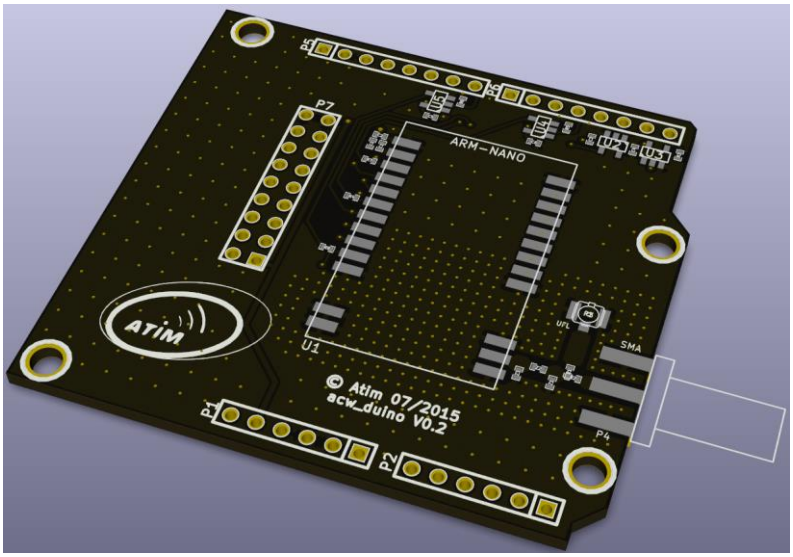
atim cloud wireless™
PRODUCT LINE

Atim Cloud Wireless

ACW-Duino

User Guide



ATIM Radiocommunications
Chemin des Guillets
38250 Villard de Lans
France

www.atim.com
info@atim.com
+33 4 76 95 50 65

Contents

Version History

Version	Date	Description	Auteur
0.1	18/05/2016	Creation	AM
0.2	03/06/2016	Review	YL

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Technical support

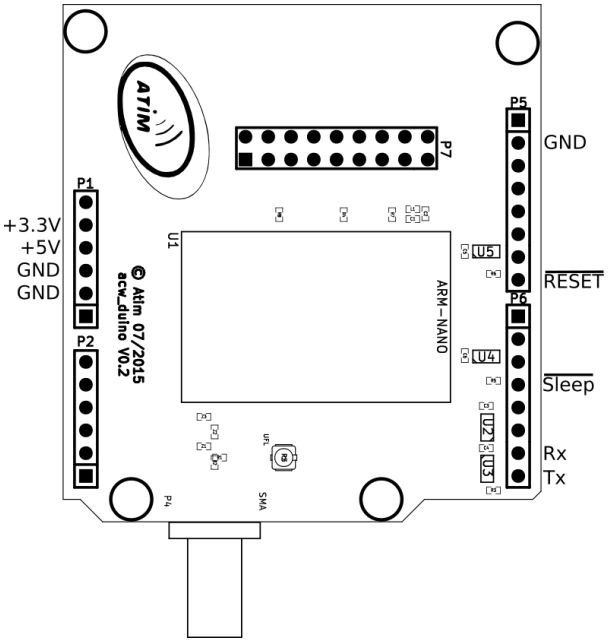
For all information or technical problems, you can contact our technical support by e-mail of phone:

Tel : 0820 950 975
E-mail : tech@atim.com

Technical features

Dimensions	70 x 53 x 13 mm		
Antenna	50Ω via SMA/UFL		
Radio Regulation	EN 300 220 V2.4.1		
Temperature	-30°C à +70°C		
Frequency	865 – 870 MHz		
Output power	25 mW (14 dBm)		
Data rate	Local : 1.2 à 115 Kbit/s		
	Sigfox : 100 bps		
	LoRaWan : 300 bit/s à 10 Kbit/s		
Consumption (ARM)	Local :	Sigfox :	LoRa :
Mode Tx	60 mA	60 mA	50 mA
Mode sleep	7 µA	7 µA	7 µA
Mode Rx	35 mA	35 mA	18 mA
Mode SNIFF	300 µA		

Shield Pinout



Location of pins:

Pins	Description
+3.3V	Power 3.3V
+5V	Power 5V

GND	Ground
$\overline{RESET}$	Reset of module by low state.
$\overline{Sleep}$	Sleep of module by low state.
Rx	Rx UART
Tx	Tx UART

Quick start « shield »

The ACW-DUINO shield is intended to be pluged on Arduino board. Get the Arduino IDE to configure the shield via UART interface, there are both way to do this: directly through the AT commend or by the application programming interface ARMAPI.

Documentation of ARM module:

The ACW-DUINO shield support the ARM-NANO module (ARM-Nx-xx) from ATIM. Please see the 'RF Modules' section in the 'Documentation' page on www.atim.com website to get the full documentation about the module.

Library C++ for Arduino (ARMAPI):

The C++ API for Arduino is freely available on github http://atim-radiocommunications.github.io/armapi/. You will found the examples and the documentation of API. The 'Quick started with Arduino.' section of documentation will tell you how begin with Arduino.

Limitation:

Because of the design of Arduino board, it is not possible to programming the Arduino (using the bootloader) when the shield is connected. You will need to disconnect the shield to programming the Arduino.

Example « Hello world » with the API ARMAPI

The below example send the message « Hello world » to a selected radio network.

```
1.  //Include API
2.  #include <arm.h>
3.  //Arduino Led
4.  #define LED 13
5.  //Instance of ARM class
6.  Arm myArm;
7.  //The message to send
8.  uint8_t msg[] = "Hello world";
9.
10. void setup()
11. {
12.     //Initialize the LED
13.     pinMode(LED, OUTPUT);
14.     digitalWrite(LED, LOW);
15.
16.     // Initialize of API and check the error code.
17.     if (myArm.Init(&Serial) != ARM_ERR_NONE)
18.         digitalWrite(LED, HIGH);
19.
20.     //If we want use the Sigfox network:
21.     myArm.SetMode(ARM_MODE_SFX);
22.     //If we want use the LoraWan network:
23.     //myArm.SetMode(ARM_MODE_LORAWAN);
24.     //If we went use the locale mode:
25.     //myArm.SetMode(ARM_MODE_SFK);
26.
27.     //Before to send the message, we need to send the configuration to the radio module.
28.     myArm.UpdateConfig();
29. }
30.
31. void loop()
32. {
33.     unsigned int i;
34.
35.     //Send of message.
36.     myArm.Send(msg, sizeof(msg)-1);
37.
38.     //Wait 10 min.
39.     for(i=0; i<10; i++)
40.         delay(60000);
41. }
```

For more details/information/examples please see the documentation of library http://atim-radiocommunications.github.io/armapi/doc/html/index.html

Schema of ACW-DUINO