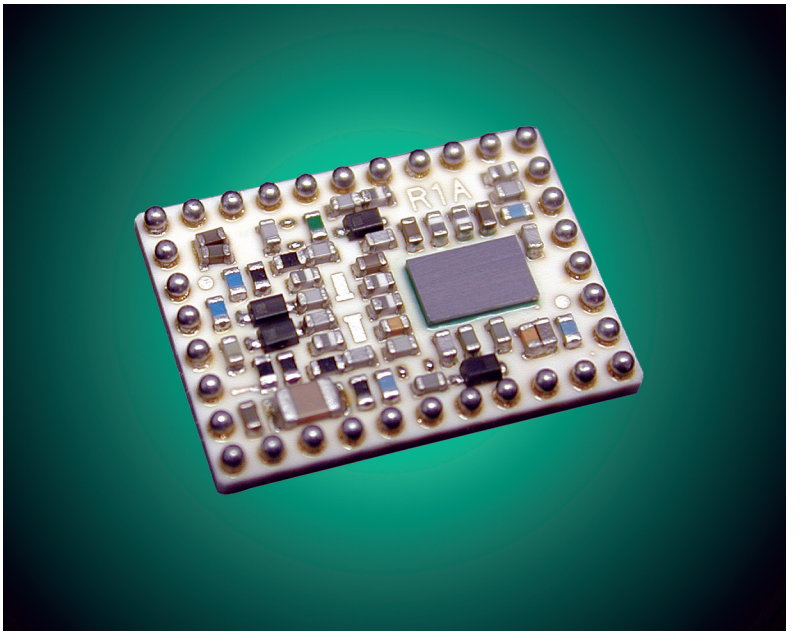
Bluetooth™ CDMA Radio

Key Features

- RF output power class 2
- Compliant with Bluetooth specification 1.1
- Forms a complete radio with only
  – an antenna
  – a reference frequency of
    12.00, 19.20, 19.68 or 19.80 MHz
- Small outline BGA-package
  (10.2×14.0×1.8 mm)
- Requires no external shielding
- Optimized for CDMA applications
- Operates with Qualcomms
  MSM 3300/5100 baseband controller

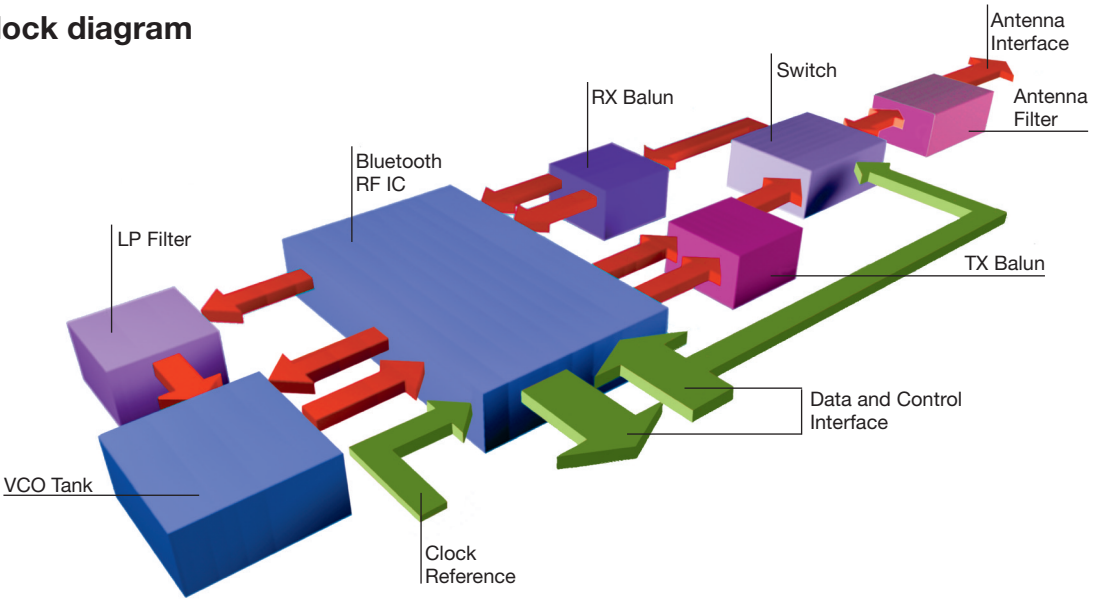


Description

The Bluetooth Radio from Ericsson Microelectronics is a short-range microwave frequency radio transceiver for Bluetooth communication links.
Provided in a compact ceramic BGA package, the Bluetooth Radio is intended primarily for embedded applications and applications requiring a flexible form factor. No external shield is required due to the innovative self-shielding design. This solution enables extremely low hight implementations.
With the addition of only an antenna, a reference frequency crystal, and digital control functionality, the PBA 313 04 forms a complete radio.

As a result, designers can benefit from a pre-tested and ready-to-use device, providing a robust Bluetooth Radio function in the final OEM application.
The Bluetooth Radio offers a combination of compact size, low power consumption, and cost effective assembly – with the 'flip chip' radio IC and some major components of the radio integrated into the ceramic carrier.
This makes it ideal for Bluetooth communications applications in mobile phones.

Block diagram



Hardware

PBA 313 04 is a short-range microwave frequency radio transciever for Bluetooth communication links that are designed to operate in the globally available unlicensed ISM frequency band, 2.4–2.5 GHz.

Fast frequency hopping
(1600 channel hops/s) with 79 channels (2.402 to 2.480 GHz) and a maximum TX & RX bit rate of 1 Mbit/s.

The implemented modulation technique is Gaussian Frequency Shift Keying (GFSK) with a BT product of 0.5. The channel bandwidth is 1 MHz and the frequency deviation is between 140 and 175 kHz.

The Bluetooth Radio is built around a BiCMOS ASIC. Antenna filter, RX and TX baluns are all integrated into the ceramic carrier.

Operating from a 2.8 V supply voltage, the device has a typical supply current requirement of only 50 mA (receive mode) or 40 mA (transmit mode), thus helping to extend battery life for portable equipment. A standby mode provides further power savings.

Control interface

Operation together with the MSM 3300/5100 chipset and software from Qualcomm is recommended.

Antenna interface

50 Ω Bluetooth ISM band antenna (2.4–2.5 GHz).

Ordering information

This Bluetooth Radio from Ericsson Microelectronics may be ordered as: PBA 313 04.

Ericsson Microelectronics
SE-164 81 Kista, Sweden
Telephone: +46 8 757 50 00
www.ericsson.com/microelectronics

For local sales contacts, please refer to our website or call: Int + 46 8 757 47 00, Fax: +46 8 757 47 76

The latest and most complete information can be found on our website.

Product Brief

EN/LZT 146 58 R1E