

TEST REPORT

Report No.: S25022104401001

Product: Magic Drawing Pad

Model No.: MDP1221, MDP1220, MDP1222, MDP1223, MDP1225

Applicant: XPPEN Technology CO.

Address: 15350 FAIRFIELD RANCH RD #G CHINO HILLS, CA
91709, US

Issued by: Shenzhen NTEK Testing Technology Co., Ltd.

Lab Location: Building 1/2/11/12, No. 24 Xinfu East Road, Xiangshan
Community, Xinqiao Street, Bao'an District,
Shenzhen, Guangdong, China

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DOE

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TEST REPORT**Energy Conservation Program for Battery Chargers**

Report Reference No..... : S25022104401001

Tested by (+ signature)..... : Felix Hu

Felix Hu

Approved by (+ signature)..... : Coco Li

Coco Li

Date of issue..... : 2025-03-05

Testing laboratory

Name..... : Shenzhen NTEK Testing Technology Co., Ltd.

Address..... : Building 1/2/11/12, No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China

Testing location..... : Same as above

Client

Name..... : XPPEN Technology CO.

Address..... : 15350 FAIRFIELD RANCH RD #G CHINO HILLS, CA 91709, US

Test specification

Standard..... : California Code of Regulations, Title 20, Division 2, Chapter 4, Article 4. Appliance Efficiency Regulations, Sections 1601 through 1609, in conjunction with 10 CFR Section 430.23(aa) (Appendix Y to Subpart B of Part 430)

Test procedure : DOE Attestation

Test item

Description..... : Magic Drawing Pad

Trademark..... : XPPen

Model and/or type reference..... : MDP1221, MDP1220, MDP1222, MDP1223, MDP1225

Rating(s)..... : Input: 5Vdc, 3A 15.0W or 9Vdc, 3A 27.0W or 12Vdc, 2.75A 33.0W or 15Vdc, 2.2A 33.0W or 20Vdc, 1.65A 33.0W or PPS: 5.0-11Vdc, 3A 33.0W or 5.0-16.0Vdc, 2.0A 32.0W(Powered by an external adapter)

Manufacturer..... : Hanvon Ugee Technology Co., Ltd.

Address..... : 2/F, West of 3/F, 4/F, No.4 Building, Fulongte Industrial Park, Huaxing Road, Langkou Community, Dalang Street, Longhua District, Shenzhen

Factory..... : N/A

Address..... : N/A

Remark..... : N/A

General product information:

-The equipment covered in this report is a speaker.

Conclusion: The product meets the Energy Conservation standard of DOE for battery chargers.

Product Details

1. End-Use Product Type: Battery charger
2. Indicate battery charger type
 - ☐ Inductive battery charger
 - ☐ Multi-port Charger
 - ☐ Multi-voltage Charger
 - ☐ Multi-capacity Charger
 - ☒ One port battery charger
3. Number of Charger ports: one port
4. Compatible battery chemistries: Lithium

Basic data on the battery

Manufacturer: Hunan Gaoyuan Battery Co.,Ltd.

Model: TLp078D5

Charge voltage: 4.4Vdc

Nominal Voltage: 3.85Vdc

Rated charge capacity of tested battery: 7800mAh

Rated charge energy of tested battery: 30.03Wh

Basic data of the external power adapter

Manufacturer: Shenzhen Bajiunda Electronic Co.,Ltd

Model: QC16US

Input: 100-240V~, 50/60Hz, 1.0A Max

Output: 5Vdc, 3A 15.0W or 9Vdc, 3A 27.0W or 12Vdc, 2.75A 33.0W or 15Vdc, 2.2A 33.0W or 20Vdc, 1.65A 33.0W or

