TagXplorer Quick start-up guideRev. 1.0 — 20 June 2018

488210

User manual COMPANY PUBLIC

Document information

Information	Content
Keywords	TagXplorer, TapLinx Java API
Abstract	TagXplorer tool for PCs allows to configure NXP NTAG products



Revision history

Revision history					
Rev	Date	Description			
1.0	20180620	First release			

1 Introduction to TagXplorer

TagXplorer is Java-based application allows users to read, analyse, and write NDEF messages to NXP's NFC tag and smart sensor ICS. TagXplorer provide the user to perform NDEF Operations defined by NFC Forum on NFC Forum type 2 and 4 tags for NXP NFC Tag ICs. It is developed using NXP's TapLinx SDK and open Java API.

TagXplorer provide user to perform the NXP proprietary operations on NTAG operations of NTAG 203, NTAG 21x, NTAG 210 μ , NTAG 213 TT, NTAG I²C *plus* and NTAG 413 DNA.

TagXplorer can be used on Windows and MAC machine.

2 Getting started with TagXplorer

1. Download the TagXplorer.jar file from the link

	<u></u>	
	tagXplorer	
Figure 1. TagXplorer jar File		

- 1. Double-click on the tagXplorer.jar file and application is opened.
- 2. Read and accept the End-User License Agreement.

END USE IMPORT. ENTITY) NETHER SOFTWA ACCEPT. OR DEVI IS UNWI	IL LEARS AGREEMENT IN THIS END USER LICENSE AGREEMENT THE "LICENSE" JS A LEGAL AGREEMENT BETWEEN YOU GHTHER AN INDIVIDUAL OR AN AND INDY SEMICONDUCTORS METHERLANDS B.V., A PRIVATE COMPANY WITH LIMITED LLABLITY INCOMPORATED UNDER THE LAWS OF THE READ DOCUMENTATION REFERENCE TO AN THIS LEGNES. BAYD IS DOLVING THE LAWS INTO LICENSE THE SECTION AND THE TRANSPORT AND THE READ DOCUMENTATION REFERENCE TO AN THIS LEGNES. BAYD IS DOLVING THE APPLICATION LICENSE THE SECTIONARE TO YOU ON CONDITION THAT YOU ALL OF THE TERMS IN THIS LICENSE BY INSTALLINGOR EXECUTING THE APP'INET TAGKPLORED BY NAP' LAS DEFINION BREAKTER) ON ANY DESKTOP EL YOU INDICATE TO ARE TO A BOUND AVIL THE TERMS OF THIS LICENSE THE SECTION CAREE TO THE TERMS OF THIS LICENSE, BAYD BOUND AVIL THE TERMS OF THIS LICENSE THE SOFTWARE TO YOU ON CONTINUE THAT YOU ALL OF THAT YOU ARE TO A BOUND AVIL THE TERMS OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, BAYD BOUND AVIL AND THE APP'INE TAGKPLORED BY NAP' LAS DEFINION OF THIS LICENSE, THE SOFTWARE TO YOU NO CONTINUE THAT YOU ARE TO THE TERMS OF THIS LICENSE OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, THE SOFTWARE TO YOU, DO NOT DOWNLOAD, INSTALL, USE, OR COPY THE DESKTOP APP 'HE' TAGKPLORED BY NAP.
1. License, without th provide to an applica	Subject to the terms and conditions of this License, NXP hereby grants you for the term of this License a non-exclusive, worldwide, personal, non-transferable, royalty-free license, eright to sublicense, to use the software and documentation, and all upgrades, updates, information and/or other materials relating thereto that NXP may (in its sole discretion) you under this License (collectively the "NXF" TagGitpere by NXP") in object code executable only form on a single computer controlled by you for the limited purpose of developing ion and to distribute this application for noncomrecial and/or remercial and/or remercise (the "Authorizes").
2. License copy, tran otherwise derive the competes are allowe	Restrictions: You shall not, and shall not germit any third party to: (i) use the "NRC Tapylolener by NRC" as a start down product. Or commentation remenus generating pumposes: (ii) take, modity a make dominate work or all my portient of the "NRC Tapylolene by NRC" (iii) net start down product. For commentation that transfer dominate work or the my porties of the "NRC Tapylolene by NRC" (iii) net start down product. For commentations or the "NRC Tapylolene by NRC" (iii) net start down product. For commentation that the make transfer dominate more than the make transfer dominate work or the make transfer dominate work or the make transfer dominate or the my porties of the "NRC Tapylolene by NRC" (iii) net start and the "NRC Tapylolene by NRC" (iii) the make transfer dominate or an attempt to the "NRC Tapylolene by NRC" (iii) the "NRC Tapylolene by NRC" (iii) the start and the "NRC Tapylolene by NRC" (iii) the start dominate or an attempt to the "NRC Tapylolene by NRC" (iii) the start of the "NRC Ta
3. Ownerst other expr does not t therein or	ip: Except for those rights specifically granted in Section 1: (i) NOP, its affiliates and their suppliers reserve all right, title and interest in and to the "NFC TagXplorer by NXP", and (ii) no ess or implied license, right or interest in any patent, patent application, copyright, trade secret, trademark or any other intellectual property right are granted herrunder. This License ander any ownership interest in the "NFC TagXplorer by NXP". You agree that any feedback provided by you to NXP and any intellectual property rights and other proprietary rights thete shall vest in NXP.
 Confide by NXP" in use or disc 	ntiality. The "NFC TagXplorer by NOP" app contains confidential and proprietary information and materials and may include trade secrets. You agree to: (i) hold the "NFC TagXplorer confidence, and (iii) use the "NFC TagXplorer by NOP" app only for the Authorized Purpose. You shall notify NOP immediately if you learn of any misappropriation, or unauthorized lower of the "NFC TagXplorer by NOP" app.
5 Tarm- T	emination: Effecte. This License shall commence upon the earlier of sour accentance of this License or sour installation of the "NEC TarYolover by NYD" and shall continue uphi

1. Connect the supported reader and application will display list of available readers from the dropdown.

TagXplorer	Select reader	Connect Reader Connect Tag Show Log	About
NDEF Operations	Identiv uTrust 3700 F CL Reader 0		
NTAG Operations	ा Check NDEF 🦉 Read NDEF 🖉 Write NDEF	Change State History	
	SL.Num. Type of Size		Date
Figure 3. Select the	e supported reader		

1. Select the reader, connect to reader and connect to tag

TagXplorer Quick start-up guide

TagXplorer	Identiv uTrust 3700 F CL Reader 0	Disconnect Reader Disconnect Tag Show	Log About			
NDEF Operations	🔍 Check NDEF 🔍 Read NDEF 🖉 Write NDEF 🚺 🏠 Format NDEF 🔒 Change State 📄 History					
	SL.Num. Type of Size	Data Preview	Date Wri			
Figure 4 Connect	to reader and connect to tag					

2.1 Home screen of TagXplorer

2.1.1 NDEF operations

2.1.2 NDEF operations that can be performed on tag are

- check NDEF (Gives information about Tag type, Access, size etc.)
- Read NDEF (Information about Tag IC, CC file, NDEF payload)
- Write NDEF (To write various types of NDEF records to tag)
- Format NDEF (Formats the tag as NDEF)
- Change State (To change the access of the card to read-only or read-write)
- History (Entry of the records used recently).

