

RADIO PERFORMANCE TEST REPORT

Test Report No. : OT-21D-RWD-056

Reception No. : 2109004288

Applicant : BROS&COMPANY INC

Address : A-402, InnoValley, 253, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13486,
South Korea

Manufacturer : BROS&COMPANY INC

Address : 28, Hwangsaeul-ro 116beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of
Korea

Type of Equipment : Tekdec-Smart Desk

FCC ID. : 2AQIS-POUT-TD-00101

Model Name : TD-00101

Multiple Model Name : N/A

Serial number : N/A

Total page of Report : 22 pages (including this page)

Date of Incoming : December 14, 2021

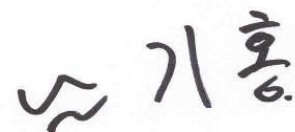
Date of issue : December 23, 2021

SUMMARY

The equipment complies with the regulation; **FCC CFR 47 PART 1.1310**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.



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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-21D-RWD-056	December 23, 2021	Initial Release	All

1. VERIFICATION OF COMPLIANCE

APPLICANT : BROS&COMPANY INC
 ADDRESS : A-402, InnoValley, 253, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, 13486, South Korea
 CONTACT PERSON : Ryan Lee / Product lab Leader
 TELEPHONE NO : +82-31-286-8646
 FCC ID : 2AQIS-POUT-TD-00101
 MODEL NAME : TD-00101
 BRAND NAME : TEKDEC
 SERIAL NUMBER : N/A
 DATE : December 23, 2021

EQUIPMENT CLASS	DCD – Part 15 Low Power Transmitter Below 1 705 kHz
KIND OF EQUIPMENT	Tekdec-Smart Desk
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC&IC RULES PART(S)	FCC CFR47 Part 15 Subpart C Section 15.207 and 15.209
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. The equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The BROS&COMPANY INC, Model: TD-00101 (referred to as the EUT in this report) is an Tekdec-Smart Desk. Product specification information described herein was obtained from product data sheet or user’s manual.

DEVICE TYPE	Tekdec-Smart Desk
OPERATING FREQUENCY	Antenna 1 : 113.6 kHz ~ 204.9 kHz Antenna 2 : 113.6 kHz ~ 204.9 kHz
RATED RF OUTPUT POWER	79.3 dB μ V/m
ANTENNA TYPE	Antenna 1 (Single Coil) Antenna 2 (Alpha Coil)
MODULATION	ASK
RATED SUPPLY VOLTAGE	DC 5.0 V, DC 9.0 V, DC 12.0 V

2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

3. EUT MODIFICATIONS

-. None

4. RADIO FREQUENCY EXPOSURE

4.1 Environmental evaluation and exposure limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter

Frequency Range [MHz]	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm ²]	Average Time [minutes]
(A) Limits for Occupational / Control Exposures				
0.3 – 3.0	614	1.63	*(100)	6
3.0 – 30	1 842/f	4.89/f	*(900/f ²)	6
30 – 300	61.4	0.163	1.0	6
300 – 1 500			f/300	6
1 500 – 100 000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 3.0	614	1.63	*(100)	30
3.0 – 30	824/f	2.19/f	*(180/f ²)	30
30 – 300	27.5	0.073	0.2	30
300 – 1 500			f/1 500	30
1 500 – 100 000			1.0	30

f = frequency in MHz

* = Plane wave equivalent power density

Note 1 to Table 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The EUT does meet the requirement of section 5. b) of KDB 680106 D01 RF Exposure Wireless Charging Apps v03

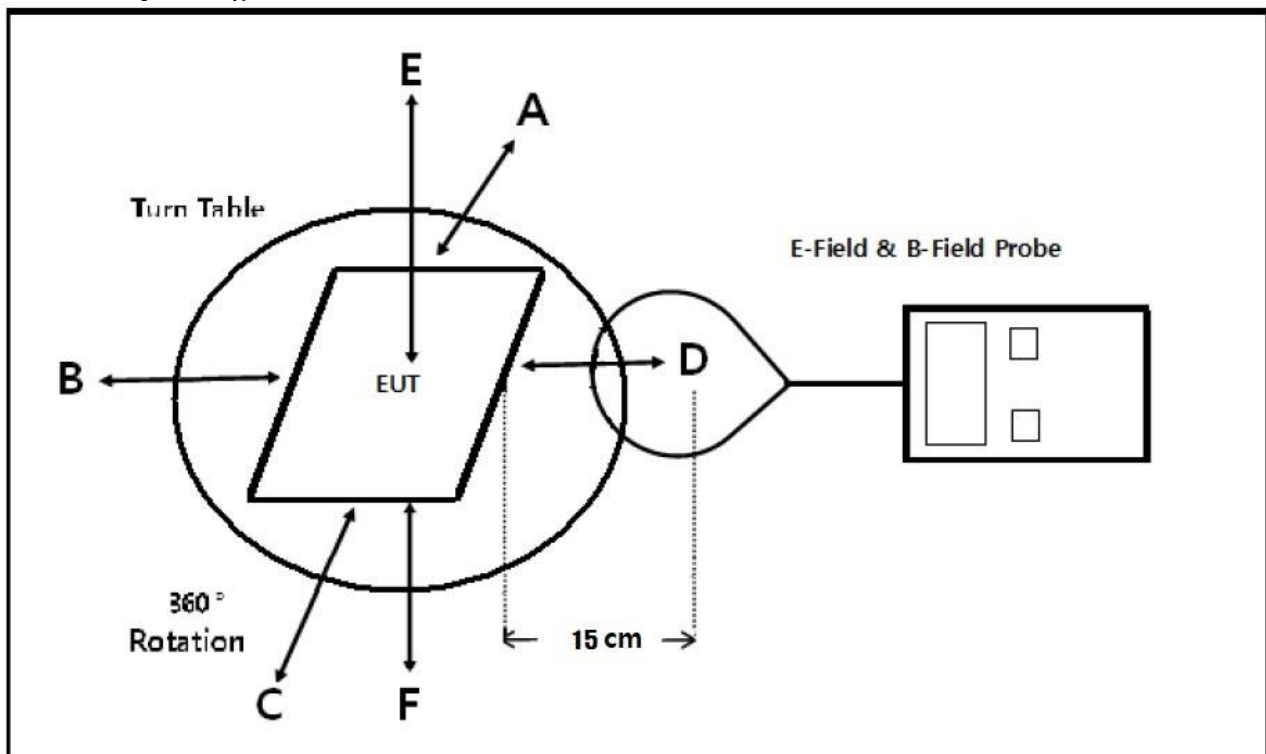
Conditions requirement	Answers
Power transfer frequency is less than 1MHz	After measuring the product the transfer frequency is 110-205 kHz
Output power from each primary coil is less than 15 watts	After measuring the product the each primary coil power is 15 watts
The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.	The transfer system includes single primary
Client devices is inserted in or placed directly in contact with the transmitter.	Client device is placed directly in contact with the transmitter
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Mobile exposure conditions only
The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	After measuring the product the Max H-field Strength is 0.213 A/m Far less than 50% of the MPE limit.

