




Quick start guide

Reference design – 15 W Qi transmitter (Tx) for charging smartphones

REF_10WTX_QI_4102

Features

- › Up to 15 W wireless power transfer
- › WPC Qi v1.2.4 certified 
- › Fixed frequency power transfer
- › Supports fast charging for Samsung and Apple phones
- › MP-A11 coil configuration
- › V_{IN} range: 9-12 V
- › 83% peak efficiency
- › To be operated with Q.C. 3.0 adapter
- › Improved accuracy of foreign object detection (FOD)
- › Cost-optimized architecture with low BOM count
- › Two LED indicators for power transfer and fault conditions
- › EMC, CISPR 22 compliant with no EMI choke
- › 25°C to +85°C temperature range

Key Infineon products

- › Wireless power controller XMC™-SC (XMC6521SC-Q040X)
- › OptiMOS™ 40 V (BSZ097N04LS)
- › EiceDRIVER™ 1EDN (1EDN7512B)
- › Wireless charging driver IC (WCDSC006)
- › Monolithically integrated low-drop voltage regulator (IFX20002MB V33)
- › OptiMOS™ n-channel MOSFET (BSS138WH)

Operation

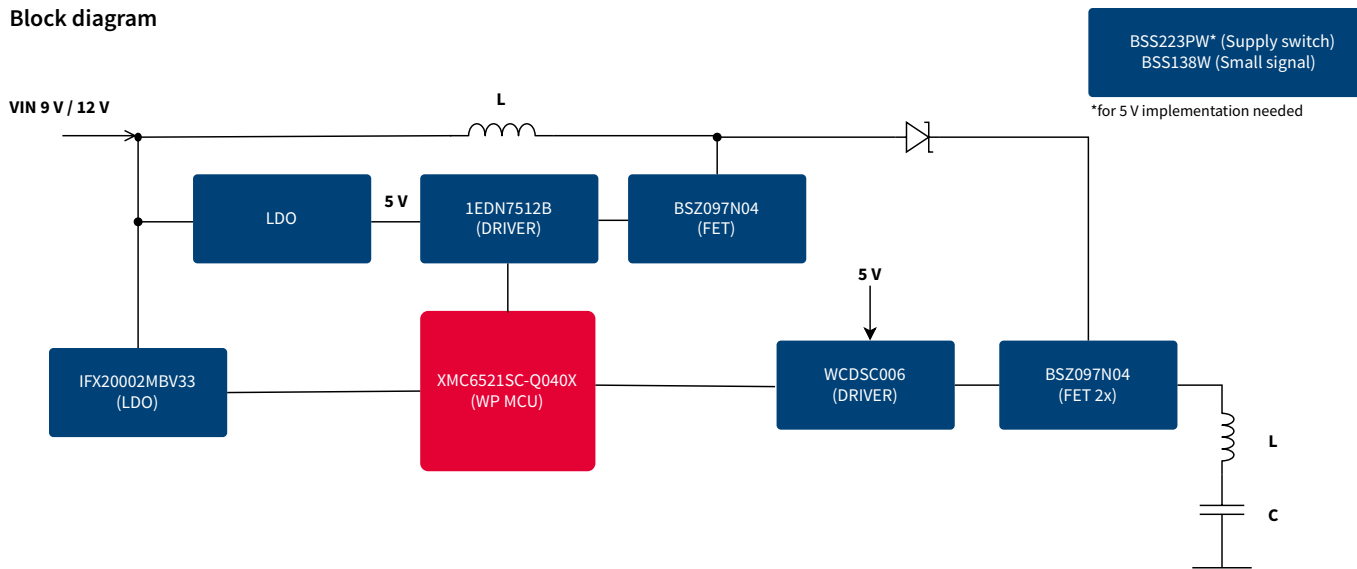
- › Download expert documentation
- › Remove REF_10WTX_QI_4102 from ESD bag
- › Select appropriate AC plug and attach to DC power supply
- › Plug DC power supply into REF_10WTX_QI_4102 and into AC outlet
- › Place smartphone on charging surface
- › Download GUI via partner Spark Connected:
www.sparkconnected.com (optional)
- › Install and start GUI (optional)
- › Plug USB serial programming cable into computer
and REF_10WTX_QI_4102 (optional)

Please note: The board supports an input voltage range of 9-12 V and is compatible with QC 2.0/3.0 adapters. The 5 V implementation is only available on demand.

For more information visit:

www.infineon.com/wirelesscharging

Block diagram



Solution max. power capability [W]	Frequency	Input power supply	Topology	Power regulation method	Rx-Tx communication	Supports	Charging rates Rx	FOD measurements calculated Tx power	DC-DC efficiency	Dimension	Coil type
7.5 W / 10 W	fixed 127.8 kHz (Apple iOS), variable (Android)	USB QC 3.0 (9 V / 12 V)	Boost topology (Half-bridge solution)	variable voltage Boost (added frequency control for Android)	In-band communication (bi-directional)	WPC 1.2.4 EPP	Up to 15 W	Direct AC measurements at coil	83%	L: 85 mm W: 50 mm H: 6.4 mm Active Area: L: 45 mm W: 40 mm	MP-A11



Spark Connected Inc. is our official partner for Wireless Charging.
The software IP is provided by our partner.

For details visit:
www.sparkconnected.com

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