EMBEDDED COMPUTING

Where Embedded Meets AI

PRODUCT GUIDE 2024 - 2025

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Embedded Design Excellence

BCM Core Competencies and Differentiations

intel partner Titanium

Embedded ODM/OEM - Design to Delivery

30+ years of ODM design expertise. Turnkey solutions from CPU boards to complete systems, ensuring on-spec, on-time delivery and low costs. Extended 7-10 year product life cycles.

Competitive NRE Design Fee and Low MOQ Requirement

We take pride in our exceptional custom design capabilities and flexible business model. Our affordable non-recurring engineering (NRE) costs and ability to support projects of any size allow customers to optimize unit costs.

We Bring Unparalleled Value and Service to Customers

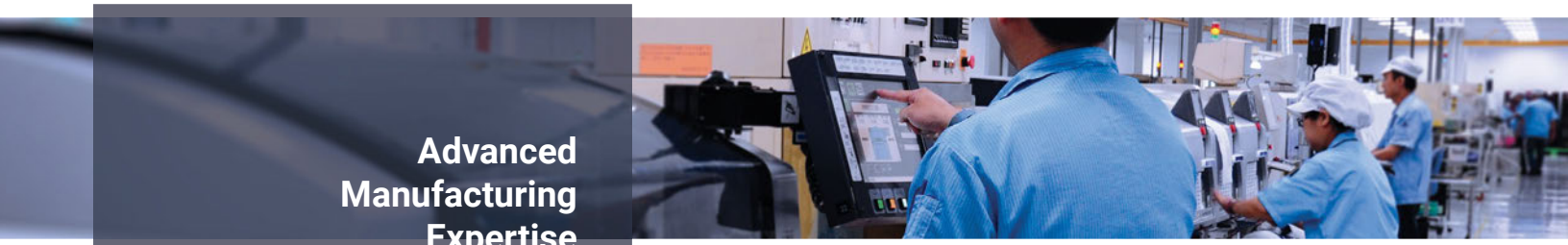
Accelerating time-to-market and reducing certification costs through certified industrial computing building blocks, while delivering quality, long life cycle products and customer-centric support.

US In-House R&D and Project Management Teams

Best in class US-based engineering support, FAE consultation, and project management teams able to provide same-day responses for North America customers through our California tech hub.

Accelerating Embedded Innovation Through Strategic Partnerships - Intel, Rockchip, Arrow, Avnet, Dedicated Computing, EmbedTek

BCM maintains strategic partnerships that enable our customers to stay ahead of the technology curve and outpace competitors. As an Intel Partner Alliance Titanium tier member, we gain early access to new Intel technologies and samples. This allowed BCM to rapidly develop cutting-edge solutions leveraging the latest processor platforms. We also collaborate closely with leading system integrators and distributors to facilitate rapid deployment of our innovative embedded products to market.



Advanced Manufacturing Expertise

Medical and Automotive Electronics Certified Factories

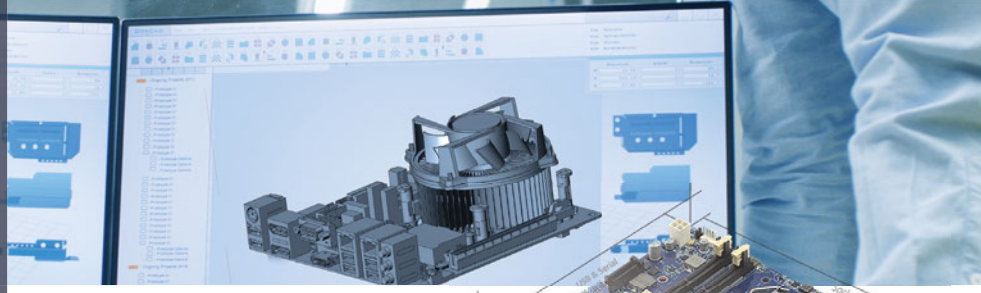
Our manufacturing facilities in Taiwan are certified to stringent international standards, including ISO 9001 for quality management, ISO 14001 for environmental management, ISO 13485 for medical device manufacturing, and TS 16949 for automotive industry quality systems. These certifications underscore our commitment to excellence across industries like medical electronics and automotive electronics.

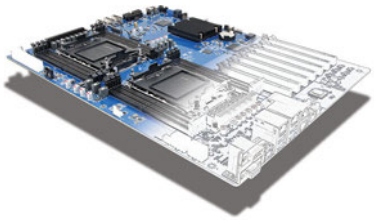
Quality Control, Quality Assurance

Every board and system undergoes comprehensive functional testing at our factories prior to shipping, minimizing the risk of out-of-box failures and reducing return costs for our customers.

ODM Custom Design Motherboards & Systems

Tailored to Your Expectations, Custom Perfection



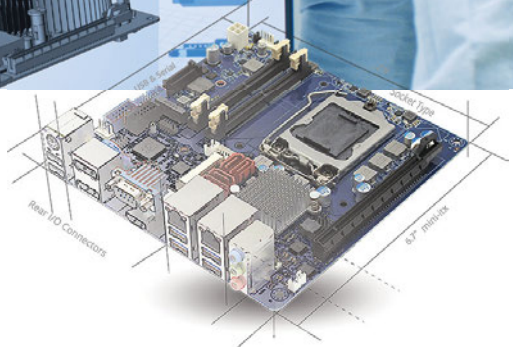


Semi-Customized Motherboards

Leverage our standard off-the-shelf board, customize by adding or removing features to align with your requirements. This approach reduces development costs while maintaining a rapid time-to-market advantage.

Semi-Customized Systems

Whether you need a quick system solution based on one of our standard motherboards, either a metal enclosure or adding a plastic back cover to one of our open frame tablet products, semi-customizing a system with BCM is easy and fast.



Full Custom Design

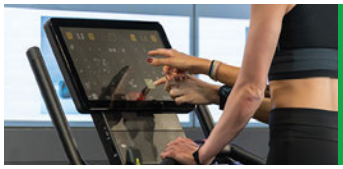
Ground-up custom motherboard and system designs tailored to your specific requirements: non-standard form factor, computing performance, specialized I/O, FPGA implementation, metal chassis/ID design, plastic housing, tooling, touch screen, UL certifications etc.

Key Industries Served & Market Applications

Medical Imaging System, Ultrasound System, Medical AI, CT scan, MRI, X-Ray

Automated Medicine Dispensing Machine, Surgical Room Lighting HMI, Lab Testing & Analysis Devices

Nursing Cart, Point-of-Care, Clinic Diagnosis Devices, Surgical Treatment Devices



Fitness Rehab, Smart Fitness HMI, Healthcare

Medical, Clinical Healthcare, Life Science, Fitness

Class 1,2&3, Player Tracking Systems, Video Slot Machines VLT, Jackpot

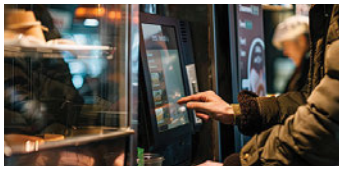
Lottery/Bingo System, Vending Kiosk, Table Game, VR, Arcade Game Amusement Machines

Sports Betting, Digital Signage, Media Production Devices, Hotel Conference Room/Showroom HMI

Hospitality Service Robots, Hotel Management, IT/Data/Server Room, Security Surveillance, Smart HMI

Casino Gaming, Lotto, Digital A/V, Hotel, Restaurant

In-Flight/Seat-back Entertainment Systems, Retail Point-of-Sale, ATM, Digital Signage



Automated Vending Machines, Self-checkout POS/Kiosk, Beverage Dispenser HMI

Automated Parcel Locker, Airport Kiosk, Parking Payment System, Industrial Tablet

Autonomous Mobile/Self-driving Robots, Material Handling Robots, AGV, AMR

Retail POS, Kiosk, Robotics, Automated Vending

X-Ray Luggage Scanning, Factory Automation, Test Instruments, Measurement Devices, Simulation, Packing Line Inspection Machines

HMI for Industrial Control, 3D/ Commercial Printers, Commercial Kitchen Appliances, Smart Home/ Building Automation

EV Charging HMI, ITS, Gate Control, Telematic Gateway, Edge Management Gateway

Smart Agriculture Machinery, Electronic Toll Collection (ETC) & License Plate Imaging Systems

Industrial, Security, EV & Automotive, Transportation

Intel-based High Performance Computing HPC Solutions

Elevate your computing experience with our premium Intel Xeon architecture-based motherboards and systems. Unlock the full potential of Intel's ground-breaking AI accelerators by pairing our hardware with the Xeon processor of your choice. Tailored to meet your specific demands, our solutions deliver unrivaled performance, allowing you to conquer even the most complex tasks with ease. Embrace the future of computing and elevate your capabilities today.

