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INTERNATIONAL STANDARD

colour inside

Interoperability specifications of common external power ~~supply~~ supplies (EPS) for use with data-enabled mobile telephones

IEC 62684:2018-02 RLV(en)

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INTEROPERABILITY SPECIFICATIONS OF COMMON EXTERNAL POWER ~~SUPPLY~~ SUPPLIES (EPS) FOR USE WITH DATA-ENABLED MOBILE TELEPHONES

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International Standard IEC 62684 has been prepared by technical area 14: Interfaces and methods of measurement for personal computing equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Clause 1 is modified to include updated references to IEC Universal Serial Bus interface standards;
b) Clause 2 is expanded to include references to IEC Universal Serial Bus interface standards;
c) Subclause 4.1 is expanded to include requirements for non USB Micro-B plug DC plug connectors;
d) Subclause 4.4 is modified to remove obsolete requirements for common mode noise and reference requirements of IEC Universal Serial Bus interface standards;
e) Subclause 4.5 is modified to reference appropriate safety standards.

The text of this standard is based on the following documents:

CDV	Report on voting
100/2872/CDV	100/2966/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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INTEROPERABILITY SPECIFICATIONS OF COMMON EXTERNAL POWER ~~SUPPLY~~ SUPPLIES (EPS) FOR USE WITH DATA-ENABLED MOBILE TELEPHONES

1 Scope

This document specifies the interoperability of common external power supplies for use with data-enabled mobile telephones. It defines the common charging capability and specifies interface requirements for the external power supply.

Safety and EMC aspects are not covered by this document. Safety is covered by IEC 60950-1 or IEC 62368-1 and EMC is covered by ~~EN 301 489-34~~ regional /national standards.

This document defines interoperability based on legacy USB technologies and does not cover charging interfaces that implement IEC 62680-1-3 (USB Type-C™ [1]), IEC 62680-1-2 (USB PD) and IEC 63002.

NOTE: The content of this document is based on Annex II dated 12 January 2010 to the MoU regarding Harmonisation of a Charging Capability for Mobile Phone.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60950-1~~:2005~~, *Information technology equipment – Safety – Part 1: General requirements*

IEC 62368-1, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

IEC 62680-1-1, *Universal Serial Bus interfaces for data and power – Part 1-1: Common components – USB Battery Charging Specification, Revision 1.2*

IEC 62680-2-1:2015, *Universal Serial Bus interfaces for data and power – Part 2-1: Universal Serial Bus specification, Revision 2.0*

IEC 62680-2-2, *Universal Serial Bus interfaces for data and power – Part 2-2: USB Micro-USB Cables and Connectors Specification, Revision 1.01*

~~EN 301 489-34 *Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services – Part 34: Specific conditions for External Power Supply (EPS) for mobile phones*~~

~~Universal Serial Bus Specification, *Cables and Connectors Class Document*, Revision 2.0, August 2007~~

~~(http://www.usb.org/developers/docs)~~

[1] USB Type-C™ is a trademark of the USB Implementers Forum (USB-IF). This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of this product.

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~~*USB Battery Charging Specification*, Revision 1.1~~

~~*USB Micro-USB Cables and Connectors Specification*, Revision 1.01~~

~~*USB-IF Cable Assembly Test Requirements for Compliant Usage of Connectors and Cables in Micro-USB 1.01*~~

~~*USB-IF Connector Test Requirements*~~

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
~~adaptor~~ adapter
device for connecting from a USB Micro-B receptacle/plug defined in IEC 62680-2-2 to a specific non Micro-USB connector

Note 1 to entry: An adapter can also be a cable.

3.2 Abbreviated terms

~~For the purposes of this document, the following abbreviations apply:~~

AC alternating current
DC direct current
EPS external power supply
ESR equivalent series resistance
EUT equipment under test
GND ground
USB Universal Serial Bus
~~Vbus Virtual Bus~~

4 EPS specification

4.1 DC plug connector specification

The cable assembly supplied with the EPS shall terminate in a USB Micro-B plug, defined in IEC 62680-2-2. The cable assembly may be permanently connected to the EPS or may be a detachable cable. In either case, the terminating USB Micro-B plug shall be compliant with the USB Micro-B cables and connectors specification, IEC 62680-2-2.

~~– shall meet the USB-IF connector test requirements,~~

~~– shall be compliant to the USB Micro-B cables and connectors specification, Rev 1.01 (Micro-USB 1.01) and~~

~~– shall be rated to meet all electrical specifications.~~

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