

NE-FMCH-GLAN-USB3 Hardware User Manual

Rev 1.0.1

Revision History

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Introduction

Thank you for purchasing the **NE-FMCL-GLAN-USB3** board. Before using the product, be sure to carefully read this User Manual and fully understand how to correctly use the product. Read through this manual and always keep it handy.

SAFETY PRECAUTIONS

Be sure to observe these precautions

Observe the precautions listed below to prevent injuries to you or other personnel or damage to property.

- Before using the product, read these safety precautions carefully to assure correct use.
- These precautions contain serious safety instructions that must be observed.
- After reading through this manual, be sure to always keep it handy.

The following conventions are used to indicate and classify precautions in this manual. Failure to observe precautions can result in injury to people or damage to property.

 Danger	Indicates the high possibility of serious injury or death if the product is handled incorrectly.
 Warning	Indicates the possibility of serious injury or death if the product is handled incorrectly.
 Caution	Indicates the possibility of injury or physical damage in connection with houses or household goods if the product is handled incorrectly.

The following graphical symbols are used to indicate and classify precautions in this manual.

(Examples)

	Be sure to turn off the power switch.
	Do not disassemble the product.
	Do not attempt this.

**Warning**

	In the event of a failure, disconnect the power supply. If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately and contact our sales personnel for repair.
	If an unpleasant smell or smoking occurs, disconnect the power supply. If the product is used as is, a fire or electric shock may occur. Disconnect the power supply immediately. After verifying that no smoking is observed, contact our sales personnel for repair.
	Do not disassemble, repair or modify the product. Otherwise, a fire or electric shock may occur due to a short circuit or heat generation. For inspection, modification or repair, contact our sales personnel.
	Do not touch a cooling fan (at installing a cooling fan). As a cooling fan rotates in high speed, do not put your hand close to it. Otherwise, it may cause injury to persons. Never touch a rotating cooling fan.
	Do not place the product on unstable locations. Otherwise, it may drop or fall, resulting in injury to persons or failure.
	If the product is dropped or damaged, do not use it as is. Otherwise, a fire or electric shock may occur.
	Do not touch the product with a metallic object. Otherwise, a fire or electric shock may occur.
	Do not place the product in dusty or humid locations or where water may splash. Otherwise, a fire or electric shock may occur.
	Do not get the product wet or touch it with a wet hand. Otherwise, the product may break down or it may cause a fire, smoking or electric shock.
	Do not touch a connector (gold-plated portion) on the product. Otherwise, the surface of a connector may be contaminated with sweat or skin oil, resulting in contact failure of a connector or it may cause a malfunction, fire or electric shock due to static electricity.

**Caution**

Do not place the product in the following locations.

- Humid and dusty locations
- Airless locations such as closet or bookshelf
- Locations which receive oily smoke or steam
- Locations exposed to direct sunlight
- Locations close to heating equipment
- Closed inside of a car where the temperature becomes high
- Static locations
- Locations close water or chemicals
- Otherwise, a fire electric shock, accident or deformation may occur due to a short circuit or heat generation.



Do not place heavy things on the product.

Otherwise, the product may be damaged.

■ Disclaimer

This product is a board intended for 1000M Ethernet function and USB3.0 connector. Newtouch electronics (Shanghai) Co., Ltd. assumes no responsibility for any damages resulting from the use of this product for purposes other than those stated.

Even if the product is used properly, Newtouch electronics (Shanghai) Co., Ltd. assumes no responsibility for any damages caused by:

- (1) Earthquake, thunder, natural disaster or fire resulting from the use beyond our responsibility, acts by a third party or other accidents, the customer's willful or accidental misuse or use under other abnormal conditions.
- (2) Secondary impact arising from use of this product or its unusable state (business interruption or others)
- (3) Use of this product against the instructions given in this manual.
- (4) Malfunctions due to connection to other devices.

Newtouch electronics (Shanghai) Co., Ltd. assumes no responsibility or liability for:

- (1) Erasure or corruption of data arising from use of this product.
- (2) Any consequences or other abnormalities arising from use of this product, or
- (3) Damage of this product not due to our responsibility or failure due to modification

This product has been developed by assuming its use for research, testing or evaluation. It is not authorized for use in any system or application that requires high reliability.

Repair of this product is carried out by replacing it on a chargeable basis, not repairing the faulty devices.

However, non-chargeable replacement is offered for initial failure if such notification is received within two weeks after delivery of the product.

The specifications described in this manual are subject to change without notice.

The product is subject to discontinuation without notice.

1 Related Documents and Accessories

Related documents:

- All documents relating to this board can be downloaded from our website.
<http://www.newtouch-elec.com/>

Accessories:

- FMC Spacer set
- 5 x Short Pin (Hirose HIF3GA-2.54SP)

2 Overview

The board has two Ports of Gigabit Ethernet PHY and one Port of USB3.0.

The two Ports of PHY + RJ45 are compatible with IEEE 802.3 and can work independently. The port of USB3.0 with a Type-A connector and mounted Cypress's CYUSB3014 device which is supporting USB Super Speed Peripheral. And the board is designed for connection with the platform board with a FPGA Mezzanine Card (FMC) HIGH-Pin Count connector.

3 Feature

◆ Ethernet PHY	: Marvell's 88E1518-A0-NNB2C000
◆ FMC Connector	: Samtec's ASP-134488-01
◆ RJ45 Connector	: Han Run's HR911130C
◆ USB3.0 Controller	: Cypress's CYUSB3014-BZXI
◆ USB3.0 Connector	: CUI's 102-3997-ND
◆ SPI Flash 4Mbit	: Micron's M25P40-VMN6TPB

4 Block Diagram

Following Figure shows a block diagram of NE-FMCH-GLAN-USB30.

The FMC-HPC connector is mounted on the solder side of the board.

The signal of Port1 and USB3.0 is connected to LA of FMC, the port2's signal is connected to HA of FMC

