

TEST REPORT

Test Report No.: UL-EMC-RP15154597JD03A

Version 1.0

Manufacturer : Chiaro Technology Limited
Type of Equipment : Broadband Data Transmission; Medical Electrical Equipment
Model No. : EL01
Test Standard : Requested Parts of IEC 60601-1-2:2014/A1:2020, and ETSI EN 301 489-17 V3.2.4 (2020-09)
Test Result : Complied

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2. The results in this report apply only to the sample tested as received.
3. The sample tested is in compliance with the requested parts of the above standards.
4. The test results in this report are traceable to national or international standards.
5. Information within this report pertaining to the manufacturer and the EUT was supplied by the manufacturer.
6. The test mode/configuration was determined by the customer and may affect the validity of results.
7. This partial report does not cover clauses 8.10 and 8.11 of IEC 60601-1-2:2014/A1:2020. Please refer to section 2.2 Summary of Test Results for further details.

Date of issue: 05 November 2024

Checked by:



Adam Brown
Laboratory Test Engineer

Company Signatory:



Matthew Owen
Operations Leader



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1. CUSTOMER DETAILS

Company Name:

Chiaro Technology Limited

Address:

63-66 Hatton Garden
London
EC1N 8LE
United Kingdom

2. SUMMARY OF TESTING

2.1. Test Specification

1	Reference:	IEC 60601-1-2:2014/A1:2020
	Title:	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances – Requirements and tests
2	Reference:	ETSI EN 301 489-17 V3.2.4 (2020-09)
	Title:	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband and Wideband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility
	Comments:	Testing was performed in accordance with the part(s) of the ETSI EN 301 489 multipart EMC standard listed above, with all tests performed as specified in Part 1 of the standard, ETSI EN 301 489-1 V2.2.3 (2019-11). The specific clauses referenced for each test are listed in Section 2.2 <i>Summary of Test Results</i> .

2.2. Summary of Test Results

EMISSIONS				
IEC 60601-1-2 Clause	EN 301 489-1 Clause	Measurement Type	Port	Result
7.1	8.2	Radiated RF Emissions	Enclosure	Complied
	8.4	Conducted RF Emissions	AC Mains	Not Applicable ¹
	8.3		DC Power	Not Applicable ¹
7.2.1	8.5	Harmonic Distortion	AC Mains	Not Applicable ¹
7.2.2	8.6	Voltage Fluctuations and Flicker	AC Mains	Not Applicable ¹
IMMUNITY				
IEC 60601-1-2 Clause	EN 301 489-1 Clause	Measurement Type	Port	Result
8.9	9.3	Electrostatic Discharge (ESD)	Enclosure	Complied
			Patient Coupling	Complied
	9.2	Radiated RF EM Fields	Enclosure	Complied
	N/A	Power Frequency Magnetic Fields	Enclosure	Complied
	9.4	Electrical Fast Transients / Bursts	AC Power Input	Not Applicable ¹
			SIP/SOP (Coaxial)	Not Applicable ¹
	9.8	Surges	AC Power Input	Not Applicable ¹
			SIP/SOP (Coaxial)	Not Applicable ¹
	9.5	Conducted Disturbances, Induced by RF Fields	AC Power Input	Not Applicable ¹
			Patient Coupling	Not Applicable ¹
			SIP/SOP (Coaxial)	Not Applicable ¹
	9.7	Voltage Dips	AC Power Input	Not Applicable ¹
		Voltage Interruptions	AC Power Input	Not Applicable ¹
	9.6	Electrical Transient Conduction Along Supply Lines	DC Power Input	Not Applicable ¹
8.10	N/A	Immunity to proximity fields from RF wireless communications equipment	Enclosure	Not Requested ²
8.11	N/A	Immunity to proximity magnetic fields in the frequency range 9 kHz to 13,56 MHz	Enclosure	Not Requested ²

Notes

- Not applicable. The EUT was Internal Battery Powered only with no ports other than enclosure.
- Not Requested. Customer informed us that based on the Internal Risk Management Process, this test is not to be performed.

2.3. Location of Testing

All the measurements described in this report were performed at the premises of UL International (UK) Ltd, Unit 1 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire RG24 8AH.

2.4. Deviations from Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above, nor from the requirements defined in the basic standards called up within it.

2.5. Deviations from Customer Test Plan

The EUT was configured, and all testing was performed in accordance with the following test plans.

- Test Plan for EN 60601-1-2 Annex G.docx (3 pages) dated 30/09/2024

3. EQUIPMENT UNDER TEST (EUT)**3.1. Description of EUT**

The EUT was a Bluetooth Low Energy enabled pelvic floor training device.

3.2. Identification of Equipment under Test (EUT)

ID#	Description	Brand Name	Model No	Serial No	Date Received
E1	Elvie Trainer	Elvie	EL01	C7865B00008CA574	16/09/2024

3.3. Port Identification

Port	Description	Possible Length (m)	Type	Connector
P1.1	Enclosure	Not Applicable	Enclosure	Not Applicable

3.4. Operating Modes

Mode Reference	Definition
In-Use Mode	The EUT was connected to a supporting mobile phone device using a Bluetooth Low Energy connection. The supporting mobile was running the "Elvie Trainer" app which shows that the EUT is connected and functioning.

Notes:

1. There was no Idle mode defined.

3.5. Radio Characteristics – Bluetooth Low Energy

Technology type:	Bluetooth Low Energy
Transmit & Receive Frequency Range (MHz):	2401.5 to 2480.5 (<i>lower band-edge of Channel 0 to upper band-edge of Channel 78</i>)
Channel Tested (MHz):	2402.0 to 2480.0 (<i>Centre Frequencies for Channels 0 to 78</i>)
Channel Bandwidth (MHz):	1
Rated Output Power (dBm):	10

3.6. Configuration and Peripherals

Description:	Please refer to the Test Configuration and Photograph section for schematic drawing(s) and/or photograph(s) of the test configuration(s) employed in the course of testing.
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3.7. Modifications

No modifications were made to the EUT during the course of testing.

3.8. Additional Information Related to Testing

Equipment Category:	Broadband Data Transmission; Medical Electrical Equipment
Intended Operating Environment:	Residential
Intended Installation:	Portable / Patient Coupled
Cycle Time:	3 Seconds
Power Supply Requirement(s):	3.7 V Internal Battery
Weight:	24g
Dimensions:	24 x 30 x 164 mm
Hardware Version Number:	10
Firmware Version Number:	9.1.2-A-enc
Highest Internally Generated Operating Frequency:	2483.5 MHz
Life supporting Equipment:	No
Patient Coupled Device:	Yes
Intended to measure / monitor a physiological parameter:	No

4. SUPPORT EQUIPMENT

4.1. Identification of Support Equipment

Description	Manufacturer	Model No	Serial No
Mobile Phone ¹	Apple	iPhone 12 mini	C7CDVLY90GPP
Mobile Phone ^{1,2}	Samsung	Galaxy A12	R58R92ZDSZR

Notes:

1. This support equipment was supplied by the customer
2. This mobile phone was only used during Radiated Immunity Testing.

4.2. Interconnecting Cables

No interconnecting cables were used during the course of testing.

4.3. Identification of Software

Software	Version	Manufacturer	Comments
Elvie Trainer	2.8.1 (2)	Chiaro	iPhone 12 mini application
Elvie Trainer	2.6.4 (1468)	Chiaro	Galaxy A12 application

5. MONITORING PERFORMANCE

5.1. Overview

The following performance criteria were taken from the Electromagnetic compatibility (EMC) standard for radio equipment and services ETSI EN 301 489-17 V3.2.4 (2020-09), and from IEC 60601-1-2:2014/A1:2020.

The table below details all the criteria outlined in the applicable standard, however when determining if compliance was achieved or not, only the specific criteria that relate directly to the intended operation of the EUT were assessed.

Specific details relating to the assessment are detailed in section 5.4. Monitoring EUT Performance During Testing.

5.2. Performance Criteria – EN 301 489-17

Criteria	During test	After test
A	Shall operate as intended. Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.

Notes: Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2 (of EN 301 489-17).

Minimum performance level

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena

The performance criteria B shall apply, except for voltage dips greater than or equal to 100 ms and voltage interruptions of 5000 ms duration, for which performance criteria C shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.

