



Intel® Core™ Ultra Mobile Processor (Series 1) Reference Design based on Intel® Edge Scalable Design (McLaren Island)

Product Brief

March 2025



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Revision History

Date	Revision	Description
March 2025	1.0	Initial release.

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1.0 Introduction

The McLaren Island Reference Design is an advanced platform developed by Intel. It features the Intel® Core™ Ultra Mobile Processor (Series 1) and aims to unlock next-generation computing possibilities.

Key features of the McLaren Island Reference Design include:

- **Mini-ITX SBC Form Factor:** 170mm x170mm, which is compact and suitable for various applications.
- **DDR5 SODIMM Dual Channel:** It supports DDR5 SODIMM memory in a dual-channel configuration, enhancing memory bandwidth and performance.
- **Supports 8K video output with HDMI 2.1,** ensuring high-quality video transmission and reducing signal degradation over longer distances.
- **DisplayPort 2.0 Re-driver:** Enhances DisplayPort 2.0 capabilities, supporting high-resolution displays and improving signal integrity.
- **Dual Intel® Ethernet Controller I226:** Offers advanced networking capabilities with dual Intel® Ethernet Controller I226, supporting high-speed data transmission and reliable connectivity.
- **Supports HDMI Capture via MIPI CSI:** The design allows for HDMI capture through the MIPI CSI interface, which is useful for video processing and streaming applications.

These features make the McLaren Island Reference Design a versatile and powerful platform for developers working on cutting-edge mobile and edge computing solutions.

1.1 Terminology

Table 1. Terminology

Term	Description
HDMI	High-Definition Multimedia Interface
TSN	Time-Sensitive Networking
MIPI CSI	Mobile Industry Processor Interface Camera Serial Interface
LSPCON	Level Shifter and Protocol Converter
SIO	Super Input Output
eSPI	Enhanced Serial Peripheral Interface
DP	Display Port

Term	Description
eDP LVDS	Embedded Display Port with Low-Voltage Differential Signaling

1.2 Reference Documents

Log in to the Resource and Documentation Center (rdc.intel.com) to search for and download the document numbers listed in the following table. Contact your Intel field representative for access.

Note: NDA Customers can access McLaren Island Design Collaterals after obtaining a Design Licensing Agreement from Intel.

Table 2. McLaren Island Reference Documents

Document	Document No./Location
Gold Deck	738092
Schematics PDF	738094
Schematics – Cadence	738095
Schematics – OrCAD	738096
Schematics – Mentor	738098
Schematics – Zuken	738097
Bill of Materials (BOM)	738100
Board Layout Files	738099
Tape Out Manufacturing Files	738101
User Guide	738102
Thermal Mechanical Design Guide	813562

Display Out	<p>1x Standard HDMI connector (HDMI2.1 – 8K via Retimer) 2x Type-C Connector (DP1.4a) 1x Standard DP++ connector (DP1.4a) 1x DDI LVDS Connector (eDP-LVDS) 1x DP2.0 connector (via Retimer)</p>
Display In	<p>1x micro-HDMI (LT6911 HDMI in – x4 MIPI CSI)</p>
Storage	<p>1x M.2 Key B 3052 SSD [PCIe, USB3] 1x M.2 Key M 2280 [PCIe x4] 2x SATA3.2 Connector with PWR headers 256Mb SPI Chip [W25R256JWEIO]</p>
USB	<p>4x USB 3.2 Gen 2 Type-A Connector (1-PCH, 2- PCIe bridge, 1- stuffing option between Type-C & Type-A) 1x USB 4, Type-C 1x USB 3.2 Gen 2 x2 Type-C Connector (1 stuffing option with Type-A connector) DCI enable for silicon debug & IPCM for power measurement 1x USB to UART debug port (FTDI)</p>
Connectivity	<p>2x Intel® Ethernet Controller I226 (2.5Gb) ‘Foxville’ 1x M.2 Key E 2230 for Wi-Fi/ Bluetooth® 1x M.2 Key B 3042 for WWAN (LTE/5G with 3052 KOZ) 1x Nano SIM Slot</p>
Super IO	<p>eSPI Super IO [IT8786E-I]</p>
Expansion Slots	<p>1x FUSA connector 1x PCIe Gen 5 X8 connector</p>
Headers	<p>eSPI HDR Front Panel HDR Fan Header UART HDR (SOC) RS232 HDR (SIO) RS485 HDR (SIO)</p>
Audio	<p>Realtek ALC892 (HDA) 3.5mm Line Out + Microphone</p>
Security	<p>TPM SLB9670VQ2.0</p>
Power	<p>12V, 10A input Discrete Solution</p>
Chassis	<p>Open Chassis</p>
Cooling	<p>Active</p>
Operating Temperature	<p>Operating: 0 ~ 60 °C</p>

3.0 Call to Action

To obtain McLaren Island design documents from Intel, an NDA (Non-Disclosure Agreement) and Design Licensing Agreement must be signed. This ensures compliance with legal and corporate policies while facilitating seamless collaboration between your company and Intel.

For our existing customers, please contact your Intel sales representative for more information about these agreements and how to proceed.

If you are new to Intel, please contact us at <https://builders.intel.com/contact-us>.

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