USER GUIDE

Atmel

Platform Getting Started Guide for SAM W25 Xplained Pro

Atmel SmartConnect

Introduction

Atmel[®] SAM W25 includes the Atmel 2.4GHz IEEE[®] 802.11 b/g/n Wi-Fi ATWINC1500 along with SAM D21 ARM[®] Cortex[®] M0+ based MCU. This getting started guide describes the SAM W25 Wi-Fi module to build state-of-the-art Internet of Things (IoT) applications. This guide explains hardware information and how to install Atmel Studio (IDE), compile examples and download Wi-Fi network controller's firmware.

The following topics will be covered:

- How to get Atmel Studio (IDE) and install it
- Update new ASF package
- Target board information
- · How to get weather client example project
- How to get log message
- How to download firmware and certificate

Features

- Hardware Prerequisites
 - Atmel SAM W25 Xplained Pro Evaluation Kit
 - Atmel IO1 extension
 - Micro-USB cable (Micro-A / Micro-B)
- Software Prerequisites
 - Atmel Studio
 - Weather client example project source code





Icon Key Identifiers

i	INFO	Delivers Contextual Information About a Specific Topic
<u>\</u> _	TIP	Highlights Useful Tips and Techniques
	TO DO	Highlights Objectives to be Completed
	RESULT	Highlights the Expected Result of an Assignment Step
	WARNING	Indicates Important Information
•	EXECUTE	Highlights Actions to be Executed Out of the Target



1 Getting Started with Atmel Studio

1.1 Download and Install Atmel Studio6.2

Atmel Studio 6 is the integrated development platform (IDP) for developing and debugging Atmel ARM Cortex-M and Atmel AVR[®] microcontroller (MCU) based applications. The Atmel Studio 6 IDP gives you a seamless and easy-to-use environment to write, build and debug your applications written in C/C++ or assembly code.

Atmel Studio 6.2 is now available, adding advanced debugging features such as Data and Interrupt Trace, improved RTOS integration, and better ability to debug code that has been optimized.

With the introduction of Atmel Gallery and Atmel Spaces, Atmel Studio 6 further simplifies embedded MCU designs to reduce development time and cost. Atmel Gallery is an online apps store for development tools and embedded software. Atmel Spaces is a cloud-based collaborative development workspace allowing you to host software and hardware projects targeting Atmel MCUs.

Attp://www.atmel.com/microsite/atr P = 0	Atmel® Studio 6 - Suppor ×			<u>م</u> ش
Atmel	and the line	Preside Park		
28	Overview Software Library	QTouch Tools C/C++ Compiler/Edi	tor Debugging/Simulation V	lideos
ATMEL			NO.	
STODIC			ARM	
O				
One Collaborativ	/e Studio		afty or estates	
Shared Worksp	pace		Alitaly Alitary - Alitaly - Alitary - Alitary - Alitary - Alitary	
DOWNCOAD NOW				

Download and install Atmel Studio 6.2 from http://www.atmel.com/microsite/atmel_studio6/.

You can find the installed directory: C:\Program Files\Atmel\Atmel Studio 6.2.

1.2 Download and Install the Latest ASF

Atmel Studio 6 is free of charge and is integrated with the Atmel Software Framework (ASF)—a large library of free source code with 1,600 ARM and AVR project examples. ASF strengthens the IDP by providing, in the same environment, access to ready-to-use code that minimizes much of the low-level design required for projects. Use the IDP for our wide variety of AVR and ARM Cortex-M processor-based MCUs, including our broadened portfolio of Atmel SAM3 ARM Cortex-M3 and M4 Flash devices.

If the ASF version in your Atmel Studio is not the latest one you will be notified when Atmel Studio starts. The following procedure demonstrates how to update the ASF to the latest version. You can install other extensions in the list as well.

