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Website

**EARDATEK**  
Stock Code: 870780

# RADAR SENSING

Module & Solution

## Earda Technologies Co., Ltd.

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Leading IoT Module Supplier

# About Us

Stock Code: 870780

Founded in 1999, Earda Technologies Co., Ltd is a national high-tech enterprise specializing in R&D, manufacturing, and sales of IoT communication modules and sensing modules. Listed on the New OTC Market in 2017, Earda has been serving numerous leading customers and operators worldwide and has developed into a global well-known IoT module supplier.

With 20 years of experience in RF technology, Earda has a stable R&D team and industry-leading equipment. Our products include 5.8G/10G microwave radar module, 24G/60G MMW radar module, human presence sensor, Wi-Fi module, Bluetooth module and more. Our business covers intelligent lighting, intelligent appliance, intelligent security, intelligent home, automotive electronic and more. We also provide software support services such as server construction, cloud connection, App customization, and offer comprehensive solutions for IoT connections.

Experience in R&D

**25** years

Annual Output Value

**500** million

Employees

**330**

Automatic Testing

**30** lines

Annual Shipments

**60** million pcs

R&D Engineers

**80**

## Customers

**FSL**  
佛山照明

**LEDVANCE**

**三雄极光Pak**

**NVC** 雷士照明

**阳光照明**

**木林森照明**

**Midea**  
美智光电

**red100红壹佰**  
智能球泡灯·智能工厂灯

**Panasonic**

**SKYWORTH**

**ZTE**

**TOSHIBA**

**TOTO**

**alhua**  
TECHNOLOGY

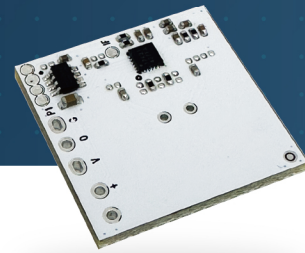
**uniview**  
宇视科技



# 5.8G

## Microwave Radar

ERD-5812BCHA



### Characteristic (Motion Sensing)



#### Motion Detection

Detecting a moving object will output a high level signal or PWM



#### Adjustable Distance

Supports straight-line distance regulation from 1-12 m



#### Adjustable Illuminance

Setting the light sensitivity threshold according to the scene requirements



#### Wide Sensing-Range

Hanging height 3m, sensing radius of 3~5m





#### High Adaptability

T8 tube, ceiling lamp, downlight, bulb light and more



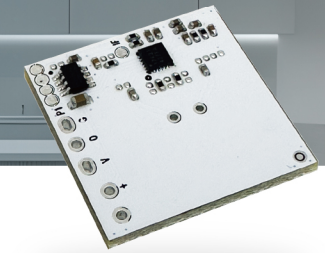
#### Support Certification

Chinese and international certified

Module Size:	20 x 20 mm	Applications	
Output Mode:	High & Low Level/PWM	 	
Test Support:	Support Quick Test, Aging Test		
Power Consumption:	13 mA		
Sensing Distance:	Straight-line 12 m, Radius of 3-5 m	T8 Tube	Ceiling Light

## Intelligent Lighting

ERD-5812CCHA



### Characteristic (Low Power)



#### Motion Detection

Detecting a moving object will output a high level signal or PWM



#### Adjustable Distance

Supports straight-line distance regulation from 1-12 m



#### Adjustable Illuminance

Setting the light sensitivity threshold according to the scene requirements



#### High Adaptability

T8 tube, ceiling lamp, downlight, bulb light and more





#### Wide Sensing-Range

Hanging height 3m, sensing radius of 3~5m



#### Support Certification

Chinese and international certified

Module Size:	20 x 20 mm	Applications	
Output Mode:	High & Low Level/PWM	 	
Test Support:	Support Quick Test, Aging Test		
Power Consumption:	3 mA (Adjustable)		
Sensing Distance:	Straight-line 12 m, Radius of 3-5 m	Bulb Light	Downlight

