

## RF Exposure

FCC ID: 2AC6AUR4

**Applicant:** Shenzhen Chainway Information Technology Co.,Ltd.

Exposure category: General population/uncontrolled environment

EUT Type: Production Unit

Device Type: Fixed UHF Reader

Refer Standard: FCC Part 2.1091: Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)

### FCC MPE Limited:

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (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

Test Data

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

900MHz RFID Antenna Gain information

Maximum RFID Antenna Gain: 9.0dBi

**Worst-Case mode Conducted Output Power Results for RFID**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Tune Up tolerance(dBm)
1	902.75	25.472	25 ± 0.5
26	915.25	25.482	25 ± 0.5
50	927.25	25.457	25 ± 0.5

**Calculation results (for RFID): pass**

Channel	Frequency (MHz)	Max. ERP (Include tune up power)	Result(mW/cm <sup>2</sup> )	Limit(mW/cm <sup>2</sup> )
Low	902.75	34.5dBm	0.561	0.602
Mid	915.25	34.5dBm	0.561	0.610
High	927.25	34.5dBm	0.561	0.618

**Simultaneous Transmission:**

No.	Transmitter Combinations	Scenario Supported or not
1	Not support	Not support