

# Testing Report

Customer Name: Cherub Technology Co., Ltd

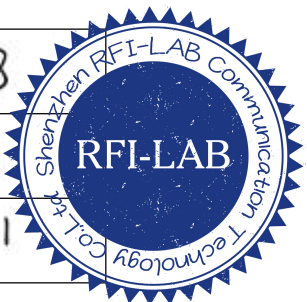
Product Name: Wireless In-ear Monitoring System

Sample Model: B-7PSM

Reference Standard: *GB/T 9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2022.10.31

Engineer: <i>Jeremy</i>	Date: <i>2022.10.28</i>
Auditor: <i>Eason</i>	Date: <i>2022.10.31</i>
Approver: <i>Aaron</i>	Date: <i>2022.10.31</i>



### Version

Version No.	Date	Description	Formulate	Approval
A0	2022.10.31	For the first time, formulate	Jeremy	Eason

### Contents

- 1.General Information .....3
  - 1.1 General information of testing institutions .....3
  - 1.2 Testing principle ..... 3
  - 1.3 Test equipment .....4
  - 1.4 Test environment .....4
  - 1.5 Statement ..... 4
- 2.Sample Information ..... 5
  - 2.1 Client information .....5
  - 2.2 Description of EUT(S) .....5
  - 2.3 Antenna size .....6
  - 2.4 DUT setup photo of free space OTA testing ..... 6
- 3. Test Results ..... 7
  - 3.1 Test standard ..... 7
  - 3.2 Test uncertainty .....7
  - 3.3 Test data ..... 8
    - 3.3.1 Typical free space efficiency and gain ..... 8
    - 3.3.2 Typical free space radiation pattern .....9
  - (The following is blank) ..... 10

# 1.General Information

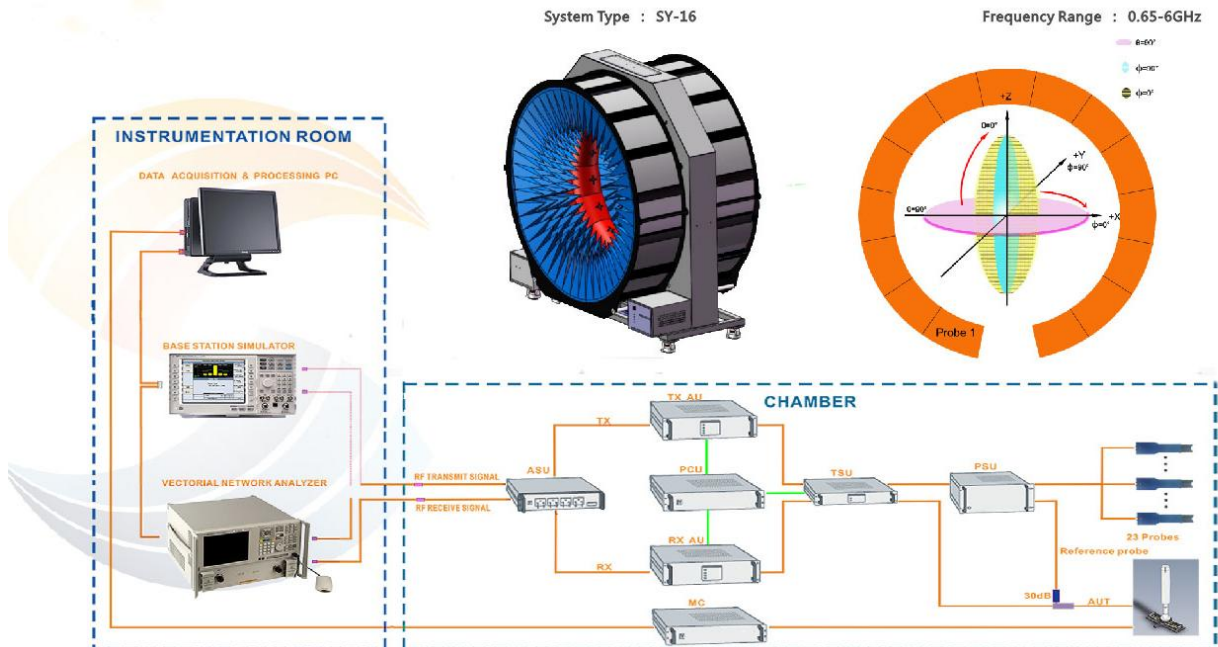
## 1.1 General information of testing institutions

<b>Name</b>	Shenzhen RFI-LAB Communication Technology Co., Ltd.
<b>Address</b>	10/F A, Lingyun Bld, Liufang Rd, Baoan District, SZ
<b>Tel</b>	13682621346
<b>E-mail</b>	rfi-lab@tech-now.com
<b>Equipment</b>	All the equipment used in the report is fixed in 10/F A, Lingyun Bld, Liufang Rd, Baoan District, SZ

## 1.2 Testing principle



# Multi-Probe OTA Measurement System



### 1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
16 probe microwave chamber	3*3*2.5	RFI-LAB-RF-A00	SUNYIELD	2021.3.15	2023.3.14
Network Analyzer	E5071C	RFI-LAB-RF-A02	Agilent	2022.5.13	2023.5.12

### 1.4 Test environment

Temperature	23.2℃
Humidity	58%RH
Pressure	100.19kPa

### 1.5 Statement

- (1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
- (2) Only Shenzhen RFI-LAB Communication Technology Co., Ltd. have the right to modify the report, and the modification information shall be annotated in the revision form.
- (3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
- (4) This report is invalid if there is any evidence that the sample information provided is falsified.
- (5) The report is invalid without the signature of the auditor and approver.