BCM HPC Value Proposition:

Extended Lifecycle and Reliability

- Extended product lifecycle with a minimum of 5 or 7+ years
- Revision Control to minimize BOM changes
- Intel® IPA member Titanium tier, to ensure our customers get first hand technology and CPU/Chipset samples to start their development

Customer Benefits

- Reduced R&D cost and refresh cycles, skipped re-certification costs
- Built-in BMC/IPMI for Real-time System Remote Monitoring and Management
- Save cost on field-trip onsite technician
- Our customer centered support
- Lower TCO - Total Cost of Ownership

Flexible Customization & Low MOQ

- Flexible spec requirements
- Low minimum order requirement
- L6 barebone only or L10 fully integrated system with CPU, memory and storage
- Options of local US based system integrator partners for custom chassis
- Options of services: IPMI and UEFI customization, thermal optimization

Supports Intel Data Center GPU Cards Flex Series

Product Name	HPS-ERSU4A	HPS-ERSUTA	HPS-ERSD4A
Motherboard Inside	HPM-ERSUA or HPM-SIEUA	HPM-ERSUA or HPM-SIEUA	HPM-ERSDEA
Front Cover	Lockable Front Cover	Lockable Front Cover	Lockable Front Cover
Front I/O	2 x USB 3.2 Gen1 1 x Power Button and 1 x Reset Button	2 x USB 3.2 Gen1 1 x Power Button and 1 x Reset Button	2 x USB 3.2 Gen1 1 x Power Button and 1 x Reset Button
Rear I/O	4 x USB 3.2 Gen 1 an 2 x USB 2.0 5 x RJ45 1 x VGA 1 x COM	4 x USB 3.2 Gen 1 an 2 x USB 2.0 5 x RJ45 1 x VGA 1 x COM	6 x USB 3.2 Gen1 5 x RJ45 1 x VGA 1 x COM
Expansion Slots	8 x PCIe Slots	8 x PCIe Slots	8 x PCIe Slots
Drive Bay	3 x Front accessible 2.5" storage bays	3 x Front accessible 2.5" storage bays	3 x Front accessible 2.5" storage bays
System Fan	1 x Front + 2 x Rear PWM Fan	1 x Front + 2 x Rear PWM Fan	1 x Front + 2 x Rear PWM Fan
PSU	1 x 1300W Platinum Standard PS2 ATX PSU	1 x 1300W Platinum Standard PS2 ATX PSU	1 x 1300W Platinum Standard PS2 ATX PSU 1 x 1600W CRPS (Optional)
Operating Temperature	0°C ~ 35°C	0°C ~ 35°C	0°C to 35°C (1300W PS2 PSU) 0°C to 40°C (1600W CRPS)
Operating Humidity	40°C/RH95%/24hrs IEC 60068-2-56 Test : Cb	40°C/RH95%/24hrs IEC 60068-2-56 Test : Cb	40°C/RH95%/24hrs IEC 60068-2-56 Test : Cb
Storage Temperature	-40°C 24hrs IEC60068-2-1 Cold Test : Ab 70°C/ RH95% 24hrs IEC 60068-2-3 Test: Ca	-40°C 24hrs IEC60068-2-1 Cold Test : Ab 70°C/ RH95% 24hrs IEC 60068-2-3 Test: Ca	-40°C 24hrs IEC60068-2-1 Cold Test : Ab 70°C/ RH95% 24hrs IEC 60068-2-3 Test: Ca
EMC	CE, FCC class B	CE, FCC class B	CE, FCC class A
Safety	EN 62368	EN 62368	EN 62368
Dimension	19" 4U Rackmount Chassis 16.93" x 6.88" x 20.79" (WxHxD) 19" x 6.88" x 20.79" (WxHxD) with ear mount	13.39" x 19.21" x 20.79" (WxHxD) Tower Chassis 6.88" x 16.93" x 20.79" (WxHxD) Tower Chassis without external handles and pedestal stand	19" 4U Rackmount Chassis 16.93" x 6.88" x 25.59" (WxHxD) 19" x 6.88" x 25.59" (WxHxD) with ear mount
Weight	43 lbs (19.5 kg)	44 lbs (19.7 kg)	57 lbs (25.8 kg)

HPC Motherboards

Product Name	HPM-SRSUA / HPM-ERSUA	HPM-SRSDE / HPM-ERSDE	HPM-SIEUA
Processors	Single socket supports 4th or 5th Gen. Intel® Xeon® Scalable Processor (up to 270W TDP)	Dual sockets support 4th or 5th Gen. Intel® Xeon® Scalable Processor (up to 270W TDP)	Single socket supports 4th Gen. AMD EPYC Processor (up to 225W TDP)
CPU Socket	LGA4677	LGA4677	AMD SP6
Chipset	Intel® C741 PCH	Intel® C741 PCH	n/a
Memory	6 slots support 5600MHz DDR5 RDIMM up to 1.5TB	12 slots support 5600MHz DDR5 RDIMM up to 3TB	6 x slots 4800/4400MHz DDR5 RDIMM up to 1.5TB
BMC / IPMI	IPMI 2.0, supported by AST 2600 BMC Controller	IPMI 2.0, supported by AST 2600 BMC Controller	IPMI 2.0, supported by AST 2600 BMC Controller
PCIe Slot	4 x Gen5 PCIe x16 3 x Gen5 PCIe x4	7 x Gen5 PCIe x16	3 x Gen5 PCIe x16 4 x Gen5 PCIe x8
M.2 Socket	1 x M.2 M-Key 2242/2260/2280/22110, supports PCIe 3.0 x4 NVMe SSD	1 x M.2 M-Key 2242/2260/2280/22110, supports Gen5 PCIe x4 NVMe SSD	2 x M.2 M-Key SSD 2260/2280/22110, support SATA or PCIe 5.0 x4 NVMe SSD
Ethernet Controller	**HPM-SRSUAA or HPM-ERSUAA: (4 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE) 1 x Intel® X550-AT2 Ethernet Controller (2x10GbE) **HPM-SRSUAL or HPM-ERSUAL: (2 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE)	**HPM-SRSDEA or HPM-ERSDEA: (4 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE) 1 x Intel® X550-AT2 Ethernet Controller (2x10GbE) **HPM-SRSDEL or HPM-ERSDEL: (2 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE)	**HPM-SIEUAA: (4 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE) 1 x Intel® X550-AT2 Ethernet Controller (2x10GbE) **HPM-SIEUAL: (2 LAN Ports)** 1 x Intel® I210-AT Ethernet Controller (1GbE) 1 x Intel® I226-LM Ethernet Controller (2.5GbE)
Audio	via Audio Daughter Board	via Audio Daughter Board	via Audio Daughter Board
TPM	TPM 2.0	TPM 2.0	TPM 2.0
External I/O	4 x USB 3.2 Gen1 2 x USB 2.0 1 x RS-232 1 x VGA 1 x RJ45 (MLAN) for BMC/IPMI Management LAN **4 LAN:** 4 x RJ45 (1GbE + 2.5GbE + 2 x 10GbE) **2 LAN:** 2 x RJ45 (1GbE + 2.5GbE)	6 x USB 3.2 Gen1 1 x RS-232 1 x VGA 1 x RJ45 (MLAN) for BMC/IPMI Management LAN **4 LAN:** 4 x RJ45 (1GbE + 2.5GbE + 2 x 10GbE) **2 LAN:** 2 x RJ45 (1GbE + 2.5GbE)	4 x USB 3.2 Gen1 1 x RS-232 1 x VGA 1 x RJ45 (MLAN) for BMC/IPMI Management LAN **4 LAN:** 4 x RJ45 (1GbE + 2.5GbE + 2 x 10GbE) **2 LAN:** 2 x RJ45 (1GbE + 2.5GbE)
Internal I/O	2 x USB 3.2 Gen1 Headers (4 Ports) 1 x RS-232 5 x SATA III supports up to 6.0 Gb/s SATA 1~4 support RAID 0, 1, 5, 10	2 x USB 3.2 Gen1 2 x USB 2.0 Type A Receptacle 2 x USB 2.0 1 x RS-232 5 x SATA III (SATA 1-4 support RAID 0, 1, 5, 10) 3 x Slim SAS 8i (SFF-8654) 1 x Mini-SAS HD 4i 1 x 7pin SATA connector	4 x SATA III 1 x Mini-SAS HD 4i (for 4xSATA or 1x4 NVMe) 1 x RS-232
Power and Connector	1 x Standard 24-pin ATX Connector 3 x 8-pin SSI 12V Connectors	1 x Standard 24-pin ATX Connector 3 x 8-pin SSI 12V Connectors	1 x Standard 24-pin ATX Connector 3 x 8-pin SSI 12V Connectors
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing	40°C @ 95% Relative Humidity, Non-condensing	40°C @ 95% Relative Humidity, Non-condensing
Oeratiing Temperature	up to 250W TDP CPU: 0 ~ 55°C (32 ~ 131°F) up to 270W TDP CPU: 0 ~ 45°C (32 ~ 113°F)	up to 250W TDP CPU: 0 ~ 50°C (32 ~ 122°F) up to 270W TDP CPU: 0 ~ 40°C (32 ~ 104°F)	0 ~ 60°C (32 ~ 140°F) (without Intel® X550) 0 ~ 55°C (32 ~ 131°F) (with Intel® X550)
Storage Temperature	-40°C to 85°C (-40 ~ 185°F)	-40°C to 85°C (-40 ~ 185°F)	-40°C to 85°C (-40 ~ 185°F)
Form Factor	ATX	Proprietary	ATX
PCB Thickness	2.54 mm	2.86 mm	2.0 mm
Dimension	12" x 9.6" (304.8 x 243.84 mm)	16.452" x 12" (417.88mm x 304.8mm)	12" x 9.6" (304.8 x 243.84 mm)
Weight	2.65 lbs (1.19 kg)	4.85 lbs (2.2 kg)	2.14 lbs (0.97 kg)
Supported OS	Windows 10 IoT Enterprise LTSC 2021 Windows 11 Windows Server 2019 Windows Server 2022 Ubuntu 21.1, 22.04 LTS or later Red Hat Enterprise Linux (RHEL) 8.2 and later	Windows 10 IoT Enterprise LTSC 2021 Windows 11 Windows Server 2019 Windows Server 2022 Ubuntu 21.1, 22.04 LTS or later Red Hat Enterprise Linux (RHEL) 8.2 and later	Ubuntu Red Hat Enterprise Linux (RHEL) * Does Not support Windows 10 and 11

