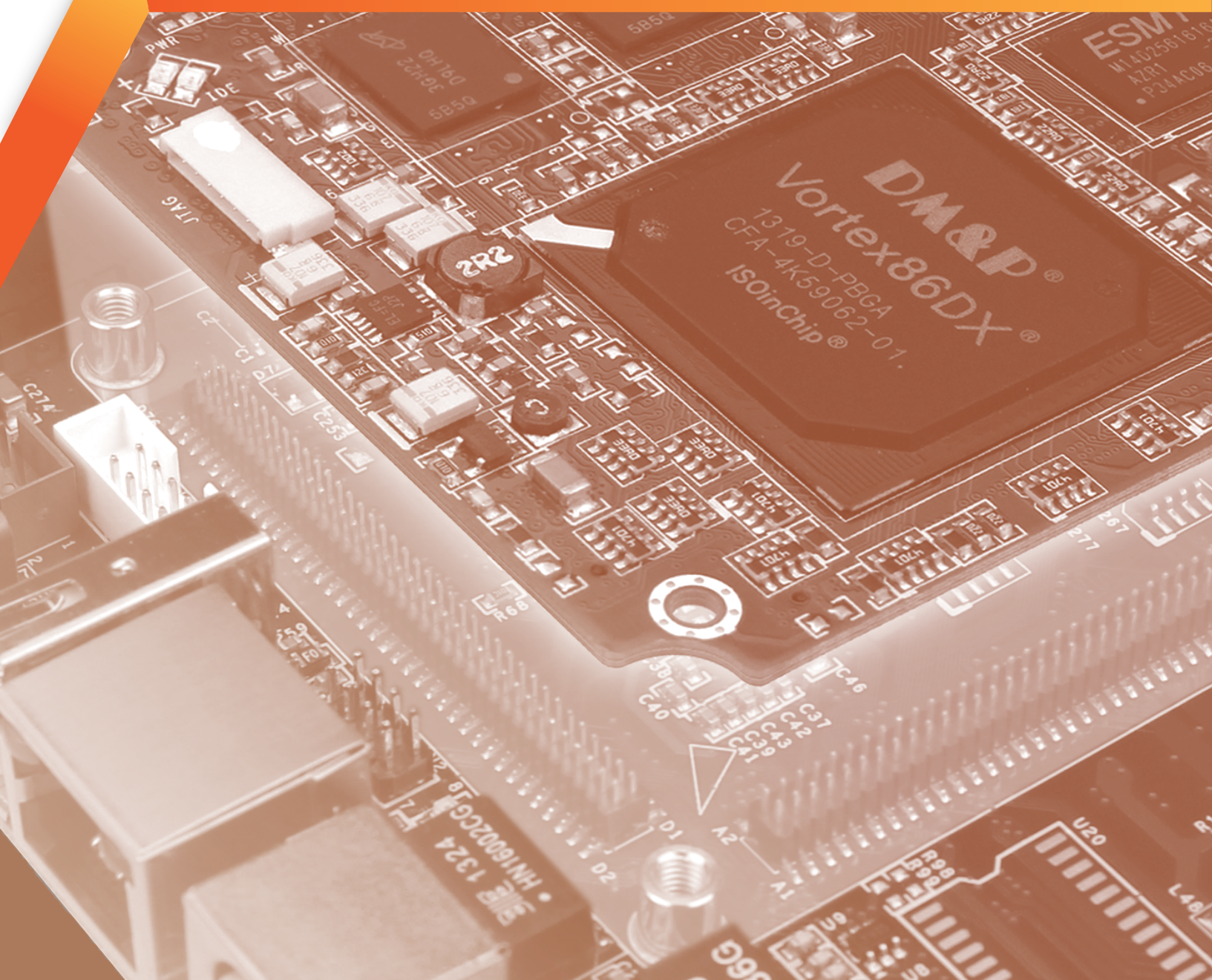


System on Module

Product Guide



TO emBEdded OR NOT TO emBEdded





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C.P. 06500 CDMX
URL: <https://www.icoptech.com>
E-Mail: info@icoptech.com
Teléfono: (55) 5207-2660
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Ventas y Soporte Técnico: 556319-7787



SoM ICOP Proprietary



SoM Standard



ICOP



Online Shop

Processor

The SoC Division was started in Feb 2007, in charge of Vortex86 series SoC (System on Chip) products to service/support the global distributors and customers for both the sales management and technical support.

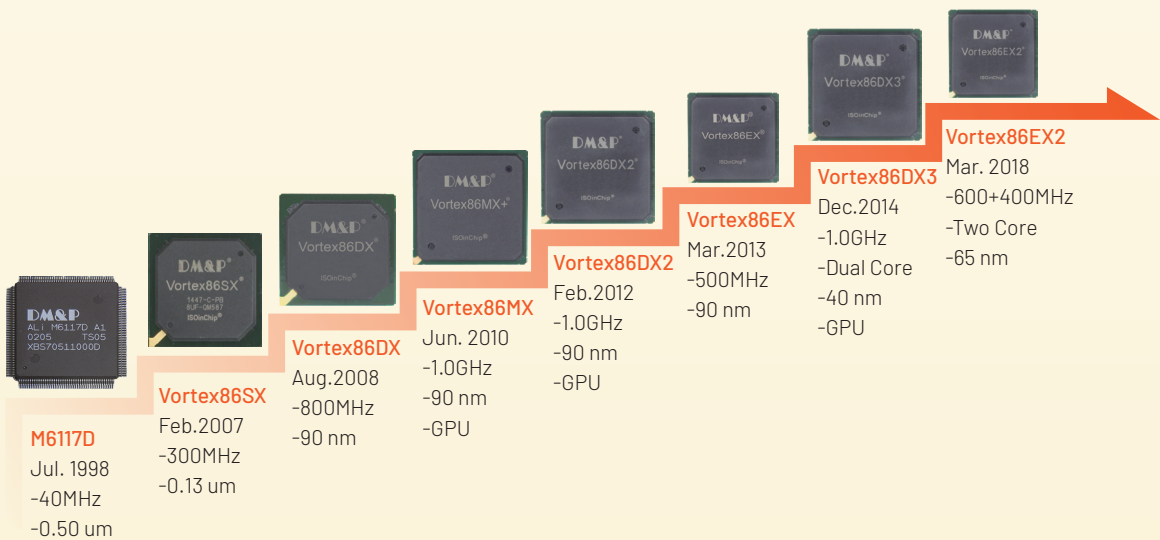


The Vortex86 family is x86 System-on-Chip which highly integrate both legacy and modern I/O, with the custom BIOS support, 2 to 6 watt low power consumption, -40 to 85 °C wide working temperature and 10 years long life cycle, it's an ideal and reliable CPU for industrial/automation applications.

Vortex86 EX series includes the EX, EX2 and the upcoming EX3 in 2025. This tiny and low power consumption line of processors is equipped with a crossbar switch that allows for plenty of I/O for IoT, automation, and industrial applications. And for real-time applications, the current EX2 two-core CPU uses a Primary and SEcondary core that can run different OS concurrently, making a system that can process in real-time while utilizing a dedicated CPU core.

Vortex86 DX series includes the DX, DX2 and DX3. This family was originally designed for legacy x86 based applications that need traditional buses such as ISA, PCI, etc.; in the newest DX3 line, the ssystem now utilizes an optional dual-core and also enriches the I/O interface, GPU, SATA and PCIe for legacy applications to take advantage of new technologies. The -40 to 85 °C wide temperature and 15+ year life cycle guarantee had consistently supported a variety of industrial applications for decades.

Product number	EX	EX2	DX	DX2	DX3
# of Cores	1	2 (600+400Hz)	1	1	2
Working Temp.	-40°C ~ 85°C				
OS Support	Free DOS/ DOS 6.22/ PC DOS 7.1/ DR-DOS/ x-DOS/ OD/2/ CE7.0/ FreeBSD/ Windows XP Professional/ Windows Embedded Standard (XPE)/ POS Ready (WePOS)/ Embedded Linux/ X-Linux/ QNX/ VxWorks				



