



深圳大经技术有限公司
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DJ-i.MX 8M Mini-KIT

Product Specification

NXP Development Platform

Rev. V2.0

Date : 2020-12



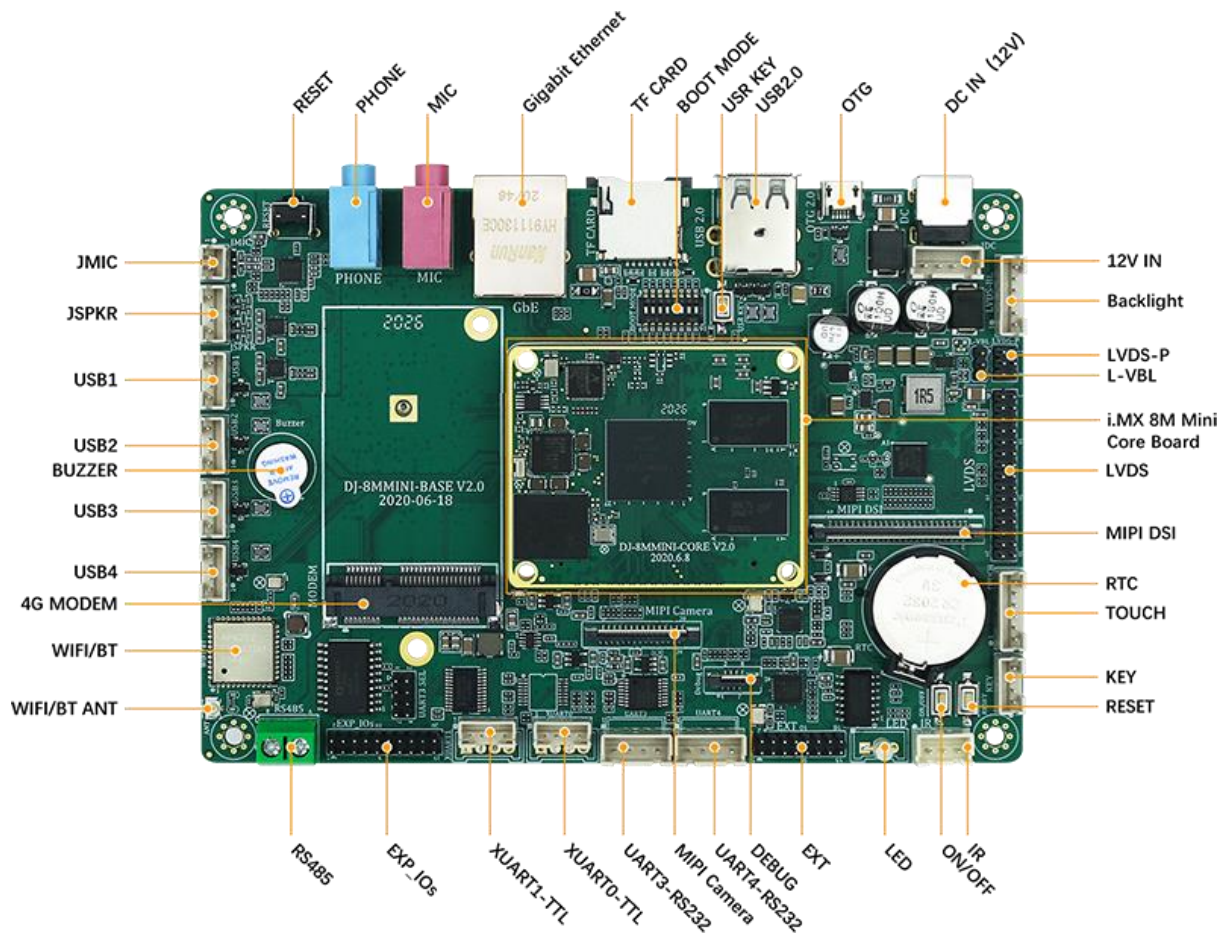
Introduction

DJ-i.MX 8M Mini-KIT is used for rapid evaluation and development of DJ-i.MX 8M Mini-CORE core board. Based on powerful NXP Embedded i.8M Mini multi-core processor, it is designed with many application function interfaces and perfect drivers, which can effectively reduce the development difficulty of target products, simplify the development cycle and greatly shorten the time to market.

