



XTMCU02 Datasheet

Microcontroller board for XeThru radar sensors

XeThru Datasheet **by Novelda AS**

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Summary

XTMCU02 is a microcontroller board suitable for connection to XeThru radar sensors

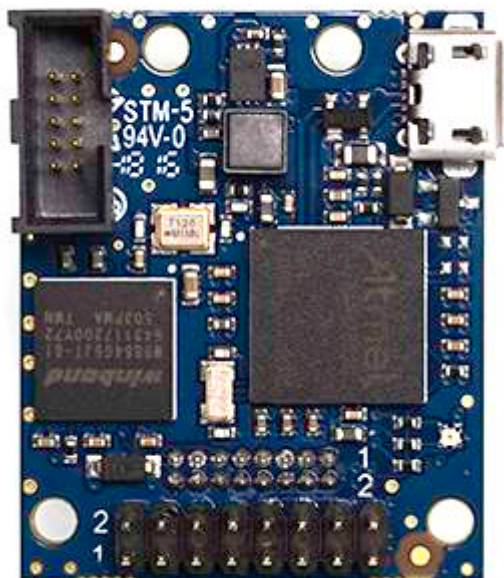


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1 List of Features

- Microcontroller board for XeThru UWB radar sensors
- ARM Cortex-M7 MCU
- 8 MB SDRAM
- Connector for antenna and radar board
- Micro USB connector
- 16-pin XeThru interface connector
- Multi color LED



