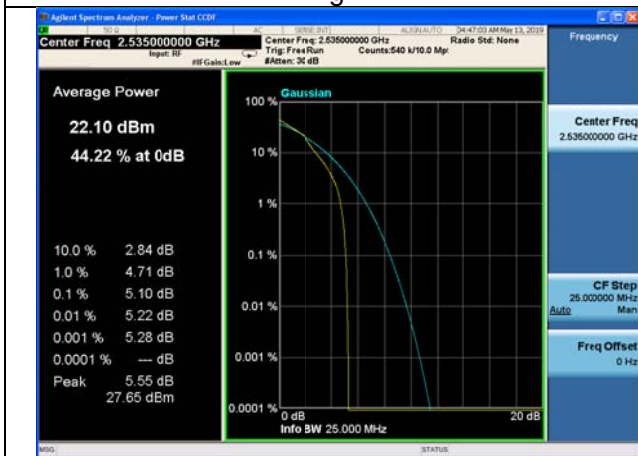


Fig.3

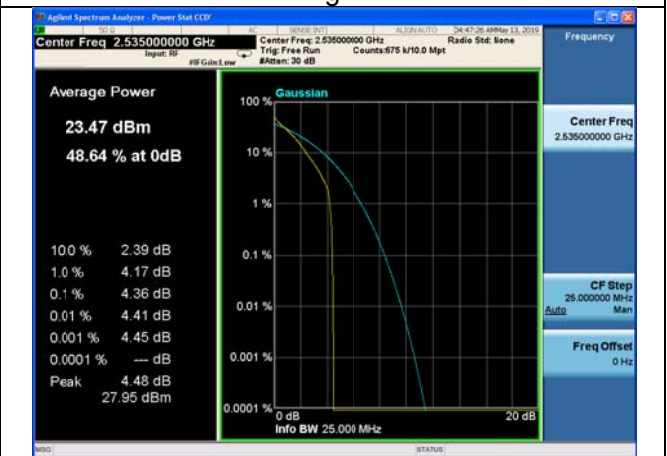


Fig.4



Fig.5



Fig.6



Fig.7



Fig.8



Fig.9

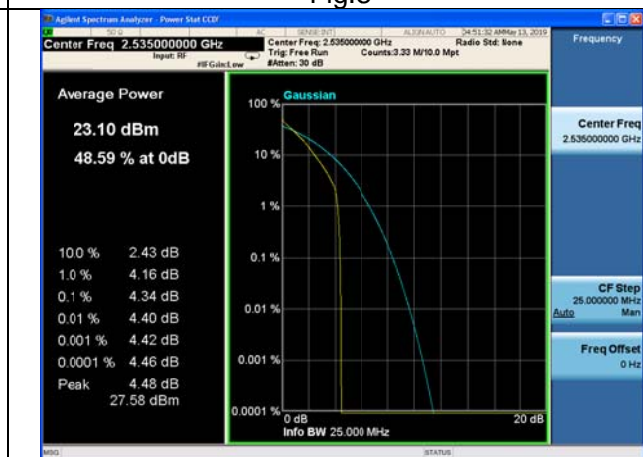


Fig.10

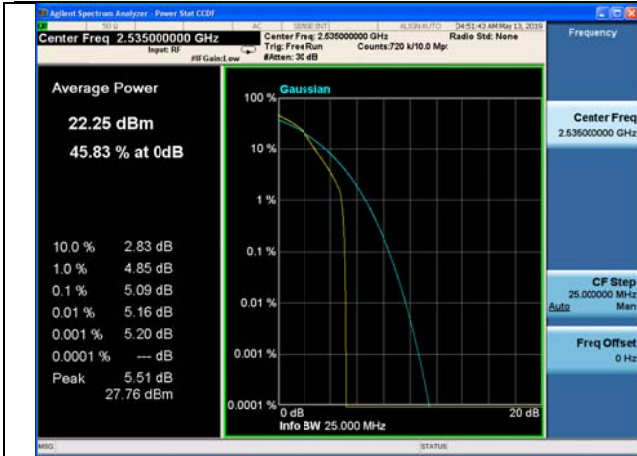


Fig.11

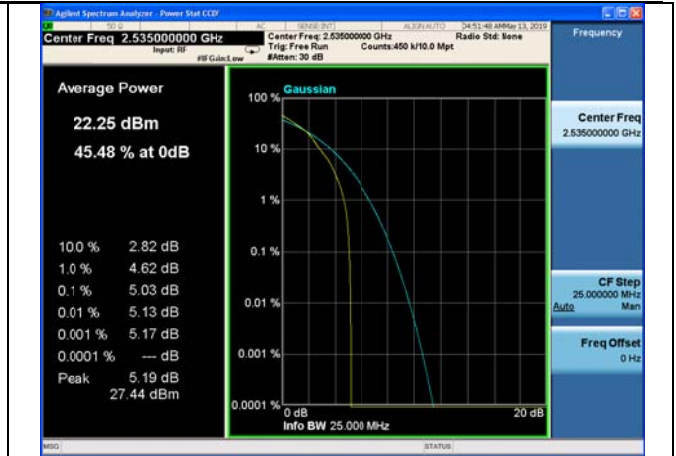


Fig.12

4 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
7	2510	20850	20	1	0	Fig.1
	2535	21100	20	1	0	Fig.2
	2560	21350	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
7	2502.5	20775	5	1	0	Fig.1
				25	0	Fig.2
	2567.5	21425		1	24	Fig.9
				25	0	Fig.10
	2505	20800	10	1	0	Fig.3
				50	0	Fig.4
	2565	21400		1	49	Fig.11
				50	0	Fig.12
	2507.5	20825	15	1	0	Fig.5
				75	0	Fig.6
	2562.5	21375		1	74	Fig.13
				75	0	Fig.14
2510	20850	20	1	0	Fig.7	
			100	0	Fig.8	
2560	21350		1	99	Fig.15	
			100	0	Fig.16	

