

## SHORT FORM CATALOGUE



## RF Modules and Accessories



## TYPICAL RF APPLICATIONS

### Energy - AMR



Remote energy reading and measurement, urban heating control, energy management in buildings and data centers, remote control of public lighting, energy cartography and regulation. RF solutions developed by ADEUNIS RF enable fine and optimized management of resources while achieving substantial energy savings.

### Security & control



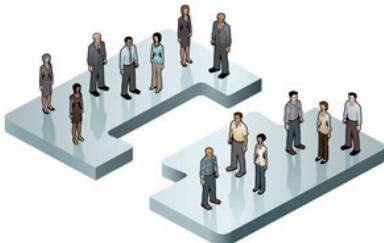
ADEUNIS RF is present in many fields linked to the security of goods and persons and access control: building security, alarms, access control to sites and danger zones, control of retractable bollards, management of hourly badge readers, secure stoppage devices for maintenance crews, home automation applications, ...

### Military



ADEUNIS RF develops and installs RF systems, dedicated on-board systems in the military and defense sectors: target carrier systems, control of fuel cells and drones, night vision, frontier surveillance, etc...

### General public



Geolocation systems, remote control of autonomous humanoid robots, maintenance of ticket validators, real-time display of the number of parking spaces available, queue management, electronic score displays, totems for fuel, ..., ADEUNIS RF designs and develops radio solutions based on extremely varied customer issues.

### Industry



ADEUNIS RF contributes to the development of wireless systems in hostile industrial environments: industrial machine control, automatic system monitoring, trouble shooting, radio control for lifting machines, satellite positioning systems, drilling machines, container tracking, etc.

### Transportation



By providing our radio skill, ADEUNIS RF contributes to developing complex systems in the field of transport, such as the control of traffic light priority, information for travellers, timetable synchronisation, car park and vehicle management, electronic display systems, signalling, satellite location systems....

### Health



Wireless sensors for patients with respiratory problems, wireless links for intracranial pressure sensors, portable digital radiography appliances, miniature wireless sensors for orthopedic surgery, emergency call systems and satellite location, etc. ADEUNIS RF develops RF customized or catalogue systems, respecting strict constraints specific to the health field.

## TWIMO RF MODULES

## HP 868



|  |                  |
|--|------------------|
| <b>TWIMO HP868 RTU</b> (Radio Gateway) | <b>ARF7581AA</b> |
| <b>TWIMO HP868 API</b> (Programmable)  | <b>ARF7736AA</b> |

| Range                 | <b>Up to 6km</b>                        |
|-----------------------|---|
| Frequency             | 863-870MHz                              |
| Power                 | 500mW                                   |
| Radiated RF Power     | 27dBm                                   |
| Sensitivity           | -110dBm                                 |
| Modes                 | TDMA, Transparent, Addressed            |
| RF Data rate          | 10 / 38.4 / 57.6kbps                    |
| Power consumption     | 600mA (TX) / 22mA (RX) / 25µA (Standby) |
| Supply voltage        | 3 to 3.6V                               |
| Operating temperature | -40° / +85°C                            |
| Dimensions            | 32 x 16 x 3mm                           |
| Standards             | EN300-200 V2010                         |

## MP 868



|  |                  |
|--|------------------|
| <b>TWIMO MP868 RTU</b> (Radio Gateway) | <b>ARF7580AA</b> |
| <b>TWIMO MP868 API</b> (Programmable)  | <b>ARF7735AA</b> |

| Range                 | <b>Up to 1km</b>                        |
|-----------------------|---|
| Frequency             | 863-870MHz                              |
| Power                 | 50mW                                    |
| Radiated RF Power     | 17dBm                                   |
| Sensitivity           | -110dBm                                 |
| Modes                 | TDMA, Transparent, Addressed            |
| RF Data rate          | 10 / 38.4 / 57.6kbps                    |
| Power consumption     | 100mA (TX) / 22mA (RX) / 25µA (Standby) |
| Supply voltage        | 3 to 3.6V                               |
| Operating temperature | -40° / +85°C                            |
| Dimensions            | 32 x 16 x 3mm                           |
| Standards             | EN300-200 V2010                         |

