area in order to meet the threshold.[179] Licensees would have until eighteen months from the adoption of a Report and Order in this proceeding to file a modification application for a reduction in the size of their rectangular service area and/or for a return of unneeded channel blocks. We do not intend to make such licensing modifications sua sponte; licensees would have the responsibility to apply for them in a timely fashion. We do not intend to accept late-filed applications for such modification.

106. We make these proposals in order to minimize speculation without harming existing 39 GHz licensees who are responsibly developing the spectrum they have been assigned. We believe that the Commission has both the right and the responsibility to modify licenses to further the public interest. We also observe that in a recent decision, the U.S. Court of Appeals for the D.C. Circuit upheld a Commission rule making proceeding that effectively modified the size of cellular licensees' Cellular Geographic Service Areas. See Amendment to Part 22, Second Report and Order, 7 FCC Rcd 2449 (1992). Specifically, the Court held that this was "precisely the type of decision appropriately made in a rule making." See Committee for Effective Cellular Rules v. FCC, 53 F.3d 1309, 1319 (D.C.Cir. 1995).

107. In addition to seeking comment on the construction threshold test proposed above, which is based on the number of permanently installed and operating links per hundred square kilometers of service area, we also seek comment on two alternative threshold tests. We seek comment on whether a threshold test based on a fixed number of links per rectangular service area -- such as 15 -- (regardless of size of the service area) is a more appropriate means of ensuring that speculation and warehousing of spectrum is minimized. We also seek comment on the advisability of establishing a threshold test based on a fixed number of links per rectangular service area, but in which the number of required links varies by market size. For example, such a threshold test might require that 15 permanently installed and operating two-way links be constructed for each licensed channel block in the top 10 markets, that a minimum of 10 permanently installed and operating two-way links be constructed for each licensed channel block in markets 11-25, and that a minimum number of 5 permanently installed and operating two-way links be constructed for each licensed channel block in all other markets. For either alternative, we request comment on whether we should require that each link operate with a minimum equivalent digital efficiency of 1 bps/Hz over the entire channel block. Those commenting on this approach should address both the number of links required to be constructed and the appropriate definition of the geographic market. Finally, we seek comment on whether we should combine aspects of this alternative test with the test proposed in the preceding paragraphs, including a minimum equivalent digital efficiency standard, and require that licensees construct both a certain number of links per hundred square kilometers of service area and a specified number of links in major markets which overlap their service area.

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[179] An application to make such a reduction in size would be considered a minor modification.

108. If a licensee of a rectangular service area does not meet the threshold requirement, then its constructed links could be grandfathered and its rectangular service area license would be automatically canceled. Incumbent licensees would be required to file a list of permanently installed and operating links that they wish to have grandfathered. We note that 39 GHz band licensees are currently required to file a list of all operations in each authorized service area every six months,[180] which we believe could alternatively be used as the basis for substantiating grandfathering of such links. We solicit comment on these proposals and whether links authorized under Part 21 should be required to carry third party traffic in order to qualify for grandfather status. We note that we do not intend to grandfather temporary links. We further propose that any grandfathered link which subsequently ceases operations for a period of 30 consecutive days or more be deemed automatically forfeited, in which case the authorization must be returned to the Commission.[181] We also propose that the right to use "returned" spectrum would go to the BTA licensee if the return occurs after grant of such license.

109. As an alternative to relicensing incumbent facilities on their current frequency, we solicit comment on whether incumbent links should be "repacked" into a portion of the band, e.g., most grandfathered links would be switched to one designated channel pair provided that mutual interference would not result. Commenters should address whether such repacking is feasible or desirable and, if so, how this would be done.

110. As an additional matter, we note that the lower portion of the 39 GHz band, 38.6-39.5 GHz, is allocated to the fixed, mobile, and fixed-satellite (space-to-Earth) services and that the upper portion of the 39 GHz band, 39.5-40 GHz, is allocated to these services and to the mobile-satellite (space-to-Earth) service. We solicit comment on whether our proposed modifications for licensing the 39 GHz band would have any affect on the sharing of this band among these services. Further, comment is solicited on whether we should provide for more flexible use of the 39 GHz band, including whether we should broaden permissible uses to include point-to-multipoint and/or mobile services in this band, perhaps under a broader service category such as GWCS or LMWS. Greater flexibility of use is likely to ensure that this spectrum is ultimately used for those services of highest value to the public.[182]

111. As an alternative to using competitive bidding in our licensing process, we seek comment on whether to license the 39 GHz band under our current rules with certain modifications. Specifically, we propose to strengthen and codify the policy guidance given in the Public Notice so that all applicants for channels in the 39 GHz band would be required to make the following showings:

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[180] See 47 C.F.R. §§ 21.711(c), 94.61(b) note 18.

[181] See, e.g., 47 C.F.R. § 21.44.