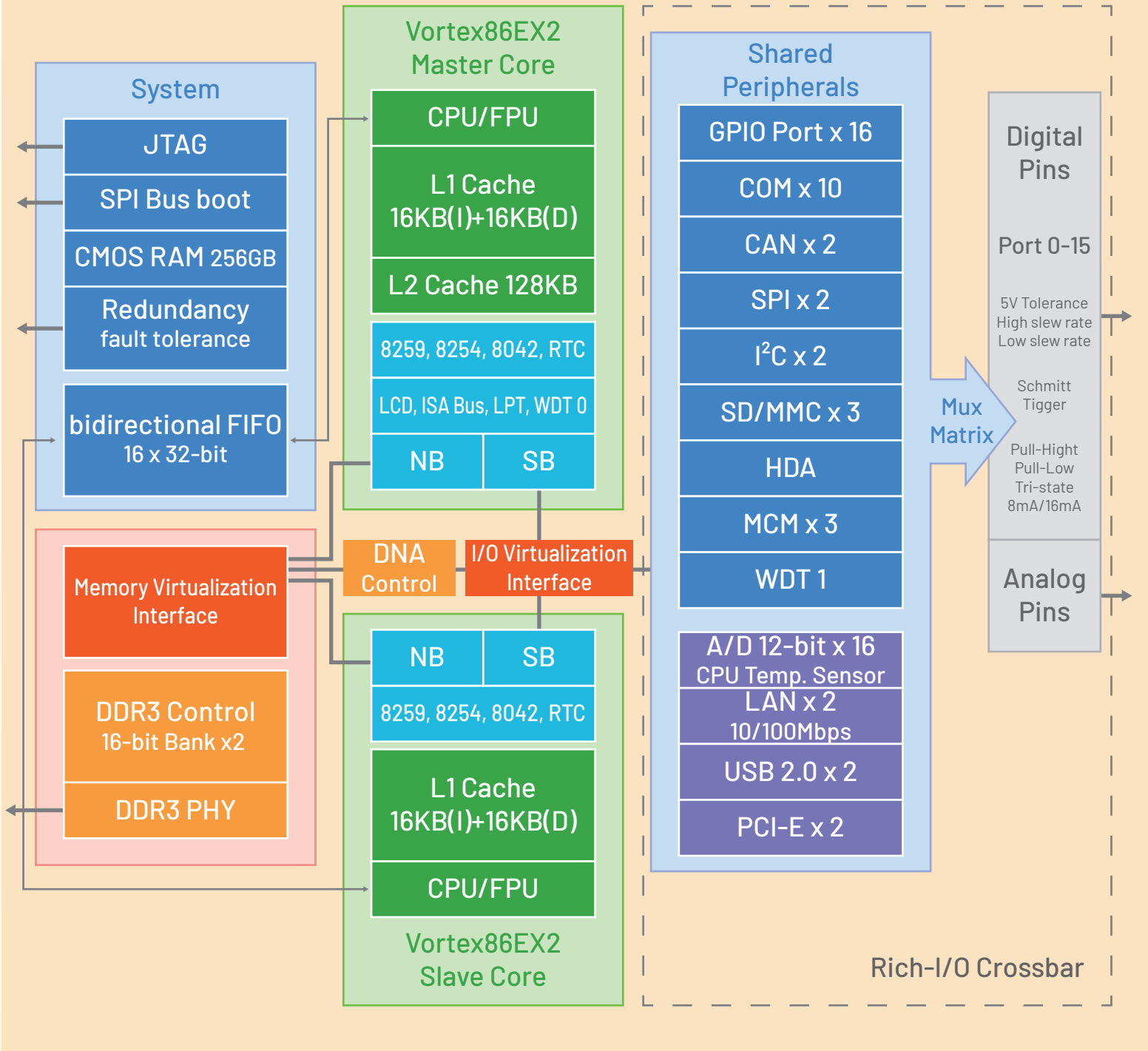
	Vortex86EX2	Vortex86DX3	Vortex86EX	Vortex86DX2	Vortex86MXplus	Vortex86DX	Vortex86SX
Frequency	600 MHz (typ.)	1000 MHz (typ.)	400 MHz (typ.)	800 MHz (typ.)	933 MHz (typ.)	800 MHz (typ.)	300 MHz (typ.)
Core	Two(600+400 MHz)	Dual	Single	Single	Single	Single	Single
Process	65nm	40nm	90nm	90nm	90nm	90nm	130nm
FPU	Yes	Yes	Yes	Yes	Yes	Yes	N/A
L1 Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache
L2 Cache	128KB	256KB	128KB	256KB	256KB	256KB	N/A
BIOS Flash	N/A	8MB	N/A	2MB	2MB	2MB	256KB
DRAM Bus	16-bit DDR3 2GB Max. (2-bit ECC)	32-bit DDR3 2GB Max.	16-bit DDR3 1GB Max.	32-bit DDR2 2GB Max.	32-bit DDR2 1GB Max.	16-bit DDR2 1GB Max.	16-bit DDR2 512MB Max.
GPU	N/A (external PCIGraphoc chip, Vortex86 VGA is available)	2D Engine, CRT/LCD, UMA, Dual Display	N/A	2D Engine, CRT/LCD, UMA	2D Engine, CRT/LCD	N/A	N/A
HD-Audio	Yes	Yes	Yes	Yes	Yes	N/A	N/A
WatchDog	2	2	1	2	2	2	2
PCI Bus	PCI + PCIe x 2	PCIe x 2	PCIe x 1	PCIe x 2	Yes	Yes	Yes
ISA Bus	Yes	Yes	x-ISA	Yes	N/A	Yes	Yes
LPC Bus	N/A	N/A	N/A	N/A	Yes	Yes	Yes
USB	USB 2.0 Host x 2	USB 2.0 Host x 4 USB 1.1 Client x 1	USB 2.0 Host x 2 USB 1.1 Client x 1	USB 2.0 Host x 4 USB 1.1 Client x 1	USB 2.0 Host x 4 USB 1.1 Client x 1	USB 2.0 Host x 4 USB 1.1 Client x 1	USB 2.0 Host x 4
Serial Port	10 max.	9 max.	10 max.	9 max.	3 max.	5 max.	5 max.
GPIO Port	128-bit max.	88-bit max.	80-bit max.	88-bit max.	40-bit max.	40-bit max.	40-bit max.
Ethernet (10/100Mbps)	2	1	1	1	1	1	1
SD/MMC	3	2	2	2	2	2	N/A
SATA/IDE	N/A	IDE+SATA	SATA	IDE+SATA	IDE	IDE	IDE
Parallel Port	1	1	1	1	1	1	1
CAN	2	0	1	0	0	0	N/A
I2C	2	2	1	2	2	2	2
SPI	2	2	1	2	2	1	1
ADC	12-bit x 16 chan.	11-bit x 8 chan.	11-bit x 8 chan.	N/A	N/A	N/A	N/A
Package Size	19 x 19 mm	31 x 31 mm	16 x 16 mm	31 x 31 mm	31 x 31 mm	27 x 27 mm	27 x 27 mm
Ambient Temp	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C	-20 ~ +70°C	-40 ~ +85°C	-40 ~ +85°C

Vortex86EX2

The Vortex86EX2 is a new generation asymmetric two cores CPU which utilizes both cores simultaneously boot and run different operating systems without affecting each other. The CPU supports Windows, Linux, DOS or various real-time OS for industrial and embedded applications.



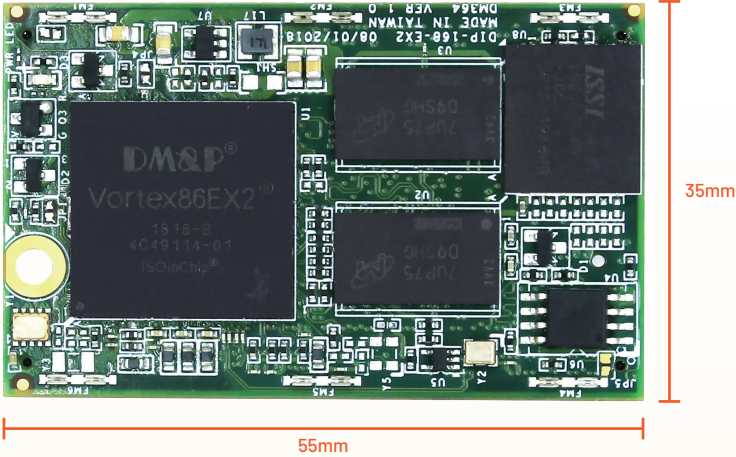
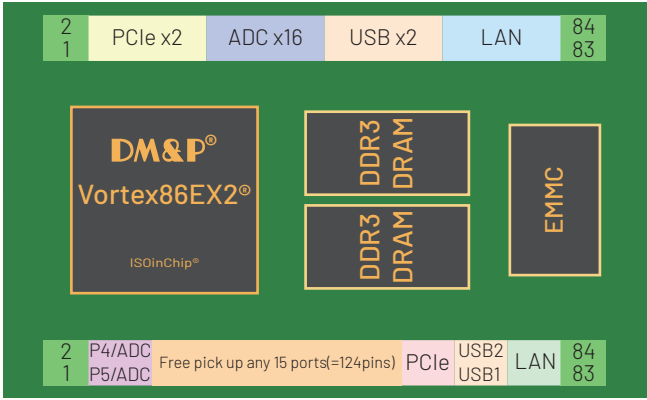
System Block Diagram



Operating System Support

- **Windows:** CE 6.0, Embedded Compact 7
- **Linux :** Up to kernel 4.14 with QT support, the Buildroot step by step guide is also available.
- **Yocto:** 3.0/ 4.0/ 5.0
- **Other OS Support:** For QNX, VxWorks and RTOS 32 support, please contact soc@dmp.com.tw

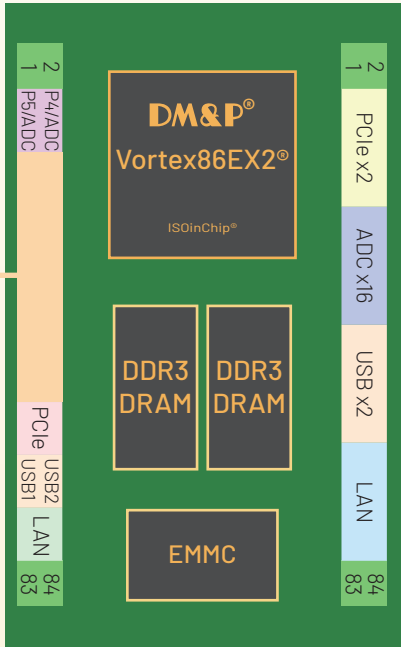
VEX2-DIP168 DM&P SoC Vortex86EX2- 600MHz



