Release Bulletin

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Date:	March 24, 2025
Classification:	External
Attention:	All OneWeb Customers
Related Products:	HL1100W
Subject:	**HL-Fixed-1.0.62.1A Release bulletin**

1 Introduction

This release bulletin pertains to software release bundle HL-Fixed-1.0.62.1A for Hughes LEO Electronic Steering Antenna model *HL1100W*, grouped under model type *HL-Fixed* developed by Hughes Network Systems (HNS).

Release	Model Type	Model Number
HL-Fixed-1.0.62.1A	HL-Fixed	HL1100W

An overview of the HL1100W UT is provided in Section 3. Section 2 describes the software packages included in this release bundle. In addition, the software changes made in this release and known issues are listed in Sections 2 and 5.

This release has been qualified by Hughes and OneWeb to be used for HL1100W UTs operating in the OneWeb Network. HL1100W UTs can be upgraded to use this new release by following the upgrade procedures given in Section 7.

2 Release Summary

It supports all features listed in the HL1100W Hughes LEO Terminal Data Sheet (H69698, June 24). The new features and bug fixes included in this release are listed below.

2.1 Release Software

The tables below list the software release files that are part of this delivery.

Table 1. R1.0.62.1A Software Bundle File

Software Bundle File Name	Version	Notes
HL-Fixed_1.0.62.1A_CCM_5.4.100_CCM_BSP_5.4.15_MDM_4.0.1.305_EGR_2.20_CNX_1.01.66.tar.gz	R1.0.62.1A	

Table 2. R1.0.62.1A Software Packages in Software Bundle

UT Component	Version	Notes
CCM BSP	5.4.15	
CCM APPS	5.4.100	Includes AIM/ARC functions
MDM	4.0.1.305	
OGR (GNSS Receiver)	2.20	
IDU (CNX-H)	1.01.66	

2.2 Bug Fixes

The release R1.0.62.1A is the first general availability release for HL1100W.

2.3 Hughes LEO App

The HL1100W UT has a companion installer app (named Hughes LEO app) that can be used on smartphones to aid in the commissioning and status check of the UT. For detailed instructions on using the Hughes LEO app, refer to the UT Installation Guide (Document 1044008).

The table below outlines the Hughes LEO app software versions verified to be compatible with the R1.0.62.1A UT software release.

Table 3. Compatible Hughes LEO App Release Versions

UT Component	Version
Hughes LEO App for iOS	2.00.04
Hughes LEO App for Android	2.00.04

3 HL1100W UT Overview

The HL1100W is an ESA user terminal (UT) with Wi-Fi support for fixed installations. The user equipment connects to the UT via Gigabit Ethernet (GigE) or Wi-Fi connections through the indoor equipment. The HL1100W UT connects to the OneWeb LEO satellites using a tracking antenna and provides a user gateway to the OneWeb Ground Network (GN). The user traffic is routed from there to the Core Network (CN) to provide Internet access to the user. The OneWeb Device Hub (DH) provides certain UT management functions.

The HL1100W UT consists of three field replaceable units – outdoor unit (ODU), indoor unit (IDU), and power supply unit (PSU). The ODU is installed outdoors on a mount, while the IDU and PSU are installed indoors. **Figure 1** shows the HL1100W user terminal fully assembled.

