UPN-EHLCB
Quick Installation Guide

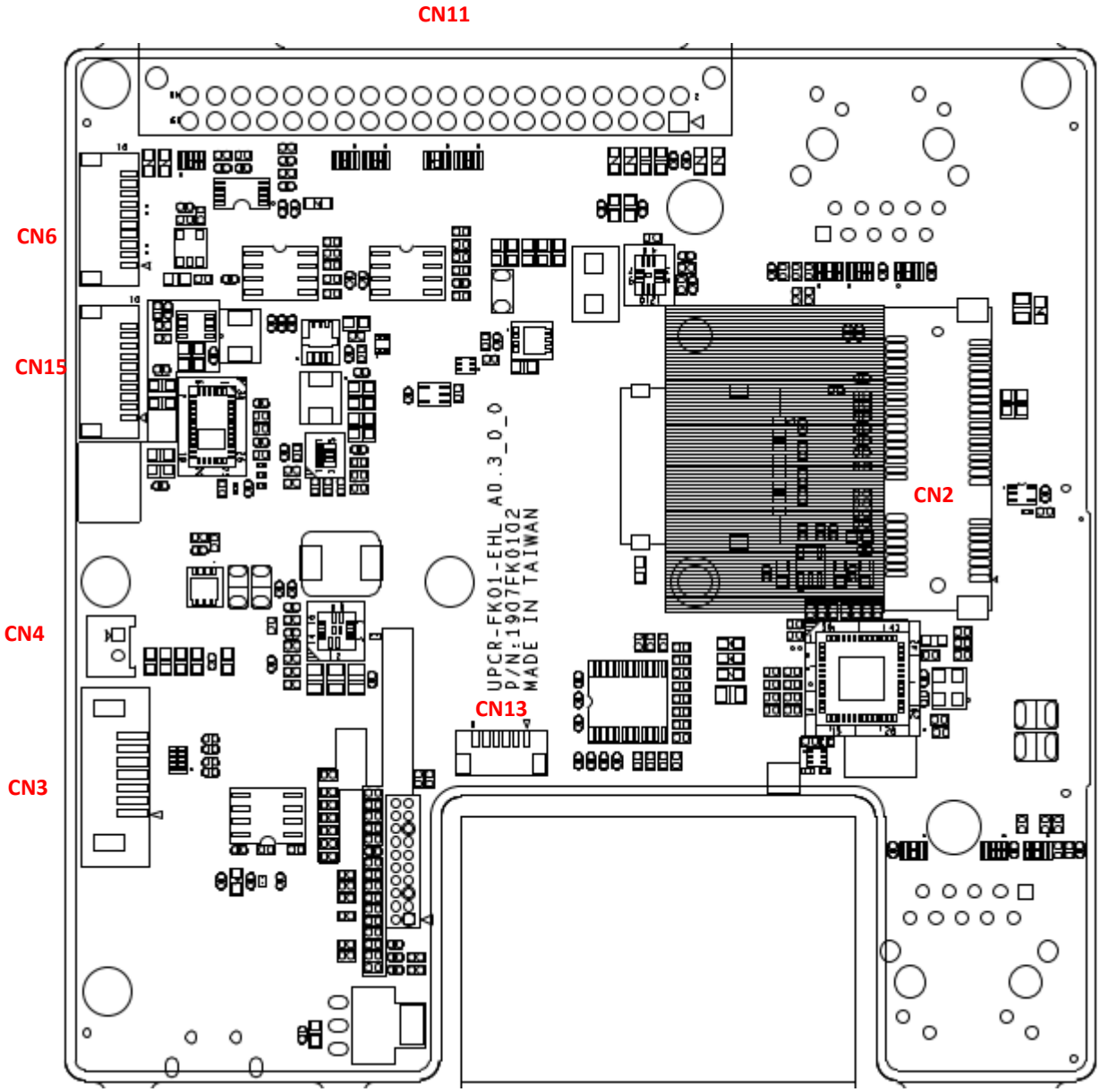
REVISION HISTORY

Revision	Date	Comments
A0.1	2021/12/10	Initial Version

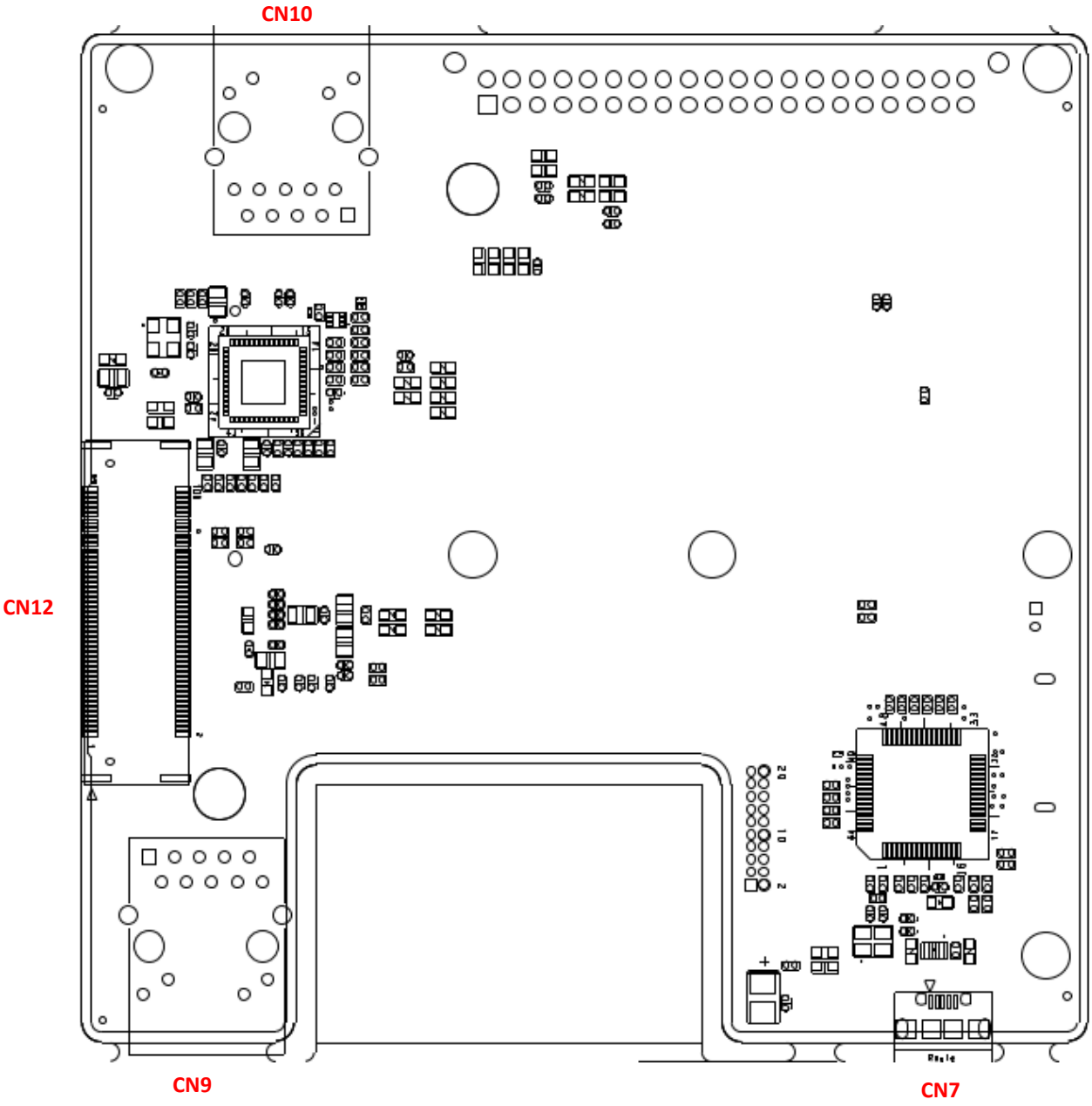
Table of Content

1. UPCR-FK01-EHL Board Layout

Top side



Bottom side



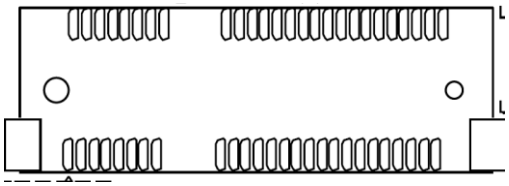
2. Connector References

Connector Index

Reference Designation	Functional Description	Connector Type
CN2	Mini card	(TF)MINIPCI SLOT.52P.H=5.6mm.SMD.FOXCONN.AS0B22x-S56Q-7H
CN3	SATA	(TF)SATA CONNECTOR.7P.180D(M).SMT.TechBest.007-01-00757
CN4	SATA POWER	(TF)WAFER BOX.2P.180D(M).DIP.2.0mm.w/LOCK.PINREX.721-81-02TW00
CN6	USB WAFER	(TF)Wafer Box.10P.90D(M).SMD.1.0mm.PINREX.710-74-10TWR6
