

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Amendment of the Commission's)
Part 90 Rules in the 904-909.75) WT Docket No. 06-49
And 919.75 MHz Bands)
)
)

To: The Commission

**COMMENTS OF THE
CONSUMER ELECTRONICS ASSOCIATION**

Pursuant to Section 1.415(b) of the rules of the Federal Communications Commission (“Commission”),¹ the Consumer Electronics Association (“CEA”)² respectfully submits these comments in response to the Notice of Proposed Rulemaking (“NPRM”) regarding the licensing and use of frequencies in the 904-909.75 and 919.75-928 MHz bands (“M-LMS Bands”) by multilateration Location and Monitoring Service (“M-LMS”) systems. As the Commission notes in the NPRM, M-LMS licensees have made little use of the spectrum they were allocated in 1995.³ By contrast, unlicensed Part 15 devices continue to proliferate throughout the bands and

¹ 47 C.F.R. § 1.415(b).

² CEA is the principal U.S. trade association of the consumer electronics and information technologies industries. CEA’s members design, manufacture, distribute and sell a wide range of consumer products including digital and analog television receivers, television monitors, computer television tuner cards, and other consumer electronics such as cordless telephones, DVD recorders and digital video recorders (“DVRs”), video cassette recorders (“VCRs”), direct broadcast satellite radios (“DARS”), satellite television receivers (“DBS”), broadcast AM and FM radios, and similar products. CEA’s more than 2,100 member companies include the world’s leading consumer electronics manufacturers. Many CEA members produce Part 15 devices that utilize the spectrum under consideration here.

³ See NPRM ¶¶ 1 & 11.

provide valuable services on a daily basis to millions of American consumers and businesses.⁴ Given this context, CEA fully supports the Commission's goal of "maintaining the existing accessibility of the band for unlicensed devices."⁵ Put another way, the Commission's touchstone in this proceeding should be "First, do no harm."

Thus, while CEA understands the Commission's frustration with the lack of M-LMS service, it would object to any proposal that increases the risk of interference to Part 15 devices. In particular, CEA opposes expanding the permissible scope of M-LMS operations to include communications unrelated to location-based services and permitting M-LMS licensees to interconnect in real time with the public switched telephone network ("PSTN"). In addition, CEA urges the Commission to retain two policies that have promoted cooperative use of the M-LMS bands between unlicensed Part 15 devices and M-LMS licensees: (1) the "safe harbor" rule, which has provided vital certainty for Part 15 manufacturers to enter the marketplace; and (2) the requirement that M-LMS service providers conduct actual field testing prior to launch to demonstrate that their systems do not cause unacceptable interference to Part 15 devices.

I. THE COMMISSION SHOULD NOT RELAX THE M-LMS SERVICE RULES TO THE DETRIMENT OF UNLICENSED DEVICES.

The Commission seeks comment in the NPRM on whether it should modify or eliminate certain M-LMS service rules that restrict M-LMS communications to vehicle location and other location-based services and that prohibit M-LMS licensees from interconnecting in real time with the PSTN except in emergencies.⁶ While such rule changes would afford M-LMS licensees greater operational flexibility, they also would increase the likelihood that unlicensed devices

⁴ See *id.* ¶ 15.

⁵ See *id.* ¶ 3.

⁶ See *id.* ¶¶ 19-25.

operating in the M-LMS bands will suffer harmful interference from expanded M-LMS operations.

