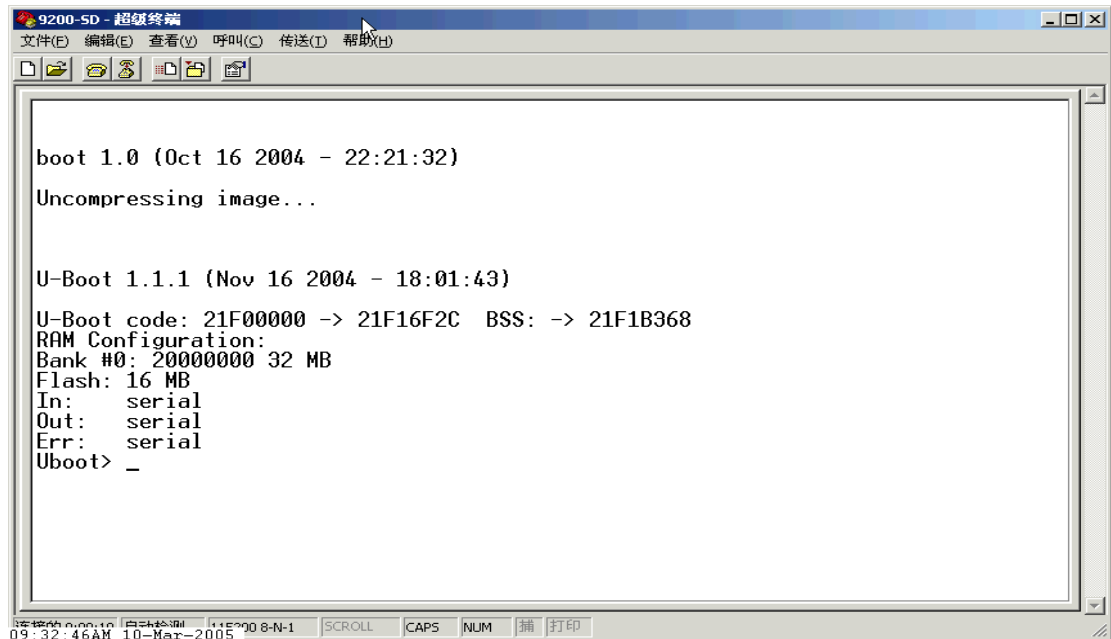


### SMC 卡测试方法一

SMC 卡除了用 JTAG/ICE 的测试方式外,还可以直接将待测试程序下载到 RAM 中运行,下面将说明直接下载的方法。

首先要有正确的硬件电路,包括:

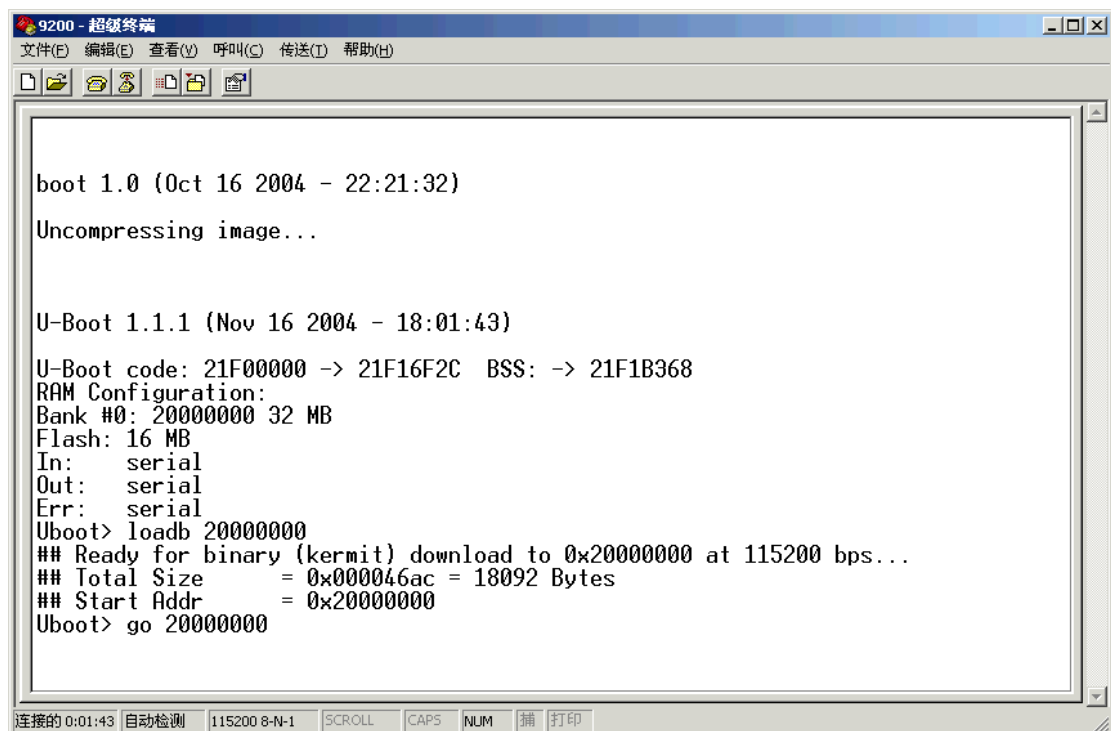
- 1.用 9 针串口线将 PC 机和 9200 底版连接好,注意串口线要插在标号为“P1”的串口上;
  - 2.插好 9200 核心板,“J2”插在靠近 C18 这边;
  - 3.把卡插入 EBD9200 开发板的卡座 J14(本测试才用三星公司 64M 的卡 K9S1208VOA)
  - 4.其它跳线配置为: J13, J16 要插好, JP1 插在靠近 C14 这边, J12 插在靠近 C22 这边;
- 上点后超级终端的现象为:



```
boot 1.0 (Oct 16 2004 - 22:21:32)
Uncompressing image...

U-Boot 1.1.1 (Nov 16 2004 - 18:01:43)
U-Boot code: 21F00000 -> 21F16F2C BSS: -> 21F1B368
RAM Configuration:
Bank #0: 20000000 32 MB
Flash: 16 MB
In: serial
Out: serial
Err: serial
Uboot> _
```

