

SMARC IQ-615 EVK Data Sheet





Document History

Version	Date	Changes
V00.01	29/09/2026	First Revision

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1. About the Board

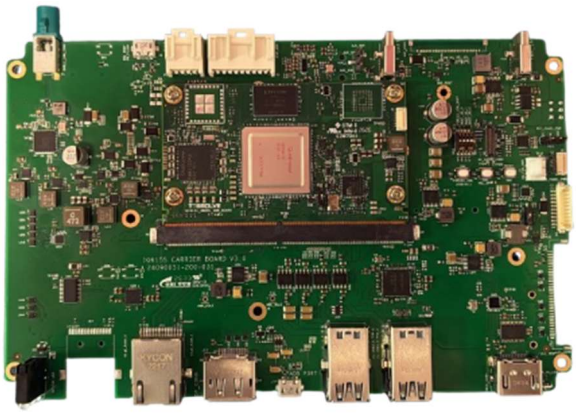
The **IQ-615 Evaluation Kit (EVK)** is a complete development platform based on the **Qualcomm® Dragonwing™ IQ-615 processor**. The EVK is designed to enable evaluation, application development, hardware validation, and rapid prototyping for industrial and commercial IoT applications such as industrial gateways, robotics, machine vision systems, smart controllers, HMI systems, and edge AI devices.

The EVK consists of an **IQ615 System-on-Module (SoM)** mounted on a feature-rich **carrier board**, providing access to all major processor interfaces and expansion options. The platform serves as a reference design for OEMs and ODMs developing custom products based on the IQ-615 processor.

