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KML 2.2 – Abstract Test Suite

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Revision History	
Revision 1.0-rc1	2007-11-05
Includes test cases for the candidate OGC standard (OGC 07-147).	

Overview

This document is an abstract test suite (ATS): a compendium of abstract test cases that provide a basis for verifying the structure and content of KML 2.2 instances. Three conformance levels are defined; each level builds on the preceding ones:

- *Level 1* - includes test cases covering all required assertions that are satisfied by a minimally conformant KML document;
- *Level 2* - as for Level 1, plus test cases addressing recommended requirements;
- *Level 3* - as for Level 2, plus test cases covering suggested assertions that are informative in

nature.

Note that the prefix "kml" in this document refers to the KML 2.2 namespace ("http://www.opengis.net/kml/2.2").

Source documents

- KML 2.2 (OGC 07-147)
 - [Atom Syndication Format](#) (RFC 4287)
 - [Uniform Resource Identifier \(URI\): Generic Syntax](#) (RFC 3986)
 - [Extensible Address Language \(xAL\), Version 2.0](#)
 - [XPointer Framework](#) (W3C Recommendation 25 March 2003)
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Level 1

Purpose

The Level 1 conformance level includes test cases corresponding to absolute requirements; a conforming KML document must satisfy all assertions at this level.

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Table 1. Root element

Identifier	urn:ogc:cite:ats:KML-2.2:RootElement
Test purpose	<p>Check that the root element (kml:kml) satisfies all of the following assertions:</p> <ol style="list-style-type: none"> 1. it is well-formed; 2. it has [local name] = "kml" and [namespace name] = "http://www.opengis.net/kml/2.2"; 3. it conforms to the content model declared for 2.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 7.1.2 • OGC-07-147: Annex A • XML 1.0: Well-Formed XML Documents
Test type	Basic

Table 2. Geometry - coordinates

Identifier	urn:ogc:cite:ats:KML-2.2:Geometry-Coordinates
Test purpose	Verify that the coordinates of a geometry element are expressed as a list of white space-separated 2D or 3D tuples that contain comma-separated decimal values (lon,lat[,hgt]).
Test method	Pass if all kml:coordinates elements contain 2D/3D tuples containing decimal values conforming to the xsd:decimal type; fail otherwise. White space consists of one or more of the following characters: space (U+0020), carriage return (U+000D), line feed (U+000A), or tab (U+0009). The relevant coordinate reference system (CRS) is defined in Annex B.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 16.1 • XML Schema Part 2 - Datatypes (2e): decimal • OGC-07-147: Annex B
Test type	Basic

Table 3. TimeSpan

Identifier	urn:ogc:cite:ats:KML-2.2:TimeSpan
Test purpose	
Test method	
Reference	
Test type	

Test purpose	<p>Verify that a TimeSpan element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. it must have at least one child element (kml:begin or kml:end) is present (i.e., the interval may be indefinite); 2. if it has a definite interval (both kml:begin and kml:end are present), then the start value is earlier than the end value.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 15.2.2
Test type	Basic

Table 4. TimeStamp

Identifier	urn:ogc:cite:ats:KML-2.2:TimeStamp
Test purpose	Verify that a TimeStamp element has at least a kml:when child present.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 15.3.2
Test type	Basic

Table 5. Style reference

Identifier	urn:ogc:cite:ats:KML-2.2:StyleReference
Test purpose	<p>Check that a kml:styleUrl element satisfies all of the following assertions:</p> <ol style="list-style-type: none"> 1. its value is a valid relative or absolute URL that refers to a shared style definition (any element that substitutes for <i>kml:AbstractStyleSelectorGroup</i>); 2. if the reference is an absolute URI, the value conforms to the 'http' or 'file' schemes; 3. it includes a fragment identifier conforming to the shorthand pointer syntax as defined in the W3C XPointer framework.
Test method	Pass if all applicable assertions are satisfied; fail otherwise. A relative URL is resolved according to the reference resolution algorithm described in section 5 of RFC 3986.

Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 6.4 • OGC-07-147: cl. 9.1.3.13.1 • XPointer Framework: Shorthand Pointer • RFC 3986: Reference Resolution
Test type	Basic

Table 6. Shared style definition

Identifier	urn:ogc:cite:ats:KML-2.2:SharedStyle
Test purpose	<p>Confirm that a 'shared' style definition (any element that can substitute for <i>kml:AbstractStyleSelectorGroup</i>) satisfies all of the following assertions:</p> <ul style="list-style-type: none"> • it has kml:Document as the parent element; • it has an @id value.
Test method	Pass if all assertions are satisfied; fail otherwise. Shared styles include kml:Style and kml:StyleMap elements.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 6.4
Test type	Basic

Table 7. Region - LatLonAltBox

Identifier	urn:ogc:cite:ats:KML-2.2:Region-LatLonAltBox
Test purpose	<p>Verify that the content of a kml:LatLonAltBox element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. kml:north > kml:south; 2. kml:east > kml:west; 3. kml:minAltitude <= kml:maxAltitude; 4. if kml:minAltitude and kml:maxAltitude are present, kml:altitudeMode != "clampToGround".
Test method	Pass if all applicable assertions are satisfied; fail otherwise. The default envelope for a region of interest is the entire surface of the EGM96 geoid. By testing north > south and east > west, we are testing for a non-zero area.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.15.2
Test type	Basic

Table 8. Link elements

Identifier	urn:ogc:cite:ats:KML-2.2:Link-Elements
Test purpose	<p>Check that a link element (of type <code>kml:LinkType</code>) satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. if present, the child <code>kml:refreshInterval</code> element has a positive value (> 0); 2. if present, the child <code>kml:viewRefreshTime</code> element has a positive value (> 0); 3. if present, the child <code>kml:viewBoundScale</code> element has a positive value (> 0).
Test method	Pass if a link element (<code>kml:Link</code> , <i><code>kml:AbstractOverlayType</code></i> / <code>kml:Icon</code>) satisfies all relevant assertions; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 13.1.3.3.1 • OGC-07-147: cl. 13.1.3.5.1 • OGC-07-147: cl. 13.1.3.6.1
Test type	Basic

Table 9. Link referent

Identifier	urn:ogc:cite:ats:KML-2.2:LinkReferent
Test purpose	<p>Confirm that a link element refers to the correct resource type, according to one of the following cases:</p> <ol style="list-style-type: none"> a. if parent element is <code>kml:NetworkLink</code> - a KML or KMZ resource; b. if parent element is <code>kml:Model</code> - a textured 3D object resource; c. if parent element is <code>kml:GroundOverlay</code>, <code>kml:ScreenOverlay</code>, or <code>kml:PhotoOverlay</code> - an image resource
Test method	Pass if all link elements (<code>kml:Link</code> , <i><code>kml:AbstractOverlayType</code></i> / <code>kml:Icon</code>) have correct referents; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.12.3.3 • OGC-07-147: cl. 10.9.3.5.1 • OGC-07-147: cl. 11.1.3.3
Test type	Basic

Table 10. LatLonBox

Identifier	urn:ogc:cite:ats:KML-2.2:LatLonBox
Test purpose	<p>Verify that the content of a kml:LatLonBox element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. contains the kml:north, kml:south, kml:east, and kml:west children elements; 2. kml:north > kml:south; 3. kml:east > kml:west.
Test method	Pass if the assertion is satisfied; fail otherwise. The default envelope for a kml:GroundOverlay is the entire surface of the WGS 84 ellipsoid. By testing north > south and east > west, we are testing for a non-zero area.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 11.3.2
Test type	Basic

Table 11. Geometry - extrude

Identifier	urn:ogc:cite:ats:KML-2.2:Geometry-Extrude
Test purpose	Check that if the kml:extrude child element of a geometry element (except Model) has the value "true", then the value of kml:altitudeMode is not "clampToGround".
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 10.4.1.1.2
Test type	Basic

Table 12. Geometry - tessellate

Identifier	urn:ogc:cite:ats:KML-2.2:Geometry-Tessellate
Test purpose	Confirm that if the kml:tessellate child element of a geometry element (except Point and Model) has the value "true", then the value of kml:altitudeMode is "clampToGround" (default value).
Test method	Pass if the assertion is satisfied; fail otherwise. Applies to kml:LineString, kml:LinearRing, kml:Polygon.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 10.6.2
Test type	Basic

