

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 13

1 RF Power Output

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	779.5	23205	5	1	0	22.91
				1	12	22.81
				1	24	22.54
				12	13	21.81
				12	6	21.93
				12	0	21.92
				25	0	21.91
	782	23230		1	0	22.80
				1	12	22.78
				1	24	22.81
				12	13	21.82
				12	6	21.76
				12	0	21.86
				25	0	21.74
	784.5	23255		1	0	22.67
				1	12	22.88
				1	24	22.82
				12	13	21.78
				12	6	21.90
				12	0	21.83
				25	0	21.84
16QAM	779.5	23205	1	0	22.70	
			1	12	22.47	
			1	24	21.93	
			12	13	20.81	
			12	6	20.93	
			12	0	20.96	
			25	0	20.96	
	782	23230	1	0	21.96	
			1	12	22.44	
			1	24	22.44	
			12	13	20.86	
			12	6	20.91	
			12	0	20.98	
			25	0	20.80	
	784.5	23255	1	0	22.04	
			1	12	22.31	
			1	24	22.46	
			12	13	20.82	
			12	6	20.94	
			12	0	20.93	
			25	0	20.92	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	779.5	23205	5	1	0	20.89
				1	12	20.72
				1	24	20.50
				12	13	19.73
				12	6	19.83
				12	0	19.89
				25	0	19.86
	782	23230		1	0	20.77
				1	12	20.68
				1	24	20.79
				12	13	19.77
				12	6	19.69
				12	0	19.78
				25	0	19.64
	784.5	23255		1	0	20.59
				1	12	20.84
				1	24	20.77
				12	13	19.76
				12	6	19.84
				12	0	19.76
				25	0	19.78
256QAM	779.5	23205	5	1	0	18.66
				1	12	18.38
				1	24	17.86
				12	13	17.75
				12	6	17.9
				12	0	17.86
				25	0	17.89
	782	23230		1	0	17.89
				1	12	18.39
				1	24	18.34
				12	13	17.82
				12	6	17.87
				12	0	17.93
				25	0	17.77
	784.5	23255		1	0	17.97
				1	12	18.21
				1	24	18.41
				12	13	17.80
				12	6	17.91
				12	0	17.91
				25	0	17.88

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	782	23230	10	1	49	22.88
				1	24	22.99
				1	0	22.76
				25	12	21.90
				25	25	21.87
				25	0	21.89
				50	0	21.81
16QAM				1	49	22.36
				1	24	22.10
				1	0	21.93
				25	12	20.87
				25	25	20.92
				25	0	20.77
				50	0	20.88
64QAM				1	49	20.78
				1	24	20.91
				1	0	20.67
				25	12	19.87
				25	25	19.79
				25	0	19.86
				50	0	19.73
256QAM				1	49	18.31
				1	24	18.03
				1	0	17.84
				25	12	17.82
				25	25	17.82
				25	0	17.75
				50	0	17.81

Test on the worst case:

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)
Band13	10MHz	QPSK	23230	1RB#49	22.75
				1RB#24	22.77
				1RB#0	22.6

2 Occupied Bandwidth

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)							
						QPSK		16-QAM		64-QAM		256-QAM	
13	779.5	23205	5	25	0	4.466	Fig.1	4.466	Fig.4	4.476	Fig.7	4.476	Fig.10
	782	23230		25	0	4.476	Fig.2	4.466	Fig.5	4.486	Fig.8	4.476	Fig.11
	784.5	23255		25	0	4.476	Fig.3	4.466	Fig.6	4.486	Fig.9	4.476	Fig.12
	782	23230	10	50	0	8.911	Fig.13	8.911	Fig.14	8.911	Fig.15	8.911	Fig.16

3 Emission Bandwidth

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)							
						QPSK		16-QAM		64-QAM		256-QAM	
13	779.5	23205	5	25	0	4.880	Fig.1	4.900	Fig.4	4.880	Fig.7	4.870	Fig.10
	782	23230		25	0	4.890	Fig.2	4.900	Fig.5	4.910	Fig.8	4.870	Fig.11
	784.5	23255		25	0	4.890	Fig.3	4.880	Fig.6	4.900	Fig.9	4.860	Fig.12
	782	23230	10	50	0	9.640	Fig.13	9.640	Fig.14	9.640	Fig.15	9.680	Fig.16

