

Type1LD Application Note: OTA

Type1LD Application Note OTA

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Revision History

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Revision 1.0	2018/4/16	Initial
Revision 1.1	2018/12/24	Add scope



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1. About this Document

1.1. Purpose and Scope

This document provides instructions on how to use the OTA application to provide "Over The Air" Update capability unsing Murata Type1LD EVB.

Note: OTA function is available with external Flash for WICED version 4.1 or higher.

1.2. References documentation

N1-4629_Type1LD-Quick_Start_Guide.pdf

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

2. Build and Test the OTA Application

2.1. Build and Download the OTA Application

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

snip.ota_fr-MurataType1LD download download_apps run

Make Target	ie target name
Make target:	snip.scan-MurataType1LD download download_apps run
Build Comman	nd settings d: [\$(ProjDirPath)¥make.exe
Build Settings	at build error ect builders

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-MurataType1LD

2.3. Test the OTA Application

A) Start terminal software

Please select [Setup] > [Serial Port...] in menu bar to setup serial port.

Port	COM6 -	ОК
Baud rate:	115200 -	•
Data:	8 bit 🔹	Cancel
Parity:	none 🔹	
Stop:	1 bit 👻	Help
-low control	none •	



The following texts will appear on Tera Term

SCOM182 - Tera Term VT	
ファイル(E) 編集(E) 設定(S) コントロール(Q) ウィンドウ(W) ヘルプ(H)	
Starting WICED vWiced_006.000.000.0043 Platform MurataTypeILD initialised Started ThreadX v5.6 Initialising NetX_Duo v5.7_sp2 Creating Packet pools WLAN MAC Address : A0:CC:2B:1E:DC:88 WLAN MAC Address : A0:CC:2B:1E:DC:88 WLAN LAN Charless : A0:CC:2B:1E:DC:88 WLAN LAN Charless : A0:CC:2B:1E:DC:88 WLAN LAN Charless : A0:CC:2B:1E:DC:88 WLAN LAN Charless : A0:CC:2B:1E:DC:88 WLAN CLM : A0:CC:2B:1E:DC:88 WLAN HILL : A0:CC:2B:1E:DC:88 WLAN CLM :	f674442 CY) FWI port: 1.36.3 Cr) 2 light
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:A2CC:2BFF:FE1E:DC88	

B) Connect your PC to MurataType1LD board by Wi-Fi.

The SSID and Passphrase of MurataType1LD are set with the following files.

<WICED-SDK>/include/default_wifi_config.h



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

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

/ [] 192.16	58.10.1/wiced_0 ×			
< → c	() 192.168.10.1/w	 viced_ota_server/upgrade	e.html	\$
Apps F	or quick access, place yo	ur bookmarks here on the bo	okmarks bar. Import bookmarks	now…
		Wiced OTA	A server	
Choose F Start upge	ile No file chosen rade			



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

<WICED-SDK>/build/snip_scan-MurataType1LD/Binary/snip.ota_fr-MurataType1LD.stripped.elf

192.168.10.1/wiced	Lc × \				
→ C (192.1	58.10.1/wiced_ota_	_server/upgrade.h	tml		4
Apps For quick acce	ss, place your bookmar	rks here on the book	marks bar. <mark>Impo</mark>	rt bookmarks no	ow
		Wiced OTA s	server		
22 22 1 2	14				
Choose File snip.sca Start upgrade	n-Mustripped.elf				
Choose File snip.sca	n-Mustripped.eif)	
Choose File snip.sca	n-Mustripped.eif				
Choose File snip sca	n-Mustripped.eif				

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

192.168.10.1/wiced_6 ×	
← → C ① 192.168.10.1/wiced_ota_server/upgrade.html	☆ :
Apps For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now	
Wiced OTA server	
Choose File snip.scan-Mustripped.elf Start upgrade Transferring 34.7%	

The following texts will appear on Tera Term.

🙇 COM182 - Tera Term VT	
ファイル(E) 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	
IPvb network ready IP: FE8U:0000:0000:0000:A2UC:2BFF:FEIE:DU88	
Writing chunk I of size 1024 from offset U	
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 4008	
Writing chunk 5 of size 1024 from offset 5120	
Writing churk 0 of Size 1024 from offset Size	
Writing chunk 7 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.

-	8.10.1/wiced_ota_server/upgrade.html	\$
Apps For quick acces	s, place your bookmarks here on the bookmarks bar. Import bookmark	s now…
	Wiced OTA server	
		_
Choose File snip.scar	-Mu…stripped.elf	
Start upgrade		
Transfer comple	ted	
Tunsici combic		

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

🦉 COM182 - Tera Term VT
ファイル(E) 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 77 of size 1024 from offset 77824 Writing chunk 78 of size 1024 from offset 78848 Writing chunk 79 of size 1024 from offset 79872 Writing chunk 80 of size 1024 from offset 80896 Writing chunk 81 of size 804 from offset 81920 Uploaded file size = 82724 Restarting.
Starting WICED vWiced_000.000.000.0043 Platform MurataTypelLD initialised Started ThreadX v5.6 Initialising NetX_Duo v5.7_sp2 Creating Packet pools WLAN MAC Address : A0:CC:2B:1E:DC:88 WLAN Firmware : w10: Oct 23 2017 03:54:15 version 7.45.98.38 (r674442 CY) FWI D 01-acea29d1 WLAN CLM : API: 12.2 Data: 9.10.39 Compiler: 1.29.4 ClmImport: 1.36.3 Cr gation: 2017-10-20.245:25
Waiting for scan results # Type BSSID RSSI Rate Chan Security SSID CCode Flag
0 Infra 00:90:CC:FA:98:7F -31 130.0 1 WPA2 AES PSK



3. Memory usage

3.1. Software requirements

Make Target: snip.ota_fr-MurataType1LD download download_apps run

3.2. Memory Usage

Modules	Flash	RAM
Арр	395	0
crc	1060	0
DHCP_Server	1508	132
DNS	68	44
Host MCU-family library	17436	2692
Interrupt Vectors	388	0
libc	32320	3068
Networking	4957	13280
NetX-Duo - Interfaces & Stacks	0	16
OTA_Server	8259	696
Other	158884	609
Packet Buffers	0	23088
platform	1704	288
RAM Initialisation	2548	0
resources	44	0
Ring_Buffer	112	0
SPI_Flash_Library_MurataType1LD	836	72
Startup Stack & Link Script fill	134	7
Supplicant - BESL	3462	772
ThreadX	8590	396
WICED	4037	1036
Wiced_RO_FS	568	0
WWD	17966	3176
Total(Bytes)	262728	49372

For more detail memory map, please refer to

<WICED-Studio-xx>¥43xxx_Wi-Fi¥build¥snip.ota_fr-MurataType1LD¥binary¥snip.ota_fr-MurataType1LD_ map.csv



4. Appendix

- 4.1. After the upgrade, return to the snip.ota_fr application.
- A) Hold down the SW1 button and press the reset button.
- B) Confirm that the LED1 blinks.
- C) When LED1 turn off, release the SW1 button.
- D) Confirm to be started the snip.ota_fr application in Tera Term.

(END)