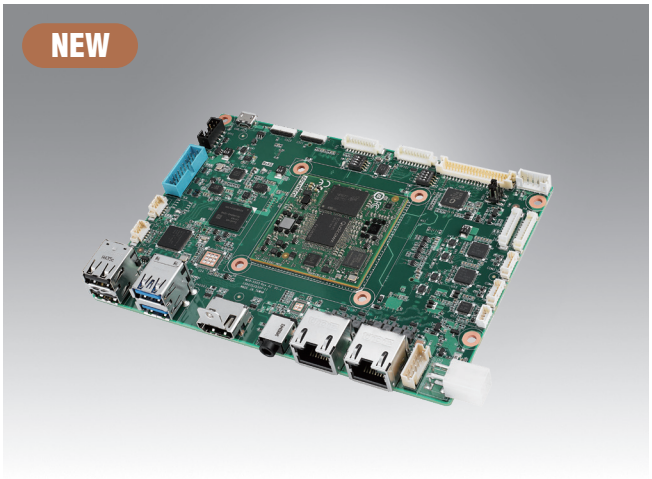
MIO-5355

Qualcomm® Dragonwing™ QCS6490/ QCS5430 on 3.5" SBC



Features

- Qualcomm® QCS6490/QCS5430, support extend operating temperature -20~70°C
- Powerful but Low Power with 8x Kryo 670 CPU from 1.9 up to 2.7 GHz + Adreno GPU 643 + up to 12.3 TOPs iNPU
- Rugged Design with On-board 8GB LPDDR5 and 128GB UFS or eMMC
- Flexible Displays with HDMI and LVDS or eDP & Rich I/Os: 2x GbE, 6x USB, 4x COM, 2x MIPI-CSI, 1x Audio
- 3x M.2 Expansions: M.2 E-Key 2230 for WiFi/BT, M.2 B-Key 3052 for 4G/LTE, M.2 M-Key 2280 for NVMe Storage
- Various OS Support: Yocto, Windows on Arm, and Ubuntu

Software APIs: GPIO, SMBus/I²C, Watch Dog Timer, Backlight On/Off, Brightness

Utilities: Hardware Monitor, System Throttling, Thermal Protection, Data Security, System Info

