

## RECOMMENDATION ITU-R TF.486-2

**USE OF UTC FREQUENCY AS REFERENCE IN STANDARD  
FREQUENCY AND TIME SIGNALS EMISSIONS**

(Question ITU-R 102-1/7)

(1974-1978-1998)

The ITU Radiocommunication Assembly,

*considering*

- a) that, for a user, data concerning the departures of a standard-frequency and time-signal emission are of great importance;
- b) that, in many cases, it is technically possible to adjust a radiated standard frequency so that the variations of phase with respect to Coordinated Universal Time (UTC) remain within a narrow tolerance which is small compared to the period of the carrier frequency;
- c) that equipment is available which is capable of receiving several nearly synchronous emissions, thereby providing alternative operation in case of transmitter interruption;
- d) that there is a need for a universally accepted reference frequency of high stability and accuracy for use in electronic systems and in digital transmissions;
- e) that many controlled electronic systems (e.g. oscillators disciplined by ground- or space-based standard emissions) are now in use;
- f) that such systems can be better coordinated if they use a common frequency reference,

*recommends*

- 1** that the UTC frequency (see Recommendation ITU-R TF.460) should be used as the ultimate reference for standard-frequency emissions;
  - 2** that data concerning the uncertainty of the standard frequency, with reference to the UTC frequency, should be an average over an appropriate time of the relative frequency deviations;
  - 3** that the range over which the phase of the standard frequency can vary with reference to UTC should be specified for each service and the values published by the administrations responsible for the standard time and frequency services;
  - 4** that the UTC frequency should also be used as the ultimate reference for other electronic systems.
-