5.3. General Performance Criteria – IEC 60601-1-2

Under the test conditions the EUT shall be able to provide the BASIC SAFETY and ESSENTIAL PERFORMANCE. The following DEGRADATIONS, if associated with BASIC SAFETY and ESSENTIAL PERFORMANCE, shall not be allowed:

- component failures;
- changes in programmable parameters;
- reset to factory defaults (MANUFACTURER'S presets);
- change of operating mode;
- false alarms;
- cessation or interruption of any intended operation, even if accompanied by an alarm;
- initiation of any unintended operation, including unintended or uncontrolled motion, even if accompanied by an alarm;
- error of a displayed numerical value sufficiently large to affect diagnosis or treatment;
- noise on a waveform in which the noise would interfere with diagnosis, treatment or monitoring;
- artefact or distortion in an image in which the artefact would interfere with diagnosis, treatment or monitoring;
- failure of automatic diagnosis or treatment ME EQUIPMENT and ME SYSTEMS to diagnose or treat, even if accompanied by an alarm.

For ME EQUIPMENT and ME SYSTEMS with multiple FUNCTIONS, the criteria apply to each FUNCTION, parameter and channel.

The ME EQUIPMENT or ME SYSTEM may exhibit DEGRADATION of performance (e.g. deviation from MANUFACTURER'S specifications) that does not affect BASIC SAFETY or ESSENTIAL PERFORMANCE.

5.4. Monitoring EUT Performance During Testing

For the purposes of testing, the term "operate as intended" was defined as:	The EUT remained connected to the supporting mobile phone, and the force value shown in the 'Elvie Trainer' app did not exceed +/- 10% of the resting value
For the purposes of testing, an "unintentional response" was defined as:	The EUT lost communication with supporting mobile phone (Disconnect button in 'Elvie Trainer' app no longer present, or 'Force' value in 'Elvie Trainer' app exceeded +/- 10% from the resting value.
Method used to determine whether user control functions and stored data were lost after the EMC exposure:	A functionality check was performed after exposure. This included applying pressure to the EUT to check it was still responsive in the supporting mobile phone app 'Elvie Trainer', the EUT's ability to connect to and disconnect from the supporting mobile phone.
Method used to verify that a communications link was established and maintained (if appropriate):	The Bluetooth Low Energy communications link was monitored using the supporting mobile phone and app 'Elvie Trainer'.
Method of assessment of level of performance or degradation of performance during and/or after EMC exposure:	Before and after the test, the Elvie Trainer app installed on the mobile phone was checked to see that the EUT was connected to the Mobile phone, and that when pressure was applied to the EUT, that it registered on the app. Electrostatic Discharges During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present. This indicated that the EUT was still connected to the supporting mobile phone. Radiated Immunity During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present and that the 'Force' level did not fluctuate more than +/- 10% from the resting value.

6. MEASUREMENT UNCERTAINTY AND DECISION RULE

6.1. Overview

6.1.1. No measurement can ever be perfect and those imperfections give rise to error. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement regarding the uncertainty of approximation.

6.1.2. Note that compliance is determined solely upon the results of compliance measurements and does not take into account measurement uncertainties. The measurement uncertainty values quoted in this report are for information only as they do not influence the associated test results.

6.2. Method of Calculation

The methods used to calculate the uncertainties included within this test report are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the United Kingdom Accreditation Service (UKAS) is followed.

6.3. Equipment Accuracy and Decision Rule

Measurement system instrumentation shall be used with an accuracy specification meeting the accuracy specification limits according to IEC/IECEE OD-5014.

As applicable, unless specified otherwise in this quotation, the compliance "Decision Rule" is based on Simple Acceptance. If the measured value is on the limit, the result is defined as a pass. In this case the risk of a false positive is 50%. For further information regarding risk assessment refer to ILAC G8:09/2019.

7. MEASUREMENTS, EXAMINATIONS AND DERIVED RESULTS

7.1. General Comments

7.1.1. This section contains the test result sheets for the measurements listed in Section 2.2 Summary of Test Results.

7.1.2. The measurement uncertainties stated in the test result sheets were calculated in accordance with documented best practice and represent a confidence level of 95%. Where only confidence level is given, it has been demonstrated that the relevant items of test equipment used meet the specified requirements in the standard with at least this level of confidence.

7.1.3. Please refer to Section 6 Measurement Uncertainty and Decision Rule on page 11 for details of our treatment of measurement uncertainty.

RADIATED EMISSIONS - TEST RESULTS

This test is covered by the scope of UL International (UK) Ltd's UKAS Accreditation under ISO/IEC 17025:2017.

GENERAL INFORMATION

JOB NUMBER:	15154597JD03	TEST SITE ID:	Site 52
EUT:	EL01	TEMPERATURE:	20 °C to 20 °C
TEST ENGINEER:	Chris Bate	RELATIVE HUMIDITY:	60 % to 60 %
DATE OF TEST:	10 Oct 2024	ATMOSPHERIC PRESSURE:	1003mb to 1005 mb
FIELD TYPE:	Electric Field	MEASUREMENT DISTANCE:	3 Metres
UNCERTAINTY:	< 1 GHz: ± 3.7 dB > 1 GHz: ± 4.05 dB	EQUIPMENT CLASS:	Class B
MEASUREMENT UNITS:	dBµV/m	TEST ENVIRONMENT:	Test Site

TEST SPECIFICATION DETAILS

The EUT was configured and tested according to the methods and procedures detailed within the following basic standard:

REFERENCE:	EN 55032:2015/A1:2020
TITLE:	Electromagnetic compatibility of multimedia equipment - Emission Requirements

COMMENTS

None

DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

EUT RELATED

OPERATING MODE:	In-Use Mode
FUNCTION(S) MONITORED:	Not Applicable

MEASUREMENT RESULTS

No.	Frequency (MHz)	Polarisation	Detector	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Graph No.	Result
1	39.030	Vertical	Quasi-Peak	9.26	40.00	30.74	GPH\15154597JD03\001	Complied
2	49.211	Vertical	Quasi-Peak	12.39	40.00	27.61	GPH\15154597JD03\001	Complied
3	58.067	Vertical	Quasi-Peak	16.80	40.00	23.20	GPH\15154597JD03\001	Complied
4	106.981	Horizontal	Quasi-Peak	10.21	40.00	29.79	GPH\15154597JD03\001	Complied
5	128.798	Vertical	Quasi-Peak	13.53	40.00	26.47	GPH\15154597JD03\001	Complied
6	200.262	Horizontal	Quasi-Peak	10.82	40.00	29.18	GPH\15154597JD03\001	Complied
7	433.142	Horizontal	Quasi-Peak	17.17	47.00	29.83	GPH\15154597JD03\001	Complied
8	872.339	Vertical	Quasi-Peak	24.56	47.00	22.44	GPH\15154597JD03\001	Complied
9	1000 to 3000	Refer to Note 1					GPH\15154597JD03\002	Complied
10	3000 to 6000	Refer to Note 2					GPH\15154597JD03\003	Complied

NOTES

1	The emissions between 2400 and 2483 MHz were intentional transmissions from the EUT. No further measured were made at these frequencies as this was not required by the referenced product standard.
2	No emissions were noted above the noise floor of the measurement system; therefore, no further measurements were made.

TEST EQUIPMENT USED

UL ID	INSTRUMENT DESCRIPTION	MANUFACTURER - MODEL NUMBER	CALIBRATION DUE	INTERVAL
A3196	Radiated Emissions Software	EMC32 V10.50.10	Calibration not required	N/A
K0032	3m Semi-Anechoic Chamber 1	N/A	12 Apr 2025	12
M2012	Thermo-Hygrometer	608-H1	28 Dec 2024	12
A513	Bi-Conical Antenna 20-300MHz	HK116	22 Sep 2025	12
C1826	8 metre N-male to N-male RF cable	Sucoflex 104A	29 Jan 2025	12
C1824	15 metre N-male to N-male RF cable	Sucoflex 104A	27 Mar 2025	12
C1831	2 metre N-male to N-male RF cable	Sucoflex 104A	29 Jan 2025	12
M2050	44 GHz EMI Test Receiver	ESW44	19 Dec 2024	12
A2959	RF Device, Passive, Antenna	Schwarzbeck - VULB 9163	26 Apr 2025	12
A3047	5 dB Attenuator	BW-N5W5+	Calibrated as part of system	
C221571	1 metre N-male to N-male RF cable	Teledyne Reynolds - SA90-088-039	11 Jul 2025	12
G0543	Amplifier 9kHz - 1GHz	Sonoma Instrument Co. - 310N	29 Jan 2025	12
A2899	1 -10 GHz Horn Antenna	Schwarzbeck Mess-Elektronik OHG - BBHA 9120 B	05 Sep 2025	12
C1669	5 metre N-male to N-male RF cable	Teledyne Reynolds - SA90-195-5MTR	30 May 2025	12
C1838	1 metre N-male to N-male RF cable	Teledyne Reynolds - SA90-195-1MTR	29 Jan 2025	12
A1834	3 dB Attenuator	Hewlett Packard - 8491B	Calibrated as part of system	
A1227	1 to 26.5 GHz Amplifier	Keysight Technologies Inc - 8449B	13 Aug 2025	12
C223534	1 metre N-male to SMA-male RF cable	Teledyne Reynolds - 90-077-039	29 Jan 2025	12
A3021	2.4 GHz Band Reject Filter	Wainright Instruments GMBH - WRCJV12-2373-2398-2498-2523-40EE	26 Feb 2025	12
A3073	3 GHz High Pass Filter	AtlanTecRF - AFH-03000	29 Jan 2025	12

RADIATED IMMUNITY - TEST RESULTS

This test is covered by the scope of UL International (UK) Ltd's UKAS Accreditation under ISO/IEC 17025:2017.

