

UWB USE OF 24 GHz BAND IN EUROPE

CGMS is informed by ESA about the status of the UWB use of 24 GHz band in Europe.

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UWB use of the 24 GHz band in Europe: status report

1. - INTRODUCTION

This document provides a quick report on the status of the discussions in Europe about the potential use of UWB (UltraWide Band) technology for car collision avoidance Short Range Radars (SRRs) in the band around 24 GHz.

The information contained is previous to a specific CEPT (European Conference of Postal and Telecommunications Administration) meeting that took place the week before the Space Frequency Coordination Group SFCG-23 meeting.

2. - STATUS

The most important evolution of the SRR discussion in Europe has been the fact that CEPT concluded on the non-feasibility of the sharing between SRRs and most of the other services operating in the 24 GHz area, including in particular the EESS (passive) service operating in the band 23.6-24 GHz.

This was the case even in the presence of a change in the SRR characteristics indicated by the SARA (Short-range Automotive Radiofrequency Allocations) group, which aligned these technical specifications to the FCC (Federal Communications Committee) ones, both in terms of eirp and in term of reductions of the non-horizontal emission limits in time-steps.

For the EESS part, this conclusion was based on studies similar to the one presented by ESA at the previous SFCG meeting (SF 22-20/D). A deficit of 10.8 dB was calculated in the sharing scenarios that considered the final market penetration figures, implying that compatibility could only exist in the case of a market penetration capped to 10%.

Frequencies in the 77 GHz range have been identified as the only possible long-term solution to allow the SRR deployment.

The discussion has therefore concentrated on the possibility (or not) of developing a short-term solution allowing a temporary deployment of SRRs at 24 GHz up to a TBD date, under the hypothesis that the market penetration of these devices will remain below the 10% threshold.

Three positions are under discussion.

The SARA position asking for the possibility to market 24 GHz devices up to 2014, with the justification that 77 GHz devices cannot be commercialised before and that anyhow the market penetration will be below 10% until that date.

The EESS community position stating that this temporary solution is unacceptable, also because it would violate footnote 5.340 (no emission)

A possible compromise solution of limiting the production of 24 GHz SRRs to the year 2008, when the market penetration will be still low enough to take care of some of the uncertainties in the sharing analysis.

The compromise solution is not really supported by any of the two “groups”. SARA state that it could not work from a commercial point of view and in any case they will not be ready by 2008 with the 77 GHz technology (!). The EESS community is very worried by any acceptance of the principle that you can waive the application of 5.340 and by the consequences this may have also in other areas.

At the moment the situation is somehow blocked, with most of the European administration objecting to any use at 24 GHz (mostly to protect the FS - Fixed Service - systems in that band) and the European Commission heavily pushing in support of the SARA position.

3. – WHAT WAS PROPOSED FOR THE SFCG MEETING

It is proposed to have an exchange of opinions in SFCG on the best tactical way to tackle the problem at regional level and at ITU level (TG/1/8).

An important discussion element should also be the evaluation of the correctness of the SARA statement that the 77 GHz technology still requires more than 10 years of development. How does it compare with the indications that Japanese industry is ready to put these devices on the market? Are we really talking about the same devices? What is the situation in the US?

The result of these discussions should hopefully help us for the next relevant meetings within CEPT.