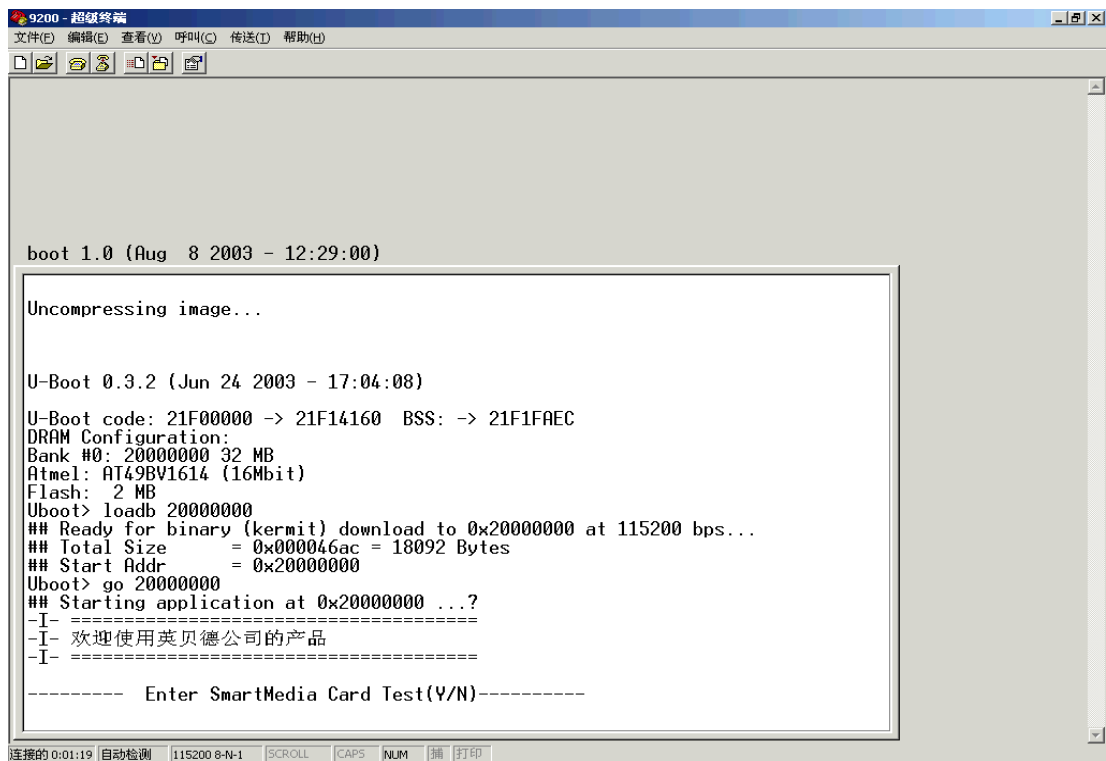
将待测代码直接下载 (SMCbasic.bin) 过程如下 (Kermit 协议)



```
boot 1.0 (Oct 16 2004 - 22:21:32)
Uncompressing image...

U-Boot 1.1.1 (Nov 16 2004 - 18:01:43)
U-Boot code: 21F00000 -> 21F16F2C BSS: -> 21F1B368
RAM Configuration:
Bank #0: 20000000 32 MB
Flash: 16 MB
In: serial
Out: serial
Err: serial
Uboot> loadb 20000000
## Ready for binary (kermit) download to 0x20000000 at 115200 bps...
## Total Size = 0x000046ac = 18092 Bytes
## Start Addr = 0x20000000
Uboot> go 20000000
```