Mini ITX and Thin Mini ITX (6.7" x 6.7")

GPU + NPU (AI Boost)

Product Name	MX-RPLPS	MX-MTLPS	MX-AMSL	MX680RD	MX610H
Processor Support	Intel® Core SoC Processor up to 45W TDP	Intel® Core Ultra 9/7/5 SoC Processor (45W/15W TDP)	Intel® Processor N97 Quad-core 12W TDP	12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3	12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3
CPU Socket	LGA 1700, CPU + PCH Multichip	LGA 1851, CPU + PCH Multichip, Fanless (w/15W CPU)	CPU Onboard. Fanless Operation	LGA 1700	LGA 1700
Chipset	SoC	SoC	SoC	Intel® R680E PCH	Intel® H610E PCH
Memory	2 x SODIMM sockets support DDR5 5200MHz up to 64GB	2 x SODIMM sockets, DDR5 5600MHz up to 64GB, non-ECC	1 x SODIMM socket, DDR5 4800MHz up to 16GB, non-ECC	2 x SODIMM sockets, DDR5 5600MHz up to 64GB	2 x SODIMM sockets, DDR5 5600MHz up to 64GB
Expansion Interface	1 x Gen 4 PCIe x4 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280/2242 1 x M.2 B-Key 3052/3042 with Nano SIM Socket	1 x Gen 4 PCIe x4 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280/2242 1 x M.2 B-Key 3042 with Nano SIM Socket	1 x PCIe x1 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280/2242 1 x M.2 B-Key 3042 with Nano SIM Socket	1 x Gen 5 PCIe x16 2 x M.2 M-Key 2242/2280 NVMe 1 x M.2 E-Key 2230 with CNVi Support	1 x Gen 4 PCIe x16 1 x M.2 M-Key 2242/2280 NVMe 1 x M.2 E-Key 2230 with CNVi Support
Audio Codec	Realtek HD Audio	Realtek HD Audio	Realtek HD Audio	Realtek HD Audio	Realtek HD Audio
Ethernet	2 x Intel® I226-LM (2.5 GbE)	2 x Intel® I226-LM (2.5 GbE)	2 x Intel® I226-V (2.5 GbE)	2 x Intel® I225-LM (2.5 GbE)	1xIntel® I219-V, 1xI225-LM
Integrated Graphics	CPU Dependent: Intel® Iris Xe/UHD Graphics	CPU Dependent: Intel® Arc GPU / Intel® Graphics	Intel® UHD Graphic	Intel® UHD Graphic with Xe Architecture (CPU Dependent)	Intel® UHD Graphic with Xe Architecture (CPU Dependent)
# of Display	4 Independent Displays	4 Independent Displays	3 Independent Displays	4 Independent Displays	3 Independent Displays
TPM	TPM 2.0	TPM 2.0	TPM 2.0	TPM 2.0	TPM 2.0
External I/O	4 x DP, 2 x RJ45, Line-out, Mic-in 4 x USB 3.2, 2 x USB 2.0, 1 x USB Type C Thunderbolt 4 Connector, DC-In	3 x DP, 2 x RJ45, 2 x USB 3.2 Gen 2, 2 x USB 2.0, 2 x USB Type C Thunderbolt 4, 1 x Line-out, DC-in	2 x DP, 1 x HDMI, 2 x RJ45, Audio Combo Jack, 3 x USB 3.2, 1 x USB 3.2 Type C, DC-In	4 x DP, 2 x RJ45, Line-out, Mic-in 6 x USB 3.2 Gen 2x1, 1 x USB 3.2 Gen 2x2 Type-C, DC-In	1 x HDMI, 2 x DP, 2 x RJ45, Line-out, Mic-in, 4 x USB 3.2, 2 x USB 2.0, 2 x RS-232/422/485, DC-In
Key Internal I/O	LVDS/eDP optional, 2 x SATA III, 2 x RS-232, 2 x RS-232/422/485, 2 x USB 3.2, 2 x USB 2.0, GPIO	LVDS/eDP optional, 2 x RS-232, 2 x RS232/422/485, GPIO, I²C, 2 x USB 3.2, 2 x USB 2.0, 1xSATAIII	LVDS/eDP optional, 4 x RS-232, 2 x RS-232/422/485, 4 x USB 2.0, GPIO	LVDS/eDP optional, 2 x SATA III, 1 x RS-232, 1 x RS-232/422/485, 2 x USB 3.2, 4 x USB 2.0, GPIO	LVDS/eDP optional, 3 x SATA III, 2 x RS-232, 2 x USB 3.2, 4 x USB 2.0, GPIO
Power	12V-24V Wide Range DC-In	12V-24V Wide Range DC-In	12V-24V Wide Range DC-In	12V-24V Wide Range DC-In	AT / ATX mode Switchable
Operating Temp.	0°C to 60°C (32°F ~ 140°F)	0°C to 60°C (32°F ~ 140°F)	0°C to 60°C (32°F ~ 140°F)	0°C to 60°C (32°F ~ 140°F)	0°C to 60°C (32°F ~ 140°F)
Supported OS	Win 10, Win 11, Linux	Win10, Win 11 64-bit, Linux	Win 10, Win 11, Linux	Win 10, Win 11, Linux	Win 10, Win 11, Linux

Mini ITX Barebone Computer

Product Name	BI125-3455J	BI270-6412J	BI280-680RD	BI360-610H
Motherboard	ECM-3455J 3..5" SBC	MX6412J Mini ITX	MX680RD Mini ITX	MX610H Mini ITX
Front I/O	2 x USB 2.0, 1 x Reset Switch, 1 x Power Button with LED	2 x USB 2.0, 1 x Reset Switch, 1 x Power Button with LED	2 x USB 2.0 or 3.2, 1 x Reset Switch, 1 x Power Button with LED	2 x USB 2.0 or USB 3.0, 1 x Power Switch with LED
Rear I/O	1 x HDMI, 4 x USB 3.1, 2 x RJ45, Line-out, DC-in, optional COM (up to 2)	2 x HDMI, 4 x USB 3.1 Gen1, 4 x RJ45, Audio Combo Jack, DC-in, optional COM (up to 4)	4 x DP, 2 x RJ45, Line-out, Mic-in, optional 1 COM, 6 x USB 3.2 Gen 2x1, 1 x USB 3.2 Gen 2x2 Type-C, DC-In	1xHDMI, 2xDP, 2xRJ45, Line-out, Mic-in, 4xUSB 3.2, 2xUSB 2.0, 2xCOM, DC-In, optional USB&COM (up to 2 ea)
Power Adapter	Input: 100~240 Vac/50~60Hz Output: 60W 12V	Input: 100~240 Vac/50~60Hz Output: 90W	Input: 100~240 Vac/50~60Hz Output: 200W	Input: 100-240V, 4-2A, 60-50Hz Output: 300W
Certification	CE, FCC Class A, RoHS Compliant	CE, FCC Class A, RoHS Compliant	CE, FCC Class A, RoHS Compliant	CE, FCC Class A, RoHS Compliant
Dimension (LxDxH)	7" x 5.5" x 1.85"	8.6" x 8" x 2.2"	8.587" x 8.00" x 2.166"	8.00" x 9.335" x 4.493"
Weight	2.56 lbs	4.25 lbs	4.25 lbs	7.50 lbs