# 5.8G

## Microwave Radar

ERD-5812BCFA



### Characteristic (Mini-size)



#### Motion Detection

Detecting a moving object will output a high level signal or PWM




#### Support Certification

Chinese and international certified

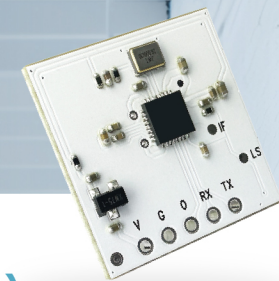


#### Adjustable Illuminance

Setting the light sensitivity threshold according to the scene requirements

Module Size:	14 x 14 mm	Applications
Output Mode:	High & Low Level/PWM	
Parameter Adjustment:	N/A	
Power Consumption:	13 mA	
Sensing Distance:	Straight-line 2-5 m	
		T5 Tube

ERD-5850NCHC



### Characteristic (High-hanging Sensing)



#### Motion Detection

Detecting a moving object will output a high level signal or PWM



#### Distance adjustable

The farthest sensing distance can reach 25m straight line



#### Adjustable Illuminance

Setting the light sensitivity threshold according to the scene requirements



#### High Adaptability

Industrial lamp, high hanging lamp



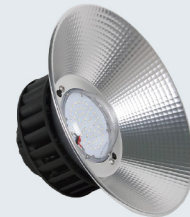
#### Wide Sensing-Range

Hanging height 3m, sensing radius of 2~4m



#### Uart Parameter Adjustment

Support to adjust the parameters through the UART function

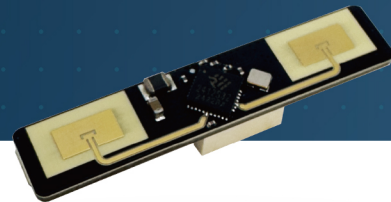
Module Size:	20 x 20 mm	Applications
Output Mode:	High & Low Level/PWM	
Parameter Adjustment:	UART	
Power Consumption:	10 mA	
Sensing Distance:	Radius of 10 m (Hanging Height 10 m)	
		Industrial Lamp/High-hanging Lamp



# 24G

## MMW Radar

ERD-AT24LAAA



### Characteristic (Presence Sensing)



#### Good Directivity

Suitable for products requiring high distance accuracy



#### Adjustable Distance

Support configure the detection distance interval and set the sensitivity by distance



#### Human Presence Sensing

Precise Indoor Life Presence Detection and Distance Monitoring



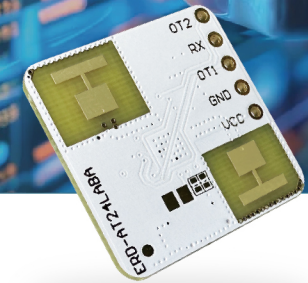
#### Small Size

The slender size is space-saving and easy to integrate

Module Size:	35 x 7 mm	Applications	
Output Mode:	GPIO / UART		
Parameter Adjustment:	3.0V~3.6V		
Power Consumption:	14mA (Working), 1mA (Low-power)		
Sensing Distance:	6 m	Screen Device	Home Appliances Table Lamp

ERD-AT24LABA

Smart Home



### Characteristic (Presence Sensing)



#### Low Power

Power consumption low to 300μA



#### Intelligent Parameter Tuning

Customized algorithms,support multiple scenarios



#### Human Presence Sensing

24G MMW radar detection to truly realize human presence sensing



#### Wide Sensing-Range

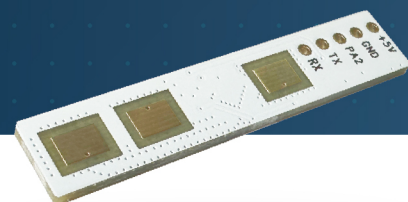
Supports sensing angles up to 120°

Module Size:	20 x 20 mm	Applications	
Output Mode:	GPIO / UART		
Parameter Adjustment:	UART		
Power Consumption:	11mA (Working), 300μA (Low-power)		
Sensing Distance:	Straight-line 6 m, Radius of 3-5 m	Panel Light	Down Light Table Lamp