运行后的界面如下图



```
boot 1.0 (Aug 8 2003 - 12:29:00)

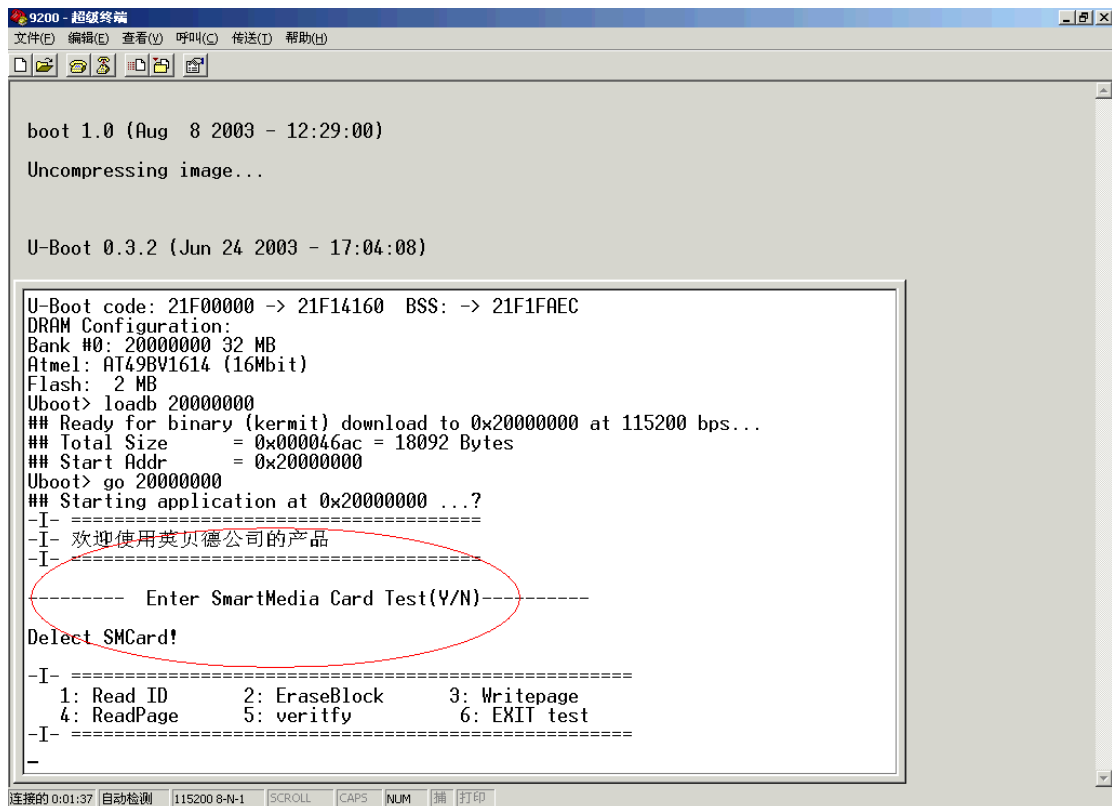
Uncompressing image...

U-Boot 0.3.2 (Jun 24 2003 - 17:04:08)

U-Boot code: 21F00000 -> 21F14160 BSS: -> 21F1FAEC
DRAM Configuration:
Bank #0: 20000000 32 MB
Atmel: AT49BV1614 (16Mbit)
Flash: 2 MB
Uboot> loadb 20000000
## Ready for binary (kermit) download to 0x20000000 at 115200 bps...
## Total Size      = 0x000046ac = 18092 Bytes
## Start Addr      = 0x20000000
Uboot> go 20000000
## Starting application at 0x20000000 ...?
-I- =====
-I- 欢迎使用英贝德公司的产品
-I- =====

----- Enter SmartMedia Card Test(Y/N)-----
```