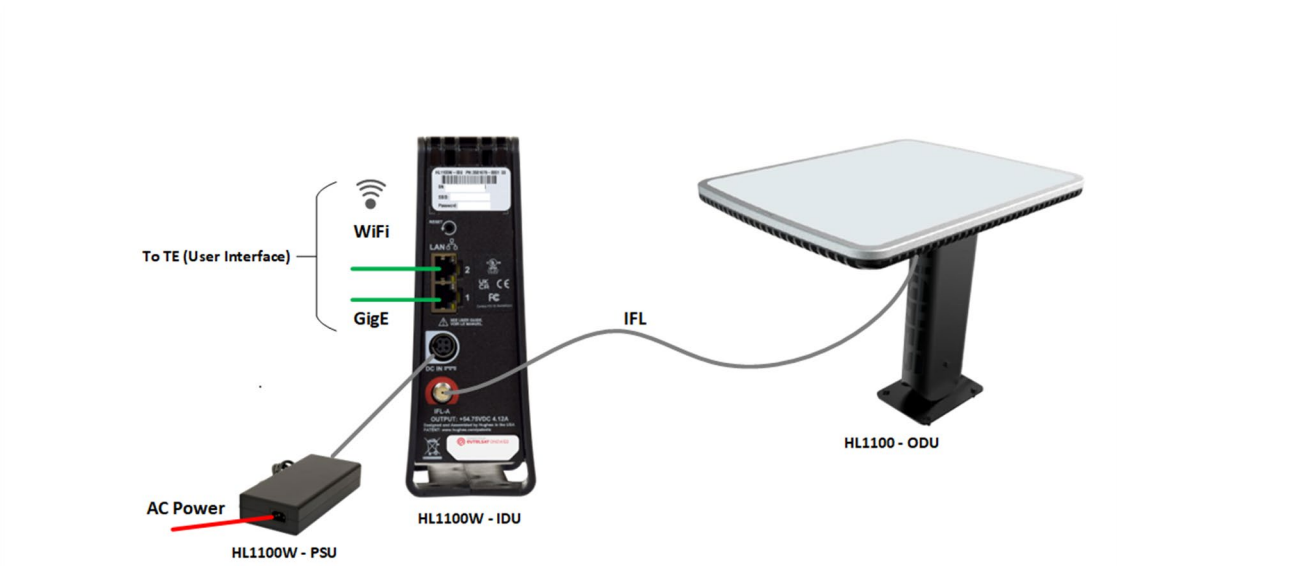


Figure 1. HL1100W User Terminal

- Outdoor Equipment:
  - HL1100-ODU: The HDX ODU antenna assembly utilizes a single electronically steered panel that seamlessly switches between receive (Rx) and transmit (Tx) paths. Each antenna panel comprises a Common Control Module (CCM), an RF Conversion Module (RCM), and a Beam Former Array (BFA).
  - The CCM includes a host processor running UT software for control, management, and network services, as well as a satellite modem that communicates with the OneWeb ground network via OneWeb LEO satellites using the Rx and Tx tracking antennas.
- Indoor Equipment:
  - HL1100W-IDU: The IDU hosts a Wi-Fi Router that provides two GigE ethernet ports and Wi-Fi access to the user data network. The Wi-Fi Router also provides access to the UT's local management interface.
  - HL1100W-PSU: The PSU is an AC-DC power supply assembly providing DC power to IDU and ODU.
  - IFL Cable: The IDU is connected to the ODU via a single intra-facility link (IFL) cable.

    The PSU has a load-sensing circuit that prevents powering on the user terminal until the IDU & ODU are connected via the IFL cables.

4 Hardware and Software Dependencies

4.1 UT Release Dependencies

R1.0.48 release is being loaded on all newly built UTs at the Hughes factory. Both /factory and /main partitions of the HDX are upgraded to R1.0.48.

Follow the instructions in section 7 for upgrades of HDX UT to 1.0.62.1A based on the current software version running on the UT.

5 Known Issues

Upgrading firmware on a UT with a non-default ODU IP address configuration requires additional steps. Please refer to Appendix section 8.1

6 Operational Considerations

1. Multiple User APN is disabled by default. Coordinate with OneWeb support to use multiple user APNs and routed modes.

2. If the LUI login authentication is required, coordinate with OneWeb support or Hughes support.

7 Installation/Upgrade

The HL1100W UT comes from the Hughes factory preloaded with the baseline UT software bundle (HL-Fixed-1.0.48) that has been qualified through the OneWeb Device Hub. Both the factory and main partitions are programmed with this baseline software bundle. The software running on the UT covering the CCM, MDM on the FDX-A, and the IDU (CNX-H) are fully field-upgradeable.

To install updated software:

- If the UT is online with OneWeb Device Hub: Use Device Hub to remotely deploy the latest software bundle.
- If the UT is offline: Use the Hughes LEO mobile app or the Local User Interface (LUI), as described in the UT Installation Guide (Document 1044008), to install the updated software locally.

7.1 Determining Current Hardware/Software Versions of the UT

Before installing/upgrading software on a HL1100W UT, the UT's hardware and software version should be determined using the UT's Local User Interface (LUI). Accordingly, an appropriate UT software bundle should be determined to upgrade the UT.

7.1.1 Determining Current Hardware Versions of the UT

Login to the CCM LUI at http://192.168.100.1, and navigate to the *Antenna → Hardware Product Information* link to view HW information for the HDX antenna, and their BFA, RCM, and CCM

modules.

