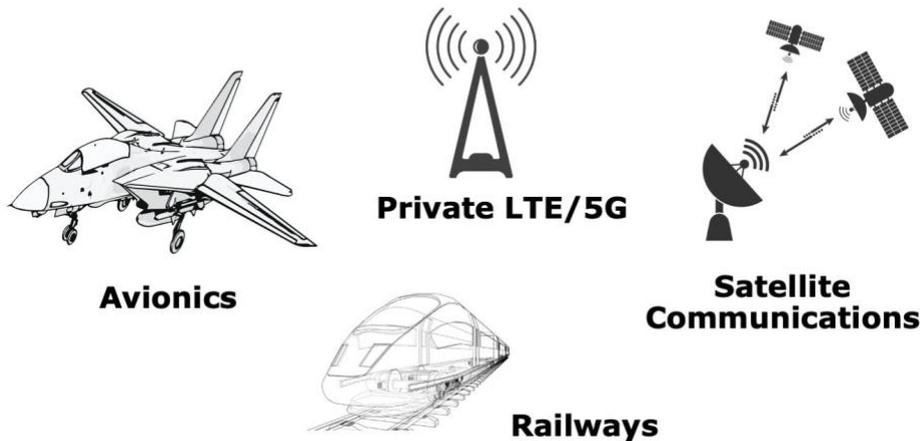


Private LTE and 5G Networks



LTE has become the standard of choice for a wide range of networks which were previously proprietary, and is increasingly being applied in specialized areas such as airborne, satellite communications, and railways. By basing these networks on well defined, global standards, they benefit from extensive re-use of expertise and protocols from the commercial world.

4G LTE offers spectral efficiency and a well-defined architecture, while the emerging 5G standard also provides advantages such as low latency, faster speeds, and high reliability.

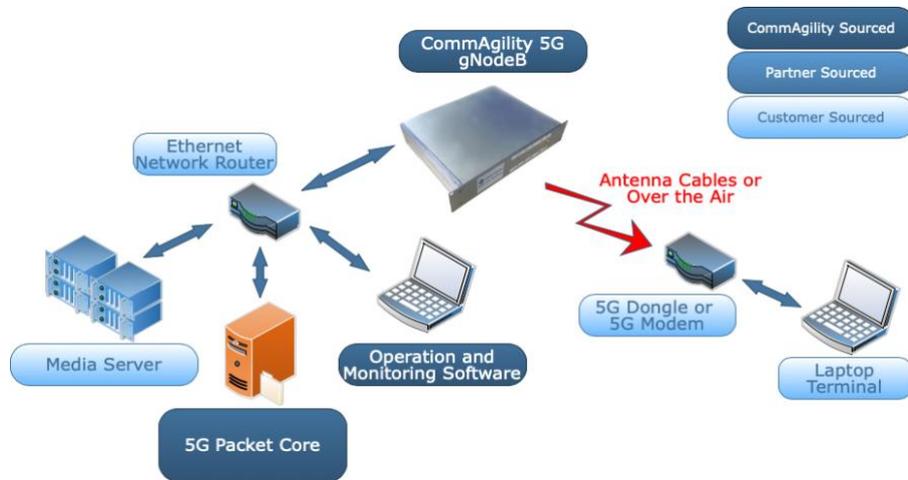
However, these specialized applications typically cannot use the LTE or 5G standards without modifications. Either they use only some parts of the standards, or they require algorithmic and protocol adaptations to deal with issues such as higher latency, higher Doppler shift, specific interference or multiple parallel channels.

Specialized Solutions

CommAgility is involved in projects in a range of specialized network areas where adaptations are needed. Because we own the IP for the PHY and Protocol Stack, and we have the expertise to make adaptations, we can provide private network solutions for LTE and 5G that minimize risk, cut time to market, and reduce project cost.

For these applications, we offer:

- LTE eNodeB and 5G gNodeB and UE baseband and Protocol Stack processing, and 5G Core software
- Board-level solutions, integrated hardware and software
- Customized software and hardware services
- eNodeB/gNodeB and multi-UE test infrastructure
- RISC/DSP/FPGA and RF processing
- Ruggedized options
- Chassis integration



CommAgility Expertise for 5G RAN

CommAgility has over 10 years' experience of implementation and verification of 3GPP specifications to enable small cell and terminal product developers. Because 5G builds on the earlier LTE releases, we can leverage this vast and deep experience to deliver robust, flexible products from individual software blocks, as well as a full, production ready, 5G gNodeB reference design.

This expertise enables our customers to take advantage of the key improvements in 5G New Radio (NR), 3GPP Rel-15, including:

- More efficient modulation
- Waveform optimization
- Scalable numerology

Software and Hardware

CommAgility's private LTE and 5G software and hardware meet the needs of specialized network applications. On the hardware side, CommAgility offers high-performance and flexible DSP, FPGA, and RF boards.

Software solutions for LTE and 5G include UE and eNodeB/gNodeB PHY available as reference chains, as well as pre-ported and validated PHY and Stack, and 4G/5G Cores. This portfolio helps rapid development of small cells and private networks, for both 5G NR non-standalone (NSA) and standalone (SA).

CommAgility's flexible pre-integrated platforms, such as the LTE reference eNodeB and LTE reference UE, provide solutions for R&D network testing, and include both hardware and LTE PHY/Stack software. Customized hardware and software services are also available to meet specific requirements.



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