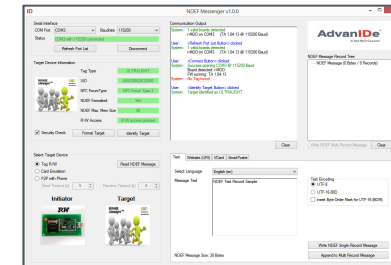
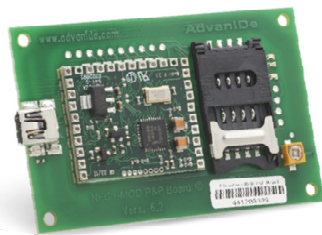
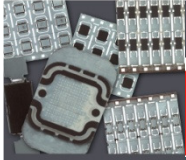


# AdvanIDe

*NFC NDEF – Messenger Software  
(for the AdvanIDe NFC Dev Kit)*



AdvanIDe – Advanced ID Electronics



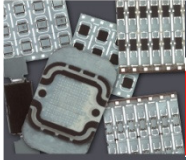
## NFC and NDEF

NFC allows you to share payloads of data between an NFC tag and a powered device, or between two powered devices

The data stored in the tag can be written in a variety of formats, most are based around a NFC Forum standard called NDEF (NFC Data Exchange Format)

Devices with NFC can support three main modes of operation:

- **Reader/Writer mode**, allowing the NFC device to read and/or write passive NFC tags and stickers
- **P2P mode**, allowing the NFC device to exchange data with other NFC device
- **Card emulation mode**, allowing the NFC device itself to act as an NFC card. The emulated NFC card can then be accessed by an external NFC reader, such as an NFC point-of-sale terminal

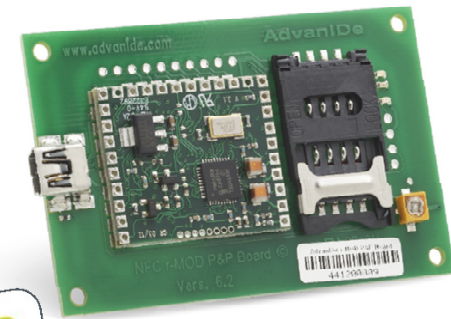
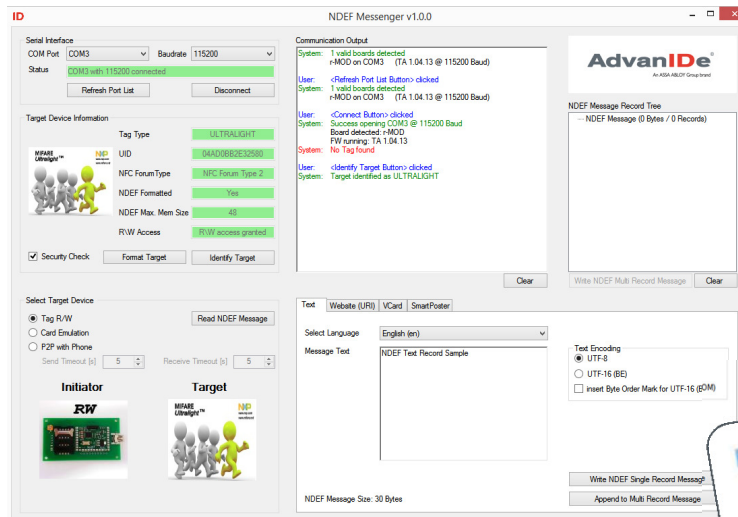


## NFC Technology

<b>Technology</b>	<ul style="list-style-type: none"><li>• Evolved from 13.56 MHz Near Field RFID protocols</li><li>• Magnetic coupling for transmitting data and energy</li><li>• 2-10 cm read-range</li></ul>
<b>Standardization</b>	NFC Forum: standards up to application level Based on: ECMA-340 Near Field Communication and Interface Protocol ISO IEC 18092 NFCIP-1 Near Field Communication
<b>Usage</b>	Touch and Connect
<b>Benefits</b>	<ol style="list-style-type: none"><li>1. „Simple“, no need for configuration, intuitive</li><li>2. Flexible: lowest cost using NFC Tags</li><li>3. Flexible: full functionality (P2P, Card Mode)</li></ol>