1. Run Atmel Studio 6.2.



2. You can see the start page of Atmel Studio 6:



3. Update ASF to the latest version.

4



Available Downloads \rightarrow Updates \rightarrow Atmel Software Framework



- 4. Select an extension and proceed with download and installation.
 - 2 52 Extension Manager Installed Extensions Sort by: Highest Ranked • Search Available Downloads Q Available Downloads * Atmel ARM GNU Toolchain Free Created by: Atmel D All The ARM GNU Toolchain supports all Atmel ARM Version: 3.21.0.1353 Cortex-M devices. Updates (3) Downloads: 95350 Rating: Free Atmel Software Framework 80 More Information Contains the latest ASF 3.21.0 version, including Download Getting Started FreeRTOS integration. Reviews Atmel Kits *ininini H Getting started help for kits provided by Atmel, such christian winkler as the Xplained Pro series. 2/9/2015 Version: 3.21.0.1353 failed download * Tony Schinkowski 2/2/2015 Version: 3.21.0.1353 Download starts, but fails. (Firefox browser) * Inink 1 Achim Hebermehl Close



Restart Atmel Studio to take effect of newly installed extension.

1.3 Download and Install the latest ATWINC1500 Extension Package (Not yet released in Atmel Gallery)

ATWINC1500 Extension package contains the ATWINC1500 software (latest firmware, firmware update tools and example projects).



As an Atmel Studio Extension (**.vsix** file), which can be found on the Atmel Gallery web site (http://gallery.atmel.com/) or using the Atmel Studio Extension manager.

- 1. Atmel Studio \rightarrow Menu \rightarrow Tools \rightarrow Extension Manager.
- 2. Input "winc" in the search window then you can find the ATWINC1500 extension.
- 3. Select the extension and proceed with download and installation.



Atmel

5



Restart Atmel Studio to take effect of newly installed extension.

- 4. Restart Atmel Studio.
- 5. Open the Tools and Document via File \rightarrow New \rightarrow Example Project (Ctrl + Shift + E).



6. Input "FIRMWARE" in the search window then you can find an example named like "WINC1500_FIRMWARE_UPDATE_AND_DOCUMENTATION".



This project contains documentation and tools to upgrade Wi-Fi network controller's firmware to the specific version which is matched up with the Wi-Fi driver in example projects. It also contains documentation on how to run example projects in this extension.



2 Getting Started with Atmel Hardware

This chapter introduces Atmel Evaluation Kits for testing IoT applications. The SAM W25 is essential but the IO1 extension board and the OLED1 extension board are optional.

2.1 Atmel SMART SAMW25-XPRO Evaluation Kit

The Atmel | SMART SAM W25 Wi-Fi module is based on the industry-leading Atmel ATWINC1500 low-power Wi-Fi 2.4GHz IEEE 802.11 b/g/n SoC (System on Chip) and the latest Atmel ARM Cortex-M0+ microcontroller technology.

This turnkey system provides an integrated software solution with application and security protocols such as TLS, integrated network services (TCP/IP stack) which are available through Atmel Studio 6 integrated development platform (IDP).



- Turnkey system with integrated software that includes TLS 1.0 and a TCP/IP stack WPA2 personal and enterprise security
- Single-band 2.4GHz IEEE 802.11 b/g/n Wi-Fi ATWINC1500
- Atmel | SMART ARM Cortex M0+-based SAM D21; 256KB Flash; 32KB SRAM
- Serial Peripheral Interface (SPI)
- Over-the-air updates
- ATECC108A CryptoAuthentication™ engine with ultra-secure hardware-based key storage for secure connectivity
- Extreme low power
- Compact footprint: 33.8 x 14.9mm
- Operating Voltage: 2.7 to 3.6V
- Worldwide acceptance: FCC (USA), CE (Europe) and TELEC
- RoHS compliant
- Network services DHCP, DNS, TCP/IP (IPv4), UDP, HTTP, HTTPS

Here is the link for more detailed information about SAM W25:

http://www.atmel.com/tools/atsamw25.aspx



2.2 Atmel IO1-XPRO Sensor Extension Board

Atmel IO1 Xplained Pro extension board is a generic extension board for the Xplained Pro platform. It connects to any Xplained Pro standard extension header on any Xplained Pro MCU board. The extension board utilizes all functions on the standard Xplained Pro extension header to further enhance the feature set of Xplained Pro MCU boards.