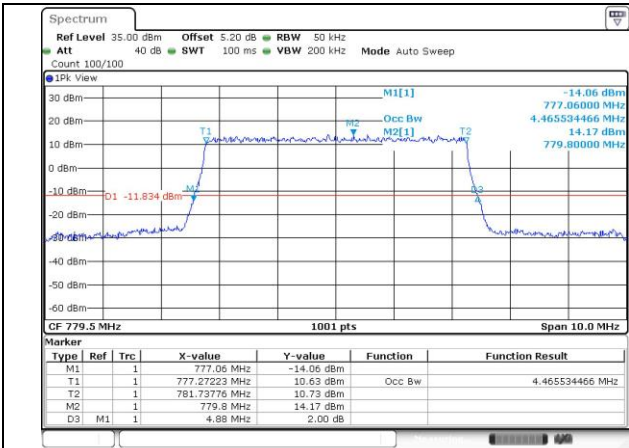


Fig.1

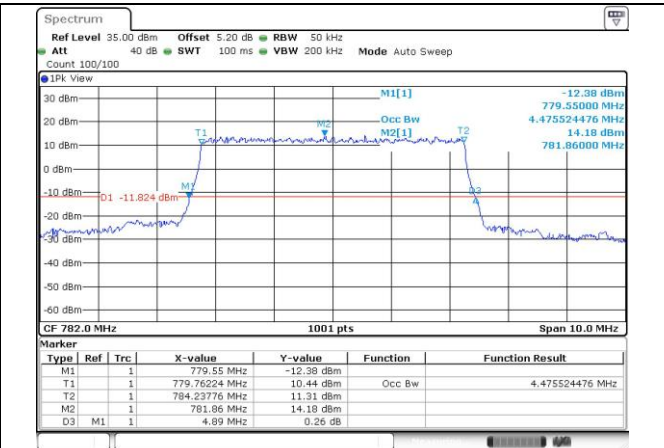


Fig.2

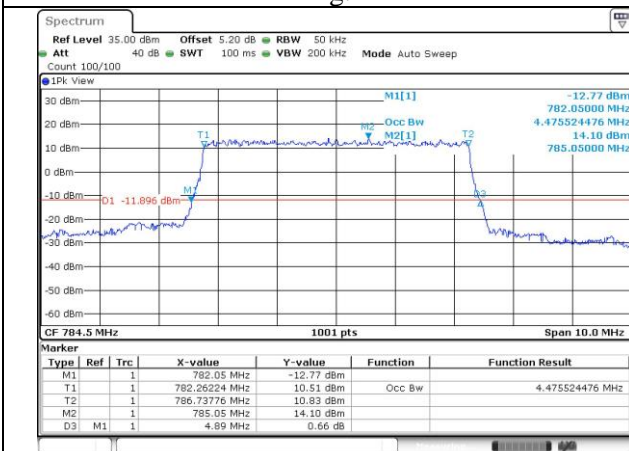


Fig.3

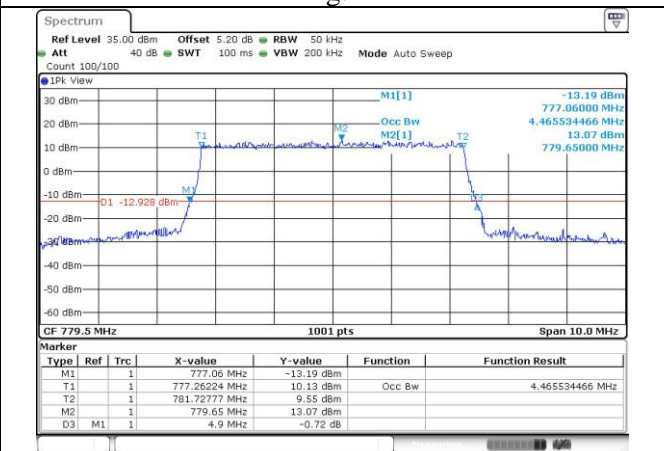


Fig.4

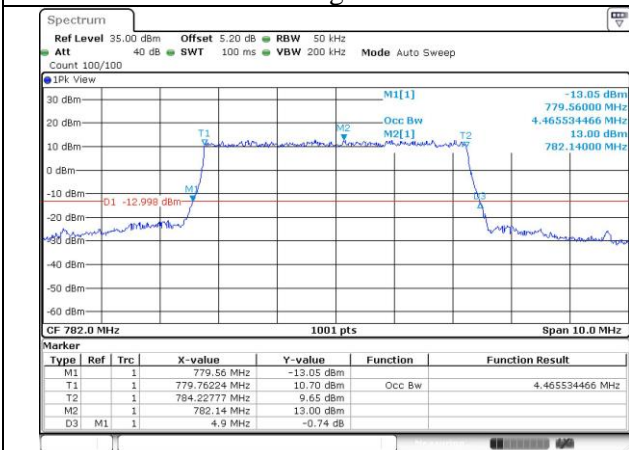


Fig.5

