



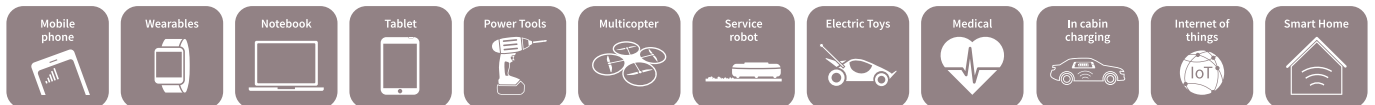
Application brief

Wireless charging solutions for consumer and industrial applications

Highest efficiency for the next level of charging

Over the last years, wireless charging has been increasingly gaining traction in the market and is expected to continue to heavily influence our daily lives. Infineon offers a broad portfolio of efficient, high-quality products and system solutions to serve the key requirements of the dominant market standards: inductive (Qi (WPC)) and resonant (AirFuel). Whether you charge a smartphone (e.g., at home or in the car), a handful of wearables, a power tool, a laptop or a service robot, Infineon's components and solutions help you overcome a wide range of common wireless power transfer challenges for consumer and industrial wireless charging designs.

Applications that benefit from wireless charging

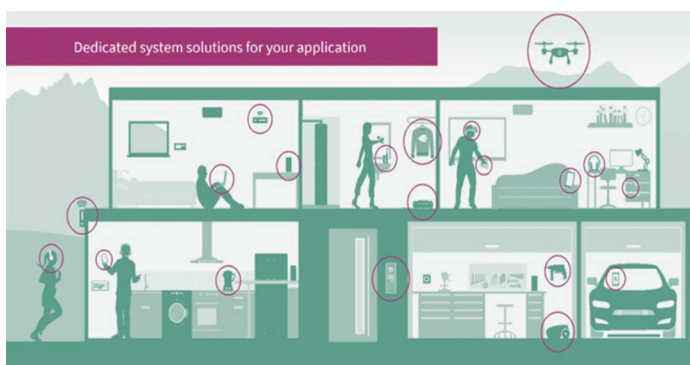


Infineon's key enabling products for consumer and industrial applications

- > Power MOSFETs - OptiMOS™, StrongIRFET™ and CoolMOS™
- > Gate driver ICs - EiceDRIVER™
- > P-channel and N-channel small signal power MOSFETs
- > 32-bit microcontrollers - XMC™, AURIX™, PSoC®
- > Wireless power controllers (including software IP) - XMC™-SC
- > PSoC® 4 Bluetooth Low Energy
- > USB Type-C Port Controller
- > Authentication - OPTIGA™ Trust Charge
- > AIROC™ Bluetooth® LE & Bluetooth
- > PWM/flyback controllers and integrated power stage ICs - CoolSET™
- > GaN HEMT - Gallium Nitride Transistor - CoolGaN™
- > Voltage and buck regulators for component and bridge supply
- > Reverse Conducting IGBTs R5/R6 - 650 V



For more details on the product, click on the product.



www.infineon.com/wirelesscharging

Find the right system solution for your wireless charging design

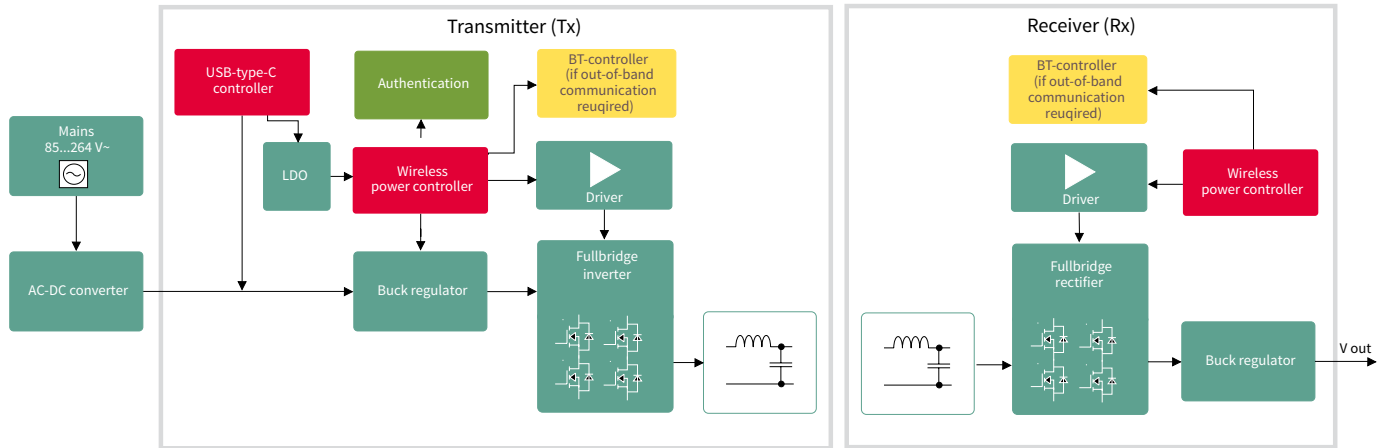
Searching for a turnkey solution for your application?

