

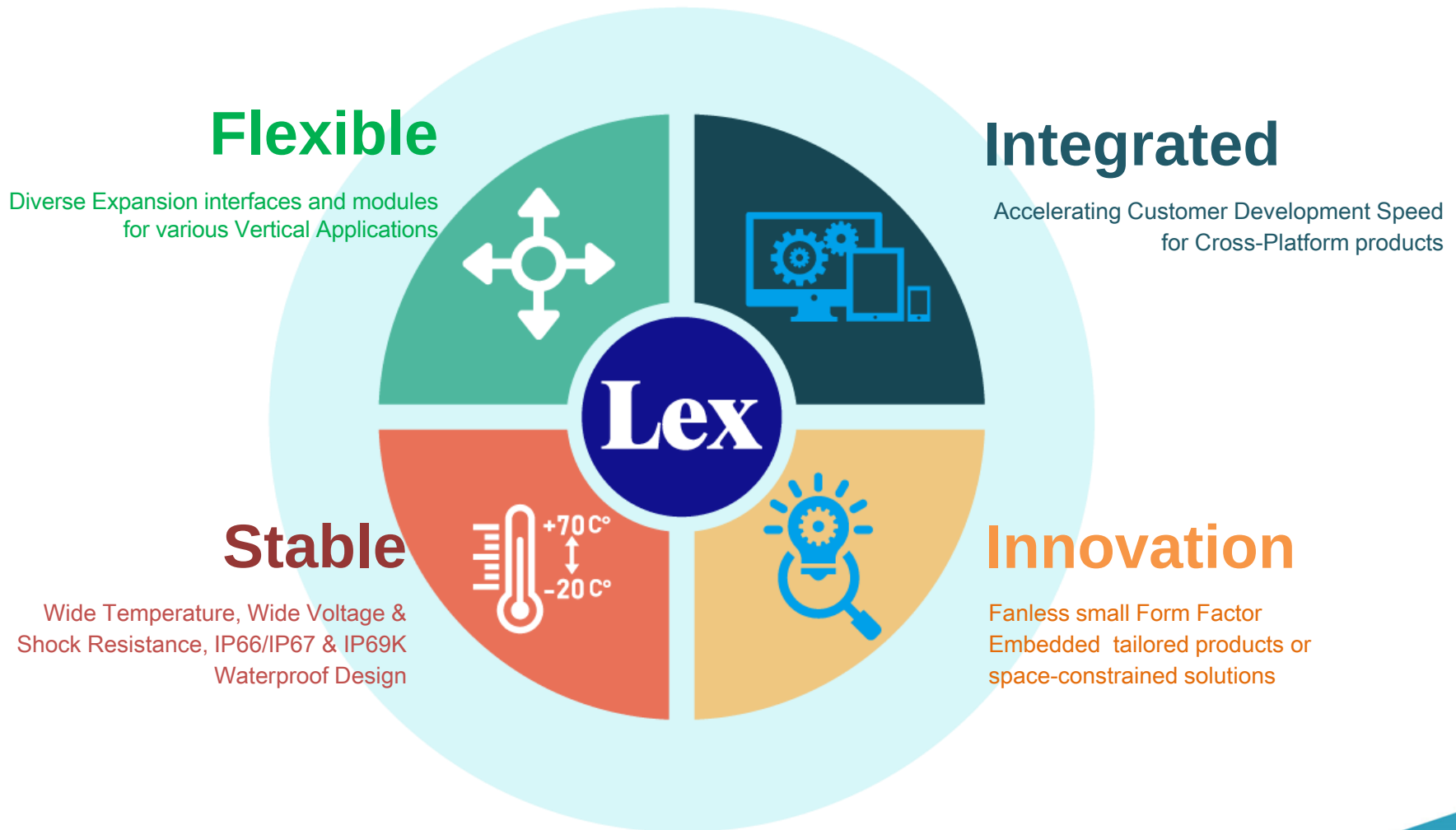
# Product Roadmap

- Embedded Mainboard & SBC
- Embedded Fanless PC
- IP65/66/67/69 Panel PC / Box PC

