|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C:\Program Files\Default Company Name\ICAOMainMenuSetup\Icons\icaologo.jpg | International Civil Aviation Organization**WORKING PAPER** |

|  |
| --- |
| ACP-WGF30/WP252014-03-04 |
|  |

 |

**AERONAUTICAL COMMUNICATIONS PANEL (ACP)**

**30TH MEETING OF THE WORKING GROUP F**

**Pattaya, Thailand 13 – 19 March 2014**

|  |  |
| --- | --- |
| **Agenda Item 10:** | **Any other business** |

proposal for proffesional programme making
and special event sharing in the
frequency band 960-1300 MHz

(Presented by *John Mettrop*)

|  |
| --- |
| **SUMMARY** |
| This paper informs the meeting of a proposal to carry out sharing studies in the UK to identify whether any white space could be identified in the frequency range 960-1300 MHz that could be considered for use by programme making and special event purposes on a co-ordinated basis.  |
| **ACTION** |
| The ACP WGF is invited to:* Note the content of the paper and the potential challenge to the aeronautical industry.
* That WG-F begin work on developing protection criteria for it’s system as a matter of urgency giving priority to those frequency bands that are currently the subject of study either on the International or National basis
 |

1. INTRODUCTION
	1. Professional programme making and special event (PMSE) equipment currently operates in the white spaces between TV transmissions in the frequency range 600-800 MHz (ETSI Standards attached). However this frequency band is already earmarked in Europe for future IMT use and hence PMSE will have to be found an alternative frequency band in which to operate.
	2. Ofcom have carried out a survey of the frequency use below 2.4 GHz (Upper bound of where it assumed PMSE can operate) to identify any contiguous 200 MHz frequency band that is not already allocated to the mobile service that might be a candidate for sharing by PMSE. As a result two frequency bands have been identified 1.5 GHz satellite spectrum and the frequency band 960-1300 MHz.
2. discussion
	1. The UK Civil Aviation Authority (CAA) have been approached by Ofcom about their intention to study the possibility of using professional programme making and special event equipment for theatres and outdoor events (e.g. concerts, motor racing, one off events such as the jubilee) in the frequency band 960-1300 MHz. The intention of the studies is to identify the amount of white space that might be available with the frequency band that could then be co-ordinated on an adhoc basis for PMSE use and that any solution might be viable internationally thus reducing equipment costs.
	2. In order to further their studies Ofcom have asked the CAA to provide information about the systems that operate within the frequency band 960-1300 MHz and what the protection criteria for those systems are. Whilst the CAA have provided a list of systems that operate within the frequency range we have yet to provide the relevant protection criteria as these are not necessarily defined with respect to potential interference from PMSE equipment.
	3. For instance the protection criteria for DME are well defined for planning purposes against other DME in ICAO and global navigation systems in the ITU. Additionally criteria are available against pulsed systems such as JTIDS however there is little information available for non-pulsed systems such as PMSE. Some work in the UK would suggest a protection value of -115 dBm within 3 MHz of a DME channel for a CW signal. How this could be translated to a OFDM type signal needs to be considered. However what are the protection criteria for LDACS, UAT etc and even which type of LDACs should be considered.
	4. The UK CAA will have to provide Ofcom with protection criteria and no doubt work with Real Wireless (the Ofcom nominated contractor for the studies) on the studies. Given that the intention of Ofcom is, if possible, to select a band that could be harmonised as widely as possible globally the CAA wants to make sure we are using the correct criteria and that the international aviation community is kept informed.
3. conclusions
	1. Aviation needs to be aware of the proposal to allow PMSE equipment to operate in the frequency band 960-1300 MHz on a co-ordinated basis.
	2. Aviation can no longer expect to be able to operate in exclusive frequency bands without clear justification that will stand technical scrutiny.
	3. That it would be preferable that aviation had the necessary protection information to hand and therefore would be able to react quickly to requests such as this rather than being on the backfoot.
	4. That aviation needs to develop protection criteria for its radio systems, preferably recorded in an ITU Recommendation, that can be used when a proposal for sharing is received.
	5. That such protection criteria should be developed in ICAO in a manner that would allow easy conversion to an ITU-R Recommendation at a future date when aviation agrees they are sufficiently
4. ACTION BY THE MEETING
	1. The ACP WG-F is invited to:
* Note the content of the paper
* That WG-F begin work on developing protection criteria for it’s system as a matter of urgency giving priority to those frequency bands that are currently the subject of study either on the International or National basis

**Attachment 1**

**ETSI PMSE Standard**

