



January 29, 2018

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Reply Comments of Telrad Networks, Ltd.
Citizens Broadband Radio Service
GN Docket No. 17-258

Dear Ms. Dortch:

Founded in 1951, Telrad Networks, Ltd. is an Israeli-based wireless technology company that is developing innovative products for our customers around the world. Our solutions enable the delivery of high capacity, reliable, and scalable broadband wireless access (BWA) services for both service providers and private networks. In the United States, Telrad has focused a substantial amount of capital and resources in sales, marketing, implementation, and support of LTE equipment in the 3650-3700 MHz band. Our customers include fixed wireless service providers, municipalities, and other private network operators, all of which operate in small geographic areas of the United States. With well over 200 commercial networks in the region, our customers have deployed thousands of LTE base stations (eNBs) and are serving tens of thousands of customers, primarily in rural America, where broadband options were previously limited or not available. Our LTE solution has enabled the delivery of cost effective broadband services to rural America, providing robust internet to Americans who deserve and need this access.

As I wrote in Telrad's comments regarding GN Docket No. 12-354, Telrad has invested significantly in the development of solutions based on the CBRS rules adopted by the FCC over two years ago. Seeing the clear benefit that CBRS provides to rural Americans, and the substantial opportunity presented to both service providers and Telrad as a provider of LTE solutions, we made a strategic decision to invest significantly in technology focused on the U.S. market. We are heavily involved in related organizations such as the Wireless Innovation Forum and CBRS Alliance, and have worked diligently to ensure that our technology will comply with the new Part 96 rules. We have extensively supported of our customers' deployment of trial operations under experimental licenses which they have obtained, and have demonstrated how our 3650-3700 MHz equipment may be easily software upgraded to operate across the entire 150 MHz band. This is accomplished exclusively in software, leveraging equipment that our customers have deployed since 2012. This provides a tremendous economic benefit for our customers, allowing for the use of this new 100 MHz of spectrum without additional capital investment or costly truck rolls to replace equipment. The result is vastly improved network performance, an even better broadband experience, and economics that translate to more affordable broadband for their customers. To this end, Telrad is involved in a number of technology and market trials with BWA providers that are testing the 3550-3650 MHz band. Furthermore, Telrad has partnered with Federated Wireless to offer an LTE-based CBRS solution to our customers that reduces both implementation complexity and customer acquisition



cost. This multi-year agreement shows the commitment of both companies to the CBRS market in the U.S., the success of which depends greatly on the stability of rules which were adopted previously. In short, Telrad has made a tremendous investment in the CBRS band and we stand at the threshold of full-fledged commercial deployment under the innovative spectrum access model the FCC adopted less than three years ago.

There are three primary areas of concern for Telrad in the latest comments filed. First, as a leader in the delivery of fixed BWA solutions using LTE technologies, Telrad believes strongly in the path to 5G. This evolutionary path is a key component of our strategy, and 5G solutions will be a major part of our portfolio over the next few years. However, we also believe that other use cases provide substantial benefits to consumers, and that the CBRS band is poised to deliver those services. Rural broadband, municipal networks, smart grid, and other applications will all thrive when CBRS is commercially available. We are part of the overall ecosystem supporting these use cases, and we see tremendous opportunities in the United States to be a leader in all of them, not only 5G. We also believe that the 5G economy in the United States should be driven by a wide variety of operators, not just the incumbent mobile wireless industry. Our technology has been designed specifically to promote 5G, and our customers – and their customers – are at the forefront of deployment that can enable the Industrial Internet of Things, neutral host networks and connected things. Second, the proposed expansion of the geography covered by PALs will severely limit the use of CBRS by small and medium competitive service providers, municipalities, and other private network operators, who should not have to purchase large, long-term licenses to serve their targeted areas. If adopted, this change will benefit only the largest wireless operators, will stifle competition, and will substantially impact revenue for smaller operators and equipment manufacturers such as Telrad. Finally, it is critical that service providers are able to share at least 100 MHz of mid-band spectrum in areas where this is feasible. Limiting users to 30 MHz of General Authorized Access spectrum will severely limit the type of services that may be offered to American consumers who need robust internet services and deserve a choice in service providers. Telrad's launch of fixed-focused LTE in 2015 was the first solution in reach of rural broadband wireless service providers. This has been a major success, and has since created a market for LTE for small-businesses providing internet services to rural Americans. We agree with those statements in the record that the changes to PAL geography, focus on 5G, and limitation of spectrum allocation threaten these small businesses, the competition that they bring to the mobile industry, and the benefits that this competition provides to rural Americans.

The impact of these proposed changes is already being felt. First, as several in the record have explained, significant uncertainty has been created. Our customers are evaluating the impact to their business, and have delayed investment in and deployment of substantial networks that depend on reasonable CBRS rules. This has the potential to curtail further investment and deployment, hurting our customers, and reducing competitive choices being delivered to Americans who deserve better. Second, Telrad must consider the impact on our business if our customers are unable to compete for PALs. This would limit our customers' ability to provide service and ultimately change our focus in the U.S. While we applaud the FCC's desire to establish the U.S. as a global leader in 5G, we find it ironic that these actions would in fact damage the competitive market in the U.S. These actions will put the mobile carriers and a select few equipment vendors in the driver's seat, ultimately placing the profit of a few over the benefit of



the American consumer and small business, and forcing companies like Telrad to reconsider the level of investment in the U.S. market. This is a serious concern that we urge the FCC to consider.

We join the overwhelming number of commenters in asking the FCC to reject these proposed changes, and move forward with the rules as originally established. If they are approved, our current investments and those of our customers would be placed in serious jeopardy. I have little doubt that the impact on fixed wireless service providers would be tremendous. Moreover, Telrad and other like equipment manufacturers would be required to re-evaluate their focus and investment in the U.S. market. This will have exactly the opposite effect that we believe the FCC and current Administration would like to see, reducing the competitive choices and options available to rural Americans who have the right to affordable broadband internet services. We urge the FCC to retain its existing rules and move forward with the launch of this new CBRS band. Telrad is eagerly awaiting the equipment and SAS/ESC certification process, and looks forward to the ability of our customer's to commercially deploy in the CBRS band as soon as possible. The timing of this certification is critical to our business, that of our customers, and to tens of thousands of Americans who will benefit from the services provided in this band.

Please contact me if you have any questions. Thank you.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Chris Daniels", with a long, sweeping horizontal line extending to the right.

Chris Daniels
President, Broadband Wireless Division
Telrad Networks, Ltd.