# Contents

- LEX System Features & Advantages
- Embedded Solution Overview
- Embedded Solution Case Study
- Product Highlights
- Product Development Timeline
- Product long term supply
- Contact Information

# Features & Advantages



# LEX SYSTEM – Embedded Solution

LEX offers design and manufacturing of industrial motherboards, industrial computers, expansion boards, and customized industrial computers, including edge computing systems and AI intelligent application platforms. Our in-house developed products cover four major categories:



Total : 83 pcs

## 1 Embedded IPC Board

- Femto-ITX 1.8" : 3pcs
- 3.5"SBC : 30 pcs
- Computer On Module : 5 pcs
- UPS board : 4 pcs \*
- double counting with SBC
- Pico-ITX 2.5" : 27 pcs
- 5 ¼ " ( 200 x 150mm ) : 4 pcs
- CPU board : 3 pcs
- ARM based : 7pcs



## 2 Customized Motherboard & Chassis

Innovating Research & Integration Services for  
Global OEM/ODM and System Integrators

## • Applications



AI / Visual Analytics



Smart Manufacturing /  
Machine Vision



IoT / IIoT



Smart Healthcare/  
AI Medical Imaging



Smart Transportation &  
Railways



Maritime Shipping  
& Navigation



Defense / Military  
Robust Computers



Edge Computing  
Edge Gateway Control



Networking/  
Communication Equipment

# LEX SYSTEM – Embedded Solution



## 3 Fanless Rugged Panel PC, Fanless Embedded Systems, Servers



## 4 Expansion Boards/Cards & Related Accessories

### Fanless Rugged Panel PC



•SUPER series (7"/10.1"/10.4"/15")



•VITA series (10.1"/15"/21.5"/23.8")



•Slim series (8.4"/10.2"/15.1"/17")



•SHARK IP66/67 **waterproof** (10.1"/13.3")



•STAR IP66/67 **waterproof** (10.4"/12.1"/15.1")

•**Stainless** IP66/IP67/IP69K **waterproof**

(10.4"/15.1"/19")

### Fanless Embedded System



•Rugged /Waterproof System



•In-vehicle System

•DIN Rail System



•1U server

•AI image Analysis & Machine Vision

•Ultra Compact / Compact System

•High-Speed Ethernet Network Card / PoE / Fiber Card

•4G / 5G / WiFi / Bluetooth Module

•Video Capture Card

•USB / SIM / COM / Display Conversion Card

•M.2 / eIO Expansion Card

•Storage Card

•Digital IO Card

•Carriers and Converter Boards

•Power Boards and Charger Modules



# Embedded Solution— Case Study



Spain  
Intelligent Transportation  
Surveillance System



China  
Highway ETC smarting  
billing system



Germany  
3D Surgery Navigation



China  
Servotronics EtherCAT  
Robot Motion Control

# Embedded Solution— Case Study



Kiosk-Self Service  
Harsh outdoor Panel PC  
for Winter Olympics



Video Analysis  
Metro Real-time  
Surveillance System



Poland  
Railway in-train  
communication



Netherlands  
Fleet management

# 2024 Product Highlights ( Q1-Q3 Embedded IPC Board )



2I130HW-2.5" Plus SBC  
2I130DW-2.5" Plus SBC  
3I130DW-3.5" Plus SBC  
3I130TW-161x150 mm SBC



2I110D-2.5" Plus SBC  
2I110AW-2.5" Plus SBC  
3I110HW/BW-3.5" Plus SBC



**2NOR01-** 2.5" Plus carrier board  
Carrier Board for Edge AI solution with  
NVIDIA® Jetson Orin™ Nano / NX

## **ORIN-TW**

Carrier Board for Railway solution with  
NVIDIA® Jetson Orin™ Nano / NX



3I470DW-155 x150 mm SBC



CI370D-217 x 185 mm SBC  
CI371D-217 x 223 mm SBC  
3I370DW-155 x150 mm SBC



**2N8MP01-** 2.5" Plus SBC



2I810D-2.5" Plus SBC  
3I810DW-3.5" Plus SBC  
3I810HW/BW-3.5" Plus SBC



2I640PW-Compute on Module  
2I640HL-2.5" Plus SBC with Hailo-8  
2I640DW-2.5" Plus SBC  
2I640CW-2.5" Plus SBC  
2I640HW-2.5" Plus SBC  
3I640DW-3.5" SBC  
3I640CW-3.5" SBC



