

# **WM-SG-SM-42 Application Note**

## **Update Preloaded Firmware**

**Version: 2.0**



Universal Global Scientific Industrial Co., Ltd.		Doc No.		Rev	2.0
Document release by WSS2/WP1/SW		Date.	2019/04/08	Page	3
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware				

## Table of Content

1 Purpose .....	4
2 The XMODEM/CRC Protocol .....	4
3 Update Procedure .....	5

Universal Global Scientific Industrial Co., Ltd.		Doc No.		Rev	2.0
Document release by WSS2/WP1/SW		Date.	2019/04/08	Page	4
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware				

## 1 Purpose

From SM42 firmware version 4.0, SM42 supports firmware update, a firmware binary can be transmitted and programmed via UART with XMODEM/CRC protocol.

This document describes how to update firmware on SM42 by using 'Tera Term' on windows system.

## 2 The XMODEM/CRC Protocol

**One packet length:** 133 bytes (including header, data and checksum as below)

<SOH>,<block#>,<~block#>,<data byte0>,,,,,<data byte127>,<checksum>

**Data size:** 128 bytes

**Control Characters:**

SOH = 0x01

EOT = 0x04

ACK = 0x06

NAK = 0x15

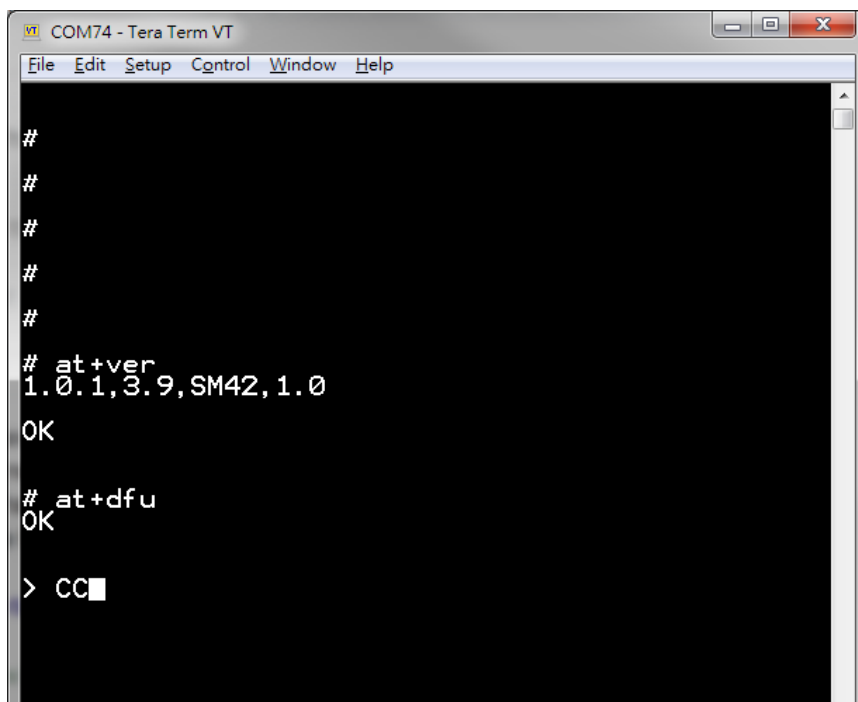
REQ = 0x43

**Checksum:** CRC-16 with polynomial 0x1021

Universal Global Scientific Industrial Co., Ltd.		Doc No.		Rev	2.0
Document release by WSS2/WP1/SW		Date.	2019/04/08	Page	5
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware				

