Qi certified 3-coil 15 W wireless charger TX evaluation kit based on STWBC-MC

Features

- STWBC-MC digital controller
- MP-A15 3-coil array
- 15 W potential power
- Flexible input voltage: 5 to 20 V from USB-C or DC jack
- 5 W mode when connected to 5 V USB input or DC jack
- Fixed frequency operation
- WPC Qi1.2.4 standard certified
- Robust demodulation algorithm, with triple path (V, I, f)
- Foreign object detection (FOD)
- Active presence detection
- UART protocol to control and monitor the system
- Complete reference design (evaluation board, schematics, PCB layout, firmware and tools)
- 2-layer PCB
- Low standby power consumption
- Flash memory based
- CE certified
- RoHS compliant
- WEEE compliant

Description

The STEVAL-ISB047V1 wireless battery charger TX evaluation kit consists of the STEVAL-ISB047V1T evaluation board and STEVAL-WBCDNGV1 USB-UART dongle. The kit is designed for charging devices such as smartphones or tablets where high power levels are required.

The evaluation board supports wireless battery charging of Qi-compliant devices up to 15 W. It also supports proprietary fast charging modes up to 10 W.

The STEVAL-ISB047V1 transmitter is based on the STWBC-MC and features a cost-effective half bridge topology, offering external interface via UART.

The STEVAL-ISB047V1 evaluation kit is a full solution, complete with boards, firmware, a GUI for debugging, schematics, layout files and bill of materials.

Tools for STEVAL-ISB047V1 are available on www.st.com, and allow users to access runtime information such as power delivered, regulation error and protocol status. Parameters can also be adjusted with these tools.

Product summary

| Qi certified 3-coil 15 W wireless charger TX evaluation kit based on STWBC-MC | STEVAL-ISB047V1 |
| USB-UART dongle | STEVAL-WBCDNGV1 |
| Digital controller for wireless battery chargers transmitters for Qi multi-coil applications | STWBC-MC |
| Firmware for STEVAL-ISB047V1 | STSW-ISB047FW |
| Stand-alone USB PD controller | STUSB4500 |
1 Evaluation board and block diagram

Figure 1. STEVAL-ISB047V1T evaluation board

Figure 2. STEVAL-ISB047V1T block diagram
Revision history

Table 1. Document revision history

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<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
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<tbody>
<tr>
<td>03-Aug-2018</td>
<td>1</td>
<td>Initial release.</td>
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<tr>
<td>06-Feb-2019</td>
<td>2</td>
<td>Updated title and cover page features.</td>
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