



S E R E N U M

CubeSat Debug Tool SNM-CD10

Datasheet

The CubeSat debug tool is designed for measurements and experiments on standard main 104 pin CubeSat connector. It can connect two boards (or stacks of boards) together. All 104 pins are accessible via pinhole connection and connected to the second board by jumper connection. Each signal can be disconnected or connected to different signal on second board (or stack of board). Standard supply voltages 3,3V and 5V are provided on supplementary rails with pinholes. There is also popular USB to serial converter from FTDI (FT2232H) available on board for both

power supply and data interconnection with PC. Signals from two independent channels of converter are connected to two connectors located on sides of CubeSat debug tool. There are possible RS 232 mode, SPI mode (master only), I2C mode (master only), bit-bang, JTAG and others. See specifications of FT2232H logic circuit for more details and programming capabilities. There is also available input from external power source to power rails. Both USB and external power sources can be combined.

SPECIFICATIONS:

Parameter	Min.	Typ.	Max.	Unit
Parameters of cross-connections:				
Connection resistivity (excluding "H" connector resistivity)		100	150	mOhms
Signal line current			1000	mA
Power rail current - total			3000	mA

Parameters of USB adapter provided signals:				
Supply current (3V3)	80			mA
Supply current (5V) decreased by current in 3v3 supply.	400			mA
Voh (Output Voltage High)	2,4	3,14		V
Vol (Output Voltage Low)	0,18		0,4	V
Vil (Input low threshold)	0,8			V
Vih (Input high threshold)	2			V
Iin (Input Leakage Current)	15	45	85	µA

Note:

- Available supply current from USB converter can be limited by the system USB converter is connected to. It can be also limited by software setting programmed in USB converter. See FT2232H circuit documentation.
- Suitable wire for connection between pinholes is for example solid copper wire from Cat5 ethernet cable.

ADDITIONAL INFORMATION

DIMENSIONS (W x L)	207 x 138	mm
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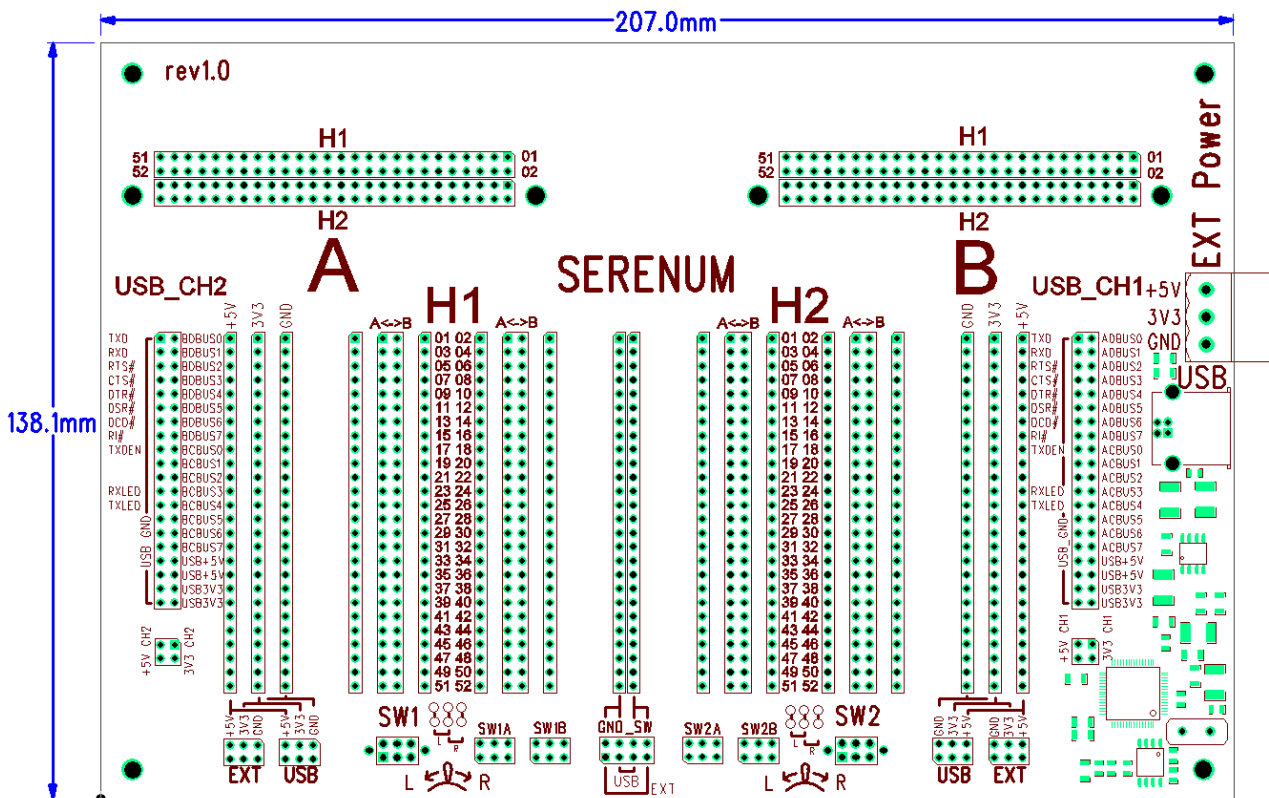


