

**PRWIRELESS, INC. DBA OPEN MOBILE
INDOOR 911 LOCATION ACCURACY
INITIAL IMPLEMENTATION PLAN AND PROGRESS REPORT NO. 1**

**PS Docket No. 07-114
August 3, 2017**

PRWireless, Inc. d/b/a Open Mobile (“Open Mobile”) is a non-nationwide wireless service company based in Guaynabo, Puerto Rico. Open Mobile, which is one of the smallest wireless competitors in the Puerto Rico market, provides prepaid, flat-rate unlimited service throughout much of Puerto Rico and has been in operation since 2007.

The *Fourth Report and Order on Wireless E911 Location Accuracy Requirements* (“Fourth R&O”),¹ adopted by the Federal Communications Commission (“FCC” or “Commission”), implemented new regulations designed to update the enhanced 911 (“E911”) rules and improve location determination for outdoor and indoor calls. Indoor location accuracy requirements include specific horizontal and vertical location information. With respect to horizontal location, the Fourth R&O requires, among other things, that all commercial mobile radio service (“CMRS”) providers provide (1) dispatchable location, or (2) x/y location within 50 meters, for increasing percentages of wireless E911 calls over a six-year timeframe:

- 40% of all wireless 911 calls within 2 years from April 3, 2015 (2017) (complete);
- 50% of all wireless 911 calls within 3 years (2018);
- 70% of all wireless 911 calls within 5 years (2020); and
- 80% of all wireless 911 calls within 6 years (2021). Non-nationwide CMRS

¹ *In the Matter of Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Fourth Report and Order, FCC 15-9 (rel. Feb. 3, 2015) (“Fourth R&O”).

providers may extend the five and six year deadline based on their VoLTE deployment schedules.

With respect to vertical location, the *Fourth R&O* implements the following deadlines for non-nationwide CMRS providers:

- Uncompensated barometric data must be made available to PSAPs from any handset capable of delivering barometric sensor data within 3 years from August 3, 2015 (2018);
- Non-Nationwide CMRS providers that serve any of the top 25 CMAs and must deploy either (1) dispatchable location, or (2) z-axis technology achieving Commission-approved z-axis metric in each of top 25 CMAs, within 7 years (2022);
- Non-Nationwide CMRS providers that serve any of the top 50 CMAs and must deploy dispatchable location or z-axis technology in accordance with the 7-year benchmarks above, for each of the top 50 CMAs, within 9 years (2024).

The *Fourth R&O* requires that CMRS providers certify to meeting the above deadlines and also submit aggregate live 911 call data to the Commission and other Public Safety

organizations.² Non-nationwide providers are required to submit this data every six months for the prior two calendar-year quarters.³

CMRS Providers also must report to the Commission on their implementation plans to meet the FCC's requirements in the three-and six-year timeframes. In addition, CMRS providers must also report to the Commission on their progress toward executing these plans. With this submission, Open Mobile provides the FCC its initial implementation plan and progress report for meeting the Commission's rules indoor location accuracy, pursuant to the FCC rules.⁴

As an initial matter, Open Mobile currently is a party to a pending transaction before the FCC (the "Transaction").⁵ The Transaction involves applications of Sprint PR Spectrum, LLC, Nextel of Puerto Rico, Inc., Sprint Puerto Rico Holdings LLC, SprintCom, Inc., (collectively, "Sprint"), Open Mobile, and PRWireless PR, LLC (collectively, Sprint, Open Mobile and PRWireless PR, LLC are the "Applicants") seeking consent to assign and transfer control of wireless licenses and an International Section 214 Authorization to a new limited liability company, PR WirelessPR, LLC ("PRW"). At the conclusion of the Transaction, PRW would be

² As a non-nationwide provider that does not provide coverage in any of the six test-cities, Open Mobile timely submitted to the FCC a certification that as of April 3, 2017, it was in compliance with the two-year benchmark set forth in 47 C.F.R. § 20.18(i)(2)(i)(B)(1). *See* Letter from Neville Cruz, VP-Network Engineering & Operations, PRWireless, Inc. d/b/a Open Mobile to Public Safety and Homeland Security Bureau, FCC, PS Docket No. 17-78 (June 2, 2017) ("Open Mobile E911 Two Year Benchmark Certification").

³ Open Mobile has engaged a third-party vendor to compile this data for purposes of this reporting requirement. Open Mobile has submitted the most recent report on August 1, 2017 and anticipates continuing to be in compliance going forward.