GENERAL INFORMATION

JOB NUMBER:	15154597JD03	TEST SITE ID:	Site 50
EUT:	EL01	TEMPERATURE:	21 °C to 21 °C
TEST ENGINEER:	Chris Bate	RELATIVE HUMIDITY:	52 % to 51 %
DATE OF TEST:	11 and 14 October 2024	ATMOSPHERIC PRESSURE:	1017 mb to 1014 mb
UNCERTAINTY:	± 3.53 dB	DWELL TIME:	3.50 s
PERFORMANCE CRITERIA:	Criterion A and Customer Specified	SWEEP RATE:	1.24E-03 decade/s
STEP SIZE:	1 % log of momentary frequency	MODULATION:	80% AM @ 1 kHz

TEST SPECIFICATION DETAILS

The EUT was configured and tested according to the methods and procedures detailed within the following basic standard:

REFERENCE:	EN IEC 61000-4-3:2020
TITLE:	Electromagnetic compatibility (EMC) - Testing and measurement techniques. Radiated, radio-frequency, electromagnetic field immunity test

COMMENTS

The list of actual test frequencies used during these measurements is available on request.
No sensitive frequencies were defined by the customer.

DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

EUT RELATED

OPERATING MODE:	In-Use Mode
FUNCTION(S) MONITORED:	Before and after the test, the Elvie Trainer app installed on the mobile phone was checked to see that the EUT was connected to the Mobile phone, and that when pressure was applied to the EUT, that it registered on the app. During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present and that the 'Force' level did not fluctuate more than +/- 10% from the resting value.

MEASUREMENT RESULTS

No.	Frequency Band	Spot Frequency	Face	Antenna Polarisation	Level	Notes	Result
1	80 MHz to 1000 MHz	-	Front	Vertical	10 V/m	-	Complied
2	80 MHz to 1000 MHz	-	Right	Vertical	10 V/m	-	Complied
3	80 MHz to 1000 MHz	-	Rear	Vertical	10 V/m	-	Complied
4	80 MHz to 1000 MHz	-	Left	Vertical	10 V/m	-	Complied
5	80 MHz to 1000 MHz	-	Front	Horizontal	10 V/m	-	Complied
6	80 MHz to 1000 MHz	-	Right	Horizontal	10 V/m	-	Complied
7	80 MHz to 1000 MHz	-	Rear	Horizontal	10 V/m	-	Complied
8	80 MHz to 1000 MHz	-	Left	Horizontal	10 V/m	-	Complied
9	1000 MHz to 2700 MHz	-	Front	Vertical	10 V/m	-	Complied
10	1000 MHz to 2700 MHz	-	Right	Vertical	10 V/m	-	Complied
11	1000 MHz to 2700 MHz	-	Rear	Vertical	10 V/m	-	Complied
12	1000 MHz to 2700 MHz	-	Left	Vertical	10 V/m	-	Complied
13	1000 MHz to 2700 MHz	-	Front	Horizontal	10 V/m	-	Complied
14	1000 MHz to 2700 MHz	-	Right	Horizontal	10 V/m	-	Complied
15	1000 MHz to 2700 MHz	-	Rear	Horizontal	10 V/m	-	Complied
16	1000 MHz to 2700 MHz	-	Left	Horizontal	10 V/m	-	Complied
17	2700 MHz to 6000 MHz	-	Front	Vertical	3 V/m	-	Complied
18	2700 MHz to 6000 MHz	-	Right	Vertical	3 V/m	-	Complied
19	2700 MHz to 6000 MHz	-	Rear	Vertical	3 V/m	-	Complied

MEASUREMENT RESULTS

No.	Frequency Band	Spot Frequency	Face	Antenna Polarisation	Level	Notes	Result
20	2700 MHz to 6000 MHz	-	Left	Vertical	3 V/m	-	Complied
21	2700 MHz to 6000 MHz	-	Front	Horizontal	3 V/m	-	Complied
22	2700 MHz to 6000 MHz	-	Right	Horizontal	3 V/m	-	Complied
23	2700 MHz to 6000 MHz	-	Rear	Horizontal	3 V/m	-	Complied
24	2700 MHz to 6000 MHz	-	Left	Horizontal	3 V/m	-	Complied

TEST EQUIPMENT USED

UL ID	INSTRUMENT DESCRIPTION	MANUFACTURER - MODEL NUMBER	CALIBRATION DUE	INTERVAL
K0030	3 m Fully Anechoic Chamber	Albatross Projects - N/A	Calibration not required	12
M2010	Thermo-Hygrometer	Testo - 608-H1	28 Dec 2024	12
A2057	80 MHz to 6 GHz Radiated Immunity Antenna	Amplifier Research - ATR80M6G	Calibrated as a part of system	N/A
G217461	9 kHz - 6 GHz Signal Generator	Keysight Technologies Inc - N5171B	29 Aug 2025	12
G217462	9 kHz - 6 GHz Signal Generator	Keysight Technologies Inc - N5171B	29 Aug 2025	12
G217463	9 kHz - 6 GHz Signal Generator	Keysight Technologies Inc - N5171B	29 Aug 2025	12
G217464	9 kHz - 6 GHz Signal Generator	Keysight Technologies Inc - N5171B	29 Aug 2025	12
G213692	350 W Power Amplifier 0.7 - 6.0 GHz	Amplifier Research - 350S1G6A	21 Jun 2025	12
G221021	AR - 500 W - 80 MHz to 1 GHz Amplifier	Amplifier Research - 500W1000C	02 Oct 2025	12
A213693	500W - 0.7 GHz - 6 GHz Dual Directional Coupler	Amplifier Research - DC7210A	21 Jun 2025	12
C1884	0.7 metre N-male to N-male RF cable	Teledyne Reynolds - 90-195-027.6	Calibrated as a part of system	N/A
C1885	0.7 metre N-male to N-male RF cable	Teledyne Reynolds - 90-195-027.6	Calibrated as a part of system	N/A
M221052	20 MHz – 9.3 GHz - Electric Field Probe	Amplifier Research - FL8009	Calibrated as a part of system	12
M234948	Field Monitor	Amplifier Research - FM7004A	Calibrated as a part of system	N/A
M234950	Laser Probe Power and Comms	Amplifier Research - FI8000	Calibrated as a part of system	N/A
M217457	9 kHz - 7GHz Spectrum Analyzer	Keysight Technologies Inc - N9322C	29 Aug 2025	12
C234933	2 m, 7/16 DIN Male to Male RF cable	Amplifier Research - CC41313020	Calibrated as a part of system	N/A
C234923	1.4 m, N-Male to N-Male RF cable	Huber+Suhner - Sucoflex 100	Calibrated as a part of system	N/A
A234951	RF Signal Routing Matrix	Amplifier Research - SCP2000M2	Calibrated as a part of system	N/A
C234921	1 m, N-Male to N-Male RF cable	CarlisleIT - UTIFLEX B4605/100	Calibrated as a part of system	N/A
C234922	2 m, N-Male to N-Male RF cable	Pasternack Enterprises - PE343-200CM	Calibrated as a part of system	N/A
C234918	0.3 m, N-Male to N-Male RF cable	MEGAPHASE - GC19N1N1-16	Calibrated as a part of system	N/A
C234924	1.4 m, N-Male to N-Male RF cable	Huber+Suhner - Sucoflex 100	Calibrated as a part of system	N/A
C238191	2 metre N-male to N-male RF cable	Teledyne Reynolds - SA90-088-079	Calibrated as a part of system	N/A
C1836	3 metre N-male to N-male RF cable	Teledyne Reynolds - SA90-195-3MTR	Calibrated as a part of system	12
C234919	0.3 m, N-Male to N-Male RF cable	MEGAPHASE - GC19N1N1-16	Calibrated as a part of system	N/A
C234920	0.3 m, N-Male to N-Male RF cable	MEGAPHASE - GC19N1N1-16	Calibrated as a part of system	N/A
C221297	2m Flexible Co-ax	Amplifier Research - CC41111020	Calibrated as a part of system	N/A
A1920	Camera System	BTC Monotronics Ltd - Scout	Calibration not required	N/A
A1923	Camera System	BTC Monotronics Ltd - Scout	Calibration not required	N/A
A1926	Camera Tripod	Jessops - TP323	Calibration not required	N/A
A1919	Camera System	BTC Monotronics Ltd - Scout	Calibration not required	N/A

