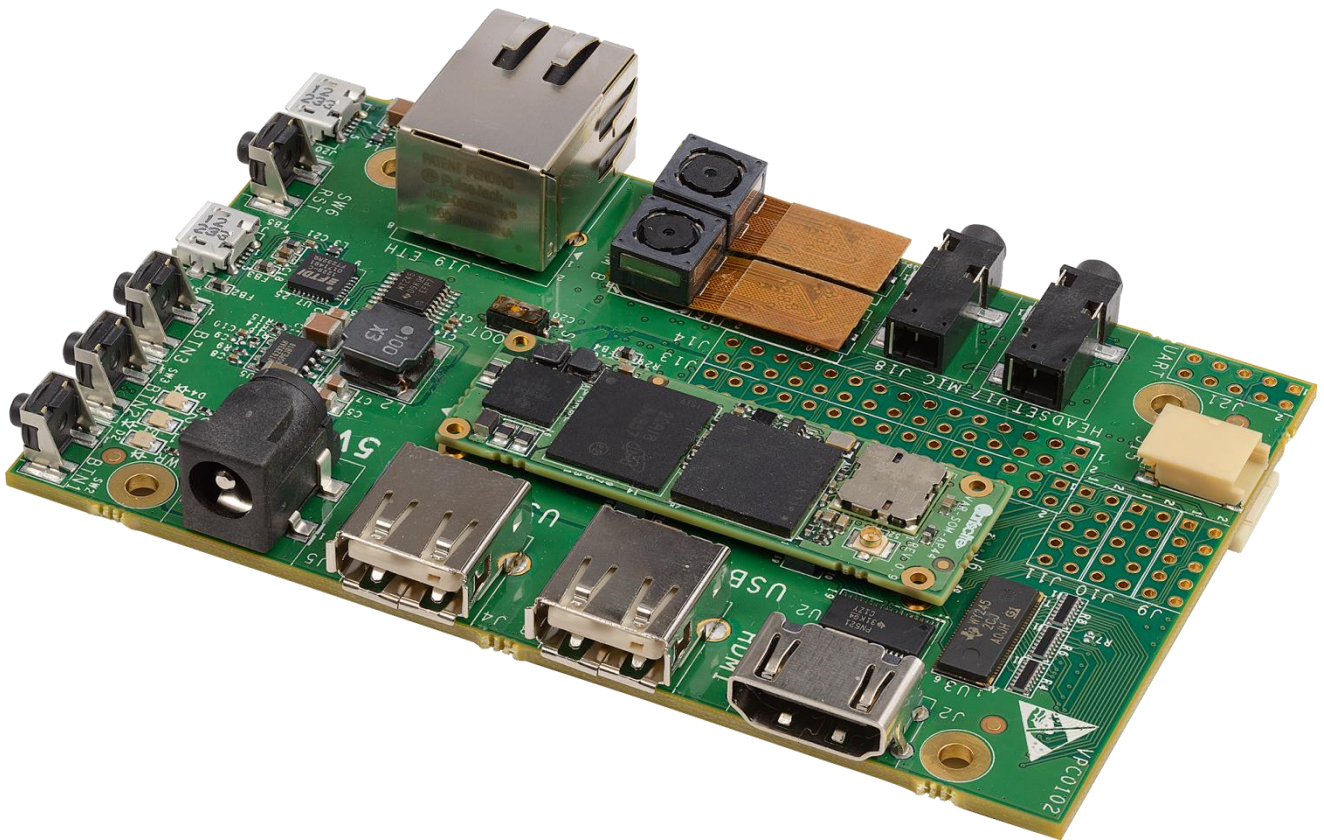




VARISCITE LTD

DART-BOARD Datasheet

Carrier-board for DART-4460
V 1.0



© 2013 Variscite Ltd.

All Rights Reserved. No part of this document may be photocopied, reproduced, stored in a retrieval system, or transmitted, in any form or by any means whether, electronic, Mechanical, or otherwise without the prior written permission of Variscite Ltd.

No warranty of accuracy is given concerning the contents of the information contained in this publication. To the extent permitted by law no liability (including liability to any person by reason of negligence) will be accepted by Variscite Ltd., its subsidiaries or employees for any direct or indirect loss or damage caused by omissions from or inaccuracies in this document.

Variscite Ltd. reserves the right to change details in this publication without notice. Product and company names herein may be the trademarks of their respective owners.

Variscite Ltd.

9, Hamelacha st.

Lod.

P.O.B 1121

Airport City, 70100

ISRAEL

Phone +972 (9) 9562910 • Fax +972 (9) 9589477

Revision History

Revision	Date	Notes
0.1	22/07/2013	Preliminary
1.0	16/09/2013	Initial publish revision

Table of Contents

Revision History.....	iii
Table of Contents	iv
List of Tables	6
1 Overview	7
1.1 General Information	7
1.1.1 Supporting Variscite products.....	7
1.1.2 Supporting O.S	7
1.1.3 Additional information	7
1.2 DART BOARD features summary:	8
1.3 Block Diagram.....	9
1.4 Board Layout.....	10
1.5 DART BOARD connectors	11
2 Detailed Description	12
2.1 Overview	12
2.2 DART BOARD Interfaces.....	12
2.2.1 DART-4460.....	12
2.3 Standard External Interfaces.....	12
2.3.1 HOST USB.....	12
2.3.2 USB OTG Connector Pin-out.....	13
2.3.3 SD Card	13
2.3.4 Ethernet	13
2.3.5 HDMI.....	14
2.3.6 AUDIO.....	15
2.3.7 RS232.....	15
2.3.8 Camera	16
2.3.9 LCD.....	17
2.3.10 USB - Debug.....	19
2.3.11 DC-in Jack	19