[182] See supra ¶13.

i) Consideration of non-radiofrequency (non-RF) solutions. That the applicant has given detailed consideration to non-RF solutions for satisfying its communications requirements, including but not limited to fiber optic cable and wireline, and explaining why such alternatives are technically unacceptable, as opposed to merely less economically preferable.

ii) Clear and present need. That the applicant has an immediate and real need for the proposed communications. Neither speculation, nor anticipated market development, nor a desire merely to hold a license will be sufficient in this regard. Each narrative must include an implementation schedule with six month benchmarks and will be required to demonstrate system construction and operation within the construction deadline imposed by Section 21.43 of the Rules.

iii) Frequency and efficiency. Normally, only one channel block will be authorized per applicant per geographic area. New assignments will be licensed by BTAs. Current applicants must modify their applications accordingly. A future request for an additional channel block will be considered only if the applicant demonstrates that:

- An immediate requirement exists for simultaneous communications within the licensed service area;
- Frequency re-use is impossible as demonstrated by an engineering showing;
- All previously authorized channel blocks within the licensed service area are constructed, are operational, and are loaded to 100% capacity;
- All frequencies are loaded to a minimum equivalent digital efficiency of 1 bps/Hz;
- All transmitting equipment is operating with a frequency tolerance of 0.001%; and
- Only Category A antennas are employed.

iv) Full disclosure. Applicants must fully disclose the real party (or parties) in interest, including a complete disclosure of the identity and relationship of those persons or entities directly or indirectly owning and/or controlling the applicant.

In addition, licensees must construct their facilities and must be passing communications traffic on all of assigned channel blocks throughout their licensed service areas by the end of the eighteenth month since initial license grant. An extension to the 18 month period of construction will not generally be granted. If construction is not timely completed, the licensee's authority to construct additional links will be automatically cancelled and forfeited,

and the licensee must notify us as to which links have been constructed so that those links may be grandfathered.

J. Spectrum Cap

112. Regardless of the licensing method or methods chosen for the 37 GHz and 39 GHz bands, we seek comment on whether we should adopt a limit on aggregation of channel blocks in each BTA in the combined 37-40 GHz band. Our goal is to ensure that there are an adequate number of licenses available to meet the needs of broadband PCS licensees, as well as the needs of other competitors in the wireless marketplace. In order to address this issue, we must first address the definition of the market in which 37 and 39 GHz licensees will compete. We therefore request comment on whether the 37 and 39 GHz service represents a discrete market. We also request comment on whether the relevant market includes other substitutable spectrum. Finally, we request comment on whether the relevant market includes other substitutable technologies such as fiber optics. If the relevant market is posited to include substitutes, we request comment on the appropriate level of any spectrum cap in these bands. If we conclude that the 37 and 39 GHz service represents a discrete market, we believe that some form of spectrum cap may be appropriate. Specifically, we propose to limit licensees to six of the 28 paired channel blocks and to two of the four unpaired channel blocks in each BTA in the combined 37-40 GHz band. We observe that this limit on spectrum aggregation would permit a single licensee to acquire 700 megahertz of spectrum in each BTA but would nevertheless ensure that there is adequate spectrum available to license in each BTA five operators, each with at least four paired channel blocks.[183] We also propose that licensees be defined as entities having an ownership interest of five or more percent or other attributable ownership interest, as defined in Section 24.204(d), in a license in Channel Blocks 1 through 32. In applying Section 24.204(d), applicants who are neither broadband PCS nor cellular licensees would be treated as if they were broadband PCS applicants. We seek comment on these proposals, including possible alternative spectrum cap formulas.

K. Technical Rules

113. In its petition, TIA requests that transmitter power be limited to 10 watts and that EIRP be limited to +50 dBW for operations in the 37 GHz band. TIA also proposes that the frequency tolerance be reduced to 0.001% for equipment operating in either the 37 GHz or

[183] E.g., four entities could each be licensed for six channel blocks, and one entity could be licensed for four channel blocks. Other potential combinations of licensees and channel blocks include: (a) four licensees @ six channel blocks each, plus four licensees @ 1 channel block each; (b) seven licensees @ 4 channel blocks each; and (c) twenty-eight licensees @ 1 channel block each.

the 39 GHz bands, instead of the 0.03% that is currently required for the 39 GHz band.[184] It states that this increase in stability would maximize the use of each channel, is well within the current state-of-the-art at these frequencies, and can be achieved without significant cost. TIA also proposes that only Category A antennas be permitted for systems operating in the 37 GHz and 39 GHz bands. TIA states that Category A antennas cost approximately the same as Category B antennas, but have superior radiation patterns that enhance frequency reuse.

114. In its amendment, TIA suggests that a 1 bps/Hz minimum bit efficiency should be enforced for the 5, 10, 20, and 40 MHz paired channels, except that a 12T1 transmission rate would be permitted in the 20 MHz channels.[185] TIA states that no minimum bit efficiency is needed for the 50 MHz unpaired channels since broadband users transporting analog video or high definition television video could readily fit within the 50 MHz channelization.

115. Since we are proposing to license the 37 GHz band and future assignments in the 39 GHz band by auction, we tentatively conclude that only those technical rules required to minimize interference between channel blocks and between service areas are needed. We propose to generally employ the current Part 21 Rules, except that we decline to specify a maximum transmitter power or directional antenna standards.[186] Additionally, we propose to allow a maximum EIRP of +55 dBW for operations in both the 37 and 39 GHz bands. This

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[184] For example, the assigned frequency of Channel 29 (38.40-38.45 GHz) is 38.425 GHz. A frequency tolerance of 0.03% means that transmissions are permitted to drift outside either channel block edge (i.e., 38.40 GHz or 38.45 GHz) by as much as 11.5275 MHz, whereas a frequency tolerance of 0.001% means that the frequency drift is limited to $\pm$ 384.25 kHz.