CN7	PSE DEBUG PORT	(TF)Micro USB Conn..5P.90D(F).SMD.AB-type.TRONTEK.TMC106-USBD05-835
CN9	LAN1	(TF)RJ45.14P.90D(F)W/TF(10/100/1000Base).& LED(L-G/O,R-Y).DIP.SPEEDTECH.RK7L8A-KWH1-F30-0R
CN10	LAN2	(TF)RJ45.14P.90D(F)W/TF(10/100/1000Base).& LED(L-G/O,R-Y).DIP.SPEEDTECH.RK7L8A-KWH1-F30-0R
CN11	HAT 40	(TF)Phoenix Connector.DIP.90D.20*2P Black.Pitch=2.54mm.H=10.5mm.MALE.DINKLE.0156-1840
CN12	DOCKING	(TF)BOARD-BOARD CONN..SMD.100P.180D.MALE.Pitch=0.5mm.H=5.5mm.Floating Connector for High-Speed Transmission.KEL CORPORATION.DT01-100S-T
CN13	COM PORT	(TF)Wafer Box.6P.180D.(M).SMD.1.0mm.w/ CAP.CATCH.1204-700-06SMR
CN15	SWD	(TF)Wafer Box.10P.90D(M).SMD.1.0mm.PINREX.710-74-10TWR6

Connector Pin Assignments