2.3.12	GPMC Extension Headers.....	19
2.3.13	Miscellaneous Interfaces Extension Headers.....	20
2.4	User Interfaces.....	22
2.4.1	LED Indications.....	22
2.4.2	Control Buttons.....	23
3	Electrical Environmental Specifications	23
3.1	Absolute maximum electrical specifications	23
3.2	Operational electrical specifications	23
4	Environmental specifications	24
5	Legal notice.....	25
6	Warranty terms.....	26
7	Contact information	27

List of Tables

Table 1-1 VAR-OM44CustomBoard connectors	11
Table 2-1 USB Host1/2 Connector Connector Pin-out (J3, J4)	12
Table 2-2 USB OTG connector Pin-out (J20)	13
Table 2-3 SD Card slot Connector Pin-out (J25)	13
Table 2-4 10/100/100BaseT RJ45 Connector Pin-out (J19)	14
Table 2-5 HDMI Connector Pin-out (J2)	14
Table 2-6 Headphone Jack Connector Pin-out (J17)	15
Table 2-7 Line In Jack Connector Pin-out (J18).....	15
Table 2-8 RS232 DTE Connector Pin-out (J21).....	15
Table 2-9 Camera Interface Connector Pin-out (J22, J16).....	17
Table 2 –10 Capacitive LCD Connector Pin-out (J23)	18
Table 2 - 11 Capacitive Touch Panel Connector Pin-out (J24)	18
Table 2 –12 Backlight Power Supply Connector Pin-out (J15).....	18
Table 2-13 USB – Debug Connector Pin-out (J12).....	19
Table 2 - 14 DC-in Jack Pin-out (J5)	19
Table 2-15 GPMC Extension Header Pin-out (J11)	20
Table 2-16 GPMC Extension Header Pin-out (J10)	20
Table 2-17 GPMC Extension Header Pin-out (J9)	20
Table 2-18 Miscellaneous Interfaces Extension Header Pin-out (J13).....	21
Table 2-19 Miscellaneous Interfaces Extension Header Pin-out (J14).....	22
Table 3-1 Absolute maximum electrical specifications	23
Table 3-2 Operational electrical specifications.....	23
Table 4-1 Environmental specifications	24

1 Overview

This chapter gives an overview of the DART-Board.

1.1 General Information

The DART BOARD is a complete development board, utilizing all DART-4460 System-on-Module features. It is assembled with large variety of debug & testing means as an OTG interface, two MIPI-CS2 cameras, 10/100BaseT Ethernet, Parallel LCD FFC/FPC connector, serial interfaces and GPIO expansion connectors enables full DART-4460 testing ,evaluating ,and interfacing to custom hardware or a third part evaluation kit.

