

## 10. Interfaces

Indoor “GPS” system supports many external interfaces that can feed measured location data to an external system (robot, copter, VR, etc.).

There are two different ways to obtain the mobile beacons’ location data from the system:

- **From the mobile beacons**
  - Each mobile beacon knows its position and does not know the positions of the other mobile beacons
- **From modem**
  - Knows the position of every mobile beacon in the system

Data from the mobile beacons and the modem can be obtained simultaneously if necessary.

Starting from software version v7.200, real-time timestamps are enabled by default. If you need an old streaming format with local timestamps for compatibility with older software, you can disable this option in the device settings in the dashboard:

UART speed, bps	500000
Protocol on UART/USB output	Marvelmind
Raw distances data	disabled
Quality and extended location data	disabled
Telemetry stream	disabled
Telemetry interval, sec (1..255)	n/a
User payload packets number (0..31)	0
Alarm pin function	MMSW0006 required
Alarm pin mode	n/a
PB5 pin function	None
Streaming mode	Normal
Debugging data	disabled
SPI data output	n/a
Stream realtime timestamps	enabled

A list of the supported interfaces is shown below.



More information on the interfaces can be found [here](#).

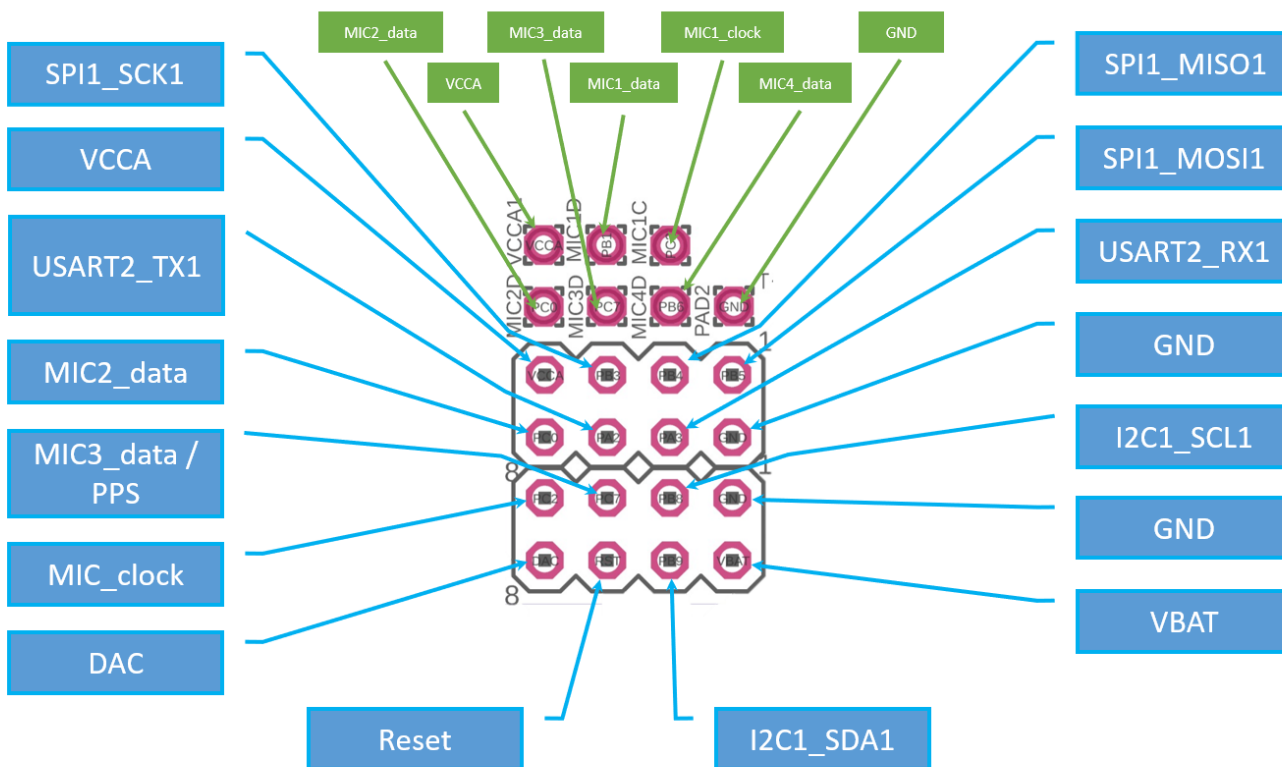
## Supported interfaces

- **Mobile beacon:**
  - UART
  - SPI
  - Virtual UART via USB
  - NMEA
- **Modem:**
  - UART
  - SPI
  - Virtual UART via USB
- **Integrated with:**
  - Windows (PC & tablets)
  - Linux
  - Mac OS
  - Android (beacon)
  - ROS (beacon)
  - Raspberry (beacon)
  - Arduino (beacon)
  - PixHawk (beacon)
- **Sample code:**
  - C
  - Python

## 10.1. Super-Beacon External Interface Pinout Top View

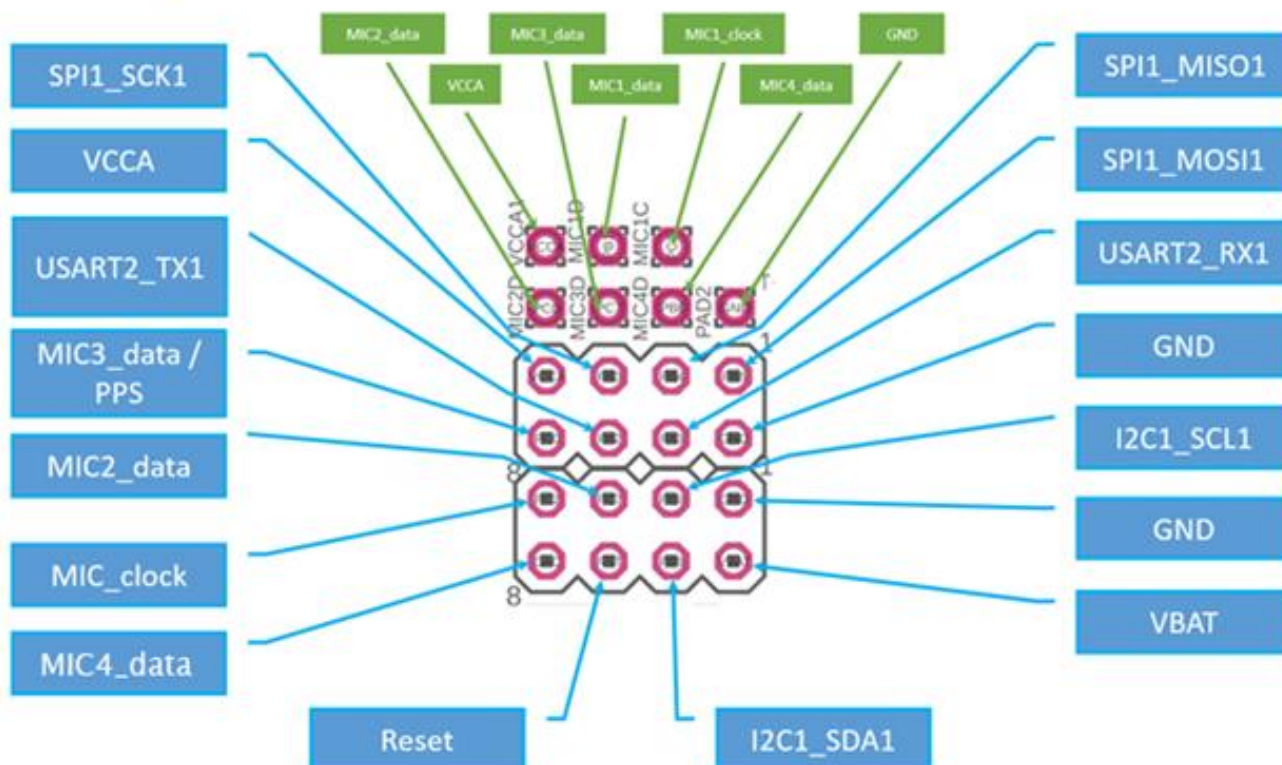
4x4 pinout for Super-Beacon:

- - External pins
- - Internal solderable contacts



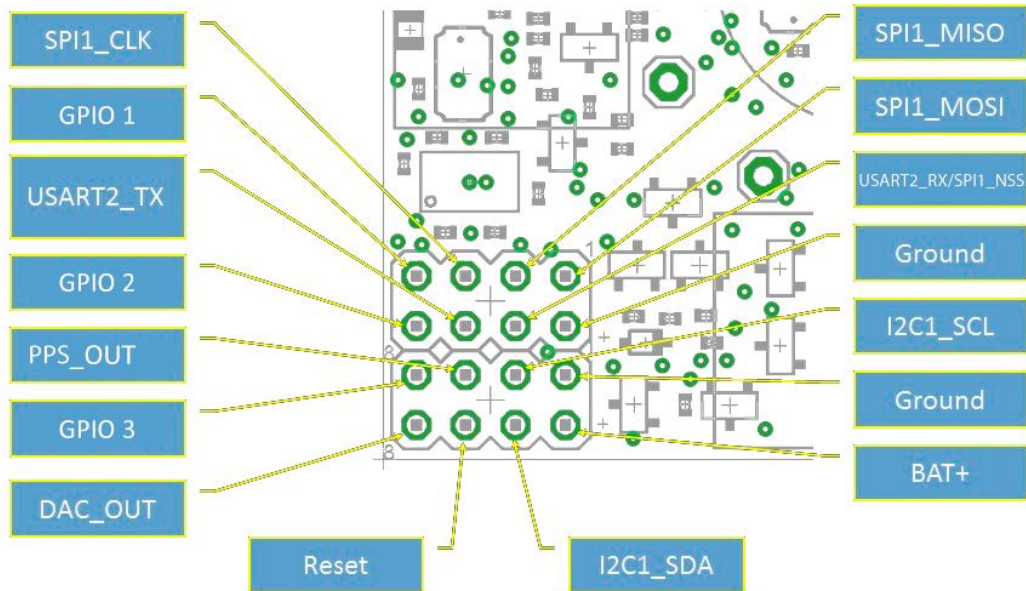
4x4 pinout for Super-Beacon-2, 3, 4:

- - External pins
- - Internal solderable contacts

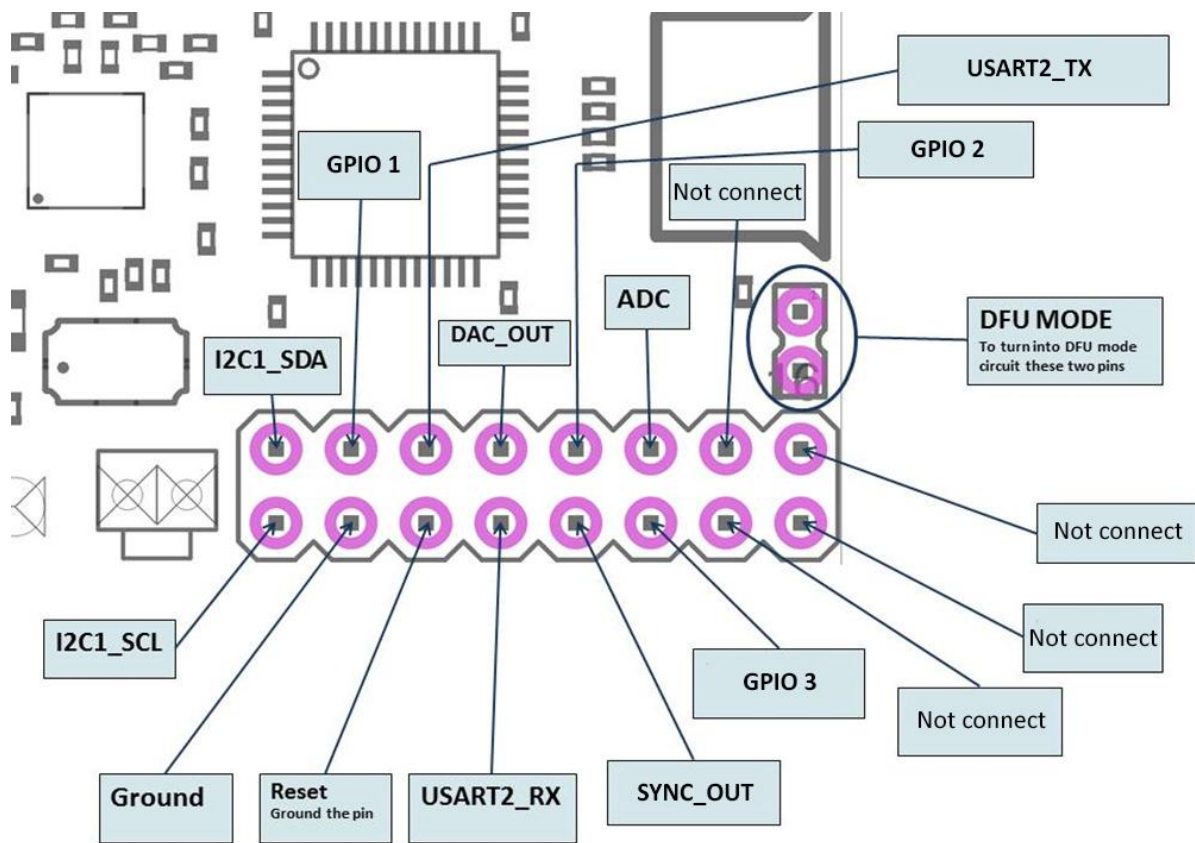


## 10.2. Beacon HW v4.9 External Interface 4x4 Pinout Top View

### Beacon HW v4.9 external interface 4x4 pinout



### 10.3. Modem HW v4.9 External Interface Pinout Top View





## 10.4. Mini-RX Internal Solderable Pinouts

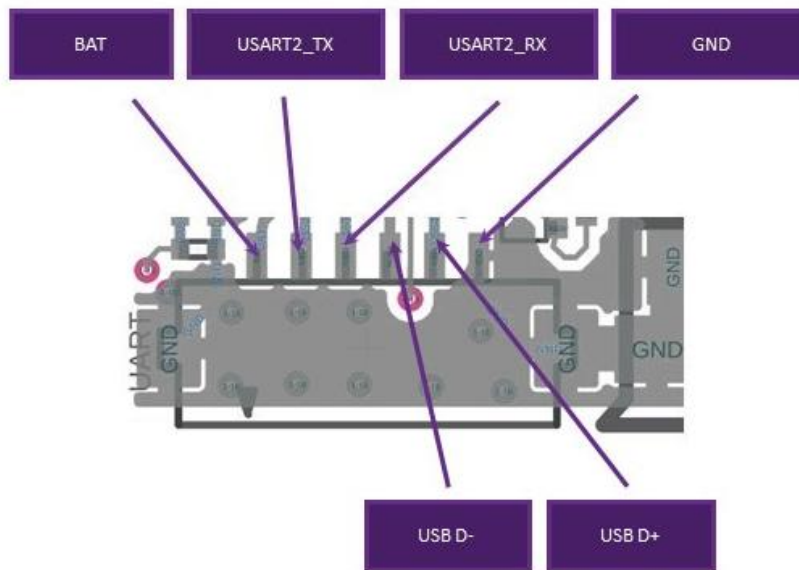


Use it only if you are sure that you can solder it correctly.  
Do not forget to turn off the beacon with DIP switches.  
If you solder badly and kill the beacon, the Marvelmind team won't be responsible.

To get UART data streaming from beacon Mini-RX, you must solder to the pins on the board.

### Mini-RX internal solderable pinouts

● - Internal solderable contacts



\*BAT - you can disconnect the internal battery and supply here an external power source of 3.5V-5.2V to the point with a current up to 50mA