- microSD card connector
 - 2GB microSD card included
 - Accessed with SPI interface
- PWM
 - LED control
 - PWM \rightarrow Low pass filter \rightarrow ADC
- ADC
 - PWM \rightarrow Low pass filter \rightarrow ADC
 - Light sensor
- UART
 - Loopback interface via pin header
- TWI
 - AT30TSE758 Temperature sensor with EEPROM
- Xplained Pro hardware identification system

Here is the link for more detailed information about AT IO1:

http://www.atmel.com/images/atmel-42078-io1-xplained-pro_user-guide.pdf

2.3 Atmel OLED1-XPRO Display Extension Board

Atmel OLED1 Xplained Pro is an extension board to the Atmel Xplained Pro evaluation platform. The board enables the user to experiment with user interface applications with buttons, LEDs and a display.





- UG-2832HSWEG04 monochrome OLED display
 - 128 x 32 Pixels
 - Controlled by 4-wire SPI interface, up to 100MHz
- Three LEDs
- Three Mechanical push buttons
- Xplained Pro hardware identification system

Here is the link for more detailed information about AT OLED1:

http://www.atmel.com/images/atmel-42077-oled1-xplained-pro_user-guide.pdf



3 Getting Started with IoT Examples

This chapter introduces IoT examples and describes how to run an example on the SAM W25 board.

3.1 Organization of IoT Examples

All of these examples are included in ASF Package and there are various IoT examples using Wi-Fi module.

Basic Examples

These examples describe basic Wi-Fi operation in 'how-to' manner:

- How to read chip ID (to identify H/W revision of Wi-Fi controller)
- How to set debug message level
- How to get MAC address of the Wi-Fi module
- How to start Wi-Fi in specific operation mode, such as:
 - STA Mode (Station mode), AP mode (Access Point mode), P2P mode (client mode)
- How to switch mode among STA, AP, and P2P modes during the runtime
- How to scan APs nearby
- How to set deep sleep mode
- How to connect to secure Wi-Fi with using WEP/WPA/WPA2 security
- How to connect to enterprise security network
- How to connect to security WPS
- How to set packet monitoring
- How to get RF signal status by reading RSSI value
- How to set AP provision
- How to set HTTP provision

Protocol Examples

After basic code examples, user may be interested in how to send and receive network packets. Here are protocol examples that can be extended for IoT application.

- UDP protocol example
- TCP protocol example
- NTP Time client retrieve network time for IoT application
- MQTT protocol client example
- Send email send an email from SMTP server
- Location client get the current location of the network provider using HTTP

Advanced Examples

These examples demonstrate more complex function like:

- Growl client demonstrates using RESTful API over SSL (essential for IoT application)
- MQTT Chat client demonstrate how to send and receive IoT information using MQTT protocol
- Weather client get the current weather information of the network provider and utilize the IO1 sensor device
- Wi-Fi serial useful for chatting or controlling a remote device
- OTA Firmware Upgrade Wi-Fi network controller's firmware upgrade via OTA server
- SSL connection Set up an SSL connection



3.2 Connect the Board

The SAM W25 Wi-Fi module comes with a Wi-Fi software API. The purpose of this API is to provide an abstraction of the binary protocol used between the host processor and the Wi-Fi network controller while keeping an easy and reliable solution to add wireless capabilities to any user application. This software is based on the Atmel Software Framework (ASF).



WARNING Connecting an additional ATWINC1500 Wi-Fi modules on extension headers is possible but not supported by the provided Wi-Fi Software API.

Connect the DEBUG USB port on the SAM W25 to your PC using a micro-USB cable. The SAM W25 will be visible in the Windows[®] Device Manager with its COM port.





