ARF19
7242B & 7244A
User Guide

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN45014

Manufacturer's name: **ADEUNIS R.F**.

Manufacturer's address Parc technologique PRE ROUX IV
283 rue Louis NEEL
38920 CROLLES - FRANCE

declares that the product

Product Name: ARF19
Product Number(s): ARF7242 – ARF7244
Product options:

conforms to the RTTE Directive 99/5/EC :

EMC: conformity is proven by compliance to the standard EN 301 489 according to the requirements of EMC Directive 89/336/EEC.

Safety: conformity to the standard EN 60950 according to the requirements of Low Voltage Directive 73/23/EEC.

Radio: conformity is proven by compliance to harmonized standard EN 300-220 covering essential radio requirements of the RTTE directive.

Notes:
- Conformity has been evaluated according to the procedure described in Annex III of the RTTE directive.
- The use of the spectrum is harmonized by the fact that the product never falls in one of the restrictions listed in appendix 3 (Annex 1, band E) of the CEPT recommendation 70-03.
- Receiver class (if applicable) : 2.

Restrictions: - CE marking applies only to End Products: Because this equipment is only a subassembly, conformity testing has been reduced (equipment has been design in accordance to standards but full testing is impossible). Manufacturer of End Products, based on such a solution, has to insure full conformity to be able to CE label marking.

