

Type1GC/1PS Application Note OTA

Document Number: N1-5006
Version: 1.0
Release Date: 2018/4/16

Murata Manufacturing Co., Ltd.

Revision History

Revision Number	Release Date	Comments
Revision 1.0	2018/4/16	Initial

Contents

1.	About this Document.....	4
1.1.	Purpose and Scope	4
1.2.	References documentation	4
2.	Build & Test the OTA Application.....	4
2.1.	Build & Download the OTA Application	4
2.2.	Build the Application to upgrade	4
2.3.	Test the OTA Application	4
3.	Memory usage	8
3.1.	Software requirements	8
3.2.	Memory Usage.....	8

1. About this Document

1.1. Purpose and Scope

This document provides the instructions to use the OTA application to provide "Over The Air" Update capability using Murata Type1GC EVB.

Note: Type1GC and 1PS are pin compatible module.

For example, in the case of Type1PS, please use Type1PS platform files and module name 1PS instead of 1GC.

1.2. References documentation

N1-5002_Type1GC_1PS-Quick_Start_Guide.pdf

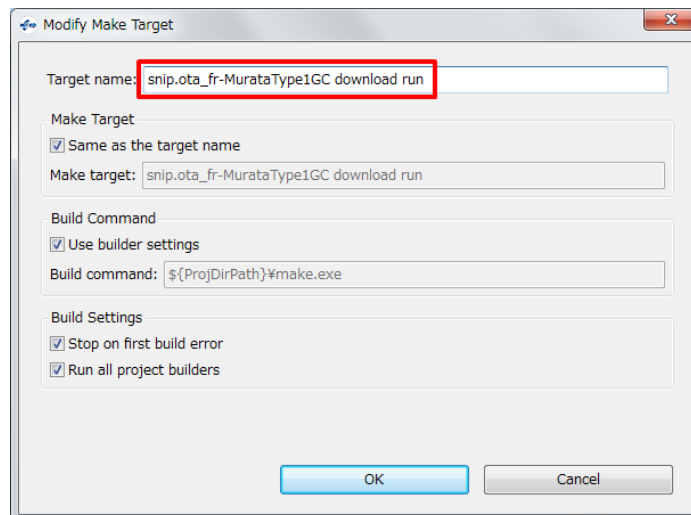
<WICED-Studio>¥43xxx_Wi-Fi¥doc¥WICED-OTA.pdf

2. Build & Test the OTA Application

2.1. Build & Download the OTA Application

Build and download the OTA application with following "Target name".

snip.ota_fr-MurataType1GC download run



2.2. Build the Application for upgrade Application

Build the scan application that will be upgraded from the snip.ota_fr application. No "download download_apps run" option in this Target name.

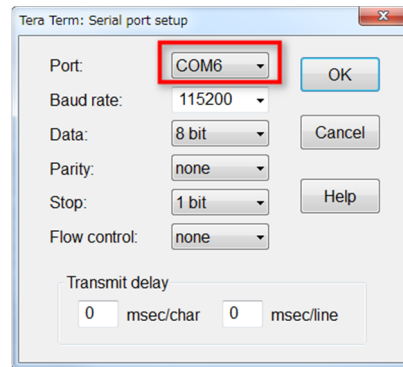
snip.scan-MurataType1GC

2.3. Test the OTA Application

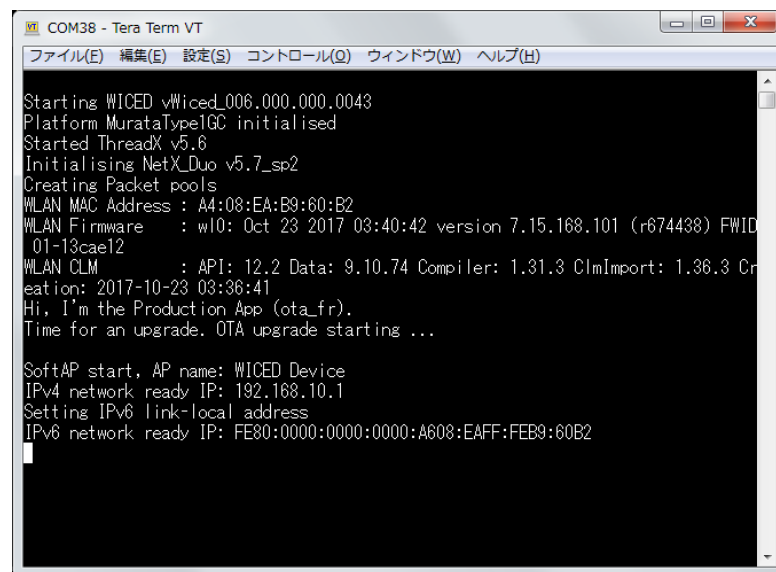
A) Start terminal software

Start a terminal software such as Tera Term.

Please select [Setup] > [Serial Port...] in the menu bar to setup serial port. Please use the following settings for the COM port connection.



The following texts will appear on Tera Term



B) Connect PC to MurataType1GC board by Wi-Fi.

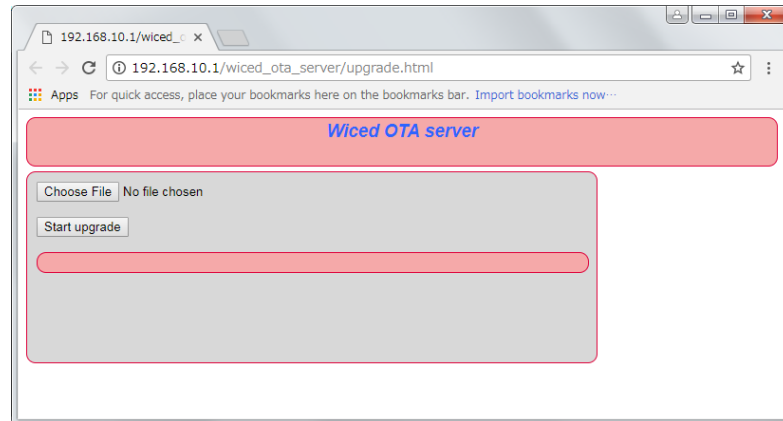
The SSID and Passphrase of MurataType1GC are set with the following files.

<WICED-SDK>/include/default_wifi_config.h

```
56 /**
57  * This is the soft AP available for normal operation (if used)
58  */
59 #define SOFT_AP_SSID           "WICED Device"
60 #define SOFT_AP_CHANNEL       1
61 #define SOFT_AP_SECURITY      WICED_SECURITY_WPA2_AES_PSK
62 #define SOFT_AP_PASSPHRASE    "WICED_PASSPHRASE"
63
```

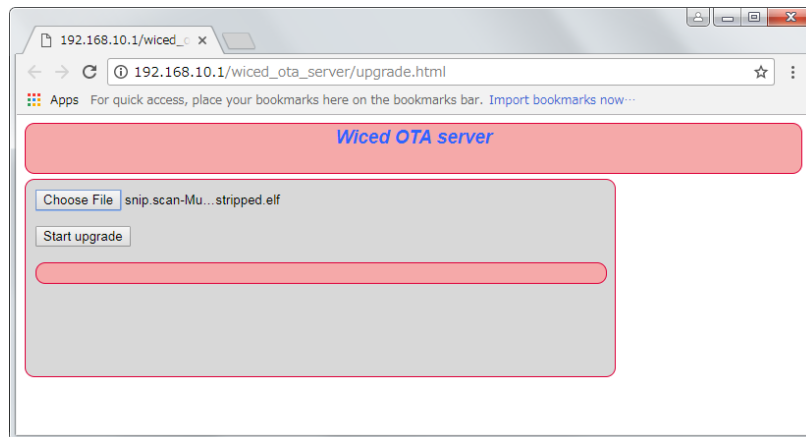
- C) Start Web browser and input 192.168.10.1 in URL bar.

Note: Chrome browser is recommended. Internet Explorer does not work properly.

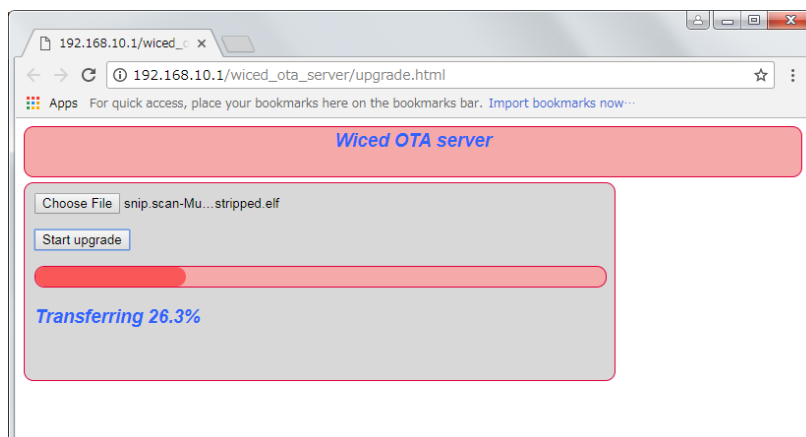


- D) Click "Choose File" button, and select the elf file of snip.scan.

<WICED-SDK>/build/snip_scan-MurataType1GC/Binary/snip.ota_fr-MurataType1GC.stripped.elf



- E) Click "Start upgrade" button. Ensure that the progress bar is increased in web browser.



The following texts will appear on Tera Term.

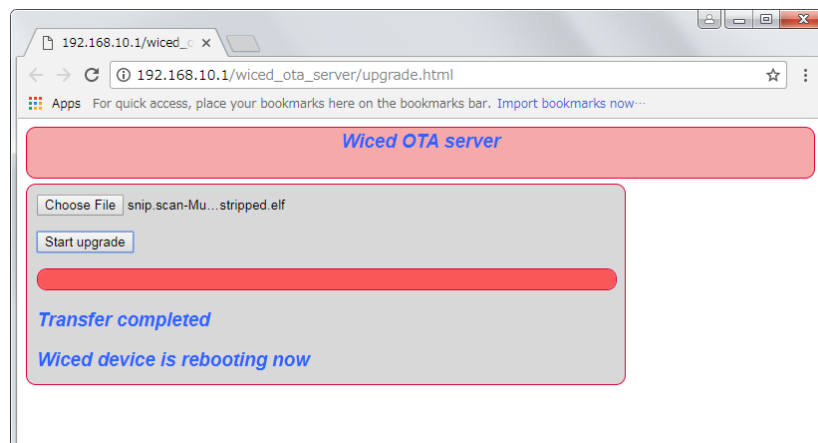
```

COM38 - Tera Term VT
ファイル(F) 編集(E) 設定(S) コントロール(Q) ウィンドウ(W) ヘルプ(H)

SoftAP start, AP name: WICED Device
IPv4 network ready IP: 192.168.10.1
Setting IPv6 link-local address
IPv6 network ready IP: FE80:0000:0000:0000:A608:EAFB:FEB9:60B2
Writing chunk 1 of size 1024 from offset 0
Writing chunk 2 of size 1024 from offset 1024
Writing chunk 3 of size 1024 from offset 2048
Writing chunk 4 of size 1024 from offset 3072
Writing chunk 5 of size 1024 from offset 4096
Writing chunk 6 of size 1024 from offset 5120
Writing chunk 7 of size 1024 from offset 6144
Writing chunk 8 of size 1024 from offset 7168
Writing chunk 9 of size 1024 from offset 8192
Writing chunk 10 of size 1024 from offset 9216
Writing chunk 11 of size 1024 from offset 10240
Writing chunk 12 of size 1024 from offset 11264
Writing chunk 13 of size 1024 from offset 12288
Writing chunk 14 of size 1024 from offset 13312
Writing chunk 15 of size 1024 from offset 14336
Writing chunk 16 of size 1024 from offset 15360
Writing chunk 17 of size 1024 from offset 16384
Writing chunk 18 of size 1024 from offset 17408
Writing chunk 19 of size 1024 from offset 18432
  
```

F) Check that the upgrade is ended.

Check that the “Transfer completed” message is displayed in web browser.



Check that snip.scan application is restarted on Tera Term.

```

COM38 - Tera Term VT
ファイル(F) 編集(E) 設定(S) コントロール(Q) ウィンドウ(W) ヘルプ(H)

Writing chunk 91 of size 1024 from offset 92160
Writing chunk 92 of size 1024 from offset 93184
Writing chunk 93 of size 1024 from offset 94208
Writing chunk 94 of size 1024 from offset 95232
Writing chunk 95 of size 968 from offset 96256
Uploaded file size = 97224
Restarting..

Starting WICED vWiced_006.000.000.0043
Platform MurataType1GC initialised
Started ThreadX v5.6
Initialising NetX-Duo v5.7_sp2
Creating Packet pools
WLAN MAC Address : A4:08:EA:B9:60:B2
WLAN Firmware : w10: Oct 23 2017 03:40:42 version 7.15.168.101 (r674438) FWID
01-13cae12
WLAN CLM : API: 12.2 Data: 9.10.74 Compiler: 1.31.3 ClmImport: 1.36.3 Cr
reation: 2017-10-23 03:36:41
Waiting for scan results...
# Type BSSID RSSI Rate Chan Security SSID
-----
0 Infra 10:66:82:97:A7:0B -42 450.0 36 WPA2 AES PSK
  
```

3. Memory usage

3.1. Software requirements

Make Target: snip.ota_fr-MurataType1GC download run

3.2. Memory Usage

Modules	Flash	RAM
App	0	307
Crc	0	1060
DHCP_Server	0	1556
DNS	0	108
Interrupt Vectors	0	288
libc	0	38584
Networking	0	25838
NetX-Duo - Interfaces & Stacks	0	16
NVRam	0	2109
OTA_Server	0	8955
Other	0	225481
Packet Buffers	0	74412
platform	0	556
RAM Initialisation	32	0
resources	0	32
Ring_Buffer	0	140
Startup Stack & Link Script fill	0	338
Supplicant - BESL	0	4226
ThreadX	0	12924
WICED	0	5161
Wiced_RO_FS	0	568
WWD	0	2369
Total(Bytes)	0	405028

For more detail memory map, please refer to

<WICED-Studio-xx>\43xxx_Wi-Fi\build\snip.ota_fr-MurataType1GC\binary\snip.ota_fr-MurataType1GC_map.csv

(END)