

Data Sheet IPS-265

Version 1.3 - 09.03.2015

designed and manufactured in Germany

PRODUCT FAMILY

Low Cost K-Band Transceiver

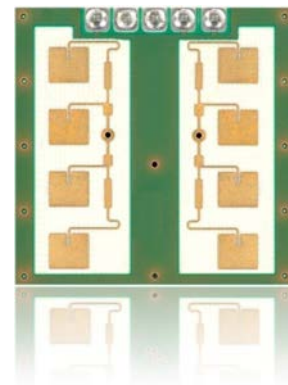
APPLICATIONS

- Door Openers
- Security Applications
- Industrial Applications

	Movement
	Velocity
	Direction
	Presence
	Distance
	Angle

FEATURES:

- » radar-based motion detector working in the 24GHz - ISM - Band
- » available in different frequency ranges for worldwide use
- » advanced LCO-oscillator with low current consumption
- » split transmit and receive path for maximum gain
- » dual channel operation for direction of motion identification



DESCRIPTION

The IPS-265 is the stereo version of the IPM-165 and therefore the perfect choice for low cost applications where the detection of movement direction is necessary.

CERTIFICATES

InnoSenT GmbH has established and applies a quality system for: development, production and sales of radar sensors for industrial and automotive sensors.



ADDITIONAL INFORMATION

InnoSenT Standard Product. Changes will not be notified as long as there is no influence on form, fit and within this datasheet specified function of the product.

RoHS-INFO

This product is compliant to the restriction of hazardous substances (RoHS - European Union directive 2011/65/EU).

CONFIDENTIAL AND PROPRIETARY

The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

ELECTRICAL CHARACTERISTICS

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Transmitter						
transmit frequencies @25°		$f_{Standard}$	24.050		24.250	GHz
	US frequency band	$f_{IPS-265_F}$	24.075		24.175	GHz
	UK frequency band	$f_{IPS-265_UK}$	24.150		24.250	GHz
temperature drift frequency		Δf		-1		MHz/°C
output power		P_{out}		16		dBm

Receiver						
[I/Q] balance		amplitude		0	6	dB
		phase	60	90	120	°
IF-output		voltage offset	-300		300	mV

Environment						
operating temperature		T_{OP}	-20		+60	°C
storage temperature		$T_{storage}$	-20		+60	°C

Antenna System Pattern (details compare page 3)						
antenna pattern (-3 dB)	azimuth	horizontal		80		°
	elevation	vertical		35		°
side lobe suppression	azimuth	horizontal		12		dB
	elevation	vertical		13		dB

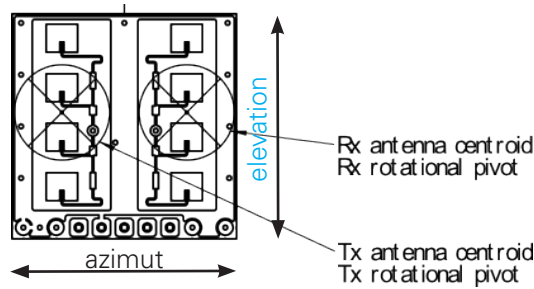
Power supply						
supply voltage		V_{CC}	4.75	5	5.25	V
supply current		I_{CC}		30	40	mA

Mechanical Outlines						
outline dimensions	compare to drawing	height length width		25.0 25.0 7.0 (12.7)		mm

