

Shuttle®



Product Sales Kit
NC02U Celeron 3855U

Product Outlook

Shuttle, the leader of barebone system in the world, launched all new XPC Nano NC02U series. The new Nano form factor make the chassis size only 142x142x42 mm. Support DDR3L memory to save the power consumption. When using dual channel memory the NC02U UHD/FHD video performance makes user get a wonderful experience.

Not only the performance, Shuttle also put various I/O interface in this small chassis include USB2.0, USB3.0, RS232, SATA 6Gb/s, M.2 2280 for SSD and Intel GigaLAN. Making user easy to use their external devices.

- Support 4K / Ultra HD video playback
- Support dual independent display outputs(1 x DisplayPort + 1 x HDMI)
- Built-in SATA 6Gb/s & M.2 2280 M key
- Built-in Intel® Gigabit LAN, Realtek 802.11 /b/g/n WIFI module
- Shuttle 0.5L Nano form factor
- 1 x RS232, 1 x USB 3.0, 1 x USB3.0 Type-C
- Operable in 0-50°C environments

Product Outlook



- 1. Power Button / Status LED
- 2. SD Card Reader
- 3. USB 3.0
- 4. USB 3.0 Type-C
- 5. HDD LED
- 6. Thermal Vent
- 7. K-Lock Security Slot
- 8. Power Jack (DC-in)
- 9. HDMI Port
- 10. DisplayPort
- 11. LAN (RJ45) Port
- 12. USB 2.0 (x2)
- 13. Headphones / Line-out Jack
- 14. Serial COM Port (RS232)

Product Outlook



Product Outlook



NC02U Series Specification

FORM FACTOR

- Shuttle Ultra Small Form Factor
- Shuttle “XPC nano” chassis
- Dimension: 142(L) x 142(W) x 42(H) mm

PROCESSOR

- Intel® Celeron® 3855U Dual core Processor

VGA

- Intel® HD Graphics 510
- Intel® HD Graphics 520

MEMORY

- SODIMM x 2
- Supports DDR3L-1333/1600 MHz
- MAX. 32GB

LAN

- Intel® i211LM
- 10Mb/s, 100Mb/s, 1000Mb/s operation
- Supports S3, S4, S5, Wake-On-LAN

WLAN

- M.2 2230 WLAN Card
- Built-in 802.11 b/g/n

AUDIO

- Realtek ALC662
- HD 2 Channel

STORGE INTERFACE

- On board SATA 6.0Gb/s connector
- M.2 2280 socket (PCI-E + SATA)

POWER

- 65W adapter
- Input 100 - 240V AC
- Power Plug region specific

CONNECTOR

- (1) SATA 6.0Gb/s connector

FRONT PANEL

- (1) USB 3.0 Port
- (1) USB 3.0 Type-C
- (1) Power-on Button
- (1) Power Indicator
- (1) HDD Indicator
- (1) SD Card Reader

EXPANSION SLOT

- (1) M.2 2280 socket
- (1) M.2 2230 socket for WLAN module

BACK PANEL

- (2) USB 2.0 Port
- (1) RJ-45 10/100/1000 Ethernet
- (1) HDMI Port
- (1) DisplayPort
- (1) DC in connector
- (1) Kensington lock
- (1) RS232
- (1) Combo Jack 3.5mm for External Microphone and Headphone

BIOS

- Supports PnP, ACPI 3.0
- Supports external USB flash memory card boot up
- Be with AMI BIOS and 8MB flash ROM UEFI

ACCESSORIES

- XPC quick installation guide
- XPC DVD Driver
- (1) Power cord
- (1) Power adapter
- (1) VESA Mount
- (1) Stand
- (1) Screws pack

Performance : 3DMark

Model	NC02U Celeron 3855U
Test Software	3DMark 1.5.893
Ice Storm Score (DirectX 9)	488
Graphics Score	549
Physics Score	1734
Cloud Gate Score (DirectX10)	169
Graphics Score	1938
Physics Score	1880
Sky Diver Score (DirectX11)	2375
Graphics Score	1865
Physics Score	2942
Combined Score	4744
Fire Strike Score (DirectX11)	1264
Graphics Score	31039
Physics Score	45576
Combined Score	14321

