QUESTION ITU-R 234/3

Computation of ionospheric scintillation indices

(2017)

The ITU Radiocommunication Assembly,

considering

*a)* that, in the case of some high-performance systems involving satellites, ionospheric scintillation effect should be considered for signals up to below 3 GHz and may occasionally be observed up to 10 GHz;

*b)* that various satellite systems, including mobile- and radionavigation-satellite services, are employing non-geostationary satellite networks;

*c)* that, in case of a scintillation event, rapid amplitude and phase fluctuations are observed with modifications to signal time coherence properties;

*d)* that, in case radionavigation satellite services, scintillation can cause cycle slips, degrade the positioning accuracy and, in case of a strong event, can lead to a complete loss of signal lock,

decides that the following Question should be studied

for the computation of S4 and σφ ionospheric indices, what is the impact of factors such as:

– the detrending process;

– the cut-off frequencies of the signal power spectral density;

– the sampling rate of the signal power spectral density;

– the signal duration;

– the GNSS receiver,

further decides

1 that the available information should be prepared as new Recommendations or as revisions to existing Recommendations;

2 that the above studies should be completed by 2027.

Category: S3