Sep 19, 2024
By Equipment Authorization System

Corey Cahill
Equipment Authorization & Compliance Branch Laboratory Division, Office of Engineering and Technology Federal Communications Commission
45 L Street NE Washington, DC 20554

RE: Correspondence Number 593097, FCC ID 2AME8BD1K

Mr. Cahill:

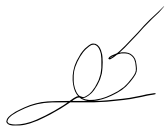
We write to update the Commission that the power level adjustment for Bond Bridge Pro (2AME8BD1K) was deployed to production as promised on Aug 31st.

As per our previous correspondence we have collaborated with BACL (report attached) to ensure that our power level adjustments are in conformance with FCC 15.231(b).

We have also put a similar update into production for Bond Bridge (BD-1000, FCC ID 2AME8BOND-02) effective September 14th. The final impacted product (BD-920, also 2AME8BOND-02) will be updated effective September 30th.

The patch tool which applies the correction factors is now publicly available (link).

Sincerely,



Zohar Shinar, CEO Olibra LLC

ENGINEERING REPORT

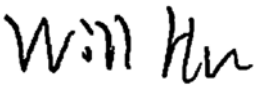
For

Olibra LLC

45 Legion Drive
Cresskill, NJ 07626, USA

Model: BD-1750-PRO

Report Type:	Product Type:
Engineering Report	Bond Bridge

Prepared By	Will Hu Test Engineer	
Report Number	R2407161 -ENG	
Report Issue Date	2024-07-23	
Reviewed By	Christian McCaig RF Lead Engineer	

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R2407161 -ENG	Engineering Report	2024-07-23

1 General Description

1.1 Product Description for Equipment Under Test (EUT)

This test report was prepared on behalf of *Olibra LLC* and their product model: BD-1750-PRO, or the "EUT" as referred to in this report.

1.2 Mechanical Description of EUT

The EUT measures approximately 16 cm (L) x 14.5 cm (W) x 4 cm (H) and weighs approximately 0.2 kg.

The data gathered are from a typical production sample provided by the manufacturer with serial number: ZPHC68751, ZPHC68815, and ZPGG57997

1.3 Local Support Equipment

N/A

1.4 Remote Support Equipment

N/A

1.5 Objective

This report was prepared on behalf of *Olibra LLC* in accordance with FCC CFR47 §15.231(b).

The objective was to report measurement data for the engineering verification testing conducted on 2024-07-16.

1.6 Related Submittal(s)/Grant(s)

N/A

1.7 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.8 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Parameter	Measurement uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.57 dB
Power Spectral Density, conducted	±1.48dB
Unwanted Emissions, conducted	±1.57dB
All emissions, radiated	±4.0 dB
AC power line Conducted Emission	±2.0 dB
Temperature	±2 º C
Humidity	±5 %
DC and low frequency voltages	±1.0 %
Time	±2 %
Duty Cycle	±3 %

1.9 Test Facility Registrations

BACLs test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Industry Canada under Registration Numbers: 3062A-1, 3062A-2, and 3062A-3.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Appendix B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0027.

1.10 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- ***An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2017 by A2LA (Test Laboratory Accreditation Certificate Number 3297.02)*****,** in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2017 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report.

BACL's ISO/IEC 17025:2017 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio, RF Exposure, Safety and wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include Central Office Telecommunications Equipment [including NEBS - Network Equipment Building Systems], Unlicensed and Licensed Wireless and RF devices,

Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial and Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, and Energy Efficient Lighting.

B- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.03)*** to certify

- For the USA (Federal Communications Commission):
  - 1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
  - 2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
  - 3- All Telephone Terminal Equipment within FCC Scope C.
- For the Canada (Industry Canada):
  - 1 All Scope 1-Licence-Exempt Radio Frequency Devices;
  - 2 All Scope 2-Licensed Personal Mobile Radio Services;
  - 3 All Scope 3-Licensed General Mobile & Fixed Radio Services;
  - 4 All Scope 4-Licensed Maritime & Aviation Radio Services;
  - 5 All Scope 5-Licensed Fixed Microwave Radio Services
  - 6 All Broadcasting Technical Standards (BETS) in the Category I Equipment Standards List.
- For Singapore (Info-Communications Development Authority (IDA)):
  - 1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2
  - 2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2
- For the Hong Kong Special Administrative Region:
  - 1 All Radio Equipment, per KHCA 10XX-series Specifications;
  - 2 All GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications;
  - 3 All Fixed Network Equipment, per HKCA 20XX-series Specifications.
- For Japan:
  - 1 MIC Telecommunication Business Law (Terminal Equipment):
    - All Scope A1 - Terminal Equipment for the Purpose of Calls;
    - All Scope A2 - Other Terminal Equipment
  - 2 Radio Law (Radio Equipment):
    - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
    - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
    - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.01)*** to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

1 Electronics and Office Equipment:
- for Telephony (ver. 3.0)
- for Audio/Video (ver. 3.0)
- for Battery Charging Systems (ver. 1.1)
- for Set-top Boxes & Cable Boxes (ver. 4.1)
- for Televisions (ver. 6.1)
- for Computers (ver. 6.0)
- for Displays (ver. 6.0)
- for Imaging Equipment (ver. 2.0)
- for Computer Servers (ver. 2.0)

2 Commercial Food Service Equipment
- for Commercial Dishwashers (ver. 2.0)

- for Commercial Ice Machines (ver. 2.0)
- for Commercial Ovens (ver. 2.1)
- for Commercial Refrigerators and Freezers

3 Lighting Products
- For Decorative Light Strings (ver. 1.5)
- For Luminaires (including sub-components) and Lamps (ver. 1.2)
- For Compact Fluorescent Lamps (CFLs) (ver. 4.3)
- For Integral LED Lamps (ver. 1.4)

4 Heating, Ventilation, and AC Products
- for Residential Ceiling Fans (ver. 3.0)
- for Residential Ventilating Fans (ver. 3.2)

5 Other
- For Water Coolers (ver. 3.0)

D- ***A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:***

- Australia: ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I;
- Canada: (Innovation, Science and Economic development Canada - ISEDC) Foreign Certification Body – FCB – APEC Tel MRA -Phase I & Phase II;
- Chinese Taipei (Republic of China – Taiwan):
  - BSMI (Bureau of Standards, Metrology and Inspection) APEC Tel MRA -Phase I;
  - NCC (National Communications Commission) APEC Tel MRA -Phase I;
- European Union:
  - EMC Directive 2014/30/EU US-EU EMC & Telecom MRA CAB (NB)
  - Radio Equipment (RE) Directive 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
  - Low Voltage Directive (LVD) 2014/35/EU
- Hong Kong Special Administrative Region: (Office of the Telecommunications Authority – OFTA) APEC Tel MRA -Phase I & Phase II
- Israel – US-Israel MRA Phase I
- Republic of Korea (Ministry of Communications - Radio Research Laboratory) APEC Tel MRA -Phase I
- Singapore: (Infocomm Media Development Authority - IMDA) APEC Tel MRA -Phase I & Phase II;
- Japan: VCCI - Voluntary Control Council for Interference US-Japan Telecom Treaty VCCI Side Letter-
- USA:
  - ENERGY STAR Recognized Test Laboratory – US EPA
  - Telecommunications Certification Body (TCB) – US FCC;
  - Nationally Recognized Test Laboratory (NRTL) – US OSHA
- Vietnam: APEC Tel MRA -Phase I;

2 Summary of Test Results

Results reported relate only to the product tested.

Standard Rules	Description of Test	Results
FCC §15.231(b)	Field Strength Emissions	Refer to section 3

BACL is responsible for all the information provided in this report, except when information is provided by the customer as identified in this report. Information provided by the customer, e.g., antenna gain, can affect the validity of results.