2.1.3 NTAG operations

Performs the NXP proprietary operations on NTAG cards like mirroring etc.

2.1.4 Show log

Opens log window (logs can be saved in .txt format)

488210

TagXplorer Quick start-up guide

3 NDEF operations

3.1 Check NDEF message



3.2 READ NDEF message

1. Select Reader	TagXplorer	Identiv uTrust 3700 F CL Reader 0	• Discontr	Reader Disconn 3	Show Log About
2. Connect to Reader	NDEF Operation 4	Check NDEF	/rite NDEF	🔒 Change State	History
 Connect to Tag Choose NDEF Operations Choose Read NDEF Click Export Enter the File name 		€ IC Type: NTAG 413 DNA #Tag Type: MTC Forum Type 4 Tag € User Memory: 128 bytes	Tag IC Info	Stere AJ Organize	CC-File Info CC-File Info CC Ength: 15 bytes Maging version: 20 Makimum Le value: 256 bytes to an Disk Drives (1) Comments Com
8. Click Save, NDEF message will be sav	ave, NDEF message will be saved		EF Payload Info	Compute Com	the of the cost of
	NP			6 Export	Read From Tag
Figure 6. Read NDEF message					

3.3 WRITE NDEF message

Allows user to write NDEF message for the below lits:

- 1. Plain Text
- 2. URI
- 3. Vcard

- 4. WiFi
- 5. Email
- 6. Telephone
- 7. Geo Location
- 8. Launch App
- 9. SMS
- 10.Bluetooth

3.3.1 Write Plain Text Record as NDEF Message

× TagXplorer v10.0.4 by NXP 1. Select Reader TagXplorer Identiv uTrust 3700 F CL Reader 0 Disconnect Reader Disconnect Tag Show Log About 2. Connect to Reader 3. Connect to Tag Format NDEF 🔒 Change State 📄 History 4. Choose NDEF Operations 5. Choose Write NDEF NDEF Message Size(in bytes): 6. Choose Plain Text on 11 Test Number of NDEF record(s): 7. Choose Language 1 8. Enter the data in the available Text field Clear 9. Click "Write to Tag" 10.Press OK

Figure 7. Write Plain Text Record as NDEF Message

3.3.2 Write URL Link Record as NDEF Message

1. Select Reader						
2. Connect to Reader	TagXplorer	Identiv uTrust 3700 F CL	Reader 0	Disconnect 2	Reader Discor	Show Log About
3. Connect to Tag	NDEF Operations	Check NDEF	Read NDEF	DEF 👌 Format ND	EF 🔒 Change	e State History
4. Choose NDEF Operations		+Plain Text +UI	+vCard +WiFi +Em	nail + Telephone	+Geo Location	+Launch App +SMS +Bluetooth
5. Choose Write NDEF		Description:	optional 7		Clear	NDEF Message Size(in bytes):
6. Choose URI		URL(Website)	 http://www. 		Clear	Number of NDEF record(s):
7. Enter Description		9				
8. Enter the URL in the Text field		Write to Tag	Import Ex	kport		
9. Click "Write to Tag"						
10.Press OK						
Figure 8. Write URL Link Record as ND	EF Message					

UM11133

TagXplorer Quick start-up guide

3.3.3 Write Wifi record as NDEF Message

Connect to Tag NTAG Operations Choose NDEF Operations Choose Write NDEF Choose Write NDEF Choose WiFi Enter Network SSID Enter WLAN MAC Enter Password .Click on "Write to Tag" .Press OK	Connect to Reader		1		2		3
Connect to Tag NTAG Operations Choose NDEF Operations Choose Write NDEF Choose WiFi Choose WiFi Enter Network SSID Enter WLAN MAC Enter Password .Click on "Write to Tag" .Press OK	Connect to Reader NDEF Operations 4	R Check NDEF	🔍 Read NDEF 🛛 🖊 W	rite NDEF	🔶 Format NDEF	🔒 Change St	ate 📄 Hi
Choose NDEF Operations Choose Write NDEF Choose WiFi Choose WiFi Enter Network SSID Enter Network SSID Password: Test123 Enter WLAN MAC Enter Password Click on "Write to Tag" Press OK	Connect to lag NTAG Operations	+Plain Text + L	JRI +vCard +WiFi	+Email	+Telephone +Ge	o Location	+Launch App
Choose Write NDEF Network SSID: Choose WiFi VLAN MAC:* Enter Network SSID VLAN MAC:* Enter WLAN MAC Password: Test123 Clear Enter Password Clear Click on "Write to Tag" Wife to Tag Press OK 10	Choose NDEF Operations						
Choose WiFi WLAN MAC:* Enter Network SSID Enter WLAN MAC Enter WLAN MAC Enter Password Click on "Write to Tag" Press OK	Choose Write NDEF	Network SSID:	NXP WiFi	7	Clear		
Enter Network SSID Password: Test123 Image: Clear Cl	Choose WiFi	WLAN MAC:*	83:e4:6c:4t:e8:55	8	Clear		
Enter WLAN MAC Authentication type: Open Enter Password Encryption type: None Click on "Write to Tag" Write to Tag Import Export Press OK 10	Enter Network SSID	Password:	Test123	9	Clear		
Enter Password Click on "Write to Tag" Press OK	Enter WLAN MAC	Authentication type:	Open 🔹				
Click on "Write to Tag" Wite to Tag Import Export Press OK	Enter Password	Encryption type:	None 👻				
Press OK	Click on "Write to Tag"	Write to Tag	Import	Export			
	.Press OK						

Figure 9. Write WiFi record as NDEF Message

UM11133

TagXplorer Quick start-up guide

3.3.4 Write Email Record as NDEF Message

	i agripior ci		1	2	3
2. Connect to Reader	NDEF Operation 4	🔍 Check NDE	F 🔍 Read NDEF 🖊 Write 5 DEF	Format NDEF	🔒 Change State 📔 Hi
 Connect to Tag 	NTAG Operations	+Plain Text	+URI +vCard +WiFi +Fmail	+Telephone +Ge	o Location +Launch App
I. Choose NDEF Operations		-			
5. Choose Write NDEF		Title:	Test Email	7	Clear
5. Choose Email		Recipient email:*	Test@nxp.com	8	Clear
7. Enter Title		Subject:	Test TagXplorer Write NDEF Message	9	Clear
3. Enter Receipient email			Hello,]
9. Enter Subject of the Emai	il		Your the first receipient of the email!		
LO.Enter Content(message)	of the Email	Message:	Regards, TapLinX Team		Clear
L1.Click "Write to Tag"					
L2.Press OK					
		Write to Ta	g Import Export		
		11			

