TEST REPORT

Department Of Energy (10 CFR Part 430)

Report Reference No. ……..……:	AOC250609010ER
Compiled by (print+ signature) ……..…:	Bruce Lin
Approved by (print+ signature) ……..…:	Robin Liu
Date of issue……..:	2025-06-16

Lab Supervisor

Testing Laboratory.....:	Shenzhen AOCE Electronic Technology Service Co., Ltd
Address……:	Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Testing location/address……..:	Same as above
Applicant's name.....:	Shenzhen Amazwear Technology Co.,Limited
Address……:	34th Floor, Changjiang Center, interchange of Renmin Road and Jianshe Road, Jinglong Community, Longhua Street, Longhua District, Shenzhen, China.
Manufacturer name……..:	Shenzhen Amazwear Technology Co.,Limited
Address……:	34th Floor, Changjiang Center, interchange of Renmin Road and Jianshe Road, Jinglong Community, Longhua Street, Longhua District, Shenzhen, China.
Test Object……..:	Smart Watch
Trade Mark……..:	KOSPET
Model / Type reference……:	TANK T3
Rating (s)……..:	DC5V, 1A

Test specification:

Standard .....:	DOE: 10 CFR Part 430 (the energy conservation standards specified in the Code of Federal Regulations at 10 CFR 430.32(z))
Test procedure .....:	Appendix Y to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Battery Chargers
Non-standard test method .....:	N/A
Test Report Form No......:	TRF No. DOE
Test Report Form(s) Originator .....:	AOCE
Master TRF.....:	2022-03-23

Appliance (Equipment) Detail

Model Number	TANK T3
Brand	KOSPET
Regulatory Status	Federally-Regulated
Product Type	Smart Watch
Serial Number	N/A
Product Description (as appropriate)	N/A
Rated voltage(s)	5V
Frequency (frequencies)	--
Number of charger ports	1
Location of marking or labeling	outside
Detail of manufacturer marked on the product (if any)	None
Compatible battery chemistries	Lithium Ion

Unit Configuration

☒ USB Charger system
☐ Multi-port Charger
☐ Multi-voltage charger
☐ Batch charger

For Battery information

Battery manufacture:	ZHONGSHAN ZHONGWANGDE NEW ENERGY TECHNOLOGY Co. , LTD
Model of battery:	ZWD552429V
Number of battery:	1
Rated Battery Voltage:	3.8V
Rated charge capacity of the test battery:	500mAh
Rated charge energy of the test battery:	1.9Wh

Possible test case verdicts

- Test object does meet the requirement: …..…...:	P (Pass)
- Test case does not apply to the test object: ……:	N/A (Not applicable)
- Test object does not meet the requirement: ……:	F (Fail)

Testing:

Date of receipt of test item ……...:	2025-06-09
Data(s) of performance of tests…….:	From 2025-06-09 to 2025-06-16

General product information

1. The EUT was charged by external DC source via Universal Serial Bus. We performed the test is that input reference source should be 5.0Vdc via Type-C port.
2. The weight of the product is 0.075kg.
3. Factory Name and Address: Same as the applicant.

General conditions for measurements

1.Test Room

The tests shall be carried out in a room that has an air speed close to the appliance under test of ≤0.5 m/s. The ambient temperature shall be maintained at (20 ± 5) °C throughout the test.

2.Power supply

Where this standard is referenced by an external standard or regulation that specifies a test voltage and frequency, the test voltage and frequency so defined shall be used for all tests. Where the test voltage and frequency are not defined by an external standard, the test voltage and the test frequency shall be the nominal voltage and the nominal frequency of the country for which the measurement is being determined ±1 %.

3. Supply voltage waveform

The total harmonic content of the supply voltage when supplying the appliance under test in the specified mode shall not exceed 2 %; harmonic content is defined as the root-mean-square (r.m.s.) summation of the individual components using the fundamental as 100 %.

4. Power measurement accuracy

Precision measurement of energy consumption shall be made with a precision equal to the greater of 0.1 Watt-hour or 1% of full-scale measurement.

5. Testing Setup

Charge the battery with the UUT for the period specified by the UUT manufacturer as the time needed to fully charge the battery under test.

1) All limited time functions used to deliver the primary charge to the battery, including cell equalization, are to be excluded from the measurement of battery maintenance mode.
2) If these events are known to occur for a time period beyond the manufacturer specified charge time, the battery is to be left in place until all such functions are complete.
3) In cases where no charge time is specified, the batteries to be charged for a period of at least 24 hours.