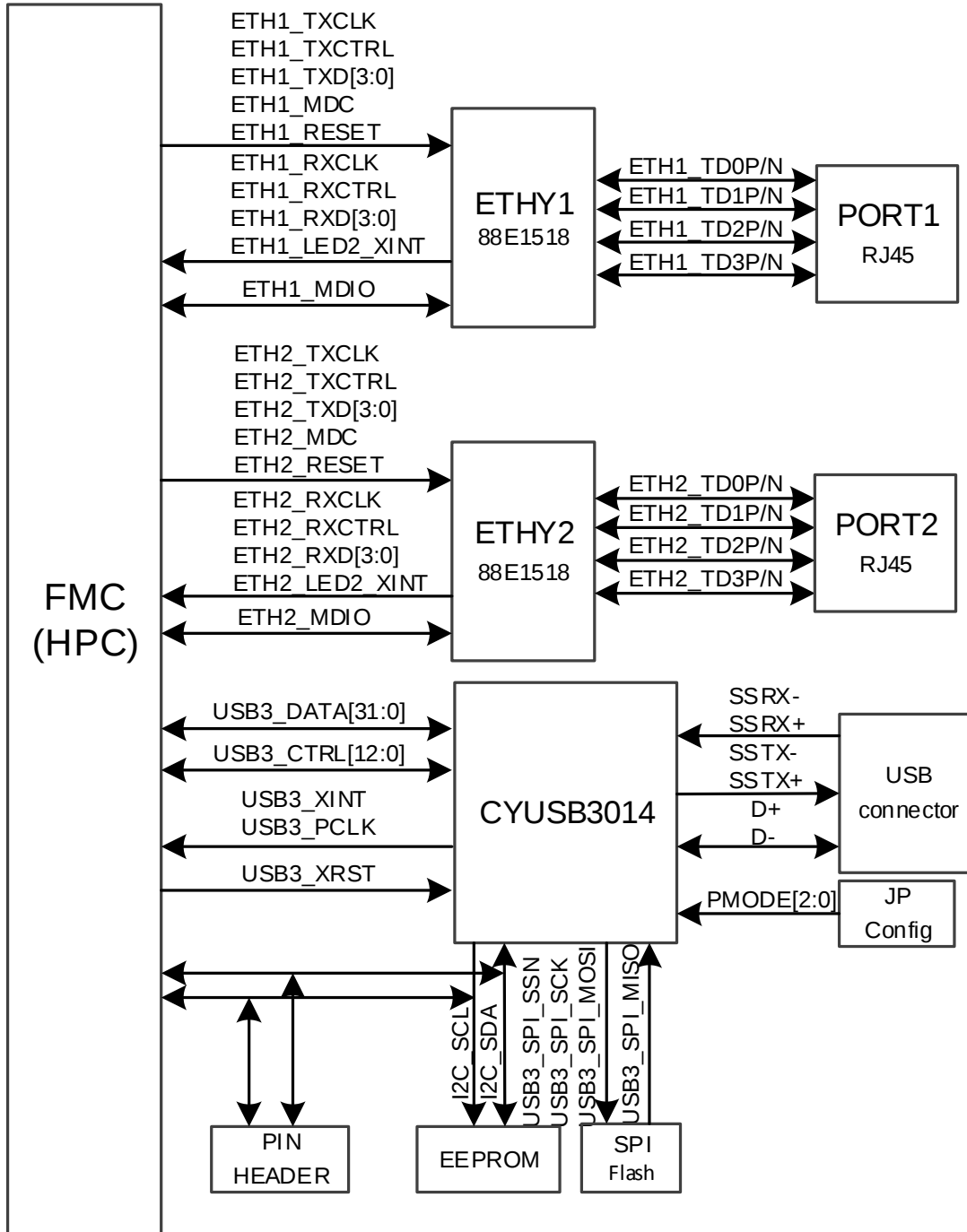


Figure 4-1 Block Diagram

5 External view of the Board

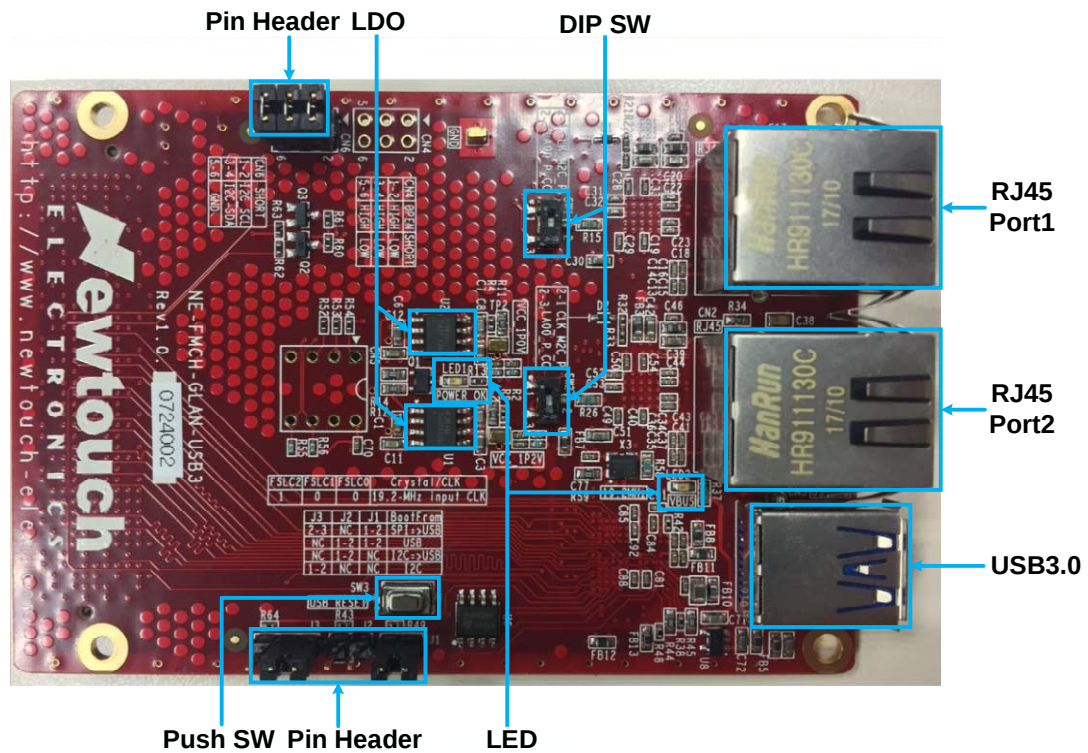


Figure 5-1 Top View of Board

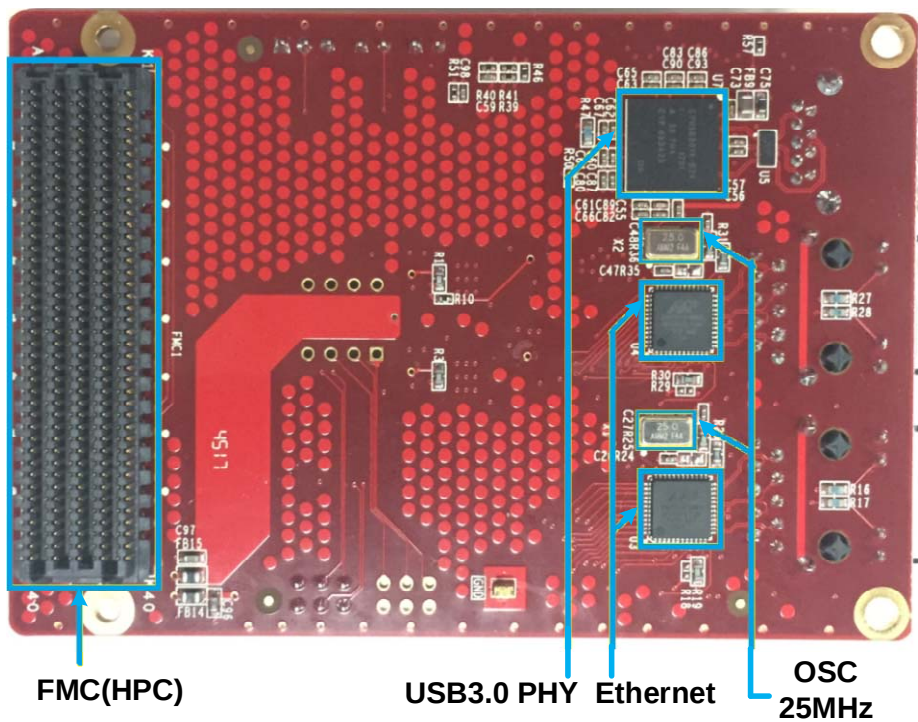


Figure 5-2 Bottom View of Board

6 Board specifications

Figure 6-1 shows the board specifications.

External Dimensions: 100 mm (W) x 69 mm (H)

