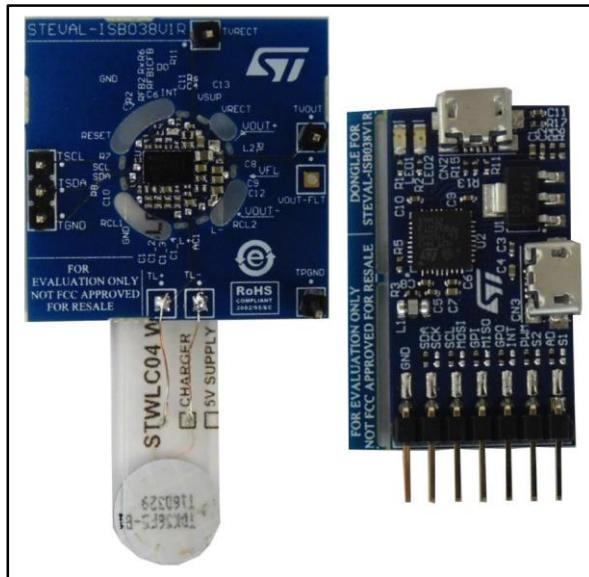


1 W Wearable wireless charger receiver based on STWLC04

Data brief



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.

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

1 Schematic diagrams

Figure 1: STEVAL-ISB038V1R receiver board

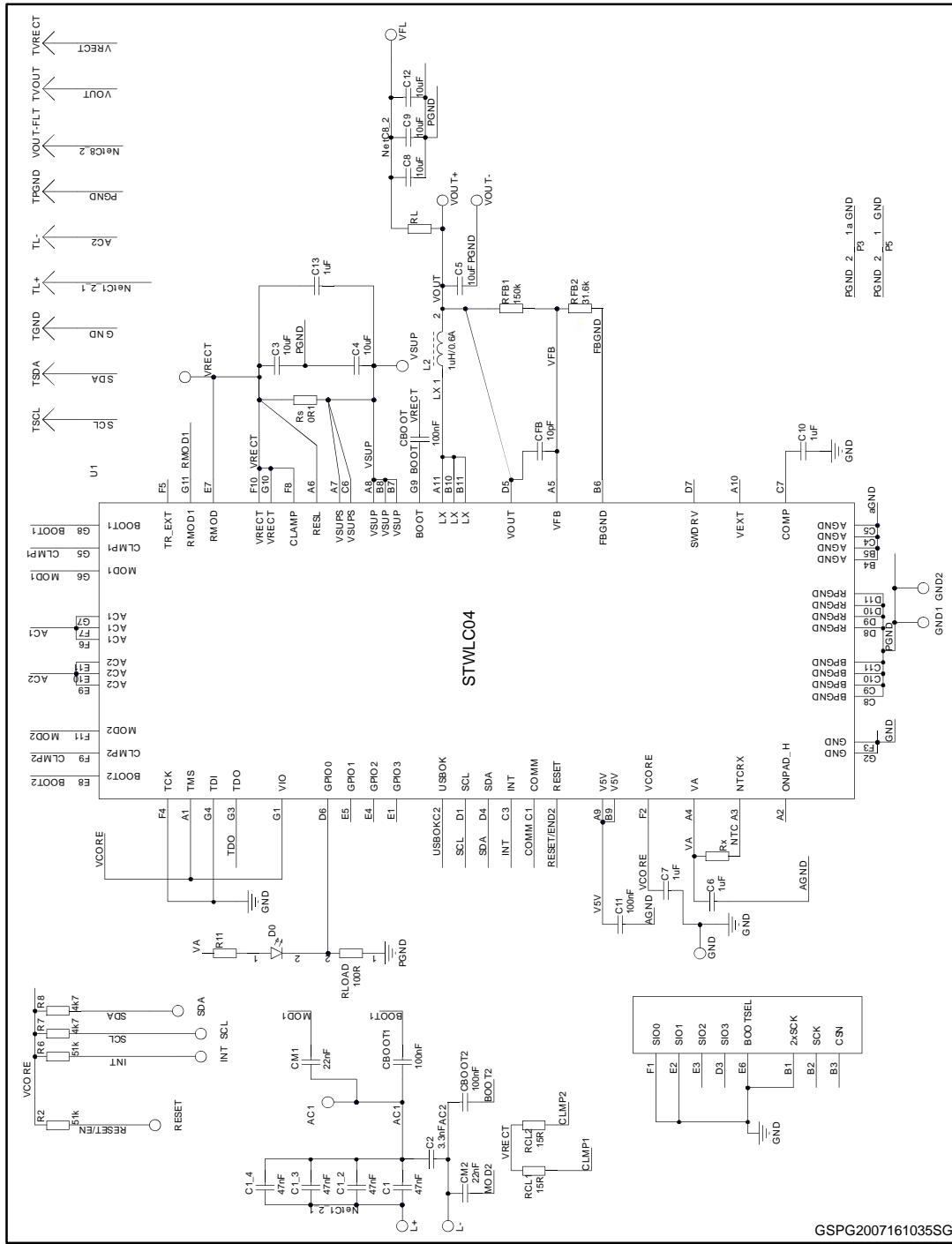


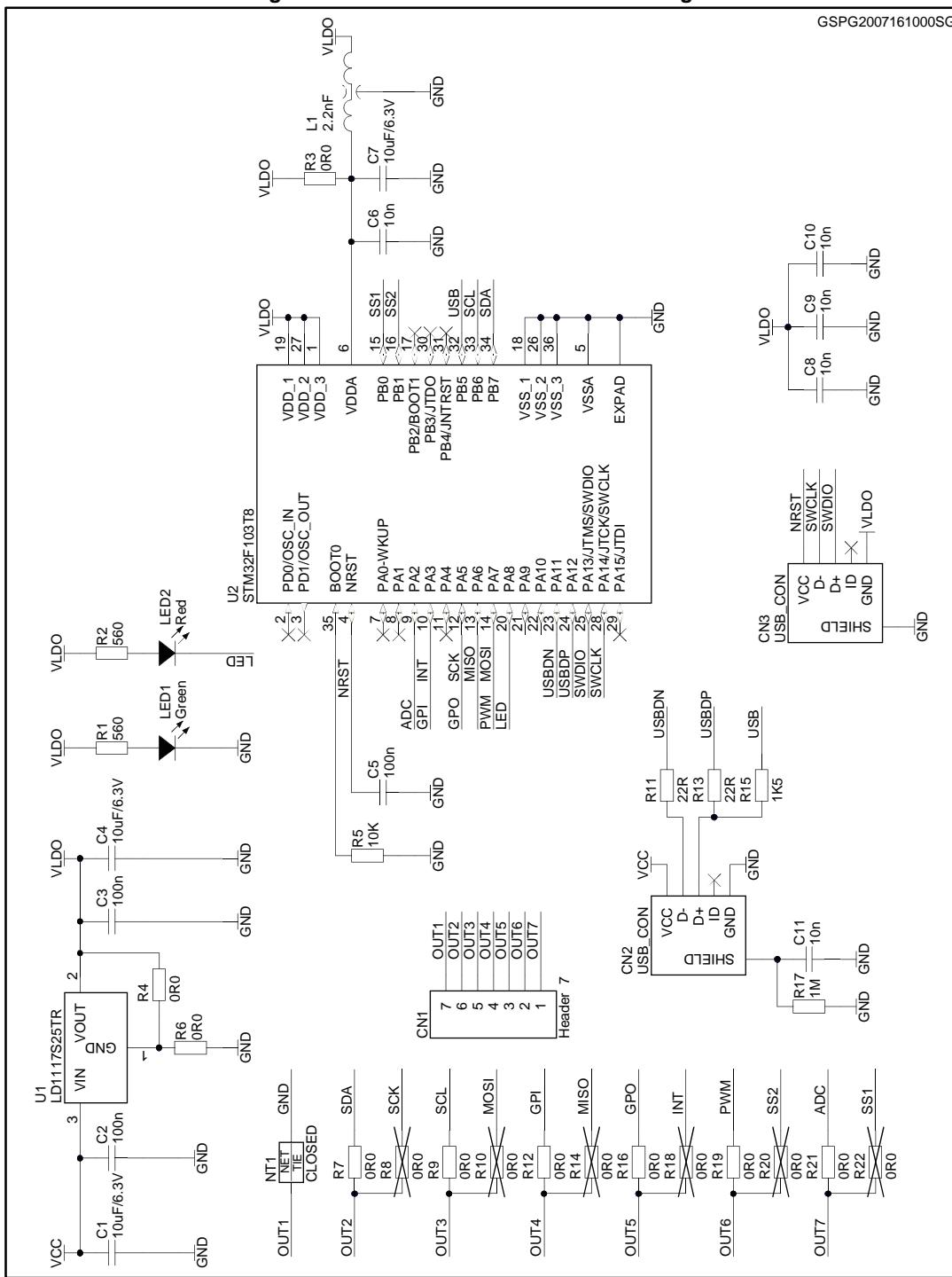
Figure 2: STEVAL-ISB038V1R USB-I²C dongle

Table 1: STEVAL-ISB038V1R electrical performance

Parameter	Description	Value	Unit
5 V mode			
Vout	Output voltage	5	V
Iout_lim_max	Output current limit max.	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

2 Revision history

Table 2: Document revision history

Date	Version	Changes
03-Aug-2016	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2016 STMicroelectronics – All rights reserved