# 2024 Q4 Product Highlights

## 2I640SW-2.5" SBC



Intel® Elkhart Lake ATOM® x6413E / J6412  
1 x DDR4 SODIMM Max 32GB  
2 x HDMI, LVDS  
Touch Screen Controller  
2 x Intel 2.5GbE, 2 x USB 3.1, 5 x USB 2.0  
4 x RS232/422/485  
4 DI / 4 DO  
2 x M.2 B Key Type3042, 1 x Nano SIM  
110 x 98 mm

## 3I140DW-3.5" SBC



Intel® 14th Gen Meteor Lake-H CPU  
2 x HDMI, eDP  
2 x DDR5 SODIMM Max 64GB  
5 x Intel 2.5 GbE, USB 3.2, USB 2.0  
1 x Mini PCIe, 2 x M.2, 1 x Nano SIM  
2 x COM, 4DI / 4DO  
146 x 110 mm

## CI870CW-Industrial SBC



Intel® 15th Gen Arrow Lake-S CPU

## ORIN-TW

Carrier Board for Railway solution with  
NVIDIA® Jetson Orin™ Nano / NX platform

## NEX002 EMPOWERED BY

Carrier Board for NXP Vision Learning solution  
Onboard Hailo-8 AI processor

## PW505

Isolation power board for  
Railway 60W with  
CPC-Ignition on/off delay

# 2024 Q4 Product Development timeline



## 13th Gen Intel® Core™ Raptor Lake-P/U



**2I130HW**

Intel® 13th Gen Raptor Lake-U/P CPU  
1 x DDR5 SODIMM (Max. 32GB)  
HDMI, eDP, LVDS  
2 x Intel 2.5 GbE, 4 x USB 3.2  
4 x USB 2.0, 2 x COM, 4DI / 4DO,  
HD Audio, 1 x Mini PCIe, 1 x M.2  
108 x 10mm



**2I130DW**

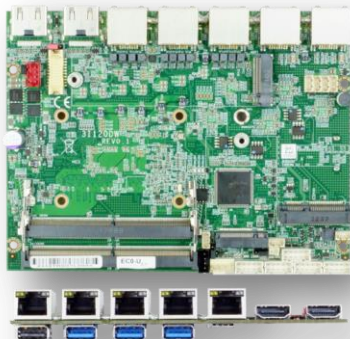
Intel® 13th Gen Raptor Lake-U CPU  
1 x DDR5 SODIMM (Max. 32GB)  
HDMI, eDP  
4 x Intel 2.5 GbE, 3 x USB 3.2  
4 x USB 2.0, 2 x COM, 4DI / 4DO,  
2 x M.2, 1 x Nano SIM  
108 x 10mm



**SKY 2 2I130DW**

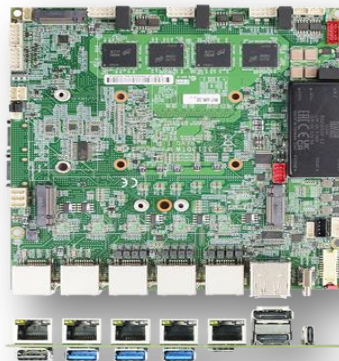


**ROCK 2I130DW**



**3I130DW**

Intel® 13th Gen Raptor Lake-P / U CPU  
2 x DDR5 SODIMM (Max. 64GB)  
2 x HDMI, eDP  
5 x Intel 2.5 GbE, 3 x USB 3.2, 5 x USB 2.0  
1 x Mini PCIe, 2 x M.2, 1 x Nano SIM  
2 x COM, 4DI / 4DO  
146 x 110 mm