PPS: 5.0-11Vdc, 3A 33.0W or 5.0-16.0Vdc, 2.0A 32.0W

Energy level: VI

General test condition

Ambient temperature (°C): (20±5)	21.4
Maximum air speed (m/s): ≤0.5m/s	0.1
For AC input:	
Test frequency tolerance: (±1.0%)	N/A
Maximum THD of voltage: (≤2%)	N/A
Crest factor: (1.34-1.49)	N/A
For DC input, the AC ripple voltage (RMS) shall be	
≤ 0.2 V for DC voltages up to 10 V, or	0.1
≤ 2 percent of the DC voltage for DC voltages over 10 V	N/A

Test Result

Table 1	Measurement									
Model	Sample No	U _{input} (V)	F (Hz)	E _{bat} (Wh)	t _{cd} (h)	P _m (W)	E ₂₄ (Wh)	P _{sb} (W)	P _{off} (W)	UEC calculated (kWh/yr)
MDP1221	1	115	60	22.14	24	0.168	27.755	NA	NA	1.189
MDP1221	2	115	60	22.13	24	0.167	27.73	NA	NA	1.186
Supplementary information: E ₂₄ = 24-hour energy; E _{batt} = Measured battery energy; P _m = Maintenance mode power; P _{sb} = Standby mode power; P _{off} = Off mode power; t _{cd} = Charge test duration; UEC=Unit Energy Consumption										
Table 2	Calculation									
	E _{bat} (Wh)	t _{cd} (h)	P _m (W)	E ₂₄ (Wh)	P _{sb} (W)	P _{off} (W)	UEC calculated (kWh/yr)	UEC limits (kWh/yr)		
Mean of Sample	22.135	24	0.168	27.743	NA	NA	1.188	7.3132		
Sample Standard Deviation	0.007	24	0.001	0.018	NA	NA	0.002			
UCL/1.05	21.141	24	0.166	26.573	NA	NA	1.146			
Represented Value	22.14	24	0.17	27.74	NA	NA	1.19			
Supplementary information:										

Reference information

$$(i) UEC = 365(n(E_{24} - 5P_m - E_{batt}) \frac{24}{t_{cd}} + (P_m(t_{a\&m} - (t_{cd} - 5)n)) +$$

$$(P_{sb}t_{sb}) + (P_{off}t_{off})) \text{ or,}$$

$$(ii) UEC = 365(n(E_{24} - 5P_m - E_{batt}) \frac{24}{(t_{cd}-5)} + (P_{sb}t_{sb}) + (P_{off}t_{off}))$$

If $(t_{cd} - 5) * n > t_{a\&m}$, equation (ii) shall be used to calculate UEC

Where:

E_{24} = 24-hour energy; E_{batt} = Measured battery energy; P_m = Maintenance mode power; P_{sb} = Standby mode power; P_{off} = Off mode power; t_{cd} = Charge test duration

$t_{a\&m}$, n , t_{sb} , and t_{off} , are constants used depending upon a device's product class and found in the following table:

TABLE 3.3.3 - BATTERY CHARGER USAGE PROFILES

Product class				Hours per day ***			Charges (n)	Threshold charge time *
Number	Description	Rated battery energy (ebatt) **	Special characteristic or battery voltage	Active + maintenance ($t_{a\&m}$)	Standby (t_{sb})	Off (t_{off})	Number per day	Hours
1	Low-Energy	≤5 Wh	Inductive Connection ****	20.66	0.10	0.00	0.15	137.73
2	Low-Energy, Low-Voltage	<100 Wh	<4 V	7.82	5.29	0.00	0.54	14.48
3	Low-Energy, Medium-Voltage		4-10 V	6.42	0.30	0.00	0.10	64.20
4	Low-Energy, High-Voltage		>10 V	16.84	0.91	0.00	0.50	33.68
5	Medium-Energy, Low-Voltage	100-3000 Wh	<20 V	6.52	1.16	0.00	0.11	59.27
6	Medium-Energy, High-Voltage		≥20 V	17.15	6.85	0.00	0.34	50.44
7	High-Energy	>3000 Wh		8.14	7.30	0.00	0.32	25.44

