APPLICATION BRIEF

LTE in Avionics

Avionics is an example of a 'private network' application, where a cellular network operates as a closed system.

LTE has become the technology of choice for private networks, due to:
- Spectral efficiency
- Broadband capabilities
- All-IP network
- High data throughput
- Economies of scale

Customization

For avionics, the network must be able to support high speeds and large cell sizes. This requires in-depth knowledge of LTE and specialized expertise on how to extend the system beyond the LTE specification. The base components for the system are CommAgility LTE eNodeB and UE products. Using CommAgility's LTE software and hardware, customers can develop UE and eNodeB A2G products based on proven integrated board level solutions.
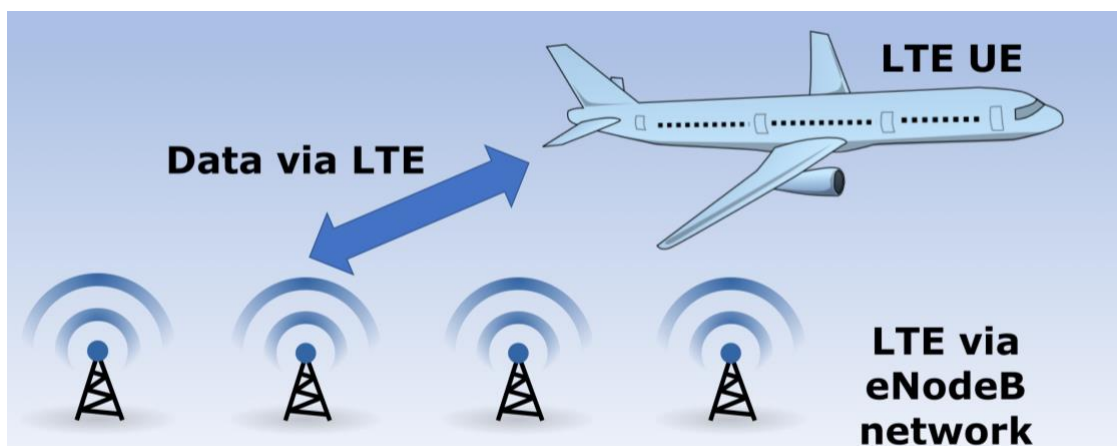
Our network customization capabilities for LTE based private networks include:
- Beyond LTE specification
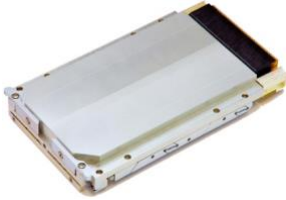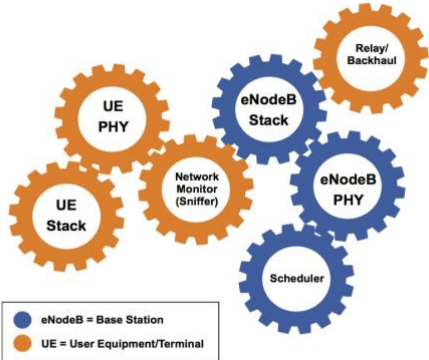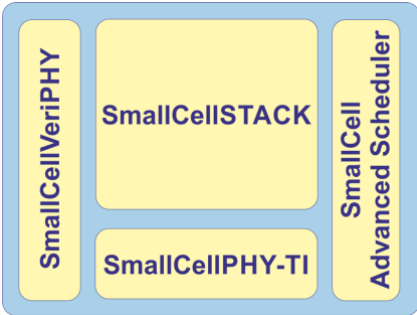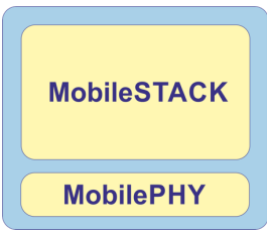- Increased cell size and UE-basestation distance

- Handling of increased signal roundtrip delay time
- Enhanced Doppler compensation for high speeds
- Handover and measurements under high Doppler
- Scheduler and power control customisations to support customer specific radio and antenna configurations
- Testing solution for system integration and production

We can also customize our hardware, for example ruggedized products to the MIL-E-540 and MIL-STD-461B standards have been delivered for customers.

System Capabilities

	Integrated hardware and software CommAgility has developed a range of high performance DSP/FPGA boards, including ruggedized systems in the OpenVPX form factor. We integrate these with our LTE eNodeB and UE software, to create proven system level LTE hardware and software solutions.
	LTE software products CommAgility provides 3GPP standards compliant LTE software, including • UE and eNodeB PHY available as reference chains, providing ultimate flexibility to improve portability and scalability • Pre-ported and validated PHY and Stack, delivering an IP hardware and software block for integration into your silicon design • Pre-integrated PHY and Stack on silicon devices, for immediate use in your wireless product development • Full source code availability and design services for tailored applications
	Small cell products • Complete 3GPP Rel. 8, 9 & 10 software solution for LTE small cells using Texas Instruments' SoCs • SmallCellPHY is the foundation for small cells from top tier vendors who use Texas Instruments' SoCs • Entirely software-defined, delivering high flexibility and scalability for small cells • Basic Scheduler plus optional Advanced Scheduler • Test suite for PHY level functional, compliance and performance testing
	Mobile products CommAgility's Mobile PHY and Stack products are the foundation for portable and scalable UE solutions. MobilePHY, along with the integrated MobileSTACK is supported on the TI KeyStone baseband devices with a roadmap to TCI6638 and Rel. 10. CommAgility can tailor this solution to meet application-specific needs and support for customer baseband SoCs.

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