

**Comment Submission**  
**Federal Communication Commission**  
**ET Docket Nos. 03-137 and 13-84; FCC 13-39**

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**RE:** 1. Compliance Testing Model Unsatisfactory for Protecting Children  
2. Disclosure of SAR ratings  
3. Pinna and SAR testing

**Attached Ref:** "Inaccuracies of a Plastic 'Pinna' SAM for SAR Testing of Cellular Telephones Against IEEE and ICNIRP Safety Guidelines" (Gandhi, Kang; IEEE Transactions On Microwave Theory And Techniques, Vol. 52, No. 8, August 2004)

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**Comments:**

1. In NOI #53, the Commission is seeking comment on "whether its current limits are appropriate as they relate to device use by children."

The answer is a YES, since it has been shown in peer-reviewed prestigious journal articles by various teams of scientists from U.S. [1996, 2002]; Japan [2003]; Spain [2004]; Brazil [2006]; France [2008] and Switzerland [2009] that the radiation absorption in children is about two times higher than the adults. And yet the FCC is sanctioning the use of the experimental model of dimensions corresponding to that of a 220 lb., 6 feet 2 inch tall adult male for compliance testing against recommended Safety Guidelines [NCRP 1986, IEEE 1991, 1999].

It is a fact that humans of all sizes and ages from children to older individuals are using cell phones, and testing for compliance testing for a 220 lb., 6 feet 2 inch tall adult male underestimates the actual energy absorbed by up to a factor of two, thus releasing in to the market telephones that would not pass if a proper safety compliance testing method was used.

2. In NOI #63, the Commission requests comment on "whether the Commission should consistently require either disclosure of the maximum SAR value or other more reliable exposure data in a standard format, perhaps in manuals, at point-of- sale, or on a Web site."

The answer is YES--let a consumer know what she/he is buying. We have found 200+ page manuals where the information on SAR is buried deep inside to be useless to the public and feel that displaying this maximum SAR in easily available forms such as the point of sale or on the cell phone itself (in Europe, for example) to be very helpful. Incidentally, as we understand, this was also the original intention of the FCC.

3. RE: NOI # 74 and Introduction Section 1.1310. Currently, the outer ear, or "pinna" is not included on the list of exceptions from the localized SAR limits for "extremities" in the Commission's rules. Nor has the Commission treated the pinna as subject to localized SAR limits to the head, nor has it required parties seeking equipment authorizations to measure or calculate localized SAR in the pinna.

The argument that there is no standard for SAR measurement in the pinna is not true, and is at variance with the Safety Standards (NCRP 1986, IEEE 1991) that the Commission is purporting to be following, which prescribes that the maximum SAR for any 1 gram of "body tissue (defined as tissue volume in the shape of a cube) be less than or equal to 1.6 W/kg. The Safety Standard (IEEE 1991) defines extremity tissues as "hands, wrists, feet and ankles " where a larger SAR of 4 W/kg for any 10 g of tissues is permitted.

Obviously the teams of scientists in U.S. , Japan, Spain. Brazil and France had no difficulty in **calculating** the SAR for any 1 gram of body tissues **including pinna**, as called for in the IEEE Safety Standard (1991), and reported their results in published scientific literature of twice higher SAR for children as compared to adult males.

Furthermore it has been shown in published literature, by calculations and confirming laboratory measurements, that treating "pinna as an extremity tissue" would allow cell phone radiations of levels that are 8-16 times those allowed presently by the FCC [U.S.2004]. This is because pinna is close to the brain and in fact acts as a conduit for cell phone radiation into the head. Thus allowing a higher limit of 4.0 W/kg for any 10 grams of tissue rather than the present limit of 1.6 W/kg for any 1 gram of tissue would result in considerably higher cell phone radiated power levels before this higher SAR limit is exceeded. Also, the FCC will not be able to require any SAR measurements for the pinna since it has been replaced by a plastic spacer in the "specific anthropomorphic mannequin" (SAM) model, and the SAM model, the SAR for this plastic "pinna" is zero.

4. RE: NOI #74 and Introduction Section 1.1310: "*Decision.* We conclude that classification of the pinna as an extremity is supported by the expert determinations of the FDA and of the IEEE, will have no practical impact on the human exposure to RF radiation, and is therefore appropriate."

We strongly disagree. Both the FDA and the IEEE (2005) are ignoring the peer-reviewed published data referenced here, which has shown that greatly increased cell phone radiation would be allowed if pinna (which is a conduit for cell phone radiation into the brain) is declared as an extremity tissue as are the hands, feet, wrists and ankles.

Respectfully submitted,

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### *References*

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