3 FCC §15.231(b) – Field Strength of Emissions from Intentional Radiators

3.1 Applicable Standards

As per FCC §15.231(b), the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	[1] 1,250 to 3,750	[1] 125 to 375
174-260	3,750	375
260-470	[1] 3,750 to 12,500	[1] 375 to 1,250
Above 470	12,500	1,250

[1] Linear interpolations.

3.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.10-2013. The specification used was the FCC Part 15.231(b) limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

3.3 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT was set 3 meter away from the testing antenna, which was varied from 1-4 meter, and the EUT was placed on a turntable, which was 0.8 meter and 1.5 meter above the ground plane for below and above 1000 MHz measurements, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

3.4 Corrected Amplitude & Margin Calculation

For emissions below 1 GHz,

The Corrected Amplitude (CA) is calculated by adding the Correction Factor to the S.A. Reading. The basic equation is as follows:

CA = S.A. Reading + Correction Factor

For example, a corrected amplitude of 40.3 dBuV/m = S.A. Reading (32.5 dBuV) + Correction Factor (7.8 dB/m)

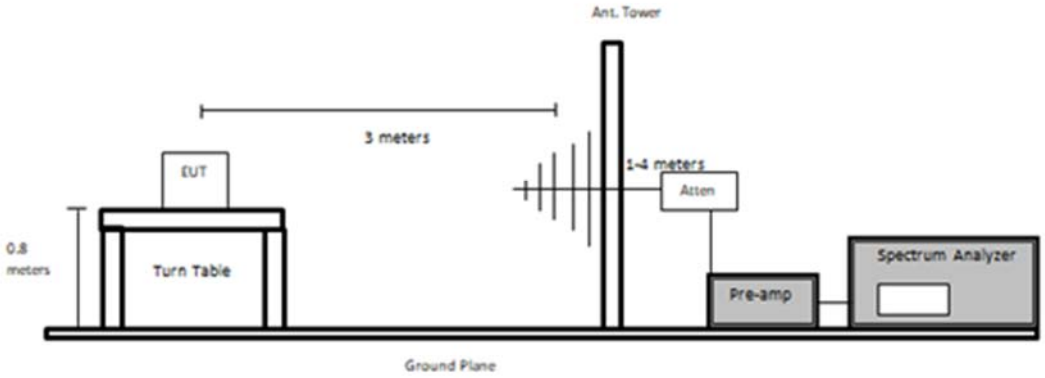
The Correction Factor is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) together. This calculation is done in the measurement software, and reported in the test result section. The basic equation is as follows:

Correction Factor = AF + CL + Atten – Ga

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Corrected Amplitude – Limit

3.5 Test Setup Diagram



3.6 Test Equipment List and Details

BACL No.	Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Interval
316	Sonoma Instruments	Preamplifier 10 kHz - 2.5 GHz	317	260406	2024-02-27	6 months
321	Sunol Sciences	Biconilog Antenna	JB3	A020106-2; 1504	2023-12-18	2 years
1356	Pasternack	N 28ft RF Cable	RG213	062421	2024-07-02	6 months
1245	-	6dB Attenuator	PE7390-6	01182018A	2023-12-18	2 years
1246	HP	RF Limiter	11867A	01734	2024-04-09	1 year
1248	Pasternack	RG214 COAX Cable	PE3062	-	2024-04-04	6 months
1249	Time microwave	LMR-400 Cable Dc-3 GHz	AE13684	2k80612-5 6fts	2024-04-09	1 year
624	Agilent	Spectrum Analyzer	E4446A	MY48250238	2024-06-14	1 year
327	Sunol Sciences	System Controller	SC110V	122303-1	NR	NR
1075	Sunol Sciences	Boresight Tower	TLT3	050119-7	NR	NR
1388	Sunol Sciences	Flush Mount Turntable	FM	112005-2	NR	NR

Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with the latest version of A2LA policy P102 "A2LA Policy on Metrological Traceability".*

3.7 Test Environmental Conditions

Temperature:	23 ºC
Relative Humidity:	39.8 %
ATM Pressure:	101.9 kPa

The testing was performed by Will Hu on 2024-07-16 at 5 meter chamber 3.