ATX and Micro ATX

MX610HD
12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3
LGA 1700
Intel® H610E PCH
2 x SODIMM sockets support Dual Channel DDR5 5600MHz up to 64GB
1 x Gen 4 PCIe x16 1 x M.2 M-Key 2242/2280 NVMe 1 x M.2 E-Key 2230 CNVi
Realtek HD Audio
1xIntel® I219-V, 1xI225-LM (2.5 GbE)
Intel® UHD Graphic with Xe Architecture (CPU Dependent)
3 Independent Displays
TPM 2.0
1 x HDMI, 1 x DP, 2 x RJ45, Line-out, Mic-in, 2 x USB 3.2, 2 x USB 2.0, DC-In
LVDS/eDP optional, 2 x SATA III, 1 x RS-232, 2 x RS-232/422/485, 2 x USB 3.2, 2 x USB 2.0, GPIO
12V-24V Wide Range DC-In
0°C to 60°C (32°F ~ 140°F)
Win 10, Win 11, Linux

Product Name	BC680R	RX680R	RX610H
Processor Support	12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3	12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3	12th Gen/13th Gen/14th Gen Intel® Core™ i 9/7/5/3
CPU Socket	LGA 1700	LGA 1700	LGA 1700
Chipset	Intel® R680E PCH	Intel® R680E PCH	Intel® H610E PCH
Memory	4 x DIMM slots, DDR5 5600MHz UDIMM, up to 128GB, ECC	4 x DIMM slots, DDR5 5600MHz UDIMM, up to 128GB, ECC	2 x DIMM slots, DDR5 5600MHz UDIMM, up to 64GB
Expansion Interface	1 x Gen 5 PCIe x16 2 x Gen 4 PCIe x4 1 x Gen 3 PCIe x4 1 x Gen 3 PCIe x1 2 x Gen 3 PCIe x1 1 x M.2 M-Key 2242/2280/22110 1 x M.2 M-Key 2242/2280/22110 1 x M.2 E-Key 2230	1 x Gen 5 PCIe x16 2 x Gen 4 PCIe x4 1 x Gen 3 PCIe x4 1 x M.2 M-Key 2242/2280/22110 1 x M.2 M-Key 2242/2280/22110 1 x M.2 E-Key 2230	1 x Gen 5 PCIe x16 1 x Gen 3 PCIe x1 2 x Gen 3 PCIe x1 1 x M.2 M-Key 2242/2280/22110 1 x M.2 E-Key 2230
Audio Codec	Realtek HD Audio	Realtek HD Audio	Realtek HD Audio
Ethernet Controller	2 x Intel® I225-LM (2.5 GbE)	2 x Intel® I225-LM/I226-LM	1 x Intel® I219-V, 1 x I225-LM
Integrated Graphics	Intel® UHD Graphic with Xe Architecture (CPU Dependent)	Intel® UHD Graphic with Xe Architecture (CPU Dependent)	Intel® UHD Graphic with Xe Architecture (CPU Dependent)
# of Display	4 Independent Displays	4 Independent Displays	3 Independent Displays
TPM	TPM 2.0	TPM 2.0	TPM 2.0
External I/O	2 x HDMI, 2 x DP, 2 x RJ45, Line-out, Mic-in, 6 x USB 3.2, 1 x USB 3.2 Gen 2x2 Type-C	4 x DP, 2 x RJ45, Line-out, Mic-in, 6 x USB 3.2, 1 x USB 3.2 Gen 2x2 Type-C	1 x HDMI, 1 x DP, 2 x RJ45, Line-out, Mic-in, 4 x USB 3.2, 2 x USB 2.0
Key Internal I/O	4 x SATA III, 1 x RS-232/422/485, 5 x RS-232, 2 x USB 3.2, 8 x USB 2.0, GPIO, PS/2	4 x SATA III, 1 x RS-232/422/485, 5 x RS-232, 2 x USB 3.2, 8 x USB 2.0, GPIO, PS/2	4 x SATA III, 1 x RS-232/422/485, 5 x RS-232, 2 x USB 3.2, 4 x USB 2.0, GPIO, PS/2
Power Requirement	AT / ATX mode Switchable	AT / ATX mode Switchable	AT / ATX mode Switchable
Operating Temp.	0 ~ 60°C (32 ~ 140°F)	0 ~ 60°C (32 ~ 140°F)	0 ~ 60°C (32 ~ 140°F)
Dimension	ATX, 12" x 9.6" (305 x 244mm)	uATX, 9.6" x 9.6" (244 x 244mm)	uATX, 9.6" x 9.6" (244 x 244mm)
Supported OS	Win 10, Win 11, Linux	Win 10, Win 11, Linux	Win 10, Win 11, Linux

Mini ITX Barebone Computer - 1 U Chassis

BI270-610HD
MX610HD Mini ITX
2 x USB 2.0, 1 x Reset Switch, 1 x Power Button with LED
1 x HDMI, 1 x DP, 2 x RJ45, Line-out, Mic-in, 2 x USB 3.2, 2 x USB 2.0, DC-In, optional COM (up to 4)
Input: 100~240 Vac/50~60Hz Output: 200W
CE, FCC Class A, RoHS Compliant
8.587" x 8.00" x 2.166"
4.25 lbs

Product Name	BOX-MX680RD (BTO)
Motherboard	MX680RD Mini ITX
Front I/O	2 x USB 2.0 or 3.2, 1 x Reset Switch, 1 x Power Button w/LED
Rear I/O	4 x DP, 2 x RJ45, Line-out, Mic-in, 6 x USB 3.2, Phoenix DC-in, 1 x USB 3.2 Type-C, DC-In
Power Adapter	Input: 100~240 Vac/50~60Hz Output: 200W
Certification	CE, FCC Class A, RoHS Compliant
Dimension	10" L x 8.875" D x 1.75" H
Weight	4.25 lbs

Slim Mini ITX barebone computer with expansion slot design, capable to support one PCIe x16 add-on card for more LAN ports.

* All product specifications and product images are subject to change without notice.

3.5" SBC and COM Express Module





Product Name	ECM-RPLP	ECM-ADLN-N97	ECM-ADLS	AR3588RK	ESM-RPLP
Processors	Intel® Core™ i7-1365UE (15W) Intel® Core™ i5-1345UE (15W) Intel® Core™ i3-1315UE (15W)	Intel® Processor N97 (up to 12W)	LGA 1700 socket supports 12th and 13th Gen Intel® Core™ Processor up to 35W TDP	Rockchip® RK3588 Quad Core Cortex-A76 & Quad Core Cortex-A55	13th Gen Intel® Core™ Processor: 45W, 28W, 15W
PCH	SoC	SoC	Intel® Q670E/H610E Chipset	SoC	SoC
Memory	2 x SODIMM sockets, DDR5 4800MHz up to 64GB	1 x SODIMM socket, DDR5 4800MHz up to 16GB	1 x SODIMM socket, DDR5 4800MHz up to 32GB	8GB LPDDR4 Memory Onboard (Expandable up to 32GB)	2 x SODIMM sockets, DDR5 4800MHz up to 64GB
Expansion Interface	1 x M.2 E-Key (2230) 1 x M.2 M-Key (2280) 1 x M.2 B-Key (3042)	1 x M.2 E-Key (2230) 1 x M.2 B-Key (2242/3042) with Nano SIM Card Socket	1 x M.2 E-Key (2230) 1 x M.2 M-Key (2280)	1 x M.2 M-Key (2280/2242) 1 x M.2 E-Key (2230) 1 x MicroSD Socket	1 x Gen4 PCIe x8 (H series) 2 x Gen4 PCIe x4 7 x Gen3 PCIe x1
Ethernet	2 x Intel® I226-LM (2.5GbE)	2 x Intel® I226-V (2.5GbE)	2 x Intel® I226-LM (2.5GbE)	Realtek RTL8211F & RTL8111H	Intel® I226-LM (2.5GbE)
Integrated Graphics	Intel® Iris Xe: select Core™ i7/i5 Intel® UHD: select Core™ i3	Intel® UHD Graphics 2 x DisplayPort 1.4b 4K@60Hz	Intel® 12th Generation CPU Graphic	Mali G610 MP4 Integrated Graphic	Intel® Iris Xe: select Core™ i7/i5 Intel® UHD: select Core™ i3
Storage	via M.2	32GB eMMC Onboard	via M.2	32GB eMMC Onboard	Optional Onboard SSD
External I/O	2xDP, 4xUSB 3.2, 1xUSB Type C Thunderbolt 4, Combo Audio Jack, 2xRJ45	2xDP, 3xUSB 3.2 Gen2, USB Type-C OTG, Combo Audio Jack, 2xRJ45	1xDP, 1xHDMI, 4xUSB 3.2 Gen2, 2xLAN, 1xCOM	2xDP, 1xHDMI Input, 4xUSB 3.1, USB Type C OTG, 2xLAN, Line-out	On COMe compatible carrier board
Key Internal I/O	LVDS, 3xUSB 2.0, 4xCOM, 1xSATAIII, 8-bit GPIO	LVDS, 2xUSB 2.0, 2xCOM, 1xSATAIII, 8-bit GPIO	LVDS, 4xUSB 2.0, 1xCOM, 8-bit GPIO	LVDS, 2xUSB 2.0, 2xCOM, 1xUART, 10-bit GPIO	Supports 4xUSB 3.2 Gen2 8xUSB 2.0, 2xSATA III 2xUART, 8-bit GPIO, I²C, SMBus, SPI...
Power	12V-24V Wide Range DC	12V-24V Wide Range DC	12V DC	12V DC	9V-19V Wide Range DC
Supported OS	Win 10, Win 11, Linux	Win 10, Win 11, Linux	Win 10, Win 11, Linux	Android, Linux	Win 10, Win 11, Linux
Form Factor	3.5" SBC	3.5" SBC	3.5" SBC	Proprietary	PICMG COM R3.0 Type 6 COMe
Dimension	5.7" x 4"	5.7" x 4"	5.7" x 4"	5.79" x 4.72"	3.74" x 4.92"

