

## MIO5479AL

2-port RS-232 & 1-port Parallel  
PCI Express Low Profile  
Multi-I/O Board



### Introduction

The majority of today's motherboards are not equipped with any RS-232 or parallel port. With SUNIX MIO5479AL Multi I/O board, users can expand two RS-232 and one IEEE1284 parallel ports to their system, allowing them to use serial and parallel devices further. SUNIX MIO5479AL is compatible with PCI Express x1, x2, x4, x8 and x16 lane and PCI/PCI-x Bus, allowing the board to be installed in any slim size PC-based system with low profile bracket structure. Furthermore, SUNIX MIO5479AL Multi-IO card supports majority of the OS on the market. We provide driver support for Microsoft Windows 32/64-bit platform, WinCE, Linux, making it the best and most economical solution for commercial and industrial applications.

### Features

- Expands 2-port RS-232 COM and 1-port IEEE1284 LPT on system.
- Designed to meet PCI Express Base Specification Revision 1.1.
- High reliability SUNIX SUN1989 16C950 compatible Multi-IO controller on-board
- Expands one RS-232 serial port with communication speed up to 115.2Kbps.
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in  $\pm 2$ KV ESD protection for all serial signals.
- Support IEEE 1284-1994 parallel port standard
  - \* ECP(Enhance Capacity Port) / EPP(Enhance Parallel Port)
  - \* SPP (Standard Parallel Port) / BPP (Bi-direction Parallel Port).
- Auto-switching between ECP/EPP/SPP/BPP modes without configuration.
- Plug-n-Play, I/O address and IRQ assigned by system.
- Low profile bracket design idea for slim or portable PC.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.



## Specifications

### General

<b>Interface</b>	RS-232 and IEEE1284	<b>BUS</b>	PCI Express one lane (x1)
<b>Controller</b>	SUNIX SUN1989 (16C950 UART Compatible)	<b>IRQ &amp; IO</b>	Assigned by System

### Serial Communication

<b>Interface</b>	RS-232	<b>Signal</b>	TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD, RI
<b>No. of Port</b>	2-port	<b>Baud rate</b>	50bps ~115.2Kbps
<b>FIFO</b>	128byte Hardware	<b>Stop bit</b>	1, 1.5, 2
<b>Flow Control</b>	None, Xon/Xoff, RTS/CTS	<b>Parity</b>	even, odd, none, mark, space
<b>PCB Connector</b>	DB44 Female	<b>Protection</b>	±2KV ESD protection for each signal Human Body Model (HBM)
<b>Cable Connector</b>	DB9 Male		

### Parallel Communication

<b>Interface</b>	IEEE1284	<b>Speed</b>	Maximum 1.8Mbps
<b>No. of Port</b>	1-port	<b>FIFO</b>	16byte Hardware
<b>Mode</b>	PP/ECP/EPP/BPP	<b>PCB Connector</b>	DB44 Female
<b>Cable Connector</b>	DB25 Female		

### Driver Support

<b>Windows Client</b>	Windows XP/Vista/7/8/8.1 (X86/X64)
<b>Windows Server</b>	Windows 2000 / 2003 / 2008 / 2008 R2 / 2012 / 2012 R2 (X86/X64)
<b>Windows Embedded</b>	Windows CE 4.2/5.0/6.0/XP Embedded/POSReady 2009/POSReady 7/ Embedded System 2009/Embedded Standard 7
<b>Linux</b>	Linux 2.4.x/2.6.x
<b>DOS</b>	DOS

### Regulatory Approvals

<b>Hardware</b>	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, BSMI: CNS13438, C-Tick: CISPR22 AS/NZS, RoHS
<b>Software</b>	Microsoft WHQL Windows ◆ Windows Client: XP/Vista/7/8/8.1 (X86/X64) ◆ Windows Server: 2000 / 2003 / 2008 / 2008 R2 / 2012 / 2012 R2 (X86/X64)

### Environment

<b>Operation Temperature</b>	0 to 60°C (32 to 140°F)
<b>Operation Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-20 to 85°C (-4 to 185°F)