Performance : Video Playback

Model				NC02U		
CPU with VGA				Celeron 3855U 1.6Ghz Intel HD Graphics 510		
Media Player Software				K-Lite Mega Code Pack 10.9.5 with Windows Media player		
Media source	Encoding Format	File Format	Bit Rate(bps)/FPS (Avg)	1920*1080 (1080P)	1080P x2	3840*2160 (4K) x1
				Test Result		
BenQ-Alishan 1080P (1920x1080)	AVC1(H264)	FLV	10M / 29.97	Smooth	Smooth	N/A
		MKV	10M / 29.97	Smooth	Smooth	
		MP4	10M / 29.97	Smooth	Smooth	
	H264	AVI	10M / 29.97	Smooth	Smooth	
	MP4V(MP4 V2)	MKV	10M / 29.97	Smooth	Lag	
		MP4	10M / 29.97	Smooth	Lag	
HDClub Chimei 4K (3840x2160)	H264	MP4	20M / 29.97	N/A		

Key Feature

Intel® Celeron® High Performance Processor

NC02U equipped 14nm Skylake-U Intel® Celeron® 3855U 1.6GHz high performance dual core processor. Max. TDP only 15W, and using low voltage DDR3L memory, max. 32GB (16GB x 2). The new integrated GPU Intel® HD510 Graphics, not only can support various formats of FHD playback, but also support up to UHD.



Code Name	Model	Core / Threads	CPU Speed (Base / Turbo)	LLC Cache	Graphics Chip	Graphics Clock (Base/Max)	DDR3L Memory Clock	TDP
Skylake-U	Celeron 3855U	2/2	1.6 GHz	2 MB	HD 510	300/900 MHz	1866/1600 MHz	15W
Broadwell-U	Celeron 3205U	2/2	1.5 GHz	2 MB	HD	300/800 MHz	1600 MHz	15W

Key Feature

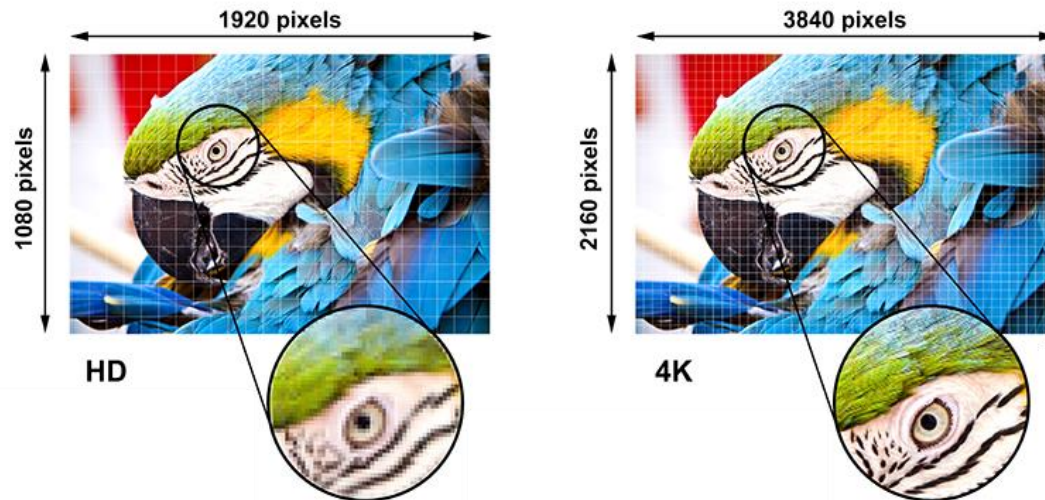
Support 4K High Resolution

Providing the DisplayPort and HDMI to support 4K x 2K high resolution, makes the better video quality with the larger size TV or monitor.

Maximum Resolution

DisplayPort : 4096x2304@60Hz

HDMI : 4096x2304@24Hz



Key Feature

Intel® Gigabit LAN interface

NC02U built-in Intel® i211 network controller, providing 10/100/1000 high speed LAN. Intel® network controller also has more stable performance and suit for the enterprise users.



Support 802.11 b/g/n WIFI

Built-in Realtek 802.11 b/g/n WIFI module(M.2 2230), easy to connect to the network and get more convenient network experience.

