



**Twenty-first Meeting of the CAR/SAM Regional Planning and Implementation Group
(GREPECAS/21)**

Santo Domingo, Dominican Republic, 15 to 17 November 2023

Agenda Item 3: Global and Regional Developments
3.3 CAR/SAM Air Navigation Services (ANS) Implementation Level

**DECISION MAKING FOR THE DEVELOPMENT OF AN AVIATION RADIO-ELECTRIC
SPECTRUM MANAGEMENT TOOL**

(Presented by Dominican Republic)

EXECUTIVE SUMMARY	
<p>Pursuant to the results of the Twentieth Meeting of the Regional Planning and Execution Group for the Caribbean and South America (GREPECAS/20), held in Salvador, Bahia, Brazil, from 16 to 18 November 2022, which approved Conclusion GREPECAS/20/13 for the Creation of an Ad-hoc Group for the Development of a Regional Project for the Management of Aeronautical Frequencies.)</p> <p>Therefore, the purpose of this working paper is to request Member States and organizations to create a project for the development of a robust Aviation Radio Spectrum Management Tool.</p>	
Action:	Suggested actions are presented under paragraph 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Safety • Air navigation capacity and efficiency • Economic development of air transport • Environmental protection.
<i>References:</i>	<ul style="list-style-type: none"> • Meeting of the ad-hoc Group on Regional Air Frequency Management, face-to-face, 30 January to 3 February 2023. • Doc. 9718 Volume I/II. • Geographic Separation Criteria. • Frequency Assignment Planning Criteria

1. Introduction

1.1 There is a need to correctly and efficiently manage the frequencies for aviation services in the Member States and organizations since the radio electric spectrum is a finite resource and must therefore be managed for its correct use.

1.2 In recent years, there has been an increase in the number of air navigation services in each of the States, which requires a greater number of frequencies to support these new services.

1.3 This increase results in a high probability of intermodulation occurrences, among other problems, due to the incorrect use of frequencies and their repetition in adjacent States, since we do not have a robust tool to perform an efficient and reliable analysis of the radio spectrum, in order to avoid interferences.

1.4 Currently, we have an application that performs some of the functions required by States and organizations, but this tool does not have the necessary support and robustness for proper spectrum management, since it does not consider several parameters necessary to perform calculations to avoid possible intermodulation.

2. Discussion

2.1 The Ad-hoc group agreed as its main objective during the last meeting in February of this year, to create a regional mechanism to ensure the correct and efficient management of frequencies for aviation services in the NAM/CAR/SAM Regions in order to improve safety, avoid interference and other problems related to the use of frequencies.

2. Likewise, the meeting discussed the challenges of the CAR and SAM Regions in terms of aeronautical frequency management and identified:

- a) the need to update the CAR and SAM Regions aeronautical frequency databases;
- b) to update the aeronautical management procedures of both regions and standardize their regional use; and
- c) to establish Points of Contact with the States of both regions, who are specialists in the area to support aeronautical frequency management activities, to ensure the correct use of the frequencies and to contribute to providing the necessary recommendations for the use of the radio spectrum bands for future services.

2.3 As a result, an important aspect that was highlighted was the need for a mechanism or tool that would allow States to analyze the use of frequencies.

2.4 Following up on the actions suggested in paragraph 2.2 (a), we noticed that, in the process of this activity, we found many errors in our lists of VHF NAV COM-2 and VHF COM-3 frequencies, which had to be amended and sent to the NACC Regional Office for correction in the database.

2.5 Finally, at the time of making the corresponding updates to our lists, we noticed the deficiency and lack of robustness of the Frequency Finder tool currently in use.

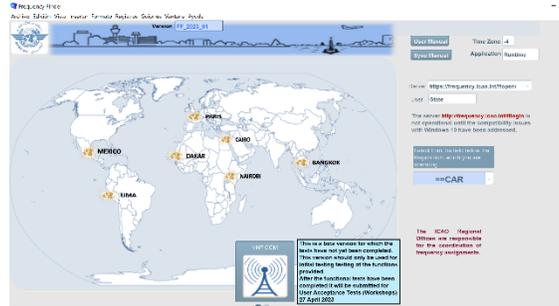


Figure 1: Frequency Finder Tool



Figure 2: Frequency analysis details.



Figure 3: Extended Range Analysis

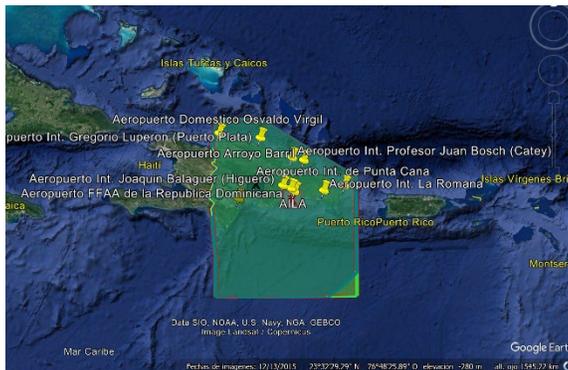


Figure 4: FIR SANTO DOMINGO.

3. Suggested Actions

3.1 The meeting is invited to:

- a) consider the information presented in this working paper;
- b) develop, through a cooperation project, a more modern, efficient, robust, secure, and reliable tool that has support and meets the necessary requirements for proper spectrum management;
- c) training technical personnel on the use of the tool to be developed through the cooperation project; and
- d) any other action that the Meeting deems appropriate.

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