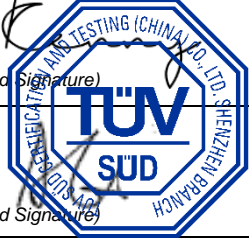




| TEST REPORT PPP 10059A:2019 TUV SUD Test Report for ErP – External Power Supply Ecodesign requirements for no-load condition electric power consumption and average active efficiency Implementation Measure EC Regulation (EU) 2019/1782 | |
|--|--|
| Report No.: | 65.182.22.091.01 |
| Date of issue: | 2023-04-18 |
| Project handler: | Kenny Wu |
| Testing laboratory: | TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch |
| Address: | Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen 518052, China |
| Testing location: | as above |
| Client: | Shenzhen CHANZEHO Technology Co., Limited |
| Client number: | 097714 |
| Address: | CHANZEHO Technology Park, 114-1 Longxing North Road, Longtian Community, Longtian Street, Pingshan District, 518118 Shenzhen, Guangdong, PEOPLE'S REPUBLIC OF CHINA |
| Contact person: | Mr. Jack Wan |
| Standard: | This TÜV SÜD test program is based on the following standards: (EU) 2019/1782 Test Method: EN 50563:2011+A1:2013 10 CFR 430 Appendix Z: 2015 |
| TRF number and revision: | PPP 10059A:2019 Rev. 01:2019-11 |
| TRF originated by: | TÜV SÜD Product Service GmbH, Mr. Andy Tong |
| Copyright blank test report: | This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TUV SUD Product Service. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. |
| General disclaimer: | This test report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. |
| Scheme: | <input type="checkbox"/> TÜV Mark, <input checked="" type="checkbox"/> EU-Directive, <input checked="" type="checkbox"/> without certification |
| Non-standard test method: | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, see details under Summary of testing |
| National deviations: | None |



| | |
|--------------------------------|---|
| Number of pages (Report): | 22 |
| Number of pages (Attachments): | 3 |
| Compiled by: | Kenny Wu <i>(Printed Name and Signature)</i> |
| Approved by: | Alex Wu <i>(Printed Name and Signature)</i> |





| | |
|-------------------------------------|---|
| Test sample: | One (pre-production) |
| Type of test object: | SWITCHING ADAPTER or BATTERY CHARGER |
| Trademark: |  |
| Model and/or type reference: | CZH015310060EUWH, CZH015310060BSWH, CZH015310060EUWP, CZH015310060BSWP, CZH015310060EUWQ, CZH015310060BSWQ, CZH015310060TRWQ |
| Rating(s): | Input: 100-240VAC, 50/60Hz, 0.5A Max; Output: 31.0VDC, 0.6A, 18.6W |
| Manufacturer: | Same as client |
| Manufacturer number: | Same as client |
| Address: | Same as client |
| Sub-contractors/ tests (clause): | N/A |
| Name: | N/A |
| Order description: | <input checked="" type="checkbox"/> Complete test according to TRF |
| | <input type="checkbox"/> Partial test according to manufacturer's specifications |
| | <input type="checkbox"/> Preliminary test |
| | <input type="checkbox"/> Spot check |
| | <input type="checkbox"/> Others: |
| Date of order: | 2022-08-18 |
| Date of receipt of test item: | 2022-12-01 |
| Date(s) of performance of test: | From 2022-12-01 to 2022-12-09 |
| Test item particulars: | |
| Name plate power output (Po): | 18.6W |
| Declared No-load power consumption: | 0.09W |
| Declared Average active efficiency: | 85.5% |
| Declared Efficiency at load 10%: | 75.5% |
| Built-in ON/OFF switch : | N/A |
| Output : | Fixed |
| Type of power supply: | <input type="checkbox"/> Multiple-voltage external power supply <input checked="" type="checkbox"/> Single-voltage external power supply |



| | | | | |
|---|-------------|---------|------------|-------------|
| <p>Purpose of the product (Description of intended use): SWITCHING ADAPTER or BATTERY CHARGER with DC output 31.0VDC, 0.6A, 18.6W for general use purpose.</p> | | | | |
| <p>Characteristic data (not shown on the marking plate): Weight: approx. 0.083kg.</p> | | | | |
| <p>Attachments: Attachment 1: Equipment List Attachment 2: Information in instruction manuals for end-users (where applicable), and free access websites based on manufacturer declaration.</p> | | | | |
| <p><i>General remarks:</i> "(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. Measurement uncertainty budgets have been determined for applicable test methods and are available upon request. According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.</p> | | | | |
| <p>Summary of testing:</p> <ol style="list-style-type: none"> 1. Models CZH015310060EUWH and CZH015310060BSWH are identical except for model number and plug type. 2. Models CZH015310060EUWP and CZH015310060BSPW are identical except for model number and plug type. 3. Models CZH015310060EUWQ and CZH015310060BSWQ are identical except for model number and plug type. 4. Models CZH015310060EUWQ and CZH015310060TRWQ are identical except for model number, enclosure type and plug type. 5. Models CZH015310060EUWH, CZH015310060EUWP and CZH015310060EUWQ equipped with fixed EU plug. 6. Models CZH015310060BSWH, CZH015310060BSPW and CZH015310060BSWQ equipped with fixed UK plug. 7. Model CZH015310060TRWQ equipped with detachable EU or UK plug. 8. The model CZH015310060EUWQ was selected as representative for all tests unless otherwise specified. <p>Remark:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;"></td> <td style="text-align: center;">Stage 1</td> </tr> <tr> <td>Start Date</td> <td style="text-align: center;">01.Apr.2020</td> </tr> </table> <p> <input type="checkbox"/> deviation(s) found <input checked="" type="checkbox"/> no deviations found </p> | | Stage 1 | Start Date | 01.Apr.2020 |
| | Stage 1 | | | |
| Start Date | 01.Apr.2020 | | | |



Additional information on Non-standard test method(s)

Sub clause: N/A

Page: N/A

Rational: N/A





If additional information is necessary, please provide




N/A



Copy of marking plate:





CHANZEHO (VI)
BATTERY CHARGER
MODEL :CZH015310060EUWQ
INPUT:100-240V~ 50/60Hz 0.5A Max
OUTPUT:31.0V --- 0.6A 18.6W




   


   IP20
WWYY

Shenzhen **CHANZEHO** Technology Co., Limited. **MADE IN CHINA**




CHANZEHO SWITCHING ADAPTER (VI)
MODEL:CZH015310060EUWQ
INPUT:100-240V~ 50/60Hz 0.5A Max
OUTPUT:31.0V --- 0.6A 18.6W




   


   IP20

Shenzhen **CHANZEHO** Technology Co., Limited.
 **ta=35°C** WWYY
MADE IN CHINA





CHANZEHO (VI)
BATTERY CHARGER
MODEL:CZH015310060EUWP
INPUT:100-240V~ 50/60Hz 0.5A Max
OUTPUT:31.0V --- 0.6A 18.6W




  


   IP20

Shenzhen **CHANZEHO** Technology Co., Limited.
 **MADE IN CHINA** WWYY

CHANZEHO SWITCHING ADAPTER (VI)
MODEL:CZH015310060EUWP
INPUT:100-240V~ 50/60Hz
0.5A Max
OUTPUT:31.0V --- 0.6A 18.6W

   IP20

Shenzhen **CHANZEHO** Technology Co., Limited.
 **MADE IN CHINA** WWYY

Importer: XXX
Address: XXX

Remark:

1. The height dimension of CE mark and GS mark should not less than 5mm, the height dimension of WEEE symbol should not less than 7mm.
2. Date code "WWYY", WW means weeks, YY means years.

Picture of the product:



Figure 1 - Overall view for equipment (For model CZH015310060EUWH)



Figure 2 - Overall view for equipment (For model CZH015310060EUWH)

Picture of the product:



Figure 3 - Overall view for equipment (For model CZH015310060BSWH)



Figure 4 - Overall view for equipment (For model CZH015310060BSWH)

Picture of the product:



Figure 5 - Overall view for equipment (For model CZH015310060EUWP)

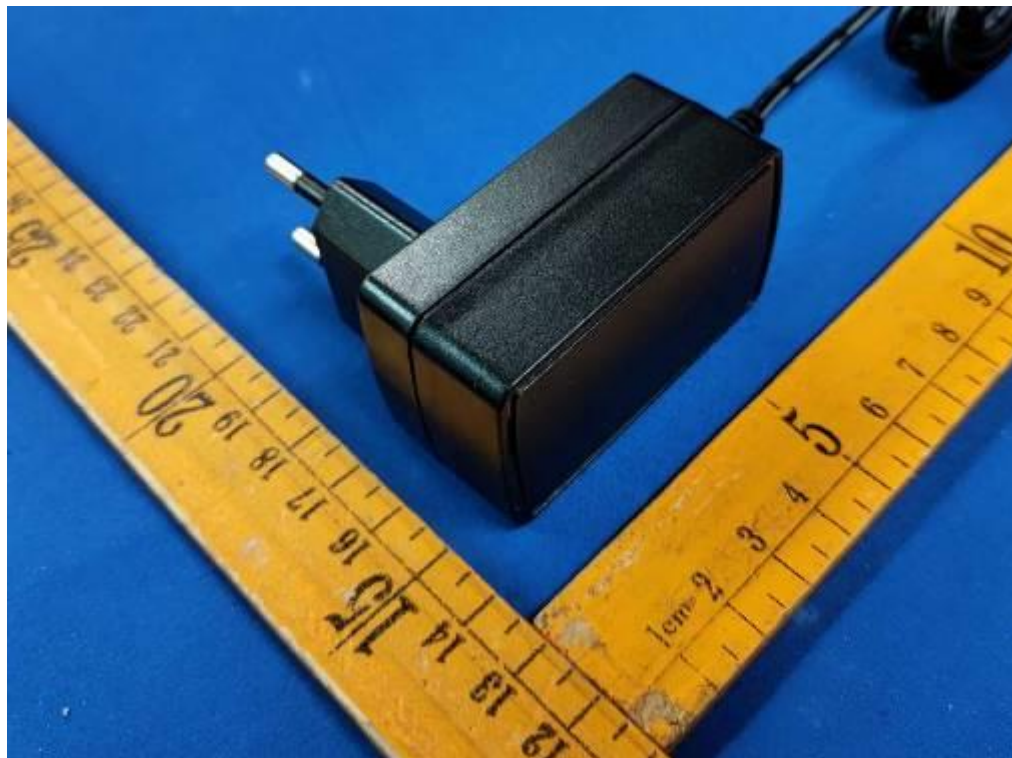


Figure 6 - Overall view for equipment (For model CZH015310060EUWP)

Picture of the product:



Figure 7 - Overall view for equipment (For model CZH015310060BSWP)



Figure 8 - Overall view for equipment (For model CZH015310060BSWP)

Picture of the product:

