

Chris Harvey

From: Claire Hoque [claire.hoque@ccsemc.com]
Sent: Tuesday, June 16, 2009 5:34 PM
To: Chris Harvey; Chris Harvey; Chris Harvey -TCB
Cc: Chi Tsou
Subject: revised SAR report: Intermec Technologies Corporation, FCC ID: EHA-01CN4, Assessment NO.: AN09T9273, Notice#1b

Attachments: 09U12493-5B FCC IC WWAN SAR Report.pdf; 09U12493-5B SAR Photos.pdf; 2-1_SAR Test Plots for UMTS1900.pdf; 1_System Performance Check Plots.pdf



09U12493-5B FCC IC WWAN SAR Re... Photos.pdf (65... for UMTS190... rformance Check Plc

Hi Chris,

We did some additional SAR testing per your comments.

Pls find revised SAR report.

Thanks,

Claire Hoque
Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538, USA
Tel: (510) 771-1123
Fax: (510) 661-0888

-----Original Message-----

From: Chris Harvey [mailto:charveyemc@gmail.com] On Behalf Of Chris Harvey
Sent: Friday, June 12, 2009 1:17 PM
To: Claire Hoque; Chris Harvey; Chris Harvey -TCB
Cc: Chi Tsou; Mike Kuo
Subject: RE: answer: Intermec Technologies Corporation, FCC ID: EHA-01CN4, Assessment NO.: AN09T9273, Notice#1b

Claire, this response is not acceptable. The form factor (or physical size) is only one aspect for determining whether additional SAR measurements/investigation is required. The internal structure, cell alignment and construction may also impact the SAR measurements. Therefore, at a minimum, there must be some SAR investigation, typically at least at the worst case configuration per band, with the other battery.

Please provide the additional information needed to allow the additional battery in this application.

Best regards,

Chris Harvey
charvey@ieee.org
410-750-0860

-----Original Message-----

From: Claire Hoque [mailto:claire.hoque@ccsemc.com]
Sent: Thursday, June 11, 2009 5:09 PM
To: Chris Harvey; Chris Harvey; Chris Harvey -TCB
Cc: Chi Tsou
Subject: RE: answer: Intermec Technologies Corporation, FCC ID: EHA-01CN4, Assessment NO.: AN09T9273, Notice#1

Hi Chris,

These batteries share the same form factor and share the same physical dimensions. The only difference is related to their capacity. It may be better stated that the "extended" battery should be considered as an "Extended Life" battery.

The CN4/CN4e design is such that the battery power drawn from the device is highly regulated and the device's load it places on the battery is dependent on the device's operation, not the opposite. The operation is the same when using the standard or extended batteries. As such, the capacity of the extended (or extended life) batteries (AB16 as tested) only lengthens the time between charges allowing more "up" time for the user, and does not raise or lower the radiated power of any internal transmitter.

Thanks,

Claire Hoque
Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538, USA
Tel: (510) 771-1123
Fax: (510) 661-0888

-----Original Message-----

From: Chris Harvey [mailto:charveyemc@gmail.com] On Behalf Of Chris Harvey
Sent: Thursday, June 11, 2009 11:45 AM
To: Claire Hoque; Chris Harvey; Chris Harvey -TCB
Cc: Chi Tsou
Subject: RE: answer: Intermec Technologies Corporation, FCC ID:
EHA-01CN4, Assessment NO.: AN09T9273, Notice#1

Claire:

The response claims that the standard and extended batteries have the same form factor; therefore the Extended battery was selected for SAR tests. I would agree that the different manufacturers of each battery type should have no impact on SAR provided they are manufactured to identical specifications and layout. However, the guidance of OET 65 Supplement C also takes into consideration the cell alignment and arrangement within the battery, not just the external form-factor. Here is the guidance from OET65 Supplement C 2001:

BATTERY OPTIONS

Most wireless handsets and portable transmitters may operate with several battery options, such as internally built-in batteries, standard battery packs, a slim pack to save space or a long lasting pack for extended use without frequent recharging. These batteries often have different cell configurations and physical dimensions. In some situations, the battery design may cause some device performance and SAR variations. If the radiated output power of a handset varies with its battery options, the corresponding SAR may also change. An increase in radiated output power could mean higher energy absorption in tissues. However, a reduction in radiated power due to mismatch or increased RF current on the device housing could also lead to higher SAR. For devices that operate linearly, the measured SAR is expected to be proportional to output power. When changes in radiated output are used to estimate whether there is sufficient SAR

Please provide further explanation or data to address the above issue.

