

July 14, 2014

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

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

Dear Ms. Dortch:

The undersigned groups write in support of the Commission's adoption of a three-tier access system for the 3550-3700 MHz (3.5 GHz) band, modeled on the recommendations of the President's Council of Advisors on Science and Technology. This framework enables Incumbent Access, Priority Access (PA) and General Authorized Access (GAA) use and permits spectrum sharing among both licensed and GAA users while protecting incumbents. Implementing rules that embrace the principles described below, within the three-tier framework, will enable greater access to wireless communications and create significant commercial and consumer benefits.

- First, any geographic exclusion zones should be based on actual deployment scenarios and sized solely to protect incumbent users. The Commission should minimize protection zones for incumbents as much as possible, by adopting requirements that are based only on the interference tolerance of incumbent operations and not the tolerance of potential new operations. While incumbents in the 3.5 GHz band have a right to protection from harmful interference, providers operating under the new rules should be allowed – consistent with their own business plans – to operate in environments where they may encounter interference. This approach conforms to the general, highly successful principle that secondary users are not entitled to interference protection from users with higher priority rights and therefore must adjust to the interference environment as they find it. Moreover, the exclusion zones discussed in the Further Notice of Proposed Rulemaking (FNPRM) – which are based on the assumption that macrocells will be deployed in this band – could make 3.5 GHz band devices unavailable for up to 60% of the U.S. population. The FCC, however, contemplates, based on the band's propagation characteristics, that it is best suited for small cell deployments. Unnecessarily limiting the potential service area for devices in this way raises serious questions as to whether chipmakers and equipment manufacturers will be able to justify the investments needed to create affordable, innovative wireless devices for this band. The FCC should also consider sensing as an optional method, to be used in conjunction with a Spectrum Access System (SAS), for ensuring incumbent protection while shrinking the proposed exclusion zones.

- Immediate adoption of a three-tier framework for access the 3550-3700 MHz band will benefit the economy by enabling more intensive use of the band, by promoting additional rural broadband deployment, and by lowering entry barriers for a diverse range of users and innovative uses. There is no need to phase in three-tier spectrum management as under the transitional plan proposed by some commenters: database technology can implement a three-tier system, and the approaches required to protect first-tier incumbents can be applied equally effectively to secondary user protection. During the period of delay introduced by any transition plan, this spectrum is likely to be underutilized in many areas because GAA users will not be able to make opportunistic use of available spectrum. Given the nation’s growing demand for wireless bandwidth, the Commission should move forward with a three-tier system from the start.
- The rules should include the 3650-3700 MHz band as well as the 3550-3650 MHz band. As the Commission has suggested, there will be “long term gains and significant public interest benefits to extending the rules proposed here to the 3650-3700 MHz band, both in terms of terms of spectrum efficiency and availability, and economies of scale for equipment across the full 150 megahertz.”¹ Moreover, co-existence with legacy wireless Internet service provider (WISP) operations will be feasible, especially given that most new deployments in this band will to be lower-power, small cell operations. To the extent necessary, a database can accommodate any mandated protection of grandfathered WISPs just as it accommodates permanent incumbents.
- We support the Commission’s proposal to set aside a substantial portion of the band for GAA use on a nationwide basis. Allowing a balance of licensed and GAA access will both enable significant investment in small cell networks and encourage the permissionless innovation enabled by unlicensed access and similar regulatory frameworks.
- We also agree that all certified devices should operate across the entire band and that a SAS should be permitted to dynamically assign channels to PA and GAA users. Such an approach will support economies of scale for devices and will ensure that devices operating on PA spectrum do not get “stranded” if the licensee fails to renew its priority access rights.
- The Commission should enable GAA use of unused spectrum across the entire band. Priority Access Licensees should be entitled to protection from GAA users in the areas where they are offering service or preparing to deploy service, but if PA licensees offer service in only a portion of the license area, then the remaining area should be open for shared use by GAA users on a non-interfering basis. Adopting this approach will be particularly important if the Commission elects to assign PA licenses on a census-tract basis: census tracts can be geographically large while licensed small cell deployments

¹ *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Further Notice of Proposed Rulemaking, GN Docket No. 12-354 (rel. Apr. 23, 2014) ¶ 165.

may be geographically limited within a tract.² In order to maximize spectrum utilization, the Commission should require sharing of spectrum that remains unused.

The Commission should not require end-user devices to register with an SAS, provided that an access point prescribes the zone of operation of the end-user equipment and that access point is itself registered with an SAS in compliance with the relevant rules. Requiring all end-user devices to register with the database is not required for Incumbent and PA user protection, and it has the potential to cause significant increases in the cost consumer equipment. Private sector access to the 3.5 GHz band and the initiation of the Citizens Broadband Service hold great potential for successful spectrum sharing that meets the demands of wireless broadband users. We applaud the Commission's work to date and urge a rapid resolution of any remaining issues.

Sincerely yours,

Dynamic Spectrum Alliance
WhiteSpace Alliance
Public Interest Spectrum Coalition

² Indeed, as the Commission has itself recognized, census tracts can be as large as 85,000 square miles. *See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Public Notice, GN Docket No. 12-354 (rel. Nov. 1, 2013) ¶ 15. In rural areas where census tracts can be several thousand square miles, a PA licensee may want to make targeted deployments in a small area that encompasses most of residences and businesses within a particular census tract, but that choice should not preclude GAA operations in the remaining geographic areas within the tract.