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January 25, 1996

William F. Caton
Acting Secretary
Federal Communications Commission
Room 222 - Mail Stop 1170
1919 M Street, N.W.
Washington, D.C. 20054

DOCKET FILE COPY ORIGINAL

In re: PR Docket No. 92-235

Dear Mr. Caton:

The attached letter was sent to Mr. Ira Keltz and Mr. Herb Zeiler of the Private Wireless Bureau and should be included in PR Docket No. 92-235. If there are any questions regarding this matter, please contact me at (202) 371-6947.

Sincerely,

Michael A. Lewis

Michael A. Lewis
Engineering Consultant
Wiley, Rein & Fielding

Counsel to Motorola

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January 25, 1996

Ira Keltz
Private Wireless Division
Wireless Telecommunications Bureau
Federal Communications Commission
Room 8010
2025 M Street
Washington, D.C. 20554

In Re:PR Docket No. 92-235

Dear Ira:

The purpose of this letter is to clarify Motorola's position on two issues relating to the reconsideration of the FCC's *Refarming Report and Order*. Specifically, Motorola would like to reiterate its support to loosen the new frequency stability requirements for very narrowband technologies. Also, Motorola would like to address certain irregularities arising from the Commission's implementation of an equivalent efficiency standard for data communications.

As previously mentioned, Motorola agrees with the fundamental position of SEA, Inc. that the newly adopted frequency stability requirements for 6.25 kHz equipment are unnecessarily too stringent. Motorola believes that when 6.25 kHz equipment evolves into the private land mobile services, adjacent channel users will receive protection through the coordination process. Thus, stringent stability requirements will be somewhat duplicative. In addition, the FCC's new standards were based on data provided by the TIA which projected the industry's capabilities based on trends developing in the 1980s. Motorola believes that these projections have proven to be overly ambitious largely because cellular radio, whose huge production volumes drives technological developments, has settled on a frequency stability requirement of 2.5 parts per million. Without cellular radio leading the development of highly stable oscillators, private radio will be unable to economically meet the standards adopted by the Commission. Thus, Motorola urges the FCC to reduce the stability requirements for 6.25 kHz equipment as depicted in the attached chart.

Turning to the data efficiency issue, Motorola believes that there is confusion on how to apply the FCC's new equivalent efficiency standard for data operations in Section 90.203(j)(5). This confusion is the result of the fact that the FCC's rules do not define the term "data". Motorola believes that the simplest means of clarifying this issue is for the FCC to interpret the data for these purposes as telegraphy which is defined in Section 2.1 of the Rules.

The intent of the efficiency standard is to encourage improved spectral efficiency at the end user level by having users maintain one voice channel per 6.25 kHz and to operate at data rates of at least 4800 bps per 6.25 kHz of spectrum. In this context, data should refer to non-voice information being transmitted from one point and received as output at another point. This is the very definition of telegraphy which, according to Section 2.1, is: "A form of telecommunication which is concerned in any process providing transmission and reproduction at a distance of documentary matter, such as written or printed matter or fixed images, or the reproduction at a distance of any kind of information in such a form. ..."

The key to the definition of telegraphy is that the transmitted data is reproduced at the remote location. This differentiates telegraphy from system control functions such as PL tones and DPL codes and trunking control protocols which are better classified as "telecommand" which is defined as: "The use of telecommunication for the transmission of signals to initiate, modify or terminate functions of equipment at a distance." Thus, by interpreting data as telegraphy, system control functions are exempted from complying with the FCC's new equivalent efficiency standard. Motorola believes this to be appropriate since the end user has no real access to these built-in control functions.

Likewise, "data" transmitted through an external microphone port should be treated as audio and subject only to the minimum voice paths per kilohertz standards. Data transmitted through the microphone port is processed through the FCC-proscribed audio filter whose function is to limit inputs to "audio" (i.e. signals in the 300-3000 Hz spectrum). In Motorola's view, any transmissions that pass through the audio filter should not be treated as data. Attached is a schematic of a radio system and the various paths taken by the different types of transmissions.

Hopefully, this clarifies Motorola's positions. If we can provide further information, please do not hesitate to call me at (202) 371-6947 or Ross Ruthenberg at (708) 576-6947.

Sincerely,



Michael A. Lewis
Engineering Consultant
Wiley, Rein & Fielding

Counsel to Motorola

cc: Herb Zeiller

**RECOMMENDED STABILITY REQUIREMENTS
FOR 6.25/5.0 kHz EQUIPMENT**

CLASS OF STATION FREQUENCY BAND	FCC's ADOPTED RULES	SEA's PROPOSALS	MOTOROLA's COMMENTS
FIXED AND BASE STATIONS			
150-174 MHz	1.0 ppm	1.0 ppm	Agree Could be 1.5 ppm
421-512 MHz	0.1 ppm	0.5 ppm	Agree
MOBILE STATIONS OVER 2 WATTS			
150-174 MHz	1.0 ppm	2.0 ppm	Agree Could be 2.5 ppm
421-512 MHz	0.5 ppm	1.0 ppm	Agree
MOBILE STATIONS LESS THAN 2 WATTS			
150-174 MHz	1.0 ppm	2.0 ppm	Agree Could be 2.5 ppm
421-512 MHz	0.5 ppm	1.0 ppm	Agree

DEFINITIONS