Number of Layers: 6 layers

Board Thickness: 1.6 mm

Material: FR-4

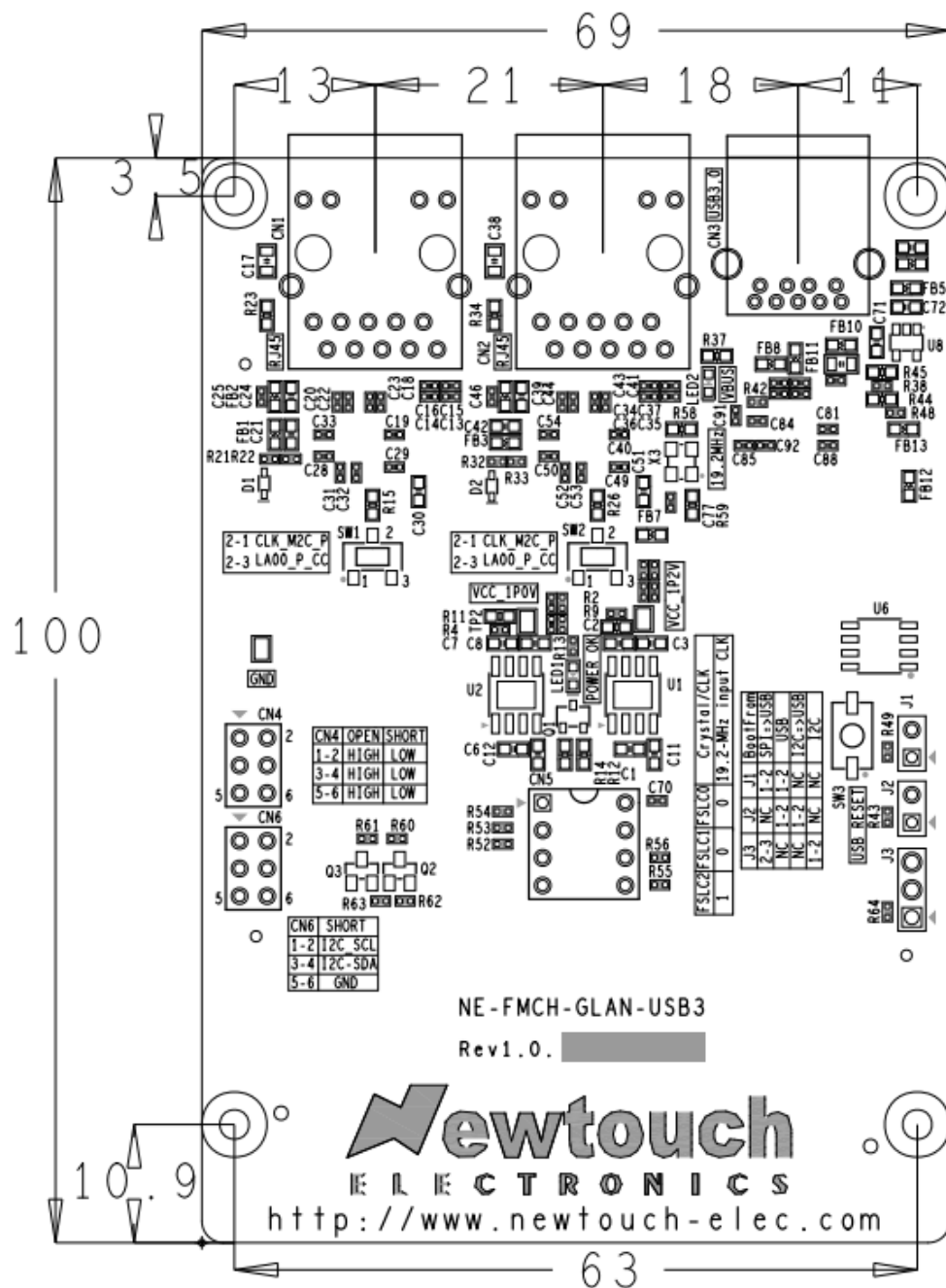


Figure 6-1 Board Dimensions

7 Description of components

This section describes the detail of each component and function.

7.1 Power Supply structure

Figure 7-1 shows the NE-FMCH-GLAN-USB3 board's power supply structure.

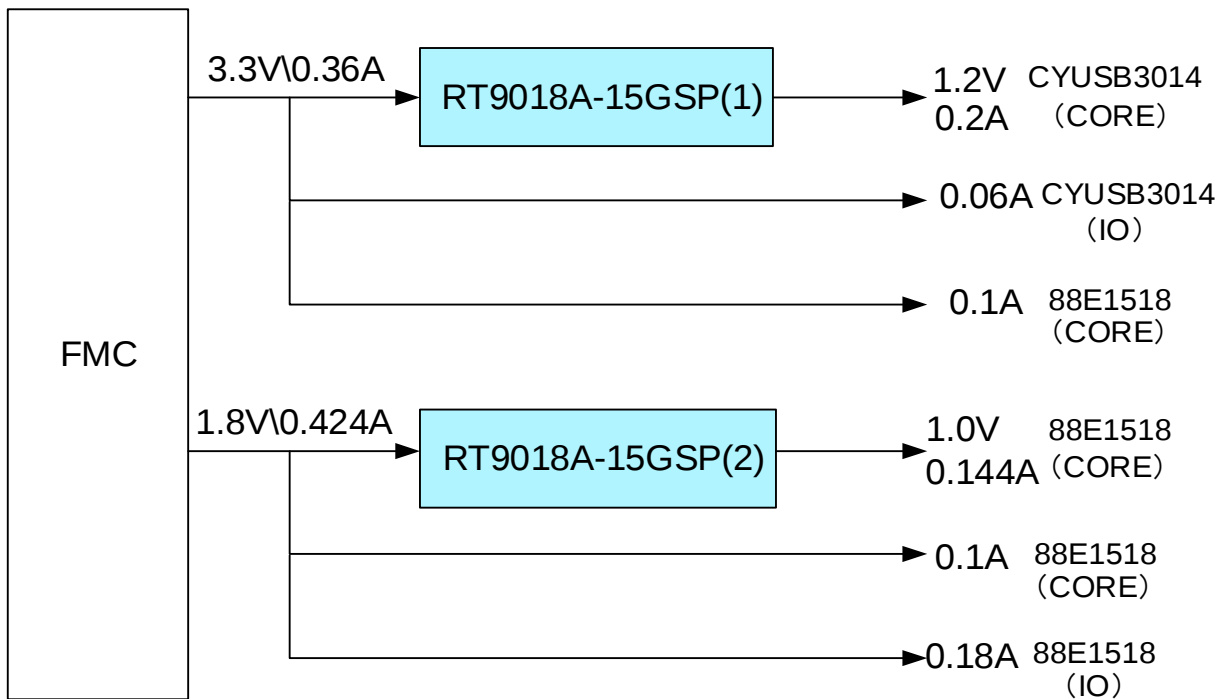


Figure 7-1 Power Supply Circuit Structure

7.1.1 Power Input

USB VBUS power is supplied through the USB connector. Other power is supplied from the FMC connector

