

Data Sheet

LPC-LCD-Board

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1 Scope

This data sheet is for the LPC-LCD-Board which can be used together with the LPC2478-Stick or LPC3250-Stick debugger system. It contains architecture- and device-specific information and all technical data of the system.

The LPC-Sticks are specific debugger systems being able to emulate the integrated LPC2478 and LPC3250 microcontroller with on-chip debug support.

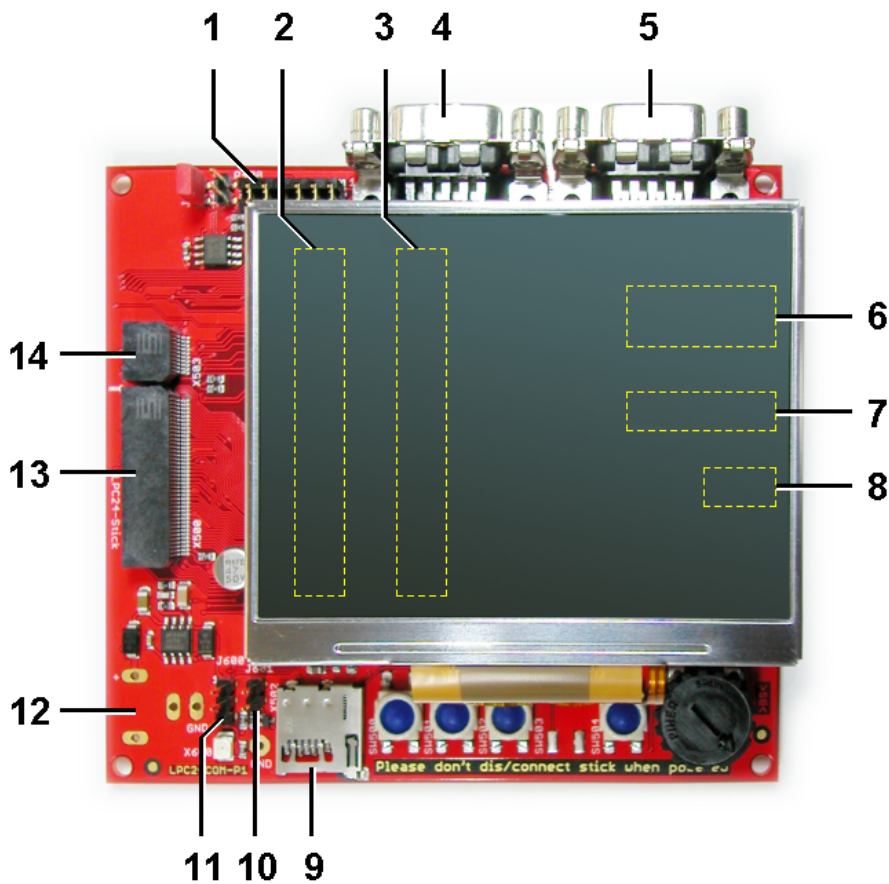
The board provides a USB communication port for connecting the LPC-Sticks to a PC.

For operation, the overall system requires one of the two LPC-Sticks mentioned above.

Note

The LPC2468-Stick (with LPC2468 microcontroller) is also able to use all interfaces of the LPC-LCD-Board except the LCD.

2 Connections and Controls



- 1 X402: Jumper settings:

000000	Row1	}]UART *)	000000	Row1	}]CAN **)
000000	Row2		000000	Row2			
000000	Row3		000000	Row3			
 - 2 X505 pad (also see **Interfaces** on [p. 5](#))
 - 3 X501 pad (also see **Interfaces** on [p. 5](#))
 - 4 X401 CAN/UART connector (male)
 - 5 X400 UART connector (female)
 - 6 X200: LAN connector
 - 7 X301: USB-A connector **)
 - 8 X300: Mini USB AB
 - 9 X502: Micro SD
 - 10 J601: Jumper pad (also see **Jumpers** on [p. 6](#))
 - 11 J600: Jumper pad (also see **Jumpers** on [p. 6](#))
 - 12 X600: External power connector pad, not mounted ***)
 - 13 X500: I/O 80-pin stick connector
 - 14 X503: I/O 20-pin stick connector
- *) LPC3250-Stick only
 **) LPC2478-Stick only
 ***) Can be mounted with power connector from RoKa, ordering code 5202550

The pads X501 can be used to supply an external stabilized power +5V to the board and the stick when used in standalone operation without the PC host. This requires that the jumper J601 is set to enable the internal +3.3V power supply.

Instead of using the pads X501, the external power can be supplied via the USB connector X300. For this the jumpers J601 and J600 have to be set. Direct external power can be applied to the pads X600.

