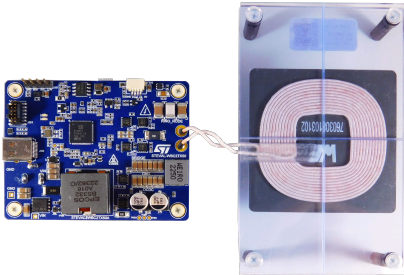


Qi-compatible wireless power transmitter evaluation board for 50 W applications based on STWBC2-HP



Features

- STWBC2-HP wireless power transmitter chip
- Synchronous boost DC-DC converter to supply the bridge
- On board full bridge inverter
- Rx presence detection based on coil Q factor measurement
- Foreign object detection (FOD) function
- On-chip thermal management and protections
- SWD + UART combined connector

Description

The [STEVAL-WBC2TX50](#) evaluation board, based on [STWBC2-HP](#), is designed for Qi 1.3 compatible wireless power transmitter applications.

Up to 5 W charging power compatible with baseline power profile (BPP).

Up to 15 W charging power compatible with extended power profile (EPP).

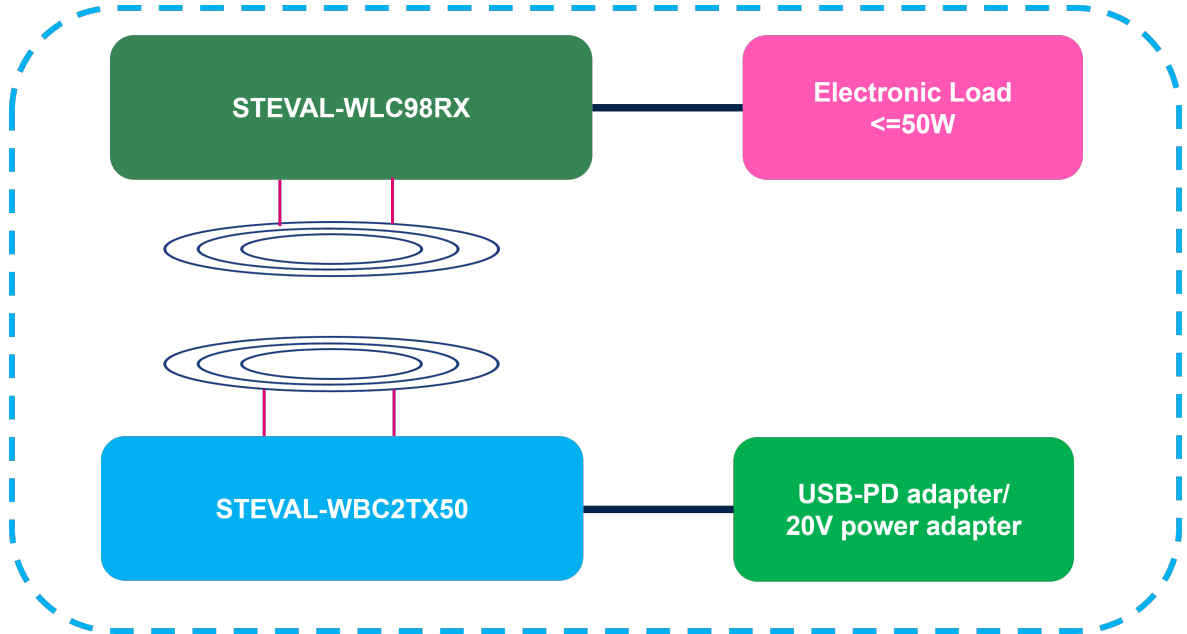
Up to 50 W charging power with ST Super Charge (STSC) protocol using the [STEVAL-WLC98RX](#) receiver board solution.

Two interfaces are open to the user: UART for monitoring and control via [STSW-WBC2STUDIO](#) graphical user interface (GUI) and SWD JTAG for direct NVM access. Both interfaces are accessible via the [STLINK-V3MINIE](#) bridge.

