



Internet and Telephone

4101 Wild Chaparral Drive, Shingle Springs, CA 95682
530-672-1078 • 844-4CALNET • <http://www.cal.net>

24 July 2017

VIA ECFS

The Honorable Ajit Pai, Chairman
The Honorable Mignon Clyburn, Commissioner
The Honorable Michael O'Rielly, Commissioner
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: GN Docket No. 12-354, *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*

Dear Chairman Pai, Commissioner Clyburn and Commissioner O'Rielly:

Cal.net, Inc. hereby submits the following comments in **strong opposition** to the recent proposals of T-Mobile and the CTIA to amend the FCC's current rules of the CBRS band.

Cal.net is a facilities-based fixed-wireless Internet Service Provider ("WISP") and a Competitive Local Exchange Carrier based in California. We focus almost exclusively on the rural markets of the western foothills of the Sierra Nevada Mountains and currently provide broadband services to many thousands of residential and business customers. We offer standard speed packages up to 25 Mbps down / 4 Mbps up, along with dedicated symmetric connections up to 100 Mbps down/up. Our service area is quite rural, and covers over 2,000 square miles with an average housing density of about 60 households per square mile. In much of our service area, we are the only provider who can offer true broadband speeds.

Cal.net has held an "NN" (3650-3700 MHz) license since 2011, and has invested several million dollars in equipment and infrastructure utilizing and supporting this band. With the opening of the CBRS band (as defined under current FCC rules), we are embarking upon an aggressive growth path of an additional expected investment of over \$10 million in CBRS-enabled fixed-LTE equipment in our rural service areas over the next 30 months. Furthermore, Cal.net was recently awarded a series of broadband grants by the State of California¹ based in part upon

¹ T17497 Res-F CASF CalNet El Dorado County North:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M157/K804/157804324.PDF>

T-17498 Res F CASF-Cal.net Southern and Eastern El Dorado County:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M163/K983/163983528.PDF>

T-17501 Res C CASF CalNet Amador Calaveras and Alpine Counties:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M167/K945/167945363.PDF>

T-17502 Res F CASF CalNet Tuolumne and Mariposa Counties:

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K293/171293428.PDF>

the capabilities that the CBRS band provides under the current FCC rules. Together with Cal.net's matching capital investments, these grants will bring broadband service to another 15,000 rural households in very sparsely populated areas of California. Additionally, we intend to bid in the forthcoming FCC Connect America Fund reverse auction, and the CBRS band as currently defined will be instrumental for us to deliver the required 100-Mbps service levels. To enable all this growth and to upgrade services in our current market areas, we intend to bid aggressively on Priority Access Licenses ("PALs") – as defined under the current rules – in more than one hundred Census tracts.

The CBRS band, as currently specified, offers several crucial capabilities for WISPs nationwide to deliver broadband to rural Americans. For example, with LTE-based CBRS products, the additional 100 MHz of spectrum will allow us to double our service offerings to 50 Mbps or to redouble to 100 Mbps by using dual-carrier mode, in addition to quadrupling our service capacity (number of users per tower). That additional 100 MHz of spectrum is critical to enabling the carrier aggregation that boosts speed offerings while simultaneously allowing for maximally-efficient frequency reuse over a wide geographic area. The relatively small geographic areas (Census tracts) currently specified for PALs also enables rural WISPs such as Cal.net to surgically optimize those regions where PALs are needed to ensure unrestricted interference-free operations, while maximizing the efficacy of our deployed capital.

The CBRS rule changes proposed by T-Mobile and CTIA would have an extremely detrimental effect on our operations – and those of many other rural WISPs, as well. Among the consequences are:

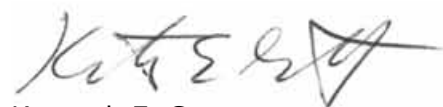
- Allowing PALs across the entire 150 MHz of spectrum could destroy our current and future deployments in the band by overriding our GAA usage, thereby threatening our ability to continue offering broadband to some rural customers and impeding our ability to invest in new broadband infrastructure to extend our network and reach customers in currently unserved and underserved areas.
- Enlarging the PALs license service areas from Census tract size to Partial Economic Areas ("PEA") would put the price of PALs out of our reach (and that of most other WISPs). Similarly, increasing the PALs license term to 10 years would likewise increase costs of obtaining such licenses. And allowing PALs to span 50 MHz would severely constrain the usable spectrum resulting in inefficient frequency reuse. If adopted, these proposed rule changes would effectively guarantee that PAL spectrum is available only to the largest mobile carriers due their exorbitant cost and that the entire CBRS band would be unavailable to smaller operators.

The current CBRS policies and rules were brilliantly designed. The three specified access tiers, the small geographic size of PALs, and the three-year term of PALs collectively facilitate the most effective delivery of broadband services to rural communities by allowing pinpoint deployment at the lowest possible cost. At the same time, the current approach is balanced: the rules offer all broadband providers access to the CBRS spectrum, without favoring larger carriers over smaller WISPs or mobile over fixed broadband service technology deployments. Additionally, and unlike the T-Mobile and CTIA proposals, the FCC's current policies and rules enable numerous new and unique business models to flourish such as the industrial and outdoor Internet of Things ("IoT"), "smart city" networks, heterogeneous networks, neutral host networks, large-venue indoor services, and the formation of private LTE networks for industrial or enterprise use.²

The FCC has consistently and unanimously encouraged innovative approaches to providing broadband services to rural communities.³ The current CBRS structure upholds that goal perfectly and is poised to begin delivering upon it within the next year or so. Conversely, inserting changes in the rules at this late stage in the process would harm these rural areas by engendering unnecessary delays in the rollout of CBRS operations, including delays from rule changes that force the SAS providers to re-tool their software. There's an old adage that goes something like "if it ain't broke, don't fix it" – and in this case there is no "fix" to CBRS that could possibly improve it.

In sum, Cal.net respectfully urges the Commission to deny, in their entirety, the petitions of T-Mobile and the CTIA to institute changes to the CBRS rules.

Respectfully submitted,



Kenneth E. Garnett
Chief Technology Officer
Cal.net, Inc.

Cc: Rachael Bender, Erin McGrath, Daudeline Meme, Donald Stockdale

² For a more thorough discussion of innovative use cases for the currently-defined CBRS band, see Letter to Chairman Ajit Pai, Commissioner Mignon Clyburn, and Commissioner Michael O'Rielly of: Center for Rural Strategies; American Library Association; National Hispanic Media Coalition; R Street Institute; Next Century Cities; Schools, Health & Libraries Broadband (SHLB) Coalition; Open Technology Institute at New America; Public Knowledge; Engine; Common Cause; Institute for Local Self Reliance; Benton Foundation; Gigabit Libraries Network; and X-Lab (GN Docket No. 12-354, filed June 19, 2017).

³ See, for example, Remarks of Commissioner Ajit Pai at WISPAPALOOZA, Las Vegas, Nevada, October 15, 2014 (https://apps.fcc.gov/edocs_public/attachmatch/DOC-329969A1.pdf) and Remarks of FCC Chairman Ajit Pai at the Newseum "The Future Of Internet Freedom", Washington, DC, April 26, 2017 (https://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0427/DOC-344590A1.pdf)