NUC-Series Embedded System





Product Name	NUC-RPLP	NUC-ADLN	NUC-AR3588RK	NUC-EHL	NUC-TGU
Processors	Intel® Core™ i7-1365UE (15W) Intel® Core™ i5-1345UE (15W) Intel® Core™ i3-1315UE (15W)	Intel® Processor N97 (12W)	Rockchip® RK3588 Quad Core Cortex-A76 & Quad Core Cortex-A55	Intel® Celeron® J6412 Processor Onboard	Intel® Core™ i7-1185G7E Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G4E
Memory	2 x SODIMM sockets, DDR5 4800MHz up to 64GB	1 x SODIMM socket, DDR5 4800MHz up to 16GB	8GB LPDDR4 Memory Onboard (Expandable up to 32GB)	1 x SODIMM socket, DDR4 3200MHz up to 32GB	1 x SODIMM socket, DDR4 3200MHz up to 32GB
Storage	via M.2	32GB eMMC Onboard	32GB eMMC Onboard	via M.2	via M.2
Front I/O	2xUSB 2.0, Power Button, Reset Button, HDD LED	2xUSB 2.0, Power Button, Reset Button, HDD LED	2xUSB 2.0, Power Button, Reset Button, HDD LED	2xUSB 2.0, 1xCOM, Line-out, Mic-in, Power Button with LED	2xUSB 2.0, 2xCOM, Line-out, Mic-in, Power Button with LED
Rear I/O	2xDP, 4xUSB 3.2, USB Type C Thunderbolt 4, 2xLAN, 1xCOM, Lockable DC-in, 2x Knockout for SMA Jacks	2xDP, 3xUSB 3.2, 1xUSB Type C OTG, 2xRJ45, 1xCOM, Lockable DC-in, Combo Audio Jack, 2x Knockout for SMA Jacks	2xDP, 1xHDMI Input, 4xUSB 3.1, USB Type C OTG, 2xLAN, Line-out, Lockable DC-in, optional 1xCOM	2xHDMI 2.0b, 4xUSB 3.2 Gen2, 1xCOM, 2xRJ45, Lockable DC, 1x Kensington Lock, 4x Mounting Holes with Covers	2xHDMI 2.0b, 4xUSB 3.2 Gen2, 2xRJ45, Lockable DC, 1x Kensington Lock, 4x Antenna Mounting Holes with Covers
Power	12V-24V Wide Range DC	12V-24V Wide Range DC	12V DC	12V DC	12V DC
Adapter	19V 90W Power Adapter	19V 90W Power Adapter	60W Power Adapter	60W Power Adapter	60W Power Adapter
Cooling	Fanless	Fanless	Fanless	Fanless	Fanless
Operating Temp	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 60°C (32°F ~ 140°F) Ext. Temp with 0.5m/s air flow	0°C ~ 50°C (32°F ~ 122°F) Ext. Temp with 0.5m/s air flow
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	IP40, CE, FCC Class B, UKCA	IP40, CE, FCC Class B, UKCA
Mounting	Desk Mount	Desk Mount	Desk Mount	Table Stand, Din Rail, VESA	Table Stand, Din Rail, VESA
Dimension	8.46" x 5.75" x 1.97"	8.46" x 5.75" x 1.97"	8.46" x 5.75" x 1.97"	6.69" x 4.92" x 1.42"	6.69" x 4.92" x 1.42"
Weight	approx. 4 lbs (1.8 kgs)	approx. 4 lbs (1.8 kgs)	approx. 4 lbs (1.8 kgs)	approx. 1.87lbs (0.85kg)	approx. 1.87lbs (0.85kg)

The NVIDIA Jetson Family

Designed with NVIDIA Jetson module inside, for AI at the Edge and Autonomous Machines. Jetson AGX Orin, Jetson Orin NX, and Jetson Orin Nano deliver life-cycle at least until January 2030.

AI Computing Platform

Available in Q2, 2024

Available in Q2, 2024

Product Name	AIB-NW01-NA	AIB-NW01-NX	AIB-NIAO	AIB-NVAO
NVIDIA Jetson Family				
Market Segment Positioning	**Entry Level Industrial AI at the Edge** Industrial Testing Video Surveillance	**Mainstream Industrial and Autonomous Machine** Smart Retail: Smart Store Management Self Service Retail Device Intelligent Video Analysis: Facial Recognition Gesture Recognition Intrusion Detection Machine Vision: Automated Inspection		**Autonomous Vehicle** Logistics and Transportation: Trunk Logistics – ADAS for trucks Terminal Logistics Unmanned Product Distribution Automatic Driving on closed roads: Unmanned delivery Unmanned minibus Unmanned port Unmanned mine Special Vehicle: Intelligence Sanitation Truck Intelligent Wheat Harvester
AI Performance	20 TOPS/40 TOPS	70 TOPS/100 TOPS	**200 TOPS / 275 TOPS**	**200 TOPS / 275 TOPS**
Module	Jetson Orin Nano	Jetson Orin NX	Jetson AGX Orin 32GB / Jetson AGX Orin 64GB	Jetson AGX Orin 32GB / Jetson AGX Orin 64GB
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3 up to 1.5 GHz	16GB: 8-core Arm® Cortex A78AE 8GB: 6-core Arm® Cortex A78AE	64GB -12 Core ARM® Cortex®-A78 32GB -8 Core ARM® Cortex®-A78	64GB -12 Core ARM® Cortex®-A78 32GB -8 Core ARM® Cortex®-A78
GPU	8GB: 1024-core NVIDIA Ampere GPU with 32 Tensor Cores 4GB: 512-core NVIDIA Ampere GPU with 16 Tensor Cores	1024-core NVIDIA Ampere GPU with 32 Tensor Cores	64GB: 2048-core NVIDIA Ampere architecture GPU with 64 Tensor Cores 32GB: 1792-core NVIDIA Ampere architecture GPU with 56 Tensor Cores	64GB: 2048-core NVIDIA Ampere architecture GPU with 64 Tensor Cores 32GB: 1792-core NVIDIA Ampere architecture GPU with 56 Tensor Cores
Memory	4GB / 8GB	8GB / 16GB	32GB / 64GB LPDDR4	32GB / 64GB **LPDDR5**
Storage	128GB NVMe		64GB eMMC 5.1	64GB eMMC 5.1
Expansion Interface	3 x M.2 slots (NVMe SSD, 5G, WiFi/BT Module) 1 x Micro SIM card slot Optional 4 x 5G LTE or 2 x WiFi Antenna		1 x Micro SD slot, 2 x mimi-PCIe for WiFi/4G 4 x Nano SIM card slots 2 x M.2 (M-Key, B-Key) 2280 NVMe SSD/5G	1 x mimi-PCIe WiFi/4G 1x M.2 M-Key (2280, PCIe x4) 1 x Nano SIM card slot
External I/O	2 x Gigabit Ethernet Ports 1 x DC Phoenix 1 x HDMI 2.0 Out 1 x Micro USB OTG 1 x Power LED 1 x Reset 2 x RS232/485 DB9 4 x USB 3.0		4 x Gigabit Ethernet Ports 2 x CAN FD 16 x GPIO (8xIn, 8xOut) 1 x HDMI 2.0 1 × Power KEY,1× Recovery KEY 6 x RS232/422/485 Debug 4 x USB 3.0 1 x USB 2.0 Type C	4 x Gigabit Ethernet Ports **5 x CAN FD** **2 x GMSL2 Automotive-grade Camera access** 8 x GPIO (4xIn, 4xOut) 1 x HDMI 2.0 1 × Power KEY, 1× Reset KEY, 1× Recovery KEY 6 x RS232/422/485 Debug 2 x USB 3.0
Sync I/O	n/a		Sync-in, Sync-out, Sync-PPS	Sync-in, Sync-out, Sync-PPS
Supported OS	Ubuntu 20.04, Jetpack 5.1.1		Ubuntu Jetpack 5 and above	Ubuntu Jetpack 5 and above
Op. Temp	Wide Temp: -20°C ~ 60°C (-4°F ~ 140°F)		Wide Temp: -20°C ~ 60°C (-4°F ~ 140°F)	Wide Temp: -25°C ~ 70°C (-13°F ~ 158°F)
Power Input	Wide Range 10-24Vdc		Wide Range 12-48Vdc	Wide Range 9-36Vdc
Other Features	Fanless, shock resistance and anti-static		IP5X Level Protection	IP65 Level Protection
Dimension	7.72" x 4.92" x 2.6" (196 x 125 x 66.1 mm)		8.9" x 5.69" x 2.76" (226 x 144.5 x 70 mm)	9.45" x 6.81" x 2.76" Excluding I/O and mounting holes
Certification	CE, FCC Class A		CE, FCC Class A	CE, FCC Class A

* All product specifications and product images are subject to change without notice.

