

Powermat PMQ 005 Wireless Power Solution

10W Qi BPP Wireless Charging Transmitter

Qi Standard

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Powermat PMQ 005 is a single coil 10W BPP wireless charger solution and can be tailored to fit specific product requirements based on Powermat SmartInductive™ Technology. The Powermat solutions supply the power, magnetics, and interface to meet customer product requirements. Powermat solutions deliver pinnacle flexibility, safety, and cost-efficiency for a 100% wireless life.

Key Features

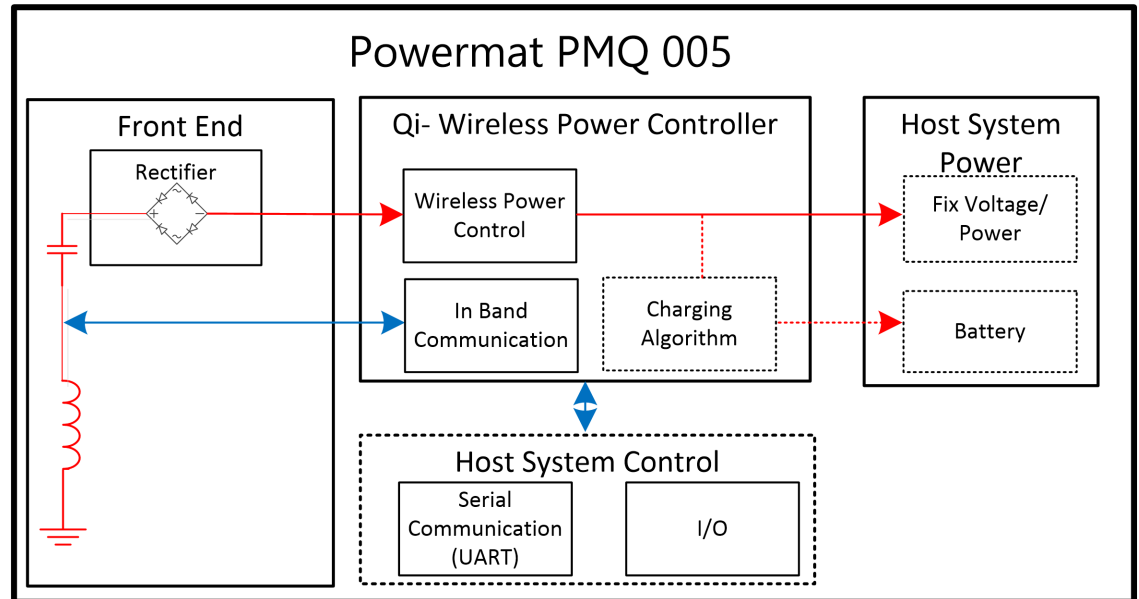
- Qi 1.2.4 BPP 10W output power
- Support fast charge proprietary protocols: Apple (7.5W) fast charge and Samsung(10W) fast charge. Additional private and proprietary may be supported upon request.
- Powermat SmartInductive™ technology provides 66% more large active area per coil compared to standard Qi-based systems
- Foreign Object Detection (FOD) with advanced quality factor (Q-factor) estimation
- Customizable system interface
- Cost sensitive reference design
- Pre & post-production firmware upgrade capabilities – future proof & support for future authentication protocols
- Fix-frequency designed to meet automotive environment requirements
- CISPR 25 Class 5 certified

Target Applications

- Medical devices
- Portable devices
- Wearables



Block Diagram



Specifica-

Feature	Specification	Note
Wireless Power Transfer (WPT)		
Number of coils	1	
WPC coil types	Coil types can be supported according to demand	
Supported standards	Qi 1.2.4 BPP 10W	
	Apple fast charge (AFC)	7.5W
	Samsung fast Charge (SFC)	10W
Coil effective charging area	Dependent on selected coil	
Operation frequency	127Khz	
Efficiency	>80%	Peak end-to-end
Communication	Digital Processing	Predictive error correction when operating at very low SNR conditions
FOD protection	Power losses monitoring	WPC 1.2.4 compatible
	Q-Factor	
	NFC Card detection	
System protection	OC, OV, OT	
Interfaces (optional)		
Host interfaces	IO/UART (LVTTTL)	Digital I/O with customizable functionality
Power		
Nominal input power	12/24V, 20W	
Off mode (Idle power)	<100uA	

Specifications

Feature	Specification	Note
Electromechanical		
Cooling	Passive: Heat sink	
PCB deamination (Including NFC antenna)	25mm X 25mm	Can be customized
Environmental		
Operating	-30°C ~ 75°C	
Storage	-40°C ~ 85°C	

Powermat is leading the way to a 100% wireless future, working with industry leaders to create true wireless freedom through seamless access to power and connectivity. Global market leaders including Foxconn Interconnect Technologies, Samsung, General Motors, Flex, Harman International, Pivotal Commware, and Kyocera have adopted Powermat Technologies, and its solutions can be found in over 800 million smartphones, 40 million embedded accessories, and 8 million cars worldwide.

Learn more @ www.powermat.com