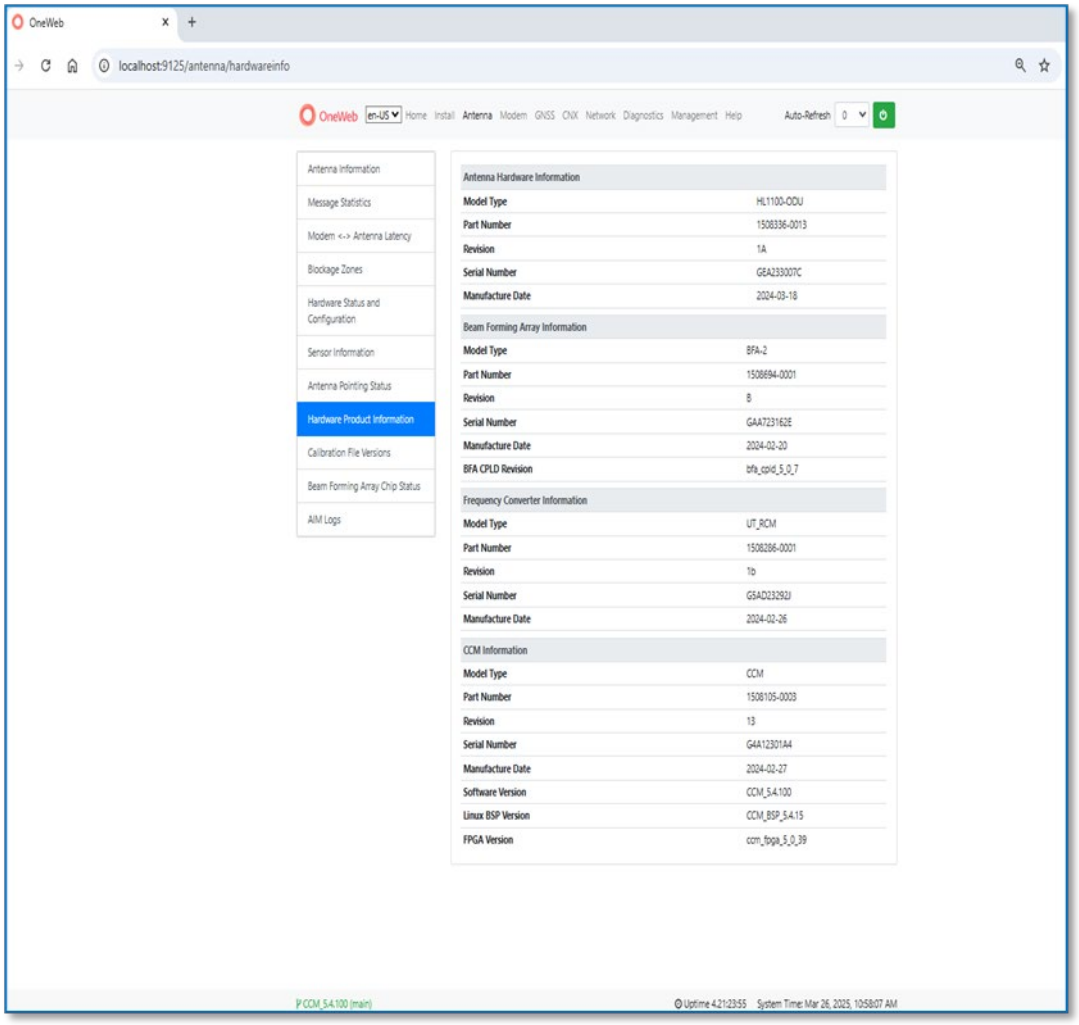


Figure 2. HL1100-ODU Hardware Information

Navigate to the *Modem → Modem Information* link to determine modem information:

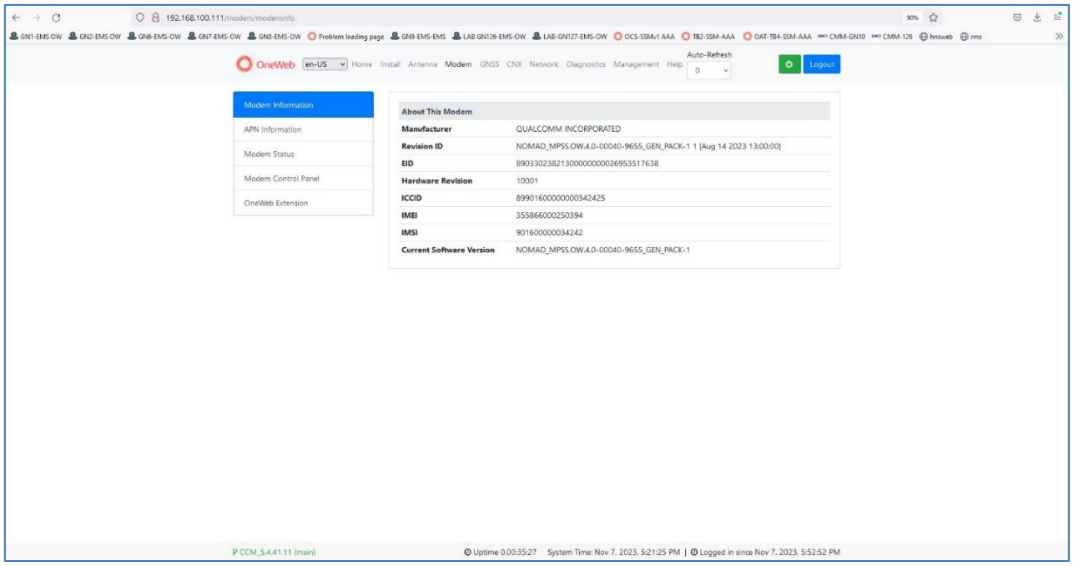


Figure 3. HL1100-ODU Modem Information

Navigate to the *GNSS → GNSS Information* link to determine OGR information:

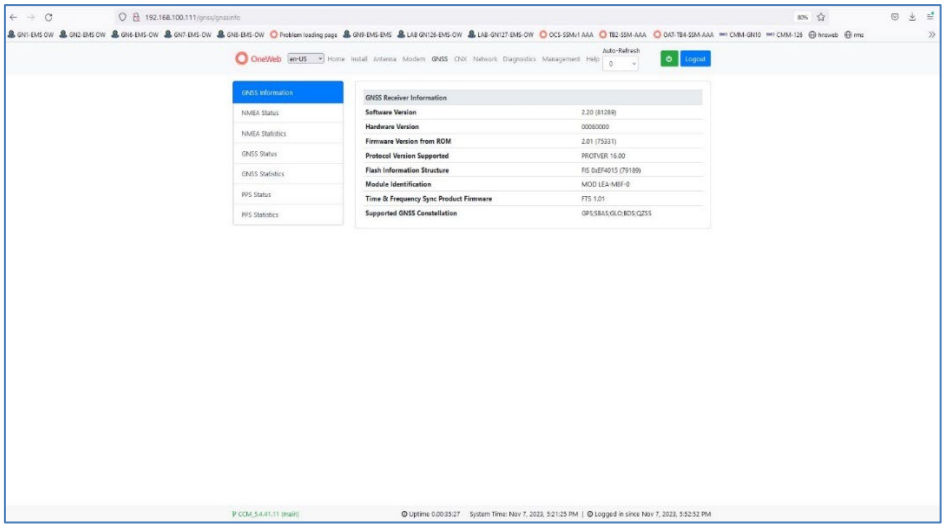


Figure 4. HL1100-ODU OGR Information

Navigate to the *CNX → CNX Information* link to determine IDU information:

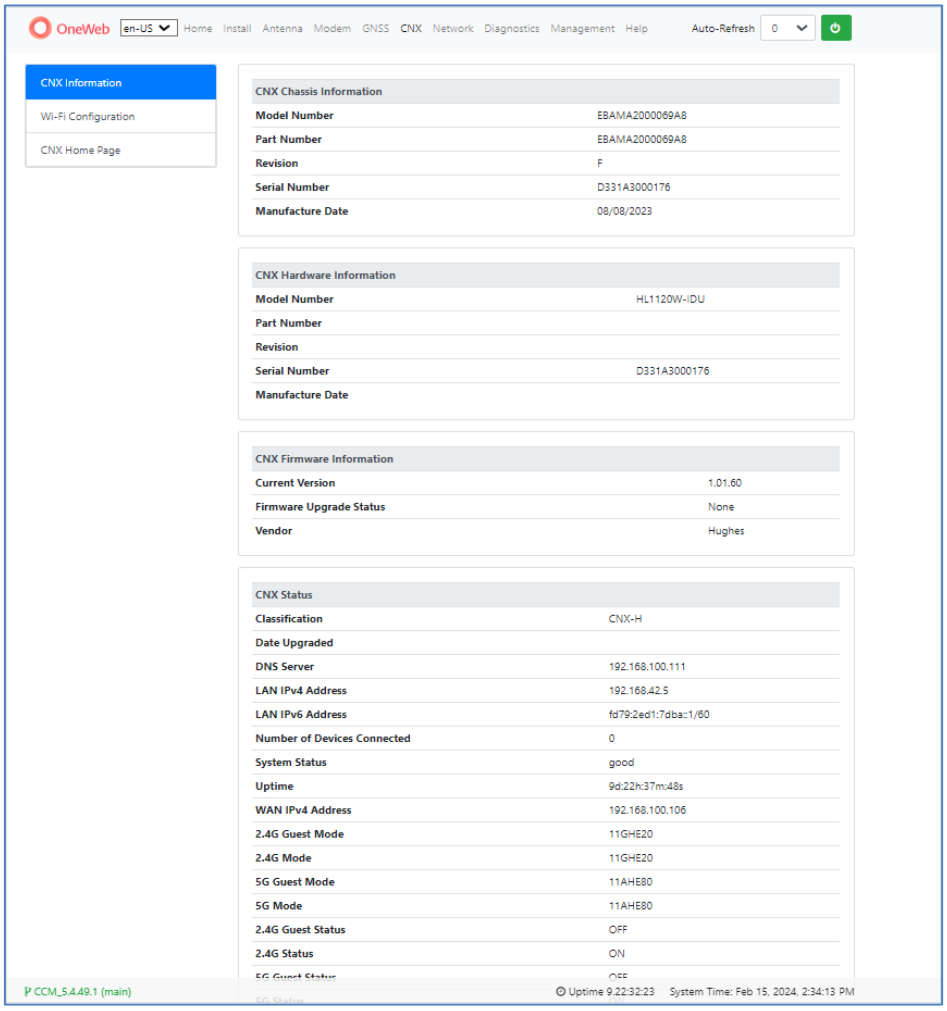
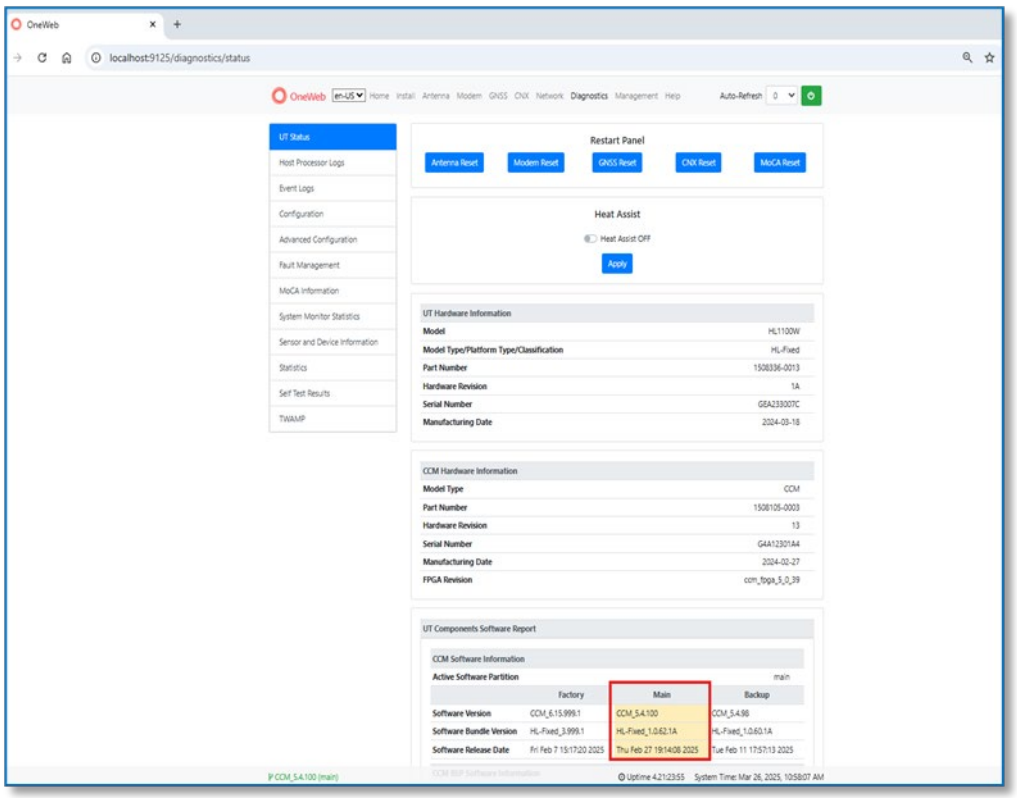


