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December 27, 1999

Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S. W.
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Washington, DC 20554

Re: Amendment of Parts 2 and 90 of the Commission's
Rules to Allocate the 5.850-5.925 GHz Band to the
Mobile Service for Dedicated Short Range Communi-
cations ("DSRC") of Intelligent Transportation Services
ET Docket No. 98-95. RM 9096

Dear Ms. Salas:

Transmitted herewith, on behalf of Mark IV Industries Limited., I.V.H.S. , by its attorneys, are an original and eleven copies of its Petition for Clarification in the above-captioned matter.

In the event there are any questions or comments concerning this matter, please direct them to the undersigned.

Very truly yours,


George Y. Wheeler

Enclosures

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of)
)
Amendment of Parts 2 and 90 of the)
Commission's Rules to Allocate the)
5.850-5.925 GHZ Band to the)
Mobile Service for Dedicated Short)
Range Communications ("DSRC") of)
Intelligent Transportation Services)

ET Docket No. 98-95
RM-9096

To: The Commission

PETITION FOR CLARIFICATION OF
MARK IV INDUSTRIES, LIMITED, I.V.H.S. DIVISION

Mark IV Industries, Limited, I.V.H.S. Division ("Mark IV") herewith, by its attorneys, files its petition for clarification of the Commission's Report and Order (FCC 99-305) released October 22, 1999 ("Report and Order") in the above-captioned proceeding. Specifically, Mark IV addresses the Commission's power output limits (Section 90.205) and its emission mask requirements (Section 90.210).

In its Report and Order, the Commission acknowledges "...that the rules we adopt here may need to be reviewed at such times as we develop licensing and service rules for DSRC systems. (§ 20)." Mark IV strongly supports this flexible regulatory approach in view of the significant unfinished work still needed to complete development of industry-approved DSRC applications and standards.

The clarifications of the Commission's technical requirements requested here are intended to promote a basic approach to power limits and emission mask requirements which will be beneficial to the development of DSRC operational standards by industry. Mark IV proposes that the Commission address them separately from the development of related DSRC licensing and

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service rules but would have no objection if the Commission chooses to defer consideration of these issues to the licensing and service rule portions of this proceeding.

Power Limits (Section 90.205)

Mark IV concurs with the Commission's EIRP power limit of 30 watts, however, Mark IV considers the maximum antenna input power specification to be overly restrictive because it will limit DSRC applications requiring wide area service (i.e. applications using a low gain antenna but requiring long distance coverage). Examples of this type of application would be traveler information systems (where wide coverage is required to provide service in a large geographic area) and emergency beacons (where a wide, long distance beam may be required to cover possible bends in the roadway). Mark IV proposes that the antenna input power be limited to 4 watts or 36 dBm with no change to the EIRP limit of 30 watts. The following is proposed to replace the language of Section 90.205(m):

“The peak antenna input power shall not exceed 4 watts or 36 dBm with up to 8 dBi of antenna gain. If transmitting antennas of directional gain greater than 8 dBi are used, the peak antenna input power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 8 dBi, i.e. the device's maximum EIRP shall not exceed 30 watts EIRP.”

Emission Mask Requirements (Section 90.210)

Mark IV also requests that the Commission's emission mask requirements in Section 90.210 of its rules be clarified to provide that compliance measurements may be conducted at the transmission line output/antenna input to take account of the relatively long transmission lines anticipated in certain types of DSRC operations. If the mask is only permitted to be measured at the RF output of the radio equipment, then the required attenuation of out-of-band components will increase with increasing line losses because a system with high line losses will have a higher peak

emission power (measured at the output of the radio equipment). Because line losses are significant at 5.9 GHz, providing the additional attenuation for out-of-band emissions becomes both a significant cost and technical challenge.

Section 90.205 requires that the emission power be limited at the transmission line output/antenna input. Mark IV recommends that the out-of-band emission attenuation limits also be referenced to this point but only for the highest permitted power of operation. Revisions to the wording of Section 90.210(k)(3) to reflect this approach, also incorporating Mark IV's related revision to Section 90.205(m), are proposed as follows:

“... with the following schedule:

On any frequency within the authorized bandwidth: Zero dB

On any frequency outside the licensee's sub-band edges: *the lesser of $(55 + 10 \log(P))$ or 61 dB*; where (P) is the highest emission (watts) of the transmitter in the licensee's sub-band.”

The foregoing revisions will have no effect until the emission power (measured at the equipment) reaches 4 watts at which point the out-of-band attenuation will be limited to 61dB for that level or any power level above the transmission line output/antenna input power limit.² Because the peak power is limited at the antenna by Section 90.205, out-of-band emissions measured at transmission line output/antenna input will not exceed those permitted by the rules as currently

1 In the event the Commission does not adopt Mark IV's proposed revision to Section 90.205(m), the 61 dB figure shown here would be 53 dB based on the current 750 mW limit.

2 Ibid.

defined.³

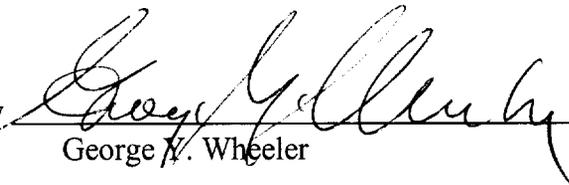
Also because the K mask designation in the current document is shared with the 902-928 band, a new designation may be required for the 5.9 GHZ band to accommodate the change recommended above.

Conclusion

Mark IV supports the Commission's continuing efforts to develop the basic regulatory framework for DSRC operations on the aggressive schedule imposed by Congress. Grant of the clarification requested here will provide useful guidance to manufacturers like Mark IV and others who are active participants in the development of DSRC applications and standards and thus promote the Commission's objectives for emerging DSRC operations.

Respectfully submitted,

MARK IV INDUSTRIES, I.V.H.S. DIVISION

By 
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December 27, 1999

³ A possible example would be an implementation where the antenna and RF transmitter are integrated and line loss is eliminated.

CERTIFICATE OF SERVICE

I, Judy Norris, a legal secretary in the firm of Koteen & Naftalin, L.L.P., hereby certify that on the 27th day of December, 1999, copies of the foregoing "Petition for Clarification" were deposited in the U.S. mail, first-class, postage prepaid, addressed to:

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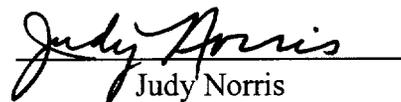
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