



ISO/IEC 17025:2017

מעבדות כיוול

## תעודת הסמכה מס' 16 מעבדות תקנים; מרכז תפעול חטיבת התעופה התעשייה האווירית לישראל

כתובת אתר ייחוס: מחלקה 4835, נתב"ג, 70100

עד יום: 23.06.2024

בתוקף מיום: 31.05.2022

הארגון נבדק ונבחן על ידי הרשות הלאומית להסמכת מעבדות (להלן הרשות) ונמצא ראוי להסמכה בהתאם לנספח פירוט היקף ההסמכה המצורף לתעודה זו, המהווה חלק בלתי נפרד ממנה ומספרו זהה למספר התעודה. הסמכה מצביעה על כשירות מקצועית ותפעול מערכת ניהול איכות בעלת הכרה בינלאומית. הארגון המוסמך על ידי הרשות, עומד בתקנים/ בדרישות המפורטים מעלה. דרישות התקנים הם לכשירות מקצועית ולמערכות ניהול, שהינן הכרחיות למתן תוצאות אמינות. הסמכה זו ניתנה בהתאם לכללי ISO/IEC 17011:2017 לפיהם פועלת הרשות ובמסגרתם מקיימת פיקוח שוטף על הארגון לצורך בחינת תפקודו המתמשך בהתאם לדרישות ההסמכה. ההסמכה תקפה כל עוד הארגון עונה לאמות המידה שנקבעו על ידי הרשות. הרשות חתומה על הסכם הכרה רב צדדי (MLA) מול ארגון European Accreditation Cooperation (EA).

תעודה זו אינה מהווה אישור לפי סעיף 12 לחוק התקנים.

אתי פלר  
מנכ"ל

הרשות הלאומית להסמכת מעבדות

תאריך הסמכה ראשון: 24.06.1996



הרשות הלאומית להסמכת מעבדות  
Israel Laboratory Accreditation Authority

**Calibration Laboratories**

**ISO/IEC 17025:2017**

**Accreditation Certificate No. 16**

**Standard laboratories Operation center, Aviation group, Israel  
Aerospace Industries**

**Main site address:** Department 4835, Ben Gurion Airport, 70100 , Israel

**Valid from: 22.05.2022**

**Until: 23.06.2024**

The organization was assessed by the Israel Laboratory Accreditation Authority (ISRAC) and found to be worthy of accreditation to the detailed schedule attached.

The schedule is an integral part of this certificate and is numbered with the above certificate number.

Accreditation demonstrates technical competence and operation of an internationally recognized quality management system.

The organization accredited by ISRAC complies with the standards/requirements mentioned above, meets the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically competent results. This accreditation is granted in accordance with the requirements of ISO/IEC 17011:2017, and entails periodic surveillance and reassessment by ISRAC to ensure that the organization continues to comply with the accreditation requirements.

The accreditation is valid provided that the organization continues to meet the criteria as laid down by ISRAC. ISRAC is an EA-MLA (European Accreditation Cooperation Multi-Lateral Agreement) signatory.

This certificate does not constitute an approval in accordance with article 12 of the standard law.

**Date of first accreditation: 24.06.1996**

**Etty Feller  
General Manager  
Israel Laboratory Accreditation Authority**

Date of signature 14/05/2023

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Name and Address:

<b>Organization name</b>	Standard laboratories Operation center; Aviation group; Israel Aerospace Industries
<b>Address</b>	Department 4835, Ben Gurion Airport 70100, Israel
<b>Phone</b>	972-3-935-3359
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<b>E-mail (contact person)</b>	<a href="mailto:mturgeman@iai.co.il">mturgeman@iai.co.il</a>

Site: P or T or M , P-Permanent, T-Temporary, M-Mobile

A permanent (P) or temporary (T) place, or a stationary or mobile (M) facility, at or from which the organization performs activities forming part of its scope of accreditation, starting from sampling to final issuance of a report or certificate and / or quality system activities. A temporary (T) site is a site established under the responsibility of an accredited permanent site. All activities performed at a temporary site are the responsibility of the permanent site. An outdoors work is also considered to be a temporary site. Temporary site will be a site that involves work for special project and the activity will be defined in time (up to 2 years).

Type of Scopes: A- Fixed, C- Flexible scope in analytical tests : Type of matrix, analytes, experimental systems and/or analytical characteristics may be subject to changes, in accordance with the laboratory's approved and documented procedures. For details, please refer to the list of Accredited Tests, available from the laboratory upon request.



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Chemical Quantities, pH Meters</b>					<b>כיול – גדלים כימיים - מדי pH</b>		
1	A	P, T	pH pH indicators	מדי pH -1500 mV to 1500 mV	0.1 mV	CPE-863A	Calibration by means of electrical simulation, no realization or measurement of pH involved  A calibrator is used as a DC voltage reference standard.  Voltage values are converted to pH values by using Nernst equation.
2	A	P, T	pH pH meters with glass electrode	מדי pH בעלי אלקטרודה זכוכית 2 pH to 10 pH	0.03 pH	CPE-863A	Buffer standards 2 pH, 3 pH 4 pH, 7 pH, 8 pH , 10 pH
3	A	P, T	pH pH electrode slope	שיפוע של אלקטרודה למד pH 90%- to 102%	0.45%	CPE-863A	Buffer standards 4 pH, 7 pH, 10 pH



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks		
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישיר ותדר נמוך</b>				
4	A	P	DC Voltage, Sources	מתח בזרם ישר, מחוללים	0.1 V	5 $\mu$ V/V	CPE-810B	Comparison to 732A, 752A O.R. – Of Reading Comparison to 732A Comparison to 732A, 752A RV 722 Fluke 8508 Fluke 5730A	
5	A	P			1 V	1.5 $\mu$ V/V			
6	A	P			10 V	0.6 $\mu$ V/V			
7	A	P			100 V	1.2 $\mu$ V/V			
8	A	P			1000 V	2.5 $\mu$ V/V			
9	A	P			Up to 10 mV]	10 $\mu$ V/V O.R. + 0.2 $\mu$ V			
10	A	P			(10 mV to 100 mV]	8 $\mu$ V/V O.R. + 0.2 $\mu$ V			
11	A	P			(100 mV to 10 V]	5 $\mu$ V/V			
12	A	P			(10 V to 1000 V]	6 $\mu$ V/V			
13	A	T			Up to 100 mV)	150 $\mu$ V/V O.R. + 5 $\mu$ V			
14	A	T			(100 mV to 10 V]	100 $\mu$ V/V			
15	A	T			(10 V to 1000 V]	80 $\mu$ V/V			
16	A	P	DC Voltage, Measuring Instruments	מתח בזרם ישר, מכשירי מדידה	0.1 V	5 $\mu$ V/V	CPE-810B		O.R. - Of Reading
17	A	P			1 V	1.5 $\mu$ V/V			
18	A	P			10 V	1 $\mu$ V/V			
19	A	P			100 V	1.2 $\mu$ V/V			
20	A	P			1000 V	2.5 $\mu$ V/V			
21	A	P			Up to 10 mV]	10 $\mu$ V/V O.R. + 0.2 $\mu$ V			
22	A	P			(10 mV to 100 mV]	8 $\mu$ V/V O.R. + 0.2 $\mu$ V			
23	A	P			(100 mV to 10 V]	5 $\mu$ V/V			
24	A	P			(10 V to 1000 V]	6 $\mu$ V/V			
25	A	T	DC Voltage, Measuring Instruments	מתח בזרם ישר, מכשירי מדידה	Up to 100 mV]	50 $\mu$ V/V O.R. + 2 $\mu$ V	CPE-810B	O.R. - Of Reading	
26	A	T			(100 mV to 10 V]	30 $\mu$ V/V			
27	A	T			(10 V to 1000 V]	50 $\mu$ V/V			



