



## SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/0 Aug01,2022

Report No.: SZCR230500135504

Page: 1 of 17

# ANTENNA PASSIVE TEST REPORT

<b>Application No.</b>	SZCR2305001355ME
<b>Applicant</b>	Shenzhen Hingmed Medical Instrument Co., Ltd.
<b>Manufacturer</b>	Shenzhen Hingmed Medical Instrument Co., Ltd.
<b>Product Name</b>	Oximeter
<b>Model No.</b>	HM-ST30Pro
<b>Standards</b>	ANSI/IEEE Std 149-2008
<b>Date Initial Sample(s) Received</b>	2023-05-08
<b>Testing Start Date</b>	2023-10-16
<b>Testing Finish Date</b>	2023-10-17
<b>Report Issue Date</b>	2023-10-17

**\*In the configuration tested, the EUT detailed in this report complied with the standards specified above.**

Keny. Xu  
EMC Laboratory Manager



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Report No.: SZCR230500135504

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-10-17		Original

Authorized for issue by:			
		Reviewed by Mark Mao	
		Approved by Eric Fu	



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## 2 Revision Version

Report No.	Version	Date	Memo
SZCR2305001355ME	00	10/17	Initial creation of report



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## 4 General Information

### 4.1 Testing Laboratory

Test Lab	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address	No.1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057
Contact	Mark Mao
Tel.	+86 (0) 755 2532 8628
Fax	+86 (0) 755 2671 0594
E-mail	Mark.Mao@sgs.com

### 4.2 Details of Applicant

Applicant's Name	Shenzhen Hingmed Medical Instrument Co., Ltd.
Applicant's Address	4th Floor, Zhonghangfeixiang Building, NO. 371, Guangshen Road, Baoan District, Shenzhen, 518102, China
Contact	Huang yongban
Tel.	+86755234206946
E-mail	hyb@hingmed.com

### 4.3 Details of Manufacturer

Manufacturer's Name	Shenzhen Hingmed Medical Instrument Co., Ltd.
Manufacturer's Address	4th Floor, Zhonghangfeixiang Building, NO. 371, Guangshen Road, Baoan District, Shenzhen, 518102, China
Contact	Huang yongban
Tel.	+86755234206946
E-mail	hyb@hingmed.com

### 4.4 General Description of EUT

Device Description:	finger oximeter
Device Manufacturer:	Shenzhen Hingmed Medical Instrument Co., Ltd.
Device Model:	HM-ST30Pro
Hardware Version:	N/A
Software Version:	N/A
S/N:	N/A

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## 4.5 Test Procedure

Testing is performed according to the **ANSI/IEEE Std 149-2008**.

## 4.6 Test Specification

Identity	Document Title
ANSI/IEEE Std 149-2008	IEEE Standard Test Procedures for Antennas

## 4.7 Laboratory Environment

Temperature	Min. =19°C, Max. = 25°C	
Relative humidity	Min. =40%, Max. =72%	
Shield effect	0.7-6GHz	> 100dB
Ground resistance	<0.5Ω	



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### 4.8 Test Location

All tests were performed at:

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518057.

Tel: +86 755 2601 2053      Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.9 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

