Test Report

Report No.	:	**MTi251203020-0209E2**
Date of Issue	:	**2026-03-03**
Applicant	:	**Shenzhen Mgctech Co., Ltd.**
Product	:	**Wireless Power Bank**
Model(s)	:	**U100W, SP-PB-AML, U100**
FCC ID	:	**2AVSB-U100W**

Shenzhen Microtest Co., Ltd.

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TEST REPORT

Report No.: MTi251203020-0209E2

Test Result Certification		
Applicant	Shenzhen Mgctech Co., Ltd.	
Applicant Address	401, Bldg.14, No. 48-12, FuchengaoRd, PinghuStreet, LonggangDistrict. Shenzhen, China.	
Manufacturer	Shenzhen Mgctech Co., Ltd.	
Manufacturer Address	201 ,Bldg.C, No.12, Fusheng RoadPinghu Fuchengao Street, Longgang District,Shenzhen,China	
Product description		
Product name	Wireless Power Bank	
Trademark	N/A	
Model name	U100W	
Series Model(s)	SP-PB-AML, U100	
Standards	FCC CFR 47 PART 1, § 1.1310 Part 2.1093	
Test method	KDB 680106 D01 Wireless Power Transfer v04	
Testing Information		
Date of test	2025-12-23 to 2026-03-02	
Test Result	Pass	
Prepared by:	Letter Lan	Letter. Lan.
Reviewed by:	David Lee	David. Lee
Approved by:	Lewis Lian	Lewis Lian

1 General Description

1.1 Description of the EUT

Product name:	Wireless Power Bank
Model name:	U100W
Series Model(s):	SP-PB-AML, U100
Model difference:	All the models are the same circuit and module, except the model name.
Electrical rating:	USB-C/ USB-C cable Input: DC 5V/3A 9V/3A 12V/2.5A 15V/2A 20V/1.5A USB-C/ USB-C cable Output: DC 5V/3A 9V/3A 12V/3A 15V/3A 20V /2.25A Wireless Output Phone: 25W Max Apple/Sumang Watch: 2.5W Capacity: 10000mAh/3.85Vdc
Accessories:	N/A
Hardware version:	V1.1
Software version:	V1.1
Test sample(s) number:	MTi251203020-02-R001
RF specification	
Operating frequency range:	Coil 1 Phone: (5W, 7.5W, 10W)115-205kHz Coil 1 Phone: (15W, 25W)360kHz Coil 2 (Apple Watch): 300-350kHz Coil 2 (Sumsang Watch): 115-205kHz
Modulation type:	ASK
Antenna(s) type:	Coil

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Charging(USB-C)+ Wireless Output Phone 5W
Mode2	Charging(USB-C)+ Wireless Output Phone 7.5W
Mode3	Charging(USB-C)+ Wireless Output Phone 10W
Mode4	Charging(USB-C)+ Wireless Output Apple Watch 2.5W
Mode5	Charging(USB-C)+ Wireless Output Samsung Watch 2.5W
Mode6	Charging(USB-C cable)+ Wireless Output Phone 5W
Mode7	Charging(USB-C cable)+ Wireless Output Phone 7.5W
Mode8	Charging(USB-C cable)+ Wireless Output Phone 10W
Mode9	Charging(USB-C cable)+ Wireless Output Samsung Watch 2.5W
Mode10	Charging(USB-C cable)+ Wireless Output Apple Watch 2.5W

Mode11	Wireless Output Phone (5W)
Mode12	Wireless Output Phone (7.5W)
Mode13	Wireless Output Phone (10W)
Mode14	Wireless Output Phone (15W)
Mode15	Wireless Output Phone (25W)
Mode16	Wireless Output Apple Watch (2.5W)
Mode17	Wireless Output Samsung Watch (2.5W)
Mode18	Wireless Output Phone (5W)+ Apple Watch (2.5W)
Mode19	Wireless Output Phone (5W)+ Samsung Watch (2.5W)
Mode20	Wireless Output Phone (7.5W)+ Apple Watch (2.5W)
Mode21	Wireless Output Phone (7.5W)+ Samsung Watch (2.5W)
Mode22	Standby

