



深圳大经技术有限公司
Shenzhen Dajtech Co.,Ltd

DJ-i.MX 8M Mini-KIT

Product Specification

NXP Development Platform

Rev. V2.0

Date : 2020-12



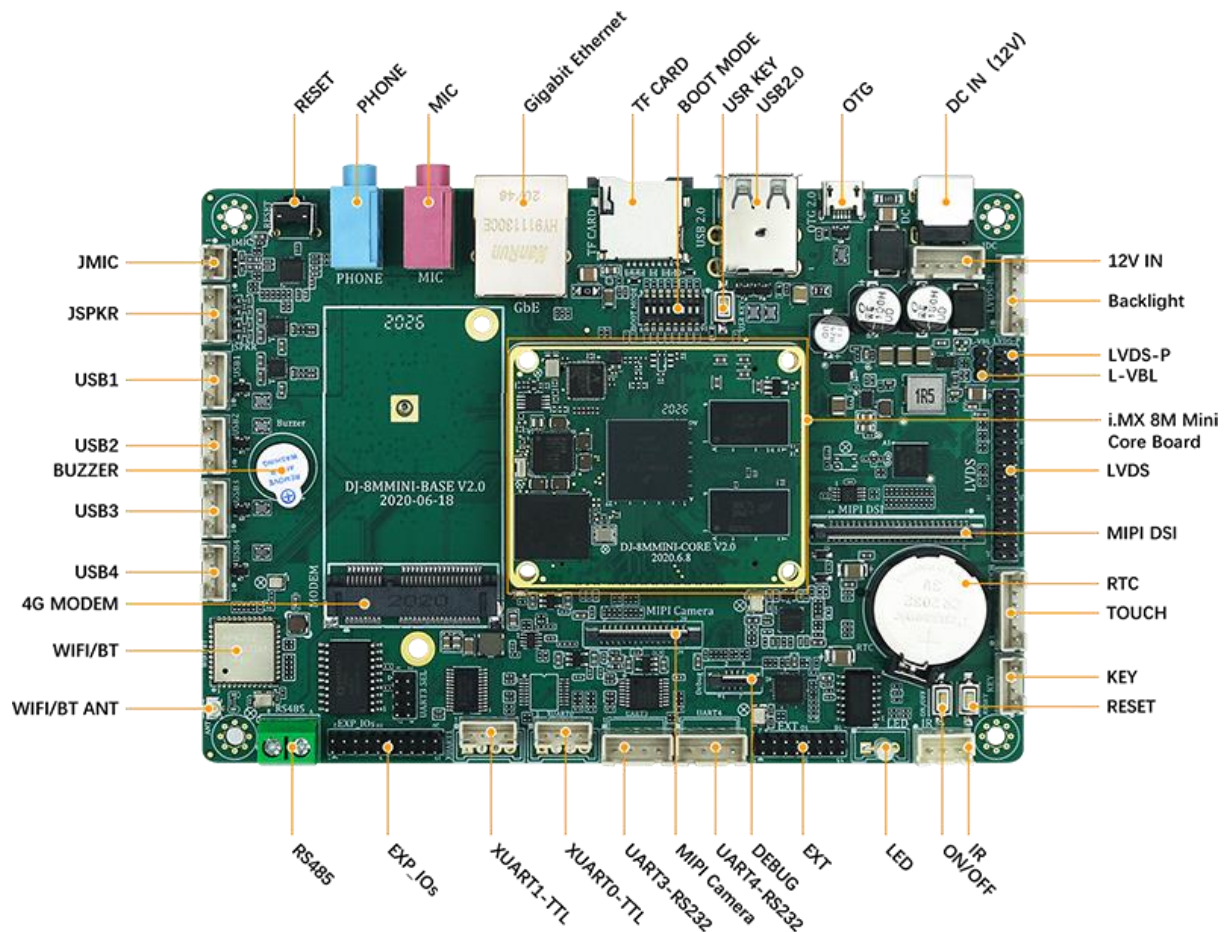
Introduction

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.

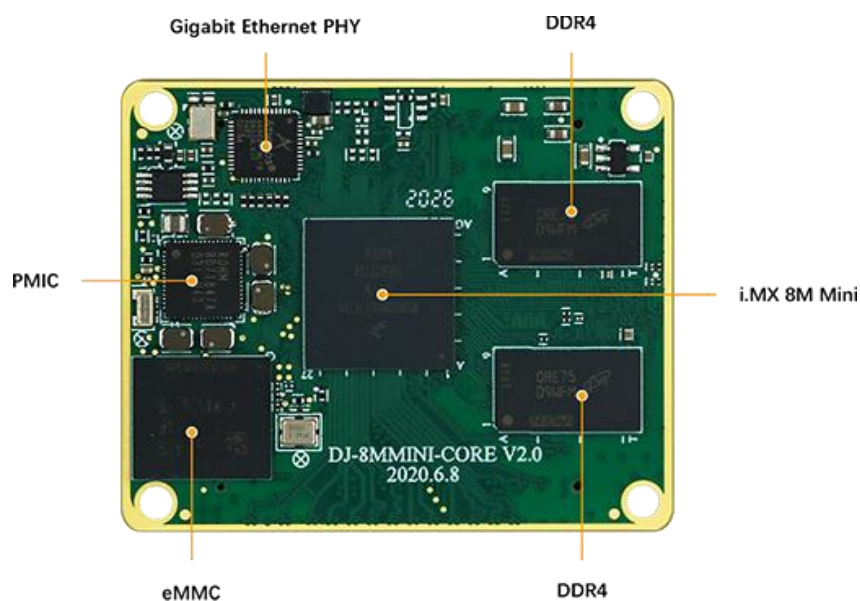
This evaluation kit consists of core board, base board and development aids. The core board is designed with high TG HDI, compatible with NXP's i.MX8M Mini full series processor. It integrates CPU, DDR4, eMMC, PMU, Ethernet and QSPI, B2B connection with base board through two high precision industrial 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 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

	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

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

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









	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

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

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

	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

Shenzhen Dajtech Co.,Ltd

ADD: 6th Floor,Skyworth Digital Building, Songbai Road, Shiyan Street,Baoan District, Shenzhen, China.

TEL: +86-755-86325375 86325376

E-mail: ces_market@ces-tech.com