### 4.10 Deviation from Standards

None

### 4.11 Abnormalities from Standard Conditions

None



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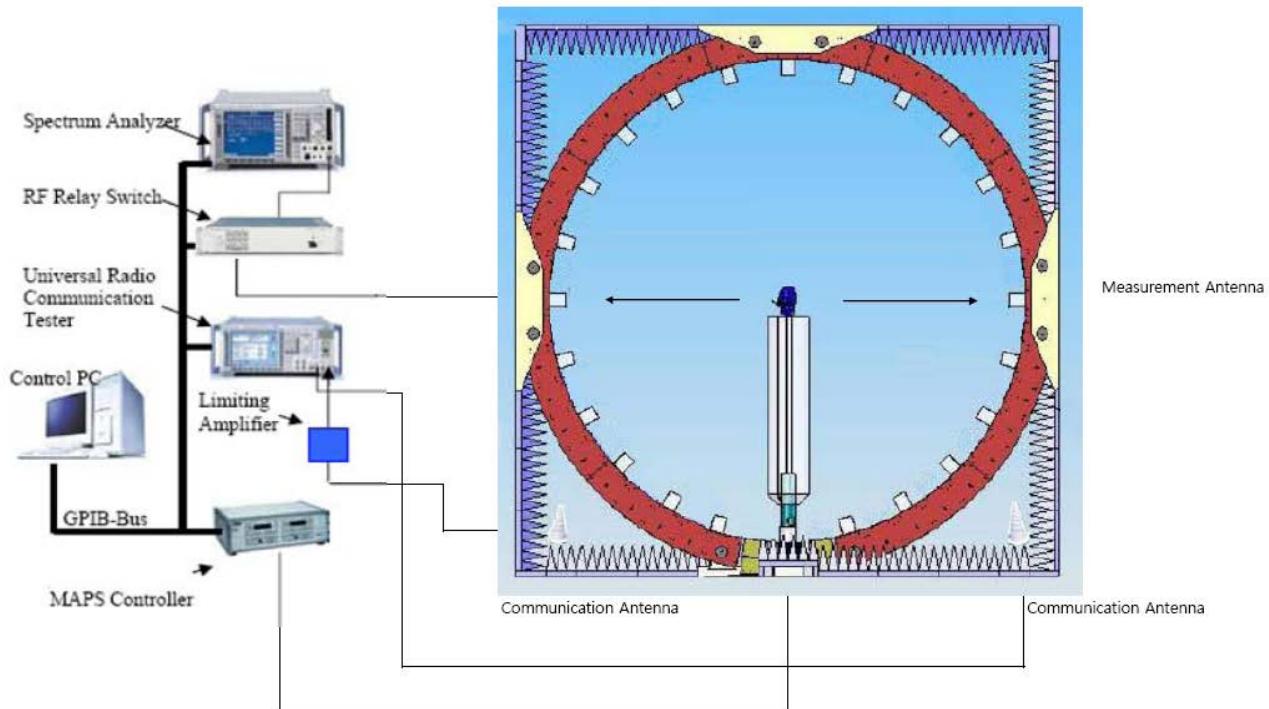
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## 5 OTA Measurements System Configuration

### 5.1 Test Configuration

Great-Circle-Cut method is used to measure the antenna 3D GAIN of EUT in OTA qualified anechoic chamber. Equipment Under Test (EUT) geometry centre vertical projection at the centre of platform, the distance from EUT to measurement antenna is 5m



F-1. OTA Measurement System Configuration

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## 6 Equipment List

Type of Equipment	Model Number	Manufacture	Calibration Date	Valid Period
Network Analyzer	E5071C S/N MY46523591	Keysight	2023/2/16	2024/2/15
Quad-Ridge Horn Antenna 700 MHz-10 GHz	EMCO 3164-08 S/N 161915	ETS-Lindgren L.P.	N/A	N/A
MAPS Controller	EMCENTER S/N 160485	ETS-Lindgren L.P.	N/A	N/A



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## 7 Measurement Uncertainty

<b>Item</b>	<b>2400-2500 MHz (dB)</b>
<b>Gain</b>	0.88
<b>Efficiency</b>	0.88
Measurement Uncertainty (95% CONFIDENCE INTERVAL) K=2	



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## 8 Test Result

### 8.1 Test summary

product	Maximum Gain Data			
	Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
BT antenna	2500	-19.86	1.03	-7.16

### 8.2 BT Antenna Test Results

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	-19.14	1.22	-8.69
2402	-19.29	1.18	-8.25
2405	-19.37	1.16	-8.01
2410	-19.47	1.13	-8.07
2415	-19.68	1.08	-8.73
2420	-19.54	1.11	-9.26
2425	-19.67	1.08	-8.85
2430	-19.80	1.05	-8.70
2435	-19.92	1.02	-8.81
2440	-20.06	0.99	-9.48
2441	-20.03	0.99	-9.66
2445	-19.85	1.04	-9.37
2450	-19.78	1.05	-8.36
2455	-19.64	1.09	-7.77
2460	-19.74	1.06	-7.40
2465	-19.84	1.04	-7.68
2470	-20.04	0.99	-7.37
2475	-20.25	0.94	-7.32
2480	-20.42	0.91	-7.68
2482	-20.44	0.90	-8.02
2485	-20.48	0.89	-8.63
2490	-20.34	0.93	-9.52
2495	-20.04	0.99	-8.53
2500	-19.86	1.03	-7.16

