



*International Civil Aviation Organization*

**SECOND MEETING OF SPECTRUM REVIEW WORKING GROUP (SRWG/2)**

Bangkok, Thailand 12 – 14 May 2015

**Agenda Item 5: Recommendations for improvement of VHF frequency planning**

**HARMONIC INTERFERENCE**

(Presented by Airports Authority of India)

**SUMMARY**

This paper discusses the harmonic interference in the frequency assignments and issues on use of air-to-air frequency.

**1.0 INTRODUCTION**

1.1 This paper intends to discuss the harmonic interference in the VHF assignments experienced by India as well as issues concerning the use of air-to-air frequency 123.450 MHz.

**2.0 DISCUSSION**

**2.1 Harmonic Interference:**

2.2 There are few instances where second harmonic of an assigned frequency (say F1) minus some other operating frequency (say F2) causing interference to a third operating frequency (F3).

2.3 A typical case of such instance is appended below for understanding:

Guwahati Airport			
Assigned frequencies		Interference Analysis	
SMC	121.9 MHz	Second Harmonic of SMC frequency Minus APP (Main) frequency found to interfere with ACC frequency (120.500Mhz)	243.8 – 123.3 = 120.5 MHz
APP (Main)	123.3 MHz		
ACC	120.5 MHz		

2.4 This aspect has to be addressed by the new frequency finder tool. The SRWG may discuss and address the issue.

### **3.0 Air-to-air frequency 123.450 MHz:**

3.1 The secretariat has highlighted that as per Frequency List No. 3 air-to-air frequency 123.450 MHz (frequency spot in national aeronautical mobile service) are assigned to ground stations at 32 locations in AsiaPac region which can probably cause interference. It has further suggested that state could decide to use this frequency spot at small airfields where no air traffic services are provided.

3.2 India will review and revise such assignments as suggested by the secretariat.

### **4.0 Exclusion of reserved frequencies from the new frequency finder:**

4.1 It may be recalled that during 3<sup>rd</sup> Web Conference, India pointed out that air-to-air frequency 123.450 MHz and its adjacent channels 123.425 MHz and 123.475 MHz was included in the list of candidate bands in the frequency finder.

4.2 The above frequencies may be excluded from new frequency finder tool to avoid interference to air-to-air frequency.

### **5.0 ACTION BY THE MEETING**

5.1 The meeting is invited to:

- a) Note the information in this paper; and
- b) Discuss the issues for necessary remedial action