3.8 Radiated Emissions Test Results

Note: The worst case polarity is Vertical.
Note: Corrected data= Raw data + 20*log(duty cycle)+ Equipment Correction Factor

Technology	Duty cycle	Equipment Correction factor (dB/m)
NICE	1	-2.87
SOMF	0.65	-2.87

Unit A (SN: ZPHC68751)

Technology	Button	Azimuth (degree)	Height (cm)	Polarization (H/V)	Uncorrected Reading (dBuV)	Corrected Reading (dBuV/m @3m)	Limit (dBuV/m @3m)	Margin (dB)
NICE	Pair	266	218	V	83.27	80.40	80.49	-0.09
SOMF	Pair	269	215	V	84.51	77.90	80.84	-2.94

Unit B (SN: ZPHC68815)

Technology	Button	Azimuth (degree)	Height (cm)	Polarization (H/V)	Uncorrected Reading (dBuV)	Corrected Reading (dBuV/m @3m)	Limit (dBuV/m @3m)	Margin (dB)
Nice	Open	263	178	V	80.28	77.41	80.49	-3.08
Nice	Pair	263	178	V	80.32	77.45	80.49	-3.04
SOMF	Open	265	191	V	86.82	80.21	80.84	-0.63
SOMF	Pair	265	191	V	86.86	80.25	80.84	-0.59

Unit C (SN: ZPGG57997)

Technology	Button	Azimuth (degree)	Height (cm)	Polarization (H/V)	Uncorrected Reading (dBuV)	Corrected Reading (dBuV/m @3m)	Limit (dBuV/m @3m)	Margin (dB)
Nice	Open	265	187	V	80.34	77.47	80.49	-3.02
Nice	Pair	265	187	V	80.65	77.78	80.49	-2.71
SOMF	Open	270	183	V	85.03	78.42	80.84	-2.42
SOMF	Pair	270	183	V	85.19	78.58	80.84	-2.26