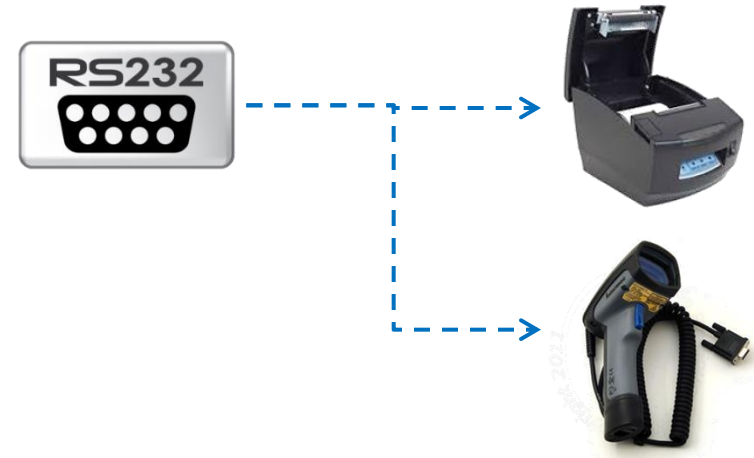


WIFI Standard	802.11n
Frequency	2.4/5GHz
Stream data rate	300 Mbps

Key Feature

▪RS232(COM Port) interface

NC02U provides one RS232 port. It can easily connect to peripherals such as thermal printer, label printer and bar code scanner. An adaptor can be used to convert RS232 to USB port for supporting more devices.



USB 3.0 Type-C

NC02U provides 1 x USB3.0 Type-C to be compatible with more and more Type-C devices especially the mobile devices.



Key Feature

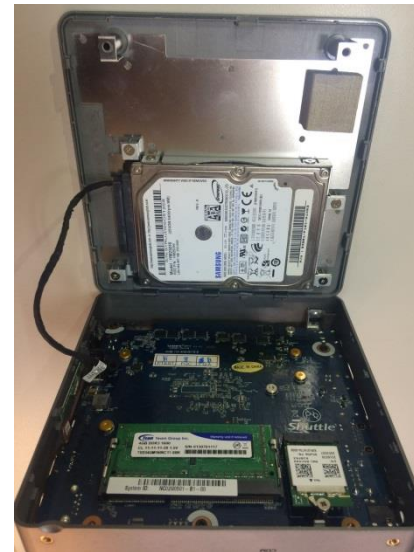
Easy to setup to system

NC02U series It makes user easier to setup the hardware, no matter DRAM, 2.5" HDD, M.2 SSD, no need to take the motherboard out.



Support 15mm HDD

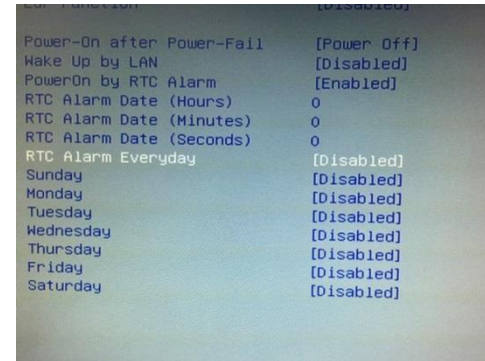
The all new HDD bracket design can support up to 15mm max 2.5" HDD, it makes more flexible for HDD installation.



Key Feature

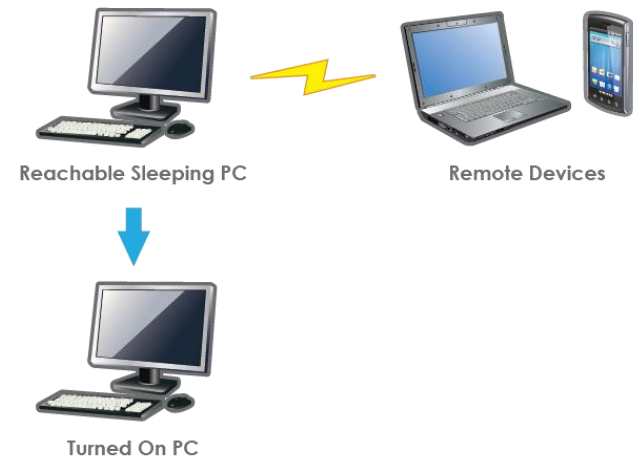
Supports Power on by RTC

Enter BIOS to set up the Power on by RTC function that allows you to set a time to boot up the computer, which can also be turned on and off with the Windows task scheduler. This feature means saving electricity and energy as well as eliminating the cost of on-site service.



Support Wake On LAN

Use BIOS to set up the Wake On LAN function so that users can turn on the NC02U series – from the sleep mode, rest mode, or when powered off – via the internet.



Power On after Power Failure

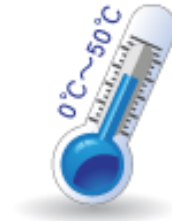
NC02U support hardware power on resume function, it will auto boot up after the power supply interrupted and resumed.

Key Feature

Operating temperature

The NC02U is suitable for 0 ~ 50 °C working environments to meet the environmental operation demands of commercial applications.

