



A **UNOVA** Company

August 16, 2001

Intermec Technologies Corporation
Systems and Solutions
550 Second Street S.E.
Cedar Rapids, IA 52401

TRANSMITTER MODULAR APPROVAL ATTESTATION

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mill Road
Columbia, Maryland 21046

Re: Application Modular Approval Certification for FCC ID: EHAABTM3

Gentlemen

The following attestation addresses the eight requirements to support modular approval as required by the FCC Public Notice DA00-1407 "Part 15 Unlicensed Modular Transmitter Approval".

Transmitter modular approval, conditional requirements.

- 1) The ABTM3 radio module has its own shielding and is tested herein extended outside of an Intermec 700 terminal. The shield is added during manufacturing and is not easily removed. Instructions to end-users will warn of possible regulatory consequences for modifying the radio in any manner.
- 2) As a radio module designed specifically for data transfer, only data and power is presented to the radio. The radio circuitry buffers all modulation and control of the transmitter. Control of the transmitter is via data commands and software instructions contained within the module. The transmitter presented in the report is tested with the radio operated at the maximum power. Data commands may reduce the power transmitted but may not influence the modulation content. The operating band can be set to use 79 hopping channels within the 2400-2483.5 MHz band or restrict operation to 23 hopping frequencies in the band limited to 2450-2483.5 MHz. This adjustment is made to the flash memory to configure DSP that operates the radio. The radio manufacturer or Intermec manufacturing and service are the only locations that may configure the flash memory. The flash memory software is under revision control by the regulatory staff.
- 3) This radio module does not contain an on-board voltage regulator. The transmitter is specified to operate across a voltage range of +3.3V +/- 0.2volt. Within the test report we show the operation of the transmitter across a voltage range of +2.9 to +3.5 volts. Testing shows the power output and operating frequency is maintained within the parameters defined in the regulations. The 3.3-volt source is a standard supply voltage in many "state of the art" mobile computers and portable printers. Products that do not have the industry standard 3.3 volts to operate the radio will have to incorporate a regulator to operate the radio within the +3.3v +/-0.2 volt range. All Intermec products have either a highly regulated supply sourced from the AC powerline or rechargeable batteries. For battery operated units there is a low battery cut-off to insure stable operation of the computer and memory. When low battery is detected all function ceases at a voltage that insures the processing and storage of data is not corrupted. The low battery detect also serves to maintain the operating voltage of the radio within the parameter specified above. Resellers for the radio will be instructed to maintain the voltage tolerances listed herein.
- 4) The radio uses an on-board antenna. The provisions to address a connector that meets the unique coupler requirements does not apply.
- 5) The radio is tested herein is on an extended flexible PC cable similar to those used within the Intermec 700. The radio is extended four inches (10-cm) beyond the host computer. The extender allows the radio to be placed horizontal and vertical for a complete evaluation of the radiated characteristics of the shielding on the radio. AC power to the Intermec 700 operated the unit during testing. AC line conducted emissions are presented utilizing the same 700 operating from the Intermec charger for the unit.

6) As a small module the radio not always accessible to the end user once the radio is integrated within a product. Products that restrict access to the radio will have an external label that is visible to users. The label will state "FCC ID: EHAATBM3". Currently Intermec must install the radio during manufacturing. If and when the radio can be installed as a service retrofit, the service instructions will include labeling requirements for the exterior of the final product that addresses visibility of the FCC ID. The ABTM3 radio is not an option that the end user can install. The radio will be offered as an OEM radio to selected customer. Those Resellers will also be instructed to label the exterior of products where access to the PC card is restricted.

7) The radio module as manufactured is completely controlled by the onboard processor. There are no influences to the operation of the transmitter the end user can induce that will operate the radio outside of scope of the regulations. This radio complies to the operating conditions outlined in FCC Part 15.247 as a Frequency Hopping Spread Spectrum transmitter operating in the 2400-2483.5 MHz band.

8) The transmitter herein was tested with the antenna that is integrated on the radio module. Compliance to RF exposure requirements for this antenna is included within this application for approval. Appropriate warning statement will be placed with each end product user information based on the results of the RF exposure data filed with this application. OEM Resellers will be advised to include a similar statement to inform the users of any requirements for RF safety.

Please contact me by telephone at (319) 846-2415 or by e-mail (Dave.Fry@Intermec.com) if there are questions or additional information needed concerning this attestation.

Yours truly,

A handwritten signature in black ink, appearing to read "Dave Fry". The signature is fluid and cursive, with the first name "Dave" and last name "Fry" clearly distinguishable.

Dave Fry,
Regulatory Engineer II
Intermec Technologies Corporation
EMC Test Laboratory