STWBC-WA
Wireless power for IoT devices

Optimized for ultra-compact battery-operated devices and ensuring compliancy with the leading standards

As the Internet of Things (IoT) pervades our everyday life with smart objects that we use and carry extensively, wearable devices represent one of the fastest-growing segments in consumer electronics. Together with mobile phones, the widespread adoption of wireless power is out there: in 2022, close to 2 billion receiver units are expected to be shipped worldwide*.

ST's STWBC-WA transmitter simplifies the design and shortens time-to-market of your latest IoT devices.

The minuscule footprint and efficient power transfer, while ensuring maximum safety and reliability are the main advantages that will benefit designers.

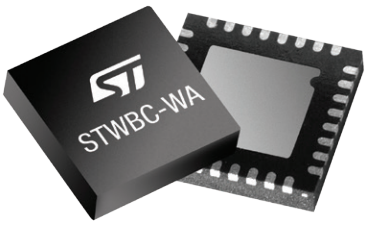
KEY FEATURES AND BENEFITS

- Boosts power transfer of up to 2.5 W over an ultra-compact coil of 20 mm in diameter
- Adapts the transmitted power to actual load conditions with digital feedback to the transmitting device for increased efficiency
- Enables safe operation with foreign object detection (FOD), and active presence detection stopping power transfers when metallic or magnetic objects are detected in the charging area (optional feature)
- Scalable solution supports low-power applications from 1 to 2.5 W via different coils
- Graphical user interface for system behavior monitoring
- Complete development ecosystem is available including certified reference design boards

IDEAL FOR

Wireless power transmitter applications up to 2.5 W, including:

- Smartwatches and wearables
- Fitness/ wellness equipment
- Battery-powered smart devices for Internet of Things (IoT)
- Remote controllers



*source IHS 2017

WIRELESS POWER TAILORED FOR WEARABLE DEVICES

ST's transmitter solution for wireless battery charging is designed for ultra-compact battery-operated devices such as wearables, sports gear, smart watches, sensors and medical equipment.

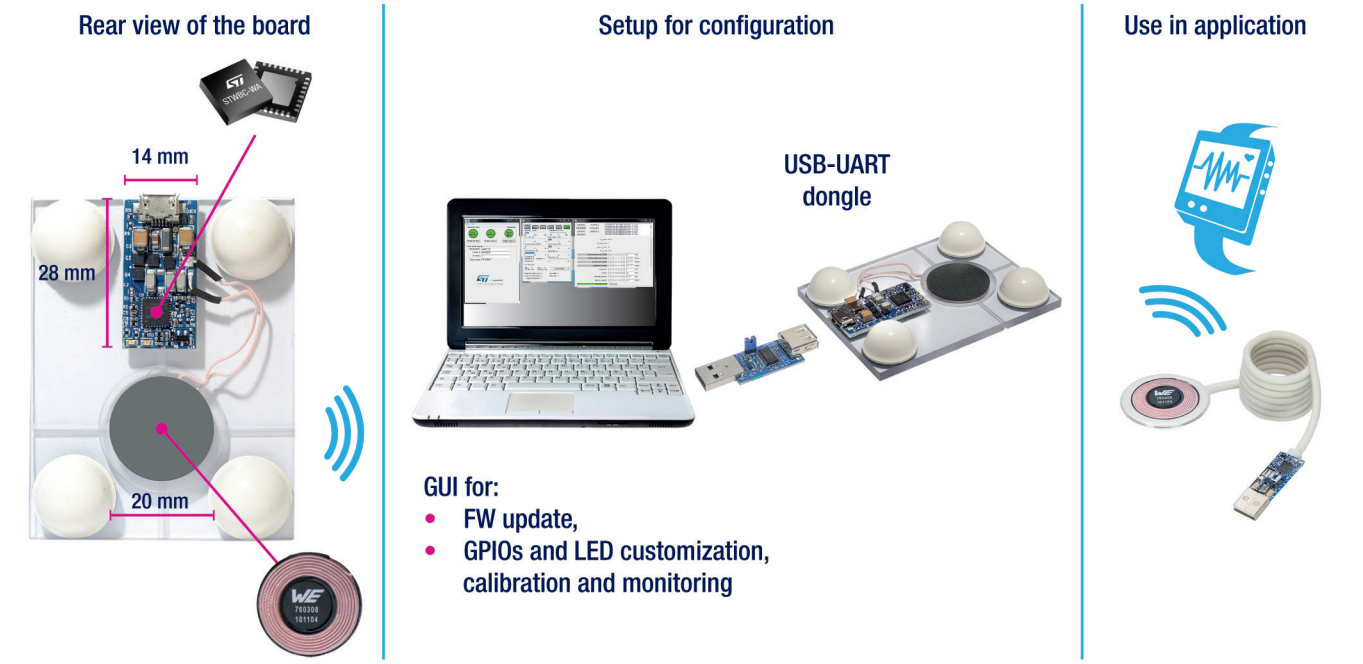
The STWBC-WA transmitter can support both full- and half-bridge topologies and provides designers with increased flexibility thanks to a powerful software API which allows modifying the behavior of LED and GPIOs, as well as adding external interfaces via I²C and UART communication ports.

Efficient power transfer is enhanced by a smart standby state while waiting for a receiver, which guarantees a power consumption as low as 3 mW while maintaining the foreign object detection (FOD) function active for maximum safety.

The STEVAL-ISB045V1 reference design supports wireless power transfer of 2.5 W over a 20 mm antenna on the transmitter side and can be scaled-down to 1 W by switching to a half-bridge configuration.

The STEVAL-ISB045V1 reference design includes a wireless power transmitter board, turn-key firmware APIs, user-friendly GUI and USB-to-UART dongle as well as technical documentation to help shorten your time-to-market.

2.5 W COMPETE EVALUATION KIT



PRODUCT TABLE

Order code	Package	Packing
STWBC-WA/ STWBC-WATR	32-lead QFN (5 x 5 mm)	Tube/ Tape & Reel

EVALUATION ECOSYSTEM

Part Number	Description
STEVAL-ISB045V1	2.5 W wireless charger transmitter evaluation kit with STWBC-WA
UM2367	User manual for getting started with the STEVAL-ISB045V1
STSW-ISB045TFW	Firmware for the STEVAL-ISB045V1
UM2368	User manual for getting started with the STWBC wearable turnkey firmware
STSW-STWBCGUI	Graphical user interface for STEVAL-ISB045V1
STSW-STWBCFWDT	STWBC firmware downloader tool