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| **Radiocommunication Study Groups** |  |
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| Source: Document 4A/TEMP/170  Reference: Documents 4A/278 (Annex 3) and 4A/315  Subject:Recommendation ITU-R S.725 | **Annex 9 to Document 4A/368-E** |
| **26 April 2010** |
| **English only** |
| Annex 9 to Working Party 4A Chairman’s Report | |
| working document towards A Preliminary DRAFT REVISION OF RECOMMENDATION ITU-R S.725 | |
| Technical characteristics for very small aperture terminals (VSATs) | |

Summary of the proposed revision

During its March/April 2010 meeting, Working Party 4A considered a contribution (Document 4A/315) proposing revisions on the working document towards a revision of Recommendation ITU-R S.725 on “Technical characteristics for very small aperture terminals (VSATs)”).

The working document which is attached and to be carried forward in the Chairman’s Report contains the proposed draft revisions of Recommendation ITU-R S.725. Administrations are encouraged to contribute to the revision of this Recommendation in particular noting the referenced Recommendation ITU-R S.1844 which applies only for antennas having a diameter-to-wavelength ratio less than 100. Consideration of a consolidation of Recommendation ITU-R S.1844 with Recommendation ITU-R S.731 which applies in the general case may be also necessary.

**Attachment:** 1

Attachment

working document towards A Preliminary DRAFT  
REVISION OF RECOMMENDATION ITU-R S.725

Technical characteristics for very small aperture terminals (VSATs)

(1992)

*Editor’s Note: A scope should be added.*

The ITU Radiocommunication Assembly,

considering

a) that VSAT earth stations have major features which are listed below;

b) that VSAT earth stations operate on the fixed-satellite service, and should comply with the relevant provisions of the Radio Regulations, ITU-R Recommendations, and any relevant domestic regulation requirements;

c) that VSAT earth stations are usually implemented to form closed networks for dedicated applications, either for information broadcasting (receive-only VSATs) or for information exchange (transmit/receive VSATs);

d) that VSAT earth stations are generally directly installed on the users’ premises and their location density may be very high;

e) that VSAT earth stations are often part of a network which has a “star” topology, consisting of a relatively large central station, called the “Hub” station, and many VSAT earth stations. However, some networks operate in a point-to-point or “mesh” configuration without a Hub;

f) that VSAT-to-VSAT transmissions usually take place through the Hub;

g) that VSAT earth stations are usually unattended;

h) that VSAT earth stations generally are monitored and controlled by a central facility. Local facilities may also be used;

j) that VSAT earth station usually employ digital transmission(modulation and forward error correction (FEC)) using symmetrical or asymmetrical data rates;

k) that the antenna diameters of VSAT earth stations are normally limited to 2 m or less, however, in some circumstances larger diameters up to [[5 m] at the 6/4 GHz band] may be required;

l) that VSAT earth stations usually are equipped with low-power RF transmitters and, in any case, the RF power must be limited for safety reasons;

m) that several administrations are already applying simplified licensing procedures for their domestic or regional use to reduce the effort of implementing VSATs,

recommends

**1** that VSAT earth-station transmissions should comply for technical parameters with Recommendations ITU‑R S.726, ITU‑R [S.1844][[1]](#footnote-1) and ITU‑R S.728;

**2** that the monitoring and control functions of VSAT networks should comply with Recommendation ITU‑R S.729;

**3** that these Recommendations be used as guidelines for administrations to implement simplified licensing procedures;

**4** that the following Notes should be regarded as part of this Recommendation:

NOTE 1 – The most commonly used FSS bands are 30/20 GHz, 30/11-12 GHz, 14/11-12 GHz and 6/4 GHz bands.

NOTE 2 – The coding, modulation and access techniques could be very diverse, corresponding to the most effective technologies.

NOTE 3 – TV distribution, using TVRO earth stations is not dealt with in this Recommendation. However, the reception of video signals by a VSAT is often implemented.

1. In the 6/4 GHz band where the diameter-to-wavelength ratio of a VSAT antenna may be greater than or equal to 100, the applicability of Recommendation ITU-R S.1844 which prescribes cross-polarization isolation for VSATs needs to be assessed. [↑](#footnote-ref-1)