HB100

X-band Microwave Sensor

Features:

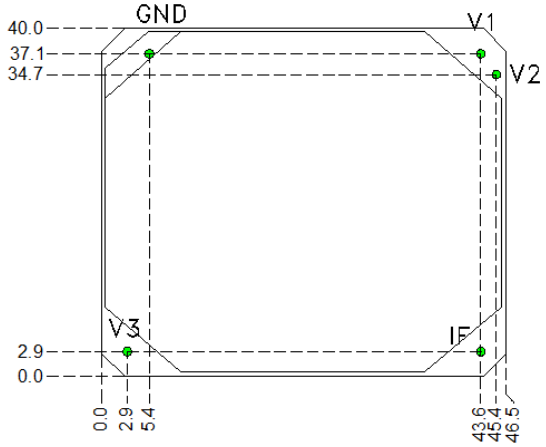
- Low current consumption
- Small and flat profile
- CW and pulse mode

Applications:

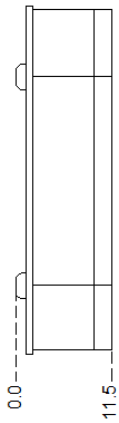
- Motion detection
- Lighting control
- Security alarm
- Automatic door control

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.

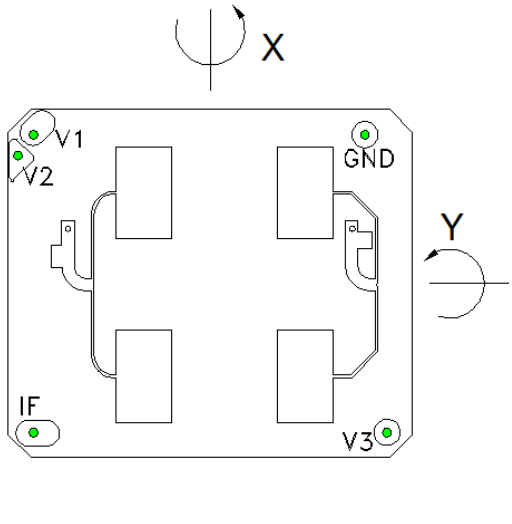
Module Outline



REAR VIEW



SIDE VIEW



FRONT VIEW - ANTENNA

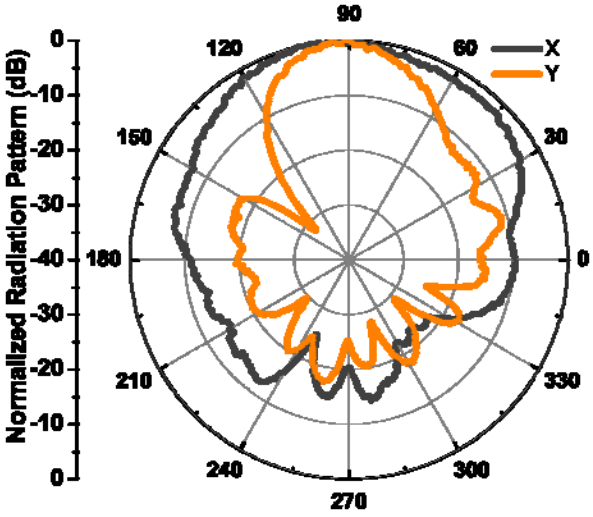
All dimensions are in mm.

Name	Description	Diameter	Plated Thru
GND	Ground	1mm	Yes
+5V	+5 V_{DC} (for transmitter)	1mm	Yes
IF	IF output	1mm	Yes
GND	Ground	1mm	Yes

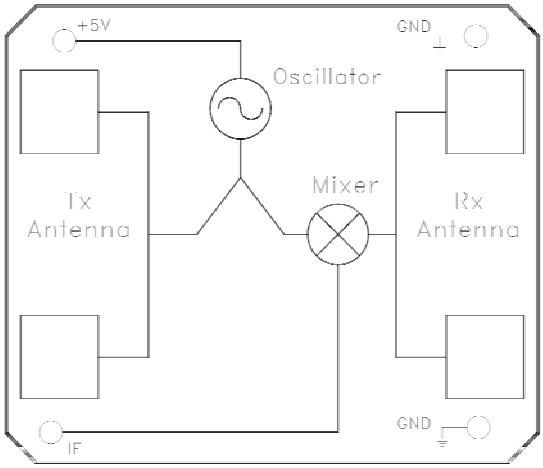
Note 1: Complies with FCC Part 15.245.

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

Antenna Beam Pattern



Block Diagram



Technical Specifications

Unless noted otherwise, the specifications are measured in CW mode, V_{IN} = +5 V_{DC} and 12k ohm load at +25°C.

Parameter	Remarks	Min	Typical	Max	Units
Operating Conditions					
Supply voltage, V_{IN}		4.75	5	5.25	V_{DC}
Current consumption			30	40	mA
Operating temperature		-15		55	°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	µSec
Antenna					
Antenna beam-width (3 dB) - X			80		°
Antenna beam-width (3 dB) - Y			40		°
Physical Properties					
Dimensions			46.5×40.0×8.7		mm
Weight			8		g

ST Electronics (Satcom & Sensor Systems) Pte Ltd

ST Engineering Hub, 1 Ang Mo Kio Electronics Park Road, #06-02, Singapore 567710

Tel: (65) 6521 7888 Fax: (65) 6521 7801

Website: www.agilsense.com (Regn. No.: 199103901W)