

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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| In the Matter of: |) | |
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| Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.6 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz |) | ET Docket No. 10-142 |
| |) | |
| Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band |) | WT Docket No. 07-195 |
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| Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands |) | WT Docket No. 04-356 |
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To: The Commission

**COMMENTS OF THE TELECOMMUNICATIONS
INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (TIA) responds to the Commission’s *Public Notice* (PN) in the above-referenced proceeding.¹ TIA is the leading trade association for the information and communications technology (ICT) industry, with 600 member 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 public policy issues affecting the ICT industry and forges consensus on industry standards. For over 80 years, TIA has enhanced the business environment for broadband, mobile wireless, information technology,

¹*Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.6 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz*, ET Docket No. 10-142, *Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band*, WT Docket No. 07-195, *Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands*, WT Docket No. 04-356, DA 11-929 (rel. May 20, 2011) (“PN”).

networks, cable, satellite, and unified communications. TIA is accredited by the American National Standards Institute (ANSI). As discussed below, TIA offers its supportive input regarding the Commission's examination of the 2 GHz range.

I. TIA SUPPORTS THE COMMISSION'S EFFORTS TO ENCOURAGE THE GROWTH OF TERRESTRIAL MOBILE BROADBAND SERVICES IN THE 2 GHZ RANGE ALLOCATED TO FIXED AND MOBILE BROADBAND USE

The Commission can ensure efficient use and value to 2 GHz frequencies by reallocating the spectrum as exclusively, flexibly, and licensed as possible. TIA supports the 2 GHz Public Notice, which offers the prospect to make the uses of existing allocations more efficient. TIA believes that any changes made to spectrum allocations should reflect widely-endorsed spectrum principles previously advocated by TIA.²

The actions proposed in the PN reflect some of these principles, which will ensure the most effective use of the 2 GHz frequencies. From a suitability standpoint, the frequencies discussed in the PN are well suited for terrestrial fixed and mobile broadband use. TIA commends the Commission for assessing spectrum suitable for mobile broadband use with blocks of 20 MHz and greater allocations of this nature will allow for the offering of higher data rates, and will facilitate an expanded variety of broadband services and applications. In addition, the 3GPP standards body has approved a change request to include 2000-2020 and 2180-2200 MHz for the Ancillary Terrestrial Component (ATC) of Mobile Satellite Systems (MSS) in North America as Band Class 23 in release-10 of their standards, and considering this possibility would lend to

²See, e.g., Comments of TIA, ET Docket No. 10-123 (filed Apr. 22, 2011) at 4-6 ("TIA Broadband Spectrum Comments").

global harmonization principles.³ In examining possibilities for reallocation of these frequencies, however, the Commission is strongly encouraged to ensure protection for existing uses from harmful interference, particularly between uplink and downlink bands.

II. TIA ENCOURAGES THE FCC TO ALLOCATE 2 GHZ FREQUENCIES FOR USES THAT MAXIMIZE SPECTRUM VALUE AND MARKET CERTAINTY

In its examination of the frequencies noted in the PN, TIA believes that the Commission should ensure that market certainty and license values for existing allocations are not threatened or disadvantaged in any way by new mobile and fixed broadband allocations, and that a holistic approach that includes consideration of existing and future pairing possibilities be considered. TIA believes that through the further development of the Advanced Wireless Services (AWS-1) band and by prioritizing the protection of PCS operations from interference, these goals can best be accomplished. Based on the discussion below, TIA urges the Commission to investigate the full range of spectrum between 1675 and 2200 MHz to develop a plan that would put the entire spectrum to its best use.

³ See 3GPP, *RP-110812 - CRs for Adding 2 GHz band LTE for ATC of MSS in North America, Core part* (May 30, 2011), available at http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_52/Docs/RP-110812.zip.

A. The Commission should explore the extension of a successful AWS-1 environment.

TIA believes that usage in the S-band should not be expanded to the detriment of potential AWS uses in the 2155-2180 MHz band. The Commission is again urged to increase the size of the AWS-1 allocations.⁴ The Commission should explore all potential pairings with viable spectrum, including spectrum identified by NTIA for reallocation from US Government-only spectrum. As an example, if spectrum is identified in the 1755-1800 MHz band, this could be paired with the AWS-3 (2155-2180 MHz) spectrum to create a valuable contiguous pairing. If identified for reallocation, the Commission should make pairing 1755-1780 MHz with the AWS-3 block a priority. However, this is just one of many possibilities that the Commission can and should explore in this investigation of maximizing spectrum use per other pairings that NTIA could identify in the 2 GHz range.