Crolles, March 7th, 2005
VINCENT Hervé / Quality manager

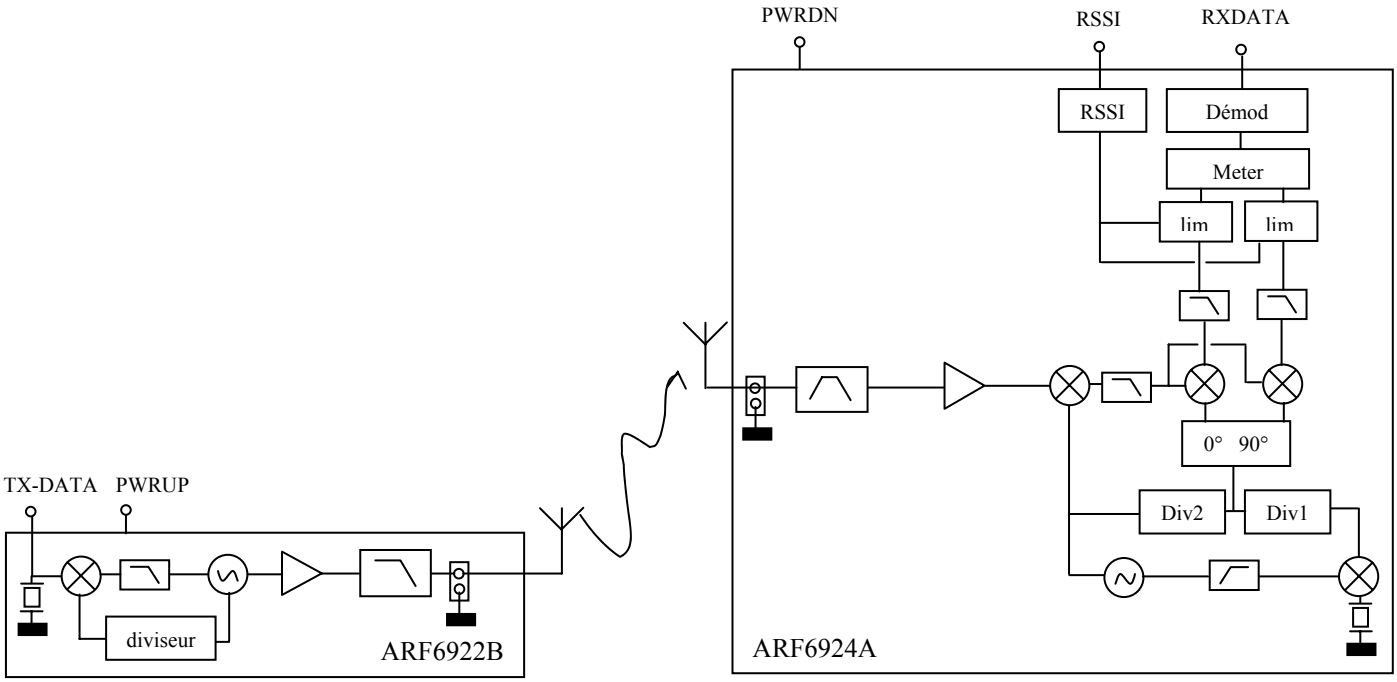
GENERAL PRESENTATION

The ARF7242B module is a Xtal based reference 869.525MHz – 10mW FSK transmitter. This transmitter is compatible with any FSK receiver able to handle FSK +/-25KHz modulations as the ARF7244A one (description enclosed)
The ARF7244A receiver is a very high sensitivity (1uV / -107dBm) FSK single heterodyne receiver.
It could function with all the FSK +/-25KHz Xtal based transmitter (bandwidth: 100kHz).

These modules are supplied without any antenna. To get range performances, we recommend the use of a « Whip » antenna.

All these modules build rough radio link, bit coding and frame coding has to be managed by associated digital controller.
They are available as subassembly daughter board to complete an electronic digital motherboard.

SYNOPTICS



SPECIFICATIONS

- **Transmitter**

Parameters	Values	Notes
Operating frequency	869.525 MHz	-
Conducted power	10 mW (+10 dBm)	on 50Ω at 5V
Modulation	FSK ± 25 kHz	-
Operating voltage (VCC)	from 2V to 5V	
Digital input levels	0 / VCC	-
Consumption	15 mA	-
Standby current	<2 µA	-
Start time	2 ms	-
Pinning	See chapter 4.1	-
Size	25 x 14 x 7 without antenna	-

- **Receiver**

Parameters	Values	Notes
Frequency	869.525 MHz	-
Sensitivity	1µV (-107dBm)	On 50Ω
Demodulation	FSK ± 25 kHz	-
Bandwidth	100 kHz	-
Operating voltage (VCC)	from 2.2V to 5V	
Serial digital output	0 / VCC	-
Consumption	10 mA 12mA	at 3V at 5V
Standby current	<1 µA	-
Start time	5 ms	-
Pinning	see chapter 4.2	-
Size	25 x 16 x 7 without antenna	-

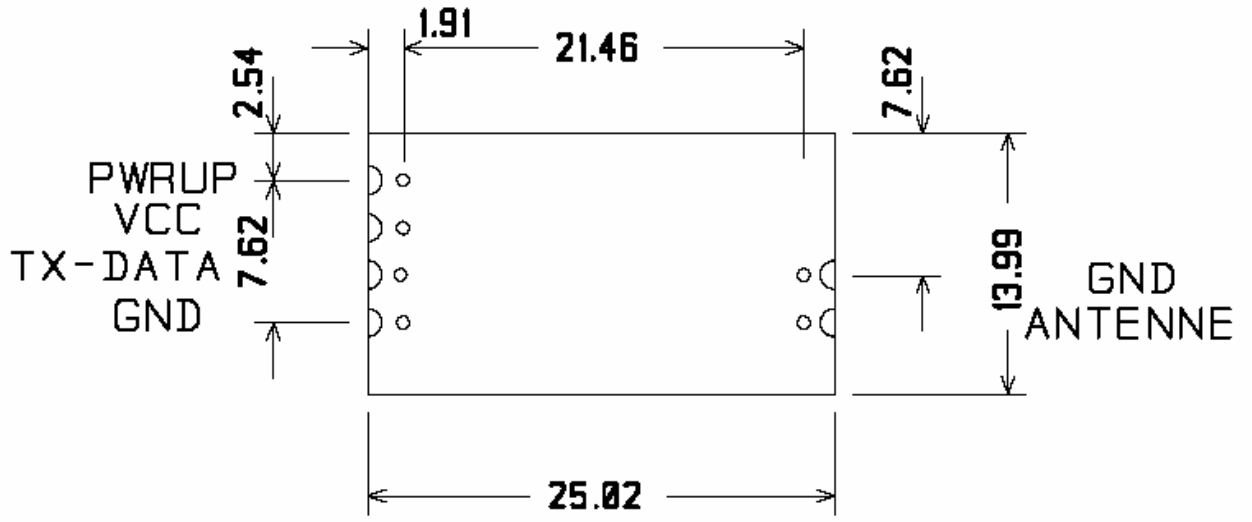
- **Complete set**

Parameters	Values
Link settling time	2.5ms
Range	300m
Binary rate	From 1.2 to 9.6 kbps Manchester
Temperature range	From -20°C to +70°C
Standards	Radio: EN300220 CEM: EN301489

