

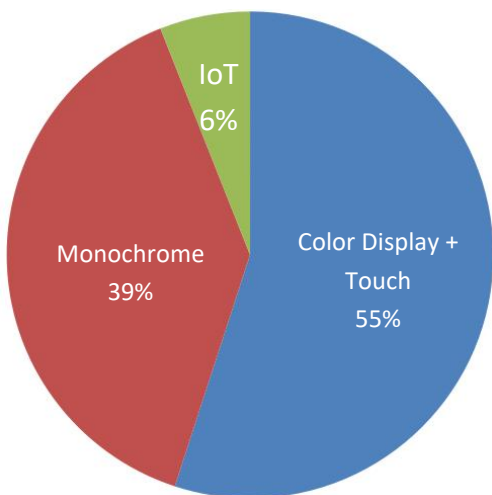
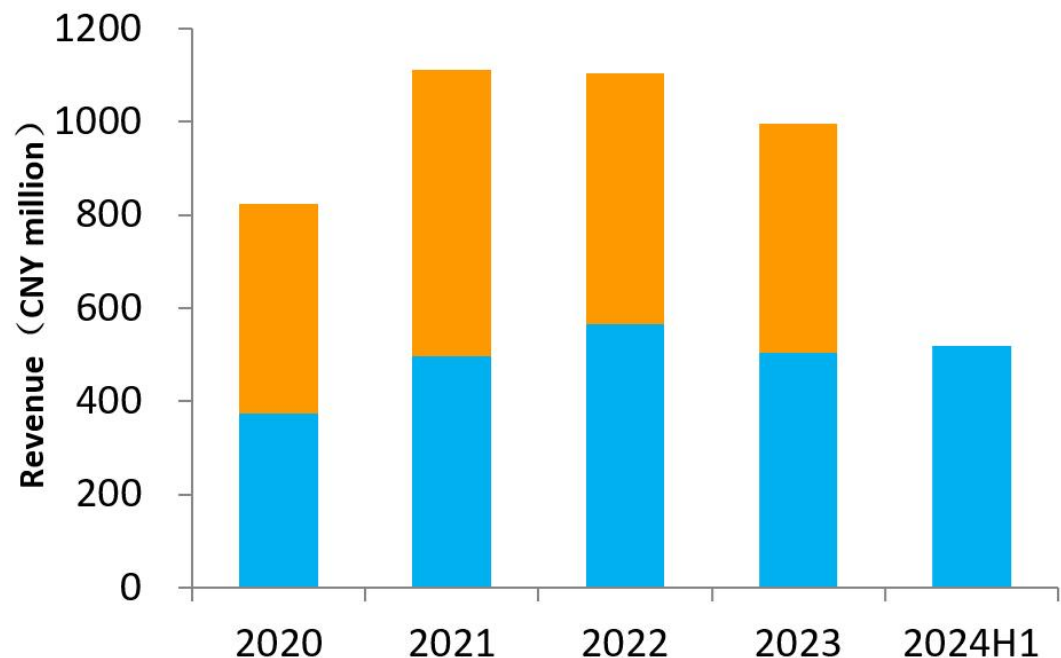


BE A HMI SOLUTION INDUSTRY LEADER

Company Profile

— Nov. 2024 —

About AVD



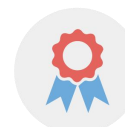
Stock code: 300939.SZ



2024H1 Revenue(RMB) ¥ 520M
2023Y Revenue(RMB) ¥ 995M



1,900+ employees
(R&D: 228)



162 Patents



2 plants covering total
55,000 m²



Sales in 40+
countries & regions



D&B Rating
5A1

Quality System



- IATF 16949
- ISO 9001
- ISO 14001
- ISO 45001
- QC 080000
- ESD S20.20-2014

•ID: 9108627386 / 9108643180

Management System

- SAP
- OA
- MES
- PLM



BE A HMI SOLUTION INDUSTRY LEADER

Manufacture Sites & Global Network



Ganzhou Factory



Shenzhen Headquarter & Factory



New HQ and manufacturing site
Shenzhen Industrial Base (under construction)



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About AVD - Shenzhen New Industrial Base Planning

2022

Location selected

2023

Ground Break
2023.09.03

Under Construction

2026

Operational
Estimated 2026-Q1

Factory Progress and Plan



- Total investment: 460M RMB (65M USD)
- 3.5KM from the current Shenzhen factory
- Ground Space: 9,698 m²
- Building area: 54,159 m²
 - manufacturing building: 9 floors
 - Dormitory: 20 floors
- Progress & Plan:
 - 2023.09 Ground Break
 - 2024.Q4 Main Building construction start
 - 2025.Q2 Main building to be completed
 - 2025.Q4 Interior decorate to be completed
 - 2026.Q1 Start operating



About AVD - Factory outside of China Planning for Thailand

2023

Planning

2025

Under Construction

2027

Location selected

Ground Break
Estimated 2025

Operational
Estimated 2027

Factory progress and plan

- August 2023: Selected the factory location in Thailand
- 2023-Q4
 - Registered our company in Thailand
 - Contract signed and purchase of the land
- 2024~2025: Products / Process Planning
 - Market Demand / Global Economic
 - Volume Production / Supply Chain / Skilled Employee
- 2025~2027: Factory construction
- Location: WHA Industrial Park, Chonburi, Thailand
 - Distance from Bangkok Airport 130 km
 - Distance from Laem Chabang Harbor 40 km
- Ground Space: Approx.16,000m²



