INSTALLATION AND OPERATION

USER MANUAL

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HPL EVK

Revision History

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Foreword

This <User Manual> offers you information in the features of the hardware, the installation, specification and use of Unicore UM4B0 product.

☞ *For the generic version of this manual, please refer to different part of the manual according to your purchased product configuration, concerning CORS, RTK and Heading.*

Readers it applies to

This <User Manual> is applied to the technicists who know GNSS Receiver to some extent but not to the general readers.

1. EVK overview

HPL-EVK V4.1 version is designed for High precision boards/modules, easy to test all function of High precision boards/modules. It can be apply to all the boards/modules including UB282, UB352, UB4B0, UB482, UM4B0, UM482 etc.

Note: Make sure the board is installed and all the interfaces are connected normally, then charge it with electricity. DO NOT plug/unplug the product when the power is on.

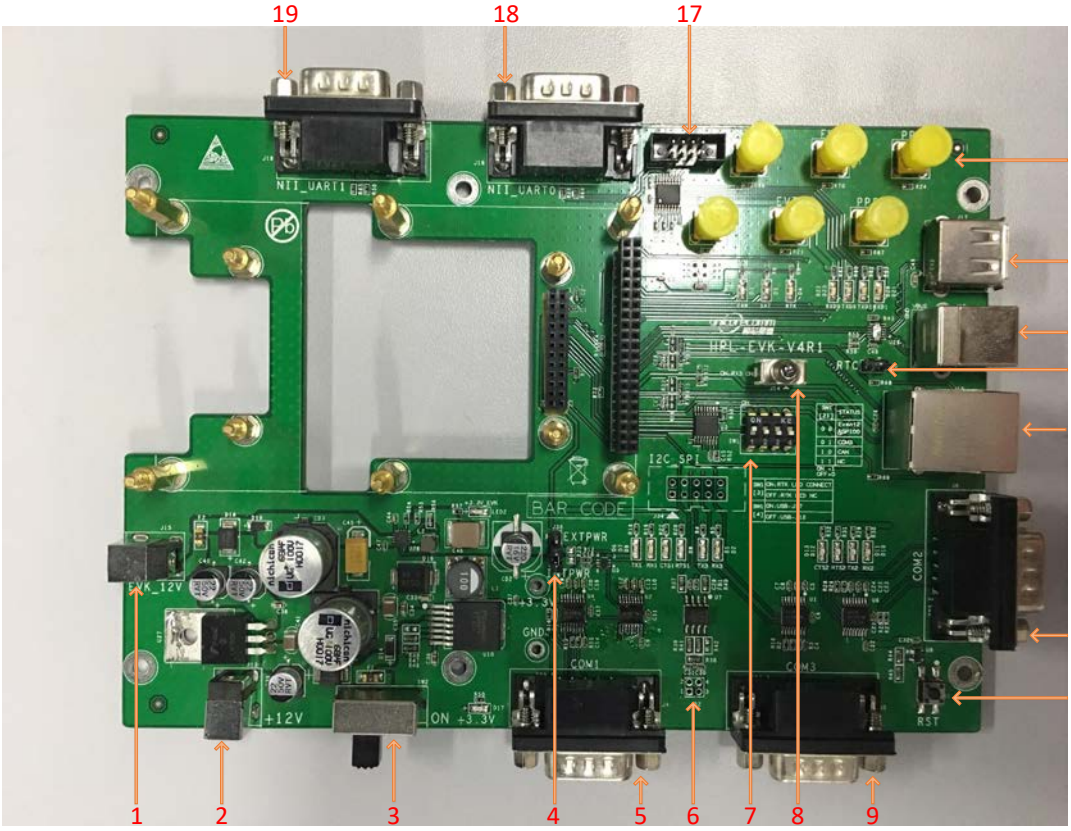

Fig 1 EVK Front

1. Backup power connector	2.Power connector	3.Power switch	4.EVK power select
5.COM1	6.CAN	7. dial switch	8. SPDT
9.COM3	10.Rest button	11.COM2	12. Ethernet port
13.RTC power supply	14.USB-B	15.USB-A	16. SMA*6
17.Reserved	18. Reserved	19. Reserved	

2. Instructions

The specification will be explained as numerical order shows in FIG 1.

