

Antenna Test Report

Report No.: AGC00569220203PA01

PRODUCT DESIGNATION : Multi-mode wireless keyboard
BRAND NAME : RAPOO
MODEL NAME : E6050M, E9500M, E9100M
APPLICANT : ShenZhen Rapoo Technology Co., Ltd
DATE OF ISSUE : Mar. 05, 2022
REPORT VERSION : V1.0

Attestation of *Global Compliance* (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar. 05, 2022	Valid	Initial release

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1. PRODUCT INFORMATION

General information	
Applicant	ShenZhen Rapoo Technology Co., Ltd.
Address	22,Jinxu Road East,Pingshan District,Shenzhen,China
Manufacturer	ShenZhen Rapoo Technology Co., Ltd.
Address	22,Jinxu Road East,Pingshan District,Shenzhen,China
Factory	ShenZhen Rapoo Technology Co., Ltd.
Address	22,Jinxu Road East,Pingshan District,Shenzhen,China
Product Designation	Multi-mode wireless keyboard
Brand Name	RAPOO
Test Model	E6050M
Series Model	E9500M,E9100M
Difference Description	The PCB board does not change, and the difference only relates to the different model naming
Date of test	Mar. 05, 2022
Report Template	AGCRT-ER-PA/V1.0
Technical information	
Frequency Range	2400-2500MHz
Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz
Antenna Type	Wired antenna
Dimensions	40mm
Impedance	50 Ω
Maximum test values	Gain: 3.473dBi; Efficiency: 9.04%; VSWR: 3.07:1

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

*Bibo Zhang*Bibo Zhang
(Project Engineer)

Mar. 05, 2022

Reviewed By

*Calvin Liu*Calvin Liu
(Reviewer)

Mar. 05, 2022

Approved By

*Max Zhang*Max Zhang
Authorized Officer

Mar. 05, 2022

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2. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	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. 25, 2021	Nov. 24, 2022
Network Analyzer	R&S	101443	Oct. 15, 2021	Oct. 14, 2022
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

