

RF EXPOSURE EVALUATION

1. TEST RESULT CERTIFICATION

Applicant	Guangzhou Chuanzhou Electronic Technology Co., Ltd.
Address	2/F (Building C-1), No. 3, Chuangye 2nd Road, Guandao Village, Shapu, Xintang Town, Zengcheng, Guangzhou City
manufacturer	Guangzhou Chuanzhou Electronic Technology Co., Ltd.
Address	2/F (Building C-1), No. 3, Chuangye 2nd Road, Guandao Village, Shapu, Xintang Town, Zengcheng, Guangzhou City
Factory	Guangzhou Chuanzhou Electronic Technology Co., Ltd.
Address	2/F (Building C-1), No. 3, Chuangye 2nd Road, Guandao Village, Shapu, Xintang Town, Zengcheng, Guangzhou City
Product Designation:	FM transmitter
Brand Name:	CZERF
Test Model:	CZE-7C
FCC ID:	2ASVO7C-73
Date of Test:	Oct. 10, 2020 to Nov. 05, 2020

2. TECHNICAL INFORMATION

A major technical description of EUT is described as following:

Operation Frequency	87.9MHz-91.9MHz
Modulation	FM
Antenna Designation	Dedicated Antenna
Antenna type	External antenna
Hardware Version	V2.3
Software Version	V1.4
Maximum Conducted Power	7.06W
Antenna gain	2.5dBi
Power Supply	INPUT: 100-240V~ 50-60Hz 0.6A OUTPUT: 12V= 1.67A

3. RF EXPOSURE MEASUREMENT

3.1 INTRODUCTION

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

The 1992 ANSI/IEEE standard (See Listed limit table) specifies a minimum separation distance of 20 cm for performing reliable field measurements to determine adherence to MPE limits.

If the minimum separation distance between a transmitter and nearby persons is more than 20 cm under normal operating conditions, compliance with MPE limits may be determined at such distance from the transmitter. When applicable, operation instructions and prominent warning labels may be used to alert the exposed persons to maintain a specified distance from the transmitter or to limit their exposure durations and usage conditions to ensure compliance.

3.2 FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

TABLE 1 TO §1.1310(e)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

Note:

1. f= Frequency in MHz * Plane-wave Equivalent Power Density
2. The averaging time for General Population/Uncontrolled exposure to fixed transmitters is not applicable for mobile and portable transmitters. See 47 CFR §§2.1091 and 2.1093 on source-based time-averaging requirement for mobile and portable transmitters.

4. CLASSIFICATION OF THE ASSESSMENT METHODS

According to user manual, The antenna of the product, under normal use condition is at least 40 cm away from the body of the user. Warning statement to the user for keeping at least 40cm separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human body.

$$S=PG/4\pi R^2$$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

Limit :

GENERAL POPULATION / UNCONTROLLED EXPOSURE

Occupational/Controlled Exposure

5. EUT OPERATION CONDITION

Make the EUT to transmit at Bottom channel, Middle channel and Top channel individually.

6. TEST RESULTS

Antenna Gain=2.5 dBi (Numeric 1.78),

π =3.141,

R=40cm

Frequency	Output Power	Tune-up Power	Tune-up Power	Power Density	Power Density Limit	Result
MHz	dBm	dBm	mW	mW/cm ²	mW/cm ²	Pass/Fail
91.9	38.486	39.486	8883.825	0.7857	1.0	Pass

Note: 1.The output power is refer to **AGC10636201001FE04**.

2. Only the worst result was recorded in this part.