

n-Blocks

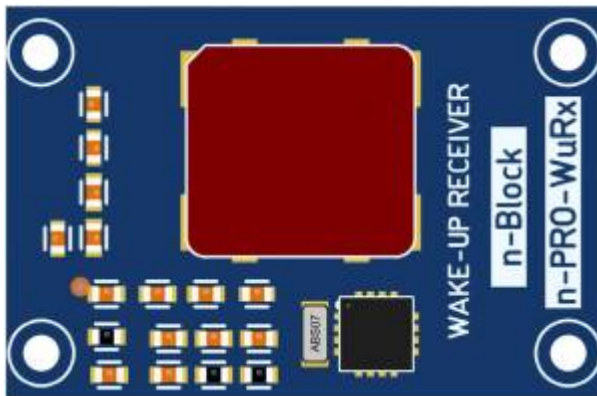
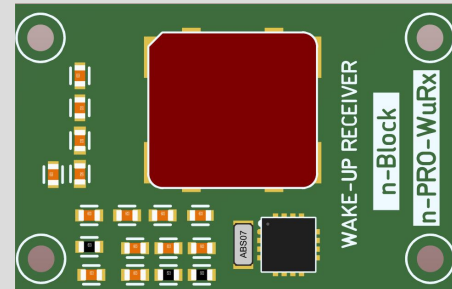
# n-PRO-WuRx

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**in progress****n-PRO-WuRx**

n-PRO-WuRx is a 3D Low Frequency Wakeup Receiver targeting access control and RFID applications. The [n-Blocks pro form factor](#) makes it perfectly suitable for seamless integration.

**n-PRO-WuRx****n-PRO-WuRx**

License	GPL 2.0
Status	Design in progress
Buy at:	
Categories	
Hardware repo	<a href="#">Bitbucket</a>
Firmware repo	<a href="#">Bitbucket</a>

**Overview**

[n-PRO-WuRx](#) is based on AS3933. It is capable of generating a wake-up signal upon detection of a data signal, ranging between 15-150 KHz carrier frequency. The programmable features of AS3933 allows the user to retain consistent wake-up generation for longer distances. It can operate using one, two, or three active channels. Each channel supports a programmable data rate and Manchester decoding.

Some of the targeted applications are listed below:

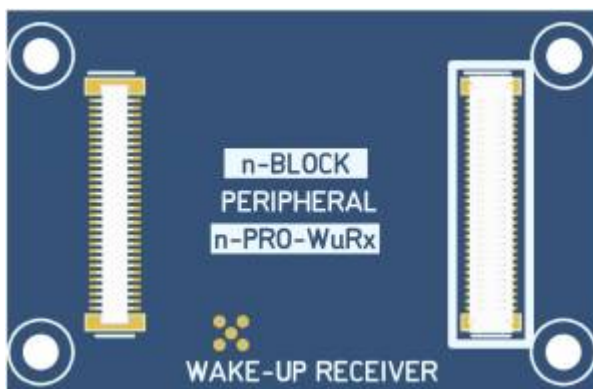
- Active RFID tags
- Real-time location systems
- Operator identification
- Passive keyless entry (PKE)
- Wireless sensors.

## n-PRO-WuRx Features

- 3-channel ASK wake-up receiver
- Carrier frequency range 15 – 150 kHz
- 1-D, 2-D, or 3-D wake-up pattern detection
- 32-bit programmable wake-up pattern
- Supporting doubling of wake-up pattern
- Wake-up without pattern detection selectable
- Wake-up sensitivity 80 $\mu$ VRMS (typ.)
- Sensitivity level adjustable
- False wake-up counter
- Periodical forced wake-up supported (1s – 2h)
- Current consumption in 3-channel listening mode 2.3  $\mu$ A (typ.)
- RTC based 32 kHz XTAL, RC-OSC, or external clock
- Operating supply range 2.4V – 3.6V (TA = 25°C)
- Operation temperature range -40°C to 85°C

## Board Pinout projected to Top side

n-PRO-WuRx is a **PERIPHERAL** board four Hirose DF30-series 60-pin low profile connectors at bottom side, following the [n-Blocks PRO form factor](#).



## NBUS1

Pin No.	Pin Name	Description
2	GND	
4	RXD-1	

5	TXD-1	
6	SDA	
7	SCL	
8	MISO	
9	MOSI	
10	SCK	
11	SS	
12	RESET-CPU	
23	SLEEP	
24	SENSOR-1	
25	SENSOR-2	
26	SENSOR-3	
27	SENSOR-4	
28	5V-IN	
29	GND	
30	3.3V-LOAD	
31	3.3V-LOAD	
32	GND	
33	5V-IN	
51	ADC5/DAC2	
59	GND	
60	1WIRE	

**NBUS2**

Pin No.	Pin Name	Description
2	GND	
12	RESET-CPU	
28	5V-IN	
29	GND	
30	3.3V-LOAD	
31	3.3V-LOAD	
32	GND	

33	5V-IN	
47	SWCLK	
49	SWDIO	
57	BOOT0	
59	GND	
60	1-WIREON	

## Getting started

## References

- [AS3933 Datasheet](#)
- <https://ams.com/as3933#tab/features>

## Related articles in this Wiki

- [n-pro-wurx](#)

[RF](#), [CPU](#), [nblock](#), [BLE](#), [nsensorRF](#)

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