



VisionCB-IND Datasheet and Pinout

Rev. 20181107111311

Source URL: http://wiki.somlabs.com/index.php/VisionCB-IND_Datasheet_and_Pinout

Table of Contents

General description	1
Applications	1
Features	3
Pictures of VisionCB-IND board	4
Ordering info	5
Block Diagram	6
Electrical parameters	7
Onboard LEDs	8
2x25 pin header	9
TFT LCD connector (RGB 24b, J405)	11
Dimensions	13

VisionCB-IND Datasheet and Pinout

General description



VisionCB-IND is a carrier board for the VisionSOM family of computer-on-modules which are powered by NXP i.MX 6UL or i.MX 6ULL application processors (ARM Cortex-A7). A carrier board, together with a System on Module (SoM), makes a complete development platform similar to SBC. The carrier board houses the most common interfaces such as USB, Ethernet, additional microSD socket, etc. A large variety of interfaces allows to use it as both a complete development platform or as a stand-alone end-product.

The carrier board connects with the SoM via a standard SODIMM connector.

Applications

- Industrial embedded Linux computer
- Home Appliances
- Home Automation - Smart Home
- Human-machine Interfaces (HMI)
- Point-of-sales (POS) terminals
- Cash Register
- 2D barcode scanners and printers

- Smart grid Infrastructure
- IoT gateways
- Residential gateways
- Machine vision equipment
- Robotics
- Fitness/outdoor equipment

Features

- Industrial grade Carrier Board (Base Board) compatible with the VisionSOM family of modules based on NXP i.MX 6UL / 6ULL application processors
- Core clock up to 696MHz (VisionSOM-6UL) or up to 900MHz (VisionSOM-6ULL)
- Up to 512MB SDRAM DDR3L (depends on used VisionSOM module)
- Up to 512MB NAND Flash / 32GB eMMC / uSD memory card (depends on used VisionSOM module)
- Optional Murata 802.11b/g/n Wi-Fi and Bluetooth v4.1+EDR module
- SoM Interface: SODIMM200
- Expansion Connectors:
 - 2x25 Pin Headers (Female)
 - microSD Card socket
- Communication Connectors:
 - 1x Ethernet 10/100Mbit/s, RJ45
 - 2x USB Host Type A connectors
 - 1x USB OTG Micro AB connector
- Display Interface: 50-pin FFC/FPC Parallel RGB – 24-bit, (1366 x 768 Max. Resolution)
- Embedded Real-Time Clock (RTC) with back-up battery option (CR1220 battery needed)
- Power Supply
 - Terminal block connector: Input Voltage 9-12V DC
- Temperature Range: 0 to +70°C
- Board Size: 98mm x 79mm x 22mm

