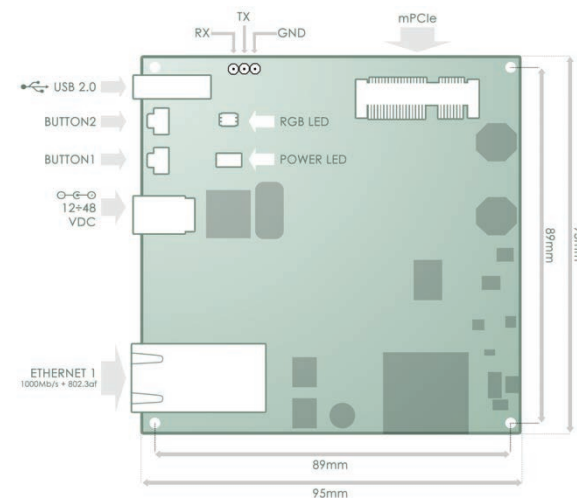
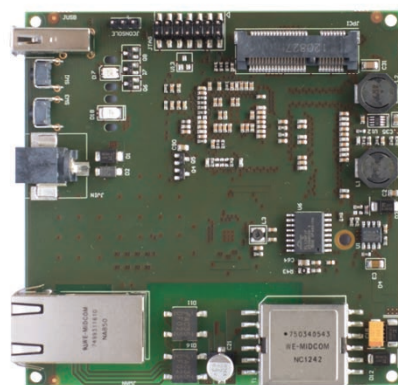


SPRINGMOLE AIR



TECHNICAL OVERVIEW

CPU AND MEMORIES

CPU	Atheros AR7242 (400Mhz)
RAM	32 MB
FLASH	16MB
ADDITIONAL STORAGE	USB 2.0

PCI-EXPRESS SUBSYSTEM

mPCI-Express connector supports WI-FI adapters.

USB SUBSYSTEM

Type A USB 2.0 port with 1000mA max current output (e.g. for powering USB Disk Drives).

AVAILABLE VERSIONS

CODE	PRODUCT	CODE	PRODUCT
7770001	Springmole Fire	7770002	Springmole Air

ETHERNET SUBSYSTEM

Supporting 802.3az Green Ethernet standard and Atheros® Edge® Technology

LED SUBSYSTEM

LED	COLOR	DESCRIPTION
0	Green	Power Good
1	RGB	User Programmable

POWER SUBSYSTEM

Power from 12 to 48VDC can be applied via:

- Power Jack
- 802.3af ethernet port

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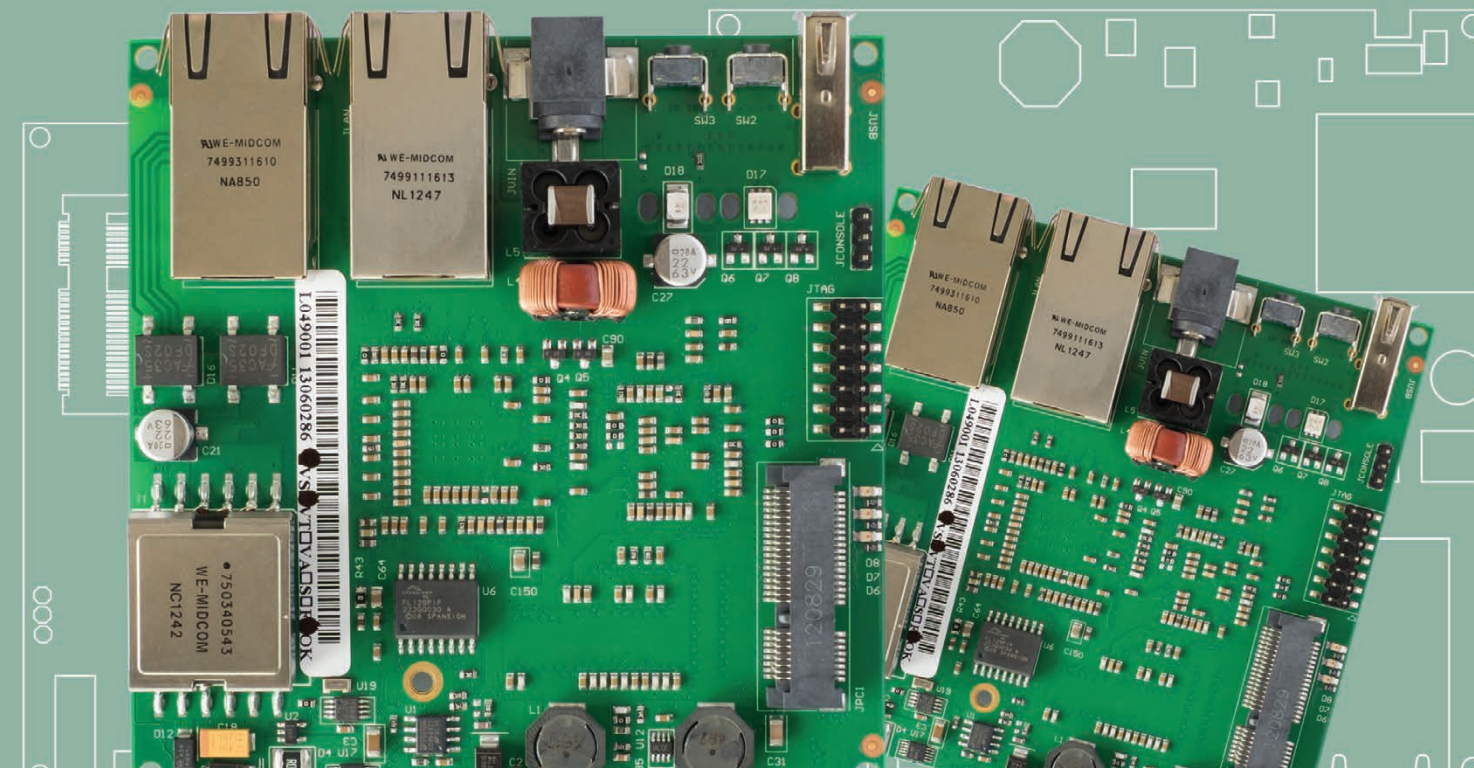


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Springmole FIRE is the OEM enterprise level networking solution **designed by Wi-Next's R&D Team** to enable every type of **IOT application**, from sensors to robotics, from M2M to Building Automation.

Its **unique hardware architecture** gives to developers, integrators, researchers and DIY enthusiasts a series of **expansion ports that can interface sensors, actuators or control solutions** without compromising networking performance.

The expansion ports are available through standard connectors and can be used directly (4 Digital IOs and 2 ADCs) or through dedicated add-on modules (RS485, Twin XBEE). All the documentation required to implement custom expansions is freely available on the project website <http://www.springmole.com>

Springmole FIRE really stands out because of the number of wireless and wired network interfaces available: **Wi-Fi 802.11abg/n , 802.11ac, 2 to 4 Gigabit Ethernet ports** (one with 802.3af Active PoE support) and a **USB 2.0 port designed to withstand loads of up to 1000mA supporting the power needs of Hard Disks and external 3G/ 4G modem**. Furthermore, a **microSD slot** allows to increase local storage to the needs of specific application scenarios (logging, caching).

Springmole FIRE is also designed to be **Environmentally Friendly**: it implements **802.3az Green Ethernet standard** and features power consumption and board temperature sensors.

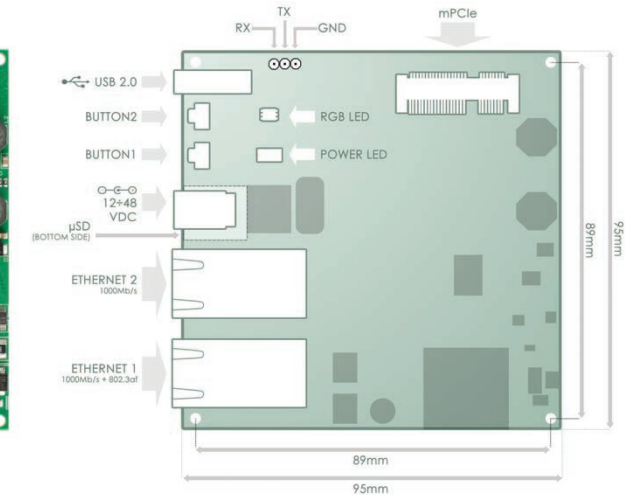
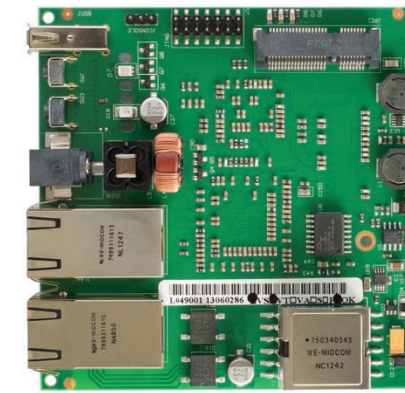
Springmole AIR shares the same core connectivity capabilities of Springmole FIRE making it even more attractive for **classic networking and cost sensitive applications**.