1.1.1 Supporting Variscite products

- DART-4460 SOM
- MIPICSI-2 Camera
- Capacitive touch LCD screen

1.1.2 Supporting O.S

- Linux BSP
- Android

1.1.3 Additional information

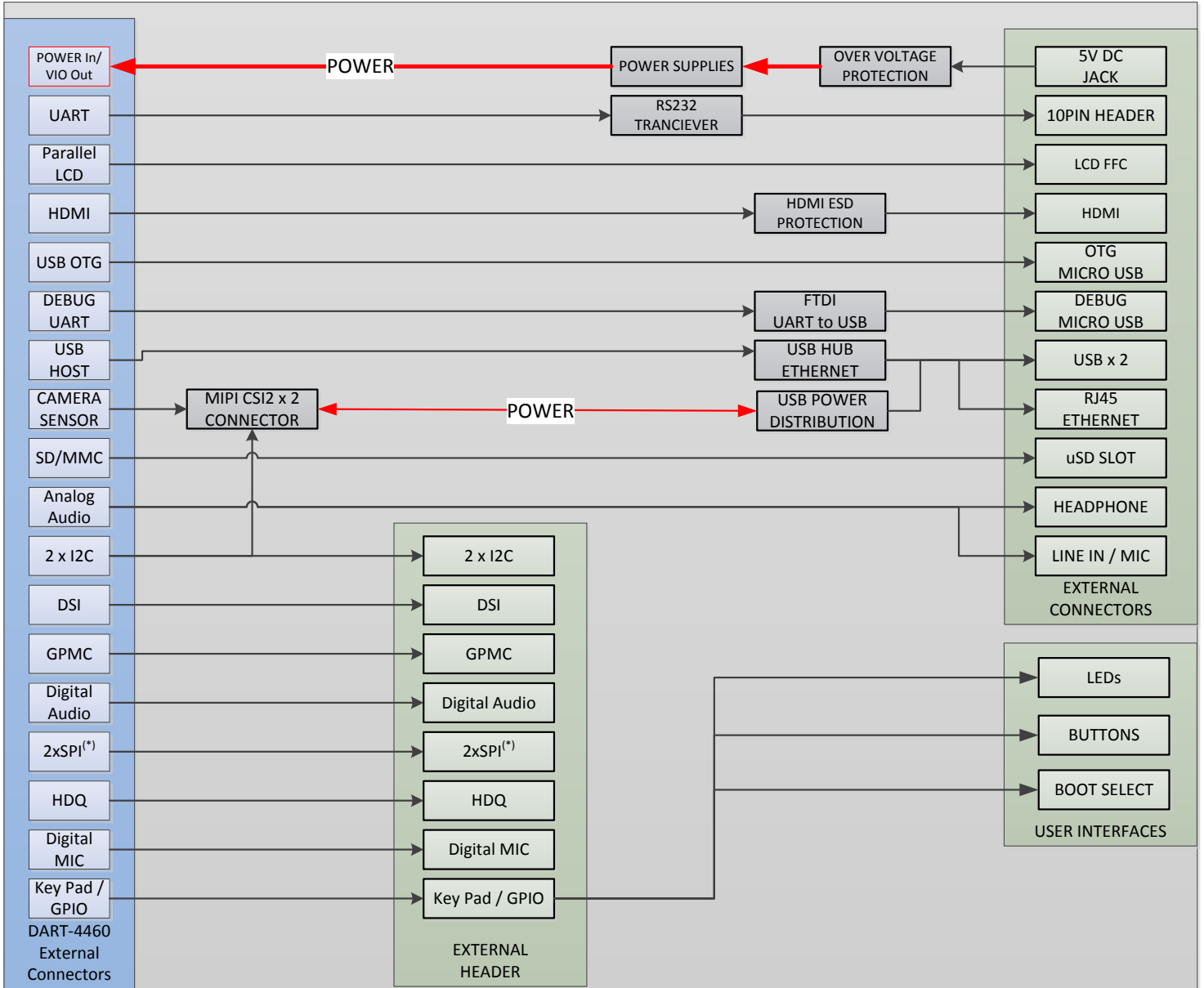
Board schematics as well as mechanical CAD data base is available to download at www.variscite.com,

For further information contact Variscite support at <mailto:support@variscite.com>.

1.2 DART BOARD features summary:

- DART-4460 socket
- Dual Display
 - HDMI
 - Parallel interface 7" TFT LCD
- Touch panel interface
 - Capacitive - I2C based
- Ethernet
 - 10/100BaseT – RJ45
- USB
 - USB2.0 OTG ,Micro AB type
 - 2 x USB2.0 Host Type A
- AUDIO
 - 3.5mm Headphones jack.
 - 3.5mm Line in jack.
- μ SD-Card slot
- UART (RS232 levels)
 - Standard 10pin header
- Expansion connectors:
 - GPMC - Local Bus interface
 - SD/MMC interface
 - RAW image-sensor module interface
 - SPI
 - I2C
 - MSBSP/I2S
 - UART
 - GPIOs
- Power
 - 2.5mm DC jack
 - 5V DC Input.

