

Prüfbericht-Nr.: <i>Test report no.:</i>	CN24HRDT 007	Auftrags-Nr.: <i>Order no.:</i>	168497124	Seite 1 von 11 Page 1 of 11
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2024-07-31	
Auftraggeber: <i>Client:</i>	LG Electronics USA, Inc. 111 Sylvan Avenue North Building Englewood Cliffs New Jersey, 07632 United States			
Prüfgegenstand: <i>Test item:</i>	Stylus Pen			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	PEW8 (Trademark: LG)			
Auftrags-Inhalt: <i>Order content:</i>	Test Report			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 2.1093			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2024-07-31	Refer to photos document		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003772389			
Prüfzeitraum: <i>Testing period:</i>	2024-07-31 - 2024-08-22			
Ort der Prüfung: <i>Place of testing:</i>	See Section 2.1			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>		genehmigt von: <i>authorized by:</i>		
Datum: <i>Date:</i>	2024-09-10 <small>Signed by: Harry W. C. Wu</small>	Ausstellungsdatum: <i>Issue date:</i>	2024-09-10 <small>Signed by: Alex Lan</small>	
Stellung / Position:	Sachverständige(r)/Expert	Stellung / Position:	Sachverständige(r)/Expert	
Sonstiges / <i>Other:</i>	FCC ID: BEJSP-PEW8			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
<small>* Legende:</small>	<small>P(ass) = entspricht o.g. Prüfgrundlage(n)</small>	<small>F(ail) = entspricht nicht o.g. Prüfgrundlage(n)</small>	<small>N/A = nicht anwendbar</small>	<small>N/T = nicht getestet</small>
<small>* Legend:</small>	<small>P(ass) = passed a.m. test specification(s)</small>	<small>F(ail) = failed a.m. test specification(s)</small>	<small>N/A = not applicable</small>	<small>N/T = not tested</small>
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Test report no.:

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Anmerkungen
Remarks

- | | |
|---|--|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.
Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
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| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.
Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.
Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p> |

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

2 Test Sites

2.1 Test Facilities

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, 518000, China

FCC Registration No.: 522263

ISED Wireless Device Testing Laboratory: 22984

The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

EMF				
Equipment	Manufacturer	Model	Serial No.	Cal. until
H-Field Probe 100 cm2 SENSOR	narda	D-0010	BN 2300/90.10	2025-05-20
MAGNETIC FIELD HiTESTER ELT-400	narda	D-0009	BN 2304/03	2025-05-20

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Magnetic Field Emissions (A/m)	±1.2µT
Electric Field Emissions (V/m)	±18%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The Shenzhen Huaxia Testing Technology Co., Ltd. Test facility located at 1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, 518000, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The product is a Stylus Pen, it can operate with a drawing board through the nib, the frequency of the nib are 18-89KHz, 111-210kHz (Microsoft Pen Protocol). This product has two different colour of enclosure.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	Stylus Pen
Type Designation:	PEW8
FCC ID:	BEJSP-PEW8
Operating Voltage:	DC 3.85V, 80mAh via built-in battery
Technical Specification	
Frequency Range:	18-89KHz, 111-210kHz
Type of Modulation:	PWM
Antenna Type:	Integrated antenna
Antenna number:	1
Antenna Gain:	0dBi (provided by client)

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wireless Operating
- B. ON, Standby

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

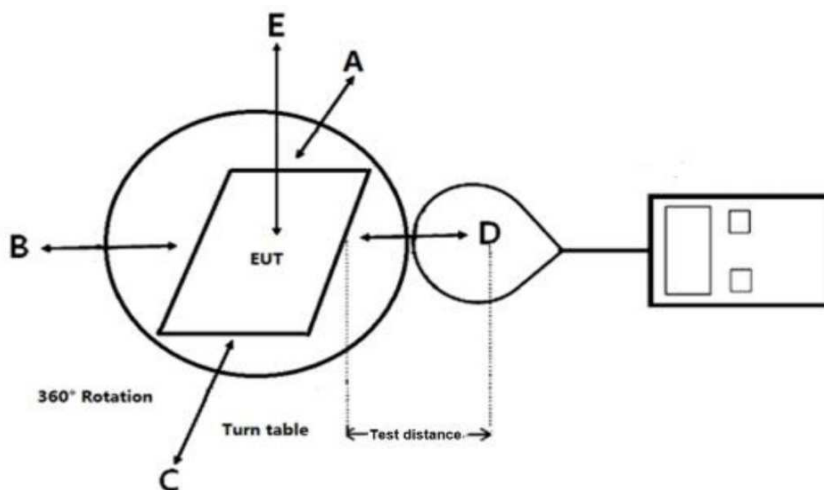
3.5 Submitted Documents

- Application Form

- ID Label and Location Info

3.6 Test Setup Diagram

Diagram of Measurement Configuration



4 Safety Human Exposure

4.1 Radio Frequency Exposure Compliance

4.1.1 Test procedures according to the technical standards

Standards	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v03r01	Electric Field Strength (E) (V/m)	PASS	-
	Magnetic Field Strength (H) (A/m)	PASS	-

4.1.2 Limit of Maximum Permissible Exposure

Limit of Maximum Permissible Exposure

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) 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
300-1,500			f/300	6
1,500-100,000			5	6
(B) 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
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density.

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03.

Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: Measurement was made from all sides and the top of the client pair, with the 0 cm measured from the center of the probe to the edge of the device. The highest emission level was recorded.

4.1.3 Test Result

RF Exposure Evaluation - Magnetic Field Emissions

Test Mode	Test Position	Test Distance (cm)	Measure Value (A/m)	Limit (A/m)	50% Limit (A/m)	Result
Wireless Operating	Front	0	0.01	1.63	0.815	PASS
	Rear	0	0.04	1.63	0.815	PASS
	Left	0	0.04	1.63	0.815	PASS
	Right	0	0.09	1.63	0.815	PASS
	Top	0	0.04	1.63	0.815	PASS

RF Exposure Evaluation - Electric Field Emissions

Test Mode	Test Position	Test Distance (cm)	Measure Value (V/m)	Limit (V/m)	50% Limit (V/m)	Result
Wireless Operating	Front	0	7.54	614	307	PASS
	Rear	0	2.47	614	307	PASS
	Left	0	4.6	614	307	PASS
	Right	0	7.8	614	307	PASS
	Top	0	10.5	614	307	PASS

5 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

6 List of Tables

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