Smart Modular Design

Accelerate Customization on Embedded System with Intelligent Expansion Technology (IET)

If your applications require additional or customized I/O interfaces for our embedded modularized systems, Intelligent Expansion Technology (IET) expansion modules provide a flexible solution. IET offers exceptional expandability, allowing you to adapt to industry-specific or application-specific I/O requirements effortlessly.

These modular IET modules bring a Swiss-Army-Knife approach, enabling multiple I/O combinations for the base system design. By leveraging IET's modularity, you can reduce development costs and accelerate time-to-market without costly customizations.

Unlock the full potential of your systems with Intelligent Expansion Technology, ensuring seamless evolution alongside your changing needs.

EMS-TGL - A Rugged, Fanless, Low-power, High-performance Computer with Intel® Tiger Lake UP3 Processor Onboard for Industrial Applications.

Before:
Standard I/O without IET Module

After:
With Expansion Bracket for IET Module

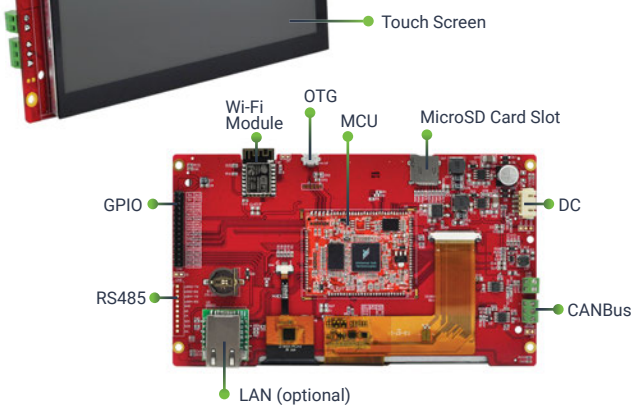
Flexible I/O options with IET Modules Intelligent Expansion Technology

Model	EMS-TGL-Marine	EMS-TGL-PSE (PoE)	EMS-TGL-HDMI	EMS-TGL-USB	EMS-TGL-DVI
Front I/O	Power on/off, Reset Button, 2 x COM, 1 x 8-bit GPIO (DB9), 2 x Antenna with dust cover				
Rear I/O - Std.	Mic-in, Line-out, 1 x DP++ 1.4, 1 x HDMI 2.0b, 2 x USB 3.1 Gen.2 (10Gbp/s), 2 x USB 3.1 Gen.1 (5Gbp/s), 2 x RJ-45, 3-Pin Terminal Block				
Rear I/O - with IET Module	4 x COM RS232/422/485 2 x USB 2.0 2 x Antenna with dust covers	4 x RJ45, 2 ports support IEEE 802.3at, total 60W 2 x USB 2.0 2 x Antenna with dust covers	2 x COM RS232/422/485 2 x RJ-45 1 x HDMI 2 x USB 2.0 2 x Antenna with dust covers	4 x USB 3.1 Gen 1 3 x USB 2.0 2 x Antenna with dust covers	1 x DVI 2 x USB 2.0 2 x Antenna with dust covers
Certification	CE, FCC Class A, IEC 60945	CE, FCC Class A	CE, FCC Class B	CE, FCC Class A	CE, FCC Class B
Dimension	9.45" x 5.91" x 2.72" (240mm x 150mm x 69 mm)				

Flex Touch Console (FTC)

A cost effective, innovative and rapid time-to-market Human-Machine Interface (HMI) solution

- Fanless operation, low power consumption, and a thin, ultra-lightweight design for broad market applications
- Cost-effective HMI platform with extensive connectivity: support combinations of RS-485, RS232, CANBus, Ethernet, Wi-Fi, BT, NB-IoT
- Provide vibrant 16, 777, 216 color visuals and extension I/O functions such as ADC, PWM, GPIO, and Input Capture



Create HMI with included ADE software, an intuitive and user friendly development software that enables you to design Graphical User Interface (GUI) for your applications!

The FTC Starter Kits

Product Name	FTC-05WN	FTC-07WN	FTC-10WN
MCU	STM32H7	STM32H7	STM32H7
Memory	2GB (256MB)	2GB (256MB)	2GB (256MB)
LCD	5" LCD, 800 x 400	7" LCD, 800 x 400	10" LCD, 1024 x 600
Edge I/O	1 x OTG (for upload software only) 1 x I²C 1 x Micro SD slot 1 x RS485 1 x 10/100 RJ45 LAN (optional)	1 x OTG (for upload software only) 1 x I²C 1 x Micro SD slot 1 x RS485 1 x 10/100 RJ45 LAN (optional)	1 x OTG (for upload software only) 1 x I²C 1 x Micro SD slot 1 x RS485 1 x 10/100 RJ45 LAN (optional)
Power Requirement	DC 5V	DC 12 ~ 24V	DC 12~24V
Cooling	Fanless Operation	Fanless Operation	Fanless Operation
Operating Temp	-20 ~ 70°C (-4 ~ 158°F)	-20 ~ 70°C (-4 ~ 158°F)	-20 ~ 70°C (-4 ~ 158°F)
Dimension	4.75" x 2.98" (120.7 x 75.8 mm)	7.25" x 4.21" (184.1 x 106.85 mm)	11.10" x 5.85" (282.0 x 148.5 mm)
Weight	TBA	0.64l lbs (0.29 kg)	1.23 lbs (0.56 kg)

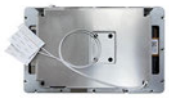
* All product specifications and product images are subject to change without notice.

OFT for Broad Market Applications

Intel® x86 Architecture

PCAP Touch | Wide Range DC Input | Fanless Design

The new OFT07W-ADLN and OFT10W-ADLN slim 7" and 10.1" open frame tablets are powered by Intel's 4-core Processor N50/N200 up to 3.70GHz, 8GB memory and 64GB storage, and deliver excellent computing performance in an ultralight and fanless body. Integrated PCAP touchscreen, DC-in and support diverse customizations provide an all-in-one platform ready for your innovative designs under 2 pounds. With rapid deployment, their productivity-tuned performance tackles the most demanding jobs.