## 2. Sample Information

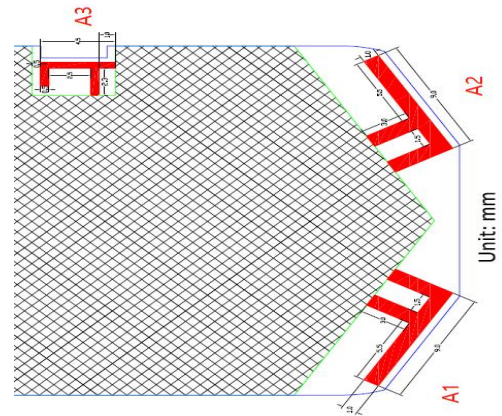
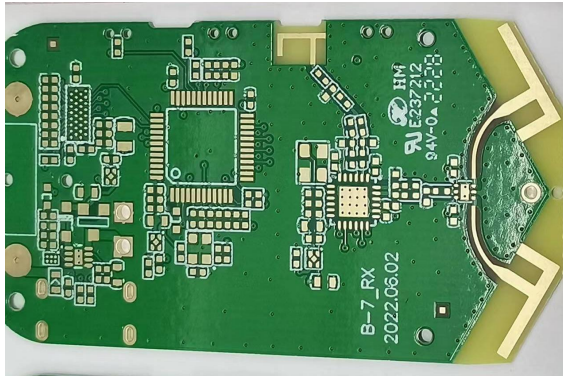
### 2.1 Client information

<b>Name</b>	Cherub Technology Co., Ltd
<b>Address</b>	No.10, Keji No.9Rd, Tangjiawan Town, Zhuhai National Hi-tech Industrial Development Zone, Zhuhai City, Guangdong Province, China, 519080
<b>Contacts</b>	Cicheng Fang
<b>Tel</b>	15013890439
<b>E-mail</b>	Fcc@cherub.cn
<b>Manufacturer</b>	Cherub Technology Co., Ltd (Zhuhai High-tech Park)

### 2.2 Description of EUT(S)

<b>Product Name</b>	Wireless In-ear Monitoring System
<b>Sample Model</b>	B-7PSM
<b>Size</b>	/
<b>Serial No.</b>	/
<b>Test Item</b>	Antenna gain; Efficiency; Radiation pattern
<b>Frequency Range</b>	5725MHz-5850MHz;
<b>Received Date</b>	2022.10.28
<b>Test Date</b>	2022.10.28
<b>Remark</b>	/

### 2.3 Antenna size

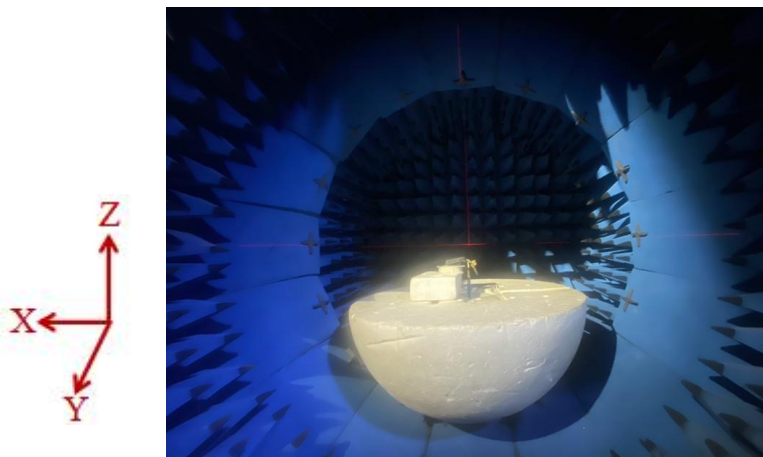


### 2.4 DUT setup photo of free space OTA testing

Planform



Front view



## 3. Test Results

### 3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile communication antenna	Antenna gain	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979
	Gain and directivity		

### 3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of  $K=2$  and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
Antenna gain	$\pm 1\text{dB}$
Radiation efficiency	$\pm 10\%$

### 3.3 Test data

#### 3.3.1 Typical free space efficiency and gain

A1

<b>Frequency/MHz</b>	5725	5750	5775	5800	5825	5850
<b>Peak Gain/dBi</b>	2.93	3.14	3.16	3.48	3.22	3.19
<b>Efficiency/%</b>	58.63	63.32	59.87	61.41	61.73	63.81

A2

<b>Frequency/MHz</b>	5725	5750	5775	5800	5825	5850
<b>Peak Gain/dBi</b>	4.89	4.75	4.69	4.71	5.03	4.53
<b>Efficiency/%</b>	64.94	67.71	63.86	65.13	66.08	66.08