Table 13. Point

Identifier	urn:ogc:cite:ats:KML-2.2:Point
Test purpose	Check that the kml:Point child kml:coordinates element contains exactly one coordinate tuple.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.3.2
Test type	Basic

Table 14. LineString

Identifier	urn:ogc:cite:ats:KML-2.2:LineString
Test purpose	Verify that the kml:LineString child kml:coordinates element contains at least two coordinate tuples.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.7.3.4.1
Test type	Basic

Table 15. LinearRing - control points

Identifier	urn:ogc:cite:ats:KML-2.2:LinearRing-ControlPoints
Test purpose	Check that the kml:LinearRing child kml:coordinates element contains at least 4 coordinate tuples, where the first and last are identical (i.e. they constitute a closed figure).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.7.5.4.1
Test type	Basic

Table 16. Polygon boundary

Identifier	urn:ogc:cite:ats:KML-2.2:PolygonBoundary
Test purpose	<p>Confirm that a kml:Polygon geometry element satisfies all of the following assertions:</p> <ol style="list-style-type: none"> if not a descendant of kml:Update, the kml:Polygon element has the child kml:outerBoundaryIs element present; each interior boundary defines a hole in the Polygon.
Test method	Pass if all applicable assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.8.2

Test type	Basic
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Table 17. Icon - href

Identifier	urn:ogc:cite:ats:KML-2.2:Icon-href
Test purpose	Verify that the kml:Icon/kml:href element refers to an image resource.
Test method	Pass if the assertion is satisfied; fail otherwise. The image format must correspond to a registered image media type (PNG, JPEG, and GIF images are commonly used for this purpose). Applies to kml:Icon elements in both kml:IconStyle and <i>kml:AbstractOverlayType</i> contexts.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.1.2 Image Media Types
Test type	Basic

Table 18. ViewVolume - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:ViewVolume-Minimal
Test purpose	Verify that an kml:ViewVolume element has a kml:leftFov, kml:rightFov, kml:bottomFov, kml:topFov, and kml:near (non-negative) specified.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 11.5.2 OGC-07-147: cl. 11.5.3.5
Test type	Basic

Table 19. NetworkLinkControl - minRefreshPeriod

Identifier	urn:ogc:cite:ats:KML-2.2:NetworkLinkControl-MinRefreshPeriod
Test purpose	Verify that a kml:minRefreshPeriod element, child of kml:NetworkLinkControl, is non-negative (≥ 0).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.2.3.1.1
Test type	Basic

Table 20. Empty objects

Identifier	urn:ogc:cite:ats:KML-2.2:EmptyObjects
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Test purpose	Verify that a KML object that is not a descendant of <code>kml:</code> Update is not empty or has an <code>@id</code> attribute.
Test method	Pass if the assertion is satisfied; fail otherwise. The relevant context is <code>kml:AbstractObjectType[not(ancestor::kml:Update)]</code> . If this assertion is violated, updating the object becomes much more troublesome.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 8.1.3.1.1
Test type	Basic

Table 21. Update - targetHref

Identifier	urn:ogc:cite:ats:KML-2.2:Update-targetHref
Test purpose	<p>Check that the value of the <code>kml:Update/kml:targetHref</code> element satisfies all of the following assertions:</p> <ol style="list-style-type: none"> it is an absolute URL that refers to a KML or KMZ resource; the value matches the retrieval URI for an existing <code>NetworkLink</code> element.
Test method	Pass if all applicable assertions are satisfied; fail otherwise. This element modifies the behaviour of a referring <code>NetworkLink</code> . The value of the <code>kml:Update/kml:targetHref</code> element matches the retrieval URI for an existing <code>NetworkLink</code> (<code>kml:NetworkLink/kml:Link/kml:href</code>).
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.4.2
Test type	Basic