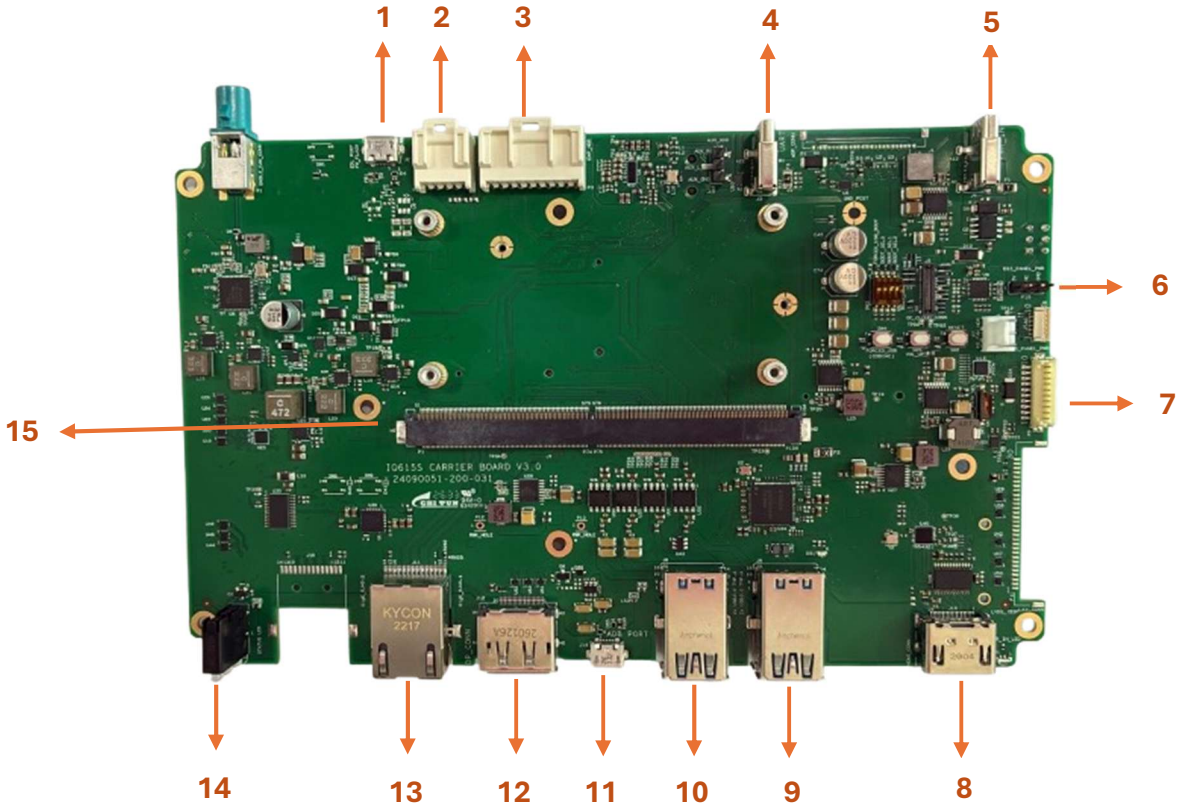
2. IQ-615 EVK Key Features

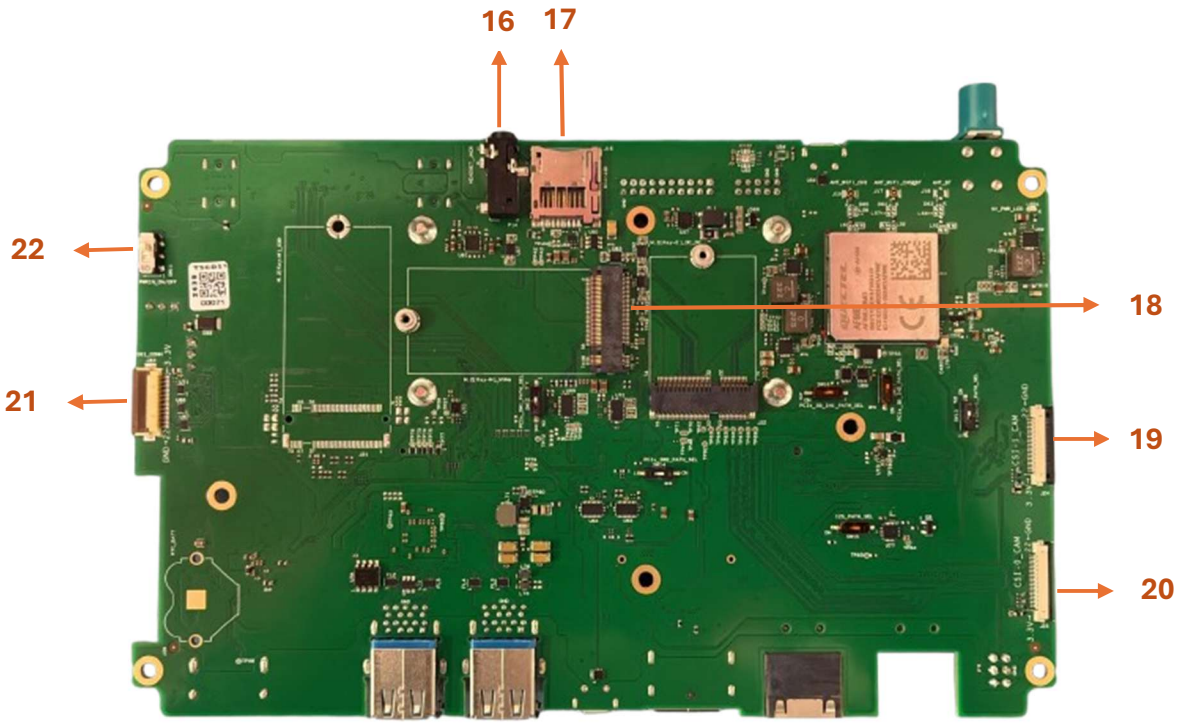
- Qualcomm® Dragonwing™ IQ-615 SoC
- SMARC® 2.2 Based SoM
- 4 GB LPDDR4x standard, up to 8 GB supported memory
- Up to 128GB UFS Storage
- Wi-Fi 6 and Bluetooth® 5.2/5.3
- MIPI CSI Camera Support
- DisplayPort and LVDS Display Interfaces
- PCIe Expansion Capability
- USB 3.1 and USB 2.0 Interfaces
- Gigabit Ethernet Connectivity
- CAN, UART, SPI, I²C, GPIO Support
- Qualcomm Linux BSP
- Commercial Temperature Platform