The pay yee values at an pay pak pake pake at all and an pay the set of the	35 9 ×
Carl Survive Tools Help Latert News	15 9 × 9
Der Feyn 2 MAX D21 Spärel Fest 2 Max	0.2
Cart Fage & Loof DS Statemed Per-	2.2
ATMEL Critical Cat Started Tools Help Latest News	
ATMEL SAM D21 Xplaned Pro	
Cet Started Tools Help Latest News	
Cet Started Tools Help Latest News	
Cet Started Tooki Help Latent News	
Cet Started Tools Help Latest News	
Get Started Tools Help Latest News	
Wekowe Links and Resources	
By A few Carryan Poper.	
Convergence - Websites to Abreal The Mark To Mark Statement of Stateme	
Studio Supported by the Attred Studio emprand devicement platform.	
Recent Projects Get to leave shared and and the shared and the share share of the share share of the share share of the share share share of the share share share share of the share share share share of the share sha	
The second s	
Switch (Multico Molection General Database General Database General Database General Database General Database	
Burnel of State St	
Z Class sage after project load	- 1
2 Dee page or startup	- 1
Ada • • × × Oda • • • • • • • • • • • • • • • • • • •	
Soc only tool	
	- 1
Stret Lat 1 Colput M, Fred Reads 1	
Landy Landy	

Atmel Studio may detect your device automatically and show a proper page.

3.3 How to Get Weather Client Example Project

This example demonstrates the use of the SAM W25 Xplained Pro board to receive weather information from a weather server. It uses the following hardware:

- The SAM W25 Xplained Pro
- The IO1 on EXT1 header
- A wireless access point
- A mobile device (for provisioning)



Weather Server



1.	Open the Weather client example via File → New → Example Project (Ctrl + Shift + E	÷).	
	SAM 021 Volained Dro AtmalStudio	0	1

🗣 SA	AM D21 Xplained Pro	AtmelStudio					
File	Edit View VAssistX	ASF Project Debug 1	ools Window Help				
	New		Project	Ctrl+Shift+N	sock_bind_state	• 🔍 🕾 😥 !	📓 🏄 🛄 📲 🛊 🕴 🐺 🕌
	Open		D me	Ctrl+N		• i 🕮 📇 🦝 • i 🛥 No i	Device 🍸 No Tool 🚦
	Close		Example Project	Ctrl+Shift+E		Solution Explorer	* 4 ×
61	Close Solution				*	0	
	Import		d Pro				
ы	Save Selected Items	Ctrl+S					
	Save Selected Items As.	01 01 b	The Party of the				
"	Save All	Ctn+Shift+S					
10	Dage Ceture				8		
a	Print	Ctrl+P					
-	Recent Files						
	Recent Projects and Solu	tions	and fire evaluation bit is a h	archuses			
	Exit	Alt+F4	tmel ATSAMD21J18A micro	controller.			
N	Show page on connect	the kit provides easy acc and explains how to inte and explains how to inte and explains how to inter- and explains how to inter- New Example Pr Atmel Studio Help:	ess to the features of the Atm igrate the device in a custome oject	el SAM D21 r design.			
-							- 1 -
She	out output from:						- + ×
SIL	in output nom.		- 11 V 14				
-		Find Day Mr. 1					
-	Control and Control and	Find Results 1					
Read	у						4

2. Input "WEATHER" in the search window then you can find an example named like "SAMW25_XPLAINED_PRO_WEATHER_CLIENT_EXAMPLE".

New Loampie Rep	ed from XLT or Literators	BOT. 100	Nave Example Artp	ad hon xUI or Literators	and the
Device Tamily - all Projects 58 Congros Technologi Alterio	I Compare 4 Composition (p) S Street - And Composition (p)		Carta family of	Company 4 Company 4	SMRCE, URLARS 2 P.700 VALUE 2 VALUE VALUE VA
Polyet Name	AGEntary		Project Name	NAMOZI, XMARNO JMO, NINESNO JOHNNAMME, INAMPLIS	
Location:	Cellarated suebouranteened (tube).3	- Attress	Locations .	C w Java Wed no. # Becomentational Studionel 3	Allowin
Solution	Crede See Subday		Selator	Cruele Selection +	
SILIBOR NAME	addresses	10 million (1997)	Solution name	SAMSZLUKANIO_MO_VINCINIO_SETVENTHER_SHAMILES	
Device	No Decay		Deven	ATLANCOLISIA	
		C Dest			ge gene



3. Press OK button then Atmel Studio will bring over the project source code of the example.



3.4 How to Build and Execute

This guide demonstrates how to build an example and execute it on the SAM W25 Xplained Pro.