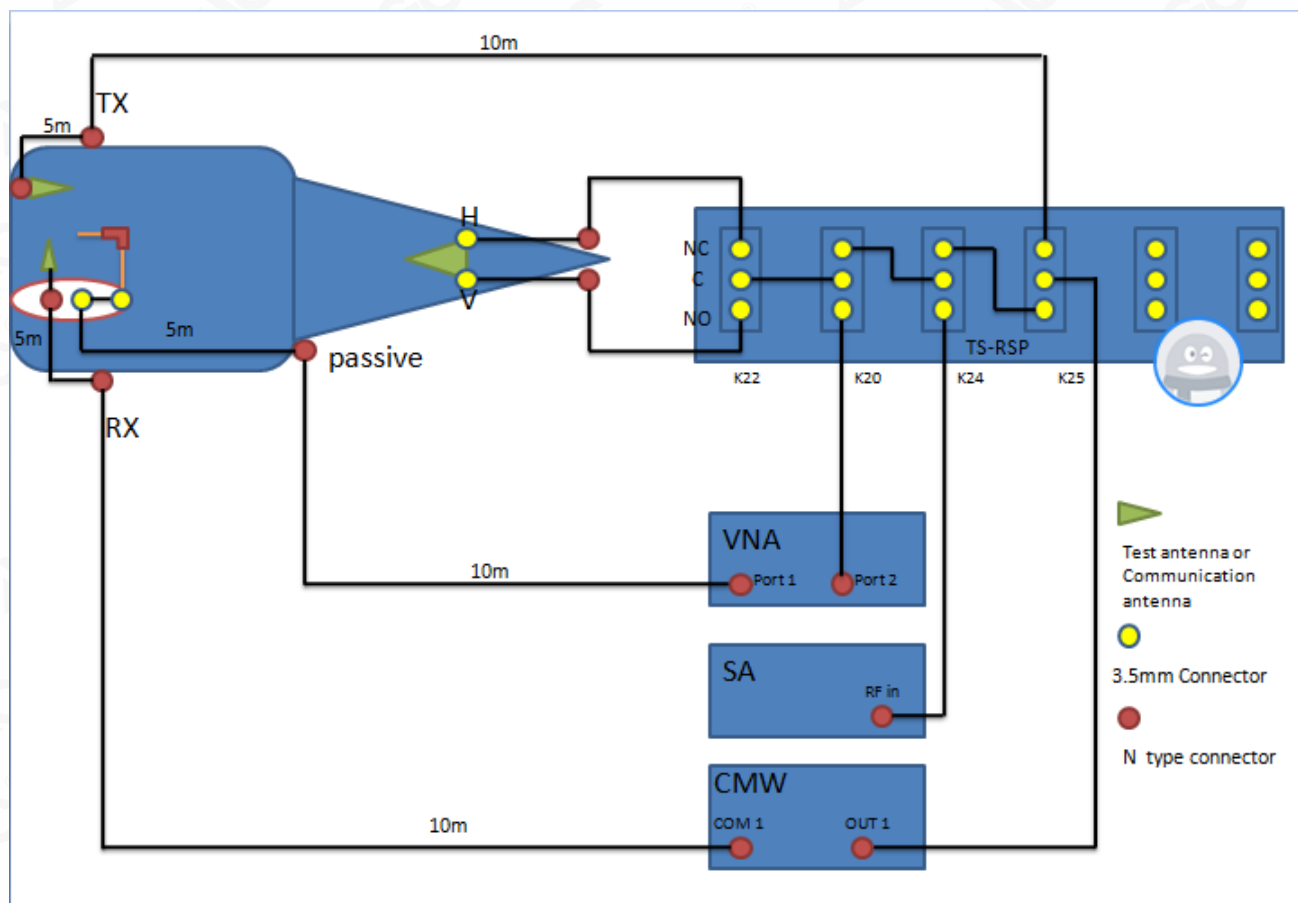
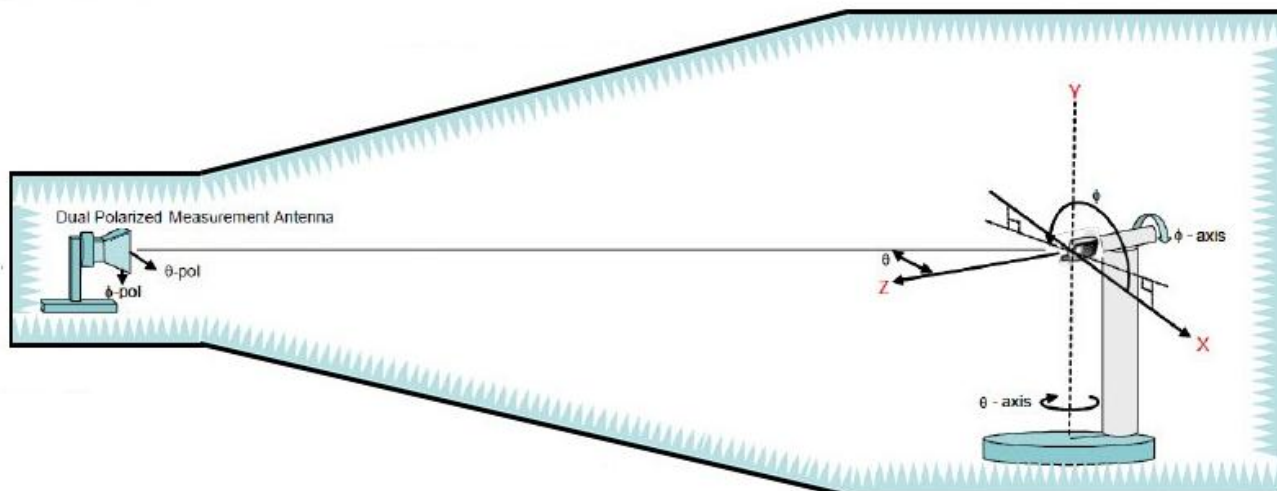
NO.	Test item	Remark
1	VSWR	--
2	Gain and efficiency	--
3	Radiation pattern	--

