

supply a list of acceptable antenna types with applications for equipment authorization.

6. *Flexible Equipment Authorization for Radio Transmission Systems.* We are proposing a number of rule changes to enable WISPs to customize their transmission systems without the need to obtain a new equipment authorization for every combination of components. Specifically, we will allow professional radio system installers and parties that offer a commercial radio service under the unlicensed rules to substitute technically equivalent components in systems that have been granted equipment authorization. We believe such parties have the technical competence to ensure that the systems they deploy continue to comply with the FCC rules. We invite comment as to whether specific criteria are necessary to qualify as a professional radio system installer or commercial service provider, and if so, what those criteria should be. We also request views as to whether any other parties should be afforded similar flexibility. We will require the professional installer or commercial service provider to place a label on the transmission system that lists the FCC Identification Number of the system that was granted equipment authorization, identifies any components that were substituted, and designates a point of contact for the party that installed the system.

7. We also propose to allow marketing of separate radio frequency power amplifiers on a limited basis. We will restrict such marketing to amplifiers that are only capable of operation under the spread spectrum rules in § 15.247 and under the U-NII rules for the 5750–5850 MHz band. Further, we propose to require that such amplifiers obtain an equipment authorization (certification) and demonstrate that they cannot operate with an output power of more than 1 Watt, which is the maximum permitted under the rules. We believe that this rule change would be of benefit not only for WISPs, but also for consumers and businesses generally. We invite comment as to whether we should instead provide only a more narrow relaxation to allow separate marketing of power amplifiers that are designed in a way such that they can only be used with a specific system that is covered by an equipment authorization, such as through use of a unique connector or via an electronic handshake with a host device. We also recognize that frequency hopping systems that employ fewer than 75 hops are limited to an output power of 125 mW and invite comment as to whether the unique connector requirement may

be necessary to ensure that 1 Watt amplifiers are not used with devices that are limited to 125 mW. We invite comment on these proposals and solicit views on other ways the equipment authorization rules might be modified to provide added flexibility without creating undue risk of interference to radio services or unlicensed devices.

8. *Measurement Procedures for Digital Modulation Systems.* We propose to harmonize the measurement procedures for digital modulation devices authorized under § 15.247 with the digital U-NII devices authorized under § 15.407. Specifically, we propose to allow entities performing compliance testing for § 15.247 devices to use an average, rather than overall peak, emission as provided by § 15.407, paragraphs (a)(4) and (a)(5) when measuring transmit power. We propose this change for devices using digital modulation that operate in the 915 MHz, 2.4 GHz and 5.7 GHz bands. We seek comment on whether a change in measurement procedure for such devices would have any detrimental impact on the installed base of products.

9. *Frequency Hopping Channel Spacing Requirements.* In its comments filed in response to the 2002 Regulatory Flexibility Act Review, the Bluetooth Special Interest Group (Bluetooth SIG) suggests a modification of the channel separation requirement for frequency hopping spread spectrum systems. Section 15.247(a)(1) of the rules requires that frequency hopping systems have hopping channel center frequencies separated by either a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. The Bluetooth SIG requests that this channel spacing requirement be modified to allow hopping channel carrier frequencies to be more closely spaced. In particular, it seeks to modify the requirement to allow a separation of a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater. Although the request did not specify the operating band to which the changes should apply, we interpret the request as being applicable to devices operating in the 2.4 GHz band because the Bluetooth product line operates in the 2.4 GHz band.

10. We propose to modify the frequency hopping spacing requirement to permit certain systems in the 2.4 GHz band to utilize hopping channels separated by either 25 KHz or two-thirds of the 20 dB bandwidth, whichever is greater. We recognize that although a single device's channels will not overlap in time, the use of multiple devices simultaneously in a given area

may cause the spectral occupancy and power density to increase, leading to an increased risk of interference. Therefore, we seek comment on the interference potential of new waveforms with more gradual roll-off and potentially higher spectral power densities at the channel band edges.

11. *Part 15 Unlicensed Modular Transmitter Approvals.* The NPRM proposes to codify the requirements for authorization of modular transmitters into our rules. These transmitters are self-contained devices missing only a power supply and data source to make them functional. Once authorized, the transmitters can be installed into a number of different devices to provide wireless connectivity. The completed combination does not need further Commission approval, saving manufacturers the time and expense associated with multiple authorizations.

12. Currently, in order to have modular transmitters authorized, manufacturers must follow guidance contained in a public notice issued by the Office of Engineering and Technology. A new class of modular transmitters is now under development. These new modules consist of two or more sub-components, each of which may be incorporated in different assemblies. In order to accommodate this new technology, we propose to incorporate the guidance contained in the Office of Engineering and Technology public notice into the Commission's rules. We also propose appropriate changes to facilitate the authorization of developing modular transmitter technology.

13. *Improving Sharing in the Unlicensed Bands.* We invite comment on whether a spectrum sharing etiquette should be considered for devices that operate on an unlicensed basis, in addition to Unlicensed PCS devices. If so, should the Commission or the industry develop the criteria establishing access conditions? What characteristics need to be considered (e.g. spectrum monitoring requirements, bandwidth limits, variable output power levels)? Could an etiquette be implemented in such a way as to ensure continued flexibility for technological development, which has been the cornerstone of unlicensed operation? If a spectrum sharing etiquette is feasible, we seek comment regarding the bands to which the etiquette should apply. Finally, given the number of unlicensed devices currently in operation without a sharing etiquette, how effective will such an etiquette imposed on new entrants be in improving spectrum sharing?