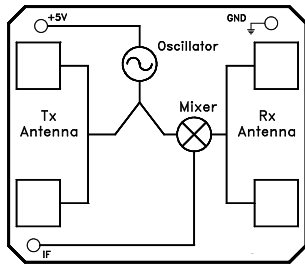
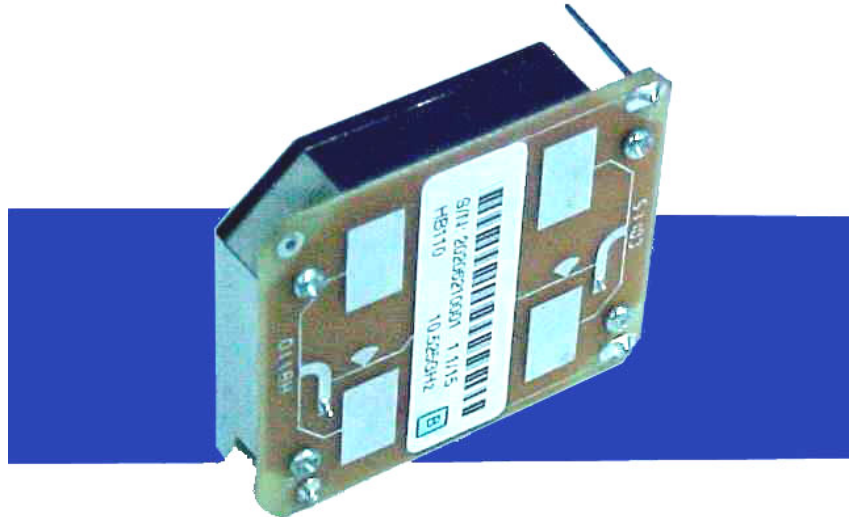


# HB 110 Microwave Sensor Module

## 10.525 GHz Microwave Motion Sensor Module



Block diagram and connection



### Description

HB110 Miniature Microwave Motion Sensor is an X-Band Bi-Static Doppler transceiver module. Its built-in Dielectric Resonator Oscillator (DRO) and a pair of Microstrip patch antenna array, make it ideal for OEM usage in motion detection equipment.

This module is ideally suitable for false alarms reduction in intruder detectors when used together with Passive Infrared (PIR) sensor. It can also be used for auto-door opening and vehicle speed

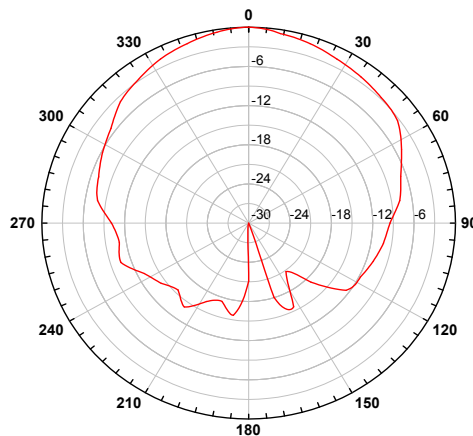
### Features

- Low current consumption
- CW or Pulse operation
- Flat profile
- Low harmonics emission

