

Model:GTM46161-16V.V-USB

May 20, 2024

## 60601-1 Medical DOE EPS 2.0 Level VI Power Supply / Charger, 5v, 3.2 A, with integral USB Jack, compliant with 2MOPP, 5000 Meters Elevation and 8 kV Contact/20kV Air Discharge ESD Protection

### Information

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model Number                  | GTM46161-16V.V-USB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description                   | GTM46161-16V.V-USB, ICT / ITE / Medical Power Supply, 60601-1-4th Ed. , Wall Plug-in, Regulated Switchmode AC-DC Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, Blade Options for Q Series Wall Plug-in Power Supplies, Output Rating: 16 Watts, Power rating with convection cooling (W) , 5-5.5V in 0.1V increments, Approvals: CCC; RCM; UL 1310; ETL; CB 60601-1; EAC; CB 62368; Conforms to 62368-1; LPS 62368; Morocco; LVD 60335; UKCA; India BIS (5, 5.2 and 5.5V only); Double Insulation; Ukraine; RoHS; China RoHS; Level VI; WEEE; ETL; CE; FCC; CAN ICES-3; PSE; IP20; CB 60950;; CB 60950; |
| Model Picture                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Agency Documents              | <a href="http://www.globtek.info/certs/GTM46161/">http://www.globtek.info/certs/GTM46161/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CE EC-Declaration             | <a href="https://www.globtek.com/pdf/ec_declaration/a0Oa000000FiXUuEAN">https://www.globtek.com/pdf/ec_declaration/a0Oa000000FiXUuEAN</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RoHS/RoHS2 Declaration        | <a href="https://www.globtek.com/pdf/rohs_cert/a0Oa000000FiXUuEAN">https://www.globtek.com/pdf/rohs_cert/a0Oa000000FiXUuEAN</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| REACH Declaration             | <a href="https://www.globtek.com/pdf/iso_certificates/REACH.pdf">https://www.globtek.com/pdf/iso_certificates/REACH.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Conflict Minerals Declaration | <a href="https://www.globtek.com/pdf/conflict-minerals.pdf">https://www.globtek.com/pdf/conflict-minerals.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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**MODEL PARAMETERS**

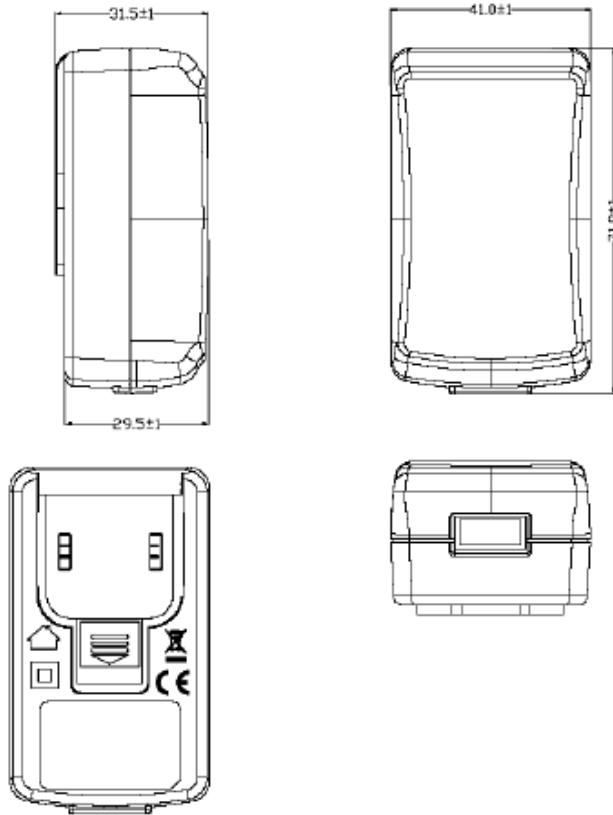
|                    |                                                                     |
|--------------------|---------------------------------------------------------------------|
| Type               | Wall Plug-in                                                        |
| Technology         | Regulated Switchmode AC-DC Power Supply AC Adaptor                  |
| Category           | ICT / ITE / Medical Power Supply                                    |
| Input Voltage      | 100-240V~, 50-60 Hz                                                 |
| I/P Amps (A)       | 0.45A                                                               |
| Wattage (W)        | 16.0                                                                |
| Vout Range (V)     | 5-5.5                                                               |
| Efficiency Level   | USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782 |
| Ingress Protection | Indoor Use                                                          |
| Size (mm)          | 74.80*41.00*35.30                                                   |