Springmole FIRE and **Springmole AIR** also thanks to the **full support of the Open Source operating system OpenWRT** (based on Linux, freely available and royalty-free) are the best OEM solutions for networking and IOT.

Wi-Next's R&D staff created and constantly updates the project website at <http://www.springmole.com> to share the complete technical documentation and the full SDK, and to aggregate a developers and enthusiasts community in the development of applications, mods and addons.

Springmole technology is completely designed and Made in Italy.

SPRINGMOLE FIRE



TECHNICAL OVERVIEW

CPU AND MEMORIES

CPU	Atheros AR7242 (400Mhz)
RAM	32 MB
FLASH	16MB
ADDITIONAL STORAGE	uSD card slot + USB 2.0

PCI-EXPRESS SUBSYSTEM

mPCI-Express connector supports WI-FI adapters.

USB SUBSYSTEM

Type A USB 2.0 port with 1000mA max current output (e.g. for powering USB Disk Drives).

LED SUBSYSTEM

LED	COLOR	DESCRIPTION
0	Green	Power Good
1	RGB	User Programmable

POWER SUBSYSTEM

Power from 12 to 48VDC can be applied via:

- Power Jack
- 802.3af ethernet port
- expansion connector

I/O SUBSYSTEM

Microchip MCP23008 gpio expander connected according to the following table:

PIN	DIRECTION	DESCRIPTION
0	IO	to expansion connector
1	IO	to expansion connector
2	IO	to expansion connector
3	IO	to expansion connector

RTC SUBSYSTEM

Maxim DS1339U-2 Real-Time-Clock. Optional Backup battery on expansion connector.

ETHERNET SUBSYSTEM - AR8328

Atheros AR8328 fully programmable Gigabit Ethernet switch supporting 802.3az Green Ethernet Standard.

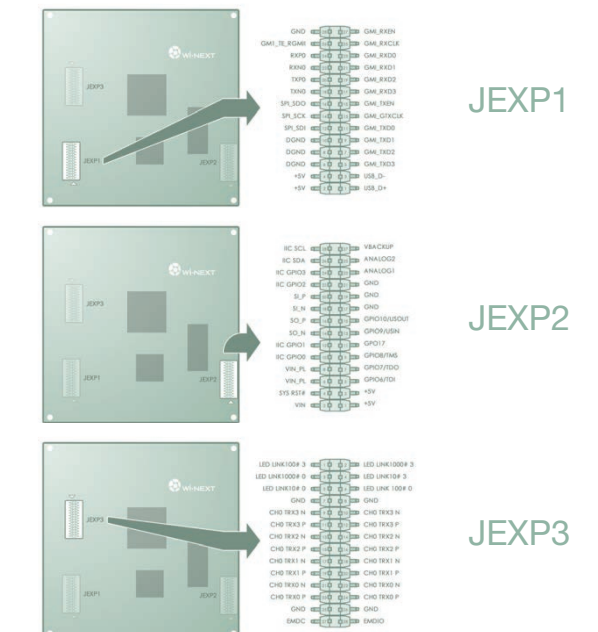
PORT	CONNECTION
0	to AR7242 (eth0)
1	to expansion connector
2	to onboard connector (inner)
3	to onboard 802.3af connector (outer)
4	to expansion connector

ADC/SENSORS SUBSYSTEM

ADS1015 4 channels ADC converter.

