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	23.99
				1	12	24.03
				1	24	24.00
				12	0	23.01
				12	7	23.05
				12	13	23.01
				25	0	23.03
	782	23230		1	0	23.78
				1	12	23.93
				1	24	23.72
				12	0	22.94
				12	7	22.88
				12	13	22.95
				25	0	22.98
	784.5	23255		1	0	23.76
				1	12	23.95
				1	24	23.85
				12	0	22.92
				12	7	22.96
				12	13	22.97
				25	0	22.99
16QAM	779.5	23205		1	0	22.73
				1	12	22.64
				1	24	22.62
				12	0	21.90
				12	7	21.92
				12	13	21.82
				25	0	22.05
	782	23230		1	0	23.14
				1	12	23.26
				1	24	23.24
				12	0	21.70
				12	7	21.90
				12	13	21.79
				25	0	21.96
	784.5	23255		1	0	22.77
				1	12	22.46
				1	24	22.73
				12	0	21.93
				12	7	21.97
				12	13	21.89
				25	0	21.81

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
64QAM	779.5	23205	5	1	0	22.17
				1	12	22.21
				1	24	22.21
				12	0	22.33
				12	7	22.20
				12	13	22.19
				25	0	22.10
	782	23230		1	0	21.75
				1	12	21.78
				1	24	22.00
				12	0	21.99
				12	7	21.88
				12	13	21.88
				25	0	21.99
	784.5	23255		1	0	22.12
				1	12	21.80
				1	24	22.04
				12	0	21.81
				12	7	21.91
				12	13	21.84
				25	0	22.08

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	782	23230	10	1	0	23.93
				1	25	24.04
				1	49	24.02
				25	0	22.87
				25	12	22.87
				25	25	23.12
				50	0	22.87
16QAM				1	0	23.21
				1	25	23.25
				1	49	23.24
				25	0	21.83
				25	12	21.98
				25	25	21.98
				50	0	22.19
64QAM				1	0	21.80
				1	25	21.80
				1	49	21.93
				25	0	21.80
				25	12	21.80
				25	25	21.93
				50	0	21.92

2 Occupied Bandwidth

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
13	779.5	23205	5	25	0	4.472	Fig.1	4.472	Fig.2	4.472	Fig.3
	782	23230		25	0	4.472	Fig.4	4.472	Fig.5	4.472	Fig.6
	784.5	23255		25	0	4.472	Fig.7	4.472	Fig.8	4.472	Fig.9
	782	23230	10	50	0	8.944	Fig.10	8.944	Fig.11	8.944	Fig.12

