

Test Report S/N:	032304-490BV8
Test Date(s):	March 23-24, 2004
Test Type:	FCC/IC SAR Evaluation

DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION

Test Lab

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Applicant Information

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Rule Part(s): FCC 47 CFR §2.1093; IC RSS-102, Issue 1 (Provisional)
Test Procedure(s): FCC OET Bulletin 65, Supplement C (Edition 01-01)
FCC Device Classification: Licensed Non-Broadcast Transmitter Held to Face (TNF)
Device Type: Portable FM PTT Radio Transceiver
FCC IDENTIFIER: BV8P800
Model(s): P800
Modulation Tested: FM (Analog Voice)
Tx Frequency Range(s) Tested: 851.0125 - 868.9875 MHz (Talkaround)
Max. RF Output Power Tested: 2.82 Watts Conducted (861.3625MHz)
Antenna Type(s) Tested: 1/2 Wave Helical Whip (P/N: MAHROS0006)
Battery Type(s) Tested: NiCd 7.2V, 1500mAh (Kenwood P/N: KNB-17A)
Body-Worn Accessories Tested: NiMH 7.2V, 2100mAh (Kenwood P/N: KNB-22N)
Max. SAR Levels (scaled to 3 Watts): Metal Belt-Clip (Kenwood P/N: J29-0652-35)
Leather Holster (P/N: MAHROS0013)
Swivel Belt-Loop (P/N: MAHROS0041)
T-Strap hold down (P/N: MAHROS0042)
Earphone (P/N: OT-V1-10291)
Audio Adapter (P/N: OT-V1-10430)
Evolution Speaker-Microphone (P/N: MC102823V1)
Over-the-Head Headset (P/N: OT-V4-10080)
0.810 W/kg Face-held (50% Duty Cycle)
3.53 W/kg Body-worn (50% Duty Cycle)

Celltech Labs Inc. declares under its sole responsibility that this wireless portable device has demonstrated compliance with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6. The device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01) and Industry Canada RSS-102, Issue 1 (Provisional) for the Occupational / Controlled Exposure environment. All measurements were performed in accordance with the SAR system manufacturer recommendations.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

This test report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc. The results and statements contained in this report pertain only to the device(s) evaluated.



Russell W. Pipe
Senior Compliance Technologist
Celltech Labs Inc.



4.0 SAR MEASUREMENT SUMMARY

SAR MEASUREMENT RESULTS

Test Date	Test Type	Freq. (MHz)	Chan.	Test Mode	Batt. Type	Body-Worn Accessories	Separation Distance to Planar Phantom (cm)	Conducted Power Before Test (Watts)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)		Scaled SAR (3W) 1g (W/kg)	
										Duty Cycle		Duty Cycle	
										100%	50%	100%	50%
03/24/04	Face	861.3625	Mid	CW	NiCd	--	2.5	2.80	0.120	1.42	0.710	1.62	0.810
03/24/04	Face	861.3625	Mid	CW	NiMH	--	2.5	2.78	0.170	1.38	0.690	1.60	0.800
03/23/04	Body	861.3625	Mid	CW	NiCd	Metal Belt-Clip Speaker-Microphone	1.2	2.82	0.686	6.69	3.35	6.87	3.44
03/23/04	Body	861.3625	Mid	CW	NiCd	Metal Belt-Clip Earphone & Adapter	1.2	2.80	0.647	6.71	3.36	6.91	3.46
03/23/04	Body	861.3625	Mid	CW	NiCd	Metal Belt-Clip Headset	1.2	2.64	0.670	6.70	3.35	7.06	3.53
03/23/04	Body	861.3625	Mid	CW	NiMH	Metal Belt-Clip Speaker-Microphone	1.2	2.74	0.689	6.72	3.36	6.98	3.49
03/23/04	Body	861.3625	Mid	CW	NiMH	Metal Belt-Clip Earphone & Adapter	1.2	2.70	0.597	6.48	3.24	6.78	3.39
03/23/04	Body	861.3625	Mid	CW	NiMH	Metal Belt-Clip Headset	1.2	2.75	0.577	6.61	3.31	6.86	3.43
03/23/04	Body	861.3625	Mid	CW	NiMH	Holster, Belt-Loop, T-Strap, Speaker-Mic	4.0	2.68	0.412	1.36	0.680	1.68	0.840

ANSI / IEEE C95.1 1999 - SAFETY LIMIT
FACE / BODY: 8.0 W/kg (averaged over 1 gram)
Spatial Peak - Controlled Exposure / Occupational

Dielectric Constant ϵ_r	861 MHz Brain		861 MHz Body		Ambient Temperature	Brain	22.9 °C	Body	25.1 °C
	IEEE Target	Measured	IEEE Target	Measured	Fluid Temperature	Brain	21.8 °C	Body	20.5 °C
	41.5 ($\pm 5\%$)	40.2	55.1 ($\pm 5\%$)	53.5	Relative Humidity	Brain	54 %	Body	31 %
Conductivity σ (mho/m)	861 MHz Brain		861 MHz Body		Atmospheric Pressure	Brain	100.8 kPa	Body	100.8 kPa
	IEEE Target	Measured	IEEE Target	Measured	Fluid Depth	Brain	≥ 15 cm	Body	≥ 15 cm
	0.91 ($\pm 5\%$)	0.92	0.98 ($\pm 5\%$)	1.02	ρ (Kg/m ³)	Brain	1000	Body	1000

Note(s):

1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
2. If the SAR measurements performed at the mid channel were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3])).
3. The DUT was evaluated for body-worn SAR with 1.2 cm Metal Belt-Clip accessory. An additional body-worn SAR evaluation was performed for the worst-case configuration (Metal Belt-Clip & Speaker-Microphone accessories, NiMH battery) with the 4.0 cm Leather Holster, Swivel Belt-Loop, & T-Strap Hold Down accessories.
4. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluation. The temperatures listed in the table above were consistent for all measurement periods.
5. The dielectric parameters of the simulated tissue fluids were measured prior to the evaluation using an 85070C Dielectric Probe Kit and an 8753E Network Analyzer (see Appendix E for printout of measured fluid dielectric parameters).
6. The target dielectric parameters of the simulated tissue fluids for 861MHz were interpolated from the IEEE target dielectric parameters at 835MHz to 900MHz.
7. SAR measurements were performed within 24 hours of the system performance check.