

PowerLife Wireless Charging Coils



Combining the highest power transfer efficiency (Q) with industry-leading thin design, PowerLife Wireless Charging Coils support low, high and proprietary frequencies

Features and Benefits

Industry's highest power transfer efficiency (highest Q factor)

Generates low heat (electrical series resistance), resulting in faster charging

Low, high and proprietary frequencies in industry-leading thin design

Creates compact coil ideal for a broad range of applications in a variety of industries. Supports space-constrained devices



Coils produced on standard PCB or Copper Flex

Withstands environments with high vibration, heat and humidity. Enables design flexibility. Provides mechanical simplicity over wire-wound coils. Offers a cost-effective solution



Able to accommodate multiple-frequency functionality in one thin assembly (e.g., low- and high-frequency Rx on one PCB)

Enables OEMs to offer compatibility across multiple frequencies (future-proof designs). Lowers cost by reducing component count and providing reliability with standard manufacturing processes. Delivers optimal end-user experience

Customizable form factor available

Achieves high Q with the smallest X, Y and Z dimensions in the market. Available in virtually any shape needed to fit the end-user's device

Applications

Consumer Electronics

- Smartphones
- Wearable Technology
- Smartphone Accessories
 - Bluetooth Headsets
 - Phone Cases
- Personal Computers (Both as Tx and Rx)
- PC Peripherals
 - External Hard Drives
 - Mice, Keyboards, Headsets
- Digital Cameras
- Gaming Systems
- Low-Power Appliances
- Furniture (Embedded TX; +NFC available)

Automotive (In-Vehicle Networking)

- Embedded Tx in Center Console (+NFC Available)

Medical

- Portable Units
- Hearing Aids
- Implantable Devices

Industrial



Furniture with wireless power: PowerLife Wireless Charging Coils enable wireless charging through a wood surface

Specifications

REFERENCE INFORMATION

Packaging: PET Film except 1461794011, 1461798001, 1461792001, which are packaged in trays

Designed in: Millimeters
RoHS: Yes

Halogen Free: Yes

ELECTRICAL

| Assembly No. | Coil Type | Frequency | Inductance (uH) | DCR (Direct Current Resistance) (milliohms) | ESR (Equivalent Series Resistance) (milliohms) |
|--------------|---|----------------|---------------------------------------|---|--|
| 1461790001 | 10W Rx Coil for Low Frequency | 100 to 300 kHz | @ 200kHz: 17.3 | 450 | 975 |
| 1461794011 | Low-Frequency Wearable Coil | | @ 200kHz: Transmit 5.6 Receive 9.6 | Transmit 38; Receive 550 | Transmit 42; Receive 685 |
| 1461794001 | 5W Rx Coil for Low Frequency, Dual +NFC | | @ 200kHz: 8.9 | 350 | 435 |
| 1461791011 | 5W Rx Coil for Low Frequency, Dual Mode | | @ 200kHz: 9.9 | 390 | 530 |
| 1461791001 | 5W Rx Coil for Low Frequency, Dual Mode | | @ 200kHz: 11.6 | 520 | 635 |
| 1461798011 | High-Frequency Wearable Coil | 6.78 MHz | @ 1V 8.2mA: 2.6 | 245 | 1165 |
| 1461798021 | High-Frequency Wearable Coil | | @ 1V 8.2mA: 4.0 | 235 | 1450 |
| 1461798001 | 5W Rx Coil for High Frequency | | @ 1V 8.2mA: 2.9 | 120 | 710 |
| 1461792001 | Trimode Rx Coil | 200kHz | @ 200kHz: 10.6 | 190 | 545 |
| | | 6.78 MHz | @ 200kHz: 1.3 | 70 | 500 |

PHYSICAL

| Assembly No. | Coil Type | Coil Thickness (mm) | Dimensions | Maximum Assembly Thickness with Shield (mm) | Material |
|--------------|--|---------------------------------|--------------------------------------|---|-----------------------------------|
| 1461790001 | 10W Rx Coil for Low Frequency | 0.24 | Width: 50.0 Length: 43.0 | 0.63 | Flex |
| 1461794011 | Low-Frequency Wearable Coil | Transmit: 0.95 Receive: 0.24 | T-Diameter: 27.0 R-Diameter: 25.1 | Transmit 3.70 Receive 0.54 | Transmit — Wire Receive — Flex |
| 1461794001 | 5W Rx Coil for Low Frequency, Dual Mode +NFC | 0.24 | Width: 48.4 Length: 65.5 | 0.57 | Flex |
| 1461791011 | 5W Rx Coil for Low Frequency, Dual Mode | | Width: 47.0 Length: 40.0 | 0.57 | |
| 1461791001 | 5W RX Coil for Low Frequency, Dual Mode | | Width: 31.0 Length: 43.0 | 0.53 | |
| 1461798011 | High-Frequency Wearable Coil | | Diameter: 26.5 | 0.53 | |
| 1461798021 | High-Frequency Wearable Coil | | Diameter: 35.02 | 0.685 | |
| 1461798001 | 5W Rx Coil for High Frequency | 0.6 | Width: 71.51 Length: 56.30 | 1.15 | FR4 |
| 1461792001 | Trimode Rx Coil | 1.05 | Width: 53.60 Length: 64.70 | 1.60 | |

Ordering Table

| Assembly No. | Coil Type | Frequency |
|-----------------------------|------------------------|-----------------|
| 146179-0001 | Receiver | Low |
| 146179-1001 | Receiver | Low / Dual |
| 146179-1011 | Receiver | Low / Dual |
| 146179-2001 | Receiver | Tri-Mode |
| 146179-4001 | Receiver | Low / Dual +NFC |
| 146179-4011 | Receiver / Transmitter | Low, Wearable |
| 146179-8001 | Receiver | High, Phone |
| 146179-8011 | Receiver | High, Wearable |
| 146179-8021 | Receiver | High, Wearable |

| Custom Product | Description |
|-------------------------------|-------------------------|
| Contact Molex | Wireless Charging Coils |

www.molex.com/link/powerlifewirelesscoils.html

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