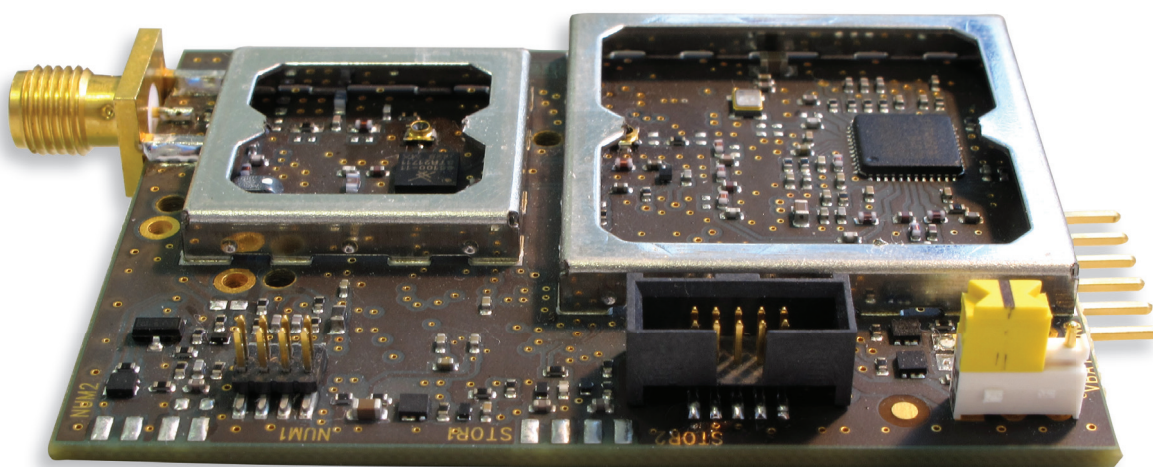


The éolane 169MHz reference design is a low-cost wireless and high performance solution for smart metering to be integrated in meters, repeaters and concentrators devices capable to operate in very constraint and harsh condition.



- 169 MHz Ref Design equipped with a low power MSP430 MCU from TI, an Analog Device Transceiver ADF 7021, a Skyworks PA module Sky66100

- Wireless M-Bus standard EN13757-4 is the RF communication link between water, gas, heat, and electric meters and the data collecting devices widely accepted in Europe for smart metering and Advanced Metering Infrastructure applications.



## PRODUCT APPLICATION

 <p>Industry</p>	<p>Telemetry, VHF Sensors &amp; Actuators, Smart City &amp; Smart Building</p>	 <p>Security</p>	<p>Alarms, Asset Tracking</p>
 <p>Energy</p>	<p>Smart Grid, Smart Metering (Gas, Water &amp; Heat), AMR/AMI, WMBus</p>	 <p>Telecoms</p>	<p>VHF Transmitters, Receivers, Repeaters, Concentrators</p>

## MAIN FEATURES

- Dimensions : 44mm\*60mm
- Operating temperature : -40°C + 70°C
- Bidirectional communication with range up to 15Km
- Sensitivity up to -113dbm
- Battery life 15 years (Frame of 120 ms, 4 frames/day)
- Designed & Manufactured in France

## TECHNICAL SPECIFICATION

### Performance

- Range up to 15000m
- RF output power 27 dBm
- Sensitivity up to -113dBm
- Frequency band 169,4 MHz – 169,5MHz
- Baud rate up to 2400bits/s

### Hardware

- Processor MSP430 16 bits Ultra Low Power
- 128KB Flash and 16KB RAM Memory
- Serial interface available (SPI/I2C/UART)
- 2x input in Digital On/Off or pulse configuration
- 2x logic output
- 1 SMA Antenna Input

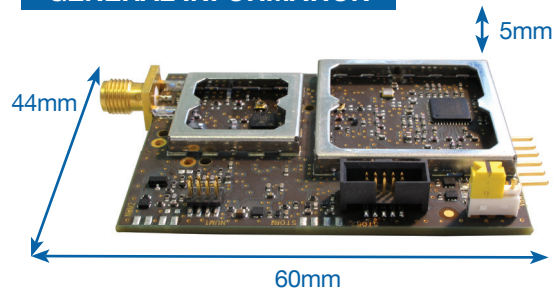
### Protocole & Norms

- Support N modes One Way (N1a to N1F) and Two way (N2a to N2F)
- WMBUS Compatible
- EN ETSI 300 220 Compliant (pre-certified)
- EN ETSI 301 489 Compliant (pre-certified)

### Consumption & Autonomy (payload 8 bytes length)

- Power Supply 2,8 – 3,6v »
- Tx 270 ma @ 27 dBm and Rx 25 ma
- Sleep mode 5 uA
- Battery life 15 years (Frame of 120 ms, 4 frames/day)

## GENERAL INFORMATION



- Operating temperature : -40°C à +70°C
- Full SMD assembly

## ADDITIONAL SERVICES

- Antenna solution
  - Antenna on SMA connector
  - Helix antenna
- Housing
  - IP6K9K solution
  - Optionnal shield on radio part
  - Module integration
  - éolane Support in mechanical, electronic and software to customize the reference design
- Proof of Concept
 

éolane performs demonstrator kit according to customer needs. A modular evaluation board, designed by éolane, is available and contains sensor and interface to develop specific needs.
- BSP support for end customer application integration

