



תעודת הסמכה מס' 008

אלביט מערכות ל"א וסיגינט - אלישרא בע"מ

כתובת אתר ייחוס: המרכבה 29, חולון, 5885118

עד יום: 23.11.2023

בתוקף מיום: 23.08.2021

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 / דרישות המפורטים מעלה. דרישות התקנים הם לכשירות מקצועית ולמערכות ניהול, שהינן הכרחיות למתן תוצאות אמינות. הסמכה זו ניתנה בהתאם לכללי תקן 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 דו צדדי (BLA) מול ארגון European co-operation for Accreditation (EA).

תעודה זו אינה מהווה אישור לפי סעיף 12 לחוק התקנים.

אתי פלר  
מנכ"ל  
הרשות הלאומית להסמכת מעבדות

תאריך הסמכה ראשון: 24/11/1997



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: 23.08.2021**

**Until: 23.11.2023**

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 the standard 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-BLA (European co-operation for Accreditation Bi-Lateral Agreement) signatory.

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

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

**Date of first accreditation: 24/11/1997**

Date of signature 24/08/2021

Page No. 2 of: 9



Name and Address:

<b>Organization name</b>	<b>Calibration Lab. - Elbit Systems EW and SIGINT Elisra Ltd.</b>
<b>Address</b>	29 Hamerkava , Holon, 5885118, Israel
<b>Phone</b>	+972-77-2935053
<b>E-mail (contact person)</b>	<a href="mailto:Shmuel.herskoviz@elbitsystems.com">Shmuel.herskoviz@elbitsystems.com</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 – Electrical Quantities - DC &amp; LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>		
1	A	P	AC Current, Measuring Instruments זרם חילופין, מכשירי מדידה	1 mA	0.5 $\mu$ A	Metroval software  Directive: Q905-D060-ELS	Datron – 4808 Standard instrument
2	A	P		300 Hz			
3	A	P		1 kHz			
4	A	P		5 kHz	0.55 $\mu$ A		
5	A	P		10 mA	6.5 $\mu$ A		
6	A	P		300 Hz			
7	A	P		1 kHz			
8	A	P		5 kHz	7 $\mu$ A		
9	A	P		100 mA	5.3 $\mu$ A		
10	A	P		300 Hz			
11	A	P		1 kHz			
12	A	P		5 kHz	32 $\mu$ A		
13	A	P		1 A	300 $\mu$ A/A		
14	A	P	300 Hz				
15	A	P	1 kHz				
16	A	P	10 A	350 $\mu$ A/A			
17	A	P	300 Hz				
18	A	P	1 kHz				
19	A	P	10 A	400 $\mu$ A/A			
20	A	P	300 Hz				
21	A	P	1 kHz				



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 &amp; LF</b>					<b>כיוול – גדלים חשמליים - זרם ישיר ותדר נמוך</b>		
14	A	P	AC Voltage, Measuring Instruments  מתח חילופין, מכשירי מדידה	100 mV		Metroval software	Datron – 4808 Standard instrument
15	A	P		1 kHz	46 μV		
16	A	P		50 kHz	61 μV		
17	A	P		1 V			
18	A	P		1 kHz	100 μV		
19	A	P		2 kHz	150 μV		
20	A	P		50 kHz	230 μV		
21	A	P		100 kHz	300 μV		
22	A	P		300 kHz	700 μV		
23	A	P		10 V			
24	A	P		1 kHz	750 μV		
25	A	P		50 kHz	3 mV		
26	A	P		100 V			
27	A	P		1 kHz	8 mV		
28	A	P	50 kHz	20 mV			
29	A	P	750 V				
30	A	P	1 kHz	0.2 V			
31	A	P	30 kHz	0.36 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 &amp; LF</b>					<b>כיוול – גדלים חשמליים - זרם ישר ותדר נמוך</b>			
27	A	P	DC Current, Measuring Instruments	זרם ישר, מכשירי מדידה	100 $\mu$ A	3 nA	Metroval software	
28	A	P			1 mA	30 nA		
29	A	P			10 mA	300 nA		
30	A	P			100 mA	3 $\mu$ A		
31	A	P			1 A	60 $\mu$ A		
32	A	P			10 A	3 mA		
33	A	P	DC Resistance, Measuring Instruments	התנגדות זרם ישר, מכשירי מדידה	100 $\Omega$	1 m $\Omega$	Metroval software	4 wire connection
34	A	P			1 k $\Omega$	10 m $\Omega$		
35	A	P			10 k $\Omega$	0.04 $\Omega$		
36	A	P			100 k $\Omega$	1.3 $\Omega$		
37	A	P			1 M $\Omega$	20 $\Omega$		
38	A	P			10 M $\Omega$	300 $\Omega$		
39	A	P	DC Voltage, Measuring Instruments	מתח בזרם ישר, מכשירי מדידה	100 mV	1.2 $\mu$ V	Metroval software	Datron – 4808 Standard instrument
40	A	P			1 V	6 $\mu$ V		
41	A	P			10 V	40 $\mu$ V		
42	A	P			100 V	0.7 mV		
43	A	P			1 kV	12 mV		