Product summary	
Qi-compatible wireless power transmitter evaluation board for 50 W applications based on STWBC2-HP	STEVAL-WBC2TX50
Firmware for STEVAL-WBC2TX50/70 wireless transmitter evaluation kit	STSW-WBC2FW
Qi-compatible inductive wireless charger power transmitter for up to 100 W applications	STWBC2-HP
Graphical user interface for wireless power transmitter evaluation boards based on the STWBC2-HP chip	STSW-WBC2STUDIO
Applications	Wireless chargers

1 Hardware connections

Figure 1. Hardware connections



2 Schematic diagrams

Figure 2. STEVAL-WBC2TX50 circuit schematic (1 of 6)

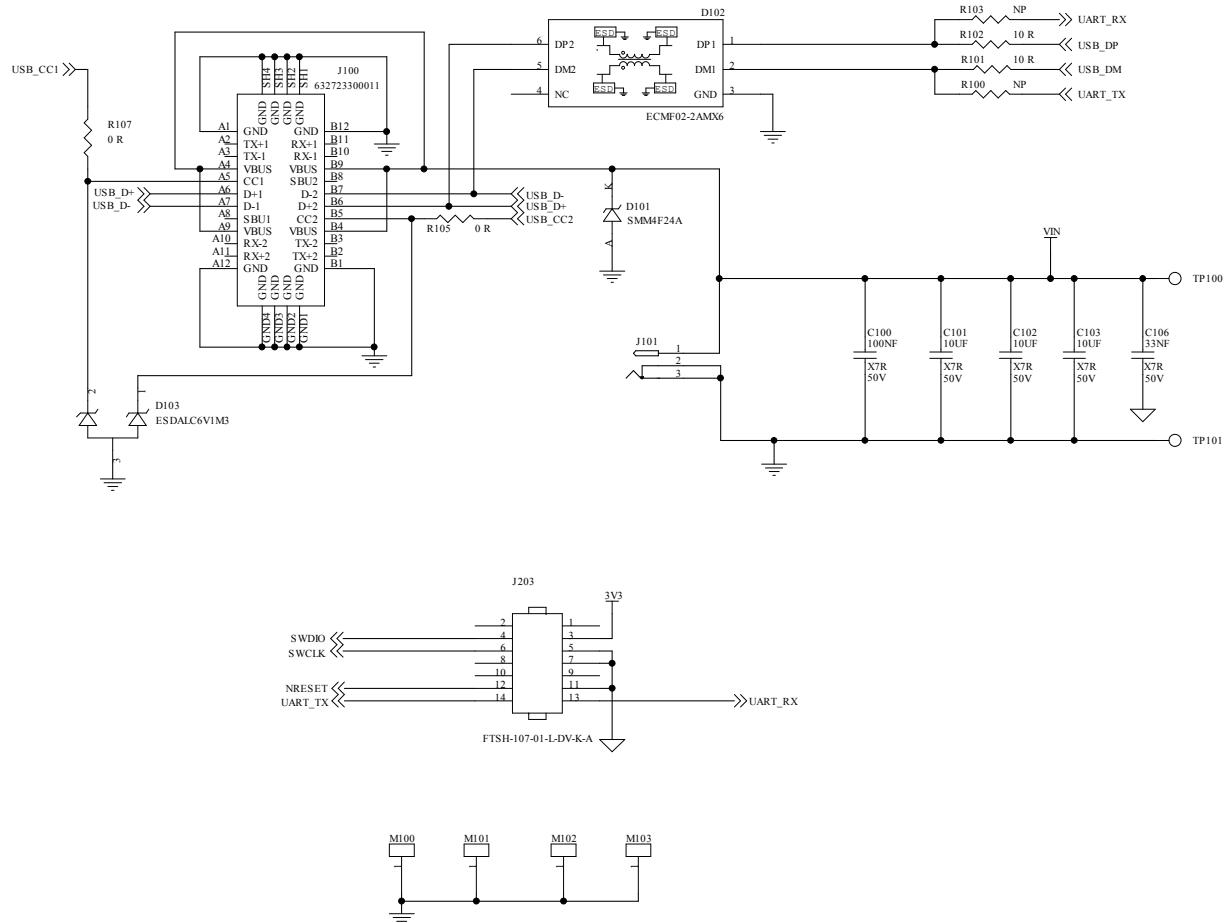


Figure 3. STEVAL-WBC2TX50 circuit schematic (2 of 6)

