UT Handbook

UT Installation

Appendix 08:
IPSTAR Uplink Access Test Software (iUAT v.1.16) User Manual

Revision 1.0
July 17, 2013

ipstar Broadband Satellite	iUAT v.1.16 User Manual	
Revision Date: 17 July 2013	**Version 1.0**	**ITN-UTH-EX**
Prepared by: **Duangrat Eungdamrong** **Ground System Training Department**	**Reviewed by:** **Tanawat Potisoothi** **Product Design and Development Department**	**Approved by:** **Malin Noi Intrasith** **DM-PDD**

TARGET GROUP

This document is recommended for the following persons;

☑	OIM	☑	NOC of SP	☑	Installer
☑	CIM	☑	NOC of NSO	☑	Repairer
☑	UTM	☑	GO	☐	End User
☐	IPSTARCO Staff Only				

REVISION HISTORY

Revision	Date	Comments
1.0	July 17, 2013	Initial release

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LIST OF FIGURES

1 IPSTAR UPLINK ACCESS TEST (IUAT) PROGRAM

IPSTAR Uplink Access Test (iUAT) program is required for installation of IPSTAR user terminals. During this process, the antenna will be aligned until minimum antenna pointing error is obtained for receiving path. Then, transmiting power is calibrated to seek for a maximum dynamic range for transmission link. After that, polarization angle is adjusted to obtain the maximum signal level. At the end, all test results will be submitted to the Uplink Access Test Quality Control (UATQC) process in order to verify whether the quality of the installation is acceptable. Every processes must be followed carefully to affirm that the installation has been performed properly, and equipment is ready for IPSTAR service.

iUAT1.16 program is the updated version for the iUAT1.14 program. It is customized to work with the requirements of IPSTAR satellite. There are several additional new features in this version of iUAT1.16 program. The highlighted new features are:

1. Support operating system Window 8 (32 and 64-bit).
2. Support multi-language.
3. Support 2.4m antenna size.
4. Resizable dialog.
5. Support polarization adjustment QC.
6. Support UAT-QC data for delta power to max value.
7. Include special options
    a. Check UT configuration
    b. Skip TOLL scanning feature
    c. Rx level sensitivity
    d. Expand TOLL tracking frequency range

2 SYSTEM REQUIREMENTS

1. Gateway
    1) SGGW only
2. Image version of consumer box
    1) FGCB :CB_015_051_G004-T071_S012_R004 or higher version
    2) PACB M2,M3 : PACB_012_005_G001-T000_SG018 or higher version
    3) PACB M4 : PACBM4_010_001_G001-P000_SSA_066-RC029 or higher version
    4) Network Box : Does not support
3. PC and OS
    1) PC with at least 128 MB of memory available
    2) Microsoft Windows XP, Microsoft Windows 7 (32 or 64 bits), Microsoft Windows 8 (32 or 64 bits)

3 SOFTWARE INSTALLATION

1. Download the latest software from
   http://www.support.ipstar.com
   1.1 Sign in with given userID and password
   1.2 Under ‘Operation Support’, select your country ‘IPSTAR (_Country_)’
   1.3 Locate for ‘iUAT Software’ and then download desired software version.

2. Unzip the installation file. Run the installation program by double-click on the “setup.exe” file.

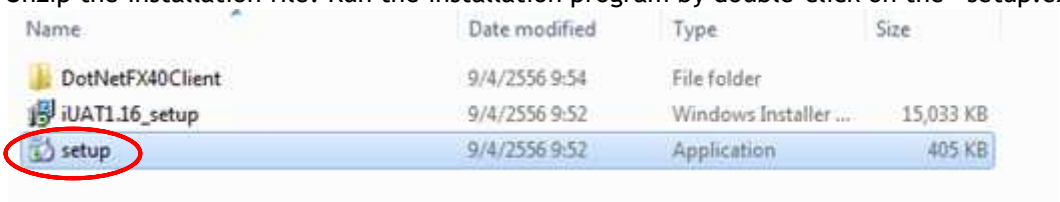

Figure 1: iUAT 1.16 installation setup

3. If your computer didn't have .NET framework, program will ask you to install .NET framework. Click "Accept."

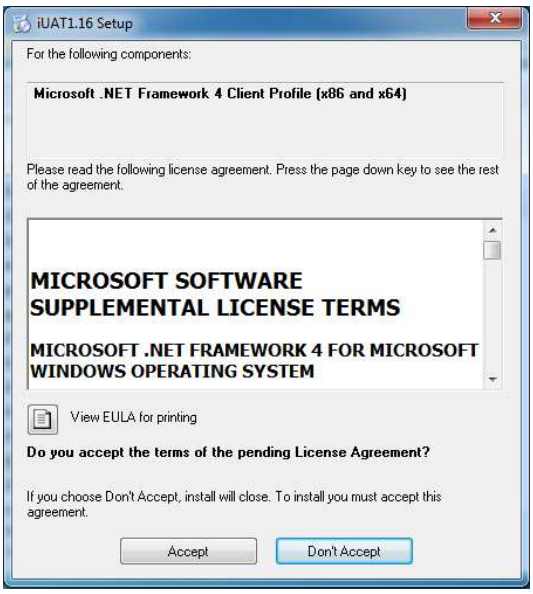

Figure 2: .NET Framework License Term

4. Microsoft .NET Framework will automatically install to your computer. After installation finish, regular installation of iUAT 1.16 program will start. If your computer already has Microsoft .NET Framework, the installation of iUAT 1.16 program will start right away.

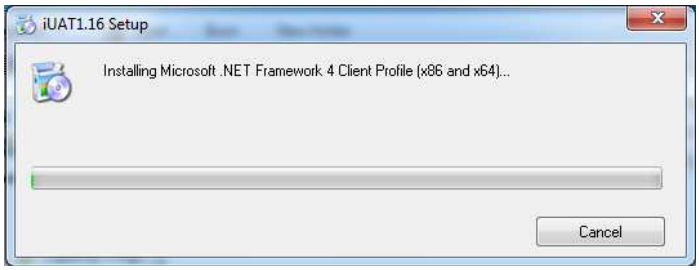

Figure 3: Installation of Microsoft .NET Framework

5. The installation wizard dialog will appear as shown in Figure 4. Click "Next" to start installation.

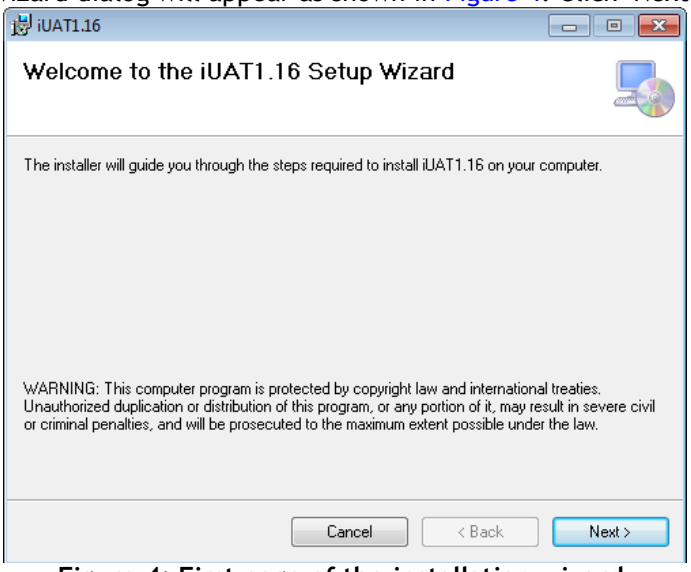

Figure 4: First page of the installation wizard

6. You can specify the installation folder by clicking on the “Browse” button and select new location (Figure 5), or click “Next” to use the default folder.

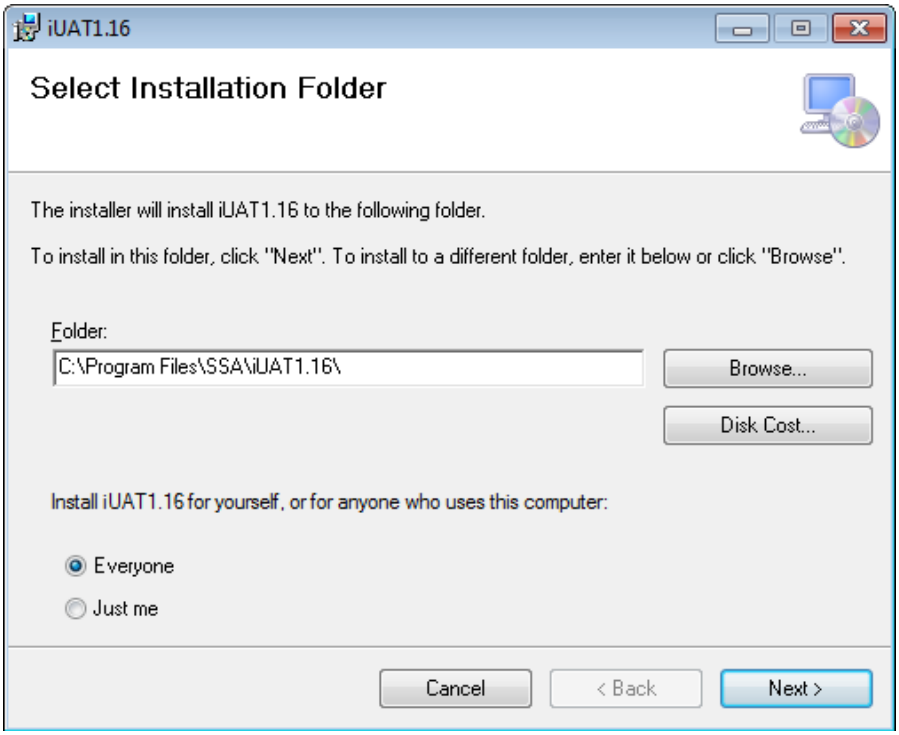

Figure 5: Specify the installation folder

7. You will be asked to select installation option (Figure 6). After selecting, click “Next” to proceed.

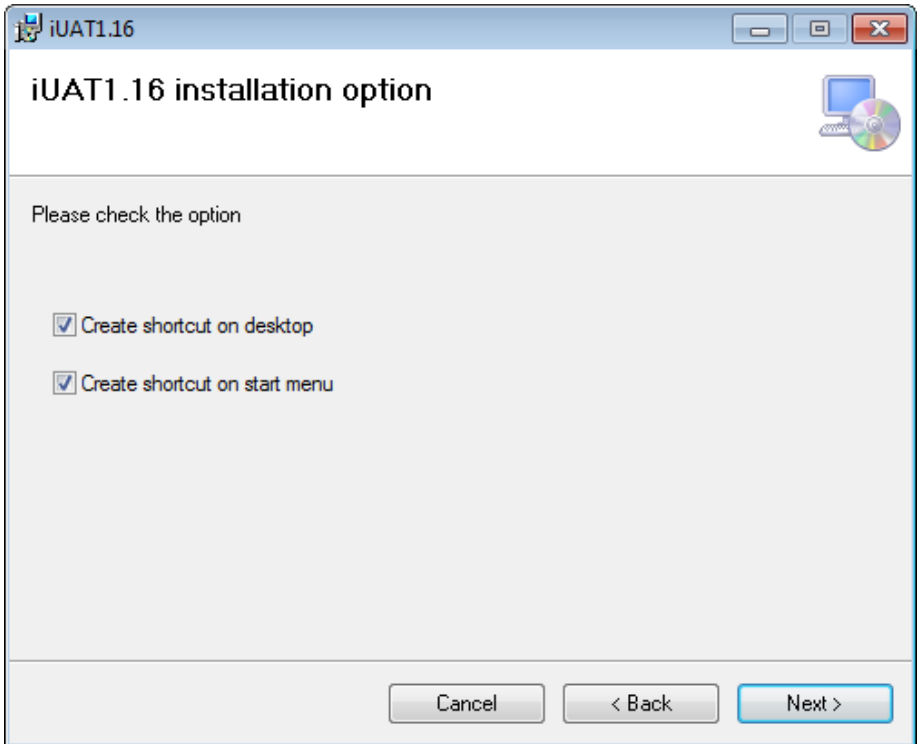

Figure 6: Installation option

8. A confirmation window will appear, click “Next” to start the installation (Figure 7).

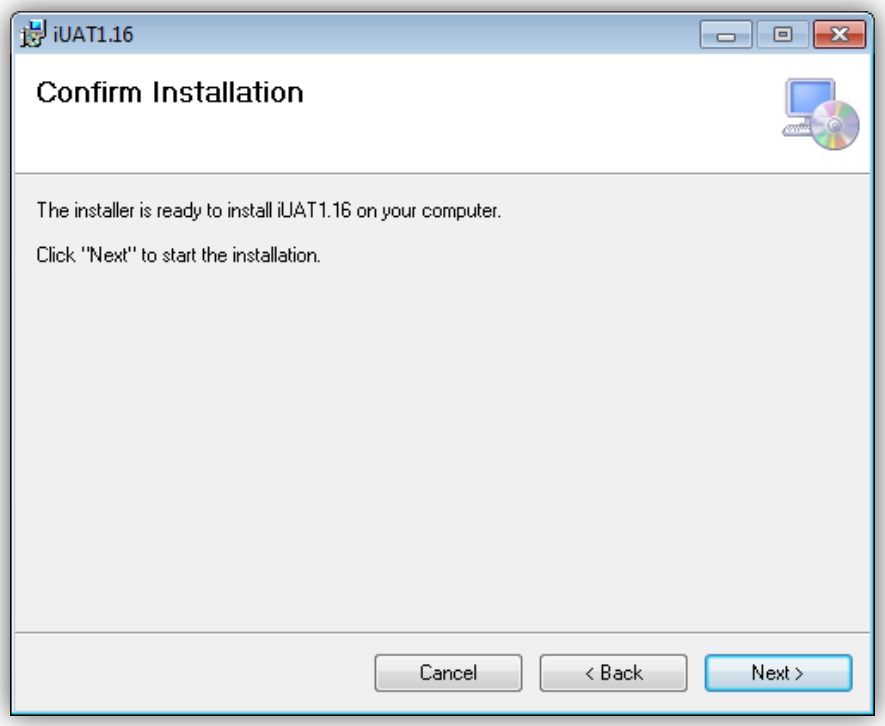

Figure 7: Ready to install the iUAT program

9. Program will start installation process. When installation is complete, click “Close” to exit from the program (Figure 8).

