Quick Note 043

Telit HE910-D Firmware update.

December 2018

Contents

1 INTRODUCTION

1.1 Introduction

Beginning with the 5246 firmware release, the TransPort WR11, WR21, WR41v2, WR44v2 (including the WR44R) and WR44RR platforms will support upgrading of the Telit HE910-D module from the Web GUI or CLI of Digi TransPort router.

Upgrading the Telit module firmware should only be done if advised / requested by Digi Technical Support. Please contact tech.support@digi.com if you require guidance or information to upgrade your module.

1.2 Assumptions

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product and of the requirements for their specific application. It also assumes a basic ability to access and navigate a Digi TransPort router.

This application note applies only to:

Model: DIGI TransPort WR11/WR21/41/44 with a Telit HE910-D Cellular Module

Firmware versions: 5246 and later

Configuration: This document assumes that the devices are set to their factory default configurations. Most configuration commands are shown only if they differ from the factory default.

Please note: This application note has been specifically rewritten for firmware release 5246 and later and will not work on earlier versions of firmware. Please contact tech.support@digi.com if your require assistance in upgrading the firmware of the Digi TransPort router.

1.3 Corrections

Requests for corrections or amendments to this application note are welcome and should be addressed to: tech.support@digi.com
Requests for new application notes can be sent to the same address.

2 VERSION

Version Number	Status
1.0	Published
1.1	Filename update for Firmware 5.2.10.x
1.2	Rebranding and GUI update
1.3	Added new firmware update command details

3 FIRMWARE IMAGES

3.1 Telit HE910-D Firmware Image

The Telit HE910D firmware image consists of 1 file:
    *.bin   this file is approximately 10MB in size.

The firmware images can be obtained from Digi Technical Support

Please note: For the Digi TransPort to proceed with the upgrade, the Telit firmware file must have a specific filename. Rename the bin file to the following according to the Digi TransPort firmware version being used on the Router:

- Digi TransPort Firmware **5246** up to and including **5.2.9.X** : **telit.bin**
- Digi TransPort Firmware **5.2.10.X** and later : **he910d.bin**

3.2 TransPort Firmware Version

To verify the Digi TransPort WR firmware version installed on your device.

From the Web GUI:

Administration – System Information

Administration - System Information

Model:	TransPort WR21
Part Number:	WR21-U22B-DE1-XX
Ethernet 0 MAC Address:	00:04:2D:05:2D:05
Serial:	337979
Firmware Version:	5.2.15.6 (Aug 17 2016 17:42:05)
SBIOS Version:	7.56u
Build Version:	WW
HW Version:	1201a
CPU Utilization:	1% (Min: 1%, Max: 54%, Avg: 7%)
Up Time:	7 hours 56 minutes 2 seconds
Date and Time:	17 Nov 2016 15:50:35
Total Memory:	131072 KB
Used Memory:	43023 KB
Free Memory:	88049 KB
Mobile Module:	Telit 3G
SW Opts:	0x141 0x0
SW Cnts:	5 64 0 0 3 0 0 0 0 24 0 0 0 0 0 0 0 0 0 0
Switch Mode:	Hub

Refresh

ati5

```
ati5

ss337979>ati5
Digi TransPort WR21-U22B-DE1-XX Ser#:337979 HW Revision: 1201a
Software Build Ver5.2.15.6.  Aug 17 2016 17:42:05  WW
ARM Bios Ver 7.29u v43 454MHz B987-M995-F80-O1,0 MAC:00042d052d05
Power Up Profile: 0
Async Driver            Revision: 1.19  Int clk
…
OK
ss337979>
```

3.3 Telit Firmware Version

To verify the module type and current firmware version installed in your device.

From the Web GUI:

Management – Network Status > Interfaces > Mobile

Check for the "**Model**" line, it should read **HE910-D**

Management - Network Status > Interfaces > Mobile

Mobile Information
Results of Last Module Status Poll at 17 Nov 2016 16:02:32
Outcome: Got modem status OK

```
               SIM status:  Not Ready
          Signal strength:  -101 dBm
         Radio technology:  WCDMA
     Signal quality (UMTS):  RSSI -96 dBm, Ec/Io -6.0 dB
                  Channel:  10787
                  Network:  Orange F 208 01
             Manufacturer:  Telit
                    Model:  HE910-D
                 Firmware:  12.00.024
```