- 512MB / 1GB DDR3 onboard
- 10S(Max.)/2U/LAN/LPT/2CAN/2I2C/16ADC 12bit/HDA/2PCIE x1/120GPIO(Max.)/SD or eMMC
- ISA bus supported
- I/O ports programmable (124 pins)
- Single Voltage +5VDC @ 360mA
- Optional: Touch Controller
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)

I/O programmable support15 ports (124 pins)

Function	Description	Maximum	Unit
GPIO	General Purpose Input/Output	80	bit
UART	16C550/16C552 compatible	10	port
TX/RX UART	UART with only TX/RX pin	8	pair
UART TXDEN	RS485 Auto direction control	8	bit
ISA	selectable for 8/16 bit and all other signals (Only 1 DMA channel)	1	bit/port
MCM	Motion control module	3	port
Printer	Printer Port	1	port
SD/eMMC	SD/eMMC	1	port
SPI	Serial Peripheral Interface	2	port
CAN	Controller Area Network	1	port
I2C	Inter-Integrated Circuit	1	port
USB Device	USB Device port, version:1.1	1	port
LAN LED	Link and Duplex LED for build	2	bit
Keyboard	PS/2 Keyboard	1	port
Mouse	PS/2 Mouse	1	port
WDTOUT	WatchDog timeout signal	1	bit
CLK OUT	Clock output select from 14.318MHz /24MHz /25MHz ISA Clock	1	bit
MTBF	MTBF flag output	1	bit
HD Audio	High Definition Audio	1	port



Free pick up any 15 ports (=124pins) from DMP's SocCfgTool software tool.

Order information

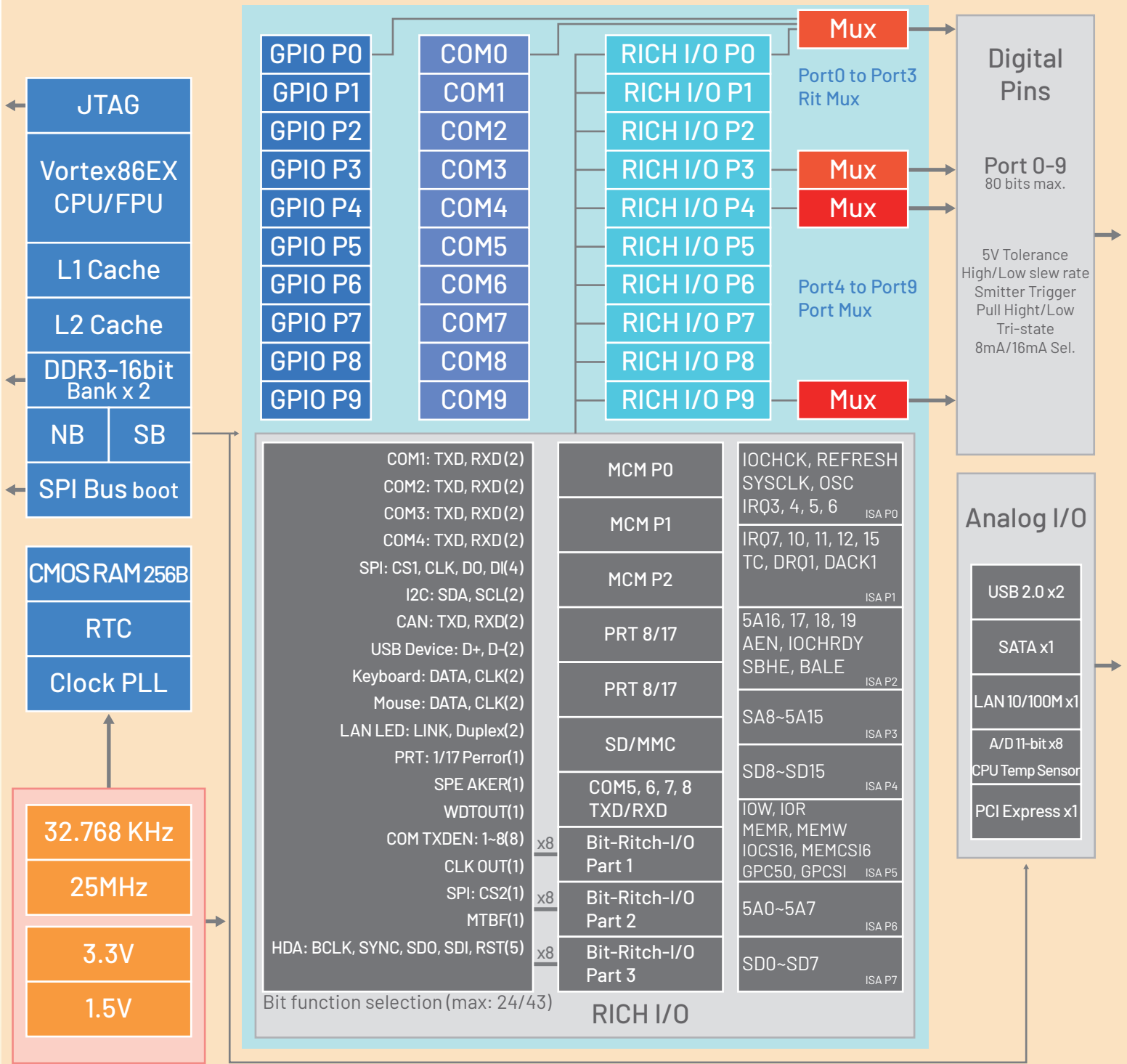
VEX2-DIP168-3NE1: DM&P SoC Vortex86EX2 600MHz/Micro SD/512MB DDR3L/2PCle/1LAN/2USB2.0
VEX2-DIP168-4NE1: DM&P SoC Vortex86EX2 600MHz/Micro SD/1GB DDR3L/2PCle/1LAN/2USB2.0
VEX2-DIP168-3EE1: DM&P SoC Vortex86EX2 600MHz/eMMC/512MB DDR3L/2PCle/1LAN/2USB2.0
VEX2-DIP168-4EE1: DM&P SoC Vortex86EX2 600MHz/eMMC/1GB DDR3L/2PCle/1LAN/2USB2.0

Vortex86EX

The Vortex86EX is a high-performance, fully static 32-bit x86 processor compatible with Windows, Linux, and most 32-bit RTOS. It integrates L1/L2 cache, PCIE, DDR3, ROM controller, I2C, SPI, Ethernet, USB 2.0 Host, and SD/SATA controllers in a single 288-pin LBGA package, providing an ideal SoC solution for embedded systems.

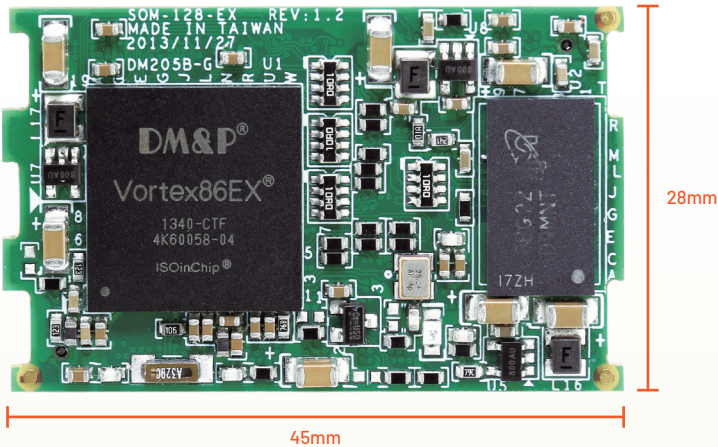
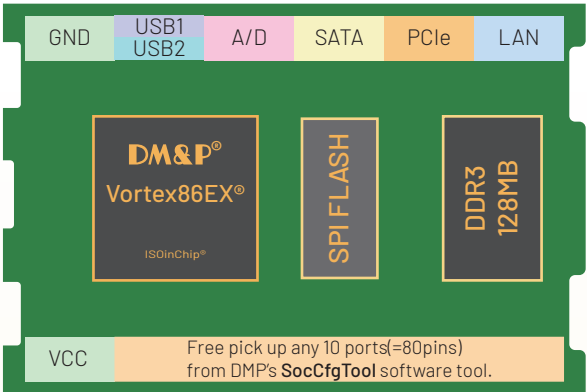


