

ISO 10303-210 ed2 test case status

February 14, 2007

Updated December 31, 2019

This file is provided in support of
TC 184/SC 4 WG 3 N2608

Contents

- Discussion
- Test case quad charts

Discussion

AP 203 files from the AP 210 recommended practices are not integrated with AP 210 versions.

NIST has many test case files for AP 210 ed2 that are not incorporated into a comprehensive repository.

Public/private dichotomy

The completed Intercax test case V and V project summary is provided herein.

Recommended Practice AP203

Test Cases

AP203 models of figures from recommended practices

- Created in UGS
- All are included in database
- Footprint definitions may need to be added.

NIST Test Cases

- Multiple NIST test cases exist for Edition 2 of the standard
- A repository needs to be identified and files uploaded and links to the repository provided.

Public/Private dichotomy

Some of the publicly available test cases are not up to date

Private Test Cases are up to date but

- They are real designs;

- They are proprietary;

- They will not be released into the public domain.

Intercax results

- Cabledb, Surface mount flasher, design0, preview and flasher successfully passed AP 210 ed2.
- All others in this (originally PDES) repository were at AP 210 ed1 ARM or AIM. Does not include the NIST data sets.
- For details, contact Manas Bajaj at www.intercax.com

Test Case Provenance and results

Pedigree of the files provided.

CAD Source identification if applicable

History

Change History

Issues against the file

Issues against AP 210 the file illustrates

Version of the AIM it is tested against.

Version of the AIM it was built against.

Types of Test Cases

Simple with a limited implementation scope.

Examples:

Simple Rectangle

Multi product

Component Orientation

Types of Test Cases (cont.)

Complex with a scope that covers a particular usage scenerio.

Examples:

- Thru Hole PCB design

- Surface mount PCA design

- Double Sided Surface Mount PCA design

- Requirement Specification

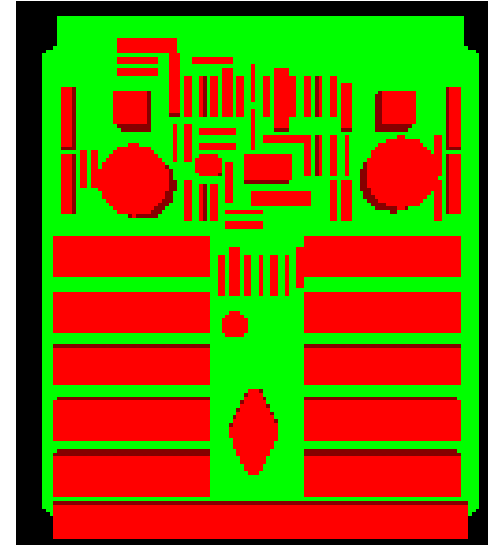
- Design Change Sequence

Test Case Quad Charts

Cabledb ECAD View

Test Case Purpose

A real design available to share.



Test History:

Filename: cable_db.stp

Author: Paul Monson

Design Source: Mentor Graphics

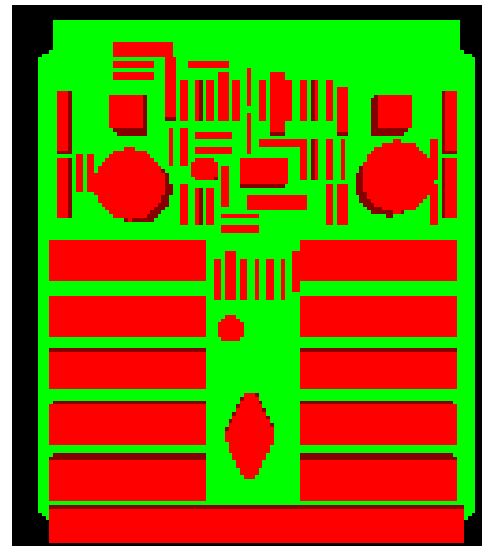
Translator: ITI Version 1.2

Post Processing: None

Cabledb MCAD View

Test Case Purpose

A real design available to share.