## WIRELESS M-BUS MODULES

## W-MBUS



|  |                  |
|--|------------------|
| <b>W-MBUS 868</b> Bidirectional          | <b>ARF7751BB</b> |
| <b>W-MBUS 868</b> Bidirectional + AES128 | <b>ARF7751CA</b> |

| Range                 | <b>Up to 1.5km</b>                            |
|-----------------------|---|
| Wireless M-BUS        | Fully certified stack + applicative firmware  |
| Frequency             | 868-870MHz                                    |
| Power                 | 25mW  |
| Radiated RF Power     | 14dBm   |
| Sensitivity           | -110dBm (T) / -112dBm (S) / -117dBm (R)       |
| Modes                 | R1 / R2 / S1 / S1-m / S2 / T1 / T2            |
| AES128 OMS            | Encryption & Decryption (supports OMS mode 5) |
| Power consumption     | 35mA (TX) / 22mA (RX) / 0.6µA (Standby)       |
| Supply voltage        | 2 to 3.6V                                     |
| Operating temperature | -40° / +85°C                                  |
| Dimensions            | 26 x 16 x 3mm                                 |
| Standards             | EN13757-4: 2005                               |

## NARROW BAND RF MODULES

**NB169**

NB169 RTU

ARF7761AA

| Range                 | Up to 30km                              |
|-----------------------|---|
| Frequency             | 169.4 to 169.59MHz                      |
| Power                 | 500mW                                   |
| Radiated RF Power     | 27dBm                                   |
| Sensitivity           | -122dBm                                 |
| Modes                 | Transparent, Asynchronous, Low Power    |
| RF Data rate          | 1.2 to 38.4kbps                         |
| Power consumption     | 700mA (TX) / 40mA (RX) / 25µA (Standby) |
| Supply voltage        | 3 to 3.6V                               |
| Operating temperature | -40° / +85°C                            |
| Dimensions            | 32 x 16 x 3mm                           |
| Standards             | EN300-200 V2010                         |

**NB 868**

NB 868 RTU

ARF7763AA

| Range                 | Up to 18km                              |
|-----------------------|---|
| Frequency             | 868.12 to 869.98MHz                     |
| Power                 | 500mW                                   |
| Radiated RF Power     | 27dBm                                   |
| Sensitivity           | -120dBm                                 |
| Modes                 | Transparent, Asynchronous, Low Power    |
| RF Data rate          | 1.2 to 115.2kbps                        |
| Power consumption     | 700mA (TX) / 40mA (RX) / 25µA (Standby) |
| Supply voltage        | 3 to 3.6V                               |
| Operating temperature | -40° / +85°C                            |
| Dimensions            | 32 x 16 x 3mm                           |
| Standards             | EN300-200 V2010                         |

**NB 458**

NB 458 RTU

ARF7762AA

| Range                 | Up to 15km                              |
|-----------------------|---|
| Frequency             | 457.50 to 463.98MHz                     |
| Power                 | 500mW                                   |
| Radiated RF Power     | 27dBm                                   |
| Sensitivity           | -120dBm                                 |
| Modes                 | Transparent, Asynchronous, Low Power    |
| RF Data rate          | 1.2 to 4.8kbps                          |
| Power consumption     | 700mA (TX) / 40mA (RX) / 25µA (Standby) |
| Supply voltage        | 3 to 3.6V                               |
| Operating temperature | -40° / +85°C                            |
| Dimensions            | 32 x 16 x 3mm                           |
| Standards             | EN300-200 V2010                         |

## RF TRANSMITTERS

**ARF19 TX 4dBm****ARF19 - TX 4dBm (ASK) ARF7870AA**

| Range                 | Up to 200m                  |
|-----------------------|-----------------------------|
| Frequency             | 868.525MHz                  |
| Power                 | 3mW                         |
| Radiated RF Power     | 4dBm                        |
| RF Data rate          | 1.2 - 2.4kbps               |
| Power consumption     | 10mA (TX) / < 2µA (Standby) |
| Supply voltage        | 3 to 3.6V                   |
| Operating temperature | -40° / +85°C                |
| Dimensions            | 25 x 14 x 3mm               |
| Standards             | EN300-200 V2010             |

