WAC Informal Working Group (IWG)-1

Modifications to NTIA's Proposal on
Agenda Item 1.12

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.12: *to protect the primary services in the band 37-38 GHz from interference resulting from aeronautical mobile service operations, taking into account the results of ITU-R studies, in accordance with Resolution* ***754 (WRC-07)***

Background Information: Administrations are implementing space research service (SRS) earth station receivers in the band 37-38 GHz to support manned missions for both near Earth and deep space missions. Use of the wider bandwidth available in the 37-38 GHz band is necessary to support the increasing data requirements of these planned manned missions.

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The ITU studied sharing between systems in the space research service (SRS), fixed service (FS), and fixed-satellite service (FSS) and potential systems in the aeronautical mobile services (AMS) in the 37-38 GHz band. The sharing studies indicate that high power emissions from typical aeronautical mobile transmitters would pose a high probability for causing harmful interference to receiving earth stations of the space research service and fixed-satellite service, but that lower powered aircraft stations could be compatible, if they meet a specified pfd mask. These studies also found that transmissions from the high-density fixed service (HDFS) systems could interfere with the airborne receivers of the AMS.

The aviation industry anticipates increasing demand for applications to be installed onboard aircraft for intra-aircraft communications, called Wireless Avionics Intra-Communications (WAIC). WAIC systems will be low power applications intended to support data, voice, and video communications between systems on an aircraft, including communications systems used by the crew. Wireless sensors located at various points throughout the aircraft will be used to wirelessly monitor the health of the aircraft structure and many of its critical systems, and communicate this information within the aircraft. WAIC transmissions will not provide air-to-ground, air-to-satellite, or air-to-air communication. They will not include communications with consumer devices, such as Radio Local Area Network (RLAN) devices that are brought on board the aircraft by passengers. Therefore, since these systems are for aviation personnel use and not the general flying public, such systems may be able to meet the pfd limits needed to protect other allocated services.

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Proposal:

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No. **2.1**)

MOD USA/AI1.12/1

37-38 GHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
37-37.5	FIXED MOBILE ADD 5.AMS SPACE RESEARCH (space-to-Earth) 5.547	
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE ADD 5.AMS SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	

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ADD USA/AI1.12/2

5.AMS The power flux-density (pfd) produced at the surface of the Earth radiated by a station in the aeronautical mobile service shall not exceed -227 dB (W/m^2) in any 1 Hz bandwidth.

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Reason: In accordance with the agenda item, earth stations of the space research service, the fixed satellite service, and stations of the fixed service will be protected in the band 37-38 GHz by the application of a power flux-density (PFD) limit at the surface of the Earth on the emissions radiated by any device on an aircraft in flight or on the ground.