FCC Part 1 Subpart I
FCC Part 2 Subpart J

TEST REPORT

FOR

DESKLAMP WITH WIRELESS CHARGING DESKTOP BASE

MODEL NO: N

FCC ID: 2AMDTWCDB

REPORT NUMBER: R13172472-E3

ISSUE DATE: 2020-07-30

Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2020-07-30	Initial Issue	--

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: HUMANSCALE CORPORATION
1114 6TH AVE, 15TH FLOOR
NEW YORK, NY 10036, USA

EUT DESCRIPTION: DESKLAMP WITH WIRELESS CHARGING DESKTOP BASE

MODEL NUMBER: N

SERIAL NUMBER: Non-serialized

DATE TESTED: 2002-07-20 – 2020-07-28

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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2. TEST METHODOLOGY

All testing/ calculations were made in accordance with FCC KDB 447498 D01, KDB 447498 D03, and KDB 680106 D01 v03.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, USA.

UL LLC is accredited by NVLAP, Laboratory Code 200246-0

4. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

The EUT is a portable LED luminaire with WPC compatible wireless inductive charging (111-205kHz) and 2 USB ports for external device power in its base. This report covers the WPT radio only, additional functions of EUT covered in other reports.

4.2. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Qi Resistive load	Richtek	N/A (for testing purposes onl	N/A	N/A
Power Supply	Xing Yuan	XY36S-2401500Q-UD	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	1	1	Barrel	2 conductor wire	<3	Powers charger
2	1	1	Barrel	2 conductor wire	<1	Powers light

TEST SETUP

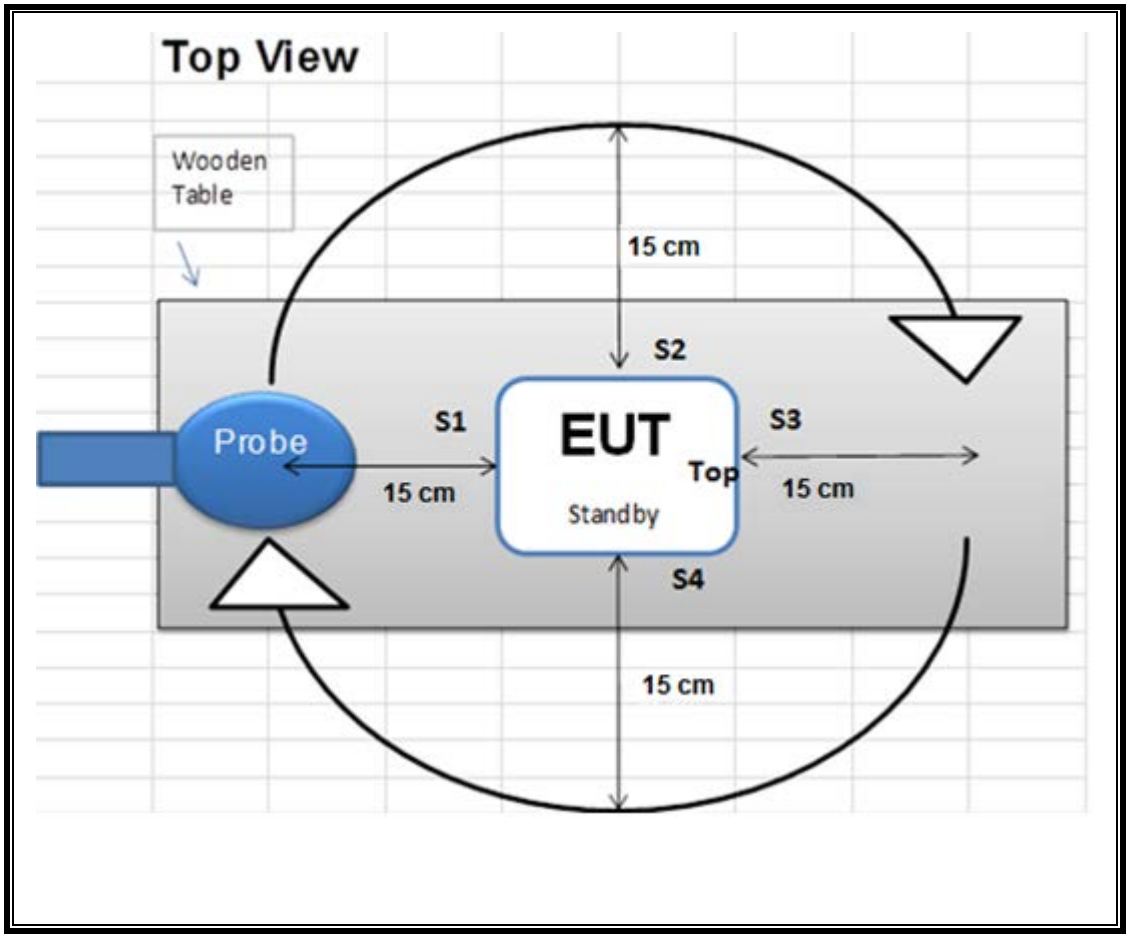
The following two configurations are tested:

Configuration	Mode	Descriptions
1	Standby (< 10% Power Detecting)	EUT Alone powered by AC/DC adapter
2	Operating (With EUT charging) Note: Measurements were made with the load simulator aligned, partially aligned and elevated.	EUT powered by AC/DC adapter

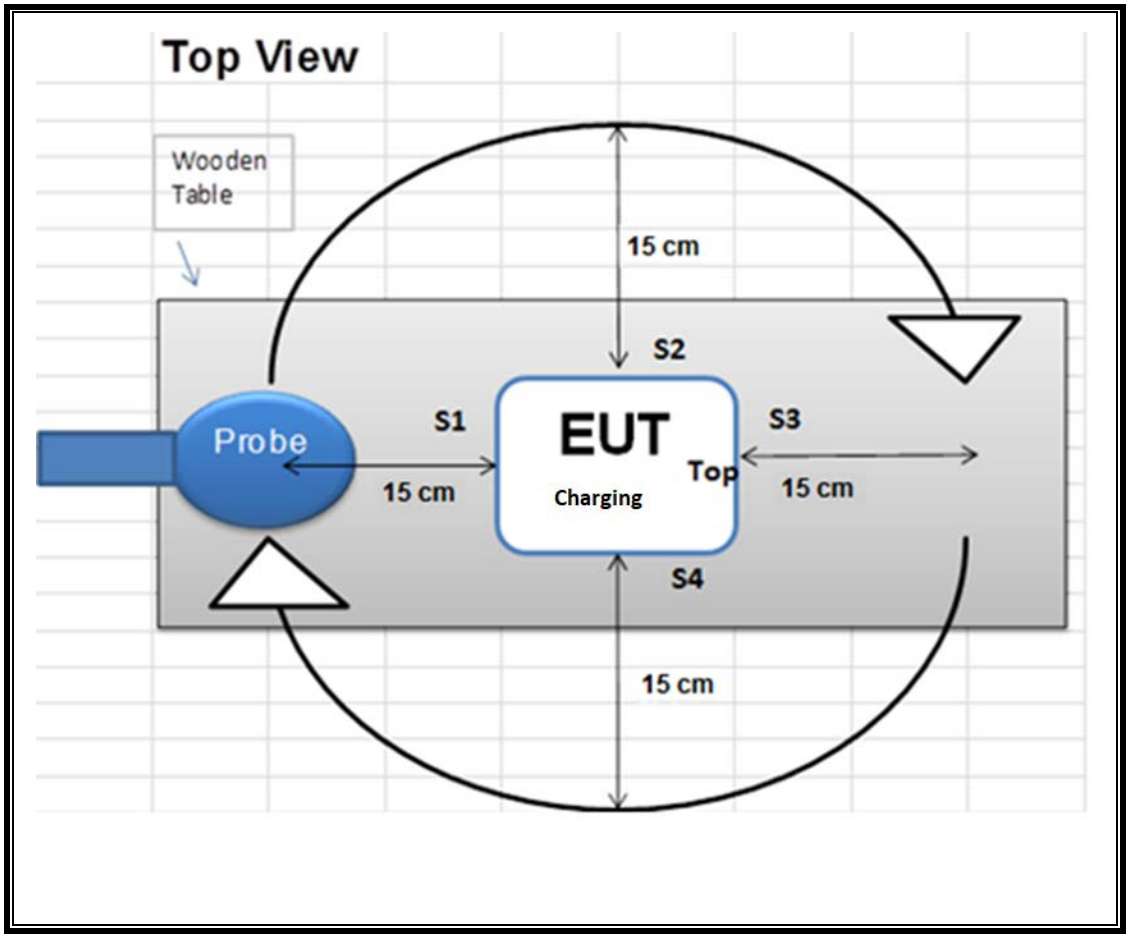
MEASUREMENT SETUP

The measurement was taken using a probe placed 15 cm surrounding the device and 20 cm above the top surface of the EUT, per KDB 680106 D01 v03, Clause 3 c) for desktop applications.