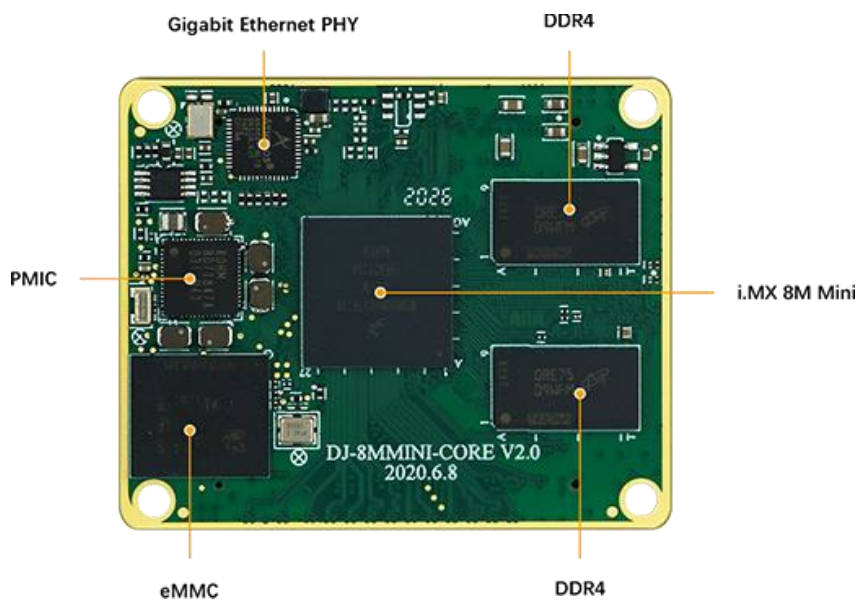
This evaluation kit consists of core board, base board and development aids. The core board is designed with high TG HDI, compatible with NXP's i.MX8M Mini full series processor. It integrates CPU, DDR4, eMMC, PMU, Ethernet and QSPI, B2B connection with base board through two high precision industrial grade connector, easy to install the product. The base board adopts 3.5 inch industrial design, which can adapt to the company's i.MX8M Mini and i.MX8M Nano core boards, combined with the design of a comprehensive application interface, such as LVDS (or MIPI), Audio, Gigabit Ethernet, M.2 2280 SSD interface, TF card, USB, Multiple serial port, RS485, GPIO, RTC, WIFI/BT, 4G/3G etc.

DJ-i.MX 8M Mini-KIT has a variety of development resources and mature system software, supporting Linux and Android 9.0. It can be widely used in industrial control, Internet of Things, medical instrument, communication control, traffic control, information system, financial equipment, automobile, digital control, various terminal markets.

Function Interface



ARM SOC Module



Hardware Parameter

| Processor | |
|-----------------------------|---|
| CPU | Compatible with NXP i.MX 8M Mini full series processor, optional; Standard configuration: MIMX8MM6DVTLZAA or MIMX8MM6CVTKZAA multi-core processors: A quad Arm® Cortex®-A53 core, which frequency at 1.8 GHz, A general purpose Cortex®-M4 400 MHz core processor is for low-power processing |
| GPU | 3D GPU (1x shader, OpenGL® ES 2.0), 2D GPU,Varies by processor |
| Storage | |
| Memory | Onboard 2GB DDR4 high speed memory particles |
| Built in memory | Onboard 16GB (commercial grade) or 8GB (industrial grade) eMMC 5.1 (optional 8GB/32GB/64GB...) |
| QSPI FLASH | Onboard 32MB QSPI FLASH |
| TF card slot | 1x TF card slot, support 8GB / 16GB / 32GB / 64GB / 128GB |
| M.2interface | 1x M.2 2280 SSD solid state disk interface ,complies with PCIE-NVME protocol. Support various capacity solid state drives (256GB/512GB/1T...) |
| B2B Connector | |
| Connector | Two 2x 50PIN high-speed connectors with high reliability and high precision for military industry, the core board is closely connected with the base board |
| Number of pins | Total 200PIN |
| B2B Fixing hole | |
| Fixing hole | Four |
| Network | |
| Ethernet | 1x Gigabit Network port, RJ45 connector |
| 4G/3G interface | 1x MINI PCIe card slot, support 3G/4G (optional), with SIM card slot |
| WIFI/BT | 1x WIFI/BT two-in-one module, support WIFI 802.11 b/g/n, support Bluetooth V4.1 of 1, 2 and 3 Mbps |
| Display | |
| LVDS interface | 1x dual channel LVDS interface (2x 15PIN connector), supporting all kinds of dual eight, dual six, single eight, single six LVDS interface LCD screens, with the highest resolution supporting WQHD (1920x1080p60, 24bpp) |
| MIPI interface | 1x dual channel 4 Lane MIPI DSI interface (50PIN connector) |
| Backlight control interface | 1x LVDS backlight power supply control interface (6PIN connector) |
| Touch screen interface | 1x touch screen signal (I2C, 6PIN connector), while supporting various capacitive touch screens with USB interface |
| Audio | |
| Headphone jack | 2x headphone holder (3.5mm, stereo, microphone input) |
| speaker interface | 1x speaker connector (4Pin connector) With power amplifier circuit, support left and right channel output, built-in 8Ω/2W power |