### Dimension(Unit = mm)

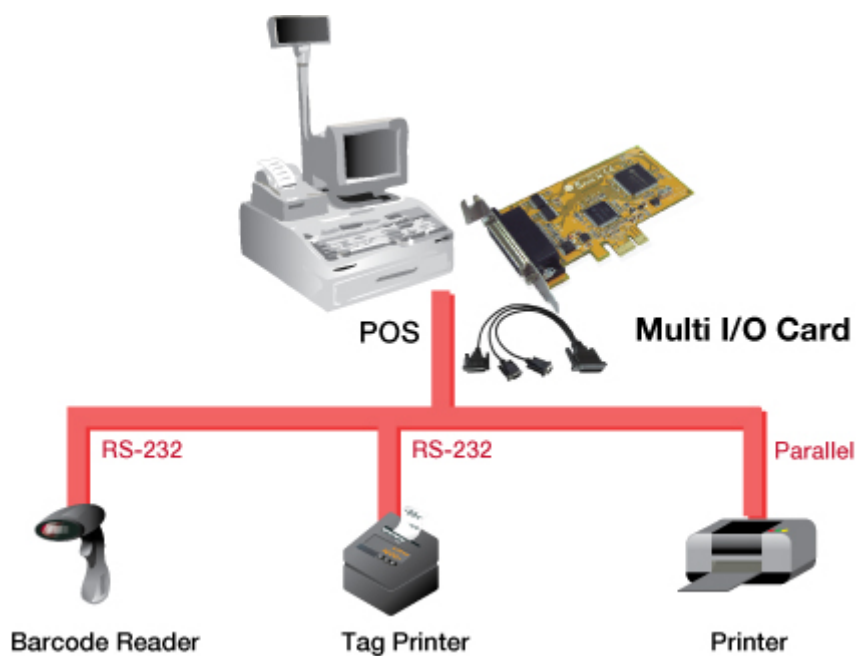
<b>PCB Dimension</b>	112 x 68 mm
<b>Bracket</b>	Low Profile 80 mm
<b>Bracket Space</b>	1

Note:

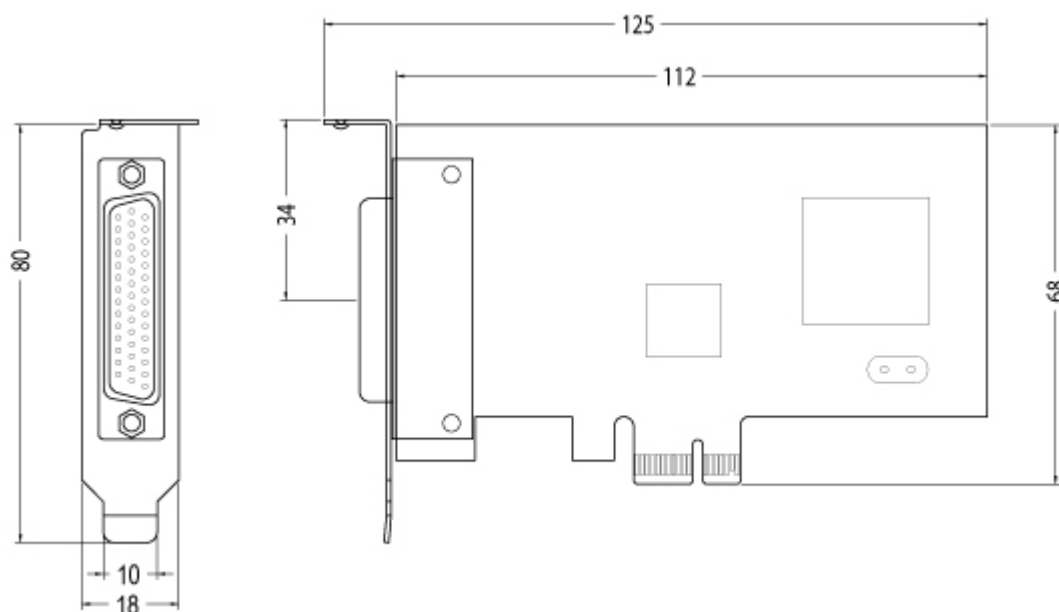
- \* Do not support LPT Key Locker Parallel device.
- \* LPT port does not support legacy 278/378 ISA address under Windows nor Linux operation systems, but only DOS mode.
- \* ECP / EPP / SPP / BPP modes work under Windows, and Linux driver only supports SPP mode.



