

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: **Managing the spectrum above 275 GHz**

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Name : **TRISTANT Philippe**

Signed (if hard copy)

1 Introduction

The European Meteorological Network (EUMETNET – www.eumetnet.eu) would like to thank the UK OFCOM for the opportunity to comment on the Public Consultation related to "Managing the spectrum above 275 GHz".

Indeed, frequency bands above 275 GHz are already used and would be used in future by meteorological satellites, mainly for oxygen and water vapour measurements.

The hydrological cycle is the most important subsystem of the climate system for life on the planet and its understanding is of the utmost importance. Cloud ice and water vapour are two components of this hydrological cycle in the upper troposphere and are both not sufficiently measured currently. To this respect, the use of the relevant passive frequency bands between 275 and 1000 GHz will enable the retrieval of cloud ice water content and ice particle size.

Together with a number of other meteorological and scientific bodies, EUMETNET is currently working on specifying these relevant passive frequency bands under WRC-11 agenda item 1.6 and one can expect that WRC-11 outcomes would provide a much more detailed designation and understanding of passive services requirements compared to the current RR N° 5.565.

On a general basis, although recognising the need for Radio Regulators, such as OFCOM, to anticipate future spectrum requirements and to regulate spectrum on a long-term basis as far as is possible, EUMETNET is of the view that, concerning this particular issue of bands above 275 GHz, the WRC-11 outcomes on agenda item 1.6 should be considered before any new regulation is adopted.

2 Response to the consultation questions

Q1: Is 3000 GHz a reasonable value for the upper frequency limit for licence-exempt use?

As far as active radio applications are concerned, EUMETNET is not in a position to assess the relevance of this upper limit. It can however be stressed that 3000 GHz is the upper limit of radio-waves as currently defined in the Radio Regulations.

Concerning passive applications, it can already be stated with quite a high level of confidence that water vapour and oxygen resonance lines above 1 000 GHz are not expected to be of interest for meteorological/climatological investigations.

Q2: Do you agree with the constraints specified for licence-exempt use of the 275-3000 GHz band?

EUMETNET is currently not in a position to agree on whether or not the specified constraints specified in the OFCOM proposal are acceptable.

Indeed, as far as unlicensed applications are concerned, considering only eirp or power limits is not sufficient to assess possible impacts on passive sensors. Such assessments need to consider the expected number of applications (and hence aggregate interference) as well as all possible operational conditions of these applications. Clearly, one can at this stage only recognise the lack of information about any active use of these bands, as consistently stressed in the OFCOM consultation document.

Also, as mentioned above, the sensitivity of passive sensors cannot be based on free-space attenuation considerations but only on passive sensing protection requirements that differ on a band-by-band basis and which do not follow any frequency proportional rule.

To this respect, EUMETNET certainly welcome that OFCOM preferred approach is Option 3 to "*Release the spectrum in the 275-3000 GHz band for use by licence-exempt devices,*

excluding the bands identified for spectral line measurements in Footnote 5.565.” but would urge OFCOM to wait for WRC-11 outcomes that would provide an up-to-date list of passive frequency bands identified between 275 and 3000 GHz.

3 Conclusion

EUMETNET believes that, considering the status of technology developments for active applications in the 275-3000 GHz range, there is no urgency to push for a Regulation for unlicensed equipment in this range, at least before WRC-11.

EUMETNET supports OFCOM Option 3 but would urge OFCOM to wait for WRC-11 outcomes on agenda item 1.6 before any decision is made.