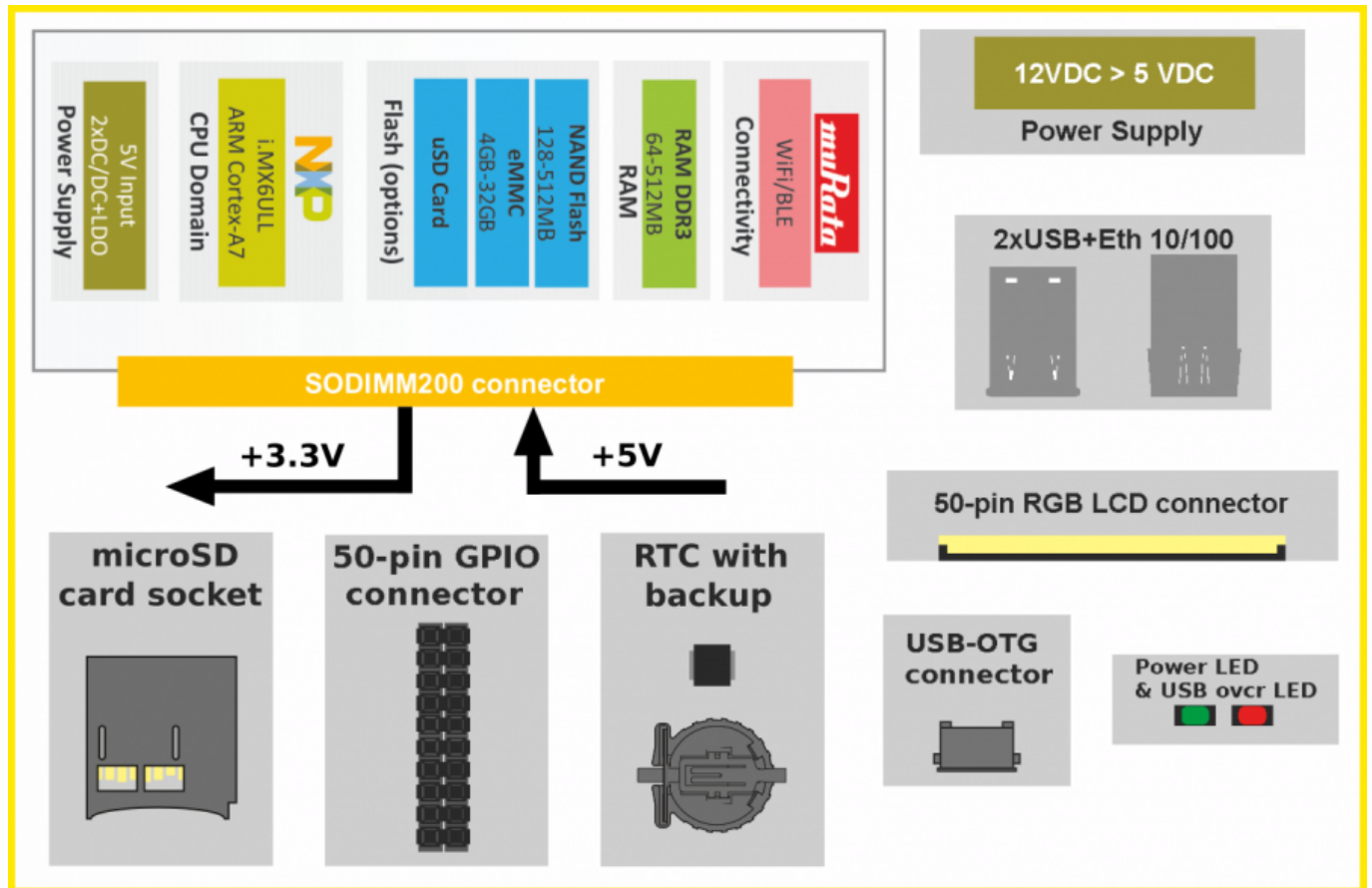
Pictures of VisionCB-IND board

Version	Photo
VisionCB-IND board only	 A photograph of the VisionCB-IND board. The board is green with various components. At the top, there are two USB ports and a HALO module. Below them is a large white connector labeled '849GA'. The board features the 'VisionCB-IND' and 'SoMLabs' logos. A gold-colored component is visible in the center.
VisionCB-IND board with VisionSOM-6ULL	 A photograph of the VisionCB-IND board with the VisionSOM-6ULL module installed. The board is green and shows the same components as the previous image, but with the addition of the VisionSOM-6ULL module, which is a black component with gold pins, located in the center of the board. The 'VisionCB-IND' and 'SoMLabs' logos are visible.