Table 22. Identification of update targets

Identifier	urn:ogc:cite:ats:KML-2.2:UpdateTargets
Test purpose	Check that all KML objects, which are grandchildren of <code>kml:Update</code> , include a <code>@targetId</code> attribute that identifies the object to be updated, and do not have an <code>@id</code> .
Test method	Pass if the assertion is satisfied; fail otherwise. Examine the content of all <code>kml:Create</code> , <code>kml>Delete</code> and <code>kml:Change</code> elements.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.3.2
Test type	Basic

Table 23. PhoneNumber

Identifier	urn:ogc:cite:ats:KML-2.2:PhoneNumber
Test purpose	Check that the value of the kml:phoneNumber element is a 'tel' URI that conforms to RFC 3966.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.1.3.8.1 RFC 3966: The tel URI for Telephone Numbers
Test type	Basic

Table 24. Schema

Identifier	urn:ogc:cite:ats:KML-2.2:Schema
Test purpose	Check that a kml:Schema element has an @id value.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.8.2
Test type	Basic

Table 25. Schema - SimpleField

Identifier	urn:ogc:cite:ats:KML-2.2:Schema-SimpleField
Test purpose	<p>Verify that a kml:SimpleField element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> it has a @name attribute; the value of the @type attribute is one of the following: <ul style="list-style-type: none"> string int unsignedInt short unsignedShort float double bool
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.9.2, OGC-07-147: cl. 9.9.4.2.1
Test type	Basic

Table 26. ExtendedData - SchemaData

Identifier	urn:ogc:cite:ats:KML-2.2:ExtendedData-SchemaData
Test purpose	<p>Confirm that a kml:SchemaData element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. the @schemaUrl attribute value is a URL with a fragment component that refers to a kml:Schema element; 2. all kml:SimpleData child elements have a @name attribute that matches the name of a declared kml:SimpleField element in the corresponding Schema; 3. the values of all kml:SimpleData child elements conform to their declared types.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.4.2 • OGC-07-147: cl. 9.5.2
Test type	Basic

Table 27. ExtendedData - Data

Identifier	urn:ogc:cite:ats:KML-2.2:ExtendedData-Data
Test purpose	Check that the value of the @name attribute is unique within the context of the parent kml:ExtendedData element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.3.2
Test type	Basic

Table 28. Alias

Identifier	urn:ogc:cite:ats:KML-2.2:Alias
Test purpose	
Test method	
Reference	
Test type	

Test purpose	<p>Verify that a kml:Alias element satisfies the following assertions:</p> <ol style="list-style-type: none"> 1. the value of the child kml:targetHref element is a URI reference to an image (texture) resource; 2. the value of the child kml:sourceHref element corresponds to a file reference appearing within the 3D object resource referenced in the preceding sibling kml:Link element.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 10.14.3.1.1
Test type	Basic

Table 29. atom:author

Identifier	urn:ogc:cite:ats:KML-2.2:atom-author
Test purpose	<p>Check that an atom:author element satisfies all of the following assertions:</p> <ol style="list-style-type: none"> 1. the content of the child atom:uri element is an IRI reference; 2. the content of the child atom:email element conforms to the "addr-spec" production in RFC 2822.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.1.3.4.2 • RFC 4287: Person Constructs • RFC 3987: Internationalized Resource Identifiers (IRIs) • RFC 2822: Addr-spec specification
Test type	Basic

Table 30. atom:link

Identifier	urn:ogc:cite:ats:KML-2.2:atom-link
Test purpose	Check that the value of the atom:link/@rel attribute is "related".
Test method	Pass if the assertion is satisfied; fail otherwise. If the attribute is not present, the link must be interpreted as if @rel = "alternate" (i.e. the referent is an alternate version of the resource). The value "related" simply signifies a generic relationship.

Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.1.3.5.1 RFC 4287: The "rel" Attribute
Test type	Basic

Table 31. Orientation - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:Orientation-Minimum
Test purpose	Verify that an kml:Orientation element, if not a descendant of kml:Update, has at least one of kml:heading, kml:tilt, or kml:roll.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.11.2
Test type	Basic

Table 32. GroundOverlay

Identifier	urn:ogc:cite:ats:KML-2.2:GroundOverlay
Test purpose	Verify that a kml:GroundOverlay with an kml:altitudeMode of "absolute" has the kml:altitude element present.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.17.2
Test type	Basic

Table 33. Model

Identifier	urn:ogc:cite:ats:KML-2.2:Model
Test purpose	<p>Check that a kml:Model element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. it has children elements kml:Link and kml:Location; 2. if not a descendant of kml:Update and if the target resource has texture files, there must be a kml:ResourceMap/kml:Alias for each texture file.
Test method	Pass if all applicable assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.9.3
Test type	Basic

Table 34. PhotoOverlay - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:PhotoOverlay-Minimal
Test purpose	Check that a kml:PhotoOverlay element, if not a descendant of kml:Update, has child elements kml:Icon, kml:ViewVolume, kml:Point, and kml:Camera.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 11.4.2
Test type	Basic

Table 35. Pair

Identifier	urn:ogc:cite:ats:KML-2.2:Pair
Test purpose	Check that a kml:Pair element, if not a descendant of kml:Update, has both the kml:key and kml:styleUrl child elements and/or an element that substitutes for <i>kml:AbstractStyleSelectorGroup</i> .
Test method	Pass if the assertion is satisfied; fail otherwise. <i>kml:AbstractStyleSelectorGroup</i> elements are typically kml:Style or kml:StyleMap.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.4.2
Test type	Basic

Table 36. ItemIcon

Identifier	urn:ogc:cite:ats:KML-2.2:ItemIcon
Test purpose	Check that an kml:ItemIcon element, if not a descendant of kml:Update, has a kml:href child element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.14.2
Test type	Basic

Table 37. LookAt

Identifier	urn:ogc:cite:ats:KML-2.2:LookAt
Test purpose	
Test method	
Reference	
Test type	

Test purpose	<p>Check that a kml:LookAt element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. if not a descendant of kml:Update, it has child elements kml:longitude, kml:latitude, and kml:range; 2. $0 \leq \text{kml:tilt} \leq 90$; 3. if kml:altitudeMode != "clampToGround", then the kml:altitude element is present.
Test method	Pass if the applicable assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.17.2 • OGC-07-147: cl. 14.3.2 • OGC-07-147: cl. 14.3.4.5.1
Test type	Basic

Table 38. Lod

Identifier	urn:ogc:cite:ats:KML-2.2:Lod
Test purpose	<p>Check that a kml:Lod element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. if not a descendant of kml:Update, it has the kml:minLodPixels child element present; 2. kml:minLodPixels < kml:maxLodPixels (where a value of -1 = infinite).
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.18.2
Test type	Basic

Table 39. Link

Identifier	urn:ogc:cite:ats:KML-2.2:Link
Test purpose	Check that a kml:Link element, if not a descendant of kml:Update, has a kml:href child element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 13.1.2
Test type	Basic

Table 40. Region

Identifier	urn:ogc:cite:ats:KML-2.2:Region
Test purpose	Confirm that the kml:Region element, if not a descendant of kml:Update, has the kml:LatLonAltBox and kml:Lod child elements present.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	. OGC-07-147: cl. 9.13.2
Test type	Basic

Level 2

Purpose

The Level 2 conformance level includes all Level 1 tests plus test cases covering requirements that should be satisfied by a KML document. Non-conformance at this level may hinder the utility, portability, or interoperability of the document.

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Table 41. PolyStyle

Identifier	urn:ogc:cite:ats:KML-2.2:PolyStyle
Test purpose	Check that a kml:PolyStyle element, if not a descendant of kml:Update, has at least one child element (kml:color, kml:colorMode, kml:fill, or kml:outline).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 12.12.2
Test type	Basic

Table 42. Geometry - altitudeMode

Identifier	urn:ogc:cite:ats:KML-2.2:Geometry-altitudeMode
Test purpose	Confirm that if the kml:altitudeMode element of a KML geometry does not have the value "clampToGround", then the third coordinate tuple (altitude) is provided.
Test method	Pass if the assertion is satisfied; fail otherwise. Check control points in <i>kml:AbstractGeometryType</i> /kml:coordinates and kml:Model/kml:Location.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.17.2
Test type	Basic