[185] TIA did not request a minimum bit efficiency for its proposed 2.5 MHz and 50 MHz paired channels.

[186] See 47 C.F.R. §§ 21.107, 21.108. We also observe that in § 21.106(a)(2)(ii), the mean power of emissions is required to be attenuated below the mean output power of the transmitter ("emission mask") in accordance with the following schedule: $A = 27.9897 + 0.4 \times (P - 50)$, where A is the attenuation in dB, and P is the percentage of the authorized bandwidth removed from the carrier frequency (which is equal to the reference frequency, which in turn is generally the assigned frequency, plus and minus the frequency tolerance) and ranges from 50% to 250%. In addition, the schedule is bounded such that an attenuation of at least 11 dB, but no greater than 56 dB, is required. This is an application of the rule in which we have substituted 50 MHz for the authorized bandwidth for both paired and unpaired channel blocks. Authorized bandwidth is defined as the maximum width of the band of frequencies permitted to be used by a station. See 47 C.F.R. § 21.2. For licenses granted under the channel block methodology, the authorized bandwidth is equivalent to an unpaired channel block assignment or to either half of a paired channel block assignment. At more than 250% removed from the carrier frequency, the emission mask is described by the following schedule: $A \geq 43 + 10 \times \log_{10}$(mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation. See 47 C.F.R. § 21.106(a)(2)(iii).

is consistent with our proposals in WT Docket No. 94-148.[187] In that proceeding, we proposed to abolish the limitation on maximum transmitter power and to increase the maximum EIRP to +55 dBW for most microwave frequencies from 4 GHz to 40 GHz, including the 39 GHz band.[188] This higher EIRP should allow for increased path reliability on long paths. Further, keeping our proposal consistent in both bands should allow for manufacturing efficiencies resulting from greater commonality in equipment. We also propose to adopt a 0.001% frequency tolerance for equipment operating in either the 37 GHz or the 39 GHz bands. We agree with TIA that this improvement in frequency stability would maximize the use of each channel block, is well within the current state-of-the-art at these frequencies, and can be achieved without significant cost. Furthermore, we propose to amend the bandwidth rule to clarify that, for channel block assignments, the authorized bandwidth is equivalent to an unpaired channel block assignment or to either half of a paired channel block assignment, e.g., 50 MHz, and to unambiguously specify that when adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.[189] We request comment on these proposals, especially the effect aggregation would have on co-channel and adjacent channel operations. In addition to the proposals made above, we solicit comment on whether a further lessening of technical requirements is appropriate. Specifically, we request comment on whether we should continue to specify a required frequency tolerance. If frequency tolerance were not specified in the rules, equipment would be required to merely maintain its operations fully within the "emission mask" at all times.[190]

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[187] See note 1, supra, at ¶ 17.

[188] These proposals were based partly on TIA recommendations. See Suggested Rule Changes for Merging Part 21 and Part 94 into Part 101, submitted by TIA on April 6, 1994, and letter from Robert J. Miller to Karen Rackley (May 2, 1994).

[189] If this proposal is adopted, unwanted emissions would continue to be suppressed at the aggregate channel block edges based on the same roll-off rate as is now specified for a single channel block.

[190] See note 186, supra. See also 47 C.F.R. § 21.101. We observe that the effect of requiring operations to stay within the emission mask at all times would be to reduce the frequency tolerance to levels more restrictive than that recommended by TIA, i.e., instead of a permitted drift in frequency of ± 384.25 kHz, no drift whatsoever would be permitted outside the emission mask. Of course, transmitters would be permitted to drift within the emission mask and licensees could purchase equipment with less drift if they had a need for greater capacity.

116. In addition, licensees of rectangular service areas are specifically reminded that:

> The Commission may require the replacement, at the licensee's expense, of any antenna or periscope antenna system of a permanent fixed station operating at 2500 MHz or higher which does not meet performance Standard A specified in § 21.108(c), upon a showing that said antenna causes or is likely to cause interference to (or receive interference from) any other authorized or proposed station whereas an antenna meeting performance Standard A is not likely to involve such interference.

47 C.F.R. Section 21.109(b). If a BTA licensee is prevented from providing communications in its service area because a licensee of a grandfathered link is using Standard B antennas, we propose to require that a Standard A antenna be installed within six months of the matter being brought to the Commission's attention or else that the link cease transmissions. We request comment on this proposal.

117. In its petition, TIA did not suggest how coordination between co-channel licensees in adjacent BTAs should occur. In the 39 GHz band, proposed frequency usage is coordinated with other applicants, as well as existing licensees, whose facilities could suffer frequency interference or reduced system capacity as a result of implementing the new system.[191] We believe that a similar coordination process could be implemented in the 37 GHz band. Specifically, we propose to let licensees coordinate among themselves at their service area borders regarding co-channel interference protection and at the channel block edges regarding adjacent channel interference protection. We believe that such a coordination process would be simpler and more efficient, due to the relatively large service areas that we are proposing.[192]

118. To facilitate coordination between licensees in adjoining areas, we propose to establish a maximum field strength limit at the boundary of service areas. Similar field strength limits have been proposed or adopted in several other recent proceedings.[193] By

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[191] See 47 C.F.R. § 21.100(d).