A. M-LMS Service Should Continue to Be Limited to Vehicle Location and Other Location-Based Services.

The proposed expansion of M-LMS service beyond vehicle location and other location-based services is inconsistent with the purpose of the M-LMS allocation and will increase the risk of harmful interference to the millions of low-power Part 15 devices that share the M-LMS Bands. When it last revised its M-LMS rules, the Commission held that M-LMS service is intended to be “a mobile location and monitoring service”⁷ and that messages should be “associated with the location or monitoring of the vehicle or unit.”⁸ At that time, the Commission declined to expand the scope of M-LMS service “to be used for general messaging purposes” because its rules “make adequate provision elsewhere for this type of communications.”⁹

Likewise, the Commission imposed restrictions on M-LMS interconnection with the PSTN because “[u]nfettered interconnection and messaging in the LMS could not only increase the potential for harmful interference to other users of the band, but detract from the intended purpose of the LMS allocation.”¹⁰ The Commission concluded that “these restrictions strike an equitable balance between the needs of LMS service providers and those of the Part 15 users and

⁷ *Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems*, Report and Order, 10 FCC Rcd 4695, ¶ 25 (1995) (“LMS R&O”).

⁸ *Id.* ¶ 26.

⁹ *Id.* ¶ 25; *see also Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems*, Memorandum Opinion and Order, 12 FCC Rcd 13942, ¶ 25 (1995) (“LMS MO&O”).

¹⁰ LMS R&O. ¶ 23, *aff'd on recon.*, 12 FCC Rcd 13942, ¶ 14 (1997) (“LMS MO&O”) (“[W]e continue to believe that our decision regarding limitations on multilateration LMS interconnection reflects a necessary balancing of the interests of LMS providers and other users of the 902-928 MHz band. Relaxing restrictions on interconnection could increase the potential for interference in the band by allowing for additional message traffic.... We note that other services, such as personal communications services (PCS) and cellular telephone, are available for that type of use.”).

manufacturers and amateur operators, and additionally ensure that LMS systems are utilized primarily for location service and not as a general messaging or interconnected voice or data service.”¹¹

Though more than a decade old, the Commission’s decision to limit M-LMS communications and interconnection with the PSTN continues to reflect a necessary balancing of the interests of M-LMS licensees and other users of the M-LMS Bands. As the Commission acknowledges in the NPRM, in the intervening years, Part 15 devices have made valuable and growing use of the spectrum.¹² In particular, unlicensed consumer products, such as cordless telephones, wireless speakers, intercom devices, wireless computer peripherals, baby monitors, and video cameras, have proliferated throughout the M-LMS Bands, and many millions of such devices are now in use. These devices continue to grow in number and variety. While 900 MHz cordless telephones may be a diminishing part of the overall market, millions of units still remain in use. Moreover, many 2.4 GHz cordless phones and some 5.8 GHz cordless phones use the 900 MHz band for one direction of transmission. These newer types of cordless phones are still being actively sold in the marketplace.

A recurring concern in the NPRM is the impact that relaxing the M-LMS service rules will have on the multitude of Part 15 devices in the marketplace. As the Commission recognizes, "the importance of maintaining the existing accessibility of the band for unlicensed devices...has led to a proliferation of important public, private, and consumer applications."¹³ Relaxing the restrictions on M-LMS communications and interconnection will upset the careful balance

¹¹ LMS R&O ¶ 23.

¹² See NPRM ¶¶ 13-16.

¹³ NPRM ¶ 3; see also *id.* at ¶ 2 (Commission exploring whether new services can be deployed “without causing harmful interference to other users”).

crafted by the Commission in the M-LMS Bands and increase the risk of interference to low-power Part 15 devices. Manufacturers of unlicensed products, and the millions of consumers and businesses that rely on such equipment, are entitled to expect that the products will not be subject to new interference. The desire to revitalize M-LMS service, though understandable, should not come at the expense of disrupting the valuable services these unlicensed devices provide.¹⁴ For these reasons, the Commission should continue to limit the scope of M-LMS operations to vehicle location and other location-based services and continue to restrict M-LMS interconnection with the PSTN.

