News Release

Electronics for the Future

October 19th, 2022

LAPIS Technology Co.,Ltd.

Cooperation on Wireless Charging Solutions: LAPIS Technology and Global Antenna manufacturer Shanghai Amphenol Airwave (subsidiary of Amphenol Corporation) join forces

Providing one-stop support for implementing wireless charging functions for hearable and wearable devices

ROHM Group company LAPIS Technology, together with Global Antenna manufacturer Shanghai Amphenol Airwave (subsidiary of Amphenol Corporation), have established a cooperative framework. The purpose: providing wireless charging solutions for hearable and wearable devices that are trending towards greater compactness and sophistication.

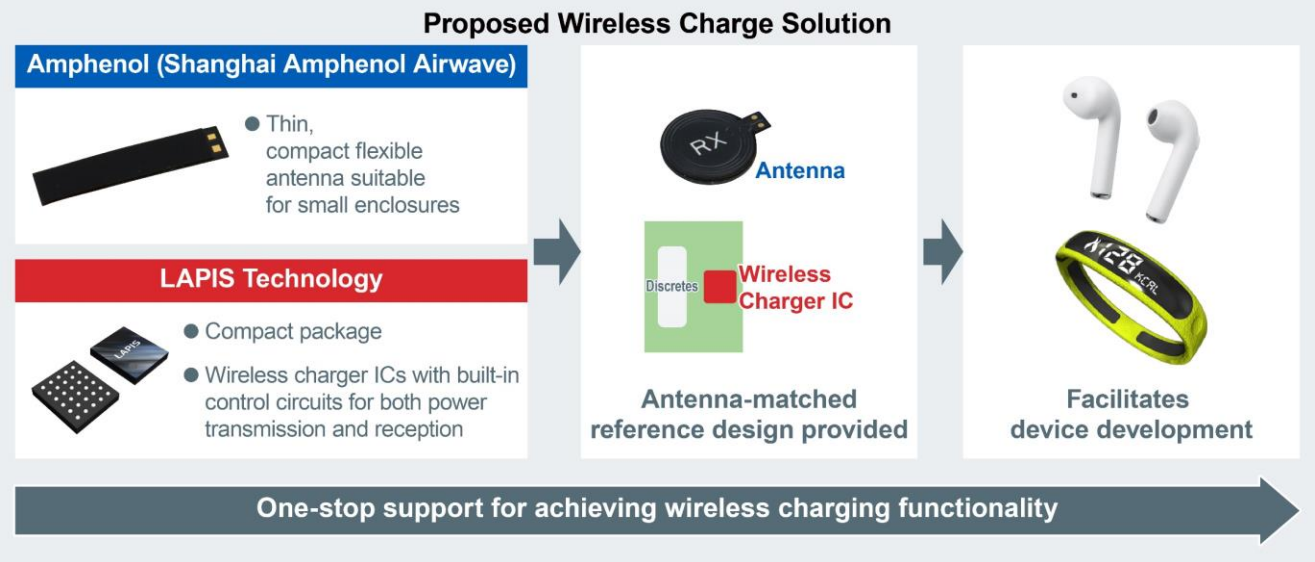
Advanced antenna customization technology allows Amphenol to provide compact antennas that meet the needs for smaller, thinner housings in the hearable and wearable device markets. At the same time, LAPIS Technology provides compact high performance wireless power supply ICs that leverage wireless digital and analog circuit technologies cultivated over many years through LSI development.

This time, with technical support provided by LAPIS Technology, Shanghai Amphenol Airwave Communication Electronics Co., Ltd, an operation within Amphenol Corporation, will provide a wireless charging solution that solves design constraints regarding housing along with issues such as increased development workforce. This reference design – that matches power transmission and reception centered on the antenna and wireless charger IC – contributes to rapid device development by providing one-stop support to global customers for achieving wireless charging functionality.

Going forward, both companies will continue to combine their technologies to add value to compact wireless charging solutions – including the use of NFC communication and other functions required by the market.

Sally Yin, General Manager, Shanghai Amphenol Airwave Communication Electronics Co., Ltd.
“Partnering with LAPIS Technology allows Amphenol to provide value-added wireless charging solutions. This will enable customers to further reduce size along with development lead times. Shortening development lead time in particular is one of the major advantages for new product development. We are extremely pleased to be able to improve customer satisfaction even more through these benefits!”

