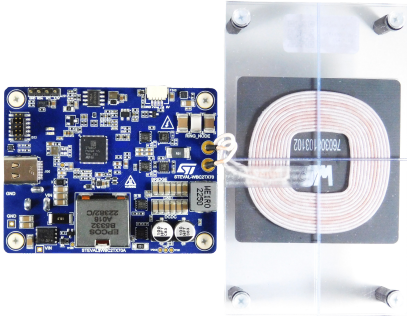


## Qi-compatible wireless power transmitter evaluation board for 70 W applications based on STWBC2-HP



### 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
- Qi charger authentication with STSAFE-A110 secure element

### Description

The **STEVAL-WBC2TX70** 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 70 W charging power with ST Super Charge (STSC) protocol using the STEVAL-WLC99RX 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.

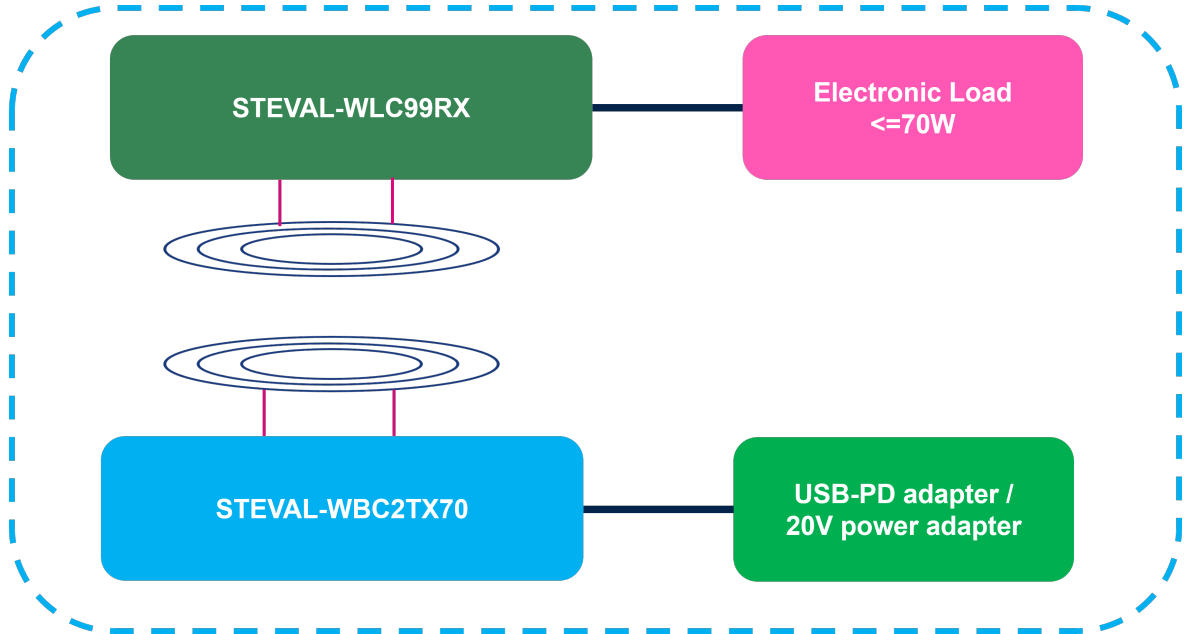
For charge higher than 15 W (extended power profile EPP), **STSAFE-A110** secure element ensures the authentication of the charger.

Note: The **STLINK-V3MINIE** is not included as part of the standard evaluation kit; it must be purchased separately. For detailed information on this stand-alone debugging and programming probe, please refer to the related [link](#).

Product summary	
Qi-compatible wireless power transmitter evaluation board for 70 W applications based on STWBC2-HP	<a href="#">STEVAL-WBC2TX70</a>
Firmware for STEVAL-WBC2TX50/70 wireless transmitter evaluation kit	<a href="#">STSW-WBC2FW</a>
Qi-compatible inductive wireless charger power transmitter for up to 100 W applications	<a href="#">STWBC2-HP</a>
Authentication, state-of-the-art security for peripherals and IoT devices	<a href="#">STSAFE-A110</a>
Graphical user interface for wireless power transmitter evaluation boards based on the STWBC2-HP chip	<a href="#">STSW-WBC2STUDIO</a>
Applications	Wireless chargers

