

# PMB 5699

SMARTi U Single-Chip  
W-CDMA/UMTS Transceiver

## SMARTi U – First Single-Chip UMTS/W-CDMA RF-Transceiver

Infineon has designed the first single-chip UMTS/ W-CDMA RF-transceiver IC SMARTi U to be used in mobile applications according 3GPP (FDD, 2100 MHz) requirements.

SMARTi U (PMB 5699) offers lowest component count and smallest PCB area at lowest current consumption.

The full homodyne architecture and flexible control concept reduces significantly implementation efforts and time-to-market.

### Features

- Integration of receive and transmit path
  - Smallest size
  - Lowest component count
  - Less requirements on PCB layout
- Fully integrated synthesizers
  - No external tank circuit
  - No external frequency adjustment required
- Fully homodyne architecture
  - No IF (intermediate frequency) stage
  - No IF-SAW filter
  - Easiest frequency concept
- Lowest current consumption
  - Highest stand-by and talk time
- Integrated receive channel filter
  - Reduced baseband efforts
- Integrated transmit filter
  - Reduced baseband signal requirements
- Flexible baseband interface
  - Supporting various baseband solutions
  - Various reference frequencies
  - Adjustable I/Q interface
  - Flexible 3-wire-bus concept
  - Supporting multi-mode
- Lowest external component count
  - No external components for DC-offset compensation
  - No external components for channel filtering

### General

- Supply voltage: 2.7 - 3.0 V
- 3-Wire bus programmable
- Low external component count
- Temperature range -25 to 85°C
- P-VQFN-40 leadless package
- 6.5 x 5.5 mm, 0.5 mm pitch
- Integrated synthesizers

### Rx

- Direct conversion receiver
- Integrated channel filter
- Integrated DC-offset compensation

### Tx

- Direct modulation transmitter
- Integrated VGA
- Dynamic range > 85 dB

### Applications

- UTRA FDD standard
- Power class 3
- Fixed and variable duplex
- Compressed mode
- Dual-receive
- Cellular phones
- PDAs and handhelds

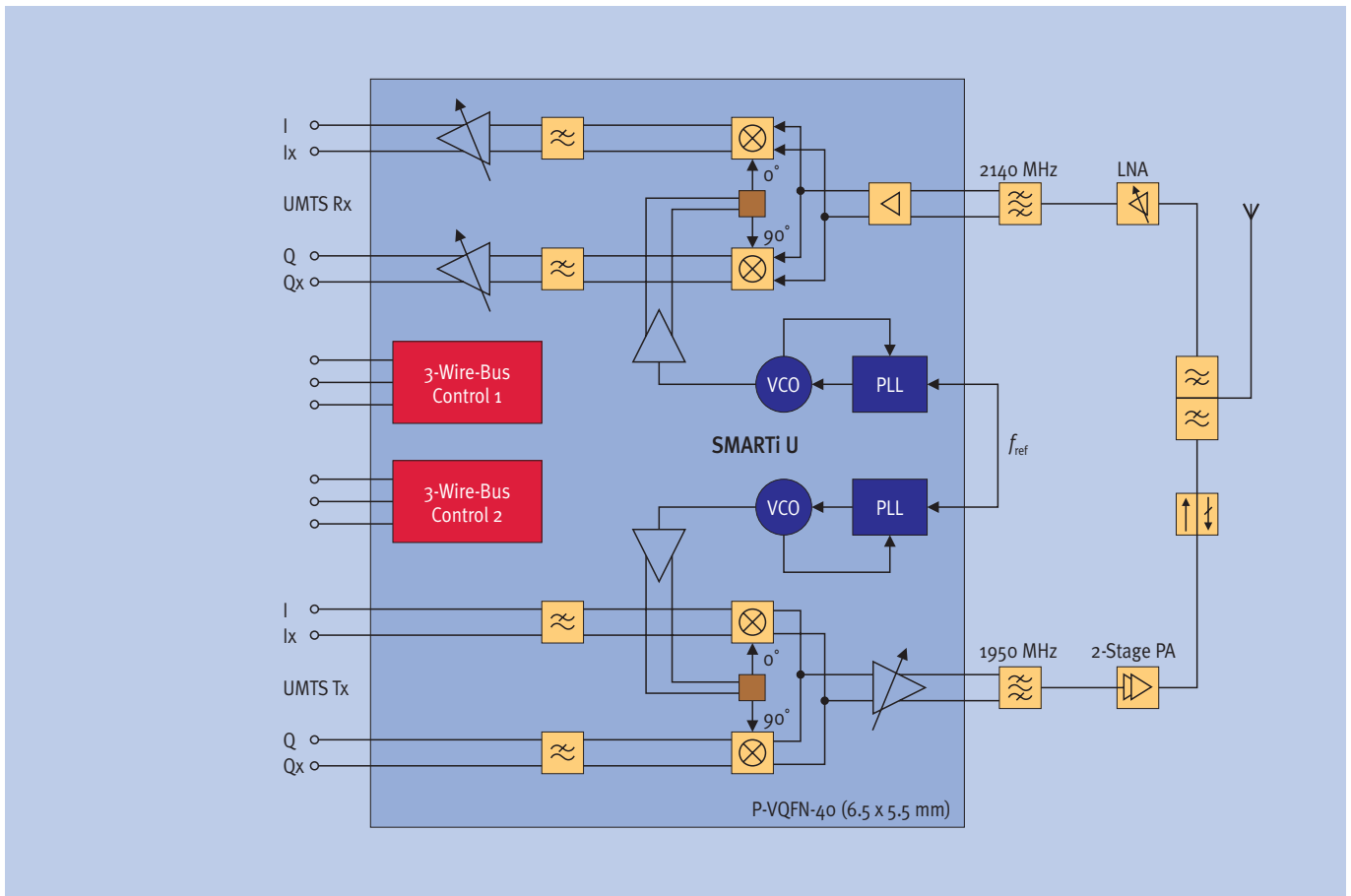
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## Block Diagram SMARTi U



How to reach us:  
<http://www.infineon.com>

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