

A medium-range wireless power transmission technology platform providing safe and high-performance multi-device charging solution for smart homes.

Keywords:

- Multi-device charging, medium range, wireless charging, high frequency magnetic resonance, safety charging solution, smart home, IoT

Problems addressed

- Short distance, specific positioning or orientation, and low charging power are constraints of conventional wireless charging solutions
- Charging device get overheated under traditional low-frequency wireless charging methodologies
- Only single device is supported for most commercially available charging pads

ASTRI's wireless power transmission technologies offer smart homes and the Internet of Things (IoT) more benefits with higher power rating over longer transmission distance for multiple device charging, higher tolerance of misalignment, and is a safer charging solution with reduced overheat problem.

Innovations

ASTRI's device delivers a novel high frequency magnetic resonance charging platform enabling simultaneous multiple devices charging with improved charging distance, power rating, and does not need perfect alignment for smart home applications and IoT sensors. The platform includes the following features and benefits:

- **High Frequency Magnetic Resonance**
- **Automatic Impedance Matching**
- **Uniform Magnetic Field Generation**
- **High-Efficiency Adaptive ZVS Topology**
- **Eliminated Cross-Platform Jamming**

Key impact

- Simultaneous multiple devices charging
- Longer wireless charging distance
- Higher power rating
- Free-position charging
- Safer charging by reducing overheat problem

Innovation snapshot



Project completed

- February 2020

Applications

- Smart Home
- Internet of Things (IoT)
- Consumer electronics
- Sensors

Patent(s)

- US Patent No. 10,097,031 and CN Patent No. ZL201680001092.2
- US Patent No. 10,250,076 and CN Patent No. ZL201780000211.7
- US Patent No. 10,873,222 and CN Patent No. ZL201880000329.4
- US Patent No. 10,230,311 and CN Patent No. ZL201780000156.1
- US Patent No. 10,637,298 and CN Patent No. ZL201880000156.6

[ASTRI Patent Search](#)

Commercialisation opportunities

- IP licensing
- Technology co-development