



March 8, 2019

Re: Comments from Ericsson on 842590 Upper Microwave Flexible Use Service DR01-49707

Attached are Ericsson comments with regard to the guidance on the evaluation of millimeter wave (mmW) devices that are subject to Part 30 of the FCC rules.

Respectfully submitted,

/s/ Aurelian Bria
Aurelian Bria
Jonas Friden
Ericsson

| T or E (technical or editorial) | FCC KDB Page and section | Original text /comment | Recommended Text |
|--|--------------------------------|---|--|
| E | p5 section B | Change definition of beam. | The major lobe of the radiation pattern of an antenna. |
| E | Many places | Both the words Annex and Appendix are used interchangeably. | Suggest using only one of Annex or Appendix |
| T | p.12 section 2.5 | <p>The Gain of the EUT antenna needs to be properly measured or simulated over the above-mentioned frequency range.</p> <p>Note, a decrease of correlation level will lower the gain. Because the final result is assessed by subtracting antenna gain (in dB) it is important that the gain is not over-estimated. Any uncertainties should be accounted for to yield a proper, or underestimated, antenna gain.</p> | <p>The Gain of the EUT antenna is to be properly measured or simulated over the above-mentioned frequency range.</p> <p>Specifically, the effect of lowered signal correlation in an array antenna and its effect on decreasing the gain, is to be properly addressed at all used frequencies.</p> |
| T | p.12 section 2.5 a) 1-4 | <p>It is not clear if a single beam can contain different polarizations, reference bullet 4.</p> <p>This has been addressed and further developed in the ANSI C63.26 mmw JTG.</p> | We recommend to update with the latest text from the ANSI C63.26 mmWave JTG. |
| E | p.12 section 2.5 a) 4 etc | PSD | PSD needs to be defined in this document because EIRP spectral density, TRP spectral density and Conducted Power spectral density are different. |
| E | p.14 section 3.3.3 | The first sentence is obsolete as it is already mentioned in section 2.1 therefore it is not necessary to be repeated in all the methods. | Remove the sentence from the methods. |
| E | p.15 section 3.3.3 | If TRP measurement method is not possible to use | The sentence “If TRP measurement method is not possible to use, ” should be deleted. |
| E | p. 16 section | Δ TRP is in dB | Δ TRP = (SF-1)/(SF_max-1) dB |

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|---|---------------------|---|--|
| | 3.3.4 bullet g) 2 | | |
| E | p. 17 Appendix A | Change the word D_ "cyl" is needed | D _{cyl} |
| T | p. 19 Appendix B | It is suggested to move the sentences " In cases when an OEM ..." and "Any other theoretical or empirical ..." to Appendix A and the discussion should be about how the reference steps are calculated. It is always permitted to use something between the reference step and 15 degrees at the cost of adding the ΔTRP correction factor. | In cases when an OEM uses a reference step larger than the values calculated by (A.3) and (A.4), i.e., corresponding to source dimensions smaller than the entire EUT, then an OEM needs to provide thorough analysis and/or empirical data to support their choice and the corresponding correction factors ΔTRP may be used after obtaining regulatory acceptance. |
| T | New | The choice of angular grid and steps is crucial for a correct assessment of TRP. Hence, we suggest that information on the type of measurement grid, angular steps, and source dimensions should be documented in the test report. | Information on type of measurement grid, angular steps, and source dimensions shall be documented in the test report. |