[192] Given our proposal to license on a BTA basis, we would not have in our database the specifics of each operational link. In view of this, we ask for comments on a procedure or method that would facilitate this coordination between licensees of adjacent BTAs.

[193] See Broadband PCS Second Report and Order at ¶ 177 (limiting field strength at each licensee's service area boundary to 47 dBu unless licensees operating in adjacent areas agree to higher field strengths along their mutual borders); MMDS Report and Order at ¶ 53 (limiting signal strength to a power flux density of - 73 dBW/m^2); GWCS Second Report and Order at ¶ 111 (limiting field strength at each licensee's service area boundary to 55 dBu

precisely defining licensees' rights at geographic boundaries, field strength limits provide individual licensees with greater freedom to manage the systems and spectrum within their service areas without unnecessary and burdensome coordination. Co-channel licensees in adjoining BTAs would still be free to negotiate higher or lower limits or enter into other mutually beneficial agreements to facilitate efficient spectrum use near their common boundaries. Having a specific limit set initially by the Commission would provide a clear starting point for such negotiations. Due to our lack of technical data in this band, we are unable to suggest an appropriate power flux density or field strength limit, and therefore we request industry input on what a reasonable limit should be. In addition, we solicit comment on the appropriateness of removing all limitations on EIRP if a power flux density or field strength limit were adopted.

119. For any new assignments in the 37-40 GHz band not acquired through competitive bidding, we propose the following additional technical standards: permit the use of only Category A antennas and require a minimum equivalent digital efficiency of 1 bps/Hz. In the case of licenses for grandfathered links in the 39 GHz band, all rule changes, including proposed and additional rules, would only apply to facilities that are constructed after January 1, 1998, and to replacement equipment which is installed after that date. This proposal would provide the minimum equipment standards that are needed to make more efficient use of the spectrum. We believe that setting January 1, 1998 as the date for implementation of these requirements in the 39 GHz band will allow manufacturers adequate time to make any necessary changes to their equipment production lines and to deplete inventory.

L. Government Coordination

120. With regard to sharing the 37 GHz band between Government fixed and non-Government point-to-point operations, we propose to share the band on a first-come, first-served basis as follows. Commission licensees would be required to protect incumbent operations when they build out their system. Any new Government fixed operations would be coordinated on a link-by-link basis with the affected Commission licensees through our existing Government/non-Government coordination process. In order for us to process a coordination request, we are proposing to require that our licensees maintain a computer-readable database with the coordinates of their sites, frequencies (occupied bandwidth) assigned to their sites, EIRP, and other needed information for all of their links.[194] We

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unless licensees operating in adjacent areas agree to higher field strengths along their mutual borders).

[194] If NTIA submits a link for coordination, we would contact the appropriate licensee(s), specify the minimum geographic area for which information must be filed, and request the needed information. Alternatively, licensees would be permitted to file the required information for all of their links and we would extract the relevant data.

believe that the current and anticipated low usage of this band by Government users makes this coordination process feasible. We request comment on the difficulty of coordinating between Government and non-Government users, especially in view of our BTA licensing approach. Specifically, we request comment on whether this band can be shared between Government and non-Government fixed services, or whether we should request that NTIA agree to an exclusive non-Government allocation on some of the channel blocks and to restrict new Government links, especially point-to-multipoint links, to certain channel blocks and/or areas. We recognize that a possible implication of requesting an exclusive non-Government allocation might be that NTIA would request a number of the channel blocks for exclusive Government use, which could lead to inefficiencies in spectrum use if Government use of the band is light. We request comment on how to minimize this possible inefficiency. For example, would a minimum equivalent digital standard be relevant in this context? Finally, we request comment on how the possibility of expansion of Government operations in this band will affect the feasibility of using auctions for the 37 GHz band and on the feasibility of broadening permissible uses of this spectrum to include mobile and other fixed services, should we decide to do so. The final coordination arrangement and any decision regarding exclusive allocations, either Government or non-Government, will be subject to further negotiations with NTIA.

M. Interim 39 GHz Licensing Policy

121. On November 13, 1995, pursuant to delegated authority, the Wireless Telecommunications Bureau (Bureau) ordered that no additional applications for 39 GHz frequency assignments would be accepted for filing as of the date of the Bureau's order pending the outcome of this proceeding.[194] The Bureau observed that over 2,100 applications for 39 GHz licenses had been filed since January 1995, and noted that the increasing number of applications filed pursuant to the existing rules was a burden on Commission resources and could inhibit our ability to update the regulatory structure of this service in light of today's marketplace conditions. The Bureau also stated that the freeze does not apply to applications for assignment or transfer of control of license. Likewise, we stress that the interim policy described below will not apply to assignment or transfer of control applications, which will continue to be processed under existing procedures.

122. With respect to previously filed 39 GHz applications now pending before the Commission, we take the following action. Pending applications will be processed if (1) they were not mutually exclusive with other applications at the time of the Bureau's Order, and (2) the 60-day period for filing mutually exclusive applications expired prior to November 13, 1995.[195] We conclude that processing pending applications against which no competing application has been timely filed will not impede the goals of this proceeding and can be

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[194] Order, RM-8553, DA 95-2341, released November 13, 1995.

