



UL 110

Standard for Sustainability for Mobile Phones

[ULNORM.COM](https://www.ulnorm.com) : Click to view the full PDF of UL 110 2018

[ULNORM.COM](https://www.ulnorm.com) : Click to view the full PDF of UL 110 2018

Standard for Sustainability for Mobile Phones, UL 110

Second Edition, Dated March 24, 2017

Summary of Topics

This revision of ANSI/UL 110 dated November 6, 2018 includes corrections to the revisions dated September 28, 2018 as follows:

Title of subsection 8.1.1 replaced with the correct title.

Title to subsection 9.2.2 referenced in Appendix A was corrected.

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

ULNORM.COM . Click to view the full PDF of UL 110 2018

No Text on This Page

ULNORM.COM : Click to view the full PDF of UL 110 2018

MARCH 24, 2017
(Title Page Reprinted: November 6, 2018)



ANSI/UL 110-2018

1

UL 110

Standard for Sustainability for Mobile Phones

First Edition March, 2012

Second Edition

March 24, 2017

This ANSI/UL Standard for Safety consists of the Second Edition including revisions through November 6, 2018.

The most recent designation of ANSI/UL 110 as an American National Standard (ANSI) occurred on September 28, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

COPYRIGHT © 2018 UNDERWRITERS LABORATORIES INC.

ULNORM.COM : Click to view the full PDF file 110-2018

No Text on This Page

ULNORM.COM : Click to view the full PDF of UL 110 2018

CONTENTS

INTRODUCTION

1 General5
 2 Scope5
 3 Units of Measurement6
 4 Undated References and Regional Conformity6
 5 Glossary7

COMPLIANCE, EVALUATION AND ASSESSMENT CRITERIA

6 Evaluation and Assessment Criteria10
 6.1 General10
 6.2 Levels of achievement10

MATERIALS

7 Supply Chain Management of Materials11
 7.1 Compliance with the European Union REACH Regulation11
 7.2 Reduction of European Union REACH Candidate SVHC substances11
 7.3 Substitutions assessment12
 7.4 Requesting and receiving substance inventory13
 8 Sustainable Materials Use15
 8.1 Post-consumer recycled and biobased plastic content15
 9 Substances of Concern17
 9.1 Compliance with the European Union RoHS Directive17
 9.2 Restrictions of substances17

ENERGY USE

10 Energy Use Requirements19
 10.1 Mobile phone battery charging system efficiency19

END OF LIFE MANAGEMENT AND EXTENSION OF USEFUL LIFE

11 End of Life Management21
 11.1 Take-back program21
 11.2 Primary recyclers third party certified22
 11.3 Rechargeable battery removability/replacement22
 11.4 Ease of disassembling mobile phone23
 11.5 Feature to erase user data from mobile phone24
 11.6 Repair and refurbishment24
 11.7 Availability of replacement parts25
 11.8 Notification regarding and the identification of materials and components requiring selective treatment25

PACKAGING

12 Packaging25
 12.1 Use of fiber based packaging materials25
 12.2 Separability and labeling of plastics in packaging26

12.3 Use of post-consumer recycled plastic packaging .....	.26
12.4 Expanded polystyrene packaging (EPS) restriction .....	.27
12.5 Recycled content in fiber packaging .....	.27
12.6 Environmentally preferable virgin fiber-based packaging and printed content .....	.27
12.7 Restriction of chlorine in packaging materials .....	.29
12.8 Heavy metal restrictions in packaging .....	.29
12.9 Improve packaging efficiency .....	.29

CORPORATE PRACTICES

13 Corporate Sustainability (CS) .....	.30
13.1 Corporate sustainability (CS) reporting .....	.30
13.2 Corporate sustainability (CS) reporting in the supply chain .....	.30A
13.3 Third party assurance of corporate sustainability (CS) reporting .....	.30B
14 Life Cycle Assessment .....	.30B
14.1 Conducting a life cycle assessment .....	.30B
14.2 Product LCA third-party verification or making LCA publicly available .....	.31

MANUFACTURING AND OPERATIONS

15 Supply Chain Impacts .....	.32
15.1 Supplier responsibility .....	.32
15.2 Manufacturing facilities environmental management systems (EMS) .....	.33
15.3 3TG minerals .....	.34
15.4 Reduce fluorinated gas emissions resulting from flat panel display manufacturing ..	.36

INNOVATION

16 Innovation38
---------------------	-----

APPENDIX A (OPTIONAL) Achievement Matrix

APPENDIX B Recycling Program Minimum Technical Requirements

APPENDIX C External References

INTRODUCTION

1 General

1.1 This Standard is designed to reduce adverse environmental and social impacts associated with the design, manufacture, use, and end of life management of mobile phones. Prior to establishment of this Standard, there were various criteria to define the sustainability of mobile phones; however, they were not coordinated or combined into a set of metrics. The goal of this Standard is to establish a set of multi-sustainability performance criteria addressing the life cycle impacts of the product that may be used to evaluate the sustainability performance of mobile phones.