System Block Diagram



Operating System Support

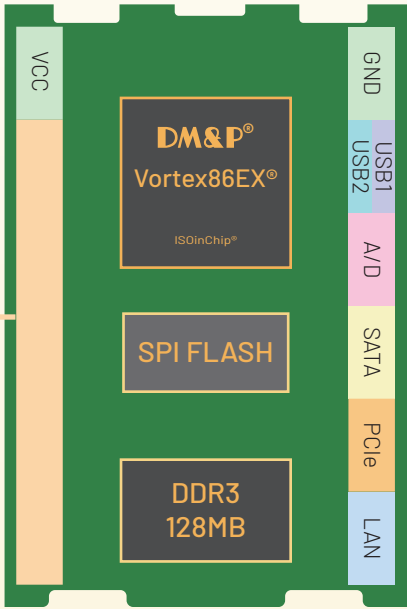
- **Windows:** CE 6.0, Embedded Compact 7
- **Linux :** Up to kernel 4.14 with QT support, the Buildroot step by step guide is also available.
- **Other OS Support:** For QNX, VxWorks and RTOS 32 support, please contact soc@dmp.com.tw



- 128MB DDR3 onboard
- S/2U/LAN/LPT/24PWM/i2c/SPI/Audio/PCIe/ISA/GPIO/SATA/8ADC
- Onboard 7.5MB SPI Flash
- 128-pin Module, I/O ports programmable (80 pins)
- Single Voltage +5V @ 380 mA
- Optional: Audio, CAN, LTP, eMMC, USB device, MCM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)

I/O programmable support10 ports (80 pins)

Function	Description	Maximum	Unit
GPIO	General Purpose Input/Output	80	bit
UART	16C550/16C552 compatible	10	port
TX/RX UART	UART with only TX/RX pin	8	pair
UART TXDEN	RS485 Auto direction control	8	bit
ISA	selectable for 8/16 bit and all other signals (Only 1 DMA channel)	1	bit/port
MCM	Motion control module	3	port
Printer	Printer Port	1	port
SD/eMMC	SD/eMMC	1	port
SPI	Serial Peripheral Interface	2	port
CAN	Controller Area Network	1	port
I2C	Inter-Integrated Circuit	1	port
USB Device	USB Device port, version:1.1	1	port
LAN LED	Link and Duplex LED for build	2	bit
Keyboard	PS/2 Keyboard	1	port
Mouse	PS/2 Mouse	1	port
WDTOUT	WatchDog timeout signal	1	bit
CLK OUT	Clock output select from 14.318MHz / 24MHz / 25MHz ISA Clock	1	bit
MTBF	MTBF flag output	1	bit
HD Audio	High Definition Audio	1	port



Free pick up any 10 ports(=80pins) from DMP's SocCfgTool software tool.

Order information

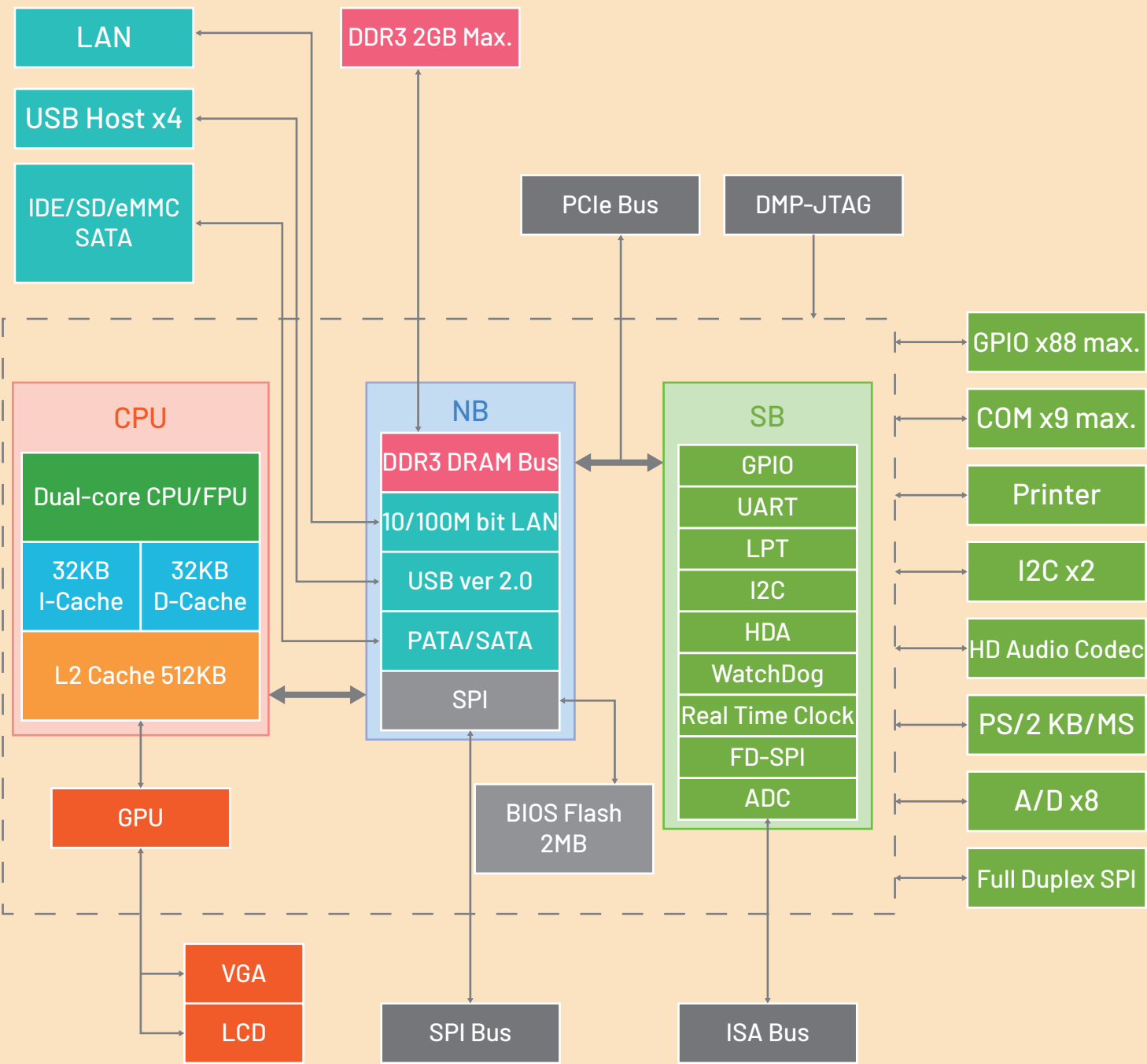
VEX-SOM: Vortex86EX SOM 128 pin CPU Module with 128MB DDR3
VEX-SOM-X: Vortex86EX SOM 128 pin CPU Module with 128MB DDR3, -40°C ~+85°C support
VEX-SOM-DEV: VEX-SOM Development Board*1/ Mini-PCIe VGA cable*1/ GPIO cable*5/ Mini-PCIe VGA Board*1/ Mini-PCIe to PCIe converter*1/ PRINTER PORT cable*1/ Y cable(1 Male to 2 Female)*1

Vortex86DX3

The Vortex86DX3 is a 32-bit dual-core x86 processor compatible with Windows, Linux, and 32-bit RTOS. It features L1/L2 cache, PCIe, DDR3, ROM controller, ISA, I²C, SPI, Ethernet, USB 2.0 Host, and IDE/SATA controllers in a 720-pin BGA package. Ideal for embedded systems and communication products like thin clients, routers, and tablets.



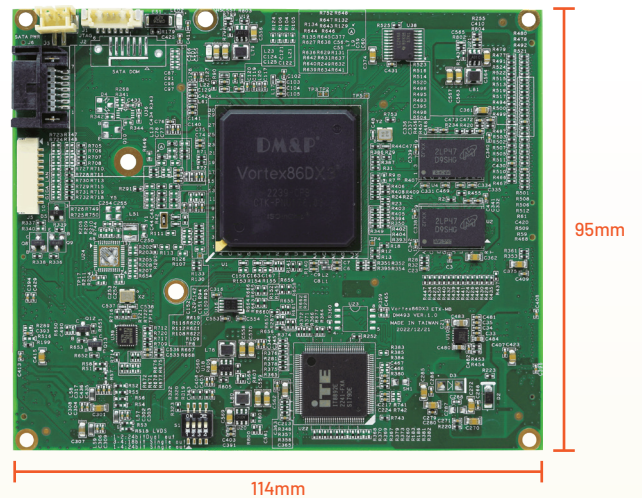
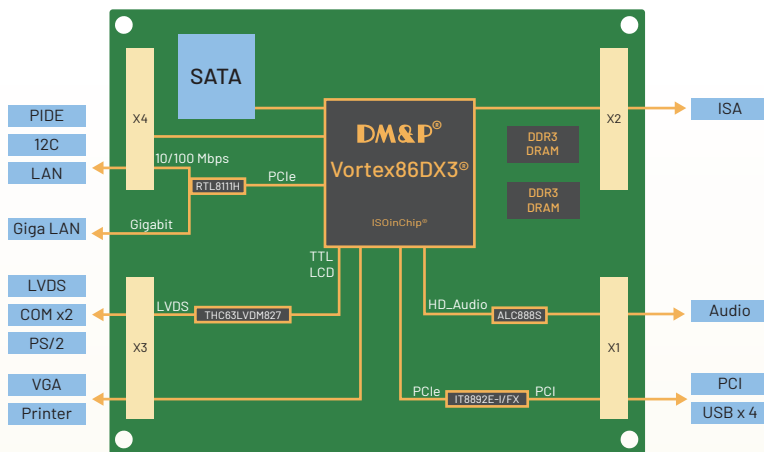
System Block Diagram



