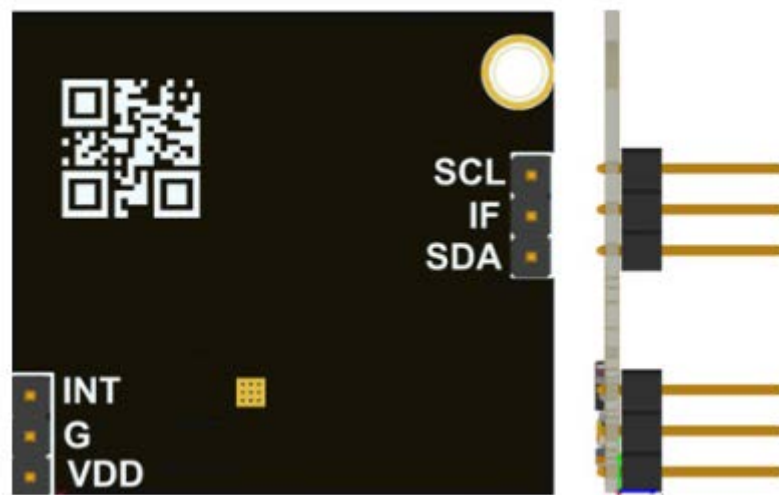# RADAR5.8G Toilet

5.8GHz Wireless High Frequency Radar Module

SCL
IF
SDA

INT
G
VDD

* This module can declare other functions externally, please contact us if necessary.

Data Sheet Revision History

Version	Date	Changes
V1.01	2022/11/23	1st. Edition

WENSHING Electronics release the RADAR5.8G Toilet (Doppler effect) long-distance power-saving human body motion detection module series in November 2022. The RADAR5.8G Toilet is in the 5.8GHz legal ISM band. This is to use the principle of radio wave reflection to design human body detection. The Doppler intermediate frequency effect is generated due to human body movement. The intermediate frequency is selected in the circuit design, and the intermediate frequency is detected through DSP to know whether there is any triggered by object movement. It is saving the user's cost. The detection distance is up to 10 meters, the minimum operating voltage is 2.1V, and the power consumption current only 90uA.

➤ Features

- Detect people moving distance 10 meters
- Low operating current 97uA
- Small size: 3*3.6 cm
- ISM legal channel
- I2c communication interface declaration function
- Work independently, no need to add MCU
- Wide operating voltage 2.1~5.5V

➤ Applications

- Anti-theft device
- Billboard power saving detection
- Person approaching detection
- Pet detection
- Intelligent light control
- Smart toilet

➤ DC Electrical Characteristics

Parameter	Specification			Unit
	Min.	Typ.	Max.	
Frequency Range	5725	5800	5875	MHz
IF Frequency Range	1		40	Hz
Transmit power	-20		-5	dBm
Supply Voltage, VDD	2.1		5.5	V
Current			110	uA

➤ Model no.

RADAR5.8G Toilet -X-XX LIST

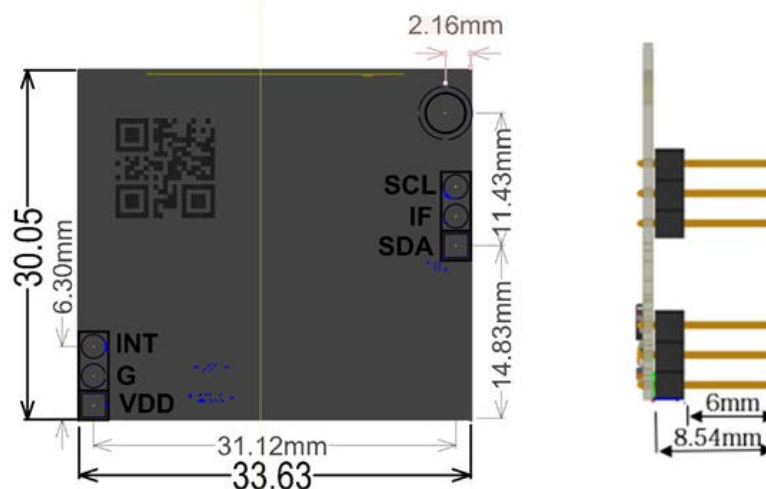| Model	LDO/LED Function
RADAR5.8G Toilet -1-XX	Built-in LDO, input 5V, internal working voltage 3.3V, with LED lights.
RADAR5.8G Toilet -2-XX	Built-in LDO, input 5V, internal working voltage 3.3V, no LED signal.
RADAR5.8G Toilet -3-XX	No LDO, no lights.

Hardware trigger delay options

Model	Tigger off-delay time
RADAR5.8G Toilet -X-01	The trigger is HI, and it is LOW after 1 second (standard)
RADAR5.8G Toilet -X-15	The trigger is HI, LOW after 15 seconds
RADAR5.8G Toilet -X-30	The trigger is HI, LOW after 30 seconds
RADAR5.8G Toilet -X-60	The trigger is HI, LOW after 60 seconds

PS. If the post-trigger delay time process is triggered again, its time will continue to be extended accordingly.
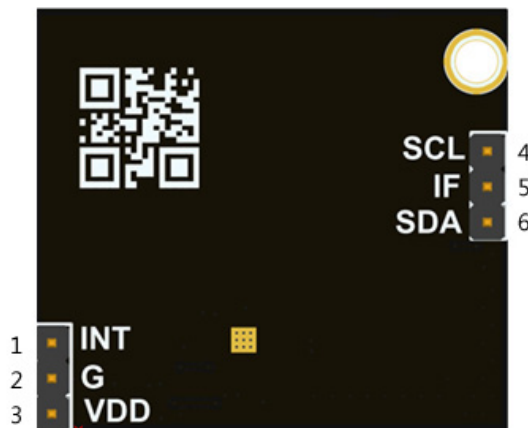
➤ Dimensions   (unit:mm)

*The standard PCB screw copper column is m2 screw, and m3 screw can be specified.

➤ Pin Assignment

Pin	Name	I/O	Description
1	INT	OUT	Triggered when an object or person moves, output HI potential, empty connection when not in use.
2	GND	POWER	Power Supply GND
3	VDD	POWER	Power Supply 3.5~5.5V (Internal LDO is 3.3V)
4	SCL	I/O	I2c interface, when not in use, hang or connect to GND.
5	IF	I/O	Intermediate frequency signal 0~40Hz, for external judgment signal, empty connection when not in use.
6	SDA	I/O	I2c interface, when not in use, hang or connect to GND.

➤ Application Diagram