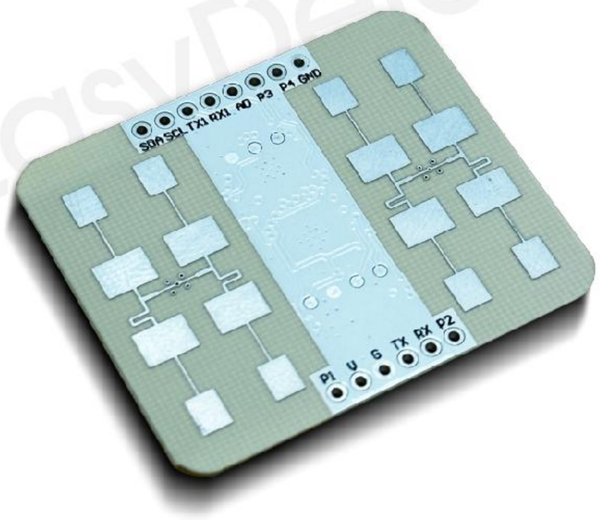
深圳市易探科技有限公司
Shenzhen EasyDetek Technology Co.,Ltd

EasyDetek易探

EDQ154R Specification

24GHz Narrow Beam Series Modules

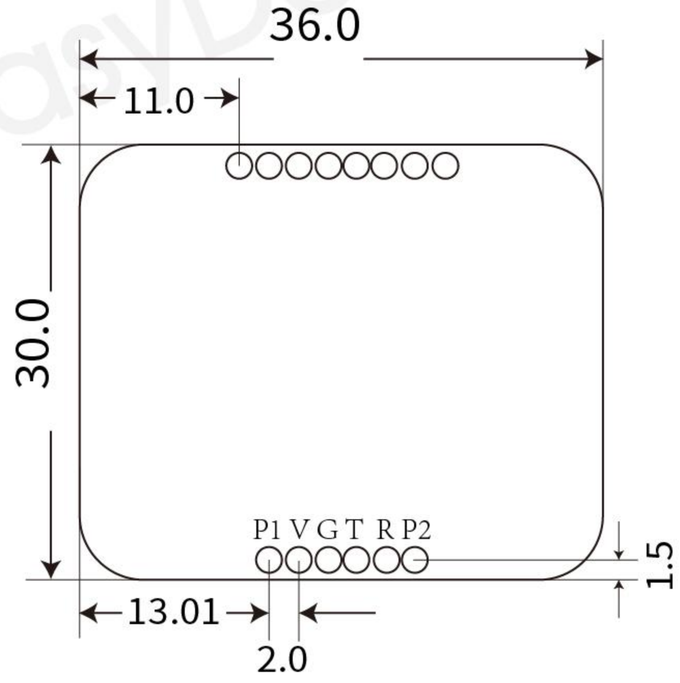


Product Features

- Narrow beam array antenna design
- Accurate distance measurement function with low detection error
- Occupancy human motion, presence detection
- Module expansion port rich, flexible definition of the function of each pin

Dimension Drawing / Pinout

Size unit：mm



EDQ154R Dimensional Tolerance: ±0.2
Welding hole of row of pins：ϕ0.8

Pin Description

Pin	Description
P1	GPIO output
VIN	Power positive input
GND	Power ground reference
TX	UART serial TX output
RX	UART serial RX output
P2	TBD

Electrical Parameters

Input Voltage	5-12V
Operating current (conventional)	15mA±3mA
Output method	UART/IO
Output voltage	3.3V
Power Consumption	＜0.5w

Functional Parameters

Sensing range ①	0.5-1m (YZ plane) 1-1.5m (XZ plane)
Hanging height	Regular 3m
Delay time	2-65535s

Output Parameter

Operating Frequency	center frequency：24.125GHz
3dB beam angle	50° (XZ plane) 24° (YZ plane)