3.3.5 Write NDEF Message to share a Telephone number

1. Select Reader TogXplorer 2. Connect to Reader	Identiv uTrust 3700 F CL Reader 0
3. Connect to Tag	🔍 Check NDEF 🔍 Read NDEF 🔀 Write NDEF 🖉 Format NDEF 🔒 Change State 🗎 His
4. Choose NDEF Operations NIAG Operations 5. Choose Write NDEF	+Plain Text +URI +vCard +WiFi +Email +Telephone +Geo Location +Launch App
6. Choose Telephone 7. Enter Title / Name	Title: NXP Bangalore Office 7
8. Enter Destination Number	Destination number:" +91 80 4024 4000 (8) Clear
9. Click "Write to Tag" 10.Press OK	
	Write to Tag Import Export
Figure 11. rite NDEF Message to share a Telephone	e number

UM11133

TagXplorer Quick start-up guide

3.3.6 Write NDEF Message to share GeoLocation

 Select Reader Connect to Reader 	TagXplorer	Identiv uTrust 3700 F CL Reader 0
3. Connect to Tag	NDEF Operations 4	🔍 Check NDEF 🔍 Read NDEF 🟒 Write NDEF 🔗 Format NDEF 🔒 Change State 🗎 His
4. Choose NDEF Operations	NTAG Operations	
5. Choose Write NDEF		
6. Choose Geo Location		Develotion New Delhi Class
7. Enter Description		
8. Enter Latitude		Latitude:" 28.7041 Clear
9. Enter Longitude		Longitude: 77.5946 (9) Clear
10.Click "Write to Tag"		
11.Press OK		Write to Tag Import Export
		10
Figure 12. Write NDEF Message to	o share GeoLocatior	I

3.3.7 Write NDEF Message to launch an app

1. Select Reader	TaaXplorer	Identiv uTrust 3700 F CL Reader 0
2. Connect to Reader	In a subjoired	1 2 3
3. Connect to Tag	NDEF Operations	🔍 Check NDEF 🔍 Read NDEF 🗾 Write NEF 👌 Format NDEF 🔓 Change State 🗎 Hist
4. Choose NDEF Operations	NTAG Operations	
5. Choose Write NDEF		
6. Choose Geo Location		
7. Enter Application Package name along with path		Application package name:" /example.myapp 🥜 Clear
8. Click "Write to Tag"		
9. Press OK		
		Write to Tag Import Export
Figure 13. Write NDEF Message to launc	h an app	

UM11133

TagXplorer Quick start-up guide

3.3.8 Write NDEF Message to Send SMS

1. Select Reader	TagXplorer Identiv uTr	st 3700 F CL Reader 0	Disconnect Reader Disc	Connect Tag Show Log About
2. Connect to Reader	NDEF Operations 4	DEF 🔍 Read NDEF 🖌 Write ND	DEF 👌 Format NDEF 🔒 Change St	tate History
3. Connect to Tag	NTAG Operations +Plain Tex	+URI +vCard +WiFi +Ema	il +Telephone +Geo Location	+Launch App +SMS +Bluetooth
4. Choose NDEF Operations				6
5. Choose Write NDEF	Description:	Emergency call 7	Clear	
6. Choose SMS	Recipient num	ber:* 947 804 7507 (8)	Clear	
7. Enter Description		Call back !!!		
8. Enter Receipient no.				
9. Enter Message to send	Message:	9	Clear	
10.Click "Write to Tag"				
11.Press OK				
		Tag Import Exp	port	

3.3.9 Write NDEF Message to Setup Bluetooth

1. Select Reader	Xplorer	Identiv uTrust 3700 F CL Reader 0 • Okconnect Teader Okconnect Teag Show Log About
2. Connect to Reader	EF Operation: 4	Read NDEF Read NDEF
3. Connect to Tag	AG Operations	+Plain Text +URI +vCard +V//FI +Email +Telephone +Geo Location +Launch App +SMS +Buetooth
4. Choose NDEF Operations		Bluetooth NDEF version: Bluetooth 2.1 (7)
5. Choose Write NDEF		Device Name: Test Bluetooth (8) Clear
6. Choose SMS		MAC Address: AC:47:78:F9:A8:A7 g
7. Enter Description		Device Class: SmartPhone 10
8. Enter Receipient no.		Create Bluetooth handover select message
9. Enter Message to send		Write to Tag Import Export
10.Click "Write to Tag"		
11.Press OK		
Figure 15. Write NDEF Message to Setup Bluetooth	า	

UM11133

TagXplorer Quick start-up guide

3.4 Format NDEF message



3.5 Change State



UM11133

TagXplorer Quick start-up guide

3.6 History

1.	Select Reader	TagXplorer	Identiv	uTrust 3700 F CL Reader 0		Disconnet	ct Reader Disconnert Tag	how Log Ab	out		
2.	Connect to Reader	NDEF Operations	@ Cha		1	2	A Changes State				
3.	Connect to Tag	NTAG Operations	er che	Kead NDEF	<u>Z</u> v	Vrite NDEF	Change State	×			
4.	Choose NDEF Operations		SL.N 1	Type of Record	Size	"inputText":"Test","languageCode	Data Preview e":"en","type":"TEXT_RECORD","siz	2":11}	Date 2018-06-08 12:07:28	Write	Delete
5.	Click History		3	BLUETOOTH_RECORD	Sam	e As Joan I∰ → Computer →	• 49 Search Computer	P Versi.	2018-06-08 12:07:45 2018-06-08 12:07:57	♥_ ∠	1
6.	Click to Edit NDEF message		4	BLUETOOTH_RECORD	Orga	Hard Disk Drives (1) Hard Disk Drives (1) AWS_System (C:)		Versi.	2018-06-08 12:12:10	2	1
7.	Click to Delete NDEF Message				8	Music Picture Videos DVD RW Drive (D:)	s Storage (1)				
8.	Click to Save all NDEF Messages to CSV File.				6	Compute # AWS_5 + (H1) rxd39977 File name Save as type: (SSV files (*.csv)		-			
9.	Click to Clear History of NDEF messages				<u></u> н	ide Folders	Save Ca	ncel			
						9	<mark>8.</mark> e c	ear			
Figu	re 18. History										

4 NTAG operations

4.1 How to get the version of the NTAG cards

TagXplorer 1. Select Reader Identiv uTrust 3700 F CL Reader 0 2. Connect to Reader 3. Connect to NTAG Tag ▼ GetVersion Page No 4. Choose NTAG Operations 0 5. Choose NTAG21x ► Vendor: NXP Semiconductors 1 ► Product Type: NTAG 6. Click "Get Version" ► Tag Name : NTAG 216 2 ▶ Product Sub Type: 50pF 3 7. Press OK ► Major Product Version: 1 4 Minor Product Version: V0 5 Storage Size: 888 bytes ▶ Protocol Type: ISO/IEC 14443-3 Compliant 6 ▶ Get Version Response [HEX]: 0x0004040201001303 7

Figure 19. How to get the version of the NTAG cards

Note: Above steps are the same to get the version of NTAG 21x, NTAG 210 μ , NTAG 213 TT, NTAG I²C *plus* and NTAG 413 DNA cards.

