

# Solution brief

# 15 W Qi transmitter (Tx) for charging smartphones REF\_10WTx\_QI\_4102

The 15 W wireless power transmitter evaluation board is a high-performance, easy-to-use development kit designed for applications with wireless power transfer of up to 15 W. It supports input voltage range of 9 – 12 V and is compatible with QC 2.0/3.0 adapters.

The transmitter provides designers with a certified platform that drastically reduces the development time of the end application. The system is compatible with WPC v1.2.4 receivers up to 15 W. Smartphones with proprietary fast charge capability are also supported.

#### Key features:

- > Up to 15 W wireless power transfer
- > WPC Qi v1.2.4 EPP certified
- > Fixed frequency power transfer
- > Supports fast charging for Samsung and Apple phones
- > MP-A11 coil configuration
- > VIN 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<sup>™</sup>-SC (XMC6521SC-Q040X)
- > OptiMOS<sup>™</sup> 40 V (BSZ097N04LS)
  - > EiceDRIVER™ 1EDN (1EDN7512B)
  - > Wireless charging driver IC (WCDSC006)
  - Monolithically integrated low-drop voltage regulator (IFX20002MB V33)
  - > OptiMOS<sup>™</sup> N-channel MOSFET (BSS138WH)

# Key benefits

- > Development effort reduction
- > Efficiency and accurate FOD
- > Reduced system costs
- > Fast charging capability



## Solution diagram

BSS223PW\* (Supply switch) BSS138W (Small signal)



### **Board specification**



Board number	REF_10WTx_QI_4102
Solution max. power capability [W]	7.5 W / 10 W
Frequency	fixed 127.8 kHz (Apple iOS), variable (Android)
nput power supply	USB QC 3.0 (9 V/ 12 V)
Topology	boost topology (half-bridge solution)
Power regulation method	Variable voltage boost (added frequency control for Android)
Rx-Tx communication	In-band communication (bi-directional)
Supports	WPC 1.2.4 EPP
Charging rates Rx	Up to 15 W
FOD measurements calculated Tx power	Direct AC measurements at coil
DC-DC efficiency	83%
Dimensions	L: 85 mm, W: 50 mm, H: 6.4 mm Active area: L: 45 mm, W: 40 mm
Coil type	MP-A11

Partnering with:



Published by Infineon Technologies Austria AG 9500 Villach, Austria

© 2019 Infineon Technologies AG. All Rights Reserved.

#### Order Number: B116-I0760-V2-7600-EU-EC Date: 08/2019

Spark Connected Inc. is our official partner for wireless charging. The software IP is provided by our partner.

For details visit: www.sparkconnected.com

#### Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS. WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

#### Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

#### Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any lifeendangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.

# **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Infineon: REF10WTXQI4102TOBO2