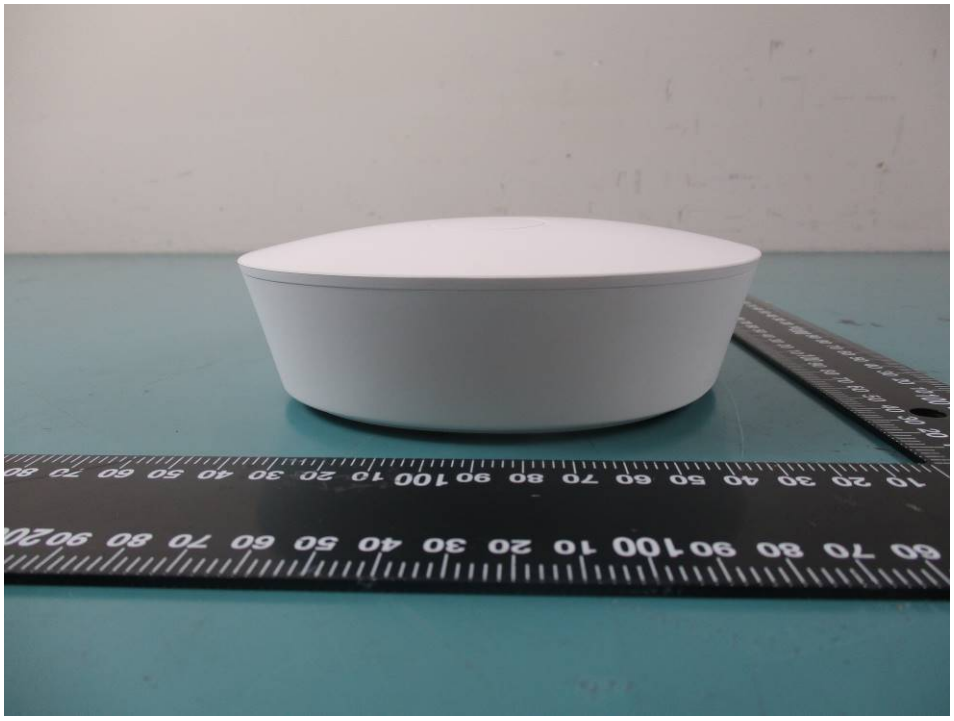
4 Annex A (Normative) - EUT Photographs

4.1 EUT – Top View

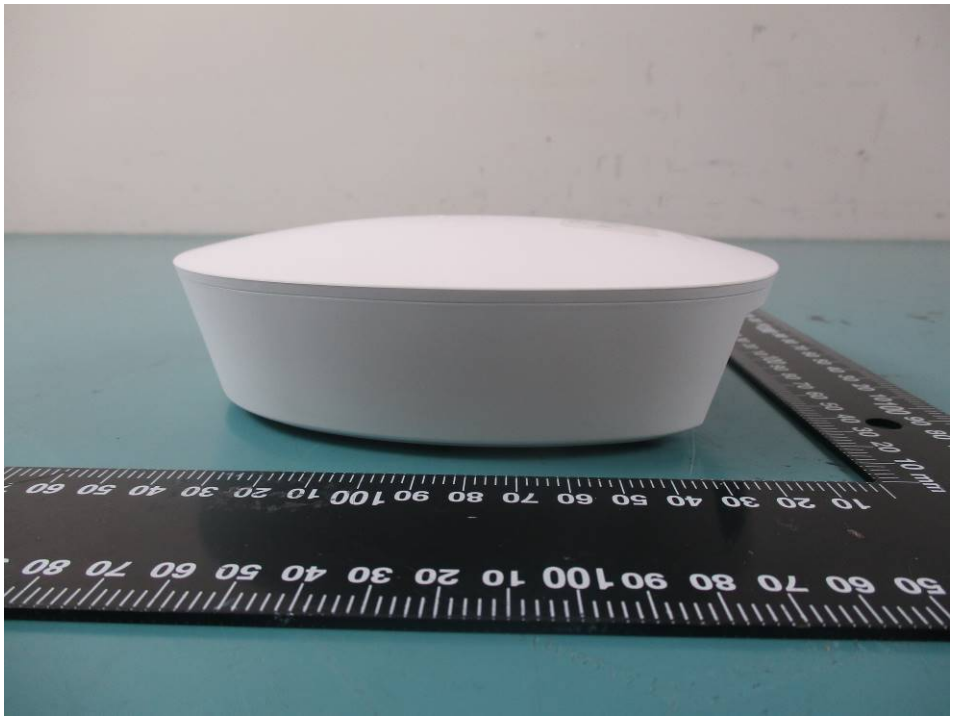
4.2 EUT – Bottom View

4.3 EUT – Front View

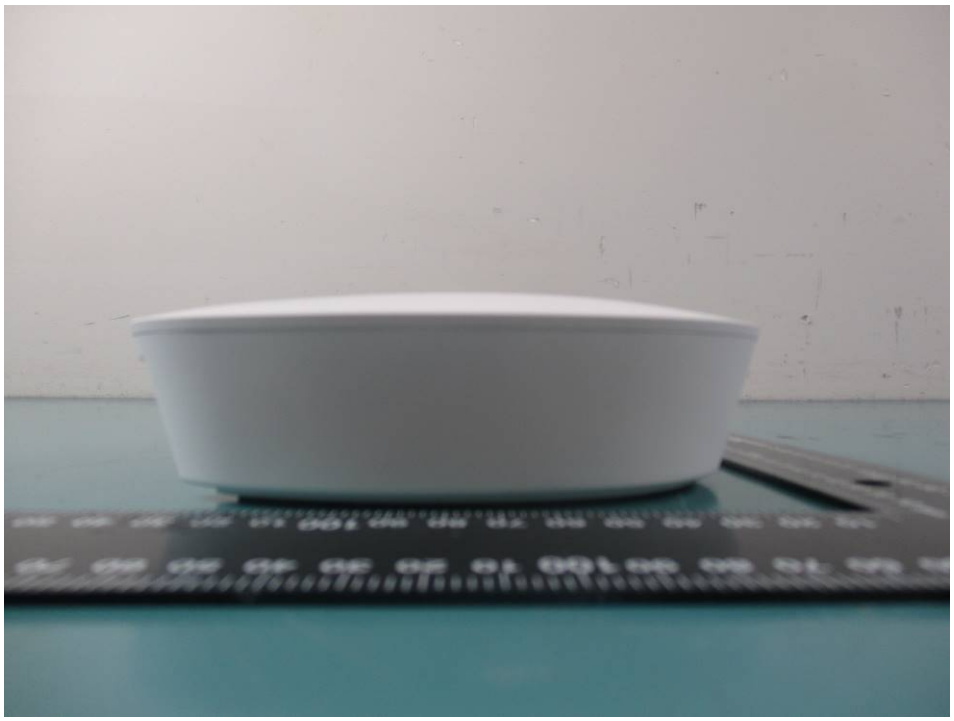
