

**Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

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

To: The Commission

**REPLY COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (TIA)¹ hereby submits reply comments to the Federal Communications Commission (Commission) in the above-captioned proceeding.² TIA strongly supports the FCC's initiatives to implement the recommendations of the National Broadband Plan calling for the availability of 300 MHz of spectrum by 2015 and a total of 500 MHz available by 2020.³ The initial round of comments in this proceeding provides a constructive record for the Commission. In fact, the record seems to reflect some significant differences with the content of the Commission's March 13, 2013 3.5 GHz Workshop. Consistent with our prior filing, we submit this brief reply comment to supplement our first round of comments and to associate ourselves with several other similar comments.

¹ TIA is the leading trade association for the information and communications technology ("ICT") industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy a wide variety of devices with the goal of making technology accessible to all Americans.

² Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, Notice of Proposed Rulemaking, GN Docket No. 12-354 (rel. December 12, 2012) ("NPRM").

³ See Comments of TIA, GN Docket No. 12-354 (filed February 20, 2013) at 2.

I. THE COMMISSION SHOULD NOT ASSUME ONLY AN UNLICENSED MODEL FOR CONSUMER AND ENTERPRISE OPERATIONS IN THE 3.5 GHz BAND

TIA shares the Commission's interest in encouraging small cell technology -- outdoor femto cells, metro cells and pico cells, in addition to small cells that use Wi-Fi technology. However, the FCC should permit long term evolution of the 3.5 GHz band and not depend solely on current technology assumptions, especially assumptions about future technology or regarding potential unlicensed use. The Commission must maintain its longstanding position in favor of technology neutrality, and must not create rules which inflexibly limit deployable technologies and/or various forms of sharing in the time, frequency, and spatial domains.

As T-MOBILE commented: "The Commission's statement incorrectly assumes that spectrum designated for small cell operations is best employed on an unlicensed basis."⁴ More specifically, Tarana Wireless observed that: "To ensure a robust and deterministic backhaul operation,....bands should be licensed. Exclusive licensed, flexible-use spectrum bands have proven utilization efficiency, adoption density, and well-established parties to sustainably deploy them."⁵

The Information Technology Council comments: "There are new technologies that can permit commercial users to use spectrum at times when the government or other incumbent users are not operating on that spectrum. This could take the form of time sharing, geographic sharing, and/or frequency sub - band sharing. One such technology framework is known as Licensed Shared Access (LSA)."⁶

The EU Radio Spectrum Policy Group defines LSA as follows: "An individual licensed regime of a limited number of licensees in a frequency band, already allocated to one or more incumbent users, for which the additional users are allowed to use the spectrum (or part of the spectrum) in

⁴ See Comments of T-MOBILE USA, WT Docket No. 12-354 (filed Feb. 20, 2013) at 4.

⁵ See Comments of Tarana Wireless, WT Docket No. 12-354 (filed Feb. 20, 2013) at 4.

⁶ See Comments of Information Technology Council, WT Docket No. 12-354 (filed Feb. 20, 2013) at 4

accordance with sharing rules included in the rights of use of spectrum granted to the licensees, thereby allowing all the licensees to provide a certain level of QoS.”⁷

Several other commenters describe alternatives in which the Commission could provide some of the positive aspects of exclusive-use, license spectrum (QoS, some certainty of access to spectrum, etc.) in a shared environment using sharing technologies already in use and under development:

- ERICSSON “Because of the functionality required of the SAS, Ericsson asks the Commission to look to the principles that are already being considered for Licensed Shared Access (LSA). LSA is a regulatory approach that unlocks and improves underutilized spectrum while offering dependable service quality, security for large-scale investments, and reliable protection of an incumbent or priority user. It addresses exclusive rights spectrum that currently belongs to an incumbent or priority user and that exhibits low or localized utilization at stable (or diminishing) levels, and where it is difficult or not desired to re-distribute or re-purpose the spectrum to other services within a needed time frame.”⁸
- NOKIA SIEMENS NETWORKS “To the extent that exclusive licensing is not utilized, Nokia Siemens Networks recommends that the Commission strongly consider employing a licensed sharing model, specifically Authorized Shared Access, for its potential to assist with meeting the market’s current and future mobile broadband capacity requirements.”⁹
- QUALCOMM “excited by the Commission’s proposal to enable deployment of small cells in the 3.5 GHz band using Authorized Shared Access ASA rights must be exclusive in order to support the delivery of a reliable and predictable quality of service while guaranteeing interference-free spectrum sharing between incumbent systems and the ASA rights holders’ networks. Making ASA rights exclusive will prevent interference between the small cells and radars. These exclusive rights may be awarded by geographic area (similar to licenses awarded today via auction) or in some other manner (such as a licensed-by-rule framework), or both perhaps, each in discrete portions of the bands — as contemplated in the NPRM.”¹⁰