The following table shows the allowed alternatives:

Mode	Operation	Power source	J600	J601
PC host-powered via LPC-Stick	LPC-Stick View, HiTOP5	LPC-Stick	---	---
External power via X501	standalone	+5V DC	---	1-2 (closed)
External power via X300	standalone	VBUS	2-3	1-2 (closed)
External power via X600	standalone	+9V DC	1-2	1-2 (closed)

3 Interfaces

Pin Assignment X501

Pin	Port
1	GND
3	GND
5	+9V
7	+9V
9	+5V
11	+5V
13	+3.3V
15	+3.3V
17	GND
19	GND
21	GND
23	GND

Pin	Port
2	P0.26
4	P0.25
6	P0.24
8	P0.23
10	P0.20
12	P0.19
14	P0.18
16	P0.17
18	P0.16
20	P0.15
22	P1.20
24	GND

Pin Assignment X505

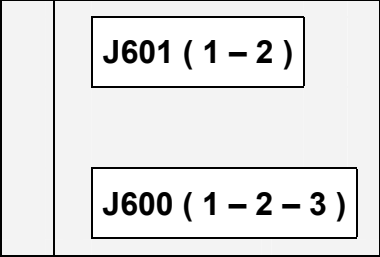
1	P2.0
3	P0.5
5	P0.4
7	P0.22
9	P1.21
11	P1.12
13	P1.11
15	P1.7
17	P1.21
19	PWREN_N *)
21	RESET_N *)
23	GND

2	CANL
4	CANH
6	P2.11
8	P2.12
10	P2.13
12	P2.9
14	P2.8
16	P2.5
18	P2.4
20	P2.3
22	P2.2
24	P2.1

*) Reset and Power_enable have a 47 kOhm pull-up to +3.3V

4 Jumpers

Also see [Connections and Controls](#) on p. 3.



- J601 PowerEnable Closed: externally powered
- J600 Power Selector

Operation Modes	J600	J601
+9V in	1-2	1-2
VBUS	2-3	1-2
Stick	—	—
+5V in @ X501	—	1-2

5 Connecting the Board to the LPC-Stick



Caution

Connect the board and the stick only when not powered from the PC or external and in the orientation as shown in the figure below.

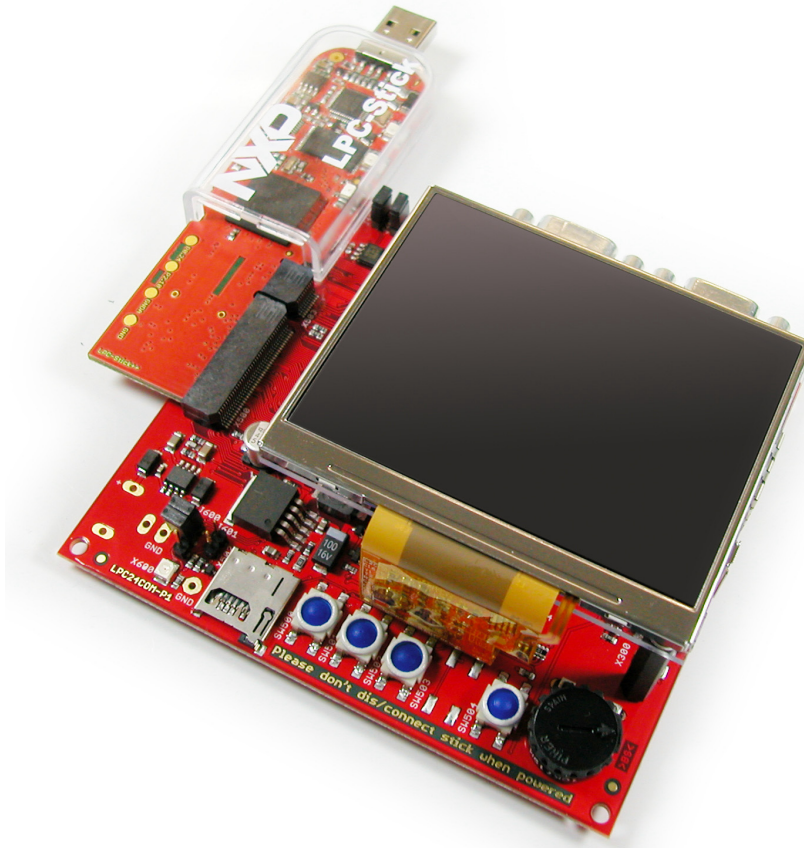
Please avoid any short-cuts by metallic parts touching the LPC-Stick or the LPC-LCD-Board.

Do not supply external power to the LPC-LCD-Board via the pads or the USB-B connector while the stick is connected to the PC. This may cause serious damage to your PC.

Modifications of the LPC-LCD-Board or supplying of external power via the LPC-LCD-Board is at your own risk.

Hitex is not liable for any damages caused by wrong handling.

The LPC-LCD-Board is connected to the LPC-Stick via an 80-pin PCB and a 20-pin connector:



For the connection of the LPC-Stick to the PC you may use the included USB extension cable.

6 Technical Data

The features of the LPC-LCD-Board can be summarized as follows:

- Graphical LCD Display
- 2x40-pin 0.635mm pitch PCB extension Stick-I/O-connector for the LPC-Stick
- 2x20-pin 0.635mm pitch PCB extension Stick-I/O-connector for the LPC-Stick
- 2x24-pin IO connector pads with reset and capability
- USB-AB connector with ESD protection IP4220CZ6 (NXP) and power controller LM3526M-L (National)
- USB-A connector with Power-Controller LM3526M-L (National)
- RS232 driver chip MAX3232ECDB (TI)
- Ethernet Phy with RMII interface DP83848CVV (National)
- CAN physical driver chip TJA1050T (NXP)
- USB-powered via stick or from external USB-AB or IO- connector with jumper selection
- Dimensions: 100 x 110mm