Ordering info

VisionCB-IND

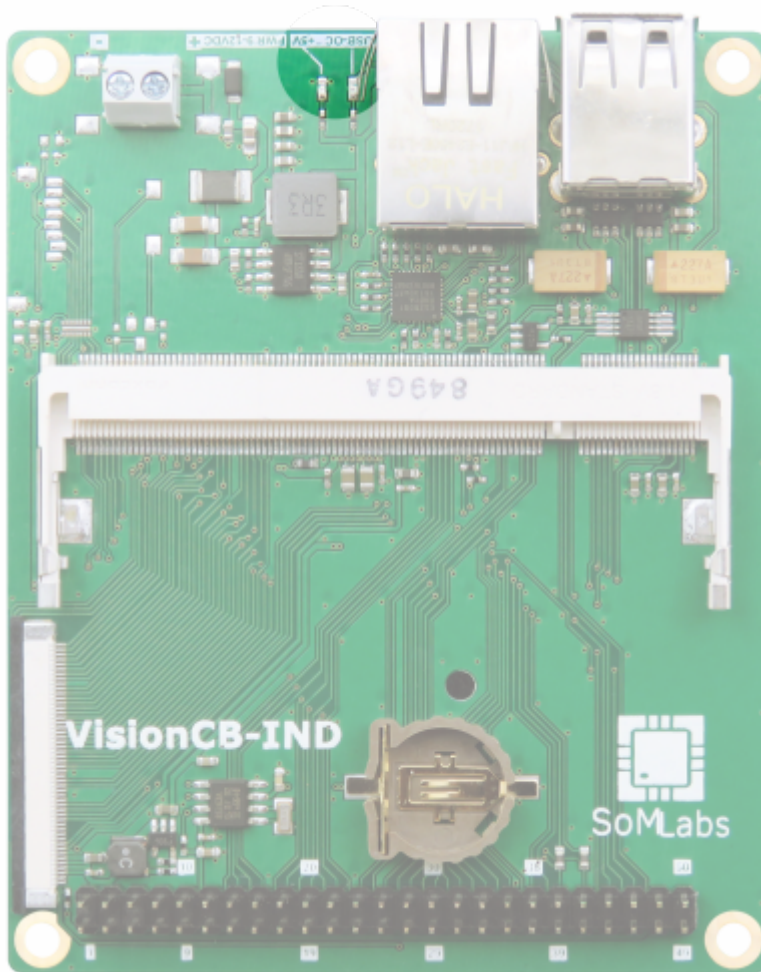
Block Diagram



Electrical parameters

Parameter	Value			Units	Comment
	Min.	Typ.	Max.		
Power Supply (Con100 input)	9.0	11.0	12.0	V	Polarized terminal block connector
Supply current	-	-	0.15	A	Excluding LCD, USB and antoher external loads
Output GPIO voltage (Con1)	0	-	3.3	V	GPIO connector (current limited; max <250mA [RMS])

Onboard LEDs



LED	Color	Description
LED100 (PWR)	Green	Power indicator
LED200 (USB OVR)	Red	USB Overcurrent indicator

2x25 pin header



J504 Pin	Default function name	Description
1	CSI-HSYNC	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
2	CSI-VSYNC	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
3	CSI-DATA0	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
4	CSI-DATA2	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
5	CSI-DATA1	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
6	CSI-DATA3	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
7	CSI-DATA4	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
8	CSI-DATA5	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
9	CSI-MCLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
10	CSI-DATA7	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
11	CSI_PIXCLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
12	CSI-DATA6	Video CMOS sensor signal or universal GPIO with 3.3V logic levels.
13	ENET2_TXD0	Default: ENET2 TXD0 line or universal GPIO with 3.3V logic levels.
14	UART3-RTS	Default: UART3 RTS line or universal GPIO with 3.3V logic levels.
15	ENET2_TXEN	Default: ENET2 TXEN line or universal GPIO with 3.3V logic levels.
16	UART2-RTS	Default: UART2 RTS line or universal GPIO with 3.3V logic levels.