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## ENCLOSURE



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## RATING TABLE

| Model Number       | Voltage | Amps(A) | Watts(W) | RFQ                 |
|--------------------|---------|---------|----------|---------------------|
| GTM46161-165.0-USB | 5 V     | 3.2     | 16.00    | <a href="#">RFQ</a> |
| GTM46161-165.1-USB | 5.1 V   | 3.137   | 16.00    | <a href="#">RFQ</a> |
| GTM46161-165.2-USB | 5.2 V   | 3.07    | 15.96    | <a href="#">RFQ</a> |
| GTM46161-165.3-USB | 5.3 V   | 3.018   | 16.00    | <a href="#">RFQ</a> |
| GTM46161-165.4-USB | 5.4 V   | 2.962   | 15.99    | <a href="#">RFQ</a> |
| GTM46161-165.5-USB | 5.5 V   | 2.909   | 16.00    | <a href="#">RFQ</a> |

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## SPECIFICATIONS

### A) ELECTRICAL SPECIFICATIONS:

1. Input Voltage: Specified 90-264 Vac, Nameplate rated 100-240 Vac
2. Input Frequency: Specified 47-63 Hz, Nameplate rated 50-60 Hz
3. Output Regulation: +/- 5% measured at the end of a 1.2 meter USB cordset employing #20 Gauge conductors (RFP RFI-50856)  
The longest cable GlobTek recommends to be used with this product is USB cord GlobTek PNs USBA1M2MICROB20(R) and USBC1M0USBA(R), 1.2 Meters for best voltage regulation performance. (RFP RFI-20435-3)
4. Line Voltage Regulation: +/- 3% typical
5. Output Ripple (Vp-p): 150mV Ripples shall be measured with a 47uF electrolytic capacitor paralleled with a high-frequency 0.1uF ceramic capacitor across the output. The oscilloscope's bandwidth shall be set to 20MHz.
6. Turn-On/Turn-Off Overshoot: 5% maximum, 500 us maximum recovery time for 25% step load.
7. Turn-On Delay: 3000mS MAX at 115VAC Full Load
8. Hold-Up Time: 8mS Min at 100VAC Full Load
9. Inrush Current: No damage. On power when switching on/off repeatedly under any condition.
10. Switching Frequency: 66.5 KHz typical
11. Average Efficiency: 78.7% Min.(CEC&DOE Level VI Compliant), 79.0% Min. (ErP European Commission's Ecodesign Directive (2005/32/EC) / CoC Tier 2 Compliant)
12. Input Power(no load): < 0.1W < 0.1W, < 0.075W (ErP European Commission's Ecodesign Directive (2005/32/EC) / CoC Tier 2 Compliant)

### B) PROTECTION

1. Over-Voltage: Output shut down and auto restart
2. Over Temperature Protection: Output shut down and auto restart
3. Short Circuit Protection Output shut down and auto restart
4. Over Load Protection Output shut down and auto restart
5. Input Protection: Input line fusing
6. ESD: 8 kV Contact/20kV Air Discharge

### C) SAFETY

1. Dielectric Withstand Voltage: 4000Vac or 5656Vdc 10mA 1 minute
2. Earth Leakage Current: N/A for Class II units, there is no PE Ground pin, so Earth Leakage current is not measured
3. Touch Current: Maximum allowed values: 100uA NC(Normal condition) 500uA SFC(single fault condition)
4. Means of Protection: 2 x MOPP
5. ROHS 2: Complies with EU 2011/65/EU and China SJ/T 11363-2006

