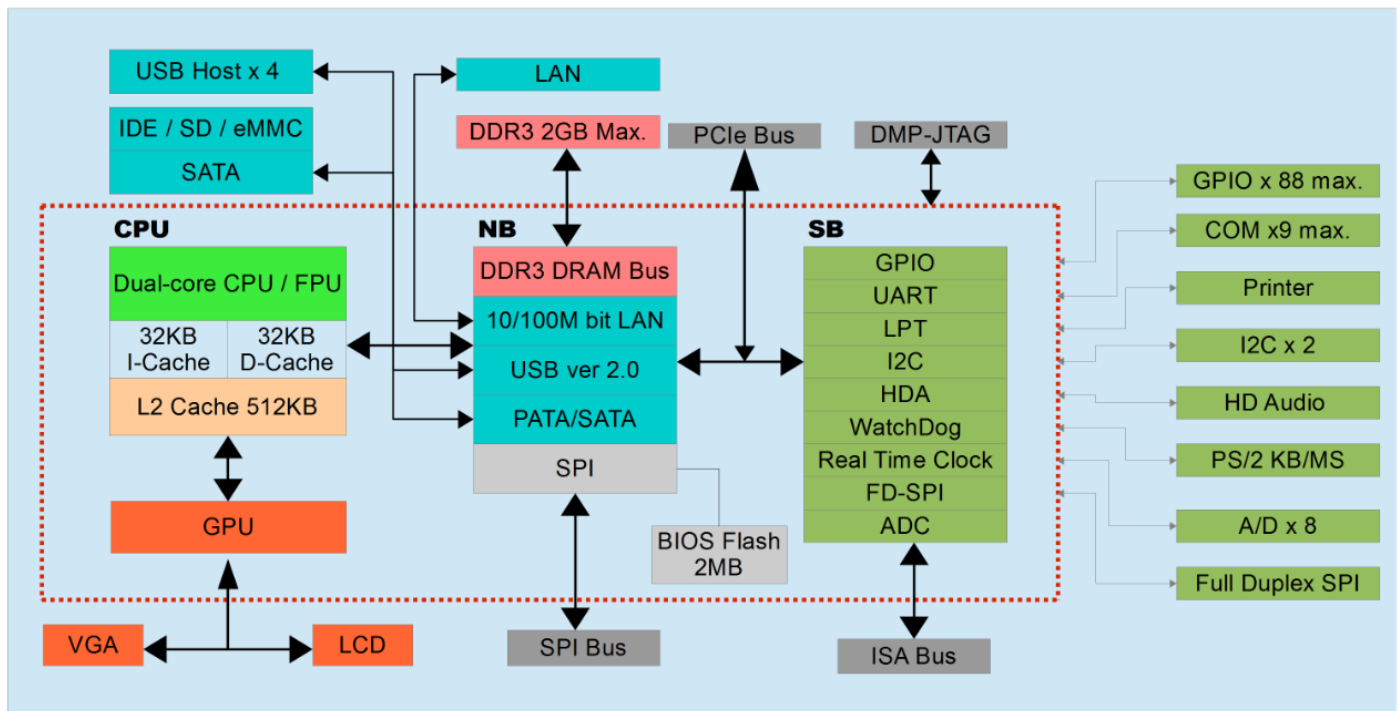


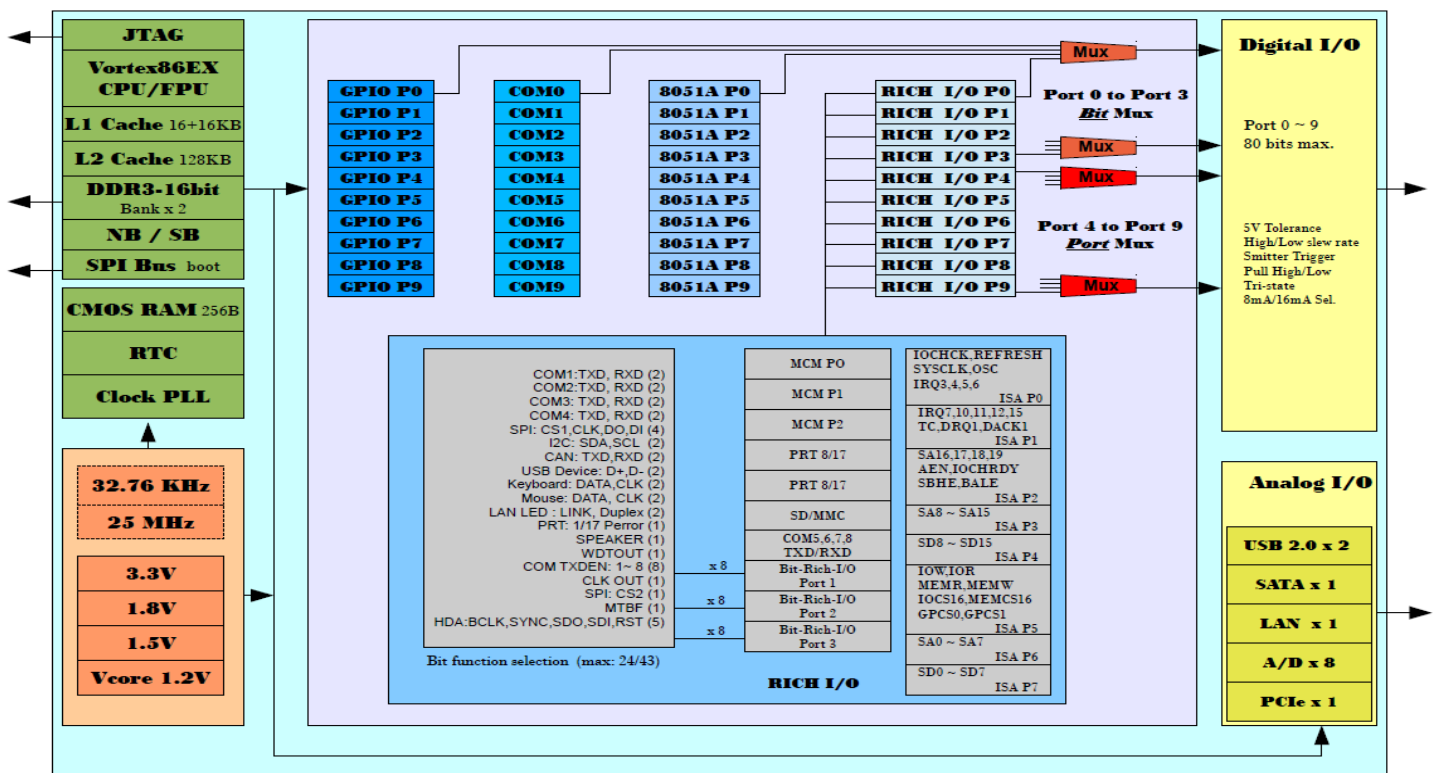
The Vortex86 SoC series are 32-bit x86-architecture microprocessor with the compatibility of Windows based, Linux and most popular 32-bit RTOS. The CPU clock is from single core 300MHz to dual core 1GHz, also integrates the L1 cache and L2 cache. Build-in the ISA, PCI, PCIe, UART, IDE/SATA, I2C, SPI, CAN, GPIO, USB ...etc, most of the legacy I/O interface into one single BGA package.



## Vortex86DX3 Block Diagram



## Vortex86EX Block Diagram



## Specification

	Vortex86SX	Vortex86DX	Vortex86DX2	Vortex86EX	Vortex86DX3
Frequency	300 MHz	800 MHz (typ.)	800 MHz (typ.)	400 MHz (typ.)	1000 MHz (typ.)
Core	Single	Single	Single	Single	Dual
Process	130nm	90nm	90nm	90nm	40nm
FPU	N/A	Yes	Yes	Yes	Yes
L1 Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	16KB C/D Cache	32KB C/D Cache
L2 Cache	N/A	256KB	256KB	128KB	512KB
BIOS Flash	256KB	2MB	2MB	N/A	8MB
DRAM Bus	512MB Max.	1GB Max.	2GB Max.	1GB Max.	2GB Max.
GPU	N/A	N/A	2D Engine, CRT/LCD, UMA	N/A (external PCI Graphic chip, Vortex86VGA, is available)	2D Engine, CRT/LCD, UMA, Dual Display
HD-Audio	N/A	N/A	Yes	Yes	Yes
