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Support / Wiki:

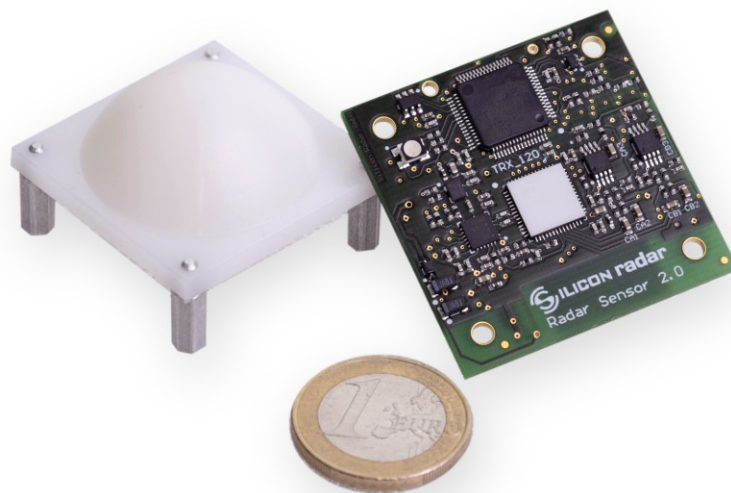


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Product Sheet

SiRad Simple Base Board*



*Available as SiRad Simple Kit (including Serial/USB converter and lens)

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Version: 1.2	Document number: -	Package: -	Marking: -	Page: 1 of 5

Version Control

Version	Changed section	Description of change	Reason for change
1.0	all		Initial document
1.1	1, 2	Few changes	Minor corrections
1.2	all	New template	Corporate identify update

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1 Overview

1.1 Hardware

- Radar baseband including PLL, amplifiers, and radar front end [TRX_120_001](#)
- 40 mm x 40 mm PCB with 4 screw holes
- Power and data over Serial/USB to virtual COM port converter on PC
- UART over optional 2.54 mm pitch standard pin header
- 1 x external pin header port (J1)
- ARM Cortex-M4 microcontroller

Required: Serial/USB converter (included).

1.2 Software

- Graphical user interface (GUI) for setup and data display
- Embedded signal processing, hardware accelerated by ARM Cortex-M4
- Continuous Wave (CW) or Frequency-Modulated Continuous Wave (FMCW) mode
- Individual fixed frequencies (CW) or saw tooth ramping (FMCW)
- Single ramps or ramp groups of 2 up to 128 ramps
- Sample frequency from 0.059 MS/s up to 2.571 MS/s
- Number of acquired ADC samples from 32 to 2048
- Number of FFT points from 32 to 2048 points
- Different standard CFAR detectors and target list for up to 16 targets
- Optional DC cancellation, modified Blackman-Harris windowing, fixed FIR filter, variable down sampling, FFT averaging over up to 3 target results

1.3 System Compatibility

PC:

- Microsoft Windows 10
- 1 free USB port, 2 free USB ports when debugging
- Active USB Hub between PC and SiRad Simple® is recommended (≥ 1000 mA)

Alternative devices:

- Supports 230k / 1Mbaud UART speed
- Enables implementation of SiRad Simple® custom protocol in any programming language
- Power supply 5 V, ≥ 1000 mA recommended

2 Specifications

Parameter	Value
Size	40 mm x 40 mm
Power Supply	Provided by <ul style="list-style-type: none">• 5 V / GND on pin header port (UART), ≥ 1000 mA max. current recommended
Interfaces	1 x external pin header port (J1), pin header bar mounted <ul style="list-style-type: none">• 5V, GD, MT, MR, WT, WR, TR• 230400 baud / 1 Mbaud communication speed• 8 bit, 1 start bit, 1 stop bit, no parity, no flow control

3 Mechanical Drawing

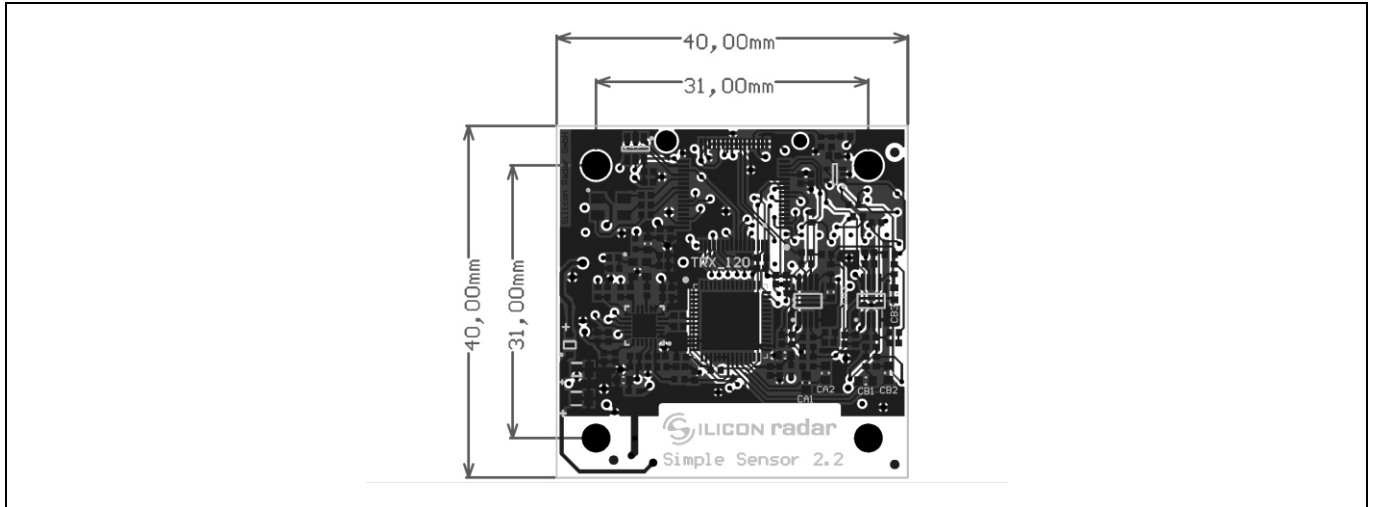


Figure 1 Mechanical Drawing

4 Pinout Description

Below figures show the pinout description of the external header (J1).

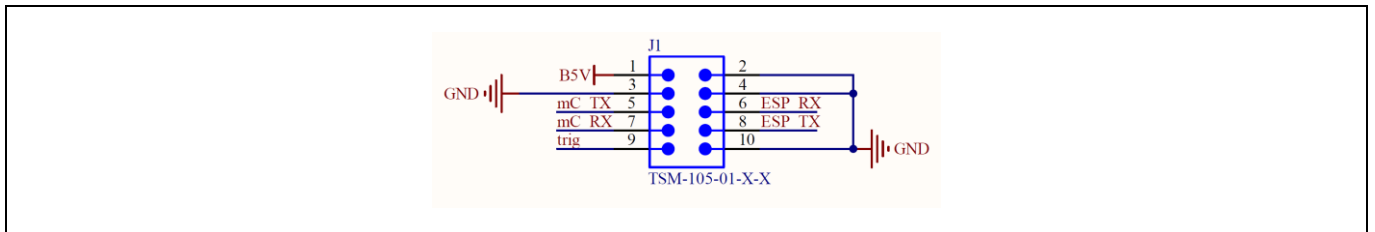


Figure 2 Pinout Description - Version 2.2

5 Modular System

The SiRad Simple® Base Board is part of the SiRad Simple® evaluation kit, consisting of Base Board with fixed 120 GHz radar transceiver of Silicon Radar’s portfolio, and other accessories.

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