### 3 Update Procedure

- (1) Enable the firmware update by command 'AT+DFU', then SM42 will response a '>' to indicating now is in firmware update mode, then SM42 will request host to start the transmission by sending 'C' every 4 seconds until received the first packet from host.



```

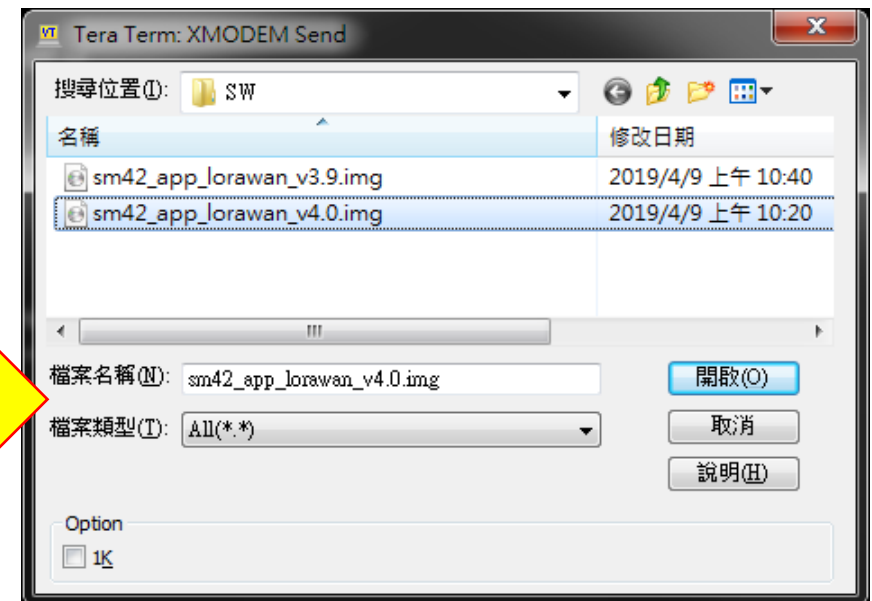
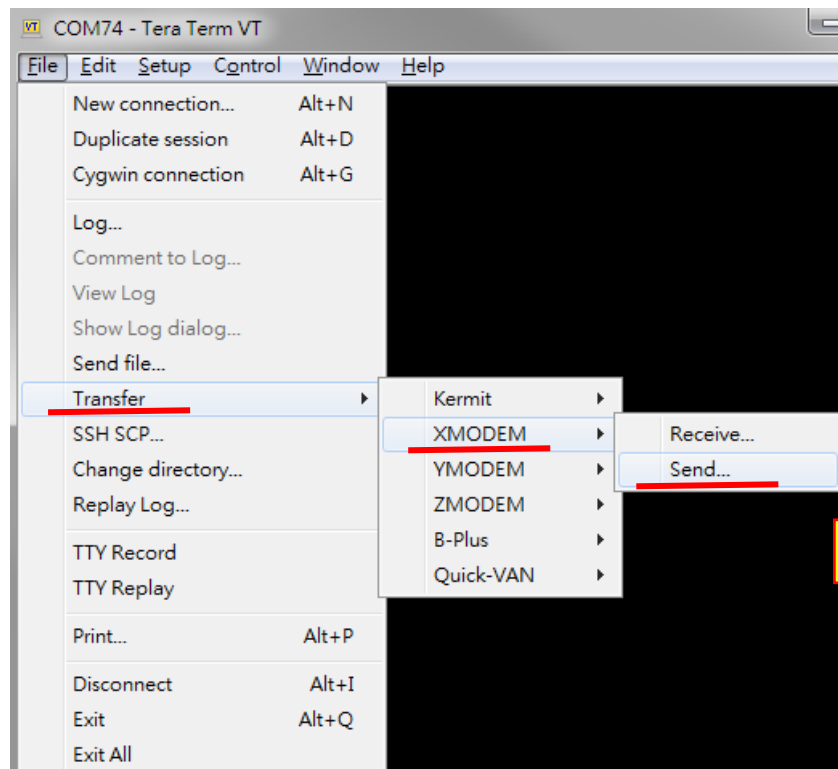
COM74 - Tera Term VT
File Edit Setup Control Window Help
#
#
#
#
#
# at+ver
1.0.1,3.9,SM42,1.0
OK
# at+dfu
OK
> CC

```

P.S. Host can stop/cancel the firmware update by issue an EOT (Press ALT+4 if using 'Tera Term') or let SM42 exits the firmware update automatically by an idle timeout about 100 seconds around.

