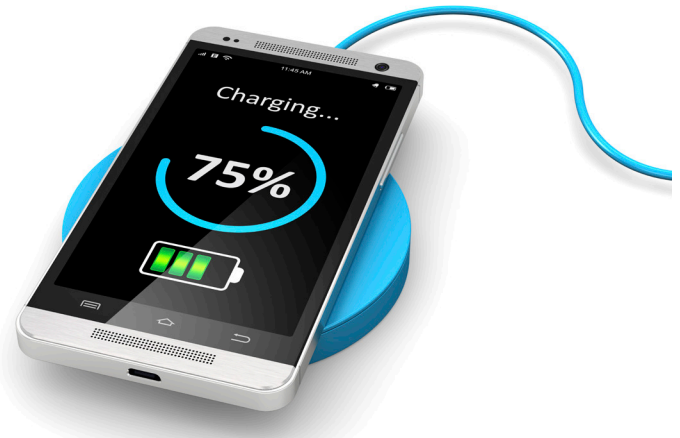




# product brief

## FEATURES & BENEFITS

- Firmware-based and programmable
  - Customizable to meet any custom application requirement
  - Firmware is upgradable to support evolving standards
- Support multiple system configurations
  - Multiple supply voltages and coil configurations with the same architecture
  - Supports custom receiver and transmitter coil sizes and inductance values
- Support for medium and high power Tx and Rx solutions
  - 10W and 15W for tablets, and 20W and beyond for high-power applications
  - Supports indirect (constant voltage) and direct battery charging
- Support for low power (0.1W -2W) Tx and Rx solutions
  - Both standard and proprietary solutions
  - Direct charging of batteries at <50mAh
- Multi-standard solutions based on single Tx hardware
  - WPC Qi® + PMA in a single hardware solution
  - WPC Qi® + PMA + A4WP (Rezence) in a single hardware solution

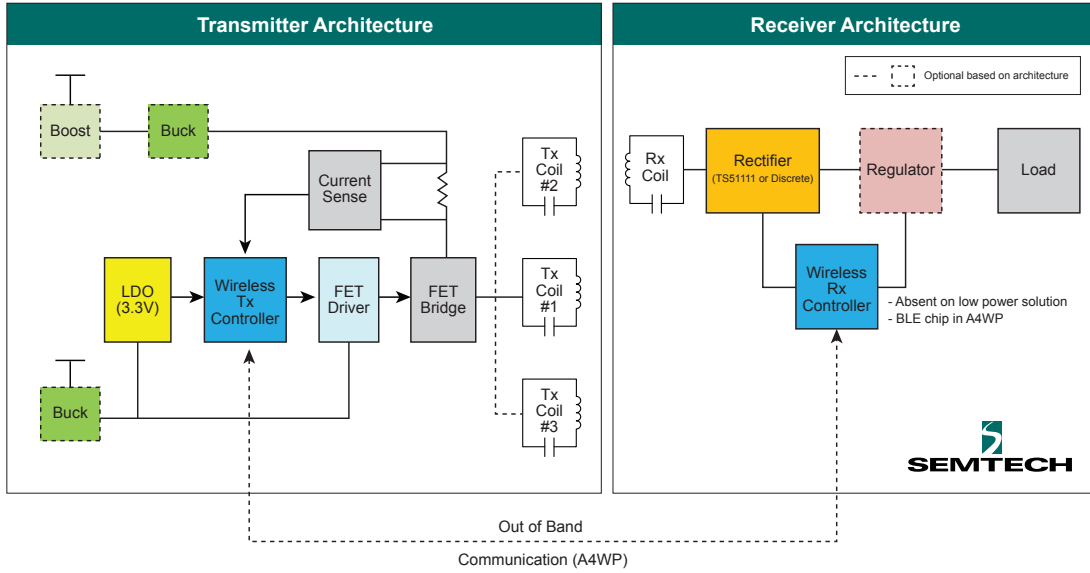


## Wireless Charging Solutions

Semtech offers wireless power transmitter and receiver platforms for both direct and indirect charge applications in both standard compliant and non-compliant systems. Semtech is a member of the Wireless Power Consortium (WPC), Power Matters Alliance (PMA) and the Alliance for Wireless Power (A4WP), and is active in helping shape the future standards for wireless power.

Wireless Charging Standard			
Standard	Qi Wireless Power Consortium	PMA Power Matters Alliance	Rezence/A4WP Alliance for Wireless Power
Technology	Magnetic Induction	Magnetic Induction	Magnetic Resonance
Coupling Range	10mm (Today)	10mm (Today)	20-50mm (Today)
Frequency	110-205kHz (RF)	110-300kHz (RF)	6.78MHz (Microwave)
Cost	Lower	Lower	Higher
Power Today	5W at Rx	5W at Rx	5W at Rx, 10W at Tx
Power Next-Gen	10W at Rx	15W at Rx	22-36W at Rx
Communication	Load Modulation	Load Modulation	Via Bluetooth™
Efficiency	75%-77%	65%-75%	20%-70%
Transmitter	Single or Multi-coil	Single or Multi-coil	Large, single loop

WIRELESS CHARGING ARCHITECTURE



EVALUATION BOARDS REFERENCE TABLE

		Function														
		Controller	Buck	Boost	LDO	Rectifier	FET Driver	Vreg								
		Semtech Orderable Part Numbers														
		TS8000-QFNR	TS8002-QFNR	TS81000-QFNR	TS81001-QFNR	TS30011-M000QFNR	TS30012-M000QFNR	TS30041-M000QFNR	SC4501MLTRT	TS31023-QFNR	TS31223-QFNR	TS51111-M22WCSR	TS51223-M050WCSR	TS51231-QFNR	TS61001-QFNR	TS51221-M000QFNR
EVK Part Number	Description															
TSDMTX-5V-EVM	Dual mode 5V/5W TX	1								1					1	
TSDMTX-19V1-EVM	Dual mode 19V/15W TX	1				1				1					1	
TSDMRX-5W-EVM	Dual mode 5V/5W RX				1							1	1			
TSDMRX-9V/15W-EVM	Dual mode 9V/10-15W RX			1		1						1	1			
TSWITX-EVM	Wearable 5V/1W Inductive TX		1											1		
TSWIRX-5V-EVM	Wearable 5V/2W Inductive RX															1
TSWITX-12V-EVM	Wearable 12V/2W Half Bridge		1											1		
TSDMRX-5V/10W-EVM	Dual mode 5V/10W RX			1								1				

Dual-Mode: PMA and WPC/Qi. Wearable Inductive: Proprietary



Corporate Headquarters  
 200 Flynn Road, Camarillo, California 93012  
 phone: (805) 498-2111 • fax: (805) 498-3804 • www.semtech.com

Small text at the bottom of the page containing legal disclaimers and copyright information for Semtech Corporation, 2017.