



Research In Motion Limited
295 Phillip Street
Waterloo, Ontario
Canada N2L 3W8
+1 519 888 7465, fax +1 519 888 6906
E-mail: info@rim.net

Our Ref: 02131-CERT-FCC-CORRESP_8138 ADDITIONAL

July 7, 1999

Mr. Frank Coperich
Federal Communications Commission,
Equipment Authorization Division
Application Processing Branch
7435 Oakland Mills Road
Columbia, MD 21045

Subject : Response to Mr. Kwok Chan's email dated June 29, 1999 which addressed RIM's Reply to FCC Ref # 8138 for the two-way pager FCC ID: L6AR800D-2-PW, EA93550

ITEM 1:

RIM's decision in terms of duty factor limiting is outlined in the following two paragraphs:

- i. The operating duty factor implemented in our two-way pager device will be reduced from the passing 8% to 7% duty factor to allow for the worse case configuration of shirt pocket and to give us a margin for the SAR test measurement uncertainties. Referring to the attached chart based on the data supplied previously, APREL report reference # 3240, June 8, 1999, 7% df corresponds to 1.355 W/kg. This allows for an 18% margin on the 1.6 W/kg limit.
- ii. The DataTAC network allows the mobile device to control the timing of transmitted packets on a message transaction basis. The duty factor limiting algorithm will be changed from a fixed duration windowed time averaging to a calculation based on individual network message transactions. This ensures that the duty factor is limited to the maximum allowable over all network transactions.

ITEM 2:

Due to the production manufacturing requirements, slight changes in the radio board were introduced, which called for a necessary rematch of the antenna. The reason for the increase in ERP from 313 mW to 479 mW in the new test report was due to the antenna rematch. When the antenna is rematched, the gain varies slightly depending on if the matching is changed or not. In this case the TX gain was improved and thus the ERP went up.

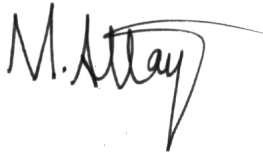
The duty factor and the ERP measurement are totally independent because for measuring the ERP we look for the peak radiated power not average or sum of pulses. Different duty factors were tried and there were no variations in peak radiated power measurement. The duty factor chosen to do the ERP measurements were 500 ms 'ON' and 750 ms 'OFF'. These were chosen for repeatability and to be able to reliably capture the peak power during testing.

The reason why SAR measurements are different for different duty factor is because in the SAR measurement procedures, the averages of the pulses are calculated and the maximum is the maximum average SAR value. Unlike in the case of ERP measurement where maximum peak power is recorded, for SAR, it is the average of the accumulation of ON and OFF per position.

July 7, 1999

Should you have any questions please do not hesitate to call.

Sincerely yours,



Masud Attayi, P.Eng.,
Senior Certification Engineer
Research In Motion Limited.
Tel: (519)888-7465 x442
Email: mattayi@rim.net
Web: www.rim.net