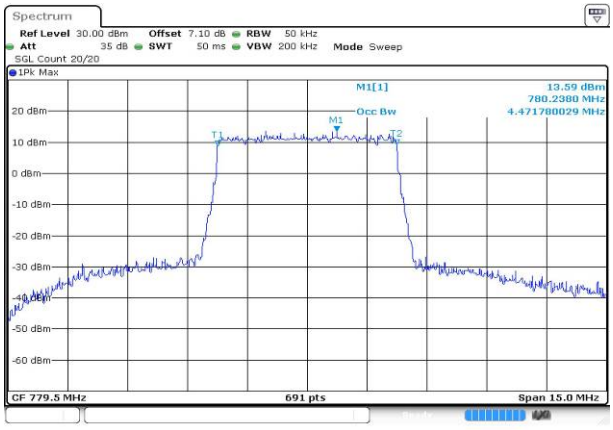


Fig.1

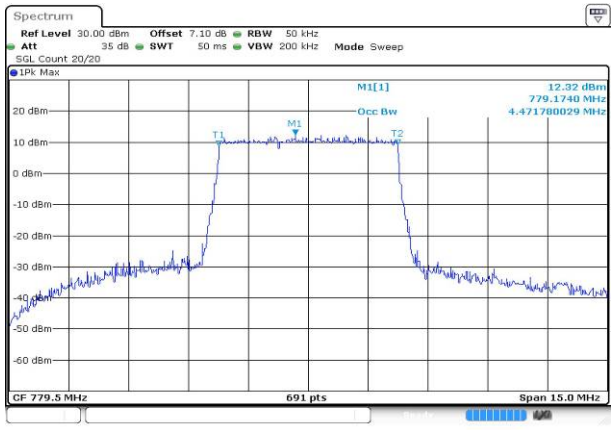


Fig.2

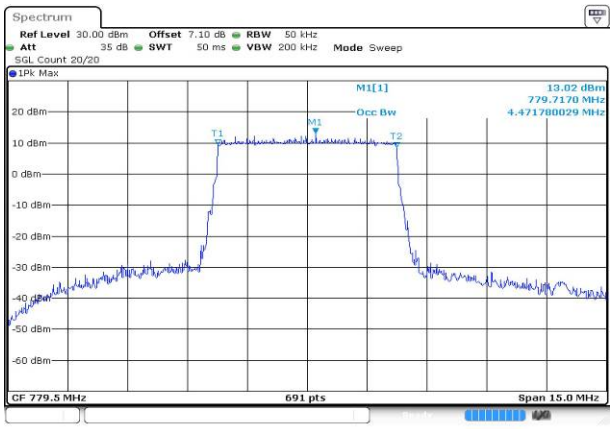


Fig.3

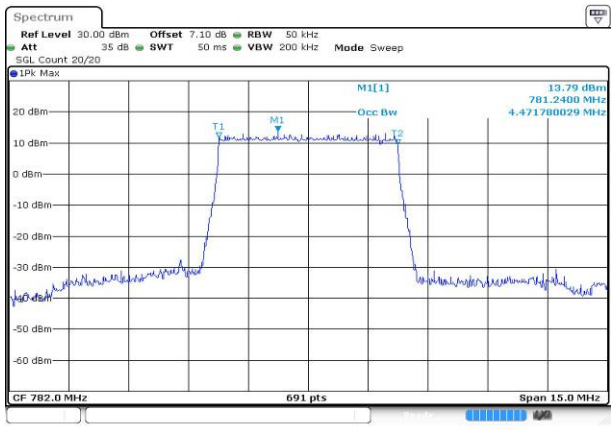


Fig.4

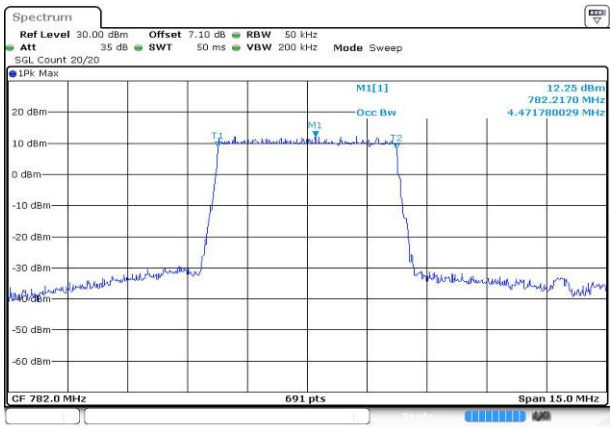


Fig.5

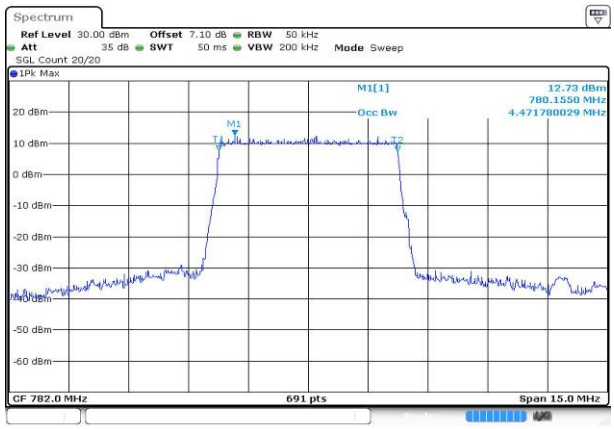


Fig.6

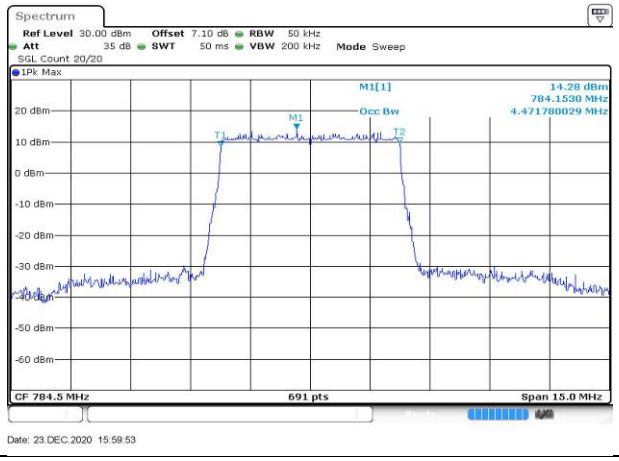


Fig.7

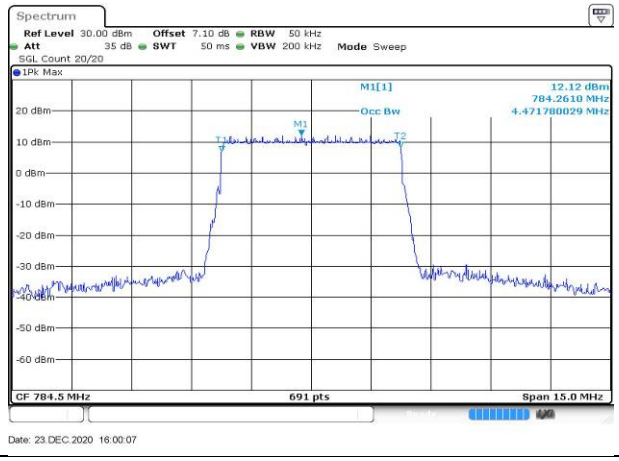


Fig.8

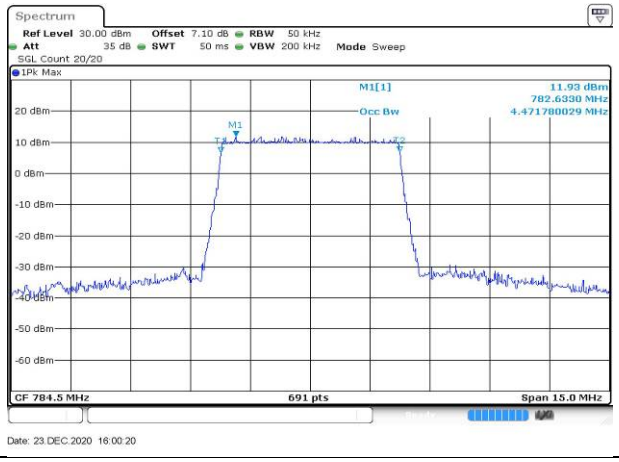


Fig.9

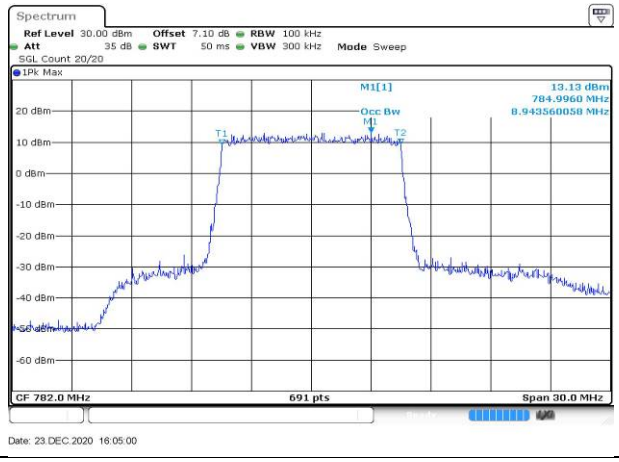


Fig.10

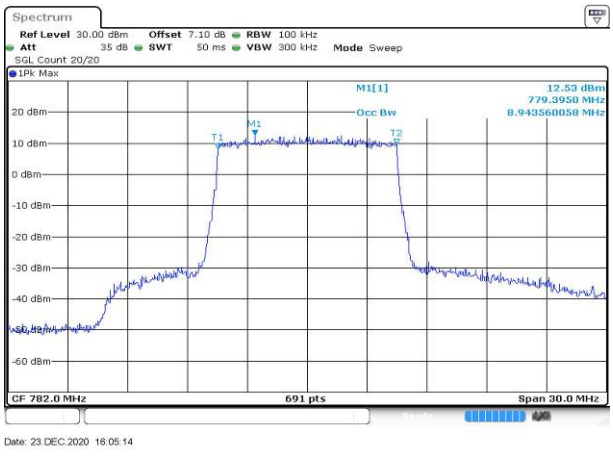


Fig.11

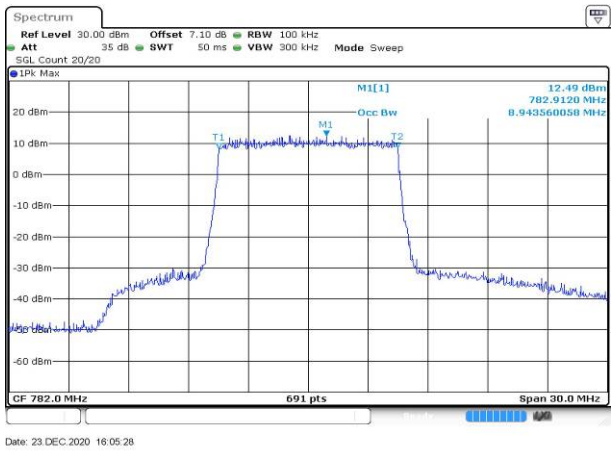


Fig.12

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	
13	779.5	23205	5	25	0	4.863	Fig.1	4.863	Fig.2	4.797	Fig.3
	782	23230		25	0	4.906	Fig.4	4.863	Fig.5	4.928	Fig.6
	784.5	23255		25	0	4.863	Fig.7	4.884	Fig.8	4.928	Fig.9
	782	23230	10	50	0	9.812	Fig.10	9.638	Fig.11	9.725	Fig.12