Infineon offers standard Qi or customized and proprietary turnkey wireless charging solutions, from 1 W up to 400 W, for inductive and resonant topologies in collaboration with our partner Spark Connected.

For more information on the availability of our boards, visit www.infineon.com/wirelesscharging or get in contact with us via www.infineon.com/support to get your customized solution.

Inductive wireless charging for consumer and industrial

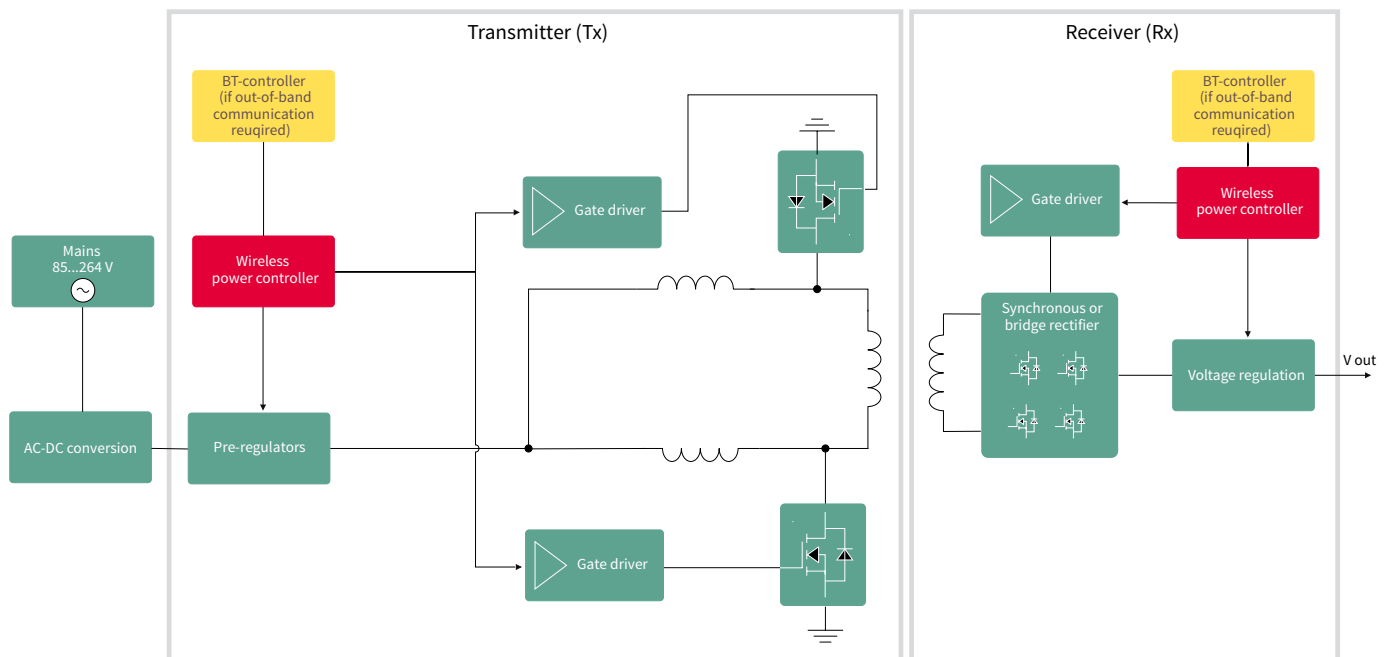
Example: >30 W inductive system solution



Key components for inductive designs for consumer and industrial

	Sub-application	Products
Wireless charging product portfolio for inductive	MOSFETS	30 V BSC0996NS, BSC0993ND, BSZ0909NS, BSZ0909ND, BSZ0910ND, IRFHS8342 – check for more 40 V BSZ097N04LS, BSZ063N4LS6, BSC035N04LSG, BSC072N04LD 60 V BSZ099N06LS5, BSZ065N06LS5, BSZ040N06LS5 80 V IRL80HS120 100 V IRL100HS121, BSZ146N10LS5, BSZ096N10LS5
	Driver ICs	EiceDRIVER™, WCDSC006, PX3519, IRS2301S, 1EDN7512B, 1ED44173N01B, 1EDI60N12AF, 2EDN7524G, IRS2007M, 2ED2182S06F
	Microcontroller or wireless power controller	XMC™, AURIX™ MCU and wireless power controller XMC™-SC (including software IP), PSoC® 4
	Voltage regulators	TLE4296G V33, TLF50211EL, TLE8366EV
	MCU + BLE controller	PSoC® 4 Bluetooth Low Energy (Bluetooth Smart): CY8C4248LQI-BL573 (QFN)
	AIROC™ Bluetooth® LE & Bluetooth	CYW20719B2 / CYW20721B2
	USB Type-C port controller	CYPD3120-40LQXIT, CYPD3171-24LQXQ, CYPM1011-24LQXI, CYPM1111-40LQXI, CYPM1211-40LQXI, CYPD3177-24LQXI
	Small signal MOSFETs	Please check online - Small signal MOSFETs
	Authentication	SLS32AIA020Ux – OPTIGA™ Trust Charge (USON10 3 x 3 package)
	Reverse conducting IGBTs R5/R6 - 650 V	Package PG-TO247-3 - IHW30N65RS (30 A), IHW40N65RS (40 A), IHW50N65RS (50 A)
	Reference designs and kits	REF_10WTX_QI_4102 - 15 W Qi transmitter for charging smartphones CY4532 EZ-PD™ CCG3PA Evaluation Kit CY4533 EZ-PD™ BCR Evaluation Kit CY7110 EZ-PD™ PMG1-S0 Prototyping Kit CY7111 EZ-PD™ PMG1-S1 Prototyping Kit CY7112 EZ-PD™ PMG1-S2 Prototyping Kit

Resonant wireless charging for consumer and industrial



Key components for resonant desings for consumer and industrial

	Sub-application	Products	
Wireless charging product portfolio for resonant	MOSFETs	30 V	IRLHS6376PBF, BSZ0909ND, BSZ0910ND, IRLML0030PBF
		40 V	IRLML0040
		60 V	IRLML0060
		80 V	IRL80HS120
		100 V	IRL100HS121
		150 V	BSZ900N15NS3, BSZ520N15NS3
		200 V	BSZ900N20NS3, BSZ22DN20NS3, BSZ12DN20NS3
		250 V	BSZ42DN25NS3
	Driver ICs	EiceDRIVER™ 2EDL71*, 1EDN7512, 2EDN7524, 2ED2182S06F, 2ED24427N01F, 1EDI60N12AF, 1ED44173N01B EiceDRIVER™ ICs GaN 1EDS5663H, 1EDF5673F, 1EDF5673K	
	GaN e-mode HEMTs	CoolGaN™ 600 V e-mode GaN HEMT IGT60R190D1S (HDSOF-8-3)	
	Microcontroller	XMC™, AURIX™ MCU and wireless power controller XMC™-SC (including software IP), PSoC®4	
	MCU + BLE Controller	PSoC® 4 Bluetooth Low Energy (Bluetooth Smart): CY8C4248LQI-BL573 (QFN)	
	AIROC™ Bluetooth® LE & Bluetooth	CYW20719B2 / CYW20721B2	
	USB Type-C Port Controller	CYPD3120-40LQXIT, CYPD3171-24LQXQ, CYPM1011-24LQXI, CYPM1111-40LQXI, CYPM1211-40LQXI, CYPD3177-24LQXI	
Voltage regulators	TLE4296G V33, TLE4296G V50, TLE4296-2G V33, TLE4296-2G V50, TLF50211EL, TLE8366EV, TLE8366EV33, TLE8366EV50		
Small signal MOSFETs	Please check online - Small signal MOSFETs		
Reference designs and kits	CY4532 EZ-PD™ CCG3PA Evaluation Kit CY4533 EZ-PD™ BCR Evaluation Kit CY7110 EZ-PD™ PMG1-S0 Prototyping Kit CY7111 EZ-PD™ PMG1-S1 Prototyping Kit CY7112 EZ-PD™ PMG1-S2 Prototyping Kit		

*coming soon MOSFETs, Driver IC, μCs are on the website: www.infineon.com/wirelesscharging

** VGS = 8 V

Published by
Infineon Technologies AG
9500 Villach, Austria

© 2021 Infineon Technologies AG.
All Rights Reserved.

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 life-endangering 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.