CHANNEL	CONNECTION
1	to expansion connector
2	to expansion connector
3	to current sensor
4	to temperature sensor

EXPANSION CONNECTORS (Bottom side)



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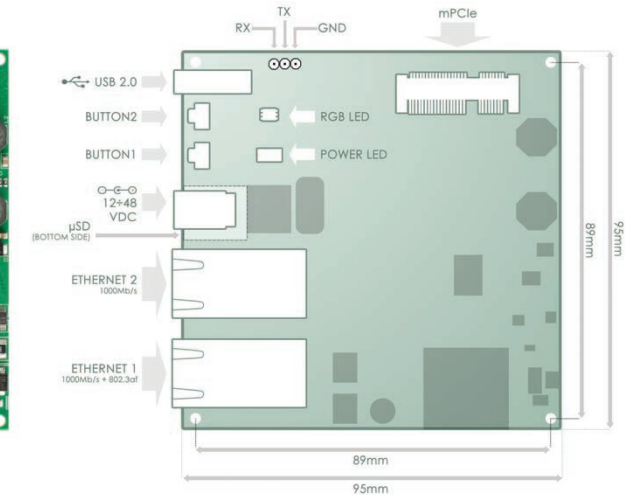
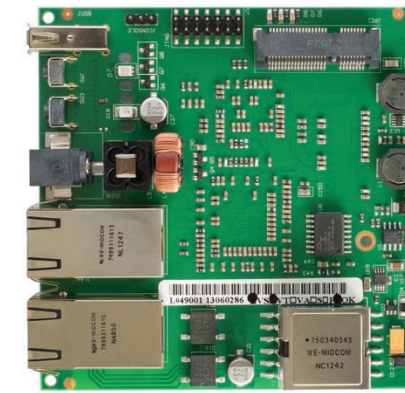
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ADDITIONAL STORAGE	uSD card slot + USB 2.0

PCI-EXPRESS SUBSYSTEM

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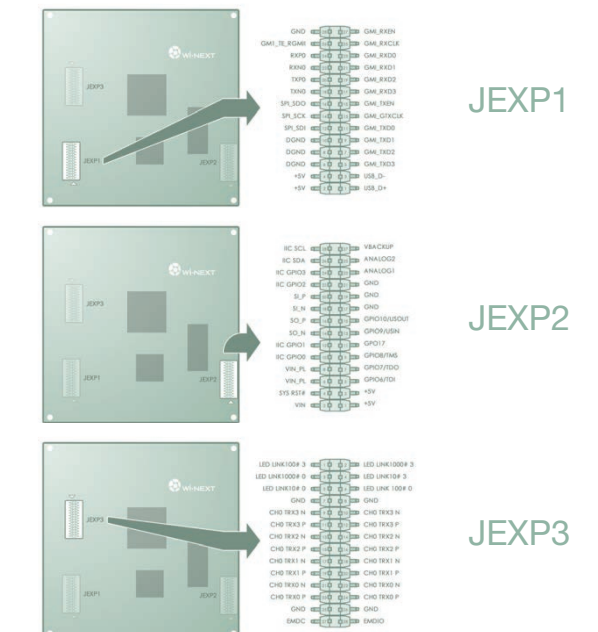
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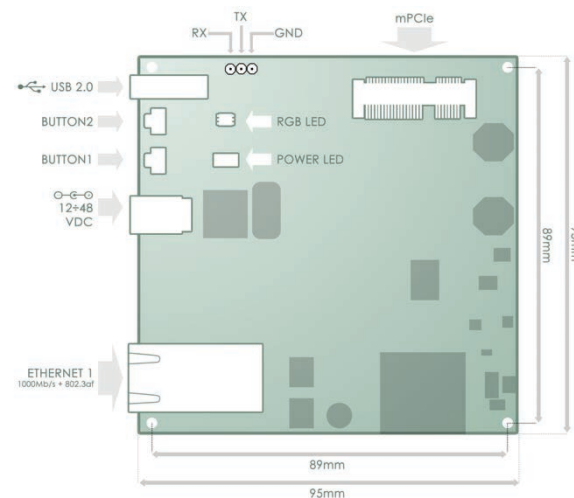
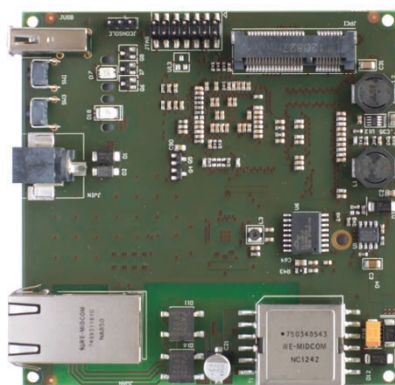
ADS1015 4 channels ADC converter.

