

**ORIGINAL**

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
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\_\_\_\_\_)  
In the Matter of \_\_\_\_\_)  
Amendment of Part 90 of the \_\_\_\_\_)  
Commission's Rules to Adopt \_\_\_\_\_)  
Regulations for Automatic \_\_\_\_\_)  
Vehicle Monitoring Systems \_\_\_\_\_)  
\_\_\_\_\_)

PR Docket No. 93-61

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**ERRATUM**

Hughes Transportation Management Systems ("Hughes") filed an Opposition to Petition for Reconsideration in the above-captioned proceeding on May 24, 1995 ("Hughes Opposition"). This Erratum is filed to correct certain errors in the text of the Hughes Opposition, contained on pages 12 and 13 thereof. Corrected pages 12 and 13 of the Hughes Opposition are attached. These contain the following corrections:

- Page 12:
1. In the 9th line from the top of the page, "50 dB" is replaced with "60 dB."
  2. In the 12th line from the top of the page, "30 dB" is replaced with "47 dB."
  3. In the 13th line from the top of the page, "913.2 MHz" is replaced with "913 MHz."
  4. In the 14th line from the top of the page, "30 dB" is replaced with "47 dB."
  5. In the 15th line from the top of the page, "3.45 MHz" is replaced with "3.25 MHz."

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- Page 13:
1. In the 7th line from the top of the page, "40 dB" is replaced with "60 dB."
  2. in the 11th line from the top of the page, "multilateration mobile transmitters, the Commission should also adopt" is replaced by "adopting."

Please associate the attached corrected pages with the Hughes Opposition.

Respectfully submitted,

HUGHES TRANSPORTATION MANAGEMENT SYSTEMS

By:   
\_\_\_\_\_

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May 26, 1995

acceptable, provided that the degree of attenuation remains sufficient to prevent significant interference in adjacent bands. However, signal attenuation based on the formula proposed by the Multilateration Parties would be insufficient to adequately avoid interference well into the band set aside for non-multilateration systems.

The risk of interference presented by the proposed attenuation formula is illustrated in Figure 1, attached hereto. The Figure presents a plot of attenuation versus distance from the center frequency of the authorized band, for a 30-watt signal, expressed as a percent of bandwidth. As shown in the plot, the line representing attenuation based on the proposed formula, with a slope of negative 0.4, does not approach 60 dB attenuation until the frequency in question is 150 percent removed from the center frequency of the authorized band. Thus, a transmission in the lower multilateration sub-band, 904-909.75 MHz (See Section 90.357) would only be attenuated by 47 dB at a distance of approximately 110% of bandwidth from the band center frequency, or at approximately 913 MHz.

The proposed formula would provide a mere 47 dB of attenuation of multilateration signals at a frequency distance of 3.25 MHz inside the non-multilateration sub-band. Because multilateration mobile transmitters will pass through coverage areas of non-multilateration systems, the degree of attenuation resulting from the formula proposed by the Multilateration Parties is insufficient to prevent harmful interference to non-multilateration systems operating well within their authorized band.

In order to increase the degree of attenuation over distance removed from the authorized band, Hughes proposes the following change to the formula offered by the Multilateration Parties:

$$A = 16 + 0.6(P-50) + 10 \log(B) \text{ dB (minimum 31 dB, maximum 66 dB).}$$

The resulting attenuation, plotted as a function of the percentage distance from the center of the signal's authorized band, shown in Figure 2, has a negative slope of 0.6. The greater attenuation would still permit multilateration operators to reduce out-of-band transmissions more gradually than under the current rule, while avoiding the significant risk of interference in the non-multilateration band caused by the formula proposed by the Multilateration Parties. For example, the revised formula would result in over 60 dB of attenuation at 913 MHz for a multilateration signal covering the entire 904-909.75 authorized band.

In view of the above relaxation of the out-of-band attenuation requirement, the Commission should further mitigate the risk of interference to non-multilateration systems by adopting a ten percent duty cycle limit for multilateration vehicle tags, with a maximum "on-time" of 100 msec. Because typical non-multilateration systems incorporate multiple interrogations of mobile tags passing through coverage zones, and because such zones typically permit greater than 100 msec of communication time, even at highway speeds, this proposed duty cycle will permit non-multilateration systems to successfully interrogate passing vehicle transponders, even when multilateration mobile transmitters are present.

VI. Non-Multilateration Transmissions Should Not Be Limited In Duration Or Interval.

UTC has suggested that the new rules be revised such that "[e]ach message to or from a vehicle or object being monitored may not exceed two seconds in duration, and each vehicle or object being monitored may not send or receive more than one message in any 30-minute period." UTC Petition at 10. As a non-multilateration service provider,

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Erratum was served by First Class Mail, postage prepaid, on May 26, 1995, upon:

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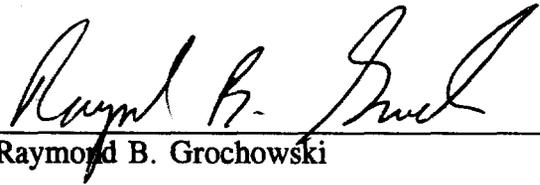
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