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6. TEST SETUP

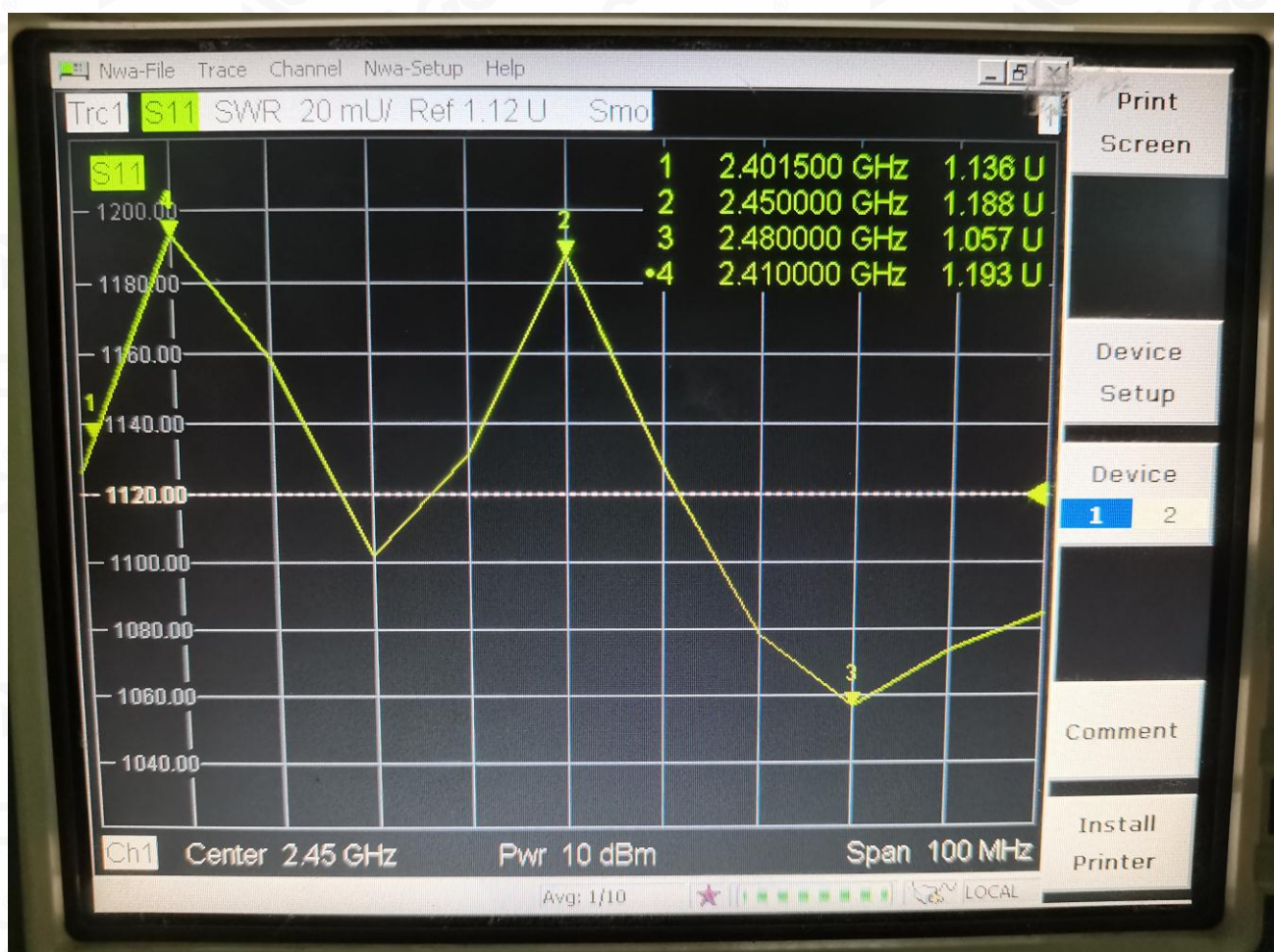


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7. TEST RESULTS

7.1. VSWR

Frequency(MHz)	VSWR
2402	1.136:1
2410	1.193:1
2450	1.188:1
2480	1.057:1



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7.2. GAIN AND EFFICIENCY