### D) EMC

1. Emissions, per EN 55032, EN 61000-6-3, EN 61000-6-4  
Conducted Emissions: Class B, FCC Part 15, Class B  
Radiated Emissions: Class B, FCC Part 15, Class B
2. Line Frequency Harmonics EN61000-3-2, Class A
3. Voltage Fluctuations/Flicker EN61000-3-3
4. Immunity, per EN 55024, EN 61000-6-1, EN 61000-6-2  
Static Discharge Immunity EN61000-4-2, 8kV Contact Discharge, 15kV air discharge  
Radiated RF Immunity EN61000-4-3, 3V/m 80-2700MHz, 80% 1KHz AM.  
EFT/Burst Immunity EN61000-4-4, 2kV/100kHz.  
Line Surge Immunity EN61000-4-5, 1kV differential, 2kV common-mode

## PROPRIETARY INFORMATION

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Conducted RF Immunity EN61000-4-6, 3Vrms, 80% 1KHz AM  
Power Frequency Magnetic Field Immunity EN61000-4-8, NA  
Voltage Dip Immunity EN61000-4-11, Criteria

## E) OTHER:

1. USB2.0 , BC1.2 compliant
2. MTBF: 200,000 hours @ 25°C ambient temperature
3. Operating Temperature: 0°C to 40°C ambient temperature
4. Humidity: 0% to 95% relative humidity
5. Storage Temperature: -40°C to 80°C

## F) ENCLOSURE

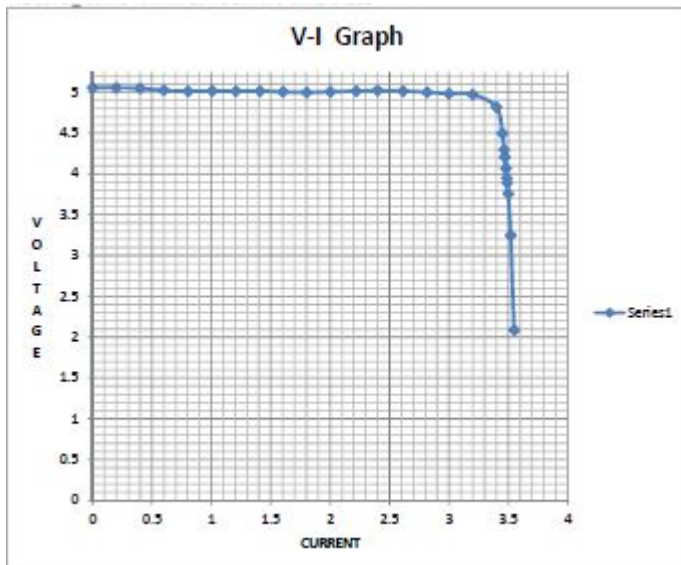
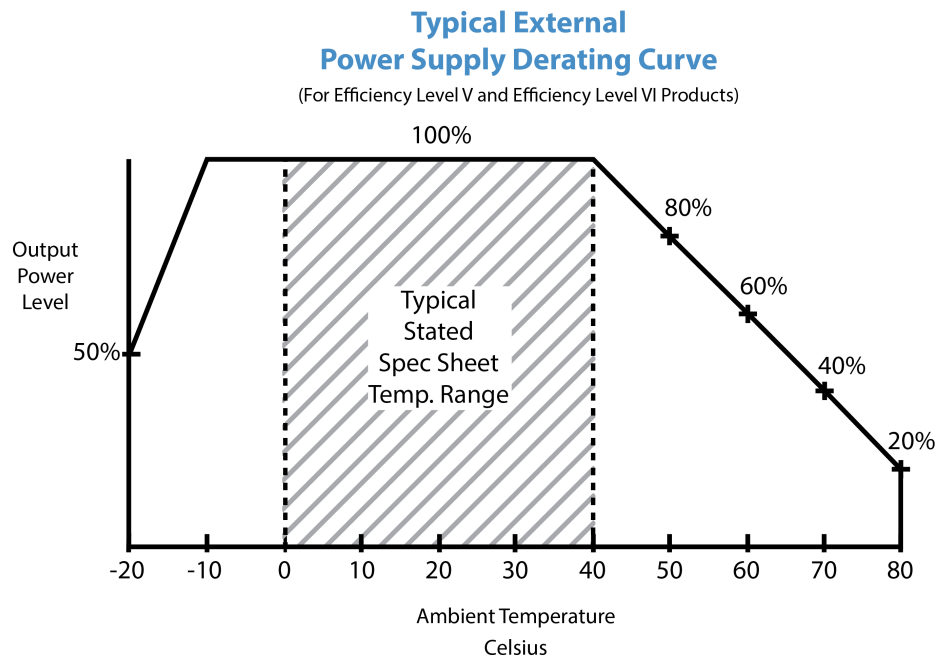
1. Housing: High impact plastic, 94V0 polycarbonate, non-vented
2. Markings: Label and/or Pad Printed and/or Molded in the case

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## DERATING CURVE



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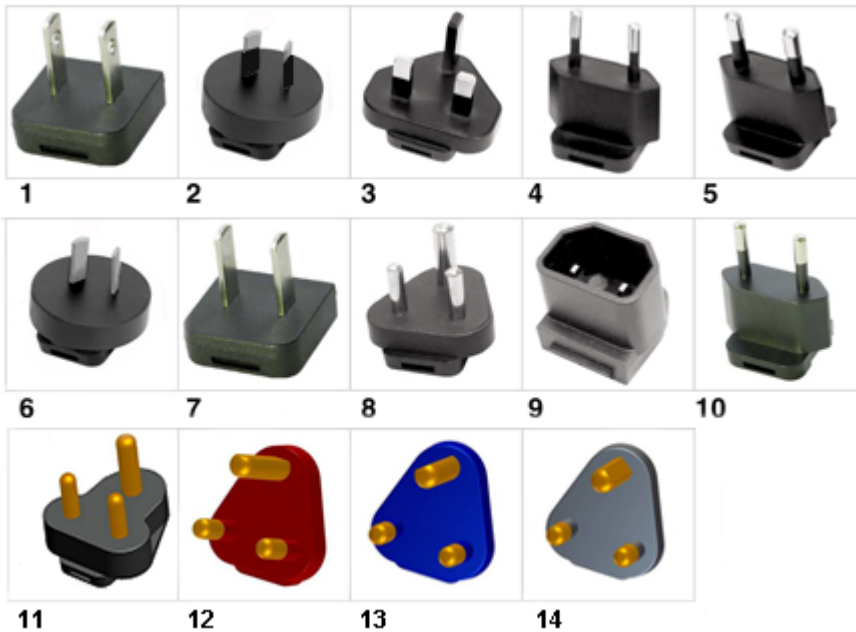
## INPUT CONFIGURATION

Description

Blade Options for Q Series Wall Plug-in Power Supplies

Data Sheet: <http://en.globtek.com/interchangeable-blades.php>

Insertion Instructions: <http://www.globtek.com/pdf/Instructions-Interchangeable-Blades.pdf>

Video: [Q-Blade Style Instruction Video](#)


INPUT CONNECTOR: Q-Socket (below are available blades configurations which are "not included" (unless stated above); can be purchased separately, package with power supply or as a separate "Q-KIT" if specified

01. United States / Canada / Japan NEMA 1-15P/ IEC PLUG Type A [WORKS IN PLUG B] configuration: NA 2 blades, Class II; US/CA/JP P/N: Q-NA(R)
02. Australian AS 3112 configuration: SAA 2 blade/ IEC TYPE I, Class II; AU P/N: Q-SAA(R)
03. UK BS 1363 configuration: UK 3 blade with dummy Ground/ IEC TYPE G, Class II; GB P/N: Q-UK(R)
04. European CEE 7/16 configuration: Europlug 2 pins/ IEC TYPE C [WORKS IN TYPE E&F], Class II; EU P/N: Q-EU(R)
05. Korean KS C8305 configuration: 2 pins/SIMILAR TO IEC TYPE C, Class II; KR P/N: Q-KR(R)
06. Argentina IRAM 2073 configuration: 2 blades/SIMILAR TO IEC TYPE I; AR P/N: Class II Q-AR(R)
07. China GB 2099 configuration: 2 blades/SIMILAR TO TYPE A, Class II; CN P/N: Q-CN(R)
08. India IS 1293 6A/BS546 configuration: 5A, 3 pins with Dummy Ground, Class II/IEC TYPE D; IN P/N: Q-IN(R)
09. IEC60320/C18 Inlet, Class II; P/N: Q-C18(R)
10. Brazilian NBR6147 configuration: 2 pins, Class II;SIMILAR TO IEC TYPE C BR P/N: Q-BR(R)
11. South Africa SABS164-1 and India IS 1293, IS694, 16A type plug, 3 round prongs, Class II + dummy ground, IEC TYPE M P/N: Q-SANS164-1-16A(R)
12. South Africa SABS164-4, 3 round prongs with a notched prong @ 0°, Class II + dummy ground, IEC TYPE M Red, P/N: Q-SANS164-4C-16A(R)