Operating System Support

- **Windows:** CE 6.0, Embedded Compact 7, WinXP, WES2009, Windows Embedded Standard 7
- **Linux :** Up to kernel 4.14 with QT support, the Buildroot step by step guide is also available.
- **Other OS Support:** For QNX, VxWorks and RTOS 32 support, please contact soc@dmp.com.tw

VDX3-ETX-V2 DM&P SoC Vortex86DX3- 1GHz



- 1GB / 2GB DDR3 onboard
- 2S/4U/VGA/LVDS/LAN/LPT(Optional)/I2C/AUDIO/PCI/ISA/16GPIO/IDE/SATA
- Without: Secondary IDE Channel
- Optional: GLAN
- Single Voltage +5V@ (1.3A)
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)

Order information

VDX3-ETX-53IS-V2:

Vortex86DX3 ETX Module with 800MHz/512MB DDR3/2S/4USB/LAN/VGA/LCD(18/24-bit)/AUDIO/PCI/SATA/IDE, -10 to +60°C

VDX3-ETX-74IE-V2:

Vortex86DX3 ETX Module with 1GB DDR3/2S/4USB/LAN/VGA/LCD(18/24-bit)/AUDIO/PCI/SATA(Vetical Connector)/IDE, -20 to +70°C

VDX3-ETX-74IE-H-V2:

Vortex86DX3 ETX Module with 1GB DDR3/2S/4USB/LAN/VGA/LCD(18/24-bit)/AUDIO/PCI/SATA(Horizontal Connector)/IDE, -20 to +70°C

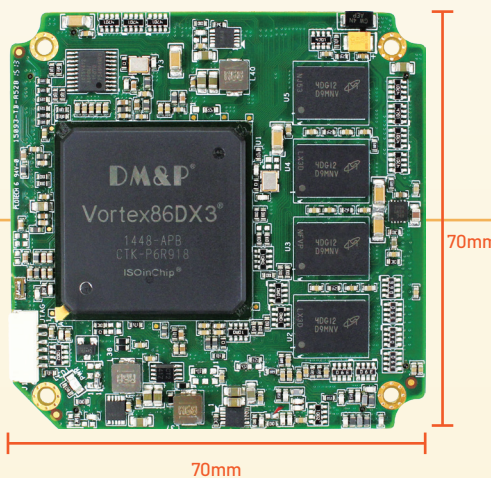
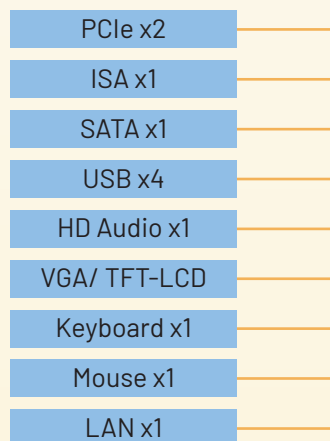
VDX3-ETX-75IE-V2:

Vortex86DX3 ETX Module with 2GB DDR3/2S/4USB/LAN/VGA/LCD(18/24-bit)/AUDIO/PCI/SATA(Vetical Connector)/IDE, -20 to +70°C

VDX3-ETX-75IE-H-V2:

Vortex86DX3 ETX Module with 2GB DDR3/2S/4USB/LAN/VGA/LCD(18/24-bit)/AUDIO/PCI/SATA(Horizontal Connector)/IDE, -20 to +70°C

SOM304D3 DM&P SoC Vortex86DX3- 1GHz



User-Defined Function
GPIO x88 Max.
COM x9 Max.
SPI x1
I2C x1
PWM x1
SD x1
IDE x1
Parallel x1

- 1GB / 2GB DDR3 onboard
- 4S/4U/VGA/LCD/LAN/LPT/Audio/2PCIe/4ADC/I2C/PWM/ISA/16GPIO/SATA
- 304-pin module, I/O ports programmable, 16-bit x-ISA
- Single Voltage +5V @1300mA (Typical)
- Onboard flash up to 4GB, up to 3 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)

Order information

SOM304D374EINE1-HS:

Vortex86DX3-1GHz/1GB DDR3/SATA/VGA/LCD/LAN/4USB 2.0/2PCIe/ISA/HD Audio/Keyboard/Mouse

SOM304D375EINE1-HS:

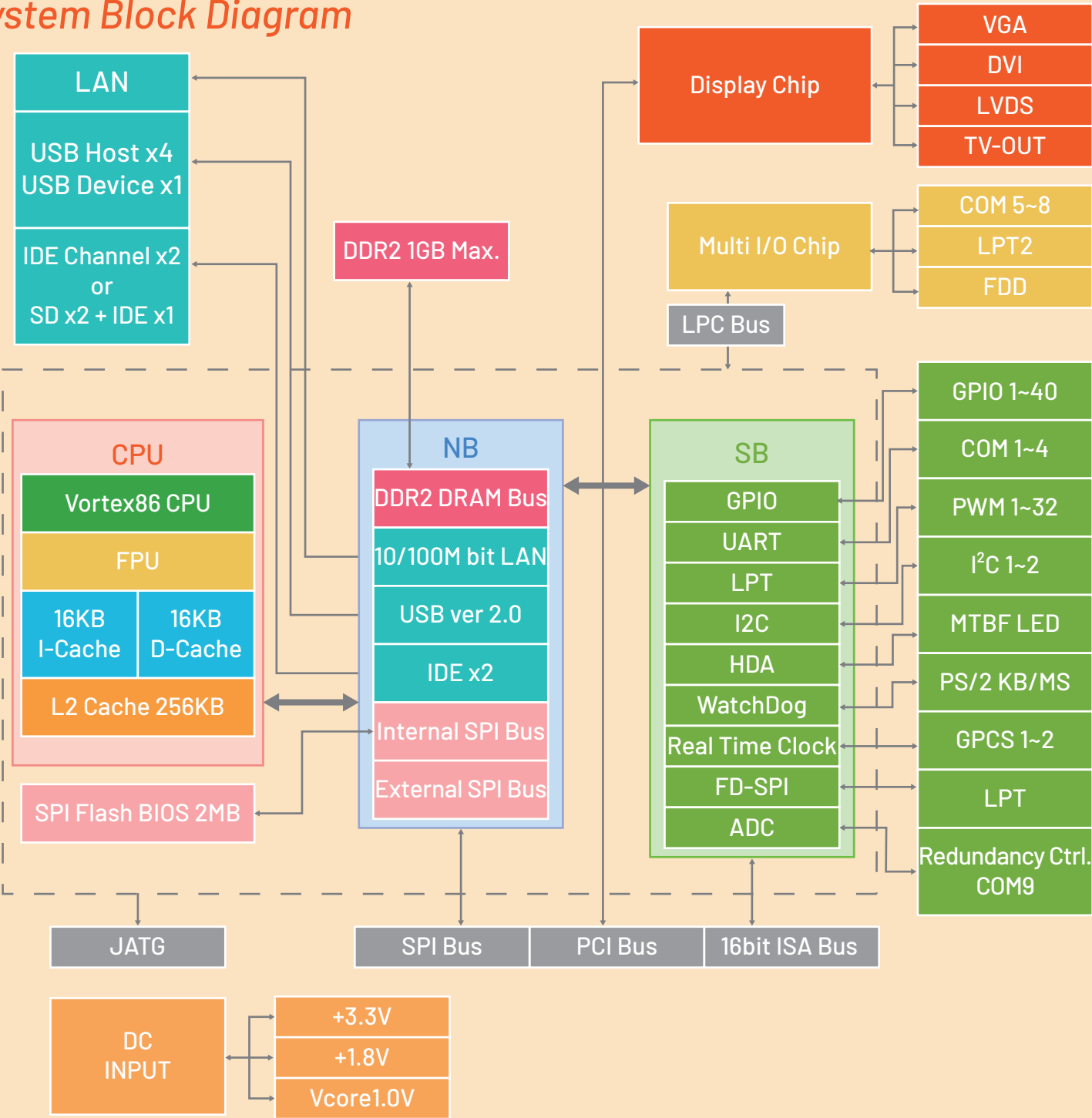
Vortex86DX3-1GHz/2GB DDR3/SATA/VGA/LCD/LAN/4USB 2.0/2PCIe/ISA/HD Audio/Keyboard/Mouse

Vortex86DX

DM&P Semiconductor's Vortex86DX is a low-power x86-compatible SoC consuming under 1 watt. Built with a 90nm process, it integrates I/O ports, BIOS, watchdog timer, power management, LAN-on-Chip, JTAG, L1/L2 cache, PCI bus, DDR2, ROM controller, Fast Ethernet, USB 2.0 Host, and IDE controllers in a 581-pin BGA package. It is ideal for embedded systems and communication products like thin clients, routers, and tablets.



