

MIKROE

mikroBUS™

*Compatible add-on
boards standard
specification*

February 2021



Revision history:

Revision Number:	Revision Date:	Summary of changes:	Authors:
2.00	February, 2021	mikroBUS™ Compatible add-on boards standard extracted from mikroBUS standard, updated silkscreen markings, fonts and shape (curved edges), introduced terms and conditions of use.	S.T; A.M; D.K.
1.00	August, 2011	Initial mikroBUS™ standard, introducing the pinout and the add-on board concept.	A.N.



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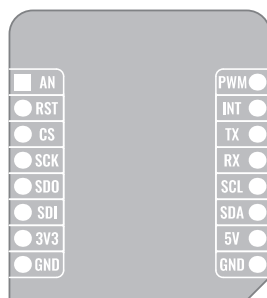
The mikroBUS™ add-on boards are fully compatible with the mikroBUS™ socket for host motherboards. Each add-on board carries a single IC or module that brings a specific functionality to a target mainboard. Engineered to deliver the best performances for the used components, they save developers of testing and troubleshooting often associated with the prototyping phase. The mikroBUS compatible add-on boards enhance rapid development and accelerate time to market. These ready-to-use boards require no additional hardware configuration. More information at www.mikroe.com/mikrobus

Pinout specification

The pinout on a mikroBUS™ add-on boards corresponds with the module, not the target mainboard. As such, some pins are left unused and some deviate from the default configuration as seen on the mikroBUS™ socket. Four cases should be considered.

NOTE: The pin-out (always laid out in the same order) consists of three groups of communications pins (SPI, UART, and I2C), six additional pins (PWM, Interrupt, Analog input, Reset and Chip select), and two power groups (+3.3V and 5V).

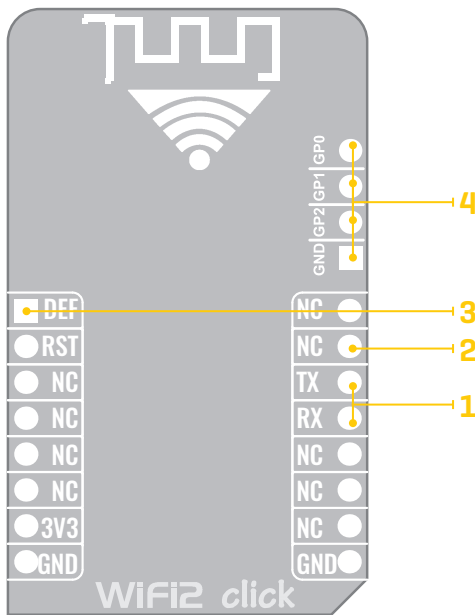
1. When a module uses an interface already featured on mikroBUS™, use those exact pins and mark them accordingly. This is the default layout:



Note the differences compared to mikroBUS™ markings: UART markings are criss-crossed because receivers are matched to transmitters. SPI markings are abbreviated. Like so:

Host	RX	TX	MISO	MOSI
Add-on	TX	RX	SDO	SDI

2. When a pin is not used, it should be marked NC (for Not Connected)

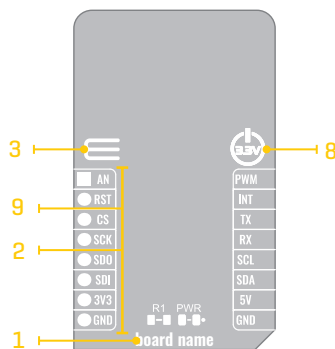


Example add-on board

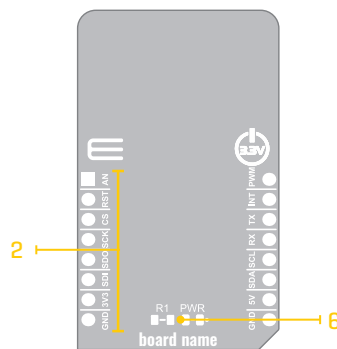
3. When there's no overlap between the name or function of a given mikroBUS™ pin and the pin on the module, the silkscreen should spell the name of the pin from the module. In this example, DEF is in place of the default AN pin.

4. Some boards can have an additional pinout in addition to mikroBUS™. These are usually marked by their function, here GPIO.

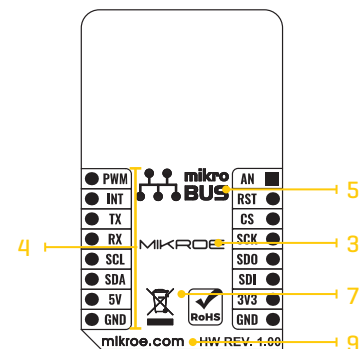
Silkscreen markings



Front view A



Front view B



Back view

1. The add-on board's name on the bottom of the board – front side.
Font used: Oswald, typestyle Medium, size 6pt.
2. Individual pin markings, refer to the pinout section on the previous page. If space permits always use horizontal pin markings **[A]**, otherwise use vertical **[B]** to conserve space.
Font used for the horizontal pin names: Oswald, typestyle Medium, size 5pt;
Font used for the vertical pin names: Arial, typestyle Bold, size 3pt.
3. MikroBEE logo – If space permits, it is good practice to use full logo.
4. Pin markings on the backside of the board printed horizontally.

5. mikroBUS™ logo on the back of the board.
6. If space permits, it is good practice to label individual components on the add-on boards (different LEDs, SMD jumpers and similar).
7. If applicable, indicate RoHS, CE, WEE and similar compliance with proper markings.
8. Include an icon to indicate power supply (3,3V or 5V, or no icon if both options are supported).
9. Font used for the HW version and website: Arial, typestyle Bold, size 5pt



Size and shape

Three sizes are prescribed for mikroBUS™ add-on boards: **S**, **M** and **L**. When designing yours, use the smallest size sufficient to hold a given module. Sensors and transceiver chips will fit on **S** or **M** in most cases. Odd-shaped encoders or larger connectors will require an **L**. Whichever size you use, make sure to retain the **notch** on the bottom right corner of the board (serves as a guide for proper insertion into the socket). Size, layout, and shape must be compliant with the drawings below.

Board thickness

h = 1.6 mm

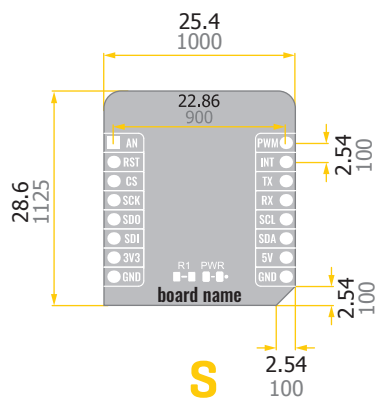
Hole diameter

ø 35 mils

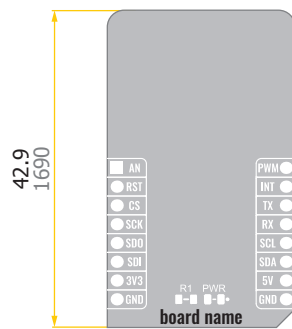
Legend

— mm

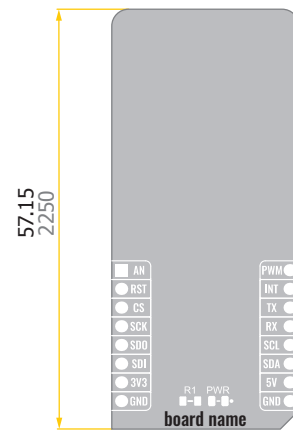
— mils



S



M



L



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