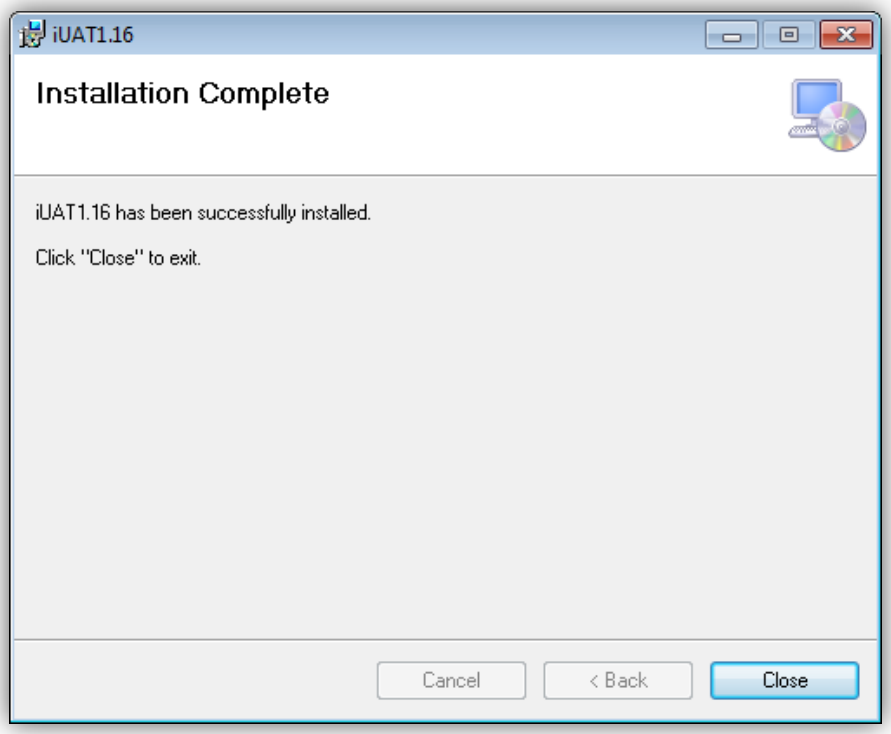

Figure 8: The installation is completed

10. After the installation is complete, by default the shortcut of iUAT program will be created on the desktop (Figure 9).

Figure 9: iUAT shortcut appeared on desktop

11. If the firewall on your computer is turn on, and you double click on the program for the first time, this dialog will open and asking whether you want to allow iUAT to communicate or not. Click "Allow access."

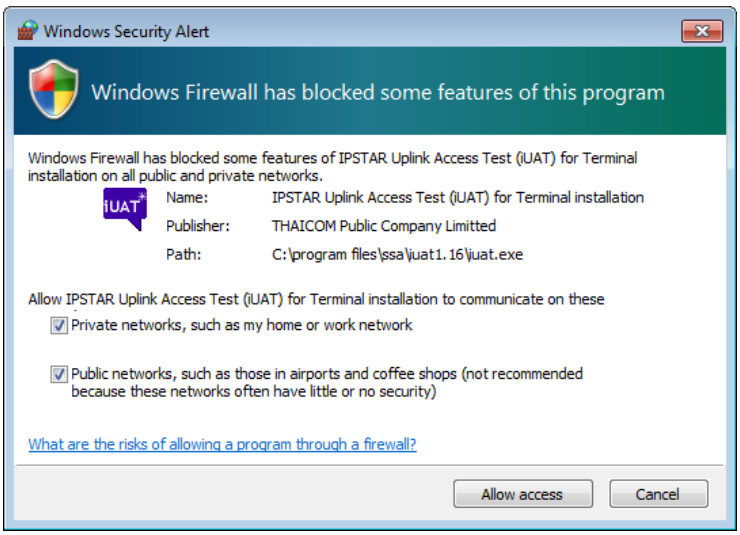

Figure 10: Windows security alert dialog box

4 FREQUENCY PROFILE SELECTION

Before running iUAT program for installation, the correct Frequency Profile that matches the geographic location of the installation site must be selected. The following instruction shows the step-by-step procedures of how to select and change the frequency profile.

1. Double click on the iUAT icon on the desktop to start the program.

2. You will see the Authentication page as it appears in Figure 11. The current Frequency Profile selected is highlighed in red color. Click on "Load Profile" icon on the dialog to change a new frequency profile.

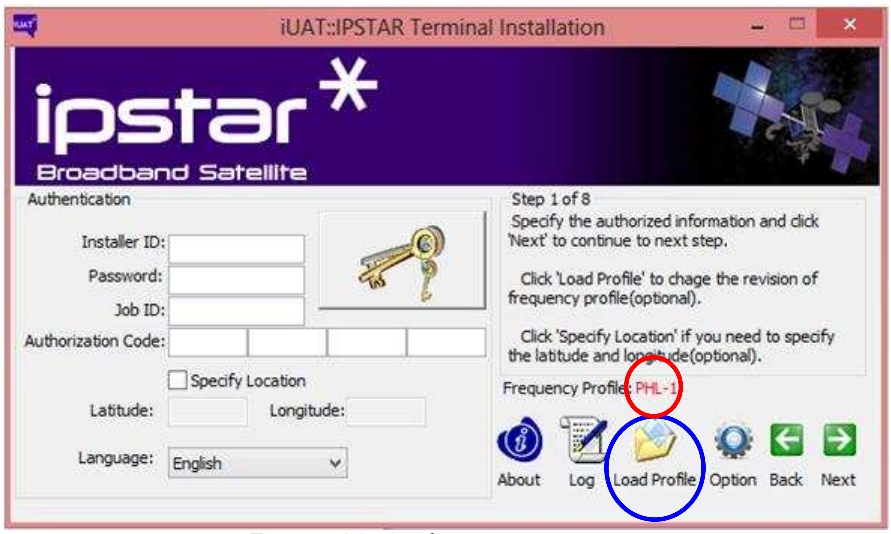

Figure 11: Authentication page

3. A dialog box will appear for you to specify the location of frequency profile (Figure 12). Double-click on folder “Profile.”

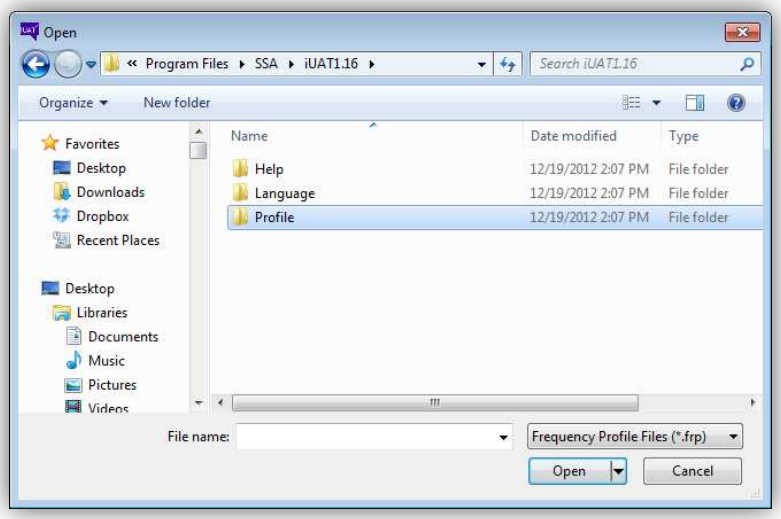

Figure 12: Frequency profile selection

4. Then, select the frequency profile to be used by clicking on the file name and select “Open” button at the bottom of the dialog. (Figure 13).

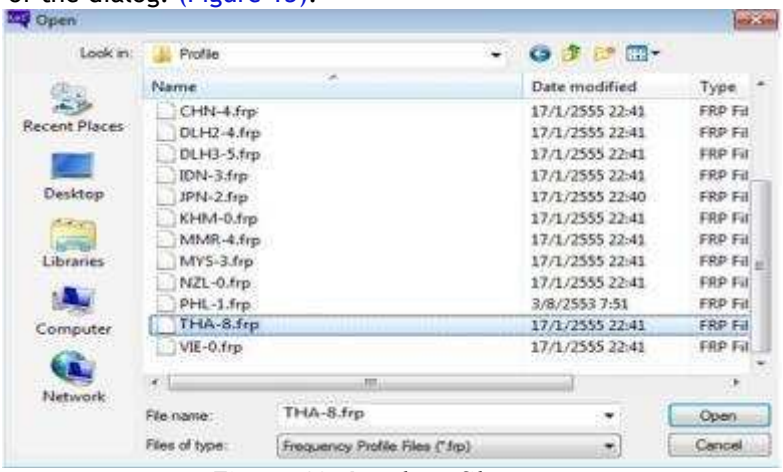

Figure 13: Load profile page

5. A confirmation dialog will be shown as in Figure 14. Click “Yes” to continue.

Figure 14: Confirm to load new profile

6. Once the frequency profile is updated, a dialog will appear as in Figure 15. Click “OK” to close the iUAT program.

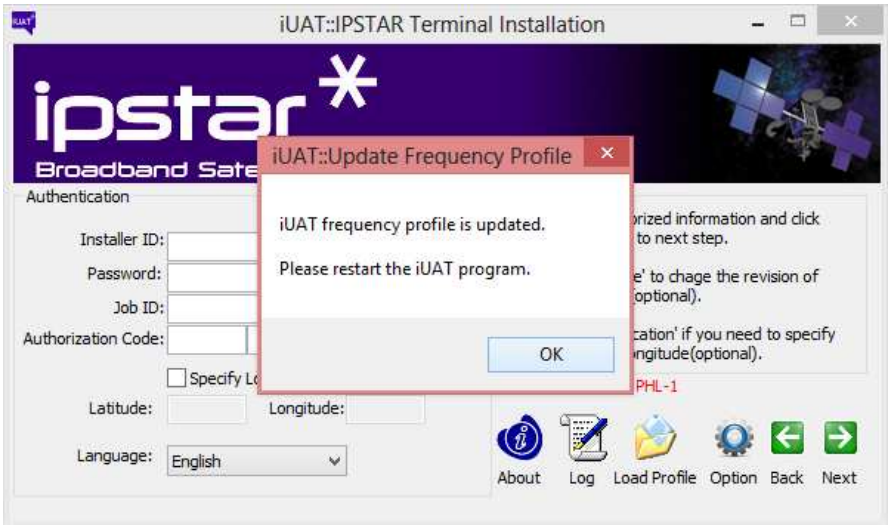

Figure 15: New profile is completely loaded

7. Now the new frequency profile is ready for use. Restart the iUAT program by double clicking on iUAT icon again, the frequency profile is now changed to the new profile.

Figure 16: New profile is completely loaded

5 IPSTAR USER TERMINAL SETUP

1. Connect the User Terminal with the ODU (the Tx port to the BUC and the Rx port to the LNB). Before starting iUAT program with ACT mode, you will need to insert a Tx optimizer/attenuation in between the BUC and the Tx port as shown in Figure 17.
2. Connect the User Terminal to the Ethernet port on the computer's LAN card using a UTP cross-cable.
3. The default IP address of the User Terminal is 192.168.5.100. However, you may need to check with your SP if the User Terminal has been configured with another IP address.
4. Make sure that your computer IP address is set to the same network as the User Terminal.
5. Turn on IDU and test the connection using "ping" command.
6. Open web browser such as Internet Explorer and then browse to the following links, in order to configure IP address of IDU if fix LAN routing option is required.
    1) http://192.168.5.100:8080/xWebGateway.cgi (if ethernet port is used)
    2) http://192.168.0.1:8080/xWebGateway.cgi (if usb port is used)

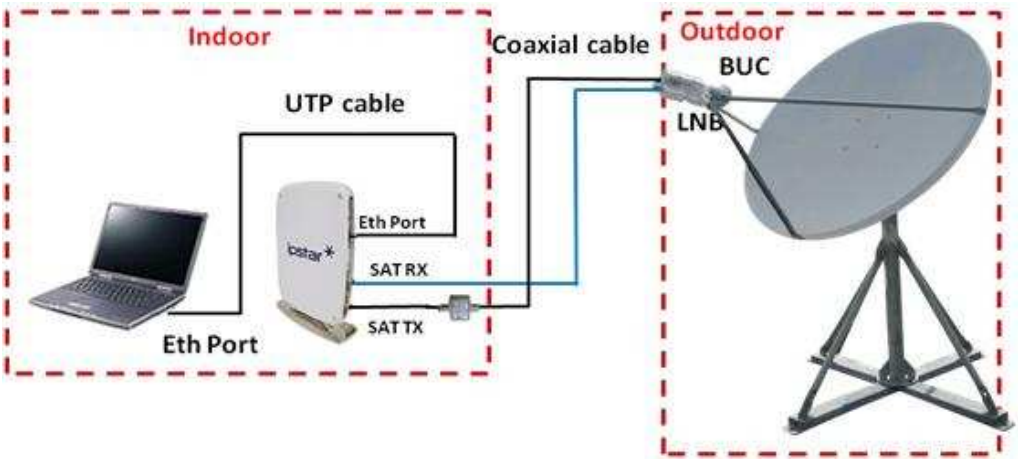

Figure 17: Connectivity diagram between notebook and IPSTAR equipment

6 RUNNING THE PROGRAM

iUAT program provides 2 modes for the installation of IPSTAR UT.