4.2 How to set password for NTAG cards*

1. Select Reader TogXplorer	Identiv uTrust 3700 F CL Reader 0	t Reader Disconnect Tag
2. Connect to Reader NDEF Operations		
3. Connect to NTAG Tag	NTAG203 NTAG21X NTAG210U NTAG213 TT NTAGL2C Plus	NTAG413 DNA Mirroring I
4. Choose NTAG Operations	GetVersion	Page No
5. Choose NTAG21x	6 Password	1
6. Click Password	Set Password	2
7. SelectSet Password"	New Password Ack	3
8. Enter New Password	0000000 (8) 0000 (9)	5
9. Enter New Password Acknowlegement	Set Pase and	6
10.Click "Set Password"		1
Figure 20. How to set password for NTAG cards		

Note: Above steps are the same to get the version of NTAG 21x, NTAG 213 TT and NTAG I^2C *plus* cards.

TagXplorer Quick start-up guide

4.3 How to authenticate a card if card is already password protected

1. Select Reader		Disconnect Reader Disconnect Tag
2. Connect to Reader	NDEF Operations	
3. Connect to NTAG Tag	NTAG203 NTAG210U NTAG213 11	NTAGI2C Plus NTAG413 DNA Mirroring H
4. Choose NTAG Operations	► GetVersion	Page No
5. Choose NTAG21x	6 Password	1
6. Click Password	Authenticate 🠬	2
7. Select "Authenticate"	Current Password Current Password	rd Ack
8. Enter Current Password	00000000 (8) 0000 (9)	5
9. Enter Current Password Acknowlegement	Authenticate	6
10.Click "Authenticate"	10	7

Figure 21. How to authenticate a card if card is already password protected

Note: Above steps are the same to get the version of NTAG 21x, NTAG 213 TT and NTAG $\rm I^2C$ *plus* cards.

4.4 Change a password for NTAG cards*

1.	Select Reader	agXplorer	Identiv uTrust 3700 F CL	Reader 0	Disconn	ect Reader Disconnect Tag
2.	Connect to Reader	NDEF Operations				
3.	Connect to NTAG Tag	NTAG Operation: 4	NIAG203 NIAG2	NTAG210u NTAG2:	.3 TI NTAGI2C Plus	NTAG413 DNA Mirroring F
4.	Choose NTAG Operations		GetVersion			Page No
5.	Choose NTAG21x		V Pa 6 vord			1
6.	Click Password			Change Password	-7	2
7.	Select "Change Password"		Current Password	Current	Password Ack	3
8.	Enter Current Password and Pas	sword	0000000	8 0000		5
	Acknowlegement		New Password	New Pa	issword Ack	6
9.	Enter New Password and Passw	ord	00000000	9 0000		7
	Acknowlegement					8
10	Click Change Password"			Change Password	1	9
10	ener "enange rasswora			10		10
Fig	jure 22. Change a password fo	or NTAG cards				

Note: Above steps are the same to get the version of NTAG 21x, NTAG 213 TT and NTAG I^2C *plus* cards.

15 / 28

UM11133

TagXplorer Quick start-up guide

4.5 Remove a password for NTAG cards*

1. Select Reader	CI Identiv uTrust 3700 F CL Reader 0	Reader Disconnect Tag
2. Connect to Reader		
3. Connect to NTAG Tag	NTAG2 S NTAG21X NTAG210U NTAG213 TT NTAGI2C Plus N	TAG413 DNA Mirroring F
4. Choose NTAG Operations	► GetVersion	Page No
5. Choose NTAG21x	6 Password	0
6. Click Password		1
7. Select "Remove Password"	Remove Password	2
8. Enter Current Password	Current Password Ack	4
9. Enter Current Password Acknowlegement	0000 9	5
10.Click "Remove Password"	Remove Password	6
	10	7
Figure 23. Remove a password for NTAG cards		

Note: Above steps are the same to get the version of NTAG 21x, NTAG 213 TT and NTAG I^2C *plus* cards.

4.6 How to read Signature of NTAG cards

1. Select Reader	TagXplorer	Identiv uTrust 3700 F CL Reader 0	eader Disconnect Tag
2. Connect to Reader	NDEF Operations	NTAG203 NTAG21x NTAG2100 NTAG213 TT NTAGI2C Plus NTA	AG413 DNA Mirroring
3. Connect to NTAG Tag	NTAG Operations 4	► GetVersion	Page No
4. Choose NTAG Operations		► Password	0
		6 Signature	2
5. Choose NTAG21x		Signature	3
6. Click Signature		AFD272F651AAABF7DF23D8D51CEE85CAC4AE20A6DD0C90DE052F4B	4
7 Click Read Signature" and Signature of		Read SI 7 ture	6
the card is displayed			7
the cara is displayed		Public Key	8
		04494E1A386D3D3CFE3DC10E5DE68A499B1C202DB5B132393E89ED1	9
		Marifu Authenticity	10
		Above mentioned public key is provided by NXP	Start Address -Sele
		Above mentioned public key is provided by NXP	
Figure 24. How to read Signature of NTAG of	ards		

Note: Above steps are the same to get the version of NTAG 21x, NTAG 210 μ , NTAG 213 TT, NTAG I²C *plus* and NTAG 413 DNA cards.

488210

UM11133

TagXplorer Quick start-up guide

4.7 How to perform Originality check for NTAG cards

1. Select Reader	lagxplorer	Identiv uTrust 3700 F CL Reader 0	ader Disconnect Tag
2. Connect to Reader	NDEF Operations	NTAG203 NTAG21x NTAG210u NTAG213 TT NTAGI2C Plus NTA	G413 DNA Mirroring Fe
3. Connect to NTAG Tag	NTAG Operation: 4	► GetVersion	Page No
4. Choose NTAG Operations		Password	0
		6 signature	2
5. Choose NIAG21X		Signature	3
6. Click Signature		AFD272F651AAABF7DF23D8D51CEE85CAC4AE20A6DD0C90DE052F4B	4
7 Click Verify Authenticity" and		Read Signature	6
confirmation will be displayed			7
commation will be displayed.		Public Key	8
		04494E1A386D3D3CFE3DC10E5DE68A499B1C202DB5B132393E89ED1	9
		Morth Authoritisty	10
		Above mentioned public key is provided by NKP	Start Address -Select-

Figure 25. How to perform Originality check for NTAG cards

Note: Above steps are hte same to get the version of NTAG 21x, NTAG 210 μ , NTAG 213 TT, NTAG I²C *plus* and NTAG 413 DNA cards.