Figure 5. HL1100W-IDU (CNX-H) Information

7.1.2 Determining Current Software Versions of the UT

Login to the CCM LUI at http://192.168.100.1, and navigate to the *Diagnostics* → *UT Status* link to view the current software versions on the CCM *main* partition, Modem, OGR, and IDU (CNX-H):



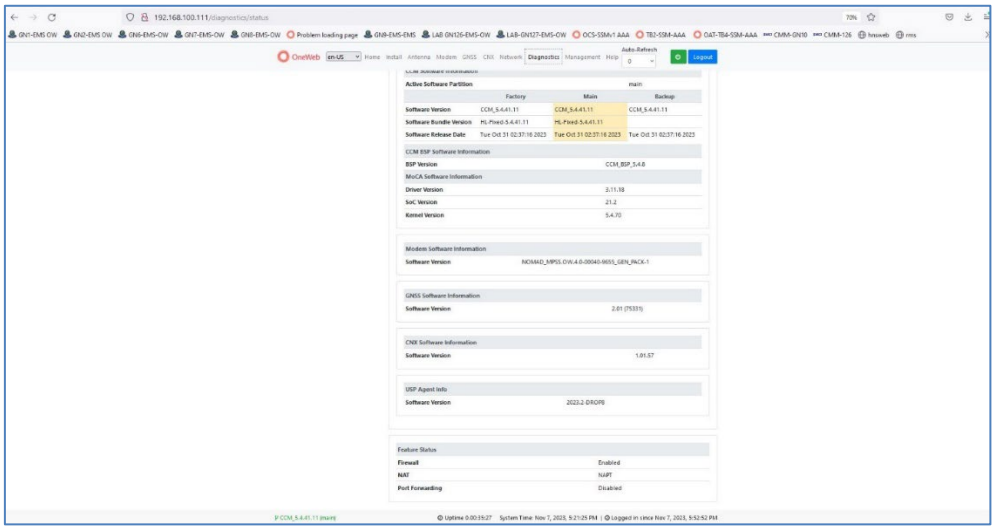


Figure 6. HL1100-ODU, HL1100W-IDU Software Information

7.2 Software Installation / Upgrade Methods

Two methods available to update HL1100W UT to this software release are given below.

- The recommended normal procedure for upgrade via Device Hub is given in section 7.2.1.
- Another method for local upgrade using the UT's Local User Interface (LUI) is described in section 7.2.2.

7.2.1 Preferred – UT Software Bundle Upgrade from Device Hub

Device Hub allows new software bundles to be uploaded to its platform and approved for use in upgrading UTs. Then, Device Hub allows the upgrade of an approved UT software bundle on a UT. When the UT is online, Device Hub will interact with UT via a new release notification API call for UT to download the new bundle from Device Hub and initiate an upgrade after a configurable timer expiry.

The steps below outline the upgrade process based on the currently installed software version.

1. **Upgrading from R1.0.48:**

   a) Ensure the terminal is online in the Device Hub, then initiate the upgrade to R1.0.62.1A.

2. **Upgrading from R1.0.36:**

   a) First upgrade to R1.0.60.1A from the device hub.
   b) Verify that the terminal is online in the Device Hub with release R1.0.60.1A installed.
   c) Proceed with the upgrade to R1.0.62.1A from the Device Hub.

7.2.2 UT Software Bundle Upgrade using LUI

Note: This method should be used only for troubleshooting purposes.

A UT software bundle can provide software images for all components of the UT (e.g., CCM Host Processor (CCM BSP & APPS), Modem, IDU, OGR). The UT Installation process (refer to UT Installation Guide (1044008)) allows a user to upload a software bundle to upgrade software on the UT as part of UT installation. Uploading a software bundle will update the */main* partition on the CCM, preserving the original factory image.

The steps below outline the upgrade process via the LUI based on the currently installed software version.

1. **Upgrading from R1.0.48:**

   Refer to the AAA Fixed UT Installation Guide [1044008-0001] for instructions on upgrading the Hughes LEO ESA UT using a bundle upgrade via the LUI. This method, which is part of the UT installation process, allows users to upload a software bundle to upgrade the Hughes LEO ESA Fixed UT.

