

**IWG-1 Modifications to Draft RCS Proposal on
AI 1.2 Addressing 36-37 GHz Band**

United States of America

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 1.2: to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological-satellite service in accordance with Resolutions **746 (WRC-03)** and **742 (WRC-03)**;

Background Information: This proposal addresses Resolution **742 (WRC-03)**, “consideration of sharing criteria between the passive services and the fixed and mobile services in the band 36-37 GHz to determine appropriate sharing criteria and to consider the possible inclusion of such sharing criteria within the Radio Regulations.”

The frequency band 36-37 GHz is allocated to the Earth exploration-satellite (passive), the space research (passive), the fixed and the mobile services on a primary basis. This band has been used for passive sensing of the Earth and its atmosphere for many years. It is an important resource for remote sensing of rain rates, snow, sea ice and clouds and is often used in conjunction with a number of other passive sensing bands to extract such data. A variety of scientific and meteorological spacecraft carry instruments that utilize this band. There is limited use of the band by the fixed or mobile services. However, determination of appropriate sharing criteria should not place undue constraints on the future use of the band by the fixed and mobile services.

The ITU-R has undertaken studies that should result in Recommendations in Study Group 9 and Study Group 7, which would recommend various interference mitigation measures to be taken. These studies indicate that passive sensing systems may receive excessive interference if there are no limitations on the power of fixed and mobile service transmitters as deployment densities of the terrestrial services in this band increase. Based on the results of these studies, a new footnote in Article **5** of the Radio Regulations should be added, containing appropriate transmitter power limits on future systems operating in the 36-37 GHz band for the fixed and mobile services.

Proposal:

USA/ /1 MOD

34.2-40 GHz

Allocation to services		
Region 1	Region 2	Region 3
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36-37	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149 ADD 5.AAA	
.....		

USA/ /2 ADD

5.AAA In the band 36.0-37.0 GHz, the power delivered to the antenna of a station brought into use in the fixed or mobile services in that band after [effective date of WRC-07 Final Acts] should ~~all~~ not exceed -10 dBW.

Reasons: Passive sensor measurements in this band are currently being used to determine rain, snow, ocean ice and water vapor properties for use in numerical weather prediction models and other scientific applications including studies the hydrological cycle or global water circulation. Currently, this band is lightly used worldwide by the fixed and mobile services. It is necessary to establish an appropriate operational environment to protect the future use of Earth exploration-satellite (passive) and space research (passive) services in this band without imposing undue constraints on the fixed or mobile services. Moreover, implementation of this power limit is sufficient to protect the passive services; no unwanted emissions requirements would be necessary.