3. IQ-615 Carrier Board with SOM



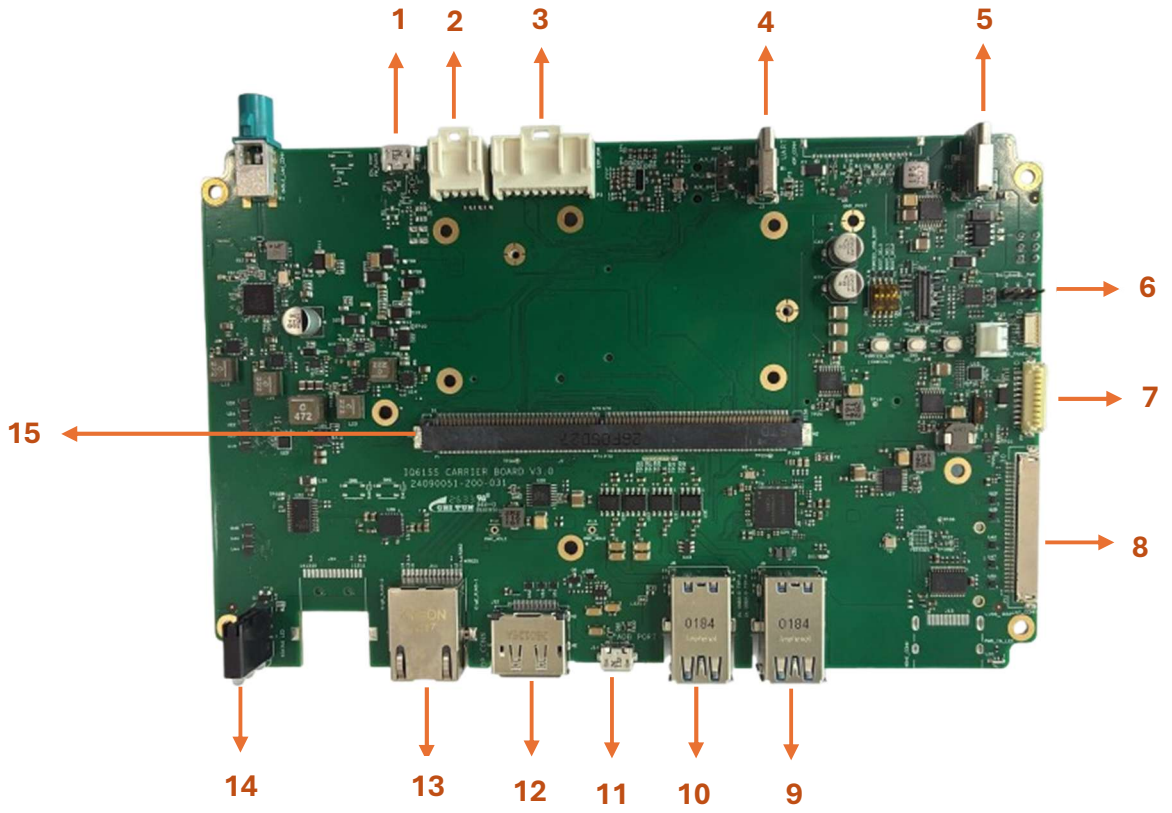
4. IQ-615 Carrier Board (DSI Variant)

