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## RESOLUTION 161 (WRC-15)

**Studies relating to spectrum needs and possible allocation of the frequency band 37.5-39.5 GHz to the fixed-satellite service**

The World Radiocommunication Conference (Geneva, 2015),

*considering*

- a) that satellite systems are increasingly being used to deliver broadband services and can help enable universal broadband access;
- b) that next-generation fixed-satellite service technologies for broadband will increase speeds (45 Mbps is already available), with faster rates expected in the near future;
- c) that technological developments such as advances in spot-beam technologies and frequency re-use are used by the fixed-satellite service (FSS) in spectrum above 30 GHz to increase the efficient use of spectrum;
- d) that fixed-satellite applications in spectrum above 30 GHz, such as gateways, should be easier to share with other radiocommunication services than high-density fixed-satellite service (HDFSS) applications;
- e) that FSS systems based on the use of new technologies above 30 GHz and associated with both geostationary (GSO) and non-geostationary (non-GSO) satellite constellations are capable of providing high-capacity and economically feasible communications even to the most isolated regions of the world;
- f) that the frequency band 36-37 GHz is allocated on a primary basis to the Earth exploration-satellite service (EESS) (passive) and the space research service (SRS) (passive), which must be adequately protected,

*considering further*

- a) that Recommendations ITU-R S.1323, S.1325, S.1328, S.1529 and S.1557 provide information on system characteristics, operational requirements and protection criteria to be used in sharing studies;
- b) that it may be technically feasible to have a new FSS allocation in the frequency band 37.5-39.5 GHz (Earth-to-space) for operations of gateway earth stations, depending on the results of technical studies,

*noting*

- a) that filing information for GSO satellite networks in the frequency band 37.5-42.5 GHz (space-to-Earth) has been communicated to the Radiocommunication Bureau;
- b) that some of these GSO satellite networks are in operation and others will be operated in the near future;

c) that the frequency band 37.5-38 GHz is allocated to SRS on a primary basis in the space-to-Earth direction;

d) that the frequency band 37.5-39.5 GHz is allocated to EESS on a secondary basis in the space-to-Earth direction,

*recognizing*

the need to protect existing services when considering frequency bands for possible additional allocations to any service,

*resolves to invite ITU-R*

to conduct, and complete in time for WRC-23:

1 studies considering additional spectrum needs for development of the fixed-satellite service, taking into account the frequency bands currently allocated to FSS, the technical conditions of their use and the possibility of optimizing the use of these frequency bands with a view to increasing spectrum efficiency;

2 sharing and compatibility studies with existing services, on primary and secondary basis, including in adjacent bands as appropriate, to determine the suitability of new primary allocations to the FSS in the frequency band 37.5-39.5 GHz (Earth-to-space, limited to FSS feeder links only) for both GSO and non-GSO orbit use;

3 studies towards possible revision of Resolution **750 (Rev.WRC-15)** so that systems operating in the passive frequency band 36-37 GHz are protected,

*further resolves*

to invite WRC-23 to consider the results of the above studies and take appropriate actions,

*invites administrations*

to participate actively in these studies by submitting contributions to ITU-R.