

# 2014-03-18 Motorola Solutions announces first public-safety portable radio with LTE connectivity

Thursday, May 01, 2014  
10:00 AM

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## Motorola Solutions announces first public-safety portable radio with LTE connectivity

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Tue, 2014-03-18 22:34

[Motorola Solutions](#) today announced the APX 7000L, a multiband [P25](#) portable radio with an [LTE](#) module that enables the transmission and reception of broadband data—the first product to include LTE connectivity in a public-safety-grade LMR handheld device.

Expected to be available early in the third quarter this year, the APX 7000L provides the same multiband and ergonomic capabilities as the APX 7000, but the APX 7000L—the “L” is for LTE—includes an LTE module that provides broadband connectivity, according to Mike Petersen, Motorola Solutions’ director of Astro subscriber product management.

“This device just brings some fantastic opportunities to our customers,” Petersen said during an interview with [IWCE’s Urgent Communications](#). “With over-the-air programming, to send over a new code plug ... over traditional LMR data networks, it could take several minutes to do that. [With the LTE connectivity], we can take a 3 MB file and shove it over in less than 12 seconds.

“Not only is a fantastic speed change, but I’m not competing with voice [to send data]. On some of your integrated [LMR] voice and data networks, when you start to talk—voice is the primary item of that radio and is always priority—you would interrupt that data transmission when you address the voice call. That’s done. You don’t have to worry about that anymore with this solution, because you’ve got an LTE path that’s focused on bringing that information or code plug to that radio while you can simultaneously be talking on voice channel.”

The ability to rekey and install code plugs quickly is particularly important to federal law-enforcement users that routinely need to use such features to operate securely on different LMR networks, according to Petersen. For this reason, federal law-enforcement entities are expected to be the first customers for the APX 7000L, although Motorola Solutions also will market it to state and local public-safety agencies, he said.

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Other key data capabilities supported by the LTE connectivity include GPS location information and the ability to send and receive test messages and text-based database queries without being impacted by simultaneous voice traffic, Petersen said.

As an LMR radio, the rugged APX 7000L enables operation on P25 networks in the VHF and 700/800 MHz bands and has been validated at Federal Information Processing Standards (FIPS) 140-2 Level 3 for secure encryption, according to a company press release. The LTE module enables connectivity to the 700 MHz Band 14 frequencies licensed to [FirstNet](#), as well as connectivity to the 4G network of at least one commercial carrier.

When roaming between LTE and LMR networks, APX 7000L users will maintain a continuous link, according to Petersen.

Petersen acknowledged that there were “design challenges” associated with enabling the flexible functionality of the APX 7000L, including the close spectral proximity—and overlap, in some cases—of Band 14 LTE and 700/800 MHz narrowband systems. Motorola Solutions engineers devised a way to enable simultaneous communication via an 800 MHz P25 network and a 700 MHz LTE system, but the initial APX 7000L does not support the same functionality with a 700 MHz P25 system and a 700 MHz LTE system, he said.

“If you are operating in the LTE band and are operating on the 700 MHz [LMR] band, there are things we do within the radio to prevent any kind of LMR voice and data [simultaneously] in the 700 MHz band,” Petersen said, noting that Motorola Solutions is working to resolve the issue. “The way we’re communicating this to customers is that this is really intended for those in the 800 MHz or VHF [narrowband spectrum].

“Now, you can disable the LTE modem and use the [LMR] radio just fine at 700 MHz; we didn’t disable that capability. But, if you try to operate both [LMR and LTE] at the same time, the radio will let the user know that you’ve got to make choice on what you want to do.”

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Motorola Solutions will sell the APX 7000L as a standalone product, but customers with existing APX 7000 portables can upgrade those devices to include the LTE functionality—a process that likely can be done in less than a week and will probably will cost in the “high hundreds” of dollars to complete, depending on the configuration of the existing APX 7000, Petersen said.

“One of the things we’ve mentioned in past trade shows is the flexibility and almost future-proof [nature] of this product, because it has the ability to put different types of option modules in behind the front speaker,” he said. “This is one of those option modules, which is an LTE modem that will give enhanced data capability to coincide with the mission-critical voice that this product offers.

“If you’ve invested in APX 7000s and combination 700/800 [MHz]/VHF radio, you can send your radio in to one of our authorized depots and get that radio upgraded. So, you build on the investment you’ve already made—there is upgrade capability for the radios you already have in the field.”

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