# 24G

## MMW Radar

### ERD-AT24MNAB



### Characteristic (Presence Sensing)



#### Good Directivity

Suitable for products requiring high distance accuracy



#### Adjustable Distance

Support configure the detection distance interval and set the sensitivity by distance



#### Human Presence Sensing

Precise Indoor Life Presence Detection and Distance Monitoring



#### Small Size

The slender size is space-saving and easy to integrate

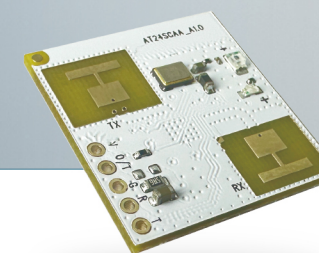


#### Trajectory Tracking

Capture the movement of the target

Module Size:	35 x 7 mm	Applications	
Output Mode:	GPIO / UART		
Parameter Adjustment:	3.0V~12V		
Power Consumption:	11mA (Working), 300μA (Low-power)		
Sensing Distance:	Radius of 6-13m (Hanging Height 3m)	Screen Device	Home Appliances

### ERD-AT24SCAA



### Characteristic (Radar + BT)



#### Precise Ranging

Accurately detect the distance of moving objects



#### BT Intelligent Parameter Tuning

Adjust parameters through APP/mini program to meet the needs of multiple scenarios



#### Human Presence Sensing

24G MMW radar detection to truly realize human presence sensing



#### Wide Sensing-Range

Supports sensing angles up to 120°

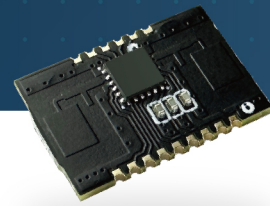
Module Size:	20 x 22 mm	Applications	
Output Mode:	PWM / GPIO / UART		
Parameter Adjustment:	UART		
Power Consumption:	20 mA		
Sensing Distance:	Straight-line 1-13 m, Radius of 3-6 m	Table Lamp	Electronic Cat Eye



# 24G

## MMW Radar

ERD-RS211NAA



### Characteristic (Ultra-Small Size)



#### Good Directivity

Suitable for products requiring high distance accuracy



#### Adjustable Distance

Support configure the detection distance interval and set the sensitivity by distance



#### Human Presence Sensing

Precise sensing of indoor life presence and distance detection

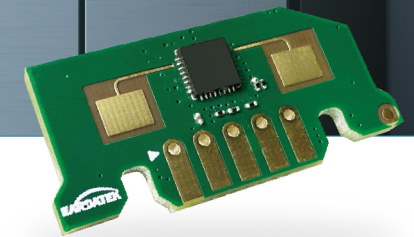


#### Ultra-Small Size

The slender size is space-saving and easy to integrate

Module Size:	12 x 8 mm	Applications   
Output Mode:	GPIO / UART	
Parameter Adjustment:	3.0V~3.6V	
Power Consumption:	4 $\mu$ A	
Sensing Distance:	Radius of 3-8m (Hanging Height 3m)	
		Screen Device   Home Appliances   Smart Pet Supplies

ERD-ICL11CAA



### Characteristic (Precise Sensing)



#### Precise Ranging

Accurately detect the distance of moving objects




#### Wide Sensing-Range

Supports sensing angles up to 120°



#### Human Presence Sensing

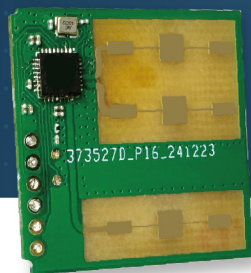
24G MMW radar detection to truly realize human presence sensing

Module Size:	13.7 x 29.5 mm	Applications 
Output Mode:	PWM / GPIO / UART	
Parameter Adjustment:	UART	
Power Consumption:	25 mA	
Sensing Distance:	Straight-line 3 m	
		Fridge

# 24G

## MMW Radar

ERD-R2412NBA/AC



### Characteristic (In-zone Only)



#### Precise Ranging

Accurately detect the distance of moving objects



#### Tracking Trajectory

The motion trajectory of the target that can be captured



#### Adjustable Induction Range

Customize and accurately identify the boundary of the fence



#### High Anti-interference

It has strong resistance to radio frequency interference from Wi-Fi, 4G, etc.