- 1. Build the solution (F7) and ensure you get no errors.
 - | i 🕮 🛗 | 🚠 🍃
- 2. Connect the IO1 extension to the SAM W25 Xplained Pro as displayed below:



- 3. Connect the SAM W25 Xplained Pro board to your PC using DEBUG USB connector.
- 4. Program the application by clicking on the Start Debugging and Break icon.



🕅 🔲 🗘 🕦 🕨

÷



5. You may be asked to select your debug tool:

MW25_XPLAINE	CLIENT_EXAMPLE × main.h ASF Wizard SAM W2	5 Xplained Pro - 0023
Build	Configuration: N/A Platform:	N/A *
Build Events		
Toolchain	Selected debugger/programmer	
Device	•	
Tool		
Advanced	Programming settings Atmel Studio	×
	Erase entire chip • Please select a d	connected tool and interface and try again.
	Debug settings	
	Override Vector Table Of	Continue
	Cache all flash memory e	

6. Select EDBG and SWD (Serial Wire Debug) as Interface:



- 7. Click again on the Start Debugging and Break icon:
- 8. The application will be programmed in the SAM W25 embedded flash and breaks at main function. Click on Continue to execute the application:





You may be asked to upgrade your EDBG firmware. If so, click on Upgrade button:





WARNING Upgrade operation may take a few minutes, wait for the operation to complete.



RESULT The example is now programmed and running.

Open the SAM W25 EDBG DEBUG USB serial COM port, with the following settings:

- 115200 bauds
- 8 bit data
- no parity
- one stop bit
- and no flow control

Open a serial terminal tool to see the result. You can use your preferred serial terminal, such as PuTTY, Tera Term, etc. You can also use terminal window plug-in in Atmel studio. You can install it through below menu. (Menu \rightarrow Tools \rightarrow Extension Manager)

Connect to the device.

Terminal Window	▼ □ ×
🔿 Connect COM44 🗸 Baud: 115200 🗸 ASCII - 🔀 🎽 🗌 Save to file Options	
Receive	
	* _
	-
Send History	
Send	
ASCII V	CR Send
EDBG Virtual COM Port(COM44)	



RESULT Following information will be displayed on the terminal window.



3.5 Provisioning

As seen in the log message, the device is waiting for provisioning. In this stage, Wi-Fi network controller will run as AP mode, waiting for the user to setup a credential for a desired Access Point to use.

Some examples have this kind of provision function while some don't. It depends on the scenario of demo's purpose. To setup a desired AP:

1. Connect your mobile device to SAM W25 in Wi-Fi Setting.





2. Browse the webpage (atmelconfig.com) for setting AP, fill up the page then press Connect button.



- 3. Then SAM W25 will run as a client and connect to the AP which you selected (the mobile device will be disconnected from your SAM W25).
- 4. After the network is online, device will communicate with the weather server. The weather info will be printed on the terminal window.



WARNING It may not be operated normally if the server connection is unstable.



4 How to Debug Wi-Fi Firmware



SAM W25 Xplained Pro board provides UART interface for debugging. You can connect the SAM W25 Xplained Pro board to your PC using a USB-to-Serial device and a debug USB connector to get firmware debug information.

Open the SAM W25 DEBUG USB serial COM port, with the following settings:

- 115200 bauds
- 8 bit data
- no parity
- one stop bit
- and no flow control

Open a serial terminal tool to see the result. (Wi-Fi Firmware Debug information).



5 How to Download New Firmware for Wi-Fi Network Controller

As Wi-Fi host driver is coupled with Wi-Fi network controller firmware, so you have to match up the firmware version with the host driver version. You can check these versions via firmware debug message when the device is booted up.

