**Before the**

Federal Communications Commission

Washington, D.C. 20554

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| In the Matter of  Modification of Parts 2 and 15 of the Commission’s Rules for Unlicensed Devices and Equipment Approval | **)**  **)**  **)**  **)**  **)**  **)**  **)**  **)**  **)** | ET Docket No. 03-201  (Proceeding Terminated) |

order and second memorandum opinion and order

**Adopted: June 9, 2014 Released: June 10, 2014**

By the Commission:

# Introduction

1. By this Order, we terminate the above-captioned proceeding on unlicensed transmitter operations. The only substantive issues pending in this proceeding concern whether to adopt a specific “spectrum etiquette” requirement for unlicensed transmitters operating in the 902-928 MHz band, and whether there might be need for a similar requirement with respect to unlicensed operations in the 2.4 GHz and 5.8 GHz bands.[[1]](#footnote-2) Based on the record before us, and considering that we have not received additional requests in recent years advocating the need for a spectrum etiquette requirement for unlicensed operations in these bands, we conclude that adoption of such a requirement in these bands does not merit further evaluation at this time. In terminating this proceeding, we also dismiss a pending petition for reconsideration.

# Order

## Background

1. Part 15 of the Commission’s rules governs the operation of unlicensed radiofrequency devices, including the technical requirements for their use. As a general condition of operation, Part 15 devices may not cause harmful interference to authorized radio services and must accept any interference that they receive.[[2]](#footnote-3)
2. *Notice of Proposed Rulemaking.* In 2003, the Commission initiated the instant proceeding to review and update certain sections of Parts 2 and 15 of our rules pertaining to technical parameters and measurement procedures related to unlicensed device operations in the 902-928 MHz band, the 2.4 GHz band, and the 5.8 GHz band.[[3]](#footnote-4) The Commission also invited comment on whether it should consider any methods to ensure efficient spectrum usage by unlicensed devices, including the “spectrum etiquette” sharing conditions developed by the industry for the operation of unlicensed Personal Communications Service (PCS) devices operating in the 1920-1930 MHz band.[[4]](#footnote-5) A spectrum etiquette establishes a set of steps and protocols that a device must follow before it may access the spectrum. Such an etiquette may require that a device monitor the spectrum in which it intends to operate and begin transmission only if no signal above a specified threshold is detected.[[5]](#footnote-6)
3. *Report and Order.* In July 2004, the Commission adopted the *Report and Order* that modified several rules pertaining to these bands.[[6]](#footnote-7) The Commission, however, declined to impose any type of spectrum etiquette for any Part 15 bands.[[7]](#footnote-8) The Commission noted that most commenting parties had asserted that a spectrum etiquette requirement would tend to limit development of unlicensed operations.[[8]](#footnote-9) It also expressed concern that an etiquette requirement applying only to new devices in these heavily used unlicensed bands may not be useful in facilitating spectrum sharing if the large number of devices already authorized and used in the band were not required to follow the etiquette. The Commission also noted that the then-existing regulations, which did not require a spectrum etiquette, had resulted in very efficient use of unlicensed spectrum.[[9]](#footnote-10)
4. In October 2004, Cellnet petitioned for limited reconsideration of the Commission’s decision not to adopt a spectrum etiquette for unlicensed devices that operate in the 902-928 MHz band.[[10]](#footnote-11) Cellnet[[11]](#footnote-12) produces equipment for the automated reading of gas, water, and electric meters that uses spread spectrum transmitters operating on an unlicensed basis in the 902-928 MHz band. The 902-928 MHz band is shared by a variety of users under a hierarchy of spectrum usage rights.[[12]](#footnote-13) Unlicensed devices may operate using frequency hopping or digital modulation techniques under Section 15.247 of the rules or under the more general provisions of Section 15.249.[[13]](#footnote-14) In its petition, Cellnet contended that the Commission should adopt a duty cycle limitation and other effective spectrum etiquette for any newly certified devices using digital modulation that operate in the 902‑928 MHz band and confirm the obligation of all operators of unlicensed devices to avoid causing harmful interference to licensed and unlicensed devices operating in the band and to work cooperatively to resolve any interference incidents.[[14]](#footnote-15) In March 2006, Cellnet filed an *ex parte* presentation setting forth a specific proposal for a spectrum etiquette requirement that would be applicable for digital modulation devices operating in the 902-928 MHz band.[[15]](#footnote-16)
5. *MO&O and Further Notice.* In June 2007, the Commission issued its *MO&O and Further Notice*, which addressed Cellnet’s petition and the spectrum etiquette issue.[[16]](#footnote-17) The Commission dismissed Cellnet’s petition on the grounds that the petition and Cellnet’s subsequent filings did not satisfy the Commission’s rules for specific relief and timeliness;[[17]](#footnote-18) it noted that not until a 2006 *ex parte* presentation, filed over a year past the reconsideration period, did Cellnet describe a specific spectrum etiquette that it believed the Commission should require for digitally modulated spread spectrum transmitters operating in the 902-928 MHz band under Section 15.247 of the rules.[[18]](#footnote-19)In the further notice of proposed rulemaking portion, however, the Commission again invited specific comment on whether to adopt a spectrum etiquette requirement for unlicensed transmitters operating in the 902-928 MHz band.[[19]](#footnote-20) In particular, the Commission sought comment on the specific spectrum etiquette proposal suggested by Cellnet, and asked questions regarding other approaches. In addition, the Commission inquired about the impact that requiring a spectrum etiquette would have on the development and operation of unlicensed 902-928 MHz band devices.[[20]](#footnote-21)
6. While the Commission focused the further notice on a spectrum etiquette that would apply only to the 902-928 MHz band, the Commission also inquired generally about whether there might be a similar need to adopt rules for unlicensed devices in the 2.4 GHz and 5.8 GHz bands. The Commission stated, however, that industry standards were being developed to facilitate sharing in these bands and that it did not intend to disrupt this process.[[21]](#footnote-22)
7. *Comments on Further Notice.*  Commenters held widely divergent views on whether the Commission should adopt a spectrum etiquette requirement for the 902‑928 MHz band. Several manufacturers and users of automatic meter reading equipment, as well as some lower power users, supported establishing an etiquette. They generally asserted that a spectrum etiquette would be appropriate because digitally-modulated systems are capable of operating continuously at the maximum allowable power over the entire 902-928 MHz band and thus would impede operation of many lower powered devices.[[22]](#footnote-23) A wide variety of Part 15 device manufacturers, users, and related trade associations opposed adoption of a specific etiquette requirement. Opponents generally contended that the proposed etiquette would preclude various applications of unlicensed devices in the band, such as broadband applications or voice applications,[[23]](#footnote-24) and that important and innovative applications have been made possible because of the flexibility of the rules for unlicensed operations and provide many different benefits to consumers.[[24]](#footnote-25) Several parties also asserted that the interference concerns raised by Cellnet were overstated, and that unlicensed device operators already had tools that enable them to effectively mitigate interference concerns.[[25]](#footnote-26) Many also stated that if a spectrum etiquette requirement were adopted, any transition to such a regime would take years to implement.[[26]](#footnote-27) The Commission also received comment from several parties proposing spectrum etiquette alternatives that differed from those proposed by Cellnet.[[27]](#footnote-28) Only a few commenters addressed whether a spectrum etiquette for unlicensed operations was needed with respect to the 2.4 GHz and 5.8 GHz bands, and all but one stated there was no need for one.[[28]](#footnote-29) The Commission has not received record support advocating the need for adoption of any such requirement since January 2008, more than six years ago.[[29]](#footnote-30)

## Discussion

1. We are not persuaded of the need to adopt a spectrum etiquette requirement for unlicensed operations in the 902-928 MHz band. In addition to the record before us, subsequent developments concerning unlicensed operations in the 902-928 MHz band also counsel against adoption of a spectrum etiquette requirement.
2. Since June 2007, the Commission has approved more than 2,500 unlicensed devices operating in the 902-928 MHz band. This indicates that the band continues to be heavily used under the existing rules for unlicensed operations. We observe that manufacturers have developed a wide variety of different types of products under the current Part 15 rules. Consistent with the Commission’s decision in 2004 not to adopt an etiquette requirement, we are concerned that adoption of such a requirement could impede design flexibility and innovation of a wide variety of devices that the current rules enable.[[30]](#footnote-31) In declining to adopt a spectrum etiquette requirement, we also note that manufacturers and users of Part 15 devices can and do take various steps when designing and deploying their equipment to promote the effective and efficient sharing between digitally modulated devices and other Part 15 devices that operate in the 902-928 MHz band. For example, devices can tune to less congested frequencies or hop to a number of different frequencies to avoid interference. In addition, device operators can reduce the separation distance between the transmitter and receiver in areas where the 902-928 MHz spectrum is heavily used.
3. We agree with commenters who argued that the large number of existing devices in the 902-928 MHz band would limit the usefulness of a new etiquette since previously approved devices would not be required to comply with an etiquette.[[31]](#footnote-32) Also, no party described an etiquette that would be compatible with all types of devices that currently operate in the band.[[32]](#footnote-33) Further, as a number of commenters noted, an etiquette could potentially stifle innovation or preclude the use of certain types of devices in the 902-928 MHz band.[[33]](#footnote-34)
4. As noted above, the Commission focused the further notice on whether it should adopt a spectrum etiquette requirement for unlicensed operations in the 902-928 MHz band; only a few commenters commented on a spectrum etiquette requirement in either the 2.4 GHz or 5.8 GHz bands.[[34]](#footnote-35) We agree that there is no need for an etiquette in these bands.
5. The record before us does not establish the need for a spectrum etiquette requirement in the 902-928 MHz band. Nor is there any basis before us that establishes a need for adoption of a spectrum etiquette requirement for either the 2.4 GHz band or 5.8 GHz band. We conclude that adoption of this type of requirement in these bands would not serve the public interest at this time.

# Second memorandum opinion and order

## Background

1. As discussed above, in its 2004 *Report and Order* in this proceeding, the Commission made several changes to Part 15 of the rules regarding unlicensed operations in the 902-928 MHz band, the 2.4 GHz band, and the 5.8 GHz band.[[35]](#footnote-36) In 2004, Warren C. Havens and Telesaurus Holdings GB LLC (Havens), which are licensees in the Multilateration Location and Monitoring Service (M-LMS) in portions of the 902-928 MHz band, filed a petition for reconsideration of that order*.*[[36]](#footnote-37) Havens requested that the Commission suspend the rule changes adopted for unlicensed devices for operation in the 902‑928 MHz band until such time as the Commission commenced and completed a formal inquiry, including notice and comment, with regard to the potential effect of such changes to M-LMS licensees that operate in portions of the band. Havens claimed that the revised Part 15 rules would lead to increased spectrum use of the 902-928 MHz band by unlicensed devices and thus would adversely affect M-LMS systems by changing the “regulatory coexistence” between Part 15 and M-LMS operations.[[37]](#footnote-38) Havens asserted that the Commission should have made no changes in the Part 15 rules regarding with 902‑928 MHz band without a rulemaking on Part 90 M-LMS rules.[[38]](#footnote-39)
2. In the 2007 *MO&O and Further Notice*, the Commission dismissed the Havens petition, declining to suspend the Part 15 rule changes.[[39]](#footnote-40) The Commission first noted that Havens did not raise any objections to any proposals for revising Part 15 rules in the *Notice of Proposed Rulemaking* prior to the filing of the Havens petition. The Commission explained that, pursuant to Section 1.429(b) of its rules, a petition for reconsideration that relies on facts not previously presented to the Commission will be granted only if: (1) the facts relied on relate to events which have occurred or circumstances which have changed since the last opportunity to present them to the Commission; (2) the facts relied upon were unknown to the petitioner until after his last opportunity to present them to the Commission, and he could not through the exercise of due diligence have learned of the facts in question prior to such opportunity; or (3) the Commission determines that consideration of the facts relied on is required in the public interest.[[40]](#footnote-41) The Commission concluded that Havens failed to address why it did not previously participate in this proceeding or claim that any of these three conditions were met.[[41]](#footnote-42) In addition, the Commission noted that Section 1.429(c) of the Commission rules require that a petition for reconsideration state with particularity the respects in which the petitioner believes the action taken should be changed.[[42]](#footnote-43) The Commission pointed out that Havens did not identify the particular rule changes that should be suspended, and instead provided only a mere statement of belief that the Part 15 rule changes in this proceeding would lead to increased use of Part 15 devices in the 902-928 MHz band and thus would result in adverse effects on M-LMS operations that also operate in the portions of the band. The Commission found that Havens had provided no evidence or analysis to support this assertion. The Commission also noted that Havens had raised essentially the same arguments in its petition for reconsideration in ET Docket No. 99-231 concerning changes to the Part 15 rules for spread spectrum devices,[[43]](#footnote-44) which the Commission had rejected in that proceeding.[[44]](#footnote-45) Accordingly, the Commission dismissed the Havens petition.[[45]](#footnote-46)
3. The Commission also noted that a proceeding had been initiated in 2006 to reexamine the rules for the M-LMS operating in the 902-928 MHz band (WT Docket No. 06-49),[[46]](#footnote-47) and that proceeding had been prompted partly in response to a petition for rulemaking by Progeny LMS, LLC (Progeny), another M-LMS licensee.[[47]](#footnote-48) The Commission stated that the M-LMS proceeding was the appropriate forum for addressing concerns raised by Havens about the M-LMS rules, including the operational relationship between Part 90 M-LMS devices and Part 15 unlicensed devices. The Commission also noted that Havens had already participated in the proceeding to consider Progeny’s earlier petition for rulemaking.[[48]](#footnote-49)
4. *Petition for Reconsideration*.In July 2007, on behalf of Telesaurus, Warren Havens filed a petition for reconsideration of the Commission’s dismissal of the Havens petition for reconsideration in the *MO&O and Further Notice*.[[49]](#footnote-50) Havens asserts that the Commission’s decision dismissing the previous Havens petition for reconsideration should be reversed and that the relief that Havens had requested in the previous petition challenging the 2004 *Report and Order* should now be granted on the basis of the new petition. Havens claims that the 2007 petition for reconsideration is based on “new facts.”[[50]](#footnote-51)

## Discussion

1. The arguments raised by Havens in the petition for reconsideration of the Commission’s dismissal of the earlier petition for reconsideration raise no new relevant facts, and do not provide grounds for our reconsideration of the Commission’s prior decision dismissing Havens earlier petition. We dismiss the pending Havens petition as repetitious.
2. In dismissing this latest petition, we rely on Section 1.429 of the Commission’s rules, as had the earlier Commission when dismissing the previous Havens petition for reconsideration in this proceeding. To the extent a petitioner seeks reconsideration of final orders in a rulemaking proceeding, the petitioner may rely on new facts and arguments not previously presented to the Commission. The Commission may grant such a petition only if: (1) the facts relied on relate to events which have occurred or circumstances which have changed since the last opportunity to present them to the Commission; (2) the facts relied upon were unknown to the petitioner until after its last opportunity to present them to the Commission, and it could not through the exercise of due diligence have learned of the facts in question prior to such opportunity; or (3) the Commission determines that consideration of the facts relied on is required in the public interest.[[51]](#footnote-52) The Commission’s rules also require that a petition for reconsideration state with particularity the respects in which the petitioner believes the action taken should be changed.[[52]](#footnote-53) Except in circumstances where the Commission has modified rules in response to a petition for reconsideration, a second petition for reconsideration may be dismissed as repetitious.[[53]](#footnote-54)
3. In the pending petition, Havens argues that the Commission erred in 2007 when dismissing the previous petition, and asserts alleged “new facts” as bases for its petition.[[54]](#footnote-55) In particular, Havens repeats arguments made in the earlier petition for reconsideration – namely that the Commission could not properly make any Part 15 rule changes applicable to the 902-928 MHz band that were potentially adverse to M-LMS operations without a notice and comment proceeding on M-LMS. Havens again asserts that any rule Part 15 rule changes are changes to the M-LMS rules. Havens also reasserts that there was no obligation for Havens to participate earlier in this Part 15 proceeding.[[55]](#footnote-56) As for alleged “new facts,” Havens first asserts that the Commission’s initiation in 2006 of the proceeding seeking comment on possible changes to the M-LMS rules for operation in the 902-928 MHz band,[[56]](#footnote-57) which could affect Part 15 operations in the band, demonstrates the validity of its argument in its petition that the M-LMS rules affect Part 15 and vice versa. Havens argues that since this new proceeding occurred following the release of the 2004 *Report and Order*, this constitutes a new fact.[[57]](#footnote-58) Havens also asserts that the Commission ignored all of the arguments that Havens had raised in response to a 2002 petition by an M‑LMS licensee to change rules in 902-928 MHz band, which ultimately led to the Commission’s initiation of the 2006 M-LMS rulemaking, and that this constitutes a new fact showing the Commission’s prejudice towards Havens (and Telesaurus) and an abrogation of the Commission’s duty to be impartial.[[58]](#footnote-59)
4. Havens has not demonstrated any basis for our reconsideration of the Commission’s earlier dismissal. The Commission previously concluded that the initial Havens petition for reconsideration was procedurally defective and failed to establish a basis for relief.[[59]](#footnote-60) The so-called “new facts” alleged by Havens, and which are only unsupported assertions, do not constitute the kinds of facts contemplated under Section 1.429 that would provide a basis for granting a petition for reconsideration. Further, nothing prevented Havens from participating in the rulemaking that revised Part 15 rules in this proceeding. Moreover, Havens did not identify any particular rule that should be changed, nor specify how he would propose revising any particular rule. In addition, the arguments raised in the pending Havens petition for reconsideration are repetitious. For all of these reasons, we dismiss the petition.
5. Finally, we observe that, as the Commission noted in the *MO&O and Further Notice*, Havens has had the opportunity to present his concerns relating to potential revisions to the M-LMS rules, including the operational relationship between M-LMS devices and Part 15 unlicensed devices, in the M-LMS rulemaking (WT Docket No. 06-49).[[60]](#footnote-61) Havens has been an active participant in that rulemaking.[[61]](#footnote-62)

# Conclusion

1. As discussed above, the remaining issues raised in the this proceeding, which concern whether the Commission should adopt a spectrum etiquette requirement for unlicensed transmitters that operate under Sections 15.247 and 15.249 of the rules in the 902-928 MHz band, or possibly also for the 2.4 GHz or 5.8 GHz bands, do not merit further consideration at this time. We also dismiss the pending petition for reconsideration. With these actions, we terminate this proceeding.

# Ordering Clauses

1. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 5(c), and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 155(c), and 405(a), and Section 1.429 of the Commission’s Rules, 47 C.F.R. § 1.429, that the Petition for Reconsideration filed by Telesaurus GB LLC on July 23, 2007 IS DISMISSED; and
2. IT IS FURTHER ORDERED, pursuant to the authority contained in Sections 4(i) and 4(j) of the Communications Act, as amended, 47 U.S.C. §§ 154(i) and (j), that the proceeding in ET Docket No. 03-201 is HEREBY TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch

Secretary

1. *See* Modification of Parts 2 and 15 of the Commission’s Rules for Unlicensed Devices and Equipment Approval, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, ET Docket No. 03-201, 22 FCC Rcd 11383 (2007) (*MO&O and Further Notice*). [↑](#footnote-ref-2)
2. 47 C.F.R § 15.5. [↑](#footnote-ref-3)
3. *See* Modification of Parts 2 and 15 of the Commission’s Rules for Unlicensed Devices and Equipment Approval, *Notice of Proposed Rulemaking*, ET Docket No. 03-201, 18 FCC Rcd 18910 (2003) (*Notice of Proposed Rulemaking*); 47 CFR Parts 2 and 15. [↑](#footnote-ref-4)
4. *Id.*, 18 FCC Rcd at 18924 ¶¶ 44-45. [↑](#footnote-ref-5)
5. *Id.* at ¶ 45. *See* 47 C.F.R. §§ 15.319, 15.321 and 15.323. [↑](#footnote-ref-6)
6. *See* Modification of Parts 2 and 15 of the Commission’s Rules for Unlicensed Devices and Equipment Approval, *Report and Order*, ET Docket No. 03-201, 19 FCC Rcd 13539 (2004) (*Report and Order*). [↑](#footnote-ref-7)
7. *See Report and Order*, 19 FCC Rcd at 13553 ¶ 54. [↑](#footnote-ref-8)
8. *See id.* at 13552-53 ¶ 53. [↑](#footnote-ref-9)
9. *See id.* at 13552-53 ¶¶ 51-54. [↑](#footnote-ref-10)
10. Cellnet Technology Inc.’s Petition for Limited Reconsideration, ET Docket No. 03-201 (filed Oct. 7, 2004) (Cellnet Petition); *see also* Cellnet’s Reply (filed Dec. 16, 2004) (Cellnet Reply). [↑](#footnote-ref-11)
11. We note that, subsequent to its filings in this proceeding, Cellnet has changed ownership and has become a Landis+Gyr Company. [↑](#footnote-ref-12)
12. The band is allocated for primary use by Industrial, Scientific and Medical (ISM) equipment and Federal Government radiolocation systems. Federal Government fixed and mobile services are secondary to both of these primary uses. Location and Monitoring Service (LMS) licensees are next in order of priority and may not cause interference to and must tolerate interference from all Federal Government uses and ISM devices. Amateur radio operations, in turn, are secondary to all Federal Government users and LMS licensees and must accept any interference caused by ISM equipment. Finally, unlicensed devices authorized under Part 15 are not entitled to interference protection from and may not cause harmful interference to any authorized services in the band. *See MO&O and Further Notice*, 22 FCC Rcdat 11384-85 ¶ 5. [↑](#footnote-ref-13)