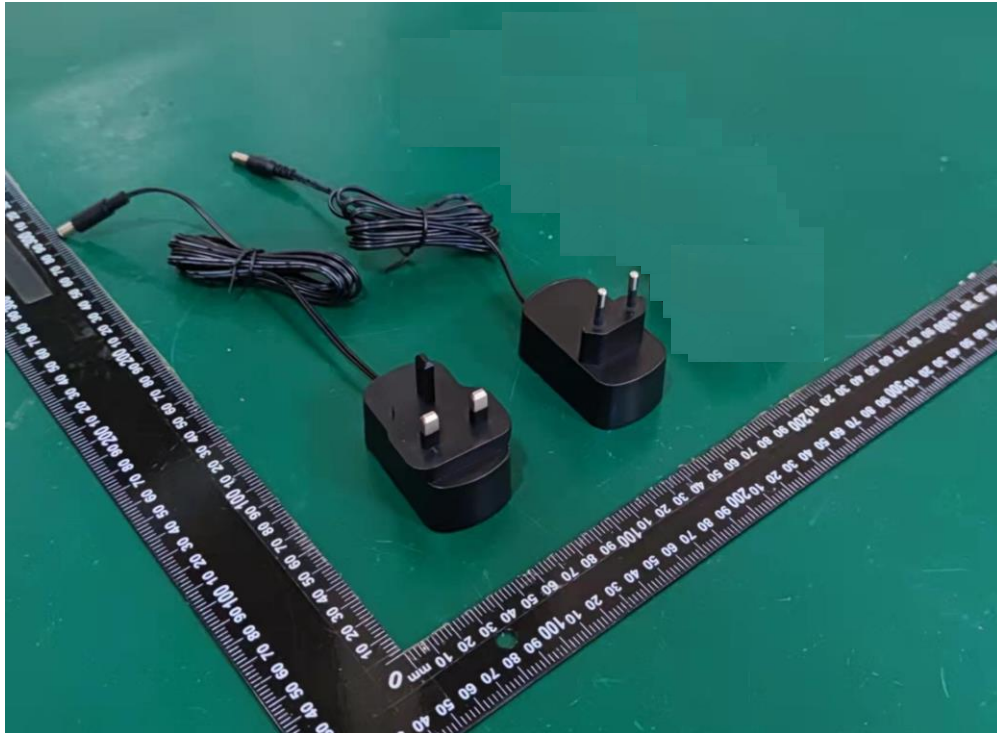


Figure 9 - Overall view for equipment (For models CZH015310060EUWQ, CZH015310060BSWQ)

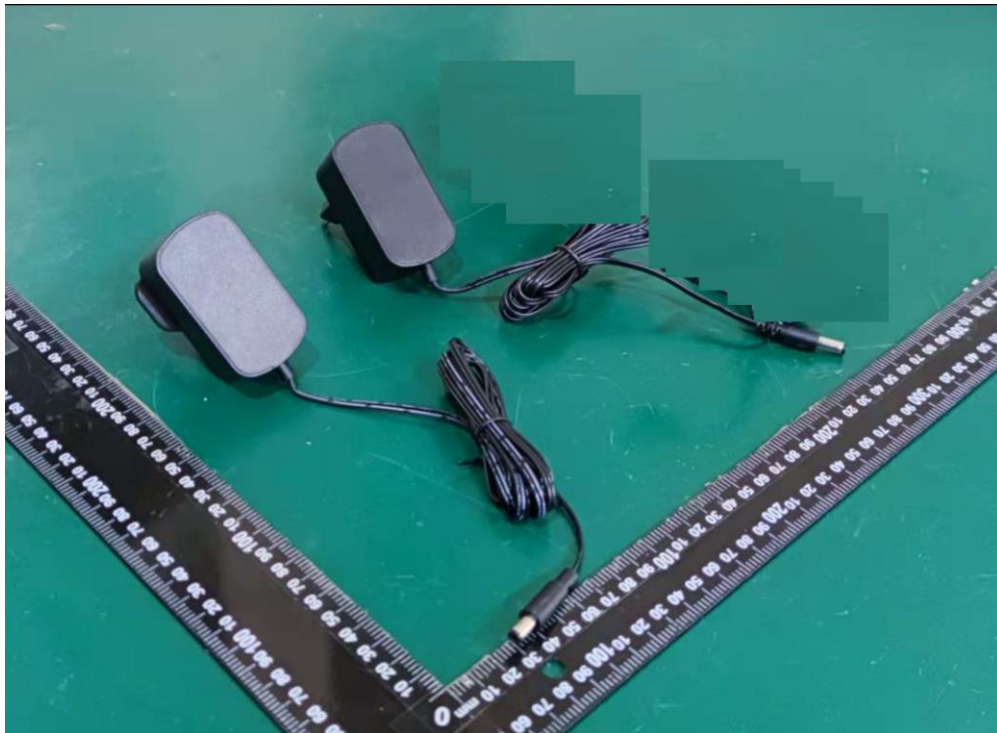


Figure 10 - Overall view for equipment (For models CZH015310060EUWQ, CZH015310060BSWQ)

Picture of the product:



Figure 11 - Overall view for equipment (For model CZH015310060TRWQ)



Figure 12 - Overall view for equipment (For model CZH015310060TRWQ)

Picture of the product:



Figure 13 - Internal view

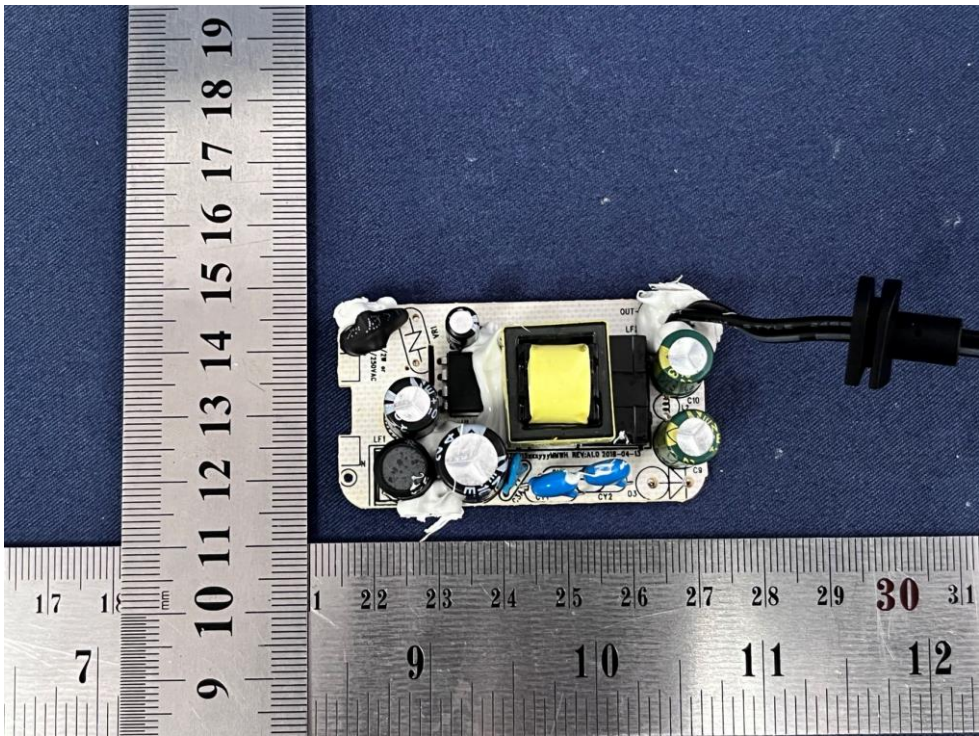


Figure 14 - Top view of PCB

Picture of the product(cont'd):

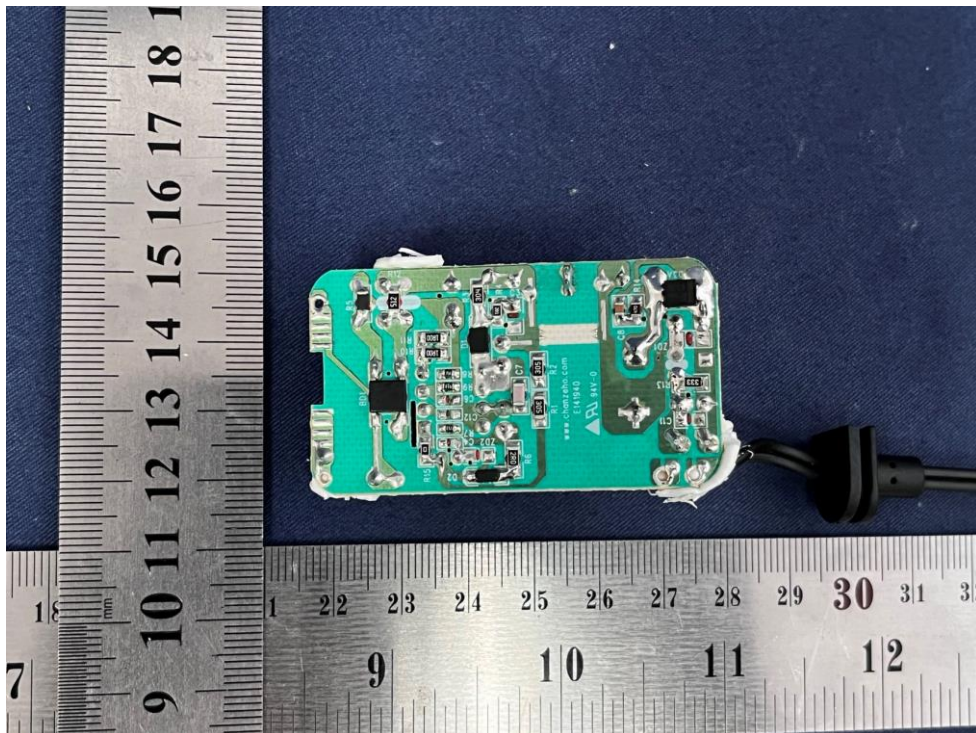


Figure 15 - Bottom view of PCB

Name and address of factory (ies) (only if certification is provided):

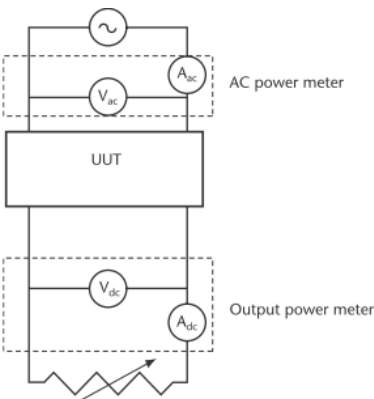
Same as client

Possible test case verdicts:

test case does not apply to the test object: N/A (not applicable / not included in the order)
test object does meet the requirement: P (Pass)
test object does not meet the requirement: F (Fail)