Environment & Lifespan

Operating temperature	-20-85°C
Storage temperature	-20-105°C

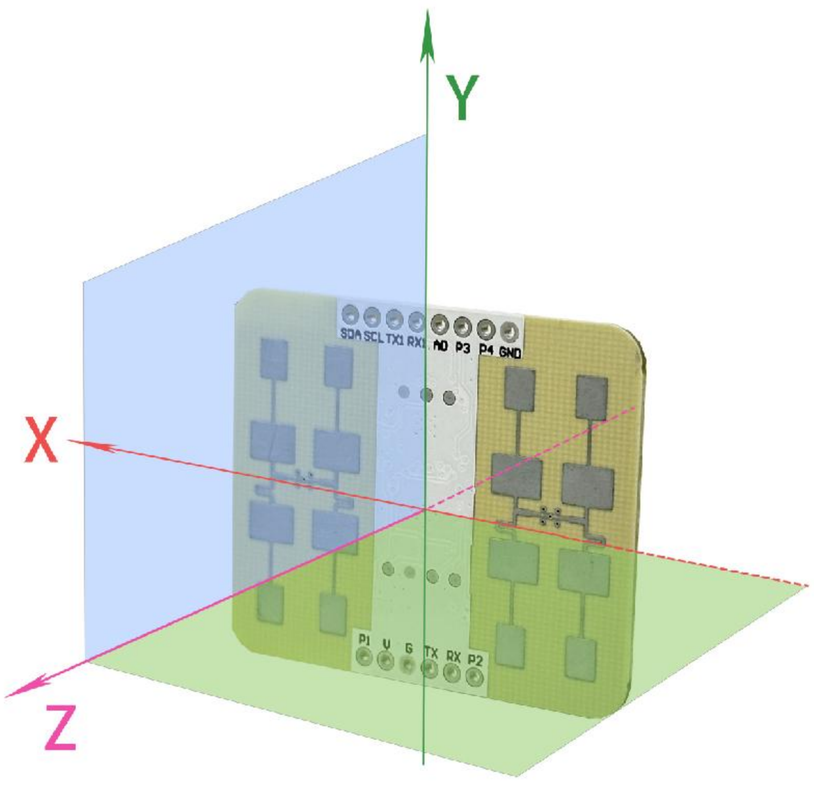
Remarks:

①The test distance range is based on the sensor hanging height of 3m, indoor installation environment test, the height of the tester 170cm, weight 65-75kg, walking speed 1m/s.

Different scenarios of installation may cause changes in the range, subject to the actual test.