About AVD

Vision

BE A HMI Solution Industry Leader

AVD Strengths

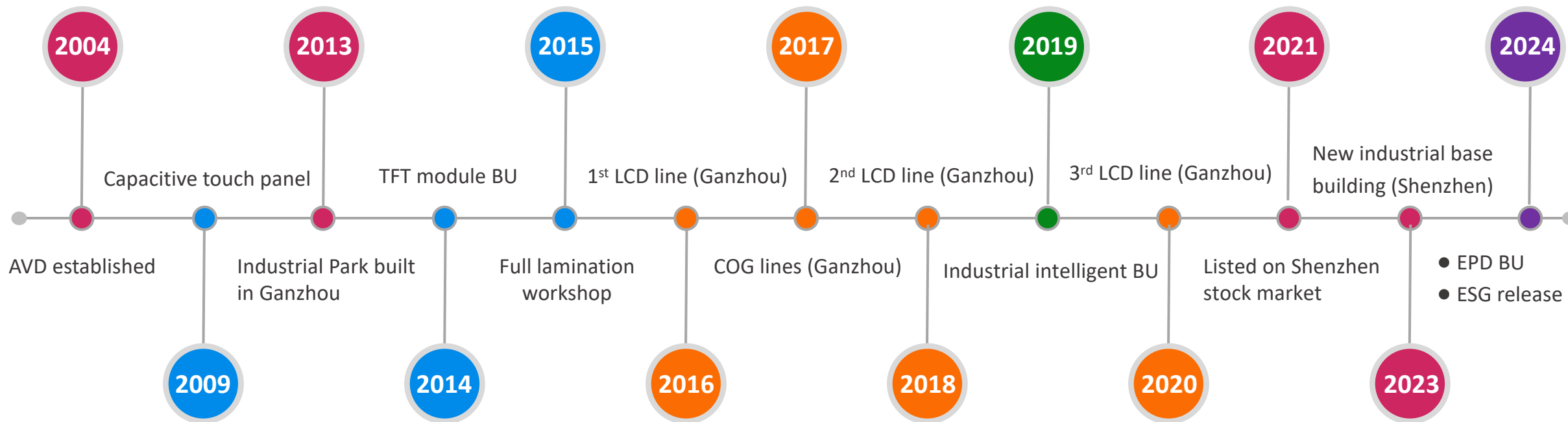
- Total solution provider of displays & touch panels
- Vertical integration, with high efficiency in- house production
- A comprehensive quality control system
- Strong R&D capability, dedicated to offer customized solutions

Operation Goals

- To offer high quality display & touch panels
- To be a team with a great performance and strong social responsibility
- To be a partner recognized and trusted by our customers
- To be an organization approved by our employees



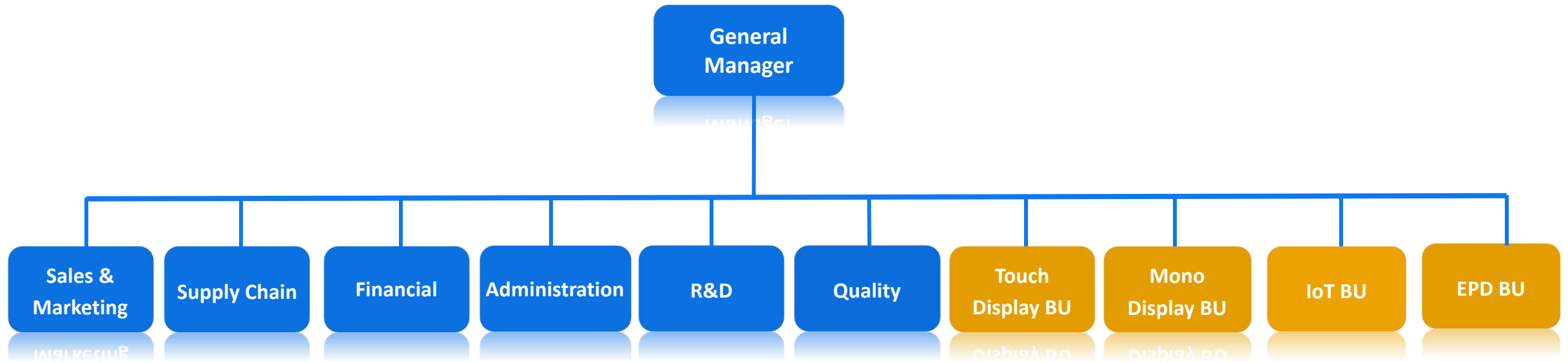
Milestones



- Company Events
- Touch Displa BU
- Mono Display BU
- IoT BU
- EPD BU (e-paper)



Organization Chart



Key Market Segment & References

- Industrial control
- Office automation
- Energy management
- Self-service terminal



Industrial & Automation (45%)



- Home / Smart medical
- Medical device
- Health & Fitness



Medical & Health (11%)



Key Market Segment & References

- Smart appliance
- Smart city
- Smart home



Intelligent life (21%)



- Cluster
- CID (Central Information Display)
- Smart rear view mirror



Automotive (23%)



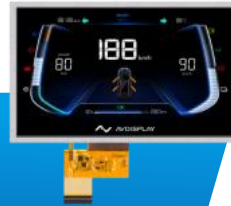
IoT Business Unit - One-Stop Service Provider of Total Solution

Hardware & Software



- Professional R&D Team of SW+HW
- Rich knowledge on chip technology, on Rockchip, NXP, Allwinner, ST
- RTOS, Android, Linux etc

Display



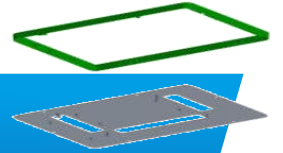
- Professional display design & production
- All kinds of display of TN/IPS/AMOLED
- Customized luminance, lifetime, temp