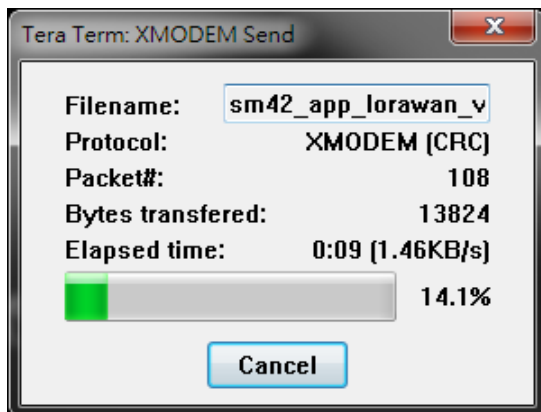
Universal Global Scientific Industrial Co., Ltd.	Doc No.		Rev	2.0
Document release by WSS2/WP1/SW	Date.	2019/04/08	Page	6
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware			

(2) Select a new image that you want to download to SM42 by Menu 'File --> Transfer --> XMODEM --> Send'

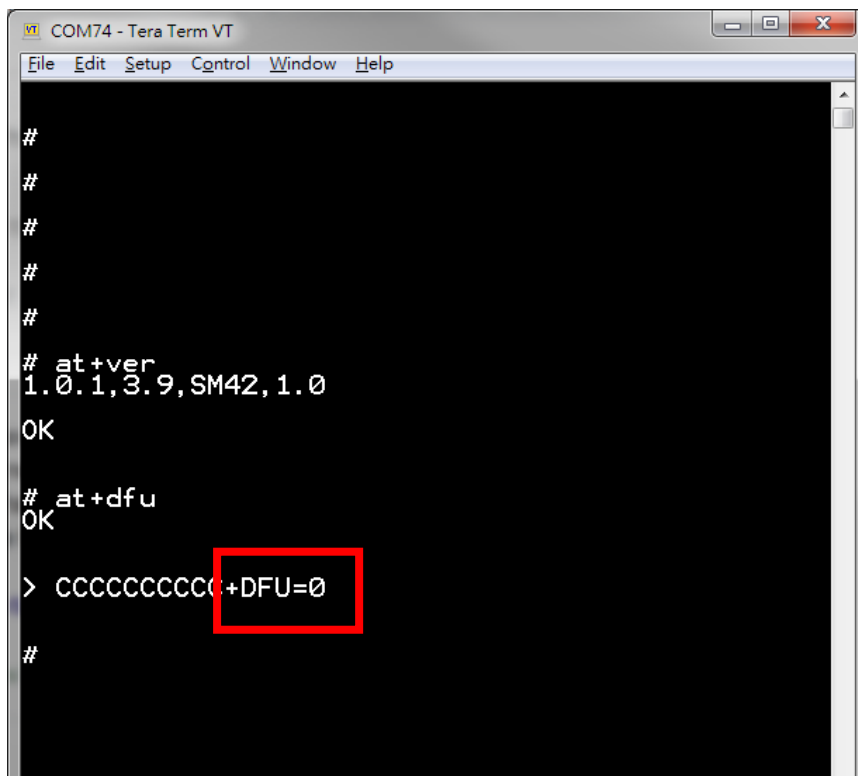


Universal Global Scientific Industrial Co., Ltd.		Doc No.		Rev	2.0
Document release by WSS2/WP1/SW		Date.	2019/04/08	Page	7
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware				

(3) Wait for the downloading finished.



(4) SM42 returns a message '+DFU=0' when the downloading finished.



Universal Global Scientific Industrial Co., Ltd.		Doc No.		Rev	2.0
Document release by WSS2/WP1/SW		Date.	2019/04/08	Page	8
Description	WM-SG-SM-42 Application Note - Update Preloaded Firmware				

- (5) Reboot SM42 with the new image by command 'ATZ', and then check if current version is correct by command 'AT+VER'.

```

COM74 - Tera Term VT
File Edit Setup Control Window Help

#
#
#
#
#
# at+ver
1.0.1,3.9,SM42,1.0
OK

# at+dfu
OK

> CCCCCCCCCC+DFU=0

# atz
# at+ver
1.0.1,4.0,SM42,1.0
OK

#

```

===== THE END =====