1.3 Block Diagram

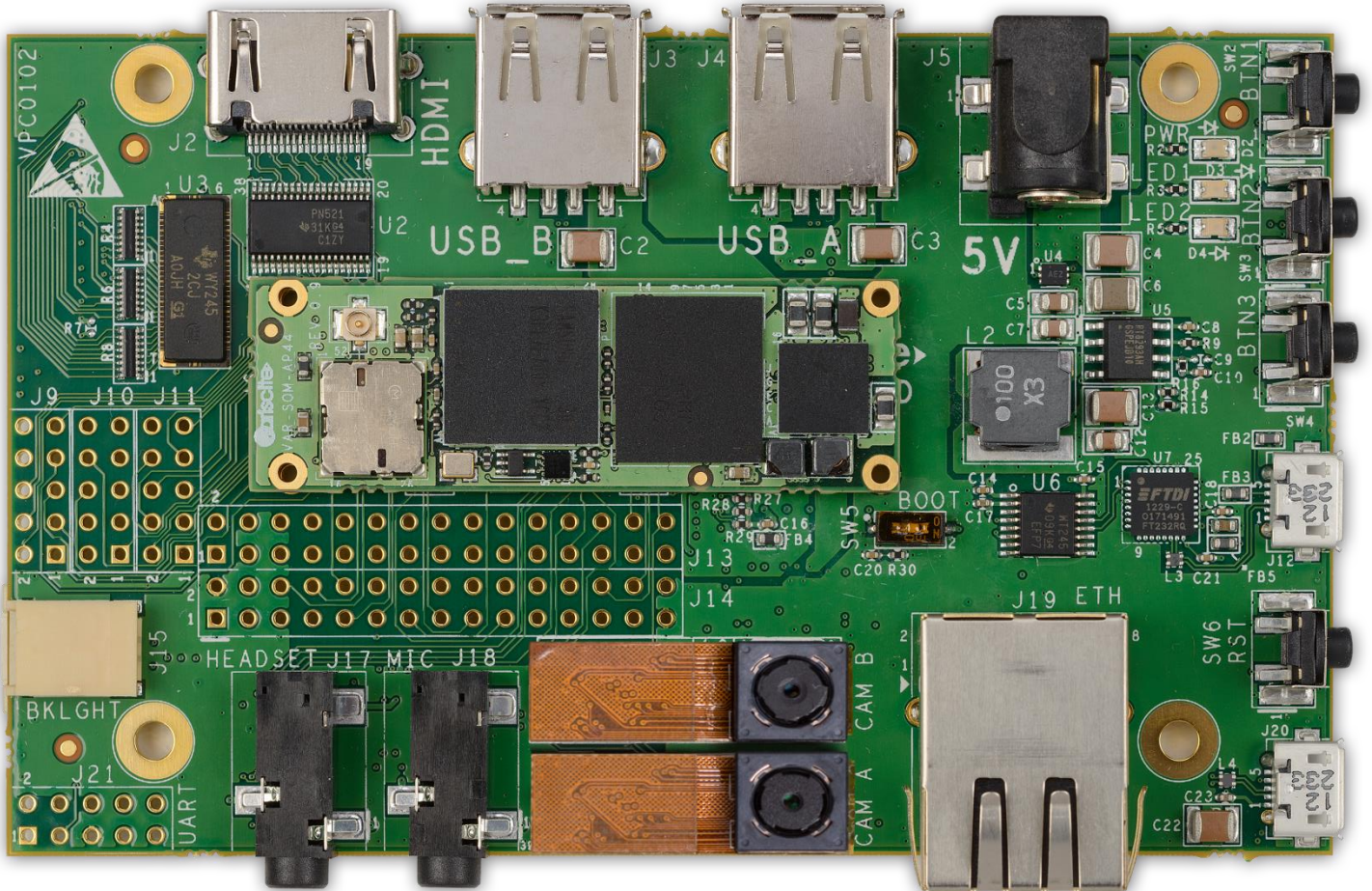


1.4 Board Layout

The DART BOARD physical dimensions are 105x65 mm.

Detailed CAD files are available for download at www.variscite.com.

Top side - Detailed View



1.5 DART BOARD connectors

The below table lists the available connectors on the DART-BOARD, refer to chapter 2 for detailed description and pinout of each connector.

Reference	Function	Type
J2	HDMI	FCI:10029449-001RLF
J3	USB Host	FCI:87583-2010BLF
J4	USB Host	FCI:87583-2010BLF
J5	DC Jack	KOBI CONN:163-0180-EX
J6	40 Pin DART connector J3	HIROSE:DF40C-40DS-0.4V(51)
J7	70 Pin DART connector J2	HIROSE:DF40C-70DS-0.4V(51)
J8	70 Pin DART connector J1	HIROSE:DF40C-70DS-0.4V(51)
J9	GPMC Expansion Header	AMP:87227-5
J10	GPMC Expansion Header	AMP:87227-5
J11	GPMC Expansion Header	AMP:87227-5
J12	Debug	Molex:47589-0001
J13	GPIO Expansion Header	AMP:1-87227-5
J14	GPIO Expansion Header	AMP:1-87227-5
J15	LCD Backlight	JST:SM02B-BHSS-1-TB(LF)(SN)
J16	MIPI CSI-2 Camera interface	Hirose:FX12B-40P-0.4SV
J17	Headphone	CUI INC:SJ-3523-SMT-1
J18	Microphone/Line in	CUI INC:SJ-3523-SMT-1
J19	Ethernet	PULSE:J00-0065NL
J20	OTG	Molex:47589-0001
J21	UART1	AMP:87227-5
J22	MIPI CSI-2 Camera interface	Hirose:FX12B-40P-0.4SV
J23	Capacitive LCD Connector	Molex:54104-4096
J24	LCD Touch Screen	TE:1-1734592-0
J25	Micro SD card slot	Molex:5033980891

Table 1-1 DART BOARD connectors

2 Detailed Description

2.1 Overview

This chapter details the DART BOARD features and external interfaces, most are driven directly by the DART-4460. Please refer to the DART-4460 data sheet for more information regarding those interfaces.

The following list describes this chapter table’s column header:

Pin#:

Pin Number of the specific connector

DART BOARD Signal:

DART BOARD schematic signal name

Description:

Short Pin functionality description

2.2 DART BOARD Interfaces

2.2.1 DART-4460

The DART BOARD features three fine pitch connectors (J6, J7, and J8) to connect with the DART-4460 SOM. Please refer to the DART-4460 module data sheet for a complete signal description.

2.3 Standard External Interfaces

2.3.1 HOST USB

The DART BOARD supports two USB 2.0 Type A Host ports. The USB host connectors are driven by an on-board USB hub.

2.3.1.1 HOST USB Pin-out (J3, J4)

Pin #	DART BOARD Signal	Type	Description
1	VCC_USB	O	5V power supply. 500ma max
2	USB_HUB_DN	IO	USB Data Negative
3	USB_HUB_DP	IO	USB Data Positive
4	GND	P	Digital ground

Table 2-1 USB Host1/2 Connector Connector Pin-out (J3, J4)

2.3.2 USB OTG Connector Pin-out

The DART BOARD OTG, MICRO AB type connector is driven by the DART-4460 OTG interface.