Test History:

3D model created in UGS to support MCAD View. UG Part and AP203 Models available for assembly and Piece parts and maybe the PWB.

Filename:

Author: Tom Thurman

Design Source: UGS

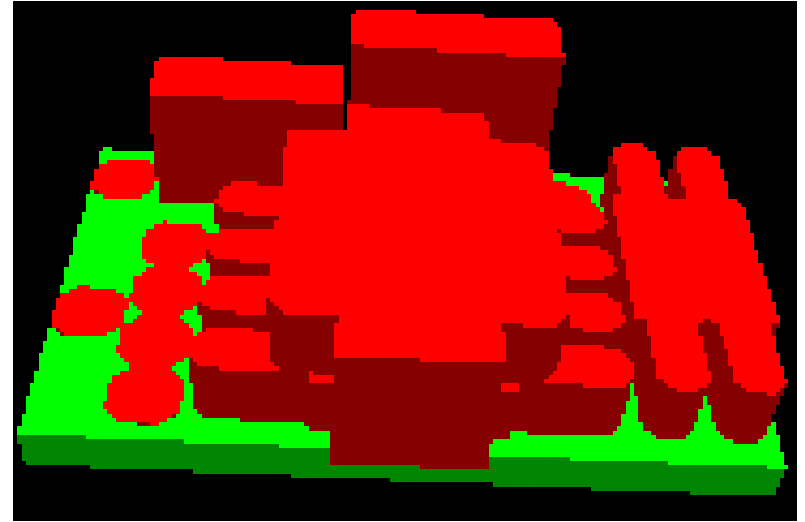
Translator: Unknown

Post Processing: None

Thru Hole Flasher

Test Case Purpose

A real design available to share.



Test History:

Filename: flasherthruhole.stp

Author: Paul Monson

Design Source: Mentor Graphics

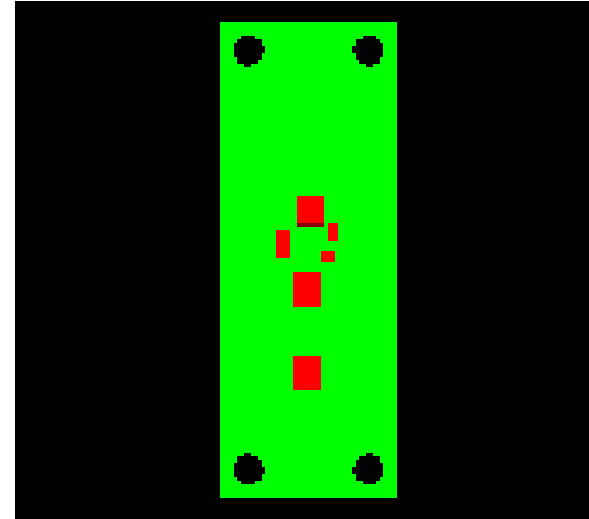
Translator: ITI Version 1.2

Post Processing: None

Surface Mount Flasher

Test Case Purpose

A real design available to share.



Test History:

Needs more work. There are Mentor Board station source as well as CADIF Source as well as (maybe) UG source

Filename: flasher.210

Author: Kevin Cline

Design Source: IDF Version 2.0

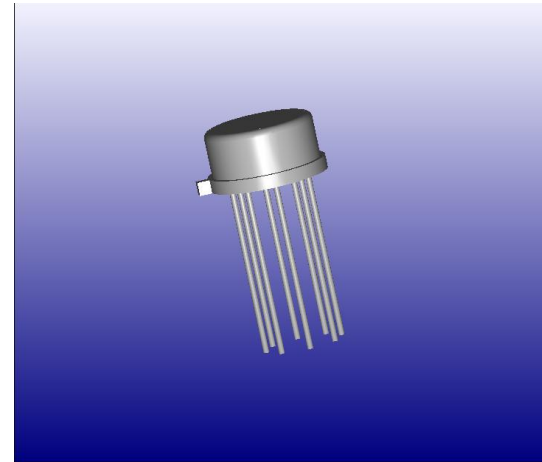
Translator: IDF to AP210

Post Processing: None

H08 Package

Test Case Purpose

Provide a 3D model of an electronic package in both AP203 and in AP210 for comparison purposes for implementors.