Product class	Product class description	Rated battery energy (Ebatt **)	Special characteristic or battery voltage	Maximum UEC (kWh/yr) (as a function of Ebatt **)
1	Low-Energy	≤5 Wh	Inductive Connection *	3.04
2	Low-Energy, Low-Voltage	<100 Wh	<4 V	$0.1440 * E^{batt} + 2.95$
3	Low-Energy, Medium-Voltage		4-10 V	For $E^{batt} < 10 \text{ Wh}$, 1.42 kWh/yr $E^{batt} \geq 10 \text{ Wh}$, $0.0255 * E^{batt} + 1.16$
4	Low-Energy, High-Voltage		>10 V	$0.11 * E^{batt} + 3.18$
5	Medium-Energy, Low-Voltage	100-3000 Wh	<20 V	$0.0257 * E^{batt} + .815$
6	Medium-Energy, High-Voltage		≥20 V	$0.0778 * E^{batt} + 2.4$
7	High-Energy	>3000 Wh		$0.0502 * E^{batt} + 4.53$

Attachment A –Photos



Fig.1 Overall view

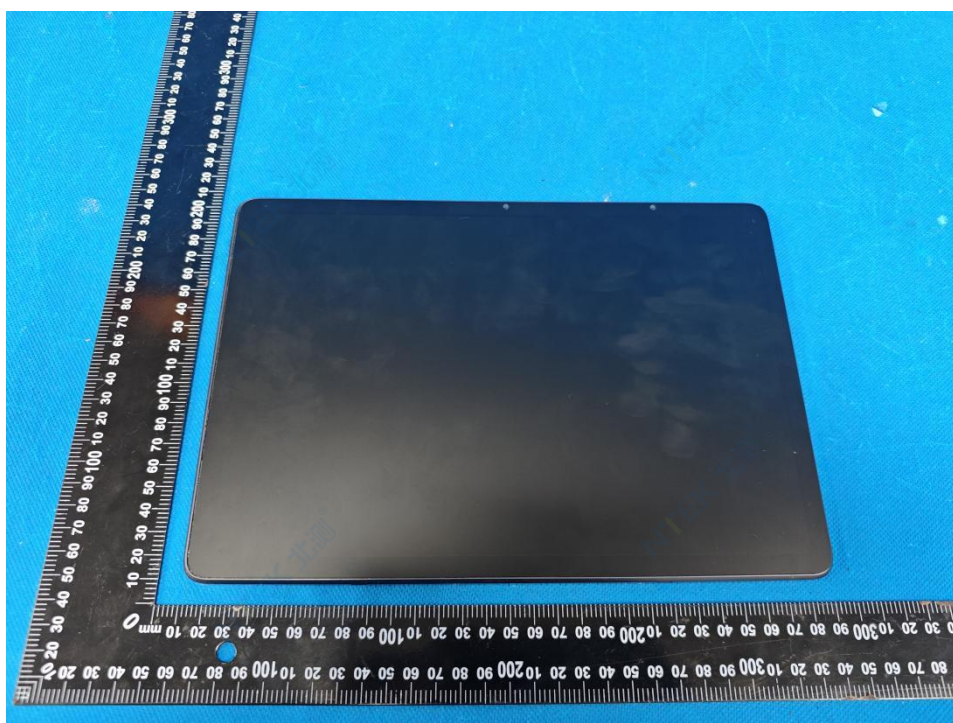


Fig.2 Overall view



Fig.3 Overall view

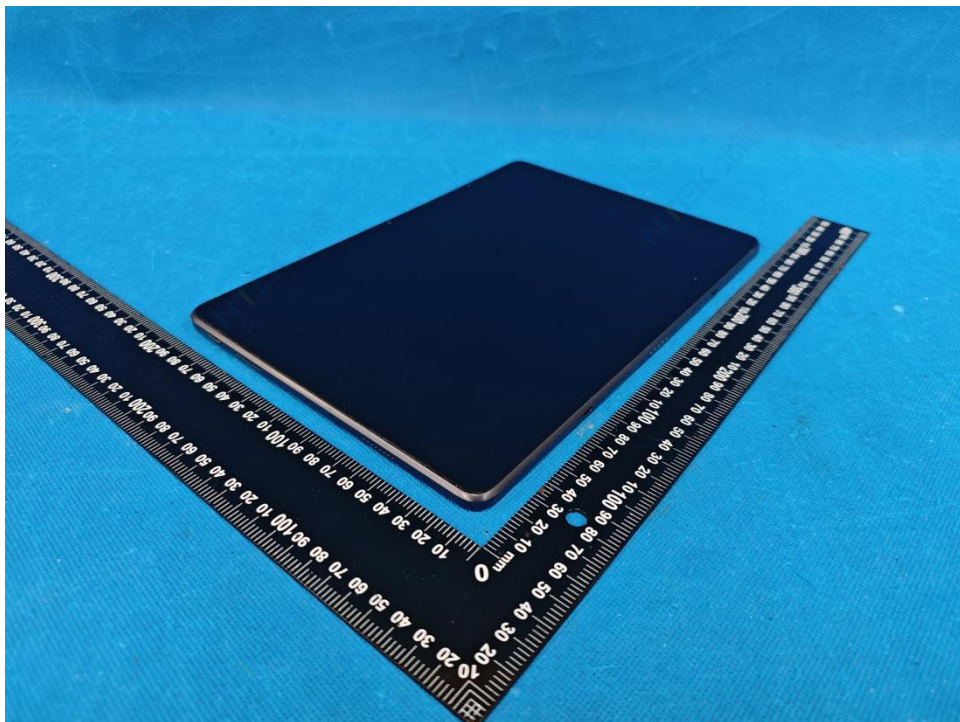


Fig.4 Overall view Fig.6 Overall view

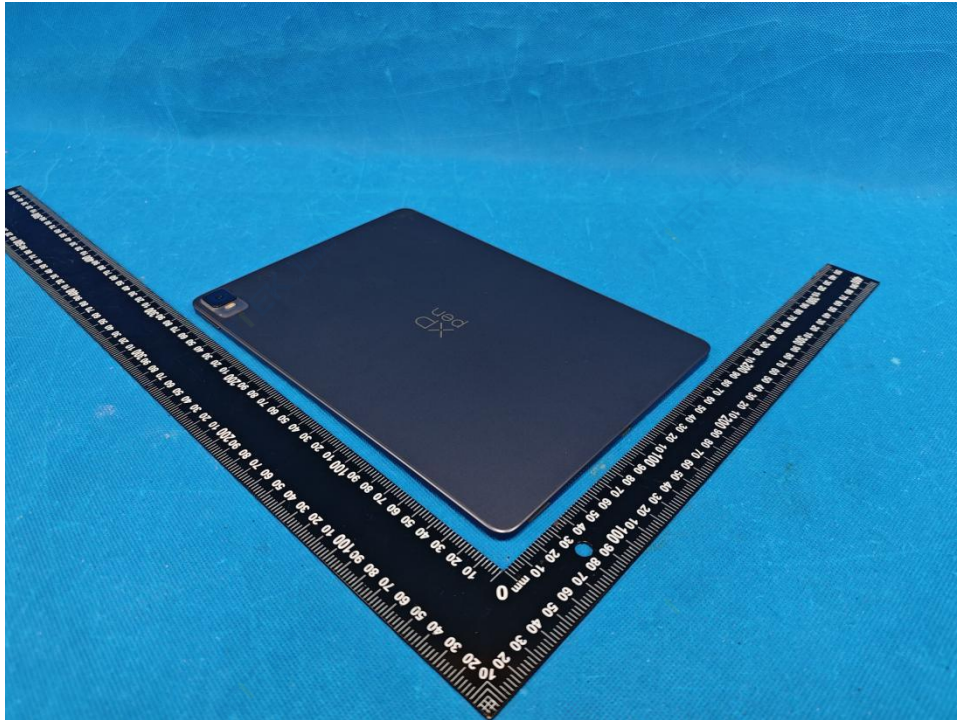


Fig.5 Overall view



Fig.6 Adapter view

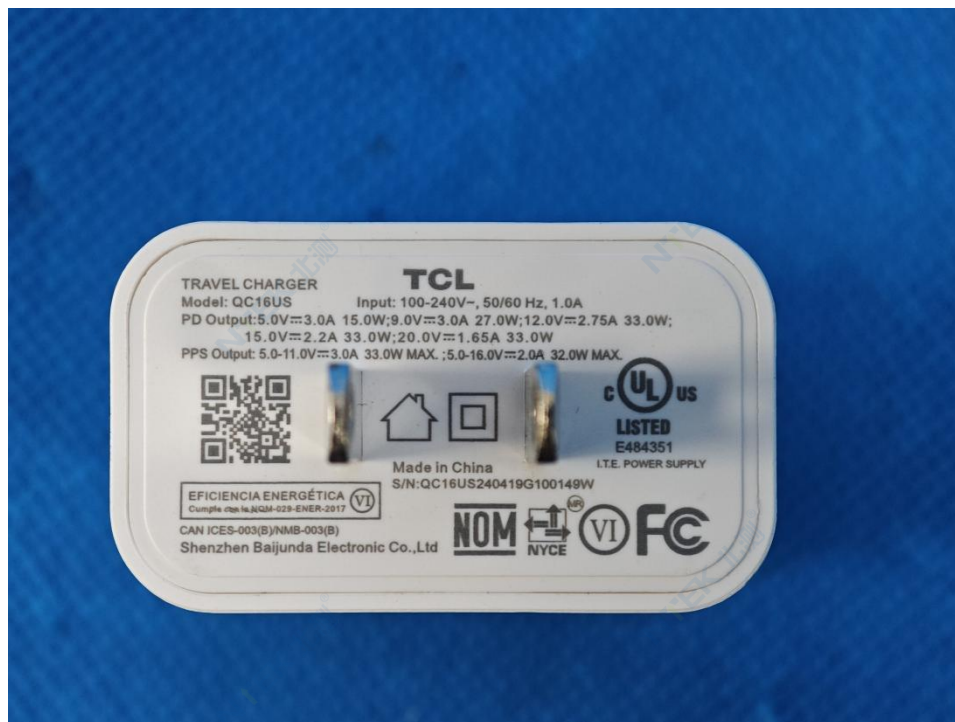


Fig.7 Adapter view

The date code is marked on the outer package of the product

Attachment B — Equipment List

Ref.	Equip. name	Supplier	Type	Rating	Due to
LSS-399-C	Charge system	NEWARETECHNOLOGY LIMITED	CT-4008-20V6A-A	AC-220V+10%; 50/60Hz, 1336W	2025-04-23
LSS-144-C	Digital Power Meter	Yokogawa	WT310E	1Φ2W; Frequency: DC,0.5Hz-100kHz; PF: 0-100%; THD: 0-100%. Crest factor = 3: Voltage: 0-600VAC; Current: 0-20A. Crest factor = 6:w Voltage: 0-300VAC; Current: 0-10A.	2025-05-16
LSS-096-C	DC Power Supply	Longwei Instruments (HK)	TPR12005D	0-120V,0-5A	2025-04-23
LSS-213-C	Temperature and Humidity Recorder	YUWEXA	DWL-20	-35-80°C, 0%-100%RH	2025-04-23
LSS-416-C	Thermal anemometer	PengFengLian	AR866A	Measurement range: 0~30m/s, Min: 0.01m/s	2025-05-27

N/A* - Equipment is verified by the use of other calibrated equipment – example: the power analyzer is used to measure input parameters from the power source.

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