**ARF19 TX 10dBm****ARF19 - TX 10dBm (ASK) ARF7723AA**  
**ARF19 - TX 10dBm (FSK) ARF7798AA**

| Range                 | Up to 400m  |
|-----------------------|---|
| Frequency             | 868.525MHz  |
| Power                 | 10mW  |
| Radiated RF Power     | 10dBm   |
| RF Data rate          | 1.2 - 2.4kbps (ASK) / 1.2 to 9.6kbps (FSK)          |
| Power consumption     | 30mA (TX - ASK) / 40mA (TX - FSK) / < 2µA (Standby) |
| Supply voltage        | 3 to 3.6V   |
| Operating temperature | -40° / +85°C  |
| Dimensions            | 25 x 14 x 3mm                                       |
| Standards             | EN300-200 V2010                                     |

**ARF27 TX****ARF27 - TX 500mW (ASK) ARF7724AA**  
**ARF27 - TX 500mW (FSK) ARF7786MA**

| Range                 | Up to 6km                                  |
|-----------------------|--|
| Frequency             | 868.525MHz                                 |
| Power                 | 500mW                                      |
| Radiated RF Power     | 27dBm                                      |
| RF Data rate          | 1.2 - 2.4kbps (ASK) / 1.2 to 9.6kbps (FSK) |
| Power consumption     | 600mA (TX) / < 2µA (Standby)               |
| Supply voltage        | 3 to 3.6V                                  |
| Operating temperature | -40° / +85°C                               |
| Dimensions            | 22 x 12 x 3mm                              |
| Standards             | EN300-200 V2010                            |

## RF RECEIVERS

**ARF19/27 RX****ARF19 - TX 10dBm (ASK) ARF7723AA****ARF19 - TX 10dBm (FSK) ARF7798AA**

|                       |  |
|-----------------------|--|
| RF Sensitivity        | -115dBm (ASK) / -108dBm (FSK)              |
| Frequency             | 868.525MHz                                 |
| RF Data rate          | 1.2 - 2.4kbps (ASK) / 1.2 to 9.6kbps (FSK) |
| Power consumption     | 10mA (RX) / < 1µA (Standby)                |
| Supply voltage        | 3 to 3.6V                                  |
| Operating temperature | -40° / +85°C                               |
| Dimensions            | 26 x 15 x 7mm                              |
| Standards             | EN300-200 V2010                            |

**BLUETOOTH® MODULES****BTC2-Data**

|  |                  |
|--|------------------|
| <b>BTC2-DATA Class2</b> Integrated antenna | <b>ARF7678AA</b> |
| <b>BTC2-DATA Class2</b> RF Out Pin         | <b>ARF7678BA</b> |

| Range                   | Up to 30m                            |
|-------------------------|--------------------------------------|
| Frequency               | 2.41-2.48GHz                         |
| Power                   | 1mW                                  |
| Radiated RF Power       | 0dBm                                 |
| Sensitivity             | -86dBm                               |
| Bluetooth®              | 2.1 Stack (chipset CSR Blecore4-Ext) |
| Bluetooth® profiles     | SPP - OPP - DUN                      |
| Baseband - Link Manager | - L2CAP - RF COMM - SDP - SCO        |
| RF Data rate            | up to 3Mbps EDR                      |
| Power consumption       | 50mA (TX) / 50mA (RX)                |
| Supply voltage          | 3 to 3.6V                            |
| Operating temperature   | -40° / +85°C                         |
| Dimensions              | 22 x 14 x 3mm                        |
| Standards               | EN300-328 / EN301-489                |

**ARF52**

|  |                 |
|--|-----------------|
| <b>ARF52 Class1</b> Integrated antenna | <b>ARF7456A</b> |
| <b>ARF52 Class1</b> U.FL connector     | <b>ARF7456B</b> |

| Range                   | Up to 150m                           |
|-------------------------|--------------------------------------|
| Frequency               | 2.41-2.48GHz                         |
| Power                   | 100mW                                |
| Radiated RF Power       | 20dBm                                |
| Sensitivity             | -85dBm                               |
| Bluetooth®              | 2.1 Stack (chipset CSR Blecore4-Ext) |
| Bluetooth® profiles     | SPP - OPP - DUN                      |
| Baseband - Link Manager | - L2CAP - RF COMM - SDP - SCO        |
| RF Data rate            | up to 3Mbps EDR                      |
| Power consumption       | 300mA peak (TX) / 50mA (RX)          |
| Supply voltage          | 3 to 3.6V                            |
| Operating temperature   | -40° / +85°C                         |
| Dimensions              | 33 x 18 x 5mm                        |
| Standards               | EN300-328 / EN301-489                |

