FCC 47 CFR MPE REPORT

Mitek Corp

4 Channels amplifier, 2 Channels amplifier

Model Number: Z4-B, Z2-B

FCC ID:2AAOY-Z24

Prepared for:	Mitek Corp
	1 Mitek Plaza, Winslow, Illinois 61089, United States
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

Report Number:	ESTE-R1905135
Date of Test:	Jan. 18 ~ Mar. 22, 2019
Date of Report:	Mar. 26, 2019

Maximum Permissible Exposure

1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a)、Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times｜E｜2 , ｜H｜2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b)、Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm2)	Averaging Times｜E｜2 , ｜H｜2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.o	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

2、MPE Calculation Method

E (V/m) = (30*P*G) 0.5/d Power Density: Pd (W/m2) = E2/377

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = (30*P*G) / (377*d2)

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

3、Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power（dBm）	Antenna gain	
					(dBi)	(Linear)
GFSK	2402	5.05	3.199	5±1	-0.61	0.869
	2441	4.23	2.649	4±1	-0.61	0.869
	2480	4.00	2.512	4±1	-0.61	0.869
8-DPSK	2402	5.58	3.614	5±1	-0.61	0.869
	2441	5.47	3.524	5±1	-0.61	0.869
	2480	5.35	3.428	5±1	-0.61	0.869
BLE	2402	3.81	2.404	3±1	-0.61	0.869
	2440	4.75	2.985	4±1	-0.61	0.869
	2480	5.11	3.243	5±1	-0.61	0.869

4、Calculated Result and Limit

Mode	Target power（dBm）	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
GFSK	6	-0.61	0.869	**0.00069**	1	Compiles
8-DPSK	6	-0.61	0.869	**0.00069**	1	Compiles
BLE	6	-0.61	0.869	**0.00069**	1	Compiles