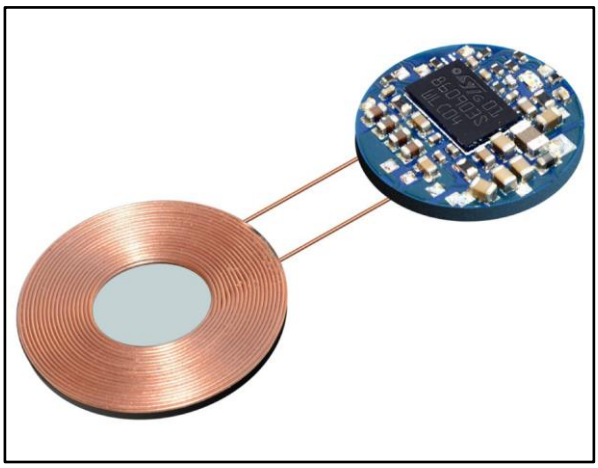
STEVAL-ISB038V1R

1 W Wearable wireless charger receiver based on STWLC04

Data brief



Features

- Based on STWLC04, 800 kHz programmable step-down converter with input current and input voltage regulation loops
- Up to 1 W output power
- Qi 1.0 based communication protocol
- Simplified li-on/li-pol charger functionality
- I²C interface
- Thermal protection
- Low power dissipative rectifier overvoltage clamp
- Suitable for wearable applications
- RoHS compliant

Description

The STEVAL-ISB038V1R is based on the STWLC04 integrated wireless power receiver, suitable for wearable applications. The STWLC04 focuses on the 1 W protocol based on Qi; digital control and precise analog control loops assure stable operation.

The STWLC04 can deliver the output power in two modes: as a power supply with configured output voltage, as a simple CC/CV battery charger with configurable charging current, charging voltage and termination current.

The STEVAL-ISB038V1R package includes the wireless charger receiver board; the PC GUI application software for users to configure the most common parameters; the USB-to-I²C converter board for connection between the PC and the wireless charger receiver board.