Touch panel

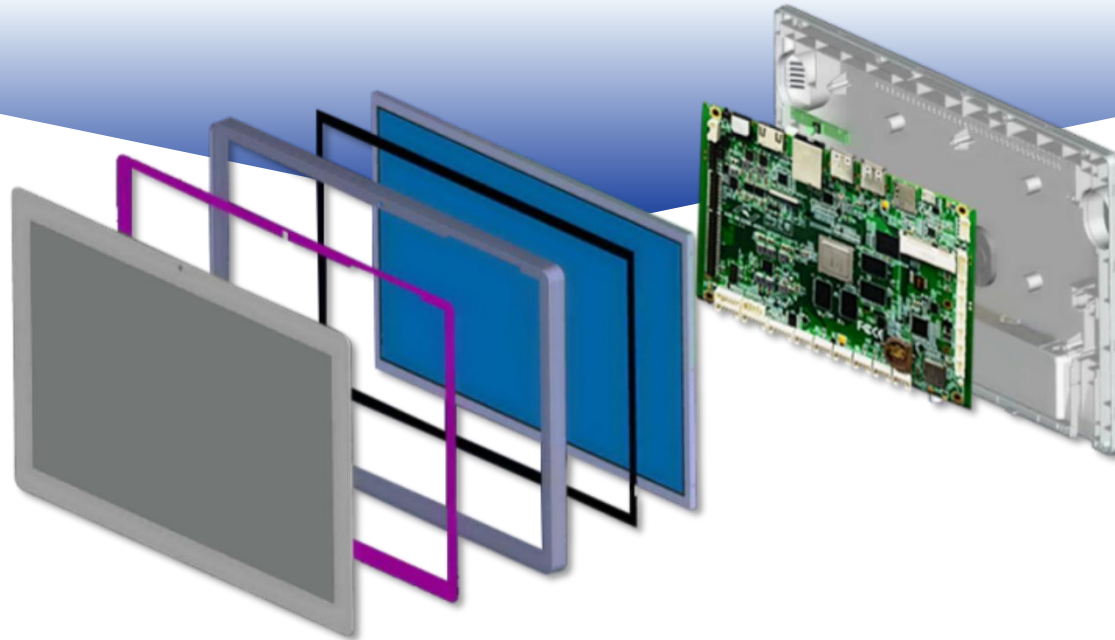


- Leading in manufacturing touch panel
- All kinds of CTP of GG/GFF/OGS/in-cell
- Cover lens shape, printing color, surface treatment
- Optical Bonding of OCA/OCR

Structure & Housing



- Design housing, 3D printing machine for fast prototype
- Assembly of all kinds of structure



IoT Product Development Process



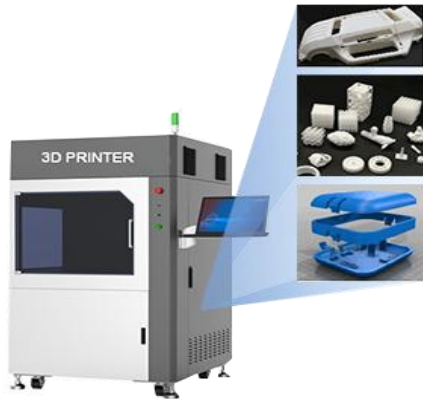
- Fast response + precision (evaluating cost + performance)
- Professional IoT R&D member: 45+

- **Mechanical Design:** appearance + structure + tooling + packaging design
- **HW Design:** logic + components + layout design
- **SW Design:** customed system + peripheral driver debugging + application adaptation + FW support
- **PLM:** R&D Project Management
- **Instrument:** DFMEA APQP

- **Making Sample:** prepare raw material, 3D printing, tooling structure, PCBA assembly, assembly of finished product
- **Testing Sample:** testing plan, testing case, testing for pressure + electrical + RA

- PFMEA/CP/MSA
- WI/SOP
- PPAP support

- Built-in manufacturing qualified item of critical components
- MES system
- Digital Manufacturing Factory



Laboratory Instruments



Thermal Shock



Salt spray test chamber



Group pulse



Voltage-
withstanding Tester



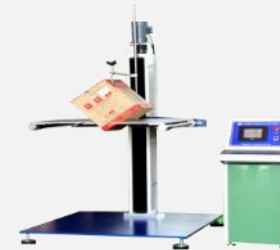
Low temperature



High temperature and
humidity, High
temperature



ESD



Drop



Vibration



IoT Product Category

ADB:LCD screen driver board

- Size Available: 3.5"- 32"
- Convert of different display I/F
- Display rotation and scaling
- Customized CTP and housing



ADB Solution

SDM : Smart display module

- Size Available: 2.4"- 10.1"
- Built-in 2D graphics acceleration engine
- Easy visual UI programming
- Serial port and easy to use



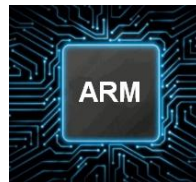
SDM Solution

RISC-V : Reduced instruction set

- Simple instructions, open source , stable performance
- Designed in many I/F , high performance , low power consumption
- QT, LVGL , flexible development of bare-metal



IoT Product



ARM



RISC-V



EMB Series

EMB : Embedded Motherboard

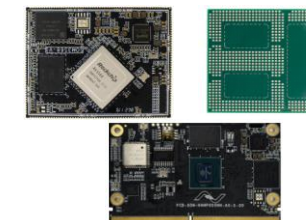
- Open motherboard with rich peripheral I/F
- CPU : Rockchip , Allwinner , NXP
- Support Android, Linux, Harmony OS, etc.
- Support customization



EPC Series

EPC : Embedded PC

- Easy for installation and Integration
- Size Available: 7"- 32"
- Support Android, Linux, Harmony OS , etc.
- Support customization



SOM Series

SOM : System on module (Core board)

- Modular design, standard I/O definition
- High cost-effectiveness and stable performance
- Support Android , Linux , Harmony OS , etc.
- Assist on design of carrier board

Embedded Solution



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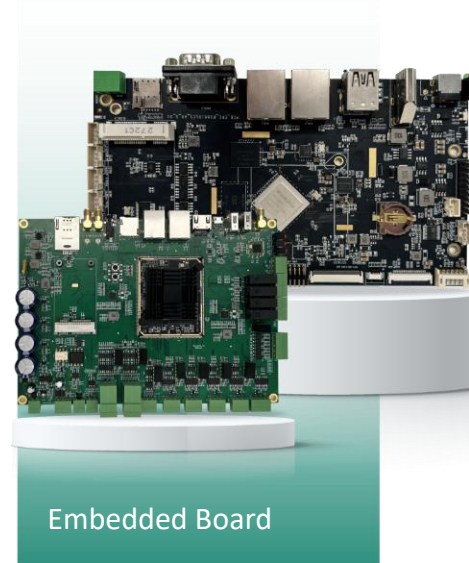
ARM / RISC-V Solutions - Product and Application



