



## Highlights and Use Cases

Highest performing SoMs, robust and with multiple high-speed interfaces

- ✓ High-Performance Edge Computing
- ✓ Artificial Intelligence (AI), Machine Learning (ML)
- ✓ Ideal for Robotics, AI, Real-Time Processing and Vision Applications
- ✓ Rugged and Reliable Board-to-Board Connector
- ✓ Wide interface availability (400 pins)
- ✓ Migrate from x86 to ARM

## Typical Applications

- ✓ Autonomous robots
- ✓ High-performance AI vision
- ✓ High-end medical imaging devices
- ✓ ARM Industrial PCs
- ✓ Multi-camera video processing

	Aquila AM69/TDA4	Aquila IMX95
<b>SoC / CPU</b>	TI AM59/TDA4 Up to 8x Arm Cortex-A72, 2.0GHz	NXP LMX 95 Up to 6x Arm Cortex-A55, 1.8GHz
<b>Microcontroller</b>	2x Arm Cortex-R5F, 1.0GHz	1x Arm Cortex-M7, 800MHz 1x Arm Cortex-M33, 333MHz
<b>Memory</b>		
<b>RAM</b>	Up to 32GB LPDDR4 (128-bit)	Up to 16GB LPDDR4x (32-bit)
<b>Flash</b>	Up to 256GB eMMC	Up to 128GB eMMC
<b>Connectivity</b>		
<b>USB 3.2</b>	1x DRD (Gen1)   1x Host (Gen1)	1x OTG (Gen1)
<b>USB 2.0</b>	1x DRD   1x Host	1x Host
<b>Ethernet</b>	1x Gigabit (PHY with TSN) 4x 2.5 Gigabit (SGMII with TSN) 1x 10 Gigabit (USXGMII with TSN)	2x Gigabit (1x PHY with TSN + 1x RGMII) 1x 2.5/10 Gigabit (USX5GMII with TSN)
<b>Wi-Fi</b>	2.4/5GHz Tri Band Wi-Fi 7 (802.11be)	2.4/5GHz Dual Band Wi-Fi 6 (802.11ax)
<b>Bluetooth</b>	BT 5.3	BT 5.3
<b>PCIe</b>	2x (x2 Gen 3) 1x (x1 Gen 3)	2x (x1 Gen 3)
<b>I2C / I3C</b>	8x I2C/1x I3C	8x I2C/1x I3C
<b>SPI</b>	7x	6x
<b>QSPI/OSPI</b>	1x/1x	1x/1x
<b>UART</b>	11x	8x
<b>PWM</b>	12x	22x
<b>Analog Input</b>	8x	8x
<b>SDIO/SD/MMC</b>	1x	2x
<b>CAN FD</b>	19x	5x
<b>GPIO</b>	110x	14x + 92x
<b>SerDes</b>	5x	1x
<b>JTAG</b>	1x	1x
<b>Multimedia</b>		
<b>NPU</b>	32 TOPS	2-3x better performance vs IMX8M Plus
<b>ISP</b>	2x	1x
<b>Display Controller</b>	Triple	Dual
<b>2D/3D Acceleration</b>	✓	✓
<b>Video Decoder/Encoder</b>	✓	✓
<b>Display Serial Interface</b>	2x Quad Lane MIPI DSI	1x Quad Lane MIPI DSI
<b>Display Port</b>	1x (Up to 4k)	-
<b>LVDS</b>	-	1x (up to 1920x1080)
<b>Digital Audio</b>	5x McASP; I2S or TDM	4x I2S
<b>Camera Serial Interface</b>	3x Quad Lane MIPI CSI-2 (12 Virtual Channels)	2x Quad Lane MIPI CSI-2 (8 Virtual Channels)
<b>Software</b>		
<b>Operating Systems</b>	Torizon OS, Yocto Linux, Toradex Easy Installer Android, FreeRTOS	Torizon OS, Yocto Linux, Toradex Easy Installer Android, FreeRTOS
<b>Physical</b>		
<b>Supply Voltage</b>	5V ±10%	5V ±10%
<b>Dimensions</b>	85 x 55 x 9mm	85 x 55 x 9mm
<b>Operating Temp</b>	Up to: -40°C to +85°C	Up to: -40°C to +85°C
<b>Vibration/Shock</b>	EN 60068-2-6/50g 20ms	EN 60068-2-6/50g 20ms
<b>Power Dissipation</b>	Approx. 5W - 25W	TBD
<b>Minimum Availability</b>	2034+	2039+