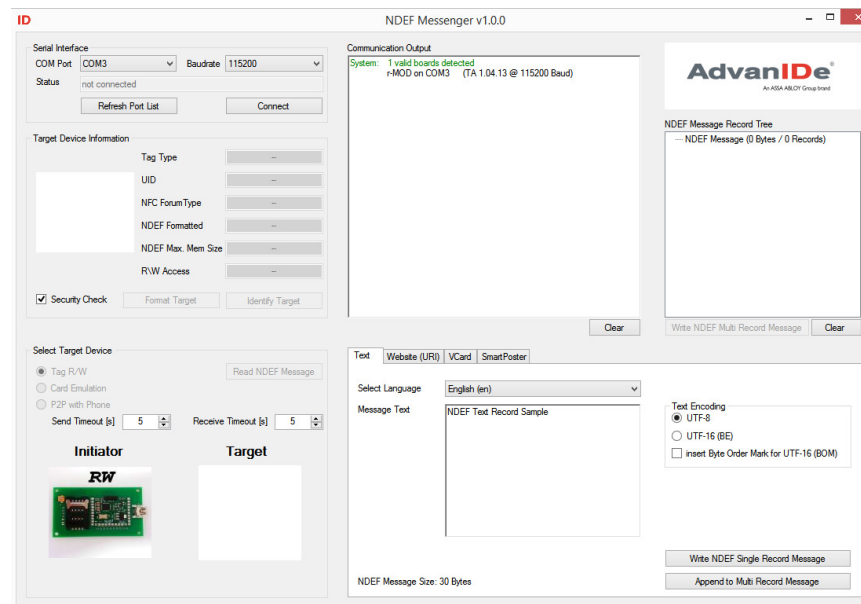
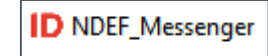
# NFC NDEF Messenger

The NDEF Messenger allows to read and write information and data from and to NFC compliant devices (e.g. NFC Tags, Smartphones, Tablets,...)



# NFC NDEF Messenger

- Connect the AdvanIDE r-MOD Plug & Play Reader via USB to your PC
- Start the NDEF\_Messenger.exe with double click
- NDEF Messenger starts on your screen



- Chose the **COM-Port** from the suggested list in the Communication Output Box
- Press the „**Connect**“ Button

**ID** NDEF Messenger v1.0.0

**Serial Interface**  
COM Port: COM3  
Baudrate: 115200  
Status: not connected  
Refresh Port List  
Connect

**Communication Output**  
System: 1 valid boards detected  
r-MOD on COM3 (TA 1.04.13 @ 115200 Baud)

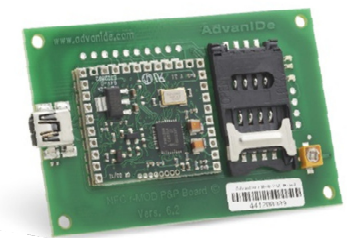
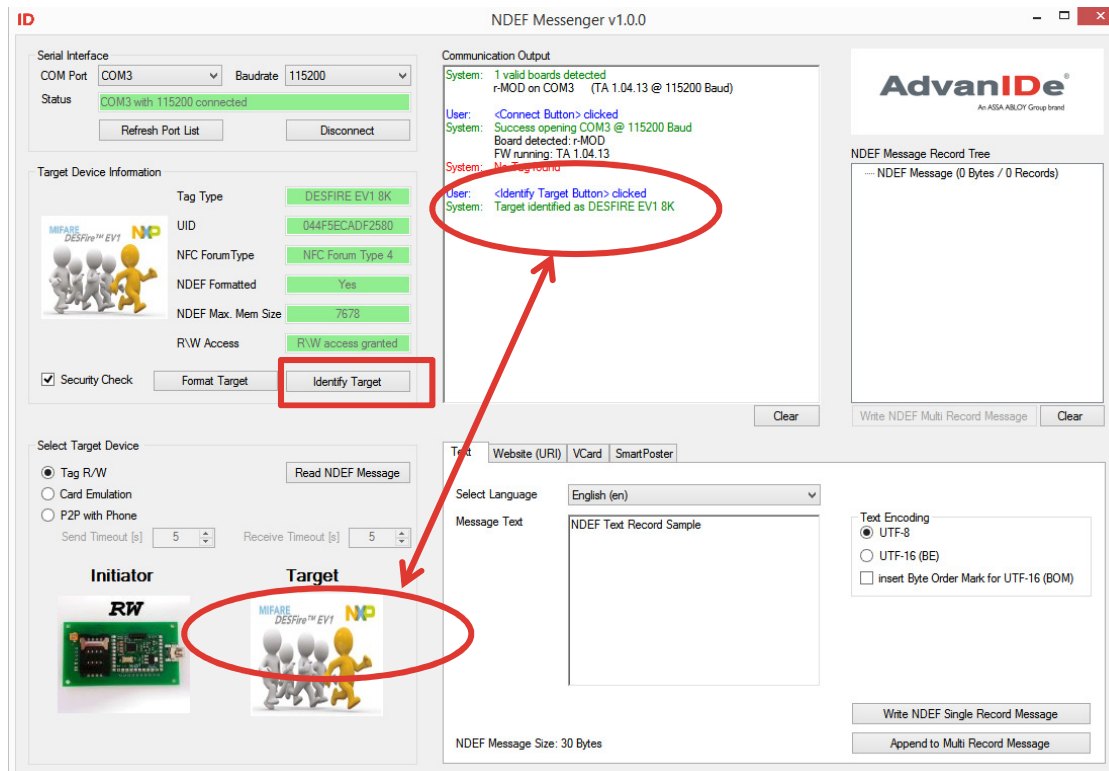
**Target Device Information**  
Tag Type: --  
UID: --  
NFC ForumType: --  
NDEF Formatted: --  
NDEF Max. Mem Size: --  
R/W Access: --  
Security Check:  Format Target Identify Target

