

ARF09 AM User Guide



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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
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38920 CROLLES - FRANCE

declares that the product

Product Name: ARF09
Product Number(s): ARF6374 – ARF6366
Product options:

conforms to the RTTE Directive 99/5/EC :

EMC: conformity is proven by compliance to the standard EN 301489 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 harmonised standard EN 300220 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 harmonised 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): 3.

Crolles, Feb 23rd, 2006

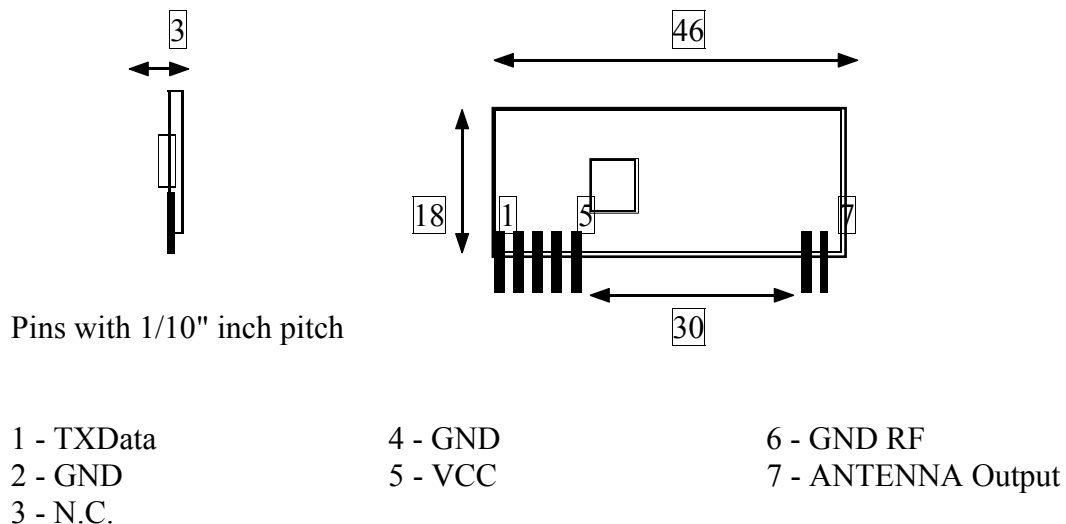
VINCENT Hervé / Quality manager

General use:

The TXARF09 transmitter is a SAW transmitter developing a power of 10 mW on 50Ω. The use of half wave or quarter wave antennas is important to get a high radiated power.

These transmitters are compatible with any ASK receiver able to handle 100% modulations.

Dimensions / Pin assignment:



Notes :

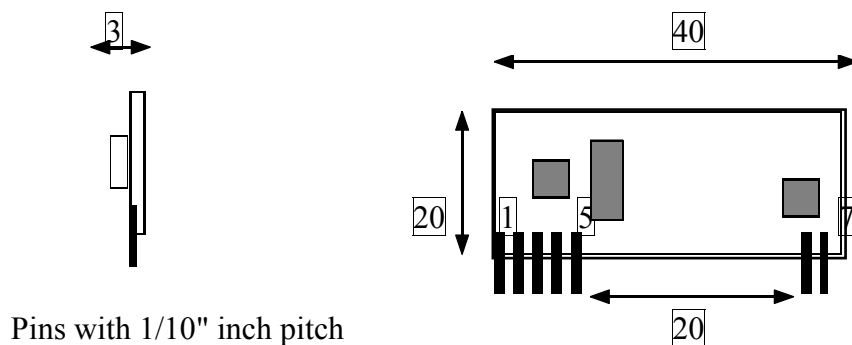
- Transmitter is off when TXData = 0. The TXData input is directly the command of the RF transistor bases. It is therefore important that it be as close as possible to the Vdc (Minimum : Vdc – 0.5V)
- Data to be transmitted are injected on TXData pin. Because ARF08 is a “rough” link, data rate has to be in the equivalent 500 / 2500 Hz range.
- For more informations about Radio Protocol : http://www.adeunis-rf.com/list_faq.php?lng=FR or http://www.adeunis-rf.com/list_faq.php?lng=EN
- A transmitter by definition generates a large electrical field. Avoid high-impedance circuits close to the antenna , they will have to be moved away or protected.

