

INM - Instituto Nacional de Metrología

Quantity: Time Frequency

Calibration and Measurement Capability (CMC) - INM Declarations NVLAP LAB CODE 200947-0

<u>Calibration or Measurement Service</u>			<u>Measurand Level or Range</u>			<u>Expanded Uncertainty</u>					<u>Reference Standard used in calibration</u>	
<u>Quantity/ Class</u>	<u>Instrument or Artifact</u>	<u>Instrument Type or Method</u>	<u>Minimum value</u>	<u>Maximum value</u>	<u>Units</u>	<u>Value</u>	<u>Units</u>	<u>Coverage Factor</u>	<u>Level of Confidence</u>	<u>Is the expanded uncertainty a relative one?</u>	<u>Standard</u>	<u>Source of traceability</u>
Time interval	Period meter	Stopwatch: direct frequency measurement of its time base	32768	32768	Hz	2.0E-09	Hz/Hz	2	95%	Yes	Rubidium counter CNT-85R, quartz counter HP5345A, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Frequency meter	Tachometer: direct frequency measurement	0.1	1.7E+03	Hz	6.0E-06	Hz/Hz	2	95%	Yes	Optical pulses disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	General frequency source	Direct frequency measurement	1	3.0E+08	Hz	1.0E-10	Hz/Hz	2	95%	Yes	Rubidium counter CNT-85R, quartz counter HP5345A, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	General frequency source	Direct frequency measurement	0.3	8.0	GHz	1.0E-10	Hz/Hz	2	95%	Yes	Rubidium counter CNT-85R, with time base disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Frequency counter	Direct frequency measurement of its time base	1	10	MHz	1.0E-10	Hz/Hz	2	95%	Yes	Rubidium counter CNT-85R, quartz counter HP5345A, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network

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<u>Quantity/ Class</u>	<u>Instrument or Artifact</u>	<u>Instrument Type or Method</u>	<u>Minimum value</u>	<u>Maximum value</u>	<u>Units</u>	<u>Value</u>	<u>Units</u>	<u>Coverage Factor</u>	<u>Level of Confidence</u>	<u>Is the expanded uncertainty a relative one?</u>	<u>Standard</u>	<u>Source of traceability</u>
Frequency	Frequency counter	Direct frequency measurement	1	6.0E+09	Hz	1.0E-10	Hz/Hz	2	95%	Yes	EXG vector signal generator N5172B, Rohde and Schwarz signal generator SMS2, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Frequency meter	Direct frequency measurement of its time base	1	10	MHz	1.0E-10	Hz/Hz	2	95%	Yes	Rubidium counter CNT-85R, quartz counter HP5345A, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Frequency meter	Direct frequency measurement	1	6.0E+09	Hz	1.0E-10	Hz/Hz	2	95%	Yes	EXG vector signal generator N5172B, Rohde and Schwarz signal generator SMS2, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Local frequency standard	Measurement of phase difference	100	100	kHz	6.0E-13	Hz/Hz	2	95%	Yes	Cesium clock primary standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network

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<u>Quantity/ Class</u>	<u>Instrument or Artifact</u>	<u>Instrument Type or Method</u>	<u>Minimum value</u>	<u>Maximum value</u>	<u>Units</u>	<u>Value</u>	<u>Units</u>	<u>Coverage Factor</u>	<u>Level of Confidence</u>	<u>Is the expanded uncertainty a relative one?</u>	<u>Standard</u>	<u>Source of traceability</u>
Frequency	Local frequency standard	Measurement of phase difference	1	1	MHz	6.0E-13	Hz/Hz	2	95%	Yes	Cesium clock primary standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Local frequency standard	Measurement of phase difference	5	5	MHz	6.0E-13	Hz/Hz	2	95%	Yes	Cesium clock primary standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Frequency	Local frequency standard	Measurement of phase difference	10	10	MHz	6.0E-13	Hz/Hz	2	95%	Yes	Cesium clock primary standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network
Time interval	Period source	Direct measurement	2.0E-06	5	s	4.0E-10	s/s	2	95%	Yes	Rubidium counter CNT-85R, quartz counter HP5345A, with time bases disciplined to cesium standard	Continuous comparison of cesium standard to UTC(NIST), UTC(CNM), UTC(NRC), and UTC(ONRJ) through participation in SIM Time Network

http://kcdb.bipm.org/appendixC/TF/CO/TF_CO.pdf
https://www-s.nist.gov/niws/index.cfm?event=directory_detail&labid=678&programId=0&csrfToken=89C513ED42B12D9C3C82539BBEE5B1C27C77EEA2

The stopwatches calibration service is temporarily unavailable.

Last updated 2016-08-19