5.1 Download Firmware

This section demonstrates the use of the SAM W25 Xplained Pro board to upgrade firmware of the Wi-Fi network controller. This is a basic operation to download firmware. It uses the following hardware:

The SAM W25 Xplained Pro

Connect the SAM W25 (DEBUG USB PORT) to the USB port on your PC.

WARNING Do not connect SAM W25 VIRTUAL COM PORT via terminal program.



- 1. Go to "WINC1500_FIRMWARE_UPDATE_AND_DOCUMENTATION" project directory. (Refer to Download and Install the latest ATWINC1500 Extension Package)
- 2. Launch the batch file. \src\samw25_xplained_pro_firmware_update.bat





SUCCESS firmware download. Following information will be displayed on the command window.

```
SAMW25 flashing script: please connect edbg and power up the board.
Firmware check OK
Chiperase completed successfully
Firmware check OK
Programming completed successfully.
Mode UART
Can not find image_builder path...
Downloading Image...
*******
*
  >Programmer for WINC1500 SPI Flash<
                                   *
*
     Owner: Atmel Corporation
******
>>Init Programmer
Detecting ports...
EDBG Virtual COM Port(COM4)
(APP)(INFO)WINC1500 Serial Bridge Found
Avail port COM4
1 of ports found
>Start erasing...
Done
#Erase time = 4.633000 sec
>Start programming..
Done
#Programming time =6.661000 sec
Image downloaded successfully.
>>This task finished after 11.42 sec
ОК
   ##
                                                         ##
##
               ########
                          ###
                                 ######
                                        ######
                                                         ##
##
               ##
                         ## ##
                                ##
                                     ## ##
                                                         ##
                     ##
                                             ##
##
               ##
                     ##
                        ##
                             ##
                                        ##
                                                         ##
                                ##
##
               ######## ##
                              ##
                                 ######
                                        ######
                                                         ##
##
                                                         ##
               ##
                        #########
                                     ##
                                            ##
##
               ##
                        ##
                              ## ##
                                     ## ##
                                             ##
                                                         ##
##
               ##
                        ##
                              ##
                                 ######
                                        ######
                                                         ##
##
                                                         ##
Downloading ends successfully
```



FAILED firmware download. Following information will be displayed on the command window.

SAMW25 flashing scrip	t: please	conn	ect ed	bg and	power up	the board.
Firmware check OK	Firmware check OK					
Chiperase completed s	uccessful	ly				
Firmware check OK						
Programming completed	successf	ully.				
Mode UART						
Can not find image_bu	ilder patH	ı 				
Downloading Image						
******	*******	****	*****	***		
* >Programmer for WI	NC1500 SPI	[Fla	sh<	*		
* Owner: Atmel	Corporatio	on		*		
******	********	****	*****	***		
>>Init Programmer						
Detecting ports						
EDBG Virtual COM Port	(COM4)					
(APP)(ERR)[nm_bus_por	t_detect]	[567]	Failed	to fi	nd any CO№	l ports
0 of ports found						
(ERR)Failed To intili	ze program	nmer				
Fail						
####################	#########	#####	######	######	##########	*****
##						##
##	########	#	##	####	##	##
##	##	##	##	##	##	##
##	##	##	##	##	##	##
##	######	##	##	##	##	##
##	##	####	#####	##	##	##
##	##	##	##	##	##	##
##	##	##	##	####	########	##
##						##
#######################################	#########	#####	######	######	##########	#######################################

If you see a failed message, you must check your device is assembled correctly.

🔛 v

WARNING You must check terminal program. Do not connect SAM W25 VIRTUAL COM PORT via terminal program.

Term	inal Window		- 🗆 ×
-	Disconnect	COM27 - Baud: 115200 - ASCI - 🔀 🎽	Ŧ
Rec	eive		
			A.

Retry firmware download again.



5.2 Download Certificate File

You need a certificate to set up a TLS connection and Wi-Fi firmware resource contains some root certificate files. This guide demonstrates how to download certificate files. It is similar to Firmware download.

It is assumed that you already have your "Test_Root.cer" file.