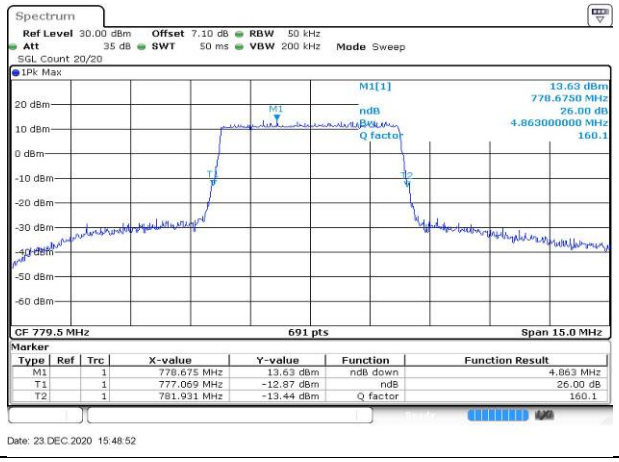


Fig.1

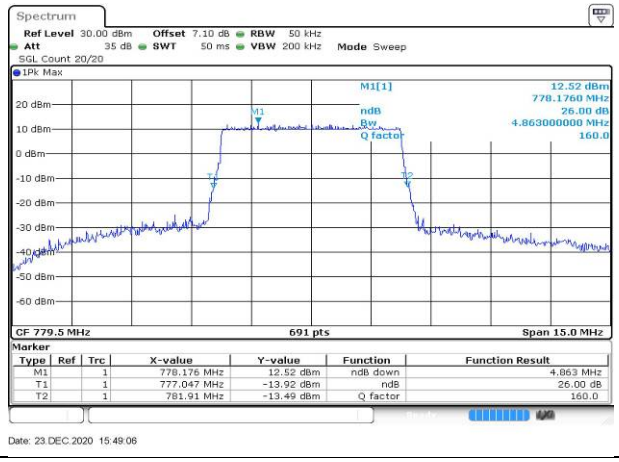


Fig.2

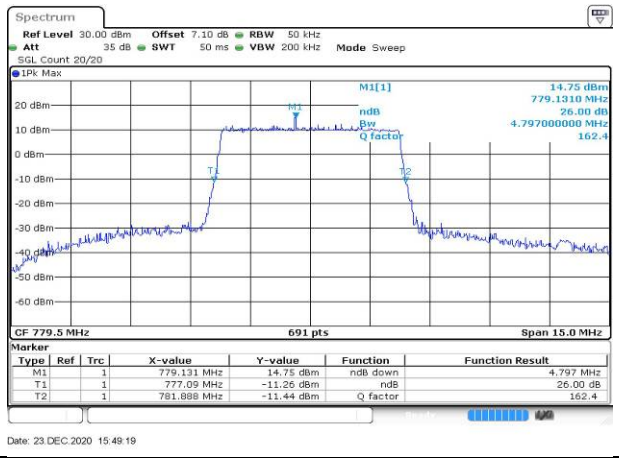


Fig.3

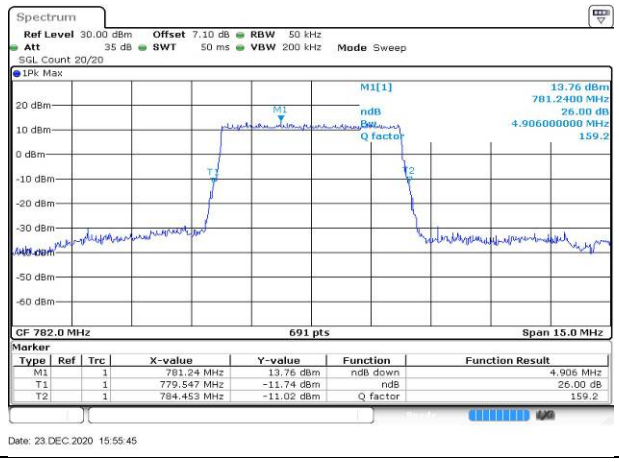


Fig.4

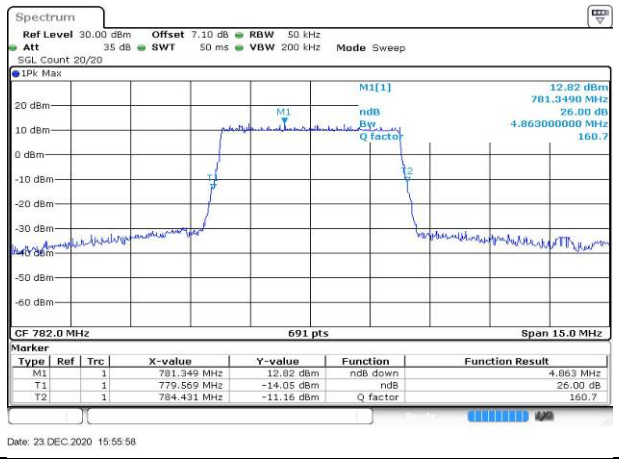


Fig.5

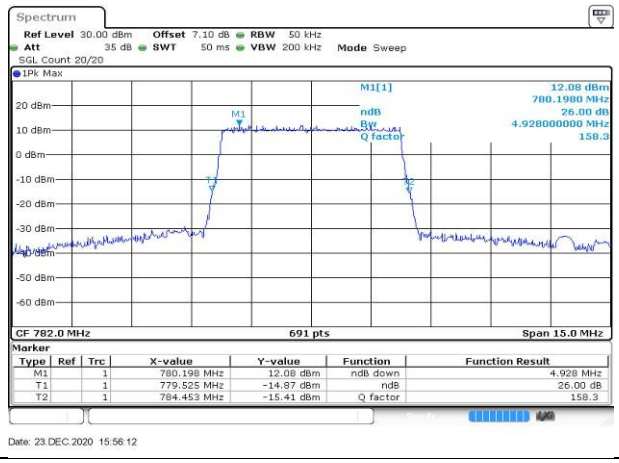


Fig.6

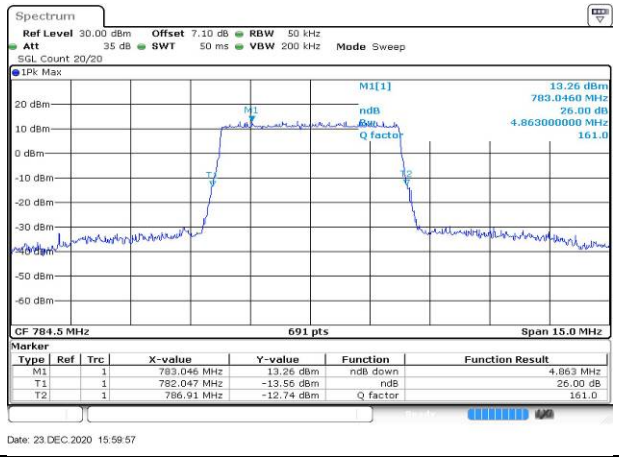


Fig.7

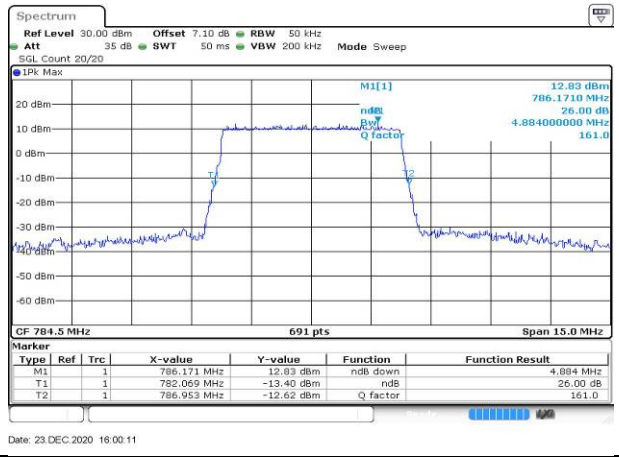


Fig.8

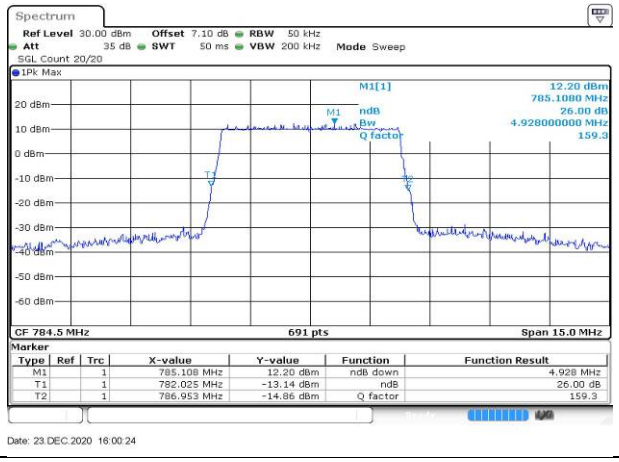


Fig.9

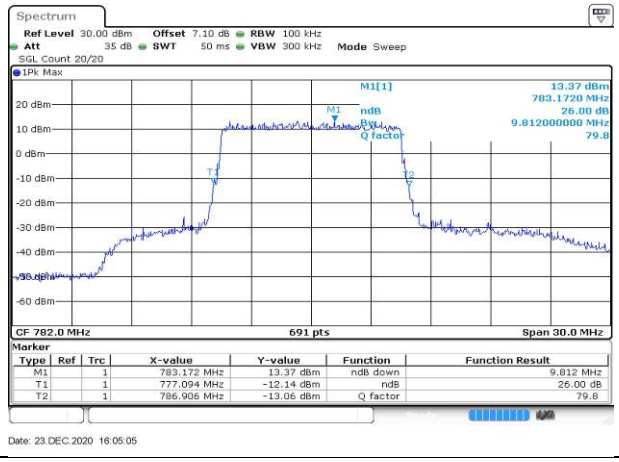


Fig.10

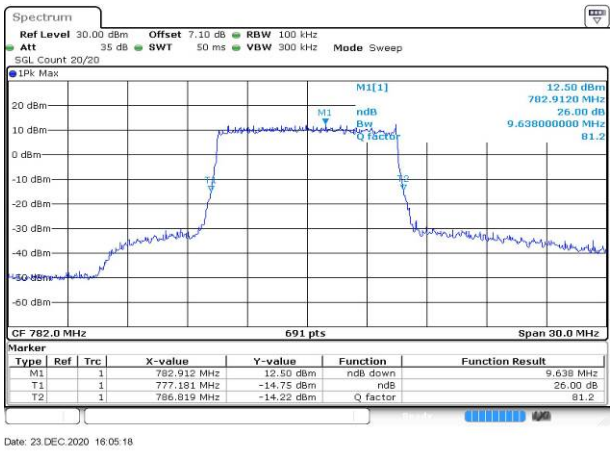


Fig.11

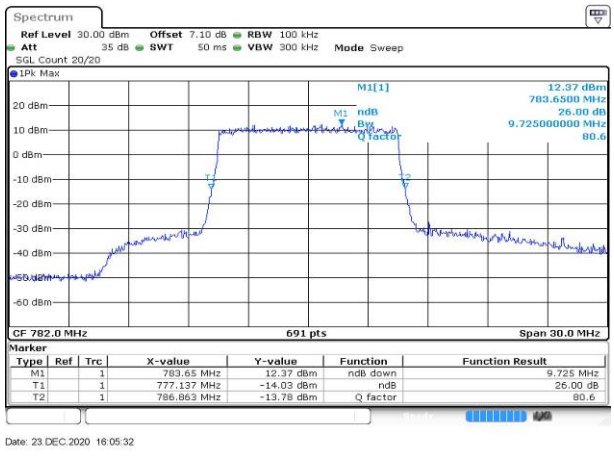


Fig.12

4 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
13	779.5	23205	5	1	24	Fig.1	Fig.2	Fig.3
	779.5	23205		25	0	Fig.4	Fig.5	Fig.6
	782	23230		1	24	Fig.7	Fig.8	Fig.9
	782	23230		25	0	Fig.10	Fig.11	Fig.12
	784.5	23255		1	24	Fig.13	Fig.14	Fig.15
	784.5	23255		25	0	Fig.16	Fig.17	Fig.18
	782	23230	10	1	49	Fig.19	Fig.20	Fig.21
	782	23230		50	0	Fig.22	Fig.23	Fig.24