2.3.2.1 USB OTG Connector Pin-out (J20)

Pin #	DART BOARD Signal	Type	Description
1	USB_OTG_VBUS	IO	5V in/out (Client/host)
2	USB_OTG_DN	IO	USB Data Negative
3	USB_OTG_DP	IO	USB Data Positive
4	USB_OTG_ID	I	USB OTG ID signal ('1' - Device mode)
5	GND	P	Digital ground

Table 2-2 USB OTG connector Pin-out (J20)

2.3.3 SD Card

SD-Card interface is based on the SD/MMC1 interface of the OMAP4 of the DART-4460. It supports 3.3V IO interface, so a bidirectional buffer should not be used.

2.3.3.1 SD card slot Connector Pin-out (J25)

Pin #	DART BOARD Signal	Type	Description
1	DAT2	IO	MMC Parallel Data2
2	CD/DAT3	IO	MMC Parallel Data3
3	CMD	IO	MMC command
4	VCC_3V3	P	SD Card VCC 3.3v
5	CLK	O	MMC Clock
6	GND	P	GND
7	DAT0	IO	MMC Parallel Data0
8	DAT1	IO	MMC Parallel Data1
A	CD A	IO	MMC Card Detect
B	CD B	IO	MMC Card Detect

Table 2-3 SD Card slot Connector Pin-out (J25)

2.3.4 Ethernet

Ethernet interface is exposed by a standard RJ45 Ethernet jack with an integrated magnetics. The fast Ethernet port is driven by on-board USB-to-fast-Ethernet Bridge IC.

2.3.4.1 10/100BaseT Connector Pin-out (J19)

Pin #	DART BOARD Signal	Type	Description
1	ETH_TXP	DO	Tx Pair- Positive
2	ETH_TXN	DO	Tx Pair- Negative
3	ETH_RXP	DI	Rx Pair- Positive

4	VCC_3V3	AP	3.3V Power Supply
5	VCC_3V3	AP	3.3V Power Supply
6	ETH_RXN	DI	Rx Pair- Negative
7			
8	GND	P	Digital ground
9	SPEED1_A	A	Speed LED Anode
10	SPEED1_K	A	Speed LED Cathode
11	LINK1_K	A	Link LED Anode
12	LINK1_A	A	Link LED Cathode

Table 2-4 10/100/100BaseT RJ45 Connector Pin-out (J19)

2.3.5 HDMI

The DART BOARD features an HDMI connector to interface with an external monitor. HDMI signals are driven natively by OMAP4 on the DART-4460

2.3.5.1 HDMI Connector Pin-out (J2)

Pin #	DART BOARD Signal	Type	Description
1	DAT2+	DO	HDMI Data 2 positive
2	DAT2_S	P	Digital ground
3	DAT2-	DO	HDMI Data 2 negative
4	DAT1+	DO	HDMI Data 1 positive
5	DAT1_S	P	Digital ground
6	DAT1-	DO	HDMI Data 1 negative
7	DAT0+	DO	HDMI Data 0 positive
8	DAT0_S	P	Digital ground
9	DAT0-	DO	HDMI Data 0 negative
10	CLK+	DO	HDMI Clock positive
11	CLK_S	P	Digital ground
12	CLK 0-	DO	HDMI Clock negative
13	CEC	IO	CEC signal
14			
15	SCL	IO	HDMI I2C Data
16	SDA	IO	HDMI I2C Clock
17	DDC/CEC GND	P	Digital ground
18	+5V	P	5V Output

Table 2-5 HDMI Connector Pin-out (J2)

2.3.6 AUDIO

The DART BOARD feature two 3.5mm jacks for audio interfaces, all are directly driven by DART-4460

- Headphone Jack
- Microphone/Line in

2.3.6.1 Headphone jack Connector Pin-out (J17)

Pin #	DART BOARD Signal	Type	Description
1	GND	AP	Audio Ground
2	AUD_OUT_L	AO	Pre-amped audio signal
3	AUD_OUT_R	AO	Pre-amped audio signal

Table 2-6 Headphone Jack Connector Pin-out (J17)

2.3.6.2 Line In jack Connector Pin-out (J18)

Pin #	DART BOARD Signal	Type	Description
1	GND	AP	Audio Ground
2	AUD_IN_R	AI	Microphone/Line in Right input ⁽¹⁾
3	AUD_IN_L	AI	Microphone/Line in Left input ⁽¹⁾

Table 2-7 Line In Jack Connector Pin-out (J18)

⁽¹⁾ – The inputs are biased for microphone usage. Disconnect R64, R65 for disable the bias or use serial capacitors for DC block.

2.3.7 RS232

The RS232 DTE interface is driven by DART-4460 UART1 interface and a RS232 transceiver.

2.3.7.1 RS232 -DTE Connector Pin- out (J21)

Pin #	DART BOARD Signal	Type	Description
1			
2	UART1_RX_C	I	UART1 Receive
3	UART1_TX_C	O	UART1 Transmit
4			
5	DGND	P	Digital Ground
6			
7			
8	UART1_RTS_C	O	UART`1 RTS
9	UART1_CTS_C	I	UART1CTS
10			

Table 2-8 RS232 DTE Connector Pin-out (J21)

2.3.8 Camera

The DART BOARD hosts two MIPI CSI2 cameras, both are directly driven by OMAP4 on the DART-4460 .The camera connectors is a Hirose Electric 0.4mm Header, FX12B-40P-0.4SV, suggest mating connectors is Hirose Electric, FX12B-40S-0.4SV.

