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MYC-Y6ULX
EVK Hardware User Guide

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Shenzhen MYIR Electronic Co. LTD

History

Version	Author	Participator	Date	Description
V1.0	Leoric	Jacob	20211221	The version is updated to V2
V1.1	Dana		20230523	Updated some content of RTC

Content

1. Overview

MYD-Y6ULX-V2 carrier board is an evaluation development kit based on i.MX.6UL/6ULL processor launched by ShenZhen MYIR Electronics Co., LTD. The EVK board is composed of stamp hole core board MYC-Y6ULX-V2 and carrier board MYB-Y6ULX.This manual is convenient for users to understand the interface definition and functional application of the EVK board, and also has certain guiding significance for the project development by using MYC-Y6ULX-V2, our core board.

1.1. EVK Introduction

The MYD-Y6ULX-V2 EVK is an entry level development board for industrial and commercial application, which helps developers get familiar with the processor before investing a large amount of resources in more specific designs.

MYC-Y6ULX-V2 board is designed as 140PIN stamp hole package and integrates circuits such as i.MX6U application processor, DDR3, NAND Flash/eMMC and Ethernet PHY in a 37x39mm package size.

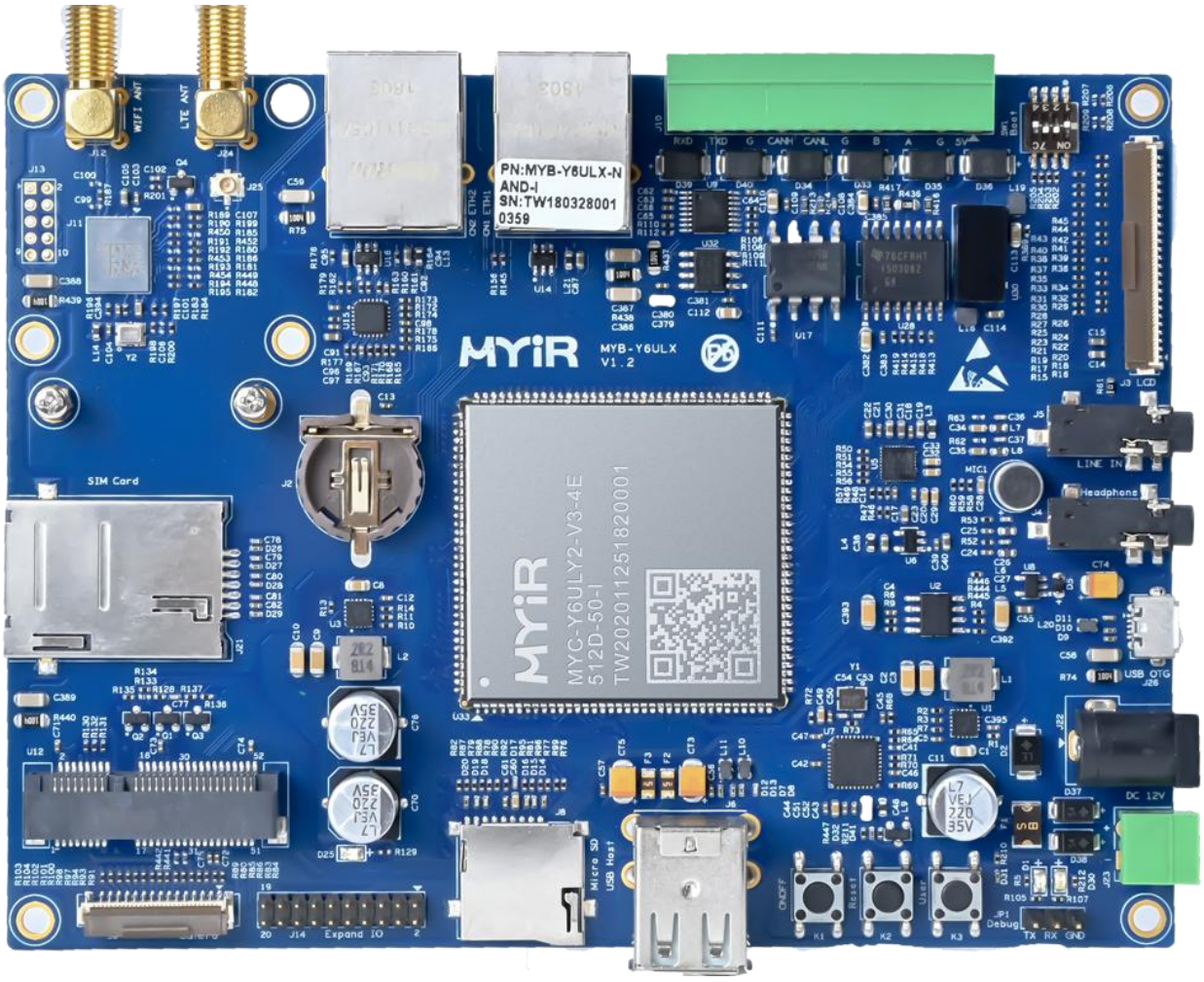

Figure 1- 1 MYD-Y6ULX-V2 EVK Appearance

1.2. EVK Block Diagram

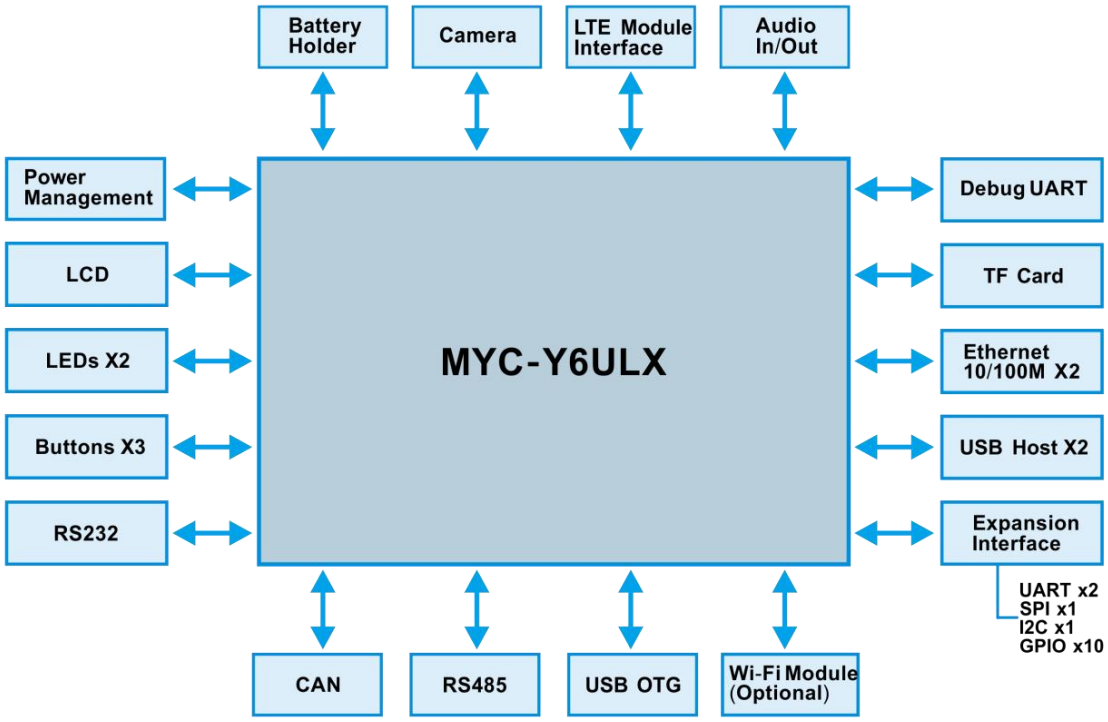

Figure 1- 2 EVK Block Diagram

1.3. EVK Physical Image

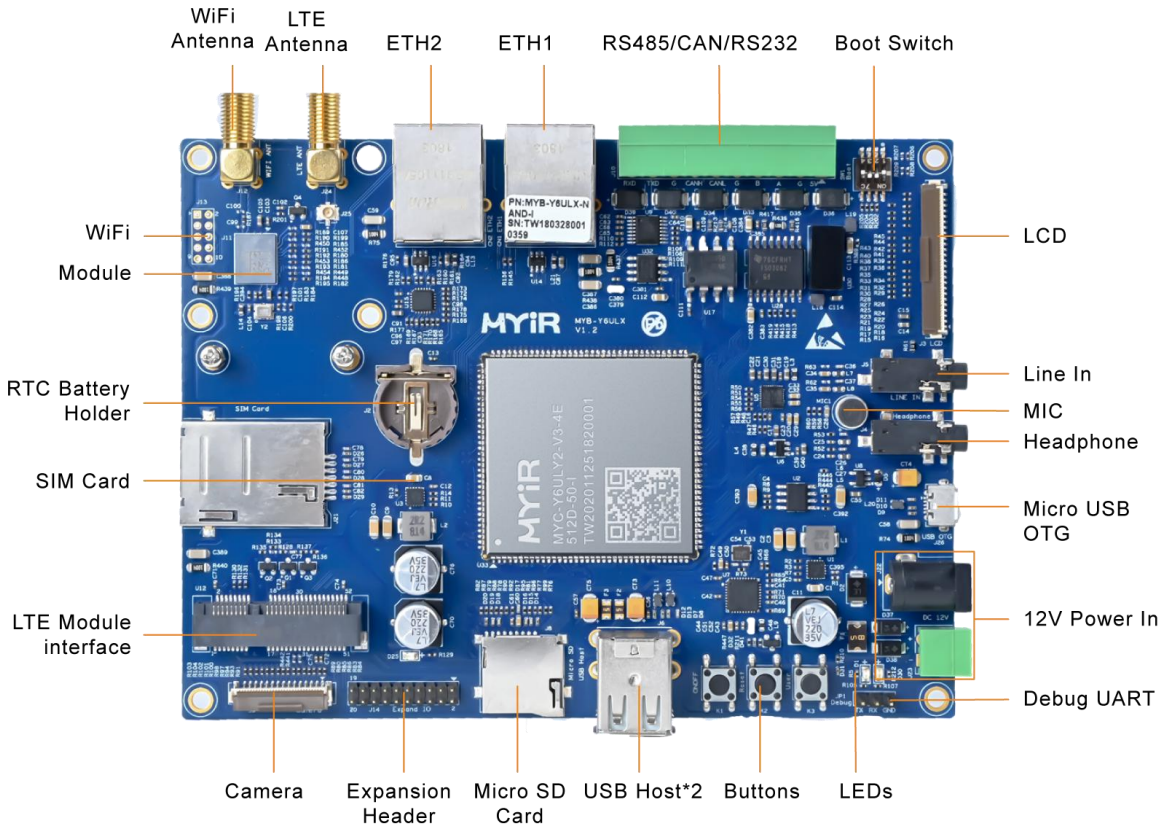

Figure 1- 3 Top View of EVK Board

1.4. Key Features

Interface	Description
DC Power Supply	x1 DC JACK x1 phoenix terminal （2 PIN）
USB	x1 micro USB 2.0 OTG x2 USB 2.0 HOST Type A
Audio	x1 3.5mm audio jack line input x1 3.5mm audio jack line output x1 microphone input