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Mobile phone	S9+	/	SAMSUNG
watch	watch S7	M0JVGQG1VP	Apple
Galaxy Watch	SM-R900	RFAW41VXJVJ	SAMSUNG
Mobile phone	iPhone 16 Pro Max	JMJJ7C5G6Y	Apple
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurements(3kHz~10MHz)	±14.8%
Electric field measurements(3kHz~10MHz)	±17.5%

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 Test facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E143	Near-field Electric and Magnetic Field Sensor System	SPEAG	MAGPy-8H3 D+E3D	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.6	2.6	/	/

5 Test result

5.1.1 Requirement

§1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

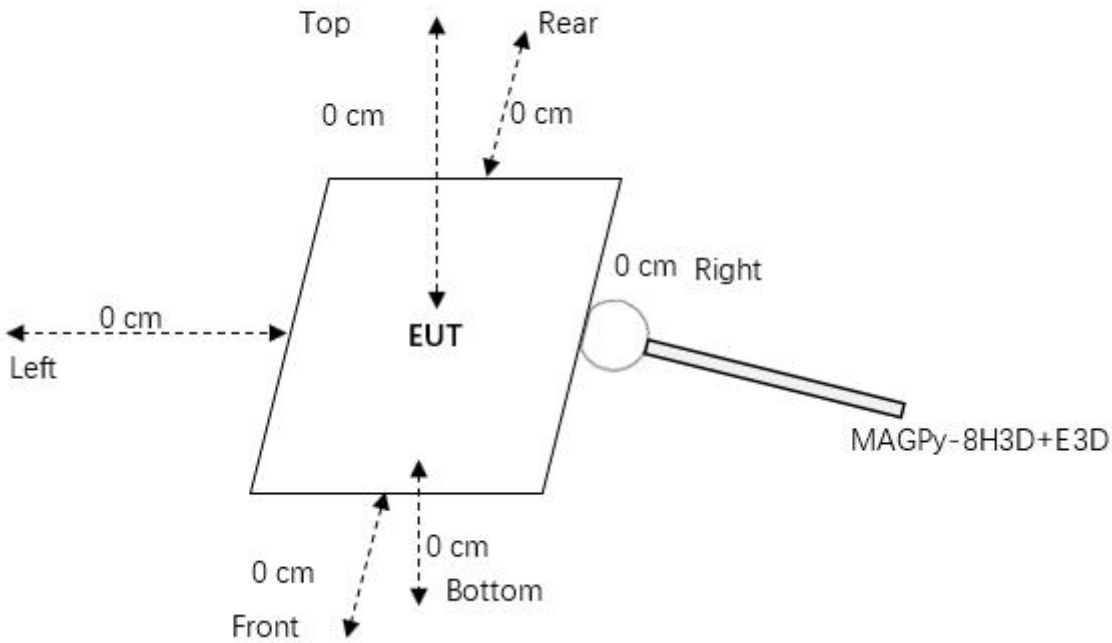
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1500			f/300	<6
1500-100000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*($180/f^2$)	<30
30-300	27.5	0.073	0.2	<30
300-1500			f/1500	<30
1500-100000			1.0	<30

f = frequency in MHz
* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

5.2 Test setup



Note: tips mode of the test probe is used for 0cm measurement.

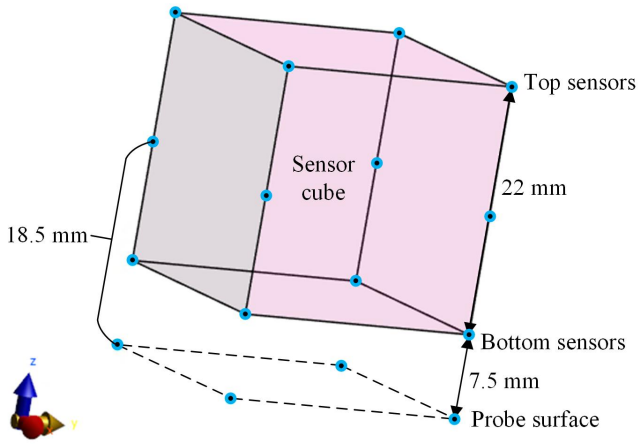
5.3 Test Procedures

a. H-field measurements should be taken 0 cm ~ 20 cm with 2 cm increments from the center of the probe.

The center of the probe to the tip surface of the probe is 18.5 mm, so the directly testing can be performed at the probe center from 2 cm to 20 cm.