**REMOTE CONTROL 869MHz - 2 ways****ARF18**

|                                    |                 |
|------------------------------------|-----------------|
| <b>ARF18</b> remote control 1 key  | <b>ARF7292A</b> |
| <b>ARF18</b> remote control 2 keys | <b>ARF7292B</b> |
| <b>ARF18</b> remote control 3 keys | <b>ARF7292C</b> |
| <b>ARF18</b> remote control 4 keys | <b>ARF7292D</b> |

| Range                 | 300m         |
|-----------------------|--------------|
| Frequency             | 869.525MHz   |
| Power                 | 6mW          |
| Operating temperature | -30° / +70°C |

|                           |                 |
|---------------------------|-----------------|
| <b>ARF18 OEM Receiver</b> | <b>ARF7294A</b> |
|---------------------------|-----------------|

| Sensitivity  | -104dBm                       |
|--------------|-------------------------------|
| Frequency    | 869.525MHz                    |
| Consumption  | 15mA                          |
| Outputs      | Serial interface level, 0/VCC |
| Power supply | 2.7-3.6V                      |



**STARTER KITS****OPEN4 Platform****OPEN4 Platform** **ARF7868AA**

To compose a Starter Kit, an Extension pack must be combined to an Open4 platform

- Evaluate ADEUNIS RF products
- Perform RF measurements
- Develop a prototype

Available for the following modules :

- TWIMO RF
- Wireless M-Bus
- Bluetooth
- Narrow Band

**TWIMO extension pack****TWIMO HP868 Extension pack** **ARF7864AA****TWIMO MP868 Extension pack** **ARF7865AA**

Including :

- Extension board + module
- Antenna
- User guide

**W-MBUS extension pack****Wireless M-Bus Extension pack** **ARF7863AA**

Including :

- Extension board + module
- Antenna
- User guide

**Narrow Band extension pack****NB169 Extension pack** **ARF7889AA****NB868 Extension pack** **ARF7891AA****NB458 Extension pack** **ARF7890AA**

Including :

- Extension board + module
- Antenna
- User guide

**Bluetooth® extension pack****BTC2-Bluetooth® Extension pack** **ARF7861AA**

Including :

- Extension board + module
- Antenna
- User guide

## ACCESSORIES

### Power blocks

|   | Designation                                     | Connector type | Size   | Part Nb          |
|---|---|----------------|--------|------------------|
|  | Power block - 12V-800mA - For SK Extension pack | Jack5.5/2.1    | 185 cm | <b>ACC1400DM</b> |

### Software Development Kit



TWIMO SDK Software development Kit

**ARF7689AA**

Develop softwares application based on TWIMO RF API modules

Available for the following modules

- HP868 TWIMO RF module
- MP868 TWIMO RF module

## About ADEUNIS RF

Founded in 1993, Adeunis RF is a privately owned independent company, designing and manufacturing solely Wireless Products. Based in the High Tech Valley near Grenoble and partnered with several research institutes and organizations, we benefit from unique technical expertise.

With an installed base of more than 4 million units and an annual production exceeding 500 000 pieces, we have acquired experience in a myriad of markets and applications requiring wireless connectivity. Our success is not only based on profitability and market share, but on building enduring, long term partnerships with our Customers based on our core values of innovation, quality, compliance and environmental responsibility.

## Services & skills

### Skills area

Solutions using Wireless M-Bus, Bluetooth®, Wifi® standards  
 Worldwide ISM bands  
 RF solutions from kHz to GHz  
 Low consumption products  
 Network - Addressed - Repeater & Transparent transmission modes

### Standard expertise

Owner of several patents  
 Strong worldwide Standards knowledge  
 Partnership with European laboratories  
 Capability to propose pre/full certifications and European Notifications  
 Strict compliance with Standards: EN300-220, EN301-489, EN300-113, EN13757 EN60950 ...



283 rue Louis Néel - Parc Technologique Pré Roux  
 38920 CROLLES - France  
 Tél. : +33 (0)4 76 92 07 77  
 Fax : +33 (0)4 76 04 80 87  
 arf@adeunis-rf.com  
 www.adeunis-rf.com - www.vokkero.com

Your local distributor