The **RF** Experts

RF SENSORS
Receive Antenna Monitor

4046E RX

Remote RX Monitoring Simplified

The Bird 4046E RX Antenna Monitor provides real-time visibility into receive antenna performance—enabling early detection of degradation without disrupting communications. Installed between the receive antenna and base station, it monitors return loss and alerts users when conditions deviate from defined baselines.

The compact, Ethernet-enabled sensor integrates with SNMP-based systems and can be configured remotely via a built-in web interface. With user-defined thresholds, frequency scheduling, and remote firmware updates, the 4046E offers reliable, customizable monitoring in a rugged, field-ready design. It pairs with Bird's transmit-side solutions for complete RF system visibility.

RX Monitoring Isn't Optional. Visibility Without Complexity.

KEY FEATURES & BENEFITS

- **Return Loss and Signal Detection:** Performs scheduled, in-line return loss measurements to detect antenna and feedline degradation.
- **Clear, Actionable Data:** Displays real-time results and alarms for quick detection of receive-path issues before performance is affected.
- **Remote Access and Alarm Management:** Integrates with SNMP v3 and a built-in web interface for remote setup and centralized alarm handling—no site visit required.
- **Flexible Deployment:** User-defined frequency lists, schedules, and thresholds adapt to site needs, with remote updates for easy adjustments.

APPLICATIONS

- Public Safety: Police, fire, EMS, and emergency response
- Transportation: Rail, transit, and aviation systems
- Utilities & Energy: Substations, smart grid, and SCADA
- Industrial: Factory automation and RF-linked operations
- Telecom & Broadcast: Base stations and RF infrastructure
- Military & Government: Secure, mission-critical RF networks

Bird

POWER SENSORS RECEIVE ANTENNA

4046E RX

Specifications

MEASUREMENT

Measurement Type	In-Line, switched reflectometer
Frequency Range	100 MHz to 1000 MHz
Measurement Bandwidth	25 kHz
Interference Detection Threshold Level	User selectabel from -55 dBm to -35 dBm
Measurement Range- Return Loss	-26 dB to 0 dB
Frequency Resolution	1 kHz
Test Signal Output (to antenna)	-10 dBm, nominal
Test Signal Leakage (to radio)	-30 dBm, max
Measurement Duration	250 ms max per measurement frequency
Measurement Interval	User selectable, time window
Impedance, Nominal	50 Ohms
Insertion Loss	0.7 dB max
Insertion VSWR	1.3 typical

SYSTEM

Power Supply	5.5-25 VDC, 3.5 W max, 0.08 in (2 mm) power input. 15V AC adapter included
Indication	Via WebUI display and via SNMP trap

CONNECTORS

Interface	Ethernet 10/100BASE-T (auto-sense) Version 2.0/IEEE 802.3
RF Connectors	N(f), N(m)

ENVIRONMENTAL

Humidity	95% max, noncondensing
Altitude	15,000 ft (4,572 m) max
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-40 °C to 80 °C (-40 °F to 176 °F)

PHYSICAL

Size (with connectors)	5.4 in x 3.8 in x 1.4 in (137 mm x 97 mm x 36 mm)
Weight	0.6 lb (0.27 kg)

CERTIFICATIONS

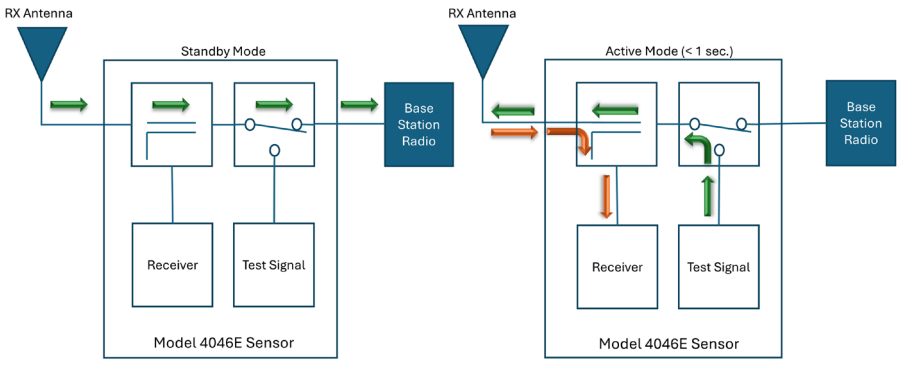
Certifications	CE, ROHS, UKCA

RF SIGNAL FLOW DIAGRAM

1. **Test Signal Generation**
   Generates a low-level CW test signal at user-defined frequencies from 100 to 1000 MHz.

2. **Scheduled Signal Injection**
   Injects the test signal into the receive path at scheduled intervals (up to 250 ms per frequency) to measure return loss without disrupting system operation.

3. **Intelligent Measurement Timing**
   Configurable to operate during off-peak hours or when receive traffic is idle, ensuring non-intrusive monitoring.



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