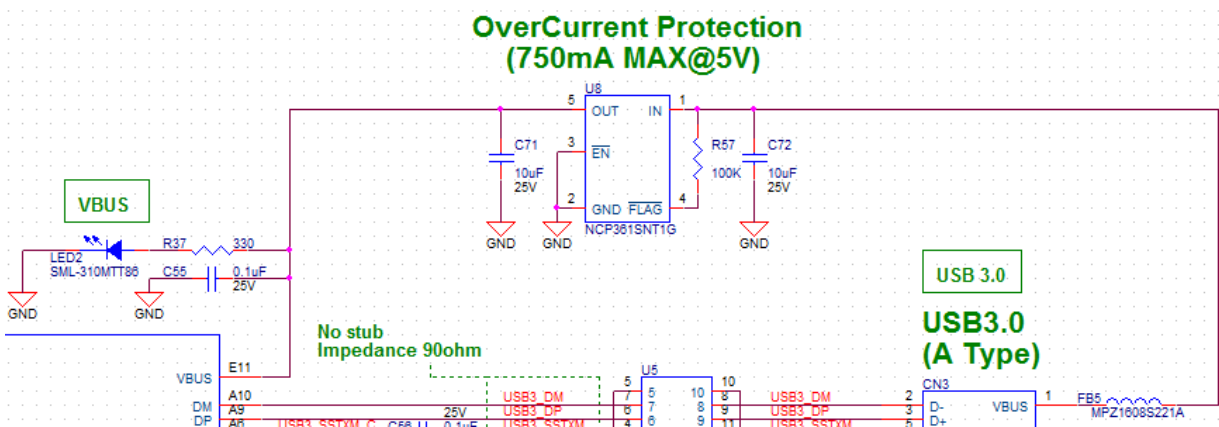


Figure 7-2 USB VBUS Power Circuit

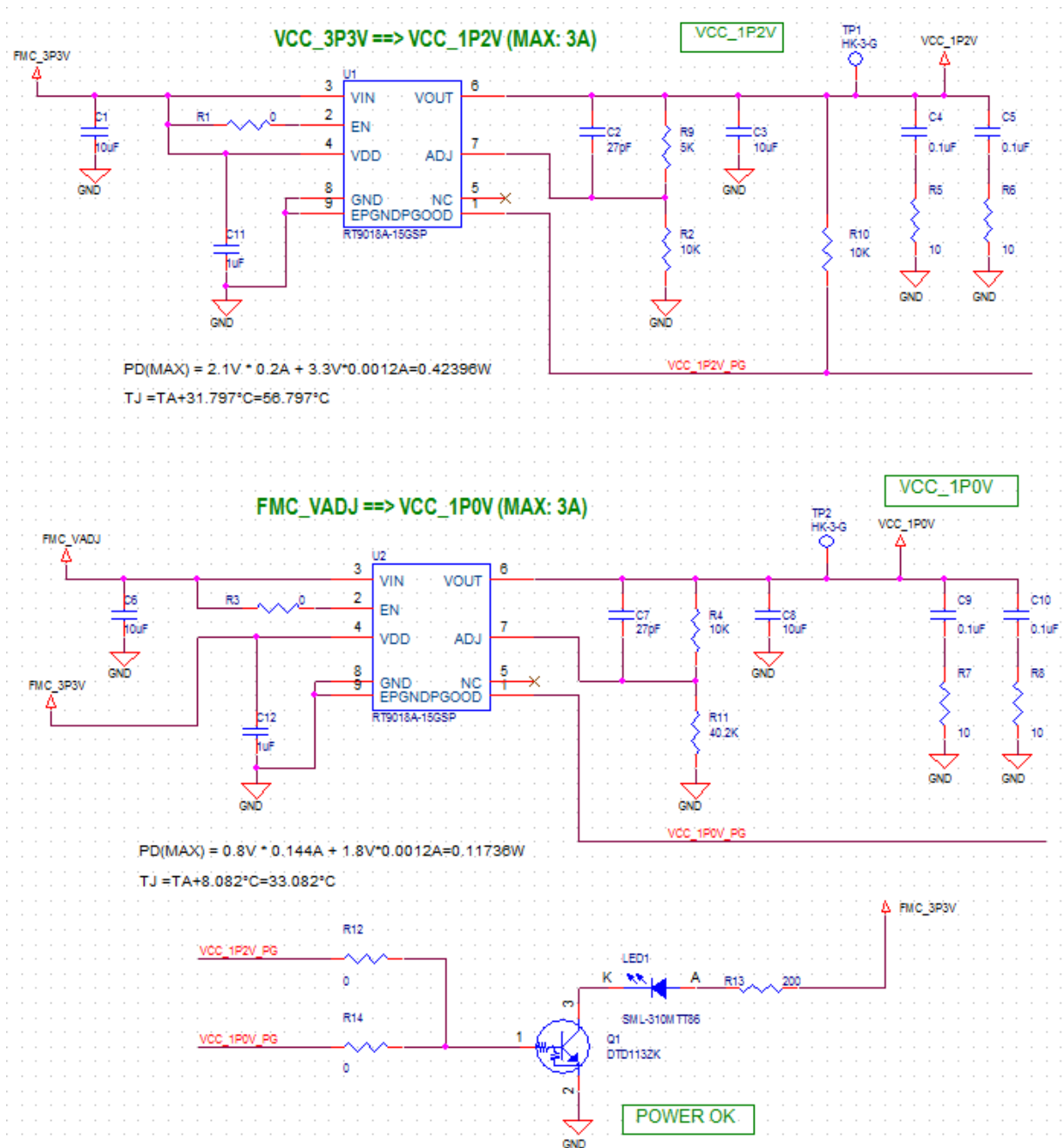


Figure 7-3 Power input Circuit

7.2 FMC connectors

The board provides Samtec's FMC High-Pin Count (FMC1) connector.

Figure 7-4 shows the High-Pin Count pin list respectively.

	K	J	H	G	F	E	D	C	B	A
1	VREF_B_M2C	GND	VREF_A_M2C	GND	PG_M2C	GND	PG_C2M	GND	CLK_DIR	GND
2	GND	CLK3_BIDIR_P	PR3NT_M2C_L	CLK1_M2C_P	GND	HA01_P_CC	GND	DP0_C2M_P	GND	DP1_M2C_P
3	GND	CLK3_BIDIR_N	GND	CLK1_M2C_N	GND	HA01_N_CC	GND	DP0_C2M_N	GND	DP1_M2C_N
4	CLK2_BIDIR_P	GND	CLK0_M2C_P	GND	HA00_P_CC	GND	GETCLK0_M2C_P	GND	DP8_M2C_P	GND
5	CLK2_BIDIR_N	GND	CLK0_M2C_N	GND	HA00_N_CC	GND	GETCLK0_M2C_N	GND	DP8_M2C_N	GND
6	GND	HA03_P	GND	LA00_P_CC	GND	HA05_P	GND	DP0_M2C_P	GND	DP2_M2C_P
7	HA02_P	HA03_N	LA02_P	LA00_N_CC	HA04_P	HA05_N	GND	DP0_M2C_N	GND	DP2_M2C_N
8	HA02_N	GND	LA02_N	GND	HA04_N	GND	LA01_P_CC	GND	DP8_M2C_P	GND
9	GND	HA07_P	GND	LA03_P	GND	HA09_P	LA01_N_CC	GND	DP8_M2C_N	GND
10	HA06_P	HA07_N	LA04_P	LA03_N	HA08_P	HA09_N	GND	LA06_P	GND	DP3_M2C_P
11	HA06_N	GND	LA04_N	GND	HA08_N	GND	LA05_P	LA06_N	GND	DP3_M2C_N
12	GND	HA11_P	GND	LA08_P	GND	HA13_P	LA05_N	GND	DP7_M2C_P	GND
13	HA10_P	HA11_N	LA07_P	LA08_N	HA12_P	HA13_N	GND	GND	DP7_M2C_N	GND
14	HA10_N	GND	LA07_N	GND	HA12_N	GND	LA08_P	LA10_P	GND	DP4_M2C_P
15	GND	HA14_P	GND	LA12_P	GND	HA16_P	LA09_N	LA10_N	GND	DP4_M2C_N
16	HA17_P_CC	HA14_N	LA11_P	LA12_N	HA15_P	HA16_N	GND	GND	DP6_M2C_P	GND
17	HA17_N_CC	GND	LA11_N	GND	HA15_N	GND	LA13_P	GND	DP6_M2C_N	GND
18	GND	HA18_P	GND	LA16_P	GND	HA20_P	LA13_N	LA14_P	GND	DP5_M2C_P
19	HA21_P	HA18_N	LA15_P	LA16_N	HA19_P	HA20_N	GND	LA14_N	GND	DP5_M2C_N
20	HA21_N	GND	LA15_N	GND	HA19_N	GND	LA17_P_CC	GND	GETCLK1_M2C_P	GND
21	GND	HA22_P	GND	LA20_P	GND	HB03_P	LA17_N_CC	GND	GETCLK1_M2C_N	GND
22	HA23_P	HA22_N	LA19_P	LA20_N	HB02_P	HB03_N	GND	LA18_P_CC	GND	DP1_C2M_P
23	HA23_N	GND	LA19_N	GND	HB02_N	GND	LA23_P	LA18_N_CC	GND	DP1_C2M_N
24	GND	HB01_P	GND	LA22_P	GND	HB05_P	LA23_N	GND	DP9_C2M_P	GND
25	HB00_P_CC	HB01_N	LA21_P	LA22_N	HB04_P	HB05_N	GND	GND	DP9_C2M_N	GND
26	HB00_N_CC	GND	LA21_N	GND	HB04_N	GND	LA26_P	GND	GND	DP2_C2M_P
27	GND	HB07_P	GND	LA25_P	GND	HB09_P	LA26_N	LA27_N	GND	DP2_C2M_N
28	HB06_P_CC	HB07_N	LA24_P	LA25_N	HB08_P	HB09_N	GND	GND	DP8_C2M_P	GND
29	HB06_N_CC	GND	LA24_N	GND	HB08_N	GND	TCK	GND	DP8_C2M_N	GND
30	GND	HB11_P	GND	LA29_P	GND	HB13_P	TDI	SCL	GND	DP3_C2M_P
31	HB10_P	HB11_N	LA28_P	LA29_N	HB12_P	HB13_N	TDO	SDA	GND	DP3_C2M_N
32	HB10_N	GND	LA28_N	GND	HB12_N	GND	3P3VAUX	GND	GND	GND
33	GND	HB15_P	GND	LA31_P	GND	HB19_P	TMS	GND	DP7_C2M_P	GND
34	HB14_P	HB15_N	LA30_P	LA31_N	HB18_P	HB19_N	TRST_L	GA0	GND	DP4_C2M_P
35	HB14_N	GND	LA30_N	GND	HB18_N	GND	GA1	12P0V	GND	DP4_C2M_N
36	GND	HB16_P	GND	LA33_P	GND	HB21_P	3P3V	GND	DP5_C2M_P	GND
37	HB17_P_CC	HB16_N	LA32_P	LA33_N	HB20_P	HB21_N	GND	12P0V	DP5_C2M_N	GND
38	HB17_N_CC	GND	LA32_N	GND	HB20_N	GND	3P3V	GND	GND	DP5_C2M_P
39	GND	VIO_B_M2C	GND	VADJ	GND	VADJ	GND	3P3V	GND	DP5_C2M_N
40	VIO_B_M2C	GND	VADJ	GND	VADJ	GND	3P3V	GND	RES0	GND
			LPC Connector	LPC Connector			LPC Connector	LPC Connector		