4.2 H / E field strength

4.2.1 EUT Operating condition

Mode	Test Mode	Description
Charging Mode With load	Power <10% charging	Using Max. load
	Power 50 ~ 55% charging	Using Mid. load
	Power 90 ~ 95% charging	Using Min. load

4.2.2 EUT Operating condition



4.2.3 Measurement procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v03.

Remark: The EUT's test position A, B, C, D, E and F is valid for the E and H field measurements.

4.2.4 Test data for Antenna 0 [DC 5.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.446	0.414	0.445	0.490	0.415	0.735	-	-
	Mid load	0.446	0.398	0.441	0.417	0.426	0.426	-	-
	Min load	0.427	0.358	0.417	0.385	0.360	0.359	-	-
E field strength [V/m]	Max load	133.46	123.88	133.22	146.74	124.18	219.94	307.00	614.00
	Mid load	133.46	119.09	131.96	124.90	127.47	127.47	307.00	614.00
	Min load	127.77	107.13	124.66	115.12	107.72	107.42	307.00	614.00
H field strength [A/m]	Max load	0.355	0.330	0.354	0.390	0.330	0.585	0.815	1.630
	Mid load	0.355	0.317	0.351	0.332	0.339	0.339	0.815	1.630
	Min load	0.340	0.285	0.332	0.306	0.287	0.286	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.5 Test data for Antenna 0 [DC 9.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.474	0.411	0.479	0.502	0.437	0.517	-	-
	Mid load	0.468	0.374	0.449	0.444	0.418	0.446	-	-
	Min load	0.458	0.363	0.437	0.431	0.391	0.432	-	-
E field strength [V/m]	Max load	141.84	122.87	143.36	150.07	130.77	154.70	307.00	614.00
	Mid load	140.04	111.91	134.33	132.92	125.08	133.46	307.00	614.00
	Min load	137.05	108.62	130.71	128.85	117.00	129.27	307.00	614.00
H field strength [A/m]	Max load	0.377	0.327	0.381	0.399	0.348	0.412	0.815	1.630
	Mid load	0.373	0.298	0.357	0.354	0.333	0.355	0.815	1.630
	Min load	0.365	0.289	0.348	0.343	0.311	0.344	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.6 Test data for Antenna 0 [DC 12.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.465	0.405	0.482	0.500	0.439	0.522	-	-
	Mid load	0.460	0.373	0.450	0.444	0.418	0.452	-	-
	Min load	0.455	0.362	0.434	0.428	0.394	0.433	-	-
E field strength [V/m]	Max load	139.23	121.19	144.23	149.65	131.24	156.20	307.00	614.00
	Mid load	137.77	111.67	134.57	132.98	125.11	135.25	307.00	614.00
	Min load	136.12	108.20	129.84	128.07	117.90	129.57	307.00	614.00
H field strength [A/m]	Max load	0.370	0.322	0.384	0.398	0.349	0.416	0.815	1.630
	Mid load	0.367	0.297	0.358	0.354	0.333	0.360	0.815	1.630
	Min load	0.362	0.288	0.345	0.341	0.314	0.345	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.7 Test data for Antenna 1 [DC 5.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.456	0.423	0.458	0.431	0.444	0.408	-	-
	Mid load	0.451	0.392	0.451	0.396	0.431	0.412	-	-
	Min load	0.388	0.388	0.450	0.383	0.391	0.362	-	-
E field strength [V/m]	Max load	136.30	126.58	136.96	128.85	132.98	122.09	307.00	614.00
	Mid load	134.83	117.30	134.95	118.47	128.97	123.28	307.00	614.00
	Min load	116.10	116.22	134.74	114.73	117.00	108.32	307.00	614.00
H field strength [A/m]	Max load	0.363	0.337	0.364	0.343	0.354	0.325	0.815	1.630
	Mid load	0.359	0.312	0.359	0.315	0.343	0.328	0.815	1.630
	Min load	0.309	0.309	0.359	0.305	0.311	0.288	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.8 Test data for Antenna 1 [DC 9.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.459	0.441	0.505	0.428	0.425	0.463	-	-
	Mid load	0.464	0.416	0.510	0.366	0.407	0.461	-	-
	Min load	0.384	0.374	0.441	0.411	0.398	0.436	-	-
E field strength [V/m]	Max load	137.47	131.81	151.23	128.19	127.20	138.55	307.00	614.00
	Mid load	138.72	124.48	152.64	109.64	121.64	137.95	307.00	614.00
	Min load	115.03	111.85	131.96	122.99	119.09	130.47	307.00	614.00
H field strength [A/m]	Max load	0.366	0.351	0.402	0.341	0.338	0.369	0.815	1.630
	Mid load	0.369	0.331	0.406	0.292	0.324	0.367	0.815	1.630
	Min load	0.306	0.298	0.351	0.327	0.317	0.347	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.9 Test data for Antenna 1 [DC 12.0 V]

