TEST REPORT

Report No.:	S25022104403001
Product:	Magic Note Pad
Model No.:	MNP1095, MNP1091, MNP1092, MNP1093
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 Xinfa East Road, Xiangshan Community, Xinqiao Street, Bao'an District, Shenzhen,Guangdong, China
Tel:	0755-2320 0050

DOE

Report No. S25022104403001

TEST REPORT

Energy Conservation Program for Battery Chargers

Report Reference No..... :	S25022104403001
Tested by (+ signature)..... :	Felix Hu
Approved by (+ signature)..... :	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 Xinfa 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 Note Pad
Trademark..... :	XPPen
Model and/or type reference..... :	MNP1095, MNP1091, MNP1092, MNP1093
Rating(s)..... :	Input: 5Vdc, 3A or 9Vdc, 2.22A or 12Vdc, 1.67A 20.0W Max (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 Mingxin Power Technologies Co.,Ltd
Model: MX21PD-V
Input: 100-240V~, 50/60Hz, 0.5A Max
Output: 5Vdc, 3A or 9Vdc, 2.22A or 12Vdc, 1.67A 20.0W Max
Energy level: VI

General test condition

Ambient temperature (°C): (20±5)	21.5
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)
MNP1095	1	115	60	24.63	24	0.142	21.33	NA	NA	0.645
MNP1095	2	115	60	24.62	24	0.139	21.33	NA	NA	0.646

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	24.625	24	0.141	21.330	NA	NA	0.645	
Sample Standard Deviation	0.007	24	0.002	0.000	NA	NA	0.001	**7.3132**
UCL/1.05	23.513	24	0.152	20.314	NA	NA	0.622	
Represented Value	**24.63**	**24**	**0.14**	**21.33**	**NA**	**NA**	**0.65**	

Supplementary information:

Reference information

(i) $UEC = 365(n(E_{24} - 5P_m - E_{batt})\frac{24}{t_{cd}} + (P_m(t_{a\&m} - (t_{cd} - 5)n)) + (P_{sb}t_{sb}) + (P_{off}t_{off}))$ 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 (tcd − 5) * n >ta&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
ta&m, n, tsb, and toff, 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 Wh, 1.42 kWh/y E^{batt} ≥10 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