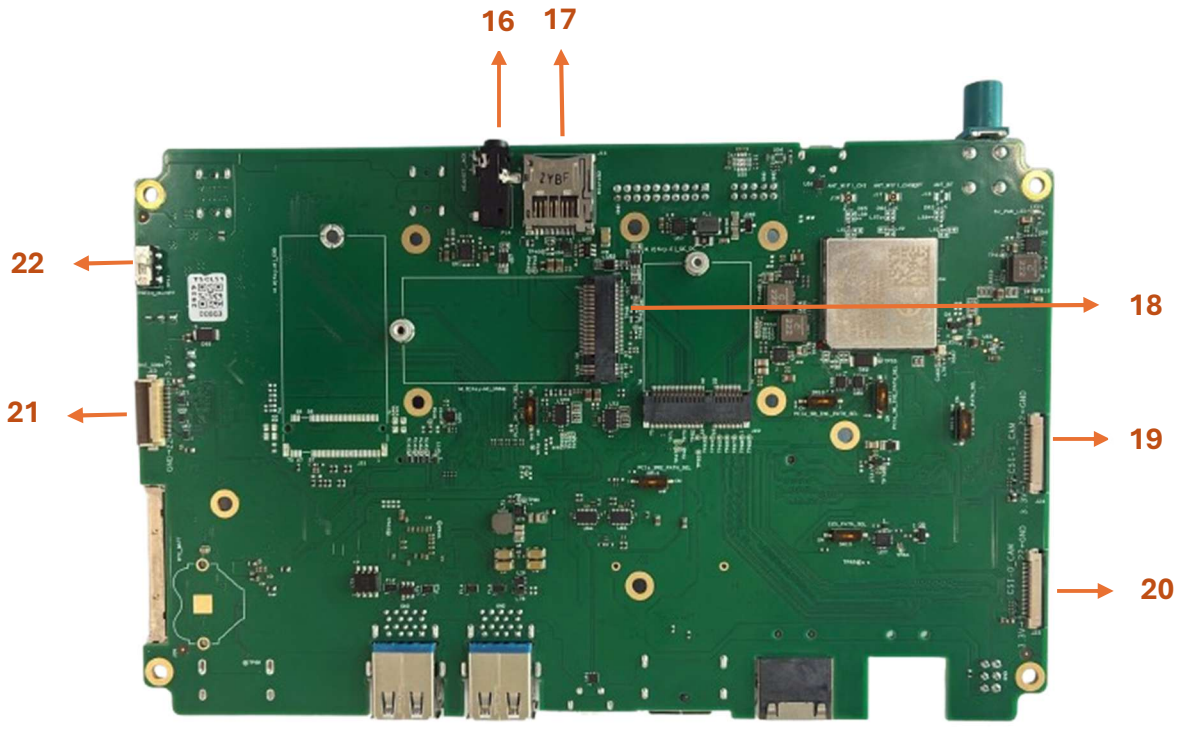




IQ-615 Carrier Board (DSI Variant)		
Legend	**Refdes on Carrier**	**Connector Type**
1	J2	Micro-AB USB Connector for Flashing
2	P2	CAN Header
3	P3	Expansion Header
4	J3	Type-C Connector (UART)
5	J4	Type-C Connector (Power Input)
6	P15	DSI Backlight Connector (3-pin)
7	P8	LVDS Backlight Connector (10-pin)
8	J15	HDMI Type-A Connector
9	J9	USB3.0 Type-A Connector (Dual stacked)
10	J8	USB3.0 Type-A Connector (Dual stacked)
11	J14	USB2.0 Micro AB Connector
12	J12	Display Port Connector
13	J11	RJ45 Connector-1
14	D58	Status LED
15	J7	SMARC Edge Connector
16	P14	Audio Jack
17	J16	MicroSD Connector
18	J20	M.2(Key-M) Connector_NVMe
19	J24	CSI-1 Camera Connector (22-pin)
20	J25	CSI-0 Camera Connector (22-pin)
21	J23	DSI Display Panel Connector (22-pin)
22	SW11	PWR ON/OFF Switch

5. IQ-615 Carrier Board (LVDS Variant)





IQ-615 Carrier Board (LVDS Variant)		
Legend	**Refdes on Carrier**	**Connector Type**
1	J2	Micro-AB USB Connector for Flashing
2	P2	CAN Header
3	P3	Expansion Header
4	J3	Type-C Connector (UART)
5	J4	Type-C Connector (Power Input)
6	P15	DSI Backlight Connector (3-pin)
7	P8	LVDS Backlight Connector (10-pin)
8	P11	LVDS Data Connector (30-Pin)
9	J9	USB3.0 Type-A Connector (Dual stacked)
10	J8	USB3.0 Type-A Connector (Dual stacked)
11	J14	USB2.0 Micro AB Connector
12	J12	Display Port Connector
13	J11	RJ45 Connector-1
14	D58	Status LED
15	J7	SMARC Edge Connector
16	P14	Audio Jack
17	J16	MicroSD Connector
18	J20	M.2(Key-M) Connector_NVMe
19	J24	CSI-1 Camera Connector (22-pin)
20	J25	CSI-0 Camera Connector (22-pin)
21	J23	DSI Display Panel Connector (22-pin)
22	SW11	PWR ON/OFF Switch

6. IQ-615 EVK Accessories

90W Type-C Power adaptor Module	
LVDS Cable or DSI Cable (According to Variant Ordered)	LVDS Cable  Or DSI Cable 
HDMI Cable	
USB Type-C cable with Type-A adapter	

WiFi/BT Antenna	
HEX STANDOFF M3 NYLON 8MM	
MACH SCREW PAN SLOTTEDM3X0.5	
Note: Images shown are representative only and may differ from the final product, hardware revision	

7. IQ-615 SOM Specifications

Parameter	Description
Form Factor	SMARC® 2.2
Backward Compatibility	SMARC® 2.1 / 2.0
Module Dimensions	82 mm × 50 mm
Memory Options	4 GB LPDDR4x standard, up to 8 GB supported memory
Storage Options	eMMC / UFS
Ethernet	Gigabit Ethernet
Camera Interface	MIPI CSI-2
Display Interface	MIPI DSI, DisplayPort 1.4
USB	USB 3.1, USB 2.0
PCIe	PCIe Gen2
UART	Supported
SPI	Supported

