NFC Manager

User Manual

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DUALi Inc.

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We have our development center in South Korea to provide technical support. For any technical assistance can contact our technical support team as below;

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Revision History

- 2012.04 (Ver. 1.0) : First Distribution
- 2012.07 (Ver. 2.0) : P2P Function update
- 2012.12 (Ver. 3.0) : Added Mifare 4k Tag and P2P(NPP, SNEP) Function
- 2013.01 (Ver. 4.0) : Modified Vcard record
- 2013.05 (Ver. 5.0) : Modified Mifare Access Bits
- 2013.06 (Ver. 6.0) : Added Desfire EV1 8k Tag and Distinguish Ultralight, Ultralight C, NTAG203

CONTENTS

1. Introduction

A. Intended Readership

This manual has been written for keeping in mind the end-user who uses NFC Manager Program.

B. Purpose

This manual is explained how to use NFC Manager Program without any difficulty or troublesome. It describes the various functions that will be provided in the application. The purpose of this document is to give detail description about NFC Manager Program.

C. Scope

NFC Manager Program supports below devices produced by DUALi.

Available DUALi Devices
DE-ABCM6
Dragon

Firmware and Driver

	Firmware	Driver
Date(Version)	2013.01.30 or higher	2012.4.6 (1.4.0.0) or higher

2. List of NFC Tag(IC Type)

List of NFC Tag(IC Type) supported by NFC Manager Program

	NXP Mifare Classic 1k
	NXP Mifare Classic 4k
NFC Forum Type 1	Innovision Topaz IRT5011

NFC Forum Type 2	NXP
	
	    Mifare Ultralight
	
	    Mifare Ultralight C
	
	    NTAG203
	
	INFINEON
	
	    my-d NFC SLE 66R01P
	
	    my-d NFC SLE 66R32P
	
	Kovio 2k (K14T1)

NFC Forum Type 3	Sony FeliCa
NFC Forum Type 4	NXP Mifare DESFire EV1 ISO/IEC 14443 standard series, full compliant cards

3. NFC Tag Basics

NFC Manager Program reads and writes NDEF data onto a Tag.

To read/write, a NFC Tag must be initialized. This program initializes NFC tag (IC Type) only on the above list (Refer to **2. List of NFC Tag(IC Type)**).

4. NFC P2P communication Basics

NFC Manager provides P2P communication between DUALi's NFC device and Android NFC mobile.

NFC Manager supports both Android NPP(NDEF Push Protocol) and SNEP(Simple NDEF Exchange Protocol).

NFC mobile's Android version for NPP & SNEP

	API Level	**Android version**
NPP	API Level 9 to 13	Android 2.3 to 3.2
NPP & SNEP	API Level 14 or later	Android 4.0 or later

5. __NFC Manager__

<NFC Manager main>

<Connect>
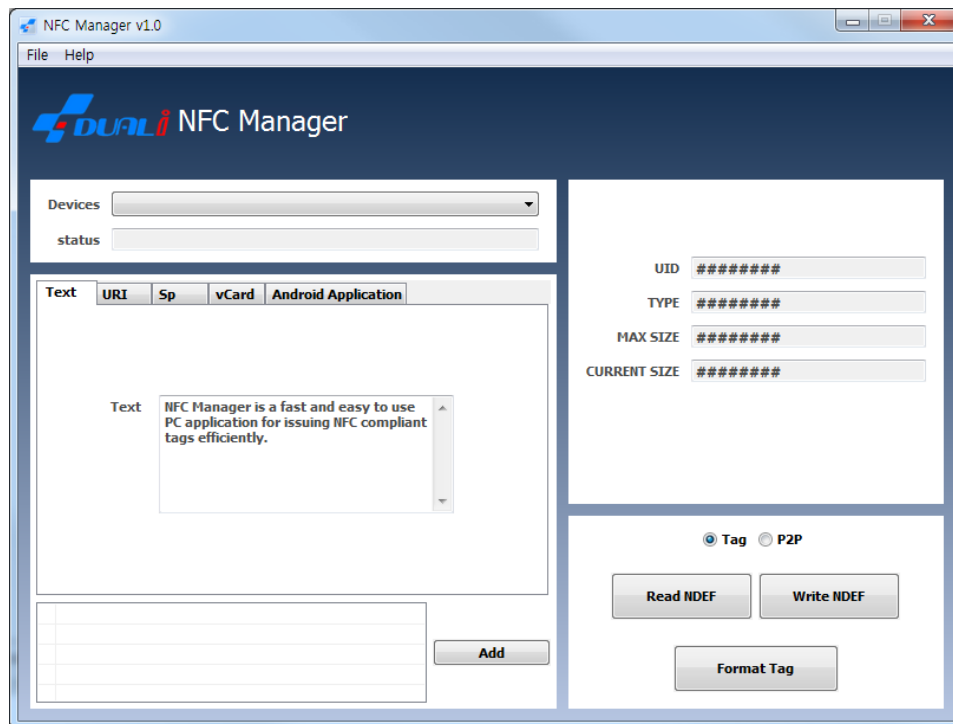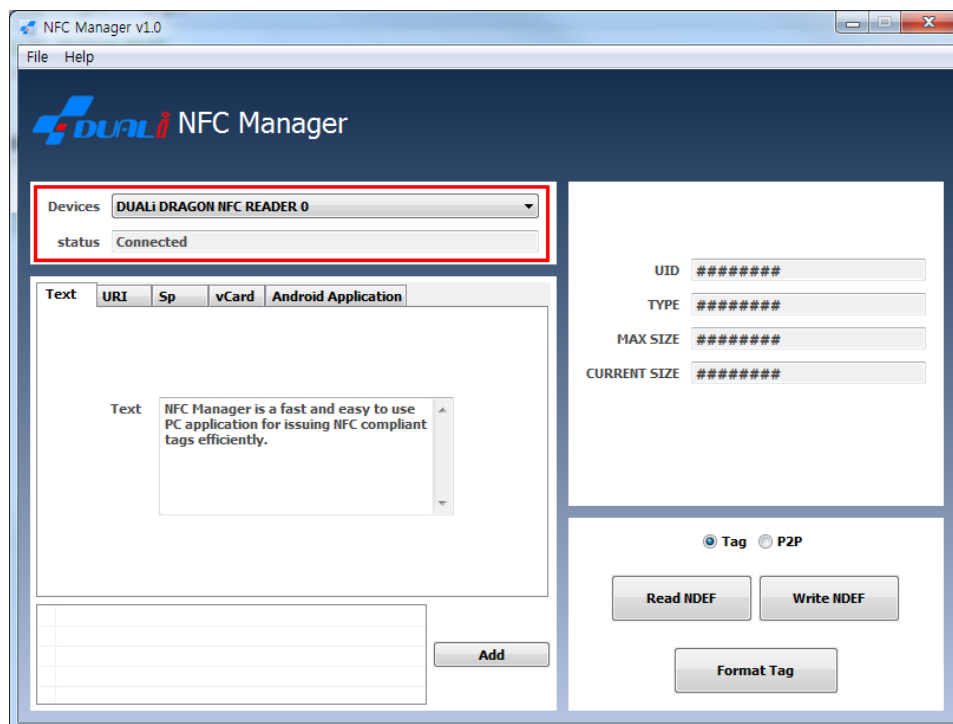
NFC Manager Program automatically finds NFC Device (produced by DUALi only), when it is connected.