WatchDog	2	2	2	1	2
PCI Bus	Yes	Yes	PCIe x 2	PCIe x 1	PCIe x 2
ISA Bus	Yes	Yes	Yes	Yes	Yes
LPC Bus	Yes	Yes	N/A	N/A	N/A
USB	USB 2.0 Host x 4	USB 2.0 Host x 4	USB 2.0 Host x 4	USB 2.0 Host x 2	USB 2.0 Host x 4
Serial Port	5 max.	5 max.	9 max.	10 max.	9 max.
GPIO Port	40 bit max.	40 bit max.	88 bit max.	80 bit max.	88 bit max.
LAN MAC	10/100 Mbit	10/100 Mbit	10/100 Mbit	10/100 Mbit	10/100 Mbit
LAN PHY	Yes	Yes	Yes	Yes	Yes
IDE	2 channels	2 channels	SATA/PATA/SD	SATA + SD	SATA/PATA/SD
Parallel Port	1	1	1	1	1
CAN	0	0	0	1	0
I2C	2	2	2	1	2
PS/2	Yes	Yes	Yes	Yes	Yes
Power Input	Vcore 1.2V(typ.) I/O 1.8V, 3.3V	Vcore 1.0V(typ.) I/O 1.8V, 3.3V	Vcore(1.0V),1.2V I/O 1.8V, 3.3V	Vcore(1.2V), 1.5V I/O 1.8V, 3.3V	Vcore(1.0V), 1.2V,1.5V I/O 1.8V, 3.3V
Package Size	27 x 27 mm	27 x 27 mm	31 x 31 mm	16 x 16 mm	31 x 31 mm
Package TYPE	581 pins Ball BGA	581 pins Ball BGA	720 pins Ball BGA	288 pins Ball BGA	720 pins Ball BGA
Ambient Temp	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C
EVB Part No.	VSX-6190S	VDX-6390D	VDX2-6690	VEX-6290	VDX3-6790
From Factor	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX

## Benchmark & Power Consumption Index