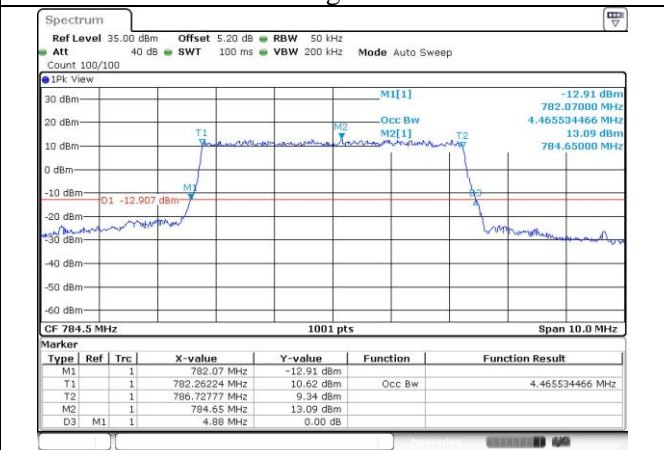
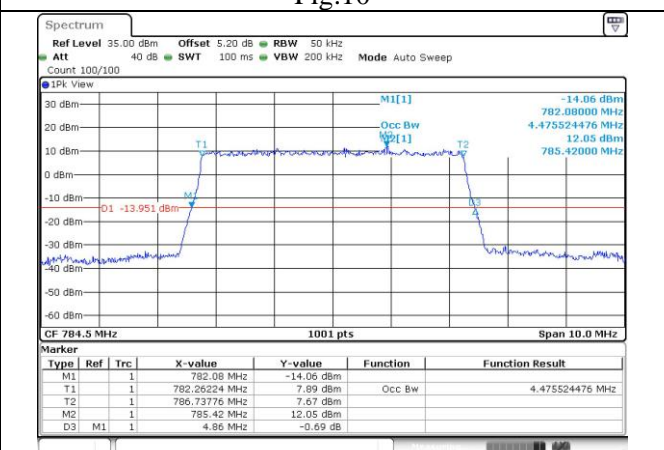
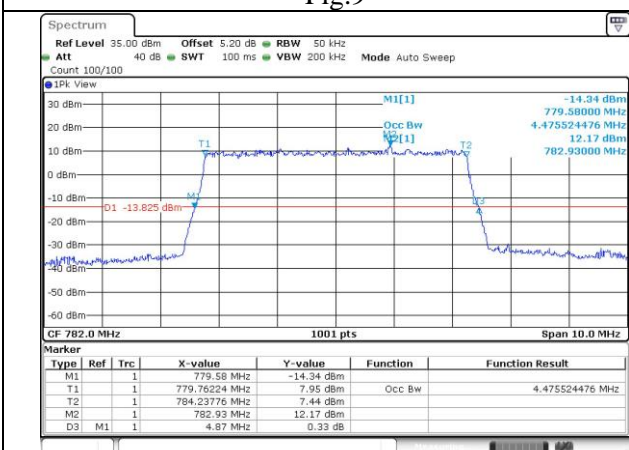
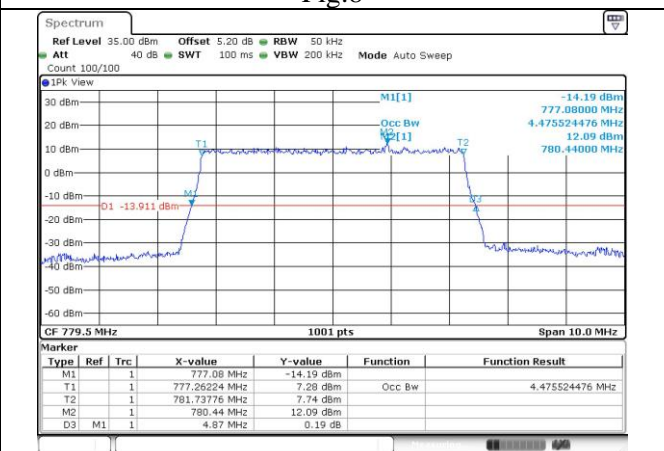
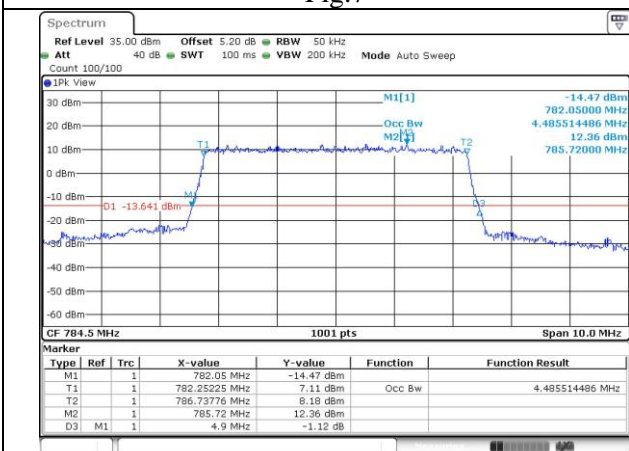
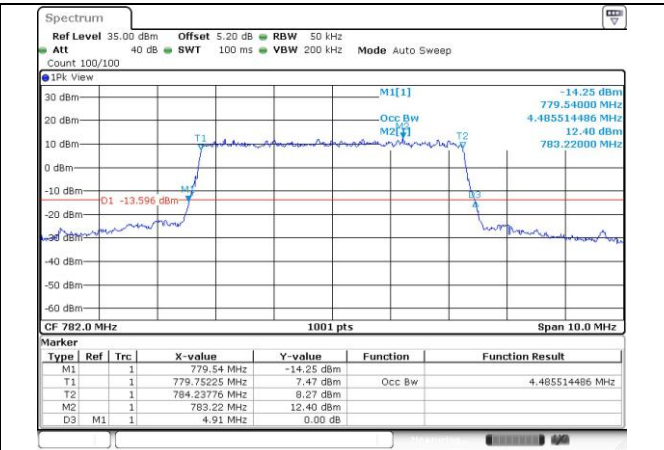
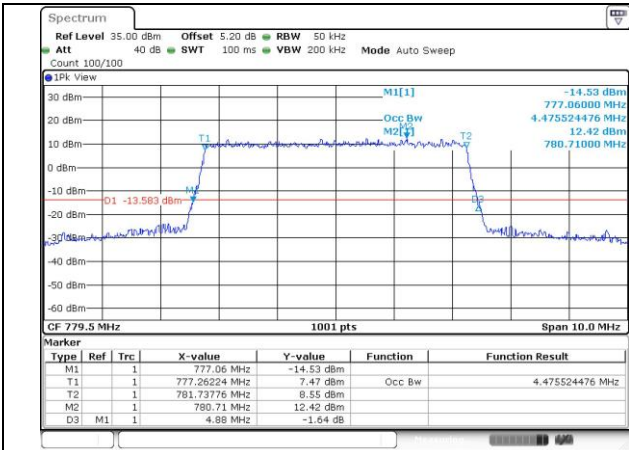