17	ENET2_CRSDV	Default: ENET2 CRS_DV line or universal GPIO with 3.3V logic levels.
18	UART3-CTS	Default: UART3 CTS line or universal GPIO with 3.3V logic levels.
19	ENET2_RXD1	Default: ENET2 RXD1 line or universal GPIO with 3.3V logic levels.
20	UART1-RTS	Default: UART1 RTS line or universal GPIO with 3.3V logic levels.
21	ENET2_RXER	Default: ENET2 RXER line or universal GPIO with 3.3V logic levels.
22	UART2-CTS	Default: UART2 CTS line or universal GPIO with 3.3V logic levels.
23	ENET2_TX_CLK	Default: ENET2 TX_CLK line or universal GPIO with 3.3V logic levels.
24	UART1-CTS	Default: UART1 CTS line or universal GPIO with 3.3V logic levels.
25	UART4-RXD	Default: UART4 RXD input or universal GPIO with 3.3V logic levels.
26	JTAG-TCK	Default: JTAG TCK input or universal GPIO with 3.3V logic levels.
27	UART4-TXD	Default: UART4 TXD output or universal GPIO with 3.3V logic levels.
28	JTAG-nTRST	JTAG TRST input line (active L).
29	UART3-RXD	Default: UART3 Rx input or universal GPIO with 3.3V logic levels.
30	JTAG-TMS	Default: JTAG TMS output or universal GPIO with 3.3V logic levels.
31	UART2-RXD	Default: UART2 RXD input or universal GPIO with 3.3V logic levels.
32	SNVS-TAMPER2	Tamper input (SNVS power domain) or GPIO 3.3V.
33	UART2-TXD	Default: UART2 TXD input or universal GPIO with 3.3V logic levels.
34	SNVS-TAMPER3	Tamper input (SNVS power domain) or GPIO 3.3V.
35	UART1-RXD	Default: UART1 RXD input or universal GPIO with 3.3V logic levels.
36	SNVS-TAMPER4	Tamper input (SNVS power domain) or GPIO 3.3V.
37	UART1-TXD	Default: UART1 TXD input or universal GPIO with 3.3V logic levels.
38	SNVS-TAMPER5	Tamper input (SNVS power domain) or GPIO 3.3V.
39	SNVS-TAMPER0	Tamper input (SNVS power domain) or GPIO 3.3V.
40	I2C-SCL	Universal GPIO with 3.3V logic levels.
41	SNVS-TAMPER1	Tamper input (SNVS power domain) or GPIO 3.3V.
42	I2C-SDA	Universal GPIO with 3.3V logic levels.
43	GPIO5	Default: General purpose pin GPIO5
44	JTAG-TDI	Default: JTAG TDI input or universal GPIO with 3.3V logic levels.
45	GPIO8	Default: General purpose pin GPIO8
46	GPIO9	Default: General purpose pin GPIO9
47	VCC-3V3	+3.3V generated by internal SOM LDO converter (limited load current, limit: < 250mA [RMS]).
48	GND	Ground
49	VCC-3V3	+3.3V generated by internal SOM LDO converter (limited load current, limit: < 250mA [RMS]).
50	GND	Ground

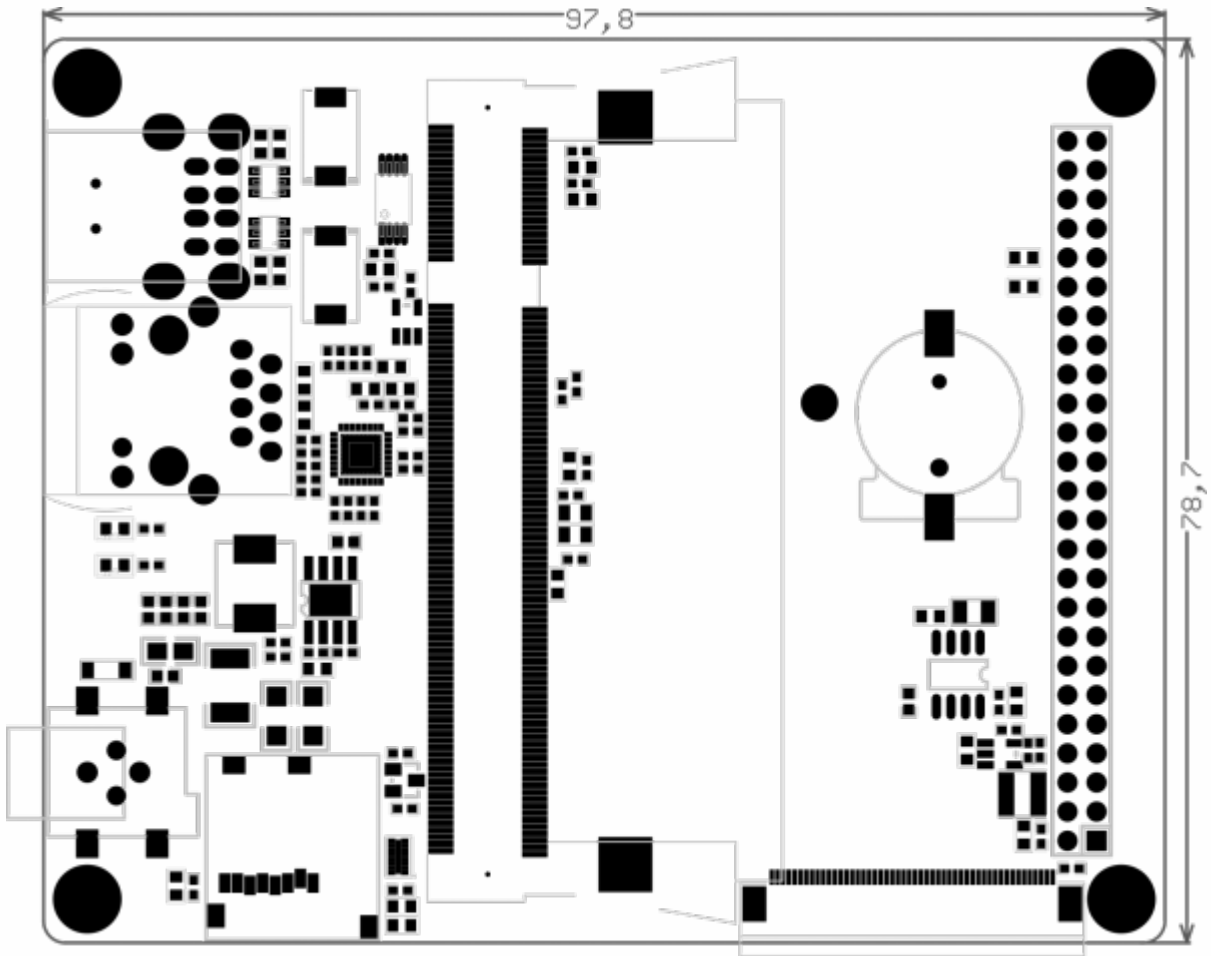
TFT LCD connector (RGB 24b, J405)



