

**GIGA-TMS INC.**

**8F, NO.31, LANE 169, KANG-NING ST.,HSI-CHIH, NEW TAIPEI CITY,  
22180 TAIWAN**

Federal Communications Commission  
Authorization and Evaluation Division  
Equipment Authorization Branch  
7435 Oakland Mills Road  
Columbia, MD 21046

**Applicant's declaration concerning RF Radiation Exposure**

We hereby indicate that the product  
Product description: NEXT-GEN UHF RFID Reader  
Model No: RU224-51

The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The integral antennas used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter within the host device.

A safety statement concerning minimum separation distances from enclosure of the Product : NEXT-GEN UHF RFID Reader will be integrated in the user's manual to provide end-users with transmitter operating conditions for satisfying RF exposure compliance.

The appropriate information can be drawn from the test report no: W6R21907-19234-C-1 and the accompanying calculations.

Company: GIGA-TMS INC.  
Address: 8F, NO.31, LANE 169, KANG-NING ST.,HSI-CHIH, NEW TAIPEI CITY, 22180 TAIWAN

Date: 2019.12.09

Signature





# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6R21907-19234-C-1

FCC ID: WXARU224RB

## 3.2 Equivalent isotropic radiated power (EIRP)

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain

UHF (902.5-927.5 MHz)

EIRP = 29.37 dBm+ ( 6 dBi [antenna gain claimed by manufacturer]) = 35.37 dBm = 3443.50 mW

## 3.3 Exemption Limits for Routine Evaluation according to

### 47 CFR FCC Part 2 Subpart J, section 2.1091

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

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 levels 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 25 cm normally can be maintained between the user and the device.

## MPE Calculation Method

### (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/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	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/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

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

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

mW/m<sup>2</sup>.



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### **UHF**

Established separation distance is 25 cm.

Operating frequency band: 902.5-927.5 MHz

The product meets RF exposure requirement.

Because the power density of  $0.4384 \text{ mW/cm}^2$  at 902.5 MHz is below the power density limit of  $0.6017 \text{ mW/cm}^2$ .