提示我们进行测试选择，按键盘上的“Y”出现如下的界面



```
boot 1.0 (Aug 8 2003 - 12:29:00)

Uncompressing image...

U-Boot 0.3.2 (Jun 24 2003 - 17:04:08)

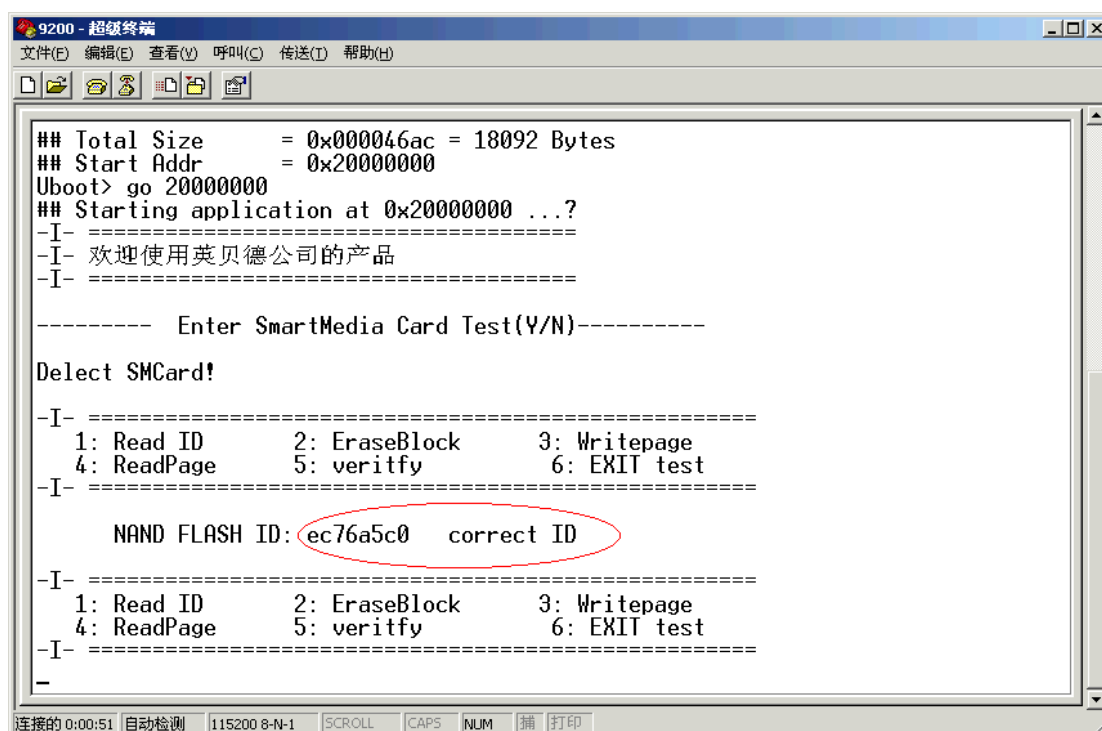
U-Boot code: 21F00000 -> 21F14160 BSS: -> 21F1FAEC
DRAM Configuration:
Bank #0: 20000000 32 MB
Atmel: AT49BV1614 (16Mbit)
Flash: 2 MB
Uboot> loadb 20000000
## Ready for binary (kermit) download to 0x20000000 at 115200 bps...
## Total Size      = 0x000046ac = 18092 Bytes
## Start Addr      = 0x20000000
Uboot> go 20000000
## Starting application at 0x20000000 ...?
-I- =====
-I- 欢迎使用英贝德公司的产品
-I- =====

----- Enter SmartMedia Card Test(Y/N)-----
Delect SMCARD!

-I- =====
  1: Read ID      2: EraseBlock    3: Writepage
  4: ReadPage    5: veritfy      6: EXIT test
-I- =====
-
```

各项对应的功能如下：

1: Read ID 读 SMC 卡的 ID 号, 按 “1” 后的界面如下图



```
9200 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

## Total Size      = 0x000046ac = 18092 Bytes
## Start Addr     = 0x20000000
Uboot> go 20000000
## Starting application at 0x20000000 ...?
-I- =====
-I- 欢迎使用英贝德公司的产品
-I- =====

----- Enter SmartMedia Card Test(Y/N)-----

Select SMCARD!

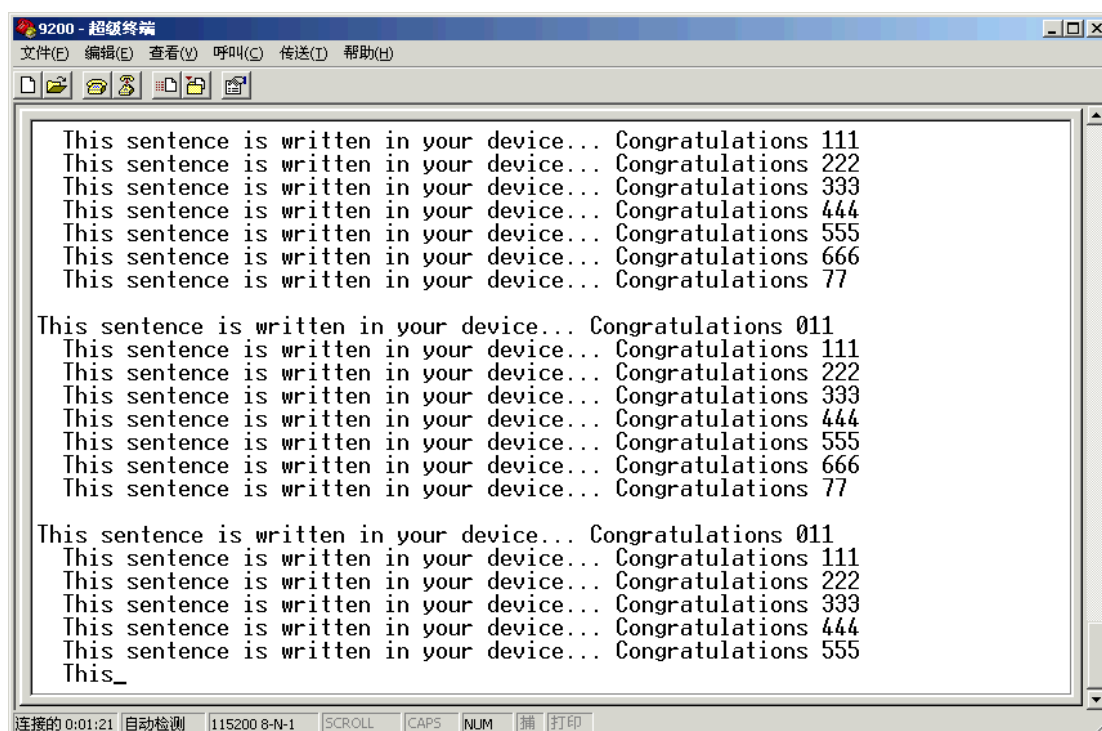
-I- =====
-I- 1: Read ID      2: EraseBlock    3: Writepage
-I- 4: ReadPage    5: verify      6: EXIT test
-I- =====

      NAND FLASH ID: ec76a5c0  correct ID

-I- =====
-I- 1: Read ID      2: EraseBlock    3: Writepage
-I- 4: ReadPage    5: verify      6: EXIT test
-I- =====
-I-
-

连接的 0:00:51 自动检测 115200 8-N-1 SCROLL CAPS NUM 捕 打印
```