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>		
44	A	P	RF Power Sensor Calibration Factor, Measuring Instruments  מקדם כיוול של גששי הספק תדר גבוה, מכשירי מדידה	10 MHz	1.5 %	Metroval software	For N type connectors
45	A	P		30 MHz	1.1 %	Directive: T000-D020-ELS	The power sensors are calibrated at about 1 mW.
46	A	P		50 MHz	1.0 %		The uncertainties are expressed as percentage of Calibration factor value.
47	A	P		100 MHz	1.1 %		CMC value stands for termistor calibrations.
48	A	P		200 MHz	1.2 %		Other sensors may be calibrated at larger uncertainty values.
49	A	P		300 MHz	1.1 %		
50	A	P		400 MHz	1.3 %		
51	A	P		500 MHz	1.3 %		
52	A	P		1 GHz	1.3 %		
53	A	P		2 GHz	1.2 %		
54	A	P		3 GHz	1.4 %		
55	A	P		4 GHz	1.6 %		
56	A	P		5 GHz	1.9 %		
57	A	P		6 GHz	2.1 %		
58	A	P		7 GHz	2.9 %		
59	A	P		8 GHz	4.1 %		
60	A	P		9 GHz	3.6 %		
61	A	P		10 GHz	2.4 %		
62	A	P		11 GHz	2.0 %		



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>		
63	A	P		12 GHz	2.0 %		
64	A	P		13 GHz	2.2 %		
65	A	P		14 GHz	2.2 %		
66	A	P		15 GHz	2.8 %		
67	A	P		16 GHz	4.0 %		
68	A	P		17 GHz	2.8 %		
69	A	P		18 GHz	2.6 %		
70	A	P	RF Power Sensor Calibration Factor, Measuring Instruments	0.05 GHz	1.4%	Metroval software	For 2.4 mm connectors
71	A	P		0.1 GHz	1.2 %	Directive: T000-D020-ELS	Using HP 8487A Standard instrument
72	A	P		0.5 GHz	1.2 %		The power sensors are calibrated at nominal -5 dBm. The uncertainties are expressed as percentage of Calibration factor.
73	A	P		1 GHz	1.2 %		
74	A	P		2 GHz	1.3 %		
75	A	P		10 GHz	1.6 %		The calibration method and software are developed by the Elisra Electronic System Metrology Laboratory
76	A	P		14 GHz	1.7 %		
77	A	P		18 GHz	2.0 %		
78	A	P		20 GHz	2.4 %		
79	A	P		22 GHz	2.3 %		
80	A	P		24 GHz	2.5 %		
81	A	P		26 GHz	2.6 %		





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>		
82	A	P		28 GHz	4.2 %		
83	A	P		30 GHz	3.7 %		
84	A	P		32 GHz	3.4 %		
85	A	P		34 GHz	3.5 %		
86	A	P		36 GHz	3.6 %		
87	A	P		38 GHz	3.7 %		
88	A	P		40 GHz	3.5 %		
89	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 <sup>1</sup>	Reference Documents	Remarks
<b>Calibration – Electrical Quantities - RF Frequency, Time</b>					<b>כיוול – גדלים חשמליים - תדר גבוה, זמן</b>		
90	A	P	Frequency, Measuring Instruments	תדר, מכשירי מדידה 10 MHz	$1 \times 10^{-11}$	Datum – 9390, User Manual Directive:Q905-D061-ELS	Using Datum GPS Frequency Generator 26 h Integration time
91	A	P	Frequency, Sources	תדר, מחוללים 10 MHz to 40 GHz	$1 \times 10^{-10}$	Datum – 9390, User Manual Directive:Q905-D061-ELS	Using Frequency Generator HP 83640A Standard instrument 10 sec. Integration time

<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 %.