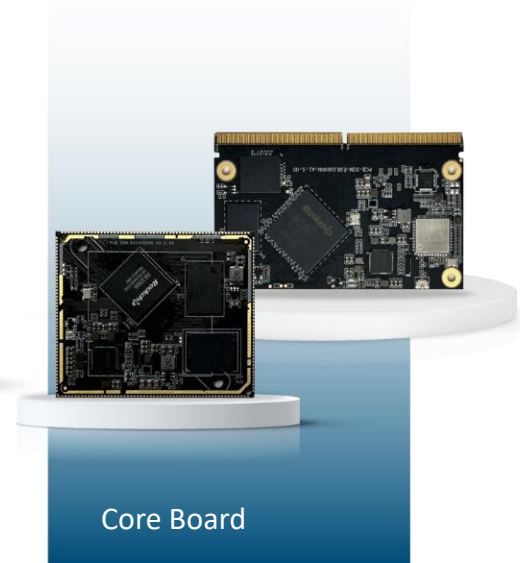
Industrial Computer



Embedded PC
(All-in-one machine)



Embedded Board



Core Board

Application



Medical equipment



Smart appliances



Industrial & Electric



Service robot



BE A HMI SOLUTION INDUSTRY LEADER

One-stop Services Provider of Total Solution

- Mainstream SoC technology reserves
- ODM/OEM
- Strong customized HW and SW services

OS



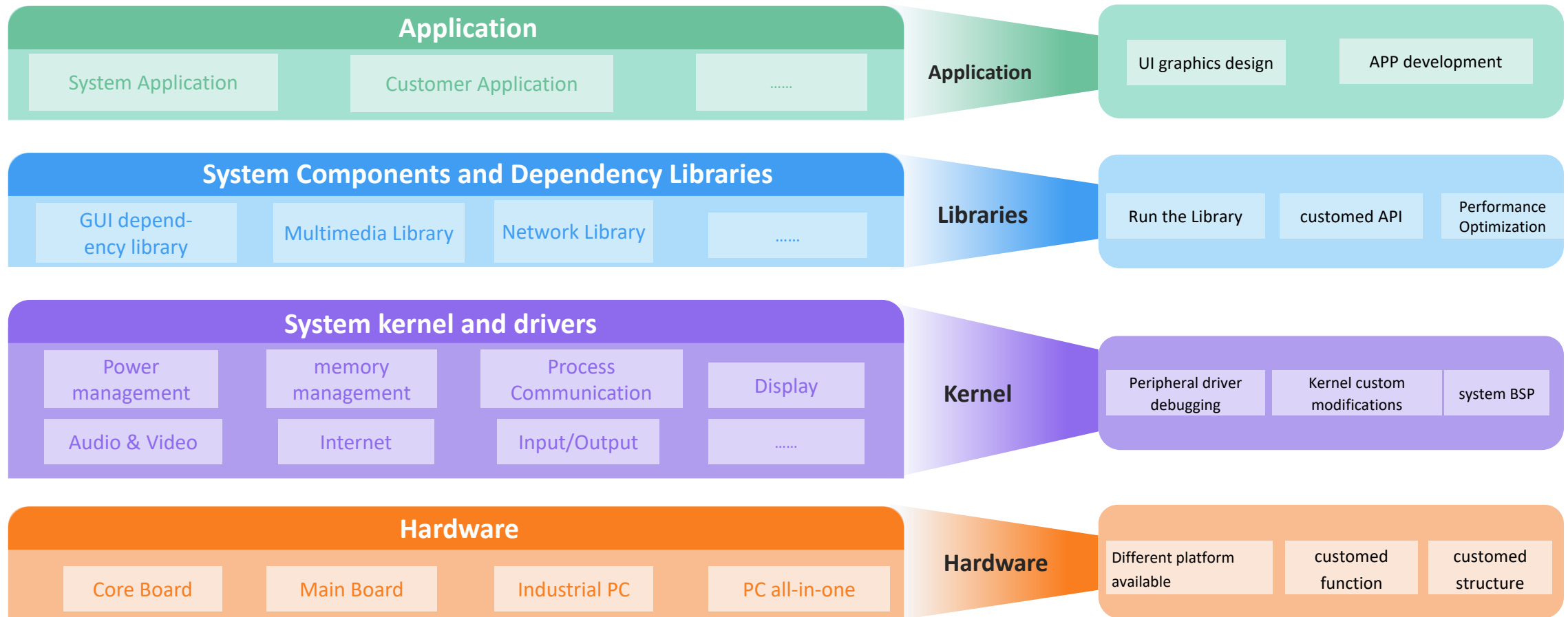
SoC



ARM - Deep Customization Capability

Embedded system architecture diagram

AVD Support

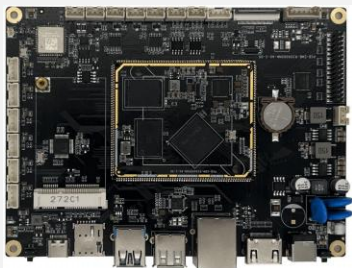
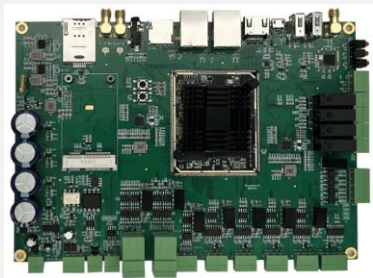
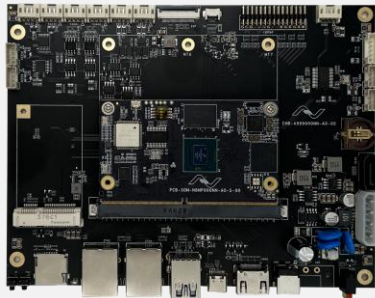


