



as many of its members produce cordless devices that operate in this band. TIA respectfully submits these comments in an effort to work with the Commission to avoid increased interference in this band for UPCS devices that can arise from the Commission's proposed rules in the 1915-1920 MHz AWS H Block.<sup>2</sup>

The Telecommunications Industry Association (TIA) represents the global information and communications technology (ICT) industry through standards development, advocacy, tradeshow, business opportunities, market intelligence and world-wide environmental regulatory analysis. With roots dating back to 1924, TIA enhances the business environment for broadband, mobile wireless, information technology, networks, cable, satellite and unified communications. Members' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment. TIA co-owns the SUPERCOMM® tradeshow and is accredited by the American National Standards Institute (ANSI).

## **DISCUSSION**

### **INTRODUCTION**

The Commission has historically promulgated rules to generate swift introduction of new, advanced UPCS technologies. Specifically, the Commission has made the 1920-1930 MHz band available to UPCS devices, and created flexible regulations to encourage UPCS technological advancement. As a result, TIA members are producing highly advanced cordless phones and will continue to do so in the proper regulatory environment. However, the Commission's efforts to promote development of cordless

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<sup>2</sup> *Service Rules for Advanced Wireless Services, WT Docket Nos. 07-195 and 05-356, Further Notice of Proposed Rulemaking, FCC 08-158 (rel. June 20, 2008) ("Further Notice").*

phone technologies could be significantly frustrated if the Commission adopts its proposed out-of-band emission (OOBE) limits in the 1915-1920 MHz band. Harmful interference for cordless phones operating in the UPCS band can occur if the Commission's proposed service rules are adopted. In order to mitigate this potential interference, TIA supports the DECT Forum Petition to:

- 1) Eliminate the threshold requirement associated with the "least interfered-channel rule" in Part 15; and
- 2) Reduce the minimum number of channels to be monitored under the least interfered-channel rules from 40 to 20.

TIA members have applied their engineering expertise to evaluate the DECT Forum Petition, and find that it will mitigate UPCS interference concerns in the 1915-1920 MHz band resulting from the Commission's proposed rules and will assist in continued development of advanced UPCS devices.

**I. THE COMMISSION SHOULD CONTINUE ITS POLICY OF ADVANCING CORDLESS PHONE TECHNOLOGY BY ADOPTING THE DECT FORUM PETITION.**

**A. The Commission Prioritizes Advanced UPCS Technology Development.**

The Commission has established policies designed to foster rapid introduction of new UPCS technologies. When it initially allocated spectrum for UPCS devices in the 1910-1930 MHz band, the Commission stated its action was intended to ensure that UPCS device manufacturers were given a high level of flexibility to develop new products that met consumer needs.<sup>3</sup> The Commission emphasized that its policy goal was to permit "manufacturers to introduce new products without the delays associated with the

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<sup>3</sup> See *Amendment of the Commission's Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, *Second Report and Order*, 8 FCC Rcd 7700, 7775 ¶ 178 (1993).

licensing of a radio service” in hope that advanced cordless telephones would be developed.<sup>4</sup> Further, when it reallocated the 1915-1920/1995-2000 MHz band for licensed use, creating the H Block, the Commission noted that “there has been only limited use of the UPCS band,” and it amended Part 15 of its rules to give manufacturers increased flexibility to produce, among other things, advanced cordless telephone technologies.<sup>5</sup> Moreover, the Commission changed the UPCS rules to allow a bandwidth increase from 1.25 MHz to 2.5 MHz and to eliminate the packing rule. These changes were designed to minimize interference by permitting devices to select from a greater number of frequencies in a manner more likely to avoid interference.<sup>6</sup>

With this increased flexibility, UPCS manufacturers have produced new devices meeting growing consumer demands. Cordless phone manufacturers, many of whom are TIA members, now produce cordless phones that support enhanced capabilities, including the use of Bluetooth® technology to initiate and receive cell phone calls from a cordless handset. Further, TIA members are developing cordless phones that will provide IP broadband connectivity for cordless-based Internet access and applications. These present and future advancements can be attributed in significant part to the Commission’s efforts to grow the development of UPCS.