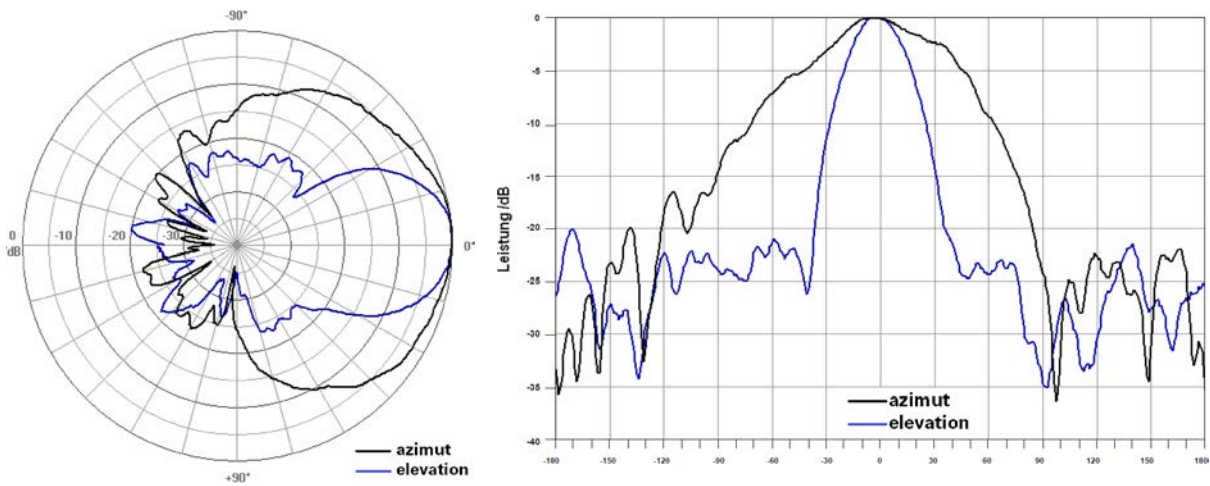
CONFIDENTIAL AND PROPRIETARY

The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

ANTENNA ORIENTATION:

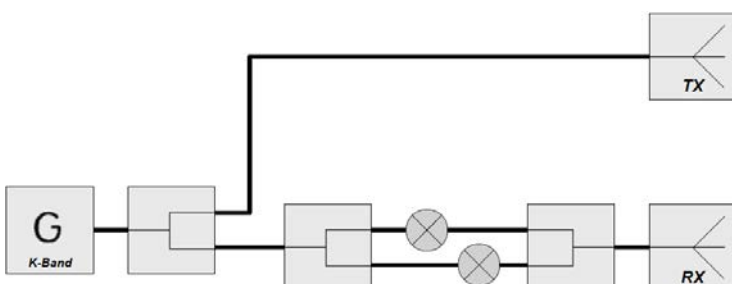


TX / RX-ANTENNA PATTERN:



PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
TX-antenna pattern / RX-antenna pattern						
Tx antenna pattern (3dB width)	horizontal	azimuth		80		°
	vertical	elevation		35		°
side-lobe suppression	horizontal	azimuth		12		°
	vertical	elevation		13		°
squinting angle				0		°
Antenna gain				9.5		dBi

BLOCK DIAGRAMM



CONFIDENTIAL AND PROPRIETARY

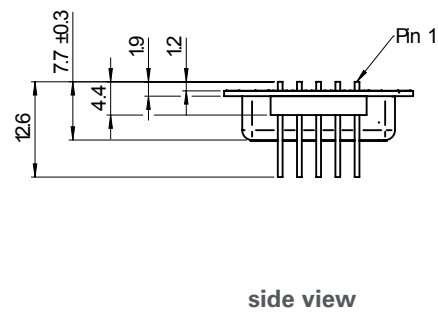
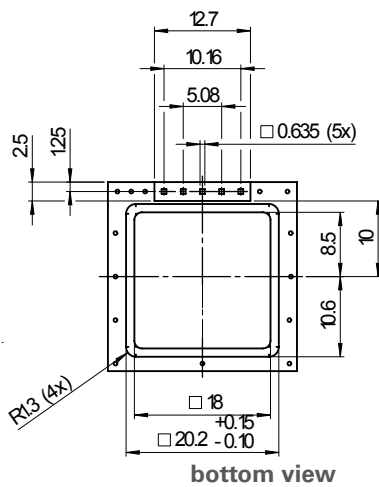
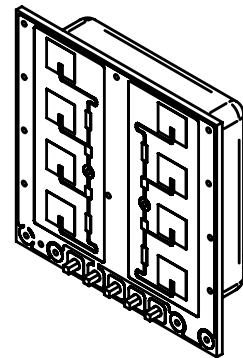
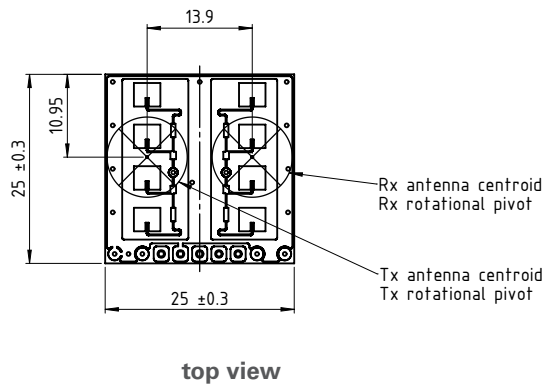
The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

