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ABSTRACT

This document provides information about utilizing the QuickTrack Control App to certify CC33xx devices according to Wi-Fi® standards. The document provides a high-level overview of the certification process.

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1 Download Prerequisites

The QuickTrack Control App is a Wi-Fi automation test tool utilized for Wi-Fi® Certification. This User Guide is intended to provide an overview of using the QuickTrack Control App with CC33xx devices to certify end products. The required software and set-up steps vary slightly between Linux and Windows operating softwares.

Please note that Git Bash for Windows must be downloaded at the following link when using a Windows operating system: <https://git-scm.com/download/win>

The source files required to build and use the QuickTrack Control App can be cloned or downloaded and extracted from GitHub. It is imperative that the tags and checkouts are verified to ensure that the correct version is downloaded.

- Clone from repository: <https://github.com/Wi-FiQuickTrack/Wi-FiQuickTrack-ControlAppC>
- Download and extract zip/tar file: <https://github.com/Wi-FiQuickTrack/Wi-FiQuickTrack-ControlAppC/releases>

After using one of the above options to acquire the source file, the installer specific to the operating system being used must be downloaded. Both installers can be found at on the external TI Drive, the links and access codes are included below.

- **Windows**
 - R2.2.1 Windows Installer: <https://tidrive.ext.ti.com/u/8e3y5ght8ujj7fLi/a96258f3-ca39-4385-a205-de7607e8f864?l>
 - Access Code: UZk{Z18a
- **Linux**
 - R2.2.1 Linux Installer: <https://tidrive.ext.ti.com/u/0hxpECucaR3AHGkU/ebcaaf0d-7f08-4f3d-8d9f-b02efe76b505?l>
 - Access Code: T#W7W2BF

2 Build Prerequisites

Note

The instructions and links included below are specific to use with an AM335x. If using a different supported processor please be sure to download the appropriate SDK and compiler for that processor.

- **Windows**
 - Download and extract the GCC Linaro package: https://releases.linaro.org/components/toolchain/binaries/7.5-2019.12/arm-linux-gnueabi/gcc-linaro-7.5.0-2019.12-i686-mingw32_arm-linux-gnueabi.tar.xz
 - Install MSYS2: <https://www.msys2.org/>
- **Linux**
 - Download the AM335x SDK (v06.00.00.07): <https://dr-download.ti.com/software-development/software-development-kit-sdk/MD-1BUptXj3op/06.00.00.07/ti-processor-sdk-linux-am335x-evm-06.00.00.07-Linux-x86-Install.bin>
 - Convert the file to an executable and run it using the commands below:

```
sudo chmod +x ti-processor-sdk-linux-am335x-evm-06.00.00.07-Linux-x86-Install.bin
./ti-processor-sdk-linux-am335x-evm-06.00.00.07-Linux-x86-Install.bin
```

3 Patch Steps

3.1 Additional Steps

If, during the download prerequisites, the source code was extracted from a zip/tar file and **NOT from the Git clone** then the following steps need to be added:

1. Open Git Bash [Windows] / Terminal [Linux] in extracted folder.
2. Run the below commands:

```
git init
git add .
git commit -m "init"
```

3.2 Overall Steps

The remainder of the steps should be executed whether the source code came from Git or a compressed file:

1. Download the **TI-Wi-FiQuickTrack-ControlAppC-Patcher** installer linked in the download prerequisites.
 - a. Confirm that the installer is compatible with the OS being used (Windows or Linux)
2. Update the Installation Directory to **Wi-FiQuickTrack-ControlAppC** source files directory that was downloaded previously either through Git clone or from the zip/tar file (see previous steps).
 - a. Path of the given directory should contain source files such as .c and .h files and a Makefile
3. Click on "Next" and "Finish".

