



A n c A A G n A n A

---

A n A A n A n A A A A A A n A w A A .A

A

---

## Table of Contents

A	A	.....	AA
A	A w w	A	.....AA
...A	A	A A	.....AA
...A	C A	A A	.....AA
...A		A A	.....AA
A n n	A A w A	GA	.....AA
...A	A A A	A w A	.....AA
.....A	C A A	An A	.....AA
.....A	A	A w A	.....A A
A	A	A	.....A A
A			
A		A	

---

# 1 Introduction

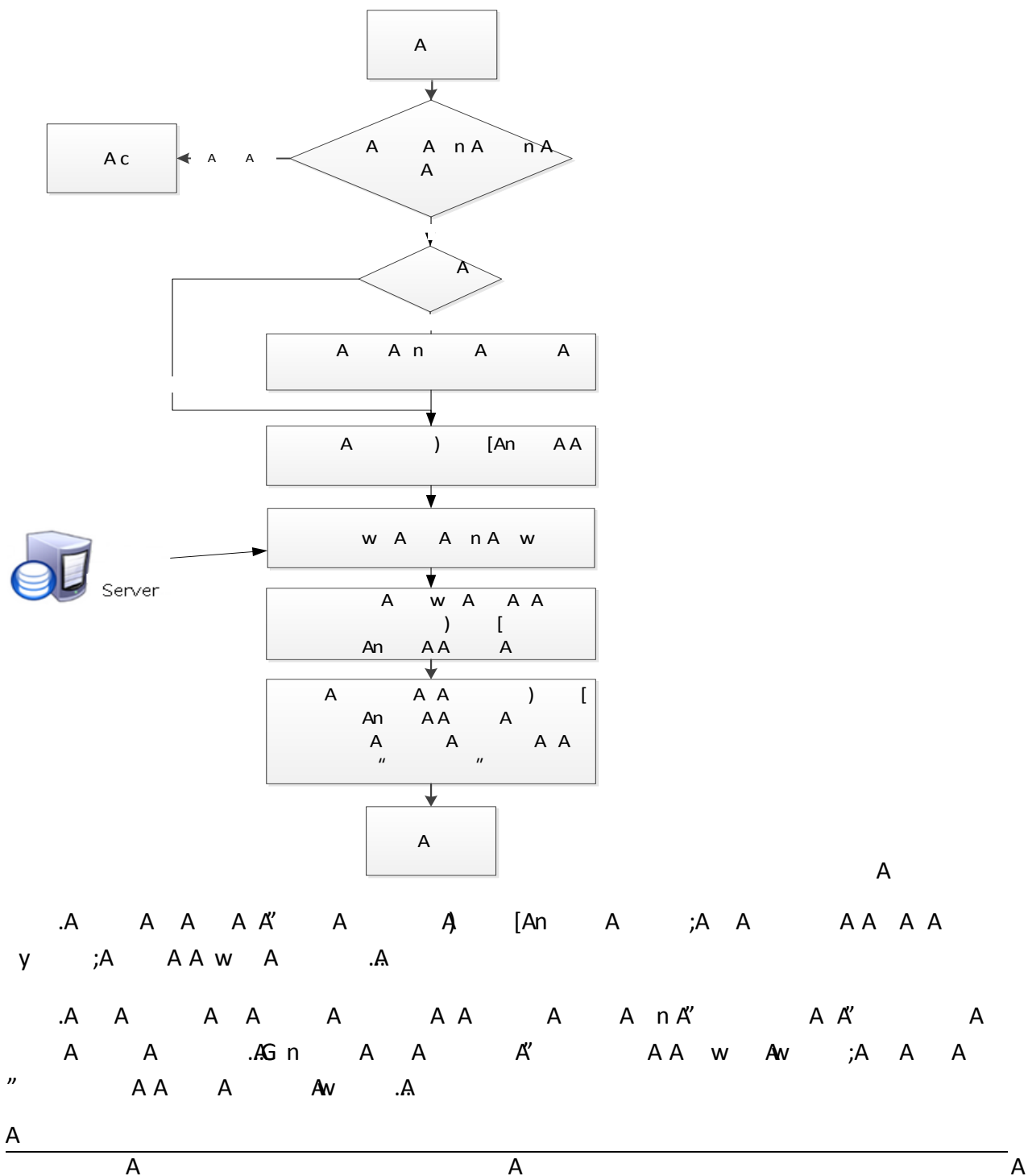
w A n n A [A w A A A A A w A n A n A  
w A A A .A

## 2 Firmware Image Output

A A A A ;A A A A A A n .A A A A  
ram\_all.binA A A A A A n .A A A A Aota.binA A  
A A An .A A An A A A A A  
SDK\_folder/project/project\_name/EWARM-RELEASE/Debug/Exe.A