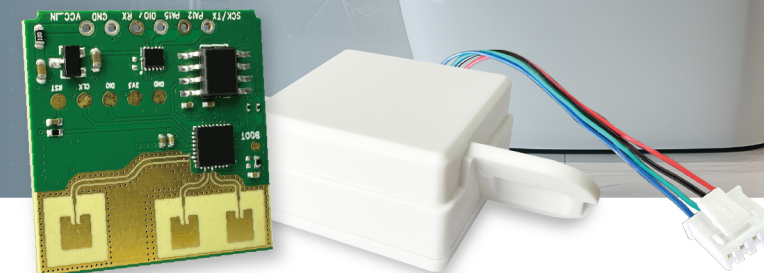


#### Multi-target Tracking

Tracking multiple targets simultaneously

Module Size:	25 x 25 x 3.8 mm
Shell Size:	40 x 50 x 25 mm
Working Voltage:	DC 5.0~12V
Power Consumption:	20 mA
Output Signal:	TTL High and Low Level/PWM/UART
Output Mode:	UART
Induction Angle:	Azimuth Angle $\pm 60^\circ$ , Elevation Angle $\pm 40^\circ$
Induction Distance:	0.6~3m

### Intelligent Toilet



#### Precise Ranging



#### Urination Recognition



#### Automatic Flipping and Closing

### Test List

#### Range Accuracy Test

Detection Range:	Within 0.6~3m	100% PASS	<input checked="" type="checkbox"/>
Angle of Detection Test:	Azimuth Angle $\pm 60^\circ$ , Elevation Angle $\pm 40^\circ$	100% PASS	<input checked="" type="checkbox"/>
Range Accuracy Test:	Within $\pm 5\text{cm}$	100% PASS	<input checked="" type="checkbox"/>
Human Detection Signal Output:	Close/Far/No Person State, Signal Transmission	100% PASS	<input checked="" type="checkbox"/>

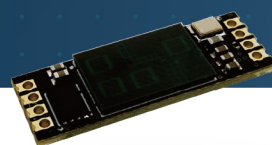
#### Functional Test

Close from the Front:	Flip Cover Operates Normally	100% PASS	<input checked="" type="checkbox"/>
Close from the Side:	Flip Cover Operates Normally	100% PASS	<input checked="" type="checkbox"/>
Away from the Front:	Flip Cover Closes Normally	100% PASS	<input checked="" type="checkbox"/>
Away from the Side:	Flip Cover Closes Normally	100% PASS	<input checked="" type="checkbox"/>
Pass Through Horizontally:	Flip Cover Closes Normally	99% PASS	<input checked="" type="checkbox"/>



# 60G MMW Radar

ERD6130-M1806A



## Characteristic (Presence Localization)



### Ultra-low Power

Power consumption as low as 20uA with Presence sensing



### Small Size

Small size, patch-mounted, adaptable to a variety of structures



### Multiple Output Mode

Supports Uart, PWM, IIC, GPIO and other output modes



### Complete Development Tool

Provide the supporting development board of the module to reduce the difficulty of development and help the product to land quickly



### Distance & Angle Measurement

With a high-performance antenna, FOV support 120 degrees



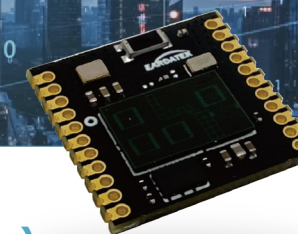
### Software Supporting Tools

BLE support, remote debugging, support OTA upgrade

Operating Voltage:	1.7V~5.5V	<div>Applications</div> <div></div>
Module Size:	18.5 x 6.5 mm	
Nearest Detection Distance:	0.1 m*	
*(Human body as a reference)		
Farthest Detection Distance:	10 m*	
*(Depends on the RCS size of the detection target)		
Output Signal:	GPIO / UART / IIC / PWM	Sensors / Smart Bathroom / Smart Home Appliances / Smart Security

