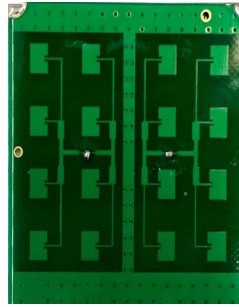
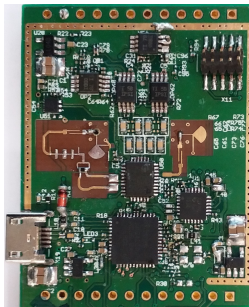


LWRD24GDM

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1.0 Introduction

LWRD24GDM is a 24GHz short-range radar sensor module developed by Lexiwave Technology (Hong Kong) Ltd. aiming at object detection and distance measurement. With radar scanning, it could detect the existence, velocity and distance of the object. The module can operate at all weather and in all time due to the radar penetration into smoke, dust and fog. It is highly integrated in a small size with high sensitivity of a maximum detection range of 7 meters.

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2.0 Features

- 24 GHz operating frequency
- Programmable duty cycle for power saving mode
- Object distance measurement
- High sensitivity of up to 7 meter detection
- UART interface for host MCU
- Dimensions of 37 mm x 61 mm (with mounting holes)

3.0 Applications

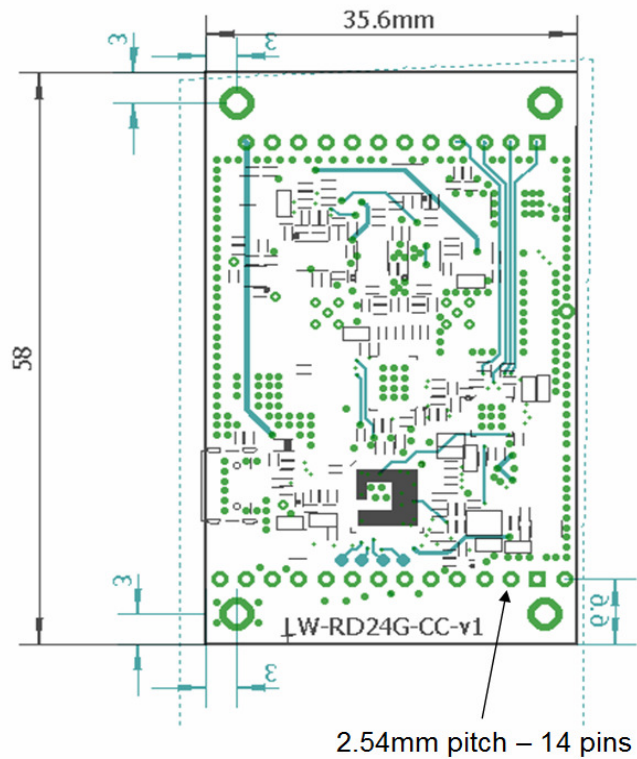
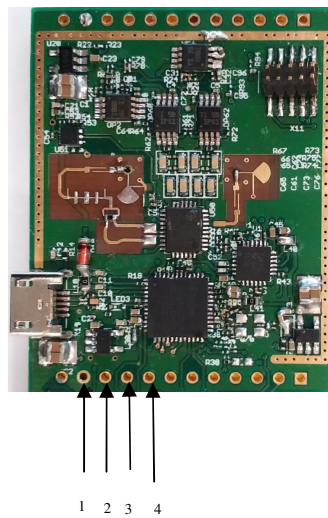
- Occupancy detection
- Object existence detection
- Object distance and velocity detection
- Vehicle distance detection
- Outdoor vehicle detection

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4.0 Pin Description



Pin No.	Signal Name
1	VDD
2	GND
3	UART_TXD
4	UART_RXD

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5.0 Electrical Characteristics

5.1 Maximum ratings

Rating	Value	Units
Power Supply	-0.3 to 5.5	V
Operating temperature	-40 to +85	°C

5.2 Operating Conditions

Parameter	Min	Max	Unit
Operating temperature	-20	70	°C
Operating supply voltage	5	5.5	V

5.3 General Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Frequency range	24		24.25	GHz	
Supply voltage		5		V	
Operating current		400		mA	without power saving

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5.4 Transmitter Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Transmitter Frequency	24		24.25	GHz	
EIRP (Effective Isotropic Radiated Power)		15		dBm	

5.5 Antenna Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Horizontal - 3dB beamwidth		42°		degree	
Elevation - 3dB beamwidth		20°		degree	

5.6 System Performance

Parameter	Min	Typ	Max	Unit	Condition/Note
Minimum Distance		50		cm	Radar Cross Section (RCS) = 1m ² and 10m ²
Maximum Distance		7		m	RCS = 10m ²
Measurement Accuracy		+30		cm	RCS = 1m ²
(For values beyond 50cms)		+20		cm	RCS = 10m ²

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6. IMPORTANT NOTICE

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