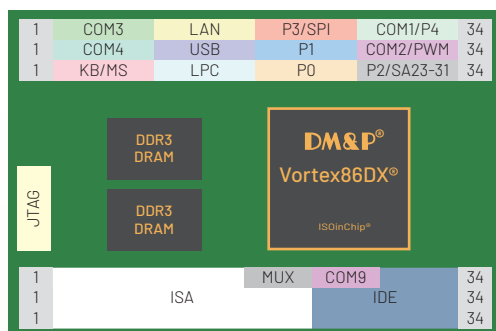
System Block Diagram



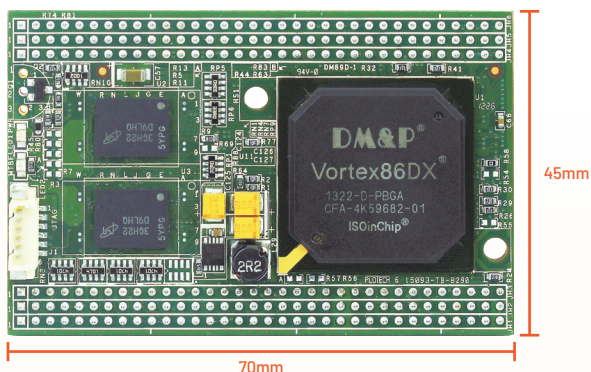
Operating System Support

- **Windows:** CE 6.0, Embedded Compact 7
- **Linux :** Up to kernel 2.6.32 with QT support, the Buildroot step by step guide is also available.
- **Other OS Support:** For QNX, VxWorks and RTOS 32 support, please contact soc@dmp.com.tw

VDX-DIP-ISARD DM&P SoC Vortex86DX- 800MHz



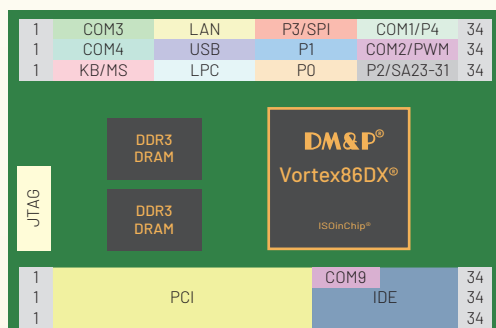
- 256MB / 512MB DDR2 onboard
- 5S/4U/LAN/IDE/ISA/32GPIO/PWM
- Onboard 4MB SPI Flash
- 204-pin module, 204 pins for for ISA & Multi-I/O
- Single Voltage +5V @ 380mA
- Optional: up to 3 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)



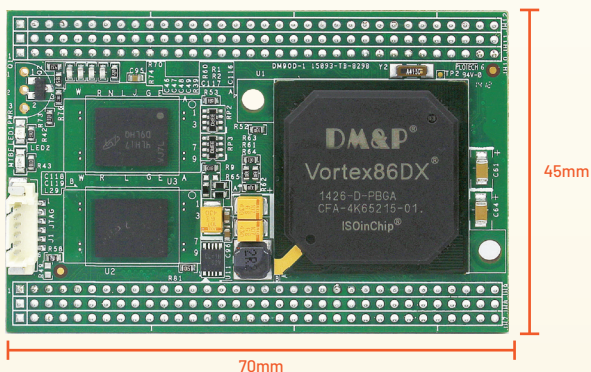
Order information

VDX-DIP-ISARD:
Vortex86DX DIP-204pin-ISA CPU Module with 256MB DDR2
VDX-DIP-ISARD-512:
Vortex86DX DIP-204pin-ISA CPU Module with 512MB DDR2

VDX-DIP-PCIRD DM&P SoC Vortex86DX- 800MHz



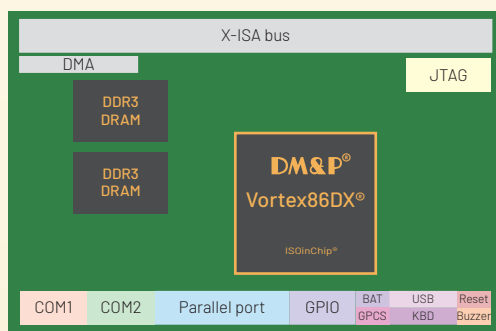
- 256MB / 512MB DDR2 onboard
- 5S/4U/LAN/IDE/PCI/32GPIO/PWM
- Onboard 4MB SPI Flash
- 204-pin module, 204 pins for for PCI & Multi-I/O
- Single Voltage +5V @ 380mA
- Optional: up to 3 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)



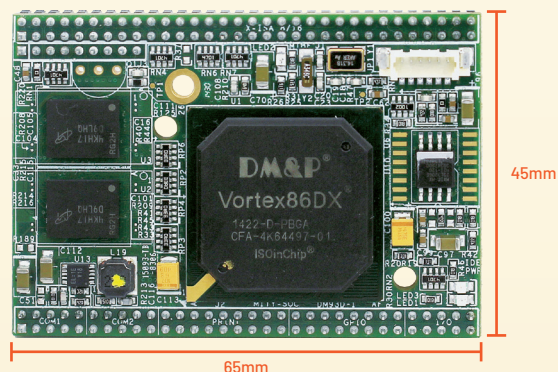
Order information

VDX-DIP-PCIRD:
Vortex86DX DIP-204pin-PCI CPU Module with 256MB DDR2
VDX-DIP-PCIRD-512:
Vortex86DX DIP-204pin-PCI CPU Module with 512MB DDR2

VDX-6319RD DM&P SoC Vortex86DX- 800MHz



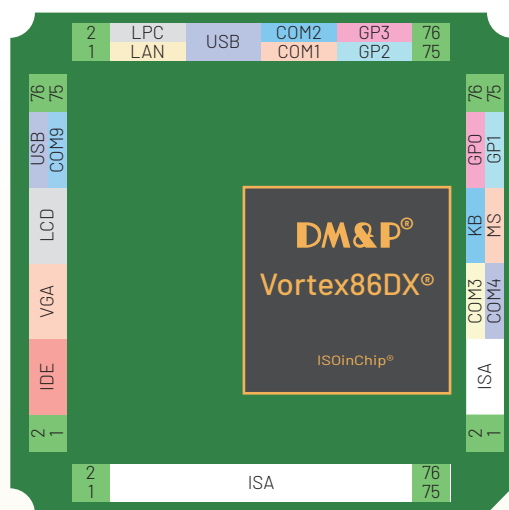
- 256MB DDR2 onboard
- 2S/U/LPT/16GPIO
- Onboard 4MB SPI Flash
- 128-pin CPU module, 64-pin 16-bit x-ISA, 64-pin I/O
- Onboard 1GB EmbedDisk
- Single Voltage +5V @ 400mA
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Optional)



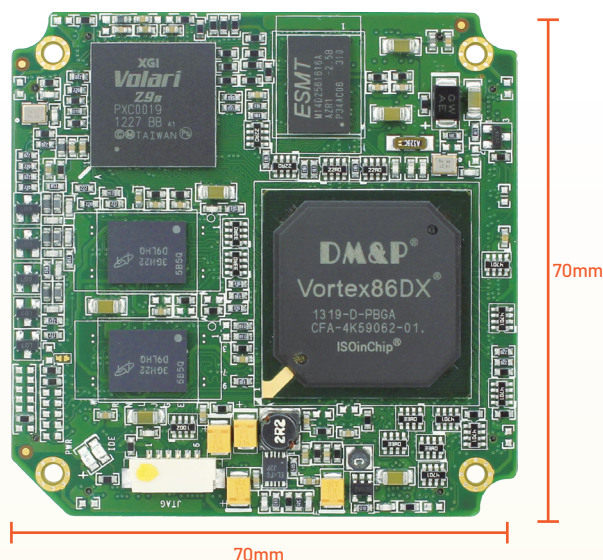
Order information

VDX-6319RD-FC-A: SST-1GB/TTL
VDX-6319RD-FC-B: SST-1GB/RS-232
VDX-6319RD-FC-C: SST-1GB/SPI-4MB/TTL
VDX-6319RD-FC-D: SST-1GB/SPI-4MB/RS-232

SOM304RD-VI DM&P SoC Vortex86DX- 800MHz



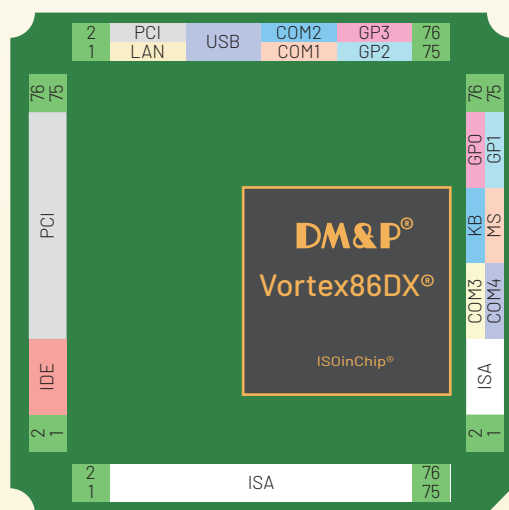
- 256MB / 512MB DDR2 onboard
- 5S/4U/VGA/LCD/LAN/LPT/32GPIO/I2C/PWM/IDE/ISA
- Onboard 4MB SPI Flash
- 304-pin module, Standard ISA bus
- Support LPC Bus
- 70 (L) x 70 (W) x 10.5 (H)mm, DC +5V @ 600mA
- Optional: Onboard flash up to 4GB, up to 32 PWM
- Operation Temp.: -20 ~ +70°C / -40 ~ +85°C (Opt.)