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| | amplifier |
| MIC interface | 1x MIC interface (2PIN connector), can be connected to various microphone heads |
| USB | |
| USB HOST | 2x USB 2.0 HOST TYPE A (Double 90°USB TYPE A header) 4x USB 2.0 HOST (Hub extension, 4 PIN header) |
| USB OTG | 1x USB 2.0 OTG (Micro USB header) |
| UART serial port | |
| Debug serial port | 2 x TTL interface (8PIN 0.5mm connector,default for debugging,UART2) |
| User serial port | 2x RS232/TTL interface (4PIN connector, default RS232) 2x TTL/ RS232 interface (4PIN connector, default TTL) |
| RS485 interface | |
| RS485 interface | 1x RS485 interface, multiplexing with UART3 (2PIN green header) |
| Camera interface | |
| CMOS camera | One MIPI Camera interface, support 13 megapixel camera module (4 Lanes 30PIN connector) |
| USB camera | Supports various USB UVC cameras |
| Application peripheral interface | |
| GPIO interface | 1 set of GPIOs (15 external expansion GPIOs, 2x 10PIN connector) |
| Key interface | 1 set of keys (power switch, reset button, CPU power switch) |
| LED indicator | 1 set of LEDs (red, blue) |
| Infrared interface | 1x IR circuit, support infrared remote control |
| RTC | Support |
| Sleep / Wake up | Support |
| System upgrade | Support local USB, TF upgrade |
| Electrical characteristics | Power supply: DC 12V, |
| Operating system | Linux、 Android 9.0 |
| Size | Standard 3.5 inch, 102*146mm |

Software Parameter——Linux4.14.98

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|--|--|
| Operating system | Linux |
| Linux kernel | Linux4.14.98 |
| system boot loader | U-boot 2018.03 |
| Solarnumen Comdebug | Minicom terminal |
| Cross compilation tool | Yocto gcc 7.3.0 |
| File system format | Ext4 |
| Graphical user interface | QT5.10 |
| Video player | MPlayer |
| Wireless WiFi / BT function | Support 802.11b/g/n wireless protocol, Realize WiFi wireless internet access, WiFi hotspot function and Bluetooth function |
| Network port module driver | Gigabit wired Ethernet |
| AUDIO driver | Realize recording and playing function |
| LCD display driver | LCD with LVDS interface support |
| TOUCH driver | Support for touch driver |
| USB HOST main device driver | Support USB mouse, USB keyboard and USB disk reading function |
| Temperature sensor function | Support TMP275 temperature sensor |
| SD/MMC storage driver | Support reading and writing operation of Large Capacity SD card memory |
| RTC driver | Support real-time clock function |
| UART serial communication driver | Support debugging serial port and communication serial port functions |
| Buzzer driver | Support the control function of buzzer |
| LED Indicator driver | Support the control function of indicator light |
| RS485 driver | Support RS485 communication function |
| MIPI Camera driver | Support preview and photo taking function of OV5640-MIPI (500W pixel) camera |
| 4G module driver | Support 4G Internet access function of EC20 module (all netcom) |
| IR driver | Support infrared remote control function |
| GPIO control | Support 15 GPIO ports (3.3V) available to users |
| M.2 driver | Adopt PCIE-NVME protocol, support the read-write function of SSD hard disk |