ARM - SOM Series Product

Image				
P/N	SOM-R356000NN-XX	SOM-R38J000NN-XX	SOM-R38J000NN-XX	SOM-N8MP000NN-XX
Processor	RK3566	RK3568J	RK3568J	i.MX 8M plus
Flash	2GB/4GB (optional)	2GB/4GB (optional)	2GB/4GB (optional)	2GB/4GB (optional)
Memory	8/16/32GB (optional)	16GB/32GB (optional)	16/32GB (optional)	16/32GB (optional)
Internet	100/1000M dual Ethernet	100/1000M dual Ethernet	100/1000M dual Ethernet	100/1000M dual Ethernet
Interface	All I/F of core board are reserved	All I/F of core board are reserved	SMARC 2.1	SMARC 2.1
Expansion port	Mini-PCle 、 Micro SD 、 SIM slot	Mini-PCle 、 Micro SD 、 SIM slot	Mini-PCle 、 Micro SD 、 SIM slot	Mini-PCle 、 Micro SD 、 SIM slot
OS	Android / Linux	Android / Linux	Android / Linux	Android / Linux
Power supply	DC 5V	DC 5V	DC 5V	DC 5V
Oper. Temp	0 ~ 60°C	-20 ~ 70°C/-40~85°C (Optional)	-20 ~ 70°C/-40~85°C (Optional)	0 ~ 60°C/-40~85°C (Optional)
Applica-tion	Vending machine, Advertising display	EV charger, EMS, Industrial automation	EV charger, Medical, Industrial automation	Medical, Industrial automation



ARM - EMB Series Product

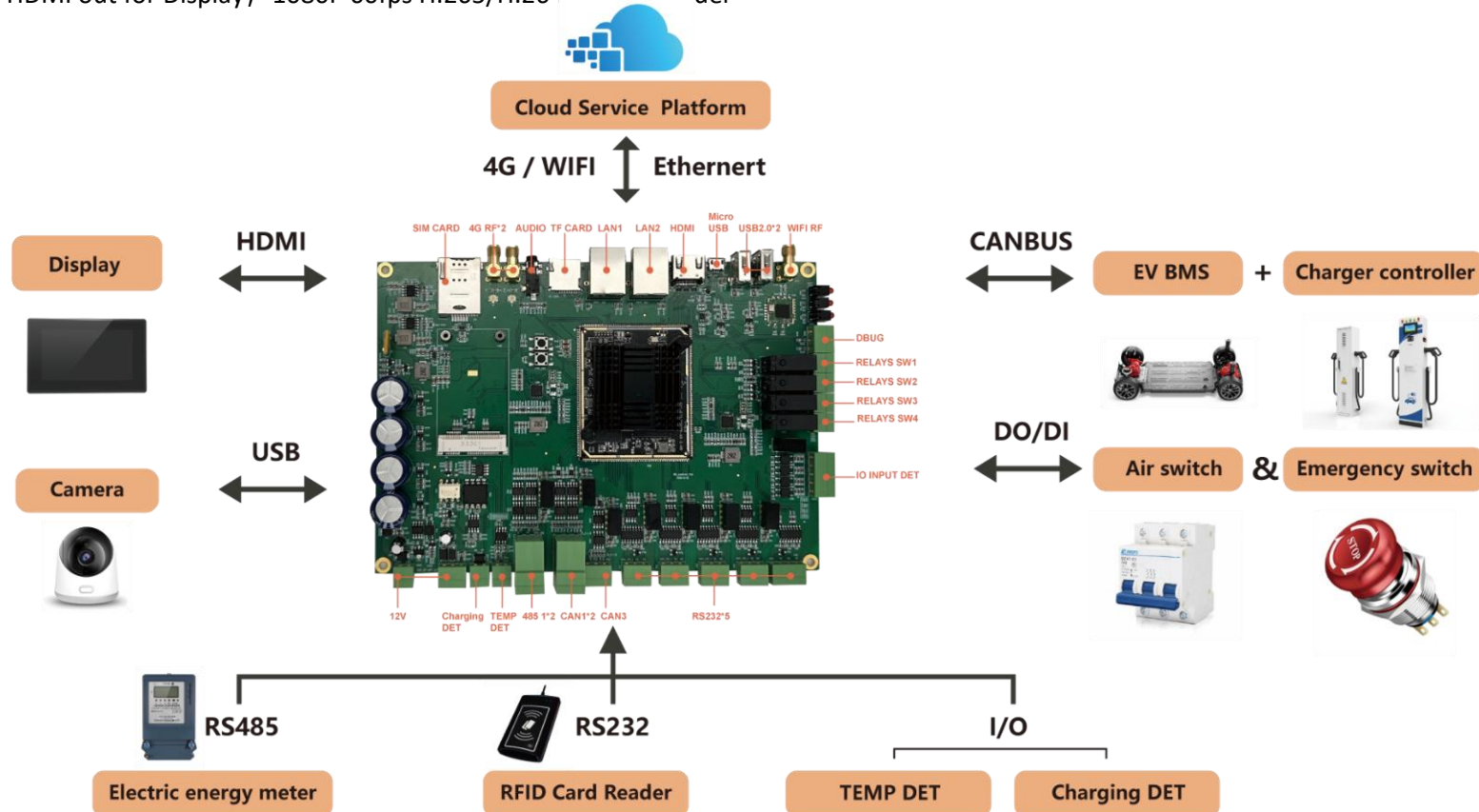
Image				
P/N	EMB-R356000NN-XX	EMB-R388000NN-XX	EMB-R38J000NN-XX	EMB-N8MP000NN-XX
Processor	RK3566	RK3568	RK3568J	i.MX8M Plus
Flash	2GB/4GB (optional)	2GB/4GB (optional)	2GB/4GB (optional)	2GB/4GB (optional)
Memory	8/16/32GB (optional)	8/16/32GB (optional)	16/32GB (optional)	16/32GB (optional)
Internet	100/1000M dual Ethernet	100/1000M dual Ethernet	100/1000M dual Ethernet	100/1000M dual Ethernet
Interface	COM*5、USB*6、HDMI*1、LVDS*1、EDP*1	CAN*1、COM*5、USB*4、HDMI*1、MIPI*1、LVDS*1、EDP*1	CAN*3、COM*7、USB*3、HDMI*1、Audio	USB TYPE-C*1、USB*4、COM*6、CAN*2
Expansion port	Mini-PCle 、 Micro SD	Mini-PCle 、 Micro SD、 SIM slot	Mini-PCle 、 Micro SD、 SIM slot	PCIE3.0、 4G(Mini PCIE)、 SIM slot
OS	Android / Linux	Android / Linux	Android / Linux	Android / Linux
Power supply	DC 12V	DC 12V	DC 12V	DC 12V
Oper. Temp	0 ~ 60°C	0 ~ 60°C / -30~85°C (Optional)	-40 ~ 85°C	0~60°C/ -30~85°C (Optional)
Application	Vending machine, Advertising display	Vending machine, Industrial automation	Industrial automation, EV charger, EMS	Medical, Industrial automation



