

MIOe-110

MI/O Extension module for MI/O-Ultra Series

2 RS-232/ 2 RS-232/422/485 (with power and isolation), 2 USB2.0



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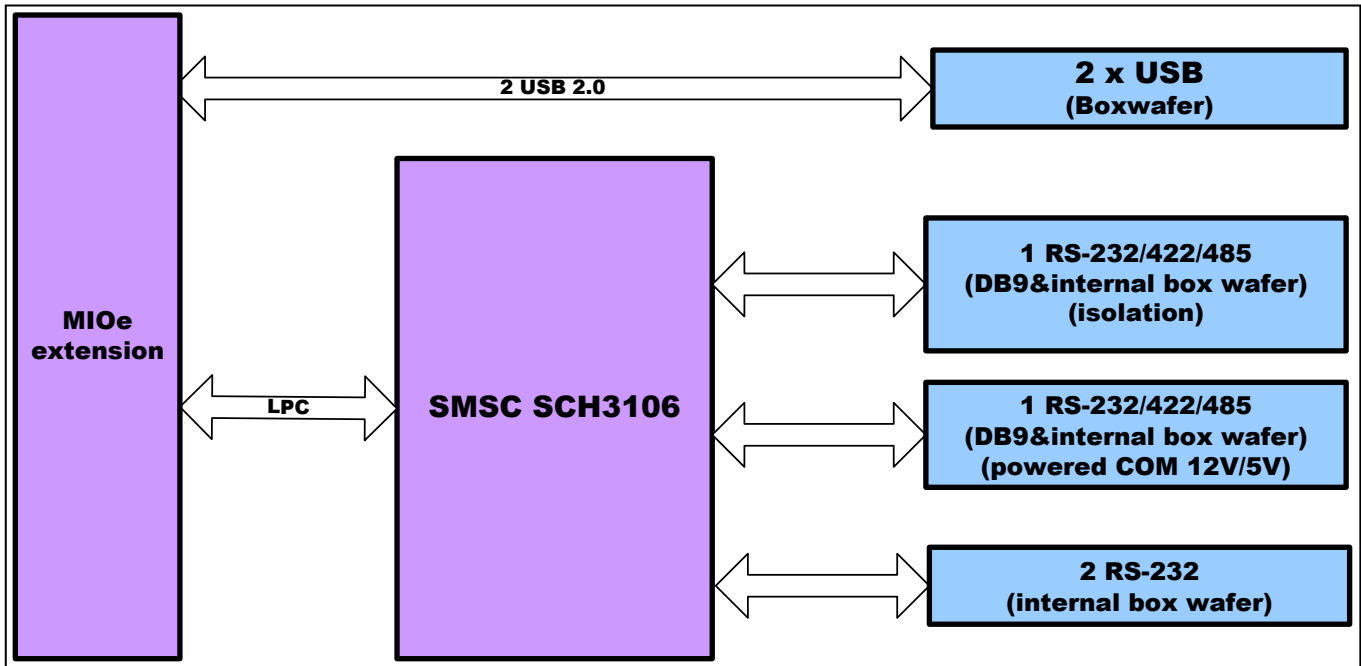
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1.1 Specification

General	
Bus Interface	MIOe LPC/USB
Super I/O	SCH3106
Rear I/O	
COM port	COM1/2: Both at coastline and internal box wafer, simultaneously COM1: RS-232/422/485 (With isolation. RS-485 with auto flow control). COM2: RS-232/422/485 (Supports wake on ring. Supply 5V/12V power selected by jumper. RS-485 with auto flow control).
Internal I/O	
COM port	COM3/4: RS-232 (Support wake on ring)
USB 2.0	2
Communications	
Data Bits	5, 6, 7, 8
Data Signals	RS-422: TxD+, TxD-, RxD+, RxD- RS-485: DATA+, DATA- RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
IRQ	Depends on MI/O CPU Board
Parity	even, odd, sticky or no
Speed	50 to 460k, 921k* and 1.5M* Baud
Stop Bits	1, 1.5, 2
Protection	
ESD	Air gap $\pm 15\text{kV}$ and contact $\pm 8\text{kV}$ for all COM ports
Isolation	2.5kV for COM1
Compatibility	
Rear I/O	MI/O-Ultra
Mechanical	MI/O-Ultra
Function	MI/O-Compact*, MI/O-Ultra*
Environment	
Dimensions	100 x 72 mm (3.9" x 2.8")
Weight	0.04 kg (0.09lb), only for board
Operational Temperature	0 ~ 60° C (32 ~ 140° F)
Operational Humidity	40° C @ 95% RH Non-Condensing
Storage Environment	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