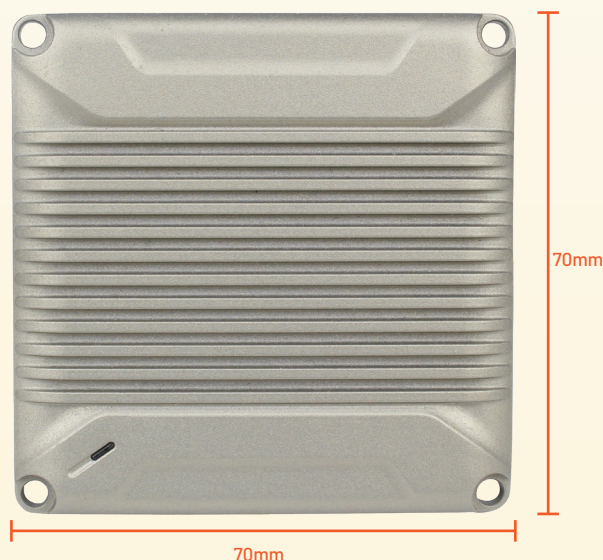
Order information

SOM304RD52VINE1: Vortex86DX SOM304 CPU module w/256MB DDR2
 SOM304RD53VINE1: Vortex86DX SOM304 CPU module w/512MB DDR2
 SOM304RD52VICE1: Vortex86DX SOM304 CPU module w/NAND Flash 1GB, 256MB DDR2
 SOM304RD53VICE1: Vortex86DX SOM304 CPU module w/NAND Flash 2GB, 512MB DDR2
 SOM304DX-DEV-VI: SOM304RD-VI Development Board

SOM304RD-PI DM&P SoC Vortex86DX- 800MHz



- 256MB / 512MB DDR2 onboard
- 4S/4U/LAN/LPT/32GPIO/I2C/PWM/IDE/PCI/ISA
- Onboard 4MB SPI Flash
- 304-pin module, PCI, standard ISA bus
- Support LPC Bus
- 70 (L) x 70 (W) x 10.5 (H)mm, DC +5V @ 480mA
- Optional: Onboard flash up to 4GB, up to 32 PWM
- Operation Temp.: -20 ~ +70°C / -40 ~ +85°C (Opt.)



Order information

SOM304RD52PINE1: Vortex86DX SOM304 CPU module w/256MB DDR2
 SOM304RD53PINE1: Vortex86DX SOM304 CPU module w/512MB DDR2
 SOM304RD52PIBE1: Vortex86DX SOM304 CPU module w/NAND Flash 512MB, 256MB DDR2
 SOM304RD53PIBE1: Vortex86DX SOM304 CPU module w/NAND Flash 2GB, 512MB DDR2
 SOM304DX-DEV-PI: SOM304RD-PI Development Board
 PCI-VGA-Z9s: XGI Z9s VGA/DVI PCI Display Board

SOM200RD-XI DM&P SoC Vortex86DX- 800MHz

- 256MB / 512MB DDR2 onboard
- 5S/4U/LAN/LPT/32GPIO/I2C/PWM/IDE/ISA
- Onboard 4MB SPI Flash
- 200-pin module, 16-bit x-ISA
- Support LPC Bus
- 52 (L) x 52 (W) x 10.5 (H)mm, DC +5V @ 600mA
- Optional: Onboard flash up to 4GB, up to 32 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Opt.)

Order information

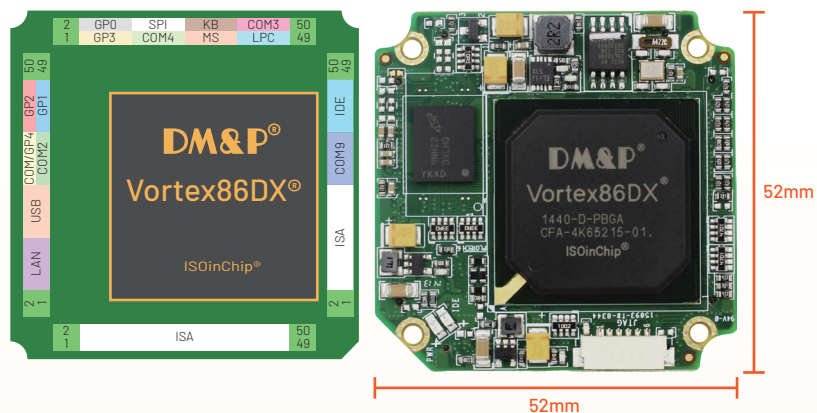
SOM200RD52XINE1: Vortex86DX SOM200 CPU module w/256MB DDR2

SOM200RD52XIBE1: Vortex86DX SOM200 CPU module w/256MB DDR2, NAND Flash 512MB

SOM200DX-DEV-XI: SOM200RD-XI Development Board

ICOP-2811: PC/104 VGA/LCD Display Module

ICOP-0091: PC/104 interface to ISA Bus



SOM200RD-PC DM&P SoC Vortex86DX- 800MHz

- 256MB / 512MB DDR2 onboard
- 5S/4U/LAN/LPT/32GPIO/I2C/PWM/IDE/PCI
- Onboard 4MB SPI Flash
- 200-pin module, Standard PCI bus
- Support LPC Bus
- 52 (L) x 52 (W) x 10.5 (H)mm, DC +5V @ 420mA
- Optional: Onboard flash up to 4GB, up to 32 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Opt.)

Order information

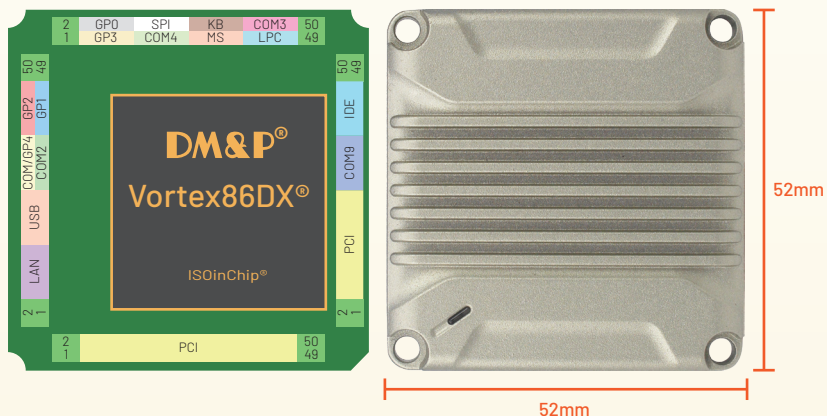
SOM200RD52XINE1: Vortex86DX SOM200 CPU module w/256MB DDR2

SOM200RD52XIBE1: Vortex86DX SOM200 CPU module w/256MB DDR2, NAND Flash 512MB

SOM200DX-DEV-XI: SOM200RD-XI Development Board

ICOP-2811: PC/104 VGA/LCD Display Module

ICOP-0091: PC/104 interface to ISA Bus



VDX-6300RD DM&P SoC Vortex86DX- 800MHz

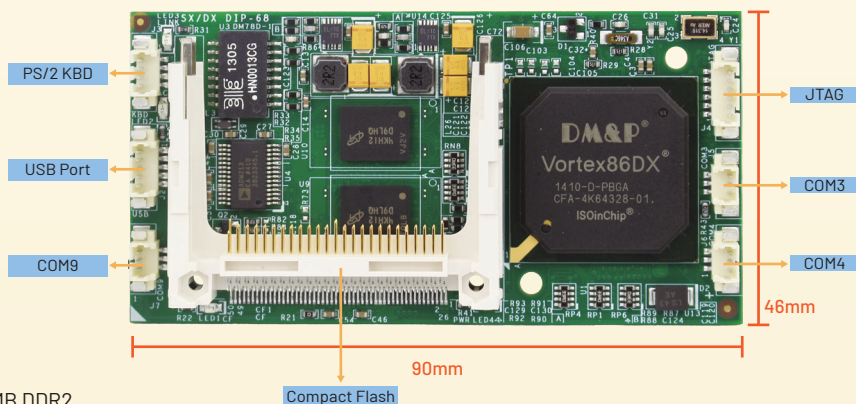
- 256MB / 512MB DDR2 onboard
- 5S/3U/LAN/28GPIO/CF/PWM
- Onboard 4MB SPI Flash
- 68-pin module
- 90 x 46mm, DC +5V @ 380mA
- Optional: up to 24 PWM
- Operation Temperature: -20 ~ +70°C / -40 ~ +85°C (Opt.)

