Qi-compatible wireless power transmitter evaluation board for 5 W application based on STWBC86

Features

- Up to 5 W output power transfer
- Power Tx design A-11a topology
- Wide input Operating range 5 V to 20 V
- Integrated drivers and high efficiency Full bridge inverter
- 32-bit, 64 MHz ARM Cortex M0+ core with 8 kB SRAM and 48kB ROM
- I²C interface
- FTP for Firmware patching and advanced features
- On-chip thermal management and protections

Description

The STEVAL-WBC86TX evaluation board, based on STWBC86, is designed for wireless power transmitter application, and allows its user quickly start their 5W Qi-BPP designed for wireless power transmitter applications, compatible wireless charging transmitter projects.

Through the I²C interface the user can access and modify different configuration parameters, tailoring the operation of the device to the needs of custom applications. Using an on-board USB-to-I²C bridge, the user can monitor and control the STWBC86 using the STSW-WPSTUDIO graphical user interface (GUI).

Product summary

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<td>STEVAL-WBC86TX</td>
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<td>Qi-compatible inductive wireless charger power transmitter for up to 5W applications</td>
<td>STWBC86JR</td>
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<td>Firmware for wireless power transmitter evaluation board</td>
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<td>Applications</td>
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1 Component layout

Figure 1. Component layout
Figure 2. Circuit schematic (1 of 4)
Figure 3. Circuit schematic (2 of 4)

- **Pull up resistors**
- **RESET**
- **LED**

- **Vin**
- **J2 Shield Shell**
- **USB_C_6pin**
- **J1 VIN**
- **Header 2 VIN**
- **Header 3X2 TP2**
- **R6 R7 R8**
- **R7 R8 R9**
- **R17 R18 R19**
- **100pF C15**
- **5k1 R17 R18**
- **1M R19**
- **100R R5**
- **3A F1 Fuse**
- **SMAJ22A D7**
- **R4 10k**
- **D3 RED**
Figure 4. circuit schematic (3 of 4)
Figure 5. circuit schematic (4 of 4)
Revision history

Table 1. Document revision history

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<tr>
<td>20-Jul-2023</td>
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<td>Initial release.</td>
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