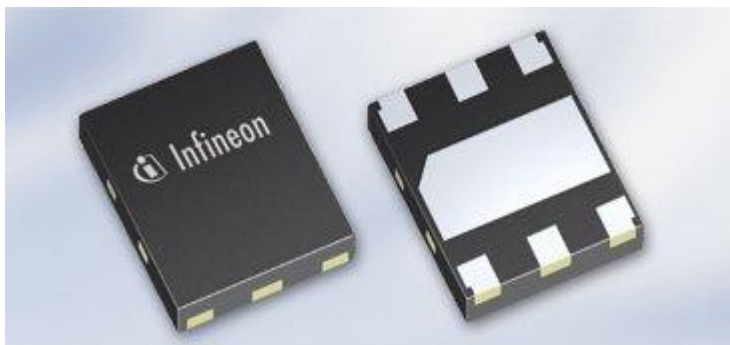
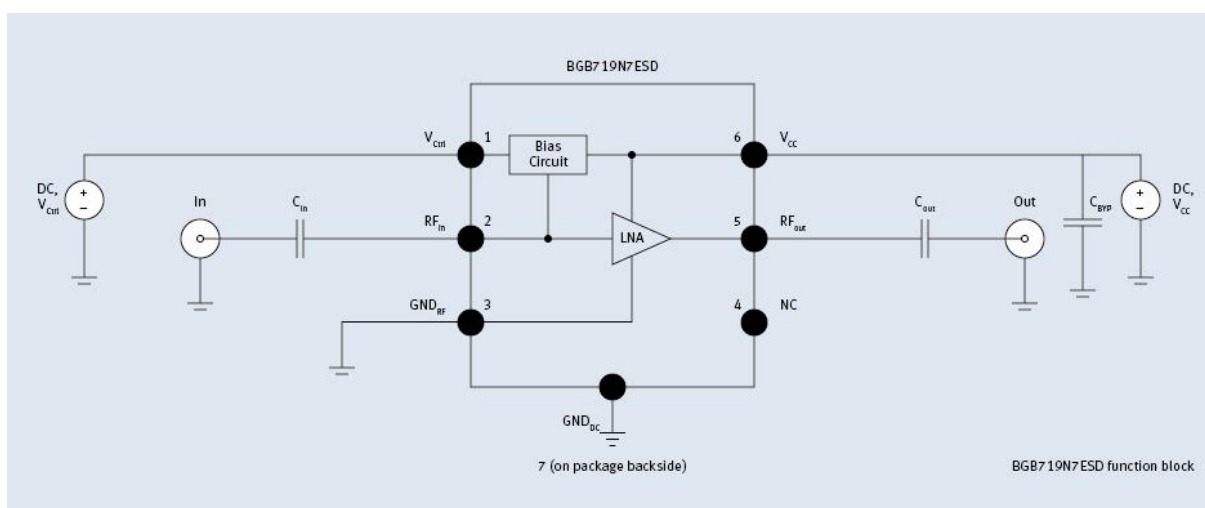


Radio Without Limits – BGB719N7ESD



FM radio receiver modules are standard in many of today's mobile phones and handsets, with the mobile phone's headset. However, this is not an ideal solution, as reception can be poor, the wired headset cord may be cumbersome and Bluetooth earpieces cannot be used as they do not have a physical cord. Instead of using the wired headset as an antenna, a passive

antenna can be integrated into the mobile phone. There are certain downsides, however. The FM broadcast wavelength is roughly in the 1 meter band. In addition, mobile devices require small form factors. This means that the electrical size of integrated antennas is often severely restricted, resulting in equally severe degradation in antenna gain and, as a consequence, a dramatic loss of receiver sensitivity.



Integrating miniature low noise amplifiers (LNA) in handsets can be an effective solution to the growing design dilemma facing OEMs looking to embed FM radio or mobile TV receivers. "Active matching" techniques, where a suitable LNA is directly interfaced to the small integrated antenna, can regain much of the receiver's sensitivity.

High input impedance, high gain, low noise amplifiers with small footprints and high robustness against electrostatic discharge (ESD) are key success factors in active antenna designs. Infineon's latest generation LNA, the BGB719N7ESD, meets today's embedded active FM and mobile TV antenna design challenges. It enhances receiver sensitivity and consumes less power and board space.

The BGB719N7ESD can be easily matched to electrically short half-loop antennas and monopole antennas. A single passive element needs to be placed at the LNA input. To help designers get started quickly, evaluation boards and comprehensive documentation are available. The device is already in volume production.

Key Features

- Frequency Range: 10MHz to 1GHz Lowest external parts count

- High input impedance makes it ideal for electrically short antennas
- Super miniature low-profile leadless package TSNP-7-6, 1.26 x 1.4 x 0.37mm
- High gain at only 2.8mA current consumption
- Integrated active biasing circuit enables stable operation point over temperature, supply voltage and processing variations
- Integrated ESD protection for all pins (1.5kV, HBM)
- Excellent noise figure thanks to latest SiGe:C technology
- Operation voltage: 1.5 V to 4.0V
- Power-off function
- Lead-free (RoHS-compliant) and halogen-free (WEEE-compliant) product

Applications

- Handsets with active matching for FM radio and mobile TV
- CMMB reception in all kinds of mobile devices using embedded antennas

For more information, please [click here](#).