



# Wireless charging for consumer

Introducing a new cost effective system solution to ensure excellent user experience

[www.infineon.com/wirelesscharging](http://www.infineon.com/wirelesscharging)

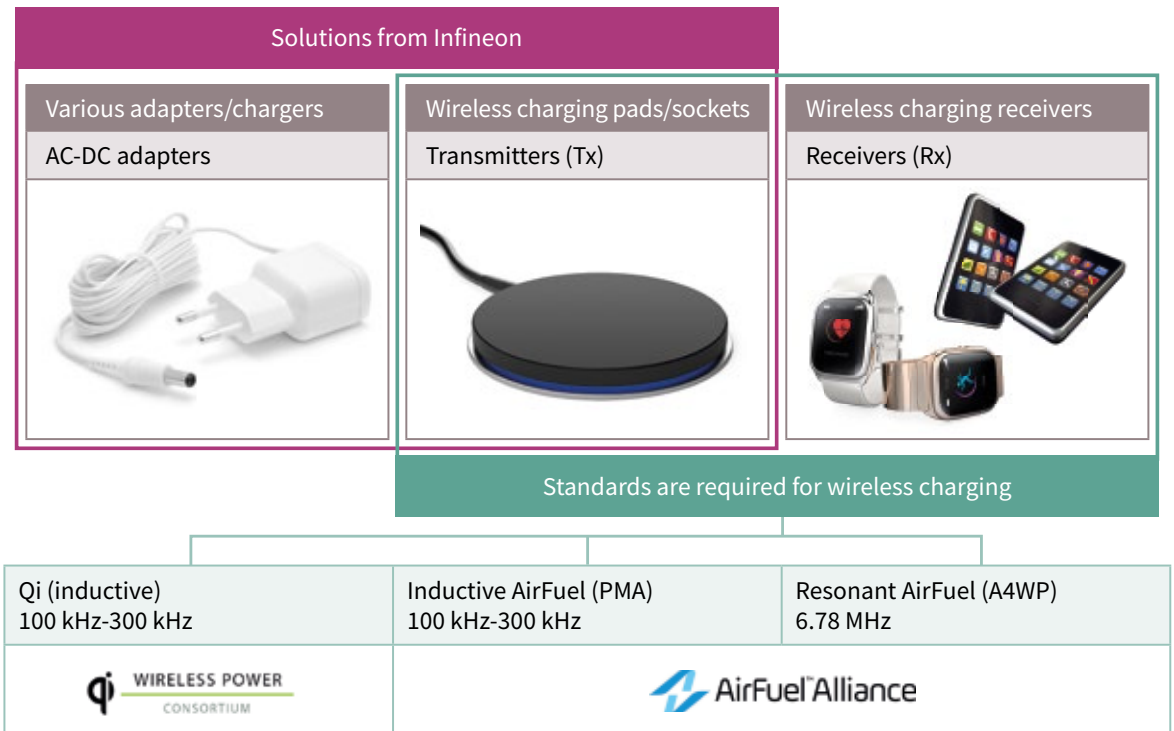


# Wireless charging for consumer applications

## What is wireless charging?

Wireless charging uses electromagnetic fields to transfer power from a transmitter to a receiver application to charge the according battery. This erases the need of physical connectors and cables to transfer power – one of many benefits of this technology.

The wireless charging market is dominated by two standards: inductive (Qi) and resonant (resonant AirFuel). Infineon offers solutions for both standards and is an active member of the leading wireless charging alliances the Wireless Power Consortium (WPC) and AirFuel.



## Key enabling products for your transmitter and adapter solution:

- > Low and mid voltage power MOSFETs – OptiMOS™ and IR MOSFET™
- > Driver ICs – EiceDRIVER™
- > Microcontrollers – XMC™
- > High voltage power MOSFETs – CoolMOS™ CE/P7
- > PWM/flyback controllers and integrated power stage ICs – CoolSET™
- > Synchronous rectification ICs and MOSFETs – OptiMOS™

## Choose Infineon to solve your application requirements:

- > High performance MOSFETs, ICs and MCU at optimum price/performance ratio thanks to cost-effective packages and leading, reliable and mature silicon technology
- > High power density in small designs: Enabling the lowest switching and conduction losses in smallest packages for MOSFETs and power stage
- > Smallest possible package size (2 x 2, 3 x 3 half-bridge) for low power MOSFETs 30 V-250 V
- > Highest efficiency: In hard switching topologies, enjoy low switching losses thanks to low input and output capacitances

Infineon is working on its own medium voltage GaN technology and will bring it to the market with a significant performance increase over silicon MOSFETs at the same level of reliability.

