



# AISG Integrated Transceiver

MAX9947

## General Description

The MAX9947 is an AISG-compliant, fully integrated transceiver.

The MAX9947 receiver offers a typical dynamic range of 20dB and integrates a bandpass filter that operates in the 2.176MHz frequency with a narrow 200kHz bandwidth.

The MAX9947 transmitter integrates a bandpass filter that is compliant with the AISG spectrum emission profile. It can modulate OOK signals up to 115.2kbps. The output power can be varied with external resistors from +7dBm to +12dBm to compensate for loss in the external circuitry and cabling.

The MAX9947 also features a direction output to facilitate the RS-485 bus arbitration in tower-mounted equipment.

The MAX9947 is available in a small, 3mm x 3mm 16-pin TQFN and is rated for operation in the -40°C to +85°C temperature range.

## Applications

Base Stations  
Tower Equipment

## Features

- ◆ Receiver Wide Input Dynamic Range  
-15dBm to +5dBm in 50Ω
- ◆ Variable Transmitter Output Level from +7dBm to +12dBm
- ◆ AISG-Compliant Output Emission Profile
- ◆ Autodirection Output
- ◆ No Need of Microcontrollers to Handle Bus Arbitration in Tower-Mounted Equipment
- ◆ Supports All AISG Data Rates  
9.6kbps  
38.4kbps  
115.2kbps
- ◆ Bandpass Filter Compliant with AISG Protocol Centered Around 2.176MHz
- ◆ 3.0V to 5.5V Voltage Supply
- ◆ Independent Logic Supply
- ◆ Small, 3mm x 3mm 16-Pin TQFN Package

## Ordering Information

PART	TEMP RANGE	PIN-PACKAGE	TOP MARK
MAX9947ETE+	-40°C to +85°C	16 Thin QFN-EP*	AFH

+Denotes a lead(Pb)-free/RoHS-compliant package.

\*EP = Exposed pad. Connect EP to GND to enhance thermal dissipation.

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## Functional Diagram