Best regards,

Chris Harvey
charvey@ieee.org
410-750-0860

-----Original Message-----

From: Claire Hoque [mailto:claire.hoque@ccsemc.com]
Sent: Wednesday, June 10, 2009 7:00 PM
To: Chris Harvey; Chris Harvey -TCB

Cc: Chi Tsou

Subject: answer: Intermec Technologies Corporation, FCC ID: EHA-01CN4, Assessment NO.: AN09T9273, Notice#1

Hi Chris,

Pls see answer below. Tune-up procedure is also attached.
Thanks,

Claire Hoque
Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538, USA
Tel: (510) 771-1123
Fax: (510) 661-0888

-----Original Message-----

From: Chris Harvey
Sent: Tuesday, June 09, 2009 1:45 PM
To: Thu Chan; Claire Hoque; Neena Jain
Cc: Chris Harvey
Subject: Intermec Technologies Corporation, FCC ID: EHA-01CN4, Assessment NO.: AN09T9273, Notice#1

Dear Claire Hoque,

You are listed as the Technical Contact for the above referenced TCB application. The following item(s) need(s) to be resolved before the review can be continued:

1. Many exhibits in this application show Bluetooth and WLAN capability. Please provide a cover letter that clearly indicates that the Bluetooth and WLAN transmitters are either not installed or not active and not available to the user in this device.
<answer>pls find attached the WAN-only attestation letter.
2. The conf letter requests the internal photos to be held permanent confidential, but this is not allowed without detailed justification. This can be changed to be included in the short-term conf section if desired, but would require an updated conf letter. Also, the letter states "All Design Drawings/Specifications" are to be held confidential. Please revise the letter to specify the exact exhibits that are to be held confidential.
<answer>confidentiality letter is revised
3. The manual contains a location for SAR values, but the values have been left as x's. If the SAR values are to be included in the manual, it is required to be accurate. Please update the user's manual compliance exhibit.
<answer>compliance exhibit is revised.
4. The Compliance statement and manual specify AB8, AB9, AB15 and AB16 batteries are available. Were these tested for SAR? The test report does not document which battery was used. Please update.
<answer>SAR report is revised.
The AB8 and AB15 batteries are identical except that they come from different suppliers, and the AB9 and AB16 batteries are identical except that they come from different suppliers. The AB9/AB16 batteries have extended capacity and all of these batteries share the same physical form factor. The battery provided during this test session was the AB16.
5. The SAR test report documents compliance of a CN4 and a CN4e (extended enclosure). The external photos and Manual show multiple keypads available for this device (CN4 QWERTY, CN4Numeric, CN4e Numeric Phone-Style and CN4eAlphanumeric keypads). What was done to ensure SAR compliance of this device with the different keypads?
<answer>We did test both QWERTY (or say Numeric) and Alphanumeric versions and didn't see any difference so we chose the Alphanumeric version as a representative model for the SAR testing.

We are confident that there won't be significant difference between each keypad because the hot spot is located in the screen area which is at the upper part of the EUTs.

6. The Compliance statement has HAC information (M3/T3), but there is no HAC compliance data submitted in this application. Also, there is a 20cm body separation statement which does not belong in this held-to head device. There should be guidance to the user about body-worn operations (this device was tested with specific holsters). Please revise the Compliance <answer>Compliance statement is revised

7. The Description exhibit states that this device has HSUPA capability. The test report documents that this device has Rel. 6 HSDPA, but does not have HSUPA capability. Please update the (Operational) Description exhibit to remove the reference to HSUPA capability (and also remove the Bluetooth and WLAN specifications since this is being updated).
<answer>Operational Description is revised.

8. The submitted schematic diagrams do not seem to contain the RF circuitry of this device. Please update the schematics.
<answer>pls find attached the schematic that contains RF circuitry.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.

Best regards,

Chris Harvey
Charvey-tcb@ccsemc.com