PRODUCT INTERFACE

- **Transmitter**

Size / Electric pin assignment:



- **PWRUP:** Power up input
- **TX-DATA:** Data input

Notes
- Dimensions are given in mm.
- Antenna & Signals pins are SMD pads (pitch is 2.54mm – no connector supplied).

Notes

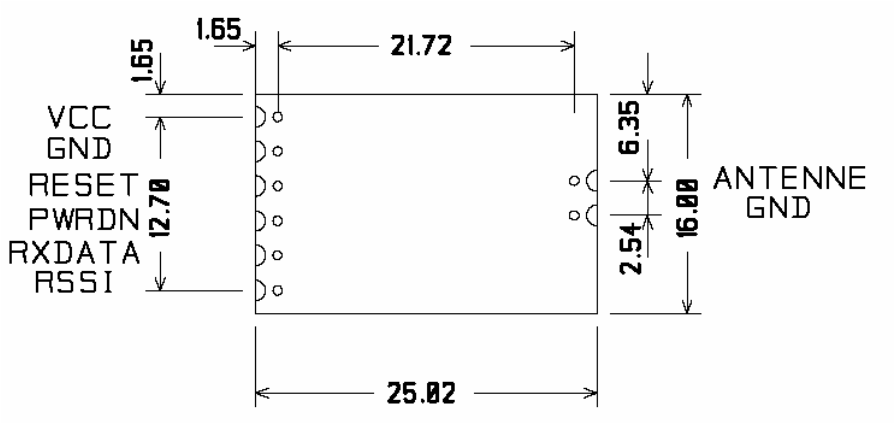
- Radio module has to be powered using an external power supply connected between VCC and GND. Operating voltage has to be in the 2 – 5V range.

- Power is trigged using the PWRUP pin:
  - PWRUP = ″1″ → Transmitter on.
  - PWRUP = ″0″ → Transmitter off.

- When in standby mode, « TX-DATA » pin has also to be logical ″0″.

- **Receiver**

Size / Electric pin assignment:



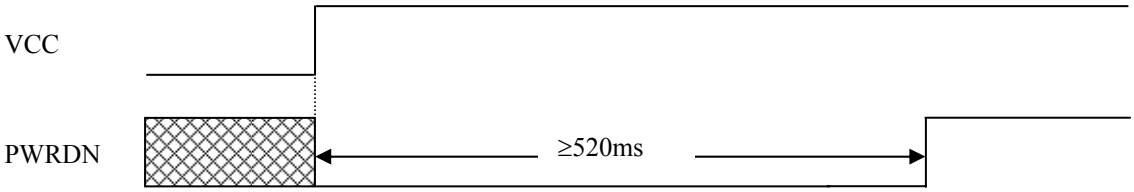
RESET: Not used – do not connect
PWRDN: Wake-up / standby mode
RXData: data outputs
RSSI: receipt power level

Notes:
- Dimensions are given in mm.
- Antenna & Signals pins are SMD pads (pitch is 2.54mm – no connector supplied).

- Radio module has to be powered using an external power supply connected between VCC and GND. Operating voltage has to be in the 2.2 – 5V range.
- Power is trigged using the PWRDN pin:
  - PWRDN = "1" → Receiver off.
  - PWRDN = "0" → Receiver on.

ATTENTION: If using a pull down resistor on PWRDN, its value has to be less than 220 Ohms!

If the receiver stand-by mode is activated immediately after powering up the equipment, please use timings below (for good receiver IC internal Reset).



- The RSSI output gives an image of the RF input level. The diagram is a view of the RSSI power evolution regarding the RF input level. RF: