SBC
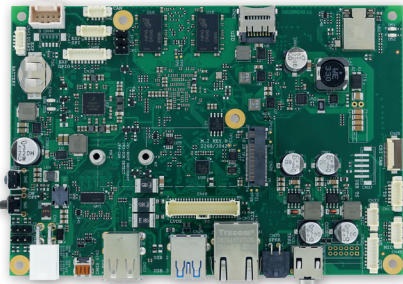
SBC-3.5-MX8M
3.5" SBC with NXP i.MX 8M Applications Processors

A new generation of cost effective solutions for multimedia and industrial IoT applications

early access

HIGHLIGHTS

CPU
NXP i.MX 8M Family

CONNECTIVITY
WiFi ac/a/b/g/n + BT LE 5; M.2 WWAN slot; microSIM slot for M.2 modem

GRAPHICS
Vivante GC7000Lite GPU

MEMORY
Soldered down DDR3L memory

Available in Industrial Temperature Range

GOLD PARTNER NXP

ANDROID   Linux

MAIN FIELDS OF APPLICATION

Medical   Industrial Automation   Smart Devices   Digital Signage
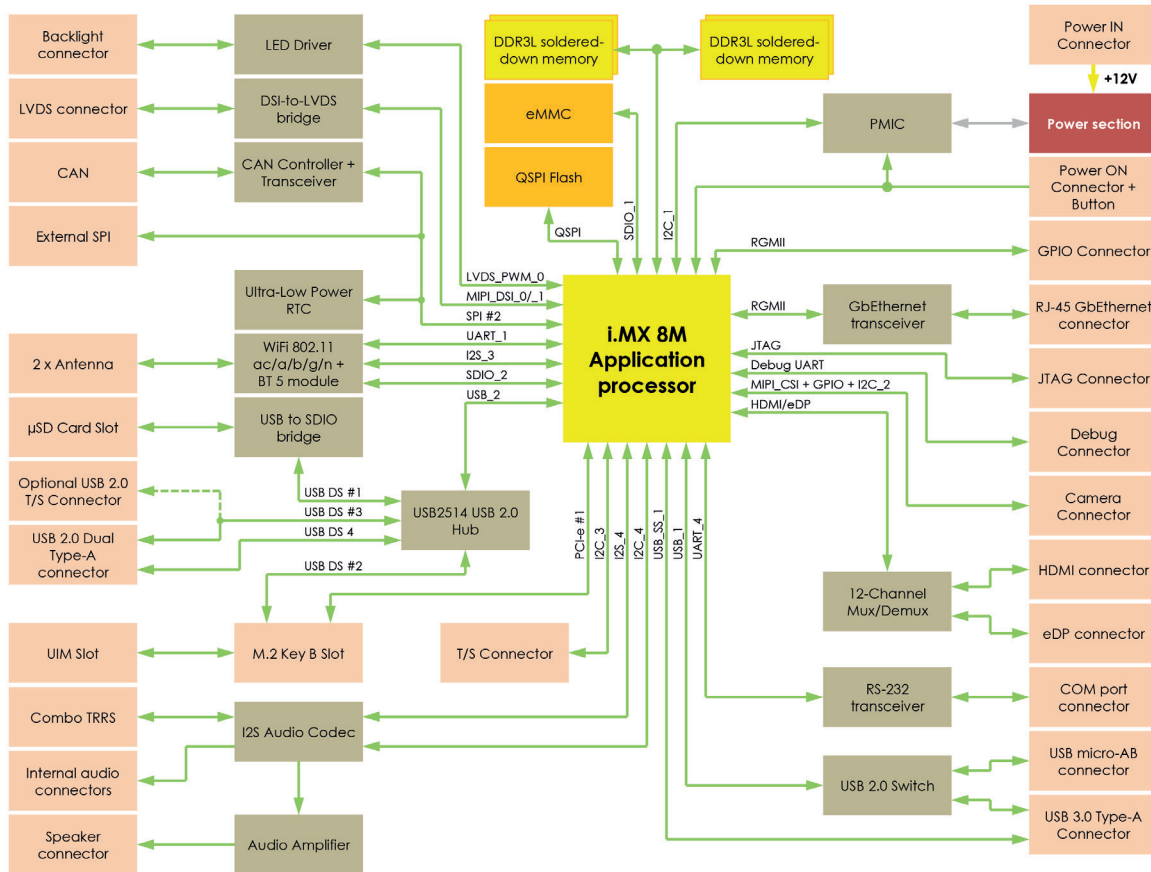
FEATURES

