

RF EXPOSURE REPORT



Applicant	Shen Zhen RUIYI Sporting Goods Co., Ltd.
Address	6-2204 Tianan Yungu Industrial Park, Bantian St., Longgang Dist. ShenZhen, Guangdong, China

Manufacturer or Supplier	Shen Zhen RUIYI Sporting Goods Co., Ltd.
Address	6-2204 Tianan Yungu Industrial Park, Bantian St., Longgang Dist. ShenZhen, Guangdong, China
Product	SPEED RADAR GUN
Brand Name	PLAYAPUT, WEEPALM RADAR
Model	PPSR8888
Additional Model & Model Difference	WRSR8888; see item 1
Date of tests	May 01, 2024 ~ May 23, 2024

☒ **FCC Part 2 (Section 2.1093)**

☒ **KDB 447498 D04 Interim General RF Exposure Guidance v01**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Date: Jun. 12, 2024

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Test Report No.: FM2403WDG0180

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2403WDG0180	Original release	Jun. 12, 2024

1. CERTIFICATION

FCC ID:	2BFQ4RUIYI01
PRODUCT:	SPEED RADAR GUN
BRAND NAME:	PLAYAPUT, WEEPALM RADAR
MODEL NO.:	PPSR8888
ADDITIONAL NO.:	WRSR8888
TEST SAMPLE:	Engineering Sample
APPLICANT:	Shen Zhen RUIYI Sporting Goods Co., Ltd.
STANDARDS:	FCC Part 2 (Section 2.1093)
	KDB 447498 D04 Interim General RF Exposure Guidance v01

Note:

Additional model WRSR8888 is identical with the test model PPSR8888 except the color of the appearance and model name for trading purpose.



2. RF EXPOSURE DEFINE

"Blanket" Exemption – §1.1307(b)(3)(i)(A)

- Regardless of the separation distance, the maximum time-averaged power is no more than 1mw.

"MPE" Exemption – §1.1307(b)(3)(i)(C)

- The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.
- Table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

RF Source frequency (MHz)	Minimum Distance		Threshold ERP (watts)
	$\lambda_L/ 2\pi$	$\lambda_H/ 2\pi$	
0.3-1.34	159 m–35.6 m		1,920 R ² .
1.34-30	35.6 m–1.6 m		3,450 R ² /f ² .
30-300	1.6 m–159 mm		3.83 R ² .
300-1,500	159 mm–31.8 mm		0.0128 R ² f.
1,500-100,000	31.8 mm–0.5 mm		19.2 R ² .
R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.			

- For mobile devices that are not exempt per Table 1 of §1.1307(b)(1)(i)(C) and device at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

"SAR" Exemption – §1.1307(b)(3)(i)(B)

- the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

And

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

3. MULTIPLE RF SOURCES ARE EXEMPT

Multiple RF sources are exempt– §1.1307(b)(3)(ii)

(a) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required).

(b) Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluated_k term) should be used to determine exemption for simultaneous transmission according to Formula below,

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

The sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE should be less than 1, to determine simultaneous transmission exposure compliance.

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using [paragraph \(b\)\(3\)\(i\)\(B\)](#) of this section for *P_{th}*, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using [paragraph \(b\)\(3\)\(i\)\(C\)](#) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source *i* at a distance between 0.5 cm and 40 cm (inclusive).

P_{th,i} = the exemption threshold power (*P_{th}*) according to [paragraph \(b\)\(3\)\(i\)\(B\)](#) of this section for fixed, mobile, or portable RF source *i*.

ERP_j = the ERP of fixed, mobile, or portable RF source *j*.

ERP_{th,j} = exemption threshold ERP for fixed, mobile, or portable RF source *j*, at a distance of at least $\lambda/2\pi$ according to the applicable formula of [paragraph \(b\)\(3\)\(i\)\(C\)](#) of this section.

Evaluated_k = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limit_k = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k*, as applicable from [§ 1.1310 of this chapter](#).



4. SAR TEST EXCLUSION THRESHOLDS

The measured EIRP

Frequency (GHz)	Field strength (dBuV/m) @3m	EIRP (dBm)
10.520	93.93	-1.3

Note: EIRP= 93.93 -104.77-20*log₁₀(3)

The tuned EIRP

Frequency (GHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
10.520	-1.5	+1	-2.5	-0.5

“Blanket” Exemption – §1.1307(b)(3)(i)(A)				
Frequency (MHz)	Max. EIRP (dBm)	Max. EIRP (mW)	Limit Threshold (mW)	Test Result
10.520	-0.5	0.89	1	Pass

CONCLUSION:

Therefore, this device complies with FCC’s RF radiation exposure limits for general population without SAR evaluation.