Dear Contributor,

Thank you for participating in the public consultation of the ICNIRP draft guidelines.

Please note that it is important that ICNIRP understands exactly the points that you are making. To facilitate our task and avoid misunderstandings, please:

* be concise
* be precise
* provide supporting evidence (reference to publication, etc.) if available and helpful.

**How to complete the comments table:**

Please use 1 row per comment. If required, please add extra rows to the table.

This response document asks you to provide your ‘comment’, your ‘proposed change’, and the ‘context’ to this comment and proposed change. What is meant by these is the following:

**Comment :** A brief statement describing the issue that you have identified (and that you would like ICNIRP to take into account in the final version of the guidelines).

**Proposed Change:** A brief statement describing how you would like the document changed to account for this issue.

**Context:** A brief statement identifying relevant documents in support of your comment and proposed change.

**Please, provide your details below as per the online form and the provision of the privacy policy**

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| --- | --- | --- |
| Last name, first name: PURANEN, Lauri | Email address: Your email address. | Affiliation (if relevant): STUK Radiation and Nuclear Safety Authority |
| If you are providing these comments officially **on behalf** of an organization/company, please name this here: organization/company  |
| [x]  I hereby agree that, for the purpose of transparency, **my identity (last and first names, affiliation and organization where relevant) will be displayed** on the ICNIRP website after the consultation phase along with my comments.[ ]  I want my comments to be displayed anonymously. |

|  | **Document****(Guidelines, App A,****App B)** | **Line Number****#** | **Type of comment (General/ Technical/ Editorial)** | **Comment. Proposed change. Context.** |
| --- | --- | --- | --- | --- |
| **1** | Appendix B | 192-194 | General | Microwave hearing effect may not be harmful to health but it is irritating. It may not be a problem in a working environment but may be in a living environment where general public can be exposed to pulsed microwave radiation for 24 hours per day. Long-term exposure to pulsed microwave radiation which evokes irritating microwave hearing effect in a living environment may indirectly cause harmful health effects. At least it impairs the quality of life.**Proposed change**Set restrictions for pulsed microwave radiation for general public to prevent microwave hearing effect.Explain the context of your comment. |
| **2** | Guidelines | 766-768 | General | No strict limits for contact currents are given in this draft. However, reference levels were given for contact currents up to 110 MHz in the ICNIRP 1998 guidelines and up to 10 MHz in the 2010 ICNIRP guidelines. Thus, there is a contradiction of the reference levels for contact currents in the frequency range from 100 kHz to 10 MHz between this draft and the ICNIRP 2010 guidelines.**Proposed change**Add reference levels for contact currents up to 110 MHz or update the ICNIRP 2010 guidelines in the next revision by removing the reference levels above 100 kHz.Explain the context of your comment. |
| **3** | Guidelines | 34-38 | General | Cosmetic procedures utilize RF energy which is transferred into tissue through direct contact or an air gap between the electrode and the skin. There is an urgent need for guidelines applicable for these procedures since this is one of the few applications of EMF that may cause instant adverse effects on the general public. It is unclear if RF currents transferred through galvanic contact are within the scope of the draft. In our opinion, the scope of the draft should be addressed to all cosmetic procedures utilizing RF energy, since the biological effects of the RF energy are the same regardless of the way the energy is transferred into tissue.**Proposed change**Cosmetic procedures utilize RF currents and EMFs. Explain the context of your comment. |
| **4** | Appendix B | 408-409 | General | The Health Risk Assessment Literature is rather general and lacks relevant references. The Appendix would be more informative and easier to read with the relevant references.**Proposed change**Add relevant references, at least review articles and reports.Explain the context of your comment. |
| **5** | Appendix A | 370 | Editorial | The side length of a 10 gram mass cube is 2.15 cm and not 2.15 mm.**Proposed change**As a result, the local SAR averaged over a 10 gram mass with side length of 2.15 cm is no longer …Explain the context of your comment. |
| **6** | Guidelines | 156 | Technical | The unit of transmitted energy density is joule per square meter (Jm-2) and not radiant exposure (Jm-2).**Proposed change**Replace ´radiant exposure (Jm-2)´ with joule per square meter (Jm-2) in Table 1. Explain the context of your comment. |
| **7** | Guidelines | 687 | Technical | The foot notes of Table 4 are ambiguous. **Proposed change**In foot note #3 replace ´For frequencies up to 2 GHz‘ with For frequencies above 400 MHz up to 2 GHz.Explain the context of your comment. |

Add further rows if needed. For this copy the above row.

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| **8** | Guidelines | 711 | Editorial | ´- - -´ is not used in Table 5**Proposed change**Delete foot note #5.Explain the context of your comment. |

And paste it here.