**News Release**

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**Renesas Lays Out Wi-Fi Roadmap Based on Technology from Celeno Acquisition**

*Wi-Fi 6/6E and 7 Chipsets for Client and Access Points Solutions in Development, Including Unique Doppler Imaging Technology Combining Connectivity and Sensing*

**MUNICH, Germany and TOKYO, Japan, November 16, 2022 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, today unveiled plans to deliver a comprehensive set of advanced Wi-Fi offerings to complement its broad portfolio of Industrial and IoT products. Renesas completed its acquisition of Celeno last year and is leveraging that technology to address a wide range of Wi-Fi client and access point applications for Wi-Fi 6/6E and Wi-Fi 7.

Today, Renesas is delivering production volumes of high-performance Wi-Fi 6E access point solutions with its CL8000 family.

Renesas is also sampling a powerful, highly integrated, 2x2 Wi-Fi/BLE combo chip supporting Wi-Fi 6E tri-band switchable radio (6GHz, 5GHz & 2.4GHz), 160MHz channel bandwidth and up to 2.4Gbps Data Link Speed. The new low-latency, highly secure chipset includes Bluetooth and BLE 5.2 support, and addresses multimedia streaming applications, IoT gateways and cloud connected devices.

Renesas is also developing a Wi-Fi 6E chipset with unique, patented Wi-Fi Doppler Imaging technology. This Wi-Fi Radar technology depicts the range and doppler signature of people and objects using standard Wi-Fi signals. It eliminates the need for multiple cameras or sensors in home environments and commercial buildings. For example, it can be used to detect the presence and location of people in a room to redirect and optimize air-conditioning flows, saving on energy costs. Another example could be intrusion detection to secured facilities or connected cameras with motion sensing to activate the camera. The combined connectivity and sensing chip is currently scheduled for production in the next 18 months.

Wi-Fi 7, also known as Extremely High Throughput (EHT), will deliver significantly faster throughput by employing faster modulations and double the bandwidth. In the 6GHz band, Wi-Fi 7 would more than the double the maximum speed and will increase speeds in the 2.4GHz and 5GHz band by as much as 30 percent. More importantly, some prominent features of Wi-Fi 7 will improve network reliability, latency and user experience. For example, by delivering Multi Link Operation, devices would monitor multiple links across different bands and provide consolidated operation to optimize interference and retransmission avoidance. Users will benefit from more reliable networks and from lower and more predictable latency. Wi-Fi 7 is expected to launch in 2024 with early adoption in mobile phones, computers and networking devices. Broader adoption in IoT, industrial and consumer multimedia applications will follow.

Renesas’ Wi-Fi 7 offerings will include solutions for home networking, IoT, industrial and consumer multimedia devices.

“Many recent developments are converging to create an era of market revolution in residential and enterprise Wi-Fi,” says **Andrew Spivey, Industry Analyst at ABI Research**. “Driven by a desire to take advantage of the new 6 GHz spectrum, which offers the prospect of greatly improved throughput and latency as well as reduced congestion on legacy bands, penetration of 6 GHz into Wi-Fi devices will rise rapidly in coming years. Meanwhile, the flourishing of new forms of Wi-Fi value added services such as Wi-Fi motion detection and the adoption of Wi-Fi 7 access points will accelerate following the protocols standardization in 2024, and just two years later, most 6 GHz enabled access point shipments will be supporting Wi-Fi 7.”

“Renesas can now offer truly differentiated Wi-Fi solutions that provide maximum performance, security and cost-competitiveness in combination with our industry-leading MCU and MPU offerings,” said **Gilad Rozen, Celeno CEO and Vice President of Wi-Fi Connectivity in Renesas’ IoT and Infrastructure Business Unit**. “Our customers are pleased with the direction we have chosen, and we are confident that we will deliver the right products for the market at the right time.”

“In the past year, we have completed three acquisitions that significantly augment our ability to sustainably provide intelligence from the cloud to the endpoint,” said **Sailesh Chittipeddi, Executive Vice President and General Manager of the IoT and Infrastructure Business Unit of Renesas**. “With Wi-Fi solutions from Celeno, low-power connectivity solutions from Dialog and embedded AI solutions from Reality AI added to our industry-leading embedded computing, analog and sensor portfolio, Renesas now offers customers complete, end-to-end solutions that are second to none.”

**Winning Combinations**

Renesas offers numerous Winning Combinations that combine Wi-Fi 6 and 6E chipsets integrated with a broad range of solutions from Renesas, including embedded processing, analog, power, timing and connectivity products. These engineering-vetted Winning Combinations will span applications from a [High Throughput Wi-Fi 6 Router](https://www.renesas.com/application/communication-computing-infrastructure/wireless-network/high-throughput-wi-fi-6-router?utm_campaign=conn_wifi_6_6e&utm_source=press_release&utm_medium=press_release&utm_content=wc) for home gateways to a [Wireless IEEE 1588 Solution](https://www.renesas.com/application/communication-computing-infrastructure/enterprise-networking/wired-wireless-ieee-1588-solution#overview?utm_campaign=conn_wifi_6_6e&utm_source=press_release&utm_medium=press_release&utm_content=wc) for 5G networks. More Winning Combos with Wi-Fi 6 are under development, including a Video IP Phone, Smart Home Security Terminal, and expansion of the Renesas Quick-Connect IoT Platform to include a Wi-Fi 6 USB stick for users to rapidly build prototypes.

In addition, a new Quick-Connect Wi-Fi 6 and Bluetooth Low Energy 5.2 module will be released for IoT applications that need a high bandwidth, high performance Wi-Fi 6 Client with 2x2 MIMO. This fully integrated, RF-qualified module will feature a flexible footprint with both PCIe and USB interfaces, saving engineering time and streamlining procurement for faster time-to-market.

**More Information**

More information about Renesas’ Wi-Fi solutions is available at [www.renesas.com/products/interface-connectivity/wireless-communications/wi-fi/wi-fi-6-6e](http://www.renesas.com/products/interface-connectivity/wireless-communications/wi-fi/wi-fi-6-6e?utm_campaign=conn_wifi_6_6e&utm_source=press_release&utm_medium=press_release&utm_content=lp).

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live. A [global](https://www.renesas.com/about/profile/global) leader in microcontrollers, analog, power, and SoC products, Renesas provides comprehensive solutions for a broad range of automotive, industrial, infrastructure, and IoT applications that help shape a limitless future. Learn more at [renesas.com](https://www.renesas.com/). Follow us on [LinkedIn](https://www.linkedin.com/company/renesas/), [Facebook](https://www.facebook.com/RenesasElectronics/), [Twitter](https://twitter.com/renesasglobal), and [YouTube](https://www.youtube.com/user/RenesasPresents).

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