Fig.6



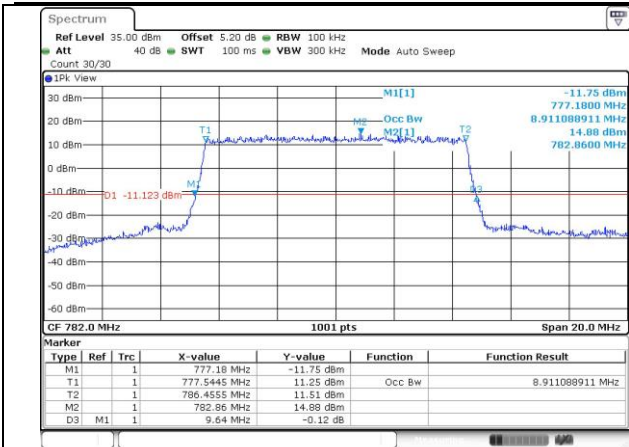


Fig.13

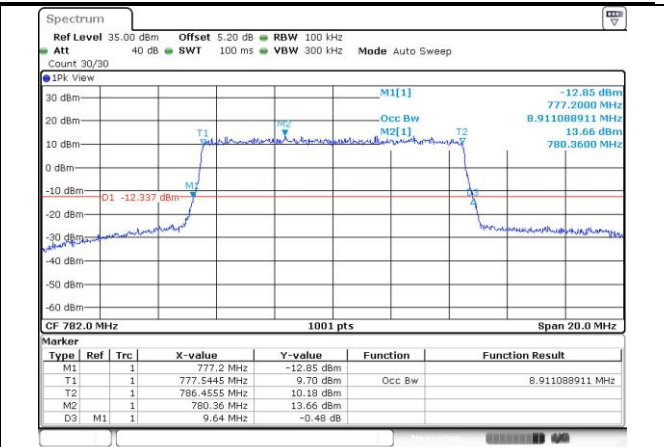


Fig.14

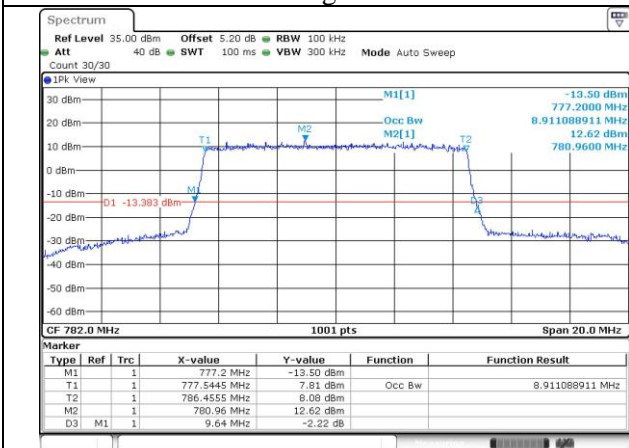


Fig.15

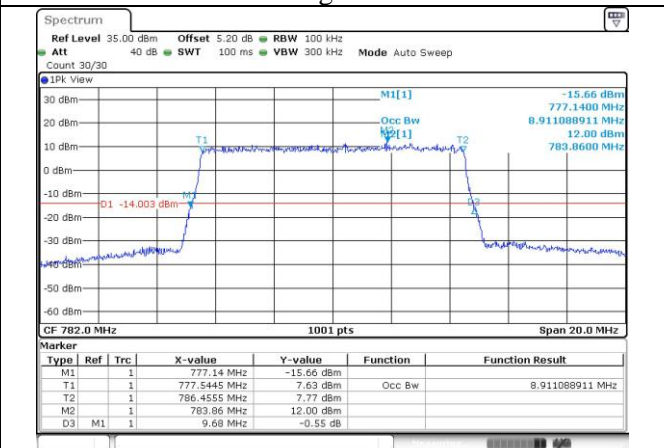


Fig.16

4 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM	256-QAM
13	782	23230	10	50	0	Fig.1	Fig.2	Fig.3	Fig.4



Fig.1

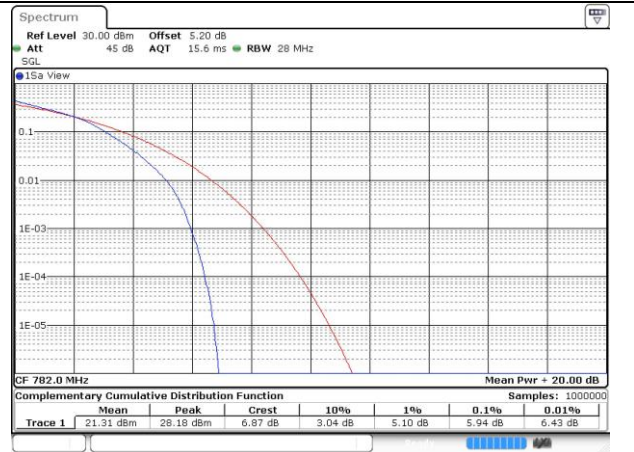


Fig.2



Fig.3

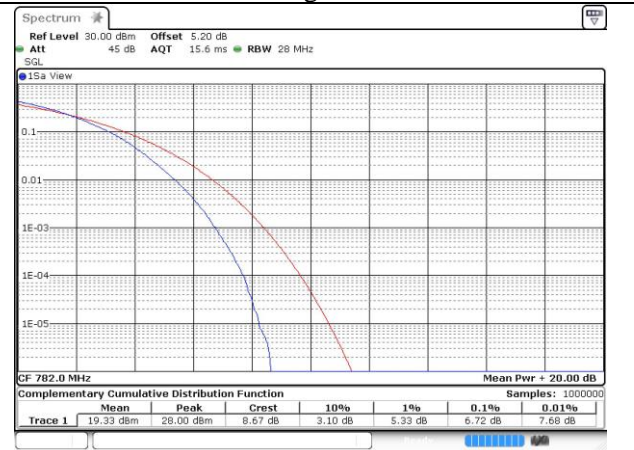


Fig.4

5 Spurious Emissions at antenna terminal

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Conducted Spurious Plot
						QPSK
13	782	23230	10	1	0	Fig.1