* Except for MIO-2261 and MIO-5270, other MI/O CPU boards need customized BIOS.

1.2 Block Diagram



1.3 Accessory

P/N	Description	Quantity
1700018999	COM3/4 cable 22cm	1

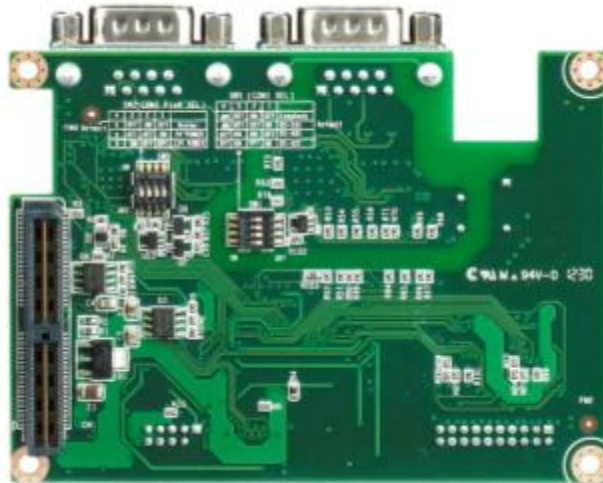
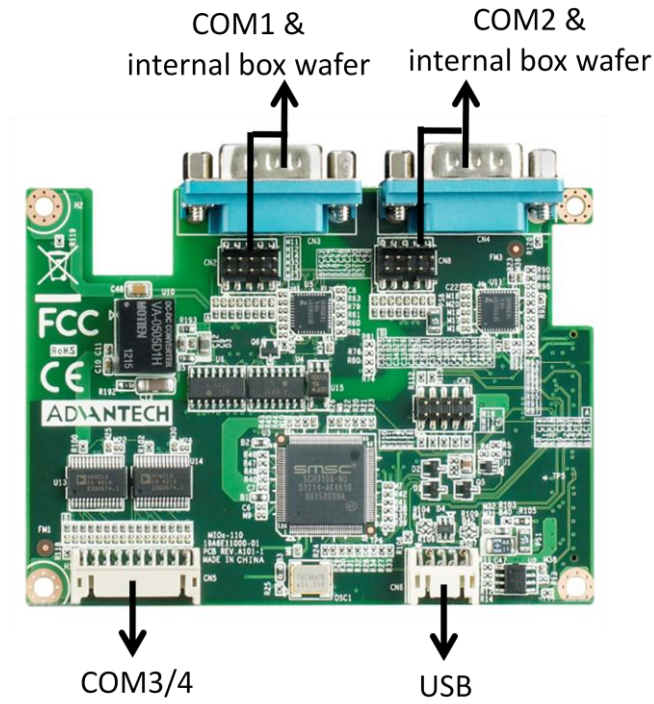
1.4 Ordering Information

P/N	Description
MIOe-110F-00A1E	2 x RS-232/422/485, 2 x RS-232, w/ isolation, 2 x USB
MIOe-110L-00A1E	1 x RS-232/422/485, 2 x RS-232, w/o isolation, 2 x USB