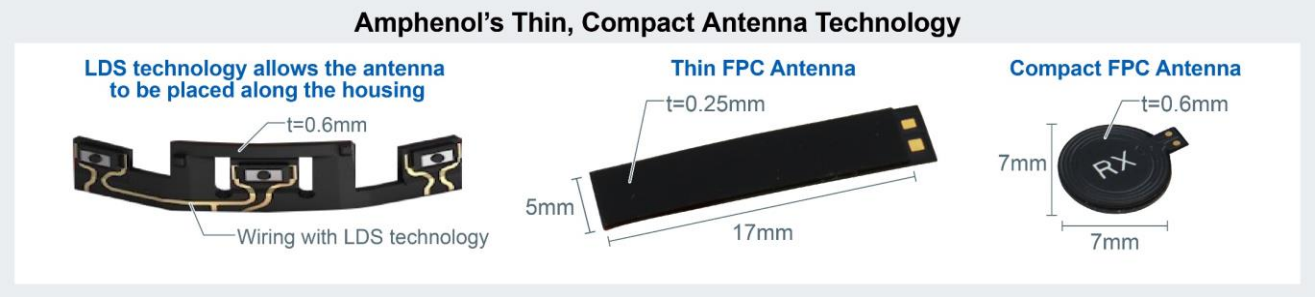
Sumihiro Takashima, President, LAPIS Technology Co., Ltd.
“We are honored to work with Amphenol, a leader in the antenna industry, to provide novel solutions to our customers. By combining with our products, we are confident that we can provide the most efficient solutions to meet the challenges facing the market.”



Overview of Each Company's Technologies

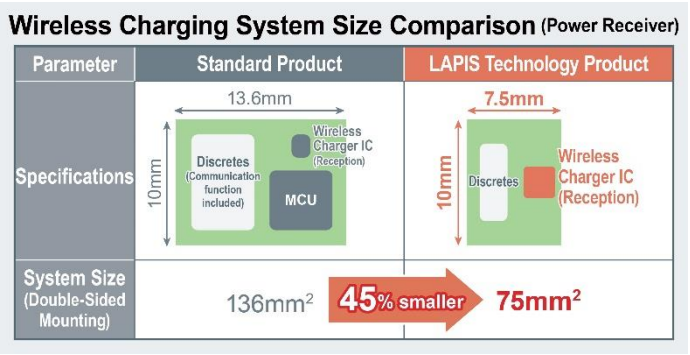
1. Amphenol's Antenna Technology

Amphenol's thin, compact antenna design is made possible through experience and expertise cultivated over many years. One key strength is the ability to propose antennas suitable for 3D enclosures, centered on LDS and FPC types. This makes it possible to place the antenna along the housing, which is difficult to achieve with PCB antennas. The result is not only improved design quality, but greater space savings that contributes to set miniaturization.



2. Wireless Charging Technology from LAPIS

LAPIS Technology's wireless charging chipsets incorporate the control circuitry necessary for transmitting and receiving power, leading to smaller system size along with shorter lead times by eliminating the need to develop MCU programs. What's more, using the 13.56MHz frequency band (same as NFC) for power transmission and reception supports even smaller antennas.



Company Descriptions

Shanghai Amphenol Airwave Communication Electronics Co., Ltd.

Shanghai Amphenol Airwave is an antenna manufacturing operation within Amphenol Corporation. Advanced technologies are used to develop, manufacture, and market antennas for many of the world's major digital device customers. Please visit the company website to learn more:
https://www.amphenol-mcp.com/

LAPIS Technology Co., Ltd.

ROHM Group LSI manufacturer LAPIS Technology develops MCUs along with a number of ICs for wireless communication, video, battery monitoring, and more. Our strengths lie in high-frequency circuit and digital/analog mixing technologies cultivated over many years together with an extensive track record in the wireless market. We have been leveraging these strengths to release products for the wireless charging market since 2018. Please visit the company website to learn more:
https://www.lapis-tech.com/en/

Terminology

Matching

Involves adjusting the transmission and receiving antennas to reduce energy loss. This requires technological expertise in antenna design and board layout.

Near Field Communication (NFC)

A short-range wireless communication technology that uses the 13.56MHz frequency band.

Laser Direct Structuring (LDS)

A process technology that allows antennas to be manufactured on 3D plastic. This eliminates the need for antenna components, making it ideal for smaller sets.

Antennas

PFC types are thinner, lighter, and more flexible than PCB antennas. PCB antennas are mounted directly on the printed circuit board (PCB). They can be integrated with electronic circuits to reduce manufacturing lead time.