4 Check the Applied Patch

1. Open Git Bash (if on Windows) or terminal (if on Linux).
2. Navigate to the **Wi-FiQuickTrack-ControlAppC** source files directory.
3. Type "git status". You should see:

```
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   indigo_api_callback_dut.c
        modified:   vendor_specific.h
        modified:   vendor_specific_dut.c

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        pin_checksum.sh
        wsc_settings_APUT
        wsc_settings_STAUT

no changes added to commit (use "git add" and/or "git commit -a")
```

5 Build Steps

Linux

- Navigate to **Wi-FiQuickTrack-ControlAppC** source files directory in your Linux terminal
- Run the following command to build:

```
make CC=/AM335_INSTALL_DIR/linux-devkit/sysroots/x86_64-arago-linux/usr/bin/arm-linux-gnueabi-hf-gcc
```

Windows

- Install 'make' using the following command in the MSYS2 terminal.

```
pacman -S make
```

- Navigate to the **Wi-FiQuickTrack-ControlAppC** source files directory.

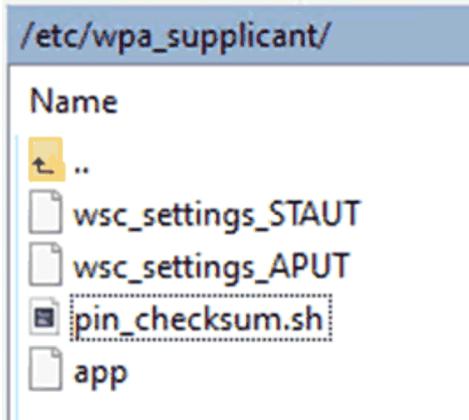
- Run the following command to build:

```
make CC=<Path to extracted gcc-linaro-7.5.0-2019.12-i686-mingw32_arm-linux-gnueabi>/bin/arm-  
linux-gnueabi-gcc -k all
```

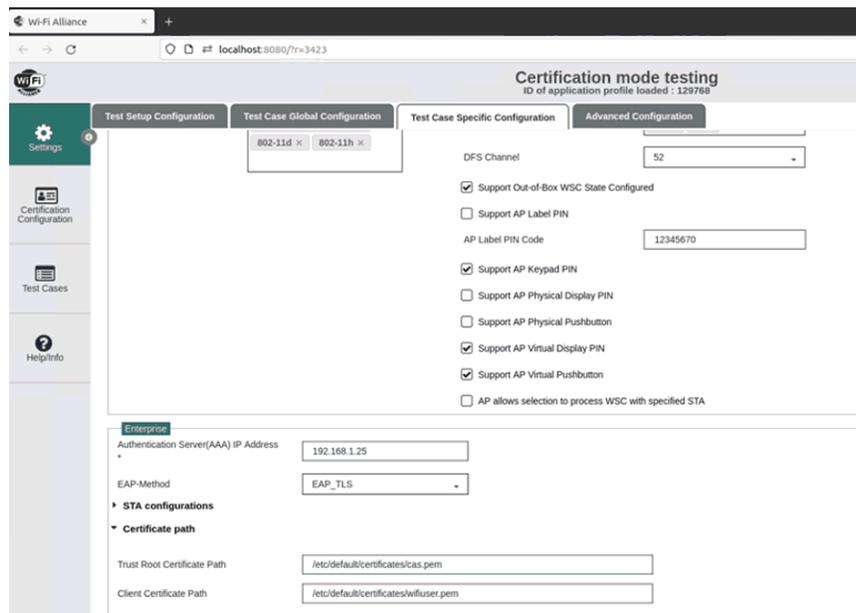
- Make sure the "app" file has been created in the **Wi-FiQuickTrack-ControlAppC** source files directory.

6 Using the Built App File

- Bring up DUT and connect serially using Terraterm, PuTTY, or similar serial communication program.
- Connect DUT via ethernet to the same subnet that the computer running Indigo is connected to.
- Confirm that DUT has an ethernet IP, if not use ifconfig commands to set the IP address.
- Copy the following files to /etc/wpa_supplicant (create the directory, if needed).



