



3D Antenna Measurement Summary Report

REPORT NO.: ORBHJP-WTW-P21120333 R1

MODEL NAME: DW14xx

TESTED DATE: 2022.3.9

ISSUED: 2022.5.6

APPLICANT: Fossil Group, Inc.

ADDRESS : 901 S. Central Expressway, Richardson, Tx 75080, USA

MANUFACTURER: Fossil Group, Inc.

ISSUED BY: Bureau Veritas Consumer Products Service (H.K.) Ltd.,
Taoyuan Branch Lin Kou Laboratories.

ADDRESS: Bureau Veritas Consumer Products Service(Hong Kong)
Limited, Taoyuan Branch Mobile Communication Laboratory

TEST LOCATION: No.19, Hwa Ya 2nd Rd., Kwei shan Dist., Taoyuan City,
Taiwan (R.O.C)

This report should not be used by the client to claim product certification, approval, or endorsement by TAF, CTIA or any government agencies.



Authorized
Test Lab
Lab Code: 20090309-00

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RELEASE CONTROL RECORD

REPORT NO.	REASON FOR CHANGE	DATE ISSUED
ORBHJP-WTW-P21120333	Original release	2022.3.16
ORBHJP-WTW-P21120333 R1	Correct Issued LAB information	2022.5.6

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
1. Test Equipment List.....	4
2. Measurement Uncertainty.....	4
3. Testing Setup Photo.....	5
4. Antenna Radiation Performance.....	5
5. 3D Antenna Patterns.....	6
APPENDIX. DUT photographs	9



GENERAL INFORMATION

APPLICANT:	Fossil Group, Inc.
MANUFACTURER:	Fossil Group, Inc.
MODEL NAME:	DW14xx

Test Standard: ANSI/IEEE Std. 149 1979.

PREPARED BY : Leo Chen , **DATE :** 2022.5.6
Leo Chen / Engineer

APPROVED BY : Johnny Liu , **DATE :** 2022.5.6
Johnny Liu / Supervisor

1. Test Equipment List

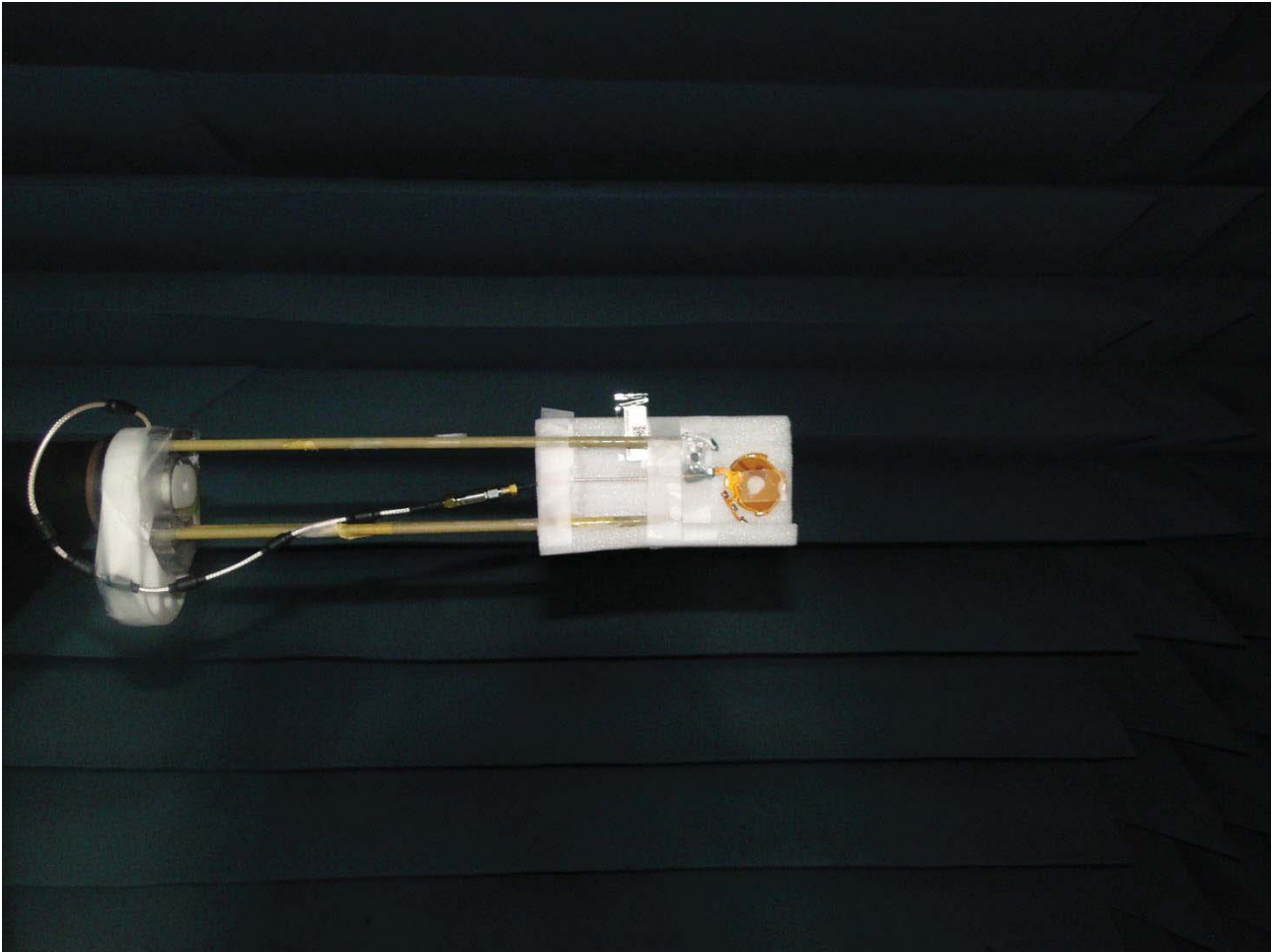
TYPE OF EQUIPMENT	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
ETS Anechoic Chamber	AMS-8500	N/A	N/A
Multi-Axis Positioning System	ETS 2090-OPTI	N/A	N/A
Horn Antenna	ETS 3164-06	N/A	N/A
Switch Control	Agilent 3499A	N/A	N/A
Network Analyzer	E5071C	MY46104190	2022/5/30

