

3.1 Kalibrier- und Messmöglichkeiten

U_r Relative erweiterte Messunsicherheit, die sich aus der Standardmessunsicherheit durch Multiplikation mit dem Erweiterungsfaktor $k = 2$ ergibt. Sie wurde gemäß dem "Guide to the Expression of Uncertainty in Measurement" (ISO, 1995) ermittelt. Der Wert der Messgröße liegt im Regelfall mit einer Wahrscheinlichkeit von annähernd 95 % im zugeordneten Wertintervall.

Messmöglichkeiten innerhalb des CIPM-MRA

Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1001	Absorbed dose rate to water	Dosimeter	Conversion coefficient, PMMA phantom	2,0E-04	2,0E-02	Gy s ⁻¹	X-rays 10 kV to 50 kV	10 kV to 40 kV DIN 6809/4 2015	2,8	AA-6200-001	6.2	08	Approved on 15 November 2010
EUR-RAD-PTB-1002	Absorbed dose rate to water	Dosimeter	Conversion coefficient, PMMA phantom	2,0E-04	2,0E-02	Gy s ⁻¹	X-rays 50 kV to 420 kV	50 kV to 100 kV DIN 6809/4 2015	2,8	AA-6200-001	6.2	08	Approved on 15 November 2010
EUR-RAD-PTB-1003	Absorbed dose rate to water	Dosimeter	Secondary standard in a water phantom	2,0E-04	2,0E-03	Gy s ⁻¹	X-rays 50 kV to 420 kV	100 kV to 300 kV DIN 6809/4 2015	2,1	AA-6200-002	6.2	08	Approved on 15 November 2010
EUR-RAD-PTB-1004	Absorbed dose rate to water	Dosimeter	Calibration in water phantom, reference field	2,0E-03	2,0E-02	Gy s ⁻¹	Co-60	DIN 6800/2 2008	0,5	AA-6200-010	6.2	07	Approved on 15 November 2010
EUR-RAD-PTB-1090	Absorbed dose to water	Dosimeter	Calibration in waterphantom, photon field from clinical accelerator	0,5	50	Gy	Photons (4 MV to 25 MV, TPR20/10 = 0,638 to 0,799)	TRS 398	0,8	AA-6200-010	6.2	09	Approved on 06 October 2014
EUR-RAD-PTB-1091	Absorbed dose rate to water	Dosimeter	Calibration in waterphantom, photon field from clinical accelerator	8,0E-04	8,0E-02	Gy s ⁻¹	Photons (4 MV to 25 MV, TPR20/10 = 0,638 to 0,799)	TRS 398	0,8	AA-6200-010	6.2	09	Approved on 06 October 2014
EUR-RAD-PTB-1014	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-06	1,0E-03	Gy s ⁻¹	X-rays, 10 kV to 50 kV	IEC 61267 RQR Series, 40 kV to 50 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1015	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-06	1,0E-03	Gy s ⁻¹	X-rays, 50 kV to 420 kV	IEC 61267 RQR Series, 60 kV to 150 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1016	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-06	3,0E-05	Gy s ⁻¹	X-rays, 10 kV to 50 kV	IEC 61267 RQA Series, 40 kV to 50 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1017	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-06	3,0E-05	Gy s ⁻¹	X-rays, 50 kV to 420 kV	IEC 61267 RQA Series, 60 kV to 150 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1018	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-06	1,0E-03	Gy s ⁻¹	X-rays, 50 kV to 420 kV	IEC 61267 RQT Series, 100 kV to 150 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1019	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-06	5,0E-04	Gy s ⁻¹	X-rays, 10 kV to 50 kV	Mammography qualities (anode material + x mm of filter): Mo + 0,03 Mo, Mo + 0,025 Rh, Mo + 0,1 Al, W + 0,06 Mo, W + 0,05 Rh, W + 0,5 Al, W + 0,04 Pd, Rh + 0,025 Rh, Rh + 0,1 Al. All anode/filter combinations with and without additional 2 mm Al and for 20 kV to 50 kV	1,0	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1020	Air kerma length product	Air kerma length product meter	Calibration free in air against a free air chamber	1,0E-06	5,0E+01	Gy cm	X-rays, 50 kV to 420 kV	IEC 61267 RQR Series, 60 kV to 150 kV	1,5	AA-6200-003	6.2	11	Approved on 15 November 2010
EUR-RAD-PTB-1021	Air kerma length product	Air kerma length product meter	Calibration free in air against a free air chamber	1,0E-06	5,0E+00	Gy cm	X-rays, 50 kV to 420 kV	IEC 61267 RQA Series, 60 kV to 150 kV	1,5	AA-6200-003	6.2	11	Approved on 15 November 2010
EUR-RAD-PTB-1022	Air kerma area product	Air kerma length product meter	Calibration free in air against a free air chamber	1,0E-06	1,0E+02	Gy cm ²	X-rays, 50 kV to 420 kV	IEC 61267 RQR Series, 60 kV to 150 kV	1,5	AA-6200-003	6.2	11	Approved on 15 November 2010
EUR-RAD-PTB-1023	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-03	1,0E-01	Gy h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1024	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-03	1,0E-01	Gy h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1025	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-03	1,0E-01	Gy h ⁻¹	X-rays, 50 kV to 420 kV	Narrow Series, 350 kV and 400 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1026	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-03	1,0E+00	Gy h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1027	Air kerma rate	Dosemeter	Calibration free in air against a free air chamber	1,0E-03	5,0E+00	Gy h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1028	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-03	5,0E+00	Gy h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1029	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	1,0E-03	5,0E+00	Gy h ⁻¹	X-rays, 50 kV to 420 kV	High Air Kerma Series 350 kV and 400 kV	0,8	AA-6200-003	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1030	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	5,0E-05	2,0E-04	Gy s ⁻¹	Cs-137	Therapy level	0,9	AA-6200-004	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1031	Air kerma rate	Dosimeter	Calibration free in air against a free air chamber	2,0E-3	2,0E-02	Gy s ⁻¹	Co-60	Therapy level	0,65	AA-6200-004	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1032	Air kerma rate	Dosimeter	Calibration in a calibrated field free in air	1,0E-07	6,0E-01	Gy h ⁻¹	Cs-137	ISO 4037	1,2	AA-6200-004	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1033	Air kerma rate	Dosimeter	Calibration in a calibrated field free in air	1,0E-07	2,0E+00	Gy h ⁻¹	Co-60	ISO 4037	0,8	AA-6200-004	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1034	Air kerma rate	Dosimeter	Calibration against a cavity chamber in air	1,0E-06	1,0E-02	Gy h ⁻¹	Photon, high energy	ISO 4037, 4 MeV - 7 MeV	6	AA-6300-114	6.3		Approved on 15 November 2010
EUR-RAD-PTB-1035	X-ray tube voltage	Non-invasive HV-meter	Secondary Standard Voltage Divider	4,0E+01	5,0E+01	kV	X-rays, 10 kV to 50 kV	IEC 61267 RQR Series, 40 kV to 50 kV	1,5	AA-6200-005	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1036	X-ray tube voltage	Non-invasive HV-meter	Secondary Standard Voltage Divider	6,0E+01	1,5E+02	kV	X-rays, 50 kV to 420 kV	IEC 61267 RQR Series, 60 kV to 150 kV	1,5	AA-6200-005	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1037	X-ray tube voltage	Non-invasive HV-meter	Secondary Standard Voltage Divider	2,0E+01	4,0E+01	kV	X-rays, 10 kV to 50 kV	Mammography, IEC 61267	2	AA-6200-005	6.2	10	Approved on 15 November 2010
EUR-RAD-PTB-1005	Reference air kerma rate	Ir-192 source (HDR, PDR, wire)	Transfer chamber calibrated with primary cavity chamber	1,0E-04	1,0E-01	Gy h ⁻¹	air kerma free in air at 1 m	DIN 6800/2 2008	1,8	AA-6300-160	6.3	14	Approved on 15 November 2010
EUR-RAD-PTB-1006	Reference air kerma rate	Well-type chamber ionization chamber	Ir-192 reference field	1,0E-04	1,0E-01	Gy h ⁻¹	air kerma free in air	DIN 6800/2 2008	2,0	AA-6300-161	6.3	13,15	Approved on 15 November 2010
EUR-RAD-PTB-1007	Reference air kerma rate	Co-60 HDR-source	Transfer chamber calibrated with primary cavity chamber	1,0E-04	1,0E-01	Gy h ⁻¹	air kerma free in air	DIN 6800/2 2008	1,5	AA-6300-160	6.3	14	Approved on 15 November 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1008	Reference air kerma rate	Well-type chamber ionization chamber	Co-60 reference field	1,0E-04	1,0E-01	Gy h ⁻¹	air kerma free in air	DIN 6800/2 2008	1,7	AA-6300-161	6.3	13,15	Approved on 15 November 2010
EUR-RAD-PTB-1009	Reference air kerma rate	I-125	Calibration using primary standard extrapolation chamber	1,0E-06	1,0E-04	Gy h ⁻¹	air kerma free in air	AAPM TG43	1,8	AA-6300-162	6.3	14	Approved on 15 November 2010
EUR-RAD-PTB-1010	Reference air kerma rate	Well-type chamber ionization chamber	I-125 reference field	1,0E-06	1,0E-04	Gy h ⁻¹	air kerma free in air	AAPM TG43	2,0	AA-6300-163	6.3	13,15	Approved on 15 November 2010
EUR-RAD-PTB-1038	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1039	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1040	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	Narrow Series, 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1041	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-03	1,0E+00	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16	Approved on 13 December 2012
EUR-RAD-PTB-1042	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1043	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1044	Ambient dose equivalent rate	Dosimeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1045	Ambient dose equivalent rate	Dosimeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-1046	Ambient dose equivalent rate	Dosemeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1047	Ambient dose equivalent rate	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-06	5,0E-03	Sv h ⁻¹	Photons, high energy	ISO 4037 4MeV - 7 MeV	6,5	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1048	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1049	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1050	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	Narrow Series 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1051	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-03	1,0E+00	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1052	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1053	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1054	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1055	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1056	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010

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	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1057	Directional dose equivalent rate in 0,07 mm depth	Dosemeter	Calibration in a calibrated field free in air	5,0E-04	1,0E-01	Sv h ⁻¹	Beta radiation	ISO 6980, Pm-147, Kr-85, Sr-90/Y-90, Ru-106/Rh-106	3,6	AA-6300-193	6.3	16, 18	Approved on 13 December 2012
EUR-RAD-PTB-1058	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1059	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1060	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 50 kV to 420 kV	Narrow Series 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1061	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-04	1,0E-01	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16	Approved on 13 December 2012
EUR-RAD-PTB-1062	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1063	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1064	Personal dose equivalent in 10 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	Approved on 13 December 2012
EUR-RAD-PTB-1065	Personal dose equivalent in 10 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	1,0E+01	Sv	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1066	Personal dose equivalent in 10 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	1,0E+01	Sv	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010

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	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1067	Personal dose equivalent in 10 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-06	5,0E-02	Sv	Photon, high energy	ISO 4037 4 MeV - 7 MeV	6,5	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1068	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-01	Sv	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1069	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-01	Sv	X-rays, 50 kV to 420 kV	Narrow Series 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1070	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-01	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1071	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-04	1,0E+00	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16	Approved on 15 November 2010
EUR-RAD-PTB-1072	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+01	Sv	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1073	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+01	Sv	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1074	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+01	Sv	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1075	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	5,0E+01	Sv	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1076	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	5,0E+01	Sv	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	Approved on 15 November 2010
EUR-RAD-PTB-1077	Personal dose equivalent in 0,07 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-04	1,0E+00	Sv	Beta radiation	ISO 6980, Pm-147, Kr-85, Sr-90/Y-90, Ru-106/Rh-106	3,6	AA-6300-193	6.3	16, 18	Approved on 13 December 2012

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-1078	Absorbed dose rate in soft tissue	Beta ray reference source	Calibration using primary standard extrapolation chamber	5,0E-04	1,0E-01	Gy h ⁻¹	Beta radiation	ISO 6980, Pm-147, Tl-204, Kr-85, Sr-90/Y-90, Ru-106/Rh-106	3,6	AA-6300-193	6.3	16	Approved on 13 December 2012
EUR-RAD-PTB-1079	Air kerma rate	Dosemeter	Reference photon field	1,0E-08	2,0E-07	Gy h ⁻¹	Cs-137	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1080	Air kerma rate	Dosemeter	Reference photon field	1,0E-08	2,0E-07	Gy h ⁻¹	Co-60	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1081	Air kerma rate	Dosemeter	Reference photon field	1,0E-08	2,0E-07	Gy h ⁻¹	Co-57	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1082	Air kerma rate	Dosemeter	Reference photon field	1,0E-08	2,0E-07	Gy h ⁻¹	Am-241	collimated field, source-detector, distance 2 m, field size 0,8 m	4	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1083	Air kerma rate	Dosemeter	Reference photon field	1,0E-08	2,0E-07	Gy h ⁻¹	Ra-226	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1084	Ambient dose equivalent rate	Dosemeter	Reference photon field	1,0E-08	3,0E-06	Sv h ⁻¹	Cs-137	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1085	Ambient dose equivalent rate	Dosemeter	Reference photon field	1,0E-08	3,0E-06	Sv h ⁻¹	Co-60	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1086	Ambient dose equivalent rate	Dosemeter	Reference photon field	1,0E-08	3,0E-06	Sv h ⁻¹	Co-57	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1087	Ambient dose equivalent rate	Dosemeter	Reference photon field	1,0E-08	3,0E-06	Sv h ⁻¹	Am-241	collimated field, source-detector, distance 2 m, field size 0,8 m	4	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-1088	Ambient dose equivalent rate	Dosemeter	Reference photon field	1,0E-08	3,0E-06	Sv h ⁻¹	Ra-226	collimated field, source-detector, distance 2 m, field size 0,8 m	3	AA-6300-202 AA-6300-203	6.3	19	Approved on 13 December 2012
EUR-RAD-PTB-1089	Personal dose equivalent in 3 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-04	1,0E+00	Sv	Beta radiation	ISO 6980 and J. Instrum. 6 (2011) P11007, Sr-90/Y-90, Ru-106/Rh-106	3,7	AA-6300-193	6.3	16, 18	Approved on 13 December 2012
EUR-RAD-PTB-2001	Activity divided by mass	Single nuclide solution	Secondary standard liquid scintillation counter, balance	1E+03	5E+04	Bq g ⁻¹	H-3	Tritiated water in glass ampoule	1,7	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2002	Activity divided by mass	Single nuclide solution	Secondary standard liquid scintillation counter, balance	5E+04	5E+07	Bq g ⁻¹	H-3	Tritiated water in glass ampoule	1,4	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2003	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+05	2E+07	Bq g ⁻¹	Be-7	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2004	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	1E+07	Bq g ⁻¹	C-14	glass ampoule	3,0	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2005	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	F-18	glass ampoule	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2006	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	1E+07	Bq g ⁻¹	Na-22	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2007	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	1E+07	Bq g ⁻¹	Na-24	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2008	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+08	Bq g ⁻¹	P-32	glass ampoule	1,0	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2009	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	5E+02	2E+08	Bq g ⁻¹	P-33	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2010	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+08	Bq g ⁻¹	S-35	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2011	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Cl-36	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010

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Qualitätsmanagement-Handbuch

Abteilung 6

Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2012	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+05	Bq g ⁻¹	Cr-51	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2013	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+05	2E+07	Bq g ⁻¹	Cr-51	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2014	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	2E+07	Bq g ⁻¹	Mn-54	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2015	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Fe-55	glass ampoule	2,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2016	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+03	2E+07	Bq g ⁻¹	Co-56	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2017	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+05	Bq g ⁻¹	Co-57	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2018	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+05	2E+07	Bq g ⁻¹	Co-57	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2019	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+07	Bq g ⁻¹	Co-58	glass ampoule	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2020	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+03	2E+07	Bq g ⁻¹	Fe-59	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2021	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+03	2E+07	Bq g ⁻¹	Co-60	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2022	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	1E+06	Bq g ⁻¹	Ni-63	glass ampoule	1,7	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2023	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+07	Bq g ⁻¹	Zn-65	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2024	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	5E+02	2E+07	Bq g ⁻¹	Cu-64	glass ampoule	2	AA-6100-107	6.1	02,03	Approved on 18 January 2010
EUR-RAD-PTB-2025	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	5E+07	Bq g ⁻¹	Ga-67	glass ampoule	2,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-2026	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	5E+07	Bq g ⁻¹	Ge-68/Ga-68	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2027	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	5E+07	Bq g ⁻¹	Se-75	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2028	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+08	Bq g ⁻¹	Br-82	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2029	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	2E+07	Bq g ⁻¹	Sr-85	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2030	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	2E+07	Bq g ⁻¹	Y-88	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2031	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+05	Bq g ⁻¹	Sr-89	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2032	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+05	2E+07	Bq g ⁻¹	Sr-89	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2033	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	4E+02	4E+04	Bq g ⁻¹	Sr-90/Y-90	glass ampoule	1,2	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2034	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	4E+07	Bq g ⁻¹	Sr-90/Y-90	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2035	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Y-90	glass ampoule	1	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2036	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	2E+07	Bq g ⁻¹	Nb-93m	glass ampoule	1	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2037	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Nb-94	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2038	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	1E+08	Bq g ⁻¹	Mo-99	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2039	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Tc-99	glass ampoule	2	AA-6100-108	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2040	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	1E+08	Bq g ⁻¹	Tc-99m	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2041	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	5E+07	Bq g ⁻¹	Ru-103	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2042	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	2E+04	5E+07	Bq g ⁻¹	Ru-106	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2043	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	5E+05	Bq g ⁻¹	Cd-109	glass ampoule	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2044	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	5E+05	1E+07	Bq g ⁻¹	Cd-109	glass ampoule	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2045	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	2E+07	Bq g ⁻¹	Ag-110m	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2046	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	In-111	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2047	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	Sn-113	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2048	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	I-123	glass ampoule	2,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2049	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	Sb-124	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2050	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	5E+07	Bq g ⁻¹	I-124	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2051	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	1E+05	Bq g ⁻¹	Sb-125	glass ampoule	1,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2052	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+05	5E+07	Bq g ⁻¹	Sb-125	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2053	Activity divided by mass	Single nuclide solution	Secondary standard liquid scintillation counter, balance	1E+03	1E+05	Bq g ⁻¹	I-125	glass ampoule	1,7	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2054	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+05	2E+07	Bq g ⁻¹	I-125	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2055	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	1E+05	Bq g ⁻¹	I-129	glass ampoule	3,0	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2056	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+03	1E+05	Bq g ⁻¹	I-131	glass ampoule	1	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2057	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+05	1E+08	Bq g ⁻¹	I-131	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2058	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+02	4E+04	Bq g ⁻¹	Ba-133	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2059	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Ba-133	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2060	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+03	1E+05	Bq g ⁻¹	Cs-134	glass ampoule	1	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2061	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+05	2E+07	Bq g ⁻¹	Cs-134	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2062	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+02	4E+04	Bq g ⁻¹	Cs-137	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2063	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Cs-137	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2064	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+02	2E+07	Bq g ⁻¹	Ce-139	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2065	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	2E+07	Bq g ⁻¹	Ce-141	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2066	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+02	2E+07	Bq g ⁻¹	Ce-144/Pr-144	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2067	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	4E+02	4E+05	Bq g ⁻¹	Pm-147	glass ampoule	1,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2068	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+03	4E+04	Bq g ⁻¹	Eu-152	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2069	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Eu-152	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2070	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Sm-153	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2071	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Gd-153	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2072	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	4E+04	2E+07	Bq g ⁻¹	Er-169	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2073	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Yb-169	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2074	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Lu-177	glass ampoule	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2075	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Ta-182	glass ampoule	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2076	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Re-186	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2077	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Re-188	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2078	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Ir-192	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2079	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Au-198	glass ampoule	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2080	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	TI-201	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2081	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Hg-203	glass ampoule	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2082	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	5E+05	Bq g ⁻¹	TI-204	glass ampoule	1,4	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2083	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	5E+05	2E+07	Bq g ⁻¹	TI-204	glass ampoule	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2084	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Bi-207	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2085	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+03	1E+05	Bq g ⁻¹	Pb-210	glass ampoule	2	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2086	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+05	2E+07	Bq g ⁻¹	Pb-210	glass ampoule	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2087	Activity divided by mass	Single nuclide solution	Defined solid angle alpha counting, balance	1E+03	4E+04	Bq g ⁻¹	Th-232	glass ampoule	2	AA-6100-308	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2088	Activity divided by mass	Single nuclide solution	Defined solid angle alpha counting, balance	1E+03	4E+04	Bq g ⁻¹	U-233	glass ampoule	2	AA-6100-308	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2089	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+02	5E+03	Bq g ⁻¹	Ra-226	glass ampoule	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2090	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+04	1E+06	Bq g ⁻¹	Np-237	glass ampoule	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2091	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	1E+03	4E+04	Bq g ⁻¹	Pu-238	glass ampoule	1,0	AA-6100-108 AA-6100-308	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2092	Activity divided by mass	Single nuclide solution	Liquid scintillation counter, balance	2E+03	2E+06	Bq g ⁻¹	Pu-241	glass ampoule	2	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2093	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	1E+03	4E+04	Bq g ⁻¹	Am-241	glass ampoule	0,7	AA-6100-108	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung <i>Service identification</i>	Calibration or Measurement Service			Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
	Messgröße <i>Quantity</i>	Instrument or <i>Artifact</i>	Instrument Type <i>or Method</i>	Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
EUR-RAD-PTB-2094	Activity divided by mass	Single nuclide solution	Secondary standard ionization chamber, balance	4E+04	2E+07	Bq g ⁻¹	Am-241	glass ampoule	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2098	Activity	Single nuclide, gas ampoule	Calibrated NaI(Tl) detector	1E+05	2E+06	Bq	Rn-222	stainless steel cylinder	2	AA-6100-308	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2099	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Be-7	active area < 5 mm	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2100	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Na-22	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2101	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Na-24	active area < 5 mm	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2102	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Cr-51	active area < 5 mm	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2103	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Mn-54	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2104	Emission Rate per Unit Solid Angle	Single nuclide, solid source (X-ray emitting)	X-ray spectrometry, balance	4E+03	4E+05	s ⁻¹ sr ⁻¹	Fe-55	active area < 5 mm	2,5	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2105	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Co-56	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2106	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Co-57	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2107	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Co-58	active area < 5 mm	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-2108	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Fe-59	active area < 5 mm	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2109	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Co-60	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2110	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Zn-65	active area < 5 mm	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2111	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ga-67	active area < 5 mm	2,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2112	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ge-68/Ga-68	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2113	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Se-75	active area < 5 mm	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2114	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Sr-85	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2115	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Y-88	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2116	Activity	Single nuclide, solid source (gamma emitting)	X-ray spectrometry, balance	2E+03	2E+04	Bq	Nb-93m	active area < 5 mm	1,2	AA-6100-108	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2117	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ru-103	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-2118	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ru-106	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2119	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Cd-109	active area < 5 mm	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2120	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ag-110m	active area < 5 mm	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2121	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Sn-113	active area < 5 mm	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2122	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Sb-124	active area < 5 mm	1,4	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2123	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Sb-125	active area < 5 mm	1,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2124	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ba-133	active area < 5 mm	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2125	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Cs-134	active area < 5 mm	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2126	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Cs-137	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2127	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ce-139	active area < 5 mm	0,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Qualitätsmanagement-Handbuch

