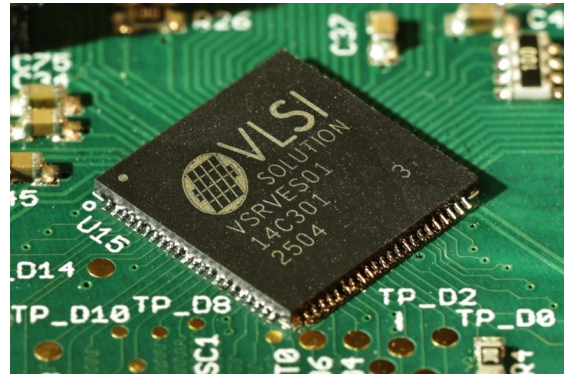


## VSRVES01 - Linux-Capable RISC-V/VSDSP<sup>6</sup> System-on-a-Chip

Tampere, Finland, 28th May 2025 - [VLSI Solution](#) announces VSRVES01, VLSI's first prototype for an all-new 32-bit RISC-V and VSDSP<sup>6</sup> hybrid SoC family, intended for Internet audio and IoT applications.

[VSRVES01](#) is a low-power, Linux-capable, mixed-signal SoC that has two different cores suited for different tasks: a RISC-V core for running Linux-based protocols, and a VSDSP<sup>6</sup> core for real-time signal processing tasks. VSRVES01 also contains a high-quality audio ADC and DAC, Ethernet, and other peripherals.



The [VSRV1](#) RISC-V core, developed by VLSI Solution in [Tristan](#) 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 VSDSP<sup>6</sup> core can run VLSI Solution's pre-emptive multitasking real-time operating system VSOS, freeing the RISC-V core from real-time loads. VSDSP<sup>6</sup> 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, VSDSP<sup>6</sup> can process signals like sensory data (IoT), or run audio DSP functions, like a high-quality 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 <https://www.vlsi.fi/en/products/vsrves01.html>



### About VLSI Solution

*VLSI Solution is an established Finnish IC designer and manufacturer. Within its over 30-year existence VLSI has built an extensive in-house IP library and has the capability to pull through complicated mixed-signal IC projects, ranging from digital audio to RF applications.*



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