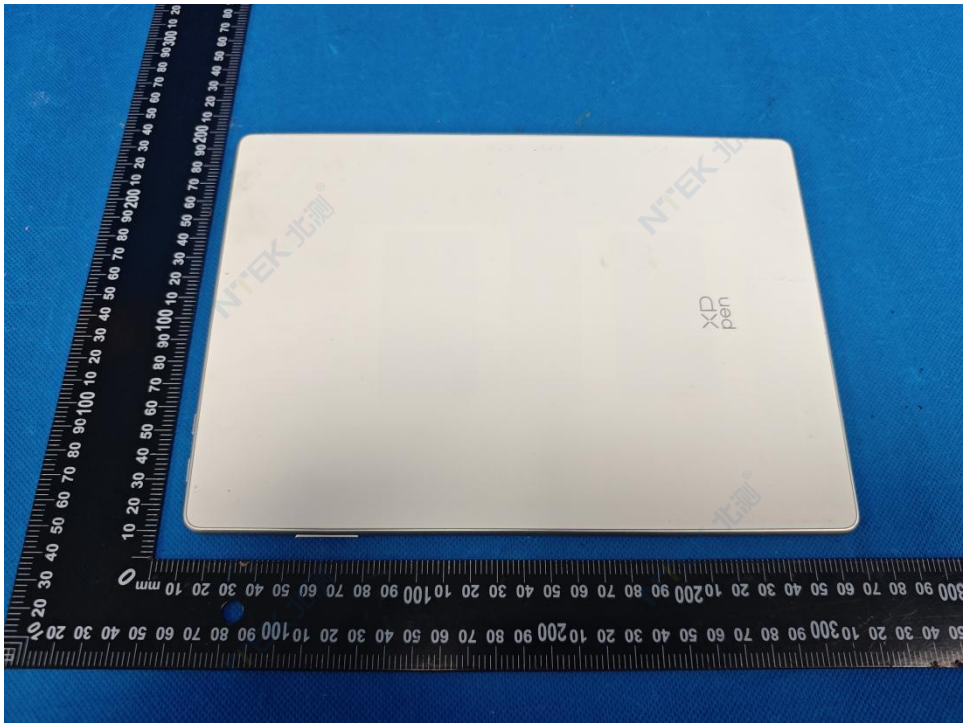

Fig.3 Overall view

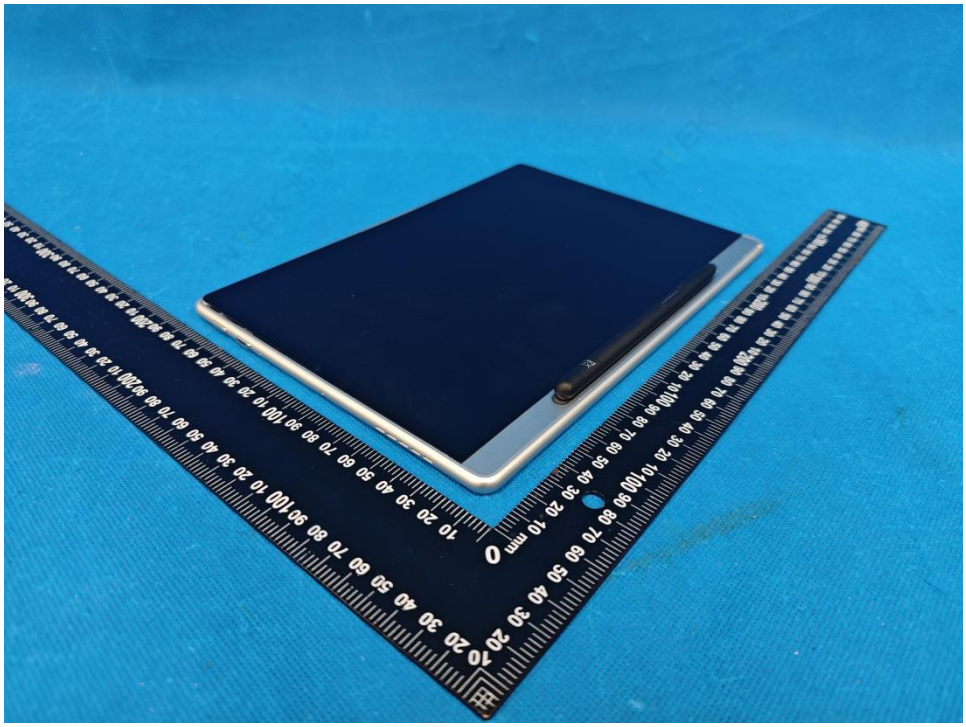

Fig.4 Overall view

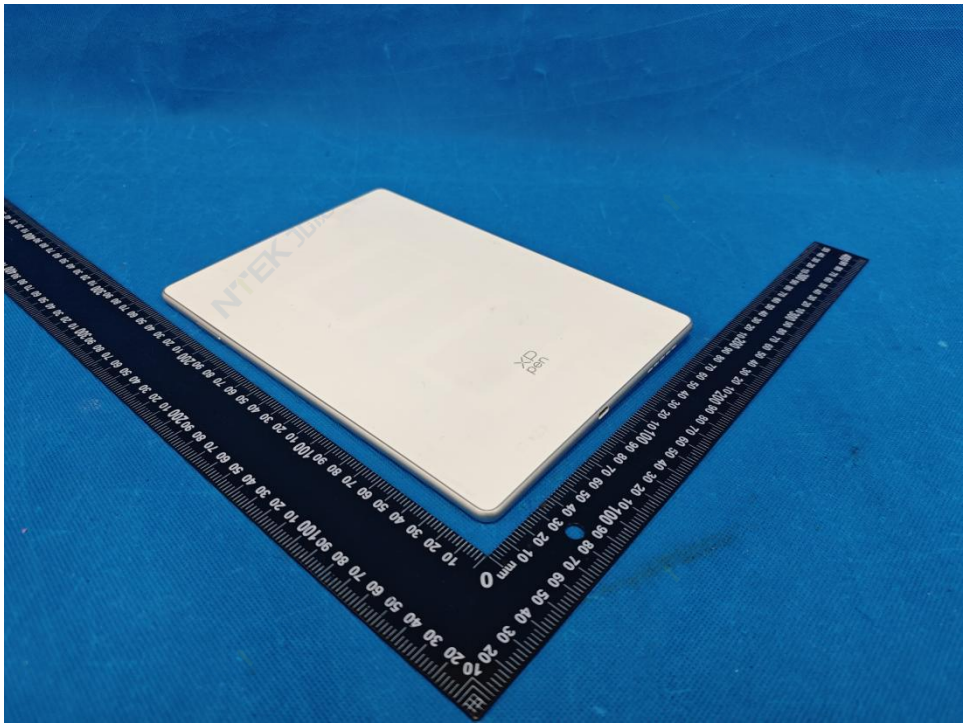

Fig.5 Overall view

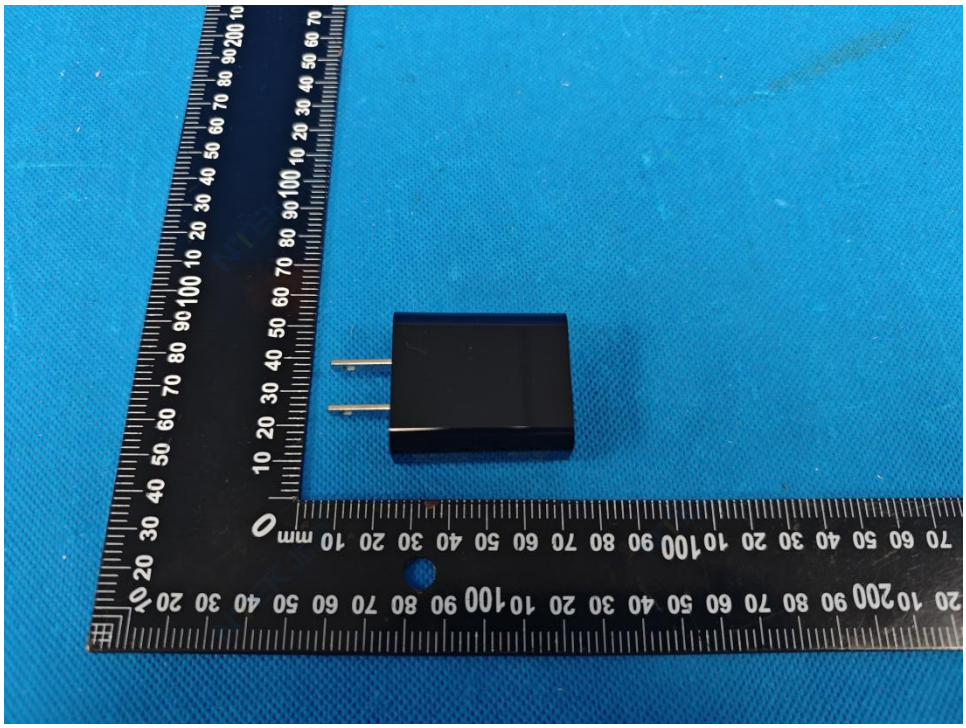

Fig.6 Adapter view

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*******