- Reference cable (10m) Mode (REF)

  In this mode, the User Terminal is connected to the BUC/LNB with the 10 meters reference cables and the installer has to peak the antenna pointing and polarization. After finishing iUAT program in reference mode, the installer will have to run the program again in actual mode to complete installation.

- Actual cable Mode (ACT)

  This mode is to connect the User Terminal to the BUC/LNB with the actual length cables. At this mode, the maximum power calibration is performed. At the end, the test results are submitted to the UAT QC for the approval and record.

  There are 8 steps in each mode. For new installation, it is recommended to run iUAT process with both REF mode and ACT mode. The workflow for completing the iUAT process is shown below in figure 18.

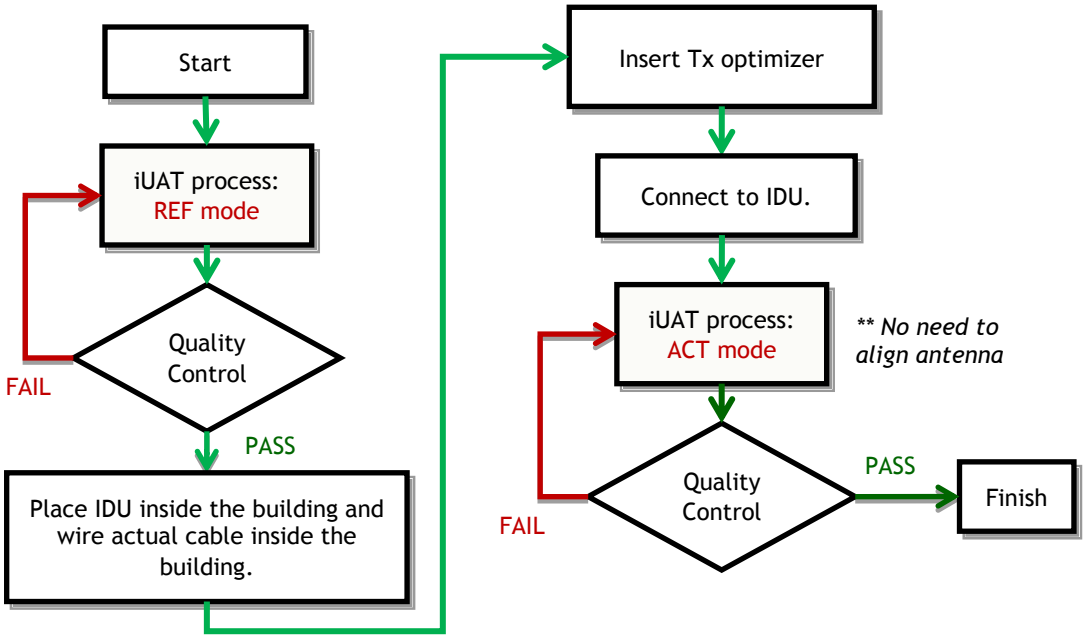

Figure 18: iUAT process workflow

6.1 Reference Cable Mode

Step 1: Authentication

At the first step (Figure 19), you need to specify the information to get authorization to install IPSTAR User Terminal. Below are the details of authentication information:

1. Installer ID: the ID of the installer who has authorization.
2. Password: password for the installer ID.
3. Job ID: the 8 digits hexadecimal number to identify the job as in the Job order.
4. Authorization Code: the 20 characters authorization code in the Job order.

Figure 19: Step 1 Authentication

Enter the authentication information and click "Next" to continue. If you do not have the authentication information, you will need to contact your SP for assistance.

On this authentication page, you will also be able to optionally enter or select the following information.

5. Latitude/Longitude: Enter the updated information of geographical location in case it is different from the Job order.
6. Language: Select language of iUAT program.

If the frequency profile does not match with your geographical location, click the "Load Profile" button to load the new one as described in Section 4. You may need to consult with your SP to get the appropriate frequency profile.

Step 2: Specify the ODU Informations

Enter the antenna and ODU information as required in this page. Then click "Next" to continue (Figure 20).

If you are using LNB with LO frequency different from 10.6 GHz, you will need to uncheck "Default" box and change the LNB local frequency to match with your LNB LO frequency.

If you install Tx optimizer/attenuator, please specify the optimizer/attenuator value in dB.

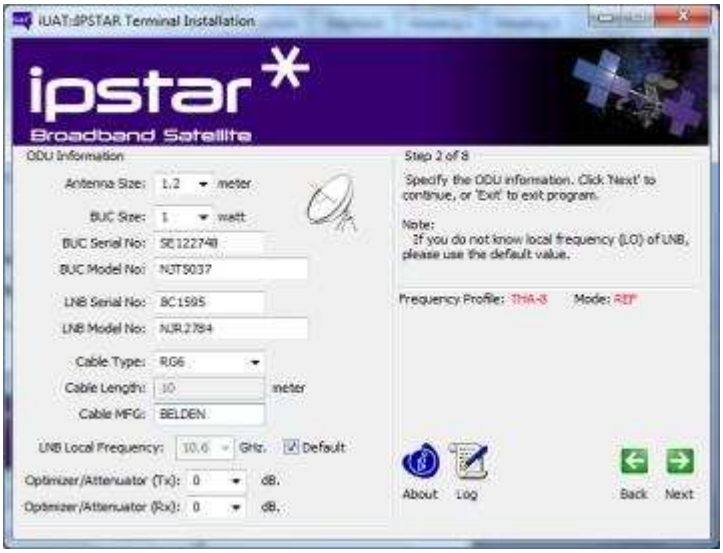

Figure 20:ODU information page

Step 3: Terminal Connecting

Specify the User Terminal IP address and Logon power (default value is -20 dB), then click "Next" to continue, see Figure 21.

Figure 21: User Terminal information page

The UAT process will start within 70 seconds. The program will communicate to the User Terminal, save RF configuration and reboot the User Terminal (hardware initialization).

Figure 22: iUAT program starting page

Step 4: Antenna Alignment

On the antenna alignment page (
Figure 23), the dialog will show the current TOLL signal strength (Rx Level), Maximum signal strength attained, TOLL Es/No , Beam ID and Frequency ID. The Beam ID and Frequency ID indicate the selected beam and frequency as specified in the frequency profile.

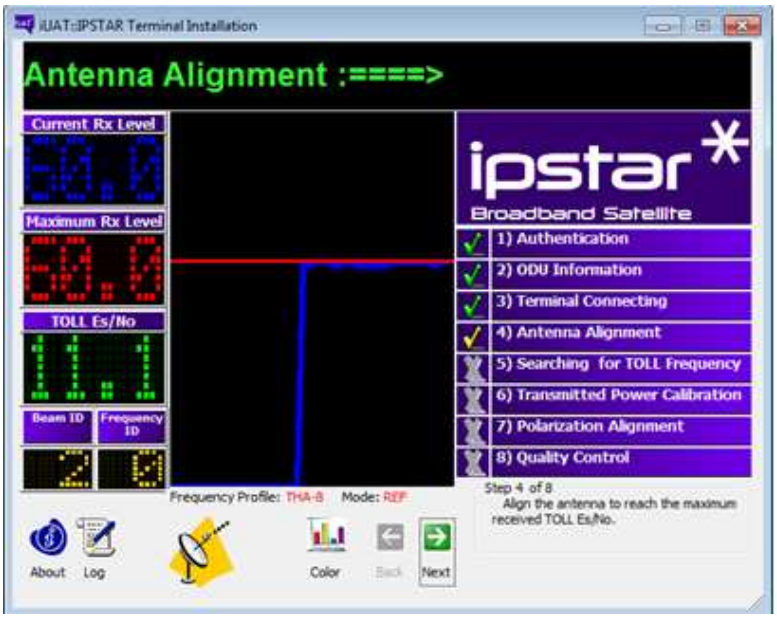

Figure 23: Antenna alignment page

At this point, you should try to adjust the antenna alignment (Azimuth, Elevation, Polarization) to reach the maximum TOLL EsNo. After completing, click "Next" to continue to Step 5.

Note: In order to have better vission of the computer the screen in the different environment, user can change the color of displayed text in this step by cliking on the "Color" icon at the botton of the dialog box.

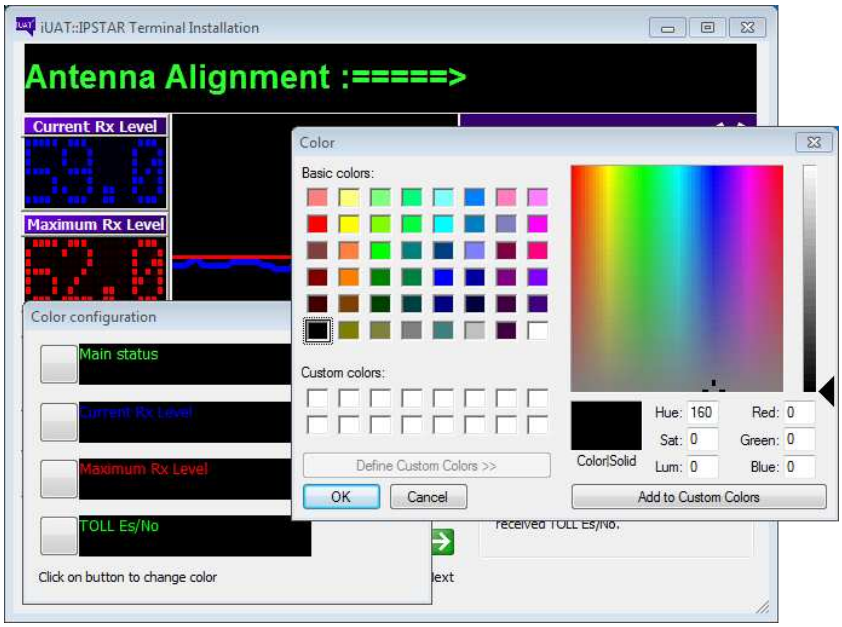

Figure 24: Color configuration

Step 5: Seaching for Available Frequency

The iUAT program will search for the best available TOLL frequency (Figure **25**).

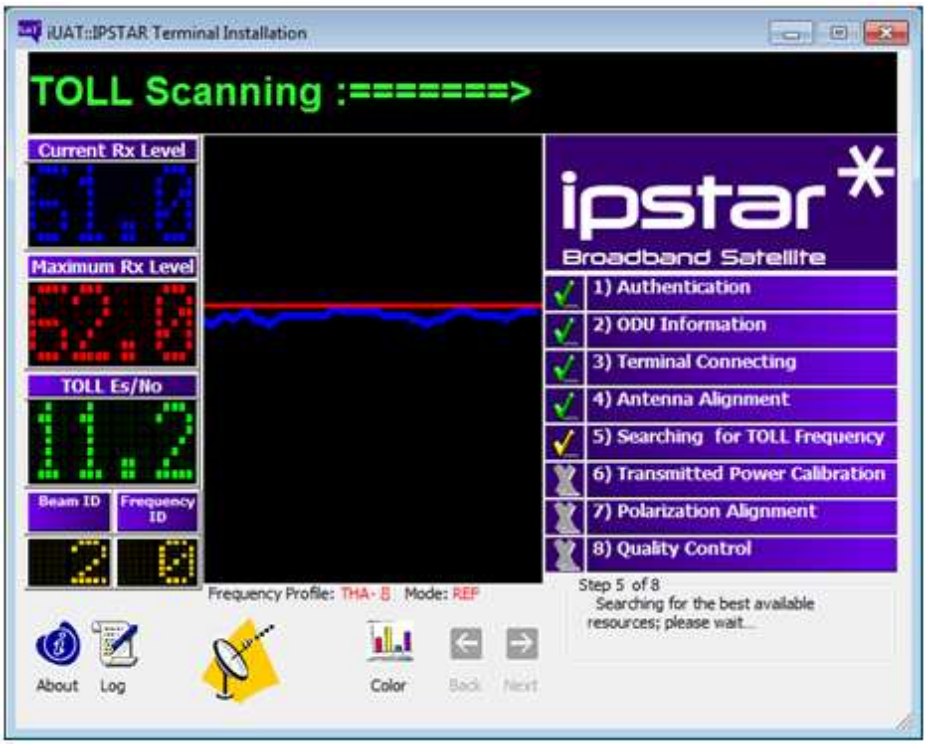

Figure 25: TOLL scanning page

After that, the iUAT program will try to synchronize with the selected TOLL frequency. This process may take a few seconds to complete (Figure **26**).

