AN

CR14 NFC DTA APK Setup Guide

Rev 1.1 – 2025 March 14 **Application Note**

Document information

Info	Content
Keywords	NFC, Android, DTA APK
Abstract	This document provides information on how to use NFC DTA APK on Android platform to validate NFC Forum compliance test cases.

Revision history		
Rev	**Date**	**Description**
1.0	2024-09-25	Initial version
1.1	2025-03-14	Updated DTA version to CR14_DTA_1.3

Table of Contents

1. Introduction

Device Test Application (DTA) that a vendor can integrate in an NFC Forum Device to ensure that the Implementation/Device Under Test (IUT/DUT) can be tested against the NFC Digital Protocol Technical Specification [DIGITAL], NFC Forum Type 2-5 Tag Operation Specifications [T*n*TOP], NFC Forum Analog RF.

DTA APK is designed to work with NCI based NFC chipsets. This setup guide provides the detailed directions about setting up NFC DTA apk for NFC Forum Compliance Testing of Implementation Under Testing (IUT) or Device Under Testing (DUT).

2. Scope

This document is written considering NFC DTA apk setup guidelines to perform the NFC Forum compliance validation of Implementation Under Testing (IUT) or Device Under Testing (DUT).

3. Architecture of NFC DTA

Figure 1 shows the architecture of NFC DTA.

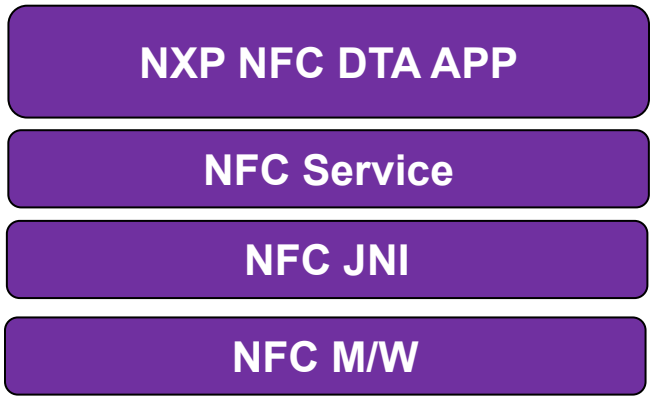


Figure 1: NFC DTA Architecture

NFC DTA supported Features:

A NFC device may support one or more communication technologies: Type A, B and F, in both Poll & Listen modes.

3.1 Testing Scope

- NFC Forum Digital protocol test cases.
- NFC Forum T2T, T3T, T4T & T5T test cases.

4. NFC DTA APK setup

Download binaries & go to the below mentioned path.

build_image\image\NXPDTA\

Following commands need to be executed on the terminal to install the apk & supporting files.

adb root

adb remount

adb push NXPDTA /vendor/app/

adb reboot

After updating the required file, the “NXP DTA” appears in the main menu as shown in Figure 2.

Figure 2: DTA APK installed in Android.

Configuration changes before running NFC forum test cases:

- pull libnfc-nci.conf from the device using adb pull /product/etc/libnfc-nci .
- Modify parameter value ISO15693_SKIP_GET_SYS_INFO_CMD from 0 to 1.
- Push modified conf file in the device using adb push libnfc-nci.conf /product/etc/
- Reboot the device using adb reboot.

Before running DTA APK

Switch ON the NFC service option in Settings, Settings->Connected devices-> Connection preferences -> NFC as ON.

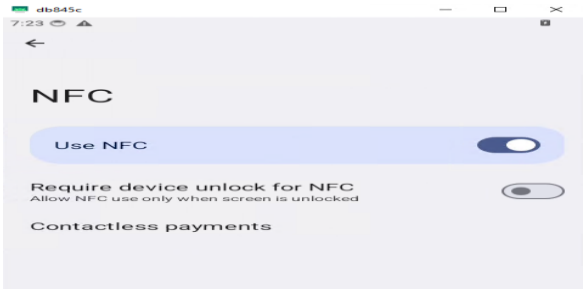


Figure 3: NFC service ON in settings.

Once after NFC is ON in figure 3, select Contactless payments & it will go to Default wallet app screen. In this Select NXP DTA and come back to home screen & launch NXP DTA application.

