

Drone Obstacle Avoidance Radar

Model: JIYIRADAR30-50M

Model: JIYIRADAR100-150M



Applications

- Agriculture Drone Collision Avoidance
- Logistic Drone Collision Avoidance

Product Features

- Working in 24GHz ISM band
- One transmit path and two receive path separated for maximum gain
- Optimized noise figure and high receiver gain for better obstacle detection
- Total 1.2W power consumption
- Optimized small size

General Description

- The product can detect electrical wire, small tree, telegraph pole and other barrier from a long distance when drones may will encounter when they are flying.
- The product antenna beam -3dB width is horizontal 28 ° and vertical 14 °.
- The product supports 9-15V supply voltage, with the total power consumption at about 1.2W, and transmit power is 10dBm.
- The product can penetrate fog, smoke, dust, and can work in night or in dark.
- The product is designed into an optimized small size of 65*67.5*16.5mm package, and is designed to IP67 protection.
- The product output interface is UART or CAN.

Specification

Absolute Maximum Rating

Symbol	Parameter	Conditions	Min.	Max.	Units
T _{stg}	Storage temperature		-40	+125	°C
T _{mb}	Operating temperature		-40	+85	°C

Recommend Operating Conditions

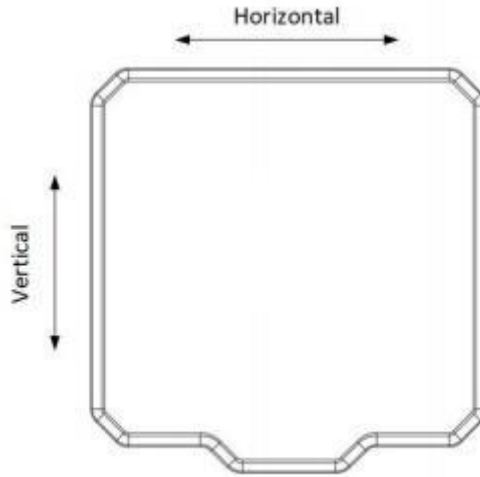
Symbol	Parameter	Typical	Units
V _{DD}	Supply Voltage	12	V
I _{DD}	Total Current Consumption (DC)	220	mA

Electrical Specifications

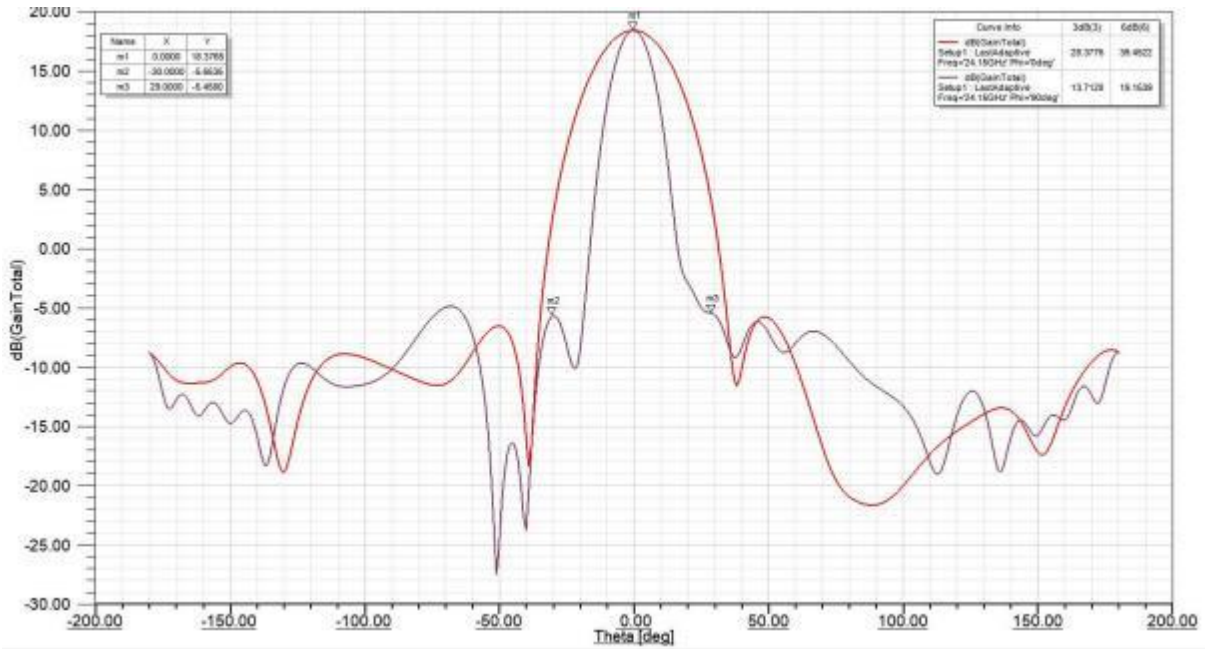
Parameter	Conditions	Min.	Typical	MAX.	Unit
Transmit Frequency		24.05	24.15	24.25	GHz
Transmit Output Power	@ 25°C		10	13	dBm
Modulation Mode			FMCW		
Detection Range	See Note1	1		30/150	m
Distance Resolution			0.75		m
Distance Accuracy			0.1		m
Antenna Beam field(-3 dB)	Horizontal		28		°
	Vertical		14		°
Antenna Gain			18		dB
Data Refresh Rate	See Note2		50		Hz
Supply Voltage	See Note3	9	12	15	V
Total Power Consumption	@ 25°C		2.6		W
Output interface			UART / CAN		
Data protocol	See Note2				
Protection Class			IP67		

Antenna Pattern

Antenna Orientation:



Antenna Gain:



Parameter	Conditions	Min.	Typical	MAX.	Unit
Whole Beam Width(-3 dB)			28		°
			14		°
Whole Beam Width(-6 dB)			40		°
			19		°

