

**IPC-1071**  
**2010 - December**

**Best Industry Practices for  
Intellectual Property Protection in  
Printed Board Manufacturing**

*A standard developed by IPC*

*Association Connecting Electronics Industries*



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- Show relationship to Design for Manufacturability (DFM) and Design for the Environment (DFE)
- Minimize time to market
- Contain simple (simplified) language
- Just include spec information
- Focus on end product performance
- Include a feedback system on use and problems for future improvement

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- Increase time-to-market
- Keep people out
- Increase cycle time
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- Contain anything that cannot be defended with data

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# **Best Industry Practices for Intellectual Property Protection in Printed Board Manufacturing**

Developed by the Intellectual Property Standard  
Committee (E-20) of IPC

Users of this publication are encouraged to participate in the  
development of future revisions.

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## Acknowledgment

Any document involving a complex technology draws material from a vast number of sources. While the principal members of the Intellectual Property Standard Committee (E-20) are shown below, it is not possible to include all of those who assisted in the evolution of this standard. To each of them, the members of IPC extend their gratitude.

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# Best Industry Practices for Intellectual Property Protection in Printed Board Manufacturing

## 1 SCOPE

**1.1 Purpose** The purpose of this standard is to assist printed board (PB) manufacturers in the development of requirements for the protection of intellectual property (IP) for their customers in commercial, industrial, and military and other high reliability markets. This standard will focus on protection of the inherent IP designed into the printed board such that IP flows from the customer to the PB manufacturer and IP that is incorporated into the PB is protected. Patent and other such “fringe” protection of the manufactured product is beyond the scope of this document.

**1.2 Levels of Intellectual Property Protection** This standard recognizes that electrical and electronic products are subject to classifications by intended end-item use. Additionally, different manufacturers may desire different levels of IP protection. Three levels of IP protection have been established to reflect the differences in IP protection.

**1.3 Selection of IP Level** The user is responsible for selecting the desired level of IP protection. The procurement documentation or data package **shall** state the IP level and any exceptions to specific parameters, where appropriate.

Criteria defined in this document reflect three classes, which are as follows.

**1.3.1 Level 1: Basic Intellectual Property Protection** This level of requirements provides good intellectual property protection and is best suited for high volume consumer goods. Items may be manufactured globally under Level 1 IP protection.

**1.3.2 Level 2: High Intellectual Property Protection** This level of requirements provides a higher level of intellectual property protection and is best suited for high value goods. In most cases, items may be manufactured globally under Level 2 IP protection.

**1.3.3 Level 3: Advanced Level for Military, Government, and Commercial Intellectual Property Protection** This level of requirements provides the highest intellectual property protection and is best suited for military and other high security systems. Items manufactured under Level 3 IP protection must be manufactured in the United States or in a State Department and DoD (or other appropriate government agency) approved location under the strict supervision of employees with U.S. or other required citizenship or residency status.

## 2 REFERENCE DOCUMENTS

**2.1 International Traffic in Arms Regulations (ITAR)** The ITAR is a set of extraterritorial United States government regulations that implements the provisions of the Arms Export Control Act (AECA), as prescribed in 22 CFR Parts 120–130.<sup>1</sup> The ITAR regulates the permanent and temporary export, re-export and temporary import of defense articles, technical data and defense services on the United States Munitions List (USML). The Department of State’s Directorate of Defense Trade Controls (DDTC) interprets and enforces the ITAR. Its goal is to safeguard U.S. national security and to further U.S. foreign policy objectives.

**2.2 Export Administration Regulations (EAR)** The EAR is a set of extraterritorial United States government regulations that implement the provisions of the Export Administration Act of 1979, as amended 50 U.S.C. app. 2401–2420 (EAA), as prescribed in 22 CFR Parts 730–780.<sup>2</sup> The EAR regulates the permanent and temporary export, re-export and temporary import of dual-use and commercial items, technology and services on the Commerce Control List (CCL). The Department of Commerce’s Bureau of Industry and Security (BIS) interprets and enforces the EAR. Its goal is to advance U.S. national security, foreign policy, and economic objectives.

1. 22 CFR Chapter 1 Subchapter M ([http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=5549441b6c7c745547b94d052d432d28&c=ecfr&tpl=/ecfrbrowse/Title22/22cfrv1\\_02.tpl](http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=5549441b6c7c745547b94d052d432d28&c=ecfr&tpl=/ecfrbrowse/Title22/22cfrv1_02.tpl)) or [http://pmdtc.state.gov/regulations\\_laws/itar\\_official.html](http://pmdtc.state.gov/regulations_laws/itar_official.html)  
2. [http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=b3697992a945ae9810839617782d74b0&c=ecfr&tpl=/ecfrbrowse/Title15/15cfrv2\\_02.tpl#700](http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=b3697992a945ae9810839617782d74b0&c=ecfr&tpl=/ecfrbrowse/Title15/15cfrv2_02.tpl#700) or [http://www.access.gpo.gov/bis/ear/ear\\_data.html](http://www.access.gpo.gov/bis/ear/ear_data.html)