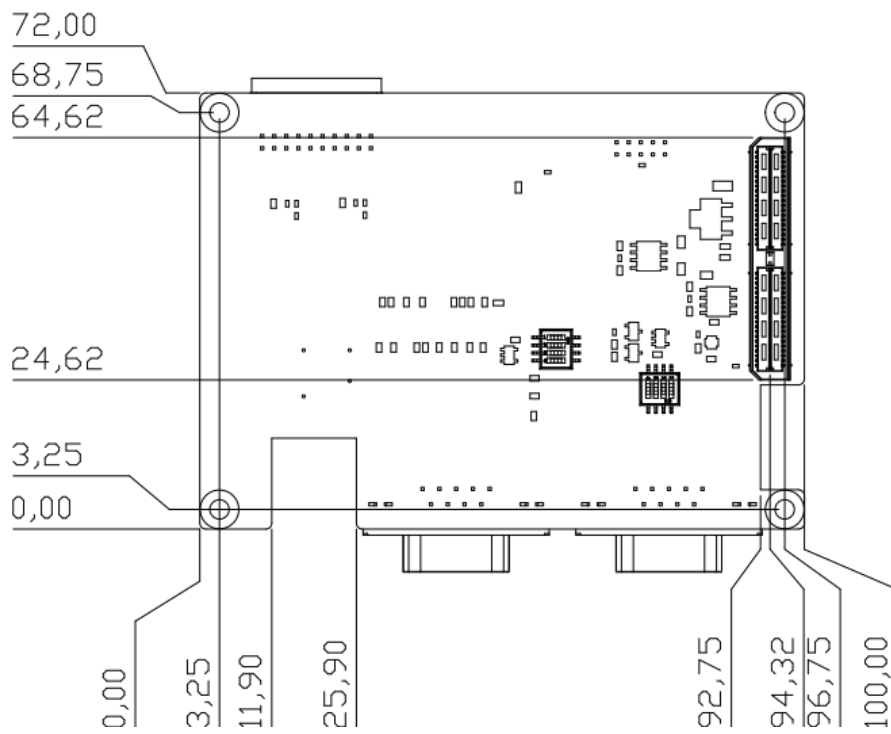
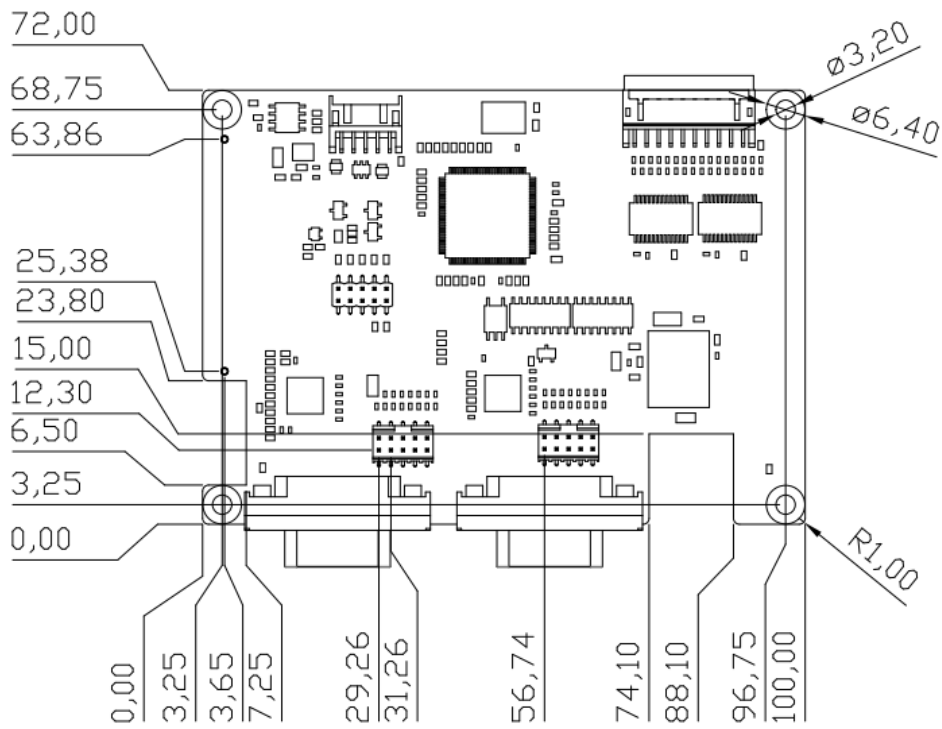
1.5 Optional Accessories