From the CLI:

modemstat ?

```
modemstat ?

Command: modemstat ?

Command result
                Outcome: Timeout reading modem status
                   Time: 1 Jan 2000 00:23:47
             SIM status:  2,0
        Signal strength: -85 dBm
       Radio technology: WCDMA
  Signal quality (UMTS): RSSI -81 dBm, Ec/Io -4.0 dB
                Channel: 10688
           Manufacturer: Telit
                  Model: HE910-D
               Firmware: 12.00.027
                   IMEI: 35157905245387
                   IMSI: ERROR
                  ICCID: ERROR
           Phone number: ERROR
 GPRS Attachment Status: ERROR
      GPRS Registration: Not registered, not searching
       GSM Registration: Not registered, not searching
                Network: 0,0,"BYTEL",2
              Diversity: Enabled
       Preferred system: Auto
     Network Technology: ERROR
      Connection Status: Normal, unspecified
 Network Selection Mode: Automatic
OK
```
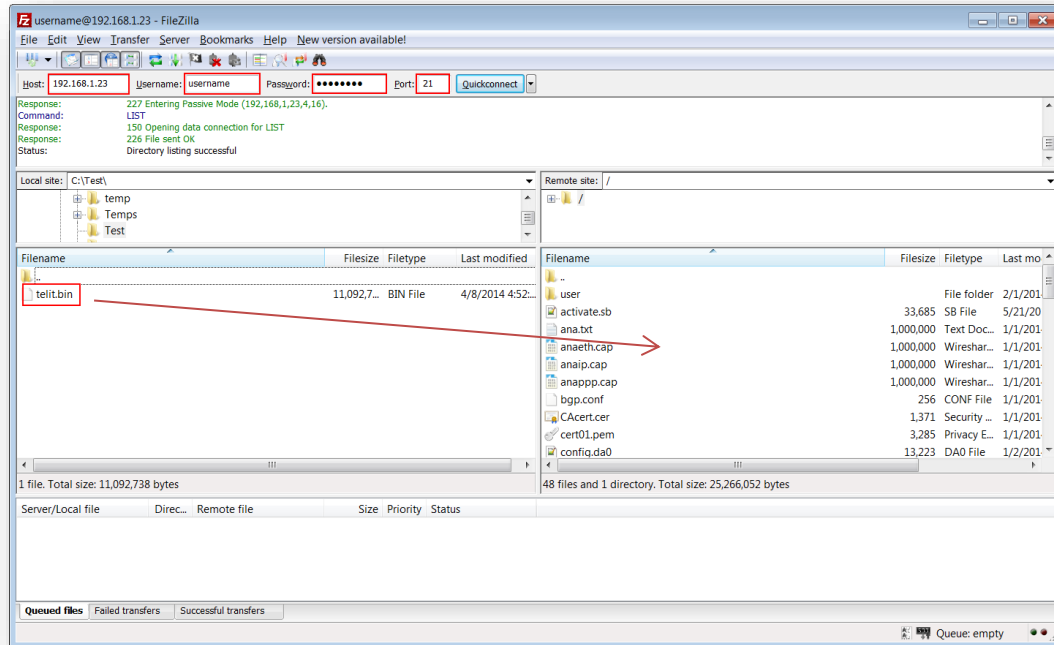
4 UPGRADING MODULE FIRMWARE

4.1 Upload module image to the router using FTP

Open an FTP connection to the TransPort router that you wish to update. In this example, using FileZilla.

| Parameter	Setting	Description
Host	192.168.1.23	IP Address of the TransPort router
Username	username	Username with Access Level : Super to log in to the TransPort router (default : username)
Password	password	Password for the user with Access Level : Super to log in to the TransPort router (default : password)
Port	21	Default FTP port.
telit.bin or **he910d.bin**	-	Telit module firmware file (refer to section 3.1)

Transfer the firmware image file to the root directory of the Digi TransPort.

4.2   Update module firmware

4.2.1   Update module firmware via Web GUI.

Open a web browser to the IP Address of the Digi TransPort router

Configuration – Network > Interfaces > Mobile > FW Update
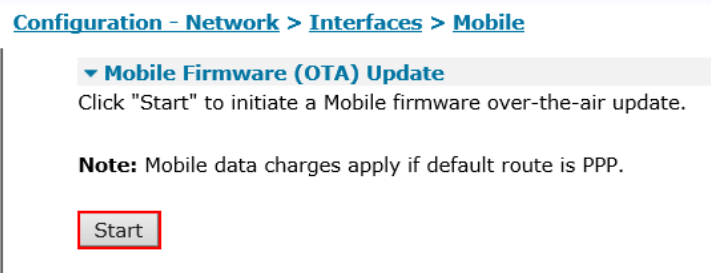
Click **Start** to initiate the firmware update process. The device will reboot a several times during the update process and takes exactly **5 minutes.** Do not use the back button or remove the power from the device during this process to prevent any damage on the module.

After 5 minutes, log back in to the unit. Navigate to **Management > Event Log** and check for the following entry to confirm the update was successful:

```
17:28:43, 10 Jul 2014,Telit FW update completed: Success
```

You will also see an event when the download started:

```
17:24:51, 10 Jul 2014,Telit FW update started: SW Version: [12.00.027] Product
Name: [HE910_D]
```