ELECTROSTATIC DISCHARGE - TEST RESULTS

This test is covered by the scope of UL International (UK) Ltd's UKAS Accreditation under ISO/IEC 17025:2017.

GENERAL INFORMATION

JOB NUMBER:	15154597JD03	TEST SITE ID:	Site 57
EUT:	EL01	TEMPERATURE:	21 °C to 22 °C
TEST ENGINEER:	Chris Bate	RELATIVE HUMIDITY:	55 % to 48 %
DATE OF TEST:	09 Oct 2024	ATMOSPHERIC PRESSURE:	987 mb to 986 mb
PERFORMANCE CRITERIA:	Criterion B and Customer Specified	UNCERTAINTY:	95% confidence level

TEST SPECIFICATION DETAILS

The EUT was configured and tested according to the methods and procedures detailed within the following basic standard:

REFERENCE:	EN 61000-4-2:2009
TITLE:	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test

COMMENTS

None

DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

EUT RELATED

OPERATING MODE:	In-Use Mode
FUNCTION(S) MONITORED:	Before and after the test, the Elvie Trainer app installed on the mobile phone was checked to see that the EUT was connected to the Mobile phone, and also that when pressure was applied to the EUT, that it registered on the app. During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present. This indicated that the EUT was still connected to the supporting mobile phone.

DIRECT CONTACT TO EUT

Test Points	No. Attempted	Test Voltage (kV)	Notes	Result
Refer to Note 1				

AIR GAP TO EUT

Test Points	No. Attempted	Test Voltage (kV)	Notes	Result
A	10	± 2.0	-	Complied
A	10	± 4.0	-	Complied
A	10	± 8.0	-	Complied
A	10	± 15.0	-	Complied

POSITION TO OBJECT IN VICINITY OF EUT (HORIZONTAL COUPLING PLANE)

Test Points	No. Attempted	Test Voltage (kV)	Notes	Result
Front, Left, Rear, Right	10	± 2.0	-	Complied
Front, Left, Rear, Right	10	± 4.0	-	Complied
Front, Left, Rear, Right	10	± 8.0	-	Complied

POSITION TO OBJECT IN VICINITY OF EUT (VERTICAL COUPLING PLANE)

Test Points	No. Attempted	Test Voltage (kV)	Notes	Result
Front, Left, Rear, Right	10	± 2.0	-	Complied
Front, Left, Rear, Right	10	± 4.0	-	Complied
Front, Left, Rear, Right	10	± 8.0	-	Complied

NOTES	
1	Due to the non-conductive construction of the EUT's enclosure, contact discharges were not applicable.

TEST EQUIPMENT USED				
UL ID	INSTRUMENT DESCRIPTION	MANUFACTURER - MODEL NUMBER	CALIBRATION DUE	INTERVAL
K0037	Conducted Emissions / Immunity Test Laboratory 1	MVG - N/A	Calibration not required	N/A
M2047	Thermo-Hygrometer	Testo - 608-H1	27 Dec 2024	12
G090	ESD Simulator	SCHAFFNER - NSG 435	23 Apr 2025	12
A1420	Vertical Coupling Plane	Radio Frequency Investigation - N/A	Calibration not required	N/A
A2423	ESD Bench	UL VS Limited - N/A	Calibration not required	N/A
A3229	Discharge Carbon Brush	UL International (UK) Ltd - N/A	Calibration not required	N/A
A1934	Discharge Network	Radio Frequency Investigation - N/A	Calibration not required	N/A

MAGNETIC FIELDS - TEST RESULTS

This test is covered by the scope of UL International (UK) Ltd's UKAS Accreditation under ISO/IEC 17025:2017.

GENERAL INFORMATION

JOB NUMBER:	15154597JD03	TEST SITE ID:	Site 53
EUT:	EL01	TEMPERATURE:	21 °C to 21 °C
TEST ENGINEER:	Chris Bate	RELATIVE HUMIDITY:	58 % to 58 %
DATE OF TEST:	22 Oct 2024	ATMOSPHERIC PRESSURE:	1028 mb to 1028 mb
PERFORMANCE CRITERIA:	Customer Specified	UNCERTAINTY:	±0.83 A/m
		EXPOSURE TIME:	2 mins

TEST SPECIFICATION DETAILS

The EUT was configured and tested according to the methods and procedures detailed within the following basic standard:

REFERENCE:	EN 61000-4-8:2010
TITLE:	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test

COMMENTS

None

DEVIATIONS FROM TEST SPECIFICATION

There were no deviations from the test configuration and measurement arrangements defined in the test specification (identified above).

EUT RELATED

OPERATING MODE:	In-Use Mode
FUNCTION(S) MONITORED:	Before and after the test, the Elvie Trainer app installed on the mobile phone was checked to see that the EUT was connected to the Mobile phone, and that when pressure was applied to the EUT, that it registered on the app. Electrostatic Discharges During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present. This indicated that the EUT was still connected to the supporting mobile phone. Radiated Immunity During the test the supporting Elvie Trainer app installed on the mobile phone was monitored in the "Trainer Info" section to see that the 'Disconnect' was always present and that the 'Force' level did not fluctuate more than +/- 10% from the resting value.

MEASUREMENT RESULTS

No.	Level (A/m)	Frequency (Hz)	EUT Orientation	Result
1	30	50	Front to Back	Complied
2	30	50	Left to Right	Complied
3	30	50	Top to Bottom	Complied
4	30	60	Front to Back	Complied
5	30	60	Left to Right	Complied
6	30	60	Top to Bottom	Complied

TEST EQUIPMENT USED

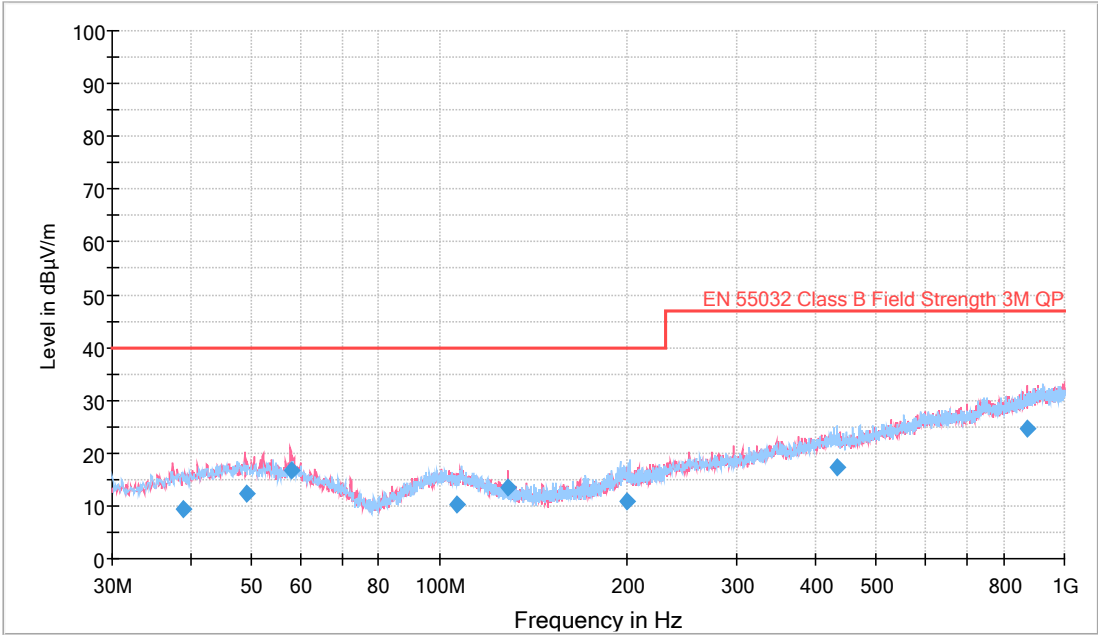
UL ID	INSTRUMENT DESCRIPTION	MANUFACTURER - MODEL NUMBER	CALIBRATION DUE	INTERVAL
K0033	Multipurpose Test Laboratory	UL International (UK) Ltd - N/A	Calibration not required	N/A
M2013	Thermo-Hygrometer	Testo - 608-H1	28 Dec 2024	12
S0588	AC Power Supply for Harmonics and Flicker Testing	Elettrotest S.p.A. - TPS/M3000	13 Nov 2024	12
A095	Helmholtz Coils	Radio Frequency Investigation - 1	Calibrated Before Use	N/A
M1345	Digital Multimeter	Fluke Corporation - 73III	14 Mar 2025	12
M1238	B-Field Sensor 1Hz....400kHz	L-3 Narda-Miteq - G-001	05 Jun 2025	12
M1237	ELT - 400	L-3 Narda-Miteq - ELT - 400	05 Jun 2025	12