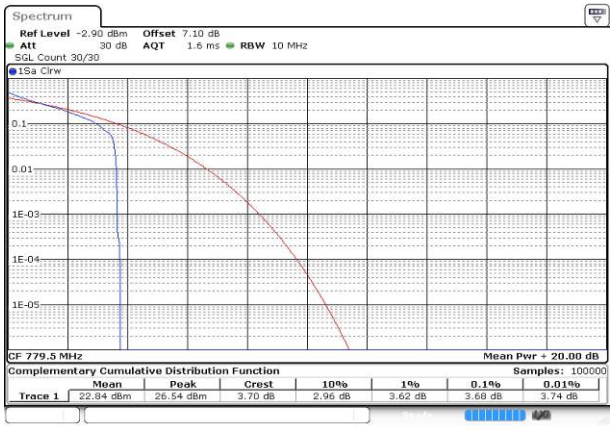


Fig.1

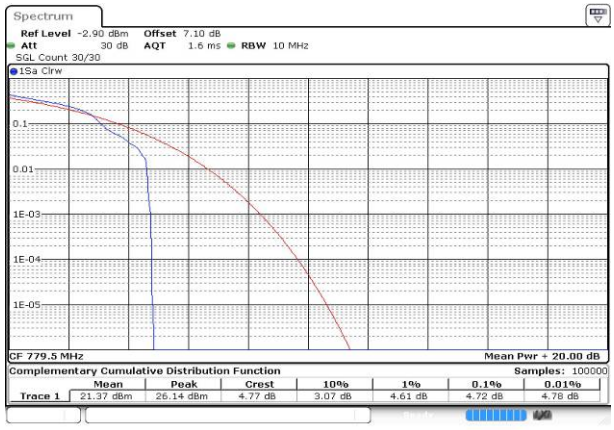


Fig.2

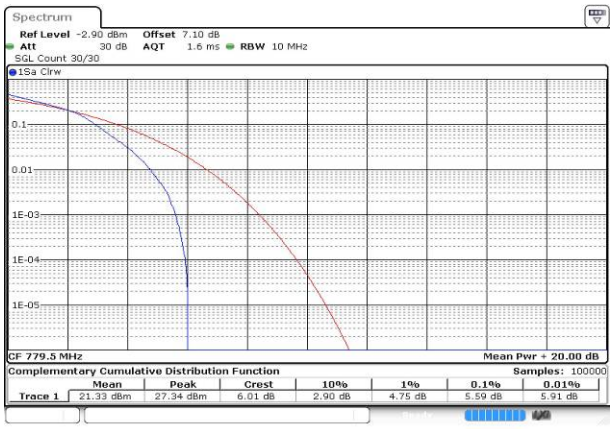


Fig.3

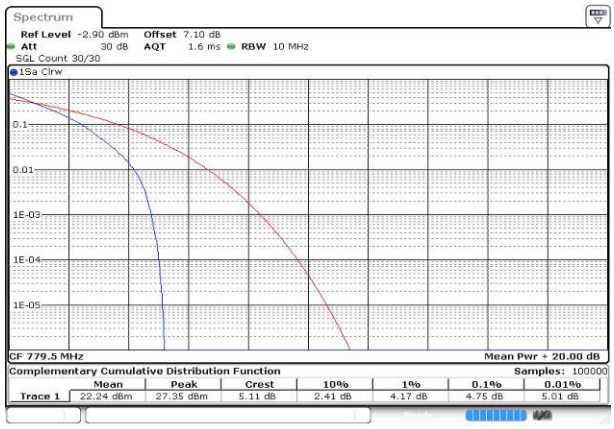


Fig.4

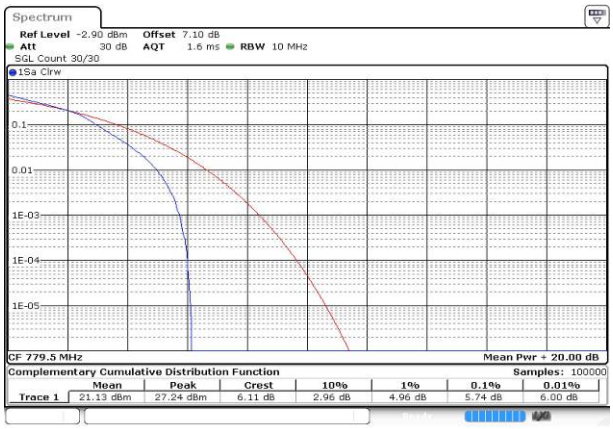


Fig.5

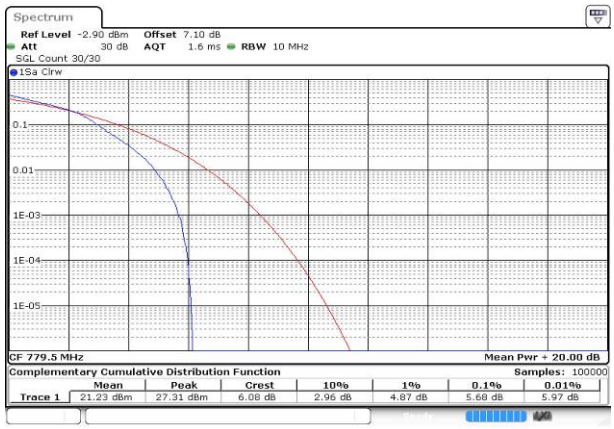


Fig.6

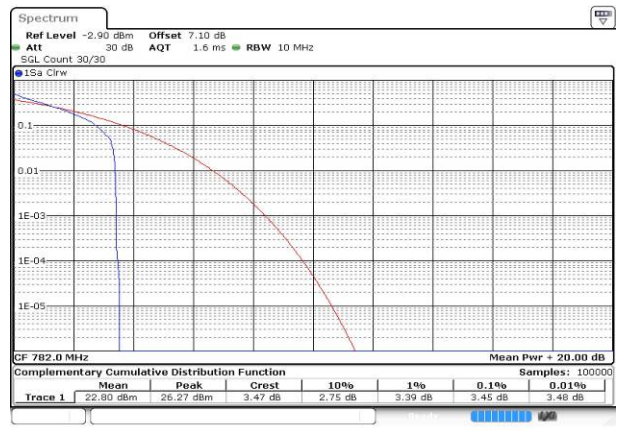


Fig.7

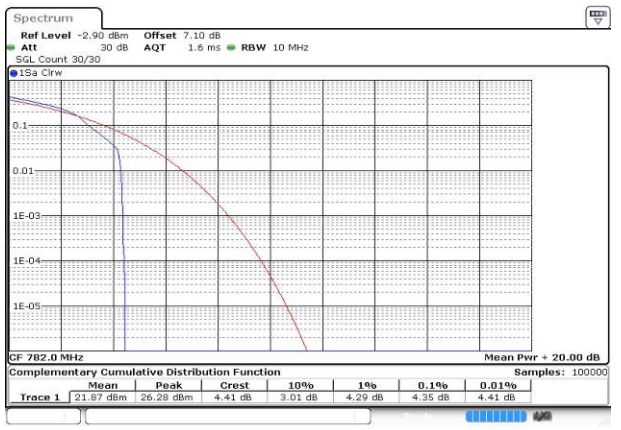


Fig.8

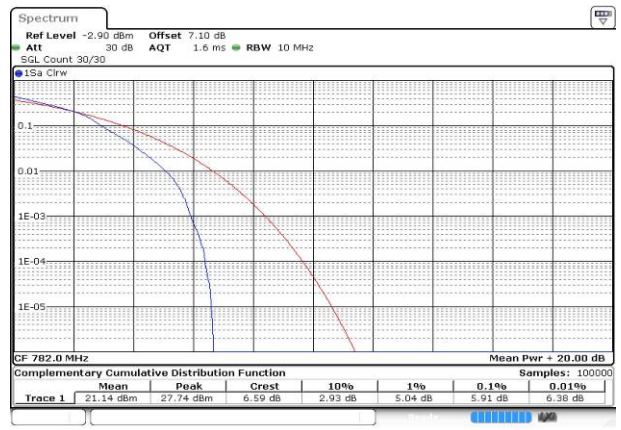


Fig.9

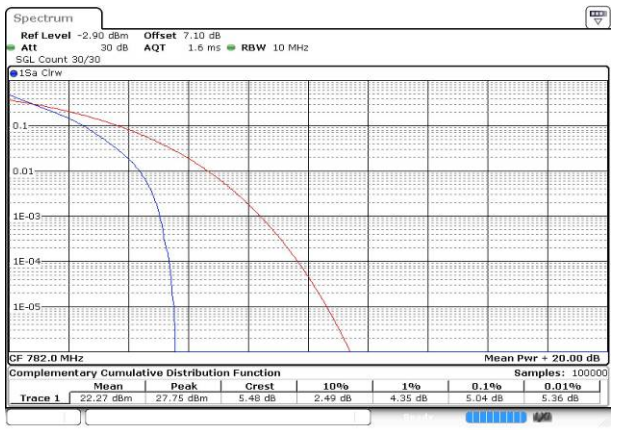


Fig.10

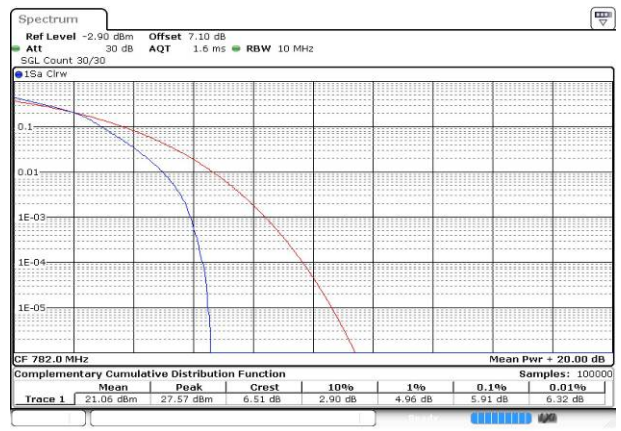