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.463	0.443	0.468	0.489	0.461	0.444	-	-
	Mid load	0.476	0.397	0.494	0.386	0.452	0.388	-	-
	Min load	0.462	0.368	0.432	0.360	0.419	0.350	-	-
E field strength [V/m]	Max load	138.58	132.41	140.16	146.36	137.86	132.86	307.00	614.00
	Mid load	142.50	118.92	147.79	115.41	135.13	116.10	307.00	614.00
	Min load	138.34	110.21	129.27	107.60	125.26	104.73	307.00	614.00
H field strength [A/m]	Max load	0.369	0.352	0.373	0.389	0.367	0.354	0.815	1.630
	Mid load	0.379	0.316	0.393	0.307	0.360	0.309	0.815	1.630
	Min load	0.368	0.293	0.344	0.286	0.333	0.279	0.815	1.630

※ Note. Calculation

$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{((20lg(A/m*10^6)+51.5)-120)/20}$$

$$A/m = uT/1.25$$

4.2.10 Test data for Antenna 0 + Antenna 1

	TEST MODE	Position A	Position B	Position C	Position D	Position E	Position F	50 % Limits	Limits
Field strength [uT]	Max load	0.471	0.443	0.524	0.498	0.465	0.462	-	-
	Mid load	0.493	0.414	0.504	0.399	0.450	0.397	-	-
	Min load	0.466	0.373	0.434	0.368	0.427	0.367	-	-
E field strength [V/m]	Max load	140.82	132.68	156.92	149.14	139.14	138.25	307.00	614.00
	Mid load	147.43	123.85	150.84	119.39	134.66	118.80	307.00	614.00
	Min load	139.29	111.64	129.90	110.00	127.77	109.82	307.00	614.00
H field strength [A/m]	Max load	0.375	0.353	0.418	0.397	0.370	0.368	0.815	1.630
	Mid load	0.392	0.330	0.401	0.318	0.358	0.316	0.815	1.630
	Min load	0.371	0.297	0.346	0.293	0.340	0.292	0.815	1.630