13. In frequency hopping systems, an information signal, usually a data stream, modulates a radio frequency carrier that is hopped among a number of frequencies in concert with a receiver. Digitally modulated systems must use a minimum bandwidth of 500 kHz but are not required to hop frequencies. There is no maximum bandwidth limit for digitally modulated systems other than the requirement to stay within the designated bands of operation, and there is no limit on the duration of transmissions. Any type of operation is permitted in the 902-928 MHz band (and the 2.4 GHz and 5.8 GHz bands) under Section 15.249 of the rules, subject to the field strength limits in this section. There are no requirements for devices operating under Section 15.249 to hop frequencies or use a minimum transmit bandwidth, and there are no maximum bandwidth or transmission duration limits. Many types of devices operate under this rule section including cordless telephones, video transmitters, wireless speaker and headphone systems, and automated utility meter reading equipment. *See generally MO&O and Further Notice*, 22 FCC Rcdat 11385-86 ¶¶ 7-8. [↑](#footnote-ref-14)
14. Cellnet stated that these actions were necessary to assure that users taking advantage of newly authorized technical flexibility in this heavily encumbered band did not create the type of interference that would deny the continued effective use of this band by existing and future users. *See generally* Cellnet Petition; Cellnet Reply. [↑](#footnote-ref-15)
15. Letter from Lawrence J. Movshin and Timothy J. Cooney, Counsel for Cellnet, to Marlene H. Dortch, Secretary of the Federal Communications Commission (filed Mar. 28, 2006). (Cellnet *Ex Parte*). Specifically, Cellnet recommended a trade-off between transmission duration and output power, *i.e.*, reduced power for transmitters that are continuously silent less than 90% of the time between transmissions. The power limit would range from 30 dBm (1 Watt) for transmitters that are continuously silent at least 90% of the time between transmissions within a 0.4 second window, down to 0 dBm (1 milliwatt) for transmitters with no silent interval between transmissions, *i.e.*, operating continuously. *Id.* [↑](#footnote-ref-16)
16. *See generally MO&O and Further Notice*, 22 FCC Rcd 11383*.* [↑](#footnote-ref-17)
17. In particular, the Commission noted that Cellnet’s petition did not describe any specific rule changes that it wished the Commission to make, and instead simply requested that the Commission adopt “a duty cycle limitation and other effective spectrum etiquette” without recommending any specific duty cycle limitation or provide any technical details of what it believes would constitute an “effective spectrum etiquette.” *MO&O and Further Notice*, 22 FCC Rcdat 11387-89 ¶¶ 13-17. [↑](#footnote-ref-18)
18. *MO&O and Further Notice*, 22 FCC Rcdat 11389 ¶ 17. *See* Cellnet *Ex Parte.* [↑](#footnote-ref-19)
19. *MO&O and Further Notice*, 22 FCC Rcdat 11389-92 ¶¶ 18-28. [↑](#footnote-ref-20)
20. *Id.* [↑](#footnote-ref-21)
21. *Id.* at 11392 ¶ 27. [↑](#footnote-ref-22)
22. *See, e.g.*, Association of American Railroads Comments at 5; American Petroleum Institute and Utilities Telecom Council Comments at 5-13; Cellnet Comments at 9-16; Medical Device Manufacturing Association Comments at 2; Itron Comments at 3-6 and Reply Comments at 3-5. [↑](#footnote-ref-23)
23. *See, e.g.*, Blaze Broadband Comments at 1; Kansas Broadband Internet Comments at 1-2 (etiquette would harm rural broadband services); Lectrosonics Comments at 1 (etiquette would be harmful to audio applications); Shure Comments at 2-6; TRW Technology Comments at 2; Sprint Reply Comments at 2-3. [↑](#footnote-ref-24)