2. Measurement Uncertainty

Expanded Uncertainty for Measurement (k=2 or 95.45% Confidence Level) at Passive antenna test over frequency range:.

FREQUENCY RANGE	MEASUREMENT UNCERTAINTY
780~2200 MHz	1.57 dB
2200~3000 MHz	1.75 dB
3000~6000 MHz	4.17 dB

3. Testing Setup Photo

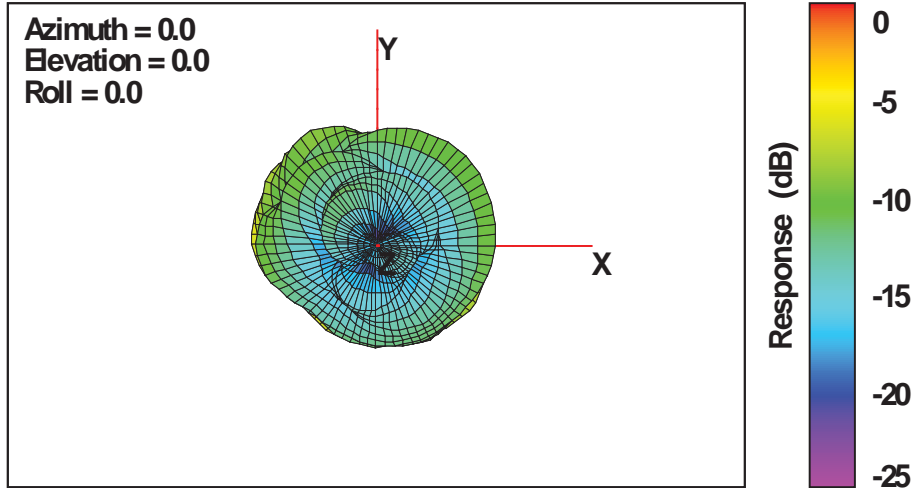


4. Antenna Radiation Performance

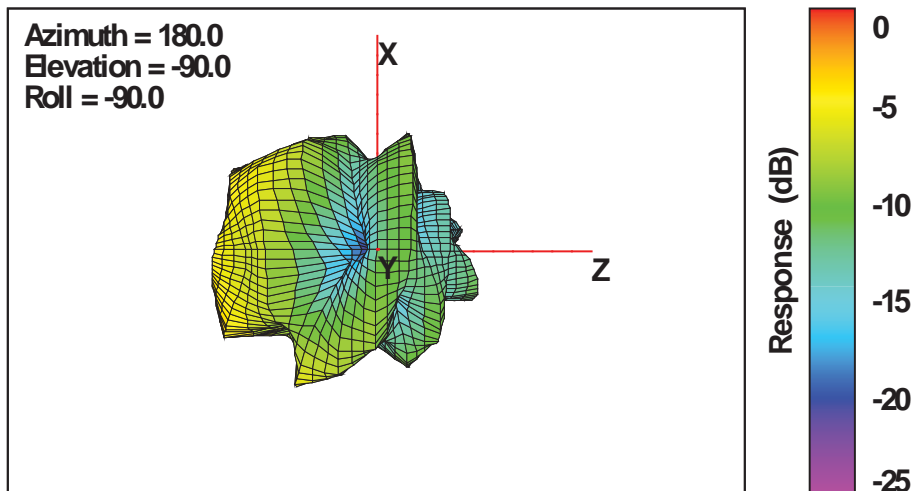
Frequency	2402	2408	2480
Peak Gain (dBi)	-2.51	-1.54	-1.15
Average Gain (dBi)	-9.76	-8.68	-7.84
Efficiency (%)	10.57	13.56	16.44

