

# ARF3010

# Wideband RF Transceiver IC



## Applications

- TVWS Modems
- 802.11ah
- Specialty Transceivers

## Evaluation Board

- Chip evaluation support
- GUI control of all registers



## ARF3010 Evaluation Board

The ARF3010 Evaluation Board is a hardware platform designed to enable evaluation of the ARF3010 RF transceiver integrated circuit.

The hardware platform, along with its advanced GUI, supports evaluation of the most important performance parameters, for example: P1dB, IIP3, Gain, EVM, Spectral Mask, all modes of operation and other common RFIC tests.

For more information please contact Aviacomm at: [sales@aviacomm.com](mailto:sales@aviacomm.com)

## Product Description

The ARF3010 is a wideband, low power, direct conversion RF transceiver designed to meet the requirements of TVWS and other wireless standards. The ARF3010 can be rapidly configured to operate on any frequency between 50MHz and 2.80GHz, and for different bandwidth signals, without restrictions of band-limited ports. This enables more efficient and scalable RF front-end designs.

### Feature Summary

#### Broadband tunable RF transceiver

- Performance meets multiple standards
- TVWS: 802.11af, 802.22, ETSI EN 301 598
- TD-LTE, TD-SCDMA

#### Direct Conversion, 2RX and 1TX

- MIMO/Diversity support
- TDD operation

#### Programmable baseband filters

- TVWS band-combining up to 2W+2W
- Band filtering for 6, 7, 8 & up to 40MHz

#### Minimal external components required

- Fully integrated PLL synthesizers
- No RX interstage SAW needed

#### Built-in calibration functions

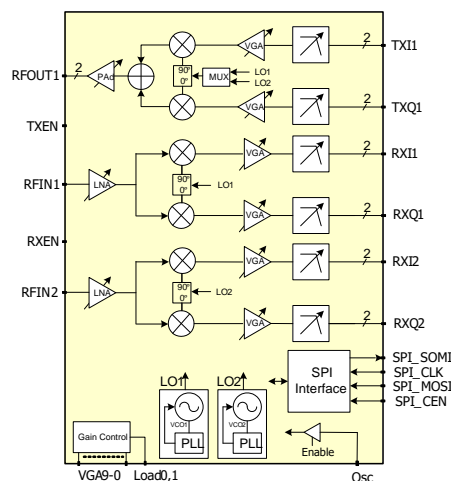
#### SPI Serial Control Interface

#### Low power consumption

### Specification Summary

|                          |                          |
|--------------------------|--------------------------|
| <b>Tuning Range</b>      | 50 MHz - 2.80GHz         |
| <b>Channel BWs</b>       | 0.5 - 40MHz programmable |
| <b>RX noise figure</b>   | 5 dB                     |
| <b>RX gain control</b>   | 99 dB, 1 dB step         |
| <b>TX gain control</b>   | 66 dB, 0.5 dB step       |
| <b>TX Spectral Mask</b>  | Meets TVWS and 4G Specs  |
| <b>TX power</b>          | Up to 0 dBm              |
| <b>Data Interface</b>    | Analog I/Q               |
| <b>Supply Voltage</b>    | 3.3 V & 1.8V             |
| <b>Control Interface</b> | 4-Wire SPI               |
| <b>Chip Package</b>      | 7mm x 7mm, 56QFN         |

## IC Diagram



## System