<"NFC_MANAGER_User_Manual" would be founded via Help- Help Contents>
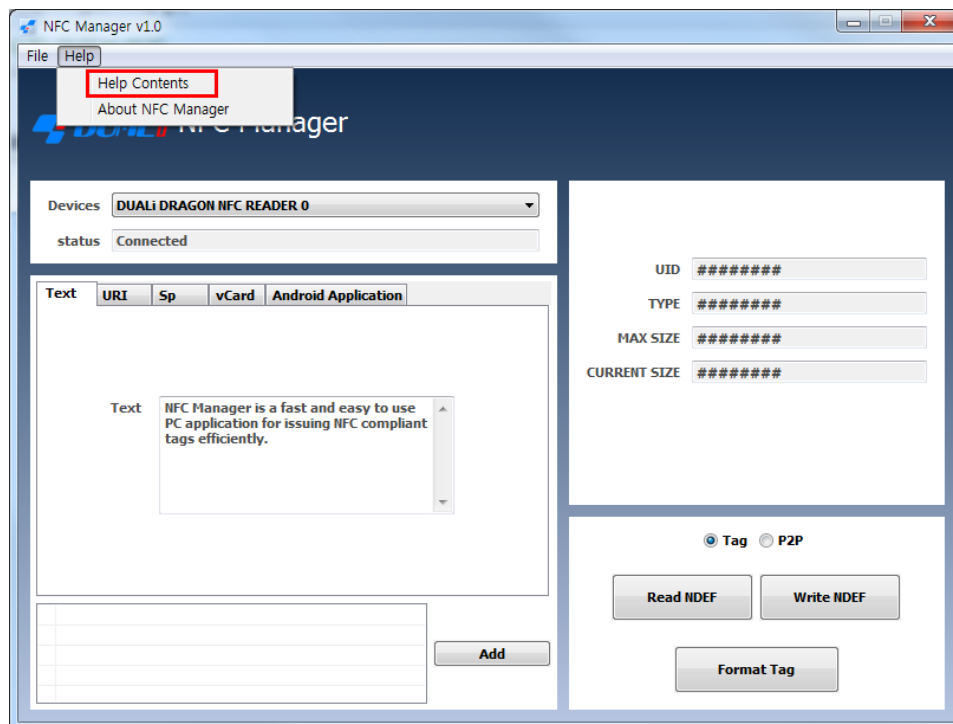
6. <u>Tag Detect</u>
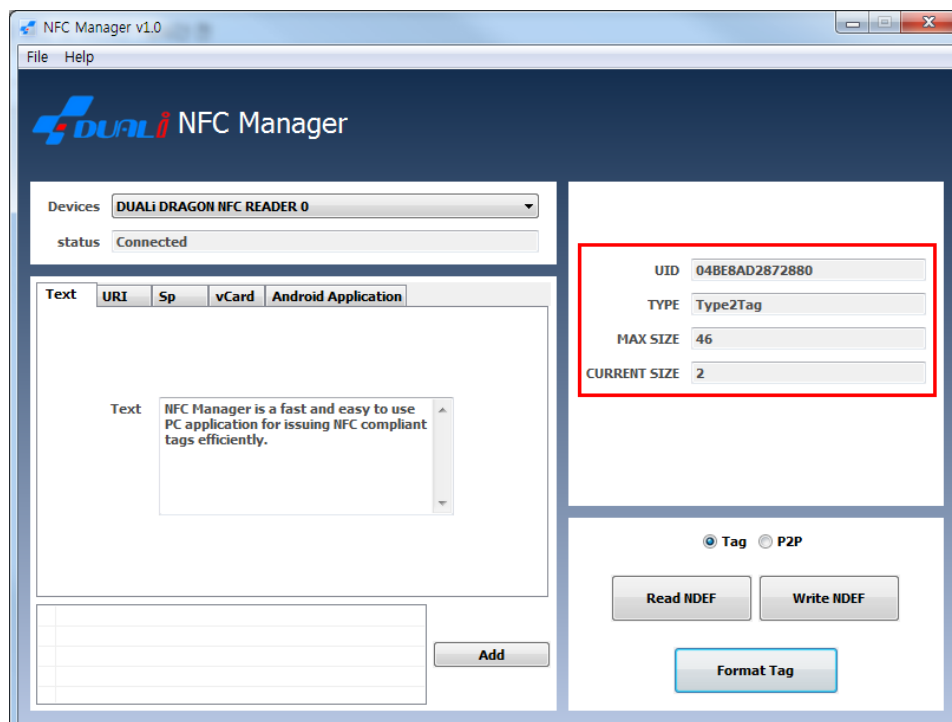
When a Tag is placed on NFC Device, it reads the information on the Tag.

< Mifare Classic as NFC Type Tag Detect>

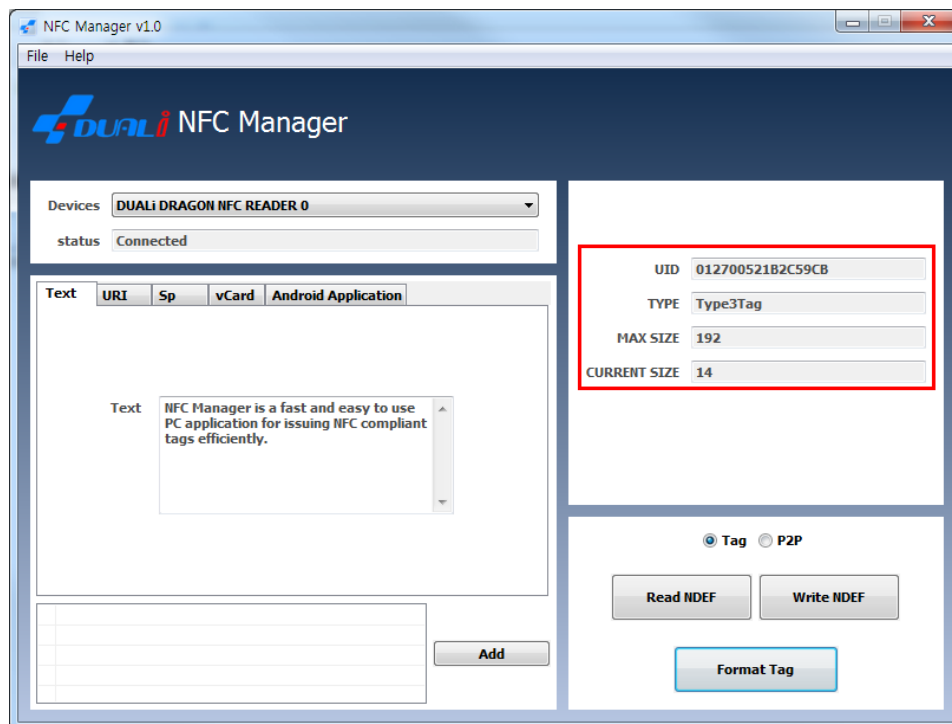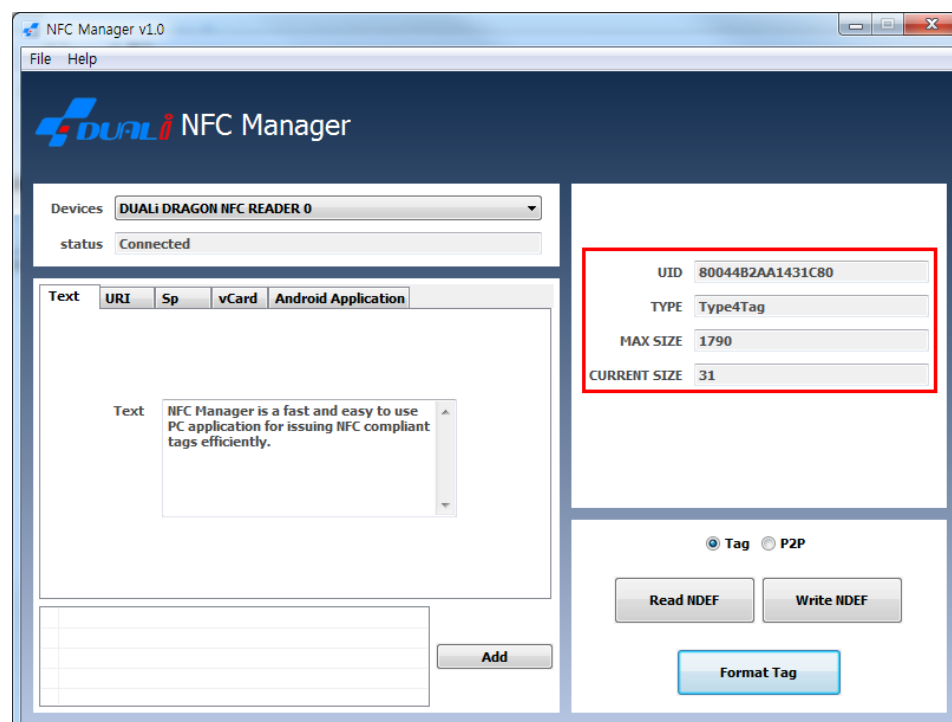<NFC Forum Type 1 Tag Detect>