CONFIGURATION 1



CONFIGURATIONS 2



5. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment were used for the tests documented in this report:

Test Equipment List					
Description	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Electric and Magnetic Field Probe	Narda	EHP-200A	160WX41008	2019-11-25	2020-11-25
Spectrum Analyzer	Agilent	N9030A	MY54490254	2020-06-10	2021-06-10

6. DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

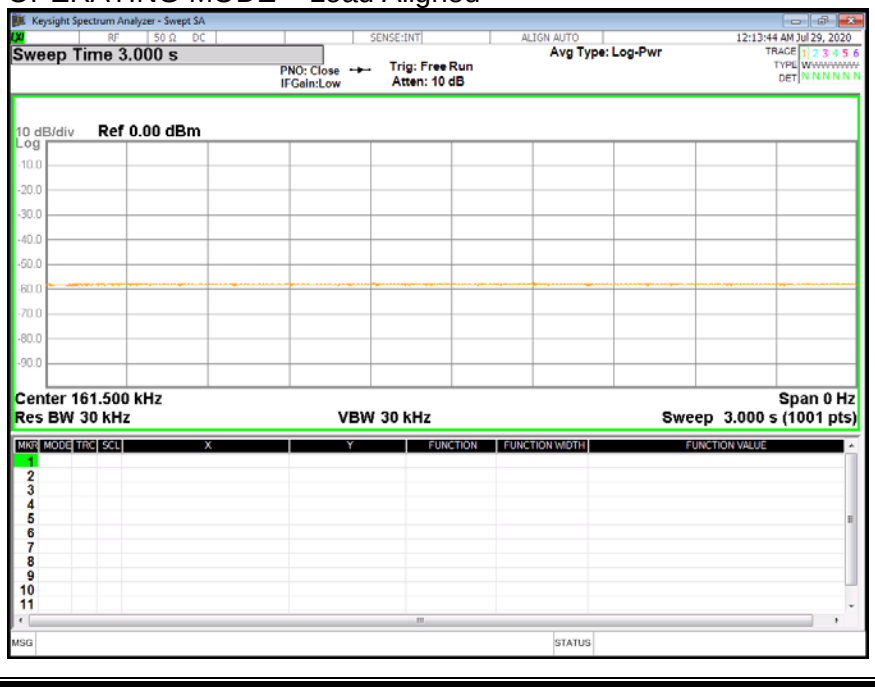
Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)
Standby	103.00	498.00	0.2068	20.68%
Operating - Load Aligned	-	-	1.00	100.00%
Operating - Load misaligned	-	-	1.00	100.00%
Operating - Load Elevated	-	-	1.00	100.00%

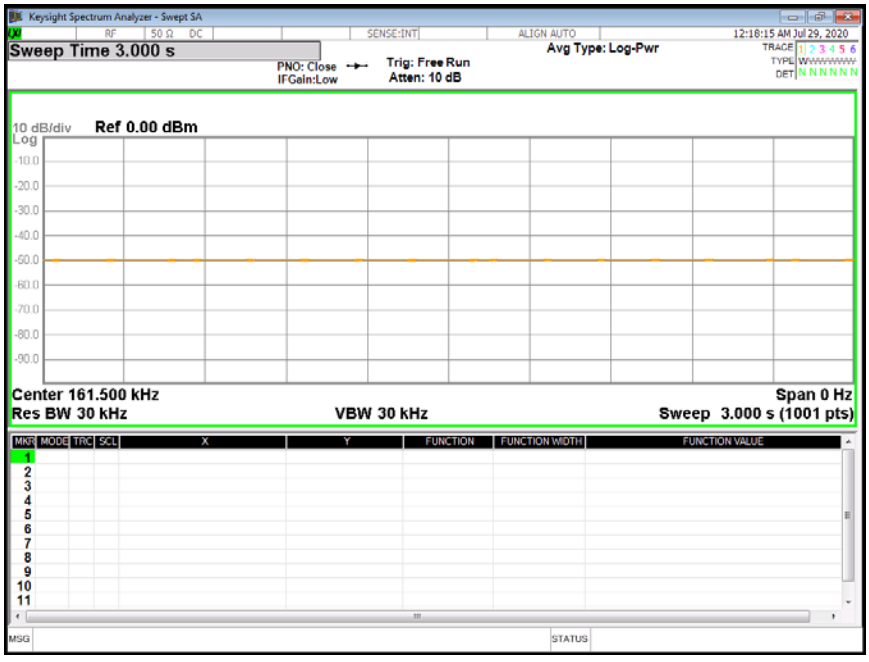
STANDBY MODE

OPERATING MODE – Load Aligned



OPERATION MODE – Load misaligned

OPERATING MODE – Load Elevated



7. MAXIMUM PERMISSIBLE RF EXPOSURE TEST RESULTS

7.1. FCC LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental 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 §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			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.