	OFT07W-ADLN	OFT10W-ADLN	OFT10W-3455J	OFT-15W04	OFT-21W04
LCD Size	7" LCD	10.1" LCD	10.1" LCD	15.6" LCD	21.5" LCD
Resolution	600 x 1024	800 x 1280	1280 x 800	1920x1080	1920 x 1080
Luminance	350cd/m²	350cd/m²	350cd/m²	220cd/m²	250cd/m²
Viewing Angle	170°/170° (H/V)	160°/160° (H/V)	85°/85° (H/V)	170° (H/V)	178° (H/V)
Touch Type	PCAP	PCAP	PCAP	PCAP	PCAP
Processor	Intel® Processor N50 onboard, up to 3.40 GHz, up to 6W TDP	Intel® Processor N50 onboard, up to 3.70 GHz, up to 6W TDP	Intel® Celeron J3455 Quad Core CPU 1.5GHz, up to 2.3GHz	Intel® Celeron J3455 Quad Core CPU 1.5GHz, up to 2.3GHz	Intel® Celeron J3455 Quad Core CPU 1.5GHz, up to 2.3GHz
Graphics	Intel® UHD Graphics	Intel® UHD Graphics	Intel® HD Graphics 500	Intel® HD Graphics 500	Intel® HD Graphics 500
Memory	8GB LPDDR5	8GB LPDDR5	4GB DDR3L RAM	1 x SODIMM DDR3L 4GB	1 x SODIMM DDR3L 4GB
Storage	64GB eMMC Onboard	64GB eMMC Onboard	32GB eMMC Onboard	32GB eMMC / M.2 SSD	32GB eMMC / M.2 SSD
WLAN / BT	802.11 a/b/g/n/ac/ax, BT 5.0 2 x Internal Antenna	802.11 a/b/g/n/ac/ax, BT 5.0	802.11 b/g/n/ac	802.11a/b/g/n/ac (2230)	802.11a/b/g/n/ac (2230)
External I/O Connector	1 x HDMI 2.0a 2 x USB 3.0 1 x RJ45 LAN 1 x 3-Ring Audio Jack 1 x DC Jack	1 x HDMI 2.0a 2 x USB 3.0 1 x RJ45 LAN 1 x 3-Ring Audio Jack 1 x DC Jack	1 x HDMI 4 x USB 3.0 2 x RJ45 LAN 1 x Line-out 1 x DC Jack 1 x USB-OTG (Android Only) Optional 2 x COM Ports	1 x HDMI 2 x USB 3.0 1 x RJ45 LAN 1 x HP Jack 1 x DC Jack 1 x Power button	1 x HDMI 2 x USB 3.0 1 x RJ45 LAN 1 x HP Jack 1 x DC Jack 1 x Power button
Internal I/O Connector	1 x A-MIC 2 x USB 2.0 1 x SPK 1 x Touch Button 1 x RS-485/232 1 x I²C Header 1 x GPIO	1 x A-MIC 2 x USB 2.0 1 x SPK 1 x Touch Button 1 x RS-485/232 1 x I²C Header 1 x GPIO	1 x LVDS Header 2 x USB 2.0 Headers (4 Ports) 1 x I²C Header 1 x SATA III 1 x GPIO 1 x mSATA/ Mini-PCIe Socket 1 x uSIM Card Slot 1 x M.2 E-Key 2230 (Wi-Fi)	1 x eDP Header 1 x A-MIC 1 x USB 1 x SPK 1 x Touch Button 1 x RS-485/RS-232 1 x RS-232 1 x DIO 1 x Micro USB (Android only) 1 x SD Card Slot 1 x DC-in Wafer 1 x M.2 B-Key 3042 (SSD or WWAN)	1 x LVDS Header 1 x A-MIC 1 x USB 1 x SPK 1 x Touch Button 1 x RS-485/RS-232 1 x RS-232 1 x DIO 1 x Micro USB (Android only) 1 x SD Card Slot 1 x DC-in Wafer 1 x M.2 B-Key 3042 (SSD or WWAN)
Power Input	DC 12V ~ 24V	DC 12V ~ 24V	DC 9V ~ 36V	DC 12V ~ 24V	DC 12V ~ 24V
Op. Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
OS Support	Win 10/11, Ubuntu 22.04	Win 10/11, Ubuntu 22.04	Win 10, Android, Ubuntu	Win 10, Ubuntu	Win 10, Ubuntu
Certification	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class A	CE, FCC Class A
Dimensions	7.2" x 4.57" x 0.95"	9.92" x 6.54" x 1.18"	10.16" x 6.57" x 1.57"	15.12" x 10" x 1.87"	20.28" x 12.68" x 2.11"
Weight	1.2 lbs (0.5 kg)	3 lbs (0.45 kg)	3 lbs (0.45 kg)	4.85 lbs (2.2kg)	9.48lbs (4.3kg)

* All product specifications and product images are subject to change without notice.

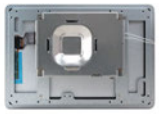
Broad Market HMI

Smart Retail / Medical & Healthcare / Point-of-Sales / Interactive Kiosk / Smart Fitness / Automated Vending HMI / Industrial Control HMI

ARM (RISC) Platform

Built on the power-efficient ARM architecture, these tablet offer a high value solution without compromising on processing capabilities to handle demanding workloads.

Slim Design | Dual Displays | Ultra Low-Power



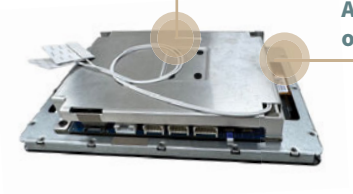
OFT-07WR2	OFT-10WR2
7" LCD	10.1" LCD
600 x 1024	800 x 1280
350cd/m²	350cd/m²
170° (H/V)	160° (H/V)
PCAP	PCAP
Rockchip RK3568 2.0GHz Quad-core ARM Cortex-A55	Rockchip RK3568 2.0GHz Quad-core ARM Cortex-A55
ARM G52 2EE	ARM G52 2EE
2GB DDR4 RAM	2GB DDR4 RAM
32G eMMC	32G eMMC
802.11 a/b/g/n/ac Wireless LAN, BT 5.0	802.11 a/b/g/n/ac Wireless LAN, BT 5.0
1 x RJ45 LAN 2 x USB 3.0 Type A 1 x HDMI 1.4a 1 x Headphone Jack 1 x DC Jack 1 x Reset Button	1 x RJ45 LAN 2 x USB 3.0 Type A 1 x HDMI 1.4a 1 x Headphone Jack 1 x DC Jack 1 x Reset Button
1 x MIPI Header 1 x USB Touch Interface 1 x USB CAM DMIC Interface 2 x RS-232 (TX/RX) 1 x RS-485 1 x GPIO (16bit) 1 x Speaker 1 x A-MIC 1 x Micro SD Slot 1 x Touch Button Connector 1 x I²C Sensor Interface 1 x Debug Connector 1 x DC-in 4-pin Header 1 x M.2 B-Key Socket	1 x MIPI Header 1 x USB Touch Interface 1 x USB CAM DMIC Interface 2 x RS-232 (TX/RX) 1 x RS-485 1 x GPIO (16bit) 1 x Speaker 1 x A-MIC 1 x Micro SD Slot 1 x Touch Button Connector 1 x I²C Sensor Interface 1 x Debug Connector 1 x DC-in 4-pin Header 1 x M.2 B-Key Socket
DC 12 ~ 24V	DC 12 ~ 24V
0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Android 11	Android 11
CE, FCC Class A	CE, FCC Class A
7.48" x 5.12" x 1.25"	10" x 7" x 1.33"
1.1 lbs (0.5 kg)	1.54 lbs (0.7 kg)

PCAP Touch Screen
Full Flat Panel, Slim Design

OFT07W-ADLN

RAM, eMMC, Wi-Fi, BT onboard

Additional I/O: Micro SD Card Slot, optional COM Ports, Micro USB

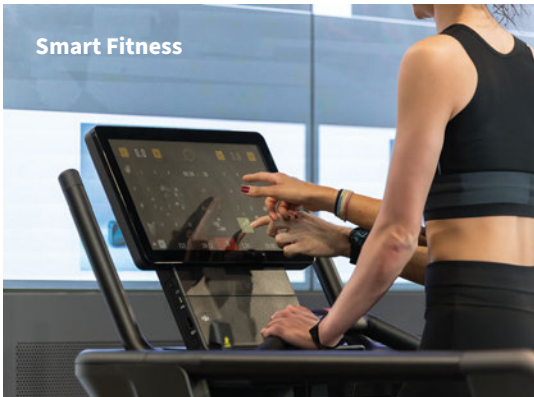


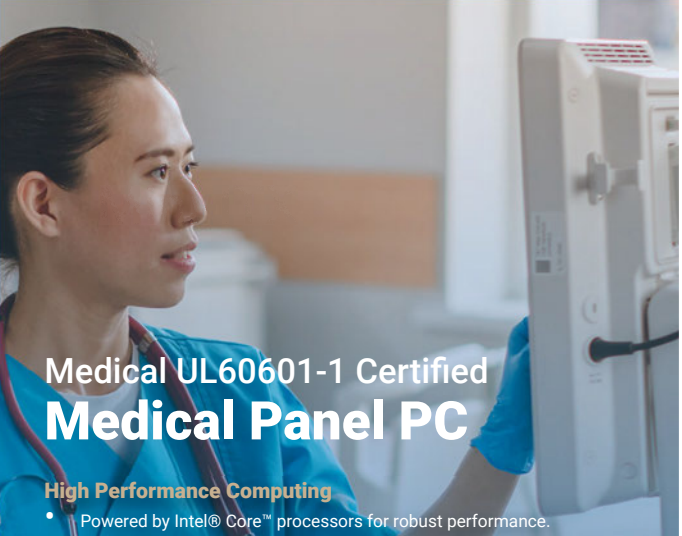
Rich External I/O and Expansion: DC-in, HDMI, USB 3.0, RJ45 LAN
12-24V / 9-36V Wide Range DC-in


Automated Vending Machine


Medical / Lab Equipment


Industrial Testing Equipment


Smart Fitness



Medical UL60601-1 Certified
Medical Panel PC

High Performance Computing
- Powered by Intel® Core™ processors for robust performance.
- Enhanced graphics capabilities for seamless visuals.
- 5G technology for high-speed wireless connectivity.

Medical Grade & Infection Control
- UL 60601-1 medical certification for safe use in healthcare environments.
- Anti-microbial coating helps prevent the spread of germs.
- The full flat front surface allows for easy disinfecting with alcohol-based cleaners.

Medical Image Capture & Video Integration
- M.2 capture card expansion slot for versatile integration.
- Supports SDI/HDMI input connectors to interface with various devices.

Data & Access Security
- The Trusted Platform Module (TPM) and NFC/RFID module enhance data security and control system access.

User Friendly Design
- Allow medical glove use on the P-Cap multi-touch screen
- The adjustable brightness and volume provide optimal control for healthcare professionals and patients.
- The convenient reading light assists users in reading under low or no-light conditions.