[195] See 47 C.F.R. § 21.31(b).

accomplished without significant burden on Commission resources. We also propose to apply to all licenses granted under this procedure the same revised construction threshold and grandfathering requirements that we have proposed to apply to incumbent 39 GHz licensees who received license grants prior to this Notice.[196]

123. With respect to all other pending applications (i.e., those that were subject to mutual exclusivity or still within the 60-day period as of November 13), we conclude that processing and disposition should be held in abeyance during the pendency of this proceeding.[197] First, resolving mutually exclusive applications requires greater expenditure of Commission resources than processing uncontested applications. Second, we are concerned that attempting to award licenses in mutually exclusive situations under our current rules could lead to results that are inconsistent with the objectives of this proceeding. Therefore, we will not process these applications (or any amendments thereto filed on or after November 13, 1995) at this time, but we intend to determine whether to process or return them, as appropriate, at the conclusion of this proceeding. We solicit comment on how these applications that will be held in abeyance should later be treated if new licensing and service rules are ultimately adopted in this proceeding.

124. Also in regard to pending applications for 39 GHz licenses, amendments received on or after November 13, 1995 will be held in abeyance during the pendency of this proceeding. We will similarly hold in abeyance those applications for modification of existing 39 GHz licenses filed on or after November 13, 1995, or modification application amendments filed on or after that date, and will not accept for filing any additional such modification applications and amendments, but for the following limited exception which will afford existing licensees alternative means of meeting the threshold construction requirement.[198] To be acceptable for filing, modification applications or amendments to them must meet both of the following criteria:

- Do not involve any enlargement in any portion of the proposed area of operation; and
- Do not change frequency blocks, other than to delete a frequency block(s).

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[196] See supra paras. 104-111.

[197] Whenever the 60-day "cut-off" date for an application occurs on or after the processing "freeze" date of November 13, 1995, we will hold the application in abeyance. This will assure fairness to potential applicants who were precluded by the freeze from filing competing applications in time to be entitled to comparative consideration. Accordingly, all 39 GHz applications placed on public notice on or after September 14, 1995, will be treated for purposes of interim processing as if they were mutually exclusive. See 47 C.F.R. §§ 21.27, 21.31(b).

[198] See supra para. 105.

IV. ORDERING CLAUSE

125. ACCORDINGLY, IT IS ORDERED, That pending applications for new 39 GHz frequency assignments or for modification to 39 GHz licenses shall be held in abeyance and not processed until further notice, except as otherwise indicated in paragraphs 121 through 124 hereof. IT IS FURTHER ORDERED, That applications for modification of 39 GHz licenses or amendments to pending 39 GHz applications shall not be accepted for filing until further notice, except as indicated in paragraphs 121 through 124 above. The imposition of these changes in application processing is procedural in nature and, therefore, is not subject to the notice and comment and effective date requirements of the Administrative Procedure Act.[199] In any event, good cause exists for imposing immediately the processing changes without following these requirements because the changes are necessary to avoid impeding the purpose of any new rules adopted in this proceeding.

V. PROCEDURAL MATTERS

126. Initial Regulatory Flexibility Analysis. The analysis pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. Section 608, is contained in Appendix B.

127. Initial Paperwork Reduction Act of 1995 Analysis. This Notice of Proposed Rule Making (NPRM) contains a proposed and modified information collection. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due at the same time as other comments on this NPRM; OMB comments are due 60 days from date of publication of this NPRM in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

128. Ex Parte Presentation. This is a non-restricted notice and comment rule making proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's Rules. See generally 47 C.F.R. Sections 1.1202, 1.1203, and 1.1206(a).

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[199] See Neighborhood TV Co., Inc. v. FCC, 742 F.2d 629 (D.C. Cir. 1984); Buckeye Cablevision, Inc. v. United States, 438 F.2d 948 (6th Cir. 1971); Kessler v. FCC, 326 F.2d 673 (D.C. Cir. 1963).

129. Authority. This action is taken pursuant to Sections 4(i), 303(c), 303(f), 303(g), 303 (r) and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 303(c), 303(f), 303(g), 303(r) and 309(j).

130. Comment. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, interested parties may file comments on or before **January 16, 1996**, and reply comments on or before **January 31, 1996**. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, participants must file an original and four copies of all comments, reply comments, and supporting comments. If participants want each Commissioner to receive a personal copy of their comments, an original plus nine comments must be filed. Comments and reply comments should be sent to Office of the Secretary, Federal Communications Commission, Washington, DC 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, DC 20554.

131. Written comments by the public on the proposed and modified information collections are due **January 16, 1996**. Written comments must be submitted by OMB on the proposed and modified information collections on or before 60 days after the date of publication of the NPRM in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to dconway@fcc.gov and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, DC 20503 or via the Internet to fain_t@al.eop.gov.

132. Additional Information. For further information concerning this rule making proceeding contact Fred Lee Thomas at (202) 418-2449, internet: fthomas@fcc.gov, or Tom Mooring at (202) 418-2450, internet: tmooring@fcc.gov, Office of Engineering and Technology, or Bob James at (202) 418-0680, internet: bjames@fcc.gov, Wireless Telecommunications Bureau, Federal Communications Commission, Washington, DC 20554.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

Appendix A: Proposed Rules

Parts 1, 2, 21 and 94 of title 47 of the Code of Federal Regulations are proposed to be amended as follows:

PART 1 -- PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 154, 303, and 309(j) unless otherwise noted.