ARM Case Study - EV Charger Controller Board

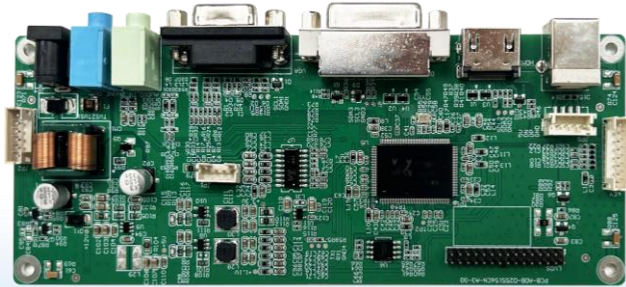
Features:

- RK3568J Quad-core ARM Cortex-A55 processor, main frequency up to 2GHz
- 1 TOPS NPU, suitable for AI edge computing applications
- Onboard 2/4GB LPDDR4 memory and 16/32GB eMMC
- HDMI out for Display, 1080P 60fps H.265/H.264 video decoder
- Support WIFI & BT function and PCIe I/F, expandable to 4G communication module
- Peripheral interface isolation design
- Industrial grade -40°C ~ +85°C , wide working temperature



ADB - Product and Application

- AD board
- Touchscreen module(Standard HDMI、VGA、DVI I/F)



4.3"



7"



10.1"



up to 32"



Advertising Display



Serving Robot



Vending Machine



Partner with Raspberry Pi



Industrial Equipment



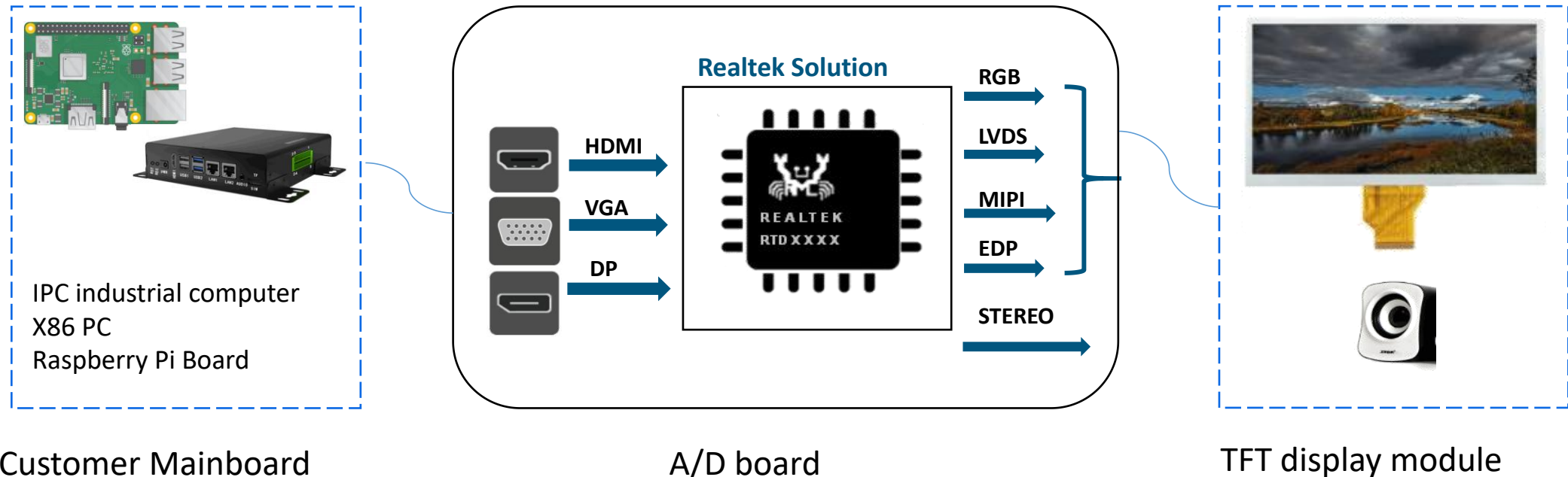
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ADB - LCD Driver Board

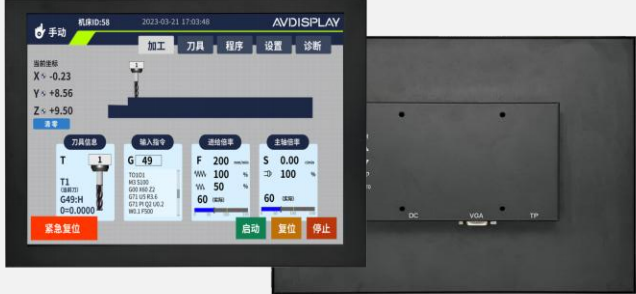
- Support video and audio signal transmitted by standard HDMI, VGA, DVI, DP I/F
- Support different resolution and refreshing rate, audio decoding, color correction
- With good signal stability and immunity ability of interference to ensure the quality of image and sound

