

## RESOLUTION 656 (REV.WRC-19)

**Possible secondary allocation to the Earth exploration-satellite service (active) for spaceborne radar sounders in the range of frequencies around 45 MHz**

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

*considering*

- a)* that spaceborne active radio-frequency sensors can provide unique information on physical properties of the Earth and other planets;
- b)* that spaceborne active remote sensing requires specific frequency ranges depending on the physical phenomena to be observed;
- c)* that there is an interest in using active spaceborne sensors in the vicinity of the frequency range 40-50 MHz for measurements of the Earth's subsurface to provide radar maps of subsurface scattering layers with the intent to locate water/ice/deposits;
- d)* that worldwide, periodic measurements of subsurface water deposits require the use of spaceborne active sensors;
- e)* that the frequency range 40-50 MHz is preferable to satisfy all requirements for spaceborne radar sounders;
- f)* that spaceborne radars are intended to be operated only in either uninhabited or sparsely populated areas of the globe, with particular focus on deserts and polar ice fields, and only at night-time from 3 a.m. to 6 a.m. locally,

*recognizing*

- a)* that the frequency range 40-50 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis;
- b)* that the frequency range 40.98 to 41.015 MHz is used by the space research service on a secondary basis;
- c)* that country footnotes in the Table of Frequency Allocations for the frequency range 40-50 MHz provide primary allocations for the aeronautical radionavigation and radiolocation services in certain parts of the world;
- d)* that Recommendation ITU-R RS.2042-1 provides typical technical and operating characteristics for spaceborne radar sounder systems using the frequency range 40-50 MHz that should be used for interference and compatibility studies;
- e)* that Report ITU-R RS.2455-0 provides preliminary results of sharing studies between a 45 MHz radar sounder and incumbent fixed, mobile, broadcasting and space research services operating in the frequency range 40-50 MHz,

**RES656-2**

*resolves to invite the 2023 world radiocommunication conference*

to consider the results of studies on spectrum needs for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, and take appropriate action,

*invites the ITU Radiocommunication Sector*

to conduct studies on spectrum needs and sharing studies between the Earth exploration-satellite (active) service and the radiolocation, fixed, mobile, broadcasting, amateur and space research services in the frequency range 40-50 MHz and in adjacent bands,

*invites administrations*

to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector,

*instructs the Secretary-General*

to bring this Resolution to the attention of international and regional organizations concerned.