Display & Touch	x1 RGB 565,50pin FPC interface,support both resistive touch and captive touch
RS232	x1 RS232,10 pin phoenix terminal
RS485	x1 RS485, power and signal is isolated,10 pin phoenix terminal
CAN	x1 CAN, power and signal is isolated,10 pin phoenix terminal
Ethernet	x2 RJ45 with 100Mbps Ethernet
SMA	x1 LTE module antenna SMA x1 WIFI antenna SMA
RTC Holder	x1 1225 RTC holder
SIM Card Slot	x1 SIM card slot
Mini PCI-E	x1 For LTE module
CSI Camera	x1 8 bit CSI camera,30pin FPC
Expand Pin Header	x1 2x10_2.0mm Pin header
Micro SD	x1 micro SD slot used to boot from micro sd card
Keys	x1 reset key x1 ONOFF key x1 user key
Debug Uart	x1 3 poles with 2.54m pin pitch pin header

Tablet 1 - 1 interface of EVK

1.5. Reference Resource

Please visit the website http://down.myir-tech.com/MYD-Y6ULX-V2 to download Resources which includes manual documents and software like uboot and Linux kernel sources code and so on.

2. Power Parameters

2.1. Power Tree

The input voltage of the EVK is 12V.The power path mainly consists of 12V to 3.8V, 12V to 5V, 5V to 3.3V, and 5V to isolated power 5V. 3.8V is used for supplying power to LTE module. 5V is mainly used to power the USB HOST circuit and as the input for isolating DC-DC. 3.3V voltage supplies power to baseboard peripherals and MYC-Y6ULX-V2 board of EVK board.

The RTC battery circuit have been designed on EVK board. The size of RTC battery is 1225, while the rated output voltage is 3.0V.

It is recommend that MYC-Y6ULX-V2 board should be powered on prior to carrier board. There is no definite value of timing difference, usually more than 1ms. Please refer to figure 2-1. 3V3_C is for MYC-Y6ULX-V2， while 3V3_B is for baseboard power supply.

