

VSRVES01 - Linux-Capable RISC-V/VSDSP6 System-on-a-Chip

VLSI Solution announces VSRVES01, first prototype for an all-new 32-bit RISC-V and VSDSP6 hybrid SoC family, intended for Internet audio and IoT applications.

TAMPERE, PIRKANMAA, FINLAND, May 28, 2025 /EINPresswire.com/ -- VLSI Solution announces VSRVES01, VLSI Solution's first prototype for an all-new 32-bit RISC-V and VSDSP6 hybrid SoC family, intended for Internet audio and IoT applications.

VSRVES01 is a low-power, Linuxcapable, mixed-signal SoC that has two different cores suited for different tasks: a RISC-V core for running Linuxbased protocols, and a VSDSP6 core for real-time signal processing tasks. VSRVES01 also contains a high-quality audio ADC and DAC, Ethernet, and other peripherals.

<u>The VSRV1 RISC-V core</u>, developed by VLSI Solution in <u>Tristan</u> and SocHub



projects, is capable of running stock Linux. Linux boot time, including Ethernet networking, is only 2.6 seconds. As a speciality, Linux can be rebooted without interruption of audio playback.

The 72/32-bit VSDSP6 core can run VLSI Solution's pre-emptive multitasking real-time operating system VSOS, freeing the RISC-V core from real-time loads. VSDSP6 also acts as the boot processor of the SoC. It can boot and load Linux from an SD card in less than 4 seconds, leading to a total cold boot time of about 6 seconds at 98 MHz.

In addition to decoding and playing audio, VSDSP6 can process signals like sensory data (IoT), or

run audio DSP functions, like a highquality equalizer, pitch shifter, AEC, etc. A necessary but often neglected feature, VSRVES01 has an audio sample rate converter capable of adjusting the sample rate on the fly with an accuracy of 0.01 Hz, making playback of Internet audio smooth and non-clicky.

VSRVES01 is well-suited for applications like PA and emergency systems with a large number of speakers, low-delay PoE Speakers, IoT



devices with data collection and sensor signal processing, VoIP systems, Network or Web interface audio players, and much more.

VSRVES01 is offered in a 10x10x0.75mm QFN-88 package.

VSRVES01 engineering samples and VSRVES01 demonstration boards are available now in small quantities.

More information, including the datasheet for VSRVES01 and an expanding collection of other free developer documentation, is available at <u>https://www.vlsi.fi/en/products/vsrves01.html</u>.

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