

## COM Express Modules

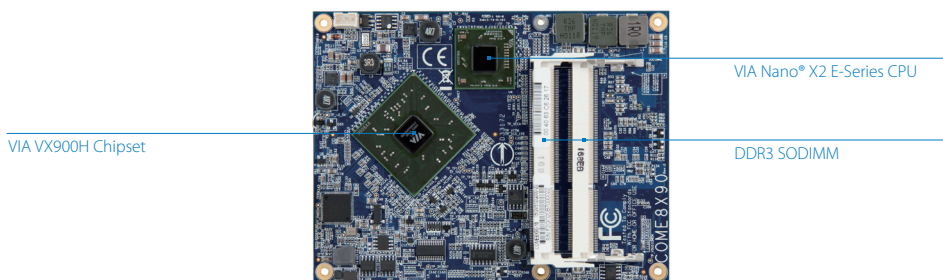
### VIA COMe-8X90

COM Express Module with  
Type 6 pin-outs and Basic  
Form Factor

### Features

- 1.2GHz VIA Nano™ X2 E-Series processor
- Supports up to 8GB 1066 DDR3 SDRAM
- DX9 graphics with MPEG-2/WMV9/VC1/H.264 decoding acceleration
- Display interface for VGA, 18/24-bit single-channel LVDS panel, one DisplayPort, and one HDMI port
- Supports four USB 3.0 and four USB 2.0 ports

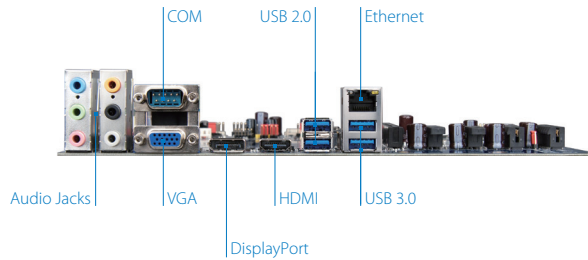
### Board Placement



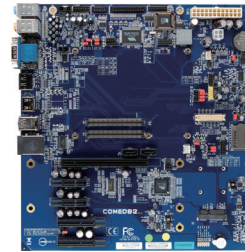
### Specifications

<b>Model Name</b>	<b>COMe-8X90</b>
<b>Processor</b>	1.2GHz VIA Nano® X2 E-Series
<b>Chipset</b>	VIA VX900H Media System Processor
<b>BIOS</b>	AMI BIOS, 4/8Mbit Flash memory
<b>System Memory</b>	2 DDR3 1066 SODIMM slots Up to 4GB memory size per slot
<b>Storage</b>	2 SATA
<b>Graphics</b>	Integrated VIA Chrome®9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC1 and H.264 video decoding acceleration
<b>LAN</b>	VIA VT6130 Gigabit Ethernet controller or Realtek RTL8111G PCIe Gigabit Ethernet controller
<b>Audio</b>	1 HD audio digital interface
<b>Supported Expansion I/O</b>	1 PCIe x4 1 PCIe x1
<b>Supported I/O</b>	4 USB 3.0 4 USB 2.0 1 HDMI 1 DisplayPort 1 VGA 1 Single-channel 18/24-bit LVDS panel 2 COM (TX/RX) 1 Gigabit Ethernet 1 Digital video output for external HDMI/LVDS/DVI transmitter or TV encoder 1 LPC 1 SMBus 1 SPI 1 SDIO/GPIO 1 I <sup>2</sup> C
<b>Operating System</b>	Windows 7, WES 7, Windows CE, Linux
<b>System Monitoring &amp; Management</b>	CPU temperature reading, CPU fan speed reading, System voltage monitoring, Watch Dog Timer, Wake-on-LAN, System power management, AC power failure recovery
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 95% (relative humidity; non-condensing)
<b>Form Factor</b>	12.5cm x 9.5cm (4.92" x 3.73")
<b>Compliance</b>	COM Express® type 6, basic module

## Carrier Board Back Panel I/O



## Carrier Board (COMEDB2)



\* The carrier board is only for evaluation purposes.