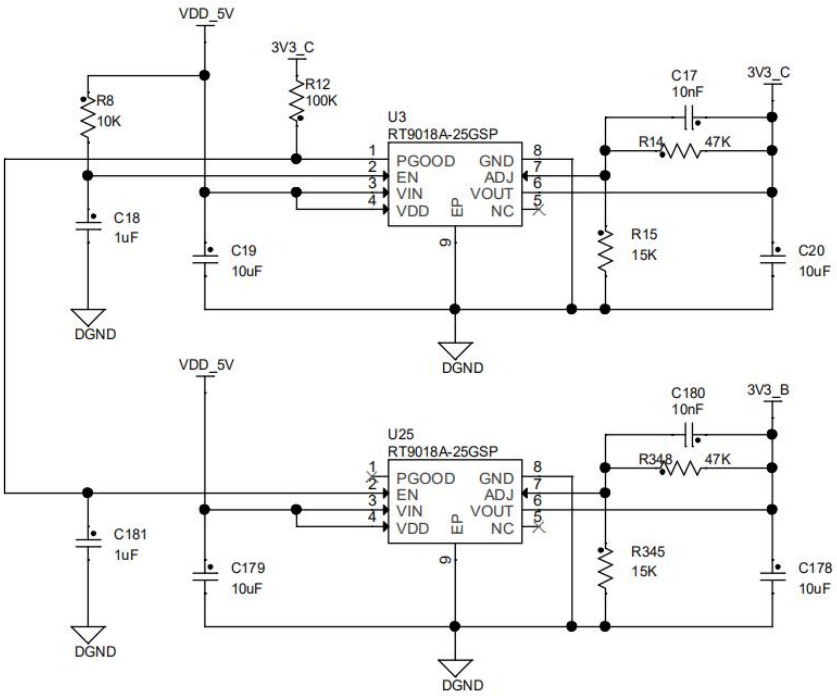

Figure 2 - 1 Power sequence between Core bard and carrier board

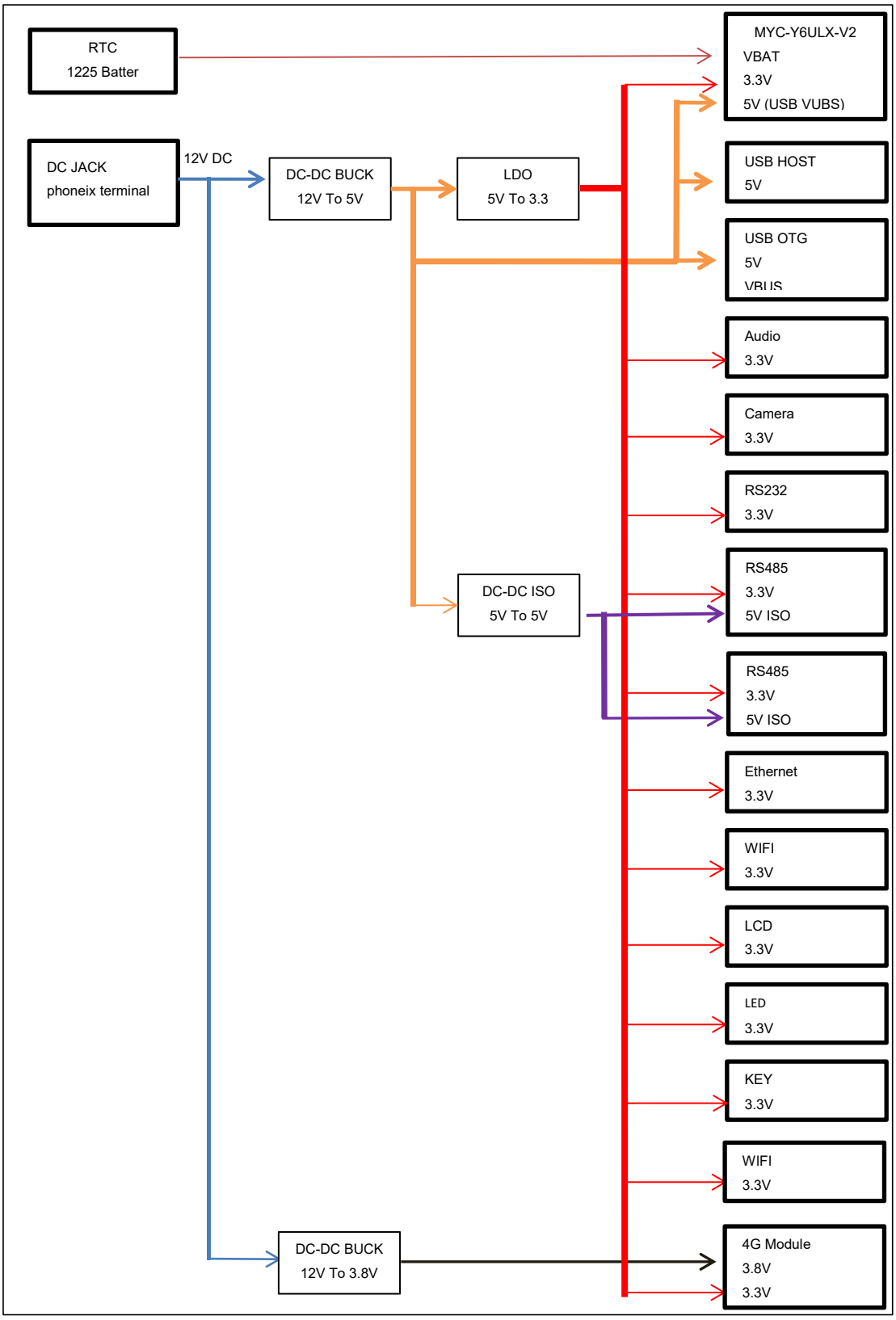

Figure 2 - 2 Power tree of EVK

2.2. EVK Total power consumption

Work Conditions	Voltage	Current	Peak Current	Power Consumption
Core board in uboot booting stage	12.0V	0.11A	0.17A	2.0W
Core board in sleep mode 1 echo mem> /sys/power/state	12.0V	0.07A		0.84W
Core board in sleep mode 2 echo standby>/sys/power/state	12.0V	0.04A		0.50W
Core board in sleep mode 3 echo freeze> /sys/power/state	12.0V	0.05A		0.48W
no peripheral devices used on carrier board	12.0V	0.11A	0.11A	1.32W
use one Ethernet port in Linux	12.0V	0.13A	0.13A	1.56W
use two Ethernet ports in Linux	12.0V	0.15A	0.15A	1.8W
use 7 inch LCD screen in Linux	12.0V	0.23A	0.23A	2.76W

Table 2 - 1 Power consumption of EVK

2.3. Requirement of Power Supply

MYD-Y6ULX-V2 Power supply can be ranged form 6V to 13V. Please ensure the load capacity of the power supply is sufficient. That is, the total power consumed by the EVK remains unchanged,so when the supply voltage is lower than 12V, the output current of the power supply will be higher than that described in Table 2-1.

3. Boot Configuration

The boot process begins at the Power-On Reset (POR) where the hardware reset logic forces the ARM core to begin the execution starting from the on-chip boot ROM.The boot ROM code uses the state of the internal register BOOT_MODE[1:0] as well as the state of various eFUSEs and /or GPIO settings to determine the boot flow behavior of the device.

Before the EVK is powered on, please toggle the dial code switch SW1 to the corresponding state according to the boot mode and boot device as showed in Table 3-1, 3-2, and 3-3.

To boot from Micro SD, EMMC, Nand Flash devices, you need to configure "Boot Mode" first, and then configure "Boot Device ", a total of two steps.

Note that the MYC-Y6ULX-V2 core board is available in both eMMC and Nand Flash versions.Both versions of the core board "Boot Mode" are sharing the same configuration of SW1,but "Boot Device " is different.

3.1. Boot Mode

SW1		BOOT Mode
BIT4	BIT3	
ON	ON	Boot From Fuses
ON	OFF	Serial Down-loader
OFF	ON	Internal Boot
OFF	OFF	Reserved

Table 3 - 1 BOOT Mode

3.2. BOOT Device

SW1		BOOT Device
BIT2	BIT1	
OFF	ON	SD Card
ON	OFF	NAND Flash

Table 3 - 2 Boot Device of MYC-Y6ULX-V2 with Nand Flash

SW1		BOOT Device
BIT2	BIT1	
ON	ON	SD Card
OFF	OFF	eMMC

Table 3 - 3 Boot Device of MYC-Y6ULX-V2 with eMMC Flash

4. Interface Layout

The overall interface layout of the EVK board is shown below.

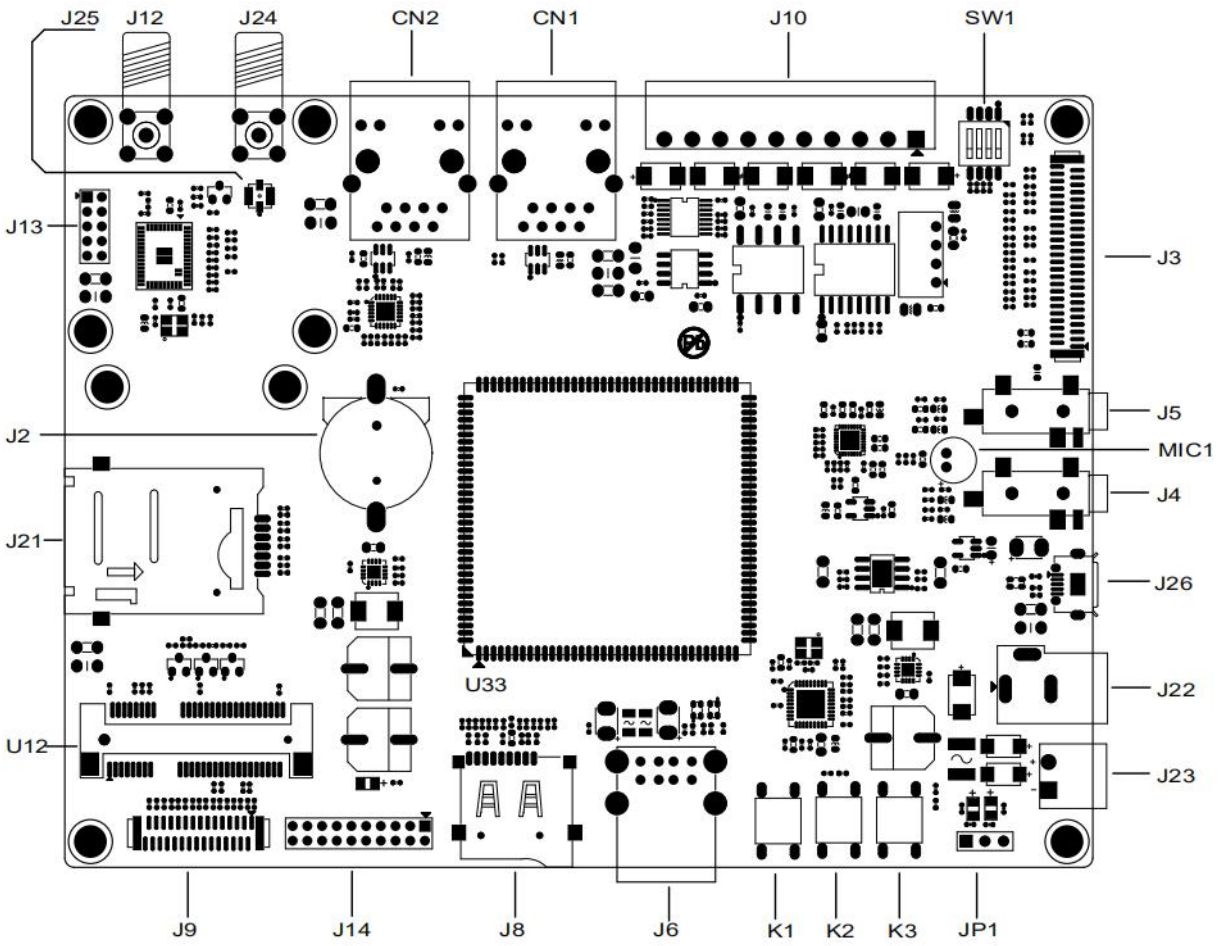

Figure 4 - 1 MYD-Y6ULX-V2 Interface Layout

4.1. Power Interface

There are two types of power input connectors, DC Jack and 2PIN phoenix terminals. The power supply is designed with protection of anti-reverse connection,but without over voltage protection, so attention must be taken that exceeding the specified operating voltage is forbidden.