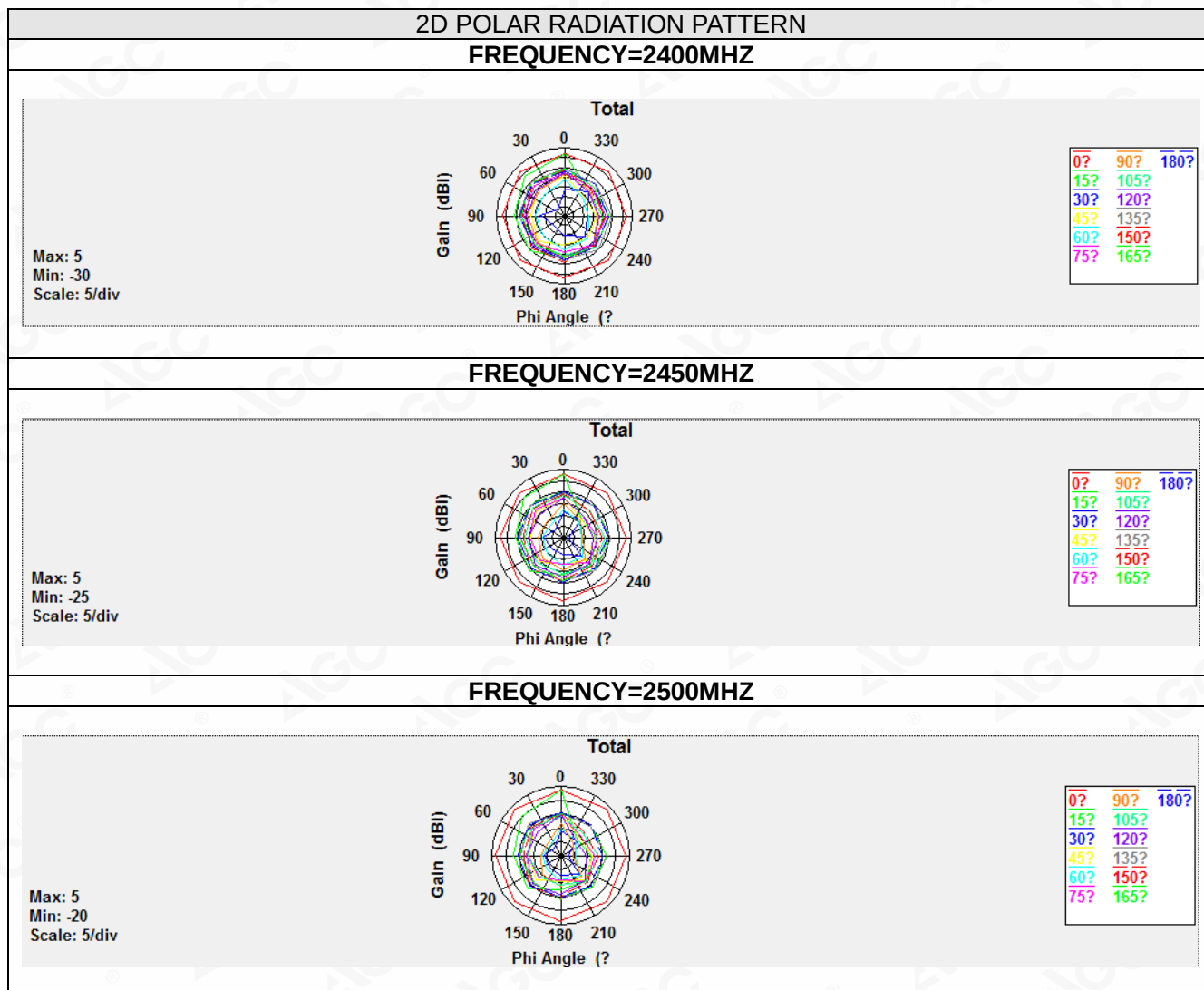
Frequency(MHz)	Efficiency(dB)	Efficiency(%)	Gain(dBi)
2400	-9.263	11.848	1.623
2410	-9.302	11.742	1.772
2420	-9.727	10.646	1.531
2430	-9.755	10.579	1.611
2440	-9.442	11.368	2.000
2450	-8.853	13.022	2.524
2460	-8.279	14.861	2.854
2470	-8.060	15.629	2.700
2480	-7.910	16.178	2.813
2490	-7.785	16.652	3.088
2500	-7.584	17.441	3.473

