

Single chip 802.11b/g WLAN radio

DATA BRIEF

Features

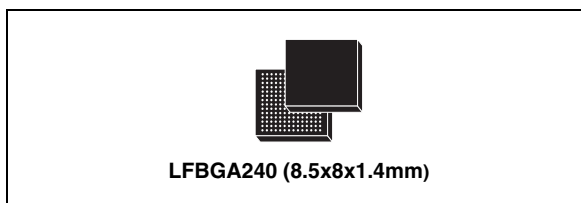
- Extremely small footprint
- Ultra Low Power consumption
- Fully compliant with the IEEE 802.11b and 802.11g WLAN standards
- Support for 54, 48, 36, 24, 18, 12, 9, and 6Mbps OFDM, 11 and 5.5Mbps CCK and legacy 2 and 1Mbps data rates
- Single Chip 802.11b/g WLAN solution with
- Fully integrated:
 - Zero IF (ZIF) transceiver,
 - Voltage Controlled Oscillator (VCO),
 - High-Speed A/ D and D/A Converters,
 - Radio Power Management Unit (PMU),
 - OFDM and CCK baseband processor,
 - ARM9 Media Access Controller (MAC),
 - SPI serial host interface
 - SDIO (4-bit) serial host interface
 - Passive components integration
 - PA bias control
 - Flexible integrated Power Management Unit
 - Glueless FEM interface
- Intelligent Power Control, Including 802.11 Power Save Mode
- Fully integrated Bluetooth coexistence

Applications

- Cellular Phones
- Personal Digital Assistants (PDA)
- Portable Computers
- Hand-held Data Transfer Devices
- Cameras
- Computer Peripherals
- Cable Replacement

Order codes

Part number	Temp range, °C	Package	Packing
STLC4550	-30 to 85°C	LFBGA240- (8.5x8x1.4mm)	Tray



Description

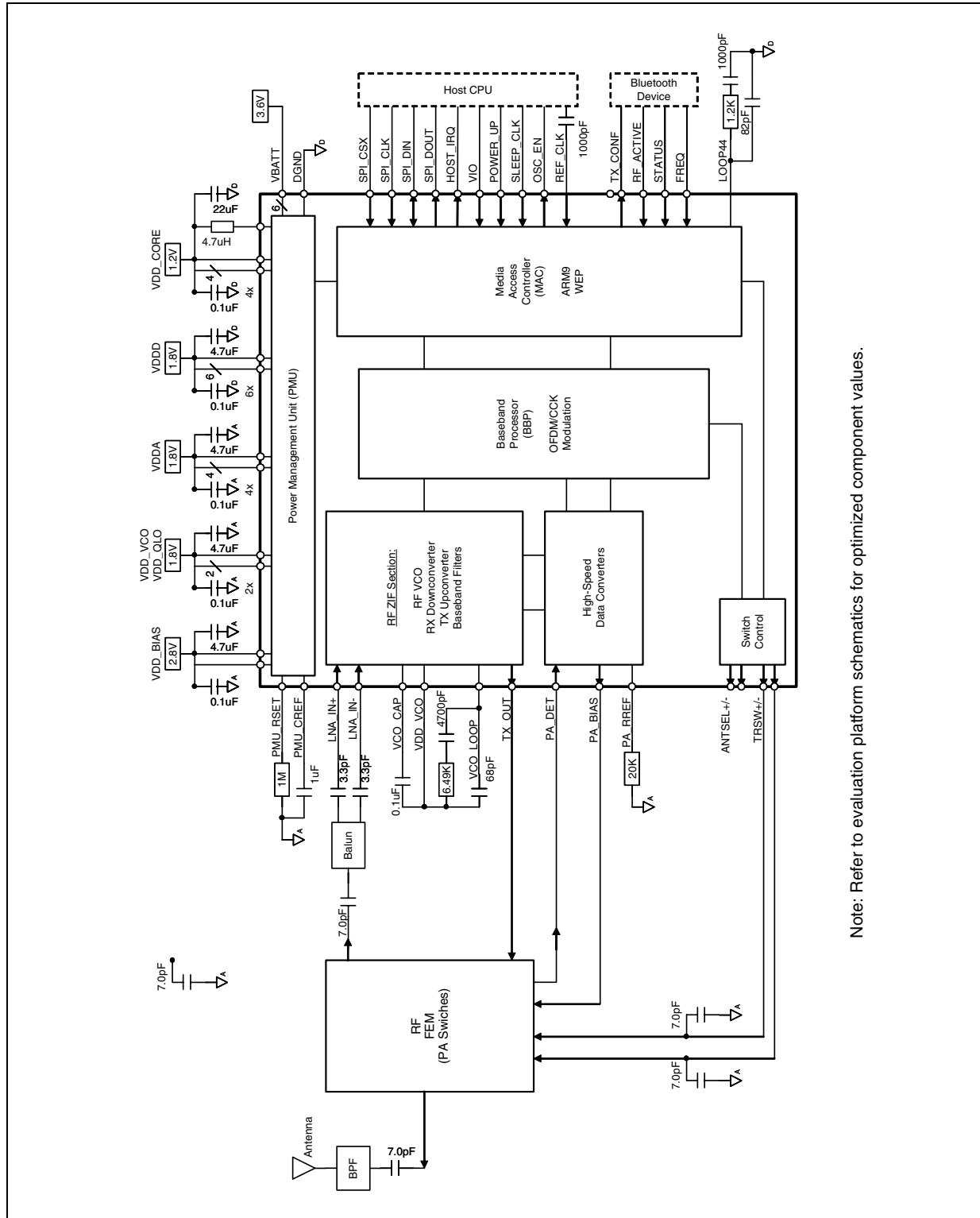
The STLC4550 is a single chip 802.11b/g WLAN radio for embedded, low-power and very small form factor mobile applications. The product conforms to the IEEE 802.11b and 802.11g protocols operating in the 2.45GHz ISM frequency band supporting OFDM data rates of 54, 48, 36, 24, 18, 12, 9, and 6Mbps as well as CCK data rates of 11 and 5.5Mbps and legacy data rates of 2 and 1Mbps.