Fig.11

Fig.12

Fig.13

Fig.14

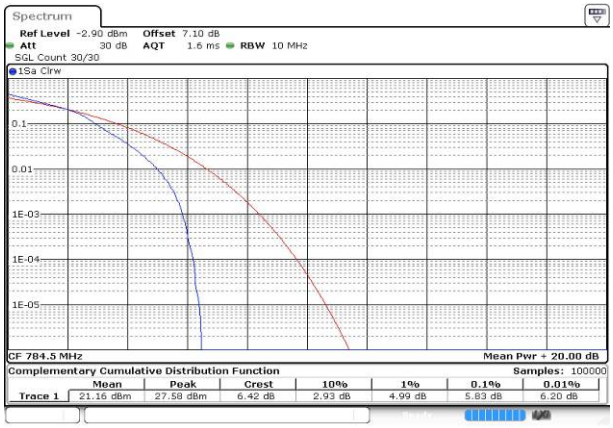


Fig.15

Fig.16

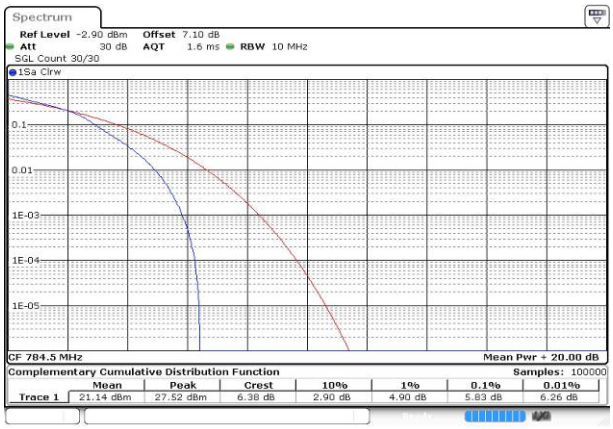


Fig.17

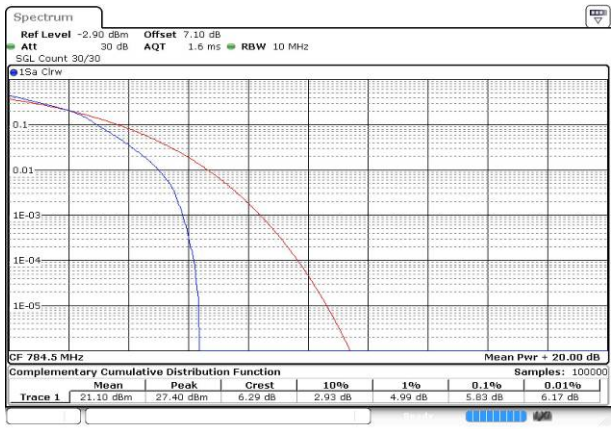


Fig.18

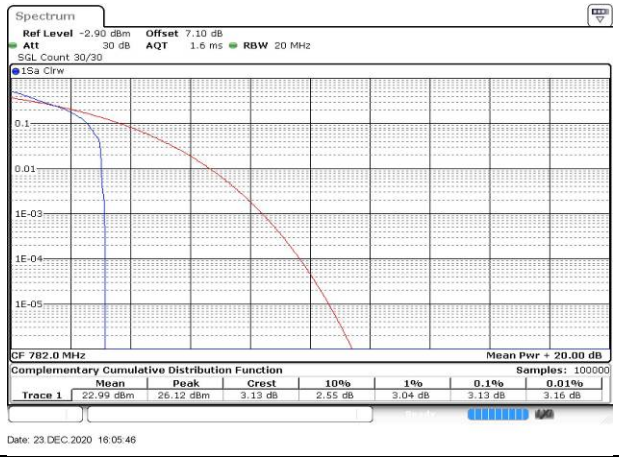


Fig.19

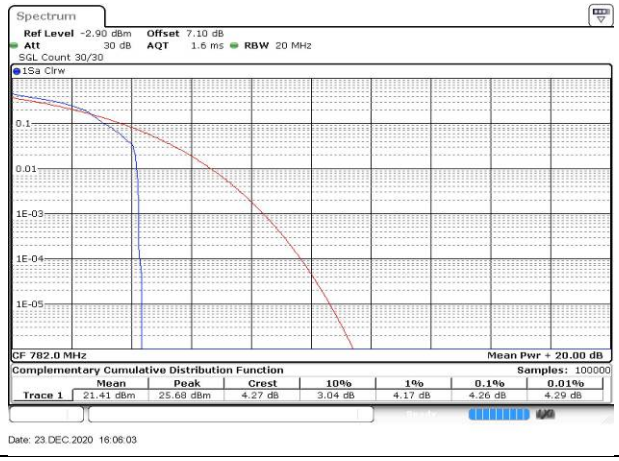


Fig.20

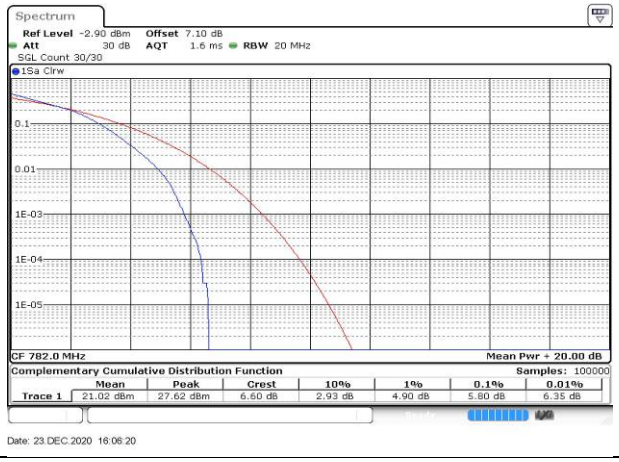


Fig.21

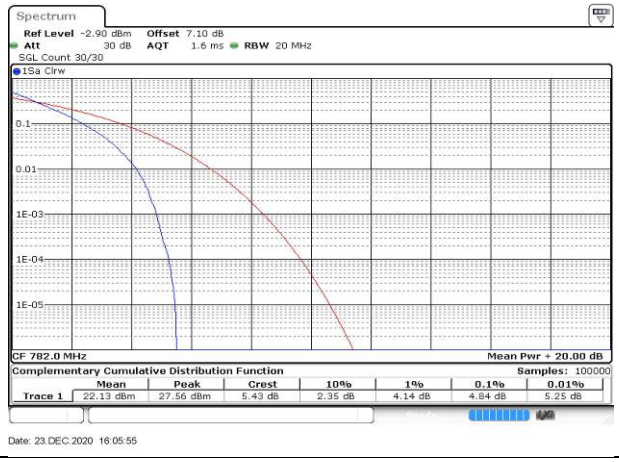


Fig.22

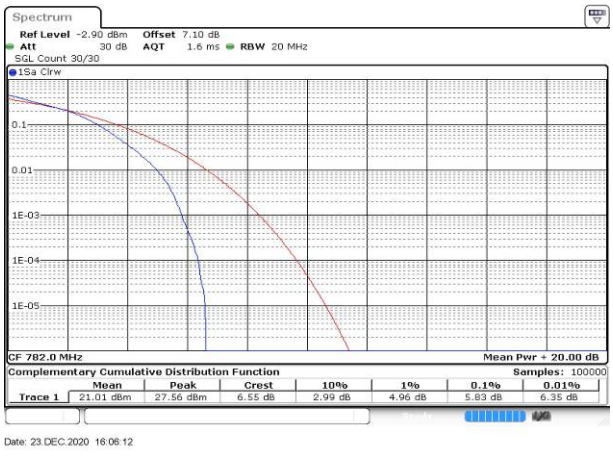


Fig.23

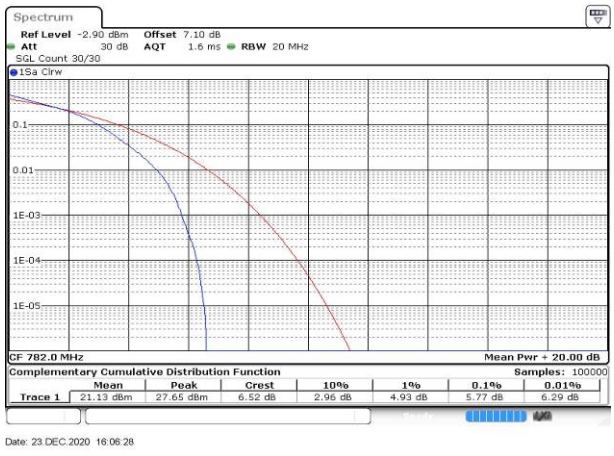


Fig.24