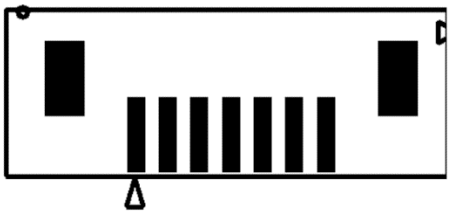
CN2: Mini card



Pin	Signal Description	Pin	Signal Description
1	NC	2	VCC3_MINIPCIE
3	NC	4	GND
5	NC	6	V1.5S
7	NC	8	P_UIM_PWR
9	GND	10	P_UIM_DAT
11	NC	12	P_UIM_CLK
13	NC	14	P_UIM_RST
15	GND	16	P_UIM_VPP
17	NC	18	GND
19	NC	20	WL_DISABLE0#
21	GND	22	3G_RST
23	NC	24	VCC3_MINIPCIE
25	NC	26	GND
27	GND	28	V1.5S
29	GND	30	NC
31	NC	32	NC
33	NC	34	GND
35	GND	36	USB2_DN_R
37	GND	38	USB2_DP_R
39	VCC3_MINIPCIE	40	GND
41	VCC3_MINIPCIE	42	NC
43	NC	44	NC
45	NC	46	NC
47	NC	48	V1.5S

49	NC	50	GND
51	NC	52	VCC3_MINIPCIE

CN3: SATA

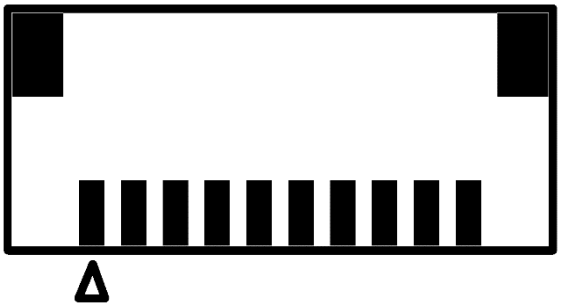


Pin	Signal Description	Pin	Signal Description
1	GND	2	SATA_TXP0_C
3	SATA_TXN0_C	4	GND
5	SATA_RXN0_C	6	SATA_RXP0_C
7	GND		