Processor	NXP i.MX 8M Family, based on Arm® Cortex®-A53 MPCore + Cortex-M4 core platform: **i.MX 8M Quad** - Quad core up to 1.5GHz **i.MX 8M QuadLite** - Quad core up to 1.5 GHz per core **i.MX 8M Dual** - Dual core up to 1.5 GHz per core	**Audio**	I2S Audio Codec Speaker + Microphone + Earphone interfaces on internal pin headers Line Out + Mic In combo TRRS audio jack Optional 10W for channel amplified Speaker connector
Memory	Soldered down DDR3L memory, up to 2GB	**Serial Ports**	RS-232 Serial port connector Debug UART on internal pin header CAN Port
Graphics	Vivante GC7000Lite GPU, supporting OpenGL ES 1.1 / 2.0 / 3.0 / 3.1, Open CL 1.2 and Vulkan Dedicated VPU (not for QuadLite), supporting 4Kp60 HEVC/H.265 main and main 10 decoder, 4Kp60 VP9 decoder, 4Kp30 AVC/H.264 decoder, 1080p60 MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263 decoder Dual Display support	**Other Interfaces**	microSIM slot for M.2 modems SPI interface I2C Touch Screen dedicated connector 8 x GPI/Os connector SPI Connector
Video Interfaces	embedded Display Port 1.4 connector (switched with HDMI®) Optional LVDS interface Optional HDMI® 1.4 / 2.0a interface (switched with eDP) 4-lane MIPI_CSI Camera interface	**Power Supply**	+12V$_{DC}$ Coin cell battery for RTC
Video Resolution	HDMI®, eDP: up to 4096x2160 LVDS: up to 1920x1080	**Operating System**	Linux Android
Mass Storage	Optional eMMC drive on-board, up to 16GB microSD Card slot	**Operating Temperature***	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (industrial version, only boards without optional WiFi module)
Networking	Optional WiFi ac/a/b/g/n + BT 5 module with onboard U.FL antenna connectors Gigabit Ethernet port M.2 Socket 2 2260 / 3042 Key B slot for WWAN modules (modem)	**Dimensions**	101.6 x 147 mm (4" x 5.78")
USB	USB Device on USB 2.0 micro-AB connector (interface shared with USB 3.0 port) USB 3.0 Type-A connector (interface shared with USB 2.0 micro-AB) USB 2.0 Dual Type-A connector Optional USB 2.0 internal T/S connector (excludes one USB 2.0 Type-A interface)		

*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.

SECO   www.seco.com

BLOCK DIAGRAM

Backlight connector

LVDS connector

CAN

External SPI

Ultra-Low Power RTC

2 x Antenna

μSD Card Slot

Optional USB 2.0 T/S Connector

USB 2.0 Dual Type-A connector

UIM Slot

Combo TRRS

Internal audio connectors

Speaker connector

LED Driver

DSI-to-LVDS bridge

CAN Controller + Transceiver

WiFi 802.11 ac/a/b/g/n + BT 5 module

USB to SDIO bridge

USB DS #1
USB DS #3
USB DS 4
USB DS #2

USB2514 USB 2.0 Hub

M.2 Key B Slot

T/S Connector

I2S Audio Codec

Audio Amplifier

DDR3L soldered-down memory

DDR3L soldered-down memory

eMMC

QSPI Flash

QSPI
SDIO_1
I2C_1

LVDS_PWM_0
MIPI_DSI_0/_1
SPI #2
UART_1
I2S_3
SDIO_2
USB_2

i.MX 8M Application processor

RGMII
JTAG
Debug UART
MIPI_CSI + GPIO + I2C_2
HDMI/eDP

PCIe #1
I2C_3
I2S_4
I2C_4
USB_SS_1
USB_1
UART_4

RGMII

GbEthernet transceiver

12-Channel Mux/Demux

RS-232 transceiver

USB 2.0 Switch

Power IN Connector

+12V

PMIC

Power section

Power ON Connector + Button

GPIO Connector

RJ-45 GbEthernet connector

JTAG Connector

Debug Connector

Camera Connector

HDMI connector

eDP connector

COM port connector

USB micro-AB connector

USB 3.0 Type-A Connector

272.23

Streamline and expedite your edge computing implementations

EDGEHOG OS

A flexible operating system that adapts to your needs, thanks to the customization tool and Docker support. Reliability and security are built-in through a dual-partition system and native integration with Exein's robust AI-based protection.

DEVICE MANAGER

Update, configure, and manage remote devices. Optimize time and costs to maximize operational efficiency and security without the need for costly field interventions.

