



X4SIP02 Datasheet

X4 System-in-Package

XeThru Datasheet **by Novelda AS**

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Summary

X4SIP02 is a System-in-Package with the X4 SoC and required components



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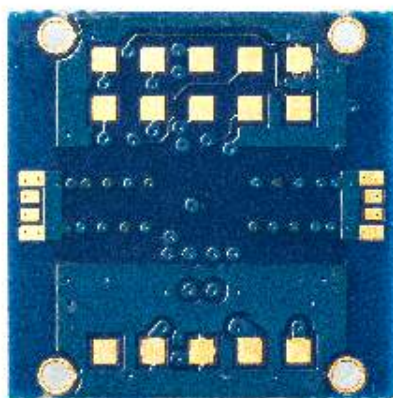
1 List of Features

- Minimum PCB implementation of X4 System-on-Chip (SoC)
- Novelda Ultra Wide Band (UWB) Impulse Radar X4 SoC
- PCB pad connectors

Intended use of X4SIP02 is to connect to a PCB with antennas or antenna connections suited to the X4 SoC and RF transmission lines on X4SIP02. Antennas and PCB layout must be precisely matched to create a functional radar sensor.



Top view of X4SIP02



Bottom view of X4SIP02



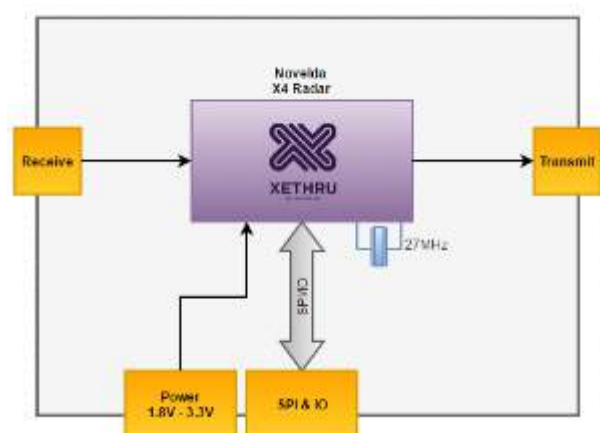
1.1 Order Information

Order Code	Item Description	MOQ	MPQ
X4SIP02	X4SIP02 X4 System-in-Package	1	1
X4SIP02-RL350	X4SIP02 X4 System-in-Package, Tape and Reel	350	350

