RECOMMENDATION ITU-R SA.510-2*

FEASIBILITY OF FREQUENCY SHARING BETWEEN THE SPACE RESEARCH SERVICE AND OTHER SERVICES IN BANDS NEAR 14 AND 15 GHz

Potential interference from data relay satellite systems

(Question ITU-R 118/7)

(1978-1982-1997)

The ITU Radiocommunication Assembly,

considering

a) that frequency sharing within the range 13 to 16 GHz between near-Earth space research applications (transmitters of the data relay satellite (DRS) system) and other services, namely the fixed and mobile services and radiolocation service is feasible;

b) that, following the provisions of the Radio Regulations, the space research service may operate on a secondary basis in some of the bands where the above services are primary;

c) that the DRS transmitters can meet the power flux-density (pfd) limits given in Recommendation ITU-R SF.358 for sharing between the fixed-satellite service and the fixed and mobile services,

recommends

1 that frequency sharing, on a non-interference basis, between transmitters in the space research service and receivers of the fixed and mobile services or the radiolocation service is feasible near 14 and 15 GHz provided that appropriate pfd limits are specified for the space research service;

2 that, in frequency bands near 14 and 15 GHz shared between the space research service (DRS systems), and the fixed and mobile services or the radiolocation service, the space research satellites can operate with the following pfd limits produced at the surface of the Earth in any 4 kHz band for all conditions and methods of modulation not exceeding:

-148	$dB(W/m^2)$	for	$0° < \delta \leq 5°$
$-148 + (\delta - 5)/2$	$dB(W/m^2)$	for	$5° < \delta \leq 25°$
-138	$dB(W/m^2)$	for	$25° < \delta \leq 90°$

where δ is the angle of arrival of the radio-frequency wave (degrees above the horizontal);

and that these limits relate to the pfd and angles of arrival which would be obtained under free-space propagation conditions.

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* This Recommendation should be brought to the attention of Radiocommunication Study Groups 8 and 9.