<NFC Forum Type 2 Tag Detect>

<NFC Forum Type 3 Tag Detect>

<NFC Forum Type 4 Tag Detect>
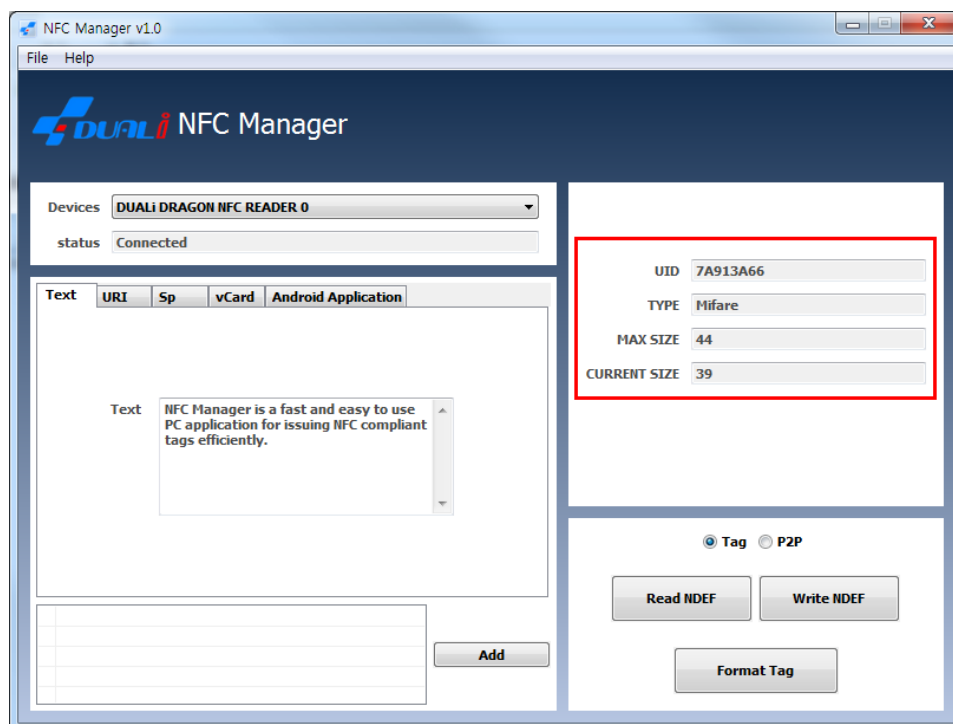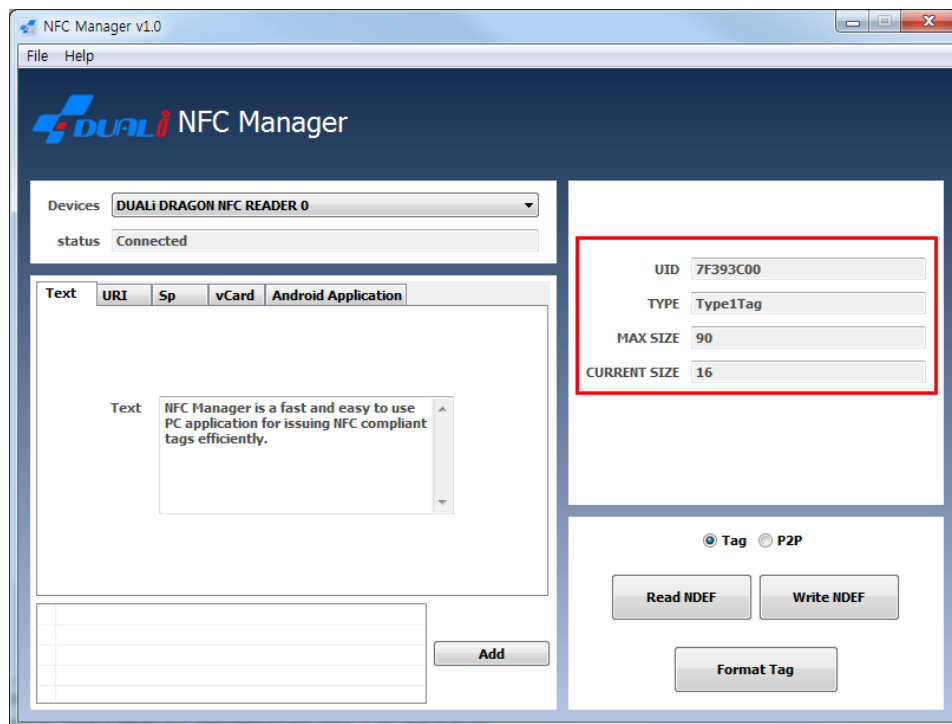
7. Tag Format

When formatting a Tag, this program writes the data listed on the below table on Capability Container (or Attribute Information), and NDEF Data.

	IC Type	Capability Container	NDEF Data
NFC Forum Type 1	Topaz IRT5011	0xE1101000	0x0300FE00 (NDEF TLV/ Terminate TLV)
NFC Forum Type 2	Mifare Ultralight	0xE1100600	
	Mifare Ultralight C NTAG203	0xE1101200	
	my-d NFC SLE 66R01P	0xE1101000	
	my-d NFC SLE 66R32P	0xE110FE00	
	Kovio 2k (K14T1)	0xE1100700	NO
NFC Forum Type 3	Sony FeliCa	Ln byte in the Attribute Information Block is 0h	NO
NFC Forum Type 4	ISO/IEC 14443-4	NO	0x0003D00000

(NO: no data)

1. Click "Format Tag"

---
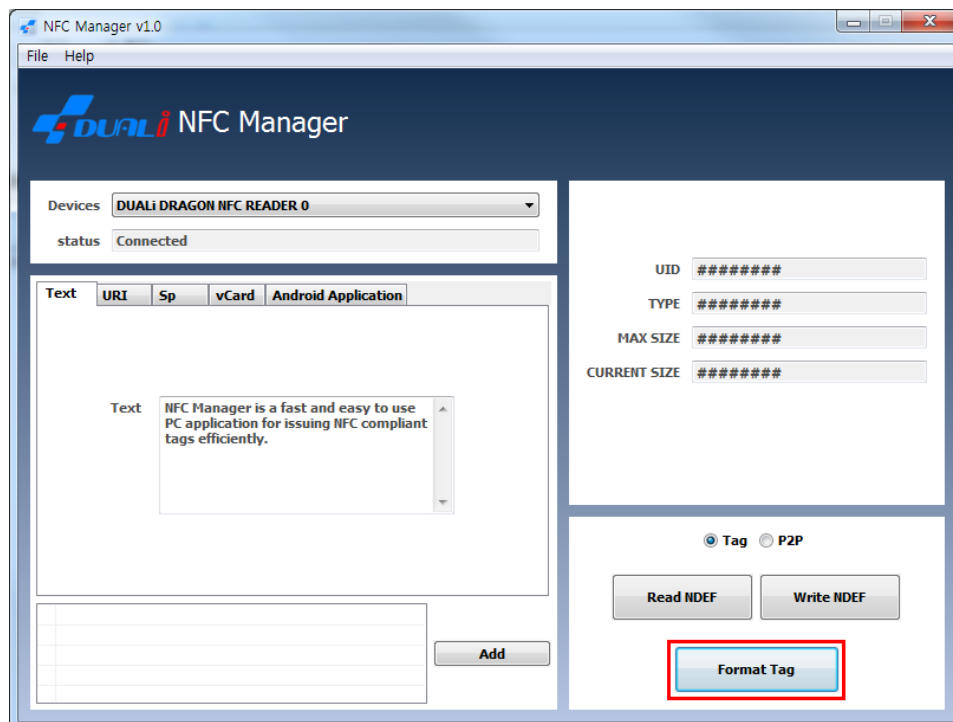
2. Place a Tag on the device

3. Following message will be shown when Format is done.
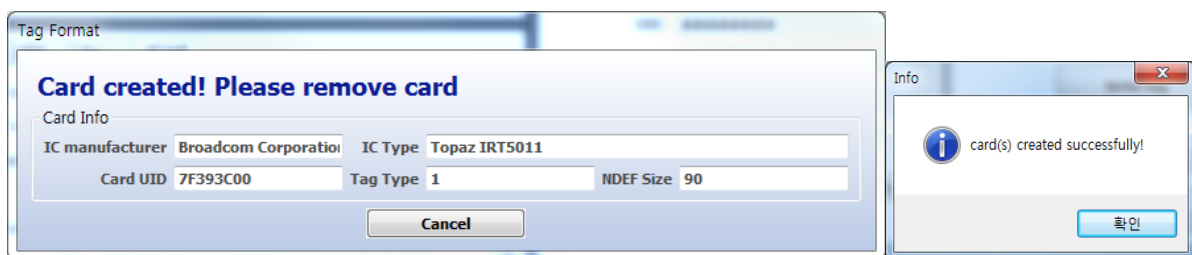
✓ The below message will be shown when unsupported tag (Refer to **2. List of NFC Tag(IC Type)**) is on the device.

8. Tag Write

NFC Manager Program provides 5 types of below record.

– TextRecord

– UriRecord

– SmartPosterRecord

– VCardRecord(vCard)

– AndroidApplicationRecord

8.1 Add Record

<Text Record> Input TEXT you want to add and click add button
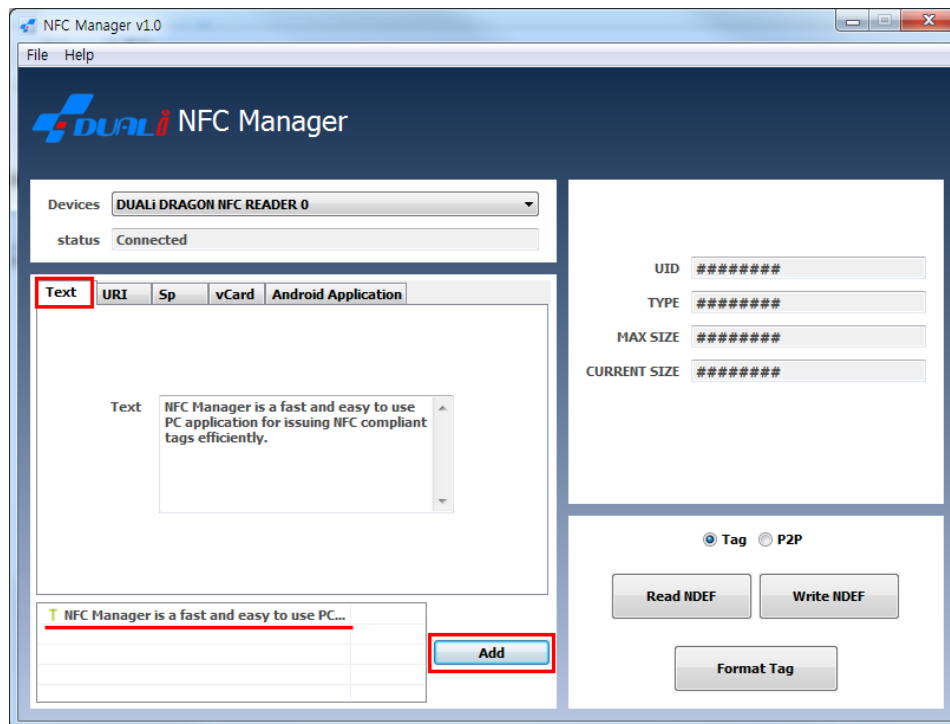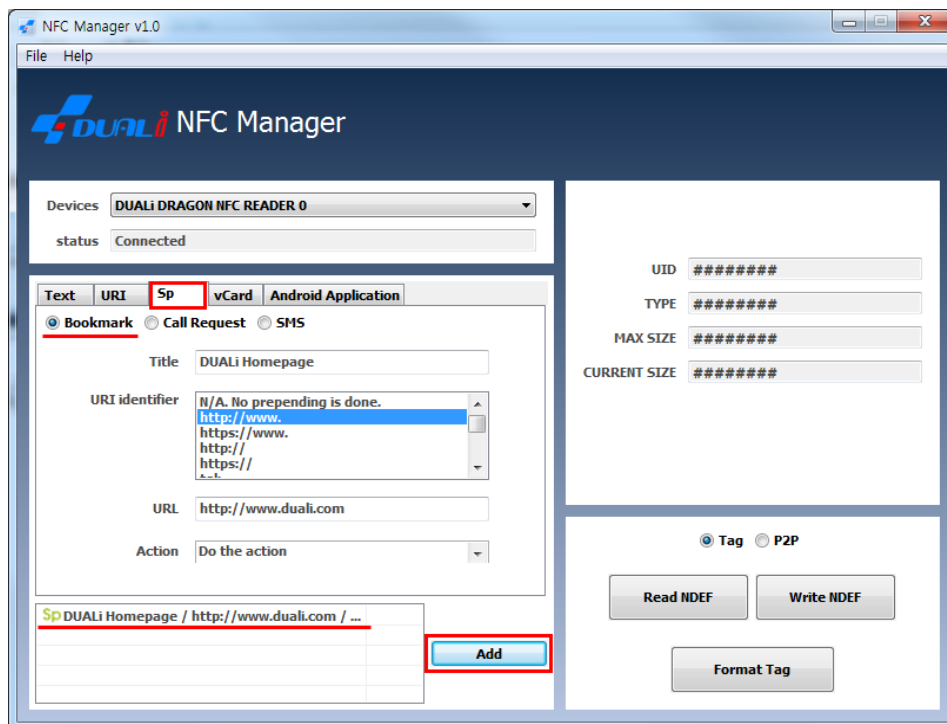
✓ To delete text/url/Sp/vCard data, double click it from the log box

<Uri Record> Input URI you want to add and click add button
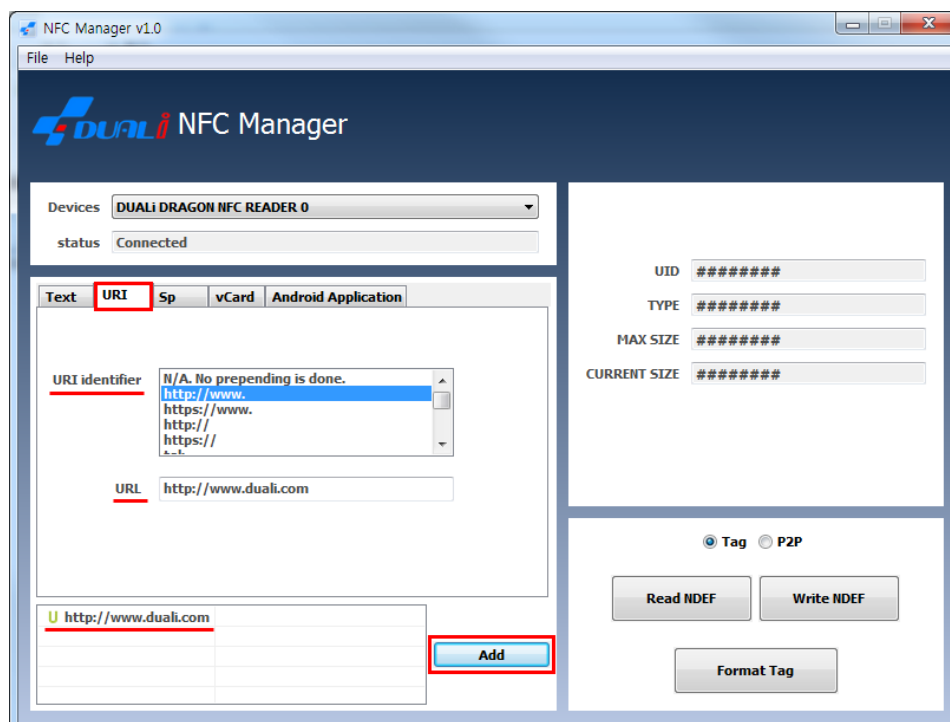
<Smart Poster Record> Input Smartposter data you want to add and click add button
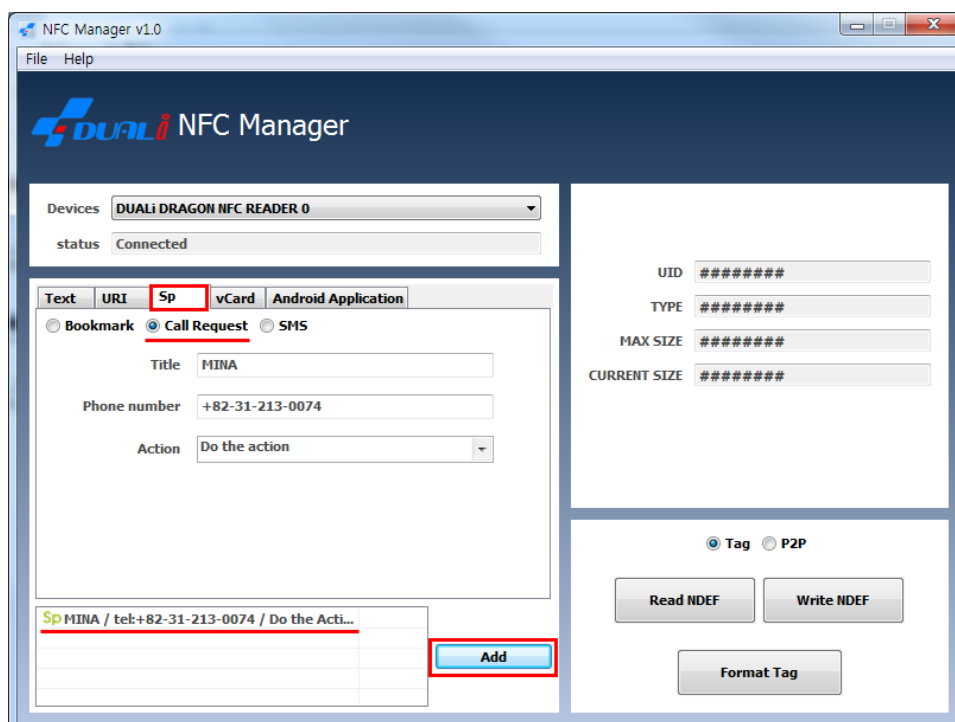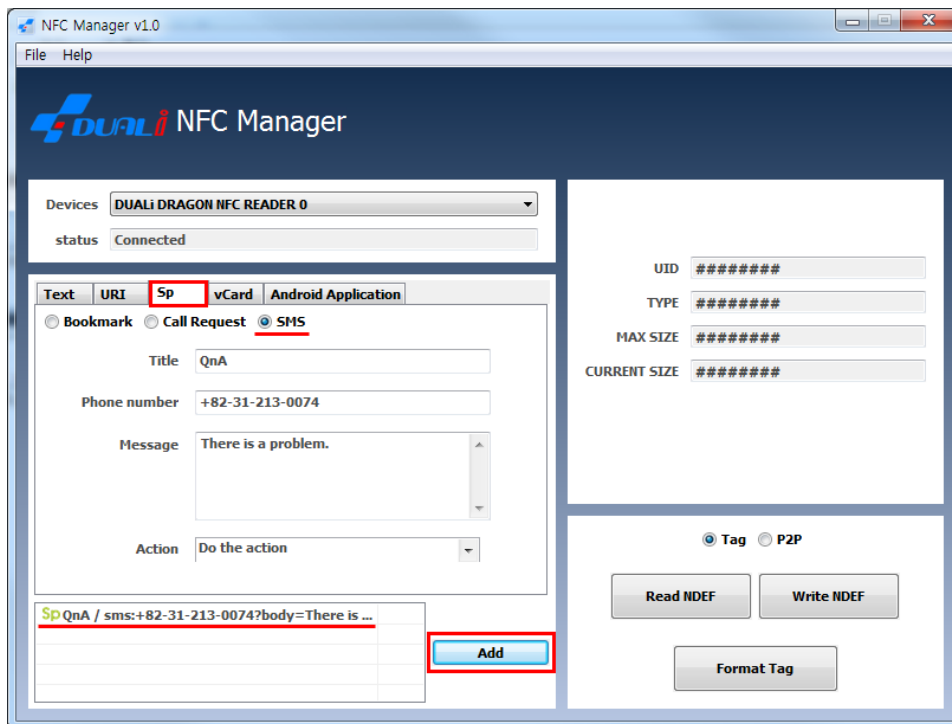
<Bookmark> Input Bookmark you want to add and click add button
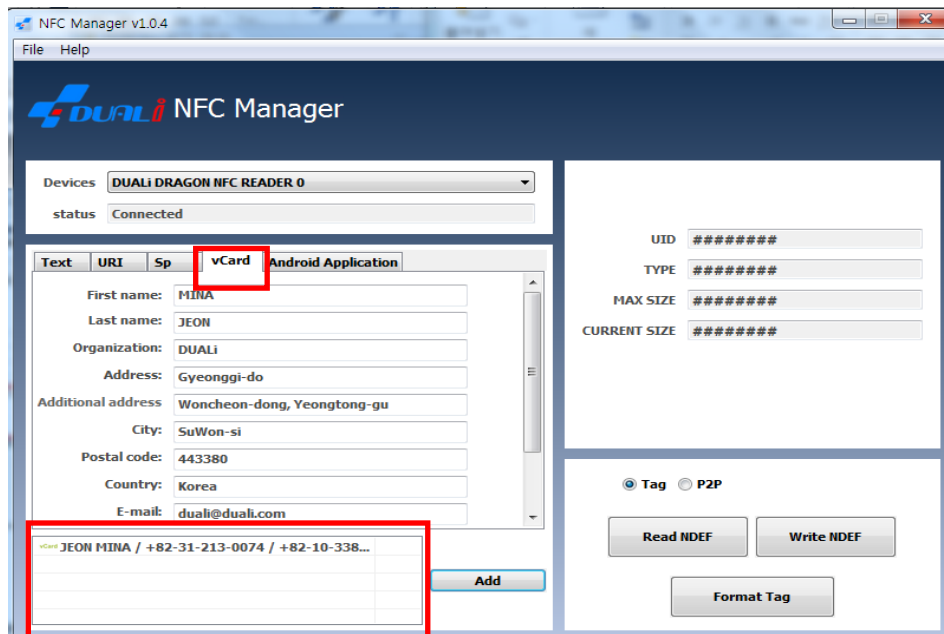
<Call Request> Input Phone number you want to add and click add button