It is recommended to use 12V 2A DC adapter as the power input. For non-12V DC adapter, please refer to the second section on power consumption and power supply requirements to choose the appropriate power supply.

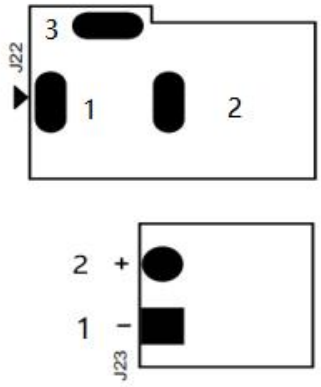

Figure 4 - 2 Connector of Power Input Diagram

4.2. Pin definition

Item	Pin Num	Functional	Signal	Description
J23	1	Negative pole of Power supply	DGND	3.81mm pin pitch
	2	Positive pole of Power supply	12V	
J22	1	Positive pole of Power supply	12V	
	2	Negative pole of Power supply	DGND	
	3	No connection	NC	

Table 4 - 1 Power interface

4.3. Debug UART

System debug serial UART port has been designed with a 3 pin header, which includes TXD, RXD and GND signals. Since UART is TTL port with 3.3V voltage level, it needs to be combined with a UART to USB adapter for direct connection with PC. You can choose Myirtech`s adapter accessory MY-UART012U. Visit http://www.myir-tech.com/product/my_uart012U.html to get detailed information.

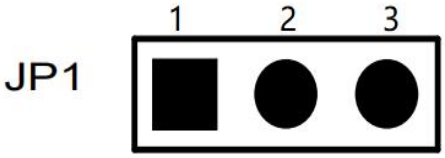

Table 4 - 3 Debug Serial Port Diagram

4.4. Pin definition

Item	Pin Num	Functional	Signal	Description
JP1	1	Send pin	TXD	
	2	Receive pin	RXD	
	3	To connect gnd	GND	

Table 4 - 2 Debug Serial Port

4.5. KEY

The EVK board is designed with three buttons, ONOFF button, reset button and user-defined button.

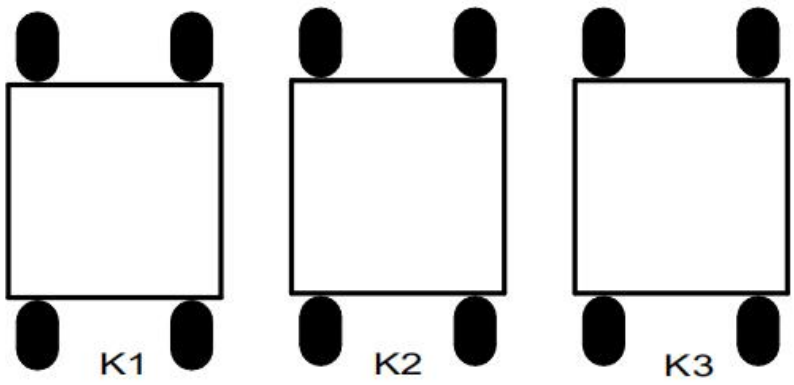

Figure 4 - 4 Key Diagram

4.5.1. Pin definition

Item	Pin Num	Functional	Signal	Description
K1	ON/OFF	Wake up	ONOFF	Press the ONOFF key will wake up EVK system if processor is in standby mode
K2	Reset	Reset	POR	Power On Reset
K3	User	User definition	GPIO5_0	

Table 4 - 3 Key

4.6. LED

Two LED is designed on EVK board. one named 5V power indicator LED that lights in red. The other is system running indicator lights in blue.

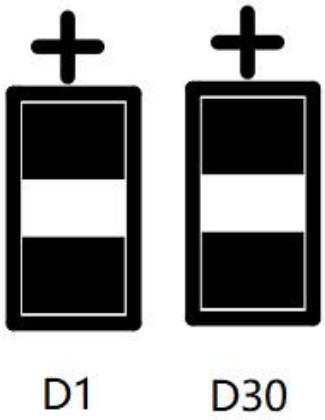

Figure 4 - 5 LED Diagram

4.6.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
D1	PWR	Power LED, red	VDD_5V	light on：power supply is active light off：Power supply is invalid
D30	RUN	System run led, blue	GPIO5_1	blink: system is running light on /off：system is stop

Table 4 - 4 LED

4.7. Micro SD

One micro SD card slot is designed on EVK board to support booting from Micro SD.

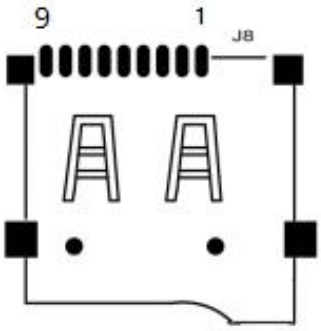

Figure 4 - 6 Micro SD Diagram

4.7.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J8	1	Data bit 2	DAT2	
	2	Data bit 3	DAT3	
	3	Command	CMD	
	4	3.3V power supply	VCC	
	5	Clock	CLK	
	6	DGND	VSS	
	7	Data bit 0 line	DAT0	
	8	Data bit 1 line	DAT1	
	9	Card detect line	CD	

Table 4 - 5 Micro SD

4.7.2. Performance

Parameter	Test method	Min	Typical	Max	Unite	Test Command
Write Speed	time & dd	-	17.2	-	**MB/s**	time dd if=/dev/zero of=test_file bs=120M count=1 conv=fsync
Read Speed	time & dd	-	16.1	-	MB/s	time dd if=test_file of=/dev/null bs=120M count=1 conv=fsync

Table 4 - 6 Micro SD Performance

4.8. RS232/RS485/CAN

The EVK board offers 1-way RS485, 1-way RS232 and 1-way CAN by default, and these signals including 5V isolated power supply are all connected to the 10-pin phoenix terminal. It is convenient for users to evaluate related functions.The interface diagram is shown below.

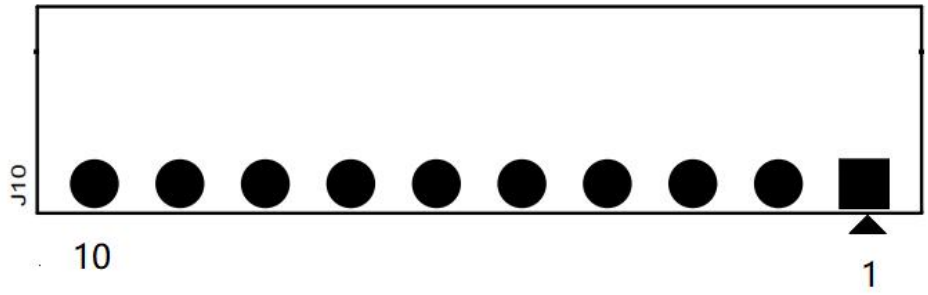

Figure 4 - 7 RS232/RS485/CAN Diagram

4.8.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J10	1	Isolated voltage 5V	5V_ISO	
	2	Isolated gnd	GND_ISO	
	3	RS485A	RS485A	RS485signal is isolated
	4	RS485B	RS485B	
	5	Isolated gnd	GND_ISO	
	6	CANL	CANL	CAN signal is isolated
	7	CANH	CANH	
	8	Isolated gnd	GND_ISO	
	9	RS232 send	RS232_TX	RS232signal is isolated
	10	RS232recive	RS232_RX	

Table 4 - 7 RS232/RS485/CAN Interface

4.8.2. Performance

Interface	Test Method	Test Result
RS232	1.bind TX with RX to have a loop back test. 2.setting the serial port [1] 3.execute app to send and receive data [3]	PASS
RS485	1.connect RS485 port from two EVK boards. 2.setting the serial port [1] 3.execute app to send and receive data [3]	PASS
CAN	1.connect RS485 interface from two EVK boards. 2.setting the serial port [2] 3.execute app to send and receive data [3]	PASS

Table 4 - 8 RS232/RS485/CAN Performance

1 We have tested the RS232 serial port using the baud value as follows:
4800bps,9600bps,14400bps,19200bps,38400bps,56000bps,57600bps,115200bps.

2 30Kbps,40kpbs,50kbps,250kbps,500kbps have been used in write test, 5kbps,50kbps,500kbps,5Mbps. have been used in read test. CAN communication may fail if the baud rate is below 10Kbps.

3 Please refer to Linux development manual for detail about app program .

4.9. GPIO/I2C/SPI/UART

The EVK board is designed with a double row pin header with 2.0mm pin pitch on which 5V power supply, 3.3V power supply, 1-channel SPI, 1-channel I2C, and 2-channel UART signals were defined.

