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DIGITALEUROPE position on Direct Air To Ground Communications (DA2GC) in the 2.4 GHz band

Introduction of the issue

DIGITALEUROPE is closely monitoring CEPT activities on the 2.4 GHz band. As such, DIGITALEUROPE became aware that the ECC WG FM had considered a document from Lufthansa Systems AG containing an alternative proposal (to using licensed spectrum) to use the 2.4 GHz and the 5.8 GHz unlicensed bands for deploying a European wide network of DA2GC base stations.

1. Challenges in the 2.4 GHz band

- ***European Commission - TCAM***

In June 2008, the European Commission issued a position paper w.r.t. the future usage of the 2.4 GHz band by license exempt applications. This position was endorsed by the EU member states during TCAM 26.

In summary, the European Commission re-stated that ALL devices operating in the 2.4 GHz band have to implement adequate spectrum sharing techniques for complying with the existing regulations and harmonised standards (*Reference to the EC Decision for SRDs, Sub-Class 22 and EN 300 328*). The European Commission also instructed ETSI to revise EN 300 328 to detail such sharing techniques.

- ***ETSI - EN 300 328***

As a result of the decision of the EC which was endorsed by TCAM 26, ETSI started work on the revision of EN 300 328. It took ETSI almost 3 years to complete this work and the Public Enquiry for this revised standard has just started. This work was extremely difficult as some applications asked for an exemption from having to implement a polite spectrum sharing mechanism. However national administrations as well as the European Commission restated several times that no exemption (from having to implement a spectrum sharing mechanism) should be given to any application. Applications which did request an exemption were refused this exemption and where instructed to either comply with the sharing rules or to find solutions outside the 2.4 GHz band.

2. Problem Statement

The implementation of a mandatory spectrum sharing mechanism would prevent the DA2GC to operate as intended. In addition, with the existing power limits (100 mW eirp if sharing is implemented) it would be impossible to deploy an European wide network of DA2GC base stations. Hence why it is expected that these systems may use a higher output power (conducted + eirp).

Allowing one type of SRDs or license exempt users to transmit at a higher power and exempt them from having to implement a mandatory spectrum sharing mechanism would go against the “technology neutrality” principle. It is not only unfair to other polite users of the band, but may in addition result in outdoor usage of other SRDs (e.g. outdoor WiFi networks) becoming impossible in Europe.

3. DIGITALEUROPE proposal

In order to maintain the balance in the intensively used 2.4 GHz band, the requirements such as maximum output power and the need for a polite spectrum sharing mechanism should be identical for all license exempt users of this band.

DA2GC as presented in document INFO 009 (Wiesbach WGFM meeting) cannot be considered a short range device and therefore FM48 should focus on other solutions proposed within the PT and which are based on using licensed spectrum.

Unless DA2GC can comply with existing regulations and harmonised standards (including the current power limits (eirp) and the requirement to implement a spectrum sharing mechanism), these systems should not be accommodated in the 2.4 GHz band.

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