CN4: SATA POWER

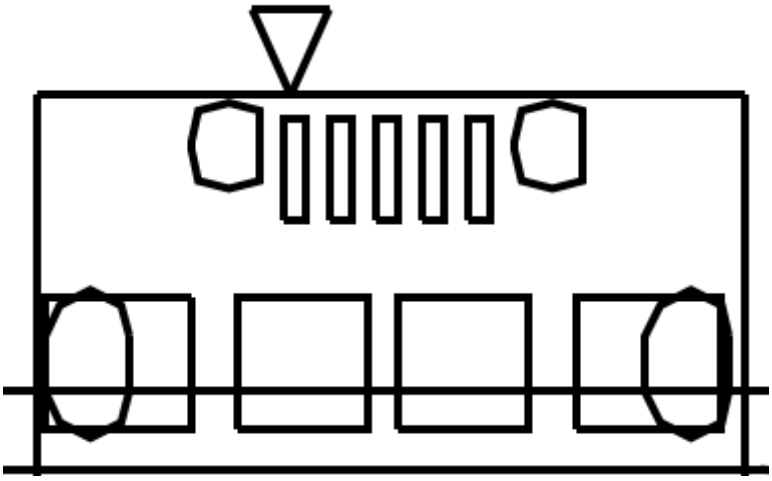
Pin	Signal Description	Pin	Signal Description
1	+V5S	2	GND

CN6: USB WAFER



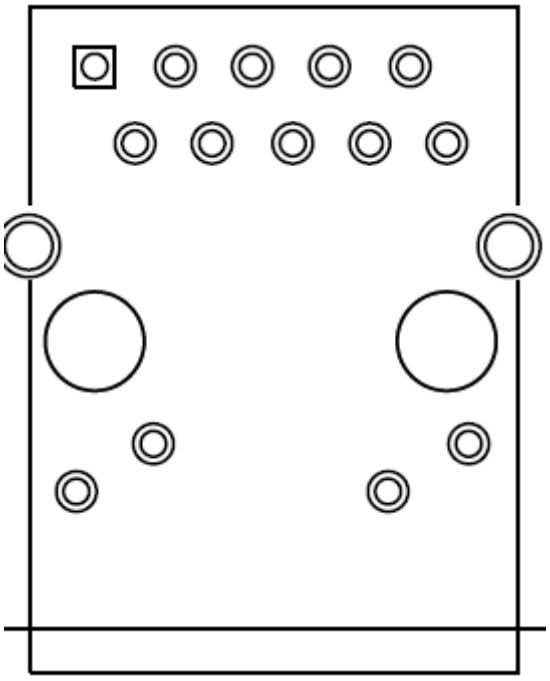
Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	5V	2	NC	3	NC
4	GND	5	NC	6	NC
7	NC	8	NC	9	UART_RX
10	UART_TX				

CN7: PSE DEBUG PORT



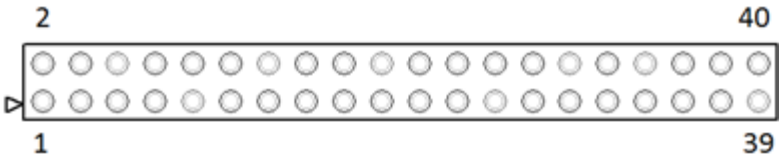
Pin	Signal Description	Pin	Signal Description
1	5V	2	USB+
3	USB-	4	ID
5	GND		