5. 3D Antenna Patterns

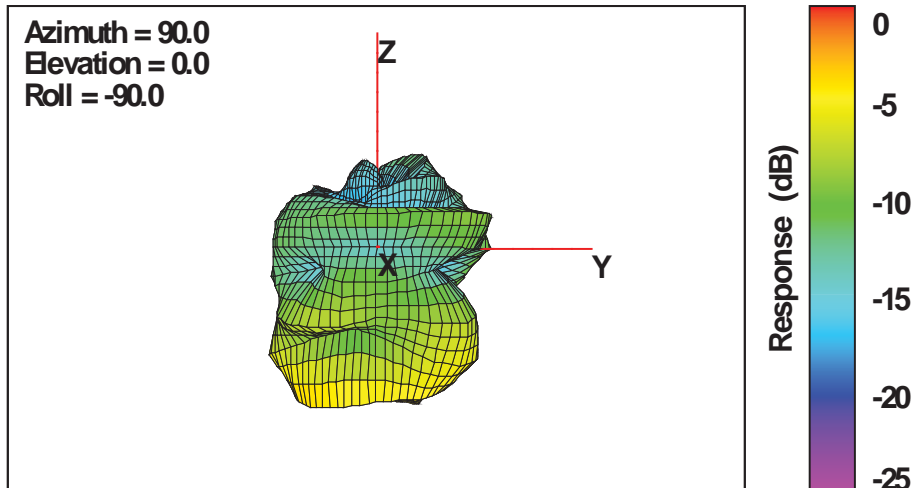
2402MHz
Total



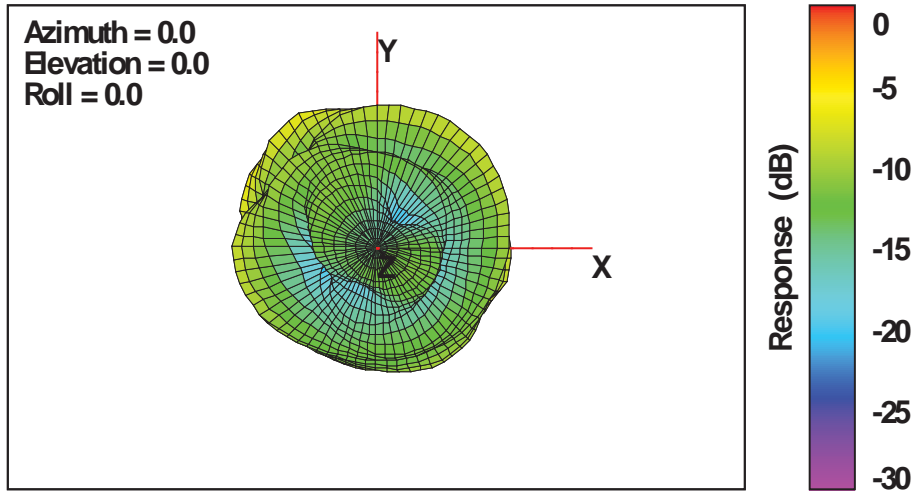
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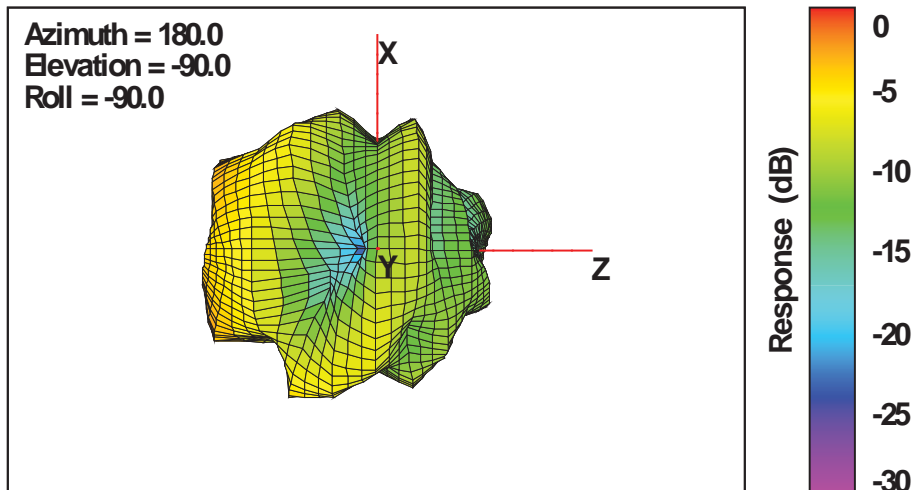
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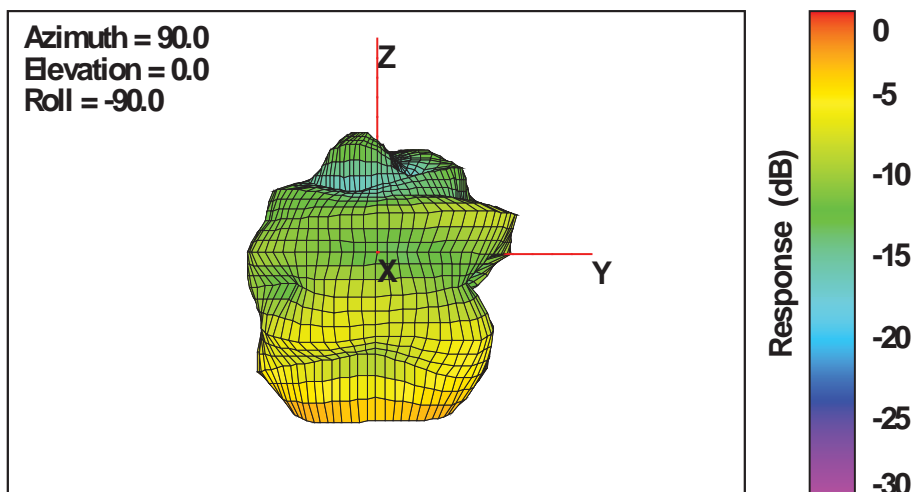
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Total



