

NOAH 2

The embedded board which let you create the solution that fits your business...

- Intel 4 cores 1.91GHz AES-NI
- True fanless (no need enclosure as radiator)
- Fully electronic, mechanical and software optimized
- EMC-friendly design
- Large expansion capabilities
- Optimized for GSM, Analog/BRI/PRI VoIP cards
- USB 3.0
- Network Interlink port



Noah 2 is reliable powerful fanless hardware for 24/7 appliances and even more

- ◆ **Embedded industrial environment** (router, hardware controller, control interface panel, ...)
- ◆ **Telecom** (router, IPBX, VoIP gateway, LTE, Wifi controller...)
- ◆ **Network** (firewall router, aggregator, VPN server, NAS, video surveillance, ...)
- ◆ **Security** (VPN server, analyzer, packet inspector, ...)
- ◆ **IoT** (gateway, concentrator, onsite controller, onsite analyzer, ...)
- ◆ **Prototyping** (proof of concept, geek, ...)
- ◆ **And your appliance**, contact us...

Specifications

Processor	CPU : Intel Atom E3845
	Core : 4
	Frequency : 1.91 GHz
	L2 Cache : 2MB
	BIOS : AMI 64 Mbit
	AES : AES-NI
Memory	Technology : DDR3L 1333MHz
	Max. capacity : 8GB
	Socket : 1 x 204 pin SODIMM
Display	VGA Maximum resolution : up to 2560 x 1600 at 60 Hz
Ethernet	Interface : 3 Gigabit Ethernet
	Controller : Intel I211AT
	Connector : RJ45
WatchDog Timer	Output : System reset
	Internal WatchDog timer : (programmable 1-255s, 1-255min, disable)
Storage	mSATA : 1 x full size mSATA
	eMMC : 1 (eMMC 4.5, Support Broachlink eMMC Module)
	SATA : 1 x SATAII (Max. data transfert rate up to 3.0 Gbps)
Internal I/O	Up to 3 Serial: 1 x RS-232 ,2xTTL (Transfer rate up to 1 Mbit/s)
	Ethernet: Up to 4 RJ45 or SFP Gigabit with expansion boards
	VGA: 1
	Reset Button: 2
	Power Button: 2 (For system wake)
	USB: 3 x USB2.0 (1 external connector, 2 x internal connector) + 1 x USB3.0
	GPIO: 24-bit GPIOs
Expansion	Full-size Mini PCIe: 3 slots MSATA1 slot has sata signal, LPC signal. MINI_PCIE1 slot has pcie signal, SIM signal, usb signal. MINI_PCIE2 slot has pcie signal.
	PCIe x1 Golden Finger: 1 (Optimized for VoIP cards, Quickly build Voice PBX)
	mSATA: 1
Power	Power input: 12V ±10% only
	Power Consumption (Typical, Minimum system) Noah with E3845: 0.5A @ 12V (5.28W)
	Power Consumption (Max, test in pSense) Noah with E3845: 1A @ 12V (12W)
Environment	Operating 0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operating -40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W): 160x152 mm (6.3" x 5.99")
	Weight: 0.45 kg (0.99 lb) (with heat sink)
	Total Height: (with cooler + PCB + Bottom) 33mm
Reference	BL-NOAH-E3845V20

pfSense

OpenSense

FreeBSD debian

OpenWrt
Wireless Freedom

FreeNAS



CentOS

Noah expansion boards list

Create the solution that fits your business...

Network modules



Network modules	1 GbE port	2 GbE port	1 SFP Gigabit port	2 SFP Gigabit ports
Module REF	BL-GES211R	BL-GED211R	BL-GES210S	BL-GED210S
Network chip	Intel i211 at	Intel i211 at	Intel i210 as	Intel i210 as
Speed (Mbps)	10/100/1000	10/100/1000	10/100/1000	10/100/1000
Interface	miniPCle	miniPCle	miniPCle	miniPCle
Connection	RJ-45	RJ-45	SFP	SFP
Number of ports	1	2	1	2
Rack Matrix S2 mounting	Yes – Matrix 25	Yes – Matrix 25	Yes – Matrix 25	Yes – Matrix 25
Availability	Released	Released	Released	Not yet
Product web page	🛒	🛒	🛒	

Storages modules



Storages modules	4 GB	8 GB	16 GB	32 GB	64 GB	128GB
Module REF	BL-EMMC4G	BL-EMMC8G	BL-EMMC16G	BL-EMMC32G	BL-EMMC64G	BL-EMMC128G
Capacity	4GB	8GB	16GB	32GB	64GB	128GB
Chip brand	SAMSUNG	Foresee	Foresee	Foresee	Foresee	Foresee
Speed R/W	40MB/140MB	40MB/140MB	40MB/140MB	40MB/140MB	40MB/140MB	40MB/140MB
Technology	MLC	MLC	MLC	MLC	MLC	MLC
Product web page	🛒	🛒	🛒	🛒	🛒	🛒