Table 43. Scale - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:Scale-Minimal
Test purpose	Verify that a kml:Scale element, if not a descendant of kml:Update, has at least one child (kml:x, kml:y, or kml:z).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.12.2
Test type	Basic

Table 44. kml - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:Kml-Minimal
Test purpose	Verify that a kml:kml element has at least one child (kml:NetworkLinkControl or <i>kml:AbstractFeatureType</i>).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 7.1.2
Test type	Basic

Table 45. ViewFormat

Identifier	urn:ogc:cite:ats:KML-2.2:ViewFormat
Test purpose	Verify a kml:viewFormat contains at least one parameter.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.1.2
Test type	Basic

Table 46. httpQuery

Identifier	urn:ogc:cite:ats:KML-2.2:HttpQuery
Test purpose	Verify a kml:httpQuery contains at least one parameter.
Test method	Pass if the httpQuery has at least one of the allowable parameters; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.1.2
Test type	Basic

Table 47. ViewFormat

Identifier	urn:ogc:cite:ats:KML-2.2:LinearRing
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Test purpose	Verify the <code>kml:LinearRing</code> , when within a <code>kml:Polygon</code> , does not have a <code>kml:extrude</code> , <code>kml:tessellate</code> , or <code>kml:altitudeMode</code> element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.5.2
Test type	Basic

Table 48. Data

Identifier	urn:ogc:cite:ats:KML-2.2:Data
Test purpose	Check that the <code>kml:Data</code> element has both a <code>@name</code> and <code>kml:value</code> child.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.3.2
Test type	Basic

Table 49. ResourceMap - Alias

Identifier	urn:ogc:cite:ats:KML-2.2:ResourceMap-Alias
Test purpose	Verify that a <code>kml:ResourceMap</code> element has at least one <code>kml:Alias</code> child, and each <code>Alias</code> has a unique <code>kml:sourceHref</code> .
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.13.2
Test type	Basic

Table 50. Link refresh values

Identifier	urn:ogc:cite:ats:KML-2.2:LinkRefresh
Test purpose	<p>Check that a <code>kml:Link</code> element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> if the <code>kml:refreshInterval</code> element is present, the <code>kml:refreshMode</code> must be "onInterval"; if the <code>kml:viewRefresh</code> element is present, the <code>kml:refreshMode</code> must be "onStop".
Test method	Pass if all relevant assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 13.1.3.2.1
Test type	Basic

Table 51. PhotoOverlay

Identifier	urn:ogc:cite:ats:KML-2.2:PhotoOverlay
Test purpose	Check that if a kml:PhotoOverlay with a child kml:Icon/kml:href containing [x], [y], and [level] parameters also has the kml:ImagePyramid child be present, or vice-versa.
Test method	Pass if the assertion is satisfied; fail otherwise. The parameters are embedded within the URL; i.e, http://server.company.com/bigphoto/\$[level]/row_\$(x)_column_\$(y).jpg. Check for the kml:ImagePyramid when the x, y, level parameters are present, or if the kml:ImagePyramid is present check for the x, y, level parameters.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 11.4.3
Test type	Basic

Table 52. GroundOverlay - minimal content

Identifier	urn:ogc:cite:ats:KML-2.2:GroundOverlay-Minimal
Test purpose	Verify that a kml:GroundOverlay element, if not a descendant of kml:Update, has the kml:LatLonBox (with kml:north, kml:south, kml:east, kml:west) child element.
Test method	Pass if the assertion is satisfied; fail otherwise. The presence of north, south, east, and west indicates the Overlay draws a polygon.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 11.2.3.1
Test type	Basic

Table 53. Camera

Identifier	urn:ogc:cite:ats:KML-2.2:Camera
Test purpose	<p>Check that a kml:Camera element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> if not a descendant of kml:Update, it has the kml:latitude, kml:longitude, and kml:altitude child elements present; kml:altitudeMode != "clampToGround".
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 14.2.2

Test type	Basic
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Table 54. Location