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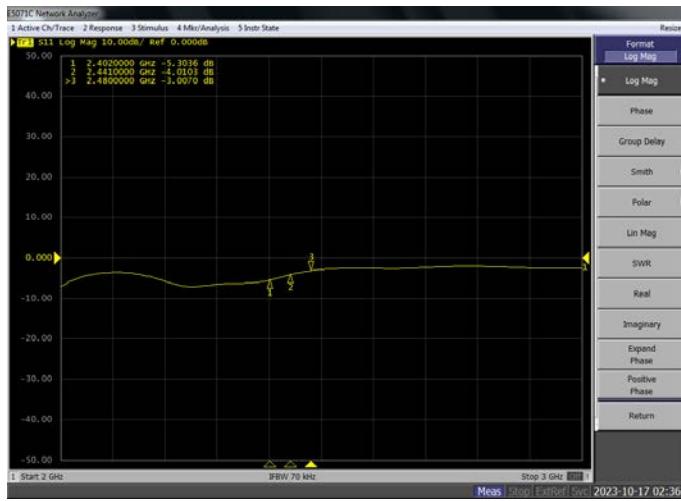


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## 9 Pattern Plots

### Return Loss



### VSWR



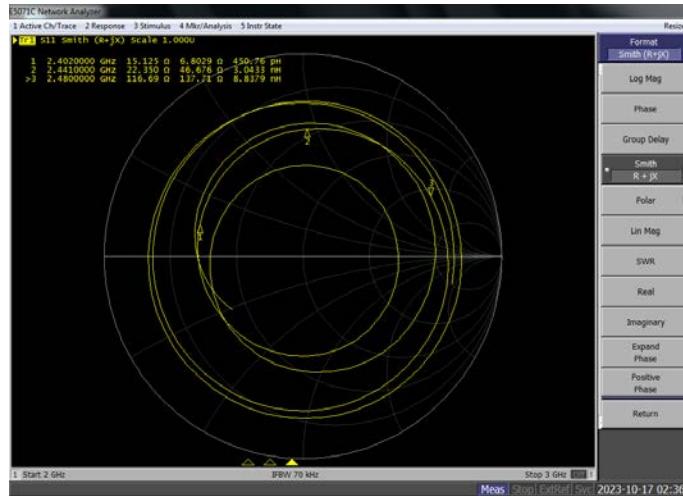
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### Stimulus