2. Add paragraph (a)(8) to Section 1.2102 and revise paragraph (b)(4) of Section 1.2102 to read as follows:

§ 1.2102 Eligibility of applications for competitive bidding.

(a) * * *

(8) Basic trading area licenses in the 37.0-38.6 GHz and the 38.6-40.0 GHz bands.

(b) * * *

(4) Applications for channels in all frequency bands, except those listed in paragraph (a)(8), which are used as intermediate links in the provision of an integral, end-to-end, subscriber-based service.

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PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: Sec. 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 302, 303 and 307, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

a. Remove the existing entries for 37.0-37.5 GHz, 37.5-39.5 GHz, and 39.5-40.5 GHz in columns (1) through (3) and for 37.0-38.6 GHz, 38.6-39.5 GHz, 39.5-40.0 GHz, and 40.0-40.5 GHz in columns (4) through (7).

b. Add entries in numerical order for 37.0 - 37.5 GHz, 37.5 - 38.0 GHz, 38.0 - 38.6 GHz, 38.6 - 39.5 GHz, 39.5 - 40.0 GHz, and 40.0 - 40.5 GHz in columns (1) through (7).

c. Remove International Footnote No. 899.

§ 2.106 Table of Frequency Allocations

* * *

International table			United States table		FCC use designators	
Region 1 – allocation GHz (1)	Region 2 – allocation GHz (2)	Region 3 – allocation GHz (3)	Government Allocation GHz (4)	Non-Government Allocation GHz (5)	Rule part(s) (6)	Special-use frequencies (7)
•	•	•	•	•	•	•
37.0 - 37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth)	37.0 - 37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth)	37.0 - 37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth)	37.0 - 37.5 FIXED MOBILE	37.0 - 37.5 FIXED MOBILE	DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	
37.5 - 38.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	37.5 - 38.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	37.5 - 38.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	37.5 - 38.0 FIXED MOBILE	37.5 - 38.0 FIXED MOBILE	DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	
38.0 - 38.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.0 - 38.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.0 - 38.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.0 - 38.6 FIXED MOBILE	38.0 - 38.6 FIXED MOBILE	DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	
38.6 - 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.6 - 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.6 - 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth Exploration-Satellite (space-to-Earth)	38.6 - 39.5 US291	38.6 - 39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US291	DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94) Auxiliary Broadcasting (74)	
39.5 - 40.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	39.5 - 40.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	39.5 - 40.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)	39.5 - 40.0 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US291 G117	39.5 - 40.0 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) US291	DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94) Auxiliary Broadcasting (74)	
40.0 - 40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)	40.0 - 40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)	40.0 - 40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)	40.0 - 40.5 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) G117	40.0 - 40.5 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)		
•	•	•	•	•	•	•

PART 21 - DOMESTIC PUBLIC FIXED RADIO SERVICES

1. The authority citation for Part 21 continues to read as follows:

AUTHORITY: Secs. 1, 2, 4, 201-205, 208, 215, 218, 303, 307, 313, 403, 404, 410, 602, 48 Stat. as amended, 1064, 1066, 1070-1073, 1076, 1077, 1080, 1082, 1083, 1087, 1094, 1098, 1102; 47 U.S.C. 151, 154, 201-205, 208, 215, 218, 303, 307, 313, 314, 403, 404, 602; 47 U.S.C. 552, 554.

2. In § 21.101(a), the frequency band 19,700 to 40,000 MHz is removed from the table and the frequency bands 19,700 to 37,000 MHz and 38,600 to 40,000 MHz and footnote 7 are added in numerical order to the table to read as follows:

§ 21.101 Frequency tolerance.

(a) * * *

Frequency range (MHz)	Frequency tolerance (percent)		
	All fixed and base stations	Mobile stations over 3 watts	Mobile stations 3 watts or less[1]
*	*	*	*
19,700 to 37,000	0.03	0.03	0.03
37,000 to 38,600	0.001	.....	.....
38,600 to 40,000[7]	0.001	0.001	0.001

* * *

[7] Equipment installed prior to January 1, 1998, may employ a frequency tolerance of 0.03%. However, equipment installed on or after that date shall comply with the ±0.001% tolerance limit.

* * * * *

3. In Section 21.105, the existing unlabeled paragraph is revised as paragraph 21.105(a) and paragraph 21.105(b) is added to read as follows:

§ 21.105 Bandwidth.

(a) * * * * *

(b) For channel block assignments, the authorized bandwidth is equivalent to an unpaired channel block assignment or to either half of a symmetrically paired channel block assignment. When adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.

> NOTE: Unwanted emissions shall be suppressed at the aggregate channel block edges based on the same roll-off rate as is specified for a single channel block in paragraphs 21.106(a)(2)(ii) and (iii) of this chapter.

4. In § 21.107(b), the frequency band 37,000 to 38,600 MHz is added in numerical order to the table to read as follows:

§ 21.107 Transmitter power.

* * * * *

(b) * * *

Frequency band (MHz)	Maximum allowable transmitter power		Maximum allowable EIRP	
	Fixed (W)	Mobile (W)	Fixed (dBW)	Mobile (dBW)
*	*	*	*	*
37,000-38,600	.....	.....	+55	.....
38,600-40,000	.....	1.5	+55	.....

* * * * *

5. In § 21.108(c), the frequency "Above 31,300" is removed from the table and the frequency band 38,600 to 40,000 MHz and footnote 4 are added in numerical order to the table to read as follows:

§ 21.108 Directional antennas.

