

## X-Band Motion Sensor

FCC ID : 2AJWPTMS230IF

### [ Features ]

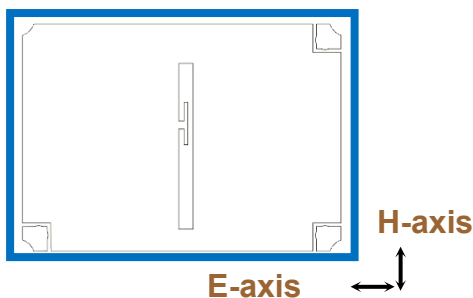
TMS230IF is X-band Doppler motion sensor to detect motion.

It consists of DR(dielectric resonator) oscillator, passive diode and patch antennas and provides most reliable solution in motion detection.

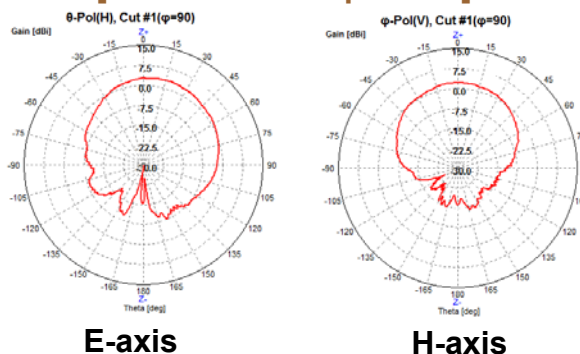
### [ Applications ]

- Intrusion alarm
- Automatic door
- Obstruction alarm system
- Non-contact measurement
- Dual motion sensor with PIR
- Velocity measurement
- Automatic on and off lamps

### [ Picture ]



### [ Antenna beam pattern ]



### [Electrical Specifications]

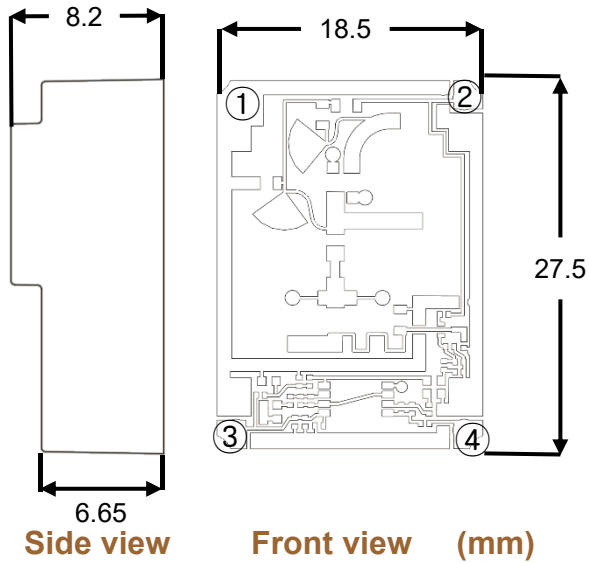
Parameters		Min.	Typ.	Max.	Unit	Condition
CW	Frequency	10,525 ± 25			MHz	Over Temp.
	Output Power (EIRP)		8		dBm	
	Power Supply	3.0	3.3	3.6	V	
	Current Consumption		24	35	mA	CW
	Settling time			6	μS	
	Noise			10	μVrms	3~80 Hz
	Received Signal			20	mVp-p	max
	3dB Antenna Beam Width – E-axis		84		°	
	3dB Antenna Beam Width – H-axis		85		°	
	Operating temp.	-10		+50	°C	
	Storage temp.	-30		+70		
Size	27.5*18.5*8.2			mm		
Pulse Operation	Pulse Width	5			μS	
	Duty Cycle		20		%	
	Average Current		5		mA	@20% duty

Warning : The specifications can be changed without any notice.

