



## 2008

### INTELLECTUAL PROPERTY RIGHTS OF LAYOUT-DESIGNS OF INTEGRATED CIRCUITS

#### C O N T E N T S

Introduction.....	1
Definitions, Ownership and Duration.....	1-2
Infringement and Defences.....	2
Remedies.....	3
Conclusion.....	3

#### ABOUT NANYANG LAW LLC

We are a dynamic, innovative and vibrant boutique Singapore law firm. We are fully committed to providing the highest quality legal services to our clients and ensuring our clients have easy access to our professional staff.

We specialize in a variety of work such as corporate, intellectual property, chancery, litigation and corporate secretarial services.

As a result, our clients range from public listed companies to venture capital firms to individuals with specific needs.

We will be happy to meet you to discuss your needs and see how best your interests can be protected. We take this opportunity to reiterate our vision statement which is to provide quality and timely legal services, which adhere to the highest standards of integrity and excellence, delivered in a professional, responsible and client-oriented manner.

We look forward to being of assistance to you.

#### FOREWORD

Dear friends, partners and clients,

This issue provides a general overview of layout-designs of integrated circuits and the legislation that has been enacted to protect the rights that arise from layout-designs of integrated circuits.

We hope you enjoy reading this edition and as usual, we will be happy to answer any specific queries you may have.

Happy reading!

**Ng Kim Tean**  
Managing Director

#### INTRODUCTION

The first question is what are “layout-designs of integrated circuits”? An integrated circuit (which is essentially another name for a chip) is an electronic circuit in which the chips are integrated into some medium and the whole electronic device functions as a whole unit. Integrated circuits are used in a variety of devices, such as audio and video equipment, in cars and in airplanes are just a few examples.

These integrated circuits are manufactured in accordance with very detailed plans or layout-designs. These “layout-designs” are creations of the human mind and as such would be another form of intellectual property.

A lot of resources are required to manufacture such integrated circuits due to its microscopic size and the specialized equipment required to mount the various electronic components on the medium (which is usually silicone).

The laws relating to the protection of the other forms of intellectual property (such as patents, copyright, trademarks and registered designs) were inadequate to protect owners of layout-designs of integrated circuits.

This was initially recognized by the United States of America and in 1984, the Semiconductor Chip Protection Act was passed. Slowly other countries also passed similar legislation.

In 1994, an international agreement, known as the Agreement on Trade-Related Aspects of Intellectual Property Rights (more commonly known as the TRIPS Agreement), administered by the World Trade Organization (“WTO”) was negotiated. The TRIPS Agreement contains requirements that nations’ laws must meet for, *inter alia*, integrated circuit layout-designs.

Singapore, as a WTO member, passed the Layout-Designs of Integrated Circuits Act (“the Act”) so as to comply with the requirements under the TRIPS Agreement. The Act came into force on 15<sup>th</sup> February 1999.

#### Definitions, Ownership and Duration

The Act defines integrated circuits as “a product, in its final form or intermediate form, in which the elements, at least one of which is an active element, and some or all of the interconnections are integrally formed in and on, or in or on, a piece of material and which is intended to perform an electronic function.”<sup>1</sup>

<sup>1</sup> Section 2 of the Act.

The Act also defines “layout-designs” to mean, “*the 3-dimensional disposition, however expressed, of the elements of an integrated circuit (at least one of which is an active element), and of some or all of the interconnections of an integrated circuit, or such 3-dimensional disposition prepared for an integrated circuit intended for manufacture.*”<sup>2</sup>

Furthermore, the Act will protect layout-designs if the elements of Section 5 of the Act are present. This states:-

*This Act protects a layout-design that is owned by a qualified owner (as explained below) and –*

*(a) is **original** in the sense that it is the result of its creator’s own intellectual effort and is **not commonplace** among creators of layout-designs and manufacturers of integrated circuits at the time of its creation; or*

*(b) in the case of a layout-design that consists of a combination of elements and interconnections that are commonplace, **the combination, taken as a whole, is original in the sense that it is the result of its creator’s own intellectual effort and is not commonplace** among creators of layout-designs and manufacturers of integrated circuits at the time of its creation. **(emphasis added)***

Section 6(1) defines who would be considered a “qualified owner” as:-

*Subject to any agreement to the contrary, the owner of a layout-design shall be determined as follows:*

*(a) where the layout-design is not created in pursuance of a commission or in the course of employment, the creator of a layout-design is the owner;*

*(b) where the layout-design is created in pursuance of a commission, the person who commissioned the layout-design is the owner; and*

*(c) where the layout-design is not created in pursuance of a commission but is created by an employee in the course of his employment, the employer is the owner.*

Section 7 of the Act states that an integrated circuit created after 15<sup>th</sup> February 1999 (i.e. the date the Act came into force), will be protected for either 10 years if it is first commercially used within 5 years of creation or in any other case, for 15 years after its creation.

<sup>2</sup> Ibid.

<sup>3</sup> Section 9 of the Act.