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13. South Africa SABS164-4, 3 round prongs with a notched prong @ -53°, Class II + dummy ground, Blue, IEC TYPE M,  
P/N:

Q-SANS164-4L-16A(R)

14. South Africa SABS164-4, 3 round prongs with a notched prong @ +53°, Class II + dummy ground, Black, IEC TYPE M  
P/N:

Q-SANS164-4R-16A(R)

**Kits**

01. Q-KIT: 1,2,3,4 above

02. Q-KIT-INTL: 2,3,4 above

03. Q-KIT-6: 1,2,3,4,5,6 above

04. Q-KIT-7: 1,2,3,4,5,6,7 above

05. Q-KIT-8: 1,2,3,4,5,6,7,8 above

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## OUTPUT CONFIGURATION

Common output connector options:



L Type (Coaxial  
5.5x2.5mm plug)



C Type (Coaxial  
5.5x2.1mm plug)



K Type (Coaxial  
3.5x1.3mm plug)



LL Type (5.5x2.5mm  
Locking 760k type)



CL Type (5.5x2.1mm  
Locking S761k type)



ML2 Type (Molex  
housing 43025-0200)



YL3 Type  
(KPPX-3P)



YL4 Type (KPPX-4P)



EJ1/2/3/4/5 (EIAJ  
RC-5320A type  
connectors)



MSB Type (Micro  
USB)



USBC Type (USB  
Type C)



Inquire for custom  
design

For a comprehensive list of options, [click here](#)

Contact GlobTek for your specific requirements or custom solutions.

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## Approvals

| Logo                                                                                | Description                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     |                                                                                                                                                                                                                                                                 |
| No Logo                                                                             | CB Report IEC 60601-1:2005 (Third Edition) + CORR. 1:2006 + CORR. 2:2007 + A1:2011                                                                                                                                                                              |
| No Logo Applicable                                                                  | CB for IEC 62368-1:2014 (Second Edition)                                                                                                                                                                                                                        |
| No Logo                                                                             | CB Report IEC60950-1:2005 (2nd Edition), Am 1: 2009 + Am 2:2013                                                                                                                                                                                                 |
|    | CCC to GB 17625.1-2012;GB 4943.1-2011;GB/T 9254.1-2021 with Non-Tropical and Altitude 5000m approval                                                                                                                                                            |
| No Logo Applicable                                                                  | IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013 + A2:2014                                                                                                                                                                        |
|  | CE Mark: tested to comply with EN60601-1-2:2013 (4th Ed), EN61000-3-2, EN61000-3-3, EN50082-1, including EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN61000-1-2-2001<br>EMI: EN55011 CLASS B and FCC Part 15 B |
|  | CHINA SJ/T 11364-2014, China RoHS Chart:<br><a href="http://www.globtek.com/pdf/F-GT-DJD-8.4.1-006%20China%20RoHS%20Declaration%20.pdf">http://www.globtek.com/pdf/F-GT-DJD-8.4.1-006%20China%20RoHS%20Declaration%20.pdf</a>                                   |
| Conforms to UL STD. 62368-1<br>Certified to CSA STD C22.2 NO.62368-1                | Conforms to UL STD. 62368-1<br>Certified to CSA STD C22.2 NO.62368-1                                                                                                                                                                                            |
|  |                                                                                                                                                                                                                                                                 |
|  | Declaration DC № EA3C N RU Д-US.KA01.B.10453_19 Custom Union of Russia, Belarus, Kazakhstan <a href="http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration">http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration</a>           |
|                                                                                     | Medical Elec. Equip.- Part 1-11: Gen. Req. For Basic Safety & Essential Perf.- Collateral Req.<br>For Medical Elec. Equip. & Medical Elec. Systems Used In The Home Healthcare Environment                                                                      |