1. Backup power connector

Backup power connector J15（1）is located on the Lower left of EVK.

Note:

The nominal power supply for J15 is 9~17V, recommended 12V power supply.

EVK will be in abnormal operation if the power supply is not in nominal range.

The power supply above 17V may cause permanent damage to EVK.

2. Power connector

Power connector J13 (2) is located on the Lower left of EVK, Screen printing label " + 12V".

Note:

The nominal power supply for J13 is 9~36V.

EVK will be in abnormal operation if the power supply is not in nominal range.

The power supply above 36V may cause permanent damage to EVK.

The power supply above 16V may cause permanent damage to parts of high precision boards (UB282, UB352, UB4B0, UB482, UM4B0, UM482 etc.).

3. Power Switch

Power SwitchSW2 (3) is located on the lower left of EVK, printing label "ON" is on the right side screen, turn to the right is "ON". Power Switch SW2 is used to control the J13 is connected power or not.

4. EVK power selection

EVK Power Selection J30 (4) is located on the lower-middle of EVK, on the lower-right of pending test board. PIN1 screen printing label "EXTPWR", PIN3 screen printing label "INTPWR"。

When Jumper Cap is short-circuited with PIN3 and PIN2 of J30, EVK power selection J15.

When Jumper Cap is short-circuited with PIN3 and PIN2 of J30, EVK power selection J13.

Mode	J30(power selection)	J13(power interface)	J15(EVK external power)
EVK/Board powered up separately	PIN1/PIN2 short circuit	Power supply	Power supply
EVK/Board powered up with same power supply	PIN3/PIN2 short circuit	Power supply	Cold

5. COM1

COM1 J4 (5) is located on the underside of EVK. RS232 level standard, when connected with PC, cross serial line needs to be used.

6. CAN

CAN JP2 (6) is located on the underside of EVK.

JP2 PIN definition as follows:

Num.	Definition

PIN1	CANL
PIN2	GND
PIN3	CANH
PIN4	GND

7. Dial switch

Dial switch SW1（7）is located on the middle of EVK, the right side of board for testing.

Dial switch PIN2 PIN1, for Functional Selection.

PIN2	PIN1	Functional Selection
0	0	EVENT2&GPIO0
0	1	COM3
1	0	CAN
1	1	Reserved

Dial Switch PIN3, for RTK_LED signal connect or not.

PIN3	Functional Selection
0	RTK_LED signal unconnect（When connect some NovAtel boards，need to turn to 0, the serial port can work normally）
1	RTK_LED signal connect or not.

Dial Switch PIN4, for two USB selection.

PIN4	Functional Selection
0	USB-J12
1	USB-17

8. SPDT

SPDT J14（8）is located on the center-right area of EVK, screen printing label “ON：RX3”.

When testing HPL Board which COM3 and USB function reuse, USB_DP is reused to be COM3 RXD signal. This moment, if you need COM3 RXD, turn the J14 to the left. When USB needed, turn the J14 to the left.

9. COM3

COM3 J2（9）is located on the right of EVK.，screen printing label“COM3”。RS232 level standard, when connected with PC, cross serial line needs to be used.

10. Reset button

Reset button K1（10）is located on the lower right of EVK，screen printing label “RST”。Press the button to reset high precision board.

11. COM2

COM2 J9（11）is located on the lower right of EVK, screen printing label“COM2”。RS232 level standard, when connected with PC, cross serial line needs to be used.

12. Ethernet port

Ethernet port J10（12）is located on the right side of EVK.

13. RTC power supply

RTC power supply J32（13）is located on the right side of EVK, on the upper left of Ethernet. When J32 is short-circuited with jumper cap, power supply to RTC (3.3V).

14. USB-B

USB-B J12（14）is located on the right side of EVK. When J12 used, Dial Switch SW1（7）PIN3 turns to OFF.

15. USB-A

USB-A J17（15）is located on the upper right of EVK. When J17 used, Dial Switch SW1（7）PIN3 turns to ON.

16. SMA*6

SMA*6（16）is located on the upper right of EVK.

J11-SPEED;	J21-FWD;	J8-PPS;
J5-EVT1;	J6-EVT2;	J20-PPS2;

17. Reserved

18. Reserved

19. Reserved

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