



November 12, 2019

**Chairman Ajit Pai**  
**Commissioner Mignon Clyburn**  
**Commissioner Michael O’Rielly**  
**Commissioner Brendan Carr**  
**Commissioner Jessica Rosenworcel**  
445 12th Street SW  
Washington, D.C. 20554

**RE: PS Docket No. 07-114**

Mr. Chairman and Commissioners,

When emergencies occur, 911 is the first way the public reaches out to public safety for assistance. As phone, location and data technologies improve it seems only natural that these improvements could and should be used to protect and serve our communities through 911 services. When a building is burning and collapsing, or someone is trapped by rising waters in their apartment complex, or someone needs help from an active shooter situation, pinpointing their location is critical for public safety to assist residents quickly. We encourage 911 callers to tell as much info as they can to operators, but what if they cannot tell you exactly where they are? This is where Z-axis data coming straight from the caller’s device can be a huge asset in getting help to them in time.

While location capabilities are increasingly more accurate, being able to obtain and access accurate information relies on the cooperation and technological capabilities of Commercial Radio Service (CMRS) providers. The Federal Communications Commission (FCC, or Commission) is looking at the feasibility of this groundbreaking level of data. The *Fifth Report and Order* adopts a +/- 3-meter Z-axis metric as proposed in the *Fourth Further Notice*. A cross-section of commenters, including public safety officials, agree that achieving a +/- 3-meter metric within existing timelines (April, 2021 for top 25 CMAs) is technically feasible and will benefit public safety. Two vendors (NextNav and Polaris) have shown in testing that they can meet or surpass this standard.

#### *Z-Axis Compliancy*

From a public safety standpoint CMRS providers must meet the +/- 3-meter metric for 80% of calls made from Z-axis capable devices. This means that Z-axis capable devices are all devices that support vertical location *without* a hardware upgrade. Compliance of this capability would be demonstrated in a test bed, and within 60-days of a relevant benchmark, CMRS providers



must certify to the Commission that they have deployed the relevant technology consistently with the manner in which it has been tested in the test bed. Additionally, live call data must be reported to the Commission (for informational purposes) and CMRS providers may only use 911 call Z-axis information for 911 purposes, except as required by law.

#### *Z-Axis Accuracy*

In large, architecturally diverse areas such as Harris County, knowing exactly where to find those in need of help can be challenging, especially in large residential and commercial buildings. The *Fifth Further Notice* seeks comment on whether to establish a long-term timeline for migrating to a more stringent Z-axis metric, and ultimately whether to require CMRS providers to deliver *floor level information* for wireless indoor 911 calls. Floor level information is something that public safety officials would widely support as another tool to help us serve our communities in emergencies.

While the *Fifth Report and Order* proposes to add alternatives to the existing deployment metrics (i.e. measuring deployment based on coverage of 80 percent of the buildings that exceed three stories in each of the top 50 CMAs by April, 2023; and deployment benchmarks for Z-axis capable handsets nationwide), much work is still needed to truly take advantage of this capability. In conjunction with considering further tightening the vertical accuracy requirements public safety officials would also support parallel tightening of the horizontal location accuracy rules to create a clearer picture for responders.

Deployment of Z-axis data for public safety purposes would require that CMRS providers have coverage that is accurate and widespread. Current rules require the nationwide CMRS providers using dispatchable location in a CMA to “ensure that the NEAD is populated with a sufficient number of total dispatchable location reference points to equal 25 percent of the CMA population.” The *Fifth Further Notices* proposes to allow CMRS providers to demonstrate dispatchable location deployment by means other than NEAD reference points, provided that any alternative includes equivalent privacy and security safeguards.

#### *Z-Axis Consumer Protection*

Use of Z-axis data for public safety can only be accomplished with consumer cooperation. While Z-axis technology may produce a highly accurate 911 vertical location when the user has previously enabled location services in the handset—a “hot start”—911 location may be hindered or delayed if the user has location services turned off, by having to override the user’s setting at the time a 911 call is made—a “cold start.” This concern could be resolved by



allowing users to consent to periodic collection of user location data solely for use in connection with 911 location, without authorizing the use of such information for non-emergency services.

The active steps the commission is taking in seeking input from public safety officials regarding these critical issues has not gone unnoticed. We will continue to work with CMRS providers to find solutions to these problems, but look to the Commission to put forth rulings that move these issues forward.

Sincerely,

A handwritten signature in black ink, appearing to read "F. Sánchez, Jr.", followed by a period.

Francisco Sánchez, Jr.  
Deputy Emergency Management Coordinator  
Harris County