הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

מעבדות כיול **ISO/IEC 17025:2017**

תעודת הסמכה מס' 008

אלביט מערכות ל''א וסיגינט - אלישרא בע''מ

כתובת אתר ייחוס: המרכבה 29, חולון, 5885118

בתוקף מיום: 25.10.2023 **עד יום: 23.11.2025**

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.

תאריך הסמכה ראשון: 24.11.1997

אתי פלר
מנכ"ל
הרשות הלאומית להסמכת מעבדות

הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

Calibration Laboratories

ISO/IEC 17025:2017

Accreditation Certificate No.008

Elbit Systems EW and SIGINT Elisra Ltd.

Main site address: 29 Hamerkava , Holon, 5885118

Valid from: 25.10.2023 **Until: 23.11.2025**

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: 24.11. 1997

Etty Feller
General Manager
Israel Laboratory Accreditation Authority

***Name and Address*:**

Organization name	**Calibration Lab. - Elbit Systems EW and SIGINT Elisra Ltd.**
Address	29 Hamerkava , Holon, 5885118, Israel
Phone	+972-77-2935053
E-mail (contact person)	Gil.Vertman@elbitsystems.com

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*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC & LF							***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
1	A	P	AC Current, Measuring Instruments / זרם חילופין, מכשירי מדידה	1 mA 300 Hz	0.22 µA	Metroval software Directive: Q905-D060-ELS	Datron – 4808 Standard instrument
2	A	P		1 kHz	0.22 µA		
3	A	P		5 kHz	0.25 µA		
4	A	P		10 mA 300 Hz	3.7 µA		
5	A	P		1 kHz	3.7 µA		
6	A	P		5 kHz	2.2 µA		
7	A	P		100 mA 300 Hz	25 µA		
8	A	P		1 kHz	25 µA		
9	A	P		5 kHz	24 µA		
10	A	P		1 A 300 Hz	220 µA		
11	A	P		1 kHz	270 µA		
12	A	P		10 A 300 Hz	4 mA		
13	A	P		1 kHz	4.5 mA		
14	A	P		5 kHz	4.3 mA		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*	*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC & LF							***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
15	A	P	AC Voltage, Measuring Instruments / מתח חילופין, מכשירי מדידה	100 mV 1 kHz	16 µV	Metroval software	Datron – 4808 Standard instrument
16	A	P		50 kHz	30 µV		
				1 V			
17	A	P		1 kHz	110 µV		
18	A	P		20 kHz	72 µV		
19	A	P		50 kHz	15 µV		
20	A	P		100 kHz	160 µV		
21	A	P		300 kHz	540 µV		
				10 V			
22	A	P		1 kHz	790 µV		
23	A	P		50 kHz	7.3 mV		
				100 V			
24	A	P		1 kHz	9 mV		
25	A	P		50 kHz	75 mV		
				750 V			
26	A	P		1 kHz	0.52 V		
27	A	P		30 kHz	0.25 V		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC & LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
28	A	P	DC Current, Measuring Instruments	זרם ישר, מכשירי מדידה	100 µA	3.4 nA	Metroval software	
29	A	P			1 mA	30 nA		
30	A	P			10 mA	450 nA		
31	A	P			100 mA	3.9 µA		
32	A	P			1 A	58 µA		
33	A	P			10 A	3.1 mA		
34	A	P	DC Resistance, Measuring Instruments	התנגדות זרם ישר, מכשירי מדידה	100 Ω	1 mΩ	Metroval software	4 wire connection
35	A	P			1 kΩ	11.7 mΩ		
36	A	P			10 kΩ	0.058 Ω		
37	A	P			100 kΩ	1.2 Ω		
38	A	P			1 MΩ	16.6 Ω		
39	A	P			10 MΩ	310 Ω		
40	A	P	DC Voltage, Measuring Instruments	מתח בזרם ישר, מכשירי מדידה	100 mV	1.8 µV	Metroval software	Datron – 4808 Standard instrument
41	A	P			1 V	5.7 µV		
42	A	P			10 V	43.5 µV		
43	A	P			100 V	0.5 mV		
44	A	P			1 kV	5.85 mV		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities – HF Electrical Power and Energy								***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית בתדר גבוה***
45	A	P	RF Power Sensor Calibration Factor, Measuring Instruments	מקדם כיול של גששי הספק תדר גבוה, מכשירי מדידה	10 MHz	1.5 %	Metroval software Directive: T000-D020-ELS	For N type connectors The power sensors are calibrated at about 1 mW. The uncertainties are expressed as percentage of Calibration factor value. CMC value stands for termistor calibrations. Other sensors may be calibrated at larger uncertainty values.
46	A	P			30 MHz	1.1 %		
47	A	P			50 MHz	1.0 %		
48	A	P			100 MHz	1.1 %		
49	A	P			200 MHz	1.2 %		
50	A	P			300 MHz	1.1 %		
51	A	P			400 MHz	1.3 %		
52	A	P			500 MHz	1.3 %		
53	A	P			1 GHz	1.3 %		
54	A	P			2 GHz	1.2 %		
55	A	P			3 GHz	1.4 %		
56	A	P			4 GHz	1.6 %		
57	A	P			5 GHz	1.9 %		
58	A	P			6 GHz	2.1 %		
59	A	P			7 GHz	2.9 %		
60	A	P			8 GHz	4.1 %		
61	A	P			9 GHz	3.6 %		
62	A	P			10 GHz	2.4 %		
63	A	P			11 GHz	2.0 %		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities – HF Electrical Power and Energy								***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית בתדר גבוה***
64	A	P			12 GHz	2.0 %		
65	A	P			13 GHz	2.2 %		
66	A	P			14 GHz	2.2 %		
67	A	P			15 GHz	2.8 %		
68	A	P			16 GHz	4.0 %		
69	A	P			17 GHz	2.8 %		
70	A	P			18 GHz	2.6 %		
71	A	P	RF Power Sensor Calibration Factor, Measuring Instruments	מקדם כיול של גששי הספק תדר גבוה, מכשירי מדידה	0.05 GHz	1.4%	Metroval software Directive: T000-D020-ELS	For 2.4 mm connectors Using HP 8487A Standard instrument The power sensors are calibrated at nominal -5 dBm. The uncertainties are expressed as percentage of Calibration factor. The calibration method and software are developed by the Elisra Electronic System Metrology Laboratory
72	A	P			0.1 GHz	1.2 %		
73	A	P			0.5 GHz	1.2 %		
74	A	P			1 GHz	1.2 %		
75	A	P			2 GHz	1.3 %		
76	A	P			10 GHz	1.6 %		
77	A	P			14 GHz	1.7 %		
78	A	P			18 GHz	2.0 %		
79	A	P			20 GHz	2.4 %		
80	A	P			22 GHz	2.3 %		
81	A	P			24 GHz	2.5 %		
82	A	P			26 GHz	2.6 %		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities – HF Electrical Power and Energy								***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית בתדר גבוה***
83	A	P			28 GHz	4.2 %		
84	A	P			30 GHz	3.7 %		
85	A	P			32 GHz	3.4 %		
86	A	P			34 GHz	3.5 %		
87	A	P			36 GHz	3.6 %		
88	A	P			38 GHz	3.7 %		
89	A	P			40 GHz	3.5 %		
90	A	P	RF Power, Sources	הספק תדר גבוה	50 MHz	1.0 %	Metroval software	Reference Source 1 mW

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*Uncertainty of Measurement*[1]	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - RF Frequency, Time								***כיול – גדלים חשמליים - תדר גבוה, זמן***
91	A	P	Frequency, Measuring Instruments	תדר, מכשירי מדידה	10 MHz	1×10^{-11}	Datum – 9390, User Manual Directive:Q905-D061-ELS	Using Datum GPS Frequency Generator 26 h Integration time
92	A	P	Frequency, Sources	תדר, מחוללים	10 MHz to 40 GHz	1×10^{-10}	Datum – 9390, User Manual Directive:Q905-D061-ELS	Using Frequency Generator HP 83640A Standard instrument 10 sec. Integration time

[1)] 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 %.