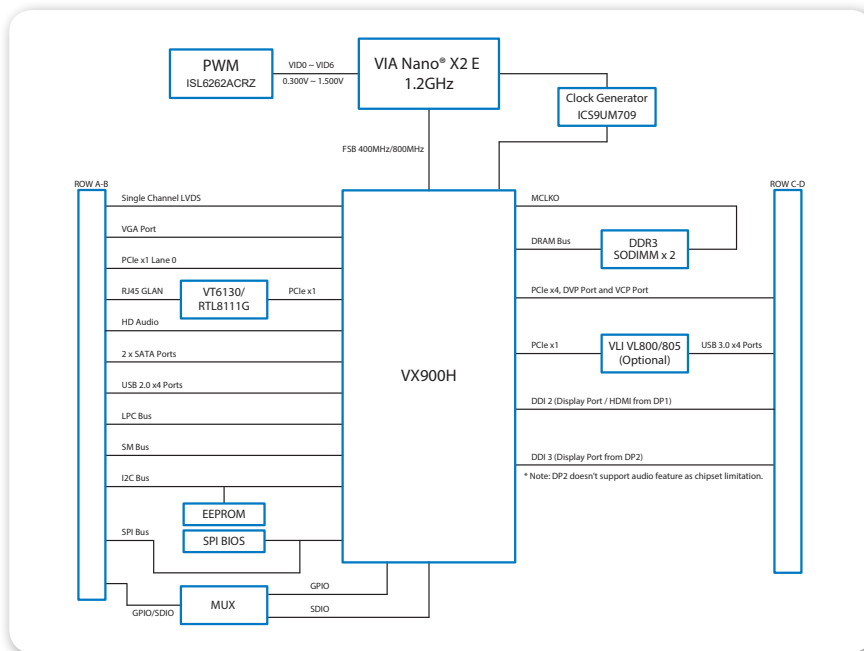
## Specifications

<b>Model Name</b>	<b>COMEDB2</b>
<b>Audio</b>	VIA VT2021 High Definition Audio Codec
<b>Super I/O</b>	VIA VT1211 LPC super I/O
<b>Onboard I/O</b>	<ul style="list-style-type: none"> <li>2 SATA connectors</li> <li>2 USB 2.0 pin headers for 4 ports</li> <li>1 Single-channel 18/24-bit LVDS panel connector</li> <li>1 COM port pin header (powered by selectable 5V/12V)</li> <li>1 LPT pin header</li> <li>1 LPC pin header</li> <li>1 SMBus pin header</li> <li>1 S/PDIF-out connector</li> <li>1 Digital I/O (4 GPI + 4 GPO) pin header</li> <li>1 Front Audio pin header for Line-out, Mic-in</li> <li>2 Smart Fan connectors for CPU fan and system</li> <li>1 I<sup>2</sup>C pin header</li> <li>1 FIR pin header</li> <li>2 BIOS type select pin headers for select LPC/SPI BIOS</li> <li>2 BIOS select pin headers for select module/carrier board BIOS</li> <li>1 ATX power connector and 1 AUX power connector</li> <li>1 PCIe x16 (supports 4-lane) slot for PEG</li> <li>2 PCIe x1</li> <li>1 MiniPCIe slot</li> <li>1 Reversed PCIe x4 slot for DVP</li> <li>1 Reserved PCIe x4 slot for VCP</li> <li>1 Reset switch</li> <li>1 Power button</li> </ul>
<b>Front Panel I/O</b>	1 SD card slot
<b>Rear Panel I/O</b>	<ul style="list-style-type: none"> <li>4 USB 3.0 ports</li> <li>1 HDMI port</li> <li>1 DisplayPort</li> <li>1 VGA port</li> <li>1 COM port</li> <li>1 Gigabit Ethernet port</li> <li>6 Audio jacks (supports multi-channel audio outputs)</li> </ul>
<b>Power Supply</b>	ATX power connector
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 95% relative humidity
<b>Form Factor</b>	Micro-ATX (24.4cm x 24.4cm, 9.6" x 9.6")
<b>COM Express Module Type</b>	Supports COM Express™ type 6

## Ordering Information

Model Name	CPU Frequency	Description
COME-8X90	VIA Nano® X2 E-Series @ 1.2GHz	COM Express module with 1.2GHz VIA Nano® X2 E-Series CPU with HDMI, DisplayPort, VGA, LVDS, 4 USB 3.0, 4 USB 2.0, Gigabit Ethernet, 2 SATA, 2 PCIe, ATX power connector
COMEDB2	N/A	COME-8X90 evaluation carrier board
99G42-013056	N/A	Fansink for COME-8X90
99G42-013876	N/A	Heat spreader for COME-8X90
STK-C8X90-00A0	VIA Nano® X2 E-Series @ 1.2GHz	COME-8X90 starter kit
STK-C8X90-01A0	VIA Nano® X2 E-Series @ 1.2GHz	COME-8X90 starter kit with Panel

## Block Diagram



## Packing List (Starter Kit)

### Items for STK-C8X90-00A0

- COME-8X90 module
- COMEDB2 carrier board
- SATA cable
- USB cable
- COM cable
- LPT cable

### Items for STK-C8X90-01A0

- COME-8X90 module
- COMEDB2 carrier board
- SATA cable
- USB cable
- COM cable
- LPT cable
- LVDS cable
- Inverter cable
- 12.1" LCM