* * * * *

(c) * * *

ANTENNA STANDARDS

Frequency (MHz)	Category	Maximum beamwidth to 3 dB points (included angle in degrees)	Minimum antenna gain (dBi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels						
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
*	*	*	*	*	*	*	*	*	*	*
38,600 to 40,000[4]	A	N/A	38	25	29	33	36	42	55	55

* * *

[4] This antenna standard applies only to licensees of grandfathered links. Antennas installed prior to January 1, 1998, may be of Category B. However, antennas installed on or after that date shall be of Category A.

* * * * *

6. In § 21.122, paragraph (f) is added to read as follows:

§ 21.122 Microwave digital modulation.

* * *

(f) Facilities in the band 38,600-40,000 MHz that are licensed to licensees of grandfathered links and that are constructed on or after January 1, 1998 shall transmit at minimum equivalent digital efficiency of 1 bps/Hz and equipment installed on or after that date shall also have the capability to support the transmission of 1 bps/Hz.

7. In § 21.701, the frequency band 37,000-38,600 MHz is added to paragraph (a) in numerical order and paragraph (j) is revised as paragraphs (j)(1), (j)(2) and (j)(3) to read as follows:

§ 21.701 Frequencies.

(a) * * *

* * *

37,000-38,600 MHz
38,600-40,000 MHz[4]

* * * * *

(j)(1) Assignments in the band 37,000 MHz-40,000 MHz shall be according to the following channeling plan:

Paired Channel Blocks			
Channel Group A		Channel Group B	
Channel No.	Frequency Block (MHz)	Channel No.	Frequency Block (MHz)
1-A	38,600-38,650	1-B	39,300-39,350
2-A	38,650-38,700	2-B	39,350-39,400
3-A	38,700-38,750	3-B	39,400-39,450
4-A	38,750-38,800	4-B	39,450-39,500
5-A	38,800-38,850	5-B	39,500-39,550
6-A	38,850-38,900	6-B	39,550-39,600
7-A	38,900-38,950	7-B	39,600-39,650
8-A	38,950-39,000	8-B	39,650-39,700
9-A	39,000-39,050	9-B	39,700-39,750
10-A	39,050-39,100	10-B	39,750-39,800
11-A	39,100-39,150	11-B	39,800-39,850
12-A	39,150-39,200	12-B	39,850-39,900
13-A	39,200-39,250	13-B	39,900-39,950

14-A	39,250-39,300	14-B	39,950-40,000
15-A	37,000-37,050	15-B	37,700-37,750
16-A	37,050-37,100	16-B	37,750-37,800
17-A	37,100-37,150	17-B	37,800-37,850
18-A	37,150-37,200	18-B	37,850-37,900
19-A	37,200-37,250	19-B	37,900-37,950
20-A	37,250-37,300	20-B	37,950-38,000
21-A	37,300-37,350	21-B	38,000-38,050
22-A	37,350-37,400	22-B	38,050-38,100
23-A	37,400-37,450	23-B	38,100-38,150
24-A	37,450-37,500	24-B	38,150-38,200
25-A	37,500-37,550	25-B	38,200-38,250
26-A	37,550-37,600	26-B	38,250-38,300
27-A	37,600-37,650	27-B	38,300-38,350
28-A	37,650-37,700	28-B	38,350-38,400

Unpaired Channel Blocks	
Channel No.	Frequency Block (MHz)
29	38,400-38,450
30	38,450-38,500
31	38,500-38,550
32	38,550-38,600

(2) Channel Blocks 1 through 32 are assigned for use within Basic Trading Areas (BTAs). Applicants are to apprise themselves of any grandfathered links within the BTA for which they seek a license. In Channel Blocks 15 through 32, new Government links may be added if those links can be operated without unduly interfering with existing non-Government stations. All of the channel blocks may be subdivided as desired by the licensee and used within its service area as desired without further authorization subject to the terms and

conditions set forth in § 21.711. See § 24.202(b) of this chapter for the definition of BTAs and Public Notice, Report No. CW-94-02, for a listing of the counties comprising each BTA.

(3) Licensees shall not have an ownership interest in more than four of Channel Blocks 1 through 28 and no more than two of Channel Blocks 29 through 32 in any BTA.

(i) For the purpose of this section, licensees are entities having an ownership interest of five or more percent or other attributable ownership interest, as defined in Section 24.204(d), in a license in Channel Blocks 1 through 32. In applying Section 24.204(d), applicants who are neither broadband personal communications services (PCS) nor cellular licensees shall be treated as if they were broadband PCS applicants.

(ii) Grandfathered links shall be counted toward the ownership limit in each BTA through which they pass or in which they are located.

* * * * *

8. § 21.711 is revised to read as follows:

§ 21.711 Special requirements for operation in the band 37,000 to 40,000 MHz.

(a) Assigned channel blocks in the band 37,000-40,000 MHz that are licensed by Basic Trading Area (BTA) may be subdivided and used anywhere within the BTA without further authorization, subject to the following terms and conditions:

(1) No interference may be caused to existing or previously applied-for stations operating as a grandfathered link.

(2) The antenna structure height employed at any location shall not exceed the criteria set forth in § 17.7 of this chapter unless, in each instance, authorization for use of a specific maximum antenna structure for each location has been obtained from the Commission prior to the erection of the antenna.