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7.2. SUMMARY OF TEST RESULTS

RESULTS

ID:	21193/84740	Date:	2020-07-13 – 2020-07-21

Note: Both magnetic and electric field strengths have been investigated from 9 kHz to 30 MHz at 15cm surrounding the device and 20cm above the top surface of the EUT operation frequency at 111-205 kHz.

The inductive wireless power transfer device meets all of the following requirements:

☒ Power transfer frequency is less than 1 MHz
☒ Output power from each primary coil is less than or equal to 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.
☒ Client device is placed directly in contact with the transmitter.
☒ Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
☐ 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.

Based on the sample exceeding 50% of the H-field limit, a PAG will be required.

FCC RF Exposure Summary of Results

Electric Field			Magnetic Field		
FCC Limit (V/m)	Maximum Average Reading (V/m)	Percentage (%)	FCC Limit (A/m)	Maximum Average Reading (A/m)	Percentage (%)
614	3.911	0.64%	1.63	1.268	77.79%

7.3. DETAILED TEST RESULTS

E- FIELD AND H- FIELD MEASUREMENTS

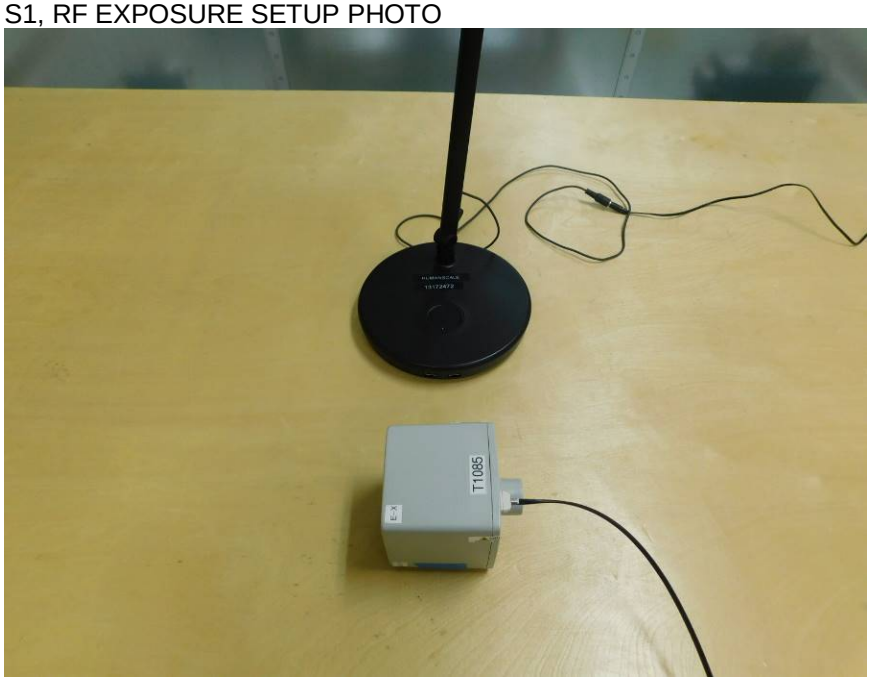
Note: Peak measurements were performed. RMS values were calculated from the peak measurement. Please refer to the formula for calculating the RMS values: [Field Strength x √Duty Cycle].

Config	Test Mode	Meas Dist (cm)	E field Limit (V/m)	Electric Field Reading (V/m)				Magnetic Field Limit (A/m)	Magnetic Field Reading (A/m)			
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average
1	Standby	15 cm surrounding the device (S1 - S4) and 20 cm above the top surface of the EUT	614	S1	3.270	20.68	1.487	1.63	S1	0.488	20.68	0.222
				S2	3.215		1.462		S2	0.480		0.218
				S3	3.396		1.544		S3	0.500		0.227
				S4	3.300		1.501		S4	0.489		0.222
				Top	3.585		1.630		Top	0.706		0.321
				Max	3.585		1.630		Max	0.706		0.321
2	Aligned Charging			S1	3.361	100.00	3.361		S1	0.499	100.00	0.499
				S2	3.145		3.145		S2	0.488		0.488
				S3	3.277		3.277		S3	0.488		0.488
				S4	3.400		3.400		S4	0.491		0.491
				Top	3.529		3.529		Top	0.611		0.611
				Max	3.529		3.529		Max	0.611		0.611
	Partially Aligned Charging			S1	3.311	100.00	3.311		S1	0.518	100.00	0.518
				S2	3.392		3.392		S2	0.502		0.502
				S3	3.511		3.511		S3	0.508		0.508
				S4	3.547		3.547		S4	0.586		0.586
				Top	3.911		**3.911**		Top	1.187		1.187
				Max	3.911		**3.911**		Max	1.187		1.187
	Elevated Charging			S1	3.379	100.00	3.379		S1	0.543	100.00	0.543
				S2	3.406		3.406		S2	0.520		0.520
				S3	3.482		3.482		S3	0.524		0.524
				S4	3.534		3.534		S4	0.546		0.546
				Top	3.880		3.880		Top	1.268		**1.268**
				Max	3.880		3.880		Max	1.268		**1.268**

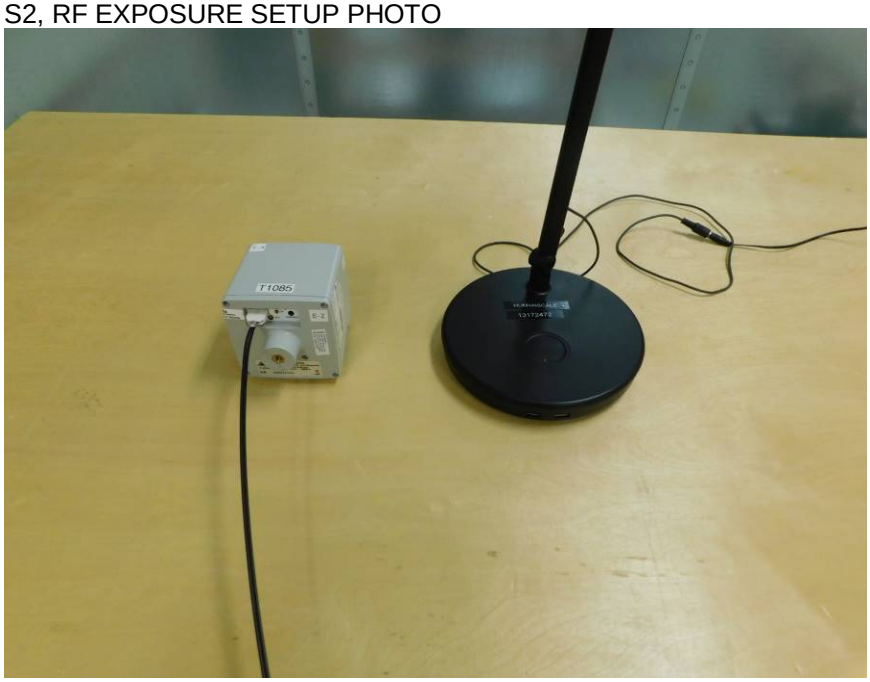
8. SETUP PHOTO

8.1. CONFIGURATION 1: STANDBY MODE

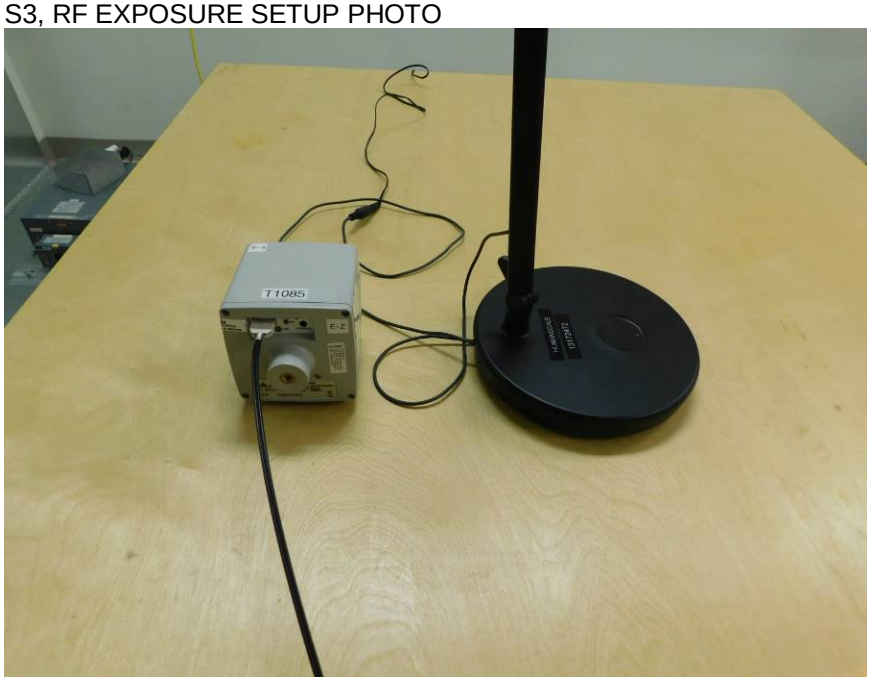
S1, RF EXPOSURE SETUP PHOTO



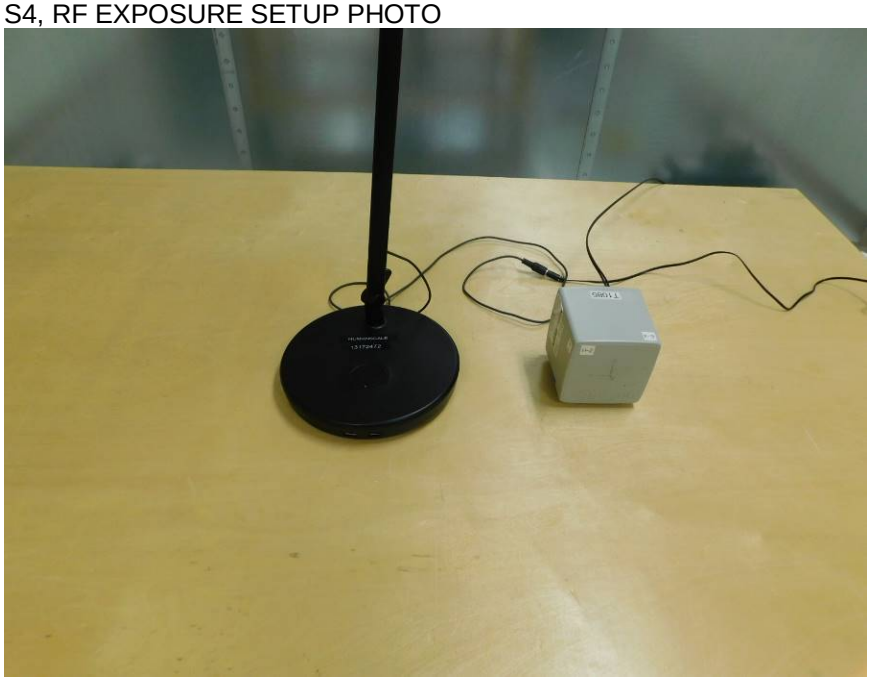
S2, RF EXPOSURE SETUP PHOTO



S3, RF EXPOSURE SETUP PHOTO