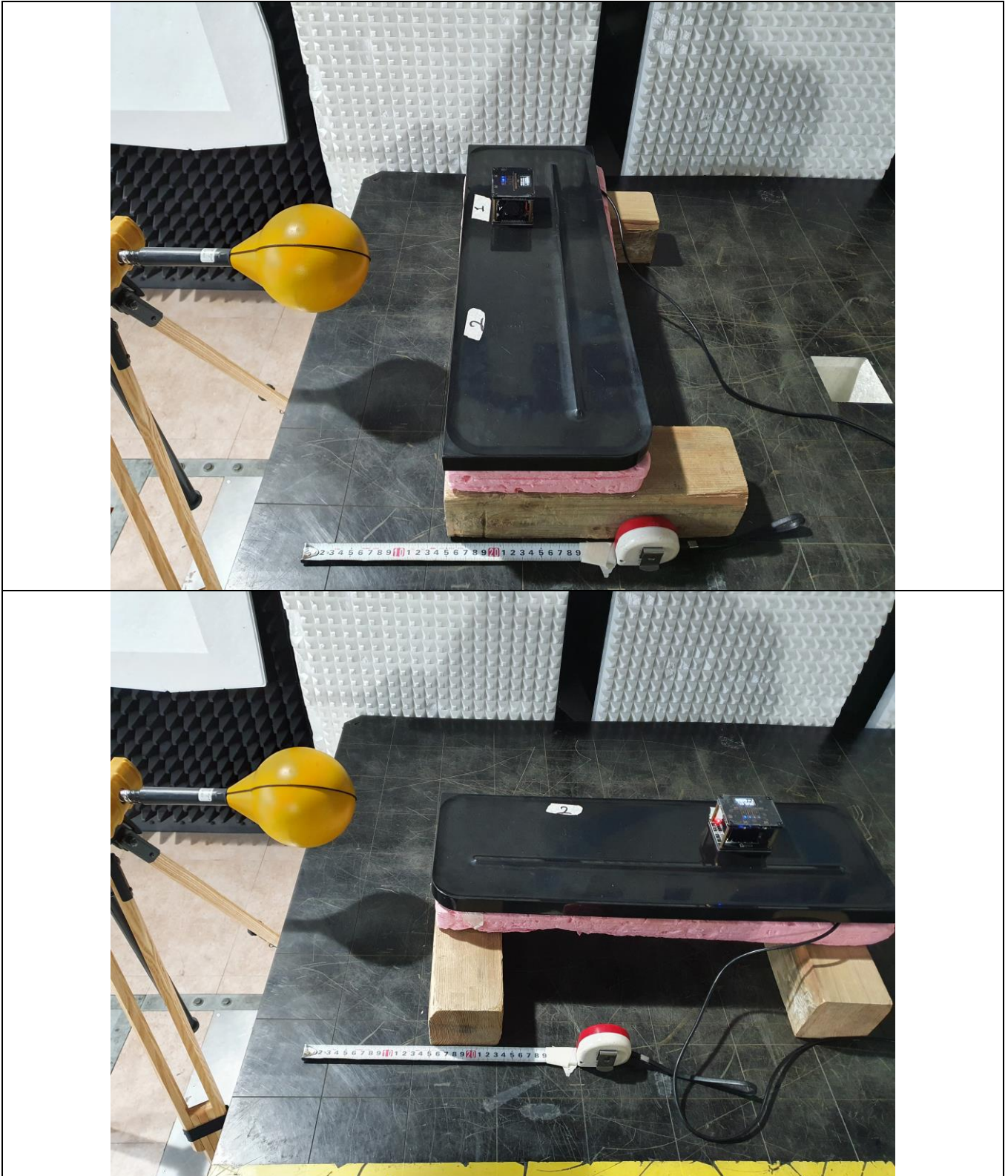
※ Note. Calculation

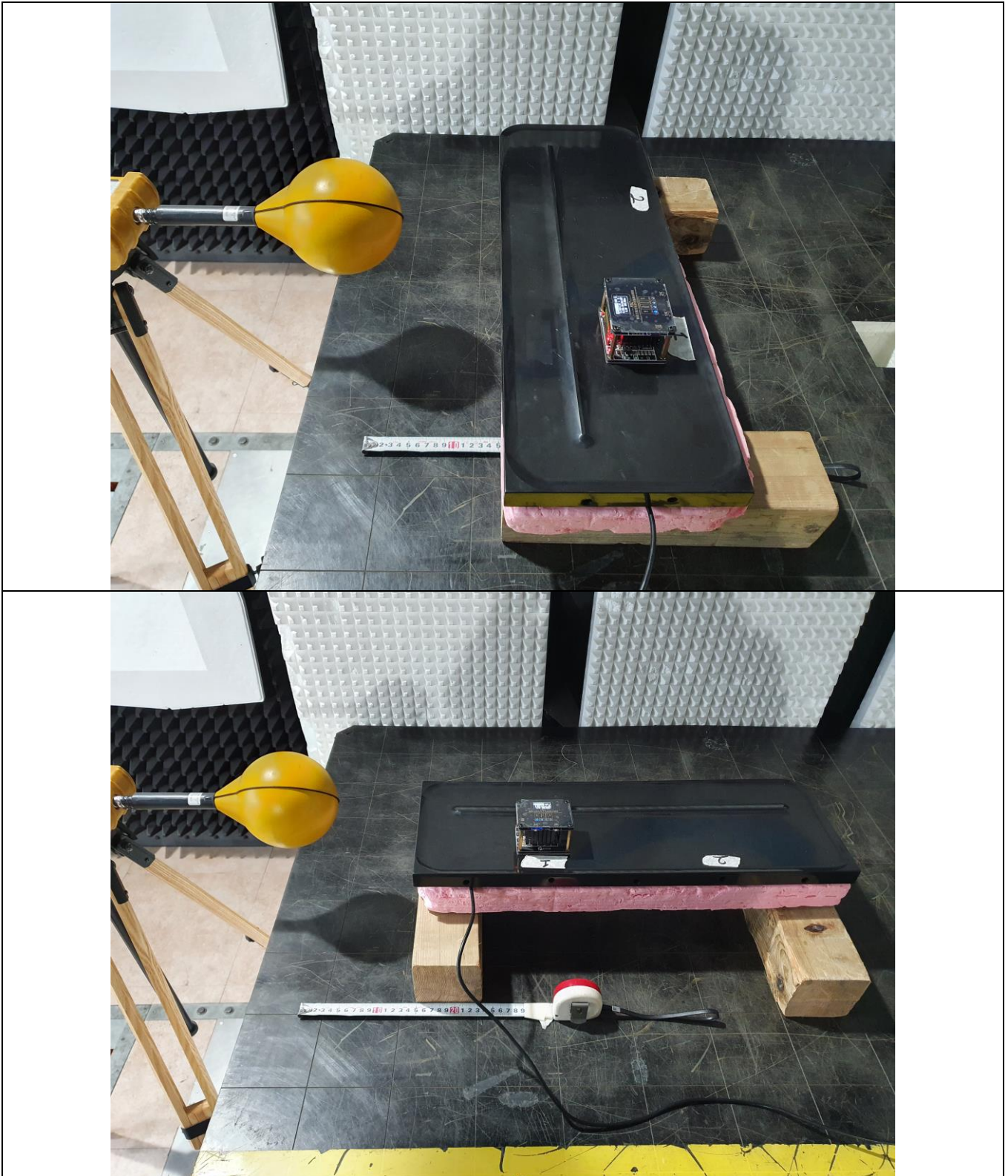
$$V/m = 10^{(((dBuV/m)-120)/20)} = 10^{(((dBuA/m+51.5)-120)/20)} = 10^{(((20lg(A/m*10^6)+51.5)-120)/20)}$$