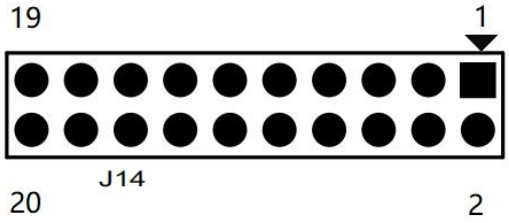

Figure 4 - 8 RS232/RS485/CAN Diagram

4.9.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J14	1	Output 5V voltage	VDD_5V	
	2	Output 3.3 voltage	VDD_3V3	
	3	Power gnd	DGND	
	4	No connection	NC	
	5	UART3 send	UART3_TX	
	6	UART3 receive	UART3_RX	
	7	UART3 ready to receive	UART3_RTS	
	8	UART3 accept to send	UART3_CTS	
	9	UART7 receive	UART7_RX	
	10	UART7 send	UART7_TX	
	11	No connection	NC	
	12	No connection	NC	
	13	Power gnd	DGND	
	14	No connection	NC	
	15	Master output slave input	SPI1_MOSI	
	16	Master input slave output	SPI1_MISO	
	17	SPI chip select	SPI0_SS0	
	18	SPI1 clock	SPI1_CLK	
	19	I2C2 data	I2C2_SDA	
	20	I2C2 clock	I2C2_SCL	

Table 4 - 9 Signals on Double Pin Header

4.10. USB

The EVK board is designed with USB HOST interface and USB OTG interface.The EVK board uses USB HUB chip to extend the two USB HOST interfaces and uses double-layer stacked USB Type A female connector. The EVK board also has one USB OTG interface and uses Micro USB connector.

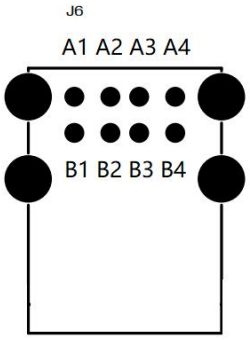

Figure 4 - 9 USB HOST Diagram

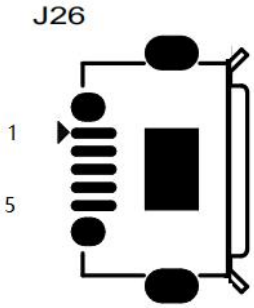

Figure 4 - 10 USB OTG Diagram

4.10.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J6	A1	USB 5V power supply	5V_VBUS	Output 5V
	A2	USB HOST negative data	USB_HOST1_DN	
	A3	USB HOST positive data	USB_HOST1_DP	
	A4	Power gnd	DGND	
	B1	USB 5V power supply	5V_VBUS	
	B2	USB HOST negative data	USB_HOST2_DN	
	B3	USB HOST positive data	USB_HOST1_DP	
	B4	Power gnd	DGND	

Table 4 - 10 USB HOST

Item	Pin Num	Functional	Signal	Description
J26	1	USB 5V power supply	USB_OTG_VBUS	
	2	USB OTG negative data	USB_OTG1_DN	
	3	USB OTG positive data	USB_OTG1_DP	
	4	To identify EVK ‘s role is host or device	USB1_ID	Pull up to 3.3V, Device Pull down to GND,HOST
	5	Power gnd	DGND	

Table 4 - 11 USB OTG

4.10.2. Performance

Parameter	Test method	Min	Typical	Max	Unite	Test Command
Write speed	time & dd	-	8.6	-	MB/s	time dd if=/dev/zero of=test_file bs=120M count=1 conv=fsync

Table 4 - 12 USB HOST

4.11. Ethernet

The EVK board is designed with two 100M Ethernet interfaces. The corresponding signals of CN1 and CN2 network ports come from RGMII ENET1 and RGMII ENET2 of i.MX6U.

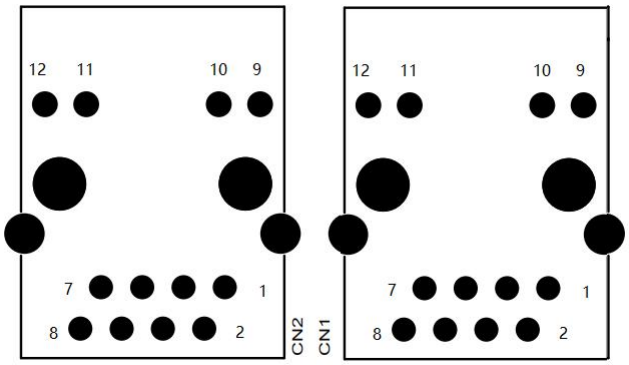

Figure 4 - 11 Ethernet Diagram

4.11.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
CN1	1	Send positive data	ETH1_TXP	
	2	Send negative data	ETH1_TXN	
	3	Receive positive data	ETH1_RXP	
	4	Center tap of transform,send	CT_TX	
	5	Center tap of transform,receive	CT_RX	
	6	Receive negative data	ETH1_TXN	
	7	No connection	NC	
	8	Chassis gnd	GND_Earth	
	9	Positive pin of link LED	ETH1_LED1	Led lights in green when Ethernet links successfully.
	10	Negative pin of link LED	/	
	11	Positive pin of communication LED	ETH1_LED2	LED twinkles when Ethernet is communicated.
	12	Negative pin of communication LED	/	
CN2	1	Send positive data	ETH2_TXP	
	2	Send negative data	ETH2_TXN	
	3	Receive positive data	ETH2_RXP	
	4	Center tap of transform,send	CT_TX	
	5	Center tap of transform,receive	CT_RX	
	6	Receive negative data	ETH2_TXN	
	7	No connection	NC	

	8	Chassis gnd	GND_Earth	
	9	Positive pin of link LED	ETH1_LED1	Led lights in green when Ethernet links successfully.
	10	Negative pin of link LED		
	11	Positive pin of communication LED	ETH1_LED2	LED twinkles when Ethernet is communicated.
	12	Negative pin of communication LED		

Table 4 - 13 Ethernet

4.11.2. Performance

Parameter	Test method	Min	Typical	Max	Unite	Test Command
TCP Bandwidth	iperf3	-	94.2	-	Mb/s	Server,iperf3 -s Cline,iperf3 -c 192.168.30.3 -i 2 -t 60
UDP Bandwidth	iperf3	-	95.7	-	Mb/s	Server,iperf3 -s Cline,iperf3 -c x.x.x.x -u -i 2 -t 60 -b 1G

Table 4 - 14 Performance of Ethernet

4.12. CSI Camera

The EVK board is designed with a 30 Pin FPC camera interface, which supports 8 bit CSI data mode.

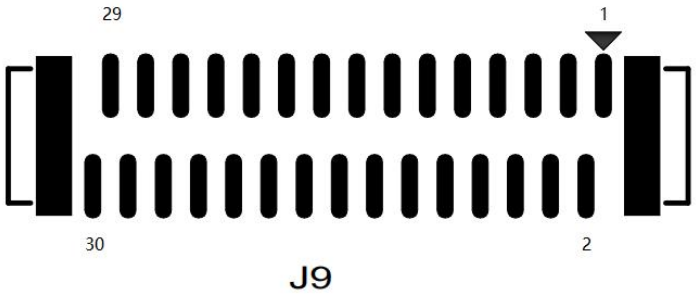

Figure 4 - 12 Camera Diagram

4.12.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J9	1	5V	VDD_5	5V power supply for camera module
	2	3.3V	VDD_3V3	3.3V power supply for camera module
	3	3.3V	VDD_3V3	3.3V power supply for camera module
	4	Power gnd	DGND	Power gnd
	5	I2C data	I2C2_SDA	
	6	I2C clock	I2C2_SCL	
	7	GPIO reset	GPIO5_3	0,enter reset state 1,exit reset state
	8	GPIO power on/off	GPIO5_4	0,to enter standby mode 1,wakeup mode
	9	Power gnd	DGND	
	10	Vertical sync (Start of frame)	CSI_VSYNC	
	11	Horizontal sync (Blank signal)	CSI_HSYNC	
	12	Data sensor signal 7	CSI_DATA7	
	13	Power gnd	DGND	
	14	CMOS sensor master clock	CSI_MCLK	Probably the clock is 12Mhz or 24Mhz
	15	Power gnd	DGND	
	16	Data sensor signal 6	CSI_DATA6	
	17	Data sensor signal 5	CSI_DATA5	
	18	Power gnd	DGND	
	19	Pixel Clock	CSI_PIXCLK	
	20	Power gnd	DGND	

	21	Data sensor signal 4	CSI_DATA4	
	22	Data sensor signal 0	CSI_DATA0	
	23	Data sensor signal 3	CSI_DATA3	
	24	Data sensor signal 1	CSI_DATA1	
	25	Data sensor signal 2	CSI_DATA2	
	26	No connection	NC	
	27	No connection	NC	
	28	No connection	NC	
	29	No connection	NC	
	30	Power gnd	DGND	

Table 4 - 15 Camera

4.13. LCD Interface

The EVK board is designed with a 50 Pin FPC interface, which mainly contains RGB565 and touch signals.