Possible suffixes to the verdicts:

suffix for detailed information for the client: C (Comment)
suffix for important information for factory inspection: M (Manufacturing)

| Clause | Requirement + Test | result – Remark | Verdict |
|--------|---|--|---------|
| 0. | General | Test method is according to EN 50563 and may refer to 10CFR430 Appendix Z for multiple output external power supply in addition as far as needed to supplement the test. | P |
| 0.1 | Ambient condition met requirement of: Ambient temperature $20 \pm 5^{\circ}\text{C}$; Airspeed $\leq 0.5\text{m/s}$. | Ambient: 23.1°C Airspeed: 0.3m/s | P |
| 0.2 | Power source meets requirement of: The input voltage source must be capable of delivering at least 10 times the nameplate input power of the UUT; Voltage $230\text{V} \pm 1\%$; Frequency $50\text{Hz} \pm 1\%$; THD value $< 2\%$; ratio of peak value of test voltage to rms of 1.34 to 1.49. | Volage: 230.30V Frequency: 50.0Hz THD: Max. 0.110% Ratio: 1.41 | P |
| 0.3 | Power measurement accuracy | | P |
| | Any power measurements recorded, as well as any power measurement equipment utilized for testing, shall conform to the uncertainty and resolution requirements outlined in Clause 4, "General conditions for measurements," as well as Annexes B, "Notes on the measurement of low power modes," and D, "Determination of uncertainty of measurement," of IEC 62301:2011. | | P |
| 0.4 | Test circuit | | P |
| |  <p>Fig. 1 Electrical test circuit</p> | | P |



| Clause | Requirement + Test | result – Remark | Verdict | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|-------------------------------------|---|---------------------------|-----------------------------|---|-------------------------------|-------------------------------|---|---|--|--|------------------------------------|---|------------|-------|-------|-------|-------------|---|
| Annex II | Ecodesign requirements for external power supplies | | P | | | | | | | | | | | | | | | | | | | | |
| 1. | Energy efficiency requirements: | | P | | | | | | | | | | | | | | | | | | | | |
| (a) | From 1 April 2020, the no-load condition power consumption shall not exceed the following values: | | P | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th></th> <th>AC-AC external power supplies, except low voltage and multiple voltage output external power supplies</th> <th>AC-DC external power supplies, except low voltage and multiple voltage output external power supplies</th> <th>Low voltage external power supplies</th> <th>Multiple voltage output external power supplies</th> </tr> </thead> <tbody> <tr> <td>$P_o \leq 49,0 \text{ W}$</td> <td>0,21 W</td> <td>0,10 W</td> <td>0,10 W</td> <td>0,30 W</td> </tr> <tr> <td>$P_o > 49,0 \text{ W}$</td> <td>0,21 W</td> <td>0,21 W</td> <td>0,21 W</td> <td>0,30 W</td> </tr> </tbody> </table> | | AC-AC external power supplies, except low voltage and multiple voltage output external power supplies | AC-DC external power supplies, except low voltage and multiple voltage output external power supplies | Low voltage external power supplies | Multiple voltage output external power supplies | $P_o \leq 49,0 \text{ W}$ | 0,21 W | 0,10 W | 0,10 W | 0,30 W | $P_o > 49,0 \text{ W}$ | 0,21 W | 0,21 W | 0,21 W | 0,30 W | See table 1 | P | | | | | |
| | AC-AC external power supplies, except low voltage and multiple voltage output external power supplies | AC-DC external power supplies, except low voltage and multiple voltage output external power supplies | Low voltage external power supplies | Multiple voltage output external power supplies | | | | | | | | | | | | | | | | | | | |
| $P_o \leq 49,0 \text{ W}$ | 0,21 W | 0,10 W | 0,10 W | 0,30 W | | | | | | | | | | | | | | | | | | | |
| $P_o > 49,0 \text{ W}$ | 0,21 W | 0,21 W | 0,21 W | 0,30 W | | | | | | | | | | | | | | | | | | | |
| (b) | From 1 April 2020, the average active efficiency shall be not less than the following values: | | P | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th></th> <th>AC-AC external power supplies, except low voltage and multiple voltage output external power supplies</th> <th>AC-DC external power supplies, except low voltage and multiple voltage output external power supplies</th> <th>Low voltage external power supplies</th> <th>Multiple voltage output external power supplies</th> </tr> </thead> <tbody> <tr> <td>$P_o \leq 1,0 \text{ W}$</td> <td>$0,5 \times P_o/1W + 0,160$</td> <td>$0,5 \times P_o/1W + 0,160$</td> <td>$0,517 \times P_o/1W + 0,087$</td> <td>$0,497 \times P_o/1W + 0,067$</td> </tr> <tr> <td>$1 \text{ W} < P_o \leq 49,0 \text{ W}$</td> <td>$0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$</td> <td>$0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$</td> <td>$0,0834 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,609$</td> <td>$0,075 \times \ln(P_o/1W) + 0,561$</td> </tr> <tr> <td>$P_o > 49,0 \text{ W}$</td> <td>0,880</td> <td>0,880</td> <td>0,870</td> <td>0,860</td> </tr> </tbody> </table> | | AC-AC external power supplies, except low voltage and multiple voltage output external power supplies | AC-DC external power supplies, except low voltage and multiple voltage output external power supplies | Low voltage external power supplies | Multiple voltage output external power supplies | $P_o \leq 1,0 \text{ W}$ | $0,5 \times P_o/1W + 0,160$ | $0,5 \times P_o/1W + 0,160$ | $0,517 \times P_o/1W + 0,087$ | $0,497 \times P_o/1W + 0,067$ | $1 \text{ W} < P_o \leq 49,0 \text{ W}$ | $0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$ | $0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$ | $0,0834 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,609$ | $0,075 \times \ln(P_o/1W) + 0,561$ | $P_o > 49,0 \text{ W}$ | 0,880 | 0,880 | 0,870 | 0,860 | See table 1 | P |
| | AC-AC external power supplies, except low voltage and multiple voltage output external power supplies | AC-DC external power supplies, except low voltage and multiple voltage output external power supplies | Low voltage external power supplies | Multiple voltage output external power supplies | | | | | | | | | | | | | | | | | | | |
| $P_o \leq 1,0 \text{ W}$ | $0,5 \times P_o/1W + 0,160$ | $0,5 \times P_o/1W + 0,160$ | $0,517 \times P_o/1W + 0,087$ | $0,497 \times P_o/1W + 0,067$ | | | | | | | | | | | | | | | | | | | |
| $1 \text{ W} < P_o \leq 49,0 \text{ W}$ | $0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$ | $0,071 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,67$ | $0,0834 \times \ln(P_o/1W) - 0,0014 \times P_o/1W + 0,609$ | $0,075 \times \ln(P_o/1W) + 0,561$ | | | | | | | | | | | | | | | | | | | |
| $P_o > 49,0 \text{ W}$ | 0,880 | 0,880 | 0,870 | 0,860 | | | | | | | | | | | | | | | | | | | |
| 2. | Information requirements: | | P | | | | | | | | | | | | | | | | | | | | |
| (a) | from 1 April 2020, the nameplate shall include the following information: | | P | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Nameplate information</th> <th>Value and precision</th> <th>Unit</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Output power</td> <td>X,X</td> <td>W</td> <td>In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given.</td> </tr> <tr> <td>Output voltage</td> <td>X,X</td> <td>V</td> <td>In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given.</td> </tr> <tr> <td>Output current</td> <td>X,X</td> <td>A</td> <td>In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given.</td> </tr> </tbody> </table> | Nameplate information | Value and precision | Unit | Notes | Output power | X,X | W | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | Output voltage | X,X | V | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | Output current | X,X | A | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | See page 5 | P | | | | |
| Nameplate information | Value and precision | Unit | Notes | | | | | | | | | | | | | | | | | | | | |
| Output power | X,X | W | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | | | | | | | | | | | | | | | | | | | | |
| Output voltage | X,X | V | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | | | | | | | | | | | | | | | | | | | | |
| Output current | X,X | A | In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current - Output power shall be given. | | | | | | | | | | | | | | | | | | | | |