■* With use of SSD and Wide Range Temp. SODIMM



High speed transfer interface

NC02U has perfect space design with SATA port/M.2 2280. it makes user can put the maximum size of 2.5" HDD(15mm) and also accept M.2 2242/2260/2280 B,M Key device.



Support M.2 SATA/PCIe interface

NC02U built-in aM.2 2280 M key slot supports the SSD no matter is SATA or PCIe interface. Performing ultra high speed data transfer rate.



Key Feature

Watch Dog

Use Shuttle's Watch Dog utility to maintain the normal operation and stability of the system at all times.



SD Card Boot

Enter BIOS to set up the SD Card Boot function so that users can turn on or install the operating system using the SD card.

VESA Mount

The NC02U meets the international VESA standards, capable of mounting to the rear of an LCD monitor or VESA mount compatible TV. Beside the VESA mount, Shuttle also provide vertical stand for user.

Standard Accessory

65W Adapter



2 pin power cord



Driver DVD



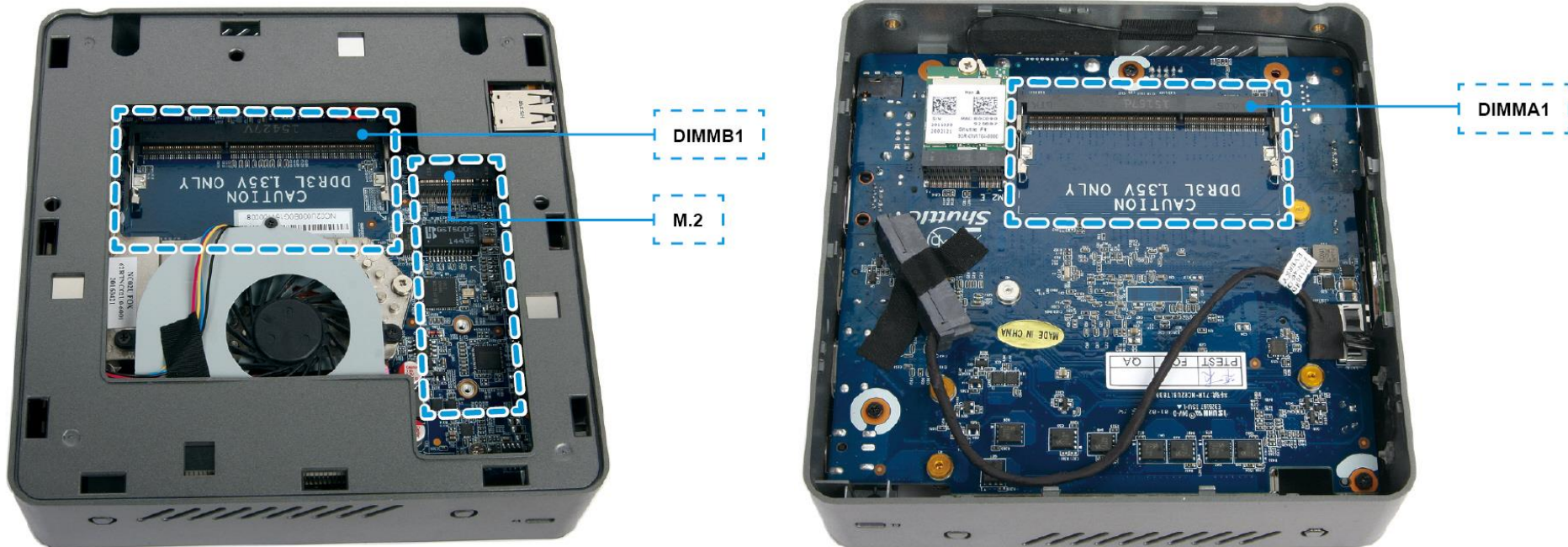
Foot Stand



VESA Mount



Motherboard



Reliability, IRT and RD Test

All Shuttle systems have undergone a battery of tests in our analysis chambers to ensure stable and reliable operation in their targeted application environments.

Tested Items

- 1) Drop Test
- 2) Vibration Test
- 3) Temperature & Humidity Test
- 4) Transmission & Storage Test
- 5) Temperature Cycling Test
- 6) MTBF Test
- 7) Salt Spray Test
- 8) Life Cycle Test
- 9) Full Function Test
- 10) Noise Test



Mini-Server



Digital Signage



POS / POI



Security

Shuttle®
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Notebook



NAS



Tablet