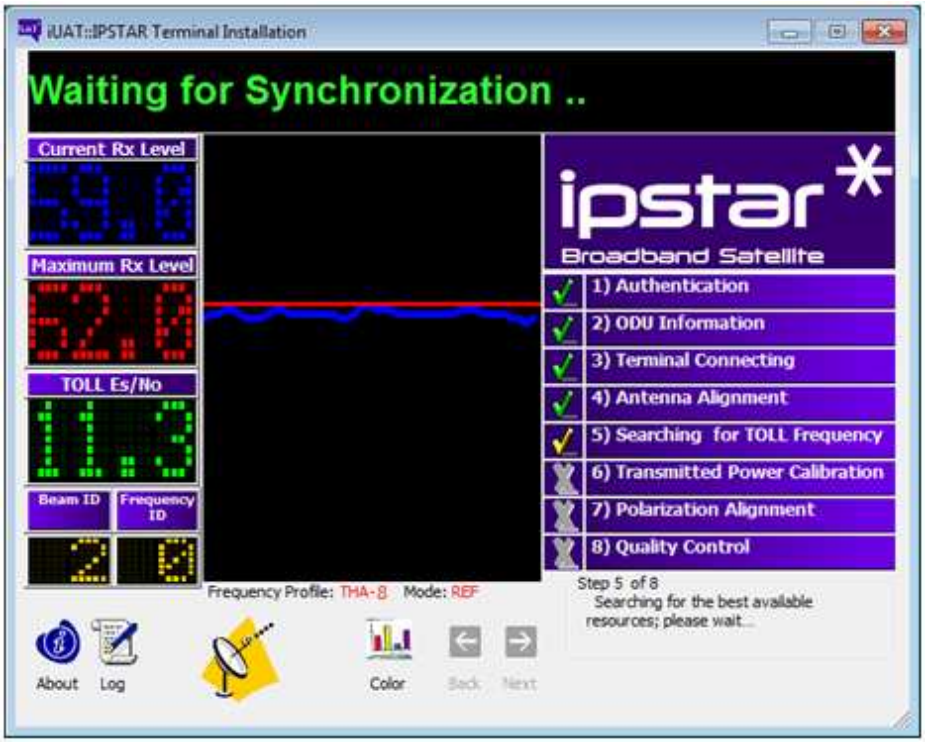

Figure 26: Waiting for TOLL synchronization

Step 6: Transmitted Power Calibration

Now, the iUAT program will search for the UAT channel (
Figure 27). If the iUAT program reports "No UAT channel" or "Found UAT channel," and stuck at this step for a long time, IDU might be frozen. Turn off the IDU and turn it back on , and perform iUAT process again. If problem still presists, contact gateway operator.

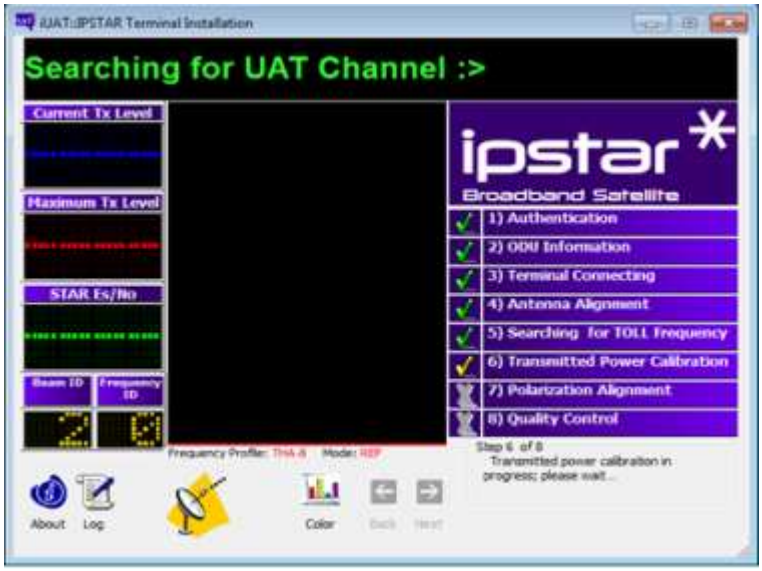

Figure 27: iUAT program is searching for UAT channel

Figure 28: iUAT program found UAT channel

After the iUAT program found the UAT channel, it will search for the logon frequency and send the logon message to the TIS server.

Figure 29: iUAT program is searching for logon frequency

After gateway receives message, it will respose to UT and show Logon Accept.

Figure 30: iUAT program Longon to IPSTAR gateway

During this step, authentication information entered in Step 1 will be sent to the gateway for authentication check.

If the authentication is "fail," the following error messages may occur "Logon Rejected", "Invalid Installer ID", "Incorrect Password", "Installer ID Expired" , "Job ID is closed" ,etc. If installer keys in wrong installer ID and/or Password, iUAT program allow re-login of installer ID and/or Password up to 3 trials without restart iUAT program from step 1.

Note: this feature will be active when iUAT program is used with TIS version 4.3.2 or higher only.

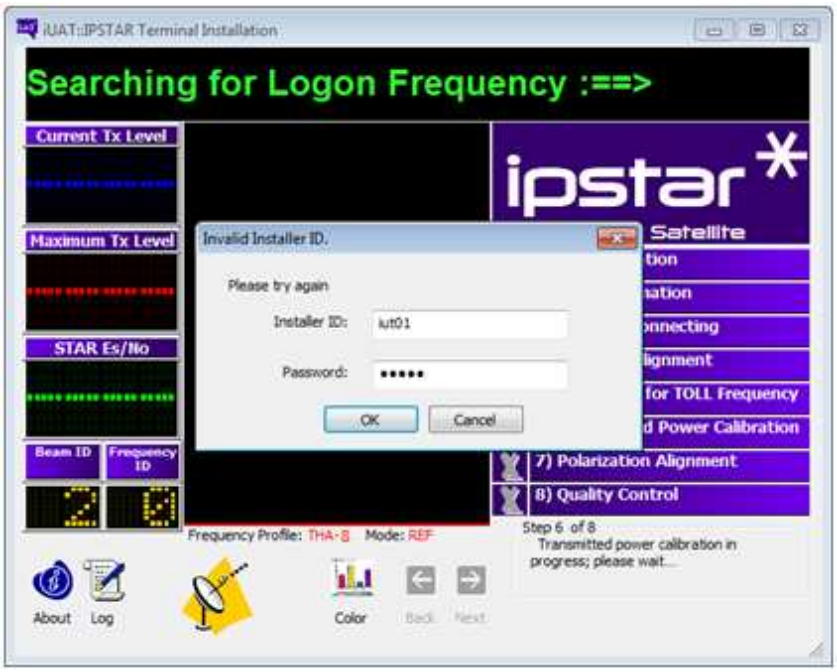

Figure 31: Re-login of installer ID and password

For other error messages, you should restart the program and re-enter the authentication information, or contact the gateway operator for assistance. See more information on Section 8 "Troubleshooting".

If the authentication is "pass," the iUAT program will continue automatically to calibrate the transmitted power. In this step, IDU is being calibrated to obtain the proper IDU's transmission power values, Tx Gain and Max Gain.

Figure 32: iUAT program is calibrating the transmitted power

Step 7: Polarization Alignment

After the Tx power calibration is completed, the program will continue to Step 7 where installer need to adjust the antenna polarization to match with the transmission from satellite. The objective of this step is to maximize the transmitted signal level at co-polarization and minimize the interference from the cross-polarization.

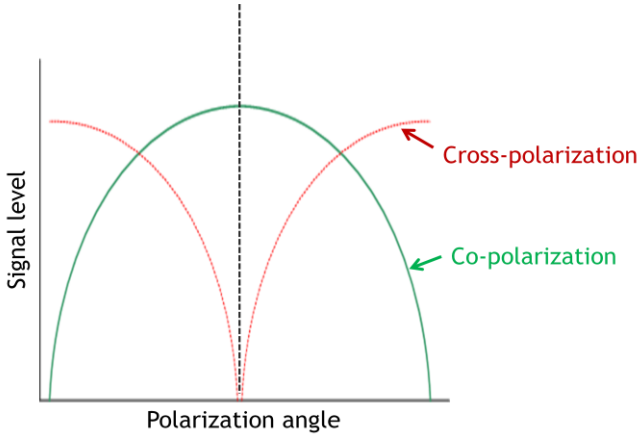

Figure 33: Co-polarization and Cross-polarization

- Loosen 2 hex head bolts on junction block **just enough to be able to rotate feed with some force**. If loosen too much, the focus point of feed will change causing swing signal.

- First, find the maximum value of ALOHA STAR EsNo.

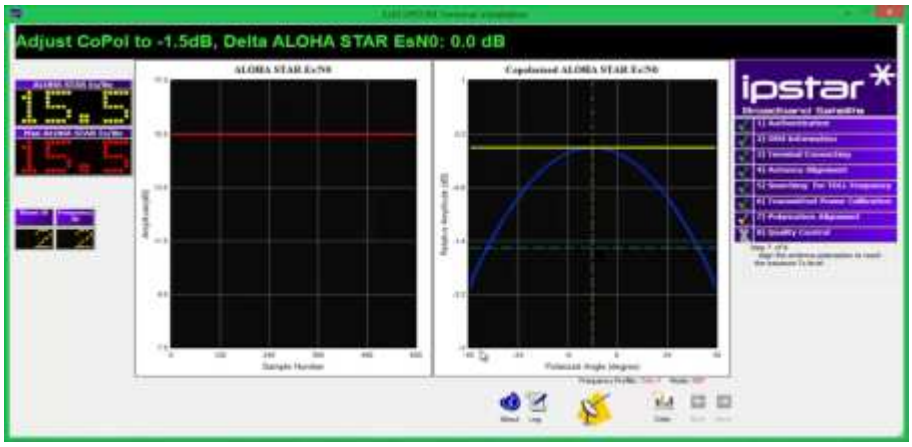

Figure 34: Maximum ALOHA STAR EsNo

- Then, rotate the feed assembly in the clockwise (CW) direction until ALOHA STAR EsNo decreases from the maximum value by approximately ***"1.5dB"*** (dash line) and make the first mark on the feed assembly. While you are making a mark, the timer will count 10sec. After the countdown clock is done, iUAT program will display message telling installer to rotate in the "**other direction**."

  Precaution: Do NOT move feed assembly or block at the front of feed horn while making mark on the feed assembly.

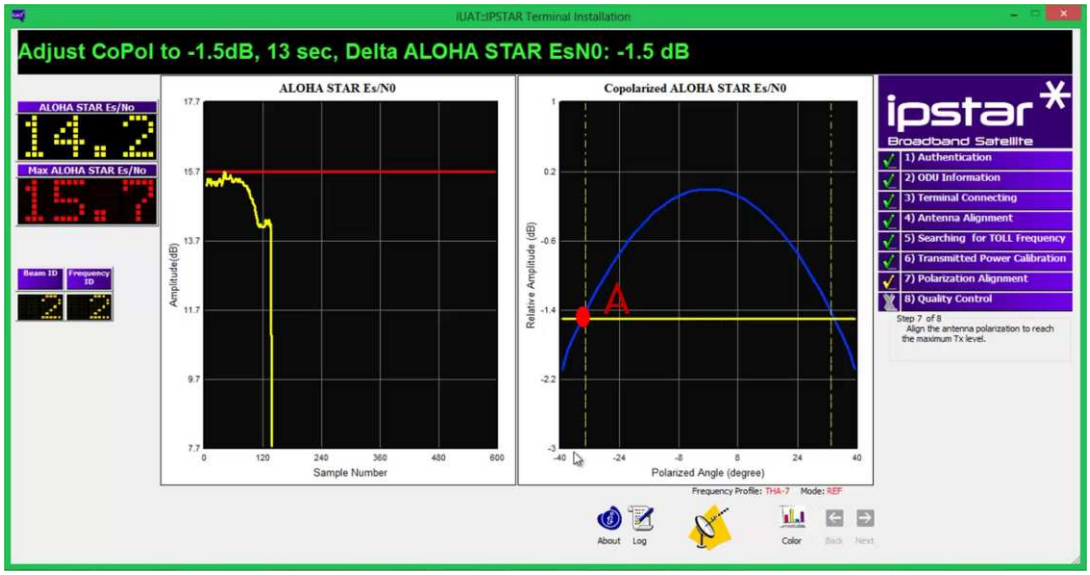

Figure 35: ALOHA STAR EsNo decrease from the maximum value by 1.5dB

- ❑ Next, rotate the feed assembly in the counterclockwise (CCW) direction until ALOHA STAR EsNo pass the maximum value and reaches the value of "***1.5dB***" dropped from the maximum value (dash line) again. Then, make the second mark on the feed assembly. While you are making a mark, the timer will count 10sec. After the countdown clock is done, iUAT program will display message telling installer to adjust copol to the center of green area.

  Precaution: Try to move slowly when you're about to pass the maximun point to the other side.