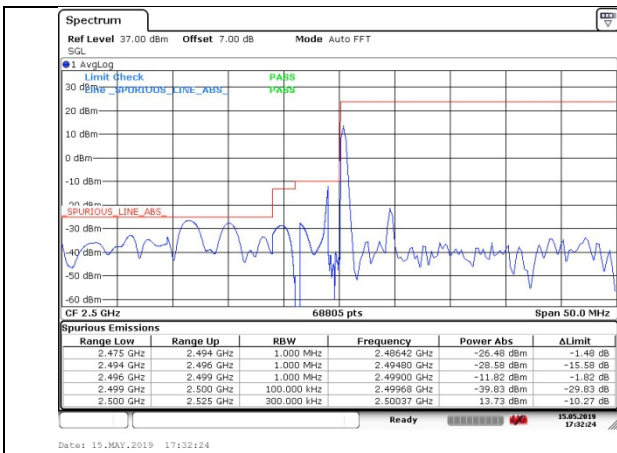


Fig.1

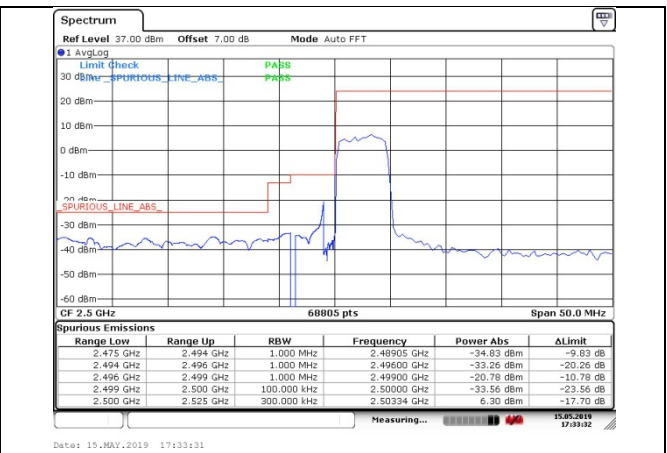


Fig.2

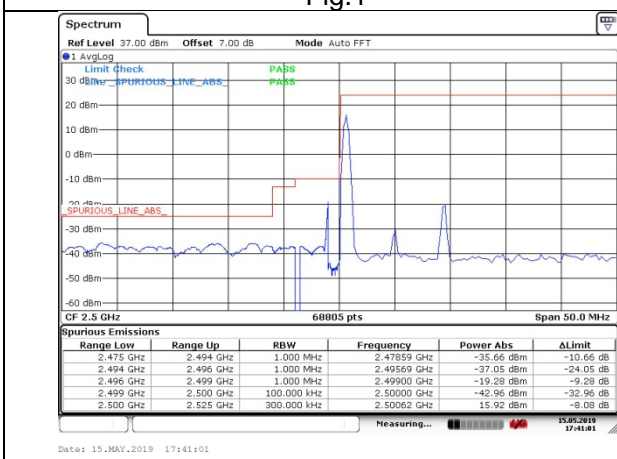


Fig.3

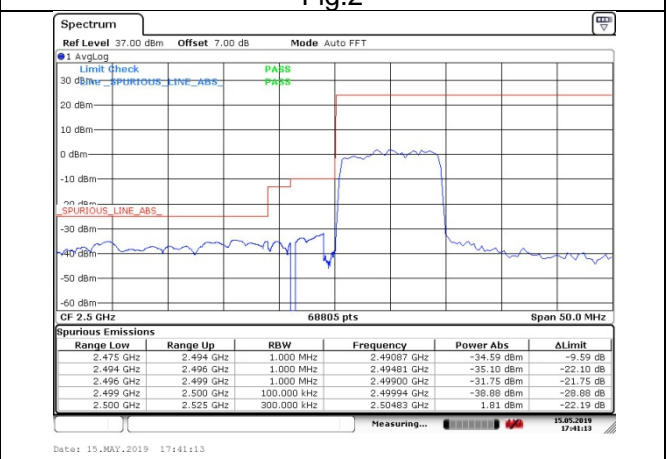
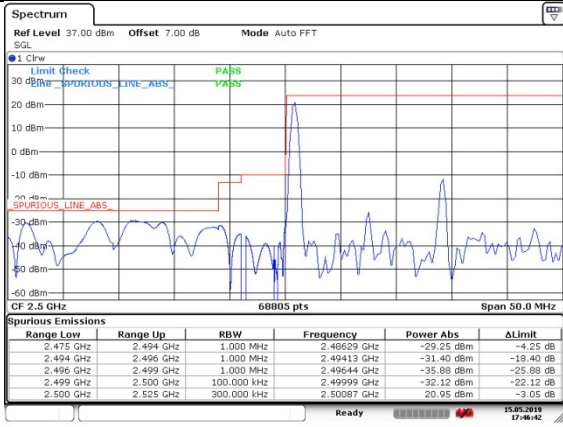


