

31 January 2011

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

Subject: Original Application FCC ID: EHA-1000CP01UX1

Dear Application Examiner:

Intermec Technologies Corporation is submitting this application for certification of Models 1000CP01U, 1000CP02U, 1001CP01U, under FCC ID: EHA-1000CP01UX1. The devices are handheld computers containing two radio modules: the Intermec Models RC12 and RW10. The RC12 module is an 802.11 a/b/g/n - Bluetooth radio. The RW10 module is a UMTS radio. System authorization is sought under FCC 15.247, FCC 15.407, FCC 22H and FCC 24E.

The models 1000CP01U, 1000CP02U, 1001CP01U are electrically and mechanically identical except in the size of the keyboard and battery. Everything above the keyboard, including the radio module, antenna, main system board, LCD, is electrically and mechanically identical. Internal and external photos for all three models have been submitted with this application.

Please note that brand names instead of model numbers are used in the some of the exhibits. These brand names correspond to the model numbers as follows: CN70 = 1000CP01U, CN70e = 1000CP02U, CK70 = 1001CP01U. Also, the Intermec RW10 module is electrically and mechanically identical to the Sierra Wireless MC8795V module. All exhibits and test reports for the MC8795V are representative of the RW10.

The handheld computers can be used closer than 20 cm to the user's head or torso so a SAR evaluation was performed on all three models. The UMTS and 802.11a/b/g/n radios can transmit simultaneously. The 802.11a/b/g/n and Bluetooth radios are combined on the same module so they share the same antenna, but they cannot transmit simultaneously. The closest spacing between the UMTS and 802.11a/b/g/n-Bluetooth antennas is 3.7cm. Per KDB 648474, the output power of the Bluetooth radio is 7mW, so it is below P_{ref} and does not require SAR evaluation. However the output power of the UMTS and 802.11a/b/g/n radios are greater than $2 \cdot P_{ref}$ for all bands, so they required stand-alone SAR evaluation. The sum of the 1-g SAR measured for the UMTS and 802.11a/b/g/n radios was less than the SAR limit of 1.6 W/kg, so SAR evaluation for simultaneous transmission was not required.

The radio can operate in the DFS frequency bands as a client device only. It has no radar detection and no ad-hoc capability. Intermec declares that the product cannot transmit between 5600 – 5650 MHz. A DFS test for a client device was performed.

The antennas are integral to the handheld computer. They are not user accessible so they meet the requirements of FCC 15.203.

The receiver portion of the UMTS radio has been verified to FCC 15B requirements.

The following is a summary of the reports submitted with this application:

Type	Purpose	Reports
EMC 15.247 15.407	Stand alone module testing of the RC12. Used to demonstrate compliance for antenna port direct connect measurements, AC powerline conducted emissions measurements, and spurious radiated emissions. Testing was done with a higher gain antenna of the same type as used for this application, so this data is applicable.	NWEMC Reports- INMC0575, INMC0575.1, INMC0575.3
EMC 15.247 15.407	System level testing of the RC12 module in Models 1000CP01U, 1000CP02U, and 1001CP01U for spurious radiated emissions. This was done for an additional assurance of compliance.	NWEMC Reports – INMC0661, INMC0661.1, INMC0661.2
DFS 15.407	System testing for DFS of RC12 Module in Model 1000CP01. This is representative of all three handhelds since the radio, antenna, main system board, etc are electrically and mechanically identical.	NWEMC Report – INMC0648
EMC 22H 24E	Stand alone module testing of the RW10. Used to demonstrate compliance for antenna port direct connect measurements.	CTTL Report – I09GW6944-FCC-EMC-3 + Supplement
EMC 22H 24E	Stand alone module testing of the RW10. Used to demonstrate compliance of spurious radiated emissions and radiated power. Testing was done with a higher gain antenna of the same type as used for this application, so this data is applicable.	NWEMC Report – INMC0656
EMC 22H 24E	System level testing of the RW10 module in Models 1000CP01U, 1000CP02U, and 1001CP01U for spurious radiated emissions and radiated power. This was done for an additional assurance of compliance.	NWEMC Report – INMC0662
SAR 2.1093	System level SAR evaluation of the RW10 module in Models 1000CP01U, 1000CP02U, and 1001CP01U	RF Exposure Lab Reports- SAR.20110105, SAR.20110106, SAR.20110107 Rev A
SAR 2.1093	System level SAR evaluation of the RC12 module in Models 1000CP01U, 1000CP02U, and 1001CP01U	NWEMC Reports – INMC0681 INMC0681.1 INMC0681.2

Your efforts in reviewing this application are greatly appreciated.

Sincerely,

Best regards,



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