

Aero™ EDGE Radio

COMPLETE GSM/GPRS/EDGE RADIO FOR WIRELESS COMMUNICATIONS



FEATURES

- Complete quad-band GSM/GPRS/EDGE radio
 - Based on the Aero II transceiver
 - Digital low-IF receiver architecture
 - Linear transmitter architecture supports 8-PSK mode
 - Best-in-class components
- High integration preserves excellent radio performance
- Universal baseband interface
- GPRS and E-GPRS Class 12 capable
- 3-wire serial interface
- 2.7 to 3.0 V operation

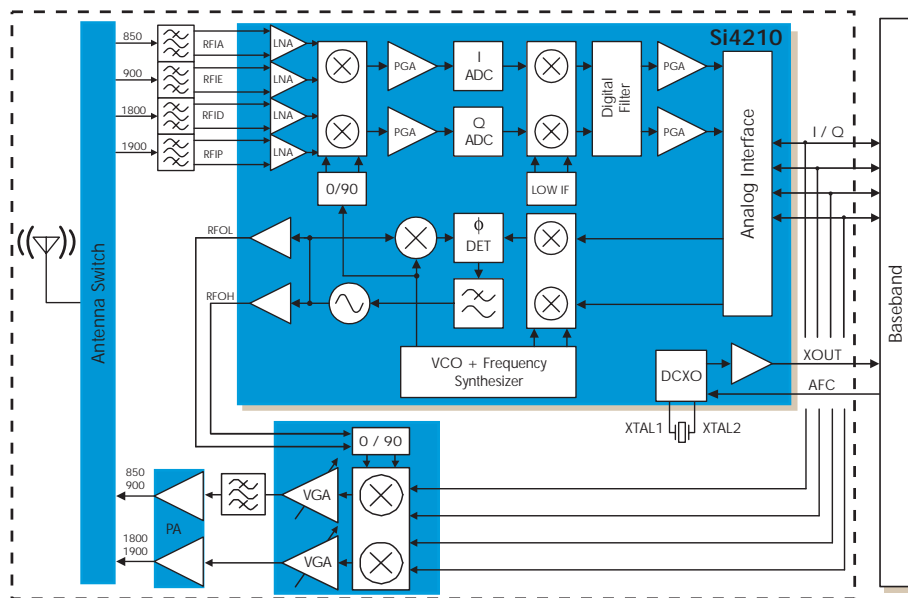
PRODUCT DESCRIPTION

Based on the Si4210 Aero II GSM/GPRS transceiver, the Aero EDGE Radio provides a complete turnkey reference design for a quad-band GSM/GPRS/EDGE radio. The Aero EDGE Radio has the smallest footprint and fewest components of any EDGE radio on the market today, enabling customers to achieve high data rates while maintaining small form factors. The Si4210 receiver uses a digital low-IF architecture that supports both GMSK and 8-PSK modulation. The 8-PSK transmitter is formed with a companion chip that includes a direct upconversion mixer and a variable gain amplifier (VGA). The transmit SAW provides additional margin to filter unwanted phase noise produced by the companion chip. The power amplifier (PA) is programmable to support either GMSK or 8-PSK mode and operates open loop with no external components required for feedback.

APPLICATIONS

- Multi-band GSM/GPRS/EDGE digital cellular handsets
- Multi-band GSM/GPRS/EDGE wireless data modems

Aero EDGE Radio BLOCK DIAGRAM



SOLUTIONS GUIDE

COMPLETE EDGE RADIO
IN THE SMALLEST FOOTPRINT
WITH FEWEST COMPONENTS



**PROVEN TECHNOLOGY
EASIEST TO DESIGN
EASIEST TO MANUFACTURE**

Proven Technology

The Aero EDGE Radio from Silicon Laboratories builds upon existing Aero II technology developed from GSM/GPRS. To preserve excellent GSM/GPRS performance, the Aero EDGE Radio includes a proven digital low-IF receiver and a linear transmitter based on a high-performance offset phase-locked loop (OPLL).

Highest Level of Integration

The Aero II transceiver is the industry's most integrated single-chip GSM/GPRS/EDGE transceiver, integrating all VCOs, tuning components and loop filters.

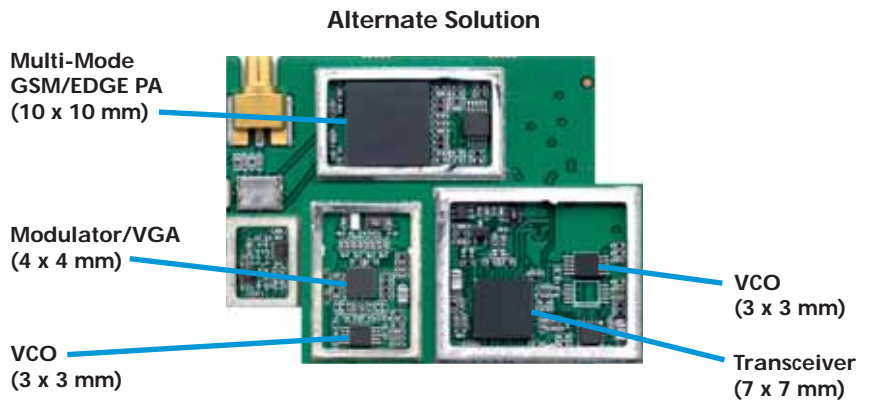
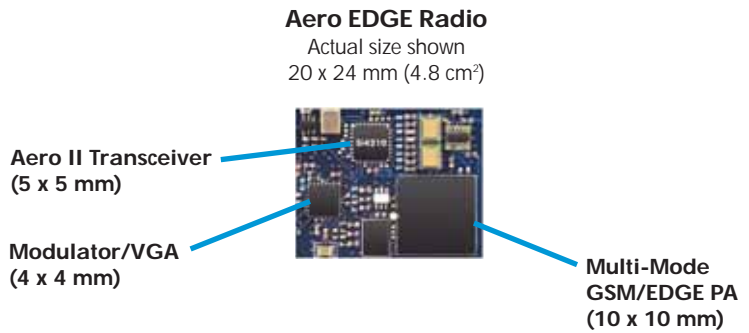
Smallest Footprint

The Aero EDGE Radio implements an entire quad-band GSM/GPRS/EDGE radio in only 41 components and requires 50% less board space than competing solutions.

Easiest to Design and Manufacture

The Aero EDGE Radio provides a reference design for a complete quad-band GSM/GPRS/EDGE radio with guaranteed performance. For supply flexibility, the Aero EDGE Radio is qualified for components sourced from multiple vendors.

50% Area Reduction/60% Fewer Components



TYPICAL SIZE COMPARISON		
	Total Area	Components
Aero EDGE Radio	4.8 cm ²	41
Alternate Solution	9.4 cm ²	131

CONTACT INFORMATION



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ORDERING INFORMATION

Product	Description
Si4210-EDGE-EVB-KIT	Aero EDGE Radio Development Kit
Data Sheets	
Si4210-DS	Aero II Transceiver Data Sheet