ABRACON LLC

The Heartbeat of the IoT™

# COILS FOR WIRELESS CHARGING & POWER

Applications: robotics, drones, automation systems, power tools, and medical devices | Qi compatible

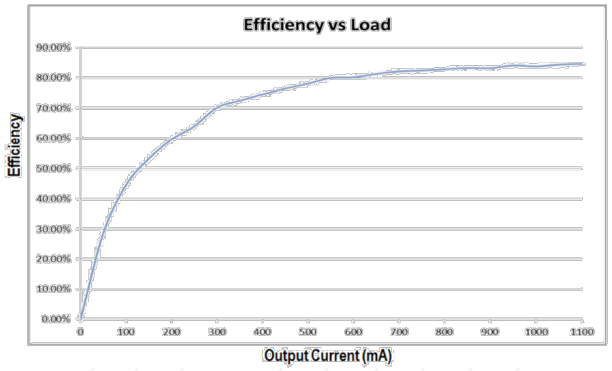
## 20W DUAL MODE RX WIRELESS CHARGING COIL

For use in the SEMTECH LINKCHARGE™ 20 TSDMRX-19V20W-EVM reference design

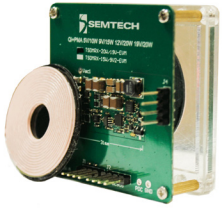
Abracon's AWCCA-RX350300-101 wireless charging coil is optimized to meet the requirements of Semtech's LinkCharge™ 20 TSDMRX-19V20W-EVM reference design board.

As part of Semtech's complete wireless charging solution delivering up to 85% efficiency at 20W, this coil implements the receive side of the wireless charging solution. Designed for compact applications, it features a 35mm diameter achieving a high power density with low profile 3.15mm max height.

### UP TO 85% EFFICIENT POWER TRANSFER




- High efficiency
- Reduces heat dissipation
- Minimizes battery charge time




| PART NUMBER | INDUCTANCE | DC RESISTANCE | Q |
|---|---|---|---|
| AWCCA-RX350300-101 | 25µH±10% | <150mΩ Typ | 90 Typ |
| Test Condition | 100KHz / 1V | 20±15˚C | 100KHz/1V |
| Test Equipment | HP4284A, HP42841A , Agilent 34420A or equivalent | | |
| Test Environment | Temperature: 20±15˚C, RH: 65% ±20%. | | |

## THE WIRELESS ADVANTAGE

Green, safe, and convenient for both designers and consumers, wireless charging is rapidly expanding throughout the consumer electronics industry. With technology standards still in their infancy, however, the high power market has gone under served and under researched with standards barely reaching 15 watts.

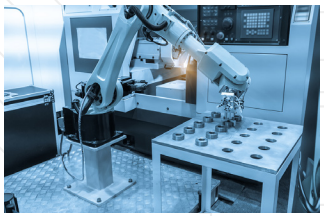
Abracon has directly addressed the need for improved high power solutions by offering a wide variety of off-the-shelf RX and TX coils across all major distributors. Benefits include fully enclosed devices that resist moisture, the elimination of contact failures for power connectors, and fast and efficient power transfer rates. Abracon's coils are compatible with Qi solutions.

## STANDARD WIRELESS CHARGING COILS

| PART NUMBER | TYPICAL DIMENSIONS (mm) | MAX HEIGHT (mm) | TYPE RATIO | FUNCTION (TX OR RX) | INDUCTANCE (µH) | DC RESISTANCE (mΩ) |
|---|---|---|---|---|---|---|
| AWCCA-15N15H06-C01-B | Ø 15 | 0.7 | 1 Coil, 1 Layer | TX/RX | 14.9µH±10 | 1.0Ω±20% |
| AWCCA-20N20H20-C01-B | Ø20.0 | 2.5 | 1 Coil, 1 Layer | TX/RX | 6.3µH±10 | 150mΩ |
| AWCCA-20R20H08-C01-B | 20 x 20 | 1.2 | 1 Coil, 1 Layer | RX | 12µH±10% | 290mΩ±20% |
| AWCCA-28R15H08-C01-B | 28 x 15 | 1.0 | 1 Coil, 1 Layer | RX | 7.5µH±10% | 500mΩ±20% |
| AWCCA-30N30H20-C01-B | Ø 30 | 2.2 | 1 Coil, 1 Layer | RX | 6.3µH±10% | 140mΩ±20% |
| AWCCA-30R30H05-C01-B | Ø 30 | 0.5 | 1 Coil, 1 Layer | RX | 29.5µH±10% | 1.8Ω±20% |
| AWCCA-37R37H18-C01-B | Ø 37 | 2.0 | 1 Coil, 1 Layer | RX | 29.5µH±10% | 1.8Ω±20% |
| AWCCA-38R32H09-C01-B | 38 x 32 | 1.0 | 1 Coil, 1 Layer | RX | 11.1µH | 250mΩ±20% |
| AWCCA-48R32H11-C01-B | 48 x 32 | 1.2 | 1 Coil, 1 Layer | RX | 10.5µH | 190mΩ±20% |
| AWCCA-53N53H50-C01-B | 53 x 53 | 5.5 | 1 Coil, 1 Layer | TX/RX | 24µH | 72mΩ±20% |
| AWCCA-53N53H50-C02-B | 53 x 53 | 5.5 | 1 Coil, 1 Layer | TX/RX | 6.3µH | 19mΩ±20% |
| AWCCA-42R38H08-C03-B | 42 x 38 | 0.9 | 1 Coil, 1 Layer | RX | 12µH | 350mΩ max |
| AWCCA-26R26H08-C01-B | Ø26 | 0.9 | 1 Coil, 1 Layer | RX | 10µH | 320mΩ±20% |
| AWCCA-36R36H08-C51-B | 36 x 36 | 0.8 | 1 Coil, 1 Layer | RX | 12µH | 350mΩ max |
| AWCCA-98T56H38-C01-B | 98 x 56 | 3.8 | 3 Coils, 2 Layers | TX | 12µH (lower coils), 11.5µH (upper coils) | 56mΩ±20% |
| AWCCA-12R12H11-C01-B | 12 x 12 | 1.1 REF | 1 Coil, 1 Layer | RX | 8µH | 520mΩ max |
| AWCCA-18R18H10-C01-B | Ø18 | 1.0 REF | 1 Coil, 1 Layer | RX | 10.5µH | 330mΩ max |
| AWCCA-50N50H30-C21-B | 50 x 50 | 3.4 | 1 Coil, 1 Layer | TX/RX | 6.3µH | 38mΩ±20% |
| AWCCA-50N50H16-C51-B | 50 x 50 | 2.1 | 1 Coil, 1 Layer | TX/RX | 12.5µH | 80mΩ±20% |
| AWCCA-47R38H08-C01-B | 47 x 38 | 0.86 | 1 Coil, 1 Layer | RX | 11.5µH | 160mΩ±20% |
| AWCCA-107T52H40-C01-B | 107 x 52 | 4.5 | 3 Coil, 2 Layer | TX | Upper 11.5µH/ Lower 12.0µH | 56mΩ±20% |

## APPLICATIONS FOR HIGH POWER WIRELESS CHARGING AND LOW PROFILE/COMPACT

High power applications including robotics, drones, automation systems, power tools, and medical devices, all benefit from the reliable and consistent power delivery to devce batteries. With wireless technology, designs are limitless.



Industrial Robotics



Hermetically Sealed Medical Equipment



Drones



Power Tools



Industrial IoT



Roamable Industrial Appliances