2. **Upgrading from R1.0.36:**

   a) First, upgrade to R1.0.60.1A by following the AAA Fixed UT Installation Guide [1044008-0001] to perform a software upgrade via the LUI.
   b) Verify that the terminal is online and running release R1.0.60.1A.
   c) Proceed with the upgrade to R1.0.62.1A by following the same AAA Fixed UT Installation Guide [1044008-0001] for a bundle upgrade via the LUI.

8 Appendix

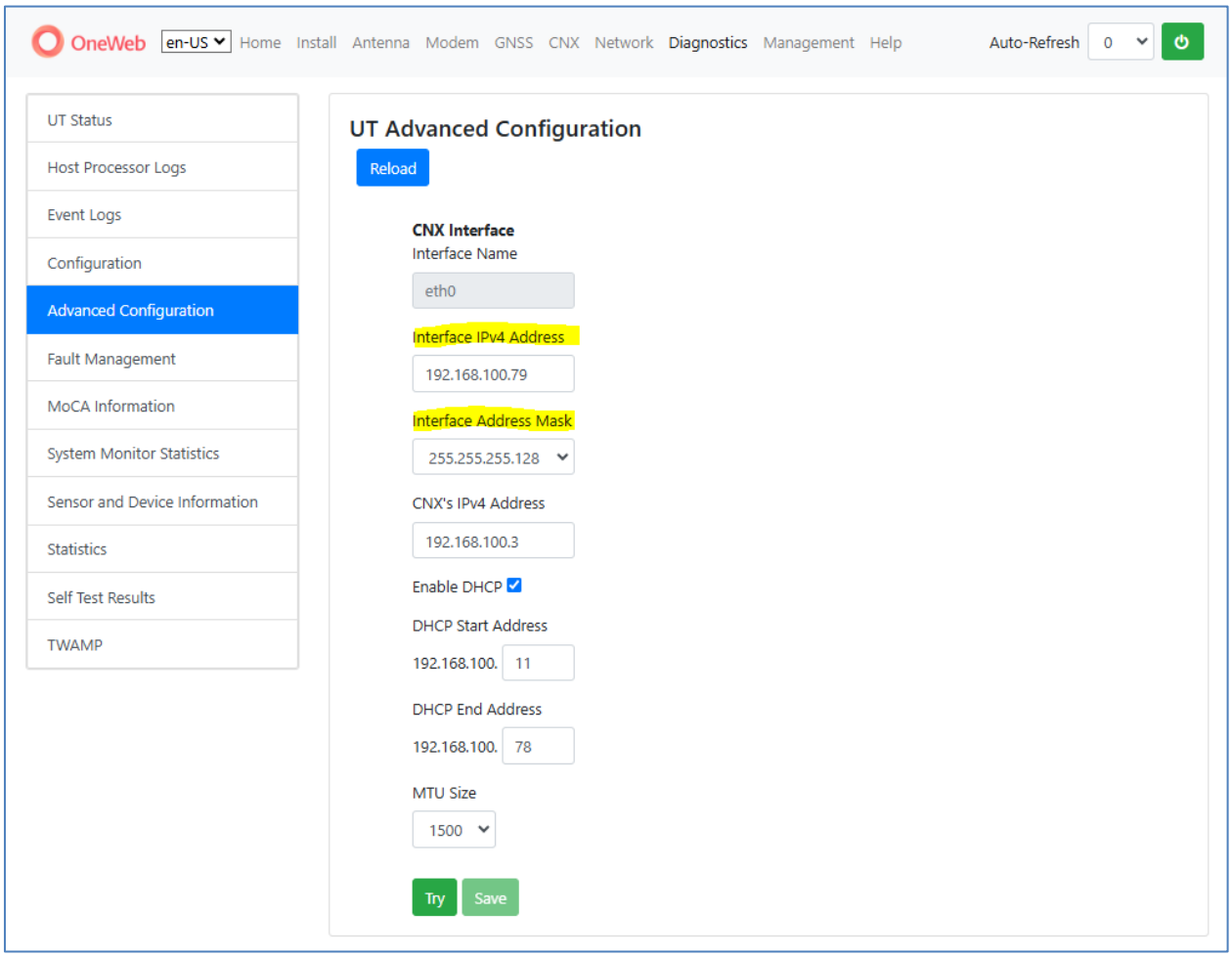
8.1 Upgrading UT Firmware with a Non-Default ODU IP Address

This section explains the process of upgrading a UT with an ODU configured with a non-default IP address. These steps apply to UTs being upgraded to HL-Fixed_1.0.62.1A.

