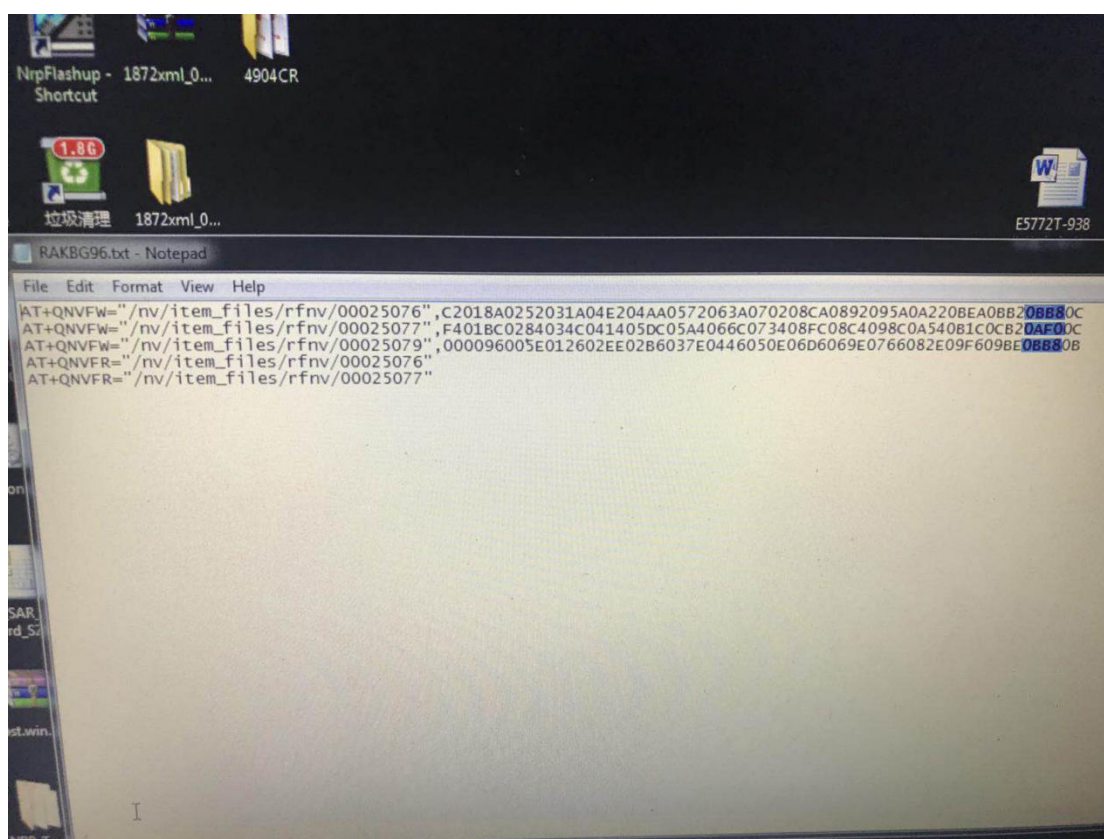


How to tuning RAK831 to Tx Power as 29dbm

It is necessary to reduce the power when debugging GSM. According to 0813 debugging experience, the methods are summarized as follows, which can be used for reference by SGS engineers.

You need to type the following commands in the serial tool (note that you need to make sure that the BG96 board is powered individually when you type the commands, as opposed to when you authenticate (it's different from the CPU board on the bottom board))



The image shows a Windows desktop with a Notepad window open. The Notepad window title is 'RAKBG96.txt - Notepad'. The text inside the Notepad window is as follows:

```
File Edit Format View Help
AT+QNVFW="/nv/item_files/rfnv/00025076",c2018A0252031A04E204AA0572063A070208CA0892095A0A220BEA0BB208880C
AT+QNVFW="/nv/item_files/rfnv/00025077",F401BC0284034C041405DC05A4066C073408FC08C4098C0A540B1C0CB20AF00C
AT+QNVFW="/nv/item_files/rfnv/00025079",000096005E012602EE02B6037E0446050E06D6069E0766082E09F6098E08880B
AT+QNVFR="/nv/item_files/rfnv/00025076"
AT+QNVFR="/nv/item_files/rfnv/00025077"
```

Figure 1

Executive steps:

- This text file is in the SGS certification office's laptop desktop, TXT file, the file name is: RAKBG86
- If you need to reduce power, enter the corresponding contents of the text file, where the current text file (Figure 1) defaults to the order

- 850M (first line)
- 900M (second rows)
- 1900M (third rows)
- Please note that
 - Reduce power execution write command: AT+QNVFW
 - To reduce the completion, we need to confirm whether the success is reduced or not. Execute the read command: AT+QNVFR
- According to the current test situation, it is necessary to further reduce the power of 900M, which has been reduced to 28. It has passed the test and needs to satisfy the + - 3 margin. It is recommended to reduce the power by 2 db. Referring to the screenshot below, 26 corresponds to 0A28. Therefore, the blue part of the second command in Figure 1 is changed to 0A28.

Table 4: GSM TX power value

Power dBm	26	27	28	29	30	31	32	33
Value HEX	0A28	0A8C	0AF0	0B54	0BB8	0C1C	0C80	0D48

The above documents are sent out in the group. If there are any problems, you can view group files.