Software Parameter——Android 9.0

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|--|---|
| Operating system | Android 9.0 |
| Linux kernel | Linux4.14.98 |
| system boot loader | U-boot 2018.03 |
| Solarnumen Comdebug | Minicom terminal |
| Cross compilation tool | Yocto gcc 7.3.0 |
| File system format | Ext4 |
| Graphical user interface | Android 9.0.0 Pie |
| Mobile 4G function | Support 4G Internet access function of EC20 module (all Netcom) |
| Wireless WiFi function | Support 802.11b/g/n wireless protocol, Realize WiFi wireless internet access |
| BT Bluetooth function | Support Bluetooth protocol stack to realize Bluetooth data communication |
| GPS positioning function | Realize the acquisition and reception of positioning data |
| RS485 function | Support RS485 communication |
| Temperature sensor function | Support TMP275 temperature sensor |
| Network port module driver | Gigabit wired Ethernet |
| MIPI Camera driver | Support preview and photo taking function of OV5640-MIPI (500W pixel)camera |
| AUDIO driver | Realize audio playing function |
| LCD display driver | Support LVDS interface display and backlight adjustment function |
| TOUCH driver | Support capacitive multi touch drive |
| USB HOST main device driver | Support USB mouse, USB keyboard and USB disk reading function |
| USB OTG slave device driver | Support ADB and MTP functions |
| M.2 driver | Adopt PCIE-NVME protocol, support the read-write function of SSD hard disk |
| SD/MMC storage driver | Support reading and writing operation of Large Capacity SD card memory |
| RTC driver | Support real-time clock function |
| UART serial communication driver | Support debugging serial port and communication serial port functions |
| MFC Codec driver | Support the encoding and decoding functions of H.264, MPEG4, H.263, MJPEG and |









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| | other formats |
| IR driver | Support infrared receiving function |
| Buzzer driver | Support the control function of buzzer |
| LED indicator drive | Support the control function of indicator light |
| GPIO control | Support 15 GPIO ports (3.3V) available to users |
| USB Camera driver | Support USB camera preview and camera function |

Software Parameter——Ubuntu18.04

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|--------------------------------|--|
| Operating system | Ubuntu18.04 base |
| Linux kernel | Linux4.14.98 |
| system boot loader | U-boot 2018.03 |
| Solarnumen Comdebug | Minicom terminal |
| Cross compilation tool | Yocto gcc 7.3.0 |
| File system format | Ext4 |
| Desktop system | xfce4 |
| Video player | vlc |
| Music player | pulseaudio |
| Wireless WiFi function | Support 802.11b/g/n wireless protocol, Realize WiFi wireless internet access |
| Network port module driver | Gigabit wired Ethernet |
| AUDIO driver | Realize audio playing function |
| LCD display driver | Support LVDS LCD |
| TOUCH driver | Support for touch driver |
| USB HOST main device driver | Support USB mouse, USB keyboard and USB disk reading function |
| GPIO control | Support 15 GPIO ports (3.3V) available to users |
| SD/MMC storage driver | Support reading and writing operation of Large Capacity SD card memory |
| RTC driver | Support real-time clock function |
| UART serial communication | Support debugging serial port and communication serial port functions |

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| driver | |
| USB Camera driver | Support USB camera preview and camera function |
| IR function | Support infrared remote control function |
| 4G module driver | Support 4G Internet access function of EC20 module (all netcom) |
| M.2 driver | Adopt PCIE-NVME protocol, support the read-write function of SSD hard disk |
| MIPI Camera driver | Support preview and photo taking function of OV5640-MIPI (500W pixel) camera |
| RS485 driver | Support RS485 communication function |
| LED indicator drive | Support the control function of indicator light |
| Buzzer driver | Support the control function of buzzer |

Package List

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|---|---|--|----------------------------|
|  | Development Platform (expanding board+Core board) |  | DEBUG |
|  | 10.1-inch LVDS |  | OV5640-MIPI |
|  | Package Information (Instructions, firmware, tools, etc.) |  | WiFi/BT antenna (Share) |
|  | Micro USB Cable |  | Power Adapter |

Service Support

Technical Support Mailbox:

TEL: 0755-86325375 86325376

E-mail: ces_support@ces-tech.com

Technical Support Service Hours:

Monday to Friday: 9: 00~12: 00, 13: 30~18: 00

Statement

The information in this manual is for reference only and is subject to change without notice.

For more product information, visit www.nrisc.cn

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