Features

- Convert of display I/F
- Standard Input I/F
- Modular design



ADB Series Products

Size	7"	10.1"	12.1"
Image			
P/N	ADB-D251070CN-XX	ADB-D25T101CS-XX	ADB-D251121CS-XX
Resolution	1024*600	1280*800	800*600
Display Mode	IPS	IPS	TN
Touch Type	CTP	CTP	CTP
Luminance	250 nit	350 nit	350 nit
LED lifetime	30000H	30000H	50000H
Interface	HDMI & USB (CTP)	VGA & HDMI & USB (CTP)	VGA & HDMI & USB (CTP)
Power supply	DC 5V	DC 12 V	DC 12 V
Oper. Temp	-20~70°C	-10~60°C	-20~70°C
Application	Medical, POS、Smart Appliances	Vending machine, POS、Medical	Industrial & Medical equipment



ADB Case Study - 32" Industrial Wide Temperature Touch Monitor



Features

- Surface treatment: Ceramic ink cover
Physical tempered , Ink sintering ,Sunlight durable , High temperature durable, .
- High temperature resistance
Added Thermal Management Film,90% reflectivity to the near-infrared band
- UV resistant
UV-resistant OCA bonding
- High brightness
Direct type backlight, uniform heat dissipation, surface peak brightness up to 2400 nit
- Dustproof/waterproof design
Sealed design, waterproof aviation socket, IP65 grade

Characteristics

- Dimension: 32"
- Resolution:1920*1080
- Display mode: IPS
- Brightness: 2000 nit
- Display I/F: HDMI
- Touch I/F: USB

Application



Advertising Display



EV charger



Fuel dispenser



SDM - Product and Application



Smart Home



Water Purifier



EV charger



Industrial equipment

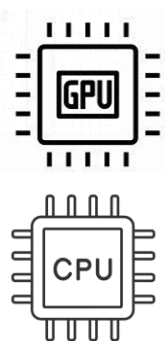


Medical equipment



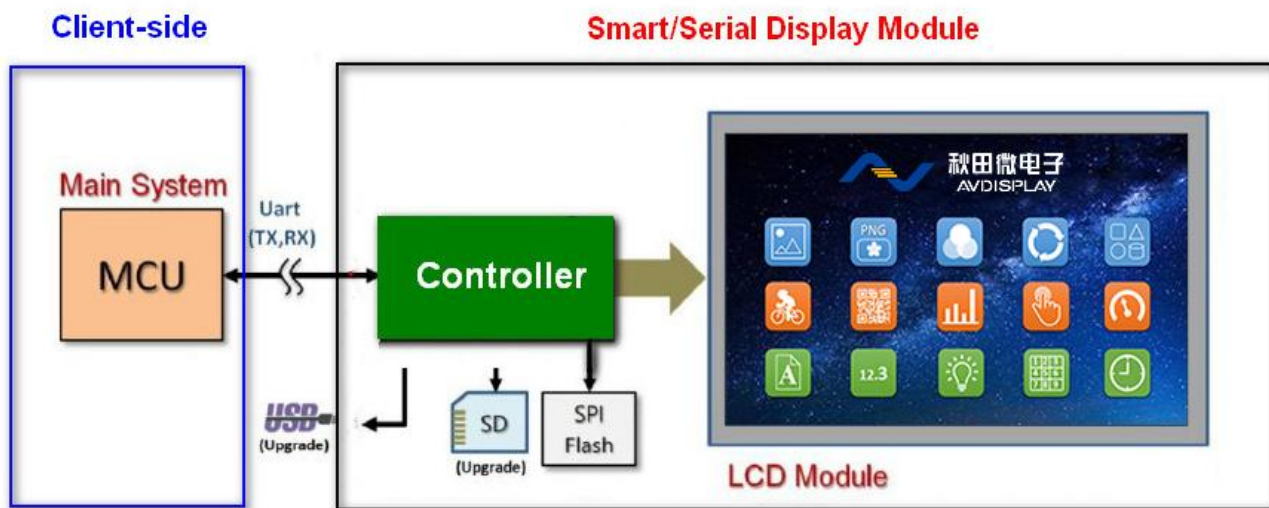
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SDM - Solution Introduction



- Integrated module with Cortex-M4 MCU
- Built-in GPU with 2D graphics acceleration engine
- Support GIF animation display, boot animation, QR code generation, screen rotation, mirroring, picture-in-picture, graphic mixed transparent display, etc.
- Support RTC

Block Diagram

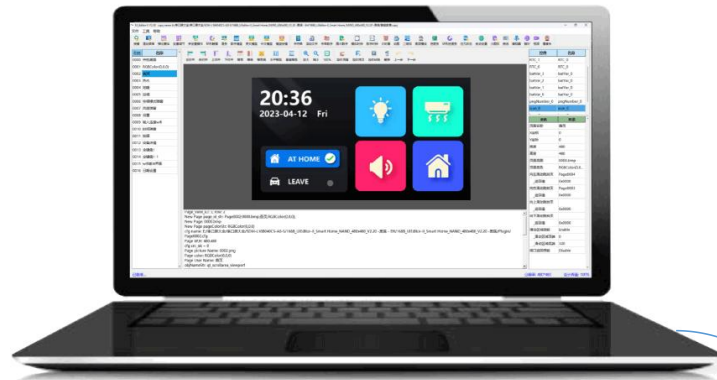


Advantages

- Configuration software, easy to learn and use
- Visual UI editor for programming design
- No waiting to boot up
- Easy integration and shorten time to market



SDM - UI Editor

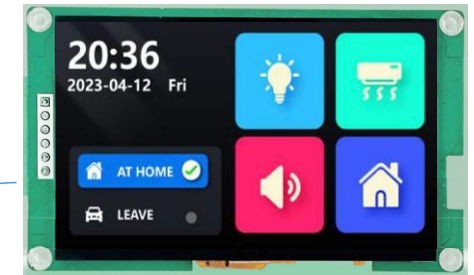


Visual UI Editor Software



Simulation software

Program
Download



Smart Display Module



Development Kit

- 4.3 inch 480x272 SDM module
- ESP 32 driver board



Source Code

- DEMO UI project file
- ESP 32 Driver board source code



Application Information

- ESP 32 driver board Schematic
- DEMO Kit Development Manual
- Hardware illustration