J400 pin	Default function name	LCD interface name
1	LCD-DATA0	LCD-B0
2	LCD-DATA1	LCD-B1
3	LCD-DATA2	LCD-B2
4	LCD-DATA3	LCD-B3
5	LCD-DATA4	LCD-B4
6	LCD-DATA5	LCD-B5
7	LCD-DATA6	LCD-B6
8	LCD-DATA7	LCD-B7
9	GND	GND
10	LCD-DATA8	LCD-G0
11	LCD-DATA9	LCD-G1
12	LCD-DATA10	LCD-G2
13	LCD-DATA11	LCD-G3
14	LCD-DATA12	LCD-G4
15	LCD-DATA13	LCD-G5
16	LCD-DATA14	LCD-G6

17	LCD-DATA15	LCD-G7
18	GND	GND
19	LCD-DATA16	LCD-R0
20	LCD-DATA17	LCD-R1
21	LCD-DATA18	LCD-R2
22	LCD-DATA19	LCD-R3
23	LCD-DATA20	LCD-R4
24	LCD-DATA21	LCD-R5
25	LCD-DATA22	LCD-R6
26	LCD-DATA23	LCD-R7
27	GND	GND
28	LCD-DE	DE
29	LCD-HSYNC	HSYNC
30	LCD-VSYNC	VSYNC
31	GND	GND
32	LCD-PCLK	DCLK
33	GND	GND
34	GPIO4	TS-YPUL
35	GPIO3	TS-YNUR
36	GPIO2	TS-YPLL
37	GPIO1	TS-YNLR
38	-	-
39	-	-
40	-	-
41	-	-
42	UART5-TXD	I2C-SCL
43	UART5-RXD	I2C-SDA
44	GND	GND
45	VCC-LCD	+3.3V (controlled by ENET2_TXEN)
46	VCC-LCD	+3.3V (controlled by ENET2_TXEN)
47	VCC-5V0	+5.0V
48	VCC-5V0	+5.0V
49	LCD-RESET	RESET
50	JTAG-nTRST	PWREN

Dimensions



**SoMLabs**

Lwowska 5
05-120 Legionowo
Poland
Tel. +48 22 767 36 20
Email: contact@somlabs.com
<http://somlabs.com>

Disclaimer: The information in this document is provided in connection with SoMLabs products. No license, express or implied, to any intellectual property right is granted by this document or in connection with the sale of SoMLabs products. SoMLabs makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and products descriptions at any time without notice. SoMLabs does not make any commitment to update the information contained herein.