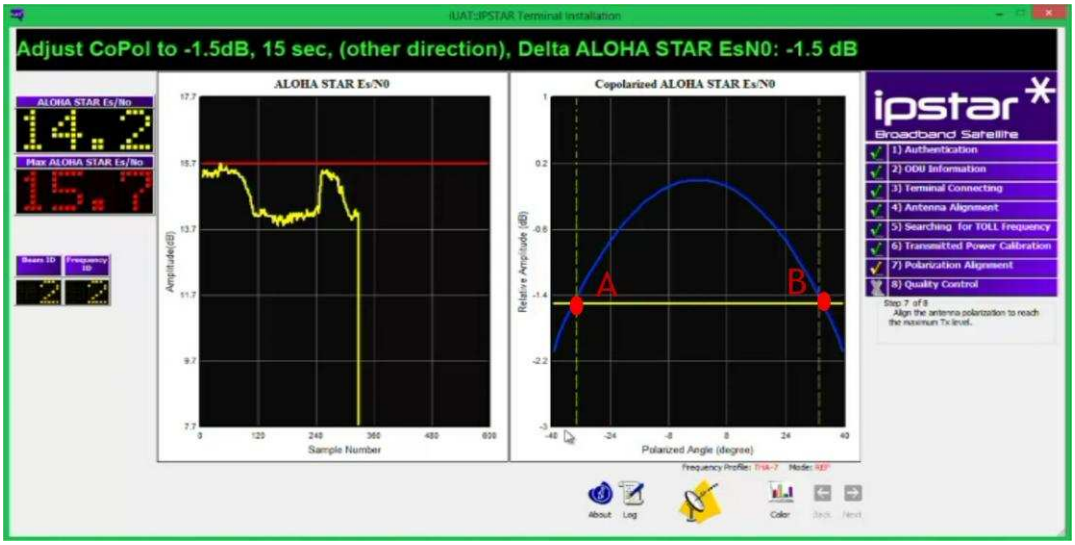

Figure 36: ALOHA STAR EsNo decrease from the maximum value by 1.5dB in the other direction

- ❑ Rotate the feed assembly back to the middle point between the first and second marks, and hold still until the "Next" button is appeared in green color.
- ❑ Tighten the 2 bolts at the feed clamp.
- ❑ Then, click "Next" to continue to Step 8.

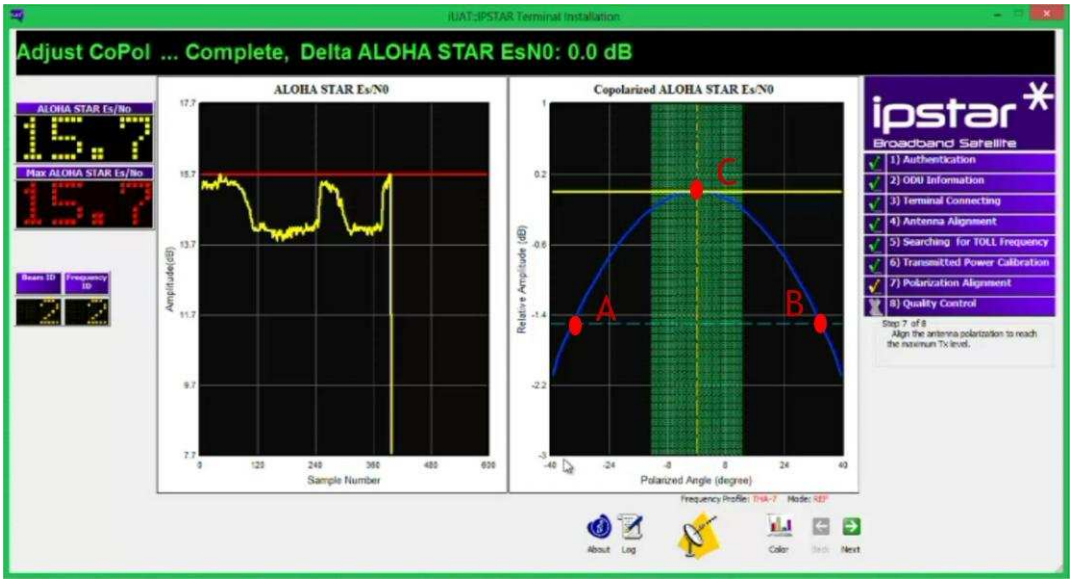

Figure 37: The middle point between the 1st and 2nd marks

At this point, you will be asked to submit the test results to the UAT QC process, click "Yes" to submit the results to the QC.

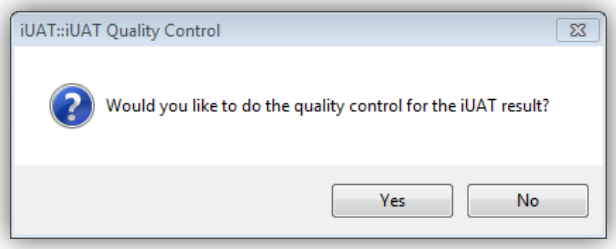

Figure 38: UAT quality control dialog

Step 8: UAT Quality Control

At this step, the summary of test results from the reference cable mode will be displayed. The iUAT program will record all setting parameters and keep them for the actual cable mode installation.

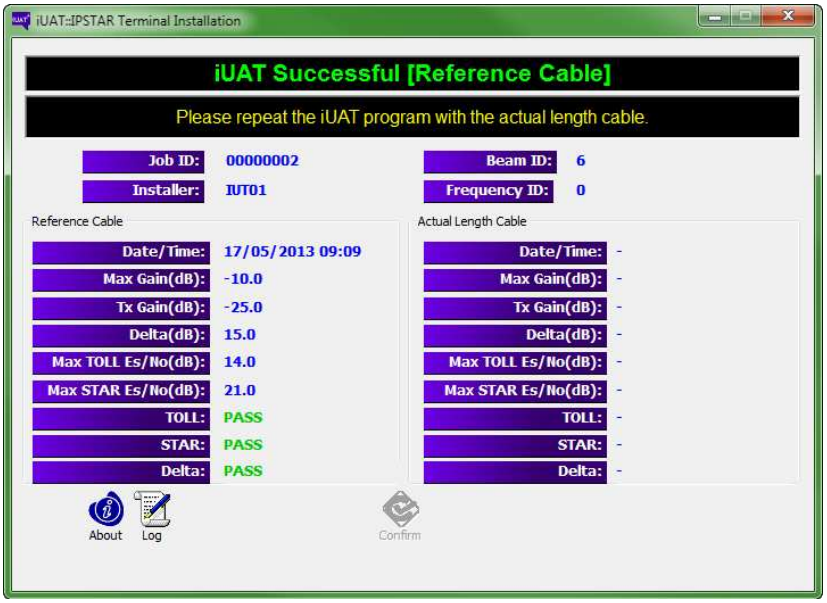

Figure 39: iUAT program Report page

6.2 Actual Length Cable Mode

After completing iUAT program with the reference cable, you need to install Tx optimizer/attenuator, change cable from reference cable to actual length cable, and re-run the iUAT program. Double click on iUAT icon again, and the iUAT program will prompt with the new dialog box for you to select whether you want to perform iUAT process with the actual cable mode or new job.

Figure 40: Job list with reference mode passed

Select the existing job ID from the list box i.e. "07008C0B" and click "Next" to continue. If you did not complete the test with the reference cable you will not see this dialog box.

The iUAT program will move forward to Step 2 and use the previous ODU parameters from the reference cable. At this point, you need to specify the 'Cable Type', 'Cable Length', and 'Cable MFG' of the actual cable and the value of 'optimizer/attenuator' if used as shown in Figure 40.

Figure 41: ODU information page for actual length cable mode

After complete, click "Next" to continue to Step 3. From Step 3 to 8, the processes are the same as the reference cable mode. Please follow all the steps without any adjustment of antenna or feed assembly.

In Step 4 of ACT mode, installer does not have to adjust Az, El, and Pol any more. Click "Next" to proceed to the next step. By clicking "Next," the program will automatically check the current Rx level (Figure 41). If the current Rx level is *less than 100*, the program will proceed to the Step 5. However, if the current Rx level is *higher than 100* which is exceeding the saturation point of IDU, iUAT program will not proceed to the next step. "Rx signal strength saturated" message [ERR-20] will be displayed asking to install Rx optimizer/attenuator (Figure 42).

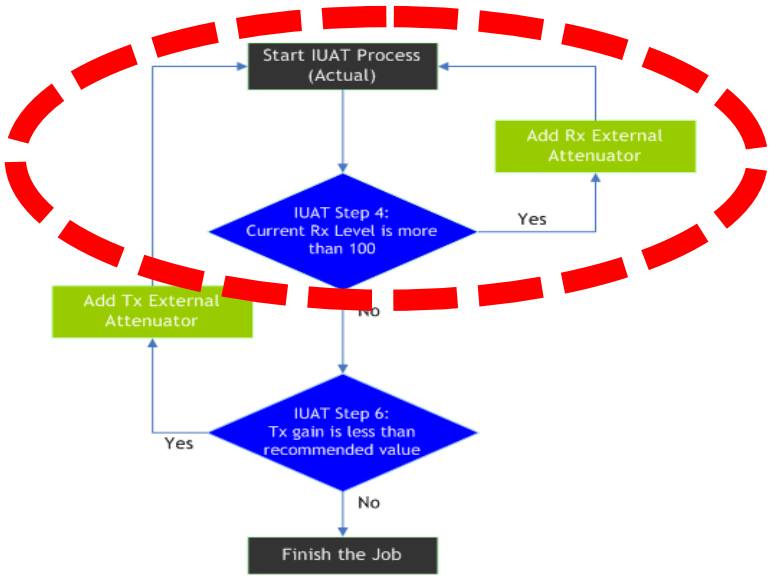

Figure 42: Flowchart for automatically checking if Rx external attenuator is required or not

Terminate iUAT program by clicking "OK." Turn off IDU (satellite modem) and insert external Rx optimizer/attenuator between SAT Rx port of IDU and LNB as shown in Figure 43. Then, turn on IDU and run iUAT program again.

Figure 43: Rx signal strength saturated [ERR-20] message

Figure 44: Inserting Rx external attenuator between Sat Rx port of IDU and LNB

Once Step 4 is completely passed, step 5 and 6 shall be continued accordingly. In Step 6 of ACT mode, the program will automatically check Tx gain value (Figure 44). If the Tx gain value is *between -33dB and -15dB*, the program will proceed to the Step 7. However, if the Tx gain value is *higher than -15dB*, iUAT program will not proceed to the next step. "Tx gain exceeded" message [ERR-26] will be displayed asking to remove Tx optimizer/attenuator (Figure 45).

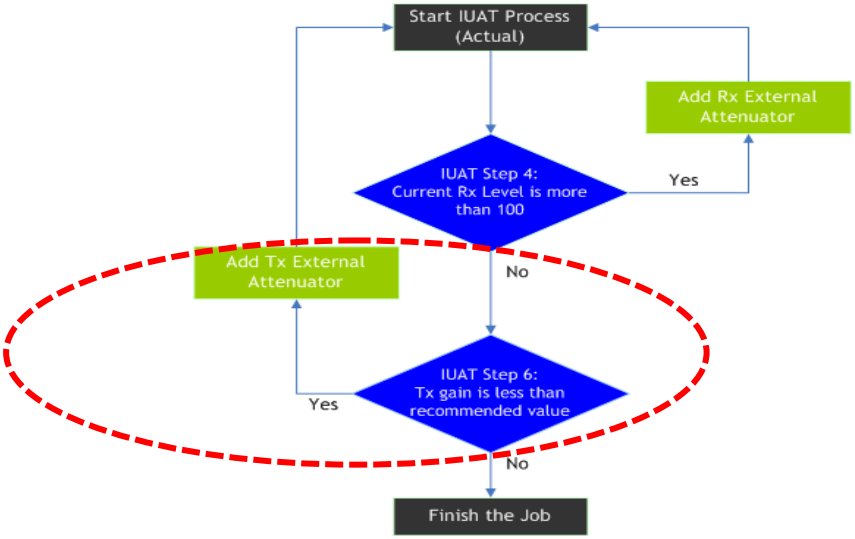

Figure 45: Flowchart for automatically checking if Tx external optimizer/attenuator is required or not

Terminate iUAT program by clicking "OK." Turn off IDU (satellite modem) and remove external Tx optimizer/attenuator between SAT Tx port of IDU and BUC as shown in Figure 46. Then, turn on IDU and run iUAT program again.

Figure 46: Tx gain exceeded [ERR-26] message

Figure 47: How Tx external attenuator connected with Sat Tx of IDU

Once Step 6 is completely passed, iUAT program will guide you to step 7. There is no need to adjust polarization in the step. Continue on this step by clicking on 'Next'.

At Step 8, click 'Yes' to submit the result. After submission of the results to the UAT QC, the "Confirm" button will appear (Figure 47). You have 60 seconds to click on this button to confirm the results.