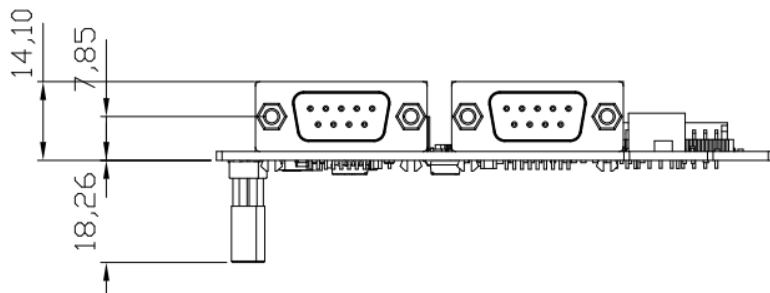
P/N	Description
1700019414	COM1/2 internal cable 30cm
1700019071	2 ports USB cable w/o bracket, 12cm

2.1 H/W Installation



2.2 Mechanical Drawing



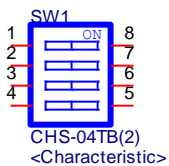


2.3 Jumper List

SW1	COM1 SEL
Part Number	1600000402
Footprint	SW_4x2P_50_260x315
Description	DIP SW SMD 8P SPST P=1.27mm W=5.4mm KHS42E
Setting	Configuration as below, default setting is RS-232

SW1 (COM1 SEL)

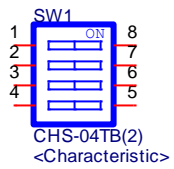
	1	2	3	4
Loopback	OFF	ON	OFF	ON
RS-232	ON	OFF	OFF	ON
RS-485	OFF	ON	ON	OFF
RS-422	ON	OFF	ON	OFF



SW2	COM2 POWER SEL
Part Number	1600000402
Footprint	SW_4x2P_50_260x315
Description	DIP SW SMD 8P SPST P=1.27mm W=5.4mm KHS42E
Setting	Configuration as below, default setting is normal (without power supplying)

SW2 (COM2 PIN-9(RI#) Power SEL)

	1	2	3	4
Normal	OFF	ON	OFF	X
5V POWER	ON	OFF	OFF	X
12V POWER	OFF	OFF	ON	X

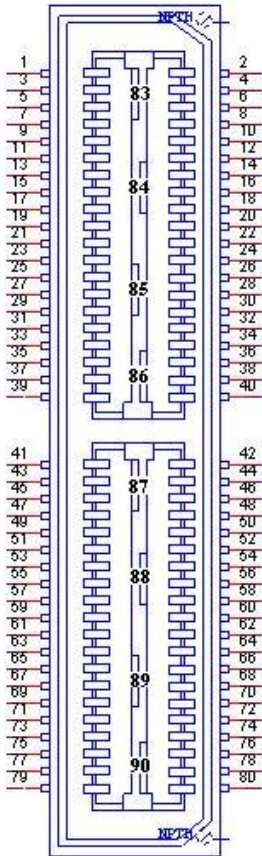


2.4 Connector List

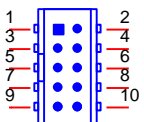
Location	Function
CN1	MIOe
CN2	Internal COM1
CN3	COM1: RS-232/422/485 with isolation
CN4	COM2: RS-232/422/485 with power
CN5	COM3/4: RS-232
CN6	Internal USB2.0
CN8	Internal COM2