Figure 7-4 High Pin Count

Table 7-1 FMC Connector pin assignment table(FMC1)

Connection	C		D	Connection
GND	GND	1	PG C2M	-
-	DP0 C2M P	2	GND	GND
-	DP0 C2M N	3	GND	GND
GND	GND	4	GBTCLK0 M2C P	-
GND	GND	5	GBTCLK0 M2C N	-
-	DP0 M2C P	6	GND	GND
-	DP0 M2C N	7	GND	GND
GND	GND	8	LA01 P CC	USB3 CTRL12
GND	GND	9	LA01 N CC	USB3 CTRL11
USB3 XRST	LA06 P	10	GND	GND
USB3 XINT	LA06 N	11	LA05 P	USB3 CTRL10
GND	GND	12	LA05 N	USB3 CTRL8
GND	GND	13	GND	GND
ETH1 LED2 XINT	LA10 P	14	LA09 P	USB3 CTRL6
ETH1 RESET	LA10 N	15	LA09 N	USB3 CTRL9
GND	GND	16	GND	GND
GND	GND	17	LA13 P	USB3 CTRL5
ETH1 MDIO	LA14 P	18	LA13 N	USB3 CTRL1
ETH1 MDC	LA14 N	19	GND	GND
GND	GND	20	LA17 P CC	USB3 CTRL2
GND	GND	21	LA17 N CC	USB3 CTRL0
ETH1 TXCLK	LA18 P CC	22	GND	GND
ETH1 TXCTRL	LA18 N CC	23	LA23 P	USB3 CTRL3
GND	GND	24	LA23 N	USB3 CTRL7
GND	GND	25	GND	GND
FMC I2C_SCL	LA27 P	26	LA26 P	USB3 CTRL4
FMC I2C_SDA	LA27 N	27	LA26 N	ETH1 RXCTRL
GND	GND	28	GND	GND
GND	GND	29	TCK	-
-	SCL	30	TDI	-
-	SDA	31	TDO	-
GND	GND	32	※1 3P3VAUX	FMC 3P3V
GND	GND	33	TMS	-
-	GA0	34	TRST_L	-
-	12P0V	35	GA1	-
GND	GND	36	3P3V	FMC 3P3V
-	12P0V	37	GND	GND
GND	GND	38	3P3V	FMC 3P3V
FMC 3P3V	3P3V	39	GND	GND
GND	GND	40	3P3V	FMC 3P3V

Connection	E		F	Connection
GND	GND	1	PG M2C	-
ETH2_RXD0	HA01 P CC	2	GND	GND
ETH2_RXD1	HA01 N CC	3	GND	GND
GND	GND	4	HA00 P CC	ETH2_RXCLK1
GND	GND	5	HA00 N CC	-
ETH2_RXD2	HA05 P	6	GND	-
ETH2_RXD3	HA05 N	7	HA04 P	ETH2_TXCTRL
GND	GND	8	HA04 N	ETH2_RXCTRL
-	HA09 P	9	GND	GND
-	HA09 N	10	HA08 P	-
GND	GND	11	HA08 N	-
-	HA13 P	12	GND	GND
-	HA13 N	13	HA12 P	-
GND	GND	14	HA12 N	-
-	HA16 P	15	GND	GND
-	HA16 N	16	HA15 P	-
GND	GND	17	HA15 N	-
-	HA20 P	18	GND	GND
-	HA20 N	19	HA19 P	-
GND	GND	20	HA19 N	-
-	HB03 P	21	GND	GND
-	HB03 N	22	HB02 P	-
GND	GND	23	HB02 N	-
-	HB05 P	24	GND	GND
-	HB05 N	25	HB04 P	-
GND	GND	26	HB04 N	-
-	HB09 P	27	GND	GND
-	HB09 N	28	HB08 P	-
GND	GND	29	HB08 N	-
-	HB13 P	30	GND	GND
-	HB13 N	31	HB12 P	-
GND	GND	32	HB12 N	-
-	HB19 P	33	GND	GND
-	HB19 N	34	HB16 P	-
GND	GND	35	HB16 N	-
-	HB21 P	36	GND	GND
-	HB21 N	37	HB20 P	-
GND	GND	38	HB20 N	-
FMC_VADJ	VADJ	39	GND	GND
GND	GND	40	VADJ	FMC_VADJ

Connection	G		H	Connection
GND	GND	1	VREF A M2C	-
ETH1_RXCLK0	CLK1 M2C P	2	PRSNT M2C L	-
-	CLK1 M2C N	3	GND	GND
GND	GND	4	CLK0 M2C P	USB3_PCLK
GND	GND	5	CLK0 M2C N	-
ETH1_RXCLK1	LA00 P CC	6	GND	GND
-	LA00 N CC	7	LA02 P	USB3_DATA29
GND	GND	8	LA02 N	USB3_DATA27
USB3_DATA25	LA03 P	9	GND	GND
USB3_DATA26	LA03 N	10	LA04 P	USB3_DATA23
GND	GND	11	LA04 N	USB3_DATA22
USB3_DATA21	LA08 P	12	GND	GND
USB3_DATA29	LA08 N	13	LA07 P	USB3_DATA18
GND	GND	14	LA07 N	USB3_DATA16
USB3_DATA20	LA12 P	15	GND	GND
USB3_DATA17	LA12 N	16	LA11 P	USB3_DATA24
GND	GND	17	LA11 N	USB3_DATA28
USB3_DATA31	LA16 P	18	GND	GND
USB3_DATA30	LA16 N	19	LA15 P	USB3_DATA2
GND	GND	20	LA15 N	USB3_DATA15
USB3_DATA14	LA20 P	21	GND	GND
USB3_DATA13	LA20 N	22	LA19 P	USB3_DATA5
GND	GND	23	LA19 N	USB3_DATA11
USB3_DATA12	LA22 P	24	GND	GND
USB3_DATA10	LA22 N	25	LA21 P	ETH1_RXD0
GND	GND	26	LA21 N	ETH1_RXD1
USB3_DATA9	LA25 P	27	GND	GND
USB3_DATA8	LA25 N	28	LA24 P	ETH1_RXD2
GND	GND	29	LA24 N	ETH1_RXD3
USB3_DATA7	LA29 P	30	GND	GND
USB3_DATA6	LA29 N	31	LA28 P	ETH1_TXD0
GND	GND	32	LA28 N	ETH1_TXD1
USB3_DATA4	LA31 P	33	GND	GND
USB3_DATA3	LA31 N	34	LA30 P	ETH1_TXD2
GND	GND	35	LA30 N	ETH1_TXD3
USB3_DATA0	LA33 P	36	GND	GND
USB3_DATA1	LA33 N	37	LA32 P	-
GND	GND	38	LA32 N	-
FMC_VADJ	VADJ	39	GND	GND
GND	GND	40	VADJ	FMC_VADJ

Connection	I		J	Connection
GND	GND	1	VREF_B_M2C	-
-	CLK3_BIDIR_P	2	GND	GND
-	CLK3_BIDIR_N	3	GND	GND
GND	GND	4	CLK2_BIDIR_P	ETH2_RXCLK0
GND	GND	5	CLK2_BIDIR_N	-
ETH2_LED2_XINT	HA03_P	6	GND	GND
ETH2_RESET	HA03_N	7	HA02_P	ETH2_TXD0
GND	GND	8	HA02_N	ETH2_TXD1
ETH2_TXCLK	HA07_P	9	GND	GND
ETH2_MDIO	HA07_N	10	HA06_P	ETH2_TXD2
GND	GND	11	HA06_N	ETH2_TXD3
-	HA11_P	12	GND	GND
-	HA11_N	13	HA10_P	-
GND	GND	14	HA10_N	-
-	HA14_P	15	GND	GND
-	HA14_N	16	HA17_P_CC	-
GND	GND	17	HA17_N_CC	-
-	HA18_P	18	GND	GND
-	HA18_N	19	HA21_P	-
GND	GND	20	HA21_N	-
-	HA22_P	21	GND	GND
-	HA22_N	22	HA23_P	-
GND	GND	23	HA23_N	-
-	HB01_P	24	GND	GND
-	HB01_N	25	HB00_P_CC	-
GND	GND	26	HB00_N_CC	-
-	HB07_P	27	GND	GND
-	HB07_N	28	HB06_P_CC	-
GND	GND	29	HB06_N_CC	-
-	HB11_P	30	GND	GND
-	HB11_N	31	HB10_P	-
GND	GND	32	HB10_N	-
-	HB15_P	33	GND	GND
-	HB15_N	34	HB14_P	-
GND	GND	35	HB14_N	-
-	HB18_P	36	GND	GND
-	HB18_N	37	HB17_P_CC	-
GND	GND	38	HB17_N_CC	-
-	VIO_B_M2C1	39	GND	GND
GND	GND	40	VIO_B_M2C	-

7.3 PHY_RXCLK Selection

When SW1 and SW2 switch to 2-3 RXCLK connect to LA00_P_CC and HA00_P_CC. When SW1, SW2 switch to 2-1 RXCLK connect to CLK_M2C_P.

