

PRESS RELEASE

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Adjustable Multibeam Antenna improves reliability of RFID systems

Erlangen, Germany: RFID systems accelerate Industry 4.0 processes. The Fraunhofer Institute for Integrated Circuits IIS has developed a Multibeam Antenna that can be integrated into existing systems and improve their reliability. Fraunhofer IIS is offering companies the chance to test the antenna in individual use case scenarios as pilot users, starting in August 2017.

RFID technology does not require any contact to detect objects with electronic information tags, speeding up a variety of processes in production, logistics and retail. In cases that require high levels of object identification accuracy, a high-performance antenna is needed that is capable of capturing the information stored on the RFID transponders at any time.

Fraunhofer IIS has developed a Multibeam Antenna for such challenging scanning scenarios. Thanks to its nine directional beams the antenna provides high levels of accuracy when capturing data from transponders within its flexible read range. At the same time, it optimizes the reliability of RFID systems.

Reliable data capture and movement detection

“The antenna provides up to nine individual beams, allowing for directional reading of transponders,” explains Dr. Mario Schühler, Group Manager Antennas at Fraunhofer IIS. “This way, we achieve a higher read range and accuracy without mechanical adjustments of the antenna. As a result, we can be more specific about what RFID transponders we detect and read.”

Thanks to its flexibility, the Multibeam Antenna can replace several individual antennas installed in different locations. This lowers procurement costs and reduces the time and money spent on installation and maintenance.

Replacing standard antennas with the powerful Multibeam Antenna improves the accuracy of readings from RFID identification systems. Because the Multibeam Antenna can detect directional movement, it can distinguish, for example, between incoming and outgoing goods or between moving and stationary objects. This capability helps users of RFID systems to select which transponders to actually read.

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In addition, the antenna is optimized for bulk reading, meaning it can scan multiple transponders concurrently. With metal objects or liquid containers, too, the Multibeam Antenna achieves high rates of data capture.

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Simple integration into existing systems

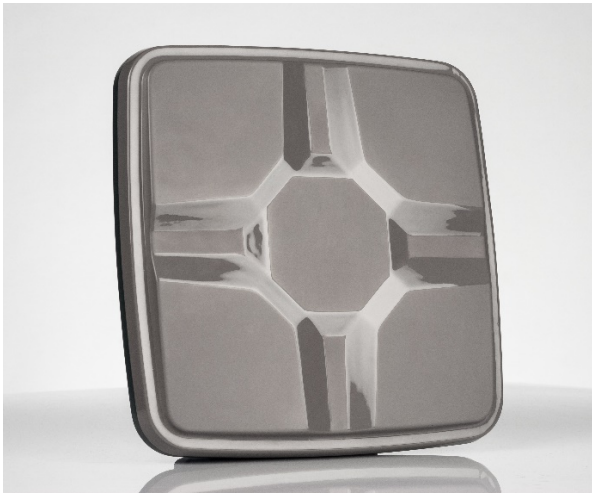
The antenna can be used in conjunction with standard readers and is easy to integrate into existing RFID systems. It is suitable for all ultra-high frequency applications and for both indoor and outdoor use. With its broadband frequency range of 860 to 960 MHz, the antenna meets international RFID standards and can be used worldwide. Switching to the Multibeam Antenna provides global companies with the opportunity to standardize their identification systems along the entire value chain.

Kickoff for pilot users in August 2017

The Multibeam Antenna can be operated anywhere electronic identification systems support processes for detecting, allocating and tracking materials, components and goods. RFID technology accelerates processes and increases the transparency of operations, especially in the retail, healthcare, automotive, electronics, logistics and transport, production and automation sectors.

Starting in August 2017, Multibeam Antennas from the first small-scale production batch will be available for pilot users to test its performance in practice. Pilot users also have the opportunity to actively shape the last stage of product tweaks in line with their requirements prior to the antenna's market launch.

Companies interested in testing the Multibeam Antenna in pilot applications can sign up now at communicationsystems@iis.fraunhofer.de.

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The Multibeam Antenna is suitable for use in harsh industrial environments.

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The **Fraunhofer Institute for Integrated Circuits IIS** is one of the world's leading application-oriented research institutions for microelectronic and IT system solutions and services. It ranks first among all Fraunhofer Institutes. With the creation of mp3 and the co-development of AAC, Fraunhofer IIS has reached worldwide recognition. In close cooperation with partners and clients the Institute provides research and development services in the following areas: Audio and Media Technologies, Imaging Systems, Energy Management, IC Design and Design Automation, Communications, Positioning, Medical Technology, Sensor Systems, Safety and Security Technology, Supply Chain Management and Non-destructive Testing. More than 900 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 13 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Bamberg, Waischenfeld, Coburg, Würzburg, Ilmenau and Deggendorf. The budget of 150 million euros is mainly financed by projects. 24 percent of the budget is subsidized by federal and state funds.

Detailed information on: www.iis.fraunhofer.de/en