24. *See, e.g.*, Consumer Electronics Association Comments at 4-5; IEEE 802.18 Comments at 3 (flexible rules support many applications); S5 Wireless Comments at 6; Telecommunications Industry Association Comments at 3-9; Wireless Communications Association at 4-5; Enterprise Wireless Alliance Reply Comments at 4; Nextwave Wireless Reply Comments at 2-5 (proposed etiquette would limit unlicensed uses to low power unlicensed device applications, make the devices unsuitable for broadband and other high data applications); Polycom Reply Comments at 2-5; RF Controls Reply Comments at 1; Sprint Reply Comments at 1-2 (etiquette would severely constrain important uses and destroy regulatory balance for sharing use of the band). [↑](#footnote-ref-25)
25. *See, e.g.*, Bluetooth SIG Regulatory Committee Comments at 2; Harris Stratex Networks Comments at 4 (etiquette unnecessary); Sprint Reply Comments at 1-2. [↑](#footnote-ref-26)
26. *See, e.g.*, Cisco Comment at 7. [↑](#footnote-ref-27)
27. *See. e.g.*, Exalt Communications Comments at 1; Global Information Services Comments at 5-7; Vecima Networks Comments at 3-5; WISPA Comments at 4-14, [↑](#footnote-ref-28)
28. *See, e.g.,* CEA Comments at 4 (no reason for an etiquette in the 2.4 GHz and 5.8 GHz bands); Motorola Comments at 16 (no evidence of interference problems in the 2.4 GHz and 5.8 GHz bands);WISPA Comments at 15 (no need to do so at this time); Proxim Comments at 1 (recommends spectrum etiquette for the 2.4 GHz and 5.8 GHz bands but does not explain why it is needed). [↑](#footnote-ref-29)
29. *Ex Parte* Presentation from Lawrence J. Movshin, Counsel to Cellnet, to Marlene H. Dortch, Secretary, Federal Communications Commission (Jan. 24, 2008) (filed on behalf of Cellnet and Itron). [↑](#footnote-ref-30)
30. *See Report and Order*, 19 FCC Rcd at 13552-33 ¶¶ 53-54. [↑](#footnote-ref-31)
31. *See, e.g.,* Motorola Comments at 5; Polycomm Reply at 3-4. [↑](#footnote-ref-32)
32. *See* IEEE 802.18 Comments at 3; Enterprise Wireless Reply at 4. [↑](#footnote-ref-33)
33. *See* Motorola Comments at 12; TIA comments at 6; Shure Comments at 4; Sprint Nextel Reply at 1-2. [↑](#footnote-ref-34)
34. *See* *e.g.,* Nextwave Reply at 9; Cisco Comments at 1; Wi-Fi Alliance Comments at 3; CEA Comments at 4-5; Proxim Comments at 2 (supporting an etiquette at 2.4 GHz and 5.8 GHz to “facilitate shared use of the spectrum”). [↑](#footnote-ref-35)
35. *See* *Report and Order* in ET Docket No. 03-201, 19 FCC Rcd 13539 (2004). The changes made to Part 15 in this *Report and Order* include (1) permitting advanced antenna systems for devices in the 2.4 GHz band, (2) defining the circumstances under which replacement antennas and power amplifiers may be marketed with Part 15 devices, (3) changing the channel spacing requirements for frequency hopping devices in the 2.4 GHz band, (4) providing an optional alternative procedure for measuring the output power of devices in the 915 MHz, 2.4 GHz and 5.8 GHz bands, and (5) referencing a newer version of the American National Standards Institute (ANSI) C63.4 measurement procedure for Part 15 devices. [↑](#footnote-ref-36)
36. *See* Havens Petition for Reconsideration filed October 7, 2004 (Havens 2004 Petition). Multilateration (M-LMS) systems, which are authorized to operate in portions of the 902-928 MHz band, are used to locate objects over a wide geographic area by measuring the difference in time of arrival, or difference in phase, of signals transmitted from a unit to a number of fixed points, or from a number of fixed points to the unit to be located. *See* 47 C.F.R. § 90.7. [↑](#footnote-ref-37)
