



Product Data Sheet

AGIL Sense

HB100

X-band Microwave Sensor Module

Product Overview

The HB100 microwave sensor is an X-band bi-static Doppler transceiver. It consists of a dielectric resonator oscillator (DRO), a single balanced mixer and a pair of antenna arrays.

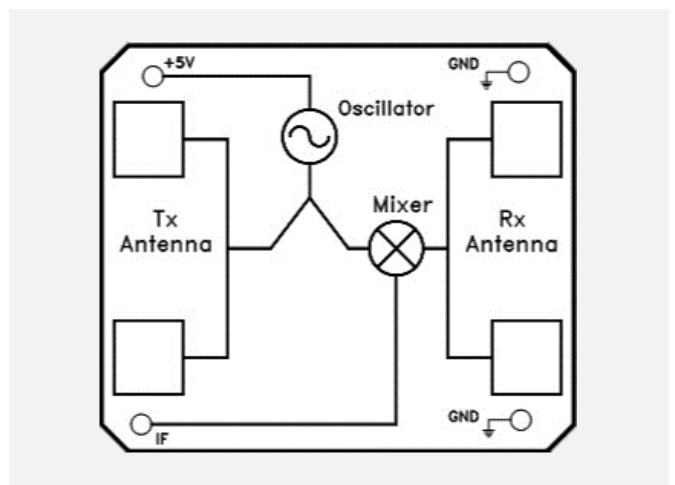
It is suitable for applications in automatic access, security, lighting control and speed measurement.

Key Features

- Low current consumption
- CW or pulse mode
- Flat profile

Key Applications

- Motion detection
- Lighting control
- Security alarm
- Automatic door control



Block Diagram

Technical Specifications

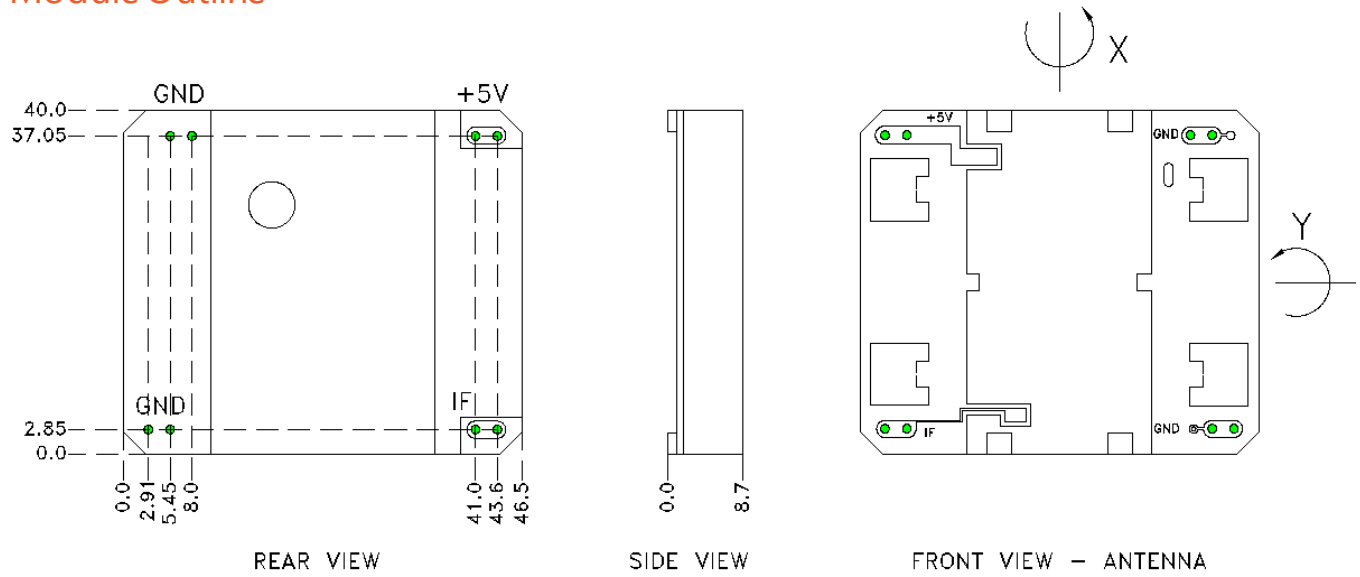
Parameter	Remarks	Min.	Typical	Max.	Unit
Operating Condition					
Supply Voltage, V_{IN}		4.75	5.00	5.25	V_{DC}
Current Consumption			30	40	mA
Operating Temperature		-15		55	$^{\circ}C$
Recommended Pulse Scheme					
Pulse Frequency	Pulse mode		2		KHz
Duty Cycle	Pulse mode		2		%
Transmitter					
Operating Frequency		10.52	10.525	10.53	GHz
Radiated Power, EIRP			20		dBm
Spurious Emission				-7.3	dBm
Settling Time			3	6	μ Sec
Antenna					
Antenna Beam-width (3 dB) – (X × Y)			80 × 40		$^{\circ}$
Physical Properties					
Dimensions			46.5 × 40.0 × 8.7		mm
Weight			8		g

Unless noted otherwise, the specifications are measured with 5 V_{DC} , CW operation, 12 k Ω load at +25 $^{\circ}C$.

Note 1: HB100 complies with FCC Part 15.245.

Note 2: **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.** Observe precautions for handling and storage.

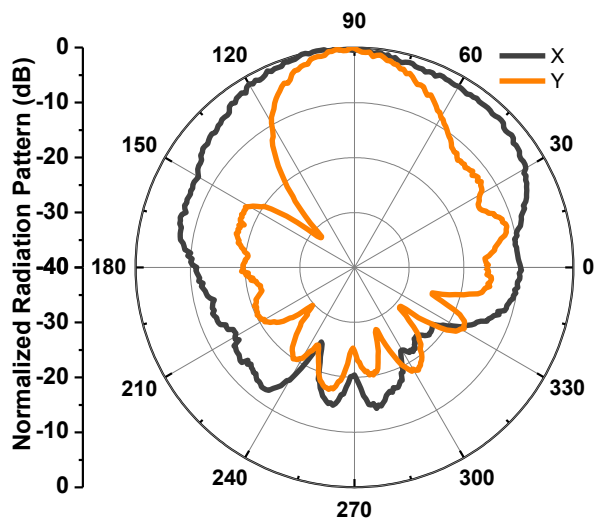
Module Outline



Name	Description	Diameter	Plated Thru
5V	Supply voltage, V_{IN}	1 mm	Yes
IF	IF_{out}	1 mm	Yes
GND	Ground	1 mm	Yes

All dimensions are in mm.

Antenna Beam Pattern



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