Order information

VDX-6300RD: Vortex86DX DIP 68pin CPU Module with 256MB DDR2

VDX-6300RD-512: Vortex86DX DIP 68pin CPU Module with 512MB DDR2

VSX-6100-EVB: Vortex86SX DIP 48/68pin CPU Module Development Board

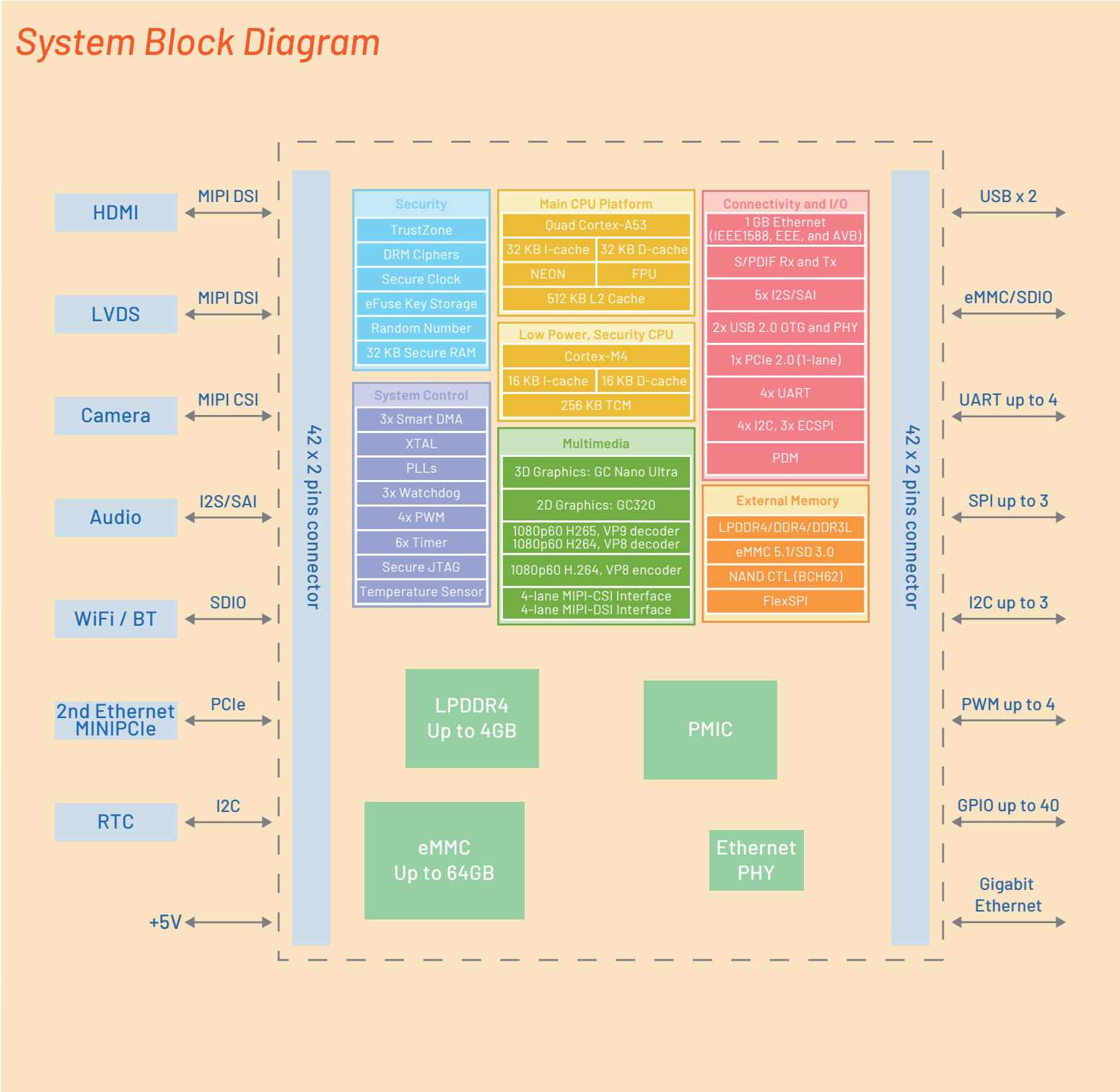


i.MX8M Mini

i.MX 8M Mini features a powerful quad-core Arm® Cortex®-A53 CPU, capable of operating at speeds up to 1.6 GHz, alongside a 400 MHz Cortex®-M4 core for low-power tasks. The DRAMcontroller supports 32-bit and 16-bit LPDDR4, DDR4, and DDR3L memory configurations. The processors offer a wide array of audio interfaces, including I2S, AC97, TDM, and S/PDIF. For display and camera functionality, they include support for MIPI-DSI and MIPI-CSI interfaces. Additionally, they provide various peripheral connections such as USB, PCIe, and Ethernet.



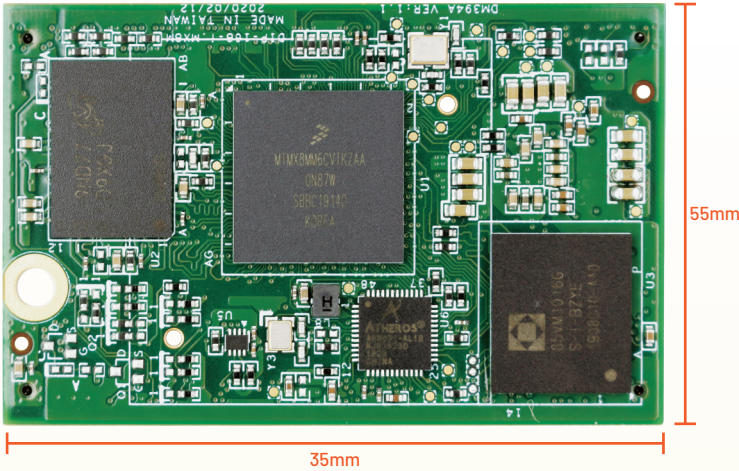
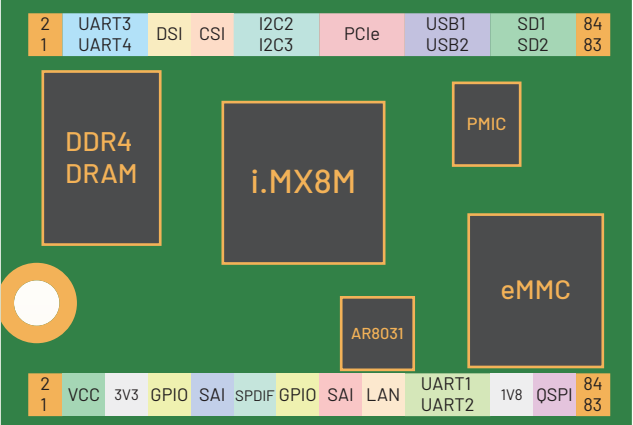
System Block Diagram



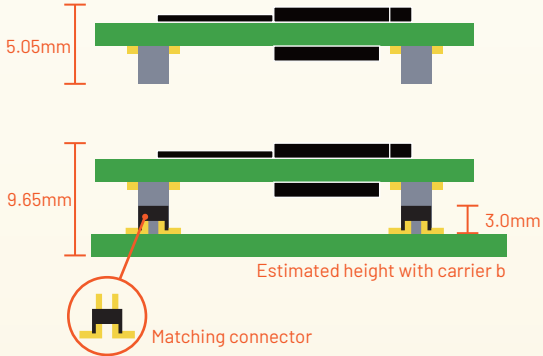
Operating System Support

- Linux :Yocto Linux , Ubuntu Linux
- Other OS Support: Android

NX8MM-D168 NXP i.MX8M Mini Quad, 4 x Cortex-A53 1.6GHz



CPU	NXP i.MX8M Mini Quad, 4 x Cortex-A53 1.6GHz/1.8GHz
GPU	GCNanoUltra for 3D acceleration GC320 for 2D acceleration
VPU	Decode: 1080p60, H.265, H.264 Encode: 1080p60, H.264
Co-CPU	Cortex-M4
RAM	LPDDR4 2GB/4GB Onboard
Storage	eMMC 8GB ~ 64GB, MLC / SLC Onboard
Display	MIPI-DSI, 4 data lanes, up to 1920x1080 60Hz
Camera	MIPI-CSI, 4 data lanes
Ethernet	Gigabit Ethernet x 1
Audio	Up to 3 x I2S/SAI, S/PDIF input/output
PCIe	Gen 2.1 PCIe x 1
USB	USB 2.0 x 2
UART	Up to 4 x UART
eMMC/SDIO	Up to 2 x eMMC/SD/SDIO
Operating Temp.	0° to 60° C / -20° to 70° C / -40° to 85° C
Power input	+5V
OS Support	Yocto Linux, Ubuntu Linux, Android



Order information

NX8MM-D168-	4	2	C	S	E
					C: 0~70°C(1.8GHz) E: -20~70°C(1.6GHz) X: -40~85°C(1.6GHz)
					<u>eMMC</u> S: SLC M: MLC
					<u>eMMC</u> B: 8GB C: 16GB E: 64GB
					<u>DRAM</u> 2: 2GB 4: 4GB
					<u>CPU</u> 4: Quad Core

NX8MP-SMARC Coming soon

Form Factor	SMARC 2.1
CPU	NXP i.MX8M PLUS Quad, 4 x Cortex-A53 1.6GHz
NPU	2.3 TOP/s
Storage	Onboard eMMC 16~128GB(MLC)
IO	HDMI/LVDS /2MIPI CSI/2GLAN/PCIe/USB3.0x2/USB2.0x3/2I2S/ SPI/2CAN/4UART/5i2c/14GPIO/WIFI&BT/TPM/SDIO