2.3.8.1 Camera Connector Pin-out (J22, J16)

Pin #	DART BOARD Signal	Type	Description
1	GND	P	Digital Ground
2	GND	P	Digital Ground
3			
4	VCC_2V8	P	Camera 2.8V power supply
5	I2C_SDA	IO	Sensor SDA
6	AF PWRDWN	O	Auto Focus Power down
7	I2C_SCL	IO	Sensor SCL
8	VCC_2V8	P	Camera 2.8V power supply
9	RESET	O	
10	AF I2C_SDA	IO	Auto Focus SDA
11			
12	AF I2C_SCL	IO	Auto Focus SCL
13			
14	GND	P	Digital Ground
15			
16	MIPI_CSI-2_DX1	DI	Camera Data 1 Negative
17	SNS PWDN	O	Sensor Power Down
18	MIPI_CSI-2_DY1	DI	Camera Data 1 Positive
19			
20	GND	P	
21			
22	MIPI_CSI-2_CLKX	DP	Camera Clock Negative
23			
24	MIPI_CSI-2_CLKY	DP	Camera Clock Positive
25			
26	GND	P	Digital Ground
27			
28	MIPI_CSI-2_DX0	DI	Camera Data 2 Negative
29			
30	MIPI_CSI-2_DY0	DI	Camera Data 2 Positive
31			
32	GND	P	Digital Ground
33			
34	MIPI_CSI-2_CLK_18	O	Camera Clock
35			
36			

Pin #	DART BOARD Signal	Type	Description
37			
38	VCC_1V8	P	Camera 1.8V power supply
39			
40	GND	P	Digital Ground

Table 2-9 Camera Interface Connector Pin-out (J22, J16)

2.3.9 LCD

The DART BOARD exposes the OMAP4's parallel LCD interface through three connectors:

2.3.9.1 Capacitive LCD Connector Pin-out (J23)

Pin #	DART BOARD Signal	Type	Description
1	UD	O	Up/down select
2	LR	O	Left/right select
3			
4	VCC_3v3	P	Mx6CustomBoard peripherals VCC
5	VCC_3v3	P	Mx6CustomBoard peripherals VCC
6	VCC_3v3	P	Mx6CustomBoard peripherals VCC
7	VCC_3v3	P	Mx6CustomBoard peripherals VCC
8	NC		
9	ACBIAS	O	Data enable
10	DGND	P	Digital ground
11	DGND	P	Digital ground
12	DGND	P	Digital ground
13	DB7	O	Blue bit 7
14	DB6	O	Blue bit 6
15	DB5	O	Blue bit 5
16	GND	P	Digital ground
17	DB4	O	Blue bit 4
18	DB3	O	Blue bit 3
19	DB2	O	Blue bit 2
20	GND	P	Digital ground
21	DG7	O	Green bit 7
22	DG6	O	Green bit 6
23	DG5	O	Green bit 5
24	GND	P	Digital ground
25	DG4	O	Green bit 4
26	DG3	O	Green bit 3
27	DG2	O	Green bit 2
28	GND	P	Digital ground
29	DR7	O	Red bit 7

Pin #	DART BOARD Signal	Type	Description
30	DR6	O	Red bit 6
31	DR5	O	Red bit 5
32	GND	P	Digital ground
33	DR4	O	Red bit 4
34	DR3	O	Red bit 3
35	DR2	O	Red bit 2
36	GND	P	Digital ground
37			
38	DCLK	P	DCLK
39	HSYNC	O	Horizontal sync
40	VSYNC	O	Vertical sync

Table 2 –10 Capacitive LCD Connector Pin-out (J23)

2.3.9.2 Capacitive Touch Panel Connector Pin-out (J24)

Pin #	DART BOARD Signal	Type	Description
1	GND	P	Digital ground
2	VCC_3V3	P	Power supply 3.3 V
3	I2C_SCL	IO	I2C3 clock signal
4			
5	I2C_SDA	IO	I2C3 data signal
6			
7	RESET	DI	Reset signal
8			
9	CPT_INT	DI	Interrupt signal connected to GPIO3[7]
10	GND	P	Digital ground

Table 2 - 11 Capacitive Touch Panel Connector Pin-out (J24)

2.3.9.3 Backlight Power Supply Connector Pin-out (J15)

Pin #	DART BOARD Signal	Type	Description
1	LED_BL_K	Power	Power supply for backlight LED minus
2	GND	P	Digital ground
3	LED_BL_A	Power	Power supply for backlight LED plus
4	GND	P	Digital ground

Table 2 –12 Backlight Power Supply Connector Pin-out (J15)

2.3.10 USB - Debug

RS232 Debug port is driven by OMAP4/DART-4460 UART3 interface via UART-to-USB bridge and exposed as MICRO USB connector.

2.3.10.1 USB -Debug Connector Pin-out (J12)

Pin #	DART BOARD Signal	Type	Description
1	VCC_USB	i	5V power input
2	USB_HUB_DN	IO	USB Data Negative
3	USB_HUB_DP	IO	USB Data Positive
4	GND	P	Digital ground

Table 2-13 USB – Debug Connector Pin-out (J12)

2.3.11 DC-in Jack

The DC-in power jack is compatible with a standard 2.5 mm / 5.5 mm power plug.

