

# TEST REPORT

**Applicant:** Augury systems Ltd.

**Address of Applicant:** Haazmaut 39, Haifa 3303320, Israel

**Manufacturer/Factory:** Augury systems Ltd.

**Address of Manufacturer/Factory:** Haazmaut 39, Haifa 3303320, Israel

**Equipment Under Test (EUT)**

Product Name: Halo R4000

Model No.: AA00004-NHZ

Trade Mark: Augury

**FCC ID:** 2A3XG-R4000

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.225

**Date of sample receipt:** November 17, 2023

**Date of Test:** November 17, 2023-January 18, 2024

**Date of report issued:** January 19, 2024

**Test Result :** PASS

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



**Robinson Luo**

**Laboratory Manager**

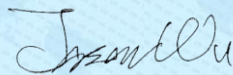
This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



## 2 Version

Report No.	Version No.	Date	Description
GTS202203000350F02	00	May 10, 2022	Original
GTS2023110192F02	01	January 19, 2024	Class II permissive change

Prepared By:

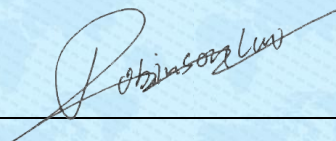


Date:

January 19, 2024

Project Engineer

Check By:



Date:

January 19, 2024

Reviewer

### 3 Contents

	Page
1 COVER PAGE .....	1
2 VERSION .....	2
3 CONTENTS .....	3
4 TEST SUMMARY .....	4
4.1 MEASUREMENT UNCERTAINTY .....	4
5 GENERAL INFORMATION .....	5
5.1 GENERAL DESCRIPTION OF EUT .....	5
5.2 TEST MODE .....	6
5.3 TEST FACILITY .....	6
5.4 TEST LOCATION.....	6
5.5 DESCRIPTION OF SUPPORT UNITS .....	6
6 TEST INSTRUMENTS LIST .....	7
7 TEST RESULTS AND MEASUREMENT DATA.....	8
7.1 ANTENNA REQUIREMENT: .....	8
7.2 RADIATED EMISSION .....	9
8 TEST SETUP PHOTO .....	14
9 EUT CONSTRUCTIONAL DETAILS .....	14

## 4 Test Summary

Test Item	Section in CFR 47	Result
Antenna Requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	N/A
Field Strength of Fundamental Emissions and Mask Measurement	15.225(a)(b)(c)	N/A *
Radiated Emission	15.225(d)&15.209	Pass
20dB Emission Bandwidth	15.225&15.215	N/A *
Frequency Stability Measurement	15.225(e)	N/A *

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.
2. N/A: Not applicable.
3. N/A\*: Not applicable. This's a Class II permissive change report, all of the changes are not effect to the RF performance, function and power. So the RF conducted test data directly reference the original report number GTS2022030350F02.

### 4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.



## 5 General Information

### 5.1 General Description of EUT

Product Name:	Halo R4000
Model No.:	AA00004-NHZ
Serial No.:	12022-00036
Hardware Version:	1
Software Version:	1
Test sample(s) ID:	GTS2023110192-1
Sample(s) Status	Engineered sample
Operation Frequency:	13.56MHz
Channel Number:	1
Modulation:	ASK
Antenna type:	Integral Antenna
Antenna gain:	0dBi(Declared by applicant)
Power supply:	Battery 1:DC 3V Battery 2:DC 3V

**Note:**

1. Antenna gain information provided by the customer.
2. The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

## 5.2 Test mode

Transmitter mode	Keep the EUT in continuously transmitting.		
Pre-test mode.			
GTS has verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:			
Axis	X	Y	Z
Field Strength(dBuV/m)	61.54	62.70	60.14
Final Test Mode:			
According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”: Y axis (see the test setup photo)			

## 5.3 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>● <b>FCC—Registration No.: 381383</b> Designation Number: CN5029 Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.</li> <li>● <b>ISED —Registration No.: 9079A</b> CAB identifier: CN0091 The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing</li> <li>● <b>NVLAP (LAB CODE:600179-0)</b> Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).</li> </ul>
---