Test History:

The current file is against the DIS Version and therefore needs updating.

Filename: H08.2xx

Author: Craig Lanning

Design Source: AP203

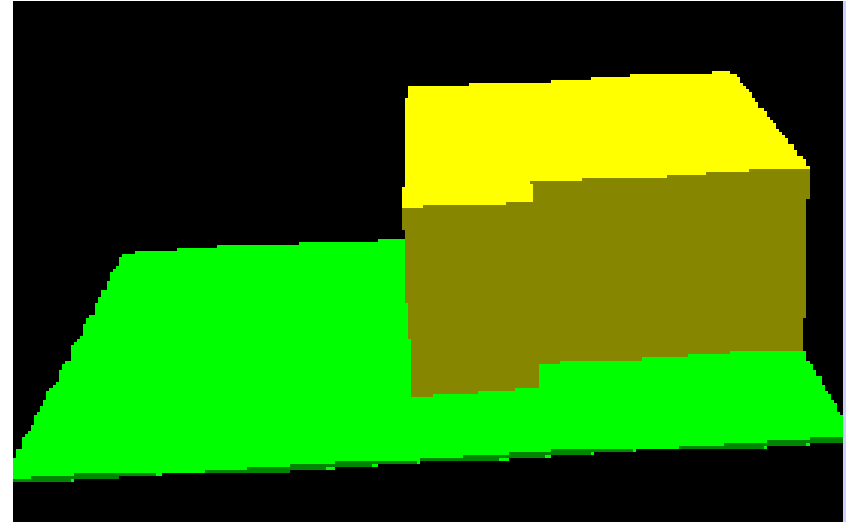
Translator: None

Post Processing: Hand built

Component Placement Restriction

Test Case Purpose:

To test the function of the ARM concept of component_placement_restriction_assignment requirements

**Test History:**

The file MGC_CGA.brd includes the ROUTE_OUTLINE and PLACE_OUTLINE outlines that were required in order to create a board geometry in Mentor Graphics tools.

Filename: CRA.210

Author: Mike Keenan

Design Source: ATX subset

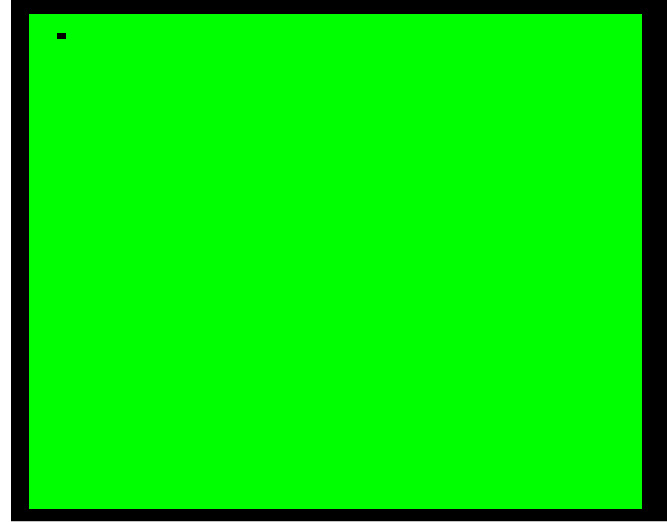
Translator: IDF to AP210 11/13/00

Post Processing: None

Drilled Hole

Test Case Purpose

Provide simple drilled hole example.



Test History:

Filename: DrilledHole.210

Author: Mike Keenan

Design Source: ATX Version 2.01

Translator: IDF to AP210 11/13/00

Post Processing: None

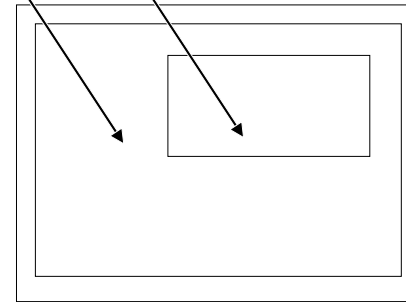
Mounting Restriction Area Boundaries

Test Case Purpose

Test a mounting_restriction_area with both an external and internal boundary.