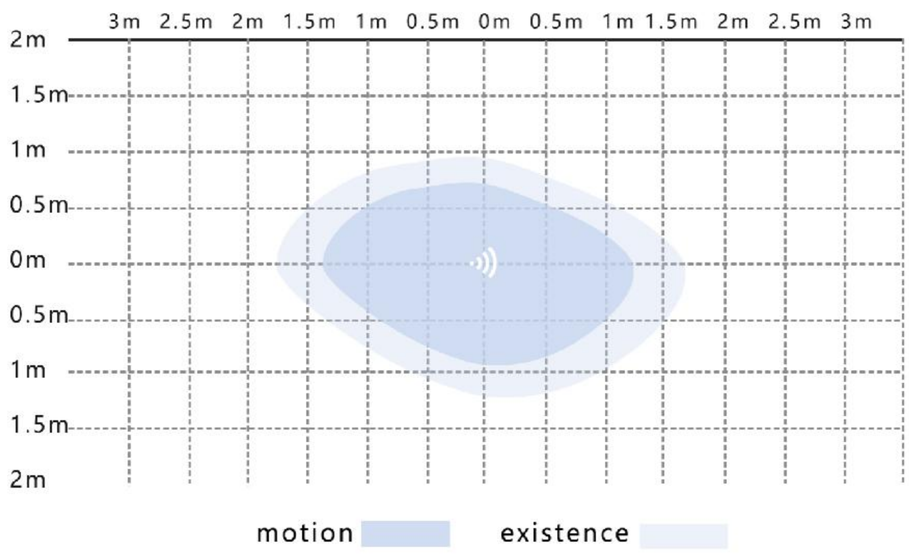
Detection Schematic

Schematic diagram of EDQ154 beam direction



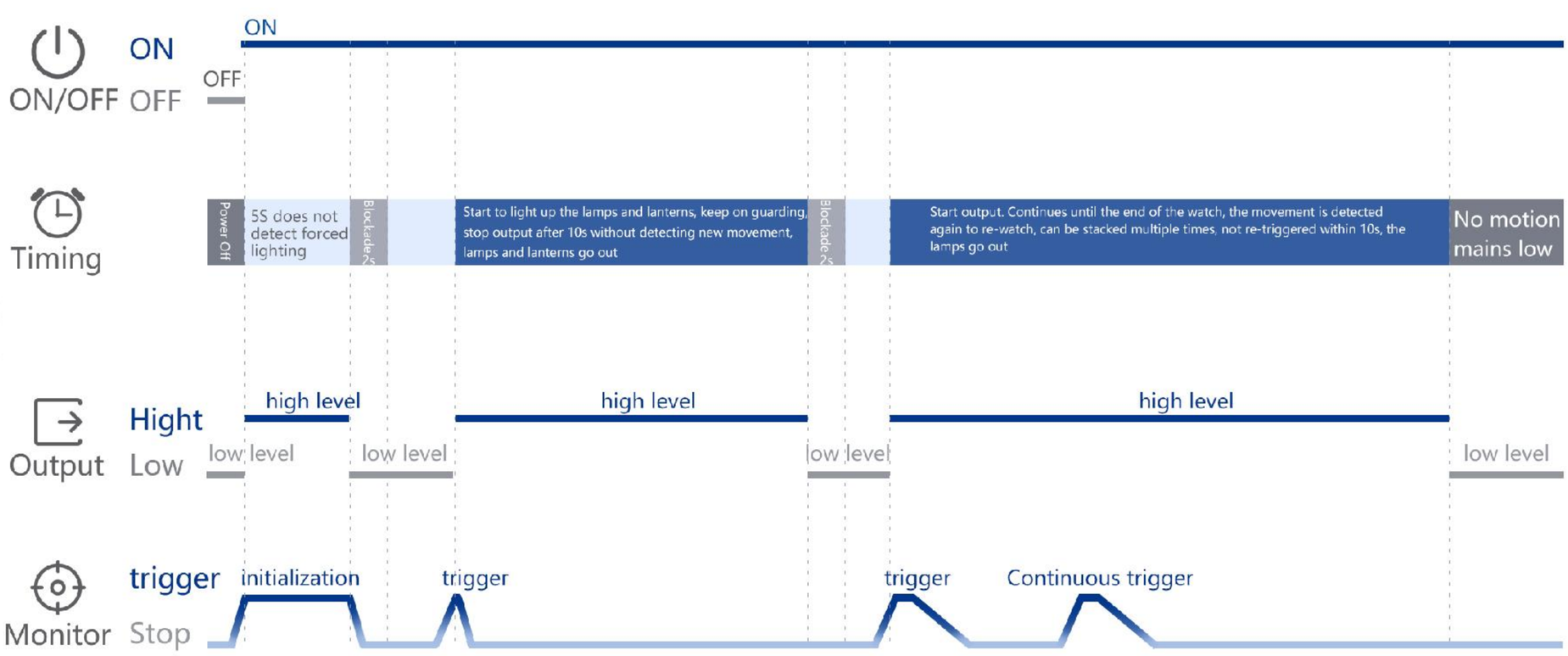
3dB beam angle: 50° (XZ plane) 24° (YZ plane)

Overhead view of radar sensor (3m high)



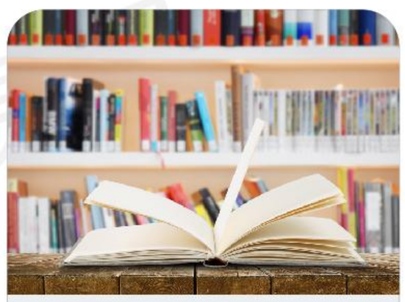
0.5-1m (YZ plane) 1-1.5m (XZ plane)

Timing Diagram



Application Scenarios/Products

toilet



Library space occupation

telephone booths

Hospital bed occupancy

Product Naming Law

ED	Frequency Band	Product Categories	Product Subdivision	Product Number	Delay Time	Serial number
ED	Q	1	5	4R		
EasyDetek	C 5.8GHz	1 Microwave sensor module	0 Ultra-low-power series	0-9, A-Z	Y Has light sensor	
	X 10.5GHz	2. Microwave radar switch	1 Flagship series		N no light sensor	
	Q 24GHz	3 Radar antenna	2 Short-distance series		P programmable	
	V 60GHz	4 MCU	3 Adjustable series			
	W 77GHz	5 Microwave power supply	4 External antenna series			
		6 IC	5 General Series			
		7 Other	6 To be defined			
		8 Networking	7 To be defined			
			8 Basic series			
			9 High altitude series			

Configuration Version Description

【material number】:EDQ154R-N-01

【hardware】:

【software】:

Historical Revision Record

Version	Time	Description	Note
V1.0	2025-04-10	first edition	-

Precautions

1.When installing radar sensors, if there is an aluminum substrate or other metal plate on the back, it should be raised to a certain height and kept at a distance of more than 5mm from the metal plane. It should not be tightly attached or in contact with the metal plane; There should be no metal obstruction or high current cable coverage in front of the radar sensor antenna, avoiding facing the driving power supply directly. At the same time, try to stay away from high-power components such as rectifier bridges, transformers, and switch tubes of the driving power supply.

2. Radar sensors have good penetration effect on plastic and wood materials, but cannot penetrate metal or materials with metal coatings. If the user's product shell is made of special materials such as glass, ceramics, carbon fiber, etc., please refer to the measured effect. If necessary, please contact Yitan Technology technicians for applicability debugging.

3. Excessive power ripple may cause interference and false alarms to radar sensors. It is recommended that the power ripple should be below 100mV.

When multiple radar sensors are applied in the same site, installing them too close may cause individual radar sensors to produce false alarms. It is recommended that the product be installed at a distance greater than 2 meters.

When using radar sensors together with wireless communication modules (NB, Bluetooth, WIFI, 2.4G modules), the distance should be widened. It is recommended to maintain a distance of at least 1m from high-power wireless communication devices such as routers and wireless hotspots during installation.

6. The light sensing threshold of the radar sensor is the test value under clear weather conditions, no shadows, and diffuse reflection of ambient light.

7. EasyDetek Technology is committed to providing customers with high-quality and better experience radar sensors. Product version updates and iterations will not be notified separately. If needed, please contact our sales team to obtain the latest product information.