NOKIA MOBILE PHONES
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Evaluation of SAR in user hand for Nokia phone 6185i. FCC ID: GMLNSD-3AW.

Introduction

There is no internationally accepted method to measure the SAR-value in user hand, when the phone is used beside the head. The position of the hand is also difficult to determine. Our approach was to measure the maximum SAR, that can occur when hand covers the back of the phone. In practice the situation, however, is different, because the hand is touching the phone in many places and this can change the current distribution.

Test method

Measurements were done with the Dasy 2 dosimetric assessment system DAE V2, SN:213 and with the generic Twin Phantom version 3 from Schmid & Partner Engineering Ag. The phone was positioned back, i.e. antenna and battery, against the flat part of the phantom. The point of maximum SAR was searched. Then the SAR was measured in 10g mass. The maximum output power level was used. Lowest, middle and highes channel on AMPS and CDMA PCS mode was used. Both antenna positions were measured (whip in and whip up).

The method overestimates the SAR: The whole back of the phone, including the antenna area, was scanned for the hand SAR evaluation, even though this is not consistent with the instructions in the user's guide to not touch the antenna unnecessarily. Furthermore a cube for 10g mass was used, which is difficult to realize in practice.

Brain equivalent liquid was used. Because of SAR results have such big margin, meeting the FCC limit is evident.

Results

Maximum SAR in hand in 10g mass
Nokia 6185i (FCC ID: GMLNSD-3AW)

AMPS 824 MHz, Whip in	1.08 mW/g
AMPS 836 MHz, Whip in	1.25 mW/g
AMPS 849 MHz, Whip in	1.41 mW/g
AMPS 824 MHz, Whip up	1.73 mW/g
AMPS 836 MHz, Whip up	1.70 mW/g
AMPS 849 MHz, Whip up	2.01 mW/g
CDMA 1850 MHz, Whip in	1.13 mW/g
CDMA 1880 MHz, Whip in	1.49 mW/g
CDMA 1910 MHz, Whip in	1.13 mW/g
CDMA 1850 MHz, Whip up	0.88 mW/g
CDMA 1880 MHz, Whip up	1.07 mW/g
CDMA 1910 MHz, Whip up	1.11 mW/g

Summary

The hand SAR values found for the portable cellular phone (FCC ID: GMLNSD-3AW) are below the maximum recommended levels of 4 mW/g.