2.3.11.1 DC-in Jack Pin-out (J5)

Pin #	DART BOARD Signal	Type	Description
1	GND	P	Digital ground
2	GND	P	Digital ground
3	5V IN	P	5V power input
4	5V IN	P	5V power input

Table 2 - 14 DC-in Jack Pin-out (J5)

2.3.12 GPMC Extension Headers

GPMC expansion connectors pins are directly connected to the OMAP4/DART-4460 pins, refer to DART-4460 data sheet for more details.

2.3.12.1 GPMC Extension Header Pin-out (J11)

Pin #	DART BOARD Signal	Type
1	GPMC_AD0	IO
2	GPMC_AD5	IO
3	GPMC_AD1	IO
4	GPMC_AD6	IO
5	GPMC_AD2	IO
6	GPMC_AD7	IO
7	GPMC_AD3	IO

8	GPMC_AD8	IO
9	GPMC_AD4	IO
10	GND	P

Table 2-15 GPMC Extension Header Pin-out (J11)

2.3.12.2 GPMC Extension Header Pin-out (J10)

Pin #	DART BOARD Signal	Type
1	GPMC_AD9	IO
2	GPMC_AD14	IO
3	GPMC_AD10	IO
4	GPMC_AD15	IO
5	GPMC_AD11	IO
6	GPMC_A20	IO
7	GPMC_AD12	IO
8	GPMC_A21	IO
9	GPMC_AD13	IO
10	GND	P

Table 2-16 GPMC Extension Header Pin-out (J10)

2.3.12.3 GPMC Extension Header Pin-out (J9)

Pin #	DART BOARD Signal	Type
1	GPMC_A22	IO
2	GPMC_nADV_ALE	IO
3	GPMC_nCS0	IO
4	GPMC_CLK	IO
5	GPMC_NBE0_CLE	IO
6	GPMC_nWP	IO
7	GPMC_nWE	IO
8	VCC_1V8	P
9	GPMC_nOE	IO
10	GND	P

Table 2-17 GPMC Extension Header Pin-out (J9)

2.3.13 Miscellaneous Interfaces Extension Headers

All unused interfaces that are available on DART-4460 module exposed through two 30 pin Miscellaneous Interfaces Extension Headers (J13, J14)

2.3.13.1 Miscellaneous Interfaces Extension Header Pin-out (J13)

Pin #	DART BOARD Signal	Type
1	VCC_5V	P
2	VCC_3V3	P
3	GND	P
4	VIO	P
5	MCBSP_B_FSX	IO
6	MCBSP_B_DX	IO
7	MCBSP_B_CLK	IO
8	MCBSP_B_DR	IO
9	GND	P
10	GND	P
11	MCSPi_A_CS0	IO
12	MCSPi_A_SIMO	IO
13	MCSPi_A_SCLK	IO
14	MCSPi_A_SOMI	IO
15	GND	P
16	GND	P
17	UART_B_RX	IO
18	UART_B_RTS	IO
19	UART_B_TX	IO
20	UART_B_CTS	IO
21	GND	P
22	GND	P
23	DMIC_CLK	IO
24	I2C_A_SCL	IO
25	DMIC_DAT	IO
26	I2C_A_SDA	IO
27		
28	I2C_B_SCL	IO
29		
30	I2C_B_SDA	IO

Table 2-18 Miscellaneous Interfaces Extension Header Pin-out (J13)

2.3.13.2 Miscellaneous Interfaces Extension Header Pin-out (J14)

Pin #	DART BOARD Signal	Type
1	VCC_5V	P
2	VCC_3V3	P
3	GND	P
4	VIO	P

Pin #	DART BOARD Signal	Type
5	DSI1_DX0	DO
6	KPD_COL0	IO
7	DSI1_DY0	DO
8	KPD_COL1	IO
9	DSI1_DX1	DO
10	KPD_COL2	IO
11	DSI1_DY1	DO
12	KPD_COL3	IO
13	DSI1_DX2	DO
14	KPD_COL4	IO
15	DSI1_DY2	DO
16	KPD_ROW1	IO
17	DSI1_DX3	DO
18	HDQ_A	IO
19	DSI1_DY3	DO
20	GPIO_17	IO
21	DSI1_DX4	DO
22	GPIO_101	IO
23	DSI1_DY4	DO
24	GPIO_102	IO
25	GND	P
26	GPIO_141	IO
27	GND	P
28	GPIO_142	IO
29	GND	P
30	GPIO_146	IO

Table 2-19 Miscellaneous Interfaces Extension Header Pin-out (J14)

2.4 User Interfaces

2.4.1 LED Indications

2.4.1.1 Power-On LED (D2)

D5 is indicating that 5V power rail of the DART BOARD is on.

2.4.1.2 GP LEDs (D3, D4)

General purpose functionality LEDs are controlled by DART-4460 pins through level shifter.

2.4.2 Control Buttons

2.4.2.1 User Buttons (SW2, SW3, and SW4)

User Button (SW2, SW3, and SW4) connected directly to the DART-4460.

2.4.2.2 Boot Select (SW5)

Boot select switch (SW5) sets the DART-4460 boot source & sequence.