Depending on what spectrum is identified, numerous options will emerge for the Commission. Each component and condition of the 2 GHz ecosystem affected should be fully considered towards determining the most efficient uses, including the use of large and contiguous pairings and the use of guard bands. Allocations in the 2 GHz band should allow for the enjoyment of the benefits related with large, contiguous spectrum blocks as well as adjacency to like services. Availability of use of wider bandwidth technology, pooling of resources, shorter time-to-market, lower deployment costs, and accelerated standard development will make the business case for innovation and investment, ultimately benefiting the consumer.

⁴See TIA Broadband Spectrum Comments at 12.

B. The Commission should ensure that PCS operations are protected from harmful interference.

A lack of separation between the uplink and downlink frequency bands can pose significant interference issues,⁵ and the potential for harmful interference to the services in these bands would also create considerable uncertainty in the marketplace. Including 1995-2000 MHz (H Block) as an uplink band in the proposed Fixed and Mobile band will place the uplink allocation directly adjacent to the PCS uplink receive band, resulting in mobile transmissions in the H Block having the potential to cause significant harmful interference to the millions of existing handsets operating in the PCS downlink mobile receiver band at 1930-1990 MHz. Furthermore, additional restrictive technical rules on the PCS community will certainly raise equipment costs, and potentially decrease battery life. If the bands above 2000 MHz are allocated for uplink, TIA believes that the 1995-2000 MHz should be allocated as a guard band between MSS and PCS, leaving the 1915-1920 MHz portion of the H block between the duplex gap available for unlicensed PCS services.

For the same reason, if 1995-2000 MHz is added to the current 2000-2020 MHz band as shown in the Appendix,⁶ it should still be allocated as a guard band or used for services which would not interfere with PCS. Allocation of 1995-2000 MHz as a guard band will help mitigate interference that is introduced by placing the PCS G Block Base Station transmitter at 1990-1995 MHz, adjacent to the ATC Base Station receiver at 2000-2020 MHz. Furthermore, additional

⁵ See, e.g., Janis, Pekka, et al, *Adjacent channel interference between asynchronous TDD cellular networks* (Sept. 2004), available at <http://202.194.20.8/proc/VTC09Spring/DATA/09-04-04.PDF> (noting that “the interference between the uplink and downlink transmissions within each operator band as well as among the operators can generate extremely high interference...”).

⁶ See PN at Appendix.

precautions will likely be necessary because a 5 MHz guard band may not be sufficient separation between PCS and MSS ATC operations.

III. TIA SUPPORTS THE USE OF VOLUNTARY AUCTION APPROACHES TO 2 GHz REALLOCATIONS IN THE PUBLIC INTEREST

In the PN, the Commission seeks input on how to best assign licenses under a new 2 GHz band plan, including the use of voluntary incentive auctions, as well as the voluntary return of some Mobile Satellite Service (MSS) spectrum rights in return for terrestrial rights in remaining 2 GHz MSS spectrum.⁷ TIA has long supported Congress granting the Commission the authority needed to conduct voluntary incentive auctions,⁸ and supports the proposed approaches in the PN to implement a 2 GHz band plan. The Commission should also ensure that any planned incentive auctions fully take into consideration the Commission's recent allowance of mobile and fixed allocations in MSS band.⁹

TIA agrees that existing licensees could, on a voluntary basis, relinquish their licenses for certain bandwidth in exchange for a portion of the proceeds from an auction for the new licenses authorizing terrestrial only services. Utilizing voluntary incentive auctions as an enticement may lead to more efficient use of spectrum by providing an appropriate mechanism for incumbent 2 GHz MSS licensees to vacate the band in favor of mobile broadband providers operating on new licenses. However, TIA strongly urges that the Commission ensure any public interest

⁷ PN at 3-4.

⁸Comments of TIA, ET Docket No. 10-235 (filed Mar. 18, 2011) at 4.

⁹Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1625.5-1660.5 MHz, 1610-1625.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz, *Report and Order*, ET Docket No. 10-142, 26 FCC Rcd 5710 (rel. April 6, 2011).

conditions attached to ceded 2 GHz spectrum for auction does not overly devalue the spectrum.
This could derail auctions and buildouts.

IV. CONCLUSION

TIA supports any effort by the Commission that encourages more efficient use of spectrum. This Public Notice is takes a step in the right direction and will promote the growth of terrestrial mobile broadband services. Continued buildout of mobile broadband networks will provide better coverage for consumers and greatly benefit the public.

Respectfully submitted,

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