The default IP address of the ODU is **192.168.100.1**. If it has been configured to a different IP address, please follow the steps below before proceeding with the UT firmware upgrade:

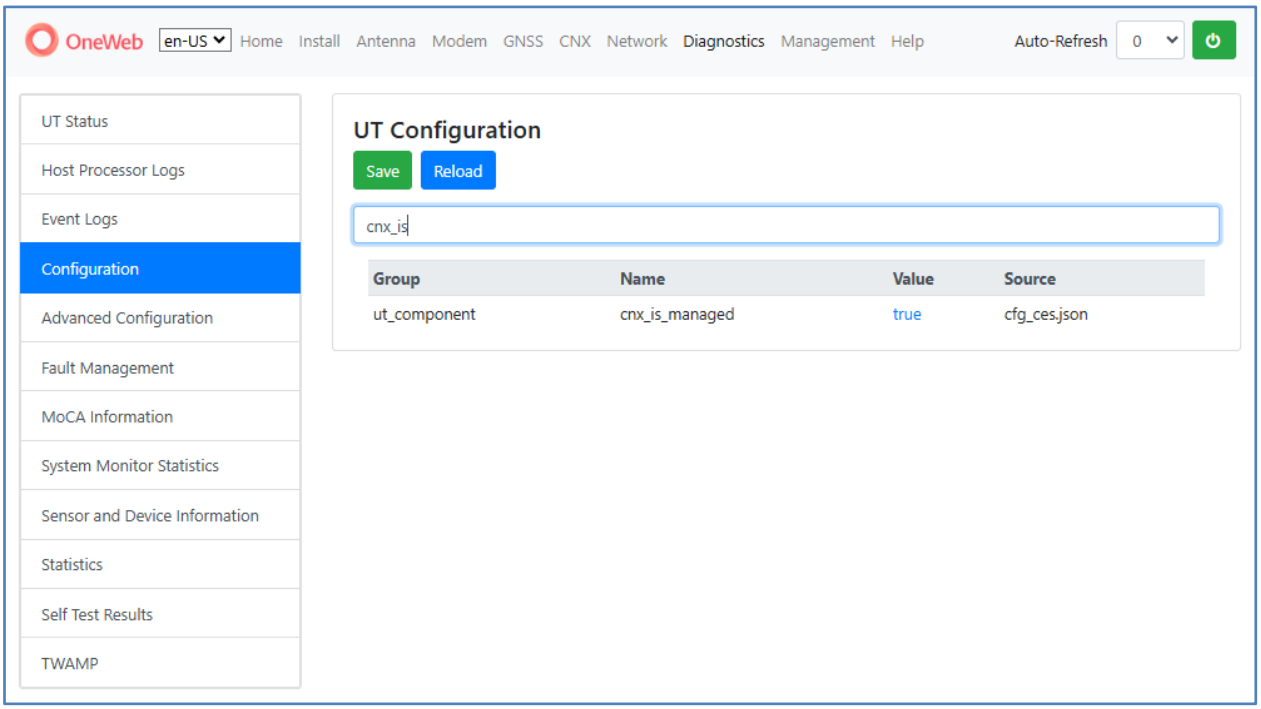
1. **Update ODU to Default IP Address:**

   - Navigate to **Advanced Configuration** on the LUI and change the ODU's IP address back to the default value, **192.168.100.1**.
   - Refer to the provided screenshot to identify the fields that need to be updated. Click **Try** to change the ODU's IP address temporarily.
   - Open the LUI on a new address on a different tab/browser and then click **Save** to apply the changes.
   - Reboot the UT.



2. **Verify CNX Managed Setting:**

    - Ensure the **CNX Managed** setting is set to **True**.
    - Refer to the screenshot below to identify the fields to check.



    - If it is not set to **True**, click on the value, select **Delete**, and save the changes. This will reset the configuration to **True**.
    - Reboot the UT.

3. **Check CNX Information:**

    - Navigate to **Home > CNX > CNX Information** on the LUI. Confirm that the CNX Information is correctly populated.
    - If it is not populated, contact Hughes Support for assistance.

4. **Perform Firmware Upgrade:**

    - Complete the Software Upgrade on the UT as per Section 7.

5. **Restore ODU IP Address to Non-Default IP:**

    - After the software upgrade, return to Advanced Configuration on the LUI and restore the non-default IP address for the ODU interface as outlined in Step 1.