<SMS> Input message you want to add and click add button

<VCard Record> Input business card information you want to add and click add button

8.2 Write A Tag

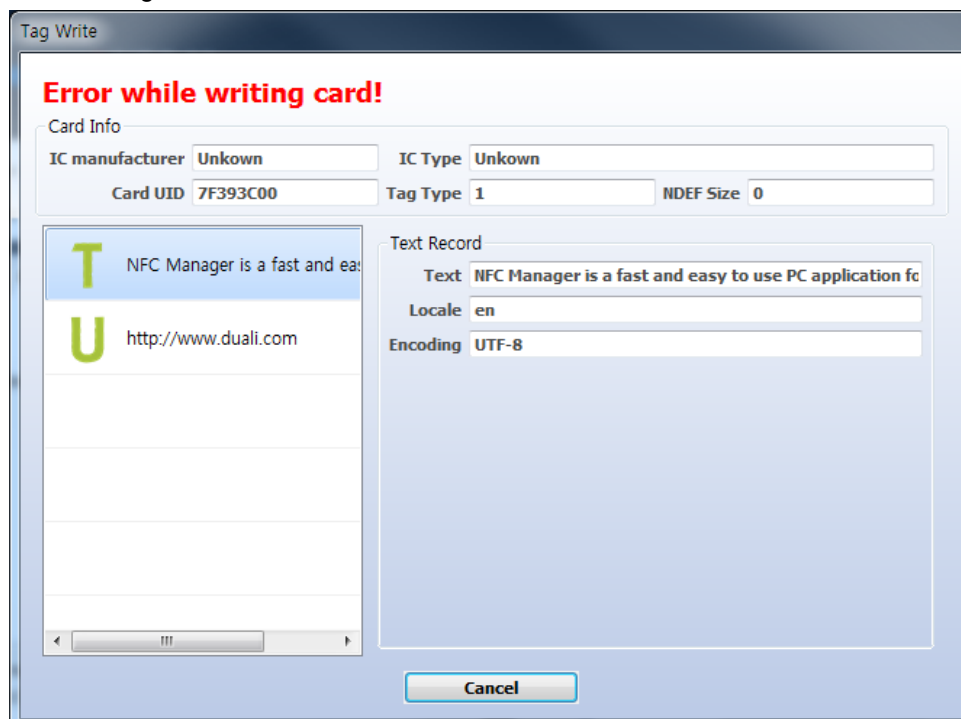1. After adding Record, click "Tag" on the lower- right hand side and "Write NDEF"
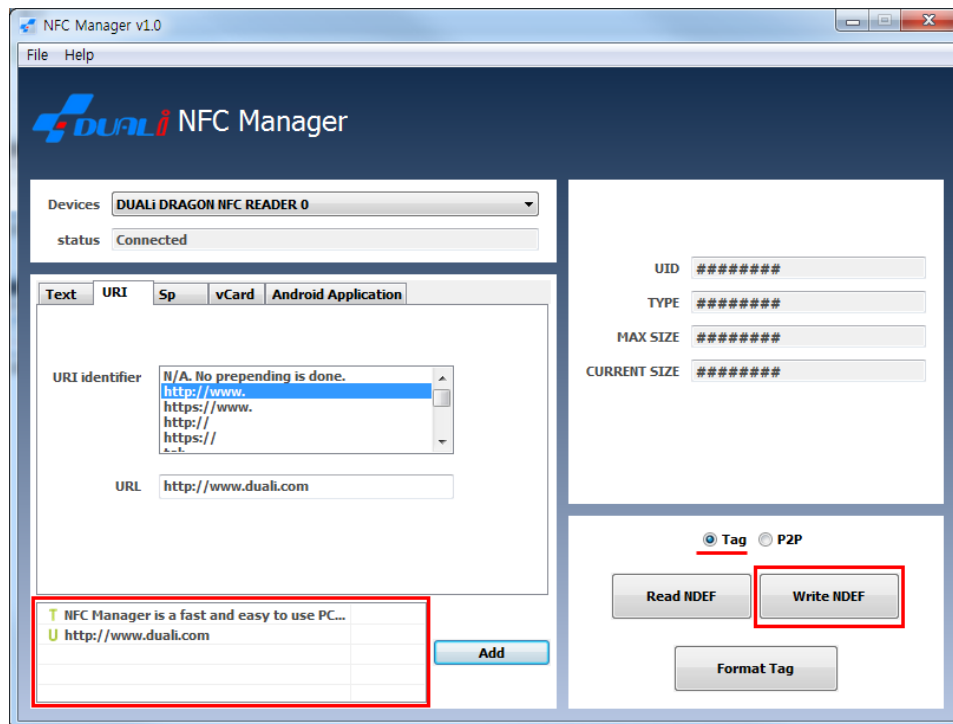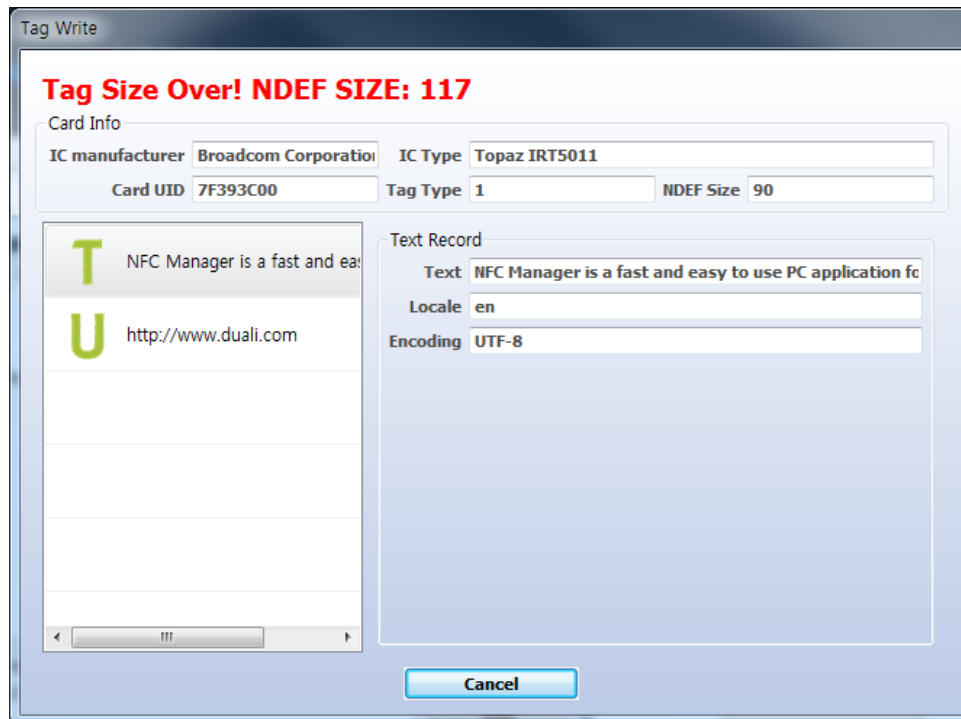

