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# Antenna Test Report

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Report No.: AGC14635220702PA01

**PRODUCT DESIGNATION** : Bluetooth Handset  
**BRAND NAME** : LINAK  
**MODEL NAME** : BP10BL, BP12BL, BP13BL  
**APPLICANT** : LINAK A/S  
**DATE OF ISSUE** : Dec. 13, 2022  
**REPORT VERSION** : V1.0

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**REPORT REVISE RECORD**

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec. 13, 2022	Valid	Initial release

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## 1. PRODUCT INFORMATION

General information	
Applicant	LINAK A/S
Address	Group Headquarters Smedevænget 8, Guderup DK-6430 Nordborg, Denmark
Manufacturer	LINAK A/S
Address	Group Headquarters Smedevænget 8, Guderup DK-6430 Nordborg, Denmark
Factory	LINAK A/S
Address	Group Headquarters Smedevænget 8, Guderup DK-6430 Nordborg, Denmark
Product Designation	Bluetooth Handset
Brand Name	LINAK
Test Model	BP10BL
Series Model	BP12BL, BP13BL
Difference Description	All the same except the appearance and model name.
Date of receipt of test item	Aug. 01, 2022
Date of test	Aug. 01, 2022 to Dec. 13, 2022
Report Template	AGCRT-ER-PA/V1.0
Technical information	
Frequency Range	2400MHz-2500MHz
Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz
Antenna Type	PCB Antenna
Dimensions	6mm*23mm
Impedance	50 Ω
Maximum test values	Gain: 3.738dBi; Efficiency: 53.886%; VSWR: 1.159:1

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test results of this report relate only to the tested sample identified in this report.

Prepared By	<u>Thea Huang</u> Thea Huang (Project Engineer)	Dec. 13, 2022
Reviewed By	<u>Calvin Liu</u> Calvin Liu (Reviewer)	Dec. 13, 2022
Approved By	<u>Max Zhang</u> Max Zhang (Authorized Officer)	Dec. 13, 2022

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## 2. TEST FACILITY

<b>Test Site</b>	Attestation of Global Compliance (Shenzhen) Co., Ltd
<b>Location</b>	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

## 3. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
ANTENNA MEASUREMENT SYSTEM	ETS-Lindgren	AMS-8600	Nov. 26, 2021	Nov. 25, 2022
Antenna Measurement System	ETS-Lindgren	AMS-8600	Nov. 25, 2022	Nov. 28, 2023
Network Analyzer	R&S	101443	Oct. 14, 2021	Oct. 15, 2022
Network Analyzer	R&S	101443	Oct. 15, 2022	Oct. 14, 2023
Test Software	ETS-Lindgren	EMQuest (Ver V1.12)	N/A	N/A

## 4. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of VSWR,  $U_c = \pm 1.5\text{dB}$
- Uncertainty of Gain,  $U_c = \pm 0.8\text{dB}$