X-Band Motion Sensor

FCC ID : 2AJWPTMS230IF

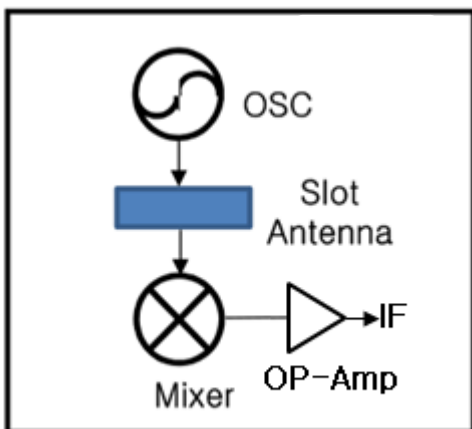
[Dimension ]



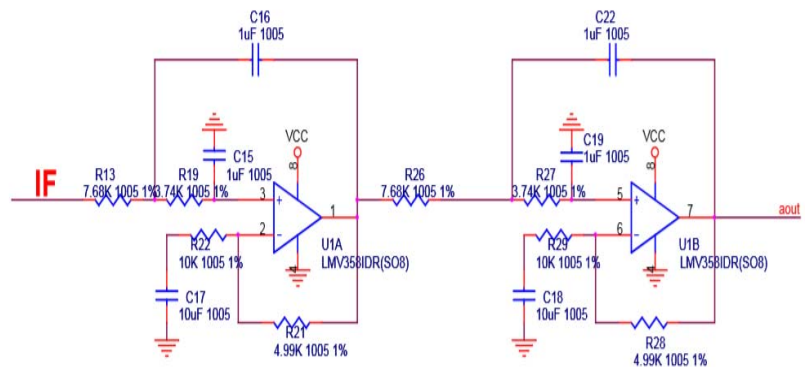
[ Pin Description ]

#	Pin Name	Explanation
1	GND	Ground
2	Vdd	Power, +3.3V
3	Vdd	Power,+3.3V
4	IF	Output

[ Block Diagram ]



[ Application Circuit Example ]



**Warning :** TMS230 is very sensitive to ESD, so you should be very careful in installation. Unless, there would be an operational problem or it may be out of order.

## X-Band Motion Sensor

FCC ID : 2AJWPTMS230IF

### [ Features ]

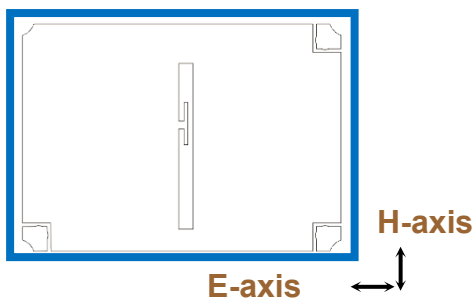
TMS230IF is X-band Doppler motion sensor to detect motion.

It consists of DR(dielectric resonator) oscillator, passive diode and patch antennas and provides most reliable solution in motion detection.

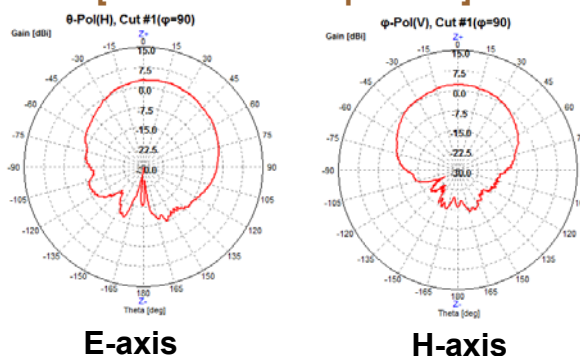
### [ Applications ]

- Intrusion alarm
- Automatic door
- Obstruction alarm system
- Non-contact measurement
- Dual motion sensor with PIR
- Velocity measurement
- Automatic on and off lamps