⁴ *See* 47 C.F.R. § 20.18(i)(4).

⁵ *See Sprint and Open Mobile Seek FCC Consent to the Assignment and Transfer of Control of Licenses and An International Section 214 Authorization in Puerto Rico and the U.S. Virgin Islands*, WT Docket No, 17-112, Public Notice, DA 17-527 (rel. May 31, 2017); *see also* Lead Application, ULS File No. 0007674399.

jointly owned (indirectly) by Sprint and Open Mobile, with Sprint being in control. As part of the Applicants' Transition Plan, the parties have agreed that, if the Transaction is approved, PRW's path towards compliance with the FCC's location accuracy rules would follow Sprint's Implementation Plan, as filed with the Commission on February 3, 2017. Therefore, to the extent applicable, Open Mobile incorporates Sprint's *Initial Implementation Plan and Progress Report* herein.⁶

In the event that the Transaction is not approved, Open Mobile will implement the following plan to meet the Commission's indoor location accuracy rules. Open Mobile also reports on its current progress below.

First, with respect to horizontal location requirements, Open Mobile's current CDMA-based system (along with assisted-GPS technology located in devices) currently is in compliance with the FCC's indoor location accuracy rules, and is providing dispatchable location or x/y location information within 50 meters for 40 percent of all wireless 911 calls.⁷ Open Mobile uses hosted services from its primary E911 location technology vendor, Comtech Telecommunications (formerly TCS) ("Comtech"), to provide dispatchable location and meet these current requirements, and anticipates continuing its partnership in order to meet future requirements. Open Mobile has been working closely with Comtech to continue its progress, including but not limited to, integrating with Comtech's hosted E-SMLC (Evolved Serving Mobile Location Center), E-GMLC (Evolved Global Mobile Location Center) and ECS (Emergency Call Server) to provide improved dispatchable location information for LTE and

⁶ See Sprint Corporation, *Wireless E9-1-1 Location Accuracy Initial Implementation Plan and Progress Report*, PS Docket No. 07-114 (filed Feb. 3, 2017).

⁷ Open Mobile E911 Two Year Benchmark Certification.

VoLTE services. Open Mobile also regularly updates the Base Station Almanac (“BSA”) database with any network changes and optimizations to continually improve the horizontal location mechanisms.

In conjunction with the Comtech partnership, Open Mobile also plans to upgrade the technology of its currently-deployed LTE network through the provision of Observed Time Difference Of Arrival (“OTDOA”) positioning in order to meet future benchmarks of 50%, 70% and 80% of all wireless calls.⁸ OTDOA is a downlink positioning method designed to provide improved positioning information – for both indoor and outdoor locations – and is one of the most accurate positioning technologies available at this time. Indeed, a recent 3GPP study determined that positioning based on OTDOA in LTE meets the FCC’s horizontal location requirements.⁹ Further examination of improvement of OTDOA for use as indoor location method is ongoing.

Open Mobile also plans to implement and deploy Voice over LTE (“VoLTE”), which will further assist the company in upgrading its network to meet the E911 indoor location requirements. Open Mobile has already begun to upgrade its LTE capabilities in order to provide and test VoLTE services, which has included upgrading the existing LTE network to the latest code/release (which is 3GPP R13 compliant). In addition, Open Mobile has been testing VoLTE for roaming customers and anticipates testing local VoLTE 911 breakout calls in the upcoming months. Based on this plan, and the current status of its testing and operations, Open

⁸ See 47 C.F.R. §20.18.

⁹ See Fredrik Gunnarsson, “Indoor Positioning in LTE,” Ericsson Research Blog (posted Jul. 9, 2015) (referencing the 3GPP “Study on Indoor Positioning Enhancements for UTRA and LTE”) <https://www.ericsson.com/research-blog/indoor-positioning-in-lte/>

Mobile expects to be in compliance going forward and to be able to meet future established FCC indoor location accuracy requirements.

Second, with respect to the vertical location requirements, Open Mobile anticipates that the above-described indoor location solutions that will be implemented will make uncompensated barometric data available to PSAPs from any of its handsets that have the capability to deliver barometric sensor data. In addition, Puerto Rico is a top 25 CMA, and therefore Open Mobile must deploy either (1) dispatchable location (25%), or (2) z-axis technology (80%) in each of top 25 CMAs, within 7 years (2022). Open Mobile's engineers have been working hard to develop a cost-effective solution to meet the vertical location requirements, and it is confident that it will continue to be in compliance with the indoor location requirements at the 7-year deadline.