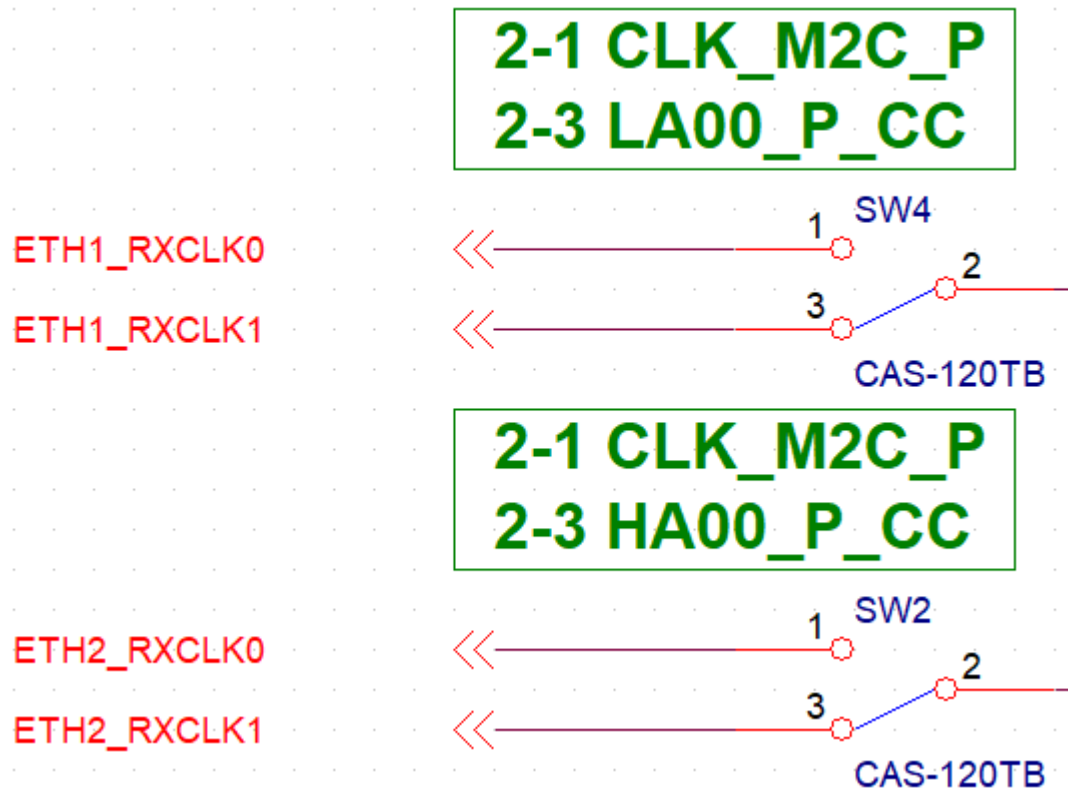


Figure 7-5 PHY_RXCLK Selection

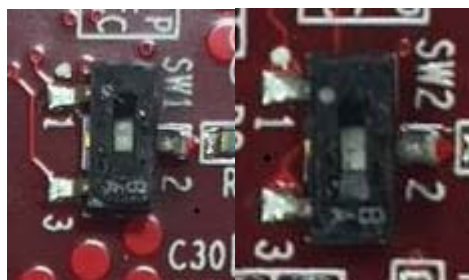


Figure 7-6 SW1 SW2 on board

7.4 LED

There are 2 LEDs on the board.



Figure 7-7 LEDs on board

The function description of 2 LEDs is in the following table.

Table 7-2 LED Function Table

No.	LED No.	Color	Function
1	LED1	Green	Power Good
2	LED2	Green	USB VBUS Good

RJ-45 connector has internal LED. To indicate the statuses of Ethernet PHY, LED are connected to PHY's signal LED_LINK1000.

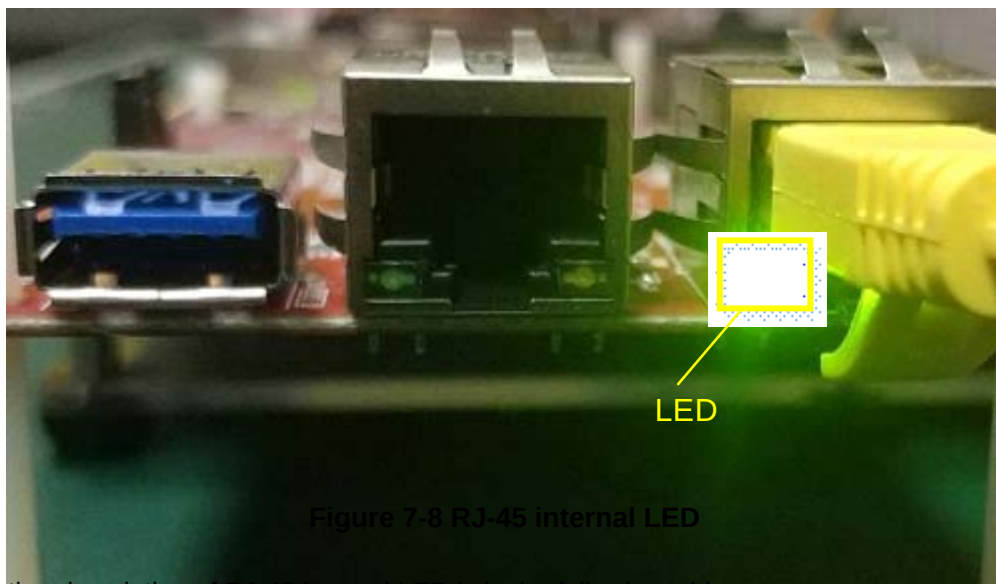


Figure 7-8 RJ-45 internal LED

The function description of RJ-45 internal LED is in the following table.

Table 7-3 internal LED Function Table

No.	LED No.	Color	Function
1	LED	Green	LED for 1000M link indicator

7.5 Jumper

This board has 6 general purpose pin headers.

J1 J2 J3 are setting for PMODE of CYUSB3014

Table 7-4 PMODE setting

J3	J2	J1	PMODE
2-3	NC	1-2	SPI=>USB
NC	1-2	1-2	USB
NC	1-2	NC	I2C =>USB
1-2	NC	NC	I2C

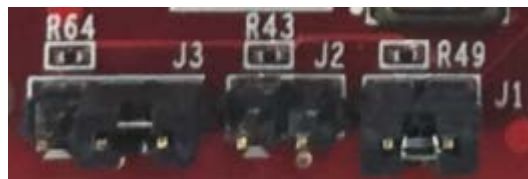


Figure 7-9 PMODE Jumper

This board provides an external I2C interface for CYUSB3014. I2C signals are connected FMC also.

Table 7-5 I2C Pin header

CN6	Signal name	MODE	FUNCTION
1-2	I2C_SCL	OPEN	I2C access from external I2C interface
3-4	I2C_SDA	OPEN	
5-6	GND	OPEN	
1-2	I2C_SCL	SHORT	I2C access from FPGA
3-4	I2C_SDA	SHORT	
5-6	GND	SHORT	



Figure 7-10 I2C Pin header

7.6 Push SW

This board has 1 Push switch SW3. This Push switch for reset to CYUSB3014. When pushed SW3, Reset signal is Low.