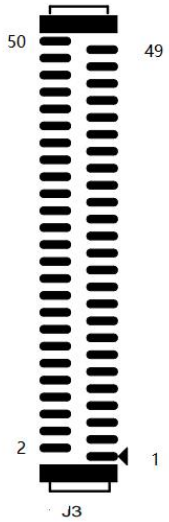

Figure 4 - 13 LCD Diagram

4.13.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J3	1	5V	VDD_5V	
	2	5V	VDD_5V	
	3	3.3V	VDD_3V3	
	4	3.3V	VDD_3V3	
	5	Power gnd	DGND	
	6	Power gnd	DGND	
	7	No connection	NC	
	8	No connection	NC	
	9	No connection	NC	
	10	Data B0	LCD_DATA0	
	11	Data B1	LCD_DATA1	
	12	Data B2	LCD_DATA2	
	13	Data B3	LCD_DATA3	
	14	Data B4	LCD_DATA4	
	15	No connection	NC	
	16	No connection	NC	
	17	Data G0	LCD_DATA5	
	18	Data G1	LCD_DATA6	

	19	Data G2	LCD_DATA7	
	20	Data G3	LCD_DATA8	
	21	Data G4	LCD_DATA9	
	22	Data G5	LCD_DATA10	
	23	No connection	NC	
	24	No connection	NC	
	25	No connection	NC	
	26	Data R0	LCD_DATA11	
	27	Data R1	LCD_DATA12	
	28	Data R2	LCD_DATA13	
	29	Data R3	LCD_DATA14	
	30	Data R4	LCD_DATA15	
	31	Power gnd	DGND	
	32	PWM backlight	LCD_PWM	
	33	No use	LCD_Reset	
	34	No use	LCD_Disp	
	35	GPIO for capacitive touch interrupt	TP_INT	
	36	GPIO for capacitive touch reset	TP_RESET	
	37	I2C clock	I2C2_SCL	
	38	I2C data	I2C2_SDA	
	39	Power gnd	DGND	
	40	Data enable	LCD_DE	
	41	VSYNC signal	LCD_VSYNC	
	42	HSYNC signal	LCD_HSYNC	
	43	Clock signal	LCD_PCLK	
	44	Power gnd	DGND	
	45	Resistive touch Y+	Y+	
	46	Resistive touch Y-	Y-	
	47	Resistive touch X-	X-	
	48	Resistive touch X+	X+	
	49	No connection	NC	
	50	Power gnd	DGND	

Table 4 - 16 LCD Interface

4.14. AUDIO Interface

The EVK board is designed with a audio stereo CODEC circuit which supports headphone output and microphone or line input.

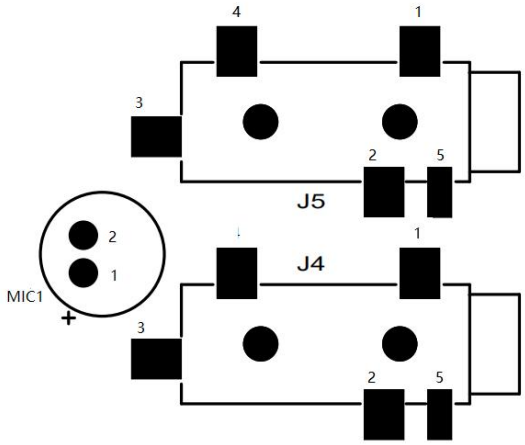

Figure 4 - 14 Audio Diagram

4.14.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J4	1	Audio gnd	Audio_GND	
	2	Audio left channel data	Audio_L	
	3	No connection	NC	
	4	Audio right channel data	Audio_R	
	5	No connection	NC	
J5	1	Audio gnd	Audio_GND	
	2	Audio left channel data	Audio_L	
	3	No connection	NC	
	4	Audio right channel data	Audio_R	
	5	No connection	NC	
MIC1	1	Microphone input	MICDAT1	
	2	Audio gnd	AUDIO_GND	

Table 4 - 17 Audio

4.15. RTC Battery Holder

The EVK board is designed with a button battery holder. The battery holder size is 12mmx25mm.A button battery with a rated output voltage of 3.0V is required.

However, because the RTCS inside the core board consume more power, you are advised to use an external real-time clock module (RX-8025T/UC).

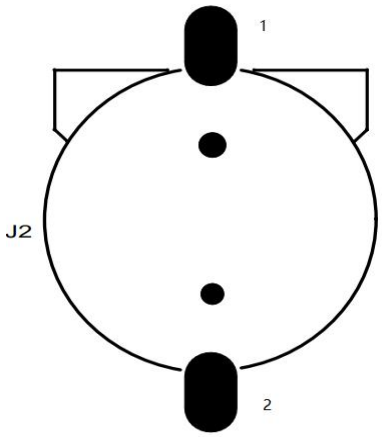

Figure 4 - 15 RTC Battery Holder Diagram

4.15.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J2	1	Positive pin of Battery	VDD_BAT	
	2	Negative pin of Battery	DGND	

Table 4 - 18 RTC

4.16. ANT Interface

Since WIFI module circuit and 4G module functional interface are designed for the EVK board, corresponding antenna interface must also be provided to support normal RF signals sending and receiving.

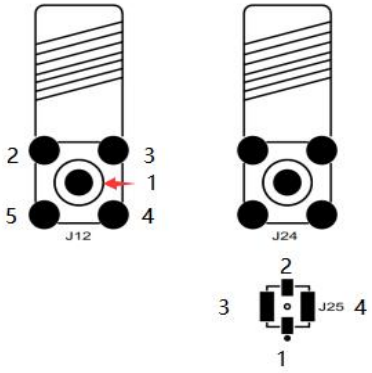

Figure 4 - 16 ANT Diagram

4.16.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
J12	1	ANT data	WL_ANT	WIFI module ANT
	2	GND	DGND	
	3	GND	DGND	
	4	GND	DGND	
	5	GND	DGND	
J24	1	ANT data	LTE_ANT	Reserved for LTE
	2	GND	DGND	
	3	GND	DGND	
	4	GND	DGND	
	5	GND	DGND	
J25	1	No connection	NC	
	2	ANT data	LTE_ANT	Reserved for LTE
	3	GND	DGND	
	4	GND	DGND	

Table 4 - 19 ANT

5. Module Specifications

5.1. WIFI Module

The EVK board is designed with WIFI module and the communication interface is SDIO.The WIFI module used in the EVK board is WM-N-BM-02 from Taiwan USI , which is based on Broadcom 43362 chipset and supports 802.11b/g/ N protocol.

Parameter	Test Condition	Min	Typical	Max	Unite	Test Command
communication distance	Open field	0	5	10	m	Use cellphone to connect WIFI module
Throughput	Within one meter	-	30	-	Mb/s	WIFI module used as AP
Throughput	Within one meter	-	17	-	Mb/s	WIFI module used as Station

Table 5 - 1 2.4G WIFI

5.2. LTE Module with Mini PCI-E

The EVK board is designed with Mini PCI-E physical card slot for installation of LTE module.

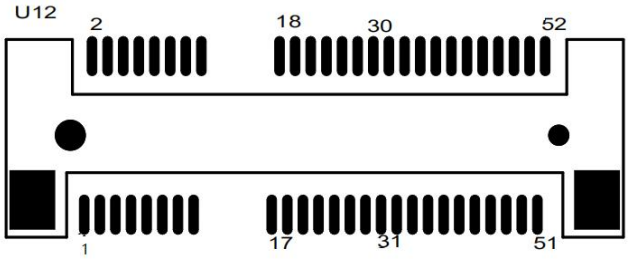

Figure 5 - 1 Mini PCI-E Diagram

5.2.1. Pin Definition

Item	Pin Num	Functional	Signal	Description
U12	1	No connection	NC	
	2	Power supply for Module	VCC	3.8V
	3	No connection	NC	
	4	Power gnd	DGND	
	5	No connection	NC	
	6	No connection	NC	
	7	No connection	NC	
	8	1.8V	USIM_PWR	
	9	Power gnd	DGND	
	10	SIM card data	USIM_DATA	
	11	1V8	1V8	
	12	SIM card clock	USIM_CLK	
	13	No connection	NC	
	14	SIM card reset	USIM_RESET	
	15	Power gnd	DGND	
	16	No connection	NC	
	17	No connection	NC	
	18	Power gnd	DGND	
	19	Standby or not	WAKE_IN	High level wake up module. Low level keep module in standby state.
	20	No connection	NC	
	21	Power gnd	DGND	
	22	Reset LTE module	RESIN_N	
	23	No connection	NC	