2.4.2.3 Reset Button (SW6)

System hardware-reset button (SW6)

3 Electrical Environmental Specifications

3.1 Absolute maximum electrical specifications

	Min	Max
Main Power supply, DC-IN	-0.3V	6

Table 3-1 Absolute maximum electrical specifications

3.2 Operational electrical specifications

	Min	Max
Main Power supply, DC-IN	4.5V	5.5V

Table 3-2 Operational electrical specifications

4 Environmental specifications

	Min	Max
Commercial operating temperature range	0°C	+70°C
MTBF	10000hrs >	
Shock resistance	50G / 20 ms	
Relative humidity, Operational	10%	90%
Relative humidity, Storage	5%	95%
Vibration	20G / 0 - 600 Hz	

Table 4-1 Environmental specifications

5 Legal notice

Variscite LTD (“Variscite”) products and services are sold subject to Variscite’s terms and conditions of sale, delivery and payment supplied at the time of order acknowledgement.

Variscite warrants performance of its products to the specifications in effect at the date of shipment. Variscite reserves the right to make changes to its products and specifications or to discontinue any product or service without notice. Customers should therefore obtain the latest version of relevant information from Variscite to verify that the information is current.

Testing and other quality control techniques are utilized to the extent Variscite deems necessary to support its warranty.

Specific testing of all parameters of each device is not necessarily performed unless required by law or regulation.

In order to minimize risks associated with customer applications, the customer must use adequate design and operating safeguards to minimize inherent or procedural hazards. Variscite is not liable for applications assistance or customer product design. The customer is solely responsible for its selection and use of Variscite products. Variscite is not liable for such selection or use nor for use of any circuitry other than circuitry entirely embodied in a Variscite product.

Variscite products are not intended for use in life support systems, appliances, nuclear systems or systems where malfunction can reasonably be expected to result in personal injury, death or severe property or environmental damage. Any use of products by the customer for such purposes is at the customer’s own risk.

Variscite does not grant any license (express or implied) under any patent right, copyright, mask work right or other intellectual property right of Variscite covering or relating to any combination, machine, or process in which its products or services might be or are used. Any provision or publication of any third party’s products or services does not constitute Variscite’s approval, license, warranty or endorsement thereof. Any third party trademarks contained in this document belong to the respective third party owner.

Reproduction of information from Variscite datasheets is permissible only if reproduction is without alteration and is accompanied by all associated copyright, proprietary and other notices (including this notice) and conditions. Variscite is not liable for any un-authorized alteration of such information or for any reliance placed thereon.

Any representations made, warranties given, and/or liabilities accepted by any person which differ from those contained in this datasheet or in Variscite’s standard terms and conditions of sale, delivery and payment are made, given and/or accepted at that person’s own risk. Variscite is not liable for any such representations, warranties or liabilities or for any reliance placed thereon by any person.

6 Warranty terms

Variscite guarantees hardware products against defects in workmanship and material for a period of one (1) year from the date of shipment. Your sole remedy and Variscite's sole liability shall be for Variscite, at its sole discretion, to either repair or replace the defective hardware product at no charge or to refund the purchase price. Shipment costs in both directions are the responsibility of the customer. This warranty is void if the hardware product has been altered or damaged by accident, misuse or abuse.

Disclaimer of Warranty

THIS WARRANTY IS MADE IN LIEU OF ANY OTHER WARRANTY, WHETHER EXPRESSED, OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A SPECIFIC PURPOSE, NON-INFRINGEMENT OR THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION, EXCEPT THE WARRANTY EXPRESSLY STATED HEREIN. THE REMEDIES SET FORTH HEREIN SHALL BE THE SOLE AND EXCLUSIVE REMEDIES OF ANY PURCHASER WITH RESPECT TO ANY DEFECTIVE PRODUCT.

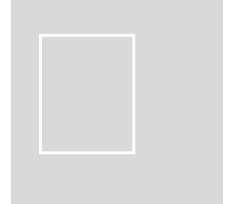
Limitation on Liability

UNDER NO CIRCUMSTANCES SHALL VARISCITE BE LIABLE FOR ANY LOSS, DAMAGE OR EXPENSE SUFFERED OR INCURRED WITH RESPECT TO ANY DEFECTIVE PRODUCT. IN NO EVENT SHALL VARISCITE BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT YOU MAY SUFFER DIRECTLY OR INDIRECTLY FROM USE OF ANY PRODUCT.

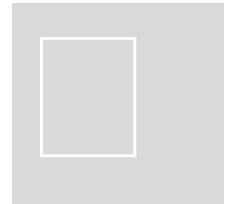
7 Contact information

Headquarters

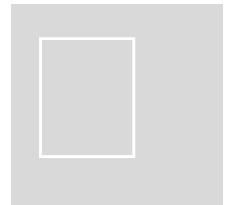
Variscite LTD
9, Hamelacha st.
Lod.
P.O.B 1121
Airport City, 70100
ISRAEL
Phone +972 (9) 9562910 • Fax +972 (9) 9589477



Tel: +972 (9) 9562910
Fax: +972 (9) 9589477



Sales: sales@variscite.com
Technical support: support@variscite.com



Website: www.variscite.com