Identifier	urn:ogc:cite:ats:KML-2.2:Location
Test purpose	<p>Check that a <code>kml:Location</code> element satisfies all of the following constraints:</p> <ol style="list-style-type: none"> 1. it has the <code>kml:longitude</code> and <code>kml:latitude</code> child elements present; 2. if parent <code>kml:Model</code> has a <code>kml:altitudeMode</code> != "clampToGround", then the <code>kml:altitude</code> child is present.
Test method	Pass if all applicable assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 9.17.2 • OGC-07-147: cl. 10.9.2, • OGC-07-147: cl. 10.10.2
Test type	Basic

Table 55. Overlay

Identifier	urn:ogc:cite:ats:KML-2.2:Overlay
Test purpose	Check that a <i>kml:AbstractOverlayType</i> element, if not a descendant of <code>kml:Update</code> , has an <code>kml:Icon</code> child element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 11.2.2
Test type	Basic

Table 56. Icon

Identifier	urn:ogc:cite:ats:KML-2.2:Icon
Test purpose	Check that a <code>kml:Icon</code> element has an <code>kml:href</code> child element (which refers to a supported image resource - PNG, JPEG, and GIF images are commonly used for this purpose).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 13.1.2
Test type	Basic

Table 57. ScreenOverlay

Identifier	urn:ogc:cite:ats:KML-2.2:ScreenOverlay
Test purpose	Check that a kml:ScreenOverlay element, if not a descendant of kml:Update, has a kml:screenXY child element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 11.7.2
Test type	Basic

Table 58. BalloonStyle

Identifier	urn:ogc:cite:ats:KML-2.2:BalloonStyle
Test purpose	Check that a kml:BalloonStyle element, if not a descendant of kml:Update, is not empty (at least one child).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.6.2
Test type	Basic

Table 59. ExtendedData

Identifier	urn:ogc:cite:ats:KML-2.2:ExtendedData
Test purpose	Check that a kml:ExtendedData element is not empty (at least one child - kml:Data, kml:SchemaData, or an element in another namespace).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.2.2
Test type	Basic

Table 60. Folder

Identifier	urn:ogc:cite:ats:KML-2.2:Folder
Test purpose	Check that a kml:Folder element, if not a descendant of kml:Update, is not empty (at least one child that substitutes for a <i>kml:AbstractFeatureType</i>).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.10.2
Test type	Basic

Table 61. IconStyle

Identifier	urn:ogc:cite:ats:KML-2.2:IconStyle
Test purpose	<p>Check that an kml:IconStyle element, if not a descendant of kml:Update, satisfies all of the following assertions:</p> <ol style="list-style-type: none"> 1. is not empty (has at least one child); 2. if the kml:Icon child element is present, the kml:Icon/kml:href element must also be present (points to a supported image resource - PNG, JPEG, and GIF images are commonly used for this purpose).
Test method	Pass if all applicable assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 12.8.2 • OGC-07-147: cl. 12.9.2
Test type	Basic

Table 62. ImagePyramid

Identifier	urn:ogc:cite:ats:KML-2.2:ImagePyramid
Test purpose	<p>Check that if an kml:ImagePyramid element, if not a descendant of kml:Update, satisfies all of the following assertions:</p> <ol style="list-style-type: none"> 1. has the kml:maxWidth and kml:maxHeight child elements; 2. the supplied kml:tileSize must be a power of 2.
Test method	Pass if all assertions are satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 11.6.2
Test type	Basic

Table 63. LabelStyle

Identifier	urn:ogc:cite:ats:KML-2.2:LabelStyle
Test purpose	Check that an kml:LabelStyle element, if not a descendant of kml:Update, has at least one child element (kml:color, kml:colorMode, or kml:scale).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> • OGC-07-147: cl. 12.10.2
Test type	Basic

Table 64. ListStyle

Identifier	urn:ogc:cite:ats:KML-2.2:ListStyle
Test purpose	Check that an kml:ListStyle element, if not a descendant of kml:Update, has at least one child element (kml:listItemType, kml:bgColor, or kml:ItemIcon).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.13.2
Test type	Basic

Table 65. Style

Identifier	urn:ogc:cite:ats:KML-2.2:Style
Test purpose	Check that an kml:Style element, if not a descendant of kml:Update, has at least one child element (non-empty).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.2.2
Test type	Basic