Abteilung 6

Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-2128	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ce-141	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2129	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Ce-144Pr-144	active area < 5 mm	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2130	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Eu-152	active area < 5 mm	1,2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2131	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Au-198	active area < 5 mm	0,7	AA-6100-106	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2132	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Hg-203	active area < 5 mm	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2133	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Tl-204	active area < 5 mm	1,0	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2134	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Bi-207	active area < 5 mm	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2135	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	4E+03	4E+05	Bq	Pb-210	active area < 5 mm	1,5	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2136	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	1E+02	1E+04	Bq	Ra-226	active area < 5 mm	2	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2137	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	5E+02	1E+03	Bq	Am-241	active area < 5 mm	1	AA-6100-107	6.1	02, 03	Approved on 18 January 2010

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Bezeichnung <i>Service identification</i>	Calibration or Measurement Service			Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_r in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
	Messgröße <i>Quantity</i>	Instrument or Artifact	Instrument Type or Method	Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
EUR-RAD-PTB-2138	Activity	Single nuclide, solid source (gamma emitting)	Secondary standard ionization chamber, balance	1E+03	4E+05	Bq	Am-241	active area < 5 mm	0,7	AA-6100-107	6.1	02, 03	Approved on 18 January 2010
EUR-RAD-PTB-2139	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Po-210	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2140	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Th-228	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2141	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Th-230	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2142	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Th-232	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2143	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	U-233	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2144	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	U-234	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2145	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	U-235	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2146	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Np-237	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2147	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Pu-238	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2148	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Pu-239	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2149	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Pu-240	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2150	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Am-241	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _r in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
EUR-RAD-PTB-2151	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Cm-242	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2152	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Am-243	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2153	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Cm-243	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2154	Activity	Single nuclide extended area source	Defined solid angle alpha counting	1E+01	1E+04	Bq	Cm-244	no further specifications	1,5	AA-6100-308	6.1	02	Approved on 18 January 2010
EUR-RAD-PTB-2155	Surface emission rate of alpha particles	Single nuclide extended area source	4 π -proportional counter of a 4 π α - γ coincidence system	2,5E+02	5E+02	s ⁻¹	Am-241	no further specifications	1,5	AA-6100-106	6.1		Approved on 18 January 2010
EUR-RAD-PTB-2156	Surface emission rate of alpha particles	Single nuclide extended area source	4 π -proportional counter of a 4 π α - γ coincidence system	5E+02	1E+04	s ⁻¹	Am-241	no further specifications	1	AA-6100-106	6.1		Approved on 18 January 2010
EUR-RAD-PTB-3001	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	5,0E-02	5E+00	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	24 keV Sc-45 (p,n) ISO 8529-1	11	AA-6400-001	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3002	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	5,0E-01	5,0E+01	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	24 keV Li-7 (p,n)	5	AA-6400-001	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3003	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	8E+00	8,0E+02	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	144 keV Li-7 (p,n) ISO 8529-1	4,2	AA-6400-001	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3004	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	5E+00	5,0E+02	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	250 keV Li-7 (p,n) ISO 8529-1	3,9	AA-6400-001	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3005	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	2,0E+01	2,0E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	565 keV Li-7 (p,n) ISO 8529-1	3,8	AA-6400-001	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3006	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	3,0E+01	3,0E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	1.2 MeV H-3 (p,n) ISO 8529-1	4,0	AA-6400-001	6.4	21	Approved on 09 May 2005