Fig. 1

CubeSat interfacing connectors allocation:

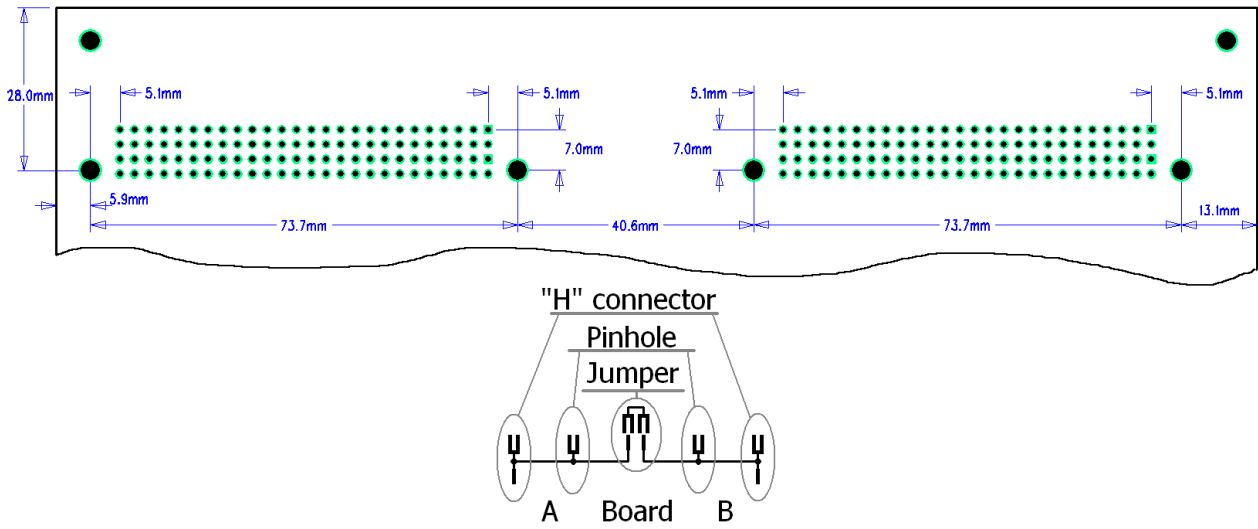
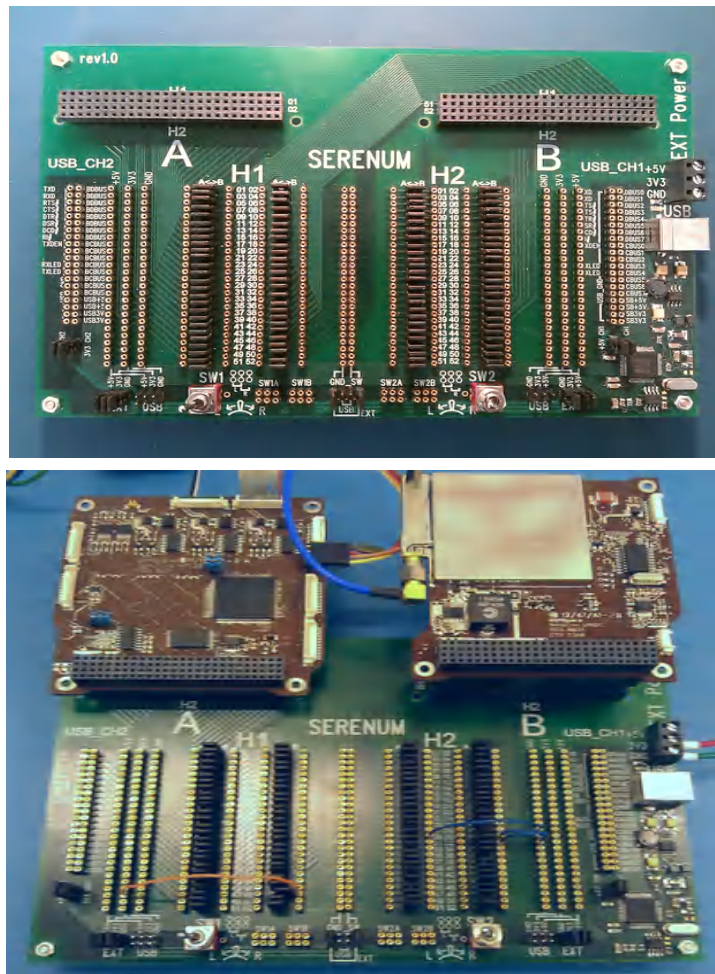


Fig. 2



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