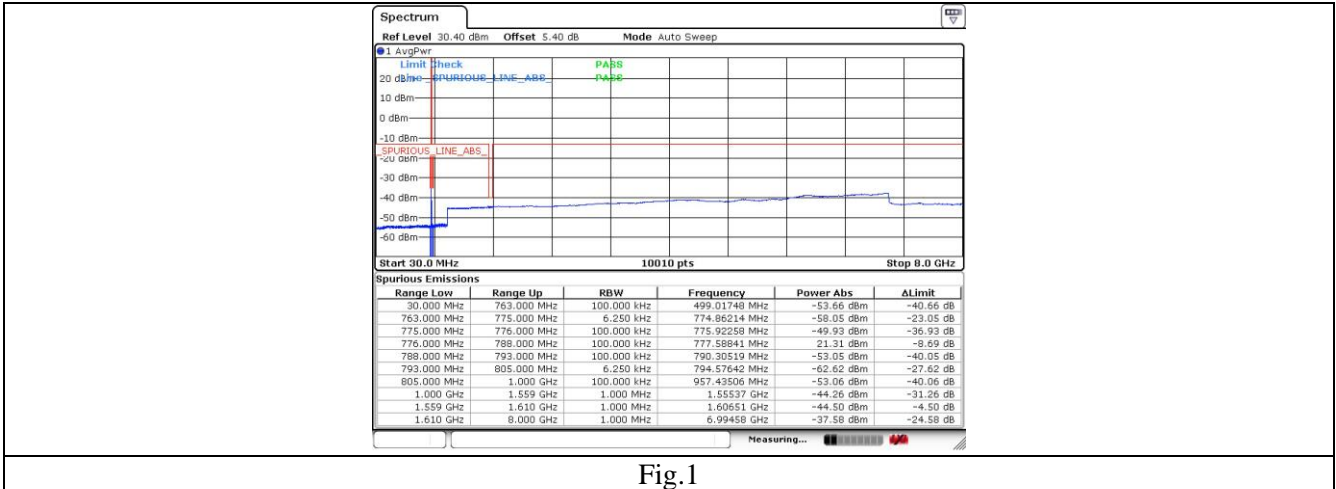


Fig.1

6 Band Edges Compliance

Band	Carrier frequency (MHz)	Channel	BW	RB Size	RB Offset	Band Edges Plot
						QPSK
13	779.5	23205	5	1	0	Fig.1
				25	0	Fig.2
	784.5	23255		1	24	Fig.3
				25	0	Fig.4
	782	23230	10	1	0	Fig.5
				50	0	Fig.6
				1	49	Fig.7
				50	0	Fig.8