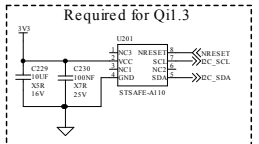
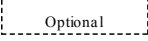
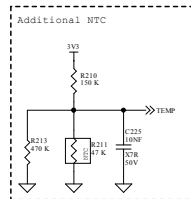
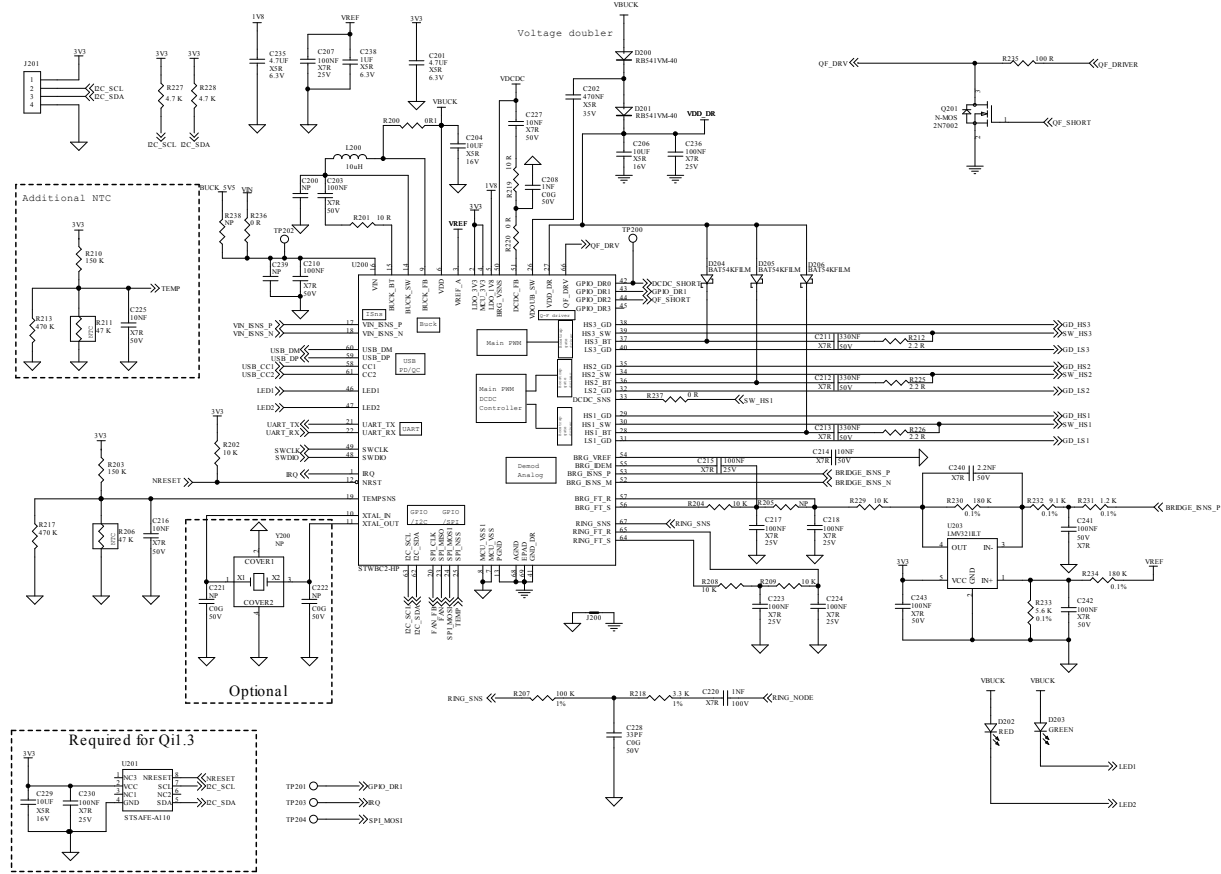


Figure 4. STEVAL-WBC2TX50 circuit schematic (3 of 6)