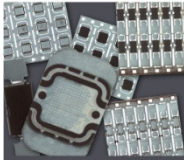
**Select Target Device**  
Tag R/W  Card Emulation  P2P with Phone   
Send Timeout [s]: 5 Receive Timeout [s]: 5  
Initiator: RW  
Target: [Empty]

**Text** Website (URI) VCard SmartPoster  
Select Language: English (en)  
Message Text: NDEF Text Record Sample  
Text Encoding:  UTF-8  UTF-16 (BE)  Insert Byte Order Mark for UTF-16 (BOM)

Write NDEF Single Record Message  
Append to Multi Record Message  
NDEF Message Size: 30 Bytes

- Put a NFC compliant card / tag on the AdvanIDE r-MOD Plug & Play Reader
- Select a mode in the „Select Target Device“ box
- **Identify** the target





## •Read a message:

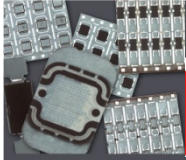
- Select Target device
- Press „Read NDEF Message“ Button
- Pop-Up Window with NDEF Message opens

## •Write a message:

- Select Target device
- Select NDEF Message Type (**Text**, **Website**, **VCard** or **Smartposter**)
- Put in the desired information/message
- Press „Write NDEF Single Record Message“ to write to the target
- Press „Append to Multi Record Message“ to write Message Record tree to bundle differend Message Records and press „Write NDEF Multi Record Message“ to write to the target

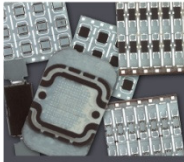
The screenshot displays the AdvanIDe software interface for creating NDEF messages. It features a top navigation bar with tabs for 'Text', 'Website (URI)', 'VCard', and 'SmartPoster'. The 'Text' tab is selected and highlighted with a red box. Below the tabs, there is a 'Select Language' dropdown menu set to 'English (en)'. A 'Message Text' input field contains the text 'NDEF Messenger Text Record Sample'. To the right, a detailed form for creating a VCard is visible, with fields for Name Prefix (Mr), Title (Dipl.-Ing. (FH)), First Name (Max), Last Name (Mustermann), Address (Musterstrasse 22), City (Musterstadt), Post Code (123456), Country (Musterland), Company (MaxMustermann GmbH), Job Title (NFC Sales & Marketing Director), Phone Nr. (+491234567890), Mobile Nr. (+490987654321), Website (www.mustermann.com), and Picture (E:\NDEF Messenger\MaxMustermann.jpg). At the bottom, there are two buttons: 'Write NDEF Single Record Message' and 'Append to Multi Record Message'. The NDEF Message Size is indicated as 410 Bytes.





## NFC NDEF Messenger SPEC

<b>Concept</b>	NDEF Processing on Host Configurable OS Layer Portable User Interface Executable File to run
<b>Programming Language</b>	C/C++
<b>Supported OS</b>	Windows 7, Windows 8, Windows 8.1
<b>NDEF Specifications</b>	NFC Data Exchange Format NDEF 1.0 NFC Record Type Definition RTD 1.0 Text Record Type Definition RTD-Text 1.0 URI Record Type Definition RTD-URI 1.0 Smart Poster Record Type Definition SPR 1.1

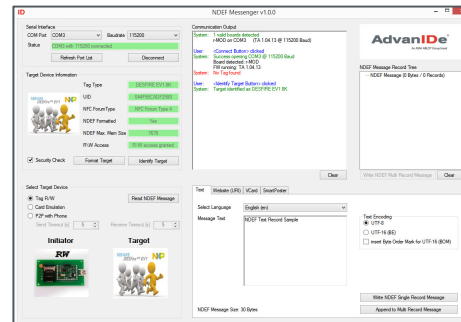
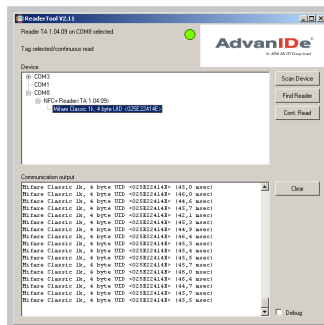


## AdvanIDE® r-MOD and m-MOD NFC Developer's Kit

Enable new RFID applications with NFC readers and tags  
Easy integration of NFC technology into OEM devices

Content:

- 1 AdvanIDE r-MOD NFC P&P reader board
- 1 AdvanIDE m-MOD NFC P&P reader board
- documentation & reader tool SW, NFC Messenger
- 5 NXP NFC NTAG203 Keyfobs
- 5 NXP NFC NTAG203 Labels
- 5 NXP Mifare™ Classic 1K Cards
- 5 NXP Mifare™ DESFIRE EV1 Cards
- 5 Infineon my-d™ NFC SLE66R01PN Cards
- 5 Infineon my-d™ NFC SLE66R01PN Labels
- 5 Infineon my-d™ NFC SLE66R32P Labels
- 5 Infineon my-d™ NFC SLE66R01PN NFC Keyrings



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