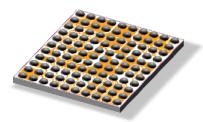


STWLC88

Data brief

Qi-compliant inductive wireless power receiver for 50W applications



Features

- Up to 50 W output power
- Up to 12 W output power in Tx mode
- Qi EPP 1.2.4 inductive wireless standard communication protocol compliant
- Integrated 27 V synchronous rectifier with ≥ 98% efficiency
- Low drop-out linear regulator with output current and input voltage control loops
- Programmable LDO regulator with output voltage up to 20 V in steps 25 mV
- 32-bit, 64 MHz ARM Cortex microcontroller core
- RAM/FTP (Few Times Programmable) Firmware patching and advance features
- 8-channels, 10-bit A/D converter
- 8 configurable GPIOs
- I2C Slave, Master interface
- · Supports external flash for design in
- · High speed SPI (master) for external interface
- Accurate current sense system for Foreign Object Detection (FOD)
- Q-factor measurement for Object Detection in Transmitter mode
- ASK V/I Modulator
- Overvoltage, overcurrent and thermal protection
- Wide rectifier input frequency of 50-300 kHz
- Flip chip 110 bumps (4.07 x 4.49 mm)

Product status link		
STWLC88		
Product summary		
Order code	STWLC88JR	
Package	Flip chip (4.077 x 4.490mm)	
Packing	Tape and reel	

Application

- Smartphones
- Tablets
- Laptops
- Power banks
- E-cigarettes

Description

lectronics sales office

The STWLC88 is a highly integrated wireless power receiver solution suitable for applications up to 50W. The chip has been designed to support the latest Qi specifications for inductive communication protocol with Extended Power Profile (EPP) and proprietary STSuperCharge (STSC) protocol for fast charging.

This solution requires low external BOM count. Because of the integrated low impedance synchronous rectifier and low drop-out linear regulator, STWLC88 achieves high efficiency and low power dissipation.

The STWLC88 features embedded FTP non-volatile memory to enable I2C interface customization and support of proprietary communication and charging protocols.

The STWLC88 is also capable of operating in transmitter (Tx) mode to share power for charging other devices with the output power up to 12W depending on the coil used.

The Flip Chip (4.07 x 4.49 mm) and low BOM count makes it very suitable for very compact application.

Revision history

Table 1. Document revision history

Date	Version	Changes
28-Oct-2020	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. For additional information about ST trademarks, please refer to www.st.com/trademarks. 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.

© 2020 STMicroelectronics – All rights reserved