4.4 EUT – Rear View



4.5 EUT – Left View

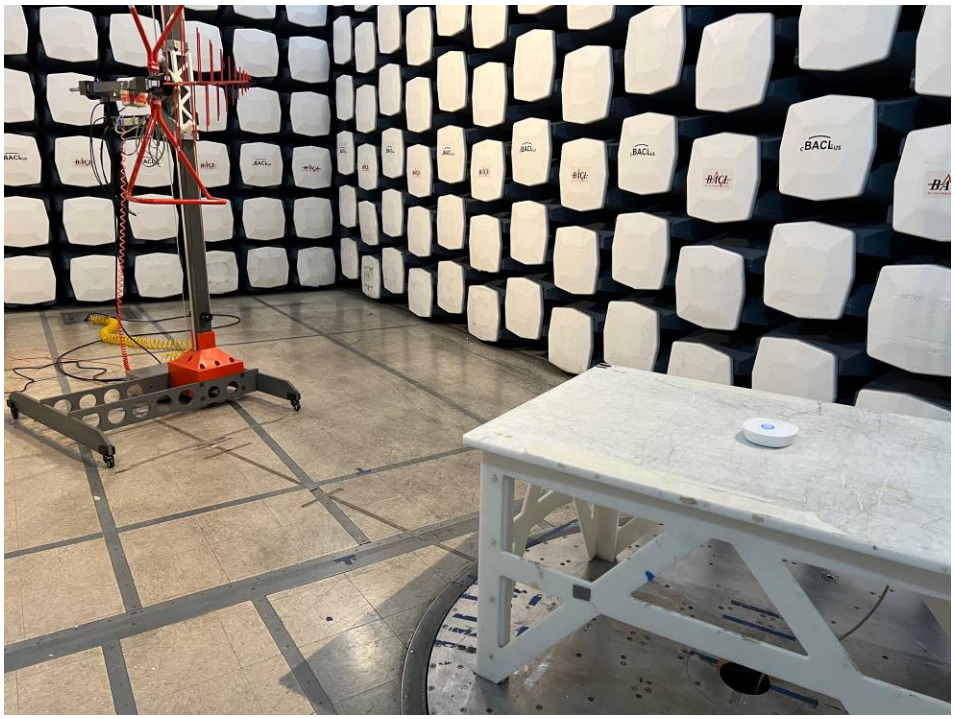


4.6 EUT – Right View



5 Annex B (Normative) - Test Setup Photographs

5.1 EUT Test Setup at 3 Meters



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