DATA ORCHESTRATION

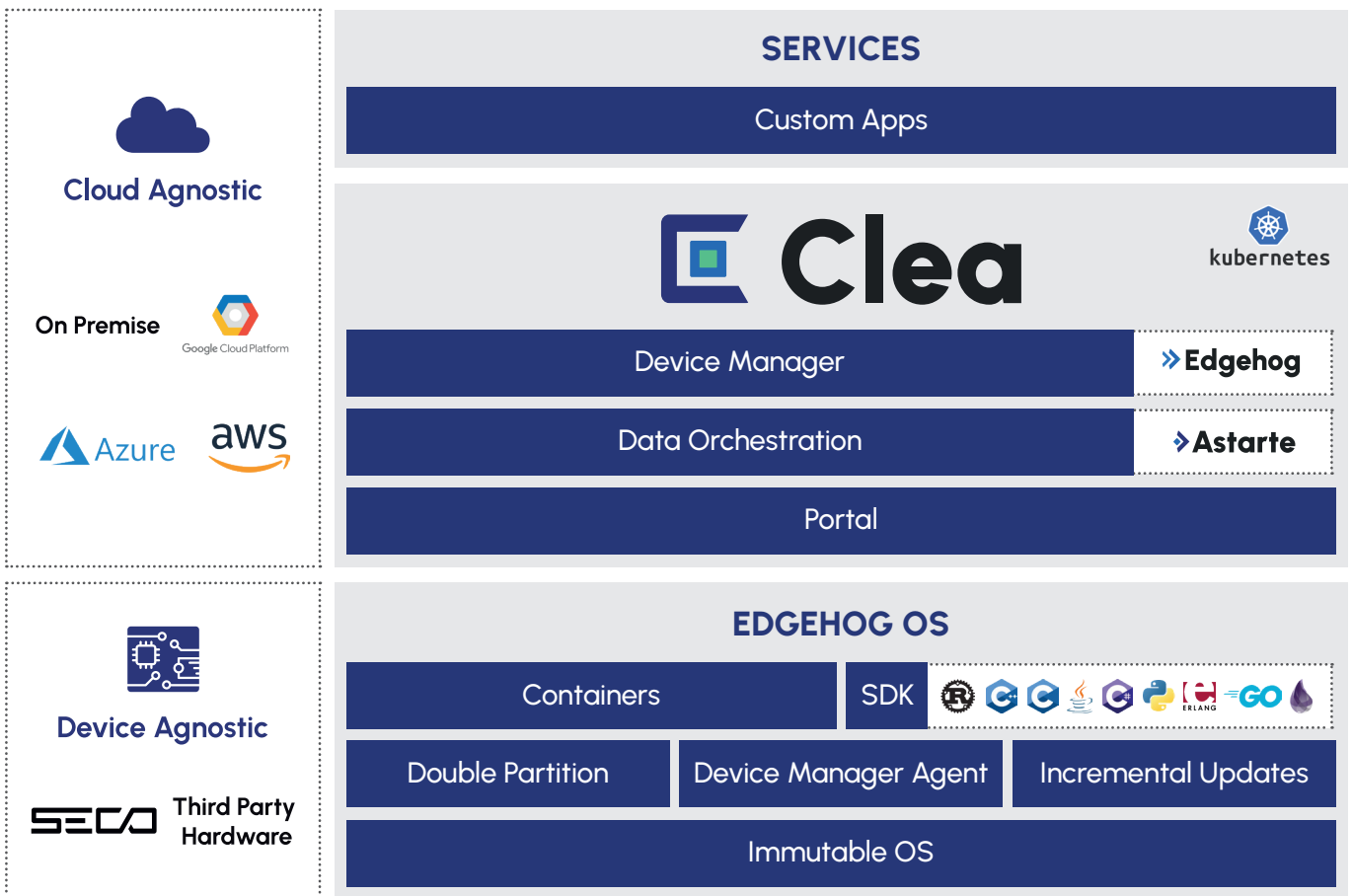Integrate third-party services, simplify data flows and analysis, and enhance business efficiency by enabling easy and fast utilization of AI.

PORTAL

Analyze data from remote devices, customize the user experience with applications tailored to user needs, and manage user rights, company access, and tenant privileges.

Cloud Agnostic

On Premise — Google Cloud Platform

Azure — aws

Device Agnostic

SECO — Third Party Hardware

SERVICES

Custom Apps

Clea

kubernetes

Device Manager — Edgehog

Data Orchestration — Astarte

Portal

EDGEHOG OS

Containers | SDK

Double Partition | Device Manager Agent | Incremental Updates

Immutable OS

Scan to know more about our solution

EDGEHOG OS

CLEA DOCS

SECO

www.seco.com