

# ASUS NFC-PN544 MODULE

## User Manual

## I. Introduction:

ASUS NFC-PN544 is a module equipped with both NFC and USB3.0 Hub functions. It can be connected to Windows based systems by USB3.0 A to A type cable. The USB3.0 Hub is activated by embedded driver of Intel chipset(PCH) and the NFC is activated by NXP provided driver(only available on Win8)

## II. Design Reference:

ASUS NFC-PN544 is composed as the following:

- a) USB3.0 hub IC: This section includes Asmedia ASM1074 chip and its external components completed refer to the reference design. An additional EEPROM is utilized to store the corresponding FW. Note this module only applies bus power from USB port.
- b) NFC IC: This section includes NXP PN544 C3 chip and the external components completed refer to the reference design. The antenna design is also based on the refernce design of NXP PN544 demo board(schematic, layout, BOM etc). The driver provided by NXP is applicable only on Windows 8.
- c) USB to UART convertor IC: Exar XR21B1411 is adopted to bridge from USB3.0 Hub IC to NFC IC, PN544C3 communicates with the connected system by UART interface. The driver is available on line.
- d) 1 A type USB3.0 upstream port connector: the main connection port to a Windows based system, an A to A type USB3.0 cable is necessary.
- e) 2 A type USB3.0 downstream port connectors: for external devices certificated by USB compliance, and are applicable up to USB3.0.
- f) 5 white LEDs: to indicate the power of USB bus is on.

Note: there is no external power design for this module, heavy loading behaviors (ex. 2 USB removable HDDs data R/W concurrently) on USB devices is not advised.

## III. Feature:

Contactless protocols: ISO14443A/B, ISO15693, ISO18092 USB compliance: USB3.0, USB2.0, USB1.1

## IV. Spec sheet:

### Product Specifications

<b>NFC one-touch features</b>	PC control via <b>Wi-Fi GO! &amp; NFC Remote</b> (Android app): - Photo Express, Remote Desktop <sup>1</sup> , Quick Launch and Windows® 8 Login PC control via <b>ASUS NFC Tag</b> (bundled): - Quick Launch and Windows® 8 Login
<b>I/O ports</b>	- 1 x USB 3.0 type A upstream port for USB power in <sup>2</sup> - 2 x USB 3.0 type A downstream ports compatible with USB 3.0/2.0/1.1 devices
<b>Maximum power output</b>	5V, 900mA <sup>3</sup>
<b>System requirements (smart devices)</b>	- Compatible with Android smartphone and tablet. - Requires Android OS 4.0 or later. - Download "Wi-Fi GO! & NFC Remote" from Google Play for ASUS exclusive NFC features support.
<b>Operation system supported (PC)</b>	Windows® 8 (32/64bit)
<b>Dimension</b>	100x17x100mm (w/h/d)
<b>Weight</b>	87g (main unit only)
<b>ASUS Compatible motherboards</b>	<b>NFC (full function) &amp; 2-port USB 3.0 hub support:</b> - Z87-DELUXE, Z87-EXPERT, Z87-PRO, Z87-PLUS, Z87-A, Sabertooth Z87, Gryphon Z87, Maximus VI series <b>NFC (Quick Launch and Windows 8 Login) &amp; 2-port USB 3.0 hub support:</b> - ASUS Z87/H87/B85 series models

1. Photo Express and Remote Desktop functions are only available on ASUS motherboards with Wi-Fi GO! or Remote GO! support.