Table 66. MultiGeometry

Identifier	urn:ogc:cite:ats:KML-2.2:MultiGeometry
Test purpose	Check that a kml:MultiGeometry element, if not a descendant of kml:Update, contains more than one geometry element.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.2.2
Test type	Basic

Table 67. Placemark

Identifier	urn:ogc:cite:ats:KML-2.2:Placemark
Test purpose	Check that a kml:Placemark element, if not a descendant of kml:Update, has a geometry specified.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.11.2
Test type	Basic

Table 68. StyleMap

Identifier	urn:ogc:cite:ats:KML-2.2:StyleMap
Test purpose	Check that a kml:StyleMap element, if not a descendant of kml:Update, has two kml:Pair elements (one with a kml:key value of "normal" and the other of value "highlight").
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 12.3.2
Test type	Basic

Level 3

Purpose

The Level 3 conformance level includes all Level 2 tests and introduces assertions of an informative nature; these are intended to signal the use of deprecated elements or to promote alignment with existing (non-normative) standards or conventions.

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Table 69. Polygon - rings

Identifier	urn:ogc:cite:ats:KML-2.2:PolygonRings
Test purpose	Confirm that no two rings comprising the boundary of a kml:Polygon geometry cross.
Test method	Pass if the assertion is satisfied; fail otherwise. The rings may intersect at a single point.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.8.2 OpenGIS Geography Markup Language (GML) Encoding Standard: D.3.6

Test type	Basic
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Table 70. LinearRing - Simple ring

Identifier	urn:ogc:cite:ats:KML-2.2:SimpleLinearRing
Test purpose	Check that a kml:LinearRing is a simple ring (i.e., it does not cross itself).
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.8.2 OpenGIS Geography Markup Language (GML) Encoding Standard: D.3.6
Test type	Basic

Table 71. BalloonStyle - color

Identifier	urn:ogc:cite:ats:KML-2.2:BalloonStyle-color
Test purpose	Check for any occurrences of the (deprecated) kml:color element in kml:BallonStyle elements.
Test method	Pass if no kml:color elements occur in this context; fail otherwise (deprecated in favour of kml:bgColor).
Reference	<ul style="list-style-type: none"> OGC-07-147: Annex A
Test type	Basic

Table 72. Metadata

Identifier	urn:ogc:cite:ats:KML-2.2:Metadata
Test purpose	Check for any occurrences of the (deprecated) kml:Metadata element.
Test method	Pass if no kml:Metadata elements occur; fail otherwise (deprecated in favour of kml:ExtendedData).
Reference	<ul style="list-style-type: none"> OGC-07-147: Annex A
Test type	Basic

Table 73. Scale - full content

Identifier	urn:ogc:cite:ats:KML-2.2:Scale-Full
Test purpose	Verify that a kml:Scale element has an kml:x, kml:y, and kml:z specified.
Test method	Pass if the assertion is satisfied; fail otherwise.

Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.12.2
Test type	Basic

Table 74. Lod - fade extents

Identifier	urn:ogc:cite:ats:KML-2.2:Lod-FadeExtents
Test purpose	Verify that the <code>kml:minFadeExtent</code> + <code>kml:maxFadeExtent</code> <= <code>kml:maxLodPixels</code> - <code>kml:minLodPixels</code> .
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 9.18.2
Test type	Basic

Table 75. Orientation - full content

Identifier	urn:ogc:cite:ats:KML-2.2:Orientation-Full
Test purpose	Verify that an <code>kml:Orientation</code> element has a <code>kml:heading</code> , <code>kml:tilt</code> , and <code>kml:roll</code> specified.
Test method	Pass if the assertion is satisfied; fail otherwise.
Reference	<ul style="list-style-type: none"> OGC-07-147: cl. 10.11.2
Test type	Basic

Table 76. Snippet

Identifier	urn:ogc:cite:ats:KML-2.2:Snippet
Test purpose	Check for any occurrences of the (deprecated) <code>kml:Snippet</code> element.
Test method	Pass if no <code>kml:Snippet</code> elements occur; fail otherwise (deprecated in favour of <code>kml:snippet</code>).
Reference	<ul style="list-style-type: none"> OGC-07-147: Annex A
Test type	Basic