- 1. Go to "WINC1500_FIRMWARE_UPDATE_AND_DOCUMENTATION" project directory. (Refer to Download and Install the latest ATWINC1500 Extension Package)
- 2. Go to \src\firmware\Tools\root_certificate_downloader\crt. You can find some cer files in the directory. (FreeRadius_Root.cer, NMA_Root.cer, PROWL_Root.cer, Radius_Root.cer.)

Copy your "Test_Root.cer" file.

(FreeRadius_Root.cer, NMA_Root.cer, PROWL_Root.cer, Radius_Root.cer, Test_Root.cer.)

3. Modify the bat file as below. Find the "RootCertDownload.bat" file in \src\firmware\Tools\root certificate downloader\debug uart.

root_certificate_downloader -n 5 NMA_Root.cer PROWL_Root.cer RADIUS_Root.cer
FreeRADIUS_Root.cer Test_Root.cer -port 0

or

root_certificate_downloader -n 1 Test_Root.cer -port 0

4. Launch the batch file.

\src\samw25_xplained_pro_certificate_update.bat.

RESULT SUCCESS certificate download. Following information will be displayed on the command window.

```
...
Start erasing...
Done
#Erase time = 0.047000 sec
>Writing the certificate to SPI flash
>Start programming..
Done
#Programming time = 0.093000 sec
Done
All certificates have been downloaded
```

If you see a failed message, you must check your device is assembled well and retry downloading again.

6 Conclusion

This document explained essential part of evaluation kit and an example of use of the Atmel SAM W25 Wi-Fi module.

The following topics have been covered:

- How to get Atmel Studio (IDE) and install it
- Update new ASF package
- Target board information
- How to get weather client example project
- How to update firmware, certificates and getting log message

You have seen how to use the SAM W25 Wi-Fi module and manage module software up-to-date. It is essential part of utilizing the other SAM W25 resources.



7 Revision History

Doc Rev.	Date	Comments
42433A	03/2015	Initial document release.





Atmel

Enabling Unlimited Possibilities[®]

Atmel Corporation

1600 Technology Drive, San Jose, CA 95110 USA



T: (+1)(408) 441.0311

F: (+1)(408) 436.4200

www.atmel.com

© 2015 Atmel Corporation. / Rev.: Atmel-42433A-SAMW25-Xplained-Pro-Getting-Started-Guide_UserGuide_052015.

Atmel®, Atmel logo and combinations thereof, AVR®, Enabling Unlimited Possibilities®, and others are registered trademarks or trademarks of Atmel Corporation in U.S. and other countries. ARM®, ARM Connected® logo, and others are the registered trademarks or trademarks of ARM Ltd. Windows® is a registered trademark of Microsoft Corporation in U.S. and or other countries. Other terms and product names may be trademarks of others.

DISCLAIMER: The information in this document is provided in connection with Atmel products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Atmel products. EXCEPT AS SET FORTH IN THE ATMEL TERMS AND CONDITIONS OF SALES LOCATED ON THE ATMEL WEBSITE, ATMEL ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL ATMEL BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS AND PROFITS, BUSINESS INTERRUPTION, OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF ATMEL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Atmel makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and products descriptions at any time without notice. Atmel does not make any commitment to update the information contained herein. Unless specifically provided otherwise, Atmel products are not suitable for, and shall not be used in, automotive applications. Atmel products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.

SAFETY-CRITICAL, MILITARY, AND AUTOMOTIVE APPLICATIONS DISCLAIMER: Atmel products are not designed for and will not be used in connection with any applications where the failure of such products would reasonably be expected to result in significant personal injury or death ("Safety-Critical Applications") without an Atmel officer's specific written consent. Safety-Critical Applications include, without limitation, life support devices and systems, equipment or systems for the operation of nuclear facilities and weapons systems. Atmel products are not designed nor intended for use in military or aerospace applications or environments unless specifically designated by Atmel as military-grade. Atmel products are not designed nor intended for use in automotive applications unless specifically designated by Atmel as automotive-grade.