| Clause | Requirement + Test | result – Remark | Verdict | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--|------|-------|---|---|---|---|------------------|---|---|---|---------------|---|---|---|--------------------|---|----|---|----------------|-----|---|---|--|--|--|------------------------------------|----------------|-----|---|--|--------------|-----|---|--|---------------------------|-----|---|--|-------------------------------|-----|---|--|---------------------------|------|---|--|---|---|
| (b) | from 1 April 2020, instruction manuals for end-users (where applicable), and free access websites of manufacturers, importers or authorised representatives shall include the following information, in the order as set out below: | | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th data-bbox="323 577 451 629">Information published</th> <th data-bbox="451 577 539 629">Value and precision</th> <th data-bbox="539 577 592 629">Unit</th> <th data-bbox="592 577 890 629">Notes</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 636 451 786">Manufacturer's name or trade mark, commercial registration number and address</td> <td data-bbox="451 636 539 786">-</td> <td data-bbox="539 636 592 786">-</td> <td data-bbox="592 636 890 786">-</td> </tr> <tr> <td data-bbox="323 792 451 824">Model identifier</td> <td data-bbox="451 792 539 824">-</td> <td data-bbox="539 792 592 824">-</td> <td data-bbox="592 792 890 824">-</td> </tr> <tr> <td data-bbox="323 831 451 882">Input voltage</td> <td data-bbox="451 831 539 882">X</td> <td data-bbox="539 831 592 882">V</td> <td data-bbox="592 831 890 882">Specified by the manufacturer. Shall be a value or a range.</td> </tr> <tr> <td data-bbox="323 889 451 940">Input AC frequency</td> <td data-bbox="451 889 539 940">X</td> <td data-bbox="539 889 592 940">Hz</td> <td data-bbox="592 889 890 940">Specified by the manufacturer. Shall be a value or a range.</td> </tr> <tr> <td data-bbox="323 947 451 1075">Output voltage</td> <td data-bbox="451 947 539 1075">X,X</td> <td data-bbox="539 947 592 1075">V</td> <td data-bbox="592 947 890 1075">Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current</td> </tr> <tr> <td data-bbox="323 1081 451 1133"></td> <td data-bbox="451 1081 539 1133"></td> <td data-bbox="539 1081 592 1133"></td> <td data-bbox="592 1081 890 1133">– Output power shall be published.</td> </tr> <tr> <td data-bbox="323 1140 451 1267">Output current</td> <td data-bbox="451 1140 539 1267">X,X</td> <td data-bbox="539 1140 592 1267">A</td> <td data-bbox="592 1140 890 1267">Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.</td> </tr> <tr> <td data-bbox="323 1274 451 1402">Output power</td> <td data-bbox="451 1274 539 1402">X,X</td> <td data-bbox="539 1274 592 1402">W</td> <td data-bbox="592 1274 890 1402">Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published.</td> </tr> <tr> <td data-bbox="323 1408 451 1603">Average active efficiency</td> <td data-bbox="451 1408 539 1603">X,X</td> <td data-bbox="539 1408 592 1603">%</td> <td data-bbox="592 1408 890 1603">Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage.</td> </tr> <tr> <td data-bbox="323 1610 451 1850">Efficiency at low load (10 %)</td> <td data-bbox="451 1610 539 1850">X,X</td> <td data-bbox="539 1610 592 1850">%</td> <td data-bbox="592 1610 890 1850">Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage.</td> </tr> <tr> <td data-bbox="323 1856 451 1908">No-load power consumption</td> <td data-bbox="451 1856 539 1908">X,XX</td> <td data-bbox="539 1856 592 1908">W</td> <td data-bbox="592 1856 890 1908">Declared by the manufacturer based on the value measured for load condition 6.</td> </tr> </tbody> </table> | Information published | Value and precision | Unit | Notes | Manufacturer's name or trade mark, commercial registration number and address | - | - | - | Model identifier | - | - | - | Input voltage | X | V | Specified by the manufacturer. Shall be a value or a range. | Input AC frequency | X | Hz | Specified by the manufacturer. Shall be a value or a range. | Output voltage | X,X | V | Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current | | | | – Output power shall be published. | Output current | X,X | A | Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. | Output power | X,X | W | Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. | Average active efficiency | X,X | % | Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage. | Efficiency at low load (10 %) | X,X | % | Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage. | No-load power consumption | X,XX | W | Declared by the manufacturer based on the value measured for load condition 6. | Draft information layout for web page See attachment 2 | P |
| Information published | Value and precision | Unit | Notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manufacturer's name or trade mark, commercial registration number and address | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Model identifier | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Input voltage | X | V | Specified by the manufacturer. Shall be a value or a range. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Input AC frequency | X | Hz | Specified by the manufacturer. Shall be a value or a range. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output voltage | X,X | V | Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | – Output power shall be published. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output current | X,X | A | Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output power | X,X | W | Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average active efficiency | X,X | % | Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Efficiency at low load (10 %) | X,X | % | Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No-load power consumption | X,XX | W | Declared by the manufacturer based on the value measured for load condition 6. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | The relevant load conditions are as follows: | | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| Clause | Requirement + Test | result – Remark | Verdict | | | | | | | | | | | | | | | | |
|--|--|--|---------|------------------|-------------|------------------|------------|--|--|------------------|------------|------------------|------------|------------------|------------|------------------|-------------------------|--|---|
| | <table border="1"> <tr> <td colspan="2" data-bbox="325 376 887 416">Percentage of nameplate output current</td> </tr> <tr> <td data-bbox="325 421 560 452">Load condition 1</td> <td data-bbox="560 421 887 452">100 % ± 2 %</td> </tr> <tr> <td data-bbox="325 456 560 488">Load condition 2</td> <td data-bbox="560 456 887 488">75 % ± 2 %</td> </tr> <tr> <td colspan="2" data-bbox="325 506 887 537"> </td> </tr> <tr> <td data-bbox="325 542 560 573">Load condition 3</td> <td data-bbox="560 542 887 573">50 % ± 2 %</td> </tr> <tr> <td data-bbox="325 577 560 609">Load condition 4</td> <td data-bbox="560 577 887 609">25 % ± 2 %</td> </tr> <tr> <td data-bbox="325 613 560 645">Load condition 5</td> <td data-bbox="560 613 887 645">10 % ± 1 %</td> </tr> <tr> <td data-bbox="325 649 560 680">Load condition 6</td> <td data-bbox="560 649 887 680">0 % (no-load condition)</td> </tr> </table> | Percentage of nameplate output current | | Load condition 1 | 100 % ± 2 % | Load condition 2 | 75 % ± 2 % | | | Load condition 3 | 50 % ± 2 % | Load condition 4 | 25 % ± 2 % | Load condition 5 | 10 % ± 1 % | Load condition 6 | 0 % (no-load condition) | | P |
| Percentage of nameplate output current | | | | | | | | | | | | | | | | | | | |
| Load condition 1 | 100 % ± 2 % | | | | | | | | | | | | | | | | | | |
| Load condition 2 | 75 % ± 2 % | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Load condition 3 | 50 % ± 2 % | | | | | | | | | | | | | | | | | | |
| Load condition 4 | 25 % ± 2 % | | | | | | | | | | | | | | | | | | |
| Load condition 5 | 10 % ± 1 % | | | | | | | | | | | | | | | | | | |
| Load condition 6 | 0 % (no-load condition) | | | | | | | | | | | | | | | | | | |