To be clear, TIA does not take a specific position regarding a particular access or usage control method, such as the Authorized Shared Access approach advanced by Qualcomm and Nokia or the Licensed Shared Access being standardized by European Telecommunications Standards Institute (ETSI) and the European Conference of Postal and Telecommunications Administrations

⁷ See, DIGITAL EUROPE, “Digital Europe” Position Paper on Licensed Shared Access (LSA) Common Understanding, Status and Next Steps, February 14, 2013, available at http://www.digitaleurope.org/DocumentDownload.aspx?Command=Core_Download&EntryId=519, (last visited April 3, 2013) at 3-4.

⁸ See Comments of ERICSSON, WT Docket No. 12-354 (filed Feb. 20, 2013) at 9.

⁹ See Comments of NOKIA SIEMENS NETWORKS, WT Docket No. 12-354 (filed Feb. 20, 2013) at 3.

¹⁰ See Comments of QUALCOMM, WT Docket No. 12-354 (filed Feb. 20, 2013) at IV.

(CEPT).¹¹ Rather we encourage the Commission to actively consider these potential alternatives and to not act prematurely in a manner that would foreclose their eventual adoption.

II. THE COMMISSION SHOULD NOT BE OVERLY PRESCRIPTIVE IN PLACE OF MARKET FORCES IN DEVELOPING AN ACCESS “TIER” SYSTEM.

The Commission should allow the market to unfold without placing undue restrictions on uses of the band and formulate rules that allow experimentation with multiple use cases. As Alcatel-Lucent comments “[T]he Commission should not prescribe an arbitrary class of entities that are eligible for “priority” use of the band, but rather should permit any entity that desires a higher-quality of service in the band to seek that priority access.”¹²

Other commenters echoed this view:

- AT&T “[T]he Commission should expand eligibility for the Priority Access Tier to include commercial wireless operators that share the same quality of service requirements as the hospitals, utilities, and government agencies that the Commission specifically identifies as being eligible for this Tier.”¹³
- CTIA – The Wireless Association: “Adopt a spectrum assignment framework consistent with U.S. spectrum management policy. In particular, the three-tiered spectrum access approach, which appears to take a significant step back from long-standing, market-driven flexible use spectrum policy, should be reconsidered.”¹⁴
- Ericsson: “With regard to the priority access tier (Tier 2), Ericsson notes that the very reasons the Commission proposes to limit its use to safety-of-life operations are the reasons of value to providers of MBB service who serve end-user customers. Prioritized access, with protection from harmful interference from all but incumbent users, is beneficial for broadband access providers and their subscribers as well as for hospitals.”¹⁵
- Mobile Future: “If the Commission decides to pursue a dynamic shared access model in the 3.5 GHz band, it should simplify its proposed access tiered approach to facilitate use of the band by commercial providers for broadband offload.”¹⁶

¹¹ See “Digital Europe” at 7.

¹² See Comments of Alcatel-Lucent, WT Docket No. 12-354 (filed Feb. 20, 2013) at 3. Cite to ALU

¹³ See Comments of AT&T, WT Docket No. 12-354 (filed Feb. 20, 2013) at i.

¹⁴ See Comments of CTIA – The Wireless Association, WT Docket No. 12-354 (filed Feb. 20, 2013) at 2.

¹⁵ See Comments of Ericsson, WT Docket No. 12-354 (filed Feb. 20, 2013) at 5-6.

¹⁶ See Comments of Mobile Future, WT Docket No. 12-354 (filed Feb. 20, 2013) at 6.