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<sup>4</sup> See id. at 7734 ¶ 79.

<sup>5</sup> *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems et al.*, ET Docket No. 00-258 *et al.*, *Sixth Report and Order, Third Memorandum Opinion and Order and Fifth Memorandum Opinion and Order*, 19 FCC Rcd 20720, 20755 ¶ 79 (2004) (Sixth Report and Order).

<sup>6</sup> See id.; *Ex Parte* Letter from the DECT Forum to Marlene H. Dortch, ET Docket No. 00-258 (filed Dec. 10, 2003).

**B. In Light of its Recent NPRM on the 1915-1920 MHz Band, the Commission Should Amend Part 15 Rules to Prevent UPCS Device Interference.**

In its Further Notice, the Commission proposed a technical rule for operations in the 1915-1920 MHz band under which “the power of any emission outside a licensee’s frequency block [including into the adjacent 1920-1930 MHz band] shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB.”<sup>7</sup> As the DECT Forum has made clear, this new OOBE proposal will cause debilitating interference to broadband UPCS operations.<sup>8</sup>

Currently, the Commission’s UPCS rules state that, in the event access to spectrum is not available under Commission standards, and a minimum of 40 duplex system access channels are defined for the system, time and spectrum windows with the lowest power level below a monitoring threshold of 50 dB above the thermal noise power determined for the emission bandwidth may be accessed.<sup>9</sup> This “least interfered-channel rule” threshold, combined with the proposed rule change in the Further Notice, will severely impede UPCS device functionality. Devices in the UPCS band are required to use a spectrum etiquette based on a “listen-before-talk” protocol; each device must identify a clear, usable channel before transmitting. This means that UPCS devices could often be inoperable under the FCC’s proposed rules whenever an H Block device comes within four meters. Additionally, it is likely that there will also be interference for cordless

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<sup>7</sup> Further Notice at Appendix A, ¶ 12

<sup>8</sup> See Comments of DECT Forum, WT Docket Nos. 07-195 and 04-356, 2-4 (filed July 21, 2008).

<sup>9</sup> 47 CFR § 15.323(c)(5).

phones currently operating in the UPCS band directly adjacent to the 1915-1920 MHz band. Thus, without UPCS operations rule changes, much of the spectrum used by UPCS devices could be rendered useless. As a result, the Commission's goal of continued advancement of UPCS device technology will be thwarted.

TIA member engineers concur with the DECT Forum that, by eliminating the least interfered-channel rule threshold, UPCS devices will function properly without interference in the H Block under the Commission's proposed rules. While mitigating the risk to UPCS devices operating in the H Block, TIA agrees that the DECT Forum Petition will have no negative impact on adjacent PCS services, but are essential to avoid blocking of a significant part of the UPCS band by H-block transmissions.<sup>10</sup>

**C. The Commission Should Alter its Part 15 Rules to Limit Channels to 20 to Ensure Functionality of Advanced UPCS Devices.**

As the DECT Forum makes clear, revisions to 47CFR15.323(c)(5) should reduce the duplex system access channel minimum limit from 40 to 20 so that future UPCS broadband applications are viable.<sup>11</sup> As the UPCS rules now allow a bandwidth increase from 1.25 MHz to 2.5 MHz,<sup>12</sup> TIA agrees with the DECT Forum that the number of channels required for UPCS devices to utilize the least-interfered-channel procedure should be concurrently reduced by a factor of two. This level will not present interference concerns, is consistent with the change of maximum UPCS bandwidth

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<sup>10</sup>See DECT Petition at 5.

<sup>11</sup>See *id.* at 3-4.

<sup>12</sup>See Sixth Report and Order at ¶ 79.

