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TALK TO US

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Renesas Launches Portfolio of Automotive Radar Transceivers

Renesas Electronics Corp. is entering the automotive radar market with the introduction of a 4×4-channel, 76-81GHz transceiver designed to meet the demanding requirements of advanced driver assistance systems (ADAS) and Level 3 and higher autonomous driving applications.

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Helping Shell, and Others, Get EV Charging Going

Until recently, conventional wisdom said that the power grids in the U.S. and Europe have plenty of capacity to meet the anticipated demand increase from electric vehicle (EV) charging.

Once EVs are being used in large scale, however, experience in countries, such as the Nordics and the Netherlands, shows that EV charging has a major impact on the grid. Today's U.S. grid is not ready for shifting the transportation energy that is now consumed in gas stations to homes and workplaces.

The good news is the EV-charging ecosystem is smart, resilient and even bi-directional. Its many technological advances can better balance energy demand, reduce the investment that will be required in power generation and even help increase the use of renewables.

British Telecom, Others Adopt New IP Network Tech

IP networks provide the connectivity fabric of our digital world and are essential for fostering a more sustainable future. They enable us to communicate better and commute less. Large investments are made in fiber access, 5G radio, and low-Earth orbit satellites to connect the unconnected and bridge the digital divide. Hyperscale data centers are popping up around the globe.

As the access bottlenecks widen and the floodgates open, vast amounts of data can make their way to the cloud. The only thing standing in between is the IP network. The capacity needed to fuel the growth of broadband internet, 5G, and the metaverse cloud is significant. As traffic demand keeps growing exponentially, the cost per bit to deliver that traffic must decrease to an inversely proportional factor for the economics to not break down.

TSMC To Produce 3-Nanometer Chips At Its Arizona Factory

TSMC founder Morris Chang said today that the semiconductor giant and Apple supplier will build 3-nanometer chips at its factory in Arizona, though final plans are not ready yet. The factory is currently under construction, with plans to begin production in 2024.

During a press conference in Taipei, Chang said "three-nanometer, TSMC right now has a plan, but it has not been completely finalized," Reuters reports. "It has almost been finalized— in the same Arizona site, phase two. Five-nanometer is phase one, 3-nanometer is phase two."

On its website, TSMC says its 3-nanometer tech, called N3, will be a full node stride from its 5-nanometer technology and will offer up to 70% logic density gain, up to 15% speed improvement at the same power, and up to 30% power reduction at the same speed when compared to its predecessor. It is targeting volume technology in the second half of this year.

STMicroelectronics NFC Chip Eases Certification of Digital Car-key Systems

STMicroelectronics has launched the ST25R3920B, the latest generation of its automotive-qualified NFC reader ICs for Car Connectivity Consortium (CCC) digital-key applications. Used in car-door and center-console locations for keyless entry and starting, as well as Qi wireless-charging control and smartphone pairing, the ST25R3920B features increased performance and eases product certification.

The chip comes with ST's unique Heartbeat algorithm for NFC card protection on Wireless Power Consortium (WPC) applications, which can differentiate between an NFC card and a smartphone in card-emulation mode. This ensures phones can charge while cards stay protected.

Renesas Launches Portfolio of Automotive Radar Transceivers

Renesas Electronics Corp. is entering the automotive radar market with the introduction of a 4×4-channel, 76-81GHz transceiver designed to meet the demanding requirements of advanced driver assistance systems (ADAS) 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 Ltd, which Renesas acquired earlier this year, the RAA270205 was featured in a Renesas product showcase last week at electronica 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.