B. Lowering the M-LMS Power Limits to 6.1 Watts Is Insufficient to Prevent Harmful Interference.

Cognizant of the adverse impact that relaxing the M-LMS service rules may have on Part 15 devices, the Commission seeks comment on reducing the maximum permitted output power for M-LMS transmitters from 30 Watts to 6.1 Watts.¹⁵ The Commission asks whether such a power reduction for M-LMS transmitters will avoid interference by creating an environment where M-LMS stations operate on more comparable power levels with Part 15 devices.¹⁶

Standing alone, a reduction of M-LMS maximum power is unobjectionable. Indeed, it would likely reduce the risk of interference to Part 15 devices operating in the M-LMS Bands. But CEA cannot support the specific proposal here. As an initial matter, CEA does not know what other conditions are concomitant with the power reduction to 6.1 Watts. As the Commission already has recognized, it is a *balance* of various factors that makes sharing of the M-LMS Bands possible. It depends not only on power levels, but on the type of services

¹⁴ Nor is maintaining these service restrictions unfair to M-LMS licensees. As the Commission notes, these restrictions were in place when the licensees decided to acquire the spectrum at auction. *See id.* ¶ 18.

¹⁵ *See id.* ¶ 28.

¹⁶ *See id.*

permitted, frequency and duration of transmission, the location and mobility of transmitters, Commission requirements prior to launch and after launch, and many other factors. These various factors are why CEA cannot state, in the abstract, what an acceptable maximum power limit would be. It depends on the totality of the circumstances.

As noted above, if all other factors remained constant, a reduction of maximum M-LMS power to 6.1 Watts could reduce interference to Part 15 devices. On the other hand, if the Commission were to give M-LMS licensees new flexibility in how they operate, 6.1 Watts could result in significant new interference to Part 15 devices. For instance, analog cordless telephones using the 900 MHz band operate with approximately 1 mW of transmit power or less. Section 15.249(a) of the Commission's rules limits the field strength of such devices to 50 mV/m at a distance of 3 meters,¹⁷ which translates to approximately 0.7 mW of transmit power. Thus, an M-LMS system operating at 6.1 Watts could swamp these Part 15 devices with power levels almost 9,000 times greater, not merely 2.5 times greater as suggested in the NPRM.¹⁸

II. THE COMMISSION SHOULD RETAIN THE SAFE HARBOR RULE AND THE M-LMS TESTING REQUIREMENT.

The Commission also seeks comment on whether the "safe harbor" rule for unlicensed users of Part 15 devices and licensed amateur operations in the M-LMS Bands should be retained or modified.¹⁹ The safe harbor rule provides that Part 15 and amateur operations that comply with certain technical parameters will not be considered sources of harmful interference to M-

¹⁷ See 47 C.F.R. § 15.249(a).

¹⁸ See NPRM ¶ 28. Specifically, 6.1 Watts divided by 0.7 mW is a factor of 8,714 times. Even spread spectrum unlicensed devices operating in the 900 MHz band typically use only 25 to 100 mW of output power, although they are permitted to use up to 1 Watt under Section 15.247(b), in order to extend battery life between charges. See 47 C.F.R. § 15.247(b). M-LMS systems operating at 6.1 Watts therefore would transmit at power levels 61 to 244 times greater than the power levels used by spread spectrum devices.

¹⁹ See *id.* ¶ 38.

LMS operations.²⁰ The Commission acknowledges in the NPRM that elimination or substantial modification of the safe harbor provision “could come at great cost to Part 15 manufacturers and systems that have made investments in developing and deploying equipment in the M-LMS Band.”²¹ Thus, the Commission proposes to retain the safe harbor rule “as an effective standard that precisely defines Part 15 and amateur radio operators’ rights relative to M-LMS licensees.”²²

CEA fully supports the Commission’s proposal that the safe harbor rule be retained and strongly opposes any request to modify or eliminate the rule. The safe harbor rule was adopted following a lengthy rulemaking proceeding in which the Commission carefully weighed the competing interests of users of the M-LMS Bands.²³ While the Commission concluded in that proceeding that unlicensed Part 15 devices may not cause harmful interference to primary M-LMS operations, it also created the safe harbor as a bright line standard to define what would not be considered harmful interference.²⁴

