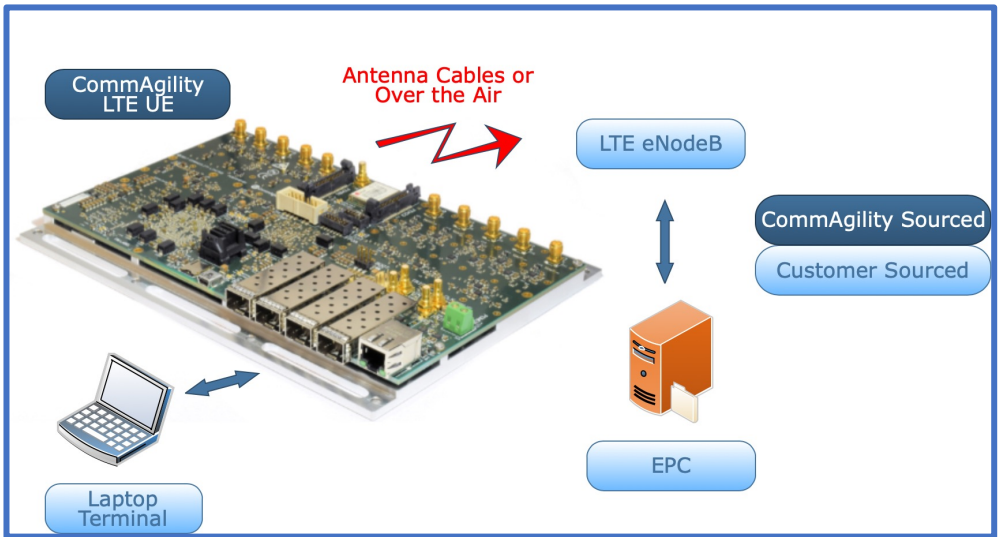
CommAgility

DATASHEET

LTE Reference UE

Flexible, customer-configurable UE for R&D



The LTE Reference UE is a pre-integrated system, including both hardware and 3GPP Rel. 10 LTE software. This flexible system is ideal for eNodeB and network testing, particularly in non-standard frequency bands.

The reference design is useful to eNodeB and UE product developers, 4G/5G researchers and LTE network engineers. The software and hardware are fully integrated and tested, saving time and reducing risk.

Highlighting the flexibility of this board is the ability to alternatively function as an LTE eNodeB with different software and FPGA firmware loads.

Based on the Texas Instruments' TCI6638 SoC, the Reference UE provides up to 300Mbps download throughput and supports any frequency between 410MHz and 6GHz.

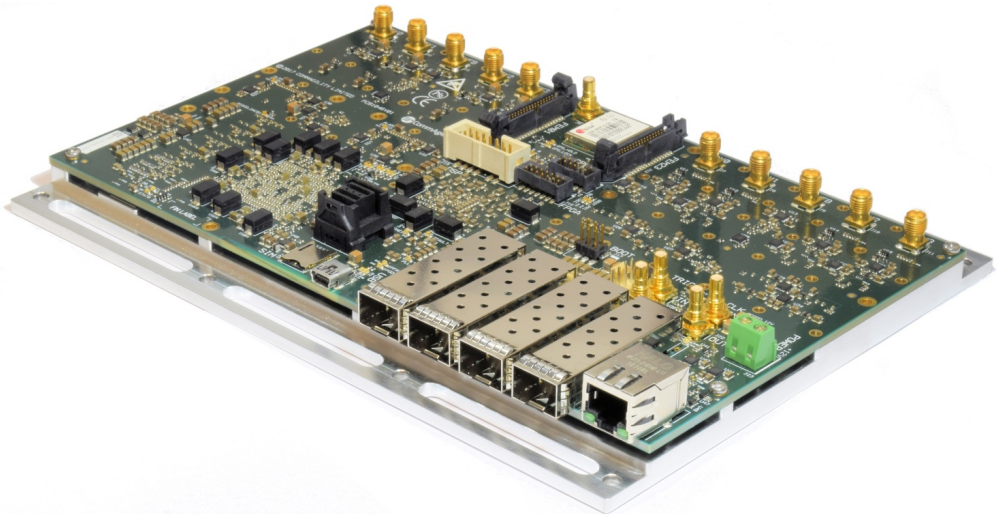
For specialized applications, CommAgility can also provide customization services, source code and test vectors/test cases, as well as integrated applications. Initial support is included in the purchase price.

Proven Foundation

The Reference UE is based on technology proven at tier 1 communications equipment vendors and research institutes. These entities value the reliability and flexibility of CommAgility's products. Because CommAgility developed the entire hardware and software of the Reference UE, customers can have the platform highly customized for special purposes.

Radio Front End Modules

The base board of the Reference UE can be used in a cabled configuration direction with an eNodeB and attenuation. For Over The Air (OTA) use, a radio Front End Module (FEM) is required for filtering and power amplification. CommAgility has developed a selection of FEMs for certain frequency bands. If an appropriate FEM is not already available, the customer may design their own FEMs, or CommAgility can design. Note that the base board needs to be calibrated for each FEM and frequency used.



Reference UE Hardware: CA-D8A4-RF4

The CA-D8A4-RF4 is a baseband processing and RF card for eNodeB and UE, based on a TCI6638K2K SoC and a Kintex-7 FPGA, with four RF channels.

It combines 4 ARM® Cortex®-A15 cores with 8 TI C66x+ DSP cores, accelerators and shared memory, plus FPGA, RF and CPRI interfaces. It is supported by CommAgility small cell and UE, PHY and stack software.

The card's RF channels are tuneable in pairs over a very wide frequency range to cover LTE and unlicensed frequency bands. With CommAgility's LTE software, up to two 20MHz carrier components are supported.

Product Package

The standard product includes the following components:

Software

- Binary LTE PHY + Stack
- Three example configurations for UE connectivity.

Hardware

- CA-D8A4-RF4 processing card (see separate datasheet for details)
- Radio FEM modules are optional

Recommended EPC is Quortus ECXCORE-500, which is a standalone EPC on an embedded module. Alternative is Quortus' EPC for Linux, running concurrently on the O&M Linux PC.

Over the Air operation is only allowed with proper spectrum license.

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V1/0519