2. Place a Tag on the device.
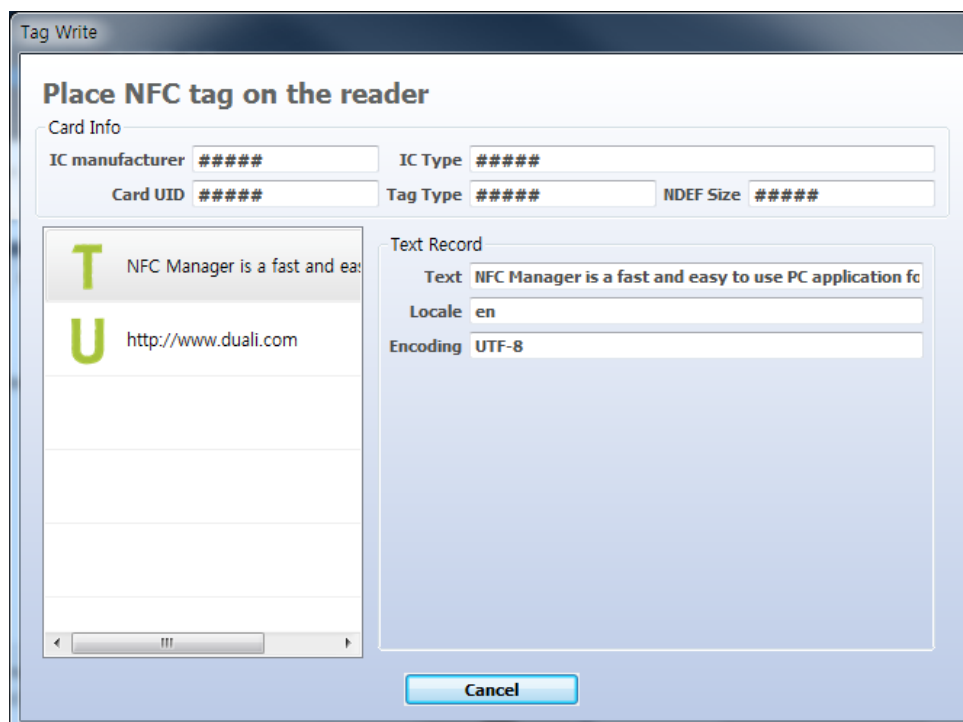
3. This message will pop up when writing a Tag is succeed.
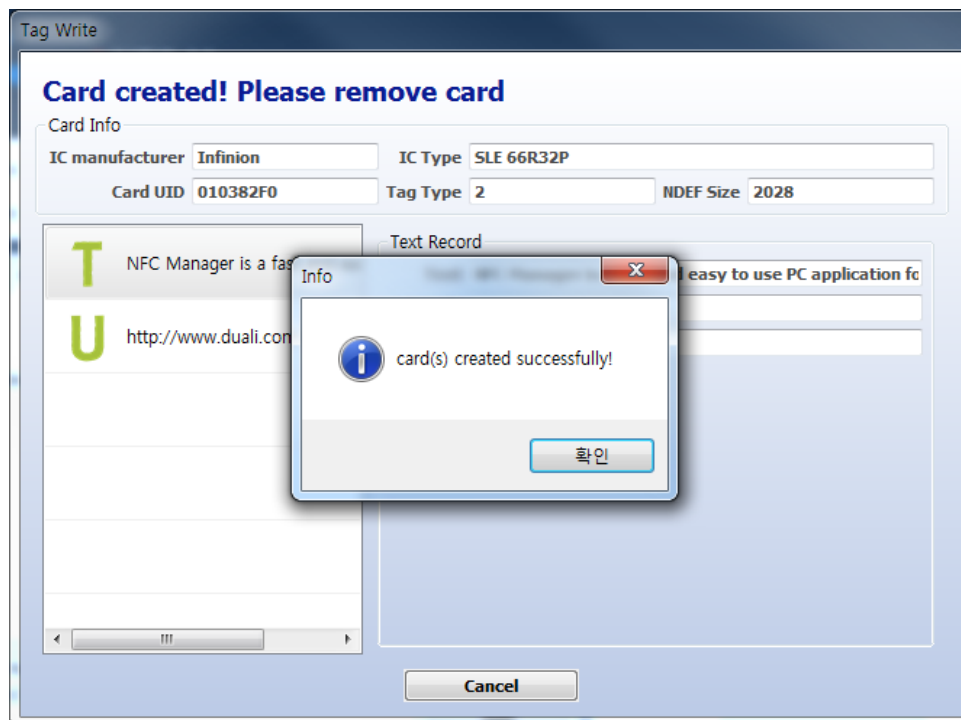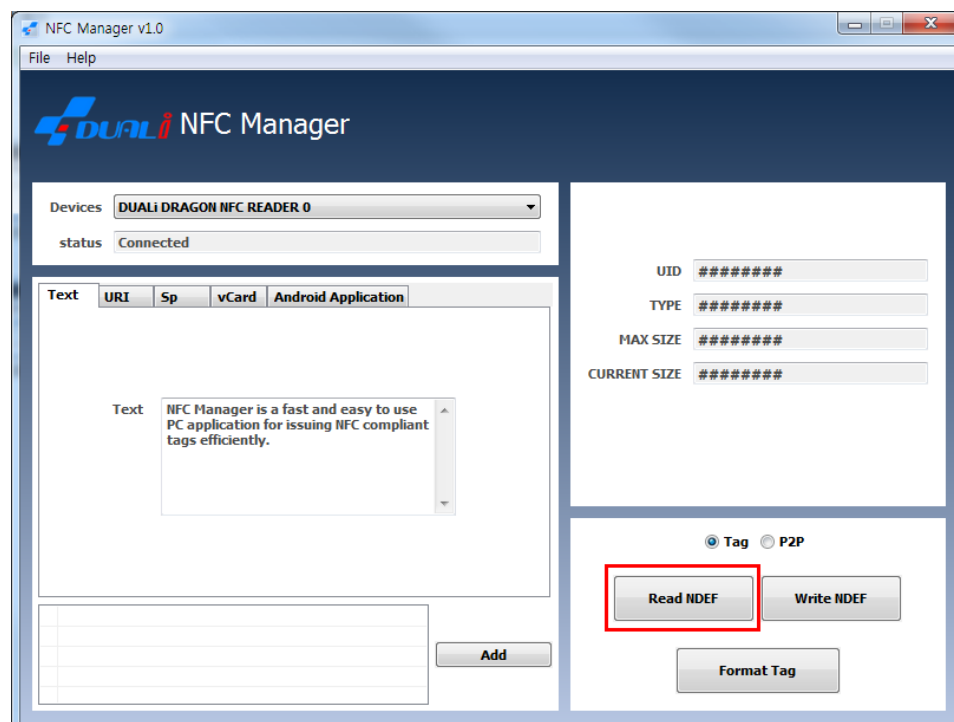

4. An error message will be shown in case of failure.

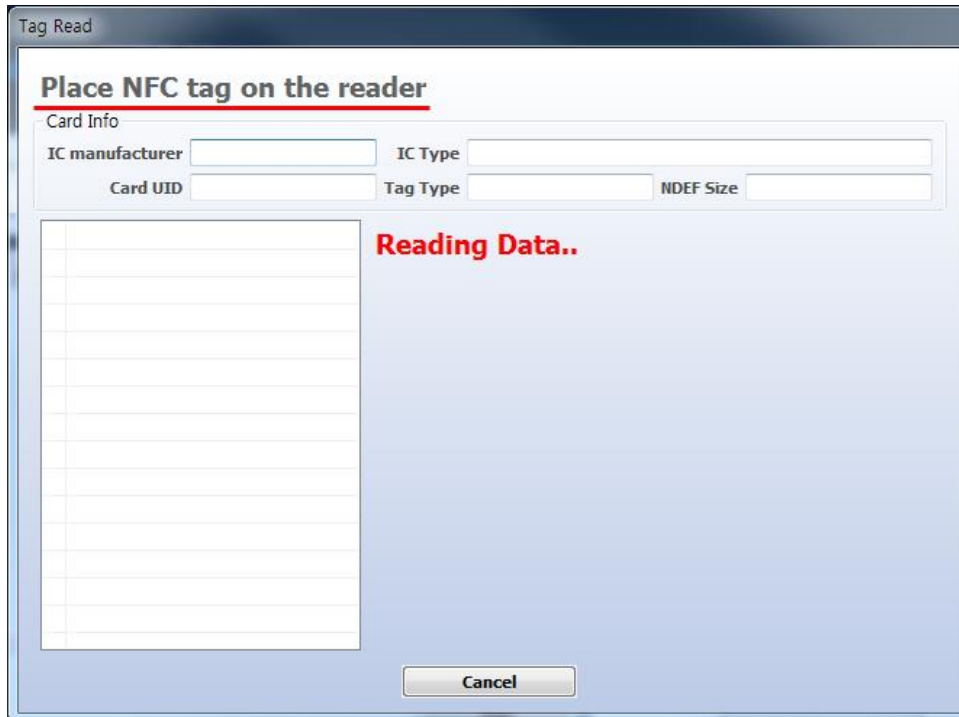5. Following message will be shown when the size of NDEF Messages is bigger than Tag memory size.