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

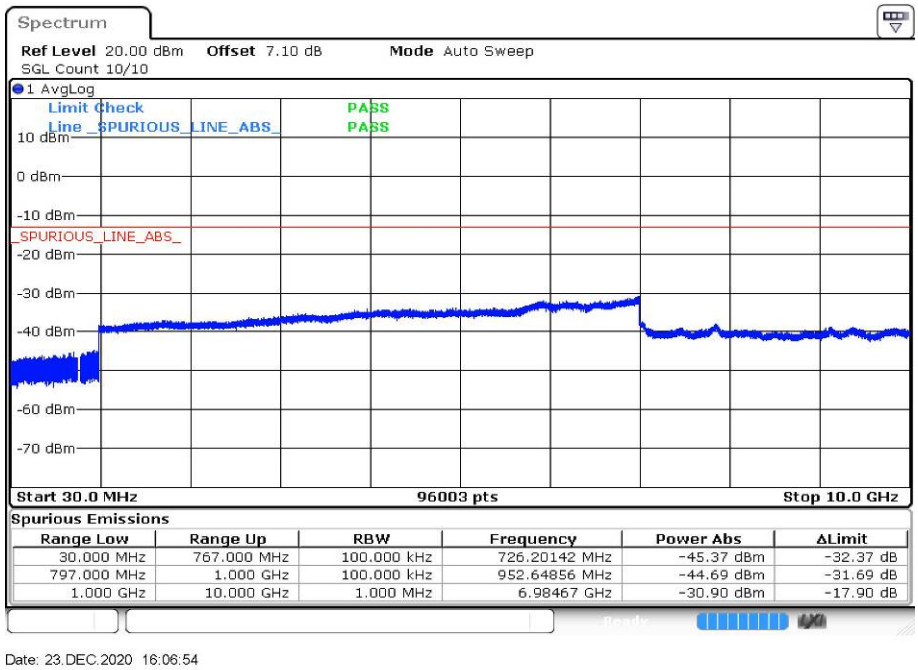


Fig.1

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

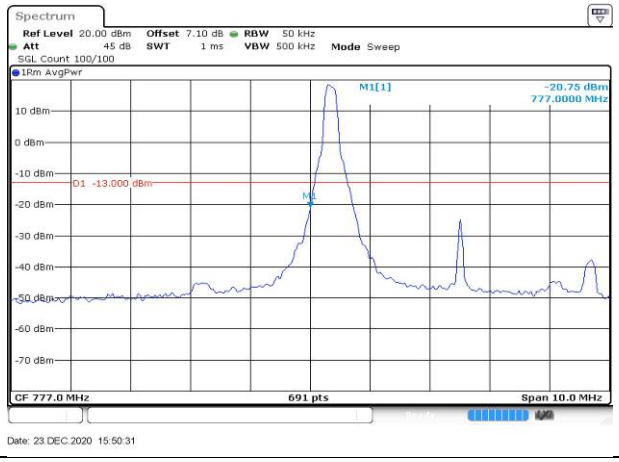


Fig.1

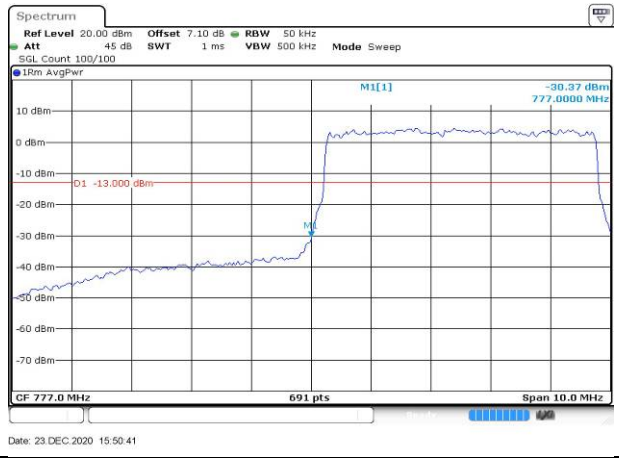


Fig.2

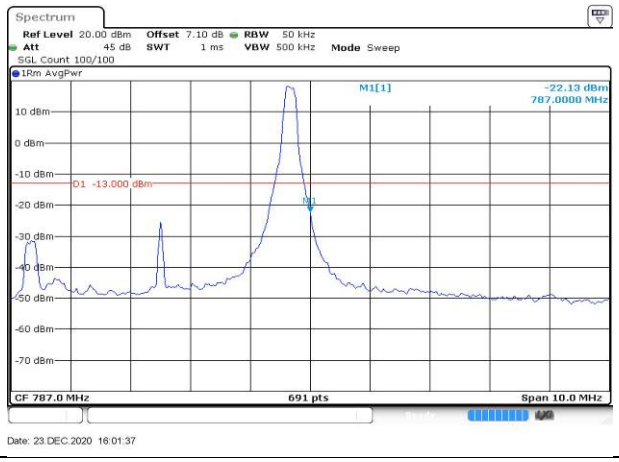


Fig.3

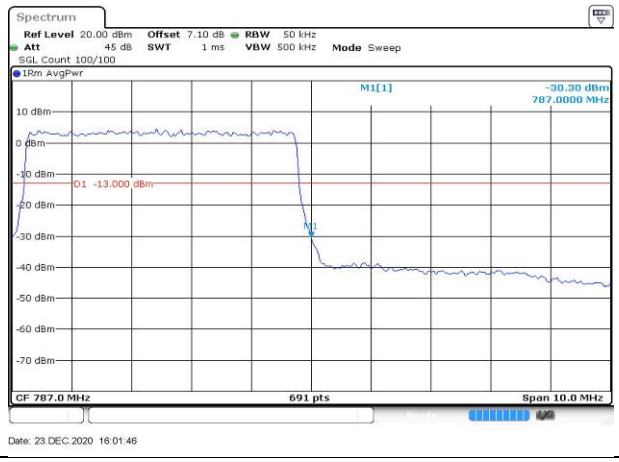


Fig.4

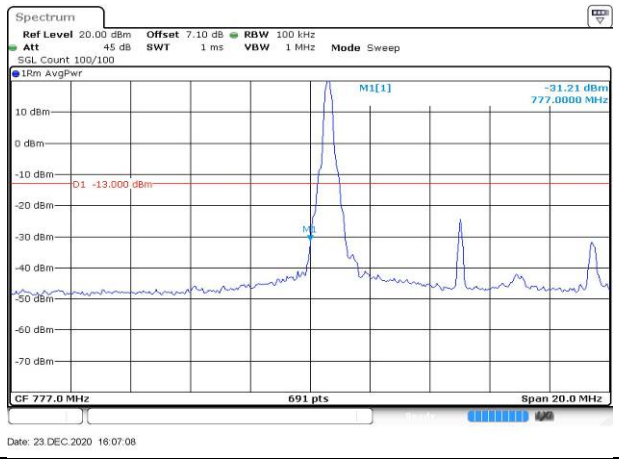


Fig.5

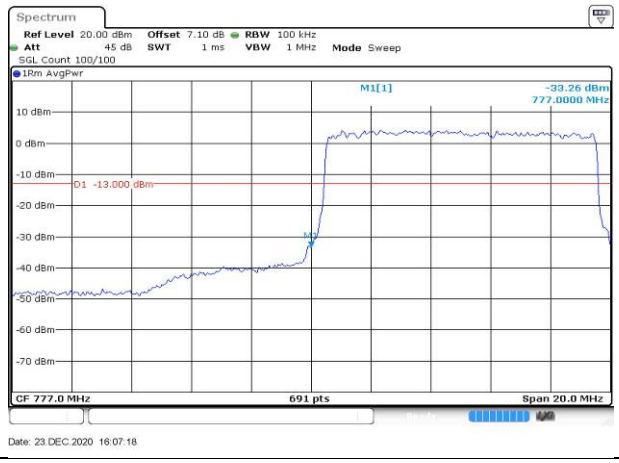
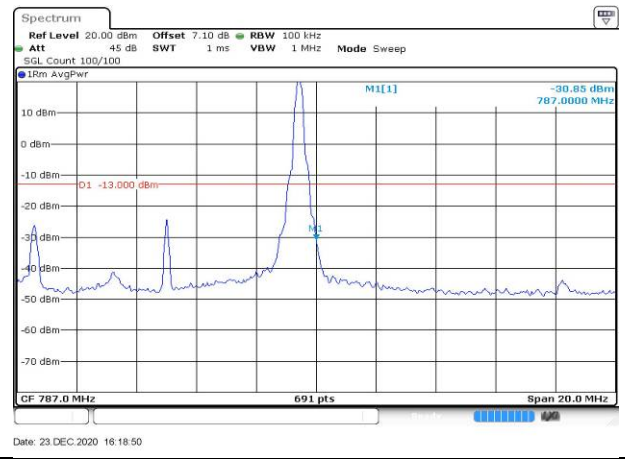