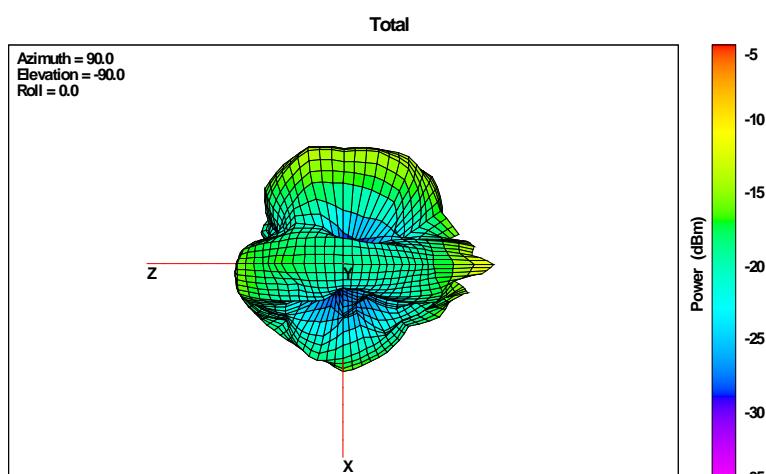
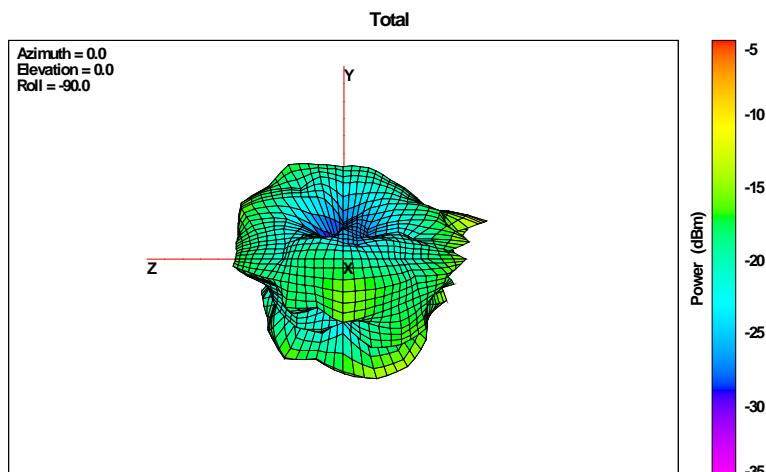
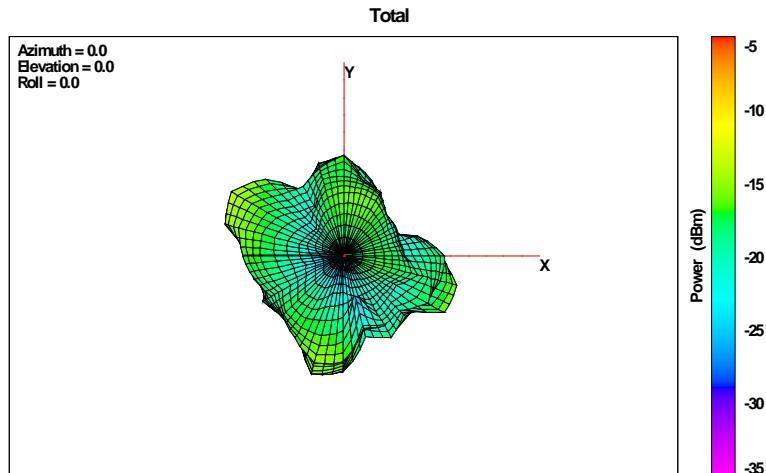
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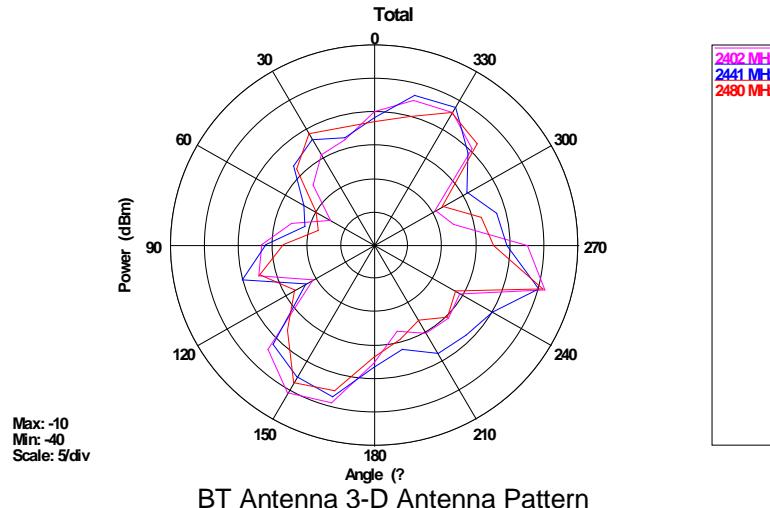
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中国·深圳·科技园中区M-10栋一楼厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## 10 3-D Antenna Pattern



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BT Antenna 3-D Antenna Pattern