## INFRINGEMENT AND DEFENCES

Section 8 of the Act sets out the rights of the qualified owner and it, *inter alia*, states that an owner of an original layout-design of an integrated circuit can copy and/or authorize the copying and/or commercially exploit the original layout-design. Conversely, an infringement will occur if someone does any of this without the qualified owner’s consent.<sup>3</sup>

Sections 10 and 11 of the Act set out the defences available to the alleged infringer. In short, Section 10 sets out the following defences:-

- (a) the layout-design that is allegedly copied is not “original” as required by the Act to be protected. However, should you wish to raise this defence, you will most likely need to engage the services of an expert to explain to Court why the layout-design is not “original”;
- (b) the copying is done for a private purpose. This would usually mean that the alleged infringer has not financially benefited from the copying;
- (c) the copying was done for the sole purpose of evaluation, analysis, research or teaching. Again this can be an overlap of the above defence;
- (d) Following on from the 3<sup>rd</sup> defence, it is a defence to use the results of such evaluation, analysis or research to create a different layout-design that will fulfill the requirements of “originality”;
- (e) It is also a defence to copy and/or commercially exploit the newly created layout-design;
- (f) What is also surprising is that it is a defence if a person can show that he/she created an identical layout-design to another protected design and the identical layout-design was independently created. Though the chances of 2 people creating identical layout-designs independently of each other are slim; or
- (g) The alleged infringer had the consent of the qualified owner.







## REMEDIES

Section 12 sets out the remedies available to the qualified owner should he/she succeed in showing that the protected layout-design has been infringed. The remedies available to the qualified owner against the infringer are:-

- (a) applying for an injunction;
- (b) damages – this is the monetary award which will be granted by the Court to compensate the qualified owner for the loss he/she has suffered as a result of the infringement.
- (c) account for profits – this is different from damages because it requires a detailed review of the profits made by the Defendant’s infringement and whatever gains the Defendant made as a result of the infringement is to be surrendered to the Plaintiff.

However, this remedy is not very popular, due to the difficulty in determining the profits that arose out of the infringement. It could be a very costly exercise to assess the extent to which the Defendant’s profits had been increased by the infringement. It may also be necessary to determine how the total profit is to be apportioned between the Defendant’s legitimate business and the profit that was increased as a result of the infringement<sup>4</sup>.

There are 2 other remedies available and these are:

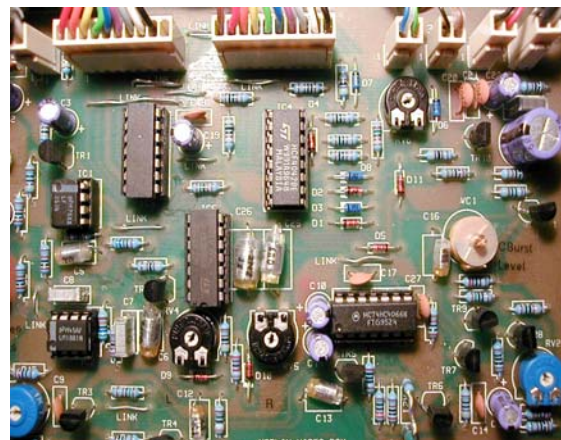
- (a) order for the delivery of any article(s) that is used predominately used to make integrated circuits in which a protected layout-design is incorporated (Section 13); and
- (b) to obtain an order that the integrated circuit or article delivered up pursuant to Section 13 be forfeited to the qualified owner, destroyed or disposed of as the Court sees fit (section 14).

## CONCLUSION

Even though the Act has been in force for almost 10 years, it is still a new area and there are no reported cases. The Act is very comprehensive and sets the parameters relating to layout-designs of integrated circuits clearly. However, the Act is silent on whether “reverse engineering” would be allowed. This happens when an object is taken apart to see how it works in order to copy (or enhance) the product. The Act only states that there would be infringement if there was unauthorized copying and/or commercial exploitation.

It would be interesting to see how the Courts would rule on the issue of reverse engineering. One approach would be to say that it is for the legislation to be amended and until it is, the Court would rule that reverse engineering is to be allowed. Another approach would be to say that it is against public policy to allow reverse engineering. The Singapore Government has taken the many active steps to promote Singapore as a vigilant and secure IP hub. In fact Singapore has been voted the most IP-protected country in Asia by the Political and Economic Research Consultancy for the last two years<sup>5</sup>. As such, it can be argued the Courts would not sanction reverse engineering as it allows through the back door what cannot be done through the front door.

We hope you have found this edition both informative and as well as interesting. We also specialize in other forms of intellectual property protection. We would be happy to meet you to discuss your specific concerns in detail.



<sup>4</sup> Keith Hodkinson, “Protecting and Exploiting New Technology and Designs” (1987), Taylor & Francis, page 331

<sup>5</sup> [http://www.edb.gov.sg/edb/sq/en\\_uk/index/why\\_singapore/intellectual\\_property.html](http://www.edb.gov.sg/edb/sq/en_uk/index/why_singapore/intellectual_property.html)

### NANYANG LAW LLC

80 Robinson Road  
#11-02  
Singapore 068898

Tel 6324 0040  
Fax 6324 0012  
Web [www.nanyanglaw.com](http://www.nanyanglaw.com)  
Email [info@nanyanglaw.com](mailto:info@nanyanglaw.com)

*The legal information provided in this newsletter is not the same as legal advice, although we do our best to make sure our information is correct and constructive. We strongly recommend that you consult a lawyer if you want professional assurance that our information and your understanding of it is suitable to your particular situation.*