| TABLE1 | Measurement and calculation | | | | | | P |
|--|-----------------------------|------------------|------------------|------------------|-------------------|------------------|---|
| Model: | CZH015310060EUWQ | | | | | | |
| | Load condition 1 | Load condition 2 | Load condition 3 | Load condition 4 | Load condition 5* | Load condition 6 | |
| | 100% ± 2% | 75% ± 2% | 50% ± 2% | 25% ± 2% | 10% ± 1% | 0% | |
| <input checked="" type="checkbox"/> Output #: | | | | | | | |
| Output current (mA) | 600.63 | 450.03 | 300.32 | 150.67 | 60.990 | | |
| Output Voltage (V) | 30.617 | 30.637 | 30.461 | 30.299 | 30.128 | | |
| Active Output Power (W) | 18.394 | 13.787 | 9.1427 | 4.5629 | 1.8356 | | |
| <input type="checkbox"/> Output #: | | | | | | | |
| Output current (mA) | -- | -- | -- | -- | -- | | |
| Output Voltage (V) | -- | -- | -- | -- | -- | | |
| Active Output Power (W) | -- | -- | -- | -- | -- | | |
| Input Voltage (V) | 230.30 | 230.30 | 230.30 | 230.30 | 230.30 | 230.30 | |
| Input current (mA) | 221.64 | 175.80 | 124.96 | 65.490 | 31.530 | 1.7920 | |
| Input Power (W) | 21.366 | 15.960 | 10.607 | 5.4013 | 2.2832 | 0.0640 | |
| THD _i (%) | 210.98 | 228.19 | 246.95 | 253.02 | 278.77 | 466.56 | |
| True Power Factor | 0.4189 | 0.3940 | 0.3682 | 0.3579 | 0.3145 | 0.1554 | |
| Power consumed (W) | 2.9720 | 2.1730 | 1.4643 | 0.8384 | 0.4476 | 0.064 | |
| Active mode Efficiency | 86.09% | 86.38% | 86.19% | 84.48% | 80.40% | | |
| Average active Efficiency | 85.79% | | | | | | |
| Calculation information: True Power Factor = Input Power / (Input Voltage * Input current) Power consumed = Input Power - Active Output Power Efficiency = Active Output Power / Input Power Average Efficiency = (Efficiency 1 + Efficiency 2 + Efficiency 3 + Efficiency 4)/4 No Load Power consumption = Input Power @ 0% load | | | | | | | |
| Supplementary information: <ul style="list-style-type: none"> - Setting: Default. - Test load: See above. - Stability achieved: Yes. - Test with output wire: 190cm, 24AWG. - * load contion for external power supply with a name plate output power great than 10 wastts; - Above tables for output data may be extended if more than 2 outputs for multiple output external power supply. - Average active mode efficiency $\geq 0.071 * \ln(Po/1W) - 0.0014 * Po/1W + 0.67 = 85.15\%$. - The no-load condition consumption shall not exceed 0.10W. | | | | | | | |