I^2C	Supported
CAN	Supported
GPIO	Supported
Wireless Connectivity	Wi-Fi 6, Bluetooth 5.3
Operating Systems	Qualcomm Linux®, Yocto Linux

8. IQ-615 EVK Specifications

Feature	Description
Display Interfaces	• DisplayPort v1.4 • LVDS Connectors supporting LVDS panels up to 1920 × 1080 @ 60 fps • MIPI DSI Display Interface • HDMI
Camera	• 1 × MIPI 2-lane CSI D-PHY 1.2 with CCI I^2C control • 1 × MIPI 4-lane CSI D-PHY 1.2 with CCI I^2C control • Qualcomm® Spectra™ 230 ISP Support • Compatible camera module: IMX258 13MP Reference Camera
Audio Interfaces	• RCA 2-Channel Audio Output • TRS Connector Audio Input

I/O Interfaces	• 4 × USB 2.0 Host Ports
	• 1 × USB 3.1 Type-C Port
	• Type-C Debug UART Interface
	• Serial Debug UART Connector
	• MicroSD Socket
	• GPIO, I^2C, UART, CAN, and JTAG Interfaces
	• Digital I/O Expansion Headers
	• M.2 M-Key Connector for PCIe Expansion
	• 2 × Gigabit Ethernet Connectors (Carrier Board)
	  ○ Ethernet 1: RGMII
	  ○ Ethernet 2: Reserved / N.A. for IQ-615

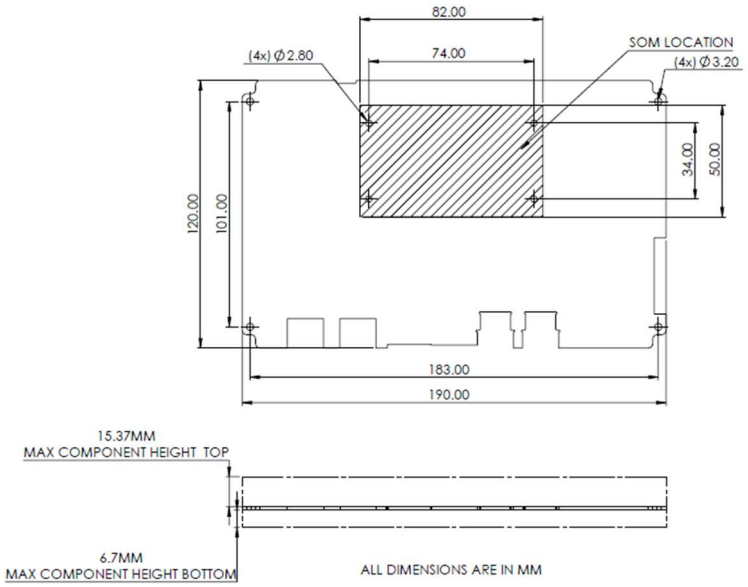
Wireless	• Wi-Fi 6 Support • Bluetooth® 5.2 / 5.3 Support • Pre-certified Wireless Module Support
Processing	• Qualcomm® Dragonwing™ IQ-615 Processor • Octa-Core Qualcomm® Kryo™ 460 CPU • Qualcomm® Adreno™ 612 GPU • Qualcomm® Hexagon™ V66 DSP • Qualcomm® AI Engine • Qualcomm® Spectra™ 230 ISP

Memory & Storage	• 4 GB LPDDR4x standard, up to 8 GB supported memory • Up to 128GB UFS Storage • MicroSD Card Support
Power	• 12V to 20V DC Input Supply(4A Max) • On-board Power Management Circuitry
Dimensions	• Carrier Board: 190 mm × 120 mm • SOM: SMARC® 2.2 Form Factor (82 mm × 50 mm)

9. Typical Applications

- Industrial Edge AI
- Robotics
- Machine Vision
- Industrial Automation
- Smart Controllers
- Industrial Gateways
- Human Machine Interface (HMI)
- Autonomous Systems
- Intelligent Cameras

10. Mechanical Specifications



11. Software Support

Software	Support
Qualcomm® Linux®	Supported

Yocto Linux	Supported
SDK	Supported
AI/ML Development	Supported

12. Ordering Information

DSI EVK	MPN: IQ-615EVK-DS-4G-32GE	SMARC 4GB LPDDR4x, 128GB UFS
LVDS EVK	MPN: IQ-615EVK-LV-4G-32GE	SMARC 4GB LPDDR4x, 128GB UFS

13. Contact Information

Tessolve Semiconductor Pvt. Ltd.
Website: www. embedded.tessolve.com
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