8. GRAPHICAL TEST RESULTS

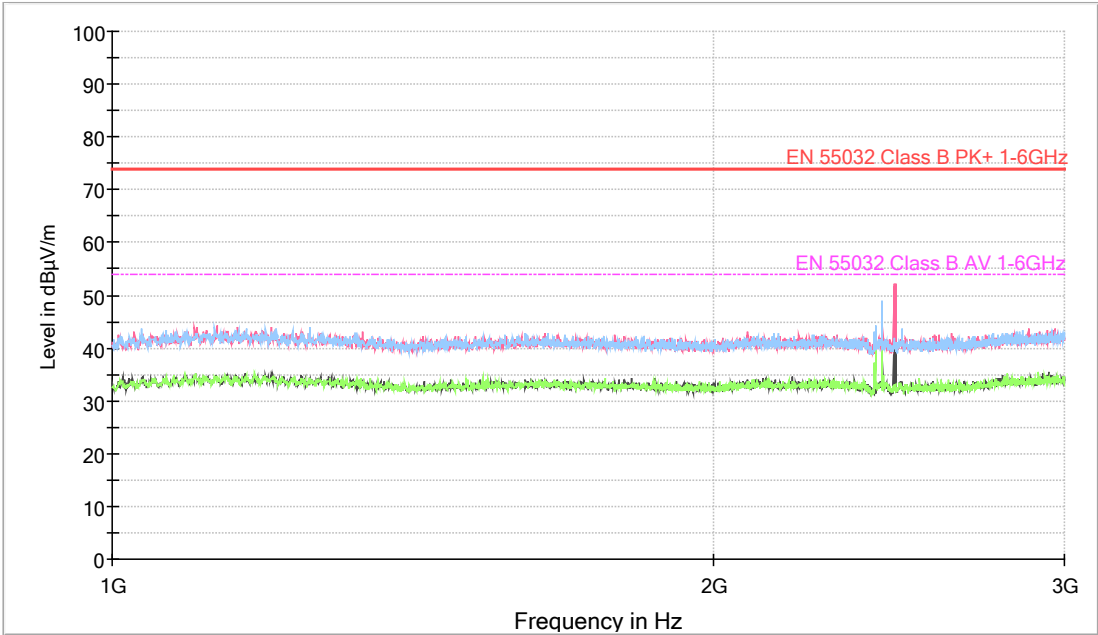
8.1. This section contains the graphical results for the measurements listed in Section 2.2 Summary of Test Results.

Graph Reference Number	Title
GPH\15154597JD03\001	Radiated Emissions (30 MHz to 1 GHz)
GPH\15154597JD03\002	Radiated Emissions (1 GHz to 3 GHz)
GPH\15154597JD03\003	Radiated Emissions (3 GHz to 6 GHz)

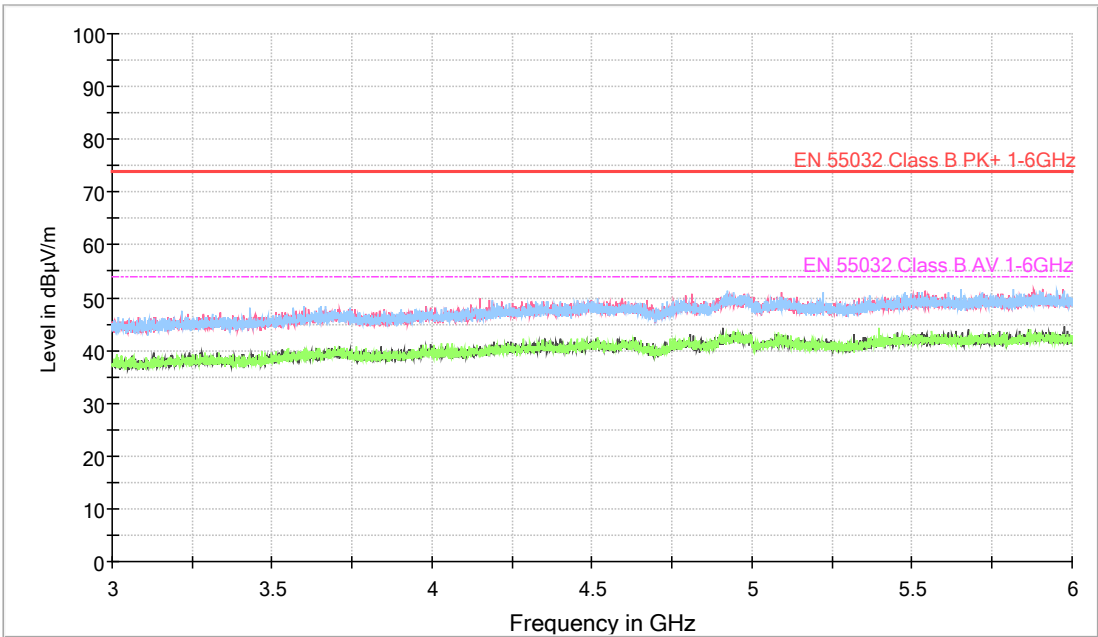
GPH\15154597JD03\001 - Radiated Emissions (30 MHz to 1 GHz)



GPH\15154597JD03\002 - Radiated Emissions (1 GHz to 3 GHz)



GPH\15154597JD03\003 - Radiated Emissions (3 GHz to 6 GHz)

