FOTA Protocol Frame Format:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Package ID | Command/Response | Length | Data Payload | CheckSum |
| F O T A  ( 4 Bytes ) | 2 Bytes Big Endian | 1 Bytes (refer command list) | 2 Bytes Big Endian.  Data payload length + CheckSum | 0 - - 65533 Bytes | 2 Bytes, Big Endian |

Command List

|  |  |  |
| --- | --- | --- |
| Command | Valid Data value | Meaning |
| ‘S’ | 0x01, 0x02 | Firmware Upgrade Start  Data = 0x01 : Upgrade Boot  Data = 0x02 : Upgrade APP |
| ‘D’ | any | Firmware Upgrade Data  Data payload contain the firmware file content |
| ‘E’ | No Data | Firmware Upgrade End  Finish transfer firmware file |
| ‘F’ | No Data | Firmware Upgrade Error or Abort ( due to communication error , or user Abort ) |
| ‘V’ | No Data | Get Active App version |
| ‘I’ | No Data | Get App Slot Info |
| ‘W’ | No Data | Swap Active APP |

Response

|  |  |  |
| --- | --- | --- |
| Response | Valid Data value | Meaning |
| 0x06 ( ACK ) | No Data or  Contain Data request by host command ( App version, App slot info ) | Acknowledge command succeed  Return requested data |
| 0x15 ( NAK ) | Error message  0x01: Invalid command  0x02: Checksum failed  0x03: Package Duplicated | Command failure  Data payload contain error message indicate reason of failure |

Firmware File Format

1. Separated Boot & App firmware file
2. Firmware file is supported with \*.bin extension
3. Firmware file should have Header on top of file content , in which contain : Unique Signature of FOTA ‘s firmware , Identity to identify firmware file is Boot or App image
4. Firmware File Header format

|  |  |
| --- | --- |
| Unique Signature ( 12 Bytes) “FOTAFIRMWARE” | Identity ( 2 Bytes )  0x50 0x50 : Boot Firmware  0x70 0x70 : App Firmware |
| Firmware Content | |