

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Promoting Investment in the 3550-3700 MHz)		GN Docket No. 17-258
Band;)	
)	
Petitions for Rulemaking Regarding the)		RM-11788 (Terminated)
Citizens Broadband Radio Service)		RM-11789 (Terminated)

To: The Commission

**COMMENTS OF
BAICELLS TECHNOLOGIES NORTH AMERICA, INC.**

Patrick Leary, President
Rick Harnish, Director of WISP Markets

December 28, 2017

Baicells Technologies entered the North American market in early 2016, with a goal of producing a line of LTE products for the fixed wireless broadband and small cell markets. Our approach was and still is today to remove historic LTE complexities of deployments, lower cost of equipment and maximize quality and performance. There lies within, our motto: LTE Easy as Wi-Fi. Having spent most of 2016 in product design, equipment trials and steady hardware and software refinement. Our current North American products have been focused on LTE Bands 41, 42, 43 and the soon to be opened Band 48, also known as CBRS. To date, we have obtained FCC Equipment Authorization for 42 products and modifications in both eNodeB base stations and User Equipment. We also look forward to introducing small cell and neutral host equipment in other LTE bands in the coming year.

In our view, the April 2015 Report and Order (R&O), which created the Citizens Broadband Radio Service, is a plan of brilliance. The three-tiered spectrum-sharing and allocation system will produce the most advanced and efficient methods to assign spectrum in both time and space domains. The ability to assign Megahertz/Mile/Minute (MMM) across a whole nation with the use of advanced automated database control is revolutionary. Historically, much licensed spectrum lays fallow across the nation except in local areas surrounding its intended use. We as a nation need to embrace advanced technologies, making efficient use of our limited spectrum resources. The R&O will enhance competition and innovation, ultimately leading to rapid nationwide broadband infrastructure deployment based on interoperable LTE equipment like never before. There won't be an industry, municipality, educational facility or consumer that won't be affected positively by this R&O. For this reason, we have to strongly oppose the proposed changes in this NPRM that would affect Priority Access Licenses (PALs).

Billions of dollars and hours of time have been invested by radio and chip manufacturers, operators, SAS database operators, Winnforum and the CBRS Alliance the past several years in reliance on the rules adopted in the 2015 R&O. Our company alone now has nearly 4,000 eNodeBs and 13,000 user equipment (UEs) deployed by approximately 350 broadband network operators. This has been accomplished in just over one year of selling commercial grade LTE products in the 3650-3700 MHz and 2.5 GHz bands. By leveraging the advanced LTE radio propagation methods, which were designed for both outdoor and indoor mobile use, our client operators have discovered they can now provide broadband to customers in many non-line of sight (NLOS) instances. Previously, operators struggled to provide broadband service to NLOS customers in the unlicensed WiFi bands. Our client operators are conquering the digital divide in Rural America, one eNodeB at a time. We wholeheartedly expect massive investment in CBRS LTE deployments once this NPRM uncertainty is cleared up and the band is declared "Open for Business".

Never before has an opportunity been presented to purchase spectrum licenses on a local basis such as Census Tracts to many industries and market sectors. These industries include oil & gas, utility companies, Internet service providers, municipalities, county governments, agricultural, mining, events, medical and many, many more. We often refer to these industries as "spectrum orphans". Most of these entities have been confined to use WiFi-based equipment in the polluted unlicensed bands. With complex IIOT needs in the near future, a multitude of data transfer needs, enhanced network security and licensed spectrum certainty, it is essential to retain the Census Tract based Priority Access Licenses as written in the 2015 R&O. The record is replete with comments from entities which agree with this declaration. It is clear, the need for

Census Tract based competitive bidding for PAL licenses is a common thread in the majority of comments in the record.