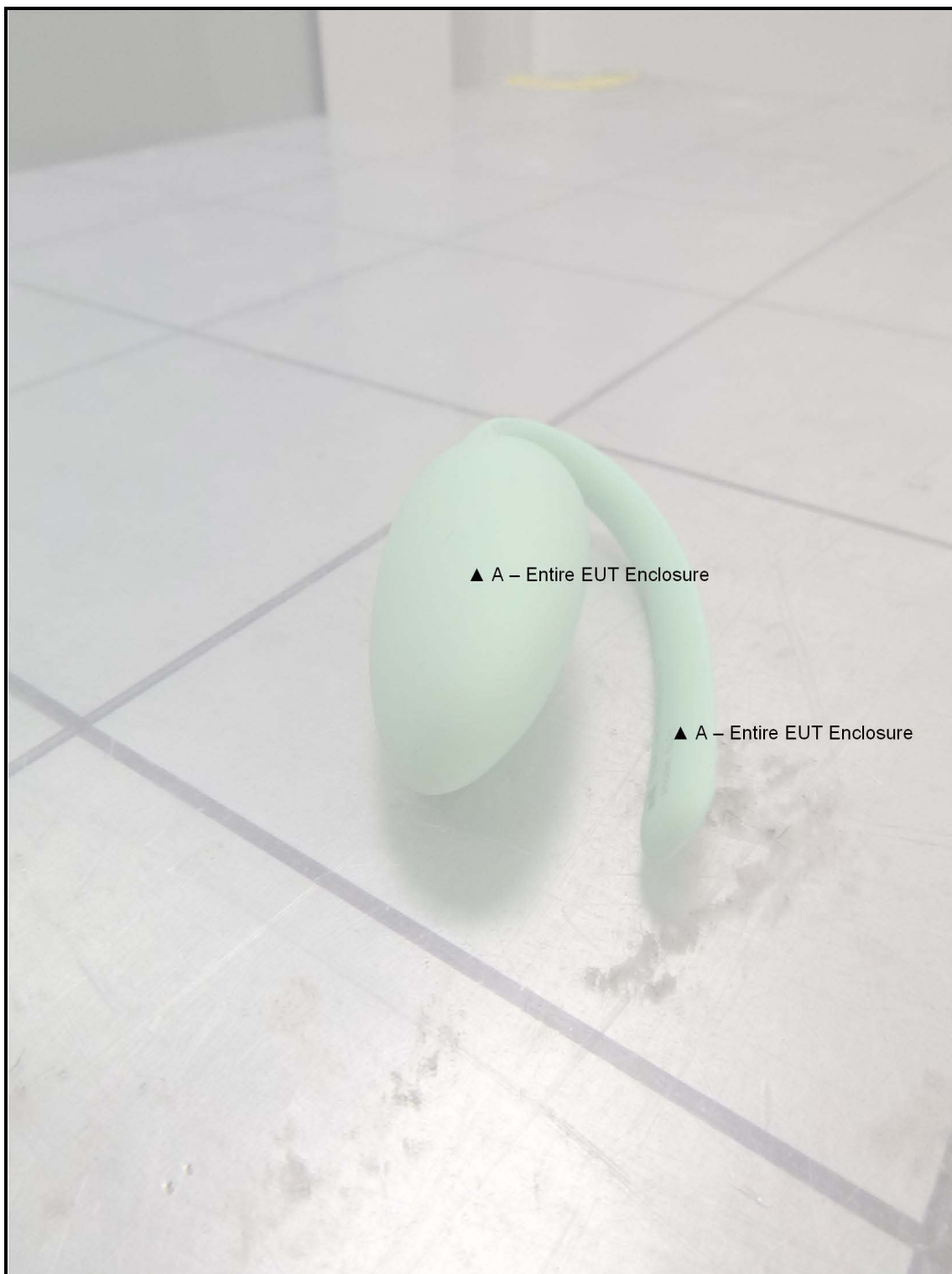


9. TEST CONFIGURATION DRAWING

9.1. This section contains the Test Configuration Drawings for the measurements listed in Section 7. Measurements, Examinations and Derived Results.

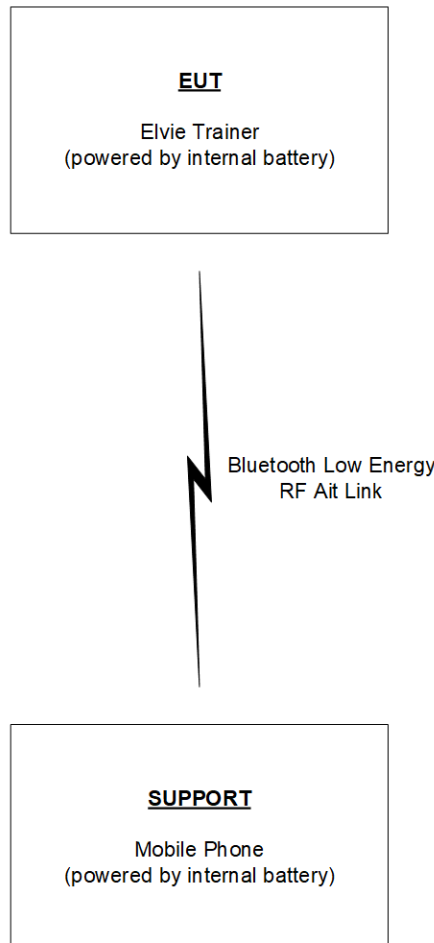
Test Configuration Reference Number	Title
DRG\15154597JD03\001	ESD Test Points Photograph - 001 - Air Discharge Point A
DRG\15154597JD03\002	Schematic Diagram of the EUT and Support Equipment Used During Testing.

DRG\15154597JD03\001 - ESD Test Points Photograph - 001 - Air Discharge Point A



DRG\15154597JD03\002 - Schematic Diagram of the EUT and Support Equipment Used During Testing.

