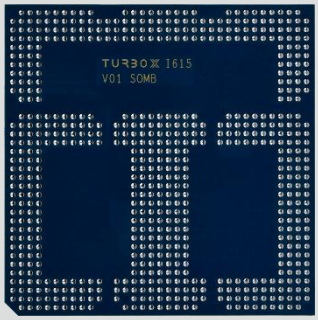
Thundercomm

TURBOX

I615 SOM



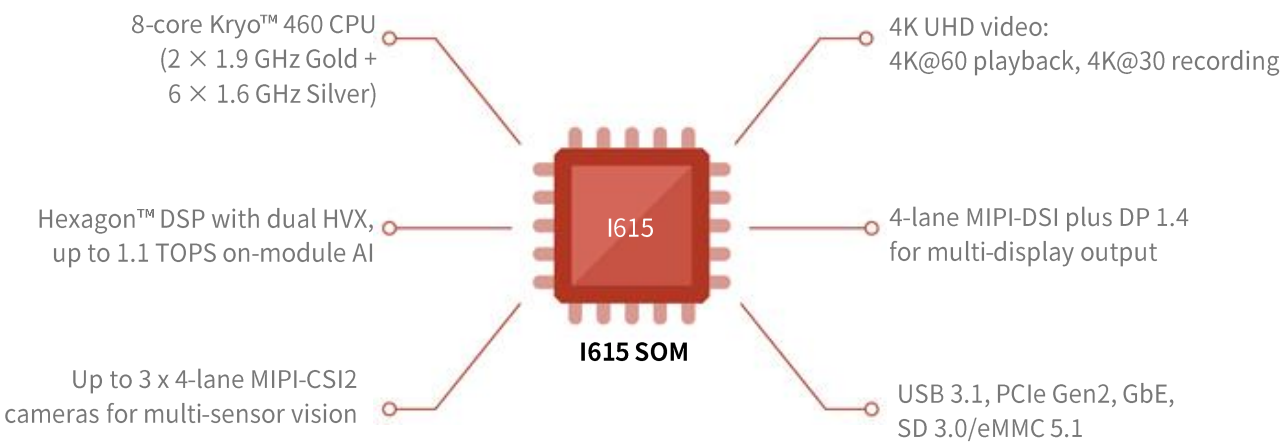
TurboX I615 SOM is an industrial-grade computing module built on the Qualcomm® Dragonwing™ IQ-615 platform and packaged in the Size-L form factor (45 mm x 45 mm, 662 pads). The module integrates up to 1.1 TOPS of AI computing capability, three 4-lane MIPI-CSI camera interfaces, and one 4-lane MIPI-DSI plus DP 1.4 display output, delivering high performance and rich multimedia features within a compact footprint. The unified OSM-L package also enables customers to flexibly switch between different SoCs on the same carrier board, accelerating time-to-market.

The product is part of the Qualcomm Product Longevity Program, ensuring supply availability through 2036. It is ideally suited for industrial scenarios with stringent demands on lifecycle and reliability, including industrial cameras and multi-view vision systems, edge AI gateways, smart HMI terminals, portable industrial inspection devices, robots, and AMRs.

Applications

- Industrial Camera
- Edge Computing
- HMI Devices
- Industrial Handheld
- Smart Retail

Features



TurboX I615 SOM Specifications

Thundercomm

Item	Description
Platform	Qualcomm QCS615 Qualcomm® Kryo™ 460 – 64-bit application processor with a 1 MB L3 cache • Kryo Gold: Two high-performance cores running at 1.9 GHz with a 256 kB L2 cache per core • Kryo Silver: Six low-power cores running at 1.6 GHz with a 64 kB L2 cache per core • Error-correcting code (ECC) to support system-level use cases • Qualcomm® Adreno™ GPU 612 for better graphics performance and power efficiency. • Qualcomm® Hexagon™ DSP with Dual hexagon Vector eXtensions (HVX) processor. • Hexagon V66 DSP for low power audio subsystem. • Adreno 443 VPU for high-quality, ultra HD video encode and decode • Adreno DPU 871 for ultra HD multi-display support • Qualcomm® Spectra™ 230 image processing
Memory [1)]	LPDDR4X× 4GB + eMMC 5.1x 64GB
Video Encode	4K@30FPS for H.264/H.265/ VP8
Video Decode	4K@60FPS for H.264/H.265/VP9/VP8/MPEG-2
Display Interface	• 1 x MIPI-DSI 4-lane; • 1 x DisplayPort v1.4
Camera Interface	3 x 4-lane MIPI CSI D-PHY (1 of them compatible to support C-PHY)
Peripherals	1 x USB 3.1, 1 x USB2.0, 1 x PCIe Gen 2 (1-lane), 2 x I2S, 1 x RGMII 1 x SDC (4-bit), GPIOs, QUPs (UART/I2C/SPI)
Operating Environment	Operating temperature: -40°C – 85°C[#]
Form Factor	LGA
Package	OSM
Certification	RoHS[*]/REACH[*]
Voltage	4.75V – 5.25V
Dimensions	45mm x 45mm x 4.05mm
Operating System	LE, LU*

[1)] Please note that storage devices such as UFS, eMMC, NAND, etc. have a limit to the total amount of data that can be written. Exceeding this limit can cause damage to the storage device.

[#] The SOM operating temperature shall not exceed relevant IC temperature scope.

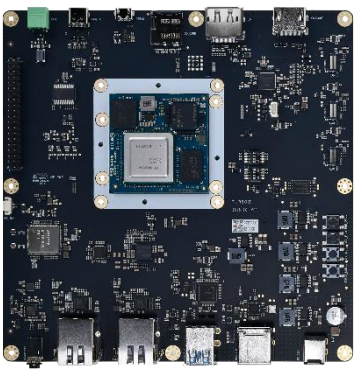
[*] Planning.

Thundercomm

TurboX I615 Development Kit Specifications

Category	Description
SOM on Board	TurboX I615 SOM
Display Interface	• 1 x HDMI OUT or DSI connector • 1 x DisplayPort V1.4
Audio Interface	• 1 x HDMI OUT with Audio (Over I2S interface) • 1 x 3.5mm headphone
Camera Interface	• 2 x 4-lane D-PHY camera • 1 x 4-lane D-PHY camera or C-PHY Camera
Other Interfaces	• 1 x USB 3.1 Type-C • 2 x USB 3.0 Type-A • 2 x USB 2.0 Type-A • 1 x Micro USB for debug • 1 x Wi-Fi & BT module • 2 x 1000M Ethernet port • 1 x CAN • 1 x SD card • 1 x 40-pin connector • 1 x 3.5mm connector • 1 x Fan connector
Power Supply	12V DC in jack
Operating Environment	Operating temperature: -40°C – 85°C
Dimensions	160mm x 160mm
OS Support	LE, LU*

*Planning



Website: www.thundercomm.com
Email: service@thundercomm.com