## Infineon offers products for the transmitter and adapter to charge various receiver applications

Wearables



Mobile phone



Service & household robots



Tablets



Power tools



Multicopter



Notebooks



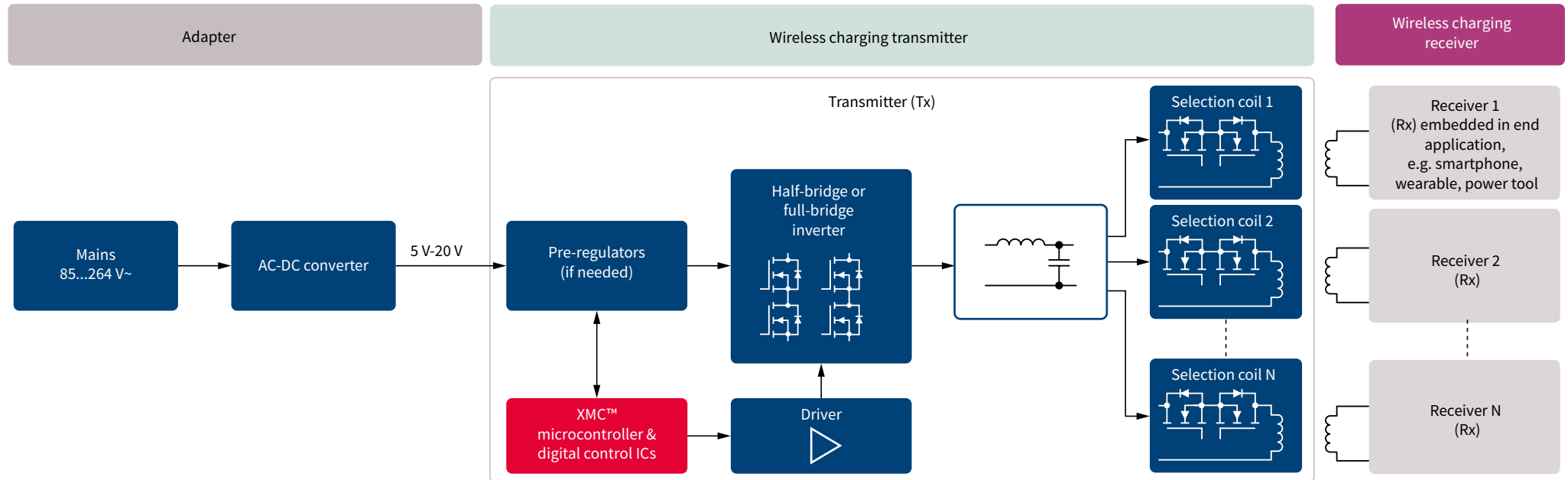
In-car charging



Public infrastructure



# Infineon offerings for inductive solutions (Qi & inductive AirFuel)



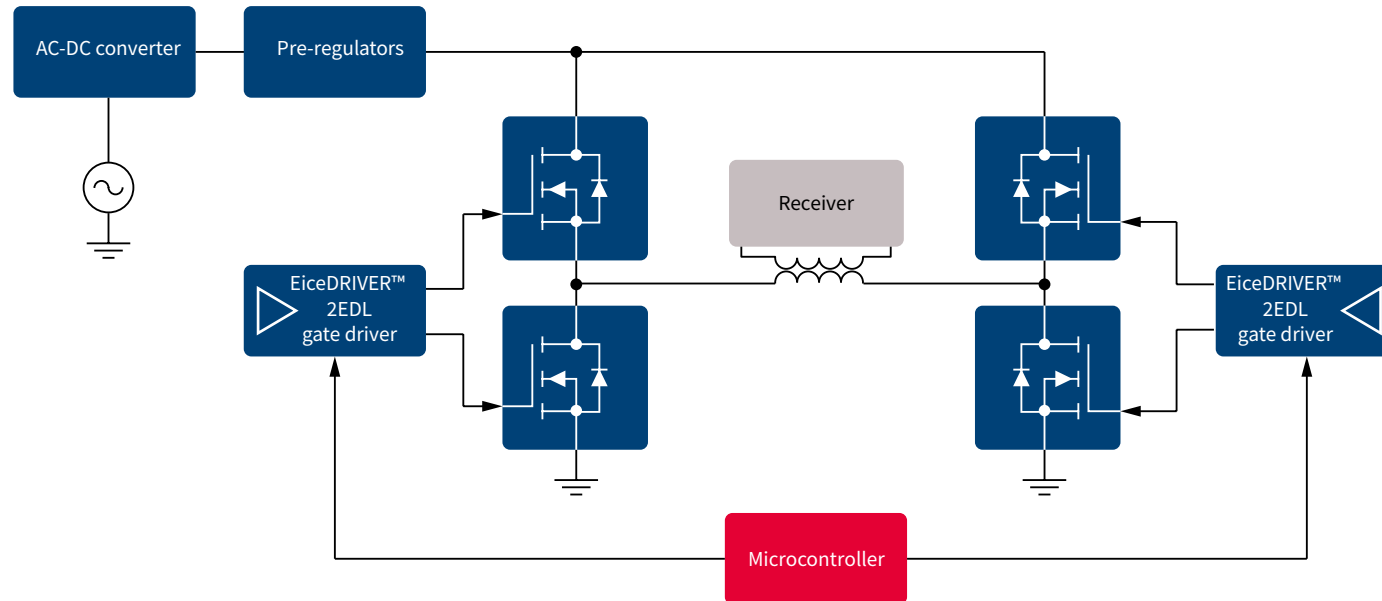
	Voltage	Package	Part number	$R_{DS(on)}$ (max.) @ $V_{GS}$ 4.5 V [mΩ]
Inverter	30 V	SuperSO8	BSC0996NS	11.8
			BSC0993ND	7.0
		PQFN 3.3 x 3.3	BSZ0589NS	4.4
			BSZ0994NS	8.6
			BSZ0909NS	15
		PQFN 2 x 2	IRFHS8342PbF	25
IRLHS6342PbF	15.5			

	Voltage	Package	Part number	$R_{DS(on)}$ (max.) @ $V_{GS}$ 4.5 V [mΩ]
Coil selection switch	20 V	PQFN 2 x 2	IRLHS6242PbF	11.7 (= 2.5 V drive capable)
			IRFHS8242PbF	21.0
			IRFHS8342PbF	25.0
			IRLHS6342PbF	15.5 (= 2.5 V drive capable)
	25 V	PQFN 3.3 x 3.3	BSZ0994NS	8.6
			BSZ0909NS	15
30 V	PQFN 3.3 x 3.3	BSZ0994NS	8.6	
		BSZ0909NS	15	

Microcontroller	XMC1302 or XMC1404 or XMC4108
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## Infineon offerings for resonant solutions (Resonant AirFuel)

## Class D – full-bridge

**Please note**

Class D full-bridge topology shown here, products also suitable for class D half-bridge topology

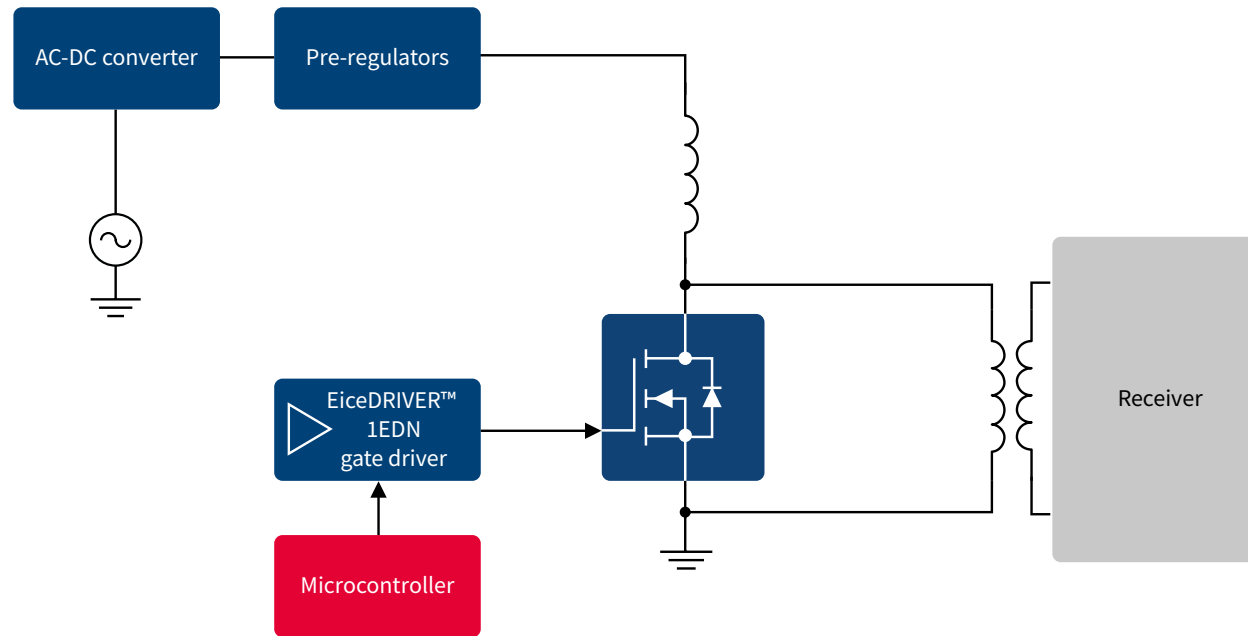
Inverter	Voltage	Package	Part number	$R_{DS(on)}$ (max.) @ $V_{GS} = 4.5\text{ V}$ [mΩ]	$Q_r$ typical	$C_{oss}$ typical	Topology
	30 V	PQFN 2 x 2 Dual	IRLHS6376PbF	48.0	2.8	32	Class D
		PQFN 3.3 x 3.3 Dual	BSZ0909ND	18.5	2.0	~120	Class D
		PQFN 3.3 x 3.3	BSZ0506NS	4.4	5.7	220	Class D
			BSZ065N03LS	6.9	5.2	270	Class D
	60 V	PQFN 2 x 2	IRL60HS118	19.0	4.5	118	Class D
	80 V		IRL80HS120	32.0	3.5	68	Class D/E
	100 V		IRL100HS121*	42.0	2.7	62	Class D/E

Driver ICs	EiceDRIVER™ 2EDL71*
	EiceDRIVER™ 1EDN
Microcontroller	XMC1302 or XMC1404 or XMC4108

\* coming soon

## Infineon offerings for resonant solutions (Resonant AirFuel)

## Class E – single-ended

**Please note:**

Class E single-ended topology shown here, products also suitable for class E differential topology

	Voltage	Package	Part number	$R_{DS(on)}$ (max.) @ $V_{GS} = 4.5 V$ [mΩ]	$Q_i$ typical	$C_{oss}$ typical	Topology
Inverter MOSFETs	80 V	PQFN 2 x 2	IRL80HS120	32.0	3.5	68	Class D/E
	100 V		IRL100HS121*	42.0	2.7	62	Class D/E
	150 V	PQFN 3.3 x 3.3	BSZ900N15NS3	75**	4.1**	46	Class E
			BSZ520N15NS3	42**	7.2**	80	Class E
	200 V		BSZ900N20NS3	78**	7.2**	52	Class E
			BSZ22DN20NS3	200**	3.5**	24	Class E
			BSZ12DN20NS3	111**	5.4	39	Class E
250 V		BSZ42DN25NS3	375**	3.6**	21	Class E	

Driver ICs	EiceDRIVER™ 2EDL71*
	EiceDRIVER™ 1EDN
Microcontroller	XMC1302 or XMC1404 or XMC4108

\* coming soon

\*\* @ $V_{GS} = 8 V$

## Highlight products for wireless charging



### BSZ0909ND

Half-bridge handles  
PQFN 3.3 x 3.3 package

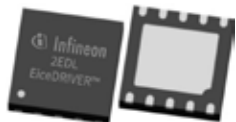
Order now



### IRL60/80/100

IR MOSFET™ PQFN 2 x 2  
for half-bridge and  
full-bridge topologies

Order now



### EiceDRIVER™ 2EDL71

Fast switching logic level  
half-bridge driver

Coming soon



### EiceDRIVER™ 1EDN

Rugged, cool and fast 1-channel  
low-side 4/8 A gate driver ICs

Order now

## Wireless charging selection tool

Application

Power range

Standard

Topology

Solution

Your selection



Smartphones

5 W

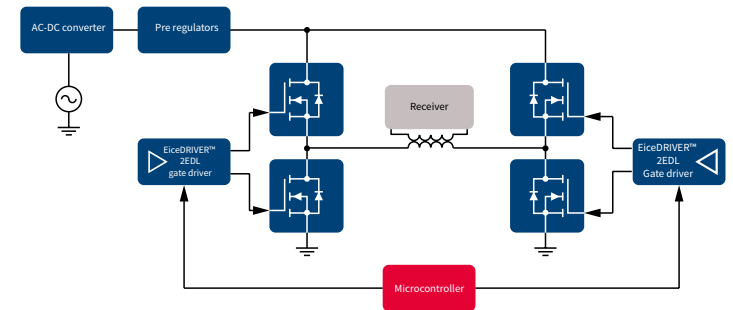
Resonant

Class D Fullbridge

Buy online now

This is our Infineon solution.

Please hover over each block with your mouse to see the recommended products.



Check out the wireless charging selection tool **now!**



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