**3I130TW - EVT**

Intel® 13th Gen Raptor Lake- U CPU  
On-board LPDDR5 (16GB/32 GB)  
HDMI, DP, eDP, 5 x Intel 2.5 GbE,  
3 x USB 3.2, 5 x USB 2.0, 3 x M.2,  
1 x Nano SIM, 2 x ISO-COM, HD Audio  
2 x ISO-CANBus, 4DI / 4DO, onboard NVMe  
CPC - Ignition Delay on/off control  
146 x 150 mm



**HAWK 3I130TW (M12)**



**HAWK 3I130DW**



**SKY 3 3I130DW**

# 2024 Q4 Product Development timeline

## NVIDIA Jetson Orin Nano/ NX SOM Carrier Board

JETSON  
Orin™ NX

JETSON  
Orin™ Nano



### ORIN-TW

1 x DP, 5 x GbE (1 + 4 x PoE)  
1 x USB 3.1 Type C ; 2 x USB 3.1 Type A ; 1x USB 2.0  
Mic-in / Line-out ; AMP 2W, 2 x SATA  
2 x Isolated RS232 / RS422 / RS485, 1 x Isolated CANBus  
1 x M.2 M key, 4 x M.2 B key, 1 x M.2 E Key, 1 x Nano SIM  
2 x MIPI CSI, SPI, I<sup>2</sup>S, 3 x I<sup>2</sup>C, 8DI / 8 DO,  
Wide Range +9~36V, CPC-Ignition on/off delay control  
Dimension: 186 x 166 mm



### CPU Board:

NVIDIA Jetson NX: 8 / 16GB LPDDR5, 70 / 100 TOPs  
NVIDIA Jetson Nano: 4 / 8GB LPDDR5, 20 / 40 TOPs  
AI Accelerator: NVIDIA® Jetson Orin™ Nano / Orin™ NX

### 2NOR01 - EVT

NVIDIA® Jetson Orin™ Nano / Orin™ NX  
2 x HDMI , 2 x 2.5GbE, 1 x GbE  
4 x USB 3.1, 1 x Type C USB 3.1 / 2.0 (OTG), 1 x USB 2.0  
Mic-in / Line-out ; AMP 2W  
2 x RS232 (Option RS422 ), 1 x CANBus  
1 x M.2 M key 2 x M.2 B key, 1 x SIM, 4DI / 4DO  
Internal wafer: SPI, I<sup>2</sup>S, I<sup>2</sup>C, USB 2.0



