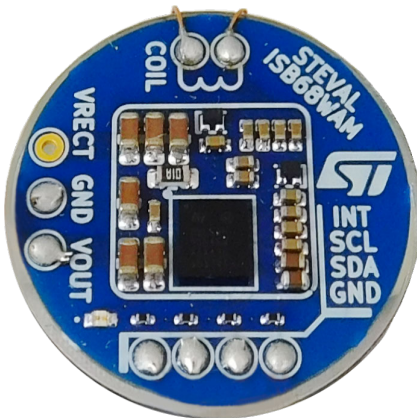


## Qi-based wireless power receiver reference design for wearable applications up to 2.5 W using STWLC68



### Features

- Based on [STWLC68](#) wireless power receiver
- Designed according to Qi 1.2.4 specifications
- Constant 5 V output voltage (default setting)
- Up to 2.5 W output power
- Foreign Object Detection (FOD) supported
- 400 kHz I<sup>2</sup>C interface for communication with host system
- Compact 10x10 mm application area
- Complete kit includes receiver board, USB-to-I<sup>2</sup>C bridge dongle and GUI
- RoHS compliant

### Description

The [STEVAL-ISB68WA](#) is a reference design for wearable applications based on the [STWLC68](#) wireless power receiver. The kit includes a receiver board with a small 15 mm diameter receiving coil and provides a constant output voltage with 2.5 W maximum output power.

The board supports Foreign Object Detection (FOD) for safe operation and is ready for immediate use when placed on a suitable wireless power transmitter.

An on-board LED indicates connection with the transmitter succeeds and enabled output voltage, and a programmable interrupt output is available to inform the host system in user applications.

The complete application is confined in a 10x10 mm PCB area and the layout is designed to facilitate probing and user customization.

A free [STSW-ISB68GUI](#) Graphic User Interface (GUI) is provided to monitor and configure the receiver on your PC using the USB-to-I<sup>2</sup>C dongle included in the kit.

Product summary	
reference design based on STWLC68 wireless power receiver for wearable applications	<a href="#">STEVAL-ISB68WA</a>
Qi-compliant inductive wireless power receiver for 5W applications	<a href="#">STWLC68</a>
GUI for developing applications using the STWLC68 wireless power receiver	<a href="#">STSW-ISB68GUI</a>
Applications	<a href="#">Wireless Chargers</a> <a href="#">Wearable</a>

# 1 Layout of components

Figure 1. receiver board silk screens - top and bottom

U1: STWLC68 wireless power receiver

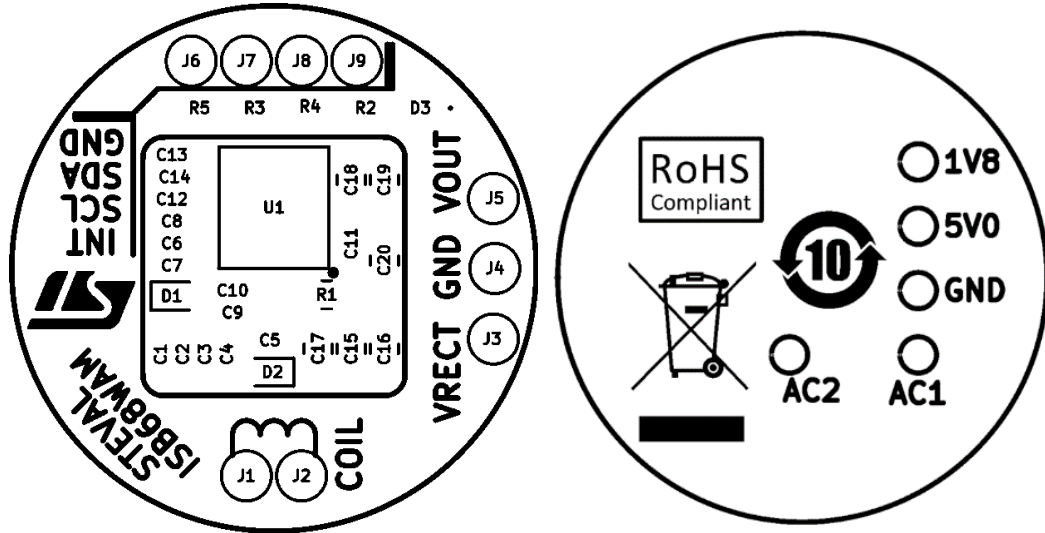


Figure 2. USB-to-I<sup>2</sup>C dongle silk screen

- U1: USB Interface IC
- U2: LDO voltage regulator
- U3: ESD Suppressor
- P1: USB connector
- P2: Connector for specific STWLC68 pins