Note: The applicant and manufacturer information, product name, model, trademark and other information in this report are all provided by the applicant, and this laboratory is not responsible for verifying its authenticity.

General conditions for measurements

Test condition parameter	Requirements	Measured
Air speed close to the EUT	≤ 0.5 m/s	0.1 m/s
Ambient temperature	15-25°C	24.0°C
Relative Humidity	10-80%	57.0%
Test voltage	☐ 115 ±1% ☒ others	5Vdc
Test frequency	☐ 60 Hz ±1%	--
Total harmonic content (up to and including the 13th harmonic)	≤ 2 %	--
Voltage crest factor of the power meter under test	1.34-1.49	--
Resolution of power meter	0.01 W (at least)	0.01W

Test instruments

Number	Model designation	Measurement	Calibration date	Next Calibration date
AOC-S-012	WT310	Digital Power Meter	2025/04/13	2025/04/12
AOC-S-062	RD-3010	DC source	2025/04/13	2025/04/12
AOC-S-161	CT-3008-15V3A-A	Battery charge tester	2025/04/13	2025/04/12
AOC-S-067	ZJ1-2B	Hygrograph	2025/04/15	2025/04/14
AOC-S-043	PC396	Stop Watch	2025/04/13	2025/04/12
AOC-S-135	AR866A	Anemometer	2025/04/15	2025/04/14

TEST DATA AND RESULT

Measured Value				
Determination of represented values	Sample 1	Sample 2	Represented value mean	Units
24‑hour charge and maintenance energy (E_{24} = 24-hour energy)	1.85	1.80	1.825	Wh
Battery maintenance mode power (P_m = Maintenance mode power)	0.015	0.015	0.015	W
No battery mode power (P_{sb} = Standby mode power)	0	0	0	W
No battery mode power (P_{off} = Off mode power)	--	--	--	W
Battery capacity of tested battery (if more than 1 charger port report the total of all battery capacities connected during test) (E_{batt} = Measured battery energy)	1.03	0.99	1.01	Wh
t_{cd} = Charge test duration	24	24	--	h
$t_{a\&m}$, n, t_{sb} and t_{off}	ta&m=7.82 n=0.54 tsb=5.29 toff=0.00	ta&m=7.82 n=0.54 tsb=5.29 toff=0.00	--	--

TABLE: BATTERY CHARGER USAGE PROFILES

Product class				Hours per day***			Charges (n)	Threshold charge time*
No.	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	≤ 20 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	<100 Wh	4-10 V	6.42	0.30	0.00	0.10	64.20
4	Low-Energy, High-Voltage	<100 Wh	>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	100-3000 Wh	≥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

* If the duration of the charge test (minus 5 hours) as determined in section 3.3.2 of appendix Y to subpart B of this part exceeds the threshold charge time, use equation (ii) to calculate UEC otherwise use equation (i).

** Ebatt = Rated battery energy as determined in 10 CFR part 429.39(a).

*** If the total time does not sum to 24 hours per day, the remaining time is allocated to unplugged time, which means there is 0 power consumption and no changes to the UEC calculation needed.

**** Inductive connection and designed for use in a wet environment (e.g. electric toothbrushes)

Unit energy consumption (UEC) for a battery charger

Formula	UEC		Verdict
	Sample1	Sample2	
(i) $UEC = 365(n(E_{24} - 5P_m - E_{batt})24/t_{cd} + (P_m(t_{a\&m} - (t_{cd} - 5)n) + (P_{sb}t_{sb}) + (P_{off}t_{off}))$	--	--	N/A
(ii) $UEC = 365(n(E_{24} - 5P_m - E_{batt})24/(t_{cd} - 5) + (P_{sb}t_{sb}) + (P_{off}t_{off}))$	0.185 kWh/yr	0.183 kWh/yr	Pass
Note: Calculate unit energy consumption (UEC) for a battery charger using one of the two equations (equation (i) or equation (ii)) listed. If a battery charger is tested and its charge duration as determined in section 5.2 of this appendix minus 5 hours is greater than the threshold charge time listed in table 5.3 below (*i.e.* $(t_{cd}-5) * n > t_{a\&m}$), use equation (ii) to calculate UEC; otherwise calculate the battery charger's UEC using equation (i).			