HAWK ORIN-TW



Back Panel  
Optional M12 GbE I/O  
Optional Anti-Vibration kit



Front Panel  
Optional Mobile Rack



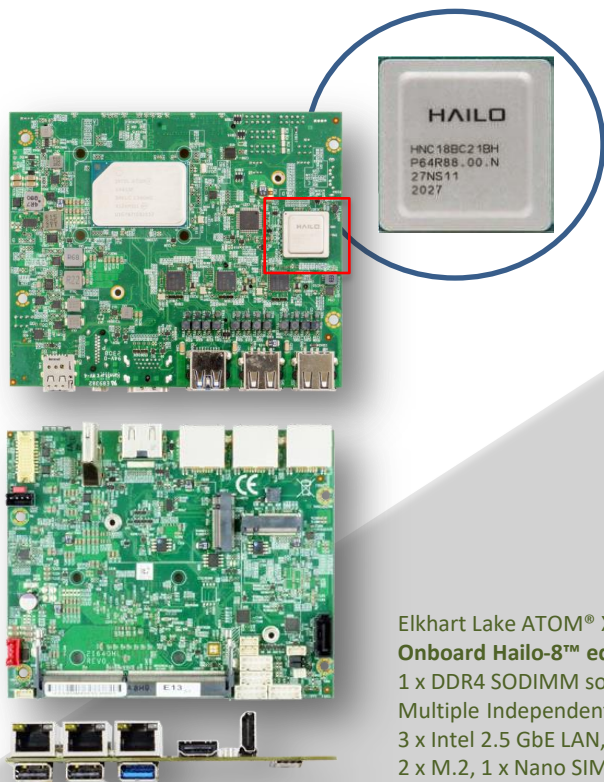
SKY 2 2NOR01



# 2024 Q4 Product Development timeline



Edge AI System + onboard Hailo-8™ edge AI processor



SKY 2 2I640HL



NET-II 2I640HL

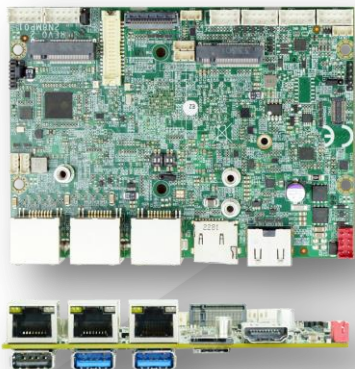
Elkhart Lake ATOM® X6413E CPU  
**Onboard Hailo-8™ edge AI Processor**  
1 x DDR4 SODIMM socket, Max. 32GB  
Multiple Independent display: 2 x HDMI ,eDP  
3 x Intel 2.5 GbE LAN, 1 x USB 3.0, 5 x USB 2.0, 2 x COM  
2 x M.2, 1 x Nano SIM, 4 DI / 4DO



# 2024 Q4 Product Development timeline



## NXP i.MX8M Plus /ARM Cortex-A53



### PALM-NEX001 - EVT

NXP i.MX8M Plus (Quad core)  
ARM Cortex A53 CPU  
LPDDR4, 8GB (NEX-8MP)  
32GB eMMC 5.1 (NEX-8MP),  
expandable to 256GB  
HDMI ; 2 x GbE ; 2 x USB 3.0 / 2.0  
1 x Micro SD, 1 x RS232, 1 x RS485  
DC input : +5V  
71.4W x 71.4D x 29.5H mm

### 2N8MP01 - EVT

NXP i.MX8M Plus (Quad core)  
ARM Cortex A53 + M7 CPU  
LPDDR4, 4GB / 8GB  
Independent display: 1 x HDMI, LVDS, 1 x MIPI Display  
3 x GbE LAN, 2 x USB 3.0, 3 x USB 2.0  
2 x COM, 3 x M.2, 1 x Nano SIM  
4DI / 4DO, 1 x MIPI (CSI), 1 x CANBus  
115.4 x 84.5 mm

### NET 2N8MP01



Back

With NEX-8MP computer on module



### NXP-HAI01 (NEX002)

Carrier Board with onboard Hailo AI chip



NXP i.MX8M Plus(Quad core)ARM Cortex-A53  
processor up to 1.8 GHz  
Memory: LPDDR4, 8GB (NEX-8MP)  
32GB eMMC 5.1, option 64 / 128 / 256GB  
1 x Micro SD  
Onboard Hailo-8™ AI processor ;  
2 x MIPI – CSI; 1 x Mini HDMI® ;  
1 x GbE (M8 I/O) ; 1 x USB 3.0 Type A,  
1 x USB 3.0 Type C ; 1 x RS485 + 2 DI/2DO(M8 I/O)  
Power : Wide Range DC IN 9-24V (M8 Connector)  
Dimension: 60W x 86D x 20.08H mm  
(NEX-8MP: 58.42 x 58.42 mm)

# 2024 Q4 Product Development timeline



## Intel® Elkhart Lake ATOM /Celeron processor



### 2I640PW - EVT

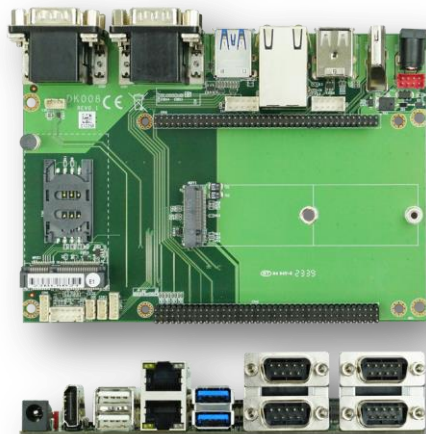
Pico Express Computer on Module

Intel® Elkhart Lake ATOM® x6413E / J6412 CPU  
On Board LPDDR4 4GB or 8GB  
Independent display: 1 x HDMI, 1 x LVDS, 1 x VGA  
2 x Intel 2.5 GbE LAN, 2 x USB 3.0, 5 x USB 2.0  
4 x COM, 1 x Mini PCIe, 1 x M.2  
1 x PCIe x2 (Pico-Express)  
Touch Screen, HD Audio, 4DI / 4DO  
102 X 85 mm



