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September 20, 1994

**EX PARTE**

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

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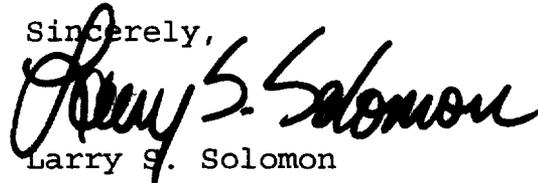
Re: PR Docket No. 93-61  
Automatic Vehicle Monitoring Systems

Dear Mr. Caton:

On Tuesday, September 20, 1994, Gary Green and Mike Pettus of Metricom, Inc., and Henry Rivera and I, of this firm, met with Anthony Williams, Director, and Catherine J. Kissee-Sandoval, Deputy Director, Office of Small Business Affairs, to discuss the views of Metricom, Inc., as stated in various filings on proposed solutions and compromises in this proceeding. The attached materials were used in connection with our discussions.

Two copies of this letter are being submitted to the Secretary of the Commission pursuant to § 1.1206(a)(1) of the Commission's Rules.

Sincerely,

  
Larry S. Solomon

Attachment

cc: Anthony Williams  
Catherine J. Kissee-Sandoval

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P.R. Docket 93-61:  
Automatic Vehicle Monitoring Systems

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

Presentation

to

Mr. Anthony Williams, Director  
FCC Office of Small Business Activity

Metricom, Inc.

September 20, 1994

# Part 15 Manufacturers

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- Most Part 15 manufacturers are small businesses
- Develop, manufacture and market license-free devices and systems
- Three bands available for spread spectrum Part 15 operation
  - 902-928 MHz
  - 2400-2483.5 MHz
  - 5725-5850 MHz
- Docket 93-61 threatens 902-928 MHz band

# Part 15 Applications

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## Many Applications in the Public Interest:

- Wireless computer communications networks
- Remote meter reading
- Security and alarm devices
- Anti-theft devices
- Digital cordless phones
- Wireless PBX systems
- Wireless headphones, speakers and video
- Many more

# Metricom

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## Metricom Network Applications:

- Utility distribution automation
  - Improved service and reduced costs to ratepayers
  - Energy conservation; reduced pollution
- Industrial communications
  - Waste water districts
  - Gas well field monitoring
- Wide-area data communications networking
  - Access to corporate resources
  - Wireless Internet/NII
  - Low cost for schools and individuals

# Metricom

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## Advantages offered Metricom users:

- High speed performance
  - Not possible on most licensed bands
- Low cost service
  - Cost of spectrum will preclude this in PCS bands
- High capacity
  - Amount of spectrum not available elsewhere
  - Regional area networks
    - (Not possible with unlicensed PCS)

# FCC NPRM

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- Creates new Location and Monitoring Service (LMS) in 902-928 MHz band
- 902-928 MHz band heavily shared by many robust users
- LMS incapable of sharing band

