

APPLICATION BRIEF

5G New Radio Solutions

5G New Radio (NR) is the 3GPP response to the commercial challenges of enhanced Mobile Broadband (eMBB) gigabit-per-second bandwidths, ultra-reliable and low-latency communications (uRLLC) for mission-critical applications and massive machine type communications (mMTC).

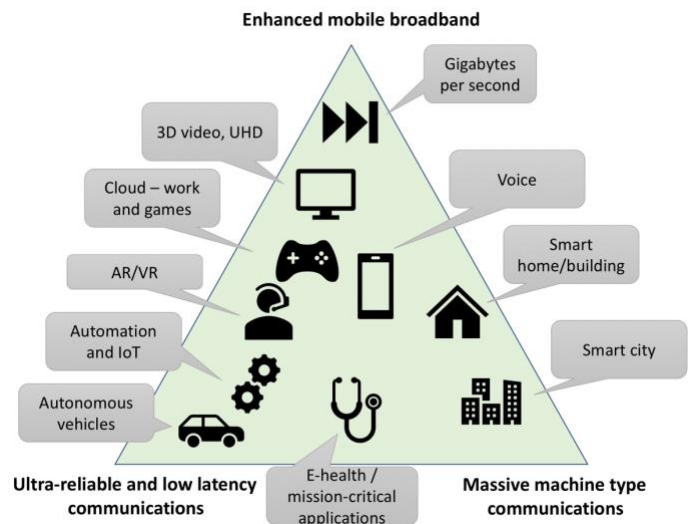
5G NR, 3GPP Rel-15, introduces a number of key improvements on LTE including:

- More efficient modulation
- Waveform optimization
- Scalable numerology

CommAgility Expertise for 3GPP Rel-15

CommAgility has over 10 years' experience of implementation and verification of 3GPP specifications. 5G builds on the earlier LTE releases and we are leveraging this experience.

CommAgility was at the forefront of LTE silicon implementation and aims to be so in 5G. Our experience allows us to assist with architecture dimensioning. We can also act as a 3GPP consultancy for your SoC design team.



The foundation of our 5G portfolio is the 3GPP Rel-15 RefChain which includes the algorithm development and validation associated with 3GPP specification implementation. It supports the development of a real-time physical layer for baseband SoCs.

In creating the RefChain we are developing over 2,000 test vectors for physical layer and radio validation.


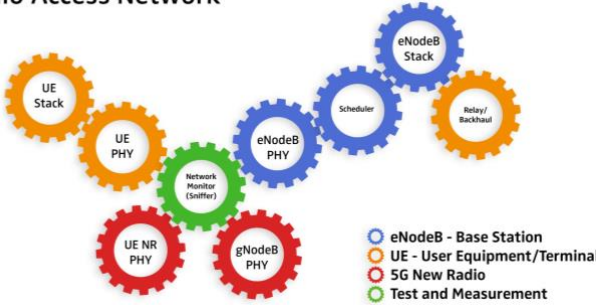
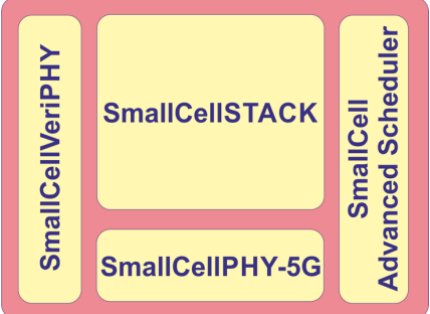
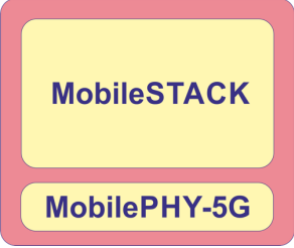
Hardware Platform Technologies

The computational complexity of 5G baseband solutions will require higher performance, more flexible hardware architectures.

Alongside PHY and Stack development, CommAgility is developing a complementary range of hardware solution platforms, such as CA-D8A4-RF4.



System Capabilities

	<p>Integrated hardware and software CommAgility has developed a range of high performance DSP/FPGA/RF boards, including telecom cards in the AdvancedMC and VPX form factors, enabling modular scalable platforms for bespoke solutions. We will integrate these with our 5G NR gNodeB and UE software, to create proven board level 5G hardware and software solutions.</p>
<p>Radio Access Network</p> 	<p>5G NR software products 3GPP standards-compliant 5G NR software, including</p> <ul style="list-style-type: none"> • UE and gNodeB 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
	<p>Small cell products</p> <ul style="list-style-type: none"> • Complete 3GPP Rel-15 software solution for small cells based on SoC baseband devices, beginning with Xilinx FPGAs • 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
	<p>Mobile products CommAgility's Mobile PHY and Stack products are the foundation for portable, customizable and scalable UE solutions.</p> <p>MobilePHY-5G, along with the integrated MobileSTACK will be supported on SoC baseband devices beginning with Xilinx FPGAs. CommAgility can tailor this solution to meet application-specific needs and support for customer baseband SoCs.</p>