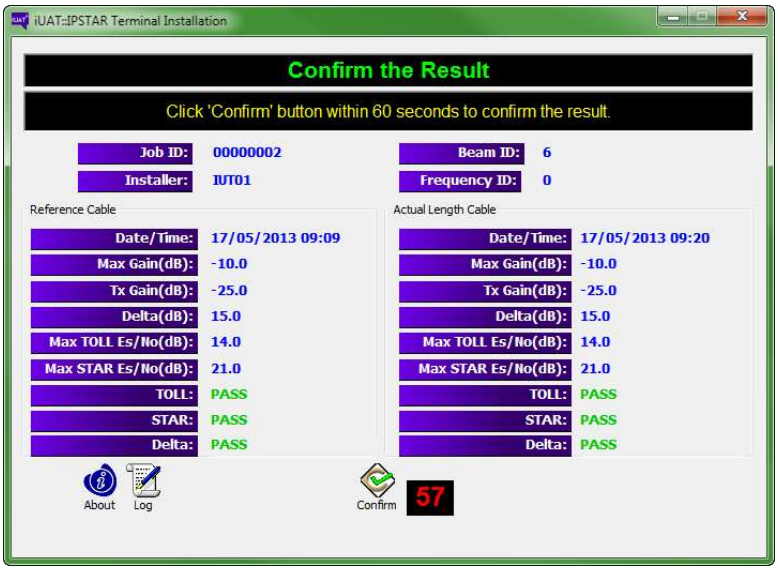

Figure 48: iUAT program is waiting for the confirmation of the UAT result

After the "Confirm" button is clicked, the job will be terminated and the User Terminal will be activated for IPSTAR service.

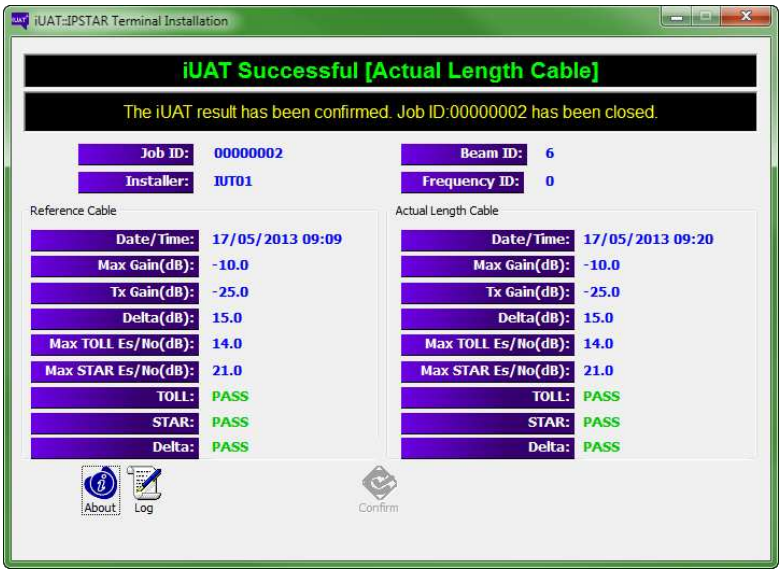

Figure 49: iUAT result has been confirmed

If you do not click the “Confirm” button within the time limit, the UAT process will not be complete and you have to re-do the iUAT process with ACT mode again with the same job order. Figure 49 shows a message of confirmation timeout and the installation does not complete iUAT process.

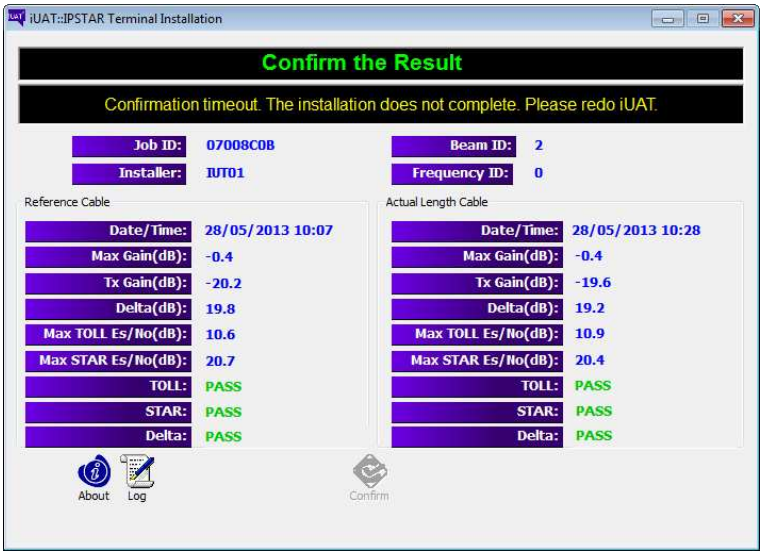

Figure 50: The Confirmation timeouts

Note:
1. Ignoring the confirmation of UAT results, the terminal will not be activated and unable to use subscribed IPSTAR service.
2. The iUAT program will enable the UT to logon to the gateway automatically after the success of step8. There is no need to reboot the box.

7 ALL FEATURES IN IUAT PROGRAM VERSION 1.16

7.1 Operating System Compatibility

The operating system supported are mentioned below:
- Microsoft Windows XP
- Microsoft Windows 7 (32-bit)
- Microsoft Windows 7 (64-bit)
- Microsoft Windows 8 (32-bit)
- Microsoft Windows 8 (64-bit)

7.2 Multi-Language Support

The current languages supported are listed below:
- English
- Chinese
- Japanese
- Thai

7.3 ODU Information

The iUAT program now supports 2.4m antenna size.

7.4 Resizable Diaglog

Now user are able to resize the program dialog box by placing the mouse cursor over the edge of the dialog box to adjust the size.

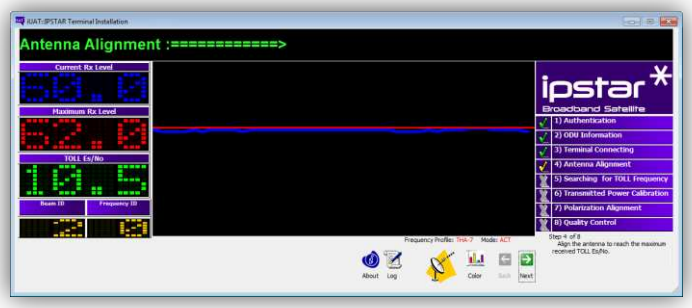

Figure 51: Resizable dialog

7.5 Support QC data for Delta Power to Max value at step 8

The iUAT program can support QC data for "Delta Power to Max" value. This option will be active when Terminal Installation Server (TIS) version 4.3.2 or higher is used. By definition, Delta Power to Max is the range between Tx Gain and Max Gain. It indicates the amount of additional transmission power from Tx Gain that IDU can transmit. The proper Delta Power to Max value depends on ***the location of UT***, ***antenna size (m)*** and ***BUC size (Watt)***.

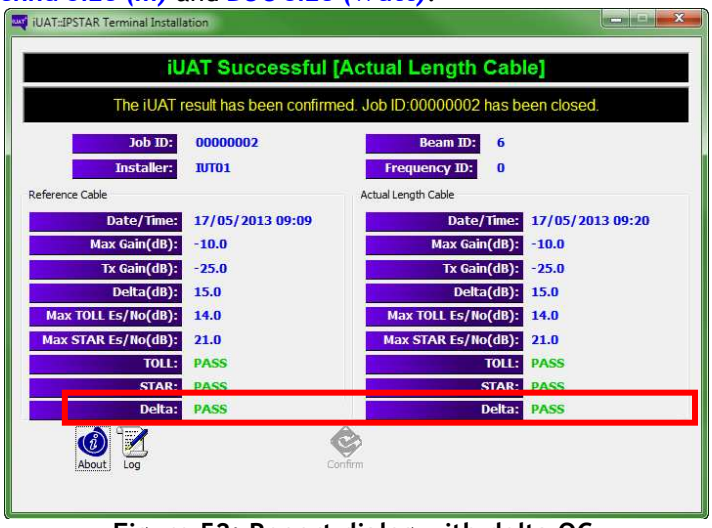

Figure 52: Report dialog with delta QC

7.6 Support Re-login Installer ID & Password

If installer keys in wrong installer ID and/or Password, iUAT program allow re-login of installer ID and/or Password up to 3 trials without restarting iUAT program from Step 1. This feature will be active while using iUAT program with TIS version 4.3.2 or higher.

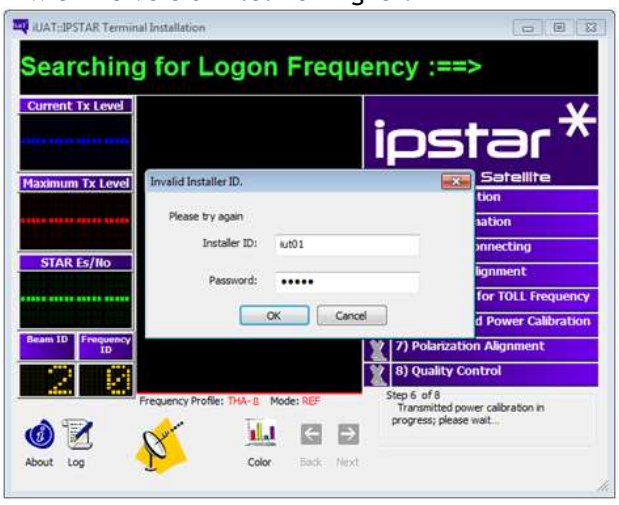

Figure 53: Re-enter installer ID and password dialog box

7.7 Special Option

iUAT program has 4 new options that can reduce time for iUAT process. If special criteria meet, installer can click “Option” and select the special option(s).

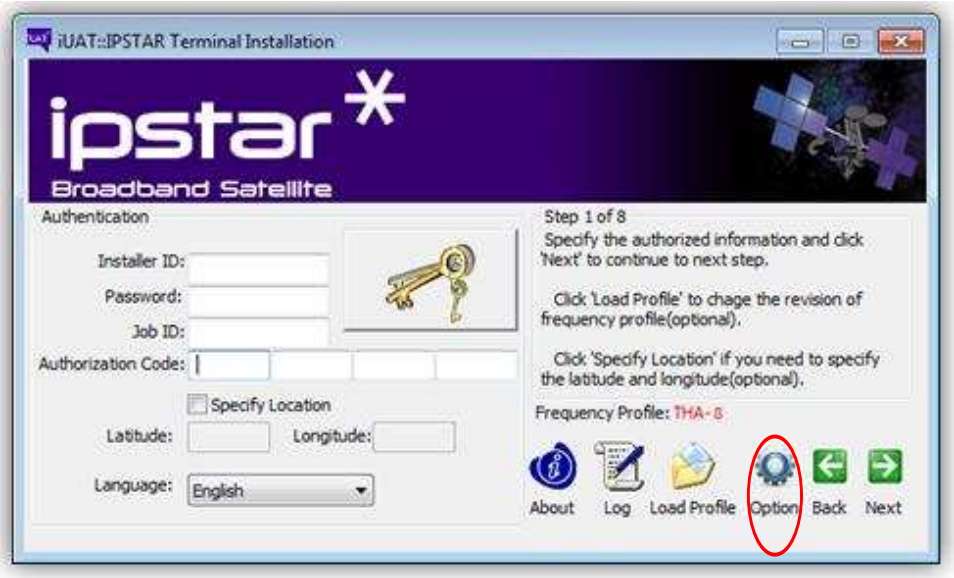

Figure 54: iUAT program option dialog

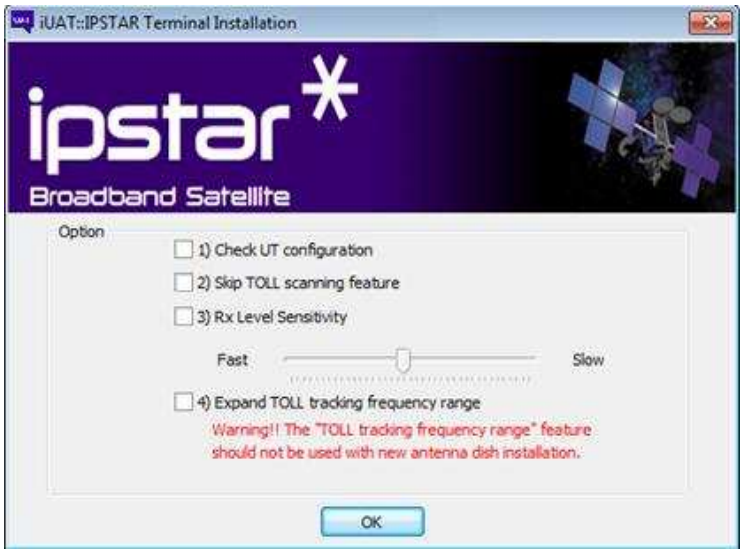

Figure 55: Special options

7.7.1 Check UT configuration

This option will reduce the process of rebooting UT and waiting for profile setting around 70 seconds. In order to use this option, iUAT program will have to check two conditions.

- Is “*Rx Frequency (L-Band)*” in current IDU configuration same as current Frequency profile in iUAT program ?
- Is “*10 MHz BUC Reference Disabled*” in Satellite tab in xWebGateway unchecked?

- If the answers for both questions are “*Yes*,” iUAT program will skip “Waiting for Profile Setting” and proceed with “Hardware initialization.”
- If one of the answers or both answers are “*No*,” iUAT program will take 70s for “Waiting for Profile Setting.”

