

## Experts in 4G and 5G customized Radio Access Networks



CommAgility is an award-winning, world-leading developer of embedded signal processing and RF modules, and LTE PHY/stack software, for 4G and 5G mobile network and related applications. We design the latest DSP, SoC and RF technologies into compact, powerful, and reliable products, and combine them with our industry-leading LTE and 5G software.

Our customers around the world comprise major corporations and prime contractors, as well as smaller companies and cutting-edge 5G research projects. CommAgility provides worldwide support both directly and through a network of distributors.

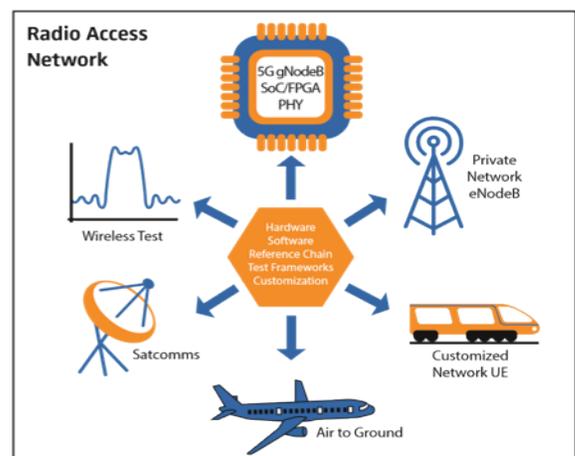
CommAgility is part of Wireless Telecom Group, a global designer and manufacturer of advanced RF and microwave components, modules, systems and instruments.

### Private and Specialized Networks

- Private and specialized networks encompass a variety of cellular networks that operate as a closed system, in applications such as military, avionics, satcoms, maritime, energy, public safety and asset tracking. Often the 3GPP standards will need to be extended, or specific functionality needed for surveillance, backhaul or other applications.
- LTE has become the technology of choice, due to its spectral efficiency, broadband capabilities, all-IP network, low power/ low data rate capabilities and economies of scale. Over time, this will be replaced by 5G, especially where high data rates or low latency are key application requirements.
- Many private and specialized network requirements cannot be met using off-the-shelf equipment. We have vast experience in LTE, especially around adapting the standards for novel application areas. We are highly flexible and work closely with our key customers to meet their technical needs and support them through development into volume production.
- Our first 5G products are now available, and we are positioned to support our customers in 5G demonstrators and product developments.

### We Provide:

- eNodeB/gNodeB and UE baseband and stack processing
- Portable PHY Refchain and Protocol Stack software to support different hardware implementations
- Optimized PHY and Protocol Stack supporting NXP Layerscape or Texas Instruments SoC devices
- Board-level solutions with integrated hardware and software
- Ruggedized options
- Customized software and hardware services
- eNodeB/gNodeB and multi-UE test infrastructure



## Some Key Applications

### Satellite Network Customizations

Satcoms requires algorithmic and protocol adaptations to handle problems such as higher latency, specific interference or multiple parallel channels. CommAgility can provide integrated protocol stacks with adaptations for:

- Specific bandwidths, frequencies to match satellite link
- Power control for beam forming with large antenna arrays
- Location-based beam steering
- Scheduler customization for RF calibration
- End-to-end testing of custom systems

### Test Equipment

CommAgility's experience and expertise in DSP and wireless makes us the ideal partner for wireless test equipment, end-to-end test of custom LTE networks, and performance measurement at all levels of the LTE PHY and stack, as well as the new 5G NR technology. Modular hardware and our 3GPP compliant software provide the basis for a wide variety of test requirements.

### Hardware Capabilities and Platforms

CommAgility has a broad range of hardware, based around the latest Texas Instruments DSP SoCs and Xilinx FPGAs for LTE, as well as RF interface cards. Our products include high performance processing cards in stand-alone, AMC and OpenVPX form factors, including up to four integrated, flexible, wideband RF transceiver channels. Many of our products are designed to work in harsh environments.

For 5G we have recently announced a partnership with NXP and will be providing optimized hardware and software solutions based on its Layerscape family of devices.

CommAgility hardware is ideal for use in private networks, test equipment, research and development, specialized applications such as wireless surveillance, and other uses such as imaging or radar.

### Software – the CommAgility Technology Platform

CommAgility provides software for 4G and 5G applications, including wireless infrastructure and specialized and private networks such as air to ground and satellite comms. Many of our customers need to differentiate their products for specialized applications as well as to reduce risk and costs and increase re-use. Now, with the evolution of our products to 5G New Radio, our customers are assured to have CommAgility as their partner for their future development needs.

### Key Benefits:

- 3GPP standards-compliant, future proofing your investment
- C-based, for flexibility in hardware platform choice
- Pre-integrated onto CommAgility solutions, cutting time to market and development costs
- Leading chipset and IP core partner ecosystem for both LTE and 5G, enabling turnkey platforms
- Flexible and competitive licensing terms
- Unparalleled support from our highly experienced engineering team
- UE and eNodeB/gNodeB PHY available as reference chains, providing flexibility to OEMs

### Aviation

For aviation projects, CommAgility can provide eNodeB and UE customizations such as:

- Increased distance / cell size / roundtrip delay time
- Doppler compensation for speeds beyond 3GPP standards
- Measurements and handover under high Doppler
- Scheduler and power control customizations to support customer specific radio and antenna configurations
- Test solutions for system diagnostics and production