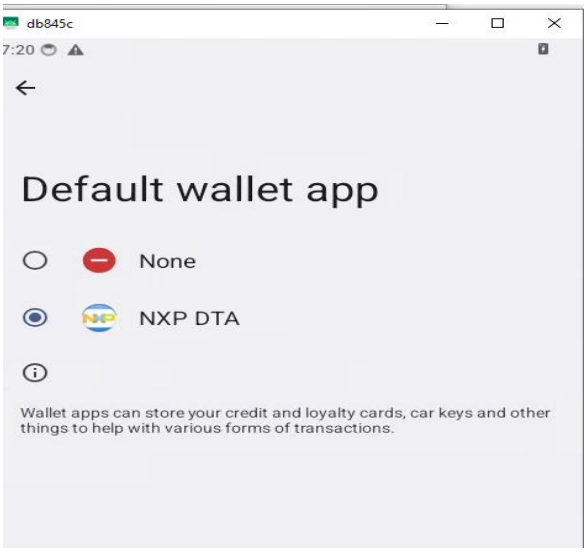


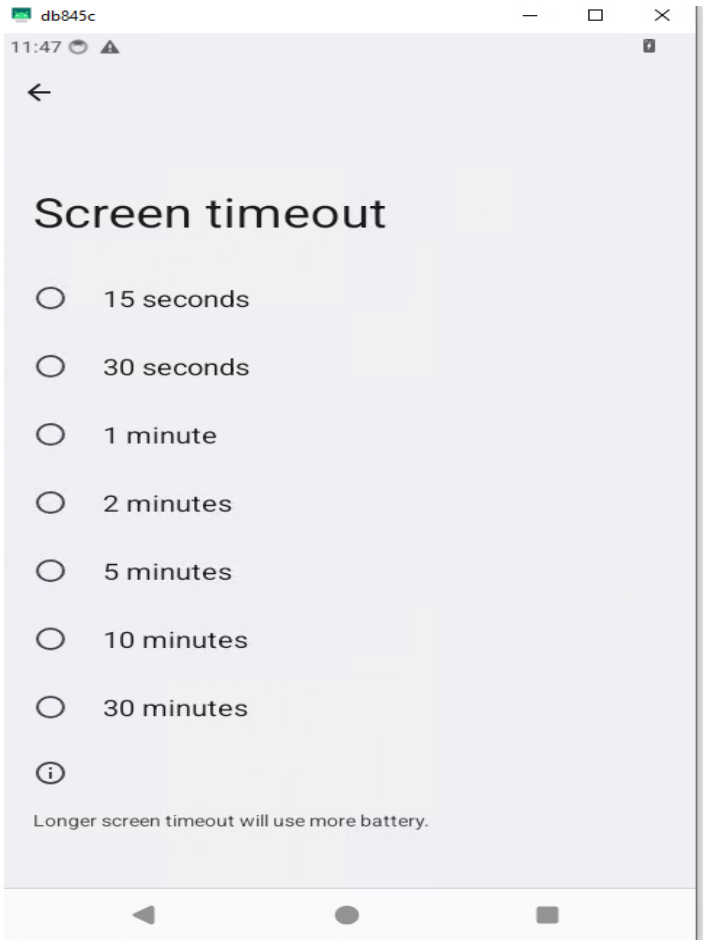
Figure 4: Default wallet app

Screen time out settings.

Screen time out should be updated in the IUT settings to avoid the DTA RF signal loss. Because once the device goes to sleep mode, immediately RF will be stopped from device, to avoid this device screen timeout should be increased to 30 minutes or device should powered.

The following path can be used for updating the screen timeout setting.

Main menu-> Settings -> Display -> Screen timeout -> select 30 minutes.