Accessories modules



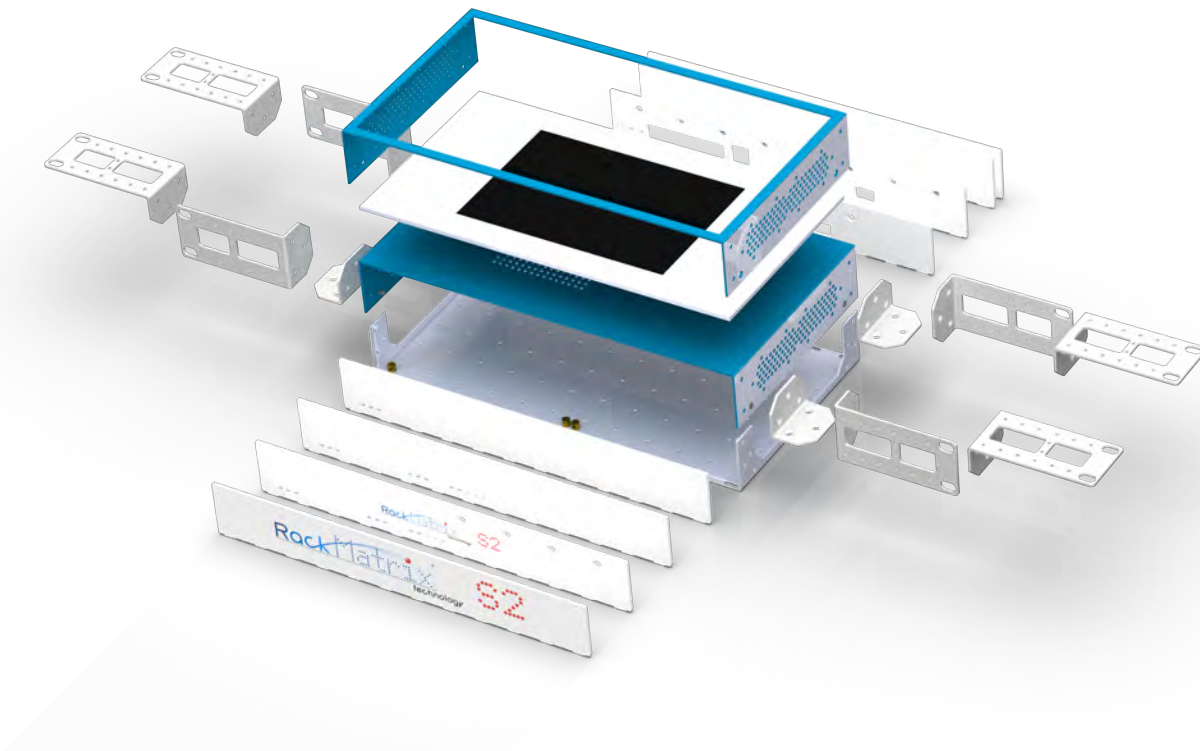
Accessories	TPM 2.0	VGA FRONT	BL-EMMC READER	USB ADAPTER
Module REF	BL-TPM9665	BL-NH2VGA	BL-EMMC2TF	BL-USB2TF
Description	TPM 2.0	report internal VGA header to mountable VGA connector	eMMC to micro SD convertor	Micro SD and SD reader
Chipset	Infineon SLB 9665	-	-	-
Interface	LPC	9 PIN header	Micro SD / eMMC	SD / Micro SD to USB
Rack Matrix S2 mounting	-	Yes – Matrix 25	-	-
Availability	Released	Released	Released	Released
Product web page			🛒	🛒

Cables



Cables	VGA	SATA power 20 cm	SATA power 30 cm	SATA DATA cable
Cable REF	BL-VGAC30	BL-STPWRC20	BL-STPWRC30	BL-STDATAC30
description	Debug VGA cable	-	-	-
length	30 cm	20 cm	30 cm	30 cm
Product web page	🛒			

Universal 1U desktop enclosure of **high quality, modular, robust** and **multi format**
(desktop, wall mountable, front mountable and rackable).



The Rack Matrix S2 is compact and intended to integrate all kinds of motherboards and accessories to build all kinds of devices.

A wide range of components can be integrated at low cost for endless possibilities, routers, small NAS, multimedia solutions, VoIP solution, VPN gateway, IoT gateway, WLAN access points etc ...

Key points :

- **RackMatrix® technology** patented allowing the box to adapt to **all** achievements
- Fronts and supports for component in PMMA with the possibility of customizing the front and rear panels using a high quality UV printing process .
- High quality materials (Aluminum and PMMA) to ensure the case great stability and longevity.
- Aluminum ensures very good heat dissipation
- Front and rear panel in PMMA allowing cutting and UV printing. The cutout is essential to add accessories related to the purpose of the device.
- desktop case
- rack mounting with supplied rack ears
- wall mounting with optional small ears
- front mounting (new type of mounting imagined for the box with a screen on top). So it can be mounted in a front bay to see the information on the screen. Requires a second pair of rack ears (available in the accessories)
- White and blue powder paint (cover)