# 1 Hardware connections

Figure 1. Hardware connections



## 2 Schematic diagrams

Figure 2. STEVAL-WBC2TX70 circuit schematic (1 of 6)

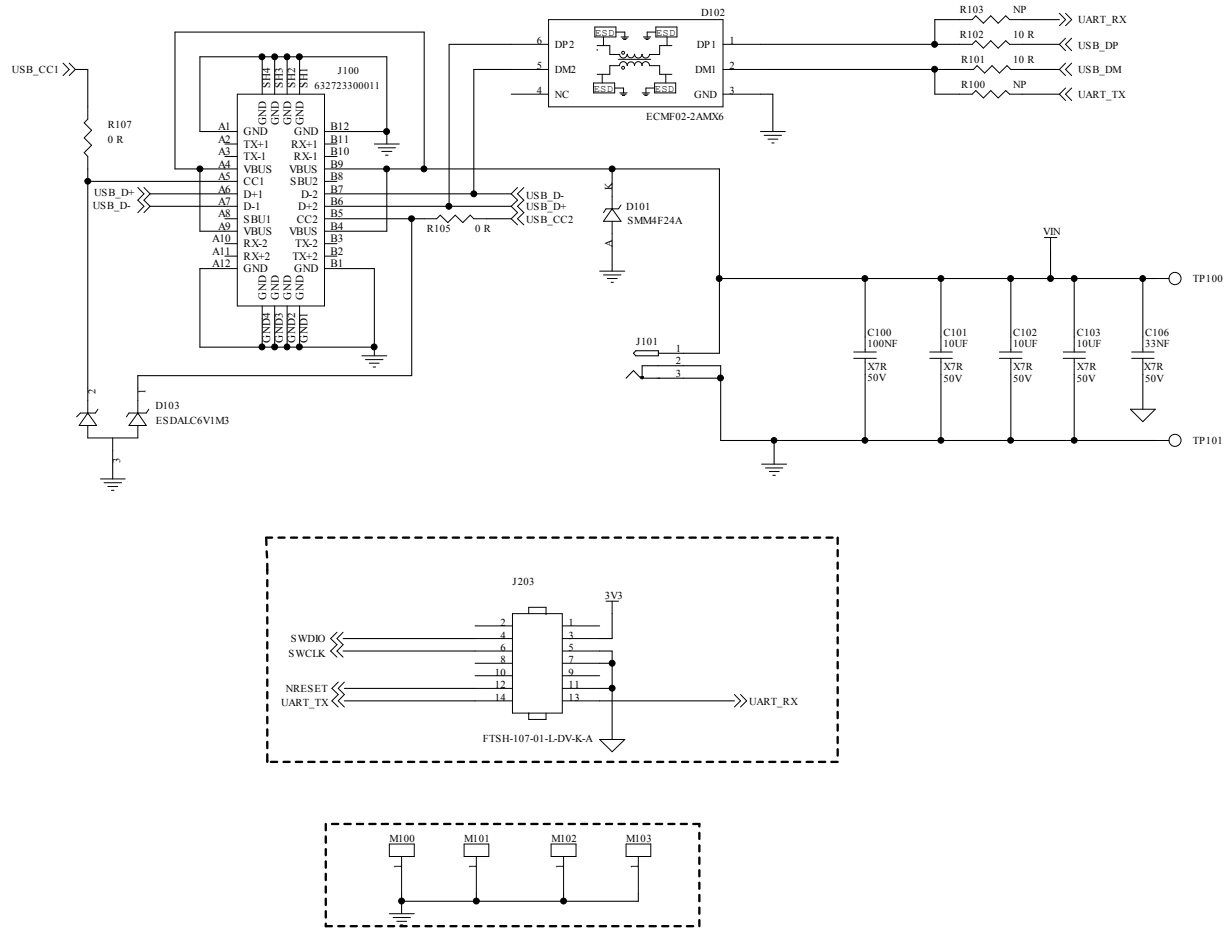


Figure 3. STEVAL-WBC2TX70 circuit schematic (2 of 6)