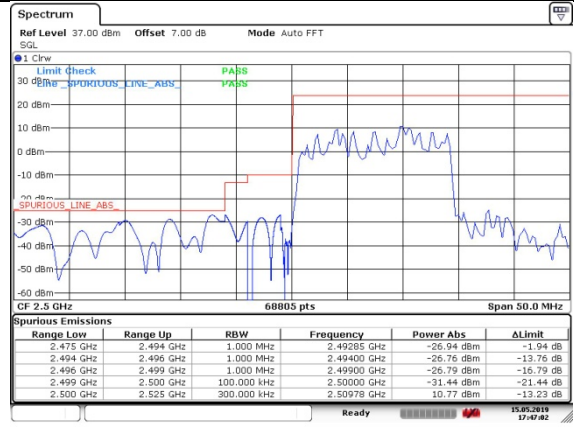
Fig.4

Fig.3



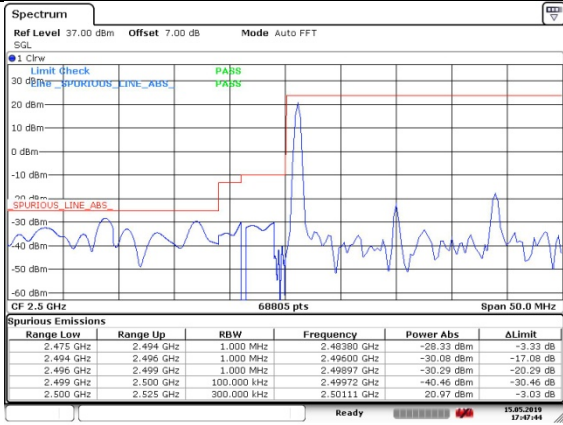
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Fig.4



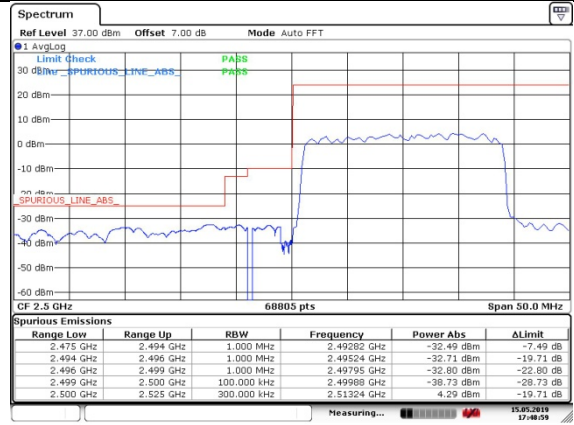
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Fig.5



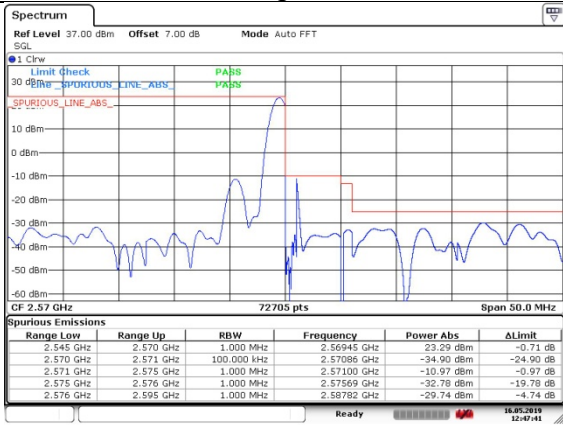
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Fig.6



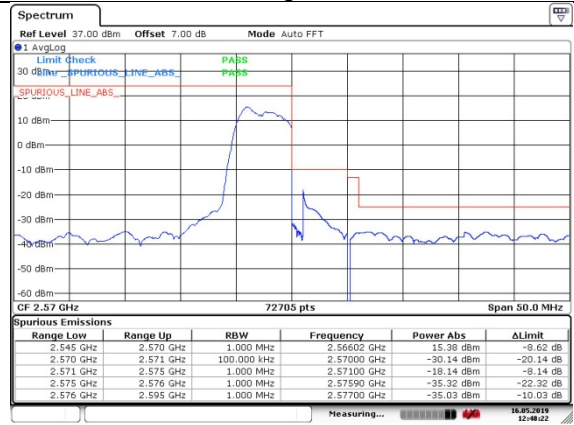
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Fig.7