2. For sufficient power (900mA), ensure to connect your ASUS NFC Express to your computer's USB 3.0 port.

3. To use the ASUS NFC Express box with devices that require more power, ensure to plug these devices to power sources.

4. Visit [www.asus.com](http://www.asus.com) for updated compatible model lists.

Antenna: On board PCB trace (size 32mm\*54mm), basically a loop coil, formed by PCB trace

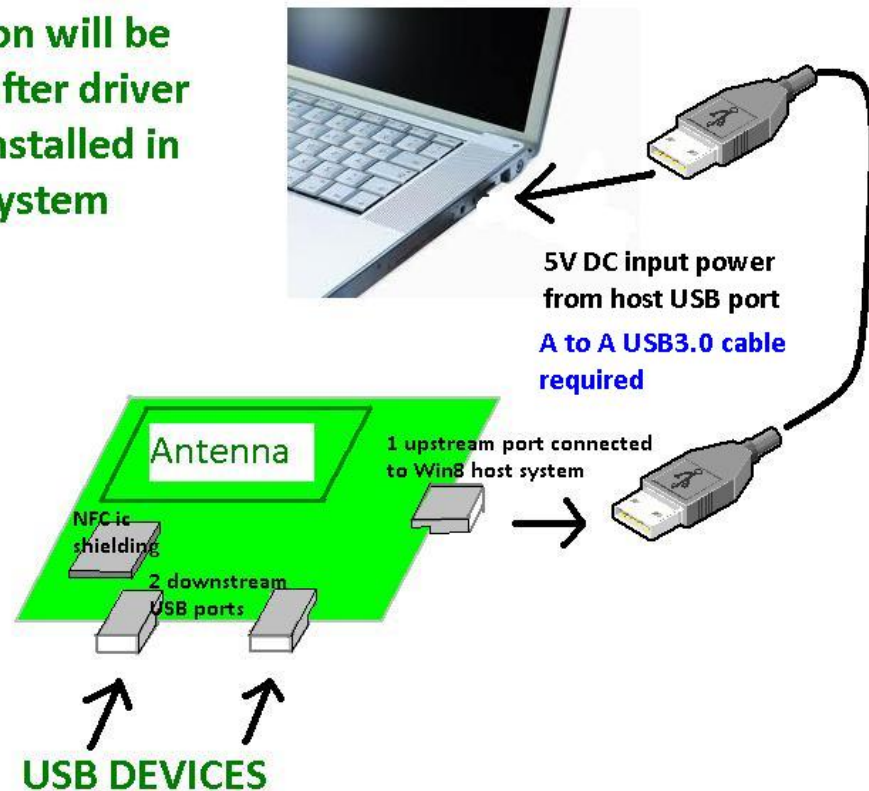
Operating frequency: 13.56MHz

Data rate: up to 848kbps

Modulation: Manchester, ASK, BPSK

## V. Product Overview

**NFC function will be activated after driver has been installed in the Win8 system**



### Parts and description

- **Power LED**  
This LED indicator lights up when the NFC Express is currently in use.
- **NFC sensing area**  
To use the NFC, put the NFC tag or another NFC-enabled device on this area to enable the connection.
- **USB 3.0 port for PC connection**  
Insert the bundled USB cable into this port to supply power to your ASUS NFC Express box while connected to your desktop PC.
- **USB 3.0 ports**  
These two USB (Universal Serial Bus) ports support USB 3.0 devices.

#### NOTES:

- DO NOT connect a keyboard/mouse to any USB 3.0 port when installing the Windows® operating system.
- Use USB 3.0 devices under Windows® 8 and ensure that you have installed the USB 3.0 driver.
- USB 3.0 devices can only be used for data storage.
- We strongly recommend that you connect USB 3.0 devices to USB 3.0 ports for faster and better performance of your USB 3.0 devices.

# FEDERAL COMMUNICATIONS COMMISSION

## INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

**CAUTION:** Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

### Labeling requirements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### Canada, Industry Canada (IC) Notices

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## **Canada, avis d'Industry Canada (IC)**

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

## **End Product Labeling**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: MSQ-ASUSNFC-PN544 " and "Contains IC: 3568A-ASNFC-PN544"

## **Information for the OEMs and Integrators**

The following statement must be included with all versions of this document supplied to an

OEM or integrator, but should not be distributed to the end user.

- 1) This device is intended for OEM integrators only.
- 2) Please see the full Grant of Equipment document for other restrictions.