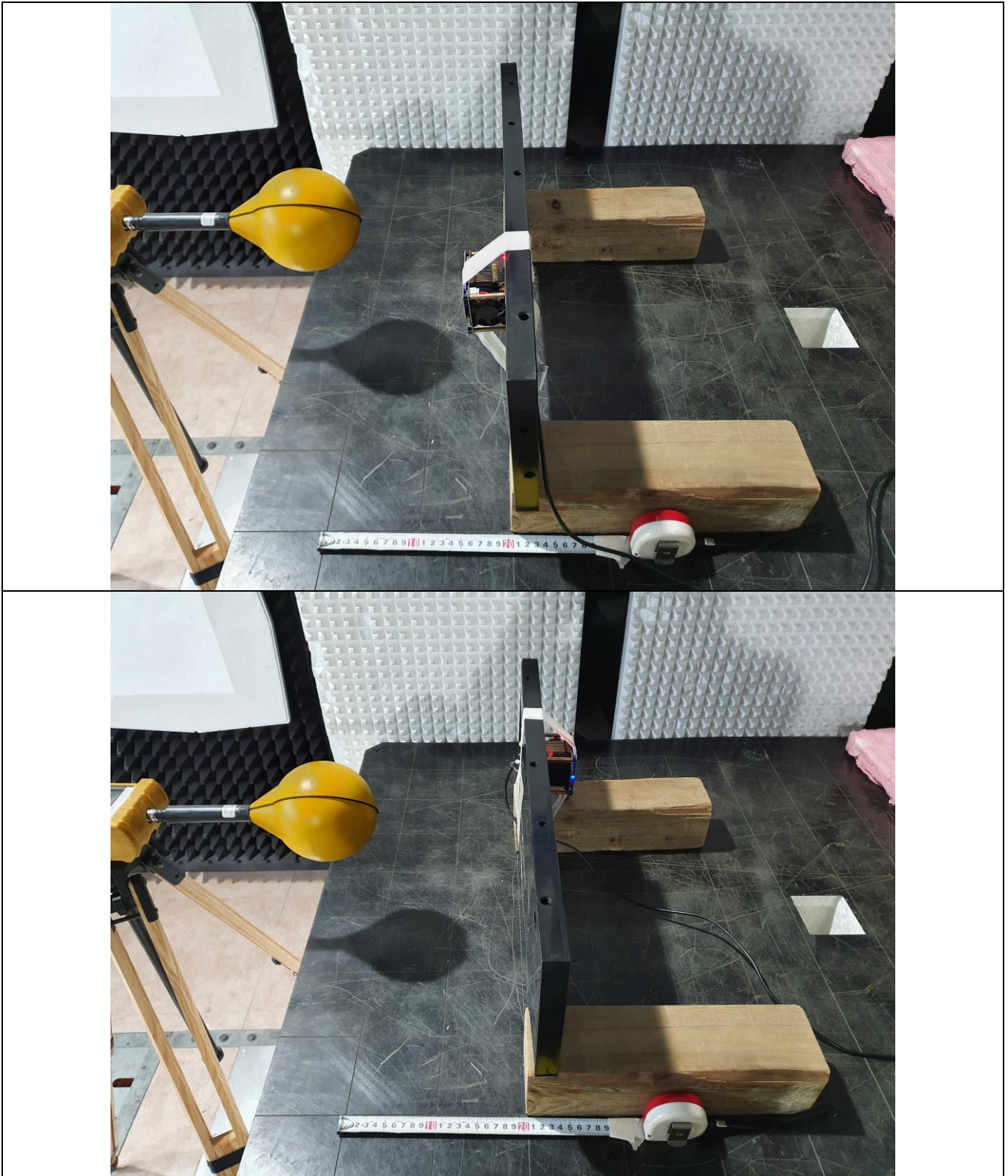
$$A/m = uT/1.25$$

5. TEST PHOTO

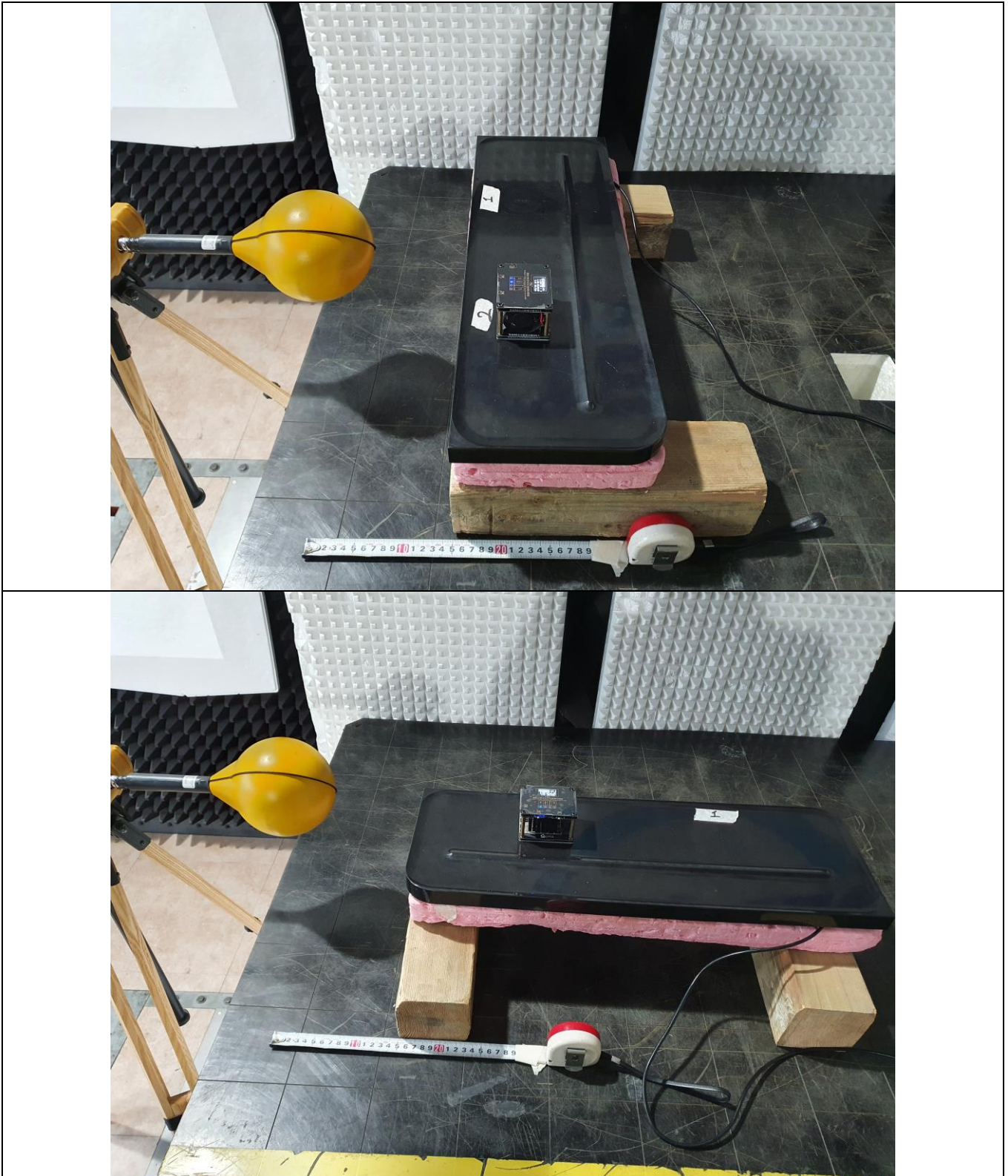
