

STWBC-EP

Extended Wireless Power



New STWBC-EP wireless battery charger transmitter enables fast charging with up to 15 W delivered into the battery

While wireless power is becoming ubiquitous in everyday life, an increasing number of smartphones require higher power levels and support fast charging at more than 5 W together with tablets and charging accessories.

ST's STWBC-EP performs all the essential functions for delivering power with the Qi Extended Power Profile with no compromise in efficiency, safety and usage convenience.

STWBC-EP allows a stepwise increase to higher power levels enabling devices to be charged up to three times more quickly, with an enhanced user experience.

KEY FEATURES AND BENEFITS

- Patented Q-factor measurement for accurate FOD estimation and active presence detection
- Low standby power consumption down to 16 mW for maximum efficiency
- More than 80% efficiency in working conditions
- Coil current and voltage monitoring for accurate power control
- Patented triple path algorithm for robust signal demodulation.
- UART open protocol interface to control and monitor the system via GUI or host CPU
- Dual LED status signaling
- Flash memory based
- 32-lead QFN (5 x 5 mm) package for a compact design

TAILORED FOR

- Wireless battery charging up to 15 W for:
 - Smartphones
 - Tablets
 - Charging accessories



SEAMLESS WIRELESS BATTERY CHARGING

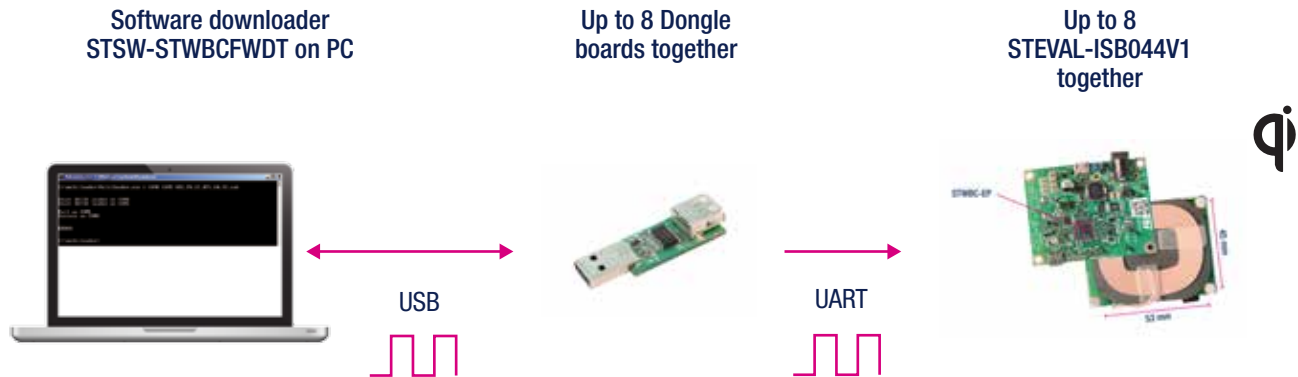
While wireless charging devices are becoming more and more popular, the need for higher power is increasing, especially for portable devices where the battery charging time is key for the end user satisfaction. The STWBC-EP completes the STWBC family of wireless battery charger digital TX controllers allowing full compatibility with the new Qi® 1.2.3 standard and extending the transmittable power to 15 W. The STWBC-EP performs all the essential functions for delivering power with the Qi Extended Power Profile. Beyond the detection of a valid receiver and power control, it also supports extended Foreign Object Detection (FOD) through bi-directional communication with the receiver and maximizes the efficiency with more than 80% in working condition, and down to 16 mW consumption in standby. The STWBC-EP offers plug-and-play firmware, for an easy integration in final products. Complete documentation and a GUI is also provided to support the design.

The STEVAL-ISB044V1 evaluation kit is available including a Qi® MP-A10 15 W certified reference design.

Monitor your charging profile in real-time and customize it through the GUI



Upgrade your end-application on-the-fly



Part number	Supply voltage range (V)	Pout (W)	Compliance	Supported Topology	Package	Temperature (°C)
STWBC-EP	3 - 5.5	15	Qi® WPC 1.2.3	MP-A10	VFQFPN32L 5.5x1.0 mm	-40 to 105

Development tools	Description
STEVAL-ISB044V1	Qi® MP-A10 15 W wireless charger TX reference design and evaluation kit based on STWBC-EP
STSW-STWBCGUI	Graphical user interface for wireless power transmitter evaluation boards based on the STWBC chip family
STSW-STWBCFWDT	Firmware down loader tool
STSW-ISB044FW	Firmware for STEVAL-ISB044V1 wireless power transmitter reference design

