

Standard	AP 210	EDIF 2 0 0	EDIF 4 0 0	GDS II	IPC 2581
ITEM					
2D component layout	yes	no	yes	no	no
2D/3D component layout sync	yes	no	no	no	no
3D component layout	yes	no	no	no	no
3D geometry	yes	no	no	no	no
3D PCB fabrication data	yes	no	no	no	no
approval	yes	no	no	no	?
Approved vendor lists	yes	no	no	no	yes
assembly joint	yes	no	no	no	no
bare die	yes	no	yes	no	?
Bill of Material	yes	no	yes	no	yes
Change request	yes	no	no	no	?
Changed item	yes	no	no	no	?
co-planar layers	yes	no	yes	no	?
coatings	yes	no	no	no	?
complex, dependent, geometric figure construction (see note)	yes	no	yes	no	no
component attributes	yes	yes	yes	no	?
component functional specification	yes	no	no	no	no
component packages	extensive	no	limited to 2 d shape and pinout	no	limited to 2d shape and pinout
component physical specification (see note)	yes	no	component outline, pinout, pin - mapping	no	component outline, pinout
connection zone	yes	no	no	no	no
cross-hatching	yes	no	?	no	?
cuts/jumpers	yes	no	no	no	no
derived plating layers	yes	no	no	no	no
die bond pad	limited	no	yes	no	?
dimensioning	yes	no	yes	no	?
drawings	yes	no	yes	no	yes
effectivity	yes	no	no	no	?
embedded dies	yes	no	yes	no	?
embedded discrete components	yes	no	no	no	?
footprint breakout	yes	no	no	no	no
full traceability from layout to netlist	yes	no	no	no	no
functional netlist	yes	yes	yes	no	no
GDT	yes	no	no	no	no
hierarchical footprint	yes	no	yes	no	partial
high speed design	yes	no	yes	no	?
instantiation using product occurrence concept	yes	yes	yes	no	no
intellectual property rights	yes	no	no	no	?
intelligent notes	yes	no	no	no	?
layer surface conditions	yes	no	no	no	no
layer surface identification	yes	no	no	no	no
libraries	yes	yes	yes	no	no
lyout macros	yes	no	yes	no	no
manifold surface geometry	yes	no	no	no	no
manufacturing feature identification	yes	no	no	no	?
material c onductivity classification	yes	no	no	no	no
material identification	yes	no	yes	no	yes
material properties	yes	no	limited	no	?
mechanical geometry	yes	no	no	no	no
microwave design	yes	no	no	no	no

multi-layer printed components (e.g., printed transformers)	yes	no	?	no	no
multiple conductivity domains (see note)	yes	no	partial	no	no
netlist traceability	full	no	no	no	no
packaged netlist	yes	yes	yes	no	yes
padstack definitions	yes	no	yes	no	no
panelization	yes	no	no	no	?
part attributes	yes	yes	yes	no	?
path delay	yes	no	no	no	no
PCB geometric fabrication data	yes	no	yes	yes	yes
PCB material stackup	yes	no	no	no	partial
PCB/PWB stackup model	yes	no	no	no	no
PDM data harmonized with AP 203	yes	no	no	no	no
physical netlist	yes	no	yes	no	no
pin numbers	yes	yes	yes	no	yes
printed components (e.g., resistors capacitors) using special layer material	yes	no	?	no	?
product classification	yes	no	no	no	?
product concept	yes	no	no	no	no
product configuration	yes	no	no	no	?
product identification	yes	yes	yes	yes	yes
production rule language	yes	no	no	no	no
programmed devices	yes	no	no	no	?
reference designators	yes	yes	yes	no	yes
requirements	yes	no	no	no	?
Schematic	planned	yes	yes	no	no
security classification	yes	no	no	no	no
simulation interface	yes	no	no	no	no
simulation model port properties	yes	no	no	no	no
simulation models	yes	no	yes	no	no
solder paste stencil	yes	no	no	no	?
system netlist	yes	yes	no	no	no
technology rules (see note)	yes	no	yes	no	?
terminal preparation	yes	no	yes	no	?
thermal modeling (lumped element)	yes	no	no	no	no
thermal network	yes	no	no	no	no
units	ISO 31 & English supported	limited	limited	limited	limited
wire bond	yes	no	yes	no	?

NOTE 1 AP 210 geometry is vector based. Gerber is raster based. What is IPC 2581 basis?

Note 2 AP 210 does not support GDS II arrays

Note 3 AP 210 does not support GDS II type 4 paths

Note 4 EDIF 4 0 0 has density and specific heat capacity as predefined properties (optional). In AP 210 these are user defined units derived from si\_units.

Note 5 complex geometric figures are area\_component related in ap 210 (old design intent modification) and figure collectors in edif 4 0 0

Note 6 AP 210 and EDIF 4 0 0 Technology rules are not harmonized

Note 7: AP 210 component physical description and EDIF 4 0 0 description are not harmonized, but basic functionality in 2D is compatible

Note 8: The author does not have direct access to IPC 258x documents so that column needs to be reviewed

Note 9: The comparison to EDIF 4 0 0 was not exhaustive. There may be errors.