### 1.5.1 patch code structure

Patch code：

1. patch code of RTL8723A is raw data，download whole the file
2. for other chips 8723B，8761A，8821A ,abstract the code from firmware file

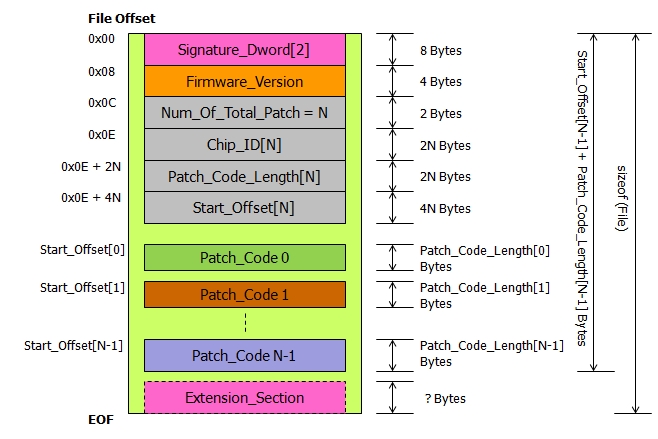
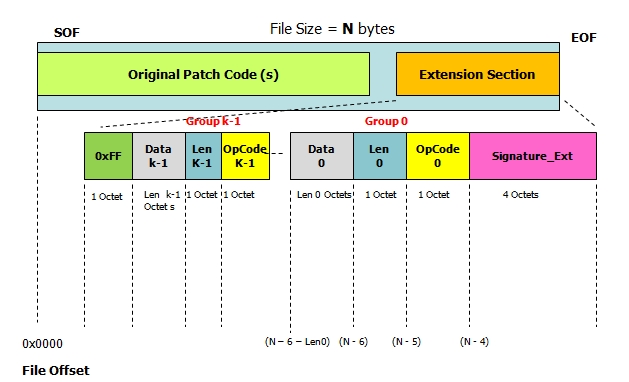


图1.5.1 multiple patch code结构

1. Signature\_Dword[2]：52 65 61 6C 74 65 63 68（from low byte to high byte）
2. Num\_of\_total\_patch field：patch code files。
3. Chip\_ID [N] field：
   1. patch 0 ~ N-1 Chip\_ID for different rom versions.
4. Patch\_Code\_Length[N]：length of patch 0 ~ N-1。
5. Start\_Offset[N]：start offset of patch 0 ~ N-1。
6. 4 bytes Version of patch code located at Start\_Offset[N] + Patch\_Code\_Length[N] – 4
7. Patch\_Code n： patch code of chip\_ID=n，read rom version before download by HCI\_VENDOR\_READ\_RTK\_ROM\_VERISION command
8. Extension Section：for other information to check firmware



1.5.2 Extension Section structure

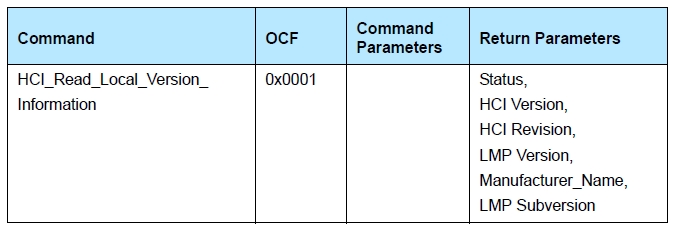
Read from last byte to former bytes。Signature\_Ext is defined as：0x77FD0451。

table3：Extension Section supported OpCode

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **OpCode** | **Len** | **Data Field** |
| Project\_ID | 0x00 | 1 | Project\_ID  0 = 8723A  1 = 8723B  2 = 8821A  3 = 8761A  4~255 = TBD |
| Reserved | 0x01~0xFE | NC | NC |
| EOL | 0xFF | NC | NC |

### 

### 2.2.1 Read local Version Information



### 2.2.2 Read RTK Rom Version Command

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Opcode | OCF | Parameter Total Length | Command Parameters | Return Parameters |
| 0xFC6D | 0x006D | 0 | Null | Status, Version |

Return Parameters :

1. Status (1 octet) : the status after handle this command

* 0 ：is success
* Others value indicate Version = 0

1. Version (1 octet) : Version

* 0: Chip\_ID =1;
* 1: Chip\_ID =2;
* 2: Chip\_ID =3;
* 3: Chip\_ID =4, ....

### 2.5.1 HCI\_VENDOR\_DOWNLOAD command

|  |  |  |  |
| --- | --- | --- | --- |
| **Command** | **Opcode** | **Command Parameters** | **Return Parameters** |
| HCI\_VENDOR\_DOWNLOAD | 0XFC20 | Index, Data[] | Status, Index |

1. Command Parameters
   * Index (1 Octet)

* bit[7]: 1 is the last and 0 is the start/continuous block
* Bit[6:0]: the sequence number. The number shall be incremented by 1 after host send each commands to the controller. The reset value is 0.
  + Data (4N Octets)
* The length is the multiple of 4 bytes. If it is not the last block, host may sends 252 byte in data field to reduce the time in download procedure.

1. Return Parameters:
   * Status (1 Octet): 0x00 means Vendor Download command succeed. Otherwise, mean failed
   * Index (1 Octet): Return the index from received Vendor Download command

### 2.5.2 Download procedure