CHANNEL	CONNECTION
1	to expansion connector
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EXPANSION CONNECTORS (Bottom side)



SPRINGMOLE AIR



TECHNICAL OVERVIEW

CPU AND MEMORIES

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FLASH	16MB
ADDITIONAL STORAGE	USB 2.0

PCI-EXPRESS SUBSYSTEM

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USB SUBSYSTEM

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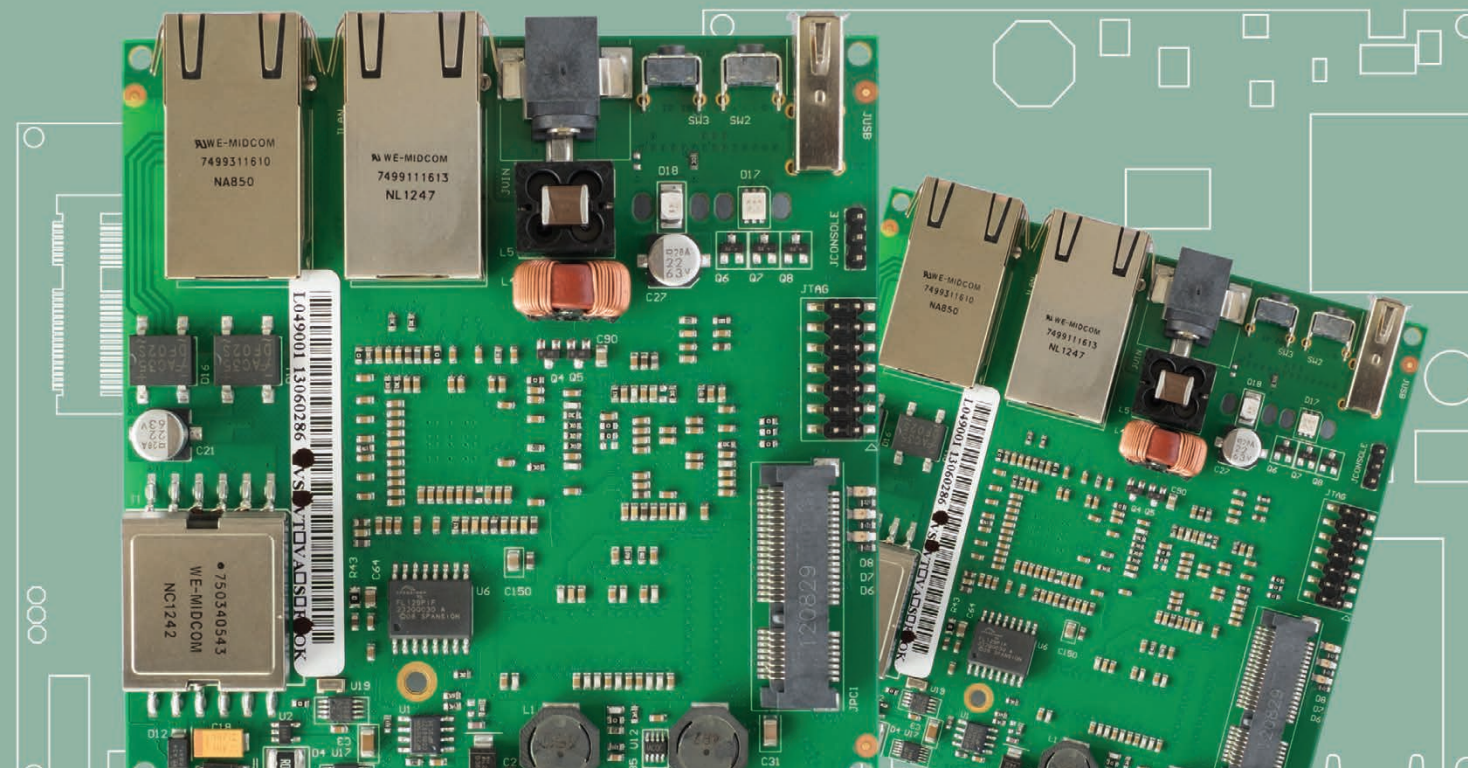


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