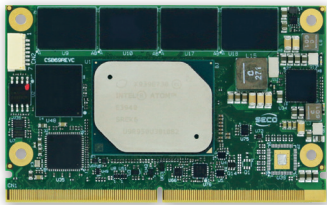




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SMARC® Rel. 2.1.1 module with Intel® Atom™ X Series, Intel® Celeron® J / N Series and Intel® Pentium® N Series (formerly Apollo Lake) Processors

High performance, low power and feature-rich



HIGHLIGHTS

CPU Intel® Atom™ X Series, Intel® Celeron® J / N Series and Intel® Pentium® N Series (formerly Apollo Lake) Processors	CONNECTIVITY 2x GbE; 2x USB 3.0; 6x USB 2.0; 4x PCI-e
GRAPHICS Intel® HD Graphics 500 series controller with up to 18 Execution Units	MEMORY Dual Channel Soldered Down LPDDR4-2400 memory

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



FEATURES

Processor Intel® Atom™ x7-E3950 Quad Core @1.6 GHz (Burst 2.0GHz), 2MB L2 Cache, 12W TDP Intel® Atom™ x5-E3940 Quad Core @1.6 GHz (Burst 1.8GHz), 2MB L2 Cache, 9.5W TDP Intel® Atom™ x5-E3930 Dual Core @1.3 GHz (Burst 1.8GHz), 2MB L2 Cache, 6.5W TDP Intel® Pentium® N4200 Quad Core @1.1GHz (burst 2.5GHz), 2MB L2 Cache, 6W TDP Intel® Celeron® N3350 Dual Core @1.1GHz (burst 2.4GHz), 2MB L2 Cache, 6W TDP Intel® Celeron® J3455 , Quad Core @ 1.5GHz (Burst 2.3GHz), 2MB L2Cache, 10W TDP Intel® Celeron® J3355 , Dual Core @ 2.0GHz (Burst 2.5GHz), 2MB L2Cache, 10W TDP	PCI-e 4 x PCI-e Root Ports
Max Cores 4	Audio HD Audio interface I2S Audio interface
Memory Single- / Dual- / Quad- Channel Soldered Down LPDDR4-2400 memory, up to 8GB	Serial Ports 2x 2-wire HS-UARTs 2x 4-wire UARTs
Graphics Up to 3 independent displays Integrated Intel® HD Graphics 500 / 505 HD Graphics controller, with up to 18 Execution Units 4K HW decoding and encoding of HEVC(H.265), H.264, VP8, SVC, MVC	Other Interfaces Up to 14x GPIOs I2C Bus SM Bus 1x SPI interfaces LPC Bus FAN management Optional TPM 1.2 / 2.0 Power Management Signals
Video Interfaces eDP interface or Dual Channel 18/24bit LVDS interface through eDP-to-LVDS bridge HDMI or DP++ interface DP++ interface 2 x CSI interfaces	Power Supply +5V _{DC} and +3.3V _{RTC}
Video Resolution HDMI, eDP up to 3840 x 2160 (4K) DP++ Up to 4096 x 2160 LVDS Up to 1920 x 1200	Operating System Microsoft® Windows 10 Enterprise (64 bit) Microsoft® Windows 10 IoT Core Linux Yocto Android
Mass Storage 1 x external S-ATA Gen3 Channel SD interface Optional eMMC 5.0 drive soldered on-board	Operating Temperature* 0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
Networking Up to 2 x Gigabit Ethernet interfaces Intel® I210 or I211 Controller (MAC + PHY)	Dimensions 50 x 82 mm
USB 6 x USB 2.0 Host Ports 2 x USB 3.0 Host Ports	*Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.

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BLOCK DIAGRAM