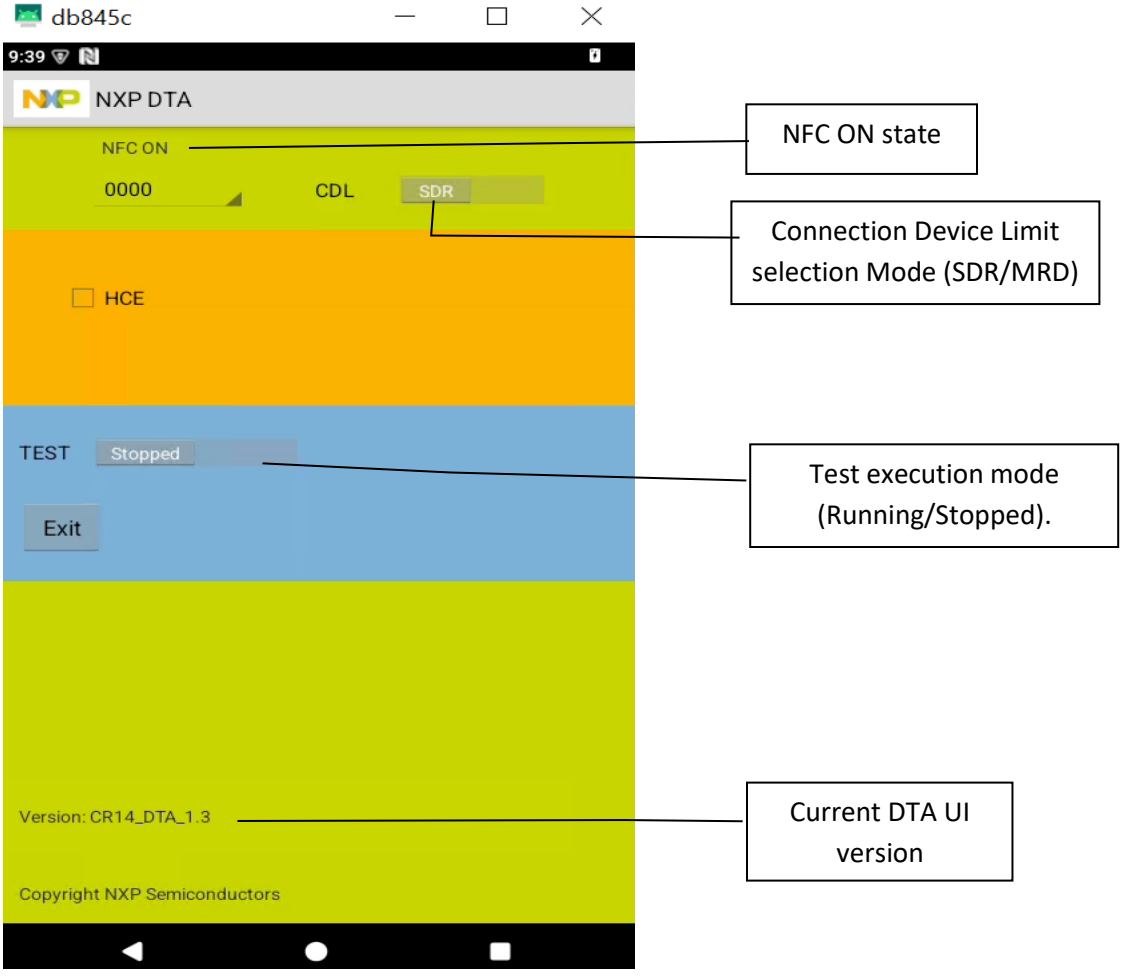
4.1. Running DTA APK with options

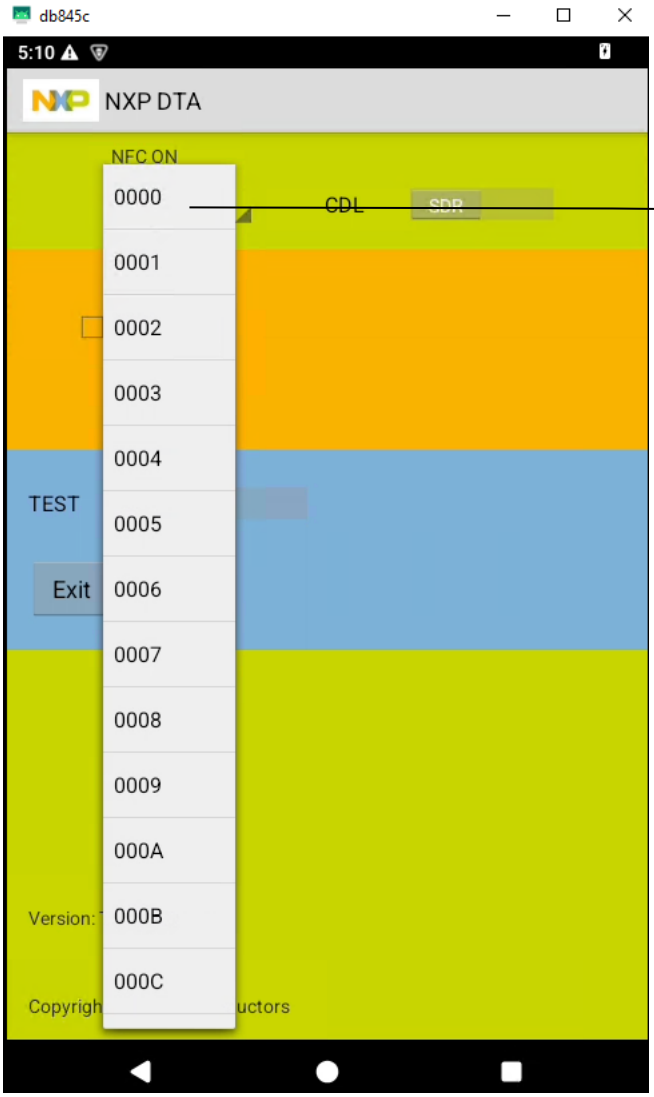
4.2.1 NXP_DTA_UI_SCR_SCENERIO_01: Default screen

