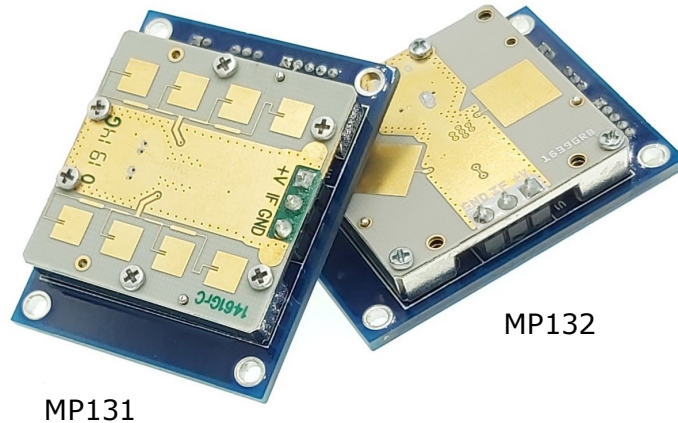


# MP131, MP132



MP132

MP131

## K-band Motion Detector

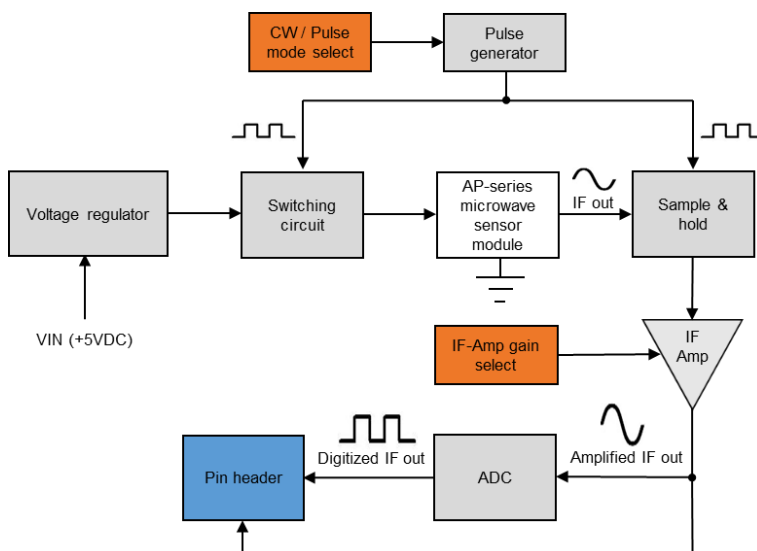
AGILSense' MP131/132<sup>1</sup> is a miniature motion detector. Its small size and compact design are ideal for applications in small spaces.

The MP131/132 performs signal processing, conditioning and digitizes the microwave sensor's analog output signal.

Onboard IF-amplifier dual-gain selector is available for users selection based on their application needs.

Aside from the standard 5V version, the 3V<sup>2</sup> and higher speed detection versions are also available to cater for 3V systems and higher speed detection applications.

### Block Diagram



### Key Applications:

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

### Key Features:

- Small and flat profile
- Selectable CW and pulse mode operation
- Selectable IF-amplifier gain
- Low current consumption
- Digital and analog signal outputs