### 2I640SW

Intel® Elkhart Lake ATOM® x6413E / J6412  
1 x DDR4 SODIMM Max 32GB  
2 x HDMI, LVDS  
Touch Screen Controller  
2 x Intel 2.5GbE ,2 x USB 3.1, 5 x USB 2.0  
4 x RS232/422/485  
4 DI / 4 DO  
2 x M.2 B Key Type3042 , 1 x Nano SIM  
110 x 98 mm



### DK008 - EVT

Evaluation Board for 2I640PW

I/O: 1 x HDMI, 2 x RJ45 , 2 x USB 3.0, 2 x USB 2.0  
4 x COM, 1 x Mini PCIe, 1 x M.2, 1 x PCIe x1,  
4DI / 4DO, Wide Range DC -IN  
104 x 146 mm

# 2024 Q4 Product Development timeline

## Expansion Card and Modules



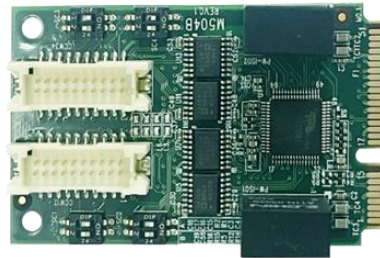
**NF226A**

M.2 2242 B key to  
1 x Intel I226IT 2.5GbE



**NF226B**

M.2 3042 B+M key to  
2 x Intel 2.5 GbE



**M504B**

Mini PCIe to 4\* RS232/485/422  
(F81504U )



**NF212A**

M.2 2242 B key to  
1 x Intel I210IT GbE



**NF212B**

M.2 3042 B+M key to  
2 x Intel GbE

### **PW505**

**Power Module for Railway/ In-vehicle  
COMING SOON !**

Isolation power board for  
Railway 60W with CPC-Ignition on/off control

Wide Range DC-IN 9~36V Isolation power brick  
Wide Range DC IN +18~75V (OEM option),  
Wide Range DC IN +40~160V (OEM option w/o CPC function),

# LEX SYSTEM with Long-Term Supply

| EOL Timeline                  | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 |
|-------------------------------|------|------|------|------|------|------|------|------|------|
| Raptor Lake-U                 |      |      |      |      |      | Q1   |      |      |      |
| Tiger Lake-UP3                |      |      | Q3   |      |      |      |      |      |      |
| Comet Lake-S                  |      |      | Q2   |      |      |      |      |      |      |
| Whisky Lake-U                 |      |      |      |      |      | Q3   |      |      |      |
| Coffee Lake-S 9 <sup>th</sup> |      |      |      |      |      |      | Q2   |      |      |
| Coffee Lake-S 8 <sup>th</sup> |      |      |      |      |      | Q2   |      |      |      |
| Kaby Lake-U/S 7 <sup>th</sup> |      |      |      |      | Q1   |      |      |      |      |
| Skylake-U/S 6 <sup>th</sup>   |      |      | Q3   |      |      |      |      |      |      |
| Elkhart Lake                  |      |      |      | Q1   |      |      |      |      |      |
| Apollo Lake                   |      |      |      | Q3   |      |      |      |      |      |
| Bay Trail                     | Q4   |      |      |      |      |      |      |      |      |
| Jetson Orin                   |      |      | Q1   |      |      |      |      |      |      |
| i.MX8M Plus                   |      |      |      |      |      |      |      |      | Q1   |
| AMD Ryzen V/R1000             |      | Q1   |      |      |      |      |      |      |      |

\* Product life span in alignment with Intel's IOTG / NVIDIA modules Life cycle /NXP CPU /AMD longevity.



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