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.

**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: SCHIAVONI Andrea | Email address: Your email address. | Affiliation (if relevant): TIM |
| If you are providing these comments officially **on behalf** of an organization/company, please name this here: TIM |

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

|  | **Document****(Guidelines, App A,****App B)** | **Line Number****#** | **Type of comment (General/ Technical/ Editorial)** | **Comment** | **Proposed change** | **Context** |
| --- | --- | --- | --- | --- | --- | --- |
| **1** | Guidelines | 20 | General | Since the updating process of the guidelines is defined as to be periodical, the updating period should be indicated as well as should be indicated the typology of advances in research that could trigger an updating process of the guidelines, before the updating period | Accordingly, the guidelines will be periodically revised every ###### years and updated as advances are made in the relevant scientific knowledge. Advances in research that could start the updating process of the guidelines could be relevant to the following topics:* A – aaaaa
* B – bbbbb
* C – cccccc
* D – ddddd
* etc
 | Time line and triggering factors of the updating process should be not left floating |
| **2** | Guidelines | 27 | Editorial | ……. directly on tissue, ……  | …… directly on tissues, …… | Self Consistent |
| **3** | Guidelines | 27 | Technical | ….. rather than via an intermediate object. |  ….. rather than via an intermediate agent.  | Self Consistent |
| **4** | Guidelines | 30-31 | General | The rationale why carers and comforters are not covered by exposure limits need to be indicated as well as the reasons why they are not considered as people exposed for professional reasons. | Explain Rationale | Self Consistent |
| **5** | Guidelines | 43-45 | General | The guidelines can establish limits to known adverse effect at the time of preparation of the guidelines. | Adherence to these levels is intended to protect people from all known harmful effects of radiofrequency EMF exposure, known at the moment of preparation of these guidelines.  | The verb “known” is used as all possible effects are known at the time of preparation of these guidelines. Without any specification of the time frame, the phrase could be in contrast with statement of line 20 |
| **6** | Guidelines | 48-50 | Editorial | Consider bulleting the conditions | …..in general, reported effects need to be:* independently replicated;
* be of sufficient scientific quality;
* explicable more generally within the context of the scientific literature;