# Interference Sources

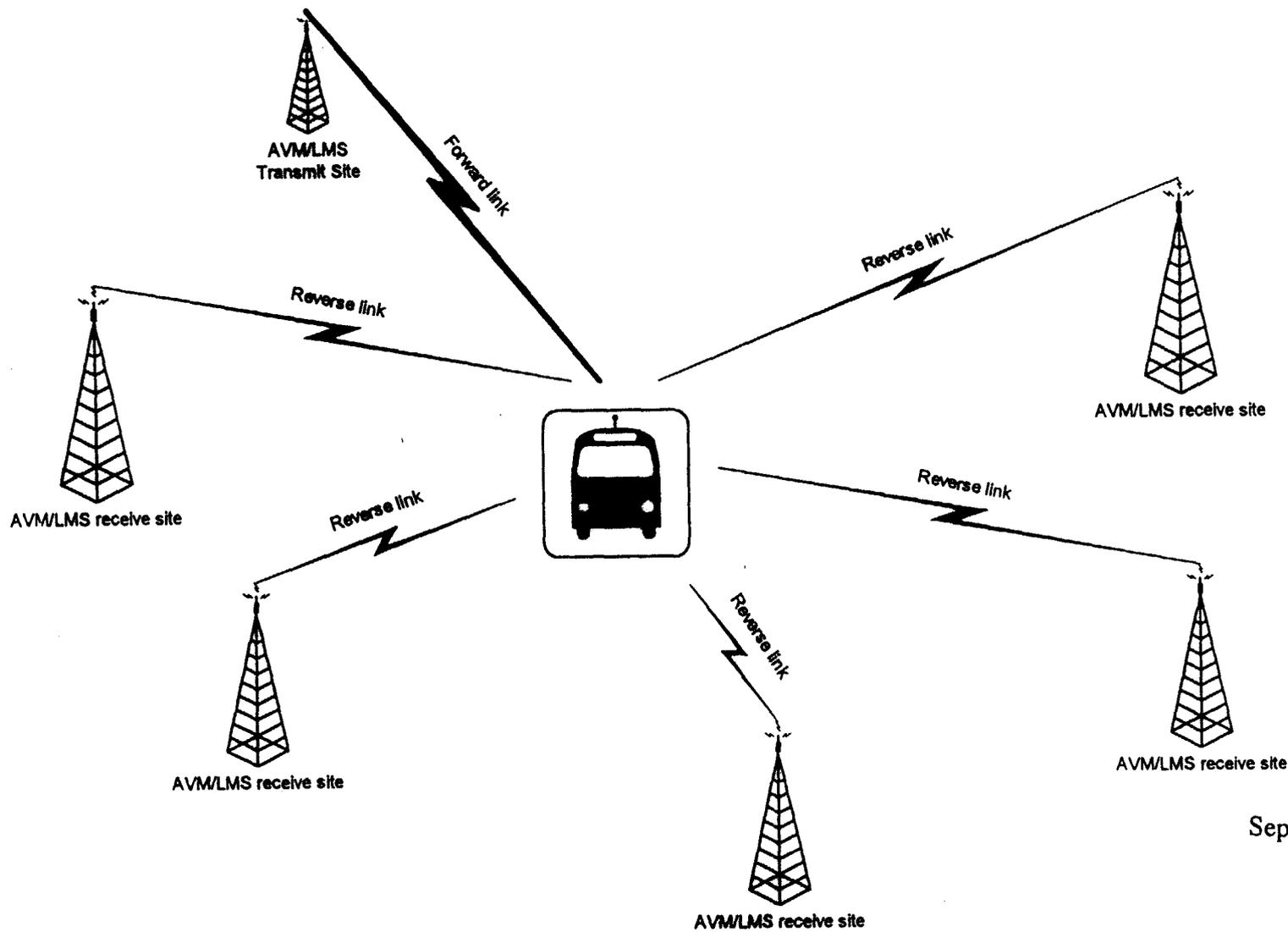
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## 902-928 MHz Transmitters:

- Many and varied
  - Government and Parts 15, 18, 90, 97
  - Narrow and wideband
  - High-powered
  - Mobile
- Very densely located
- Many owned by consumers
- Have only begun to appear in quantity

# AVM/LMS System Diagram

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# A VM/LMS Operation

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Wideband A VM/LMS 902-928 MHz

Receivers:

- Efficient interference collectors
- Sited to optimize receipt of all in-band signals
- Very sensitive to ALL in-band signals

# The Operational Problem

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Part 15 and AVM/LMS can not co-exist as presently proposed without harm to both:

- Part 15 transmissions will interfere with AVM/LMS receivers
- Band hierarchy enables AVM/LMS to force Part 15 devices to cease operation
- Wideband forward links will interfere with ALL in-band operations.

# Authorization of LMS

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- Negative impact on Part 15 businesses
  - Chilling effect on R&D
  - Chilling effect on investment
  - Chilling effect on sales
    - Negative impact on consumers
  - Stranded investment
    - \$2 billion according to Part 15 Coalition in this proceeding
- Negative impact on American economy
  - American technology
  - American companies
  - American jobs

# Fairness of Proceeding

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Part 15 manufacturers and users have relied on FCC policy:

- Encouragement of Part 15 in 902-928 MHz band
- No reason to expect a new licensed service requiring extremely quiet RF environment in the band
- No reason to expect that Part 15 operation in the band would be placed in jeopardy

# Alternative Courses of Action

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- Terminate the rulemaking
- Implement AVM/LMS at the expense of Part 15 operations
- Adopt Part 15 Community compromise

# Part 15 Community Proposal

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- Presumption of non-interference to LMS reverse links by Part 15 devices
- Move narrowband LMS forward links to upper band edge
- No wideband LMS forward links
- Power and duty cycle limits for LMS reverse links

# Conclusion

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Authorization of LMS will have a severe impact on FCC regulated American small businesses, jobs and technology.