4.8 How to check NFC Counters for NTAG cards

1. Select Reader	TagXplorer	Identiv uTrust 3700 F CL Reader 0	ader Disconnect Tag
2. Connect to Reader	NDEF Operations	NTAG203 NTAG21x NTAG2100 NTAG213 TT NTAGI2C Plus NTA	G413 DNA Mirroring Fe
3. Connect to NTAG Tag	NTAG Operations 4	► GetVersion	Page No
4. Choose NTAG Operations		Password Gsignature	0
5. Choose NTAG21x		Signature	2
6. Click Signature		AFD272F651AAABF7DF23D8D51CEE85CAC4AE20A6DD0C90DE052F4B	4 5
7. Click "Verify Authenticity" and		Read Signature	6 7
confirmation will be displayed.		Public Key	8
		04494E1A386D3D3CFE3DC10E5DE68A499B1C202DB5B132393E89ED1	9
		Verify Authenticity	10
		Above mentioned public key is provided by NXP	Start Address -Select-
Figure 26. How to check NFC Counters	for NTAG cards		

Note:

- 1. Above steps are the same to get the version of NTAG 203, NTAG 21x, NTAG 213 TT and NTAG 413 DNA cards
- 2. NFC Counter needs to be enabled in order to display counter value from the User configuration.

UM11133

TagXplorer Quick start-up guide

4.9 How to Lock and Block Lock Bytes for NTAG cards

1.	Select Reader	TagXplorer Identiv uTrust 3700 F CL Reader 0	Disconnect Tag
2.	Connect to Reader	NDEF Operations NTAG203 NTAG21R NTAG210u NTAG213 TT NTAG12C Plus NTAG42	3 DNA Mirro
3.	Connect to NTAG Tag	NTAG Operati 4	2 3
4.	Choose NTAG Operations	■ LOCK BITS ■ LOCK Bytes (Page 02)	4
5.	Choose NTAG21x	Lock Page:	6
6.	Click Lock Bytes	✓ BL OTP BL 9-4 BL 15-10 Lock OTP ● ✓ 04 8 05 06 07	8
7.	Click "Read" button and Lock Page d are displayed.	details 08 09 10 11 12 13 14 15	10 Start Address
8.	Select the byte to be locked and clic "Write" button	ck	
9.	Once the page is locked, byte becom non-editable.	(16-31) (32-47) (48-63) (64-79) (80-95) (96-111) (112-127) (128-143)	

Figure 27. How to Lock and Block Lock Bytes for NTAG cards

Note: Above steps are the same to get the version of NTAG 203, NTAG 21x, NTAG 210 μ , NTAG213 TT and NTAG I²C *plus* cards.

4.10 User configurations available for NTAG 203

2. Connect to Reader	-9. loi oi oi		
3. Connect to NTAG Tag	NDEF Operations NTAG203 NTAG21x NTAG21	0u NTAG213 TT NTAGI2C Plus NTA	5413 DNA Mir
4. Choose NTAG Operations	NTAG Operations		
5. Choose NTAG203	4 ► Lock Bits		Page No
6. Click User Configuration	6 User configuration		0
7. Enter the initial counter value between	Counter Value	Increment Value (HEX)	1
0001 to FFFF			2
8. Click "Initial Counter".		01 •	3
9. Click "Increment Counter"	Read Counter Initialize C	ounter Increment Counter	4
10.Now Click "Read Counter" and check incremented value is displayed.			5

UM11133

TagXplorer Quick start-up guide

4.11 User configurations available for NTAG 21x

- 1. Choose the Segment Protection either Writer or Read/Write
- 2. Choose the Page Protect start address from 00h to card max size
- 3. Choose Mirror page start address
- 4. Choose Mirror byte start address
- 5. Choose Mirror Configuration from the following below:
 - No Mirroring
 - UID Mirroring
 - NFC Counter Mirroring
- UID & NFC Counter Mirroring
- 6. To enable or disable NFC Counter Password protection
- 7. To enable or disable NFC Counter
- 8. To enable or disable Strong Modulation
- 9. To set the Negative authentication limit.
- 10. To enable Lock user configurations and this is irreverisble
- 11. Click to Read already Configured card.
- 12. Click to Write new Configuration to card

Segment Protection	1 WRITE	•	
Page Protect Start Address	2 227 (E3)	•	
Mirror Page	3 0 (00)	•	
Mirror Byte	4 00 🔻		
Mirror Configuration	5 No Mirrori	ng	•
NFC Counter PWD Protectio	n <mark>6</mark>		
Enable NFC Counter	7		
Enable Strong Modulation	8		
Negative Authentication Lim	i 9 00 🔻		
Lock Above Configuration	10		
R	ead Config V	Vrite Config	g

Figure 29. User configurations available for NTAG 21x

4.12 User configurations available for NTAG 213 Tag Tamper

1. Choose the Segment Protection either Writer or Read/Write	V User configuration
2. Choose the Page Protect start address from 00h to card max size	• Osci comgutatori
 3. Choose Mirror Configuration from the following below: No Mirroring UID Mirroring NFC Counter Mirroring UID & NFC Counter Mirroring 	Segment protection: 1 Write Page proction start address: 2 255 (FF) Mirror Configuration: 3 UID, NFC Counter & TT
4. Choose Mirror page start address	Mirror Page: • • • • • • • • • • • • • • • • • • •
5. Choose Mirror byte start address	Mirror Byte: 52 🔻
 To enable or disable NFC Counter Password protection To enable or disable NFC Counter 	NFC Counter Pwd Protected 6
 To set the Negative authentication limit. To enable or disable TagTamper Feature 	Negative Auth Limit: 80 -
 10. Choose TT Lock from the following below: Read/Write TT Message TT Message Lock –(Irreversible) 	Enable TT Feature: 9 TT Lock: 10 ad/Write TT Message
11. To enable Lock user configurations and this is irreverisble	Lock above configuration 11
12. Click to Read already configured card.	Read Config Write Config
13. Click to Write new configuration to card	
Figure 30. User configurations available for NTAG 213 TT	

TagXplorer Quick start-up guide

4.13 How to Get File Settings of NTAG 413 DNA card



4.14 Change File Settings of NTAG 413 DNA

- 1. Enter previously recorded values for UID Offset...
- 2. Counter Offset, ...
- 3. Mac Input Offset
- 4. MAC Offset