Figure 7-11 Push SW

8 Default Switch and Jumper Settings

The following two tables shows default NE-FMCH-GLAN-USB3 switch settings.

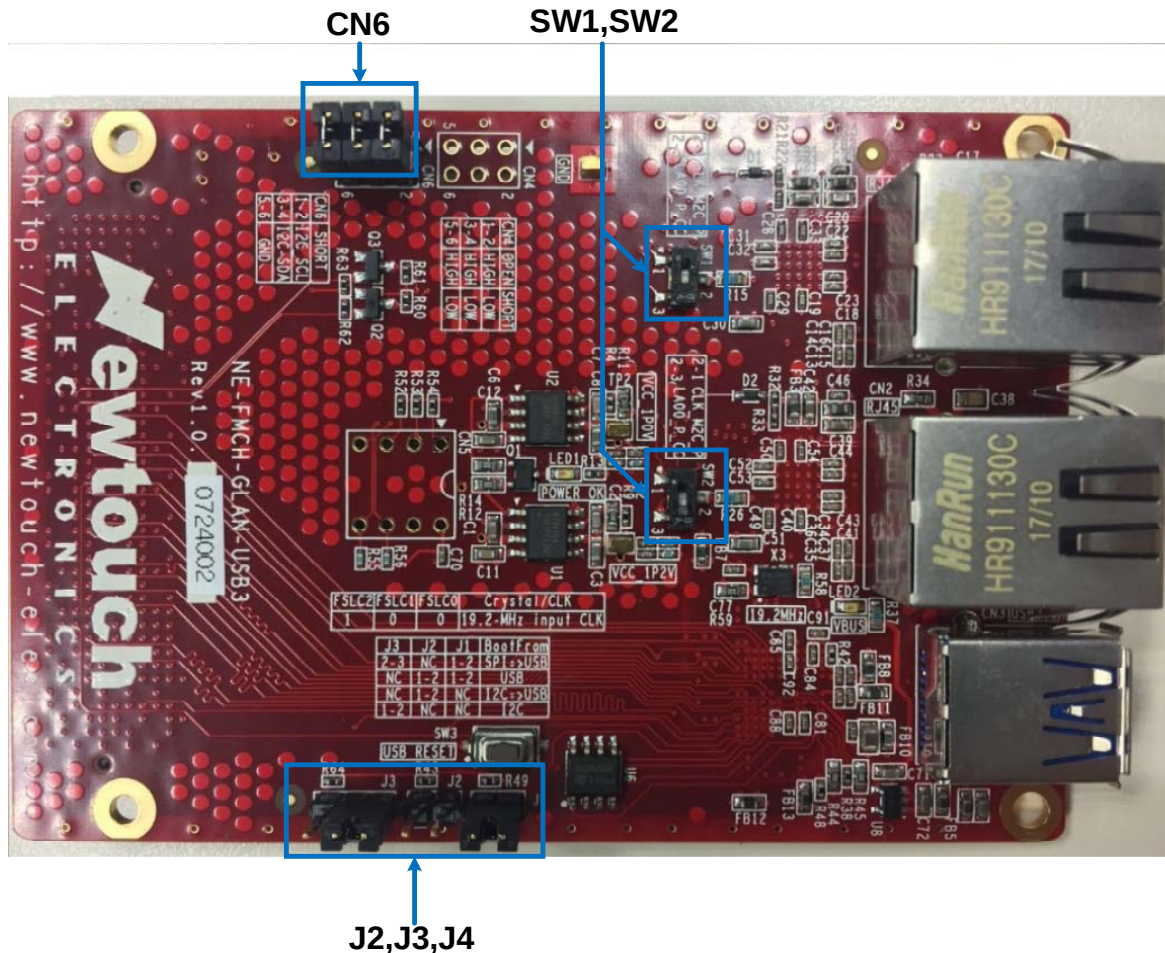


Figure 8-1 Default Jumper and Switch Settings

Table 8-1 Default Jumper Settings

No.	Jumper No.	Initial Setting	Function
1	JP1	1-2 Short	CYUSB3014 PMODE:SPI=>USB
2	JP2	NC	
3	JP3	2-3 Short	
4	CN6	1-2 Short	I2C access from FPGA
		3-4 Short	
		5-6 Short	

Table 8-2 Default Switch Settings

No.	Jumper No.	Initial Setting	Function
1	SW1	2-3 connect	ETH1 RXCLK connect to LA00_P_CC
2	SW2	2-3 connect	ETH2 RXCLK connect to HA00_P_CC

9 Appendix

This section describes how to use NE-FMCH-GLAN-USB3 Board with TBS-VU440-LSI Board.

9.1 Evaluation environment

Tools: Vivado 2017.4 , sdk 2017.4

OS: Windows 7/64bit

Figure 9-1 shows the evaluation structure.

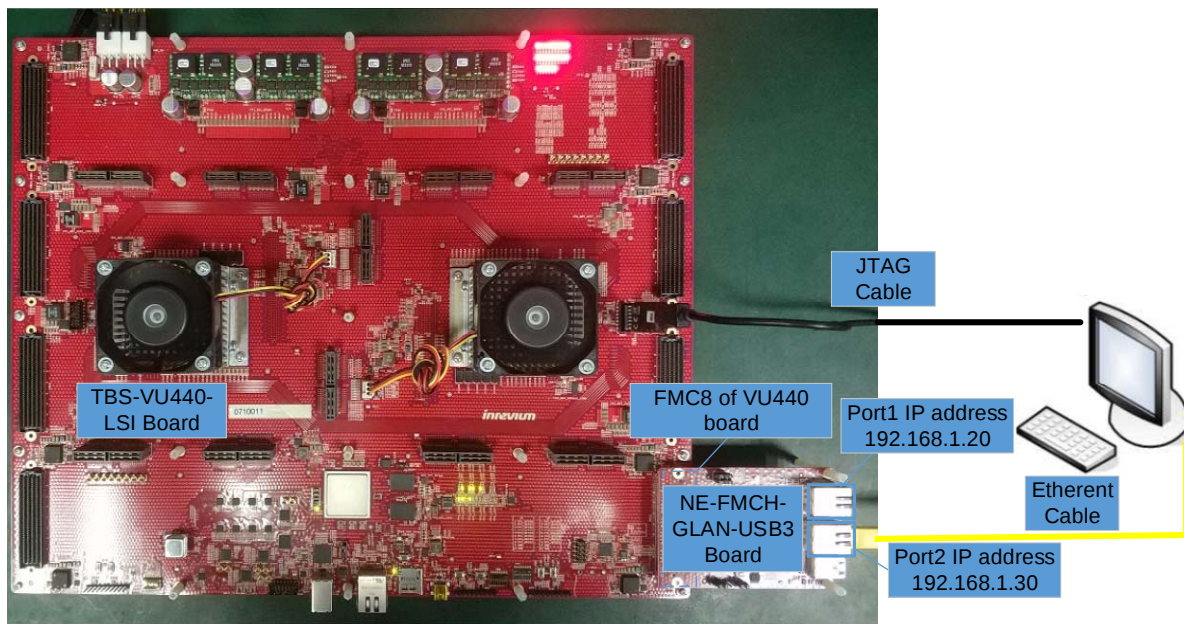
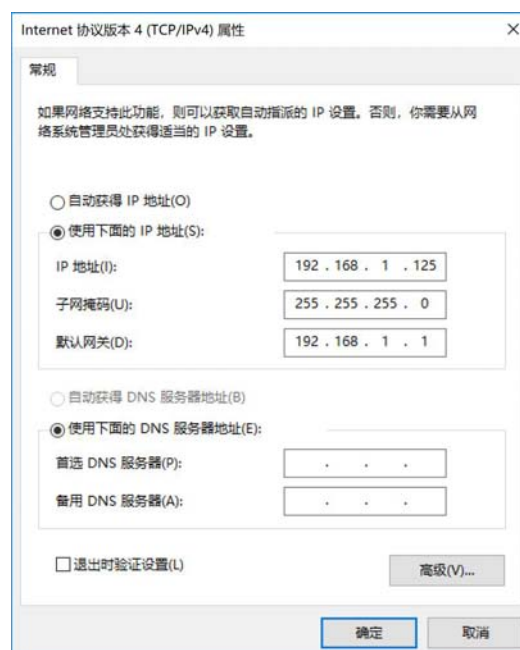