Attachment 1: Equipment List

| Equipment | ID No. | Model | Brand/Manufacturer | Calibration due date |
|-----------------------------------|--------|-----------------|---|----------------------|
| Power Meter (Output) | 46447 | WT310E-C2-H | Yokogawa Meters & Instruments Corporation | 10/20/2023 |
| Power Meter (Input) | 45986 | WT310E-C2-H/G5 | Yokogawa | 09/27/2023 |
| DC Electronic Load | 45769 | IT8512C+ | Itech Electronics Co., LTD | 08/30/2023 |
| Temperature and humidity recorder | 20991 | L92-1 | HangZhou LuLuGe | 04/20/2023 |
| Electronic Balance | 40961 | DNC5002 | Anheng | 05/11/2023 |
| Oscilloscope | 33098 | 710105-H-HC/M1S | Yokogawa | 08/29/2023 |
| Oscilloscope Probe 100:1 | 53853 | P5122 | Tektronix(China) Co.Ltd. | 07/05/2023 |
| Stop Watch | 41160 | PC894 | TIANFU | 06/09/2023 |
| Anemometer | 53026 | UT363S | UNI-T | 03/16/2023 |
| Metal measuring ruler | 46945 | 5m | Deli | 11/19/2025 |



Attachment 2: Information in instruction manuals for end-users (where applicable), and free access websites

| Information published | Information declared | Value and precision | Unit | Notes |
|---|---|---------------------|------|---|
| Manufacturer's name or trade mark, commercial registration number and address | Manufacturer: Shenzhen CHANZEHO Technology Co., Limited Address: CHANZEHO Technology Park, 114-1 Longxing North Road, Longtian Community, Longtian Street, Pingshan District, 518118 Shenzhen, Guangdong, PEOPLE'S REPUBLIC OF CHINA | - | - | - |
| | Importer name: XXXXXX Address: XXXXXX Commercial registration number: XXX | | | |
| Model identifier | CZH015310060EUWH, CZH015310060BSWH, CZH015310060EUWP, CZH015310060BSWP, CZH015310060EUWQ, CZH015310060BSWQ, CZH015310060TRWQ | - | - | - |
| Input voltage | 100-240 | X | V | Specified by the manufacturer. Shall be a value or a range. |
| Input AC frequency | 50/60 | X | Hz | Specified by the manufacturer. Shall be a value or a range. |
| Output voltage | 31.0VDC | X,X | V | Nameplate output voltage. Shall indicate whether is AC or DC. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current- Output power shall be published. |
| Output current | 0.6A | X,X | A | Nameplate output current. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. |



| Information published | Information declared | Value and precision | Unit | Notes |
|-------------------------------|----------------------|---------------------|------|--|
| Output power | 18.6W | X,X | W | Nameplate output power. In cases where more than one physical output or more than one output voltage at load condition 1 are measured, the sets of available Output voltage - Output current – Output power shall be published. |
| Average active efficiency | 85.5 | X,X | % | Declared by the manufacturer based on the value calculated as arithmetical mean of efficiency at load conditions 1-4. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the average active efficiency declared for the lowest output voltage. |
| Efficiency at low load (10 %) | 75.5 | X,X | % | Declared by the manufacturer based on the value calculated at load condition 5. External power supplies with a nameplate output power of 10 W or less shall be exempted from this requirement. In cases where multiple average active efficiencies are declared for multiple output voltages available at load condition 1, the value published shall be the value declared for the lowest output voltage. |
| No-load power consumption | 0.09 | X,XX | W | Declared by the manufacturer based on the value measured for load condition 6. |

END OF TEST REPORT