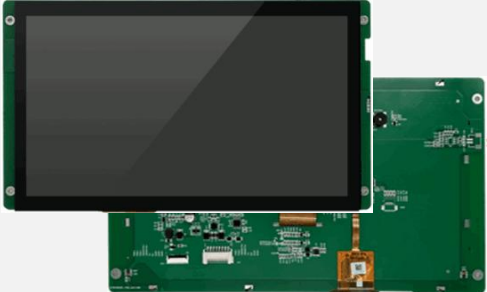
Auxiliary tools

- UI Editor
- Simulator



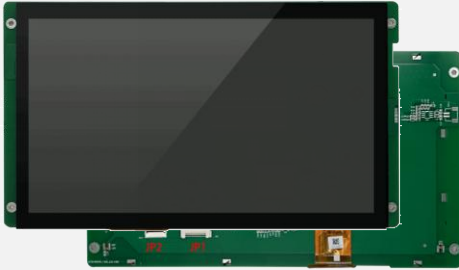
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SDM Series Product

Dimension	3.5"	4.3"	4.3"	5"
Image				
P/N	SDM-L738035NN-XX	SDM-L738043NN-XX	SDM-L769043CN-XX	SDM-L769050CN-XX
Resolution	320*240	480*272	480*272	800*480
Display Mode	IPS	IPS	TN	TN
Touch Type	/	/	CTP	CTP
Luminance	500 nit	250 nit	500 nit	450 nit
LED lifetime	30000H	30000H	30000H	30000H
I/F	8080 8/16 bit	8080 8/16 bit	RS-232	TTL
Power supply	DC 3.3V/5V	DC 3.3V/5V	DC 5V	DC 5V
Oper. Temp	-20~70℃	-20~70℃	-20~70℃	-20~70℃
Application	healthcare, industrial device	healthcare, industrial device	air purifier, EMS device, EV charger	water purifier, EV charger, medical



SDM Series Product

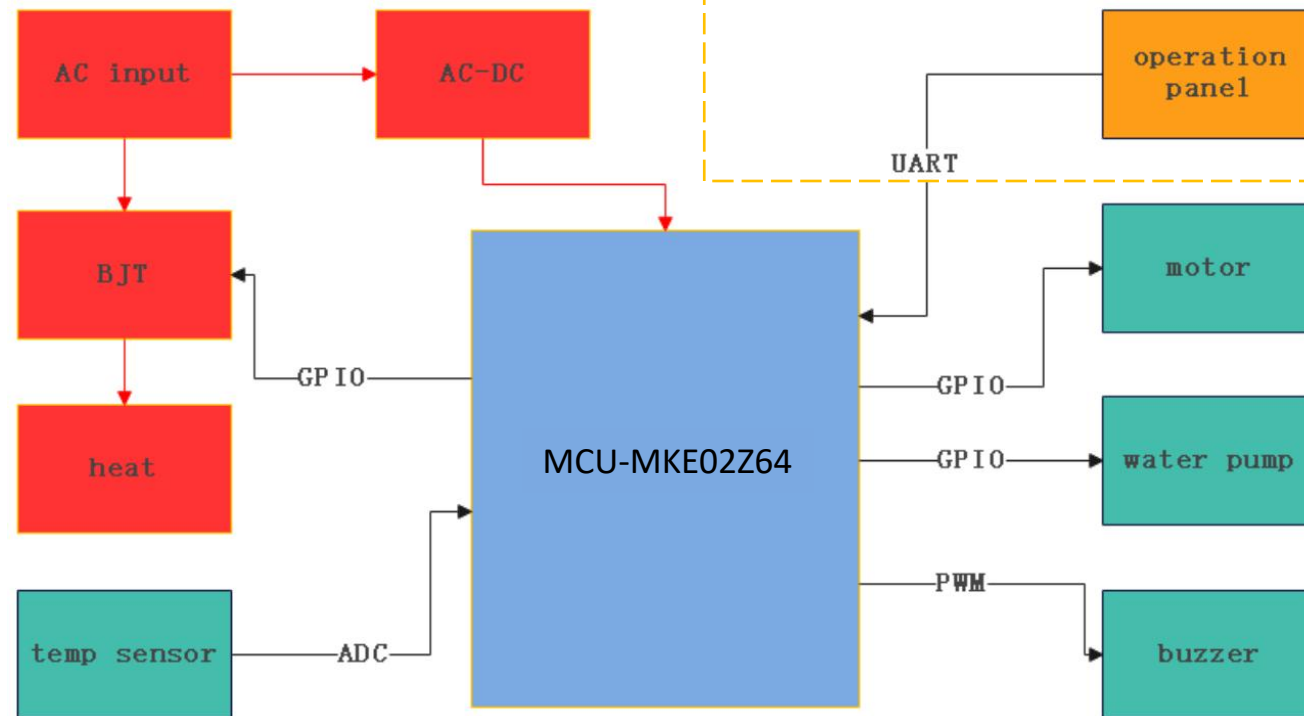
Dimension	7"	10.1"	4"	7"
Image				
P/N	SDM-L769070CN-XX	SDM-L769101CN-XX	SDM-L16B040CS-XX	SDM-L769070CS/RS-XX
Resolution	800*480	1024*600	480*480	800*480
Display Mode	TN	TN	IPS	TN
Touch Type	CTP	CTP	CTP	CTP/RTP可选
Luminance	500 nit	1000 nit	250 nit	800 nit
LED lifetime	30000H	50000H	30000H	50000H
Interface	RS-232	RS-232 / RS-485	RS-485	RS-232 / RS-485
Power supply	DC 12V	DC 12V	DC 12V	DC 12V
Oper. Temp	-20~70°C	-20~70°C	-10~60°C	-20~70°C
Application	EV charger, Industrial equipment	EV charger, Water purifier, Medical equipment	Thermostat, Smart home control	EV charger, Industrial equipment



SDM Case Study - Coffee Machine



4.3" Smart Display Module



Coffee machine functional block diagram



秋田微电子
AVIDISPLAY

平凡人成就不平凡事

The ordinary accomplishes the extraordinary

