



**NSAI**  
Standards

Irish Standard  
I.S. EN 62684:2010

# Interoperability specifications of common external power supply (EPS) for use with data-enabled mobile telephones (IEC 62684:2010 (EQV))

## I.S. EN 62684:2010

*Incorporating amendments/corrigenda issued since publication:*

**The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:**

**I.S. xxx:** Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

**S.R. xxx:** Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

**SWiFT xxx:** A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<i>This document replaces:</i>	<i>This document is based on:</i> EN 62684:2010	<i>Published:</i> 10 December, 2010
This document was published under the authority of the NSAI and comes into effect on:  19 March, 2011		ICS number: 33.070.50
<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie  W <b>NSAI.ie</b>	<b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

EUROPEAN STANDARD

**EN 62684**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2010

---

ICS 33.070.50

English version

**Interoperability specifications of common external power supply (EPS) for use with data-enabled mobile telephones  
(IEC 62684)**

Spécifications d'interopérabilité de l'alimentation externe commune (EPS) avec des téléphones mobiles permettant l'échange de données  
(CEI 62684)

Spezifikationen für die Interoperabilität eines einheitlichen externen Stromversorgungsgeräts (EPS) für die Anwendung bei datenübertragungsfähigen Mobiltelefonen  
(IEC 62684)

This European Standard was approved by CENELEC on 2010-11-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

---

## **Foreword**

The FprEN 50558 "Interoperability specifications of common external power supply (EPS) for use with data-enabled mobile telephones" was prepared by CENELEC BTTF 135-1 "Common charging capability of mobile telephones" and ratified by CENELEC on 2010-11-17.

The text of FprEN 50558 was taken over as 100/1714/CDV, future edition 1 of IEC 62684, by IEC TC 100, "Audio, video and multimedia systems and equipment", and submitted to the IEC vote for parallel publication in IEC and CENELEC.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2011-12-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2013-12-01

This European Standard has been prepared under Mandate M/455 given to CENELEC by the European Commission and the European Free Trade Association.

This standard refers to specifications developed by the USB Implementers Forum that can be found on the USB website at [www.usb.org](http://www.usb.org) (see Annex ZA).

Annex ZA has been added by CENELEC.

---

## **Endorsement notice**

The text of the International Standard IEC 62684 was approved by CENELEC as a European Standard without any modification.

---

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60950-1 (mod)	-	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	-
Universal Serial Bus Specification, Revision 2.0	-	<a href="http://www.usb.org/developers/docs/">http://www.usb.org/developers/docs/</a>	-	-
Universal Serial Bus, Cables and Connectors Class Document, Revision 2.0	2007	-	-	-
USB Battery Charging Specification, Revision 1.1	-	<a href="http://www.usb.org/developers/compliance/connectors/">http://www.usb.org/developers/compliance/connectors/</a>	-	-
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	-	<a href="http://www.usb.org/developers/compliance/cable/">http://www.usb.org/developers/compliance/cable/</a>	-	-
USB-IF Connector Test Requirements	-	<a href="http://www.usb.org/developers/compliance/connectors/">http://www.usb.org/developers/compliance/connectors/</a>	-	-

*This page is intentionally left BLANK.*

## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Abbreviations .....	6
5 EPS specification .....	6
5.1 DC plug connector specification .....	6
5.2 AC input characteristic .....	6
5.3 Environmental specification .....	6
5.4 DC output characteristic .....	7
5.5 Protection.....	7
5.6 EPS detection .....	7
5.7 Reliability .....	8
6 Testing requirements.....	8
6.1 General.....	8
6.2 Common mode voltage of the DC output .....	8
6.3 Ripple voltage at the DC output.....	9
Bibliography.....	10

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

---

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

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62684 has been prepared by technical area 1: Terminals for audio, video and data services and content, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

CDV	Report on voting
100/1714/CDV	100/1771/RVC

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

The French version of this standard has not been voted upon.

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



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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

## 1 Scope

This International Standard 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 the external power supply.

Safety and EMC aspects are not covered by this International Standard. Safety is covered by IEC 60950-1 and EMC is covered by EN 301 489-34.

## 2 Normative references

The following referenced documents are indispensable for the application 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*

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>)

*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 and definitions

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

### 3.1

#### **adaptor**

device for connecting from a USB Micro-B receptacle/plug to a specific non Micro-USB connector

NOTE An adaptor can also be a cable.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-