MOQ: Minimum Order Quantity

MPQ: Minimum Package Quantity

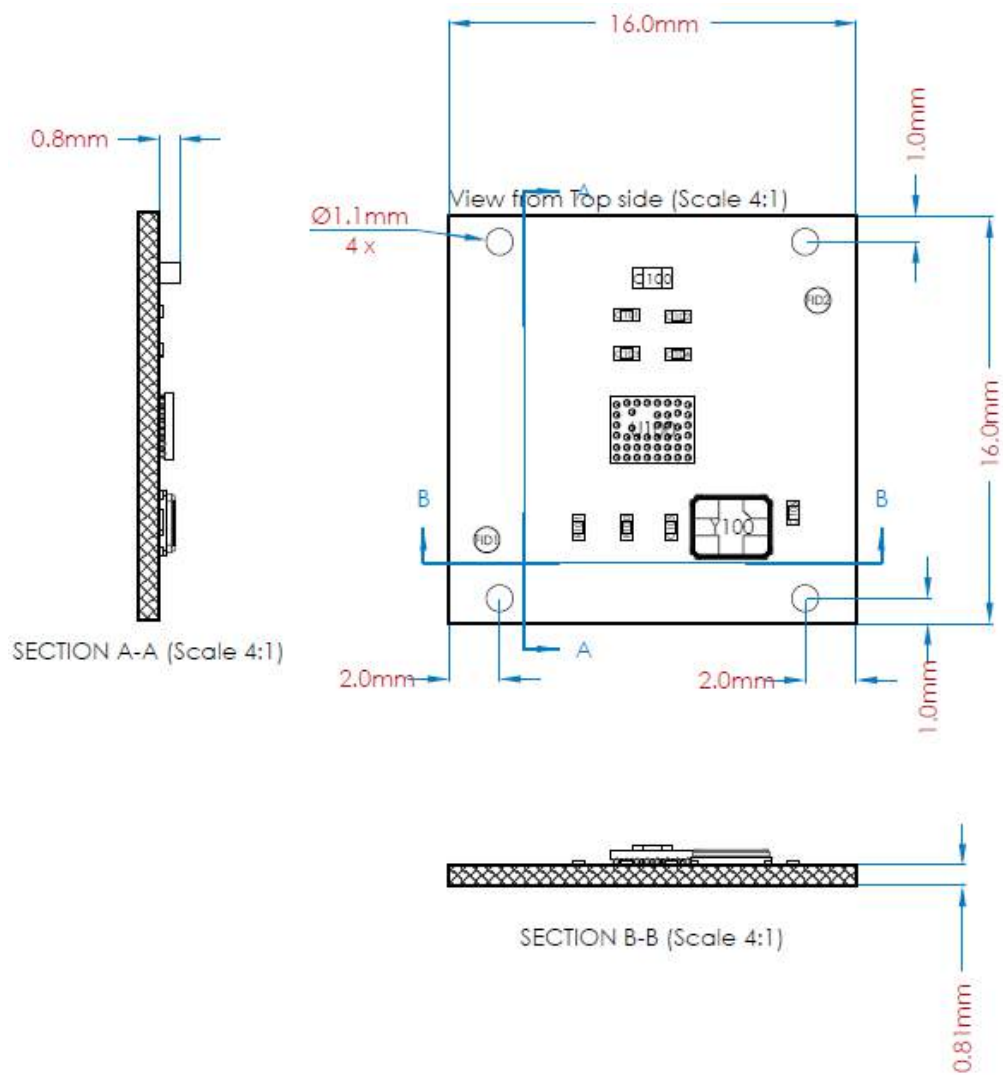
2 Block Diagram



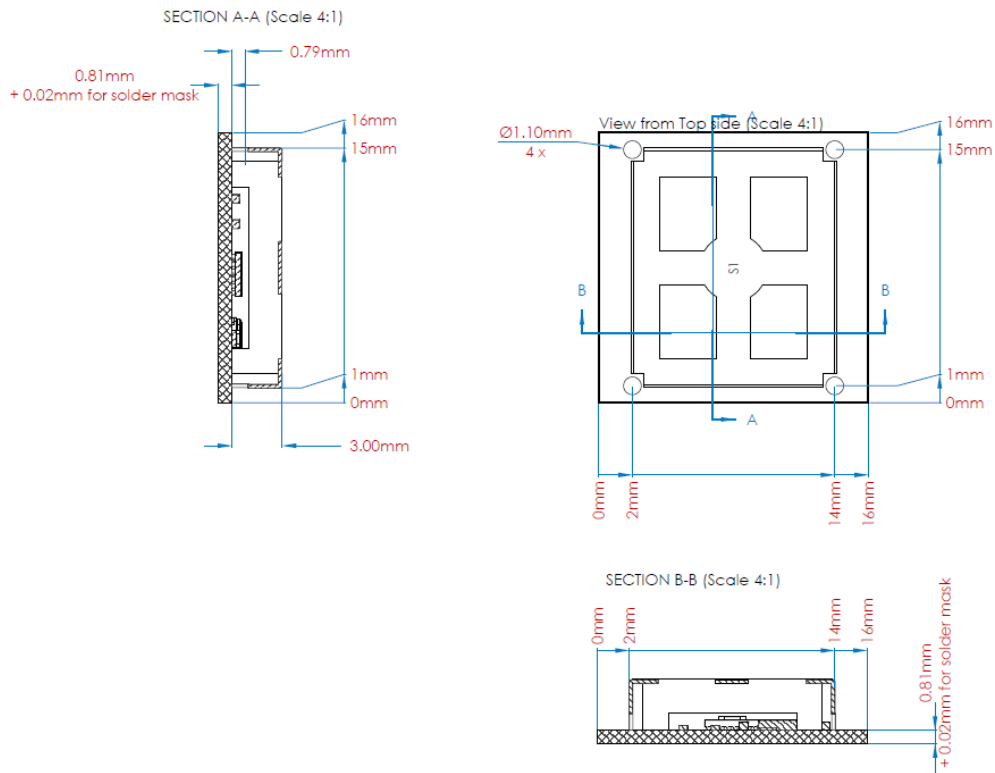
X4SIP02 block diagram



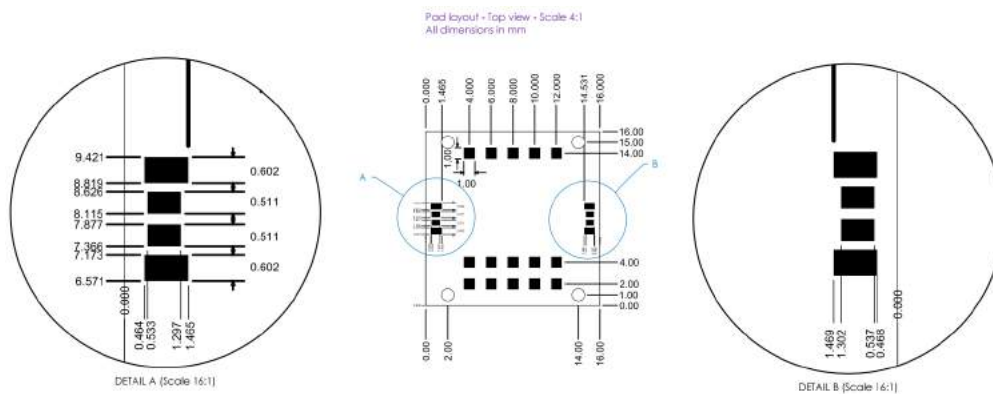
3 Physical Dimensions



X4SIP02 rev.3 physical dimensions



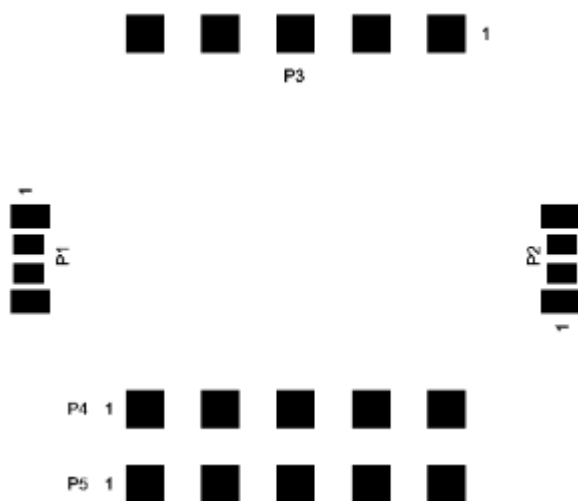
X4SIP02 rev.4 physical dimensions



X4SIP02 pad layout



4 Connector



X4SIP02 pad placement - seen from above

4.1 Pin-out of PCB pad connectors

Connector pin	Signal name
P1-1	GND
P1-2	RFIN_P
P1-3	RFIN_N
P1-4	GND

Connector pin	Signal name
P2-1	GND
P2-2	RFOUT_N
P2-3	RFOUT_P
P2-4	GND

Connector pin	Signal name
P3-1	VDD3V
P3-2	VDD3V
P3-3	GND
P3-4	GND
P3-5	NC

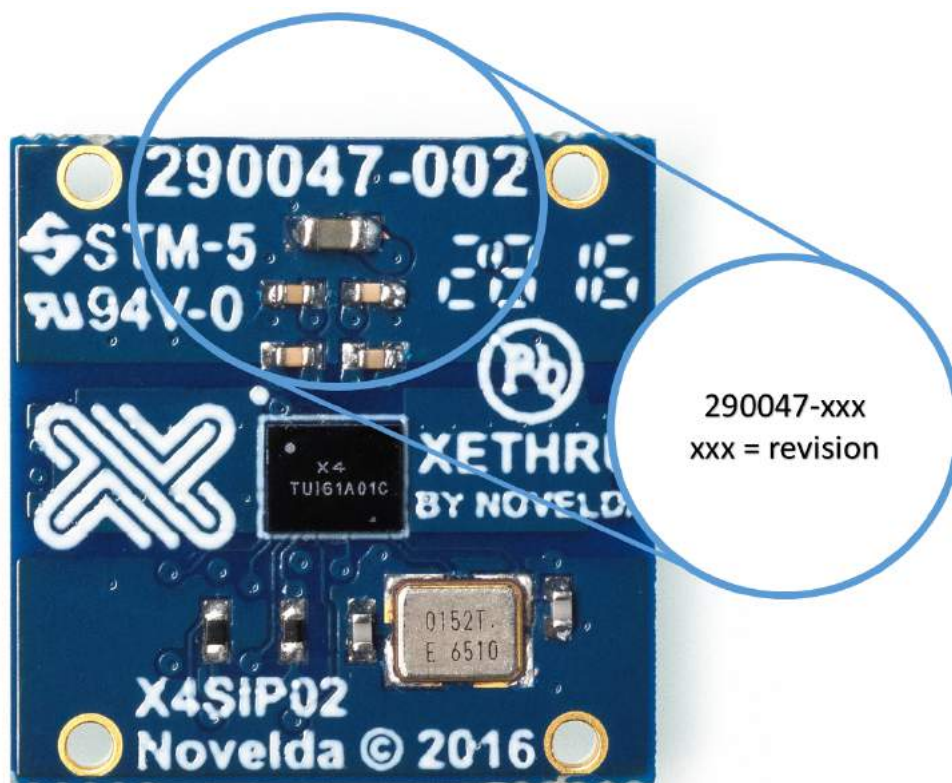


Connector pin	Signal name
P4-1	X4_IO1
P4-2	QSPI_SCLK/SPI_SCLK
P4-3	QSPI_IO1/SPI_MISO
P4-4	QSPI_IO3
P4-5	X4_ENABLE

