

Zigbee Gateway Module OTA

開發說明及行為流程

1. Command Structure

The Zigbee gateway command is constructed as the following format. It uses the little endian format

Header	Length	Command Id	Address	Address mode	Parameter	Checksum
4 octets	1 octet	4 octets	2 octets	1 octets	n octets	1 octet

1.1. Header field

The command header is 4 bytes long and should be formatted as 0xFF 0xFC 0xFC 0xFF.

1.2. Length field

The command data length value is the length sum of address, address mode, command id, and parameter.

1.3. Command id field

The command id is 4 bytes long and will be defined in the following command description.

Fixed 0xF000-0000 ~ 0xF000-000A

1.4. Address field

Fixed 0x0000(ignore)

1.5. Address mode field

Fixed 0x00 (Ignore)

1.6. Parameter field

The parameter is variable bytes and used for command to configure the devices. The following command description has more detail information.

1.7. Checksum field

The checksum is 1-byte long and to confirm the received data correctly. Its value is bitwise not(~) of the sum of all command data fields but header field excluded.

Checksum value = ~(length[0]+address[0]+address[1]+address mode[0]+command id[0]+command id[1]+ command id[2]+ command id[3]+parameter[0]+parameter[1]+.....+parameter[n-1])).

2. Command List

Command ID	名稱及說明
0xF000-0000	Remove OTA Image File request
0xF000-8000	Remove OTA Image File response
0xF000-0001	Download OTA Image File request
0xF000-8001	Download OTA Image File response

2.1. Remove OTA Image File request

清除 Gateway module(RT58x)存放於 Flash 的升級程序文件。

- Command ID
0xF000-0000
- Parameter
None

2.2. Remove OTA Image File response

- Command ID
0xF000-8000
- Parameter

1 octet
Status

2.3. Download OTA Image File request

下載升級程序至 Gateway module(RT58x)並存放於 Flash。

RT58x 收到最後一筆資料(Total PKT -1)需要計算 CRC32 並放在 Image 尾端，並將 Image 長度設定為 File size+4 後呼叫 zigbee_ota_insert_file。

- Command ID
0xF000-0001
- Parameter

2 octet	2 octet	4 octet	4 octet	4 octet	4 octet	2 octet	N octet
File Type	Manufacturer	File Version	File Size	Total PKT	Current PKT	PKT Len	PKT

2.4. Download OTA Image File response

- Command ID
0xF000-8001

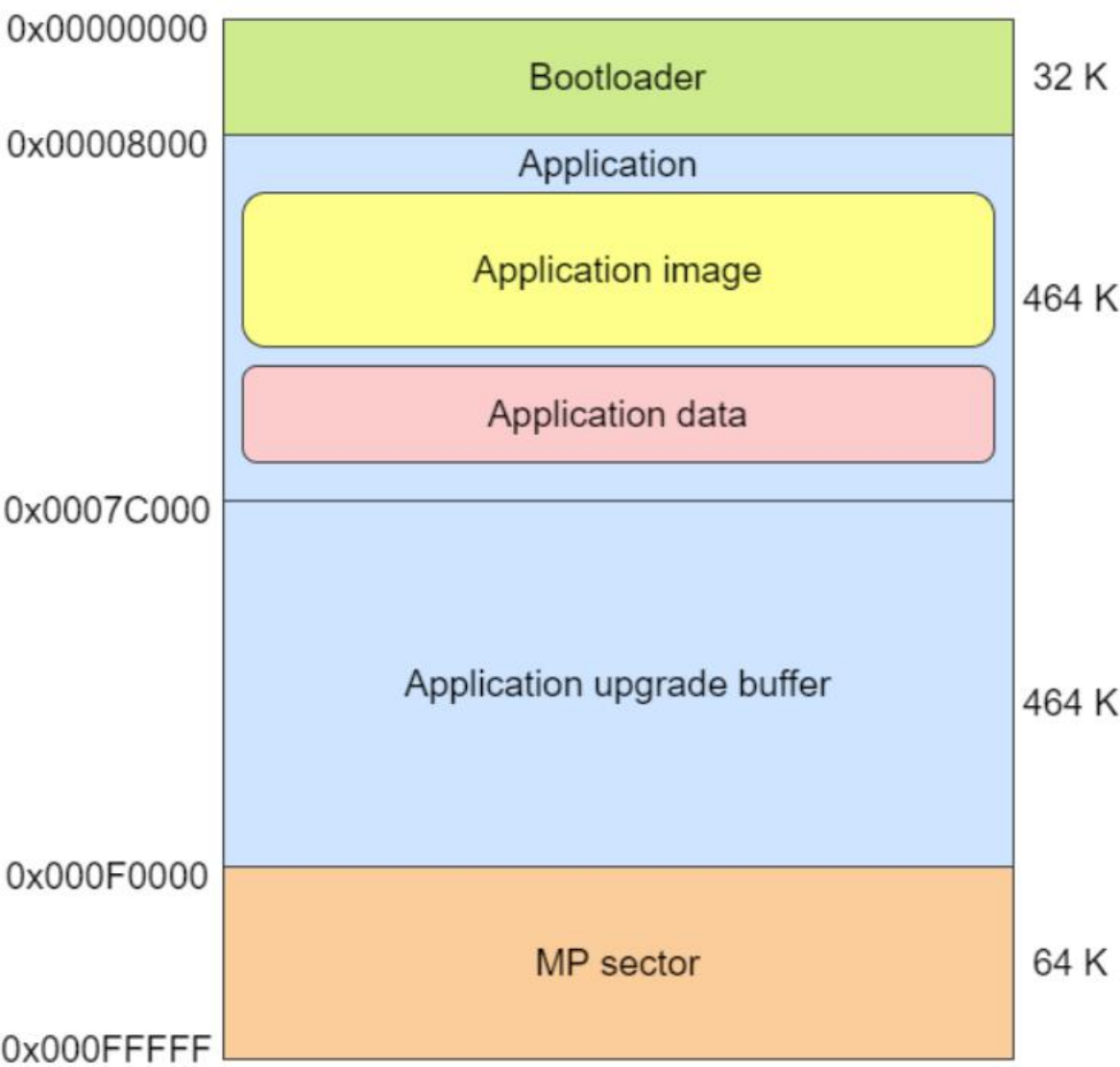
- Parameter

4 octet
Current PKT

失敗或是資料格式內容有誤則填寫 0xFFFF-FFFF

3. Flash Layout

Image file located at 0x7C000 ~ 0xF0000



4. Sequence Chart