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	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter		Spezifikation Specification	Work instruction	Responsible	Task
EUR-RAD-PTB-3007	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	7,0E+01	7,0E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	2.5 MeV H-3 (p,n) ISO 8529-1	3,1	AA-6400-002	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3008	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	8,0E+01	8,0E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	5.0 MeV H-2 (d,n) ISO 8529-1	3,4	AA-6400-002	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3009	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	1,2E+02	1,2E+04	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	8.0 MeV H-2 (d,n)	3,5	AA-6400-002	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3010	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	8,0E+01	8,0E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	14.8 MeV H-3 (d,n) ISO 8529-1	5,0	AA-6400-002	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3011	fluence rate	Neutron sensitive device	Calibration relative to calibrated long counter monitor	1,2E+01	1,2E+03	cm ⁻² s ⁻¹	Mono-energetic reaction (at 1m from the source)	19.0 MeV H-3 (d,n) ISO 8529-1	5,1	AA-6400-002	6.4	21	Approved on 09 May 2005
EUR-RAD-PTB-3018	fluence rate	Neutron sensitive device	Irradiation with calibrated neutron sources	1,5E+01	2,2E+03	cm ⁻² s ⁻¹	Neutron spectrum (at 1m from the source)	bare Cf-252 ISO 8529-1	3 – 1,3	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3019	fluence rate	Neutron sensitive device	Irradiation with calibrated neutron sources	1,8E+03	1,8E+03	cm ⁻² s ⁻¹	Neutron spectrum (at 1m from the source)	D ₂ O-mod.Cf-252 ISO 8529-1 PTB-N-34 (1998)	4,4	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3020	fluence rate	Neutron sensitive device	Irradiation with calibrated neutron sources	2,5E+01	2,5E+01	cm ⁻² s ⁻¹	Neutron spectrum (at 1m from the source)	Am-241 / Be-9 ISO 8529-1	4,6	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3021	ambient dose equivalent rate	Neutron dosimeter	Irradiation with calibrated neutron sources	2,0E-05	3,0E-03	Sv h ⁻¹	Neutron spectrum (at 1m from the source)	bare Cf-252 ISO 8529-3	3,6 – 2,4	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3022	ambient dose equivalent rate	Neutron dosimeter	Irradiation with calibrated neutron sources	7,2E-04	7,2E-04	Sv h ⁻¹	Neutron spectrum (at 1m from the source)	D ₂ O-mod.Cf-252 ISO 8529-3 PTB-N-34 (1998)	7,4	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3023	ambient dose equivalent rate	Neutron dosimeter	Irradiation with calibrated neutron sources	3,4E-05	3,4E-05	Sv h ⁻¹	Neutron spectrum (at 1m from the source)	Am-241 / Be-9 ISO 8529-3	5	AA-6400-003	6.4	22	Approved on 09 May 2005
EUR-RAD-PTB-3024	personal dose equivalent rate	Neutron personal dosimeter	Irradiation with calibrated neutron sources	2,0E-05	3,0E-03	Sv h ⁻¹	Neutron spectrum (at 1m from the source and for an angle of incidence of 0 deg)	bare Cf-252 ISO 8529-3	3,6 – 2,4	AA-6400-004	6.4	22, 23	Approved on 09 May 2005
EUR-RAD-PTB-3025	personal dose equivalent rate	Neutron personal dosimeter	Irradiation with calibrated neutron sources	7,2E-04	7,2E-04	Sv h ⁻¹	Neutron spectrum (at 1m from the source and for an	D ₂ O-mod.Cf-252 ISO 8529-3 PTB-N-34 (1998)	7,4	AA-6400-004	6.4	22, 23	Approved on 09 May 2005

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	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
							angle of incidence of 0 deg)						
EUR-RAD-PTB-3026	personal dose equivalent rate	Neutron personal dosimeter	Irradiation with calibrated neutron sources	3,4E-05	3,4E-05	Sv h ⁻¹	Neutron spectrum (at 1m from the source and for an angle of incidence of 0 deg)	Am-241 / Be-9 ISO 8529-3	5	AA-6400-004	6.4	22, 23	Approved on 09 May 2005

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
059	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Be-7	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2003 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Be-7	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2003 durch CIPM-MRA abgedeckt
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Na-22	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Na-22	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 durch CIPM-MRA abgedeckt
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Al-26	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Al-26	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	K-40	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	K-40	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Cr-51	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2013 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Cr-51	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2013 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Mn-54	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2014 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Mn-54	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2014 durch CIPM-MRA abgedeckt
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Co-56	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2016 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Co-56	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2016 durch CIPM-MRA abgedeckt
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Co-57	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2017 durch CIPM-MRA abgedeckt
059	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Co-57	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2017 durch CIPM-MRA abgedeckt
059	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Co-58	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2019 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Co-58	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2019 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Fe-59	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2020 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Fe-59	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2020 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Co-60	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2021 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Co-60	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2021 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Zn-65	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2023 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Zn-65	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2023 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Se-75	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2027 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Se-75	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2027 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Sr-85	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2029 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sr-85	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2029 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Y-88	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2030 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Y-88	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2030 durch CIPM-MRA abgedeckt

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		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Zr-95/Nb-95m	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Zr-95/Nb-95m	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Mo-99/Tc-99m	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2038 und 2040 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Mo-99/Tc-99m	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2038 und 2040 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ru-103	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2041 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ru-103	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2041 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Ru-106	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2042 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ru-106	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2042 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ag-108m	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ag-108m	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Cd-109	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2043 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Cd-109	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2043 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ag-110m	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2045 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ag-110m	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2045 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Sn-113	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2047 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sn-113	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2047 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Sb-124	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2049 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sb-124	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2049 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Sb-125	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2051 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sb-125	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2051 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	I-131	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2056 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	I-131	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2056 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ba-133	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2058 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ba-133	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2058 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Cs-134	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2060 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Cs-134	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2060 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Cs-137	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2062 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Cs-137	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2062 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ce-139	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2064 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ce-139	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2064 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Ba-140	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ba-140	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	Über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	La-140	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	La-140	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ce-141	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2065 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ce-141	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2065 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Ce-144	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2066 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ce-144	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2066 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Eu-152	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2068 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Eu-152	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2068 durch CIPM-MRA abgedeckt