	24	Power supply for Module	VCC	3.8V
	25	No connection	NC	
	26	Power gnd	DGND	
	27	Power gnd	DGND	
	28	No connection	NC	
	29	Power gnd	DGND	
	30	No connection	NC	
	31	No connection	NC	
	32	Wake out	WAKE_OUT	
	33	Reset LTE module	RESIN_N	
	34	Power gnd	DGND	
	35	Power gnd	DGND	
	36	LTE	USB_DM	
	37	Power gnd	DGND	
	38		USB_DP	
	39	Power supply for Module	VCC	3.8V
	40	Power gnd	DGND	
	41	Power supply for Module	VCC	3.8V
	42	LED	LED_WWAN#	LED on means register network is successful While LED off means fail.
	43	Power gnd	DGND	
	44	No connection	NC	
	45	No connection	Reserved	
	46	No connection	NC	
	47	No connection	Reserved	
	48	No connection	NC	
	49	No connection	Reserved	
	50	Power gnd	DGND	
	51	No connection	Reserved	
	52	Power supply for Module	VCC	3.8V

Table 5 - 2 LTE Module Mini PCIE

6. Mechanical Size

MYC-Y6ULX-V2, 37x39x1.6mm,10 layers PCB, FR-4 TG160, impedance controlled, immersion gold.

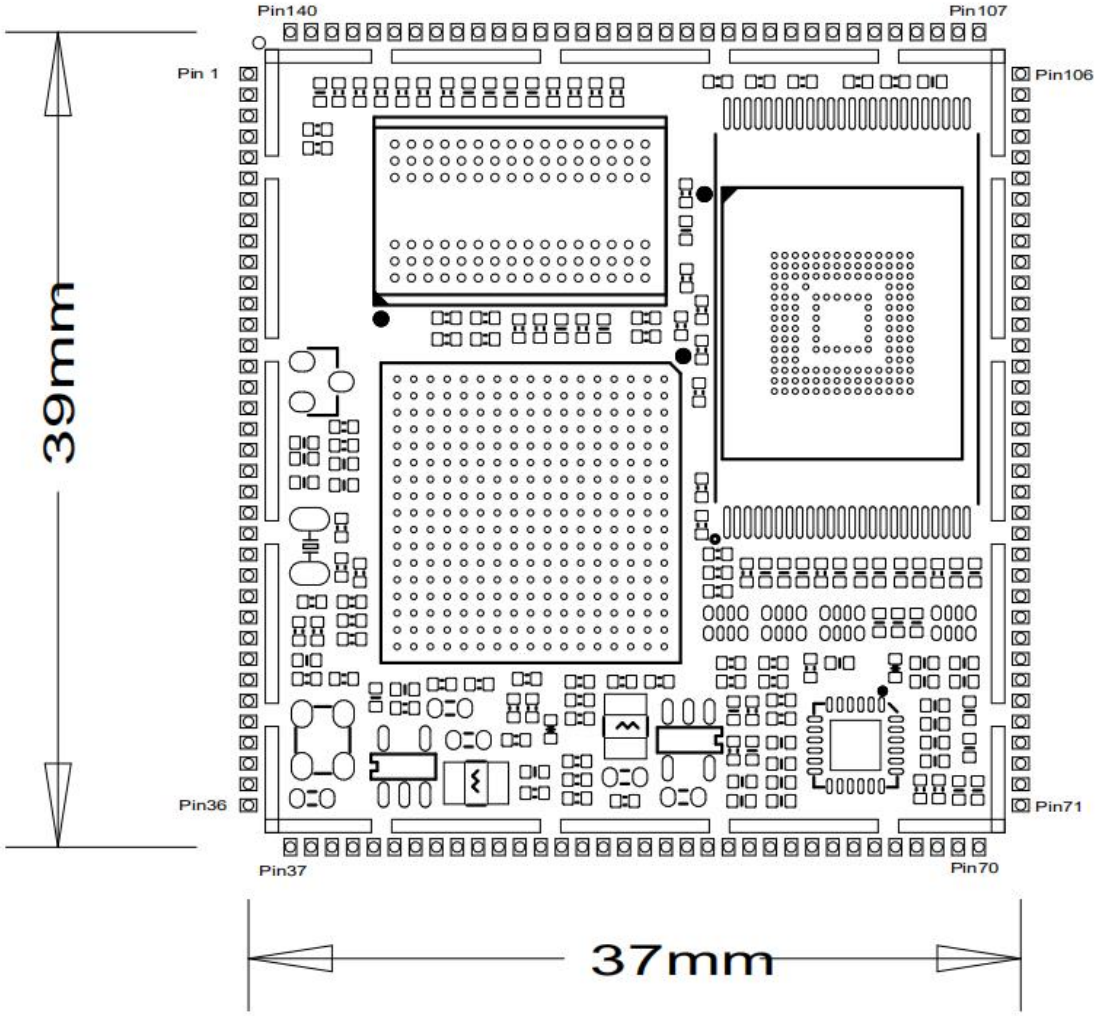

Figure 6 - 1 MYC-Y6ULX-V2 Size

Baseboard of EVK, size in 140x105x1.6mm, FR-4 TG140, impedance controlled, immersion gold.