(If MACInputOffset == MAC Offset, the message to be signed will be NULL; otherwise it will be the hex values between MACInputOffset and MACOffset-1)

- 5. Press "Change File Settings"
- 6. Press OK



Figure 32. Change File Settings of NTAG 413 DNA

UM11133

TagXplorer Quick start-up guide

4.15 Read Data of NTAG 413 DNA card

Read data from NTAG413 DNA card	Security Management	Read/Write data
1. Click Read/Write Data	Security Management	File No: Data [HEX]:
2. Select the File No.	Memory and Configure Management	02 2
3. Enter Offset value	includy and conligate management	Offset:
 Enter Length value and Click Read 	Set configuration Get version	3 8
	File Management	Length:
Write data to NTAG43 DNA card	Get/ Change File Settings Read NFC Counter	
1. Click Read/Write Data	Note : ISO File ID is used as selection parameter in place of 'File Number' for File Mamagement and Data Management Commands.	
2. Select the File No.	D2760000850101 - ISO DF-Name of NDEF application. E103 - ISO File id of CC File.	
3. Enter Offset value	E104 - ISO File id of NDEF File.	
4. Enter Length value	Data Management	
5. Enter the Valid data in HEX	Read/***ite data	
6. Click on "Write"		

Figure 33. Read Data of NTAG 413 DNA card

4.16 Personalization example for NTAG 413 DNA

4.16.1 Write NDEF

		plorer v1.0.0.0 by NXP		the substitute later
1.	Select Reader	a Ynlorer	Marker CLOUD 2700 F Conte	
2.	Connect to Reader	Javhiolei	Identiv CLOUD 3700 F Contac	tuess keader 0
3.	Connect to Tag	NDEF Operations	NTAG203 NTAG21X N	TAG2100 NTAG213 TT NTAGI2C NTAGI2C Plus NTAG413 DNA Minoring features
4.	Choose NTAG Operations	NTAG Operations	NTAG210 NTAG21x N	TAG213 Tag Tamper NTAG413 DNA
5.	Choose Mirroring Features		Description:	optional
6.	Choose NTAG413 DNA		Protocol:	https://www.
7.	Choose Protocol		URI Data:	nt413.com/?mvUID=0000000000000000cmvCptr=000000x00000
8.	Enable UID mirror		Supported mirroring features:	✓ 8 d Tag UID ✓ g'd interaction Counter = Success
9.	Enable Counter mirror			Feable SUN Message NDEF message written successfully!
10.	Enable SUN Mirror		Calculated offset Index:	
11.	Enter URL		* Write NDEF message with U * Place the cursor in URI data	redure: JRI, field where mirroring needs to be enabled.
12.	Find and Record Offset Values for UID, Counter and SUN		* Notedown the calculated o * Change the file setting by p * Mac input offset will always	fiser indices(UD offset Crr offset and Mac offset). noviding the respective offesets calculated in previous step. be "7"
13.	Press "Write to tag"			
14.	Press OK			
Fic	ure 34. NTAG 413 DNA Write NDEF			

UM11133

TagXplorer Quick start-up guide

4.16.2 Check offset

1.	Press "NDEF Operations"	Identiv CLOUD 3700 F Contactless Read	er O	Show Log (About)	
	Operations		Tag IC Info	CC-Fie	Info
2.	Press "Read NDEF"	EIC type PTAG 31 DVA ETag type PTG clrum Type 4 Tag «User Memory: 128 bytes		 C.C. Length, J.S. Myler, C.C. Length, J.S. Myler, Magging version, 2.6 pyrel; Magging version, 2.6 pyrel;<th>0.07</th>	0.07
			NDEF Payload Info	NDEF Payloa	d(HEX) Info
		Record #1: UBL record Yope: 'U" URL https://www.s443.com/?nyuUD_0 trabided minor features 'UD minoring is reabided *Couter minoring is exabled *Couter minoring is exabled	0413346409378690006600327182387C0895C003 Mirror offsets are not correct, since we manually changed default values.	• Record 41: • Papicat: 0x2XC61622064,28:384502371607955494420200822 0x325123131-65223138774330651993554330000	4133335463641353995378810793930108066610
Fig	jure 35. Check offset				

4.16.3 Adopt offset values

1.	Press "NTAG Operations"	Identiv CLOUD 3/00 F Contactiess Reader 0	Disconnecting Show Log About
2.	Press NDEF Operations "NTAG413DNA"	NTAG203 NTAG21x NTAG210u NTAG213 TT NTAG12C NTAG12C Plus Security Management	NTAG413 DNA 2 ISO Select
3.	Select "NDEF Application"	Security Management Memory and Configure Management	CC File DZ760000550100 - ISO DF-Name of PICC
4.	Press "Select"	Set configuration Get version File Management	D2760000850101 - ISO DF-Name of NDEF application. E103 - ISO file id of CC file. E104 - ISO file id of NDEF file.
		Get/ Change File Settings Read NFC Counter Note: ISO File ID is used as selection parameter in place of File Number' for File Mamagement and Data Management Commands. D276000050101: BOO File Number of NDE papilication. EL03 - ISO File id of NDE File. E104 - ISO File id of NDE File. EL04 - ISO File id of NDE File.	Currently Selected App/File is: D2760000850101
Fig	ure 36. NTAG 413 DNA - Adopt offset value	s	

TagXplorer Quick start-up guide

4.16.4 Review file settings

	NTAG203 NTAG21x NTAG210u NTAG213 TT NTAGI2C NTAGI2C Plus	NTAG413 DNA Mirroring Features	
 Press "Get/Change 	Memory and Configure Management	Access Rights	
File Settings"	Set configuration Get version	Read Access Key: 0E Virite Access Key: 0E V	
2. Select File "02" (NDEF File)	Ele Management Get/ Change File Settings Get/ Get/ Get/ Get/ Get/ Get/ Get/ Get/	a C2 ▼ Change Access Key. 00 ▼ S Only Key0x00 has access rights to Change Settings. At first, We need Original access (All first, We need Change Settings. At first, We need Original access (All first) (A	
 Press "Get File Settings" 	Note: 130 / He Li & Gued a Serection plantmeter in place of rive inc Management and Data Management Commands. D276000055010 ISO DF-Name of NDEF application. E103 - ISO File id of CFile.	SDM Read Counter	
A Press OK"	Data Management	SDM Meta Read Access Key: 0E	
4. TTESS "OK	Read/Write data	SDM File Read Access Key. 00 -	
	ISO 7816-4 Support	Nizzarian Officet Butan Behavarb	
	Select Read/Update Binary	VCUID Offset: SDM MAC Input Offset:	
	Originality check	26 50	
		SDM NFC Counter offset: SDM MAC Offset:	
	Originality check	41 50	
		Get file Set	
Figure 37. NTAG 413 DNA Review f	ile settings		

