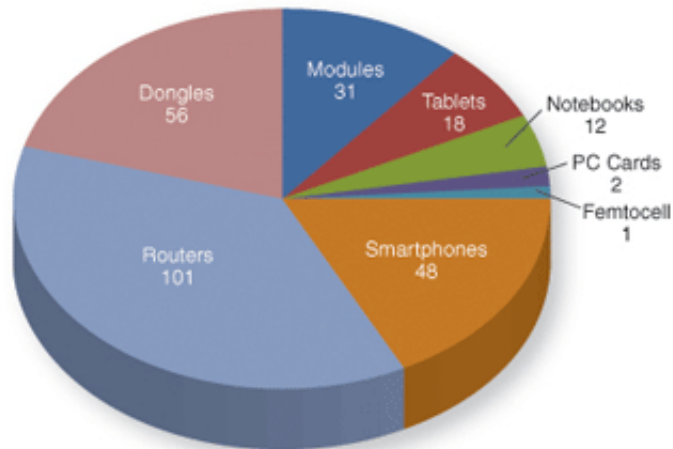# Public-Safety LTE Devices for Demo Network in Short Supply

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Types of LTE Devices Launched Globally
Source: GSA, January

By Sandra Wendelken, Editor

Testing on the public-safety demonstration 700 MHz broadband network in Boulder, Colo., by federal officials is moving forward but Long Term Evolution (LTE) devices for public-safety officials are still in short supply.

"Last year we had two devices in our lab," said Emil Olbrich, Public Safety Communications Research (PSCR) lead project engineer for the public-safety broadband network. "We've doubled it now but it's not where we'd like to see the ecosystem at."

There are 57 manufacturers globally, and 142 LTE-enabled user devices for the 700 MHz

spectrum had been announced, said the Global mobile Suppliers Association (GSA), which represents GSM and LTE suppliers, in January.

"We're a very small fish in a very big pond," said Olbrich.

Public-safety LTE vendors that have delivered devices to PSCR include LGE, IPWireless, Harris and Motorola Solutions. InMotion, CalAmp and Cassidian Communications have signed cooperative research and development agreements (CRADAs) with PSCR but haven't delivered devices.

PSCR is not a certification lab or board, and it requires devices to be PCS Type Certification Review Board (PTCRB) certified before they come to the demonstration network, said Olbrich. PSCR will perform some lab conformance, performance and over-the-air tests.

PSCR officials are testing the public-safety devices using tests established by the Third Generation Partnership Project (3GPP), which sets standards for LTE equipment. PTCRB is a minimum level of testing, and carriers often require additional tests on top of the PTCRB certification, Olbrich said

"This is a public-safety-grade network," he said. "We have to be better than the other guys."

On the infrastructure side, about two years ago, PSCR staff put a three-phase test plan in place for the network. Three vendors — Alcatel-Lucent, Motorola Solutions and

Harris/Nokia Siemens Networks (NSN) — have completed Phase 1 or basic functionality testing with artificial network loading, and Alcatel-Lucent completed the first part of the Phase 2 testing, which includes the physical layer and throughput.

The second part of Phase 2 testing includes alarming and performance. Phase 3 will test interoperability between public-safety systems and how they interact. For example, it will test how a public-safety network in Harris County, Texas, connects to a public-safety network in Charlotte, N.C., with equipment from different vendors. The timeframes for the second Phase 2 and Phase 3 tests are still being determined.

PSCR is planning to work through the MultiService Forum (MSF) as an evolved packet core (EPC) interoperability test forum. MSF has existing test plans for EPCs, and many PSCR CRADA vendors are MSF members as well.