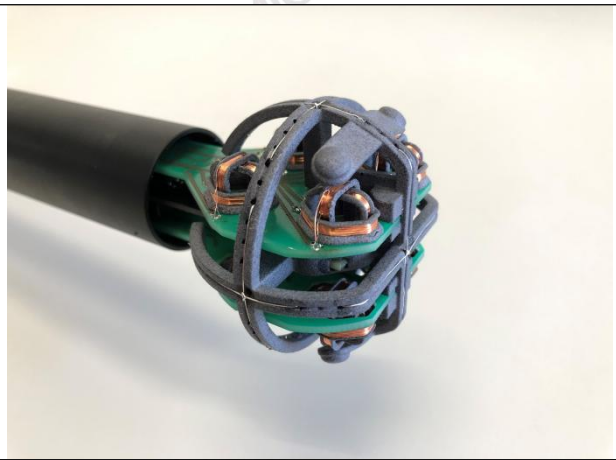
To measure the 0 cm H-filed, the probe tip mode is used. The total H-field at the tip-surface $H_{tip-surface}$ can be extrapolated using the total H-field measured at the top and bottom sensors, H_{top} and H_{bottom}, as well as the normalized H-field gradient G_n. The field extrapolation formula is a polynomial function of G_n (Δd = 18.5 mm)

$$H_{tip-surface} = \frac{H_{bottom} + H_{top}}{2} \sum_{i=0}^{7} ci(G_n \Delta d)^i$$



5.4 Information of test equipment

Test equipment: MAGPy-8H3D+E3D	
Diameter	60mm
8 isotropic H-field sensors	Concentric loops of 1cm^2 arranged at the corner of a cube of 22mm side length
1 isotropic E-field sensor	Orthogonal dipole/monopple(arm length:50mm)
Measurement center	18.5mm from the probe tip
Dimensions	110*635*35mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)



Test probe, without the casing

Item	Specification
Test frequency range:	3kHz ~ 10MHz
Probe sensitivity	E-filed: 0.08-2000 V/m H-filed: 0.1-3200 A/m
Probe level response	E-filed: ±1dB H-field: ±1dB
linearity error	E-filed: ±0.3dB H-field: ±0.3dB
Isotropy	E-filed: ±0.8dB H-field: ±0.6dB

5.5 Test results

All client power has been assessed (1%,50%, 99%), and the 1% battery status of client device was the worst.
Test condition 1: Mode21 operating mode with client device (1 % battery status of client device)
-estimated value: 0cm
Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	1.62	1.63	96.93%
Left	1.41		
Right	1.01		
Front	1.47		
Rear	1.42		
Bottom	0.39		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 2cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	1.29	1.63	49.69%
Left	1.13		
Right	0.81		
Front	1.18		
Rear	1.13		
Bottom	0.31		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 4cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.91	1.63	19.02%
Left	0.79		
Right	0.56		
Front	0.83		
Rear	0.79		
Bottom	0.22		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 6cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.54	1.63	7.6%
Left	0.47		
Right	0.34		
Front	0.50		
Rear	0.48		
Bottom	0.13		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 8cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.33	1.63	3.68%
Left	0.28		
Right	0.20		
Front	0.30		
Rear	0.29		
Bottom	0.08		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 10cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.20	1.63	1.84%
Left	0.17		
Right	0.12		
Front	0.18		
Rear	0.17		
Bottom	0.05		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 12cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.10	1.63	1.23%
Left	0.07		
Right	0.11		
Front	0.10		
Rear	0.03		
Bottom	0.04		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 14cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.04	1.63	1.23%
Left	0.06		
Right	0.06		
Front	0.02		
Rear	0.03		
Bottom	0.03		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 16cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.04	1.63	1.23%
Left	0.04		
Right	0.01		
Front	0.02		
Rear	0.02		
Bottom	0.02		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 18cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.02	1.63	1.23%
Left	0.01		
Right	0.01		
Front	0.01		
Rear	0.01		
Bottom	0.01		

Test condition 2: Mode21 operating mode with client device (1 % battery status of client device)
- Test distance: 20cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.01	1.63	0.61%
Left	0.01		
Right	0.01		
Front	0.01		
Rear	0.01		
Bottom	0.01		

All client power has been assessed (1%,50%, 99%), and the 1% battery status of client device was the worst.

