

**Narrative**

Siden, Inc. (“Siden”) seeks experimental authority for a period of 18 months beginning March 1, 2021, to build and make use of a research and experimentation environment that involves the use of PCS A Block spectrum at 1860-1865 MHz and 1940-1945 MHz (the “PCS A block”) in a small geographic area in northeast Washington, D.C. T-Mobile US, Inc. (“T-Mobile”) controls the license that includes the PCS A block spectrum in a portion of the Washington-Baltimore Major Trading Area (“MTA”), KNLF200, through its affiliate Sprint Spectrum Realty Company, LLC (“Sprint Spectrum”).<sup>1</sup> T-Mobile has consented to Siden’s proposed experimental use of the disaggregated portion of KNLF200 that includes the PCS A block spectrum in the partitioned portion of said license described below. A copy of T-Mobile’s letter of consent is attached to this statement as Exhibit A.

Using this experimental authority, Siden will gain a better understanding of new, innovative services using typically underused LTE broadcast capabilities to help close the data gap between consumer demand and wireless network capacity. Accordingly, grant of this application serves the public interest.

**A. Purpose of Operation and Need for Experimental Authority:**

Consumers are watching more online video content than ever before. Wireless providers soon will struggle to supply enough wireless network capacity to meet that demand, leading to a “data gap.” Siden seeks to address this data gap by providing an innovative alternative to fiber home broadband. Siden’s content distribution platform and hardware, a Quectel module EC25-E with Qualcomm MDM 9207 chipset (“LTE Module”), will allow wireless providers and popular content apps to more efficiently stream content by offloading hundreds of gigabytes of video traffic, so more data is available to meet customer needs. The LTE Module would use a maximum radio frequency transmit power of 23 dBm, have an Rx sensitivity of  $\geq -95$  dBm, and use an external 2 dBi antenna. To that end, this experimental authorization would:

- evaluate the feasibility of using multicasting over LTE to deliver services to a variety of user equipment;
- test Siden’s proprietary algorithms that determine the optimal transmission of broadcast content to user equipment; and
- use a real-world environment to demonstrate the optimization of LTE broadcast functionality to staff of U.S. government agencies, academics, and commercial partners.

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<sup>1</sup> See Sprint Spectrum, PCS Broadband License, ULS Call Sign KNLF200 (granted Dec. 3, 2014).

Siden seeks to use the PCS A block frequencies in a small geographic area in northeast Washington, DC. T-Mobile controls the license that includes the PCS A block spectrum throughout portions of the Washington-Baltimore MTA and has consented to the proposed use.

Grant of the application would allow Siden to assess the full characteristics of the PCS A block frequencies and the effects of working with different wireless operators, technology vendors, content providers, and customers. The experimental testing will allow Siden to develop a better understanding of the new, innovative services that it can provide by using advanced LTE technologies.

**B. Protection Against Causing Interference:**

Siden has established a point of contact identified below as a stop-buzzer contact, who has “kill switch” authority should any interference occur to primary licensed services:

Kenneth Gould  
Executive Director, Programs  
Siden LLC  
571-236-9306  
kenneth.gould@siden.io

In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits in the authorization. While T-Mobile controls the license that includes the PCS A block spectrum throughout portions of the Washington-Baltimore MTA, Siden is aware that there are other frequencies under license KNLF200 and that other stations are licensed on other frequencies in the portion of the Washington-Baltimore MTA where Siden will be operating and that Sprint Spectrum and other licensees operate on various frequencies outside of the portion of such MTA where Siden will be operating, and, if any interference to Sprint Spectrum or another licensed operator occurs, Siden understands it will be subject to immediate shut down.

**C. Restrictions on Operation:**

To implement the testing, Siden will enable 10 to 20 transportable experimental user terminals primarily in or near 61 Pierce Street NE, Washington, DC 20002, but always within a small, multi-block area in the NoMa neighborhood of Washington, DC, as the graphic below indicates.

