ART OF EMBEDDED SYSTEM DESIGN

Bobby

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In these book, I will summerize all I know about the embedded system, and give some practical electronic designs what I have done in my career. Also, I want to improve the ability of using LaTeXby myself. This book is in the public domain. All the copyrights are under GPL 2.0. Thanks all for your attentions! All the materials are from books, internet, etc. I will list as much references as possible, but I am not sure that I can list all. For any improper or defects, your suggurestions are warmly welcomed.

Best Regards!

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Part I

Physics

Chapter 1

Solid state physics

In this chapter, will discuss the solid state physics, mainly about the basic fundamentles.

$a + b + c = b + c + a$

Chapter 2

Semiconductor physics

Table 2.1:

11	1	12	4	6

Table2.1 indicate that

The universe is immense and it seems to be homogeneous, in a large scale, everywhere we look at.

furnished his toy with a romantic legend about a much larger "Tower of Brahma", which supposedly has 64 disks of pure gold Gold —wow.

Are our disks made of concrete? resting on three diamond needles. At the beginning of time, he said, "God" placed these golden disks on the first needle and ordained that a group of priests should transfer them to the third, according to the rules above. The priests reportedly work day and night at their task. When they finish, the Tower will crumble and the world will end.

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Current source

$$\frac{d}{d\,x}\left(int_0^x f(u)\;du\right) = f(x)$$

Figure 3.1:

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References

www.baidu.com
   www.github.com
   www.google.com
   Bing