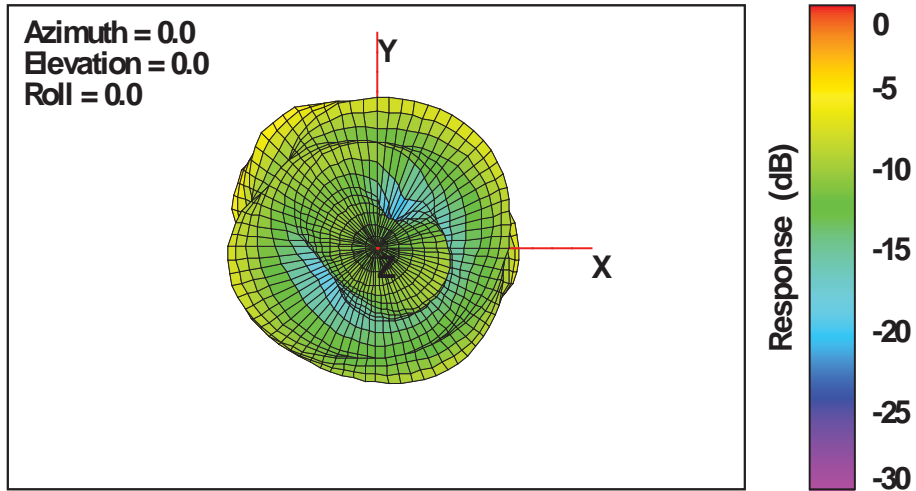
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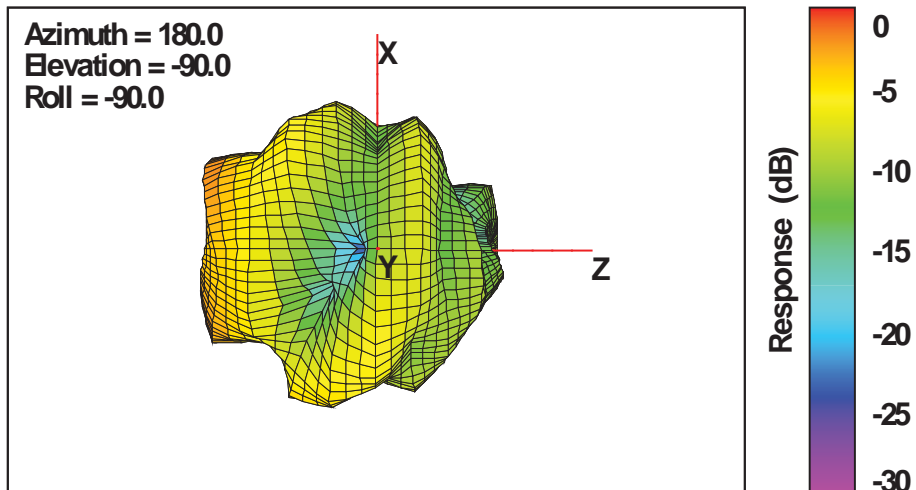
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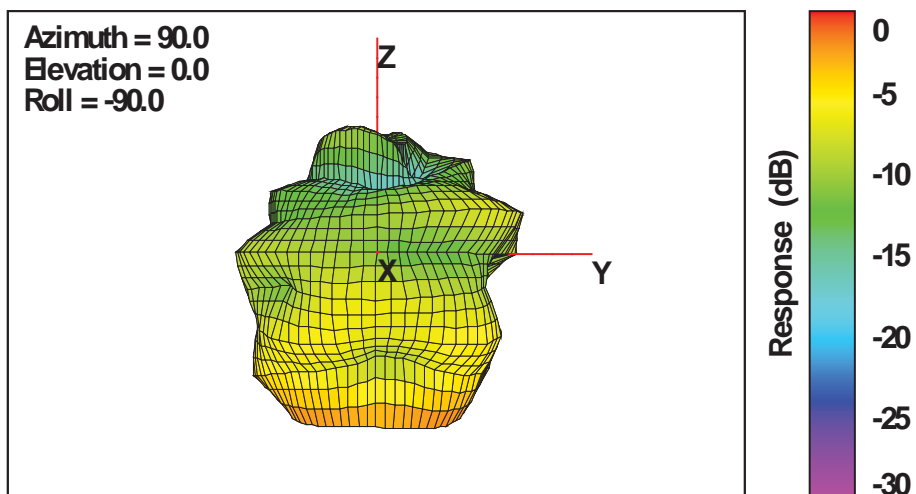
2480MHz
Total



