**News Release**

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**Renesas Unveils First Family of Automotive Radar Transceivers with Industry’s Highest Accuracy and Lowest Power Consumption**

*RAA270205 4x4-channel, 76-81GHz Radar Transceiver Incorporates Technology Through Recent Acquisition of Steradian to Build Out Renesas’ ADAS Sensor Fusion Portfolio*

**MUNICH, Germany and TOKYO, Japan, November 16, 2022 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, is entering the automotive radar market with the introduction of a 4x4-channel, 76-81GHz transceiver designed to meet the demanding requirements of ADAS (advanced driver assistance systems) and Level 3 and higher autonomous driving applications. Leveraging automotive expertise accumulated through years of global customer engagements, Renesas will incorporate the new RAA270205 high-definition radar transceiver into its growing sensor fusion portfolio, which combines radar, vision systems, and other sensing modalities.

Designed in cooperation with [Steradian Semiconductors Private Limited](https://www.renesas.com/eu/en/about/press-room/renesas-acquire-steradian-expand-its-reach-radar-market), which Renesas acquired earlier this year, the RAA270205 is featured in a Renesas product showcase at electronica, Munich, Germany, November 15-18, 2022. The new transceiver MMIC (monolithic microwave integrated circuit) is especially suited for imaging radar, long-range forward-looking radar and 4D radar, but can also be used for corner and central-processing radar architectures, the so-called “satellite” automotive radar systems. Equipped with 4Tx and 4Rx channels, the RAA270205 supports up to 16 MIMO (multiple-input and multiple-output) channels. It can be cascaded to enable higher channel count and better radar resolution.

The RAA270205 features best-in-class accuracy with up to 5GHz of bandwidth, and a 112.5MSPS ADC (analog-to-digital converter) sampling rate that is nearly three times faster than competing devices. Power consumption of 1.2W is 50 percent lower than comparable transceivers and it delivers a noise figure of 9dB, which is 3dB less than other radar transceivers. Its superior chirp rate of up to 300MHz/µs improves radar resolution and object detection.

“Today’s radar transceiver MMICs must achieve higher definition to support the high-accuracy requirements of ADAS and autonomous driving safety platforms,” said **Vivek Bhan, Senior Vice President and Deputy General Manager of Renesas’ Automotive Solution Business Unit.** “Working in close collaboration with Steradian, which brings deep radar design expertise, we are expanding our sensor fusion offerings with a focus on functional safety and low power consumption to help our customers lower their development costs and improve time to market.”

**RAA270205 Winning Combinations**

Renesas has plans to combine the RAA270205 transceiver with other compatible devices from its portfolio to support automotive radar systems. These Winning Combinations will include the “[Satellite Radar System for AD/ADAS](https://www.renesas.com/application/automotive/adas-autonomous/satellite-radar-system-ad-adas)”, which will be available in Q2/2023. Renesas Winning Combinations are technically vetted system architectures from mutually compatible devices that work together seamlessly to bring an optimized, low-risk design for faster time to market. Renesas offers more than 300 Winning Combinations with a wide range of products from the Renesas portfolio to enable customers to speed up the design process and bring their products to market more quickly. They can be found at [renesas.com/win](https://www.renesas.com/eu/en/winning-combinations).

**Availability**The RAA270205 will be available in 1Q/2023 in sample quantities, with commercial production planned for 2024. The transceiver is available in a small, easy-to-integrate eWLB (embedded wafer-level ball-grid array) package, measuring only 7.6 x 5.6mm. It will be fully compliant with automotive industry requirements such as IATF 16949, AEC-Q100 Grade2 and ASIL B. More information about the product is available at:

<https://www.renesas.com/us/en/products/automotive-products/automotive-sensors/automotive-radar-sensors/raa270205-automotive-mmwave-radar-transceiver>.

A blog article, “[Radar Architecture: How to Connect Different Radar Sensors](https://www.renesas.com/eu/en/blogs/radar-architecture-how-connect-different-radar-sensors)” is also available on the Renesas website.

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) empowers a safer, smarter and more sustainable future where technology helps make our lives easier. A leading [global](https://www.renesas.com/about/company/profile/global.html) provider of microcontrollers, Renesas combines our expertise in embedded processing, analog, power and connectivity to deliver complete semiconductor solutions. These Winning Combinations accelerate time to market for automotive, industrial, infrastructure and IoT applications, enabling billions of connected, intelligent devices that enhance the way people work and live. Learn more at [renesas.com](http://www.renesas.com/). Follow us on [LinkedIn](https://www.linkedin.com/company/renesas/), [Facebook](https://www.facebook.com/RenesasElectronics/), [Twitter](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents) and [Instagram](https://www.instagram.com/renesas_global/).

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