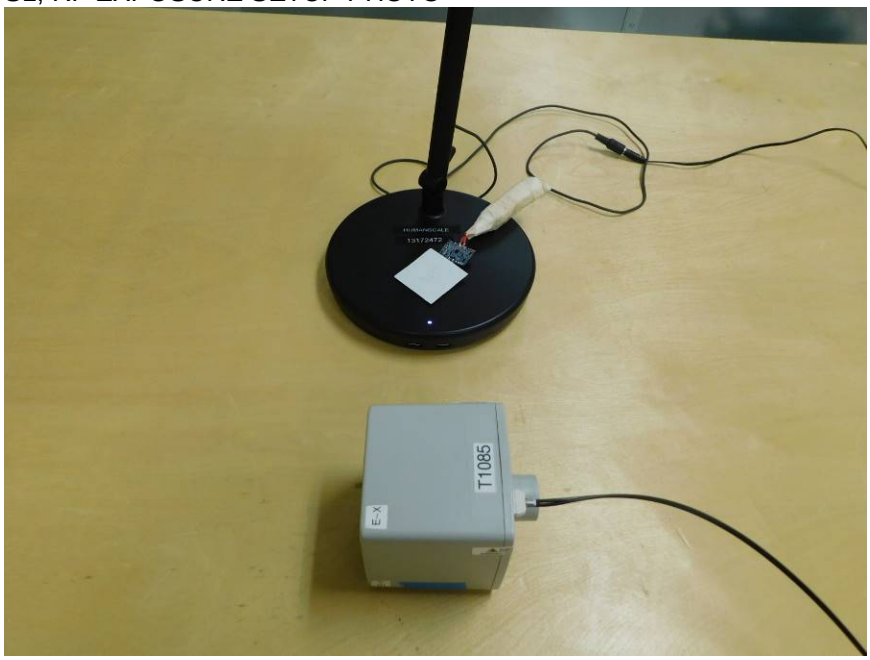
S4, RF EXPOSURE SETUP PHOTO



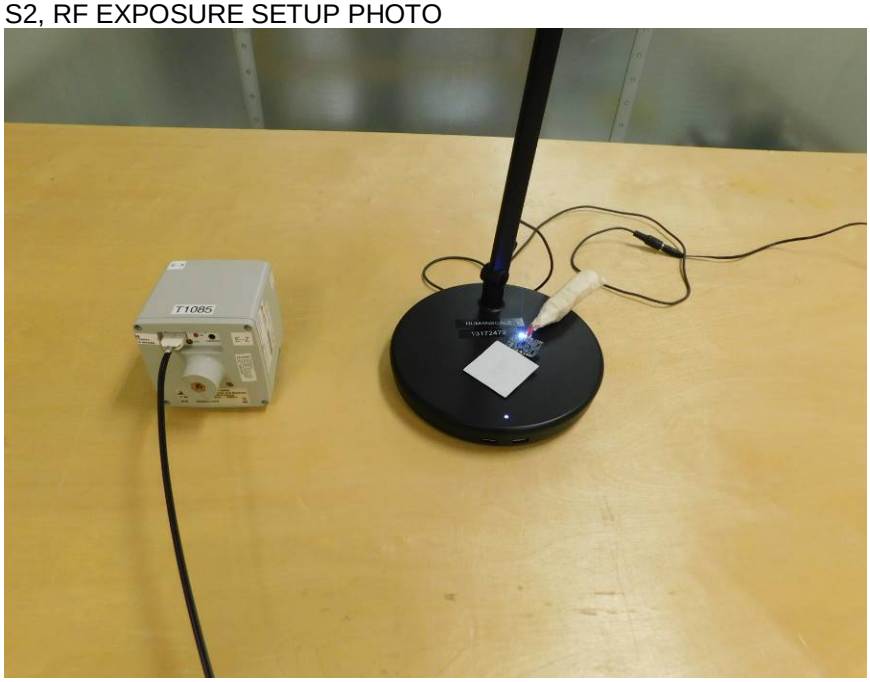
TOP, RF EXPOSURE SETUP PHOTO

8.2. CONFIGURATION 2: WITH LOAD

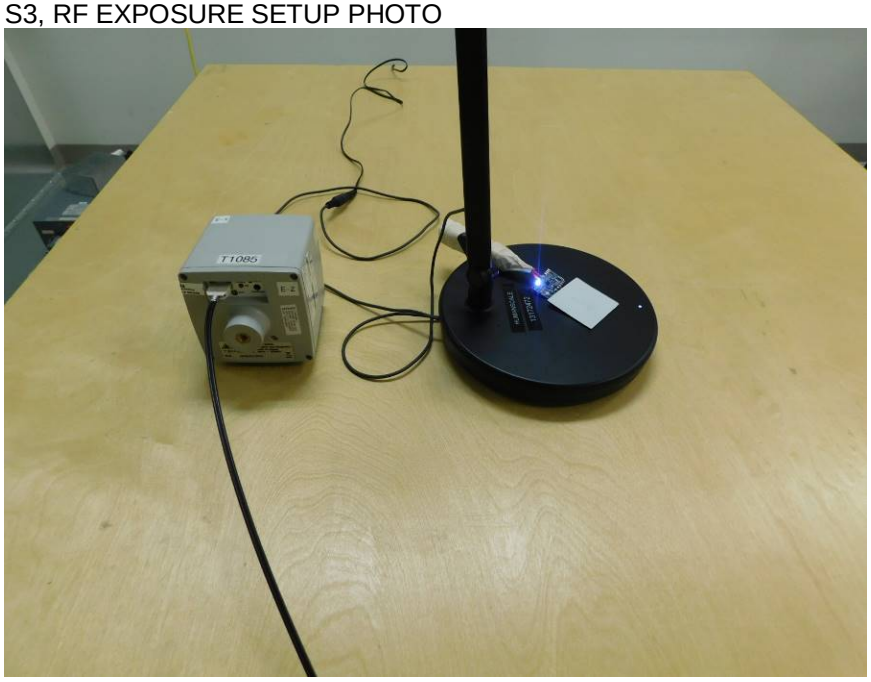
S1, RF EXPOSURE SETUP PHOTO



