

---

---

**Information technology — JPEG XL  
image coding system —**

**Part 2:  
File format**

*Technologies de l'information - Système de codage d'images JPEG  
XL —*

*Partie 2: Format de fichiers*

This document is a preview generated by EUS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

Foreword.....	iv
<b>1 Scope.....</b>	<b>1</b>
<b>2 Normative references.....</b>	<b>1</b>
<b>3 Terms and definitions.....</b>	<b>1</b>
<b>4 General.....</b>	<b>2</b>
<b>5 File organization.....</b>	<b>2</b>
<b>6 Data types and numerical values.....</b>	<b>4</b>
<b>7 Graphical descriptions.....</b>	<b>4</b>
<b>8 Binary format of a box.....</b>	<b>5</b>
<b>9 Box types.....</b>	<b>6</b>
9.1 JPEG XL signature box.....	6
9.2 File type box.....	6
9.3 Level box.....	6
9.4 JUMBF box.....	6
9.5 Exif box.....	6
9.6 XML box.....	7
9.7 Brotli-compressed box.....	7
9.8 Frame index box.....	7
9.9 JPEG XL codestream box.....	9
9.10 JPEG XL partial codestream box.....	9
9.11 JPEG bitstream reconstruction data box.....	9
9.11.1 Syntax.....	9
9.11.2 Reconstruction procedure.....	12
<b>Bibliography.....</b>	<b>16</b>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <https://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 18181 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

# Information technology — JPEG XL image coding system —

## Part 2: File format

### 1 Scope

This document specifies the transport and container formats for JPEG XL codestreams as specified in ISO/IEC 18181-1. This document specifies how to add metadata and extensions to JPEG XL codestreams. A file as described by this document is called a JPEG XL file.

### 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.

ISO/IEC 18181-1:—<sup>1)</sup>, *Information technology — JPEG XL image coding system — Part 1: Core coding system*

ISO/IEC 19566-5, *Information technologies — JPEG systems — Part 5: JPEG universal metadata box format (JUMBF)*

INTERNET ENGINEERING TASK FORCE (IETF) RFC 7932, *Brotli Compressed Data Format* [online]. July 2016 [viewed 2021-04-19]. Available at <https://tools.ietf.org/html/rfc7932>

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 18181-1, ISO/IEC 19566-5 and the following apply.

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

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1

##### **box**

structured collection of data describing the image or the image decoding process

#### 3.2

##### **box content**

data wrapped within the box structure

#### 3.3

##### **box type**

kind of information stored within the box

#### 3.4

##### **file format**

set of data structures for the storage of metadata and extensions of a codestream

1) Under preparation. Stage at the time of publication: ISO/IEC FDIS 18181-1:2021.