Configuration of EUT and Local Support Equipment

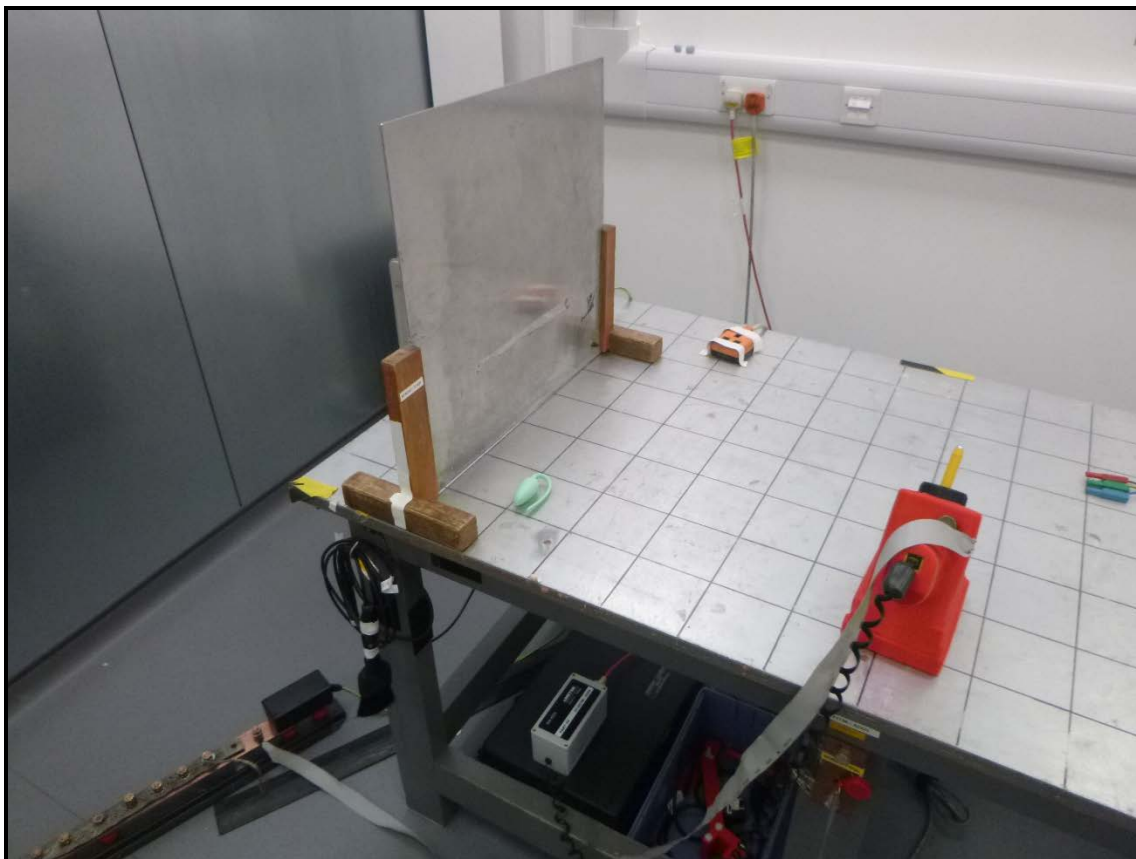


10. PHOTOGRAPHS OF EUT

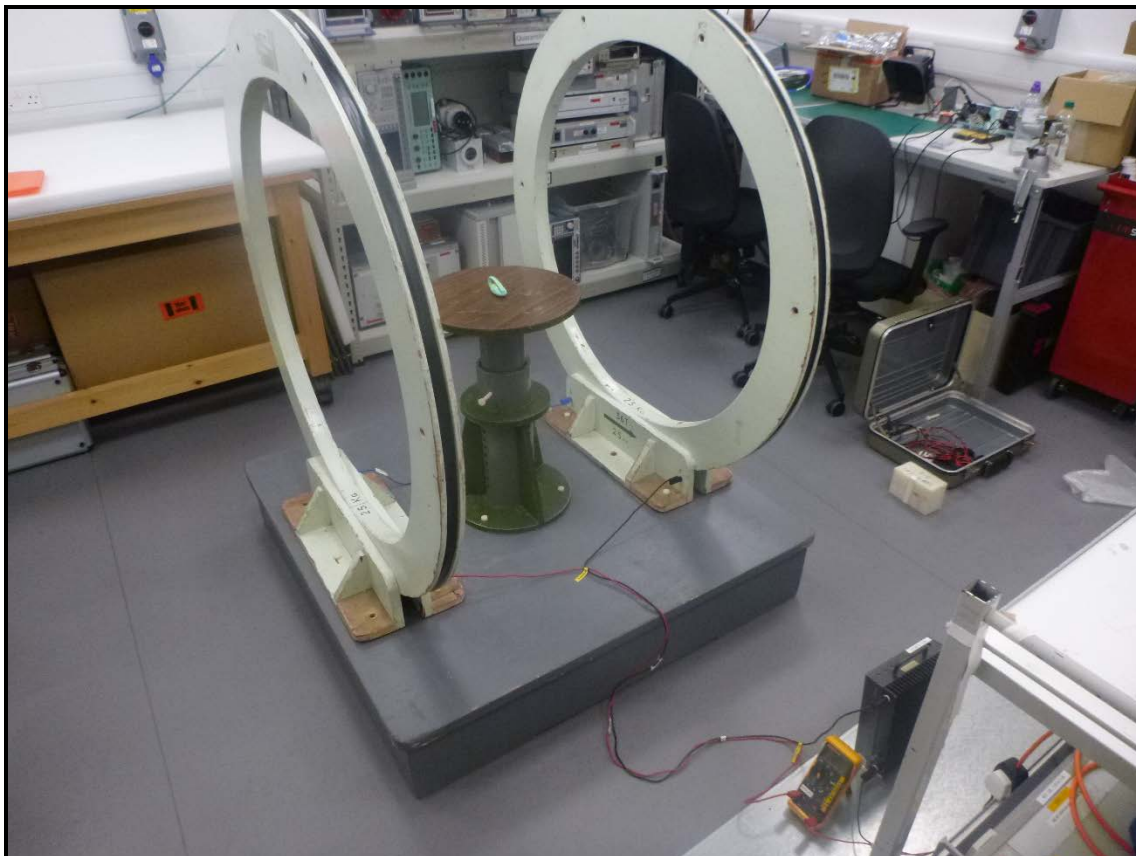
10.1. This section contains the following photographs:

Photo Reference Number	Title
PHT\15154597JD03\001	Test Configuration Photograph - Electrostatic Discharges
PHT\15154597JD03\002	Test Configuration Photograph - Magnetic Immunity - 001
PHT\15154597JD03\003	Test Configuration Photograph - Magnetic Immunity - 002
PHT\15154597JD03\004	Test Configuration Photograph - Magnetic Immunity - 003
PHT\15154597JD03\005	Test Configuration Photograph - Magnetic Immunity - 004
PHT\15154597JD03\006	Test Configuration Photograph - Radiated Emissions - 001
PHT\15154597JD03\007	Test Configuration Photograph - Radiated Emissions - 002
PHT\15154597JD03\008	Test Configuration Photograph - Radiated Emissions - 003
PHT\15154597JD03\009	Test Configuration Photograph - Radiated Immunity - 001
PHT\15154597JD03\010	Test Configuration Photograph - Radiated Immunity - 002

PHT15154597JD03\001 - Test Configuration Photograph - Electrostatic Discharges



PHT15154597JD03\002 - Test Configuration Photograph - Magnetic Immunity - 001



PHT15154597JD03\003 - Test Configuration Photograph - Magnetic Immunity - 002



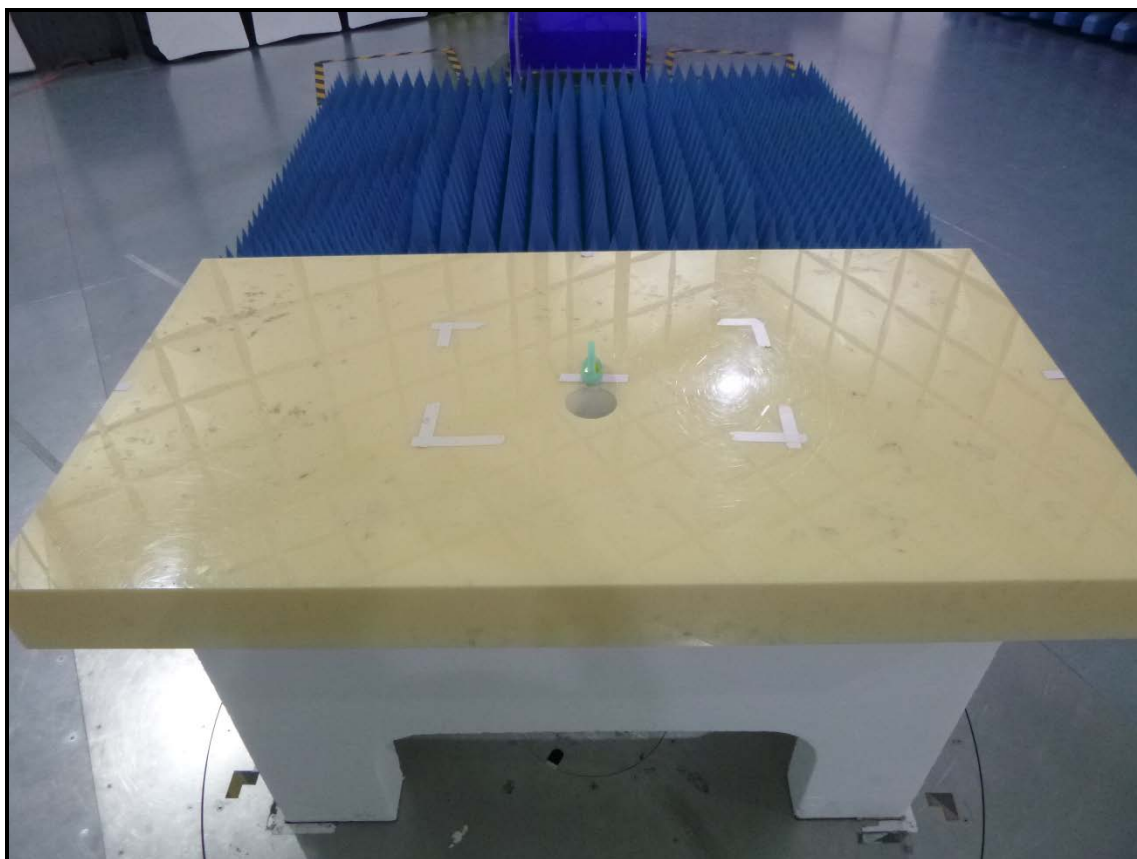
PHT15154597JD03\004 - Test Configuration Photograph - Magnetic Immunity - 003