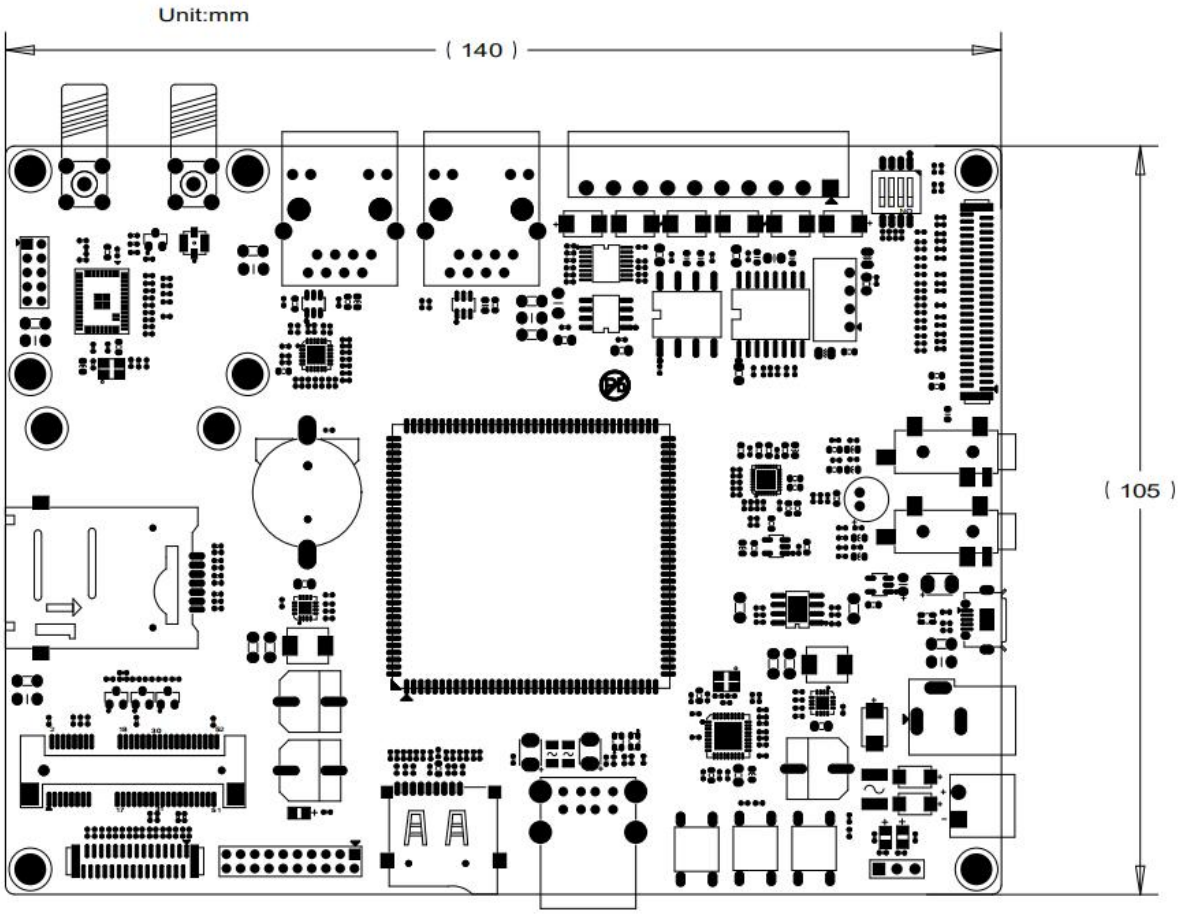

Figure 6 - 2 EVK Size

7. EVK Models

7.1. EVK Models

Model	MYD-Y6ULY2-V2-256N256D-50-C	MYD-Y6ULY2-V2-256N256D-50-I
MPU	MCIMX6Y2CVM05AB	MCIMX6Y2CVM05AB
Work Temp	0~+70°C	-40~+85°C
DRAM	256MB DDR3L	256MB DDR3L
Flash	256MB Nand Flash	256MB Nand Flash
WIFI	Supported	Supported
Model	**MYD-Y6ULY2-V2-4E512D-50-C**	**MYD-Y6ULY2-V2-4E512D-50-I**
MPU	MCIMX6Y2CVM05AB	MCIMX6Y2CVM05AB
Work Temp	0~+70°C	-40~+85°C
DRAM	512MB DDR3L	512MB DDR3L
Flash	4GB eMMC Flash	4GB eMMC Flash
WIFI	Not Supported	Not Supported
Model	**MYC-Y6ULG2-V2-4E512D-50-I**	
MPU	MCIMX6G2CVM05AB	
Work Temp	-40~+85°C	
DRAM	512MB DDR3L	
Flash	4GB eMMC Flash	
WIFI	Not Supported	

Table 7 - 1 Optional EVK Model

7.2. Package List

Item	Description
PCBA	x1 EVK board
Manual	x1 quick start guide
Cable	x1 USB Type A Male to Micro USB cable x1 RJ45 Net cable x1 Double IPEX Line L=5cm x1 XJH-2.4G-110-SAMZ x1 12V，2A Power Adapter

Table 7 - 2 Package List

7.3. Modules supported by EVK

Modules	Description
MY-CAM002U	200W USB Camera module
MY-TFT070RV2	7 inch LCD with resistive touch board
MY-TFT070CV2	7 inch LCD with capacitive touch board
MY-TFT043RV2	4.3 inch LCD with resistive touch board

Table 7 - 3 Modules Supported by EVK

8. List of Connector

Item	Connector Part Number	Brand	Reference Number
Ethernet Port	HR911105A	HanRun	CN1,CN2
Debug UART	3131035311161	Leyconn	JP1
RTC Batter Holder	469123330020	Leyconn	J2
Camera	FH12-50S-0.5SV	HRS	J3
Audio	PJ-328	Kaler	J4,J5
USB HOST	4312821A03WH	Leyconn	J6
Micro SD	MR01A-01211	ATOM	J8
LCD	FH12-30S-0.5SV	HRS	J9
RS232/RS485/CAN	ULO-TB13-15RC/3.81-10P-4000A	ULO	J10
SMA Antenna	FC-SMA271	Fly Core	J24
IO Expansion	3222105310881	Leyconn	J14
SIM Card	SI27C-01200	ATOM	J21
DC Jack	49100500000W	LEYCONN	J22
Phoenix terminator	ULO-TB13-15RC/3.81-02P-4000A	ULO	J23
Ipex Antenna	1566230-1	TE	J25
Micro USB	JYJUSB-MB001G	JYJ	J26
Key	TS-1109W	BEST	K1,K2,K3
Slide Switch	218-4LPSTR	CTS	SW1
Mini PCI-E	AAA-PCI-047	LOTES	U12

Table 8 - 1 List of connector on EVK

Appendix A

Warranty & Technical Support Services

MYIR Electronics Limited is a global provider of ARM hardware and software tools, design solutions for embedded applications. We support our customers in a wide range of services to accelerate your time to market.

MYIR is an ARM Connected Community Member and work closely with ARM and many semiconductor vendors. We sell products ranging from board level products such as development boards, single board computers and CPU modules to help with your evaluation, prototype, and system integration or creating your own applications. Our products are used widely in industrial control, medical devices, consumer electronic, telecommunication systems, Human Machine Interface (HMI) and more other embedded applications. MYIR has an experienced team and provides custom design services based on ARM processors to help customers make your idea a reality.

The contents below introduce to customers the warranty and technical support services provided by MYIR as well as the matters needing attention in using MYIR's products.

Service Guarantee

MYIR regards the product quality as the life of an enterprise. We strictly check and control the core board design, the procurement of components, production control, product testing, packaging, shipping and other aspects and strive to provide products with best quality to customers. We believe that only quality products and excellent services can ensure the long-term cooperation and mutual benefit.

Price

MYIR insists on providing customers with the most valuable products. We do not pursue excess profits which we think only for short-time cooperation. Instead, we hope to establish long-term cooperation and win-win business with customers. So we will offer reasonable prices in the hope of making the business greater with the customers together hand in hand.

Delivery Time

MYIR will always keep a certain stock for its regular products. If your order quantity is less than the amount of inventory, the delivery time would be within three days; if your order quantity is greater than the number of inventory, the delivery time would be always four to six weeks. If for any urgent delivery, we can negotiate with customer and try to supply the goods in advance.

Technical Support

MYIR has a professional technical support team. Customer can contact us by email (support@myirtech.com), we will try to reply you within 48 hours. For mass production and customized products, we will specify person to follow the case and ensure the smooth production.

After-sale Service

MYIR offers one year free technical support and after-sales maintenance service from the purchase date. The service covers:

Technical support service

MYIR offers technical support for the hardware and software materials which have provided to customers;

- To help customers compile and run the source code we offer;
- To help customers solve problems occurred during operations if users follow the user manual documents;
- To judge whether the failure exists;

- To provide free software upgrading service.
- However, the following situations are not included in the scope of our free technical support service:
- Hardware or software problems occurred during customers' own development;
- Problems occurred when customers compile or run the OS which is tailored by themselves;
- Problems occurred during customers' own applications development;
- Problems occurred during the modification of MYIR's software source code.

After-sales maintenance service

The products except LCD, which are not used properly, will take the twelve months free maintenance service since the purchase date. But following situations are not included in the scope of our free maintenance service:

- The warranty period is expired;
- The customer cannot provide proof-of-purchase or the product has no serial number;
- The customer has not followed the instruction of the manual which has caused the damage the product;
- Due to the natural disasters (unexpected matters), or natural attrition of the components, or unexpected matters leads the defects of appearance/function;
- Due to the power supply, bump, leaking of the roof, pets, moist, impurities into the boards, all those reasons which have caused the damage of the products or defects of appearance;
- Due to unauthorized weld or dismantle parts or repair the products which has caused the damage of the products or defects of appearance;
- Due to unauthorized installation of the software, system or incorrect configuration or computer virus which has caused the damage of products.

Warm tips:

- MYIR does not supply maintenance service to LCD. We suggest the customer first check the LCD when receiving the goods. In case the LCD cannot run or no display, customer should contact MYIR within 7 business days from the moment get the goods.
- Please do not use finger nails or hard sharp object to touch the surface of the LCD.
- MYIR suggests user purchasing a piece of special wiper to wipe the LCD after long time use, please avoid clean the surface with fingers or hands to leave fingerprint.
- Do not clean the surface of the screen with chemicals.
- Please read through the product user manual before you using MYIR's products.
- For any maintenance service, customers should communicate with MYIR to confirm the issue first. MYIR's support team will judge the failure to see if the goods need to be returned for repair service, we will issue you RMA number for return maintenance service after confirmation.

Maintenance period and charges

MYIR will test the products within three days after receipt of the returned goods and inform customer the testing result. Then we will arrange shipment within one week for the repaired goods to the customer. For any special failure, we will negotiate with customers to confirm the maintenance period.

For products within warranty period and caused by quality problem, MYIR offers free maintenance service; for products within warranty period but out of free maintenance service scope, MYIR provides maintenance service but shall charge some basic material cost; for products out of warranty period, MYIR provides maintenance service but shall charge some basic material cost and handling fee.

Shipping cost

During the warranty period, the shipping cost which delivered to MYIR should be responsible by user; MYIR will pay for the return shipping cost to users when the product is repaired. If the warranty period is expired, all the shipping cost will be responsible by users.

Products Life Cycle

MYIR will always select mainstream chips for our design, thus to ensure at least ten years continuous supply; if meeting some main chip stopping production, we will inform customers in time and assist customers with products updating and upgrading.

Value-added Services

- MYIR provides services of driver development base on MYIR's products, like serial port, USB, Ethernet, LCD, etc.
- MYIR provides the services of OS porting, BSP drivers' development, API software development, etc.
- MYIR provides other products supporting services like power adapter, LCD panel, etc.
- ODM/OEM services.

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