

PRODUCT SUMMARY

SKY74210 Helios™ WEDGE Transceiver With Support For Multiband EDGE and HSPA Mobile Handset Applications

Applications

- Quad-band EGPRS handsets and modules
- WCDMA handsets and modules
- HSPA handsets and modules

Features

- Single-chip, multi-band WEDGE transceiver
- Compliant with v3.08 of the DigRF 3G standard
- Eight-band WCDMA functionality (bands I to VI and VIII to IX)
- Quad-band EGPRS functionality
- HSDPA category 1 to 12 capable; HSUPA category 1 to 6 capable
- EGPRS class 10 to 12 and class 30 to 39 capable
- Low external component count
- Integrated diversity receiver
- Compressed mode operation
- Shared direct conversion/very low IF receive path for EGPRS/WCDMA without the need for interstage receive SAW filters
- Shared direct conversion transmit path for EGPRS/WCDMA without the need for interstage transmit SAW filters
- $\Sigma\Delta$ ADCs for digitization of baseband receive signals
- DACs for conversion of the modulator output
- Programmable receive filter coefficients
- 0.13 μm RF CMOS technology
- LGA (92-pin, 7 x 7 mm) Pb-free (MSL3, 260 °C per JEDEC J-STD-020) package

NEW

Skyworks offers lead (Pb)-free RoHS (Restriction of Hazardous Substances) compliant packaging.



Description

The SKY74210 Helios™ WEDGE transceiver is a compact, multimode device that supports multiband EDGE and High-Speed Packet Access (HSPA) mobile handset applications. Designed with high programmability, the device can be configured to perform optimally in various modes while sharing the same circuitry.

The SKY74210 eliminates the requirement for interstage receive and transmit Surface Acoustic Wave (SAW) filters by using Skyworks innovative direct conversion/very low Intermediate Frequency (IF) receive architecture and direct conversion transmit architecture. A set of six-wire, high-speed serial ports provide the baseband interface (DigRF v3.08 3G compliant).

The direct conversion/very low IF receive architecture eliminates the need for IF processing and costly SAW filters. Skyworks innovative circuit design makes it possible to eliminate the interstage filter, commonly required in WCDMA mode to reduce the transmit signal. This approach effectively allows the receive chain to be shared by both EGPRS and WCDMA modes. A second on-chip receive path is provided to enable diversity operation, which allows High-Speed Downlink Packet Access (HSDPA), category 10, data communication.

The direct conversion transmit architecture also allows EGPRS and WCDMA modes to share the same path. The needed noise floor is accomplished without using interstage transmit SAW filters in either mode. Drivers are provided to allow the use of separate EDGE and WCDMA PAs for optimized efficiency.

The SKY74210 is intended to be combined with selected components from the Intera™ family of Front-End Modules (FEMs). The resulting subsystem forms a complete radio solution that saves significant space, cost, and design cycle time while providing improved performance.

The SKY74210 is fabricated using 0.13 μm RF CMOS technology and is available in a compact, 7 x 7 mm Land Grid Array (LGA) package. A functional block diagram of the SKY74210 Helios WEDGE transceiver is shown in Figure 1.