The default screen is loaded as soon as the application is launched. By default, NFC ON and the pattern number will be set to “0000” in multi option. Connection Device Limit is set to default Single Device Detection (SDR).

The **current status** of the application is Stopped. To run test cases, select switch button from Stopped to Running. Exit button to exit the test application.

Copyright and DTA UI Version are showed in the bottom.

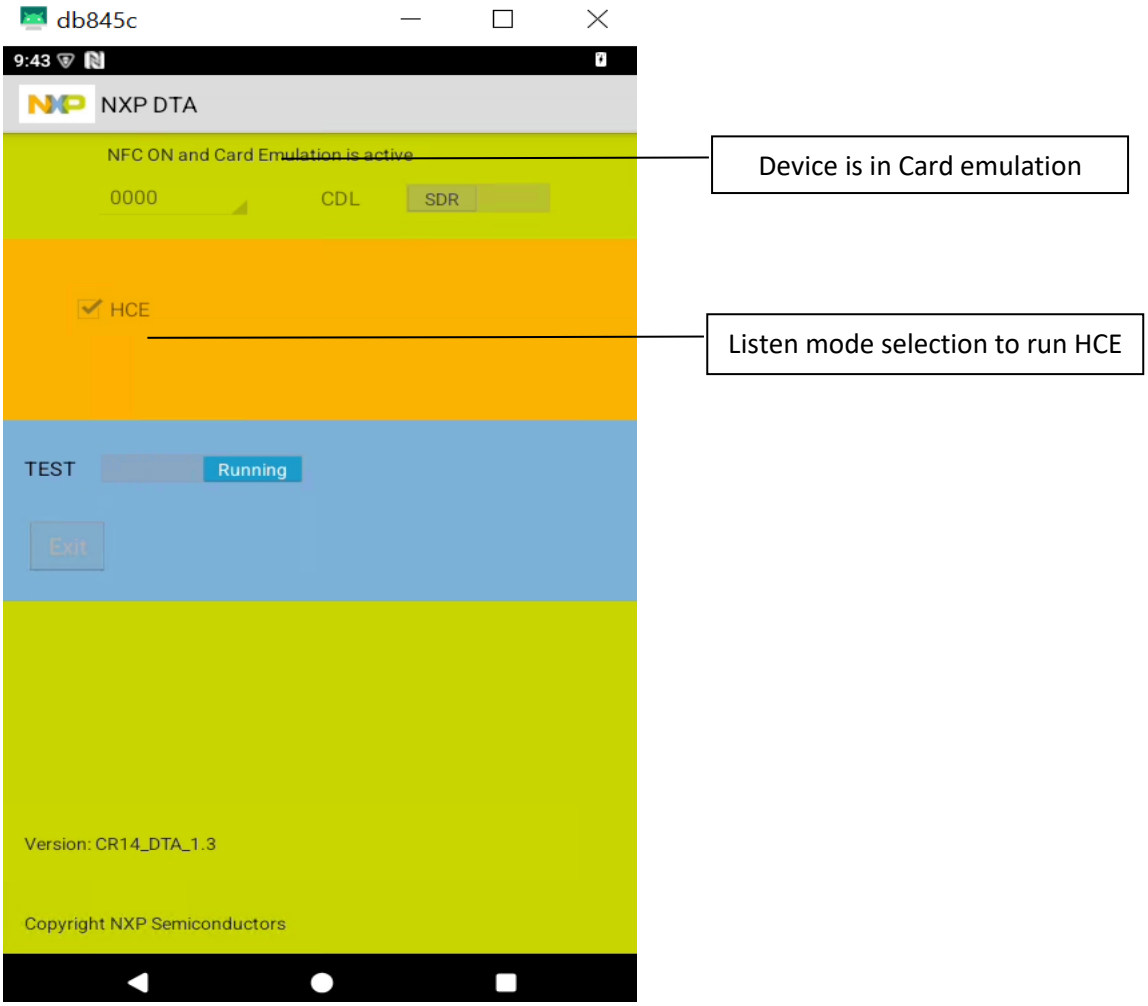



db845c
5:10
NXP DTA
NFC ON
0000
CDL
SDR
0001
0002
0003
0004
TEST
0005
Exit
0006
0007
0008
0009
000A
Version:
000B
000C
Copyrigh
uctors
Pattern number selection mode

4.2.2 NXP_DTA_UI_SCR_SCENERIO_02: Listen mode selection

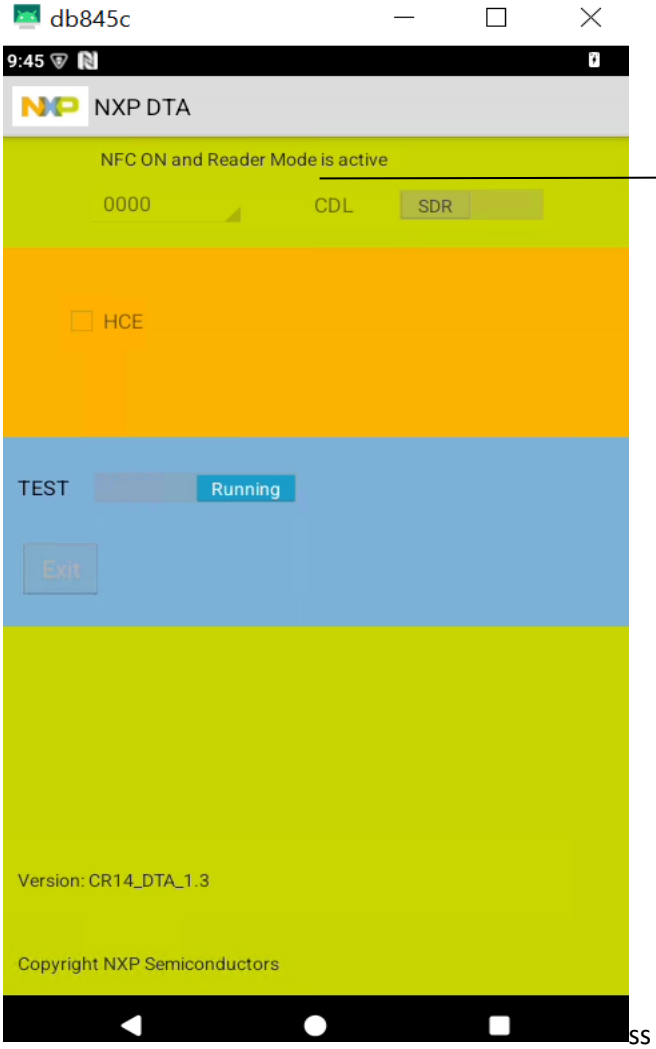
This screen is similar to “NXP_DTA_UI_SCR_SCENERIO_01” screen with the changes shown based on the user selection.

To run Host Card Emulation test cases (Listen mode) need to select HCE check box before test running test case. After this start test case, test execution mode changes from Stopped to Running mode & on the top of the application it will display message “NFC ON and Card Emulation is active”.



4.2.3 NXP_DTA_UI_SCR_SCENERIO_02: Poll(Reader) mode selection

First select the pattern number & Connection Device Limit (SDR/MDR) and the run the test case. The current status will be changed to first **Running** and display message “NFC ON and Reader Mode is active” on top of the screen.



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5. References

- None

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