in order to be taken as …… | In order to emphasize the conditions ICNIRP uses to consider a publication „scientifically substantiated“ |
| **7** | Guidelines | 88 | Technical | Carers and comforters, as defined here, are not general public nor occupationally exposed individuals and that is in contrast with lines 30-31 (see comment 4) | Harmonization needed | Self Consistent |
| **8** | Guidelines | 111 | General | Remove the word „rapidly“ | Radiofrequency EMFs consist of oscillating electric and magnetic fields;  | The guidelines establish the frequency range so the adjective „rapidly“ is useless |
| **9** | Guidelines | 113 | Editorial | Remove the words „from its source“ | …. propagates away from a source, it transfers power, described in units …… | Self Consistent |
| **10** | Guidelines | 119-121 | Technical | Even inside an exposed body there are both E and H fields | …. These internal fields are referred to as induced fields (**E**, measured in volts per meter; V m-1 and **H**, measured in Ampere per meter, A m-1), and they can affect the body in different ways that are potentially relevant to health. …. | Self Consistent |
| **11** | Guidelines | 590-591 | Technical | The caption of table 2 refers to electric, magnetic and electromagnetic fields while columns show SAR and Str |  | Coherence between table caption and table content is required |
| **12** | Guidelines | 601-602 | Technical | The caption of table 3 refers to electric, magnetic and electromagnetic fields while columns show Local SA and Local Htr  |   | Coherence between table caption and table content is required  |
| **13** | Guidelines | 645-646 | Technical | Could be not so simple to define a diameter on the base of the antenna shape  | …… where D and **λ** refer to the diameter of a sphere that contains the radiator and wavelength respectively, in meters …….. | A more general and immediate definiton to D would help in defining the far field region |
| **14** | Guidelines | 697-699 | Technical |  The caption of table 5 refers to electric, magnetic and electromagnetic fields while column shows Incident plane wave power density  |   |  Coherence between table caption and table content is required  |
| **15** | Guidelines | 718-719 | Technical |  The caption of table 6 refers to electric, magnetic and electromagnetic fields while column shows Incident plane wave energy density  |   |  Coherence between table caption and table content is required  |
| **16** | Guidelines | Whole document | General | In any part of the Guidelines wideband signals are mentioned nor mentioned how to apply guidelines for signals whose power is spread over a frequency band that could be not negligible with respect to the center frequency. |   | Wideband spectrum signals should be mentioned as well as methodology to apply restrictions should be defined  |
| **17** | Guidelines | 720 | Editorial | Table 6, Occupational 6 – 300 GHz, a „[„ is missing |   | Self Consistent |
| **18** | Guidelines | 720 | Technical | Table 6, the minus sign at power is not intelligible | Include a space between the power raise and the brackets | Self Consistent |
| **19** | Guidelines | NA | Technical | A paragraph devoted to definitions is needed. Quantities like incident plane wave energy density and equivalent incident plane wave energy density or incident plane wave power density and equivalent incident plane wave power density need definition for a correct use of the guidelines | Include a section for the definition of all quantities used in the guidelines | Self Consistent |
| **20** | Guidelines | NA | Technical | In all the tables where levels are defined as formulas depending on frequency, time or any other quantity, it should be indicated clearly that formulas are only for the determination of the numeric value of the limit and disregarding the physical dimensions of the quantities | Disclosure required | Self Consistent |
| **21** | Guidelines | 697 | Technical | Table 5. Note 2 makes use of 6min time average period, but it refers to Table 4 where the time average period is 30 mins, so creating confusion. | Harmonization required | Self Consistent |
| **22** | Guidelines | 711 | Technical | Table 5, note 5: not applicable in the context of the table | Harmonization required | Self Consistent |
| **23** | Guidelines | Table 3 to Table 6 | Technical | Tables make reference to each other. This is not helpful for clarity, so creating confusion and misinterpretations. | Harmonization required | Self Consistent |
| **24** | Guidelines | 627-630 | Technical | Numbers and symbols are used as a method for distinguishing notes for far field or near field regions. Since notes are integral part of the relevant exposure limit, a clear indication of the application field would help in univocally identifying conditions. | Indicate directly which situation the note refers to. | Self Consistent |
| **25** | Guidelines | 685 - 686 | Technical | Table 4, Note 2: average over the whole body implicates a field sampling over a volume containing the body that should be defined in dimensions, since the Std Dev in human body dimensions could be large. Field sampling depends also on the frequency so the guidelines should address this point since it has a deep impact on assessment of the reference levels | Clarification of the impact that the averaging volume and field sampling to assess the reference level would be required here so to address, in the future, assessment procedures to comply with reference levels. | Self Consistent |
| **26** | Guidelines | 693-695 | Technical | Table 4, Note \*: for the sake of clarity, since E-field (in radiative region) or both E and H fields (in non-radiative region) must be measured, reference levels for both electric field and magnetic field should be provided also for frequencies over 2 GHz. | Table 4: To insert reference levels for both electric field and magnetic field in the frequency range over 2 GHz | Self Consistent |
| **27** | Guidelines | 682 | Technical | Table 4: the table should be consistent with basic restrictions assessment in the upper two frequency ranges that should be 400 MHz – 6 GHz and 6 GHz – 300 GHz respectively  | Table 4: To clarify frequency ranges accordingly with basic restriction assessment: 400 MHz – 6 GHz and 6 GHz – 300 GHz | Self Consistent |
| **28** | Guidelines | Table 3 and Table 6 | Technical | It is not clear the context - in terms of time dependence of exposure and type of sources - where to apply the tables. The guidelines should not leave any space to interpretation or lacks in definitions and applicability of reference levels. As an example: a periodic pulse source with a duty cycle time of 10s out of 360s falls in the conditions covered by Table 3 or 6?  | Revision of Chapter 5.2 is required | Self Consistent |
| **29** | Guidelines | Table 4 and Table 5 | Technical | Table 5 is a complement to Table 4. What are the reasons to have 2 tables for the same quantity? That creates a lot of confusion and misinterpretation. | Harmonization needed | Self Consistent |
| **30** | Guidelines | Whole 5.1 and 5.2 paragraphs | Technical | A deep and strong revision is required in order to increase clarity, to avoid misinterpretations, to define quantities left undefined, to clarify the context of application and to cover all aspects (frequency bands, sources definition, context of application, lack of reference levels) | Deep revision required | Self Consistent |