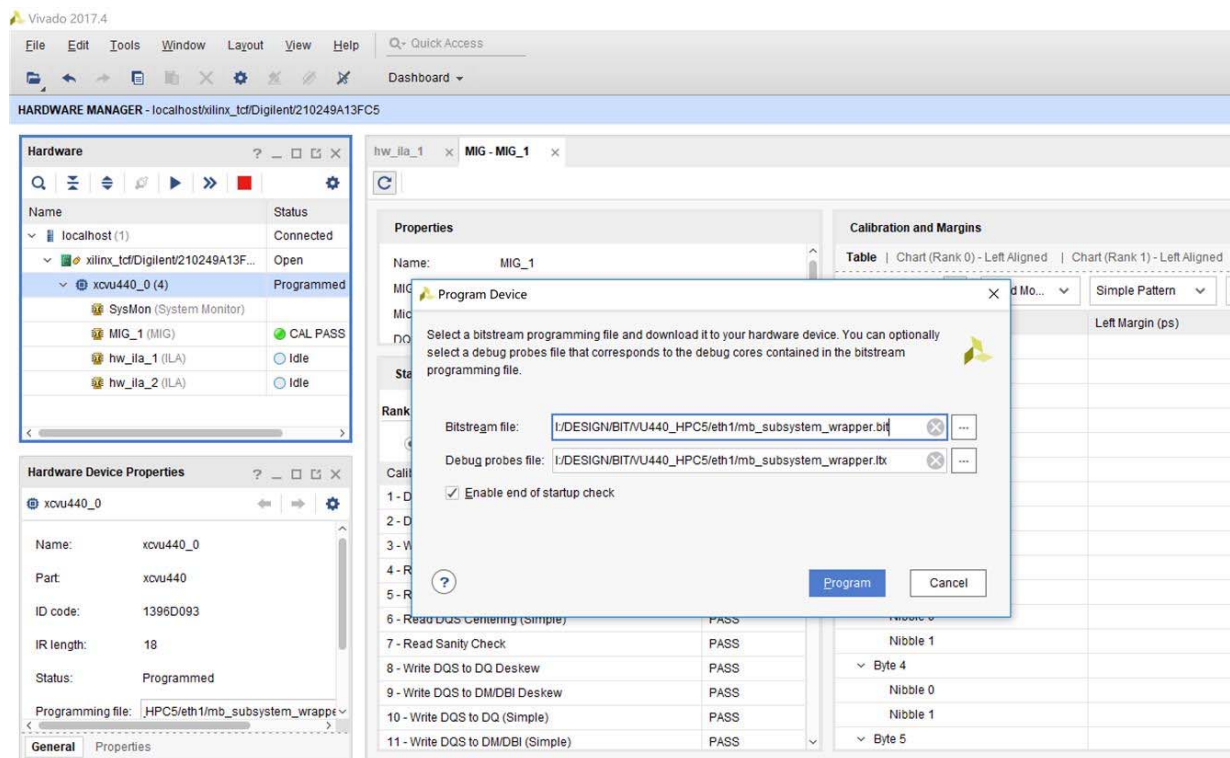
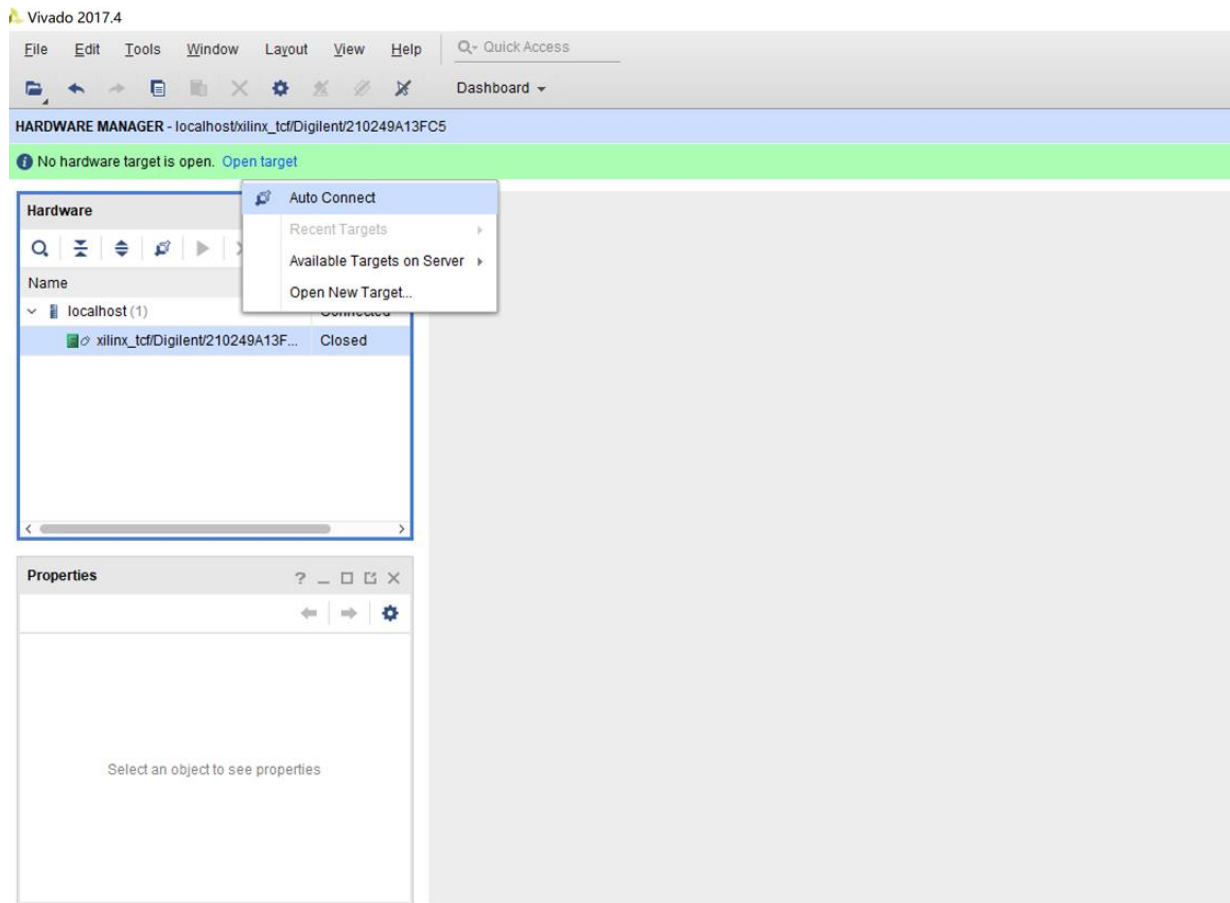
Figure 9-1 evaluation structure

9.2 Ethernet data transmitting and receiving test

➤ PC IP address setting



➤ Configure FPGA,download bitfile (download.bit)

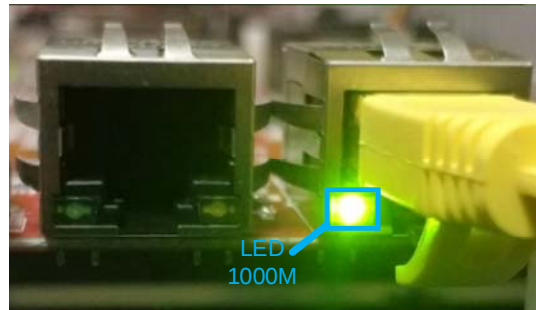


➤ Ping test of Port1

Connect PC to Port1.

LED (1000M) and will light on as the following photo

[1.0Gbps] in the following window indicate current network data rate



Ping port1 with IP Address 192.168.1.20 and message replies as the following.

```
C:\Users\Shinelon>ping 192.168.1.20 -t

正在 Ping 192.168.1.20 具有 32 字节的数据:
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.20 的回复: 字节=32 时间<1ms TTL=255
```

➤ Ping test of Port2

Connect PC to Port2.

LED (1000M) and will light on as the following photo

[1.0Gbps] in the following window indicate current network data rate



Ping port2 with IP Address 192.168.1.30 and message replies as the following.

```
正在 Ping 192.168.1.30 具有 32 字节的数据:
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
来自 192.168.1.30 的回复: 字节=32 时间<1ms TTL=255
```

 ***memo*** 