4: ReadPage 读页内容, 按 “4” 后的界面如下



```
9200 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

This sentence is written in your device... Congratulations 111
This sentence is written in your device... Congratulations 222
This sentence is written in your device... Congratulations 333
This sentence is written in your device... Congratulations 444
This sentence is written in your device... Congratulations 555
This sentence is written in your device... Congratulations 666
This sentence is written in your device... Congratulations 77

This sentence is written in your device... Congratulations 011
This sentence is written in your device... Congratulations 111
This sentence is written in your device... Congratulations 222
This sentence is written in your device... Congratulations 333
This sentence is written in your device... Congratulations 444
This sentence is written in your device... Congratulations 555
This sentence is written in your device... Congratulations 666
This sentence is written in your device... Congratulations 77

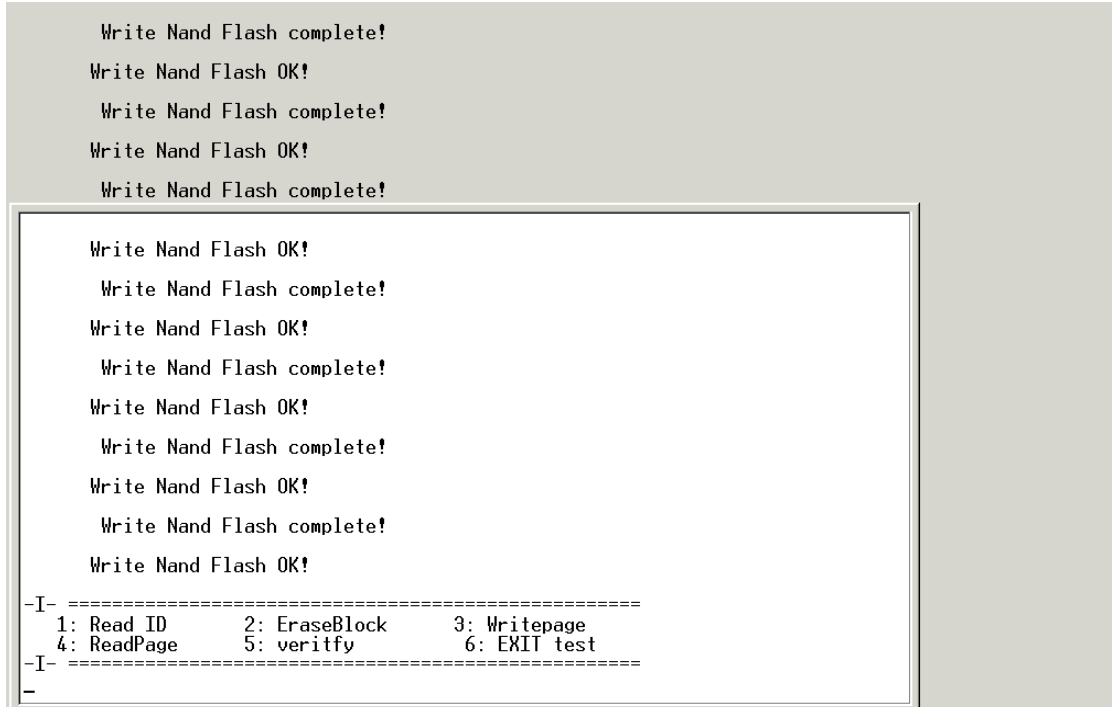
This sentence is written in your device... Congratulations 011
This sentence is written in your device... Congratulations 111
This sentence is written in your device... Congratulations 222
This sentence is written in your device... Congratulations 333
This sentence is written in your device... Congratulations 444
This sentence is written in your device... Congratulations 555
This_

连接的 0:01:21 自动检测 115200 8-N-1 SCROLL CAPS NUM 捕 打印
```