- Confirm that the certificates are located at /etc/default/certificates and that the same path is updated in the tool settings to match:



- Confirm the date on the DUT is recent by running this command in your serial terminal (the date can be the date below or today's date):

```
date -s '2023-11-23 14:34:00'
```

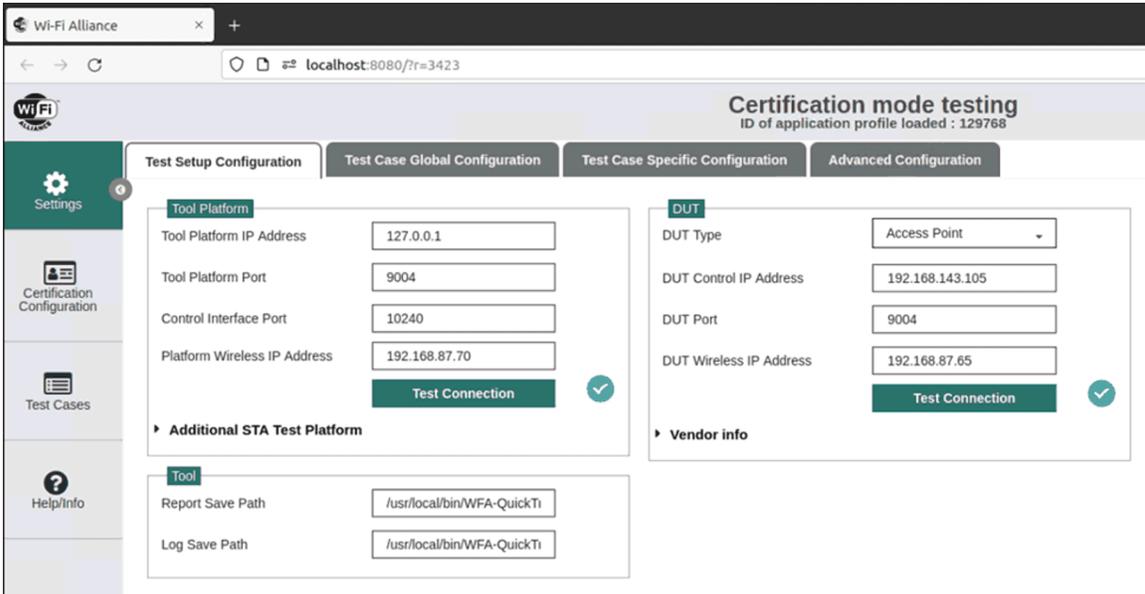
7. Depending on which role is being tested on the DUT run the commands in option a OR option b, respectively:
 - a. STA Role:

```
cd /etc/wpa_supplicant/
./app -i wlan0 -p 9004 &
cd /usr/share/cc33xx
./sta_start.sh
```

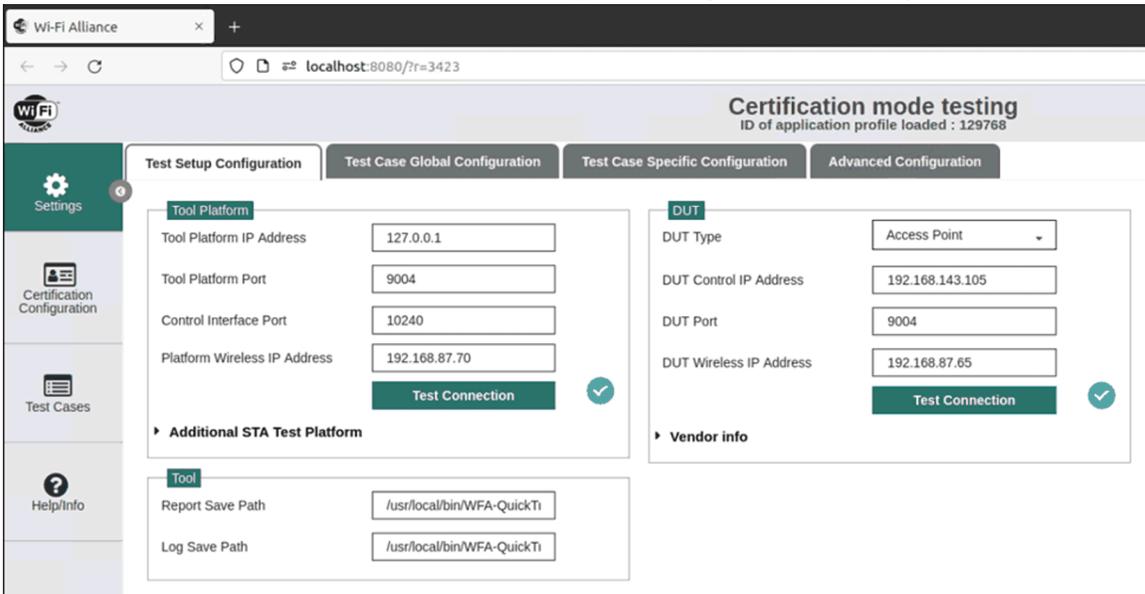
- b. AP Role:

```
cd /etc/wpa_supplicant/
./app -i wlan1 -p 9004 &
cd /usr/share/cc33xx
./ap_start.sh
```