You can verify that the module has the newer version by navigating to **Management – Network Status > Interfaces > Mobile** and check the "**Firmware**" line.
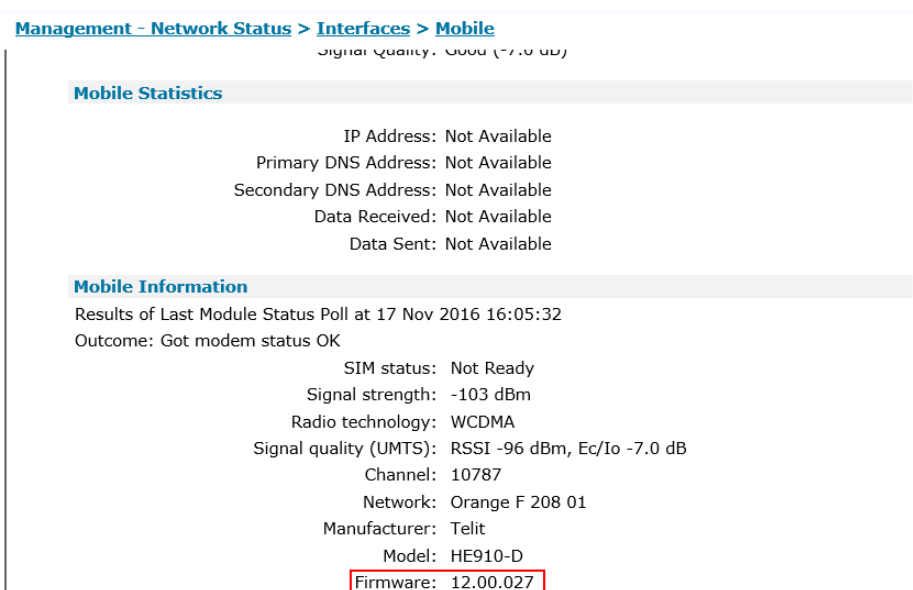
4.2.2   Update firmware via Command Line Interface (CLI)

4.2.2.1   *Firmware version 6.1.1.x and earlier*

Open a Serial, Telnet or SSH connection to the Digi TransPort router

Log in using your credentials

Type the following command:

```
tel_update
```

The terminal window will close.

The device will reboot a several times during the update process and takes at least **5 minutes**.

Do not use the back button or remove the power from the device during this process to prevent any damage on the module.

Log back in to the unit and check the event log using the following command:

```
Type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
17:28:43, 10 Jul 2014,Telit FW update completed: Success
```

You will also see an event when the download started:

```
17:24:51, 10 Jul 2014,Telit FW update started: SW Version: [12.00.027] Product
Name: [HE910_D]
```

You can verify that the module is now running the new version by using the following command:

```
modemstat ?
```

Check for the "**Firmware**" line:

```
Outcome: Got modem status OK:
                  Time: 1 Jan 2000 05:04:26
            SIM status: Not Ready
       Signal strength: -87 dBm
      Radio technology: WCDMA
  Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
               Channel: 10812
          Manufacturer: Telit
                 Model: HE910-D
              Firmware: 12.00.027
```

4.2.2.2 *Firmware version 6.1.3.x and newer*

Open a Serial, Telnet or SSH connection to the Digi TransPort router

Log in using your credentials

Type the following command:

```
carrier all
```

The terminal will show the following while downloading the firmware to the module:

```
Waiting to download...

1%
…
```

Wait for the process to reach 100% and show:

```
Download Completed.

OK
```

The device will reboot a several times during the update process and takes at least **5 minutes**.

Do not use the back button or remove the power from the device during this process to prevent any damage on the module.

Log back in to the unit and check the event log using the following command:

```
type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
16:40:11, 08 Mar 2017,Telit FW update completed: Success,1
```

You can verify that the module is now running the new version by using the following command:

```
modemstat ?
```

Check for the "**Firmware**" line:

```
Outcome: Got modem status OK:
               Time: 1 Jan 2000 05:04:26
          SIM status: Not Ready
      Signal strength: -87 dBm
     Radio technology: WCDMA
  Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
```

```
              Channel: 10812
         Manufacturer: Telit
                Model: HE910-D
             Firmware: 12.00.028
```

4.2.2.3 *OTA update, firmware version 6.1.3.x and newer only*

Since firmware version **6.1.3.x and newer**, the module firmware can also be downloaded directly from the router without having to upload it via FTP first.

To do so, issue the following command:

```
carrier all -ftp
```

The terminal will show the following while downloading the firmware to the module:

```
Waiting to download...

1%
…
```

Wait for the process to reach 100% and show:

```
Download Completed.

OK
```

The device will reboot a several times during the update process and takes at least **5 minutes**.

Do not use the back button or remove the power from the device during this process to prevent any damage on the module.

Log back in to the unit and check the event log using the following command:

```
type eventlog.txt
```

Check for the following entry to confirm that the firmware update was successful:

```
16:40:11, 08 Mar 2017,Telit FW update completed: Success,1
```

You can verify that the module is now running the new version by using the following command:

```
modemstat ?
```

Check for the "**Firmware**" line:

```
Outcome: Got modem status OK:
                 Time: 1 Jan 2000 05:04:26
           SIM status: Not Ready
      Signal strength: -87 dBm
     Radio technology: WCDMA
  Signal quality (UMTS): RSSI -81 dBm, Ec/Io -6.0 dB
              Channel: 10812
```

```
Manufacturer: Telit
       Model: HE910-D
    Firmware: 12.00.028
```

```
Manufacturer: Telit
       Model: HE910-D
    Firmware: 12.00.028
```