XTMCU02 top view

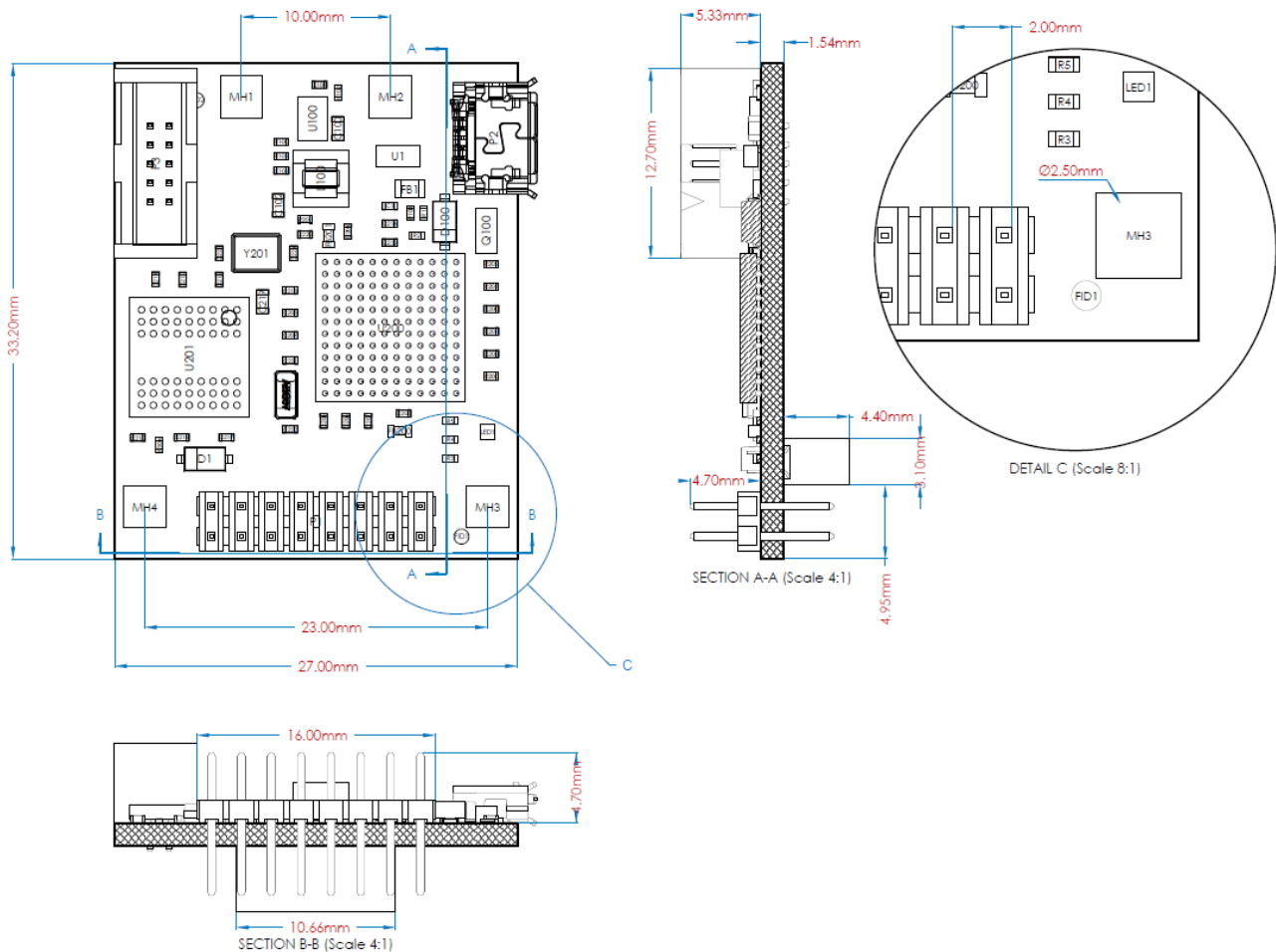


XTMCU02 bottom view

1.1 Order Information

XTMCU02 is not sold separately. XTMCU02 is included in the X4M03 product. Refer to X4M03 datasheet for Order Information.

2 Physical Dimensions



XTMCU02 Physical dimensions

3 Connectors

3.1 16-pin XeThru Interface Connector

The 16-pin header is compatible with other XeThru sensors such as X2M200 and can be used to power and communicate with XTMCU02. I/O voltage is 3.0V. Refer to the XTMCU02 schematics and the Atmel SAM S70 datasheet for additional details of operation.

Pin	Name	Type
1	VDD_EXT	Power, 3.3 - 5.5V
2	GND	Power
3	MOSI/RX	I/O
4	MISO/TX	I/O
5	SCLK	I/O



Pin	Name	Type
6	nSS	I/O
7	nRESET	Input with pull-up
8	IO7/WAKEUP	I/O
9	IO8/SWCLK	I/O
10	IO9/SWDIO	I/O
11	IO1	I/O
12	IO2	I/O
13	IO3	I/O
14	IO4	I/O
15	IO5	I/O
16	IO6	I/O

3.2 USB Connector

USB micro type B connector supporting USB 2.0 High Speed. This connector can be used to power and communicate with XTMCU02.

3.3 Programming Connector

The 10-pin Programming Connector is compatible with Atmel's development tools for the Atmel SAM S70 microcontroller used in XTMCU02 and is intended for programming and debugging of the microcontroller.

3.4 16-pin XeThru Radar Connector

A 16-pin socket for connecting the 16-pin header from the X4A02 antenna board or similar UWB radar sensors. Signal descriptions below describes signal names when connected to X4A02. Refer to schematics for alternative use of this connector.

Pin descriptions

Pin	Name	Pin	Name
1	VDD3V	2	GND
3	QSPI_SCLK/SPI_SCLK	4	GND
5	QSPI_IO0/SPI_MOSI	6	GND
7	QSPI_IO1/SPI_MISO	8	GND
9	QSPI_IO2	10	GND
11	QSPI_IO3	12	GND
13	QSPI_nSS/SPI_nSS	14	X4_ENABLE



Pin	Name	Pin	Name
15	X4_GPIO1	16	X4_GPIO2

4 Hardware Revisions

4.1 Identifying HW revision



How to identify HW revision of XTMCU02

4.2 XTMCU02 rev.2

Initial revision used for production of XTMCU02.

4.3 XTMCU02 rev.3

MCU change from 1MB to 2MB version.

4.4 XTMCU02 rev.4

MCU clock source changed from crystal to oscillator.

5 Schematics, Bill of Material and PCB Layout

Schematics, bill of material and PCB layout files for XTMCU02 can be downloaded from www.xethru.com.

6 Support and Resources

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



7 Disclaimer

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