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		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Eu-154	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Eu-154	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Lu-176	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Lu-176	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Au-198	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2079 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Au-198	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2079 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Hg-203	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2081 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Hg-203	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2081 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-03	5E-02	Bq g ⁻¹	Pb-210/Bi-210	Environmental samples	10,0	AA-6100-201 AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2085 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Pb-210/Bi-210	Environmental samples	5,0	AA-6100-202 AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2085 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Ra-226 and gamma-ray emitting progenies in equilibrium	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2089 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ra-226 and gamma-ray emitting progenies in equilibrium	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2089 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Ac-227 and gamma-ray emitting progenies in equilibrium	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ac-227 and gamma-ray emitting progenies in equilibrium	Environmental samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Ra-228/Ac-228	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Ra-228/Ac-228	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Th-228 and gamma-ray emitting progenies in equilibrium	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Th-228 and gamma-ray emitting progenies in equilibrium	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	U-235	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	U-238 in equilibrium with Th234 and Pa-134m	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-04	5E-02	Bq g ⁻¹	Am-241	Environmental samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2093 durch CIPM-MRA abgedeckt
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Am-241	Environmental samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2093 durch CIPM-MRA abgedeckt
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Sr-89	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2031 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sr-89	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2031 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Sr-90	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2033 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Sr-90	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2033 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Pu-238	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2091 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Pu-238	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2091 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Pu-(239+240)	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2091 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Pu-(230+240)	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2091 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Be-7	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2003 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Be-7	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2003 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Na-22	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Na-22	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Al-26	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Al-26	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	K-40	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	K-40	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Cr-51	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2012 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Cr-51	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2012 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Mn-54	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2014 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Mn-54	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2014 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Co-56	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2016 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Co-56	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2016 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Co-57	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2017 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Co-57	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2017 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Co-58	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2019 durch CIPM-MRA abgedeckt

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Bezeichnung <i>Service identification</i>	Messgröße <i>Quantity</i>	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Co-58	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2019 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Fe-59	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2020 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Fe-59	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2020 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Co-60	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2021 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Co-60	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2021 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Zn-65	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2023 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Zn-65	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2023 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Se-75	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2027 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Se-75	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2027 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Sr-85	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2029 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Sr-85	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2029 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Y-88	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2030 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Y-88	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2030 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Zr-95/Nb-95m	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Zr-95/Nb-95m	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Mo-99/Tc-99m	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2038 und 2040 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Mo-99/Tc-99m	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2038 und 2040 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ru-103	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2041 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ru-103	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2041 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Ru-106	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2042 durch CIPM-MRA abgedeckt #

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ru-106	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2042 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ag-108m	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ag-108m	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Cd-109	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2044 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Cd-109	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2044 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ag-110m	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2045 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ag-110m	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2045 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Sn-113	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2047 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Sn-113	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2047 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Sb-124	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2049 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Sb-124	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2049 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Sb-125	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2051 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Sb-125	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2051 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	I-131	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2056 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	I-131	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2056 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ba-133	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2058 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ba-133	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2058 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Cs-134	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2060 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Cs-134	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2060 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Cs-137	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2062 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Cs-137	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2062 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ce-139	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2064 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ce-139	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2064 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Ba-140	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ba-140	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	La-140	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	La-140	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ce-141	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2065 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ce-141	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2065 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Ce-144	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2066 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ce-144	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2066 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Eu-152	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2068 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Eu-152	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2068 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Eu-154	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Eu-154	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Lu-176	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Lu-176	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Au-198	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2079 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Au-198	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2079 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Hg-203	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2081 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Hg-203	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2081 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-03	5E-02	Bq ml ⁻¹	Pb-210	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2085 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Pb-210	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2085 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Ra-226 and gamma-ray emitting progenies in equilibrium	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2089 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ra-226 and gamma-ray emitting progenies in equilibrium	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2089 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Ac-227 and gamma-ray emitting progenies in equilibrium	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ac-227 and gamma-ray emitting progenies in equilibrium	liquid samples	5,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Ra-228/Ac-228	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Ra-228/Ac-228	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Th-228 and gamma-ray emitting progenies in equilibrium	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Th-228 and gamma-ray emitting progenies in equilibrium	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	U-235	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	U-238 in equilibrium with Th234 and Pa-134m	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-04	5E-02	Bq ml ⁻¹	Am-241	liquid samples	10,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2093 durch CIPM-MRA abgedeckt
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Am-241	liquid samples	3,0	AA-6100-204	6.1	04, 05, 06	über EUR-RAD-PTB-2093 durch CIPM-MRA abgedeckt
061	Activity divided by volume	1E-04	5E-02	Bq g ⁻¹	Sr-89	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2031 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
061	Activity divided by volume	5E-02	1E+03	Bq g ⁻¹	Sr-89	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2031 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	1E-04	5E-02	Bq g ⁻¹	Sr-90/Y-90	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2033 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
061	Activity divided by volume	5E-02	1E+03	Bq g ⁻¹	Sr-90/Y-90	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-209 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	über EUR-RAD-PTB-2029 und 2033 durch CIPM-MRA abgedeckt (Leistung vorübergehend wegen Bau- und Sanierungsmaßnahmen am Laborgebäude nicht verfügbar.)
062	Activity	1E+02	2E+07	Bq	Ag-110m	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2045 durch CIPM-MRA abgedeckt
063	Activity	5E+01	1E+07	Bq	Am-241	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2093 durch CIPM-MRA abgedeckt
064	Activity	1E+01	1E+07	Bq	Ba-133	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2058 durch CIPM-MRA abgedeckt
065	Activity	5E+02	1E+08	Bq	Be-7	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2003 durch CIPM-MRA abgedeckt
066	Activity	1E+02	2E+07	Bq	Bi-207	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2134 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
067	Activity	1E+02	1E+08	Bq	Cd-109	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2043 durch CIPM-MRA abgedeckt
068	Activity	5E+01	8E+06	Bq	Ce-139	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2064 durch CIPM-MRA abgedeckt
069	Activity	5E+01	1E+07	Bq	Ce-141	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2065 durch CIPM-MRA abgedeckt
070	Activity	1E+01	2E+07	Bq	Co-56	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2016 durch CIPM-MRA abgedeckt
071	Activity	5E+01	6E+06	Bq	Co-57	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2017 durch CIPM-MRA abgedeckt
072	Activity	1E+02	2E+07	Bq	Co-58	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2019 durch CIPM-MRA abgedeckt
073	Activity	1E+02	3E+07	Bq	Co-60	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2021 durch CIPM-MRA abgedeckt
074	Activity	5E+02	1E+08	Bq	Cr-51	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2013 durch CIPM-MRA abgedeckt
075	Activity	1E+02	2E+04	Bq	Cs-134	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2060 durch CIPM-MRA abgedeckt
076	Activity	1E+01	1E+04	Bq	Cs-137	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2062 durch CIPM-MRA abgedeckt