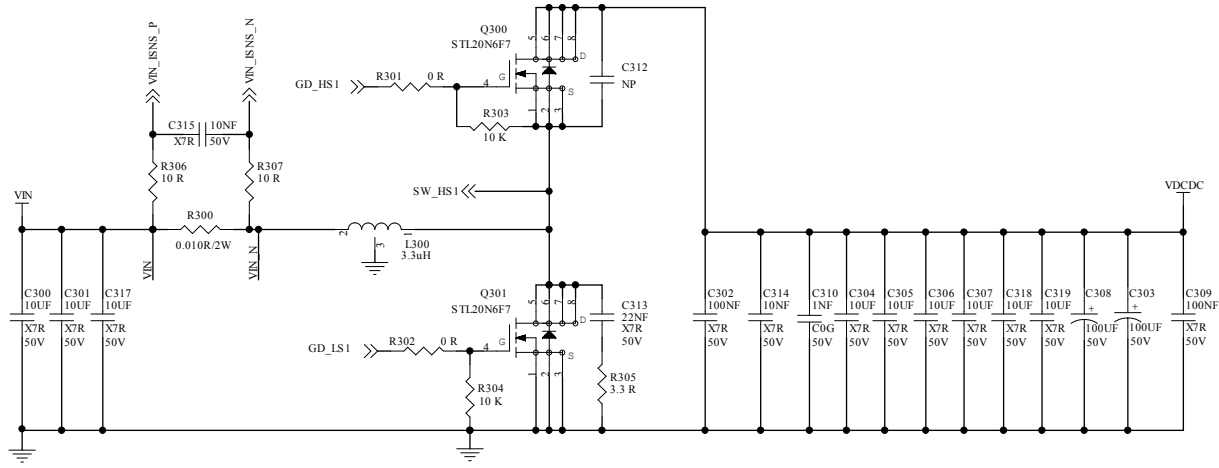


Figure 5. STEVAL-WBC2TX50 circuit schematic (4 of 6)

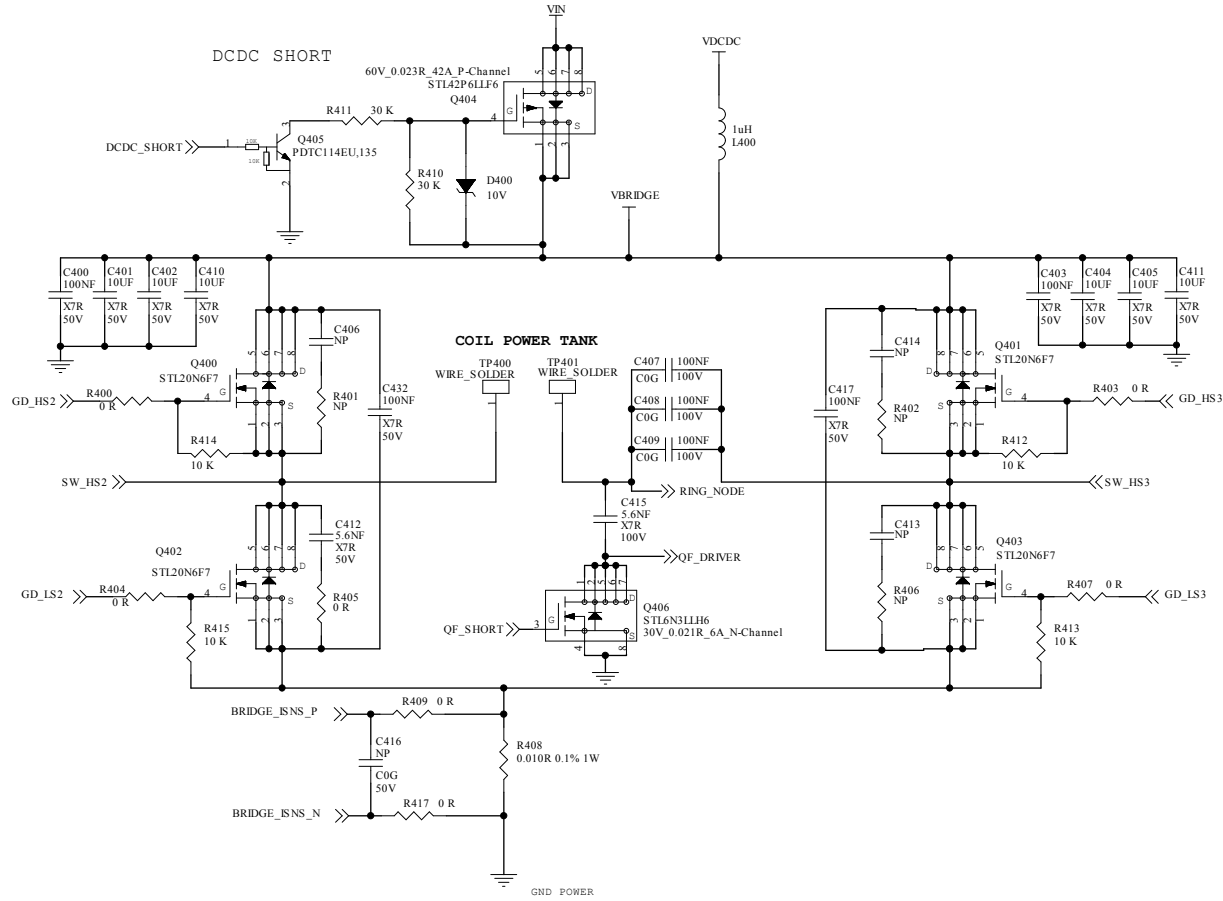


Figure 6. STEVAL-WBC2TX50 circuit schematic (5 of 6)