As the Commission stated when it adopted the safe harbor provision more than a decade ago, the rule promotes cooperative use and effective sharing of the M-LMS Bands “by clearly establishing the parameters under which licensed Amateurs and unlicensed users of Part 15 devices may operate *without* risk of being considered sources of harmful interference to services with a higher allocation status.”²⁵ This bright line standard has provided, and continues to

²⁰ See 47 C.F.R. § 90.361. The safe harbor rule delineates technical parameters relating to antenna location, gain, and height as well as transmitter power.

²¹ NPRM ¶ 37.

²² *Id.* ¶ 38.

²³ See LMS R&O ¶¶ 32-39, *aff’d on recon.*, LMS MO&O ¶¶ 28-38.

²⁴ See *id.*

²⁵ LMS R&O ¶ 36. In this regard, the Commission should reject the suggestion by Progeny LMS, LLC (“Progeny”) that the safe harbor rule amounts to an unprecedented “regulatory anachronism” that “inappropriately shift[s] interference protection from more primary users in the band to secondary users.” Petition for Rulemaking filed by Progeny LMS, LLC, RM-10403, at 7 & 28 (March 5, 2002). Rather than shifting the interference protection burden,

provide, Part 15 device manufacturers with a greater degree of certainty in developing, designing, and deploying their products. Conversely, the low power levels required to satisfy the safe harbor rule ensure that secondary unlicensed devices will not interfere with M-LMS operations. As a result, a wide variety of consumer electronic and other Part 15 devices have been able to co-exist with other users in the M-LMS Bands.

Similarly, the Commission should retain the requirement that M-LMS licensees conduct actual field tests prior to commencing service to demonstrate that their systems do not cause unacceptable levels of interference to Part 15 devices.²⁶ When it adopted the testing requirement, the Commission found that certain services and certain power levels could create a greater potential for interference than others.²⁷ The field testing requirement is intended to facilitate band sharing among the various users of the M-LMS Bands and to help "fine tune" system operations and the Commission's rules.²⁸ These justifications are even more pertinent today. Millions of additional low-power Part 15 devices have been deployed in the M-LMS Bands and are being used by ordinary consumers. Most of these consumers have never heard of M-LMS service, let alone that it could cause them interference. All they will know is that their Part 15 devices no longer work. Nor, given the paucity of operational M-LMS services, has the Commission been able to "fine tune" its rules based on actual field data. The Commission should therefore retain its requirement that M-LMS licensees field test their systems prior to commencing service.

as Progeny suggests, the safe harbor provision is intended to define what is, and what is not, harmful interference to M-LMS operations from secondary Part 15 and amateur operations in the M-LMS Bands. *See* LMS R&O ¶ 36.

²⁶ *See* 47 C.F.R. § 90.353(d).

²⁷ *See* LMS R&O ¶ 81.

²⁸ LMS R&O ¶ 82.

III. CONCLUSION

In the decade since M-LMS service has been licensed in the 900 MHz band, there has been an explosive growth of Part 15 products that operate in the same spectrum. To ensure the continued success and innovation of these devices in this spectrum, the Commission should not transform the M-LMS service into an interconnected voice and data service. Likewise, the Commission should retain the safe harbor rule and the field testing requirement which have permitted unlicensed devices to flourish in the M-LMS Bands while limiting the potential for interference to licensed services.

Respectfully submitted,

CONSUMER ELECTRONICS ASSOCIATION

By: /s/ Julie M. Kearney, Esq.

Brian E. Markwalter, P.E.
Vice President, Technology and Standards
Julie M. Kearney, Esq.
Senior Director and Regulatory Counsel
CONSUMER ELECTRONICS ASSOCIATION
2500 Wilson Boulevard
Arlington, VA 22201
Tel: (703) 907-7644

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