(3) The field strength of any transmitter operating within an assigned channel block and BTA shall not exceed ___ dBu at the boundary of another BTA or a rectangular service area without the prior consent of the licensee to which that channel is assigned in such other BTA or rectangular service area.

(4) Licensees in the 37,000 to 38,600 MHz band shall maintain a computer-readable database with the coordinates of their sites, frequencies (occupied bandwidth) assigned to their sites, EIRP, and other technical information for all of their links needed to facilitate coordination with and the addition of new Government links.

(b) Conversion Plan: Licensees of rectangular service areas shall construct an average of four permanently installed and operating links per hundred square kilometers within their licensed service areas for each licensed channel block and shall file a certification stating that they have met said construction threshold by [insert date that is 18 months from the adoption of a Report and Order in this proceeding].

(1) The right to take advantage of the above eighteen-month build-out provision shall apply only to those entities holding valid licenses as of [insert the date of adoption of the Report and Order in this proceeding].

(2) No later than [insert 18 months from the adoption of a Report and Order in this proceeding], licensees of rectangular service areas not meeting the above construction threshold shall file a list of permanently installed and operating links that they wish to have grandfathered. Failure to file timely a list of installed and operating links shall result in automatic cancellation of the respective licenses.

(3) Licenses for rectangular service areas shall be automatically canceled on [insert 19 months from the adoption of a Report and Order in this proceeding] if the licensee does not file a certification stating that it meets the above construction threshold.

(4) Temporary links shall not be grandfathered.

(5) Any grandfathered link which subsequently ceases operations for a period of thirty consecutive days or more shall be deemed automatically forfeited, in which case the authorization shall be returned to the Commission, and the right to use "returned" spectrum shall go to the BTA licensee.

PART 94 - PRIVATE OPERATIONAL-FIXED MICROWAVE SERVICE

1. The authority citation for Part 94 continues to read:

AUTHORITY: Sections 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted.

2. In § 94.61(b), the frequency band 37,000 to 38,600 MHz is added in numerical order to the table and footnote 18 is revised to read as follows:

§ 94.61 Applicability.

* * * * *

(b) * * *

Frequency band (MHz)	
*	*
37,000 to 38,600	(18).
38,600 to 40,000	(9) (18) and (23).
*	*

* * *

18 Channel Blocks 1 through 32 are assigned for use within Basic Trading Areas (BTAs). Applicants are to apprise themselves of any grandfathered links within the BTA for which they seek a license. In Channel Blocks 15 through 32, new Government links may be added if those links can be operated without unduly interfering with existing non-Government stations. All of the channel blocks may be subdivided as desired by the licensee and used within its service area as desired without further authorization subject to the terms and conditions set forth in § 21.711. See § 21.701(j)(1) of this chapter for the channeling plan. See § 24.202(b) of this chapter for the definition of BTAs and Public Notice, Report No. CW-94-02, for a listing of the counties comprising each BTA.

* * *

3. In § 94.63, the frequency band 37,000 to 38,600 MHz is added to the second sentence of paragraph (a) to read as follows:

§ 94.63 Interference protection criteria for operational fixed stations.

(a) * * * As an exception to the above requirement, when the proposed facilities are to be operated in the bands 932-935, 941-944, 3700-4200, 5925-6425, 6525-6875, 10,550-10,680, 10,700-11,700, 17,700-19,700, 21,200-21,800, 22,400-23,000, 37,000-38,6000, or 38,600-40,000 MHz applicants shall follow the prior coordination procedure specified in § 21.100(d) of this chapter. * * *

* * * * *

4. In § 94.67, the frequency band 31,300 to 40,000 MHz is removed from the table and the frequency bands 31,300 to 37,000 MHz and 38,600 to 40,000 MHz are added in numerical order to the table to read as follows:

§ 94.67 Frequency tolerance.

* * *

Frequency band (MHz)	Tolerance as percentage of assigned frequency
* * *	
31,300 to 37,000	0.03
37,000 to 38,600	0.001
38,600 to 40,000	0.001[9]

* * *

[9] Equipment installed prior to January 1, 1998, may employ a frequency tolerance of 0.03%. However, equipment installed on or after that date shall comply with the ±0.001% tolerance limit.

5. In Section 94.71, paragraph 94.71(f) is added to read as follows:

§ 94.71 Emission and bandwidth limitations.

* * * * *

(f) For channel block assignments in the 37-40 GHz band, the authorized bandwidth is 50 MHz. When adjacent channels are aggregated, equipment is permitted to operate over the full channel block aggregation without restriction.

NOTE: Unwanted emissions shall be suppressed at the aggregate channel block edges based on the same roll-off rate as is specified for a single channel block in paragraphs 21.106(a)(2)(ii) and (iii) of this chapter.

6. In § 94.73, the frequency band 37,000 to 38,600 MHz is added to the table to read as follows:

§ 94.73 Power limitations.

* * *

Frequency band (MHz)	Maximum allowable transmitter power		Maximum allowable EIRP	
	Fixed (W)	Mobile (W)	Fixed (dBW)	Mobile (dBW)
*	*	*	*	*
37,000 to 38,600	.....	.....	+55	.....
38,600 to 40,000	.....	1.5	+55	.....

* * *