QCS051

Qualcomm® QCS6490
2.5" Pico-ITX

FCC CE RoHS UKCA

USB 3.1 Gen1 | LAN | HDMI | Audio

Front Panel
uSD Slot
SIM Slot

Qualcomm® QCS6490 Processor
Ext. IO
Debug UART

RS-232
DIO
M.2 B key 3052
CAN FD
Camera1

USB 2.0
M.2 E key 2230
2 x USB 2.0
USB Type C (Download only)
Camera2
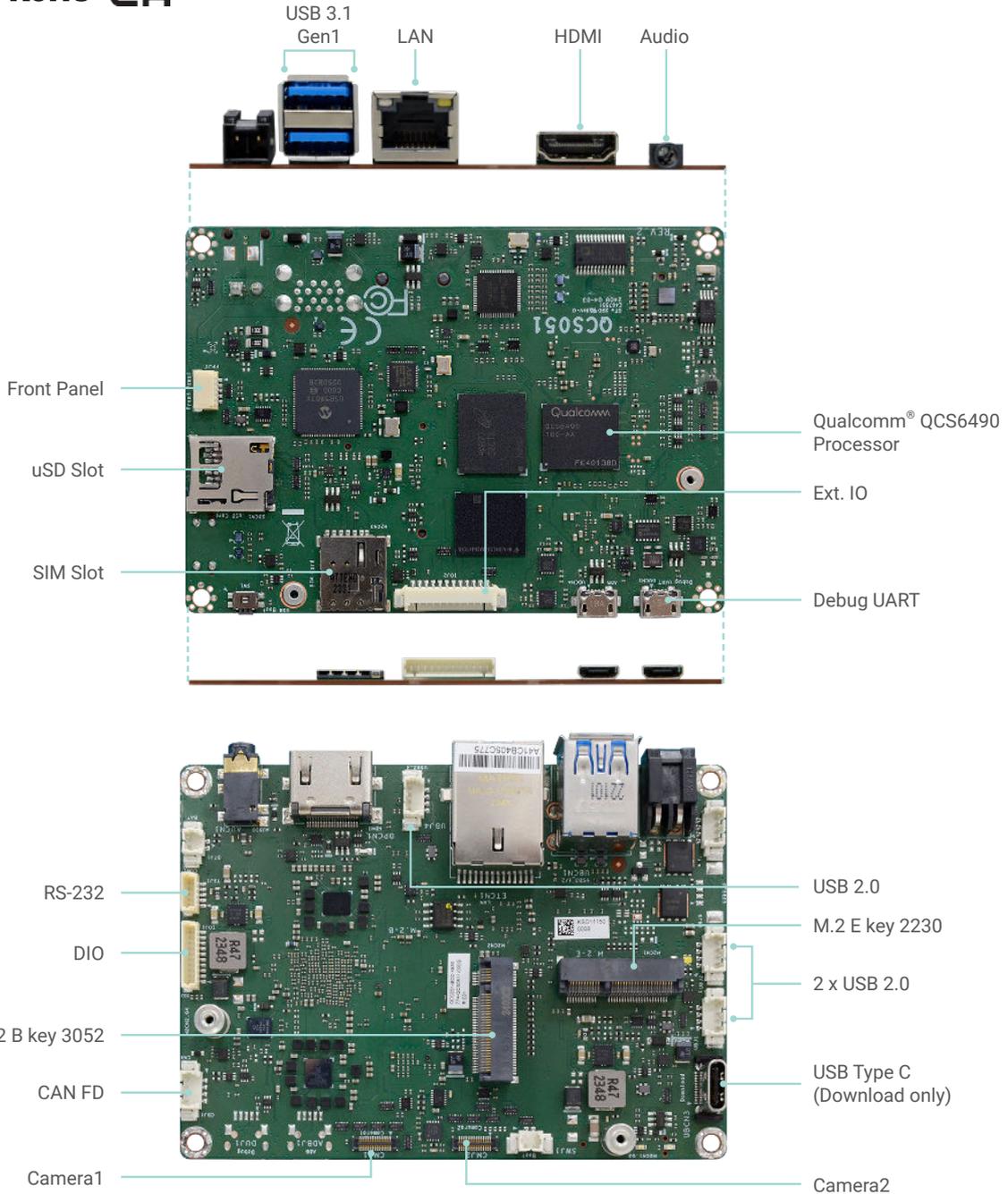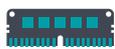
KEY FEATURES
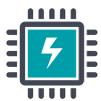
Qualcomm
Qualcomm QCS6490 high-level platform