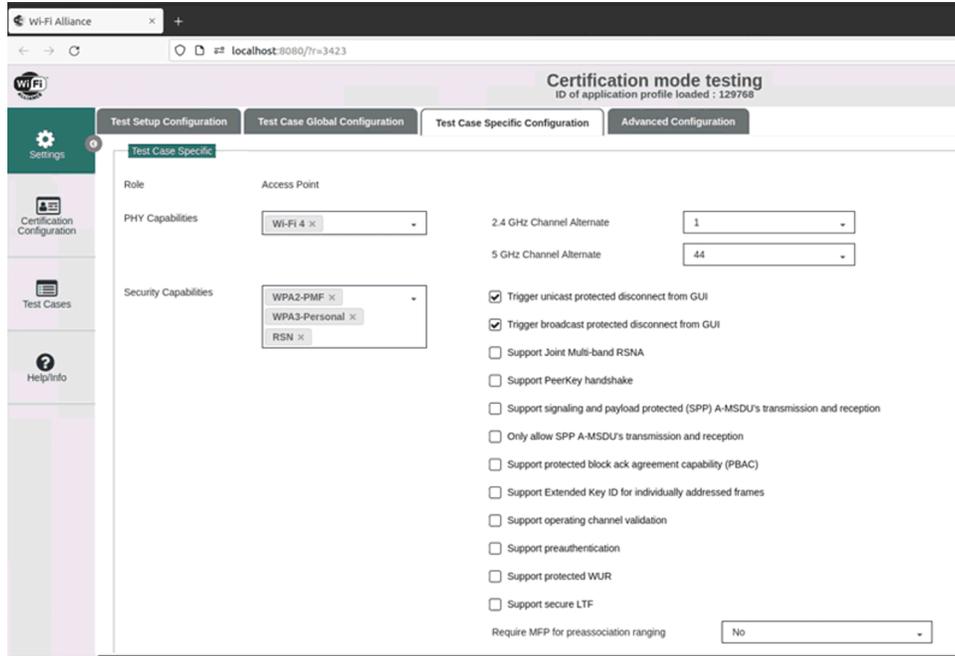
8. Input the ethernet IP address that was set in step 3 to 'DUT Control IP Address'.



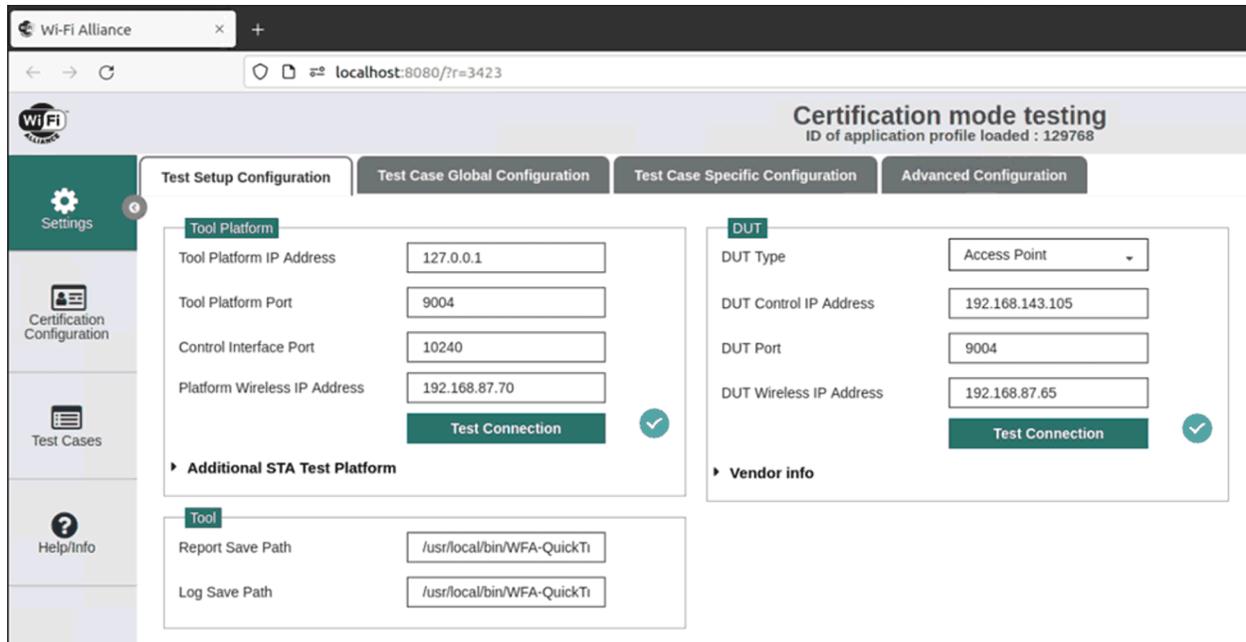
9. Use the "Test Connection" bottom to confirm DUT app is running and identified by the tool:



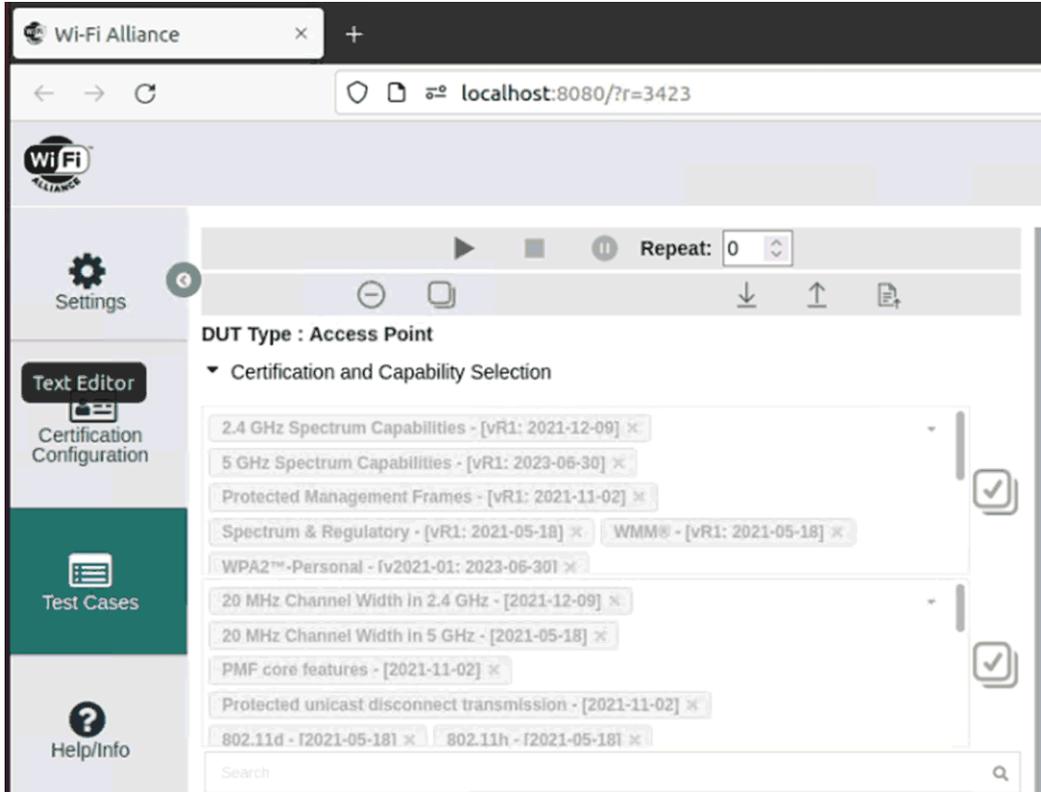
10. Set supported configurations under the "Test Case Specific Configuration" tab:



11. Choose the required role for testing under the DUT Type (this should match the mode set in step 7 on the DUT):



12. Manually choose DUT capabilities or, if in certification mode, load the 'application profile' that defines the relevant test cases:



13. Select and run test cases.

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