

5G Ref gNodeB NXP Development Platform

Flexible, customer-configurable gNodeB for R&D



The 5G Reference gNodeB is a pre-integrated system, including both hardware and software, and is based on the NXP Layerscape® Access® 5G integrated SoC chipset.

The reference design will be useful to UE and gNodeB product developers, 5G researchers and 5G network engineers. The software and hardware are fully integrated and tested, saving time and reducing risk.

The environment gives engineers access to internal gNodeB parameters and allows modification of configuration parameters.

For specialized applications, CommAgility can also provide customization services, source code and test vectors/test cases, as well as integrated applications. Initial support is included in the purchase price.

Easy Configurability

CommAgility's engineers, based on years of product and project experience, have developed a 5G Management Tool for use with CommAgility's Protocol Stack or Reference gNodeB products, that demonstrably saves effort, time and cost.

The Management Tool provides an easy to use graphical interface for managing and manipulating the hundreds of configuration parameters that are loaded by the Protocol Stack on start-up. It also monitors multiple parameters during operation of the gNodeB.

Key Performance Indicators (KPIs) give a view into the network for the engineer and give information that includes throughput, data usage and channel quality. These parameters can be used to optimize the network or aid in deployment.

Reference gNodeB Hardware: NXP LA1224-RDB with CA-RF2-5Gn78



The LA1224-RDB is an NXP development platform featuring an LA1224 Layerscape Access fully programmable baseband SoC. It is coupled with an NXP LX2160A, the highest performance member of the Layerscape multicore communications processor family.

The CA-RF2-5Gn78 is an RF front end module developed by CommAgility for the LA1224-RDB interface connectors to add RF development support. It has two integrated RF transceiver channels.

When used in conjunction with the LA1224-RDB, the RF module provides a complete baseband and RF small cell solution with a 2x2 MIMO air interface. RF output power up to +12dBm average is supported (depending on frequency), and bandwidths up to 60MHz on each of two band n78 TDD 3300-3800MHz RF channels (also covers band n48 CBRS TDD 3550-3700MHz).

Supplied with CommAgility's SmallCellPHY-5G software, the LA1224 provides the 5G L1 PHY processing, combining VSPA DSP cores with wireless accelerators and RF transceivers. CommAgility's 5G Stack provides 5G Layer 2-3 processing with Ethernet connectivity to the core network, including security acceleration, running on the LX2160A.

Product Package

The standard product includes the following:

Software

- Binary PHY + Stack
- Example configurations
- GUI Operation & Maintenance software for Linux

Hardware

- NXP LA1224-RDB evaluation platform
- CA-RF2-5Gn78 RF module

Over the Air operation is limited, would require a suitable external filter and is only allowed with a suitable licence.



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