Figure 56: Check UT configuration

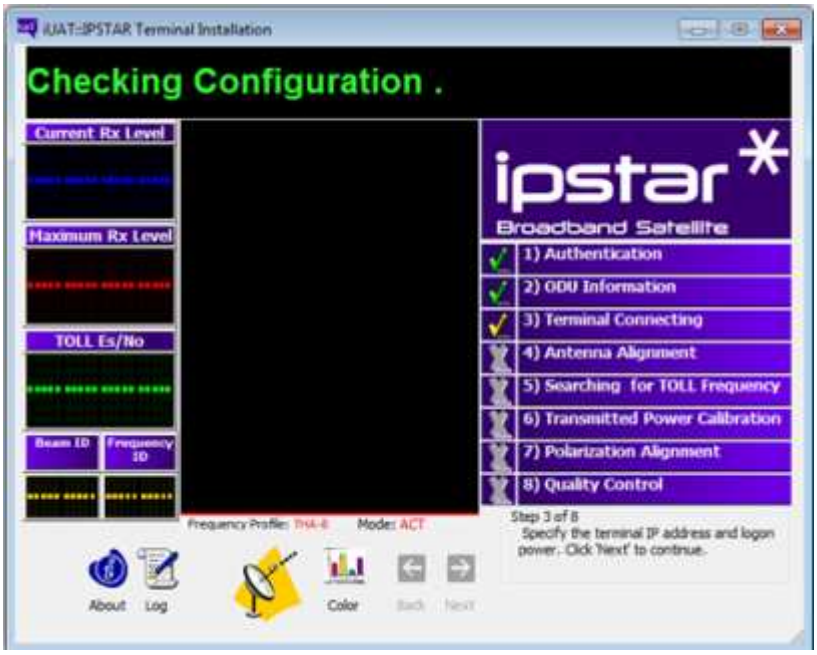

Figure 57: iUAT program check UT configuration

7.7.2 Skip TOLL scanning feature

With this option, iUAT program will save time in scanning TOLL frequency which is the process that consumes quite a long time. This option can be used ONLY when there is no overlap beam, and the Job Order is for fixed beam. In this case, iUAT program will use the default TOLL frequency for the beam specified in Job Order.

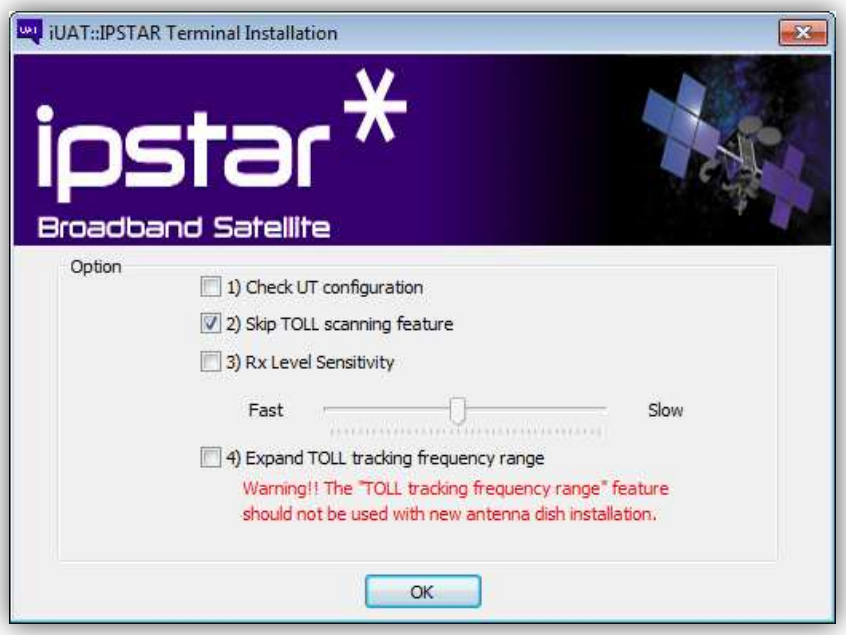

Figure 58: Skip TOLL scanning feather

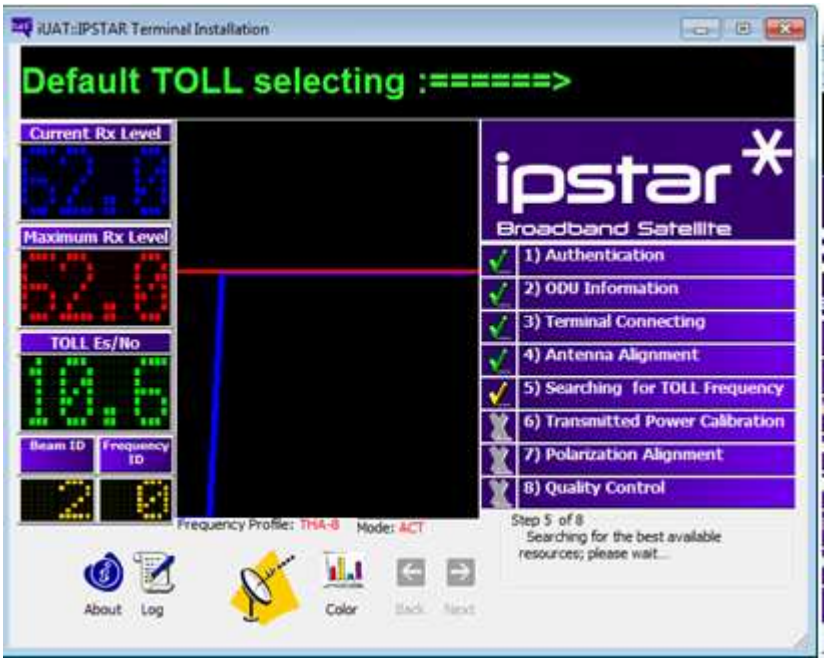

Figure 59: iUAT program skip TOLL scanning

7.7.3 Rx level sensitivity

To get rid of overshoot/undershoot signal, iUAT program provides this option to smooth signal using "Median filter" algorithm. This algorithm separates the upper half of a sample from the lower half. For example, if the sample list is {a, b, c} where a < b < c, then the median value of the list is b. On the other hand, if the sample list is {a, b, c, d} where a < b < c < d, then the median value of this list is the

mean of b and c which is (b + c)/2. With this option, installers can select the Rx level sensitivity according to their preferences.

- If Rx level sensitivity is set to be “Fast,” iUAT program will collect less data causing overshoot of signal.

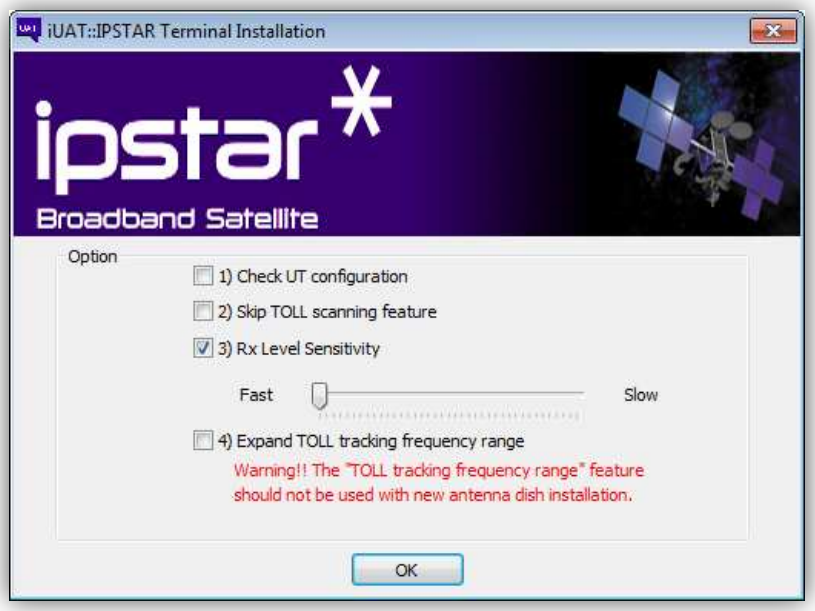

Figure 60: Rx level sensitivity feature (Fast setting)

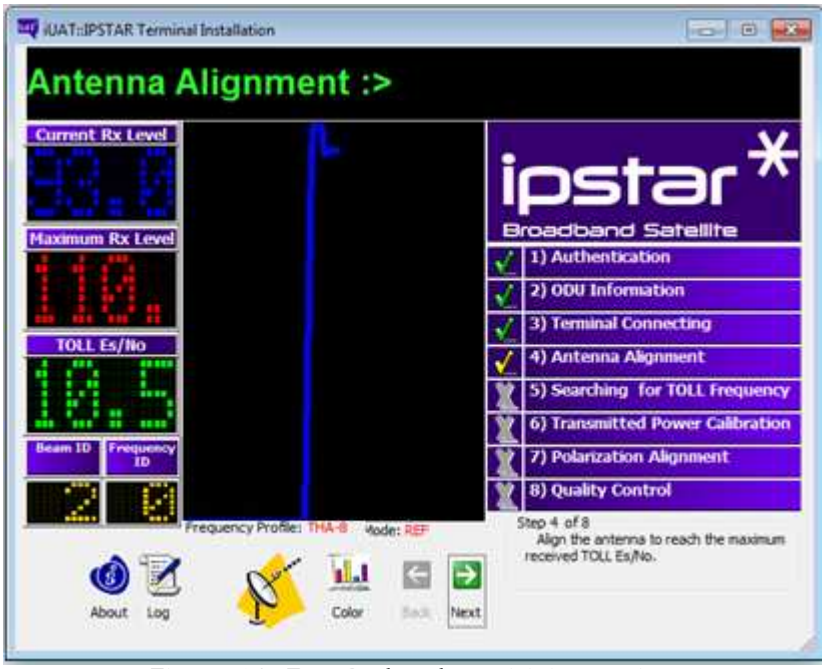

Figure 61: Fast Rx level sensitivity setting

- If Rx level sensitivity is set to be “Slow,” iUAT program will collect more data showing smoother and less fluctuation signal.

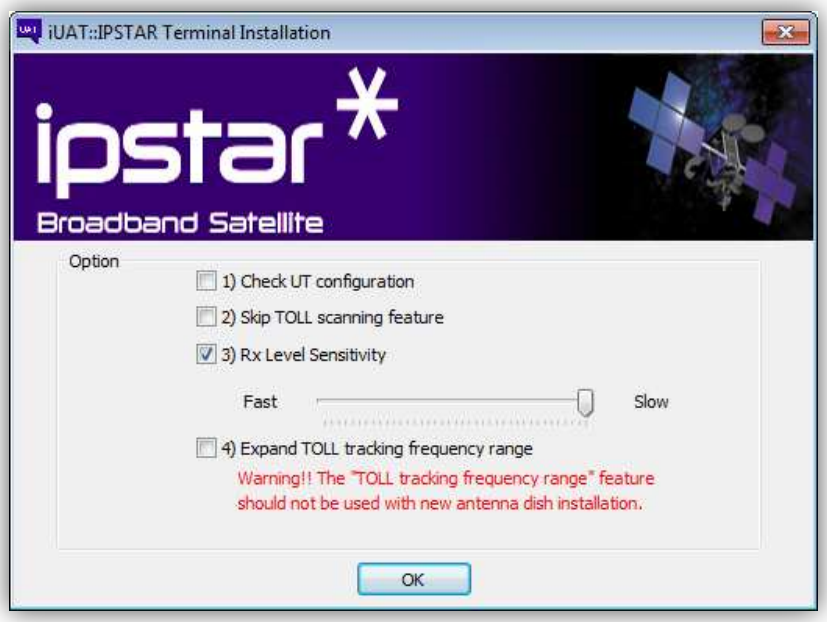

Figure 62: Rx level sensitivity feature (Slow setting)

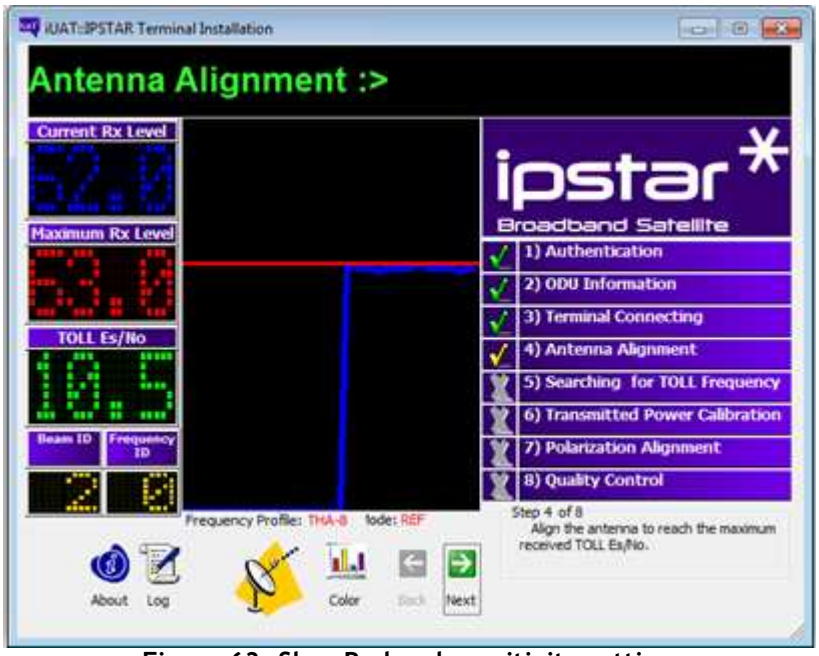

Figure 63: Slow Rx level sensitivity setting

7.7.4 Expand TOLL tracking frequency range

This option will be used to solve LNB LO frequency shifting problem. If installers perform troubleshooting with the existing site, where UT is already installed and aligned to Thaicom 4 satellite, and found that the UT cannot synchonization in Step 5 of iUAT process. They can suspect that the cause can come from LNB LO frequency shifting if other equipments are working properly. If this is the case, installers can re-iUAT and select this option to expand TOLL tracking frequency range to 1MHz (500kHz on each side) and complete iUAT process. The procedures for iUAT frequency shifting are:

- Start with F_0 (center frequency).
- If F_0 cannot synchronization, change to F_0 + 500kHz.
- If F_0 + 500K cannot synchronization, change to F_0 – 500kHz.

