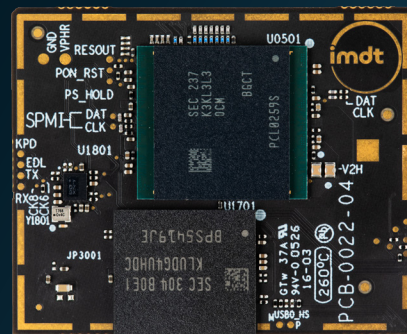




IMDT QCS8550 SOM

The IMDT QCS8550 SOM, powered by the Qualcomm® QCS8550 processor, is a production-ready module. Measuring just 37 x 30 x 2.9mm, The IMDT QCS8550 based SOM provides superior computing power, advanced Edge AI processing, and crystal-clear video and graphics, making it ideal for performance intensive AIoT applications. It supports 8 x 4-lane MIPI CSI connections, enabling attachment of up to 20 cameras, and in addition - the full module provides customizable options such as onboard Wi-Fi/Bluetooth, various memory and storage capacities, and PHY configurations, allowing users to tailor the system to their specific needs.



- Based on Qualcomm QCS8550 processor
- Kryo central processing unit, X1.5 compute power
- Adreno GPU, X3 performance
- 8th-generation Qualcomm AI Engine, X10 performance
- Qualcomm Spectra 18-bit triple cognitive image signal processor (ISP)
- Dimensions (WxLxH): 37 x 30 x 2.9mm

made with
Qualcomm
Technologies



Small form factor



Complete solution
including HW&SW



Flexible & modular
platform



Advanced Security

Key Features



Qualcomm Kryo central
processing unit (CPU), X1.5
compute power



Qualcomm Adreno GPU,
X3 performance



Multiple display interface



8th-generation Qualcomm AI
Engine, X10 Performance



Qualcomm Spectra 18-bit triple
cognitive image signal
processor (ISP)



Multiple camera pipelines
for high-end imaging



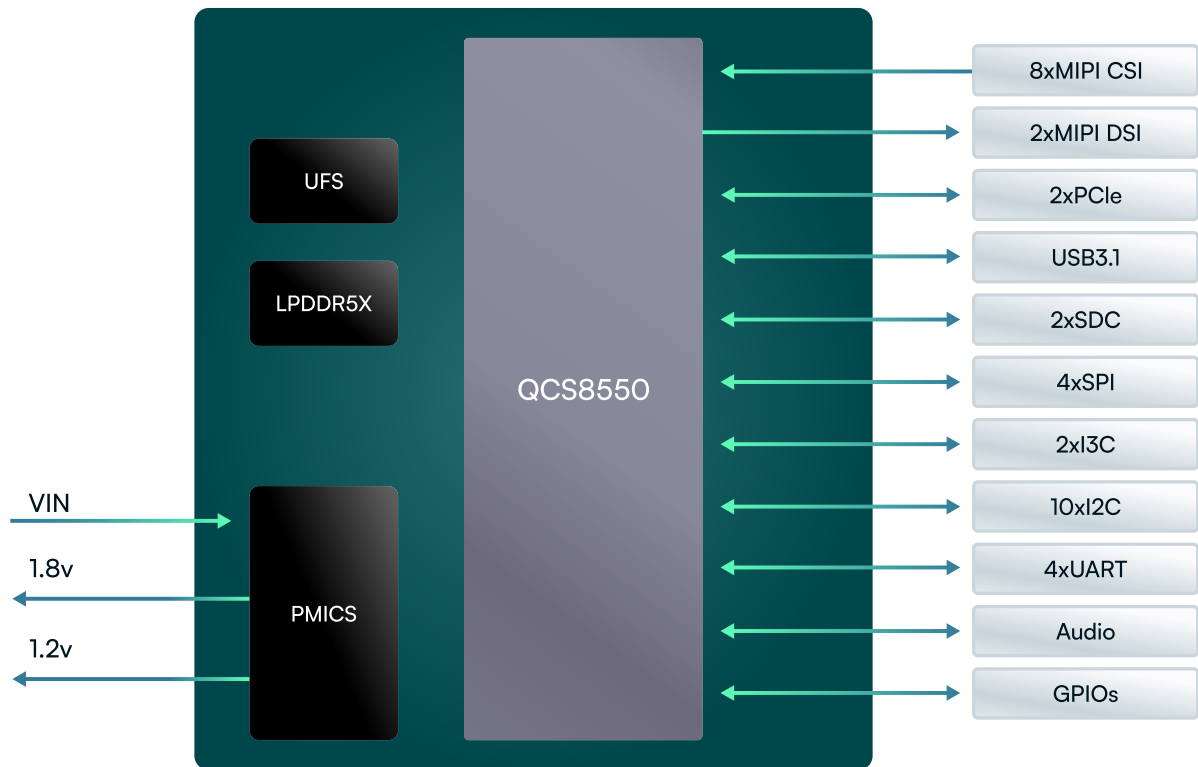
Enterprise-grade security
capability - Trust Management
Engine and Qualcomm
Type-1 Hypervisor



Product Specification			
Specification	Description	Specification	Description
CPU:	QCS-8550-1-Ax, 6/8 CPU cores,	Audio:	2 x Soundwire
	GPU, V73 AI processor		2 x I2S
Memories:	3750MHz LPDDR5X, 8GB/12GB		2 x PDM
	UFS 3.1/4.0, 128/256GB	Other I/Fs:	10 x I2C (10 I2C hubs)
Connectivity:	USB3.1 gen2 10Gbps (DP+data) Type-C		2 x I3C
	PCIe: Gen 4, 2-Lane & Gen 3, 2-Lane		4 x SPI
	2 x SDC (4-bits)		4 x UART
Camera:	8 x 4-lane MIPI CSI interface for cameras, max 20 x cameras		GPIOs
	ISP — Qualcomm spectra	Power:	Single power input
Display:	2 x 4-lane DSI, with touch I/F		Integrated PMICs
			1.8v,1.2v outputs
		Mounting:	504-pin BGA, 0.6mm pitch, for SMT assembly
		Dimensions:	37 x 30 x 2.9mm

Feature Variant	
Common: QCS8550, MPSP1581, AP base, GPU base, 4.2 GHz LPDDR5X, Nav, No modem	
Feature code	Feature details
AA	6 CPU cores (1 prime + 2 gold + 3 silver), AON camera
AC	8 CPU cores (1 prime + 4 gold + 3 silver), AON camera
AB	8 CPU cores (1 prime + 4 gold + 3 silver), No AON camera
AD	8 CPU cores (1 prime + 4 gold + 3 silver), No AON camera, No GPU

Block diagram



About IMDT

IMDT Technologies, with headquarters in the UK and Israel, specializes in creating advanced vision and AI-powered products and systems. Leveraging extensive engineering experience in real-time applications, including vision and AI on edge hardware and software, IMDT has excelled in design, development, and manufacturing since its inception in 2017. The company globally addresses complex vision and AI challenges, focusing on partnerships with leading chip manufacturers and delivering turnkey projects in medical, robotics, smart cities, smart homes, and industrial IoT.

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