

RECOMMENDATION ITU-R S.727*

Cross-polarization isolation from very small aperture terminals (VSATs)

(1992)

The ITU Radiocommunications Assembly,

considering

- a) that it is necessary to provide protection of the wanted VSAT earth station signals from signals on the orthogonal polarization in the FSS;
- b) that cross-polarization isolation in prime focus axisymmetric parabolic antenna systems (centre fed), is usually higher than prime focus offset paraboloid systems (offset fed);
- c) that for small aperture antennas (e.g. 1.2-2.4 m), offset fed antenna geometry has the advantage of providing significantly lower side-lobe levels than from centre fed antennas;
- d) that offset fed antennas are widely used for VSAT operation;
- e) that VSATs are transmitting with lower e.i.r.p. density than other services;
- f) that the reduction of the efficient frequency re-use by dual polarization has to be taken into account when using prime focus offset fed antennas with relatively low polarization discrimination,

recommends

1 that the ratio of the on axis co-polar gain to the cross-polar gain of the linear polarized antenna in the allocated transmit frequency band should not be less than:

- 25 dB within the 0.3 dB contour of the main beam, and
- 20 dB everywhere else.

NOTE 1 – Some satellite operators may require a higher ratio.

* Radiocommunication Study Group 4 made editorial amendments to this Recommendation in 2001 in accordance with Resolution ITU-R 44 (RA-2000).