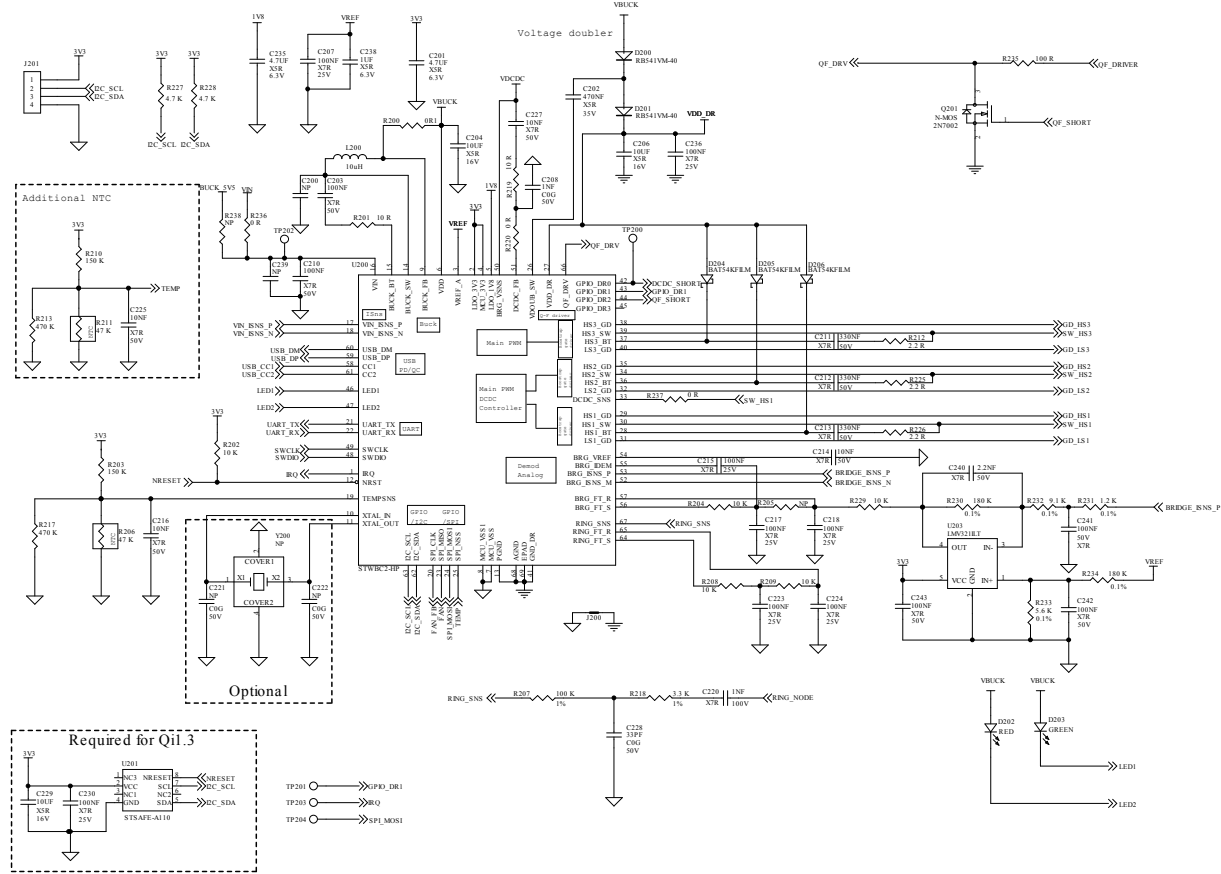


Figure 4. STEVAL-WBC2TX70 circuit schematic (3 of 6)