1 Schematic diagrams

Figure 1: STEVAL-ISB038V1R receiver board

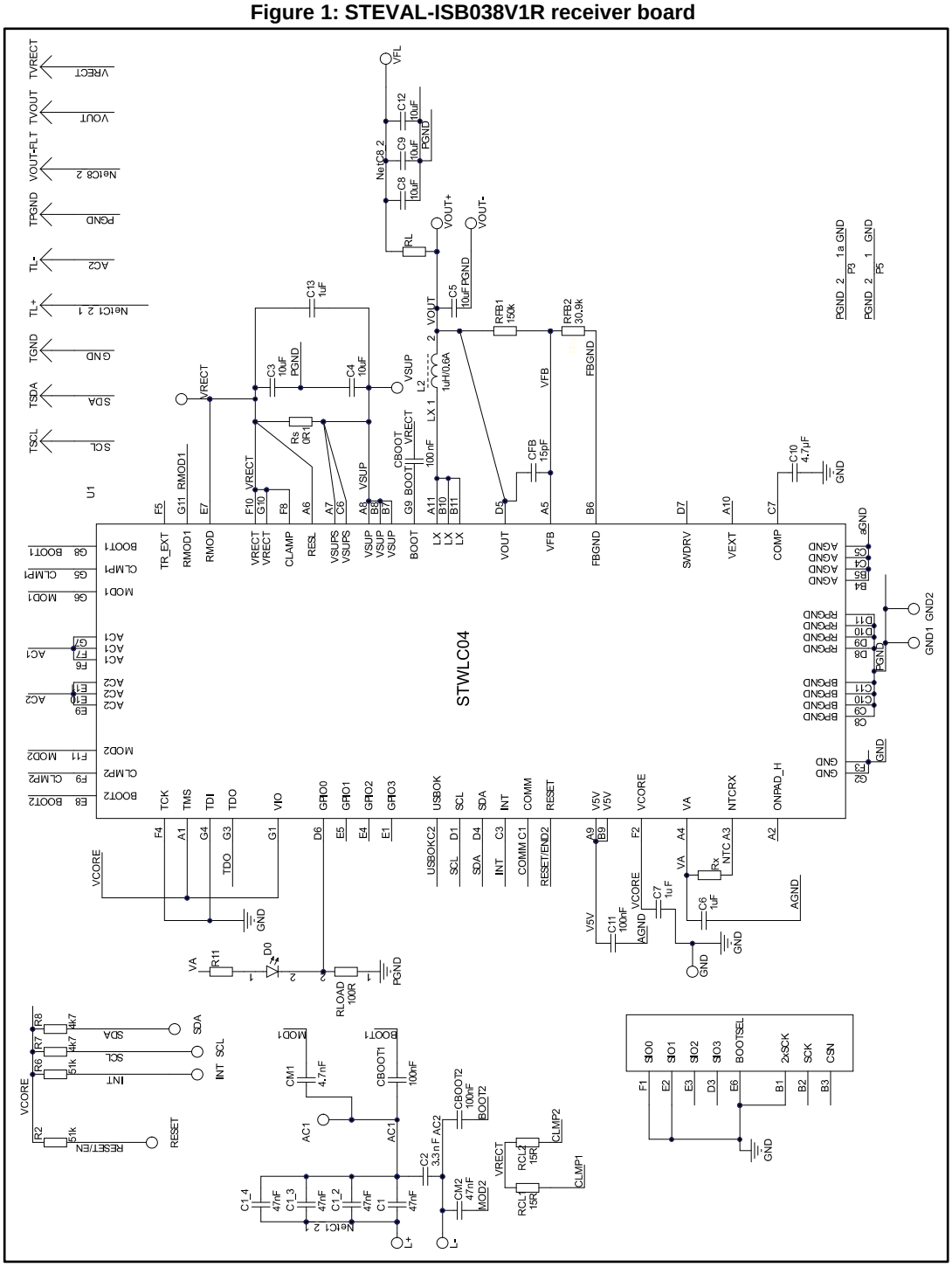


Figure 2: STEVAL-ISB038V1R USB-I²C dongle

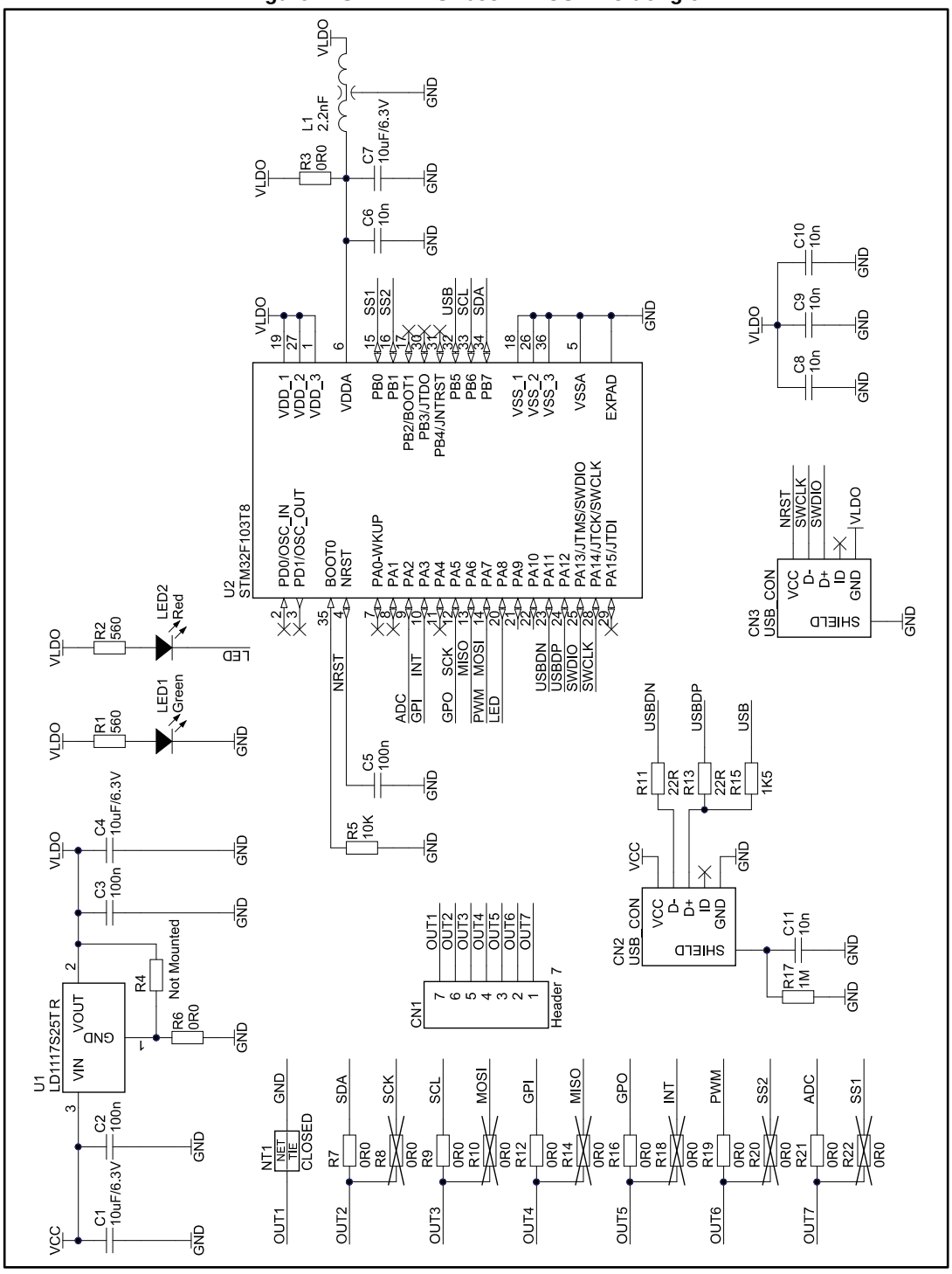


Table 1: STEVAL-ISB038V1R electrical performance

Parameter	Description	Value	Unit
5 V mode			
Vout	Output voltage	5	V
Iout_range	Output current range	0.05 - 0.2	A
Charger mode			
Vout	Charge voltage	3.6 / 4.1 / 4.2	V
Ichg	CC Charging current	0.1 / 0.15 / 0.2	A
Ipre	Precharge current	0.05	A
Vpre	Precharge to CC charge threshold	2.5	V
Imin	Minimum output current	0.05	A

2 Revision history

Table 2: Document revision history

Date	Version	Changes
03-Aug-2016	1	Initial release.
21-Nov-2016	2	Updated board photo on the cover page
27-Jul-2017	3	Updated *Table 1: "STEVAL-ISB038V1R electrical performance"*

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