

Time and Frequency, Serbia, DMDM (Directorate of Measures and Precious Metals)

Calibration or Measurement Service			Measurand Level or Range			Measurement Conditions/Independent Variable		Expanded Uncertainty						NMI Service Identifier	Comments
Quantity	Instrument or Artifact	Instrument Type or Method	Minimum value	Maximum value	Units	Parameter	Specifications	Value	Units	Coverage factor	Level of Confidence	Is the expanded uncertainty a relative one?			
Time scale difference	Local clock vs. UTC(DMDM)	Direct measurement with Time Interval Counter	-1	+1	s	Averaging time	1 day	9	ns	2	95 %	No	TF-1.1.1	Fractional part of modulo 1 second difference, integer part can be provided also Approved on 10 March 2008	
						Pulse amplitude	1 V to 5 V								
						Slewing rate	> 0.5 V/ns								
Time scale difference	Local clock vs. UTC	Comparison against predicted UTC	-1	+1	s	Prediction time	20 days	47	ns	2	95 %	No	TF-1.1.2a	Fractional part of modulo 1 second difference, integer part can be provided also Approved on 10 March 2008	
						Averaging time	1 day								
						Pulse amplitude	1 V to 5 V								
						Slewing rate	> 0.5 V/ns								
Time scale difference	Local clock vs. UTC	Comparison against post-processed UTC	-1	+1	s	Averaging time	5 days	20	ns	2	95 %	No	TF-1.1.2b	Fractional part of modulo 1 second difference, integer part can be provided also Approved on 10 March 2008	
						Pulse amplitude	1 V to 5 V								
						Slewing rate	> 0.5 V/ns								

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Quantity	Instrument or Artifact	Instrument Type or Method	Minimum value	Maximum value	Units	Parameter	Specifications	Value	Units	Coverage factor	Level of Confidence	Is the expanded uncertainty a relative one?		
Frequency	Local frequency standard	Phase-time measurement	5	5	MHz	Averaging time	1 day	1E-13	Hz/Hz	2	95 %	Yes	TF-2.1.1a	Fractional part of modulo 1 second difference, integer part can be provided also Approved on 10 March 2008
Frequency	Local frequency standard	Phase-time measurement	10	10	MHz	Averaging time	1 day	1E-13	Hz/Hz	2	95 %	Yes	TF-2.1.1b	Approved on 10 March 2008
Frequency	General frequency source	Direct frequency measurement	1	3E+09	Hz	Averaging time	1000 s	1E-12	Hz/Hz	2	95 %	Yes	TF-2.2.1a	For square wave or pulsed signal Approved on 10 March 2008
Frequency	General frequency source	Direct frequency measurement	1	3E+09	Hz	Averaging time	1000 s	Q[1E-12, 2.6E-07/f] f in Hz	Hz/Hz	2	95 %	Yes	TF-2.2.1b	For sine wave signal Approved on 10 March 2008
Time interval	Period source	Time interval counter	3.3E-09	10	s	Slewing rate	0.5 V/ns	0.6	ns	2	95 %	No	TF-3.1.1	Approved on 10 March 2008
Time interval	Rise/fall time source	Time interval counter	7E-10	1	s	Slewing rate	0.5 V/ns	0.6	ns	2	95 %	No	TF-3.2.1	Approved on 10 March 2008
Time interval	Pulse width source	Time interval counter	1.6E-09	10	s	Slewing rate	0.5 V/ns	0.6	ns	2	95 %	No	TF-3.2.2	Approved on 10 March 2008
Time interval	Time difference source	Time interval counter	1E-09	10	s	Slewing rate	0.5 V/ns	0.6	ns	2	95 %	No	TF-3.2.3	Approved on 10 March 2008
Time interval	Delay source	Time interval counter	1E-09	1	s	Slewing rate	0.5 V/ns	0.2	ns	2	95 %	No	TF-3.2.4	Approved on 10 March 2008