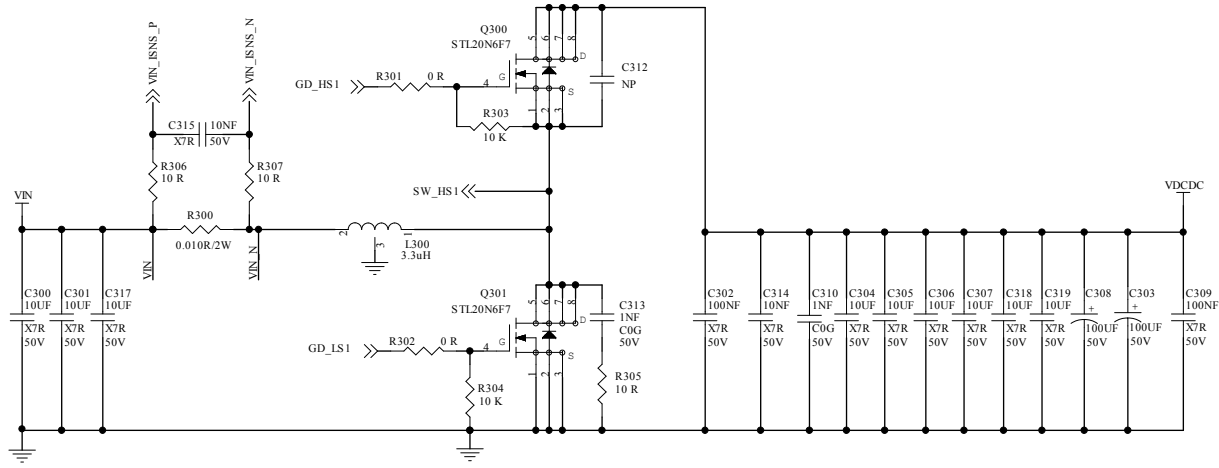


Figure 5. STEVAL-WBC2TX70 circuit schematic (4 of 6)

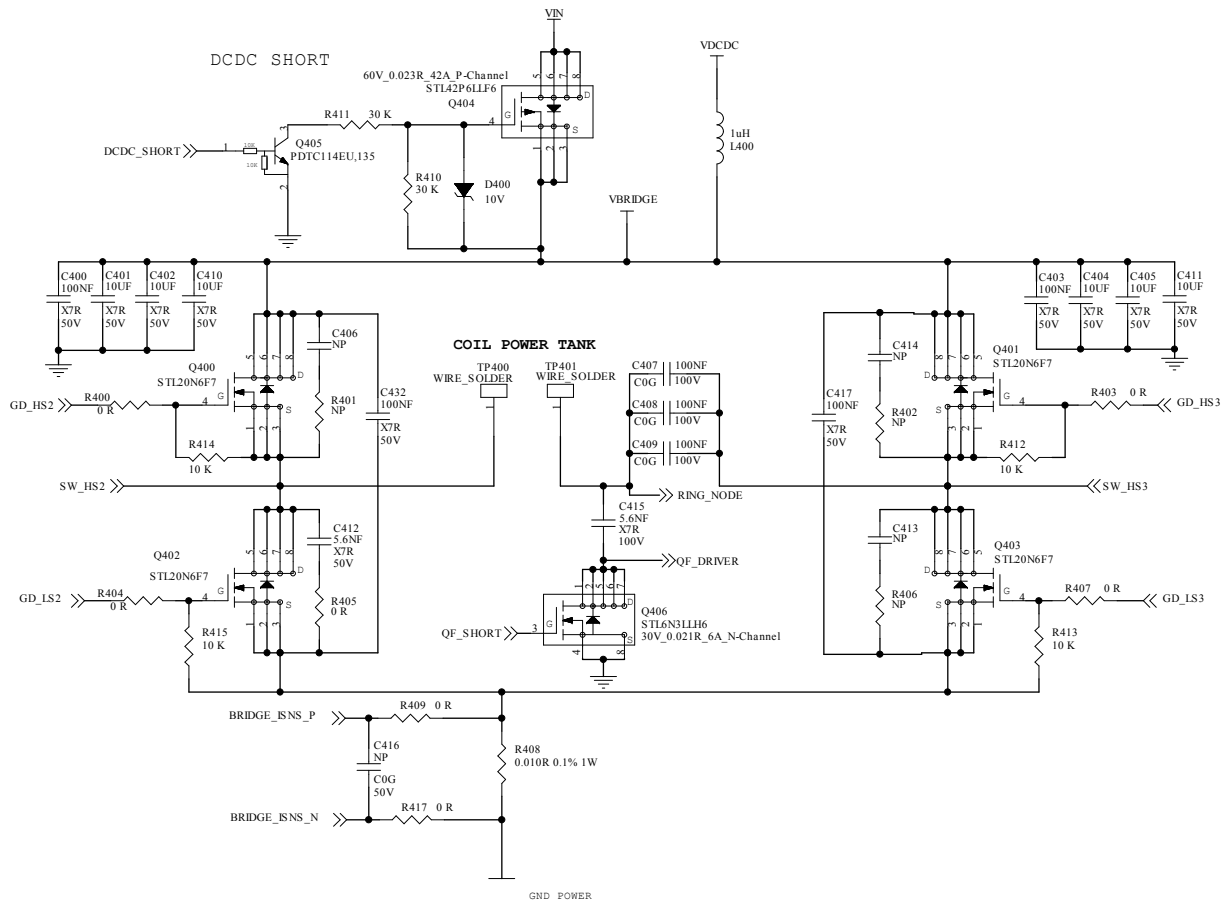


Figure 6. STEVAL-WBC2TX70 circuit schematic (5 of 6)