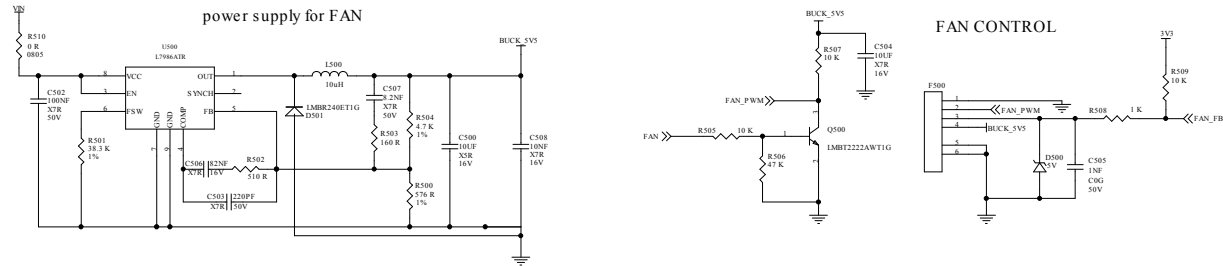
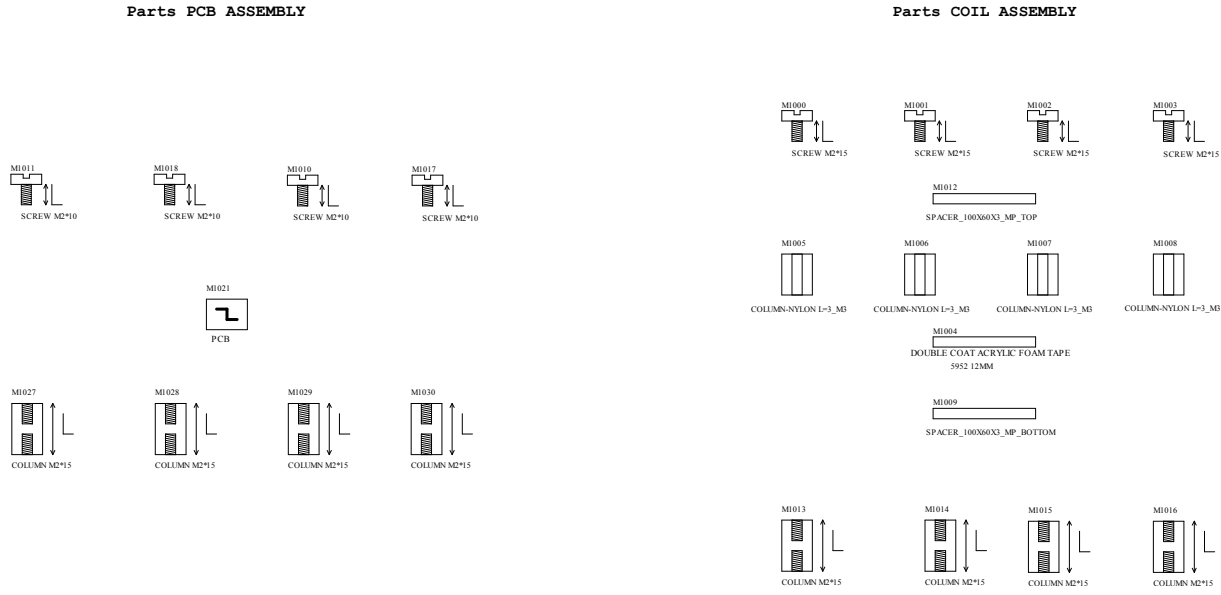


Figure 7. STEVAL-WBC2TX50 circuit schematic (6 of 6)



3 Board versions

Table 1. STEVAL-WBC2TX50 versions

Finished good	Schematic diagrams	Bill of materials
STEVAL\$WBC2TX50A ⁽¹⁾	STEVAL\$WBC2TX50A schematic diagrams	STEVAL\$WBC2TX50A bill of materials

1. This code identifies the STEVAL-WBC2TX50 evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
09-Oct-2023	1	Initial release.

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