PRODUCT SUMMARY • SKY74210 WEDGE TRANSCEIVER

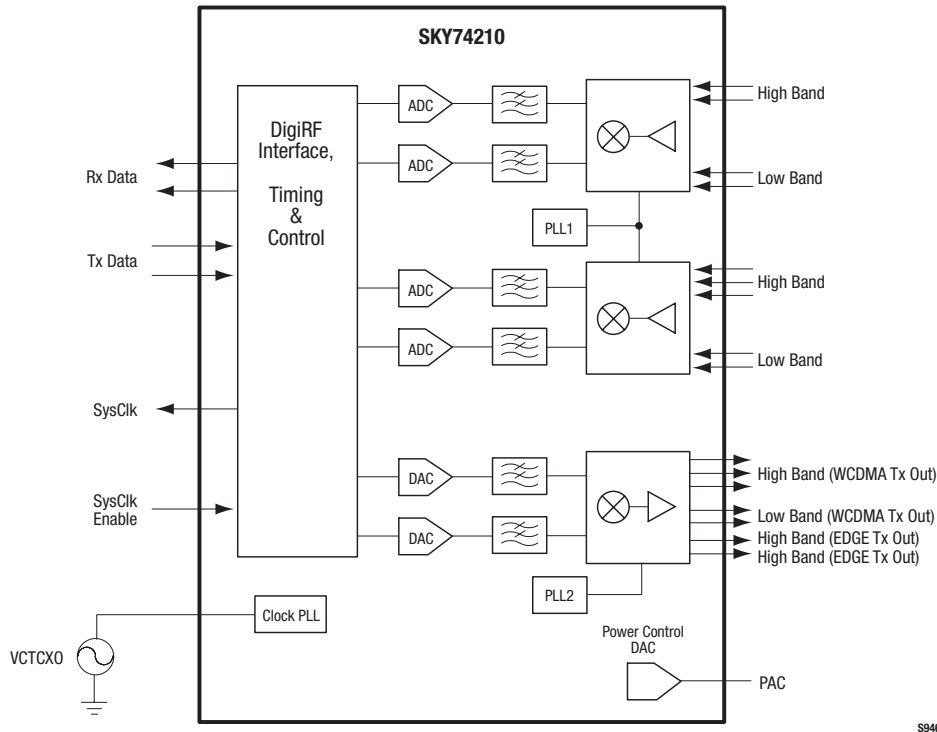


Figure 1. SKY74210 WEDGE Transceiver Functional Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Product Revision
SKY74210 Helios WEDGE Transceiver	SKY74210-xx (Pb-free package)	

Copyright © 2007, Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. ("Skyworks") products or services. These materials, including the information contained herein, are provided by Skyworks as a service to its customers and may be used for informational purposes only by the customer. Skyworks assumes no responsibility for errors or omissions in these materials or the information contained herein. Skyworks may change its documentation, products, services, specifications or product descriptions at any time, without notice. Skyworks makes no commitment to update the materials or information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from any future changes.

No license, whether express, implied, by estoppel or otherwise, is granted to any intellectual property rights by this document. Skyworks assumes no liability for any materials, products or information provided hereunder, including the sale, distribution, reproduction or use of Skyworks products, information or materials, except as may be provided in Skyworks Terms and Conditions of Sale.

THE MATERIALS, PRODUCTS AND INFORMATION ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT; ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. SKYWORKS DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. SKYWORKS SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO ANY SPECIAL, INDIRECT, INCIDENTAL, STATUTORY, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THE MATERIALS OR INFORMATION, WHETHER OR NOT THE RECIPIENT OF MATERIALS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Skyworks products are not intended for use in medical, lifesaving or life-sustaining applications, or other equipment in which the failure of the Skyworks products could lead to personal injury, death, physical or environmental damage. Skyworks customers using or selling Skyworks products for use in such applications do so at their own risk and agree to fully indemnify Skyworks for any damages resulting from such improper use or sale. Customers are responsible for their products and applications using Skyworks products, which may deviate from published specifications as a result of design defects, errors, or operation of products outside of published parameters or design specifications. Customers should include design and operating safeguards to minimize these and other risks. Skyworks assumes no liability for applications assistance, customer product design, or damage to any equipment resulting from the use of Skyworks products outside of stated published specifications or parameters.

Skyworks, the Skyworks symbol, "Breakthrough Simplicity," Intera, and Helios are trademarks or registered trademarks of Skyworks Solutions, Inc., in the United States and other countries. Third-party brands and names are for identification purposes only, and are the property of their respective owners. Additional information, including relevant terms and conditions, posted at www.skyworksinc.com, are incorporated by reference.