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		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
<i>Service identification</i>	<i>Quantity</i>						<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>	
077	Activity	1E+02	2E+07	Bq	Eu-152	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2068 durch CIPM-MRA abgedeckt
078	Activity	1E+02	1E+07	Bq	F-18	Gammaspectrometry	8%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2005 durch CIPM-MRA abgedeckt
079	Activity	2E+02	4E+07	Bq	Fe-59	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2020 durch CIPM-MRA abgedeckt
080	Activity	1E+02	1E+07	Bq	Ga-67 Ga-68	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2025 und 2026 durch CIPM-MRA abgedeckt
081	Activity	5E+01	1E+07	Bq	Hg-203	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2081 durch CIPM-MRA abgedeckt
082	Activity	2E+02	3E+07	Bq	Ho-166m	Gammaspectrometry	6%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
083	Activity	3E+02	5E+07	Bq	I-125	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2053 durch CIPM-MRA abgedeckt
084	Activity	1E+02	1E+07	Bq	I-131	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2056 durch CIPM-MRA abgedeckt
085	Activity	4E+02	8E+07	Bq	Lu-177	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2074 durch CIPM-MRA abgedeckt
086	Activity	1E+02	2E+07	Bq	Mn-54	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2014 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
087	Activity	5E+01	5E+06	Bq	Mo-99	Gammaspectrometry		AA-6100-307	6.1	02	über EUR-RAD-PTB-2038 durch CIPM-MRA abgedeckt
088	Activity	2E+02	3E+07	Bq	Na-22	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2006 durch CIPM-MRA abgedeckt
089	Activity	5E+02	1E+08	Bq	Pb-210	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2085 durch CIPM-MRA abgedeckt
090	Activity	4E+02	7E+07	Bq	Ra-223	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
091	Activity	1E+02	3E+07	Bq	Ra-226	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2089 durch CIPM-MRA abgedeckt
092	Activity	2E+02	3E+07	Bq	Re-188	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2077 durch CIPM-MRA abgedeckt
093	Activity	7E+02	1E+08	Bq	Ru-106	Gammaspectrometry	10%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2042 durch CIPM-MRA abgedeckt
094	Activity	2E+02	3E+07	Bq	Sb-124	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2049 durch CIPM-MRA abgedeckt
095	Activity	2E+02	5E+07	Bq	Sb-125	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2051 durch CIPM-MRA abgedeckt
096	Activity	1E+02	2E+07	Bq	Sn-113	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2047 durch CIPM-MRA abgedeckt

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
<i>Service identification</i>	<i>Quantity</i>						<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>	
097	Activity	1E+02	2E+07	Bq	Sr-85	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2029 durch CIPM-MRA abgedeckt
098	Activity	2E+03	4E+08	Bq	Th-228	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt
099	Activity	1E+02	2E+07	Bq	Th-232	Gammaspectrometry	10%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2087 durch CIPM-MRA abgedeckt
100	Activity	1E+02	2E+07	Bq	Tl-201	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2080 durch CIPM-MRA abgedeckt
101	Activity	1E+02	2E+07	Bq	Y-88	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2030 durch CIPM-MRA abgedeckt
102	Activity	5E+02	8E+07	Bq	Zn-65	Gammaspectrometry	4%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2023 durch CIPM-MRA abgedeckt
103	Activity	2E+02	4E+07	Bq	Zr-95	Gammaspectrometry	2%	AA-6100-307	6.1	02	über EUR-RAD-PTB-2006 bis 2094 durch CIPM-MRA abgedeckt

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
105	Directional dose equivalent rate in 3 mm	Dosemeter	Calibration in a calibrated field free in air	5,0E-04	1,0E+00	Sv h ⁻¹	Beta radiation	ISO 6980 and J. Instrum. 6 (2011) P11007 and J. Instrum. 10 (2015) P03014, Sr-90/Y-90, Ru-106/Rh-106	3,8	AA-6300-193	6.3	16, 18	über EUR-RAD-PTB-1089 durch CIPM-MAR abgedeckt
106	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
107	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
108	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-04	1,0E-01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	Narrow Series 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
109	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-03	1,0E+00	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
110	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
111	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
112	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-02	5,0E+01	Sv h ⁻¹	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
113	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
114	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration in a calibrated field free in air	1,0E-06	5,0E+01	Sv h ⁻¹	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U _f in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
115	Directional dose equivalent rate in 3 mm depth	Dosemeter	Calibration against a calibrated monitor free in air	1,0E-06	5,0E-03	Sv h ⁻¹	Photons, high energy	ISO 4037 4MeV - 7 MeV	6,5	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1038 bis 1047 durch CIPM-MAR abgedeckt
116	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 10 kV to 50 kV	ISO 4037 Narrow Series, 10 kV to 40 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
117	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Narrow Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
118	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-05	1,0E-02	Sv	X-rays, 50 kV to 420 kV	Narrow Series 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
119	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-04	1,0E-01	Sv	X-rays, 50 kV to 420 kV	ISO 4037 Wide Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
120	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 10 kV to 50 kV	ISO 4037 High Air Kerma Series, 10 kV to 30 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
121	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 50 kV to 420 kV	ISO 4037 High Air Kerma Series, 60 kV to 300 kV	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
121	Personal dose equivalent in 3 mm depth	Personal dosimeter	Calibration against a calibrated monitor using a phantom	1,0E-03	5,0E+00	Sv	X-rays, 50 kV to 420 kV	High Air Kerma Series, 350 kV and 400 kV, PTB Report 34 (2000), Rad. Prot. Dos. 123 (2007) 137-142	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
122	Personal dose equivalent in 3 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	1,0E+01	Sv	Cs-137	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt

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Bezeichnung	Calibration or Measurement Service			Messbereich Measurand level or range			Messbedingungen Measurement conditions		U_f in %	Arbeitsanweisung Work instruction	Zuständig Responsible	Aufgabe Task	Bemerkung Remark
	Service identification	Messgröße Quantity	Instrument or Artifact	Instrument Type or Method	Min Min	Max Max	Einheit Unit	Parameter Parameter					
123	Personal dose equivalent in 3 mm depth	Dosemeter	Calibration in a calibrated field using a phantom	1,0E-06	1,0E+01	Sv	Co-60	ISO 4037	3	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt
124	Personal dose equivalent in 3 mm depth	Dosemeter	Calibration against a calibrated monitor using a phantom	1,0E-06	5,0E-02	Sv	Photon, high energy	ISO 4037 4 MeV - 7 MeV	6,5	AA-6300-198	6.3	16, 17, 18	über EUR-RAD-PTB-1058 bis 1067 durch CIPM-MAR abgedeckt

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Geplante Einträge in „The BIPM key comparison database (KCDB)“

Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
128	Thermal neutron ambient dose equivalent rate	2,78E-06	2,78E-06	Sv h ⁻¹	Neutron spectrum (at 30 cm from the moderator exit window)		5,8	AA-6400-007	6.4	22	Agreement with CCRI(III)-K8 demonstrated, CMC entry is planned
129	Thermal neutron personal dose equivalent rate	2,15E-06	2,15E-06	Sv h ⁻¹	Neutron spectrum (at 30 cm from the moderator exit window)		7,5	AA-6400-007	6.4	22, 23	Agreement with CCRI(III)-K8 demonstrated, CMC entry is planned