9. Tag Read

1. Click "Tag" on the lower- right hand side and "Read NDEF"
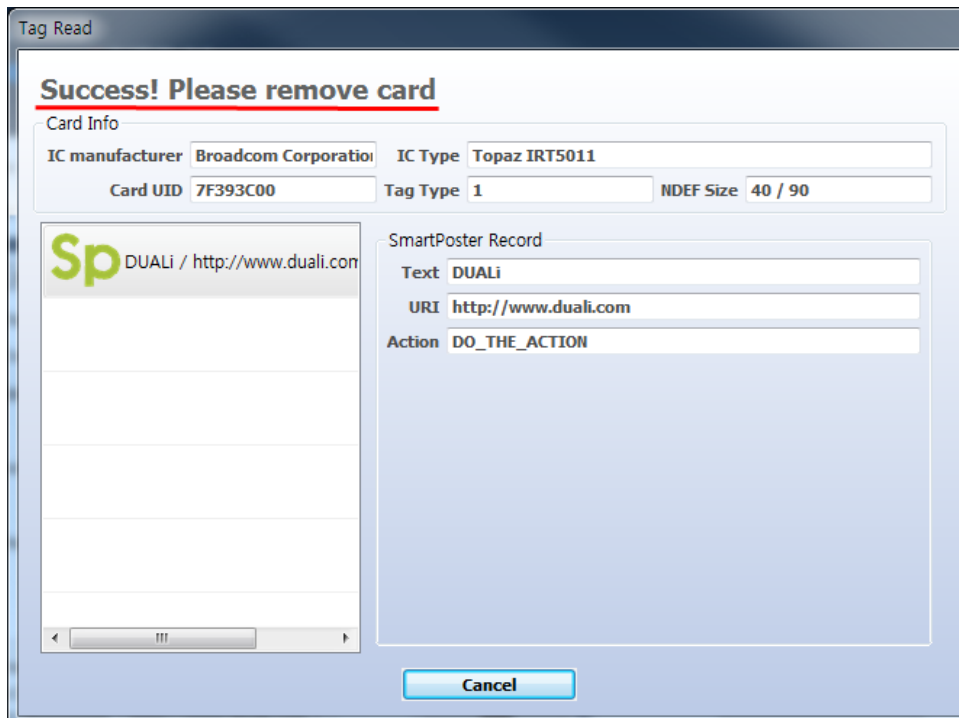
2. Place a Tag on the device.

3. Following message will be show when you place a tag on [Read] windows.
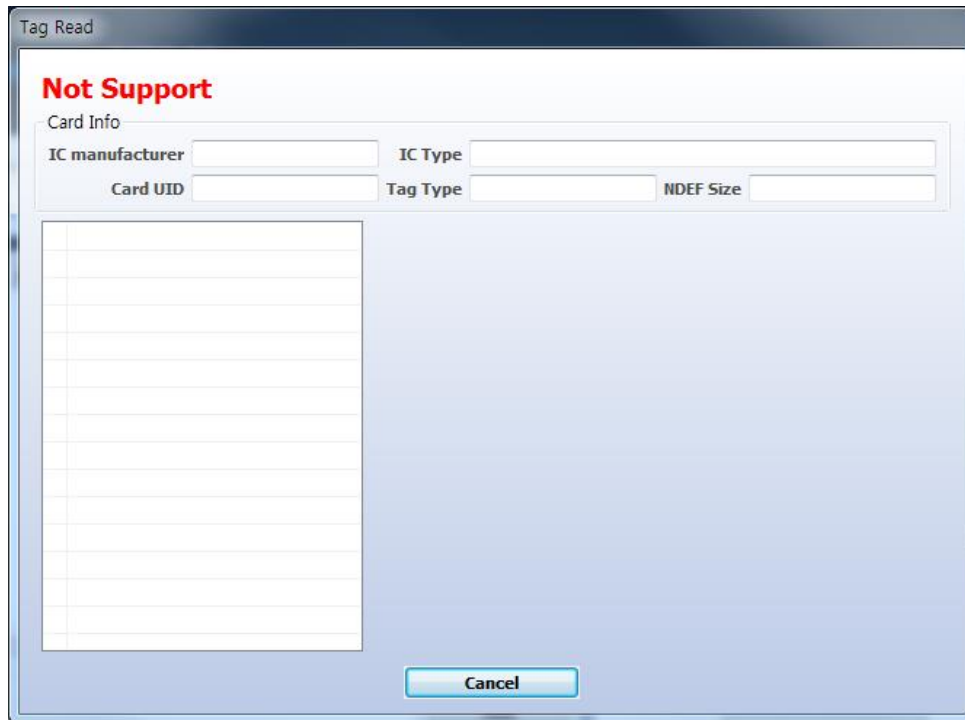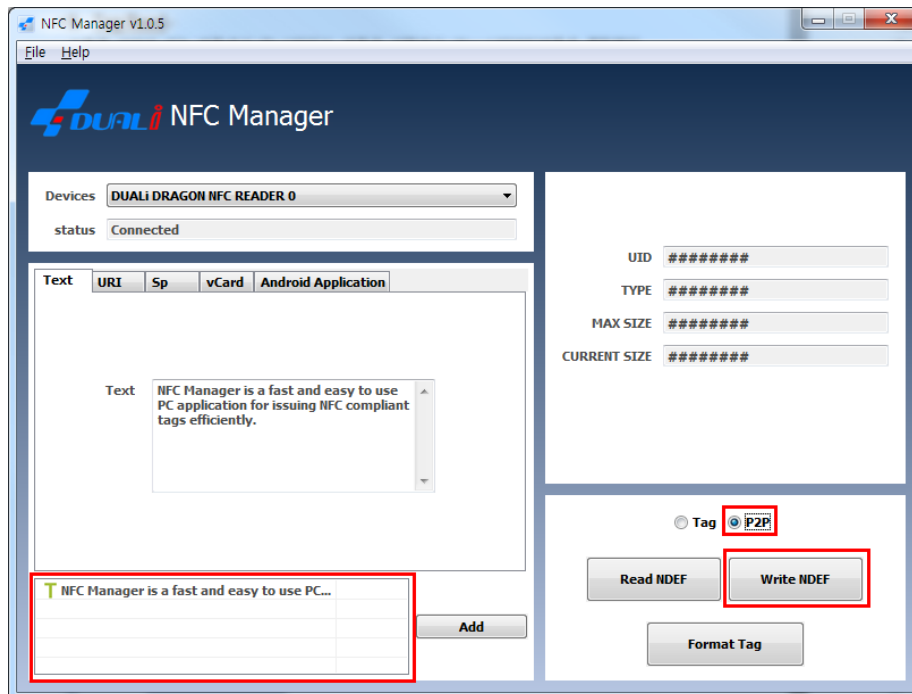
4. The below message will be shown when an unsupported tag (Refer to 2. List of NFC Tag(IC Type)) is on the device.
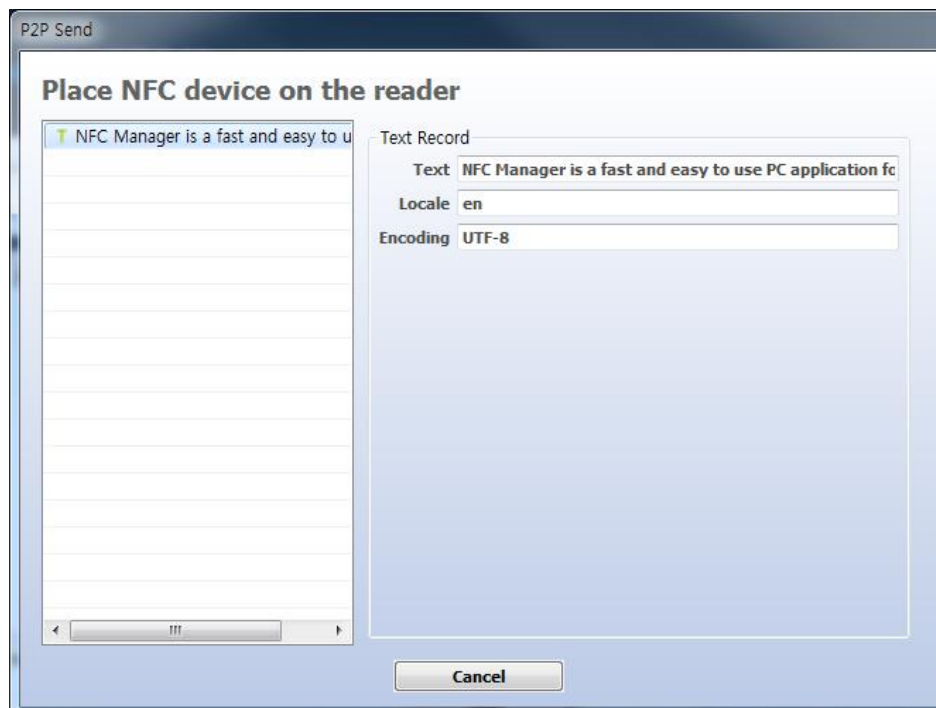
10. P2P Write