The STLC4550 is a fully integrated wireless radio including a ZIF transceiver, RDocRev1F Synthesizer/VCO, high-speed data converters, an OFDM/CCK digital baseband processor, an ARM9-based MAC and a complete Power Management Unit with integrated PA bias control. In addition some passive components are integrated further reducing the overall reference design cost and size. An external FEM completes a highly integrated chip set solution.

Host control is provided by a flexible SPI or SDIO serial interface. The SPI interface supports a maximum clock rate of 48MHz whereas the SDIO supports a maximum clock rate of xxMHz. For maximum flexibility, the STLC4550 accepts system reference clock frequencies of 19.2, 26, 38.4 and 40MHz. A reference design evaluation platform of hardware and software is provided to system integrators to rapidly enable wireless connectivity to mobile platforms.

1 Block diagram & Application circuit

Figure 1. Block Diagram and Application Circuit (Standard Front End Module)



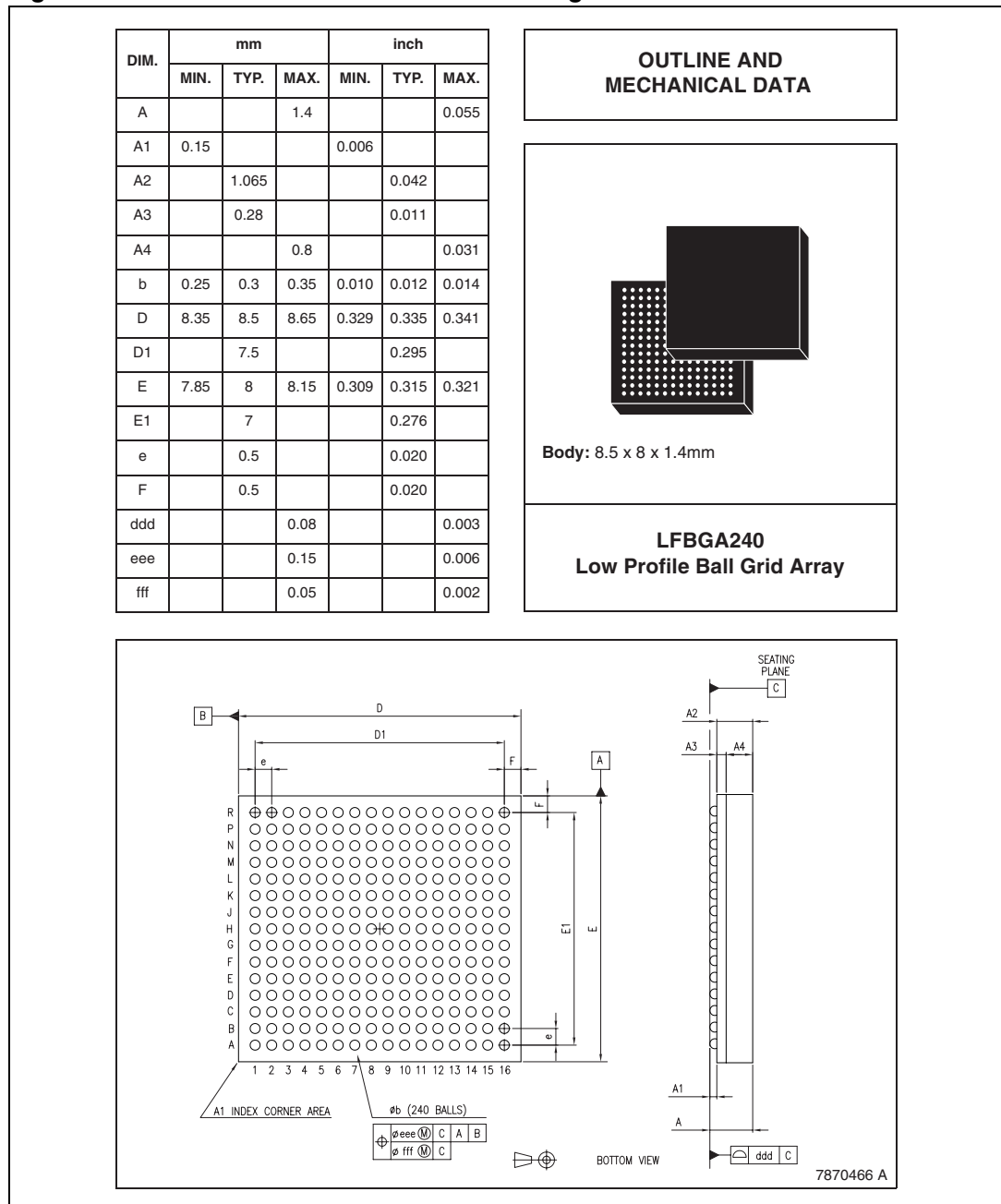
Note: Refer to evaluation platform schematics for optimized component values.

2 Package Information

In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second Level Interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label.

ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com.

Figure 2. LFBGA240 Mechanical Data & Package Dimensions



3 Revision history

Table 1. Document revision history

Date	Revision	Changes
06-Feb-2006	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZE REPRESENTATIVE OF ST, ST PRODUCTS ARE NOT DESIGNED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS, WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2006 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com