4.16.5 Authenticate

PICC Auth Application Auth Key 000000000000000000000000000000000
Card Key No 00 -
PccCaps Diversification Input Key
Diversified Input Generate Diversified Key AuthenticateFirst Authenticate Non First
► Change Key
► Get Key version

OE 🖛

• 00

TagXplorer Quick start-up guide

Write Access Key:

Change Access Key:

VCUID (for mirroring)

✓ ASCII Encoding Mode

0E 💌

00 👻

00 👻

SDM MAC Input Offset:

53 4 -----

Settings Change File

53 SDM MAC Offset:

NTAG413 DNA Mirroring Features

OE 🖛

02 🔻

Access Rights

Read Access Key:

SDM Read Counter

SDM File Read Access Key:

SDM Counter Ret Access Key

Mirroring Offset Bytes (Integer):

SDM NFC Counter offset:

SDM Access Rights SDM Meta Read Access Key:

VCUID Offset:

46 2

24

4.16.6 Change file settings

- 1. Enter previously recorded values for UID Offset...
- 2. Counter Offset, ...
- 3. Mac Input Offset
- MAC Offset

 (If MACInputOffset == MAC Offset, the message to be signed will be NULL; otherwise it will be the hex values between MACInputOffset and MACOffset-1)
- 5. Press "Change File Settings"
- 6. Press OK

Figure 39. Change file settings

4.16.7 Check operation

rer

5

- 1. Press "Disconnect Tag"
- 2. Press "Disconnect Reader"
- 3. Press "Connect Reader"
- 4. Press "Connect Tag"
- 5. Press "NDEF Operations"
- 6. Press "Read NDEF"

Figure 40. NTAG 413 DNA - Check operation

🔍 Check NDEF 🧏 Read NDEF 🖉 Write NDEF 🔀 Format NDEF 🔒 Change State	History
Tag IC Info	CC-File Info
KI: Type IVIA 413 DVA Hig Type NIC for Unit Type I Tag K User Memory: 128 bytes	CC file contents: 00.0007/00.00000F64.0E104008000000 CC file contents: 18 years CL ange in the out-the 256 types Maximum teruther: 256 types
NDEF Payload Info	NDEF Payload(HEX) Info
• Record + U101 record • Spp:_12: • VUE[Tact/Invova13:ont?Im/UEI=0413356465557008m;Cn=00007.08500A66C52E169 • VUE[Tact/Invova13:ont?Im/UEI=041335646557008m;Cn=00007.08500A66C52E169 • VUE[Tact/Invova13:ont?Im/UEI=041335646557008m;Cn=00007.08500A66C52E169 • VUE[Tact/Invova13:ont?Im/UEI=04133564657008m;Cn=00007.08500A66C52E169 • VUE[Tact/Invova13:ont?Im/UEI=041356465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708 • Vue[Tact/Invova13:ont?Im/UEI=041366465708	* Record #1: * Polyceck 0x20cctLX566426346023736079554944303014333335463441353935373830266079438(747220383 035361778339353841294124435322454483689

TT NTAGI2C NTAGI2C

5 Reference documentation

NXP provides several documents to support the development of customized antennas.

5.1 Data sheets

NXP provides the following data sheets:

- NTAG203F, NFC Forum Type 2 Tag compliant IC with 144 bytes user memory and field detection; <u>http://www.nxp.com/restricted_documents/53420/NTAG203F.pdf</u>
- NTAG210_212, NFC Forum Type 2 Tag compliant IC with 48/128 bytes user memory; http://www.nxp.com/documents/data_sheet/NTAG210_212.pdf
- NTAG213_215_216, NFC Forum Type 2 Tag compliant IC with 144/504/888 bytes user memory <u>http://www.nxp.com/documents/data_sheet/NTAG213_215_216.pdf</u>
- NTAG213F_216F, NFC Forum Type 2 Tag compliant IC with 144/888 bytes user memory and field detection <u>http://www.nxp.com/documents/data_sheet/</u> <u>NTAG213F_216F.pdf</u>
- NT3H1101/NT3H1201, NTAG I²C Energy harvesting NFC Forum Type 2 Tag with field detection pin and I²C interface <u>http://www.nxp.com/documents/data_sheet/</u> <u>NT3H1101_1201.pdf</u>
- NT3H2111/NT3H2211, NTAG I²C *plus*, NFC Forum Type 2 Tag compliant IC with I²C interface <u>http://www.nxp.com/documents/data_sheet/NT3H2111_2211.pdf</u>

5.2 Application notes

NXP provides the following application notes:

- AN11141; NTAG203F, How to use the FD pin; <u>http://www.nxp.com/documents/</u> application_note/AN11141.pdf
- AN11383, NTAG21x Field Detection and sleep mode feature http://www.nxp.com/documents/application_note/AN11383.pdf
- AN11350; NTAG Originality Signature Validation; http://www.nxp.com/documents/application_note/AN11350.pdf

5.3 ISO/IEC standards

- 1. ISO/IEC 10373-6:2011, *Identification cards Test methods Part 6: Proximity cards*
- 2. ISO/IEC 14443-1:2008, Identification cards Contactless integrated circuit cards *Proximity cards* — *Part 1: Physical characteristics*
- 3. ISO/IEC 14443-1:2008/Amd 1:2012, Additional PICC classes
- 4. ISO/IEC 14443-2:2010, Identification cards Contactless integrated circuit cards Proximity cards — Part 2: Radio frequency power and signal interface
- 5. ISO/IEC 14443-2:2010/Amd 2:2012, Additional PICC classes
- 6. ISO/IEC 14443-3:2011, Identification cards Contactless integrated circuit cards *Proximity cards — Part 3: Initialization and anticollision*
- ISO/IEC 18092:2004, Information technology Telecommunications and information exchange between systems — Near Field Communication — Interface and Protocol (NFCIP-1)
- ISO/IEC 21481:2012, Information technology Telecommunications and information exchange between systems — Near Field Communication Interface and Protocol -2 (NFCIP-2)

UM11133

TagXplorer Quick start-up guide

6 Legal information

6.1 Definitions

Draft — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. NXP Semiconductors does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

6.2 Disclaimers

Limited warranty and liability - Information in this document is believed to be accurate and reliable. However, NXP Semiconductors does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. NXP Semiconductors takes no responsibility for the content in this document if provided by an information source outside of NXP Semiconductors. In no event shall NXP Semiconductors be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory. Notwithstanding any damages that customer might incur for any reason whatsoever, NXP Semiconductors' aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms and conditions of commercial sale of NXP Semiconductors.