## 5. TEST SUMMARY LIST

NO.	Test item	Remark
1	VSWR	--
2	Gain and efficiency	--
3	Radiation pattern	--

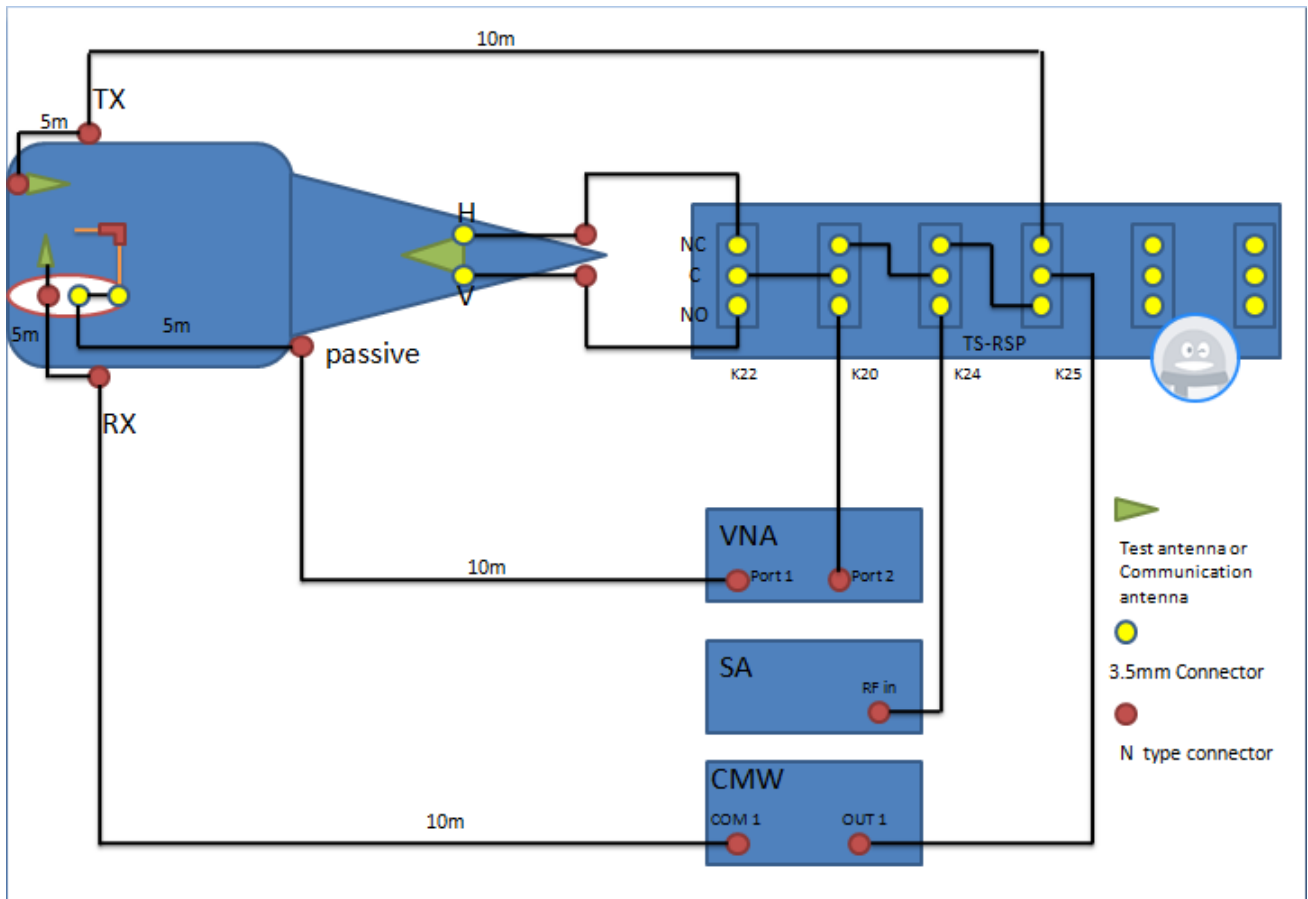
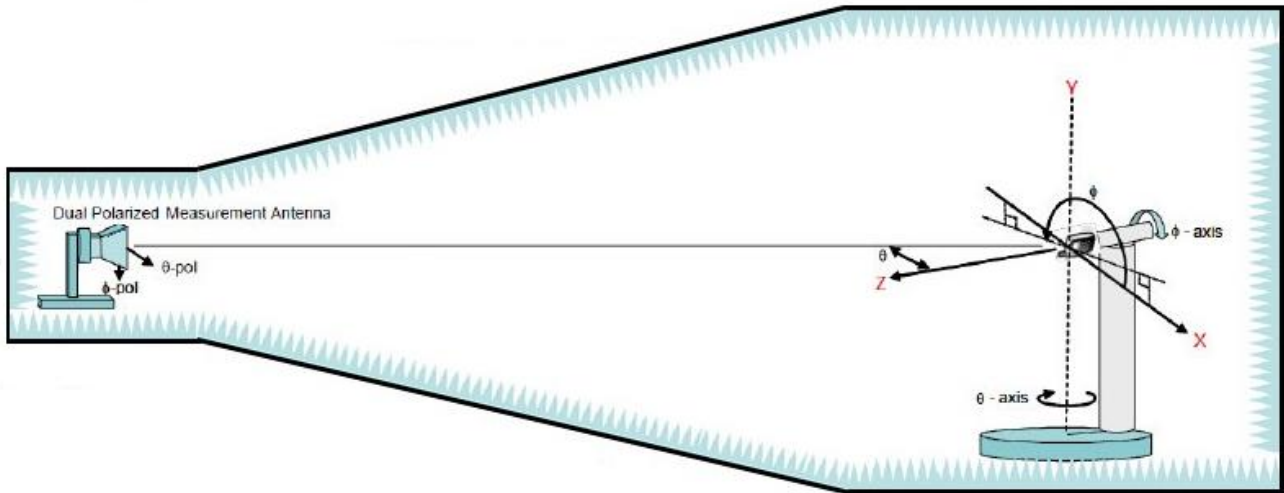
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## 6. TEST SETUP