Fig.6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Ref Level 20.00 dBm Offset 7.10 dB RBW 100 kHz
Att 45 dB SWT 1 ms VBW 1 MHz Mode Sweep
SGL Count 100/100
IRm AvgPwr
M1[1] -30.85 dBm
787.0000 MHz
D1 -13.000 dBm
CF 787.0 MHz 691 pts Span 20.0 MHz
Date: 23.DEC.2020 16:18:50

Fig.7

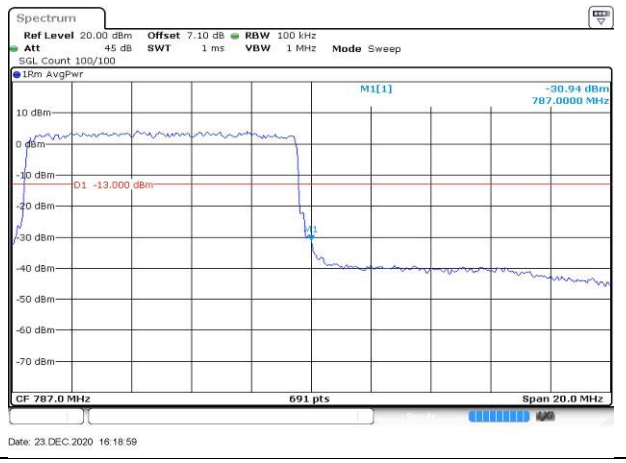
Spectrum
Ref Level 20.00 dBm Offset 7.10 dB RBW 100 kHz
Att 45 dB SWT 1 ms VBW 1 MHz Mode Sweep
SGL Count 100/100
IRm AvgPwr
M1[1] -30.94 dBm
787.0000 MHz
D1 -13.000 dBm
CF 787.0 MHz 691 pts Span 20.0 MHz
Date: 23.DEC.2020 16:18:59