## Application



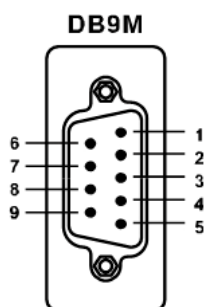
## Mechanical Drawings (Unit = mm)





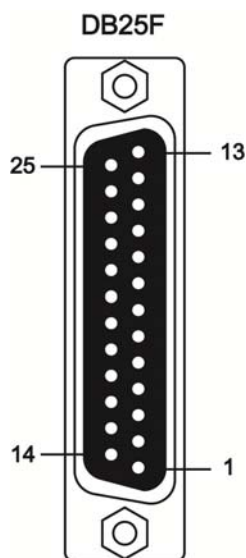
## Pin Assignment

### Serial



DB9M	PIN
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

### Parallel



DB25F	PIN	DB25F	PIN
1	STROBE	14	AUTO FEED
2	DATA0	15	ERROR
3	DATA1	16	INT
4	DATA2	17	SELECT INPUT
5	DATA3	18	GND
6	DATA4	19	GND
7	DATA5	20	GND
8	DATA6	21	GND
9	DATA7	22	GND
10	ACKNOWLEDGE	23	GND
11	BUSY	24	GND
12	PAPER EMPTY	25	GND
13	SELECT		

## Packing List

### Packing Content

- MIO5479AL- 2-port RS-232 & 1-port Parallel PCI Express Low Profile Multi-I/O Board
- Quick Installation Guide
- Driver CD ROM
- DB44 Male to 2-port DB9 Male And 1-port DB25 Female Connection Cable

## Optional Accessories

- DB44 Male to 2-port DB9 Male And 1-port DB25 Female Connection Cable, 30 cm

**Part Number:** 1WDB-44M03025F3B22





## Order Information

## Multi I/O Interface

Bus	Port		Board Connector		Serial Baud Rate	Power output	Bracket	Model NO.
	COM	LPT	COM	LPT				
PCI Express	1	1	DB9 Male	DB25 Female	115.2Kbps	-	Standard	MIO5469A
					921.6Kbps			MIO5469H
	2	1	DB9 Male	DB25 Female	115.2Kbps			MIO5479A
					921.6Kbps			MIO5479H
			DB44 Female		115.2Kbps		MIO5479AL	
					921.6Kbps		MIO5479HL	
	4	1	DB44 Female	13x2 Pin Header	115.2Kbps		MIO5499A	
					921.6Kbps		MIO5499H	
					115.2Kbps	MIO5499AL		
					921.6Kbps	MIO5499HL		
PCI	1	1	DB9 Male	DB25 Female	115.2Kbps	-	Standard	MIO5069A
					921.6Kbps	5V/12V		MIO5069P
						-		MIO5069H
			5x2 Pin Header	13x2 Pin Header	115.2Kbps	5V/12V		Standard
					921.6Kbps	-	Low Profile	MIO5069U
						Standard	MIO5069UL	
	2	1	DB9 Male	13x2 Pin Header	115.2Kbps	-	Standard	MIO5069UH
					921.6Kbps			MIO5079A
				MIO5079H				
			5x2 Pin Header	13x2 Pin Header	115.2Kbps			MIO5079U
					921.6Kbps		MIO5079UL	
							Standard	MIO5079UH
					DB44 Female		115.2Kbps	MIO5079AL
			921.6Kbps	MIO5079HL				
	4	1	DB44 Female	13x2 Pin Header	115.2Kbps	-	Standard	MIO5099A
					921.6Kbps			MIO5099H
					115.2Kbps		MIO5099AL	
					921.6Kbps		MIO5099HL	
Express Card	1	1	DB44 Female		921.6Kbps	-	34mm	ECM1010
	2	1	DB44 Female				34mm	ECM2010
CardBus	1	1	DB44 Female		115.2Kbps	-	54mm	CBM1010
	2	1	DB44 Female				54mm	CBM2010