## 5.4 Test Location

All tests were performed at:
<p>Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960</p>

## 5.5 Description of Support Units

None
------

## 6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 23, 2021	June 22, 2024
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 14, 2023	April 13, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 13, 2023	Nov.12, 2024
7	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 14, 2023	April 13, 2024
8	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 19, 2023	April 18, 2024
9	RE cable 1	GTS	N/A	GTS675	July 31. 2023	July 30. 2024
10	RE cable 2	GTS	N/A	GTS676	July 31. 2023	July 30. 2024
11	RE cable 3	GTS	N/A	GTS677	July 31. 2023	July 30. 2024

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Barometer	KUMAO	SF132	GTS647	April 19, 2023	April 18, 2024

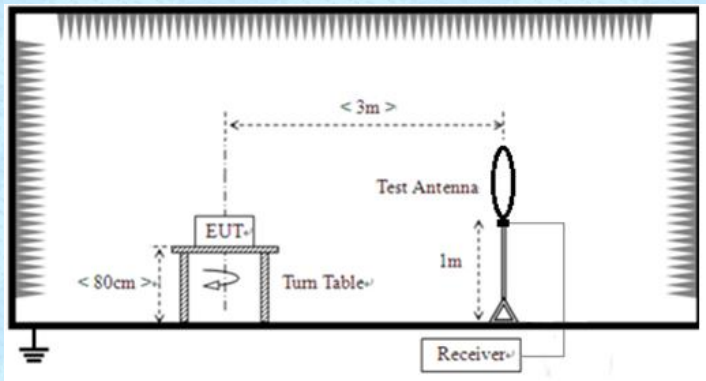
## 7 Test results and Measurement Data

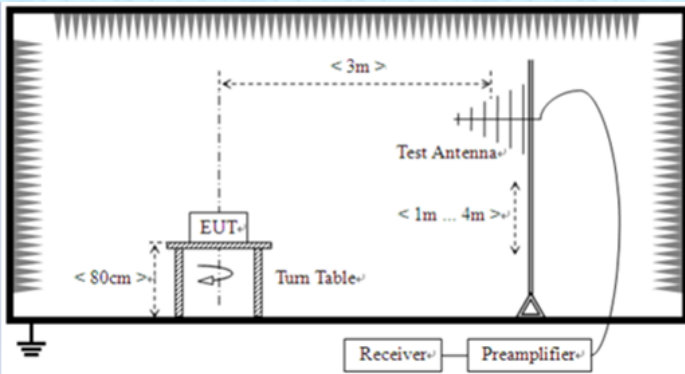
### 7.1 Antenna requirement:

<b>Standard requirement:</b>	FCC Part15 C Section 15.203
<b>15.203 requirement:</b> An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
<b>EUT Antenna:</b>	
The antenna is integral antenna, reference to the appendix II for details	



## 7.2 Radiated Emission

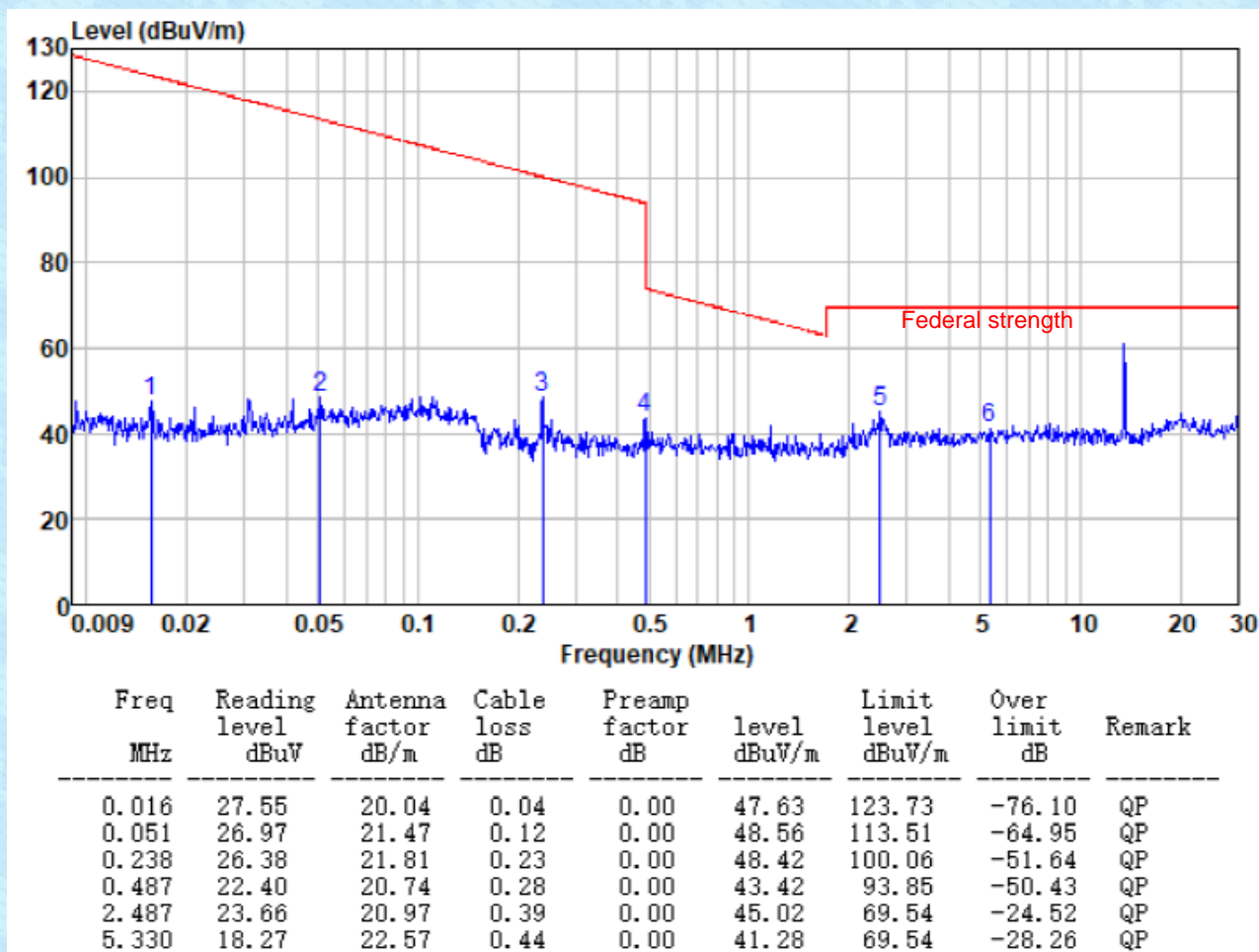
Test Requirement:	FCC Part15 C Section 15.225(d) and 15.209																												
Test Method:	ANSI C63.10: 2013 & ANSI C63.4: 2014																												
Test Frequency Range:	9KHz to 1000MHz																												
Test site:	Measurement Distance: 3m																												
Receiver setup:	Frequency	Detector	RBW	VBW	Remark																								
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value																								
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value																								
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value																								
FCC Limit:	<table><thead><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr></thead><tbody><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100**</td><td>3</td></tr><tr><td>88-216</td><td>150**</td><td>3</td></tr><tr><td>216-960</td><td>200**</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></tbody></table>					Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100**	3	88-216	150**	3	216-960	200**	3	Above 960	500	3
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																										
0.009-0.490	2400/F(kHz)	300																											
0.490-1.705	24000/F(kHz)	30																											
1.705-30.0	30	30																											
30-88	100**	3																											
88-216	150**	3																											
216-960	200**	3																											
Above 960	500	3																											
	<p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p>																												
Test setup:	Below 30MHz																												
																													
	Above 30MHz																												

						
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details and only show the worst case.					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	DC 3V					
Test results:	Pass					

Measurement data:

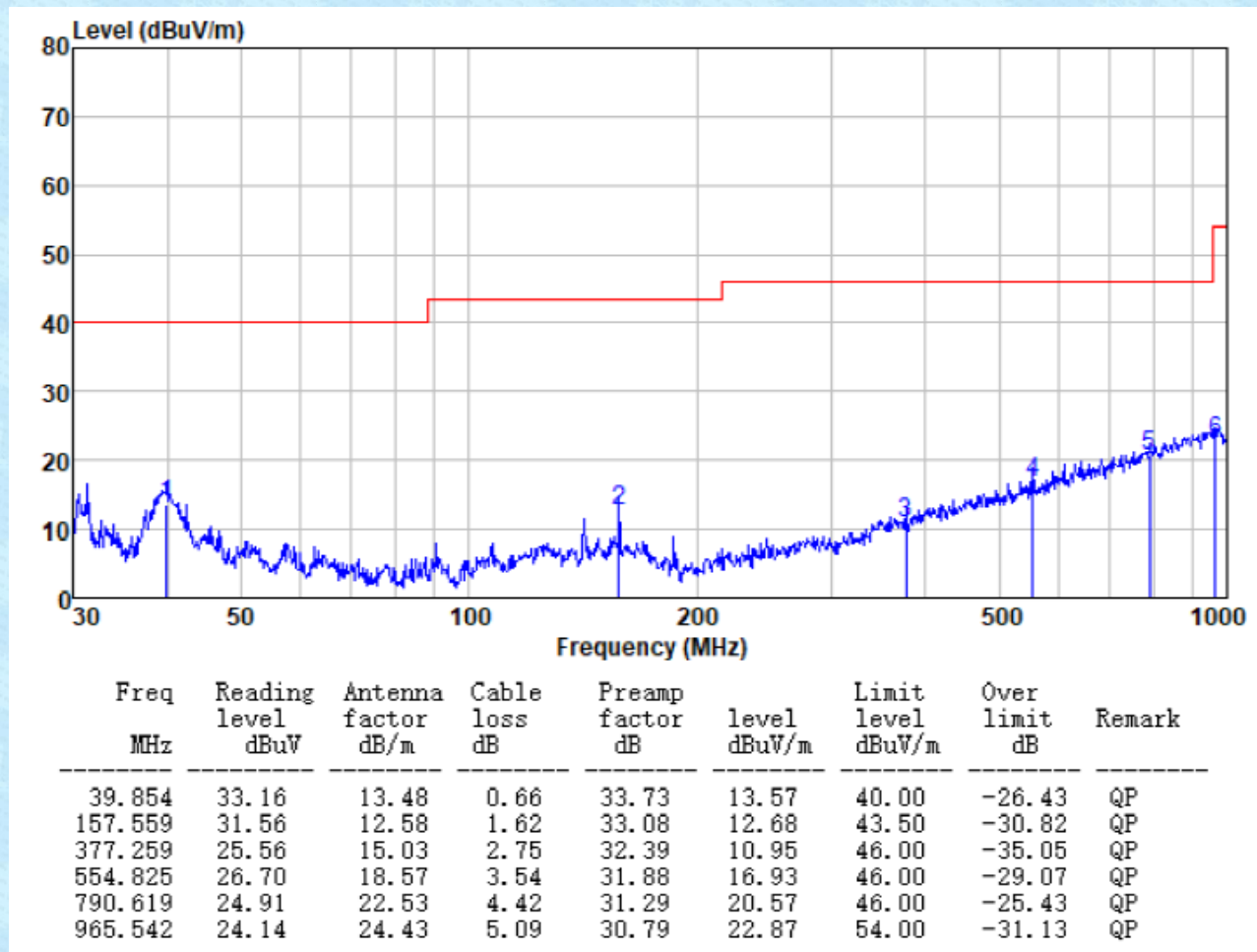
■ 9kHz~30MHz

Test data combines x, y, z-axis; the radiation emission more than 20dB below the limit