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
28	A	P	DC Voltage Divider מחלק מתח למתח ישר	10 V to 700 V	0.5 $\mu\text{V/V}$ Of Input	CPE-841F	Voltage ratio $10^{-7}$ to 1 ESI RV-722
29	A	P	DC Current, Sources , Measuring Instrument זרם ישר, מחוללים מכשירי מדידה	[10 pA to 1 $\mu\text{A}$ ]	200 $\mu\text{A/A}$ O.R. + 10 pA	CPE-810F	Measuring Voltage across standard resistor O.R. - Of Reading
30	A	P		[1 $\mu\text{A}$ to 10 $\mu\text{A}$ ]	100 $\mu\text{A/A}$		
31	A	P		[10 $\mu\text{A}$ to 100 $\mu\text{A}$ ]	30 $\mu\text{A/A}$		
32	A	P		[100 $\mu\text{A}$ to 0.1 A]	20 $\mu\text{A/A}$		
33	A	P		[0.1 A to 1 A]	30 $\mu\text{A/A}$		
34	A	P		[1 A to 10 A]	100 $\mu\text{A/A}$		
35	A	P		[10 A to 100 A]	500 $\mu\text{A/A}$		
36	A	P		[100 A to 500 A]	3.5 mA/A		
37	A	T		Up to 100 $\mu\text{A}$ ]	1 mA/A O.R. + 1 nA		
38	A	T		[100 $\mu\text{A}$ to 1 A]	500 $\mu\text{A/A}$		
39	A	T		[1 A to 10 A]	2.5 mA/A		
40	A	T		[10 A to 500 A]	20 mA/A		
41	A	P	AC Voltage, Measuring Instruments AC Voltage, Sources מתח חילופין, מכשירי מדידה מתח חילופין, מחוללים	[1 mV to 2.2 mV]	CPE-810S		
42	A	P		[10 Hz - 20 Hz]			2500 $\mu\text{V/V}$
43	A	P		[20 Hz - 40 Hz]			1700 $\mu\text{V/V}$
44	A	P		[40 Hz - 20 kHz]			1500 $\mu\text{V/V}$
45	A	P		[20 kHz - 50 kHz]			2500 $\mu\text{V/V}$
46	A	P		[50 kHz - 100 kHz]			3000 $\mu\text{V/V}$
47	A	P		[100 kHz - 300 kHz]			5000 $\mu\text{V/V}$
48	A	P		[300 kHz - 500 kHz]			8500 $\mu\text{V/V}$
			[500 kHz - 1 MHz]	10000 $\mu\text{V/V}$			



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
49	A	P		(2.2 mV to 7 mV) [10 Hz - 20 Hz]	1200 μV/V		
50	A	P		[20 Hz - 40 Hz]	800 μV/V		
51	A	P		[40 Hz - 20 kHz]	650 μV/V		
52	A	P		[20 kHz - 50 kHz]	1100 μV/V		
53	A	P		[50 kHz - 100 kHz]	1500 μV/V		
54	A	P		[100 kHz - 300 kHz]	2500 μV/V		
55	A	P		[300 kHz - 500 kHz]	4000 μV/V		
	A	P		[500 kHz - 1 MHz]	6000 μV/V		
56	A	P		(7 mV to 22 mV) [10 Hz - 20 Hz]	400 μV/V		
57	A	P		[20 Hz - 40 Hz]	300 μV/V		
58	A	P		[40 Hz - 20 kHz]	250 μV/V		
59	A	P		[20 kHz - 50 kHz]	350 μV/V		
60	A	P		[50 kHz - 100 kHz]	550 μV/V		
61	A	P		[100 kHz - 300 kHz]	1200 μV/V		
62	A	P		[300 kHz - 500 kHz]	1800 μV/V		
63	A	P		[500 kHz - 1 MHz]	3100 μV/V		
64	A	P		(22 mV to 70 mV) [10 Hz - 20 Hz]	270 μV/V		
65	A	P		[20 Hz - 40 Hz]	200 μV/V		
66	A	P		[40 Hz - 20 kHz]	120 μV/V		
67	A	P		[20 kHz - 50 kHz]	200 μV/V		
68	A	P		[50 kHz - 100 kHz]	310 μV/V		
69	A	P		[100 kHz - 300 kHz]	600 μV/V		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישיר ותדר נמוך</b>		
70	A	P		[300 kHz - 500 kHz]	850 $\mu$ V/V		
71	A	P		[500 kHz - 1 MHz]	1600 $\mu$ V/V		
				(70 mV to 220 mV]			
72	A	P		[10 Hz - 20 Hz)	70 $\mu$ V/V		
73	A	P		[20 Hz - 40 Hz)	45 $\mu$ V/V		
74	A	P		[40 Hz - 20 kHz)	33 $\mu$ V/V		
75	A	P		[20 kHz - 50 kHz]	50 $\mu$ V/V		
76	A	P		(50 kHz - 100 kHz]	180 $\mu$ V/V		
77	A	P		(100 kHz - 300 kHz]	250 $\mu$ V/V		
78	A	P		(300 kHz - 500 kHz]	500 $\mu$ V/V		
79	A	P		(500 kHz - 1 MHz]	1400 $\mu$ V/V		
				(0.22 V to 2.2 V]			
80	A	P		[10 Hz - 20 Hz)	65 $\mu$ V/V		
81	A	P		[20 Hz - 40 Hz)	40 $\mu$ V/V		
82	A	P		[40 Hz - 20 kHz)	25 $\mu$ V/V		
83	A	P		[20 kHz - 50 kHz]	30 $\mu$ V/V		
84	A	P		(50 kHz - 100 kHz]	80 $\mu$ V/V		
85	A	P		(100 kHz - 300 kHz]	200 $\mu$ V/V		
86	A	P		(300 kHz - 500 kHz]	320 $\mu$ V/V		
87	A	P		(500 kHz - 1 MHz]	1100 $\mu$ V/V		
				(2.2 V to 22 V]			
88	A	P		[10 Hz - 20 Hz)	60 $\mu$ V/V		
89	A	P		[20 Hz - 40 Hz)	35 $\mu$ V/V		
90	A	P		[40 Hz - 20 kHz)	23 $\mu$ V/V		
91	A	P		[20 kHz - 50 kHz]	25 $\mu$ V/V		





Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
92	A	P		(50 kHz - 100 kHz)	70 $\mu$ V/V		
93	A	P		(100 kHz - 300 kHz)	200 $\mu$ V/V		
94	A	P		(300 kHz - 500 kHz)	270 $\mu$ V/V		
95	A	P		(500 kHz - 1 MHz)	1100 $\mu$ V/V		
				(22 V to 70 V)			
96	A	P		[10 Hz - 20 Hz)	60 $\mu$ V/V		
97	A	P		[20 Hz - 40 Hz)	30 $\mu$ V/V		
98	A	P		[40 Hz - 20 kHz)	23 $\mu$ V/V		
99	A	P		[20 kHz - 50 kHz)	25 $\mu$ V/V		
100	A	P		(50 kHz - 100 kHz)	90 $\mu$ V/V		
101	A	P		(100 kHz - 300 kHz)	200 $\mu$ V/V		
				(70 V to 220 V)			
102	A	P		[10 Hz - 20 Hz)	70 $\mu$ V/V		
103	A	P		[20 Hz - 40 Hz)	35 $\mu$ V/V		
104	A	P		[40 Hz - 20 kHz)	25 $\mu$ V/V		
105	A	P		[20 kHz - 50 kHz)	30 $\mu$ V/V		
106	A	P		(50 kHz - 100 kHz)	90 $\mu$ V/V		
				(220 V to 700 V)			
107	A	P		[40 Hz - 100 Hz)	45 $\mu$ V/V		
108	A	P		[100 Hz - 20 kHz)	30 $\mu$ V/V		
109	A	P		(20 kHz - 50 kHz)	130 $\mu$ V/V		
110	A	P		(50 kHz - 100 kHz)	700 $\mu$ V/V		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
111	A	P		(700 V to 1000 V)			
112	A	P		[40 Hz - 100 Hz]	45 $\mu$ V/V		
113	A	P		[100 Hz - 20 kHz]	30 $\mu$ V/V		
				(20 kHz - 50 kHz)	130 $\mu$ V/V		
114	A	T	AC Voltage, Measuring Instruments	מתח חילופין, מכשירי מדידה	[1 mV to 1 V]		O.R. - Of Reading
115	A	T		[50 Hz to 20 kHz]	1 mV/V O.R. +10 $\mu$ V	CPE-810C	
				(20 kHz to 100 kHz)	5 mV/V O.R. + 20 $\mu$ V		
116	A	T		(1 V to 10 V)			
117	A	T		[50 Hz to 20 kHz]	500 $\mu$ V/V		
				(20 kHz to 100 kHz)	5 mV/V		
118	A	T		(10 V to 100 V)			
119	A	T		[50 Hz to 20 kHz]	500 $\mu$ V/V		
				(20 kHz to 100 kHz)	5 mV/V		
120	A	T		(100 V to 1000V)			
				[50 Hz to 1 kHz]	600 $\mu$ V/V		
121	A	T	AC Voltage, Sources	מתח חילופין, מחוללים	[1 mV to 1 V]		
122	A	T		[50 Hz to 20 kHz]	2 mV/V	CPE-810C	
				(20 kHz to 100 kHz)	5 mV/V		
123	A	T		(1 V to 10 V)			
124	A	T		[50 Hz to 20 kHz]	1 mV/V		
				(20 kHz to 100 kHz)	5 mV/V		
125	A	T		(10 V to 100 V)			
				[50 Hz to 20 kHz]	1.5 mV/V		
126	A	T		(20 kHz to 100 kHz)	5 mV/V		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks	
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>			
127	A	T		(100 V to 1000 V) 50 Hz to 1 kHz	600 μV/V			
128	A	P	Voltage Ratio, Voltage Ratio Generator	יחס מתח, מחולל יחס מתח AC ratio 10 <sup>-7</sup> to 1 400 Hz to 1 kHz	2 μV/V of input	CPE-841G	Comparison ESI DT72A	
129	A	P	AC Current, Measuring Instruments and Sources	זרם חילופין, מכשירי מדידה זרם חילופין, מחוללים	[10 μA to 100 μA]	CPE-810T		
130	A	P			[10 Hz - 20 Hz)			400 μA/A
131	A	P			[20 Hz - 40 Hz)			350 μA/A
132	A	P			[40 Hz - 10 kHz)			300 μA/A
133	A	P			(100 μA to 1 mA]			
134	A	P			[10 Hz - 20 Hz)			200 μA/A
135	A	P			[20 Hz - 40 Hz)			100 μA/A
136	A	P			[40 Hz - 10 kHz)			85 μA/A
137	A	P			(1 mA to 250 mA]			
138	A	P			[10 Hz - 20 Hz)			100 μA/A
139	A	P			[20 Hz - 10 kHz)			60 μA/A
140	A	P			(250 mA to 500 mA]			
141	A	P	[20 Hz - 10 kHz)	80 μA/A				
			(500 mA to 1 A]					
			[10 Hz - 20 Hz)	100 μA/A				
			[20 Hz - 10 kHz)	60 μA/A				
			(1 A to 10 A]					
			[10 Hz - 20 Hz)	150 μA/A				
			[20 Hz - 10 kHz)	120 μA/A				



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<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
142	A	P		(10 A to 500 A) [50 Hz to 400 Hz]	3.5 mA/A	CPE-810M	For clamp meters
143	A	T		[100 μA to 1 A] [50 Hz to 5 kHz]	2 mA/A	CPE-810J	
144	A	T		(1 A to 10 A) [50 Hz to 5 kHz]	5 mA/A		
145	A	T		(100 μA to 1 A) [50 Hz to 1 kHz]	6 mA/A		
146	A	T		(1 A to 10 A) [50 Hz to 1 kHz]	5 mA/A		Generation only
147	A	T		(10 A to 500 A) [50 Hz to 400 Hz]	20 mA/A	CPE-810P	For clamp meters
148	A	P	DC Resistance, Measuring Instruments	0.1 Ω	10 μΩ/Ω	CPE-841A	Standard Resistors
149	A	P	DC Resistance, Resistors	1 Ω	3.5 μΩ/Ω		O.R. - Of Reading
150	A	P		10 Ω	5 μΩ/Ω		
151	A	P		25 Ω	6 μΩ/Ω		
152	A	P		100 Ω	3 μΩ/Ω		
153	A	P		1 kΩ	5 μΩ/Ω		
154	A	P		10 kΩ	0.7 μΩ/Ω		
155	A	P		100 kΩ	6 μΩ/Ω		
156	A	P		1 MΩ	10 μΩ/Ω		
157	A	P		10 MΩ	15 μΩ/Ω		
158	A	P		Up to 0.1 Ω)	50 μΩ/Ω O.R. + 0.1 μΩ		DMM Fluke 8508
159	A	P		(0.1 Ω to 10 MΩ]	30 μΩ/Ω		
160	A	P		(10 MΩ to 1 GΩ]	100 μΩ/Ω	CPE-841E	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks	
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>			
161	A	P		(1 GΩ to 10 GΩ)	1 mΩ/Ω	CPE-810L	Voltage applied 25-1000V, Reference Resistor	
162	A	P		(10 GΩ to 100 GΩ)	3 mΩ/Ω	CPE-841H		
163	A	P		(100 GΩ to 1 TΩ)	10 mΩ/Ω			
164	A	T	DC Resistance, Resistors	התנגדות זרם ישר, נגדים	Up to 100 mΩ)	100 μΩ/Ω O.R. + 1 μΩ	CPE-810L	O.R. - Of Reading
165	A	T			[0.1 Ω to 10 MΩ]	100 μΩ/Ω		
166	A	T			(10 MΩ to 100 MΩ)	1 mΩ/Ω		
167	A	T	DC Resistance, Measuring Instruments	התנגדות זרם ישר, מכשירי מדידה	Up to 100 mΩ]	1 mΩ	CPE-810L	
168	A	T			(0.1 Ω to 10 MΩ]	500 μΩ/Ω		
169	A	T			(10 MΩ to 100 MΩ]	6 mΩ/Ω		
170	A	P	Capacitance, Capacitors	קיבול, קבלים	100 pF	10 μF/F	CPE-841D	Gen. Radio 1404A; 1404B 1621 Capacitance bridge
171	A	P			1 kHz			
172	A	P			1000 pF			
					1 pF to 10 μF	10 μF/F		
					100 Hz to 1 kHz	50 μF/F		
173	A	P,T	Capacitance, Generating Instruments	קיבול, מחוללים	100 pF to 10 μF	2 mF/F	CPE-841I	
					100 Hz to 1 kHz			
174	A	P,T	Capacitance, Measuring Instruments	קיבול, מכשירי מדידה	1 pF to 10 μF	500 μF/F	CPE-841L	
					100 Hz to 1 kHz			
175	A	P	Inductance, Measuring Instruments and standards	השראות, מכשירי מדידה וייחוס	100 μH	200 μH/H O.R. + 0.1 μH	CPE-841C/H	Genrad 1238 Genrad 1316 Genrad 1482-L Fluke PM 6304 O.R. - Of Reading
176	A	P			100 Hz	200 μH/H O.R. + 0.1 μH		
177	A	P			400 Hz	200 μH/H O.R. + 0.1 μH		
					1 kHz	200 μH/H O.R. + 0.1 μH		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
178	A	P		1 mH 100 Hz	200 μH/H O.R. + 0.1 μH		
179	A	P		400 Hz	200 μH/H O.R. + 0.1 μH		
180	A	P		1 kHz	200 μH/H OR + 0.1 μH		
181	A	P		10 mH 100 Hz	200 μH/H O.R. + 0.1 μH		
182	A	P		400 Hz	200 μH/H O.R. + 0.1 μH		
183	A	P		1 kHz	200 μH/H O.R. + 0.1 μH		
184	A	P		100 mH 100 Hz	200 μH/H		
185	A	P		400 Hz	200 μH/H		
186	A	P		1 kHz	200 μH/H		
187	A	P		1 H 100 Hz	250 μH/H		
188	A	P		400 Hz	250 μH/H		
189	A	P		1 kHz	250 μH/H		
190	A	P		10 H 100 Hz	500 μH/H		
191	A	P		400 Hz	500 μH/H		
192	A	P		[50 μH to 1 H]			
193	A	P		(1 H to 10 H) 100 Hz to 1 kHz	1 mH/H O.R. + 0.2 μH		
194	A	T		(50 μH to 1 H) 100 Hz to 400 Hz	1 mH/H		
				100 Hz to 1 kHz	1 mH/H O.R. + 0.5 μH		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks	
<b>Calibration – Electrical Quantities - DC and LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>			
195	A	T		(1 H to 10 H]  100 Hz to 400 Hz	1 mH/H			
196	A	P	Conductivity, Conductivity meter	מוליכות, מדי מוליכות	[8% to 108% IACS]	2 % O.R. or 0.7 % IACS whichever is greater	CPE-863I/863M	Reference material blocks; Comparison
197	A	P		30% IACS	0.55% IACS		Specific Nominal Value	
198	A	P		45% IACS	0.50% IACS		O.R. – Of Reading	
199	A	P		50% IACS	0.50% IACS			
200	A	P		60% IACS	0.40% IACS			
201	A	P		80% IACS	0.60% IACS			
202	A	P	AC Power, Power Calibrators and Power Meters	הספק זרם חילופין, כייילי הספק ומדי הספק	[1W to 2 kW] Power factor [0 to 1] Current [1 mA to 10 A] Voltage [30 mV to 1 kV] Frequency [50 Hz to 1 kHz]	2.5 mW/W	CPE-840C CPE-812D	Clarke – Hess 2500A Holt HCF-1 shunt Fluke 5500A
203	A	P	Power factor, Power Calibrators and Power Meters	גורם הספק, כייילי הספק ומדי הספק	[0 to 1] Power [1 W to 2 kW] Current [1 mA to 10 A] Voltage [30 mV to 1 kV] Frequency [50 Hz to 1 kHz]	0.002	CPE-840C CPE-812E	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities – Magnetic Field and Flux</b>					<b>כיוול – גדלים חשמליים - שטף ושדה מגנטי</b>		
204	A	P	Magnetism, Measuring Instruments GAUSS Meter Resolution 0.01/0.1 Gauss	מגנטיות , מכשירי מדידה גאוס מטר רזולוציה 0.01/0.1 Gauss	AC (50 Hz-1000 Hz) [0.5 GAUSS to 10 GAUSS]  (10 GAUSS to 20 GAUSS)  DC [0.5 GAUSS to 10 GAUSS]  (10 GAUSS to 20 GAUSS)	CPE-863H	Helmholtz Coil  (AXIAL + TRANSVERS PROBS)  O.R. – Of Reading
205	A	P					
206	A	P					
207	A	P					
208	A	P			100 GAUSS		Reference Magnet (AXIAL + TRANSVERS PROBS)
209	A	P			500 GAUSS		(AXIAL PROB)
210	A	P			1000 GAUSS		(TRANSVERS PROB)
211	A	P			2000 GAUSS		(AXIAL PROB)
212	A	P			10,000 GAUSS		(TRANSVERS PROB)  O.R.- Of Reading
213	A	P	Magnetism, Measuring Instruments MILLIGAUSS Meter Resolution 0.1/1 mGauss	מגנטיות , מכשירי מדידה מיליגאוס מטר רזולוציה 0.1/1 mGauss	AC (50 Hz-1000 Hz) [5 mGAUSS to 20 mGAUSS]  (20 mGAUSS to 200 mGAUSS)  (200 mGAUSS to 3000 mGAUSS)  DC (5 mGAUSS to 200 mGAUSS)  (200 mGAUSS to 3000 mGAUSS)	CPE-863H	Helmholtz Coil  (AXIAL + TRANSVERS PROBS)
214	A	P					
215	A	P					
216	A	P					
217	A	P					





Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities – HF Electrical Power and Energy</b>					<b>כיוול – גדלים חשמליים - הספק ואנרגיה חשמלית בתדר גבוה</b>		
218	A	P	RF Power, Power Meters	הספק תדר גבוה, מדי הספק	1 mW  30 MHz	CPE-812A	HP 432 A/H75 Reference source
219	A	P			50 MHz 4 mW/W		
220	A	P	RF Power, Power Sources	הספק תדר גבוה, מקורות הספק	(0.1 nW – 1 nW]  30 MHz	CPE-812B	Boonton 2520 Power calibrator
221	A	P	RF Power, Linearity of Power Sources & Meters	הספק תדר גבוה, ליניאריות של מקורות הספק	[10 nW - 100 mW] (10 dB/step)  30 MHz	CPE-812A/B	Boonton 2520 Power calibrator
222	A	P			[10 μW to 100 μW]  [10 MHz to 1 GHz]		
223	A	T	RF Power, Power Sources and Meters	הספק תדר גבוה, מקורות ומדי הספק	[10 μW to 100 μW]  [10 MHz to 1 GHz]	CPE-812B	Thermocouple Element Agilent E4417A Power meter
224	A	P			[10 MHz to 1 GHz] 50 mW/W		
225	A	P			[10 μW to 10 mW]  [100 kHz to 300 KHz]		
226	A	P			[300 kHz to 1MHz) 25 mW/W		
227	A	P			(1 MHz to 4 GHz) 20 mW/W		
228	A	P			(4GHz to 12.4 GHz) 25 mW/W		
229	A	P			(12.4 GHz to 18 GHz) 35 mW/W		
230	A	P			[10 mW to 100 mW]  (100 kHz to 300 KHz)		
231	A	P			(300 kHz to 50MHz) 23 mW/W		
232	A	P			(50 MHz to 1GHz) 30 mW/W		
233	A	P			(1 GHz to 4GHz) 40 mW/W		
234	A	P			(4 GHz to 12.4GHz) 50 mW/W		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities – HF Electrical Power and Energy</b>					<b>כיוול – גדלים חשמליים - הספק ואנרגיה חשמלית בתדר גבוה</b>		
235	A	P		(12.4 GHz to 18GHz] (100 mW to 3 W]	60 mW/W		
236	A	P		[10 MHz to 400 MHz]	32 mW/W		
237	A	P		(400 MHz to 12 GHz]	70 mW/W		
238	A	P	RF Power, Power Sources / Watt Meters	הספק תדר גבוה, מקורות הספק	[3 W to 50 W] [10 MHz to 400 MHz]	CPE-812C	Thermocouple Element Agilent E4417A Power meter Bird 8325 Attenuator RF Amplifier
239	A	P	DC Attenuation, Attenuators DC	הנחתה זרם ישר, מנחיתים זרם ישר	DC	CPE-840G	Calibrator Datron 4808 Multimeter Fluke 8508
240	A	P		[0 to 70 dB]	0.06 dB		
241	A	P		(70 to 80 dB]	0.1 dB		
242	A	P	LF&RF Attenuation, Attenuators LF&RF	הנחתה תדר נמוך תדר גבוה, מנחיתים תדר נמוך תדר גבוה	[1 kHz to 30 MHz]	CPE-840D	Agilent 8495B Agilent E8247C Marconi 2032
243	A	P		(30 MHz to 1 GHz]	0 to 70 dB		
244	A	P		(1 GHz to 7 GHz]	0 to 70 dB		
245	A	P		(7GHz to 12 GHz]	0 to 70dB		
246	A	P		(12GHz-18GHz]	(0 to 70 dB)		
247	A	P		(30 MHz to 4 GHz]	(70 to 90 dB]		
248	A	P		(4GHz to 12 GHz]	(70 to 90 dB]		
249	A	P		(12GHz to 18 GHz]	(70 to 90 dB]		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - RF Frequency, Time</b>					<b>כיוול – גדלים חשמליים - תדר גבוה, זמן</b>		
250	A	P	Frequency, Frequency Measuring Instruments and Frequency Sources	תדר, מכשירי מדידת תדר ומחוללי תדר	1 MHz	1 part in 10 <sup>11</sup>	GPS Time & Frequency System Over 8 Hours 1 h integration time
251	A	P			5 MHz	1 part in 10 <sup>11</sup>	1 h integration time
252	A	P			10 MHz	1 part in 10 <sup>11</sup>	1 h integration time
253	A	P			[1 Hz to 1 MHz]	1 part in 10 <sup>9</sup>	10 sec integration time
254	A	P			(1 MHz to 18 GHz)	1 part in 10 <sup>10</sup>	10 sec integration time
255	A	T			[1 Hz to 1 kHz]	1 part in 10 <sup>6</sup>	1 sec integration time
256	A	T			(1 kHz to 18 GHz)	2 part in 10 <sup>8</sup>	1 sec integration time
257	A	P.T	Time, Timers and stop watches	מדי זמן ושעוני עצר	30 sec to 24 h	0.1 sec	CPI-580A CPI-580B
258	A	P	Amplitude Modulation, Modulation Meters	אפנון תנופה, מד אפנון	Carrier frequency: [1 MHz to 1 GHz]  Modulation frequency: [90 Hz to 10 kHz]  Modulation depth: [5% - 95%]	1% O.R.	CPE-835C CPE-835D  Carrier Oscilloscope DC Calibrator Signal generator O.R. - Of Reading
259	A	P	Frequency Modulation, Modulation Meters	אפנון תדר, מד אפנון	Carrier frequency [10 MHz to 1 GHz]  Modulation frequency: [100 Hz to 10 kHz]  Deviation frequency [200 Hz to 100 kHz]	0.5% O.R.	CPE-835C CPE-835E  Deviation Spectrum analyzer Marconi 2032 O.R. - Of Reading



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks	
<b>Calibration – Mechanical Quantities – Form, Angle</b>					<b>כיוול – גדלים מכניים – צורה, זווית</b>			
260	A	P	Form, Roughness Ra, Roughness Measurement Instrument	צורה, חספוס פני שטח, מכשירי מדידת חספוס	0.3 μm to 5 μm	0.035 μm or 3.5% O.R. whichever is greater	BS 1134 CPM-185H CPM-198	Master surface finish; Surface finish machine CLA method Ra parameter only O.R. - Of Reading
261	A	P	Form, Roughness, Ra Roughness Samples	צורה, חספוס פני שטח, דוגמאות חספוס	0.3 μm to 5 μm	0.035 μm or 3.5% O.R. whichever is greater	BS 1134 CPM-185H CPM-198	Master surface finish; Surface finish machine CLA method Ra parameter only O.R. - Of Reading
262	A	P;T	Form, Flatness, Surface Plates, Granite	צורה, לוחות שטוחים, גרניט	Up to 100 μm	(1.5 + 0.8 L) μm	ISO 8512 CPM-175B	L in meters Surface Plates size: 200 mm x 200 mm x 50 mm to 4000 mm x 4000 mm x 250 mm Two methods may be implemented: -Autocollimator (Union Jack Method) -Electronic Levels
263	A	P	Form, Flatness, Optical Flats	צורה, שטוחות, מישור אופטי	Up to 2.5 μm	0.1 μm	JIS B 7430 CPM-185F	Optical Flats size: 10 mm to 100 mm Calibrated optical flats
264	A	P	Form, Straightness, Straightedges	צורה, ישרות, סרגל ישרות	Up to 5 mm	(1 + 2 L) μm	BS 5204 CPM-174 CPM-174B	Straightness size: 300 mm to 2000 mm Gauge blocks L in meters



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Mechanical Quantities – Form, Angle</b>					<b>כיוול – גדלים מכניים – צורה, זווית</b>		
265	A	P	Form, Parallelism, Parallels צורה, מקבילות, מקבילים	Up to 1 mm	1.5 μm	BS 906 CPM-174A CPM-177A	Parallels size: 100mm x 20 mm x 10 mm to 400 mm x 100 mm x 50 mm Surface plate; Millimess
266	A	P	Angle, Angle Gauges זווית, אב מידה לזווית	1" to 180°	1"	N.P.L No. 26	Autocollimator; Master angle gauges
267	A	P	Angle, Poligons Rotary & Index Tables זווית, פוליגון, שולחן חלוקה	1° to 360°	1"	N.P.L No. 26 CPM-185B	Autocollimator; Index table
268	A	P	Angle, Autocollimators זווית, אוטוקולימטור	± 10'	0.25"	JIS B 7538 CPM-196	Small Angle Generator
269	A	P	Angle, Small Angle Generator זווית, מתקן זוויות קטנות	± 30'	0.2"	CPM-185O	Gauge blocks
270	A	P	Angle, Squares, Cylindrical זווית, גליל ניצב	Up to 1°	(6 L) μm	BS 939 CPM-170B	Squares sizes: Up to 600 mm Table; Autocollimator; Gauge blocks L in meters
271	A	P	Angle, Angle Cube זווית, קוביה	Up to 1000 mm	(10 L) μm	BS 5535 CPM-172B	Angle Cube size: 50 mm to 400 mm Autocollimator; Angle gauge, Surface plate L in meters
272	A	P;T	Angle, Squares זווית, זוויתן	Up to 90°	(10 L) μm	BS 5535 BS 939 CPM-174A	Squares size: Up to 600 mm Table; Autocollimator; Angle gauges L in meters



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Mechanical Quantities – Form, Angle</b>					<b>כיוול – גדלים מכניים – צורה, זווית</b>		
273	A	P	Angle, Vee Blocks זווית, פריזמה V	Up to 45°	8 Arc Sec	BS 3731 CPM-171	Block size: 40 mm to 150 mm Surface plate; Sine-table; Millimess
274	A	P	Length, Vee Blocks אורך, הפרשי גובה בין הצירים	Up to 150 mm	3 μm	BS 3731 CPM-171	Block size: 40 mm to 150 mm Surface plate; Sine-table; Millimess
275	A	P	Angle, Levels, electronic זווית, פלאס אלקטרוני	0.005 mm/meter to 1 mm/meter	1"	DIN 877 CPM-133A	Granite surface plate; Millimess Small Angle Generator
276	A	P	Angle, Levels, Spirit זווית, פלאס	0.001 mm/meter to 1 mm/meter	1"	DIN 877 CPM-133	Granite surface plate; Millimess Small Angle Generator
277	A	P	Angle, Sine Bars & Tables זווית, סרגלים ושולחנות סינוס	Up to 45°	3"	BS 3064 CPM-174B	Sine Bars size: 50 mm to 300 mm Granite surface plate; Gauge blocks L in meters
278	A	P;T	Angle, Bevel Protractor זווית, מד זווית	0° to 360°	2' or 1 div. whichever is greater	BS 1685 CPM-132	Table; Angel gauges
279	A	P	Angle, Clinometers זווית, מד שיפוע	0° to 45°	10"	TO 33K-4-1-805 CPM-134	Granite surface plate; Sine table
280	A	P	Angle, Theodolite זווית, תאודוליט	0° to 360°	1.5"	JIS B 7909 CPM-197	Test stand collimator
281	A	P, T	Revolution per minute Optical Tachometers מהירות סיבוב, מד מהירות סיבוב אופטי	1 rpm to 100000 rpm	0.0015 % of rpm value + 0.1 rpm	CPI-531A	Synthesized Function generator



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Mechanical Quantities - Length</b>					<b>כיול – גדלים מכניים - אורך</b>		
282	A	P	Length, Gauge Blocks Comparators אורך, קומפרטורים לכיול מקבילונים	0-100 mm	0.07 μm	Euramet cg-2 CPM-185C	Gauge blocks
283	A	P	Length, Gauge Blocks (by Comparison) אורך, מקבילונים	0.3 mm to 100 mm	(0.1 + 0.8 L) μm	ISO 3650 JIS B7506 CPM-199	Gauge blocks; Comparator, L in meters
284	A	P	Length, Gauge Block Accessories אורך, אביזרי מקבילונים	2 mm to 25 mm	0.3 μm	BS 4311 JIS B 7506 CPM-177A	Gauge blocks; Comparator, L in meters
285	A	P	Length, Length Bars אורך, מוטות אורך	25 mm to 1000 mm	5 L	ISO R 286 ISO 3650 CPM-199	Gauge blocks; Comparator, L in meters
286	A	P	Length, Plain Ring Gauges, Parallel אורך, מדידי טבעת חלקה	[1 mm to 100 mm]	1.5 μm	JIS B 7420 CPM-160A CPM-160	Measuring machine Gauge blocks
287	A	P		(100 mm to 150 mm]	2 μm		
288	A	P	Length, Plain Plug Gauges אורך, מדידי תקע חלקים	[1 mm to 50 mm]	1 μm	JIS B 7420 CPM-161	Measuring machine 828E, Gauge blocks
289	A	P		(50 mm to 100 mm]	1.5 μm		
290	A	P		(100 mm to 150 mm]	2 μm		
291	A	P	Length, Thread Ring Gauges, Parallel אורך, מדידי הברגה טבעת, מקביל	2.5 mm to 100 mm	2 μm	ISO R 1502 ASME B1.2 CPM-150 CPM-150A	Measuring machine SIP, Std. Grooves ting & Check Set Gauges
292	A	P	Length, Thread Plug Gauges, Parallel אורך, מדידי הברגה זכר מקביל	1 mm to 150 mm	2 μm	ISO R 1502 ASME B1.2 CPM-151 CPM-151A	Measuring machine 828E, Gauge blocks, T.M Wires



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Mechanical Quantities - Length</b>					<b>כיול – גדלים מכניים - אורך</b>		
293	A	P	Length, Measuring Pins אורך, מדידי קדח	0.1 mm to 25 mm	0.5 μm	DIN 7162 CPM-144B	Measuring machine 828E
294	A	P	Length, Thread Measuring Wires אורך, תיילים למדידת הברגה	0.17 mm to 6.35 mm	0.5 μm	Handbook H-28 CPM-185D	Laser micrometer
295	A	P	Length, Micrometer Heads, Dial testers אורך, מתקן לכיול ראשי מיקרומטרים, כייל חוגנים	Up to 25 mm	0.2 μm	DIN 863 CPM-185D	Gauge blocks
296	A	P	Length, Micrometer External אורך, מיקרומטר חיצוני	Up to 1000 mm	(1.5 + 5 L) μm	ISO 3611 CPM-120	Gauge blocks & End Rods, L in meters
297	A	P	Length, Micrometer External אורך, מיקרומטר חיצוני	Up to 300 mm	3 μm	ISO 3611 CPM-120	Gauge blocks L in meters
298	A	P	Length, Micrometer Internal 2-point אורך, מיקרומטר פנימי שתי נקודות	[5 mm to 700 mm]	(3.5 + 8 L) μm	DIN 863/4 CPM-121A CPM-121B	Surface plate: Height Master L in meters Gauge blocks
299	A	P	3-point שלוש נקודות	3.5 mm to 300 mm	(1.5 + 8 L) μm		Surface plate: Calibration tester Plane rings
300	A A	P T	Length, Micrometer Depth אורך, מיקרומטר עומק	Up to 300 mm	(1.5 + 8 L) μm 3 μm	DIN 863/2 CPM-122	Surface plate: Cal Bench L in meters
301	A	P	Length, Caliper Vernier אורך, זחון וורניר	Up to 1000 mm	(25 + 15 L) μm	DIN 862 CPM-131	Gauge blocks; End Rods L in meters
302	A	T		Up to 500 mm	(25 + 15 L) μm	CPM-131A	Gauge blocks; Length bars 1 div.=0.02mm
303	A	P	Length, Caliper Electronic אורך, זחון אלקטרוני	Up to 1000 mm	(15 + 30 L) μm	DIN 862 CPM-131	Gauge blocks; End Rods L in meters
304	A	T		Up to 500 mm	(15 + 30 L) μm	CPM-131A	Gauge blocks; Length bars





Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Mechanical Quantities - Length</b>					<b>כיוול – גדלים מכניים - אורך</b>		
305	A	P;T	Length, Height Gauge	אורך, מד גובה	Up to 1000 mm	(10 + 30 L) μm	BS 1643 CPM-130A Gauge blocks; End Rods L in meters
306	A	P;T	Length, Height Gauge Micrometric	אורך, מד גובה מיקרומטרי	Up to 1000 mm	(1 + 1.5 L) μm	ISO 7863 CPM-130B Surface plate; Gauge blocks L in meters
307	A	P	Length, Dial Indicator	אורך, חוגן	Up to 100 mm	1 μm	DIN 879 CPM-140A Calibration tester & Gauge Blocks
308	A	T		Up to 100 mm	2 μm		
309	A	P	Length, Dial Gauge, lever	אורך, חוגן מנופי	Up to 0.2 mm]	0.5 μm	DIN 2270 CPM-142 Calibration tester
310	A	P		(0.2 to 0.8 mm]	2.5 μm		
311	A	T		Up to 0.8 mm]	2.5 μm		
312	A	P,T		(0.8 to 1 mm]	4.5 μm		
313	A	P	Length, Bore Gauge	אורך, מדיד קדח	Up to 150 mm	1.5 μm	JIS B 7515 CPM-144A CPM-144B Calibration tester & Plain rings
314	A	T		Up to 150 mm	2 μm		
315	A	P	Length, Optical Scale	אורך, סרגל אופטי	Up to 350 mm	1 μm	JIS B 7541 Cpm-185K Measuring machine "SIP"
316	A	P	Length, Universal Measuring machine	אורך, מכשיר אוניברסאלי למדידת אורך	Up to 400 mm	(0.5+1.5 L) μm	CPM-151,151A,160,160A, 161,162,163,164 Gauge blocks L in meters
317	A	P	Length, Horizontal Measuring machine	אורך, מכשיר אופקי למדידת אורך	Up to 200 mm	(0.4+1.5L) μm	CPM-185D Gauge blocks L in meters
318	A	P	Length, Electrical comparators	אורך, מכשירי השוואה אלקטרוניים	Up to 1 mm	0.5 μm	JIS B 7536 CPM-185E Calibration tester and Gauge blocks
319	A	T			Up to 1 mm	2 μm	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities – Optics</b>					<b>כיול – גדלים פיזיקליים – אופטיקה</b>		
320	A	P	Illuminance, Visible Light, Illuminance Meters and Sources עוצמת ההארה, אור נראה, מדי עוצמת ההארה והמקורות	5 lx to 10000 lx	5.1 %	CPE-863E	Standard Illuminance meter
321	A	T	Illuminance, Visible Light, Illuminance Meters and Sources עוצמת ההארה, אור נראה מדי עוצמת ההארה והמקורות	5 lx to 10000 lx	10% O.R.	Light Measurement Handbook	Standard Illuminance meter Laboratory is capable to conduct Illuminance measurements as well. O.R. - Of Reading
322	A	P	Irradiance, UV-A radiation, Irradiance Meters עוצמת ההקרנה, קרינה אולטרא-סגולה מדי עוצמת ההקרנה	365 nm 1.5 W/m <sup>2</sup> to 50 W/m <sup>2</sup>	8%	CPE-863D	CM-365 X UV meter international
323	A	T	Illuminance, Visible Light, Illuminance testing עוצמת ההארה, אור נראה, בדיקת עוצמת ההארה	5 lx to 10000 lx	10%	CPE-863S	Standard Illuminance meter Laboratory is capable to conduct Illuminance measurement as well.



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Force, Torque</b>					<b>כיוול – גדלים פיזיקליים - כוח, מומנט</b>		
324	A	P	Force, Load Cells	כח, תאי עומס [1 N to 100 N]	0.02 N	ISO 376 CPM-188F	Dead weights – Tension only
325	A	P		(100 N to 10 kN)	0.05% O.R.+1 N	CPM-188H	Dead weight machine Tension & Compression
326	A	P		(10 kN to 445 kN)	0.10%		Proving Rings Tension & Compression O.R. - Of Reading
327	A	P	Force, Proving Rings	כח, טבעת כח (100 N to 10 kN)	0.05% O.R. +1 N	ISO 376 CPM-188I	Dead weight machine Tension & Compression O.R. - Of Reading
328	A	P		(10 kN to 445 kN)	0.10%		Proving Rings Tension & Compression
329	A	P;T	Force, Dynamometers	כח, מדי כח Up to 445 kN	0.15 %	ISO 376 CPM-188H	Dead weight and Calibrated proving rings CMC not less than 0.25 of division in analog or 0.5 of last digit in digital instruments
330	A	T	Force, Tensile Testing Machines	כח, מכונות קריעה Up to 445 kN	0.24 %	ASTM E4 ISO7500-1 CPM-189 CPM-189A	Dead weight and Calibrated proving rings CMC not less than 0.25 of division in analog or 0.5 of last digit in digital instruments
331	A	P	Torque, Torque Wrenches	מומנט, מפתח מומנט 0.3 N·m to 20 N·m	1 %O.R.	ISO 6789	Torque calibration system
332	A	P		20.1 N·m to 2250 N·m	0.5 %O.R.	CPM-110	O.R. - Of Reading
333	A	T		0.3 N·m to 400 N·m	1 %O.R.	CPM-110B	
334	A	P	Torque, Torque Testers	מומנט, כיוול מדי פיתול 0.1 N·m to 20 N·m	0.2 %O.R.	BS 7882	Calibrated mass & arm
335	A	P		20.1 N·m to 2250 N·m	0.15 %O.R.		O.R. - Of Reading



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Force, Torque</b>					<b>כיוול – גדלים פיזיקליים - כוח, מומנט</b>		
336	A	T		0.1 N·m to 2000 N·m	0.2 % O.R.	CPM-187A CPM-187B	
337	A	P	Torque, Torque Transducers	0.3 N·m to 20 N·m	0.2 % O.R.	BS 7882 CPM-110A	Torque machine Calibrated mass & arm
338	A	P		20.1 N·m to 2250 N·m	0.15 % O.R.		O.R. - Of Reading
339	A	T		0.1 N·m to 2000 N·m	0.3 % O.R.		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Humidity</b>					<b>כיול – גדלים פיזיקליים - לחות</b>		
340	A	P	Humidity, Relative humidity gauges, sensors, recorders  לחות, מדדי לחות יחסית, רגשים, רשמים	[10 %rh to 50 %rh] [5 °C to 25 °C]	0.7 %rh	NPL-ISBN-0-904457-24-9  CPI-590M	Dew point & Humidity Chamber rh– Relative Humidity
341	A	P		[10 %rh to 50 %rh] [25 °C to 37 °C]	1.2 %rh		
342	A	P		(50 %rh to 80 %rh) [5 °C to 28 °C]	1.3 %rh		
343	A	P		(80 %rh to 90 %rh) [5 °C to 26 °C]	2.0 %rh		
344	A	P,T	Humidity, Humidity chambers, controllers, relative humidity recorders, sensors etc.  לחות, תאי לחות, בקרים, רשמי לחות יחסית, רגשים וכד'	[10 %rh to 80 %rh] [0 °C to 50 °C]	1.5 %rh	CPI-590H	HUMIDITY GENERATOR ROTRONIC HG2-S. rh – Relative Humidity
345	A	P,T		(80 %rh to 90 %rh) [10 °C to 50 °C]	2.4 %rh		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Mass</b>					<b>כיוול – גדלים פיזיקליים - מסה</b>		
346	A	P	Mass	1 mg to 100 mg	0.005 mg	OIML R 111-1 CPM-188A	Mass comparators & Calibrated mass.
347	A	P		200 mg	0.006 mg		
348	A	P		500 mg	0.008 mg		
349	A	P		1 g	0.010 mg		
350	A	P		2 g	0.012 mg		
351	A	P		5 g	0.015 mg		
352	A	P		10 g	0.020 mg		
353	A	P		20 g	0.025 mg		
354	A	P		50 g	0.030 mg		
355	A	P		100 g	0.050 mg		
356	A	P		200 g	0.100 mg		
357	A	P		500 g	0.8 mg		
358	A	P		1000 g	1.5 mg		
359	A	P		2000 g	2.0 mg		
360	A	P		5000 g	5.0 mg		
361	A	P		10000 g	10.0 mg		
362	A	P		20000 g	20.0 mg		
363	A	P;T	Non-automatic weighing instruments Resolution: 0.001 mg and less	(Up to 10 mg]	5 µg	OIML R 76-1 & Manufacturer instructions CPM-188C CPM-188E	Dead weights OIML class E2, F1, F2, M1, M2
364	A	P;T		(10 mg to 500 mg]	10 µg		
365	A	P;T		(500 mg to 2 g]	12 µg		
366	A	P;T		(2 g to 5 g]	15 µg		
367	A	P;T		(5 g to 20 g]	25 µg		
368	A	P;T		(20 g to 50 g]	30 µg		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Mass</b>					<b>כיוול – גדלים פיזיקליים - מסה</b>		
369	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.01 mg	(Up to 5 g)	15 µg	
370	A	P;T	Resolution: 0.01 mg		(5 g to 50 g)	35 µg	
371	A	P;T			(50 g to 250 g)	130 µg	
372	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.1 mg	(Up to 50 g)	100 µg	
373	A	P;T	Resolution: 0.1 mg		(50 g to 250 g)	180 µg	
374	A	P;T			(250 g to 500 g)	1.1 mg	
375	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.001 g	(Up to 600 g)	1.5 mg	
376	A	P;T	Resolution: 0.001 g		(600 to 2000g)	3 mg	
377	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.01 g	(Up to 5.1 kg)	10 mg	
378	A	P;T	Resolution: 0.01 g		(5.1 to 12.1kg)	20 mg	
379	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.1 g	(Up to 8.1 kg)	100 mg	
380	A	P;T	Resolution: 0.1 g		(8.1 to 32 kg)	100 mg	
381	A	P;T			(32 kg to 64 kg)	200 mg	
382	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 1 g	(Up to 50 kg)	1 g	
383	A	P;T	Resolution: 1 g		(50 kg to 150 kg)	1 g	
384	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.01 kg	(Up to 200 kg)	10 g	
385	A	P;T	Resolution: 0.01 kg		(200 kg to 500 kg)	10 g	
386	A	P;T	Non automatic weighing instruments	מאזניים לא אוטומטיים כושר הפרדה: 0.1 kg	(Up to 1000 kg)	0.1 kg	
387	A	P;T	Resolution: 0.1 kg		(1000 kg to 2000 kg)	0.2 kg	



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Mass</b>					<b>כיוול – גדלים פיזיקליים - מסה</b>		
388	A	P	WHEEL & AIRCRAFT WEIGHING PLATFORM	משטחי שקילת רכב ומטוסים	(Up to 1000 kg]	OIML R 76-1	Load cells &
389	A	P	1 div: 0.5 kg, 1 kg, 2 kg, 5 kg, 10 kg	כושר הפרדה : 0.5 kg, 1 kg, 2 kg, 5 kg, 10 kg	(1000 kg to 30000 kg]	ISO 376 Manufacturer instructions CPM-188L CPM-188J	Press O.R. - Of Reading





Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Pressure</b>					<b>כיוול – גדלים פיזיקליים - לחץ</b>		
390	A	P;T	Pressure, Pneumatic Absolute Pressure, Absolute Pressure Gauges	לחץ, מדי לחץ אבסולוטי [0.029 Pa to 123 Pa]	5 %	OIML R 101 EURAMET cg-17 CPI-510M CPI-510K DKD R 6-1	Vacuum, Low MKS 390 ha – 00001
391	A	P		(6.2 kPa to 99.97 kPa)	0.25%		
392	A	P		(99.97 kPa to 689.4 kPa)	0.021%		
393	A	P	Pressure, Pneumatic Gauge Pressure, Pressure Gauges	לחץ, מדי לחץ פנאומטיים [-100 kPa to 0.2 kPa]	25 Pa	OIML R 101 DKD R 6-1  CPI-510A	Vacuum: Relative pressure, Negative Precision Pressure Indicator DRUCK 605R
394	A	T		[-85 kPa to 0.2 kPa]	0.25 %O.R. + 100 Pa		Automatic pressure calibration system “King” 3666
395	A	P,T		[0 to 1.25 kPa]	1 Pa		Relative pressure Precision Pressure Indicator DRUCK 605R O.R. - Of Reading in Pa
396	A	P		(2.3 kPa to 4.8 MPa)	0.016 %O.R.+ 14 Pa		CPI-510N
397	A	T	(2.3 kPa to 68 MPa)	0.15 %O.R. + 35 Pa	Automatic pressure calibration system “King” 3666		
398	A	P	Pressure, Hydraulic Pressure Gauges	לחץ, מדי לחץ הידראוליים [0.62 MPa to 12.4 MPa]	0.015 %	OIML R 101 DKD R 6-1 CPI-510C	D.W.T. PRESSURMENTS O.R. - Of Reading
399	A	P		(12.4 MPa to 34.5 MPa)	0.08 %		D.W.T BARNET
400	A	P		(34.5 MPa to 206 MPa)	0.025 %		Automatic pressure calibration system “King” 3666
401	A	T		[1.25 kPa to 68 MPa]	0.15 %O.R. + 35 Pa		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks	
<b>Calibration – Physical Quantities - Temperature</b>					<b>כיוול – גדלים פיזיקליים - טמפרטורה</b>			
402	A	P	Temperature, Liquid in Glass Thermometers	טמפרטורה, מדי חום נוזל בזכוכית	[- 80 °C to - 40 °C]	0.06 °C	ASTM-E-77 CPI-541D	SPRT; Intelligent probe
403	A	P		(- 40 °C to 100 °C)	0.05 °C			
404	A	P		(100 °C to 250 °C)	0.1 °C			
405	A	P	Temperature, Thermocouples, Base Metal (K, N, T...)	טמפרטורה, צמידים תרמיים, מתכות בסיסיות	[-80 °C to 250 °C]	0.5 °C	ASTM-E-220 CPI-546G	Platinum thermocouple Intelligent Probe, Liquid Bath, Dry Block, Furnace
406	A	P		(250 °C to 419 °C)	0.7 °C			
407	A	P		(419 °C to 1084 °C)	0.8 °C			
408	A	T		-80 °C to 419 °C	0.7 °C			
409	A	P	Temperature, Thermocouples, Noble Metal (S, R.)	טמפרטורה, צמידים תרמיים, מתכות אצילית	[0 °C to 419 °C]	0.6 °C	ASTM-E-220 CPI-546G	
410	A	p		(419 °C to 1084 °C)	0.8 °C			
411	A	T		0 °C to 419 °C	0.6 °C			
412	A	P	Temperature, Platinum Resistance Thermometers	טמפרטורה, מדי חום התנגדות פלטינה	[- 80 °C to 100 °C]	0.05 °C	ASTM-E-644 CPI-546F	
413	A	P		(100 °C to 250 °C)	0.1 °C			
414	A	P		(250 °C to 550 °C)	0.2 °C			
415	A	T	Temperature, Platinum Resistance Thermometers	טמפרטורה, גששי טמפרטורה התנגדות	[- 30 °C to 100 °C]	0.1 °C	ASTM-E-644 CPI-546F	SPRT, Liquid bath, Dry block, Furnace
416	A	T		(100 °C to 250 °C)	0.15 °C			
417	A	T		(250 °C to 550 °C)	0.25 °C			
418	A	P;T	Temperature, Electronic Thermometers including sensors	טמפרטורה, מדי טמפרטורה אלקטרוניים עם גששים	[- 80 °C to 600 °C]	As for sensors plus one significant digit or 0.5 scale division.	ASTM-E-644 ASTM-E-220 CPI-546F CPI-546G	SPRT, T/C-R



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Physical Quantities - Temperature</b>					<b>כיוול – גדלים פיזיקליים - טמפרטורה</b>		
419	A	P;T	Temperature, Temperature indicators and simulators for Base metal thermocouples טמפרטורה, מדי ומדמי טמפרטורה עבור צמדדים תרמיים מתכות בסיסיות	[-200 °C to -150 °C]	0.3 °C	EURAMET/cg-11 Manufacturer's Specifications CPI-590J CPI-541B	Calibration by means of electrical simulation Excluding CJ compensation Including CJ compensation Including CJ compensation
420	A	P;T		(-150 °C to 1370 °C)	0.15 °C		
421	A	P;T		[-200 °C to -150 °C]	0.4 °C		
422	A	P;T		(-150 °C to 1370 °C)	0.2 °C		
423	A	P;T	Temperature, Temperature indicators and simulators for Noble metal thermocouples טמפרטורה, מדי ומדמי טמפרטורה עבור צמדדים תרמיים מתכות אצילות	[-50 °C to 0 °C]	0.4 °C	EURAMET/cg-11 Manufacturer's Specifications CPI-590J CPI-541B	Calibration by means of electrical simulation Excluding CJ compensation Including CJ compensation Including CJ compensation
424	A	P;T		(0 °C to 1768 °C)	0.2 °C		
425	A	P;T		[-50 °C to 0 °C]	0.7 °C		
426	A	P;T		(0 °C to 1768 °C)	0.4 °C		
427	A	P;T	Temperature, Temperature Indicators and simulators for Resistance sensors טמפרטורה, מדי ומדמי טמפרטורה עבור מדי התנגדות	[-200 °C to 850 °C]	0.03 °C	EURAMET/cg-11 Manufacturer's Specifications CPI-590J CPI-541B	Calibration by means of electrical simulation
428	A	P	Temperature, Temperature Indicators and simulators Calibration of cold junction compensation for all kinds of thermocouples טמפרטורה, כיוול צומת קרה למדי ומדמי טמפרטורה	20 °C to 26 °C	0.3 °C	EURAMET/cg-11/v.01 Manufacturer's Specifications CPI-590J CPI-541B	
429	A	P;T	Temperature Uniformity Test, Temperature Controlled Chambers, פילוג טמפרטורה, תאים מבוקרי טמפרטורה	[- 80 °C to 100 °C]	0.5 °C	AMS 2750E DKD-R5-7 EURAMET CG-20 CPI-546C	Thermocouples; Data logger
430	A	P;T		(100 °C to 300 °C)	0.8 °C		
431	A	P;T		(300 °C to 600 °C)	1.0 °C		
432	A	P;T		(600 °C to 1100 °C)	3.0 °C		



Item	Scope Type	Site	Measurand Instrument, Gauge	Range [Including margins] (Does not include margins)	Uncertainty of Measurement <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Small (up to 2L) Volume Volumetric instruments</b>					<b>כיוול – כיוול מכשירים וולומטריים – נפחים קטנים עד 2 ליטר</b>		
433	A	P	Volumetric apparatus	[1 µl to 10 µl]	0.06 µl	ISO 8655-1,2,3,6	Analytical Balance & water grade 3
434	A	P	Piston pipettes and burettes	(10 µl to 200 µl)	0.20 µl	ISO 4787	
435	A	P		(200 µl to 500 µl)	0.7 µl	CPM-201C	
436	A	P		(500 µl to 1000 µl)	2 µl	CPM-201B	
437	A	P		(1 ml to 10 ml)	15 µl		
438	A	P		(10 ml to 50 ml)	20 µl		
439	A	P	Volumetric instruments made from glass	[Up to 10 ml]	20 µl		
440	A	P	(flasks,cylinder,burette)	(10 ml to 50 ml)	40 µl		

<sup>1</sup>) The uncertainty covered by the CMC expressed as the standard measurement uncertainty multiplied by the coverage factor  $k$  such that the coverage probability corresponds to approximately 95 %.