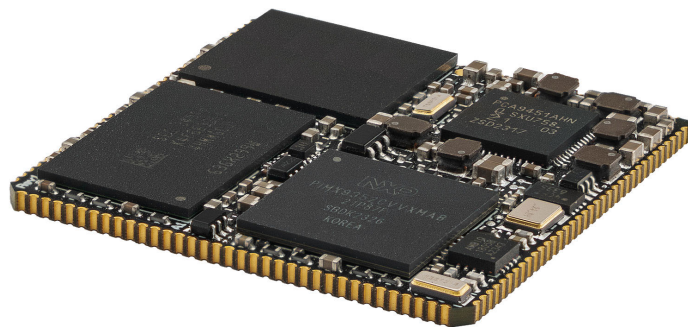![anders logo]

System on Module
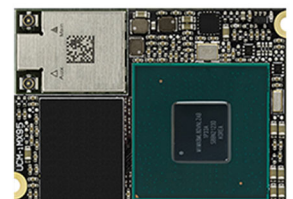## UCM-iMX95

Datasheet v1.0

UCM-iMX95 is based on NXP's very latest iMX95 processor, providing high performance graphics and image processing and optimised for industrial applications.

i.MX95 processors offer up to 6 ARM Cortex®-A55 cores for robust application processing and ARM-Cortex-M7 and Arm Cortex-M33 co-processors for real-time and low-power tasks. Featuring integrated powerful 2D/3D GPU for high-end graphics applications and eIQ® Neutron NPU which delivers for efficient machine learning inferencing.

Measuring just 28 x 40 x 5mm, the UCM-iMX95 offers LVDS, MIPI-DSI and MIPI-CSI interfaces, capacitive touchscreen support, WiFi and Bluetooth, extensive I/O options and a wide operating temperature range of -40°C to +85°C.

Key Features:

- ARM Cortex-A55 CPU, 2.0GHz up to 6 cores
- Integrated AI/ML eIQ® Neutron NPU
- Real-time ARM Cortex M7+ ARM Cortex M33 co-processor
- Up to 16GB LPDDR5 and 128GB eMMC
- LVDS, MIPI-DSI, MIPI-CSI
- GbE, 10 GbE, WiFi, BT, 2x USB, 5x CAN, 8x UART, 2x PCIe
- Operating temperature: -40°C to +85°C

UCM-iMX95

CPU Core, Memory & Storage

Note:
- "Option" column specifies the configuration code required to have the feature.
- "+" means that the feature is always available.

Feature	Specification	Option
CPU	NXP i.MX95, ARM Cortex-A55 up-to 6x cores, 2.0GHz	C
GPU	ARM Mali GPU Open GL® ES3.2, Vulkan® 1.2, OpenCL™ 3.0	+
VPU	4k video decode and encode	+
NPU	eIQ® Neutron NPU	+
Real-Time Coprocessor	ARM Cortex-M7 + ARM Cortex-M33, 250Mhz	+
RAM	2GB-16GB, LPDDR5	D
Storage	eMMC flash, 16GB – 128GB	N

Display, Camera & Audio

Feature	Specification	Option
Display	MIPI-DSI, 4 data lanes, up to 4kp30 or 3840x1440p60	+
	LVDS, 2x4 lanes or 1x8 lane, up to 1080p60	+
Touchscreen	Capacitive touch-screen support through SPI and I2C interfaces	+
Camera	2x MIPI-CSI, 4 data lanes	+
Digital Audio	Up-to 5x I2S / SAI	+
	S/PDIF input/output	+

Network

Feature	Specification	Option
Ethernet	Gigabit Ethernet port (MAC + PHY)	E
	Secondary RGMII	+
10 Gbit Ethernet	10GbE MAC	+
WiFi	Certified 802.11ax WiFi	WB
Bluetooth	Bluetooth 5.3 BLE	WB