CN9/10: LAN1/LAN2



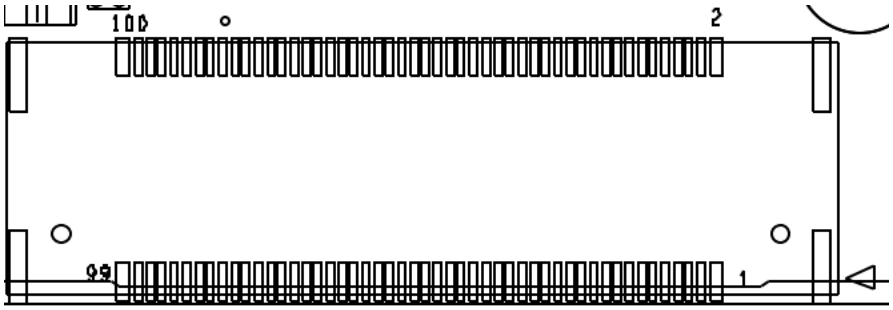
Pin	Signal Description
1	LAN1_TMDI0+
2	LAN1_TMDI0-
3	LAN1_TMDI1+
4	LAN1_TMDI2+
5	LAN1_TMDI2-
6	LAN1_TMDI1-
7	LAN1_TMDI3+
8	LAN1_TMDI3-

CN11: HAT



Pin	Signal Description	Pin	Signal Description
1	+5V	2	+3.3V
3	+5V	4	+3.3V
5	GND	6	GND
7	CAN0_L	8	CAN0_H
9	GND	10	GND
11	CAN1_L	12	CAN1_H
13	GND	14	GND
15	GP_D00/PSE_QEPA0	16	GP_D01/PSE_QEPB0
17	GP_D13/PSE_QEPA1	18	GP_D14/PSE_QEPB1
19	GP_T00/PSE_QEPA2	20	GP_T01/PSE_QEPB2
21	GP_U07/PSE_QEPA3	22	GP_U11/PSE_QEPB3
23	GP_D02/PSE_QEPI0	24	GP_T02/PSE_QEPI2
25	GP_D16/PSE_QEPI1	26	GP_U19/PSE_QEPI3
27	GP_D18/PSE_PWM05	28	GP_D15/PSE_PWM03
29	GP_D03/PSE_PWM06	30	GP_D17/PSE_PWM04
31	ADC_GND	32	ADC_GND
33	ADC0	34	ADC2
35	ADC1	36	ADC3
37	ADC_GND	38	ADC_GND
39	GP_H04_SIO_I2C2_SDA	40	GP_H05_SIO_I2C2_SCL

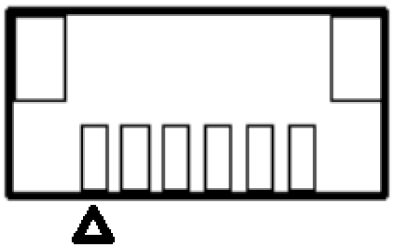
CN12: DOCKING



Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	VCC_12V	2	VCC_12V	3	VCC_12V
4	VCC_12V	5	GND	6	VCC_12V
7	USB2_P9_DP	8	VCC_12V	9	USB2_P9_DN
10	GND	11	GND	12	GP_E15/PSE_CAN0_TX
13	GP_H07/SIO_I2C3_SCL	14	GP_E16/PSE_CAN0_RX	15	GP_H06/SIO_I2C3_SDA
16	GND	17	GND	18	GP_E20/CAN1_TX
19	GP_D00/PSE_QEPA0	20	GP_E21/CAN1_RX	21	GP_D13/PSE_QEPA1
22	GND	23	GP_T00/PSE_QEPA2	24	GP_D15/PSE_PWM03
25	GP_U07/PSE_QEPA3	26	GP_D17/PSE_PWM04	27	GP_D01/PSE_QEPB0
28	GP_D18/PSE_PWM05	29	GP_D14/PSE_QEPB1	30	GP_D03/PSE_PWM06
31	GP_T01/PSE_QEPB2	32	GND	33	GP_U11/PSE_QEPB3
34	SIO_SPI_1_CLK	35	GP_D02/PSE_QEPI0	36	SIO_SPI_1_TXD
37	GP_D16/PSE_QEPI1	38	SIO_SPI_1_RXD	39	GP_T02/PSE_QEPI2
40	SIO_SPI_1_FS1	41	GP_U19/PSE_QEPI3	42	GND
43	GP_H13_USUART1_TX	44	GND	45	GP_H21_HSUART1_RS232_RTS_RS485_DE
46	ENET_A_RST	47	GP_H15_HSUART1_RS232_CTS	48	ENET_A_INT
49	GP_H12_HSUART1_RX	50	RGMII_A_SMA_MDC	51	GP_H22_HSUART1_RS485_RE_N
52	RGMII_A_SMA_MDIO	53	GP_H23_HSUART1_RS485_RS232_N	54	GBE0_RGMII_R_TXCLK
55	GND	56	GBE0_RGMII_R_TXCTL	57	ENET_B_RST
58	GBE0_RGMII_R_TXD0	59	ENET_B_INT	60	GBE0_RGMII_R_TXD1
61	RGMII_B_SMA_MDC	62	GBE0_RGMII_R_TXD2	63	RGMII_B_SMA_MDIO

