

novel transmission waveforms may require special measurement instrumentation settings (*e.g.*, integration times) that differ from those used for measuring compliance for existing U-NII band devices.

14. *Transition period for U-NII equipment operating in the 5.250–5.350 GHz band.* U-NII devices currently operate in this band without DFS capability. As a result, we recognize that some period of time will be needed to implement the new DFS requirement for U-NII equipment operating in the 5.250–5.350 GHz band. We propose that the DFS requirement for the 5.250–5.350 GHz band effective for U-NII equipment that is certified after one year from the date of publication of the Report and Order in this proceeding in the **Federal Register**. We believe that this should be sufficient time for equipment devices operating in the 5.250–5.350 GHz band that are imported or shipped in interstate commerce on or after two years from the date of publication in the **Federal Register** comply with these standards. We believe that most affected products will be redesigned within this three-year time frame and that compliance with this proposal would not cause an unreasonable burden on industry. Comments are requested on these proposed transition provisions. We are proposing to require that U-NII equipment operating in the new spectrum at 5.470–5.725 GHz meet all the technical requirements, including DFS and TPC, on the effective date of these rules.

#### Order Clauses

15. Pursuant to sections 1, 4, 301, 302(a), 303, 307, 309, 316, and 332 of the Communications Act of 1934, as amended, 47 U.S.C. sections 151, 154, 301, 302(a), 303, 307, 309, 316, 332, 334, and 336, the notice of proposed rule making is hereby ordered.

16. It is further ordered that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of this notice of proposed rule making, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

#### Initial Regulatory Flexibility Analysis

17. As required by the Regulatory Flexibility Act of 1980 as amended,<sup>1</sup> the Commission has prepared this present

Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *Notice of Proposed Rulemaking* ("NPRM"). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the NPRM provided in paragraph 31 of the item. The Commission will send a copy of the NPRM, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>2</sup> In addition, the NPRM and IFRA (or summaries thereof) will be published in the **Federal Register**.<sup>3</sup>

#### A. Need for, and Objectives of, the Proposed Rules

18. This NPRM proposes to amend part 15 of our rules governing the operation of unlicensed National Information Infrastructure (U-NII) devices, including Radio Local Area Networks (RLANs), to make available an additional 255 megahertz of spectrum in the 5.47–5.725 GHz band for the growth and development of unlicensed wireless broadband networks. This action responds to the petition for rule making submitted by the Wireless Ethernet Compatibility Alliance (WECA—now known as Wi-Fi Alliance).<sup>4</sup>

19. In addition to proposing to make more spectrum available for use by U-NII devices, the Notice also proposes several other rules changes in the 5 GHz band that will further facilitate the use of this band for U-NII devices, while at the same time ensuring sufficient protection for various incumbents in the band. Specifically, it proposes to modify the U.S. Table of Frequency Allocations in part 2 of the rules to upgrade the status of the Federal Government Radiolocation service to primary in the 5.46–5.65 GHz band. It similarly proposes to upgrade the non-Federal Government radiolocation service to primary in the 5.47–5.65 GHz band. It further proposes to add primary allocations for the Federal Government and the non-Federal Government Space Research Service (active) (SRS) in the 5.35–5.46 GHz band and the Earth Exploration-Satellite Service (active) (EESS) and SRS (active) in the 5.46–5.57 GHz band.

20. The NPRM also proposes to modify certain technical requirements for U-NII devices in the part 15 rules.

In addition to applying the existing technical requirements for the 5.250–5.350 GHz sub-band to the new 5.470–5.725 GHz band, it proposes that U-NII devices operating in both the existing 5.250–5.350 GHz sub-band and the new 5.470–5.725 GHz sub-band employ a listen-before-talk mechanism called dynamic frequency selection (DFS). DFS is an interference avoidance mechanism. Prior to start of any transmissions, and through constant monitoring, the device (*e.g.*, RLAN) equipped with such a mechanism monitors the radio environment for a radar's presence. If the U-NII device determines that a radar signal is present, it either moves to another channel or enters a sleep mode if no channels are available. The Notice seeks comments regarding alternative DFS requirements for various U-NII operating conditions. For example, in point-to-multi-point systems, it may not be necessary that DFS be required for both the controlling station and slaves (*e.g.*, devices designed as clients only) as long as the DFS timing requirements are met. The NPRM invites comments on whether DFS should be applied to the controlling stations (*e.g.*, Hub, AP) as well as to slaves.

21. The NPRM also proposes to require a transmit power control (TPC) mechanism in the 5.470–5.725 GHz band to further reduce the potential for impact on EESS and SRS operations. TPC is a feature intended to adjust the transmitter's output power based on the signal level at the receiver. TPC will allow the transmitter to operate at less than the maximum power for most of the time. As the signal level at the receiver rises or falls, the transmit power will be decreased or increased as needed. Because TPC equipped devices adjust their transmit power to the minimum necessary to achieve the desired performance, the average interference power from a large number of devices is reduced, the power consumption is minimized and network capacity is increased. The NPRM seeks comments regarding what the appropriate triggering mechanism might be and how long the U-NII device might need to adjust its power? It also asks for comments on the necessity of requiring all U-NII devices to employ TPC. For example, in some point-to-multipoint system configurations, U-NII devices may be designed to function only with a particular controller or hub. Should only the controlling point or hub be required to employ TPC in this configuration? Some U-NII devices will be designed to operate with a maximum e.i.r.p. below what the rules allow.

<sup>1</sup> See 5 U.S.C. 603. The RFA, *see* 5 U.S.C. 601 *et seq.* has been amended by the Contract With America Advancement Act of 1996, Public Law 104–112, 110 Stat. 847 (1996) ("CWAAA"). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 ("SBREFA").

<sup>2</sup> See 5 U.S.C. 603(a).

<sup>3</sup> See 5 U.S.C. 603(a).

<sup>4</sup> See WECA Petition for Rulemaking, RM–10371, filed on January 15, 2002, Public Notice Report No. 2527, January 29, 2002.