UCM-iMX95

I/O

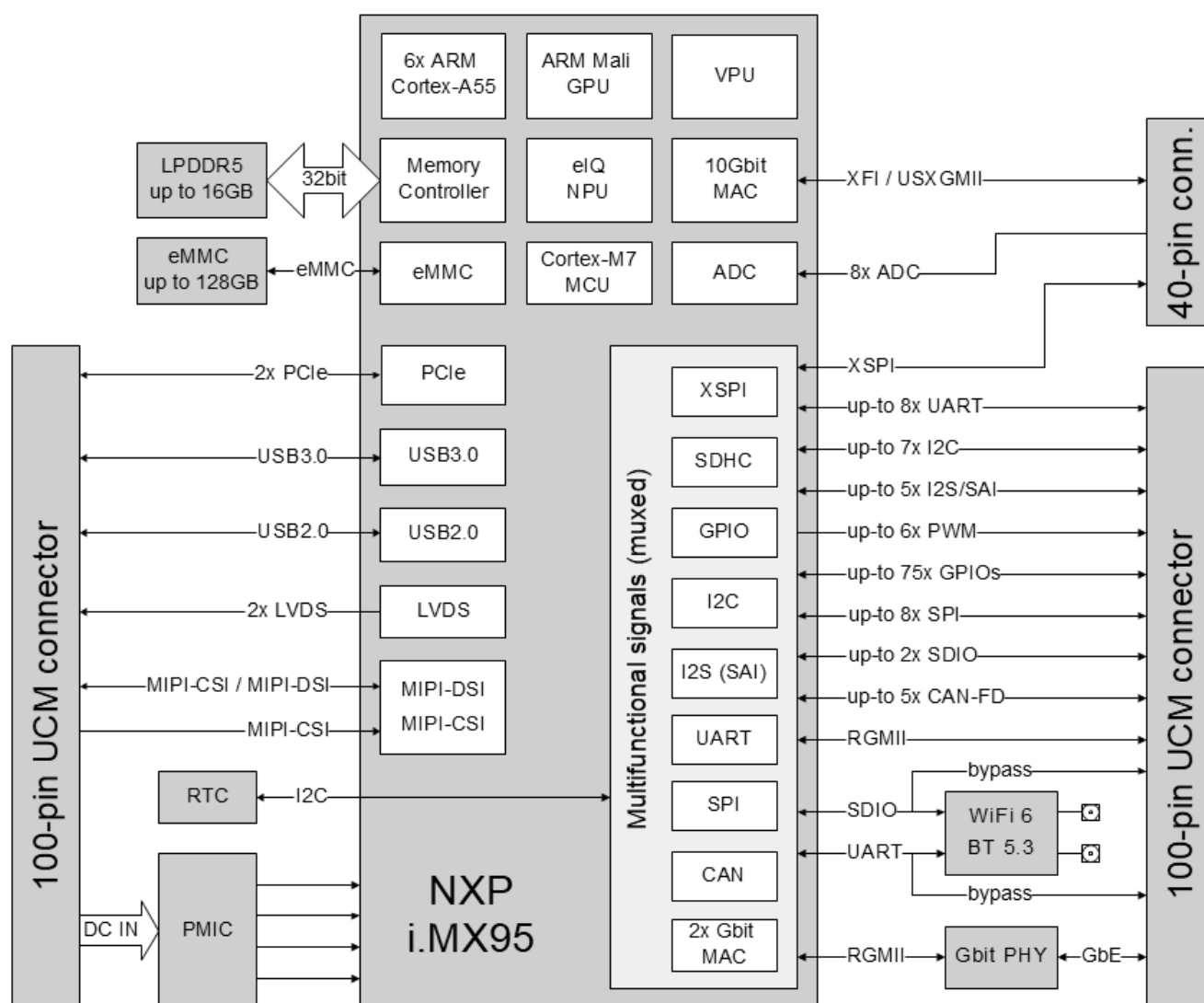| Feature	Specification	Option
PCI Express	2x PCIe Gen 3 1x lane	+
USB	1x USB3.0 + 1x USB2.0	+
UART	Up to 8x UART	+
CAN bus	Up to 5x CAN	+
SD/SDIO	2x SD/SDIO	+
SPI	Up to 8x SPI	+
I2C	Up to 7x I2C	+
ADC	Up to 8x general-purpose ADC inputs	+
PWM	Up to 6x general-purpose PWM signals	+
GPIO	Up to 75x GPIO (multifunctional signals shared with other functions)	+

System Logic and Debug

Feature	Specification	Option
RTC	Real-time Clock, powered by an external lithium battery	+
JTAG	JTAG debug interface	+

Electrical, Mechanical and Environmental Specifications

Feature	Specification
Supply Voltage	3.45V to 4.4V
Digital I/O Voltage	3.3V
Power Consumption	TBA
Dimensions	28 x 40 x 5mm
Weight	12 grams
Connectors	2 x 100 pin, 0.4mm pitch 1x 40 -pin, 0.4mm pitch - optional
MTTF	> 200,000 hours
Operating Temperature (case)	Commercial: 0°C to +70°C Extended: -20° to 70° C Industrial: -40° to 85° C
Storage Temperature	-40°C to +85°C
Relative Humidity	10% to 90% (operation) 05% to 95% (storage)
Shock	50G / 20 ms
Vibration	20G / 0 - 600 Hz

UCM-iMX95

Block Diagram

UCM-iMX95

UCM-iMX95 Evaluation Kit

Hardware

- UCM-iMX95-C1800HM-D8-N64-E-WB-H
- SB-UCMIMX95 carrier board
- Optional: 7" LVDS LCD with touch panel
- Optional: Quectel EG25G LTE cellular modem
- Cables and adapters
- 12V power supply

Technical Support
- Technical support for 12 months.
- Schematics review of the customer's carrier board design.
- LCD panel compatibility verification and driver adaptation service.
- 45-day trial period. Eval Kit will be accepted for refund if the user finds the product not suitable for their needs.

Rev no.	Rev date.	Contents	Page
v1.0	11.11.24	New creation	