## 2: EraseBlock 擦



## 3: WritePage 写



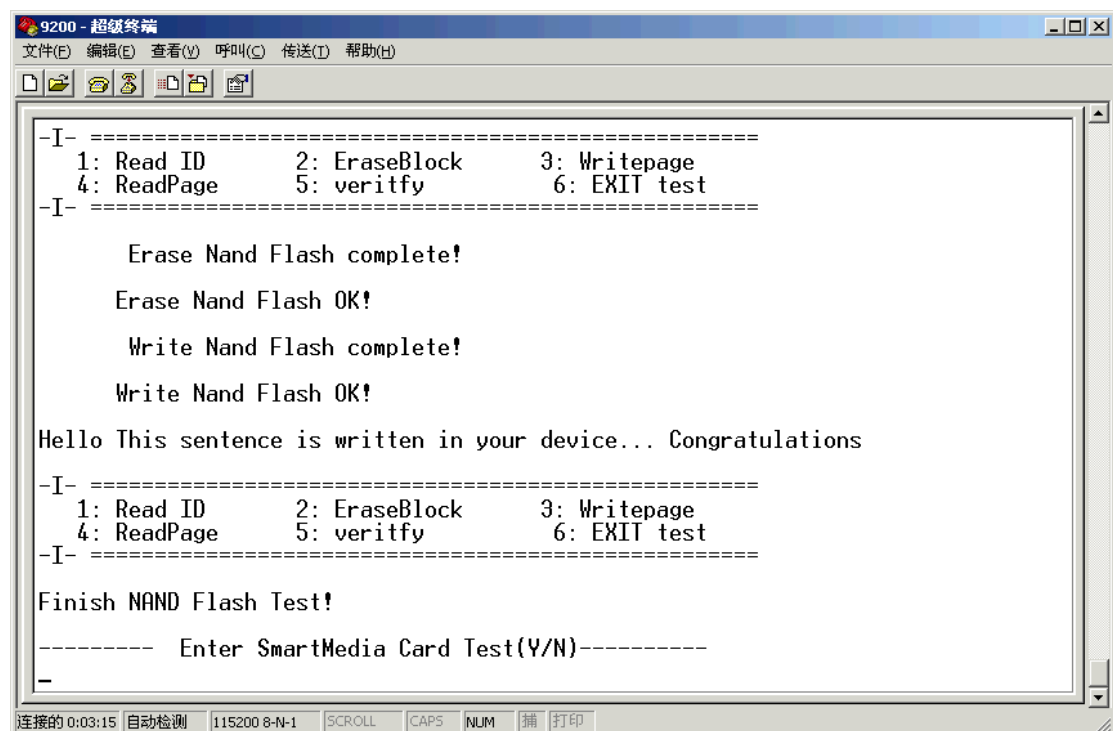
## 5: Veritfy 校验

```
1: Read ID      2: EraseBlock    3: Writepage
4: ReadPage     5: veritfy      6: EXIT test
-I- =====
      Erase Nand Flash complete!
      Erase Nand Flash OK!
      Write Nand Flash complete!

      Write Nand Flash OK!
Hello This sentence is written in your device... Congratulations
-I- =====
      1: Read ID      2: EraseBlock    3: Writepage
      4: ReadPage     5: veritfy      6: EXIT test
-I- =====
      Erase Nand Flash complete!
      Erase Nand Flash OK!
      Write Nand Flash complete!
      Write Nand Flash OK!
Hello This sentence is written in your device... Congratulations
-I- =====
      1: Read ID      2: EraseBlock    3: Writepage
      4: ReadPage     5: veritfy      6: EXIT test
-I- =====
```