PHT\15154597JD03\005 - Test Configuration Photograph - Magnetic Immunity - 004



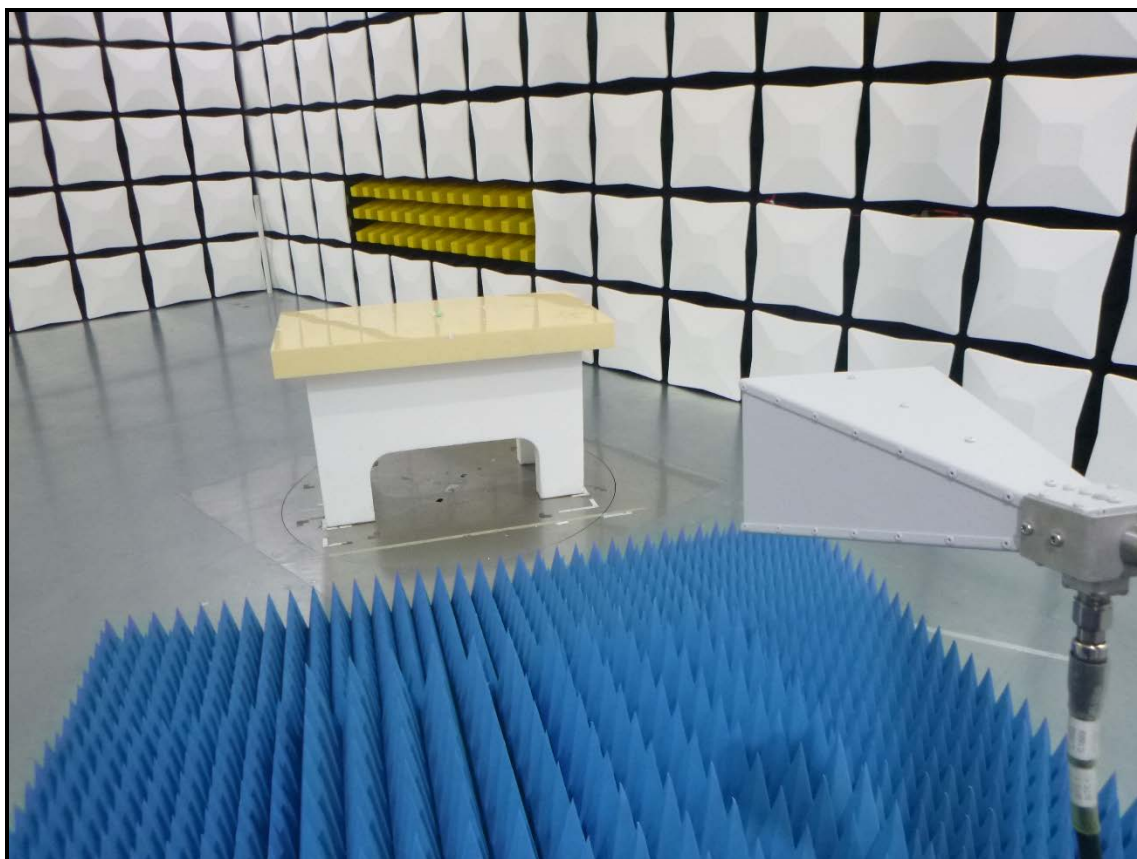
PHT\15154597JD03\006 - Test Configuration Photograph - Radiated Emissions - 001



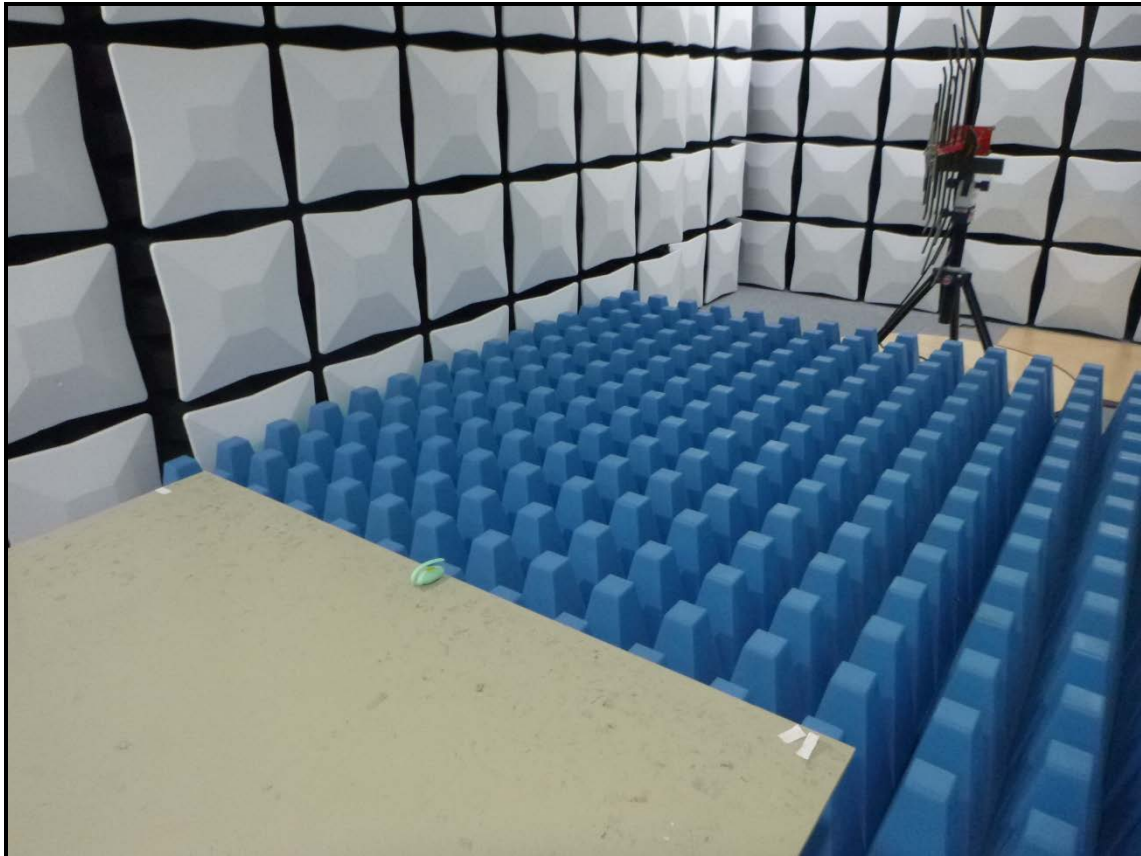
PHT15154597JD03\007 - Test Configuration Photograph - Radiated Emissions - 002



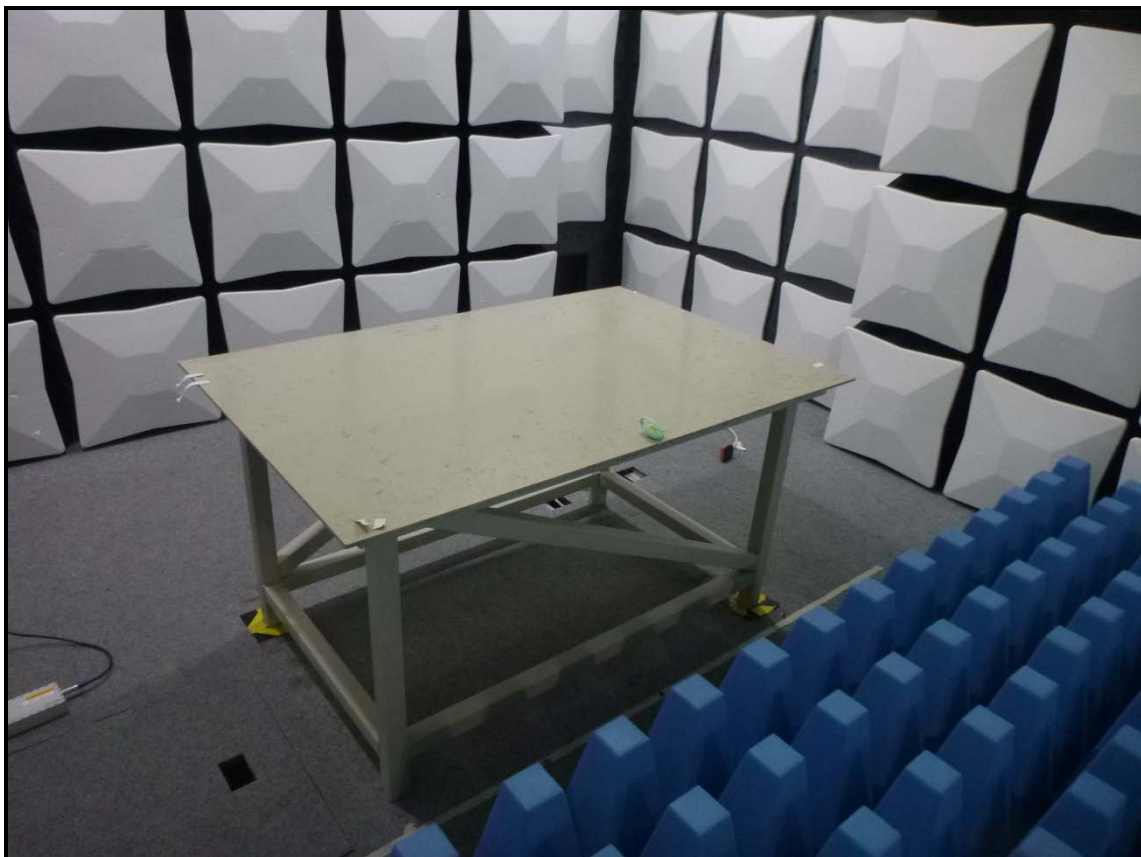
PHT15154597JD03\008 - Test Configuration Photograph - Radiated Emissions - 003



PHT15154597JD03\009 - Test Configuration Photograph - Radiated Immunity - 001



PHT15154597JD03\010 - Test Configuration Photograph - Radiated Immunity - 002



11. REPORT REVISION HISTORY

11.1. This section contains the report revision history.

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version.

--- END OF REPORT ---