Those requesting that PALs be assigned by Partial Economic Areas (PEAs) are limited to the mobile carriers and supporting associations and business partners. By expanding the license areas from census tracts to PEAs, the cost to acquire licenses will be significantly higher and out of reach for smaller companies who want to acquire spectrum for their business model. The goal is apparent – to eliminate competition in the PAL auction and to maintain command and control of the licensed airwaves dedicated to broadband deployment. By eliminating competition, the result likely be lower prices for the PAL licenses, something basic economics tells us is true. Also, eliminating competition in the auction, mobile operators will prevent many private LTE networks from encroaching on a potential multi-billion dollar market. The record is apparent that the contemplated changes are unacceptable, especially at such a late date in the proceeding. Baicells Technologies supports a census tract based PAL license auction. There's nothing preventing mobile operators from participating in a Census Tract based auction, just like every other American company and public entity. Because of this fact, there is no reason the FCC Commissioners should grant the request for change to PEA sized PAL areas.

We at Baicells Technologies also believe maximum CBRS market fluidity and flexibility can be enhanced with 3-5 year PAL License terms. Broadband technologies and network deployments are very dynamic. Therefore, the regulatory scheme should also maintain a flexible, dynamic framework in regard to PAL license terms. The FCC is proposing 10-year license terms with easily renewable licenses. We believe this is not in the best interest of the country, especially rural broadband. Such rule changes would cause additional inefficient spectrum warehousing.

Increasing license term lengths will also cause higher license bid prices at an initial and perhaps only auction (but for fewer auction lots), again eliminating potential competition to the benefit of the few mobile carriers. The FCC should maintain a 3-year term or adopt a modest increase to a 5-year license term, with the option to double the term at the first auction. Once again, there is nothing preventing the mobile carriers from participating in the PAL auction under shorter license terms rules.

Spectrum is both a critical resource and a limited one. We need to creatively maximize what's available. As the demand for spectrum continues to increase, it is very important to allocate spectrum fairly to the entire marketplace. We must let market dynamics dictate the future. The FCC should not choose winners and losers in today's broadband environment. Doing so will inhibit innovation and consumer choice. We should "leave no stone unturned" as we search for new and innovative ways to use our limited spectrum to enhance the future's broadband. This search should include the entire market, not just a few. The 2015 CBRS R&O achieves these goals.

As an advanced innovative technology company, we embrace all technology that replaces outdated and inefficient methods of performing tasks. The SAS database and modern auction formats are two such technological advances the FCC must embrace. Modernizing spectrum allocation techniques should be an apparent need for every FCC Commissioner and staff. Historical policies and procedures seem easier to existing regulatory staff and policy makers, but we must not let our regulatory processes be mired in quicksand.

The FCC's website lists four strategic goals which need to be followed. In our opinion, the 2015 CBRS Rules embraces every one of these goals. However, changing the PAL rules DOES NOT

meet these goals. We encourage each Commissioner to read and reflect upon these strategic goals as you make your decisions on this NPRM.

Strategic Goal #1 - Promoting Economic Growth and National Leadership.

Promote the expansion of competitive telecommunications networks, which are a vital component of technological innovation and economic growth and help to ensure that the U.S. remains a leader in providing its citizens opportunities for economic and educational development.

Strategic Goal #2 - Protecting Public Interest Goals

The rights of network users and the responsibilities of network providers form a bond that includes consumer protection, competition, universal service, public safety and national security. The FCC must protect and promote this Network Compact.

Strategic Goal #3 - Making Networks Work for Everyone

In addition to promoting the development of competitive networks, the FCC must also ensure that all Americans can take advantage of the services they provide without artificial impediments.

Strategic Goal #4 -Promoting Operational Excellence

Make the FCC a model for excellence in government by effectively managing the FCC's resources and maintaining a commitment to transparent and responsive processes that encourage public involvement and best serve the public interest.

Our goal as an LTE equipment manufacturer to embrace advanced innovation, adapt quickly to customer requests and recommendations, be transparent, build quality products, increase ease of use and installation and be affordable. Our current customer base recognizes these characteristics of our company and our products. We expect the coming years to be exciting and profitable both for our company and our growing customer base. Ultimately, consumers will be the beneficiaries of increased competition, innovation and services. Isn't that what it is all about? We urge the FCC to keep the original PAL rules intact.

Respectfully submitted,

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