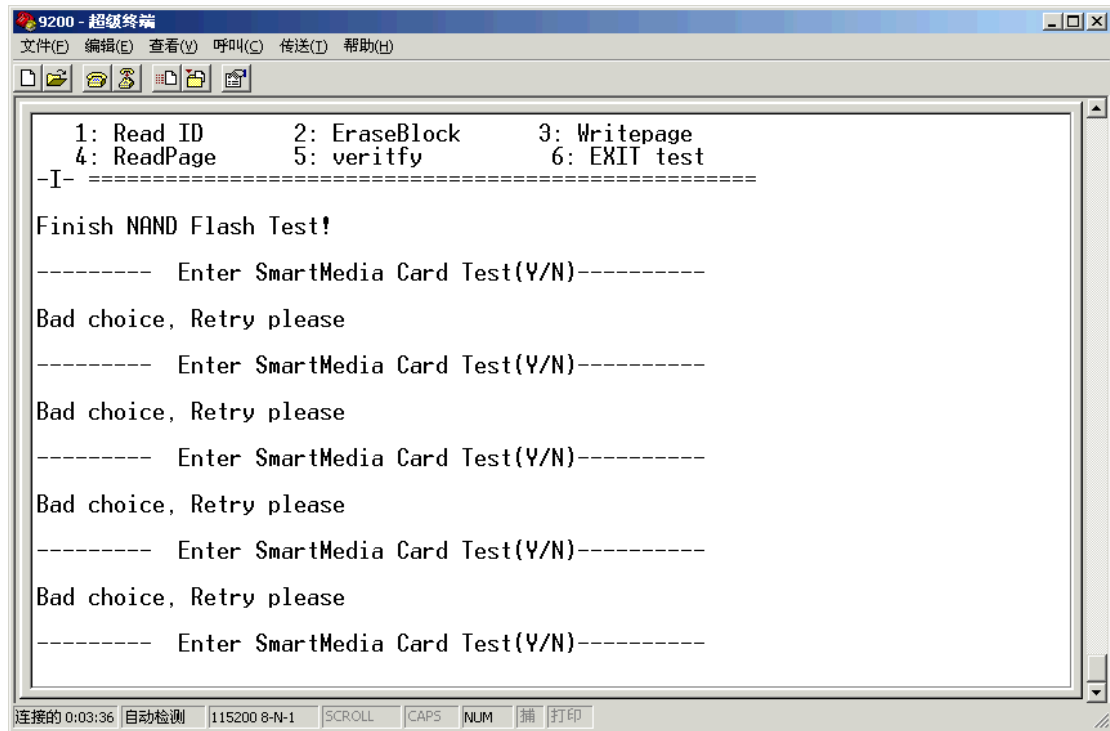
按5后的现象

## 6: Exit test 测试结束 按“6”后的界面如下图



```
9200 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
[Icons]
-I- =====
      1: Read ID      2: EraseBlock    3: Writepage
      4: ReadPage     5: veritfy      6: EXIT test
-I- =====
      Erase Nand Flash complete!
      Erase Nand Flash OK!
      Write Nand Flash complete!
      Write Nand Flash OK!
Hello This sentence is written in your device... Congratulations
-I- =====
      1: Read ID      2: EraseBlock    3: Writepage
      4: ReadPage     5: veritfy      6: EXIT test
-I- =====
Finish NAND Flash Test!
----- Enter SmartMedia Card Test(Y/N)-----
-
连接的 0:03:15 自动检测 115200 8-N-1 SCROLL CAPS NUM 捕 打印
```

按其它无关键的现象如下图



提示：若您先按下 2 后再按 4 的话（先擦后读）出现的界面如下图



## SMC 卡测试方法二

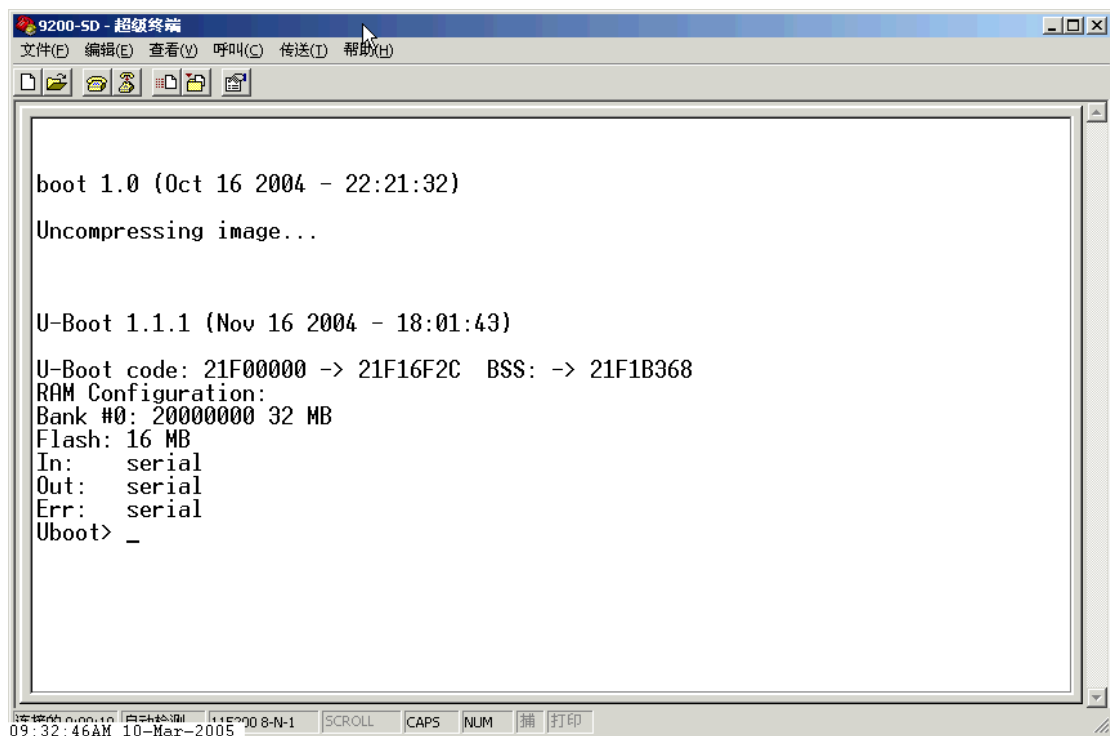
当您用 JTAG/ICE 方法进行 SMC 卡测试时，先将基本的硬件电路和相关文件准备好，基本包括：