## Technical Specifications

PARAMETER	MODEL	REMARKS	MIN	TYPICAL	MAX	UNITS
OPERATING CONDITIONS						
Supply voltage, V <sub>N</sub>	MP131-3 & MP132-3 variants		2.85	3	12	V <sub>DC</sub>
	MP131 & MP132 variants		4.75	5	12	V <sub>DC</sub>
Current consumption (Includes sensor)	MP131-3, MP132-3	Pulse/CW		3.5/40		mA
	MP131-3B	Pulse/CW		8.5/40		mA
	MP131, MP132	Pulse/CW		5/40		mA
	MP131/HP, MP131-3/HP	Pulse		4		mA
Operating temperature	All variants		-20		60	°C
PULSE MODE OPERATION						
Pulse frequency	MP131 & MP132 variants except MP131-3B	Pulse		1		KHz
Duty cycle				4		%
Pulse frequency	MP131-3B			8		KHz
Duty cycle				14		%
TRANSMITTER						
Operating frequency	All variants		24	24.125	24.25	GHz
ANTENNA						
Field of view	MP131 variants			32 × 80		°
	MP132 variants			Omni-Directional		
Antenna sidelobe rejection	MP131 variants			15		dBc
IF-Amplifier						
Gain	MP131-3, MP132-3, MP131-3B, MP131, MP132	Selectable		55/70		dB
	MP131/HP, MP131-3/HP	Fixed		70		dB
Bandwidth	MP131 & MP132 variants except MP131-3B			15-300		Hz
	MP131-3B			50-1500		Hz
Detectable speed	MP131 & MP132 variants except MP131-3B		0.3		7	km/hr
	MP131-3B		1		33.5	km/hr
PHYSICAL PROPERTIES						
Dimensions	All variants			35.0 × 28.0 × 12.2		mm
Weight	All variants			6.3		g

**Unless noted otherwise, the specifications are measured at +25°C.**

**Note 1:** †MP131 and MP132 variants come with an AP96 and AP98 K-band microwave sensor module respectively. Please refer to respective datasheets for other operating specifications.

**Note 2:** ‡MP131-3 and MP132-3 variants come with an AP96-3 and AP98-3 K-band microwave sensor module respectively. Please refer to respective datasheets for other operating specifications.

**Note 3:** MP131/HP comes with AP96-2 K-band sensor module. Please refer to respective datasheet for other operating information.

**Note 4:** Sensors used comply with EN 300 440, FCC Part 15.245 and FCC Part 15.249.

**Note 5:** **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.** Observe precautions for handling and storage.

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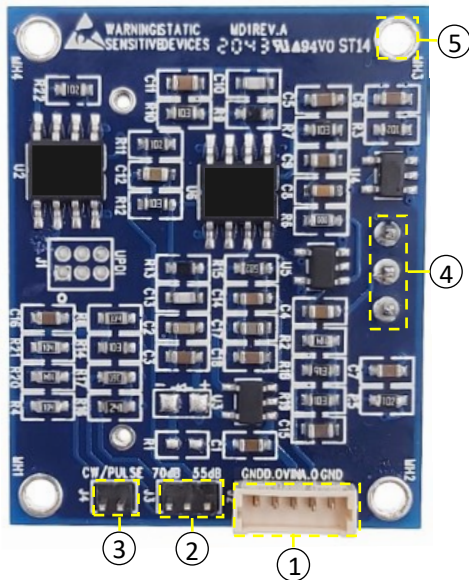
info@agilsense.com


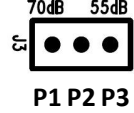
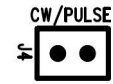
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## On-board Connectors and Controls



LABEL	DESCRIPTION	FUNCTIONS
1	Five-way pin header <sup>^</sup> 	Power supply and outputs <b>V<sub>IN</sub></b> – +3/5V <sub>DC</sub> power supply <b>A.O</b> – Analog IF Output <b>D.O</b> – Digital IF Output <b>GND</b> – Ground
2	Three-way pin header* 	IF-amplifier gain selector <sup>1</sup> <b>SHORT PIN 1 &amp; 2</b> – 70dB <b>SHORT PIN 2 &amp; 3</b> – 55dB
3	Two-way pin header# 	Operating mode selector <sup>1</sup> <b>SHORT</b> – Pulse <b>OPEN</b> – CW
4	2.54mm pitch sensor mounting holes	Microwave sensor module interface
5	Ø2mm x 4 PCB mounting holes	Mounting holes to attach PCB to an enclosure or surface