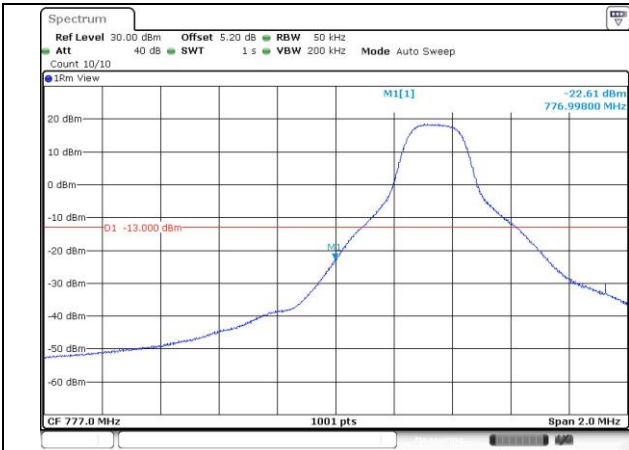


Fig.1

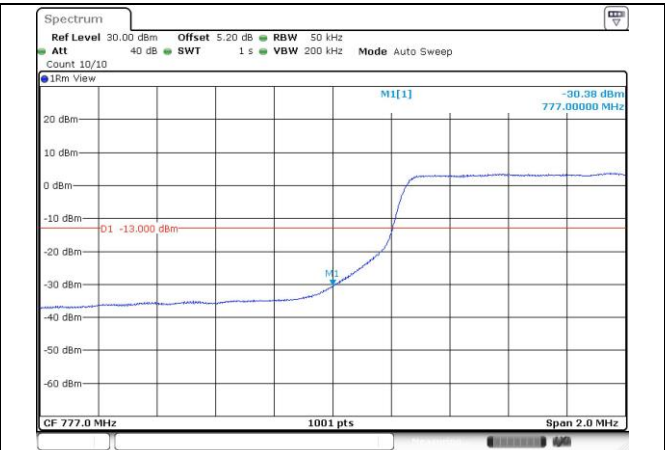


Fig.2

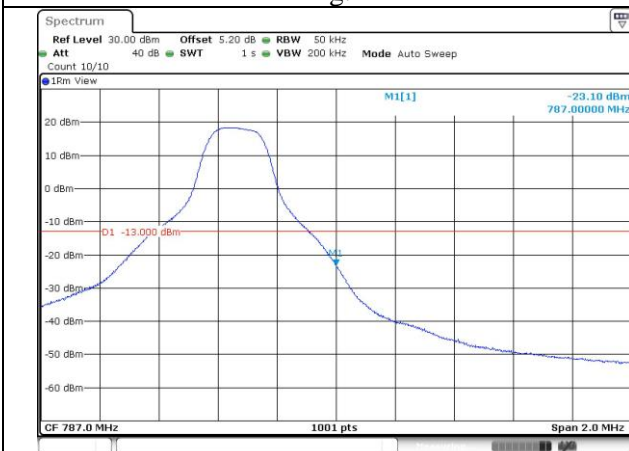


Fig.3

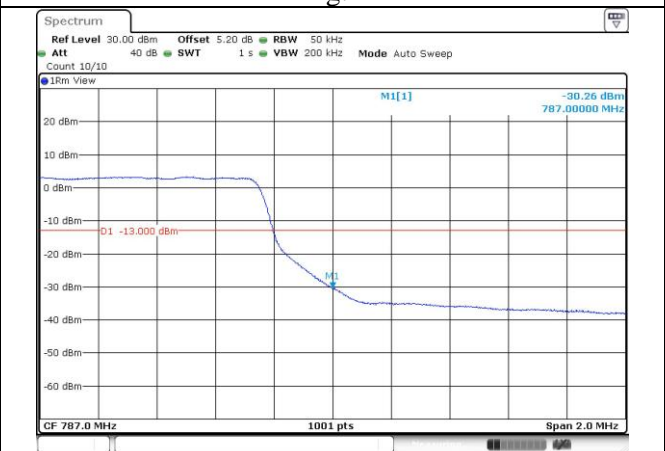


Fig.4

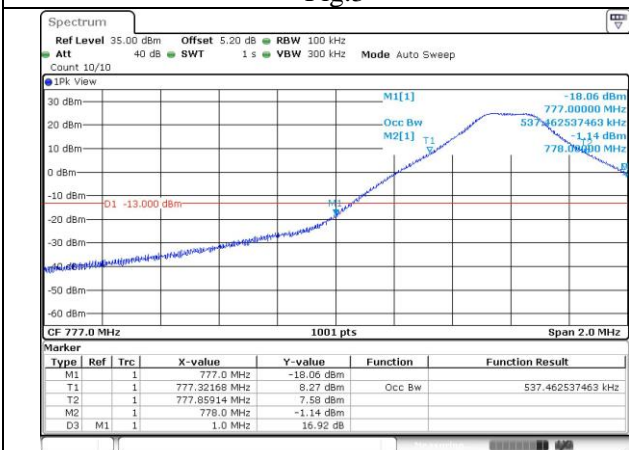


Fig.5

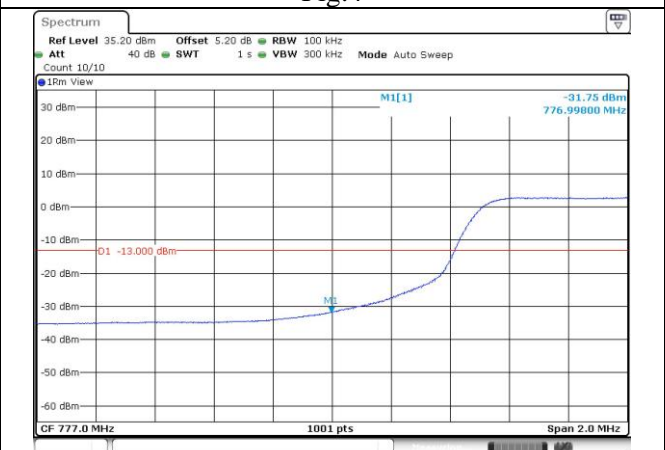


Fig.6

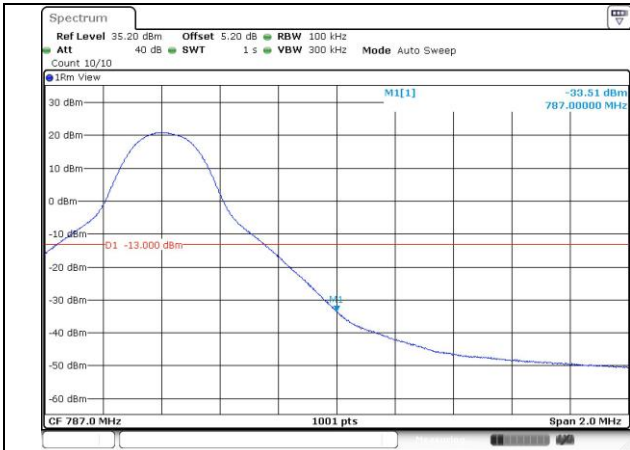


Fig.7



Fig.8

7 Frequency Stability

Temperature(°C)	Voltage	Test Result (ppm) Band13 Mid Channel QPSK					
		1.4M	3M	5M	10M	15M	20M
-30	NV	---	---	---	0.000512	---	---
-20	NV	---	---	---	0.003964	---	---
-10	NV	---	---	---	-0.000384	---	---
0	NV	---	---	---	0.006394	---	---
+10	NV	---	---	---	0.002174	---	---
+20	NV	---	---	---	-0.003453	---	---
+30	NV	---	---	---	0.003069	---	---
+40	NV	---	---	---	0.010358	---	---
+50	NV	---	---	---	0.008568	---	---
+20	LV	---	---	---	0.004604	---	---
+20	HV	---	---	---	0.000000	---	---