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## 7. TEST RESULTS

### 7.1. VSWR

Frequency(MHz)	VSWR
2402	1.147:1
2440	1.159:1
2450	1.145:1
2480	1.089:1



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**7.2. GAIN AND EFFICIENCY**

Frequency(MHz)	Efficiency(dB)	Efficiency(%)	Gain(dBi)
2400	-3.208	47.773	2.780
2410	-3.171	48.180	2.931
2420	-3.227	47.564	3.117
2430	-2.984	50.299	3.441
2440	-2.751	53.072	3.528
2450	-2.685	53.886	3.469
2460	-2.716	53.498	3.412
2470	-3.049	49.545	3.034
2480	-2.968	50.487	3.197
2490	-3.054	49.499	3.422
2500	-2.892	51.374	3.738

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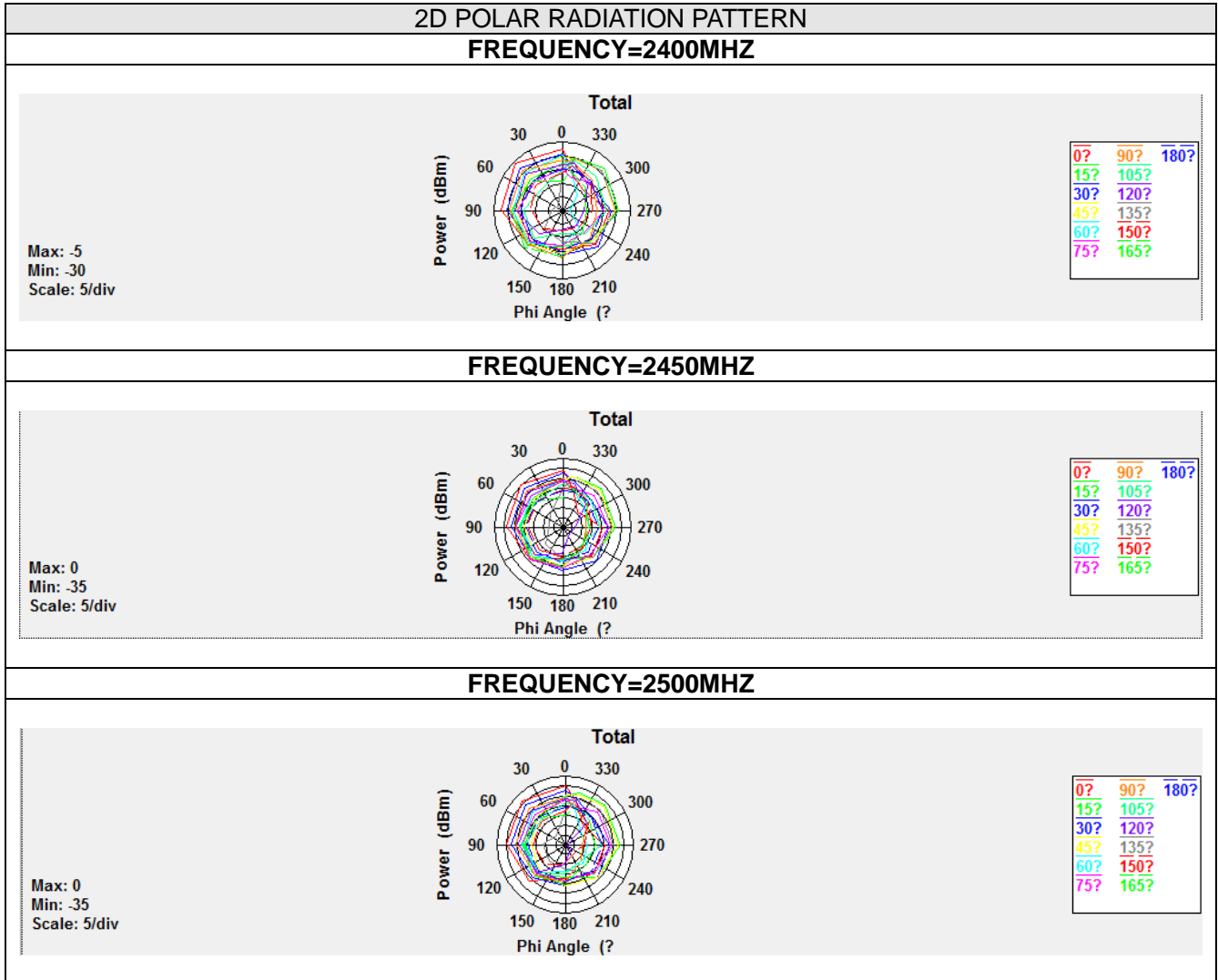
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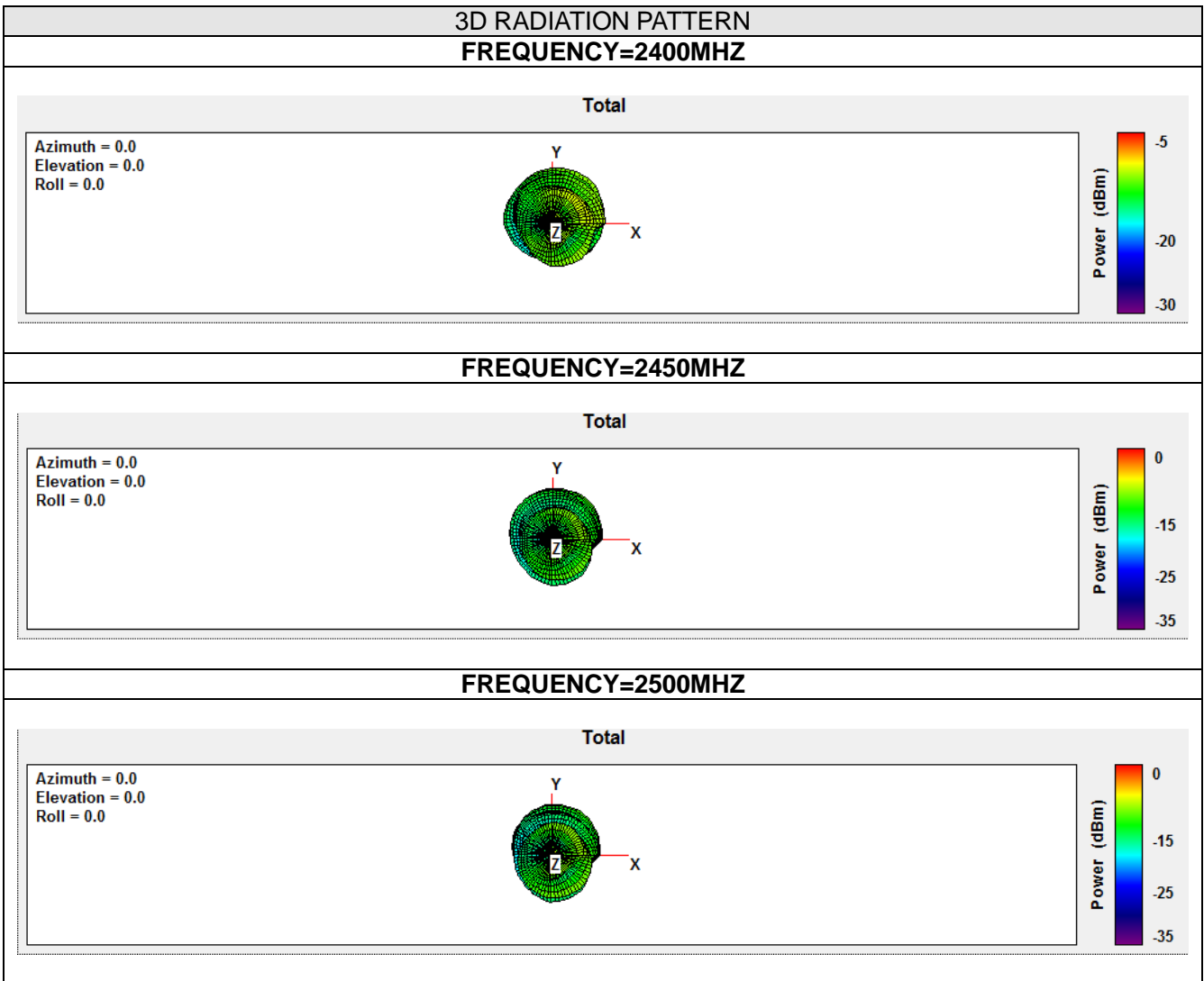
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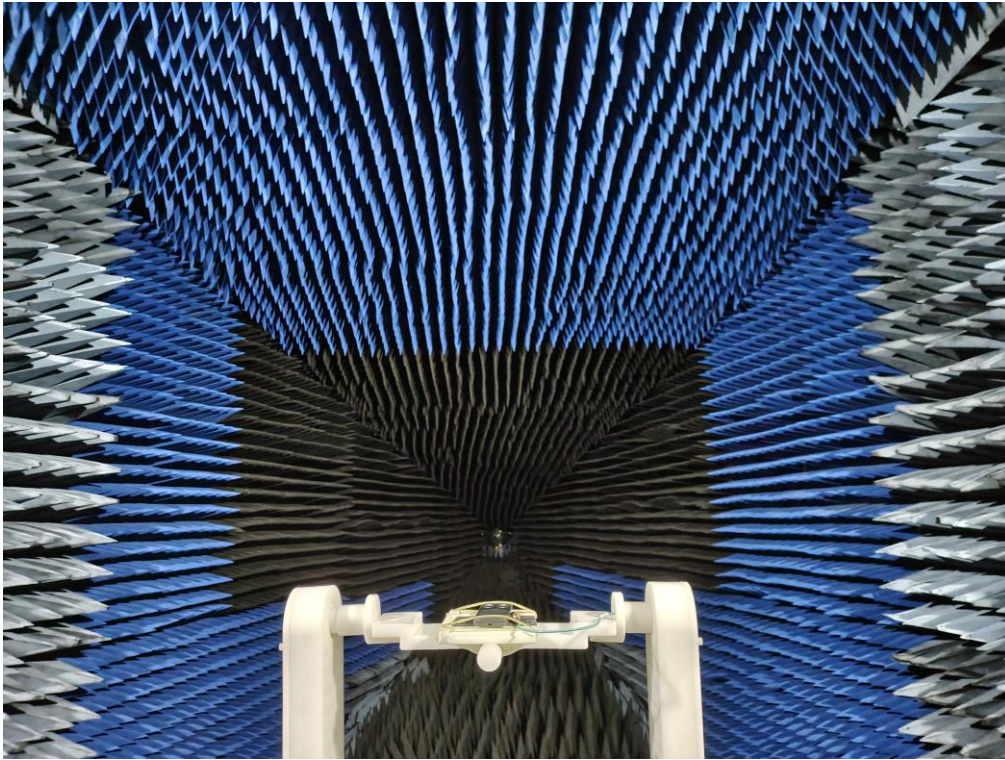
### 7.3. RADIATION PATTERN



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**APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

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## APPENDIX B: PHOTOGRAPHS OF EUT

TOP VIEW OF EUT



BOTTOM VIEW OF EUT



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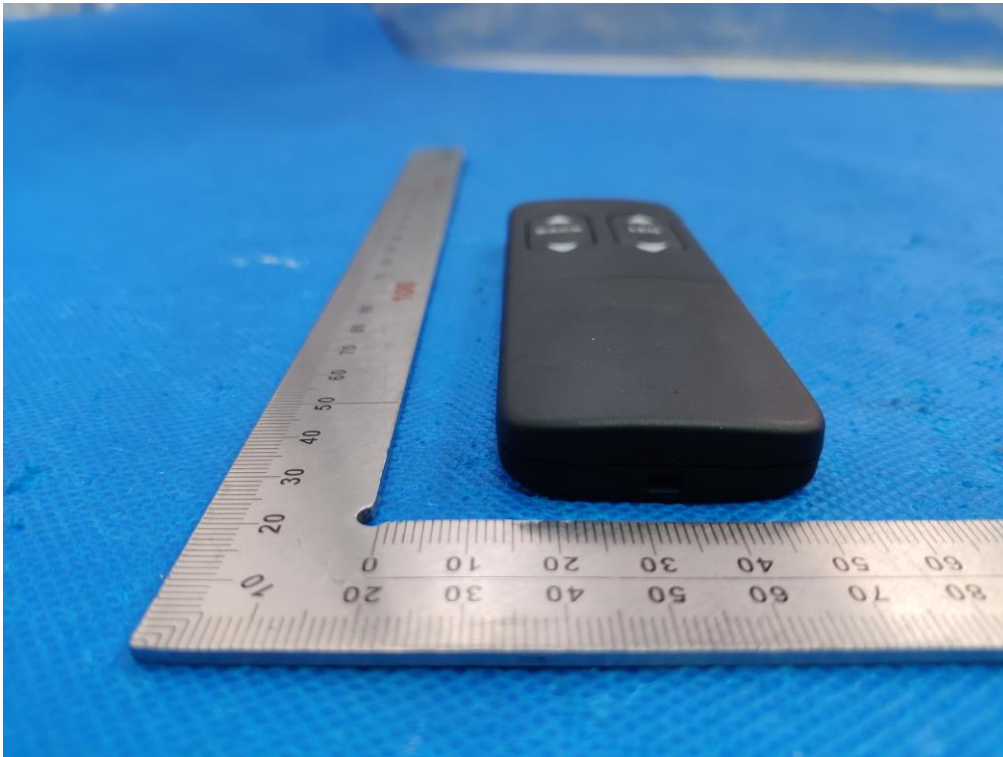
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FRONT VIEW OF EUT