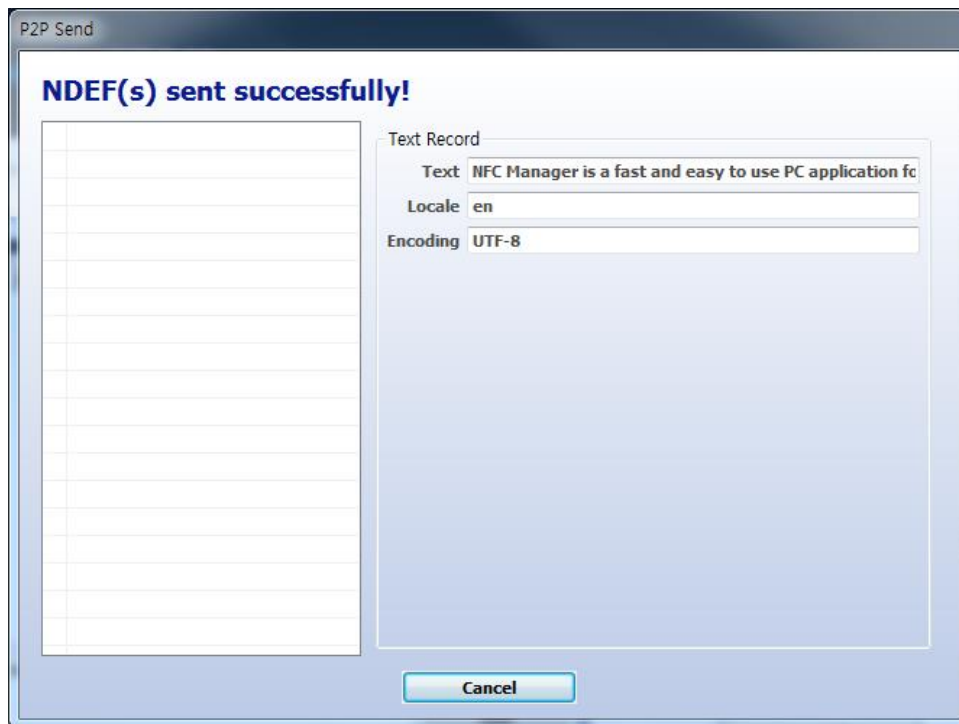1. According to "8.1 Add Record", add Record.

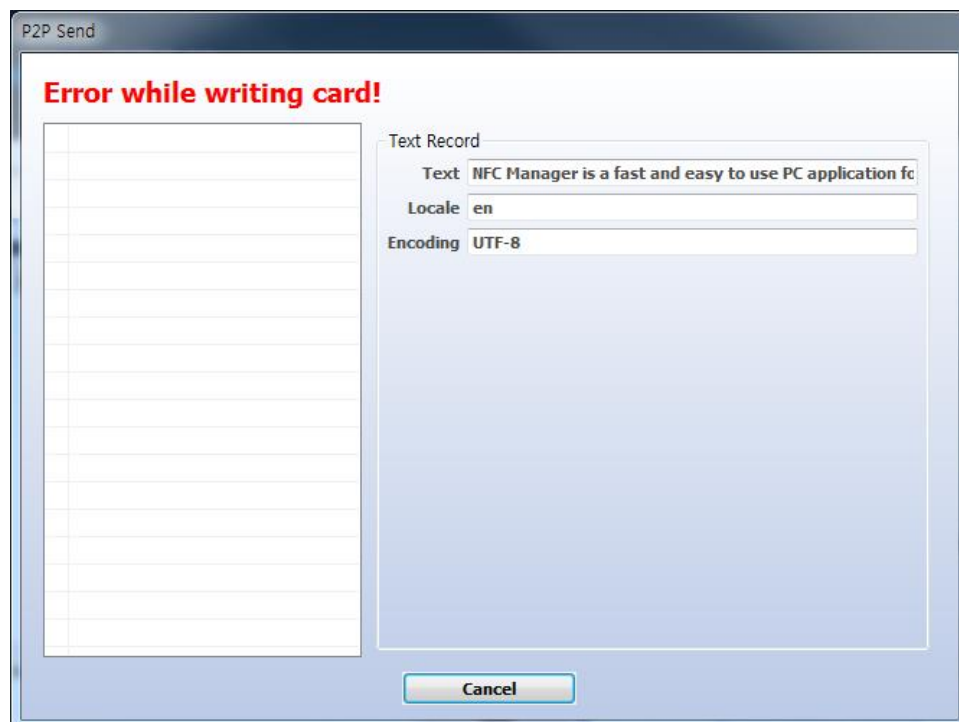   Click "P2P" on the lower- right hand side and "Write NDEF".

2. Place a NFC-enabled Android mobile on the device.

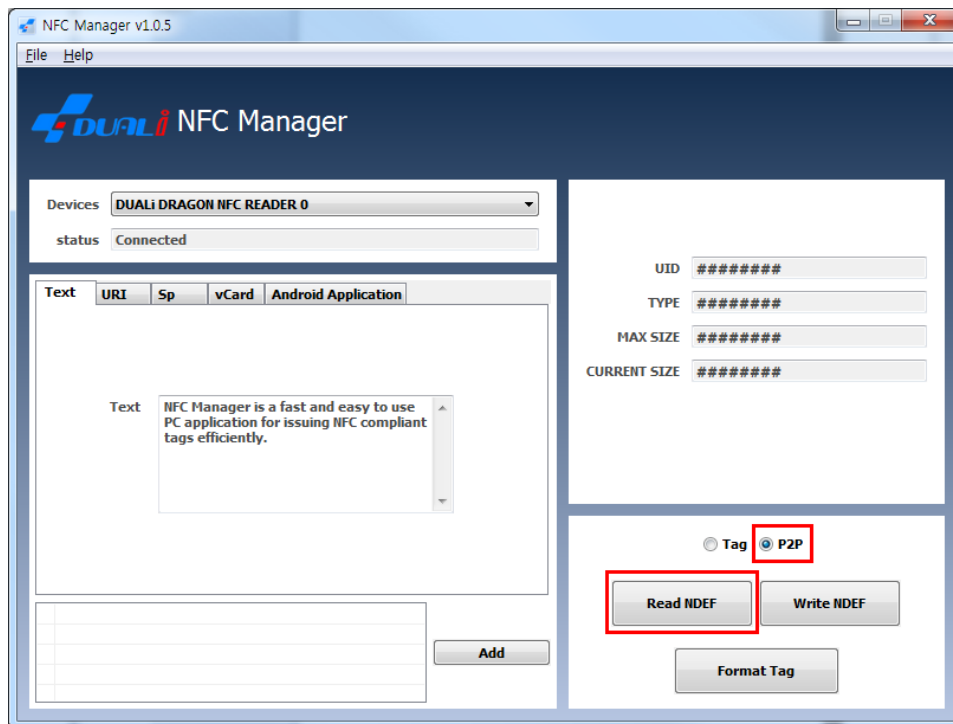3. This message will pop up when writing a Tag is succeeded.

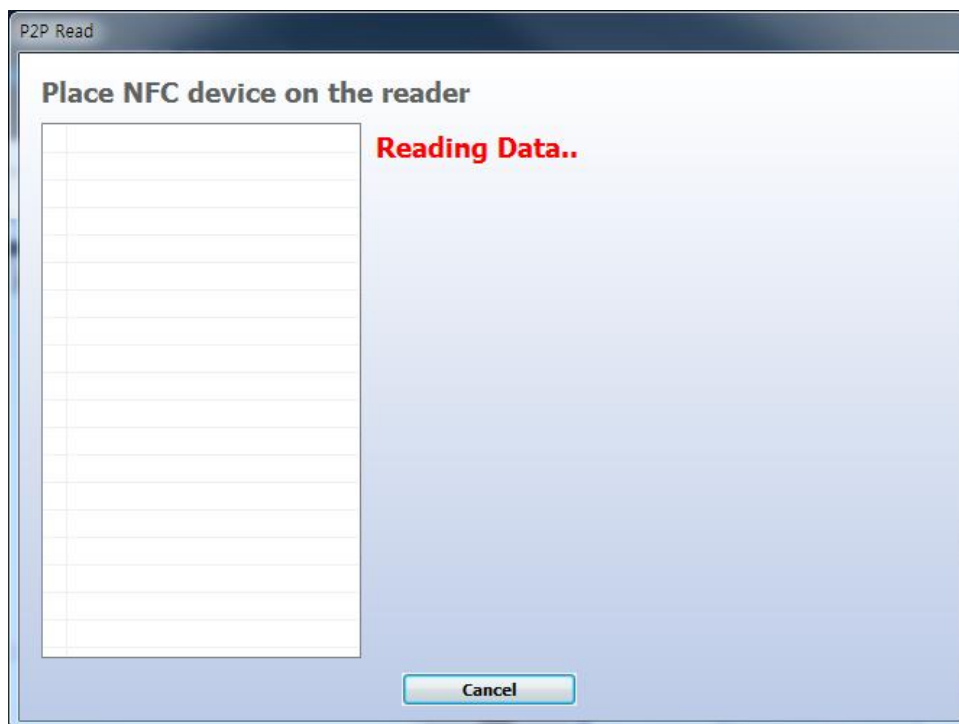4. An error message will be shown in case of failure.

11. P2P Read

1. Click "P2P" on the lower- right hand side and "Read NDEF"

2. Place a NFC-enabled Android mobile on the device.

3. Following message will be show when you place a tag on [Read] windows.

4. The below message will be shown when an NFC unsupportable mobile is on the device.

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