Right to make changes — NXP Semiconductors reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Suitability for use — NXP Semiconductors products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an NXP Semiconductors product can reasonably be expected to result in personal injury, death or severe property or environmental damage. NXP Semiconductors and its suppliers accept no liability for inclusion and/or use of NXP Semiconductors products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

Applications — Applications that are described herein for any of these products are for illustrative purposes only. NXP Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification. Customers are responsible for the design and operation of their applications and products using NXP Semiconductors products, and NXP Semiconductors accepts no liability for any assistance with applications or customer product

design. It is customer's sole responsibility to determine whether the NXP Semiconductors product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products. NXP Semiconductors does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using NXP Semiconductors products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). NXP does not accept any liability in this respect.

Export control — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

Evaluation products — This product is provided on an "as is" and "with all faults" basis for evaluation purposes only. NXP Semiconductors, its affiliates and their suppliers expressly disclaim all warranties, whether express, implied or statutory, including but not limited to the implied warranties of non-infringement, merchantability and fitness for a particular purpose. The entire risk as to the quality, or arising out of the use or performance, of this product remains with customer. In no event shall NXP Semiconductors, its affiliates or their suppliers be liable to customer for any special, indirect, consequential, punitive or incidental damages (including without limitation damages for loss of business, business interruption, loss of use, loss of data or information, and the like) arising out the use of or inability to use the product, whether or not based on tort (including negligence), strict liability, breach of contract, breach of warranty or any other theory, even if advised of the possibility of such damages. Notwithstanding any damages that customer might incur for any reason whatsoever (including without limitation, all damages referenced above and all direct or general damages), the entire liability of NXP Semiconductors, its affiliates and their suppliers and customer's exclusive remedy for all of the foregoing shall be limited to actual damages incurred by customer based on reasonable reliance up to the greater of the amount actually paid by customer for the product or five dollars (US\$5.00). The foregoing limitations, exclusions and disclaimers shall apply to the maximum extent permitted by applicable law, even if any remedy fails of its essential purpose.

Translations — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

6.3 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.

NTAG — is a trademark of NXP B.V.

TagXplorer Quick start-up guide

Figures

Fig. 1.	TagXplorer jar File 4
Fig. 2.	Accept the EUL terms4
Fig. 3.	Select the supported reader4
Fig. 4.	Connect to reader and connect to tag5
Fig. 5.	Check NDEF message6
Fig. 6.	Read NDEF message6
Fig. 7.	Write Plain Text Record as NDEF Message7
Fig. 8.	Write URL Link Record as NDEF Message7
Fig. 9.	Write WiFi record as NDEF Message
Fig. 10.	Write Email Record as NDEF Message9
Fig. 11.	rite NDEF Message to share a Telephone
	number
Fig. 12.	Write NDEF Message to share GeoLocation 10
Fig. 13.	Write NDEF Message to launch an app 10
Fig. 14.	Write NDEF Message to Send SMS 11
Fig. 15.	Write NDEF Message to Setup Bluetooth 11
Fig. 16.	Format NDEF message 12
Fig. 17.	Change State 12
Fig. 18.	History
Fig. 19.	How to get the version of the NTAG cards 14
Fig. 20.	How to set password for NTAG cards14
Fig. 21.	How to authenticate a card if card is already
	password protected15

Fig. 22.	Change a password for NTAG cards	15
FIG. 23.	Remove a password for NTAG cards	10
FIG. 24.	How to read Signature of NTAG cards	10
FIG. 25.	How to perform Originality check for NTAG	47
- : 00		17
Fig. 26.	How to check NFC Counters for NTAG cards	17
Fig. 27.	How to Lock and Block Lock Bytes for NTAG	
	cards	18
Fig. 28.	User configurations available for NTAG 203.	18
Fig. 29.	User configurations available for NTAG 21x .	19
Fig. 30.	User configurations available for NTAG 213	
	TT	19
Fig. 31.	How to Get File Settings of NTAG 413 DNA	
	card	20
Fig. 32.	Change File Settings of NTAG 413 DNA	20
Fig. 33.	Read Data of NTAG 413 DNA card	21
Fig. 34.	NTAG 413 DNA Write NDEF	21
Fig. 35.	Check offset	22
Fig. 36.	NTAG 413 DNA - Adopt offset values	22
Fia. 37.	NTAG 413 DNA Review file settings	23
Fig. 38.	Authenticate	23
Fig. 39.	Change file settings	24
Fig. 40	NTAG 413 DNA - Check operation	24
go.		

TagXplorer Quick start-up guide

Contents

1	Introduction to TagXplorer3
2	Getting started with TagXplorer
2.1	Home screen of TagXplorer5
2.1.1	NDEF operations
2.1.2	NDEF operations that can be performed on
	tag are5
2.1.3	NTAG operations5
2.1.4	Show log5
3	NDEF operations6
3.1	Check NDEF message6
3.2	READ NDEF message6
3.3	WRITE NDEF message6
3.3.1	Write Plain Text Record as NDEF Message7
3.3.2	Write URL Link Record as NDEF Message7
3.3.3	Write Wifi record as NDEF Message
3.3.4	Write Email Record as NDEF Message9
3.3.5	Write NDEF Message to share a Telephone
	number9
3.3.6	Write NDEF Message to share GeoLocation 10
3.3.7	Write NDEF Message to launch an app10
3.3.8	Write NDEF Message to Send SMS11
3.3.9	Write NDEF Message to Setup Bluetooth11
3.4	Format NDEF message12
3.5	Change State12
3.6	History13
4	NTAG operations14
4.1	How to get the version of the NTAG cards 14
4.2	How to set password for NTAG cards*14
4.3	How to authenticate a card if card is already
	password protected 15
4.4	Change a password for NTAG cards* 15
4.5	Remove a password for NTAG cards*16
4.6	How to read Signature of NTAG cards
4.7	How to perform Originality check for NTAG
	cards17
4.8	How to check NFC Counters for NTAG cards17
4.9	How to Lock and Block Lock Bytes for NTAG
	cards
4.10	User configurations available for NTAG 203 18
4.11	User configurations available for NTAG 21x 19
4.12	User configurations available for NTAG 213
	Tag Tamper19
4.13	How to Get File Settings of NTAG 413 DNA
	card20
4.14	Change File Settings of NTAG 413 DNA20
4.15	Read Data of NTAG 413 DNA card21
4.16	Personalization example for NTAG 413 DNA 21
4.16.1	Write NDEF21
4.16.2	Check offset22
4.16.3	Adopt offset values22
4.16.4	Review file settings23
4.16.5	Authenticate23
4.16.6	Change file settings24

4.16.7	Check operation	24
5	Reference documentation	25
5.1	Data sheets	
5.2	Application notes	
5.3	ISO/IEC standards	25
6	Legal information	

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

© NXP B.V. 2018.

All rights reserved.

For more information, please visit: http://www.nxp.com For sales office addresses, please send an email to: salesaddresses@nxp.com

Date of release: 20 June 2018 Document identifier: UM11133 Document number: 488210