All-scenario Application

ERD6130-B1515A



## Characteristic (Presence Localization)



### Ultra-low Power

Power consumption as low as 20uA with Presence sensing



### Small Size

Small size, patch-mounted, adaptable to a variety of structures



### Complete Peripheral Interfaces

The module reserves 22 pins to meet all customer needs and has high adaptability



### Powerful Development Tool

Provide the supporting development board of the module to reduce the difficulty of development and help the product to land quickly



### High Stability

Stable and consistent in use



### Software Supporting Tools

BLE support, remote debugging, support OTA upgrade

Operating Voltage:	1.7V~5.5V	Applications 
Module Size:	15 x 15 mm	
Nearest Detection Distance:	0.1 m*	
*(Human Body as a Reference)		
Farthest Detection Distance:	10 m*	
*(Depends on the RCS size of the detection target)		
Output Signal:	GPIO / UART / IIC / PWM / QSPI / ADC	Sensors / Smart Bathroom / Smart Home Appliances / Smart Security

# 60G

## Human Presence Sensor

**EBS-0060BA**

(Dual-technology)

Intelligent Home Appliance

### Characteristic (Static Detection)



#### Presence Sensing

Precise Indoor Life Presence Detection and Distance Monitoring



#### Double Detection Mode

Support radar and PIR double detection, anti-jamming ability is strong



#### OTA Upgrade

Supports remote OTA upgrade



#### Self-adaptation

Automatically adapt to the environment, improve anti-interference ability



#### Low Power and Long Battery Life

Battery powered, 1 CR2450 button battery can work for 2 years



#### Flexible Installation

Magnetic base for easy installation and multi-angle adjustment



#### Platform Enabling

Connect to a third-party platform for remote configuration and interworking with multiple devices



#### Light Sensing

Equipped with high precision light sensitiveness

Power Supply: Button Cell

Detection Angle: 120°

Nearest Detection Distance: 0.3 m\*

\*(Human body as a reference)

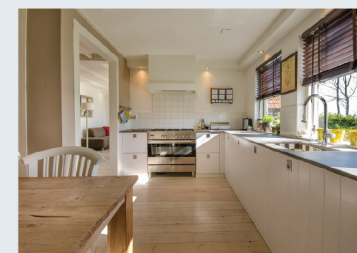
Farthest Detection Distance: 8 m\*

\*(Human body as a reference)

Farthest Presence Distance: 6 m\*

\*(Human body as a reference)

Application Scenarios (Living room / Bedroom / Study / Kitchen / Bathroom)



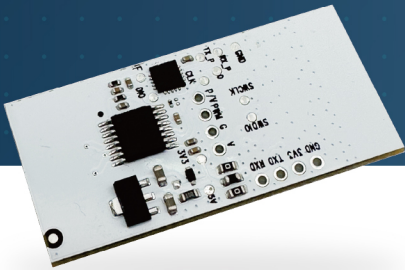


Radar+BT+AI

# Car Park Intelligent Lighting Solution

ERD-5801SCGX

(Self-learning, Platform Interconnection)



## Characteristic (Self-learning)



### Electronic Map

24 hours traffic heat monitoring, quick retrieval of lamps



### Energy Efficient

Light up the front lamps as the car moves, comprehensive energy saving rate is 65%-90%



### Support Platform

Remote monitoring, data visualization, interconnecting with third-party platforms



### Debugging Free

No configuration, AI instead of manual debugging, plug & play



### Self-elimination of Faults

Abnormal lamps automatically withdraw from the network to reduce adverse effects



### Comfortable Experience

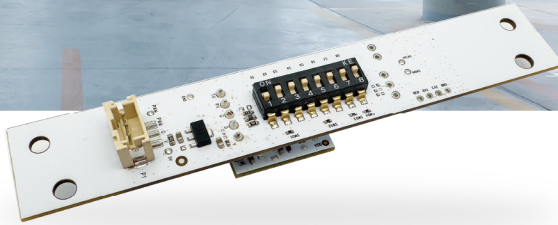
Electrodeless dimming, lighting linkage, intelligent lighting create comfortable experience