### [ Picture ]



### [ Antenna beam pattern ]



### [Electrical Specifications]

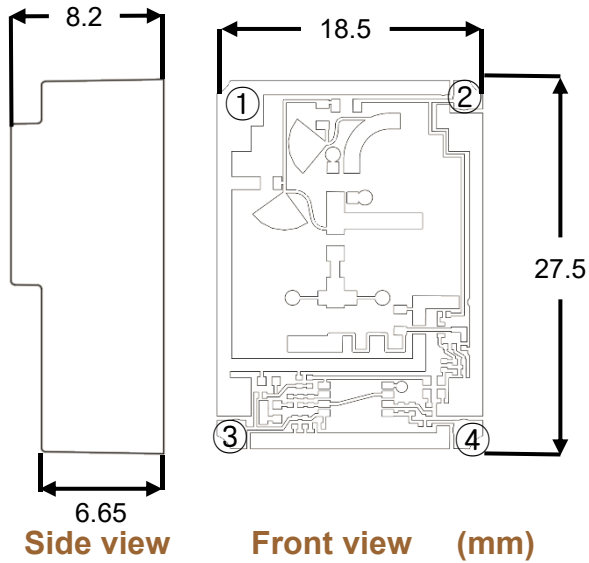
Parameters		Min.	Typ.	Max.	Unit	Condition
CW	Frequency	10,525 ± 25			MHz	Over Temp.
	Output Power (EIRP)		8		dBm	
	Power Supply	4.5	5	5.5	V	
	Current Consumption		24	35	mA	CW
	Settling time			6	μS	
	Noise			10	μVrms	3~80 Hz
	Received Signal			20	mVp-p	max
	3dB Antenna Beam Width – E-axis		84		°	
	3dB Antenna Beam Width – H-axis		85		°	
	Operating temp.	-10		+50	°C	
	Storage temp.	-30		+70		
Size	27.5*18.5*8.2			mm		
Pulse Operation	Pulse Width	5			μS	
	Duty Cycle		20		%	
	Average Current		5		mA	@20% duty

Warning : The specifications can be changed without any notice.

X-Band Motion Sensor

FCC ID : 2AJWPTMS230IF

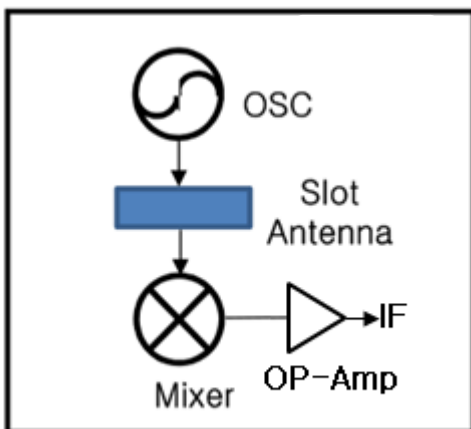
[ Dimension ]



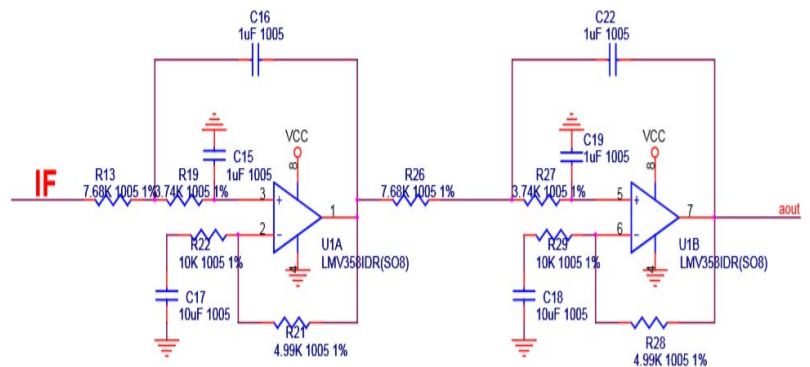
[ Pin Description ]

#	Pin Name	Explanation
1	GND	Ground
2	Vdd	Power, +5V
3	Vdd	Power, +5V
4	IF	Output

[ Block Diagram ]



[ Application Circuit Example ]



**Warning :** TMS230IF is very sensitive to ESD, so you should be very careful in installation. Unless, there would be an operational problem or it may be out of order.

## Federal Communication Commission 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. The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times.

### OEM Responsibilities to comply with FCC

- The module is limited to OEM installation only.
- The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module.
- The module is limited to installation in mobile or fixed applications.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.
- The OEM integrator will be responsible to satisfy SAR/ RF Exposure requirements, when the module integrated into the host device.
- The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.). Also, the OEM integrator is responsible to provide to the host manufacturer for compliance with the Part 15B requirements.
- The module is a limited single-modular transmitter that complies with the § 15.212(a) modular rules which requires the host operating condition as ; The host product should supply the regulated power of 3.3V, 5V DC to module. The host product should comply with part 15 requirements under conditions of excessive data rates or over-modulation.

X-Band Motion Sensor

FCC ID : 2AJWPTMS230IF

**Host User Manual**

The host manual shall include the following regulatory statement:**Part 15.19:** 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. **Part 15.21:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times.

**Host Product labeling**

The module is labeled with its own FCC. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following: "Contains FCC ID: 2AJWPTMS230IF"

\*This module TMS230IF is Only used for LED lamps