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

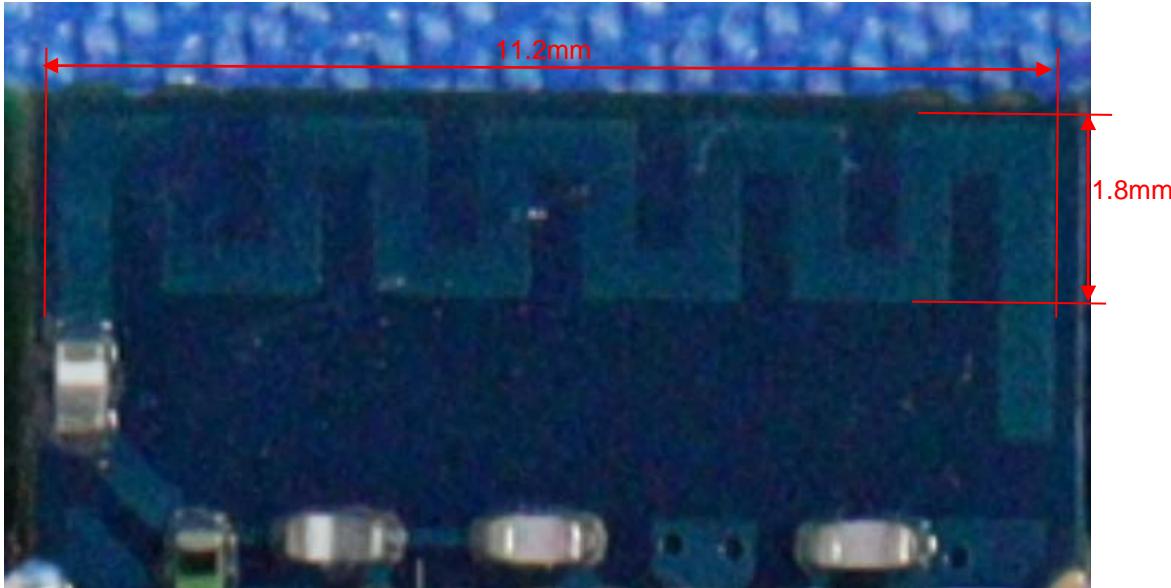
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## 11 The EUT and Test Configuration

### Size of the Antenna



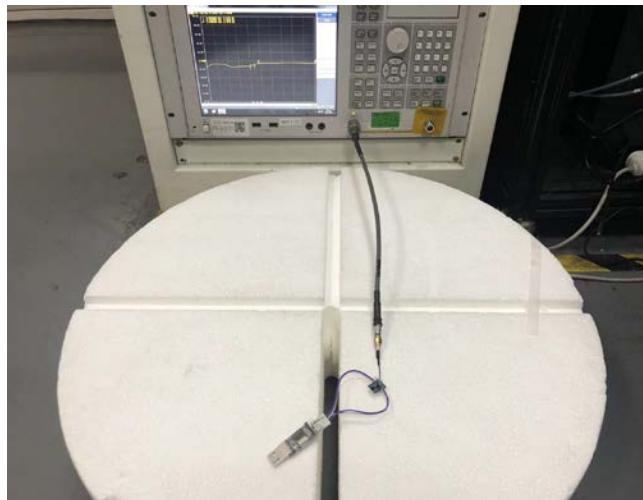
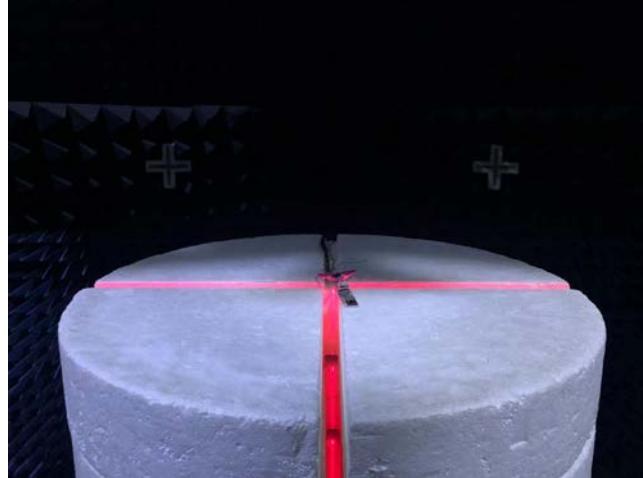
Size of the Antenna in the EUT



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### Free Space View



- End of the Report -



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