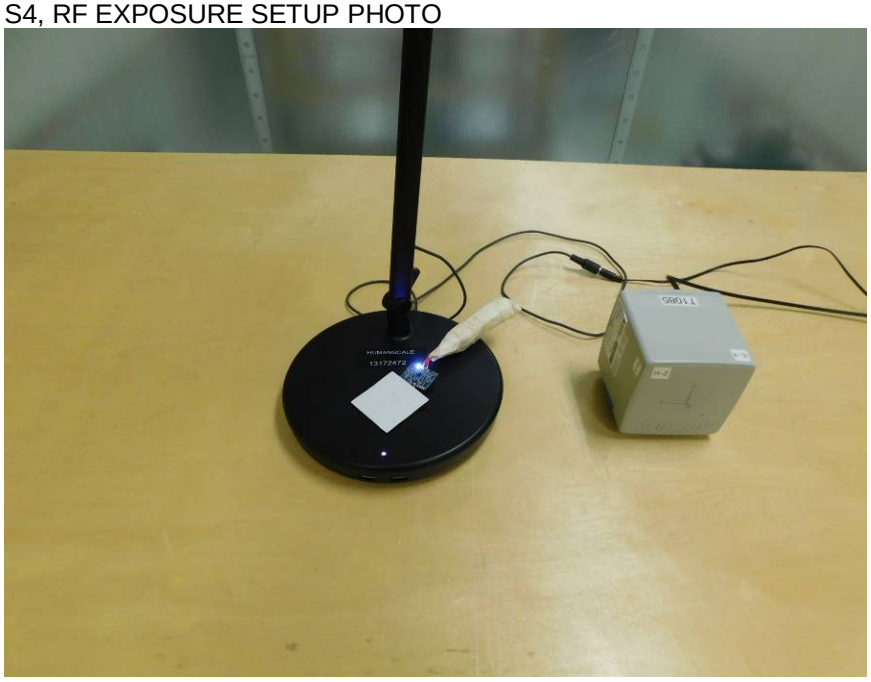
S2, RF EXPOSURE SETUP PHOTO



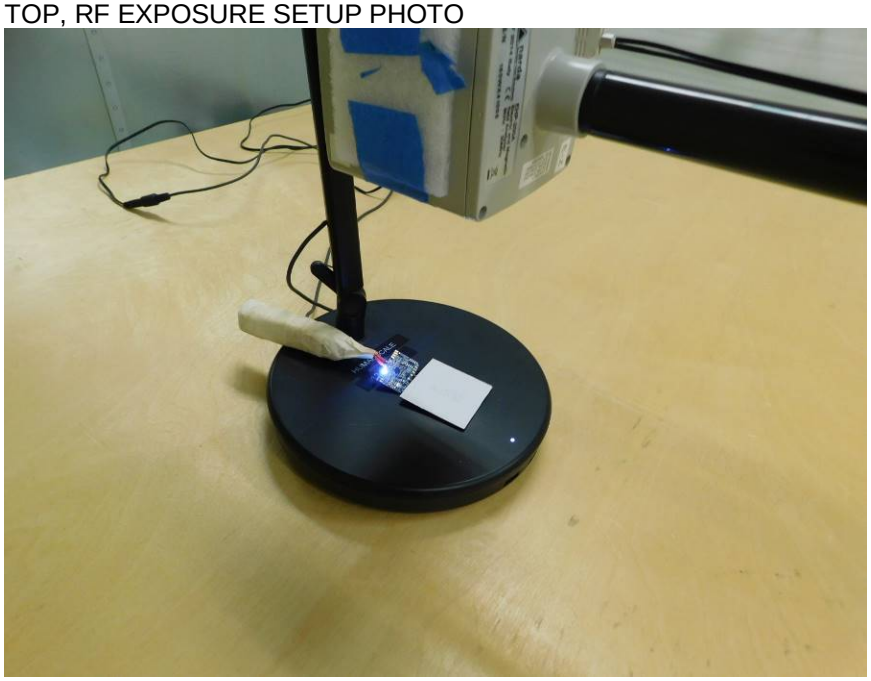
S3, RF EXPOSURE SETUP PHOTO



S4, RF EXPOSURE SETUP PHOTO



TOP, RF EXPOSURE SETUP PHOTO



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