Connector pin	Signal name
P5-1	X4_IO2
P5-2	QSPI_IO0/SPI_MOSI
P5-3	QSPI_IO2
P5-4	QSPI_NSS/SPI_NSS
P5-5	GND

5 X4SIP02 HW Revisions

5.1 Identifying HW Revision



How to identify HW revision of X4SIP02



From X4SIP02 rev.4, the PCB identification number (290047-xxx) is in a different location and partly hidden by the shield box .

5.2 X4SIP02 rev.3

Initial revision used for production of X4SIP02.

5.3 X4SIP02 rev.4

Added shield box for X4 SoC. Shield box is needed to comply with FCC modular approval.

6 Schematics, Bill of Material and PCB Layout

Schematics, bill of material and PCB layout files for X4SIP02 can be downloaded from www.xethru.com.

Refer to X4SIP02 schematics and X4 SoC datasheet for signal descriptions.

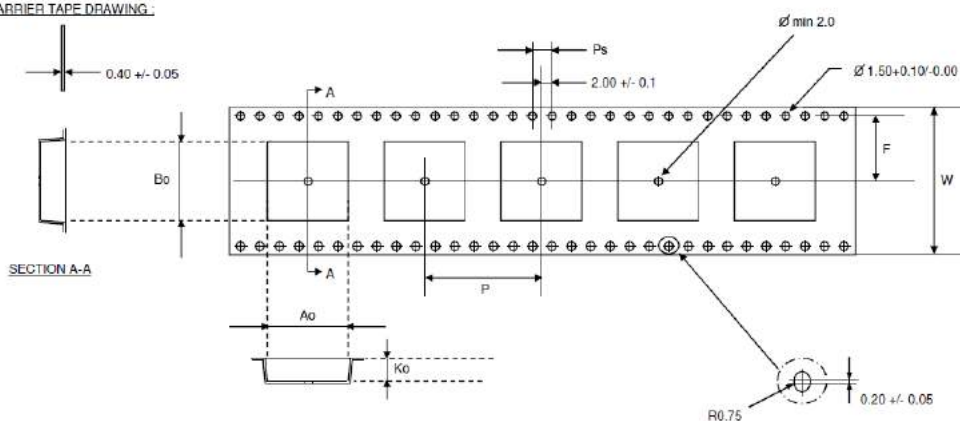
7 Tape and Reel Specification

This section only applies to X4SIP02-RL350, where X4SIP02 is delivered on tape and reel.

CARRIER TAPE SPECIFICATIONS

DEVICE TYPE : X4SIP02
 SMD PART # : STR003-1
 MATERIAL TYPE : HIGH IMPACT POLYSTYRENE (CONDUCTIVE, BLACK)
 SURFACE RESISTIVITY : ACCEPTANCE CONDUCTIVE RANGE

CARRIER TAPE DRAWING:



DIMENSION	W	P	Ao	Bo	Ko	Ps	F
SPECS: Nominal	32.00	24.00	16.40	16.95	4.95	4.00	14.20
Tolerance +/-	0.30	0.10	0.10	0.10	0.10	0.10	0.10

- All dimensions are in mm.
- Camber do not exceed 1.0mm in 100mm.
- The maximum cumulative tolerance is +/- 0.2mm for 10 sprocket hole pitch.
- Thickness of carrier tape is 0.40mm.

Tape and reel specification for X4SIP02-RL350



8 Support and Resources

Development support, resources, links to development partners and resellers can be found on Novelda's web site www.xethru.com.

9 Disclaimer

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