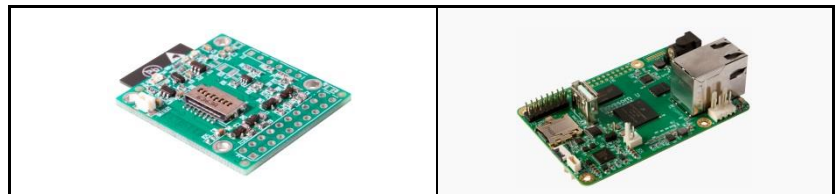














NOVASom U-line is a family of SBCs specifically developed for IoT and smart devices markets, requiring ultra-low power, WIFI and BT, complex battery management, while maintaining our industrial high quality level, such as the vending, domotics and other handheld applications.

NOVASom U is a small credit card sized board or less. It has everything necessary to guarantee an immediate bootstrap, driving of a display, connecting via WIFI, BT and Ethernet or USB, plus it has two strips for possible expansion such as GPIO or I2C or SPI and a resistive touch screen controller.



| | | SBC-U1 Boards | SBC-U5 Boards |
|--|-----------------------|---|--|
| | Processor | CPU | ESP32 |
| | | PERFORMANCE MIPS (COREMARK) | 480 |
| | Graphics | GRAPHICS ENGINE | N |
| | | RAM memory DDR3 | 384K |
| | Memory | FLASH | 4MB |
| | | µSD slot (op to 32GB), SD card NOT included | Y |
| | Power | Power supply inversion polarity protected | 5 V |
| | | Battery Powered and Battery Charger | Y |
| | | POE | N |
| | | Power Consumption [W] | 0.9 working; 0.75m stby |
| | Multimedia | RGB direct display on FPC 40 pin | N |
| | | IR Input on connector 6 pin picoblade | N |
| | I/O | Audio | N |
| | | On Board GPIO @ 3,3 V on strip | Up to 15 (!) |
| | USB | USB port Host/Device on TYPE – A | N |
| | | Console RS 232 3 pin Pico Blade conn. | N |
| | Communication | I2C @ 3,3 V | 1 |
| | | SPI | 1 |
| | | CAN cell | N |
| | | RS232 | N |
| | | RS485 | N |
| | | Second USB (!) | N |
| | Networking | RJ45 Ethernet connector on board/Ext | N |
| | | WiFi-BT (BGN – 4.0 EDR) with external antenna | Y |
| | Generic | Additional nr. 2 user led | Y |
| | | RTC - external battery connector | Y (same battery of power) |
| | | A/D | 2 ch 12bit Protected to 40V, 0–3.3V range |
| | | D/A | 2 ch 10bit Protected to 40V; 0–3.3V range, configurable as GPIO |
| | | Protected IN | 2 - Vmax 30V |
| | | I/O Connector | 2x12p 2.54 |
| | | Open Collector Out | 2 Vmax 30V, 200mA gnd ref |
| | Operating temperature | Temperature | (-40 / +85)°C |
| | | Dimension | 37.5 x 31 mm |
| | Operating System | Distributions supported | FreeRTOS |
| | | | Linux kernel 4.1.15, Yocto |

NOTE: for more information please refer to Hardware User Manual.

| SBC Board code | | SBC-U1A | SBC-U5A | SBC-U5C | |
|---|-----------------------|---|--|---|-------------|
|  | Processor | CPU PERFORMANCE MIPS (COREMARK) | ESP32 @240 MHz 480 | I.MX6ULL @900 MHz 954 | |
| | Graphics | GRAPHICS ENGINE | N | PIX | |
|  | Memory | RAM memory DDR3 | 384k | 512MB | |
| | | FLASH QSPI | 4MB | N | |
| | | µSD slot (op to 32GB); SD not included | Y | Y | |
|  | Power | Power supply (inversion polarity protected) | 5 V | 5 V | |
| | | Battery Powered and Battery Charger | Y | N | |
| | | Power Consumption working/stdby [W] | 0.9 / 0.75m | 1.5 / 50µ | |
| | | POE Slave | N | Pluggable external module ⁽²⁾ | |
|  | Multimedia | RGB direct display on FPC 40 pin | N | 1ch 1366x768 | |
| | | IR Input on connector 6 pin picoblade | N | N | |
|  | I/O | Audio | N | Y - PCM & SPDIF on strip | |
| | | On Board GPIO @ 3,3 V on strip | Up to 15 ⁽¹⁾ | Up to 25 ⁽¹⁾ | |
|  | USB | USB port Host / Device on TYPE - A | N | 1 + 1 ⁽²⁾ | |
| | | Communication | Console RS 232 3 pin Pico Blade Connector | N | 1 |
|  | Communication | I2C @ 3,3 V | 1 | 2 | |
| | | SPI | 1 | 1 | |
| | | CAN cell | N | 1 (on strip) ⁽³⁾ | |
| | | RS232 | N | Y | |
| | | RS485 | N | N | |
| | | Second USB | N | Y ⁽²⁾ | |
|  | Networking | RJ 45 Ethernet connector on board/Ext | N | 2 X 100MBPS/100MBPS (1 st - on board RJ Connector with LEDs; 2 nd - external module required) | |
| | | WiFi – BT (BGN - 4.0 EDR) | Y | N / N | |
|  | Generic | Additional nr. 2 user led | Y | Y | |
| | | RTC – external battery | Y (same battery of power) | Y (battery not included) | |
| | | A/D | 2 ch 12bit Protected to 40V , 0–3.3V range | 2 ch 12 bit | 2 ch 12 bit |
| | | D/A | 2 ch 10bit Protected to 40V; 0–3.3V range, configurable as GPIO | N | N |
| | | Protected IN | 2 Vmax 40V | N | N |
| | | I/O Connector | 2x12p 2.54 | 1x40p 2.54 | 1x40p 2.54 |
| | | Open Collector OUT | 2 Vmax 30V, 200mA gnd ref | N | N |
|  | Operating temperature | Temperature | (-40/+85) °C | (-20/+70) °C | |
|  | Dimension | Form factor | 37.5x31mm | 86x54mm ⁽⁵⁾ | |
|  | Operating System | Distributions supported | FreeRTOS | Linux kernel 4.1.15, Yocto | |

⁽¹⁾ If not used by other peripheral, 3.3V

⁽²⁾ Available additional USB on strip

⁽³⁾ Strip NOT mounted (2.54), to leave customer free for any choice

⁽⁴⁾ Please refer to specific Application Note.

⁽⁵⁾ RASPMOOD : form factor, mechanical holes, expansion pin on strip, connector kind and position same of famous Pi Family