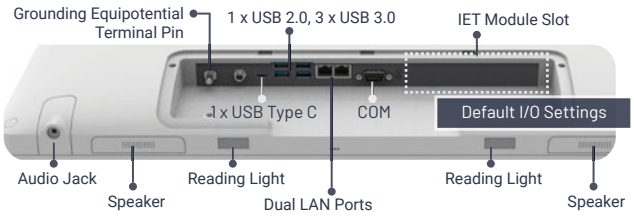
HID-2340 Medical Panel PC provides options of I/O Configurations via IET Expansion Modules:

Default I/O

DB-A: Isolated LAN, COM, USB

Optional SDI or HDMI from Capture Card

DB-B: HDMI, 2 x USB, Audio



Model Number	HID-2138	HID-2340
LCD	21.5" Full HD PCAP Touch, 1920 x 1080	23.8" Full HD PCAP Touch, 1920 x 1080
Pixel Pitch	0.24795 x 0.24795	274.5 x 274.5
Luminance	250 cd/m²	250 cd/m²
Contrast Ratio	1000	3000
Viewing Angle	89(U), 89(D), 89(L), 89(R)	
Response Time	22ms	16ms
Processor	11th Gen Intel® Core™ i7/i5/i3/Celeron Processor	12th/ 13th Gen Intel® Core™ i7/i5/i3/ Celeron Processor
System Memory	2 x 260-pin DDR4 3200MHz SODIMM sockets, supports up to 64GB	1 x 262-pin DDR5 4800MHz SODIMM socket, supports up to 32GB
Expansion	1 x Low profile PCIe 1 x M.2 for 4G/5G	1 x M.2 B-Key 3042/3052/2280, 1 x M.2 E-Key for WI-FI, 1 x IET expansion
Storage	1 x M.2 storage	1 x M.2 M-Key storage (optional), 1 x 2.5" SSD (optional)
TPM	TPM 2.0	TPM 2.0
Wireless LAN	Optional	Optional
External I/O	2 x USB 2.0, 2 x USB Type C, 2 x RJ-45	3 x USB 3.0, 1 x USB 2.0, 2 x RJ45 1 x USB Type C, more I/O via IET module
Display Chipset	Intel® Processor Integrated Graphics	
Audio	Realtek HD Audio, 2 x 2W Speaker Output	
Ethernet	1 x Intel® I219-LM , 1 x Intel® I225-LM/I226-LM	1 x Intel® I225-LM, 1 x Intel® I226-LM, 1 x Intel® I210-AT (via IET, optional)
DC-Input	+12V~+26V, Lockable DC Jack	+12V~+24V, Lockable DC Jack
Adapter (Medical Grade)	Input: 100~240 Vac/50~60Hz; Output: 90W (19V/4.74A)	Input: 100-240V~, 2.0-1.0A, 50-60Hz Output: 120W (24V/5A)
Construction	Anti-Microbial, White Plastic	
IP Rating	Front IP65	Front IP65, Back IP54
Cooling Design	Fanless Operation	
Dimension	21.24" x 13.49" x 1.78"	23.31" x 15.4" x 1.95"
Weight	13.23 lbs (6.0 Kg)	14.88 lbs (6.75 Kg)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	
Certification	CE : IEC/EN60601-1-2, FCC : Part 15 Class B, UL60601-1	
OS Support	Win10, Win11, Linux	Win10, Linux

Multi-purpose

Expandable Ultra Light Multi-Touch Fanless Panel PC

Multi-purpose All-in-One PPC with High Performance and Rich External I/O Interfaces

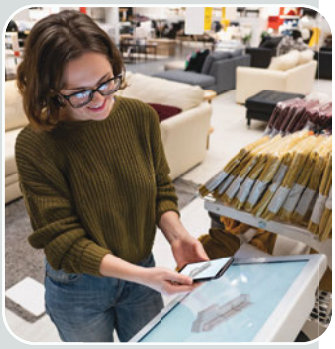
- Powered by Intel® Core™ processors for robust performance.
- Enhanced graphics capabilities for seamless visuals.
- 5G technology for high-speed wireless connectivity.

Flexible Customization with Low MOQ

- Smart battery option
- Wi-Fi and Bluetooth module
- Integrated webcam
- Add-ons like handset, magnetic stripe reader (MSR), smart card reader (SCR), fingerprint scanner
- Customizable enclosure colors
- Print your company logo on the front cover

Flexible I/O Expansion with IET Modules

The APC-series leverages Intelligent Expansion Technology (IET) to streamline customization and reduce development costs. IET allows easy addition of more USB, COM, LAN, HDMI, audio and other I/O ports via modular expansion.



APC-2138

Model Number	APC-2138	APC-2340
LCD	21.5" Full HD PCAP Touch, 1920 x 1080	23.8" Full HD PCAP Touch, 1920 x 1080
Pixel Pitch	248.25 x 248.25	274.5um x 274.5um
Luminance	250cd/m²	250cd/m²
Contrast Ratio	3000	3000
Viewing Angle	89 (U), 89 (D), 89 (L), 89 (R)	
Response Time	18ms	16ms
Processor	11th Gen Intel® Core™ i5-1135G7 (up to 4.2GHz, quad-core, TDP: 15W) 11th Gen Intel® Core™ i3-1115G4 (up to 3.0GHz, dual-core, TDP: 15W)	12th Gen Intel® Core™ i5-1235U (12M Cache, up to 4.40 GHz) 12th Gen Intel® Core™ i3-1215U (10M Cache, up to 4.40 GHz)
System Memory	2 x 260-pin DDR4 3200MHz SODIMM sockets support up to 64GB	2 x 262-pin DDR5 4800MHz SODIMM sockets support up to 64GB
Expansion	1 x M.2 B-Key 3042/3052/2242/2260/2280 - NVMe 1 x M.2 E-Key 2230 for Wi-Fi and CNVi	1 x M.2 B-Key 3042/3052 for 4G/5G 1 x M.2 E-Key 2230 supports Wi-Fi module
Storage	1 x 2.5" Drive Bay 1 x M.2 socket	1 x 2.5" Drive Bay 1 x M.2 M-Key 2280 socket (PCIe x4)
TPM	TPM 2.0	TPM 2.0
Camera	Optional 2.0MP WebCam	5.0M Auto Focus CMOS, USB2.0
Wireless LAN/BT	Optional Wi-Fi 802.11 ac/a/b/g/n	Optional Wi-Fi + Bluetooth 5.0 Module Intel® Wi-Fi 6E AX210
RFID	Optional NFC Module	
External I/O	2 x DP, 4 x USB 3.0, 2 x RJ45, Power Switch, DC-in	2 x DP, 2 x USB 3.2 Gen2, 2 x USB 3.0 Gen.2, 1 x USB Type C, 1 x COM, 2 x RJ45, Audio Combo Jack, DC-in
Display Chipset	Intel® Processor Integrated Graphics	
Audio	Realtek HD Audio, 2 x 2W Speaker Output	
Ethernet	1 x Intel® I225-IT, 1 x Intel® I219-LM	1 x Intel® I219-LM, 1 x Intel® I226-LM
DC-Input	+12V~+24V, Lockable DC Jack	
Adapter	Input:100 ~ 240Vac/ 50 ~ 60Hz Output:90W (24V @ 3.75A)	Input: 100~240 Vac/50~60Hz; Output: 72W (19V @ 3.78A)
IP Rating	Front IP65	Front IP65, Rear IP54
Cooling Design	Fanless Operation	
Mounting	Wall / Stand / VESA 75mm x 75mm, 100mm x 100mm	
Dimension	21.24" x 13.49" x 1.78"	23.31" x 15.04" x 1.95"
Weight	13.89 lbs (6.3 Kg)	13.23 lbs (6 kg)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	
Certification	CE, FCC Class B	CE/FCC/UKCA
OS Support	Win10 64-bit, Linux Ubuntu	Win 11 IoT 64-bit, Linux Ubuntu

* All product specifications and product images are subject to change without notice.

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Titanium

BCM Advanced Research (BCM): Delivering Trusted Embedded Computing Solutions

BCM delivers comprehensive embedded computing solutions tailored to customer needs. As a U.S.-based designer and manufacturer, we offer off-the-shelf industrial motherboards/systems, custom products, and turnkey design/manufacturing services.

Our U.S. corporate office and engineering center is located in Irvine, a major technology sector of Southern California. This 25,000 sq. ft. facility houses labs, testing equipment, repair facility, and a warehouse. Our 20+ expert engineers here lead motherboard design, mechanical/thermal simulation, firmware/OS integration, and systems engineering.

With production in Taiwan and sales/support in the U.S., BCM provides reliable and cost-effective embedded products backed by outstanding pre/post-sale services. We partner with OEMs to bring innovative solutions to market through our vertically integrated capabilities.

Combining electrical, mechanical, software and systems expertise, BCM is a proven partner for embedded computing requirements across industries.

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