37. *See* Havens 2004 Petition. Havens also argued that the Part 15 rule changes altered the premise of the “safe harbor” rule under Section 90.361 and violated Section 15.5 of the rules, which requires that unlicensed devices not interfere with licensed system operations. *Id. See also MO&O and Further Notice*, 22 FCC Rcdat 13387 ¶ 9. [↑](#footnote-ref-38)
38. *See MO&O and Further Notice*, 22 FCC Rcdat 11386 ¶ 9 (summarizing the Havens 2004 Petition). [↑](#footnote-ref-39)
39. *Id.* at 11386-87 ¶¶ 10-12. [↑](#footnote-ref-40)
40. *See* 47 C.F.R. § 1.429(b). [↑](#footnote-ref-41)
41. *MO&O and Further Notice*, 22 FCC Rcdat 11386-87 ¶ 10. [↑](#footnote-ref-42)
42. *See* 47 C.F.R. § 1.429(c). [↑](#footnote-ref-43)
43. *See Second Report and Order* in ET Docket No. 99-231, 17 FCC Rcd 10755 (2002). Havens filed a petition for reconsideration of the Commission’s actions in that *Report and Order* on July 25, 2002. [↑](#footnote-ref-44)
44. *See Memorandum Opinion and Order* in ET Docket No. 99-231, 18 FCC Rcd 11661 (2003). Havens subsequently filed an appeal of the Commission’s denial of its petition for reconsideration with the United States Court of Appeals for the District of Columbia Circuit, *Warren C. Havens v FCC & USA*, No. 03-1247. Havens has requested that the Court defer action on that case pending resolution of its petition for reconsideration in this proceeding. [↑](#footnote-ref-45)
45. *MO&O and Further Notice*, 22 FCC Rcdat 11387 ¶ 11. [↑](#footnote-ref-46)
46. *See Amendment of the Commission’s Part 90 Rules in the 904-909.75 and 919.75-928 MHz Bands, Notice of Proposed Rulemaking* in WT Docket No. 06-49, 21 FCC Rcd 2809 (2006). [↑](#footnote-ref-47)
47. *MO&O and Further Notice*, 22 FCC Rcdat 11387 ¶ 12. [↑](#footnote-ref-48)
48. *Id.* In response to the petition for rulemaking filed by M-LMS licensee Progeny LMS, LLC on March 5, 2002 entitled “Amendment of Part 90 of the Commission’s Rules Governing the Location and Monitoring Service to Provide Greater Flexibility,” RM-10403, Havens has submitted numerous filings, including comments dated May 15, 2002 and reply comments dated June 3, 2002. *Id.* at n.23. [↑](#footnote-ref-49)
49. Petition for Reconsideration filed by Warren Havens on behalf of Telesauras on July 23, 2007 (Havens 2007 Petition). [↑](#footnote-ref-50)
50. *Id.* at 2-9. [↑](#footnote-ref-51)
51. *See* 47 C.F.R. § 1.429(b). [↑](#footnote-ref-52)
52. *See* 47 C.F.R. §§ 1.429(c) and (d). [↑](#footnote-ref-53)
53. *Cf.* 47 C.F.R. § 1.429(i) (Commission staff may dismiss a second petition for reconsideration as repetitious). [↑](#footnote-ref-54)
54. Havens 2007 Petition at 3-9. [↑](#footnote-ref-55)
55. *Id.* at 3-5. [↑](#footnote-ref-56)
56. *See Amendment of the Commission’s Part 90 Rules in the 904-909.75 and 919.75-928 MHz Bands, Notice of Proposed Rulemaking* in WT Docket No. 06-49, 21 FCC Rcd 2809 (2006). [↑](#footnote-ref-57)
57. Havens 2007 Petition at 5-6. [↑](#footnote-ref-58)
58. *Id.* at 6-8. Havens also asserts the Commission’s prejudice towards Telesaurus based on the Commission’s alleged treatment of Telesaurus in two proceedings on auctions in which Telesaurus has participated. *Id.* [↑](#footnote-ref-59)
59. *MO&O and Further Notice*, 22 FCC Rcdat 11386-11387 ¶¶ 10-11. [↑](#footnote-ref-60)
60. *Id.* at 11387 ¶ 12. [↑](#footnote-ref-61)
61. Havens has submitted numerous filings in this proceeding. *See generally* WT Docket No. 06-49. [↑](#footnote-ref-62)