### 3.1 Overview

## ..... OTA operation flow



## ..... Boot process flow

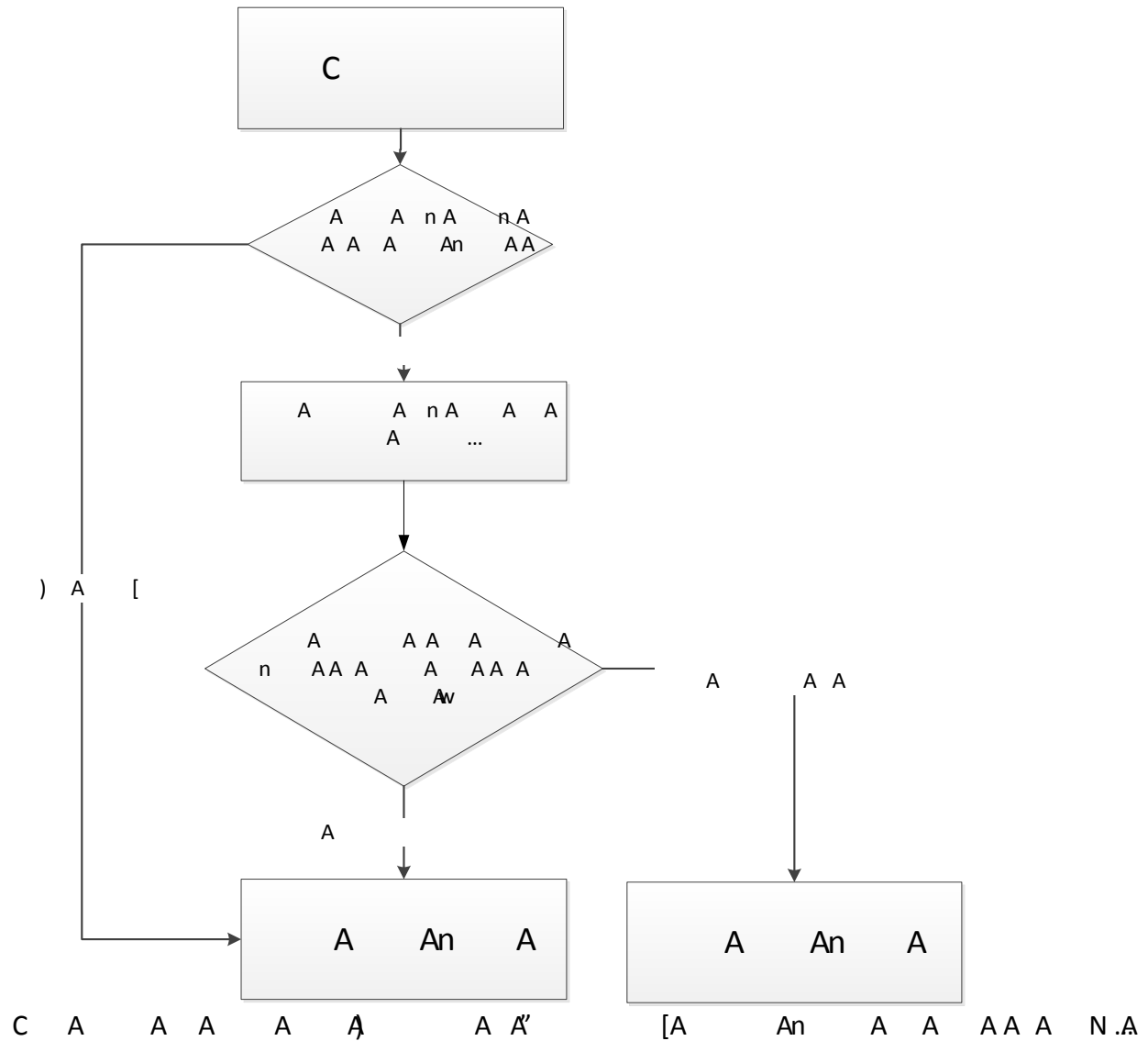


Diagram illustrating the U-Boot image layout structure:

- Image 1
- Boot Mode
- Reserved
- offset (points to system data(4KB))
- system data(4KB)
- calibration data (4KB)
- signature (points to Default Image 2 (Part1))
- Default Image 2 (Part1)
- ...
- signature (points to Upgraded Image 2 (Part2))
- Upgraded Image 2 (Part2)
- ...
- Define (points to User Data)
- User Data

A

An A ;A A A A An A .A

An A Ac A AA A A A ....A Ac w An A n A  
A A ;A A A A A A A .A

A

.A A' A An A A Aw .A' A A w Av .A

C A A A A Aw Ac A .A

A

A

A

A

## 3.2 Implement OTA over Wi-Fi

### ..... OTA using local download server

```

A y n  A  A  A w A  An  A n AA  A  A w .A  A  A
    A w A  An  A A w A  A A  A  .A
N  A  A  A w A  A A A  A A  A n A  A  .A