BACK VIEW OF EUT



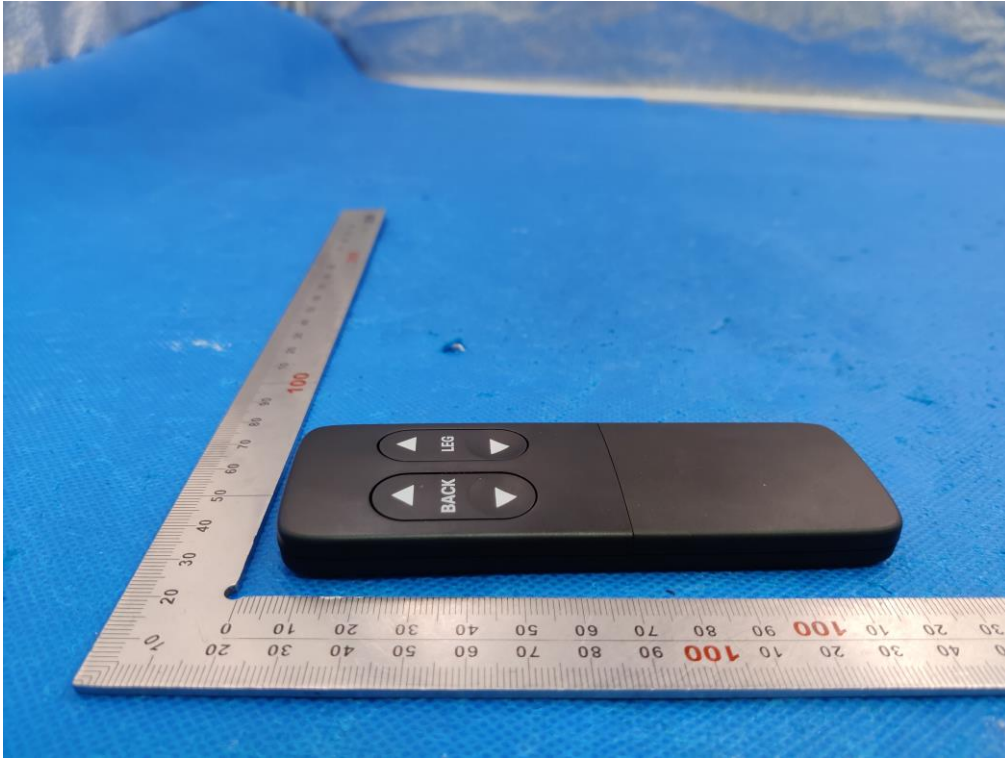
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LEFT VIEW OF EUT