Note: Do NOT use this option with new UT installation.

Figure 64: Expand TOLL tracking frequency range feather

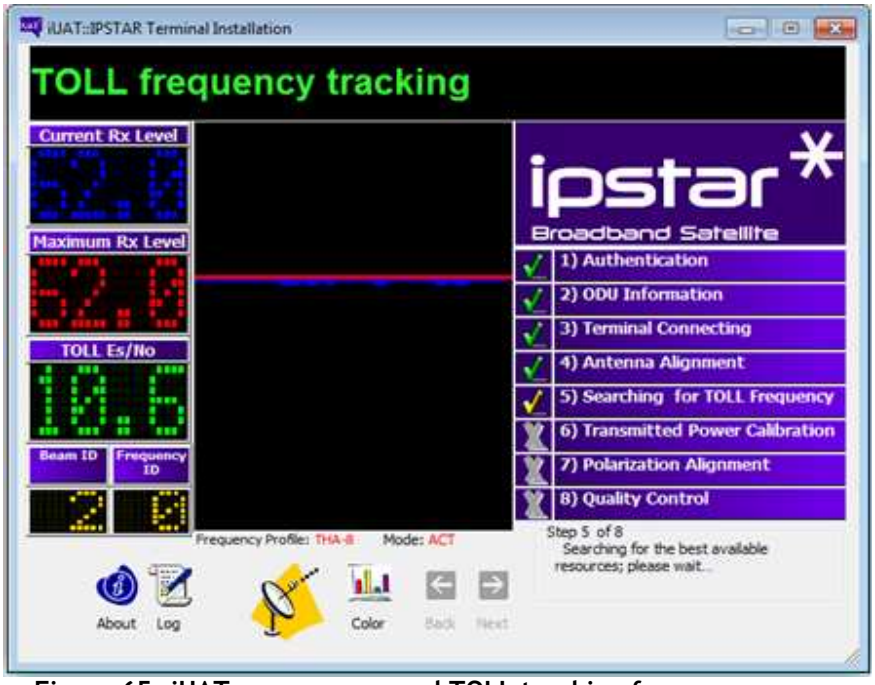

Figure 65: iUAT program expand TOLL tracking frequency range

7.8 Disk space optimization

This version of iUAT program will automatically calculate disk space before runing iUAT process. The flow of this process is shown below.

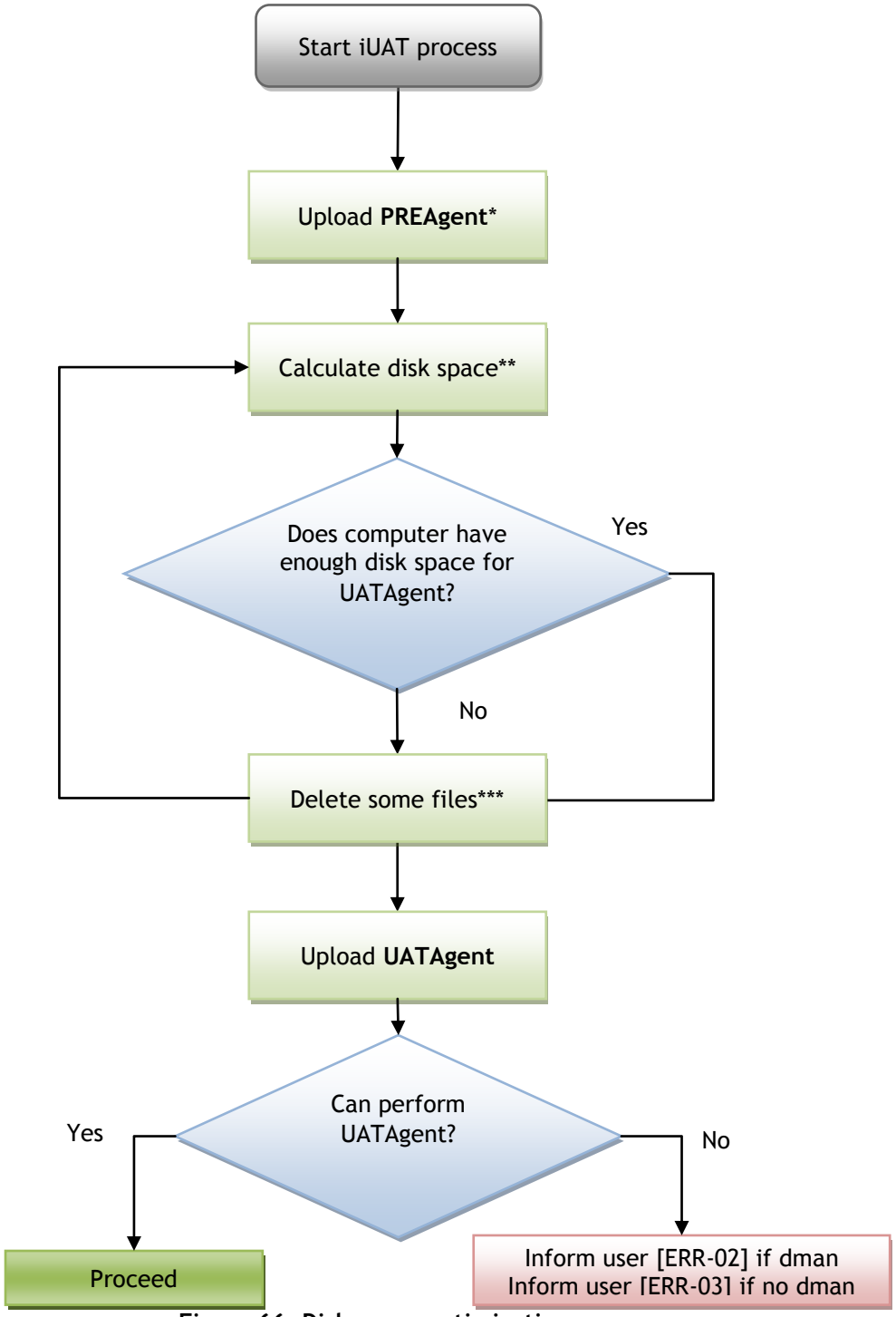

Figure 66: Disk space optimization process

*__PREAgent__ required disk space as follows:

- 10K for IDU Model M3 and earlier
- 7K for IDU model M4 and later.

**__UATAgent__ required disk space as follows:

UT Models	UATAgent size (unit in **KB**)
FGCB voice and non-voice	115
M2	292
M3, Enterprise	292
M4, M5	200

***Note: the delete process of some files has 3 steps:

1) Delete temporary files in /root/* .
2) Delete Nettgain & Multicast module if disabled.
3) Delete Web figure, Traffic rate (on xWebGateway)and RUSAgent files.

8 TROUBLESHOOTING

The summary of basic iUAT error are listed below. For more information, please press 'F1' while iUAT program is active.

Error No	Step	Message	Cause	Solution
ERR-01	3	Connection Failed	LAN cable loosed. UT is off. PC and UT is in different subnet.	Check LAN cable connection. Turn on UT. Check the terminal IP address.
ERR-02	3	Connection Failed	UT is in busy state.	Please try to click "Next" button on step 3 again. If the problem still persists, please restart UT and redo iUAT process.
ERR-03	3	Connection Failed	Incorrect image software in UT.	Please use the latest recommended official image software to solve this problem.
ERR-04	6	No UAT Channel	Cannot find available channels for iUAT process	Please wait for 5 minutes and restart iUAT program.
ERR-05	3	Connection Failed	There is some internal problem with the UT.	Please restart UT and redo iUAT process. If the problem still persists, please escalate this issue to SP.
ERR-06	6	Action Timeout	Connection, between the UT and PC running iUAT program, is lost for a period exceeding 60 seconds.	Please check whether the BUC is faulty or not. Also check for loose connection in both Tx and Rx path and the connection between the UT and the PC. Then redo iUAT process.
ERR-07	3	File Not Found	Some files in iUAT program are missing or damaged, so it cannot proceed.	Please re-install the iUAT program.
ERR-08	6	Logon Reject	iUAT process was rejected by the Terminal Installation Server (TIS) due to some reason.	Try turning off and turning on the power supply of the UT and redo iUAT process. If the problem persists, please escalate the issue to the SP and GO.
ERR-09	8	No Data Found	1) Job ID issued does not exist in the provisioning subsystem database. 2) Job ID does not match with the Installer's ID. 3)	Please escalate the issue to the SP and GO.
ERR-10	8	Unauthorized UT	The MAC address of the UT does not match with the MAC which is specified in the job order.	Contact IPSTAR operator for creating a new job order with the correct MAC address of the UT.
ERR-11	8	Incorrect Antenna Size	The size of the antenna does not match with the one which is specified in the Product ID (PID)	Please check the size of the antenna filled into iUAT program.

			section of the Job Order.	
ERR-12	8	Incorrect BUC Size	The wattage of BUC does not match with the one which is specified in the Product ID (PID) section of the Job Order.	Please check the wattage of BUC filled into iUAT program.
ERR-13	8	Invalid Job ID	The Old Job (which was already closed) is currently reused in iUAT program.	Please escalate the issue to the SP and GO.
ERR-14	8	Out of Scope	Location listed in job order is out of IPSTAR coverage.	Please contact SP NOC.
ERR-15	8	TOLL Es/N0 exceeded	The UT's TOLL Es/No level exceeds the allowable value for its particular location.	Please escalate this issueto the SP and GO in order to check that correct information was used in creating this job order.
ERR-16	8	Invalid iUAT type	You are using an invalid iUAT program type.	Installer can not use iUAT lite version for this UAT system, Please contact your SP NOC.
ERR-17	6	No Response from logon frequency	1) BUC is not receiving the 10 MHz reference signal from the UT. 2) There is no power supplied to the BUC.	Please unckeck "10Mhz BUC reference disabled" option in "xwebgateway" under the "satellite" tab . If the problems still exists, please check that the length of Tx cable is not more than the specified value. Please also check that the BUC, Tx cable and Tx attenuators are working properly. After that turn off the UT, and then unplug and plug the UT's power cable to reset the power supply. Then turn on the UT and redo iUAT process.
ERR-18	5	HW Init Timeout	Hardware Initialize timeout.	Please check UT power, make sure that UT do not reboot.
ERR-19	5	Cannot Synchronize	UT cannot synchronize with the TOLL frequency during self-initialization.	Examining the location whether it is correct as mentioned in the Job Order; if other frequency sources are presented, plase eliminate or reduce the noise; change the dish if it is damaged and then redo iUAT process.
ERR-20	4	Rx signal strength saturated	RX signal strength saturated. Value higher than 100	Please intall Rx Attenuator
ERR-21	6	No UAT Channel!	UAT channel is unavailable at this time	Please wait for 5 minutes and redo iUAT process.
ERR-22	6	Upper gain cannot be found!	the transmitted power of the UT is too high.	Please check Tx cable and BUC or contact SP NOC
ERR-23	6	This iUAT version is obsolete	1) iUAT version is obsolete. 2) STAR hardware equipment might be broken.	1) Please download new version from IPSTAR's web site. 2) Please check STAR hardware equipment. 3)
ERR-24	6	Tx gain obtained less than required value!	Sat Tx gain obtained less than required value	Please install attenuator
ERR-25	6	Tx gain obtained is still less than required	After the Tx attenuator has been installed, TIS	Please replace with the correct attenuator and redo iUAT

		value	calibrated Tx gain is still too low.	process.
ERR-26	6	Tx gain exceeded!	After the Tx attenuator was installed, the TIS calibrated Tx gain is too high.	Please remove Tx attenuator and redo iUAT process.
ERR-27	7	CoPol Timeout	the installer did not finish the polarization adjustment within 30 minutes.	Redo the iUAT process and finish adjusting the polarization within 30 minutes.
ERR-28	7	Copol Timeout	iUAT program did not get any response from Terminal Installation Server (TIS) for more than 60 seconds	Redo the iUAT and please try to adjust the polarization without losting signal or connection
ERR-29	6	Lower gain cannot be found!	the transmitted power of the UT is too low.	Please try to increase “Logon Power” and redo iUAT. If the problem still persists, please verify that the equipment in the UT’s transmit path (BUC, Tx cable, Tx attenuator) are all correct and then redo iUAT. If no problem found in the UT’s transmit path, the issue could be due to TIS. In this case escalate the problem to the SP and to the GO.