Test condition 1: Mode15 operating mode with client device (1 % battery status of client device)

-estimated value: 0cm

Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	1.11	1.63	94.48%
Left	0.11		
Right	0.63		
Front	0.66		
Rear	0.49		
Bottom	0.48		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)

- Test distance: 2cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.78	1.63	16.56%
Left	0.08		
Right	0.44		
Front	0.46		
Rear	0.34		
Bottom	0.34		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 4cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.54	1.63	6.13%
Left	0.05		
Right	0.31		
Front	0.32		
Rear	0.24		
Bottom	0.24		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 6cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.38	1.63	3.07%
Left	0.04		
Right	0.22		
Front	0.23		
Rear	0.17		
Bottom	0.16		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 8cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.27	1.63	1.84%
Left	0.03		
Right	0.15		
Front	0.16		
Rear	0.12		
Bottom	0.12		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 10cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.16	1.63	1.23%
Left	0.02		
Right	0.09		
Front	0.10		
Rear	0.07		
Bottom	0.07		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 12cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.11	1.63	1.23%
Left	0.01		
Right	0.06		
Front	0.07		
Rear	0.05		
Bottom	0.05		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)
- Test distance: 14cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.08	1.63	1.23%
Left	0.01		
Right	0.04		
Front	0.05		
Rear	0.03		
Bottom	0.03		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)

- Test distance: 16cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.05	1.63	0.61%
Left	0.01		
Right	0.03		
Front	0.03		
Rear	0.02		
Bottom	0.02		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)

- Test distance: 18cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.04	1.63	0.61%
Left	0.00		
Right	0.02		
Front	0.03		
Rear	0.02		
Bottom	0.02		

Test condition 2: Mode15 operating mode with client device (1 % battery status of client device)

- Test distance: 20cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.04	1.63	0.55%
Left	0.00		
Right	0.02		
Front	0.02		
Rear	0.02		
Bottom	0.02		

All client power has been assessed (1%,50%, 99%), and the 1% battery status of client device was the worst.

Test condition 1: Mode16 operating mode with client device (1 % battery status of client device)

-estimated value: 0cm

Estimated value for H-Filed Strength at 0 cm from the edges surrounding the EUT (A/m)

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	1.54	1.63	94.48%
Left	1.61		
Right	0.83		
Front	0.33		
Rear	1.6		
Bottom	0.45		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)

- Test distance: 2cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	1.23	1.63	16.56%
Left	1.29		
Right	0.66		
Front	0.26		
Rear	1.28		
Bottom	0.36		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 4cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.99	1.63	6.13%
Left	1.03		
Right	0.53		
Front	0.21		
Rear	1.02		
Bottom	0.29		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 6cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.69	1.63	3.07%
Left	0.72		
Right	0.37		
Front	0.15		
Rear	0.72		
Bottom	0.20		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 8cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.41	1.63	1.84%
Left	0.43		
Right	0.22		
Front	0.09		
Rear	0.43		
Bottom	0.12		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 10cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.29	1.63	1.23%
Left	0.30		
Right	0.16		
Front	0.06		
Rear	0.30		
Bottom	0.08		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 12cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.23	1.63	1.23%
Left	0.24		
Right	0.12		
Front	0.05		
Rear	0.24		
Bottom	0.07		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)
- Test distance: 14cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.16	1.63	1.23%
Left	0.17		
Right	0.09		
Front	0.03		
Rear	0.17		
Bottom	0.05		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)

- Test distance: 16cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.13	1.63	0.61%
Left	0.14		
Right	0.07		
Front	0.03		
Rear	0.13		
Bottom	0.04		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)

- Test distance: 18cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.09	1.63	0.61%
Left	0.10		
Right	0.05		
Front	0.02		
Rear	0.09		
Bottom	0.03		

Test condition 2: Mode16 operating mode with client device (1 % battery status of client device)

- Test distance: 20cm

Probe Position	H–field (A/m)		
	Measurement	Limit	Percentage (%)
Z axis	0.05	1.63	0.55%
Left	0.06		
Right	0.03		
Front	0.01		
Rear	0.06		
Bottom	0.02		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

Statement

1. This report is invalid without the seal and signature of the laboratory.

2. The test results of this report are only responsible for the samples submitted.Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

****** END OF REPORT ******