

APPLICATION BRIEF

CBRS Solutions

Citizens Broadband Radio Service (CBRS) gives private network providers new options to build high performance, custom networks, both in-building and in small local geographies.

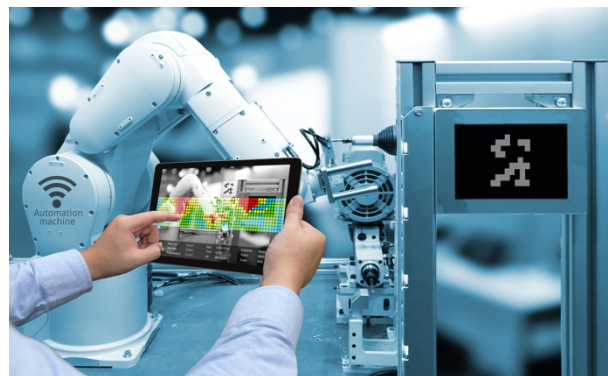
Building on LTE, CBRS provides a number of key advantages:

- Spectral efficiency
- Broadband capabilities
- All-IP network
- High data throughput
- Unlicensed spectrum

Demonstration Performance

CommAgility has created a CBRS demo system based on our AMC-K2L-RF2 hardware, with the following features:

- LTE Band 48 TD 3500 CBRS (3550-3700MHz)
- Up to 24dBm average RF power
- 2x2 MIMO air interface
- 1.4, 3, 5, 10, 15, 20MHz software defined LTE bandwidths
- Up to 40MHz total bandwidth with carrier aggregation
- Operates across whole CBRS band with programmable centre frequency
- GPS or IEEE1588 timing sync
- Operating temperature -40 to +70°C, air or conduction cooled options
- 30W maximum power consumption with PoE++ support
- 120 active, 360 connected users
- 253Mbps DL/10Mbps UL throughput TDD Config 5
- LTE Release 10 with roadmap features through Release 13
- Basic Scheduler (advanced option)
- Binary or source code available
- Full customisation design services for specialised LTE requirements


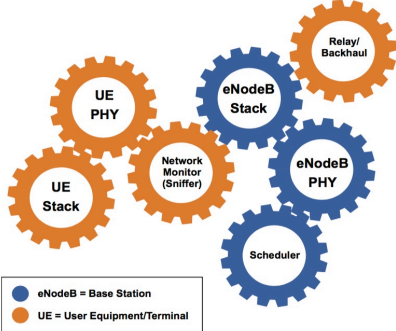
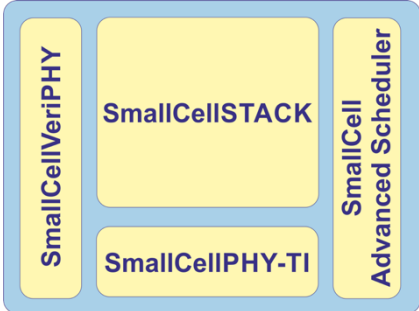



Hardware customisation is also available, for example ruggedized for harsh environments or form customisation for discrete base station deployment.

“Network in a Box” Option with Embedded EPC

CommAgility can provide a full 'network in a box' system, with Quortus' ECX Core Virtualized 3GPP-compliant evolved packet core (EPC) software. ECX Core, the industry's leading virtualized mobile core solution, is an ideal fit for CBRS applications. It provides full 4G EPC functionality with support for any common architecture – centralized, distributed or hybrid.

System Capabilities

	<p>Integrated hardware and software</p> <p>CommAgility has developed a range of high performance DSP/FPGA boards, including telecom cards in the AdvancedMC form factor, enabling modular scalable platforms for bespoke solutions. We integrate these with our LTE eNodeB and UE software, to create proven system level LTE hardware and software solutions.</p>
 <p>● eNodeB = Base Station ● UE = User Equipment/Terminal</p>	<p>LTE software products</p> <p>CommAgility provides 3GPP standards compliant LTE software, including</p> <ul style="list-style-type: none"> • 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
	<p>Small cell products</p> <ul style="list-style-type: none"> • 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
	<p>Mobile products</p> <p>CommAgility's Mobile PHY and Stack products are the foundation for portable and scalable UE solutions.</p> <p>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.</p>



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