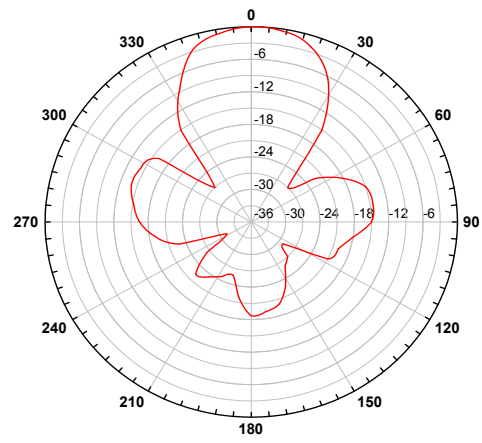
### Applications

- Microwave-PIR motion detector
- Speed measurement
- Lighting control

### Antenna Beam Pattern



Azimuth

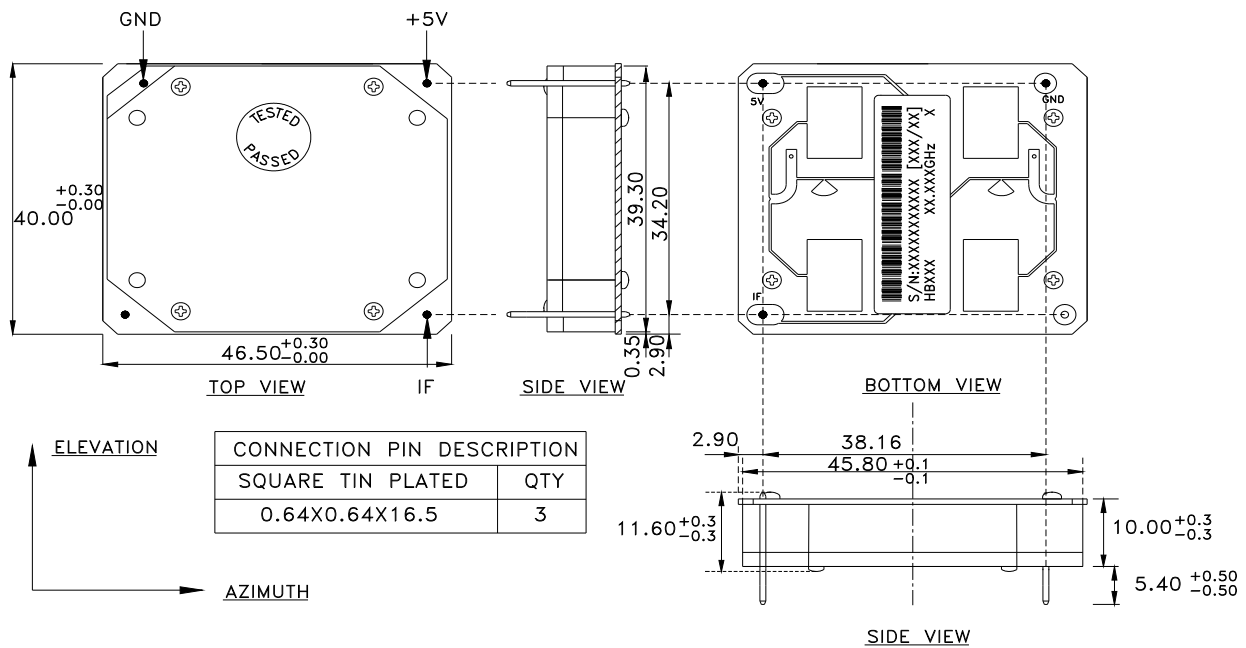


Elevation



## Technical Specifications

### Outline diagram (All dimensions in mm)



Unless noted otherwise, the specifications are measured with +5VDC, CW operation, 12 kΩ load at ambient temperature of +25°C.

Parameter	Notes	Min	Typ	Max	Units
Frequency Setting	1	10.520	10.525	10.530	GHz
Radiated Power (EIRP)	1	10	13	14	dBm
Spurious Emission	1			-30	dBm
Settling Time			3	6	μSec
Received Signal Strength	2		140		μVp-p
Noise	3			3	μVrms
Antenna Beam-width (3 dB) – Azimuth			80		°
Antenna Beam-width (3 dB) - Elevation			40		°
Supply Voltage		4.75	5.00	5.25	VDC
Current Consumption			30	40	mA
Pulse Repetition Frequency	4		2		KHz
Pulse Width	4	10			μSec
Operating Temperature		-15		55	°C
Weight			17		gm

**Note 1 :** The radiated emissions is designed to meet the requirements of EN 300 440

**Note 2 :** The Received Signal Strength (RSS) is measured at the total 2 ways path loss of 93dB.

**Note 3 :** The noise voltages are measured from 10Hz to 100Hz at the output port, inside a Anechoic chamber.

**Note 4 :** Pulse operation.

**Note 5 :** The design, manufacturing process and specifications of this device are subject to change without prior notice.

**Note 6 :** **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.** Observe precautions for handling and storage.

**Note 7 :** International Patented.

VER 1.02