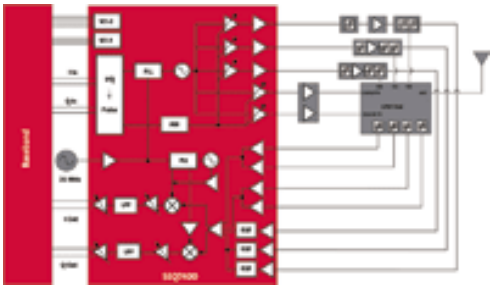
Single Chip Polar HEDGE RF Transceiver

Sequoia Communications' SEQ7400 is a single-chip, polar transmit, seven-band, HEDGE (HSDPA/WCDMA and EDGE/GPRS/GSM) RF transceiver based on the company's patented FullSpectra&#153 architecture. The SEQ7400 offers a high level of integration, low power consumption and a light phone level calibration burden. These innovations improve the battery life and reduce the footprint and the overall manufacturing costs of 3G handsets.

With its innovative architecture, the SEQ7400 reduces the complexity of multi-mode, multi-band mobile devices, which provides suppliers with a flexible solution that



[1]

can be implemented across multiple tiers of mobile devices. The product supports WCDMA, HSDPA, EDGE, GPRS, GSM modes across seven frequency bands simultaneously, making it applicable to major networks worldwide. The integrated receiver includes all LNAs and, unique to the SEQ7400, also eliminates the need for external WCDMA SAW filters. In addition, the low noise polar modulation transmit architecture eliminates the transmit SAW filters for GSM/EDGE.

The SEQ7400 is the only transceiver in the industry to eliminate external WCDMA Rx filters, according to the company. This breakthrough enabled the efficient integration of all WCDMA LNAs without the need to go off chip and back on chip to use costly and bulky SAW filters. The integration of LNAs and filters significantly reduces the RF bill of materials (BOM) and board layout complexity.

"Lowering the overall cost of ownership and reducing the size of mobile handsets is critical for the broad adoption of 3G technologies," said David Shepard, chief executive office of Sequoia Communications. "The SEQ7400 is based on our patented approach to polar modulation and is the smallest, lowest cost multi-mode HEDGE transceiver solution in the industry. The release of the SEQ7400 will greatly benefit wireless handset manufacturers in their ability to deliver small, low-cost 3G handsets to consumers."

Additionally, Sequoia designed significant intelligence into the transceiver, making it a virtually self-calibrating device with a very simple interface. There is no burden placed on the baseband device or at the phone level. This will reduce the factory

calibration time for handset manufacturers, leading to much lower manufacturing cost and higher throughput.

The SEQ7400 is available in an 8 3 8 mm BGA package. Samples and complete RF evaluation boards are available now. Volume production is anticipated in the second half of 2007.

Source URL (retrieved on *04/20/2014 - 8:53am*):
http://www.wirelessdesignmag.com/product-releases/2007/06/single-chip-polar-hedge-rf-transceiver?qt-blogs=0

Links:
[1] http://www.wirelessdesignmag.com/sites/wirelessdesignmag.com/files/legacyimages/0706/tecaward_lrg.gif