1. 9200 底版+核心板+SMC 卡；
2. 9 针串口插在底版上标号为“P1”的串口插座上，25 针并口线一头插在 PC 机并口，另一头插在 JTAG/ICE 转换器上，JTAG/ICE 转换器的排线一头插在底版上标号为“J22”20Pins 槽上，另一头插在 JTAG/ICE 转换器的右边即靠近 SN74HC244 10 脚这边；
3. 将底版上标号为“J23”的跳线跳到靠近 J5 这边；
4. 核心板上标号“J2”的跳线跳到靠近“C18”的这边；
5. 底版上其它跳线配置为：J13，J16 要插好，JP1 插在靠近 C14 这边，J12 插在靠近 C22 这边；
6. 插入卡(K9S1208VOA)
7. 9V 电源线（**最好用我公司提供的专用产品**）插在标号为“JACK1”的 DC 插座上。

当您上电后 ARM9 调试代理软件 9200 超级终端的显示内容和电路板上的现象如下图所示的话就说明连接正确：

(1).底版核心板的现象为：电源指示灯（D8）核心板指示灯（LED1）亮着，网口指示灯（D5~D7）同时闪烁一下；

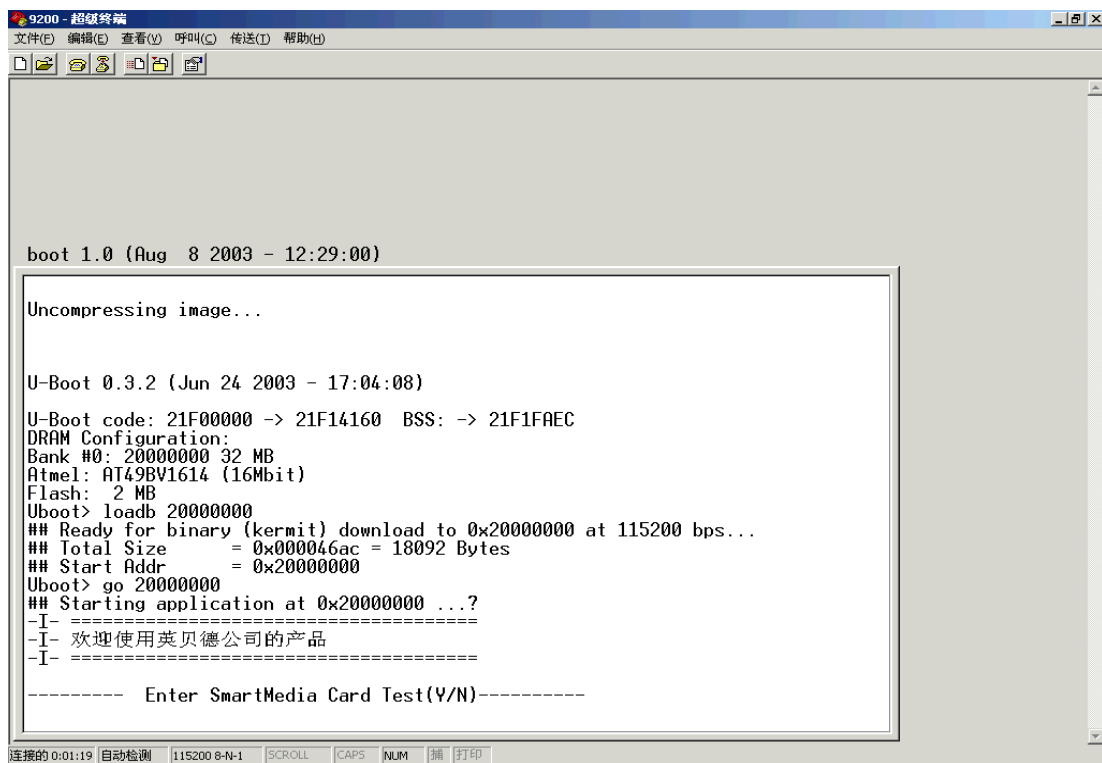
(2).ARM9 调试代理软件 9200 超级终端的显示内容：





若您的板没出现以上的现象，应进行检查.在这里要说明的是，我们没有写出 **ARM9 调试代理软件及 9200 超级终端**的设置过程，详细设置过程请参考相关章节。

在上述正确的基础上，打开 SMC 卡测试程序（目录：AT91RM9200-SMCard/ basic.mcp），编译通过在 9200 超级终端的现象(测试程序是用 **ARM Developer Suite 1.2** 软件运行的)



和方法一的界面是相同的，也就是说接下来的操作也和方法一的是相同的，包括现象也是相同的。所以在这里就不重复说明了。