Maximum UEC limit					
Product class	**Product class description**	**Rated battery energy (Ebatt**)**	**Special characteristic or battery voltage**	**Maximum UEC (kWh/yr) (as a function of Ebatt**)**	**Verdict**
1	Low-Energy	≤20 Wh	Inductive Connection*	3.04	N/A
2	Low-Energy, Low-Voltage	<100 Wh	<4 V	0.1440 * E_{batt}+2.95	Pass
3	Low-Energy, Medium-Voltage	<100 Wh	4-10 V	For E_{batt} < 10 Wh, 1.42 kWh/y For E_{batt} ≥ 10 Wh, 0.0255 * E_{batt} + 1.16	N/A
4	Low-Energy, High-Voltage	<100 Wh	>10 V	0.11 * E_{batt} + 3.18	N/A
5	Medium-Energy, Low-Voltage	100-3000 Wh	<20 V	0.0257 * Ebatt + 0.815	N/A
6	Medium-Energy, High-Voltage	100-3000 Wh	≥20 V	0.0778 * Ebatt + 2.4	N/A
7	High-Energy	>3000 Wh		0.0502 * Ebatt + 4.53	N/A
*Inductive connection and designed for use in a wet environment (e.g. electric toothbrushes). **E_{batt} = Rated battery energy as determined in 10 CFR part 429.39(a). Maximum UEC (kWh/yr): 0.1440 * Ebatt+2.95= 0.144*(3.8V*500mAh)+2.95=3.2236 kWh/yr					

Department of Energy (DOE) sampling plan for Battery chargers

Determination of represented values. Manufacturers must determine represented values, which include certified ratings, for each basic model of battery charger in accordance with the following sampling provisions.

Represented values include: the unit energy consumption (UEC) in kilowatt-hours per year (kWh/yr), battery discharge energy (E_{batt}) in watt-hours (Wh), 24-hour energy consumption (E_{24}) in watt-hours (Wh), maintenance mode power (P_m) in watts (W), standby mode power (P_{sb}) in watts (W), off mode power (P_{off}) in watts (W), and duration of the charge and maintenance mode test (t_{cd}) in hours (hrs).

For each basic model, a sample of sufficient size shall be randomly selected and tested to ensure that the represented value of UEC is greater than or equal to the higher of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

and, $\bar{x}$ is the sample mean; n is the number of samples; and x_i is the UEC of the ith sample or,

(B) The upper 97.5-percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{0.975}\left(\frac{s}{\sqrt{n}}\right)$$

and $\bar{x}$ is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.975}$ is the t-statistic for a 97.5-percent one-tailed confidence interval with n-1 degrees of freedom (from appendix A of this subpart).

FIGURE 1—T-DISTRIBUTION VALUES FOR CERTIFICATION TESTING

[One-Sided]

Degrees of freedom (from Appendix A)	Confidence Interval			
	90%	95%	97.5%	99%
1	3.078	6.314	12.71	31.82
2	1.886	2.920	4.303	6.965
3	1.638	2.353	3.182	4.541
4	1.533	2.132	2.776	3.747
5	1.476	2.015	2.571	3.365
6	1.440	1.943	2.447	3.143
7	1.415	1.895	2.365	2.998
8	1.397	1.860	2.306	2.896
9	1.383	1.833	2.262	2.821
10	1.372	1.812	2.228	2.764
11	1.363	1.796	2.201	2.718
12	1.356	1.782	2.179	2.681
13	1.350	1.771	2.160	2.650
14	1.345	1.761	2.145	2.624
15	1.341	1.753	2.131	2.602
16	1.337	1.746	2.120	2.583
17	1.333	1.740	2.110	2.567
18	1.330	1.734	2.101	2.552
19	1.328	1.729	2.093	2.539
20	1.325	1.725	2.086	2.528

While the sample standard deviation, *s*, is calculated using the formula below:

$$s = \sqrt{\frac{\sum_{i=0}^{n}(x_i - X)^2}{n-1}}$$

where:

X is the mean of sample
n is the number of units tested
x_i is the i^{th} test result
$\sum_{i=0}^{n} x_i$ is the sum of the results of n tests.