RIGHT VIEW OF EUT



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OPEN VIEW OF EUT-1

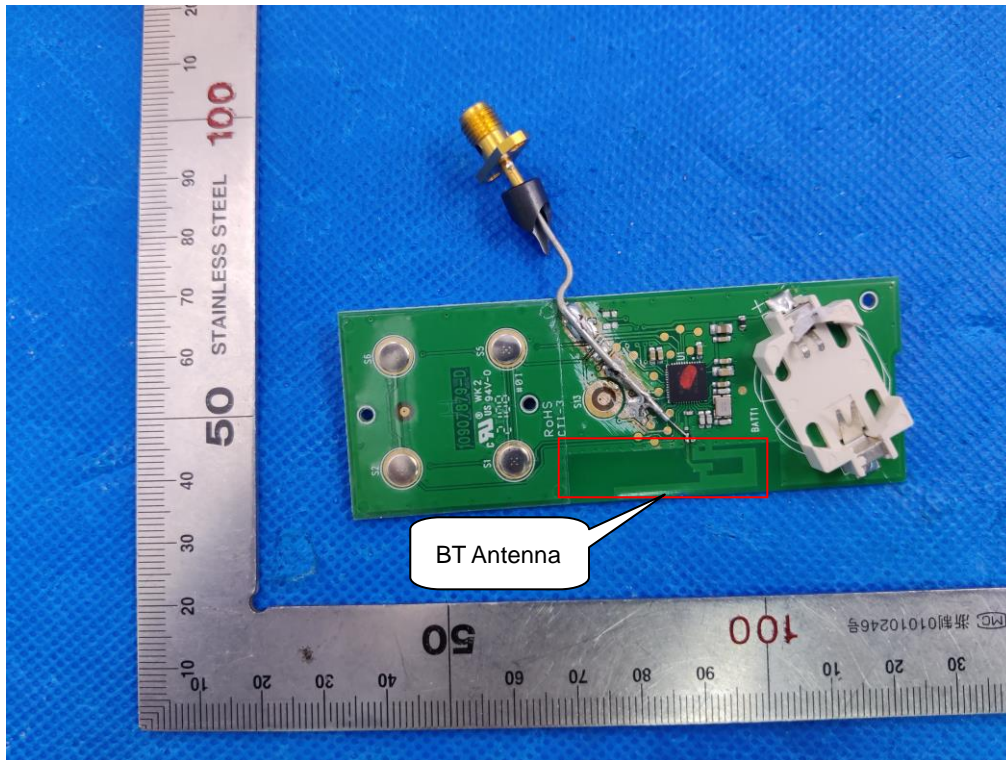


OPEN VIEW OF EUT-2

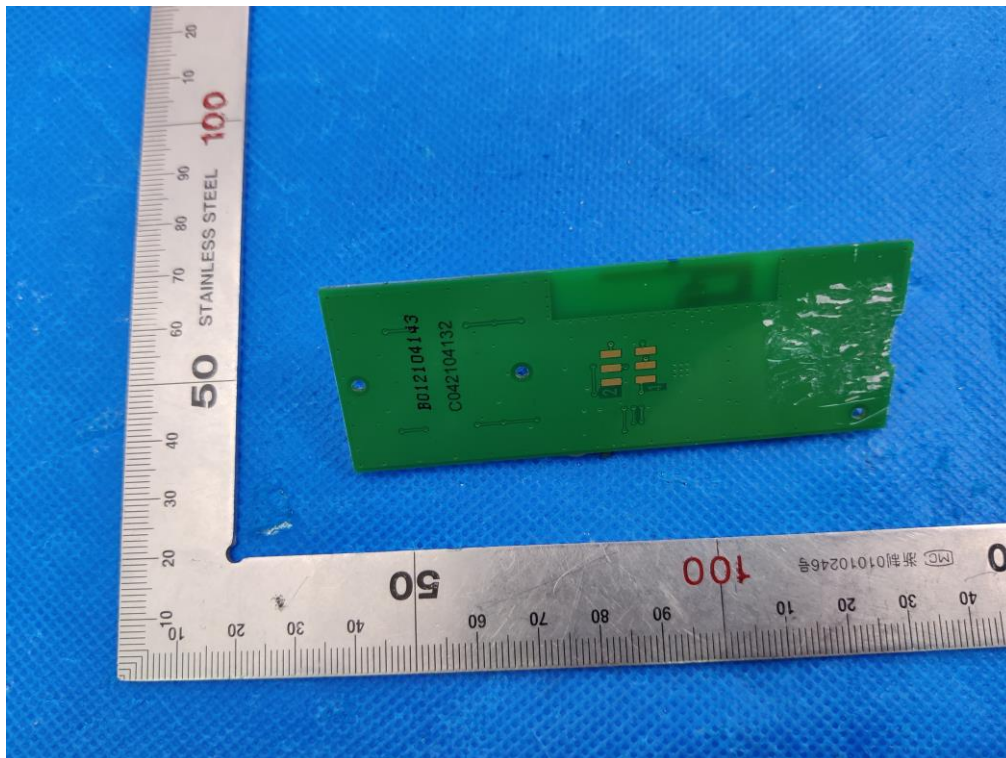


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**INTERNAL VIEW OF EUT-1**



**INTERNAL VIEW OF EUT-2**



**----END OF REPORT----**

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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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