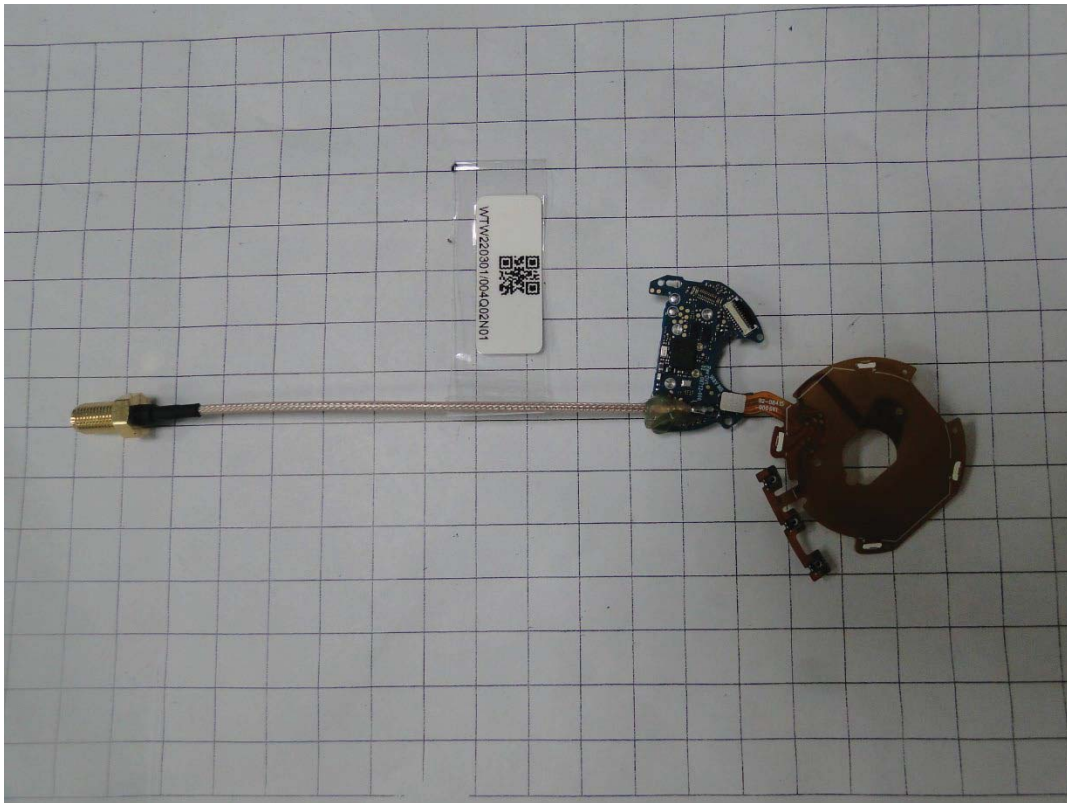
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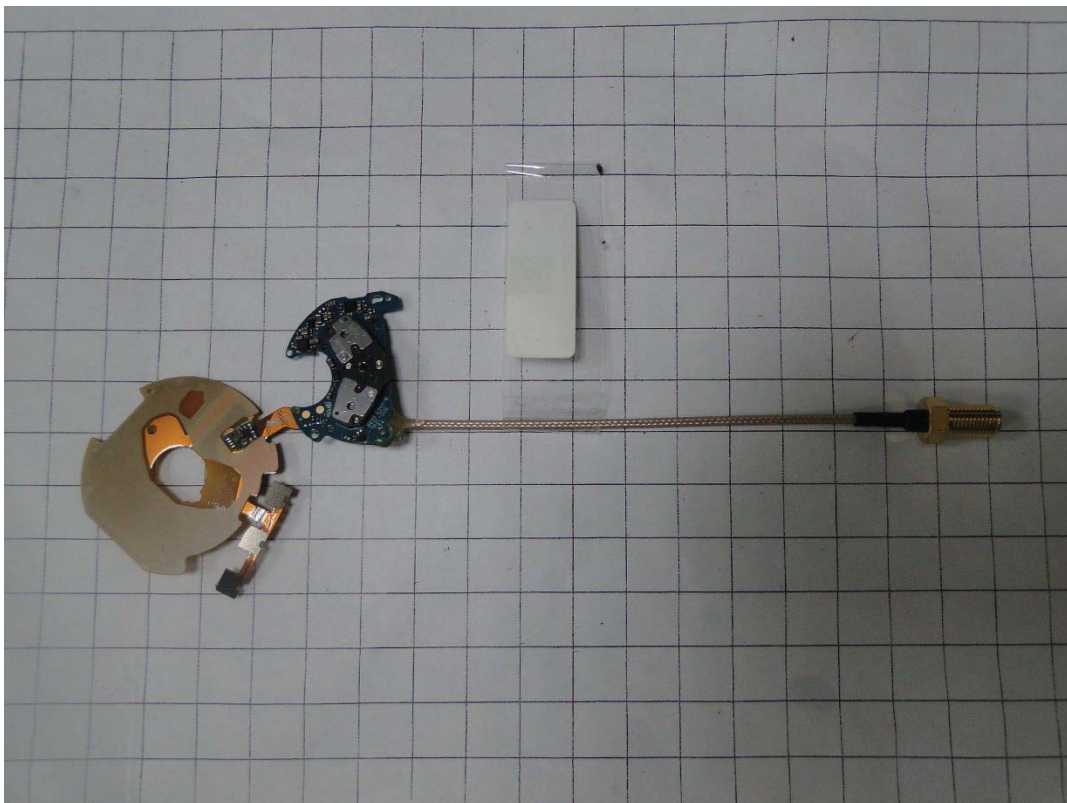
Total



APPENDIX. DUT photographs



DUT(Front)



DUT (Rear)