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Messmöglichkeiten außerhalb des CIPM-MRA

Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
<i>Service identification</i>	<i>Quantity</i>						<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>	
058	Activity divided by mass	1E+02	1E+06	Bq g ⁻¹	Ac-227		2,4	AA-6100-108	6.1	02	
058	Activity divided by mass	1E+02	1E+06	Bq g ⁻¹	Th-227		1,0	AA-6100-108	6.1	02	
058	Activity divided by mass	1E+02	1E+06	Bq g ⁻¹	Ra-223		1,5	AA-6100-108	6.1	02	
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	U-234	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	U-234	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	U-235	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	U-235	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	U-238	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	U-238	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Th-228	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung <i>Work instruction</i>	Zuständig <i>Responsible</i>	Aufgabe <i>Task</i>	Bemerkung <i>Remark</i>
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Th-228	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Th-230	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Th-230	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.
060	Activity divided by mass	1E-04	5E-02	Bq g ⁻¹	Th-232	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
060	Activity divided by mass	5E-02	1E+03	Bq g ⁻¹	Th-232	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	Eine Validierung des neuen Trennungsganges ist erst nach Wiederherstellung der Betriebsbereitschaft des Labors möglich.
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	U-234	liquid samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	U-234	liquid samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	U-235	liquid samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	U-235	liquid samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	U-238	liquid samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
061	Activity divided volume	5E-02	1E+03	Bq ml ⁻¹	U-238	liquid samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-220 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Th-228	liquid samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Th-228	liquid samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Th-230	liquid samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Th-230	liquid samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	1E-04	5E-02	Bq ml ⁻¹	Th-232	liquid samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_r in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
<i>Service identification</i>	<i>Quantity</i>	<i>Min Min</i>	<i>Max Max</i>	<i>Einheit Unit</i>	<i>Parameter Parameter</i>	<i>Spezifikation Specification</i>		<i>Work instruction</i>	<i>Responsible</i>	<i>Task</i>	<i>Remark</i>
061	Activity divided by volume	5E-02	1E+03	Bq ml ⁻¹	Th-232	liquid samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-221 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	5E-02	1E+03	Bq g ⁻¹	Pu-238	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	1E-04	5E-02	Bq g ⁻¹	Pu-238	Environmental samples	15,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
061	Activity divided by volume	5E-02	1E+03	Bq g ⁻¹	Pu-(239+240)	Environmental samples	5,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten

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Bezeichnung	Messgröße	Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
		Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
061	Activity divided by volume	1E-04	5E-02	Bq g ⁻¹	Pu-(239+240)	Environmental samples	10,0	AA-6100-213 AA-6100-214 AA-6100-217 AA-6100-218 AA-6100-219 AA-6100-210 AA-6100-222 AA-6100-223 AA-6100-230	6.1	04, 05, 06	wird zur Zeit nicht angeboten
125	$H^*(10)$	6E-08	3E-07	Sv h ⁻¹	Environmental radiation	Reference radiation field		AA-6300-230 AA-6300-310 AA-6300-320 AA-6300-330 AA-6300-360	6.3	19, 20	
126	Activity divided by mass	1E+02	1E+06	Bq g ⁻¹	Ac-225		1,5	AA-6100-108	6.1	02	
127	Thermal neutron fluence rate	68,3	68,3	cm ⁻² s ⁻¹	Neutron spectrum (at 30 cm from the moderator exit window)		5,6	AA-6400-007	6.4	21	

Bezeichnung	Calibration or Measurement Service			Messbereich <i>Measurand level or range</i>			Messbedingungen <i>Measurement conditions</i>		U_f in %	Arbeitsanweisung	Zuständig	Aufgabe	Bemerkung
	Messgröße <i>Quantity</i>	Instrument or Artifact	Instrument Type or Method	Min <i>Min</i>	Max <i>Max</i>	Einheit <i>Unit</i>	Parameter <i>Parameter</i>	Spezifikation <i>Specification</i>					
104	Absorbed dose rate to water	Dosimeter	Secondary standard in a water phantom	2,0E-3	2,0E-2	Gy s ⁻¹	Electrons (4 MeV to 22 MeV)	TRS-398	1,7	AA-6200-010	6.2	09	

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Zuordnung der Prüfungen und Kalibrierungen zum Geschäftsverteilungsplan

Aufgabe Kap. 3.1	Bezeichnung der Aufgabe im Geschäftsverteilungsplan
Fachbereich 6.1	
01	Kalibrierung von Aktivitätsmessgeräten
02	Kalibrierung radioaktiver Quellen
03	Herstellung und Abgabe von Aktivitätsnormalen
04	Radionuklidanalysen an Umweltproben, Industrieprodukten und -abfällen
05	Spurenanalyse gemäß Strahlenschutzgesetz
06	Zertifizierung von Referenzmaterialien gemäß Strahlenschutzgesetz
Fachbereich 6.2	
07	Kalibrierung von Normalen für die Wasser-Energiedosis für Co-60 Gammastrahlung
08	Kalibrierung von Normalen für die Wasser-Energiedosis für Röntgenstrahlung bis 400 kV
09	Kalibrierung von Normalen für die Wasserenergiedosis in hochenergetischen Photonen- und Elektronenfeldern an Beschleunigern
10	Kalibrierung von Normalen für die Luftkerma
11	Kalibrierung in den Messgrößen Luftkermalängen- und -flächen-Produkt
12	Konformitätsprüfung nach MessEV von Diagnostikdosimetern
Fachbereich 6.3	
13	Kalibrierung von Normalen in Einheiten der „reference air kerma rate“
14	Kalibrierung von Brachytherapie-Quellen
15	Kalibrierung von Normalen für die Brachytherapie
16	Kalibrierungen von Normalen und Strahlenschutzdosimetern mit Photonen- und Betastrahlung
17	Baumusterprüfung und Prüfung von Orts- und Personendosimetern für Photonenstrahlung

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Aufgabe Kap. 3.1	Bezeichnung der Aufgabe im Geschäftsverteilungsplan
18	Vergleichsmessungen für Photonen- und Betastrahlung gemäß gesetzlicher Vorgaben
19	Kalibrierung von Strahlenschutzdosimetern bei niedrigen Dosisleistungen
20	Kalibrierung von Strahlenschutzdosimetern bei natürlicher Umgebungsstrahlung
Fachbereich 6.4	
21	Kalibrierungen in den Neutronen-Referenzstrahlungsfeldern
22	Kalibrierung von Neutronendetektoren und –dosimetern mit Neutronenquellen
23	Vergleichsbestrahlungen von Personendosimetern der amtlichen Messstellen

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