APREL
Laboratories

FCC ID: ESD-SA806866R8

Exhibit 2

Engineering Report
c)Bandwidth (2.1049) Bandwidth Limitations (2.1047)

RESEARCH IN MOTION

R802D-2-O RADIO MODEM DEVICE OCCUPIED
BANDWIDTH/BANDWIDTH LIMITATIONS

Author Data Jonathan Doll	August 30, 1999	Document No. 02400-CERT-FCC-TEST-BW_MASK
Approved Masud S. Attayi	Rev	File / Reference BW Masks

OCCUPIED BANDWIDTH/BANDWIDTH LIMITATIONS

TEST PROCEDURE:

The Research In Motion Limited R802D-2-O Radio modem was connected together with a host computer, external power supply and a 20 dB external attenuator. The R802D-2-O antenna output terminal was connected to the input of a 50 Ω spectrum analyzer through a matched 20 dB attenuator. The R802D-2-O transmitter was operating at full output power with and without internal data modulation.

TEST RESULTS:

UNMODULATED CARRIER, High Power: **12.87dBm** with a 20dB external pad and a 1 m Sucoflex cable with a total loss of 0.18 dB.

> Internal Modulation: Please refer to the attached spectrum analyzer plots. 100% of the in-band modulation is below the specified mask per 90.210(g) for both RD_LAP and MDC protocols.
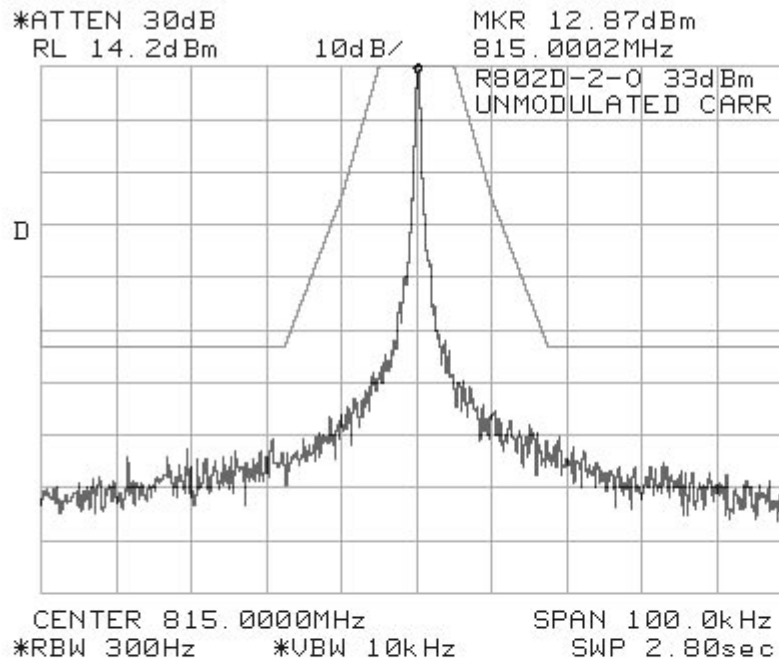
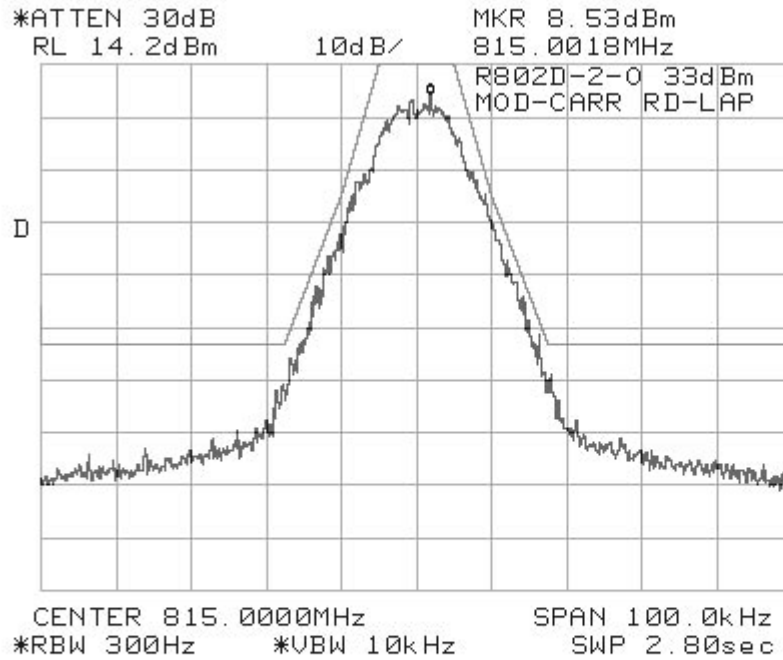Below is the **description of the mask** for band 806-821/851-866 MHz (DataTAC) : 2.0 Watts transmitter

Frequency (MHz)	Formula	Limit (Db)
-26500	43+10 log (P)	-46
-0.050	43+10 log (P)	-46
-0.050	50+10 log (P)	-53
-0.0175	116 log (f_d / 6.1)	-53
-0.010	116 log (f_d / 6.1) or 83 log (f_d / 5)	-25
-0.005	83 log (f_d / 5)	0.0
0.005	83 log (f_d / 5)	0.0
0.010	116 log (f_d / 6.1) or 83 log (f_d / 5)	-25
0.0175	116 log (f_d / 6.1)	-53
0.050	50+10 log (P)	-53
0.050	43+10 log (P)	-46
26500	43+10 log (P)	-46

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EQUIPMENT:

- H.P. 8563E Spectrum Analyzer   9.0 KHz - 26.5 GHz
- HP6632B DC POWER SUPPLY
- Mini Circuits 20 dB att. # NAT-20 0 Hz - 1.5 GHz

OCCUPIED BANDWIDTH/BANDWIDTH LIMITATIONS
UNMODULATED CARRIER

OCCUPIED BANDWIDTH/BANDWIDTH LIMITATIONS
MODULATED CARRIER – RD_LAP

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OCCUPIED BANDWIDTH/BANDWIDTH LIMITATIONS

MODULATED CARRIER   MDC