

EXHIBIT I

Item No. 4(F): Modulating Signal

It is a trigger pulse of 20 microseconds repeated every 6 to 16 milliseconds. Data transmission is at 500 Kbps for 700 microseconds when the transponder is being programmed by the reader. RF module frequency emissions masking and frequency stability meet the new LMS requirements, with RF modules under development or in prototype form.

EXHIBIT II

Item No. 4(G): Necessary Bandwidth

The necessary bandwidth of the transmission is based on the calculation below, using the definition of Section 2.202(b):

$B_n = 2K/t$ where K depends on pulse width to rise time ratio. Assuming $K = 60$ for 20 μ S pulses and $K = 3$ for 1 μ S pulses (i.e., $t_r = 0.33$), then:

For 20 μ S pulses, $B_n = 2 \times 60 / 20 = 6$ MHz

For 1 μ S pulses (data), $B_n = 2 \times 3 / 1 = 6$ MHz

The occupied bandwidth as defined in Section 2.202(a) is based on a spectrum analyzer measurement of the actual signal radiated by the system.

EXHIBIT III

Item No. 5(c): Exact Area of Mobile Operation

For demonstrations at trade shows, the patch antennas are located on a table top display, approximately 4 feet above floor level. The trade show floors are typically at ground level.

For future full use demonstrations, the lane mode antenna will be less than 19 feet above the ground, to the bottom side of a toll plaza canopy or traffic signal arm/sign bridge, looking almost directly down. The multi-lane antenna is mounted on a sign bridge or canopy at a height of approximately 25 feet.

EXHIBIT IV

Item No. 10: Purpose of Request

Mark IV Industries, Ltd. ("Mark IV") is requesting authority under Section 5.202 of the Commission's rules for the purpose of conducting (1) experimentations; (2) research; (3) technical demonstrations; (4) field strength surveys; (5) demonstrations of equipment to prospective purchasers; (6) testing; (7) developments of radio technique, equipment, operational data, or engineering data; and (8) ~~limited market studies~~. *see amendment*

Mark IV is continuing to develop new FCC Type Accepted/Approved Transportation Infrastructure Radio Service equipment and promotes its use for non-multilateration Location and Monitoring Service ("LMS") systems at toll bridge, customs and other facilities.

Mark IV's LMS systems will be operated at trade shows and other venues to demonstrate how to automatically identify vehicles and expedite their passage for pre-registered North American Trade Automation Prototype ("NATAP") trucks/loads under NAFTA. The system consists of a reader that transmits a wake-up trigger in each lane to a Part 15 type accepted vehicular mounted transponder, that responds with a unique identification number and other trip related data using low power transmission powered from an internal battery. The equipment to be used also includes new generations of LMS tag readers developed by Mark IV IVHS to meet requirements of the E-ZPass NY/NJ/PA Interagency Group and of others with similar electronic toll collection and vehicle monitoring requirements. Each reader unit contains RF modules and transmitters that are operated in sequential fashion to poll transponders for toll ticketing and other purposes.

The operation of Mark IV's LMS systems as proposed here will contribute to the development and extension of radio technology to enhance the efficiency of use of the transportation infrastructure, improve mobility and reduce traffic congestion, enable quicker emergency incident response from public safety agencies, improve safety inspections of commercial vehicles while reducing costly weigh station and border crossing delays, reduce health care costs attributable to traffic accidents, improve the management and security of the flow of hazardous materials throughout the nation and help realize billions of dollars of gain in economic productivity.

EXHIBIT V

Item No. 13: Transmitting Equipment

The equipment to be used includes new generations of LMS tag readers (not to exceed 20, plus associated transponders) developed by Mark IV IVHS to meet requirements for electronic toll collection, vehicle monitoring and commercial vehicle operations uses.

EXHIBIT VI

Item No. 14: Section 5.152 Waiver Request

The Commission is requested to exempt, by the terms of the station authorization requested here, each class of station proposed to be deployed in the experiment from compliance with the station identification requirements in Section 5.152 of the Commission's rules.