Fig.8

7 Emission Mask Edge

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

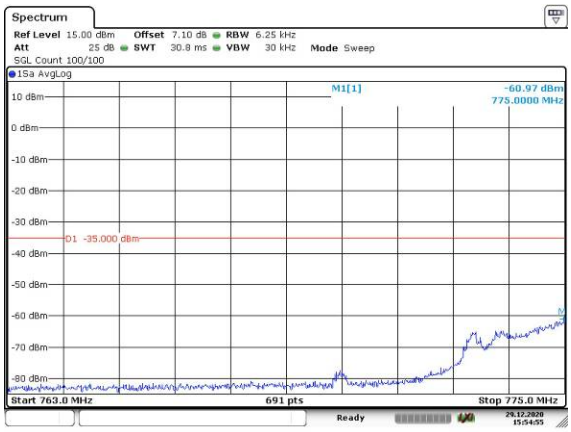

Fig.1

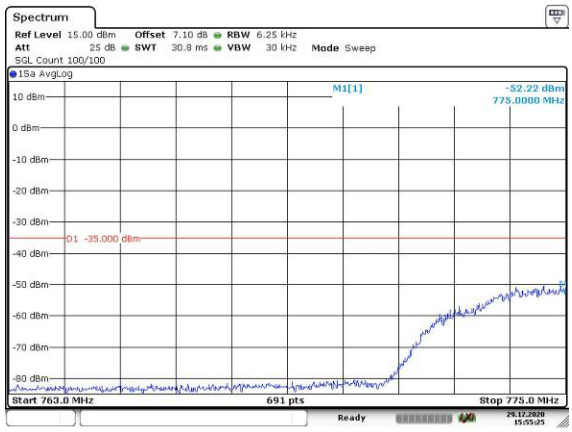

Fig.2

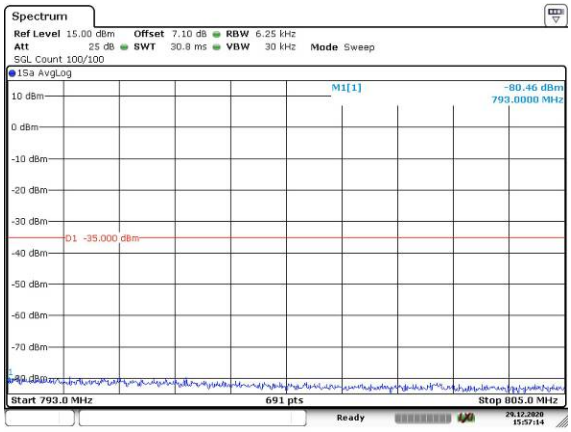

Fig.3

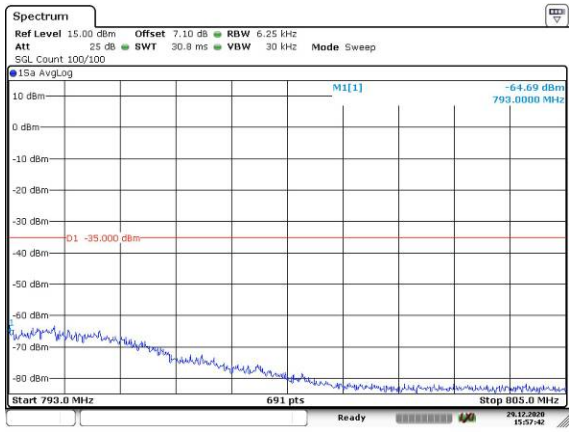

Fig.4

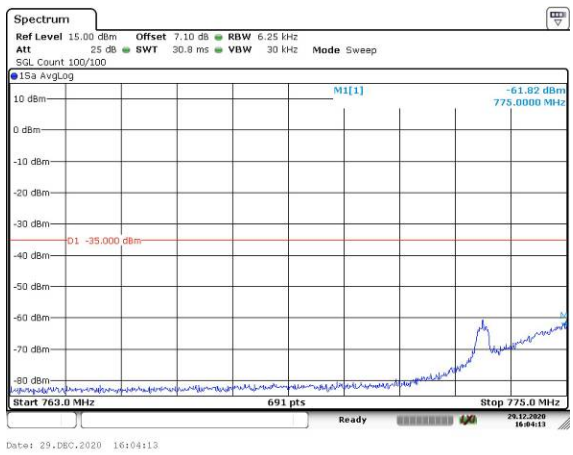

Fig.5

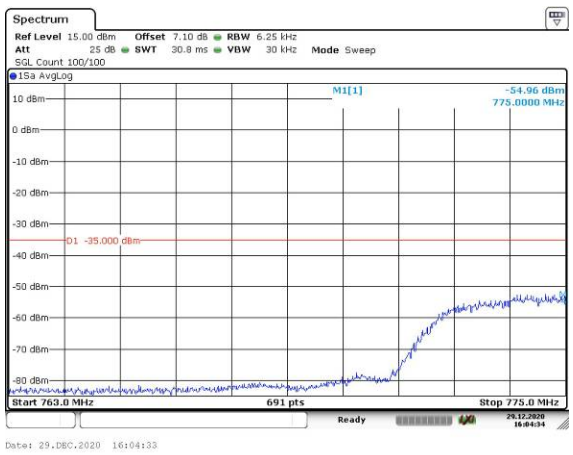

Fig.6

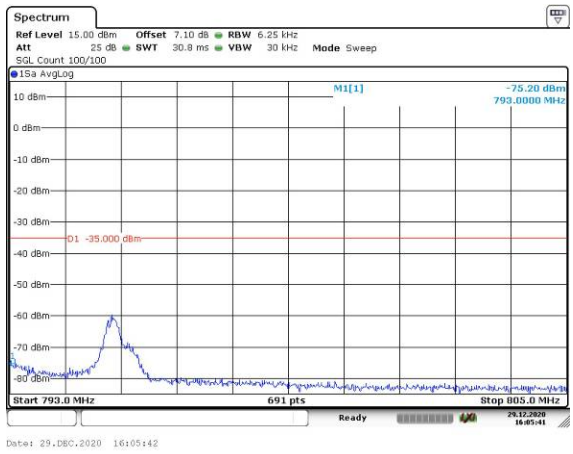

Fig.7

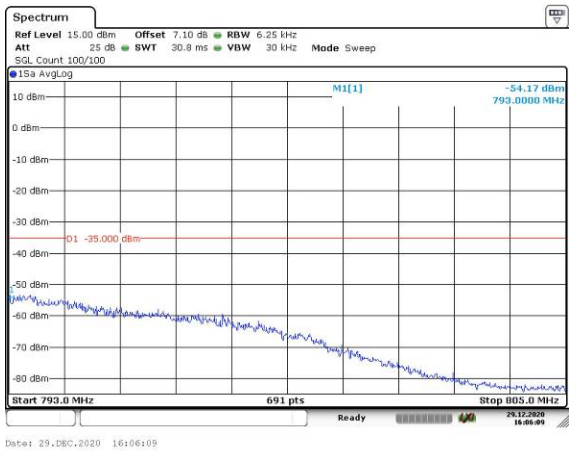

Fig.8

8 Frequency Stability

Temperature(°C)	Voltage	Test Result (ppm) Band13 Low Channel QPSK	
		5M	10M
-20	NV	0.004	0.002
-10	NV	0.005	0.003
0	NV	0.000	0.006
+10	NV	-0.003	0.005
+20	NV	0.000	0.000
+30	NV	0.001	0.001
+40	NV	0.003	0.001
+50	NV	-0.002	0.001
+60	NV	-0.003	0.001
+20	LV	-0.002	0.002
+20	HV	-0.001	0.002

Temperature(°C)	Voltage	Test Result (ppm) Band13 High Channel QPSK	
		5M	10M
-20	NV	-0.001	0.000
-10	NV	0.000	-0.001
0	NV	0.001	0.003
+10	NV	0.000	0.002
+20	NV	0.000	0.000
+30	NV	0.001	0.002
+40	NV	-0.002	0.003
+50	NV	-0.001	-0.001
+60	NV	0.002	-0.001
+20	LV	0.000	0.004
+20	HV	0.001	0.003

9 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	23.99	17.79	0.060
				1	12	24.03	17.83	0.061
				1	24	24.00	17.80	0.060
				12	0	23.01	16.81	0.048
				12	7	23.05	16.85	0.048
				12	13	23.01	16.81	0.048
				25	0	23.03	16.83	0.048
	782	23230		1	0	23.78	17.58	0.057
				1	12	23.93	17.73	0.059
				1	24	23.72	17.52	0.056
				12	0	22.94	16.74	0.047
				12	7	22.88	16.68	0.047
				12	13	22.95	16.75	0.047
				25	0	22.98	16.78	0.048
	784.5	23255		1	0	23.76	17.56	0.057
				1	12	23.95	17.75	0.060
				1	24	23.85	17.65	0.058
				12	0	22.92	16.72	0.047
				12	7	22.96	16.76	0.047
				12	13	22.97	16.77	0.048
				25	0	22.99	16.79	0.048
16QAM	779.5	23205		1	0	22.73	16.53	0.045
				1	12	22.64	16.44	0.044
				1	24	22.62	16.42	0.044
				12	0	21.90	15.70	0.037
				12	7	21.92	15.72	0.037
				12	13	21.82	15.62	0.036
				25	0	22.05	15.85	0.038
	782	23230		1	0	23.14	16.94	0.049
				1	12	23.26	17.06	0.051
				1	24	23.24	17.04	0.051
				12	0	21.70	15.50	0.035
				12	7	21.90	15.70	0.037
				12	13	21.79	15.59	0.036
				25	0	21.96	15.76	0.038
	784.5	23255		1	0	22.77	16.57	0.045
				1	12	22.46	16.26	0.042
				1	24	22.73	16.53	0.045
				12	0	21.93	15.73	0.037
				12	7	21.97	15.77	0.038
				12	13	21.89	15.69	0.037
				25	0	21.81	15.61	0.036

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	22.17	15.97	0.040
				1	12	22.21	16.01	0.040
				1	24	22.21	16.01	0.040
				12	0	22.33	16.13	0.041
				12	7	22.20	16.00	0.040
				12	13	22.19	15.99	0.040
				25	0	22.10	15.90	0.039
	782	23230		1	0	21.75	15.55	0.036
				1	12	21.78	15.58	0.036
				1	24	22.00	15.80	0.038
				12	0	21.99	15.79	0.038
				12	7	21.88	15.68	0.037
				12	13	21.88	15.68	0.037
				25	0	21.99	15.79	0.038
	784.5	23255		1	0	22.12	15.92	0.039
				1	12	21.80	15.60	0.036
				1	24	22.04	15.84	0.038
				12	0	21.81	15.61	0.036
				12	7	21.91	15.71	0.037
				12	13	21.84	15.64	0.037
				25	0	22.08	15.88	0.039

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	0	23.93	17.73	0.059
				1	25	24.04	17.84	0.061
				1	49	24.02	17.82	0.061
				25	0	22.87	16.67	0.046
				25	12	22.87	16.67	0.046
				25	25	23.12	16.92	0.049
				50	0	22.87	16.67	0.046
16QAM				1	0	23.21	17.01	0.050
				1	25	23.25	17.05	0.051
				1	49	23.24	17.04	0.051
				25	0	21.83	15.63	0.037
				25	12	21.98	15.78	0.038
				25	25	21.98	15.78	0.038
				50	0	22.19	15.99	0.040
64QAM				1	0	21.80	15.60	0.036
				1	25	21.80	15.60	0.036
				1	49	21.93	15.73	0.037
				25	0	21.80	15.60	0.036
				25	12	21.80	15.60	0.036
				25	25	21.93	15.73	0.037
				50	0	21.92	15.72	0.037