8 Effective Radiated Power and Effective Isotropic Radiated Power

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)	
QPSK	779.5	23205	5	1	0	22.91	16.76	0.047	
				1	12	22.81	16.66	0.046	
				1	24	22.54	16.39	0.044	
				12	13	21.81	15.66	0.037	
				12	6	21.93	15.78	0.038	
				12	0	21.92	15.77	0.038	
				25	0	21.91	15.76	0.038	
	782	23230		1	0	22.80	16.65	0.046	
				1	12	22.78	16.63	0.046	
				1	24	22.81	16.66	0.046	
				12	13	21.82	15.67	0.037	
				12	6	21.76	15.61	0.036	
				12	0	21.86	15.71	0.037	
				25	0	21.74	15.59	0.036	
	784.5	23255		1	0	22.67	16.52	0.045	
				1	12	22.88	16.73	0.047	
				1	24	22.82	16.67	0.046	
				12	13	21.78	15.63	0.037	
				12	6	21.90	15.75	0.038	
				12	0	21.83	15.68	0.037	
				25	0	21.84	15.69	0.037	
	16QAM	779.5		23205	1	0	22.70	16.55	0.045
					1	12	22.47	16.32	0.043
					1	24	21.93	15.78	0.038
12			13		20.81	14.66	0.029		
12			6		20.93	14.78	0.030		
12			0		20.96	14.81	0.030		
25			0		20.96	14.81	0.030		
782		23230	1	0	21.96	15.81	0.038		
			1	12	22.44	16.29	0.043		
			1	24	22.44	16.29	0.043		
			12	13	20.86	14.71	0.030		
			12	6	20.91	14.76	0.030		
			12	0	20.98	14.83	0.030		
			25	0	20.80	14.65	0.029		
784.5		23255	1	0	22.04	15.89	0.039		
			1	12	22.31	16.16	0.041		
			1	24	22.46	16.31	0.043		
			12	13	20.82	14.67	0.029		
			12	6	20.94	14.79	0.030		
			12	0	20.93	14.78	0.030		
			25	0	20.92	14.77	0.030		

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
64QAM	779.5	23205	5	1	0	20.89	14.74	0.030
				1	12	20.72	14.57	0.029
				1	24	20.50	14.35	0.027
				12	13	19.73	13.58	0.023
				12	6	19.83	13.68	0.023
				12	0	19.89	13.74	0.024
				25	0	19.86	13.71	0.023
	782	23230		1	0	20.77	14.62	0.029
				1	12	20.68	14.53	0.028
				1	24	20.79	14.64	0.029
				12	13	19.77	13.62	0.023
				12	6	19.69	13.54	0.023
				12	0	19.78	13.63	0.023
				25	0	19.64	13.49	0.022
	784.5	23255		1	0	20.59	14.44	0.028
				1	12	20.84	14.69	0.029
				1	24	20.77	14.62	0.029
				12	13	19.76	13.61	0.023
				12	6	19.84	13.69	0.023
				12	0	19.76	13.61	0.023
				25	0	19.78	13.63	0.023
256QAM	779.5	23205	1	0	18.66	12.51	0.018	
			1	12	18.38	12.23	0.017	
			1	24	17.86	11.71	0.015	
			12	13	17.75	11.6	0.014	
			12	6	17.9	11.75	0.015	
			12	0	17.86	11.71	0.015	
			25	0	17.89	11.74	0.015	
	782	23230	1	0	17.89	11.74	0.015	
			1	12	18.39	12.24	0.017	
			1	24	18.34	12.19	0.017	
			12	13	17.82	11.67	0.015	
			12	6	17.87	11.72	0.015	
			12	0	17.93	11.78	0.015	
			25	0	17.77	11.62	0.015	
	784.5	23255	1	0	17.97	11.82	0.015	
			1	12	18.21	12.06	0.016	
			1	24	18.41	12.26	0.017	
			12	13	17.80	11.65	0.015	
			12	6	17.91	11.76	0.015	
			12	0	17.91	11.76	0.015	
			25	0	17.88	11.73	0.015	

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
QPSK	782	23230	10	1	49	22.88	16.73	0.047
				1	24	22.99	16.84	0.048
				1	0	22.76	16.61	0.046
				25	12	21.90	15.75	0.038
				25	25	21.87	15.72	0.037
				25	0	21.89	15.74	0.037
				50	0	21.81	15.66	0.037
16QAM				1	49	22.36	16.21	0.042
				1	24	22.10	15.95	0.039
				1	0	21.93	15.78	0.038
				25	12	20.87	14.72	0.030
				25	25	20.92	14.77	0.030
				25	0	20.77	14.62	0.029
				50	0	20.88	14.73	0.030
64QAM				1	49	20.78	14.63	0.029
				1	24	20.91	14.76	0.030
				1	0	20.67	14.52	0.028
				25	12	19.87	13.72	0.024
				25	25	19.79	13.64	0.023
				25	0	19.86	13.71	0.023
				50	0	19.73	13.58	0.023
256QAM				1	49	18.31	12.16	0.016
				1	24	18.03	11.88	0.015
				1	0	17.84	11.69	0.015
				25	12	17.82	11.67	0.015
				25	25	17.82	11.67	0.015
				25	0	17.75	11.6	0.014
				50	0	17.81	11.66	0.015

Test on the worst case:

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted power (dBm)	ERP/EIRP (dBm)	ERP/EIRP (W)
Band13	10MHz	QPSK	23230	1RB#49	22.75	16.6	0.046
				1RB#24	22.77	16.62	0.046
				1RB#0	22.6	16.45	0.044