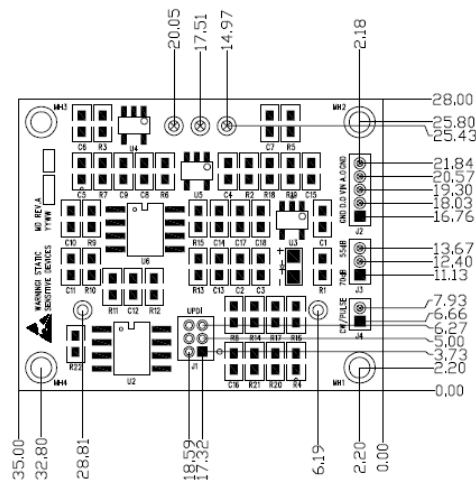
<sup>^</sup>Recommended mating cable assembly: Molex 15134-0500 - 5 contact—1.25mm Pitch 50mm Picoblade

\*Recommended mating receptacle: Harwin M50-3030342 - 3 contact—1.27mm Pitch Vertical Socket

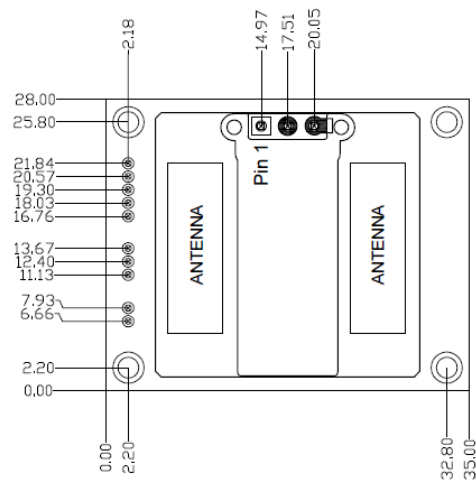
#Recommended mating receptacle: Harwin M50-3030242 - 2 contact—1.27mm Pitch Vertical Socket

<sup>1</sup>Pin headers 2 & 3 are shorted to 70 dB and Pulse for MP131/HP and MP131-3/HP

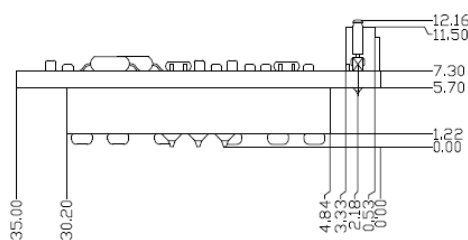
## Outline Diagram



TOP VIEW



BOTTOM VIEW



FRONT VIEW

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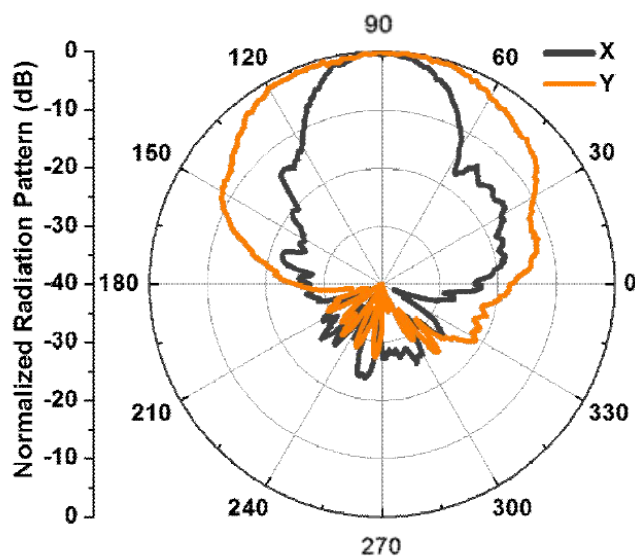
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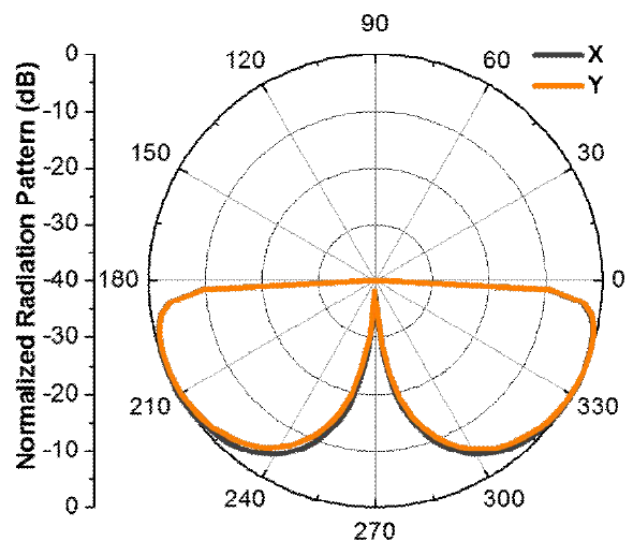
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## Antenna Beam Pattern

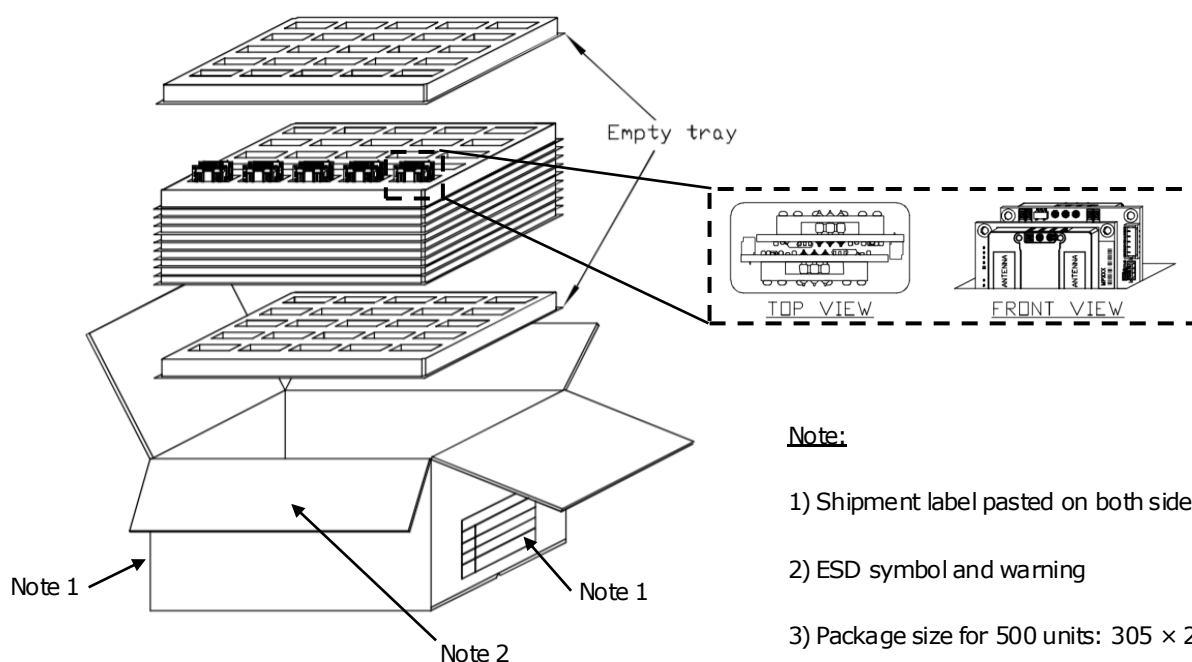


**MP131**



**MP132**

## Packing Information



## Ordering Information

Order Code	Description
MP131-3	+3V <sub>DC</sub> V <sub>IN</sub> , AP96-3 K-band sensor module
MP132-3	+3V <sub>DC</sub> V <sub>IN</sub> , AP98-3 K-band sensor module
MP131-3B	+3V <sub>DC</sub> V <sub>IN</sub> , AP96-3 K-band sensor module, wide bandwidth
MP131	+5V <sub>DC</sub> V <sub>IN</sub> , AP96 K-band sensor module
MP132	+5V <sub>DC</sub> V <sub>IN</sub> , AP98 K-band sensor module
MP131/HP	+5V <sub>DC</sub> V <sub>IN</sub> , AP96-2 K-band sensor module, fixed 70 dB gain & Pulse
MP131-3/HP	+3V <sub>DC</sub> V <sub>IN</sub> , AP96-3 K-band sensor module, fixed 70 dB gain & Pulse