Press Release
SolidRun Unveils High-Performance 64-Bit Renesas RZ/G2 Based SOMs with Integrated GPU for Next-Gen Human-Machine Interfaces

Ideal for automation, smart buildings, network cameras, and IoT devices, SolidRun RZ/G2 SOMs combine a powerful MPU, GPU, extended ECC, Ethernet, and offer long-term Linux software support

NUREMBERG, GERMANY AND TEL AVIV, ISRAEL, June 20, 2022 – Today at Embedded World 2022, **SolidRun**, a leading developer and manufacturer of high-performance system-on-module (SOM) solutions, single-board computers (SBC) and network edge solutions, announced a new line of efficient and powerful system-on-module solutions based on the RZ/G2 family of SOCs from Renesas. As the first product to emerge from this exciting partnership, these new SOMs are uniquely engineered and positioned as an ideal foundation for AI-enhanced human-machine-interface (HMI) applications, industrial and building automation, video surveillance, IoT solutions and more.

"We developed our RZ/G2 family of general-purpose microprocessors to serve a variety of entry-level HMI products, while giving much thought to lowering systems costs and maximizing performance and overall capabilities," said Frank Urbe, Senior Manager, SST EMEA at Renesas Electronics Europe. "We're excited to work with SolidRun to bring a new line of SOMs based on our RZ/G2 family of MPUs to market. These compact SOMs are sure to help customers quickly take advantage of the many unique benefits of our powerful and cost-effective MPUs and will shave months of development time off roadmaps."

Equipped with all necessary power, memory and I/O subsystems for expedited development, these SOMs take advantage of the RZ/G2LC MPU's powerful 64-bit Cortex-A55 processor cores, that can deliver 20 percent greater processing power over conventional Cortex-A53 core processors running at the same frequency. With an integrated Arm® Mali™-G31 3D GPU, these SOMs also offer excellent image processing capabilities without tasking the CPU. The embedded GPU also adds value for its advanced AI inference execution processing capabilities, which clock in nearly six-times faster than what

is possible with Cortex-A53 processor-equipped devices.

Combining the embedded GPU, AI inference capabilities and hardware H.264 codec, with an embedded camera and display interface makes this SOM an excellent platform for intercoms, video doorbells, network cameras, handheld POS systems, and more.

Designed with small form factor devices like video doorbells and powered IP cameras in mind, this new SOM maintains a tiny footprint measuring just 47 x 30mm. This SOM also offers pin-to-pin compatibility with SolidRun's NXP i.MX8 Mini SOM, offering customers options when specifying hardware for IoT, building automation, security, and other applications. Because it is pin-to-pin compatible with the i.MX8 Mini SOM, customers can pair the new RZ/G2 SOM with the feature-rich Hummingboard Pulse carrier board for expedited prototyping and product development.

"Network security cameras, video doorbells, smart office controllers, and more all require a few things in common - a powerful processor, image and video processing capabilities, a fast network connection, and varying levels of AI inference processing support," said Dr. Atai Ziv, CEO at SolidRun. "Working with Renesas, we've developed an affordable and surprisingly potent module based on their RZ/G2 line of MPUs that not only satisfies these requirements but adds serious value-adding capabilities for the price point. Furthermore, these new SOMs are pin-to-pin compatible with other SOMs we offer, which provides customers new platform options to consider for their products."

Since many of the industrial and automation applications that this SOM targets require a lot of time between development and release, and since these products tend to remain in operation for many years, long-term software support is a necessity. Renesas RZ/G2 MPUs adopt the Linux kernel provided by the Civil Infrastructure Platform (CIP) and provide the verified Linux Package (VLP) on the CIP Linux kernel to greatly reduce Linux maintenance required by customers. This ensures Linux software that drives devices based on the RZ/G2 platform will maintain long-term support for many years to come.

Available today, the RZ/G2LC SOM, the first SOM from SolidRun based on the RZ/G2 family of MPUs from Renesas, starts at $67 USD. Customers can order these products today at www.solid-run.com. To help expedite the development process, customers will be provided with an optimized board support package, stable long-term support for select software distributions, access to SolidRun's support tools and sample source code.

For more information about the RZ/G2 family of SOMs, please visit:
https://www.solid-run.com/embedded-industrial-iot/renesas-rz-family/rz-g2lc-som/#overview

About SolidRun

SolidRun is a global leading developer of embedded systems and network solutions, focused on a wide range of energy-efficient, powerful, and flexible products. Our innovative compact embedded solutions are based on ARM and x86 architecture and offer a variety of platforms including SOMs (System-on-Module), SBCs (Single Board Computer) and industrial mini-PCs.

SolidRun offers a one-stop-shop for developers and OEMs, providing a complete service from hardware customization to software support and even product branding and enclosure design. With a mission to simplify application development while overcoming deployment challenges, SolidRun proudly provides customers faster time-to-market and lower costs.

Specifications for SolidRun's RZ/G2LC Computer on Module solutions include:

	SolidRun RZ/G2LC SOM
CPU Details	2 x Cortex A55
	1 x Cortex M33
CPU Speed	1.2GHz
Floating Point	✔
SIMD	✔
RAM	1GB DDR4 with inline ECC
Internal Storage	8GB eMMC
	QSPI
External Storage Support	SD (*)
	USB 2.0 (*)
Ethernet	100BASE-T
Wireless	802.11 a/b/g/n + BT 4.2
GPU	Arm Mali-G31
3D GPU Support	OpenGL/CL 2.0
Display Interfaces	1 x MIPI-DSI
Camera Interface	1 x MIPI-CSI-2
Digital Audio Serial Interface	1
USB 2.0	2
I2C	3
SPI	2
UART	3
GPIO	✔
PWM	✔
CAN	2