Max comp
height 0.5

Max comp
height 0.75



Test History:

Filename: ModifiedMRABoundary.210

Author: Mike Keenan

Design Source: MRABoundary.brd

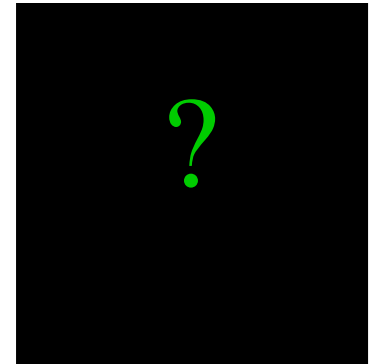
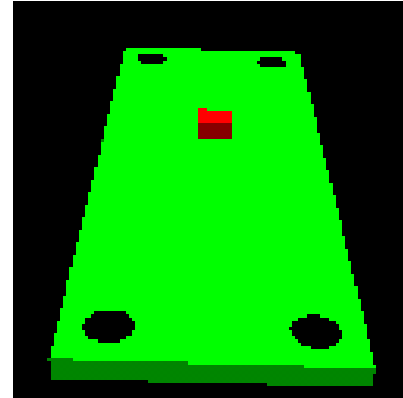
Translator: IDF to AP210 11/13/00

Post Processing: Manual to add the cutout to the outer mounting_restriction_area.

Multi Assembly

Test Case Purpose

Test the results of giving a system a part21 file with two PWA assemblies in it.



Test History:

9/20/00 - AP210Viewer Version 1.2f Beta 1.0, displayed the single component annexk example. No indication of another design in the file.

Filename: MultiProduct.stp

Author: Mike Keenan

Design Source: Annex K examples for AP210 IS

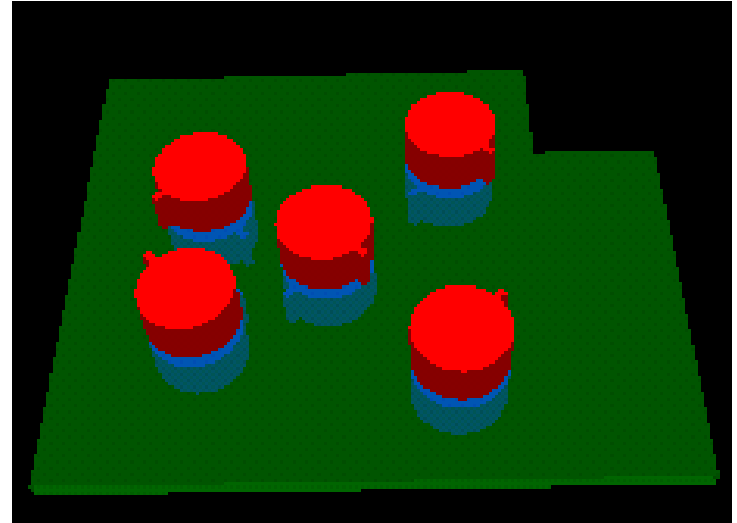
Translator: N/A

Post Processing: Used StepMerge program to create a single part21 file for the two examples.

Component Orientation

Test Case Purpose

Test component placement and rotation on both sides of the board.



Test History:

Extensive testing during development of AP210 Viewer and IDF to AP210 translator.

