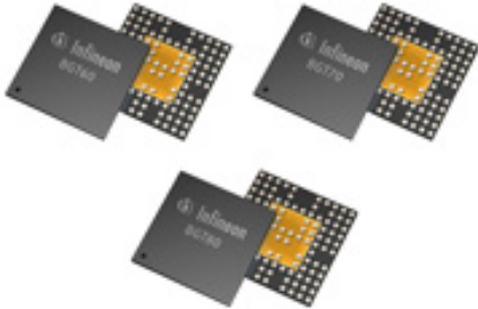


# One-Chip Packaged RF Transceiver Chipsets

WDD Staff



[Infineon](#) [1] (Germany) has in development a complete family of packaged RF Transceiver for Mobile Backhaul – beside BGT70 and BGT80 for E-band radio, also BGT60 for V-band radio. The Family approach has the major benefit due to it's a modular approach – one architecture supporting the three backhaul frequency ranges of 60, 70 and 80 GHz. Customers can easily design all three radio versions with the same RF footprint as the package is same for all three Transceiver.

Mobile communication and especially LTE (4G) is getting momentum these days due to the fact that all big carriers and mobile phone manufactures invest into the 4th generation ecosystem. The challenge which the ecosystem will face is that LTE will further enhance the video and data exchange to a maximum everybody can send their latest holiday pictures and video to their friends. The bulk of today's base station infrastructure is not ready to support the required high data throughput.

The connection between the base station was so far planned for lower data rates (few 100MBit/s) and needs now increased capacity. This is where the wireless backhaul technology comes into place. A solution using wireless backhaul in in the E-band (71-76 and 81-86GHz) will open up 10GHz frequency range and in the V-band (57-64GHz) will open up 7GHz frequency range to do so. This enables data rates > 1Gbit/s for video and data service, sufficient for LTE.

Infineon business approach will enable such Gbit service with the latest 60 and 80 GHz technology.

Due to Infineon's advanced SiGe (Silicon Germanium) technology with a transit frequency of 200 GHz, all RF (Radio Frequency) building blocks can be integrated, like Power Amplifier (PA), Low Noise Amplifier(LNA), Mixer, Programmable Gain Amplifier (PGA), Voltage Controlled Oscillator(VCO), into a single chip.

This technology is proven and fully qualified for other Infineon Millimeter- and

## One-Chip Packaged RF Transceiver Chipsets

Published on Wireless Design & Development (<http://www.wirelessdesignmag.com>)

---

MicroWave chipsets already (e.g. 77GHz automotive radar).

Furthermore Infineon will house this single chip into a plastic package which makes a major difference to the market. So far solutions are bare die and require expensive tools and equipment to build up a radio system. With the Infineon packaged chipset, customer can save money and reduce the time-to-market significantly.

Benefits include:

- Packaged solution, easy to use and standard SMT flow for mounting on customer system.
- Low power RF Transceiver (<2Watt peak power).
- Highly integrated RF transceiver requiring no external RF discretes, thereby simplifying the customer design and time-to-market.
- Architecture of Direct Conversion Zero IF eases interface to latest modem/BB designs (no external filter).
- A transceiver approach with implemented BIST (Built-In Self-Test) on the chip to enable RF testing at Infineon production.
- Family concept (common architecture, package, pinning) simplifies customer designs due to modular approach.

For more information visit [www.infineon.com](http://www.infineon.com) [1].

**Source URL (retrieved on 10/23/2014 - 5:21pm):**

<http://www.wirelessdesignmag.com/product-releases/2013/04/one-chip-packaged-rf-transceiver-chipsets>

**Links:**

[1] <http://www.infineon.com>