LPDDR5x
LPDDR5x on board memory up to 8G

AMR
Target on AMR, box PC application

Ruggedized
Thin client concept and ruggedized design

2 M.2 Expansions
1 M.2 E key 2230,
1 M.2 B key 3052

DFI | Desire For Innovation

SPECIFICATION

SYSTEM	Processor	QCS6490 Qualcomm® Kryo™ 670, 8 cores, up to 2.7 GHz, 12 TOPS (INT8) QCS5430 (FP1) Qualcomm® Kryo™ 670, 8 cores, up to 2.1 GHz, 3.5 TOPS (INT8)
	Memory	LPDDR5x, 4/8GB
GRAPHICS	Controller	Qualcomm® Adreno™ 643L GPU
	Feature	OpenGL ES 3.2
	Display	1 x HDMI Type A, w/audio. 1080P support on Linux.
	Single Display	HDMI
STORAGE	UFS	Support UFS 3.1, default 128GB
EXPENSION	Interface	1 x M.2 B key 3052 (USB 3.1/ Opt. USB 2.0) reference RM502Q-AE Quectel *Optional USB 2.0 signal with UBJ4
		1 x Nano SIM slot
		1 x M.2 E key 2230 (PCIe x1) reference ENL-Q6856M2 Wifi module
AUDIO	Audio Codec	Audio codec WCD9385
ETHERNET	Controller	AX88179A USB3 to GbE controller
REAR I/O	Ethernet	1 x GbE (RJ-45)
	USB	2 x USB 3.1 Gen1 Type A
	Display	1 x HDMI 1.4
	Audio	1 x Line out/Mic in audio jack
	Debug	1 x Micro USB debug UART
INTERNAL I/O	Serial	1 x RS-232 (COM1, 1x5P/1.00mm)
	USB	3 x USB 2.0 (UBJ1/2/4, 1x4P/1.25mm), UBJ4 could option to M.2 B key 1 x USB Type C (Download only)
	DIO	1 x 8-bit DIO
	CANBus	1 x CAN FD
	SD	1 x uSD3.0 card
	Camera	2 x MIPI-CSI2 for 4-lanes camera, reference to IMX577
	Other I/O	1 x Ext. IO (1*12P/1.25mm), 1 x Power LED, 1 x System LED, 1 x Front Panel 1 x Fan connector (upon request)
POWER	Type	5VDC
	Connector	2 pin Power Jack
	Consumption	**Typical:** QCS6490: 5V @ 0.6A (3.0Watt) **Max.:** QCS6490: 5V @ 1.45A (7.25Watt)
	RTC Battery	CR2032 Coin Cell
OS SUPPORT	Linux	Ubuntu 20.04 (Linux Kernel 5.4.233)
ENVIRONMENT	Temperature	**Operating:** 0°C~60°C, -25°C~75°C **Storage:** -40°C~85°C
	Humidity	**Operating:** 5%~90% RH **Storage:** 5%~90% RH
MECHANISM	Dimensions	2.5" Pico-ITX Form Factor 100mm (3.94") x 72mm (2.83")
	Height	**PCB:** 1 mm **Top Side:** 16.44 mm **Bottom Side:** 3.45 mm
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, RoHS, UKCA

ORDERING INFORMATION

Model Name	P/N	Processor	Memory	UFS	Display	GbE	USB 3.1 Gen1	USB 2.0	RS-232	Power	Thermal	Temp.
QCS051-BCC-4890	770-QCS0511-000G	Qualcomm® QCS6490	LPDDR5x 4GB	128 GB	HDMI	1	2	3	1	5VDC	Fanless	0 to 60°C
QCS051-ECC-8890	770-QCS0511-100G	Qualcomm® QCS6490	LPDDR5x 8GB									-25 to 75°C
QCS051-BCC-4830	770-QCS0511-300G	Qualcomm® QCS5430	LPDDR5x 4GB									0 to 60°C

PACKING LIST

• 1 QCS051 board	
• Heat spreader for (Height: 11mm)	A71-808357-000G

OPTIONAL ITEMS

• Heat sink for 0 to 60°C/-25 to 75°C (Height: 17.1mm)	A71-008191-010G
• USB 2.0 port cable (Length: 100mm)	A81-001188-018G
• COM port cable (Length: 200mm)	A81-015121-018G
• CAN Bus cable (Length: 150mm)	A81-015122-018G
• 2 pole to DC Jack power cable (Length: 150mm)	A81-004381-018G
• Front panel cable (Length: 150mm)	A81-006104-018G
• Power adapter (30W, 5V, DC Jack)	671-103002-000G