Filename: Test_05.210

Author: Mike Keenan

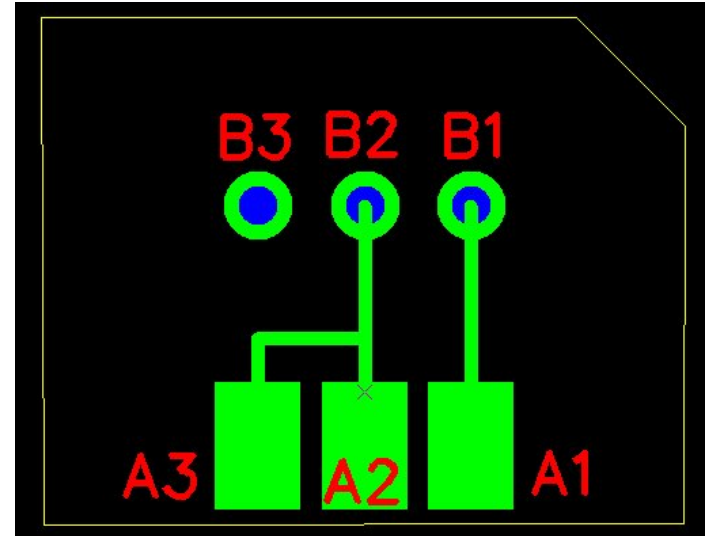
Design Source: Test_05.brd

Translator: IDF to AP210

Post Processing: None

PCB

Test Case Purpose



Test History:

Tested using Espresso.
Extensive, ask Tom and Lothar

Filename: ap210_pcb1.stp

Author: Giedrius Liutkus

Design Source: Circuit Cam

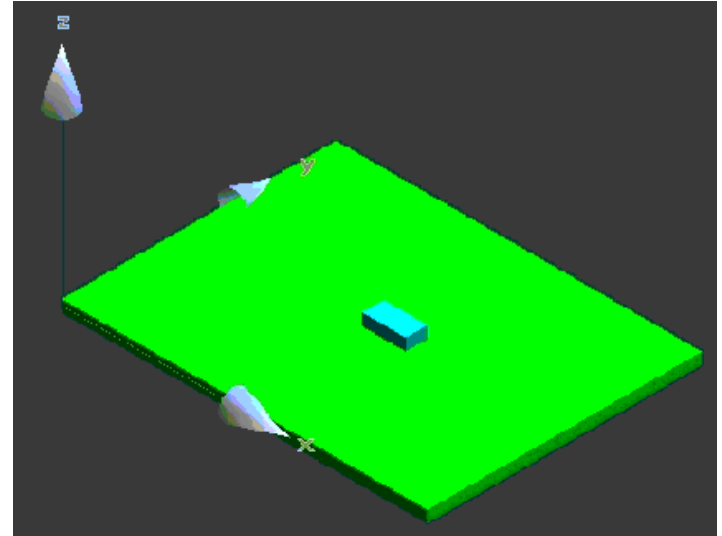
Translator: Circuit Cam

Post Processing: Manual, being incorporated into tool

Simple Rectangle

Test Case Purpose

Simple rectangular board
with one component



Test History:

A direct translation using TLDi
Software PCBto3D from IDF to
Solid Edge.

Translate IDF files to STEP AP203
file format. Rename resulting
STEP file from tidf.step to tidf.stp.
Inport STEP file into Solid Edge

