

# An overview of ECC activities on spectrum use for UAS/Drones

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- Aims

## History

- CG on spectrum requirements for drones started at WGFM#82 – February 2015
- **CEPT Questionnaire on UAS in 2015**
  - The purpose of this questionnaire was to collect available information from CEPT administrations. The questionnaire was also made available to organisations which have an MOU/LOU with the ECC including ICAO, EASA and other competent organisations.
- Result → Deliverables
  - Development of **ECC Report 268**
  - **Explanatory paper related to non-professional Drones - UAS** use under general authorisations

## ECC Report 268

This Report focusses on UAS that fly in circumstances where they do not need communications with air traffic control (ATC)

It covers the area between flying models under SRD regulations on one hand and Certified Category use (more ITU-R relevant, real aeronautical use) on the other hand. Within this area, many new UAS applications for professional use emerge.

Harmonisation of preferred frequencies for UAS. The main reasons behind proposals are that:

- Using unlicensed bands shared by various types of applications would not be appropriate for some professional UAS due to risk of interference, and may not meet the expectations of professional UAS service providers (unsecure investments, emission limits do not support the intended operating range);
- Harmonisation would foster a common market for UAS products and may for some professional UAS usage scenarios help to avoid cross-border issues.

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- It covers the area between flying models under SRD regulations on one hand and Certified Category use (more ITU-R relevant, real aeronautical use) on the other hand. Within this area, many new UAS applications for professional use emerge.
- Harmonisation of preferred frequencies for UAS. The main reasons are that:
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# Spectrum Use Options

- General authorisations ('SRD' usage)
- Drones/ UAS flown via the MFCN
  - New Work item in ECC PT1 towards an ECC Report triggered via ECC Report 268
- Professional Drones flown via individual licensed spectrum
  - Within existing opportunities of PMR, PMSE, etc.
  - Find a new harmonised solution
    - Supporting small size (CC and payload in same frequency ranges)
    - Spectrum use to be shared but individually licensed providing very reliable spectrum usage conditions

## Unlicensed Use

- Explanatory paper exists and is referenced in ERC Recommendation 70-03
- The Open Categories A0 and A1 are seen as the non-professional use 'lower' Open Categories.
- Non-professional UAS use is considered to make use of frequency opportunities under general authorisations (predominantly in the 2.4 GHz and 5.8 GHz bands).
- In this context, the use of 5 GHz WAS/RLAN as defined by ECC/DEC/(04)08 is not allowed for airborne unmanned aircraft.

## Current activities

- CEPT Workshop on Spectrum for Drones / UAS
- Gathering additional information especially for professional drones (open categories and specific category) concerning spectrum requirements
- Frequency options for professional Drones /UAS
  - Command & control
  - Combined Command & control and payload



## Aims

- Find suitable spectrum for professional drones
  - command & control
  - geo-fencing, if required
  - e-identification, if required
  - radio based DAA (Detect And Avoid), if required
  - Anti-colission (either by communication solutions or sensors)
  - Other radio based application supporting Command & Control
  
- ECC Deliverable

## To whom it may concern - to participate

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