Operating Voltage:	4.7 ~ 12 V	Diagram
Module Size:	18 x 38 mm (T8 Glass Tube, NM Tube)	
	22 x 38 mm (T8 Semi-aluminum Plastic Tube)	
Hanging Height:	2.6 ~ 3.2 m (Typical: 3 m)	
Sensing Mode:	5.8G Radar Motion Sensing	
Output Signal:	PWM	
Sensing Distance:	Straight-line≥8m, Radius of 2-5m	

Garage Lighting

ERD-5801SCGL

(Self-learning, Switch Selection)



## Characteristic (Self-learning)



### Ambient Light Detection

Automatically turn on the induction, sense the brightness of the environment, sleep during the day, and sense at night



### Energy Efficient

Light up the front lamps as the car moves, comprehensive energy saving rate is 65%-90%



### Switch Selection

Dip switch to modify running parameters, simple operation



### Debugging Free

No configuration, AI instead of manual debugging, plug & play



### Self-elimination of Faults

Abnormal lamps automatically withdraw from the network to reduce adverse effects



### Comfortable Experience

Electrodeless dimming, lighting linkage, intelligent lighting create comfortable experience

Operating Voltage:	4.7 ~ 12 V	Diagram
Module Size:	105 x 18 x 15.2 mm (Three-proof Lamps)	
Hanging Height:	2.6 ~ 3.2 m (Typical: 3 m)	
Sensing Mode:	5.8G Radar Motion Sensing	
Output Signal:	PWM	
Sensing Distance:	Straight-line≥8m, Radius of 2-5m	



Radar+BT+AI

# Car Park Intelligent Lighting Solution

Edge Server  
(Collocation Usage)



Garage Lighting

Successful Cases

## Characteristic (Superior Performance)

**4G**  
**4G/RJ45 communication**  
Support 4G & network to transmit data

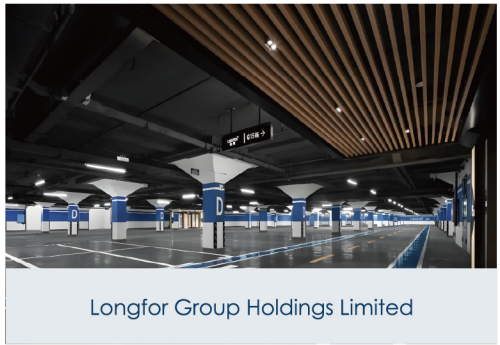
**Concurrent Transmission**  
Concurrent transmission of data when multiple edge servers are working at the same time.

**Ultra-high Load**  
Carry on the upload and deliver data of over 3000 lamps

**Easy Installation**  
Simply install the fixing bracket and plug in the power supply to work

Communication Interface:	4G LTE Cat. 1/RJ45
Communication Protocol:	EMNLITE Communication Protocol
Input Voltage:	DC12V/2A Rated Power<1.5W
Operating Temperature:	-5°C - 45°C
Operating Humidity:	20 - 95% RH

## 1000+ Success Cases



<b>Originally Used Lighting</b> Constant On LED Light, Dual Illuminance Radar Light	<b>Upgraded Lighting</b> EMN Smart T8 Light
<b>Number of Lighting</b> 250000+ Pcs	<b>Measured Electricity Saving Rate</b> 76%



<b>Originally Used Lighting</b> Constant On Fluorescent Light	<b>Upgraded Lighting</b> EMN Smart Light
<b>Number of Lighting</b> 6274 Pcs	<b>Measured Electricity Saving Rate</b> 86%



<b>Originally Used Lighting</b> Constant On LED Light	<b>Upgraded Lighting</b> EMN Smart T8 Light
<b>Number of Lighting</b> 3957 Pcs	<b>Measured Electricity Saving Rate</b> 85%



<b>Originally Used Lighting</b> Constant On LED Light	<b>Upgraded Lighting</b> EMN Smart Light
<b>Number of Lighting</b> 9624 Pcs	<b>Measured Electricity Saving Rate</b> 78%