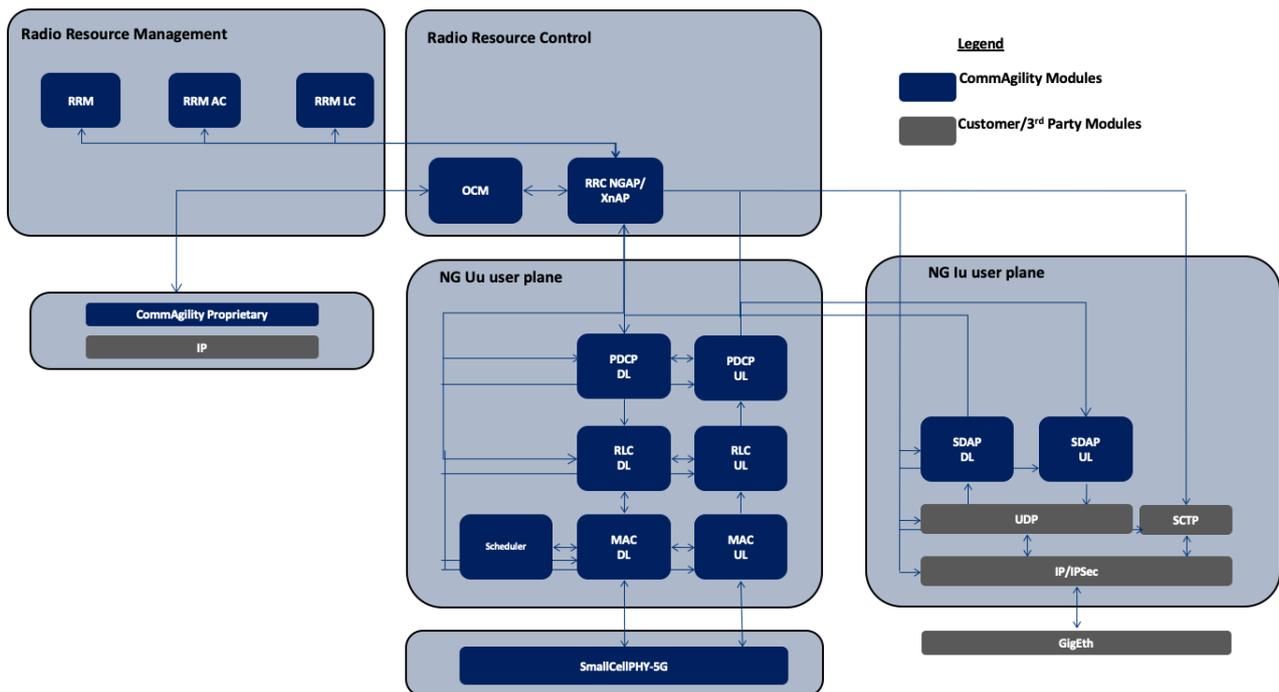


SmallCellSTACK-5G

Complete 5G Protocol Stack



SmallCellSTACK-5G is a complete 3GPP-compliant 5G NR Protocol Stack that is portable to almost any baseband chip and operating system. It is designed in ANSI C for flexibility and scalability and is easy to customize and upgrade.

Integrated with CommAgility's SmallCellIPHY-5G on selected CommAgility, NXP and x86 platforms, a complete 5G gNodeB board solution will be available.

SmallCellSTACK-5G can be optimised depending on customer requirements - for low memory, processing power, and power consumption. It is also scalable for different size small cells (32 RRC connected users and up, depending on platform). Innovative algorithms such as advanced schedulers for enhanced spectrum efficiency will also be

available from Release 16, with an intelligent round-robin scheduler as standard in our Release 15 product.

A comprehensive and configurable debug infrastructure helps accelerate time-to-market and minimise risk.

Currently available for 5G NR Non-Standalone, the protocol stack will also be available for 5G NR Standalone in late 2020. The SmallCellSTACK-5G Rel. 15, and future Rel. 16, supports NXP Layerscape® devices to be used in CommAgility's upcoming 5G gNodeB platforms with integrated SmallCellIPHY-5G. On NXP devices, it uses the DPDK framework for management of hardware accelerators and DPAA2 services such as SEC engine, queue and buffer management.

Key Features

- 3GPP Release 15 NSA compliant features for small cells. Rel. 15 SA and Rel. 16 are roadmapped
- Available integrated on NXP and CommAgility hardware
- Advanced multi-threaded architecture for partitioning across multiple cores
- Integrated and validated with SmallCellPHY-5G
- GUI tool for monitoring KPIs and managing gNodeB configurations
- NFAPI interface

Resulting Benefits

- End products that work with all 3GPP compliant commercial terminals
- Reduces risk and cuts development time
- Maximises performance and number of UEs
- Reduces integration efforts
- Efficient use of engineering time through easy to use tools
- Allows integration with standards-compliant physical layer and schedulers

Key Product Features

- 3GPP Release 15 NSA small cell feature set. Evolution to Rel. 15 SA and Rel. 16 in 2H2020.
- Portable and proven on multiple hardware platforms—NXP and X86
- Advanced multi-threaded architecture for partitioning across multiple cores for maximum performance
- 3GPP compliant 5G MAC, RLC, PDCP, RRC, S1AP, XnAP, SCTP, RRM and SDAP modules
- Configurable for low memory footprint
- Support of trace collection, trace compression and trace group activation throughout all layers
- ASN.1 library from Objective Systems

Supported SOCs

- NXP Layerscape® communications processors
- Intel x86



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