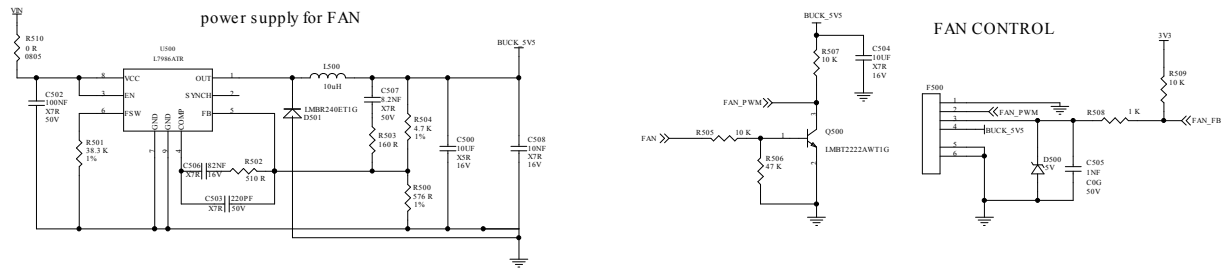
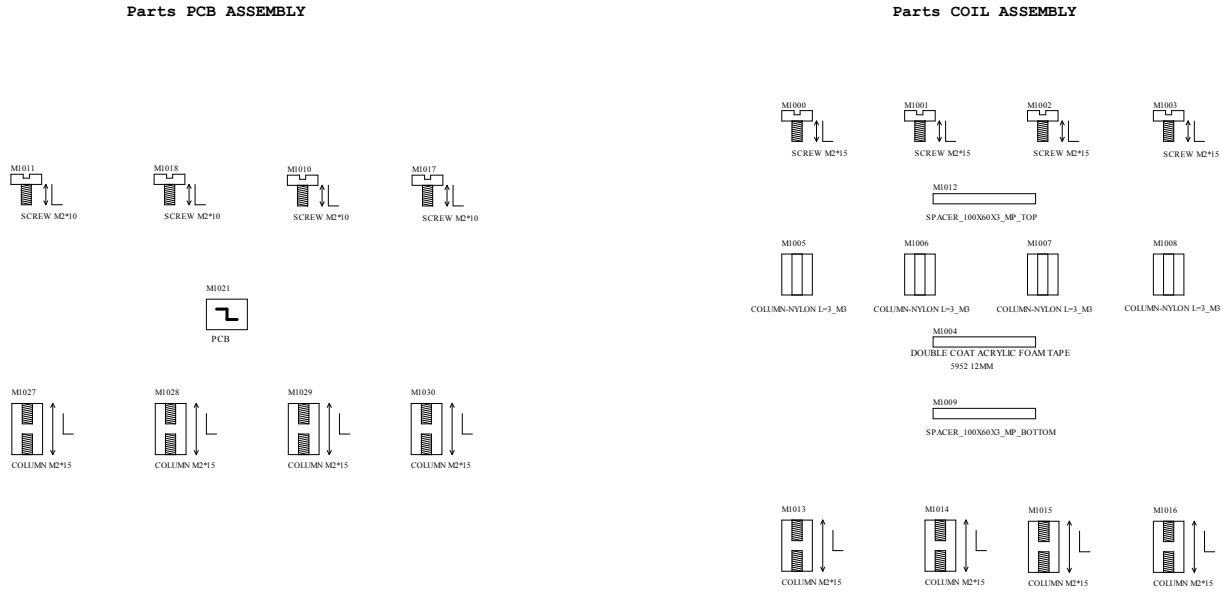


Figure 7. STEVAL-WBC2TX70 circuit schematic (6 of 6)



### 3 Board versions

**Table 1. STEVAL-WBC2TX70 versions**

Finished good	Schematic diagrams	Bill of materials
STEVAL\$WBC2TX70A <sup>(1)</sup>	STEVAL\$WBC2TX70A schematic diagrams	STEVAL\$WBC2TX70A bill of materials

1. This code identifies the STEVAL-WBC2TX70 evaluation board first version.

## Revision history

**Table 2. Document revision history**

Date	Revision	Changes
14-Feb-2024	1	Initial release.
05-Jun-2024	2	Updated Features, Description and Product summary.

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