RFOS Components

Key RFOS Configurations

- Runs on 8051, TI 430 series. Others by request

- Choice of TI Chipcon family, Atmel, Micrel. Other radios by request

- Unlicensed ISM bands (400MHz, 900MHz, 2.4GHz options available); other bands by design.

- Standard network topologies & custom by design:
  - Star
  - Mesh, hybrid mesh-star, tree
  - Point-to-point
  - Broadcast

- Many options available: power saving schemes, device provisioning options, ranging & location, TDMA, CSMA, CDMA

- Single frequency or spread spectrum: FHSS, DSSS, manual control

RFOS - **a proven modular platform for building custom wireless devices**.

Field-tested hardware and software building blocks allow Venture Technologies to quickly create wireless solutions that are customized to the unique needs of your application.

RFOS reduces product cost and parts count when compared to an off-the-shelf radio module, because the RFOS libraries and your application can run together on the same microcontroller.

Whether it's long range, predictable network response, long battery life, or a unique network topology, Venture's RFOS will get your product to market quickly, and will suit your product's unique requirements better and cheaper than ready-made modules or standards ever can.

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RFOS Specifications and Options

Approvals	FCC ready & certification history; 802.15.4 compliant
Data Rate	Up to 250Kbits/second. On demand or sequenced
Range	Up to 1 mile direct, plus multiple hops
Network size	Customizable & unlimited, depending on access scheme
Gateways & protocols	Ethernet, Wifi, cell, USB, RS485. Customizable (e.g. TCP/IP, ModBus, HTML)
Battery Life	Typically >5 years, up to 20, for end nodes, depending on duty cycle

Why Choose RFOS?

Since the requirements for every product are unique, forcing an industry-standard solution such as Zigbee®, WiFi or Bluetooth® into a product typically results in a compromise in device performance, an increase in cost, or both. This is a classic case of trying to fit a square peg into a round hole.

A wireless solution built with RFOS from Venture allows performance to be optimized according to the specific needs of the application. This flexibility has allowed RFOS to be successfully applied to systems with thousands of nodes, devices which operate on a single set of batteries for many years, products that must synchronize and to products with extremely aggressive cost goals.

RFOS embedded:
Examples of Successful Products Designed by Venture Technologies

Healthcare
Monitors compliance with hospital hand washing policies, with a wireless network of up to one thousand soap dispensers relaying usage data to a remote server through gateway devices.

Consumer
Allows dogs to be unleashed while keeping them under control, by allowing a trainer to correct behavior using a handheld remote at a range of up to 1/2 mile.

Retail
Displays promotional messages sent wirelessly from an in-store transmitter to hundreds of shopping cart handles within 1/2 mile, and delivers up to 5 years of battery life.

Industrial
Allows scheduling of fuel deliveries by measuring liquid level in storage tanks, and relaying level data wirelessly through a gateway device to a remote server.

In addition to wireless expertise, Venture Technologies has extensive experience developing all types of electronic products.

We are a product development and engineering services company that can serve as your one-stop shop for your electronic, software, and mechanical engineering design needs.

With over 25 years of experience in the business, Venture has a proven track record of meeting difficult technical challenges and tight schedules. Whether you need to take a product from concept to manufacturing, or simply augment your staff to complement your in-house capabilities, Venture can help.

VENTURE

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