The Appendix is an integral part of
Certificate of Accreditation No. 580/2023 of 07/11/2023

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

OPTOKON, a.s.
CAB number 2315, OPTOKON Calibration Laboratory
Červený Kříž 250, 586 01 Jihlava

Calibration laboratory locations:

1. **OPTOKON Jihlava** Calibration Laboratory OPTOKON, Červený Kříž 250, 586 01 Jihlava
2. **OPTOKON Malaysia** Calibration Laboratory OPTOKON Malaysia, OPTOKON PLT, 303-4-25, KRYSTAL POINT, JALAN SULTAN AZLAN SHAH, 11900 BAYAN LEPAS. PULAU PINANG, Malaysia

CMC for the field of measured quantity: Temperature

Ord. number [1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified[2]	Calibration principle	Calibration procedure identification[3]	Work-place
		min.	unit	max.	unit					
1	Indicating (direct indicating) thermometers	-40	°C	140	°C		0.41°C	Comparison with a standard in a conditioning chamber	PPKL 2.8	1

[1] Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

[2] The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher, depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

[3] If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

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CMC for the field of measured quantity: Optical quantities

Ord. number [1]	Calibrated quantity / Subject of calibration	Nominal range min. unit		Nominal range max. unit	Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified[2]	Calibration principle	Calibration procedure identification[3]	Work-place
1*	Optical power / optical power meters	-60 dBm	to	-50 dBm	635 nm to 980 nm	4.5 %	Comparison of measurement of optical radiation in fibre by an optical power meter detector with standard optical power meter using comparative method.	PPKL 2.1 (ČSN EN 61315 ed. 3)	1, 2
		-50 dBm	to	-40 dBm		3.2 %			
		-40 dBm	to	+10 dBm		3.0 %			
		-60 dBm	to	-50 dBm	1,270 nm to 1,610 nm	4.2 %			
		-50 dBm	to	-40 dBm		2.7 %			
		-40 dBm	to	+10 dBm		2.5 %			
		-60 dBm	to	-50 dBm	1,625 nm to 1,650 nm	4.6 %			
		-50 dBm	to	-40 dBm		3.2 %			
		-40 dBm	to	+10 dBm		3.0 %			
2	Optical attenuation / optical attenuator	0 dB	to	40 dB	1,270 nm to 1,650 nm	0.26 dB	Measurement of insertion loss for individual settings of an attenuator.	PPKL 2.2 (ČSN EN 61300-3-4 ed. 2)	1
		40 dB	to	65 dB		0.30 dB			
3	Wavelength / optical source for fibre optics	600 nm	to	1,700 nm	medium wavelength	0.33 nm	Measurement of wavelength of optical radiation in fibre by optical spectral analyser (OSA)	PPKL 2.3 (ČSN EN 61315 ed. 3)	1,2
		600 nm	to	1,700 nm	maximum intensity	0.33 nm			
4	Optical return loss / optical return loss meter	3 dB	to	32 dB	1,000 nm to 1,700 nm	0.5 dB	Measurement of optical return loss and comparison with a reference value.	PPKL 2.4 (ČSN EN 61300-3-6 ed. 2)	1

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Ord. number [1]	Calibrated quantity / Subject of calibration	Nominal range min.	unit		max.	unit	Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified[2]	Calibration principle	Calibration procedure identification[3]	Work-place
		32 dB		to	42 dB			0.7 dB			
		42 dB		to	52 dB			1.0 dB			
		52 dB		to	61 dB			1.5 dB			
5	Optical length of SMF fibre/ OTDR optical reflectometers	0 km		to	50 km		1,310 nm, 1,550 nm, 1,625 nm	0.40 m	Method based on optical fibre delay line	PPKL 2.5 (ČSN EN 61746-1)	1, 2
	Optical length of MMF fibre/ optical reflectometers	0 km		to	5 km		850 nm, 1,300 nm	0.20 m	Method based on optical fibre delay line	PPKL 2.5 (ČSN EN 61746-2)	1
	Optical attenuation of SMF fibre/ OTDR optical reflectometers	0 dB		to	20 dB		1,310 nm, 1,550 nm, 1,625 nm	0.02 dB	OTDR measurement of attenuation for various power levels and distances	PPKL 2.5 (ČSN EN 61746-1)	1, 2
6*	Spectral responsiveness / optical radiation detectors – Newport 818-xx photodiodes	0		to	1		635 to 940 nm, 1,625 nm, 1,650 nm at optical power -10 dBm to -20 dBm	3 %	Measurement of optical power and current.	PPKL 2.7	1, 2
		0		to	1		1,270 nm to 1,610 nm at optical power -10 dBm to -20 dBm	2.6 %			
7	Wavelength / Optical spectrum analyzers	1250 nm		to	1650 nm			0.2 nm	Comparison with a reference wavelength meter	PPKL 2.6 (ČSN EN 62129-1)	1, 2
	Optical power / Optical spectrum analyzers	-40 dBm		to	+10 dBm		1,250 nm to 1,650 nm	2.5 %	Comparison with a reference optical power meter	PPKL 2.1 (ČSN EN 61315 ed. 2)	1, 2
	Linearity / Optical spectrum analyzers	-60 dBm		to	-50 dBm		1,310 nm, 1,550 nm	0.24 dB	Comparison with a reference optical power meter using an optical attenuator	PPKL 2.6 (ČSN EN 62129-1)	1, 2
		-50 dBm		to	-40 dBm			0.09 dB			

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Ord. number [1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified[2]	Calibration principle	Calibration procedure identification[3]	Work-place
		min.	unit	max.	unit					
		-40	dBm	0	dBm		0.05 dB			

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CMC for the field of measured quantity: Physicochemical quantities

Ord. number [1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified[2]	Calibration principle	Calibration procedure identification[3]	Work-place
		min.	unit	max.	unit					
1	Indicating (direct indicating) Hygrometers	30 % RH	to	90 % RH		21 °C to 25 °C	3.7 %RH	Comparison with a standard in a conditioning chamber	PPKL 2.9	1

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