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|                                                                                                                                                         |                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                        | 60601-<br>1-11:2015 Ed.2]                                                                                                                                                                                                                       |
|                                                                        | Class 2 Power Units [UL 1310:2011 Ed.6+R:01Feb2017]<br>Power Supplies With Extra-Low Voltage Class 2 Outputs [CSA C22.2#223:2015 Ed.3]                                                                                                          |
|                                                                        | Information Technology Equipment Safety Part 1: General Requirements >Valid without t<br>revision: 01Jan2022< [UL 60950-1:2007 Ed.2 +R:14Oct2014]                                                                                               |
|                                                                        | Compliance of this power supply with FCC Part 15, Class B has been demonstrated with<br>output load. The FCC law stipulates that system-level testing is required to demonstrate c<br>with the FCC emission limits with the actual system load. |
| CAN ICES-3(B)/NMB-3(B)                                                                                                                                  | Compliance of this PSU with Industry Canada, Class B demonstrated with a standard out<br>The ICES law stipulates that system-level testing is required to demonstrate compliance<br>ICES-3 emission limits with the actual system load.         |
| IS 13252 (Part 1)<br>IEC 60950-1<br><br>R-41017175<br>www.bis.gov.in | Bureau Of Indian Standards for GTM46161-165.0-USB 5, 5.2 and 5.5V                                                                                                                                                                               |
|                                                                      | Indoor Use Only - Mark is on the label or Molded in the case                                                                                                                                                                                    |
| IP20                                                                                                                                                    | Ingress Protection: IP20 to IEC60529:2001 Protected against solids objects over 12mm a<br>Protection                                                                                                                                            |
| <br>GlobTek, Inc.                                                    | JAPAN TUV R-PSE, Cert. No. JD 50471561, to J62368-1(H30) , J55032(H29), J3000(H2<br>less]. Please reference the following website for PSE regulations: <a href="https://www.globtek.com">https://www.globtek.com</a>                            |
| EFFICIENCY LEVEL                                                     | Efficiency: complies to section 301 of Energy Independence and Security Act (EISA) com<br>Energy Star tier 2 (North America), ECP tier 2 (China), MEPS tier 2 (Australia), Code of C<br>(Europe)                                                |

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|                                                                                                    |                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LPS                                                                                                | Limited Power Source 62368                                                                                                                                                                                        |
|                   | Morocco SDoC declaration<br><a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>                                                 |
| <br>GMA-516946-EA | RCM certificate GMA-516946-EA; Australia and New Zealand Regulatory Compliance, M<br><a href="http://rcm.standards.org.au/rcmfaq/rcmfaq.htm">http://rcm.standards.org.au/rcmfaq/rcmfaq.htm</a>                    |
| RoHS                                                                                               | Specifications of directive 2011/65/EU Annex VI (ROHS-2) with amendment 2015/863-EU<br><a href="http://www.ce-mark.com/Rohs%20final.pdf">http://www.ce-mark.com/Rohs%20final.pdf</a>                              |
|                 | UKCA Certification                                                                                                                                                                                                |
| <br>10276       | Ukraine UKRSePro (Document: <a href="http://www.globtek.com/html/iso_certificates/GT_Ukraine.pdf">www.globtek.com/html/iso_certificates/GT_Ukraine.pdf</a> )                                                      |
|                 | WEEE: Complies with EU 2012/19/EU ( <a href="http://ec.europa.eu/environment/waste/weee/index_en.htm">http://ec.europa.eu/environment/waste/weee/index_en.htm</a> )<br>Mark is on the label or Molded in the case |