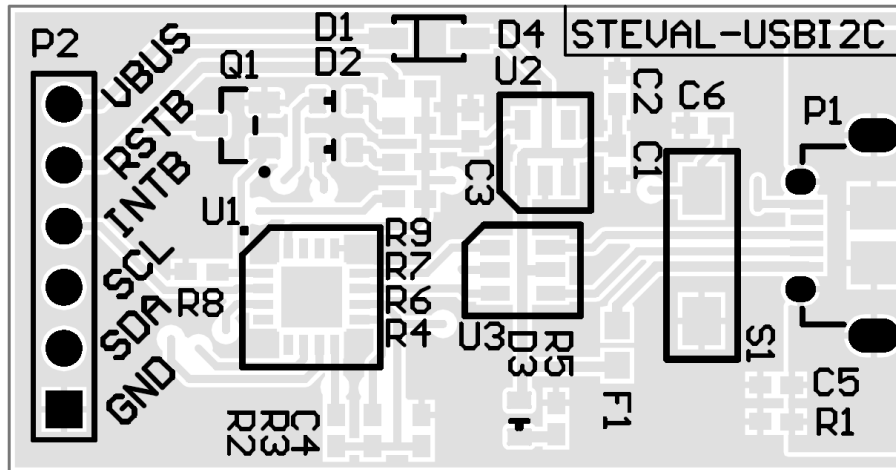
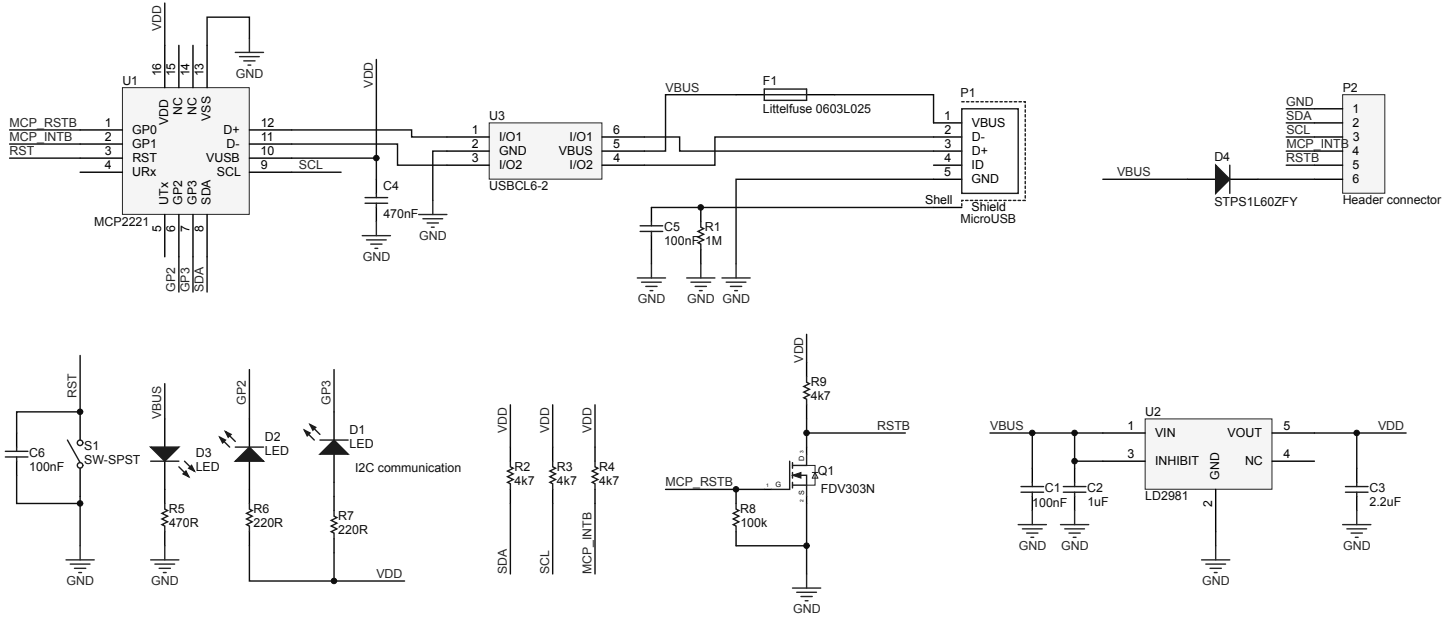




Figure 4. USB-to-I<sup>2</sup>C dongle schematic diagrams



## Revision history

**Table 1. Document revision history**

Date	Version	Changes
10-Jan-2020	1	Initial release.
27-Jan-2020	2	Updated cover page image.