Qualcomm Windows 11 Ubuntu DeviceOn CE FC

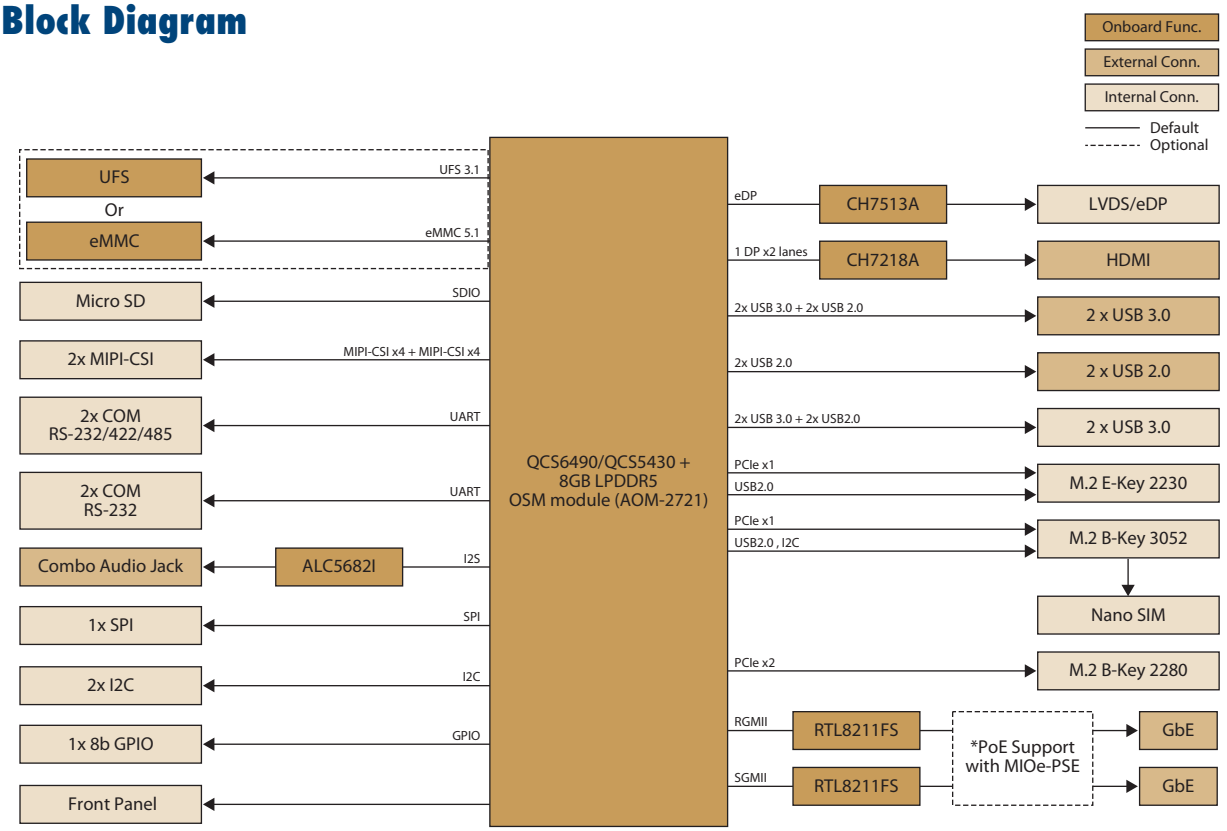
Specifications

CPU	SoC	QCS6490	QCS5430
	Clock Speed	1x A78 @ 2.7 GHz, 3x A78 @ 2.4 GHz, 4x A55 @ 1.9 GHz	2x A78 @ 2.1 GHz, 4x A55 @ 1.8 GHz
	Number of CPU Cores	8	6
Memory	Technology	LPDDR5 8533MT/s	
	Max. Capacity	Up to 8GB	
Storage	UFS	128GB (Std. P/N use either UFS or eMMC, but not both.)	
	eMMC	64GB (Std. P/N use either UFS or eMMC, but not both.)	
GPU & AI	GPU	Adreno™ 643	Adreno™ 642L
	Clock Speed	Up to 812 MHz	Up to 315 MHz
	AI DSP	Hexagon™ 770	Hexagon™ 770
	Clock Speed	1.45 GHz	912 MHz
Display I/F	LCD	1 x LVDS, up to 1920x1200, or 1 x eDP1.4 (Selected by Switch Setting)	
	HDMI/DP	1 x HDMI 2.0, up to 4096 x 2160 @ 60Hz	
	Multi Display	2 simultaneous displays by LVDS or eDP + HDMI	
Ethernet	Controller	LAN1/LAN2: RTL8211FS	
	Speed	LAN/LAN2: GbE	
External I/O	Ethernet	2 x RJ-45	
	HDMI	1	
	Audio	1 x Combo Audio Jack	
	USB	2 x USB 3.0 + 2 x USB 2.0	
Internal I/O	Micro SD	1	
	USB	2 x USB 3.0	
	Serial Bus	2 x I²C	
	COM Port	2 x RS-232/422/485, 2 x RS-232	
	MIPI-CSI	2 x 4-Lane MIPI-CSI	
	GPIO	8-bit general purpose input output I/O	
	Front Panel Control	Power-on, Reset, Power LED	
Board Feature	Security	Qualcomm® Trusted Execution Environment (TEE) v5.3	
	iManager 3.0	SW API for Hardware Monitor, Brightness Control, I²C, GPIO, WDT	
Expansion	M.2 E-Key	1 x E-Key 2230 (PCIe x1, USB2.0)	
	M.2 B-Key	1 x M-Key 2280 (PCIe x2) Note: Only for Storage. 1 x B-Key 3052 (PCIe x1, USB 2.0) w/ Nano-SIM	
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery: Lithium 3V/200mAH, support w/o CMOS Battery	
	Connector	ATX 2x2pin 90D (*BOM Option to ATX 2x2pin 180D or DC-IN Jack by request)	
	Power Management	AT, ATX	
	Max. Consumption (*Ref. data. Contact FAE for adapter selection.)	18.08W	TBD
	Idle Consumption	8.26W	TBD
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F) with 0.7m/s airflow; Extend: -20~70 °C (-4~158 °F) with 0.7m/s airflow Storage: -40 ~ 85 °C (-40 ~ 185 °F)	
	Humidity	Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95%relative humidity, non-condensing	
	Vibration Resistance	3.5 Grms	
Certification	EMC	CE, FCC Class B, ESD 8KV/15KV Criteria A	
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")	
	Net Weight	128g (without Heatsink)	

*Note: Support by request

Last updated: 1-Jul-2026

Block Diagram



Ordering Information

Part No.	SoC	Memory	Storage	Lite SKU	OS	Thermal Solution	Operating Temp.	COO
MIO-5355Q6Z-U7A1U	QCS6490	8GB LPDDR5	128GB UFS	No	Yocto BSP	Passive Heatsink	-20 ~ 70 °C	Taiwan
MIO-5355Q6Z-U7A1	QCS6490	8GB LPDDR5	128GB UFS	No	Yocto BSP	Passive Heatsink	-20 ~ 70 °C	China
MIO-5355Q6L-U7A1	QCS6490	8GB LPDDR5	64GB eMMC	Yes (Removed features: LAN2, COM3, COM4, LVDS/eDP, Audio, MIPI Camera)	Yocto BSP	Passive Heatsink	0 ~ 60 °C	China

Packing List

Part No.	Description	Quantity
	MIO-5355 SBC	1
1970006216T001	CPU Heatsink (Passive Solution)	1

Optional Accessories

Part No.	Description
TBD	CPU Heatspreader
1700032181-01	Dual USB 3.0 Cable 35cm
1700030404-01	COM1/COM2 Cable 20cm
1700031582-01	COM3/COM4 Cable 20cm
MIOE-PSE-DPA1	MIOe-PSE Dual Port 15.4W PoE PSE module

Rear I/O View

Embedded OS/API

OS/API	Part No.	Description
Windows 11 LTSC	TBD	Win11 IoT Ent. LTSC 2024 64bit
Ubuntu 24.04 LTS	TBD	Ubuntu Desktop 24.04 LTS 64-bit
Software API	Website Download	SUSI v4.0