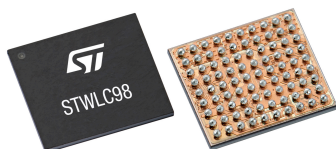


Qi-compliant inductive wireless power receiver for 70W applications



Features

- Up to 70W output power
- Up to 15W output power in Tx mode
- Qi 1.2.4 and 1.3 compliant
- Integrated 27 V synchronous rectifier with $\geq 98\%$ efficiency
- ARC(Adaptive Rectifier Configuration) mode for spatial freedom
- Low drop-out linear regulator with output current and input voltage loops
- Programmable output voltage up to 20V in steps of 25mV
- 32bit, 64Mhz ARM Cortex M3 core with 16KB FTP, 16KB RAM, 80KB ROM
- 10-bit A/D converter
- 6 configurable GPIO's
- I2C Slave, Master interface
- High speed SPI interface for external flash for design in
- 8-levels ASK modulator, Enhanced FSK demodulator
- Accurate current sense system for Foreign Object Detection(FOD)
- Coil Q-factor measurement for FOD in Tx mode
- Over voltage, Over current and thermal protection
- Flip chip 90 bumps (4.3 mm x 3.9 mm)

Application

Application

- Smartphones, Tablets, Laptop
- Power banks, cordless power tools
- Medical devices

Description

The STWLC98 is a highly integrated wireless power receiver suitable for applications delivering an output power up to 70W. The chip has been designed to support Qi specifications 1.2.4 and 1.3 for inductive communication protocol with Extended Power Profile (EPP) and proprietary ST Super Charge(STSC) protocol for fast charging.

With integrated low-loss synchronous rectifier and low drop-out linear regulator, STWLC98 achieves high efficiency with low power dissipation.

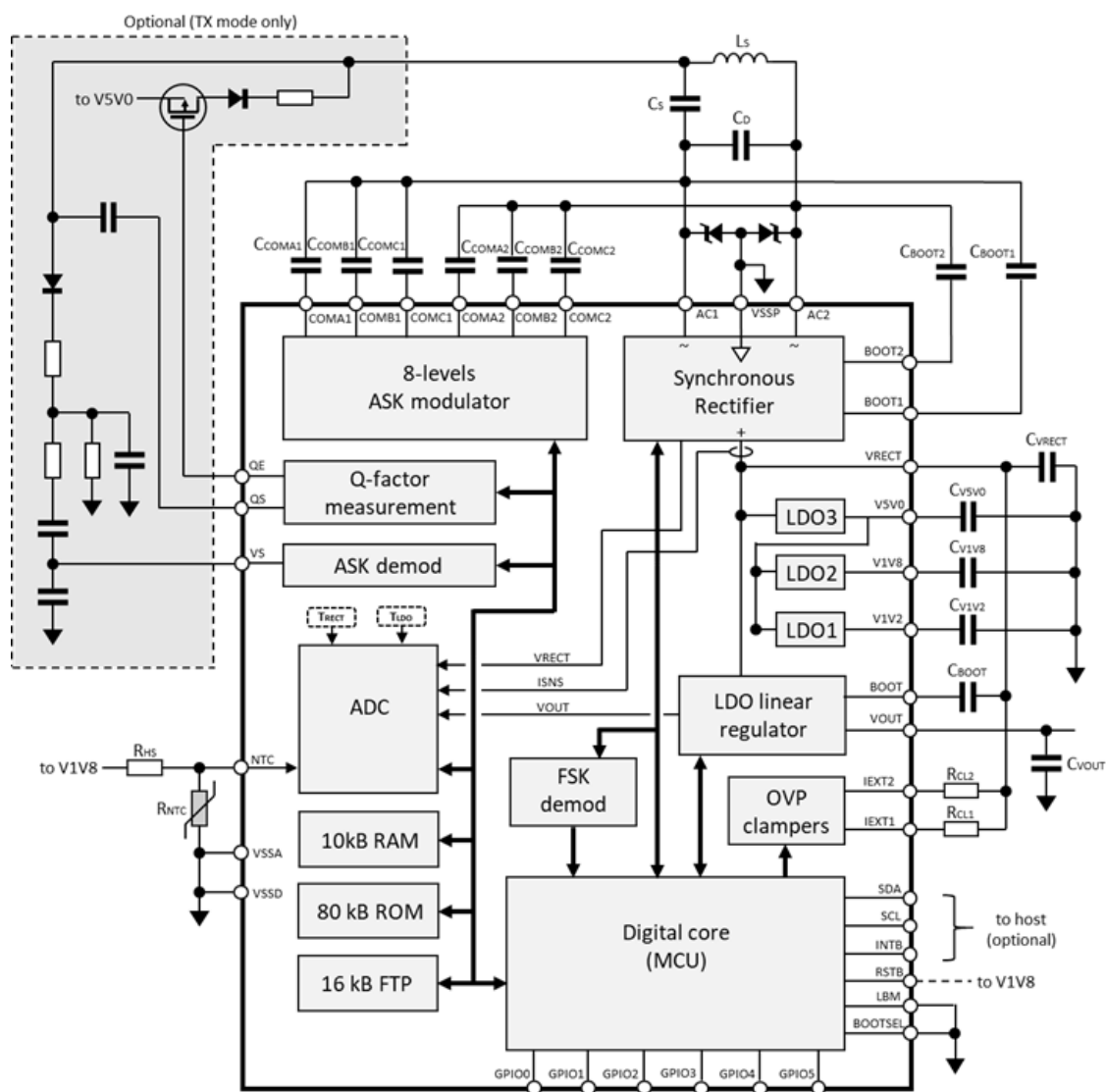
Through I2C interface the user can access and modify the configuration parameters for customized applications, the final configuration parameters are stored in embedded Few Times Programmable(FTP) non-volatile memory and automatically retrieved at power-up.

The device can also operate as wireless transmitter up to 15W (coil dependent)

Chip-Scale Package and low BOM count makes it very suitable for compact applications.

Product status link	
STWLC98	
Product summary	
Order code	STWLC98JR
Package	Flip chip(4.3x3.9mm)
Packing	Tape and reel

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Revision history

Table 1. Document revision history

Date	Version	Changes
27-Aug-2021	1	Initial release.

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