

CCTF
WGMRA Guideline 8
(June 2017)

Technical requirements for the time laboratories for the participation in UTC

National Metrology Institutes (NMIs) or Designated Institutes (DIs) in Member States of the BIPM or Associate to the General Conference on Weights and Measures (CGPM) can contribute to the formation of the time scales at the BIPM.

Following the recommendations of the Consultative Committee for Time and Frequency:

- Recommendation CCTF 3, 2001 on time scale notations, the designation “*k*” in UTC(*k*) refers only to those institutes that participate in the formation of TAI and appear in Section 1, *UTC-UTC(k)*, of the monthly BIPM *Circular T*.
- Recommendation S 5 CCDS 1993, time centres should aim at realizing local time scale UTC(*k*) with offset smaller than 100 ns with respect to UTC.

Laboratories willing to participate in the calculation of UTC should be equipped of

1. one or more atomic clocks;
2. instruments to allow remote clock comparisons.

Clocks participating in UTC are linked at present by time transfer with:

- GNSS receivers. These receivers can be, starting from the most performing:
 - Multi-channel, dual frequency
 - Multi-channel, single frequency
- Two-way satellite time and frequency transfer (TWSTFT) stations.

Laboratories should provide all necessary information by filling the form available [here](http://webtai.bipm.org/database/documents/spreadsheet.doc) (<http://webtai.bipm.org/database/documents/spreadsheet.doc>) and sending it to the BIPM Time Department (tai@bipm.org). The Time Department will assign an acronym and a code to the laboratory, and a code to each clock and communicate them.

Clock and time transfer data should be provided to the BIPM on a regular basis and following standard formats. See the [General technical guidelines](http://webtai.bipm.org/database/) in the BIPM Time Department Database (<http://webtai.bipm.org/database/>).