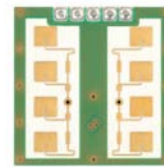

User Manual

Product Family: Low Cost K-Band Transceiver
Range of use: Security- / Door- applications

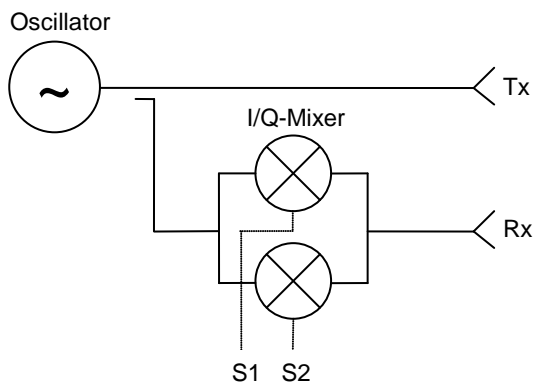
Module Number: **IPS-265_F**

Description:

- ◆ radar-based motion detector
- ◆ available in different frequency ranges: Standard; _F and _UK variants
- ◆ advanced PHEMT-oscillator with low current consumption
- ◆ split transmit and receive path for maximum gain
- ◆ **dual** (stereo channel) operation
- ◆ very small outline dimensions



Block Diagram:



Environmental Tests and Handling Precautions:

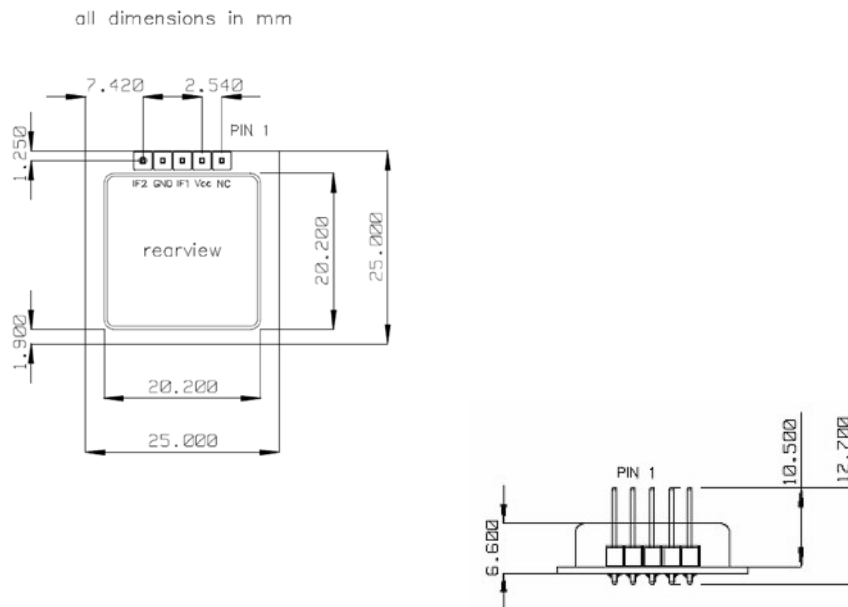
- ◆ This InnoSenT sensor is sensitive to damage from ESD.
- ◆ Normal precautions as usually applied to CMOS devices are sufficient when handling the device. Touching the signal output pins has to be avoided at any time before soldering or plugging the device into a motherboard
- ◆ Applying multimeters e.g. for resistance measurement between any of the connector pins may cause damage to the module.



Electrical Characteristics:

Parameter	Symbol	min.	typ.	max.	units	comment
Transmitter						
transmit frequency	$f_{IPS-265_F}$	24.075		24.175	GHz	
temperature drift frequency	Δf		-1		MHz/°C	
output power	P_{out}		16		dBm	
positive supply voltage	V_{cc}		5		V	
positive supply current	I_{cc}		30	40	mA	
Receiver						
I/Q-balance	amplitude			6	db	
	phase	60	90	120	°	
IF-output	voltage offset	-300		300	mV	
Environment						
operating temperature	T_{OP}	-20		60	°C	
outline dimensions		~ 25 x 25 x 7 (12.7)			mm	compare drawing
Antenna						
antenna pattern (-3 dB)	horizontal		80		°	azimuth
	vertical		32		°	elevation
side lobe suppression	horizontal		13		dB	azimuth
	vertical		13		dB	elevation

Mechanical Outlines:



Interface:

The sensor provides a 2.54 mm grid, single row pin header (square pin \square 0.635 mm).

Pin	Function	Description
1	NC	not connected
2	VCC	supply voltage 5V
3	IF1	signal 1 output
4	GND	GND
5	IF2	signal 2 output

Certification and environment protection:

InnoSenT GmbH has established and applies a quality system for:
Development, production and sales of radar sensors for commercial and industrial sensors

An audit was performed, Report No. 010350 Proof has been furnished that the requirements according to DIN EN ISO 9001:2000 are fulfilled.



This InnoSenT product is compliant to the restriction of hazardous substances (RoHs – European Union directive 2002/95/EG).



FCC approval

- This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada.
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.
- Warning: Changes or modifications made to this equipment not expressly approved by InnoSenT GmbH may void the FCC authorization to operate this equipment.
- Manufacturers of mobile or fixed devices incorporating IPS-265_F modules are authorized to use the FCC Grants and IC Certificates of the IPS-265_F modules for their own final products according to the conditions referenced in these documents. In this case, the FCC label of the module shall be visible from the outside, or the host device shall bear a second label stating "Contains FCC ID: UXS2" and "Contains IC: 5904A-UXS2".

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