ARF09 FM RECEIVER

General use :

The RXARF09 receiver is a superheterodyne receiver with a sensitivity better than $0.7\mu\text{V}$. The use of a whip antenna is compulsory to obtain suitable characteristics on receipt. This receiver is compatible with any 100% ASK transmitter using a quartz or SAW frequency reference.

Dimensions / Pin assignment :



Pins with 1/10" inch pitch

1 - VCC	4 - VCC	6 - ANTENNA Input
2 - RXData	5 - GND	7 - GND RF
3 - Audio (For Test Only)		

Notes :

- Receiver sampling is performed by direct switching of its VCC power supply. For more information : http://www.adeunis-rf.com/list_faq.php?lng=FR or http://www.adeunis-rf.com/list_faq.php?lng=EN
- The AUDIO output cannot be used for analogue transmission; the demodulator in fact provides the modulation logarithm !
- A receiver is by definition sensitive at very low electrical levels. It should therefore be kept away from any known radioelectrical source (fast time base, logic clock, PWM power supply, address / data bus...). Likewise particular care should be taken over decoupling of its VDC (10 μ / 100 nF RC circuit recommended) For more information : http://www.adeunis-rf.com/list_faq.php?lng=FR or http://www.adeunis-rf.com/list_faq.php?lng=EN

TECHNICAL CHARACTERISTICS

ARF09 AM transmitter

Frequency	433.9 MHz / ARF6374A & I (433.4 MHz / ARF6374B on request)
Developped power / ANT. Out.	10 mW / 50 Ω
Modulation	ASK 100 %
Digital input / TXData	0 / VCC (Input Load 5 k Ω)
NB : Transmitter is off ($I < 100$ nA) when TXData = 0.	
Operating voltage / VCC	3 V \pm 10% / ARF6374I 5 V \pm 10% / ARF6374A & B
Consumption	< 14 mA
Dimensions	46 x 18 x 3

NB : Electrically & Pin compatible with Old ARF4006A & B & I Transmitters

ARF09 AM Receivers

Frequency	433.9 MHz / ARF6366A (433.4 MHz / ARF6366B on request)
Sensivity / ANT. In.	0.7 μ V (-110 dBm)
Demodulation	ASK > 75 %
Bandwith	400 kHz
Digital Output / RXData	0 / VCC (10 k Ω Impedance)
Settling Time	< 10 ms
Operating voltage / VCC	4.5 to 6 V
Consumption	7 mA
Dimensions	40 x 20 x 3

NB : Electrically & Pin compatible with Old ARF4001A & B Receivers

Complete set

Binary throughput	500 to 2500 bps Manchester coding
Operating Temperature	- 20 to + 70 °C
Regulating standards	Radio : RTTE Direct. (EN 300 220-3) EMC : EN 301 489 -1 & -3

STANDARD COMPLIANCE

When using transmitters end receivers sub assemblies, the standard compliance relates to the finished equipment.

In Europe, equipments has to comply to the RTTE directive. For this kind of Low Power applications, the RTTE directive compliance will be established with the respect of :

- EN300-220 radio standard .
- EN301-489 ECM standard .
- EN60950 Electric security (when usable).

Important :

If ARF09 daughter boards comply with the limits of the EN300-220 radio standard, their integration inside a mother board may change some radioelectrical characteristics. (Harmonic levels, R.F leakage...)

The final equipment, before the laboratory testing, has to be examined in ADEUNIS RF lab to verify the compliance. After official testing, equipment and test reports had to be archived to justify the compliance.