

AP98

Ceiling-Mount K-band Microwave Sensor



Features:

- Small and flat profile
- Light weight
- CW and pulse mode operation
- Low current consumption

Applications:

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

The AP98 series ceiling-mount K-band microwave sensor is a Doppler transceiver with a HEMT oscillator, a single balanced mixer and bi-static microstrip patch antennas. It is suitable for applications in lighting control, automatic access and security.

Its lightweight, miniature size and slim profile offer the flexibility to OEMs in making trendy and slim products.

All dimensions are in mm.

Pin	Name	Description
1	+V	Supply voltage, V_{IN}
2	IF	IF output
3	GND	Ground

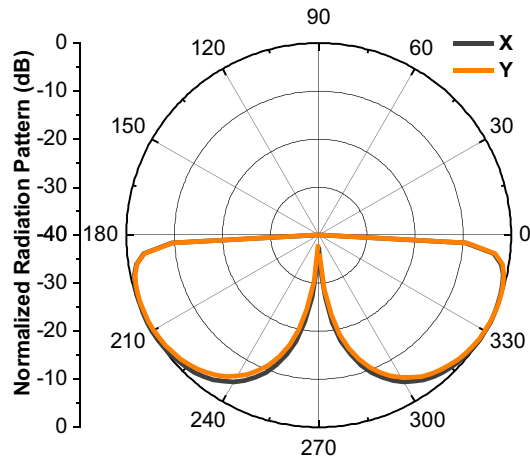
Note 1: Complies with EN 300 440.

Note 2: Complies with FCC Part 15.245.

Note 3: **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.**
Observe precautions for handling and storage.



Antenna Beam Pattern



* Antenna beam pattern is based on simulations. Illustration assumes ceiling mounted sensor directed towards the ground.

Technical Specifications

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

Parameter	Remarks	Min	Typical	Max	Units
Operating Conditions					
Supply voltage, V_{IN}	AP98, AP98-1	4.75	5	5.25	V_{DC}
	AP98-3, AP98-4	2.85	3	3.15	V_{DC}
Current consumption			30	40	mA
Operating temperature		-20		60	°C
Recommended Pulse Scheme					
Pulse frequency	Pulse mode		2		KHz
Duty cycle	Pulse mode		2		%
Transmitter					
Operating frequency	AP98, AP98-3	24.000	24.125	24.250	GHz
	AP98-1, AP98-4	24.150	24.200	24.250	GHz
Radiated power (EIRP)			15		dBm
Spurious emission				-30	dBm
Frequency drift vs temperature			-1		MHz/°C
Physical Properties					
Dimension			25.4×25.4×11.7		mm
Weight			2		g

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Professional installation instruction

1. Installation personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location

The product shall be installed at a location where the radiating antenna can be kept 20cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC limit and is prohibited.

4. Installation procedure

Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

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