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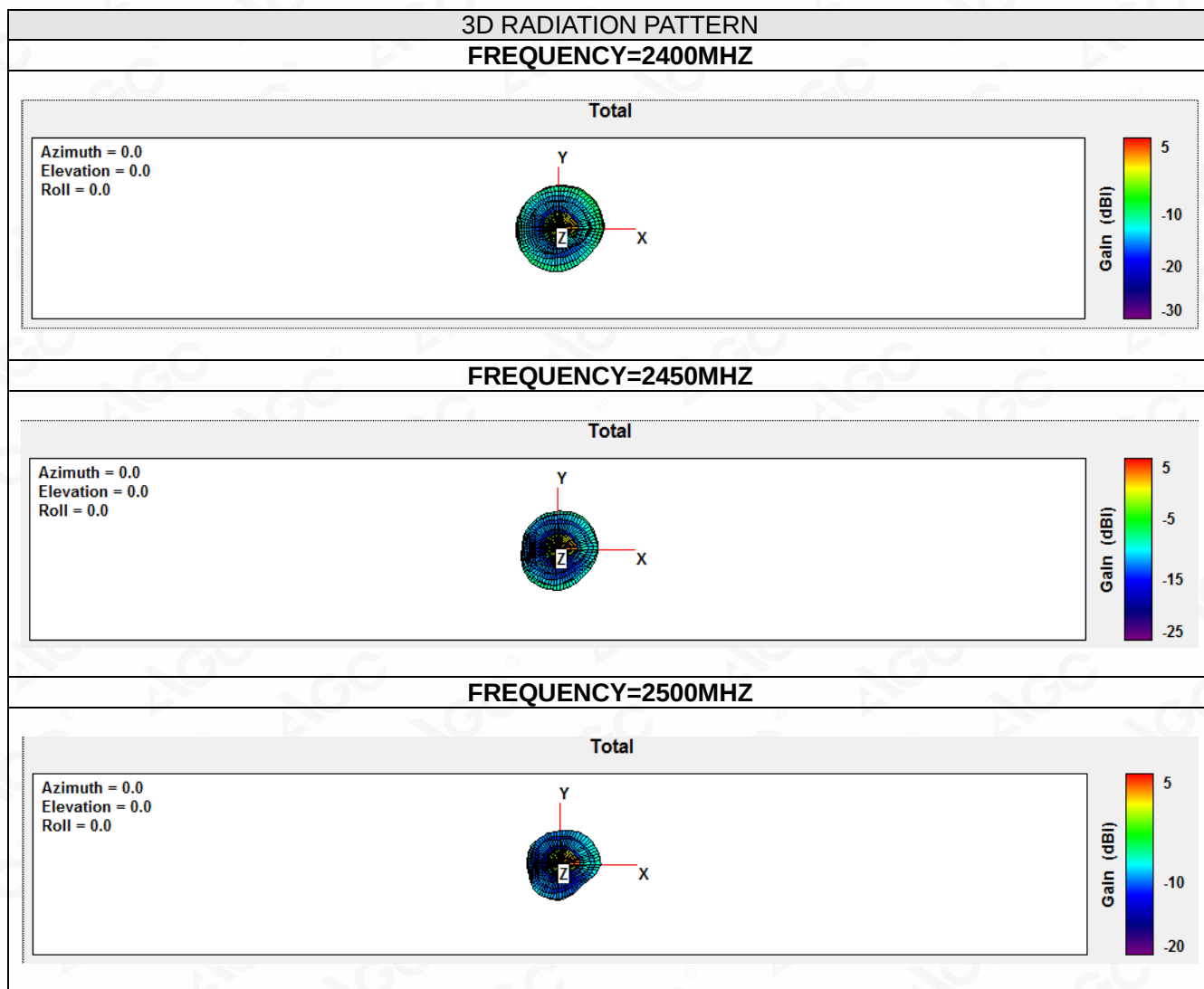