2 Scope

2.1 This Standard establishes multiple attribute sustainability criteria for mobile phones, covering the mobile phone, accessories shipped in the box with the mobile phone, and packaging.

2.2 The criteria in this Standard were developed based on the life cycle stages of mobile phones and corporate sustainability performance factors. Sustainability factors considered in this Standard are:

- a) Materials;
- b) Energy use;
- c) End of life management and extension of useful life;
- d) Packaging;
- e) Corporate practices;
- f) Manufacturing and operations.

Credit for innovations in these, or other factors not listed, is also addressed in this Standard.

2.3 This standard includes two types of criteria:

- Product criteria: Applies to the product declared to conform to the standard.
- Corporate criteria: Applies to the manufacturer that declares products to conform to this standard for at least the applicable operations.

Unless designated as corporate, criteria in this standard are product criteria.

3 Units of Measurement

3.1 For the purposes of this Standard, values shall be reported in accordance with the requirements of the specific criteria and shall be in the International System of Units (SI).

4 Undated References and Regional Conformity

4.1 Any undated reference to a code or standard appearing in this Standard shall be interpreted as referring to the latest edition of that code or standard. The exception shall be in the case where the criterion explicitly states a certain version or date to be used. In the case of EU Directives, which contain an adoption date in their title, when the EU repeals a directive and replaces it with a new directive, or otherwise edits and updates a directive, the new directive will apply as the referenced directive upon its enforcement date, unless otherwise explicitly stated in the normative reference.

4.2 With regard to being region or country specific, there are the two following options for criteria:

- If the criterion does not specify, the criterion shall be declared the same in all countries or regions for which the product is declared to conform to this standard. The approach used to conform to the criterion may vary by country or region; or
- The criterion may specify, "A manufacturer may declare this criterion differently in each country or region for which the product is declared to conform to this standard."

Note: Region means countries and territories whose independence may not be recognized by all countries (e.g., Taiwan).

4.3 For instances where there are multiple accessory combinations covered under a criterion, and for which there are not material differences associated with the product, the manufacturer shall choose a representative combination.

4.4 For instances where supplier documentation or test reports are covered under a criterion, the documentation must have been generated:

- within 2 years of when the impacted item was first sold on the market, or
- within 2 years of when the documentation was obtained, or
- when changes were most recently made to the impacted part that impacts the aspects to which the documentation applies,

whichever is most recent.

5 Glossary

5.1 For the purpose of this Standard, the following definitions apply.

5.1.1 3TG MINERALS –

- a) Columbite-tantalite (coltan), cassiterite, gold, wolframite, or their derivatives, which are limited to tantalum, tin, and tungsten, unless the U.S. Secretary of State determines that additional derivatives are financing conflict in the Democratic Republic of the Congo or an adjoining country; or
- b) Any other mineral or its derivatives determined by the U.S. Secretary of State to be financing conflict in the Democratic Republic of the Congo or an adjoining country.

Source: U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Section 1502, and the Securities and Exchange Commission Rule.

5.2 ACCESSORIES – Components used external to the mobile phone, such as cables and external power supplies, essential to the operation of and shipped in the box with the mobile phone, not including the mobile phone. Printed materials and packaging are excluded. For instances where there are multiple accessory combinations associated with the product, and for which there are not material differences relevant to the aspects germane to the criterion, the manufacturer shall choose a representative combination.

5.3 AUTHORIZED REPAIR SERVICE PROVIDERS – A service provider is an entity or facility that has been provided permission directly by the mobile phone manufacturer to provide repair services. Manufacturer authorized service centers are entities or facilities approved by the manufacturer to perform service on the product, including partnerships with wireless carriers and local 3PLs (third-party logistic providers).

5.4 *Deleted*

5.5 BIOBASED PLASTIC CONTENT – The amount of biogenic carbon in a biosourced monomer(s) or filler(s) as determined by ASTM D6866, Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis multiplied by the percentage (by weight) of the components of the polymer(s) or filler(s) that originate from the bio-sourced monomer(s) in the compound. Biogenic carbon is derived, in whole or in significant part, from biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials.

5.6 CHEMICAL ABSTRACT SERVICES (CAS) NUMBER – A unique numerical identifier assigned to every chemical by the CAS division of the American Chemistry Council.

5.7 *Deleted*

5.8 CONSUMER – Individual and institutional purchaser of the product.