```

### ..... Build OTA Application image

Turn on OTA command

```

A  A  A A  n c  w  y n  n  ...A

```

```

A A  n  ...A
A  G  A
A

```

Define server type = SERVER\_LOCAL in update.c file (path: tools\DownloadServer\).

```

A A  ...A
A  W  A  A
A  W  A  A
A  W  A  W  A
A

```

Define SWAP\_UDPATE in update.c file

```

A A  ...A
A  A A
c A  A  A  A  An  A A  A  [An  A  .A  A  w  A  A n  A
    A  A  ;A  A  A  A A  A  A  .A
A
A
A
A
A
A
A

```

## Write the address of the upgraded image 2 to system data.

A A      A n    A    A A    A A      An    AA      A A    n A    A    A  
 .A

```

n    A    .A
   A      ... A
   AWRITE_OAT_ADDR 1A

   A    :A
   . y      A
   A      AAy      :A

c      A    A
))      AAN      [A A)      AAN      n      [[A A
XXXXXXXXXX      AAN      [A A
XXXXXXXXXX)      A Ay [A A[ A
A      XXXX      A A y [[ A
A    A      )    ]    A    A    A    Ay y ;A G      ;A      [:A
A    A      A      y :A
A      A
A      write_ota_addr_to_system_data)A      ;A      [:A
A

```

## Read upgraded image 2 address from system data and verify this address

```

   A A      ...A
   Av    A      )w    A      n [A
A
XXX A
XXX    A      An    AA    A    n A    A
XXX      )      ;A GG      ;A      n      [:A
XXX      )      ;AN      ;A n      [:A
XXX ))    n      AAN      [A A)      n      AAN      n      [[A A
XXXXXXXXXX    n      AAN      [A A
XXXXXXXXXX)    n      A Ay [A A[ A
XXXXXXXXXX    n      A A y [[A
XXXXXXXXXX    A      y :A

```



A A A GG A A y ;A A A A A An A A A A A A A  
n A A .A A A A A A ;A A A A A A A A A .A

**Define custom signature**

A A ...A  
.A A A An A A .A  
A G N A A  
.A A A A .A  
A G N A  
A A  
A A n A A  
A A A A A A A A A A A A A  
A A A A A A y A A A An A  
n A ... n .w ... A  
A A A ] A A n A yyy :A  
A  
.A n A A A n A .A  
Aw A )w A n[A  
A  
A  
A G N A  
A A n ) n ; n [A  
A  
A

A

A

A

A

A

A

A

A




A

A

A

## ..... Local download server

C A An A .c A A w A A .A w [.A

	DownloadServer.exe	2014/6/13 ...	85 KB
	New_Project.bin	2014/8/13 ...	330 KB
	start.bat	2014/8/13 ...	1 KB

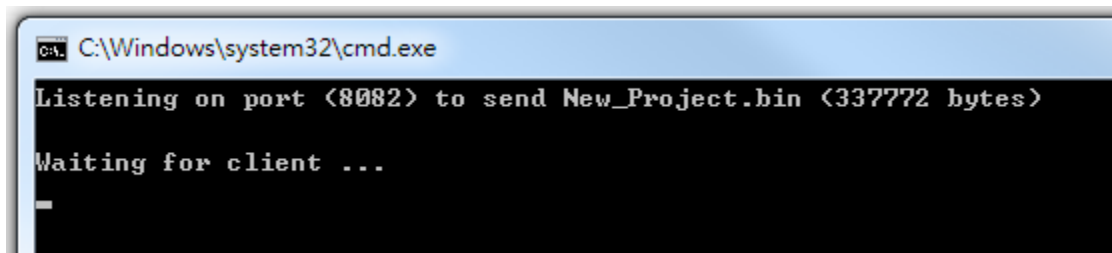
A

A .c A .A AA ;A AA .c A

```
1 @echo off
2 DownloadServer 8082 New_Project.bin
3 set /p DUMMY=Press Enter to Continue ...
```

A

y A .c A



A

c A w A A A A .A

A n n .A ] .A

```
# ATW0=192.168.1.100[1111]
[ATW0]. _AT_WLAN_OTA_UPDATE_
[MEM] After do cmd, available heap 25152
#
[update_ota_local_task] Update task start
[update_ota_local_task] Update OTA success!
[update_ota_local_task] Update task exit
```

A

A A w A An .A

A

A

A

A



A

A

A

A

A

A

---

### 3.3 OTA Signature

A A A w A A A Av Av A A A n n ;A A A A  
.A