



MICHIGAN SCIENTIFIC
corporation

5-3547-EX-1998

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Milford, MI 48381
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Matthew Kottman
Michigan Scientific Corporation
321 E. Huron Street
Milford, MI 48381
(248) 685-3939

October 1, 1998

Federal Communications Commission
Experimental Radio Services
P.O. Box 358320
Pittsburgh, PA 15251-5320

Michigan Scientific Corporation is in the process of developing a telemetry system used to transmit digitized data from sensors placed on rotating machinery, to a stationary receiver that then collects and stores this transmitted data. Because of the short design time of such a product we are requesting a Special Temporary Authority (STA) be granted to us so that we are able to experiment and evaluate this new product in accordance with FCC rules and regulations. In addition to FCC form 159-Remittance advice, and the \$45.00 filing fee, the following information about the nature of the operation is listed below, and is presented in the order as outlined on the FCC website. The information is as follows:

Name and address:

Michigan Scientific Corporation
321 E. Huron Street
Milford, MI 48381
(248) 685-3939

Need for special temporary authority:

Because of rapid product design time, and a duration period for the experimentation and evaluation of this product being less than six months, we are requesting that a Special Temporary Authority (STA) be granted. This will enable us to experiment and evaluate this new product in accordance with FCC rules and regulations.

Type of operation to be conducted:

Operation will consist of periodic radio transmission of digitized data such as temperature, material stress/strain and velocity measurements of rotating equipment.

Purpose of operation:

The periodic radio transmission will be conducted due to testing and evaluation of a new telemetry product. This system is being designed for use in applications requiring transmission of measurement data, by a private company known as Michigan Scientific Corporation.

Time and date of proposed operation:

Proposed operation is scheduled for a start date of October 12, 1998, and continuing periodically throughout a four to five month period during the times of 8:00AM to 6:00PM.

Class of station:

Transmission will be performed within the 2.4GHz industrial-scientific-medical (ISM) bands.

Nature of service:

The service will consist of transmission of digitized data such as temperature, material stress/strain and velocity measurements of rotating equipment. Information transmitted will not be commercial in nature and therefore not be of any value to anyone outside of the private organization operating the equipment.

Location of proposed operation:

Transmission will occur at the street address of Michigan Scientific Corporation located at 321 E. Huron Street within the city of Milford, Michigan, 48381. Transmission will be conducted within the confines of a laboratory located in the building where Michigan Scientific Corporation resides.

(Continued)

Equipment to be used:

Equipment to be used as the transmitter and receiver is manufactured by:

Harris Semiconductor Corporation
2401 Palm Bay Road, N.E.
Palm Bay, Florida USA 32905
(800) 442-7747

The transceivers, manufactured by Harris Semiconductor Corporation, is the evaluation kit provided for the testing and implementation of Harris Semiconductor Corporation's Prism™ 2.4GHz spread spectrum chipset. The model number for the evaluation kit is PRISM1RC-EVAL, and consists of two low power transceivers. One transceiver will be configured as the transmitter and the second as the receiver in our test operations.

The antennas to be used on both the transmitter and receiver is manufactured by:

M/A-COM
110 Haverhill Road
Amesbury, MA 01913
(978) 834-7100

Operation will be conducted using dipole antenna model AND-C-107; this antenna is specified for use within the 2.4GHz industrial-scientific-medical (ISM) bands. Average power handling capacity is rated at one Watt with a peak of three Watts.

Frequencies to be used:

One of eleven 2.4GHz industrial-scientific-medical (ISM) bands will be used in the experimental stage of product development. They are as follows:

2412 MHz	2427 MHz	2442 MHz	2457 MHz
2417 MHz	2432 MHz	2447 MHz	2462 MHz
2422 MHz	2437 MHz	2452 MHz	

Effective radiated power:

Effective radiated power is expected not to exceed +15dBm or extend beyond the range of 300 feet. The transmitter and receiver is powered using a 5VDC, 300mA AC adapter. The antenna to be used in the tests will be a 50Ω dipole antenna with a one Watt average, and a three Watt maximum power capacity. The antenna is specified for use within the ISM band.

Emission type:

Emission type is low power direct sequence spread spectrum using a DBPSK or SQPSK modulation method. Output power will be approximately +15dBm.

Overall height above ground of antenna structure:

Tests will be conducted on the second floor of the test center and therefore antenna height will be located approximately 14 feet above ground. Antenna length will not be exceeding 3.5 inches.

This concludes the information outlined in the FCC website outline. If you need further information or have any questions about the nature of the proposed operation, feel free to contact Matthew Kottman at (248) 685-3939, or email at mkottman@tir.com. Also, please send all correspondence and license if granted to:

Michigan Scientific Corporation
ATTN: Matthew Kottman
321 E. Huron Street
Milford, MI 48381

Thank you for your time.

Sincerely,



Matthew J. Kottman