Recommendation SFCG 12-2

USE OF THE 14.0 - 15.35 GHz AND 16.6 - 17.1 GHz BANDS
FOR SPACE RESEARCH, CATEGORY A¹

The SFCG,

CONSIDERING

a) that some SFCG member agencies are actively pursuing plans for space research missions which require very large bandwidths, e.g. spaceborne VLBI, geodesy and geodynamics;

b) that bandwidth requirements in excess of 10 MHz are increasingly difficult to satisfy in the frequency bands allocated to space research below 10 GHz;

c) that the 8450 - 8500 MHz region has been identified as appropriate for Category A missions requiring less than 10 MHz bandwidth, as specified in Recommendation SFCG 5-1R4;

d) that the 14 - 15.35 GHz band is densely occupied by the fixed service (14.3 - 15.35 GHz) and Earth-to-space links of the fixed-satellite service (14 - 14.8 GHz) and that, consequently, assignment of Earth-to-space links of the space research service is difficult;

e) that the 16.6 - 17.1 GHz band is allocated to radiolocation, primary and to space research, (deep space) (Earth-to-space), secondary;

f) that there are currently no plans by SFCG member agencies to use the 16.6 - 17.1 GHz band for space research, (deep space) (Earth-to-space), and that consequently, at a future competent World Radio Communications Conference, the limitation to deep-space should be suppressed;

g) that the sharing situation in the 14.0 - 15.35 GHz and 16.6 - 17.1 GHz bands, where the space research service has only a secondary status is difficult and does not lend itself to the use of classical modulation schemes which exhibit a high interference potential and a high susceptibility to interference;

¹ Category A missions are those having an altitude above the Earth of less than 2 × 10⁶ km
h) that spectrum spreading types of modulation can considerably alleviate the sharing problems addressed above;

i) that SFCG members should ensure compatibility between their operations in the 14.0 - 15.35 and 16.6 - 17.1 GHz bands;

j) that certain parts of the 14.0 - 15.35 GHz band have existing and planned assignments to data relay satellites (Earth-to-space, space-to-space);

RECOMMENDS

1. that the 14.0 - 15.35 GHz band be used for space-to-Earth transmissions of space research Category A missions; \(^2\)

2. that the 16.6 - 17.1 GHz band be used for Earth-to-space transmissions of space research Category A missions; \(^3\)

3. that the spectrum of data transmissions in the bands shall be sufficiently spread so as to ensure adequate protection for services operating in the band;

4. that existing and planned frequency assignments to data relay satellites (Earth-space, space-space) be protected.

\(^2\) The 14.3 - 14.4 GHz and 14.47 - 14.5 GHz bands are not allocated to space research and will consequently have to be used in accordance with the provisions of RR No. 4.4.

\(^3\) See CONSIDERING e) and f).