Date: 16.MAY.2019 12:47:41

Fig.8



Date: 16.MAY.2019 12:48:22

Fig.9

Fig.10

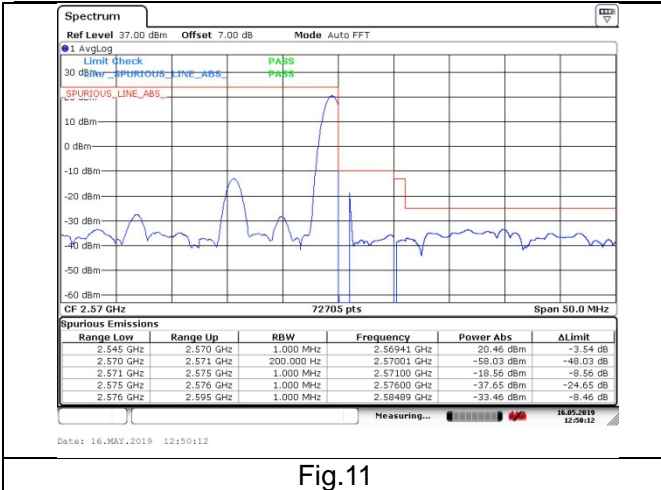


Fig.11

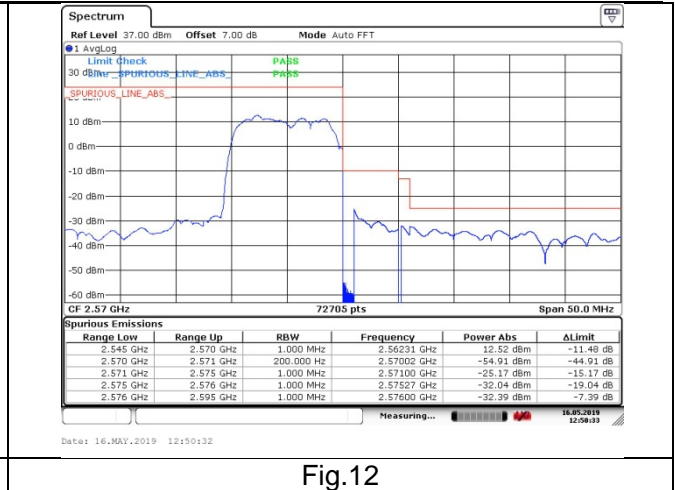


Fig.12

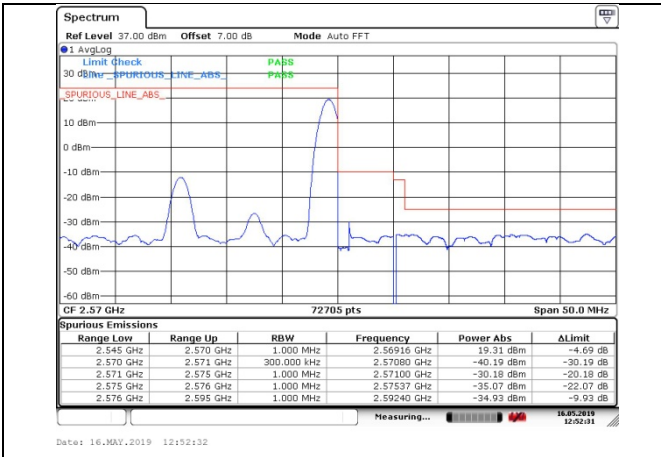


Fig.13

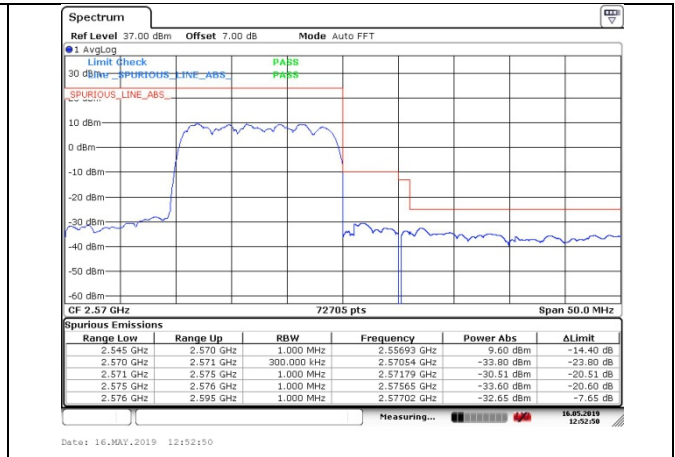


Fig.14

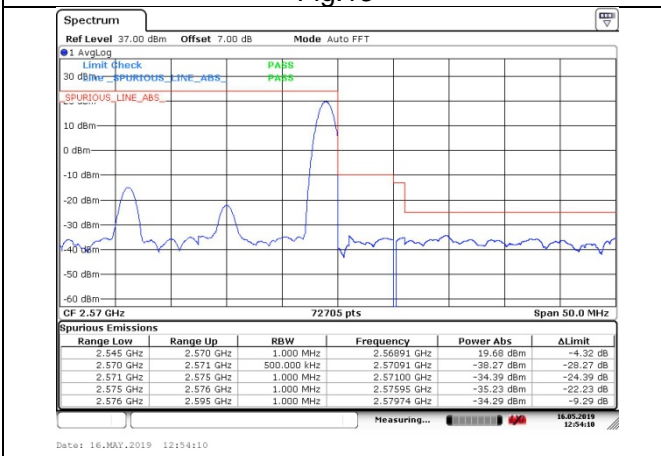


Fig.15

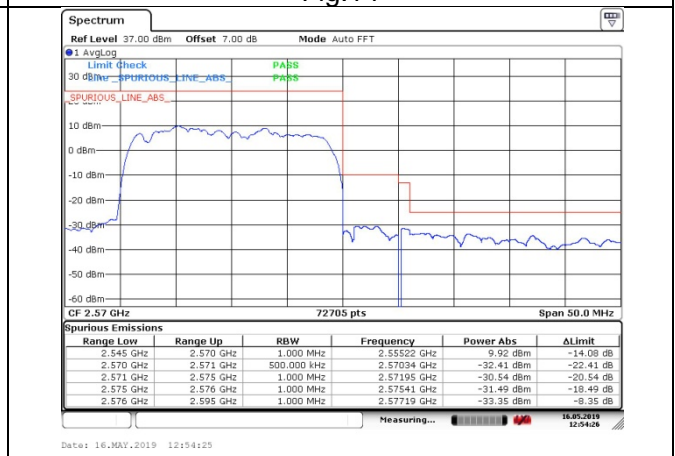


Fig.16

6 Frequency Stability

Test result:

Temperature(°C)	Voltage	Test Result (ppm) Band7 Low Channel			
		5M	10M	15M	20M
-10	NV	0.165	0.078	0.096	0.062
0	NV	0.100	0.058	0.040	0.006
+10	NV	0.038	0.101	0.062	0.081
+20	NV	0.005	0.049	0.068	0.068
+30	NV	0.039	0.074	0.055	0.097
+40	NV	0.054	0.051	0.009	0.066
+50	NV	0.119	0.069	0.073	0.081
+20	LV	0.062	0.038	0.002	0.090
+20	HV	0.126	0.005	0.042	0.032

Temperature(°C)	Voltage	Test Result (ppm) Band7 High Channel			
		5M	10M	15M	20M
-10	NV	0.114	0.073	0.082	0.026
0	NV	0.021	0.021	0.049	0.014
+10	NV	0.091	0.124	0.031	0.007
+20	NV	0.074	0.077	0.035	0.139
+30	NV	0.007	0.056	0.027	0.048
+40	NV	0.100	0.112	0.114	0.029
+50	NV	0.086	0.108	0.068	0.004
+20	LV	0.009	0.055	0.045	0.096
+20	HV	0.089	0.073	0.090	0.046