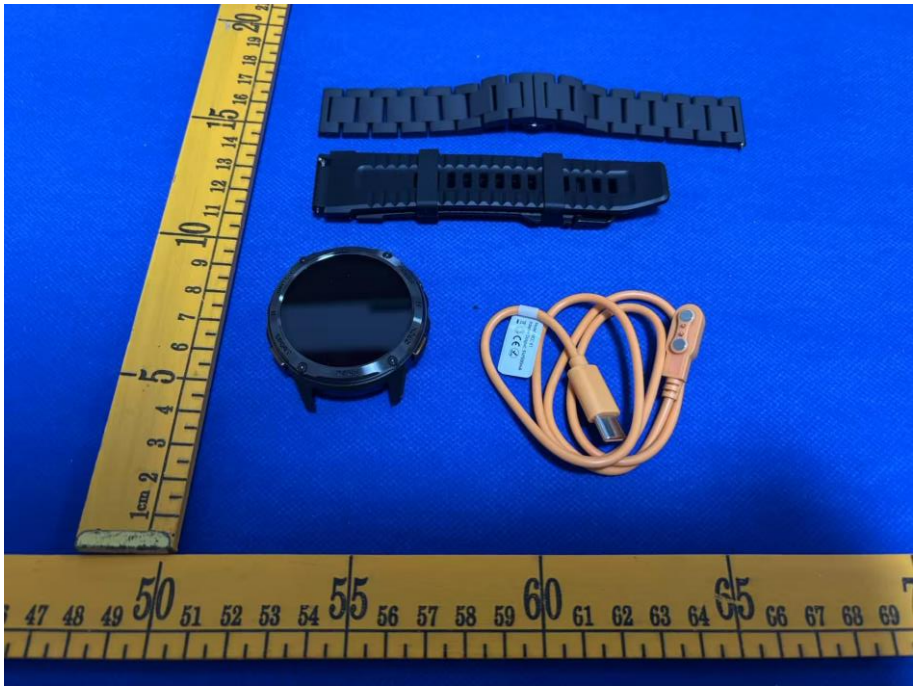
Test sample number	Active model energy consumption UEC (kWh/yr)	Product class	The represented value of Maximum UEC (kWh/yr)
1 (first)	0.185	2	0.191
2 (second)	0.183		
Mean	0.184		
UCL / 1.05	0.191		

Note 1: For calculate the upper 97.5-percent confidence limit (UCL) of the true mean divided by 1.05: n=2, $t_{0.975}$=12.71, the sample mean energy consumption UEC is 0.184 with a standard deviation of s=0.0018.

Note 2: The charging system was evaluated according to the 10 CFR Part 430 (the energy conservation standards specified in the Code of Federal Regulations at 10 CFR 430.32(z)) to meets the CEC and DOE energy efficiency requirements

EUT Photo

View 1



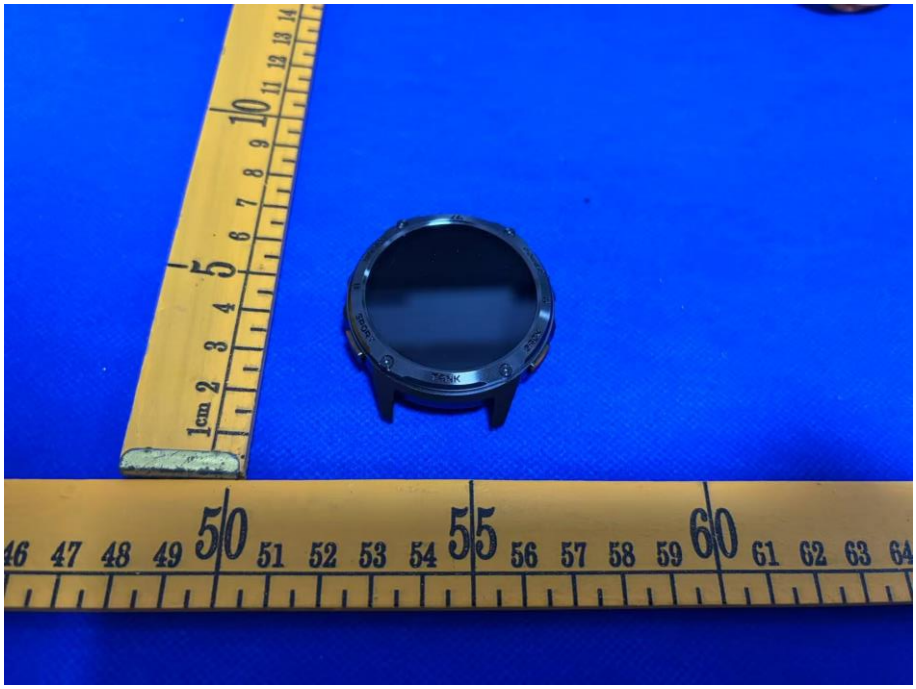
View 2

EUT Photo

View 3

View 4

EUT Photo



View 5

View 6

Label

KOSPET
Smart Watch
Model: TANK T3

Shenzhen Amazwear Technology Co.,Limited
Made in China

Notes:

1. The height dimension of WEEE symbol should not less than 7mm.

2. The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

---------END OF REPORT---------