Filename: tidf-A.brd

Author: Jim Evans

Design Source: IDF Data

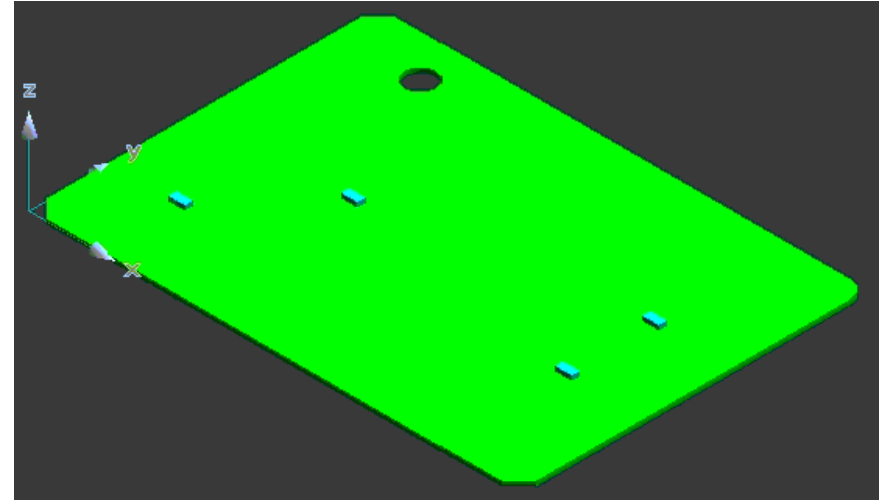
Translator: Many

Post Processing: None

Circular Arcs

Test Case Purpose

Test circular arcs in outlines and multiple placement of single part.



Test History:

A direct translation using TLDi Software PCBto3D from IDF to Solid Edge.

Translate IDF files to STEP AP203 file format. Rename resulting STEP file from tidf.step to tidf.stp. Inport STEP file into Solid Edge

Filename: tidf-B.brd

Author: Jim Evans

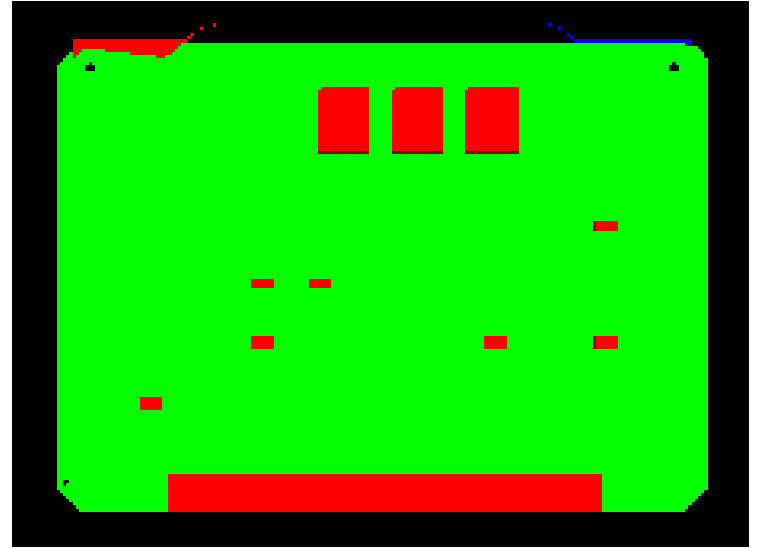
Design Source: IDF Data

Translator: Many

Post Processing: None

AnnexK Assembly

Test Case Purpose



Test History:

Filename: annexk_assembly.stp

Author: Kevin Cline

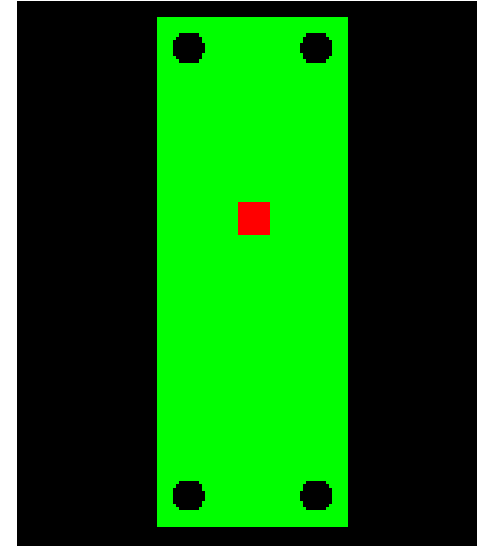
Design Source: IDF Version 2.0

Translator: IDF to AP210

Post Processing: None

AnnexK Component

Test Case Purpose



Test History:

Filename: annexk_component.stp

Author: Kevin Cline

Design Source: IDF Version 2.0

Translator: IDF to AP210

Post Processing: None

Interface Drawing

Test Case Purpose

Provide an example of the “interface drawing” for a PWA.



Test History:

Filename: Atx.210

Author: Mike Keenan

Design Source: ATX Spec. 2.01

Translator: IDF to AP210

Post Processing: Expected