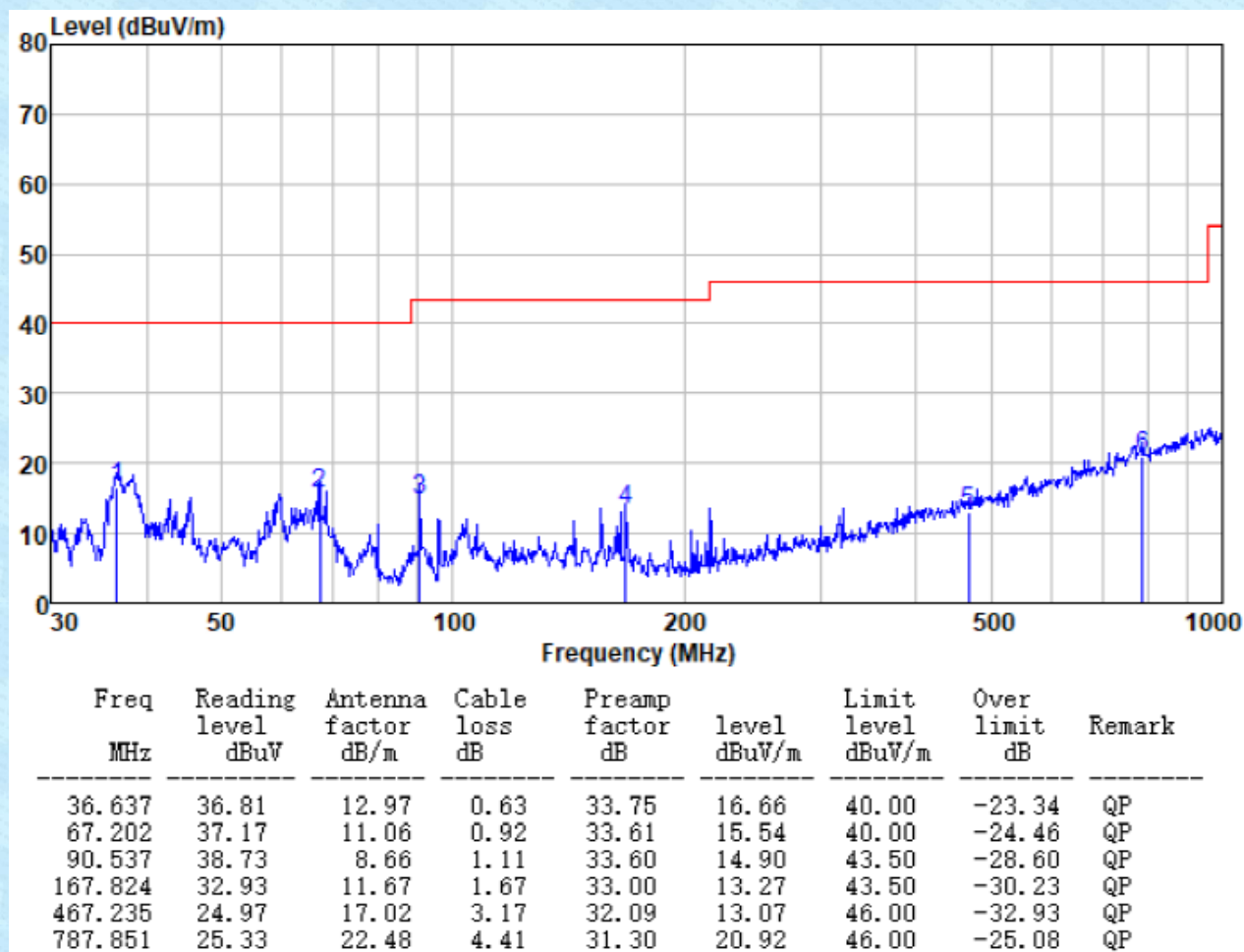
■ 30MHz~1GHz

Horizontal:





Vertical:



## 8 Test Setup Photo

Reference to the **appendix I** for details.

## 9 EUT Constructional Details

Reference to the **appendix II** for details.

----- End -----