

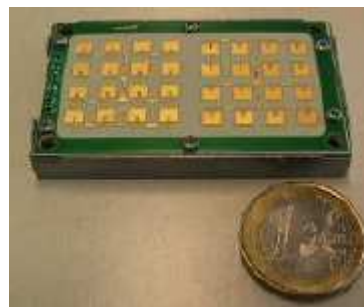
DATA SHEET

Product Family: K-Band Transceivers

K-Band Transceiver with two integrated patch antennas, RF- and IF-pre-amplifier IPS-146 (and variants IPS-146_UK / IPS-146_F)

Description:

- radar-based motion detector
- advanced PHEMT-oscillator with low current consumption
- RF-pre-amplifier for lowest noise operation
- split transmit and receive path for maximum gain
- stereo (dual channel) operation for direction of motion identification
- IF-pre-amplifier, bandwidth limited for lowest noise performance
- enable input for oscillator shut down
- small outline dimensions



Absolute Maximum Ratings:

Parameter	Symbol	Rating	Units
supply voltage	V_{CC}	5.5	V
operating temperature (out of spec)	T_{OP}	- 40 / + 85	°C
storage temperature	T_{STG}	+ 90	°C

Electrical Characteristics:

Parameter	Symbol	min.	typ.	max.	units	comment
transmit frequency	$f_{IPS-146}$	24.000	24.125	24.250	GHz	
	$f_{IPS-146_UK}$	24.150	24.200	24.250	GHz	
	$f_{IPS-146_F}$	24.075	24.125	24.175	GHz	
output power (EIRP)	P_{out}		18		dBm	
temperature drift	Δf		- 1		MHz/°C	
antenna pattern	horizontal		30		°	azimuth
	vertical		32		°	elevation
side lobe suppression	horizontal		20		dB	azimuth
	vertical		20		dB	elevation
I/Q balance	amplitude			6	dB	
	phase	60	90	120	°	
IF output	voltage offset		$V_{CC}/2$		V	
IF-amplifier	gain		50		dB	
	bandwidth		50 – 10k		Hz	
supply voltage	V_{CC}	4.75	5.0	5.25	V	
supply current	I		60	80	mA	IF-amp included
operating temperature	T_{OP}	- 20		+ 60	°C	
outline dimensions		60 x 37 x 9			mm	

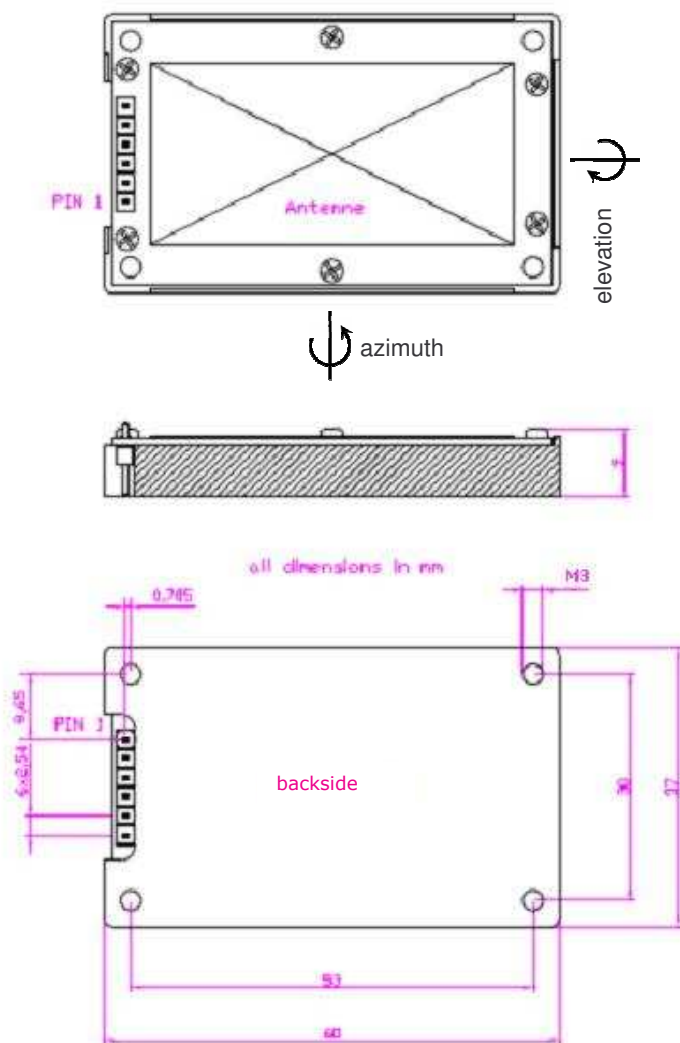
Interface:

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

Pin #	Description	In/Out	Comment
1	NC		not connected
2	enable	input	active low
3	V _{CC}	input	supply voltage
4	GND	input	analog ground
5	IF2	output	Signal Q(uadrature)
6	IF1	output	Signal I(nphase)

Mechanical Outlines:

(dimensions in mm)



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).

**Contact Information:**

InnoSenT GmbH
Am Roedertor 30
97499 Donnersdorf
Germany

Phone: +49 (0) 9528-9518-0
Fax: +49 (0) 9528-9518-99

E-Mail: info@InnoSenT.de
Web: www.InnoSenT.de