INTERFACE

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

PIN #	DESCRIPTION	IN / OUT	COMMENT
1	NC		not connected
2	V _{CC}	input	supply voltage
3	IF1	output	signal 1 output
4	GND		GND
5	IF2	output	signal 2 output

MECHANICAL OUTLINES



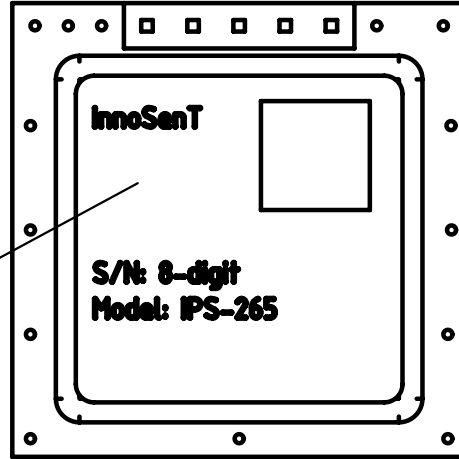
CONFIDENTIAL AND PROPRIETARY

The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

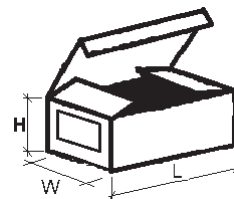
LABELING

Label content:

InnoSenT
 DataMatrixCode
 S/N: 8-digit
 Model: IPS-265



PACKAGING BOX



Mechanical Outlines

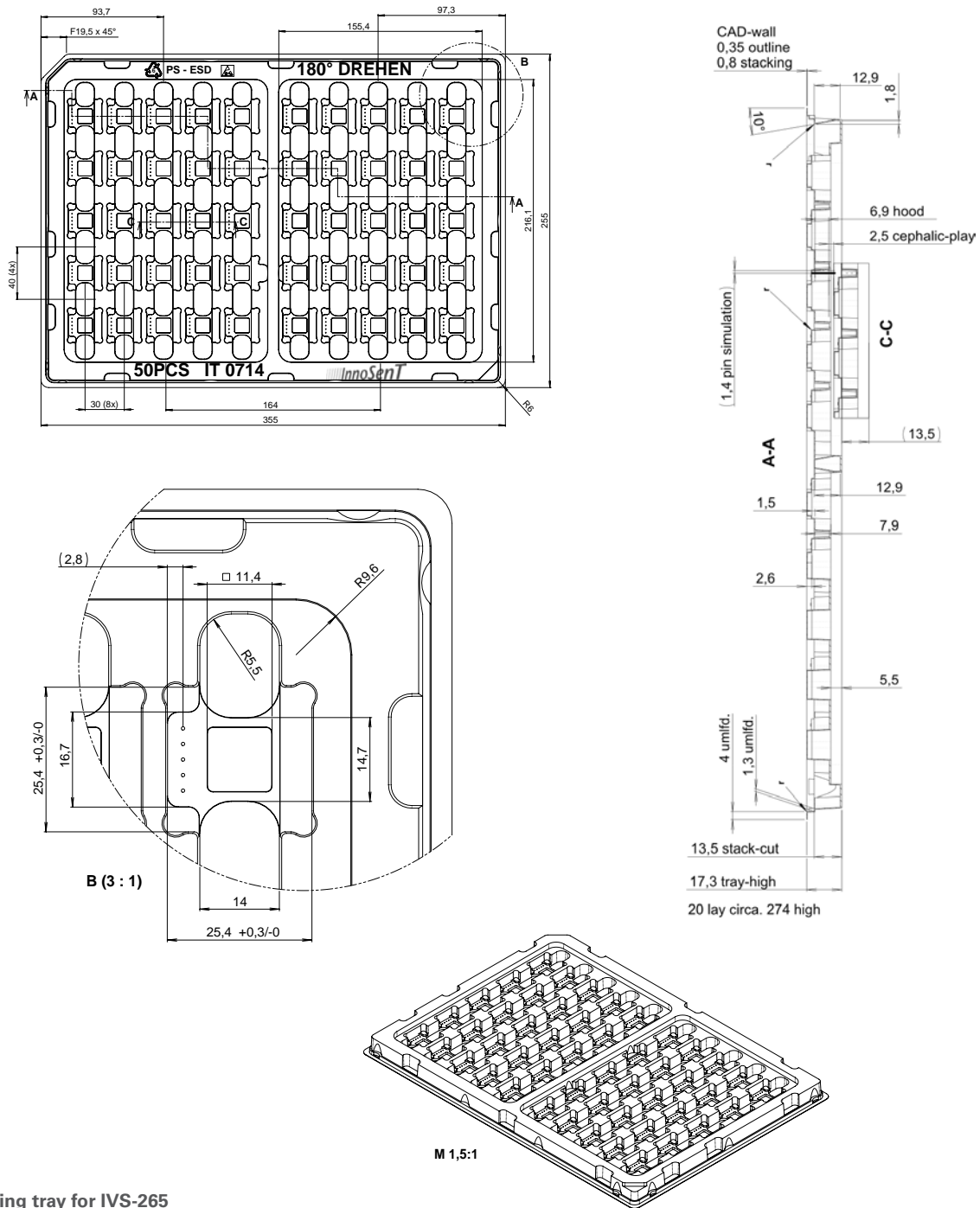
outline dimensions	compare drawing	length	360	mm
		width	260	
		height	280	
Material	Material: 175/M/175 Static shielding box with conductive coating inside			
capacity	compare drawing	50		units per tray
		11		trays per carton

CONFIDENTIAL AND PROPRIETARY

The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

TABLETT / PACKAGING TRAY

TABLETT DIMENSION



Packaging tray for IVS-265
InnoSenT item number IT0714

Mechanical Outlines

outline dimensions	compare drawing	length width height	355 255 17.3	mm
capacity	compare drawing		50	units per tray

CONFIDENTIAL AND PROPRIETARY

The information contained in this document shall remain the sole and exclusive property of InnoSenT GmbH and shall not be disclosed by the recipient to third parties without prior consent of InnoSenT in writing.

ESD-INFORMATION



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.

APPROVAL

This Data Sheet contains the technical specifications of the described product. All previous versions of this Data Sheet are no longer valid.

The sensor uses Hydrocarbon based material which may change its dielectric properties when used in an oxidative environment. This may vary based on temperature. Therefore InnoSenT recommends evaluating this influence within the specific environment.

VERSION	DATE	COMMENT
1.1	14.03.2013	new layout
1.2	16.05.2014	ESD; product picture; packing tray; box; antenna information; block diagramm; I/Q-balance; UK-frequency
1.3	09.03.2015	small changes in Antenna System Pattern

InnoSenT GmbH

Am Rödertor 30
97499 Donnersdorf
GERMANY

Tel.: +49 (0) 9528 - 9518 - 0
E-Mail: info@innosent.de
URL: www.innosent.de