- Antenna 0

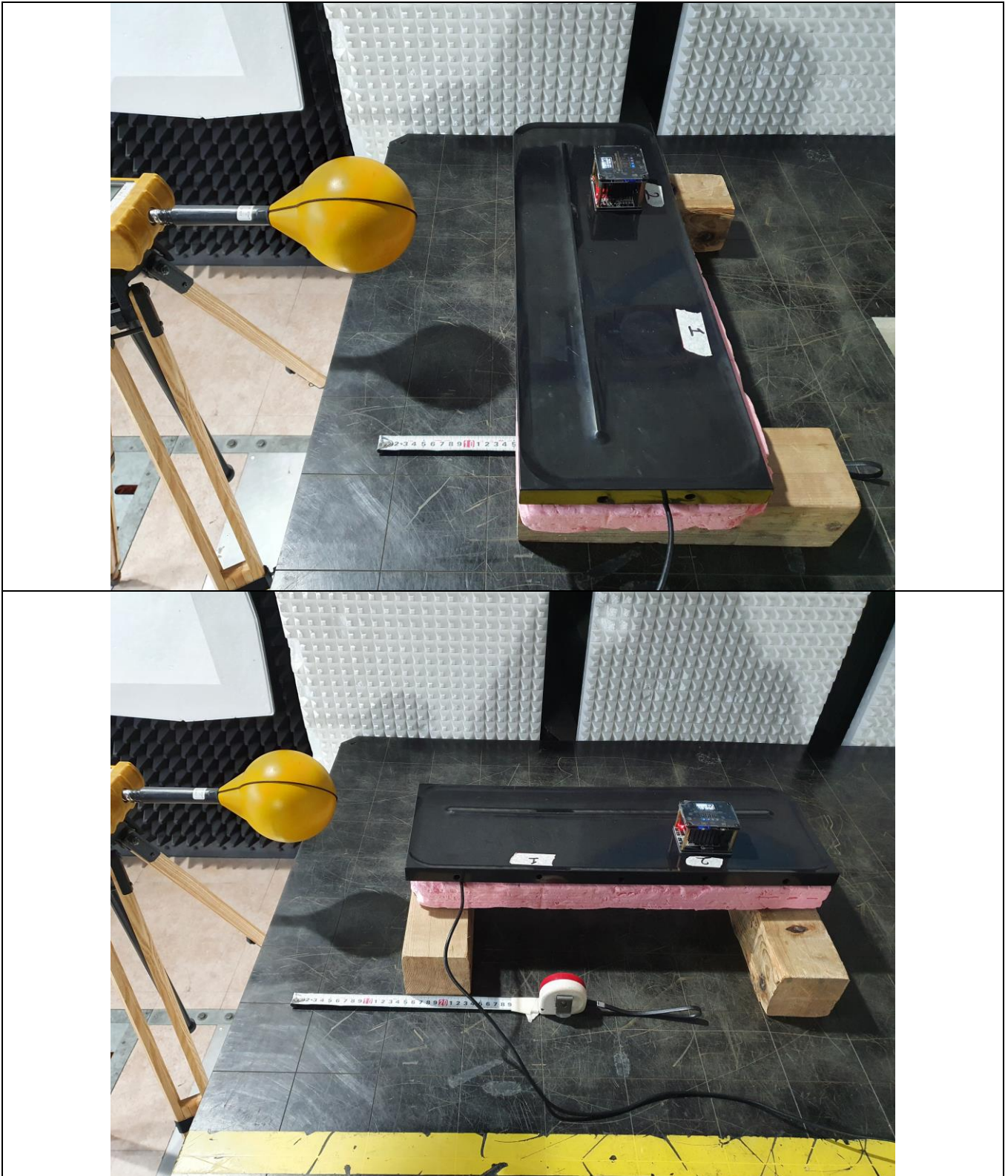


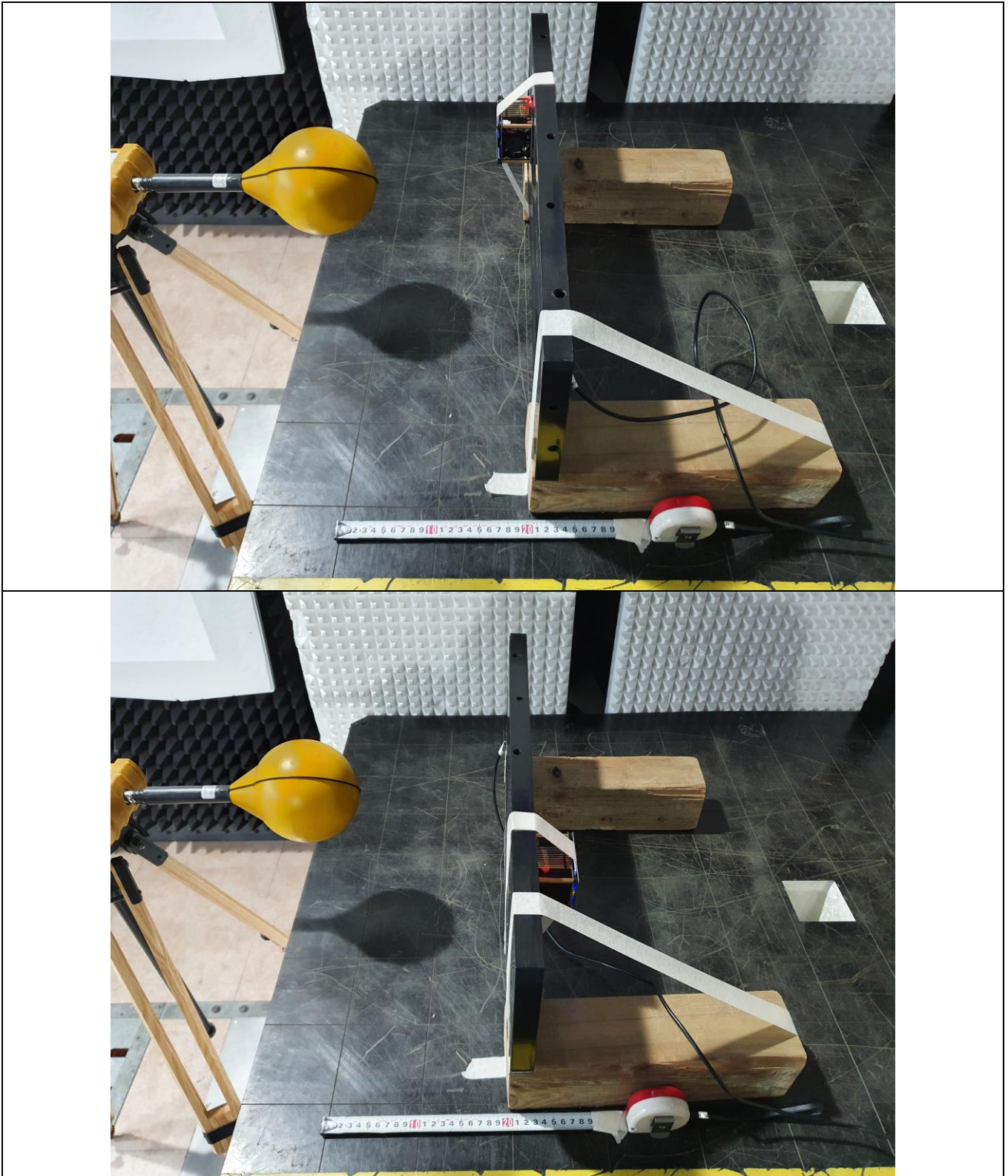




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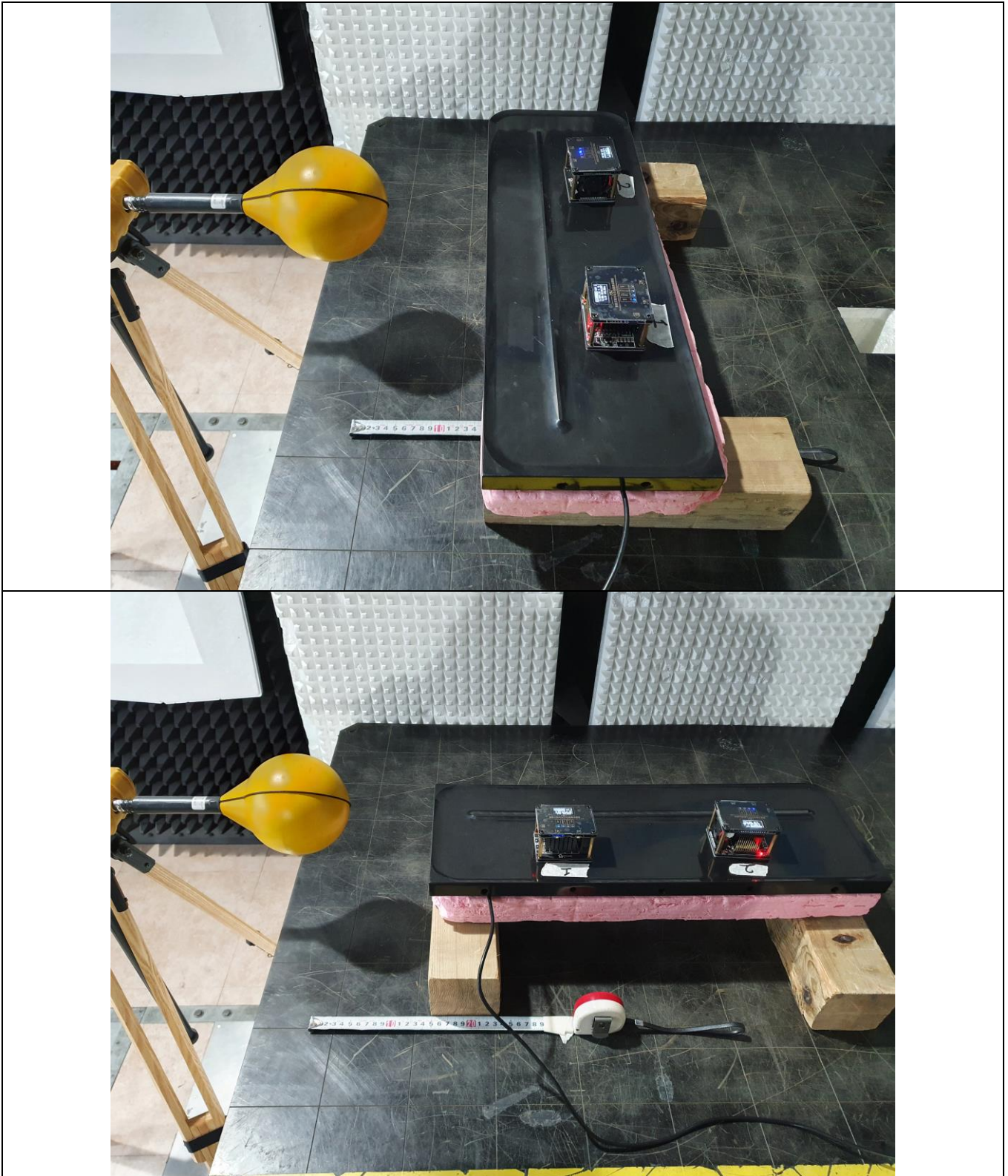


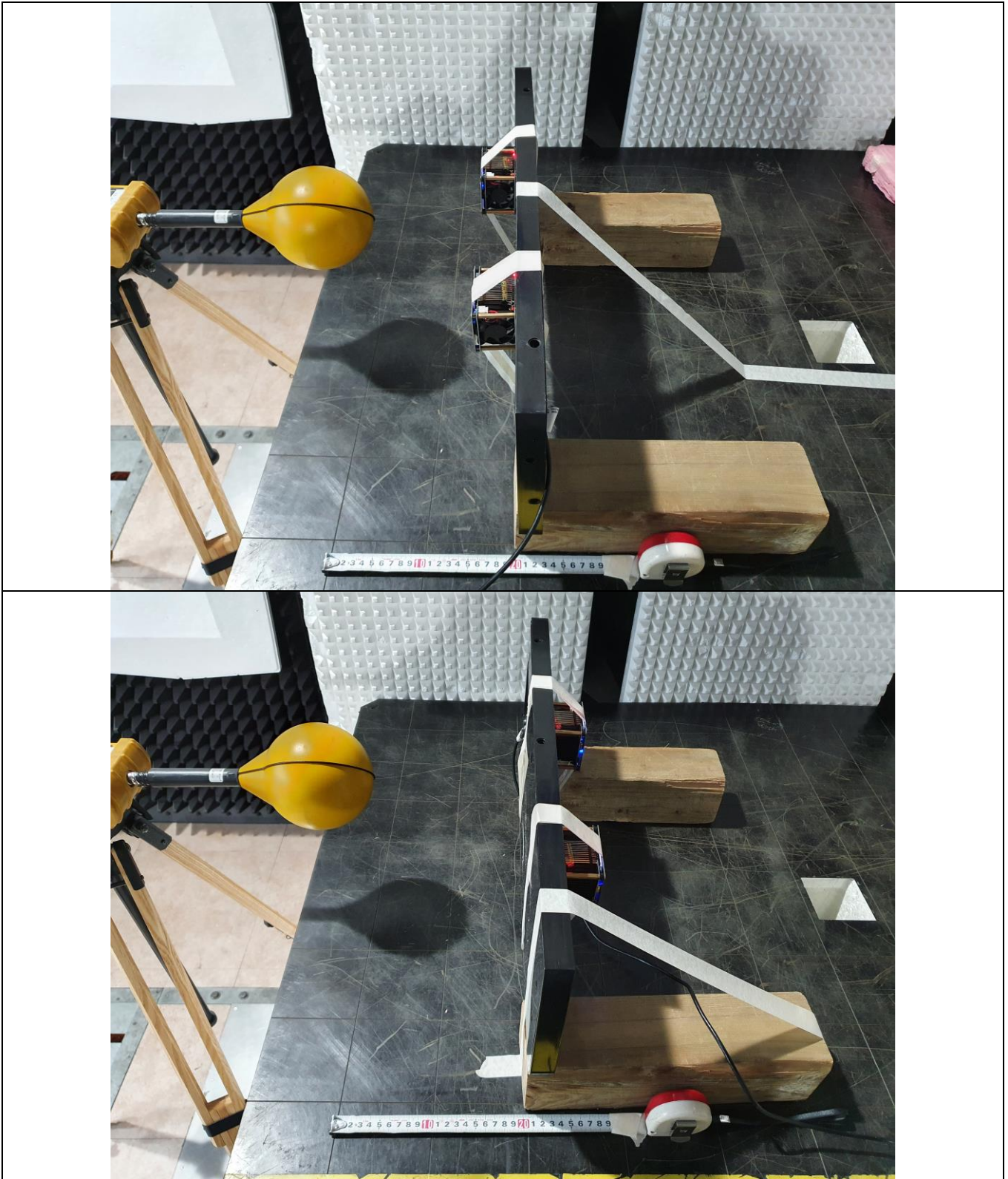




- Antenna 0 + Antenna 1







6. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
ELT-400	NARDA	Exposure Level Meter	G-0032	Apr. 14, 2021 (1Y)