In TIA's initial comment we observed that although the Commission appropriately requests cost/benefits analysis for alternatives to its 3-Tier Proposal, no comparable cost/benefit analysis for the proposed 3-Tier approach exists with which to enable comparisons among alternatives.¹⁷ In view of the concern raised regarding the proposed 3-Tier approach, substantive data on both the General Access and Priority tiers seems all the more imperative.

III. THE COMMISSION SHOULD PROVIDE FOR NECESSARY INTERFERENCE PROTECTION IN C-BAND FOR THE SATELLITE COMMUNICATIONS

In our initial comment, TIA notes the potential for adverse impact on incumbent services, including grandfathered C-band FSS receive earth stations. Other comments provide additional detail regarding the risks to these users.

- Harris Corporation: “Harris CapRock, a wholly owned subsidiary of Harris, provides critical services to major oil and gas production facilities in the Gulf of Mexico. These facilities are in deep water and are out of the reach of fiber optic or terrestrial microwave services and therefore rely on satellite services for their communications needs. Because these critical communications require higher availability than is possible from the Ku Band, and these facilities are neither mobile nor nomadic, our customers have specified the use of C-Band for the satellite communications to these facilities.”¹⁸
- Consumer Electronics Association: “If the Commission establishes a dynamic spectrum access model in the 3.5 GHz band, it should adopt technical rules that are sufficient to protect Federal and fixed satellite service (“FSS”) incumbents, while providing flexibility for commercial use.”¹⁹
- Satellite Industry Association: “.....there must be technical data demonstrating that the proposed small cells can operate without impairing current or future C-band satellite services.”²⁰
- National Association of Broadcasters: “Wehave significant concerns regarding interference from the proposed service to important existing C-band satellite services.”²¹

¹⁷ See Comments of TIA at 4 and NPRM at 51.

¹⁸ See Comments of Harris, WT Docket No. 12-354 (filed Feb. 20, 2013) at 1.

¹⁹ See Comments of Consumer Electronics Association, WT Docket No. 12-354 (filed Feb. 20, 2013) at 8.

²⁰ See Comments of Satellite Industry Association, WT Docket No. 12-354 (filed Feb. 20, 2013) at i.

²¹ See Comments of National Association of Broadcasters, WT Docket No. 12-354 (filed Feb. 20, 2013) at 1.

- National Cable & Telecommunications Association: “...the FCC must ensure that C-Band operations in the 3.7-4.2 GHz bands do not suffer harmful interference. Before authorizing the proposed new service, the FCC should ensure, through rigorous analysis of technical studies, that harmful interference will be avoided. Cable companies depend on the 3.7-4.2 GHz band for the delivery of video and increased use of the 3550-3650 MHz band and the adjacent 3650-3700 MHz band would raise interference concerns that require careful examination before moving forward. The Commission should not undertake any measures that would jeopardize C-Band operations in the 3.7-4.2 GHz bands.”²²

Notably, commenters who currently provide terrestrial service in the 3650-3700 MHz band also urge caution in this segment, and oppose placing such terrestrial operations under a new regulatory structure.

- KanOkla Communications, Inc.: “strongly opposes the Commission’s proposal to migrate 3.65 GHz licensees ...” to the proposed framework for the 3650-3750 MHz band because the requirements to implement the new regime “would result in a significant loss of investment and additional expenses due to the need for costly software and hardware upgrades.”²³
- Neptuno Media, Inc.: asserts that extending the proposed 3650-3750 MHz rules to adjacent spectrum “would cripple the ability of Neptuno and others to continue to operate in the 3650-3700 MHz band.”²⁴

TIA notes that the extension of small cells to 3650-3700 MHz would require the development of a technically practicable and appropriate method to protect either existing FSS or existing terrestrial services in that band from interference.

²² See Comments of National Cable & Telecommunications Association, WT Docket No. 12-354 (filed Feb. 20, 2013) at 2.

²³ See Comments of KanOkla, WT Docket No. 12-354 (filed Feb. 20, 2013) at 3.

²⁴ See Comments of Neptuno Media, Inc. d/b/a Neptuno Networks WT Docket No. 12-354 (filed Feb. 20, 2013) at 4.

IV. CONCLUSION

For the foregoing reasons, TIA urges the Commission to adopt policies consistent with the recommendations above.

Respectfully submitted,

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April 5, 2013