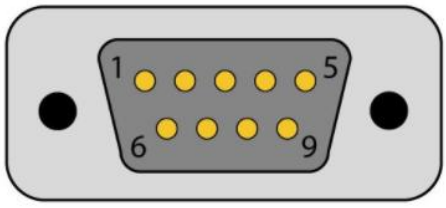
64	GBE0_RGMII_R_TXD3	65	GBE1_RGMII_R_TXCLK	66	GND
67	GBE1_RGMII_R_TXCTL	68	GBE0_RGMII_RXCLK	69	GBE1_RGMII_R_TXD0
70	GBE0_RGMII_RXCTL	71	GBE1_RGMII_R_TXD1	72	GBE0_RGMII_RXD0
73	GBE1_RGMII_R_TXD2	74	GBE0_RGMII_RXD1	75	GBE1_RGMII_R_TXD3
76	GBE0_RGMII_RXD2	77	GND	78	GBE0_RGMII_RXD3
79	GBE1_RGMII_RXCLK	80	GP_T07_PSE_GBE0_PPS_PSE_TGPIO59	81	GBE1_RGMII_RXCTL
82	GP_T06_PSE_GBE0_AUXTS_USB2_OC1_N	83	GBE1_RGMII_RXD0	84	GP_H03_PSE_GBE1
85	GBE1_RGMII_RXD1	86	GP_H02	87	GBE1_RGMII_RXD2
88	GND	89	GBE1_RGMII_RXD3	90	PCIE_P9_SATA_P1_TXP
91	GND	92	PCIE_P9_SATA_P1_TXN	93	SLP_S3#
94	GND	95	BUF_PLT_RST#	96	PCIE_P9_SATA_P1_RXP
97	BUF_PLT_RST#	98	PCIE_P9_SATA_P1_RXN	99	GND
100	GND				

CN13: COM PORT



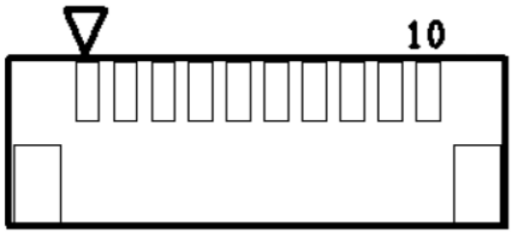
Pin	Signal Description	Pin	Signal Description
1	CTS/RX-	2	RTS/TX+
3	GND	4	TX/TX-
5	RX/RX+	6	+5V

CABLE



Pin	Signal Description
1	NC
2	RX/RS422TX-
3	TX/RS422TX+
4	NC
5	GND
6	NC
7	RTS/RS422RX+
8	CTS/RS422RX-
9	NC

CN15: SWD



Pin	Signal Description	Pin	Signal Description
1	DBRESET	2	PSE_SWDIO
3	PSE_SWCLK	4	PSE_TRACESWO
5	PSE_TRACECLK	6	PSE_TRACEDATA_0
7	PSE_TRACEDATA_1	8	PSE_TRACEDATA_2
9	PSE_TRACEDATA_3	10	GND