2.5 Connector Pin Definition

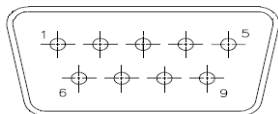
CN1	MIOe
Part Number	1654006235
Footprint	BB_40x2P_32_1625x285_2HOLD
Description	
Pin	Pin Name
1	GND
2	GND
3	PCIE_RX0+
4	PCIE_TX0+
5	PCIE_RX0-
6	PCIE_TX0-
7	GND
8	GND
9	PCIE_RX1+
10	PCIE_TX1+
11	PCIE_RX1-
12	PCIE_TX1-
13	GND
14	GND
15	PCIE_RX2+
16	PCIE_TX2+
17	PCIE_RX2-
18	PCIE_TX2-
19	GND
20	GND
21	PCIE_RX3+
22	PCIE_TX3+
23	PCIE_RX3-
24	PCIE_TX3-
25	GND
26	GND



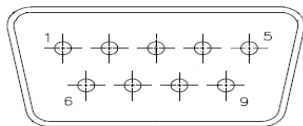
CN2	Internal COM1
Part Number	1653004099
Footprint	HD_5x2P_79_23N685B-10M10
Description	BOX HEADER 5x2P 2.00mm 180D(M) SMD 23N685B-10M10
Pin	Pin Name
1	485-422_TXD+
2	DSR1#
3	485-422_TXD-
4	RTS#
5	422_RXD-
6	CTS#
7	COM1_422_RXD+
8	RI#
9	GND
10	GND



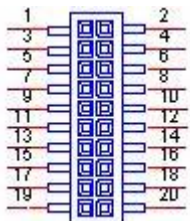
CN3	COM1
Part Number	1654409108
Footprint	DBCOM-VM5MS
Description	D-SUB Conn. 9P 5mm 90D(M) 070205MR009S202BA
Pin	Pin Name
1	DCD# (485-422_TXD+)
2	RXD (485-422_TXD-)
3	TXD (422_RXD-)
4	DTR# (422_RXD+)
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#



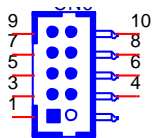
CN4	COM2
Part Number	1654409108
Footprint	DBCOM-VM5MS
Description	D-SUB Conn. 9P 5mm 90D(M) 070205MR009S202BA
Pin	Pin Name
1	DCD# (485-422_TXD+)
2	RXD (485-422_TXD-)
3	TXD (422_RXD-)
4	DTR# (422_RXD+)
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#



CN5		COM3/COM4	
Part Number	1655000081		
Footprint	WF_10x2P_79_BOX_RA_RD1_D		
Description	WAFER BOX 2*10P 2mm 180D(M) DIP 24W2140-20S10-01		
Pin	Pin Name		
1	DCD1#		
2	DSR1#		
3	RXD1		
4	RTS1#		
5	TXD1		
6	CTS1#		
7	DTR1#		
8	RI1#		
9	GND		
10	GND		
11	DCD2#		
12	DSR2#		
13	RXD2		
14	RTS2#		
15	TXD2		
16	CTS2#		
17	DTR2#		
18	RI2#		
19	GND		
20	GND		



CN6	Internal USB
Part Number	1655003991
Footprint	WF_5x2P_79_BOX_RA_N2_D
Description	PIN HEADER 2*5P 180D(M) 2.0mmWAFER BOX 2x5P
Pin	Pin Name
1	GND_USB
2	NC
3	GND
4	GND
5	A_D+
6	B_D+
7	A_D-
8	B_D-
9	+5V
10	+5V



CN8	Internal COM2
Part Number	1653004099
Footprint	HD_5x2P_79_23N685B-10M10
Description	BOX HEADER 5x2P 2.00mm 180D(M) SMD 23N685B-10M10
Pin	Pin Name
1	485-422_TXD+
2	DSR1#
3	485-422_TXD-
4	RTS#
5	422_RXD-
6	CTS#
7	COM1_422_RXD+
8	RI#
9	GND
10	GND