7.3. RADIATION PATTERN



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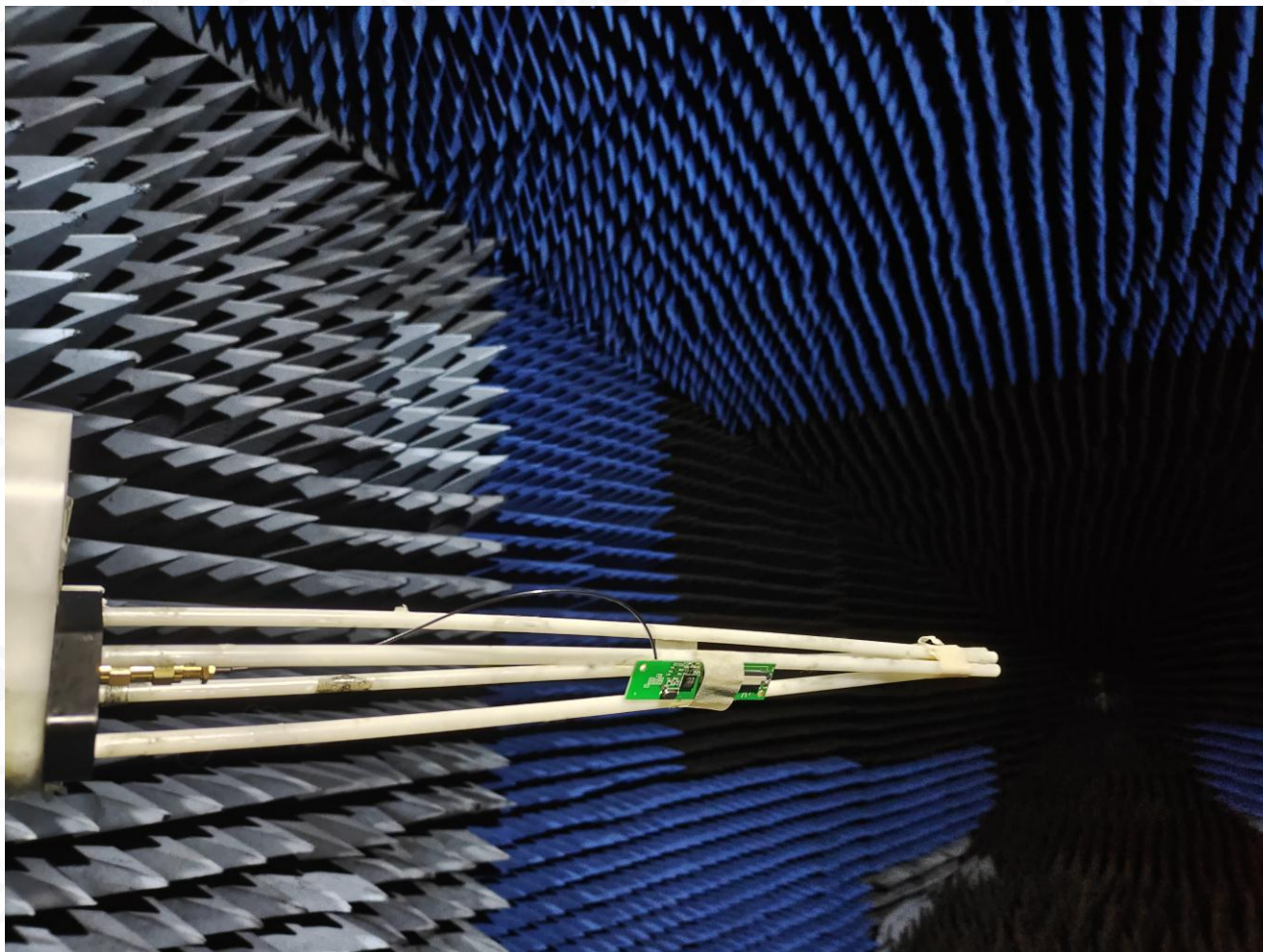


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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

