

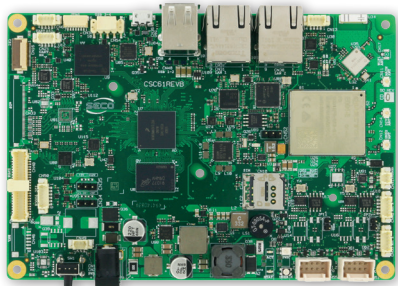
Single Board Computer



ASTRID

3.5" SBC with NXP i.MX 8M Mini Processors

Heterogeneous Multi-core Processing Architecture for edge node computing and multimedia



HIGHLIGHTS

CPU
NXP i.MX 8M Mini Family

CONNECTIVITY
Up to 2x GbE; opt Wifi; up to 2x RS-232 or RS-485 or CAN; opt LTE Cat4 Modem with SIM slot or eSIM

GRAPHICS
GC320 2D accelerator + GCNanoUltra 3D accelerator

MEMORY
Soldered on-board LPDDR4-3000 memory, up to 4GB



MAIN FIELDS OF APPLICATION



Edge Computing



Multimedia devices



Visual Computing

FEATURES

Processor	NXP i.MX 8M Mini Family based on Arm® Cortex®-A53 cores + general purpose Cortex®-M4 400MHz processor: <ul style="list-style-type: none"> i.MX 8M Mini Quad – Full featured, 4x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Dual – Full featured, 2x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Solo – Full featured, 1x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Quad Lite –4x Cortex®-A53 cores up to 1.8GHz, no VPU i.MX 8M Mini Dual Lite –2x Cortex®-A53 cores up to 1.8GHz, no VPU i.MX 8M Mini Solo Lite –1x Cortex®-A53 cores up to 1.8GHz, no VPU 	Networking	2x GbEthernet interfaces (1 optional) Optional shielded ultra-small dual Band WiFi 802.11 a/b/g/n/ac with Bluetooth 5.0 module onboard Optional soldered on-board LTE Cat 4 Modem with microSIM slot or Telenor eSIM with 5MB Bundle
Max Cores	4+1	USB	2x USB 2.0 Host ports on Type-A socket 2x USB 2.0 Host ports on internal pin header 1x USB Host or client port on micro-AB connector (interface shared with the optional on-board modem)
Memory	Soldered-down LPDDR4 memory, up to 4GB total, 32-bit interface	Audio	Digital Mic In connector (2x PDM inputs) Amplified mono Speaker Output
Graphics	GC320 2D accelerator + GCNanoUltra 3D accelerator Embedded VPU (not for Lite processors), able to offer: <ul style="list-style-type: none"> VP9, HEVC/H.265, AVC/H.264, VP8 HW Decoding AVC/H.264, VP8 HW encoding OpenGL ES 2.0, OpenVG 1.1 support	Serial Ports	Up to 2x RS-232 or RS-485 or CAN Serial ports (factory options, shared with GPIOs and SPI interfaces) 2x Debug UARTS
Video Interfaces	LVDS Single/Dual Channel connector or eDP connector (factory alternatives) MIPI-CSI Camera interface connector	Other Interfaces	I/O Connectors with: <ul style="list-style-type: none"> 2xPWM @3.3V GP I2C interface @3.3V 1x Open Drain output (max 12V, 250mA) 2x GPIOs @3.3V 1xRS-232 or 1x RS-485 or 4x GPIOs / 1x UART or 1x CAN (factory options) 1xRS-232 or 1x RS-485 or 4x GPIOs / 1x UART or 1x CAN + on-board ultra-low power RTC (factory options) Watchdog Dedicated connector for I2C Touch Screen Controller Support Onboard Buzzer (Comm. temp. range only) Optional Ultra Low Power RTC
Video Resolution	Up to 1920x1080p60, 24bpp	Power Supply	+12V _{DC} ÷ +24V _{DC}
Mass Storage	Optional eMMC 5.1 drive on-board, up to 64GB MicroSD slot 2Kb I2C Flash QSPI Flash		



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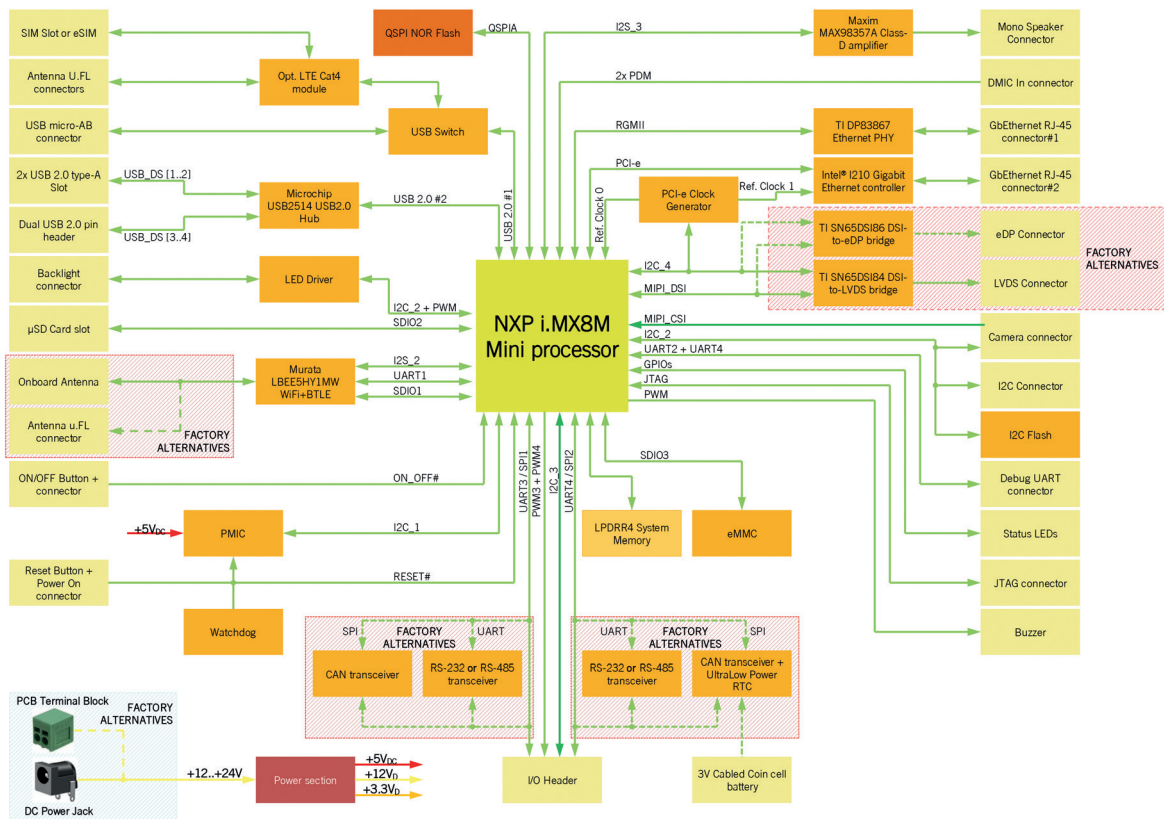
3.5" SBC with NXP i.MX 8M Mini Processors

FEATURES

Operating System	Yocto Android (planned)
Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (industrial version, limited to -30°C ÷ +85°C with WiFi/BT module on-board)
Dimensions	146x102 mm (3.5" form factor)

* Measured at any point of SECO standard heatsink 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.

BLOCK DIAGRAM



Information subject to change. Please visit www.edge.seco.com to find the latest version of this datasheet.

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