A3

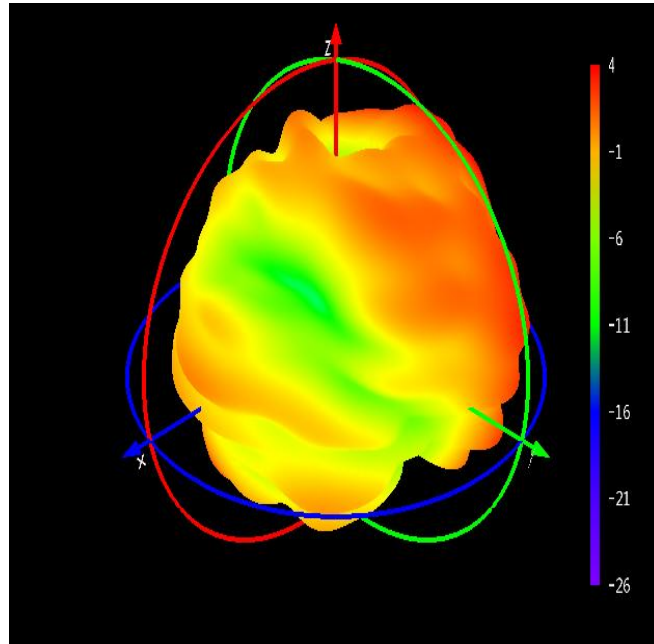
<b>Frequency/MHz</b>	5725	5750	5775	5800	5825	5850
<b>Peak Gain/dBi</b>	2.44	2.68	1.95	1.94	2.03	2.03
<b>Efficiency/%</b>	51.10	51.50	46.17	46.76	47.26	46.85



### 3.3.2 Typical free space radiation pattern

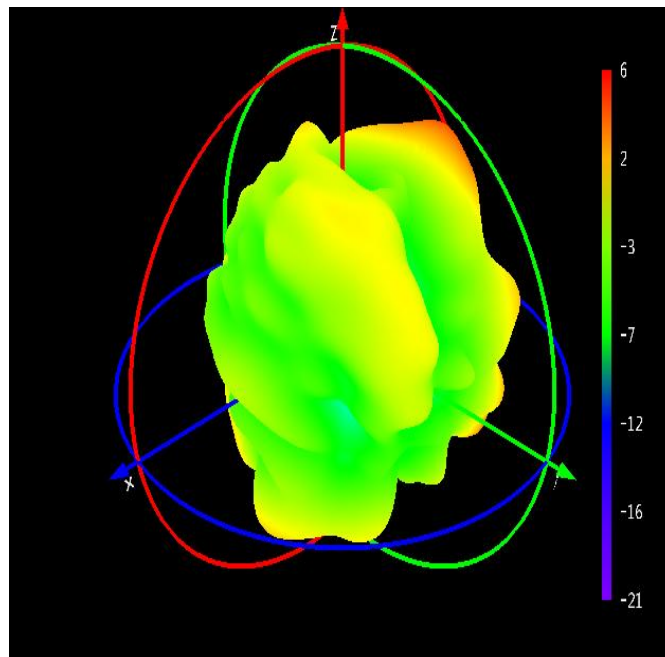
A1 5725MHz-5850MHz

Typical Free Space 3D Radiation Pattern at 5800MHz:



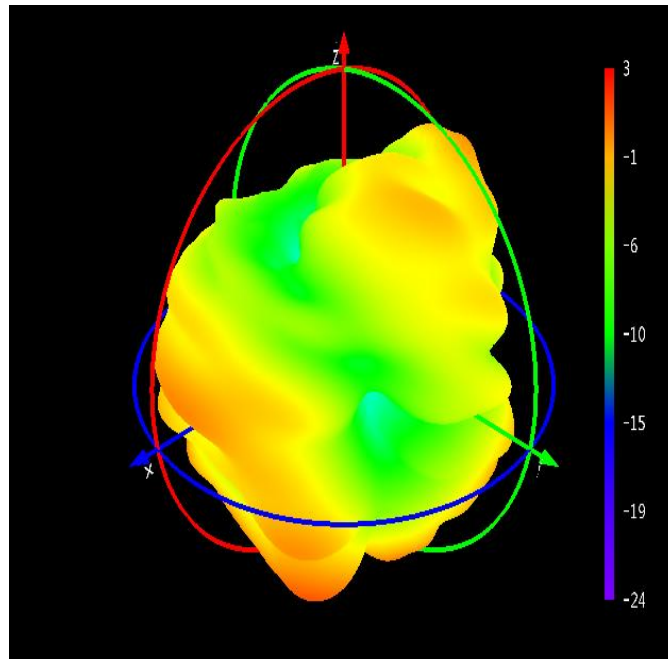
A2 5725MHz-5850MHz

Typical Free Space 3D Radiation Pattern at 5825MHz:



A3 5725MHz-5850MHz

Typical Free Space 3D Radiation Pattern at 5750MHz:



**End**

(The following is blank)