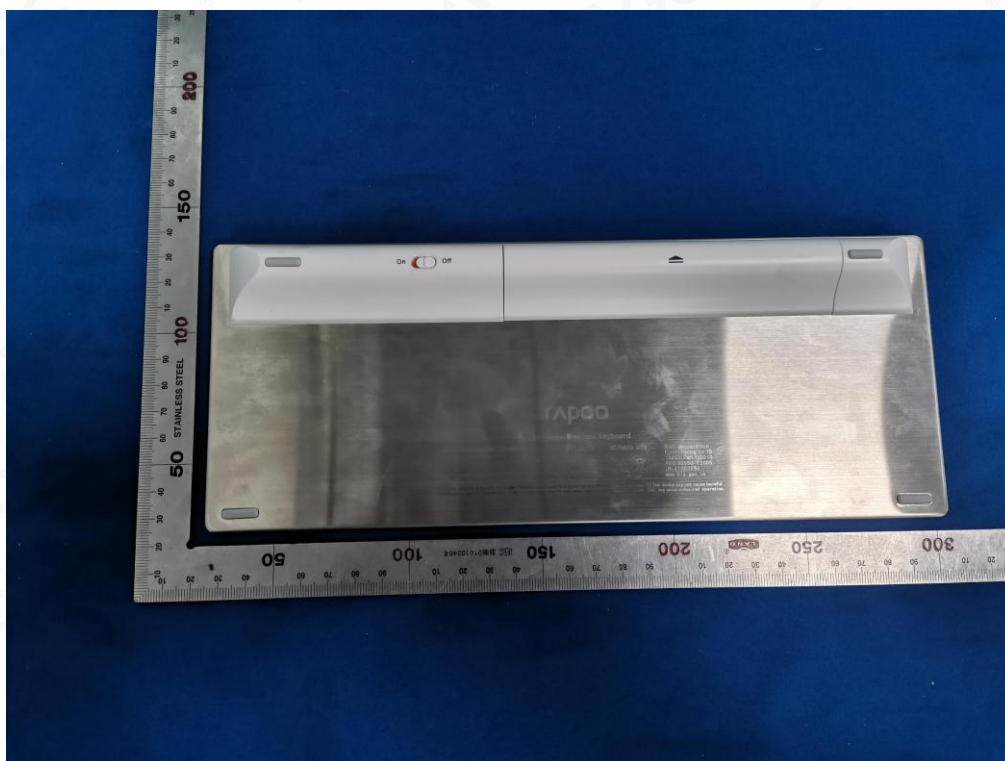


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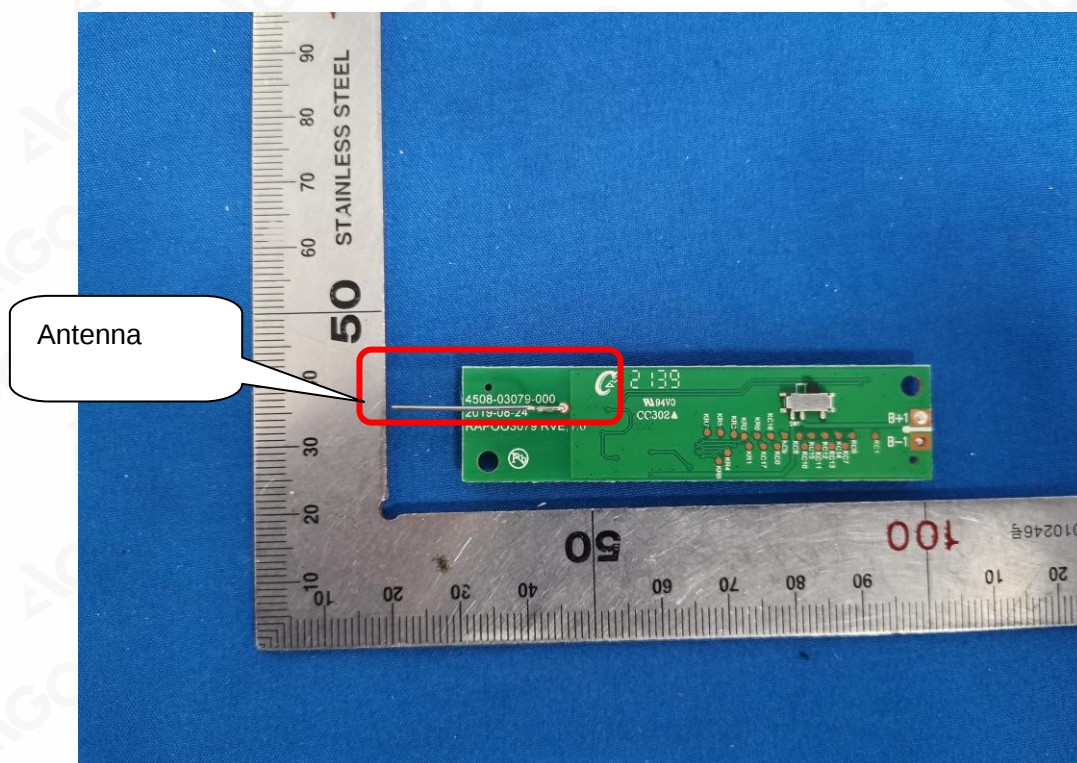
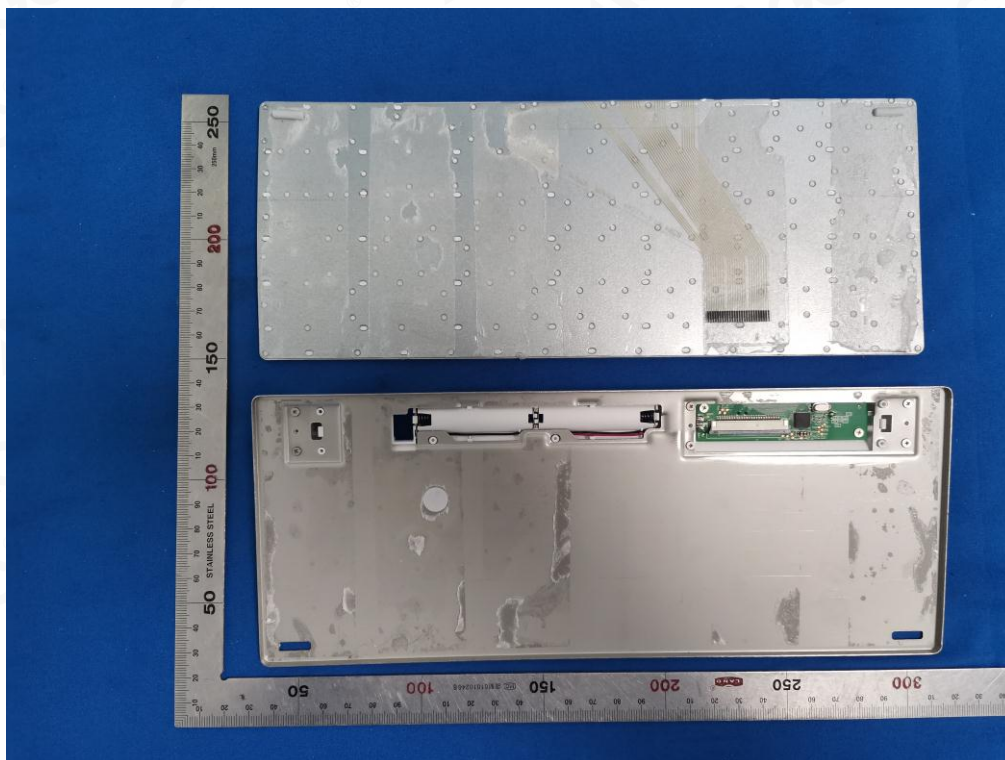
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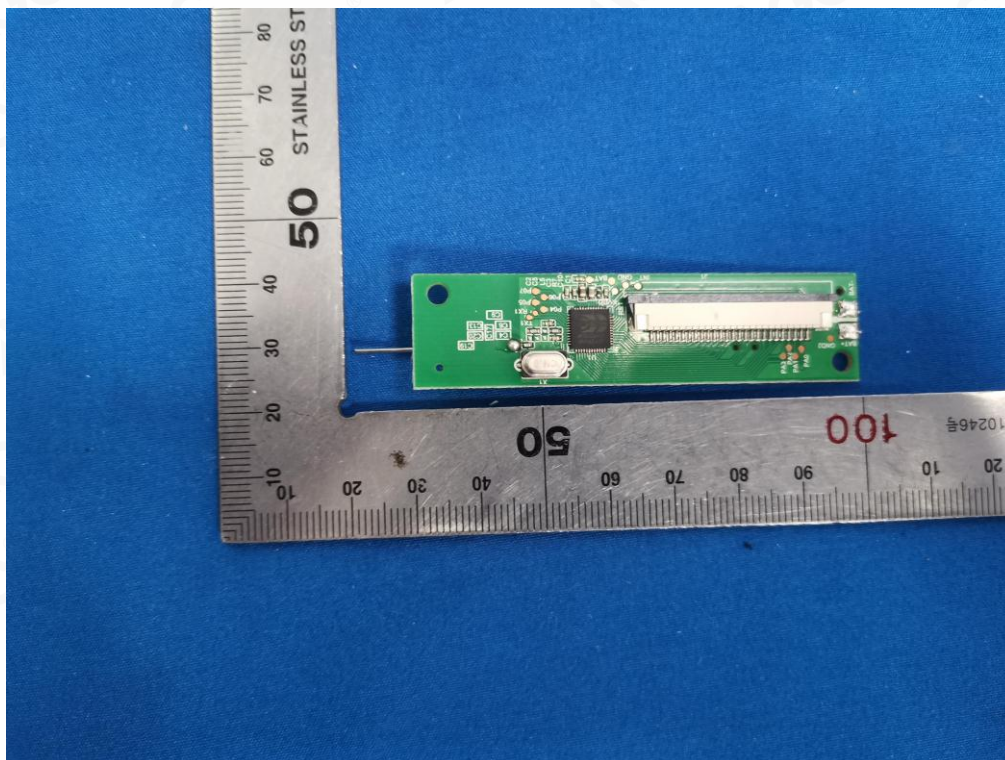




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----END OF REPORT----

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2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
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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